



TOWN OF PARADISE

Paradise Sewer Project

# Collection System and Export Pipeline Basis of Design Report



FINAL / December 2024





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Date: 2024.12.13 15:04:02-08'00'



# Contents

<b>SECTION 1</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Purpose	1
1.2	Background	1
1.3	Project Objectives	2
1.4	Technical Workshops	3
<b>SECTION 2</b>	<b>REFERENCE DOCUMENT REVIEW</b>	<b>3</b>
2.1	Technical Memorandums Developed by HDR, Inc.	3
2.2	Environmental Documentation	4
2.2.1	Final <i>Program Environmental Impact Report (PEIR)</i> Documents	4
2.2.2	<i>Aquatic Resources Delineation Report</i>	4
2.3	Other Documents	4
<b>SECTION 3</b>	<b>PHASE 1A FIELD INVESTIGATIONS</b>	<b>4</b>
3.1	Topographic Survey	4
3.1.1	Basis of Bearings and Basis of Elevation	5
3.1.1	Export Pipeline Survey Control	5
3.1.2	Pacific Gas and Electric (PG&E) Light Detection and Ranging (LiDAR)	5
3.1.3	Phase 1A Survey - Export Pipeline Trenchless Crossings	6
3.1.4	Phase 1B Survey – Export Pipeline and Collection System	6
3.2	<i>Desktop Review of Geologic, Geotechnical, and Environmental Conditions (Desktop Geotechnical Study)</i>	6
3.2.1	Groundwater	9
3.2.2	Potential Risk for Hazardous Materials	9
3.2.3	Geotechnical Investigation Next Steps	10
<b>SECTION 4</b>	<b>EXISTING UTILITIES, PUBLIC WORKS FACILITIES, AND UPCOMING PROJECTS</b>	<b>11</b>
4.1	Export Pipeline Agencies	11
4.1.1	Pacific Gas and Electric	11
4.1.2	Kinder Morgan	12
4.1.3	City of Chico	12
4.1.4	Durham Mutual Water Company	13
4.1.5	United States Army Corps of Engineers (USACE)	14
4.1.6	Butte County	14
4.1.7	California Department of Transportation (Caltrans)	14
4.1.8	AT&T	14
4.1.9	Comcast	14
4.1.10	Zayo Group LLC	14
4.1.11	Lumen	15
4.1.12	Cogent Communications	15

4.2	Collection System Agencies	15
4.2.1	Paradise Irrigation District (PID)	15
4.2.2	Pacific Gas and Electric	16
4.2.3	Comcast	16
4.2.4	AT&T	17
4.2.5	Town of Paradise	17
4.2.6	California Department of Transportation	19
4.3	Utility Clearance Requirements	19
4.3.1	Electric and Communication Utilities	19
4.3.2	Natural Gas Pipelines	19
4.3.3	Water Utilities	20
4.3.4	Minimum Vertical Clearance	20
4.3.5	Minimum Horizontal Clearance	20
4.3.6	Asbestos Cement Pipe Crossings	20
<b>SECTION 5 HYDRAULIC MODEL</b>		<b>21</b>
5.1	Collection System Model	21
5.2	Export Pipeline Hydraulic Model	22
<b>SECTION 6 DESIGN CRITERIA AND STANDARDS</b>		<b>23</b>
6.1	Overview	23
6.1.1	Collection System	23
6.1.2	Export Pipeline	23
6.1.3	Build America, Buy America Act (BABAA)	24
6.2	Pipeline Hydraulic Design Criteria	24
6.3	Construction Methods	26
6.3.1	Open Cut	26
6.3.2	Trenchless Construction	31
6.4	Pipe Materials	33
6.4.1	Polyvinyl Chloride Pipe	33
6.4.2	High Density Polyethylene	34
6.4.3	Ductile Iron Pipe	35
6.4.4	Pipe Material Recommendations	35
6.5	Pipeline Appurtenances	37
6.5.1	Isolation Valves	37
6.5.2	Air/Vacuum Valves	37
6.5.3	Blowoff Valves	38
6.5.4	Access Manholes	38
6.5.5	Vortex Drop Manholes	44
6.5.6	Transition Manholes	44
6.5.7	Gravity Force Main Cleanouts	45
6.6	Electrical and Communication	45
6.6.1	Handholes	45

6.6.2	Manholes	46
6.6.3	Fiber Optic Conduit	48
6.6.4	Electrical Conduit	48
<b>SECTION 7 SEWER COLLECTION SYSTEM</b>		<b>49</b>
7.1	Preliminary Design	49
7.1.1	Collection System	49
7.1.2	Trenchless Construction	52
7.1.3	Trunk Line Pump Stations	52
7.1.4	Small Pump Stations	53
7.1.5	Small Pump Station Considerations	54
7.1.6	Collection System Proposed Alignment Alternatives	54
7.1.7	Collection System Alignment Recommendations	64
7.2	Pump Station Design Criteria	65
7.2.1	Trunk Pump Stations	65
7.2.2	Small Pump Stations	75
7.3	Odor Control	78
7.4	Other Permit Requirements	82
7.4.1	Butte County Air Quality Management District	82
7.4.2	California Department of Transportation	82
7.4.3	Post-Construction Storm Water Report	83
7.4.4	Town of Paradise	84
7.4.5	California Department of Transportation Highway Repair Requirements	85
<b>SECTION 8 EXPORT PIPELINE</b>		<b>85</b>
8.1	Preliminary Design	85
8.1.1	Export Pipeline Alignment and Alternatives	85
8.1.2	Skyway Alignment Alternatives Analysis	88
8.1.3	Trenchless Crossings	103
8.2	Export Pipeline Pump Station and Grinder	105
8.3	Transition and Emergency Storage Structure	107
8.3.1	Location	108
8.3.2	Sizing	116
8.3.3	Emergency Storage	116
8.3.4	Level Measurement	117
8.3.5	Maintenance Access	118
8.3.6	Power Supply	118
8.4	Chico Water Pollution Control Plant Flow Control Structure	118
8.4.1	Flow Measurement	120
8.4.2	Flow Control Structure Alternatives	121
8.5	Other Permit Requirements	131
8.5.1	United States Army Corps of Engineers Section 408 Permit	131
8.5.2	Butte County Encroachment Permit	131

8.5.3	California Department of Transportation	132
8.5.4	California Occupational Safety and Health Administration Mining and Tunneling (M&T) Unit Classification	132
8.5.5	City of Chico Encroachment Permit	133
8.5.6	Post-Construction Storm Water Report	133
8.5.7	Union Pacific Railroad	133
<b>SECTION 9 STRATEGIES FOR LATERAL CONNECTIONS</b>		<b>134</b>
9.1	Laterals Connections Overview	134
9.2	Lateral Connections to Developed Lots	135
9.3	Lateral Connections to Undeveloped Lots	136
9.3.1	Single Family Undeveloped Parcels	136
9.3.2	Multi-Family or Commercial/Industrial Undeveloped Parcels	136
9.4	Lateral Connection Strategies	136
9.4.1	Introduction	136
9.4.2	Alternative 1: Design-Builder Designs and Installs Lateral	136
9.4.3	Alternative 2: Property Owners Installs Lateral	137
9.4.4	Recommendations	138
9.5	Connections to Multi-Family and Commercial Developments	138
9.6	Lateral Connection Standards	139
9.7	Town Policies and Approach	142
9.7.1	Town Lateral Connection Standards	142
9.7.2	Lateral Ownership Policy	142
9.7.3	Lateral Connection Policy	143
9.8	Fats, Oils, and Grease and Industrial Waste Program	144
<b>SECTION 10 SUPERVISORY CONTROL AND DATA ACQUISITION AND INSTRUMENTATION DESIGN</b>		<b>144</b>
10.1	Purpose	144
10.2	Supervisory Control and Data Acquisition Control Communication Alternatives	145
10.2.1	Radio	145
10.2.2	Cellular Radio	149
10.2.3	Fiber Optic	151
10.2.4	Control System Architecture Recommendations	152
10.3	Programmable Logic Controller Options	152
10.3.1	Programmable Logic Controller Platforms	152
10.4	Supervisory Control and Data Acquisition Platforms	153
10.4.1	Recommendation	154
10.5	Preliminary System Architecture	154
10.5.1	Town Control Room	154
10.5.2	Trunk Line Pump Station Communication	155
10.5.3	Small Pump Station Communication	155
10.5.4	Export Pump Station Communication	155

10.5.5	Communication With Chico Water Pollution Control Plant	156
10.5.6	Next Steps	156
<b>SECTION 11 ENVIRONMENTAL DESIGN CONSIDERATIONS</b>		<b>156</b>
11.1	Environmental Permits	156
11.2	<i>Programmatic Environmental Impact Report</i>	157
11.3	United States Fish and Wildlife Service Biological Opinion	157
11.4	National Marine Fisheries Service Letter of Concurrence	161
11.5	California Department of Fish and Wildlife Incidental Take Permit (ITP) and Streambed Alteration Agreement	161
11.6	Tribal Consultations	162
11.7	Levee Requirements	162
11.8	Creek Crossings	162
11.9	Tree Trimming and Removal	163
<b>SECTION 12 PROPERTY ACQUISITION AND RIGHT-OF-WAY NEEDS</b>		<b>163</b>
12.1	Approach to Land Acquisition	163
12.2	Property Acquisition	164
12.3	Temporary Construction Easements	167
12.4	Permanent Easements	167
12.5	Right-of-Entry Agreement Process	167
<b>SECTION 13 SYSTEM OPERATIONS AND MAINTENANCE</b>		<b>177</b>
13.1	Sewer Collection System	177
13.1.1	Initial Low Flow Flushing	177
13.1.2	Long Term Pipe Cleaning	178
13.1.3	Closed-Circuit Television Pipe Inspection Schedule	178
13.1.4	Manhole Inspection Schedule	179
13.1.5	Pump Station Cleaning Schedule	179
13.2	Export Pipeline	180
13.2.1	Water Pollution Control Plant Operations and Maintenance	180
13.2.2	Transition Structure and Emergency Storage Operations and Maintenance	181
13.3	Equipment Requirements	181
13.4	Staff Requirements	182
13.4.1	Alternative 1: Town Operates and Maintains	182
13.4.2	Alternative 2: City of Chico Operates and Maintains	185
13.4.3	Alternative 3: 3rd Party Operates and Maintains	186
13.4.4	Alternative 4: Multi Party Operation of System	186
13.4.5	Cost Comparison of Alternatives	187
13.4.6	Operations and Maintenance Staffing Recommendation	188
13.5	Long Term Implementation Plan	188
<b>SECTION 14 RECOMMENDED PROJECT</b>		<b>188</b>
14.1	Collection System	188

14.2	Export Pipeline	190
<b>SECTION 15 PHASING PLAN AND SCHEDULE</b>		<b>191</b>
15.1	Phases	191
15.2	Schedule	191
<b>SECTION 16 NEXT STEPS</b>		<b>192</b>
16.1	Survey	192
16.2	Geotechnical	192
16.3	Detailed Design	192
16.4	Potholing	192

## Appendices

APPENDIX A	SEWER COLLECTION SYSTEM AND EXPORT PIPELINE HYDRAULIC MODEL
APPENDIX B	P18 HYDRAULIC ANALYSIS
APPENDIX C	DESKTOP REVIEW OF GEOLOGIC, GEOTECHNICAL, AND ENVIRONMENTAL CONDITONS
APPENDIX D	EXPORT PIPELINE ALIGNMENT DRAWINGS
APPENDIX E	COLLECTION SYSTEM ALIGNMENT DRAWINGS
APPENDIX F	RADIO PATH VERIFICATION
APPENDIX G	PRELIMINARY DESIGN AND CONSTRUCTION SCHEDULE
APPENDIX H	MITIGATION, MONITORING, AND REPORTING PROGRAM
APPENDIX I	UNITED STATES FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION
APPENDIX J	NATIONAL MARINE FISHERIES SERVICE LETTER OF CONCURRENCE
APPENDIX K	PERMITTING MATRIX
APPENDIX L	PG&E LIDAR SURVEY CONVERSION METHOD

## Tables

Table 1	Hazardous Material Risk Summary	10
Table 2	Recommended Storm Drain Improvements Within SSA	17
Table 3	Existing and Future Re-Paving Projects	18
Table 4	Summary of Model Flows by Scenario	21
Table 5	Sewer Collection System Overview	21
Table 6	Summary of Gravity Sewer Pipeline Diameters	23
Table 7	Summary of Pipeline Hydraulic Design Criteria	25
Table 8	Minimum Slope Requirements	28
Table 9	Export Pipeline and Collection System Material Overview	36
Table 10	Buschmann Trunk Realignment Advantages and Disadvantages	55
Table 11	Buschmann Trunk Extension Advantages and Disadvantages	56
Table 12	Clark Road Reduction South of Pearson Road Alternative Advantages and Disadvantages	60



Table 13	Clark Road Trunk Extension Alternative Advantages and Disadvantages	62
Table 14	Memorial Trailway Pipe Reduction	64
Table 15	Design Alternative Recommendations	64
Table 16	Baseline Alternative Trunk Line Pump Station Criteria	68
Table 17	Pearson Buschmann Alternatives Trunk Line Pump Station Criteria	69
Table 18	Wet Well Pre-Cast vs Cast-in-Place Construction Impacts	70
Table 19	Design Criteria for Trunk Pump Station Standby Engine Generator Set	72
Table 20	Electrical Classification by Area	73
Table 21	Small Pump Station Overview	76
Table 22	Design Criteria for Small Pump Station Portable Standby Engine Generator Set	78
Table 23	Design Criteria for Trunk Pump Station Odor Control System	81
Table 24	Skyway Alternatives Comparison	102
Table 25	Export Pipeline Pump Station Design Criteria	105
Table 26	Flow Control Structure Alternatives Summary	126
Table 27	Flow Control Valve Summary and Recommendation	130
Table 28	Summary of Parcel Occupancy within the SSA	134
Table 29	Alternative 1: Design-Builder Designs and Installs Laterals Advantages and Disadvantages	137
Table 30	Alternative 2: Property Owner Installs Laterals	138
Table 31	Radio Frequency (RF) Radio Tower Heights by Site	147
Table 32	RF Radio Control Advantages and Disadvantages	148
Table 33	Cellular Control Advantages and Disadvantages	149
Table 34	Summary of Cellular Viability	150
Table 35	Fiber Optic Control Advantages and Disadvantages	151
Table 36	Fiber Optic Options	152
Table 37	PLC Comparison	153
Table 38	SCADA Comparison	153
Table 39	MMRP Design Requirement Summary	158
Table 40	USFWS Biological Opinion Design and Construction Requirement Summary	159
Table 41	NMFS Letter of Concurrence Design Requirements	161
Table 42	Property Acquisition Summary	165
Table 43	TCE Summary	168
Table 44	PE Summary	172
Table 45	Trunk Line Pump Stations Suggested O&M Frequency	179
Table 46	Trunk Line Pump Stations Suggested O&M Frequency	180
Table 47	Transition Structure O&M Activities and Frequency	181
Table 48	Overflow Structure O&M Activities and Frequency	181
Table 49	Town O&M Equipment	181
Table 50	Minimum Staff Required by Position	183
Table 51	Minimum Staff Required by Position	185
Table 52	Minimum Staff Required by Position	186
Table 53	Minimum Town Staff Required by Position	186
Table 54	Sewer Collection System Multi-Party O&M Plan	187

Table 55	Estimated Cost by Alternative	187
Table 56	Long Term Implementation Plan	188

## Figures

Figure 1	Project Overview	2
Figure 2	Project Soil and Geologic Conditions by Area (Fugro 2024)	8
Figure 3	P18 Project Alignment	13
Figure 4	Typical Trench Section	27
Figure 5	Typical Joint Sewer and Force Main Trench	27
Figure 6	Stacked Vertical Trench Section	29
Figure 7	Stacked Offset Trench Section	29
Figure 8	Polymer Concrete - Egg-Shaped Pipe Trench Section	29
Figure 9	Polymer Concrete - Kite-Shaped Pipe Trench Section	30
Figure 10	FRP Pipe - Kite-Shaped Pipe Trench Section	30
Figure 11	Trench Dam Typical Detail	31
Figure 12	Typical Combination Air/Vacuum	37
Figure 13	Blowoff Valve Typical Detail	38
Figure 14	Gravity Manhole Detail	40
Figure 15	Gravity Invert Detail	41
Figure 16	External Drop Manhole Detail	42
Figure 17	Internal Drop Manhole Detail	43
Figure 18	Example Transition Manhole: Force Main to Gravity Sewer	44
Figure 19	Pressure Sewer Cleanout Typical Detail	45
Figure 20	Precast Electrical Handhole with Manhole Cover Detail	46
Figure 21	Precast Electrical Manhole Detail	47
Figure 22	Precast Fiber Optic Communications Manhole Detail	48
Figure 23	Collection System Overview	50
Figure 24	Trunk Line Pump Stations	53
Figure 25	Pearson-Buschmann Trunk Alignment Alternatives	57
Figure 26	Clark Road Reduction South of Pearson Road	59
Figure 27	Clark Road Trunk Extension Alternative	61
Figure 28	Paradise Memorial Trailway Pipe Reduction	63
Figure 29	Typical Trunk Line Pump Station Site	67
Figure 30	Wet Well Diagram	70
Figure 31	Small Pump Station Conceptual Site Plan	77
Figure 32	Manhole Odor Control Insert	79
Figure 33	Force Main Odor Control Options	80
Figure 34	Skid Mounted Odor Control System	81
Figure 35	Export Pipeline Alignment	87
Figure 36	March 2022 Alignment	89
Figure 37	Vortex Drop Manhole and Intermediate Manhole	90
Figure 38	South of Skyway Alignment Layout (Looking West)	91
Figure 39	Alignment A	92
Figure 40	Alignment B	94

Figure 41	North of Skyway Alignment Layout	95
Figure 42	Alignment C	96
Figure 43	Alignment D	98
Figure 44	Alignment E	100
Figure 45	Pump Station With Grinder	106
Figure 46	Transition Structure Preliminary Schematic	108
Figure 47	12-inch PVC, March 2022 Flows, March 2022 Transition Structure Location	109
Figure 48	18-inch PVC, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location	110
Figure 49	24-inch HDPE, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location	111
Figure 50	16-inch DIP, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location	112
Figure 51	18-inch PVC, Carollo Hydraulic Model Flows, Revised Transition Structure Location	113
Figure 52	18-inch HDPE, Carollo Hydraulic Model Flows, Revised Transition Structure Location	114
Figure 53	16-inch DIP, Carollo Hydraulic Model Flows, Revised Transition Structure Location	115
Figure 54	16-inch PVC, Carollo Hydraulic Model Flows Future Pump Station	116
Figure 55	Transition Structure and Emergency Overflow Schematic	117
Figure 56	Chico WPCP Overview	119
Figure 57	Typical Above Grade Flow Meter	121
Figure 58	Typical Below Ground Flow Meter	121
Figure 59	Alternative 1 Flow Control Valve at Chico WPCP	122
Figure 60	Alternative 2 Intermediate Pressure Reducing Valves	123
Figure 61	Alternative 3 Flow Control at Transition Structure	124
Figure 62	Alternative 4 Flow Control Valve at Transition Structure and Flow Control and Pressure Reducing Valve at WPCP	125
Figure 63	Wastewater Pressure Reducing Valves	128
Figure 64	Submerged Discharge Valves	129
Figure 65	Pinch Valve	129
Figure 66	Lateral Connection to Developed and Undeveloped Lots	135
Figure 67	Lateral to Pipeline Connection	139
Figure 68	Lateral Overflow Relief Valve Detail	141
Figure 69	Backwater Valve Detail	142
Figure 70	SCADA System Schematic	145
Figure 71	Fresnel Zone Example	146
Figure 72	Pathloss Software Network Overview	146
Figure 73	Network Architecture	154
Figure 74	Private and Public Roads in the SAA	164
Figure 75	Project Simplified Schedule	191

## Abbreviations

AC	asphaltic concrete
ADWF	average dry weather flow
APN	assessor parcel number
ARV	air release valve
ATCM	Airborne Toxic Control Measures
AWWA	American Water Works Association
BABAA	Build America, Buy America Act
BESS	Battery Energy Storage Systems
bgs	below ground surface
bhp	brake-horsepower
<i>BODR</i>	<i>Collection System and Export Pipeline Basis of Design Report</i>
Caltrans	California Department of Transportation
CARB	California Air Resources Board
Carollo	Carollo Engineers, Inc.
CCTV	closed circuit television
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CHP	California Highway Patrol
CLSM	controlled low strength material
CMP	corrugated metal pipe
County	Butte County
CPT	cone penetration testing
CPU	central processing unit
CVFPB	Central Valley Flood Protection Board
CWEA	California Water Environment Association
dB	decibels
Design-Builder	MCI and Carollo
<i>Desktop Geotechnical Study</i>	<i>Desktop Review of Geologic, Geotechnical, and Environmental Conditions (Fugro 2024)</i>
DIP	ductile iron pipe
DL	download speed
DNP3	distributed network protocol 3
DTSC	Department of Toxic Substances Control
FOG	fats, oils, grease
fps	feet per second
FPVC	fusible polyvinyl chloride
FH	fire hydrant
FRP	fiberglass reinforced plastic

g/bhp-hr	grams per brake-horsepower-hour
GFRP	glass fiber reinforced polymer
GIS	geographic information system
gpm	gallons per minute
H <sub>2</sub> S	hydrogen sulfide
HCD	California Housing and Community Development
HDD	horizontal directional drilling
HDPE	high-density polyethylene
HDR	HDR, Inc.
HGL	hydraulic grade line
HVAC	heating, ventilation, and air conditioning
hp	horsepower
IP	internet protocol address
ITP	Incidental Take Permit
k	thousand
kVA	kilovolt-amperes
kW	kilowatts
LAFCO	Butte Local Agency Formation Commission
LF	linear feet
LiDAR	light detection and ranging
LRO	Legally Responsible Official
M	million
MACP	Manhole Assessment Certification Program
Mbps	megabytes per second
MCI	Mountain Cascade, Inc.
mgd	million gallons per day
MHz	megahertz
<i>MMRP</i>	<i>Mitigation, Monitoring, And Reporting Program</i>
MQTT	Message Queuing Telemetry Transport
ms	milliseconds
MS4	municipal separate storm sewer system
M&T	Mining and Tunneling Unit
MTBE	methyl tert-butyl ether
NAD83	North American Datum of 1983
NASSCO	National Association of Sewer Service Companies
NAVD88	North American Vertical Datum of 1988
NEC	National Electric Code
NFPA	National Fire Protection Association
NGVD29	National Geodetic Vertical Datum of 1929

NMFS	National Marine Fisheries Service
OA	Owners Advisor
O&M	operations and maintenance
OSHA	Occupational Safety and Health Administration
P18 Project	P18 Sewer Trunkline Project
PACP	Pipeline Assessment Certification Program
PC	pressure class
PCB	polychlorinated biphenyl
PDB	progressive design build
PDWF	peak dry weather flow
PE	permanent easement
<i>PEIR</i>	<i>Programmatic Environmental Impact Report</i>
PERP	Portable Equipment Registration Program
PG&E	Pacific Gas and Electric
PID	Paradise Irrigation District
psi	pounds per square inch
PLC	programmable logic controller
ppm	parts per million
Project	Paradise Sewer Project
PS	pipe stiffness
PVC	polyvinyl chloride
PWWF	peak wet weather flow
RAR	Rolls, Anderson & Rolls Civil Engineers
RCP	reinforced concrete pipe
RF	radio frequency
RJIB	restrained joint integral bells
ROW	right-of-way
rpm	revolutions per minute
RWQCB	Regional Water Quality Control Board
SCADA	supervisory control and data acquisition
SDR	standard dimension ratio
SIM	subscriber identity module
SQL	structure query language
SSA	sewer service area
SVOC	semi-volatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
TBD	to be determined
TCE	temporary construction easements
TCP	transmission control protocol

TDH	total dynamic head
Town	Town of Paradise
UL	upload speed
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VFD	variable frequency drive
VOC	volatile organic compound
Water Board	California State Water Resources Control Board
WPCP	water pollution control plant

## SECTION 1 INTRODUCTION

### 1.1 Purpose

Mountain Cascade, Inc. (MCI) and Carollo Engineers, Inc. (Carollo) are teamed to design and construct the Paradise Sewer Project (Project) using a progressive design build (PDB) delivery approach. The Town of Paradise (Town) is the Owner and HDR, Inc. (HDR) is serving as the Owners Advisor (OA). MCI and Carollo (Design-Builder) developed this *Collection System and Export Pipeline Basis of Design Report (BODR)* during the planning phase of the Project.

The purpose of the *BODR* is the following:

- Summarize the technical evaluations performed during preliminary design to define the Project.
- Summarize decisions made by the Town during key technical workshops presented by the Design-Builder during preliminary design.
- Identify next steps and key investigations to advance the design to 30 percent.

### 1.2 Background

The Project includes a new sewer collection system and export pipeline to convey wastewater from the Town to the City of Chico Water Pollution Control Plant (WPCP). The Sewer Collection System conveys wastewater flows within the sewer service area (SSA) consisting of parcels along Skyway, Pearson Road, and Clark Road. The export pipeline conveys flow from the Town to the WPCP. At the WPCP, the wastewater will be combined with flows from the City of Chico for treatment and eventual discharge to the Sacramento River.

The sewer collection system will serve approximately 1,500 parcels within the Town's SSA and, in the future, may expand to serve additional areas referred to as the extended collection system. The key collection system facilities include gravity sewer pipelines and manholes, small local pump stations, collector pump stations, force mains, and customer lateral connections. The key export pipeline facilities include gravity sewers and manholes, a pump station and force main, transition structure, gravity force main, and flow metering and flow control facility. Figure 1 presents an overview of the Project.

The OA structured the Project into three phases: Phase 1A for the *BODR*, Phase 1B for final design, and Phase 2 for construction.



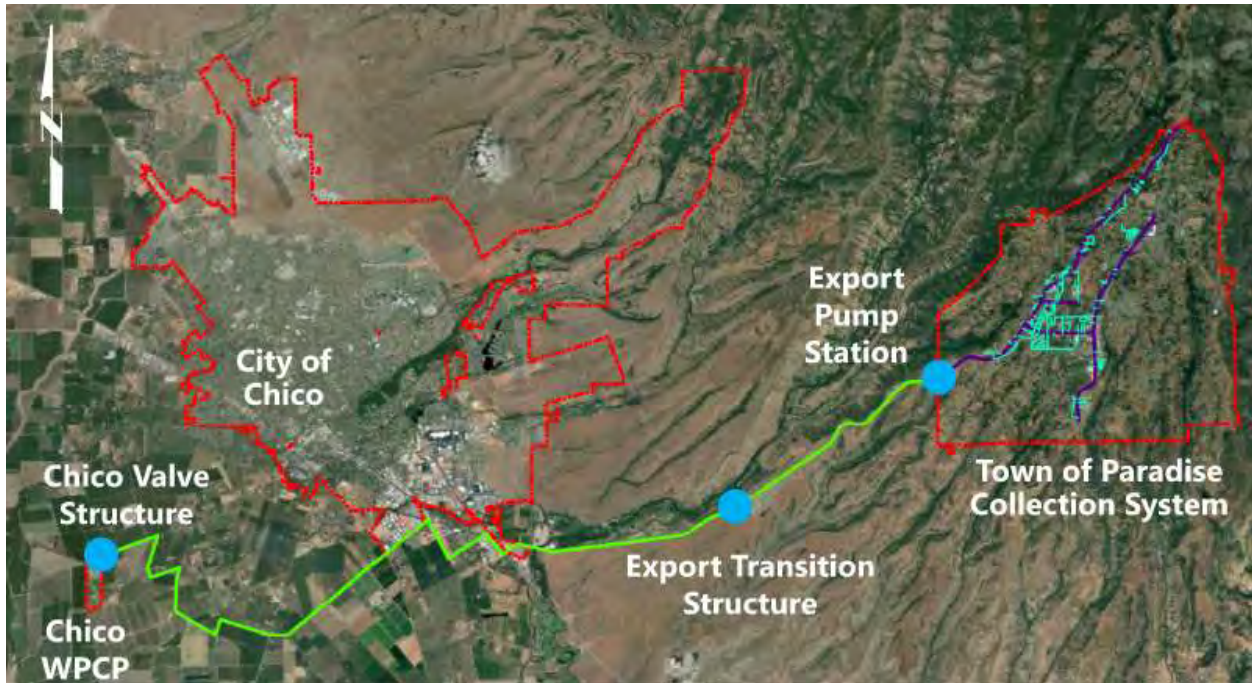


Figure 1 [Project Overview](#)

### 1.3 Project Objectives

The Town does not have a sewer collection system and relies solely on septic systems for wastewater treatment and disposal from private residences, businesses, and industry within the Town. This has negatively impacted the Town's economy and recovery from the 2018 Camp Fire and also poses a threat to the groundwater and surface water quality of the region.

There are three primary Project objectives:

1. Provide long-term, efficient, reliable disposal of wastewater in a cost-effective, environmentally beneficial manner acceptable to the Regional Water Quality Control Board (RWQCB) and other regulatory agencies. The wastewater disposal system should:
  - a. Accommodate regrowth while reducing further environmental groundwater and surface water degradation from failing septic systems.
  - b. Reduce the public health risk associated with failing septic systems.
2. Generate economic recovery by eliminating septic-related capacity limitations, as well as the general burden of on-site wastewater management for businesses:
  - a. Promote the return or arrival of essential community services and businesses by removing restrictions caused by on-site septic systems.
3. Provide for the ability to construct and maintain affordable housing, specifically multi-family housing:
  - a. Support centralizing affordable housing to Paradise's urban core, along major evacuation routes.

## 1.4 Technical Workshops

The Design-Builder team met with the Town and OA to present a series of key technical workshops during preliminary design. The purpose of the workshops was to discuss key technical issues with the Town as the *BODR* was developed. The Design-Builder team presented the following technical workshops.

- Workshop 1: “Information/Data Needs Review Kickoff Workshop,” March 18 to 22, 2024:
  - » Export Pipeline Day 1 and 2.
  - » Collection System Day 1 and 2.
- Workshop 2: “Week 2 Working Session,” April 9 and 10, 2024:
  - » Export Pipeline Transition Structure Location/Sizing.
  - » Export Pipeline Trenchless Opportunities/Limitations.
  - » Export Pipeline Routing Options.
  - » Collection System Lateral Connection Scenarios.
  - » Collection System Layout Adjustment.
  - » Collection System Model Development.
  - » Collection System Operations and Maintenance (O&M).
- Workshop 3: “Collection System Model Workshop,” May 29, 2024.
- Workshop 4: “Supervisory Control and Data Acquisition (SCADA) Strategy Workshop,” May 29, 2024.
- Workshop 5: “Transition Structure and Flow Control Vault,” June 27, 2024.
- Workshop 6: “Easements and Property Acquisitions,” August 7, 2024.
- Workshop 7: “Collection System Lateral Strategies,” August 7, 2024.

## SECTION 2 REFERENCE DOCUMENT REVIEW

This section presents a summary of reference documents reviewed during development of the *BODR*.

### 2.1 Technical Memorandums Developed by HDR, Inc.

The Design-Builder reviewed the following technical memorandums developed by HDR during the basis of design phase:

- *Phase 1 Executive Summary* (November 2020).
- *Technical Memorandum #2 – Design Criteria for Local Wastewater Treatment Plant* (November 2020).
- *Technical Memorandum #3 – Evaluation of Collection System* (November 2020).
- *Technical Memorandum #2A – Analysis of Additions to Sewer Service Area* (March 2022).
- *Technical Memorandum #8 – Export Pipeline Analysis* (March 2022).
- *Technical Memorandum #9 – EIR Construction Analysis* (February 2022).
- *Technical Memorandum #10 – Analysis of Extended Collection System* (March 2022).
- *Technical Memorandum #11 – Environmental Permitting Strategy* (June 2022).
- *Cash Flow and Funding Scenarios Technical Memorandum* (September 2023).

- *Analysis of Parcels in the SSA Technical Memorandum* (November 2023).
- *Technical Memorandum #15.1 – Funding and Rate Analysis – 2024 Update* (February 2024).

## 2.2 Environmental Documentation

### 2.2.1 Final Program Environmental Impact Report (PEIR) Documents

In November 2022, the final *PEIR* was approved and certified by the Town Council. In July 2023, an addendum to file was appended to the final *PEIR* to include the addition of five parcels identified as “Paradise Community Village.” This document addressed the potential environmental effects of construction, operation and maintenance of the Project. The *PEIR* also identified the anticipated required permits and approvals which are included in a permitting matrix shown in Appendix K. In November 2022, the Project *Mitigation, Monitoring, and Reporting Program (MMRP)* was approved by the Town Council. The requirements of this program will be incorporated into the design and followed during construction.

### 2.2.2 Aquatic Resources Delineation Report

The *Aquatic Resources Delineation Report* was finalized by HDR in January 2024. The purpose of this report was to describe the existing biological environment in the delineated aquatic resources within the Project survey area. The report gives recommendations to avoid or minimize impacts to aquatic resources during construction, provides boundary determinations for review by regulatory authorities, and provides early indication of known federally listed species. Recommendations will be incorporated into the design and followed during construction.

## 2.3 Other Documents

Other documents that have been reviewed and taken into consideration during predesign include the following:

- 2023 Inter-Municipal Agreement with City of Chico: This document provides approval to connect the sewer system to the Chico WPCP.
- Butte Local Agency Formation Commission (LAFCO) approval: This document gives approval to extend the City of Chico sewer service area to include the Town’s SSA.

## SECTION 3 PHASE 1A FIELD INVESTIGATIONS

This section summarizes the field investigations performed during the *BODR* and includes topographic survey and a geotechnical desktop study.

### 3.1 Topographic Survey

The Design-Builder performed topographic surveys of the export pipeline trenchless crossings and established horizontal and vertical control for the export pipeline. The following summarizes the topographic surveying performed during Phase 1A.

### 3.1.1 Basis of Bearings and Basis of Elevation

The basis of bearings (horizontal control) of the topographic surveys is the State Plane Coordinate System North American Datum of 1983 (NAD83), Zone II. The basis of elevation (vertical control) is the Town National Geodetic Vertical Datum of 1929 (NGVD29). The basis of bearings and elevation will be the same for both the collection system and export pipeline.

### 3.1.1 Export Pipeline Survey Control

In August 2024, Rolls, Anderson & Rolls Civil Engineers (RAR) established primary horizontal and vertical control for the export pipeline based on the State Plane Coordinate System NAD83, Zone II, and NGVD29. Primary control points were set along the export pipeline alignment at intervals of not more than one mile.

### 3.1.2 Pacific Gas and Electric (PG&E) Light Detection and Ranging (LiDAR)

PG&E developed a LiDAR survey of the electrical undergrounding project within the Town in 2019. PG&E's surveyor provided the survey information to the Town based on the following information:

- The LiDAR files were based on the North American Vertical Datum of 1988 (NAVD88).
- The tiles met the Accuracy Standards for Digital Geospatial Data with 10-centimeter vertical accuracy.
- The files were checked with 40 vertical control points and four to five Town control points.
- The LiDAR survey included the Town and a small segment of Skyway outside the Town.

The LiDAR files were converted from NAVD88 to NGVD29 to match the Town's vertical datum. The conversion from NAVD88 to NGVD29 required evaluating the Town's published benchmark data and the Record of Survey for PG&E Company (Book 197 of maps at pages 15-16). Four town benchmarks were identified for evaluation. The benchmarks were located during a field review, had published data sheets and were included in PG&E's record of survey. Appendix L identifies the four benchmarks that were analyzed for datum conversion. Each benchmark was field inspected for quality assurance and location verification. Construction projects within the town have resulted in the destruction of many monuments which affects the repeatability of survey site visits for vertical control checks. Benchmark number 5097 was identified as a monument of good quality and in a location that seemed protected from potential construction activities. The datum conversion for benchmark number 5097 from NAVD88 to NGVD29 was determined to be minus 2.53 feet. The LiDAR surface was converted from NAVD88 to NGVD29 by lowering the entire surface 2.53 feet.

The Design-Builder will use the PG&E LiDAR files to develop the preliminary design of the collection system instead of performing a new LiDAR survey. The Design-Builder is planning to perform additional ground survey within the Town to verify existing utilities, right-of-way (ROW) and septic tank locations. The Design-Builder is planning to perform an additional LiDAR survey of the export pipeline and ground survey export pipeline alignment.

### 3.1.3 Phase 1A Survey - Export Pipeline Trenchless Crossings

In August 2024, RAR performed detailed ground surveys of four trenchless construction crossings to advance their design ahead of the rest of the Project design and mitigate potential delays in obtaining permits. Detailed ground survey was performed utilizing conventional ground-based survey equipment to capture top and bottom of banks, creek channel grade breaks, bathymetry below the water surface of creeks, corners and edges of concrete structure, bridge features, edges of hardscaping, pavement, fencing, surface visible utilities, trees (larger than 6-inch) and limits of rock escarpments. Cross-sectional topographic survey data was captured for a distance of 75 feet on either side of the proposed export pipeline alignment the following crossing locations:

- Butte Creek.
- Union Pacific Railroad.
- Comanche Creek.
- Little Chico Creek.

### 3.1.4 Phase 1B Survey – Export Pipeline and Collection System

Surveying for the entire Project (besides the trenchless crossing survey) will be performed for detailed design as part of the 30 percent design effort.

The Phase 1B survey for the collection system will include:

- Setting primary and secondary control for the entire collection system.
- Supplemental ground survey from ROW to ROW line of all utility and other surface features including underground service alert utility markings and trench scars where visible.
- ROW determination and resolution.
- Identification of septic tank locations.

The Phase 1B survey for the export pipeline will include:

- Setting secondary control and aerial control for entire export pipeline alignment.
- LiDAR and orthographic mapping survey.
- Detailed topographic survey of all surface features including pavement, curb, gutter and sidewalks, utility features, fences, etc.
- ROW determination.

Additionally, for both the collection system and export pipeline, existing utility owners were contacted and the provided existing utility records will be incorporated into the survey during Phase 1B work.

## 3.2 ***Desktop Review of Geologic, Geotechnical, and Environmental Conditions (Desktop Geotechnical Study)***

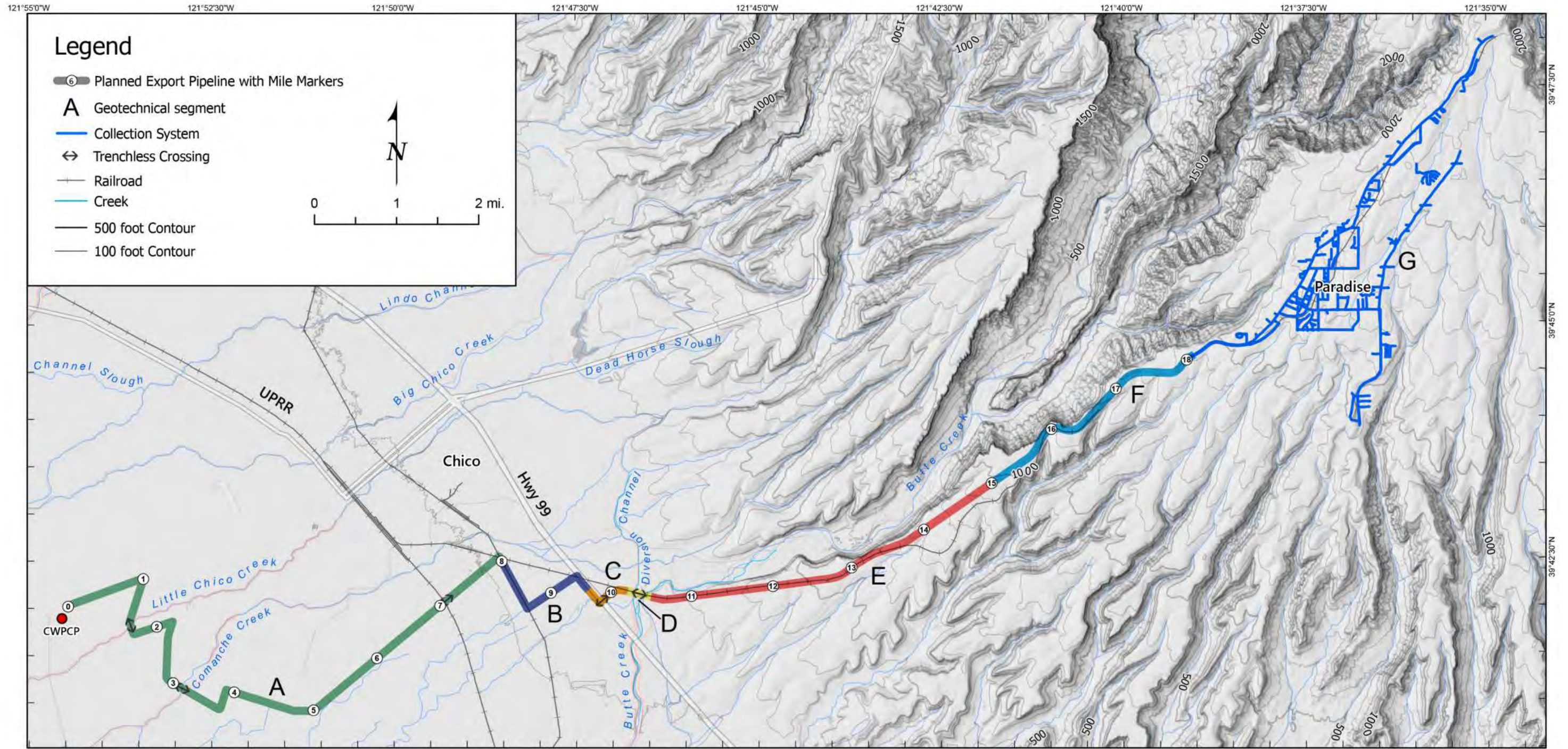
Fugro developed a *Desktop Geotechnical Study* for the Project to summarize available geologic, geotechnical, and environmental information along the planned alignment of the sewer collection system and export pipeline. The purpose of the study is to generally characterize the subsurface soils and rock, identify any geologic hazards or adverse subsurface environmental conditions that may affect pipeline

construction or long-term integrity of the Project, and provide preliminary geotechnical investigation planning for future field investigations.

The July 2024 *Desktop Geotechnical Study* is included in Appendix C. The following provides a brief summary of the key findings of the *Desktop Geotechnical Study*.

- Soil conditions vary along the Project alignment and were evaluated as seven separate segments based on soil type boundaries. Based on the available data, two primary construction challenges are anticipated:
- The presence of cobbles and boulders in the subsurface over much of the alignment poses a challenge to trench excavation. Excavation of cobbles and boulders may result in overbreak beyond the planned construction limits. Reuse of the cobbles and boulders as backfill may require crushing.
- The presence of hard/indurated volcanic mudflow deposits at shallow depths. From Butte Creek (Mile 10.5) to Mile 15 along Skyway, the top of indurated rock is less than 20 inches deep, and is somewhat less severe from Miles 15 to 18 (Skyway "Y"). Excavating the trench through this area may require additional time and involve specialized equipment or methods. Fugro recommends keeping the pipe trench as shallow as possible.

The general soil and geologic conditions for the Project are summarized in Figure 2.



Elevation Source: USGS 10m DEM, 2021

Segment	Geologic Conditions	Potential Geotechnical Concerns
A	Loose to firm fine-grained alluvium with gravel layers below 9 ft.	Trench wall instability, shallow groundwater. Trenchless crossing may encounter gravel
B	Stiff sandy silt and clay alluvium with gravel layers below 9 ft.	Shallow groundwater
C	Loose to dense sand, gravel, and cobbles of historical mine tailings	Caving of loose rocks and over-break. Trenchless crossing through mine tailings
D	Active drainages with loose gravel, sand and silt, shallow bedrock	Trenchless crossing through weathered bedrock and gravelly alluvium
E	Very shallow, hard, weathered volcanic deposits	Difficult excavation, over-excavation
F	Shallow soil over hard, weathered volcanic deposits	Difficult excavation, over-excavation, landslide susceptibility
G	Weathered volcanic deposits: lean sandy clay with gravel, cobbles, and boulders	Over-break due to boulders and cobbles in soil matrix, seasonal shallow groundwater along drainages

Figure 2 Project Soil and Geological Conditions by Area (Fugro 2024)  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

### 3.2.1 Groundwater

Fugro reviewed the available information and found that groundwater is estimated to flow southwest from the Town to the City of Chico with groundwater depths varying substantially throughout Town. Groundwater depths are anticipated to vary between 5 to 15 feet below ground surface (bgs) along Skyway and 30 and 50 feet bgs along Clark Road.

At the Kinder Morgan Chico Terminal in Chico there are four different groundwater zones with depths ranging from 6 to 20 feet, 10 to 54 feet, 43 to 51 feet, and 48 to 56 feet bgs respectively. Groundwater in some of these zones is likely under artesian pressure. This influences the depths to groundwater observed and is significantly dependent on the hydrologic cycle. Additionally, the Skyway Subdivision Groundwater Plume off of Speedway Avenue has three identified groundwater zones with groundwater depths ranging from 25 to 66 feet bgs in one zone; 25 to 93 feet bgs in a second zone, and 70 to 95 feet bgs in the third zone.

Groundwater, localized surficial water, perched groundwater, springs, or unlined surface or agricultural conveyance could be encountered during construction especially during the wet season, requiring dewatering in excavations. A sump and/or dewatering wells will likely be required to keep excavations dry. Water disposal will require discharge permits which must be obtained prior to construction.

### 3.2.2 Potential Risk for Hazardous Materials

Fugro reviewed available environmental regulatory agency records and existing geotechnical reports for soil and groundwater contaminated sites in the Project area. Fugro assigned a Hazard Ranking of 1 to 4. These rankings are described as follows:

- Hazard Ranking 1: A site that will likely affect the Project's construction due to contaminated soil and/or groundwater within the Project ROW.
- Hazard Ranking 2: A site with the potential to affect the Project either due to the presence of contamination that may migrate to the Project ROW, or because the extent of contamination is unknown.
- Hazard Ranking 3: A site not known to be contaminated, but current or historical use could possibly cause contamination.
- Hazard Ranking 4: A site with no documented chemical releases, but may have previous chemical users or be a waste generating site based on land use. A site with Hazard Ranking 4 may have less potential to impact the Project ROW.

Hazard Ranking of 1 or 2 was assigned to a total 45 facilities within the Project area. These facilities are listed in Table 4.4 of the *Desktop Geotechnical Study*. This ranking, coupled with the known impacts from leaking septic systems as well as the devastation resulting from the 2018 Camp Fire in the Project area, indicates a high potential for soil and/or groundwater impacts. Table 1 provides a broad overview of the findings, while more details for listed sites can be found in Appendix C



Table 1 Hazardous Material Risk Summary

Item	Findings
<b>Export Pipeline</b>	
City of Chico Area (Chico WPCP to Highway 99)	<ul style="list-style-type: none"> <li>▪ Land use consists of a mix of rural residential, commercial/industrial, and agricultural (orchards).</li> <li>▪ Skyway Subdivision Groundwater Plume (37 Speedway Avenue) is under the oversight of DTSC for chlorinated solvent impacts (tetrachloroethene and trichloroethene) and extends past Midway and Hegan Lane, beyond the UPRR tracks; 2023 monitoring indicates elevated trichloroethene in shallow groundwater and tetrachloroethene and other VOCs in deeper zones.</li> <li>▪ Kinder Morgan Chico Terminal Plume (2570 Hegan Lane) is under the oversight of RWQCB for petroleum hydrocarbon and VOCs (benzene and MTBE). Contaminants are present within shallow groundwater zone adjacent to construction area based on a groundwater monitoring event conducted in September 2023.</li> <li>▪ Soil and groundwater may contain heavy metals, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, PCBs, asbestos, and biological bacteria within the construction zone.</li> </ul>
Skyway (Highway 99 to Skyway "Y")	<ul style="list-style-type: none"> <li>▪ No open or closed regulatory case files in this area.</li> <li>▪ Land use was open space with rural residential housing.</li> <li>▪ Septic systems have potential for bacterial contamination.</li> <li>▪ Remanent fire debris may be encountered in shallow soil.</li> <li>▪ Paradise Rod and Gun Club and 2018 Camp Fire response staging area located along alignment.</li> <li>▪ Soil and groundwater may contain heavy metals, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, PCBs, asbestos, and biological bacteria within the construction zone.</li> </ul>
<b>Sewer Collection System</b>	
Town of Paradise	<ul style="list-style-type: none"> <li>▪ Land use is comprised of a mix of rural residential, commercial, and industrial.</li> <li>▪ Soil and groundwater within the Project corridor may be impacted by bacteria due to septic systems.</li> <li>▪ Remanent fire debris may be encountered in shallow soil resulting in petroleum hydrocarbons, SVOCs, asbestos, and heavy metals (lead).</li> <li>▪ Listed sites consisted of former UST and permitted UST sites.</li> <li>▪ Soil and groundwater may contain heavy metals, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, PCBs, asbestos, and biological bacteria within the construction zone.</li> </ul>

Notes:

DTSC - Department of Toxic Substances Control; MTBE - methyl tert-butyl ether; PCB - polychlorinated biphenyl; SVOC - semi-volatile organic compound; UPRR - Union Pacific Railroad; UST - underground storage tank; VOC - volatile organic compound.

### 3.2.3 Geotechnical Investigation Next Steps

The Design-Builder will develop a Project geotechnical exploration plan to establish the necessary values for performing final design. The Project geotechnical investigation plan will be presented to the Town to confirm the scope of work for necessary geotechnical investigations.

## SECTION 4 EXISTING UTILITIES, PUBLIC WORKS FACILITIES, AND UPCOMING PROJECTS

This section summarizes agencies that own utilities and/or facilities in Town, along the export pipeline, and the upcoming projects each agency has scheduled that may impact the Project.

### 4.1 Export Pipeline Agencies

#### 4.1.1 Pacific Gas and Electric

##### 4.1.1.1 Electric Distribution and Transmission

There are both aboveground and underground power utilities within Skyway along the export pipeline:

- From Skyway Crossroad west until Cliffhanger Lane, there are aboveground PG&E utilities on the north side of Skyway.
- At Cliffhanger Lane, the aboveground PG&E utilities shift to the south side of Skyway where they continue to the west.
- The PG&E utilities transition from aboveground to underground on the south side of Skyway across from the 4117 Skyway property.
- PG&E utilities remain underground until just east of the curve prior to the Butte Creek crossing on the south side of Skyway. Aboveground utilities also begin on the North side of Skyway at Oak Ridge Drive and to the west.
- There are two locations along Skyway where transmission lines cross Skyway: east of Rocky Bluff Drive and west of Spanish Garden Drive.

Overhead power generally runs along the other portions of the export pipeline alignment. PG&E has not yet released drawings along the alignment.

##### 4.1.1.2 Gas Distribution

PG&E provides gas service through unincorporated Butte County (County), and the City of Chico. Protection of gas distribution lines and gas laterals will be required during all construction phases of the Project. Carollo requested and received record drawings for PG&E's gas distribution system for all parts of the export pipeline.

##### 4.1.1.3 Gas Transmission Lines

In the City of Chico, PG&E has small-diameter gas transmission pipelines along Hegan Lane. Based on the information provided by PG&E, the gas transmission pipelines are generally located on the south side of the road.

## 4.1.2 Kinder Morgan

Kinder Morgan owns and operates a tank terminal located at the corner of Hegan Lane and Midway in Chico (along the export pipeline alignment) which is used for storage and transfer of refined petroleum products. Based on the limited information provided by Kinder Morgan to date, it is assumed there is at a minimum an 8-inch petroleum pipeline located in Hegan Lane, parallel to the proposed export pipeline alignment. During construction, the Kinder Morgan pipeline will be marked and located, then potholed at periodic intervals to confirm the alignment and ensure the export pipeline is installed with sufficient horizontal and vertical clearance.

Additionally, traffic control will have to be coordinated with Kinder Morgan to avoid conflicts with Kinder Morgan's trucking operations.

## 4.1.3 City of Chico

### 4.1.3.1 P18 Sewer Trunkline Project (P18 Project)

The P18 Project is a 24-inch sanitary sewer project by the City of Chico anticipated to commence construction in 2025. The P18 Project is a gravity sewer that will convey sewer flows from the southeast side of the City of Chico to a downstream trunk line that conveys flow to the WPCP. The export pipeline will be installed parallel to the P18 pipeline and will share a similar alignment corridor for approximately 8,400 feet along Hegan Lane, Entler Avenue, and at the Highway 99 crossing.

Between Butte Creek and Highway 99, the export pipeline alignment will be designed with a minimum 10-foot horizontal clearance from the P18 sewer alignment. When the export pipeline crosses Highway 99, a minimum 20-foot horizontal clearance will be maintained. The City of Chico P18 is anticipated to be lower than the export pipeline. Therefore, no vertical conflicts are expected.

Future road improvement will be included in the P18 Project, which will be implemented in a phased approach. Construction is anticipated to start in 2025 and is anticipated to be completed in approximately three years. The P18 Project also includes a slurry seal of Entler Avenue following the sewer installation.

Figure 3 depicts the P18 sewer trunkline alignment in white and the proposed export pipeline alignment in green.

Carollo performed hydraulic modeling to evaluate the hydraulic impacts of connecting the export pipeline to the P18 Project instead of connecting the export pipeline to the WPCP. Results of the hydraulic modeling are presented in Appendix B. Results of the evaluation indicate the majority of the City of Chico's sewer system from P18 to the WPCP would not have sufficient capacity to convey wastewater flow from both the City of Chico and the Town without significant capacity improvement projects to the City of Chico's sewer collection system and likely would not result in reducing project cost. Discussions with the Town and OA in September confirmed this alternative is not preferred. During final design, design-builder will evaluate the feasibility of an emergency connection from the export pipeline to the P18 Project in the event the export pipeline is blocked or damaged.



Figure 3 P18 Project Alignment

#### 4.1.3.2 Water Pollution Control Plant Pond Improvements

Wastewater from the Town will enter Chico's WPCP through the flow control structure, discussed in detail in Section 8.4. The flow control structure will include a bypass line for discharge to Chico's Northeast Pond under emergency conditions. The City of Chico has plans to deepen and line the pond in response to related regulatory requirements, however the City's current schedule for pond improvements is after Project construction schedule. The bypass of high-pressure wastewater from the Paradise collection system will require energy dissipating improvements, pond lining, and other potential pond improvements. During a meeting with the City of Chico in September 2024, Chico decided to pursue a pond improvement project in the near-term aimed at accommodating the City of Chico's and Town's longer-term needs. The Town and City of Chico will need to work to establish a reimbursement plan during the finalization of the connection agreement.

#### 4.1.4 Durham Mutual Water Company

Durham Mutual Water Company was created by area residents. The company provides surface water for agricultural uses from Butte Creek. The water is diverted at Durham Mutual Dam and is then conveyed to customers in the service area (County 2016 *Water Inventory and Analysis*, Appendix A). Durham Mutual Water Company installed a fish screen and fish ladder in Butte Creek in 1997. The fish ladder consists of a large concrete structure and its associated piping, located on the east side of the creek. The fish ladder is within the area that will be crossed using trenchless pipeline installation methods but no impact from the construction or operation of the export pipeline is anticipated due to the proposed depth and alignment of the trenchless crossing.

#### 4.1.5 United States Army Corps of Engineers (USACE)

The Little Chico-Butte Creek Diversion Channel runs parallel to the west side of Butte Creek adjacent to the Butte Creek levees that are under the oversight of USACE. In 1959, USACE installed a flood control structure on Little Chico Creek to limit flows through the City of Chico to reduce the risk of flooding in the City of Chico. Excess high-water flows are diverted into the diversion channel and discharged to Butte Creek. Similar to the fish ladder, this structure will be crossed using trenchless pipeline installation methods and will not be impacted by the construction or operation of the export pipeline.

Discussed in additional detail in Section 8.5.1, geotechnical borings and trenchless construction within USACE assets will require an approved Section 408 Permit. The trenchless crossings will be designed and installed in accordance with USACE requirements.

#### 4.1.6 Butte County

Most of the export pipeline alignment is within the County's ROW. The County also owns stormwater utilities along the alignment including storm drains and culverts. The alignment is adjacent to two County owned bridges: the 40-foot-long bridge over Little Chico Creek on Taffee Avenue and the 48-foot long bridge over Comanche Creek. To date as-built drawings have been obtained for the Little Chico Creek bridge and are not available for the Comanche Creek bridge. The export pipeline will be installed using a trenchless crossing under the existing water bodies at these two locations, which will avoid impacts to the existing bridges.

#### 4.1.7 California Department of Transportation (Caltrans)

##### 4.1.7.1 Southgate Interchange Project

The Southgate Interchange Project is currently in the planning phase consisting of a new interchange at the intersection of State Route 99 and Southgate Avenue. The revised export pipeline alignment crosses Highway 99 approximately 1,600 linear feet (LF) northwest of the intersection of Southgate Avenue and Highway 99, therefore there are no anticipated conflicts with the potential interchange and the Project.

#### 4.1.8 AT&T

AT&T provided utility mapping along the export pipeline routing that indicated both aerial and buried facilities.

#### 4.1.9 Comcast

Comcast did not provide utility mapping outside of the Town of Paradise boundary, except along the export pipeline routing on Skyway.

#### 4.1.10 Zayo Group LLC

Zayo Group LLC provides communication infrastructure services and was identified in the USA Design Dig Alert as potentially having utilities adjacent to the export pipeline alignment. During discussion with the utility, it was confirmed that there are communication lines along Chico River Road parallel to the export pipeline alignment and the entrance to the Chico WPCP.

#### 4.1.11 Lumen

Lumen is a communication company that was identified in the USA Design Dig Alert as potentially having utilities adjacent to the export pipeline alignment. Outreach to the utility confirmed that they do not have any facilities near the alignment.

#### 4.1.12 Cogent Communications

Cogent Communications is another communications infrastructure company that was identified in the USA Design Dig Alert as potentially having utilities near the export pipeline alignment. Cogent has not responded following the utility outreach.

### 4.2 Collection System Agencies

#### 4.2.1 Paradise Irrigation District (PID)

The PID supplies water to most areas within the Town. PID operates a raw water intake at Magalia Reservoir which is pumped to PID's Water Treatment Plant located north of the Town in Magalia. The treated water is conveyed to PID's distribution system through a 42-inch transmission main. PID operates a distribution system of 170 miles of pressure pipe ranging from 1 to 36 inches in diameter. PID's distribution system sustained severe damage during the Camp Fire.

##### 4.2.1.1 Lateral Replacement Program

A large proportion of customer water meters were significantly damaged during the Camp Fire. Since summer 2021, PID began a program to install water meters at all locations where there is active water usage. This work includes associated lateral replacement. PID is currently on the 3rd and final phase of the project which is scheduled to be completed by Fall 2025. By Spring 2025, PID plans to have finished the replacement of all the laterals within Town ROWs before starting work through the private roads within the Town.

##### 4.2.1.2 Water Pipeline Replacement Program

Construction of the first phase of PID's pipeline replacement project started in Spring 2024 and is estimated to be complete by Spring 2026. The scope of this project is to repair the pipelines that were damaged during the 2018 Camp Fire. Critical areas as part of this project include:

- Skyway – From Rocky Lane to Herb Lane.
- Clark Road – From Eaglet Way to Skyway.
- Clark Road and Elliott Road.
- Future water main replacement phases are being planned. The Design-Built Team will have ongoing coordination with PID through Project completion.

## 4.2.2 Pacific Gas and Electric

### 4.2.2.1 Power Line Undergrounding Project

In response to the 2018 Camp Fire, PG&E is undergrounding 200 miles of electrical lines in the Town and removing the aboveground power poles and cables. PG&E forecasts that 56 miles of electrical line undergrounding will be completed by the end of 2024 and 96 miles in total will be completed by 2026.

PG&E has provided record drawings for projects in the Town and will continue to supply information as additional areas are designed and constructed. The as-built drawings are helpful since in addition to providing the duct bank and appurtenance locations, they also show other existing utility information. Additionally, PG&E is working with Comcast and AT&T to underground their cables. These companies joined the PG&E undergrounding project late so some of their facilities are currently still on poles.

### 4.2.2.2 Gas Distribution

PG&E provides gas service throughout the Town and unincorporated areas of the County. Protection of gas distribution lines and gas laterals will be required during all construction phases of the Project. Carollo requested and received record drawings for PG&E's gas distribution system for all parts of the Project work area.

### 4.2.2.3 Gas Transmission Lines

PG&E has gas transmission lines in several locations within the Project as well as. In the collection system, a 6-inch transmission line is located in Neal Road that provides gas to the Town. The collection system trunk pipeline in Skyway will cross one transmission line near the Neal Road intersection. PG&E also has transmission lines in Hegan Lane that will parallel the export pipeline alignment. In all instances where construction of the collection system or export pipeline are adjacent to or crossing a transmission line, the transmission line will be protected in place.

### 4.2.2.4 Fiber Optic

Empty fiber optic conduits have been installed as part of PG&E's undergrounding efforts. Both Comcast and AT&T are pulling their fiber optic cables through the empty conduits at different times. PG&E has provided record drawings showing the fiber optic conduits installed through Town and will continue providing the information. Updated utility mapping will be used during detailed design to determine the locations that have been undergrounded by AT&T and Comcast.

## 4.2.3 Comcast

Comcast currently has a combination of aboveground and buried utilities throughout the Town and along roads within the SSA. Comcast lines exist along Skyway from Skyway Crossroad to Pentz Road. The Comcast alignment along Skyway is buried with the exception of a portion from Billie Road to Wagstaff Road, which is aerial. The area along Clark Road from Billie Road to Old Clark Road is buried as well. Comcast is currently working on pulling cable through empty telephone conduits installed as part of PG&E's underground project.

#### 4.2.4 AT&T

Following the 2018 Camp Fire, AT&T buried facilities along Skyway in the same alignment as PG&E. There are also overhead and buried AT&T alignments on the north side of Skyway. Utility mapping provided by AT&T shows aerial lines along Skyway from Pentz Road to Billie Road and again between Black Olive Drive and Skyway Crossroad. The rest of the AT&T alignment along Skyway are shown as buried. In addition, the utility mapping shows that a majority of Clark Road has aerial AT&T lines within the SSA with small portions of buried cable. AT&T is currently working on pulling cable through empty telephone conduits installed as part of PG&E’s underground project.

#### 4.2.5 Town of Paradise

##### 4.2.5.1 Storm Drain Improvements

Wood Rodgers Inc. developed a *Storm Drainage Master Plan* in June 2022. A list of recommended storm drainage projects was included in the master plan to address flooding and material deficiency issues throughout Town. Critical areas with recommended storm drain improvement projects within the SSA are shown in Table 2. These projects will be coordinated with the Town during detailed design. Additionally, the Town provided storm drain improvement record drawings for the Town’s commercial area around Almond Street.

Table 2 Recommended Storm Drain Improvements Within SSA

Project Location	Recommended Scope
Billie Road and Skyway	Replace existing 24-inch diameter HDPE crossing Billie Road with 36-inch diameter RCP.
Saxberg Drive	Replace existing culvert crossing Saberg Road with a double 3-foot high by 7-foot wide RCB culvert.
Elliott Road and Copeland Road	Replace existing 48-inch diameter CMP crossing Elliot Road with a new 60-inch diameter RCP.
Elliot Road near James Drive	Replace existing 36-inch diameter CMP crossing Elliott Road with a double 36-inch diameter RCP culvert.
Pearson Road and Chapel Drive	Lower upstream invert north of Pearson Road and replace existing 60-inch diameter CMP crossing Pearson Road with a new double 6-foot high by 7-foot wide RCB culvert.
Pearson Road near Scottwood Road	Replace existing 48-inch diameter CMP crossing Pearson Road with a new 48-inch diameter RCP.
Skyway south of Fir Street	Replace existing 15-inch diameter PVC crossing under Skyway with a new 15-inch diameter RCP.
Pearson Road near College Hill Road	Replace existing 30-inch diameter HDPE along Pearson Road with a new 30-inch diameter RCP.
Scottwood Road near Highland Lane	Replace existing 8-inch diameter RCP with a new 12-inch diameter RCP.

Notes:

CMP - corrugated metal pipe; RCB - reinforced concrete box; RCP - reinforced concrete pipe.

(1) Source: Wood Rogers. June 7, 2022. *Storm Drainage Master Plan*.



### 4.2.5.2 Paving Projects

A list of the completed and future paving projects within the SSA are shown below in Table 3.

Table 3 Existing and Future Re-Paving Projects

Street	Anticipated Year of Construction
<b>Completed Paving Projects</b>	
Skyway (from Skyway Crossroad to Center Street)	2022
Almond Street	
Birch Street	
Fir Street	
Black Olive Drive (Pearson Road to Fir Street)	
Foster Road (Birch Street to Skyway)	2023
Cedar Street	
Black Olive Drive (Fir Street to Willow Street)	
<b>Current/Future Paving Projects</b>	
Foster Road	2024
Maxwell Drive	
Queen Drive	
Buschmann Road	2025
Pearson Road	
Nunneley Road	
Elliot Road	
Clark Road (from Pearson Road to Skyway)	
Skyway (from Wagstaff Road to Pentz Road)	
Skyway (from Lucky John Road to Billie Road)	2026
Skyway (from Billie Road to Wagstaff Road)	
Black Olive Drive	
Oakwood Lane	
Scottwood Road	
Sierra Park Drive	
Academy Drive	
Keith Road	

Notes:

- (1) Source: Town. 2022. Paving Plan.
- (2) Source: Town Council. August 13, 2024. Meeting Minutes.

## Special Paving Requirements – Moratorium Streets

The Town has a three-year moratorium on all public roads. Excavation within moratorium streets is allowed under certain exceptions, including work mandated by the Town, as stated in the Town's Ordinance 12.14.260. Moratorium street projects include special paving requirements as discussed in Section 7.

### 4.2.6 California Department of Transportation

Highway 191 (Clark Road) south of the Pearson and Clark Road intersection lies within Caltrans ROW and has existing culverts within their ROW.

## 4.3 Utility Clearance Requirements

This section discusses the minimum clearances required for specific utilities in the collection system area and the export pipeline area. In all scenarios, the sewers and force mains will be installed with enough separation between other utilities to limit potential damage during construction.

### 4.3.1 Electric and Communication Utilities

A minimum of 1-foot vertical clearance will be maintained at any electric and communication crossings. Where power poles still remain in the Town, a minimum of 6 feet of clearance will be used between the edge of the trench wall and the power pole, if possible, to avoid having to provide temporary support of the power pole during construction. In locations where 6 feet of clear cannot be maintained, coordination with PG&E, Comcast, and/or AT&T will be required.

PG&E provided their undergrounding design drawings that cover the majority of the collection system. These design drawings mostly include Comcast and AT&T conduits. The Design-Builder has access to as-built drawings for approximately one-third of the system.

The export pipeline will be installed outside of any easement or ROW owned by a communication or electric utility.

### 4.3.2 Natural Gas Pipelines

#### Pacific Gas and Electric

Sewer lines will be routed with a minimum separation of 12 inches of vertical clearance to existing PG&E lines. PG&E requires a pre-construction meeting and a PG&E inspector on site when excavation is done within 5 feet of a high-pressure transmission line. A horizontal distance greater than 5 feet will be used, if possible, to avoid onsite PG&E inspection during construction and future Town restrictions for repairs and maintenance.

PG&E has both gas transmission and distribution pipelines in the collection system and export pipeline area. PG&E provided their standard schematic gas distribution system drawings for the SSA and in some locations gas lines are shown on their underground design drawings. PG&E gas transmission mapping shows a single transmission line that enters Skyway near the Neal Road intersection that may require a crossing. However, distribution system maps show there are also existing 6-inch distribution lines in the system.

## Kinder Morgan

Kinder Morgan requires a minimum clearance of 24 inches between all utilities and their pipelines. Additionally, all crossings shall be made as close to 90 degrees as possible. Parallel occupation within their easement is not permitted. During construction, Kinder Morgan requires that their pipelines are exposed (potholed) prior to crossing to determine the exact alignment and depth. Kinder Morgan typically requires a representative to be present while their pipeline is exposed.

### 4.3.3 Water Utilities

Per the California Code of Regulations 64572 Title 22 Chapter 16, sewers and force mains installed parallel to a water main shall have a minimum of 10 feet of clearance between pipes. When local conditions or existing utilities do not allow for 10 feet of clearance, a sewer pipeline may be installed 4 to 10 feet clear from an existing water pipeline with special design and design review and approval by the Division of Drinking Water. Special design typically requires that the sewer pipeline be fully restrained, be installed a minimum of 1 foot below the existing water pipeline within this zone, and that controlled low strength material (CLSM) be used as backfill material. Under no circumstances will the new sewer pipeline be placed within 4 feet of an existing water main. Sewer pipelines shall be centered on the water crossing such that there are no joints within 8 feet of the crossing. The angle of crossing shall be between 45 and 90 degrees.

### 4.3.4 Minimum Vertical Clearance

The vertical clearance between the proposed sewer and other utilities (communications, gas, electric conduit, etc.) will be 12 inches minimum, edge of pipe to edge of pipe.

### 4.3.5 Minimum Horizontal Clearance

Proposed sewer mains shall have a minimum horizontal clearance of 10 feet from the existing water pipelines as discussed above. A horizontal clearance between dry utilities (gas, power, communication, etc.) and sewer lines of 5 feet minimum will be used where space allows.

If 5 feet horizontal separation cannot be achieved due to local conditions, such as space, slope, existing structures, etc., this separation may be reduced to 4 feet. CLSM may be used for backfill for clearances less than 5 feet depending on soil conditions and existing utility backfill.

### 4.3.6 Asbestos Cement Pipe Crossings

PID indicated that there are numerous existing asbestos cement water pipelines throughout Town. PID requested that sanitary sewers have a minimum 18-inch vertical clearance at these crossings due to the brittle nature of asbestos cement. Existing asbestos cement pipe will not be replaced at the crossing unless the existing pipeline condition is so poor that leaks or pipe failure warrants replacement. If replacement of asbestos cement pipe is required, handling and disposal of the asbestos cement shall be done in accordance with all state standards. An asbestos cement pipe crossing detail and a pipe repair detail will be included during the later stages of design. It is recommended that the Town, PID and MCI come to agreement regarding the standard asbestos cement pipe repair detail, backfill requirements, notification requirements, and who will pay for a repaired asbestos cement pipe that is damaged during construction.

## SECTION 5 HYDRAULIC MODEL

This section presents a brief summary of the hydraulic model results.

### 5.1 Collection System Model

Carollo developed an InfoWorks ICM hydraulic model that estimated near term and buildout conditions for the SSA based on current projects approved by Town plan check, land use per the *1994 General Plan*, and existing parcels with structures identified in the 2023 HDR windshield survey. The average dry weather flow (ADWF) was determined for the project based on that information. Diurnal curves were applied to the ADWF to estimate the peak dry weather flow (PDWF). Wet weather flow based on a 10-year, 24-hour storm event preceded by a small rain event was added to the model resulting in peak wet weather flow (PWWF). In addition, expansion of the system into the extended collection system was modeled to check the impact of higher flows on the trunk sewer lines. Projected flows are summarized in Table 4.

Table 4 Summary of Model Flows by Scenario

Flow Condition	Outfall Flow (mgd)		
	SSA	SSA With Clark Road Extension	Extended SSA
ADWF	0.803	0.845	1.336
PDWF	1.210	1.210	2.053
PWWF	2.120	2.280	4.819

Notes:

mgd - million gallons per day.

(1) Extended Collection SSA flows were based on 25 percent of the area outside of the SAA contributing sewer flows resulting from residential land use of 223 gallons per day per acre.

Once PWWFs were developed, sewer sizes were determined for all parts of the collection system described in HDR's *Technical Memorandum #3 – Evaluation of Collection System* and for a Buschmann Alternative Alignment. A summary of collection system gravity sewer length by pipe sizes, force main lengths, and number of trunk line and small pump stations in the system are summarized in Table 5.

Table 5 Sewer Collection System Overview

Pipe Diameter (inches)	SSA Buildout Length (miles)	Extended SSA Buildout Length (miles) <sup>(1)</sup>	Alternative Alignments SSA Buildout Length (miles) <sup>(3)</sup>	Alternative Alignments Extended SSA Buildout Length (miles) <sup>(1,3)</sup>
8-inch	26.03	24.44	25.29	23.30
10-inch	0.88	1.48	1.12	2.03
12-inch	2.00	1.14	1.78	1.24
15-inch	0.21	1.73	0.45	1.33
18-inch	0	0.34	0	0.74
<b>Total Gravity Pipes</b>	<b>29.13</b>	<b>29.13</b>	<b>28.65</b>	<b>28.65</b>

Pipe Diameter (inches)	SSA Buildout Length (miles)	Extended SSA Buildout Length (miles) <sup>(1)</sup>	Alternative Alignments SSA Buildout Length (miles) <sup>(3)</sup>	Alternative Alignments Extended SSA Buildout Length (miles) <sup>(1,3)</sup>
4-inch Force Mains	4.82	3.28	5.21	3.96
6-inch Force Mains		1.54		1.26
8-inch Force Mains	0.18		0.40	
10-inch Force Mains		0.04		
12-inch Force Mains		0.14		0.40
<b>Total Force Mains</b>	<b>5.00</b>	<b>5.00</b>	<b>5.61</b>	<b>5.61</b>
<b>Total Pipe in System</b>	<b>34.13</b>	<b>34.13</b>	<b>34.26</b>	<b>34.26</b>
# of Trunk Line Pump Stations <sup>(2)</sup>	4	4	2	2
# of Small Pump Stations	29	29	31	31
<b>Total Pump Stations in System<sup>(3)</sup></b>	<b>33</b>	<b>33</b>	<b>33</b>	<b>33</b>

Notes:

- (1) There is no change in pipe length for the extended SSA Buildout scenario since this flow was used to look at changes in pipe size in the SSA system for future extension of the system. Length shown does not include building pipelines beyond the SSA area.
- (2) Trunk line pump stations are defined as pump stations with >10 horsepower (hp).
- (3) Alternative alignments lengths and sizes included in the table include: Pearson-Buschmann, Buschmann Extension, Clark Reduction, and Trailway Elimination. Clark Extension alternative was not included as it will be a future Town project.

## 5.2 Export Pipeline Hydraulic Model

Carollo used a combination of InfoWorks ICM and InfoWater Pro to model the export pipeline which consists of four main components. InfoWorks ICM was primarily used to model the gravity pipeline and InfoWater Pro was used for the transition structure, gravity force main, and flow control structure. Two alternatives were modeled that represent different transition structure locations. Alternative 1 corresponds to the lower transition structure location and Alternative 2 corresponds to the higher transition structure location.

The gravity pipeline was sized using SSA and Extended SSA scenarios, where the bottom pipeline was sized for ADWF conditions using a maximum d/D criterion of 0.75. During SSA ADWF the maximum criterion is not exceeded when the pipeline is modeled as a 12-inch pipeline. During Extended SSA flows, the bottom pipeline was modeled as a 12-inch and 15-inch diameter pipeline. The top pipeline was sized for PWWF conditions, using the same criteria as the collection system. The SSA PWWF scenario requires a 12-inches diameter pipeline and the Extended SSA PWWF scenario requires a range from 12- to 18-inch diameter pipeline. Table 6 summarizes the pipeline diameters modeled for both alternatives.

Table 6 Summary of Gravity Sewer Pipeline Diameters

Nominal Pipeline Diameter (inches)	Alternative 1 Length (miles)				Alternative 2 Length (miles)			
	SSA		Extended SSA		SSA		Extended SSA	
	Bottom Pipeline	Top Pipeline	Bottom Pipeline	Top Pipeline	Bottom Pipeline	Top Pipeline	Bottom Pipeline	Top Pipeline
12	6.71	6.71	5.33	5.45	4.55	4.55	3.60	3.81
15	0	0	1.38	1.21	0	0	0.95	0.68
18	0	0	0	0.05	0	0	0	0.05
Total	6.71	6.71	6.71	6.71	4.55	4.55	4.55	4.55

The gravity force main pipeline was modeled with various pipe diameters for SSA PWWF and Extended SSA PWWF corresponding to different materials. A Hazen-Williams C-value of 110 was used to account for minor losses. For Alternative 1, flows from each pipe could be conveyed to the flow control structure at the Chico WPCP under SSA PWWF conditions. However, they could not be conveyed for Extended SSA PWWF conditions. This is due to the frictional headloss within the force main exceeding the available head at the transition structure. For Alternative 2, Flows for both SSA and Extended SSA PWWF could be conveyed to the flow control structure for Alternative 2.

## SECTION 6 DESIGN CRITERIA AND STANDARDS

This section provides the design criteria and standards for the pipelines and facilities common to both the export pipeline and the collection system. Collection system specific facilities are covered in Section 7 and export pipeline facilities are covered in Section 8.

### 6.1 Overview

#### 6.1.1 Collection System

The collection system is made up of trunk sewers, sewer collectors that feed into the trunk sewers, and sewer laterals that convey sewage from a parcel to the sewer collectors. Manholes are spaced throughout the system where pipe change in size, at angle points, at points where a change of slope in the conduit occurs, at 350-foot maximum intervals and at intersections. These criteria match the City of Chico sanitary sewer standards. Due to the hilly terrain in the SSA, there are also force mains that convey sewage from lift stations located at low points to the nearest downstream manhole where flow will continue by gravity.

#### 6.1.2 Export Pipeline

The export pipeline includes three distinct pipelines segments: gravity pipelines, force main, and gravity force main. See the overview figure of export pipeline alignment in Section 8.1.1.

### 6.1.2.1 Gravity Pipeline

The gravity pipelines are the sections of the export pipeline that will flow under open channel flow. There are two sections of gravity on the export pipeline; from the end of the collection system to the export pipeline pump station, and the discharge location of the force main to the transition structure.

### 6.1.2.2 Force Main

The force main in the export pipeline is a pressurized section of the export pipeline from the export pipeline pump station until it discharges to gravity west of the Butte Creek Watershed Overlook.

### 6.1.2.3 Gravity Force Main

The gravity force main pipeline is located from the transition structure until the Chico WPCP.

## 6.1.3 Build America, Buy America Act (BABAA)

The BABAA enacted as part of the Infrastructure Investment and Jobs Act on November 15, 2021, is focused on maximizing the federal government's use of services, goods, products, and material produced and offered in the United States. BABAA requires all iron, steel, manufactured products, and construction materials used in federally funded infrastructure project.

As the Project is expected to be partially or fully funded by federal infrastructure grants, it is subject to the requirements of BABAA. The design and specification of project materials and components will be developed to be compliant with these requirements.

## 6.2 Pipeline Hydraulic Design Criteria

Table 7 includes a summary of the hydraulic design criteria used for export pipelines and the collection system.

Table 7 Summary of Pipeline Hydraulic Design Criteria

Item	Criteria	Notes
<b>Collection System Force Mains<sup>(1,2,3)</sup></b>		
Pipe Sizes	4- to 8-inch	Based on hydraulic model for PWWF at buildout of SSA but would increase to 4- to 12-inch with the extended SSA.
Working Pressure	<50 psi (small pump stations) <80 psi (trunk pump stations)	Varies by pump station but is anticipated to be less than 50 psi for all small pump stations; trunk pump station discharge pressure varies but is estimated to be less than 80 psi.
Surge Allowance	Recurring surge <82.5 psi	Actual surge will be determined during detailed design. AWWA C900 PVC pipe is rated for 0.5*pressure class for recurring surge and 2.0*pressure class for occasional surge. Surge allowance shown is based on AWWA C900 PVC DR 25 pipe that is rated for 165 psi.
Test Pressure	1.5*working pressure	Assumes hydrostatic pressure test
Minimum Velocity	2 fps	2 fps ADWF is the minimum flow to keep sediment suspended in the sewer. 3 fps PWWF is required for re-suspension.
Maximum Velocity	7 fps	City of Chico standards do not address maximum velocity. For reference, Central Contra Costa Sanitary District recommends 3 to 7 fps for force main design.
ARVs	Locate at High Points	Try to avoid use of ARVs to minimize maintenance and reduce odors.
<b>Collection System Sewers<sup>(2,3)</sup></b>		
Pipe Sizes	8- to 15-inch	Sizes are based on buildout of SSA, but would increase to 8- to 18-inch trunk sewers with the extended SSA.
Minimum Velocity	2 fps	2 fps is the minimum flow to keep sediment suspended in the sewer. 3 to 3.5 fps is required for re-suspension.
d/D	0.5 for pipes <12-inch diameter for PWWF 0.67 for pipes ≥12-inch diameter for PWWF	Used in hydraulic model.
Test Pressure	15 feet, gravity method	
Manhole Drop	0.1 foot minimum drop between invert in and invert out	Matches City of Chio standard except not required when pipe is laid continuously through manhole.
<b>Export Pipeline Gravity Sewer<sup>(2)</sup></b>		
Pipe Sizes	12-inch and 15-inch	Stacked sewer: 12-inch bottom pipeline and 12-inch top pipeline for SSA flow rates; 12-inch bottom pipeline and 15-inch top pipeline for Extended SSA flow rates.
Minimum Velocity	2 fps	2 fps ADWF is the minimum flow to keep sediment suspended in the sewer. 3 fps PDWF is required for re-suspension.
d/D	0.67 for top pipeline in stacked pipes 0.75 for bottom pipeline in stacked pipelines	Maximum d/D during PWWF.
Test Pressure	15 feet, gravity method	
Manhole Drop	0.1 foot minimum drop between invert in and invert out	
<b>Export Pipeline Force Main<sup>(2)</sup></b>		
Pipe Sizes	12-inch	Force Main is located downstream of the Export Pump Station until the force main discharges to gravity.
Working Pressure	<80 psi	
Surge Allowance	Recurring surge<82.5 psi	Actual surge will be determined during detailed design.
Test Pressure	1.5*working pressure	Assumes hydrostatic pressure test.
Minimum Velocity	2 fps	2 fps ADWF is the minimum flow to keep sediment suspended in the sewer. 3 fps PDWF is required for re-suspension.
Maximum Velocity	7 fps	City standards do not address maximum velocity. For reference, Central Contra Costa Sanitary District recommends 3 to 7 fps for force main design.
ARVs	Locate at High Points	Try to avoid use of ARVs to minimize maintenance and reduce odors.
<b>Export Pipeline Gravity Force Main<sup>(2)</sup></b>		
Pipe Size	16- to 24-inch	Dependent on pipe material.
Working Pressure	≤210 psi	
Surge Allowance	Dependent on pipe material	PVC: 1.6 x PC (AWWA C900); HDPE: 1.5 x PC (reoccurring surge); 2 x PC (occasional surge) (AWWA C906); DIP: rated working pressure + 100 psi (AWWA C151)
Test Pressure	1.5*working pressure	If the test pressure exceeds the rated pressure of the pipe, the maximum test pressure should be the rated pressure.
Minimum Velocity	2 fps	2 fps is the minimum flow to keep sediment suspended in the sewer. 3 to 3.5 fps is required for re-suspension.
Maximum Velocity	7 fps	

Notes:

ARV - air release valve; AWWA - American Water Works Association; DIP - ductile iron pipe; fps - feet per second; HDPE - high-density polyethylene; PC - pressure class; psi - pounds per square inch; PVC - polyvinyl chloride.

- (1) Minimum force main size for the sewer collection system is 4 inches.
- (2) Pipe sizes are sized based on peak hourly wet weather flow based on the SSA base condition.
- (3) Peak wet weather flow is based on a 24-hour, 10-year storm. See the hydraulic modeling report in Appendix A for details.
- (4) Initial ADWF assumes 0.243 mgd. ADWF for SSA is 0.803 mgd.



## 6.3 Construction Methods

### 6.3.1 Open Cut

Open cut construction involves excavating down from the surface to the necessary depth and width for the new pipe to be installed. Temporary support systems are then installed in the trench to allow for workers to safely enter the trench. Pipe bedding is then placed and compacted. The new pipe is then placed into the trench, backfilled, and the backfill compacted to ensure the pipeline is properly supported. Surface restoration is then performed to restore any vegetation or pavement repair.

During construction compaction testing will be performed per ASTM standard D1557 to confirm that the installation meets the specified compaction requirements. In areas where groundwater is encountered within the trench, water will be disposed of either in the existing sewer system with a discharge permit or to the existing storm water system or other discharge location (with pre-treatment) as allowed by the environmental permits.

#### 6.3.1.1 Design Criteria

##### Minimum and Maximum Depth

In open-cut trenches, the pipeline will maintain a minimum depth of 4 feet to limit the effects of pipeline loading from heavy equipment. The maximum depth of the pipelines will be set based on elevations of existing utilities and future pump stations, which will be known following the completion of the topographic survey. All pipelines will be designed to be as shallow as conditions allow due to the existence of bedrock and groundwater throughout the Town. Depths exceeding 15-foot depths will be reviewed on a case-by-case basis.

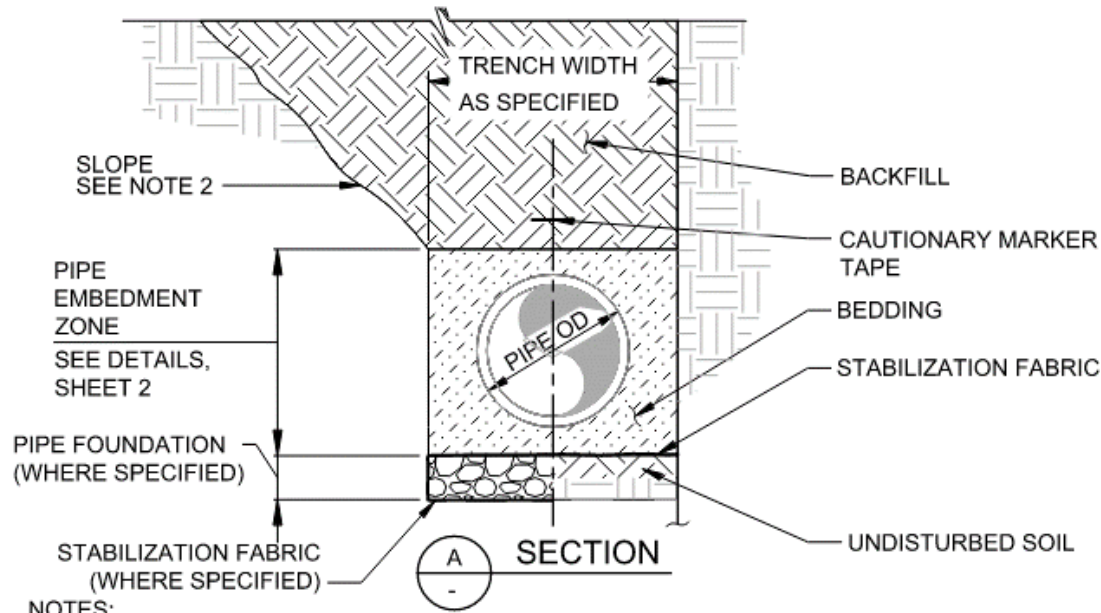
A standard trench section is shown in Figure 4.

##### Joint Trenches

There are parallel sewers and force mains throughout the Town collection system. A joint trench will be used as a means to save construction cost and to reduce impacts to traffic. Figure 5 provides a joint trench detail for this condition.

##### Minimum Slope Requirements

Pipe slopes will be designed to maintain a minimum velocity of 2 fps during ADWF. Table 8 shows the minimum allowable slopes by pipe diameter.



**NOTES:**

1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPE REQUIREMENTS.
3. SEE SPECIFICATIONS FOR TRENCH DEPTH AND WIDTH REQUIREMENTS.

Figure 4 Typical Trench Section

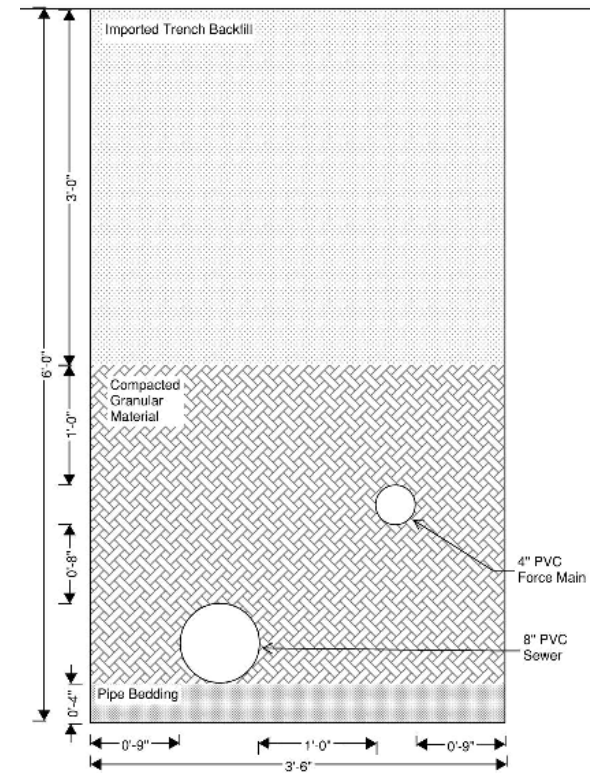


Figure 5 Typical Joint Sewer and Force Main Trench

Table 8 Minimum Slope Requirements<sup>(2)</sup>

Pipe Diameter (inches)	Minimum velocity (fps)	Minimum Slope (foot/foot) <sup>(1)(3)</sup>
8	2	0.0033
10	2	0.0025
12	2	0.0019
15	2	0.0014
18	2	0.0011

Notes:

- (1) Minimum slopes have been calculated using a Manning’s roughness coefficient of 0.013 and  $d/D=0.5$ .
- (2) There may be segments of the alignment that are unable to meet the minimum velocity and slope requirements due to steep slopes or significant depths. However, these locations will be avoided where possible.
- (3) For reference, City of Chico standards do not specify minimum pipe slope, but state that slope will be determined by meeting the minimum velocity of 1.8 fps and physical conditions.

### 6.3.1.2 Gravity Export Pipeline – Trenching Alternatives Analysis

Due to the anticipated timing of customers connecting to the sewer system, there is a wide range of flows the sewer system must accommodate. The export pipeline is anticipated to convey the widest range of flows because it is downstream of the collection system and must be designed to maintain the velocity requirements discussed in Section 6.3.1.1. To maintain velocity requirements with anticipated flows, several configurations for the gravity section of the export pipeline were evaluated as discussed in the following sections.

#### Stacked Pipes

The alternative of vertically stacked pipes will allow flows to first fill the lower pipe during initial low flows when few customers are connected. Once the capacity in the lower pipe is reached, the flow would then be conveyed through the top pipe. The transition of flows between the lower pipe to the upper pipe will happen automatically and there will be no need for any mechanical control. The stacked gravity pipes can be several different pipe materials including HDPE, PVC, or ductile iron.

The following are the advantages of the stacked pipe configuration:

- Smaller pipe provides scour velocity at low flows.
- Pipe materials readily available with easy field repairs.
- Multiple US manufacturers for pipe materials will meet BABAA requirements.

The following are the disadvantages of the stacked pipe configuration:

- Lower pipe will be pressurized in the future, requiring the lower pipe to be pressure rated.
- Future leak detection and maintenance will be more challenging with two pipes as it will be difficult to expose the lower pipe for repairs or replacement.

This stacked pipe configuration could be stacked in direct vertical configuration (stacked vertical) or with a horizontal offset (stacked offset). The stacked vertical option will have a narrower trench, but presents more challenges for future repairs or leak detection. The stacked offset option will allow for easier leak detection and repair in the future, but will require a wider trench therefore increasing construction cost and complexity. Figures 6 and 7 show the stacked vertical and stacked offset options.

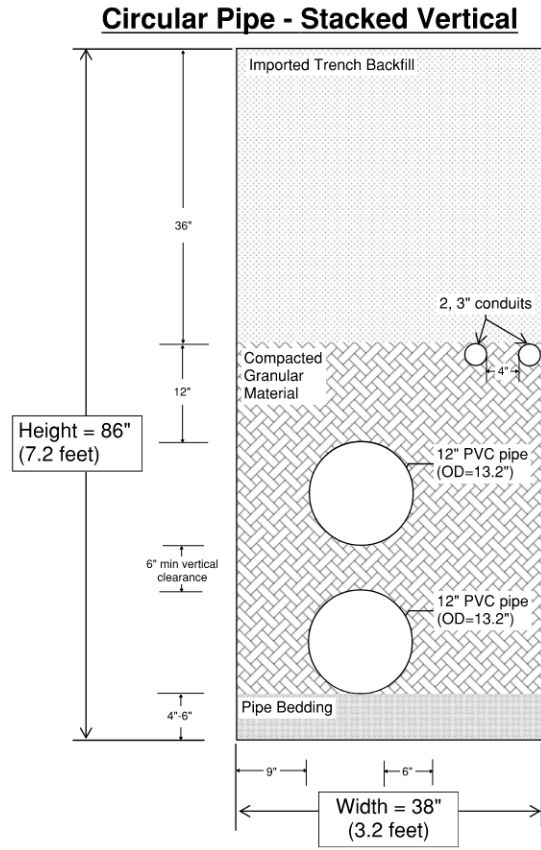


Figure 6 Stacked Vertical Trench Section

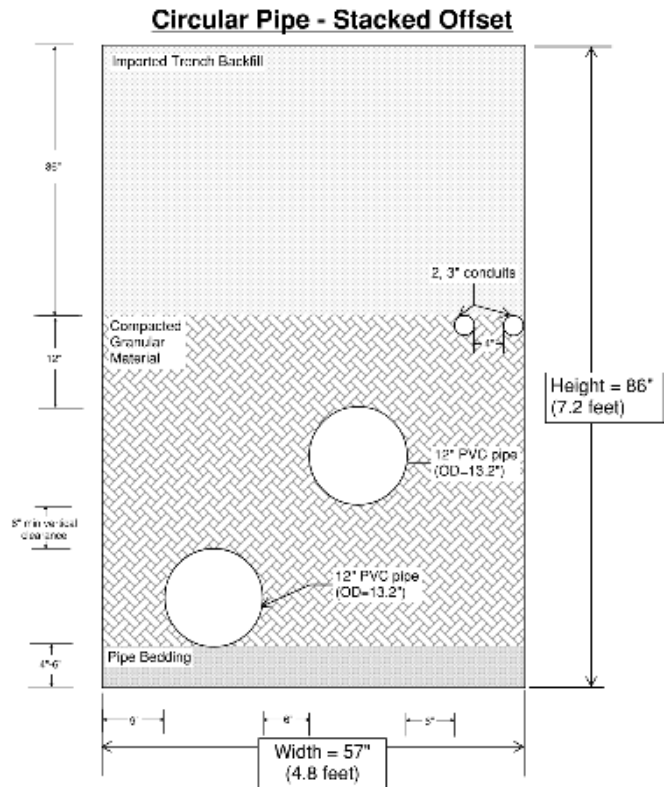


Figure 7 Stacked Offset Trench Section

Two conduits are shown in all trench section configurations. One conduit will be used for communication for the sewer system, the other conduit will be a spare conduit for future use by the Town or others.

### Egg-shaped Pipe

An egg-shaped pipe alternative will provide a singular pipe that is narrower at the bottom to maintain sufficient velocity during low flows. The egg-shaped pipe is available in polymer concrete. Figure 8 shows a trench section with the polymer concrete egg-shaped pipe.

The following are the advantages of the egg-shaped pipe alternative:

- Narrow bottom provides scour velocity at low flows.
- Rigid pipe can withstand high loading, less pipe zone material.

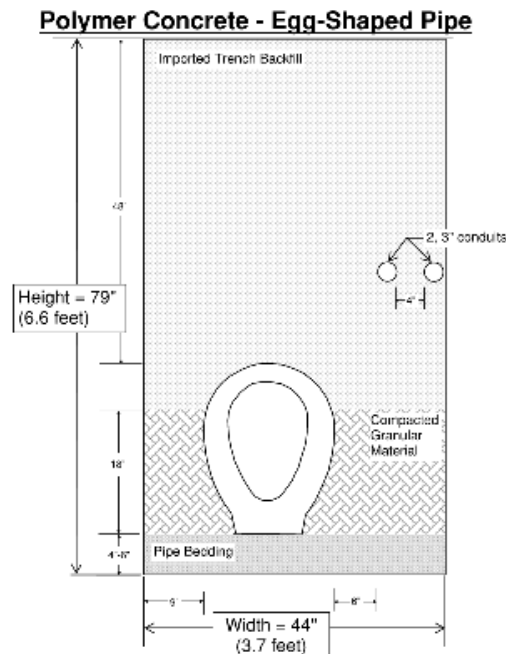


Figure 8 Polymer Concrete - Egg-Shaped Pipe Trench Section

- Manholes can be fabricated of same material.
- Single pipe simplifies O&M.

The following are the disadvantages of the egg-shaped pipe alternative:

- Short joint lengths (8 feet) and heavy pipe slow installation speed.
- Thicker pipe wall of the polymer concrete creates a wider trench.
- Repairs will require extra barrels of pipe with couplings.
- Only known manufacturer of egg-shaped pipe is produced in Germany, so a BABAA waiver request would be needed.
- Estimated lead time: 4 to 6 months.

### Kite-shaped Pipe

Similar to an egg-shaped pipe, a kite-shaped pipe is narrower at the bottom which would help maintain sufficient velocity during low flows. The kite-shaped pipe is available in polymer concrete and fiberglass reinforced plastic (FRP). FRP may be advantageous because it is a lighter pipe thus will be easier to install. However, because FRP is flexible, it may require CLSM backfill. A polymer concrete pipe is a rigid material so it can withstand high loading therefore requiring less pipe zone material. Figures 9 and 10 show trench sections for polymer concrete and FRP kite-shaped pipes.

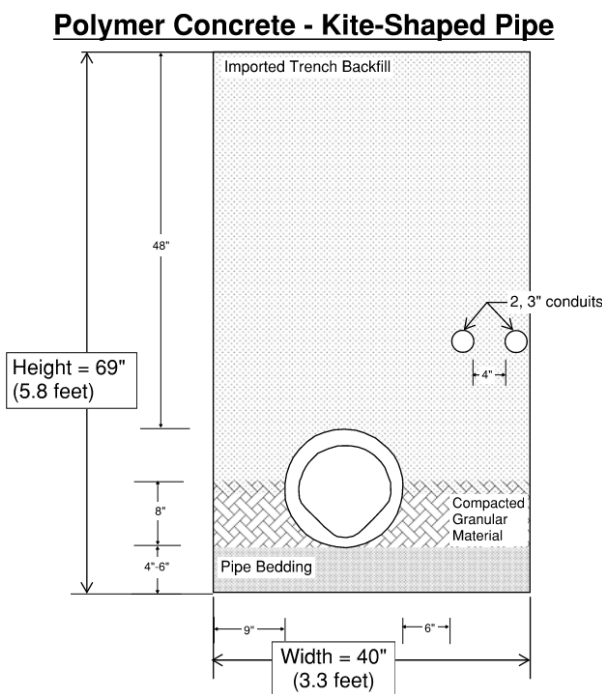


Figure 9 Polymer Concrete - Kite-Shaped Pipe Trench Section

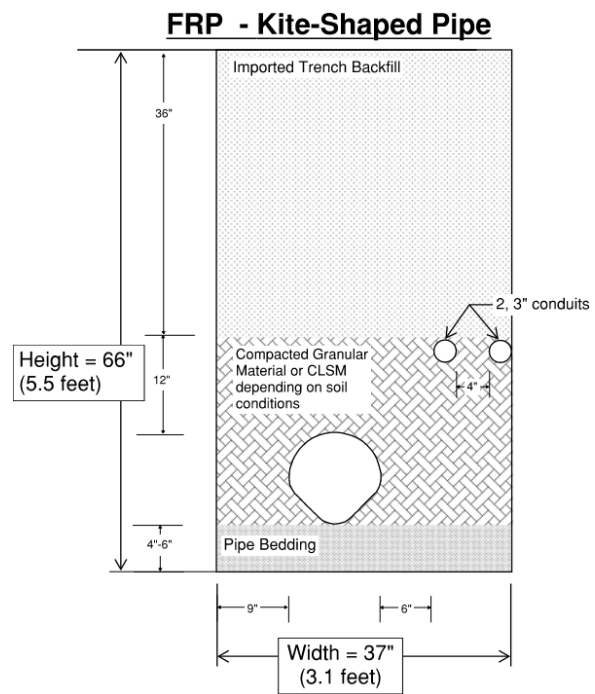


Figure 10 FRP Pipe - Kite-Shaped Pipe Trench Section

The following are the advantages of the kite-shaped pipe alternative:

- Narrow bottom provides scour velocity at low flows.
- Manholes can be fabricated of same material.
- Single pipe simplifies O&M.

The following are the disadvantages of the kite-shaped alternative:

- Shorter joint lengths (9 feet for FRP and 10 feet for polymer concrete) will reduce construction speed.
- Both kite-shaped pipe manufacturers do not have U.S. based manufacturing (polymer concrete manufactured in Germany, FRP manufactured in Turkey), so a BABAA waiver request would be needed.
- Longer estimated lead times (4 to 6 months for polymer concrete, 16 to 18 weeks for FRP).

### Recommended Gravity Trench Section

The recommended gravity trench section for the export pipeline is two circular pipes stacked vertically. This approach will allow for a circular pipe shape that is very commonly used. The vertically stacked dual pipes are recommended over the offset pipes because the offset layout increases construction cost and complexity and did not offer much ease for future access and maintenance.

#### 6.3.1.3 Trench Dams

Trench dams are installed in trenches to prevent perched ground water from flowing through the pipe, pipe bedding, and backfill within the trench. Trench dams will be installed every 500 to 1,000 LF and at locations of steep slopes. (> 10 percent slope). Figure 11 shows a trench dam typical detail. Drainage requirements (to relieve hydrostatic pressure) will be evaluated during detailed design.

#### 6.3.2 Trenchless Construction

Trenchless construction is used when a pipeline needs to be installed in a location where above-ground impacts from trenching would be costly or impractical, such as environmentally sensitive areas or major transportation corridors. There are several trenchless construction methods including horizontal directional drilling, microtunneling, auger boring, and pipe ramming that may be used depending on subsurface geologic conditions. There will be trenchless construction in both the collection system and export pipeline.

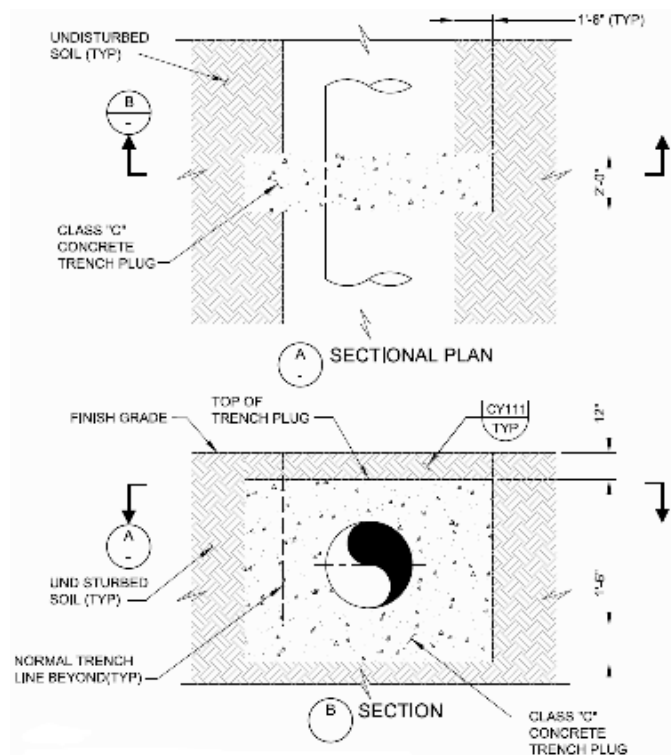


Figure 11 Trench Dam Typical Detail

### 6.3.2.1 Horizontal Directional Drilling (HDD)

HDD is a surface-launched method for installing pipelines beneath natural or man-made obstacles. Since the bore begins and ends at the ground surface, shafts are not needed. Excavation at the surface is limited to small recirculation pits that are dug at each end of the bore path to contain drilling fluids. The conventional HDD process consists of drilling a pilot bore from the entry location to the exit location and gradually enlarging the pilot hole through one or more successive reaming passes until the bore hole is a final size that is large enough to accept the product pipelines. Due to the parabolic bore path HDD is only feasible for installation of the gravity force main section of the export pipeline.

Drilling fluids are used in horizontal directional drilling to cool the cutting tools, stabilize the bore, and transport the soil cuttings from the bore to a slurry separation plant. The slurry separation plant separates the solids from the fluids after which the drilling fluid is recycled and pumped to the pit once again. The drilling fluids typically consist of water and bentonite (a type of organic clay used to stabilize borehole walls) and may contain polymers or other additives to aid in the required functions of the fluid. HDD typically requires a large volume of drilling fluid that may reach high pressures within the bore, depending upon borehole length, alignment, ground conditions, and construction methods. Therefore, inadvertent returns of the drilling fluids are a potential risk associated with HDD construction.

The slurry separation plant used with directional drilling to separate the solids from the slurry, as well as the drill rig and pumps, should be properly sized, maintained, and monitored to avoid surface spills. Surface spills could lead to fluids coming into contact with biological, cultural, environmental, or otherwise sensitive resources.

### 6.3.2.2 Microtunneling

Microtunneling is a remotely controlled, guided, pipejacking process that provides continuous positive control of earth and groundwater pressures at the face of the excavation. The microtunneling boring machine and jacking pipes are pushed into the ground from a jacking shaft to a reception shaft on the opposite side of the crossing. The carrier or product pipe may be jacked directly or installed inside an oversized casing in a separate operation.

A cutter wheel excavates material at the face as the machine is jacked forward. The excavated material is mixed with clean drilling fluid to form a slurry which is then pumped back to the jacking shaft for separation and spoil removal. Solids are separated from the slurry using a separation plant, like those used for HDD, and the cleaned drilling fluid is reused for excavation. Both the clean drilling fluid and returning slurry are pumped through a closed system of pumps and hoses housed within the jacking pipe. As with HDD, the drilling fluids typically consist of water and bentonite and may contain polymers or other additives to aid in the required functions of the fluid. The face of the excavation is supported predominantly by mechanical face pressure but may be supplemented with drilling fluid pressure. In high groundwater conditions, the slurry system balances groundwater pressures. In addition, annular lubrication may be used outside the pipe to reduce jacking forces. Lubrication fluid has similar components to drilling fluid and is predominantly comprised of water and bentonite. The pressures used to inject lubrication into the annulus are minimal (2 to 5 psi) and are not considered to be a risk for inadvertent returns.

While drilling fluids are used for spoil removal, the drilling fluid pressures and volumes used in microtunneling are significantly lower than for HDD. Therefore, the prevalence of drilling fluid losses from the tunnel to the surface are much lower for microtunneling projects.

### 6.3.2.3 Auger Boring

Auger bore is a shaft-to-shaft trenchless construction method suitable for installing shorter runs of pipe in stable, dry soils without large boulders. Similar to microtunnel installations, crews dig a launch and reception pit to the required depth. The jack and bore drive unit is placed in the launch pit behind a section of (larger diameter) casing pipe with an auger or cutting head attached. The drive unit pushes the pipe forward through the ground with spoils moving through the annulus during removal from the pit.

Segments of casing pipe are added in succession until the crossing is completed. Next the carrier pipe is inserted into the casing and then connected on either end. The annular space between the carrier pipe and the casing is typically filled with sand or grout. The equipment is removed, and the pits are backfilled to existing conditions.

Unlike HDD or microtunnel, auger bore installation does not use drilling fluid and therefore there is not a risk of inadvertent drilling fluid returns.

### 6.3.2.4 Pipe Ramming

Pipe ramming is another shaft-to-shaft trenchless construction method that drives a casing or pipe through the ground using a percussive hammer. The hammer is attached to an open-ended casing or pipe, and the percussive action of the hammer drives the casing or pipe forward through the ground. Spoils from the installation are removed from the inside of the casing once it has been driven into place.

Pipe ramming is limited to straight line installations and works most effectively above the water table in softer clays, organic deposits, silt, loose or dense sand, and cobbled soil where cobbles are less than the pipe diameter. Similar to auger boring, pipe ramming does not require any drilling fluid.

## 6.4 Pipe Materials

PVC pipe, HDPE pipe, and DIP were evaluated against each other to determine the preferred pipe materials for the Project.

Fiberglass reinforced polymer, polymer concrete, steel, and standard concrete pipes were also identified but were eliminated from further consideration for various reasons including susceptibility to corrosion, cost, construction considerations, and lack of availability in the sizes needed for the Project.

### 6.4.1 Polyvinyl Chloride Pipe

PVC pipe is a flexible pipe material commonly used for force mains and sewer pipelines. For the force mains and gravity force main pipe, PVC pipe (in accordance with AWWA C900 for sizes 4-inch through 60-inch) can be used. This pipe is supplied with integral bell gaskets for push on joints and comes in standard lengths of 20 feet. Fittings for pressure pipe would be ductile iron.

For gravity sewer pipes, PVC pipe and fittings (made in accordance with ASTM D3034) are suitable for use in drainage, waste, and vent systems for pipe sizes 4-inch through 15-inch. PVC is manufactured in either standard dimension ratio (SDR) 35 or SDR 26. Pipe outside diameter is the same for both options, but SDR



26 has a thicker pipe wall. A determination will be made in detailed design whether a SDR 35 or SDR 26 pipe will be used. PVC sewer pipes are typically manufactured in 14- and 20-foot lengths. Pipes larger than 15-inch diameter are manufactured per ASTM F679 with three pipe stiffness (PS) categories: PS46, PS75 or PS115 available. Large diameter pipe fittings will be per ASTM D1784. Gravity sewer pipe is manufactured with either gasket or solvent-weld pipe, but gasketed pipe is recommended since it allows for more flexibility. Gaskets will conform to ASTM F477.

For the force main section of the export pipeline downstream of the pump station before the , the pressures are anticipated to be approximately 20 psi. This pipe will likely be constructed of DR 25, as this is the least stiff pipe manufactured in the smaller diameter.

For collection system force mains, pipe sizes range from 4- to 8-inch in diameter with pressures anticipated to be below 50 psi for the smaller pump stations, and below 160 psi for the trunk pump stations. Force mains will be constructed of green PVC pipe meeting AWWA C900 standards with DR 18.

Horizontal and vertical changes in direction for PVC can be accommodated by pulling pipe joints for very small deflection angles (up to one degree) or by using standard ductile iron elbow fittings. The curved portion of Skyway has a radius approximately equal to this minimum bending radius of the pipeline eliminating the ability to make field adjustments and risking over deflection during construction. Detailed design will consider including one or more intermediate fittings to allow field adjustments during construction. PVC fittings are not readily available in the pressure required for this Project. Ductile iron fittings typically require corrosion protection at each fitting. Thrust restraint can be accommodated with restrained mechanical joints, harnesses, thrust blocks, or PVC pipe with restrained joint integral bells (RJIB). RJIB fittings are only available for pipe 10 inches or larger. While restrained mechanical joints will have the same cost as DIP, pipe harnesses in this pressure class are expensive and will significantly affect material costs.

Fusible polyvinyl chloride (FPVC) is also available as an alternative. Similar to HDPE pipe, segments of FPVC pipe are joined using a thermal butt fusion process that results in a monolithic, leak-free, fully restrained length of PVC pipe. FPVC is manufactured using the same specification as pressure PVC, AWWA C900. However, FPVC fittings are not manufactured. Thrust restraint alternatives will be evaluated and confirmed with the Town and during final design.

#### 6.4.2 High Density Polyethylene

HDPE pipe is commonly used for pressure pipeline applications, such as force mains. HDPE pipe is manufactured in accordance with AWWA C901 for nominal diameters equal to and less than 3 inches and AWWA C906 for nominal diameters from 4 inches through 65 inches in SDRs from 7 through 32.5. Standard lay lengths are 40 and 50 feet. The different dimension ratios correspond to the wall thickness and maximum working pressure of the pipeline.

Segments of HDPE pipe are joined through heat fusion, which forms a restrained, leak proof joint that is of equivalent strength to the pipe. Compared to other pipe materials, the allowable water leakage for HDPE pipe is zero and external thrust restraint is not required, except at structures where its required on site specific layout. In situations where HDPE pipe will be joined with other pipe materials or system appurtenances, specialized fittings have been developed to meet the needs of most applications. In many applications, butt fusion is used to join segments of pipe together. The two ends of pipe are heated to a designated temperature, then held together with sufficient force. The force causes the melted materials to

flow and mix together, resulting in fusion. A small bead of material forms on the outside and inside of the pipe, special equipment is used to trim and remove these beads so as to not affect the pipeline hydraulics. Depending on the SDR (and related wall thickness) of the pipe, the fusion time can vary. Cooling of the weld is needed before the pipe can be moved.

Bends in the pipeline can be achieved through either the installation of HDPE fitting (fused to segments of pipe) for shorter radius changes in direction or by pulling (or roping) the pipeline in accordance with the pipeline manufactures minimum bending radius guidelines. Typically, HDPE pipe can be bent in the field to a radius about 30 times the nominal pipe diameter or less depending on the wall thickness. For example, a 12-inch nominal diameter pipe (assuming an outer diameter of 13.2 inches) could be bent to a minimum radius of approximately 33 feet, although this is rarely seen in practice.

HDPE pipe is also more resistant to corrosion and chemicals, compared to metallic pipe materials and does not require any additional coating or lining. Pipe and trench structural design will be in general accordance with the recommendations of the AWWA M55 Manual of Practice for HDPE Pipe.

### 6.4.3 Ductile Iron Pipe

DIP can be used for sewer force mains and gravity sewers. 6- to 18-inch DIP is manufactured in 150, 200, 250, 300, and 350 psi pressure classes, as well as special thickness classes 50 through 56. Standard lay lengths for DIP are 18 feet or 20 feet. Both push on joint pipe and restrained joint pipe is manufactured both locally in Union City and in Alabama. However, restrained joint fittings 24-inch and smaller are manufactured outside of the US. As an alternative to pipe with restrained joint fittings, flange by mechanical joint adapters can be used. Unrestrained joints would be push on, gasketed joints.

DIP is available with a variety of self-restrained joints including mechanical bells, locking gaskets, and locking segmented joints. Carollo recommends locking segmented joints for restrained pipe based on cost, past project performance, and the speed of installation. Restrained mechanical joints, where required, would be a mechanical joint bell end with a restraining gland. DIP restrained joint elbows fittings of 6 to 18 inches diameter are available in 11.25-, 22.5-, 45-, and 90-degree bends and are rated up to 350 psi working pressure. In addition, DIP joints can be "pulled" to obtain minor changes in direction. The design should allow for up to 50 percent of the manufacturer's maximum recommended pulled joint deflection angle. Pulling joints in lieu of fittings for changes in direction will reduce thrust restraint requirements and reduces the cost for fittings and installation time.

DIP would be epoxy lined and asphaltic coated (for buried pipe). DIP is typically encased in a polyethylene sleeve, which serves as a dielectric barrier to inhibit corrosion cell formation along the pipeline. Additional cathodic protection, such as galvanic or impressed current corrosion control systems, may be required based on the results of the geotechnical report. Pipe structural design will be in general accordance with the recommendations of AWWA M41 Design Manual for DIP.

### 6.4.4 Pipe Material Recommendations

Pipe material recommendations for the export pipeline and collection system are summarized in Table 9 and discussed in the following sections.

Table 9 Export Pipeline and Collection System Material Overview

Location	Pipe Material <sup>(2)</sup>	Class
Collection System - Trunk Sewers	ASTM D3034 PVC	SDR 35
Collection System –Sewer Collectors	ASTM D3034 PVC	SDR 35
Collection System – Force Mains	AWWA C900 PVC	DR 25
Collection System - Laterals	ASTM D3034 PVC	SDR 26
Export Pipeline – Gravity Pipeline	ASTM D3034 PVC	SDR 35
Export Pipeline – Force Main	AWWA C900 PVC	DR 25
Export Pipeline – Gravity Force Main	DIP, HDPE or PVC	Will be determined during detailed design <sup>(1)</sup>

Notes:

- (1) All three pipe materials are considered viable alternatives for the gravity force main. Pipe materials may be eliminated as design progresses based on engineering or market conditions.
- (2) Pipe materials shown are proposed for open cut installation. Pipe material for trenchless installations will be confirmed after a trenchless installation method has been confirmed.

#### 6.4.4.1 Collection System

##### Trunk Sewer

Trunk sewers in the gravity collection system range in size from 8 to 18 inches in diameter and pipe and fittings 15 inches and smaller will be constructed using gasketed PVC pipe. Pipe and fittings larger than 15 inches would be per ASTM F679 PS115 with fittings per ASTM D1784. If hydrocarbon contaminated soils are encountered, hydrocarbon resistant gaskets will be used.

##### Sewer Collectors

Sewer collector pipes in the gravity collection system will be 8 inches in diameter and will be constructed using SDR 35 PVC pipe. If hydrocarbon contaminated soils are encountered, hydrocarbon resistant gaskets will be used.

##### Force Main

The force mains in the collection system will use AWWA C900 PVC DR 18. Green pipe will be specified.

##### Sewer Laterals

Sewer laterals will be 4- to 6-inch in size and will use SDR 26 PVC throughout the system.

#### 6.4.4.2 Export Pipeline

##### Gravity Pipeline

The gravity pipeline will have two vertically stacked pipes, as discussed in Section 6.3.2.2. The top pipeline will be gasketed PVC (ASTM 3034 SDR 35) pipe. The bottom pipeline will be AWWA C900 PVC.

##### Force Main

The force main pipe in the export pipeline downstream of the pump station will be PVC DR 25.

## Gravity Force Main

The gravity force main may be ductile iron, PVC, or HDPE. Further discussions on pipe material will continue in detailed design.

## 6.5 Pipeline Appurtenances

Pipeline appurtenances are an essential component for the operation of a pipeline. Appurtenances include isolation valves, air valves, blow off valves, manholes, and cleanouts. Pipeline appurtenances will be sized and located during the detailed design phase of the Project, often after the pipeline profile and alignment have been developed. Additionally, appurtenances must be easily accessible for routine maintenance and replacement.

### 6.5.1 Isolation Valves

Isolation valves will be installed on either side of critical crossings such as Butte Creek, the UPRR crossing or Little Chico Creek. Isolation valves would serve a critical purpose in an emergency and are required by the USACE for pipelines crossing beneath levees. As this is a wastewater system, plug valves will be installed as they are able to provide tight shut-off, even when solids are present. In an emergency event, flow would overflow into the overflow storage structure located adjacent to the transition structure, see Section 8.3.

### 6.5.2 Air/Vacuum Valves

Combination air/vacuum valves provide the following functions for force mains:

- Provide adequate ventilation during filling and release small quantities of air during normal pipeline operations. Protect the pipeline from vacuum pressures caused by pipeline breaks and surge conditions. (See Figure 12 for a typical detail).

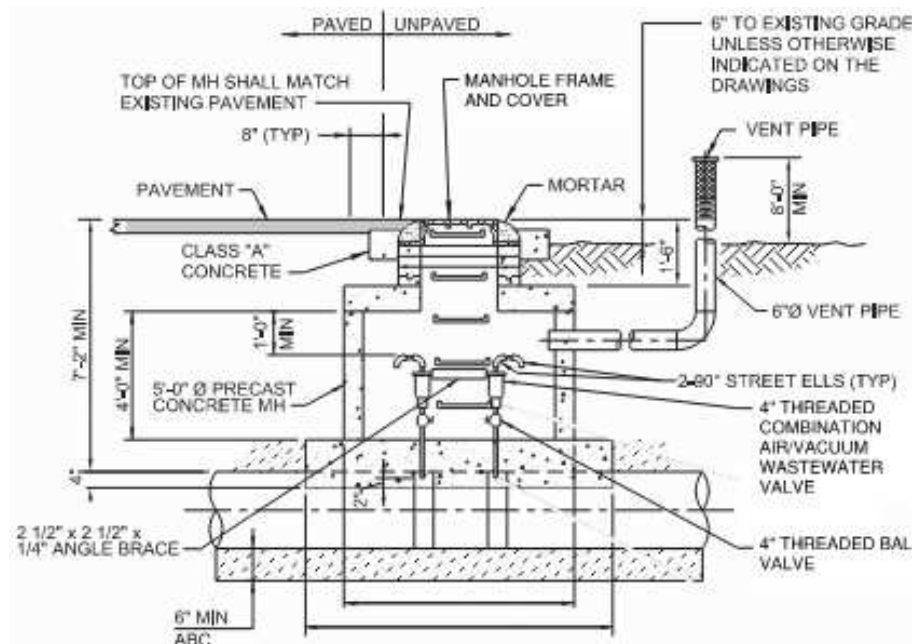


Figure 12 Typical Combination Air/Vacuum

Locations of combination valve assemblies are generally determined by the topography of the pipeline system. Generally, air valves are recommended in the following locations:

- Localized high points.
- Increasing downslope
- Decreasing upslope.
- Long ascents and descents at 1/4-mile internals.

As this is a wastewater system, the valves will be compatible with solids. Pipeline design will be used to minimize the number of valves installed to reduce maintenance and reduce odors.

### 6.5.3 Blowoff Valves

Blowoff or drain assemblies are used to drain the pipeline if inspection, maintenance, or emergency repairs are required (see Figure 13 for a typical detail). Typically, the blowoff assemblies are located at low points away from water bodies or other drainage structures, and sized so that the pipeline can be drained within an acceptable timeframe. As it would not be acceptable for wastewater to discharge to the ground, wastewater blowoffs will be designed to drain to temporary containment that could be installed if needed. The blowoff assemblies will also be used to drain the pipeline during testing.

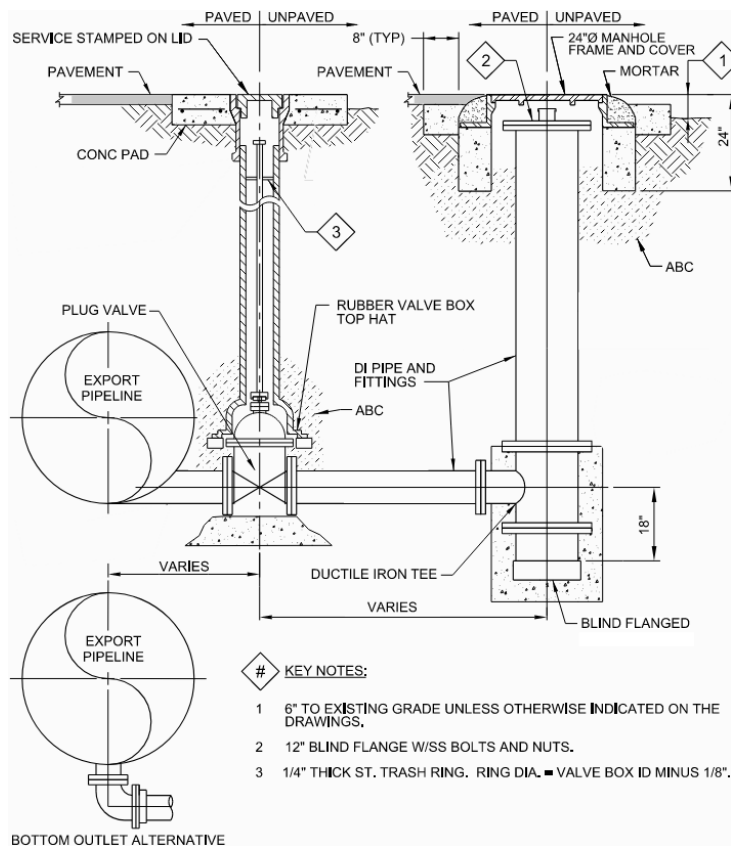


Figure 13 Blowoff Valve Typical Detail

### 6.5.4 Access Manholes

#### 6.5.4.1 Spacing

Access manholes are vault openings in the pipeline that provide maintenance and inspection access. On the gravity pipelines, manholes will be placed at every change in slope and alignment, at intervals of 350 feet or less and pipe intersections. On the pressurized pipelines, manholes will be located near creek and railroad crossings, and other locations where access maintenance is desired.

Manholes within the roadway will be located in the center of the travel lanes and will not be installed at lane separation lines, within the curb and gutter, or within sidewalks. Manholes may need to be installed outside of the roadway within pervious areas. Manholes installed within pervious areas will have a concrete collar around the frame and cover and will be set flush with the ground elevation. The Town may also choose to install marker posts at the manholes that are installed outside of the ROW.

### 6.5.4.2 Material Options

Precast concrete is the most common manhole material used in a sewer system. Due to the presence of hydrogen sulfide gas that corrodes concrete, corrosion protection is a long-term concern. In most sewer collection systems the concentration of hydrogen sulfide gas is higher in trunk pipelines compared to sewer collectors and trunk pipelines generally have a higher risk of corrosion. In most sewer collection systems, small sewers have unlined manholes while large trunk sewer manholes are designed with corrosion protection in mind. Corrosion protection increases the cost of the manholes and options include:

- A concrete corrosion inhibitor in the concrete mix such as Conshield.
- Corrosion resistant manhole materials such as polymer concrete, HDPE or FRP.
- A field applied interior manhole coating system such as Sauereisen's Sewergard 210 or Warren Environmental's Epoxy Spray system.
- An HDPE or PVC sheet liner.

With over 770 manholes in the gravity sewer collection system, the Town needs to make a risk-based decision on construction cost vs long term maintenance and replacement costs. The recommended approach is to use unlined precast manholes with a concrete corrosion inhibitor in the concrete mix for the sewer collectors, and use polymer concrete manholes for the export pipeline, the trunk lines, and the force main manholes where there is an increased likelihood of hydrogen sulfide gas from the sewer system. Polymer concrete manholes are corrosion resistant and do not require any coatings to protect from corrosion. This approach would balance cost against long term maintenance and replacement.

### 6.5.4.3 Design

The manholes will be installed using standard 4-foot interior diameter manhole barrels for pipes less than 15 inches in diameter and 5-foot interior diameter manhole barrels for pipes 15 inches and larger. Manholes will be installed using an eccentric cone section with a frame and cover as shown in Figure 14. All manholes shall be traffic-rated and have a cast iron sewer frame and cover that is labeled "SEWER". The Town may consider installing a bolted cover for manholes located outside of roadways to prevent vandalism. The Town may also choose to install copolymer plastic coated steel steps inside of manholes. Steps make it easier for operators to get inside a manhole, however they may also encourage crews to enter a manhole without the proper harness system which is against the confined space entry permit requirements. In addition, steps make it more difficult to line the manhole in the future. Therefore, manhole steps are generally not recommended. These options shall be discussed with the Town during detailed design. Figure 14 shows a standard manhole detail.

The manhole bases will be installed at the elevations and grades shown on the Plans. Manhole bases are generally placed on 8-inch-thick aggregate base course material. The geotechnical investigation will confirm if groundwater is present and the depth of the groundwater. If groundwater is present, buoyancy calculations will be performed to confirm whether additional measures are needed to avoid manhole flotation. Additional measures could include extending the manhole base width or thickness.

Manhole inverts will be shaped to form a smooth transition from inlet pipes to the outlet pipe. Changes in flow direction will be made with a smooth curved channel having as large a radius as possible as shown in Figure 15. Manhole benches will be 3 inches above the crown of the highest pipe.

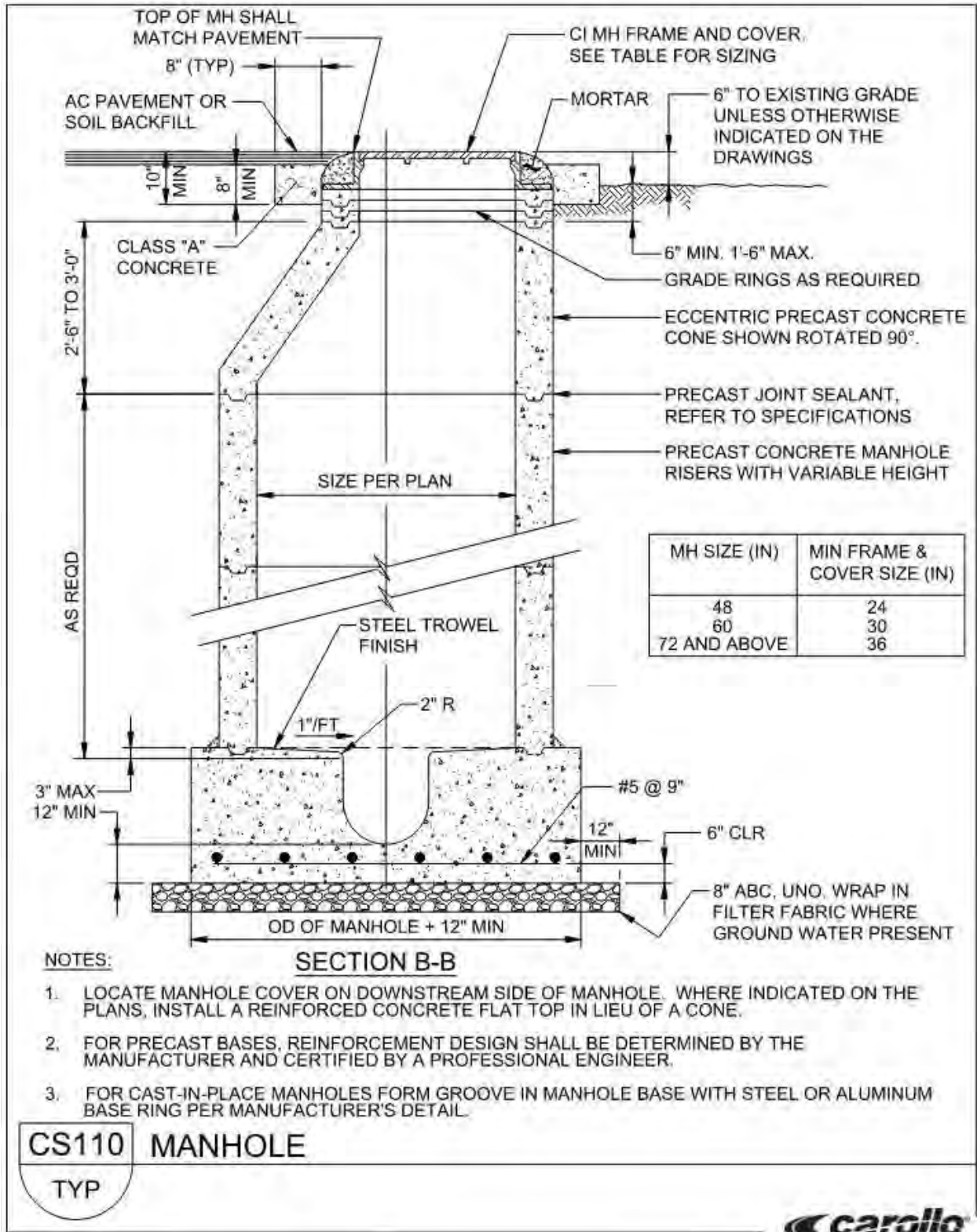


Figure 14 Gravity Manhole Detail

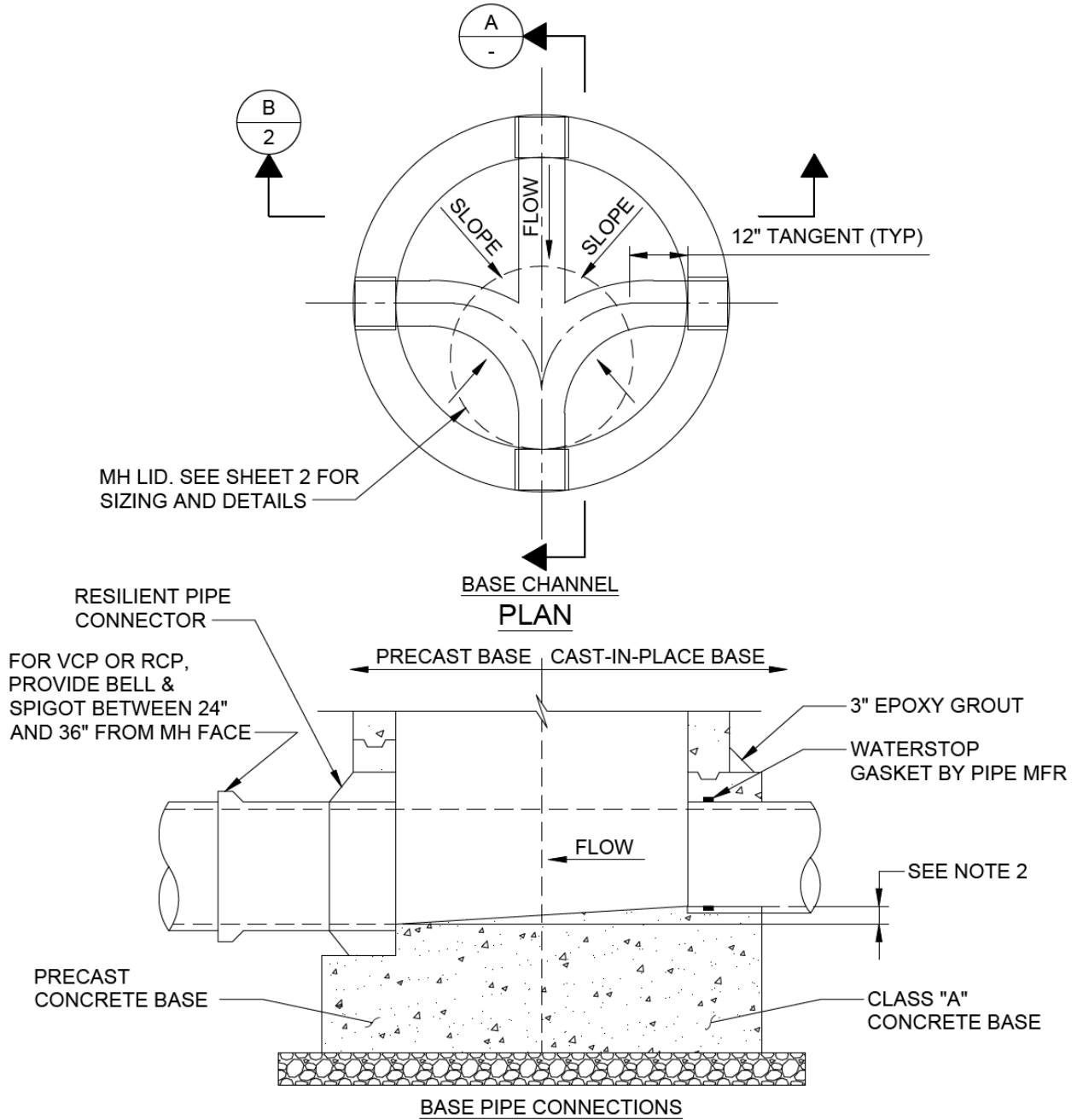


Figure 15 Gravity Invert Detail

#### 6.5.4.4 Drop Manholes

A drop connection is typically used where the invert of the pipe entering the manhole is at least 30 inches higher than the manhole invert. They are used to reduce odors in the collection system. For pipes larger than 8 inches, an exterior drop connection is used at the manhole. For pipes 8-inch or smaller, an inside drop manhole is used. For inside drop manholes, it is recommended that the manhole diameter increase to 60-inch so that there is space for a person to work inside the manhole. Drop manholes for exterior and interior connections are shown in Figures 16 and 17.



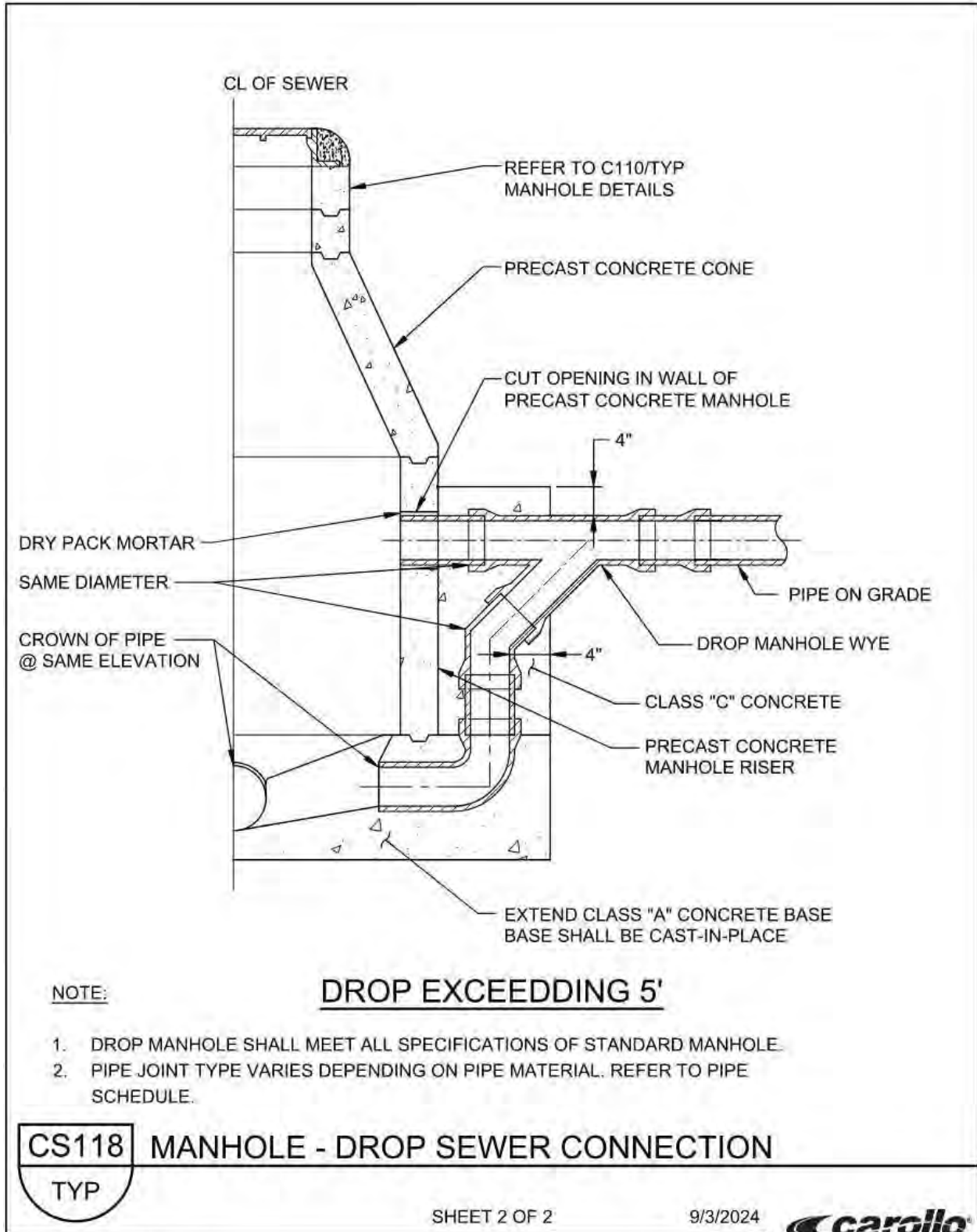


Figure 16 External Drop Manhole Detail

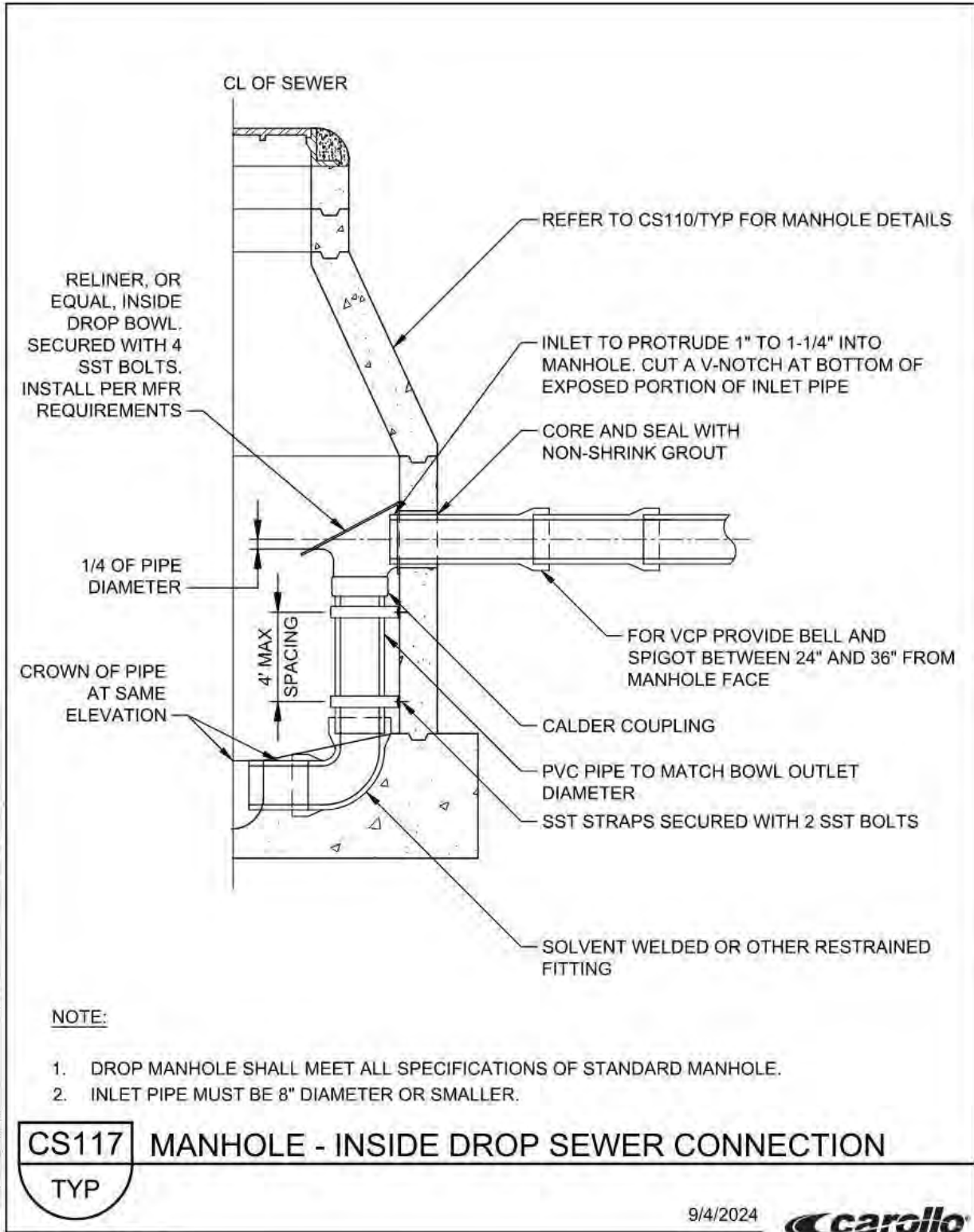


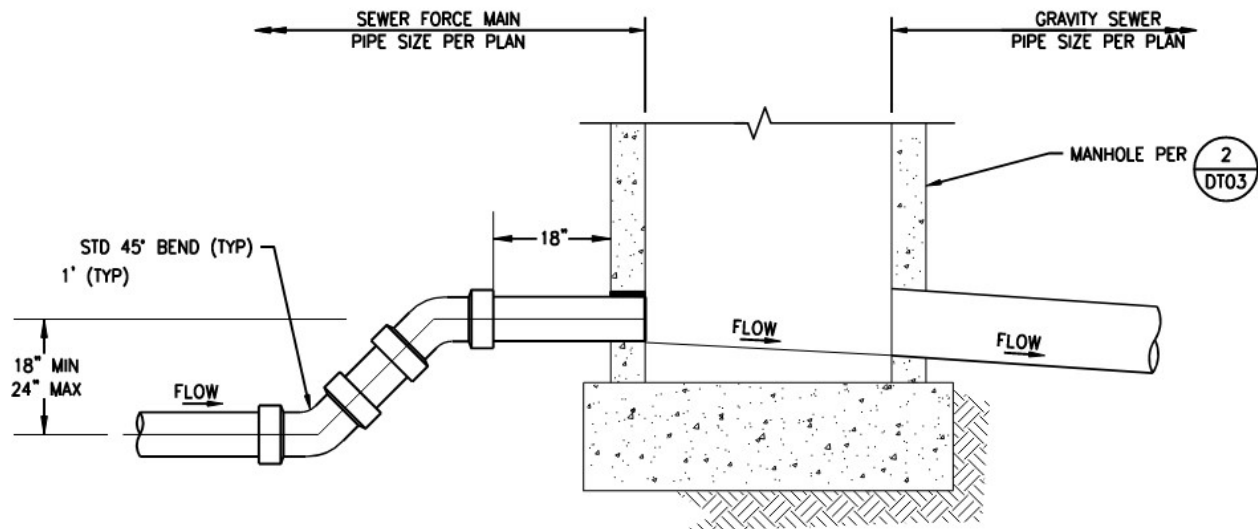
Figure 17 Internal Drop Manhole Detail

### 6.5.5 Vortex Drop Manholes

As discussed in Section 8.2.1.1, vortex drop manholes were considered in the March 2022 alignment at locations of considerable changes in elevation. Vortex drop manholes accommodate a difference in elevation by controlling a flow drop within the manhole, to allow for a vertical offset between the incoming and outgoing pipe and dissipating the energy within the manhole. However, vortex drop manhole manufacturers indicated they can't be used for stacked pipelines without an additional upstream manhole. Where vortex drop manholes are used, manhole odor control inserts will be required as described in Section 7.3. Vortex drop manholes will be used in the export pipeline only, where vertical offsets within the manholes exceed 5 feet. Drop manholes discussed in Section 6.5.4.4 will be used in the export pipeline when the vertical offset is 2.5 feet to 5 feet.

### 6.5.6 Transition Manholes

Where force mains enter the gravity sewer system from either a trunk line pump station or a grinder pump station, a transition manhole will be used. See Figure 18 for the proposed connection that has two bends on the force main upstream of a manhole connection to reduce the head on the flow into the manhole. This configuration helps to reduce odors generated by the force main discharge.



**NOTES:**

1. ADJUST LENGTH OF MID SEGMENT BETWEEN THE 45° BENDS TO ACHIEVE DISTANCES NOTED IN DETAIL
2. FINAL 20 FEET OF FORCE MAIN PRIOR TO MANHOLE CONNECTION SHALL BE FULLY RESTRAINED.

Figure 18 Example Transition Manhole: Force Main to Gravity Sewer

### 6.5.7 Gravity Force Main Cleanouts

Cleanouts will be located at strategic locations, such as upstream of low points where solids are more likely to accumulate during low flows. Cleanouts will provide access so solid materials can be cleaned out and removed from the pipelines. Typically, cleanouts are not required to retain pressure but since this is a force main, properly rated flanges will be required for the gravity force main. Figure 19 shows a typical installation.

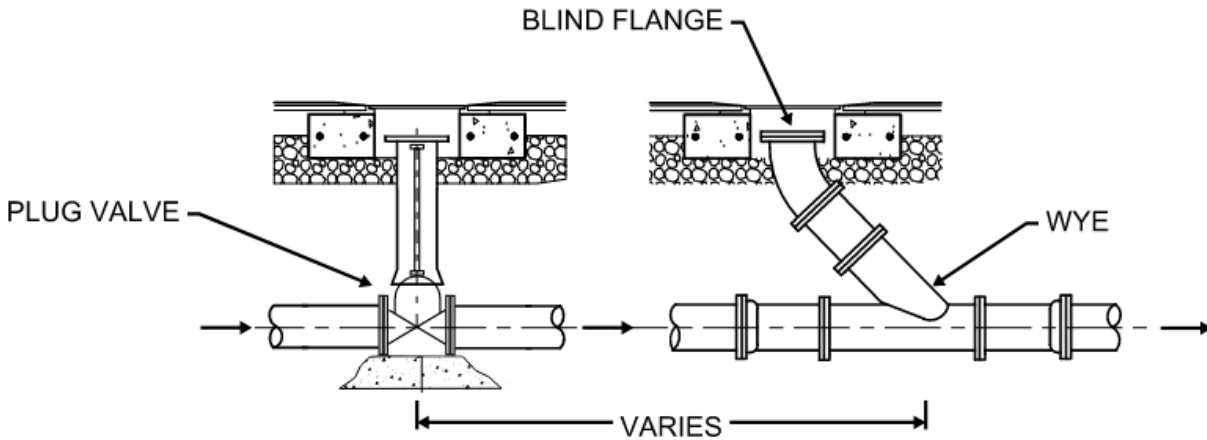


Figure 19 Pressure Sewer Cleanout Typical Detail

## 6.6 Electrical and Communication

Two fiber optic conduits will be installed parallel to the export pipeline from the Chico WPCP to the Town's SCADA control center in the same trench. One conduit will be used for communication for the sewer system, the other conduit will be a spare. This section provides an overview of the facilities required for both fiber optic and for electrical services at the pump stations and flow control structure.

### 6.6.1 Handholes

Electrical and communication handholes are used to allow for easy access to pull in, splice and terminate wires or cables. A practical maximum spacing of 1,000 feet is used to limit the maximum stress during the installation of fiber optic cable or electrical wires but is dependent on the size of cable and conduit and the number of fittings used. The National Electric Code (NEC) requires that there not be more than the equivalent of four quarter bends (360 degrees total) between pull points, so a handhole, manhole or pull box is required and the fitting angles add up to 360 degrees. Figure 20 shows a typical detail for an electrical/communication handhole with a manhole lid detail that is suitable for use in roads.

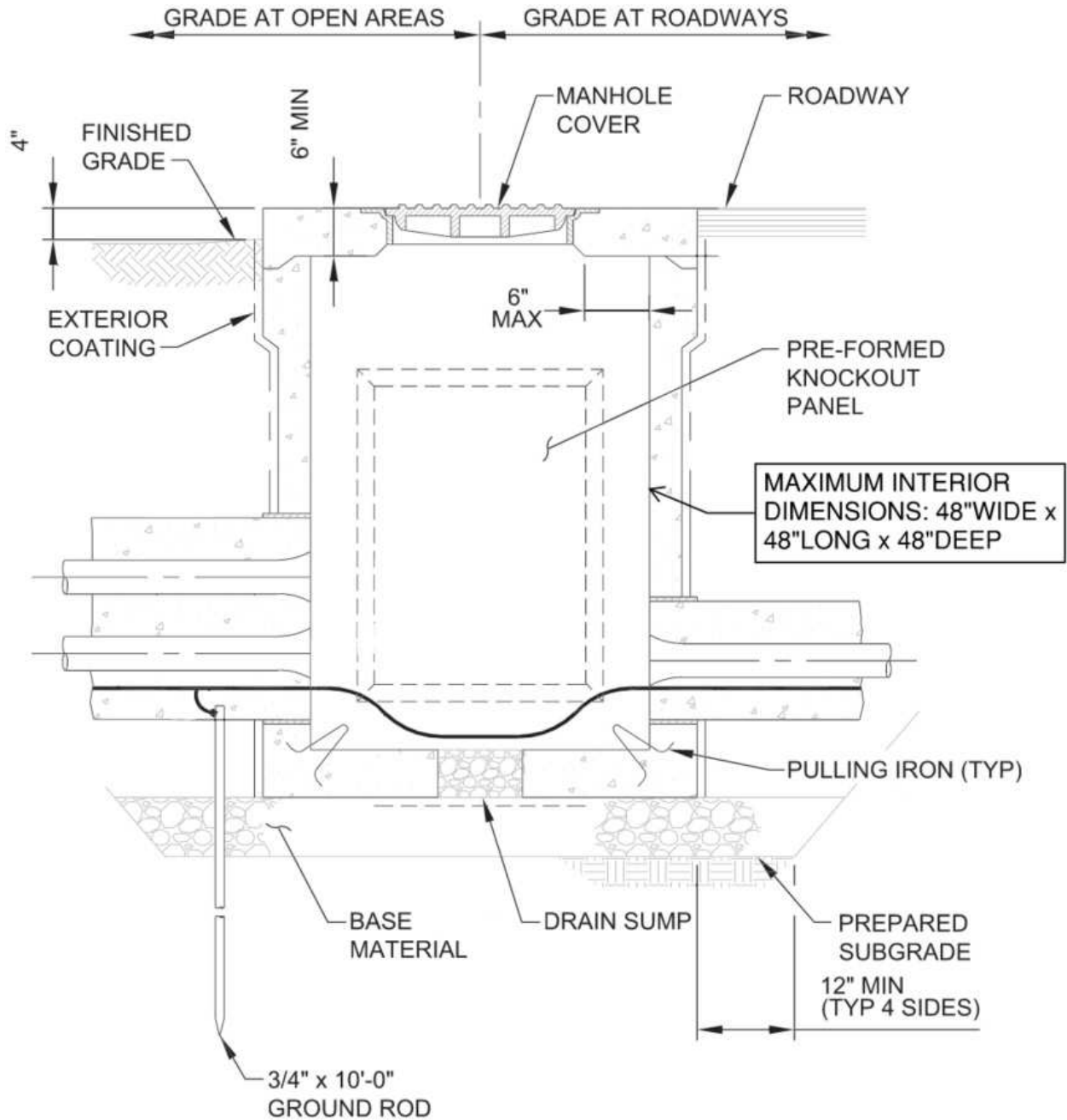


Figure 20 Precast Electrical Handhole with Manhole Cover Detail

## 6.6.2 Manholes

Electrical and fiber optic communication manholes will be used in lieu of handholes where conduit is deeper than 4 feet such as at a trenchless crossing or an area congested with existing utilities. Figure 21 shows a typical detail for an electrical manhole with a manhole lid detail that is suitable for use in roads. Figure 22 shows a typical detail for a fiber optic communication manhole with a manhole hatch that is suitable for use in roads. Water stops may be required for conduit penetrations in manholes installed with shallow ground water levels as determined by the geotechnical investigation report.

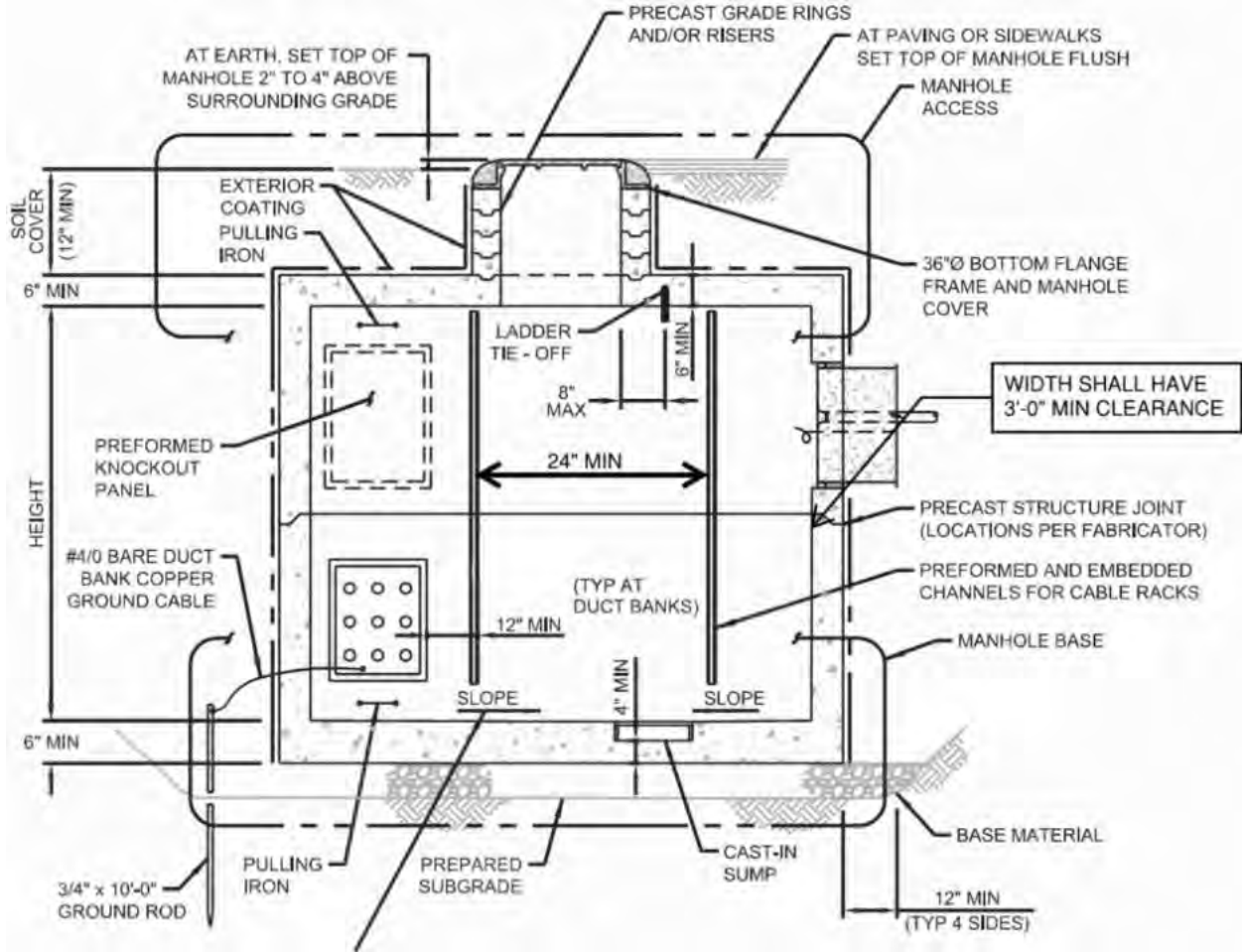


Figure 21 Precast Electrical Manhole Detail

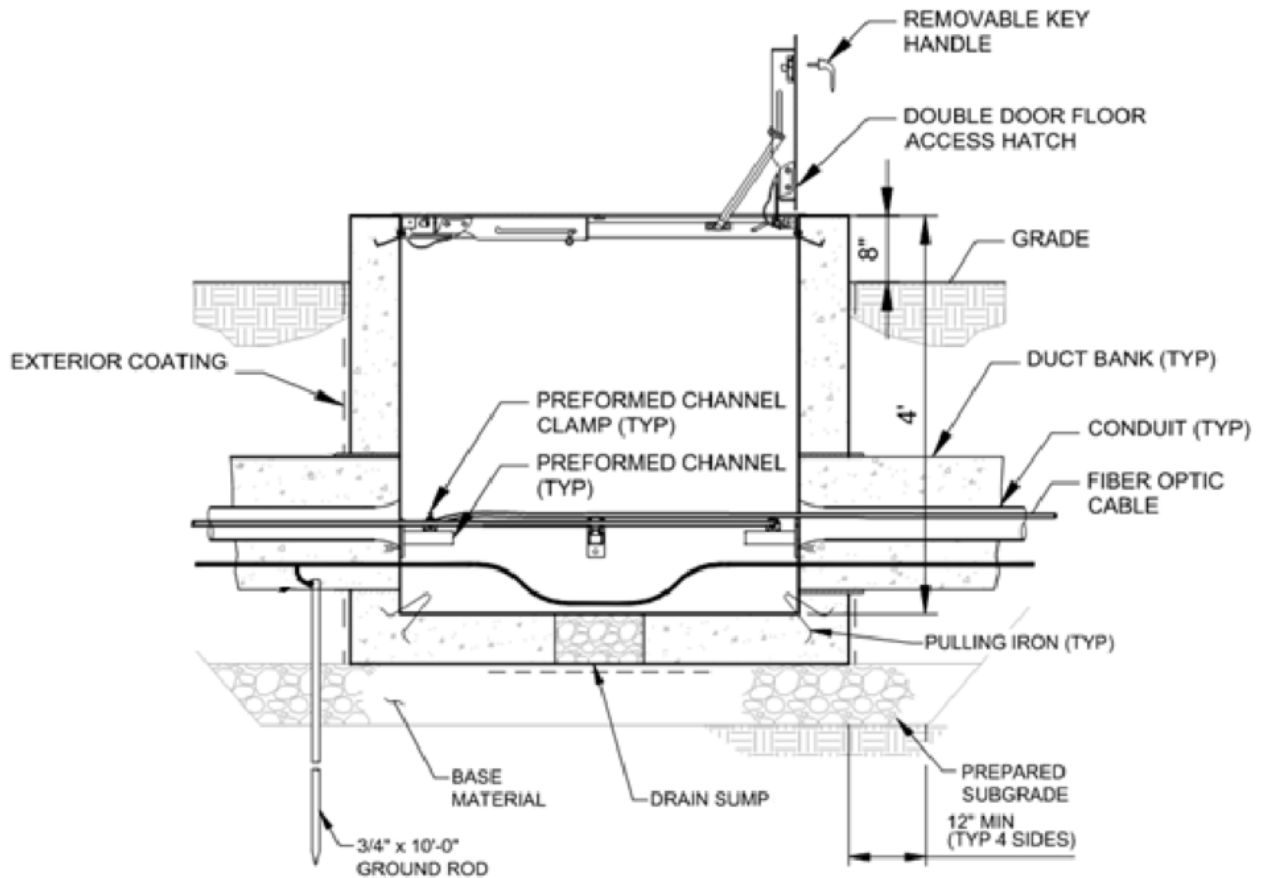


Figure 22 Precast Fiber Optic Communications Manhole Detail

### 6.6.3 Fiber Optic Conduit

There are several pipe materials that can be used for the buried fiber optic conduit including PVC coated steel, galvanized steel, PVC, and HDPE. However, early discussions with the Town indicated that the preference is to use two 3-inch PVC Schedule 40 conduits from Chico WPCP to the Town Control Center. Fiber optic conduit will also use a joint trench with the trunk sewers from the Town Control Center to the trunk pump stations in Town. It is recommended that conduit be encased in duct bank for protection from future excavation in areas where the fiber line is subject to vehicular traffic outside of a common pipe trench.

### 6.6.4 Electrical Conduit

Buried electric conduit will be used at each pump station site from the existing buried 480V PG&E power supply to a transformer and to the new PG&E service meter. Conduit and trenching will meet PG&E Greenbook Standards upstream of the PG&E meter. Downstream of the meter, buried conduit to the standby generator and to the electric building will follow Carollo standards and generally consist of PVC conduits for below grade installations. Conduits subject to vehicular traffic will be concrete encased. Exposed conduits will be rigid galvanized steel or PVC-coated rigid galvanized steel depending on the expected corrosiveness of the installed environment.

## SECTION 7 SEWER COLLECTION SYSTEM

This section presents a summary of the preliminary design of the Town's sewer collection system based on PG&E LiDAR elevations and the hydraulic model.

### 7.1 Preliminary Design

#### 7.1.1 Collection System

The collection system will be designed to collect flows from the SSA, which includes 1,482 parcels in the main commercial district. The collection system includes three main trunk lines: Skyway and Clark Road that run north/south and Pearson Road that runs East-West. Collector sewers feed into these trunk pipelines as shown in Figure 23. The collection system also includes up to four trunk line pump stations (>10 hp) and up to 32 small pump stations (<10 hp).

#### Skyway Trunk Line

The Skyway trunk pipeline begins near the intersection of Skyway and Pentz Road and ends at the export pump station where it will transition to the export pipeline (see Section 8). The Skyway trunk pipeline is approximately 6 miles long with pipe diameters ranging from 8 to 15 inches for both the SSA buildout and the Extended SSA scenarios. The Skyway trunk pipeline will have one small pump station near the intersection of Bader Mine Road with a 700-foot, 4-inch force main. The rest of the trunk pipeline will flow to the export pipeline by gravity. Design and construction considerations for construction along Skyway include:

- The Town has plans to expand the northern part of Skyway, so design will consider future road expansion to minimize impacts on the trunk pipeline or pump station.
- PG&E is planning to install underground electrical and communications conduits in Fall 2025 on Skyway between Wagstaff Road and Pentz Road. The sewer design will take into consideration the location of the proposed conduits.
- Several utilities run alongside Skyway as well as cross the road perpendicularly. The final number of utility crossings and locations will be confirmed during design. Utility clearances will be per the requirements laid out in Section 4.3.
- Skyway is one of the Town's major thoroughfares as it directly connects to the City of Chico, so pipeline construction must consider traffic impacts. It is also one of the Town's identified emergency travel routes. Since the trunk pipeline has numerous sewer laterals and collectors that tie-in to the trunk line, traffic on both sides of the road could be impacted by pipe crossings. This impact can be reduced by limiting work to one side of the road at a time. Where possible, sewer laterals will be connected to manholes instead of the trunk pipeline to avoid future traffic disturbance if laterals require repairs.



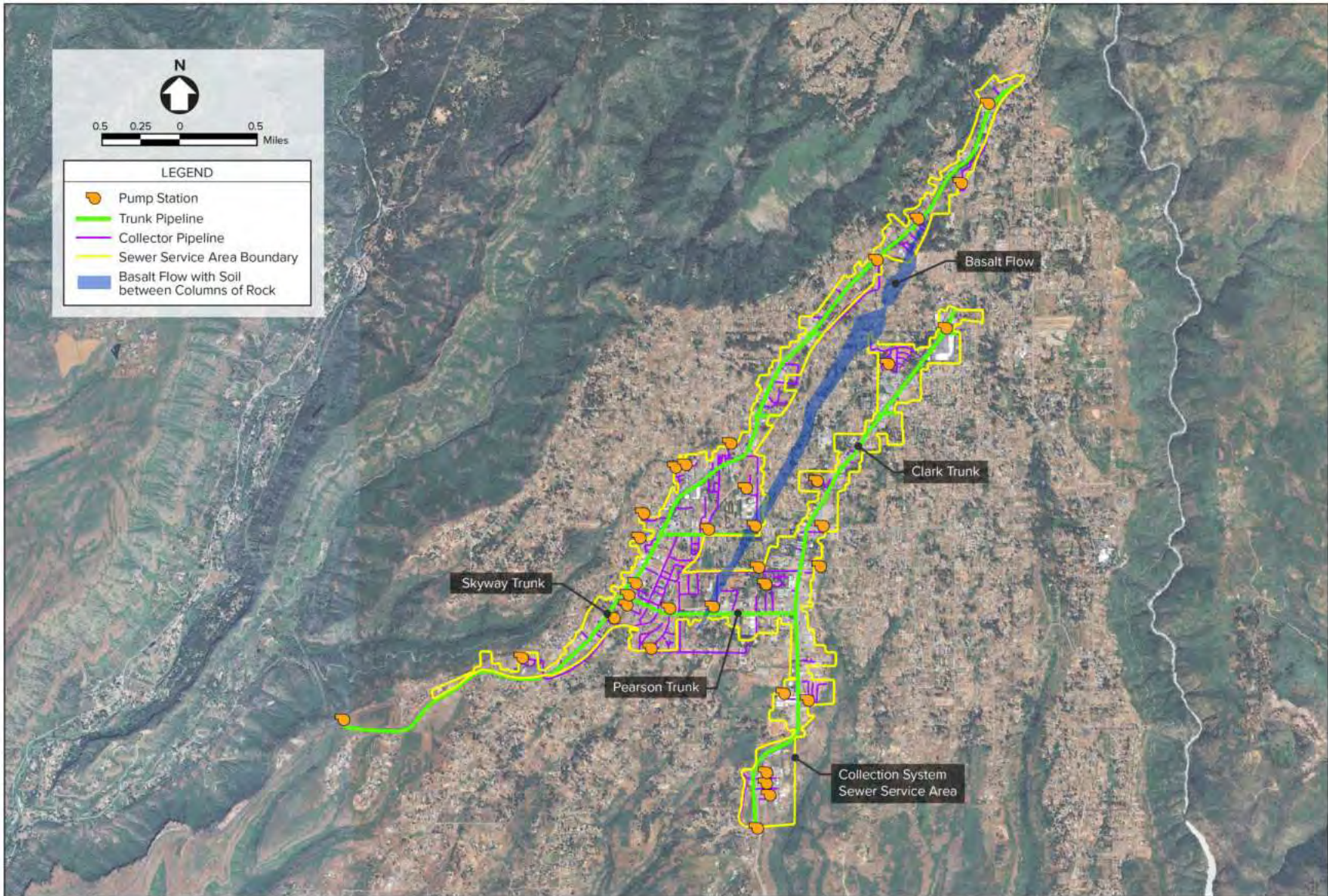


Figure 23 Collection System Overview

## Clark Road Trunk Line

The Clark Road trunk pipeline begins collecting flows at the intersection of Clark Road and Wagstaff Road. The trunk pipeline will convey flow south to the intersection of Clark Road and Old Clark Road. A pump station located near the Old Clark Road intersection will pump flow back north to the Pearson trunk line. The gravity portion of the Clark trunk pipeline is approximately 3.8 miles long with pipe diameters ranging from 8 to 10 inches in diameter for the SSA buildout and increases to 8- to 15-inch diameter for the extended SSA scenario. A pressurized 4-inch force main is located near the intersection of Wagstaff Road and will pump flows south along Clark Road. An additional pressurized 8-inch diameter force main located at the south end, runs along Clark Road for approximately 1.6 miles. The force main and the gravity sewer would be installed in a single trench. Design and construction considerations that will be considered for the Clark Road trunk pipeline include:

- Clark Road becomes Highway 191 and falls within Caltrans jurisdiction south of the Pearson Road intersection. Caltrans encroachment permit requirements for design and design documents will be followed as described in Section 7.4.5.
- Future PG&E projects include installation of underground electrical and communications conduits in Spring 2025 on Clark Road between Old Clark Road and Pearson Road. The design will take into consideration the location of the proposed conduits.
- Land acquisition will be required for the trunk line pump station along Clark Road (C1-PS-2) as described in Section 12.
- Clark Road is a major thoroughfare running north/south and connecting the Town to Paradise Airport, Highway 70, and Oroville. It is one of the Town's identified emergency travel routes and is used for truck traffic. The road generally has five lanes inside the SSA except reduces to two lanes south of Buschmann Road. Selecting a sewer alignment to minimize traffic impacts where possible will be a design consideration.

## Pearson Road Trunk Line

The Pearson trunk pipeline will convey the Clark Road flows to Skyway and consists of approximately 1.1 miles of 10- to 12-inch diameter sewer pipe for SSA buildout and increases to 12- to 15-inch diameter for the extended SSA. The Pearson trunk pipeline has three pump stations due to the hilly terrain along Pearson Road (P1-PS-1, P1-PS-2, and P1-PS-3). There is also approximately a total of 1,000 LF of 8-inch diameter force main along Pearson Road for all three pump stations. Similar to the Clark trunk line, land acquisition will be required for the three pump stations along Pearson Road.

## Sewer Collectors

The remainder of the collection system is made up of 8-inch diameter pipes that feed to one of the three major trunk lines. There are approximately 29 additional small pump stations that will convey the flows via 4-inch force mains from the collector pipes to downstream manholes where they will flow by gravity to the various trunk lines described above. These sewer pipes will be installed in a variety of areas including arterial and collector roads, private roads, and dedicated trailways.

## 7.1.2 Trenchless Construction

The majority of the collection system will be installed using open trench construction. Areas that will require trenchless sewer installation include creek crossings, large diameter pipeline crossings, dense utility corridors, and deep pipe trench areas. If trenchless construction is required, geotechnical borings, space, groundwater level, and environmental considerations will be used to determine the best trenchless method.

For preliminary design, it is assumed that all creek crossings will be trenchless and the following preliminary locations have been identified based on a review of the United States Fish and Wildlife Service (USFWS) wetlands mapper, HDR aquatic resource delineation, HDR riparian plant locations, the previous aquatic resources shape file on HDR's website, Town storm drain information, Town special permit zones, and Chico State storm drains:

- Buschmann Road at Aquatic Pond.
- Buschmann Road and Carli Court.
- Buschmann Road (between Sierra Park and Foster Road).
- Pearson Road at Memorial Trail.
- Pearson Road and Scottwood Road.
- Pearson Road between Recreation Drive and Mallan Lane.
- Nunneley Road and Shady Lane.
- Nunneley Road and South Stoneridge Circle.
- Black Olive Drive between Foster Road and Skyway.
- Elliott Road and James Drive.

The Town and HDR visited each of these locations to check if the area was still wet in October 2024. The following sites were found to be dry at that time:

- Buschmann Road (between Sierra Park and Foster Road).
- Black Olive Drive between Foster Road and Skyway.
- Pearson Road at Memorial Trail.
- Nunneley Road and South Stoneridge Circle.

The area between the end of Nunneley Road and Shady Lane was very wet during the field visit, and the Town has decided to re-route flow down Academy Drive to avoid construction through this wetland area. Trenchless crossing locations will be finalized during the design phase when topographic survey with existing utility locations mapped is available and after preliminary meetings with RWQCB, USACE, and California Department of Fish and Wildlife (CDFW) are conducted.

## 7.1.3 Trunk Line Pump Stations

The collection system initial alignment will have up to 33 total pump stations. Based on flow and required head, there are a total of four pump stations throughout the Town that will require pumps with an energy rating greater than 10 hp. These pump stations are referred to as the trunk line pump stations throughout this document, and the locations and sizes of these pump stations are shown in Figure 24 in red.

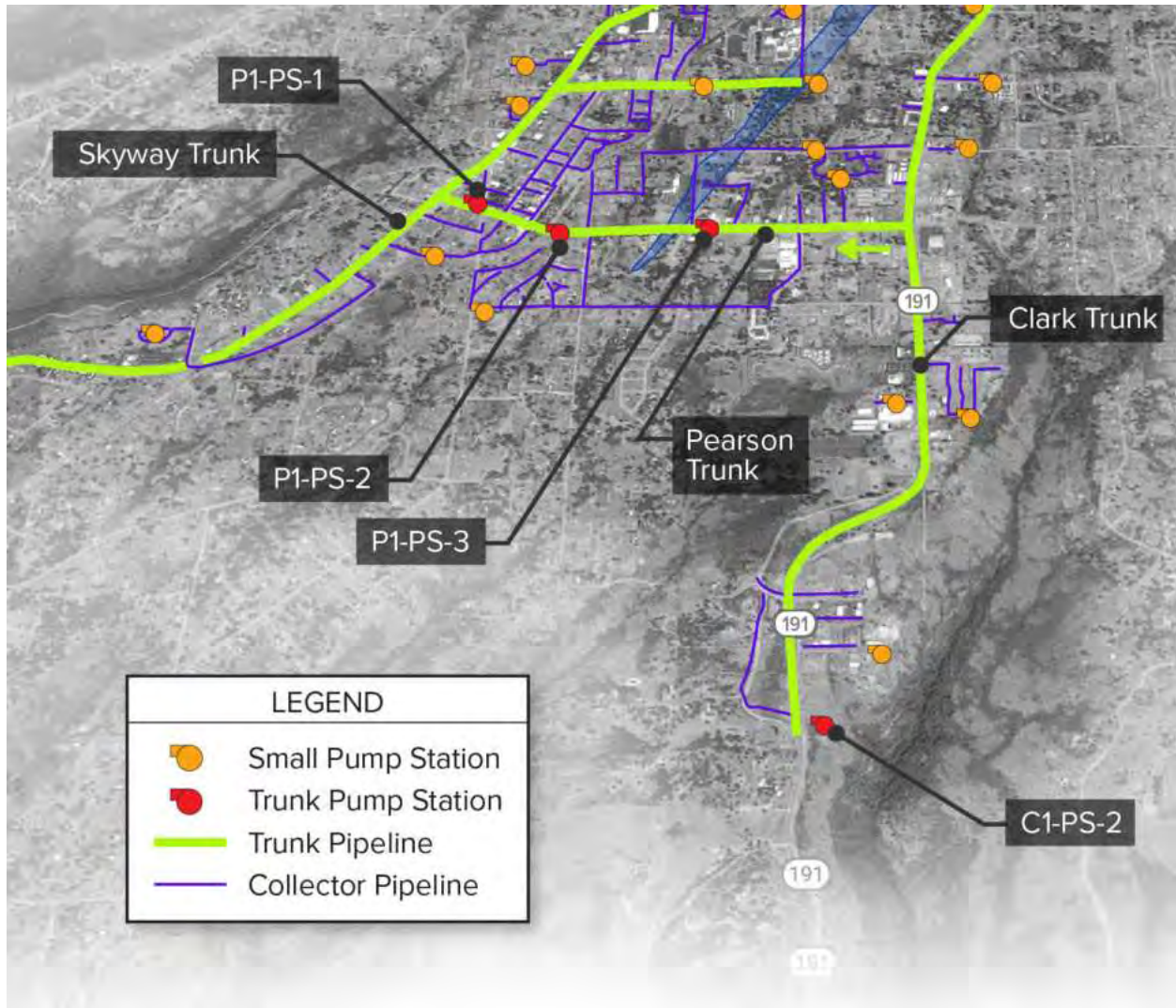


Figure 24 Trunk Line Pump Stations

Three of the trunk line pump stations are located along the Pearson Road corridor, and the final trunk line pump station is located at the bottom of Clark Road. Due to the size of the pumps, and the criticality of these pump stations for the operation of the collection system, these pump stations will have a different design than the smaller pump stations. The trunk line pump stations will include an electrical building, valve and flow meter vaults, permanent generator, and washdown facilities. Section 7.2.1 discusses the trunk line pump stations in greater detail including site layout, pump sizing, and design considerations.

### 7.1.4 Small Pump Stations

The pump stations in the collection system with a pump motor size less than 10 hp are referred to as small pump stations. The base alignment has up to 29 small pump stations located throughout the Town. Each small pump station will consist of a prefabricated grinder pump station, pump manufacturer control panel, a power service connection to PG&E, and manual transfer switch for temporary standby generator connection. Sites with areas large enough to include a dedicated parking space for a truck and portable

standby generator will be needed. Section 7.2.2 discusses the small pump stations in greater detail including site layout, pump sizing, and design considerations.

### 7.1.5 Small Pump Station Considerations

A number of the multi-family housing developments that were considered in the development of the SSA and the collection system were destroyed in the Camp Fire and have not re-built to date. There are approximately five small, proposed pump stations that serve a single parcel with undeveloped multi-family housing. These pump stations are:

- Connie Pump Station (Multifamily Housing – currently undeveloped).
- East Clark Pump Station (Mobile Home Park – currently undeveloped).
- Cape Cod Pump Station (Multifamily Housing – currently undeveloped).
- Central Park Pump Station (Multifamily Housing – currently undeveloped).
- Burdaparadise Pump Station (Multifamily Housing – currently undeveloped).
- Further coordination with the Town on these undeveloped parcels will happen during detailed design. If no development is planned in the near future, it is recommended that the Town not build these small pump stations and the associated collector pipelines, but install a manhole with stub-out for ease of a future connection by the developer.

### 7.1.6 Collection System Proposed Alignment Alternatives

#### 7.1.6.1 Pearson-Buschmann Trunk Alignment Alternative

The Pearson-Buschmann Trunk Alignment Alternative considers two modifications to the base collection system as part of preliminary design. One option is to move the trunk pipeline from Pearson Road to Buschmann Road and the second option extends the new trunk pipeline in Buschmann Road east by approximately 1,100 LF to the high point along Buschmann Road and re-routes the Clark force main to connect at the high point in Buschmann rather than on Pearson Road (see Figure 25).

#### Buschmann Trunk Realignment

The Buschmann trunk realignment will redirect the flow from the Pearson trunk pipeline to the proposed sewer pipe along Buschmann Road. The purpose of this design change is to reduce the number of trunk pipeline pump stations along Pearson Road and to reduce trenching through a lava cap which is assumed to run through this area (Appendix C). The following lists the anticipated design implications from the proposed alignment change:

- The sewer pipes along Pearson Road will be designed so that the sewage will flow to either Recreation Drive or Scottwood Road.
  - » The trunk pipeline along Pearson Road will remain unchanged between Clark Road and Recreation Drive.
  - » Parcels east of College Hill Road will flow east by gravity to Chapel Drive Pump Station where a force main will convey flow to Recreation Drive.

- » The parcels west of College Hill Road will flow west towards Scottwood Road via gravity.
- » Eliminates 700 LF of sewer pipe between Scottwood Road and Black Olive Drive and 750 LF between College Hill Road and Academy Drive.
- Trunk line pump stations P1-PS-2 and P1-PS-3 along Pearson Road will be eliminated. P1-PS-1 will be reduced to a small pump station and a new small pump station will be installed at the intersection of Chapel Drive and Pearson Road (Chapel Drive Pump Station).
- Buschmann Pump Station will be upsized to a trunk line pump station.
  - » The force main from Buschmann Pump Station will discharge at Skyway instead of at the intersection of Scottwood Road and Black Olive Road as shown in the base design. This proposed change will avoid breaking force main head, and will avoid upsizing the Black Olive Pump Station. The result of this change is an additional 1,100 LF of force main.
- The pipe size changes as a result of this alternative are as follows:
  - » The sewer pipe diameter size along Pearson Road will be reduced from 10 to 12 inches to 8 to 10 inches.
  - » The Buschmann pipe will be upsized from an 8-inch to a 10- to 15-inch pipe.
  - » A segment of pipe along Recreation Drive will be upsized from an 8-inch to a 10-inch pipe.
- The parcels along Buschmann Road between Scottwood Road and Recreation Drive were not originally included as part of the SSA. These parcels would be added to the SSA as part of this alternative.

The advantages and disadvantages associated with this design modification are outlined in Table 10.

Table 10 Buschmann Trunk Realignment Advantages and Disadvantages

Advantages	Disadvantages
<u>Insignificant impact to CEQA:</u> This modification is not anticipated to impact CEQA, since the original design already showed 6-inch sewer pipes along Recreation Drive and Buschmann Road.	<u>Storm Drain:</u> A storm drain (assumed to be 84-inch diameter) crosses and parallels Buschmann Road. Size, depth, and location of storm drain need to be confirmed during survey to see if trenchless construction is required before recommending this design modification.
<u>Trunk Line Pump Stations:</u> The design modification reduces the number of trunk line pump stations in this area from three to one.	<u>Sewer Depth:</u> Sewer depths of up to 25 feet deep are expected along Buschmann Rd between Sierra Park Drive and Keith Road. Additional borings are required to review feasibility of construction in this area (open-cut versus trenchless).
<u>Lava Cap:</u> Based on the information from HDR's <i>Technical Memorandum #3 – Evaluation of Collection System</i> , the lava cap along Pearson Road does not continue south to Buschmann Road. Therefore, the design may avoid trenching through the lava cap.	<u>Additional Pump Station:</u> This design will add an additional small Chapel Drive pump station in Pearson Road.
<u>SSA:</u> The parcels within the existing SSA presented in the <i>PEIR</i> will not be impacted by these design modifications. Additional parcels along Buschmann Road between Scottwood Road and Recreation Drive would be added to the SSA as well.	

Notes:

CEQA - California Environmental Quality Act.

## Buschmann Trunk Extension

In addition to moving the trunk pipeline from Pearson Road to Buschmann Road, an extension of the new Buschmann trunk pipeline was also considered. This alternative would extend the Buschmann trunk pipeline by approximately 1,000 LF to the east and add 16 new parcels to the core SSA. This new pipeline would go from the intersection of Buschmann Road and Recreation Drive to the intersection of Buschmann Road and Del Monte Avenue. The purpose of this design modification is to capture additional parcels along Buschmann Road that can connect to the Buschmann Road pipeline via gravity flow.

The following anticipated design implications from the proposed alignment change are:

- The collector pipeline within Buschmann Road will be extended by approximately 1,000 LF to the high point along Buschmann Road:
  - » This extension was not shown as part of the CEQA documents. An amendment to the *PEIR* is expected.
- The extension will provide sanitary sewer service to 16 additional parcels, including a multi-family development.

The advantages and disadvantages associated with this change are outlined in Table 11.

Table 11 Buschmann Trunk Extension Advantages and Disadvantages

Advantages	Disadvantages
<u>Additional Parcels:</u> Up to 16 additional parcels may be served by the Buschmann extension pipeline including the multi-family development.	<u>Permitting:</u> A CEQA amendment and biological, cultural, and aquatic resource surveys will likely be required in this area as no pipe was proposed here as part of the <i>PEIR</i> .
<u>Future Lateral Connections:</u> The parcels located between Buschmann Road and Village Park will have a pipeline to connect to in the future. This future connection may add approximately 13 more parcels to the system.	<u>LAFCO:</u> LAFCO board authorization is required since these parcels are not within the SSA.
<u>Gravity Flow:</u> Flows captured by the Buschmann extension pipeline will tie-in to the sewer system via gravity. No additional pump stations needed.	
<u>Property:</u> No additional permanent or temporary easements will be required for the sewer since Buschmann Road lies within public ROW.	

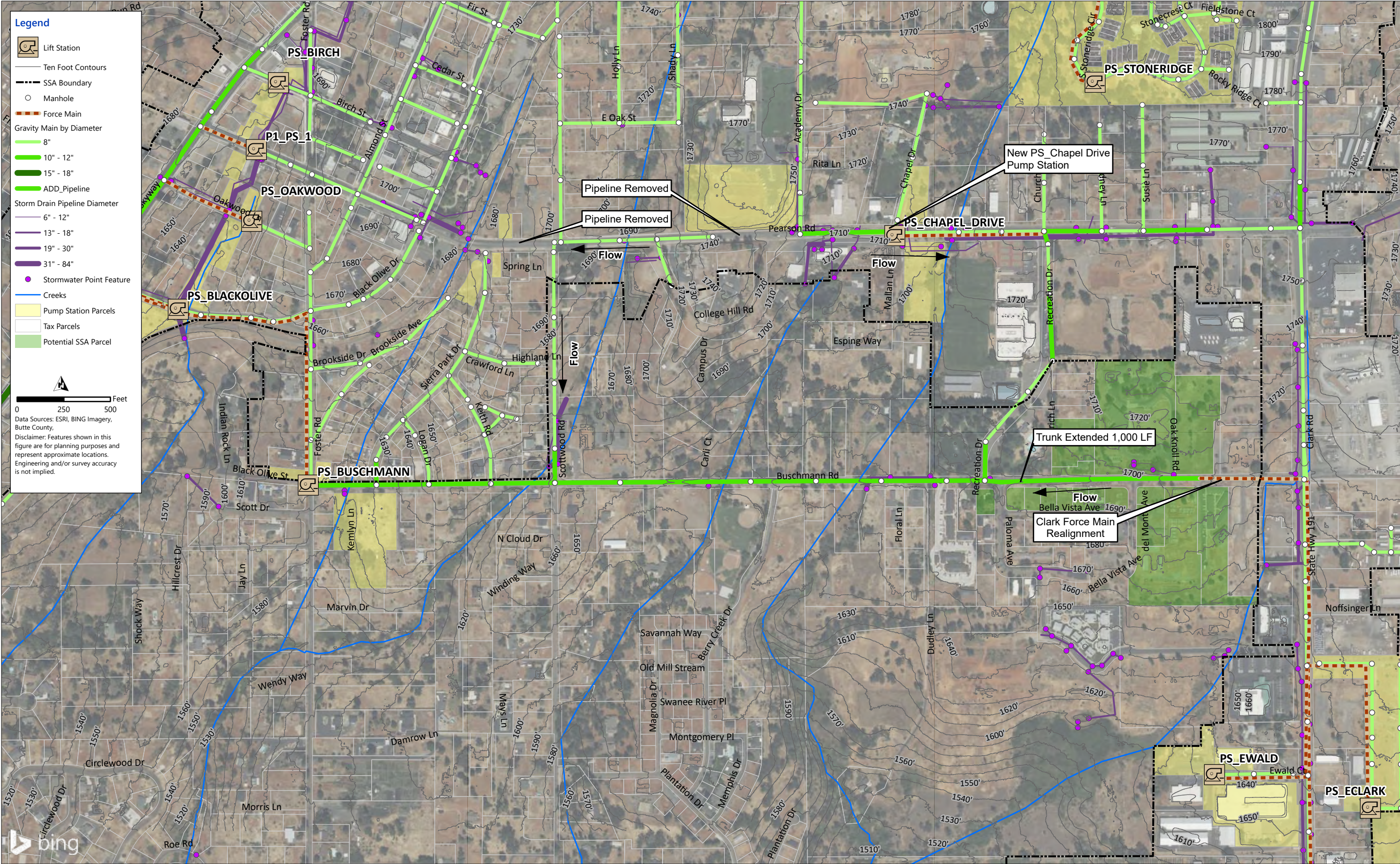


Figure 25 Pearson-Buschmann Trunk Alignment Alternatives  
TOWN OF PARADISE  
PARADISE SEWER PROJECT



### 7.1.6.2 Clark Trunk Alternatives

Two modifications to Clark Road trunk pipeline were investigated during preliminary design and are described in the following sections.

#### Clark Trunk Reduction South of Pearson Road

The Clark Road trunk pipeline collects flows starting at the intersection of Clark Road and Wagstaff Road and conveys them south to the intersection of Clark Road and Old Clark Road. The Clark Rd PS, C1-PS-2, pumps these flows back north 8,000 LF to the Pearson trunk line. The proposed design modification splits the area along Clark Road (south of Pearson Road) into two smaller collection systems: Upper Clark Road and Lower Clark Road by eliminating 3,400 LF of gravity sewer that connects those areas. This alternative is shown in Figure 26.

All of the flow along Clark Road between Wagstaff Road and Pearson Road would continue to be conveyed to the sewer pipe along Pearson Road via gravity.

The following anticipated design implications from the proposed alignment change are:

- In the upper Clark Road area, flow from parcels along Clark Road from Pearson Road to Ewald Court would be pumped to a new pump station along Village Parkway (PS-Village). This pump station would then pump the flows to the sewer pipeline along Buschmann Road.
- Up to 13 additional parcels would be added to the SSA upstream of PS-Village. Flows from these parcels would flow down to PS-Village before being pumped up to Buschmann Road.
- Lower Clark Road – The flow from parcels along Clark Road from American Way to Old Clark Road as well as the flows along Old Clark Road would be conveyed to C1-PS-2. These flows would be pumped up to the sewer pipeline on Buschmann Road.
- The proposed Clark Trunk Reduction Alternative eliminates approximately 3,400 LF of gravity pipe along Clark Road from Ewald Court to American Way.

The advantages and disadvantages associated with this design change are outlined in Table 12.

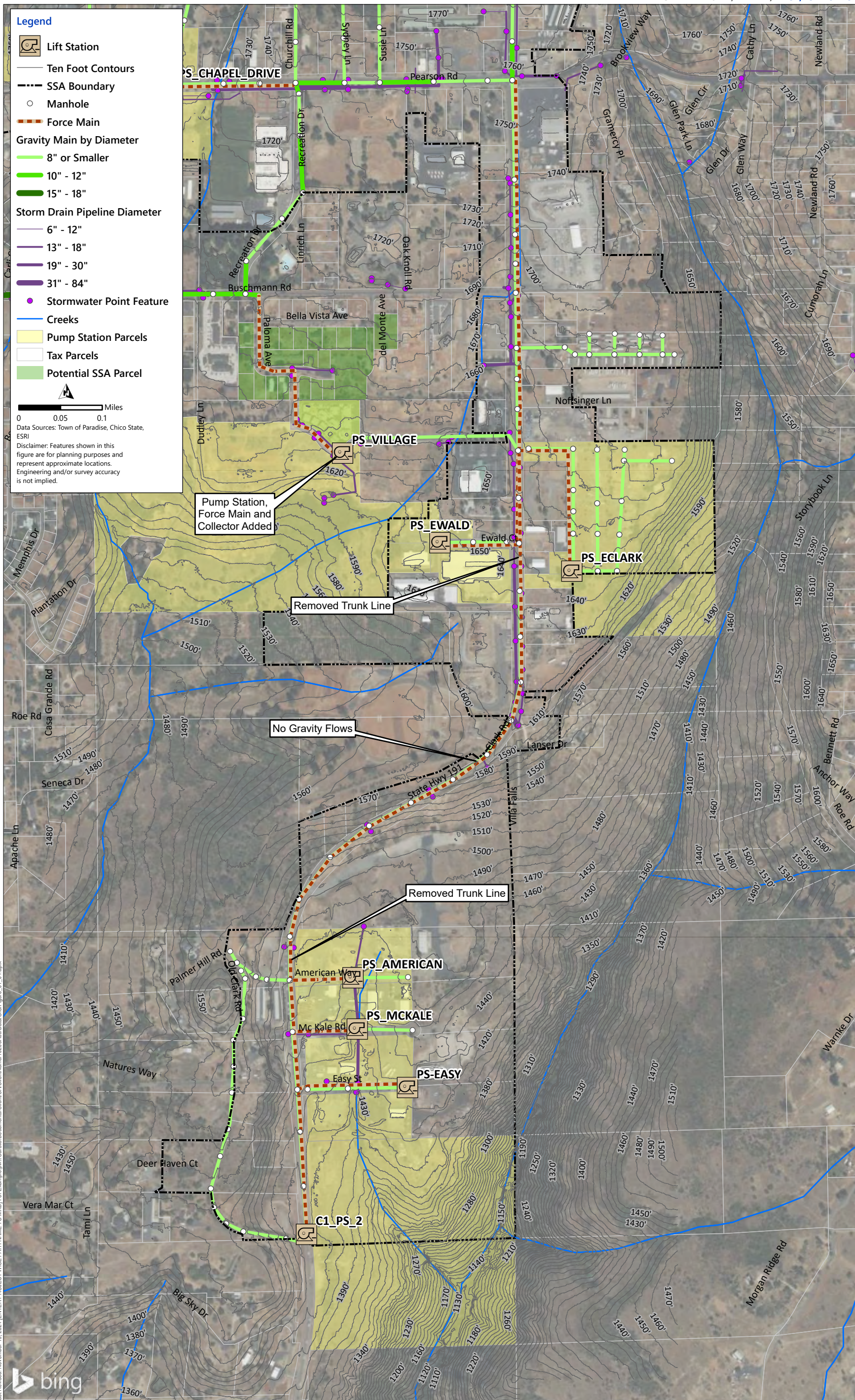


Figure 26 Clark Road Reduction South of Pearson Road  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

Table 12 Clark Road Reduction South of Pearson Road Alternative Advantages and Disadvantages

Advantages	Disadvantages
<u>Gravity Pipe Reduction:</u> The Clark trunk pipeline will be reduced by 3,800 LF while being able to serve the critical parcels.	<u>SSA:</u> The number of parcels served by the lower Clark trunk would be reduced by 13. The 2023 windshield survey indicates that only four of these parcels have buildings and one appears to be a parking lot. The remainder are vacant.
<u>Future Connections:</u> Parcels between Village Parkway and Buschmann Road will be able to connect to the sewer system with the proposed small pump station in Village Parkway.	<u>Future Connections:</u> Parcels between the Upper and Lower Clark Collection Areas will not be able to connect to the sewer system without a gravity pipe along Clark Road. A future gravity pipeline along this section will require new permitting efforts with Caltrans.
<u>SSA:</u> The number of parcels served by the Village Parkway pipeline would add approximately 13 parcels to the SSA.	<u>Permitting:</u> A CEQA amendment and biological, cultural and aquatic resource surveys will likely be needed for the force mains along Village Parkway and Buschmann Road.
<u>Pump Station Size Reduction:</u> The flow at C1-PS-2 will be reduced from 254 gpm to 149 gpm.	<u>Additional Pump Station:</u> This design will add an additional small pump station in Village Parkway.
	<u>LAFCO:</u> LAFCO board authorization is required since the Village Parkway parcels are not within the SSA.

Notes:

gpm - gallons per minute.

### Clark Road Trunk Extension

The proposed Clark extension to Skyway will extend the Clark Road trunk pipeline along Clark Road from Wagstaff Road to Skyway. The purpose of this design modification is to serve the parcels adjacent to Clark Road as well as provide a trunk pipeline for future sewer connections. All flows within the Clark Road trunk pipeline extension will flow south. This extension would add approximately 1.25 miles of 8-inch sewer pipe to the collection system and is shown in Figure 27.

The following lists the anticipated design implications from the proposed alignment change:

- This pipeline was not shown as part of the CEQA documents. An amendment to the *PEIR* and biological, cultural, and aquatic surveys are likely necessary.
- A new small pump station, Upper Clark Pump Station, will be required for this extension.
- Utility as-builts will be needed to confirm additional pump stations will not be required along Clark Road.
- The extension will add approximately 114 parcels to the core SSA:
  - » An increase in flow of approximately 30 gpm is expected as a result of the parcel addition.
  - » A windshield survey may be needed to confirm which parcels are occupied and which are vacant.
- LAFCO authorization is required for work beyond the core collection system previously authorized.

The advantages and disadvantages associated with this change are outlined in Table 13.

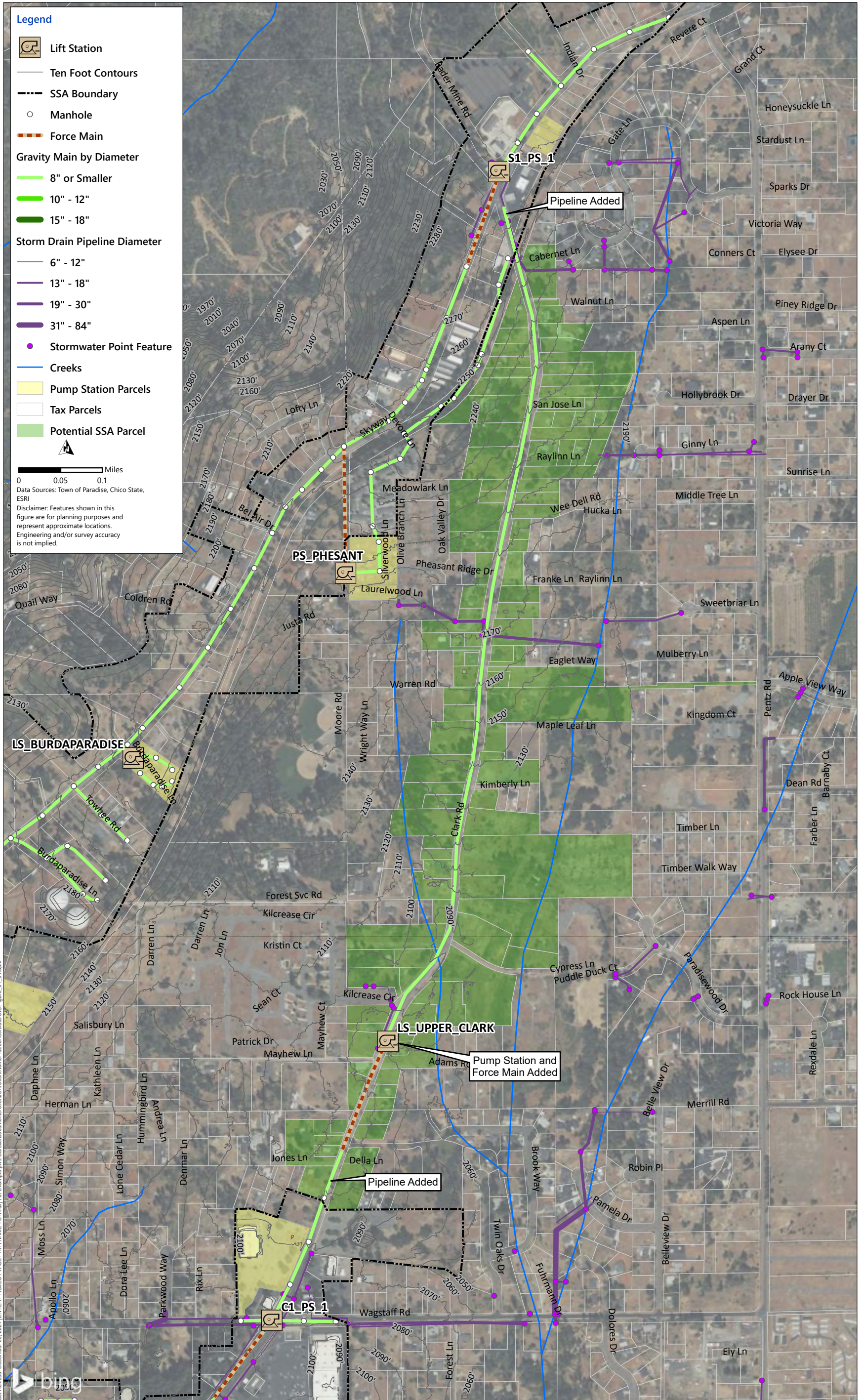


Figure 27 Clark Road Trunk Extension Alternative  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

Last Revised: December 09, 2024 ENTER PROJECT WISE PATH NAME TO MWD For Example: p:\Carollo\Documents\Client\CARollo\Paradise\GIS\Figure\_01\_01.aprx

Table 13 Clark Road Trunk Extension Alternative Advantages and Disadvantages

Advantages	Disadvantages
<u>Additional Parcels:</u> Up to 114 parcels will be served by the Clark Road Extension.	<u>Permitting:</u> No sewer pipe was proposed in this area. A CEQA amendment and biological, cultural, and aquatic resource surveys will be required.
<u>Future Connections:</u> Establishing a trunk pipeline along Clark Road will make future connections to the sewer system easier.	<u>ADWF:</u> The addition of these parcels will increase the discharge to Chico's WPCP by .043 mgd.
<u>Grade:</u> The existing grade elevations along Clark Road show that these parcels could be added without needing a trunk line pump station.	<u>LAFCO:</u> LAFCO board authorization is required since this area is not within the SSA.
<u>Property:</u> no additional permanent or temporary easements will be required for the sewer since Clark Road lies within public ROW.	<u>Additional Pump Station:</u> This design will add an additional small Upper Clark Road pump station.
	<u>Property:</u> One additional parcel acquisition is required for the Upper Clark Pump Station.

### 7.1.6.3 Paradise Memorial Trailway Pipe Elimination Alternative

The Paradise Memorial Trailway Pipe Elimination alternative removes the proposed sewer pipe within the Town's trailway between Wagstaff Road and Rocky Lane as shown in Figure 28. Existing grade elevations suggest that the parcels within this area and along Skyway may be able to connect to the Skyway trunk pipeline via gravity. Therefore, the pipe within the trailway is not required.

The anticipated impacts to the Project include:

- Elimination of approximately 2,800 LF of 8-inch pipe within the Paradise Memorial Trailway.
- All parcels adjacent to Skyway will connect to the Skyway trunk pipeline via gravity. Topographic survey will confirm actual elevations.
- Rocky Pump Station will shift south and pump flows from two parcels north to the Skyway trunk pipeline rather than to the south.
- No impact to CEQA is expected from this design change. However, it is recommended that this design change be presented as an alternative in CEQA. This will allow for the installation of a sewer pipe within Paradise Memorial Trailway in case unforeseen utility conflicts arise
- Existing grade elevations will need to be confirmed via topographic survey. The advantages and disadvantages associated with this change are outlined in Table 14.



Figure 28 Paradise Memorial Trailway Pipe Reduction

Table 14 Memorial Trailway Pipe Reduction

Advantages	Disadvantages
<u>Public Impact:</u> The public impacts will be reduced as a result of avoiding construction within the trailway.	
<u>Lateral Connections:</u> Existing surface elevations suggest that lateral connections can connect to Skyway instead via gravity.	
<u>SSA:</u> The number of parcels served by the Town's collection system will not be impacted or reduced.	

### 7.1.7 Collection System Alignment Recommendations

Ultimately, topographic survey and geotechnical borings will be needed to develop the final design recommendations. At this stage, it is recommended that the Town carry forward both of the Buschmann alternatives, the Clark extension, and the Memorial Trailway Pipe Reduction alternatives as discussed in Table 15. The Clark trunk reduction alternative is not recommended, however, the addition of PS-Village to the project is recommended to serve additional parcels.

Table 15 Design Alternative Recommendations

Alternative	Design/Construction Impacts	Recommendation	Notes
Buschmann Trunk Realignment	<ul style="list-style-type: none"> <li>▪ P1- PS-2 AND P1-PS-3 are eliminated.</li> <li>▪ P1-PS-1 downsized to a small pump station.</li> <li>▪ PS-Buschmann upsized to a trunk line pump station.</li> <li>▪ Addition of small PS-Chapel.</li> </ul>	Recommended to carry forward.	Alternative would eliminate two trunk line pump stations. Survey is required prior to making a recommendation. Utility records received thus far indicate the presence of a 30-inch ductile iron water pipeline, 8-inch water pipeline, 8-inch gas, PG&E duct banks, and the crossing of an 84-inch storm drain along the alignment near Recreation Drive.
Buschmann Extension	<ul style="list-style-type: none"> <li>▪ Addition of 1,100 LF of 8-inch sewer pipe.</li> </ul>	Recommended to carry forward.	
Clark Trunk Reduction		Not Recommended	C1-PS-2 would still be considered a trunk line pump station under this alternative. Additionally, the elimination of the gravity trunk along Clark Road would limit the Town's ability to connect adjacent parcels along this section in the future. It is recommended that PS-Village presented in this alternative be left in place for future design.
Clark Trunk Extension	<ul style="list-style-type: none"> <li>▪ Addition of 1.2 miles of 8-inch pipe.</li> <li>▪ Addition of 114 laterals.</li> </ul>	Recommended to carry forward.	Town has indicated this alternative will be built under a separate project.
Memorial Trailway Pipe Elimination	<ul style="list-style-type: none"> <li>▪ Elimination of 2,300 LF of 8-inch pipe.</li> </ul>	Recommended to carry forward.	

## 7.2 Pump Station Design Criteria

This section summarizes the trunk and small pump station design criteria and approach.

### 7.2.1 Trunk Pump Stations

The collection system will include up to four trunk line pump stations under the base design and up to two trunk line pump stations under the Pearson-Buschmann trunk realignment. Trunk line pump stations will be considered critical facilities within the collection system and have a different layout from the other small pump stations in the collection system.

#### 7.2.1.1 Site Layout

Figure 29 shows a conceptual trunk pump station (greater than 10 hp) site plan. The pump station site plans were developed considering the following:

- Site will be designed so the facilities are accessible by O&M vehicles.
  - » Wet well needs to be accessible by a combination hydro-vacuum truck for maintenance activities.
  - » Electrical building needs to be accessible by trucks for repairs.
  - » Permanent generator needs to be accessible by re-fueling trucks.
  - » Site will be large enough to include temporary parking for trucks during maintenance activities.
  - » Sites will be fenced for security purposes. Fencing options will be provided for Town review during final design.
- All facilities at the site will be located on a parcel outside of roadway. Site will be large enough to include temporary parking for trucks during maintenance activities.
- Submersible pumps in a wet well.
  - » Odor control facility required at the wet well.
- Valve and meter vault required:
  - » Will house plug valve, check valve, air-vacuum release valve, and flow meter.
  - » Will have a wye or tee after flow meter to allow for bypass pumping.
- Yard hydrant at the site for wet well and force main maintenances:
  - » Will require a meter vault at connection with PID water main.
- A dedicated electrical building will be at the trunk line pump stations for the electrical equipment:
  - » Requires a minimum 50-foot setback to centerline of road.
  - » Will require a fire hydrant (FH) if there is not an existing FH located within 500 feet.
  - » Needs to be accessible by truck for maintenance and repairs.
  - » Requires heating, ventilation, and air conditioning (HVAC) that meets Title 24 requirements
  - » Town building permit, fire department review, and inspection by the building department is required
  - » Will include SCADA communication equipment such as cellular or radio antenna as discussed in Section 10.



- Permanent generator with a 24-hour fuel tank:
  - » Needs to be accessible by truck to fill up fuel tank.
  - » Will require an automatic transfer switch.
  - » Requires setback sufficient to meet 60 decibels (dB) at the property line.
- Dedicated area for PG&E transformer and meter:
  - » PG&E requires maintenance vehicle access to the transformer.
  - » PG&E conduits cannot cross stormwater detention basins.
- Detention basin will be used to meet post-construction stormwater requirements. Each pump station will be considered a unique sub drainage area.

It is anticipated that the trunk line pump station sites will be 110 feet long by 65 feet wide for an approximate area of 0.15 acres. The final site layout will be determined by topography, parcel geometry and parcel location during final design. Each pump station will likely have a different layout based on the ultimate parcel picked to house the pump station.

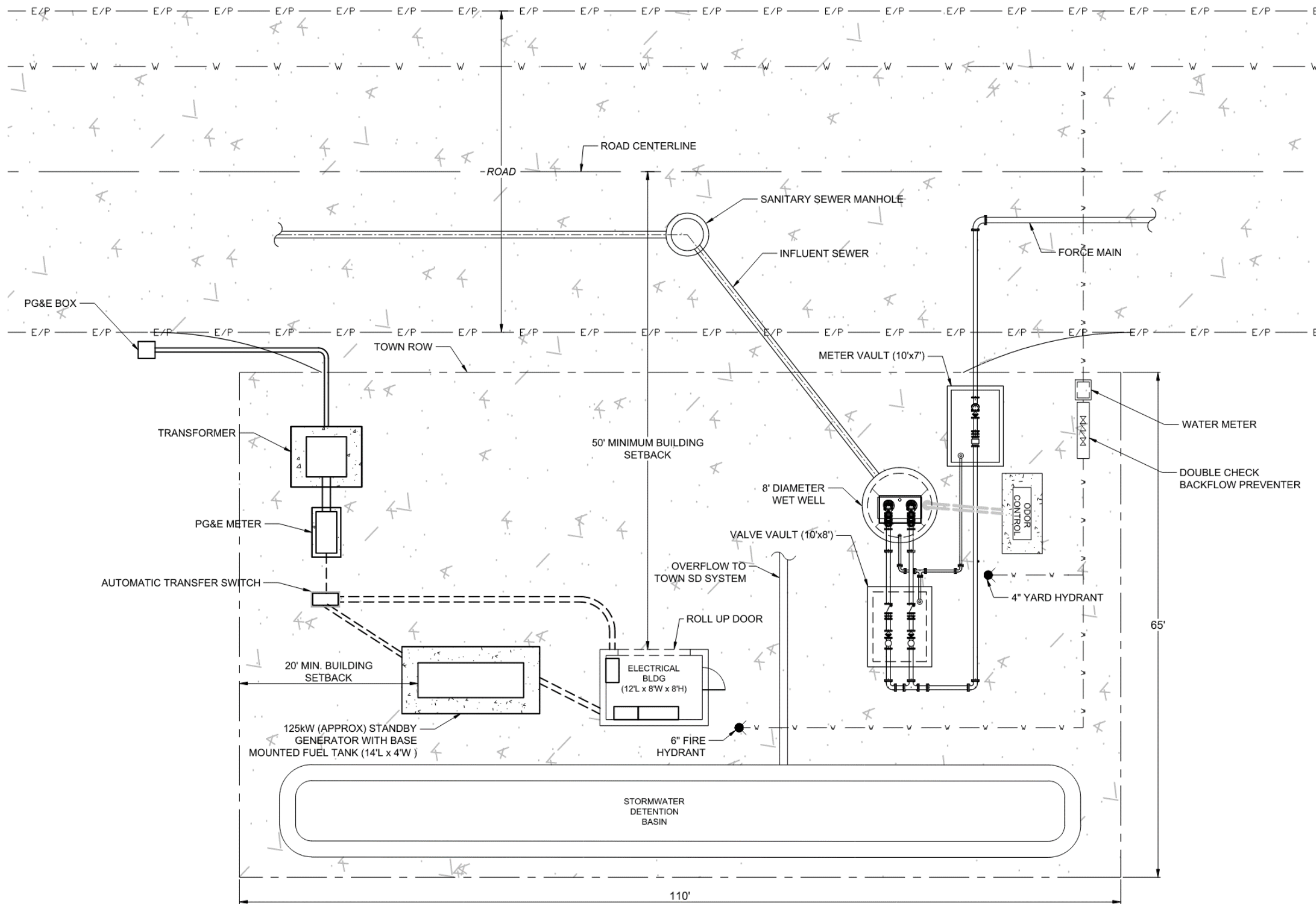


Figure 29 Typical Trunk Line Pump Station Site

### 7.2.1.2 Pump Design Criteria

Table 16 summarizes the pump station design criteria under the base design.

Table 16 Baseline Alternative Trunk Line Pump Station Criteria

	Pearson #1 (P1-PS-1)	Pearson #2 (P1-PS-2)	Pearson #3 (P1-PS-3)	Clark Road Pump Station (C1-PS-2) <sup>(3)</sup>
SSA ADWF (gpm)	301	277	244	101
SSA PWWF (gpm)	794	732	641	264
Extended SSA PWWF (gpm)	1,752	1,689	1,597	424
Wet Well Size	8 feet	8 feet	8 feet	8 feet
Wet Well Depth <sup>(1)</sup>	15 feet	11 feet	19 feet	22 feet
Pump Type	Submersible, non-clog	Submersible, non-clog	Submersible, non-clog	Submersible, non-clog
Impeller Type	Semi-Open	Semi-Open	Semi-Open	Semi-Open
Pump Manufacturer <sup>(2)</sup>	Flygt	Flygt	Flygt	Flygt
Pump Model	NH3202	NP3171	NP3202	NP3202
Number of Pumps	1+1	1+1	1+1	1+1
Pump Capacity	2.1 mgd	2.1 mgd	2.3 mgd	1.6 mgd
Power Supply	480 volt, 3-phase	480 volt, 3-phase	480 volt, 3-phase	460 volt, 3-phase
Drive Type	VFD	VFD	VFD	VFD
Maximum pump speed, rpm	1800	1800	1800	3600
Motor hp	60 hp	30 hp	60 hp	75 hp
Design Operating Point <sup>(1)</sup>	794 gpm at 160 feet TDH	732 gpm at 71 feet TDH	641 gpm at 162 feet TDH	264 gpm at 260 feet TDH
Influent Line(s) at Invert Elevation (feet)	1,645	1,676	1,700	1,398
Force Main Discharge (Centerline Elevation)	1,666	1,685	1,728	1,754
Discharge, inches	4	4	4	8

Notes:

rpm - revolutions per minute; TDH - total dynamic head; VFD - variable frequency drive.

- (1) Wet well depth is based on the difference between LiDAR surface received from PG&E at the locations set by Bennett Engineering and the modelled sewer invert depth at the wet well. Actual wet well depth will be dependent on final trunk lift station location and sewer design.
- (2) Xylem/Flygt manufacturer was contacted, and a preliminary pump selection was made based on the hydraulic model flow and elevations to make sure a pump existing that meets the Project needs.
- (3) The Clark Road Pump Station has very high head due to an elevation change of 360 feet and friction losses. Due to the high head, the flows will need to be pumped to a manhole upstream of either East Clark or Village pump station. Additionally, pumps can also pump in series at the Clark Road Pump Station – both options are recommended by Xylem. The pump shown is to pump from Clark Road Pump Station to a manhole upstream of East Clark pump station. Pump selection for this station will be reviewed in closer detail during the next design phase.

The Pearson-Buschmann alternative will result in the elimination of trunk pump stations P1-PS-2 and P1-PS-3 as well as the downsizing of P1-PS-1 to a small pump station (<10 hp). Buschmann Pump Station will get upsized to a trunk line pump station and Clark Pump Station will remain a trunk line pump station with a different operating point. Table 17 summarizes the pump station design criteria under the Pearson-Buschmann trunk realignment alternative.

Table 17 Pearson Buschmann Alternatives Trunk Line Pump Station Criteria

Item	Clark Pump Station (C1-PS-2) <sup>(2)</sup>	Buschmann Pump Station (Alternative)
SSA ADWF (gpm)	58	345
SSA PWWF (gpm)	150	950
Extended SSA PWWF (gpm)	318	1,958
Wet Well Size	8 feet	8 feet
Wet Well Depth <sup>(1)</sup>	22 feet	12 feet
Pump Type	Submersible, non-clog	Submersible, non-clog
Impeller Type	Semi-Open	Semi-Open
Pump Manufacturer	Flygt	Flygt
Pump Model	NP 3171	NP 3171
Number of Pumps	1+1	1+1
Pump Capacity	1.3 mgd	2.4 mgd
Power Supply	480 volt, 3-phase	480 volt, 3-phase
Drive Type	VFD	VFD
Maximum pump speed, rpm	3600	1800
Motor hp	35 hp	35 hp
Design Operating Point <sup>(1)</sup>	150 gpm at 262 feet TDH	950 gpm at 110 feet TDH
Influent Line(s) at Invert Elevation (feet)	1,398	1,621
Force Main Discharge (Centerline Elevation)	1,754	1,661
Discharge, inches	8	6

Notes:

- (1) Wet well depth is based on the difference between LiDAR surface received from PG&E at the locations set by Bennett Engineering and the modelled sewer invert depth at the wet well. Actual wet well depth will be dependent on final trunk lift station location and sewer design.
- (2) The Clark Road Pump Station has very high head due to an elevation change of 360 feet and friction losses. Due to the high head, the flows will need to be pumped to a manhole upstream of either East Clark or Village pump station. Additionally, pumps can also pump in series at the Clark Road Pump Station – both options are recommended by Xylem. The pump shown is to pump from Clark Road Pump Station to a manhole upstream of Village Parkway pump station. Pump selection for this station will be reviewed in closer detail during the next design phase.

### 7.2.1.3 Wet Wells

Wet wells will be sized for a maximum sewer detention time of 15 minutes. The wet wells will house the following equipment:

- Two submersible centrifugal pumps with pump appurtenances.
- Radar or ultrasonic level control with pump on/off floats set at different levels for backup.
- Pipe supports for the discharge pipe.

- Stainless steel lifting guide rail assembly and lifting chain for lifting pumps.
- Access hatch with safety grate.
- Davit cranes are recommended to lift pumps and equipment from wet well. Removable davit cranes that can be relocated to the valve vault are also an option.

Figure 30 depicts a typical wet well installation.



Figure 30 Wet Well Diagram

The wet wells can either be pre-cast or cast-in-place construction. Construction impacts of using either option are included in Table 18. Other material types that should be considered are polymer concrete polyethylene, or glass fiber reinforced polymer (GFRP) (Flygt makes pre-fabricated pump stations in GFRP or polyethylene). While more expensive, the advantage of polymer concrete or GFRP is that long-term corrosion is not an issue and does not require recurring coating maintenance.

Table 18 Wet Well Pre-Cast vs Cast-in-Place Construction Impacts

Construction Impact	Pre-Cast Wet Well	Cast-in-Place Wet Well	Polymer Concrete Wet Well
Schedule	Shortens duration for wall installation (eliminates forming and curing).	Schedule controlled by contractor.	Shortens duration for wall installation (eliminates forming and curing).
Impact on Neighbors	Large crane and semi-trucks to be staged at site. Street closure required.	Pumper truck and concrete trucks. Longer construction duration.	Large crane and semi-trucks to be staged at site. Street closure required.
Water-tightness	Some infiltration over time through joints.	Water stops make structure watertight.	Some infiltration over time through joints.

Construction Impact	Pre-Cast Wet Well	Cast-in-Place Wet Well	Polymer Concrete Wet Well
Lining	Post applied coating.	Plastic lining or post applied coating.	No lining required.
Durability	Reduced rebar cover.	Follows American Concrete Institute 350 for water containing structures.	Manufacturers, such as Armorock, offer 50-year warranties
Seismic	Adequate.	Site specific designed.	Adequate.
Pipe Discharge Openings	Coordinated by Contractor with pre-caster.	Position adjusted in field.	Coordinated by Contractor with pre-caster.

#### 7.2.1.4 Flow Meter and Valve Vaults

A flow meter will be required at all of the trunk line pump stations as well as valves which facilitate the maintenance of the facility. The trunk line pump stations will include:

- Force main mechanical piping (set at 2.5 feet above ground for maintenance activities)
- Two check valves (one per discharge pipe).
- Three plug valves (one per discharge pipe, and an additional one downstream of the meter).
- One flow meter.
- One-wye for bypass operations.
- Air-release vacuum valves.
- Dismantling joint to make it easier to remove valves or flow meters.
- Floor drain to wet well (will require odor control such as a p-trap to minimize wet well odor to vault).
- Access hatch with ladder. Access hatch will be large enough for equipment inside vault.

The valves and flow meter can be placed into a single large vault, or they can be split up into two smaller vaults (a dedicated valve vault and a dedicated flow meter vault). The larger single vault would be approximately 16 feet long by 7 feet wide. The dedicated valve vault would be 10 feet long by 8 feet wide and the flow meter vault would be 8 feet long by 6 feet wide.

The single larger vault would require the vault to be cast-in-place due to the size. In addition, there is less flexibility in terms of site layout due to the size. However, a single vault could reduce the operation and maintenance time required to operate the valves and check the flow meter since everything would be in a single vault.

The smaller dedicated vaults can be precast or cast-in-place giving the Town more cost options. However, access to both vaults would be required during maintenance and operation activities on the site. The site layout assumes dedicated flow meter and valve vaults to provide cost options for the Town as well as the increased flexibility in the site layout.

#### 7.2.1.5 Power Supply

A minimum 460 volt, three phase supply will be required at each trunk pump station site. The new trunk pump stations include a total connected pump motor load of up to 120 hp or approximately 120 kilovolt-amperes (kVA), and ancillary heating and lighting loads estimated at 30 kVA. Based on the connected loads, each new facility requires a new minimum service size of 150 kVA. PG&E will require a

buried conduit from a nearby transformer vault to the site. The new service will be coordinated with PG&E during the detailed design phase. Often PG&E designs and installs the service, conduit and transformer. However, it is possible to have the contractor do the conduit trenching, install de-energized equipment, and construct the transformer pad per PG&E standards. This approach is recommended to reduce potential delays. Each site will require a separate PG&E service application. Once the application for service is submitted to PG&E with all loads detailed, it is approximately a 12-month process before each service agreement with site specific design requirements is provided. The Town will need to sign the agreement and pay the deposit before electrical work can proceed.

### 7.2.1.6 Backup Power Supply

Battery backup and permanent standby generators were evaluated as possible backup power supplies for the trunk pump stations. System sizes of 50 and 100 kilowatts (kW) with a 24-hour run time were investigated for both the battery backup and the permanent standby generators. Below is a comparison of the two systems and a recommendation for backup power supply.

#### Battery Power Supply

Stationary Battery Energy Storage Systems (BESS) were evaluated for both Generac and Tesla batteries. While the cost of batteries has come down in recent years, multiple batteries would be required for each of the larger trunk line lift stations. The approximate space required for a 50 kW BESS providing 24 hours of run time is approximately 12 feet by 24 feet. The space increases to 25 feet wide by 50 feet long for batteries with a system size of 100 kW. Approximate costs for the 50 kW and 100 kW battery systems are approximately \$1.2 million (M) and \$1.7M, respectively. While batteries have some advantages over permanent standby generators, the costs and space required for these systems at the larger trunk line lift stations effectively rule them out as a viable option at the trunk line lift stations.

#### Standby Generator Power Supply

A permanent standby generator will be required at each of the trunk sewer pump stations. The standby diesel generator set will have a sound attenuated enclosure, subbase fuel tank, and a permanent pad mounted installation. A minimum of 36 inches clearance on all sides of the generator is required, and a fuel tank requires a 10-, 20-, or 50-foot setback from the property line. Standby engine generator set design criteria is summarized in Table 19.

Table 19 Design Criteria for Trunk Pump Station Standby Engine Generator Set

Category	Criteria
Fuel Type	Diesel
Power Supply	480 volts, 3-phase
Startup Load	1 pump with VFD, Odor Control, HVAC, ancillary building loads (lighting)
Generator Size	125 kW
Minimum Hours of Operation for Fuel Tank <sup>(1)</sup>	24 hours
Enclosure Type	Sound Attenuated
County Noise Limit at Property Line <sup>(3)</sup>	60 dB

Category	Criteria
Air Quality Standard	Tier 3 level particulate matter reduction
Load Bank <sup>(2)</sup>	No load bank will be provided

Notes:

- (1) Operation time was calculated based on a 400-gallon fuel tank that is the maximum size available that meets UL 142. The Town fire department will determine whether UL 142 or UL 2085 will be required.
- (2) A load bank can be provided by the generator set manufacturer but was eliminated due to reduce the site space required and cost. It is assumed that Town can operate the pumps to test the engine generator. If a load bank is preferred some generator sets have an option for a load bank installed on the generator.
- (3) The Town noise ordinance does not provide a limit at the property line, but the County has a 60 dB noise limit within residential areas, so 60 dB was used.

The County Air Quality Management District requires permanent standby emergency generators with a 50 brake horsepower (bhp) rating or greater to be an ATCM Certified engine. An ATCM certified engine requires a 0.15 grams per brake-horsepower-hour (g/bhp-hr) particulate matter emission limit for all stationary engines as well as Tier 3 compliance for engines rated 50 to <750 bhp. Based on a 125 kW generator, a standard 400-gallon subbase fuel tank would be required for 24 hours of operation. A sound attenuated enclosure is recommended which will limit noise to 68 to 75 dBA at 23 feet from the generator. The generator may need to be set back farther from the property line to meet a 60-dB noise requirement.

### 7.2.1.7 Electrical Considerations

#### Design Codes

In general, the electrical design for the new pump station facilities will comply with local, state, and federal requirements. Electrical equipment and wiring methods will be in accordance with the 2023 National Fire Protection Association (NFPA) 70, NEC. Areas in and around the proposed pump station would be classified in accordance the guidelines published in the 2024 edition of NFPA 820 - Standard for Fire Protection in Wastewater Treatment and Collection Facilities. The electrical area classification for each facility is summarized in Table 20. Combustible gas detection will also be provided as required by NFPA 820.

Table 20 Electrical Classification by Area

Location	NEC Area Classification	Comments
Trunk Pump Station Wet Well	Class 1, Group D, Division 1 <sup>(1)</sup>	Ventilated at less than 12 air changes per hour to maintain negative pressure for odor control and corrosion prevention purposes. Conduits will have seal fittings to isolate the wet well from the electrical building.
Odor-Control and Ventilation System for Wet Well	Class 1, Group D, Division 2	
Electrical Building	Unclassified	Ventilated to atmosphere at 6 air changes per hour to maintain unclassified atmosphere.

Notes:

- (1) Wet well NEC area classification can be reduced to Class 1, Group D, Division 2 if 12 air changes per hour are used in the wet well, but monitoring equipment is required to confirm the air changes are being maintained so it is not recommended.



## Site Lighting

At a minimum, each trunk line pump station will have lighting inside the electrical building as well as outside of the building for security. Interior and exterior lighting will be Title 24 compliant meeting energy efficiency standards. Locations for added lighting will be coordinated with the Town during the preliminary design once the site layouts for each pump station have been confirmed.

### 7.2.1.8 Structural Considerations

#### Design Codes

- 2022 California Building Code.
- Geotechnical Investigation Report (to be prepared during final design).

#### Corrosion Protection

To protect pump station wet well concrete surfaces from corrosion, a protective coating such as high solids polyurethane coating will be applied. Alternatively, a PVC or HDPE liner could be used to cover the interior walls and the underside of the roof slab of the wet well to prevent corrosion. Metals exposed to sewage gases will be corrosion resistant materials such as Type 316 stainless steel, or, if not available, coated with high performance coatings such as high solids epoxies.

### 7.2.1.9 Flow Control and Monitoring

At the trunk line pump stations, a VFD pump control system will be used to match the pump outflow to the inflow. Floats or ultrasonic sensors may be used at the wet well as the primary pump control. Ultrasonic sensors send a level signal to the programmable logic controller (PLC) which controls the operation of the pumps. If the PLC fails to initiate the operation of the pump, floats will be used as backup.

The proposed approach will utilize four floats as described below:

- Low-Low Float: Set at the lowest level, this float turns the pump off. Float will be set at an elevation that protects pump.
- Low-High Float: Set at the second lowest level, this float turns the lead pump on.
- High-Low Float: If the lead pump does not turn on, this float (located higher than the Low-High float) sends a signal to the lag pump to turn on.
- High-High Float: If the lead and lag pumps do not turn on, this float (set at the highest level in the wet well) will turn on both pumps and send an emergency signal to the Town that there is a high well condition.

The level control system will be explored further during design of the wet well. However, the depth of the pump station and the geometry of the wet well may not allow for proper function of an ultrasonic system. Alternative types of level measurement instruments will be discussed with the Town during final design.

## 7.2.2 Small Pump Stations

There are 29 small pump stations in the base case and up to 32 small pump stations depending on the alternative(s) selected. Preliminary locations of the small pump stations are shown in Section 12 but the final site will be selected and further developed in additional detail when the topographic survey of the Town is complete. Table 21 provides an overview of the preliminary design criteria for the 34 small pump station locations.

### 7.2.2.1 Site Layout

Figure 31 shows a conceptual site plan for the small pump stations (less than 10 hp). The small pump stations sites will include:

- Prepackaged grinder pump station consisting of a pump inside a 4-foot diameter wet well.
- Odor control insert may be installed in wet well if odors occur during initial low flows.
- Pump station bypass vault.
- Water service meter and backflow preventer for washdown or flushing.
- Dedicated area for truck parking and a portable standby generator outside of the roadway.
- Electrical equipment including: pump control panel, manual transfer switch, PG&E meter, and a PG&E transformer, if needed.

The approximate space required for the small pump station is 50 feet long by 20 feet wide. All of the pump stations will be installed outside of the roadway. Although these pump stations are smaller than the trunk line pump stations, the Town should consider buying full parcels where practical to place the grinder pump stations. Once the construction is complete, the Town can then sell the remainder of the parcel to the public. If parcels for the grinder pump stations are not available to buy, the Town can either place these within the ROW or coordinate with property owners to sell part of the parcel for these pump stations. It should be noted that most rights-of-way within Town may not have the additional 20 feet width required to place the pump stations and future road expansion will need to be considered prior to picking the sites. The final sites will be confirmed following survey.

### 7.2.2.2 Prepackaged Grinder Pump Station

Due to the size of the small pump stations, pre-packaged grinder pump stations are recommended. Potential manufacturers include: E/One Sewer System (DH models) or Liberty Pumps Duplex Grinder Pump System. These prepackaged pump stations can be ordered to include the wet well, two pumps (to allow for a standby pump), and a pump control panel. An alternative to a grinder pump station is a pre-packaged Xylem Flygt Pump Station (TOPS, Micro, or Compit series) that uses submersible pumps in lieu of grinder pumps but has the option to add a muffin-monster. Flygt also has an option for a VFD, which the grinder pump stations do not offer.

Table 21 Small Pump Station Overview

Number	Location	Street	SSA ADWF (gpm)	SSA PWWF (gpm)	Extended SSA PWWF (gpm)	Number of Pumps	Preliminary Wet Well Diameter (feet) <sup>(1)</sup>	Approximate Wet Well Depth (feet) <sup>(2)</sup>	Influent Sewer Invert (feet)	Force Main Invert Elevation at Discharge (feet)
1	Pinegrove Pump Station	Armstrong Place and Frank Turner Way	15	39	39	1+1	5	11	2024	2051
2	Easy Pump Station	Clark Road and Easy Street	10	25	25	1+1	5	22	1420	1439
3	Ewald Pump Station	Clark Road and Ewald Court	4	10	10	1+1	5	12	1617	1637
4	East Clark Pump Station	Pinecrest Mobile Home Park	11	29	29	1+1	5	13	1639	1652
5	East Nunneley Pump Station	Nunneley Road and Golden Oaks Road	1	2	2	1+1	5	9	1785	1800
6	East Elliot Pump Station	Elliot Road	3	7	7	1+1	5	7	1809	1830
7	Memorial pump Station	Memorial Way	5	12	12	1+1	5	10	1727	1754
8	Cape Cod Pump Station	Nantucket Drive	5	13	13	1+1	5	5	1770	1789
9	Central Park Pump Station	Paradise High School	9	19	19	1+1	5	21	1842	1885
10	Bowles Pump Station	Bowles Boulevard	4	11	11	1+1	5	18	1838	1865
11	Pheasant Pump Station	Herb and Pheasant Ridge	9	23	23	1+1	5	19	2168	2231
12	Burdaparadise Pump Station	Burdaparadise Lane	1	2	2	1+1	5	18	2188	2192
13	Center Pump Station	Center Street	4	11	11	1+1	5	17	1791	1807
14	Buschmann Pump Station <sup>(3)</sup>	Foster and Buschmann	18	53	124	1+1	5	12	1612	1661
15	Stoneridge Pump Station	Stoneridge Circle	14	30	30	1+1	5	16	1759	1773
16	Nunneley Pump Station	Nunneley Drive	20	48	48	1+1	5	10	1756	1794
17	Connie Pump Station	Connie Circle	13	26	26	1+1	5	9	1533	1556
18	Black Olive Pump Station	Black Olive Drive	22	64	135	1+1	5	10	1621	1652
19	Wildwood Pump Station	Wildwood Lane	3	7	7	1+1	5	10	1695	1705
20	S1_PS_1 Pump Station	Skyway and Clark Road	9	21	21	1+1	5	13	2257	2271
21	C1_PS_1 Pump Station	Clark Rd and Wagstaff	12	29	174	1+1	5	15	2064	2076
22	E1_PS_2 Pump Station	Elliot and Maxwell	25	62	84	1+1	5	7	1817	1832
23	E1_PS_1 Pump Station	Elliot and James	46	121	136	1+1	5	12	1767	1791
24	Woodbrook Pump Station	Woodbrook Court	6	16	16	1+1	5	6	1849	1867
25	Oakwood Pump Station	Oakwood Lane	3	7	7	1+1	5	8	1645	1662
26	American Pump Station	American Way	6	14	14	1+1	5	8	1447	1466
27	McKale Pump Station	McKale Road	5	13	13	1+1	5	25	1431	1452
28A <sup>(4)</sup>	Rocky Pump Station	Rocky Lane	1	2	2	1+1	5	8	2107	2122
28B <sup>(4)</sup>	Rocky Pump Station	Rocky Lane	1	1	1	1+1	5	8	2107	2126
29	Birch Pump Station	Birch Street (Near Skyway)	4	10	10	1+1	5	6	1667	1668
30	P1_PS_1 Pump Station <sup>(5)</sup>	Pearson Rd, 300 feet East of Skyway	1	2	2	1+1	5	15	1645	1666
31	Village Pump Station <sup>(6)</sup>	Village Drive	41	104	104	1+1	5	14	1633	1674
32	Chapel Drive Pump Station <sup>(7)</sup>	Chapel Drive at Pearson	18	50	50	1+1	5	13	1704	1726
33	Upper Clark Road Pump Station <sup>(8)</sup>	Clark Road at Kilcrease Circle	30	111	111	1+1	5	9	2077	2092

Notes:

- (1) Wet well diameter is based on two pumps in the wet well using a pump station manufactured by E/One.
- (2) Pump station demands and invert elevations are based on the hydraulic model in Appendix A. Wet well depths will be refined during design when topographic data and utility information is available.
- (3) Buschmann Pump Station is only a small pump station in the base case and increases to a trunk pump station under the Pearson Buschmann Trunk Alignment Alternative.
- (4) Rocky Road Pump Station location and flows change with the Memorial Trailway Elimination alternative. 28A is the base case, and 28B is for the alternative.
- (5) Pearson #1 (P1-PS-1) changes from a trunk pump station to a small pump station under the Pearson Buschmann Trunk Alignment Alternative.
- (6) Village Pump Station is only required for the Clark Road Reduction Alternative.
- (7) Chapel Drive Pump Station is required for the Buschman Realignment Alternative.
- (8) Upper Clark Road Pump Station would only be required for the Clark Road Extension Alternative.

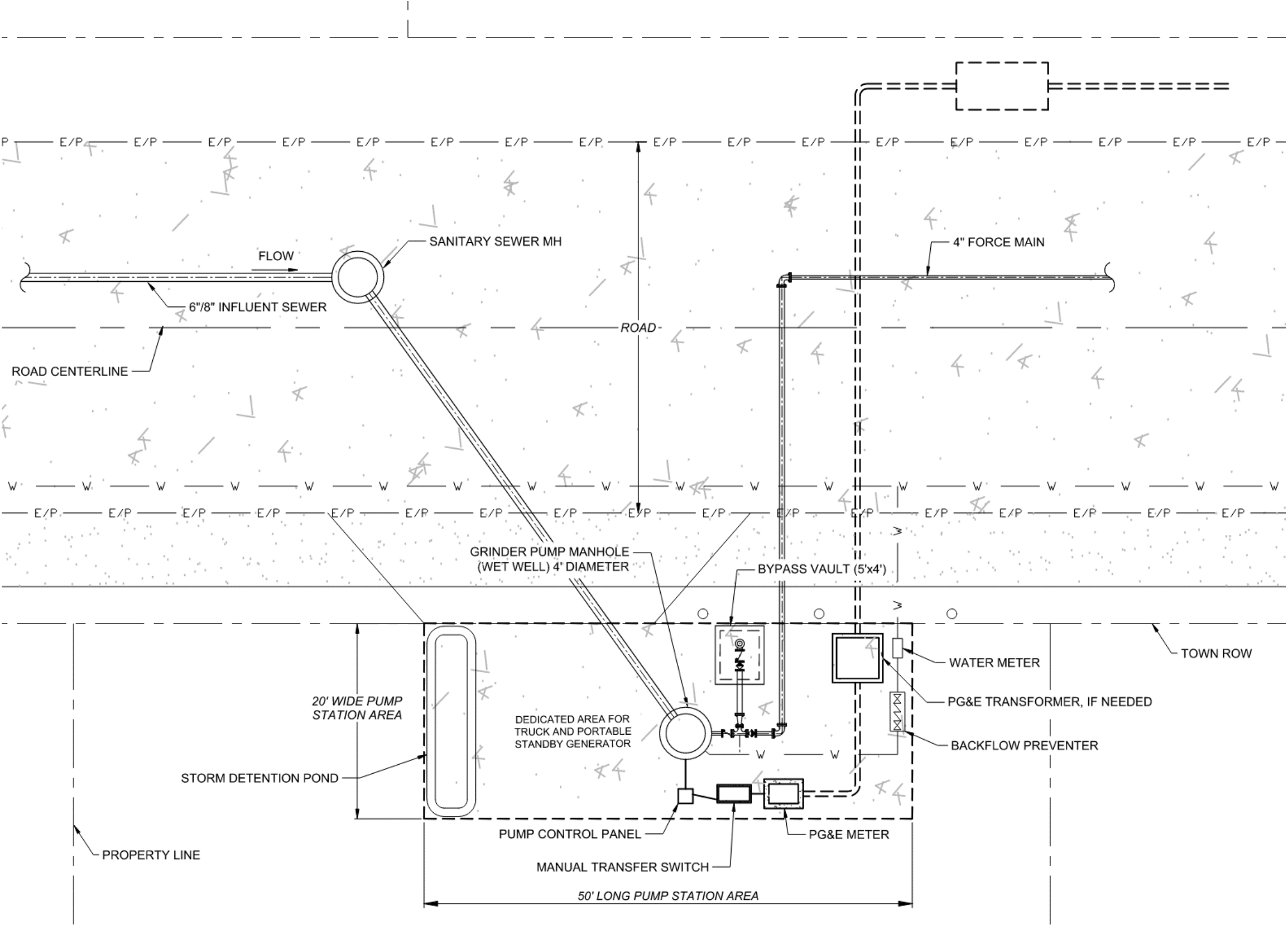


Figure 31 Small Pump Station Conceptual Site Plan

### 7.2.2.3 Power Supply

Small pump stations will only require 240/120-volt, single phase power supply. Due to the undergrounding of power lines and installation of transformers throughout Town, some small pump stations may not require a transformer on site. The new electrical service will be coordinated with PG&E during the detailed design phase. During this review, PG&E will determine whether a transformer is required on site, or whether the new service can be pulled from a nearby transformer. The process to get a new service with PG&E may take 6 to 12 months' time.

### 7.2.2.4 Power Outage

Small portable standby generators are recommended for the small pump stations. There are up to 33 small pump stations throughout the collection system (including alternatives). It is recommended that the Town purchase at least four 5 to 10 kW generators for use during power outages.

During rolling power outages, the operators will be required to drive to each small pump station site and plug in the manual transfer switch to the portable generator. Once the wet well has emptied, operators will move on to the next small pump station site until all small pump station wet well water levels have been pumped down using the portable generator.

The County Air Quality Management District and California Air Resources Board (CARB) require that all portable standby diesel generators greater than 50 hp (37 kW) be CARB-certified and meet Tier 4 requirements. Small generators less than 50 hp only require CARB certification and do not need to be registered with the local air district or CARB. Table 22 provides the design criteria for the portable standby generators.

Table 22 Design Criteria for Small Pump Station Portable Standby Engine Generator Set

Category	Criteria
Fuel Type	Gas
Power Supply	240/120 volts, 1 phase
Startup Load	1 pump
Generator Size	5 to 10 kW
Minimum Hours of Operation for Fuel Tank	18 hours
Enclosure Type	Sound Attenuated
Air Quality Standard	CARB Certification
Load Bank	No load bank will be provided

## 7.3 Odor Control

Hydrogen sulfide (H<sub>2</sub>S) is the primary source of unpleasant odors from sewage. It is generated as bacteria in the sewage strip oxygen from sulfate leaving the leftover sulfur molecule to combine with hydrogen. This new molecule is H<sub>2</sub>S which smells like rotten eggs. There are two main methods for controlling odors in the system:

- Installing odor scrubbers to capture the H<sub>2</sub>S as soon as it leaves the sewage and keep it from spreading through the air. This is called "vapor-phase" odor control.

- Adding chemicals (bioxide) at areas along the collection system to control the amounts of H<sub>2</sub>S in the wastewater. This is called “liquid-phase” odor control.

The most common locations where odors will occur in the collection system are:

- At the end of force mains since the sewage splashes into the manhole where it will be transferred to the gravity sewer system.
- ARVs at high points along force mains.
- At the vents from the grinder pump stations where gases are released as sewage is churned through mechanical pumps and where gases are released as sewage is stored in the wet well before it gets pumped.
- At the trunk line pump stations where gases are released as sewage is churned through mechanical pumps and where gases are released as sewage is stored in the wet well before it gets pumped:
  - » The overall odor control approach to the Town’s collection system will vary by location and will initially rely on vapor-phase odor control.

Odor control, consisting of a manhole odor insert, is recommended at manholes where a force main discharges into the gravity system (Figure 32). These inserts have passive carbon canisters and are placed where the sewer gas is naturally escaping to the atmosphere through the manhole cover. These inserts hold approximately 50 pounds of media, and replacement time will be dependent on both the level of H<sub>2</sub>S in the system and the removal efficiency of the media used. The goal is to use a media that reduces odors to a level where public complaints don’t occur but doesn’t require O&M staff to replace more frequently than every 6 months. Replacement time will be determined when the system has been in operation for some time.

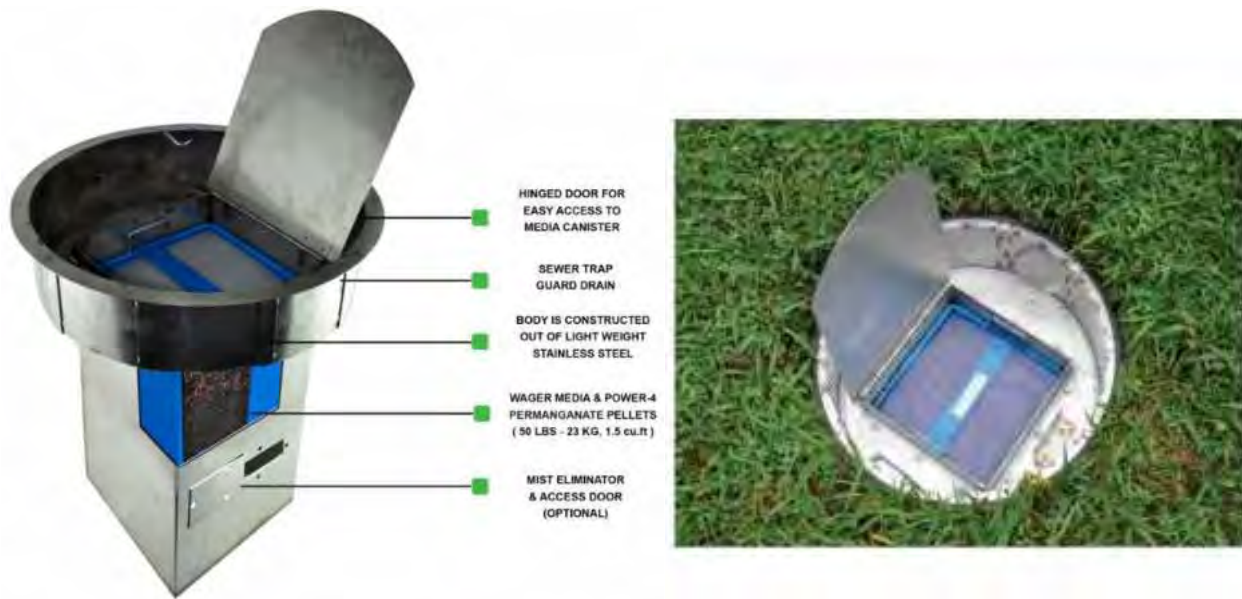


Figure 32 Manhole Odor Control Insert

Short stretches of force mains occur throughout the collection system, and one goal during design will be to avoid the use of ARVs to reduce both odors and maintenance. If air valves are required, then, then a below grade ARV manhole could be used with a manhole odor insert. Alternatively, either a force main biofilter or an odor control filter assembly could be installed inside an ARV manhole. Figure 33 shows these two options.

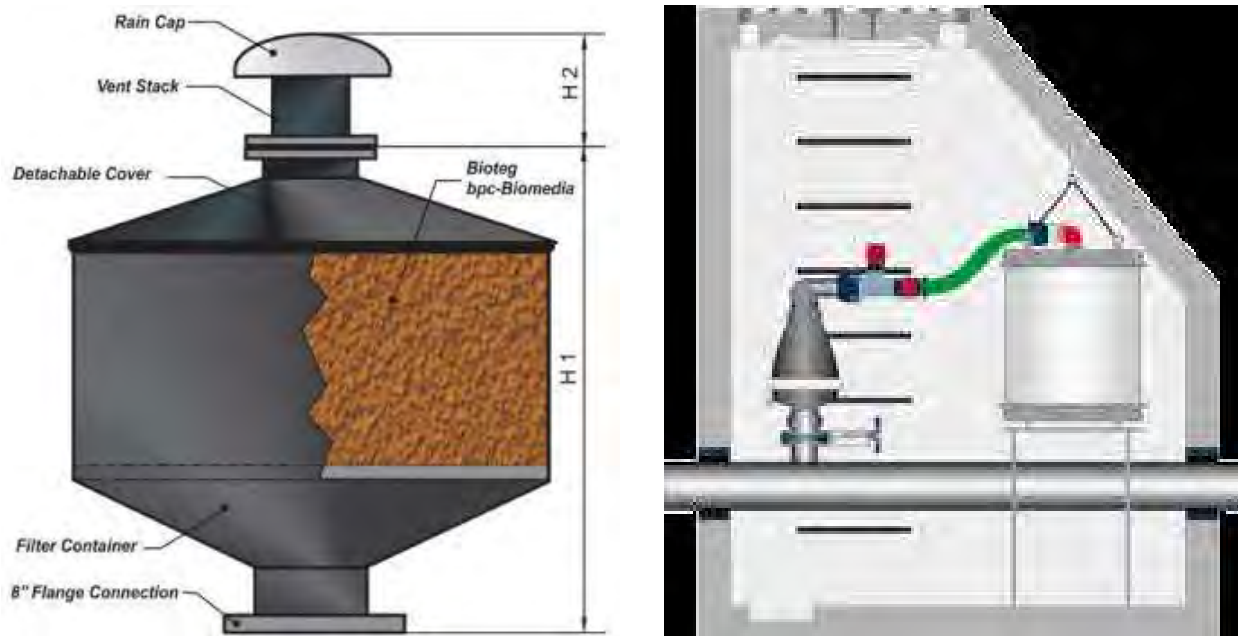


Figure 33 Force Main Odor Control Options

At pump stations, odors are often controlled by filtering the air through a media bed that consists of activated carbon or other media (scrubber). The H<sub>2</sub>S removal rate will vary depending on media used with higher removal media typically costing more. The goal is to select the least expensive media that controls the odor and does not require replacement by O&M staff more frequently than every 6 months. With a new sewer collection system, where there is no hydrogen sulfide data or hot spot location information available for sizing facilities, the recommended approach is based on experience in other systems and may need to be modified once the system is in operation.

Due to the close proximity of pump stations to residential properties and businesses, a single skid mounted odor control system will be provided at each trunk line pump station. Table 23 shows the recommended design criteria for the odor control system and Figure 34 shows a typical installation for a system of this size. The odor control system would consist of a skid mounted exhaust fan, damper, interconnecting ductwork, vessel with 3-foot bed of scrubber media and a control panel. Connection requirements include:

- 480 volts, three-phase, 60 hertz power supply to the electrical control panel.
- 1-inch drain line to sewer.
- FRP, HDPE, or PVC ducting from pump station wet well to fan inlet.

Table 23 Design Criteria for Trunk Pump Station Odor Control System

Category	Criteria
Odor Control Type	H2S and Odor Adsorption Media Unit with Fan
Number of Units	1
Wet well Air Changes per Hour <sup>(3)</sup>	6
Volume of Air to Treat	TBD – based on lowest operating level in wet well <sup>(1)</sup>
Peak Inlet H2S Concentration <sup>(2)</sup>	20 ppm
Maximum Outlet H2S Concentration	0.02 ppm
Removal Efficiency	99%

Notes:

ppm - parts per million; TBD - to be determined.

- (1) Air volume is dependent on wet well depth and operating level and will be determined during final design for each pump station.
- (2) H2S concentration will not be known until the sewer system is in operation and can be measured. Peak H2S concentration is an assumption. If higher concentrations are seen in the system, then either media will need to be replaced more frequently, or media will need to be replaced with a higher efficiency media. If lower concentrations are found, then media replacement will occur less frequently.
- (3) 6 air changes is the minimum required. 12 air changes per hour would be needed to de-rate the wet well but is not recommended since monitoring equipment will be required to verify the air changes.

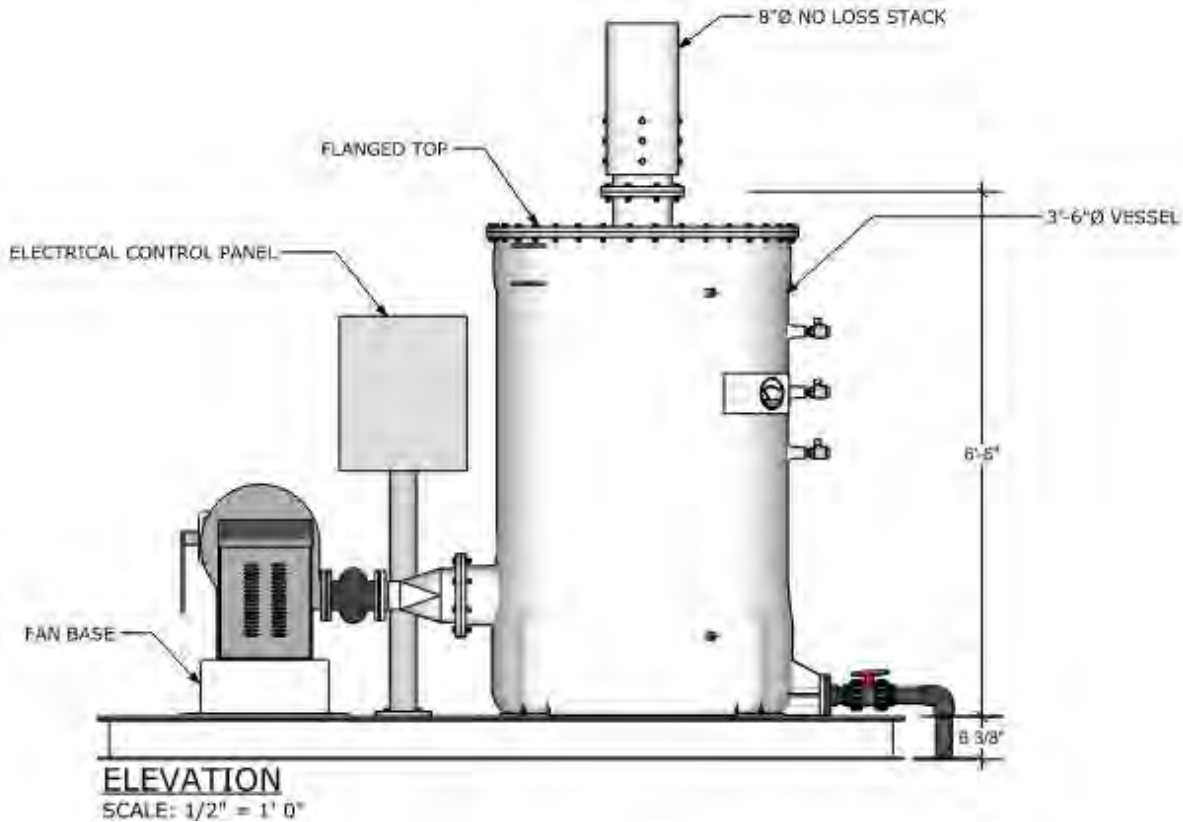


Figure 34 Skid Mounted Odor Control System



Manufacturer literature indicates that odor control should not be required at grinder pump stations since the wet wells are sealed with gaskets. However, the packaged units have vents in the lids, and it is recommended that an odor control insert be installed in the lids.

If odors still occur in the collection system, with the proposed odor control facilities in place, a Bioxide™ chemical feed system can be added to an upstream trunk pump station to reduce the amount of H<sub>2</sub>S in the system. The minimum amount of chemical needed to reduce odors should be used to avoid affecting the Chico WPCP processes downstream.

## 7.4 Other Permit Requirements

This section discusses the other permits that will be required for the sewer collection system that are not already covered by environmental permits.

### 7.4.1 Butte County Air Quality Management District

#### 7.4.1.1 Temporary Standby Generators

Temporary (or portable) standby generators greater than 50 bhp are required to be registered under CARB's Statewide Portable Equipment Registration Program (PERP) or under The County Air District's local registration program for portable engines. The District only requires the portable generator to be installed under one of the programs. Registering the portable generators under PERP would allow the Town to use portable generators throughout the state, which will likely not be needed.

Temporary standby generators less than 50 bhp are not required to be registered or permitted with the State or District. However, all standby generators in California are required to have Airborne Toxic Control Measures (ATCM) certified engines regardless of size.

#### 7.4.1.2 Permanent Standby Generators

The Town will be required to submit permit applications to construct and operate permanent standby generators larger than 50 bhp. All permanent standby generators installed in the County are required to have ATCM certified engines and conform to CARB requirements.

### 7.4.2 California Department of Transportation

Highway 191 (Clark Road south of the Pearson Road intersection to Old Clark Road) falls within Caltrans District 3 jurisdiction, so a longitudinal encroachment permit will be required for the proposed sewer, force main, lateral connections, and access to and from the pump station. This segment of the Project is approximately 8,000 LF in length. Potholing and geotechnical work in this area will also require separate permits.

#### 7.4.2.1 Design Requirements

Chapter 17 of the *Project Development Procedures Manual* provides the minimum clearance requirements for utility work within Caltrans ROW, and has the following requirements:

- 42 inches minimum cover.
- 12 inches below future or existing storm drains and structures.

- 30 inches below unlined ditches.
- 36 inches below sidewalks.
- 18 inches below future ditches.
- 24 inches horizontally from any planned excavations.
- 5 feet from all foundations.

Chapter 600 of the *Encroachment Permits Manual* requires underground installations within highway ROW to be performed using a trenchless technology method. If a trenchless technology method is not proposed, the applicant must demonstrate that all alternatives have been investigated and that installation via trenchless construction is not feasible. This Project assumes an open-cut installation of the sewer pipe along Clark Road will be permitted.

Backfilling must be done using CLSM unless specified by the CalTrans' Material Engineer. Trenching and shoring will be done in accordance with the Caltrans Trenching and Shoring Manual, and a shoring plan is required to be submitted in advance of construction.

#### 7.4.2.2 Encroachment Permit Requirements

The permit package requires:

- Encroachment permit application.
- Stamped drawings.
- Accurate Caltrans ROW shown with bearing and distances.
- Existing monuments with notes saying do not touch or damage.
- Cross sections with existing utilities.
- A letter of authorization if Carollo submits the permit for the Town.
- Own and Operate Form/Letter saying Town will maintain the system.

#### 7.4.3 Post-Construction Storm Water Report

The California State Water Resources Control Board (Water Board) regulates storm water discharges from municipal separate storm sewer systems (MS4). The Town adopted a post-construction stormwater plan in 2014 as a guidance document for projects on the various site design requirements of the Phase II MS4 Permit. Project size is determined by the total impervious area created by the overall project. For the Town collection system, trunk pump station sites and grinder pump station sites will collectively have an area greater than 5,000 square feet, so the Project will fall under a regulated project. The Phase II MSR Permit requires implementation of one or more site design measures to "treat" storm water runoff and larger, regulated projects are required to implement source control measures to minimize the impact of pollutant-generating activities. In addition, the design is required to slow and minimize the amount of runoff from project sites so that there is no net-increase in the post-construction runoff flow rate for a 2-year, 24-hour storm event. The project will be divided into areas with each site having a unique sub-drainage area. The Town will review the design and calculations for the Project for adequacy of the design measures. Post-construction, a storm water report must be filed with the state to demonstrate compliance. Pump stations located south of Pearson and Clark Road are located outside of the Town limits within County jurisdiction. A single post-construction report will be prepared for the entire project

including both the collection system and the export pipeline facilities that will be provided to the County and City of Chico for their review of areas within their jurisdiction.

## 7.4.4 Town of Paradise

### 7.4.4.1 Septic Removal Permit

The Town requires a permit to abandon septic tanks. These permits are issued the same day and require a scaled plot plan showing the tank location and the manner it will be abandoned. The Town has a list of requirements for abandonment depending on the tank material as well as steps that need to be taken prior to abandonment. More information is found on the Town website.

### 7.4.4.2 Road Repair Requirements

The public roads within the Town will be repaired after pipeline installation in two phases. Immediately following completion of pipe installation in an area, the road will be temporarily repaired using a minimum 2-inch thick, hot mix asphaltic concrete (AC) for the width of the trench cut. Permanent asphalt replacement will require saw cutting or cold-planning the existing pavement 1-foot past the trench wall on either side. Final asphalt thickness will match existing with a minimum 4-inch hot mix AC in local roads and 6-inch minimum on arterials. Asphalt thickness throughout Town will be measured during geotechnical boring and potholing efforts. The edge of final pavement restoration cannot fall within the typical vehicle wheel path and requires Town review.

The Town has a 3-year moratorium on all recently paved roads and has a re-paving project planned over the next few years. A table of the completed and planned paving projects is shown in Section 4.2.5. Excavation within moratorium streets is allowed under certain exceptions, including work mandated by the Town, as stated in the Town's Resolution No. 2024-59. The special paving requirements will conform with the Town's modified pavement restoration detail (Standard Detail TB2). TB2 requires the entire lane outside of the trench width to be cold planed 1-1/2 inches to 2 inches in depth. Field conditions may warrant additional requirements which will be coordinated with the Town during the detailed design.

### Private Road Repair Requirements

Similar to roads in the public ROW, the private roads within the Town will be repaired using a 2-inch cold planed T-cut repair. Private road owners may require more stringent repairs. More information on the requirements for private road repairs will be confirmed during the easement acquisition process.

### 7.4.4.3 Electrical Building Permits

The trunk line pump stations will have a conditioned building for the electrical and communications equipment. The building will require a building permit and inspection by the Town as well as a review by the Town's fire department. Inspections with the Town will be coordinated during construction. The electrical building will meet Title 24 standards.

## 7.4.5 California Department of Transportation Highway Repair Requirements

Caltrans encroachment permit general provisions require that the permittee is responsible for restoration and repair of State highway ROW resulting from permitted work. The Caltrans encroachment permit manual does not provide guidance on road repairs since it is assumed that an encroachment permit will generally use trenchless construction. Caltrans will review and comment on the design with proposed road repairs submitted as part of the encroachment permit package. It is anticipated that Caltrans will require a full depth asphalt t-cut replacement 1 foot beyond the trench wall, as well as a full traffic lane 2-inch overlay.

## SECTION 8 EXPORT PIPELINE

This section presents a summary of preliminary design for the export pipeline components.

### 8.1 Preliminary Design

#### 8.1.1 Export Pipeline Alignment and Alternatives

The export pipeline conveys the wastewater flows from the Town's sewer collection to Chico's WPCP. The export pipeline consists of three different segments based on the operating pressure consisting of the gravity, force main (low pressurized pipe), and gravity force main (pressurized pipe flowing downhill).

The gravity sewer is the upper portion that connects to the Town's collection system and operates similar to a traditional sewer where sections of pipe are connected by manholes and flow depends on a constant slope. There are two locations of gravity sewer within the export pipeline, the beginning section from the Town's collection system to the export pipeline pump station, and a section of pipe upstream of the transition structure. The force main section is a pressurized pipe from the export pipeline pump station until it discharges to gravity in a manhole just downstream of the Butte Creek Overlook. The gravity force main section is connected to the gravity sewer by the transition structure. This section is intended to flow similar to a traditional forcemain instead of a traditional gravity sewer.

The alignment exits the Town and heads down Skyway following the road alignment until connecting to the transition structure along Skyway. Sewer flows will exit the transition structure and head southwest down Skyway. For a detailed analysis of the alternatives considered along Skyway, refer to Section 8.1.1.1.

As Skyway turns north, the pipeline will diverge and enter an existing, unused UPRR ROW before crossing Butte Creek. The pipeline will cross Butte Creek via trenchless pipe installation methods, see Section 8.1.3 for additional detail regarding the trenchless crossing.

After crossing Butte Creek, the pipeline will continue into a parcel owned by E&D Investments (assessor parcel number [APN] 040-400-100-000) through a wooded area behind the existing California Highway Patrol (CHP) building. Through this area, the export pipeline alignment will parallel Phase 2 of the City of Chico's P18 Project for approximately 600 feet. P18 is a proposed 18-inch sewer and based on the City of Chico's there would be room for sufficient construction and installation of both pipelines. The export pipeline only crosses the P18 sewer alignment in two locations.

After passing the CHP building, the alignment will exit the E&D Investments parcel and head southwest crossing California State Highway 99. This crossing will also require a trenchless installation to cross the highway and will also parallel the P18 trunkline alignment. See Section 8.1.3 for additional detail regarding the Highway 99 crossing. The alignment will exit the Caltrans ROW and then turn northeast to head along the southbound lane of Entler Avenue. The alignment will then turn southwest to a residential portion of Entler Avenue then continue to Midway parallel to Phase 1 of the P18 sewer alignment.

On Midway, the pipeline will continue to Hegan Lane. Due to the existing facilities on Hegan Lane owned by Kinder Morgan and PG&E, significant potholing will be required to ensure the pipeline has sufficient clearance from other buried pipelines. Additionally, along Hegan Lane the pipeline will be required to cross the UPRR ROW. This crossing will be achieved using trenchless installation methods, see Section 8.1.5 for additional details regarding this crossing.

After the UPRR crossing the pipeline continues on county roads until turning northwest along Elk Avenue, then south on Lone Pine Avenue, and then turning northwest on Crouch Avenue. Along Crouch Avenue, the pipeline will cross Comanche Creek. Like the other crossings, trenchless methods will be used to install the pipeline. Refer to Section 8.1.5 for additional information regarding the crossing. The pipeline continues to follow Crouch Avenue, before turning north on Taffee Avenue. Along Taffee Avenue the pipeline will need one final trenchless crossing at Little Chico Creek. Refer to Section 8.1.5 for additional details. The pipeline will then head southwest along Chico River Road before finally turning south into Chico's WPCP where the export pipeline metering and control valve structure will be located.

The export pipeline alignment is shown in Figure 35/Appendix D.



Figure 35 Export Pipeline Alignment

## 8.1.2 Skyway Alignment Alternatives Analysis

The following alignment alternatives are presented in this Basis of Design Report for the export pipeline along Skyway.

- March 2022 Alignment.
- Alignment A (Pump Station and Grinder, south of Skyway).
- Alignment B (Grinder in Vault, south of Skyway).
- Alignment C (Pump Station and Grinder, north of Skyway).
- Alignment D (Grinder in Vault, north of Skyway).
- Alignment E (Pump Station and Grinder, north side of Skyway and then south side of Skyway).

Each alternative is described in detail below. An alternatives matrix summarizing all evaluation considerations and criteria is included in Table 24.

### 8.1.2.1 March 2022 Alignment

The March 2022 alignment locates the sewer in the fog line (the white line on the right side of the road) of the most southern east-bound lane, as shown in Figure 36. The constructability challenges with this alignment include:

- **Gravity pipeline located in areas of significant low and high points.** The topographic information that was available in March 2022 did not sufficiently represent the significant changes in topography along Skyway, particularly in the section just east of the Butte Creek Overlook. More recent visual inspections during site visits estimate two to three low points that are 20 to 25 feet below the rest of the roadway along this stretch. Installing a gravity pipeline through these elevation variations would require a very deep trench that would be expensive, impactful, and potentially not constructable. The area outside of the roadway in this section also has significant slopes, minimizing the construction working area to solely within the roadway.
- **Vortex drop manholes do not work with stacked pipelines.** The March 2022 alignment included seven vortex drop manholes along the stacked gravity sewer portion of the alignment, at locations of considerable changes in elevation. The vortex drop manholes accommodate difference in elevation by controlling a flow drop within the manhole, to allow for a vertical offset between the incoming and outgoing pipe. However, vortex drop manhole manufacturers have indicated the equipment does not work with stacked pipelines and that an intermediate manhole would be required to combine flows into a single pipe upstream of the vortex drop manhole. Figure 37 shows a vortex drop manhole with the additional upstream manhole. Additional intermediate manholes at each location would add construction cost in addition to future maintenance.
- **Transition structure location in the paved shoulder on Skyway will have significant impacts to the road and potential impacts to underground PG&E utilities.** The transition structure locations for all other alignments proposed in this report is off of the paved roadway, which would avoid impacts to Skyway traffic and allow for easier access for future maintenance.
- **Lack of grinder in the system leaves downstream piping and equipment unprotected.** A grinder is needed in the system to reduce the particle size of the raw wastewater flow which will reduce the risk of clogging in the export pipeline system.



Figure 36 March 2022 Alignment



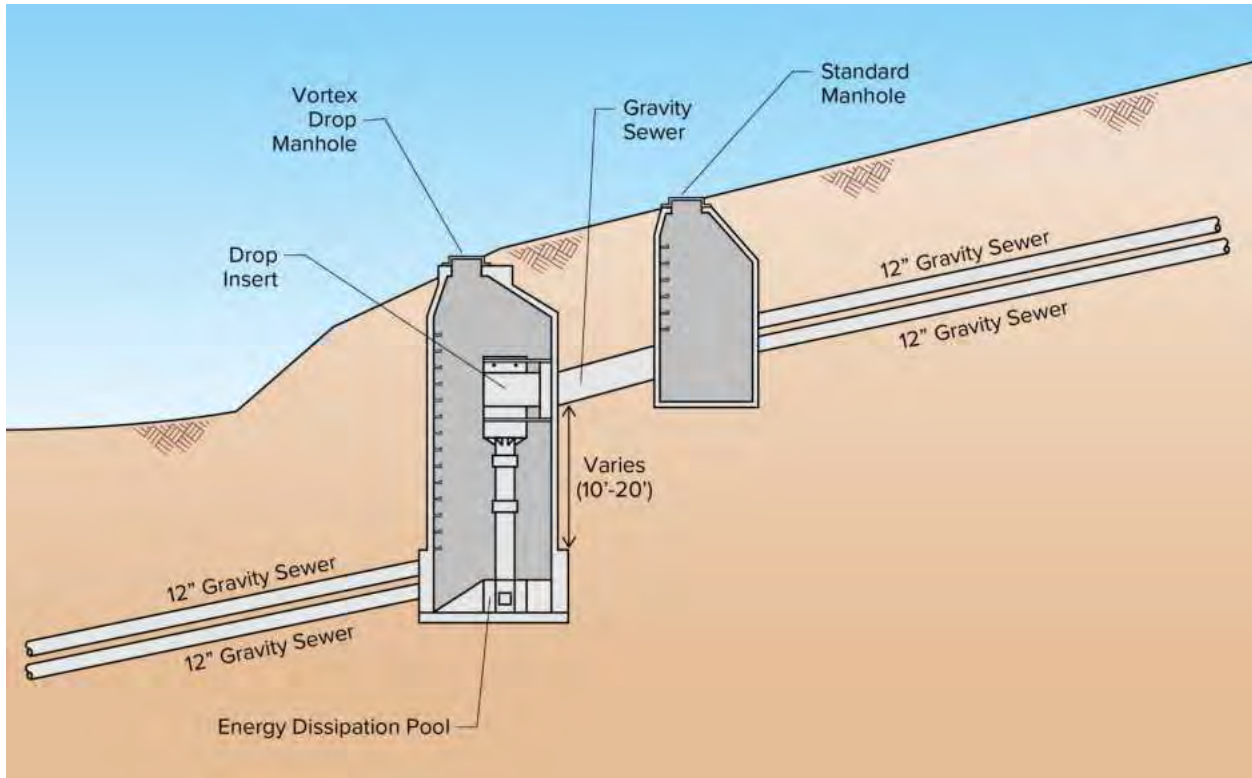


Figure 37 Vortex Drop Manhole and Intermediate Manhole

### 8.1.2.2 Alignment Alternative A (Pump Station and Grinder, South Side of Skyway)

All alignments begin at the connection to the sewer collection system at the intersection of Skyway Crossroad Road and Skyway Road, in the southernmost lane in Skyway. Downstream of this location, all alignments have two 12-inch vertically stacked gravity pipelines. Alignment A installs a new pump station and grinder near the beginning of the export pipeline. The Walmart Real Estate Business Trust Property has been identified as an ideal location for the pump station due to its close proximity to power utilities and the location being upstream to the significant low and high points in Skyway that occur east of the Butte Creek Overlook. The pipeline exiting the pump station would be a force main, allowing it to be located at shallower depths than a gravity pipeline. The pressurized pipeline would transition to a gravity pipeline in a manhole located just downstream of the Butte Creek Overlook. This location is ideal to transition from pressurized to gravity as it is downstream of a significant high point in Skyway. At this manhole location, the topography outside of the roadway flattens out making it suitable for open-cut construction. Alignment A continues outside County ROW approximately 10 feet south of the County ROW line, within a new 20-foot permanent easement (PE) (see Figure 38). A 30-foot temporary construction easement would be needed during construction south of the new PE. The alignment continues 10 feet outside County ROW the entire stretch down Skyway until the Butte Creek crossing, with the exception of the transition structure location. The transition structure and emergency storage facility are located in an open area of County ROW off of Skyway. Alignment A is shown in Figure 39.

### Advantages of Alignment A

- Reduced sections of deep gravity pipe and vortex drop manholes, due to a pressurized pipeline in sections of significant topographic variation. This will lower construction cost and reduce construction risks.
- Installation outside of the roadway reduces paving and traffic control, therefore lowering construction cost and reducing construction risks.

### Disadvantages of Alignment A

- Long-term maintenance and operational costs of pump station and grinder.
- Property acquisition; this alignment would include acquiring land from eight private property owners.
- Alignment would result in 6.2 acres of vernal pool impact, which is the largest impact of any alternative and greater than the March 2022 alignment impact.

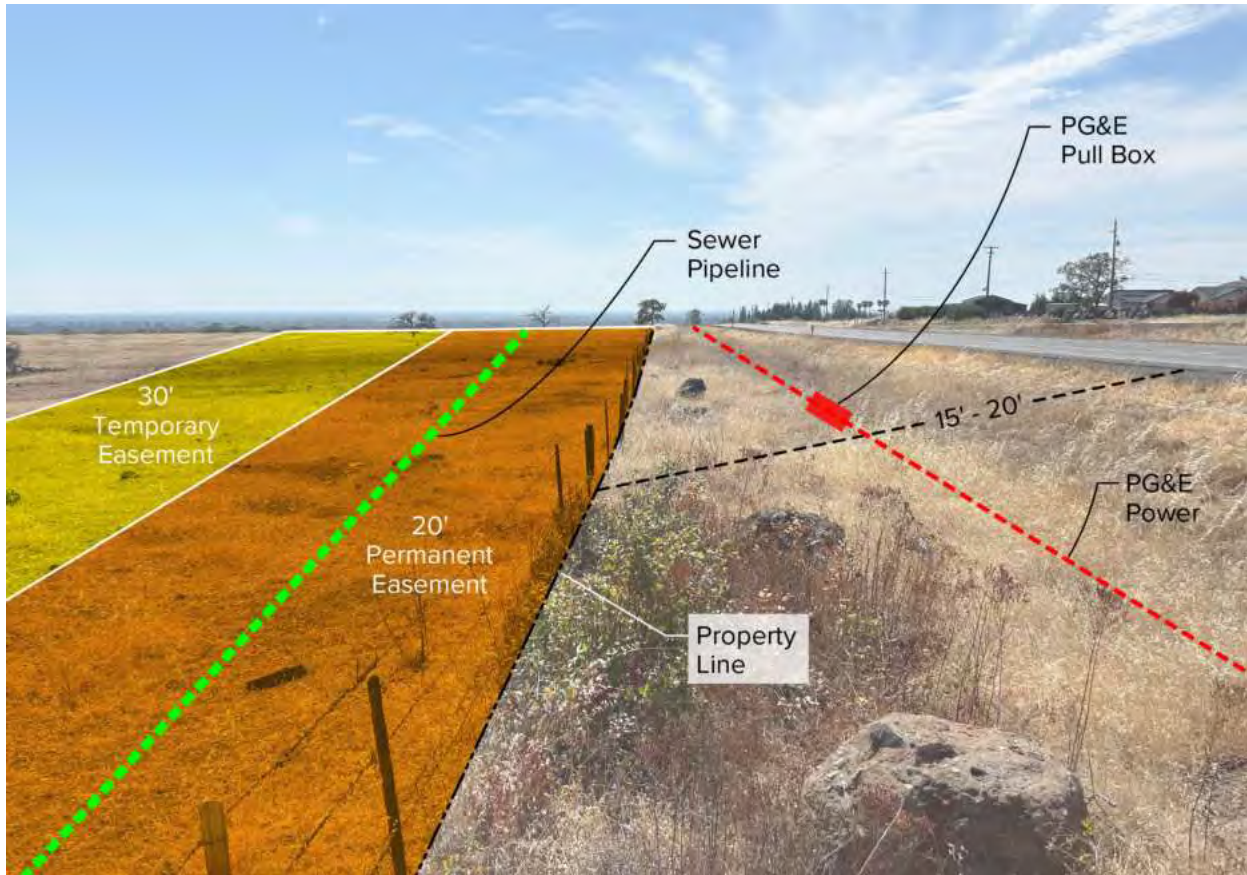


Figure 38 South of Skyway Alignment Layout (Looking West)



Figure 39 Alignment A

### 8.1.2.3 Alignment B (Grinder in Vault, South Side of Skyway)

Alignment B is similar to Alignment A, with the exception that there would not be a pump station and instead would be a vault with a grinder. Alignment B is shown in Figure 40.

#### Advantages of Alignment B

- A vault with a grinder is less expensive and will have lower long-term operation and maintenance costs compared to a new pump station.
- Installation outside of the roadway reduces paving and traffic control, therefore lowering construction cost and reducing construction risks.

#### Disadvantages of Alignment B

- Gravity sewer will be very deep through sections of Skyway between the start of the export pipeline and the Butte Creek Overlook. This will be very expensive and impactful construction that is potentially not constructable because it would require open cut construction at depths of approximately 30 feet through local high points.
- Property acquisition: this alignment would include acquiring land from eight private property owners.
- Alignment would result in 6.2 acres of vernal pool impact, which is the largest impact of any alternative and greater than the March 2022 alignment impact.



Figure 40 Alignment B

#### 8.1.2.4 Alignment C (Pump Station and Grinder, North Side of Skyway)

Similar to Alignment A, this alignment installs a new pump station and grinder. The pipeline exiting the pump station is a pressurized pipe that runs along the most northern paved shoulder in Skyway. The pressurized pipeline transitions to a gravity pipeline in a manhole located off the roadway north of Skyway just downstream of the Butte Creek Overlook. This stacked gravity section is then shifted off the roadway on the north side of Skyway and located within the County ROW. A 30-foot temporary easement will be needed north of the County ROW to allow for construction activity to be performed outside the roadway on Skyway, as shown in Figure 41. There are some locations where the topography outside of the County ROW isn't conducive to construction, and in these locations no temporary easement will be acquired and instead the construction impacts would be within Skyway. The alignment crosses to the south side of Skyway at the far western portion of Skyway where the alignment continues south of the Union Pacific Railroad property. Alignment C is shown in Figure 42.

#### Advantages of Alignment C

- Reduced sections of deep gravity pipe and vortex drop manholes, due to a pressurized pipeline in sections of significant topographic variation. This will lower construction cost and reduce construction risks.
- Installation outside of the roadway reduces paving and traffic control, therefore lowering construction cost and reducing construction risks.

#### Disadvantages of Alignment C

- Long-term maintenance and operational costs of pump station and grinder.
- Property acquisition; this alignment would include acquiring land from two private property owners.

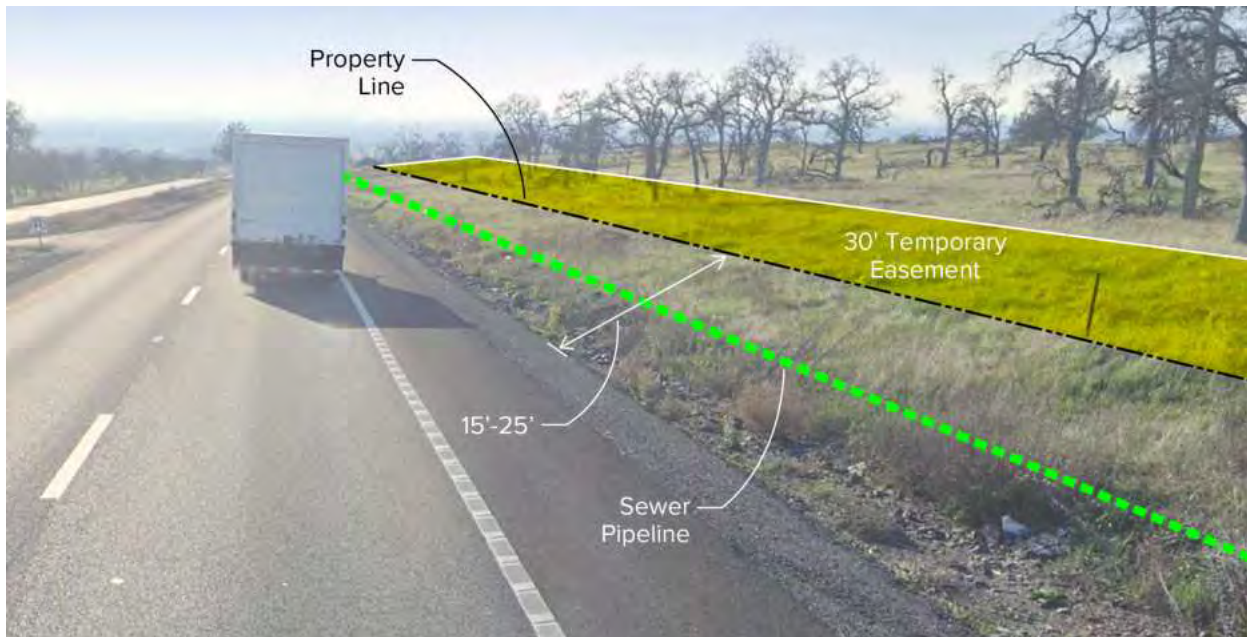


Figure 41 North of Skyway Alignment Layout

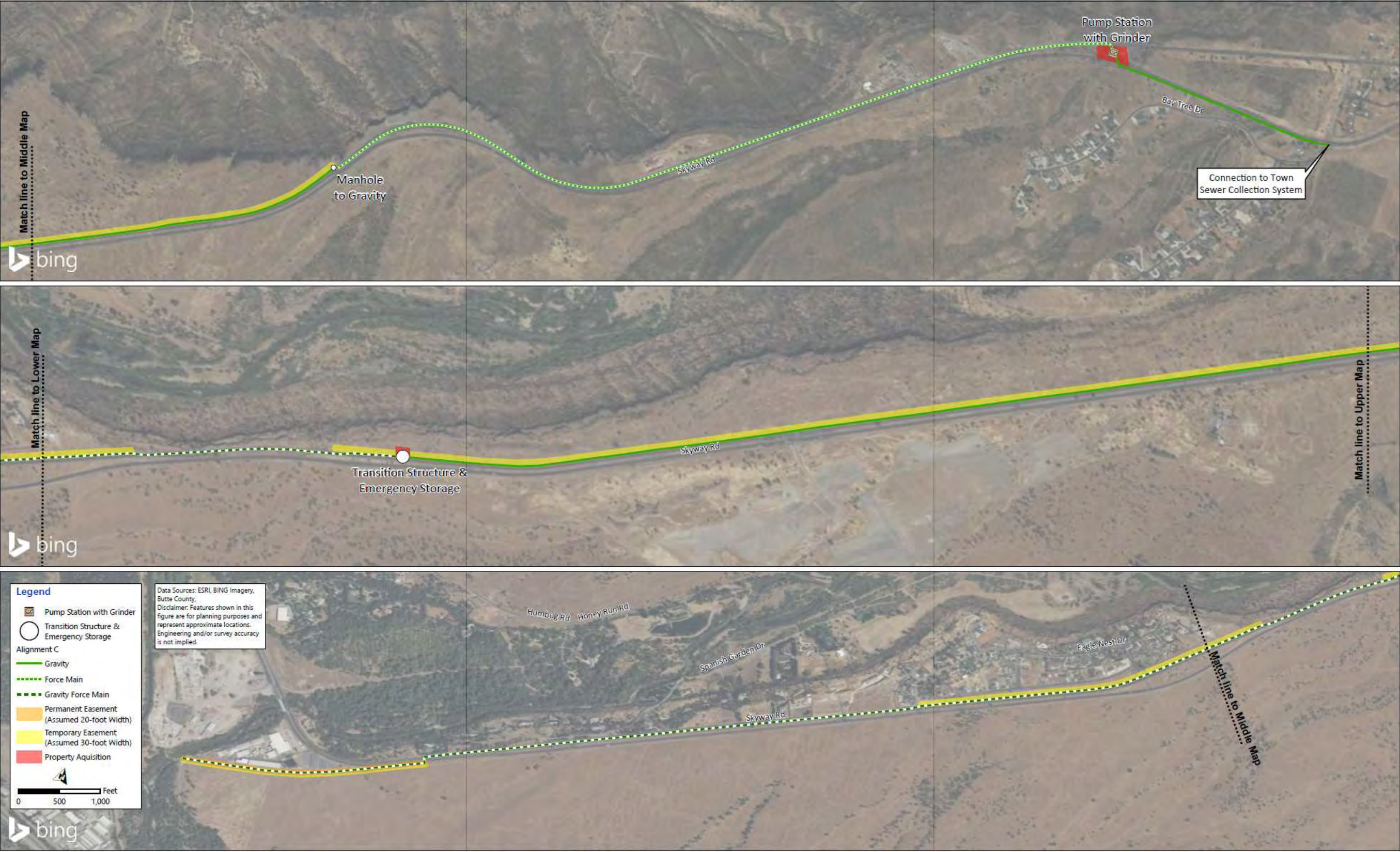


Figure 42 Alignment C

### 8.1.2.5 Alignment D (Grinder, Skyway's Southern Shoulder Until Transition Structure Then North of Skyway)

Similar to Alignment B, this alignment has a grinder in a vault on the Walmart Real Estate Business Trust property. After exiting the grinder vault, the alignment is in the roadway shoulder on the south side of Skyway until the proposed transition structure location on the south of Skyway. The pipe exiting the transition structure will cut north across Skyway and be installed off of the roadway in County ROW similar to Alignment C. Also similar to Alignment C, this alignment assumes a 30-foot temporary construction easement will be obtained where possible to allow for construction to be moved off of the Skyway roadway. The alignment will then cross to the south side of Skyway at the far western portion of Skyway where the alignment continues south of the UPRR property. Alignment D is shown in Figure 43.

#### Advantages of Alignment D

- A vault with a grinder is less expensive and will have lower long-term O&M costs compared to a new pump station.
- Installation outside of the roadway reduces paving and traffic control, therefore lowering construction cost and reducing construction risks.

#### Disadvantages of Alignment D

- Gravity sewer in will be very deep through sections of Skyway between the start of the export pipeline and the Butte Creek overlook. This will be very expensive and impactful construction that is potentially not constructable because it would require open cut construction at depths of approximately 30 feet through local high points.





Figure 43 Alignment D

### 8.1.2.6 Alignment E (Pump Station and Grinder, North Side of Skyway, Then South Side of Skyway)

Alignment E involves a new pump station and grinder. Similar to Alignment C, the pipeline exiting the pump station is a pressurized pipe that runs along the most northern paved shoulder in Skyway until it discharges into a manhole located after the Butte Creek Overlook. The stacked gravity section is located off the roadway within the County ROW from this manhole until the transition structure, which is also located north of Skyway. Similar to Alignment C, a 30-foot temporary easement is needed where possible just north of the County ROW to allow for construction activity to be performed outside the roadway on Skyway. There are some locations where the topography outside of the County ROW isn't conducive to construction, and in these locations no temporary easement would be acquired and instead the construction impacts would be within Skyway. Alignment E then crosses from the north side of Skyway to the south side of Skyway near the intersection of Oak Ridge Drive and Skyway. The alignment crosses to the south side at this location because west of this intersection there is not available space north of Skyway to acquire a temporary construction easement and move construction outside of the roadway. The alignment on the south side of Skyway is located within a 20-foot PE with a 30-foot temporary easement, allowing the construction to be moved off of Skyway. Alignment E is shown in Figure 44.

#### Advantages of Alignment E

- Reduced sections of deep gravity pipe and vortex drop manholes, due to a pressurized pipeline in sections of significant topography variation. This will lower construction cost and reduce construction risks.
- Installation outside of the roadway reduces paving and traffic control, therefore lowering construction cost and reducing construction risks.

#### Disadvantages of Alignment E

- Long-term maintenance and operational costs of pump station and grinder.
- Property acquisition; this alignment would include acquiring land from three private property owners.



Figure 44 Alignment E

### 8.1.2.7 Alternatives Evaluation

A summary of each of the alternatives is summarized in Table 24. The evaluation includes information on the following:

- Length: entire length of each alignment, and the length of the stacked gravity sections and pressurized (force main) sections.
- ROW Acquisition: Acres of required permanent ROW and temporary construction easement, the number of private property parcels the alignment will need ROW acquired from, and the amount of private property owners this ROW acquisition will include.
- Permitting: Acres of the environmental sensitive vernal pools impacted by the alignment, and the cost for purchasing vernal pool mitigation credits.
- Project Cost Comparison: costs were developed to compare the different alignments to one another. These costs are not total construction costs.

### 8.1.2.8 Recommendation

The recommended alignment is Alignment E. This alignment represents the best balance between reducing the Project cost and construction risks and limiting the property and environmental impact. Alignment E has significantly less ROW acquisition compared to the least expensive option, Alignment A. Additionally, Alignment E has only 4.5 acres of vernal pool impacts, which is less than the 5.7 acres assumed for the March 2022 alignment. Alignment E also reduces construction risks, as the new pump station will reduce sections of deep gravity pipe in areas of significant topography variation. Additionally, several portions of Alignment E are outside of the roadway therefore reducing impacts to traffic in Skyway. Though Alignment E is the second least expensive option, approximately \$700,000 more expensive than Alignment A, this alignment is preferred as it reduces several potential risks for the Project.

Table 24 Skyway Alternatives Comparison

	March 2022 Alignment	Alignment A (with pump station on south of Skyway in new PE)	Alignment B (no pump station, on south of Skyway in new PE)	Alignment C (with pump station on north side of Skyway, some temp easement)	Alignment D (no pump station, on north of Skyway downstream of transition structure)	Alignment E (with pump station on north side of Skyway with some temp easement, then on south side of Skyway)
<b>Alignment Length (miles)</b>	<b>7.3</b>	<b>7.4</b>	<b>7.4</b>	<b>7.4</b>	<b>7.4</b>	<b>7.4</b>
Length of Gravity Pipeline (miles)	6.4	2.6	4.2	2.7	4.3	2.7
Length of Pressurized Pipeline (miles)	0.9	4.8	3.2	4.7	3.2	4.7
<b>ROW Acquisition</b>						
Perm ROW Area (acres)	0	11.4	11.4	0.4	0.4	3
# of Private Property Parcels	0	15	15	13	1	4
# of Private Property Owners Land Acquired From	0	8	8	4	1	3
Temp TCE Area (acres) <sup>(1)</sup>	0	16.5	16.5	11.3	3.1	15.2
<b>Permitting Impacts</b>						
Vernal Pool Impact (acres)	5.7	6.2	6.2	1.6	2.9	4.5
<b>Project Cost Comparison</b>						
Pipeline Costs	\$22,471,000	\$11,556,000	\$14,263,000	\$16,440,000	\$22,093,000	\$12,932,000
Pump Station/Grinder Costs	\$-	\$640,000	\$250,000	\$640,000	\$250,000	\$640,000
Land Acquisition Cost <sup>(2)</sup>	\$-	\$1,123,100	\$1,123,100	\$718,100	\$513,100	\$880,600
Mitigation Costs	\$1,453,000	\$1,581,000	\$1,581,000	\$549,600	\$996,150	\$1,147,500
Additional Pumping Costs <sup>(3)</sup>	\$-	\$120,000	\$-	\$120,000	\$-	\$120,000
<b>Total Estimated Cost (millions)</b>	<b>\$23,920,000</b>	<b>\$15,020,000</b>	<b>\$17,220,000</b>	<b>\$18,470,000</b>	<b>\$23,850,000</b>	<b>\$15,720,000</b>

Notes:

TCE - temporary construction easements.

(1) Land Acquisition costs assume \$25,000/acre for all permanent ROW/ temporary construction easement area on vacant land, and \$25/SF for all permanent or temporary construction easement on commercial lot.

(2) Pumping costs assume 30-year energy cost.

### 8.1.3 Trenchless Crossings

This section describes the anticipated trenchless crossings for the export pipeline.

#### 8.1.3.1 Butte Creek and Butte Creek Levee Crossing

After the alignment reaches the bottom of Skyway it exits the road alignment and enters the UPRR ROW (APN 040-020-139-000), see Section 8.7.7 for longitudinal encroachment requirements. After entering the UPRR ROW, the pipeline will need to cross Butte Creek using trenchless pipeline installation methods, likely HDD. Preliminary analysis determined that the length of the crossing to be approximately 1,600 feet. For an installation of this size, the pipeline will typically be installed 50 feet beneath the bottom of the creek, however the final bore path will be dependent on the results of geotechnical field investigations. Refer to Section 3.3 for discussion regarding geotechnical investigations.

The use of trenchless technology will also allow the pipeline to be installed beneath other features adjacent to Butte Creek. East of the creek, Durham Mutual Water Company installed a fish ladder and associated piping that allows the passage of fish upstream past the dam in Butte Creek. The fish ladder is a significant concrete structure that will be avoided by the use of trenchless technology. Record drawings from the construction of the fish ladder structure (and associated piping) have been obtained and will be incorporated during detailed design. Additionally, USACE has jurisdiction of a levee to the west of Butte Creek. Excavations adjacent to or beneath USACE jurisdiction levees require an approved USACE 408 permit, see Section 8.5.1.

Finally, the results of the geotechnical investigations may determine that the soil beneath Butte Creek are not suitable for a successful HDD installation. Soils that contain excessive gravel or cobbles are generally not conducive to HDD installation. If geotechnical field investigations determines that HDD may not be feasible, alternative installation methods such as microtunneling will be evaluated. If microtunneling is selected as feasible installation method, a minimum 36-inch casing would be installed as this is the smallest diameter boring machine currently available for North American projects. Smaller diameter microtunnel machines are not available.

#### 8.1.3.2 Highway 99 Crossing

After crossing Butte Creek, the pipeline continues west past the CHP facility and then turns southwest crossing Highway 99. The pipeline will likely be installed at this crossing using shaft-to-shaft trenchless methods such as microtunnel or auger bore. These methods will require the installation of a launch and reception shaft on either side of the crossing, outside of the Caltrans ROW. Segments of a casing pipe will be lowered into the entrance shaft behind the cutting head and then pushed forward until it reaches the reception shaft. Then the carrier pipe will be installed into the casing and connected to the rest of the alignment on either side of the crossing.

This crossing is expected to be approximately 300 feet and installed at a depth of approximately 20 feet below the highway. It will also be installed parallel to the City of Chico's P18 Project alignment, which crosses the highway in the same location. See Section 4.1.3 for additional discussion regarding the City of Chico's utilities. Based on the currently available record drawings, this crossing does not cross any utility drawings. As detailed design progress, design drawing will be shared with utility contacts to confirm that there are not any buried utilities present.

The Highway 99 crossing will require a Caltrans Encroachment Permit. See Section 8.5.3.

### 8.1.3.3 Union Pacific Railroad

When the pipeline alignment is on Hegan Lane and is heading southeast it will be required to cross a UPRR ROW. Similar to the Highway 99 crossing, a shaft-to-shaft trenchless installation method will be used to cross the UPRR ROW. Shafts will be located along Hegan Lane, outside of the ROW.

This crossing is expected to be approximately 200 feet and installed at a minimum depth of 20 feet below the existing railroad. Typically, UPRR will require the installation of isolation valves on either side of the crossing, outside of their ROW.

Preliminary utility information indicates that this crossing will need cross an existing Kinder Morgan pipeline. As design progresses, the design drawings will be distributed to Kinder Morgan (and other existing utility owners) to confirm the alignment and depth of the existing buried utilities.

This crossing will require a UPRR Encroachment Permit, see Section 8.5.7 for additional discussion.

### 8.1.3.4 Comanche Creek

Along Crouch Avenue the pipeline alignment will need to cross Comanche Creek. The pipeline could be installed using HDD or shaft-to-shaft construction methods. Results of the geotechnical investigations will be used to evaluate soil conditions and decide which method to use. If HDD is selected, the HDD alignment will be approximately 800 to 900 feet in length and 30 to 40 feet beneath the bottom of Comanche Creek.

Based on the currently available record drawings, this crossing does not cross any utility drawings. As detailed design progress, design drawing will be distributed to existing utility owners to confirm that there are not any buried utilities present.

If a method such as auger bore or microtunnel is used the installation may be shorter and shallower but relatively more expensive due to the costs associated with shaft construction.

### 8.1.3.5 Little Chico Creek

Along Taffee Avenue the pipeline will need to cross Little Chico Creek. Similar to Comanche Creek, multiple trenchless installation methods may be used for a successful installation. Little Chico Creek also requires the pipeline alignment to cross an USACE jurisdiction levee which has similar permit requirements to Butte Creek.

Similar to Comanche Creek, if a method such as auger bore or microtunneling is used the installation may be shorter and shallower but relatively more expensive due to the costs associated with shaft construction.

If HDD is used, property acquisition will be required. If a traditional HDD installation is used, with two vertical curves and a straight horizontal tangent beneath Little Creek, property would be required inline with the HDD alignment (APN 039-130-003-000) and to install the pipeline alignment to get back to Taffee Avenue. If a compound curve alignment is selected, where a horizontal curve is installed beneath Little Chico Creek, property would be required in APN 039-130-005-000 and 039-160-036-000 to facilitate

the curve. Both options would be installed at a similar depth of 30-40 feet beneath Little Chico Creek but vary in length from 800 to approximately 1,900 feet in length.

Based on the currently available record drawings, this crossing does not cross any utility drawings. As detailed design progress, design drawing will be distributed to existing utility owners to confirm that there are not any buried utilities present.

## 8.2 Export Pipeline Pump Station and Grinder

### 8.2.1.1 Sizing and Location

A pump station is needed near the beginning of the export pipeline alignment to pump wastewater approximately 1.5 miles to a manhole west of the County Overlook. The pump station would be located upstream of the challenging topography where the installation of gravity sewer pipes is not constructable due to significant low and high points in Skyway. This stretch of the alignment with challenging topography begins west of the intersection of Skyway Crossroad Road until west of the County Overlook. The Walmart Real Estate Business Trust Property is an ideal location for this pump station. At this location, the distance between the westbound and eastbound lanes on Skyway is wide enough to allow for the footprint of a small pump station.

The pump station would only provide enough pressure head to convey flows from the pump station through the high points in the roadway before discharging to a manhole west of the County Overlook.

### 8.2.1.2 Pump Design Criteria

Table 25 summarizes the pump station design criteria under the base design.

Table 25 Export Pipeline Pump Station Design Criteria

	Export Pipeline Pump Station
SSA ADWF (gpm)	669
SSA PWWF (gpm)	1,768
Wet Well Size	8 feet
Wet Well Depth <sup>(1)</sup>	15 feet
Pump Type	Submersible, non-clog
Impeller Type	Semi-Open
Pump Manufacturer	Flygt
Pump Model	NP3301
Number of Pumps	1+1
Pump Capacity	3.6 mgd
Power Supply	480 volt, 3-phase
Drive Type	VFD
Maximum pump speed (rpm)	1800
Motor (hp)	100 hp
Design Operating Point	1,768 gpm at 126 feet TDH
Influent Line(s) at Invert Elevation (feet)	1,322



Export Pipeline Pump Station	
Force Main Discharge (Centerline Elevation)	1,330
Discharge, inches	6

Notes:

- (1) Actual wet well depth, invert elevation, and discharge elevation will be determined when survey information is available.
- (2) Xylem/Flygt manufacturer was contacted, and a preliminary pump selection was made based on the hydraulic model flow and elevations to make sure a pump exists that meets the Project's needs.

### 8.2.1.3 Grinder

#### Export Pipeline Grinder

Grinders are used in wastewater sewer systems to reduce the particle size of the raw wastewater flow. This equipment will reduce the risk of clogging in the export pipeline and all downstream equipment, including valves. The grinder is located in the export pipeline pump station, as this is downstream of all flows from the collection system. An example of a grinder for this application is JWC Environmental's Muffin Monster. Figure 45 shows a layout of the export pipeline pump station including the grinder.

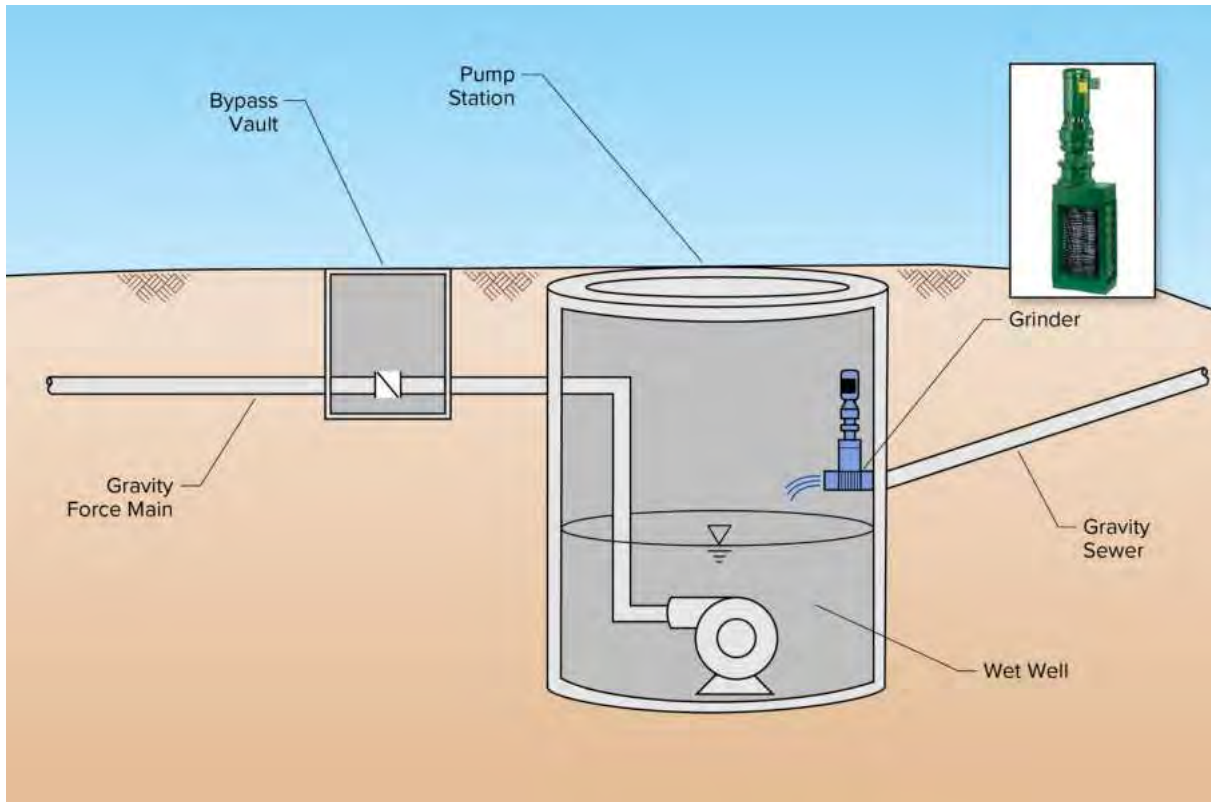


Figure 45 Pump Station With Grinder

#### 8.2.1.4 Power Supply

The new service will be coordinated with PG&E during the detailed design phase. Overhead PG&E power transmission lines are located near the proposed pump station location and could provide a power source.

#### 8.2.1.5 Odor Control

Like the collection system trunk line pump stations, the export pump station will have a skid-mounted activated carbon odor control system as described above in Section 7.3.

### 8.3 Transition and Emergency Storage Structure

The transition structure is a large diameter manhole installed along Skyway and will be the transition between the gravity sewer and the gravity force main. A minimum operating level will be maintained above the invert of the exiting force main to prevent draining of the structure. If the structure drains air may become entrained in the force main which can cause maintenance issues and reduce conveyance capacity. Flows from the Town will enter the transition structure from the upstream side through a drop manhole so that sewer flows do not free fall to the water surface.

The transition structure will be designed to operate within a specific range to prevent spilling and allow sufficient time for the valves at the Chico flow control structure (see Section 8.4) to respond to changing levels in the transition structure. Redundant level transducers (multiple of the same technology) and a level float tree will be implemented and housed in the transition structure will communicate with the Chico flow control structure. An odor control system will also be installed at the transition structure to prevent the buildup of hydrogen sulfide gas. A skid-mounted activated carbon system will be used for odor control as was described in Section 7.3 for the trunk line pump stations. See Figure 46 for the preliminary schematic of the transition structure.

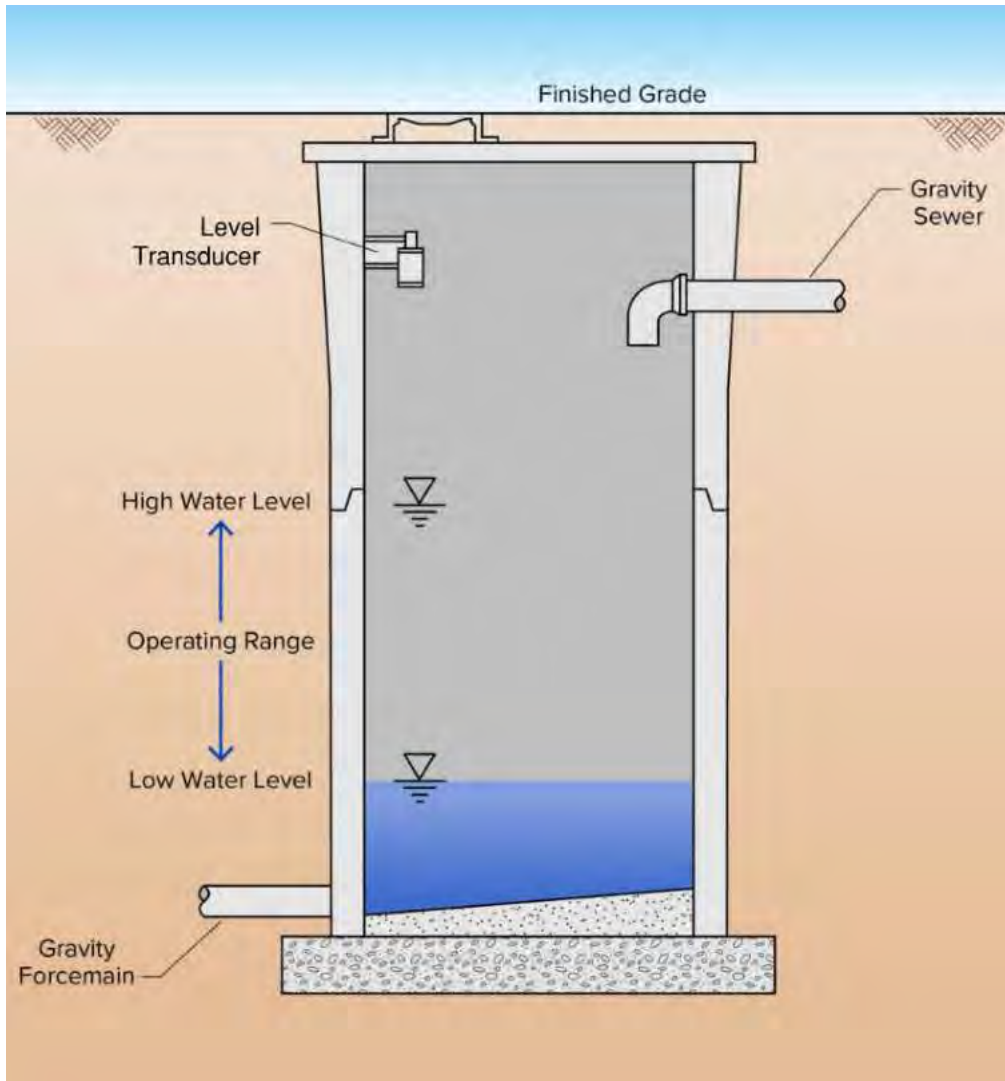


Figure 46 Transition Structure Preliminary Schematic

### 8.3.1 Location

#### 8.3.1.1 March 2022 Transition Structure Location

The initial concept developed in the *Technical Memorandum #8 – Export Pipeline Analysis* (HDR 2022) included approximately 60,150 feet (or 11.4 miles) of force main which put the transition structure at approximately 224 feet in elevation. Initial analysis determined that there may not be sufficient elevation to overcome the headloss and deliver flows to Chico WPCP, especially as flows increase and a more realistic “C” value is used. Figure 47 shows this graphically. The dashed line represents the preliminary ground surface profile, and the solid lines represent the hydraulic grade line (HGL). A HGL is a graphical representation of the energy losses in a pipeline system. When the HGL is below the ground surface, this represents a scenario that may not have sufficient head to reach the Chico WPCP.

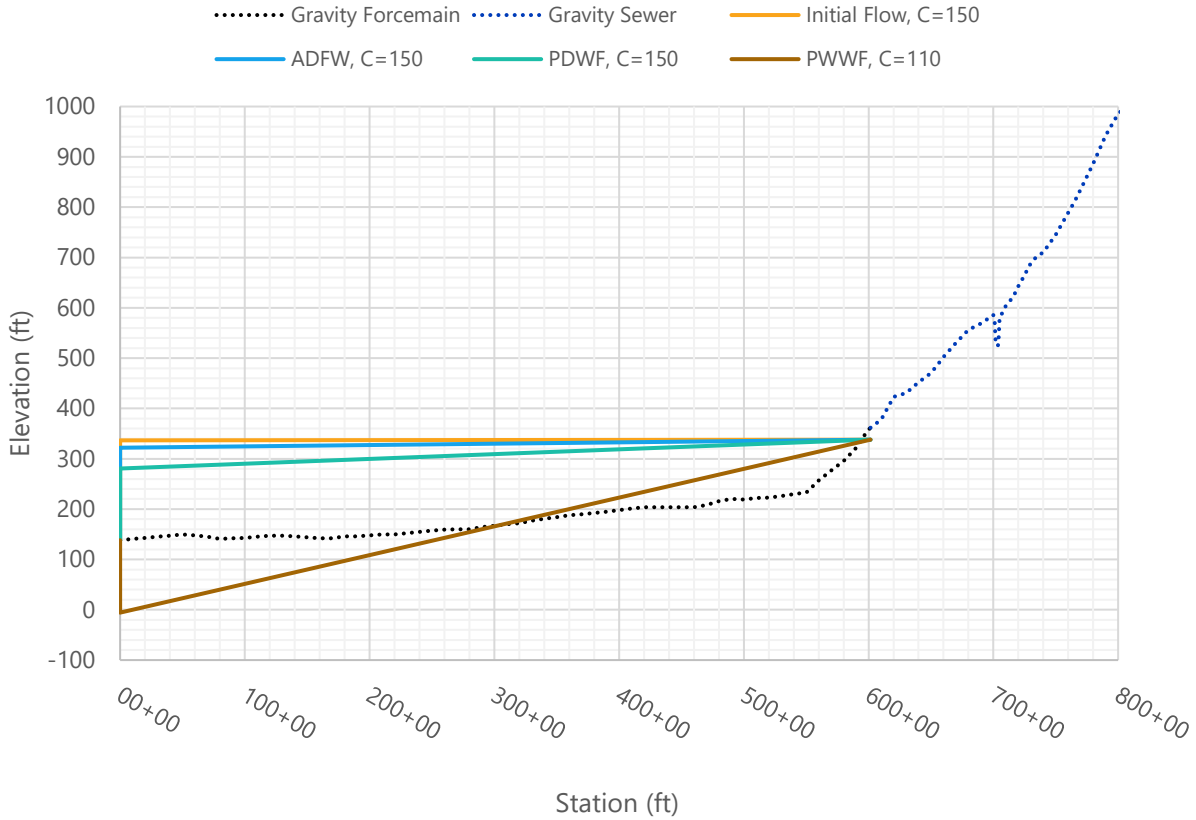


Figure 47 12-inch PVC, March 2022 Flows, March 2022 Transition Structure Location

Figure 47 represents a preliminary flow scenario developed as part of the HDR *Technical Memorandum #8 – Export Pipeline Analysis* that assumes a nominal 12-inch PVC pipeline (DR 18, ID = 11.56 inches). As the flow increases and the “C” value decreases the HGL crosses below the ground surface, representing a lack of sufficient head to reach the Chico WPCP.

Headloss can be reduced by increasing the internal diameter of the pipeline. However, as the diameter increases, the flow velocity decreases resulting in solid and debris deposition in the pipeline. Additionally, as the pipe size increases so does the material and installation cost. Scenarios where the gravity force main sizes used in the Carollo Hydraulic Model are below. In all scenarios, Extended SSA flows would not be conveyed to the Chico WPCP with the static head available at the transition structure. The pipe size would need to be increased to meet Extended SSA flows.

Figure 48 represents the flows from the Carollo Hydraulic Model uses an 18-inch PVC pipeline (DR 18, ID = 17.20 inches) to deliver flow to the Chico WPCP.

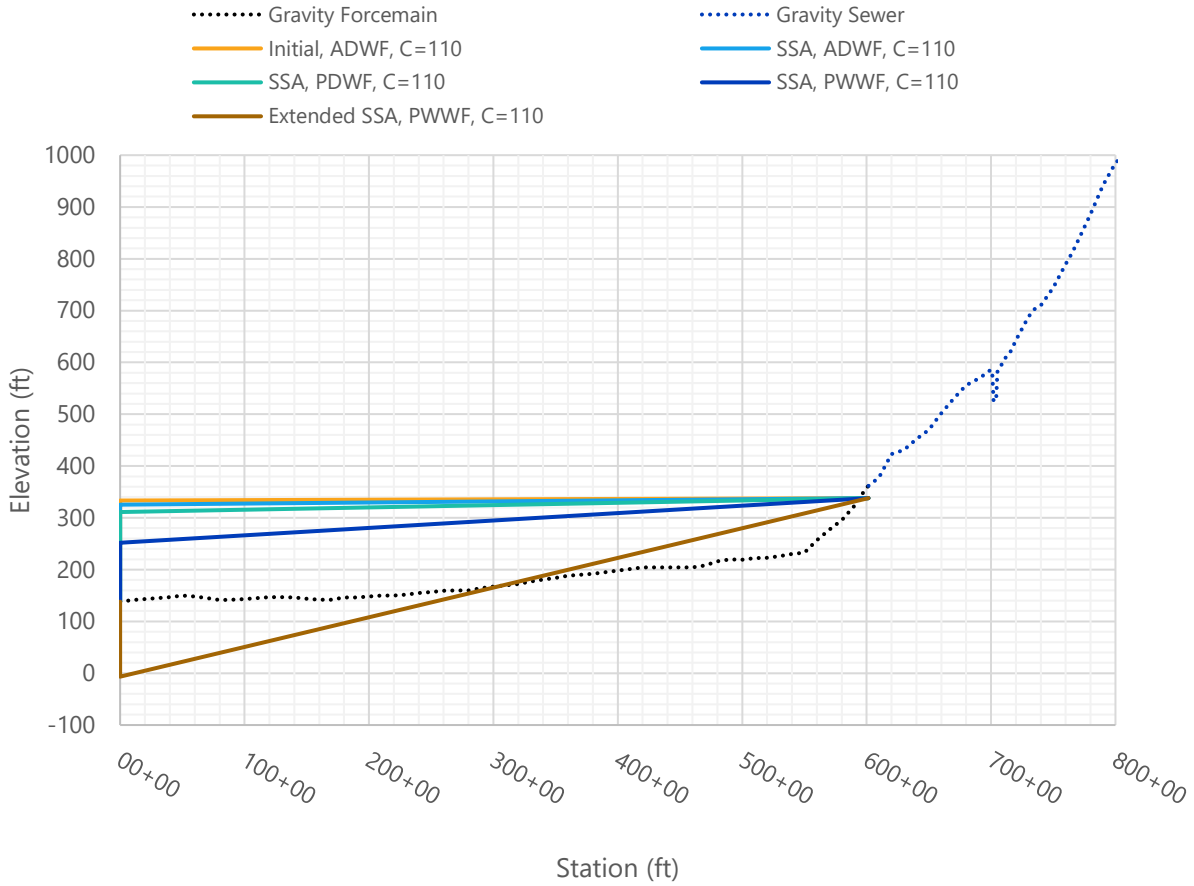


Figure 48 18-inch PVC, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location

Figure 49 represents the flows from the Carollo Hydraulic Model and uses a 24-inch HDPE pipeline (DR 7, ID = 16.73 inches) to deliver flow to the Chico WPCP.

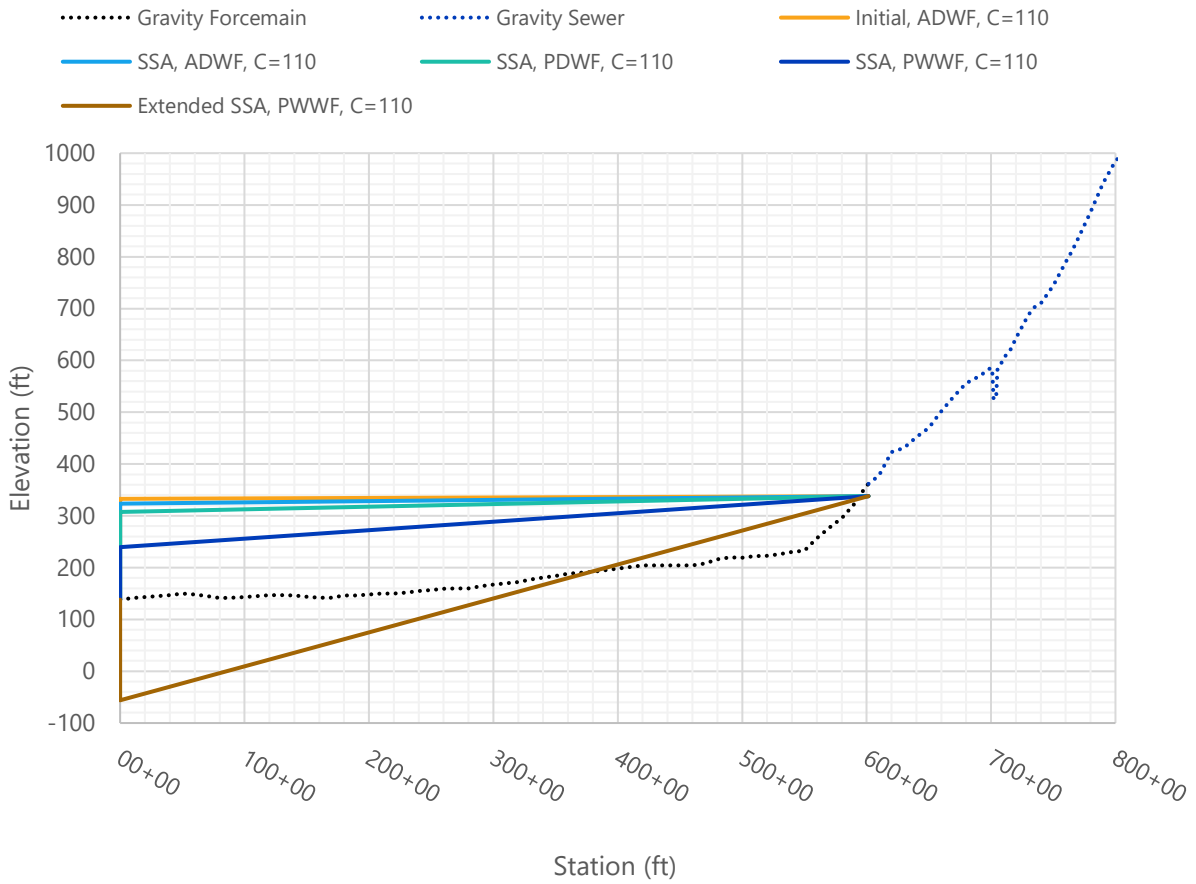


Figure 49 24-inch HDPE, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location

Figure 50 represents the flows developed by Carollo and uses a 16-inch DIP pipeline (PC 250, ID = 16.61 inches) to deliver flow to the Chico WPCP.

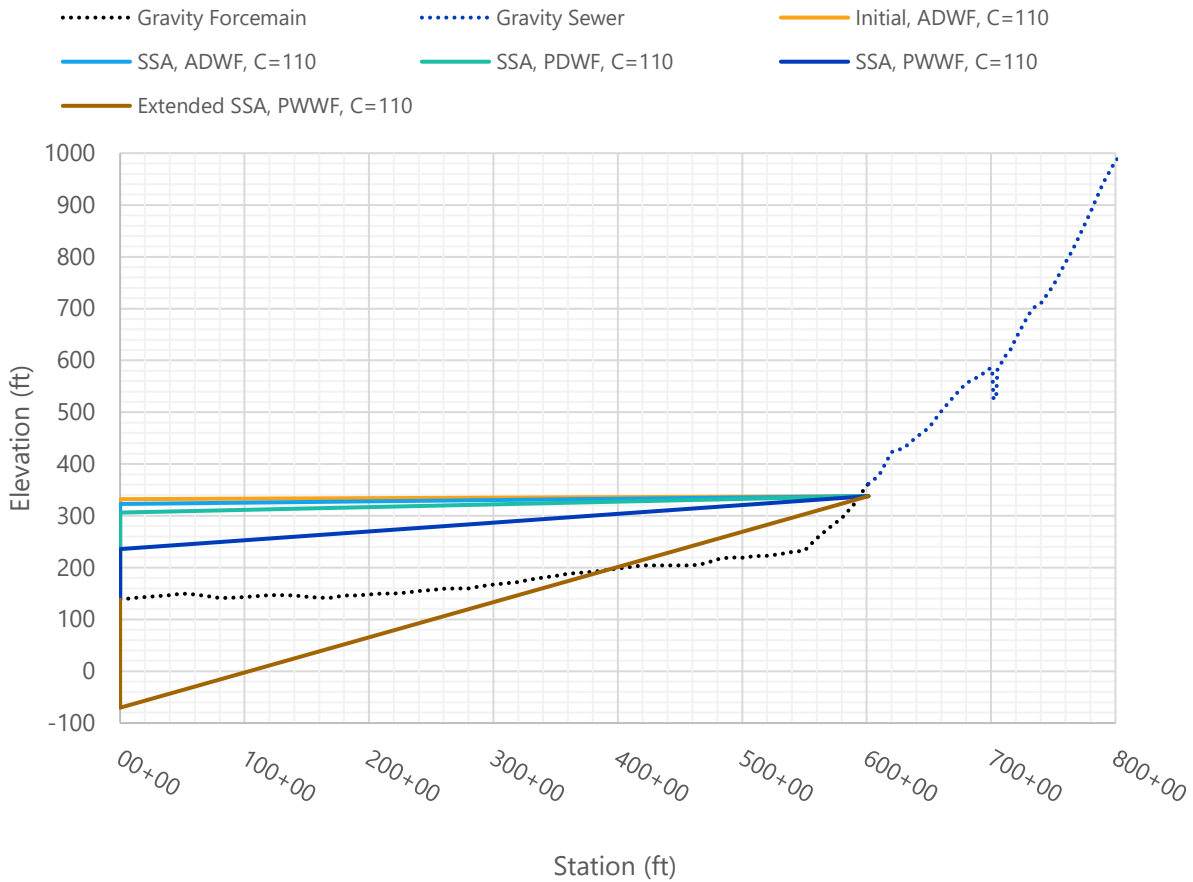


Figure 50 16-inch DIP, Carollo Hydraulic Model Flows, March 2022 Transition Structure Location

### 8.3.1.2 May 2024 Transition Structure Location

Carollo developed an alternative concept which located the transition structure up Skyway approximately 12,000 feet (increasing the force main length to approximately 72,000 feet) to an elevation of approximately 640 feet. By increasing the length of the force main, the relative cost of the export pipeline can be reduced due to the following factors:

- Reduced length of stacked gravity sewer.
- The force main does not require a specific slope to be maintained, it can be installed at minimum cover and not as deep as the gravity.
- The force main reduces the number of traditional manholes required along Skyway.

Similar to the initial concept transition structure location, flow scenarios were analyzed for the export pipeline sizes presented in the Carollo *Technical Memorandum 1 - Sewer Collection System and Export Pipeline Hydraulic Model*.

Figure 51 represents the flow developed by Carollo and uses an 18-inch PVC pipeline (DR 18, ID = 17.20 inches) to deliver flows to Chico.

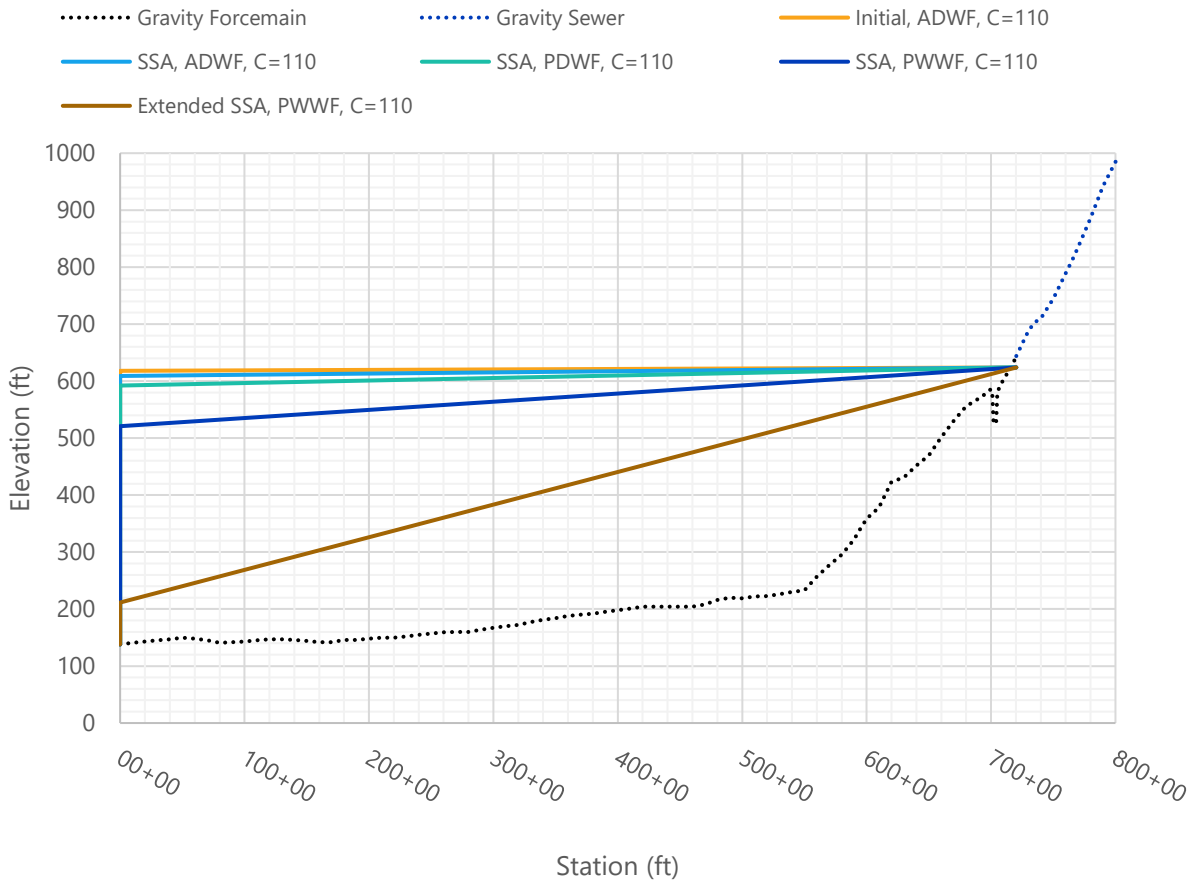


Figure 51 18-inch PVC, Carollo Hydraulic Model Flows, Revised Transition Structure Location



Figure 52 represents the flows developed by Carollo and uses 24-inch HDPE pipeline (DR 7, ID = 16.73 inches) to deliver flows to Chico. Due to increased static pressure (especially at low flows), HDPE requires a greater wall thickness.

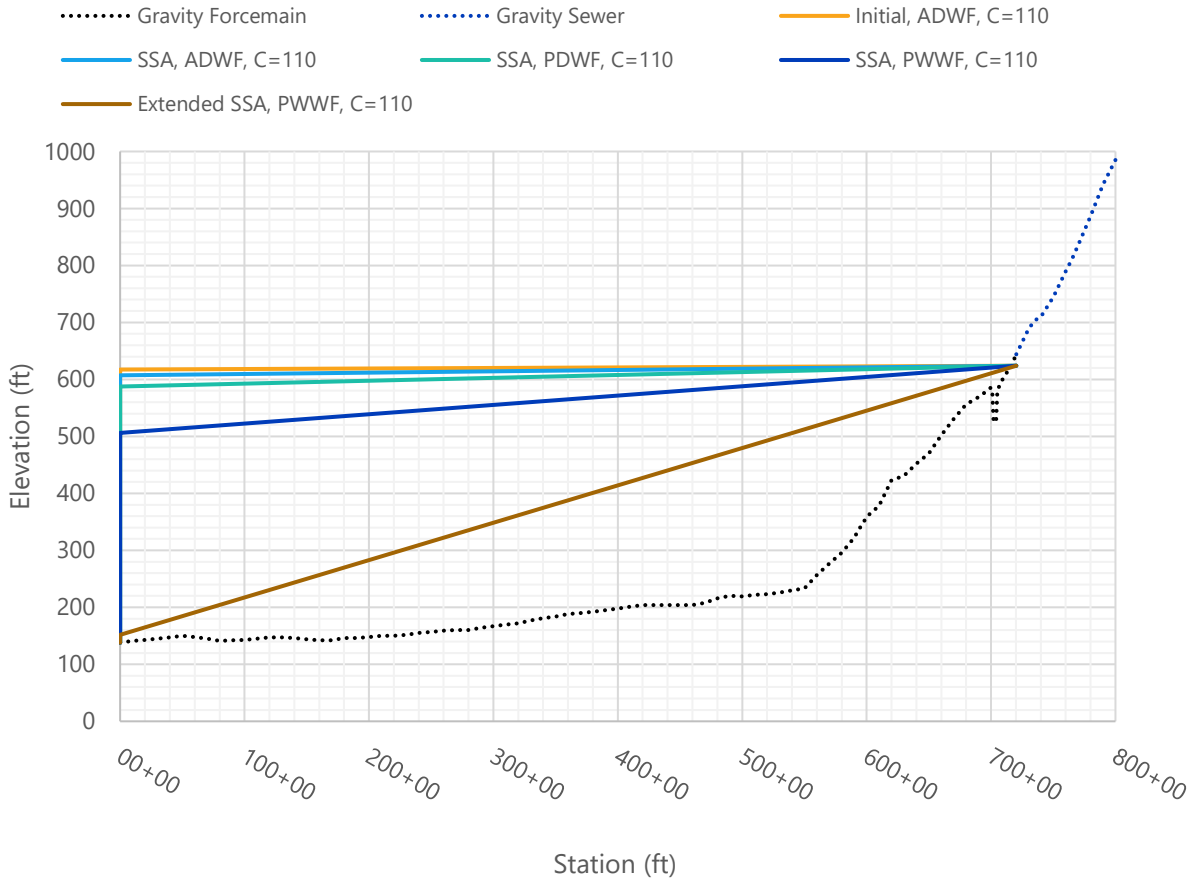


Figure 52 18-inch HDPE, Carollo Hydraulic Model Flows, Revised Transition Structure Location

Figure 53 represents the flows developed by Carollo and uses a 16-inch DIP pipeline (PC 250, ID = 16.61 inches) to deliver flows to Chico.

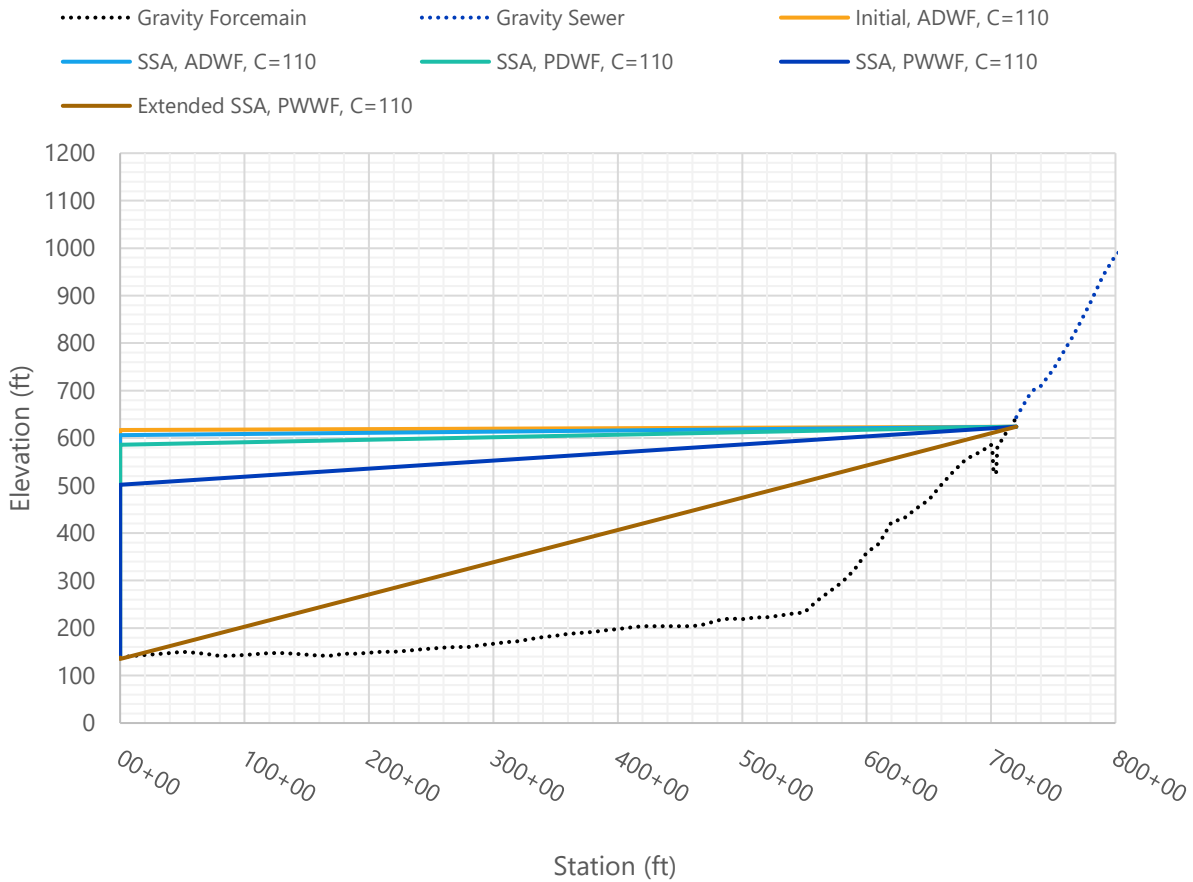


Figure 53 16-inch DIP, Carollo Hydraulic Model Flows, Revised Transition Structure Location

### 8.3.1.3 Alternatives for Extended SSA Flows

As flows increase (as anticipated with the extended sewer service area), the head loss increases. If head loss increases to a level where there is not sufficient head to drive flows from the proposed transition structure location to the City's WPCP the pipeline will have operational issues. Head loss can be decreased by increasing the diameter of the pipeline. However, due to the large discrepancy between initial flows and potential extended service area flows, there is a relatively large range of flow velocities. If the export pipeline is oversized for initial flows, there will also be operational issues with solids deposition in the pipeline.

A solution to this is constructing the export pipeline with a diameter that has sufficient velocity to handle the flows for the current sewer service area and then once flows increase due to the extended service area, implementing a future pump station to add head and pump flows to the WPCP. The pump station would be installed somewhere along the alignment, after exiting Skyway. Figure 54 represents the flows developed by Carollo and uses a 16-inch PVC pipeline (DR18, ID=15.30 inches) and the approximately location of a future pump station to deliver flows to the WPCP.

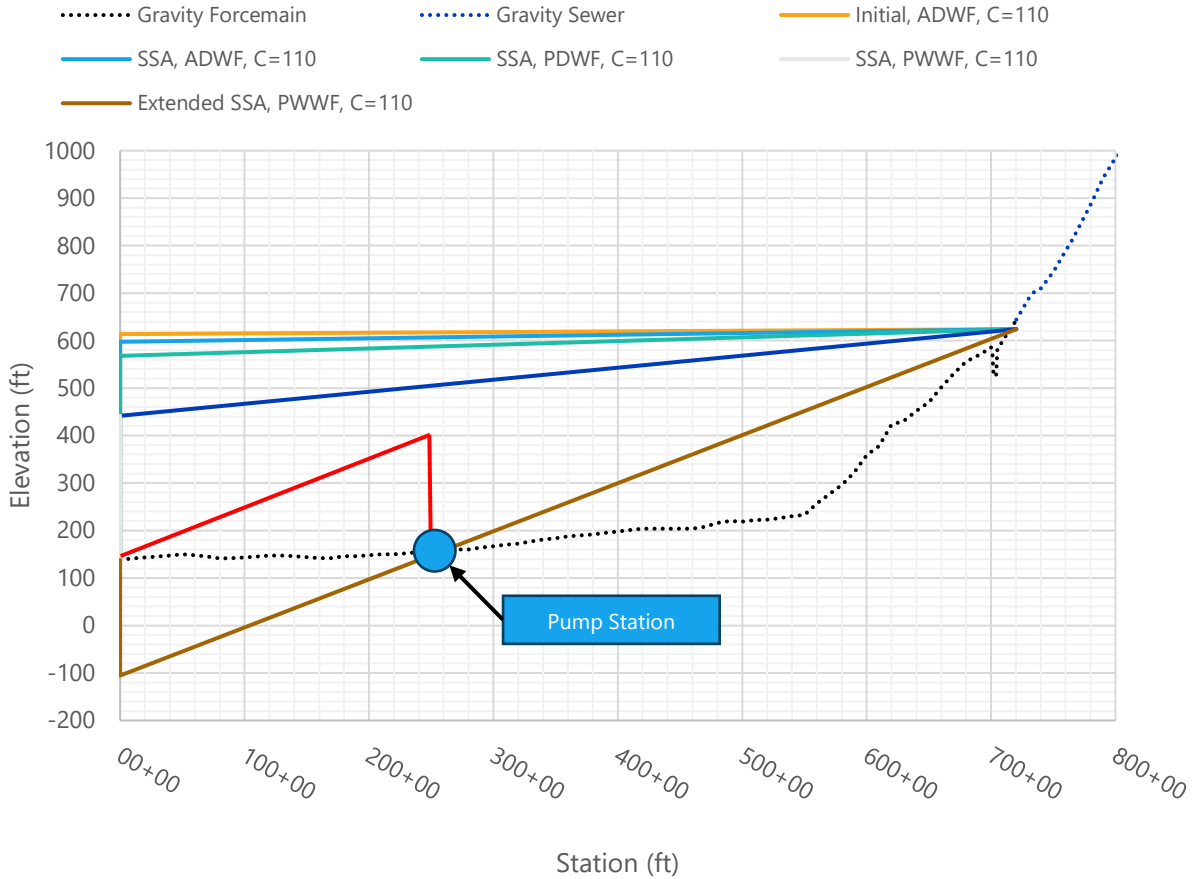


Figure 54 16-inch PVC, Carollo Hydraulic Model Flows Future Pump Station

### 8.3.2 Sizing

Initial analysis completed by the Design-Builder indicates that a transition structure that is 12 feet in diameter and approximately 20 feet deep is an appropriate size. The 20-foot depth allows for a minimum water level of 5 feet, an operating range of 10 feet, and a surplus 5 feet of additional storage to act as a buffer for rapidly increasing flows. The proposed dimensions provide approximately 8,500 gallons of operating capacity.

### 8.3.3 Emergency Storage

In the event of a clogging or other operational problem in the transition structure or downstream gravity force main, a passive emergency overflow structure will be implemented to allow for flows to be diverted so operations personnel can remove the blockage. The emergency overflow storage structure will be a large, below grade, precast concrete structure that is normally empty. It is intended that the structure is only used in an overflow condition. As the level in the transition structure rises (due to a blockage) flow would passively overflow into the overflow structure. Once the blockage is removed, flows would passively drain back into the transition structure and into the force main to the Chico WPCP. A duckbill check valve (Tideflex or similar) would be used to ensure that flows from the transition structure do not enter the overflow structure before an overflow event occurs. Similar to the transition structure, levels in the

emergency overflow will be measures with redundant level instruments so operations personnel can be notified regarding an emergency event. Figure 55 shows the intended operation of the transition structure and emergency overflow structure.

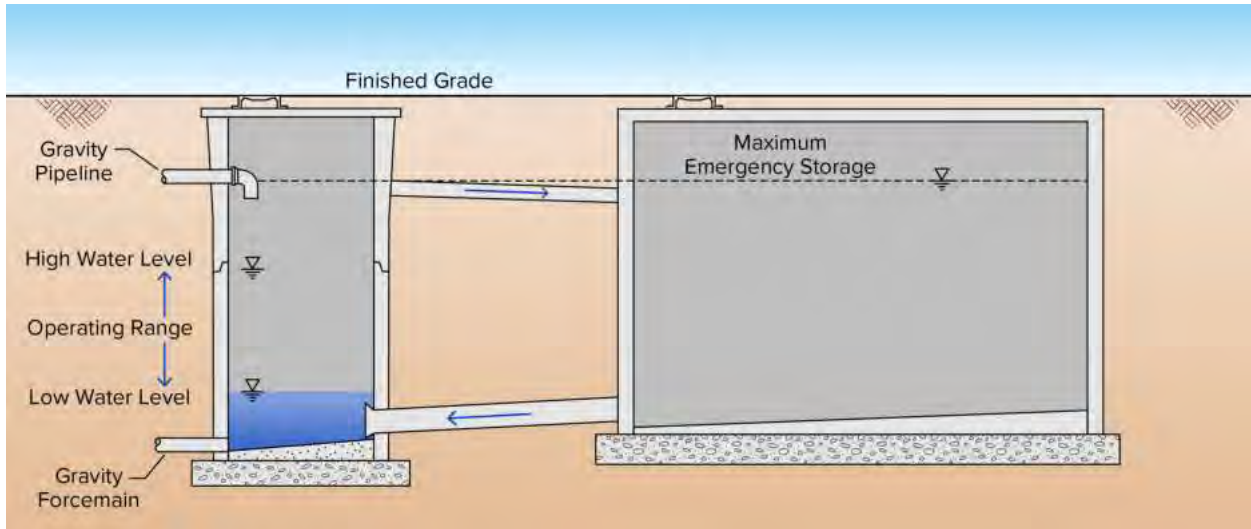


Figure 55 Transition Structure and Emergency Overflow Schematic

The size of the emergency overflow structure is dependent on the intended response time during various flow conditions. The size of the transition structure is also limited based on the available space adjacent to the transition structure and export pipeline. Larger transition structures will become expensive due to the size of the precast concrete structure and the excavation required.

Due to the potential for an increased sewer service area in the town, a larger overflow structure may be required in the future. In order to be cost effective with the initial sewer area, the Town could construct a smaller emergency overflow structure but acquire enough property to construct an additional, similarly sized overflow structure in the future that would provide an appropriate response time for future flows and sewer service areas. The future overflow structure would be connected to the initial overflow structure in a similar configuration to the way as the initial overflow structure is connected to the transition structure.

The emergency overflow structure will be design with a sump so that if an overflow event occurs the emergency overflow structure can be completely drained and cleaned out. O&M procedures are discussed in additional detail in Section 13.2.2. Water service is limited along Skyway so maintenance and operations personnel will be required to bring water trucks (or other type of supply) in periodically so the inside of the structure can be washed down.

### 8.3.4 Level Measurement

Both the transition structure and the emergency overflow structure will house instrumentation to measure and monitor the sewage level in the structure. The level instrumentation inside the transition will communicate the level (via SCADA) to the flow control structure so the valve can operate and maintain a defined level. Level instruments in both the transition structure and overflow structure will also communicate high- and low-level alarms to operators.

Redundant level instrumentation will be installed, consisting of ultrasonic, radar and level floats in both structures.

### 8.3.5 Maintenance Access

Both the transition structure and emergency overflow structure will be below grade structures that will be accessed via manways or access ways. Due to the proximity to Skyway and the likelihood that operations personnel will need to drive a pickup truck to the facility, all lids should be H20 rated. Access ways should be large enough that a submersible pump and hose can be lowered into the structures for maintenance or other cleaning activities. At a minimum the access manways should be equivalent to a standard 24-inch diameter sanitary sewer manhole cover. Operations personnel will access the structure either by being lowered a truck mounted winch or tripod over the access way. Ladders and Occupational Safety and Health Administration (OSHA) compliant fall arrest will be included in the design.

The site of the structures will be designed so that personnel can safely exit Skyway and turn around, and reenter Skyway without having to back up. Any above ground appurtenances located at the site will be protected by bollards.

### 8.3.6 Power Supply

Power for instrumentation is available from PG&E on the south side of Skyway. An uninterrupted power supply will also be provided to ensure communication to the Chico flow control structure.

## 8.4 Chico Water Pollution Control Plant Flow Control Structure

The flow control structure will be located at the City of Chico Water Pollution Control Plant and is required to:

- Connect the export pipeline to the WPCP.
- Measure flow entering the WPCP.
- Control flow entering the plant to maintain an operating level in the transition structure.
- Reduce pressure from the export pipeline from line pressure to near atmosphere.
- Provide redundant equipment so periodic maintenance can be performed.
- Provide an emergency bypass.

The flow control structure will be located on the City's property in the northeast corner of the WPCP.

Figure 56 provides an overview of Chico's WPCP.

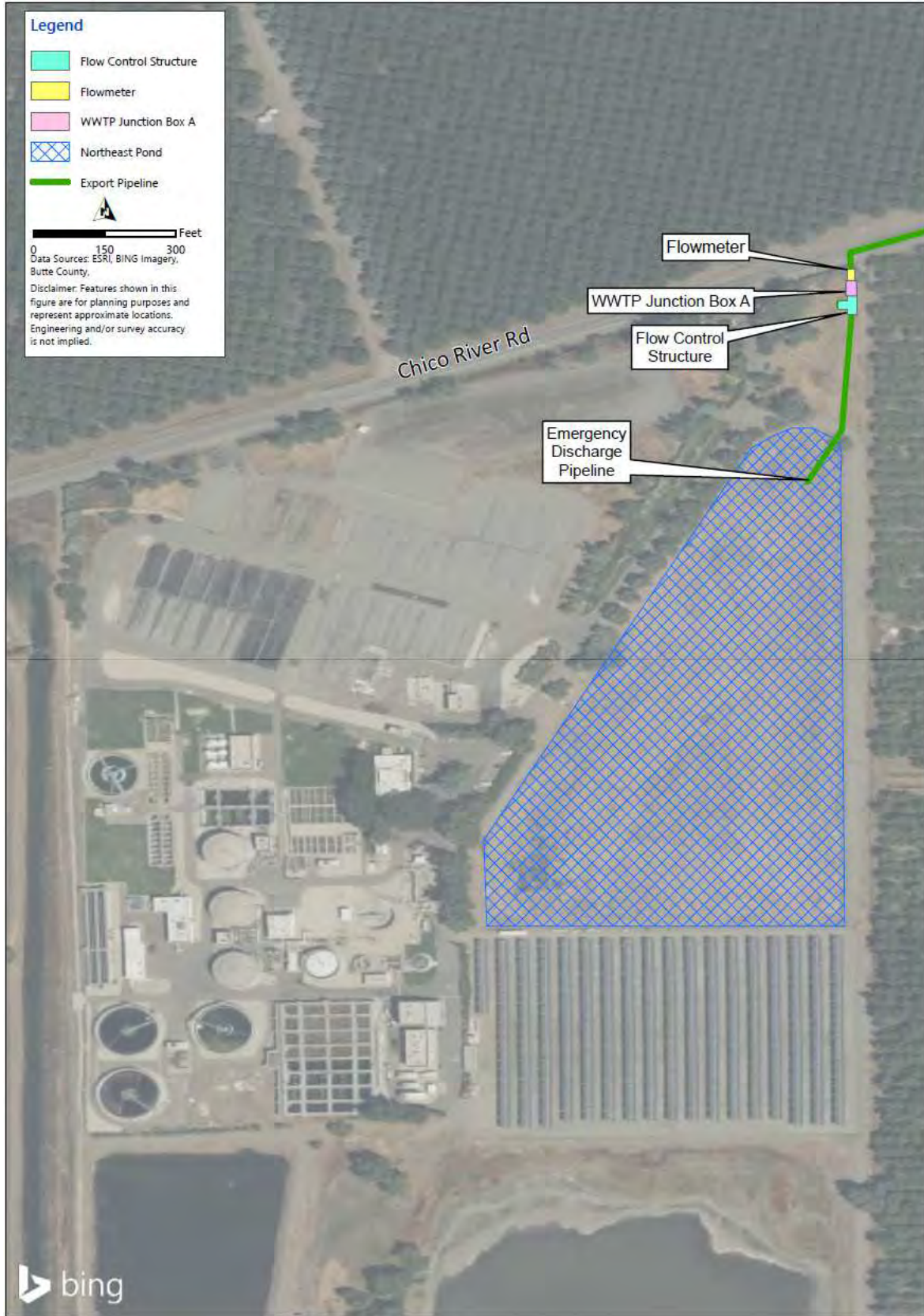


Figure 56 Chico WPCP Overview

In evaluating preliminary design alternatives for the flow control structure, a number of challenges were identified.

- Traditional level control, flow control, and pressure reducing valves are not practical for wastewater systems like the Project. Wastewater contains solids and other debris, not present in a water system, that will affect valve operations and create maintenance issues.
- There is a range in flows from the Town and due to the elevation difference between the transition structure and the flow control structure there is relatively high pressure in the gravity force main. Due to the high pressure and range of flows, the valve(s) installed at the flow control structure will need to mitigate cavitation risks.
- The distance between the transition structure and flow control structure will result in hydraulic latency from when flow control adjustments are made in the flow control structure and when the change in water surface is observed at the transition structure. Reducing this latency will be critical to operation of the export pipeline and flow control structure.

#### 8.4.1 Flow Measurement

An inline flow meter will be used to measure the flows into the Chico WPCP. The flow meter will be located upstream of the flow control structure within the WPCP. The flow meter will include isolation valves upstream and downstream of the flow meter and bypass piping so flow can be diverted around the flow meter for maintenance activities or removal of the flow meter.

The flow meter can be constructed in one of two configurations:

- The flow meter could be constructed so that it is above ground to facilitate access for operation and maintenance. Additionally, constructing the flow meter above ground eliminates future confined space entry concerns. The above ground flow meter design would include shade structures to shelter equipment from ultraviolet exposure and inclement weather. The drawback to an above ground structure is an increased vulnerability to accidental vandalism and damage.
- An alternate option is to construct the flow meter below grade in a vault. The primary benefit of designing the flow meter below grade is for security against potential vandalism or damage. However, since the flow meter will be fenced and located within the WPCP, damage is less of a concern and constructing the flow meter below grade creates unnecessary confined space entry requirements for operation personnel.

Figures 57 and 58 show typical, schematic above and below grade flow meter installations.

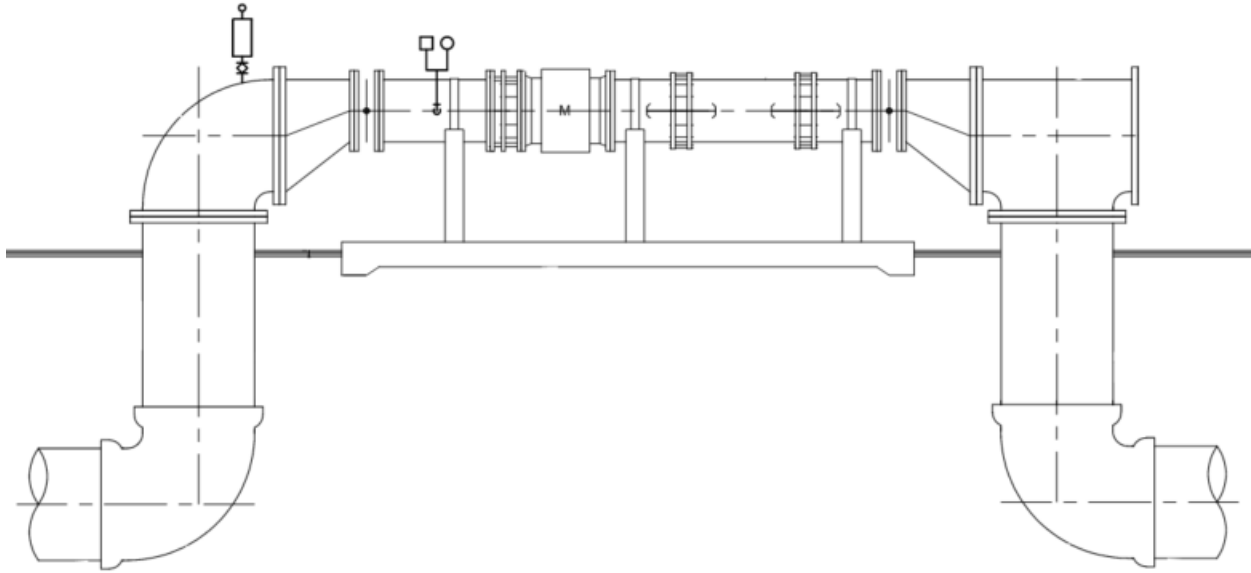


Figure 57 Typical Above Grade Flow Meter

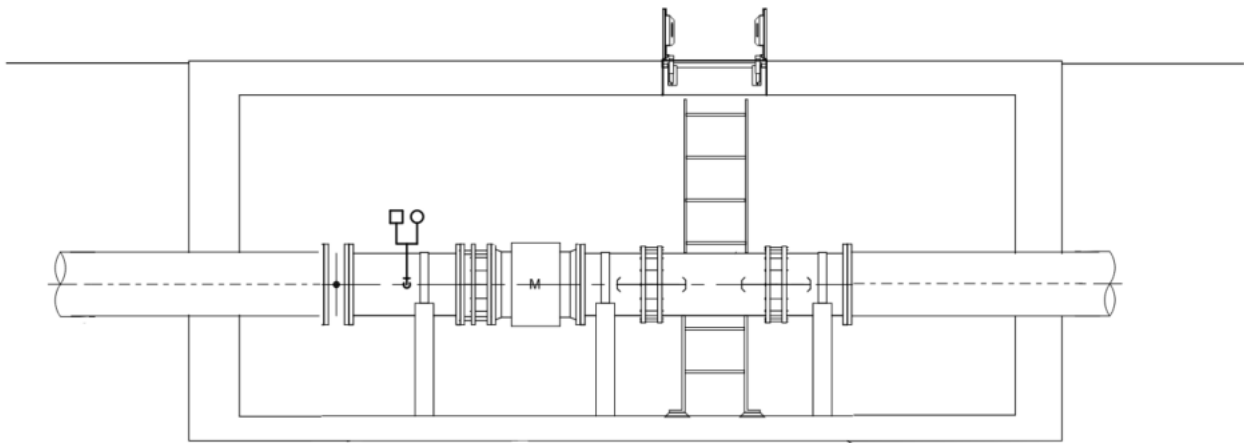


Figure 58 Typical Below Ground Flow Meter

Following discussions with the Town and City of Chico in July 2024, it is recommended that the flow meter is located above ground on a maintenance pad with shade structures, eliminating the need for confined space entry.

## 8.4.2 Flow Control Structure Alternatives

Alternative location and type of flow control valves were evaluated and are presented in this section.

### 8.4.2.1 Flow Control Valve Locations

Four alternatives were evaluated for locating the flow control valves. The four alternatives are as follows:

- Flow control structure located at the Chico WPCP.
- Intermediate flow control valve structures along the export pipeline alignment.



- Flow control valve located at the transition structure and pressure reducing valve located at the Chico WPCP.
- Flow control valve located at the transition structure and flow control and pressure reducing valves located at the Chico WPCP.

The first alternative considered is locating the flow control structure at the Chico WPCP. The benefits of this alternative are that flow in the gravity force main and level in the transition structure are controlled from a single location. Additionally, there is a reduced risk of draining the transition structure and entraining air in the pipeline. The drawback of this alternative is that at lower flows, the pressure is relatively high (approximately 200 psi). Additionally, the hydraulic latency time between the valves at the flow control structure and the transition structure is relatively high (estimated to be approximately 30 seconds) meaning that there will be a significant delay from when a valve actuates to when a change in the water level is observed. Figure 59 depicts the hydraulic profile of this layout.

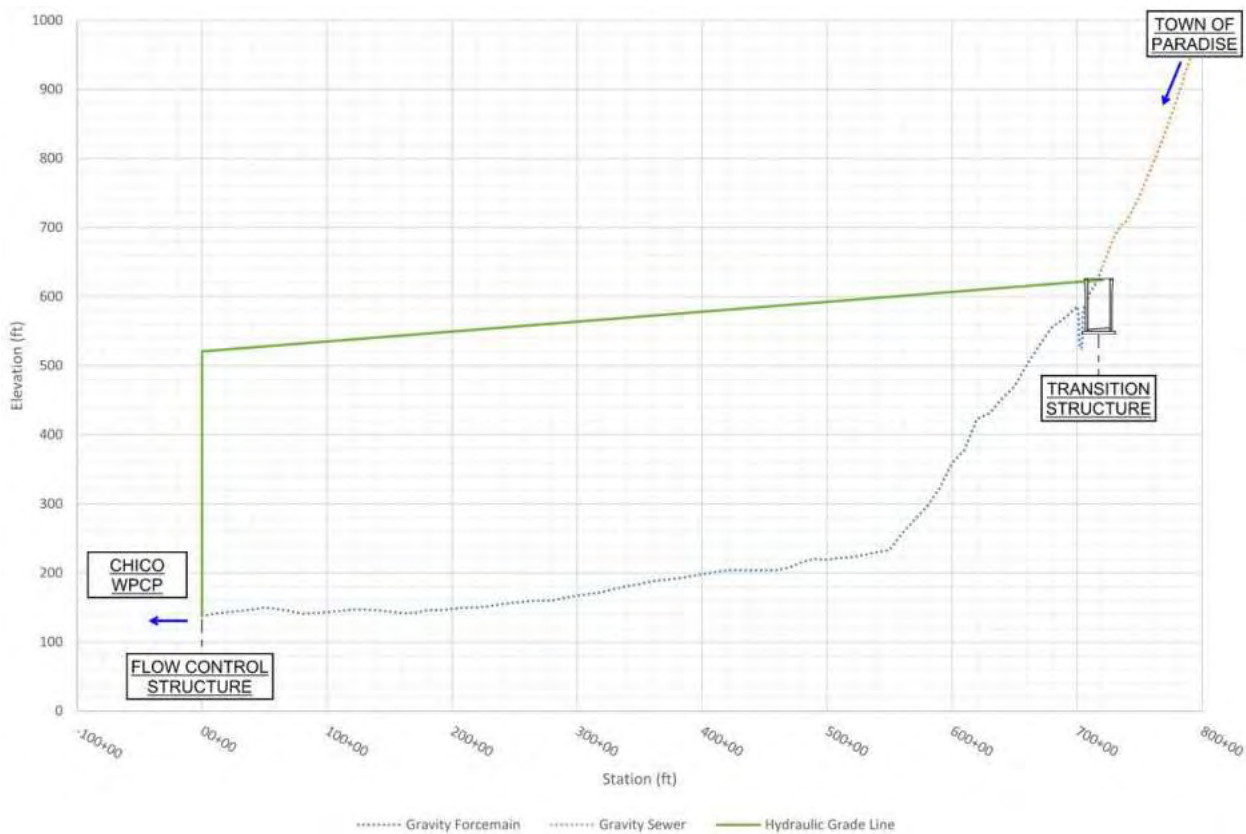


Figure 59 Alternative 1 Flow Control Valve at Chico WPCP

The second alternative is locating intermediate pressure reducing valves along the export pipeline alignment. This could be accomplished using one or two intermediate valve structures, spaced at specific intervals to reduce pressure. The benefit of this alternative is the working pressure in the gravity force main would be lower than Alternative 1. Additionally, the pipe would always flow full. The drawback of this alternative is that the multiple valves increase complexity and requires coordinated operation. Additionally, the valves may need to be located in remote, potentially difficult to access locations.

Figure 60 shows the proposed HGL for this alternative. This alternative is not recommended because of the increased challenge to access the intermediate valve locations and increased operational complexity.

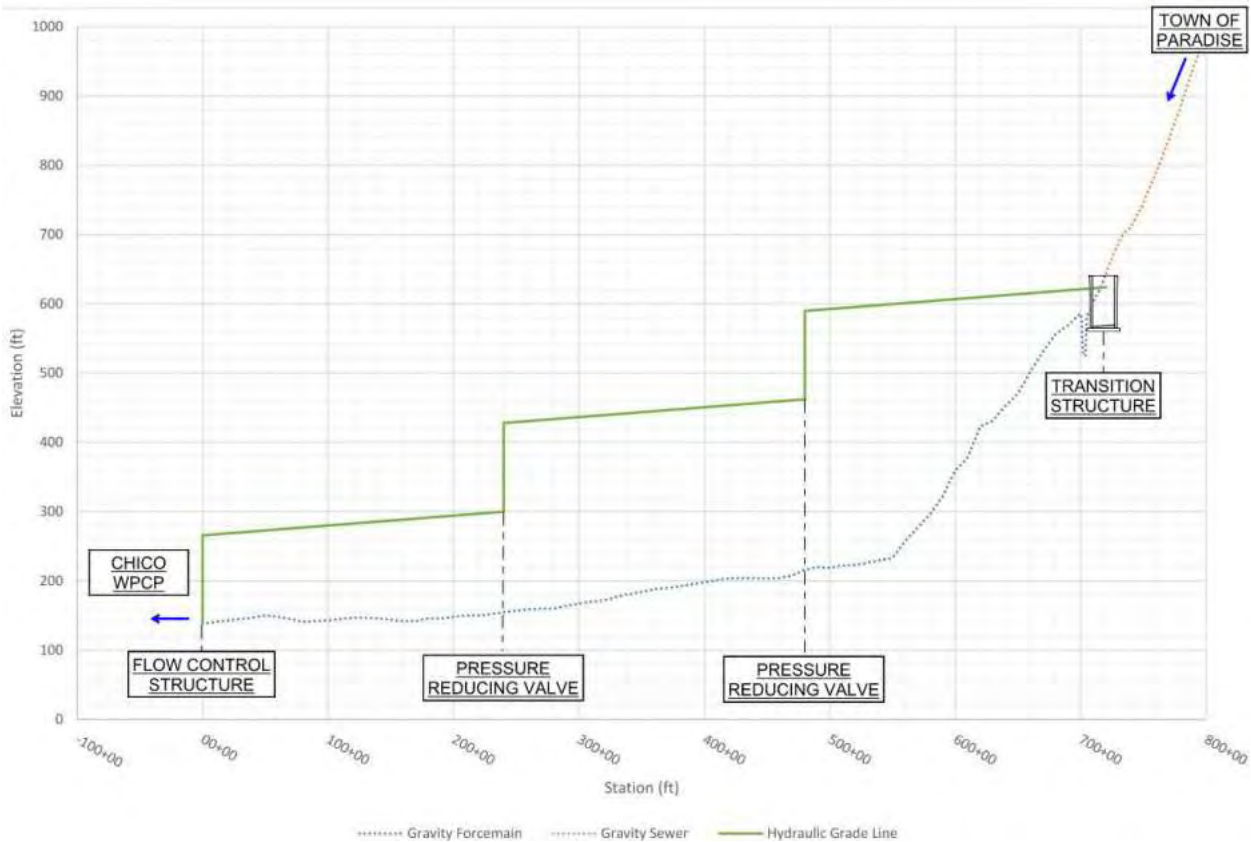


Figure 60 Alternative 2 Intermediate Pressure Reducing Valves

The third alternative considered is installing a flow control valve immediately downstream of the transition structure to control water surface of the transition structure and pressure reducing valves at the Chico WPCP. The benefit of this alternative is the reduced hydraulic response time to control the water surface in the transition structure. The drawback of this alternative is that during low flows there is a potential to restrict flow out of the transition structure such that the gravity force main entrains air and reduces conveyance capacity. Figure 61 illustrates the proposed HGL for this alternative. A hybrid of this alternative would be to locate intermediate pressure reducing valves along the export pipeline (similar to Alternative 2); however this hybrid approach is not recommended for the reasons listed in Alternative 2. This alternative is not recommended because it does not provide benefits compared to Alternative 1.

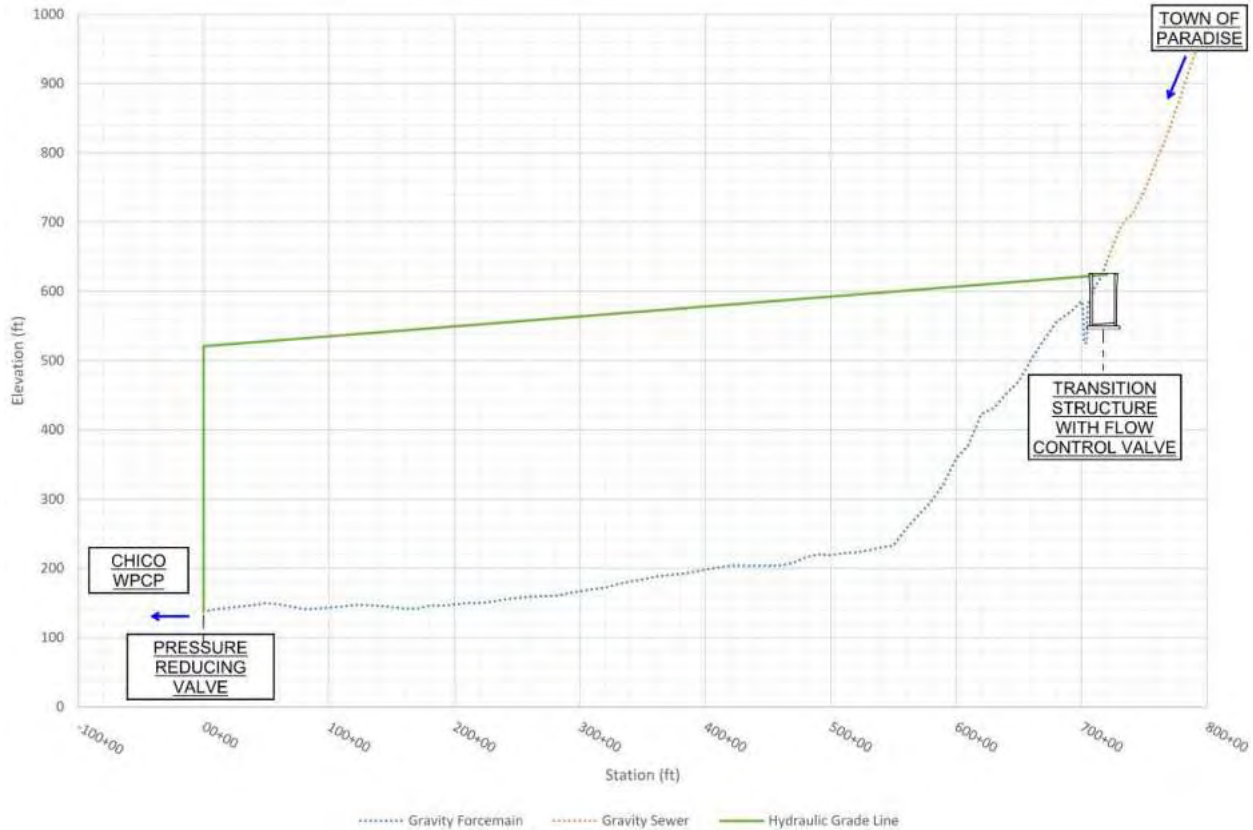


Figure 61 Alternative 3 Flow Control at Transition Structure

The fourth alternative considered is a hybrid of Alternative 1 and Alternative 3. A flow control valve would be installed immediately downstream of the transition structure in addition to pressure reducing and flow control valves at the WPCP. A control strategy would be developed to coordinate flow control between the two valve locations dependent on varying flow scenarios. The benefit of this configuration is the reduced hydraulic response time to control the water surface level in the transition structure while using flow control at the WPCP to avoid draining the export pipeline and entraining air. The main drawback is the relatively high discharge pressure (similar to Alternative 1 and Alternative 3). Figure 62 illustrates a proposed HGL for this alternative. Alternative 4 is the recommended configuration for flow and pressure control in the export pipeline.

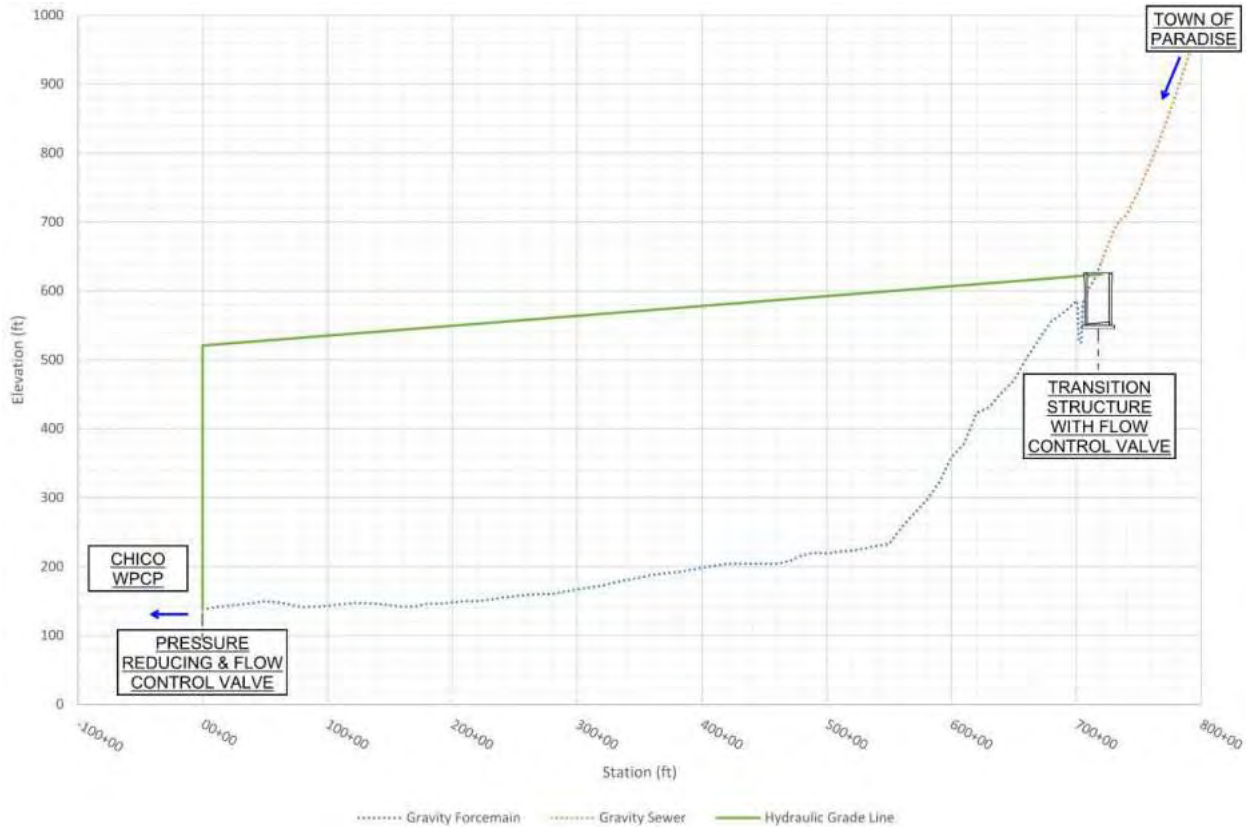


Figure 62 Alternative 4 Flow Control Valve at Transition Structure and Flow Control and Pressure Reducing Valve at WPCP

If Alternative 4 is selected for the export pipeline configuration, a control strategy will be developed to coordinate flow control between the valves at the transition structure and at the WPCP. At a minimum, two main operational modes would be utilized.

- Normal operation: For periods with higher or varying flows, the flow control valve at the transition structure would be used to regulate flow out of the transition structure and into the export pipeline while the valve at the WPCP will be used to reduce and control pressure entering the WPCP. Using the valve at the transition structure to control flow will permit a shorter response time and increase the valve's ability to maintain a level set point in the transition structure.
- Alternate operation: For periods of lower flows, the control valve at the transition structure will open and the valve at the WPCP will be used to control flow and pressure entering the WPCP. The valve will operate in a fill-drain mode where the valve will operate on a predetermined cycle to allow the transition structure to fill (to a level) and then drain.

Table 26 provides a summary of the four alternatives.

Table 26 Flow Control Structure Alternatives Summary

Alternative 1	Alternative 2	Alternative 3	Alternative 4
<ul style="list-style-type: none"> <li>▪ Benefits:                             <ul style="list-style-type: none"> <li>» Single location, simple to operate and maintain.</li> <li>» Export pipeline is always flowing full.</li> </ul> </li> <li>▪ Drawbacks:                             <ul style="list-style-type: none"> <li>» Relatively high pressure (especially at lower flows).</li> <li>» Increased hydraulic response time to control level in the transition structure.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Benefits:                             <ul style="list-style-type: none"> <li>» Lower pressure in export pipeline.</li> <li>» Export pipeline is always flowing full.</li> </ul> </li> <li>▪ Drawbacks:                             <ul style="list-style-type: none"> <li>» Increased complexity with coordinated operation.</li> <li>» Remote location may make maintenance more difficult.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Benefits:                             <ul style="list-style-type: none"> <li>» Reduced hydraulic response time to control the water surface level in the transition structure.</li> </ul> </li> <li>▪ Drawbacks:                             <ul style="list-style-type: none"> <li>» Relatively high pressure (especially at lower flows).</li> <li>» At low flows, the control valve at the transition structure may close and drain the pipeline, creating hydraulic instability and reducing conveyance.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Benefits:                             <ul style="list-style-type: none"> <li>» Reduced hydraulic response time to control the water surface level in the transition structure.</li> <li>» Use of the flow control valve at the WPCP (in low flow periods) to avoid the valve at the transition structure closing and reducing hydraulic capacity.</li> </ul> </li> <li>▪ Drawbacks:                             <ul style="list-style-type: none"> <li>» Relatively higher discharge pressure (especially at lower flows).</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>▪ Recommended Alternative:                             <ul style="list-style-type: none"> <li>» Alternative 4 - Flow Control Structure (Pressure Reducing and Flow Control Valve) at WPCP and Flow Control Valve at the Transition Structure.</li> </ul> </li> </ul>			

#### 8.4.2.2 Alternative Pipeline Configuration

An alternative pipeline configuration option would lower the proposed transition structure location to reduce the static head and discharge pressure required at the WPCP. As discussed in Section 8.3, a lower transition structure location was initially proposed in HDR’s *Technical Memorandum #8 – Export Pipeline Analysis*. The Project Team’s initial analysis determined that there was not sufficient static head to deliver flows to the flow control structure, especially at higher flows.

For a lower transition structure location to be feasible, a larger diameter export pipeline would be required to ensure that the head loss at higher flows did not exceed the available static pressure in the export pipeline gravity forcemain system. The lower transition structure location would be advantageous at lower flows, as less static head (backpressure) at the WPCP would be required to ensure that initial flows are delivered to Chico. If the discharge pressure requirements at the WPCP are reduced, then a single valve system by be feasible (such as a single sewer specific Ross valve) as the pressure differential pressure across the valve and related cavitation risk is also reduced.

#### 8.4.2.3 Flow Control Valves

Traditional level control, flow control, and pressure reducing valves are not feasible for wastewater due to solids and other debris that will clog the valves. Additionally, due to the relatively high-pressure in the gravity force main the valve will need to mitigate the potential for cavitation. Due to the criticality of these valves in operating the system, a redundant set of valves is recommended.

Evaluating all known pressure reducing and flow control valve manufacturers revealed there are limited wastewater valves available for this application. From discussion with vendors, potential valves suitable for the Project are discussed further below and include the following:

- Submerged discharge valves.
- Pinch valves.
- Wastewater pressure reducing valves.

These valves are discussed in detail in subsequent sections. A recommended valve is provided in Section 8.4.2.7.

Valves that were evaluated and found not to be applicable to the project include:

- Hydraulic Flow Control Valve: This style of valve is not suitable for wastewater applications due to the internal design of the valve and runs of small diameter tubing on both the upstream and downstream sides of the valve to reduce pressure. Typically, these valves are limited to water systems because the solids in wastewater will clog the sensing lines in the valve.
- Ball Valve: Another style of valve not typically used in wastewater applications because of the configuration of the ball inside the valve that would leave the valve prone to clogging.
- V-Port Ball Valve: A style of ball valve with a "v" shaped ball or seat that allows for better control of flow across the entire operating range. Similar to standard ball valves, the ball inside the valve is prone to clogging and therefore these are not typically used in wastewater applications.
- Plug Valve: A style of valve that uses a cylindrical or conically tapered plug that is rotated inside of the valve body. A plug valve's full-port design that allows for unrestricted flow of media, making them a feasible option for transporting slurries like sewage. However, installation of a standard plug valve for flow control is not applicable for this project due to the relatively high pressure and cavitation risk.
- Cone Valve: A cone valve is a type of severe condition, full-port, conical plug valve with circular flowways through both the body and plug in the fully open position. Valves consist of a tapered cone/plug that fits precisely into a mating body. Cone valves use metal seats between the cone and the body to mitigate erosion and abrasions failures common in polymer and elastomer seals, which are often found in other types of valves. The metal seats also allow the valve to be installed in more severe applications where velocity is high and continuous throttling is necessary. Cone valves can be actuated using electric, hydraulic, pneumatic or manual (hand wheel actuators). While the valve was evaluated it is not recommended at this time.

In addition to valves, using a progressive cavity pump in reverse to control the flow and reduce the pressure was evaluated. During the evaluation of this option, the design team could not find an example of a similar installation, so it was determined that this alternative is not applicable to the Project and therefore is not recommended.

Another alternative evaluated was a submerged discharge downstream of the flow control valve. The discharge would be submerged into a long rectangular basin to dissipate energy from the high static head. The Project team evaluated the hydraulics using computational fluid dynamics modeling to size the basin and optimize the dimensions. The evaluation showed that the pipeline would drain, causing air entrainment and reduce conveyance capacity. Therefore, this alternative is not recommended.

#### 8.4.2.4 Wastewater Pressure Reducing Valves

A wastewater pressure reducing valve is a globe style electrically actuated throttling valve that can be installed in wastewater systems (see Figure 63). Manufactures were identified and consulted with for the Project. Globe valves are cylindrical or spherical shaped valves that usually has two halves, separated by an internal baffle. An internal piston is actuated to control (or throttle flow) through the valve, in this case by an electric actuator. Coordination with the manufacturer identified the valves would be sized at approximately 12 inches.

In this installation a series of three valves would be installed in series to reduce pressure from the export pipeline to near atmosphere. The series of valves would “step” the pressure down to mitigate cavitation risk. The valves would be actuated based on input from the level instruments located upstream in the transition structure.

So that maintenance can be performed, a redundant train of valves would be installed in parallel. The parallel valves can also be used if the primary valves become inoperable. To account for varying flows, a redundant series of smaller valves would also be installed in parallel. The smaller diameter valves would be better sized to handle lower flows during the initial phases of the Project. As flow increases operations personnel would transition the flow to the larger diameter valves.

After sewer flows pass through the valves, it will be relatively lower pressure and close to atmospheric pressure. Sewer flows would enter a discharge structure similar to a small dry well or manhole structure with a skid-mounted activated carbon odor control system as described previously in Section 7.3.

There are two main drawbacks with this alternative. First, while the manufacturer markets their valves as being used in wastewater systems and has several documented successful installations, typically globe style valves are not used. Due to the internal baffling and piston used to actuate flow, there are risks of solids catching or building up on the inside of the valve, which could cause maintenance issues. The second concern is that the valve may be prone to cavitation which can cause long term issues that could affect the valve’s ability to throttle flow and operation of the system. Another drawback is the manufacture does not have an existing installation where three of the wastewater specific valves are installed in series.

Wastewater specific pressure reducing valves are available and manufactured within the United States.

#### 8.4.2.5 Submerged Discharge Valve

A submerged discharge valve is a style of sleeve valve, also known as a vertical sleeve type valve, where the valve is designed so that the discharge occurs under water into a basin (see Figure 64). A manufacturer was identified and consulted with for the Project. The valve is mounted vertically to reduce space and noise produced. The submerged discharge is also beneficial in wastewater applications as it eliminates the dissipation of wastewater that would be present in a fixed cone valve, reducing odors. Submerged discharge valves are available with metal seats and are designed to have a relatively high cavitation index so that cavitation and the resulting damage is not a concern. They are typically found in high flow or high-pressure applications and therefore may be suitable for the Project’s conditions.

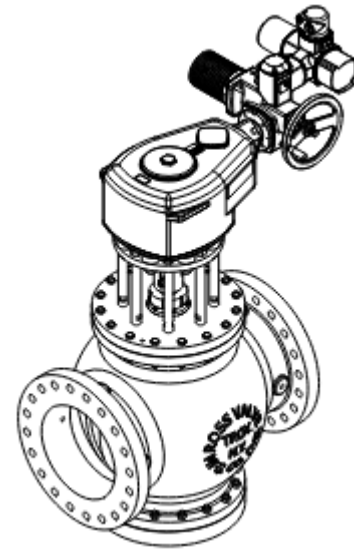


Figure 63 Wastewater Pressure Reducing Valves

Due to the vertical orientation of the valve when installed, a deep basin is required to dissipate energy. Wastewater would flow from the basin over a weir into Chico's sewer influent junction box. Preliminary sizing from the manufacturer determined that an 8-inch valve would be required, and the discharge chamber would be approximately 4 feet by 4 feet by 7 feet deep. The discharge chamber will require confined space entry but routine access is not anticipated. Parallel valves and discharge chambers will be installed so that maintenance can be performed.

The valve can be installed with an electric actuator that would open and control the valve based on the level in the transition structure.

#### 8.4.2.6 Pinch Valve

Pinch valves are a type of valve that may be feasible for use at the flow control structure (see Figure 65). A manufacturer was identified and consulted with for the Project. Typically used in mining or other industries where slurries or other types of mixed solids where the flow needs to be controlled. A pinch valve is comprised of a body and internal rubber sleeve that when actuated, is pushed closed, stopping flow. Pinch valves can be actuated mechanically using a manual or electric actuator or using hydraulics or pneumatic pressure to close the valve.

Compared to conventional valves, pinch valves have very few components or mechanical parts that may wear out and fail. Due to the design of the internal sleeve, they are not prone to clogging or dead spots where solid material could build up and created a maintenance issue. They are also designed with a relatively high cavitation index and therefore cavitation is not a concern. Pinch valves would need to be installed in a similar configuration as globe style flow control valves, where three valves are installed in series to gradually reduce pressure at the flow control structure.

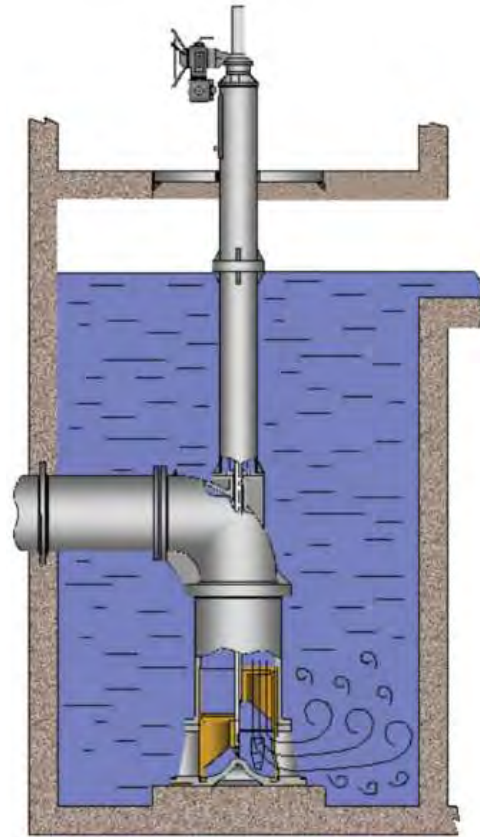


Figure 64 Submerged Discharge Valves



Figure 65 Pinch Valve



The internal sleeve of the pinch valve can be manufactured with different profiles to mitigate the effects of cavitation or optimize the valve’s ability to control flow coming into the WPCP.

Pinch valves are manufactured and available in the United States.

For most, if not all alternatives the flow measurement and flow control structures would consist of a series of equipment pads with shade and weather structures to protect equipment and operators. Flow enters the plant from Chico River Road, through the magnetic flow meter and then through the flow control structure. Flows would discharge from the flow control structure and then enter the City’s Junction Box A and the City’s headworks.

### 8.4.2.7 Flow Control Valve Summary and Recommendations

Table 27 provides an overview of the three pressure reducing/flow control valves that were considered for the project and gives the recommended option.

Table 27 Flow Control Valve Summary and Recommendation

Wastewater Pressure Reducing Valve	Submerged Discharge Valve	Pinch Valve
<ul style="list-style-type: none"> <li>▪ Globe style electrically actuated valve suitable for wastewater applications.                             <ul style="list-style-type: none"> <li>» When the valve is actuated, the piston adjusts to modulate flow.</li> <li>» At lower flows, there is an increased risk of blockages.</li> </ul> </li> <li>▪ The manufacturer recommends that three valves are installed in series to reduce pressure sequentially.</li> <li>▪ Lower cavitation index, therefore moderate cavitation is anticipated.</li> <li>▪ Manufacture has documented wastewater installations, however:                             <ul style="list-style-type: none"> <li>» They are generally for lower pressure applications.</li> <li>» They do not have a documented installation with three valves in series.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Vertical sleeve type valve suitable for wastewater applications.                             <ul style="list-style-type: none"> <li>» When the valve is actuated, a piston adjusts the inner sleeve to modulate flow.</li> <li>» Discharge occurs under water into a basin.</li> </ul> </li> <li>▪ Single valve will reduce pressure and control flow.</li> <li>▪ Valve style is designed for high pressure and flow applications; therefore cavitation is not anticipated.</li> <li>▪ Manufacturer has several documented installations with larger valves than what is anticipated for the project.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Valve is a rubber sleeve inside of a metal body, suitable for wastewater applications.                             <ul style="list-style-type: none"> <li>» When actuated the pinch bar adjusts the size of sleeve to modulate flow.</li> <li>» There are no internal components prone to clogging.</li> <li>» The internal sleeve size can be adjusted to accommodate future flow increases.</li> </ul> </li> <li>▪ Three valves in series would be required to step down pressure and control flow.</li> <li>▪ Relatively high cavitation index, therefore cavitation is not anticipated.</li> <li>▪ The manufacturer has a documented wastewater application similar to the Project.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Recommended Alternative:                             <ul style="list-style-type: none"> <li>» Submerged discharge valve at the WPCP and pinch valves (or other wastewater specific control valve) at the transition structure.</li> </ul> </li> </ul>		

### 8.4.2.8 Emergency Discharge

An emergency bypass (of the flow control structure) is a consideration for any of the alternatives for use in the event of valve failure or blockage. Using a wastewater specific pressure relief valve, flow from the Town would be diverted in the event of an emergency and discharged to Chico’s existing northeast basin as this basin is already configured to drain to the WPCP headworks. The basin is estimated to have an existing capacity of approximately 7.5 million gallons, which is sufficient for both the Town and City of

Chico's needs. Energy dissipation will be required due to the potential pressure differential. Other improvements such as a concrete or shotcrete lined channel to mitigate pond deterioration due to an emergency discharge will also likely be required.

Additionally, the City of Chico has been notified by the RWQCB that if they intend to use the ponds for their current storage or treatment process they will need to be lined. Refer to Section 4.1.3.2 for additional discussion regarding the City of Chico's Northeast Basin.

#### **8.4.2.9 Power Supply and Communication**

Power will be available from the PG&E distribution along Chico River Road. It will be brought into the WPCP to actuate valves.

SCADA control will be provided between the transition structure and the flow control vault using fiber optic conduit that will run parallel to and in a joint trench with the export pipeline to reduce latency in communication. Flow control valve status and pressure data will be sent to the City of Chico SCADA system for informational purposes only. The City of Chico will not have SCADA control capabilities over the control vault.

### **8.5 Other Permit Requirements**

This section discusses the other permits that will be required to install the export pipeline from the Town to Chico's WPCP.

#### **8.5.1 United States Army Corps of Engineers Section 408 Permit**

USACE requires a Section 408 permit for any work within proximity to USACE levees and waterways. Along the Project's alignment, Butte Creek and Little Chico Creek are all USACE waterways. A Section 408 permit is being obtained for the geotechnical investigation work at these locations that will occur early in design. A separate Section 408 permit will need to be obtained for the future construction work crossing USACE levees.

#### **8.5.2 Butte County Encroachment Permit**

An encroachment permit is required any time work is performed in the County ROW and includes the installation of pipelines, appurtenances, or structures of any kind. This affects significant portions of the export pipeline alignment between the Town and Chico's WPCP. Typically, the County will make two inspections. One is made prior to the start of the work to verify the location of the encroachment, and then a final inspection after the completion of work.

Once the encroachment permit is issued, the work is to be completed within one year and then encroachment can remain in place for the life of the encroachment.

### 8.5.2.1 Butte County Requirements

Initial discussions with the County have indicated the following may be required:

- Any trenches in the travel lane shall be located in the middle of the lane. Trenches shall not be located in the wheel path.
- Paving restoration will be required for the lane impacted. Slurry seal shall be applied to both lanes to seal the joint.
- Manholes located outside of the roadway shall be flush-mounted. Manholes located in the roadway shall be traffic rated.
- Any appurtenances located within 12 feet from the fog line and that have the potential to “break-away” (for example PVC piping) need to be protected by guardrail. Bollards are not considered sufficient for protection.

### 8.5.3 California Department of Transportation

A Caltrans encroachment permit is required for all proposed activities related to the placement of encroachments (pipeline, appurtenances, or other structures) within, under, or over the State highway ROW. A Caltrans encroachment permit will be required for the Highway 99 trenchless crossing.

Caltrans generally requires the following, at a minimum, for the approval of an encroachment permit:

- Establishment of a survey-grid line and existing elevation points over the centerline of the trenchless installation and provide monitoring as outlined in a detailed monitoring plan.
- Sealed design plans, specifications, calculations, and other details by a registered professional engineer with experiences in trenchless installations.
- Geotechnical investigation and analysis by a licensed geotechnical engineer.
- Launching and receiving pits must be located outside of the access-controlled ROW. Additionally, pits must be shored in accordance with Cal-OSHA requirements.

### 8.5.4 California Occupational Safety and Health Administration Mining and Tunneling (M&T) Unit Classification

The California OSHA M&T Unit is required to be notified in the following scenarios:

Owners of projects proposing tunneling, underground mining, or pipe-jacking operations (where a pipe or casing 30-inches and larger) must obtain a Classification of environmental hazards from the M&T Unit prior to bidding the project.

Operators and contractors must report plans to start tunneling, underground mining, or pipe jacking operations (30 inches and larger) prior to beginning the project. The M&T unit will schedule a pre-job safety conference.

This would affect the export pipeline in areas where a shaft-to-shaft construction method is used, and the casing pipe being installed is 30 inches or larger. For some technologies, such as microtunnel, 30-inch is the smallest available diameter.

### 8.5.5 City of Chico Encroachment Permit

A City of Chico encroachment permit will be required for any portion of the export pipeline alignment within a City of Chico ROW or public service easement. The encroachment permit application should be submitted to the City of Chico and should include a traffic control plan.

A City of Chico encroachment permit will be required for a section of the export pipeline alignment behind the CHP facility before it crosses Highway 99.

### 8.5.6 Post-Construction Storm Water Report

The Water Board regulates storm water discharges from MS4. While the export pump station transition structure, and control valve sites are all located within the County. The control valve site is located within City of Chico owned property. While the County and the City of Chico each have their own post-construction stormwater plan guidance documents, they are very similar to the Town's. A single post-construction report will be prepared for the entire project including both the collection system and the export pipeline facilities that will be provided to the County and City of Chico for their review of areas within their jurisdiction.

### 8.5.7 Union Pacific Railroad

UPRR will require encroachment permits in areas where the export pipeline enters an existing UPRR ROW. UPRR considers an encroachment where a pipeline enters their ROW from one side and exits on the other a crossing. Where the pipeline enters the ROW and either does not leave the ROW or follows along the ROW for some distance is considered an encroachment.

Both crossing and encroachment permits are applied for online and will be reviewed by UPRR engineers for compliance with their specifications.

Generally, UPRR requires the following information to review and approve an encroachment permit:

- Submittal of UPRR's Exhibit A Document. Exhibit A is a standardized figure conveys dimensional information (such as length, depth, and setback of the crossing) to UPRR.
- Plans and specifications that demonstrate that the pipeline will be installed in accordance with UPRR specifications including length and depth of casing, location of jacking pits, and shut-off valves.
- An approved shoring plan.
- Track and ground monitoring in accordance with UPRR's guidelines. UPRR requires that a plan is submitted that provides a procedures to limit permanent track deflection, monitor deflection, and a contingency plan for an event where deflection occurs.

UPRR also requires that an approved third-party flagging service is contracted for the duration of the installation if work is within UPRR ROW and within 25 feet of a railroad track. RailPros is the approved provider in California. UPRR permit conditions will be confirmed during final design.

#### 8.5.7.1 Longitudinal Agreement

A UPRR longitudinal encroachment permit will be required where the alignment exists Skyway before crossing Butte Creek (APN 040-020-139-000).

### 8.5.7.2 Crossing Agreement

A crossing permit will be required where the export pipeline crosses the existing UPRR ROW along Hegan Lane. The shafts for the trenchless construction will be located outside of the ROW to limit third party flagging requirements.

## SECTION 9 STRATEGIES FOR LATERAL CONNECTIONS

This section summarizes the strategies for connecting the private resident, commercial businesses and industrial user’s laterals to the sewer collection system.

### 9.1 Laterals Connections Overview

There are 1,482 parcels within the SSA. This includes approximately 509 parcels occupied with a building and 927 unoccupied parcels. “Other” parcels are being used for camping trailers, sheds or temporary use. The Clark Road alternative would add 114 additional parcels, which would increase the total number of parcels within the SSA to 1,596..

Table 28 includes a breakdown of the occupied parcels within the SSA.

Table 28 Summary of Parcel Occupancy within the SSA

Parcel Types		SSA Number of parcels	Clark Road Extension Number of Parcels <sup>(2)</sup>	SSA Number of Existing Buildings	Clark Road Extension Number of Existing Building <sup>(3)</sup>
Occupied	Single-Family Residential	222	34	218	34
	Multi-Family Residential	35	3	34	3
	Commercial	285	1	244	1
	Other	13	N/A	4	0
Unoccupied		927	84	9	77
<b>Total # of Parcels</b>		<b>1482</b>	<b>114</b>	<b>509</b>	<b>114</b>

Notes:

- (1) October 2023 Windshield Survey (HDR).
- (2) Based on Town Zoning map.
- (3) Based on Google Earth aerial imagery dated May 21, 2023.

The Town includes parcels that are occupied by a structure and unoccupied. The strategy for connecting the laterals differs for each case. This *BODR* discusses the two primary scenarios for connecting laterals to the sewer collection system, which include:

- **Scenario 1:** Connection to Developed Lots.
- **Scenario 2:** Connection to Undeveloped Lots.

## 9.2 Lateral Connections to Developed Lots

The lateral connections to developed lots includes installing a sewer lateral from the sewer system pipeline to the existing lateral and demolition of the existing septic tank. We recommend intercepting the existing lateral near the existing septic tank as shown in Figure 66. Two cleanouts would be installed: one at the ROW line and one near the connection to the existing lateral. The Town should consider how much input the property owner is allowed to have on the lateral alignment. In general, the lateral should connect to the sewer main on the low end of the property line adjacent to the street, and should not require lowering of the sewer system.

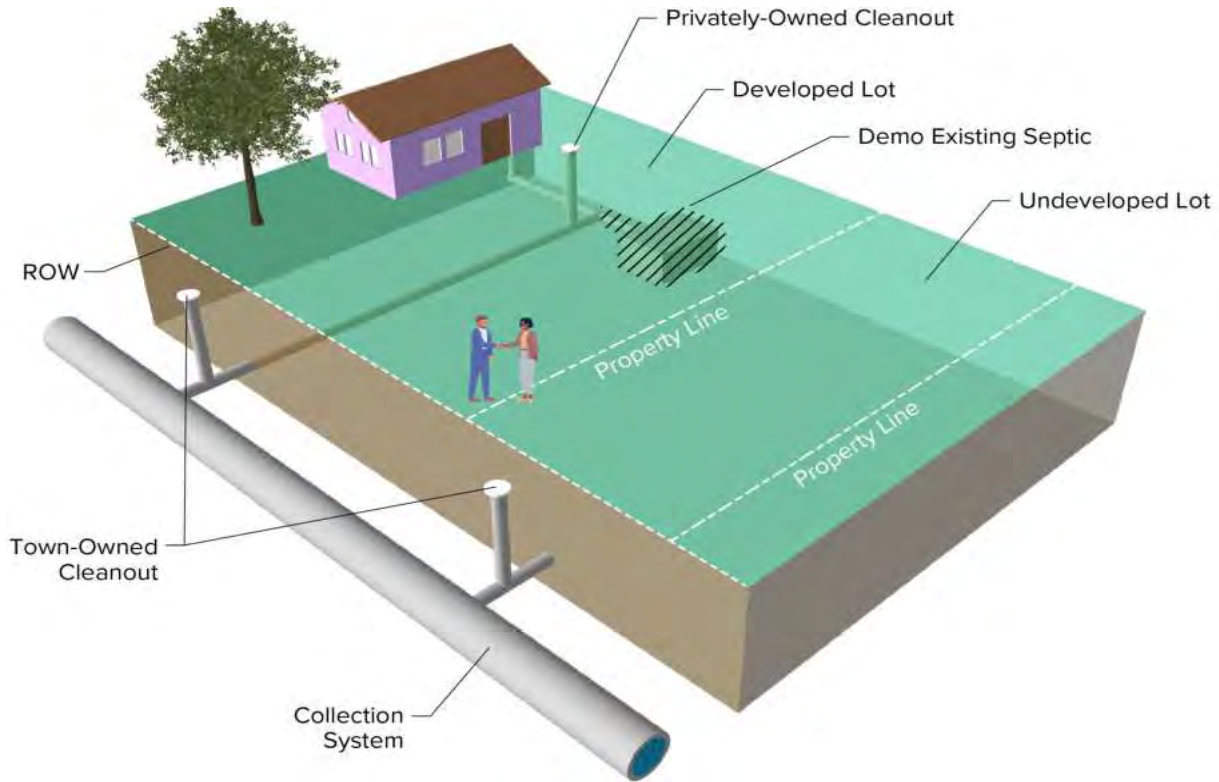


Figure 66 Lateral Connection to Developed and Undeveloped Lots

The septic tank abandonment would follow Town abandonment requirements, which include:

- Locating all un-used septic tanks on the property.
- Pumping out the septic tank(s) and providing the Town with a receipt.
- Breaking open the bottom of the septic tank(s) and taking pictures.
- Installing solid fill in the tank or removing the tank(s).
  - » Concrete septic tanks: pumped and filled with 2-sac slurry. If abandoning with dirt or pea gravel, must pump and break holes into the bottom of the tank prior to filling.
  - » Plastic or fiberglass septic tanks: may be removed and remaining hole filled with dirt or they can be crushed and buried in place.
  - » Steel septic tanks are either removed or crushed and buried in place.
- Provide documentation of the location of the abandoned tank(s).

## 9.3 Lateral Connections to Undeveloped Lots

### 9.3.1 Single Family Undeveloped Parcels

Sewer laterals will be stubbed at a cleanout that is located at the ROW line for undeveloped parcels as shown in Figure 66. Cleanouts will be capped with a sewer popper relief valve that will prevent stormwater inflow. The ROW cleanouts will be located at the lowest surface elevation on the parcel and will be installed at a minimum depth of 4 feet. A maximum cleanout depth will be set following the topographic survey as the depth of the cleanout will be driven by the topography and depth of the sewer pipeline at that location. A 12-foot maximum depth is recommended since excavation beyond that depth requires larger equipment not suitable for on-lot work. When the property gets developed, the developer will be responsible for designing the lateral connection to the cleanout and determining whether a private grinder pump station will be required to make the connection to the sewer main.

### 9.3.2 Multi-Family or Commercial/Industrial Undeveloped Parcels

A manhole will be installed near the property line of the undeveloped parcel with stubbed out pipe that can be used by private developments to connect to in the future. The size of the sewer stub out will be based on the zoning information provided by the Town and the approximate flows, but will be a 6-inch minimum. The depth of the sewer pipe stub-out will have 4 feet of minimum cover. However, the final depth of the stub out will be dependent on the depths of the downstream sewer pipeline and will vary throughout Town. No sewer mains will be installed within the undeveloped multi-family parcels. The developers shall be responsible for designing and installing a sewer pipeline that connects to the stub-out.

## 9.4 Lateral Connection Strategies

### 9.4.1 Introduction

The Design-Builder discussed two alternatives for installing the laterals on private property with the Town and the OA during Lateral Connection Strategy Workshop.

- Alternative 1: The Design-Builder would design and install the connection from the collection system to the existing lateral near the septic tank.
- Alternative 2: The private property owner would be responsible for installing the new lateral within the private property and making the connection to the existing lateral.

For both alternatives, the septic tank records and topographic surveying will be used for the design of the sewer pipeline and laterals.

### 9.4.2 Alternative 1: Design-Builder Designs and Installs Lateral

Alternative 1 is to have the Design-Builder design and construct all laterals from the sewer pipeline to the existing lateral. The recommended approach used for this option is as follows:

- Town or HDR acquire right-of-entry permits for all developed parcels within the SSA that will connect to the sewer main.

- Review septic tank records provided by Town.
  - » If septic tank records do not indicate the location of the existing septic tank and surveyor was not able to locate during topographic survey, reach out to property owner.
- Survey the existing lateral cleanout or the top of the septic tank. If neither are visible, survey the structure’s finished floor elevation.
- Using the topographic survey, estimate the depth and location of the existing lateral.
- During construction, the lateral will be installed per the plans. However, field fitting may be necessary if landscape features are present within the private property that were not shown in the plans. In general, the laterals will be installed as direct as possible to the location of the lateral near the septic tank.
- Septic tank abandonment and permits will be completed by the property owner with expedited review by the Town.
- Following construction, landscaping would be resorted to the existing conditions.

Table 29 lists out the advantages and disadvantages for Alternative 1: Design-Builder designs and installs entire lateral to pipeline connection.

Table 29 [Alternative 1: Design-Builder Designs and Installs Laterals Advantages and Disadvantages](#)

Advantages	Disadvantages
The Town would pay for the connections which means more parcels would opt into the collection system program. This would increase initial flows and velocities throughout the system.	Connection will add cost to the Project which with more than 500 parcels can be significant.
The Town would not be required to have inspectors inspecting the lateral construction.	Will require coordination with property owners to be granted right-of-entry
Town controls the time and location of the connection through the Contractor. This is a significant advantage during startup of the system.	Connections will be made on what is the most constructable. Property owners may attempt to request different alignments within private property. This could occur if construction happens near a landscaped area.

### 9.4.3 Alternative 2: Property Owners Installs Lateral

Alternative 2 is to have the Design-Builder design and install the laterals up to the cleanout at the ROW line. The property owner would then hire a Contractor to install the new lateral within their private property to the connection with the existing lateral.

The Town is considering incentives such as subsidies to assist property owners with the cost for the construction work within private property. The recommended approach for this alternative is as follows:

- Review septic tank records provided by the Town.
  - » If septic tank records do not indicate the location of the existing septic tank reach out to property owner.
- Survey the existing lateral cleanout or the top of the septic tank. If neither are visible, survey the structure’s finished floor elevation.
- Using the topographic survey, estimate the depth and location of the existing lateral.



- During construction, the lateral and clean-out will be installed to the edge of the ROW line. The cleanout will be placed at a location which would give the homeowner the most direct alignment to the septic tank. The cleanouts will be placed at a depth that allows a minimum of 2 percent slope from the existing lateral to the new cleanout.
- Property owners would be required to hire a Contractor to make the connection from the existing lateral to the new cleanout. Inspection by the Town is recommended for this work.

Table 30 lists out the advantages and disadvantages for Option 2: Property Owner Installs Lateral.

Table 30 **Alternative 2: Property Owner Installs Laterals**

Advantages	Disadvantages
Less expensive for the Town and less coordination with parcel owners.	It will be more difficult to have parcels within the SSA opt into the sewer program if they have to pay and hire the Contractor to tie in to the sewer main.
The homeowner gets to choose when they get connected. They can also decide on how to best route their private lateral.	It is recommended the Town have someone inspect every connection to the cleanout to verify it meets the standards.
	It is more difficult to control the timing and location of the connections to the system, and can lead to major hand holding during startup. Connection delays can impact flows.

#### 9.4.4 Recommendations

Based on discussions with the Town, the Town prefers that the Design-Builder design and install laterals for occupied and unoccupied parcels. The primary advantage to having the Design-Builder install the laterals is that it's likely that more developments will opt into the centralized sewer system. This will translate into higher initial flows which will be beneficial for the sewer system while the vacant parcels in the SSA build out. In addition, the private laterals would be constructed to meet the standards developed in this Project. We recommend that the Town reach out to the property owners to discuss the lateral connection strategy and requirements for private property restoration.

### 9.5 Connections to Multi-Family and Commercial Developments

There are 35 occupied multi-family developments and 285 occupied commercial developments. Many of the developments have several structures with various laterals which flow to common septic tanks located within the development. The lateral connection strategy will be to intercept the laterals closest to the septic tank. The connections to the laterals will be sized for the estimated flow at each parcel which may range from 6- to 8-inch diameter pipes. The Town's septic tank records will be used to understand the location and design of the common septic tanks. If this information is not available, coordination with the property owners will be required. In addition, the Town has several developed mobile home parks. These mobile home parks do not follow Town regulations but follow the California Housing and Community Development (HCD) standards. Coordination with HCD will be required to review the septic tank plans within mobile home parks. The Town has the option to perform the connection to the laterals, or to stop at the property line for these private developments as described above.

## 9.6 Lateral Connection Standards

Sewer laterals and cleanouts will be installed at every parcel within the SSA. For developed parcels, the lateral will run from the new sewer and connect to the existing private lateral on the property. For undeveloped parcels, a lateral from the new sewer to the property line will be built and capped to allow for future connection.

### 9.6.1.1 Lateral to Sewer Connection

Wyes will be used for the connection between the sewer pipeline and lateral. The sewer laterals will be connected to the sewer pipe at the 1 or 11 o'clock positions. From the sewer pipeline connection, a 22.5- or 45-degree vertical bend will be used to bring the lateral up to the grade required to maintain a minimum 2 percent slope as shown in Figure 67.

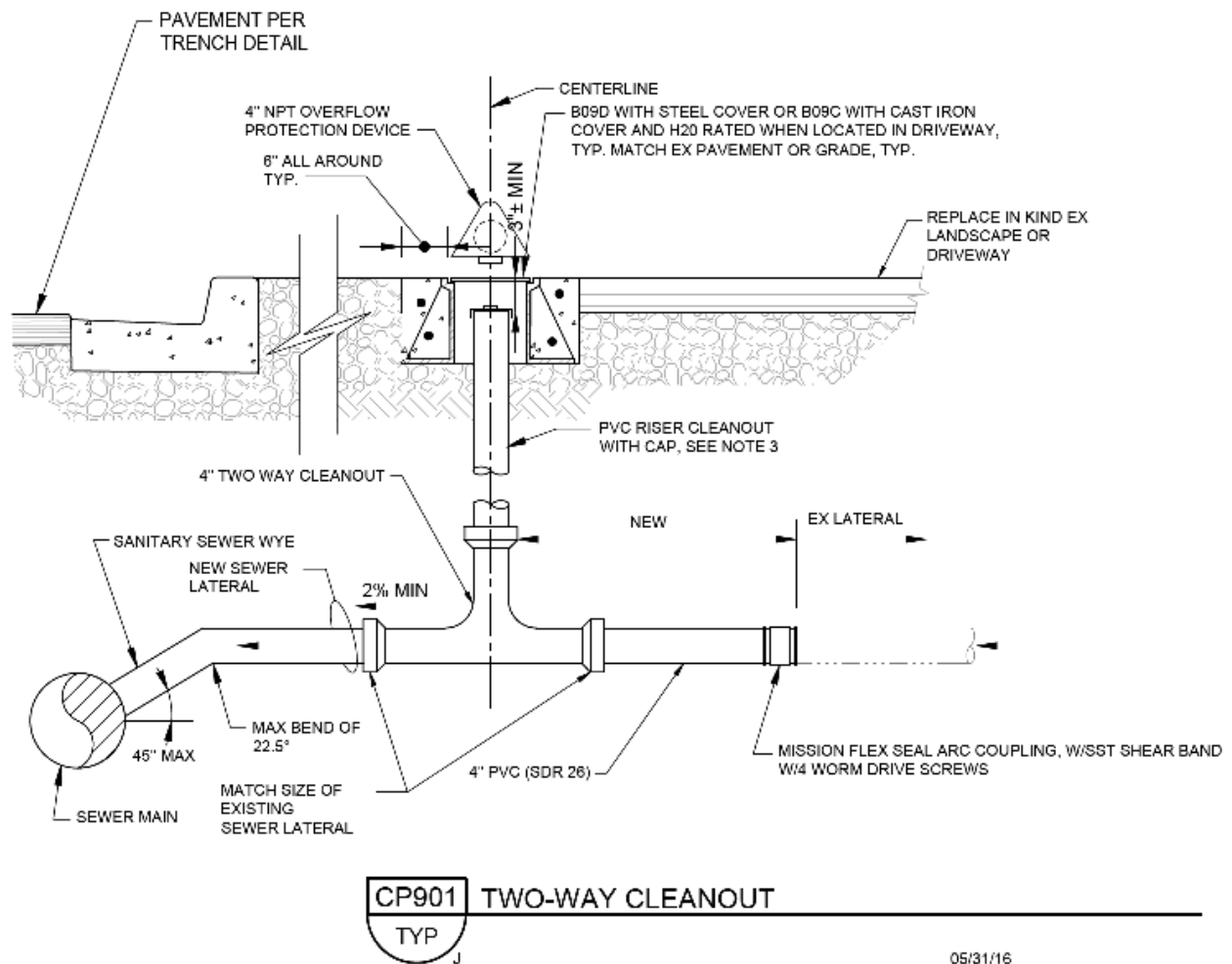


Figure 67 Lateral to Pipeline Connection

### 9.6.1.2 Town Cleanout Location and Materials

The cleanout located closest to the sewer pipeline will be referred to as the Town-owned cleanout and will be located at the property line, or at the edge of the PE if it is located along a private road. The Town has the option of using a one-way or two-way cleanout. The one-way cleanout is connected to the lateral using a wye, and provides the Town access to the lateral downstream of the cleanout. The two-way cleanout is connected to the lateral using a tee, and the cleanout provides the Town with access to both the upstream and downstream sections of the lateral. The use of a two-way cleanout is recommended as the two-way cleanout may assist the Town in the future to identify if the source of a lateral backup is the responsibility of the Town or the homeowner.

The cleanout diameter shall match the diameter and material of the sewer lateral. For cleanouts in pervious areas, the cleanout risers will be capped using an MPT plug. These plugs shall be placed a minimum of 3 inches above finished ground. For cleanouts within paved areas, the cleanout riser shall be placed in a traffic-rated, precast 12-inch diameter valve box with a cast-iron cover. The cleanout riser shall be capped with an MPT plug, which will be placed a minimum of 6 inches below the existing grade.

### 9.6.1.3 Lateral Requirements

#### Minimum Size

All residential private lateral pipe size shall be 4-inch minimum. Multifamily, commercial, and industrial parcels shall be 6-inch minimum or as sized based on flow calculations.

#### Minimum Slope

Minimum slopes for private laterals and laterals within the public ROW shall be 2 percent.

#### Minimum Depth

The minimum depth of the private sewer laterals at the property line will be 4 feet. Lateral depth within the property line will vary based on the depth of the existing sewer lateral at the septic tank.

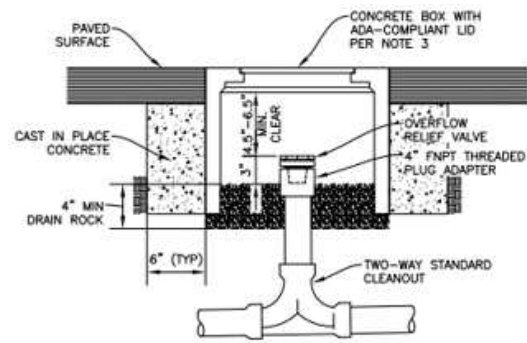
#### Acceptable Materials

Sewer service lateral shall be PVC SDR26.

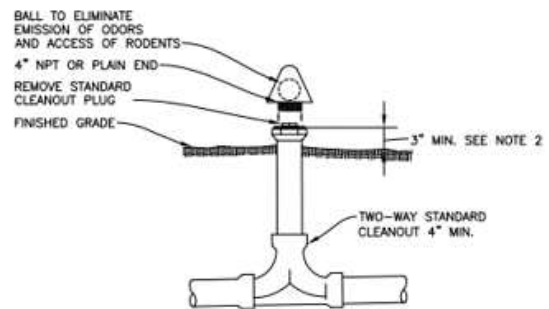
## Cleanout Requirements

Each parcel shall have a minimum of two cleanouts. One Town owned cleanout that will be located at the property line (or at the edge of PE for a private road) and a second privately owned cleanout will be located close to the building/structure and will be installed between 2 to 8 feet away from the existing building's foundation. A two-way cleanout will be used for all cleanouts. The cleanout diameter will match the diameter and material of the sewer lateral. An overflow relief valve will be used at all privately-owned cleanouts.

Cleanouts located outside of paved areas will be capped using a mushroom overflow relief valve. The overflow relief valves will be placed a minimum of 3 inches above finished ground and 6 inches below the lowest finished floor elevation. For cleanouts within paved areas, the cleanout riser shall be placed in a traffic-rated, precast 12-inch diameter valve box with a cast-iron cover. The cleanout riser will be capped with an overflow relief valve, which will be placed a minimum of 6 inches below the existing grade. Figure 68 depicts the two types of overflow relief valve installations.



(TYPE 1-TYPICAL INSTALLATION)



FINISHED GRADE SHALL SLOPE AWAY FROM THE BUILDING

(TYPE 2-ALTERNATIVE OPTION)

Figure 68 Lateral Overflow Relief Valve Detail

## Backwater Valves

Backwater valves are valve flaps located on private laterals which close whenever there is backwater pressure coming from the sewer main. Backwater valves will be installed at all private laterals where the finished floor elevation of the building is less than 6 inches above the upstream sewer manhole rim elevations. These backwater valves will be installed at the private cleanout. A typical backwater valve detail is shown in Figure 69 (Elsinore Valley Municipal Water District Standard Drawing S-12). The number of parcels or laterals that will require backwater valves will be determined during final design when topographic survey is available.

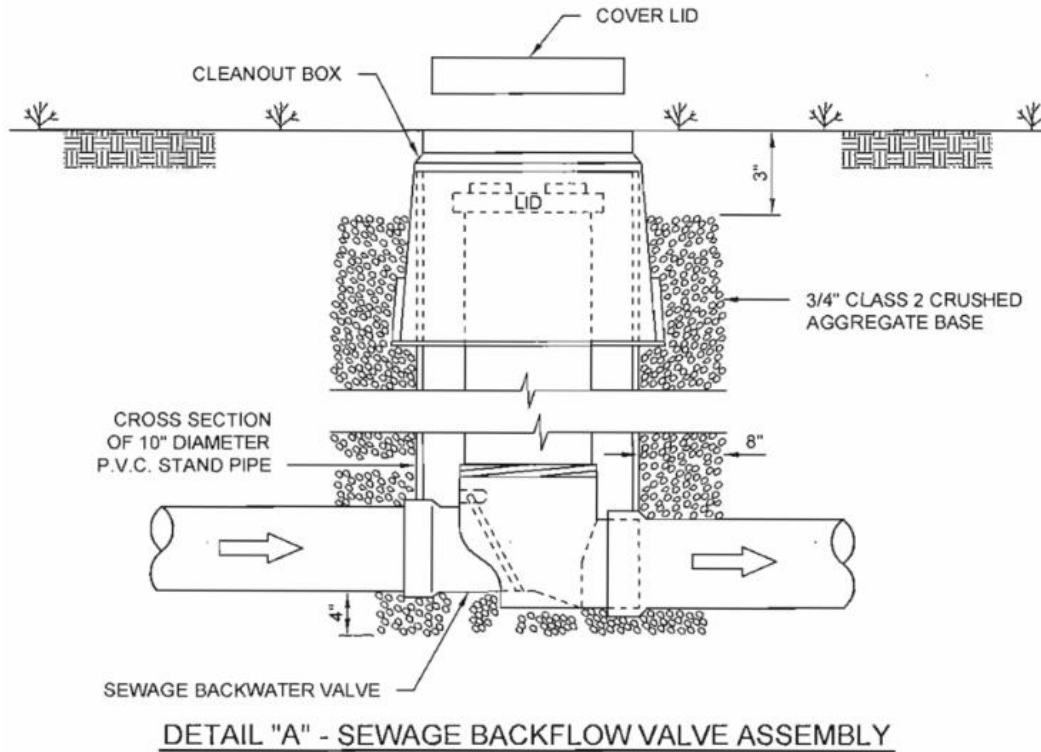


Figure 69 Backwater Valve Detail

## 9.7 Town Policies and Approach

### 9.7.1 Town Lateral Connection Standards

All future lateral connections done by the Design-Builder or by property owners in the future shall be made in accordance with the standards discussed above. It is highly recommended that the Town adopt these standards and requirements for construction of sewer laterals. The detailed final design will include details that may be adopted by the Town for use by Contractors for the undeveloped parcels.

### 9.7.2 Lateral Ownership Policy

#### 9.7.2.1 Single Family Parcels

The Town has a couple of options regarding lateral ownership:

- Option 1: The Town only owns the sewer mains. Property owners would be responsible for the sewer lateral from the structure to the connection at the sewer main.
- Option 2: The Town owns the lateral from the sewer pipeline to the cleanout located at the edge of the ROW or easement.

If the Town does not own any of the lateral, then cleaning, or even replacement, of the entire lateral would be the responsibility of the property owner. If the lateral does require replacement in the future, the property owner would be responsible for the connection to the sewer pipeline and for the resurfacing

of the road where the sewer pipeline is located. The Town would need to be present during the connection to the pipe to ensure there is no damage during the connection.

If the Town owns the lateral up to the ROW, the Town would be responsible for confirming the lateral conditions in case of a backup. If the source of the backup came from the lateral portion that the Town owns, then the Town would be responsible for the costs to replace it. The Town could expect to deal more with homeowners during backups if the part of the lateral is owned by the Town.

It is recommended that the Town own the lateral from the sewer pipeline to the clean out at the edge of the ROW. By owning the lateral from the pipeline to the cleanout, the Town will handle future connections at the sewer pipeline and can ensure the pipeline is protected from damage. Additionally, having a cleanout at the ROW will allow the Town to quickly check their portion of the lateral in cases of sewer backups.

### 9.7.3 Lateral Connection Policy

It is recommended that the Town establish a set of ordinances that set sewer standards in place and also require parcel owners within the SSA to connect to the centralized sewer system. The Town should consider reviewing the ordinances set by the City of Chico relating to the sewer system. Some of these ordinances include:

- Establish requirements in phases for when parcels must opt in to the SSA:
  - » Phase 1: Offers optional connection the centralized sewer system for the parcels within the SSA. The Town would pay for the connection to the sewer main. The Town should consider an opt-in expiration date.
  - » Phase 2: If existing septic system fails for parcels within the SSA, the parcels will be required to connect to the sewer.
  - » Phase 3: All new developments within the SSA will be required to connect to the collection system
  - » Phase 4: Property ownership transfers within the SSA will require a connection the collection system.
- Set an ordinance that gives the Town the legal authority to:
  - » Prevent illicit discharges into wastewater collection system.
  - » Require that sewers and connections be properly designed and constructed.
  - » Ensure access for maintenance, inspection, or repairs for portions owned or maintained by Town.
  - » Limit discharge of fats, oils, and grease (FOG), and other debris.
  - » Enforce any violation of sewer ordinances.
  - » Prohibits stormwater from any source (such as rain gutter down spouts) into the sewer system.
- Prevention of Illicit Discharges: Set requirements for commercial and industrial parcels to provide grease traps or interceptors that would eliminate illicit discharges.
- Set standards and permit requirements for connections to the cleanout for the undeveloped lots.
- Lateral Ownership: Clearly state the ownership for the different parts along the laterals and who would be responsible in emergencies
- Enforcement of These Measures: The Town should state that any violations of these ordinances could result in infractions or penalties.

## 9.8 Fats, Oils, and Grease and Industrial Waste Program

In accordance with the City of Chico agreement, the Town will be required to implement a FOG and industrial waste program. FOG tend to harden after being cooled and can cause sewer pipeline backups by obstructing the flow. The FOG program is intended to require certain commercial and industrial parcels to install an interceptor at the lateral before it reaches the sewer mains. These interceptors separate the grease from the sewage by allowing it to settle at the bottom of the tank. As a result, these interceptors are required to be pumped regularly. The FOG program will apply to restaurants, breweries, dental offices and industrial parcels in an effort to prevent illicit discharges.

It is suggested to have the parcel owners install these interceptors between the lateral connection and the building. The owners should be required to provide calculations to size the sewer trap and have them installed prior to the connection of their private lateral to the centralized sewer system. Whether or not the Town will size and install grease interceptors during construction will be discussed during detailed design.

## SECTION 10 SUPERVISORY CONTROL AND DATA ACQUISITION AND INSTRUMENTATION DESIGN

This section provides an overview of what SCADA is, the SCADA components for the Project, and the proposed system network architecture.

### 10.1 Purpose

The collection system pump stations, transition structure, flow control valves at the Chico WPCP, and Town control center require a communication system to allow monitoring and control of the facilities.

The purpose of this section is to identify the most appropriate communication system architecture to provide efficient and dependable communication between the Town control center and the remote facilities. Remote facilities will include all collection system pump stations, the export pump station, the transition and emergency storage structure, the flow control valves at the Chico WPCP as shown in Figure 70.

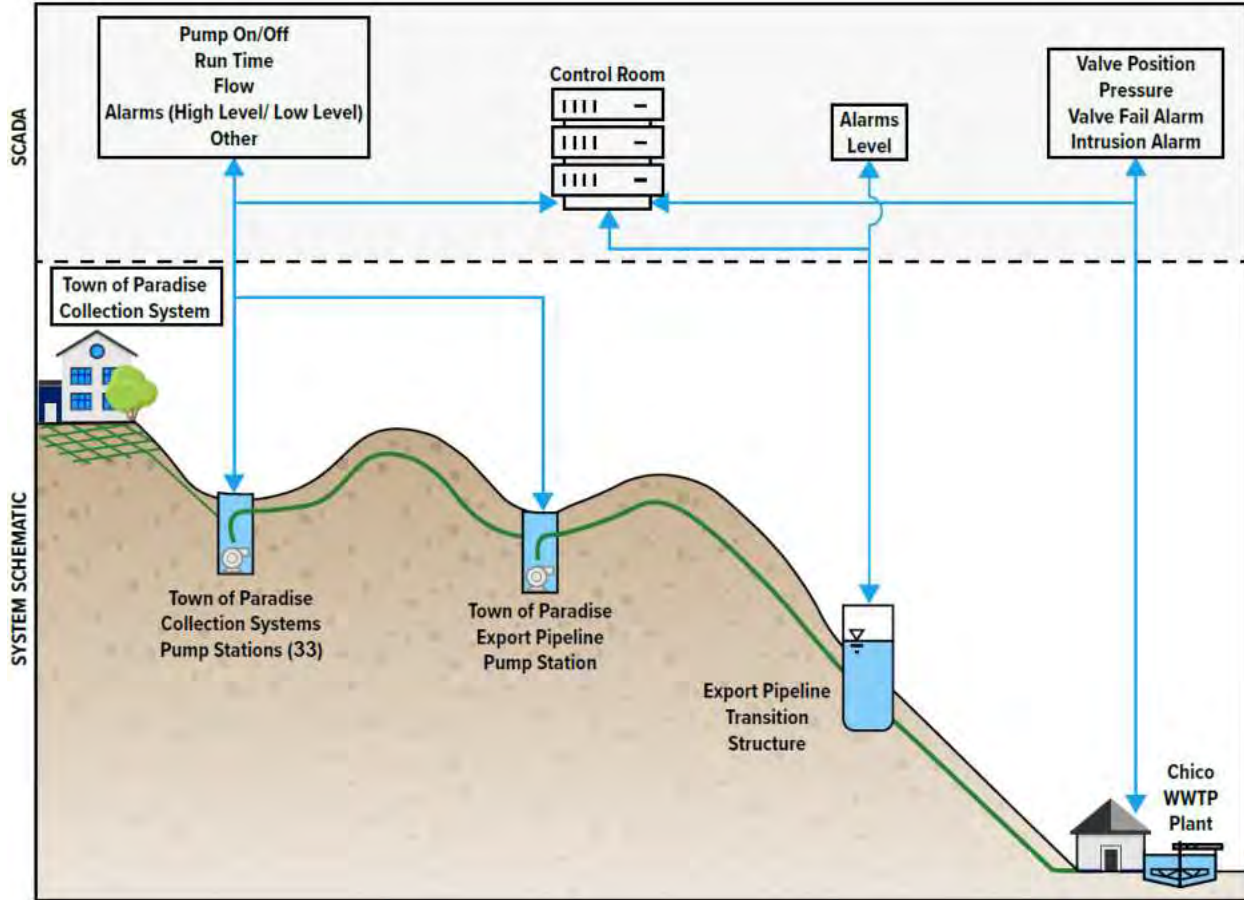


Figure 70 SCADA System Schematic

## 10.2 Supervisory Control and Data Acquisition Control Communication Alternatives

This section includes a preliminary evaluation of potential communication technologies to communicate between the Town control center and the remote facilities. The technologies evaluated include radio, cellular, and fiber optic. Each method is assessed based on its advantages and disadvantages in terms of reliability, cost, installation complexity, maintenance requirements, and suitability for the operational environment.

### 10.2.1 Radio

Radio systems can either be licensed or unlicensed. Licensed radio systems are preferred for industrial networks for reduced interference and improved reliability. The license grants exclusive use of a particular frequency within a defined geographic area, reducing the potential for interference from other users. Unlicensed users must adhere to general guidelines, such as power limits and emission standards, but there is no exclusive frequency allocation.

To evaluate the feasibility of radio communication considering the Project’s hilly terrain, a virtual path study was performed using Pathloss modeling software assuming licensed radio links.



It is worth noting that line-of-sight does not guarantee communication will work for a radio link. There is a boundary surrounding the line-of-sight that must be kept clear of obstructions called the Fresnel zone (Figure 71). Obstruction of the 60 percent Fresnel zone causes diffraction losses, so clearance of 60 percent of the Fresnel zone was included as performance criteria for the antenna height calculations.

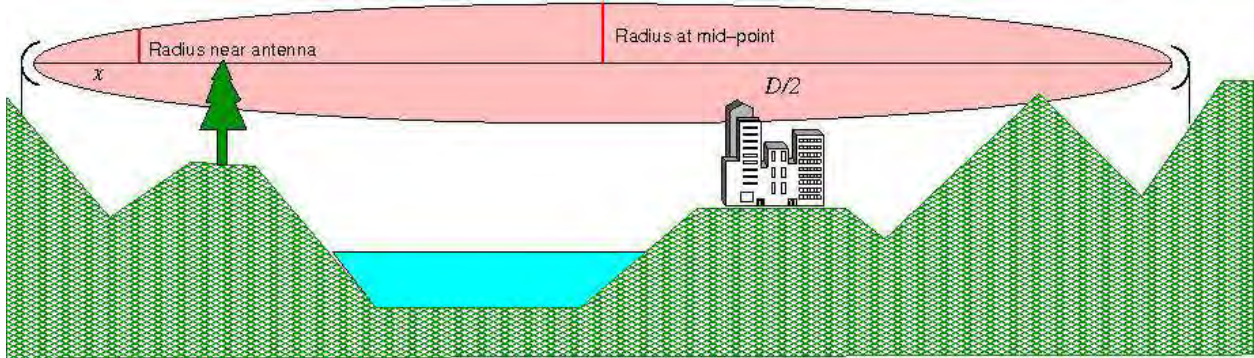


Figure 71 Fresnel Zone Example

The virtual path study evaluated each link between the Town's control center at Town Hall and the remote site as if it were a standalone link. It calculates the minimum required antenna heights for the antennas at either end of each link and provides an estimate of annual multipath availability. Antenna heights have been optimized for 100 percent annual availability and minimum mounting heights at each end. Figure 72 provides an overview of the network used.

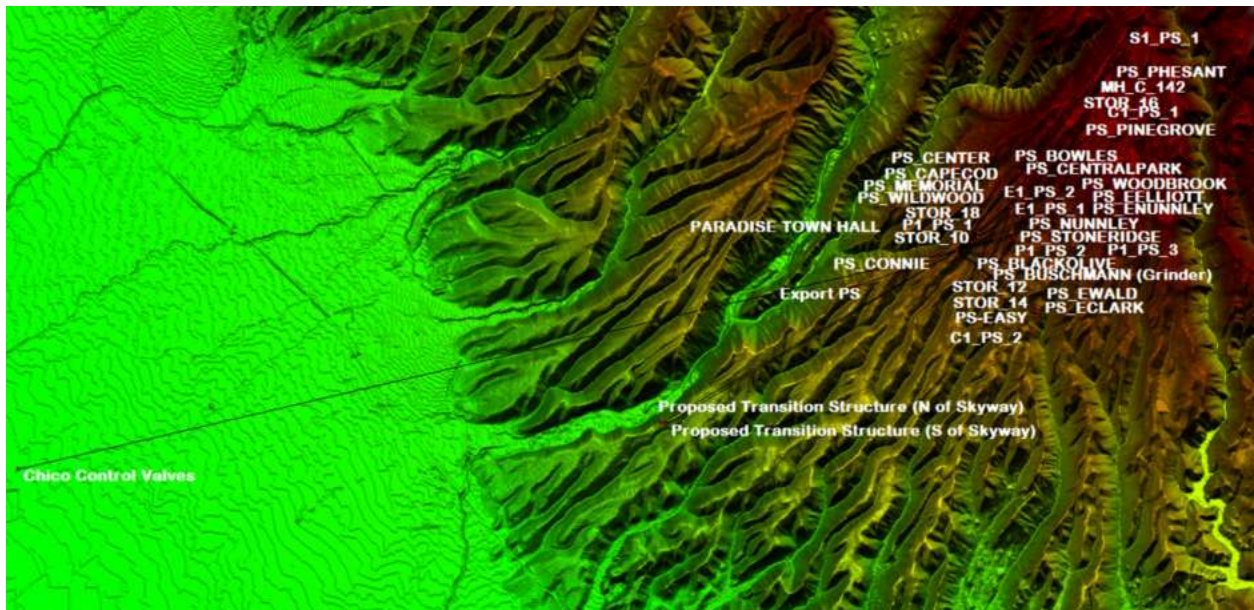


Figure 72 Pathloss Software Network Overview

### 10.2.1.1 Pathloss Radio Evaluation

The Pathloss report, included in Appendix F, was developed without the maximum available antenna mounting height at Town Hall or nearby structures, so the software adjusted the height of the Town Hall antenna and remote antenna per radio link based on the provided clearance criteria. The report indicates that most sites will require antenna heights greater than 30 feet above ground level at the remote site or at Town Hall. Table 31 provides a summary of the antenna tower heights that would be needed if radio control without repeaters is used. The height of the antenna tower at the Town Center varies from 15 feet to 163 feet tall depending on the site served, while antennas at the remote facilities vary from 18 feet to 106 feet tall.

Table 31 Radio Frequency (RF) Radio Tower Heights by Site

Number	Remote Site	Grade at Site (feet)	Antenna Height Above Ground (feet)	Grade at Town Hall (feet)	Town Hall Antenna CL Height (feet)
1	C1_PS_1	2,079	109.6	1,617	105.7
2	C1_PS_2 (Clark Pump Station) <sup>(1)</sup>	1,411	107.4	1,617	79.7
3	E1_PS_1	1,775	60.3	1,617	29.4
4	E1_PS_2	1,821	64.3	1,617	31.3
5	Burda Pump Station (MH_C_142)	2,206	79.1	1,617	39.2
6	P1_PS_1 (Pearson Pump Station #1) <sup>(1)</sup>	1,654	37.5	1,617	38.6
7	P1_PS_2 (Pearson Pump Station #2) <sup>(1)</sup>	1,697	23.1	1,617	21.4
8	P1_PS_3 (Pearson Pump Station #3) <sup>(1)</sup>	1,717	65.5	1,617	18.7
9	Black Olive Pump Station	1,624	21	1,617	40.6
10	Bowles Pump Station	1,869	68.7	1,617	51.6
11	Buschmann Pump Station <sup>(1)</sup>	1,628	22.3	1,617	19.7
12	Cape Cod Pump Station	1,783	34.2	1,617	51.9
13	Center Pump Station	1,811	27.8	1,617	50.9
14	Central Park Pump Station	1,864	46.9	1,617	27.4
15	Connie Pump Station	1,545	29.5	1,617	30.2
16	E Clark Pump Station	1,649	39.1	1,617	59.9
17	E Elliott Pump Station	1,812	101.7	1,617	64.1
18	E Nunneley Pump Station	1,770	108.3	1,617	98.3
19	Ewald Pump Station	1,631	50	1,617	62.5
20	Memorial Pump Station	1,733	20.5	1,617	56.5
21	Nunneley Pump Station	1,774	82.7	1,617	35.9
22	Pheasant Pump Station	2,186	163.1	1,617	76.7
23	Pinegrove Pump Station	2,050	93.1	1,617	59.5
24	Stoneridge Pump Station	1,774	85.1	1,617	41
25	Wildwood Pump Station	1,707	52.6	1,617	50
26	Woodbrook Pump Station	1,853	119.9	1,617	61.1

Number	Remote Site	Grade at Site (feet)	Antenna Height Above Ground (feet)	Grade at Town Hall (feet)	Town Hall Antenna CL Height (feet)
27	Easy Pump Station	1,435	101.6	1,617	93.5
28	S1_PS_1	2,275	110.9	1,617	69.7
29	Oakwood Pump Station	1,653	15	1,617	37.6
30	American Pump Station	1,455	95.7	1,617	99.8
31	McKale Pump Station	1,445	93.8	1,617	98.9
32	Rocky Pump Station	2,118	58.7	1,617	61.4
33	Birch Pump Station	1,677	34.9	1,617	40.1
34	Export Pump Station	1,298	74.88	1,617	38.14
35	Transition Structure (south of Skyway)	638	134.31	1,617	50.59
36	Transition Structure (north of Skyway)	630.67	144.76	1,617	55.26
37	Chico Control Vault	138.84	15.83	1,617	21.45

Notes:

- (1) For the Pearson Alignment, trunk line pump stations are C1\_PS\_2, P1\_PS\_1, P1\_PS\_2, P1\_PS\_3. For the Buschmann Alternative Alignment, trunk line pump stations are: C1\_PS\_2 and Buschmann Pump Station.
- (2) Upper Clark Pump Station and Village Pump Station were not included in the radio path study.

If the Town decides to proceed with radio control, further analysis is required determine if a repeater site on an existing structure like a water tank or at one of the remote sites would allow lower antenna heights at some of the remote pump stations, but the hills and significant elevation difference across the network make it still very likely to need tall mounting structures at multiple sites. The terrain is particularly challenging for radio applications, and several sites may be better served by a cellular radio rather than a 900 megahertz (MHz) licensed radio to avoid construction costs associated with new radio towers.

Coordination with the Federal Communications Commission licensing agencies is also needed to determine the availability of 900 MHz licenses in the area. Unlicensed links may be considered for less-critical sites, but it is strongly recommended to utilize licensed links for critical sites (Chico control valves, transition structure, and export and trunk line pump stations). Table 32 provides an overview of the advantages and disadvantages of RF Radio Control for use on the Project.

Table 32 RF Radio Control Advantages and Disadvantages

Advantages	Disadvantages
Cost Effective	Limited Bandwidth
Flexibility	Interference
Ease of Installation	Range Limitations
Portability	Requires License
	Speed may not be adequate for water level control of the transition structure

## 10.2.2 Cellular Radio

Cellular radio leverages existing cellular networks maintained by telecom providers. Coverage is dependent on the cellular provider’s network, which can vary in quality and availability depending on location and network congestion. Cellular radios may be ordered with multiple subscriber identity module (SIM) cards or with carrier-agnostic SIM cards that can be used for all cell providers, so it automatically switches between carriers based on best signal and availability at any given time. Cellular networks are easily scalable as additional pump stations or remote sites are added in the future. Another advantage of cellular radios is low upfront cost. Infrastructure costs are minimal for the user since the cellular provider maintains the network. However, there are ongoing costs for data plan subscriptions, and plans should be selected based on the expected amount of data per remote site. A rule of thumb is \$0.11/megabyte per month per site, but data rate pricing varies by plan and provider.

Table 33 provides an overview of the advantages and disadvantages of cellular control for use on the Project.

Table 33 Cellular Control Advantages and Disadvantages

Advantages	Disadvantages
Wide Coverage	Operational Costs
Scalable	Latency
Quick Deployment	Data Caps
Reliability	Signal Strength

The Design-Builder performed a cell phone service survey for the remote pump station sites to verify that sufficient cell speed is available at each location. The Ookla Speed Test app was used to measure download speed, upload speed, and ping speed at each remote site using a company phone and Verizon network. Recommended Minimum Benchmarks are as follows:

- Upload Speed (UL): Ideally > 1 megabytes per second (Mbps). Anything lower could affect data transfer reliability, particularly for sensor uploads or real-time monitoring.
- Download Speed (DL): Generally > 5 Mbps is adequate for most operations, although > 20 Mbps is preferred for high data throughput.
- Ping: Ideally < 100 milliseconds (ms) for real-time control, monitoring, and automation. Anything above 100 ms may cause noticeable delays. This may be okay depending on the criticality of the link.

A summary of cell survey data results is provided in Table 34.

Table 34 Summary of Cellular Viability

Number	Remote Site	Upload Rate (Mbps) <sup>(3)</sup>	Download Rate (Mbps) <sup>(3)</sup>	PING (ms) <sup>(3)</sup>	Summary of Results
1	C1_PS_1	10.4	85.3	33	Good Performance
2	C1_PS_2 (Clark Pump Station) <sup>(1,2)</sup>	0.49	34.3	47	Extremely low upload speed makes it unsuitable for real-time data transfer
3	E1_PS_1	26.3	33.2	38	Good Performance
4	E1_PS_2	5.18	28.5	75	Satisfactory performance overall, but high ping might cause occasional delays
5	Burdaparadise Pump Station (MH_C_142)	1.36	47.4	40	Good download speed, upload could be a bottleneck
6	P1_PS_1(Pearson Pump Station #1) <sup>(1,2)</sup>	0.14	44.6	74	Acceptable download but severely limited upload
7	P1_PS_2(Pearson Pump Station #2) <sup>(1)</sup>	33.4	30.6	38	ULs from 15.6 to 44.8 Mbps, stable pings (40-45 ms) – Suitable for most industrial applications
8	P1_PS_3 (Pearson Pump Station #3) <sup>(1)</sup>	2.24	37.2	46	ULs between 2.24–5.74 Mbps, acceptable pings (35-46 ms) – Sufficient for typical industrial use
9	Black Olive Pump Station	36.6	27.9	40	ULs from 15.6 to 44.8 Mbps, stable pings (40-45 ms) – Suitable for most industrial applications
10	Bowles Pump Station	15.6	32.1	39	ULs from 15.6 to 44.8 Mbps, stable pings (40-45 ms) – Suitable for most industrial applications
11	Buschmann Pump Station <sup>(1)</sup>	22	129	28	Good performance
12	Capecod Pump Station	41.4	32.9	38	Very good overall performance
13	Center Pump Station	21.2	32.2	33	ULs between 2.24–5.74 Mbps, acceptable pings (35-46 ms) – Sufficient for typical industrial use
14	Central Park Pump Station	3.64	38.7	38	Good performance
15	Connie Pump Station	44.8	25.4	45	ULs from 15.6 to 44.8 Mbps, stable pings (40-45 ms) – Suitable for most industrial applications
16	E Clark Pump Station	13.8	159	34	Exceptional performance, low ping
17	E Elliott Pump Station	41.7	30.6	35	Good performance
18	E Nunneley Pump Station	21.1	27	37	Good performance
19	Ewald Pump Station	13.4	82.7	50	Excellent overall
20	Memorial Pump Station	113	32.2	41	High performance and stable
21	Nunneley Pump Station	7.08	13	25	Good performance
22	Pheasant Pump Station	22.9	32.7	23	Good performance
23	Pinegrove Pump Station	17	57.5	38	High speeds and low ping
24	Stoneridge Pump Station	6.34	8.14	32	Good performance
25	Wildwood Pump Station	101	32.8	18	Exceptional performance, low ping
26	Woodbrook Pump Station	130	33.3	47	Great performance
27	Easy Pump Station <sup>(2)</sup>	0.05	12.7	133	Very low upload speed and high ping, not viable for real-time data
28	S1_PS_1	3.72	98.1	37	Good performance
29	Oakwood Pump Station	5.56	17.9	39	Good performance
30	American Pump Station <sup>(2)</sup>	0.11	7.77	47	Poor upload speed limits reliability
31	McKale Pump Station <sup>(2)</sup>	0.02	1.29	101	Poor speeds and ping, likely unusable
32	Rocky Pump Station	5.74	38.7	35	ULs between 2.24–5.74 Mbps, acceptable pings (35-46 ms) – Sufficient for typical industrial use.
33	Birch Pump Station	19.9	32.2	37	Good performance
34	Village Pump Station	6.29	77.4	32	Very good performance
35	Chapel Drive Pump Station	1.45	5.88	72	While it meets the minimum criteria, the UL speed is low and the ping is on the higher side, potentially causing delays in time sensitive applications
36	Upper Clark Road Pump Station	10.6	2.3	73	Good performance
37	Export Pump Station <sup>(2)</sup>	0.87	20.9	53	UL speed below minimum criteria, and the ping is on the higher side potentially causing delays in time sensitive applications.
38	Transition Structure (north of Skyway)	23	32.3	79	Very good performance
39	Transition Structure (south of Skyway) <sup>(2)</sup>	0.07	6.5	43	Very poor upload speed, likely unusable
40	Chico Control Vault	3.1	68.1	59	Very good performance

Notes:

- (1) For the Pearson Trunk Alignment, trunk line pump stations are C1\_PS\_2, P1\_PS\_1, P1\_PS\_2, P1\_PS\_3. For the Buschmann Alternative Alignment, trunk line pump stations are: C1\_PS\_2 and Buschmann Pump Station.
- (2) Locations with potentially inadequate service.
- (3) Verizon was the cell service provider used for the study.

Based on the measured speeds, 31 of the 37 potential pump station sites have adequate cell service, so cellular radio would be a good option for primary control at the small pump stations. An external omni cellular antenna with a higher gain oriented during installation for the best receive signal strength could improve the performance at all of these sites. These cellular antennas would be mounted on buildings or poles, rather than tall towers. The signal at each of these locations could improve with a higher gain antenna in an optimal location since that will be stronger than the antenna in the cell phone that was used for testing. Avoiding the use of a surge protector on these new cellular antennas will reduce signal losses. For the small pump stations, where cellular radio is not viable, there are three options (presented in order of recommendation):

- Use a dual-SIM or multi-carrier SIM (1 SIM card that switches on its own) may help if one network is stronger than another in the areas.
- Install a cellular antenna:
  - » A high-gain directional antenna could boost the cell signal by aiming at the nearest cell tower
  - » OR an omni-directional antenna could be used. Perform testing with an omni and with a directional antenna at trouble sites to evaluate which gives better performance numbers for the link.
- Use a mesh network if some of the weak sites have a good line of sight for radio communications with an adjacent pump station site to use the adjacent site as the cellular repeater.

The cellular system is also advantageous because it can be used for backup control between the Chico WPCP, transition structure, and Town Control Center.

### 10.2.3 Fiber Optic

Fiber optic communication systems offer the highest data transmission rates, supporting large amounts of data over long distances with minimal latency. The fiber system has the best reliability of any option included in this report. Fiber networks are also scalable to accommodate future growth, making them a good long-term solution for expanding data needs.

The equipment and installation costs associated with a new fiber optic network is the highest of any of the options presented in this report. Table 35 provides an overview of the advantages and disadvantages of fiber optic control for use on the Project.

Table 35 Fiber Optic Control Advantages and Disadvantages

Advantages	Disadvantages
High Bandwidth	Cost
Reliable	Complex Installation
Low Latency	Physical Vulnerabilities
Scalable	
High speed communication for critical facilities	

During the SCADA strategy workshop, the Town indicated that at a minimum fiber optic control is needed between the Chico WPCP and the transition structure and it would preferred to run fiber optic all the way to the Town control center. Carollo presented an extension of the fiber optic line from the control center

to the trunk line pump stations for reliability. Table 36 provides the distance between key facilities and the approximate cost associated with each segment of fiber optic conduit installation.

Table 36 Fiber Optic Options

Location	Dual 3-inch Fiber Optic Conduit Length	Approximate Cost
Chico WPCP to Transition Structure	71,500 LF	\$6.8M
Transition Structure to Town Hall	29,440 LF	\$2.8M
Town Hall to Trunk Pump Stations	16,450 LF	\$1.6M
<b>Total</b>	<b>117,390 LF</b>	<b>\$11.2M</b>

Notes:

- (1) Unit cost for dual 3-inch fiber optic conduit with hand holes every 1,000 LF is \$95.28/LF and was taken from the MCI May 2024 Detail Cost Model. This cost does not include concrete encasement.

### 10.2.4 Control System Architecture Recommendations

The Design-Builder recommends using cellular technology for the small pump stations within the collection system and as a backup to other systems. Cellular networks offer several advantages, including ease of installation, reliability, and cost-effectiveness, particularly in areas where new communication tower infrastructure would be challenging or costly.

The Design-Builder recommends installing fiber optic between critical facilities (transition structure, control valve structure and control center) considering the communication speed is key and loss of communication may result in sewage overflows to sensitive habitat. Fiber provides higher data transfer rates and lower latency, which is beneficial for specific high-demand stations, and it does not experience the same potential downtime as radio or cellular networks.

The Design-Builder recommends that the fiber sites have a cellular link as a backup in the event of physical damage to the fiber. For the collection system small pump stations where only cell service control is recommended, GE MDS radios support dual SIM cards allowing automatic failover between two cellular networks if the primary card experiences poor signal strength or service outage.

## 10.3 Programmable Logic Controller Options

A PLC monitors relevant data inputs and sends the data to the central processing unit (CPU). Every PLC is built with a microprocessor CPU with either 16-bit or 32-bit. A qualified systems integrator or engineering firm can write its own logic to meet the Town’s requirements for its sewer system that can be used to either monitor or control devices linked to the system. Based on the programmed logic, the PLC controls devices connected to the outputs. With a prepackaged pump station, a vendor supplied control panel can be provided where the logic is already written. For the larger trunk line pump stations, an electrical building would be built to house the electrical panels, motor control center, and PLC in a building. For the smaller pump stations, a pedestal mounted vendor control panel would be used.

### 10.3.1 Programmable Logic Controller Platforms

There are two PLC platforms that are recommended for this Project: Allen Bradley CompactLogix and Schneider Electric M340. Allen Bradley is based in Ohio, while Schneider Electric’s headquarters are in France. All PLCs for the Project should use the same manufacturer. PLCs will be required at each trunk line

pump station, the export pump station, and at the Chico control valves. A PLC might be used at the transition structure as well. Small pump stations would use vendor pump controllers rather than PLCs for a significant savings in time and cost for system integration, and still allows for some operator flexibility in adjusting control and monitoring set points. These are available from Xylem under the Flygt and Goulds Water Technology brands. Table 37 provides a comparison of the two PLC platforms and the vendor controller systems.

Table 37 PLC Comparison

Allen Bradley CompactLogix	Schneider Electric M340	Vendor Pump Controllers
RSLogix 5000 or Studio 5000 software	EcoStruxure Control Expert software	Off-the-Shelf Pump Controller
Ease of Integration with Allen Bradley motor controllers		Standardized Installation and Operation
Primary Comms: Ethernet/IP or ControlNet	Primary Comms: Ethernet/IP Modbus TCP/IP	Native Ethernet/IP and DNP3 communication
ProSoft: Modbus/Modbus TCP/DNP3	Native DNP3	Built-In and Web Accessible User Interface
Cost: Higher	Cost: Medium	Cost: Low

Notes:

DNP3 - distributed network protocol 3; IP - internet protocol address; TCP - transmission control protocol.

## 10.4 Supervisory Control and Data Acquisition Platforms

There are two main SCADA platforms that are recommended for this Project: Ignition and VTScada.

Table 38 provides a comparison of the two SCADA platforms. Other SCADA platforms that the Town could consider are Rockwell FactoryTalk, AVEVA System Platform, or GE iFix 2024.

Table 38 SCADA Comparison

Ignition	VTScada
Compatible With Multiple Operating Systems	Easy to Use
Supports Cloud-Based Deployments	Full Alarm Management
SQL-Based Historian	Integrated Historian
Ability to Integrate Any SQL Database	Expansive Driver Library
Internet of Things Solutions	Advanced Polling Drivers
Unlimited Tags and Clients	Flygt Integration
Flexible Development Environment	
MQTT Protocol	
Python Based Scripting	
Support: 24/7 Support	
Perpetual Licensing	Perpetual Licensing
Cost: ~\$35k	Cost: ~\$35k

Notes:

k - thousand; MQTT - Message Queuing Telemetry Transport; SQL - structure query language.

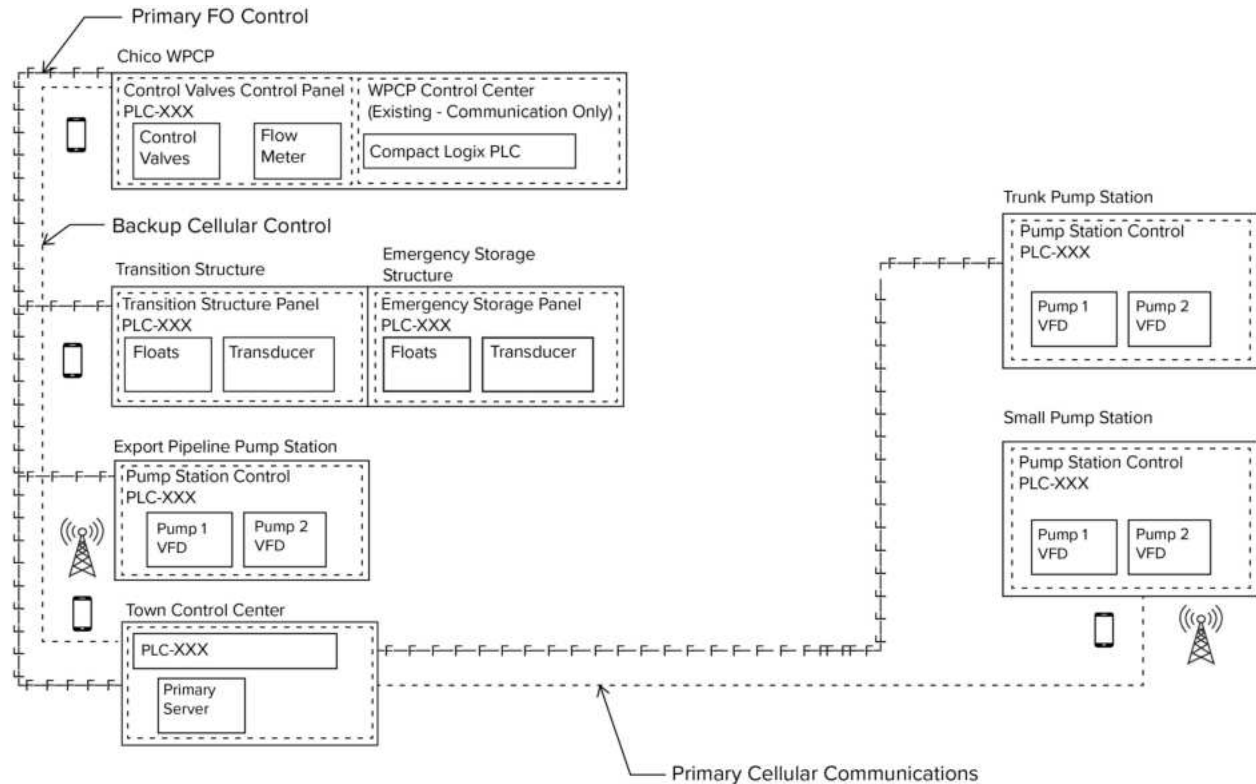


### 10.4.1 Recommendation

The Design-Builder recommends proceeding with Ignition for the SCADA platform considering the City of Chico utilizes Ignition; Ignition provides local support, and the platform can be scaled to the needs of the Project.

## 10.5 Preliminary System Architecture

Based on the above recommended control system, the preliminary system architecture is shown in Figure 73.



Note: Cellular antenna may be required at up to 12 PS sites (6 repeater sites and 6 PSs where cellular is not viable).

Figure 73 Network Architecture

### 10.5.1 Town Control Room

The sewer collection system will require a control center located to house the SCADA servers and to provide control stations for the operators. We assumed the control center will be sited at the Town Hall for the preliminary radio and cellular service investigations, but it is important for the Town to decide where the control center will be located. The control center will require a room with space for two operator workstations and a 55-inch TV in the general area, SCADA servers and a wall mounted intermediate distribution frame cabinet to house network equipment with a minimum size of 20 feet by 25 feet. Possible sites include:

- Town Hall.

- Other City owned sites to be identified.
- Trunk pump station sites.

### 10.5.2 Trunk Line Pump Station Communication

Controls for the trunk line pump stations will include the following:

- Pump on/off control based on level in wet well.
- Information to Town control center SCADA:
  - » Key alarms.
  - » Wet well level.
  - » Backup generator on/off.
  - » Intrusion alarms.

Fiber is assumed to be the primary mode of communication.

### 10.5.3 Small Pump Station Communication

Controls for the small pump stations will include the following:

- Pump on/off local control based on level in wet well.
- Information to Town control center SCADA:
  - » Key alarms.
  - » Wet well level.
  - » Intrusion alarms.

Cellular control will be the primary mode of communication. A backup communication system is not recommended for the small pump stations.

### 10.5.4 Export Pump Station Communication

Controls for the export pump station will include the following:

- Pump on/off control based on level in wet well.
- Information to Town control center SCADA:
  - » Key alarms.
  - » Wet well level.
  - » Backup generator on/off.
  - » Intrusion alarms.
  - » Grinder alarm.

Fiber control will be the primary mode of communication.

### 10.5.5 Communication With Chico Water Pollution Control Plant

The connection at the Chico WPCP will include a flow meter, flow control valves, and a discharge structure. Control valves will open or close based on level at the transition structure located upstream. Information that will be conveyed to the Town's SCADA system include:

- Valve position.
- Pressure.
- Valve fail alarm.
- Intrusion alarms.

The Town is working to confirm what information sharing will be required with Chico WPCP. At a minimum, flow to the WPCP will be required.

### 10.5.6 Next Steps

Town will need to make the following decisions for final design:

- Location of the Town control center.
- PLC platform.
- SCADA platform to be used for system integration.
- Confirmation of recommended network architecture.

## SECTION 11 ENVIRONMENTAL DESIGN CONSIDERATIONS

This section provides an overview of design considerations related to the environmental documentation and preliminary permitting performed by HDR.

### 11.1 Environmental Permits

HDR will obtain the following permits for the Project:

- USACE 404 Permit.
- USACE 408 Permission.
- CDFW Streambed Alteration Agreement (1600).
- National Marine Fisheries Service (NMFS) Letter of Concurrence.
- USFWS Biological Opinion.
- RWQCB 401 Permit.
- Central Valley Flood Protection Board (CVFPB) Encroachment Permit.

To date, HDR has obtained the NMFS Letter of Concurrence and USFWS Biological Opinion. Other permits will be submitted after design is farther along.

## **11.2 Programmatic Environmental Impact Report**

In November 2022, the final *PEIR* was approved and certified by the Town Board. In July 2023, an addendum to file was appended to the final *PEIR*. The *MMRP* was part of the final *PEIR* is attached in Appendix H. Design requirements are summarized in Table 39. Note that where multiple mitigation measures had the same requirement, it was only listed once.

## **11.3 United States Fish and Wildlife Service Biological Opinion**

The USFWS Biological Opinion was issued on July 5, 2024, and has been attached in Appendix I. The Biological Opinion concurred with the HDR's Biological Assessment that was submitted for review, so mitigation measures parallel the biological assessment. Table 40 provides a summary of the design and construction mitigation measures required by the permit.

Table 39 MMRP Design Requirement Summary

CEQA Mitigation Designation	Requirement	Notes
<b>MM-GEO-1:</b> Minimize Geologic Hazards	A qualified licensed geotechnical engineer will prepare a design-level geotechnical report to develop viable measures to minimize geologic hazards.	Geotechnical report will be prepared during design phase.
<b>MM-GEO-6:</b> Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature	If paleontological resources are discovered during earth-moving activities, cease work and notify the Town's Project Manager.	Geotechnical borings, potholes and other earth moving work that occurs during design would need to meet this measure.
<b>MM-HAZ-2:</b> Cypress Lane Site Specific Contaminated Soil Management Plan	Prior to any work within 500 feet of 1620 Cypress Lane, a parcel specific contaminated soil management plan shall be prepared and submitted to DTSC for approval.	This requirement only applies to the Clark Road Extension Alternative. Geotechnical borings and potholes can probably be located to avoid triggering this requirement.
<b>MM-HAZ-3:</b> Road Closure Restrictions	Only one lane of Skyway can be closed at any time other than for short instances when a two-lane closure might be required for relocation of large equipment.	Geotechnical, survey, and potholing work will be required to meet MM-HAZ-3 requirements.
<b>MM-HAZ-6:</b> Traffic Management Plan	Prepare a traffic management plan during design for implementation during construction for review by Town, County, and City of Chico's engineering departments.	Requirement will be included in final design phase scope of work.
<b>MM-HAZ-8:</b> Incorporate Public Safety Measures	Construction crews and equipment avoid circumstances that could cause wildfire and that crews and staff have access to fire-prevention equipment onsite.	Field crews will need to meet this measure.
<b>MM-HYD-2:</b> Construction Best Management Practices	Prior to initiation of ground disturbing activities within 250 feet of vernal pools or 100 feet of other aquatic resources, construction best management practices will be employed on site to prevent degradation to on-site and off-site aquatic resources. Methods will include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources.	Any ground disturbing field work will need to meet this requirement.
<b>MM-TCR-1:</b> Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe	During final design, the Town will continue to consult and coordinate with the Konkow Valley band of Maidu and Mechoopda Indian Tribe to identify sensitive areas to be protected during construction work and appropriate methods to protect those areas.	HDR has consulted with the tribes and is aware of some culturally sensitive areas in the Project area. Carollo/MCI does not have access to this sensitive information, so HDR will need to provide direction when work is proposed within one of these areas.
<b>MM-UTIL-1:</b> Minimize Utility and Service System Disruptions	During final design, to minimize disruptions to utility services, the Town will prepare a Utility Conflict and Coordination Plan that identifies outages that could affect residents and businesses, including fiber-optic/communications, water, power, and gas. As part of that plan, the public and stakeholders will be notified by signage and on Town's website of any potential services interruptions at least two weeks prior to construction work.	The Utility Conflict and Coordination Plan will be prepared as part of the final design scope of work.

Table 40 USFWS Biological Opinion Design and Construction Requirement Summary

Species	Location within Project	Limitations	Additional Design/Construction Requirements	Comments
Giant Garter Snake	Little Chico Creek and Comanche Creek	Assume presence of snake within 200 feet of the creek channel.	<ul style="list-style-type: none"> <li>Work areas and ground disturbing activities will be sited 200 feet away from occupied habitat <b>to the maximum extent feasible</b>. Biologist will be onsite to determine where occupied habitat is located.</li> <li>Requires flagging of sensitive resources. No high visibility fencing.</li> </ul>	<ul style="list-style-type: none"> <li>HDR indicated that borings within paved roads will not be habitat, so no impact on borings within roadway even within 200 feet of creek. Geotechnical boring plan shows future HDD pits farther than 200 feet away at both creeks. Microtunnel pits are within 200 feet but won't be impacted if pit stays within pavement. However, work area for both HDD and microtunnel could be constrained if snakes are found in road shoulder.</li> </ul>
Valley Elderberry Longhorn Beetle	Butte Creek vicinity (7 shrubs) and Skyway Road (2 shrubs)	9 shrubs found within Project area.	<ul style="list-style-type: none"> <li>All staging areas min of 165 feet away from 9 shrubs identified.</li> <li>No work within 20 feet of the dripline of elderberry shrubs.</li> <li>Speed limit is 20 miles per hour at work site.</li> <li>Biologist must be present for any tree trimming near a shrub.</li> <li>Water down work areas to prevent dust near shrubs.</li> </ul>	<ul style="list-style-type: none"> <li>Have to re-initiate consultation if bushes show signs of stress due to dust.</li> </ul>
Foothill Yellow-Legged Frog	Butte Creek	Assume presence within 200 feet of Creek. (Generally, occur within 40 feet of channel.)	<ul style="list-style-type: none"> <li>Work areas and ground disturbing activities will be sited 200 feet away from occupied habitat <b>to the maximum extent feasible</b>. Biologist will be onsite to determine where occupied habitat is located.</li> </ul>	<ul style="list-style-type: none"> <li>Daily inspection by biologist before work starts and leads traffic into work area.</li> <li>Work area shutdown if frog is within work area until it leaves on its own accord so potential for construction delays.</li> </ul>
County Meadowfoam	Butte Creek/Skyway Road	Town will avoid all occupied habitats and surrounding catchments.	<ul style="list-style-type: none"> <li>If August 2024 or 2025 surveys finds Meadowfoam, design will need to change to avoid all occupied habitats or re-initiate consultation with USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>2023 and April 2024 surveys did not find any Meadowfoam in Project area, so probably unlikely to occur.</li> <li>Have to re-initiate consultation if found during upcoming surveys if avoidance isn't possible.</li> </ul>
Greene's Tuctoria	Skyway Road (Hwy 99 to Town)	Town will avoid all occupied habitats and surrounding catchments.	<ul style="list-style-type: none"> <li>If August 2024 or 2025 surveys finds Greene's Tuctoria, design will need to change to avoid all occupied habitats or re-initiate consultation with USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>2023 and April 2024 surveys did not find any Greene's Tuctoria in Project area, so probably unlikely to occur.</li> <li>Have to re-initiate consultation if found during upcoming surveys if avoidance isn't possible.</li> </ul>
Hairy Orcutt Grass	Skyway Road (Hwy 99 to Town)	Town will avoid all occupied habitats and surrounding catchments.	<ul style="list-style-type: none"> <li>If August 2024 or 2025 surveys finds Hairy Orcutt Grass, design will need to change to avoid all occupied habitats or re-initiate consultation with USFWS.</li> </ul>	<ul style="list-style-type: none"> <li>2023 and April 2024 surveys did not find any Hairy Orcutt Grass in Project area, so probably unlikely to occur.</li> <li>Have to re-initiate consultation if found during upcoming surveys if avoidance isn't possible.</li> </ul>
Fairy shrimp and tadpole shrimp				<ul style="list-style-type: none"> <li>Up to 5.7 acres of vernal pool habitat can be taken.</li> </ul>
General Requirements	Location within Project	Limitations	Additional Design/Construction Requirements	Comments
Construction Best Management Practices			<ul style="list-style-type: none"> <li>Provide temporary signs, staking or flagging to identify sensitive biological resource areas.</li> <li>Exclusionary fencing may be placed to delineate work areas and restrict workers/equipment from entering.</li> <li>20 mph speed limit except on paved County roads or highways.</li> <li>Cover all holes greater than 1 foot deep at end of workday with plywood boards or other rigid material.</li> <li>Plastic monofilament netting shall not be used for erosion control.</li> <li>Rodenticides and herbicides will be used to prevent poisoning of listed species and their prey.</li> <li>All disturbed areas shall be re-contoured and re-vegetated with native vegetation to restore to pre-Project conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Town Biological monitor will be onsite during all ground disturbing activities.</li> <li>Biological monitor must inspect all pipes/culverts/structures prior to use each morning for wildlife.</li> </ul>

General Requirements	Location within Project	Limitations	Additional Design/Construction Requirements	Comments
SWPPP; Erosion and Sediment Control Plan; Spill Prevention, Containment and Countermeasure Plan; Hazard Materials Management Plan		No refueling within 300 feet of aquatic habitat, elderberry shrubs, meadowfoam, Greene's tuctoria, or Orcutt grass.	<ul style="list-style-type: none"> <li>Prepare plans for Project.</li> </ul>	<ul style="list-style-type: none"> <li>Biological monitor must inspect all vehicles left on site overnight before use.</li> </ul>
Decontamination			<ul style="list-style-type: none"> <li>Decontaminate equipment and tools.</li> </ul>	
Minimize habitat Disturbance			<ul style="list-style-type: none"> <li>Clearly mark limits of work and staging areas.</li> <li>Food related trash disposed of in closed containers and removed daily.</li> <li>No pets or firearms on site.</li> </ul>	
Terrestrial Avoidance and Minimization Measures			<ul style="list-style-type: none"> <li>Joint preconstruction survey with biologist, construction foreman, engineer to confirm work area, access.</li> <li>Work within 250 feet of wetlands will have sediment control measures and must cover and berm loose stockpiles; chemical in watertight containers.</li> <li>Refueling and maintenance sites &gt;300 feet from aquatic habitats.</li> </ul>	
Restoration of Temp Disturbed Areas			<ul style="list-style-type: none"> <li>Restore to pre-Project conditions within one year of disturbance.</li> </ul>	
Lighting			<ul style="list-style-type: none"> <li>Shield construction and permanent lighting away from adjacent habitat areas.</li> </ul>	
Invasive Plant Species			<ul style="list-style-type: none"> <li>If areas to be cleared has invasive plants, cannot use chipped vegetation material for erosion control.</li> <li>Clean construction vehicles and machinery prior to entering sites next to natural communities and when going between invasive plant sites to clear sites.</li> <li>Establish cleaning stations at the perimeter and along construction routes.</li> </ul>	<ul style="list-style-type: none"> <li>Town botanist to determine prior to clearing if area contains invasive plants</li> </ul>
Temporary Work Areas		Site staging areas to avoid vernal pool habitat.		

Notes:  
 SWPPP - Stormwater Pollution Prevention Plan.

## 11.4 National Marine Fisheries Service Letter of Concurrence

The NMFS Letter of Concurrence was issued on July 17, 2024, and has been provided in Appendix J. Like the USFWS Biological Opinion, NMFS concurred with the biological assessment and matched the mitigation measures described in Table 40. Permit design requirements not already covered in Section 11.3 are summarized in Table 41.

Table 41 NMFS Letter of Concurrence Design Requirements

Control Requirements	Design Requirements
SWPPP Erosion Control	Design grading to be compatible with adjacent areas and result in minimal disturbance of the terrain and natural land features and minimize erosion in disturbed area.
	Divert runoff away from steep, denuded slopes or other crucial areas with barriers, berms, ditches or other facilities.
	Retain native trees and vegetation.
	Limit clearing of native vegetation, and disturbance of soils to areas of proven stability.
	Install wind erosion control features (application of hydraulic mulch or bonded fiber matrix).
Sediment Control	Collect and direct surface runoff at non-erosive velocities to common drainage courses.
Avoidance of Occupied Salmonid Habitat	No in-water work is proposed.
	Entry and exit bore pits will be placed outside of the riparian zone. No riparian vegetation, shaded riverine aquatic habitat, or riverine habitat will be directly impacted during HDD activities.
	All staging areas will be located at least 250 feet away from the dripline of any shaded riverine aquatic habitat or riparian habitat in the Action Area.
	HDD construction activities under or adjacent to suitable salmonid habitat would be conducted outside of the spawning and migration season (October 15 to June 15).
Site Specific Inadvertent Release Plan	Drilling will occur at least 20 feet below the three names watercourses with Butte Creek being more than 40 feet. Depths are chosen to reduce the possibility of “frac-out” during drilling.

## 11.5 California Department of Fish and Wildlife Incidental Take Permit (ITP) and Streambed Alteration Agreement

CDFW permits include the ITP and the Streambed Alteration Agreement. Both of these permit applications require a completed CEQA clearance.

The 2081 ITP is relevant for state-listed (threatened) Swainson’s hawks nesting within the Project impact area. An ITP shall be obtained for the whole alignment. The ITP is not applicable to investigative work such as geotechnical borings, but will be required for construction.

The 1602 Streambed Alteration Agreement will be applicable to 10 potential creek locations in the Town as summarized in Section 7.2.3, and the Butte Creek, Little Chico Creek, and Comanche Creek along the export pipeline. The 1602 Streambed Alteration Agreement will require separate permit applications for the geotechnical work and the construction.



## 11.6 Tribal Consultations

Town's owner's advisor has performed AB52 compliance as required under CEQA and has initiated the Section 106 process related to Federally funded/permitted projects. Tribal monitoring has been requested during any excavation for field work and construction. Locations and monitoring requirements are being discussed between the Town's owner advisor, the Town, and with the local Tribes.

## 11.7 Levee Requirements

There are two levees along the Project: Butte Creek and Little Chico Creek. The levee crossings will require both CVFPB and USACE permits. A CVFPB Minor Alteration Permit must be accepted before the USACE permit can be submitted.

USACE requires a Section 404 and Section 408 permit for any work near USACE projects, which includes work beneath USACE flood control levees. The Section 404 permit is reviewed by the USACE environmental department, and the Section 408 permit is reviewed by the civil works department. Separate rounds of permit applications are required for the geotechnical work that will be performed early in design and for work during construction. The permit protects levees from any damage from trenchless installation including settlement, hydrofracture, or the creation of preferential seepage paths along the annulus of the bore that can result in flooding. Typically, the following documents may be required to support the permit applications.

- Drilling and Invasive Activity Program Plan complying with USACE requirements.
- Detailed plan and profile drawings, identifying entry and exit locations, geometry, hole diameter, and utility clearances.
- Description of drill rig and drilling fluid system.
- Drilling fluid management plan, including surface spill and inadvertent returns contingency plan.
- Crew qualifications.
- Description of tracking equipment.
- Grouting plan for annular space.
- Geotechnical information.
- Hydrofracture analysis.

## 11.8 Creek Crossings

Creek crossing permit requirements will be incorporated when they are available. We anticipate seasonal restrictions for the work to be limited to the dry season (June 15 to October 15) and outside of nesting season (February 15 to September 15). Work may be able to be performed during nesting season with preconstruction sensitive species surveys.

USFWS permit requirements state work areas are supposed to be 200 feet back from creeks. This requirement applies to both geotechnical explorations and construction. However, HDR has advised that work areas may be within 200 feet of creeks if the work is avoiding the creeks "to the maximum extent feasible."

Creek crossing design may be expedited to allow for early submission of permit packages to CDFW, USACE, and RWQCB.

## 11.9 Tree Trimming and Removal

The following locations will require tree removal or tree trimming:

- Parallel to the City of Chico P18 Project, after the Butte Creek crossing and behind the CHP building.
- Hegan Lane.

Trees will be removed or trimmed to allow a minimum 30-foot wide working area and to allow a minimum vertical clearance of 14 feet.

## SECTION 12 PROPERTY ACQUISITION AND RIGHT-OF-WAY NEEDS

This section summarizes the property acquisition needs for temporary and permanent ROW and fee parcels. The OA and Town will lead the acquisition of properties during Phase 1B once the design is further developed.

### 12.1 Approach to Land Acquisition

Figure 74 shows an overview of private and public roads along the collections system pipeline alignments and within the SAA. The majority of the collection system pipelines are located in Town public ROW and property acquisition is not required. The typical public ROW ranges between 10 to 100 feet. The ROW lines will be located by the Design-Builder's surveyor.

The trunk line and small pump stations will require property acquisition to site the facilities. Preliminary large pump station sites were selected based on the hydraulic model and location of nearby vacant parcels listed in the Town's drive-by survey of APN use. The small pump stations were located in the road with appurtenances either within public ROW where space allowed or on an adjacent vacant parcel.

The facilities located in private roads will require easements. The private road easements range between 10 feet to 60 feet wide. Sewers, manholes, and pump stations located in private roads require permanent utility/access easements. We recommend permanent pipeline easement width of 20 feet for pipelines. This provides sufficient space for Town staff to be able to make emergency repairs on a sewer or manhole. Total work area required for the most efficient pipeline and manhole installation will vary with soil conditions from 30 feet to 50 feet in width and was assumed to be 50 feet wide for this preliminary estimate of land acquisition requirements. Temporary construction easement was assumed to be 30 feet in width for pipelines, and staging areas at locations and with sizes previously identified by HDR were included.

The Design-Build team will identify the recommended properties and easements to acquire to support design and construction of the Project. Phase 1B 30 percent design drawings will show the ROW for public roads, private road easements, and pipeline alignment with proposed temporary and permanent pipeline

easements. Plat maps and legal descriptions will be prepared after the 30 percent design. The OA and Town will lead the acquisition of properties during Phase 1B once the design is further developed.



Figure 74 Private and Public Roads in the SAA

## 12.2 Property Acquisition

Table 42 summarizes the preliminary recommended properties the Town should consider for each pump station and export pipeline facility site. The recommendations will be finalized once the topographic survey of the Town and export pipeline is complete and the design is developed to 30 percent.

Table 42 Property Acquisition Summary

Number	Location	Street	Option 1 APN #(3)	Parcel Area (square feet)	Option 2 APN #(3)	Parcel Area (square feet)	Option 3 APN #(3)	Parcel Area (square feet)
<b>Pump Stations</b>								
1	P1_PS_1 Pump Station <sup>(10)</sup>	Pearson Road, 300 feet East of Skyway	052-212-020-000 <sup>(2)</sup>	12,196.8	052-194-008-000 <sup>(2)</sup>	5,227.2	052-194-009-000 <sup>(2)</sup>	13,503
2	P1_PS_2 Pump Station <sup>(10)</sup>	Pearson Road, 160 feet East of Black Olive Drive	052-227-002-000 <sup>(2)</sup>	19,166.4	052-223-030-000 <sup>(2)</sup> (SPRR)	204,296.4		
3	P1_PS_3 Pump Station <sup>(10)</sup>	Pearson Road and Academy	Locate in wide public ROW in parking lot	N/A	052-242-051-000	217,800		
4	C1_PS_2 Pump Station <sup>(10,11)</sup>	Clark Road and Old Clark Road	055-190-030-000 <sup>(2)</sup>	871,200	055-190-028-000 <sup>(2)</sup>	871,200	055-190-048-000	142,441.2
5	Pinegrove Pump Station	Armstrong Place and Frank Turner Way	050-190-053-000 <sup>(2)</sup>	543,628.8	051-146-017-000 <sup>(2)(7)</sup>	43,560		
6	Easy Pump Station	Clark Road and Easy Street	055-180-100-000 <sup>(2,8)</sup>	436,471.2	055-180-097-000 <sup>(8)</sup>	217,800		
7	Ewald Pump Station	Clark Road and Ewald Court	054-110-053-000 <sup>(8)</sup>	24,829.2	054-110-062-000 <sup>(2,8)</sup>	228,254.4	054-110-054-000 <sup>(8)</sup>	27,878.4
8	East Clark Pump Station	Pinecrest Mobile Home Park	054-120-061-000	18,295.2	054-120-016-000	32,234.4	054-120-021-000	809,344.8
9	East Nunneley Pump Station	Nunneley Road and Golden Oaks Road	053-131-017-000	20,908.8	053-131-055-000	10,890	053-131-066-000 <sup>(2)</sup>	10,890
10	East Elliot Pump Station <sup>(9)</sup>	Elliot Road	053-103-027-000 <sup>(2)</sup>	55,321.2	053-103-025-000 <sup>(2)</sup>	29,620.8	053-103-028-000 <sup>(2)</sup>	22,215.6
11	Memorial pump Station	Memorial Way	052-090-018-000	7,405.2	052-090-017-000	7,405.2	052-090-035-000	9,583.2
12	Capecod Pump Station	Nantucket Drive	052-060-013-000 <sup>(2)</sup>	152,460	052-050-005-000 <sup>(2)</sup>	18,295.2	052-050-006-000	14,374.8
13	Central Park Pump Station	Paradise High School	053-380-045-000 <sup>(2)</sup>	712,206	No other practical parcels			
14	Bowles Pump Station	Bowles Blvd	053-021-057-000 <sup>(2)</sup>	17,393	053-021-052-000 <sup>(2)</sup>	20,473.2	053-021-088-000 <sup>(2)</sup>	194,731
15	Pheasant Pump Station	Herb and Pheasant Ridge	050-051-049-000 <sup>(2)</sup>	97,138.8	050-051-048-000 <sup>(2)</sup>	26,7022.8		
16	Burdaparadise Pump Station	Burdaparadise Lane	050-070-072-000	74,487.6	No other practical parcels			
17	Center Pump Station	Center Street	052-060-026-000 <sup>(2)</sup>	14,374.8	052-060-028-000 <sup>(2)</sup>	23,086.8	052-00-085-000 <sup>(2)</sup>	74,487.6
18	Buschmann Pump Station <sup>(11)</sup>	Foster and Buschmann	052-250-038-000	11,761.2	052-235-025-000	8,712	052-330-001-000	13,068
19	Stoneridge Pump Station	Stoneridge Circle	054-370-099-000 (Common Area A and B)	521,065	No other practical parcels			
20	Nunneley Pump Station	Nunneley Drive	053-120-067-000 <sup>(2)</sup>	645,559.2	054-370-099-000 <sup>(2)</sup> (Common Area B)	521,065		
21	Connie Pump Station	Connie Circle	051-440-099-000 (Common Area)	29,185.2	No other practical parcels			
22	Black Olive Pump Station	Black Olive Drive	052-250-123-000 <sup>(2)</sup>	65,775.6	052-213-012-000 <sup>(2)</sup>	31,363.2	052-213-007-000 <sup>(2)</sup>	30,492
23	Wildwood Pump Station	Wildwood Lane	052-121-021-000	15,246	052-121-020-000	6,098.4	052-110-060-000 <sup>(2)</sup>	80,586
24	S1_PS_1 Pump Station	Skyway and Bader Mine Road	050-013-040-000	13,068	050-013-030-000	10,018.8	050-013-031-000	10,018.8
25	C1_PS_1 Pump Station	Clark Road and Wagstaff	050-360-037-000 <sup>(2,6)</sup>	195,584.4	050-360-036-000 <sup>(2,6)</sup>	27,007.2		
26	E1_PS_2 Pump Station	Elliot and Maxwell	053-110-075-000	9,147.6	053-111-034-000	189,486	053-120-067-000	645,559.2
27	E1_PS_1 Pump Station	Elliot and James	052-080-038-000 <sup>(2)</sup>	5,227.2	052-150-036-000 <sup>(2)</sup>	25,264.8	052-080-074-000 <sup>(2)</sup>	49,658.4
28	Woodbrook Pump Station	Woodbrook Court	053-080-020-000 <sup>(2)</sup>	15,681.6	053-080-021-000 <sup>(2)</sup>	14,374.8		
29	Oakwood Pump Station	Oakwood Lane	052-213-010-000 <sup>(2)</sup>	33,105.6	052-212-024-000 <sup>(2)</sup>	12,196.8	052-212-012-000 <sup>(2)</sup>	9,147.6
30	American Pump Station	American Way	055-180-076-000 <sup>(2,8)</sup>	226,076.4	055-180-099-000 <sup>(2,8)</sup>	225,205.2		
31	McKale Pump Station	McKale Road	055-180-100-000 <sup>(2,8)</sup>	436,471.2	055-180-099-000 <sup>(8)</sup>	225,205.2		

Number	Location	Street	Option 1 APN # <sup>(3)</sup>	Parcel Area (square feet)	Option 2 APN # <sup>(3)</sup>	Parcel Area (square feet)	Option 3 APN # <sup>(3)</sup>	Parcel Area (square feet)
32A	Rocky Pump Station <sup>(5)</sup>	Rocky Lane	051-102-037-000 <sup>(2)</sup>	35,283.6	051-102-036-000 <sup>(2)</sup>	17,424	050-150-037-000	157,251.6
32B	Rocky Pump Station <sup>(5)</sup> (ALT)	Rocky Lane	051-102-029-000	8,276.4	050-150-105-000	30,492		
33	Birch Pump Station	Birch Street (Near Skyway)	052-192-014-000 <sup>(2)</sup>	10,454.4	052-194-015-000 <sup>(2)</sup>	21,780		
34	Village Pump Station	Village Parkway	054-038-002-000 <sup>(2)</sup>	2,039,479	054-038-001-000 <sup>(2)</sup>	91,912		
35	Chapel Drive Pump Station	Chapel Drive at Pearson	054-040-025-000 <sup>(2)</sup>	50,965.2	054-050-003-000 <sup>(2)</sup>	94,089.6		
36	Upper Clark Road Pump Station <sup>(4)</sup>	Clark Road at Kilcrease Circle	050-140-082-000 <sup>(2)</sup>	12,632.4	050-140-177-000 <sup>(2)</sup>	30,927.6		
<b>Export Pipeline Facilities</b>								
	Export Pump Station	Skyway & Skyway Crossroad Road	017-090-097-000	87,000				
	Transition Structure and Emergency Storage	Skyway	017-320-011-000	10,000				
	Flow Control Valve Vault at Chico WPCP	Chico River Rd	039-530-009-000	35,000				

- Notes:
- (1) Based on the property workshop discussion, where practical the Town will purchase the entire parcel, so area shown is based on APN parcel area.
  - (2) Site is located in Town special permit zone.
  - (3) Pump station APN# are in order of preference.
  - (4) Upper Clark Road pump station is only required if the Town decides to proceed with the Clark Road extension.
  - (5) Rocky Lane pump station shifts south on Rocky Lane for the Memorial Trailway Reduction Alternative.
  - (6) All parcels are occupied based on Google Earth. The only space available for a pump station are parking lots or driveway.
  - (7) Pump station parcel would require an access road from APN 050-190-053-000 private road.
  - (8) All adjacent parcels are in commercial use, but there is space for a small pump station.
  - (9) All parcels in area are occupied based on Google Earth. APN 053-103-027-000 was ranked first since it has a large open area being used for truck parking.
  - (10) Trunk Pump Station in base case.
  - (11) Trunk Pump Station in Buschmann Realignment Alternative.

## 12.3 Temporary Construction Easements

Approximately 35 percent of the sewer collection system is located on private roads or within private property. TCEs are required for sewer installation where the pipeline will be installed in private roads or if there is insufficient space in public ROW. The Town's geographic information system (GIS) layer of private versus public roads in combination with County accessor parcel maps were used to estimate the location, APN easement length and total TCE area required. A 30-foot-wide temporary construction easement was used for all pipelines so that a total work area of 50 feet could be achieved by using the PE as well. The TCE was generally located on one side of the PE to reduce the number of easements needed. Parcels identified as vacant in the windshield survey were used. In a few areas, 15-foot-wide easements are needed and two parcels will be encumbered due to existing road location on the parcel line or existing obstructions seen on Google Earth. A summary of TCE is shown in Table 43. There were 174 parcels identified that will require TCEs. It was suggested that the Town consider acquisition of the private roads to avoid the purchase and maintenance of so many easements, but the Town indicated that is not a viable option.

Private roads vary in width from 16 to 100 feet in width with edge of easement right outside of pavement. Staging areas will be needed for construction. HDR in conjunction with the Town identified 19 potential staging areas. Staging areas should be finalized after the Town and MCI have discussed the space and locations needed.

## 12.4 Permanent Easements

PEs are required for all sewers within the private roads. The Town's GIS layer of private vs public roads in combination with the APN maps for parcels within the Town were used to estimate the locations, parcels, easement length and total area required. A 20-foot wide PE was used for all pipelines, but can appear as 10-foot wide in the summary Table 44 since existing private road easements are sometimes split between parcels. There were 225 parcels identified that will require PEs.

## 12.5 Right-of-Entry Agreement Process

The surveyor will need to enter private property to survey the finished floor elevation of existing buildings and to provide the ground elevation at the existing septic tank to confirm that the minimum lateral slope of 2 percent can be achieved. In the State of California, surveyors are allowed to survey without right-of-entry, but advance notification is recommended and may aid in locating the septic tanks.

Within the Town, new sewer lateral installation and septic system abandonment on private property will require right-of-entry agreements from each property owner. Typically, a Town will come up with a standard form that is provided to each property owner for signature. The Town will need the signed form in advance of construction.

Table 43 TCE Summary

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
<b>Private Roads</b>							
Collection System	Pinehaven Drive	051-220-086-000	155.02	30	4,650.6	5509 Pine Haven Drive	
Collection System	Pinehaven Drive	051-220-087-000	156.03	30	4,680.9	5521 Pine Haven Drive	
Collection System	Pinehaven Drive	051-220-048-000	201.28	30	6,038.4	4857 Skyway	
Collection System	Longview Drive	051-220-103-000	165	30	4,950	5125 Skyway	
Collection System	Longview Drive	051-220-068-000	36.96	30	1,108.8	5507 Longview Drive	
Collection System	Longview Drive	051-220-069-000	223.04	30	6,691.2	5503 Longview Drive	
Collection System	Connie Circle	051-440-098-000	113	30	3,390	3622 Connie Circle	
Collection System	Vista Way	052-250-085-000	226.96	30	6,808.8	5389 Skyway	
Collection System	Vista Way	052-250-088-000	25.04	30	751.2	5423 Skyway	
Collection System	Jewell Road	052-182-044-000	235.22	30	7,056.6	5604 Jewell Road	
Collection System	Jewell Road	052-182-093-000	143.68	30	4,310.4	5651 Skyway	
Collection System	Town Lane	052-250-043-000	90	30	2,700	508 Town Lane	
Collection System	Town Lane	052-250-045-000	90	30	2,700	504 Town Lane	
Collection System	Town Lane	052-250-083-000	156	30	4,677.6	5678 Skyway	
Collection System	Udovich Lane	052-182-092-000	341.74	30	10,252.2	5795 Skyway	
Collection System	Black Olive Drive - Side Road	052-143-010-000	326	30	9,765	5726 Black Olive Drive	
Collection System	Black Olive Drive - Side Road	052-160-015-000	163	30	4,884.6	5838 Black Olive Drive	
Collection System	Memorial Way	052-090-027-000	156.2	30	4,686	6607 Skyway	
Collection System	Memorial Way	052-090-028-000	133.3	30	3,999	692 Memorial Way	
Collection System	Memorial Way	052-090-029-000	100	30	3,000	688 Memorial Way	
Collection System	Memorial Way	052-090-030-000	80	30	2,400	681 Memorial Way	
Collection System	Memorial Way	052-090-031-000	50	30	1,500	679 Memorial Way	
Collection System	Memorial Way	052-090-032-000	50	30	1,500	677 Memorial Way	
Collection System	Memorial Way	052-090-035-000	100	30	3,000	671 Memorial Way	
Collection System	Memorial Way	052-090-036-000	18.5	30	555	665 Memorial Way	
Collection System	Memorial Way	052-090-042-000	134.94	30	4,048.2	685 Memorial Way	
Collection System	Memorial Way	052-090-050-000	100	30	3,000	673 Memorial Way	
Collection System	Memorial Way	052-090-056-000	100	30	3,000	675 Memorial Way	
Collection System	Memorial Way	052-090-064-000	302.53	30	9,075.9	6625 Skyway	
Collection System	Luther Drive	052-080-006-000	287	30	8,610	780 Luther Drive	
Collection System	Luther Drive	052-080-068-000	77.07	30	2,312.1	786 Luther Drive	
Collection System	Luther Drive	052-080-069-000	72	30	2,160	784 Luther Drive	
Collection System	Luther Drive	052-080-083-000	161.82	30	4,854.6	805 Luther Drive	
Collection System	Luther Drive	052-080-084-000	78	30	2,340	Luther Drive	
Collection System	Luther Drive	052-080-089-000	109	30	3,270	804 Luther Drive	
Collection System	Luther Drive	052-080-094-000	190	30	5,700	6550 Skyway	
Collection System	Nantucket Drive	052-060-013-000	310.26	30	9,307.8	6799 Skyway	
Collection System	Nantucket Drive	052-060-011-000	111.79	30	3,353.7	6801 Skyway	
Collection System	Nantucket Drive	052-060-037-000	84	30	2,520	6779 Skyway	
Collection System	Center Street	052-040-085-000	281.41	30	8,442.3	6189 Center Street	
Collection System	Unnamed Side Road next to Center Street	052-040-084-000	216	30	6,480	6189 Center Street	
Collection System	Lucky John Road - North of Skyway	052-012-052-000	515	15	7,725	6137 Lucky John Road	
Collection System	Lucky John Road - North of Skyway	053-021-087-000	717.96	15	10,769.4	6154 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	052-040-103-000	298.94	30	8,968.2	7084 Skyway	
Collection System	Lucky John Road - Parking Lot	052-040-088-000	212.88	30	6,386.4	7020 Skyway	
Collection System	Lucky John Road - Parking Lot	052-040-093-000	263.86	30	7,915.8	6047 Lucky John Road	
Collection System	Lucky John Road - Parking Lot	052-040-102-000	385.5	30	11,565	7050 Skyway	
Collection System	Westchester Way	052-040-015-000	165	15	2,475	6061 Westchester Way	
Collection System	Westchester Way	052-040-069-000	271	15	4,065	7099 Skyway	
Collection System	Westchester Way	052-040-096-000	201	15	3,015	7067 Skyway	
Collection System	Evergreen Mobile Home Park	053-021-088-000	494.58	30	14,837.4	7209 Skyway	
Collection System	Bowles Boulevard	053-021-039-000	151.94	30	4,558.2	6138 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-051-000	117	30	3,510	6130 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-052-000	255.82	30	7,674	6120 Bowles Boulevard	
Collection System	Maxwell Drive - Sideroad	053-030-023-000	75	15	1,125	5979 Maxwell Drive	

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Maxwell Drive - Sideroad	053-111-001-000	809.33	15	12,139.95	5911 Maxwell Drive	
Collection System	Maxwell Drive - Sideroad	053-111-033-000	65	15	975	881 Elliot Road	
Collection System	Rochelle Lane	051-164-060-000	463	15	6,945	7726 Skyway	
Collection System	Narbonne Ave	051-164-060-000	1304	15	19,560	7726 Skyway	
Collection System	Lisa Lane	051-164-024-000	214.47	30	6,434.1	1061 Lisa Lane	
Collection System	Lisa Lane	051-164-054-000	401.43	15	6,021.45	7816 Skyway	
Collection System	Lisa Lane	051-164-058-000	401.43	15	6,021.45	7856 Skyway	
Collection System	Lisa Lane	051-164-051-000	74.56	30	2,236.8	1080 Lisa Lane	
Collection System	Lisa Lane	051-164-052-000	170.9	30	5,127	1079 Lisa Lane	
Collection System	Green Tree Court	051-153-014-000	130	30	3,900	Green Tress Court	
Collection System	Unnamed sideroad next to Green Tree Court	051-153-008-000	757.67	30	22,730.1	7974 Skyway	
Collection System	Kemen Lane	051-131-002-000	365	30	10,950	8381 Skyway	
Collection System	Kemen Lane	051-131-016-000	831.61	30	24,948.3	1087 Kemen Lane	
Collection System	Unnamed Side Road next to Towhee Lane	050-070-060-000	103	30	3,090	No address, near Towhee Lane and Skyway	
Collection System	Unnamed Side Road next to Towhee Lane	050-070-061-000	103	30	3,090	8774 Skyway	
Collection System	Burdaparadise Lane	050-070-075-000	268.5	15	4,027.5	8770 Skyway	
Collection System	Burdaparadise Lane	050-070-082-000	757.5	15	11,362.5	8764 Skyway	
Collection System	Towhee Lane	050-070-046-000	68	15	1,020	1417 Towhee Lane	
Collection System	Towhee Lane	050-070-047-000	110	15	1,650	1413 Towhee Lane	
Collection System	Towhee Lane	050-070-049-000	176	15	2,640	1419 Towhee Lane	
Collection System	Towhee Lane	050-070-052-000	89	15	1,335	1401 Towhee Lane	
Collection System	Towhee Lane	050-070-053-000	72	15	1,080	1405 Towhee Lane	
Collection System	Towhee Lane	050-070-054-000	72	15	1,080	1409 Towhee Lane	
Collection System	Towhee Lane	050-070-058-000	587	15	885	8792 Skyway	
Collection System	Burdaparadise Lane	050-070-072-000	757.5	15	11,362.5	1416 Burdaparadise Lane	
Collection System	Pheasant Ridge Road	050-051-049-000	300	30	9,000	7075 Clark Road	
Collection System	Silverwood Lane	050-040-131-000	358.44	30	10,753.2	9034 Skyway	
Collection System	Yeshua Way	050-040-131-000	204.5	30	6,135	9034 Skyway	
Collection System	Indian Drive	066-510-034-000	508.52	30	15,255.6	9261 Skyway	
Collection System	Buschmann Road	052-250-117-000	350	30	10,500	Indian Rock Lane	
Collection System	Logan Drive	052-237-001-000	45	15	675	5590 Sierra Park Drive	
Collection System	Logan Drive	052-237-001-000	125	15	1,875	5590 Sierra Park Drive	
Collection System	Crawford Lane	052-238-010-000	57	15	855	5560 Keith Road	
Collection System	Crawford Lane	052-238-011-000	58	15	870	5564 Keith Road	
Collection System	Crawford Lane	052-238-032-000	114.5	30	3,435	5568 Keith Road	
Collection System	Crawford Lane	052-238-017-000	140	30	4,200	5579 Scottwood Road	
Collection System	Recreation Drive	054-050-023-000	938	30	28,140	5657 Recreation Drive	
Collection System	Village Parkway	054-090-070-000	206.95	15	3,104.25	5475 Clark Road	
Collection System	Village Parkway	054-090-071-000	924.51	15	13,867.65	Clark Road	
Collection System	Village Parkway	054-380-001-000	626.66	15	9,399.9	967 Village Parkway	
Collection System	Village Parkway	054-380-002-000	594.5	15	8,917.5	Village Parkway	
Collection System	Hamma Drive	052-142-005-000	125	30	3,750	5769 Black Olive Drive	
Collection System	Hamma Drive	052-142-010-000	75	30	2,250	5800 Almond Street	
Collection System	Hamma Drive	052-142-011-000	50	30	1,500	727 Hamma Drive	
Collection System	E Oak Street	052-242-037-000	90	30	2,700	780 E Oak Street	
Collection System	Holly Lane	052-241-002-000	121.3	30	3,639	5768 Holly Lane	
Collection System	Holly Lane	052-241-003-000	107.1	30	3,213	5760 Holly Lane	
Collection System	Holly Lane	052-241-006-000	147.1	30	4,413	5736 Holly Lane	
Collection System	Holly Lane	052-241-020-000	73.5	30	2,205	5716 Holly Lane	
Collection System	Holly Lane	052-241-022-000	73.5	30	2,205	5720 Holly Lane	
Collection System	Holly Lane	052-241-027-000	90	30	5,700	5748 Holly Lane	
Collection System	Holly Lane	052-241-028-000	97.1	30	2,913	5744 Holly Lane	
Collection System	Chapel Drive	054-040-026-000	323.31	30	9,699.3	5704 Chapel Drive	
Collection System	Chapel Drive	054-040-027-000	647.72	30	19,422.6	5705 Chapel Drive	
Collection System	Chapel Drive	054-040-136-000	648	30	19,440	5705 Chapel Drive	
Collection System	Churchill Road	054-040-045-000	101.21	30	3,036.3	5711 Churchill Road	
Collection System	Sydney Lane	054-040-015-000	312.25	15	4,683.75	581 Pearson Road	
Collection System	Sydney Lane	054-040-066-000	150	15	2,250	5724 Sydney Lane	
Collection System	Sydney Lane	054-040-110-000	190.49	15	2,857.35	591 Pearson Road	
Collection System	Sydney Lane	054-040-113-000	347.45	15	5,211.75	565 Pearson Road	
Collection System	Sydney Lane	054-040-114-000	140	15	2,100	5708 Sydney Lane	
Collection System	Sydney Lane	054-040-115-000	135	15	2,025	No address, near Sydney Lane and Susie Lane	



Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Susie Lane	054-040-009-000	277	15	4,155	5704 Susie Lane	
Collection System	Susie Lane	054-040-010-000	383	15	5,745	5710 Susie Lane	
Collection System	Susie Lane	054-040-137-000	347	15	5,205	5719 Susie Lane	
Collection System	Susie Lane	054-040-138-000	220	15	3,300	597 Pearson Road	
Collection System	Nunneley Road	052-160-006-000	805	30	24,150	Shady Lane	
Collection System	Nunneley Road	052-160-018-000	244.8	30	7,344	443 Nunneley Road	
Collection System	Nunneley Road	052-242-001-000	197	30	5,910	5762 Shady Lane	
Collection System	Nunneley Road	052-242-002-000	187.96	30	5,638.8	430 Nunneley Road	
Collection System	Nunneley Road	052-242-047-000	243.2	30	7,296	5751 Academy Drive	
Collection System	Shadowbrook Way	054-040-117-000	130	30	3,894.9	5799 Clark Road	
Collection System	Stonecrest Court	054-360-000-000	209	30	6,270	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"
Collection System	Stonecreek Court	054-360-000-000	113	30	3,390	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"
Collection System	South Stoneridge Circle	054-370-099-000	1667	30	50,010	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Rocky Ridge Court	054-370-099-000	146	30	4,380	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Stonecanyon Court	054-360-000-000	88	30	2,640	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"
Collection System	Fieldstone Court	054-370-099-000	942	30	28,260	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Tulip Lane	052-150-011-000	144.99	15	2,174.85	810 Violet Way	
Collection System	Tulip Lane	052-150-015-000	115	15	1,725	810 Windsor Drive	
Collection System	Tulip Lane	052-150-037-000	263.91	15	3,958.65	816 Elliot Road	
Collection System	Tulip Lane	052-150-038-000	245	15	3,675	817 Elliot Road	
Collection System	Tulip Lane	052-150-039-000	291.49	15	43,72.35	5977 McClain Lane	
Collection System	McClain Lane	052-080-010-000	93.46	15	1,401.9	5985 McClain Lane	
Collection System	McClain Lane	052-080-011-000	107	15	1,605	5977 McClain Lane	
Collection System	McClain Lane	052-080-012-000	245.66	15	3,684.9	5974 McClain Lane	
Collection System	McClain Lane	052-080-015-000	128	15	1,920	5964 McClain Lane	
Collection System	McClain Lane	052-080-025-000	240	15	3,600	5921 McClain Lane	
Collection System	McClain Lane	052-080-082-000	314.07	30	9,422.1	805 Elliot Road	
Collection System	McClain Lane	052-080-095-000	131.04	30	3,931.2	5913 McClain Lane	
Collection System	McClain Lane	052-080-097-000	99.52	30	2,985.6	5903 McClain Lane	
Collection System	McClain Lane	052-080-111-000	99.51	30	2,985.3	765 Elliott Road	
Collection System	Old Clark Road	055-180-023-000	338.5	15	5,077.5	832 Natures Way	
Collection System	Old Clark Road	055-180-024-000	331.85	15	4,977.75	841 Natures Way	
Collection System	Old Clark Road	055-180-039-000	155	15	2,325	5060 Old Clark Road	
Collection System	Old Clark Road	055-180-079-000	183.5	15	2,752.5	5045 Clark Road	
Collection System	Old Clark Road	055-180-083-000	331.85	15	4,977.75	5075 Clark Road	
Collection System	Old Clark Road	055-180-104-000	342.75	15	5,141.25	5100 Clark Road	
Collection System	Old Clark Road	055-180-105-000	342.5	15	5,137.5	5130 Old Clark Road	
Collection System	Old Clark Road	055-180-106-000	68.25	15	1,023.75	5090 Old Clark Road	
Collection System	Old Clark Road	055-190-048-000	356	15	5,340	Clark Road	
Collection System	Old Clark Road	055-190-053-000	359.98	15	5,399.7	4941 Clark Road	
Collection System	Palmer Hill Road	055-180-095-000	100	15	1,500	840 Pamler Hill Road	
Collection System	Pinecrest Mobile Home Park	054-120-021-000	3165	15	47,475	5436 Clark Road	
Collection System	Mangrove Avenue	054-120-061-000	128	15	1,920	5380 Clark Road	
Collection System	Anchor Way	054-120-071-000	946	15	14,190	5364 Clark Road	
Collection System	Blue Haven Mobile Estates	054-080-005-000	909	30	27,270	5510 Clark Road	
Collection System	Unnamed Side Road near Pearson Road and Clark Road intersection	054-040-024-000	187	30	5,610	511 Pearson Road	
Collection System	Woodcraft Road	053-040-028-000	137	15	2,055	1226 Woodcraft Road	
Collection System	Woodcraft Road	053-040-038-000	10	15	1,050	6220 Clark Road	
Collection System	Woodcraft Road	053-040-040-000	207	15	3,105	6240 Clark Road	
Collection System	Unnamed Side Road near Elk Lane and Clark Road intersection	053-400-018-000	109	30	3,270	No address, near Elk Lane and Clark Road	
Collection System	Unnamed Side Road near Elk Lane and Clark Road intersection	053-400-019-000	237	30	7,110	No address, near Elk Lane and Clark Road	
Collection System	Armstrong Place	050-190-053-000	500	15	7,500	1280 Wagstaff Road	
Collection System	Armstrong Place	050-190-078-000	172.59	15	2,588.85	6491 Clark Road	
Collection System	Armstrong Place	050-200-104-000	1,057.08	15	15,856.2	6491 Clark Road	

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Frank Turner Way	050-190-039-000	1,450	30	43,500	616 Stevens Avenue Unit A	
Collection System	Wagstaff Road - Side Road near Wagstaff Road and Rocky Lane	050-190-053-000	1,496	30	44,880	1280 Wagstaff Road	
		<b>Total</b>	<b>50,891 LF</b>		<b>1,168,292</b>		
<b>Export Pipeline Facilities</b>							
Export Pipeline	Skyway	017-190-081-000	1,343	30	40,290		
Export Pipeline	Skyway	017-190-051-000	60	30	1,800		
Export Pipeline	Skyway	017-320-005-000	1,632	30	48,960		
Export Pipeline	Skyway	017-320-004-000	572	30	17,160		
Export Pipeline	Skyway	017-320-006-000	243	30	7,290		
Export Pipeline	Skyway	040-520-097-000	769	30	23,070		
Export Pipeline	Skyway	017-320-007-000	706	30	21,180		
Export Pipeline	Skyway	017-320-008-000	1,539	30	46,170		
Export Pipeline	Skyway	017-320-009-000	2,250	30	67,500		
Export Pipeline	Skyway	017-320-010-000	1,688	30	50,640		
Export Pipeline	Skyway	017-320-011-000	1,696	30	50,880		
Export Pipeline	Skyway	017-300-999-000	3,742	30	112,260		
Export Pipeline	Skyway	040-600-076-000	1,441	30	43,230		
Export Pipeline	Skyway	040-600-075-000	553	30	16,590		
Export Pipeline	Skyway	040-020-140-000	4,200	30	126,000		
Export Pipeline	Skyway	040-600-057-000	275	30	8,250		
Export Pipeline	Skyway	040-020-139-000	2,899	30	86,970		
Export Pipeline	West of Butte Creek	040-400-100-000	3,000	30	90,000		
Export Pipeline	East of Highway 99	040-400-097-000	382	30	11,460		
Export Pipeline	East of Highway 99	040-400-096-000	442	30	13,260		
Export Pipeline	Entler Ave & Norfield Ave	040-400-092-000	100	50	5,000		
Export Pipeline	Hegan Lane	039-500-022-000	100	20	2,000	2819 Hegan Lane	
Export Pipeline	Hegan Lane	039-080-027-000	100	50	5,000	2979 Hegan Lane	
Export Pipeline	Crouch Ave	039-200-079-000	240	50	12,000		
Export Pipeline	Crouch Ave	039-530-003-000	100	50	5,000		
Export Pipeline	Taffee Ave	039-160-001-000	240	50	12,000	1098 Taffee Ave	
Export Pipeline	Taffee Ave	039-130-004-000	100	40	4,000	982 Taffee Ave	
		<b>Total</b>	<b>30,412 LF</b>		<b>927,960</b>		
<b>HDR and Town Identified Staging Areas</b>							
Collection System	Staging Area 01-A	050-070-073-000	Varies	Varies	32,700 (paved parking lot)	8777 Skyway	
Collection System	Staging Area 01-B	050-150-002-000	120	80	9,600	8710 Skyway	
Collection System	Staging Area 02	051-163-039-000	Varies	Varies	7,700 (paved parking lot)	7837 Skyway	
Collection System	Staging Area 03	053-040-037-000	Varies	Varies	7,700 (paved parking lot)	6200 Clark Road	
Collection System	Staging Area 04-A	054-050-101-000	120	120	14,400	458 Pearson Road	
Collection System	Staging Area 04-B	054-040-015-000	Varies	Varies	4,540 (paved parking lot)	581 Pearson Road	
Collection System	Staging Area 05-A	055-180-049-000	Varies	Varies	42,690	No Address (between American Way and Clark Road)	
Collection System	Staging Area 05-B	055-180-076-000	120	80	9,600	925 American Way	
Collection System	Staging Area 06	052-260-140-000	Varies	Varies	4,540 (paved parking lot)	5522 Skyway	
Collection System	Staging Area 07-A	051-230-042-000	120	80	9,600	4770 Skyway	
Collection System	Staging Area 07-B	No Parcel #	80	120	9,600	Skyway and Skyway Crossroad Road	
Export Pipeline	Staging Area 08	040-520-109-000 and No Parcel #	Varies	Varies	99,465 (paved parking lot)	No Address (Santa Rosa Road and Skyway)	
Export Pipeline	Staging Area 09	017-320-011-000	120	80	9,600	No Address (Between Eagle Nest Drive and Skyway)	Located under high kilovolt power lines
Export Pipeline	Staging Area 10	040-400-099-000	200?	200?	40,000?	425 Southgate Avenue, Chico	Size not clearly defined
Export Pipeline	Staging Area 11	040-310-082-000	Varies	Varies	19,925 (paved parking lot)	11196 Midway, Chico	
Export Pipeline	Staging Area 12	039-080-005-000	120	80	9,600	No address (Hegan Lane and Nicolas C. Schouten Lane)	
Export Pipeline	Staging Area 13	039-080-102-000	120	80	9,600	3764 Hegan Lane, Chico	
Export Pipeline	Staging Area 14	039-160-037-000	160	60	9,600	3600 Chico Avenue, Chico	
Export Pipeline	Staging Area 15	039-530-009-000	Varies	Varies	6100??	4825 Chico River Road, Chico	Says paved area, but no paved area here

Notes:

(1) Staging areas were identified by HDR and the Town. Locations shown are based on the HDR GIS database.

Table 44 PE Summary

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
<b>Private Roads</b>							
Collection System	Pinehaven Drive	051-220-065-000	201.28	20	4,025.6	4903 Skyway	
Collection System	Pinehaven Drive	051-220-086-000	155.02	20	3,100.4	5509 Pine Have Drive	
Collection System	Pinehaven Drive	051-220-087-000	156.03	20	3,210.6	5521 Pine Haven Drive	
Collection System	Longview Drive	051-220-103-000	165	20	3,300	5125 Skyway	
Collection System	Longview Drive	051-220-068-000	36.96	20	739.2	5507 Longview Drive	
Collection System	Longview Drive	051-220-069-000	223.04	20	4,460.8	5503 Longview Drive	
Collection System	Connie Circle	051-440-098-000	113	20	2,260	3622 Connie Circle	
Collection System	Vista Way	052-250-085-000	226.96	20	4,539.2	5389 Skyway	
Collection System	Vista Way	052-250-088-000	25.04	20	500.8	5423 Skyway	
Collection System	Jewell Road	052-182-044-000	235.22	10	2,352.2	5604 Jewell Road	
Collection System	Jewell Road	052-182-093-000	143.68	10	1,436.8	5651 Skyway	
Collection System	Jewell Road	052-250-002-000	27.43	10	274.3	5613 Jewell Road	
Collection System	Jewell Road	052-250-088-000	349.57	10	3,495.7	5423 Skyway	
Collection System	Town Lane	052-250-043-000	90	10	900	508 Town Lane	
Collection System	Town Lane	052-250-045-000	90	10	900	504 Town Lane	
Collection System	Town Lane	052-250-083-000	156	10	1,560	5678 Skyway	
Collection System	Town Lane	052-250-089-000	298	10	2,980	5700 Skyway	
Collection System	Udovich Lane	052-182-091-000	341.74	10	3,417.4	5757 Skyway	
Collection System	Udovich Lane	052-182-092-000	341.74	10	3,417.4	5795 Skyway	
Collection System	Black Olive Drive - Side Road	052-143-010-000	326	20	6,510	5726 Black Olive Drive	
Collection System	Black Olive Drive - Side Road	052-160-015-000	163	20	3,256.4	5838 Black Olive Drive	
Collection System	Memorial Way	052-090-018-000	75	10	750	668 Memorial Way	
Collection System	Memorial Way	052-090-019-000	125	10	1,250	672 Memorial Way	
Collection System	Memorial Way	052-090-020-000	75	10	750	674 Memorial Way	
Collection System	Memorial Way	052-090-021-000	50	10	500	676 Memorial Way	
Collection System	Memorial Way	052-090-022-000	49.5	10	495	678 Memorial Way	
Collection System	Memorial Way	052-090-023-000	49.5	10	495	678 Memorial Way	
Collection System	Memorial Way	052-090-024-000	50	10	500	682 Memorial Way	
Collection System	Memorial Way	052-090-025-000	51	10	500	684 Memorial Way	
Collection System	Memorial Way	052-090-027-000	156.2	20	3,124	6607 Skyway	
Collection System	Memorial Way	052-090-028-000	133.3	20	2,666	692 Memorial Way	
Collection System	Memorial Way	052-090-029-000	100	20	2,000	688 Memorial Way	
Collection System	Memorial Way	052-090-030-000	80	10	800	681 Memorial Way	
Collection System	Memorial Way	052-090-031-000	50	10	500	679 Memorial Way	
Collection System	Memorial Way	052-090-032-000	50	10	500	677 Memorial Way	
Collection System	Memorial Way	052-090-035-000	100	10	1,000	671 Memorial Way	
Collection System	Memorial Way	052-090-036-000	18.5	10	185	665 Memorial Way	
Collection System	Memorial Way	052-090-042-000	134.94	20	2,698.8	685 Memorial Way	
Collection System	Memorial Way	052-090-050-000	100	10	1,000	673 Memorial Way	
Collection System	Memorial Way	052-090-056-000	100	10	1,000	675 Memorial way	
Collection System	Memorial Way	052-090-064-000	302.53	20	6,050.6	6625 Skyway	
Collection System	Luther Drive	052-080-006-000	287	20	5,740	780 Luther Drive	
Collection System	Luther Drive	052-080-047-000	1138	10	1,380	797 Luther Drive	
Collection System	Luther Drive	052-080-068-000	77.07	10	770.7	786 Luther Drive	
Collection System	Luther Drive	052-080-069-000	72	10	720	784 Luther Drive	
Collection System	Luther Drive	052-080-083-000	161.82	10	1,618.2	805 Luther Drive	
Collection System	Luther Drive	052-080-084-000	78	10	780	Luther Drive	
Collection System	Luther Drive	052-080-089-000	09	10	1,090	804 Luther Drive	
Collection System	Luther Drive	052-080-094-000	190	20	3,800	6550 Skyway	
Collection System	Nantucket Drive	052-060-013-000	310.26	20	6,205.2	6799 Skyway	
Collection System	Center Street	052-040-085-000	281.41	10	2,814.1	6189 Center Street	
Collection System	Center Street	052-060-027-000	213.52	10	2,135.2	6184 Center Street	
Collection System	Center Street	052-060-039-000	63.66	10	636.6	6933 Center Street	
Collection System	Unnamed Side Road next to Center Street	052-040-084-000	216	10	2,160	6189 Center Street	
Collection System	Lucky John Road - North of Skyway	052-012-052-000	515	10	5,150	6137 Lucky John Road	
Collection System	Lucky John Road - North of Skyway	053-021-087-000	717.96	10	7,179.6	6154 Lucky John Road	

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Lucky John Road - South of Skyway	052-040-103-000	289.4	10	2,894	7084 Skyway	
Collection System	Lucky John Road - South of Skyway	052-080-107-000	304.14	20	6,082.8	7010 Skyway	
Collection System	Lucky John Road - South of Skyway	053-030-002-000	105.7	10	1,057	6102 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	053-030-005-000	211.4	10	2,114	6082 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	053-030-029-000	135	10	1,350	6078 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	053-030-034-000	145.57	10	1,455.7	7126 Skyway	
Collection System	Lucky John Road - South of Skyway	053-030-048-000	105.7	10	1,057	6090 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	053-030-049-000	475.93	10	4,759.3	6066 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	052-040-088-000	212.88	10	2,128.8	7020 Skyway	
Collection System	Lucky John Road - South of Skyway	052-040-093-000	263.86	10	2,638.6	6047 Lucky John Road	
Collection System	Lucky John Road - South of Skyway	052-040-102-000	385.5	10	3,855	7050 Skyway	
Collection System	Westchester Way	052-040-015-000	165	10	1,650	6061 Westchester Way	
Collection System	Westchester Way	052-040-069-000	271	10	2,710	7099 Skyway	
Collection System	Westchester Way	052-040-096-000	201	10	2,010	7067 Skyway	
Collection System	Evergreen Mobile Home Park	053-021-088-000	494.58	10	4,945.8	7209 Skyway	
Collection System	Bowles Boulevard	053-021-039-000	151.94	10	1,519.4	6138 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-051-000	117	10	1,170	6130 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-052-000	255.82	10	2,558.2	6120 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-057-000	167.92	10	1,679.2	6110 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-058-000	78.5	10	785	6094 Bowles Boulevard	
Collection System	Bowles Boulevard	053-021-099-000	151.94	10	1,519.4	7387 Skyway	
Collection System	Bowles Boulevard	053-021-063-000	95	10	950	No address, near Bowles and Skyway	
Collection System	Bowles Boulevard	053-021-082-000	176	10	1,760	7321 Skyway	
Collection System	Maxwell Drive - Sideroad	053-030-023-000	75	10	750	5979 Maxwell Drive	
Collection System	Maxwell Drive - Sideroad	053-111-001-000	809.33	10	8,093.3	5911 Maxwell Drive	
Collection System	Maxwell Drive - Sideroad	053-111-033-000	65	10	650	881 Elliot Road	
Collection System	Rochelle Lane	051-164-060-000	463	320	9,260	7726 Skyway	
Collection System	Narbonne Avenue	051-164-060-000	1304	20	26,080	7726 Skyway	
Collection System	Lisa Lane	051-164-024-000	214.47	20	4,289.4	1061 Lisa Lane	
Collection System	Lisa Lane	051-164-054-000	401.43	10	4,014.3	7816 Skyway	
Collection System	Lisa Lane	051-164-058-000	401.43	10	4,014.3	7856 Skyway	
Collection System	Lisa Lane	051-164-051-000	74.56	20	1,491.2	1080 Lisa Lane	
Collection System	Lisa Lane	051-164-052-000	170.9	20	3,418	1079 Lisa Lane	
Collection System	Green Tree Court	051-153-014-000	130	20	2,600	Green Tree Court	
Collection System	Unnamed sideroad next to Green Tree Court	051-153-008-000	757.67	20	15,153.4	7974 Skyway	
Collection System	Unnamed sideroad next to Green Tree Court	051-153-008-000	409.67	20	8,193.4	7974 Skyway	
Collection System	Kemen Lane	051-131-002-000	365	10	3,650	8381 Skyway	
Collection System	Kemen Lane	051-131-013-000	452.3	10	4,523	Skyway	
Collection System	Kemen Lane	051-131-014-000	339.38	10	3,393.8	Skyway	
Collection S4205system	Kemen Lane	051-131-016-000	831.61	10	8,316.1	1087 Kemen Lane	
Collection System	Unnamed Side Road next to Towhee Lane	050-070-060-000	103	10	1,030	No address, near Towhee Lane and Skyway	
Collection System	Unnamed Side Road next to Towhee Lane	050-070-061-000	103	10	1,030	8774 Skyway	
Collection System	Burdaparadise Lane	050-070-075-000	268.5	10	2,685	8770 Skyway	
Collection System	Burdaparadise Lane	050-070-082-000	757.5	10	7,575	8764 Skyway	
Collection System	Towhee Lane	050-070-046-000	68	10	380	1417 Towhee Lane	
Collection System	Towhee Lane	050-070-047-000	110	10	1,100	1413 Towhee Lane	
Collection System	Towhee Lane	050-070-049-000	176	10	1,760	1419 Towhee Lane	
Collection System	Towhee Lane	050-070-052-000	89	10	890	1401 Towhee Lane	
Collection System	Towhee Lane	050-070-053-000	72	10	720	1405 Towhee Lane	
Collection System	Towhee Lane	050-070-054-000	72	10	720	1409 Towhee Lane	

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Towhee Lane	050-070-058-000	587	10	5,870	8792 Skyway	
Collection System	Burdaparadise Lane	050-070-019-000	420.5	10	4,205	8822 Skyway	
Collection System	Burdaparadise Lane	050-070-072-000	420.5	10	4,205	1416 Burdaparadise Lane	
Collection System	Silverwood Lane	050-040-131-000	358.44	20	7,168.8	9034 Skyway	
Collection System	Yeshua Way	050-040-131-000	204.5	20	4,090	9034 Skyway	
Collection System	Indian Drive	066-510-034-000	508.52	20	10,170.4	9261 Skyway	
Collection System	Buschmann Road	052-250-117-000	350	20	7,000	Indian Rock Lane	
Collection System	Logan Drive	052-236-001-000	45	10	450	5572 Sierra Park Drive	
Collection System	Logan Drive	052-237-001-000	125	10	1,250	5590 Sierra Park Drive	
Collection System	Crawford Lane	052-238-010-000	57	10	570	5560 Keith Road	
Collection System	Crawford Lane	052-238-011-000	58	10	580	5564 Keith Road	
Collection System	Crawford Lane	052-238-032-000	114.5	20	2,290	5568 Keith Road	
Collection System	Crawford Lane	052-238-017-000	140	20	2,800	5579 Scottwood Road	
Collection System	Recreation Drive	054-050-023-000	938	20	18,760	5657 Recreation Drive	
Collection System	Village Parkway	054-090-070-000	206.95	10	2,069.5	5475 Clark Road	
Collection System	Village Parkway	054-090-071-000	924.51	10	9,245.1	Clark Road	
Collection System	Village Parkway	054-380-001-000	626.66	10	6,266.6	967 Village Parkway	
Collection System	Village Parkway	054-380-002-000	594.5	10	5,945	No address, near village Parkway and Dudley Lane	
Collection System	Hamma Drive	052-142-005-000	125	10	1,250	5769 Black Olive Drive	
Collection System	Hamma Drive	052-142-006-000	125	10	1,250	5747 Black Olive Drive	
Collection System	Hamma Drive	052-142-008-000	50	10	500	795 Fir Street	
Collection System	Hamma Drive	052-142-010-000	75	10	750	5800 Almond Street	
Collection System	Hamma Drive	052-142-011-000	50	10	500	727 Hamma Drive	
Collection System	Hamma Drive	052-142-017-000	75	10	750	5778 Almond Street	
Collection System	E Oak Street	052-242-037-000	90	20	1,800	780 E Oak Street	
Collection System	Holly Lane	052-241-002-000	121.3	10	1,213	5768 Holly Lane	
Collection System	Holly Lane	052-241-003-000	107.1	10	1,071	5760 Holly Lane	
Collection System	Holly Lane	052-241-006-000	147.1	10	1,471	5736 Holly Lane	
Collection System	Holly Lane	052-241-008-000	147.1	10	1,471	771 E Oak Street	
Collection System	Holly Lane	052-241-010-000	147.1	10	1,471	5730 Scottwood Road	
Collection System	Holly Lane	052-241-012-000	147.1	10	1,471	5741 Holly Lane	
Collection System	Holly Lane	052-241-020-000	73.5	10	735	5716 Holly Lane	
Collection System	Holly Lane	052-241-021-000	73.5	10	735	Holly Lane	
Collection System	Holly Lane	052-241-022-000	73.5	10	735	5720 Holly Lane	
Collection System	Holly Lane	052-241-023-000	268.5	10	2,685	5750 Scottwood Road	
Collection System	Holly Lane	052-241-027-000	90	10	900	5748 Holly Lane	
Collection System	Holly Lane	052-241-028-000	97.1	10	971	5744 Holly Lane	
Collection System	Shady Lane	052-242-018-000	147.1	20	2,942	802 E Oak Road	
Collection System	Chapel Drive	054-040-025-000	321.5	10	3,215	503 Pearson Road	
Collection System	Chapel Drive	054-040-026-000	323.31	10	3,233.1	5704 Chapel Drive	
Collection System	Chapel Drive	054-040-027-000	647.42	10	6,474.2	5705 Chapel Drive	
Collection System	Chapel Drive	054-040-136-000	648	20	12,960	5720 Academy Drive	
Collection System	Churchill Road	054-040-045-000	101.21	10	1,012.1	5711 Churchill Road	
Collection System	Sydney Lane	054-040-015-000	312.25	10	3,122.5	581 Pearson Road	
Collection System	Sydney Lane	054-040-066-000	150	10	1,500	5724 Sydney Lane	
Collection System	Sydney Lane	054-040-110-000	190.49	10	1,904.9	591 Pearson Road	
Collection System	Sydney Lane	054-040-113-000	347.45	10	3,474.5	565 Pearson Road	
Collection System	Sydney Lane	054-040-114-000	140	10	1,400	5708 Sydney Lane	
Collection System	Sydney Lane	054-040-115-000	135	10	1,350	No address, near Sydney Lane and Susie Lane	
Collection System	Susie Lane	054-040-009-000	277	10	2,770	5704 Susie Lane	
Collection System	Susie Lane	054-040-010-000	383	10	3,830	5710 Susie Lane	
Collection System	Susie Lane	054-040-137-000	347	10	3,470	5719 Susie Lane	
Collection System	Susie Lane	054-040-138-000	220	10	2,200	597 Pearson Road	
Collection System	Nunneley Road	052-160-006-000	805	20	16,100	Shady Lane	
Collection System	Nunneley Road	052-160-018-000	244.8	20	4,896	443 Nunneley Road	
Collection System	Nunneley Road	052-242-001-000	197	20	3,940	5762 Shady Lane	
Collection System	Nunneley Road	052-242-002-000	187.96	20	3,759.2	430 Nunneley Road	
Collection System	Nunneley Road	052-242-047-000	243.2	20	4,864	436 Nunneley Road	
Collection System	Shadowbrook Way	054-330-024-000	129.86	20	2,597.2	5821 Clark Road	
Collection System	Stonecrest Court	054-360-000-000	209	20	4,180	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Stonecreek Court	054-360-000-000	113	20	2,260	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"
Collection System	South Stoneridge Circle	054-370-099-000	1667	20	33,340	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Rocky Ridge Court	054-370-099-000	146	20	2,920	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Stonecanyon Court	054-360-000-000	88	20	1,760	No address, between Nunneley Road and S Stoneridge Circle	Common Area "A"
Collection System	Fieldstone Court	054-370-099-000	942	20	18,840	No address, between Nunneley Road and S Stoneridge Circle	Common Area "B"
Collection System	Tulip Lane	052-150-011-000	144.99	10	1,449.9	810 Violet Way	
Collection System	Tulip Lane	052-150-015-000	115	10	1,150	810 Windsor Drive	
Collection System	Tulip Lane	052-150-037-000	263.91	10	2,639.1	816 Elliot Road	
Collection System	Tulip Lane	052-150-038-000	245	10	2,450	5846 Tulip Lane	
Collection System	Tulip Lane	052-150-039-000	291.49	10	2,914.9	5824 Tulip Lane	
Collection System	McClain Lane	052-080-010-000	93.46	10	934.6	5985 McClain Lane	
Collection System	McClain Lane	052-080-011-000	107	10	1,070	5977 McClain Lane	
Collection System	McClain Lane	052-080-012-000	245.66	10	2,456.6	5974 McClain Lane	
Collection System	McClain Lane	052-080-015-000	128	10	1,280	5964 McClain Lane	
Collection System	McClain Lane	052-080-021-000	53.5	10	535	5836 McClain Lane	
Collection System	McClain Lane	052-080-025-000	240	10	2,400	5921 McClain Lane	
Collection System	McClain Lane	052-080-053-000	192	10	1,920	5942 McClain Lane	
Collection System	McClain Lane	052-080-054-000	100	10	1,000	5960 McClain Lane	
Collection System	McClain Lane	052-080-057-000	128.93	10	1,289.3	5965 McClain Lane	
Collection System	McClain Lane	052-080-058-000	63.8	10	638	5963 McClain Lane	
Collection System	McClain Lane	052-080-082-000	314.07	10	3,140.7	805 Elliot Road	
Collection System	McClain Lane	052-080-095-000	131.04	10	1,310.4	5913 McClain Lane	
Collection System	McClain Lane	052-080-097-000	99.52	10	995.2	5903 McClain Lane	
Collection System	McClain Lane	052-080-099-000	299.28	10	2,992.8	5910 McClain Lane	
Collection System	McClain Lane	052-080-108-000	185.71	10	1,857.1	815 Elliot Road	
Collection System	McClain Lane	052-080-111-000	99.51	10	995.1	765 Elliot Road	
Collection System	Old Clark Road	055-180-023-000	338.5	10	3,385	832 Natures Way	
Collection System	Old Clark Road	055-180-024-000	331.85	10	3,318.5	841 Natures Way	
Collection System	Old Clark Road	055-180-039-000	155	10	1,550	5060 Old Clark Road	
Collection System	Old Clark Road	055-180-079-000	183.5	10	1,835	5045 Clark Road	
Collection System	Old Clark Road	055-180-083-000	331.85	10	3,318.5	5075 Clark Road	
Collection System	Old Clark Road	055-180-104-000	342.75	10	3,427.5	5100 Clark Road	
Collection System	Old Clark Road	055-180-105-000	342.5	10	3,425	5130 Old Clark Road	
Collection System	Old Clark Road	055-180-106-000	68.25	10	682.5	5090 Old Clark Road	
Collection System	Old Clark Road	055-190-048-000	356	10	3,560	Clark Road	
Collection System	Old Clark Road	055-190-053-000	359.98	10	3,599.8	4941 Clark Road	
Collection System	Palmer Hill Road	055-180-095-000	100	10	1,000	840 Palmer Hill Road	
Collection System	Pinecrest Mobile Home Park	054-120-021-000	3165	10	31,650	5436 Clark Road	
Collection System	Mangrove Avenue	054-120-061-000	128	10	1,280	5380 Clark Road	
Collection System	Anchor Way	054-120-071-000	946	10	9,460	5364 Clark Road	
Collection System	Blue Haven Mobile Estates	054-080-005-000	909	10	9,090	No address, near Clark Road	
Collection System	Del Paso Road	054-080-038-000	1510	10	15,100	5500 Clark Road	
Collection System	Clark Road	054-080-043-000	206	10	2,060	5522 Clark Road	
Collection System	Unnamed Side Road near Pearson Road and Clark Road intersection	054-040-024-000	187	20	3,740	511 Pearson Road	
Collection System	Woodcraft Road	053-040-028-000	137	20	2,740	1226 Woodcraft Road	
Collection System	Woodcraft Road	053-040-038-000	70	20	1,400	6220 Clark Road	
Collection System	Unnamed Side Road near Elk Lane and Clark Road intersection	053-400-018-000	109	20	2,180	No address, near Elk Lane and Clark Road	
Collection System	Unnamed Side Road near Elk Lane and Clark Road intersection	053-400-019-000	237	20	4,740	No address, near Elk Lane	
Collection System	Armstrong Place	050-190-053-000	500	20	10,000	1280 Wagstaff Road	
Collection System	Armstrong Place	050-190-078-000	172.59	20	3,451.8	No address, near the intersection of Armstrong Place and Clark Road	
Collection System	Armstrong Place	050-200-104-000	1057.08	20	21,141.6	6491 Clark Road	
Collection System	Frank Turner Way	050-190-039-000	1450	20	29,000	1368 Garnet Lane	

Project Segment	Location	APN #	Easement Length (feet)	Easement Width (feet)	Area (square feet)	Parcel Address	Notes
Collection System	Agate Lane	050-190-039-000	511	20	10,220	1368 Garnet Lane	
Collection System	Emerald Lane	050-190-039-000	405	20	8,100	1368 Garnet Lane	
Collection System	Garnet Lane	050-190-039-000	266	20	5,320	1368 Garnet Lane	
Collection System	Wagstaff Road - Side Road near Wagstaff Road and Rocky Lane	050-190-053-000	1496	20	29,920	1280 Wagstaff Road	
		<b>Total</b>	<b>61,840 LF</b>		<b>844,425</b>		
<b>Export Pipeline Facilities</b>							
Export Pipeline	Skyway	040-600-076-000	1,441	20	28,820		
Export Pipeline	Skyway	040-600-075-000	553	20	11,060		
Export Pipeline	Skyway	040-020-140-000	4,200	20	84,000		
Export Pipeline	Skyway	040-600-057-000	275	20	5,500		
Export Pipeline	Skyway	040-020-139-000	2,899	20	57,980		
Export Pipeline	West of Butte Creek	040-400-100-000	3,000	20	60,000		
Export Pipeline	East of Highway 99	040-400-097-000	382	20	7,640		
Export Pipeline	East of Highway 99	040-400-096-000	442	20	8,840		
		<b>Total</b>	<b>13,192 LF</b>		<b>263,840</b>		

## SECTION 13 SYSTEM OPERATIONS AND MAINTENANCE

This section provides an overview of the typical O&M requirements for the sewer collection system and staffing and equipment needs, presents alternatives for meeting O&M needs, and provides the recommended approach.

### 13.1 Sewer Collection System

The sewer collection system is comprised of approximately 30.5 miles of gravity pipelines, and 5 to 5.75 miles of force mains, up to 4 trunk line pump stations, and up to 33 small pump stations. Collection system pipelines will require regular cleaning and inspection using closed circuit television (CCTV), while equipment at the pump stations will require regular inspection and maintenance as recommended by the equipment manufacturers.

#### 13.1.1 Initial Low Flow Flushing

The initial ADWF is estimated to be 0.264 mgd assuming the parcels in HDR's windshield survey with structures all opt into the sewer program by startup. This number represents approximately 33 percent of the estimated ADWF for the SSA at buildout. It does not include single-family residential and multi-family residential equivalent dwelling units or commercial properties in Town plan check, which would nearly double the flows to 0.468 mgd. Because of the low initial flow, there will be low velocities in the sewers that will increase the quantity of solids settling out in the pipelines. Therefore, an accelerated cleaning schedule will be required for the sewer system during the initial phase of operations.

Sediment buildup in the force mains can be handled by allowing wet well water levels to rise to a high water level, and then running the pump at 100 percent speed to achieve a scouring velocity of 3 fps to re-suspend solids in the sewer lines and flush them downstream. This effort is not expected to require a potable water supply for flushing.

Gravity sewer pipelines will need to be flushed starting at the upstream end of the system and working downstream. Vacuum trucks will need to be used as needed to remove debris from the downstream manholes to prevent blockage.

##### 13.1.1.1 Water Supply

PID supplies potable water to the Town and has existing fire hydrants throughout the Town (see sewer collection alignment maps in Appendix E) that potentially could be used for flushing by connecting a hose to the hydrant and flushing at a nearby manhole. However, PID indicated that the water supply is limited in areas and use of potable water for flushing will require coordination and approval.

An understanding of PID's seasonal water demands vs available water supply will be necessary to plan for the O&M operations. A list of information required from PID to develop the Town's flushing program include:

- Understanding of PID's seasonal water restrictions.
- Allowable connection points to PID's system.



- Allowable water usage for flushing operations.
- Advance notification requirements for flushing water usage.

### 13.1.1.2 Flushing Water Connection Points

The Design-Builder recommends allowing for temporary flushing connections within the design between PIDs water system and the collection system. The temporary flushing connections would be located at high points in the collection system along Skyway and/or Clark to flush the key trunk lines. The temporary connection will include a manhole located near a fire hydrant, air gap, temporary piping to connect to the hydrant, and piping to connect to the collection system. The locations of the connection points and details of the connections will be developed during final design.

### 13.1.1.3 Flushing Schedule

The gravity sewer pipelines in the collection system should be flushed and CCTV'd annually for the first several years due to the low flows and no maintenance history. The Town will be able to establish a baseline for recommended cleaning frequency for O&M activities by observing the sewer system annually for the first several years and will gain an understanding of areas with higher settlement rates (hot spot areas) that will require more frequent monitoring/cleaning and build this into their maintenance plan.

## 13.1.2 Long Term Pipe Cleaning

Once the buildout flows have been reached, the Town should plan to clean (jetting) and video the entire sewer system once every three to five years with the identified hot spots requiring annual or bi-annual cleaning and video. The final frequency will be highly dependent on the conditions observed by the Town during their initial system operations. For reference, the City of Chico cleans all of their sewer lines on a rotating basis with the entire cleaning cycle being completed once every three years. The Town will need a computerized maintenance management system that is a software package that helps agencies manage their maintenance activities. Areas where high levels of sediment are found during cleaning will be recorded and put on a "hot spot" list for future reference.

## 13.1.3 Closed-Circuit Television Pipe Inspection Schedule

CCTV allows the Town to identify hot spot areas, determine if restaurants are not keeping up with their grease trap maintenance, and to identify other possible pipeline deficiencies such as pipe sags and root intrusions. In general, the Town should aim to video the sewer pipelines once every three to five years with the identified hot spot areas being videoed annually or more frequently as required. It is recommended that the Town combine the video and jetting cycles. Jetting the pipe prior to video will give the camera operators an unobstructed view of the pipeline to determine if there are any structural deficiencies.

The National Association of Sewer Service Companies (NASSCO) provides a Pipeline Assessment Certification Program (PACP) that is widely used throughout the industry to assess pipe conditions. It is highly recommended that the operators in charge of CCTV be PACP-certified and record pipe conditions each time a CCTV is performed following the pipe assessment standards laid out by NASSCO.

### 13.1.4 Manhole Inspection Schedule

Manhole inspections should be combined with the jetting and CCTV schedules as both activities require manholes to be opened. NASSCO has a Manhole Assessment Certification Program (MACP), although it is not as widely used as the PACP. At a minimum, the following should be looked at when inspecting manholes:

- Inverts free and clear of debris (no blockages.)
- Evidence of sewage overflow on the manhole benches.
- Manhole wall conditions including evidence of infiltration (roots, leaks, etc.), corrosion, cracks, and spalling.
- Manhole lining condition (if applicable) for leaks or intrusions.

### 13.1.5 Pump Station Cleaning Schedule

The collection system is composed of 4 trunk line pump stations and 29 small pump stations (or 2 trunk line pump stations and 31 small pump stations for the Buschmann Alternative). As shown in Section 7, the trunk line and small pump station layouts will have different equipment and layouts. As such, both trunk line and small pump stations will follow different cleaning schedules.

Each trunk line pump station will require daily visits. The purpose of these daily visits is to check the site for general conditions, break-ins, and vandalism. These daily visits should include checking floats, cleaning ultrasonic sensor, and checking flow meter readings and run hours on equipment.

Due to low flows and long lag time between pump cycles, the wet well at the trunk line pump stations should be washed down at least twice per year to start. As flows increase, the Town can modify this frequency as needed. A yard hydrant will be provided adjacent to each wet well to allow for cleaning with a hose. Alternatively, the Town can choose to install a built in cleaning system. Town preference will be discussed during detailed design. The potable water supply at the pump station site will require a double reverse backflow preventer downstream of the PID service meter.

In general, the rest of the equipment should be maintained per manufacturer recommendations. These recommendations are a baseline, and the pump stations may require more frequent activities. The frequency and maintenance activities at the trunk line pump stations are listed in Table 45.

Table 45 Trunk Line Pump Stations Suggested O&M Frequency

Activity	Frequency
<ul style="list-style-type: none"> <li>▪ Vandalism and break-in check.</li> <li>▪ Check floats.</li> <li>▪ Clean ultrasonic sensor.</li> <li>▪ Flow meter reading.</li> <li>▪ Run hours on equipment.</li> <li>▪ Stormwater facilities check.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Daily.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Exercise generator.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monthly.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Washdown wet well.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Biannually (or as required).</li> </ul>

Activity	Frequency
<ul style="list-style-type: none"> <li>▪ Exercise valves.</li> <li>▪ Clean electrical panels.</li> <li>▪ Calibrate flow meter.</li> <li>▪ Odor control media replacement.</li> <li>▪ Double reverse backflow preventers.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Annually.</li> </ul>

Small pump stations will require weekly site visits where operators should perform a level control and vandalism check. The maintenance of the grinder pumps at these stations can follow the schedule recommended by the manufacturer. These recommendations are a baseline, and some stations may require a more accelerated schedule than others. A summary of these activities is provided in Table 46.

Table 46 Trunk Line Pump Stations Suggested O&M Frequency

Activity	Frequency
<ul style="list-style-type: none"> <li>▪ Vandalism and break-in check.</li> <li>▪ Level control check.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Weekly.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Exercise manual transfer switch and portable generator.</li> <li>▪ Double reverse backflow preventers.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Annually.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Replace pump bearings.</li> <li>▪ Replace pump seals or gaskets.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 2 to 5 years (or as needed).</li> </ul>
<ul style="list-style-type: none"> <li>▪ Replace pump.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 15 to 20 years.</li> </ul>

## 13.2 Export Pipeline

### 13.2.1 Water Pollution Control Plant Operations and Maintenance

The flow control structure at Chico’s WPCP is vital for the operation of the system. Quarterly maintenance should be performed for all the valves at the plant. This includes:

- Visually inspecting valves for leaks:
  - » Checking indicator stuffing box and oil reservoir vent.
  - » Checking oil reservoir for proper fill level.
  - » Visually inspecting valves for full open and close operations.
  - » Checking valves for proper operating pressures and adjusting if needed.
  - » Greasing actuator stem.
- Annual maintenance at the meter vault include calibrating the flow meter, and exercising, cleaning, and inspecting the isolation valves.

### 13.2.2 Transition Structure and Emergency Storage Operations and Maintenance

Both the transition structure and emergency storage vault will require weekly inspections and site visits. Due to the proximity of the two structures to each other, it is recommended that the maintenance at both sites be combined for efficiency. The general O&M activities required at the transition structure and overflow storage vault are shown in Tables 47 and 48, respectively.

Table 47 Transition Structure O&M Activities and Frequency

Activity	Frequency
<ul style="list-style-type: none"> <li>▪ Visual inspection.</li> <li>▪ Check floats.</li> <li>▪ Clean level sensor.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Weekly.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Transition structure washdown.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monthly.</li> </ul>

Table 48 Overflow Structure O&M Activities and Frequency

Activity	Frequency
<ul style="list-style-type: none"> <li>▪ Visual inspection.</li> <li>▪ Check floats.</li> <li>▪ Check valve.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Weekly.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Clean level sensor.</li> <li>▪ Overflow structure washdown.</li> <li>▪ Check sump pump.</li> </ul>	<ul style="list-style-type: none"> <li>▪ As needed or after use.</li> </ul>

## 13.3 Equipment Requirements

Table 49 shows a summary of the required and recommended equipment for the Town’s O&M operations assuming the Town would run the entire O&M for the collection system and export pipeline. It is possible that the Town may use a third party for certain activities. If this is the case, the equipment required may differ.

Table 49 Town O&M Equipment

Equipment	Purpose	Recommendation	Price <sup>(1)</sup>
Combination Hydro and Vacuum Truck	Flushing sewer pipes. Price varies on the amount of water each truck can hold. Smaller units only require a Class C driver’s license and are more navigable on narrow, private roads. Larger units can hold 1,500 to 2,000 gallons of water. The larger units also provide higher pressure, greater disposal capacity, and are easier to use on deeper pipes. Larger units will require a commercial driver’s license.	1 required + recommend 1 spare	\$350k – smaller unit \$500k-\$1M – Standard 1,500 Gallon Truck
Jetting Nozzles and Accessories	Different jetting nozzles can be used for different applications. The nozzles can alter the water pressure coming from the hydrovac truck, or can come with tools that are more specialized for cutting roots or getting rid of grease.	Required	\$10K

Equipment	Purpose	Recommendation	Price <sup>(1)</sup>
CCTV Van and Camera	CCTV vans are usually sold as a package. These packages usually include camera and cable, TV room with a computer and remote to control camera, camera washdown station, camera repair tools (spare wheels, etc.), and room for a generator or other power option. It is recommended that the CCTV van and crew trucks all have an emergency orange strobe light on the rooftop.	1 required	\$300k-\$500k
Sewer Bypass Pump and Hoses	Bypass sewer pumps allow the Town to take a sewer segment, or lift station off line while work is being conducted.	Required	\$30k-60K
Traffic Control Truck with Light Bar	Basic truck with light bar is recommended to carry traffic control equipment for O&M activities. This includes traffic cones and signs.	Required	\$50k-\$75K
Maintenance Crew Truck (with tools and equipment)	Each truck should come with sewer specific tools including manhole picks, brush (for clearing manhole covers), and screwdrivers. These trucks are capable of carrying portable generators as well.	2 required, 1 optional	\$50K
Portable Generator	Portable generators will be used for backup power at small pump stations. Portable generators may also be useful when dealing with small point repair excavations.	2 required, 2 optional	\$5,000
Spare Pump	The trunk line lift stations will come with a spare pump in the wet well, but the smaller lift stations will only have a single pump. Having a spare pump allows the Town to run a small lift station if the pump ever gets clogged.	1 large pump, 1 small pump	TBD during detailed design
Wash Down Hoses	Wash down hoses will be used to wash the large trunk line pump station wet wells.	Required	<\$1K
Confined Space Entry Equipment	Confined space entry equipment includes tripod, harness, gas monitor, and air blower. This equipment is required any time a person enters a manhole in addition to applicable training and permits.	Required	\$25K

Notes:

(1) Costs shown are estimates to provide an indication of relative costs.

## 13.4 Staff Requirements

The Town has several alternatives to operating and maintaining their sewer system. These alternatives include:

- Alternative 1: Town Operates and Maintains.
- Alternative 2: City of Chico Operates and Maintains.
- Alternative 3: 3rd Party Contractor Operates and Maintains.
- Alternative 4: Combination of Previous Alternatives (Town, Chico, and/or 3rd Party Contractor).

### 13.4.1 Alternative 1: Town Operates and Maintains

The Town has the option of operating and maintaining the full collection system and export pipeline. This practice is common among other utility agencies throughout California. The advantage of this alternative is that the Town can provide local jobs and a sense of ownership on the system. The Town is able to

prioritize the work needed for their system. The disadvantage of this alternative is that it may be difficult to find qualified candidates as the Town of Paradise has never had a centralized sewer system. The Town will also need additional time to hire and train staff, and to purchase all the equipment required prior to start up.

The recommended positions and number of staff needed at a minimum to run the collection and export pipeline are shown in Table 50.

Table 50 Minimum Staff Required by Position

Position	Minimum # of Staff
Sewer Collection System Supervisor	1
Collections System Operator II	3
Collections System Operator I	2
Mechanical and Electrical Worker II	1

Notes:

(1) Assumes Collections Systems Operator II can operate the HydroVac Truck.

### 13.4.1.1 Sewer Collection System Supervisor Responsibilities and Qualifications

The sewer collection system supervisor will oversee the entire sewer collection system as well as the operators conducting O&M. The person in this role will serve as the Legally Responsible Official (LRO) for reporting sewer overflows to the Water Board. Typical duties and responsibilities include:

- Plan, organize, oversee, coordinate, and review the work of staff performing maintenance and repair work.
- Participate in the development and administration of and oversee assigned budgets.
- Develop, implement, and maintain procedures for in-field asset management process across all linear assets including inventory, cleaning, condition assessment, preventive and corrective maintenance, service requests, and repairs.
- Determine and recommend equipment, materials, and staffing needs for assigned operations, projects, and programs; prepare detailed cost estimates; maintain a variety of records and prepare routine reports of work performance.
- Plan and lay out maintenance work projects; monitor and control supplies and equipment; order supplies and tools as necessary; prepare documents for equipment procurement; participate in the bid process for maintenance and repair projects.
- Meet and confer with contractors, engineers, developers, a variety of outside agencies, and the general public in acquiring information and coordinating maintenance matters.
- Serve as a liaison for those assigned to other District functions and outside agencies.

Desired Qualifications for this position are as follows:

- Possession or ability to obtain and maintain a valid Grade IV Wastewater Collection System Operator Certificate issued by the California Water Environment Association (CWEA)
- Ten years of increasingly responsible work in public works construction or maintenance, including two years of supervisory experience.

### 13.4.1.2 Collections System Operator II Responsibilities and Qualifications

The collections system operator II will be responsible for operating the jetting equipment and overseeing the care and maintenance of the HydroVac truck. They will also handle the CCTV needs and oversee the care and maintenance of the TV van and associated equipment. They will be responsible for conducting CCTV to assess sewer pipe conditions in accordance with NASSCO requirements and recording conditions into the Town's database. They will also provide field leadership and mentorship to the collections system operator I.

Desired qualifications for this position are as follows:

- Possession of the NASSCO PACP certification program.
- Minimum of two years' experience working in sewer CCTV or HydroVac Trucks.
- Valid Class B Commercial Driver's License with tank endorsements.
- Possession or ability to obtain and maintain a valid Grade II Wastewater Collection System Operator Certificate issued by the CWEA.
- Possession of NASSCO MACP is desired.

### 13.4.1.3 Mechanical and Electrical Technician I/II

The mechanical and electrical operators will handle the O&M of sewer pump stations, mechanical equipment, and electrical equipment. Their duties may include troubleshooting, repair and maintenance of electrical equipment, calibration of flow metering equipment, and managing the Town's SCADA system.

Desired qualifications for the Mechanical and Electrical Maintenance Operator II are as follows:

- Two years of mechanical and electrical maintenance experience in wastewater collection systems or similar facilities.

Possess the following certifications:

- CWEA Grade I Collection System Maintenance certificate.
- CWEA Grade I Mechanical Technologist Certificate.
- CWEA Grade I Electrical/Instrumentation Technologist Certificate.

Desired qualifications for the Mechanical and Electrical Maintenance Operator I are as follows:

- Two years of experience working in wastewater collection systems or similar facilities.

Ability to obtain the following certifications:

- CWEA Grade II Collection System Maintenance certificate desirable.
- CWEA Grade II Mechanical Technologist certificate desirable.
- CWEA Grade II Electrical/Instrumentation Technologist certificate desirable.

### 13.4.1.4 Collection System Operator I

The Wastewater Collection Operator I is an entry level position intended to assist the CCTV and Hydrovac operator crew as well as the mechanical/electrical worker crew. It is recommended that the crews have three people each as confined space entry will always require a minimum of three people on site. Typical

duties of an entry level wastewater collection operator could include preparing sites for CCTV operations (lifting manhole covers, setting up equipment, setting up traffic control, etc.), performing daily vandalism checks on trunk line pump stations, and assisting crews in all aspects of their operation and maintenance activities.

Desired qualifications for this position are as follows:

- Minimum of one year experience working in construction.
- Ability to obtain and maintain a valid Grade I Wastewater Collection System Operator Certificate issued by CWEA within one year of employment.

### 13.4.2 Alternative 2: City of Chico Operates and Maintains

The second alternative is to have the City of Chico operate and maintain the Town’s collection system. If this alternative is selected, it would be advantageous to match Chico’s control system for operational efficiency. Chico is currently in the process of changing their SCADA platform to Ignition and uses cellular radio for communication in their collection system. This matches the SCADA and communication recommendations in Chapter 10. The advantages of this alternative include:

- The City already has experience maintaining and operating their own sewer system, so they have the equipment necessary to maintain a collection system.
- The Town does not need to hire O&M staff.
- The Town does not need to purchase expensive equipment.

Disadvantages of this alternative include:

- Chico would most likely need to hire additional people in order to maintain the Town’s collection system. The cost to hire more people could be marked up to account for Chico’s overhead costs.
- The Town could be subject to Chico’s O&M priorities.
- Emergency response times are likely to be longer than staff located in the Town.
- This alternative allows the Town to leverage an existing, local agency’s experience to operate and maintain the system, but will require negotiating and putting an agreement in place with the City of Chico. A summary of the minimum staff needed is shown in Table 51 but will require input from the City.

Table 51 Minimum Staff Required by Position

Position	Minimum # of Staff
Sewer Collection System Supervisor	1
Collections Systems Operator II	3
Collections Systems Operator I	2
Mechanical and Electrical Worker II	1

Notes:

- (1) Assumes Collections Systems Operator can operate the HydroVac and CCTV Truck.



### 13.4.3 Alternative 3: 3rd Party Operates and Maintains

The third alternative is to have a 3rd party operate and maintain the Town’s collection system. The advantages of this alternative include:

- The Town does not need to buy equipment or hire people.
- The Town can award the contract to a different Contractor if they are not satisfied with the work.
- The contract with the 3rd party can be written in a way that covers the Town, including having the 3rd party as the acting LRO for reporting overflows to the state (if agreed upon in scope and contract terms).

Disadvantages of this alternative include:

- The 3rd party may not be located locally in Paradise.
- Costs would likely be higher if using a third party.
- Replacement of equipment may not occur as recommended by manufacturer since contracts are often lump sum. This can be mitigated through robust contract terms and scope requirements.
- The Town would have less ownership of the system.
- This alternative gives the Town the quickest way to have staff and equipment in place to operate and maintain the system. A summary of the minimum staff needed is shown in Table 52.

Table 52 Minimum Staff Required by Position

Position	Minimum # of Staff
Sewer Collection System Supervisor/Project Manager	1
Collections System Operator II	3
Collections System Operator I	2
Mechanical and Electrical Worker II	1

Notes:

- (1) Assumes Collections System Operator can operate the CCTV and/or HydroVac Truck.

### 13.4.4 Alternative 4: Multi Party Operation of System

The fourth alternative is a combination of the Alternatives 1 and 3 mentioned above. The recommended approach for this alternative is to have a third-party contractor perform the CCTV, jetting of the collection system, and other equipment intensive activities. The Town would then hire O&M staff to operate, maintain, and control the pump stations and the transition/emergency storage structure, and control valves. The minimum staffing is show in Table 53.

Table 53 Minimum Town Staff Required by Position

Position	Minimum # of Staff
Sewer Collection System Supervisor	1
Collections System Operator II	1
Collections System Operator I	1
Mechanical and Electrical Worker II	1

Notes:

- (1) Assumes Collections System Operator can operate the CCTV and/or HydroVac Truck.

This alternative gives the Town the maximum flexibility to ramp up their O&M staff and equipment purchases to operate and maintain the system. This alternative provides the Town time to hire qualified people as well. A summary of the roles and responsibilities are shown in Table 54.

Table 54 Sewer Collection System Multi-Party O&M Plan

Role	Responsibility	Notes
Sewer System Supervisor	Town	Begin hiring process at least one year before scheduled start up. This allows the new supervisor to coordinate with MCI and get familiarized with the system.
Trunk and Collector Pipeline CCTV and Jetting O&M	3rd Party Contractor	Due to the age of the sewer system, the sewer pipes should be relatively quick to clean. For this reason, it is recommended to hire a 3rd party Contractor to jet and CCTV the lines annually. The Town should plan to have a person that can review the reports.
Trunk Pump Stations, Small Pump Stations, Transition Structure, and Emergency Storage O&M	Town	The Town should plan on hiring at least one experienced mechanical/ electrical operators referenced in Section 13.4.1.3, and an entry level wastewater operator to assist. The goal would be to have at least one of these positions filled by start up so that the mechanical and electrical operator understands how the Town's SCADA system will work. These operators would be responsible for responding in cases of an emergency.
Meter Vault at Chico WPCP	City of Chico	The Town should contract with the Town of Chico to have them perform O&M on the meter vault at the Chico WPCP. The major advantage is the proximity of the vault to Chico's operators.

### 13.4.5 Cost Comparison of Alternatives

The annual O&M cost was estimated for each of the four alternatives and is shown in Table 55.

Table 55 Estimated Cost by Alternative

Alternative	Estimated Annual Labor Cost	Additional Service Costs	Notes
Alternative 1 - Town Operates and Maintains	\$742,487.20		Assumes an overhead multiplier of 1.75 Rates were benchmarked using City of Chico 2023 rates shown in Exhibit "A" of the 2022 MOU between the City of Chico and Service Employees International Union, Trades and Crafts Unit.
Alternative 2- City of Chico Operates and Maintains	\$742,487.20		Expected costs could be lower when considering shared positions. For example, the Field Supervisor will not bill 100% of his time to the Town.
Alternative 3 - 3rd Party Operates and Maintains	\$1,272,835.20	Approximately \$500,000/year to support vehicle lease, maintenance, and fuel costs.	Assumes OH and profit included on labor. Line cleaning and video inspection could also be sub-contracted out, similar to Alternative 4.
Alternative 4 - Multi-party Operation of System	\$ 439,502.70	Video and Clean by contract services – \$250,000 (Year 1) Annual Clean – \$100,000 3 Year Video – \$150,000	Primary focus will be on Lift Station O&M with cleaning and video services contracted out.

Notes:

- (1) Assumes Collections System Operator can operate the CCTV and/or HydroVac Truck.

### 13.4.6 Operations and Maintenance Staffing Recommendation

Multi-party operation of the system is recommended and is shown to be the most cost effective approach. For the first several years, it is advisable for the Town to follow the recommendations in Alternative 4. As the Town’s flow increases, the Town can determine whether or not additional workforce is needed in Town.

## 13.5 Long Term Implementation Plan

The following schedule, shown in Table 56, is recommended to transition the ownership of the system from MCI to the Town.

Table 56 Long Term Implementation Plan

Action	Timeline
Town contracts with 3rd party operator to run system	3 to 6 months before completion of construction to participate in commissioning and equipment training
Town begins search for Sewer System Supervisor/LRO	6 months before completion of construction to participate in both equipment training and SCADA integration
MCI transfers ownership of system to 3rd party operator	At start-up
3rd party operator runs system for one to two years and develops the asset management plan during this period	
Town begins search for personal workforce	6 months prior to end of 3rd party agreement so 3rd party can train staff and transfer system knowledge
Town begins acquiring equipment for O&M	3 months prior to end of 3rd party agreement
Town hires or sets up 3rd party on-call contracts for mechanical and electrical operators	3 months prior to end of 3rd party agreement
3rd Party operator responsibilities reduced to pipe cleaning and CCTV	Negotiate new agreement 2 to 3 months prior to end of original

## SECTION 14 RECOMMENDED PROJECT

This section provides an overview of the recommended Project components for the collection system and the export pipeline.

### 14.1 Collection System

Five design and construction alternatives were presented in Section 7:

- Pearson Buschmann Realignment.
- Buschmann Extension.
- Clark Trunk Extension.
- Clark Trunk Reduction.
- Paradise Memorial Trailway Elimination.

The alternatives were reviewed with the Town at the November 7, 2024, BODR workshop, and the Town has decided to move forward with the Pearson-Buschmann trunk realignment, the Buschmann Extension,

and a modified version of the Clark Road Reduction that keeps the gravity section on Clark Road, but routes the flow along Village Parkway to Buschmann and includes Village Pump Station. The Paradise Memorial Trailway will be eliminated from the project, but the Rocky Lane pipes and pump station will also be eliminated. An additional change is that the west end of Nunneley Road will be removed from the project and the flow re-routed south on Academy in order to avoid sensitive habitat and eliminate one creek crossing. Clark Road extension will not be included in this project.. The final approximate quantities for the collection system are:

- Gravity pipeline length: 29.2 miles.
- Force main length: 5.0 miles.
- Small Pump Stations: 30.
- Trunk Line Pump Stations: 2.

The following materials will be used in the collection system:

- Gravity pipe: ASTM D3034 SDR 35.
- Force main pipe: AWWA C900, DR18.
- Manholes: precast with corrosion inhibitor additive except use polymer concrete for locations where the force main discharges into a manhole.
- Small Pump Stations: Prefabricated units with non-corrosive material for wet wells.
- Trunk Line Pump Station Wet Wells: Polymer Concrete.

Additional design decisions made at the *BODR* workshop include:

- The trunk lines will be sized for 25 percent flow from the extended SSA.
- The collection system will be sized to accommodate private road flows.
- Odor control scrubbers will be installed at the trunk pump stations. Force main manholes and grinder pump stations will have odor control inserts. Collection system manholes will have odor inserts added as needed when the system is in operation.
- In Skyway, consider installing the handholes out of the road for worker safety.
- Manhole lids shall be recessed 1/2-inch for snowplows.
- Work within Town 3-year paving moratorium areas will be repaved per moratorium requirements.
- Trenchless crossings and pipe within Caltrans ROW will be top priority.
- Property owner will be responsible for septic tank removal permit.
- Electrical single line design and load calculations should be completed during 30 percent design for PG&E service applications.
- Carollo/MCI will operate the collection system for 1 to 2 years. The shortest transition time for the Town to take over operations will be 9 to 12 months.

Ultimately, topographic survey and geotechnical borings will be needed to develop the detailed design recommendations. Field investigations should be prioritized for the Buschmann-Trunk Realignment area to confirm that it is the best option for the Town.

Laterals in the Town will be built by MCI from the sewer collector to connect to the existing lateral inside the private property or if the parcel is undeveloped it will end at a cleanout at the property line. MCI will

also be responsible for septic tank abandonment work. Similarly, for developed multi-family parcels, a lateral will run from the sewer main to connect to the private lateral discharge at the septic tanks within the site. Where multi-family parcels are undeveloped, a manhole with a stub out will be built for future connection by the owner.

## 14.2 Export Pipeline

Six alignments were presented in Section 8 for the export pipeline along Skyway.

- March 2022 Alignment.
- Alignment A (Pump Station and Grinder, south of Skyway).
- Alignment B (Grinder in Vault, south of Skyway).
- Alignment C (Pump Station and Grinder, north of Skyway).
- Alignment D (Grinder in Vault, north of Skyway).
- Alignment E (Pump Station and Grinder, north side of Skyway and then south side of Skyway).

Alignment E is recommended. The alignment represents a balance between reducing the project costs and construction risks with property acquisition and environmental impact. Alignment E also includes a proposed pump station and section of force to reduce segments of deep pipeline construction near the town.

Locating the transition structure at the revised location, higher than what was originally proposed is recommended. Constructing the transition structure at the higher elevation will allow the Town to deliver flows to Chico's WPCP as the Town develops and flow increase. This includes the design and construction of an emergency overflow structure adjacent to the transition structure.

To control flow and pressure entering the WPCP, the recommended configuration is the installation of a flow control valve immediately downstream of the transition structure in addition to the flow control and pressure reducing valve located at the WPCP. It is also recommended that that the submerged discharge valve continues to be evaluated for installation at the WPCP. The design of flow control structure at the WPCP should a flow meter, bypass valving, and emergency bypass for delivery of the Town's flows to Chico.

Should these alternatives move to final design the final export pipeline elements and approximate quantities are:

- Stacked gravity pipeline length: 2.7 miles.
- Force main length: 4.7 miles.
- Gravity force main length: 18.5 miles.
- Grinder pump station.
- Transition structure and emergency overflow.
- Flow control valve at the transition structure.
- Flow control and pressure reducing valve at the WPCP with emergency bypass.

Similar to the collection system, topographic survey and geotechnical borings will be needed to develop detailed design recommendations.

## SECTION 15 PHASING PLAN AND SCHEDULE

This section discusses the approach to phasing and sequencing of the sewer system design and construction.

### 15.1 Phases

Sub phasing of the Project’s Phase 1B Design and Phase 2 Construction was initially considered to expedite design and construction packages to accelerate the schedule. The current design approach includes accelerating the design of the trenchless crossings that require a USACE 408 permit (Butte Creek and Little Chico Creek) because these are long lead permits. The remainder of the design will not be phased and will include 30 percent, 60 percent, 90 percent, and 100 percent (final) design deliverables under Phase 1B.

### 15.2 Schedule

The overall baseline schedule for design and construction of the Project is included in Appendix G and an overview is shown in Figure 75.

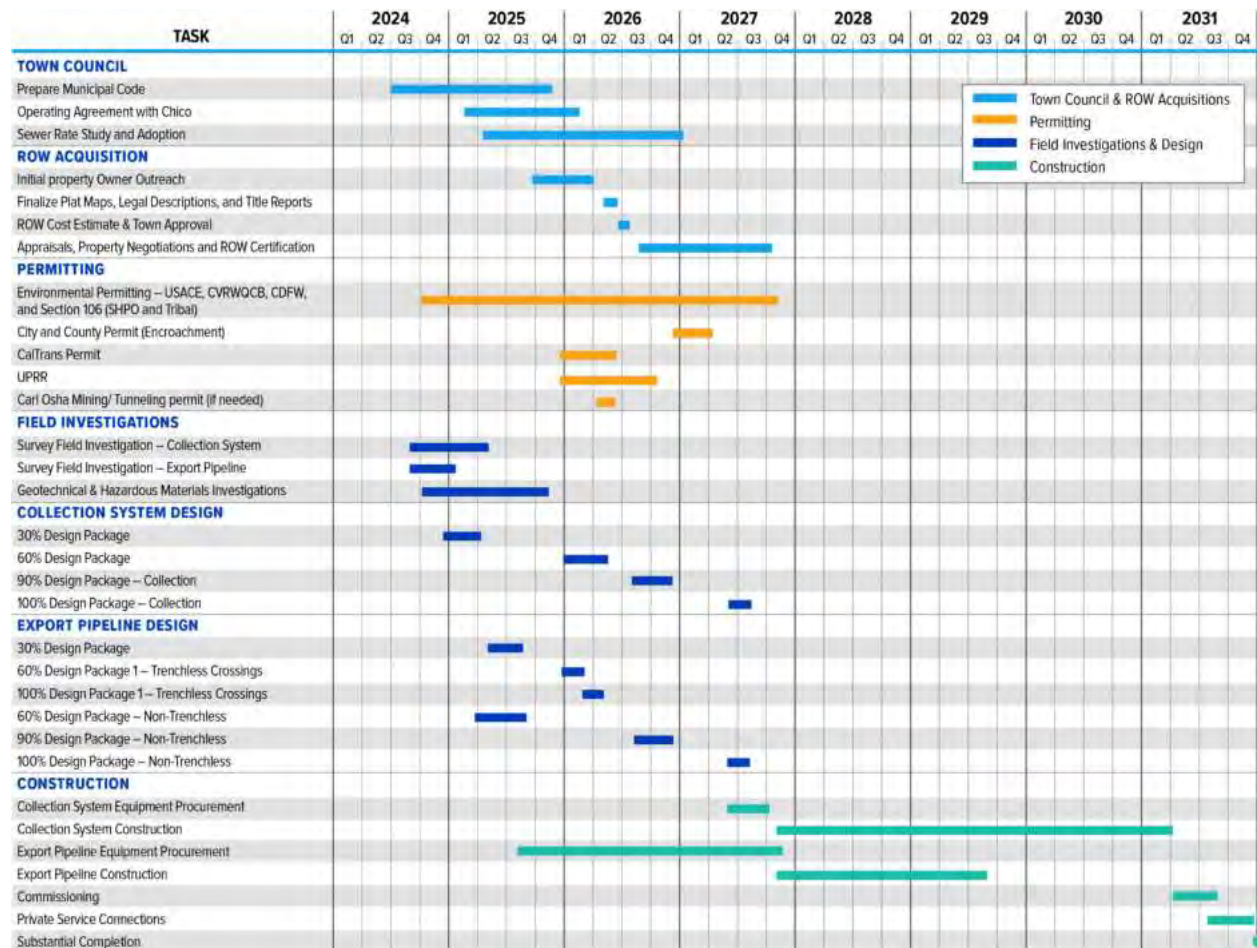


Figure 75 Project Simplified Schedule

## SECTION 16 NEXT STEPS

This section provides an overview of next steps in the detailed design process.

### 16.1 Survey

Topographic survey of the sewer collection system is the highest priority. While survey controls were set for the export pipeline under the Phase 1 work, controls will now be set for the in Town sewer collection system as well. The Town provided a prioritized area for topographic survey within the Town that includes the southern portion of Skyway trunk and collector alignment. The surveyor will submit CAD files of a given survey area with existing utilities shown in segments so that detailed design can begin as soon as possible.

### 16.2 Geotechnical

During Phase 1, geotechnical field work was performed only at trenchless crossings along the export pipeline. The next phase of geotechnical work will include exploratory borings in key locations along the remainder of the export pipeline and throughout the Town. In addition to geotechnical borings, cone penetration testing (CPT) will be used to determine the extent and depth of the rock formations within the Town. Locating the rock formation limits is important in determining the best construction method. Soil permeability will be determined at each facility site for use in sizing the post-construction stormwater detention basin. Laboratory testing on soil samples recovered from the borings will be performed and the results compiled into a draft geotechnical report. In addition, hazardous materials testing will be performed in areas that records indicate are at higher risk for soil or groundwater contamination. Results will be summarized in a separate report.

### 16.3 Detailed Design

As soon as the first segments of topographic survey are available for the export pipeline and the collection system, 30 percent design drawing preparation will begin. Existing utilities will be shown based on record drawings provided by the Town, PG&E, and other utility agencies and confirmed using surveyed surface features and existing USA markings where available. The intent of the 30 percent design is to set the pipeline alignment, confirm the recommended alternatives will work, and to determine locations of trenchless crossings.

### 16.4 Potholing

After the pipeline alignment is set during 30 percent design, MCI will begin potholing existing utility crossings. This work is critical to setting the sewer depth and verifying where pump stations will be required. In addition, parallel pipelines that are within 5 feet of the new sewers and have the potential to affect the alignment will be potholed at key locations. Ground penetrating radar will be used before potholing to help locate existing pipelines and potentially reduce the number of potholes.

APPENDIX A

# SEWER COLLECTION SYSTEM AND EXPORT PIPELINE HYDRAULIC MODEL





TOWN OF PARADISE  
Paradise Sewer Project

TECHNICAL MEMORANDUM 1

# Sewer Collection System and Export Pipeline Hydraulic Model



FINAL / December 2024





TOWN OF PARADISE  
**Paradise Sewer Project**

TECHNICAL MEMORANDUM 1

# Sewer Collection System and Export Pipeline Hydraulic Model

FINAL / December 2024

Digitally signed by Ryan F. Orgill  
Contact Info: Carollo Engineers, Inc.  
Date: 2024.12.06 12:17:52 -0800



# Contents

TM 1	SEWER COLLECTION SYSTEM AND EXPORT PIPELINE HYDRAULIC MODEL	
1.1	Introduction	1-1
1.1.1	Purpose	1-1
1.1.2	Background	1-1
1.2	Previous Paradise Sewer Studies	1-3
1.2.1	2017 Bennett Study	1-3
1.2.2	2020 HDR Study	1-3
1.3	Collection System Hydraulic Model	1-3
1.3.1	Town Development Plans	1-3
1.3.2	Wastewater Flow Estimates	1-9
1.3.3	Extended Sewer Service Area Flow Estimation and Approach	1-14
1.3.4	Sizing Criteria	1-14
1.3.5	Collection System Model Development	1-15
1.3.6	Collection System Model Results	1-27
1.4	Export Pipeline Model	1-36
1.4.1	Software Selection	1-36
1.4.2	Elements of the Export Pipeline InfoWater Pro Hydraulic Model	1-36
1.4.3	Export Pipeline Components and Alignment	1-36
1.4.4	Export Pipeline Model Results	1-40
1.5	Key Findings and Summary	1-47
1.5.1	Collection System	1-48
1.5.2	Export Pipeline	1-48
1.6	Next Steps	1-48

## Appendices

APPENDIX 1A	PLAN CHECK SPREADSHEET	
APPENDIX 1B	WINDSHIELD SURVEY	
APPENDIX 1C	REVIEW OF WASTEWATER GENERATION RATES, DIURNAL PATTERNS, AND INFLOW AND INFILTRATION RATES	

## Tables

Table 1.1	Approved Development Plan Summary Within the SSA	1-4
Table 1.2	Summary of Parcels With Existing Developed Structures Within the SSA	1-4
Table 1.3	Summary of Vacant Parcels Without Existing Developed Structures Within the SSA	1-7
Table 1.4	Recommended Dry Weather Wastewater Flow Factors by Land Use Type	1-10
Table 1.5	Estimated ADWF for Approved Development Plan Within the SSA	1-11
Table 1.6	Estimated ADWF for Parcels With Existing Developed Structures Within the SSA	1-11

Table 1.7	Estimated ADWF for Vacant Parcels With Existing Developed Structures Within the SSA	1-12
Table 1.8	SSA ADWF Estimate by Flow Sources	1-12
Table 1.9	SSA Flow Summary	1-14
Table 1.10	SSA and Extended Collection System Flow Summary	1-14
Table 1.11	Maximum Flow Depth Criteria Under PWWF Conditions	1-14
Table 1.12	Minimum Slope for New Gravity Pipes	1-15
Table 1.13	Initial Alignment Collection System Infrastructure	1-17
Table 1.14	Alternative Alignment Collection System Infrastructure	1-23
Table 1.15	Clark Road Extension Additional Parcel Flow Estimation	1-23
Table 1.16	Collection System Hydraulic Modeling Results	1-27
Table 1.17	Initial Alignment Gravity Pipeline Length by Diameter	1-28
Table 1.18	Initial Alignment Force Main Pipeline Length by Diameter	1-28
Table 1.19	Initial Alignment Pump Station Inflow	1-31
Table 1.20	Alternative Alignment Gravity Pipeline Length by Diameter	1-32
Table 1.21	Alternative Alignment Force Main Pipeline Length by Diameter	1-32
Table 1.22	Alternative Alignment Pump Station Inflow	1-35
Table 1.23	Stacked Gravity Pipeline Length by Diameter for Alternative 1	1-40
Table 1.24	Stacked Gravity Pipeline Length by Diameter for Alternative 2	1-40
Table 1.25	Alternative Alignment Force Main Velocities	1-45
Table 1.26	Collection System Hydraulic Modeling Results	1-48

## Figures

Figure 1.1	Overview of Project	1-1
Figure 1.2	Paradise SSA	1-2
Figure 1.3	SSA Parcels With Approved Development Plans	1-5
Figure 1.4	SSA Parcels With Existing Developed Structures	1-6
Figure 1.5	Vacant SSA Parcel by Land Use	1-8
Figure 1.6	Wastewater Flow Projection Approach	1-10
Figure 1.7	Residential and Non-Residential ADWF Diurnal Patterns	1-13
Figure 1.8	Initial Alignment	1-18
Figure 1.9	Pearson-Buschmann Trunk Alignment	1-19
Figure 1.10	Clark Trunk Reduction South of Pearson Road	1-20
Figure 1.11	Paradise Memorial Trailway Pipe Elimination	1-21
Figure 1.12	Clark Road Extension to Skyway	1-22
Figure 1.13	Alternative Alignment	1-24
Figure 1.14	Example Parcels Associated With Manholes	1-25
Figure 1.15	Extended SSA Sewer Basins and Connection Points	1-26
Figure 1.16	Initial Alignment Gravity Pipeline Sizing During SSA Conditions	1-29
Figure 1.17	Initial Alignment Gravity Pipeline Sizing During Extended SSA PWWF	1-30
Figure 1.18	Alternative Alignment Gravity Pipeline Sizing During SSA Conditions	1-33
Figure 1.19	Alternative Alignment Gravity Pipeline Sizing During Extended SSA Conditions	1-34
Figure 1.20	Export Pipeline – Alternative 1	1-38
Figure 1.21	Export Pipeline – Alternative 2	1-39

Figure 1.22	Bottom Pipe Diameters During SSA Buildout	1-41
Figure 1.23	Top Pipe Diameters During SSA Buildout-Out	1-42
Figure 1.24	Bottom Pipe Diameters During Extended SSA Build-Out	1-43
Figure 1.25	Top Pipe Diameters During Extended SSA Build-Out	1-44
Figure 1.26	Alternative 1 Force Main HGLs During PWWF Conditions	1-46
Figure 1.27	Alternative 2 Force Main HGLs During PWWF Conditions	1-47

## Abbreviations

ADWF	average dry weather flow
Bennett	Bennett Engineering Services
Carollo	Carollo Engineers, Inc.
City	City of Chico
Design-Builder	MCI and Carollo
d/D	depth to diameter ratio
DIP	ductile iron pipe
force main	gravity-powered force main
ft/sec	feet per second
gpd	gallons per day
gpd/ac	gallons per day per acre
gpd/cap	gallons per day per capita
gpd/DU	gallons per day per dwelling unit
gpm	gallons per minute
HDPE	high-density polyethylene
HDR	HDR Inc.
HGL	hydraulic grade line
I.D.	inner diameter
I/I	infiltration and inflow
LiDAR	Light Detection and Ranging
MCI	Mountain Cascade, Inc.
MFR	multi-family residence
mgd	million gallons per day
PDB	progressive design build
PDWF	peak dry weather flow
PF	peaking factor
PG&E	Pacific Gas and Electric
PID	Paradise Irrigation District
Project	Paradise Sewer Project
psi	pounds per square inch
PVC	polyvinyl chloride
PWWF	peak wet weather flow
SFR	single family residence
SSA	sewer service area
TM	technical memorandum
Town	Town of Paradise
WPCP	water pollution control plant

# TM 1 SEWER COLLECTION SYSTEM AND EXPORT PIPELINE HYDRAULIC MODEL

## 1.1 Introduction

### 1.1.1 Purpose

Mountain Cascade, Inc. (MCI) and Carollo Engineers, Inc. (Carollo) are teamed to design and construct the Paradise Sewer Project (Project) using progressive design build (PDB). MCI and Carollo (Design-Builder) developed this technical memorandum (TM) during the planning phase of the Project.

The purpose of this TM is to summarize the methodology used to develop the Town's collection system hydraulic model, summarize the estimated wastewater flows and provide the hydraulic sizing of the collection system pipelines, pump stations, and export pipeline.

### 1.1.2 Background

The Project includes a new sewer collection system and export pipeline to convey wastewater from the Town of Paradise (Town) to the City of Chico (City) Water Pollution Control Plant (WPCP). The sewer service area (SSA) consists of parcels along Skyway, Pearson Road, and Clark Road. The export pipeline conveys flow from the Town to the WPCP. At the WPCP, the wastewater will be combined with flows from the City for treatment and eventual discharge to the Sacramento River.

Figure 1.1 shows an overview of the Project and Figure 1.2 shows the collection system SSA.

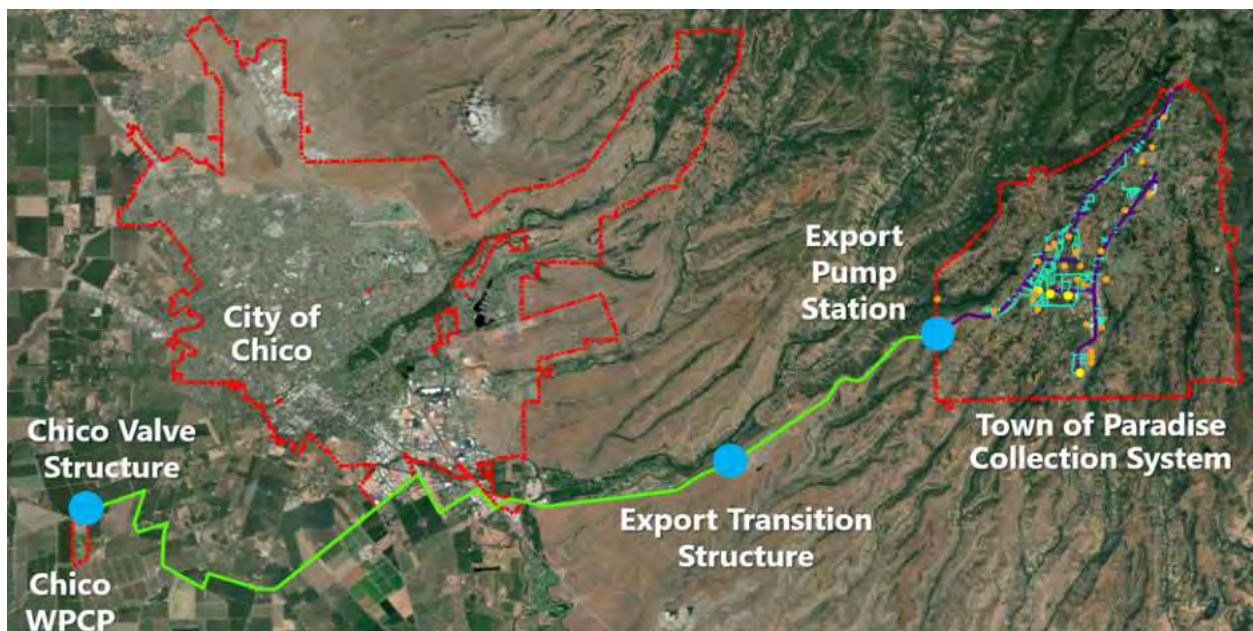
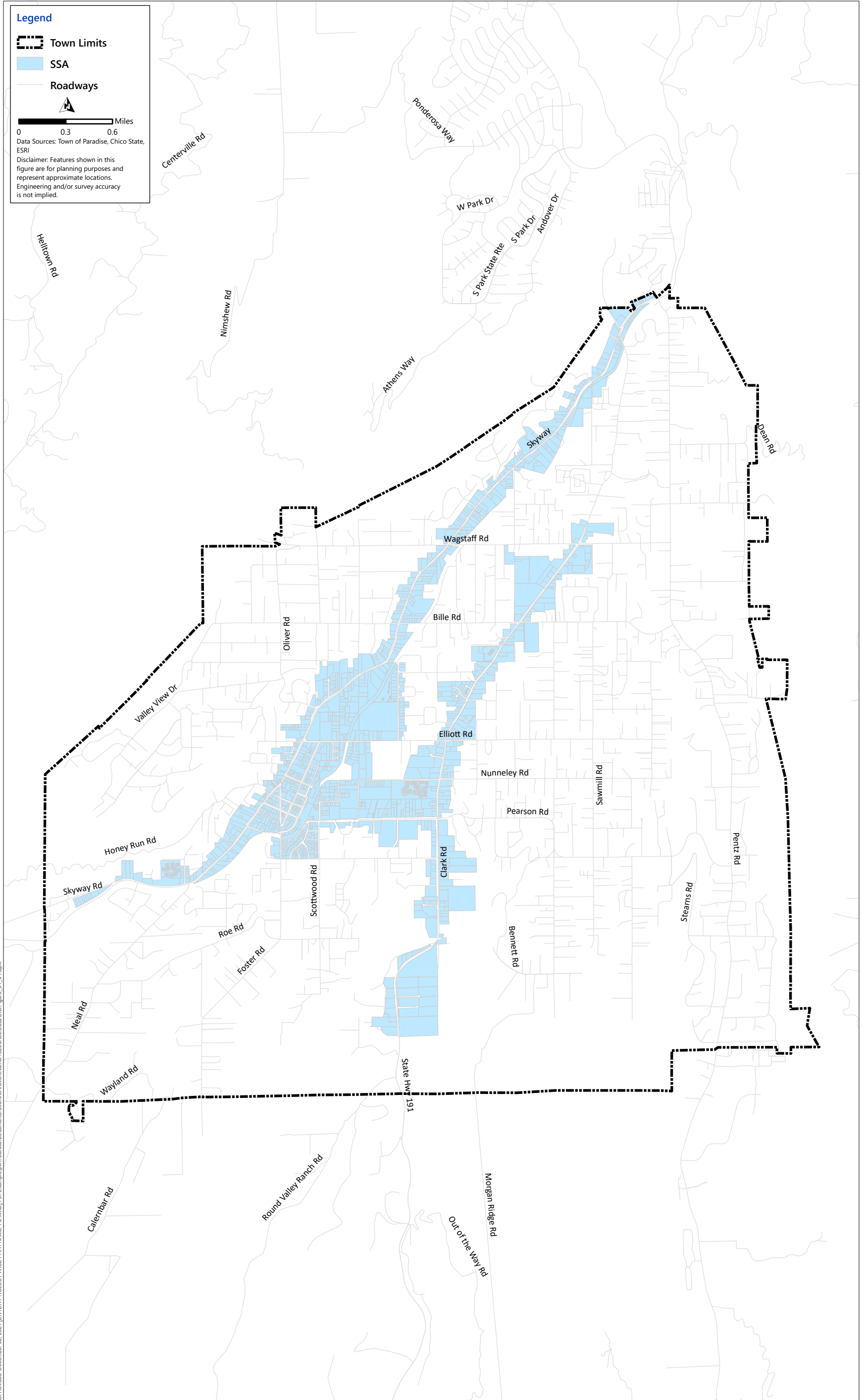


Figure 1.1 Overview of Project



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Figure 1.2 Paradise SSA  
TOWN OF PARADISE  
PARADISE SEWER PROJECT



## 1.2 Previous Paradise Sewer Studies

There have been numerous planning studies dating back to the 1980s related to the Project. The most recent studies were prepared in 2017 by Bennett Engineering Services (Bennett) and in 2020 by HDR Inc. (HDR). The Bennett and HDR studies included the development of spreadsheet models to size the Project facilities and to simulate flow conditions.

### 1.2.1 2017 Bennett Study

Bennett used land use designation from the Town's 1994 *General Plan* and assigned the following wastewater flow generation factors to estimate the average dry weather flow (ADWF):

- Single family residence (SFR) – 230 gallons per day per dwelling unit (gpd/DU).
- Multi-family residence (MFR) – 110 gpd/DU.
- Non-residential – 600 gallons per day per acre (gpd/ac).

Peak wet weather flow (PWWF) was calculated by applying a peaking factor (PF) of 2.0 to the ADWF. Bennett estimated the ADWF and PWWF at 0.98 million gallons per day (mgd) and 1.86 mgd, respectively.

### 1.2.2 2020 HDR Study

HDR used winter water usage data from 2017 provided by the Paradise Irrigation District (PID) to estimate future wastewater flow for each connected parcel. Wastewater generation factors by land use type were calculated based on the PID water usage data (when available). Wastewater flow from parcels without PID data were estimated by parcel area and the estimated wastewater generation factors.

From the PID data, HDR estimated that commercial land use would generate wastewater in the range of 272 to 539 gpd/ac, and that industrial land use would generate 105 gpd/ac. Additionally, utilizing the PID winter water usage data for future wastewater flow estimates assumes that future development would be identical to pre-Camp Fire conditions and that septic users will use the same amount of water as non-septic users.

HDR estimated the ADWF and PWWF at 0.464 mgd and 0.928 mgd, respectively. PWWF was calculated by applying a PF of 2.0 to the ADWF.

## 1.3 Collection System Hydraulic Model

### 1.3.1 Town Development Plans

The Design-Builder worked with Town staff to gain an understanding of the Town's planned developments within the SSA. In general, there are three main types of parcels within the SSA that were considered when estimating the flow associated with the SSA. These are summarized in the following subsections.

### 1.3.1.1 Parcels With Approved Development Plans

The Town provided a spreadsheet describing the parcels with SFR, MFR, and commercial development approved by the Town. This spreadsheet, called the “Plan Check Spreadsheet,” provided detailed information related to all new development that has been approved by the Town since the Camp Fire. Appendix 1A includes the “Plan Check Spreadsheet” for reference. Figure 1.3 shows the parcels within the SSA that have approved development plans in the “Plan Check Spreadsheet.” Table 1.1 summarizes the estimated number of SFR and MFR dwelling units, as well as the total commercial acreage associated with the approved development plans.

Table 1.1 [Approved Development Plan Summary Within the SSA](#)

Land Use Type <sup>(1)</sup>	Quantity	Unit
MFR	1,303	Dwelling Units
SFR	185	Dwelling Units
Commercial	84.6	Acres

Notes:

(1) Source: Town “Plan Check Spreadsheet.”

### 1.3.1.2 Parcels With Existing Developed Structures

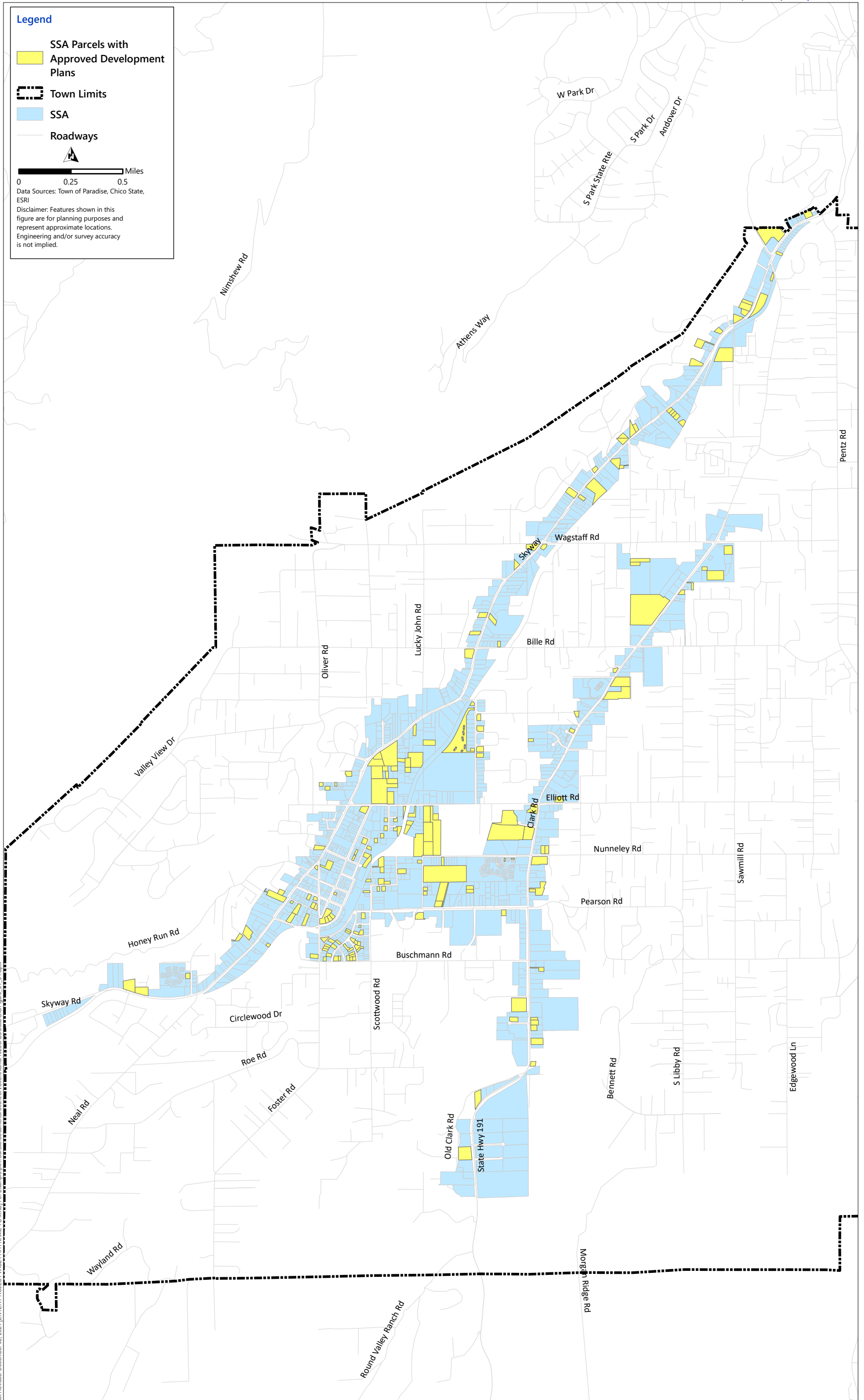
These parcels generally include areas that survived the Camp Fire. In 2023, HDR conducted a Windshield Survey to identify which parcel contained existing structures and what type of structures were observed. Appendix 1B contains a detailed table showing the results of the Windshield Survey. Figure 1.4 shows the parcels within the SSA that have existing structures per the Windshield Survey. Table 1.2 summarizes the findings of the Windshield Survey by element type.

Table 1.2 [Summary of Parcels With Existing Developed Structures Within the SSA](#)

Structure Type <sup>(1)</sup>	Quantity <sup>(1)</sup>	Unit
SFR	122	Dwelling Units
MFR	14.5	Acres
Town Residential	0.9	Acres
Commercial	288.7	Acres
Central Commercial	2.1	Acres
Recreational	7.7	Acres
Town Commercial	18.3	Acres
Community Service	7.7	Acres
Public Institution	0.4	Acres

Notes:

(1) Source: 2023 Windshield Survey (HDR).



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Figure 1.3 SSA Parcels with Approved Development Plans  
TOWN OF PARADISE  
PARADISE SEWER PROJECT

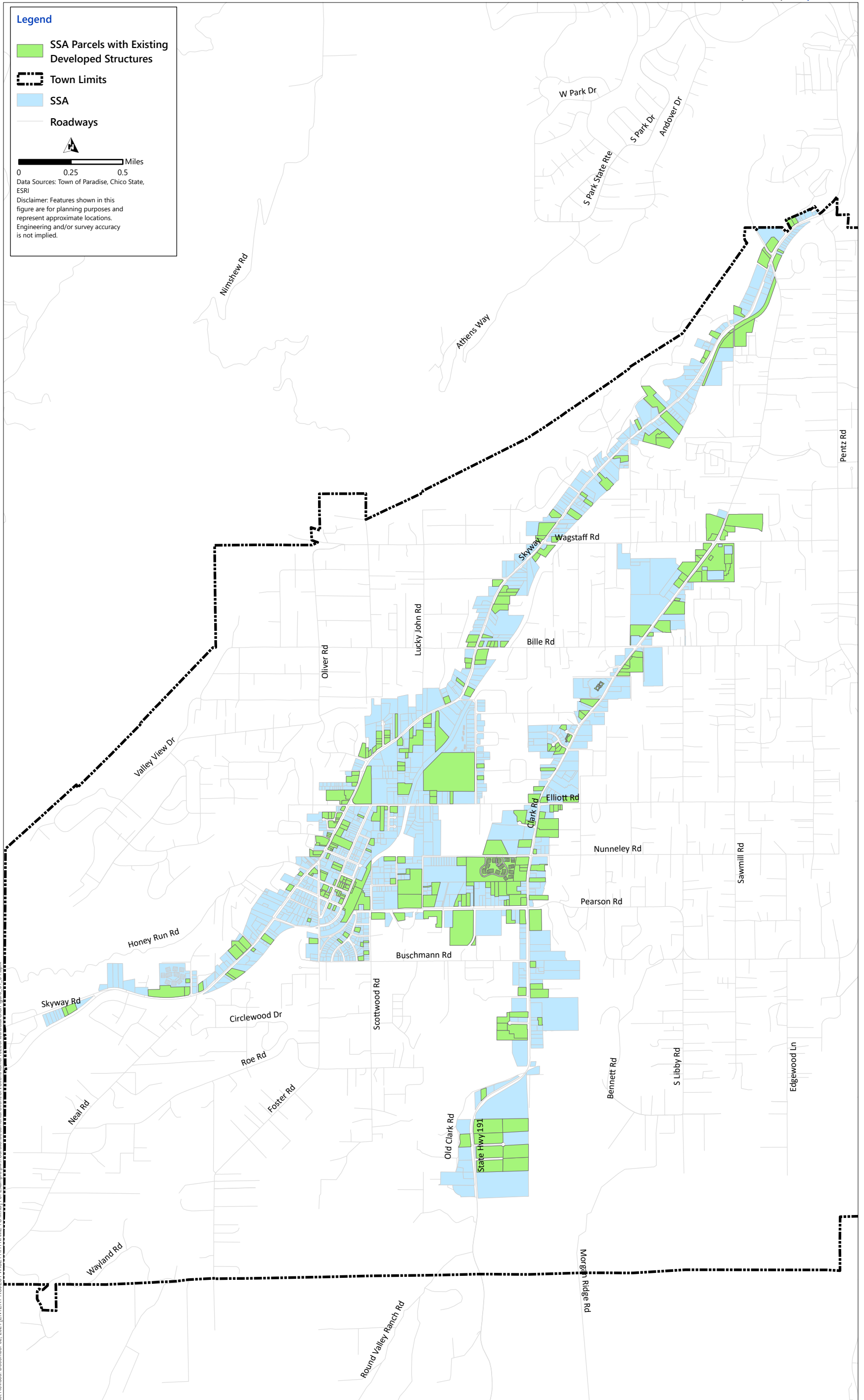


Figure 1.4 SSA Parcels with Existing Developed Structures  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

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### 1.3.1.3 Vacant Parcels Without Approved Development Plans

These parcels include all vacant parcels within the SSA without approved development plans. These parcels were assumed to develop in accordance with the Town’s 1994 *General Plan* land use, as shown on Figure 1.5. Table 1.3 summarizes the total parcel area for the vacant parcels without approved developments within the SSA.

Table 1.3 Summary of Vacant Parcels Without Existing Developed Structures Within the SSA

Land Use Type <sup>(1)</sup>	Quantity <sup>(1)</sup>	Unit
Agricultural Residential	8.0	Acres
Central Commercial	34.5	Acres
Community Service	28.3	Acres
Light Industrial	67.5	Acres
MFR	33.7	Acres
Neighborhood Commercial	3.0	Acres
Public Institution	17.2	Acres
Recreational	7.8	Acres
Rural Residential	20.2	Acres
Town Commercial	196.3	Acres
Town Residential	118.3	Acres

Notes:

(1) Source: Town 1994 *General Plan* land use.

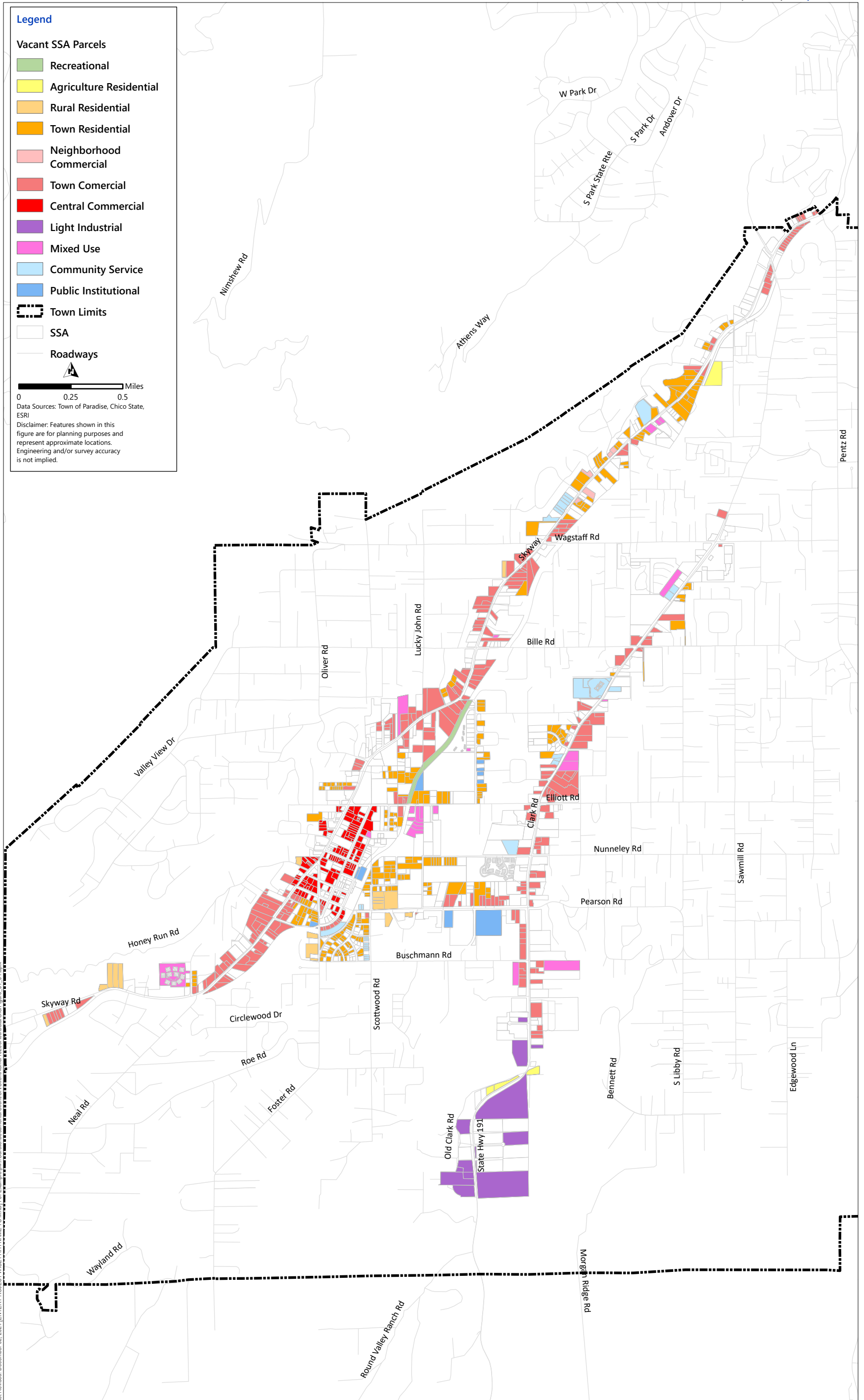


Figure 1.5 Vacant SSA Parcels by Land Use  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

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## 1.3.2 Wastewater Flow Estimates

The Design-Builder conducted a review of wastewater generation rates for utilities throughout California to aid in the development of unit flow factors and wet weather assumptions for the Project. This review was conducted to determine a typical range of values for various flow parameters in Central and Northern California, and to help identify the appropriate assumptions to be used to estimate the wastewater flows associated with the Project. This included a review of dry weather flow wastewater generation rates, dry weather diurnal pattern assumptions, and infiltration and inflow (I/I) rates. Appendix 1C includes tables and exhibits showing the ranges of values documented in Central and Northern California associated with this review, whereas the following sections document the recommended values that were built into the wastewater flow estimates and hydraulic models.

### 1.3.2.1 Dry Weather Flow Wastewater Generation Factors

The Dry Weather Wastewater Generation Rate is defined as the daily average flow per unit that is expected to be generated by the Town's customers during dry weather conditions. For residential land uses, the Dry Weather Wastewater Generation Rate is expressed in terms of gallons per day per capita (gpd/cap), gpd/DU, or gpd/ac. For commercial/industrial land uses, the Dry Weather Wastewater Generation Rate is usually expressed in gpd/ac.

For the Town, it was necessary to determine the recommended per capita Dry Weather Wastewater Generation Rate. As shown in Appendix 1C, the average per capita water use ranged from 50 gpd/cap on the low end to 100 gpd/cap on the high end, with 65 gpd/cap being a reasonable assumption for estimating flows associated with the Project. To estimate the typical wastewater flows per dwelling unit for SFR and MFR customers, the number of people per dwelling unit were assumed to be 2.33 and 1.5 people per dwelling unit, respectively, based on the Town's *1994 General Plan*. Using these assumptions, SFR and MFR wastewater generation factors were calculated to be 152 gpd/DU and 98 gpd/DU, respectively.

For MFR and Town residential land use areas without specific information on the number of dwelling units that will be developed, a Dry Weather Wastewater Flow Factor was developed in the units of gpd/ac. The 2022 Housing Element states that maximum unit density for future MFR development was 30 dwelling units per acre; however, the realistic unit density that is expected to be achieved is 49 percent of the maximum unit density, according to the 2022 Housing Element. Therefore, the wastewater generation factor for future MFR development across the SSA was calculated to be 1,433 gpd/ac. The realistic unit density yield from the 2022 Housing Element was also applied to the Town residential land use type.

As shown in Appendix 1C, the commercial Dry Weather Wastewater Flow Factors varied between 230 gpd/ac on the low end to 2,000 gpd/ac on the high end. For industrial uses, the Dry Weather Wastewater Flow Factors varied from 250 gpd/ac on the low end to 2,500 gpd/ac on the high end. For commercial and industrial customers, the Design-Builder recommends a Dry Weather Wastewater Flow Factor of 700 gpd/ac and 800 gpd/ac, respectively.

Table 1.4 contains wastewater generation factors by land use type, which were calculated using the 2022 Housing Element assumptions and the assumed per capita flow of 65 gpd/cap for residential uses. Table 1.4 also contains the recommended Dry Weather Wastewater Generation Rates for non-residential land uses. Wastewater flow factors for land use types without previous planning parameters set by the Town were developed based on similar California municipalities, including the neighboring City.

Table 1.4 Recommended Dry Weather Wastewater Flow Factors by Land Use Type

Land Use Type	Abbreviation	Dwelling Unit per Acre	People per Dwelling Unit	gpd/cap	Development Yield	Calculated Wastewater Flow Factor (gpd/ac)
Multi-Family Residential <sup>(1)</sup>	MFR	30	1.5	65	49%	1,433
Town Residential	TR	3	2.33	65	49%	223
Agricultural Residential	AR	0.6	2.33	65	-	91
Rural Residential	RR	1.5	2.33	65	-	227
Town Commercial	TC	-	-	-	-	700
Neighborhood Commercial	NC	-	-	-	-	700
Central Commercial	CC	-	-	-	-	700
Commercial <sup>(1)</sup>	C	-	-	-	-	700
Light Industrial	LI	-	-	-	-	800
Community Service	CS	-	-	-	-	600
Recreational	R	-	-	-	-	400
Public Institution	PI	-	-	-	-	400

Notes:

(1) Only applied to MFR parcels without specific dwelling unit projections.

### 1.3.2.2 Dry Weather Flow Estimates

The estimated ADWF associated with the SSA was developed using the approach shown on Figure 1.6.

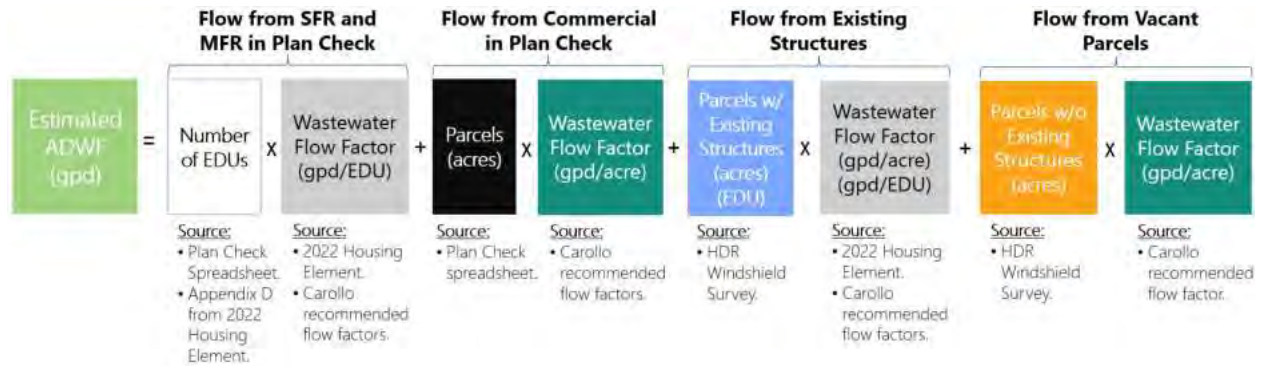


Figure 1.6 Wastewater Flow Projection Approach



### Parcels With Approved Development Plans

Table 1.5 summarizes the estimated ADWF associated with parcels that have been issued an approved development plan. As shown in Table 1.5, it is estimated that these parcels would contribute approximately 0.214 mgd of flow on average.

Table 1.5 Estimated ADWF for Approved Development Plan Within the SSA

Land Use Type <sup>(1)</sup>	Quantity <sup>(1)</sup>	Unit	Dry Weather Wastewater Flow Factor	Estimated ADWF (gpd)
MFR	1,303	Dwelling Units	98 gpd/DU	127,000
SFR	185	Dwelling Units	152 gpd/DU	28,000
Commercial	84.6	Acres	700 gpd/ac	59,200
<b>Total</b>	-	-	-	<b>214,200</b>

Notes:

gpd - gallons per day.

(1) Source: Town "Plan Check Spreadsheet."

### Parcels With Existing Developed Structures

Table 1.6 summarizes the estimated ADWF associated with parcels existing developed structures. As shown in Table 1.6, it is estimated that these parcels would contribute approximately 0.264 mgd of flow on average.

Table 1.6 Estimated ADWF for Parcels With Existing Developed Structures Within the SSA

Structure Type <sup>(1)</sup>	Quantity <sup>(1)</sup>	Unit	Dry Weather Wastewater Flow Factor	Estimated ADWF (gpd)
SFR	122	Dwelling Units	152 gpd/DU	18,500
MFR	14.5	Acres	1,433 gpd/ac	20,800
Town Residential	0.9	Acres	223 gpd/ac	200
Commercial	288.7	Acres	700 gpd/ac	202,100
Central Commercial	2.1	Acres	700 gpd/ac	1,500
Recreational	7.7	Acres	400 gpd/ac	3,100
Town Commercial	18.3	Acres	700 gpd/ac	12,800
Community Service	7.7	Acres	600 gpd/ac	4,600
Public Institution	0.4	Acres	400 gpd/ac	200
<b>Total</b>	-	-	-	<b>263,700</b>

Notes:

(1) Source: 2023 Windshield Survey (HDR).

### Vacant Parcels Without Approved Development Plans

Table 1.7 summarizes the estimated ADWF associated with vacant parcels without approved development plan. As shown in Table 1.7, it is estimated that these parcels would contribute approximately 0.325 mgd of flow on average.

Table 1.7 Estimated ADWF for Vacant Parcels With Existing Developed Structures Within the SSA

Structure Type <sup>(1)</sup>	Quantity	Unit	Dry Weather Wastewater Flow Factor	Estimated ADWF (mgd)
Agricultural Residential	8.0	Acres	91 gpd/ac	700
Central Commercial	34.5	Acres	700 gpd/ac	24,100
Community Service	28.3	Acres	600 gpd/ac	17,000
Light Industrial	67.5	Acres	800 gpd/ac	54,000
MFR	33.7	Acres	1,433 gpd/ac	48,300
Neighborhood Commercial	3.0	Acres	700 gpd/ac	2,100
Public Institution	17.2	Acres	400 gpd/ac	6,900
Recreational	7.8	Acres	400 gpd/ac	3,100
Rural Residential	20.2	Acres	227 gpd/ac	4,600
Town Commercial	196.3	Acres	700 gpd/ac	137,400
Town Residential	118.3	Acres	223 gpd/ac	26,300
<b>Total</b>	-	-	-	<b>324,700</b>

Notes:

(1) Source: Town 1994 General Plan land use.

### Estimated Average Dry Weather Flow Within the Sewer Service Area

Table 1.8 summarizes the total estimated ADWF within the SSA. As shown on Table 1.8, full development of the SSA is estimated to produce 0.803 mgd on flow on average.

Table 1.8 SSA ADWF Estimate by Flow Sources

Flow Source	ADWF (mgd)
Parcels With Approved Development Plans	0.214
Parcels With Existing Structures	0.264
Vacant Parcels Without Approved Development Plans	0.325
<b>Total</b>	<b>0.803</b>

#### 1.3.2.3 Diurnal Patterns

A diurnal curve is a pattern of hourly multipliers that are applied to the ADWF to simulate the variation in flow that occurs throughout the day during dry weather conditions. Two diurnal curves were developed for the collection system, one representing residential flow and one representing non-residential flow. The diurnal patterns were developed based on similar California municipalities, including the neighboring City. The example diurnal patterns that were referenced as part of this project are included in Appendix 1C for reference. Figure 1.7 shows the recommended residential and non-residential diurnal patterns compared side-by-side.

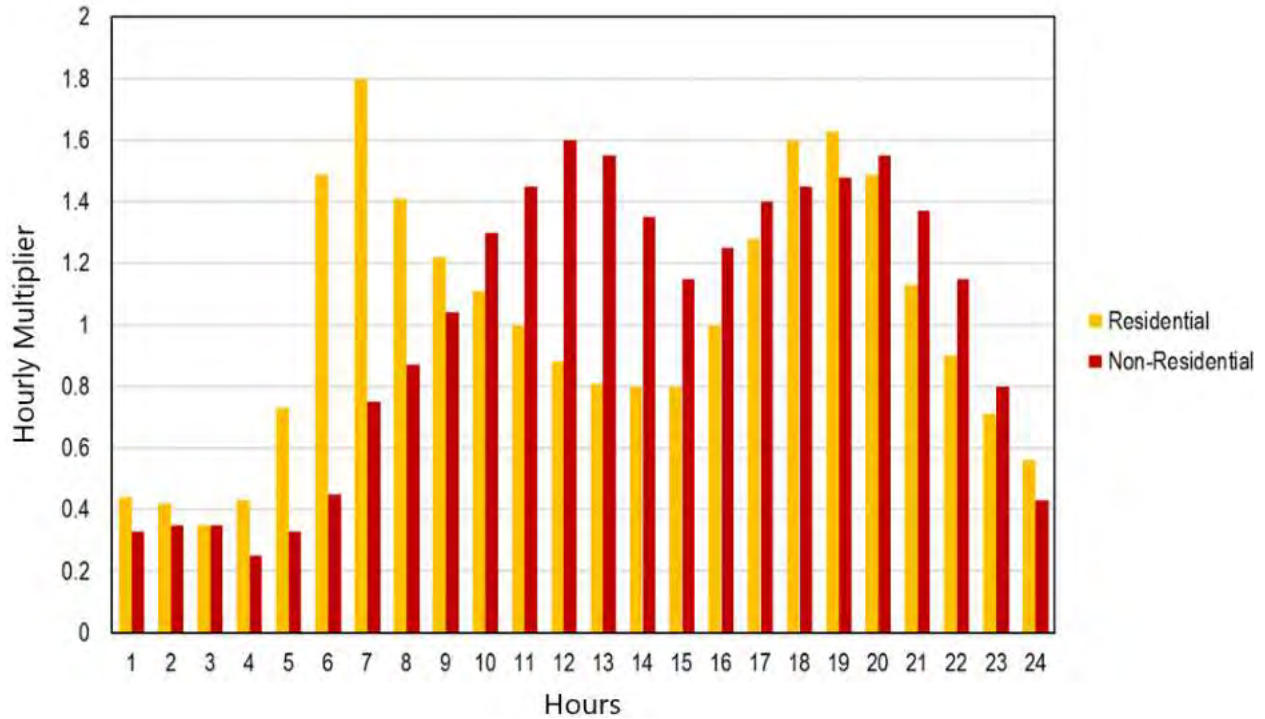


Figure 1.7 Residential and Non-Residential ADFW Diurnal Patterns

### 1.3.2.4 Wet Weather Flow Estimation and Approach

Wet weather flow is defined as the expected flow in the system associated with the effects of I/I into the system following significant wet weather events. The rates of I/I into the system vary dramatically throughout the state depending on a number of variables including system age, local climate, pipe condition, groundwater table elevation, and other factors. For the Town, there is no historical data available to estimate the relative effect of I/I, so a reasonable peak I/I allowance in the system, expressed in the units of gpd/ac must be assumed. While I/I for the new collection system is not anticipated in the near-term, future I/I must be accounted for to accurately size the collection system. The Design-Builder researched numerous agencies throughout Central and Northern California to identify the appropriate peak I/I allowance that has been assumed for future growth areas in each agency’s collection system master plan. This information is provided in Appendix 1C for reference. Based on this review, the Design-Builder recommended that a peak I/I allowance of 750 gpd/ac be used to size the Project facilities. The recommended I/I allowance of 750 gpd/ac is consistent with the assumptions utilized by the City, and is in the mid-range of what other agencies have assumed, as shown in Appendix 1C. The assumed peak I/I allowance of 750 gpd/ac was routed through the hydraulic model with an inflow pattern that varied with time. The associated PWWF was determined based on the hydraulic modeling results. Table 1.9 summarizes the estimated PWWF associated with the SSA, which was taken from the hydraulic modeling results at the transition structure.

Table 1.9 SSA Flow Summary

Flow Condition	Flow (mgd)
ADWF	0.803
PWWF <sup>(1)</sup>	2.120
PF <sup>(2)</sup>	2.64

Notes:

- (1) Observed at the Transition Structure.
- (2) PF is calculated by dividing PWWF by ADWF.

### 1.3.3 Extended Sewer Service Area Flow Estimation and Approach

Wastewater flow from parcels outside of the SSA were considered to determine if the collection system and export pipeline could convey additional flow from parcels in the future; this is referred to as the extended SSA condition. To estimate the amount of ADWF included in this scenario, 25 percent of the Town’s area not included in the SSA was assigned the Town residential land use Dry Weather Wastewater Generation Rate of 223 gpd/ac. This approach was developed in consultation with Town staff because the exact nature and boundary of a theoretical extended collection system is not known at this time. The intent of this approach was to provide a high-level estimate of the amount of wastewater flow that could be connected to the system beyond the SSA should the system be extended. This resulted in an additional ADWF of 0.533 mgd, bringing the estimated ADWF for the extended SSA condition to 1.336 mgd. At the transition structure, the PWWF from the SSA and extended collection system was roughly estimated to be 4.819 mgd. Table 1.10 summarizes the estimated PWWF associated with the SSA and extended collection system, which was taken from the hydraulic modeling results at the transition structure.

Table 1.10 SSA and Extended Collection System Flow Summary

Flow Condition	Flow (mgd)
ADWF	1.336
PWWF <sup>(1)</sup>	4.819
PF <sup>(2)</sup>	3.61

Notes:

- (1) Observed at the Transition Structure.
- (2) PF is calculated by dividing PWWF by ADWF.

### 1.3.4 Sizing Criteria

Gravity pipes were sized in accordance with a set maximum flow depth to diameter ratio (d/D) based upon the pipes size. For pipes less than 12 inches in diameter, the d/D value was to be less than 0.5 or 50 percent of the pipeline depth. For 12 to 18-inch diameter pipes, the d/D value was to be less than 0.67. For new pipes larger than 18 inches in diameter, the d/D value was to be less than 0.75. The analysis criteria were summarized in Table 1.11.

Table 1.11 Maximum Flow Depth Criteria Under PWWF Conditions

Pipe Diameter (inches)	Maximum d/D
Less than 12	0.50
12 to 18	0.67
Larger than 18	0.75

Force mains were included within the model with a minimum diameter of 4 inches. Force mains were sized to allow a maximum velocity of 7 feet per second (ft/sec) and a minimum velocity of 3 ft/sec.

To minimize the settlement of sewage solids, it is standard practice in the design of gravity sewers to specify that a minimum velocity of 2 ft/sec be maintained when the pipeline is half-full. At a velocity of 2 ft/sec, the flow of wastewater will typically be fast enough to keep sediment suspended. The velocity of half-full pipes is monitored for this criterion because half-full pipes have a similar velocity to full-flow pipes. The reason for this phenomenon is due to frictional losses along the wetted perimeter of full-flow pipes. Minimum slope requirements for gravity pipes can be found in Table 1.12.

Table 1.12 Minimum Slope for New Gravity Pipes

Pipe Diameter (inches)	Minimum Slope <sup>(1)(2)</sup> (feet/foot)	Calculated Flow at Maximum d/D <sup>(2)(3)</sup>	
		d/D	Maximum Flow (mgd)
6	0.0050	0.50	0.127
8	0.0033	0.50	0.226
10	0.0025	0.50	0.353
12	0.0019	0.67	0.796
15	0.0014	0.67	1.24
18	0.0011	0.67	1.79
21	0.0009	0.75	2.84
24	0.0008	0.75	3.70
27	0.0007	0.75	4.68
30	0.0006	0.75	5.79
36	0.0006	0.75	9.65
42	0.0006	0.75	14.56

Notes:

- (1) Recommended minimum slope for flows at a velocity greater than or equal to 2 ft/sec.
- (2) Manning's n = 0.013.
- (3) Calculated flow is determined using the minimum slope and maximum allowable d/D from Table 1.11.

### 1.3.5 Collection System Model Development

A sewer collection system hydraulic model is a digital representation of a physical sewer system that provides information regarding the conveyance of wastewater. The model can be used to assess and predict how the collection system will perform upon initial start-up and in the future with additional wastewater flow. This section summarizes the development and results of the collection system hydraulic model. Topics within this section include hydraulic modeling software selection, hydraulic model elements, a description of the initial and alternative alignments, and wastewater flow allocation.

#### 1.3.5.1 Software Selection

The InfoWorks ICM modeling package, developed by Innovyze, was selected as the software platform for the collection system hydraulic model. The InfoWorks ICM model is a fully dynamic and state-of-the-art modeling software that models complex hydraulic networks to realistically simulate wastewater conveyance through a collection system. Using hydraulic modeling software also allows for dry weather

flow and wet weather flow to be varied throughout a model run based upon realistic diurnal patterns and storm patterns. The InfoWorks software can either use the SWMM EPA engine or the proprietary ICM engine. The collection system was modeled using the SWMM EPA engine.

### 1.3.5.2 Elements of the Collection System Hydraulic Model

The following provides an overview of the elements of a hydraulic wastewater model and the required input parameters associated with each:

- **Junctions:** Sewer manholes, cleanouts, and locations where pipe sizes change are represented by junctions. Required inputs for junctions include rim elevation, invert elevation, and surcharge depth (used for force main junctions and indicate a pressurized zone). Junctions can also be used to represent a location where flows split between two downstream links. Wastewater loads are also loaded at junctions.
- **Conduits:** Gravity mains and force mains are both represented as conduits in the hydraulic model. Required inputs for conduits include upstream and downstream invert elevations, diameter, length, Manning’s roughness coefficient for gravity mains, Hazen-Williams coefficients for force mains, and if the pipe is or is not a force main. The Hazen-Williams C-value was set as 120 for all force mains in the collection system.
- **Storage nodes:** Lift station wet wells are indicated within the hydraulic model as storage nodes. Input parameters for storage nodes include invert elevation, wet well depth, and wet well cross-sectional area.
- **Pumps:** Pumps that are connected to storage nodes represent the pumps of a lift station. Required inputs for pumps include pump curves (if the pump is not being modeled as ideal) and on/off operational controls.
  - » Pumps are all assumed to be ideal at this stage of analysis. As the design progresses, pump curves will be added into the hydraulic model. System hydraulics will be re-confirmed following the addition of pump curves.
- **Outfalls:** Outfalls represent areas where flow is exiting the system, typically a water treatment facility. The only required input parameter for this element is the outfall’s invert.
- **Patterns:** Diurnal patterns are used to simulate the variation in flow throughout the day. Patterns can be established for weekdays or weekends and span a 24-hour period. Residential and non-residential diurnal patterns were developed to vary dry weather flow throughout the model.

### 1.3.5.3 Collection System Alignment Alternatives

Two alignments were created to model wastewater conveyance within SSA to the export pipeline. The two alignments, known as the initial alignment and the alternative alignment, were both based upon the alignment from HDR’s 2020 preliminary design and Light Detection and Ranging (LiDAR) elevation data provided by Pacific Gas and Electric (PG&E). In both alignments, manhole rims were assigned an elevation from the PG&E LiDAR data; manholes were initially assumed to be 5 feet deep and were adjusted to promote gravity flow and achieve minimum slope. The follow sections will discuss the primary features and differences between the initial and alternative alignment.

## Initial Alignment

The initial alignment is an updated representation of the Bennett 2017 preliminary design. The primary feature of this alignment is the trunk sewer along Pearson Road that conveys flow from the Clark Road trunk sewer to the Skyway trunk sewer. The model initially used the same pipe sizes as provided in the HDR preliminary design and were increased based upon the sizing criteria from Section 1.4. Updates to the HDR 2020 alignment include multiple lift stations that were needed to connect lower elevation areas; these areas with lower elevations were identified with the PG&E LiDAR data. The initial alignment can be seen in Figure 1.8. The length of force mains, gravity mains, and the number of lift stations associated with the initial alignment can be found in Table 1.13.

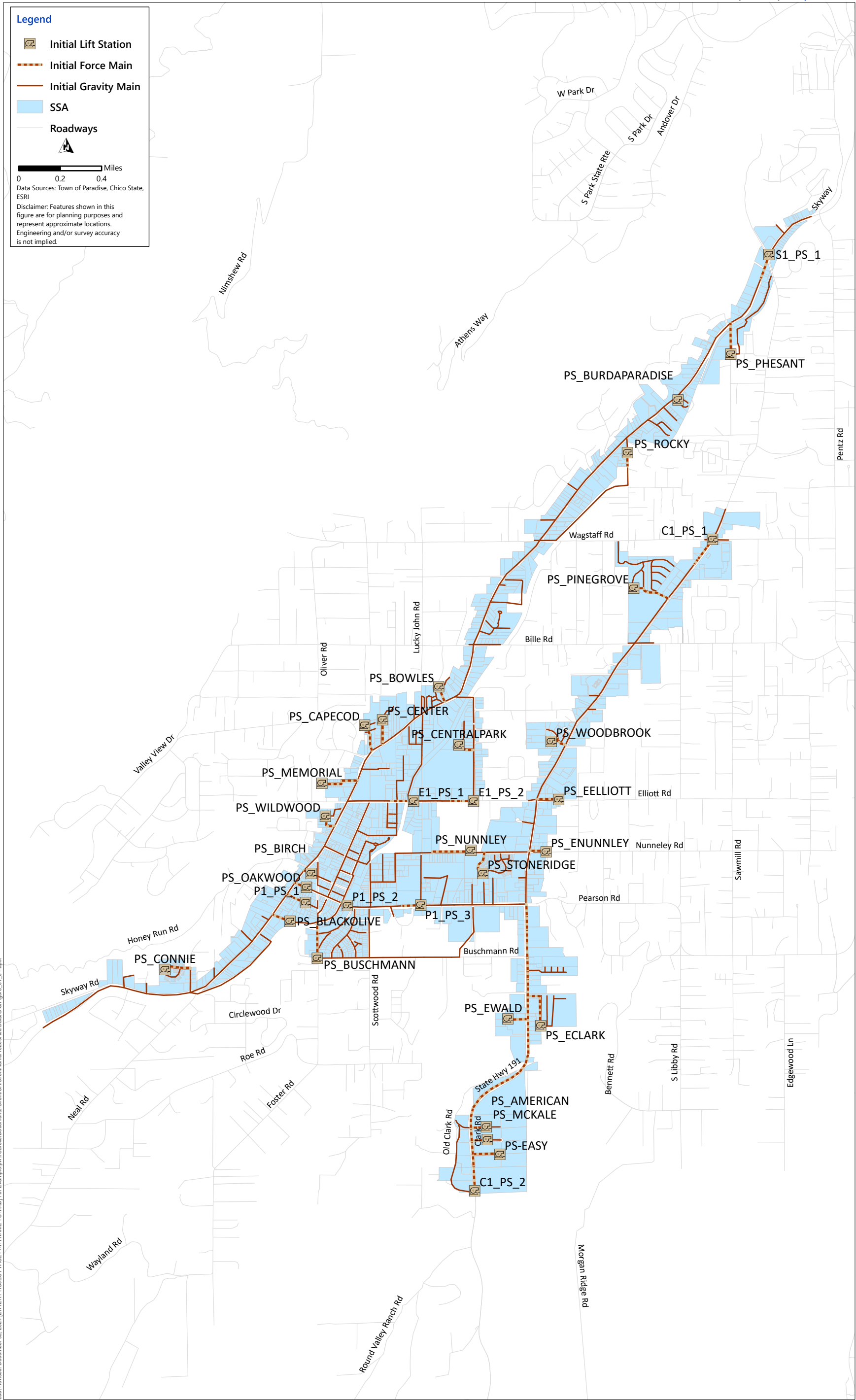
Table 1.13 Initial Alignment Collection System Infrastructure

Infrastructure	Quantity
Gravity Main	29.13 miles
Force Main	5.00 miles
Trunk Lift Stations	4
Collector Lift Stations	29
Manholes	771

## Alternative Alignment

The alternative alignment is built upon the initial alignment with the primary difference being the Buschmann-Pearson trunk alignment. The proposed Buschmann Road trunk sewer reroutes flow from Pearson Road to Buschmann Road. The Buschmann trunk sewer features a new trunk sewer on Recreation Drive that directs flow to and along Buschmann Road. This trunk line will collect the flow from the upper Clark Road trunk line (north of Pearson Road) as well as flows from adjacent parcels along Pearson Road. Pipes along Pearson Road will be modified so that sewage will flow towards Recreation Drive or Scottwood Road via gravity. The purpose of the Buschmann Road trunk sewer is to eliminate the need for three large sewer lift stations along Pearson Road from the initial alignment. The Buschmann route requires two low-capacity lift stations along Pearson Road and one high-capacity lift station on Buschmann Road. The Buschmann-Pearson trunk alignment can be seen in Figure 1.9.

Other differences in the alternative alignment include the Clark Road trunk reduction, the Paradise Memorial Trailway pipe elimination, and the Clark Road extension to Skyway. The Clark Road trunk reduction splits the areas along Clark Road (south of Pearson Road) into two separate sewer basins. These basins are referred to as the Upper Clark Collection Area and the Lower Clark Collection Area. The Upper Clark Collection Area is now served by a lift station that conveys flow into the Buschmann trunk sewer. The Lower Clark Trunk Sewer operates in its initial orientation by conveying flow to Pearson Road. The Clark Road trunk reduction can be seen in Figure 1.10. The Paradise Memorial Trail pipe elimination will remove sewer pipe from Wagstaff Road and Rocky Lane, approximately 2,300 feet. The force main along Rocky Lane will be redirected to convey flow north into the Skyway trunk sewer. The Paradise Memorial Trail pipe elimination can be seen in Figure 1.11. The proposed Clark extension to Skyway will extend the Clark Road trunk line along Clark Road from Wagstaff Road to Skyway. The purpose of this design modification is to serve the parcels adjacent to Clark Road as well as provide a trunk line for future sewer connections. All flows within the Clark Road trunk line extension will flow south. The Clark Road Extension to Skyway can be seen in Figure 1.12.



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Figure 1.8 Initial Alignment  
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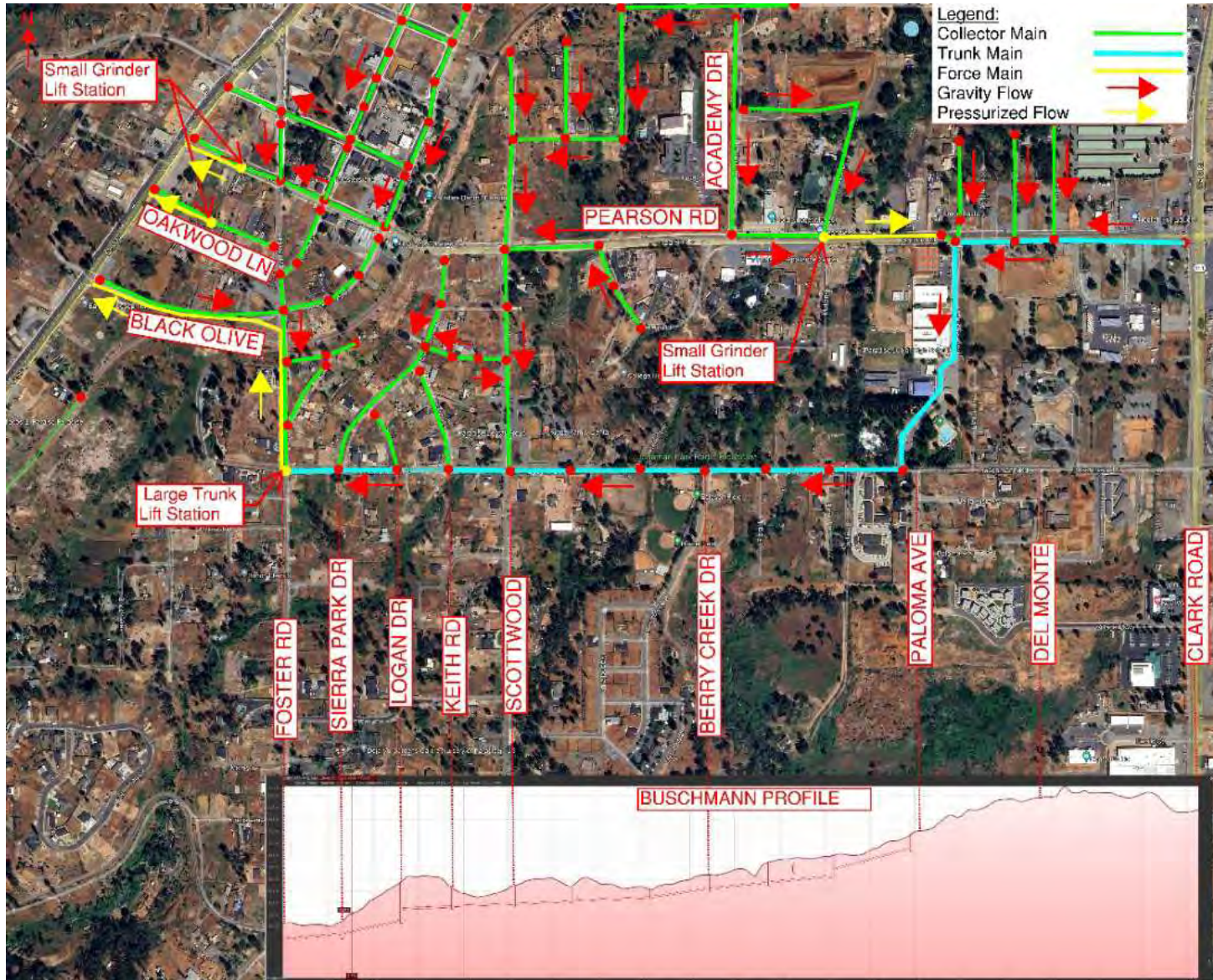


Figure 1.9 Pearson-Buschmann Trunk Alignment

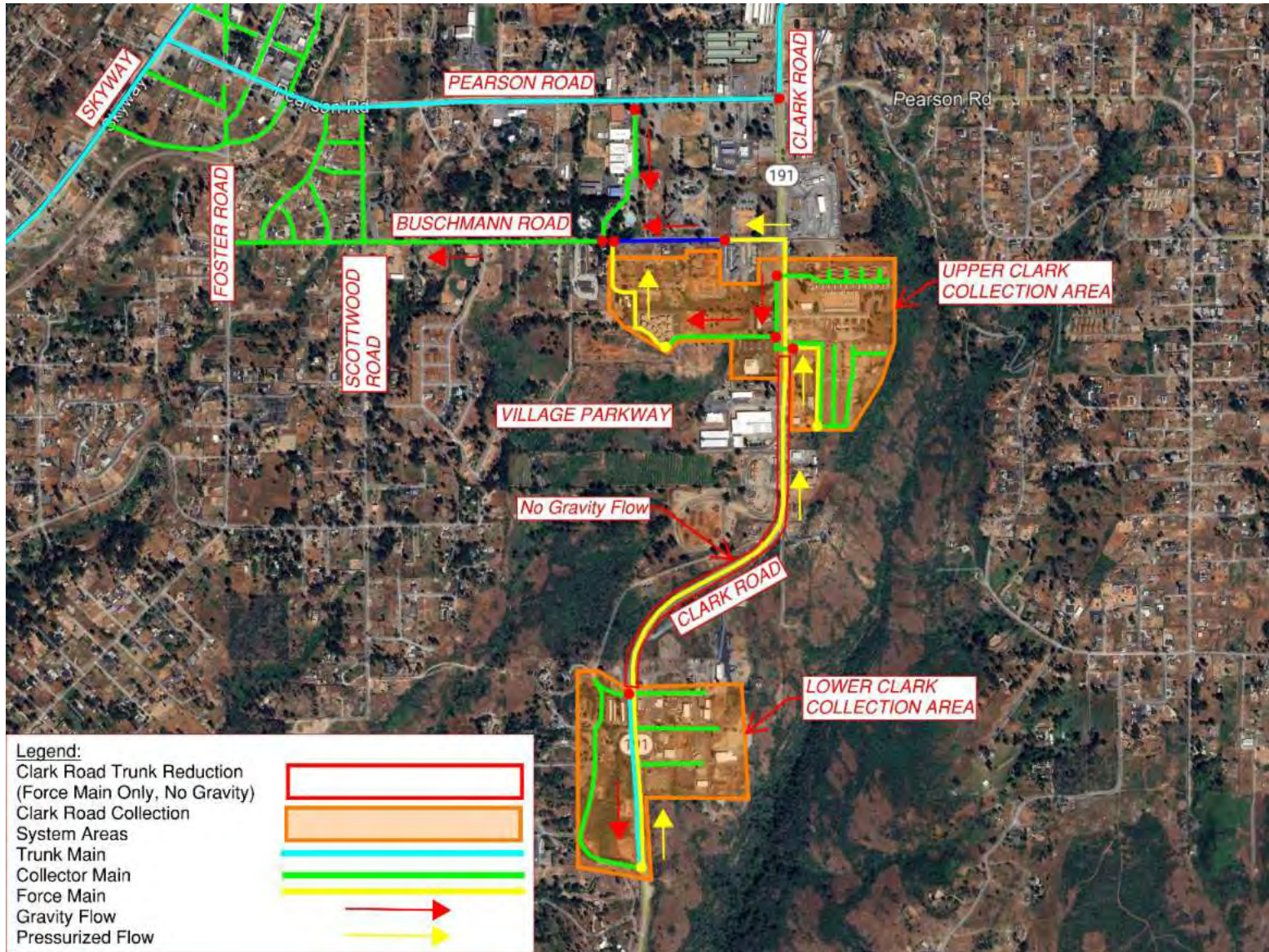


Figure 1.10 Clark Trunk Reduction South of Pearson Road



Figure 1.11 Paradise Memorial Trailway Pipe Elimination

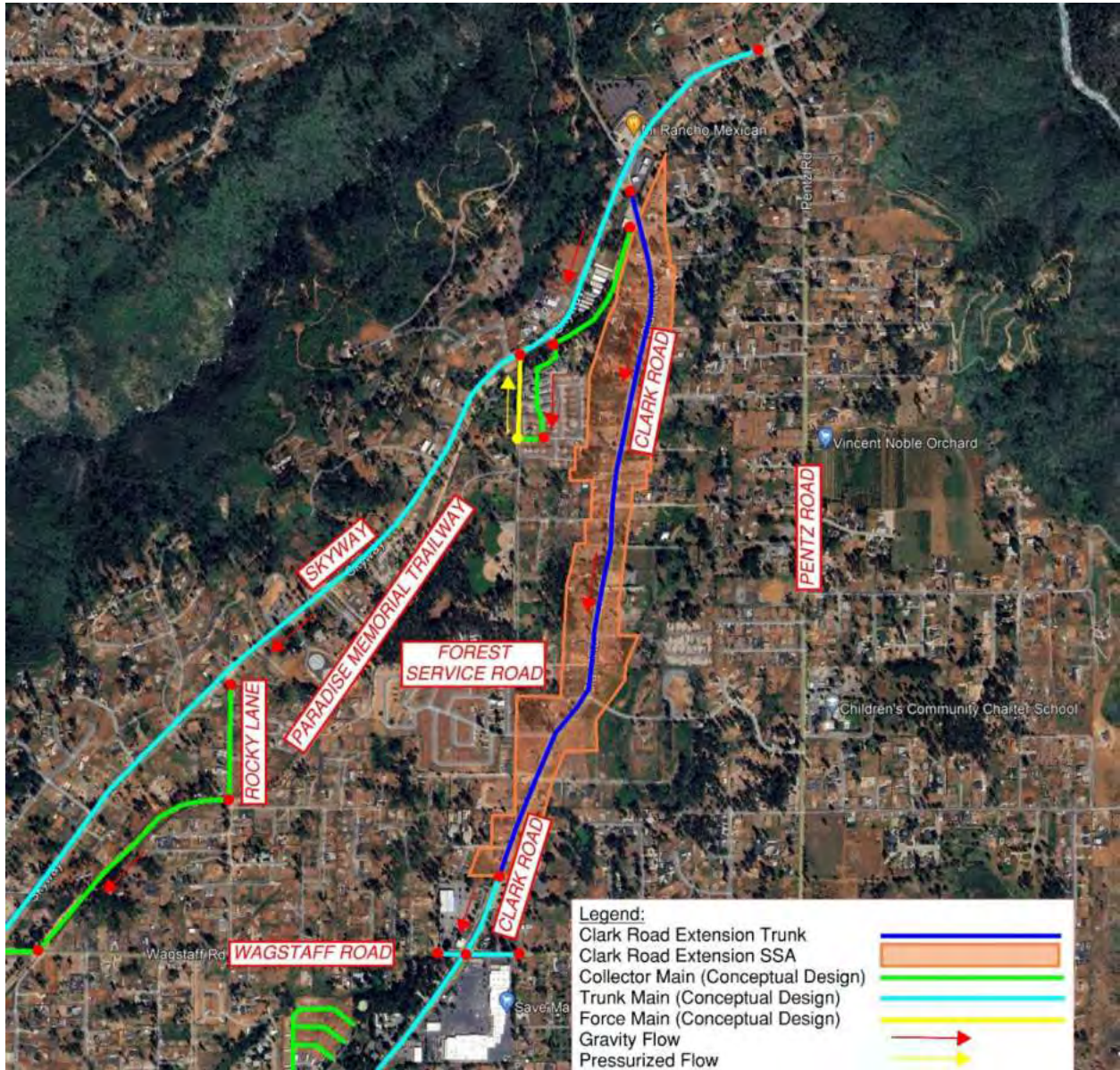


Figure 1.12 Clark Road Extension to Skyway

The alternative alignment can be seen in Figure 1.13. The length of force mains, gravity mains, as well as the number of lift stations associated with the alternative alignment can be found in Table 1.14.

Table 1.14 Alternative Alignment Collection System Infrastructure

Infrastructure	Quantity
Gravity Main	29.74 miles
Force Main	5.75 miles
Trunk Lift Station	2
Collector Lift Stations	31
Manholes	892

### Clark Road Extension Flow Estimation

The Clark Road extension adds 114 parcels to the SSA. These parcels were not included in the Windshield Survey; therefore, they were assumed to develop in accordance with the Town’s 1994 General Plan land use, as shown in Figure 1.5. Table 1.15 summarizes the total parcel area for the parcels associated with the Clark Road extension. As shown in Table 1.15, it is estimated that these parcels would contribute approximately 0.043 mgd of flow on average.

Table 1.15 Clark Road Extension Additional Parcel Flow Estimation

Land Use Type <sup>(1)</sup>	Area (acres)	Dry Weather Wastewater Flow Factor (gpd/ac)	Estimated ADWF (gpd)
Community Service	8.5	600	5,100
MFR	8.2	1,433	11,700
Neighborhood Commercial	2.0	700	1,400
Recreational	3.7	400	1,500
Rural Residential	18.2	227	4,100
Town Residential	85.2	223	19,000
<b>Total</b>	<b>125.8</b>	<b>-</b>	<b>42,800</b>

Notes:

(1) Source: Town 1994 General Plan land use.

### 1.3.5.4 Wastewater Flow Allocation

Dry and wet weather loads were assigned to manholes based upon their proximity to parcels within the SSA. Figure 1.14 is a visual representation of how flows associated with parcels are loaded to manholes. The association of parcels to manholes was performed using a spatial join in ArcGIS Pro, which is a mapping software developed by Esri. The blue lines and green dots represent gravity sewer pipes and manholes, respectively. The polygons, which represent SSA parcels, have lines extending from their centroid to a designated manhole that receives dry and wet weather flow from the parcel.

Flow from the extended SSA was inserted into the model at 12 different locations dispersed throughout the collection system. These 12 locations were selected as potential points for future connection from the extended SSA. A sewer basin is associated with each of the 12 connection points. The extended SSA sewer basins and connection points can be found in Figure 1.15.

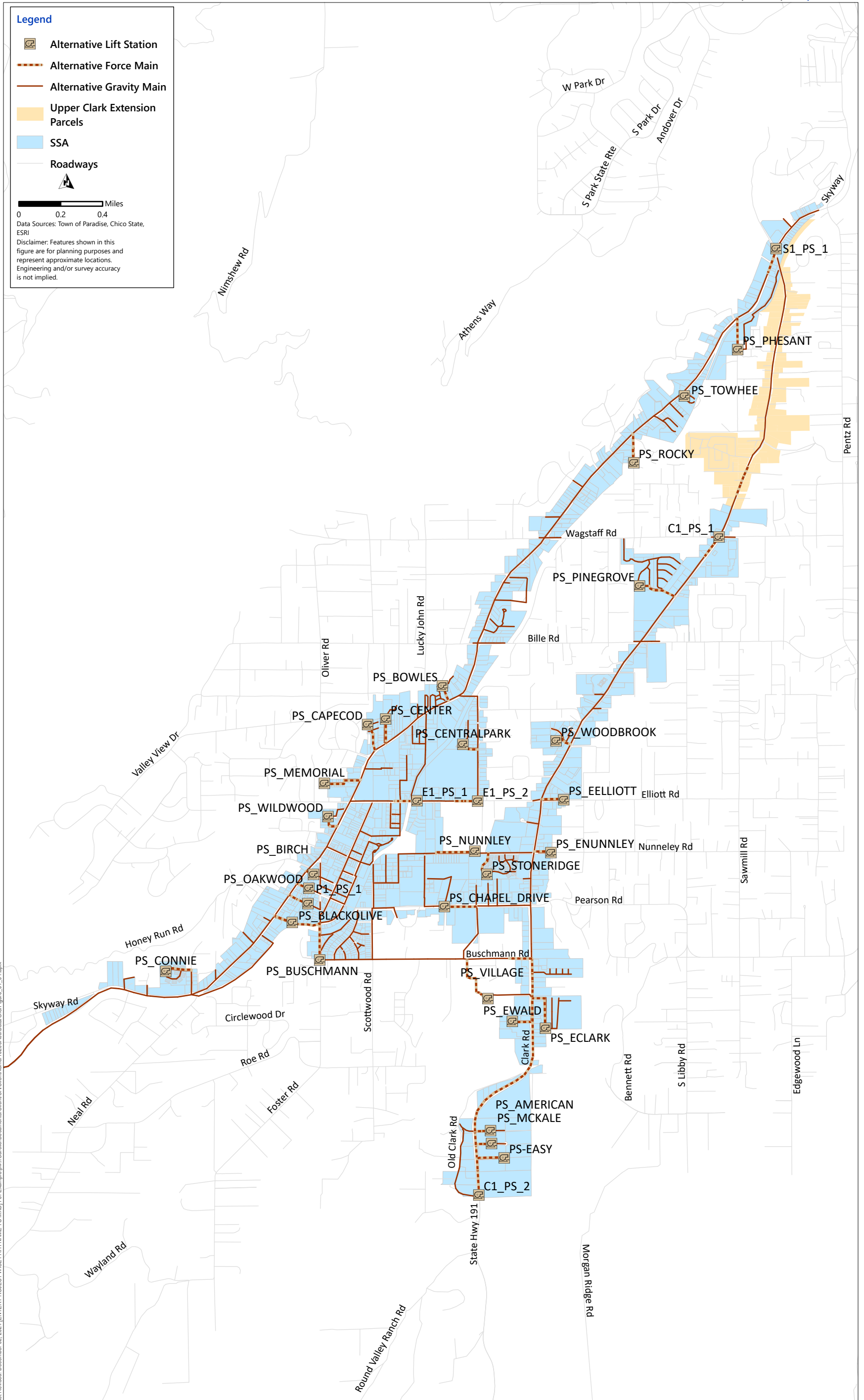


Figure 1.13 Alternative Alignment  
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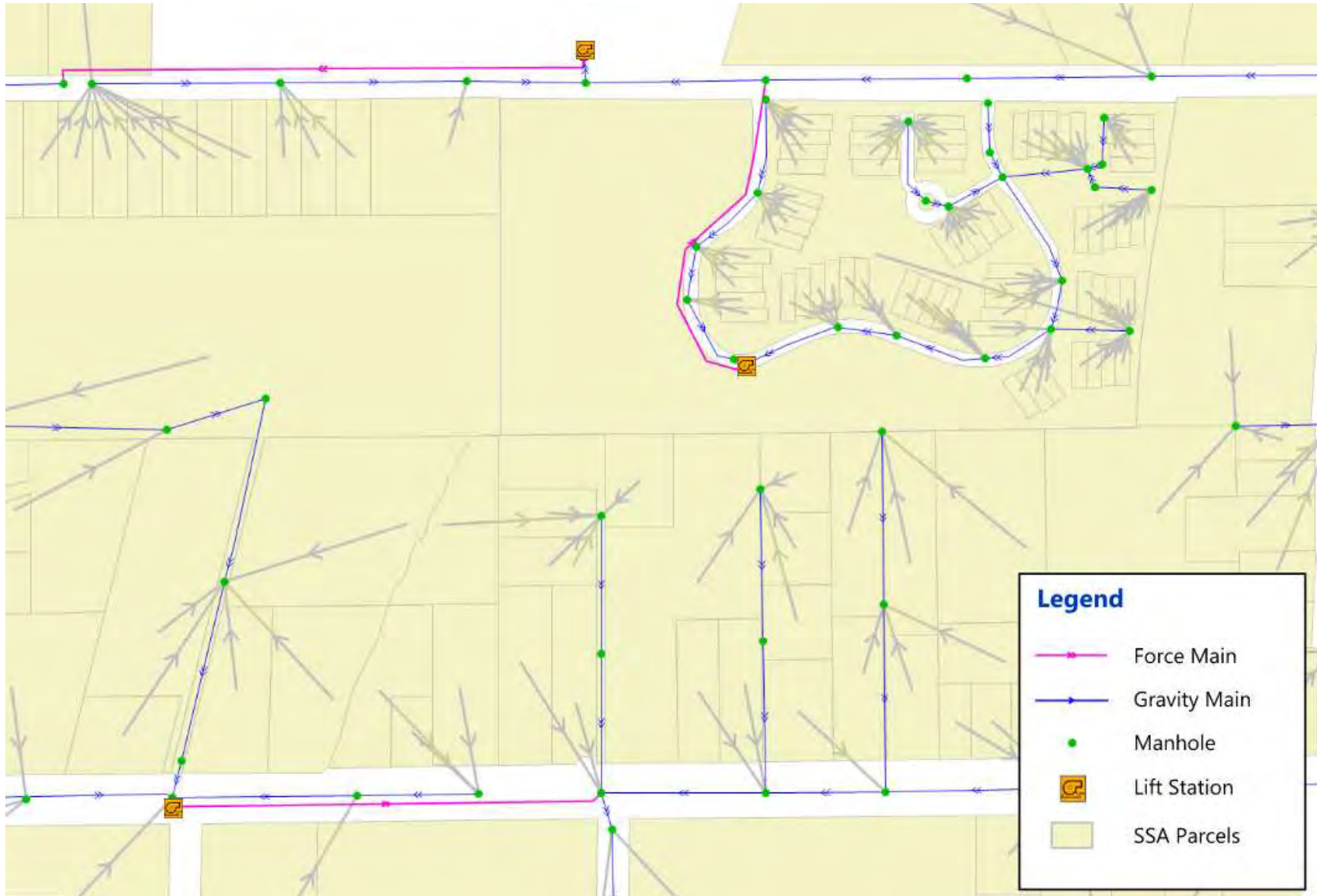


Figure 1.14 Example Parcels Associated With Manholes

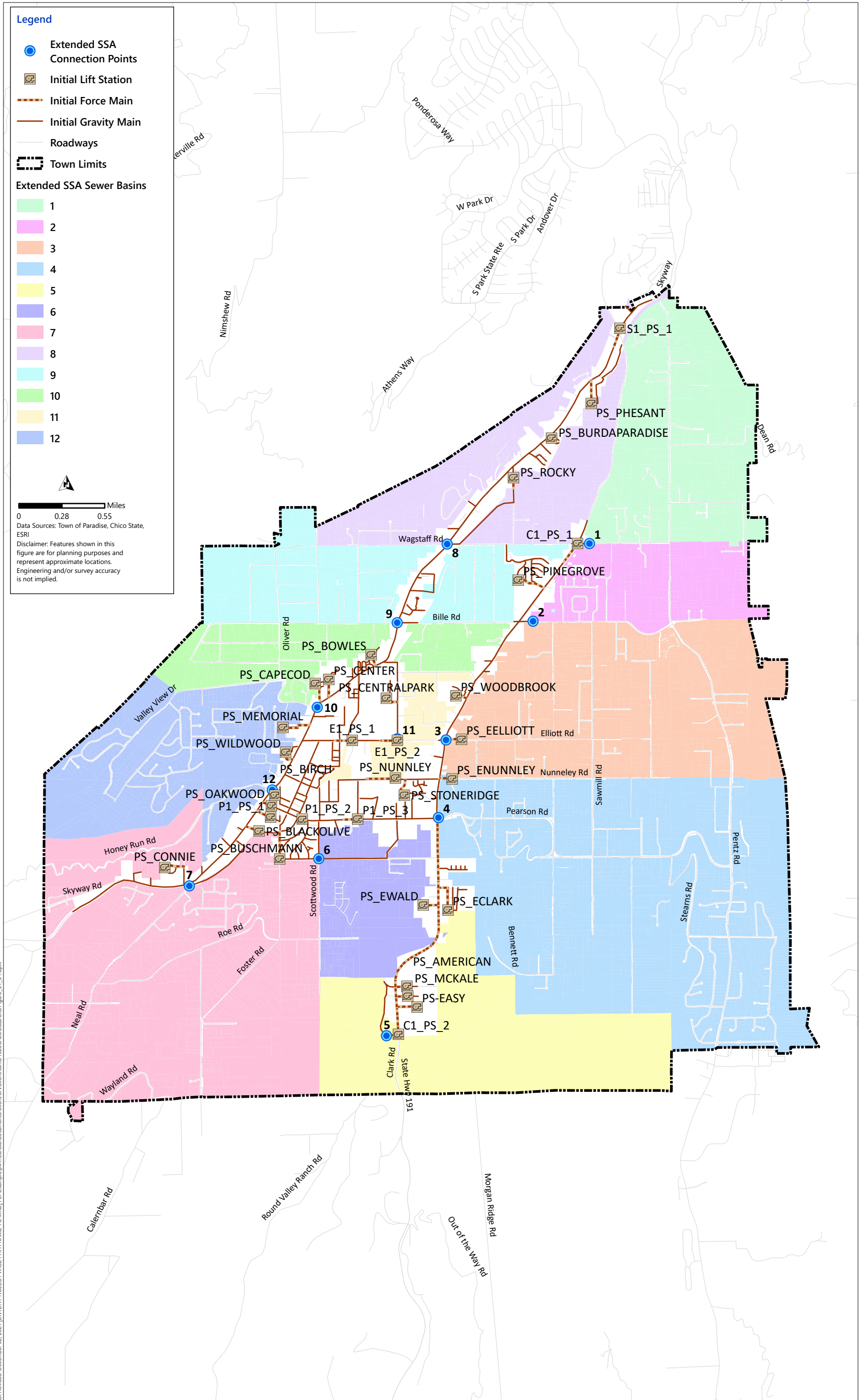


Figure 1.15 Extended SSA Sewer Basins and Connection Points  
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### 1.3.6 Collection System Model Results

This section discusses the model results which include WWF flow rates and pipeline sizing based upon PWWF model runs. ADWF and PWWF conditions were applied to the SSA and 25 percent of the extended SSA scenarios. Model results for the SSA including parcels from the Clark Road extension were separately included to the alternative alignment. A description of each flow scenario applied is described in the following:

- **SSA ADWF:** Resembles ADWF conditions within the SSA.
  - » **SSA PWWF:** Peak I/I rate of 750 gpd/ac in addition to SSA ADWF.
- **SSA ADWF (with Clark Road extension):** Resembles ADWF conditions within the SSA with inclusion of the Clark Road extension parcels.
  - » **SSA PWWF (with Clark Road extension):** Peak I/I rate of 750 gpd/ac in addition to SSA ADWF (with Clark Road extension).
- **Extended SSA ADWF:** Resembles ADWF from 25 percent of the extended SSA and the SSA.
  - » **Extended SSA PWWF:** Peak I/I rate of 750-gpd/ac in addition to extended SSA ADWF.

Table 1.16 contains ADWF, peak dry weather flow (PDWF), and PWWF model results for the scenarios described above.

Table 1.16 Collection System Hydraulic Modeling Results

Scenario Flow Condition	Flow (mgd)		
	SSA	SSA With Clark Road Extension	Extended SSA
ADWF	0.803	0.845	1.336
PDWF <sup>(1)</sup>	1.210	1.210	2.053
PWWF	2.120	2.280	4.819

Notes:

(1) PDWF was determined using ADWF model results.

#### 1.3.6.1 Collection System Infrastructure Sizing

The hydraulic model was used to simulate PWWF conditions to size gravity mains and determine the peak inflow rates at pump stations. Gravity pipelines were sized using the flow-depth criteria described in Section 1.3. Peak inflow into wet wells was used to determine the required capacity of pumping stations.

The SSA and extended SSA flow conditions were used to size gravity pipelines and pump stations. The purpose of using both flow scenarios was to compare the difference in pipeline diameters throughout the system. The extended SSA PWWF was approximately twice as high as the SSA PWWF; therefore, the extended SSA pipeline diameters are larger across much of the collection system.

### Initial Alignment Gravity Pipeline Sizing

The gravity pipelines within the initial alignment were sized for both the SSA and extended SSA conditions. Figure 1.16 and Figure 1.17 show the initial alignment with color-coded diameters for the SSA and extended SSA flow conditions, respectively. The length of gravity pipeline by diameter can be found in Table 1.17. The length of force main pipeline by diameter can be found in Table 1.18.

Table 1.17 Initial Alignment Gravity Pipeline Length by Diameter

Pipe Diameter (inches)	Length (miles)	
	SSA	Extended SSA
8	26.03	24.44
10	0.88	1.48
12	2.00	1.14
15	0.21	1.73
18	0	0.34
<b>TOTAL</b>	<b>29.13</b>	<b>29.13</b>

Table 1.18 Initial Alignment Force Main Pipeline Length by Diameter

Pipe Diameter (inches)	Length (miles)	
	SSA	Extended SSA
4	4.82	3.28
6	0	1.54
8	0.18	0
10	0	0.04
12	0	0.14
<b>TOTAL</b>	<b>5.00</b>	<b>5.00</b>

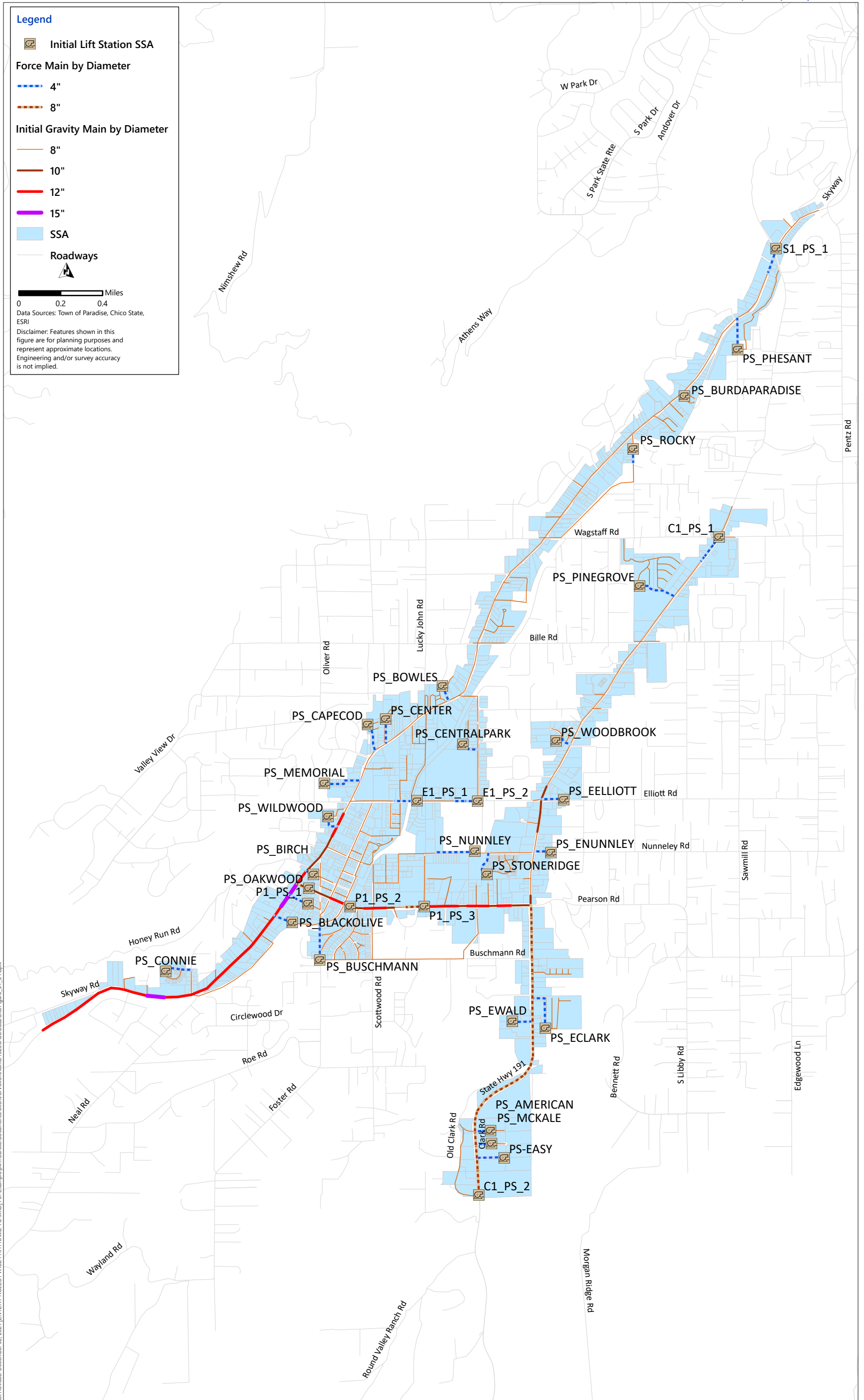


Figure 1.16 Initial Alignment Pipeline Sizing During SSA Conditions  
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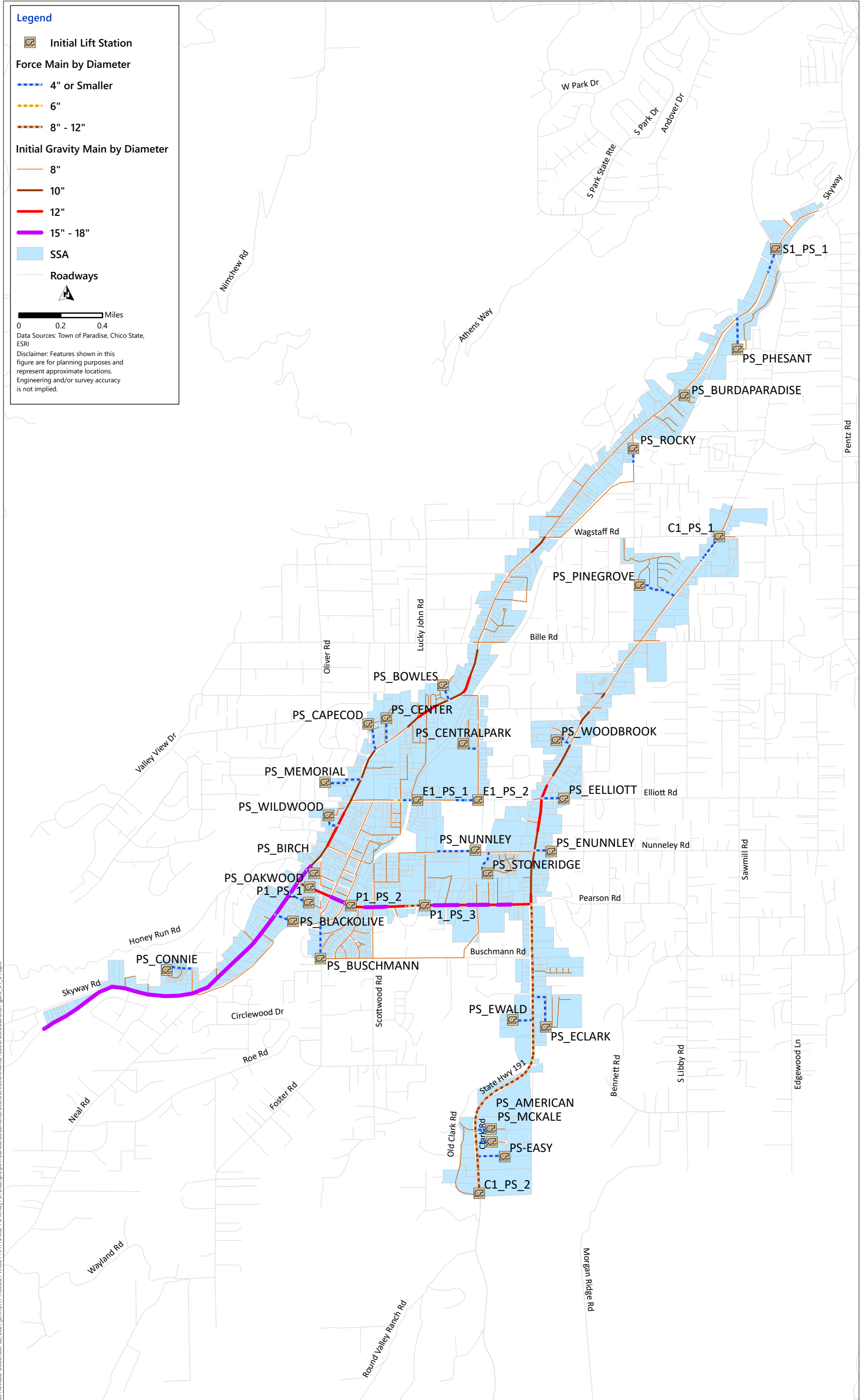


Figure 1.17 Initial Alignment Pipeline Sizing During Extended SSA Conditions  
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### Initial Alignment Pump Station Inflow

Table 1.19 contains inflow rates from for each pump station from the Initial Alignment during SSA ADWF, SSA PWWF, and extended SSA PWWF conditions. Three pump stations, P1\_PS\_1, P1\_PS\_2, and P1\_PS\_3, exceed 1,000 gallons per minute (gpm) under extended SSA PWWF conditions. These pump stations are located along Pearson Road.

Table 1.19 Initial Alignment Pump Station Inflow

Pump Station ID	SSA ADWF (gpm)	SSA PWWF (gpm)	Extended SSA PWWF (gpm)
C1_PS_1	11.2	28.5	173.6
C1_PS_2	100.7	263.9	423.6
E1_PS_1	45.8	120.1	135.4
E1_PS_2	25.0	61.1	84.0
PS_BURDAPARADISE	0.2	1.4	1.4
P1_PS_1	300.4	793.8	1,751.4
P1_PS_2	276.1	731.3	1,688.2
P1_PS_3	243.3	641.0	1,596.5
PS_AMERICAN	5.4	13.9	13.9
PS_BIRCH	3.6	9.0	9.0
PS_BLACKOLIVE	21.1	63.9	134.7
PS_BOWLES	3.7	10.4	10.4
PS_BUSCHMANN	17.6	52.8	123.6
PS_CAPECOD	4.8	12.5	12.5
PS_CENTER	4.0	10.4	10.4
PS_CENTRALPARK	8.9	18.1	18.1
PS_CONNIE	12.4	25.7	25.7
PS_ECLARK	10.8	28.5	28.5
PS_EELLIOTT	2.3	6.3	6.3
PS_ENUNNLEY	0.5	1.4	1.4
PS_EWALD	3.7	9.7	9.7
PS_MCKALE	4.8	12.5	12.5
PS_MEMORIAL	4.3	11.8	11.8
PS_NUNNLEY	19.7	47.9	47.9
PS_OAKWOOD	2.3	6.9	6.9
PS_PHEasant	8.5	22.2	22.2
PS_PINEGROVE	14.8	38.2	38.2
PS_ROCKY	0.5	1.4	1.4
PS_STONERIDGE	13.5	29.2	29.2
PS_WILDWOOD	2.5	6.9	6.9
PS_WOODBROOK	5.3	16.0	16.0
PS-EASY	9.5	24.3	24.3
S1_PS_1	8.2	20.8	20.8
C1_PS_1	11.2	28.5	173.6

### Alternative Alignment Gravity Pipeline Sizing

The gravity pipelines within the alternative alignment were sized for both the SSA, SSA with the Clark Road extension, and extended SSA conditions. Figure 1.18 and Figure 1.19 show the initial alignment with color-coded diameters for the SSA and extended SSA flow conditions, respectively. The length of gravity pipeline by diameter can be found in Table 1.20. The length of force main pipeline by diameter can be found in Table 1.21.

Table 1.20 Alternative Alignment Gravity Pipeline Length by Diameter

Pipe Diameter (inches)	Length (miles)		
	SSA	SSA With Clark Road Extension	Extended SSA
8	25.29	26.39	24.39
10	1.12	1.12	2.03
12	1.78	1.78	1.24
15	0.45	0.45	1.33
18	0	0	0.74
<b>TOTAL</b>	<b>28.65</b>	<b>29.74</b>	<b>29.74</b>

Table 1.21 Alternative Alignment Force Main Pipeline Length by Diameter

Pipe Diameter (inches)	Length (miles)		
	SSA	SSA With Clark Road Extension	Extended SSA
4	5.21	5.35	4.10
6	0	0	1.26
8	0.40	0.40	0
10	0	0	0
12	0	0	0.40
<b>TOTAL</b>	<b>5.61</b>	<b>5.75</b>	<b>5.75</b>

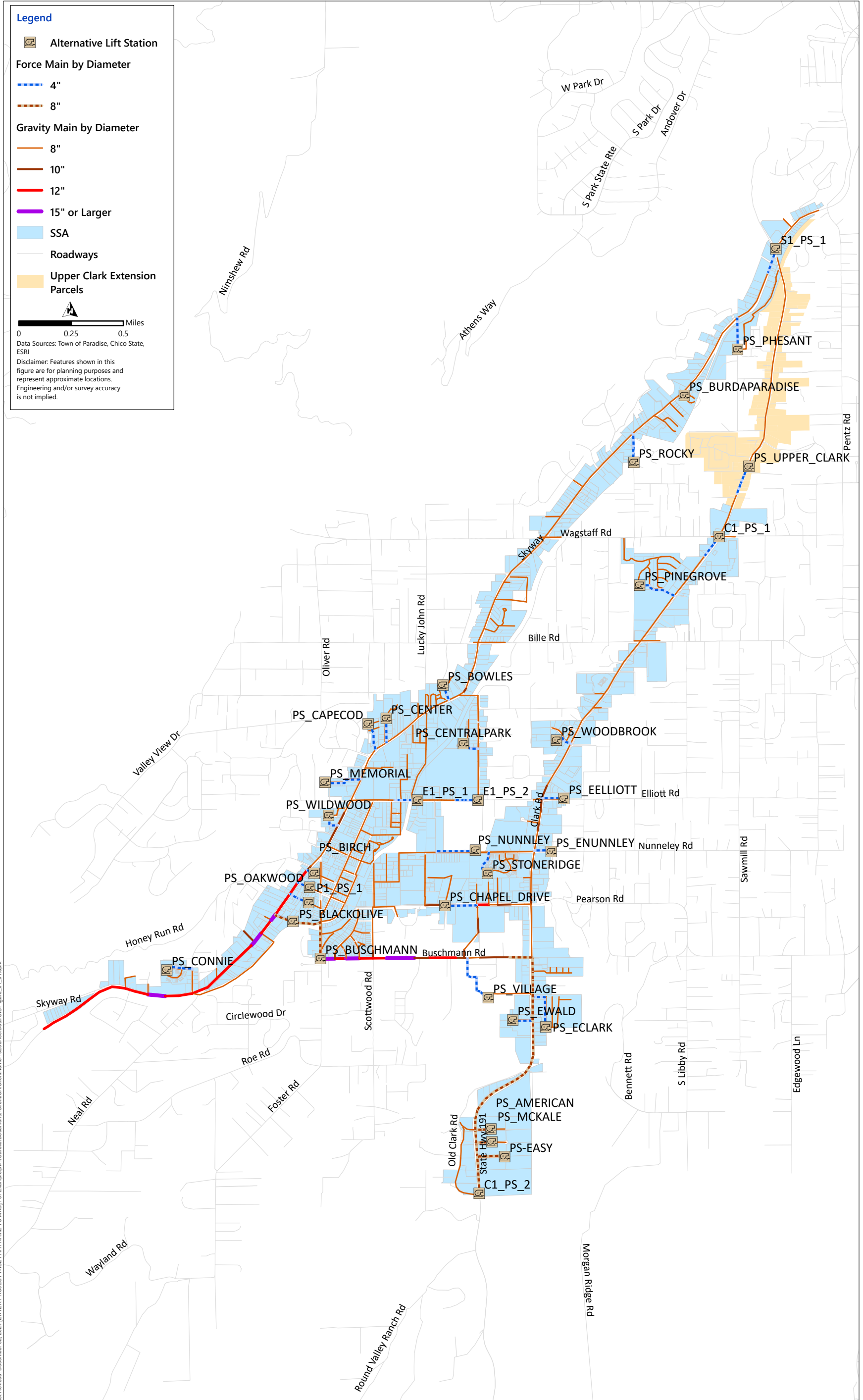
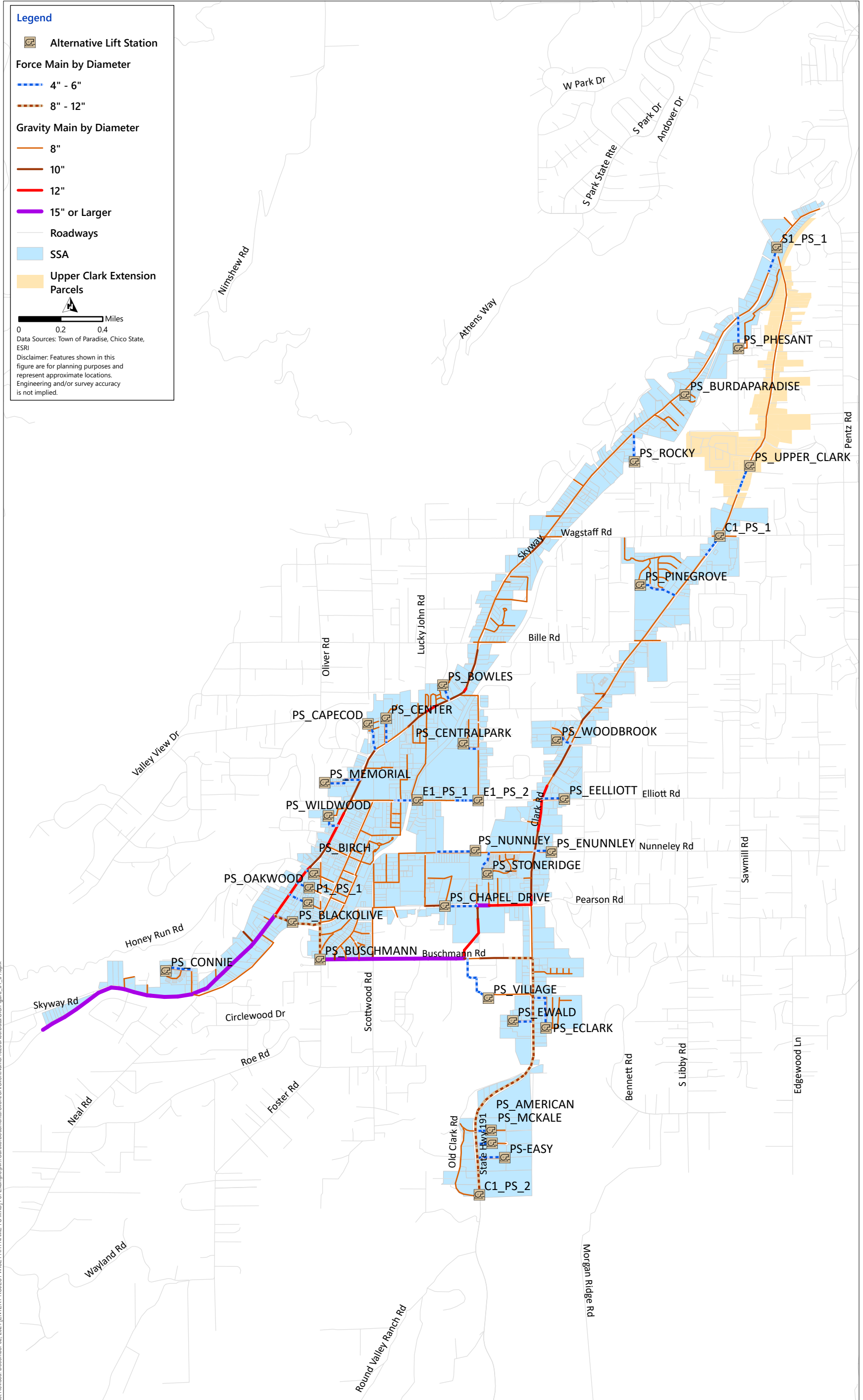


Figure 1.18 Alternative Alignment Pipeline Sizing During SSA Conditions  
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Figure 1.19 Alternative Alignment Pipeline Sizing During Extended SSA Conditions  
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 PARADISE SEWER PROJECT



### Alternative Alignment Pump Station Inflow

Table 1.22 contains inflow rates from for each pump station from the Alternative Alignment during SSA ADWF, SSA PWWF, and extended SSA PWWF conditions. PS\_Buschmann receives a peak inflow 1,957.3 gpm during extended SSA PWWF conditions; it is the only pump station that exceeds 1,000 gpm in the alternative alignment. The alternative alignment adds three small pump stations: PS\_Village on Village Parkway, PS\_Chapel\_Drive on Pearson, and PS\_Upper\_Clark on the Clark Road. Pump stations P1\_PS\_2 and P1\_PS\_3 was removed from the model.

Table 1.22 Alternative Alignment Pump Station Inflow

Pump Station ID	SSA ADWF (gpm)	SSA PWWF (gpm)	Extended SSA PWWF (gpm)
C1_PS_1	40.9	137.2	257.2
C1_PS_2	57.4	149.6	317.5
E1_PS_1	45.5	119.3	143.1
E1_PS_2	24.7	60.8	84.6
MH_C_142	0.3	1.3	1.3
P1_PS_1	0.7	1.7	1.7
PS_AMERICAN	5.4	13.7	13.7
PS_BIRCH	3.2	8.3	8.3
PS_BLACKOLIVE	1.0	3.6	3.6
PS_BOWLES	3.7	10.2	10.2
PS_BUSCHMANN	344.5	949.4	1,957.3
PS_CAPECOD	4.8	12.8	12.8
PS_CENTER	4.0	10.5	10.5
PS_CENTRALPARK	9.0	18.4	18.4
PS_CHAPEL_DRIVE	17.7	49.6	49.6
PS_CONNIE	12.2	25.8	26
PS_ECLARK	10.9	28.8	28.8
PS_EELLIOTT	2.3	6.3	6.3
PS_ENUNNLEY	0.5	1.5	1.5
PS_EWALD	3.7	10	10
PS_MCKALE	4.9	12.2	12.2
PS_MEMORIAL	4.1	11.6	11.6
PS_NUNNLEY	19.7	47.9	47.9
PS_OAKWOOD	0.9	2.9	2.9
PS_PHEasant	8.5	22.2	22.2
PS_PINEGROVE	14.6	38.2	38.2
PS_ROCKY	0.2	0.8	0.8
PS_STONERIDGE	13.5	29.4	29.4
PS_VILLAGE	40.7	103.4	103.4
PS_WILDWOOD	2.5	7.1	7.1
PS_WOODBROOK	5.3	15.8	15.8
PS-EASY	9.5	24.3	24.3
S1_PS_1	8.2	20.9	20.9
<b>Clark Road Extension Pump Station ID</b>	<b>SSA ADWF (gpm)</b>	<b>SSA PWWF (gpm)</b>	<b>Extended SSA PWWF (gpm)</b>
PS_UPPER_CLARK	29.1	110.2	110.2

## 1.4 Export Pipeline Model

This section summarizes the development of the export pipeline hydraulic model.

### 1.4.1 Software Selection

A software combination of InfoWorks ICM and InfoWater Pro was used to model the export pipeline. InfoWorks ICM was used to model the gravity pipeline and InfoWater Pro was used to model the transition structure, force main, and flow control structure. InfoWater Pro is better suited to simulate pressurized systems and is able to accurately model valves that will be used to control flow.

### 1.4.2 Elements of the Export Pipeline InfoWater Pro Hydraulic Model

The following provides a brief overview of the various elements of the export pipeline hydraulic model and the required input parameters associated with each:

- **Junctions:** Locations where pipe sizes change, where pipelines intersect, or where water demands are applied are represented by junctions in the hydraulic model. Required inputs for junctions include elevation and wastewater demands.
- **Pipes:** Input parameters for pipes include length, roughness (Hazen Williams C-value), diameter, and whether the pipe is a check valve (i.e., does not allow reverse flow). The Hazen-Williams C-value was set as 110 for all force mains in the export pipeline. The Hazen-Williams C-value was set at 110 for all force mains in the export pipeline to account for minor losses.
- **Tanks:** A tank is included in the hydraulic model as a cylindrical tank or variable area. Required input parameters include bottom elevation, maximum level, initial level, and diameter.
- **Reservoirs:** For water distribution system modeling, fixed head reservoirs are used to represent a water source with a constant hydraulic grade line (HGL). Typically, fixed head reservoirs are used to represent water sources, such as groundwater or other sources. In the case of the export pipeline, a reservoir was used to model the final elevation at the City WPCP.
- **Valves:** Valves are represented as nodes in the hydraulic model. Required input parameters for valves include diameter, operational controls, and other settings. Operational controls for valves may include a headloss versus flow curve that varies headloss at the valve with various flow rates.
- **Demands:** Wastewater demands were applied upstream of the transition structure in the hydraulic model. Demands were inserted in the model as negative values to indicate wastewater flow entering the system.

### 1.4.3 Export Pipeline Components and Alignment

The export pipeline hydraulic model consists of four main components: the stacked-pipe gravity pipeline, the transition structure, the gravity-powered force main (force main), and the flow control structure. The collection system conveys flow directly to the stacked-pipe gravity pipeline located on the northbound section of Skyway, south of the Town. This gravity pipeline discharges into the transition structure where the surface elevation of wastewater is maintained between the operational range of 5 feet and 15 feet. A wastewater surface elevation is maintained within this range to maintain constant pressure downstream for the gravity powered force main. The gravity force main is controlled by the flow control structure, which houses valves located near the headworks at the City WPCP. Each component is described in

further detail in the following subsections. The export pipeline has two alternatives that represent different transition structure locations. Alignment alternative 1 and 2 for the export pipeline can be seen in Figure 1.20 and Figure 1.21, respectively.

### 1.4.3.1 Gravity Pipeline

The gravity pipeline has two alignment alternatives that are dependent on the location of the transition structure; the inlet to the gravity pipeline remains the same in both alternatives. The gravity pipeline is configured with two stacked gravity pipes. The inlet to the stacked gravity pipeline is located on the northbound section of Skyway, northeast of Skyway Crossing Road. Alternative 1 discharges to a transition structure located near Spanish Garden Drive on Skyway. The length of gravity pipe in alternative 1 is approximately 35,400 feet, or 6.71 miles. Alternative 2 discharges to a transition structure located about 11,400 feet to the east of alternative 1, south of Santa Rosa Road. The length of pipe in alternative 2 is approximately 24,000 feet, or 4.54 miles.

### 1.4.3.2 Transition Structure

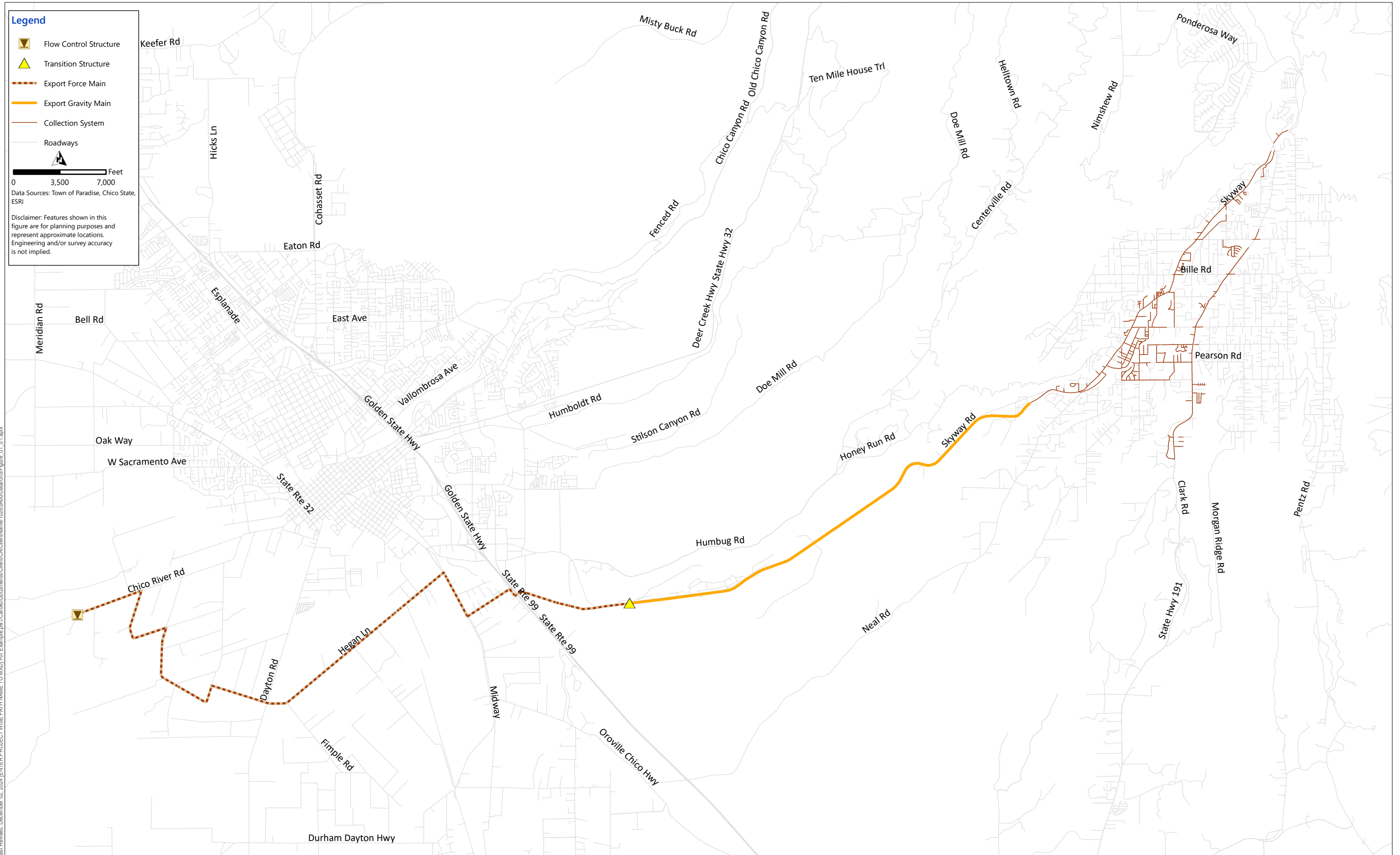
The primary purpose of the evaluation of alternative 1 and 2 is to determine the location of the transition structure. The transition structure in alternative 2 was placed at a higher elevation than alternative 1; this provided a higher operational head to accommodate for frictional head loss within the force main. The approximate invert elevations for the transition structure in alternatives 1 and 2 is 338.61 feet and 598.64 feet, respectively. Preliminary sizing of the transition structure was determined to be a diameter of 12 feet and a 20-foot depth. The surface elevation of wastewater is maintained between 5 feet and 15 feet to provide constant pressure in the downstream force main.

### 1.4.3.3 Gravity Force Main Pipeline

In alternative 1, the force main is approximately 59,300 feet, or 11.2 miles long. In alternative 2, the force main is approximately 70,600 feet, or 13.4 miles long.

### 1.4.3.4 Flow Control Structure

The flow control structure is located near the headworks of the City WPCP, and it houses valves that reduce the pressure of the force main. The orientation and operation of these valves has not yet been determined.



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Figure 1.20 Export Pipeline Alternative 1  
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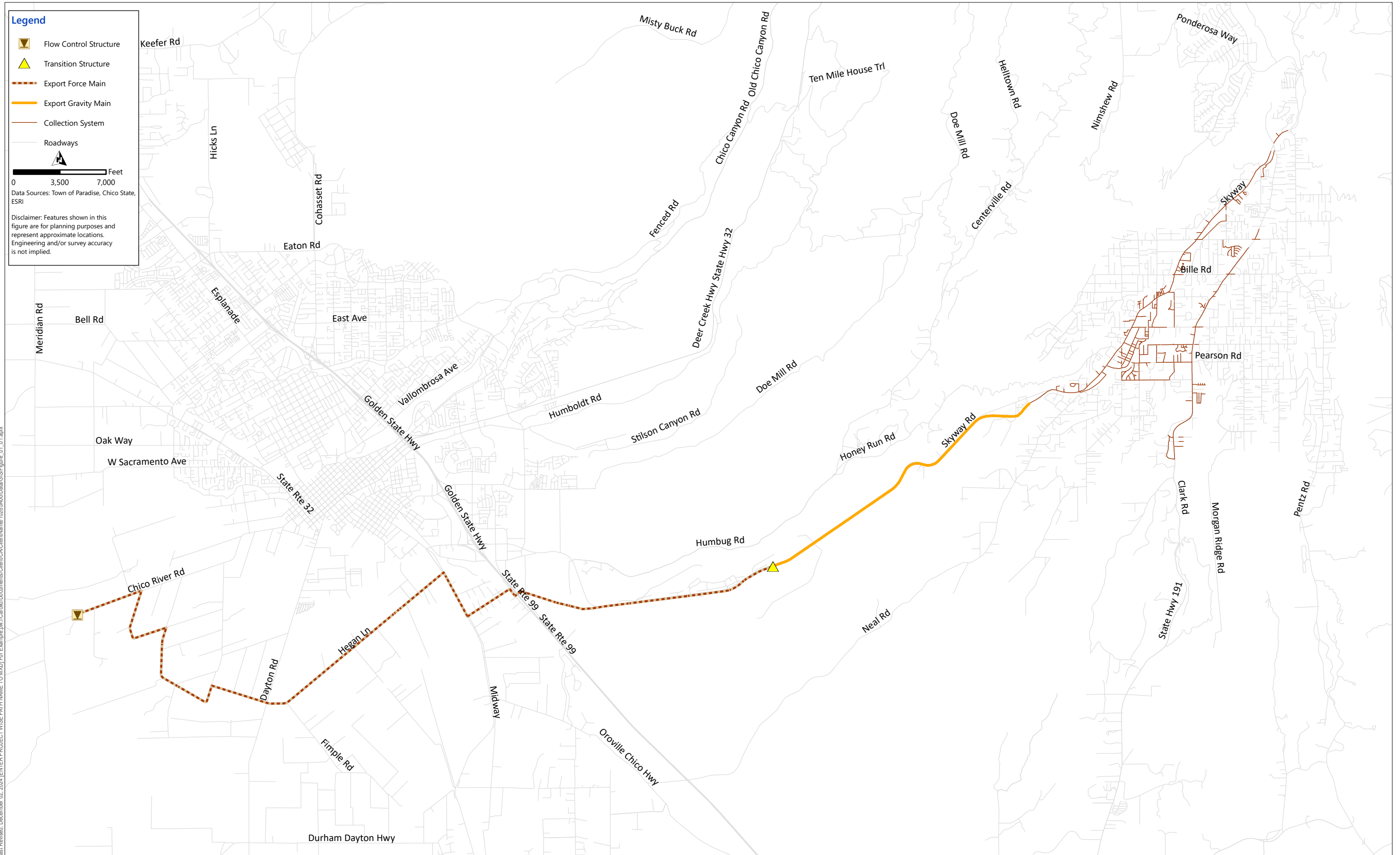


Figure 1.21 Export Pipeline Alternative 2  
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### 1.4.4 Export Pipeline Model Results

The gravity pipeline that conveys flow from the collection system to the transition structure was sized using SSA and extended SSA scenarios. The bottom pipeline was sized with ADWF conditions using a maximum d/D criterion of 0.75. The top pipeline was sized with PWWF conditions using the maximum d/D criteria described in Section 1.3.4.

The force main pipeline was analyzed using the SSA WWF and the extended SSA WWF flow scenario conditions. The HGL was used to determine if the pipeline could convey flow to the WPCP with sufficient head. The maximum velocity criteria for the force main pipeline was set at 7 ft/sec.

#### 1.4.4.1 Gravity Pipeline

The gravity pipeline sizing was analyzed with the SSA PWWF and extended SSA PWWF flow scenarios; alignment alternatives 1 and 2 were also considered in this analysis. The bottom pipeline does not exceed the maximum d/D criterion of 0.75 during the SSA ADWF scenario with a 12-inch-diameter pipeline. During the extended SSA, the bottom pipeline was sized with 12-inch and 15-inch-diameter pipe.

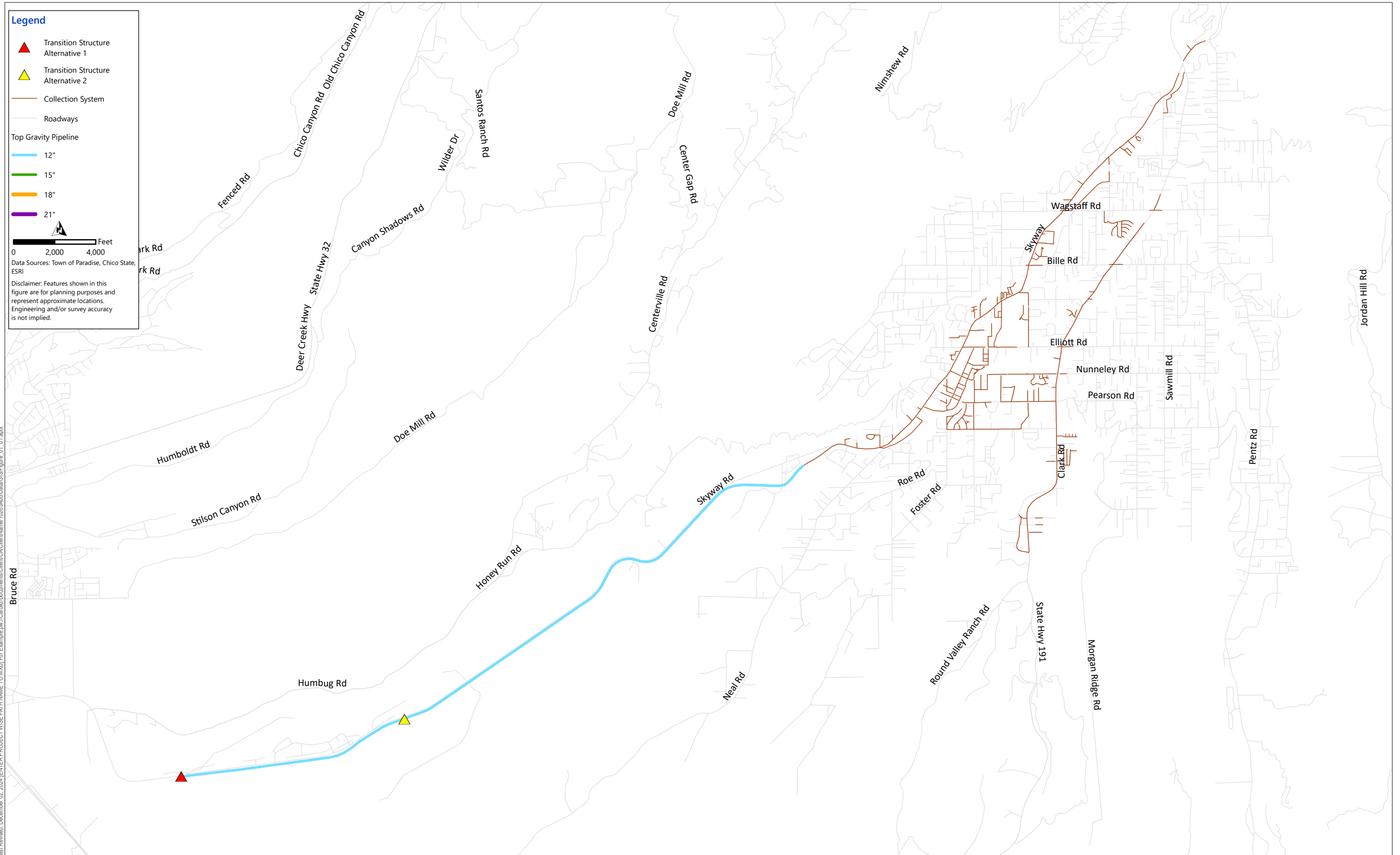
The SSA WWF scenario requires the top pipeline diameter to be 12 inches. The extended SSA scenario requires that the top pipeline diameters range from 12 to 18 inches. Figure 1.22 and Figure 1.23 display the pipeline diameters during the SSA scenario for the bottom and top pipeline, respectively. Figure 1.24 and Figure 1.25 display the pipeline diameters during the extended SSA scenario for the bottom and top pipeline, respectively. Table 1.23 and Table 1.24 contains the length of the top and bottom pipeline by diameter and scenario for alternative 1 and alternative 2, respectively.

Table 1.23 Stacked Gravity Pipeline Length by Diameter for Alternative 1

Nominal Pipe Diameter (inches)	Length (miles)			
	SSA		Extended SSA	
	Bottom Pipeline	Top Pipeline	Bottom Pipeline	Top Pipeline
12	6.71	6.71	5.33	5.45
15	0	0	1.38	1.21
18	0	0	0	0.05
21	0	0	0	0
<b>TOTAL</b>	<b>6.71</b>	<b>6.71</b>	<b>6.71</b>	<b>6.71</b>

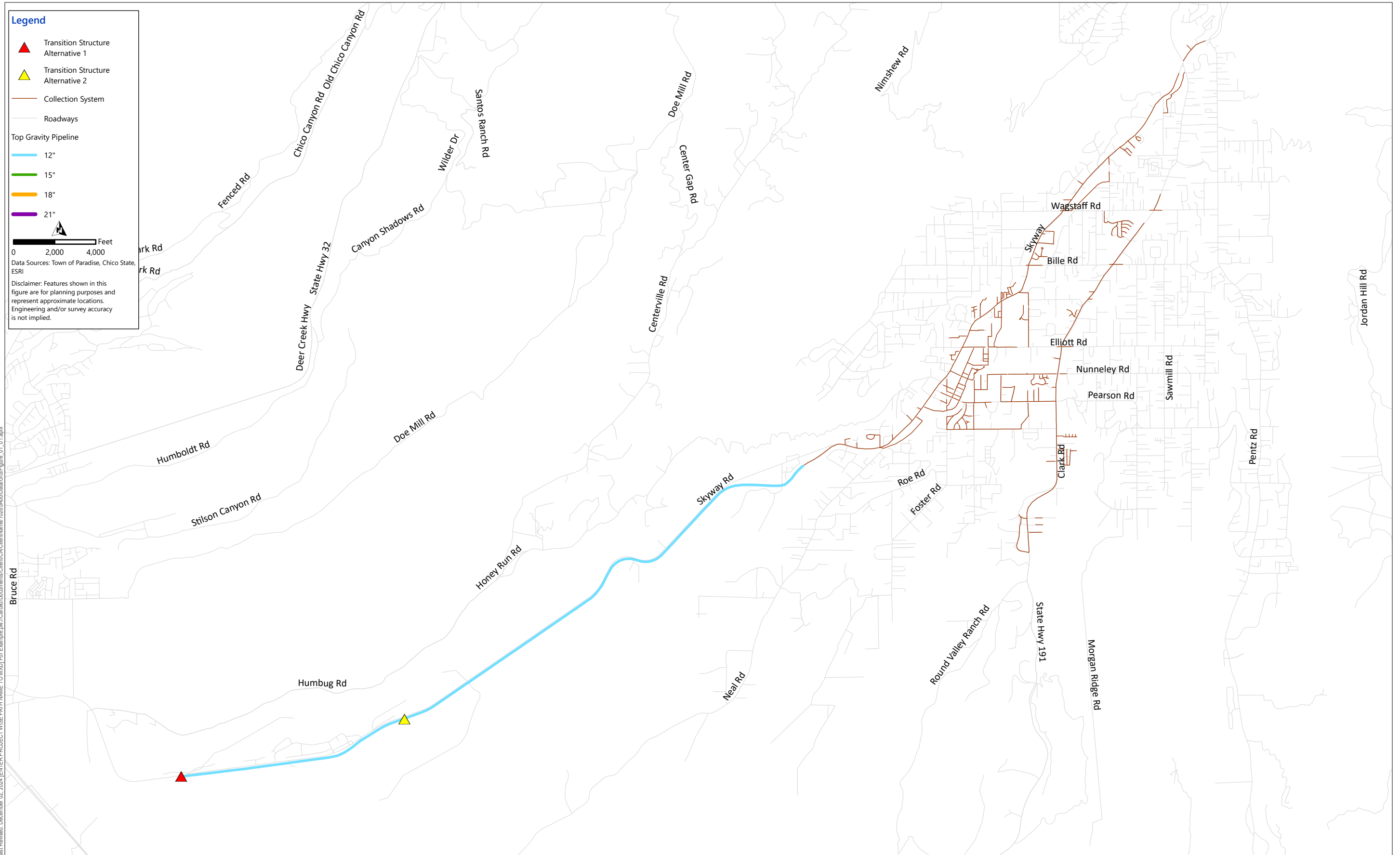
Table 1.24 Stacked Gravity Pipeline Length by Diameter for Alternative 2

Nominal Pipe Diameter (inches)	Length (miles)			
	SSA		Extended SSA	
	Bottom Pipeline	Top Pipeline	Bottom Pipeline	Top Pipeline
12	4.55	4.55	3.60	3.81
15	0	0	0.95	0.68
18	0	0	0	0.05
21	0	0	0	0
<b>TOTAL</b>	<b>4.55</b>	<b>4.55</b>	<b>4.55</b>	<b>4.55</b>



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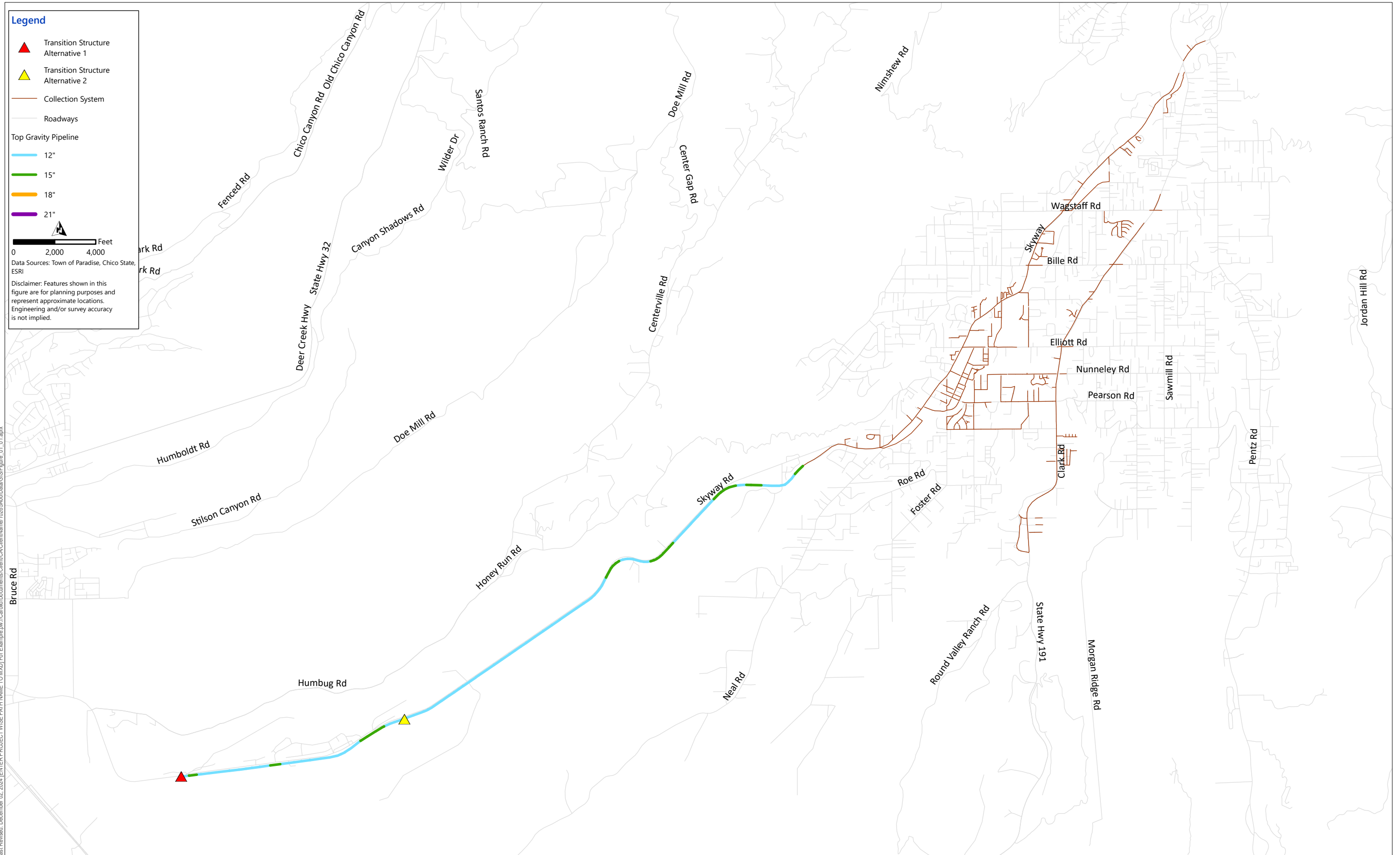
Figure 1.22 Export Pipeline - Bottom Pipe Diameters During SSA Build-Out  
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Figure 1.23 Top Pipe Diameters During SSA Conditions  
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Figure 1.24 Bottom Pipe Diameters During Extended SSA Build-Out  
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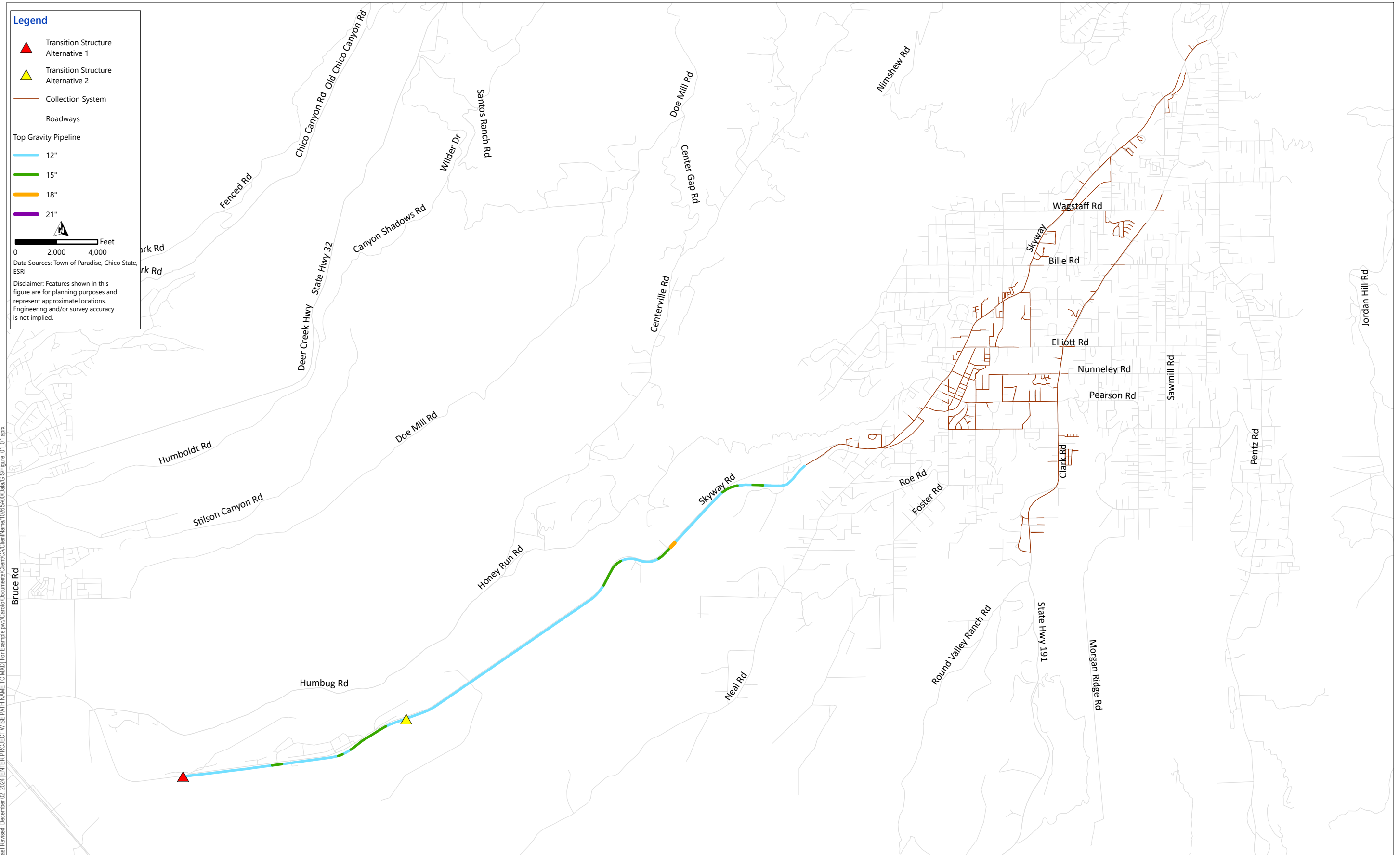


Figure 1.25 Export Pipeline - Top Pipe Diameters During Extended SSA Build-Out  
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### 1.4.4.2 Force Main Pipeline

Various pipe diameters were used to analyze force main velocity and headloss for alternative 1 and 2 under SSA PWWF and extended SSA PWWF conditions. The following pipe sizes and types were included in this analysis:

- 18-inch polyvinyl chloride (PVC) DR18:
  - » Inner diameter (I.D.) = 17.2 inches.
- 24-inch high-density polyethylene (HDPE) DR7:
  - » I.D. = 16.732 inches.
- 16-inch ductile iron pipe (DIP) PC250:
  - » I.D. = 16.61 inches.

The Hazen-Williams C-value was set at 110 for all force mains in the export pipeline to account for minor losses.

#### Pipeline Velocities

Force main velocities for alternative 1 and 2 during SSA and extended SSA flow conditions can be found in Table 1.25. Various pipe diameters and materials were analyzed as potential force main candidates. As shown in Table 1.25, the 18-inch PVC DR18 does not exceed 2 ft/sec under PDWF conditions; therefore, is not a viable candidate.

Table 1.25 Alternative Alignment Force Main Velocities

Pipe Type	ADWF Velocity (ft/sec)		PDWF Velocity (ft/sec)		PWWF Velocity (ft/sec)	
	SSA	Extended SSA	SSA	Extended SSA	SSA	Extended SSA
18-inch PVC DR18	0.68	1.13	1.15	1.94	2.04	4.41
24-inch HDPE DR 7	0.71	1.19	1.22	2.05	2.15	4.66
16-inch DIP PC250	0.72	1.21	1.24	2.08	2.18	4.73

### Alternative 1 Hydraulic Grade Lines

Flows from each pipe could be conveyed to the flow control structure at the City WPCP under SSA PWWF conditions. The PWWF HGL of each pipe type modeled for alternative 1 can be found in Figure 1.26. Due to frictional headloss, force main pressure entering the flow control structure was less than 80 pounds per square inch (psi).

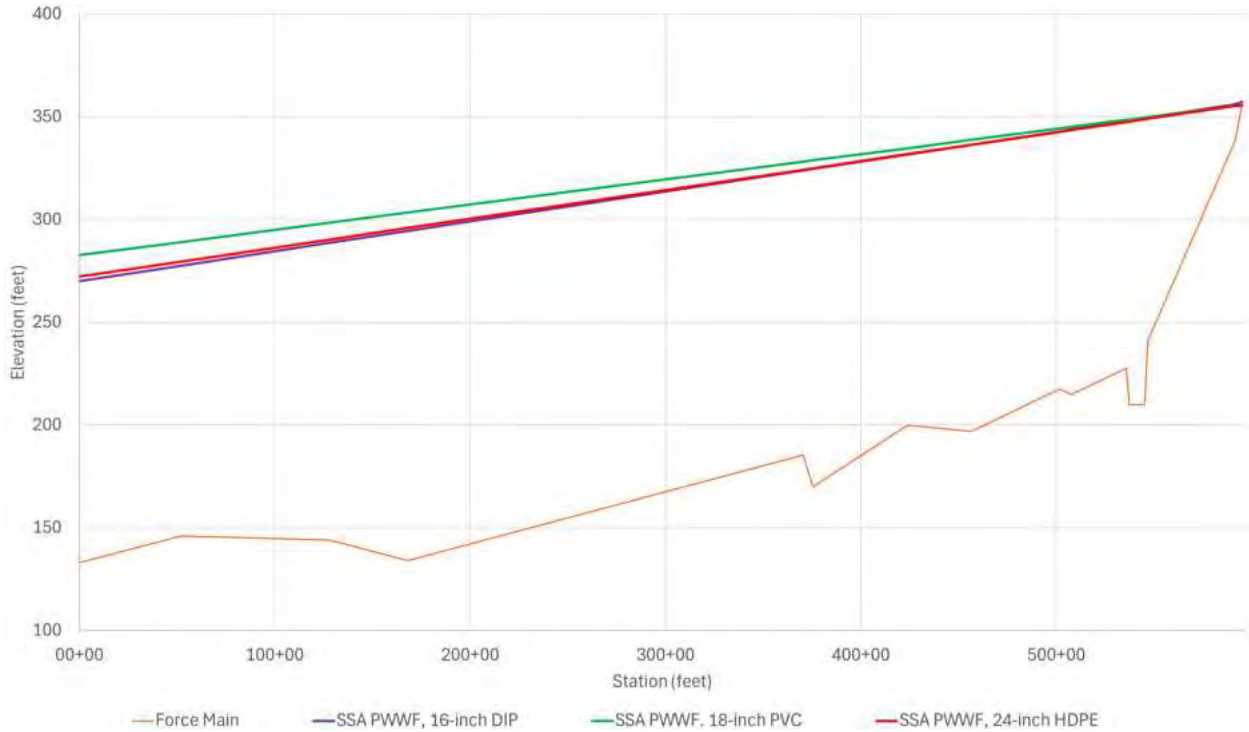


Figure 1.26 Alternative 1 Force Main HGLs During PWWF Conditions

Extended SSA PWWF cannot be conveyed to the City WPCP in alternative 1 because frictional headloss within the force main exceeds available head at the transition structure. This is due to the invert elevation of the transition structure in alternative 1 and the Hazen-Williams C-value of 110. A larger pipe diameter than what was specified would be required to convey the extended SSA PWWF in alternative 1.

## Alternative 2 Hydraulic Grade Lines

Flows from each pipe could be conveyed to the flow control structure at the City WPCP under SSA PWWF and extended SSA conditions. The PWWF HGL of each pipe type modeled for alternative 2 can be found in Figure 1.27. Due to frictional headloss, force main pressure entering the flow control structure during extended SSA PWWF conditions was less than 80 psi.

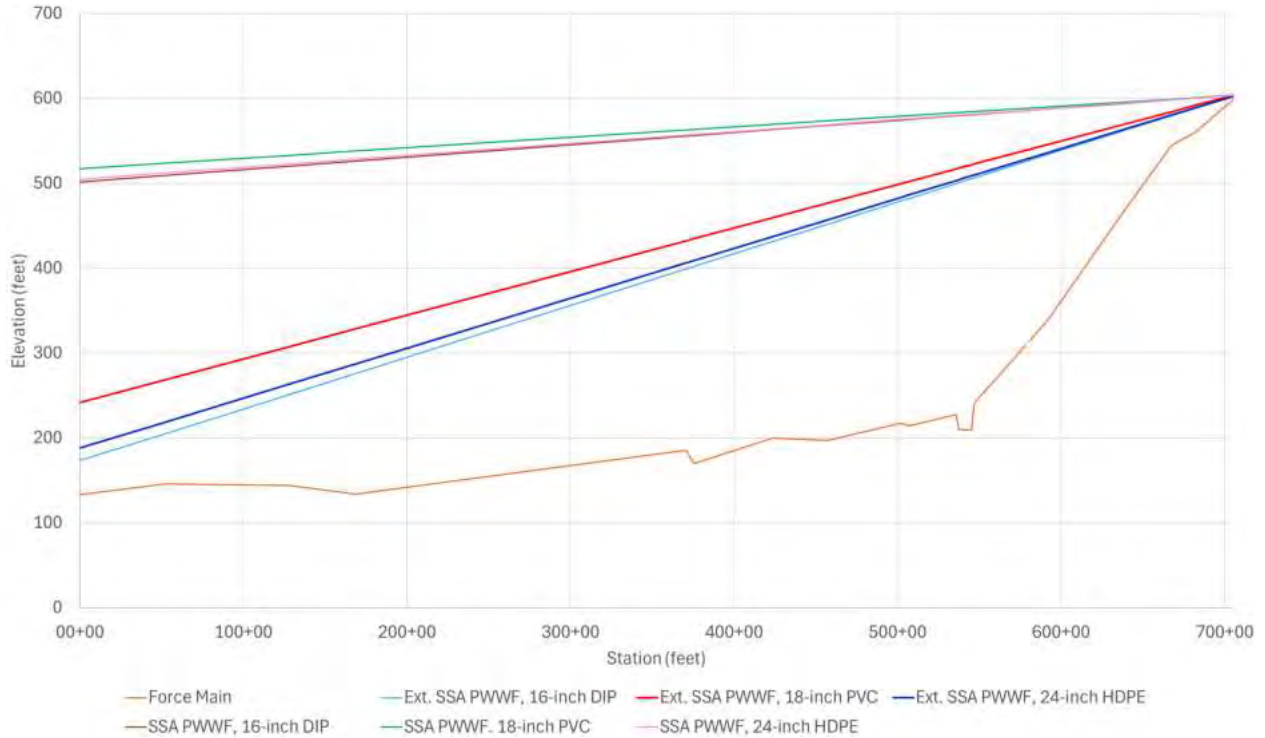


Figure 1.27 Alternative 2 Force Main HGLs During PWWF Conditions

## 1.5 Key Findings and Summary

Infrastructure within the collection system and export pipeline was sized using flow conditions that represent the initial SSA and extended SSA system. The collection system and the gravity portion of the export pipeline could convey wastewater to the WPCP for all flow scenarios. The force main portion of the export pipeline was not able to convey flow from the transition structure to the flow control structure in alternative 1 during extended SSA PWWF conditions.

### 1.5.1 Collection System

The collection system hydraulic modeling results are summarized in Table 1.26

Table 1.26 Collection System Hydraulic Modeling Results

Scenario Flow Condition	Flow (mgd)		
	SSA	SSA With Clark Road Extension	Extended SSA
ADWF	0.803	0.845	1.336
PDWF	1.210	1.210	2.053
PWWF	2.120	2.280	4.819

### 1.5.2 Export Pipeline

The alternative 2 location of the transition structure is recommended for the export pipeline because it provides the necessary head to convey PWWF from the extended SSA. The location in alternative 1 could not convey PWWF from the extended SSA with the specified pipe diameters due to its lower elevation. Alternative 2 allows a smaller force main pipe diameter to be used and reduces length of required gravity pipe that conveys flow from the collection system to the transition structure; therefore, reducing project costs.

## 1.6 Next Steps

The hydraulic model should be updated to reflect and confirm facility sizing at key milestones in the design development (i.e., 30 percent, 60 percent, 90 percent). The hydraulic model should also be updated when the final design is complete to reflect the actual collection system.

APPENDIX 1A

# PLAN CHECK SPREADSHEET

Table 1 Plan Check Spreadsheet

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
1	054-192-036-000	1460	DOTTIE	PERMIT TO COMPLETE BP16-00552. SFR - 3 BDRM, 4.5 BATH (2555), ATT GARAGE/SHOP (2418), COV CONC PORCH (442), FINISHED UNCONDITIONED UPSTAIRS (694)	9/5/2019	1	1	GLEASON	N/A				
2	053-180-166-000	1515	ELLIOTT	SFR 4/2.5	4/17/2019	1	1	VANBIBBER	1				
3	052-011-046-000	675	SUNSET	sfr3/3	3/29/2019	1	1	CORNERS	1				
4	051-220-102-000	5544	SCHMALE	SFR 3BD/2.5BA W/ DEN (2166) ATTGAR(891) COV CONC FRONT(295) COV CON BACK(248)	4/29/2019	1	1	BELLEFEUILLE	1				
5	051-260-018-000	5428	PRINCETON	SFR - 3/2 (1934) ATT GAR (619) COV CON(250)	4/15/2019	1	1	MANGOLD	1				
6	050-210-011-000	6279	FOREST	SFR 3/2	4/22/2019	1	1	CLEMENT	1				
7	051-101-001-000	8693	SKYWAY	SFR 3/2	5/1/2019	1	1	FOGARASSY	1				
8	055-400-026-000	810	SENECA	SFR 3/2	4/17/2019	1	1	RIVERA	1				
9	050-210-009-000	6267	FOREST	SFR 2/2	4/24/2019	1	1	SINCLAIRE	1				
10	051-260-005-000	218	PACIFIC	SFR 3/2	5/1/2019	1	1	HOLNBACH	1				
11	054-142-098-000	1411	RAMADA	SFR 3/2	3/28/2019	1	1	BUZZARD	1				
12	051-102-043-000	6557	ROCKY	SFR 3/2	5/1/2019	1	1	MOSHER TRST	1				
13	054-182-064-000	5486	S LIBBY	SFR 3/2	5/7/2019	1	1	BLANTON	1				
14	054-202-042-000	5397	BREEZEWOOD	SFR /32	5/15/2019	1	1	AIELLO	1				
15	050-150-109-000	6505	KATHLEEN	MFH 2/2	5/7/2019	1	1	LANGLEY	1				
16	055-211-076-000	1375	WHATEVER	SFR 2/2	6/7/2019	1	1	OLSON	1				
17	051-093-105-000	6226	GRAHAM	SFR 3/3	5/7/2019	1	1	SHARRETT	1				
18	051-172-012-000	6225	HARVEY	MFH 3/2	WITHDRAWN			DAVENPORT					1
19	050-120-139-000	6709	CHAPMAN	SFR 3/2	5/2/2019	1	1	STOCKBRIDGE	1				
20	050-140-055-000	1552	FOREST SERVICE	SFR - 2/2	4/5/2019	1	1	CULLETON	1				
21	053-120-030-000	5806	GREENTHUMB	MFH 3/2	9/6/2019	1	1	MEYER	1				
22	054-010-104-000	5738	COPELAND	SFR - 2/2.5	8/9/2019	1	1	ROSEBUSH	1				
23	055-160-008-000	4820	FOSTER	MFH 3/2	5/9/2019	1	1	CHAFFEE	1			1	
24	054-132-072-000	5682	CHERRY	SFR - 3/2.5	6/4/2019	1	1	SCHAEFER	1				
25	052-390-050-000	461	CASTLE	SFR3/2	5/9/2019	1		TRAYNOR	1				
26	050-120-051-000	1744	DEAN	SFR-3/2	7/17/2019	1	1	WINES	1				
27	054-192-108-000	1427	KELLER	MFH2/2	8/1/2019	1	1	AKIN	1				
28	050-120-131-000	6900	ZENITH	SFR-3/2	5/24/2019	1	1	SMITH	1				
29	053-140-064-000	6158	TYDEN	SFR 2/1.25	5/31/2019	1	1	TUCK	1				
30	050-140-044-000	6798	CLARK	MFH - 2/2	9/27/2019	1	1	GOATES	1				
31	052-274-004-000	456	GREEN OAKS	SFR 3/4	6/4/2019	1	1	STRATTON	1				
32	053-320-066-000	6084	MAXWOOD	SFR 3/3	5/21/2019	1	1	VANNUCCI	1				
33	052-182-102-000	5595	LITTLE GRAND CANYON	sfr 3/2	5/6/2019	1	1	CANTERBURY	1				
34	054-030-034-000	5682	PARADISE	sfr 3/2	6/10/2019	1	1	TERENA	1				
35	051-040-032-000	6680	QUAIL	SFR 3/3.25	7/17/2019	1	1	TRUBY	1				
36	055-050-030-000	81	SUTTER	MFH- 2/2	6/4/2019	1	1	GOLLNICK	1				



Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
37	050-120-133-000	1835	DEAN	SFR 3/2.5	6/3/2019	1	1	BENGSON	1			1	
38	052-160-003-000	766	WILLOW	SFR 2/2	7/30/2019	1	1	NESSI	1				
39	055-130-031-000	5144	FOSTER	SFR 3/2	6/11/2019	1	1	LUI	1				
40	051-210-045-000	171	REDBUD	SFR 4BD	7/3/2019	1	1	ROBY	1				
41	055-040-012-000	5201	TOYON	SFR- 5BD/3BA W/ BASEMENT(2607) OPEN WOOD DECK (317), ATT GARAGE (506)	6/18/2019	1	1	TYLER	1				
42	054-060-007-000	5615	NEWLAND	SFR 3/2	5/31/2019	1	1	HASTAIN	1				
43	050-040-010-000	7211	CLARK	mth2/2	6/10/2019	1	1	DEAL	1				
44	050-220-096-000	6811	LEONE	MFH 2/2	7/16/2019	1	1	WORMOOD	1				
45	053-180-169-000	1510	ELLIOTT	SFR 3/3	6/28/2019	1	1	ANDERSON	N/A				
46	053-132-087-000	1211	ALTA	SFR 32/3	6/3/2019	1		DOAK	1				
47	050-013-053-000	1682	GATE	SFR 3/2	9/12/2019	1	1	MCMAHON	1				
48	050-220-063-000	1827	MERRILL	SFR 4/3.5	5/21/2019	1	1	PALADE	1				
49	053-101-009-000	1087	MAPLE PARK	SFR2/1	9/12/2019	1	1	GORMAN	1				
50	055-190-046-000	5010	CIRCLE	MFH 3/2	6/12/2019	1	1	PARKS		1			
51	050-200-009-000	1419	BILLE	SFR 3/2	6/12/2019	1	1	SHARPE	1				
52	054-192-107-000	5332	LIBBY	SFR 3/2	5/20/2019	1	1	AURENTZ	1				
53	051-151-070-000	871	THOMASSON	sfr 3/2	7/23/2019	1	1	CALDWELL	1			1	
54	053-190-095-000	1359	ELLIOTT	sfr2/2	7/26/2019	1	1	GORLEY	1				
55	051-171-023-000	6285	OAK	SFR 3/2	6/28/2019	1	1	JENNE	1				
56	050-210-036-000	6273	VIRGINIA	SFR2/1	5/22/2019	1	1	REASONS	1				
57	051-145-059-000	6340	OAK	SFR 3/2	7/9/2019	1	1	POWELL	1				
58	050-240-073-000	1767	WHITAKER	SFR 3/2	6/18/2019	1	1	POWELL	1				
59	053-140-178-000	1679	BILLE	SFR	6/3/2019	1	1	THOMAS	1				
60	053-161-064-000	6050	LIBBY	SFR 3/2	7/22/2019	1	1	IRWIN	1				
61	051-071-083-000	6216	WAGSTAFF	mth 3/2	6/4/2019	1		ZEIDER	1				
62	052-390-068-000	539	CASTLE	SFR 3/2	5/31/2019	1	1	PATTERSON	1				
63	051-083-100-000	6455	LUCKY JOHN	mth 2/2	8/1/2019	1		ROSE	1				
67	052-182-084-000	520	HORSESHOE	mth 3/2	6/27/2019	1		OLVERA	1				1
65	051-072-085-000	520	PORTER	SFR	7/9/2019	1	1	ESTES	1				
66	050-100-122-000	1711	ARANY	SFR 3/2	6/10/2019	1	1	ROSS	1			1	
67	054-141-063-000	5708	ROUND TREE	sfr 3/2	6/21/2019	1	1	WATERS	1				
68	053-050-011-000	6080	WILLIAMS	sfr 2/2	6/6/2019	1	1	LAUB	1				
69	050-150-042-000	1397	FOREST SVC	MFH 3/2	5/29/2019	1	1	FOGARASSY	N/A				
69	053-150-099-000	6162	OPAL	SFR	WITHDRAWN			PLA					1
71	050-220-071-000	6793	SYLMAR	MFH	5/30/2019	1	1	KEEL	1				
72	055-030-007-000	164	JAYBIRD	SFR 3/3	6/20/2019	1	1	HAWKINS	1				
73	050-120-166-000	6928	SESAME	SFR	6/25/2019	1	1	DAVIS	1				
74	055-190-061-000	840	DEER HAVEN	MFH	6/17/2019	1	1	PINEDA	1				
75	055-410-026-000	92	GRINDING ROCK	sfr	6/17/2019	1	1	GUILD	1				
76	051-173-059-000	1290	LUCKY LADY	sfr	6/21/2019	1	1	LAWLER	1				

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77	054-131-098-000	1538	NUNNELEY	MFH	6/13/2019	1	1	ROBERDS	1				
78	054-151-029-000	5668	ANGEL	sfr 2/3	7/9/2019	1	1	KERR	1				
79	055-400-054-000	820	SUN RIVER	SFR	6/6/2019	1	1	HODGES	1				
80	053-140-105-000	1641	YOUNG	SFR	6/20/2019	1	1	ELKERTON	1				
81	055-040-013-000	5189	TOYON	SFR	6/28/2019	1	1	GEBBIA	1				
82	052-330-002-000	627	SCOTT	MFH 2/2	6/4/2019	1	1	BOATRIGHT	1				
83	054-192-109-000	1445	KELLER	SFR 3/	6/18/2019	1	1	AKIN	1				
84	055-120-091-000	5291	FILBERT	SFR 3/3	6/13/2019	1	1	SHERMAN	1				
85	055-400-018-000	811	SENECA	SFR	7/10/2019	1	1	AVAKIN	1				
86	052-237-005-000	5571	KEITH	mfh	7/10/2019	1	1		1				
87	055-170-021-000	5050	EDEN	SFR	6/25/2019	1	1	LECHINSKI	1				
88	052-238-032-000	5568	KEITH	SFR	6/17/2019	1	1	ISACCS	1			1	
89	052-233-015-000	5628	SIERRA PARK	SFR	6/20/2019	1	1	SWAN	1				
90	053-330-005-000	5850	RAGAN	SFR	6/25/2019	1	1	BELLUCCI	1			1	
91	053-230-203-000	5819	KIBLER	SFR	6/21/2019	1	1	ZACCARO	1				
92	054-171-054-000	1208	LURENA	MFH	8/22/2019	1	1	CLEWETT	1				
93	054-192-110-000	1426	DOTTIE	MFH	6/27/2019	1		SAPP	1			1	
94	054-182-038-000	1112	PEARSON	MFH	6/17/2019	1	1	BARSTOW	1				
95	054-152-057-000	5578	FOLAND	MFH	9/26/2019	1	1	KIMMEL	1				
96	052-360-003-000	5548	KEMLYN	sfr	6/20/2019	1	1	PETERSEN	1				
97	053-230-112-000	1703	BAMBI	mfh	6/21/2019	1		THOMAS	1				
98	055-060-029-000	101	ROE	MFH 2BD/2BA+DEN(1215)	10/12/2022	1	1	RICHMOND					
99	054-201-052-000	5377	EDGEWOOD	sfr	7/3/2019	1	1	MCHENRY	1				
100	052-110-005-000	627	BOQUEST	mfh	6/27/2019	1	1	BRAZ	1				
101	055-220-011-000	5150	LIBBY	sfr	7/2/2019	1	1	FORDS	1				
102	050-052-044-000	1655	EAGLET	sfr	8/2/2019	1	1	PRUIS	1				
103	052-011-085-000	719	EDWARDS	sfr	8/2/2019	1	1	LUNSFORD	1				
104	052-070-058-000	548	CRESTWOOD	sfr	11/1/2019	1	1	COOPER	1				
105	052-273-014-000	5390	FILBERT	SFR (1689)	7/15/2019	1	1	MCINTYRE	1				
106	053-170-068-000	6019	PECK	SFR - 3BD / 2BA (1425)	7/15/2019	1	1	HAWE	1				
107	051-171-061-000	6277	OAK	MFH - 3BD/2BA (2658)	6/27/2019	1	1	GRAY	1				
108	053-330-063-000	1308	ELLIOTT	SFR - 2BD/1BA (1050)	7/26/2019	1	1	BAKER	1				
109	052-238-035-000	5590	KEITH	MFH (3/2)	7/1/2019	1	1	KLING	1				
110	055-130-064-000	5204	FOSTER	SFR - 3BD/2.5 BA (2277)	7/2/2019	1	1	MCAFEE	1				
111	053-170-036-000	1600	YOUNG	SFR (1703)	6/27/2019	1	1	GILLANDER	1				
112	051-230-029-000	4656	SKYWAY	SFR - 3BD/2BA (1851)	6/10/2020	1		ETCHISON		1			
113	053-070-026-000	1056	FAIRVIEW	MFH 2/2	6/27/2019	1	1	DAVIDSON	1			1	
114	050-350-020-000	1412	ANDREA	MFH 2/2 W/DEN	6/27/2019	1	1	KNAPP	1				
115	054-191-013-000	5337	LIBBY	MFH 2/2 W/DEN	10/4/2019	1	1	PARK	1				
116	051-220-093-000	5580	SCHMALE	SFR - 3BD/2.5BA W/DEN(2447) ATT GAR(799) COV CON(496)	7/8/2019	1	1	DELGADO	1				
117	055-270-011-000	5376	PENTZ	SFR - 2BD/2BA W/DEN(1767)ATT GAR (770)COV CONC(45)	7/8/2019	1	1	DORMAN	1				

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118	052-024-049-000	639	CASTLE	SFR - 2BD/2BA W DEN (1767) ATT GAR (1057) COV DECK (378)	7/8/2019	1	1	BOZZER	1				
119	050-052-043-000	1627	EAGLET	MFH- 2BD2BA (1198)	8/8/2019	1	1	ADAMS	1				
120	055-050-072-000	3476	NEAL	MFH - 3BD/2BA (1242)	7/8/2019	1		THOMAS	1			1	
121	054-131-046-000	1575	LILAC	SFR- 2BD+OFFICE/2BA (1531), ATT GAR (387), COV CONC (470), +/-40' RETAINING WALL	5/14/2020	1	1	PHILLIPS	1				
122	055-130-044-000	5124	FOSTER	sfr	8/2/2019	1		CARTER	1				
123	055-170-014-000	4827	ROUND VALLEY RANCH	MFH - 3 BED/ 2 BA (2178)	7/18/2019	1	1	PRICE	1				
124	054-182-043-000	1430	GRACEPHIL	MFH - 2BED/2BA (1296)	12/4/2019	1	1	KEYES	1				
125	055-330-020-000	1930	HILLPARK	SFR 3BED/3 BA (2492) GAR (1237) COV CON (534) BAS (905)	8/6/2019	1	1	FARRIS	1				
126	053-110-104-000	5871	JAGUAR	SFR - 3 BED/ 3BA (2248) COV CON (68)	8/6/2019	1	1	SLONE	1				
127	051-143-003-000	6341	DIAMOND	SFR (1886) ATT GAR (846) COV CON (341) DECK (126)	8/1/2019	1	1	MCCONNELL	1				
128	053-150-196-000	6154	ALAMO	SFR - 3BD /2.5BA (1558) COV CON (282) GAR (346)	8/20/2019	1	1	MEYERS	1				
124	052-390-056-000	514	SUNSET	SFR - 2BD/2BA (1200) COV CON (210)	PERMIT WITHDRAWN			HOUK	WITHDRAWN				1
130	052-390-066-000	6120	WINDTUNE	SFR (2025) COV CON (360) DECK (264)	7/16/2019	1	1	JOHNSON	1				
131	054-191-087-000	1361	PEACEFUL OAKS	SFR- 3BD/2.5BA + DEN (2493), ATT GAR (723), COV CONC (137), COV PORCH (709)	7/16/2019	1	1	MELDRUM	1				
132	054-030-058-000	5719	PARADISE	SFR - 3BD/2BA (1400) ATT GAR (560) COV CONC (30)	7/23/2019	1	1	MURRAY	1				
133	055-270-023-000	5486	PENTZ	SFR (2160) WD DECK (811) ATT GAR (587) CON BAS (737)	7/16/2019	1	1	DOBBS	1				
134	053-070-021-000	984	FAIRVIEW	SFR - 3 BED/3 BA (1197) ATT GAR (680) COV CON (402)	7/29/2019	1	1	DRAKE	1				
135	051-310-014-000	385	CIRCLEWOOD	SFR - 2BD/2BA (1264) ATT GAR (484) COV CON (243)	7/30/2019	1	1	HAYS	1				
136	052-022-089-000	6159	LOIS	SFR - 2 BD/1 BA (869) ATT GAR (390)	8/22/2019	1	1	HEATON	1				
137	053-180-073-000	1611	ELLIOTT	sfr	6/27/2019	1	1	WOODWARD	1				
138	050-350-023-000	1495	JONES	mfh	8/20/2019	1	1	MORRIS	1				
139	050-051-012-000	1539	WARREN	mfh 3 BED /2 BAT (1890)	7/5/2019	1	1	CAMPOS	1				
140	050-040-094-000	1667	GINNY	MFH - 2BD/1BA (702)	8/20/2019	1	1	NUCKLES	1				
141	055-130-029-000	5220	FOSTER	SFR - 3 BD / 2 1/2 BA (2292) GAR (904) COV PATIO (871)	8/5/2019	1	1	KRISTIANSEN	1				
142	055-030-038-000	150	JADE	SFR - 3BD/2.5BA(2074) ATT GAR (848) COV CONC(256)	7/17/2019	1	1	MAGEE	1				
147	054-132-031-000	5732	WOODGLEN	SFR - 4BD/2.5 BA (1847) ATT GAR(723) COV CONC(238)	8/28/2019	1		MACOMBER	1				1
144	051-094-041-000	6353	LUCKY JOHN	SFR 3 BED / 2 BA (1576) ATT GAR (307) COV CON (576)	7/15/2019	1	1	RUTLEDGE	1				
145	051-260-019-000	5436	PRINCETON	SFR - 2 BD/ 2 BA (1326) ATT GAR (440) COV CONC (278)	7/16/2019	1	1	MANGOLD	1				
146	050-220-120-000	6851	LUNAR	SFR 3 BED / 3 BA (3915) ATT GAR (1080) ATT SHOP (667) COV CON (1915)	7/17/2019	1	1	NEEDHAM	1				

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147	052-024-119-000	573	CASTLE	SFR - 3BDRM/ 2 BATH; 2303; ATT GAR 622; COV DECK 400	6/25/2019	1	1	REINOLDS	1				
149	054-260-023	1940	DRENDEL	SFR 3BD/2BA (2360) ATT GAR (546) COV CON(335)	PERMIT WITHDRAWN			HELMS	WITHDRAWN				1
149	054-181-052-000	5453	LIBBY	MASTERPLAN 853 SFR 3 BED /3 BA W/ DEN (1703) GAR (513) COV CON (291)	9/16/2019			ANDERSON	N/A				
150	051-220-100-000	470	BOAZ	MASTERPLAN 833 SFR 3 BED / 2 BA W /DEN (1857) GAR (568) COV CON (286)	9/16/2019			ANDERSON	N/A				
151	051-220-099-000	480	BOAZ	MASTERPLAN 852 SFR 3 BED /3 BA W/DEN (2143) GAR (857) COV CON (389)	9/16/2019			ANDERSON	N/A				
152	050-210-049-000	6272	VIRGINIA	SFR - 3BD/2BA (1863) ATT GAR (555) COV CONC(516)	6/27/2019	1	1	CAPINERI	1				
153	054-163-004-000	5601	BUTTE VIEW	SFR 3 BED / 2 BA (1856) ATT GAR (484) OPEN DECK (200)	7/9/2019	1	1	WEST	1				
154	054-151-070-000	5554	MARK	SFR 3 BED / 3 BA (1876) ATT GAR (539) COV CON (240) COV DECK (240) OPEN DECK (359)	10/10/2019	1	1	GEORGE	1				
155	052-260-101-000	5410	HICKORY	SFR 3 BED / 2 BA (2725) COV CON (208) OPEN DECK (510) GAR (600)	7/24/2019	1	1	MATTHEWS	1				
156	051-161-005-000	927	DEER CREEK	SFR 3 BED / 2 BA (1948) ATT GAR (603) COV CON (242)	8/12/2019	1	1	RODOWICK	1				
157	055-262-033-000	5460	HARRISON	SFR - 3 BDRM/2.5 BATH WITH MEDIA ROOM; 2488 SQ FT; ATT GAR 689; PORCH / COV CON 294	7/29/2019	1		CLARKSON	1				
158	053-300-046-000	1304	DEODARA	SFR - 3BD / 2 BA (1593) PORCH (180) PATIO (282)	9/12/2019	1		GIBBLE	1				
159	055-130-132-000	555	CASA	SFR- 2 BDRM / 2 BATH; 1358 SQ FT; ATT GARAGE 576; COV CON 117	7/22/2019	1	1	SOUTHWORTH	1				
160	055-070-017-000	280	CHAPARRAL	SFR 5 BED / 3 BA W/DEN (3001) ATT GAR (529) COV CON (572)	7/30/2019	1	1	MALLERY	1				
161	053-070-042-000	981	FAIRVIEW	SFR- 2 BED, 2 BATH W/ DEN (1569), ATT GAR LEFT OPTION (503), COV CONC (53) MP21-00307: 'PONDEROSA: OPT B, SOG'	12/15/2022	1	1	GEER					
162	052-011-051-000	6149	RIPLEY	SFR 3 BED / 3 BA (2091) ATT GAR (750) COV CON (168)	7/31/2019	1	1	NONNEMAN	1				
163	055-040-012-000	5203	TOYON	SFR 2 BED / 2 BA (1008) ATT GAR (484) COV CON (331) 2ND DWELLING ON LOT	8/16/2019	1	1	TYLER	N/A				
164	052-350-003-000	5431	SCOTTWOOD	SFR - 2 BDRM/ 2 BATH; 1373; ATT GAR 503; PORCH 103; PATIO COV 112	8/1/2019	1	1	RUBIOLO	1				
165	050-052-052-000	7093	PENTZ	SFR 2 BED/2BA (1074) COV CON (105)	9/3/2019	1	1	KENNEDY	1				
166	052-260-091-000	5511	FOSTER	SFR - 3 BD / 3 1/2 BA (2513) GAR (601) PORCH (124)				BUNCH	N/A		used in county for 3138 Tangeman Trail		
167	053-230-185-000	1651	LIGHTY	SFR 3 BED / 2 BA (3704) ATT GAR (860) COV CON (1316)	7/17/2019	1	1	JONES	1				
168	055-202-009	5236	EDGEWOOD	SFR 2 BED / 1 BA (743) ATT GAR (657)	8/9/2019	1	1	BIEGLER	1				
169	055-202-009	5238	EDEGWOOD	SFR 2 BED / 1 BA SFR (784) ATT GAR (616)	8/9/2019	1	1	BIEGLER	N/A				
170	053-150-152-000	6152	LIBBY	SFR 2 BED / 2 BA W/ DEN (1833) ATT GAR (831) COV CON (352)	8/26/2019	1	1	WORTHINGTON	1				

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171	052-031-075-000	5717	REED	SFR - 2 BD/2 BA (1382) ATT GAR (494) COV CON (60)	7/30/2019	1	1	SHERIDAN	1				
172	052-110-006-000	621	BOQUEST	SFR 2 BED / 2 BA (1530) COV CON (133)	8/7/2019	1	1	ULMAN	1				
173	050-240-087-000	1797	STARK	SFR - 2BD/3BA W/ DEN (1666) ATT GAR (864) COV CONC (888)	10/2/2019	1	1	SALA	1				
174	053-170-025-000	6058	KIBLER	SFR - 2 BDRM / 2 BATH; COV CON 133 SQ; 564 SQ FT	8/5/2019	1	1	WILSON	1				
175	051-152-010-000	950	THOMASSON	SFR 2 BED /2 BA (1371) ATT GAR (720)	8/7/2019	1	1	MOSELEY	1				
176	055-320-015-000	5210	PARKWAY	SFR 3BD/2.5 BA W/ DEN (2867) ATT GAR (574) W DECK (320) COV CONC (57)	8/8/2019	1	1	DISIMONE	1				
177	055-440-135-000	5045	COUNTRY CLUB	SFR 3ED/3BA W/DEN (2164) ATT GAR (480)	8/5/2019	1	1	BREWER	1				
178	050-040-114-000	7131	PENTZ	MFH 3BED/2BA (1836)	8/20/2019	1	1	GARBER	1				
179	050-210-050-000	6260	VIRGINIA	SFR - 3 BD /2 BA (1256) ATT GAR(516) COV CON (338)	7/25/2020	1	1	CAPINERI	N/A				
180	050-150-092-000	1385	SALISBURY	MFH 2 BED / 2 BA (1512)	8/20/2019	1	1	BRAY	1				
181	053-180-168-000	1535	ELLIOTT	SFR 4BED 3BA (2734) ATT GAR (789) COV CON (455)	8/8/2019	1	1	FLECK	1				
182	050-200-142-000	6266	DAWNRIDGE	SFR 3BD 2BA (2336) ATT GAR (1190) COV CON (756)	9/3/2019	1	1	RICE	1				
183	051-145-048-000	6353	HARVEY	MFH 2 BD 2 BA (1404)	8/20/2019	1	1	LAZARD	1				
184	050-180-031-000	1550	WAGSTAFF	SFR 2BD 2BA (1625) COV CON (24)	8/9/2019	1	1	ZACCARO	1				
185	052-070-103-000	5859	CRESTVIEW	MFH 2 BD 2 BA (1198)	12/3/2019	1	1	BOWMAN	1				
186	051-171-041-000	6225	LIND	SFR 2BD/2 BA (2108) ATT GAR (429) COV CON (244)	8/19/2019	1	1	GALLEGOS	1				
187	054-280-006-000	1861	SALIDA	SFR 2 BD/2 BA W/ DEN (1470) ATT GAR (473) COV CON (318)	9/19/2019	1	1	OWEN	1			1	
188	053-300-058-000	5787	BONNIE	SFR 3BD 2.5 BA W/OFF (1996) ATT GAR (643) ATT SHOP (426) COV CON (276)	8/19/2019	1	1	TRAYNOR	1				
189	053-023-009-000	6152	BERKSHIRE	SFR 3BD 2.5 BA (1973) ATT GAR (600) COV CON (502)	8/15/2019	1	1	GOEBEL	1				
190	053-240-056-000	6346	PENTZ	SFR 2 BED / 2 BA W/ DEN (1672) ATT GAR (539) COV CON (431)	11/15/2019	1	1	MOORE	1				
191	050-250-036-000	1744	SILVERTHORNE	SFR 3BD 2.5 BA ((1653) ATT GAR (970) COV CON (302)	9/13/2019	1	1	MAY	1				
192	050-330-059-000	6490	LONE CEDAR	MFH 2BD 2 BA (1275)	10/29/2019	1	1	MAUTZ	1				
196	054-240-054-000	1919	CRANDALL	SFR 3 BD 2BA (1716) ATT GAR (533) COV CON (752)	PERMIT WITHDRAWN			MUTTI	WITHDRAWN				1
194	050-230-039-000	1844	MERRILL	SFR 2BD/2BA W/ DEN (1963) ATT GAR (489) COV CONC(49)	8/22/2019	1	1	TAYLOR	1			1	
195	054-132-008-000	1710	NUNNELEY	SFR 3BD 2 BA (1715) ATT GAR (533)	8/9/2019	1	1	GIENGER	1				
196	051-240-029-000	237	CRAFT	SFR 3 BED / 2.5 (2562) ATT GAR & SHOP (856) OPEN DECK (626) COV DECK (154)	8/16/2019	1	1	HANSEN	1				
197	055-261-047-000	2195	DEMILLE	SFR 3BD/2BA (1893) ATT GAR (763) COV CONC(368)	10/17/2019	1	1	LUNSFORD	1				
198	051-171-098-000	6217	DESCANSO	SFR 3BD/2&1/2BA (2147) ATT GAR (855) COV CON (547)	7/31/2019	1	1	SMITH	1				

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199	051-151-069-000	903	THOMASSON	SFR 3BD 2.5 BA (3314) ATT GAR (439) COV CON (438) BALCONY (164)	8/20/2019	1	1	HENDRA	1				
200	052-360-029-000	5462	FOSTER	SFR- 3BD/2BA (1503)COV CON (192) ATT GAR(576)	8/19/2019	1	1	NELSON	1				
201	050-082-047-000	1631	TIMBER	MFH 2BD/2BA	8/26/2019	1	1	HEWSTON	1				
202	055-020-117-000	290	BURDEN	SFR 3BD/2BA (2109) ATT GAR (686) COV WOOD (562) COV CON (288)	9/30/2019	1	1	DURHAM	1				
203	052-271-045-000	5385	FOSTER	MFH 3 BED / 2 BA (1400)	8/14/2019	1	1	KLUMP	1				
204	052-080-010-000	5985	MCCLAIN	SFR 3BD/1.5BA(1078) ATT GAR (876) COV CON (48) OPEN DECK (410)	8/7/2019	1	1	POE	1				
205	051-071-014-000	6211	OLIVER	SFR 2 BD/2BA (1538) ATT GAR (840) COV CON (122)	9/10/2019	1	1	AVILA	1				
206	054-010-094-000	5734	COPELAND	SFR 3 BD 2 BA W/DEN (2107) ATT GAR (534)	9/11/2019	1	1	DUNCAN	1				
207	052-390-008-000	6171	LAUREL	SFR 2BD/2.5BA (1656) ATT GAR(655) COV CON (401)	8/26/2019	1	1	HAGLER	1				
208	054-010-094-000	5736	COPELAND	SFR - HOUSE B 2 BD 1 BA (869) ATT GAR (390)	9/11/2019	1	1	DUNCAN	N/A				
209	053-070-001-000	6056	MAXWELL	SFR 2BD/2.5BA(1564) ATT GAR(715) COV CON(345)	9/10/2019	1	1	VANBIBBER	1				
210	051-083-053-000	6328	GRAHAM	SFR 2 BED 2 BA (1200) ATT GAR (441) COV CON (236)	9/5/2019	1	1	MALONE	1				
211	053-200-060-000	5974	LIBBY	MFH 2 BED / 2 BA W/DEN (1696)	8/6/2019	1	1	PRATER	1				
212	050-150-103-000	6518	HUMMINGBIRD	MFH 2 BED / 2 BA W/DEN (1056)	8/6/2019	1	1	ARMSTRONG	1				
213	054-030-030-000	901	PEARSON	SFR 3BD/2.5 BA (1512) ATT GAR (483) COV CONC (120) SCREEN PORCH (152)	9/6/2019	1	1	MCCURDY	1				
214	051-300-016-000	307	ROSE	SFR 3BD/2BA (1783) ATT GAR (601) COV WOOD (144) COV CON (54)	12/5/2019	1	1	GARDNER	1				
215	050-171-022-000	6734	BELLVIEW	MFH 3BD/2BA (1836)	10/29/2019	1	1	RYAN	1				
216	053-150-062-000	6114	LIBBY	SFR 2BD/2BA W/DEN (1689) ATT GAR (766) COV CON(575)	8/22/2019	1	1	BASTON	1				
217	050-210-074-000	1652	KINGS ROW	SFR 2 BED 2BA W/ DEN (1508) ATT GAR (406) COV CON (100)	8/9/2019	1	1	PORTER	1				
218	053-180-170-000	1555	ELLIOTT	SFR 4BD/2&1/2BA (3161) ATT GAR (691) COV CON (253)	8/21/2019	1	1	ANDERSON BROTHERS CORP	N/A				
219	051-171-051-000	1099	BILLE	SFR - 2BD/2BA (1080) COV CON (180) ATT GAR (352)	8/14/2019	1	1	BALISON	1				
220	053-260-107-000	1710	RYAN	SFR 2 BD / 2BA (843) (PORCH 42) (PATIO 208)	11/26/2019	1	1	MAGUIRE	1				
221	054-192-120-000	5412	LIBBY	SFR - 2BD/2BA (1304) ATT GAR (357) WOOD DECK (66)	9/6/2019	1	1	CIECHANSKI	1				
222	051-180-013-000	6037	SHADOW MOUNTAIN	SFR 2BD/2BA (2244) UNCON BSMNT (202) ATT GAR (668) COV WOOD (189) UNCOV WOOD (605)	9/30/2019	1	1	BRENNAN	1				
223	050-250-036-000	1744	SILVERTHORNE	SFR 2 STORY 1 BD/1 BA W/ LOFT (886) COV CON (222)	9/13/2019	1	1	MAY	N/A				
224	050-200-026-000	1428	JUNIPER	SFR 2BD/2BA(1176) ATT GAR (497) COV WOOD DECK(190) COV CON (52)	9/17/2019	1	1	LEROY	1				
225	052-032-041-000	564	VALLEY VIEW	SFR 3BD/2BA (1716) ATT GAR (533) COV CON (168)	9/23/2019	1	1	PATTON	1				

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226	053-230-187-000	1641	LIGHTY	SFR - 3BD/2BD (1960) ATT GAR (576) COV PORCH (775)	10/18/2019	1	1	ABRAMS	1				
227	055-090-004	3329	NEAL	MFH 2BD/2BA (1242)	10/30/2019	1	1	FOX	1				
228	053-300-041-000	5771	BONNIE	SFR - 3BD/2BA (1606) GARAGE COV PORCH (215) STORAGE (700)	10/31/2019	1	1	KERNEY	1				
229	051-094-041-000	6341	LUCKY JOHN	SFR 2 STORY 3 BD 2.5 BA (2391) ATT GAR (672) UNCON SHOP (1296) COV CON (903)	10/2/2019	1	1	RUTLEDGE	N/A				
230	053-300-032-000	5772	KENGLO	SFR 3BD/2BA (2291) COV CON (78) ATT GAR (576)	9/23/2019	1	1	HARTT	1				
231	055-330-008-000	2022	HILLPARK	SFR 3 BED / 2 BA (2897) ATT GAR (522) COV CON (994) UNC STRG (425)	9/27/2019	1	1	HICKS	1				
232	054-162-007-000	5594	SAWMILL	SFR 1BD/1BA (708) COV CON (72) UNCOV CON (60)	9/5/2019	1	1	FELICE	1				
233	053-250-083	1789	HEYDEN	MFH - 3BD/2BA(1620)	10/15/2019	1	1	RANDALL	1				
234	052-241-020-000	5716	HOLLY	SFR 2 BED 2 BA (917)	10/28/2019	1	1	PALOMAR	1				
235	053-170-138-000	1590	ROWYN	SFR 2 BED/2BA (1566) ATT GAR (462) COV CON (299) UNCD STOR (354)	9/20/2019	1	1	BORDELON	1				
236	050-290-019-000	1662	PAMELA	SFR 3BED 2 BA (1863) ATT GAR (511) COV CON (200)	9/18/2019	1		KEBWITCH	1				
237	052-070-088-000	5829	CRESTVIEW	SFR 2BD/2BA (1779) ATT GAR (508) COV CON (230) UNCON (46)	10/9/2019	1	1	BUTTERWORTH	1				
238	053-170-204-000	1647	WHICH	SFR 3BD/2BA W/DEN (2038) ATT GAR (552) COV CON (176)	10/3/2019	1	1	STIMSON	DNA				
239	054-380-003-000	5491	DUDLEY	SFR 3 BED 3.5 BA (2184) ATT GAR (469)	12/12/2019	1	1	BALSINGER	1				
240	050-210-070-000	6545	PENTZ	SFR 1 BED 1 BA W/ DEN	10/14/2019	1	1	VARNER	1				
241	052-260-019-000	546	HILLCREST	SFR 3BD/2BA (1800) ATT GAR (525) COV CON (514)	8/26/2019	1	1	BOURDETTE	1				
242	052-022-053-000	6165	OLIVER	SFR 3 BED/2BA (1733) UNCD BSMNT (548) COV CON (109) OPN DCK (438)	9/16/2019	1	1	LANGE	1				
243	053-161-084-000	1421	POWELL	SFR 3BD/2BA (2248) ATT GAR (963) COV CON (256)	10/9/2019	1	1	KRIEBEL	1				
244	051-104-134-000	6614	FIRLAND	SFR 3 BED / 2 BA (1743) COV CON (1008)	6/4/2020	1	1	SWANSON	N/A		BOUGHT AFTER FIRE		
245	055-150-024-000	435	APPLE	SFR 2BD/2BA (1439) ATT GAR (528) COV CON (344)	10/17/2019	1	1	RAMIREZ	1				
246	051-083-135-000	785	SECLUDED	SFR 3BD/2BA (2437) ATT GAR (989) COV CON (525)	9/10/2019	1	1	MARCUS	1				
247	051-162-058	893	BILLE	MFH 2BD/2BA W DEN (1458) OPEN DECK (36)	8/26/2019	1	1	EXUM	1			1	
248	054-142-092-000	1409	JESSIE	SFR 2BD/2BA (1900) ATT GAR (540) DET GAR (736)	11/27/2019	1	1	ENGEN	1				
249	055-130-063-000	5056	FOSTER	SFR 3 BED 3BA (1928) ATT GAR (728) COV CON (780)	9/23/2019	1	1	SHILTS	1				
250	050-040-108-000	1650	GINNY	MFH 2BD/2BA (1512)	10/8/2019	1	1	HABIEL	1			1	
251	051-132-077-000	1290	DEER	MFH 2BD/2BA (1188)	10/17/2019	1	1	THOMS	1			1	
252	054-192-106-000	1410	ROY	MFH 3BD/2BA (1836)	1/29/2020	1	1	DAYTON	1				
253	051-132-109-000	6441	ROCKY	SFR 2BD/2BA (1232) ATT GAR (425) COV CON (261)	9/9/2019	1	1	CAMPBELL	1				

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254	055-220-009-000	5202	LIBBY	MFH 2BD/2BA (1065)	9/11/2019	1		RUBIO	1				
255	050-210-061-000	1658	MEADOWBROOK	SFR 3BD/2BA (1518) ATT GAR (506) COV CON (737)	10/14/2019	1	1	SACKSTEDER	1				
256	055-090-055-000	3360	NEAL	SFR 3 BED / 2 BA (1920) COV CON (496)	10/16/2019	1	1	GRIGGS	1				
257	054-120-039-000	5231	BENNETT	SFR 2BD/2BA (1777) ATT GAR (722) COV CON (429)	10/3/2019	1	1	MCSPADDEN	1				
258	054-230-102-000	5656	PENTZ	SFR 3BD/3BA (2375) ATT GAR (1024) COV CON (826)	10/8/2019	1	1	OMARY	1				
259	050-150-044-000	1398	FOREST SERVICE	SFR - 3BD / 2 BA (1508) ATT GARAGE (406) COVER PORCH (38)	9/6/2019	1	1	SALING	1				
260	052-080-068-000	786	LUTHER	SFR 2BD/2&1/2BA (1975) ATT GAR (720) COV CON (518) COV WOOD (90)	10/9/2019	1	1	THOMAS	1				
261	052-182-100-000	5575	LITTLE GRAND CANYON	SFR 3BD/2BA (2004) ATT GAR (567) COV CON (294)	10/15/2019	1	1	ANDERSON	1				
262	054-010-111-000	5695	BROOKVIEW	SFR 5 BED / 4BA (5285) ATT CRPRT (360) COV CON (362) COV DCK (765) OPN DCK (668)	11/5/2019	1	1	ANGEL	1				
263	054-210-126-000	1919	LOWRY	SFR 4BD/3BA (2595) ATT GAR (600) COV CON (349)	1/3/2020	1	1	JONES	1				
264	054-191-080-000	1335	JEANNIE	SFR 3BD/2.5BA (2253) ATT GAR (1028) COV CON (759)	10/7/2019	1	1	WOOD	1				
265	051-171-033-000	6221	OAK	MFH - 2BD/2BA	9/4/2019	1	1	LOURA	1				
266	055-150-067-000	450	LIKENS	SFR 3BD/2BA (2271) ATT GAR (902) COV CON (828)	9/25/2019	1	1	HALL	1				
267	050-250-058-000	1738	TARA	MFH (1188)	9/9/2019	1		WOOD	1				
269	051-190-007-000	263	VALLEY VIEW	SFR 3BD/2.5BA (1793) ATT GAR (591) COV CON (54) COV DECK (228)	PERMIT WITHDRAWN			SHELLER					1
269	051-171-106-000	1173	WALTONS MTN	MFH 3BD/2BA (2078) COV DECK (553)	9/26/2019	1	1	NEELEY	1				
270	053-180-146-000	1610	SYLVAN	SFR 3BD/2BA (1783) ATT GAR (881) COV CON (196)	10/25/2019	1	1	THIEDE	1				
271	051-260-043-000	259	PACIFIC	SFR 3 BD/ 2 BA (1725) ATT GAR (468) COV CON (53)	10/4/2019	1	1	DAGGETT	1				
272	054-192-121-000	1421	ROY	MFH 2BD/2BA (1377) COV CON (216)	9/11/2019	1	1	CRITCHFIELD	1				
273	053-110-059-000	1005	MAPLE PARK	MFH 1BD/2BA (1198)	10/3/2019	1	1	SAKE	1			1	
274	051-460-043-000	135	VALLEY VIEW	SFR 3BD/3BA (2436) COV CON (300) ATT GAR (835)	10/21/2019	1	1	VANSKIKE	1				
275	051-250-148-000	3966	NEAL	MFH 2BD/2BA W DEN (1512)	1/22/2020	1	1	DOVER	1				
276	054-050-098-000	897	BUSCHMANN	SFR 4BD/3BA (3055) COV WOOD (1069)	9/9/2019	1	1	NICHOLS	1			old	
277	050-051-041-000	7063	CLARK	MFH 2BD/2BA W/ DEN (1296)	9/26/2019	1	1	BARON	1				
278	052-024-082-000	6120	LOIS	SFR 3BD/2BA (1676) ATT GAR (552) COV CON (205)	11/27/2019	1	1	FLATT	1				
279	052-320-016-000	590	CIRCLEWOOD	SFR 2 BED 2 BA (1416) ATT GAR (624) COV CON (273) OPN WD DCK (162)	11/13/2019	1	1	KELLY	1				
280	055-150-028-000	448	APPLE	MFH 2BD/2BA W/ DEN (1458)	9/12/2019	1	1	CRAFT	1				
281	052-024-103-000	605	CASTLE	MFH 3BD/2BA (1173)	11/26/2019	1	1	LENARCIC	1				
282	054-060-098-000	5603	NEWLAND	MFH 3BD/2BA (1431)	9/12/2019	1	1	HOWE	1			1	
283	053-180-140-000	5884	CAMERON	SFR 3 BD/2 BA (2148) ATT GAR (648) COV CON (436)	10/29/2019	1	1	GILMER	1				



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284	053-272-099-000	5805	FICKETT	GARAGE CONVERSION TO SFR 2 BED / 2 BATH (1260)	10/18/2019	1	1	TAYLOR					
285	052-242-048-000	5751	ACADEMY	MFH 1BD/2BA (984)	9/12/2019	1	1	FLANDERS	1				
286	054-202-032-000	1610	LOUIE	SFR 2BD/2BA W/ FLEX RM(1596) ATT GAR(576) COV CON(424)	10/25/2019	1	1	ADAMS	1				
287	052-390-057-000	524	SUNSET	SFR 3BD/2.5BA (2040) ATT GAR (616) COV CON (374) COV WD DECK (306)	10/21/2019	1	1	LANE	1				
288	055-060-013-000	260	DOVE SONG	SFR 3BD/2.5BA W/ DEN (2316) ATT GAR (600) COV CON (252)	2/3/2020	1	1	MAGUIRE	1				
289	051-132-021-000	1211	WAGSTAFF	SFR 3BD/2BA (1820) ATT GAR (645) COV CON (292)	11/1/2019	1	1	SLOANE	1				
290	053-190-118-000	1393	MERIAM	SFR 3BD/2BA (1317) ATT GAR (543) COV CONC (266)	9/26/2019	1	1	SILVA	1				
291	051-132-110-000	1254	SEVERNS	MFH 3 BED / 2 BA (1458) COV CON (54)	10/17/2019	1	1	PETERS	1				
292	053-210-079-000	5900	LIBBY	SFR 3BD/2.5 BA (2662) ATT GAR (727) COV CON (168)	10/17/2019	1	1	GILLEN	1				
293	051-083-067-000	6385	LUCKY JOHN	MFH 2 BED 2 BA (1167)	10/8/2019	1	1	SILVEIRA	1				
294	050-330-060-000	6484	LONE CEDAR	MFH 2 BD/2 BA (1180)	10/8/2019	1	1	RIERSON	1				
295	051-050-090-000	6549	LUCKY JOHN	SFR 2BD/2BA W/ DEN (1823) COV CON (495)	10/14/2019	1	1	KUSS	1			1	
296	050-290-026-000	6705	BELVIEW	SFR 2BD/2&1/2BA (1644) COV WOOD DECK (206) COV CON (168)	10/8/2019	1	1	DHEMING	1				
297	053-320-043-000	6108	VISTA KNOLLS	SFR 3 BED 2 BA (1440) ATT GAR (993)	11/4/2019	1	1	TALAMANTES	1				
298	053-103-018-000	1232	LOVELY	SFR 3 BED 2 BA (2414) ATT GAR (765) OPN DCK (471) COV CON (136)	11/19/2019	1	1	CINO	1				
299	054-142-080-000	5718	MIDDLE LIBBY	MFH 4BD/3BA (2840)	10/8/2019	1	1	DEITRICK	1				
300	052-011-048-000	711	SUNSET	MFH 2BD/2BA (1512) WOOD DECK (280)	10/8/2019	1	1	BROWN	1				
301	050-120-163-000	1890	DEAN	SFR 3BD/2BA (2149) ATT GAR (655) COV CONC(303)	10/8/2019	1		WINSLOW	1				
302	055-040-063-000	187	HARRIS	MFH 2BD/2BA W/ DEN (1512)	10/31/2019	1	1	MARTINSON	1				
303	054-040-027-000	5705	CHAPEL	SFR 2 BED 2 1/2 BA (1860) ATT GAR (778) COV GAR (888)	9/27/2019	1	1	ROBERTS	1				
304	053-240-076-000	1776	BILLE	SFR 3BD/3BA W/ OFFICE (2404) ATT GAR (561) COV CON (580)	12/12/2019	1	1	BITKER	1				
305	052-340-043-000	712	WINDING	SFR 2BD/2BA W/ STUDY (1346) ATT GAR (400) COV CON (112)	11/15/2019	1	1	CROCKETT	1				
306	051-072-032-000	6185	WAGSTAFF	SFR 3BD/2BA (1948) ATT GAR (577) COV CON (250)	10/17/2019	1	1	TUPPER	1				
307	052-320-015-000	592	CIRCLEWOOD	SFR 2 BED 2 BA (1472) ATT GAR (576) COV CON (68)	12/2/2019	1	1	BARNES	1				
308	053-140-037-000	1655	YOUNG	SFR 3 BED 2.5 (1724) COV CON (657) ATT GAR (470)	11/21/2019	1	1	MOFFATT	1			1	
309	050-230-048-000	1782	MERRILL	MFH 2BD/2BA W/ DEN (1065)	1/6/2020	1	1	RUJACAVA	1				
310	052-272-019-000	486	CIRCLEWOOD	SFR 2BD/1BA (1308) ATT GAR (516) COV CON (322)	11/6/2019	1	1	RILEY	1				
311	051-172-028-000	6265	AZALEA	SFR 2BD/2BA (1482) COV WOOD (248)	10/4/2019	1	1	COLLETT	1				
312	052-070-023-000	559	CRESTWOOD	SFR 3BD/2BA (1780) ATT GAR (477) COV CONC (156)	12/9/2019	1	1	HAFER	1			1	

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313	053-132-081-000	1206	ELLIOTT	MFH 3BD/2BA (1642)	2/27/2020	1	1	LEWIS	1				
314	054-142-043-000	5595	FOLAND	MFH 3BD/2BA (1620)	1/2/2020	1	1	LAVIGNE	1				
315	052-031-069-000	555	VALLEY VIEW	SFR 3BD/2.5BA (1711) ATT GAR (576) COV CON (242)	12/6/2019	1		JAIN	1				
316	055-440-133-000	5106	MALIBU	SFR 3BD/2BA (1662) ATT GAR (576) COV CON (192)	11/19/2019	1	1	GARDNER	1				
317	052-090-019-000	672	MEMORIAL	MFH 2BD/2BA W/DEN (1498)	9/30/2019	1	1	COX					
318	054-310-012-000	5562	ANGEL	SFR 2BD/2BA (1402) ATT GAR (575) COV CON (190)	9/3/2020	1	1	PRICE	1				
319	054-310-041-000	5571	HEAVENLY	SFR 2BD/2BA (1402) ATT GAR (575) COV CON (190)	9/14/2020	1	1	PRICE	1		second property		
320	051-151-061-000	920	WAGSTAFF	SFR 3BD/2BA (1685) ATT GAR (523) COV CON (174)	12/9/2019	1	1	FRUDDEN	1				
321	051-050-102-000	675	WAGSTAFF	SFR 3BD/2BA (2099) ATT GAR (995) COV CON (93)	10/18/2019	1	1	BOLGER	1				
322	052-031-133-000	500	CASTLE	MFH 2BD/2BA W/DEN (1296)	10/8/2019	1	1	ONSTEIN	1				
323	050-100-089-000	1767	SUNRISE	MFH 2BD/2BA W/ DEN (1620)	10/17/2020	1	1	CLARK	1				
324	050-300-009-000	6675	BROOK	MFH 2 BED 2 BA (1455)	10/11/2019	1	1	ELFERS	1				
325	053-150-046-000	1404	BILLE	SFR 2BD/2BA W/OFFICE (1317) ATT GAR (529) COV CON (276)	10/23/2019	1	1	NEAL	1				
326	053-021-097-000	6200	LUCKY JOHN	SFR 4 BED 2 BA (1689) ATT GAR (736) COV CON (319)	10/18/2019	1	1	HARVEY- TELLES	1				
327	055-270-042-000	1931	GOLF	SFR 3BD/2BA (2272) ATT GAR (581) COV CON (349)	10/23/2019	1	1	MOCK	1				
328	053-150-184-000	1394	DELIA	SFR 3 BED 2 BA (1580) ATT GAR (656) COV CON (348)	10/30/2019	1	1	HOWER	1				
329	055-060-018-000	3552	NEAL	MFH 2BD/2BA(1198) COV WOOD DECK (216)	10/15/2019	1	1	SCHWARTZ	1			1	
330	052-243-006-000	797	COLLEGE HILL	MFH 3 BED 2 BA (2482)	10/4/2019	1	1	SMITH	1			1	
331	050-210-075-000	1656	KINGS ROW	SFR 3BD/2BA (1500) ATT GAR (576) COV CON (300)	10/24/2019	1	1	THORNTON	1				
332	051-220-074-000	5519	SCHMALE	SFR 3BD/2BA (1500) ATT GAR (603) COV CON (112)	10/14/2019	1	1	HORNER	1				
333	052-235-018-000	5596	BROOKSIDE	SFR 1BD/2BA W/OFFICE (1232) ATT GAR (520) COV CON (62) DECK (96)	10/4/2019	1	1	THOMS	1				
334	052-250-034-000	5243	BLACK OLIVE	MFH 3BD/2BA (1654)	10/4/2019	1	1	MACHADO	1				
335	050-280-023-000	6280	LANCASTER	SFR 3BD/2BA W/ STUDY (2151) ATT GAR (570)	10/16/2019	1	1	GUEVARA	1				
336	051-091-025-000	695	MADRONE	MFH 3BD/2BA (1493)	10/4/2019	1	1	HUNT	1				
337	050-390-004-000	1647	GATE	SFR 2BD/2BA (1716) ATT GAR (533) COV CON (24)	10/23/2019	1	1	LAMBERT	1				
338	051-082-043-000	655	MEYERS	SFR 3 BED 2 BA (1508) ATT GAR (406) COV CON (119)	10/14/2019	1	1	MCKEE	1			1	
339	052-040-066-000	720	BROOKHAVEN	SFR 3 BED 2 BA (1808) ATT GAR (484) COV CON (159) COV DECK (405)	2/4/2020	1	1	STONE	N/A				
340	051-320-004-000	257	TRANQUIL	SFR 3 BED 3 BA (2181) ATT GAR (712) COV CON (203)	10/23/2019	1	1	VANCOTT	1				
341	050-200-123-000	6282	MELENE	SFR 3/2 +DEN (1703) ATT GAR (513) COV CON (291) MASTERPLAN 853	10/15/2019	1	1	ANDERSON	NA				

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342	051-171-086-000	6278	DIAMOND	SFR 2BD/2BA (1088) UNC STOR (120) ATT CARPORT (315) COV CON (320)	11/12/2019	1	1	HARVEY	1				
343	053-300-003-000	1309	DEODARA	SFR 2BD/2BA W/DEN (1829) ATT GAR (565) COV CON (254)	11/26/2019	1	1	CAMPO	1				
344	054-151-025-000	1380	LANDS END	MFH 2 BED 2 BA (792)	10/3/2019	1	1	THOMPSON	1			1	
345	051-380-023-000	469	NOTTINGHAM	SFR 2BD/2BA W/ DEN (1830) ATT GAR (453) COV CONC (117) COV WOOD DECK (330)	12/9/2019	1	1	LARSEN	1			old	
346	052-150-007-000	5845	QUEEN	SFR 2 BED 2 BA + STUDY (1877) ATT GAR (578) COV CON (434)	11/14/2019	1	1	MASSEY	1				
347	053-023-001-000	1078	BILLE	MFH 2BD/2BA (1512)	10/17/2019	1	1	DARBY	1				
348	054-310-022-000	5567	ANGEL	MFH 2BD/2BA (1188)	10/31/2019	1	1	LEFEBVRE	1				
349	054-161-032-000	1639	HENSON	SFR 2 BED 2 1/2 BA (1853) ATT GAR (798) COV CON (425)	11/19/2019	1	1	LAMBERT	1				
350	052-011-042-000	668	SUNSET	SFR 3BD/2BA (1640) ATT GAR (457) COV CON (400)	11/13/2019	1	1	PENNA	1				
351	051-081-051-000	6387	GRAHAM	SFR 3 BED 2 BA +STUDY (2398) ATT GAR (1020) COV (430)	11/19/2019	1	1	GRIGG	1				
352	053-240-035-000	1956	MOUNTAIN VIEW	SFR 3 BED 2 BA (2063) ATT GAR (960)	12/12/2019	1	1	ROBISON	1				
353	053-250-118-000	1764	HEYDEN	SFR 2BD/2BA (1393) COV WOOD (312)	11/8/2019	1	1	POLIQVIN	N/A				
354	053-011-083-000	6168	TWIN	MFH 2BD/2BA (1512)	10/14/2019	1	1	ORDWAY	1			1	
356	055-050-060-000	32	SUTTER	SFR 2 BED 2 BA (1312) ATT GAR (832)	PERMIT WITHDRAWN			DEPPE					1
356	052-040-091-000	800	EDWARDS	SFR 3BD/2BA (1878) ATT GAR (608) COV WOOD (402)	12/19/2019	1	1	MARTIN					
357	052-380-029-000	628	CIRCLEWOOD	MFH 2BD/2BA (1770)	10/11/2019	1	1	WARD	1				
359	053-190-074-000	5908	DEBBIE	SFR 2 BED 2 BA (2651) ATT GAR (721) BSMNT (575)	PERMIT WITHDRAWN			WALLEN					1
359	053-070-018-000	5997	WILLIAMS	MFH 2BD/2BA +DEN (1512)	11/7/2019	1	1	CARTER	1				
360	052-390-063-000	6125	WINDTUNE	SFR 3BD/2&1/2BA (1998) ATT GAR (698) COV WOOD (882)	10/25/2019	1	1	WILSON	F				
361	050-250-077-000	6480	DANIKA	SFR 3 BED 2 BA (2085) ATT GAR (515) COV CON (175)	10/23/2019	1	1	NAILS	1				
362	053-150-157-000	6159	SAWMILL	MFH 3BD/2BA (1782)	10/9/2019	1	1	DENNIS	1				
363	053-330-076-000	5772	DEERPARK	MFH 2 BED 2 BA (1221)	10/7/2019	1	1	GUARINO	1				
364	052-271-072-000	439	CIRCLEWOOD	SFR 2BD/2BA (1373) COV CON (198) ATT GAR (492)	11/1/2019	1	1	PETERSON	1				
365	051-104-081-000	7039	MOLOKAI	SFR 3BD/2.5 BA (1354) ATT GAR (446)	11/26/2019	1	1	RIOS	1		SHOULD NOT HAVE GOT, BOUGHT AFTER FIRE		
366	055-060-012-000	3776	NEAL	SFR 3 BED 2 BA (1685) ATT GAR (541) COV CON(417)	10/31/2019	1	1	CARROLL	1				
367	050-100-105-000	1712	PINEY RIDGE	MFH 2 BED 2 BA (1620)	10/21/2019	1	1	LABOSKY	1				
372	051-310-013-000	372	CIRCLEWOOD	SFR 3 BED / 2BA (1998) ATT GAR (657) COV CON (275)	10/31/2019	1		WALTON	1				1
369	050-310-005-000	6646	DOLORES	SFR 3BD/2BA (2298)	1/3/2020	1	1	LORD	1				
370	051-132-006-000	1259	SEVERNS	MFH 3 BED 2 BA (1512)	10/24/2019	1	1	COBB	1				

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371	050-070-054-000	1409	TOWHEE	MFH 2 BED 2 BA (1493)	11/7/2019	1	1	NELSON	1				
372	051-300-035-000	5882	CRESTMOR	SFR 3BD/2BA (1716) ATT GAR (813) COV CON (168)	1/6/2020	1	1	NIKOLEYCZIK	1				
373	052-370-002-000	671	DAMROW	SFR 2BD/3BA (1664) COV CON (980) ATT GAR (1024)	11/8/2019	1	1	WILSON	1				
374	053-230-128-000	5780	LOCUST VALE	MFH 2 BED 2 BA (1296)	11/21/2019	1	1	MCCLEARY	1				
375	054-181-039-000	1389	COTTAGE	SFR 2 BED 2 BA (960) DET GAR (480) COV CON (288)	12/5/2019	1	1	BELLER	1				
376	051-250-116-000	400	GREEN OAKS	SFR 2BD/1BA (1280) ATT GAR (672) COV CON (252)	11/6/2019	1	1	BAILEY	1				
377	050-200-088-000	6213	TALLEY	SFR 1BD/2BA W/ DEN (1216) COV CON (108)	1/6/2020	1	1	MILAND	1				
378	050-230-041-000	1826	MERRILL	SFR 3 BED 2 BA (1725) ATT GAR (468) COV CON (263)	12/5/2019	1	1	IMRIE	1				
379	054-280-020-000	5623	SALIDA	SFR 2BD/2BA W/OFFICE (1320) COV WOOD (177) COV CON (123) ATT GAR (484)	11/26/2019	1	1	FLORES	1				
380	055-211-044-000	1301	BENNETT	SFR 4 BED 3 BA (2943) ATT GAR (652) COV CON (711)	10/25/2019	1	1	GOMEZ	1				
381	053-300-001-000	1301	DEODARA	SFR 3BD/2BA (1439) ATT GAR (651) COV CON (341)	11/7/2019	1	1	PALADE	1				
382	053-023-019-000	6187	GREENWOOD	SFR 2BD/2.5BA (1797) ATT GAR (837) COV CON (678)	1/22/2020	1	1	FIERRO	N/A				
383	052-360-022-000	695	DAMROW	SFR 3 BED 2 BA (2526) COV CON (1615) ATT GAR (1340) UNCON SPC (935)	12/18/2019	1	1	LINDSTROM	1				
384	053-023-022-000	6189	GREENWOOD	SFR (1796) COV CON (678) ATT GAR (518)	1/22/2020	1	1	FIERRO	1				
385	055-270-043-000	5450	PENTZ	SFR 3 BED 2 BA + DEN (1721) COV CON (26) OPN DECK (170) ATT GAR (625)	11/7/2019	1	1	DAUGHERTY	1				
386	052-272-011-000	458	CIRCLEWOOD	SFR 3BED 3 BA +DEN (2006) ATT GAR (545) COV CON (249)	10/23/2019	1	1	MCGUIRE	1				
388	054-171-114-000	1525	MILLWOOD	SFR 1BD 1BA (528)	PERMIT WITHDRAWN			VAN HORN					1
388	052-260-102-000	5406	HICKORY	SFR 3BD/2BA (2407) ATT AGR (883) UNC BSMT (635)	11/21/2019	1		JOHNSON	1				
389	050-320-009-000	1525	FOREST	SFR 3 BED 4 BA (2767) ATT GAR ( 852) UNC BAS (2220) COV CON (120) COV DECK (288) OPEN WD DECK (362)	5/3/2021	1	1	SHANOFF	1				
390	053-170-119-000	1692	YOUNG	SFR 2 BED 2 BA +PARLOR (1865) ATT GAR (549) COV DECK (580)	12/18/2019	1	1	MURPHY	1				
391	052-090-006-000	685	ELLIOTT	SFR 2BD/2BA (1315) COV WOOD (144)	10/25/2019	1	1	BALLOU	1				
392	051-083-059-000	825	REGNIER	SFR 2BD/2BA W/ DEN (1689) ATT GAR (600)	1/14/2020	1	1	WHITCOMB	1				
393	053-150-102-000	6163	OPAL	SFR 2BD/2BA W/DEN (1608) ATT GAR (552) COV CON (102)	12/12/2019	1	1	SCHROEDER	1				
394	055-150-043-000	462	ELDREDGE	MFH 2BD/2BA & DEN (1159)	10/31/2019	1	1	STRICKLER	1				
395	054-171-124-000	5533	BELVISO	MFH 2BD/2BA (952)	12/12/2019	1	1	GILLANDER	1				
396	050-210-002-000	6225	FOREST	SFR 2BD/2BA W/DEN (2012) ATT GAR (710) COV CON (108)	11/8/2019	1	1	ABERCROMBIE	1				
397	052-250-056-000	5568	VISTA	SFR 2BD/2BA W/DEN (1296) ATT GAR (497)	6/23/2020	1	1	HARDIMAN	1				

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398	054-131-105-000	1608	HEMLOCK	SFR 3BD/2BA (1750) COV CON (819) ATT GAR/SHOP (1025)	12/3/2019	1	1	SAMUEL/COSTA	1				
399	052-040-082-000	676	EDWARDS	SFR 2BD/1BA (904) ATT GAR (360) COV CON (145) COV DCK (132)	11/5/2019	1	1	KING	1				
400	053-132-013-000	1245	NUNNELEY	SFR 2BD/2BA W/ OFFICE (1612) ATT GAR ( 658) COV WOOD (383)	2/20/2020	1	1	LIPKIN	1				
401	054-152-020-000	1419	STONEHURST	SFR 3 BD/ 2 BA (1294) ATT GAR (384) COV CON (108)	1/28/2020	1		BONGERS	1				
402	054-192-100-000	1486	MAGADON	SFR 3BD/2.5BA (1828) ATT GAR (550) COV CON (488)	2/13/2020	1	1	GALLAGHER	1				
403	051-162-037-000	923	BILLE	MFH 3BD/2BA (1280)	11/22/2019	1	1	HOLLINGSWORTH	N/A				
404	055-020-120-000	320	BURDEN	SFR 3BD/2.5BA (1972) UNF BASE (704) ATT GAR (896)	1/7/2020	1	1	BENNET	1				
405	055-261-048-000	2212	RICHMOND	SFR 2BD/2BA W/DEN (1334) ATT GAR (526) COV CON (266)	11/26/2019	1	1	ANDERSON	N/A				
406	055-050-066-000	70	SUTTER	MFH 2BD/2BA (1188)	10/31/2019	1	1	MEYERS	1				
407	050-081-040-000	1515	FOREST SERVICE	MFH 3BD/2BA (1674)	1/7/2020	1	1	K HARTLAND	1				
408	053-250-098-000	1834	CLEARBROOK	SFR 3BD/2BA (2378) ATT GAR (1942) COV WOOD (227) COV CON (720)	2/7/2020	1		TARDIVILLE	1				
409	054-030-019-000	5689	NEWMAN	SFR 3BD/2.5BA (1494) ATT GAR (589) COV CON (211)	11/12/2019	1	1	THIRTYACRE	1				
410	051-151-033-000	935	THOMASSON	SFR 3 BD/2 BA (2016) ATT GAR (260) COV CON (141)	11/14/2019	1	1	REILLY TRUST	1				
411	052-390-016-000	479	SUNSET	MFH 2BD/2BA (852)	12/17/2019	1	1	MAVIS	1				
412	053-150-159-000	1488	BILLE	SFR 1BD/1BA (640)	WITHDRAWN			LABARBERA					1
413	055-090-066-000	205	WAYLAND	SFR 3BD/2BA (2131) ATT GAR (958) COV CON (708)	1/9/2020	1	1	HARTLEY	1				
414	052-182-026-000	532	HORSESHOE HILL	SFR 3BD/2BA (1235) ATT GAR (350) COV CON (29)	11/26/2019	1	1	KOBZARENKO	N/A				
415	052-290-060-000	785	ROE	SFR 3 BD/2 BA (1892) ATT GAR (644) COV CON(404)	11/12/2019	1	1	GROSSE					
416	053-330-141-000	1394	ELLIOTT	SFR 3BD/2BA (1707) ATT GAR (722) COV COV (576)	11/7/2019	1	1	EARL	1				
417	051-071-047-000	6178	WAGSTAFF	SFR 3BD/2BA (1871) ATT GAR (604) COV CON (315)	12/20/2019	1	1	BENNETT	1				
418	050-250-069-000	1830	TARA	SFR 3 BED 2 BA (2103) COV CON (1060) ATT GAR (520)	1/7/2020	1	1	WILLIAMS	1				
419	051-172-024-000	6235	AZALEA	SFR 2BD/2&1/2BA (1092) ATT GAR (440) COV CON (40) WOOD DECK (104)	11/25/2019	1	1	BROWNLEE	1				
420	051-190-013-000	217	VALLEY VIEW	SFR 2BD/2BA (1917) ATT GAR (578) COV CON (72)	11/20/2019	1	1	INGOGLIA	1				
421	052-236-007-000	679	BUSCHMANN	SFR 2BD/2BA & DEN (1600) COV CON (384)	1/9/2020	1	1	COONROD	1				
422	051-145-058-000	6325	AZALEA	MFH 2BD/2BA	11/12/2019	1	1	HOLLINGSWORTH	1				
423	050-090-042-000	1752	VICTORIA	SFR 3BD/2BA (1543) ATT GAR (484) COV CON (154)	11/19/2019	1	1	TADEO	1				
424	050-290-016-000	1659	PAMELA	MFH 2BD/2BA (976) COV WOOD (80)	11/19/2019	1	1	EVANS	1				

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425	051-380-038-000	440	NOTTINGHAM	SFR 3 BD/ 2 1/2 BA (2385) COV CON (613) ATT GAR (746)	11/15/2019	1		MOAKLEY	1				1
426	050-130-015-000	6904	DEAN	SFR 4D/3BA W/ STUDY (2515) ATT GAR (811) COV CON (120) COV WOOD (200)	12/12/2019	1	1	BRACKEN	1				
427	053-050-015-000	962	CENTRAL PARK	SFR 2BD/2BA (1380) ATT GAR (648) COV WOOD (428)	11/20/2019	1	1	BLANKENCHIP	1			1	
428	052-182-101-000	5585	LITTLE GRAND CANYON	SFR 3BD/2BA (1588) ATT GAR (832) COV CON (516)	12/3/2019	1	1	MCSWEENEY	1				
429	050-220-129-000	1881	MOLL	SFR 2BD/2BA (1329) ATT GAR (700) COV CON (165)	12/9/2019	1	1	JENSEN	1				
430	052-011-041-000	676	SUNSET	MFH 2BED 2 BA (1056)	11/8/2019	1	1	KOEHNE	1				
431	054-182-016-000	5528	LIBBY	MFH 2BD/2BA (810)	11/6/2019	1		CARMODY	1				
432	055-130-145-000	575	RUSTIC	SFR 3BD/2BA (1778) ATT GAR (442) COV CON (382)	11/14/2019	1	1	NIBLETT	1				
433	050-410-018-000	6223	SAWMILL	SFR 3 BED 2 BA (2102) ATT GAR (979) COV CON (954)	11/8/2019	1	1	HARDY	1				
434	050-440-006-000	6257	HIMMEL	SFR 3BD/2BA (2261) ATT GAR (636) COV CON (118)	1/2/2020	1	1	ESPINOZA	1				
435	055-130-062-000	5072	FOSTER	SFR 1BD/1BA (567) COV CON (240)	12/12/2019	1	1	MATHENY	1				
436	050-280-009-000	6207	SAWMILL	SFR 2BD/2BA (1549) ATT GAR (545) COV CON (173) COV WOOD (144)	1/30/2020	1	1	COUTOLENC	1				
437	053-090-016-000	1064	BILLE	MFH 2BD/2BA (1458)	1/3/2020	1	1	BOURGEOIS	NA				
438	055-090-061-000	58	WAYLAND	SFR 2 BD 2 1/2 BA (1804) ATT GAR (760) COV CON (144)	12/23/2019	1	1	BROMELOW	1			1	
439	053-320-010-000	6093	VISTA KNOLLS	SFR 3BD/3.5 BA (1923) ATT GAR (826) COV CON (635)	12/2/2019	1	1	WULFF	1				
440	054-310-037-000	5563	HEAVENLY	MFH 2BD/2BA (904)	11/13/2019	1		VANDEVIER	1				
441	055-211-072-000	5250	CALIFORNIA	SFR 2BD/2BA (1268) ATT GAR (578) COV CON (312)	12/13/2019	1	1	HETHERINGTON	1				
442	050-180-002-000	1536	WAGSTAFF	MFH 2BD/2BA & DEN (1056)	11/14/2019	1	1	HOBDEN	1			1	
443	055-080-033-000	145	RIVENDELL	SFR 3BD/2BA (2540) ATT GAR (905) COV CON (62) UNC STORAGE (476)	1/9/2020	1	1	OTT	1				
444	054-164-030-000	1351	PEARSON	SFR 2BD/2BA & DEN (1283) ATT GAR (472) COV CON (221)	12/3/2019	1	1	ELLSWORTH	1				
445	054-210-050-000	5696	FICKETT	SFR 3BD/2BA (1572) COV CON (176)	1/14/2020	1	1	BROWN	1				
446	051-104-041-000	8432	MONTNA	SFR 3BD/2&1/2BA & STUDY (2006) ATT GAR (545) COV CON (249)	12/10/2019	1	1	GUERRA	1				
447	054-220-006-000	5791	PENTZ	SFR 3BE/2&1/2BA & STUDY (2006) ATT GAR (545) COV CON (249)	1/23/2020	1	1	FAIRCHILD	1				
448	052-244-040-000	5600	SCOTTWOOD	SFR - 3BD/2BA (1386) ATT GAR (320) COV CON(111) COV DECK (204)	11/26/2019	1	1	THERIEN/SONNEBOR N	1				
449	054-240-053-000	1921	CRANDALL	MFH 2BD/2BA (1296) COV WOOD (224)	11/18/2019	1	1	OEHLER	1				
450	052-350-014-000	5375	SCOTTWOOD	SFR 3BD/3BA (2353) ATT GAR (648) COV CON (346)	12/31/2019	1	1	NILES	1				
451	054-162-011-000	5580	SAWMILL	MFH 3BD/2BA (1404)	11/21/2019	1	1	HARGIS	1			1	
452	055-211-016-000	5264	CALIFORNIA	SFR 2 BED 2 BA (1020) COV CON (372)	12/6/2019	1	1	WILLIAMS	1				

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453	055-270-051-000	5464	PENTZ	SFR 3BD/2BA (1572) ATT GAR (424) COV CON (290)	12/17/2019	1	1	BUTTS	1				
454	050-082-054-000	1630	TIMBER	MFH 2 BED 2 BA W/DEN (1188)	11/14/2019	1	1	MCLEAN	1			1	
455	052-032-050-000	5931	LARISSA	MFH 3BD/2BA (2482)	12/5/2019	1	1	CLEMENS	1				
456	050-190-026-000	6378	ROCKY	MFH 3BD/3BA (2240)	1/10/2020	1	1	TAYLOR	1				
457	050-082-057-000	1610	TIMBER	MFH 2BD/2BA & DEN (1512) COV WOORD (216)	12/20/2019	1	1	PARR	1				
458	051-180-019-000	6064	TERRA VISTA	SFR 4BD/2.5BA (2227) ATT GAR (813) COV CON (240)	12/13/2019	1	1	UMENHOFER	1				
459	055-150-058-000	482	ELDREDGE	SFR 4 BD / 2 1/2 BA (3000) ATT GAR (315) COV CON (668)	1/6/2020	1	1	WHITING	1				
460	052-032-037-000	549	PRIMROSE	SFR 2BD/2BA W/ STUDY (1914) ATT GAR (406) COV CON (119)	4/3/2020	1	1	STREDWICK	1				
461	051-250-137-000	281	CARMEL	SFR 3BD/2BA & DEN (2146) ATT GAR (679) COV CON (172)	12/12/2019	1	1	VENARD	1				
462	053-050-005-000	977	CENTRAL PARK	SFR 3BD/2BA (1914) ATT GAR (406) COV CON (119)	1/9/2020	1	1	LEE	1				
463	053-272-059-000	5981	PENTZ	SFR 2BD/2BA & DEN (1498), ATT GAR (377), COV CONC (620)	2/11/2020	1	1	SANTANNA	1				
464	052-040-064-000	740	BROOKHAVEN	SFR 3BD/2BA W/OFFICE (2007) ATT GAR ( 528) COV CON ( 121)	2/13/2020	1	1	BALTIERRA	1			1	
465	051-094-027-000	6301	LUCKY JOHN	SFR 3BD/2BA (1201) ATT GAR (423) COV CONC (466)	12/13/2019	1	1	STONE	1				
466	053-230-167-000	5784	HOMESTEAD	MFH 2 BD/2 BA +DEN & OFFICE	11/20/2019	1	1	TALLEY	1				
467	052-390-003-000	480	BILLE	SFR 3BD/2BA (1486) ATT GAR (489) COV CON (204)	12/5/2019	1	1	WASLEWSKI	1				
468	051-104-045-000	8416	MONTNA	SFR 3BD/2BA (1550) ATT GAR (441) COV CON (71)	12/16/2019	1	1	SINNOTT	1				
469	050-180-048-000	6381	FOREST	SFR 2BD/2BA W/ OFFICE (1167) COV CON (368)	1/8/2020	1	1	RANGEL	1				
470	052-238-011-000	5564	KEITH	MFH 1BD/1BA (426) COV WOOD (72)	11/18/2019	1	1	SCHWARTZ					
471	054-182-088-000	1188	PEARSON	SFR 2 BD / 2 BA w/ STUDY & DEN (2324) COV CON (1250)	1/7/2020	1	1	LITTLE	1				
472	053-190-038-000	5891	DEL MAR	MFH 3BD/2BA (1503)	1/31/2020	1		PERRY	1				
473	055-440-030-000	5223	FALCONS VIEW	SFR 5BD/3BA (3609) ATT GAR (632) COV CON (646)	12/2/2019	1	1	THIEDE	1				
474	051-104-051-000	8392	MONTNA	SFR 4BD/2BA (2504) ATT GAR (716) COV CON (494) COV WOOD (367) OPEN WOOD DECK (301)	1/14/2020	1	1	BROOKS	1				
475	051-132-063-000	1255	SEVERNS	MFH 2BD/2BA + FAMILY ROOM (1200)	1/23/2020	1	1	TEETER	N/A				
476	052-320-018-000	584	CIRCLEWOOD	MFH 1BD/2BA & DEN (1125) COV WOOD (180)	11/18/2019	1	1	DIAMOND	1				
479	051-171-103-000	6241	LIND	SFR 3 BD/2BA (1879) COV WOOD DCK (204) OPEN WOOD DCK (446)	12/17/2019	1		GOWAN	1				1
478	050-220-026-000	1903	MERRILL	MFH 3BD/2BA W/DEN (1944)	1/2/2020	1	1	EDDY					
479	054-142-072-000	5602	FOLAND	MFH 2BD/2BA (1240) COV PORCH (20)	1/29/2020	1	1	MILLER	1				
480	055-240-001-000	5080	CIRCLE	MFH 3BD/2BA (1836)	12/5/2019	1	1	BIRCH	1				

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481	051-083-091-000	784	RED HILL	SFR 3BD/BA (1511) ATT GAR (472) COV CON (163)	12/12/2019	1	1	JARRATT	1				
482	055-211-050-000	5227	SQUIRE	MFH 2BD/2BA + DEN (1296)	12/20/2019	1	1	WECHSELBERGER	1				
483	055-211-057-000	5265	CALIFORNIA	SFR - 3BD/2.5BA (2058), ATT GAR (644), COV CONC (234)	12/19/2019	1	1	BETTIS	1				
484	050-350-004-000	1469	JONES	SFR - 2BD/2BA W/OFFICE (1837) ATT GAR ( 883) COV CONC (215)	11/20/2019	1	1	JAYNES	1				
485	052-070-091-000	5811	PERRY MASON	SFR 4BD/2BA (2287) ATT GAR (539) COV CON (113)	1/22/2020	1	1	ELLSWORTH	N/A				
486	054-060-006-000	5627	NEWLAND	SFR 4BD/3BA (1595) ATT GAR (535)	3/3/2020	1		SAVAGE	1				
487	053-140-043-000	1530	CRYSTAL	SFR 2BD/2BA & OFFICE (1599) ATT GAR (478) COV CON (143)	1/3/2020	1	1	PADGETT	1				
488	053-272-101-000	6016	FICKETT	SFR 2BD 2 1/2 BA (1839) ATT GAR (670) COV CON (190)	1/17/2020	1	1	GRAVISON	1				
489	055-150-018-000	442	APPLE	SFR - 3BD/2.5BA W/ BONUS ROOM (1944) ATT GAR (654) COV CON (297)	1/9/2020	1	1	HOYLE	1				
490	051-330-032-000	5830	YORKSHIRE	SFR - 3 BED, 2.5 BA (1935); ATT GAR (533)	2/20/2020	1	1	BURKETT	1				
491	055-120-096-000	5317	FOSTER	SFR 3BD/2BA (1553) ATT GAR (476) COV CON (24)	1/22/2020	1	1	BAUMAN	1				
492	055-120-064-000	482	WILLS	SFR 3BD/2BA (1946) ATT GAR (413) COV CON (81)	12/17/2019	1	1	HEBERT	1				
493	054-060-068-000	5630	NEWLAND	MFH 4BD/3BA W/ GAME ROOM (2662) COV CON (92)	12/12/2019	1	1	RODRIGUEZ	1				
494	050-040-127-000	1678	ASPEN	SFR (2533) UNCON (78) COV CON (733) ATT GAR (667)	2/18/2020	1	1	KIEFER	1				
495	053-250-050-000	1769	FOREST GLEN	SFR 3BD/3BA W/DEN/OFFICE (2336) ATT GAR (926) COV CON (157)	2/19/2020	1	1	GARCIA	1				
496	055-120-043-000	463	NEVER NEVER	SFR 3 BED 2 BA (1689) COV CON (461) ATT GAR (599)	2/6/2020	1	1	PREGLER	1				
497	055-060-038-000	147	SUTTER	MFH 2 BED 2 BA W/ DEN (1404)	12/3/2019	1	1	RICE	1				
498	050-220-044-000	6810	REXDALE	SFR 3BD/2BA (1776) ATT GAR (751) COV CON (439)	12/6/2019	1	1	SEAHOLM	1				
499	050-120-003-000	6952	PENTZ	SFR - 2BD/2BA W/DEN (1472) ATT GAR (336) COV CON (315)	12/20/2019	1	1	SUIHKONEN	1				
500	051-300-023-000	316	REDBUD	SFR 3BD/2BA (1445) COV WOOD DECK (82) ATT GAR (425)	1/3/2020	1	1	SLIGHTOM	1				
501	051-162-038-000	6290	GARDNER	MFH 2BD/2BA & DEN (1548)	12/18/2019	1	1	TYSON	1				
502	051-146-036-000	6380	HARVEY	MFH 2BD/2BA W/ DEN (1188)	2/28/2020	1	1	SELF	1				
503	053-190-017-000	1383	ELLIOTT	MFH 3BD/2BA (1836)	12/10/2019	1	1	WARREN	1				
504	050-220-044-000	6810	REXDALE	SFR - 2ND DWELLING(709) COV CONC (40)	12/6/2019	1	1	SEAHOLM	N/A				
505	055-090-046-000	166	WAYLAND	SFR 2BD/2BA (1215) COV CON (540)	3/31/2020	1		WILLIAMS	1				
506	052-011-056-000	6126	OLIVER	MFH 2BD/2BA & DEN (1455) ATT COV WOOD (68)	1/7/2020	1	1	WARD	1				
507	054-164-009-000	5561	CHERRY	SFR - 4BD/2BA (2270) ATT GAR (606) COV CON (447)	12/13/2019	1		THOMPSON	1				



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508	053-180-025-000	1545	SYLVAN	SFR 4BD/2.5BA (1675) ATT GAR (576) COV CON (348)	1/3/2020	1	1	VOYER	1				
509	055-290-070-000	5146	ROYAL CANYON	SFR 3BD/3BA (2127) ATT (520) COV CON (719) COV WOOD (34)	1/6/2020	1	1	LEWIS	1				
510	052-271-055-000	5402	HICKORY	SFR 4BD/4BA [2HALF] (2839) ATT GAR W/LOFT (1867) COV CON (368) COV WOOD (360)	3/5/2020	1	1	DERRICK	1				
511	050-051-026-000	7055	CLARK	MFH 2 BED 2 BA (1056)	12/3/2019	1	1	HUNTER	1				
512	053-190-074-000	5908	DEBBIE	SFR 3BD/2BA (2651) ATT GAR (721) BASEMENT (575) COV CON (443)	1/9/2020	1		WALLEN-MONNEY	1				
513	054-230-102-000	5650	PENTZ	SFR 2BD/2BA (1566) ATT GAR (528) COV CON (156)	12/19/2019	1	1	OMARY	N/A				
514	053-070-024-000	1030	FAIRVIEW	SFR 4BED 2 BA (2258) ATT GAR (598) COV CON (208) OPEN DECK (448)	1/8/2020	1	1	BLAKELY	1				
515	053-320-003-000	6107	VISTA KNOLLS	SFR 3 BED 2 BA (1845) ATT GAR (473) COV CON (158)	1/27/2020	1	1	GILLESPIE	1				
516	052-238-023-000	731	BUSCHMANN	SFR 2/2 + OFFICE (1438) ATT GAR (552) COV CON (626)	1/8/2020	1	1	HOWELL	1				
517	051-144-016-000	6328	DIAMOND	MFH 1BD/2BA W DEN (933)	1/16/2020	1	1	LYLE	1				
518	055-050-084-000	3530	NEAL	MFH 3BD/2BA (1967)	12/4/2019	1	1	RICE-SCHARF	1				
519	051-142-007-000	6373	DIAMOND	SFR 2 BED 2 BA +DEN (1220) ATT GAR (470) COV CON (447)	1/27/2020	1		OHLSON	1				
520	050-410-002-000	6224	SAWMILL	SFR 3 BED 4 BA (2492) COV CON (108) ATT GAR (600)	5/4/2020	1	1	WONG	1		OVER 125%		
521	051-162-069-000	925	BILLE	MFH 2BD/2BA (800)	12/6/2019	1	1	JENKINS	1				
522	051-220-041-000	5516	LONGVIEW	MFH 3BD/2BA (1526) COV WOOD (162)	12/3/2019	1	1	DIAMOND	N/A				
523	050-120-130-000	6904	ZENITH	SFR 3 BED 2 BA (1999) ATT GAR (671) COV CON (687)	1/13/2020	1		HAMM	1				
524	052-340-026-000	5458	MAYS	MFH - 2BD/2BA (1056)	12/13/2019	1	1	MAXWELL	1				
525	050-150-097-000	6534	KATHLEEN	MFH 2BD/2BA + DEN (1782)	1/7/2020	1	1	LILES	1				
526	055-112-087-000	5280	BUCKBOARD	MFH 3BD/2BA (1458)	12/23/2019	1	1	BURKHART	1				
527	055-280-031-000	5234	COUNTRY CLUB	SFR 2BD/2.5BA W/STUDY (1990) BASEMENT (492) ATT GAR (670) COV CON (252)	1/30/2020	1	1	ARRINGTON	1				
528	053-162-026-000	1379	MCCULLOUGH	SFR 2BD/1BA (900) COV CON (119)	12/13/2019	1	1	BRANCH	1				
529	053-011-061-000	1234	BILLE	MFH 2BD/1BA (756)	12/13/2019	1	1	PLA	N/A				
530	053-140-071-000	6157	ERIKA	SFR 2 BED 2 BA (1568) COV CON (90)	1/3/2020	1	1	SMITH	1				
531	050-420-016-000	1593	GATE	SFR 3BD/2BA W/OFFICE (2110) ATT GAR ( 734) COV CON (122)	4/24/2020	1	1	MITCHELL	1				
532	055-150-065-000	430	LIKENS	SFR - 3 BED, 2 BATH (1792) ATT GAR (1298) COV CON (314)	12/16/2019	1	1	MARLER	1				
533	050-082-069-000	1631	TIMBER WALK	MFH 2 BED, 2 BATH W/ DEN (1159)	12/10/2019	1	1	COOPER	1				
534	051-120-015-000	987	WAGGONER	SFR 3BD/3BA W/ DEN ( 2384) COV CONC (670)	1/16/2020	1	1	MCCLUNG	1				
535	053-210-009-000	5933	HAZEL	SFR 2BD/1BA (683) ATT GAR (200) UNCON UTILITY (144) COV CON (162)	7/16/2020	1		PLOWMAN	1				
536	050-150-039-000	1395	FOREST SERVICE	MFH 3BD/2BA (1458)	12/10/2019	1	1	BERNDT	1				
535	051-190-011-000	233	VALLEY VIEW	SFR 3BD/2BA (1906) ATT GAR (560) COV CON (1019)	WITHDRAWN			PERRY					1

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538	054-210-072-000	5697	FICKETT	SFR - 3 BED/2 BATH (1757), UNC LAUNDRY (144), ATT GAR (1109), COV CON (426)	3/17/2020	1	1	BOLIN	1				
539	053-260-089-000	1878	VINEYARD	SFR 3BD/2BA (1470) ATT GAR (472) COV CON (23)	12/19/2019	1	1	JORDAN	1				
540	050-340-031-000	6454	MOSS	SFR 2/2 +OFFICE (1170) ATT CARPORT (624) COV CON (40)	8/11/2020	1		JONES		1			
541	053-110-108-000	1072	MAPLE PARK	SFR 3BD/2BA + DEN (1997) ATT GAR (521) COV WOOD (91) COV CON (53) OPEN WOOD (112)	2/4/2020	1	1	SWENSON	1				
542	053-162-028-000	6013	LIBBY	SFR 2/2 +OFFICE (1170) ATT CARPORT (624) COV CON (40)	12/13/2019	1	1	MALLORY	1				
543	053-210-007-000	5936	HAZEL	SFR 2/1 (905) COV CON (118) COV WOOD (82) ATT GAR (312)	1/21/2020	1	1	BRUCKMAN	1				
544	054-202-048-000	5373	BREEZEWOOD	SFR 3BD/2BA + DEN (2077) ATT GAR (595) COV WOOD (180)	2/4/2020	1	1	CHINNOCK	1				
545	055-212-009-000	5278	S LIBBY	MFH 3BD/2BA (1431)	1/8/2020	1	1	VAN STAVERN	1			1	
546	055-530-029-000	5267	LAGUNA	SFR - 3 BED, 2.5 BATH (2207), COND BASEMENT (567), ATT GAR (884), COV CON (720)	12/20/2019	1		DUITSMAN	1				
547	054-030-028-000	5667	PARADISE	SFR 3BD/2BA (1569) COV CON (216)	2/24/2020	1	1	AUSTIN	1				
548	053-180-124-00	1680	FLICKER	MFH 3BD/2BA(1855)	1/16/2020	1	1	CROWDER	1				
549	053-190-096-000	5904	NUT TREE	SFR 3BD/2&1/2 BA (2669) ATT GAR (729) ATT CARPORT (840) COV CON (720)	4/15/2020	1	1	MARAN	1				
550	052-260-013-000	589	HILLCREST	MFH 2 BED/ 2 BATH +DEN (1512) COV WOOD DECK (243)	12/18/2019	1	1	WHITE	1				
551	055-140-002-000	5207	SCOTTWOOD	SFR - 2 BED, 2.5 BATH (1656), ATT CARPORT (560)	2/5/2020	1	1	BATTAGLIA	1				
552	053-161-092-000	6004	LIBBY	MFH 1 BED / 1 BATH + DEN (852)	12/31/2019	1	1	HALES	1				
553	051-173-029-000	1299	FAWNBROOK	MFH 2BD/2BA (1516)	2/3/2020	1	1	COOPER	N/A				
554	054-020-067-000	5751	PACHECO	MFH - 2 BED/ 2 BATH WITH DEN (1296)	12/17/2019	1	1	LEDBETTER	1				
555	051-151-061-000	922	WAGSTAFF	SFR - SECONDARY DWELLING 1 BED, 1 BATH (480) COV CON (129)	2/18/2020	1	1	FRUDDEN	N/A				
556	053-190-069-000	5909	DEBBIE	SFR - 2 BED, 2 BATH (1197) ATT GAR (580) COV CON (389)	1/9/2020	1	1	WALLEN-MONNEY	N/A				
557	050-280-001-000	6205	LANCASTER	MFH 3BD/2BA (1836)	1/29/2020	1	1	BRYANT	1				
558	050-220-050-000	6803	REXDALE	SFR 2/2 + DEN (1675) ATT GAR (462) COV CON (299)	1/9/2020	1		SMITH	1				
559	052-121-038-000	635	BOQUEST	MFH - 3BD/2BA (1715)	1/2/2020	1	1	KELLYCO DEVELOPMENT	N/A				
560	053-170-140-000	5984	SAWMILL	SFR 3BD/2BA (1225) ATT GAR (368) COV CON (351)	1/31/2020	1	1	HAVEL	1				
561	050-220-039-000	6790	REXDALE	SFR (1075) ATT GAR (526) COV CON (183)	1/7/2020	1	1	ANDERSON	N/A				
562	053-330-114-000	5815	DEERPARK	SFR 2 BED, 2 BATH +DEN (1334) ATT GAR (526) COV CON (266)	1/7/2020	1	1	LLAMAS	1				
563	050-340-005-000	6468	DORA LEE	MFH 2BD/1BA (891)	12/18/2019	1	1	ANGUS	1				
564	054-171-115-000	1533	MILLWOOD	MFH 3BD/2BA (1917)	4/23/2020	1	1	JORDAN	1				

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565	051-120-056-000	1001	WAGSTAFF	SFR 5BD/3.5BA (2774) ATT GAR (853) COV CON (160) COV WOOD DECK (265)	1/14/2020	1		VENTMIGLIO	1				
566	050-100-042-000	7171	BEVERLY	SFR 3 BED / 2.5 BATH (1491) ATT GAR (685) COV CON (574)	2/21/2020	1	1	FITZPATRICK	1				
567	055-240-003-000	5100	LIBBY	MFH 2 BD/2BA W DEN(1620)	1/10/2020	1	1	ROMERO	1				
568	053-011-007-000	6163	TWIN	SFR - SECOND DWELLING 1BD/1BA (756) COV CON( 238)	10/6/2023	1		TENNANT	N/A				
569	053-180-142-000	5892	CAMERON	SFR 3/2 +OFFC (1996) ATT GAR (771) COV CON (458)	1/16/2020	1	1	ANDERSON	N/A				
570	052-390-002-000	474	BILLE	SFR 2BD/2BA (1558) COV WOOD DECK (492)	2/13/2020	1	1	STROP	1				
571	050-200-152-000	1429	JUNIPER	SFR 2/2 +OFFC (1240) COV CON (44)	2/24/2020	1	1	ONSTEIN	1				
572	053-162-078-000	1371	MCCULLOUGH	SFR 1BD/1BA (1168) COV WOOD (273)				BRANCH					
573	052-032-052-000	5934	LARISSA	SFR 3/2 +DEN (2201) ATTGAR (430) OPEN WOOD DECK (184)	6/10/2020	1	1	RASMUSSEN		1			
574	050-220-067	6796	SYLMAR	MFH 2BD/2BA W DEN(1188)	2/3/2020	1	1	KEEL	N/A				
575	053-230-181-000	1696	CONNELL	SFR 4BD/2BA (2355) ATT GAR (667) COV CON (96) OPEN WOOD DECK (95)				R5 BUILDING COMPANY	N/A				
576	050-180-081-000	6631	DOLORES	SFR 3BD/2BA(1763) ATT GAR (617) COV CONC (459)	3/25/2020	1	1	ALDERSON	1				
577	053-012-029-000	6280	CLARK	SFR 3BD/2BA (2,237) ATT GAR (965)	2/11/2020	1	1	JUBILEE ON THE RIDGE	N/A				
578	051-300-040-000	5922	CRESTMOR	SFR 2/2 + DEN (1675) COV CON (349) ATT GAR (509)	2/12/2020	1	1	WAE LBROCK	1				
579	054-020-066-000	1324	NUNNELEY	SFR 3BD/2BA +OFFICE(MEETS BEDROOM DEF) (1966) ATT GAR + SHOP (761) COV CON (487)	1/13/2020	1	1	HINES	1				
580	051-072-051-000	595	ROBERTS	SFR 3 BED, 2.5 BATH (1496) ATT GAR (990) COV CON (630)	1/10/2020	1	1	LUNDY	1				
581	055-050-060-000	32	SUTTER	SFR 4 BED, 3 BATH (2480) ATT GAR (874) COV CON (732)	2/14/2020	1	1	DEPPE	1				
582	052-040-035-000	656	EDWARDS	SFR 2BD/2BA (1600) ATT GAR (800) COV CON (400) UNC. BSMNT (800)	3/30/2020	1	1	DORKA	1				
583	051-190-030-000	272	VALLEY VIEW	SFR 4 BED / 3.5 BATH (3067) ATT GAR (769) COV CON (480)				STAMPER					
584	052-241-012-000	5741	HOLLY	MFH 2 BED, 2 BATH +DEN (1836)	1/29/2020	1	1	AURENTZ	1				
585	054-210-034-000	5936	PENTZ	SFR 3 BED, 2 BATH (2260) ATT GAR (645) COV CON (558)	2/11/2020	1	1	LANDER	1				
586	053-170-104-000	1562	SAWPECK	MFH 3 BED, 2 BATH (1458)	12/20/2019	1	1	BENINI	1				
587	054-210-075-000	5870	PENTZ	MFH 3 BED, 2 BATH (1774)	2/13/2020	1		TODD	N/A				
588	052-390-035-000	6122	CLIFF	SFR 3 BED, 2 BATH (1844) UNC ATTIC (550) COV CON (665) ATT GAR (578)	1/29/2020	1	1	HAZELRIGG	1				
589	051-120-104-000	981	WAGGONER	SFR 4BD/3.5BA (3478?), UNCONDITIONED BASEMENT (1975?) ATT GAR (929) COV CON (1579)	4/16/2020	1	1	ROSS	1				
590	053-011-115-000	6121	TWIN	MFH 2BD/2BA W/ DEN (1027)	2/11/2020	1		HOHENTHANER	N/A				
591	053-011-115-000	6121	TWIN	SFR 2BD/2BA (1477) ATT GAR (1064) COV CON (485)	5/21/2020	1	1	HOHENTHANER		1			

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592	050-250-050-000	1892	STARK	SFR 1/1 (750) COV CON (28)	2/20/2020	1	1	GOBBA	N/A				
593	051-173-035-000	1295	FAWNBROOK	MFH 2 BED, 2 BATH (1026)	12/19/2019	1	1	ANGEL	N/A				
594	054-210-068-000	5691	FICKETT	SFR 3 BED, 2 BATH (1794) ATT GAR (472) COV CON (23)	3/17/2020	1		KEEL	N/A				
595	051-280-011-000	6667	EVERGREEN	SFR 2/2 +DEN (1699) ATT GAR (512) COV CON (295)	1/27/2020	1	1	DANLEY	1				
596	051-145-057-000	6332	OAK	SFR 2BD/2BA(960) COV WOOD(144) - MPRP BP22-00010 RAISED FNDTN MIRRORED ORIENTATION FRONT ENTRY COMP ROOF	9/26/2022	1	1	MOSS					
597	055-211-055-000	5227	CALIFORNIA	SFR 3 BED, 2 BATH (1525) ATT GAR (588) COV CON (252)	2/20/2020	1		KNAPP	1				
598	052-243-004-000	787	COLLEGE HILL	SFR 3BD/2BA (1260) ATT GAR (484) COV CONC (156)	3/13/2020	1	1	MADDOX	1				
599	051-151-059-000	887	THOMASSON	SFR 3BD/2.5BA W/ OFFICE (2237) ATT GAR (963) COV CON (256)	2/4/2020	1	1	HEIL	N/A				
600	051-190-020-000	180	VALLEY VIEW	SFR - 2 BED 2 BATH (820) ATT GAR (260) COV CONC (276) ADC MODEL D	12/9/2022	1	1	SPROLES					
601	053-140-032-000	1683	BILLE	SFR (1878) ATT GAR (665) COV CON (412)	1/9/2020	1	1	ETCHISON	1				
602	053-190-093-000	5935	LIBBY	MFH 2/2 +DEN (1642)	1/21/2020	1	1	MCMAHON	1				
603	053-132-069-000	1229	NUNNELEY	MFH 2B/2B (891)	2/6/2020	1	1	DESURE	1				
604	054-260-042-000	1786	DRENDEL	SFR 3BD/2BA (1689) ATT GAR (518) COV CON (72)	1/10/2020	1	1	BLISS	1				
605	050-310-003-000	6650	DOLORES	SFR 2BD/2BA (1092) ATT GAR (440) COV CON (40)	1/13/2020	1	1	COOPER	1				
606	051-171-088-000	1165	SAPPHIRE	SFR 2BD/1BA (816) ATT GAR (252)	1/21/2020	1	1	SCHULTEIS	1				
607	053-310-044-000	1856	CONIFER	SFR 4/2 (2004) ATT GAR (485) COV CON (427)	3/10/2020	1	1	DURAN	1				
608	051-260-023-000	262	PACIFIC	SFR - 2 BED, 2 BATH & DEN (1632), ATT GAR (710), COV CONC (338)	3/12/2020	1	1	LEMON	1				
609	053-272-045-000	5989	PENTZ	MFH 3BD/2BA (1836)	1/2/2020	1	1	HURT	1				
610	051-132-061-000	1230	SEVERNS	MFH 3BD/2BA (2478)	2/28/2020	1	1	SHIRLEY	1				
611	054-310-015-000	5512	NEWLAND	SFR 2/2.5 +OFFICE (2754) UNCON SPC (600) ATT GAR (348) COV CON (177)	4/6/2020	1	1	DAY	N/A				
612	054-310-003-000	5580	ANGEL	MFH 2BD/2BA (1836)	1/17/2020	1	1	HEINKE	1				
613	054-201-036-000	5337	EDGEWOOD	SFR 3B/2B (1200) ATT GAR (484) COV CON (452)	2/19/2020	1	1	MUTH	1				
614	053-260-058-000	1868	DEL RIO	SFR 3/3.5 (2694) ATTGAR (616) COV CON (699)	2/26/2020	1	1	BEARD	1				
615	052-380-039-000	642	CIRCLEWOOD	SFR 2B/2B (1895) ATT GAR (662) COV CON (323)	7/22/2020	1	1	GORSUCH		1			
616	055-270-031-000	2360	STEARNS	MFH 3 BED 2 BA (1893)	7/2/2020	1	1	MULLIN		1			
617	051-120-075-000	6650	WHITTALL	SFR 4B/2B (2107) ATT GAR (533) COV CON (96)	5/6/2020	1	1	PRICE		1			
618	053-230-133-000	1693	NUNNELEY	MFH 2B/2B (1306)	1/15/2020	1	1	MAYER	1				
619	052-031-035-000	441	VALLEY VIEW	SFR 2/2 (1213) COV CON (112) ATT GAR (494)	1/21/2020	1	1	BARTON	1				
620	054-090-044-000	5531	FLORAL	SFR 2BD/2BA (1135) ATT GAR (560) COV CON (390)	1/17/2020	1	1	DISIMONE	N/A		TRANSFERRED TO JT MARTIN		
621	052-272-015-000	469	GREEN OAKS	SFR 3BD/2&1/2BA (1648) ATT GAR (528) COV CON (85)	2/14/2020	1	1	VOIGT	1				

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622	052-272-015-000	473	GREEN OAKS	SECONDARY SFR 1BD/1BA (658) COV CON (300) ATT CAR (228)	2/14/2020	1	1	VOIGT	N/A				
623	050-210-078-000	1625	GRAYSTONE	SFR 4/2 (2166) ATT GAR (631) COV CON (720)	9/21/2020	1	1	SMITH		1			
624	052-031-115-000	5944	WOODSDALE	MFH 2/2 +DEN (1188)	2/6/2020	1	1	SANCHOU	1				
625	052-234-002-000	5625	BROOKSIDE	MFH 2B/2B (1198)	1/14/2020	1	1	WENDT	1				
626	050-110-020-000	7070	PENTZ	SFR 2 BED / 3 BATH (1455) ATT GAR (628) COV CON (158)	2/19/2020	1	1	NOBLE	1				
627	052-380-002	641	CIRCLEWOD	MFH 2B/2B(1455)	1/23/2020	1	1	MCINTYRE	1				
628	052-390-038-000	6092	CLIFF	SFR 4BD/3BA (2066) COV CON (105)	1/28/2020	1	1	BENSON					
629	052-225-013-000	5403	BLACK OLIVE	SFR 3 BED / 2 BATH (1529) COV CON (319)	4/28/2020	1	1	WILSON	1				
630	052-012-002-000	6172	RIPLEY	SFR 3BD/2BA (1360) ATT GAR (480) OPEN WOOD (413) COV CON (12)	2/10/2020	1	1	COLLIER	1				
631	055-040-005-000	5595	WILSON	SFR 3/2.5 (1966) ATT GAR (745) COV CON (436)	2/7/2020	1	1	HAWKINS	N/A				
632	053-320-018-000	6090	VISTA KNOLLS	SFR 2 BED, 2 BATH (1288) ATT GAR (510) COV CON (386)	10/14/2020	1	1	ERHARDT	1				
633	055-400-002-000	5280	SCOTTWOOD	MFH 2BD/2BA + DEN (1431)	2/6/2020	1		GIBSON	1				
634	053-110-031-000	1068	MAPLE PARK	MFH 2/2 +DEN (1068)	1/6/2020	1	1	TOOMEY	1				
635	053-300-047-000	1308	DEODARA	MFH 2 BED / 2 BATH (1660)	1/17/2020	1	1	CAMERON	N/A				
636	051-093-091-000	6274	FERN	SFR 1 BED / 1.5 BATH + DEN (1222) ATT GAR (469) COV CON (264) COV WOOD (236)	4/3/2020	1	1	MEDLIN	1				
636	055-160-050-000	4870	FOSTER	SFR 4BD/3&1/2BA (3217) ATT GAR (778) COV CON (1335)	WITHDRAWN			SCHOONER					1
638	050-370-008-000	1883	JUNE	SFR 2BD/2BA (1592) ATT GAR (600) COV CON (500) ATT UNC (320)	2/19/2020	1		LAFONTAINE	1				
639	053-050-044-000	958	CENTRAL PARK	MFH 2BD/2BA W/OFFICE (1458)	1/16/2020	1	1	MAYNARD					
640	051-220-097-000	495	BOAZ	SFR 3B/2B (1996) ATT GAR (771) COV CON (458)	2/6/2020	1	1	ANDERSON	N/A				
641	054-131-088-000	5706	SAWMILL	MFH 2BD/2BA W/OFFICE (1431)	2/6/2020	1	1	DAILEY	1				
642	052-250-043-000	508	TOWN	MFH 2BD/2BA W/OFFICE (1188)	1/16/2020	1	1	STIER	1				
643	053-240-036-000	1860	BILLE	MFH 3BD/2BA (1213)	1/15/2020	1	1	SANDSTROM	1				
644	050-250-006-000	1780	STARK	MFH 4B/3B (2296)	1/8/2020	1	1	KOEHLER	1				
645	053-090-008-000	6121	BERKSHIRE	SFR 3B/2B (1590) ATT GAR (574) COV CON	3/11/2020	1	1	ENGLISH	1				
646	055-080-052-000	98	LEWIS RANCH	SFR 3BD/3BA W/OFFICE (2407) ATT GAR (624) COV CON (404)	3/19/2020	1	1	ARTHUR	N/A				
647	052-032-036-000	536	PRIMROSE	SFR 3B/4B (2981) ATT GAR (532) COV CON (813)	3/16/2020	1		MUELLEERS	1				
648	050-290-018-000	1660	PAMELA	SFR 3BD/2BA (1895) ATT GAR (611) COV CON (342)	1/23/2020	1	1	KEVWITCH	1				
649	050-100-081-000	7100	PENTZ	SFR 3BD/2BA + DEN (2395) ATT GAR (1005) COV CON (469)	10/27/2020	1	1	DESMOND	N/A		NEED PROOF OF OWNERSHIP AS OF 11/8/2018		
670	051-060-041-000	0	FORTY OAKS	SFR (4B/4B (3692) ATT GAR (1230) COV CON (1269)	WITHDRAWN			DULBECCO	WILL DEPEND ON LOT MERGER				1

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651	055-090-068-000	3344	INSPIRATION	SFR 4BD/3.5 BA(3329) ATT GAR (785) COV CONC(620)	WITHDRAWN			JACOBSON					
652	051-190-050-000	187	VALLEY RIDGE	SFR 3BD/3BA (2260) ATT GAR (804) COV WOOD DECK (530)				LOWE		1			
653	053-240-057-000	1815	PAIGE	SFR 2 BED / 2 BATH + OFFICE (1380) ATT GAR (630) COV CON (108)	2/14/2020	1	1	HOLBROOK	1				
654	051-144-020-000	6376	DIAMOND	SFR - 2 BED, 2 BATH (1476), COV CONC (504)	2/14/2020	1	1	REYNOLDS	1				
655	052-070-073-000	5820	CRESTVIEW	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	2/13/2023	1	1	LUTSIK					
656	054-240-139-000	1849	MOSURE	SFR - 3 BED, 3.5 BATH (2839), ATT GAR (519), COV CONC ( 378)	3/30/2020	1	1	BARNARD	1				
657	055-080-047-000	87	MOSURE	SFR - 3 BED, 2 BATH (1800), ATT GAR (576)	10/26/2020	1		ARTHUR	1				
658	050-450-012-000	1637	PARADISEWOOD	SFR - 3 BED, 3 BATH (1670), ATT GAR (455), COV CONC (167)	5/12/2020	1		ESTUDIO VERDE HOMES	N/A	NA	NOT A SURVIVOR		
659	055-111-012-000	5291	SCOTTWOOD	SFR - 3 BED, 2 BATH (2190), ATT GAR (661), COV CONC (328), OPEN DECK (436)	3/25/2020	1	1	WARREN	1				
660	054-171-040-000	5529	EDGEWOOD	SFR - 2 BD, 2 BA W/ OFFICE (1396) ATT GAR (515) COV CON (102) COV WOOD (198) OPEN WOOD (84)	4/3/2020	1		SIMMONS	1				
661	051-250-134-000	409	GREEN OAKS	SFR - 3 BED, 2 BATH (2622), ATT GAR (1230), COV CONC (751)	3/23/2020	1		ULMER	1				
662	051-280-004-000	6662	EVERGREEN	SFR - 2 BED, 1.5 BATH (1539), COV CONC (40)	5/29/2020	1		STONEMAN		1			
663	053-150-125-000	6155	ALAMO	SFR - 3 BED, 2 BATH (1454) ATT GAR (427)	4/6/2020	1	1	TAYLOR/RUTTAN	1				
664	055-060-039-000	149	SUTTER	SFR - 1 BED, 1 BATH (829), UNCOND AREA (280), COV WOOD (180), UNCON SUNROOM (101)	2/24/2020	1	1	ADAMS	1				
665	052-070-084-000	431	NADENA	SFR - 3 BED, 2.5 BATH (2365), ATT GAR (527), COV CON (826)	4/9/2020	1	1	CHASTAIN	1				
666	051-330-042-000	300	PINEWOOD	SFR 4BD/2.5BA(2758) ATT GAR(926) COV CON(685)	11/15/2022	1	1	ZHILKO					
667	051-092-026-000	751	BILLE	SFR 2BD/2BA(1235) COV CON(24)	11/3/2020	1	1	BLAISE	1				
668	055-050-021-000	190	SUTTER	SFR 1BD/1BA (792) UNF UNC (364)	5/15/2020	1		MORENO		1			
669	054-172-046-000	5446	EDGEWOOD	SFR - 2 BED, 2 BATH W/ OFFICE (1690), SUNROOM (398), ATT GAR (536), COV CON (576)	5/29/2020	1	1	JONES					
670	055-150-035-000	449	APPLE	SFR 3BD/2.5BA (1730) ATT GAR (656) COV CONC 230)	1/9/2020	1	1	DAVIS	1				
671	050-040-134-000	1671	HOLLYBROOK	SFR 3BD/2.5BA W/ OFFICE(2668) AT GAR(835) COV CONC(1050)	5/19/2020	1	1	THURSTON	1		OVER 125%		
672	055-120-054-000	490	SATICOY	SFR 2/2 (976) ATT GAR (352) SCRNR POR (384) COV CON (96)	7/2/2020	1	1	BARKER		1			
673	055-040-054-000	5586	MELLOWOOD	SFR 2/2 (1473) ATT GAR (707) COV CON (598)	2/26/2020	1	1	AYERS					
682	054-202-033-000	5388	EDGEWOOD	MFH 2/2 (2038)	2/5/2020	1		ANDERSON	1				1
675	053-150-077-000	6081	SAWMILL	SFR 3/2 (1863) ATT GAR (1251) COV CON (597)	7/22/2020	1	1	WETMORE		1			
676	055-130-050-000	569	RUSTIC	MFH 2/2 (891)	1/17/2020	1	1	SWOPES	1				
677	050-220-008-000	6561	WHEELER	MFH 2/2 W/DEN (1512) ATT COV DECK (36)	2/26/2020	1	1	WEAVER	1				

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678	050-220-105-000	6805	LARSEN	SFR 3/2.5 + OFFICE (2530) ATT GAR (799) COV CON (592)	3/11/2020	1	1	COOPER	N/A				
677	053-011-062-000	1230	BILLE	SFR 3/2 (1618) ATT GAR (567) COV DECK (368)	WITHDRAWN			RECONSTRUCTION AND RECOVERY ADVISORS	N/A				1
680	054-152-096-000	5565	FOLAND	SFR 3B/2B (1582) ATT GAR (452) COV CON (243)	1/30/2020	1	1	RANUIO	1				
681	052-273-006-000	5374	FILBERT	SFR - 2 BED, 2 BATH + OFFICE (1500) ATT GAR (454) COV CON (293)	3/12/2020	1	1	STUESSER	1				
682	055-020-119-000	310	BURDEN TERRACE	SFR 3/2.5 (2382) ATT GAR (1172) COV WOOD DECK (904)	2/7/2020	1	1	UPTON	1				
683	054-320-008-000	2170	STEARNS	SFR 3/2.5 (2313) COV CON (634) ATT GAR (402) OPN WD DECK (402)	2/13/2020	1	1	OLSON	1				
656	051-260-026-000	5383	ORCHARD	SFR 3 BED, 3 BATH (1518) ATT GAR (776) COV CON (299)	VOID WITHDRAWN			APPLE	1				1
685	051-230-027-000	4644	SKYWAY	SFR 1BD/1&1/2BA (1003) ATT GAR (469) COV CON (156)	1/28/2020	1	1	THOMAS	1				
686	050-200-105-000	6560	CLARK	MFH 3/2 (1960)	1/17/2020	1	1	MCLAUGHLIN	1				
687	050-230-070-000	6685	SUMMERWOOD	SFR 5/3.5 (3286) ATT GAR (1059) COV CON (1168)	3/18/2020	1	1	REBENTISCH	1				
688	050-120-100-000	6909	LUNAR	SFR 3/2.5 (1693) ATT GAR (269) COV CON (280)	5/6/2020	1	1	KELLOGG		1			
689	051-132-091-000	1264	DEER	MFH 2BD/2BA + DEN (1548)	1/27/2020	1	1	ST. GEORGE	1				
690	053-260-041-000	1876	DEL RIO	MFH 2BD/2BA + DEN (1548)	1/17/2020	1	1	JACOBS	1				
691	051-104-026-000	6563	MONTNA	SFR 4/2.5 (2820) ATT GAR (908) COV CON (220) COV WOOD DECK (1234) UNCON BAS (865) OPN WOOD DECK (72)	2/11/2020	1		MORGAN	1				
692	055-050-086-000	113	FOUNTAIN	SFR 2/2 (2150) ATT GAR (576) COV CON (144)	5/5/2020	1	1	POWELL	1		OVER 125%		
658	054-230-124-000	5507	ROCKFORD	SFR 4 BED / 2 - HALF BA (5520) ATT GAR (2135) COV CON (667)	WITHDRAWN			TEETER	1		over 125%		1
694	055-130-110-000	5181	FOSTER	SFR 5BD/4BA(3524) ATT GAR (932)	5/12/2020	1	1	BAKER	1				
695	050-110-024-000	1742	SUNRISE	MFH 2BD/2BA (1012)	1/23/2020	1	1	RAGAN	1				
696	050-340-022-000	6419	DORA LEE	MFH 3 / 2 (1773)	3/5/2020	1	1	TAYLOR	1				
697	051-071-087-000	6306	WAGSTAFF	SFR 3BD/2BA(1437) ATT GAR (651) COV CONC (348)	2/25/2020	1		KIDDER	1				
698	053-150-129-000	6183	OPAL	SFR 3BD/2BA(1440) COV CONC(908)	4/15/2020	1	1	INMAN	1				
699	055-080-041-000	209	RIVENDELL	SFR 4BD/3BA(2020) ATT GAR (816) COV CONC (771)	5/27/2020	1	1	HANAWALT					
700	055-080-041-000	209	RIVENDELL	SFR - 2ND DWELL (606)	5/27/2020	1	1	HANAWALT	N/A				
701	055-111-029-000	5229	SCOTTWOOD	SFR 2BD/2BA (1315) COV CONC(144)	5/12/2020	1	1	ANDERSON	1		OVER 125%		
702	054-310-031-000	5568	HEAVENLY	MFH 2BD/2BA (1512)	1/29/2020	1	1	STEVENS	1				
703	054-181-043-000	5501	LIBBY	MFH 2BD/2BA (1296)	1/17/2020	1	1	SWANGLER	N/A				
704	050-100-106-000	1722	PINEY RIDGE	MFH 2BD/2BA (1296)	2/13/2020	1	1	SWANGLER	N/A				
705	055-070-030-000	500	CHAPARRAL	SFR - 5 BED, 5 BATH W/ OFFICE (4626), ATT GAR (816), COV CONC (216), COV WOOD (386)	3/18/2020	1	1	HALL	1				
706	054-080-035-000	1300	STORY BOOK	SFR - 2 BED, 2 BATH W/ OFFICE (1397), ATT GAR (393), COV CON (26)				SALSBURY					

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707	055-240-014-000	5114	EDGEWOOD	SFR 3BD/2.5BA(1826) ATT GAR (780) COV CONC (913)	6/9/2020	1	1	CRAFT	1				
708	053-330-145-000	5790	DEANNA	SFR - 3 BED, 2 BATH (1449), ATT GAR (605), COV WOOD (34), OPEN WOOD (43)	4/3/2020	1	1	KAIN	1				
709	053-162-060-000	1380	ORPUT	MFH 2/2 W DEN (1599)	1/23/2020	1	1	COMANDATORE	N/A				
710	053-021-056-000	918	BILLE	MFH 2BD/2BA + STUDY (1836)	3/6/2020	1	1	OWEN	1				
711	050-060-065-000	6773	MOORE	MFH 3BD/2BA (1493)	1/14/2020	1	1	LAWSON	N/A				
712	054-050-088-000	463	ESPING	MFH 2B/2B W/DEN (1890)	3/16/2020	1	1	ESPING	1				
713	053-260-097-000	6095	PENTZ	SFR 2BD/2BA COV CON (554) ATT GAR (576) ATT GAR (527)	4/14/2020	1	1	COTA	1				
714	054-152-065-000	5570	FOLAND	MFH 2BD/2BA (966)	1/16/2020	1	1	MIRANDA	1				
715	055-040-020-000	120	ROE	MFH 2BD/2BA W/ OFFICE (1188)	1/30/2020	1	1	DEREGO	1				
716	055-020-049-000	125	ROE	SFR 3BD/2BA (1550) ATT GAR (441) COV CON (71)	3/16/2020	1	1	PENA	1				
717	054-310-006-000	5574	ANGEL	MFH 2BD/2BA (1275)	3/4/2020	1	1	BOTHELIO	1		LOST HOME IN APPLE TREE VILLAGE MHP		
718	053-170-107-000	1571	SAWPECK	SFR 3 BED/ 2 BATH (1320) ATT GAR (240) COV CON (16)	4/10/2020	1	1	GLUCKSMAN	1				
719	050-330-009-000	6508	ROCKY	SFR 3BD/2BA (1558) COV CON (48) ATT GAR (516)	2/12/2020	1	1	BOLIN	1				
720	055-120-090-000	5288	FARVIEW	SFR 3BD/3BA (2037) ATT GAR (516) COV WOOD DECK (80) OPEN WOOD DECK (690)	3/10/2020	1	1	SBRAGIA	1				
721	052-260-131-000	624	HILLCREST	MFH 1BD/1BA + DEN (840)	1/31/2020	1		COVER	N/A				
722	053-150-144-000	6171	OPAL	SFR 2BD/2BA (956) ATT GAR (546) COV CON (660)	1/31/2020	1	1	UMPHENOUR	1				
723	050-350-029-000	1459	JONES	MFH 3BD/2BA (1836)	1/29/2020	1	1	TINGLEY	1				
724	053-023-018-000	6101	BOWMAN	SFR 3BD/2BA (1870) ATT GAR (1310) COV CON (1426)	3/18/2020	1	1	ROSE	N/A		NEED PROOF OF LOSS		
725	054-080-048-000	5530	GARDEN VIEW	MFH 3BD/2BA (1836)	1/29/2020	1	1	RIVERA/GARCIA	1				
726	051-132-123-000	6453	ROCKY	MFH 3BD/2BA (1666)	2/28/2020	1	1	HEKMAN	1				
727	055-140-034-000	701	KINSEY	MFH 4BD/2BA (1782)	1/29/2020	1	1	HEDMAN	1				
728	051-082-033-000	650	ROBERTS	SFR 3BD/2BA (2232) ATT GAR (1196) COV WOOD DECK (431)	2/14/2020	1	1	GORE	1				
729	054-152-026-000	5539	FOLAND	SFR 3B/2B (1360) ATT GAR (418) COV CON (80)	5/8/2020	1	1	CASTALDO	1		RENTAL		
730	050-300-031-000	6695	BROOK	SFR 2BD/2BA (1123) ATT GAR (507) COV CON (66)	2/4/2020	1	1	BOLIN	1				
731	054-182-086-000	1487	DOTTIE	SFR 3BD/2BA (1360) ATT GAR (418) COV CON (80)	2/26/2020	1		CASTALDO	N/A		RECEIVED GRANT ALREADY		
732	051-120-101-000	935	WAGGONER	SFR 3BD/2BA(1652) ATT GAR(624) COV CON(108) SLAB FOUNDATION HIP ROOF - MP SEQUOIA	5/12/2022	1	1	CORNERSTONE DEVELOPMENT GROUP LLC					
733	051-091-058-000	6268	OLIVER	SFR 2BD/2BA W/STUDY (1201) COV CON (466) ATT GAR (423)	4/6/2020	1	1	BALTIERRA	N/A		RECEIVED GRANT ALREADY		
734	051-171-043-000	1141	BILLE	SFR 2BD/2&1/2BA (1598) ATT GAR (502) COV CON (479)	3/10/2020	1	1	MUNSTERMAN	1				



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735	051-102-045-000	6545	ROCKY	SFR 3BD/3BA W/OFFICE & LOFT (2293) ATT GAR (795) COV CON (509) COV WOOD (236)	2/27/2020	1	1	ROSE	1				
736	051-071-046-000	580	ROBERTS	SFR 3BD 2BA & 2 HALF BA (1794) COV CON (286) ATT GAR (948)	4/3/2020	1	1	JONSSON	1				
737	050-220-116-000	6820	LUNAR	SFR 2BD/1.5BA (1577) COV WOOD (405) COV CON (128) ATT GAR (795)	4/30/2020	1	1	BAIRD		1			
738	051-145-062-000	1209	SNOWFLAKE	MFH 3BD/2BA (1215)	4/2/2020	1	1	SHERMAN	1				
739	055-290-093-000	5291	PENTZ	SFR 1BD/1BA W/ DEN (798) ATT GAR (786) COV CON (268)	4/6/2020	1	1	JONES	N/A				
740	050-040-081-000	7182	CLARK	SFR - 2 BED, 2 BATH (1196), ATT GAR (463), COV WOOD (152)	4/29/2020	1	1	MYERS		1			
741	050-450-011-000	1645	PARADISEWOOD	SFR 2 BED 1 BA (780)	5/12/2020	1		ESTUDIO VERDE HOMES	N/A	NA	NOT A SURVIVOR		
742	053-170-174-000	1640	YOUNG	SFR 3 BED 2 BA + DEN (1844) ATT GAR (671) COV CON (992)	6/9/2020	1	1	GARNIER		1			
743	055-440-024-000	5132	FEATHER ROCK	SFR 3BD/3BA + DEN (2766) ATT GAR (887) COV CON (464)	7/22/2020	1	1	SCOTT	N/A		BOUGHT AFTER FIRE		
744	054-100-006-000	985	BELLA VISTA	MFH 3BD/2BA	2/12/2020	1	1	COLGAN	1				
745	055-040-038-000	160	ROE	SFR 3BD/3BA (2426) COV CON (199) COV WOOD (146) ATT GAR (753)	5/12/2020	1	1	KERN		1			
746	053-011-097-000	6160	KOENIG	MFH - 3 BED 2 BATH (1167)	12/7/2022	1	1	ARELLANO					
747	054-090-031-000	5532	DEL MONTE	SFR - 1 BED, 1 BATH (970) ATT GARS (1130) COV WOOD DECKS (354)	5/13/2020	1		GARVIS	1				
748	051-092-051-000	723	BILLE	SFR 3 BED/3BA (3058) CRPRT (830) COV CON (408) UNCND SUNROOM (507)	12/18/2019	1	1	SWANGLER	1				
750	051-146-045-000	6371	TABERNACLE	MFH 2B/2B (1512)	VOID WRONG ADDRESS			KNAUS	N/A		LOST 6381 TABERNACLE		1
750	051-146-043-000	6381	TABERNACLE	MFH 2 BED / 2 BATH + DEN (1512)	2/28/2020	1	1	KNAUS	1				
751	053-180-145-000	1612	SYLVAN	MFH 3 BED 2 BA (1173)	2/4/2020	1	1	ALPHA OMEGA INVESTMENT	N/A				
752	054-192-067-000	1437	HARDIE	MFH 2 BED / 2 BATH (1548)	2/28/2020	1	1	RUNNELLS	1				
753	053-370-013-000	1531	ROSEMARY	MFH 3BD/2BA (1836)	2/11/2020	1	1	CAMPBELL	1		LOST PROPERTY IN MAGALIA		
754	054-010-067-000	5657	CATHY	SFR 3BD/2BA(1710) ATT GAR(464) COV CON(187)	9/9/2021	1	1	MAKOVSKY					
748	051-082-055-000	743	ASHLAND	SFR 3BD/2BA (1804) ATT GAR (605) COV CON (162) COV WOOD (345)	PERMIT WITHDRAWN			FRANCO	1				1
756	055-261-016-000	5379	HARRISON	SFR - 2BD/3BA + OFFICE (1731), ATT GAR (523), COV CONC (559)	WITHDRAWN			ROZELL			NEED PRROF OF OWNERSHIP 11/8/2018		1
757	052-011-039-000	710	SUNSET	SFR 3 BED 2 BA (1798) UNC BASEMENT (570) ATT GAR (669) COV CON (362) OPN WD DEK (358)	3/20/2020	1	1	JOHNSTON	1				
758	050-070-049-000	1419	TOWHEE	MFH 2B/2B (984)	3/13/2020	1	1	LYONS	1				
759	053-011-043-000	1186	BILLE	MFH 2B/2B W/DEN (1431)	3/10/2020	1	1	BRODY	1				
760	053-200-047-000	1425	SLEEPY HOLLOW	SFR 2BD/2&1/2 BA (1426) ATT GAR (539) COV CON (659)	7/16/2020	1	1	NEVES		1			

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761	054-010-115-000	5792	CLARK	SFR 2BD/1BA (821) COV WOOD (54) COV CON (1185) ATT GAR (310)	6/17/2021	1	1	A-1 ULOCK MINI STORAGE	N/A		COMMERCIAL - NOT PRIMARY		
762	054-152-026-000	5535	FOLAND	SFR 2BD/1BA (873) COV CON (1185) COV WOOD (54) ATT GAR (310)	4/20/2020	1		CASTALDO	N/A		RECEIVED GRANT ALREADY		
763	054-152-026-000	5535	FOLAND	SFR 2BD/1BA (821) COV WOOD (54) ATT GAR (310) COV CON (1185)	4/20/2020	1		CASTALDO	N/A		RECEIVED GRANT ALREADY		
764	051-151-063-000	8093	SKYWAY	MFH 2BD/2BA + DEN (1728)	3/24/2020	1	1	MURATA	1				
765	054-171-061-000	1212	LURENA	MFH 2BD/2BA (1642)	4/2/2020	1	1	TAYLOR	1				
766	050-430-012-000	1825	APPLE VIEW	SFR 3BD/2.5 BA (1862) ATT GAR (647) COV CON (547)	2/18/2020	1	1	BERG	1		LOST PROPERTY AT 700 TWILIGHT CT		
767	054-151-024-000	1064	PEARSON	MFH 3 BED / 2 BED (1836)	3/13/2020	1	1	ELLIS	1				
768	050-390-023-000	1668	GATE	SFR 3 BED, 2 BATH (1557) ATT GAR (490) COV CON (272)	4/14/2020	1	1	TYLER	1				
770	055-070-026-000	5031	FOSTER	MFH 2 BED, 2 BATH W/DEN (1296)	2/5/2020	1		BUNCH	1				1
770	052-242-033-000	5732	SHADY	SFR 2 BED / 2 BATH W/ STUDY (1508) ATT GAR (406) COV CON (94)	6/4/2020	1	1	KLUNGTVET			OVER 125% NVPG YES		
771	053-300-028-000	5785	KENGLO	SFR 2 BED 2 BA + DEN (1497) ATT GAR (550) COV CON (907)	6/5/2020	1	1	LEGG	N/A		BOUGHT AFTER FIRE		
772	050-230-022-000	6676	SHAY	SFR - 3 BED, 2 BATH W/ LOFT (1952), COV WOOD DECKS (1140)	3/11/2021	1	1	COOK	1		OVER 125%		
773	051-190-003-000	293	VALLEY VIEW	SFR 3BD/3BA (2581) ATT GAR (564) COV WOOD (917) COV CON (182)	3/26/2020	1	1	WALKER	1				
774	054-210-104-000	5724	CHANEY	SFR 4 BD 2 & (2)1/2HALF BA (2154) ATT GAR (562) COV CON (629)	3/20/2020	1	1	KEVWITCH	1		LOST PROPERTY AT 5711 CHANEY		
775	051-144-045-000	6390	DIAMOND	SFR 3BD/2.5BA(1904) ATT GAR(658) COV CON(634)	6/2/2020	1	1	CROWN		1			
779	052-032-047-000	436	VALLEY VIEW	SFR 3BD/2BA W/BONUS AREA (2217) COV CON (362)	PERMIT WITHDRAWN			MULFORD			LOST 6211 FORGOTTEN WAY		1
777	050-040-085-000	1615	RAYLINN	MFH 2BD/2BA + DEN (1188)	3/13/2020	1	1	SORENSEN	1				
778	052-320-002-000	581	CIRCLEWOOD	SFR - 2 BED, 2.5 BATH + OFFICE (1680) ATT GAR (720) COV CONC (360)	3/31/2020	1	1	TWEEDIE	1				
778	051-250-119-000	310	STARLIGHT	SFR 3BD/2.5BA (2591) ATT GAR (663) COV WOOD DECK (170) OPEN WOOD DECK (187)	PERMIT WITHDRAWN			PEEK			WITHDRAWN		1
780	054-163-005-000	5591	BUTTE VIEW	MFH 3BD/2BA (1911)	3/12/2020	1	1	CAMPBELL	1				
781	054-260-054-000	2403	STEARNS	SFR 3 BED / 2 BATH (1470) ATT GAR (749) COV CON (348)	2/20/2020	1	1	AUSER	1				
782	050-430-008-000	1801	APPLE VIEW	SFR 2BD/3BA (1688) COV CON (72)	3/30/2020	1		BOWDY	1		LOST 7185 CLARK		
783	051-132-037-000	8466	SKYWAY	MFH 2BD/2BA+DEN (1782)	3/9/2020	1	1	VOLLMER	1				
784	051-093-070-000	6296	GRAHAM	MFH 2BD/2BA+DEN (1188)	3/13/2020	1		GOETZ	1				
785	051-260-044-000	249	PACIFIC	SFR 4BD/2.5BA (2500) ATT GAR(883) COV CON (985)	5/19/2020	1	1	TREVINO		1			
786	053-162-030-000	1347	BRILL	SFR 3BD/2BA (1344) ATT GAR (480) COV CON (140)	5/6/2020	1	1	WINSLOW	1		2nd property		
787	052-080-047-000	797	LUTHER	MFH 1 BED 2 BA + DEN	2/13/2020	1	1	FALKENSTROM	1				
788	051-190-112-000	205	VALLEY VIEW	SFR 4BD/4.5BA (3957) ATT GAR (758) COV CONC (1374)	4/17/2020	1	1	MILLER	1				

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789	052-390-046-000	425	CASTLE	SFR 2BD/2BA (1075) ATT GAR (526) COV CON (183)	3/4/2020	1	1	CASEY	1				
790	053-161-046-000	1497	MOON	MFH 3 BED / 2 BATH (1548)	3/4/2020	1	1	NIXON	1				
791	051-082-028-000	6336	OLIVER	MFH 3 BED / 2 BATH (2482)	2/28/2020	1	1	WOLFE	1				
792	053-320-040-000	6102	MAXWOOD	MFH 3 BED / 2 BATH W/ OFFICE (1512)	2/13/2020	1	1	ROBERTS	1				
793	051-162-063-000	6221	POSEY	MFH - 2 BED / 2 BATH W/ DEN (1692)	2/13/2020	1	1	MCFARLAND	N/A				
794	054-165-004-000	5586	CHERRY	MFH 3B/2BA W/ DEN (1854)	3/10/2020	1	1	OLSZEWSKI	1				
795	053-170-115-000	6050	MAXWOOD	MFH 3B/2B (1876)	2/25/2020	1	1	SOUZA	1				
796	052-160-014-000	779	WILLOW	MFH 2BD/2BA + DEN (1596)	2/18/2020	1	1	ARMPFIELD	1				
797	051-072-055-000	6211	WAGSTAFF	SFR 2 BED / 2 BATH W/ DEN (1341) ATT GAR (879) COV WOOD DECK (170) COV CONC (96)	6/8/2020	1	1	MITTAG					
798	050-040-071-000	1612	WALNUT	SFR 2BD/2BA (1120) ATT GAR (484) COV CON (64)	2/25/2020	1	1	GIENGER	N/A		RECEIVED GRANT ALREADY		
799	055-170-033-000	810	BIG SKY	MFH 2BD/2BA + OFFICE (1188)	4/10/2020	1	1	HALL	1				
800	055-112-009-000	830	ROE	SFR 4B/2.5B (1954) ATT GAR (528) COV CON (471)	4/1/2020	1	1	LEROSSIGNOL	1				
801	055-410-023-000	96	GRINDING ROCK	MFH 3BD/4BA (1728)	3/25/2020	1	1	HAWKINS	1				
802	054-192-065-000	1424	WOLF	MFH 2BD/2BA (1620)	5/4/2020	1	1	MEYER	1				
803	053-170-103-000	1566	SAWPECK	MFH 2BD/2BA (1548)	3/18/2020	1	1	MORRIS	1				
804	054-171-101-000	5461	EDGEWOOD	MFH 3BD/2B W/GREAT ROOM	4/6/2020	1	1	NELSON	1				
805	051-152-011-000	960	THOMASSON	MFH 2BD/2BA W/ DEN & GREAT ROOM (1836)	4/9/2020	1	1	TROXEL	1				
806	055-261-045-000	2211	THORNBURG	MFH 2BD/2BA W/DEN (1620)	3/6/2020	1	1	GOWAN	1		AGREEMENT OF SALE IN 2006 DEED IN 2019		
807	050-040-100-000	1666	GINNY	MFH 2BD/2BA + DEN (1674)	4/3/2020	1	1	PETERSON	1		ALSO OWNS 1867 DEAN		
808	053-060-010-000	6185	GREENWOOD	MFH - 2BD/2BA W/STUDY (1620)	3/5/2020	1	1	JAIN	1		LOST 5975 MAXWELL #25		
809	055-130-039-000	5052	FOSTER	MFH 2BD/1BA (852)	3/4/2020	1	1	HERRING	1				
810	051-190-098-000	223	SKY OAKS	SFR 4BD/3BA (2744) ATT GAR (1237) COV CON (245) UNC UNF (880)	8/3/2020	1	1	PREST	1				
811	053-260-066-000	1872	DEL RIO	MFH 3BD/2BA (2039)	3/2/2020	1	1	OLSHAK	1				
812	051-380-001-000	5929	YORKSHIRE	SFR 3BD/2BA (1840) ATT GAR (1059) OPN WOOD (341) COV CON (54)	WITHDRAWN			HIVALE		1			1
813	053-132-047-000	1265	NUNNELEY	SECONDARY DWELL SFR - 1BD/1BA (600) ATT GAR (320) COV CON (85)	8/4/2020	1	1	PETERSON	N/A				
814	053-132-047-000	1263	NUNNELEY	SFR 4BD/2BA (1662) ATT GAR (607) COV CON (48)	8/4/2020	1	1	PETERSON	1				
815	050-120-083-000	1867	DEAN	SFR 3BD/3&1/2BA (3079) ATT GAR (687) COV CON (774)	12/8/2020	1		PETERSON	1		2ND PROPERTY		
816	052-031-056-000	574	CASTLE	MFH - 3BD/2BA (2043)	3/3/2020	1	1	MORENO	1				
817	050-082-056	1600	TIMBER	MFH 2BD/2BA(1258)	4/6/2020	1	1	JOHNSTON	1				
818	050-340-035-000	1377	WAGSTAFF	MFH 2BD/2BA (781)	3/12/2020	1	1	FLYNN	1				
819	052-110-020-000	479	BOQUEST	MFH 2 BED 2 BA + DEN (1173)	4/2/2020	1	1	ENGLAND	1				
820	050-040-135-000	1655	HOLLYBROOK	MFH 3 BED 2 BA (2038)	3/9/2020	1		SNYDER	1				

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821	050-180-033-000	1549	WEST	SFR 3BD/2BA W/ DEN (1857) ATT GAR (568) COV CON (286)	4/28/2020	1	1	SANCHEZ	N/A		BOUGHT AFTER FIRE		
822	050-120-087-000	1939	DEAN	SFR 2BD/3BA (2196) ATT GAR (1196) UNCOND (2158) COV CON (1606)	4/30/2020	1	1	LEDBETTER		1			
823	051-040-005-000	6659	WOODLAND	SFR 4BD/3BA (2366) COV CON (786) COV WOOD (151) ATT GAR (578)	3/24/2020	1	1	BOCKS	1				
824	051-163-013-000	6244	POSEY	SFR 2BD/2BA W/DEN (2005) ATT GAR (576) COV CON (523)	4/2/2020	1	1	LAWSON	1				
825	051-092-010-000	6235	GRAHAM	SFR 2BD/2BA (1272) ATT GAR (300) COV CON (309)	5/11/2020	1	1	BRIELLE		1			
826	054-131-007-000	5733	LOCUST VALE	MFH 2BD/2BA + DEN (1548)	3/11/2020	1	1	SWYERS	1				
827	050-040-123-000	7159	PENTZ	SFR 3BD/2BA (1724) ATT GAR (473) COV CON (300)	4/7/2020	1	1	THOMSEN					
828	052-225-014-000	5381	BLACK OLIVE	MFH 3BD/2BA (1431)	5/21/2020	1	1	CAUNTAY	1				
829	053-210-066-000	1432	GORDON	MFH 2BD/2BA (960)	3/13/2020	1	1	LEDDY	1				
830	052-310-009-000	5888	OAKMORE	SFR 3BD/2BA(2-1/2BA) (2062) ATT GAR (792) COV CON (277) WOOD DECK (100)	6/18/2020	1	1	THOMSON		1			
831	052-024-077-000	650	SUNSET	SFR 2BD/2BA (1090) ATT GAR (430) COV CON (686)	4/21/2020	1	1	GREEN	1				
832	050-040-078-000	1611	WALNUT	MFH 2BD/2BA + DEN (1188)	3/30/2020	1	1	GRAZULIS	1				
833	050-140-022-000	1552	ADAMS	MFH 2 BED 2 BA+ DEN (1674)	4/3/2020	1	1	BURROWS / CORDON	1				
834	050-290-014-000	1663	PAMELA	MFH 2BD/2BA W/DEN (1512)	5/4/2020	1	1	CRIPPEN	1				
835	053-290-026-000	6254	JOHNSON	MFH 2BD/2BA W/DEN (1512)	3/18/2020	1	1	HANSEN	1				
836	050-180-099-000	1600	WAGSTAFF	MFH 3BD/2BA (2038)	3/18/2020	1	1	BROWN	1				
837	052-380-030-000	634	CIRCLEWOOD	MFH 3BD/2BA (1843)	4/21/2020	1	1	BUTTE CO LAND COMPANY	N/A		BOUGHT AFTER FIRE		
838	055-050-053-000	86	BLUE JAY	MFH 2BD/2BA + DEN (1296)	4/3/2020	1		LASSEN GROUP LLC	N/A		BOUGHT AFTER FIRE		
839	054-171-121-000	5541	EDGEWOOD	MFH 2BD/2BA W/DEN (1431)	4/10/2020	1	1	MONIZ	1		MEMORANDUM OF AGREEMENT OF SALE 2005		
840	053-150-157-000	6157	SAWMILL	2ND DWELLING - MFH 1BD/1BA (544)	6/3/2020	1	1	DENNIS	N/A				
841	051-132-090-000	1269	DEER	MFH 2BD/1BA (756)	6/10/2020	1	1	KENNEDY					
842	054-260-030-000	1907	DRENDEL	MFH 3BD/2BA (1548)	5/7/2020	1	1	ODELL	1				
843	052-272-018-000	490	CIRCLEWOOD	SFR 2BD/2BA + DEN (1457) ATT GAR (604) COV CON (292)	7/30/2020	1	1	DC INVESTMENTS ONE LLC	N/A		BOUGHT AFTER FIRE		
844	050-210-019-000	6238	FOREST	MFH 2BD/2BA + DEN (1498)	3/26/2020	1	1	ALEKSEEV	N/A		BOUGHT AFTER FIRE		
845	053-150-112-000	6187	MAINORD	MFH 2BD/2BA (1512)	3/26/2020	1	1	BALDRIDGE	1		LOST 738 HIGHLAND		
846	054-142-054-000	5730	CHEROKEE	SFR - 2 BED, 2 BATH W/ DEN (1284), ATT GAR (476), COV CONC (204)	9/21/2020	1		MERRITT	1		LOST PROPERTY AT 1155 IDA LIN (DIDN'T LOSE 6230 PINECREST OR 5741 JAMIE)		

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847	051-103-010-000	8415	MONTNA	SFR 3BD/2BA (1776) ATT GAR (440) COV CON (110)	6/16/2020	1	1	FISCHER		1			
848	050-082-032-000	1608	KIMBERLY	SFR - 2 BED, 2 BATH W/ DEN (1154), ATT GAR (528), COV CONC (20)	4/27/2020	1	1	VANDER EYK	1				
849	050-040-076-000	1609	WALNUT	MFH 3BD/2BA (1620)	7/31/2020	1	1	DAVIDSON					
854	053-162-061-000	1376	ORPUT	MFH 3 BED / 2 BATH (1548)	3/18/2020	1		MOFFATT	N/A		BOUGHT AFTER FIRE		1
851	051-144-042-000	6336	DIAMOND	MFH 3BD/2BA (2038)	3/30/2020	1		WARD	1				
852	053-050-010-000	931	CENTRAL PARK	MFH 2BD/2BA W/DEN (1512)	5/12/2020	1	1	DRIKAS		1			
853	051-180-029-000	409	VALLEY VIEW	MFH 3BD/2BA + DEN (2179)	7/16/2020	1	1	DIAMOND					
854	053-250-094-000	1846	FRUITLAND	MFH 2BD/2BA (984)	5/8/2020	1	1	CALVERT	N/A	N/A	BOUGHT AFTER FIRE		
855	053-080-035-000	6006	WILLIAMS	SFR 2/2 (1229) ATT GAR (625)	6/26/2020	1	1	NOYER	1		OVER 125%		
856	054-172-040-000	1798	STEARNS	MFH 2BD/2BA (986)	4/3/2020	1	1	LOWRY			RENTAL		
857	054-172-010-000	5466	EDGEWOOD	MFH 3BD/2BA (1188)	5/8/2020	1	1	LOWRY	1		RENTAL		
858	054-172-054-000	5492	EDGEWOOD	MFH 3BD/2BA (1296)	6/26/2020	1	1	LOWRY	1				
859	050-320-008-000	1527	FOREST	SFR 3BD/2.5BA (2220) ATT GAR (789) COV CON (250)	4/15/2020	1	1	HOVEY	1				
860	053-110-020-000	1049	MAPLE PARK	MFH 2BD/2BA W/DEN (1250)	4/6/2020	1		HOLLINGSWORTH	N/A		RECEIVED GRANT ALREADY		
861	050-210-060-000	6232	PEBBLE	SFR 1BD/1BA (992) COV WOOD DECK (256) COV CON (256) WOOD DECK (376)	5/5/2020	1	1	EUGENE KLEIN TRUST		1			
862	050-040-116-000	1608	SAN JOSE	MFH 2BD/2BA (1213)	4/22/2020	1	1	HENDRIX	1				
863	052-330-013-000	628	SCOTT	MFH 4BD/2BA (1742)	4/9/2020	1	1	GALLOWAY	1				
864	051-180-081-000	6111	CLIFF	SFR 3BD/3BA + OFFICE (2828) ATT GAR (484) COV CON (848) UNC STOR (111)	8/26/2020	1	1	BUCKHOUT	1		OVER 125%		
865	052-032-058-000	460	VALLEY VIEW	SFR 3BD/2BA W/OFFICE (1881) COV CON (192)	5/11/2020	1	1	BOLSHAZY		1			
866	054-070-054-000	5577	GLEN	SFR 3BD/2BA (1776) ATT GAR (440) COV CON (110)	9/14/2020	1	1	FISCHER	1				
867	051-470-013-000	5670	BARTELS	SFR 3BD/3BA (2187) ATT GAR (539) COV CON (110)	5/13/2020	1	1	STIMSON	1		LOST PROPERTY AT 6703 ISHI, MAGALIA		
868	055-400-050-000	850	SENECA	MFH 2BD/2BA (1566)	3/26/2020	1	1	PACE	1				
869	054-090-011-000	5533	PALOMA	MFH 2BD/2BA (1620)	3/30/2020	1	1	MORTON	1				
870	052-260-020-000	554	HILLCREST	SFR 2BD/2BA W/MUSIC RM (1779) ATT GAR (642) COV CON (408) CON (240)	7/22/2020	1	1	MURREN		1			
871	050-120-129-000	6914	ZENITH	SFR 3BD/2.5BA (2347) ATT GAR (571) COV CON (500) OPEN WOOD DECK (199) W/ LIBRARY & DEN	6/2/2020	1	1	MCCOY		1			
872	053-162-010-000	1350	ORPUT	SFR 3BD/2BA (1302) ATT GAR (476) COV CON (645)	5/28/2020	1	1	JIMENEZ					
873	053-180-090-000	5957	KIBLER	MFH 2BD/1BA (756)	4/1/2020	1	1	GLAUM	1				
874	052-235-032-000	5559	SIERRA PARK	MFH 2BD/1BA (756)	4/1/2020	1		REYES-RESENDIZ			needs refund, she is eligible for grant but it was not applied		

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875	050-082-070-000	1651	TIMBER WALK	MFH 2 BED 2 BA +DEN (1440)	4/17/2020	1	1	NERSESYAN	N/A		BOUGHT AFTER FIRE		
876	050-390-008-000	1631	GATE	SFR 3BD/2BA (1596) ATT GAR (650) COV CON 319)	6/10/2020	1	1	ANDERSON	N/A		BOUGHT AFTER FIRE		
877	050-390-029-000	1627	GATE	SFR 3BD/2BA (1334) ATT GAR (526) COV CON (266)	6/10/2020	1	1	ANDERSON	N/A		BOUGHT AFTER FIRE		
878	050-150-040-000	1440	MAYHEW	MFH 3 BED 2 BA (1335)	4/20/2020	1		WINTER	N/A		BOUGHT AFTER FIRE		
879	053-170-192-000	1648	NELSON	SFR 3BD/2BA + DEN (1703) ATT GAR (513) COV CON (291)	4/23/2020	1	1	SMITH	1				
880	050-082-071-000	1641	TIMBER WALK	MFH 2BD/2BA W/DEN (1266)	7/23/2020	1	1	MARLER		1			
881	054-230-056-000	1617	PEARSON	SFR 3BD/2BA (1623) ATT GAR (857) COV CON (204)	5/11/2020	1	1	BRASHERS		1			
882	050-060-068-000	6769	MOORE	MFH 3BD/2BA W/DEN (1620)	6/10/2020	1	1	SMITH	1				
883	052-340-013-000	5471	SCOTTWOOD	SFR 4BD/2BA (1764) ATT GAR (508) COV CON (435)	5/18/2020	1	1	GALLEGOS		1	LOST 308 PEARSON		
884	052-182-074-000	5666	JEWELL	MFH 2BD/1BA (756)	4/15/2020	1	1	KLEMME	1				
885	053-120-032-000	5820	GREENTHUMB	MFH 2BD/2BA (1197)	4/9/2020	1		BECK	1				
886	054-171-046-000	5451	EDGEWOOD	MFH 1BD/1BA (756)	4/8/2020	1	1	ARAGON	1				
887	054-230-095-000	1930	SILER	SFR 3BD/2BA (1808) ATT GAR (661) COV CON (84)	5/5/2020	1	1	CROWLEY		1			
888	051-163-026-000	6220	POSEY	SFR (UNIT A) 1BD/1BA (432) ATT CARPORT (170) UNC (108) COV CON (62)	5/13/2020	1	1	PAKAN	1		ELIGIBLE AS 2ND HOME/RENTAL		
889	051-163-026-000	6222	POSEY	SFR (UNIT B) 1BD/1BA (720) ATT CARPORT (196) UNC (119) COV CON (67)	5/13/2020	1	1	PAKAN	1		ELIGIBLE AS 2ND HOME/RENTAL		
890	051-163-026-000	6218	POSEY	SFR (UNIT C) 1BD/1BA (600) ATT CARPORT (209) UNC (82) COV CON (108)	5/13/2020	1	1	PAKAN	1				
891	050-100-079-000	1783	SUNRISE	MFH 2BD/1BA (771)	5/1/2020	1	1	BITZAN	N/A	NA	BOUGHT AFTER FIRE		
892	053-131-058-000	5785	COPELAND	MFH 2BD/2BA W/DEN (1728)	7/31/2020	1		GORMAN	1		OVER 125%		
893	054-171-114-000	1525	MILLWOOD	MFH 2BD/1BA (756)	4/8/2020	1	1	VAN HORN	1				
894	053-230-011-000	1641	NUNNELEY	MFH 2BD/2BA W/DEN (1458)	6/10/2020	1	1	HUTH		1			
895	053-180-103-000	1683	CAMEO	SFR 2BD/2BA + OFFICE (1809) ATT GAR (672) COV WOOD (252) COV CON (128)	6/4/2020	1	1	PRICE		1			
896	054-182-060-000	1429	DOTTIE	MFH 2BD/2BA W/DEN (1030)	4/21/2020	1	1	SHAW	N/A		RECEIVED 5772 DEER PARK		
897	051-162-052-000	6260	GARDNER	MFH 3BD/2BA (1782)	5/8/2020	1	1	BRIDGES	1				
898	054-240-029-000	1880	ARROWHEAD	SFR 3BD/2BA (2250) ATT GAR (671) COV CON (726)	6/5/2020	1	1	FLAHERTY	1		LOST 1853 MOSURE / OVER 125%		
899	053-011-084-000	6172	TWIN	MFH 3BD/3BA (1836)	5/11/2020	1	1	FOSS	1				
900	050-280-017-000	6240	LANCASTER	MFH 3BD/2BA (1878)	4/22/2020	1	1	MITCHELL III	N/A		BOUGHT AFTER FIRE		
901	050-040-048-000	1617	WALNUT	MFH 2BD/2BA W/DEN (1512)	4/13/2020	1	1	GOMES	1				
902	055-261-031-000	2208	DEMILLE	MFH 3BD/2BA (1703) COV PORCH (127)	4/27/2020	1	1	KELLY	N/A		BOUGHT AFTER FIRE		
903	054-060-048-000	5548	NEWLAND	MFH 2BD/2BA (1296) W/DEN	4/13/2020	1	1	THOMPSON	1				

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904	051-093-072-000	6264	GRAHAM	SFR 2BD/2BA (1570) COV CON (214) ATT GAR (625)	5/8/2020	1	1	LEVEY	1		over 125%		
905	051-120-091-000	6548	LUCKY JOHN	SFR 2BD/2BA (1736) ATT GAR (842) COV CON (170)	5/12/2020	1	1	DAUTERMAN		1			
906	051-071-116-000	6272	REGIS	SFR 2BD/2BA (1387) ATT GAR (505)	5/14/2020	1	1	HANSEN	N/A		BOUGHT AFTER FIRE, PROPERTY IN MAGALIA NOT DESTROYED		
907	051-230-017-000	4615	SKYWAY	SFR 2BD/2BA (1348) COV CON (150)	6/2/2020	1	1	CRONISTER	1		OVER 125%		
908	050-230-052-000	1750	MERRILL	SFR 2BD/2BA (1159) ATT GAR (644) COV CON (398)	5/19/2020	1	1	DRAKE		1			
909	051-250-039-000	3971	NEAL	SFR 2BD/2BA W/DEN (1681) ATT GAR (629) COV CON (506)	6/1/2020	1	1	ESTRELLA	1				
910	054-220-014-000	5822	PENTZ	MFH 3BD/2BA (2469)	6/3/2020	1	1	MCMILLEN	N/A		BOUGHT AFTER FIRE		
911	051-250-136-000	3909	NEAL	SFR 4BD/2&1/2BA (2494) ATT GAR (494) COV CON (677) UNF UNC (600)	6/3/2020	1	1	MURRAY		1			
912	051-310-043-000	337	CIRCLEWOOD	SFR 3BD / 2 1/2BA + DEN (2063) ATT GAR (673) COV CON (285) COV WOOD DECK (422)	6/16/2020	1	1	MCGHEE		1			
913	050-220-074-000	6552	WHEELER	SFR 3BD/2BA (1699) COV CON (944)	7/1/2020	1	1	CRAFT-BATES / BATES		1			
914	053-180-156-000	5938	LEGACY	SFR 3BD/2BA (1700) ATT GAR (702) UNCOND BASEMENT (1041) COV CON (554)	12/2/2020	1		GRAHAM	NA				
915	051-250-099-000	3984	NEAL	MFH 2BD/2BA W/DEN (1404)	5/14/2020	1	1	BECHTOLD		1			
916	050-240-048-000	6650	PENTZ	SFR 2BD/2BA (1008) ATT GAR (484) COV CON (252)	6/18/2020	1	1	BLAFORD		1			
917	052-237-018-000	5594	SIERRA PARK	MFH 1 BED 1 BA + DEN (756)	5/4/2020	1	1	JONES		1			
918	055-261-075-000	5460	ALPINE	SFR 3BD / 3BA (2643) COV WOOD DECK (395) ATT GAR (550)	6/8/2020	1	1	SMITH		1			
919	050-440-004-000	6245	HIMMEL	SFR 3BD/2BA W/DEN (1880) ATT GAR (670) COV CON (305) COV DECK (548)	5/13/2020	1	1	WILSON		1			
920	053-170-141-000	1546	SAWPECK	MFH 3BD/2BA (1159)	6/17/2020	1	1	VEGA		1			
921	052-031-110-000	5731	REED	MFH 3BD/2BA (1944)	6/16/2020	1	1	MCLAUGHLIN	NA	NA	BOUGHT AFTER FIRE / NOT A SURVIVOR		
922	053-330-036-000	5775	SAWMILL	SFR 3BED / 3BA (1691) ATT GAR (435) COV CON (60) UNC (300)	6/9/2020	1	1	HAWLEY / PRICE		1			
923	054-202-036-000	1637	JARAMILLO	SFR 3BD/2.5BA (1935) ATT GAR (1058)	7/9/2020	1	1	MACHADO		1			
924	054-250-048-000	5443	JENSEN	MFH 3BD/2BA (2281)	7/23/2020	1		HINDE		1			
925	051-082-013-000	699	MEYERS	MFH 3BD/2BA (1616)	7/10/2020	1	1	MCDANIEL	NA	NA	DID NOT LOSE A PROPERTY, BOUGHT AFTER FIRE		
926	051-071-012-000	6237	OLIVER	MFH 3BD/2BA (1404)	5/6/2020	1		BERNDT	1		2ND HOUSE		
927	051-145-041-000	6312	AZALEA	MFH 2 BED 2 BA + DEN (1280)	5/7/2020	1	1	HOLLINGSWORTH	1		RENTAL		
928	054-280-008-000	1857	SALIDA	MFH 3BD/2BA (1215)	5/8/2020	1	1	BURTON		1	LOST ON LEONE		

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929	052-250-037-000	5581	FOSTER	SFR 2BD/2.5BA (1639) ATT GAR (552) COV CON (430)	8/25/2020	1	1	LEE	1				
930	053-250-108-000	6232	PENTZ	SFR 3BD/2.5BA (2449) ATT GAR (888) COV CON (801)	6/5/2020	1	1	THOMPSON	1		OVER 125%		
931	055-020-082-000	282	BURDEN	MFH 3 BED 2 BA (1296)	7/29/2020	1	1	BAKER	1		OVER 125%		
932	053-330-146-000	5837	SAWMILL	SFR 3 BED 2 BA (1220) ATT GAR (436) COV CON (128) OPEN WD DECK (438)	6/16/2020	1	1	STRATTON	1		Over 125%		
933	050-280-044-000	6339	LANCASTER	SFR 2BD/2BA + OFFICE (1400) COV CON (322) W/OPT ATT GAR (487)	5/5/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	NOT A CAMP FIRE SURVIVOR, BOUGHT AFTER FIRE		
935	054-230-113-000	1919	YORK TOWNE MANOR	SFR 3BD/2BA (1831) COV CON (490) ATT GAR (487)	PERMIT WITHDRAWN			AMERICAN DREAM CONSTRUCTION	NA	NA	NOT A CAMP FIRE SURVIVOR/BOUGHT AFTER FIRE		1
935	052-070-008-000	5897	CRESTVIEW	SFR 3BD/2BA (1400) COV CON (322) MP	5/28/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	NOT A CAMP FIRE SURVIVOR		
936	055-130-014-000	5092	FOSTER	SFR 3BD/2BA (1400) COV CON (322) ATT GAR (487) MP	5/8/2020	1	1	SPEICHER	1	NA	over 125%		
937	054-171-089-000	1594	GREY SQUIRREL	MFH 3BD/2BA (1512)	5/15/2020	1	1	SCHWENINGER		1			
938	053-060-023-000	6144	GREENWOOD	MFH 4BD/2BA (1325)	7/16/2020	1	1	UNIVERSE EXCAVATION	NA	NA	NOT A CAMP FIRE SURVIVOR		
939	050-210-001-000	6221	FOREST	SFR 2BD/2BA (1148) ATT GAR (440) COV CON (70)	6/24/2020	1		SHARPE		1			
940	050-360-006-000	6415	PARKWOOD	MFH 2BD/2BA W/DEN (1296)	5/12/2020	1	1	MOOD		1			
941	053-050-039-000	970	CENTRAL PARK	MFH 3BD/2BA (1296)	5/22/2020	1	1	CANNON		1			
942	051-220-012-000	5541	SCHMALE	SFR 2BD/2BA (1317) ATT GAR (543) COV CON (266)	6/3/2020	1	1	WILSON			OVER 125%		
943	053-300-013-000	1312	DEODARA	SFR 3BD/2BA (1256) ATT GAR (516) COV CON (84) COV WOOD DECK (254)	6/19/2020	1	1	MITTAG		1			
944	053-290-055-000	6035	BLACKBERRY	MFH 1BD/1BA + DEN (1027)	5/12/2020	1	1	MASTERS	1	NA	OVER 125%		
945	055-270-031-000	2360	STEARNS	MFH 4BD/3BA (1917)	7/2/2020	1		MULLIN					
946	055-270-036-000	5330	PENTZ	MFH 3BD/2BA (1836)	6/2/2020	1	1	BEARDSLEY	NA	NA	BOUGHT AFTER FIRE		
947	050-100-034-000	7161	BEVERLY	MFH 3BD/2BD (1512)	6/2/2020	1	1	PETERS		1			
948	052-012-037-000	6251	LUCKY JOHN	SFR 3BD/2.5BA (1915) ATT GAR (917) COV CON (845)	7/21/2020	1	1	URNESS	1		MERGED WITH 858 BILLE / OVER 125%		
949	055-120-030-000	5243	FOSTER	MFH 3BD/2.5BA (2156)	7/21/2020	1	1	MELCHIORI			MERGED WITH 5245 FOSTER		
950	050-100-078-000	1779	SUNRISE	MFH 2BD/2BA (810)	9/15/2020	1		BITZAN	NA	NA	BOUGHT AFTER FIRE		
951	053-250-080-000	1832	FOREST GLEN	MFH 2BD/2BA (2400)	6/30/2020	1	1	NOGGLE	1	NA	OVER 125%		
952	051-330-015-000	228	REDBUD	SFR 3BD/2BA (1735) ATT GAR (473) COV CON (237)	7/8/2020	1		AURORA RIDGE HOMES	NA	NA	NOT A CAMP FIRE SURVIVOR		
953	051-146-047-000	1252	WAGSTAFF	SFR 2BD/1BA (963) UNCOND SPC (922) ATT GAR (890) ATT SHOP (867)	12/21/2020	1		SPERSKE		1			
954	053-110-098-000	5974	MAXWELL	SFR 3BD/2BA (1543) ATT GAR (484) COV CON (584)	6/4/2020	1	1	BOURGEOIS	1				



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955	051-132-107-000	1193	WAGSTAFF	MFH 1BD/2BA + DEN & STUDY (1296)	6/12/2020	1	1	LONG	1	NA	OVER 125%		
956	050-090-025-000	1762	SPARKS	MFH 3BD/2BA + DEN (1857)	8/20/2020	1		WILLS		1			
957	054-152-012-000	5553	FOLAND	MFH 3BD/3BA + STUDY & FAMILY ROOM (2500) COV WOOD (340)	5/20/2020	1	1	MENDOZA	1	NA	OVER 125%		
958	050-240-081-000	1732	WHITAKER	MFH 2BD/2BA + DEN (1431)	6/26/2020	1	1	KRUSE		1			
959	051-171-095-000	6211	FORGOTTEN	MFH 2BD/2BA (1782)	5/15/2020	1	1	MULFORD	NA	NA	BOUGHT AFTER FIRE		
960	054-165-014-000	5650	CHERRY	MFH 3BD/2BA (1782)	5/28/2020	1	1	COVELL		1			
961	055-261-052-000	2213	RICHMOND	SFR 3BD/2BA (1596) ATT GAR (650) COV CON (319)	7/24/2020	1	1	ANDERSON	N/A		BOUGHT AFTER FIRE		
962	053-272-004-000	5890	FICKETT	SFR 3BD/2.5BA + OFFICE (1675) ATT GAR (576) COV CON (348)	5/29/2020	1		CONTRERAS		1			
963	050-100-112-000	1755	DRAYER	MFH 1BD/1BA (756)	5/20/2020	1	1	CRITCHFIELD	NA	NA	BOUGHT AFTER FIRE		
964	051-104-070-000	6617	FIRLAND	MFH 2BD/2BA + DEN (1386)	5/19/2020	1	1	KELLY		1			
965	053-200-052-000	5963	SAWMILL	MFH 4BD/2BA (1782)	5/20/2020	1	1	KEENE		1	ADDED WIFE IN 2019, OWNED SINCE 2007		
966	052-390-079-000	541	CASTLE	SFR 3BD/2BA (1592) ATT GAR (624) COV WOOD DECK (234)	7/2/2020	1	1	WEBB	1		MERGING WITH 549 CASTLE/ OVER 125%		
967	054-161-040-000	5623	WOODGLEN	MFH 3BD/2BA (1280)	6/16/2020	1	1	RECONSTRUCTION AND RECOVERY ADVISORS	NA	NA	BOUGHT AFTER FIRE		
968	055-220-030-000	5200	HEATHROW	SFR 3BD/3BA (2499) ATT GAR (652) OPEN WOOD DECK (296)	4/22/2021	1		KING		1			
969	052-121-040-000	658	ELLIOTT	MFH 2BD/2BA + DEN (1350)	7/20/2020	1	1	COOPER		1			
970	052-235-015-000	5578	BROOKSIDE	SFR 1BD/2BA + OFFICE (1143) COV CON (80)	4/29/2021	1		HARDESTY	1				
971	054-240-057-000	1913	CRANDALL	MFH 2BD/2BA + DEN (1312)	5/28/2020	1	1	NERSESYAN / KAIGER	NA	NA	BOUGHT AFTER FIRE		
972	053-161-097-000	6049	SAWMILL	MFH 3BD/2BA (1404)	6/11/2020	1	1	BECKER		1			
973	052-033-018-000	5978	CRESTVIEW	MFH 2BD/2BA + DEN (1065)	10/9/2020	1	1	FEDASKO		1			
974	051-173-051-000	1292	FAWNBROOK	MFH 2BD/2BA + DEN (1215)	9/17/2020	1	1	CAMPBELL		1			
975	051-093-040-000	6242	FERN	SFR 3BD/2&1/2BA (1826) COV CON (186)	7/2/2020	1	1	MURRAY		1	MEMORANDUM OF AGREEMENT OF SALE 2017		
976	051-104-077-000	8580	RIDGECREST	SFR 3BD/2.5BA (1689) ATT GAR (400)	6/4/2020	1	1	RIOS	NA	NA	BOUGHT AFTER FIRE		
977	053-310-015-000	1870	NORWOOD	SFR 3BD/2BA(1248) ATT GAR(528) COV CON (154)	7/2/2020	1	1	KOEHN	NA	NA	BOUGHT AFTER FIRE		
978	055-060-011-000	3768	NEAL	SFR 2BD/2BA + STUDY (1508) ATT GAR (406) COV CON (119)	7/7/2020	1	1	MORRIS	1		OVER 125%		
979	052-110-066-000	540	BOQUEST	SFR 3BD/2.5BA (1776) + BASEMENT (844) ATT GAR (768) COV WOOD DECK (416) COV CON (537)	8/7/2020	1	1	GALLA					
980	054-132-101-000	5700	CHERRY	SFR 2BD/2BA +DEN (1599) ATT GAR (477)	6/22/2020	1	1	HERNANDEZ	1		over 125%		

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981	052-223-023-000	5697	SCOTTWOOD	SFR 1BD/1BA (767) COV CON (163) COV WOOD (367)	7/20/2020	1	1	CAMERON		1			
982	050-310-015-000	6637	DOLORES	SFR 3BD/2BA (1564) ATT GAR (566) COV WOOD DECK (432) COV CONC (212)	7/9/2020	1	1	ARMOUR		1	LOST 6647 DOLORES		
983	055-080-043-000	192	RIVENDELL	SFR 3BD/2BA (2343) COV CON (257) COV WOOD (209) OPEN WOOD (112)	6/18/2020	1	1	MUHLBAIER		1			
988	053-190-060-000	5920	DEL MAR	SFR 2BD/2BA (1388) ATT GAR (548) COV CONC (336)	WITHDRAWN			MURRELL FAMILY TRUST					1
985	050-070-080-000	8721	SKYWAY	MFH 2BD/2BA + DEN (1512)	7/10/2020	1	1	GIPPERT		1			
986	051-310-020-000	5401	HICKORY	SFR 3BD/2BA (1698) ATT GAR (591) COV CON (313)	8/24/2020	1	1	WILLIAMSON					
987	051-121-001-000	868	WAGGONER	MFH 3BD/2BA (2038)	6/11/2020	1		BAKER	1		OVER 125%		
988	052-012-001-000	790	BILLE	SFR 2BD/2BA (1656) ATT GAR (674) OPEN WOOD (390) COV WOOD (348)	8/10/2020	1		POWELL					
989	051-152-022-000	900	THOMASSON	SFR 3BD/2BA (1590) ATT GAR (576) COV CON (159)	6/30/2020	1	1	LIPKIN	1		OVER 125%		
990	050-230-016-000	6679	SHAY	SFR 3BD/2BA (1675) ATT GAR (646) COV CON (156) COV WOOD DECK (628)	9/6/2022	1		TORLEY	1		OVER 125%		
991	054-132-012-000	5678	WOODGLEN	SFR 3BD/2BA (1550) ATT GAR (441) COV CON (71)	6/16/2020	1	1	STANLEY	1				
992	053-060-043-000	6171	GREENWOOD	SFR 3BD/3&1/2 BA (2170) ATT GAR (656) COV CAN (549)	7/7/2020	1	1	WINSLOW		1			
993	051-250-019-000	3870	NEAL	SFR 3BD/2BA (1792) ATT GAR (440) COV WOOD DECK (200) COV CON (24)	6/26/2020	1	1	PORTER		1	LOST 46 WAYLAND		
994	051-093-052-000	6231	BECKER	SFR 3 BED 2.5 BA (1728) ATT GAR (528) COV CON (216)	6/23/2020	1	1	BECKER		1			
995	055-050-041-000	75	SEAMAN	SFR 2BD/2BA + DEN (1416) ATT GAR (692) COV CON (108)	7/2/2020	1	1	STELL	NA	NA	BOUGHT AFTER FIRE		
996	050-090-038-000	1760	STARDUST	MFH 2BD/2BA (836) COV WOOD (95)	7/23/2020	1	1	CANN		1			
997	054-230-056-000	1619	PEARSON	2ND DWELLING - SFR 2BD/2BA (999) ATT GAR (432) COV CON (32)	6/15/2020	1	1	BRASHERS			REPLACING RENTAL/2ND DWELL, NEEDS NVPG CREDIT		
998	055-231-008-000	5195	EDGEWOOD	MFH 3BD/2BA (1836)	6/10/2020	1	1	MINSART		1			
999	050-280-012-000	1495	BILLE	SFR 3BD/2BA (1148) ATT GAR (597) COV CON (24)	6/25/2020	1	1	ROBERT GLEN ROBERTS TRUST		1			
1000	054-201-023-000	1515	BIG PINE	MFH 2BD/1BA (756)	6/12/2020	1	1	MCCARTHY		1			
1001	053-140-096-000	1654	PEPE	MFH 3BD/2BA (1828) COV WOOD (35)	6/5/2020	1	1	FLAHERTY	1				
1002	054-131-090-000	1530	BIG TREE	MFH 2BD/2BA + DEN (891)	6/5/2020	1		MASON/SHUTT		1			
1003	050-330-075-000	1335	SEQUOIA	SFR 3BD/2BA (1674) ATT GAR (543)	8/11/2020	1	1	GIST	1				
1004	054-090-031-000	5530	DEL MONTE	SFR 3BD/2BA (1801) OPEN WOOD (440)	5/26/2021	1		GARVIS BILLIE J TRUST	1		2ND DWELLING		
1005	051-104-019-000	6569	FIRLAND	MFH 3BD/3BA (1836)	8/3/2020	1	1	KNOWLES	1		OVER 125%		
1006	050-150-068-000	6509	DAPHNE	MFH 2BD/2BA (1196)	8/6/2020	1	1	JOHNSON	1				

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1007	050-190-024-000	6370	ROCKY	SFR 2BD/2BA + DEN (1406) ATT GAR (733) COV CON (139)	7/1/2020	1	1	YOUNG	1		over 125%		
1008	052-390-058-000	538	SUNSET	SFR 2BD/2BA + RETREAT (1538) ATT GAR (531) COV CON (136)	10/7/2020	1		BARNARD	NA	NA	BOUGHT AFTER FIRE		
1009	053-110-059-000	1003	MAPLE PARK	2ND DWELLING - MFH 1BD/1BA (653)	6/12/2020	1	1	SAKE	NA	NA	2ND DWELLING / ONLY LOST 1 IN FIRE NO GRANT		
1010	052-250-118-000	5576	VISTA	SFR 3 BED 2 BA (2200) ATT GAR (400) COV CON (177)	10/20/2020	1	1	CASTANEDA	NA	NA	BOUGHT AFTER FIRE		
1011	052-250-118-000	5574	VISTA	SECOND DWELL SFR 2 BED 1 BA (750) ATT GAR (400) COV CON (42)	10/20/2020	1		CASTANEDA	NA	NA	BOUGHT AFTER FIRE		
1012	054-191-035-000	5421	LIBBY	SFR 2BD/2BA (1514) COV CON (580)	11/13/2020	1		BREWER					
1013	053-230-146-000	5846	NIELSEN	SFR 3BD/2BA (2528) ATT GAR (673) COV CON (492)	7/8/2020	1	1	GRIFFTH	1		LOST 6010 SUNNY		
1014	052-380-031-000	638	CIRCLEWOOD	SFR 3BD/2BA (1771) ATT GAR (440)	6/29/2020	1	1	WEST	NA	NA	ONLY OWNED 5601 BUTTE VIEW AT TIME OF FIRE		
1015	050-210-052-000	6242	VIRGINIA	MFH 3BD/2BA (1215)	6/23/2020	1	1	PARKS		1			
1016	053-320-039-000	6100	MAXWOOD	SFR 2 BED 2 BA + DEN (1564) ATT GAR (652) COV CON (31)	7/27/2020	1	1	JONES		1			
1017	053-140-086-000	6152	ERIKA	MFH 2BD/2BA + DEN (1188)	6/18/2020	1	1	CAMPBELL		1			
1017	052-390-011-000	6150	CLIFF	SFR 3 BED 2 BA (3290) ATT GAR (772)	WITHDRAWN			POE	1		LOST HOUSE AT 1043 MAPLE PARK DR		1
1019	054-020-026-000	5730	PARADISE	SFR 2BD/1BA (1120) ATT GAR (565) COV CON (670)	8/6/2020	1	1	COMPTON	NA	NA			
1020	054-181-021-000	5505	LIBBY	SFR 4BD/4BA (3064) ATT GAR (661) COV CON (873)	8/27/2020	1	1	HARRISON	1				
1021	055-261-051-000	2217	RICHMOND	SFR 3BD/2BA + DEN (1703) ATT GAR (513) COV CON (291)	8/7/2020	1	1	ERBRICK					
1022	055-130-131-000	550	CASA	MFH 2BD/2BA + DEN (2368)	7/29/2020	1	1	PERRY		1			
1023	051-162-028-000	930	DEER CREEK	SFR 2BD/2BA (1368) ATT GAR (501) COV CON (412) COV WOOD (200) OPEN WOOD (212)	9/17/2020	1	1	TEIXEIRA	1				
1024	052-290-028-000	5462	SCOTTWOOD	SFR 2 BED 2 BA (1166) COV CON (32)	7/13/2020	1	1	COLLINGS	1		OVER 125%		
1025	050-060-050-000	1424	COLDREN	MFH 3 BED 2 BA + DEN (2127)	7/14/2020	1	1	CARLILE	1		OVER 125%		
1026	050-100-035-000	7162	BEVERLY	SFR 4BD/3BA + OFFICE (3517) ATT GAR (603) UNCON STORAGE (382) COV WOOD DECK (500) OPEN WOOD DECK (1101) COV CON (634)	8/11/2020	1	1	COLLINS-PETERSON REV TRUST	1				
1027	054-120-073-000	5290	BENNETT	SFR 4BD/2.5BA (1876) ATT GAR (552) COV WOOD DECK (576)	7/10/2020	1	1	VANNUCCI		1			
1028	051-171-083-000	6207	STINSON	MFH 3BD/2BA (1280)	9/23/2020	1	1	RECONSTRUCTION AND RECOVERY ADVISORS	NA	NA	BOUGHT AFTER FIRE		
1029	054-152-015-000	1121	PEARSON	SFR 2BD/2BA (1416) ATT GAR (384) COV CON (265)	8/14/2020	1	1	FLEMING	1				

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1030	051-092-025-000	749	BILLE	SFR - 2 BED, 2 BATH W/ DEN (1620), ATT GAR (576), COV CONC (410) MP21-00090 GAR L, SOG, G/E	10/4/2022	1	1	PARRY					
1031	055-080-037-000	3376	NEAL	SFR 3BD/2&1/2BA (3232) ATT GAR (1185) COV CON (392)	10/14/2020	1	1	ROWLEY	1				
1032	050-120-114-000	6933	LUNAR	SFR 2BD/2BA + OFFICE (1265) ATT GAR (560) COV WOOD (515) COV CON (315)	7/16/2020	1	1	BOYLAN		1			
1033	055-261-029-000	2202	DEMILLE	SFR - 2 STRY 4 BD / 3 BA (2345) ATT GAR (552) SHOP (296) COV PORCH (282) DECK (320)	7/18/2019	1	1	CARR	1				
1034	051-131-012-000	1089	WAGSTAFF	SFR 2 BED 2 BA (1346) ATT GAR (611) COV CON (120)	8/14/2020	1	1	PEREZ-LUNA	1		OVER 125%		
1035	051-330-053-000	5820	ROYAL	SFR 3BD/2&1/2BA (1932) ATT GAR (648) COV CON (490)	7/6/2020	1	1	VASQUEZ		1	BOUGHT AFTER FIRE BUT LOST 6142 FERN		
1036	054-030-022-000	5667	NEWMAN	SFR 3 BED 2 BA (1816) ATT GAR (516) CON CONC (388)	5/2/2022	1		MURILLO	NA	NA	BOUGHT AFTER FIRE		
1037	053-240-020-000	1843	CLEAR BROOK	SFR 2BD/2BA (2009) COV WOOD (1008)	9/25/2020	1	1	SMRT	1				
1038	054-181-048-000	5497	LIBBY	MFH 2BD/2BA + DEN (891)	7/17/2020	1	1	SMITH		1			
1039	052-024-126-000	6119	OLIVER	SFR 2BD/2BA (1058)	9/24/2020	1	1	LOVGREN	NA	NA	BOUGHT AFTER FIRE		
1040	051-120-030-000	6420	GREGORY	SFR 2 BED 1 BA +Den (1000), ATT GAR (446), COV CON (27) SILVERMARK MP	8/7/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1041	055-070-037-000	370	APPLE	MFH 3BD/2BA (1782)	7/23/2020	1	1	REINBOLD		1			
1042	054-182-021-000	5512	LIBBY	MFH 3 BED 2 BA (1562)	7/15/2020	1	1	FERNS	NA	NA	BOUGHT AFTER FIRE		
1043	051-230-012-000	5033	RUSSELL	SFR 2BD/2BA (1554) COV WOOD DECK (303) OPEN WOOD DECK (305) COV CON (130) ATT GAR (598)	8/21/2020	1	1	BOCKUS	1				
1044	053-170-158-000	1581	SAWPECK	MFH 2BD/2BA + DEN (1512) COV WOOD (216)	7/17/2020	1		PHILPOTT	NA	NA	BOUGHT AFTER FIRE		
1045	055-150-017-000	440	APPLE	MFH 3BD/2BA (1836)	9/1/2020	1	1	CAVALLI	1				
1046	050-230-047-000	1790	MERRILL	SFR 2BD/2BA (1478) ATT GAR (314) COV CON (90)	7/17/2020	1	1	HAMBROOK	1				
1047	054-230-123-000	1914	YORK TOWNE MANOR	MFH 2BD/2BA +DEN (1547)	9/22/2020	1	1	HARMONY HOMES	NA	NA	BOUGHT AFTER FIRE		
1048	050-090-051-000	1772	HONEYSUCKLE	SFR 3 BD 2.5 BA (4015) ATT DECK (500) COV CON (350)	8/27/2020	1	1	WHITMORE	1				
1049	052-031-047-000	563	VALLEY VIEW	MFH 2BD/2BA (984)	7/10/2020	1	1	MCMAHAN		1			
1050	052-390-023-000	507	SUNSET	MFH 3 BD 2 BA (1850) COV WOOD DECK (173)	8/3/2020	1	1	MASSAE	1				
1051	051-132-082-000	1275	DEER	MFH 3BD/2BA (1653)	8/19/2020	1	1	MCGARVEY					
1052	050-210-042-000	6231	VIRGINIA	SFR 2 BD 2 BA (1005) ATT GAR (506) COV CON (225)	8/6/2020	1	1	SIMPSON		1			
1053	051-162-060-000	6219	POSEY	MFH 2BD/2BA (984) COV WOOD (72)	7/16/2020	1	1	MURDOCK		1			
1054	054-240-072-000	2351	STEARNS	SFR 3BD/2&1/2BA (1720) ATT GAR (430) COV CON (122)	10/2/2020	1		SORIA	NA	NA	BOUGHT AFTER FIRE		

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1055	052-390-082-000	6114	LAUREL	SFR 3BD/2&1/2BA (1720) ATT GAR (430) COV CON (122)	7/30/2020	1	1	SORIA	NA	NA	BOUGHT AFTER FIRE		
1056	055-111-037-000	5269	SCOTTWOOD	SFR 2BD 2BA + OFFICE ATT GAR (1317) DECK (1256) COV CON (320) APPROVED FOR 3 BD	8/12/2020	1	1	MATSON	1		OVER 125%		
1057	053-140-092-000	1675	YOUNG	SFR 3BD/2BA (1816) ATT GAR (516) COV CONC (388) RPMP	8/13/2020	1	1	JURGENSON	1		RBP - NVPG 100% ISSUANCE PAID		
1058	055-261-093-000	2173	DEMILLE	SFR 3BD/2BA (2048) ATT GAR (482) COV CON (122)	8/5/2020	1	1	RYBCHENKO	NA	NA	BOUGHT AFTER FIRE		
1059	050-230-078-000	1796	CHRIS	SFR 3BD/2BA (2048) ATT GAR (482) COV CON (122)	8/5/2020	1	1	LUTSIK	NA	NA	BOUGHT AFTER FIRE		
1060	051-040-054-000	6657	QUAIL	SFR 2BD/2BA (976) OPEN WOOD (160) COV CON (12)	8/11/2020	1	1	STAUB	1		BOUGHT AFTER FIRE BUT LOST 1192 SOFT BREEZE LANE		
1061	053-011-067-000	6353	TAHOE	MFH 2 BD 2 BA (2038)	7/29/2020	1	1	ANDERSON	1		LOST 5388 EDGEWOOD / TRANSFER GRANT PER SM		
1062	051-151-039-000	879	THOMASSON	MFH 4BD/2BA (1836)	7/29/2020	1		HAWLEY	1		LOST PROPERTY AT 1583 SUNNY ACRES		
1063	051-250-006-000	3997	NEAL	MFH 3BD/2BA (1516)	8/4/2020	1	1	WOLFE	1				
1064	054-060-070-000	5620	NEULAND	MFH 3 BED 2 BA (891)	9/11/2020	1	1	COWLEY		1			
1065	051-083-106-000	6425	LUCKY JOHN	MFH 3BD/2BA (1404)	7/21/2020	1	1	CUMMINGS	NA	NA	BOUGHT AFTER FIRE		
1066	050-280-032-000	6334	LANCASTER	SFR 3BD 2 BA (1655) ATT GAR (407) COV CON (698)	8/24/2020	1	1	HORRIGAN	1		OVER 125%		
1067	051-120-044-000	978	WAGGONER	SFR 3BD/2BA (1436) ATT GAR (599) COV CON (417)	7/30/2020	1	1	BURROUGHS		1			
1068	054-142-086-000	5667	SAWMILL	SFR 2BD/2BA + DEN (1368) ATT GAR (493) COV CON (266)	8/7/2020	1	1	ANDERSON	1		CHECK IF GRANT USED IN COUNTY		
1069	052-012-029-000	6191	LUCKY JOHN	SFR 2BD/1.5BA (1076) COV WOOD DECK (630)	8/7/2020	1	1	TURNER	1				
1070	050-150-045-000	1319	TAYLOR	MFH 2 BD 2 BA + DEN (1493)	7/29/2020	1	1	STRUVE	1		OVER 125%		
1071	054-181-042-000	1393	COTTAGE	MFH 2 BD 2 BA + DEN (1493)	7/29/2020	1	1	VANHOVE		1			
1072	055-261-065-000	5489	HARRISON	SFR 3 BD 3 BA (1976) UNC BASE (2000) ATT GAR (528) COV CON (85)	9/23/2020	1		SIMMONS	1				
1073	053-320-017-000	1575	REDWOOD	SFR 3BD/2BA (1716) ATT GAR (484) COV CON (80)	8/26/2020	1	1	SINNOTT	NA	NA	BOUGHT AFTER FIRE		
1074	052-012-060-000	6221	LUCKY JOHN	MFH 4BD/2BA (1769)	7/27/2020	1	1	HOLLINGSWORTH	1		MULTIPLE RENTAL PROPERTIES		
1075	051-380-013-000	440	LOCKSLEY	SFR 3 BD 2 BA (1775), ATT GAR (581), COV CON (307)	7/30/2020	1	1	SOUZA	NA	NA	BOUGHT AFTER FIRE		
1076	054-260-050-000	1759	DRENDEL	SFR 3 BD 2 BA (1463), ATT GAR (685), COV CON (123)	8/31/2020	1	1	FARRIS					
1077	054-240-110-000	1853	ARROWHEAD	MFH 3 BD 2 BA (1720)	10/14/2020	1	1	LASSEN GROUP	NA	NA	BOUGHT AFTER FIRE		
1078	051-180-063-000	424	CASTLE	MFH 3 BD 2 BA (1386)	8/13/2020	1	1	ANDERSON		1			

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1079	054-060-015-000	870	PEARSON	MFH 2BD/2BA (1188)	8/18/2020	1	1	RIVERA	NA	NA	BOUGHT AFTER FIRE		
1080	054-191-067-000	1320	JEANNIE	SFR 2 BD 2 BA + DEN (1672), ATT GAR (554), COV CON (1026)	8/4/2020	1	1	BABCOCK	1				
1081	053-320-026-000	1579	REDWOOD	SFR 3 BD 2 BA (1445) ATT GAR (652) COV CON (230)	10/9/2020	1		HOWARD	NA	NA	BOUGHT AFTER FIRE		
1082	052-130-005-000	578	BOQUEST	SFR 2BD/1BA (952) ATT GAR (336)	7/31/2020	1		LABONTE	1				
1083	052-012-026-000	6243	LUCKY JOHN	SFR 2 BD 2 BA + DEN (1300) ATT GAR (518) COV CON (102)	4/26/2021	1	1	CONNOLLY	NA	NA	BOUGHT AFTER FIRE		
1084	051-146-045-000	6371	TABERNACLE	MFH 2 BD 2 BA (1620) + DEN	7/23/2020	1	1	AGUIRRE	NA	NA	BOUGHT AFTER FIRE		
1085	054-192-101-000	5358	LIBBY	MFH 2 BD 2 BA (1215) + DEN	8/17/2020	1	1	SHERMAN	1		2ND HOUSE		
1086	051-040-068-000	6651	LINCOLN	SFR 3 BD 2 BA + MEDIA ROOM (1994) ATT GAR (905) COV CON (50) COV DECK (272) OPEN DECK (240) UNC BASEMENT (400)	8/13/2020	1	1	HAIDET	1				
1087	050-082-080-000	1710	TIMBER WALK	MFH 2 BD 2 BA + DEN (1253)	7/23/2020	1	1	JOHNSON		1			
1088	055-211-075-000	5265	LIBBY	MFH 2 BD 2 BA + DEN (1514)	9/29/2020	1	1	TURNER	1		OVER 125%		
1089	053-230-104-000	1696	BAMBI	MFH 2 BD 2 BA + DEN (1836)	7/29/2020	1	1	WILLYARD	NA	NA	BOUGHT AFTER FIRE		
1090	053-230-116-000	5794	THOREAU	MFH 2BD/2BA (818) COV WOOD PORCH (80)	7/29/2020	1	1	SOUTHWORTH	1		HISTORICAL SF FT NOT AVAILABLE		
1091	054-161-036-000	1593	HENSON	SFR 2BD/2BA + DEN (2095) ATT GAR (490) COV CON (730)	8/27/2020	1	1	HEUMANN	1				
1092	055-130-101-000	480	LEISURE	SFR 2 BD 2 BA + OFFICE (1400) ATT GAR (487) COV CON (322) - MP AMERICAN DREAM CONSTRUCTION	7/29/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	BOUGHT AFTER FIRE		
1093	054-132-092-000	1706	ELLIS	SFR 3BD/2BA (1400) ATT GAR (487) COV CON (322) - MP AMERICAN DREAM	8/7/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	TRANSFER AFTER FIRE		
1094	053-011-108-000	6150	BOWMAN	SFR 4BD/2&1/2BA (2592) ATT GAR (828) COV CON (47)	10/23/2020	1	1	BLALOCK	NA	NA	TRANSFER AFTER FIRE		
1095	055-263-002-000	2240	DEMILLE	SFR 2 BD 2 BA + OFFICE (1831) ATT GAR (487) COV CON (490) - MP AMERICAN DREAM CONSTRUCTION	8/7/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	BOUGHT AFTER FIRE		
1096	051-380-041-000	5870	YORKSHIRE	SFR 2BD/2BA + DEN (1400) ATT GAR (487) COV CON (322) - MP AMERICAN DREAM	8/7/2020	1	1	AMERICAN DREAM CONSTRUCTION	NA	NA	BOUGHT AFTER FIRE		
1097	050-290-033-000	6666	DOLORES	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	4/14/2022	1	1	KUSENKO					
1098	052-031-052-000	566	CASTLE	MFH 2BD/2BA + DEN (1188)	7/31/2020	1	1	GOULD	1				
1099	052-080-083-000	805	LUTHER	MFH 2BD/2BA (1052) COV WOOD (140)	11/13/2020	1		PFEIL TRUST	1				
1100	053-150-033-000	1460	HAPPY WOODS	SFR 4 BD 3 BA (2120) ATT GAR (687) COV CON (1769)	8/11/2020	1	1	MACHUGA					
1101	051-171-004-000	6291	DIAMOND	SFR 3BD/2BA (1491) ATT GAR (484) COV CON (60)	10/19/2020	1	1	MILLER TRUST					
1102	053-161-054-000	1471	MABELLE	SFR 3 BD 2 BA (1248)) ATT GAR (528) COV CON (154)	10/9/2020	1	1	HOWE	NA	NA	BOUGHT AFTER FIRE		
1103	051-083-122-000	848	WAGSTAFF	SFR 3BD/2BA(1675) ATT GAR(636) COV CON(343)	10/1/2020	1	1	KELLY	NA	NA	BOUGHT AFTER FIRE		
1104	054-132-028-000	5688	WOODGLEN	MFH 2 BD 2 BA (1197)	8/6/2020	1	1	LACATIVO	1				

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1105	052-380-001-000	643	CIRCLEWOOD	MFH 2 BD 1 BA (756)	8/4/2020	1	1	TETER					
1106	051-162-016-000	883	BILLE	SFR 2BD/3BA(2180) COV WOOD(544) OPEN WOOD(480)	9/11/2020	1	1	WALL	1				
1107	051-180-077-000	385	VALLEY VIEW	SFR 2 BD 1.5 BA (1151) ATT GAR (805) COV CON (112)	10/1/2020	1	1	PARSONS					
1108	053-150-040-000	6165	LIBBY	SFR 2BD/2BA + DEN (1592) ATT GAR (721) COV CON (457)	8/21/2020	1	1	ARELLANO	1				
1109	053-140-033-000	1691	YOUNG	MFH 3 BD 2 BA (1431)	8/6/2020	1	1	MARCHI	NA	NA	LOOKS LIKE BOUGHT AFTER FIRE		
1110	054-250-023-000	1835	DRENDEL	MFH 3BD/2BA(1642)	10/9/2020	1	1	BEHA	NA	NA	BOUGHT AFTER FIRE		
1111	055-090-028-000	3284	NEAL	MFH 2BD/2BA + DEN(1511)	10/9/2020	1	1	NIEMELA	1				
1112	052-310-003-000	5900	OAKMORE	MFH 3 BD 2 BA (1744)	9/8/2020	1		RIESINGER					
1113	051-121-001-000	868	WAGGONER	MFH 3 BD 2 BA (1674)	8/6/2020	1	1	BAKER	1				
1114	054-131-096-000	1609	HEMLOCK	MFH 3BD/2BA (1620)	8/21/2020	1	1	WHITE					
1115	054-191-006-000	1362	KERR	SFR 2BD/2BA (1687) ATT GAR (285) COV CON (1115)	9/2/2020	1	1	WEEKS					
1116	054-230-113-000	1919	YORK TOWNE MANOR	SFR 3 BD 2 BA (1400) ATT GAR (487) COV CON (322) MP MODEL B - AMERICAN DREAM CONSTRUCTION	9/15/2020	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA	BOUGHT AFTER FIRE		
1117	055-430-004-000	5217	XENO	SFR 3 BD 2 BA (1831) ATT GAR (487) COV CON (490) - MP 1831 - MODEL A - AMERICAN DREAM CONSTRUCTION	10/2/2020	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA			
1118	053-260-026-000	1836	HEYNEN	SFR 2BD/2BA +DEN (1300) ATT GAR (518) COV CON (102)	3/9/2021	1		TAHOE LLC	NA	NA	BOUGHT AFTER FIRE		
1119	051-171-064-000	6207	FORGOTTEN	SFR 2BD/2BA (1224) ATT GAR (676) COV CON (370)	9/18/2020	1	1	BALKEN	NA	NA	BOUGHT AFTER FIRE		
1120	052-260-099-000	471	SUNBURST	SFR (1752) ATT GAR (808) COV CON (363)	9/14/2020	1	1	KEETER	1				
1121	052-390-025-000	523	SUNSET	SFR 3 BED 3 BA (2358) ATT GAR (606) COV CON (392)	10/5/2020	1	1	MASSAE	1				
1122	054-030-032-000	5676	NEWMAN	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	4/25/2022	1	1	TACHINSKIY					
1123	052-031-106-000	6061	OLIVER	SFR 2 BED 2 BA + OFFICE (1604) ATT GAR (455) COV CON (97)	10/9/2020	1	1	OHARA	1				
1124	055-090-067-000	3344	INSPIRATION	SFR 3BD/2.5BA(2383) ATT GAR(881) COV CON(1308)	2/22/2022	1	1	JACOBSON					
1125	051-250-133-000	401	GREEN OAKS	SFR 3BD/2BA (1395) ATT GAR (722) COV CON (51)	8/21/2020	1	1	MACOMBER	1		LOST 6296 JANINE CT IN MAGALIA		
1126	052-024-072-000	638	SUNSET	SFR 2 BD 2 BA (1529) ATT GAR (513) COV CON (422)	8/19/2020	1	1	FINNIE JENNIFER FAMILY TRUST	1				
1127	053-161-096-000	6040	LIBBY	SFR 3 BD 2 BA (1751) ATT GAR (540) COV CON (336)	9/30/2020	1	1	BOSTON	NA	NA	BOUGHT AFTER FIRE		
1128	051-144-044-000	6359	OAK	MFH - 2BD/2BA + DEN (891)	8/14/2020	1	1	REICHERT	NA	NA			
1129	055-070-026-000	5031	FOSTER	MFH - 2 BED 2 BA + DEN (1296)	8/28/2020	1	1	BUNCH	1				
1130	054-030-052-000	5700	TAMARACK	SFR 2 BD 2 BA (1463)	9/28/2020	1	1	CRITCHFIELD	1				

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
1131	053-300-022-000	5773	KENGLO	SFR 2BD/2BA + SEWING ROOM (1283) ATT GAR (528) COV CON (221)	9/3/2020	1	1	MUNTIFERING					
1132	053-150-202-000	6151	LIBBY	SFR 3BD/2BA(1591) ATT GAR(571) COV WOOD(198)	WITHDRAWN								1
1133	053-162-027-000	6009	LIBBY	SFR 3 BD 2.5 BA + DININGROOM/OFFICE (2075) ATT GAR (848) COV CON (250)	9/21/2020	1	1	MALLORY	NA	NA	BOUGHT AFTER FIRE		
1134	053-190-058-000	5932	DEL MAR	SFR 2BD/2BA (1200) ATT GAR (612) COV CON (227) - (MP CHRIS KRAFT)	8/19/2020	1	1	KRAFT BUILDERS INC	NA	NA	BOUGHT AFTER FIRE		
1135	055-050-076-000	82	SUTTER	MFH 3 BD 2 BA (1188)	8/12/2020	1	1	JONES	1				
1136	050-140-071-000	6825	CLARK	SFR 2BD/2BA (840) COV CON (170)	9/14/2020	1		PHILLIP T GEORGE LIVING TRUST	N/A		BOUGHT AFTER FIRE		
1137	055-262-041-000	1883	MARYWOOD	SFR 2BD/2BA + DEN(1283) ATT GAR(530) COV CON (58)	9/28/2020	1	1	MULLEN	1				
1138	053-150-124-000	6159	ALAMO	SFR 3 BD 2 BA (1547) ATT GAR (490) COV CON (46)	1/6/2021	1		PITTS	1				
1139	051-094-024-000	6224	WALL	SFR 3BD/2BA(1248) ATT GAR (440) COV CON (96)	10/2/2020	1	1	MILLER	1				
1140	050-240-069-000	1839	STARK	SFR 2 BED 2 BA (1580) ATT GAR (595) COV CON (805)	9/24/2020	1	1	COLYER	1				
1141	051-220-094-000	465	BOAZ	SFR 3 BD 2 BA + DEN (2166) ATT GAR (891) COV CON (543)	8/28/2020	1	1	ANDERSON BROS CORP	NA		NEW CONSTRUCTION		
1142	055-080-042-000	208	RIVENDELL	SFR 3 BD 2 BA + DEN (2166) ATT GAR (891) COV CON (543)	8/28/2020	1	1	VASQUEZ	NA				
1143	055-130-130-000	535	LAVENDER	SFR 3BD/2&1/2BA (1662) ATT GAR (648) COV CON (88)	8/31/2020	1	1	GIBSON	1				
1144	050-052-101-000	1677	SWEETBRIER	SFR 3 BD 2 BA (1422) ATT GAR (437) COV CON (65)	9/1/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1145	055-170-014-000	4825	ROUND VALLEY RANCH	MFH 1BD/1BA (486) SECONDARY DWELLING	2/4/2021	1	1	PORTER	NA	NA	BOUGHT AFTER FIRE		
1146	051-370-005-000	390	RANKIN	SFR 3BD/2BA (1900) ATT GAR (493) COV CON (107)	9/22/2020	1	1	YULAEV	NA	NA			
1147	053-170-113-000	6004	SAWMILL	SFR 3 BD 2 BA (1585) ATT GAR (485) COV CON (249)	9/23/2020	1	1	BLOOD-WACHSMUTH	1				
1148	054-192-038-000	1458	LEAFY	SFR 3BD/2BA + OFFICE(1857) ATT GAR(532) COV CON(52) COV WOOD(68) OPEN WOOD(118)	9/24/2020	1	1	GRAHAM	1				
1149	053-180-144-000	5926	SAWMILL	MFH 3 BD 2 BA (1404)	8/25/2020	1	1	ABNELSON CORP	NA	NA	BOUGHT AFTER FIRE		
1150	051-171-029-000	6243	OAK	MFH 3BD/2BA(1280)	9/11/2020	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1151	055-410-009-000	95	GRINDING ROCK	SFR 3 BD 2 BA (1771) ATT GAR (440)	9/4/2020	1		WEST	NA	NA			
1152	053-230-192-000	5845	KIBLER	MFH 3BD/2BA(2024)	9/21/2020	1	1	HENDERSON TRUST	1				
1153	050-360-025-000	1441	WAGSTAFF	MFH 4 BD 2 BA (1944)	8/28/2020	1	1	MATTINGLY / WOLHEIM	1				
1154	053-250-029-000	6224	PENTZ	SFR - 3 BED, 2 BATH (1814) ATT GAR (405)	11/5/2020	1	1	RIVERA	1				



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1155	054-202-035-000	1631	JARAMILLO	SFR 4BD/2&1/2BA(1577) ATT GAR(512) COV CON(112)	9/30/2020	1	1	VOGELBACHER	1				
1156	051-250-078-000	4008	NEAL	MFH 2 BD 2 BA + DEN (1368)	9/17/2020	1		WOLFE	NA	NA	BOUGHT AFTER FIRE		
1157	051-093-059-000	6233	WALL	SFR 2 BED 2 BATH (1611) ATT GAR (430) COV CONC (240)	6/8/2022	1	1	A PLUS CUSTOM FRAMING INC					
1158	053-110-058-000	1013	MAPLE PARK	MFH 3BD/2BA (1590)	8/31/2020	1	1	IRVINE INVESTMENTS	NA	NA			
1159	052-271-013-000	605	ROE	MFH 2 BD 2 BA (1056)	9/15/2020	1	1	MCCLEERY	1				
1160	053-230-079-000	5834	NIELSEN	SFR 3 BED 2 BA W/DEN (2237) COV CON (584) ATT GAR (606)	10/5/2020	1	1	DODINI	1				
1161	053-190-072-000	5920	DEBBIE	MFH 3 BD 2 BA (1620)	9/2/2020	1	1	MARAN	NA	NA			
1162	054-290-023-000	5708	COPELAND	MFH 2 BED 2 BA (984) COV WOOD (72)	9/2/2020	1	1	LUCAS	+				
1163	050-120-146-000	6884	PENTZ	MFH 3BD/2BA(1188)	9/2/2020	1	1	FILER FAMILY TRUST	1				
1164	053-131-018-000	1109	NUNNELEY	SFR 3 BD 3 BA (1687) ATT GAR (576) COV CON (400)	10/7/2020	1	1	BUTTS	1				
1165	052-320-003-000	583	CIRCLEWOOD	SFR 3BD/2BA(1676) ATT GAR(458) COV WOOD(473)	9/17/2020	1	1	TWEEDIE	NA	NA	BOUGHT AFTER FIRE		
1166	052-090-043-000	692	MICHAEL	SFR 3 BED 2 BA (1713) ATT GAR (528) COV CON (53)	9/30/2020	1	1	KEOBOUAHOM	NA	NA	BOUGHT AFTER FIRE		
1167	055-030-008-000	3741	NEAL	MFH 4 BED/2 BA (1620)	9/23/2020	1	1	HECKINGER	NA	NA			
1168	050-340-011-000	6446	ROCKY	MFH 2 BD 2 BA + DEN (1188)	10/9/2020	1	1	COONS	1				
1169	053-190-007-000	5951	LIBBY	MFH 2 BD 2 BA + DEN (1188)	9/23/2020	1	1	KOENIG	1				
1170	053-230-193-000	1500	ELLIOTT	SFR 2 BED 2 BA + DEN (1368) ATT GAR (493) COV CON (266)	10/1/2020	1	1	ANDERSON BROS CORP	NA	NA			
1171	051-180-046-000	420	VALLEY VIEW	SFR 2 BED 2 BA + DEN (1368) ATT GAR (493) COV CON (266)	9/28/2020	1	1	ANDERSON	1				
1172	053-210-055-000	5912	LIBBY	SFR 2BD/2BA + OFFICE(1392) COV CON(85) COV WOOD(134) OPEN WOOD(164)	11/6/2020	1	1	DOOLITTLE	1				
1173	050-250-007-000	1800	STARK	SFR 3 BD 2 BA (1831) ATT GAR (697) COV CON (490) - AMERICAN DREAM CONSTRUCTION MODEL A	9/2/2020	1	1	PONDER					
1174	052-031-088-000	527	VALLEY VIEW	MFH 3 BD 2 BA + DEN (1608)	9/1/2020	1	1	YASIN	NA	NA	BOUGHT AFTER FIRE		
1175	055-020-115-000	280	DOVE SONG	SFR 2 BD 2 BA + DEN (2348) ATT GAR (528) COV CON (402)	11/5/2020	1	1	SKINNER	1				
1176	051-162-079-000	898	DEER CREEK	SFR 3BD/2BA(1636) ATT GAR(231) COV CON(289) COV WOOD(593)	10/2/2020	1	1	GALLENTINE	1				
1177	054-172-053-000	1784	STEARNS	SFR 3BD/2BA(1679) ATT GAR(336) COV CON(240)	9/28/2020	1	1	BRIDGES	1				
1178	050-280-011-000	1503	BILLE	SFR 3 BD 3 BA (1633) ATT GAR (552) COV CON (76)	10/2/2020	1	1	KOBZARENKO	NA	NA	BOUGHT AFTER FIRE		
1179	053-170-186-000	1650	YOUNG	SFR 2BD/2BA +DEN&OFFICE(1859) ATT GAR(488) COV CON(216)	10/1/2020	1	1	TERRY	NA	NA	BOUGHT AFTER FIRE		
1180	051-092-028-000	746	MADRONE	SFR 2 BD 2 BA + DEN (1730) ATT GAR (523) COV CON (300)	10/1/2020	1	1	TERRY	NA	NA	BOUGHT AFTER FIRE		

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1181	052-225-012-000	5415	BLACK OLIVE	SFR 2BD/2BA(1285) ATT GAR(826) COV CON(250)	11/18/2020	1	1	NOLL	1				
1182	050-060-074-000	6777	MOORE	SFR 3 BD 2 BA (1673) ATT GAR (983) COV CON (574)	10/28/2020	1	1	WALKER	1				
1183	052-011-101-000	697	EDWARDS	MFH 3BD/2BA(1760)	9/22/2020	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1184	052-011-066-000	725	EDWARDS	MFH 3BD/2BA(1600)	9/25/2020	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1185	055-201-058-000	1586	SUNNY ACRES	MFH 2BD/1BA (890)	9/30/2020	1	1	MCCLARY	1				
1186	055-140-024-000	5189	SCOTTWOOD	SFR 3BD/2BA (1350) COV CON (376)	9/30/2020	1	1	DUNGEY	1				
1187	053-180-123-000	1674	FLICKER	MFH 3BD/2BA (1455)	9/14/2020	1	1	DEE	1				
1188	051-102-010-000	8596	SKYWAY	SFR 3BD/2BA (1880) ATT GAR (1140) COV CON (652)	1/8/2021	1	1	MITTAG	1				
1189	053-150-192-000	6095	LIBBY	MFH 3BD/2BA + DEN (1620)	10/5/2020	1	1	ANSALDO	1				
1190	054-201-020-000	1517	BIG PINE	MFH 2BD/2BA+DEN (1188) COV WOOD (162)	9/29/2020	1	1	SHERMAN	NA	NA			
1191	051-104-128-000	7052	MOLOKAI	MFH 2 BD 2 BA + DEN (1213)	9/24/2020	1	1	WATTS	1				
1192	053-070-038-000	6005	WILLIAMS	MFH 2 BD 2 BA + ACTIVITY ROOM (1404)	10/9/2020	1	1	FALLEN	1				
1193	054-163-029-000	5580	WOODSMUIR	MFH 2BD/2BA + DEN (1499) COV WOOD (67)	9/21/2020	1	1	BERNDT TRUST	NA	NA	BOUGHT AFTER FIRE		
1194	051-072-072-000	6365	AUGUST	SFR 3BD/2BA(1900) ATT GAR(493) COV CON(107)	10/5/2020	1	1	MIHAILA	NA	NA	BOUGHT AFTER FIRE		
1195	055-050-094-000	105	SUTTER	SFR 3 BED 2 BA (1674) ATT GAR (543) COV CON (43)	10/22/2020	1	1	MUHLBAIER	1				
1196	051-083-138-000	6399	SHADE TREE	SFR 2 BD 2 BA + OFFICE (1400) ATT GAR (487) COV CON (322) - ADC MODEL B	10/7/2020	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA	BOUGHT AFTER FIRE		
1197	053-190-057-000	5938	DEL MAR	SFR 3 BED 2 BA (1450) ATT GAR (618) COV CON (185)	9/24/2020	1	1	KRAFT BUILDERS	NA	NA			
1198	055-180-054-000	5190	BENNETT	SFR 3 BD 2 BA (1775) ATT GAR (581) COV CON (384)	10/20/2020	1	1	BANKS	NA	NA	BOUGHT AFTER FIRE		
1199	055-130-116-000	475	LEISURE	SFR 3BD/2BA(1526) ATT GAR(640) COV CON(385)	10/26/2020	1	1	AHUMADA	1				
1200	050-070-078-000	8744	NUGGET	SFR 3BD/2BA(1402) ATT GAR(600) COV CON(271)	11/2/2022	1	1	PRICE					
1201	053-170-011-000	1659	NELSON	SFR 3 BD 2.5 BA (2046) ATT CARPORT (757) ATT GARAGE (1024) COV CON (108)	11/24/2020	1	1	NELSON					
1202	052-070-056-000	5834	CRESTVIEW	SFR 3BD/2BA(1625) ATT GAR(439) COV CON(245)	10/28/2020	1		DEADMOND	NA	NA	BOUGHT AFTER FIRE		
1203	050-220-006-000	6875	DEAN	SFR 4BD/2&1/2BA (2368) ATT GAR(975) COV CON(986)	10/1/2021	1	1	VORHEIS	NA	NA	BOUGHT AFTER FIRE		
1204	055-520-082-000	5175	ROYAL CANYON	SFR 3BD/2BA (1816) ATT GAR (516) COV CONC (388) - MP REBUILD PARADISE	9/24/2020	1	1	THE KITE GROUP INC	NA	NA	BOUGHT AFTER FIRE		
1205	051-380-011-000	429	LOCKSLEY	SFR 3 BD 2 BA (1900) ATT GAR (493) COV CON (107)	10/5/2020	1	1	MIHAILA	NA	NA	BOUGHT AFTER FIRE		
1206	053-190-049-000	5957	DEL MAR	SFR 3BD/2BA(1604) ATT GAR(660) COV CON(194)	11/28/2022	1	1	KRAFT BUILDERS INC					
1207	051-300-036-000	5890	CRESTMoor	SFR 3BD/2BA (1900) ATT GARAGE (493) COV CON (107)	10/15/2020	1	1	YULAEV	NA	NA	BOUGHT AFTER FIRE		

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1208	055-120-056-000	448	NEVER NEVER	SFR 3 BD 2 BA (1422) ATT GAR (437) COV CON (65)	10/13/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1209	050-320-001-000	1522	FOREST	SFR 3 BD/2BA (1422), ATT GAR (437), COV CONC (65) MP SILVERMARK	10/12/2020	1	1	TRIPLETT	NA	NA	BOUGHT AFTER FIRE		
1210	051-050-060-000	6427	GRAHAM	SFR 2BD/1BA (915) ATT GAR (462) MP BP22-00808	2/8/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
1211	050-200-130-000	6284	MOUNTAIN MEADOW	SFR 3BD/2BA (2001) ATT GAR (872) COV CON (340)	VOID			DIAMOND	NA	NA	BOUGHT AFTER FIRE		
1212	053-250-075-000	6244	PENTZ	MFH 3BD/2BA + DEN(1760)	10/22/2020	1	1	EXUM	NA	NA	BOUGHT AFTER FIRE		
1213	053-150-155-000	6165	SAWMILL	SFR 3BD/2BA(1280) ATT GAR(552) COV CON(368)	10/5/2020	1	1	KANE	1				
1214	050-150-095-000	1395	SALISBURY	SFR2 BED, 1 BATH (901) MP-3CD LLC PLAN A	11/18/2020	1		HIGBEE	NA	NA	BOUGHT AFTER FIRE		
1215	051-460-008-000	157	VALLEY RIDGE	SFR 4 BED 4 1/2 BA W/OFFICE + GAME ROOM (5403) + ATT GAR (1965) + COV CON (2717)	10/29/2020	1		PILLSBURY	1				
1216	054-210-085-000	5837	PENTZ	MFH 3BD/2BA (1600)	10/20/2020	1	1	MCMILLEN	NA	NA	BOUGHT AFTER FIRE		
1217	054-132-049-000	5740	WOODGLEN	SFR 5BD/2&1/2BA(2898) ATT GAR(988) COV(515)	6/18/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA	BOUGHT AFTER FIRE		
1218	055-050-026-000	88	SUTTER	SFR 2BD/2BA(1407) ATT GAR(661) COV CON(45)	10/19/2020	1	1	CORONADO	1				
1219	051-092-003-000	688	MADRONE	SFR 3 BED 2 BA (1338) ATT GAR (515) COV CON (221)	10/6/2020	1	1	HALL	NA	NA	BOUGHT AFTER FIRE		
1220	052-237-009-000	5553	KEITH	SFR 3BD/2BA (1480) COV CON (54) SLAB ON GRADE - MP HIGNELL	10/14/2020	1		HIGNELL	NA	NA	BOUGHT AFTER FIRE		
1221	052-024-109-000	588	SUNSET	SFR 3 BED 3 BA + DEN (2444) ATT GAR (774) COV CON (113)	12/1/2021	1	1	DAHLIN	NA	NA	BOUGHT AFTER FIRE		
1222	050-290-002-000	1618	MERRILL	SFR - 3 BED, 3.5 BATH (2872) ATT GAR (1272) COV CON (634)	10/9/2020	1	1	ANDERSON	1				
1223	054-171-059-000	1221	LURENA	MFH 2 BED 2 BA (947) COV WOOD (70)	11/2/2020	1	1	KIRK	1				
1224	050-100-060-000	1770	DRAYER	MFH 2 BED BA + DEN (1924)	10/1/2020	1	1	POUST	NA	NA			
1225	053-170-097-000	1559	SAWPECK	SFR 3BD/2BA(1445) ATT GAR(491) COV CON(60)	4/4/2022	1	1	ARESTON					
1226	053-170-024-000	6054	KIBLER	SFR 3BD/3BA (2165) ATT GAR(942) COV CON(203) COV WOOD(787) FIN UNC(1452)				FARNHAM	1				
1227	054-141-039-000	5721	BONNIE	SFR 2 BED 2 BA +DEN (1196) ATT GAR (472) COV CON (221)	10/30/2020	1	1	SCHILLING	1				
1228	052-070-061-000	5812	GRADLEY	SFR 2BD/2BA (1422) ATT GAR (437) COV CONC (65) - MP SILVERMARK	12/8/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1229	053-320-011-000	6091	VISTA KNOLLS	SFR 3BD/2BA (1422) ATT GAR (437) COV CON (65)	11/3/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		

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1230	051-071-011-000	6243	OLIVER	MFH 3 BED 2 BA (1836)	10/5/2020	1	1	BAKER	NA	NA	BOUGHT AFTER FIRE		
1231	053-320-042-000	6106	VISTA KNOLLS	SFR 2BD/2BA(1678) ATT GAR(727) COV CON(654)	10/15/2020	1	1	PONDER	1				
1232	051-172-055-000	6245	HARVEY	MFH 2BD/2BA + DEN (1455)	10/19/2020	1	1	FREEMAN	1				
1233	050-090-052-000	1773	HONEYSUCKLE	MFH 3BD/2BA (1759)	11/2/2020	1	1	HANFORD	1				
1234	054-142-021-000	1458	TERRY	SFR 3BD/2&1/2 BA W/DINING ROOM(2231) ATT GAR(624) UNC STOR(65) COV CON(228)	10/29/2020	1		CARDELL	1				
1235	052-012-047-000	840	BILLE	SFR - 2 BED, 1 BATH (820) ATT GAR (260) COV CON (276) ADC MP D	10/7/2020	1	1	LACK	NA	NA	BOUGHT AFTER FIRE		
1236	050-040-105-000	7155	PENTZ	SFR 3BD/2BA(1778) ATT GAR(442) COV WOOD(270) COV CON(112) OPEN WOOD(80)	10/27/2020	1	1	CHANDLER	NA	NA	BOUGHT AFTER FIRE		
1237	053-150-159-000	1488	BILLE	SFR 3BD/2BA(1422) ATT GAR(437) COV CONC(65) - MP SILVERMARK 1422	11/3/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1238	055-320-002-000	1364	BENNETT	MFH 2BD/2B + DEN (1215)	11/19/2020	1	1	CHANCELLOR	NA	NA	BOUGHT AFTER FIRE		
1239	053-150-122-000	6167	ALAMO	MFH 2BD/2BA (947)	2/10/2021	1	1	LAKE	1				
1240	052-260-073-000	5519	FOSTER	MFH 2BD/2BA(984) COV WOD(72)	10/8/2020	1		MCGREGOR	1				
1241	053-190-030-000	1391	ELLIOTT	SFR 3 BED 2 1/2 BA (2043) ATT GAR (675) COV CON (108)	11/17/2020	1	1	ZIMMERLEE	1				
1242	055-320-011-000	1364	PARKWAY	MFH 3BD/2BA + DEN(1916) COV WOOD (55)	10/22/2020	1	1	CURREY	NA	NA	BOUGHT AFTER FIRE		
1243	050-081-020-000	6911	CLARK	MFH 3BD/2BA(1836)	10/13/2020	1	1	KINNEY	1				
1244	050-350-038-000	6414	PARKWOOD	MFH 3BD/2BA (1620)	PERMIT WITHDRAWN			SIMMONS / ROEHLING	NA	NA	BOUGHT AFTER FIRE		1
1245	052-130-030-000	501	FIR	MFH 2BD/2BA + DEN (1512)	10/13/2020	1	1	NIELSEN	1				
1246	055-150-047-000	527	LIKENS	SFR 3BD/2&1/2BA(3173) UNC STOR(210) COV CON(2540) OPEN WOOD(605) COV WOOD(515)	7/29/2021	1	1	KLOTH	N/A		FUNDING UNAVAILABLE		
1247	053-040-052-000	1249	KLING	SFR 3BD/2BA (1615) ATT GAR (622) COV CON (347)	10/19/2020	1	1	ROBERTS	1				
1248	054-171-096-000	5537	EDGEWOOD	SFR 2BD/2BA+DEN(1562) ATT GAR(575) COV CON(392)	10/29/2020	1		SIMMONS	NA	NA	BOUGHT AFTER FIRE		
1249	050-280-046-000	6319	LANCASTER	MFH 3BD/2BA(1458)	10/19/2020	1	1	BAUER	NA	NA	BOUGHT AFTER FIRE		
1250	052-090-036-000	665	MEMORIAL	MFH 2BD/2BA+DEN (1215)	10/19/2020	1	1	SHERMAN	1		MULTIPLE PROPERTIES		
1251	051-260-024-000	270	PACIFIC	SFR 3 BED 2 BA (1816) ATT GAR (516) COV CON (388) RPMP	10/28/2020	1	1	GOITIA	NA	NA	BOUGHT AFTER FIRE		
1252	050-410-009-000	6266	SAWMILL	SFR 3BD/2BA(1422) ATT GAR(437) COV CONC(65) - MP SILVERMARK 1422	12/9/2020	1		GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1253	051-171-096-000	6215	FORGOTTEN	SFR 1 BED 1 BA (599) ATT GAR (599) COV CON (60)	2/18/2021	1	1	REED	1				
1254	051-300-034-000	5874	CRESTMOR	MFH 2BD/2BA +DEN (1230)	10/19/2020	1	1	FREER	1				

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1255	053-110-107-000	5870	JAGUAR	SFR 3BD/2BA(1422) ATT GAR(437) COV CONC(65) - MP SILVERMARK 1422	1/20/2021	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1256	053-230-160-000	1635	ALEXIS	MFH 4 BED 2 BA (1600)	11/13/2020	1	1	COOK	1				
1257	051-146-039-000	6370	HARVEY	SFR 2BD/2BA (1228) ATT GAR (486) COV CON (94)	12/7/2020	1	1	AFLAGUE	1				
1258	053-250-052-000	1811	FOREST GLEN	SFR 3BD/2BA (1724) ATT GAR (473) COV CON (300)	12/15/2020	1	1	WALLIN	1				
1259	054-020-008-000	5721	PACHECO	MFH 2 BED/2 BA (1197) + COV PORCH	11/2/2020	1	1	FALLEN	1				
1260	052-031-001-000	440	CASTLE	MFH 2BD/2BA + DEN(1306) COV WOOD(204)	1/13/2021	1	1	JONES	1				
1261	052-024-050-000	6099	OLIVER	SFR 2BD/2BA + OFFICE(1400) COV CON(322) ATT GAR(487) - MP 1400 ADC MODEL B	10/28/2020	1		WOODS	1				
1262	052-031-094-000	508	CASTLE	MFH 2 BED/2 BA (1620)	10/26/2020	1	1	BAKER	1				
1263	050-052-050-000	1684	MULBERRY	MFH 2 BED/2 BA (909)	10/26/2020	1	1	BERTOLUCCI	NA	NA	BOUGHT AFTER FIRE		
1264	055-140-026-000	753	KINSEY	MFH 2 BED/2 BA (1296)	WITHDRAWN			KLEEMEYER	NA	NA	BOUGHT AFTER FIRE		1
1265	050-150-020-000	1460	MAYHEW	SFR 2 BED 1 BA (802) ATT GAR (265) COV CON (107)	1/13/2021	1	1	BARTLETT	1				
1266	055-440-130-000	5074	MALIBU	SFR 3BD/2BA(2462) ATT GAR(925) COV WOOD(448)	12/21/2020	1	1	DIXON	1				
1267	050-180-038-000	6410	FOREST	SFR 4BD/3BA + OFFICE(2340) ATT GAR(576) COV CON(98) OPEN WOOD(252)	11/16/2020	1	1	STOCKWELL	1				
1268	051-250-135-000	421	GREEN OAKS	SFR 4BD/3BA (2378) ATT GAR (946) UNCON SOLARIUM (448) COV CON (189)	12/9/2020	1	1	EPPENBACH LIVING TRUST	1				
1269	053-161-055-000	1472	MOON	MFH 3BD/2BA(1196) COV WOOD(57)	10/20/2020	1	1	ALEKSEEV	NA	NA	BOUGHT AFTER FIRE		
1270	052-390-074-000	495	CASTLE	SFR 3BD/2BA (1720) ATT GAR(430) COV CON(122)	11/20/2020	1	1	SOSA	NA	NA	BOUGHT AFTER FIRE		
1271	053-300-007-000	1323	DEODARA	SFR 3BD/2BA(1720) ATT GAR(430) COV CON(122)	3/12/2021	1	1	SOSA	NA	NA	BOUGHT AFTER FIRE		
1272	054-182-046-000	1442	TONI	SFR3BD/2BA(1720) ATT GAR(430) COV CON(122)	11/20/2020	1	1	IOSSO	NA	NA	BOUGHT AFTER FIRE		
1273	054-010-064-000	5663	CATHY	SFR 2BD/2.5BA (1426) COV CON (488)	1/5/2021	1		PETERSEN	1				
1274	053-200-048-000	1437	SLEEPY HOLLOW	SFR 3BD/1BA(1000) ATT GAR(446) COV CON(27) - MP SILVERMARK 1000	11/3/2020	1	1	MENDOZA	NA	NA	BOUGHT AFTER FIRE		
1275	051-171-101-000	6218	FORGOTTEN	MFH 3BD/2BA + DEN(1782)	11/2/2020	1	1	RODRIGUES	1				
1276	054-151-074-000	5551	MARK	MFH 2BD/1BA(756)	11/2/2020	1	1	ANDREWS	1				
1277	053-230-107-000	5783	HOMESTEAD	MFH 2BD/2BA + DEN(891)	10/21/2020	1	1	ZAVALA	1				
1278	055-070-011-000	4969	FOSTER	MFH 3BD/2BD(891)	11/2/2020	1	1	GUILD	NA	NA	BOUGHT AFTER FIRE		
1279	052-390-049-000	443	CASTLE	MFH 2BD/2BA + DEN (1383)	11/9/2020	1		KIMBROUGH	NA	NA	BOUGHT AFTER FIRE		
1280	051-260-026-000	5383	ORCHARD	SFR 3BD/2BA (1792) ATT GAR (704) COV CON (328)	12/9/2020	1	1	APPLE	1				
1281	050-052-048-000	1675	MULBERRY	SFR 2 BED 2 BA (1777) ATT GAR (528) COV CON (443) UNC STOR (342)	11/9/2020	1	1	SWANEY	1				

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1282	052-340-027-000	729	WINDING	MFH 3 BED 2 BA (1279)	1/12/2021	1	1	HIGGINS	NA	NA	BOUGHT AFTER FIRE		
1284	054-132-088-000	5681	CHERRY	MFH 2BD/2&1/2BA (1856)	WITHDRAWN			WALKER	1				1
1284	053-250-106-000	1826	GREENWAY	MFH 3BD/2BA (1548)	11/13/2020	1		EDINGTON	NA	NA	BOUGHT AFTER FIRE		
1285	055-180-028-000	5196	BENNETT	MFH 2BD/2BA + DEN (1608)	10/29/2020	1	1	HARTLEY	1				
1286	054-260-007-000	1785	DRENDEL	MFH 3BD/2BA (1296)	10/29/2020	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1287	050-330-064-000	6470	LONE CEDAR	MFH - 3BD/2BA+DEN(1467)	10/24/2022	1	1	THEELER					
1288	054-132-016-000	5680	WOODGLEN	SFR 2BD/2BA+DEN(1508) ATT GAR(406) COV CON(119) - MP NCC 1508 REVERSED	12/3/2020	1	1	HONEYCUTT	1				
1289	051-092-029-000	6210	OLIVER	MFH 2 BED 1 BA (1280)	11/4/2020	1	1	RECONSTRUCTION AND RECOVERY ADVISORS	NA	NA	BOUGHT AFTER FIRE		
1290	054-210-097-000	5825	PENTZ	MFH 2BD/2BA (2074) ATT COV PORCH(241)	5/12/2022	1	1	MCMILLEN TANYA L ETAL					
1291	054-020-022-000	5733	PACHECO	MFH 2BD/2BA (836)	1/22/2021	1	1	POTTS	1				
1292	053-250-056-000	6273	PENTZ	SFR - 3 BED / 2 BATH (1612) COV CON (704)	5/25/2022	1	1	COX					
1293	054-192-044-000	1457	LEAFY	SFR 2 BED 2 BA + DEN (1508) ATT GAR (406) COV CON (55)	11/3/2020	1	1	LESLIE	1				
1294	053-150-176-000	1379	DELIA	SFR 3BD/2BA(2048) ATT GAR(482) COV CON(122)	11/25/2020	1	1	RYBCHENKO	NA	NA	BOUGHT AFTER FIRE		
1295	051-380-003-000	5915	YORKSHIRE	SFR 3BD/2BA(1694) ATT GAR(578) COV CON(26)	12/16/2020	1	1	LUTSIK	NA	NA	BOUGHT AFTER FIRE		
1296	053-180-018-000	1575	SYLVAN	SFR 2 BED 2.5 BA + DEN (1535) ATT GAR (555) COV CON (282)	11/19/2020	1		CAMPA	1				
1297	050-120-138-000	6719	CHAPMAN	MFH 2BD/2BA+DEN(1512)	11/4/2020	1	1	IOTT	1				
1298	051-132-025-000	6417	OAK	MFH 2 BED 1 BA + DEN (802)	11/2/2020	1	1	TRONSON	1				
1298	052-031-108-000	6076	LAUREL	MFH 3BD/2BA (1296)	WITHDRAWN			ONSTEIN					1
1300	050-082-073-000	1621	TIMBER WALK	MFH - 2 BED 2 BA + DEN (1296)	1/15/2021	1	1	BIJSTRA FAMILY TRUST	1				
1301	051-250-080-000	380	OAK SPRING	SFR 2 BED 2 BA (1536) ATT GAR (480) COV CON (32)				STUELPNAGEL	NA	NA	BOUGHT AFTER FIRE		
1302	051-102-024-000	8654	SKYWAY	SFR 2BD/2BA + DEN (1422) ATT GAR (437) COV CONC (65) - MP SILVERMARK 1422	11/3/2020	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1303	055-410-007-000	91	GRINDING ROCK	SFR 3 BED 2 BA (1771) ATT GAR (440)	11/6/2020	1	1	WEST	NA	NA	BOUGHT AFTER FIRE		
1304	053-310-040-000	1864	CONIFER	SFR 2 BED 2 BA + DEN (1595) ATT GAR (440) COV CON (360)	4/27/2021	1		LOPEZ	NA	NA	BOUGHT AFTER FIRE		
1305	051-091-056-000	737	MADRONE	MFH 2BD/2BA+DEN(1578)	1/19/2021	1	1	ROLLINS	1				
1306	055-080-007-000	3410	NEAL	SFR 3 BED 2 BA (1891) COV CON (983)	12/18/2020	1	1	FITZGERALD FAMILY TRUST	1				
1307	051-071-003-000	6325	OLIVER	MFH 2 BED 2 BA W/ DEN (1440)	12/2/2020	1	1	PECK	1				
1308	053-170-182-000	6059	KIBLER	MFH 3 BED 2 BA + DEN (1901)	3/17/2021	1	1	DESPARIOS	1				

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1309	054-172-051-000	5504	EDGEWOOD	SFR 2BD/2BA(1881) ATT GAR(528) COV CON(490)	12/7/2020	1		DWIGHT	1				
1310	052-181-022-000	3691	HONEY RUN	SFR 3BD/3&1/2BA(2937) ATT GAR(674) COV CON(685) COV WOOD(352) OPEN WOOD(279) UNC STOR(989)	12/10/2020	1		LOVE VARLINSKY TRUST	1				
1311	050-140-033-000	1530	FOREST SERVICE	SFR 2BD/1BA(918) ATT GAR(463) COV CON(142)	11/24/2020	1	1	CULLETON	NA	NA	BOUGHT AFTER FIRE		
1312	050-230-020-000	6672	SHAY	SFR 2 BED 2 BA + OFFICE (1346) ATT GAR (642) COV CON (119)	12/30/2020	1	1	AVILA					
1313	054-191-025-000	5347	LIBBY	MFH 3BD/2BA(1248)	11/16/2020	1	1	LEBEDEV	NA	NA	BOUGHT AFTER FIRE		
1314	050-220-132-000	1802	ROCK HOUSE	SFR 3BD/2BA(1477) ATT GAR(768) COV CON(111) COV WOOD(116)	7/11/2022	1		VANORDER					
1315	054-240-037-000	1936	CRANDALL	SFR 3BD/2BA+OFFICE(1726) ATT GAR(482) COV CON(172)	1/29/2021	1	1	TURNER	NA	NA	BOUGHT AFTER FIRE		
1316	052-271-012-000	619	ROE	MFH 2BD/2BA (1455)	1/13/2021	1	1	MCKALSON FAMILY TRUST	1				
1317	050-040-083-000	7142	CLARK	MFH 2BD/2BA (1458)	11/12/2020	1	1	KENNON	NA	NA	BOUGHT AFTER FIRE		
1318	055-060-015-000	165	SUTTER	SFR 3B/2BA (1816) ATT GAR (516) COV CONC(388)	6/24/2020	1	1	DESPAIN	1		RPMP - OVER 125%		
1319	050-420-019-000	1551	GATE	SFR 3BD/2BA + DEN (2074) ATT GAR (552) COV CON (108) COV WOOD DECK (72) OPEN WOOD DECK (108)	1/7/2021	1	1	STIMSON	NA	NA	BOUGHT AFTER FIRE		
1320	055-440-123-000	5000	MALIBU	SFR 4 BED 3 BA ( 3004) ATT GAR (731) OPN WD DCK (518) COV WD DCK (119)	2/3/2021	1		F H ENTERPRISE	NA	NA	BOUGHT AFTER FIRE		
1321	052-340-025-000	707	DAMROW	MFH 3 BED/2 BA (1188)	3/9/2021	1	1	LANGE-MORIN	NA	NA	BOUGHT AFTER FIRE		
1322	050-350-022-000	6765	CLARK	MFH 2 BED/2 BA (1056)	11/16/2020	1	1	BERNDT TRUST	NA	NA	BOUGHT AFTER FIRE		
1323	050-210-037-000	6259	VIRGINIA	SFR 3 BED/2 BA (1738) COV CON (232) ATT GAR(627)	12/9/2020	1	1	HAGEN	NA	NA	BOUGHT AFTER FIRE		
1324	051-094-042-000	6365	LUCKY JOHN	SFR 3BD/2BA (1392) COV CON (48) COV WOOD DECK (114) WOOD DECK (327)	12/23/2020	1	1	BURGER	1				
1325	051-172-061-000	1201	BILLE	SFR 3BD/2BA(1522) ATT GAR(578) OPEN WOOD(100)	2/4/2021	1	1	RECONSTRUCTION AND RECOVERY ADVISORS	NA	NA	BOUGHT AFTER FIRE		
1326	050-100-137-000	1760	ELYSEE	SFR 2 BED 2 BA (1400) ATT GAR W/BA (281) COV CON (492)	1/4/2021	1	1	LESAGE WILSON FAMILY TRUST	1				
1327	052-390-083-000	6124	LAUREL	SFR 2 BED 2 BA + DEN (1851) ATT GAR (483) COV CON (334)	11/25/2020	1	1	BENGSON	1		2ND PROPERTY ELIGIBLE		
1328	050-180-051-000	6407	FOREST	MFH 3 BED 2 BA (1295)	2/18/2021	1	1	LASSEN GROUP LLC	NA	NA	BOUGHT AFTER FIRE		
1329	054-191-079-000	1347	JEANNIE	MFH 4BD/2BA(2295) COV WOOD(295)	2/23/2021	1	1	MILLER BOWER FAMILY TRUST	NA	NA	BOUGHT AFTER FIRE		
1330	051-060-009-000	6190	FORTY OAKS	SFR 3BD/2BA(1709) ATT GAR(585)	1/5/2021	1	1	HAYNES	1				
1331	052-070-096-000	471	CRESTVIEW	SFR 2BD/2BA(1639) ATT GAR(798) COV CON(391)	12/28/2020	1	1	LEVETT	1				

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1332	051-103-005-000	8451	MONTNA	SFR 2BD/2BA + OFFICE & STUDY (2408) ATT GAR (1771) COV CON (546)	1/11/2021	1	1	ROSSETTA	1				
1333	050-220-131-000	1808	ROCK HOUSE	MFH 2BD/2BA(966) COV WOOD(72)	12/3/2020	1	1	CAMP FIRE RELIEF TRUST	NA	NA	BOUGHT AFTER FIRE		
1334	053-290-025-000	6240	JOHNSON	MFH 2BD/2BA+DEN(1264) COV WOOD(47)	12/7/2020	1	1	SCOTT	1				
1335	052-242-036-000	776	OAK	SFR 2BD/2&1/2BA(2137) COV CON(58)	1/4/2021	1		LIPKIN	1				
1336	051-091-056-000	739	MADRONE	MFH 2BD/2BA + DEN (947)	3/19/2021	1	1	ROLLINS	NA	NA	SECOND DWELLING		
1337	051-171-099-000	6209	DESCANSO	SFR - 3 BED, 2 BATH (1291) ATT GAR (451) COV CON (292)	12/8/2020	1	1	FINNIE / BARON	NA	NA	BOUGHT AFTER FIRE		
1338	051-230-020-000	5048	RUSSELL	SFR- 2 BED, 2.5 BATH (1783), ATT GAR (495) COV CONC (626)	2/8/2021	1		MELINE	1				
1339	055-231-012-000	1595	MARSTON	SFR - 3 BED, 3 BATH (1500), ATT GAR (576), COV CONC (156)	1/26/2021	1	1	CURTIS	1				
1340	054-151-046-000	902	PEARSON	SFR 2BD/2BA(1492) ATT GAR(720) COV CON(216) COV WOOD(144)	12/14/2020	1	1	ANDERSON					
1341	053-150-160-000	1484	BILLE	SFR 5BD/4&1/2BA(3516) COV CON(572)	4/29/2021	1		ALVAREZ	1				
1342	053-230-071-000	5851	NIELSEN	SFR 2BD/2&1/2BA+DEN(1535) ATT GAR(555) COV CON(282)	12/11/2020	1	1	ANDERSON BROS	NA	NA			
1343	050-200-146-000	1486	COUNTRY OAK	SFR 3 BED/3 BA + GUEST ROOM (2543) ATT GAR (509) COV CON (344)	1/7/2021	1		GEORGE	NA	NA	BOUGHT AFTER FIRE		
1344	054-202-014-000	1622	LOUIE	SFR 3BD/2BA(1878) ATT GAR(568) COV CON(747)	1/20/2021	1	1	CLEVELAND	1				
1345	054-163-025-000	5582	BIEBERDORF	SFR 2BD/1BA(952) COV CON(86)	1/11/2021	1	1	DUGAN					
1346	053-150-045-000	6171	LIBBY	SFR 2 BED 2 BA (1800) UNCON LOFT (489) COV CON (900) ATT GAR (1800)	4/7/2021	1		FLEMING	1				
1347	051-164-024-000	1061	LISA	MFH 3 BED 2 BA (891)	12/22/2020	1	1	MARTINEZ	1				
1348	050-330-028-000	1374	HERMAN	MFH 2BD/2BA+DEN(1600)	1/28/2021	1	1	BOURGEOIS	NA	NA			
1349	052-090-010-000	661	ELLIOTT	MFH 1 BED 1 BA (756)	12/22/2020	1	1	COTTRELL	1				
1350	050-250-034-000	1747	TARA	MFH 1 BED 1 BA +DEN (756)	1/29/2021	1	1	CLARK	1				
1351	052-050-026-000	691	CAMELLIA	MFH 3 BED 2 BA + ACTIVITY ROOM (1782)	2/26/2021	1	1	WALLING	NA	NA	BOUGHT AFTER FIRE		
1352	052-241-008-000	771	OAK	SFR 2BD/2BA(1092) ATT GAR(480) COV CON(240)	6/22/2021	1	1	JONES	1				
1353	053-161-050-000	6039	SAWMILL	MFH 4 BED/2 BA + DEN (1590)	12/14/2020	1	1	MIQUEO	NA	NA			
1354	054-131-032-000	5669	WOODGLEN	SFR 3 BED/2 BA (1278) COV CON (302) ATT GAR (520)	2/16/2021	1		MAXEY	1				
1355	050-290-017-000	1658	PAMELA	SFR - 3BD/3BA (1883) ATT GAR (784) COV CONC (161)	3/17/2021	1	1	THOMAS	NA	NA	BOUGHT AFTER FIRE		
1356	051-250-107-000	4027	NEAL	SFR 3 BED 2 BA (1305) COV CON (352)	1/15/2021	1	1	TROVER	NA	NA	BOUGHT AFTER FIRE		
1357	055-261-041-000	2218	THORNBURG	MFH 3BD/2BA(1759)	1/13/2021	1	1	GROVER	1				
1358	053-200-046-000	5960	LIBBY	MFH 3BD/2BA (1368)	7/1/2021	1	1	SAUTTER FAMILY TRUST	N/A		BOUGHT AFTER FIRE		



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1359	055-050-035-000	3491	NEAL	SFR 2BD/2BA(1210) ATT GAR(502) COV CON(568)	2/23/2021	1	1	MCCLAIN	1				
1360	053-011-080-000	6165	CORAL	SFR 3BD/2BA(1446) ATT GAR(585) COV CON(237)	4/15/2021	1		RECONSTRUCTION & RECOVERY ADVISORS	NA	NA	BOUGHT AFTER FIRE		
1361	051-172-020-000	6208	OAK	SFR - 4 BED, 2 BATH (1857), ATT GAR (568), COV CONC (286)	2/3/2021	1	1	GALLARDO-CRUZ					
1362	052-300-035-000	5969	PINE VIEW	SFR 3 BED/2 BA (2100) OPEN WOOD DECK (1052)	5/24/2021	1	1	CHILDERS	1				
1363	054-010-032-000	1232	NUNNELEY	MFH 2BD/2BA (891)	2/23/2021	1	1	DUTTER	1				
1364	053-330-032-000	5805	SAWMILL	SFR 3 BED 2 BA (1890) ATT GAR (513) COV CON (169)	1/5/2021	1	1	COKER	NA	NA	BOUGHT AFTER FIRE		
1365	053-132-082-000	1264	ELLIOTT	MFH 2BD/2BA (891)	1/15/2021	1	1	HOUSH FAMILY TRUST	1				
1366	055-212-053-000	1424	KELLER	MFH 2BD/2BA (1167)	1/15/2021	1	1	AKIN	NA	NA	BOUGHT AFTER FIRE		
1367	054-132-073-000	5670	CHERRY	SFR 1BD/1&1/2BA(1042) ATT GAR(476) COV CON(108)	2/9/2021	1		WRAGG	NA	NA	BOUGHT AFTER FIRE		
1368	050-180-092-000	6641	PENTZ	MFH 2BD/2BA+DEN(1199) COV WOOD(71)	12/30/2020	1	1	ELY	1				
1369	050-390-007-000	1635	GATE	SFR 3BD/2BA+OFFICE(1694) ATT GAR(578) COV WOOD(152) COV CON(150)	1/15/2021	1	1	KOLESNIKOV	NA	NA	BOUGHT AFTER FIRE		
1370	054-230-096-000	5697	PENTZ	SFR 3 BED/2 BA (1400) ATT GAR (487) COV CON (322)	2/19/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA	BOUGHT AFTER FIRE		
1371	051-310-038-000	340	CIRCLEWOOD	SFR 3 BED/2 BA (1831), ATT GAR (682), COV CON (490)	2/23/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	NA	NA			
1372	054-202-026-000	1658	JARAMILLO	MFH 2BD/2BA (1167)	1/13/2021	1		HAYES	NA	NA	BOUGHT AFTER FIRE		
1373	054-240-056-000	1915	CRANDALL	MFH 2BD/2BA (1296)	1/13/2021	1	1	MICHAEL JOSEPH EVANS 2011 SEP PROP TRUST	NA	NA	BOUGHT AFTER FIRE		
1374	051-230-031-000	4670	SKYWAY	SFR 3BD/2BA(1283) COV CON(269)	1/12/2021	1	1	CORRON	1				
1375	050-220-084-000	6767	MATELL	MFH 2 BED/2 BA (1188) COV WOOD DECK (162)	2/26/2021	1	1	ONEILL	NA	NA	BOUGHT AFTER FIRE		
1376	055-140-020-000	742	AMBROOK	SFR 3BD/2BA(2118) ATT GAR(665) COV WOOD(249) OPEN WOOD(864)	1/4/2021	1	1	DUNGEY	1				
1377	053-131-067-000	5892	GOLDEN OAKS	SFR 2BD/2BA+OFFICE(1285) ATT GAR(461) COV CON(55)	1/8/2021	1	1	DELUCCHI	1				
1378	052-050-030-000	714	CAMELLIA	SFR 3BD/2BA+STUDY(1816) ATT GAR(516) COV CONC(388) - MP 1816	12/31/2020	1	1	MARTIN	NA	NA	BOUGHT AFTER FIRE		
1379	053-011-102-000	6154	CORAL	SFR 3BD/2BA(1573) ATT GAR(755) COV CON(224)	6/14/2021	1		SMITH	NA		BOUGHT AFTER FIRE		
1380	051-162-078-000	918	DEER CREEK	MFH 3 BED/2 BA (1545)	1/19/2021	1	1	PATEL / DIAMOND	NA	NA	BOUGHT AFTER FIRE		
1381	052-380-007-000	631	CIRCLEWOOD	MFH 3BD/2BA(1958)	1/7/2021	1	1	PATEL / DIAMOND	NA	NA	BOUGHT AFTER FIRE		

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1382	055-211-071-000	5272	CALIFORNIA	SFR 2 BED/2 BA (1146), COV CON (360)	2/10/2021	1	1	NELSON					
1383	051-145-042-000	6311	HARVEY	MFH 2BD/2BA(800)	12/18/2020	1	1	HOLLINGSWORTH	1		MULTIPLE PROPERTIES		
1384	050-100-114-000	1754	PINEY RIDGE	SFR 2 BED 2 BA (1180) COV CON (202)	1/8/2021	1	1	WILLIAMS	1				
1385	053-162-061-000	1376	ORPUT	SFR 3BD/2BA(1749) ATT GAR(733) COV CON(347)	1/7/2021	1	1	ROBLES	NA	NA	BOUGHT AFTER FIRE		
1386	055-080-036-000	3394	NEAL	SFR 3BD/2BA (1808) ATT GAR (1157) COV WOOD (1401)	2/19/2020	1	1	METROKA	1				
1387	051-144-041-000	6346	DIAMOND	SFR 3BD/2BA + DEN(1986) ATT GAR(574) COV CON(315)	6/8/2021	1	1	SMITH / MADDEN	N/A				
1388	050-051-019-000	7059	CLARK	MFH 2 BED/2 BA (1080)	1/29/2021	1	1	BARON	1				
1389	052-380-043-000	612	CIRCLEWOOD	MFH - 3 BED, 2 BATH (1759)	1/25/2021	1		SCHUMACHER	NA	NA	BOUGHT AFTER FIRE		
1390	054-060-011-000	5557	NEWLAND	MFH 3BD/2BA(1455) COV WOOD(68)	VOID								
1391	055-240-013-000	5050	EDGEWOOD	MFH 3BD/2BA(1455) COV WOOD(68)	1/13/2021	1		FALLON	1				
1392	051-094-039-000	837	BILLE	SFR 2BED/2BA + OFFICE	10/8/2021	1	1	RESZLER					
1393	054-010-010-000	5733	NEWLAND	SFR 3 BED/3 BA (1728) ATT GAR (950) UN COND BATH (76) UNCOND STORAGE (195) COV CON (492) COV WOOD (176)	2/17/2022	1	1	MCCANN					
1394	055-160-037-000	545	WIRTHS	SFR 3BD/2&1/2BA(2487) ATT GAR(675) COV CON(802)	1/7/2021	1	1	PHILLIPS	1				
1395	051-300-024-000	324	REDBUD	SFR 2 BED/2 BA + LIBRARY (1700), ATT GAR (564), COV CON (152)	4/21/2023	1		VOYCHIK					
1396	055-030-015-000	137	COAST RANGE	MFH 2BD/2BA(1458)	1/25/2021	1	1	DELACRUZ-KLEVEN / BUNCE	NA	NA	BOUGHT AFTER FIRE		
1397	052-032-049-000	5935	LARISSA	MFH 3BD/2BA (1856)	1/25/2021	1	1	TOVANI	1				
1398	053-190-014-000	5897	LIBBY	MFH 3BD/2&1/2BA(2673)	1/25/2021	1	1	FINHOLT	NA	NA	BOUGHT AFTER FIRE		
1399	050-060-063-000	6877	QUAIL	SFR 2 BED/2 BA (1495), COV CON (2470), ATT GAR (636)	3/1/2021	1	1	BRANDTMAN	1				
1400	052-090-037-000	5946	HAYES	SFR 4BD/2&2-1/2BA(3100) ATT GAR(1520) COV CON(1167)	1/22/2021	1	1	STRUVE	1				
1401	054-132-046-000	5748	KIBLER	SFR 2 BED/2 BA + DEN (1422) ATT GAR (437) COV CON (65)	2/16/2021	1	1	IANNACONE	NA	NA	BOUGHT AFTER FIRE		
1402	053-310-004-000	1863	NORWOOD	MFH 2BD/2BA + DEN(1600)	1/15/2021	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1403	050-052-051-000	1692	MULBERRY	MFH 3BD/2BA+ACTIVITY ROOM(1894)	2/11/2021	1	1	QUILTY	NA	NA	BOUGHT AFTER FIRE		
1404	051-094-046-000	6290	WALL	MFH 2BD/2BA + DEN (1512)	1/15/2021	1		RETRO PROPERTIES INC	1				
1405	051-083-130-000	819	REGNIER	SFR 2 BED/2BA + OFFICE (1285) ATT GAR (461) COV CON (55)	4/12/2021	1	1	ZOELLNER	1				
1406	053-230-091-000	1600	ELLIOTT	SFR 3 BED/2.5 BA (1996) GARAGE (771) COV CON (458)	1/4/2021	1	1	JANSSEN	1				
1407	050-120-155-000	1793	EL TORO	SFR 3 BED/3 BA (2300) ATT GAR (1018) COV CON (981)	2/3/2021	1	1	GILLETT	1				

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1408	052-390-042-000	476	SUNSET	SFR 3BD/2BA(1440) COV WOOD(1493) ATT GAR(587) RAISED FNDTN GAR LEFT OPTS - MP BP21-00091	8/29/2022	1	1	PRUITT					
1409	053-190-112-000	1367	MERIAM	SFR 4BD/2BA(2237) ATT GAR(811) COV CON(544)	1/14/2021	1	1	WELLS	1				
1410	053-260-054-000	1873	DEL RIO	SFR 2 BED/2 BA + DEN (1570) ATT GAR (402) COV CON (132)	2/23/2021	1	1	TAYCO / KOEHN	NA	NA	BOUGHT AFTER FIRE		
1411	053-180-171-000	1565	ELLIOTT	SFR 4 BED/ 2 BA + OFFICE (2845) ATT GAR (691) COV CON (532)	1/4/2021	1	1	HAPPICH	1				
1412	052-260-124-000	5454	FILBERT	SFR 4 BED 3 BA (2399) ATT GAR (587) COV CON (445)	1/21/2021	1	1	PENNA	1				
1413	052-370-009-000	5396	FOSTER	SFR - SIP 2 BED 2BA +DEN (1280) ATT GAR (552) UNC BASE (1280) COV CON (144)	1/21/2021	1	1	MURRAY	NA	NA	BOUGHT AFTER FIRE		
1414	050-330-072-000	1309	SEQUOIA	SFR 3BD/2BA (1674) ATT GAR (543) COV CON (48)	1/14/2021	1	1	ROGERS	NA	NA	BOUGHT AFTER FIRE		
1415	052-290-053-000	5410	SCOTTWOOD	SFR 3 BED 2 BA (1763) ATT GAR (569) COV CON (175)	2/24/2021	1	1	NICKEL	1				
1416	052-330-004-000	623	SCOTT	SFR 3BD/2BA (1842) COV WOOD DECK (755) ATT GAR (1061)	7/6/2021	1		SKOPNIK	1				
1417	050-210-067-000	1651	MEADOWBROOK	MFH 3 BED 2 BA (1760)	1/12/2021	1	1	SWENSON	1				
1418	053-150-202-000	6151	LIBBY	SFR 2BD/2BA + DEN (1240) ATT GAR (624) COV CON (233)	2/24/2021	1	1	HARLAND	1				
1419	050-230-032-000	1884	MERRILL	SFR 3BD/2BA+OFFICE(2034) ATT GAR(702) COV CON(608)	9/30/2022	1	1	STONE					
1420	050-250-054-000	6267	MOUNTAIN VIEW	SFR 3 BED/2.5 BA (2887) ATT GAR (884) COV CON (438) COV WOOD (212)	2/22/2021	1	1	SHINGLER	1				
1421	050-100-039-000	1840	DRAYER	SFR 3 BED 2 BA (1755) ATT GAR (512) COV WOOD DECK (509) OPEN WOOD DECK (422)	1/29/2021	1	1	MUNGER	1				
1422	051-460-056-000	118	VALLEY RIDGE	SFR 3BD/2&1/2BA(2496) ATT GAR(595) COV WOOD(308) COV CON(269)	2/23/2021	1	1	LUTSIK	NA	NA	BOUGHT AFTER FIRE		
1423	050-082-103-000	1621	KINGDOM	SFR 2BD/2BA(1494) COV CON(1080) ATT GAR(355) ATT ADU 1BD/2BA+OFFICE(893)	2/18/2021	1	1	ZABEL	1				
1424	054-171-058-000	1225	LURENA	MFH 2BD/2BA + DEN (891)	4/8/2021	1	1	NABBEN	1				
1425	054-164-020-000	5641	CHERRY	MFH 2 BED/2BA + DEN (1890)	3/3/2021	1	1	E&E CARLONI INVESTMENTS	1				
1426	054-131-069-000	5690	SAWMILL	SFR 4 BED 3 BA (1896) ATT GAR (448) COV CON (88)	1/26/2021	1	1	AVILA	1				
1427	054-210-082-000	5722	FICKETT	SFR 3BD/2&1/2BA(1720) ATT GAR(430) COV CON(122)	3/5/2021	1		MADRIGAL	NA	NA	BOUGHT AFTER FIRE		
1428	054-182-049-000	1417	DOTTIE	MFH 2 BED/2 BA (837)	1/14/2021	1	1	BERRY	1				
1429	051-093-020-000	6209	FERN	SFR 2BD/2BA+STUDY(1380) ATT GAR(432) COV CON(135)	3/1/2021	1	1	NEUMANN FAMILY TRUST	1				
1430	053-011-007-000	6161	TWIN	sfr	8/6/2019	1	1	TENNANT	1				
1431	050-180-087-000	6626	DOLORES	SFR 3BD/2BA(1682) ATT GAR(508) COV CON(341)	1/27/2021	1	1	VIT BUILDERS LLC					
1432	051-040-066-000	6643	LINCOLN	SFR 3BD/2BA (1664) ATT GAR (528) COV CON (60)	3/8/2021	1	1	BORDELON	1				
1433	052-150-046-000	5847	JAMES	SFR 2BD/2BA+OFFICE(936) ATT GAR(420)	3/28/2022	1	1	BERNDT TRUST					

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1434	051-230-008-000	5049	RUSSELL	SFR 2BD/2&1/2BA(1789) ATT GAR(520) COV WOOD(482) OPEN WOOD(324) COV CON(357)	6/11/2021	1		BEAN	1				
1435	053-101-034-000	1004	MAPLE PARK	MFH 3BD/2BA (1982)	3/16/2021	1	1	DAVIS	1				
1436	050-040-091-000	1683	GINNY	MFH 2 BED/2 BA (1296)	3/19/2021	1	1	LEDBETTER	NA	NA	BOUGHT AFTER FIRE		
1437	052-130-042-000	518	FIR	SFR 3 BED/2.5 BA (1814) COV CON (680)	1/28/2021	1	1	CONNOLLY, ROSEN, GOBIN TRUST	1				
1438	055-030-049-000	140	JADE	SFR 3BD/2BA(1530) ATT GAR(514) COV CON(123) COV WOOD(124) OPEN WOOD(62)	2/11/2021	1	1	WITTEN	NA	NA	BOUGHT AFTER FIRE		
1439	051-071-076-000	6220	REGIS	SFR 3BD/2BA(2326) ATT GAR(590) COV CON(108)	3/4/2021	1	1	HUTTON	1		LOST 6236 REGIS		
1440	053-150-040-000	6165	LIBBY	SFR 3 BED/2.5 BA (1826)	2/12/2021	1		ARELLANO	NA		ALREADY RECEIVED ON FIRST PERMIT		
1441	054-131-093-000	5678	SAWMILL	SFR 3 BED/2 BA (1851) ATT GAR (550) UN COV WOOD DECK (415) COV CON (140)	2/4/2021	1	1	SALISBURY	1		LOST 1425 IDLEWILD		
1442	050-330-031-000	6478	SIMON	MFH 2 BED 2 BA + DEN (1548)	6/10/2021	1	1	REINERT	1				
1443	052-142-011-000	727	HAMMA	MFH 1 BED 2 BA + DEN (1188)	2/3/2021	1	1	SAWYER	1				
1444	054-100-015-000	972	BELLA VISTA	SFR 3BD/2BA+DEN(1773) ATT GAR(550) COV CON(77)	2/5/2021	1		TARRANT - RALSTON TRUST	1				
1445	054-141-077-000	5680	CLARA	MFH 2BD/2BA+DEN(1280)	2/3/2021	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1446	054-152-046-000	1053	PEARSON	SFR 2BD/2BA(1311) ATT GAR(580) COV CON(389)	2/4/2021	1	1	GUAY	1				
1447	055-090-044-000	260	WAYLAND	SFR 4BD/2&2-1/2BA(3102) ATT GAR(957) COV CON(413) UNC STOR(210) OPEN WOOD(142)	2/2/2021	1	1	NEAL	1		LOST 390 STARLIGHT		
1448	055-320-012-000	1372	PARKWAY	SFR 2BD/2BA+DEN(1422) ATT GAR(437) COV CONC(65) MP SILVERMARK 1422	2/16/2021	1	1	BINGHAM	NA	NA	BOUGHT AFTER FIRE		
1449	055-020-022-000	280	CRAFT	SFR 2BD/2BA+DEN(1422) ATT GAR(437) COV CONC(65) MP SILVERMARK 1422	4/29/2021	1	1	GREYPOINT DEVELOPMENT LLC	NA	NA	BOUGHT AFTER FIRE		
1450	055-261-024-000	2221	DEMILLE	SFR - 3 BED/2 BA (1824) ATT GAR (527) COV CON (54)	1/27/2021	1	1	ARKENBERG	NA	NA	BOUGHT AFTER FIRE		
1451	055-261-027-000	2211	DEMILLE	SFR 3 BED/2 BA (1824) ATT GAR (527) COV CON (54)	1/27/2021	1	1	ARKENBERG	NA	NA	BOUGHT AFTER FIRE		
1452	054-280-023-000	1870	SALIDA	MFH 2 BED/2 BA (837)	2/3/2021	1	1	BALASEK	NA	NA	BOUGHT AFTER FIRE		
1453	050-330-025-000	6486	MATSU	MFH 2BD/1BA(756)	2/3/2021	1	1	DEW	1				
1454	052-390-069-000	558	SUNSET	SFR 2BED/2BA (1208) ATT GAR (408)	10/27/2021	1	1	JENKINS					
1455	051-082-055-000	743	ASHLAND	MFH 3 BED 2 BA (1056)	2/23/2021	1	1	FRANCO	1				
1456	052-340-016-000	733	DAMROW	MFH 3BD/2BA(1566)	5/13/2021	1	1	BRAY	1				
1457	052-024-083-000	634	SUNSET	SFR 2BD/2BA+OFFICE(1492) ATT GAR(484) COV CON(306)	3/4/2021	1	1	RUBINO	1				

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1458	050-150-009-000	1353	TAYLOR	SFR 3 BED/3-1/2 BA (2835) ATT GAR (720) ATT CARPORT (342) STORAGE (634) COV CON (1134) COV DECK REAR AND BALCONY (858)	2/4/2021	1		MORELAND	1				
1459	051-470-022-000	5673	BARTELS	SFR 3BD/2&1/2BA(1779) ATT GAR(675) COV CON(714)	2/2/2021	1	1	BLENDERMAN	1		LOST 5327 BENNETT RD		
1460	051-260-046-000	5335	ORCHARD	SFR 3BED 2 BA (1446) ATT GAR (794) COV CON (263)	2/18/2021	1	1	BOLIN	1				
1461	053-190-099-000	5916	NUT TREE	SFR 3 BED 2 BA (1826) ATT GAR ( 593) COV CON (223)	3/24/2021	1	1	SHAVER	1	NA	LOST 5921 DEL MAR TO FIRE		
1462	050-140-021-000	1562	ADAMS	SFR 3BD/2BA(1437) ATT GAR(541) COV CON(89) SLAB MP KOHLER	1/29/2021	1	1	KOHLER	1				
1463	054-210-015-000	5953	PENTZ	MFH 2BD/2BA+OFFICE(1553)	2/17/2021	1		GUO	NA	NA	BOUGHT AFTER FIRE		
1464	053-131-061-000	5883	GOLDEN OAKS	2ND DWELL SFR -1BD/1BA+DEN(752) ATT GAR(400)	2/4/2021	1	1	DELUCCHI	1		MULTIPLE PROPERTIES		
1465	054-202-031-000	1634	JARAMILLO	SFR - 3 BED / 2 BATH (1088) COV CON(56)	11/23/2021	1	1	MELLO					
1466	050-040-106-000	7153	PENTZ	SFR 3 BED/2 BA (1643) ATT GAR (704) COV CON (451)	3/3/2021	1	1	SUROWY	1				
1467	052-260-107-000	499	SUNBURST	SFR 3BD/2BA(1596) ATT GAR(838) COV CON(436)	3/1/2021	1	1	MILLER	1		LOST 2196 DEMILLE		
1468	051-092-041-000	680	MADRONE	SFR 2BD/2BA+DEN(1112) ATT GAR(576) COV CON(91)	2/16/2021	1	1	KALANQUIN	1				
1469	053-230-072-000	5845	NIELSEN	SFR 3 BED/2 BA (1996) ATT GAR (771) COV CON (458)	2/17/2021	1	1	ANDERSON BROTHERS CORP	NA	NA	BOUGHT AFTER FIRE		
1470	051-171-076-000	6298	DIAMOND	MFH 2 BED/2 BA (1512) COV WOOD DECK (216)	3/4/2021	1	1	KOENIG C N LIVING TRUST ESTATE	1				
1471	050-220-073-000	6542	WHEELER	MFH 2 BED/2 BA + DEN (1296)	2/23/2021	1	1	JOSHUA 24:15 TRUST	1				
1472	053-030-035-000	6079	MAXWELL	SFR 2 BED/2 BA (1110)	6/15/2022	1		JUAREZ	NA	NA	BOUGHT AFTER FIRE		
1473	051-072-019-000	6273	WAGSTAFF	SFR 2BD/2&1/2BA(1380) ATT GAR(896) COV CON(388)	3/11/2021	1	1	TAYLOR	1				
1474	053-021-066-000	6234	LUCKY JOHN	SFR 3 BED/2.5 BA (1877) ATT GAR (540) COV CON (98)	2/11/2021	1	1	ALBERT FRANCIS DEVELOPMENT INC	NA	NA	BOUGHT AFTER FIRE		
1475	054-164-016-000	5590	BUTTE VIEW	SFR 3BD/2&1/2BA(1877) ATT GAR(540) COV CON(98)	5/5/2021	1	1	KOMULA	NA	NA	BOUGHT AFTER FIRE		
1476	051-120-009-000	887	WAGGONER	SFR 3 BED/2 BA (2200),ATT GAR (440),COV CON (85)	3/16/2022	1	1	MJ INVESTMENTS ENTERPRISES LLC					
1477	052-260-118-000	5490	FILBERT	SFR 3BD/2&1/2BA(2074) ATT GAR(924) COV CON(521)	8/27/2021	1		GERSPACHER	1				
1478	051-164-028-000	1075	BILLE	SFR 3BD/2BA(1376) ATT GAR(528) COV CON(150)	3/25/2021	1	1	STANLEY	NA	NA	BOUGHT AFTER FIRE		
1479	054-020-017-000	5734	NEWLAND	SFR 2 BED/2 BATH (1148) ATT GAR (366) COV CON (327)	3/19/2021	1	1	MARSH	1				
1480	051-081-048-000	645	ROBERTS	SFR 3BD/2BA(1600) ATT GAR(624) COV CON(575)	2/25/2021	1	1	IMES	1				

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1481	051-250-083-000	5325	ORCHARD	SFR 3BD/2BA+DEN(1821) ATT GAR(861) COV CON(342)	3/5/2021	1	1	PETERS	1		LOST 5327 FOSTER		
1482	052-260-098-000	465	SUNBURST	SFR 2BD/2BA+OFFICE(1400) COV CON(322) - MP MODEL B NO GAR	2/23/2021	1	1	OSTERLUND	1				
1483	051-320-011-000	285	TRANQUIL	SFR 3BD/2BA(1595) ATT GAR(440) COV CON(360) MP - ADC MODEL Z	3/16/2021	1		AMERICAN DREAM CONSTRUCTION INC	NA	NA	BOUGHT AFTER FIRE		
1484	052-050-040-000	708	POPPY	SFR 3BD/2BA(1881) ATT CARPORT(480) COV COV(122)	3/5/2021	1		PETERS	1		LOST RENTAL PROPERTY		
1485	055-262-011-000	5429	PENTZ	SFR 2 BED/2.5 BA (1877) ATT GAR (540) COV CON (98)	4/9/2021	1	1	SILER / HUTCHINSON	PENDING SALE TO ALBERT FRANCIS				
1486	052-070-104-000	5861	CRESTVIEW	SFR 2BD/2BA(1253) COV CON(264)	4/5/2021	1		SCHROEDER	1				
1487	051-180-019-000	6066	TERRA VISTA	SFR 1BD/1BA(800) ATT STOR(64) COV CON(300)	2/22/2021	1	1	UMENHOFER	1		SECOND DWELLING		
1488	055-220-021-000	5211	CIRCLE	MFH 4 BED 2 BA (1728)	4/29/2021	1	1	RAKICH	1		LOST 5209 CIRCLE		
1489	054-060-112-000	5580	GRAMERCY	SFR 3 BED/2 BA (1775 ATT GAR (581) COV CON (307)	3/2/2021	1	1	GARRITY	NA	NA	BOUGHT AFTER FIRE		
1490	051-120-102-000	945	WAGGONER	MFH 3BD/2BA(1499) ATT COV WOOD(67)	2/25/2021	1	1	BURKHOLDER	NA	NA	BOUGHT AFTER FIRE		
1491	054-191-034-000	5417	LIBBY	SFR 3 BED/2 BA (1771) ATT GAR (440) COV CON (36)	2/25/2021	1	1	MEYER	1				
1492	053-030-029-000	6078	LUCKY JOHN	MFH 3BD/2BA+ACTIVITY ROOM(1782)									
1493	052-290-001-000	5540	SCOTTWOOD	SFR - 3 BED 2 BATH (1788) ATT GAR (743) COV CONC (530)	10/10/2022	1	1	DAILEY					
1494	051-120-090-000	867	WAGGONER	SFR 2 BED 3 BA (2114) ATT GAR (400)	3/1/2022	1		CIBRIAN - GEORGE					
1495	055-320-005-000	5205	PARKWAY	MFH 3BD/2BA (1494)	12/22/2020	1	1	BLAIR	1				
1496	051-060-043-000	6170	FORTY OAKS	SFR 3 BED/2.5 BA (2807) ATT GAR (1369) COV CON (1064)	3/24/2021	1	1	GROOS	1		LOST 6109 LAUREL		
1497	052-350-001-000	5439	SCOTTWOOD	MFH 3BD/2BA(1674)	4/6/2021	1	1	BUIE	1				
1498	051-120-103-000	1020	KINDIG	SFR 3BD/2BA (1674) ATT GAR (864) COV CON (36) COV WOOD DECK (168) OPEN WOOD DECK (322)	1/28/2021	1	1	SHILLING	1				
1499	050-172-015-000	1517	WAGSTAFF	MFH 4BD/3BA(2300)	3/9/2021	1	1	HOLLINGSWORTH	1		MULTI FAMILY REBUILD		
1500	055-212-012-000	5258	LIBBY	MFH 1 BED/1 BA + DEN	3/12/2021	1	1	ENGEL	1				
1501	051-050-007-000	709	HEAVEN'S GATE	SFR 3 BED/2 BA (1368) ATT GAR (493) COV CON (266)	3/1/2021	1	1	PICKARD	1				
1502	050-340-048-000	6426	APOLLO	MFH 2BD/2BA+STUDY(1467) COV CON(162)	3/2/2021	1		HAMBY	1				
1503	054-152-081-000	5546	FOLAND	SFR 3 BED/1 BA (1000) ATT GAR (446) COV CON (27)	4/7/2021	1	1	GREYPOINT DEVELOPMENT	NA	NA	BOUGHT AFTER FIRE		
1504	051-220-092-000	5595	SCHMALE	SFR 4BD/2BA (2243) ATT GAR (787) COV CON (679)	3/4/2021	1	1	ANDERSON BUILDERS CORP	NA	NA	PREVIOUSLY UNDEVELOPED		
1505	055-320-016-000	5214	PARKWAY	MFH 3BD/2BA(1136)	12/29/2022	1	1	HART					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
1506	054-230-135-000	5498	ROCKFORD	SFR 2BD/1BA(864)	12/20/2021	1		TEETER					
1507	051-161-024-000	881	DEER CREEK	SFR 3BD/2BA(1697) ATT GAR(640) COV CON(272)	6/21/2021	1		CURRY	1				
1508	051-260-022-000	250	PACIFIC	SFR 3 BD/2BA(1804) ATT GAR(440) COV CON(310) SLAB OPT - MP GROUP BD 1804	2/24/2021	1	1	HARDING ENTERPRIZES	NA	NA	BOUGHT AFTER FIRE		
1509	052-271-046-000	630	GREGS	SFR 2BD/2BA+OFFICE(1548) ATT GAR(520) COV CON(609)	3/2/2021	1	1	MUNSTERMAN	1		SECOND PROPERTY		
1510	052-380-044-000	606	CIRCLEWOOD	SFR 2BD/2BA (1556) ATT GAR (534) COV CON (162)	5/12/2021	1	1	RATZLAFF	NA	NA	BOUGHT AFTER FIRE		
1511	052-032-047-000	436	VALLEY VIEW	MFH 3 BED/2 BA (2213) COV WOOD (96)	4/8/2021	1	1	MULFORD	NA	NA			
1512	054-182-057-000	1441	TONI	MFH 2BD/2BA+DEN(891)	3/10/2021	1		CHAPPLE					
1513	055-020-110-000	261	DOVE SONG	SFR 4 BED/3 BA (3094) ATT GAR (818) COV CON (600)	4/2/2021	1	1	NICHOLS	1		LOST 481 TIGER TAIL		
1514	050-450-025-000	1650	PARADISEWOOD	SFR 3BD/2BA(1816) ATT GAR(516) COV CONC(388) MP 1816	3/10/2021	1		TOWLE TRUST	1				
1515	055-270-007-000	5340	PENTZ	MFH 2 BED/2 BA (1378) + COV PORCH (135)	3/4/2021	1	1	BEARDSLEY	NA	NA	BOUGHT AFTER FIRE		
1516	050-120-050-000	6930	PENTZ	SFR 3 BED /2 BA (1674) ATT GAR (543)	3/3/2021	1	1	ENGLANT	1				
1517	051-145-050-000	1234	ANDERSON	SFR 2 BED/2 BA (1225) COV CON (630)	3/12/2021	1		DICKINSON	NA	NA	BOUGHT AFTER FIRE		
1518	051-151-043-000	978	WAGSTAFF	MFH 4 BED/3 BA (2430)	3/10/2021	1	1	SALYER	1				
1519	054-182-041-000	1120	PEARSON	MFH 2 BED/2 BA (1512) COV WOOD PORCH (216)	6/24/2021	1	1	REYNOLDS	N/A				
1520	052-244-052-000	820	COLLEGE HILL	SFR 3BD/2BA(1437) ATT GAR(541) COV CON(89) SLAB OPT. MP KOHLER	3/26/2021	1	1	MALLAN	1				
1521	052-290-002-000	776	BUSCHMANN	SFR 3BD/2BA(1590) ATT GAR(574) COV CON(234)	3/18/2021	1	1	LONGACRE	1				
1522	055-280-030-000	5312	COUNTRY CLUB	SFR 3 BED/2 BA (1283)	4/12/2021	1	1	HAYNES	1		2ND PROPERTY		
1523	053-210-030-000	1431	ELLIOTT	SFR 2BD/1BA(750) COV CON(123)	4/5/2021	1	1	VELASCO	1				
1524	054-050-100-000	5605	MALLAN	SFR 3 BED/2 BA (1437) ATT GAR (541) COV CON (296)	3/26/2021	1	1	MALLAN	1				
1525	051-310-006-000	5395	TOPAZ	SFR 3BD/2BA (2100) ATT GAR (733) COV CON (1536)									
1526	054-230-026-000	1888	LILLIAN	SFR 3BD/2BA (1674) ATT GAR (543)	3/11/2021	1		MATTHEWS	1				
1527	055-090-036-000	3294	NEAL	SFR 2 BED/2 BA +DEN (1280) ATT GAR (528) COV CON (56)	VOID								
1528	055-261-046-000	2197	DEMILLE	SFR 3 BED/2 BA (1368) ATT GAR (493) COV CON (266)	3/18/2021	1	1	ANDERSON BROS	N/A				
1529	053-131-061-000	5885	GOLDEN OAKS	SFR 3 BED/2 BA (1361) ATT GAR (440) COV CON (55)	5/4/2021	1	1	DELUCCHI	1				
1530	055-320-010-000	1358	PARKWAY	SFR 3BD/2BA (1112) ATT GAR (576) COV WOOD DECK (128)	6/8/2021	1	1	COLLINS	1				
1531	055-150-019-000	444	APPLE	SFR 2 BED/2 BA (1595) ATT GAR (440) COV CON (360)	3/16/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A				

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1532	053-150-175-000	1383	DELIA	SFR 3 BED/2 BA (2048); ATT GAR (482); COV CON (122)	4/29/2021	1	1	RYBCHENKO	NA	NA	BOUGHT AFTER FIRE		
1533	050-330-053-000	6483	LONE CEDAR	SFR 2 BED 2 BA + DEN (1103) ATT GAR (454) COV CON (84)	7/19/2021	1	1	6K CONSULTING INC	N/A				
1534	053-300-005-000	1315	DEODARA	SFR 3BD/2B(1346) ATT GAR(642) COV CON(118)	3/22/2021	1	1	AVILA	NA	NA	BOUGHT AFTER FIRE		
1535	053-310-001-000	1857	NORWOOD	SFR 3 BED/2 BA (1478) ATT GAR (618) COV CON (184)	3/31/2021	1	1	DUNLAP	NA	NA	BOUGHT AFTER FIRE		
1536	053-162-037-000	5995	LIBBY	SFR 3BD/2BA (1749) ATT GAR (733) COV CON (347)	3/11/2021	1	1	BUNNELL	NA	NA	BOUGHT AFTER FIRE		
1537	054-164-006-000	5593	CHERRY	SFR 2 BED 2 BA (960) COV CON (144)	3/18/2021	1	1	VERGARA			BOUGHT AFTER FIRE		
1538	054-151-043-000	942	PEARSON	SFR 3 BED/2.5 BA (1673) ATT GAR (546) COV CON (487)	5/7/2021	1	1	ROTCY	1				
1539	050-220-095-000	6815	LEONE	MFH 2BD/2BA+DEN(1600)	4/12/2021	1	1	FUNDAMENTAL	NA	NA	BOUGHT AFTER FIRE		
1540	050-040-148-000	1606	WALNUT	MFH 3BD/2BA(1620)	4/12/2021	1	1	PROSPEROUS ROAD INC	NA	NA	BOUGHT AFTER FIRE		
1541	050-180-052-000	1560	WAGSTAFF	SFR 2BD/3BA + OFFICE (1566) ATT GAR (524)	5/5/2021	1	1	HILL	1				
1542	054-152-020-000	1419	STONEHURST	SFR 3 BED 2 BA (1771) ATT GAR (440)	3/24/2021	1	1	BONGERS	1		OTHER PERMIT WITHDRAWN		
1543	050-180-076-000	6630	DOLORES	MFH 3BD/2BA(1493)	4/5/2021	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
1544	052-130-048-000	5772	TIPTON	SFR - 4 BED, 3 BATH (2780) ATT GAR (545) COV CON (510)	3/31/2021	1		OTTERSON	1				
1545	053-370-015-000	1527	ROSEMARY	MFH - 2 BED, 2 BATH (889)	3/19/2021	1	1	RUFF	NA	NA	BOUGHT AFTER FIRE		
1546	054-172-031-000	5530	EDGEWOOD	MFH - 2 BED, 2 BATH (1296)	VOID								
1547	050-200-122-000	6288	MELENE	SFR 3BD/2BA(1816) ATT GAR(516) COV CON(388) - MPRP RIDGE RANCH 1816 - GAR RIGHT SLAB FOUNDATION	3/8/2022	1	1	LASSEN GROUP LLC					
1548	051-072-089-000	533	ROBERTS	SFR - 3 BED, 2.5 BATH (2405) SHOP (2389) ATT GAR (557) COV CON (796)	3/22/2021	1	1	BOLIN	1				
1549	050-330-032-000	6474	SIMON	SFR 2 BED/2 BA + DEN (1498) ATT GAR (518) COV CON (321) *LASSEN PEAK MP*	3/29/2021	1	1	ECKSTROM	NA	NA	BOUGHT AFTER FIRE		
1550	052-182-044-000	5604	JEWELL	SFR 2 BED/1 BA (988) *MENNONITE MP*	VOID								
1551	054-120-043-000	5221	BENNETT	MFH 3 BED 2 BA (1759)	4/26/2021	1	1	FLORES	1		LOST 5386 SAWMILL		
1552	054-240-125-000	5571	DESANTE	SFR 3 BED/2BA (1831) ATT GAR (501) COV CON (48)	4/5/2021	1	1	KENNELLY	1				
1553	051-093-038-000	6247	BECKER	SFR 3 BED/2 BA + CRAFT ROOM (1473) ATT GAR (658) COV CON (486)	3/31/2021	1	1	TYLER	1				
1554	053-300-056-000	5779	BONNIE	SFR 3 BED 2 BA (1680) ATT GAR (552) COV CON (272)	6/18/2021	1	1	AVILA	NA		BOUGHT AFTER FIRE		
1555	054-201-017-000	5406	SAWMILL	MFH (1769)	4/12/2021	1	1	GOZZI / BEVINS	NA	NA	BOUGHT AFTER FIRE		



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1556	055-060-003-000	89	ROE	SFR 2 BED/2 BA (960) COV CON (152)	VOID			PAZ AND SHUMP	NA	NA	BOUGHT AFTER FIRE		
1557	050-200-132-000	1491	COUNTRY OAK	SFR 3BD/2BA(1816) ATT GAR(516) COV CON(388) - MPRP RIDGE RANCH 1816 - GAR RIGHT SLAB FOUNDATION	3/24/2022	1	1	LASSEN GROUP LLC					
1558	055-170-034-000	811	BIG SKY	SFR 3 BED/2 BA (1816) "1816 MASTER PLAN" COV CON (388) ATT GAR (516)	4/26/2021	1	1	HOLT	1				
1559	055-060-026-000	92	ROE	MFH 2 BED/2 BA + DEN (1060)	4/16/2021	1	1	PAZ					
1560	055-030-035-000	130	JADE	SFR 2 BED/2 BA (1105) ATT GAR (426)	6/16/2021	1	1	O'REAR	N/A		BOUGHT AFTER FIRE		
1561	051-460-008-000	155	VALLEY RIDGE	SFR - ADU 1 BED/1 BA (773)	4/29/2021	1		PILLSBURY	NA	NA	NEW TO PROPERTY		
1562	051-132-007-000	1260	SEVERNS	SFR 3BD/2BA (1940) ATT GAR (480) COV WOOD DECK (70)	4/6/2021	1	1	BOSIO	NA	NA	BOUGHT AFTER FIRE		
1563	052-232-003-000	5621	SIERRA PARK	SFR 2 BED/2 BA (1224) ATT GAR (434) COV CON (90)	2/14/2022	1		DENNEY					
1564	055-220-045-000	1438	BENNETT	SFR 2 BED/2 BA (1196) UNCONDITION STORAGE (956) ATT GAR (725) COV CON (312)	4/7/2021	1	1	HILLSKEMPER	NA	NA	BOUGHT AFTER FIRE		
1565	055-410-019-000	88	GRINDING ROCK	MFH 3BD/2BA + DEN(1653)	4/7/2021	1	1	LOMBARDI	NA	NA	BOUGHT AFTER FIRE		
1566	054-131-097-000	1567	HEMLOCK	MFH 3BD/2BA +STUDY(1973)	3/25/2021	1	1	MUZIO	NA	NA	BOUGHT AFTER FIRE		
1567	051-094-019-000	6286	WALL	SFR - 3B/2BA (1816) ATT GAR (516) COV CONC(388) OPTION: GAR LEFT FRONT LOAD 3 BED SLAB ON GRADE GAS/ELEC MASTER PLAN REBUILD PARADISE 'RIDGE RANCH	5/10/2022	1	1	PAGE					
1568	053-131-084-000	1149	COVERT	MFH 3BD/2BA (1440)	4/15/2021	1	1	MICH	1				
1569	051-094-044-000	6260	WALL	SFR 2BD/2BA (2002)	6/29/2021	1		WYSE	1				
1570	052-070-055-000	5941	CRESTVIEW	SFR 3BD/2BA (1595) ATT GAR (440) COV CON (360)	4/1/2021	1		SPROLES	N/A		BOUGHT AFTER FIRE		
1571	053-021-036-000	6170	BOWLES	SFR 3BED/2BA (2148) ATT GAR (742) COV CON (617)	4/13/2021	1	1	DICKERT	1				
1572	054-191-049-000	5427	T J	MFH 2BD/2BA + DEN(1620)	4/15/2021	1	1	RUTHERFORD					
1573	053-070-038-000	6003	WILLIAMS	MFH 2BD/1BA(619) ADU	4/27/2021	1	1	FALLEN	N/A	NA	BOUGHT AFTER FIRE		
1574	054-152-038-000	1059	PEARSON	MFH 3BD/2BA(1499) COV WOOD(68)	4/8/2021	1	1	BERNDT DE PINEDA					
1575	055-440-004-000	5247	TRAFALGAR SQUARE	SFR 3BD/2BA(1777) ATT GAR(678) COV CON (28)	4/20/2021	1	1	SEGURA	N/A		BOUGHT AFTER FIRE		
1576	053-250-123-000	1826	CHLOE	SFR 3BD/2BA(2048) ATT GAR(799) COV CON(272)	5/13/2021	1	1	LUTSIK	N/A				
1577	051-380-019-000	429	NOTTINGHAM	SFR 3BD/2BA (1542) ATT GAR (475) COV CON (177)	4/29/2021	1	1	LUTSIK	N/A		BOUGHT AFTER FIRE		
1578	054-030-026-000	5681	PARADISE	SFR 3BD/2BA (1674) ATT GAR (543)	4/22/2021	1	1	BASHAM / SANTOS	N/A	NA	BOUGHT AFTER FIRE		

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1579	051-144-007-000	6363	OAK	SFR 3BD/2BA(1775) ATT GAR(581) COV CON(423)	4/5/2021	1	1	VANDERMAELEN	N/A	NA	BOUGHT AFTER FIRE		
1580	051-145-006-000	6377	HARVEY	MFH 2BD/2BA + OFFICE(1733)	4/9/2021	1	1	STRUVE	1				
1581	051-320-024-000	254	TRANQUIL	SFR 3BED/2.5BA (1973) ATT GAR (600) COV CON (501)	6/3/2021	1	1	WILLOW GROVE PARTNERSHIP	N/A		BOUGHT AFTER FIRE		
1582	054-151-098-000	5659	ANGEL	MFH 3BD/2BA(1387)	11/2/2021	1	1	MARSHALL					
1583	052-212-022-000	597	OAKWOOD	SFR 3BED/2.5BA (1720) ATT GAR (430) COV CON (122)	7/7/2021	1	1	SOSA	N/A		BOUGHT AFTER FIRE		
1584	051-151-035-000	923	THOMASSON	SFR 3BD/2&1/2BA(1535) ATT GAR(555) COV CON(282)	4/8/2021	1	1	LARSON	1				
1585	053-023-002-000	6179	BOWMAN	SFR 2BD/2BA+DEN(1620) ATT GAR(576) COV CONC(410) GABLE ROOF GARAGE LEFT SLAB FOUNDATION - MP-MARTIN CONSTRUCTION	4/6/2021	1	1	MARTIN	N/A	NA	BOUGHT AFTER FIRE		
1586	050-220-098-000	6808	LEONE	MFH 2BED/2BA + DEN (1215)	4/27/2021	1	1	BALSAMO	1				
1587	050-220-101-000	6803	LEONE	MFH 2BED/2BA + DEN (1215)	4/27/2021	1	1	BANNER MTN TRUST	N/A	NA	BOUGHT AFTER FIRE		
1588	054-080-051-000	5523	GARDEN VIEW	SFR 3BED/2BA (1470) ATT GAR (472) COV CON (23)	7/27/2021	1		ROBBINS	N/A		FUNDING UNAVAILABLE		
1589	053-170-139-000	5992	SAWMILL	MFH 3BD/2BA(1065)	4/15/2021	1		VEGA	1		2ND PROPERTY		
1590	053-161-063-000	6060	LIBBY	SFR -3BD/2BA+STUDY(1816) ATT GAR(516) COV CONC(388) - MP 1816	4/15/2021	1	1	BCD PARADISE LLC	N/A	NA	BOUGHT AFTER FIRE		
1591	054-161-010-000	5644	WOODGLEN	SFR 3BD/2BA(1807) ATT GAR(482) COV CON(156)	5/7/2021	1	1	TRI D HOMES LLC	N/A		BOUGHT AFTER FIRE		
1592	054-131-058-000	5657	WOODGLEN	SFR 2BD/2BA+DEN(1807) ATT GAR(482) COV CON(156)	5/7/2021	1	1	TRI D HOMES LLC	N/A		BOUGHT AFTER FIRE		
1593	055-440-099-000	5235	TRAFALGAR SQUARE	SFR 3BD/2BA(1815) ATT GAR(483) COV CON(177)	5/18/2021	1	1	MAGDALYN	N/A				
1594	054-210-042-000	5930	PENTZ	MFH 3BD/2BA(1600)	5/28/2021	1	1	MANUFACTURED HOUSING SET-UP INC ETAL	N/A		BOUGHT AFTER FIRE		
1595	050-052-103-000	1695	SWEETBRIER	MFH 3BD/2BA(1627)	8/26/2021	1	1	PHIL STEVENS CONSTRUCTION CORPORATION					
1596	052-011-097-000	6161	DUNCOMBE	SFR 2BD/2BA+DEN(1727) ATT GAR(484) COV CON(65)									
1597	053-132-061-000	5801	INGALLS	SFR 3BD/2BA(1804) ATT GAR(550) COV WOOD(387) COV CON(123)	5/20/2021	1	1	KNAUS	N/A		BOUGHT AFTER FIRE		
1598	053-060-009-000	6193	GREENWOOD	SFR - 2BED/2BA + DEN (1597) ATT GAR (555) COV CON (310)	5/28/2021	1		PIETSCH	1				
1599	053-090-003-000	6169	BERKSHIRE	SFR 3BD/2.5BA (1770) ATT GAR (572) UNCON SPACE (516) COV CON (160) COV WOOD DECK (250)	5/7/2021	1	1	KRUGER	1				
1600	055-040-061-000	5623	WILSON	SFR 4BD/3BA(3023) ATT GAR(668) COV CON(524)	6/15/2021	1	1	STONER					

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1601	051-040-011-000	6650	MYRTLE	SFR 3BD/2&1/2BA+OFFICE(2446) UNF BSMT(928) ATT CAR(248) COV WOOD(377) OPEN WOOD(85) SCR POR(284)	8/12/2021	1		FLINT					
1602	051-180-009-000	6077	CLIFF	SFR 4BD/2&1/2BA (2164) COV CON(1169) ATT GAR(576)	5/27/2021	1		GUERRA	1				
1603	051-310-013-000	372	CIRCLEWOOD	SFR 3BD/2BA(1517) ATT GAR(481) COV CON(168)	4/29/2021	1	1	NIKO LLC	N/A		BOUGHT AFTER FIRE		
1604	050-180-034-000	6377	FOREST	SFR 3BD/2.5BA (1836) ATT GAR (457) COV WOOD DECK (1047)	4/27/2021	1	1	LEFEBVRE					
1605	054-030-021-000	5675	NEWMAN	MFH 3BD/2BA(1493)	4/20/2021	1	1	MIQUEO	N/A		BOUGHT AFTER FIRE		
1606	053-150-099-000	6162	OPAL	MFH 3BD/2BA (1280)	5/3/2021	1	1	PLA	NA				
1607	055-211-039-000	5223	SQUIRE	SFR - 2BD/2BA(1368) ATT GAR(528) COV CONC(211)	5/11/2021	1	1	KOEHN / TAYCO	N/A		BOUGHT AFTER FIRE		
1608	052-031-109-000	5735	REED	SFR 1 BED/1BA	VOID								
1609	050-040-007-000	9045	SKYWAY	SFR 3BD/2BA(1811) ATT GAR(755) COV WOOD(432) COV CON(197)	5/19/2021	1		FOGARASSY	1				
1610	054-080-046-000	5522	GARDEN VIEW	SFR 2BD/2BA (960) UNCON SPACE GABLE (152) SLAB FOUNDATION	4/26/2021	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY	N/A		BOUGHT AFTER FIRE		
1611	054-080-045-000	5518	GARDEN VIEW	SFR 2BD/2BA (960) UNCON SPACE GABLE (152) SLAB FOUNDATION	4/26/2021	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY	N/A		BOUGHT AFTER FIRE		
1612	054-080-058-000	5514	GARDEN VIEW	SFR 2BD/2BA (960) UNCON SPACE GABLE (152) SLAB FOUNDATION	4/26/2021	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY	N/A		BOUGHT AFTER FIRE		
1613	054-191-073-000	5385	LIBBY	MFH 2BED/2BA + DEN (1512)	5/27/2021	1		POTTS	1				
1614	051-083-102-000	6411	LUCKY JOHN	MFH 3BD/2BA (1674)	6/21/2021	1	1	WRANGHAM	1				
1615	055-020-083-000	253	BURDEN TERRACE	SFR 3BD/2BA(1681) COV WOOD(170)	6/8/2021	1		DENOFRIO	1				
1616	052-090-032-000	677	MEMORIAL	MFH 2BED/1BA (756)	4/22/2021	1	1	LOTTI	1				
1617	053-330-104-000	5765	DEANNA	MFH 2BED/1BA (756)	4/22/2021	1	1	EVANS	N/A		BOUGHT AFTER FIRE		
1618	050-250-050-000	1892	STARK	SFR - 3 BED, 2 BATH (2038) ATT GAR (604) COV CONC (455)	11/17/2022	1	1	GOBBA					
1619	054-171-055-000	5432	SAWMILL	SFR 2BD/2BA(1075) ATT GAR(526) COV CON(183)	4/26/2021	1	1	WOOD	1				
1620	055-201-068-000	5271	BEVERLY GLEN	SFR 3BED/2.5BA + OFFICE (2054) ATT GAR (547) COV CON (119)	7/13/2021	1	1	HERRERA / AGUIRRE	N/A		BOUGHT AFTER FIRE		
1621	051-163-027-000	6208	POSEY	SFR 2BD/2BA+DEN(1508) ATT GAR(406) COV CON(119) HIP ROOF SLAB FOUNDATION - MP NCC 1508 REVERSED	5/24/2021	1	1	ROBINSON	1				
1622	055-330-003-000	1972	HILLPARK	SFR 3BED/2BA (2089) ATT GAR (854) COV CON (413)	5/14/2021	1	1	CHRISTENSEN	1				
1623	052-031-006-000	466	CASTLE	SFR 3BED/2BA (1422) *SITE SPECIFIC - 1422 MASTER * ATT GAR (437) COV CON (65)	8/10/2021	1	1	CALIFORNIA STEAM CLEAN LLC	N/A				

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
1624	052-070-026-000	503	CRESTWOOD	SFR 3BD/2BA(1422) ATT GAR(437) COV CONC(65) - MP SILVERMARK 1422	4/29/2021	1	1	GREYPOINT DEVELOPMENT LLC	N/A		BOUGHT AFTER FIRE		
1625	054-202-043-000	5393	BREEZEWOOD	SFR 3BED/2.5BA + DEN (2415) ATT GAR (815) COV CON (914)	7/12/2021	1		TT LEASING INCORPORATED	N/A		BOUGHT AFTER FIRE		
1626	055-060-008-000	3696	NEAL	SFR 3BD/2BA(1860) ATT GAR(576) COV CON(144)	5/4/2021	1	1	THE KITE GROUP INC	N/A		BOUGHT AFTER FIRE		
1627	055-060-046-000	3730	NEAL	SFR 3BD/2BA+STUDY(1920) ATT GAR(561) COV CON(411)	5/4/2021	1	1	THE KITE GROUP INC	N/A		BOUGHT AFTER FIRE		
1628	053-310-008-000	1871	NORWOOD	SFR 3BD/2&1/2BA(1769) ATT GAR(434) COV CON(151) COV WOOD(107) OPEN WOOD(184)	5/14/2021	1	1	DE VENTURA	1				
1629	055-440-111-000	5049	MALIBU	SFR 3BD/2BA+STUDY(1816) ATT GAR(516) COV CONC(388) - MP 1816	5/10/2021	1	1	APOSTOL	N/A		BOUGHT AFTER FIRE		
1630	051-132-046-000	1271	WAGSTAFF	SFR 3BD/2BA(2386) ATT GAR(530) COV CON(528)	6/21/2021	1	1	GARNER	1				
1631	050-240-077-000	1725	STARK	SFR 2BD/2BA(960) COV CON(144) SLAB OPTION- MP HOPE HOUSE 2	5/5/2021	1	1	COX	N/A				
1632	052-300-017-000	5888	PINE VIEW	MFH 3BD/2BA(1493) COV WOOD(107)	6/9/2021	1	1	LASSEN GROUP LLC	N/A		BOUGHT AFTER FIRE		
1633	051-092-034-000	720	MADRONE	SFR 2BED/2BA + DEN (1831) ATT GAR (727) COV CON (490)	6/4/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A		BOUGHT AFTER FIRE		
1634	055-130-117-000	455	LEISURE	SFR 2BD/2BA + OFFICE(1400) COV CON(322) W/ OPT. ATT GAR (487) - MP MODEL B	6/17/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A		BOUGHT AFTER FIRE		
1635	054-132-074-000	1715	ELLIS	SFR 3BED/2BA (1771) ATT GAR (543) *MASTERED WEST PLAN*	5/13/2021	1	1	WEST FAMILY HOMES					
1636	051-172-040-000	6203	HARVEY	SFR 2BD/2BA(960) COV WOOD(144) RAISED FOUNDATION OPTION - MP RP HOPE HOUSE 2	5/6/2021	1	1	ROJAS	1		2ND DWELLING REBUILD		
1637	051-172-040-000	1239	BILLE	SFR 2BD/2BA(960) COV WOOD(144) RAISED FOUNDATION OPTION - MP RP HOPE HOUSE 2	5/7/2021	1	1	ROJAS					
1638	053-162-088-000	1381	HAZELWOOD	SFR 3BD/2BA 1838 ATT GAR648 COV CON 306	5/20/2021	1	1	MOSSETT	1				
1639	055-050-096-000	98	SUTTER	SFR 3ED/2BA (1674) ATT GAR (543) COV CON (40) *SITE SPECIFIC 1674 MASTER*	5/20/2021	1	1	MUHLBAIER	N/A		BOUGHT AFTER FIRE		
1640	052-390-011-000	6150	CLIFF	SFR 3BD/2BA(1120) COV CON(240) SLAB FOUNDATION OPTION - MP RP HOPE HOUSE 3	5/7/2021	1	1	POE					
1641	050-051-036-000	1519	WARREN	SFR 1BD/1BA(750) COV CON(84) - MP RP "750 ADU"	12/20/2021	1		HELLEWELL					
1642	051-330-031-000	5840	YORKSHIRE	SFR 3BD/2BA(2001) ATT GAR(525) COV CON(343)	5/13/2021	1		LUTSIK	N/A		BOUGHT AFTER FIRE		
1643	053-150-049-000	6134	LIBBY	SFR ADU - RES ADDITION(240) AND PARTIAL GARAGE CONVERSION(243)	4/10/2023	1	1	GAZARYAN					
1644	055-070-007-000	4993	FOSTER	SFR 2BD/2BA(1084) ATT GAR(287) COV CON(354) - MP AMERICAN DREAM MODEL E	6/15/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A		BOUGHT AFTER FIRE		

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1645	050-100-113-000	1734	PINEY RIDGE	SFR 2BED/2BA + ART ROOM (1421) COV CON (428)	6/4/2021	1		MARTIN	1				
1646	053-200-027-000	5963	HAZEL	SFR 3BD/2BA(1400) COV CON(322) ATT GAR(487) - MP ADC MODEL B	5/7/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
1647	054-132-106-000	5699	CHERRY	SFR 2BD/2BA+ RETREAT(1512) ATT GAR(618) COV CON(187)	6/28/2021	1	1	DIEGO	1				
1648	052-031-123-000	6059	OLIVER	MFH 3BD/2BA(1167)	5/13/2021	1	1	ERVIN					
1649	053-011-062-000	1230	BILLE	MFH 3BED/2BA (1440)	6/11/2021	1	1	RECONSTRUCTION AND RECOVERY ADVISORS INC	N/A				
1650	050-370-005-000	6669	SHAY	SFR 3BD/2BA(1569) ATT GAR(506) COV CONC(277) - MP TRILOGY 'PONDEROSA'	6/11/2021	1	1	CORNERSTONE DEVELOPMENT GROUP	N/A		BOUGHT AFTER FIRE		
1651	051-103-011-000	8409	MONTNA	SFR 3BD/2BA(1771) OPT. SLAB ATT GAR(543) GARAGE RIGHT - MP THE STARLIGHT HOME	5/24/2021	1	1	WEST FAMILY HOMES	N/A				
1652	050-090-049-000	1715	GRAND	SFR 3BED/2BA (2173) ATT GAR (488) ATT GAR (624) COV CON (266)	6/16/2021	1	1	MCKAY KATHRYN J	N/A		BOUGHT AFTER FIRE		
1653	050-220-013-000	1851	MERRILL	SFR 3BD/3&1/2BA(2446) ATT GAR(793) COV CON(723)	6/8/2021	1	1	ROBERTS	N/A				
1654	051-131-010-000	1099	WAGSTAFF	SFR 2BD/2BA(960) COV CON(144) SLAB FOUNDATION - MP RP HOPE HOUSE 2	5/13/2021	1	1	HILL					
1655	051-162-071-000	6310	LUCKY JOHN	SFR 3BED/2BA (1575) ATT GAR (490) COV CON (192)	5/28/2021	1	1	CLEMENT	1		LOST 6274 LANCASTER		
1656	053-272-082-000	6051	PENTZ	SFR 4BED/2.5 BA (2496) ATT GAR (608) COV CON (567)	8/24/2021	1	1	ZHILKO					
1657	055-530-032-000	5276	HARRISON	SFR 3BD/3BA+STUDY(2725) ATT GAR(1165) COV CON(265)	7/6/2021	1	1	HUZOVATYY	N/A				
1658	054-240-050-000	1904	CRANDALL	SFR 2BD/2&1/2BA+OFFICE(1535) ATT GAR(555) COV CON(282)	5/24/2021	1	1	ANDERSON BROTHERS CORP	N/A				
1659	054-230-048-000	1761	STEARNS	SFR 3BD/2BA(1771) SLAB FNDTN ATT GAR(543) - MP THE STARLIGHT HOME	5/19/2021	1		CASTILLO	N/A				
1660	053-021-003-000	892	BILLE	MFH 3BD/2BA(1440)	5/21/2021	1	1	KAIGER	N/A				
1661	050-390-024-000	7221	CANDLEWOOD	SFR 2BED/2BA + OFFICE (1517) ATT GAR (481) COV CON (168)	6/1/2021	1	1	BLYSHCHYK	N/A		BOUGHT AFTER FIRE		
1662	055-120-061-000	500	SATICOY	SFR 2BD/2BA+DEN(1084) ATT GAR(427) COV CON(354) - MP AMERICAN DREAM CONSTURCTION MODEL E	9/7/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
1663	053-230-141-000	5842	NIELSEN	SFR 3BD/2BA(1555) ATT GAR(484) COV CON(420)	6/3/2021	1	1	BLOX DESIGN LLC					
1664	052-212-004-000	72	PEARSON	SFR 2BD/2BA(960) COV CON(144) - MP RP THE FLUMES	5/27/2021	1		SILBERISEN	N/A		BOUGHT AFTER FIRE		
1665	051-104-091-000	7040	MONTNA	SFR 3BED/2BA (1385) ATT GAR (561) COV CON (67)	6/25/2021	1	1	BLOX DESIGN LLC	N/A				
1666	051-091-008-000	6263	GRAHAM	SFR 2BD/2BA(824) COV CON(56) - MP 824-2.2 (NOR CAL CONSTRUCTION)	5/20/2021	1	1	PORTLOCK	1				
1667	050-150-082-000	1387	HERMAN	MFH 2BED/2BA + DEN (1296)	6/21/2021	1	1	AUER	N/A		BOUGHT AFTER FIRE		

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1668	050-230-030-000	6692	SHAY	SFR - 3 BED / 2.5 BATH (1791) ATT GAR (538) COV CON (471) - MP ASPEN MODEL B	2/17/2022	1	1	STP CAPITAL LLC					
1669	053-210-026-000	1487	ELLIOTT	MFH 3BD/2BA(1387)	5/20/2021	1	1	TOFAN	N/A		BOUGHT AFTER FIRE		
1670	055-410-008-000	93	GRINDING ROCK	SFR 3BED/2BA (1804) ATT GAR (440) COV CON (302) *SITE SPECIFIC*	5/26/2021	1	1	WEST FAMILY HOMES	N/A		BOUGHT AFTER FIRE		
1671	052-300-034-000	609	ELLIOTT	MFH 3BED/2BA (1620)	8/9/2021	1	1	DESIMONE / MCDONALD					
1672	054-151-030-000	5660	ANGEL	SFR 2BED/2BA (1082) ATT GAR (408) COV CON (165)	6/4/2021	1	1	HARTMAN	1				
1673	055-150-020-000	443	APPLE	SFR 3BD/2BA(1595) ATT GAR(440) COV CON(360) GABLE ROOF MIRRORED	6/17/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A		BOUGHT AFTER FIRE		
1674	053-040-064-000	1259	KLING	SFR 2BD/2BA+PARLOR(1458) ATT GAR(556) COV CON(550)	6/1/2021	1	1	URENA	N/A		BOUGHT AFTER FIRE		
1675	052-182-068-000	5644	LITTLE GRAND CANYON	SFR 3BD/2BA+OFFICE(1929) ATT GAR(536) COV CON(425)	8/17/2021	1	1	KOLESNIKOV					
1676	051-470-009-000	210	REDBUD	SFR 4BD/3BA(2725) ATT GAR(1165) COV CON(265)	8/19/2021	1	1	GARCIA					
1677	054-250-021-000	1851	DRENDEL	SFR 2BD/2BA+LOFT(1564) COV WOOD(1496)	8/13/2021	1		LANGE					
1678	055-020-029-000	197	ROE	SFR 1BED/1BA + LOFT (972) COV WOOD (492)				FEDASKO					
1679	051-151-008-000	954	WAGSTAFF	SFR 2BD/1BA(792) ATT GAR(624) ATT CARPORT(240) COV WOOD(256)	6/23/2021	1		ELSEN	1				
1680	055-270-079-000	2378	TOKAY	SFR - RPMP 750 ADU: 1 BED, 1 BATH (750), COV CONC (54) PORCH RIGHT, RAISED FOUNDATION	6/2/2021	1	1	SIMPSON					
1681	055-220-032-000	1390	BENNETT	SFR 2BED/2BA +DEN (1620) ATT GAR (576) COV CON (410) *SITE SPECIFIC*	6/15/2021	1	1	MARTIN	N/A		BOUGHT AFTER FIRE		
1682	050-230-029-000	6690	SHAY	SFR - 3 BED / 2.5 BATH (1791) ATT GAR(538) COV CON(471) - MP ASPEN MODEL A	2/18/2022	1	1	STP CAPITAL LLC					
1683	051-171-045-000	1127	BILLE	SFR 4BD/2BA(1567) ATT GAR(481) COV CON(99)	6/7/2021	1	1	ROJAS	N/A		BOUGHT AFTER FIRE		
1684	051-071-042-000	6198	WAGSTAFF	SFR 3BD/2BA(1595) ATT GAR(440) COV CON(360) GABLE ROOF OPTION MIRRORED - MP Z	6/16/2021	1	1	AMERICAN DREAM CONSTRUCTION INC	N/A		BOUGHT AFTER FIRE		
1685	051-480-013-000	5772	ACORN RIDGE	SFR 4BED/3BA (2645) ATT GAR (910) COV CON (548)	9/29/2021	1	1	HUZOVATYY					
1686	050-210-006-000	6249	FOREST	SFR 3BD/2BA(1811) ATT GAR(679) COV CON(602)	12/21/2022	1		SPERSKE					
1687	054-010-058-000	5665	NEWLAND	SFR 3BD/2BA(1749) ATT GAR(733) COV CON(347)	6/9/2021	1	1	PRYOR	N/A		BOUGHT AFTER FIRE		
1688	051-071-106-000	6274	WAGSTAFF	SFR 4BED/3.5BA + STUDY (2519) ATT GAR (720) COV CON (424)	7/6/2021	1	1	GOODLIN	N/A				
1689	051-094-011-000	6240	WALL	SFR 3BED/2BA (1807) ATT GAR (482) COV CON (277)	6/28/2021	1	1	TRI D HOMES	N/A		BOUGHT AFTER FIRE		
1690	053-230-135-000	5811	NIELSEN	SFR 2BD/2BA+OFFICE(1807) ATT GAR(482) COV CON(157)	6/17/2021	1	1	TRI D ASSOCIATED BUILDERS	N/A		BOUGHT AFTER FIRE		

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1691	053-110-069-000	1007	ELLIOTT	MFH 2BD/2BA+DEN(1494)	5/28/2021	1	1	LEBEDEV	N/A		BOUGHT AFTER FIRE		
1692	053-011-054-000	1266	TAHOE	MFH 3BED/2BA (1456)	VOID			PROSPEROUS ROAD INC.					
1693	053-080-013-000	6179	CLARK	SFR 3BD/2&1/2BA(1904) COV CON(950)	VOID			WEISSBERG					
1694	053-250-069-000	6267	PENTZ	SFR 3BED/2BA (1612) COV WOOD (704)	6/30/2021	1	1	COX	N/A		BOUGHT AFTER FIRE		
1695	050-040-090-000	1687	GINNY	MFH 2BED/2BA (1215)	6/8/2021	1	1	HARRIS	1				
1696	051-071-079-000	6204	WAGSTAFF	MFH 2BD/2BA+DEN(1296)	6/9/2021	1	1	SHERMAN	N/A		BOUGHT AFTER FIRE		
1697	053-190-056-000	5944	DEL MAR	SFR 3BED/2BA (1512) ATT GAR (618) COV CON (184)	6/29/2021	1	1	KRAFT BUILDERS INC	N/A		BOUGHT AFTER FIRE		
1698	053-161-018-000	1428	POWELL	SFR 2BD/2BA(1075) ATT GAR(526) COV CON(183)	6/7/2021	1	1	BABCOCK	1				
1699	053-230-023-000	5808	SAWMILL	SFR 2BED/2BA (1425) ATT GAR (548) COV CON (276)	7/21/2021	1	1	KITE GROUP INC					
1700	054-164-004-000	5619	CHERRY	SFR 2BD/2BA(1075) ATT GAR(526) COV CON(183)	6/7/2021	1	1	ROBERTS	1				
1701	051-083-139-000	6395	SHADE TREE	SFR 3BED/2BA (1894) ATT GAR (574) COV CON (156)	6/29/2021	1	1	BARTEAU	1				
1702	050-230-046-000	1798	MERRILL	SFR 2BED/2BA (970) ATT GAR (459) COV CON (99)	6/18/2021	1	1	KEEL	N/A		BOUGHT AFTER FIRE		
1703	053-180-164-000	5913	KIBLER	SFR 4BD/4BA(3080) ATT GAR(922) COV CON(485)	7/9/2021	1	1	PECK	1				
1704	054-010-125-000	5655	CATHY	SFR - 3B/2BA (1816) ATT GAR (516) COV CONC(388) MASTER PLAN REBUILD PARADISE 'RIDGE RANCH 1816'	7/21/2022	1	1	SOSA					
1705	050-220-136-000	6806	PENTZ	SFR 2BD/1BA(700) ATT GAR(346) COV CON(60)	6/15/2022	1	1	KOEHN / TAYCO					
1706	050-220-136-000	6800	PENTZ	SFR 2BD/1BA(725) ATT GAR(291) COV CON(60)	6/15/2022	1	1	KOEHN / TAYCO					
1707	051-120-081-000	6644	PARAGALIA	MFH 2BD/1BA(756)	6/10/2021	1	1	MILLER	N/A		BOUGHT AFTER FIRE		
1708	054-141-053-000	5715	BONNIE	MFH 2BD/1BA(756)	6/10/2021	1	1	PREWITT	1				
1709	050-240-087-000	1799	STARK	SECONDARY DWELLING SFR - STUDIO(320) COV CON(80)	7/12/2021	1	1	SALA	N/A		2ND DWELLING NEW TO PROPERTY		
1710	055-040-061-000	5633	WILSON	SECONDARY DWELLING - SFR 1BD/1BA(405) COV CON(54)	8/3/2021	1	1	STONER					
1711	054-131-059-000	1604	NUNNELEY	SFR 3BD/2BA(2017) ATT GAR(928) COV CON(255)	7/30/2021	1	1	MELTON					
1712	052-011-112-000	680	BILLE	CONVERT EXISTING DET GAR INTO SFR (572) RES ADD (263) COV CON (720)	7/7/2021	1	1	SKY RIDGE BUILDERS	N/A				
1713	055-211-080-000	5319	LIBBY	MFH 3BD/2BA(1680)	8/23/2021	1	1	BASSARAB					
1714	050-100-087-000	1759	SUNRISE	MFH 2BD/2BA+OFFICE(1835)	5/18/2022	1	1	PROSPEROUS ROAD INC.					

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1715	050-240-036-000	1741	WHITAKER	MFH 3BD/2BA(1600)	6/16/2021	1	1	DIMITRASHUK	N/A		BOUGHT AFTER FIRE		
1716	050-330-068-000	6488	ROCKY	SFR 3BED/2BA (1517) ATT GAR (481) COV CON (168)	7/7/2021	1	1	SLOBODYANY	N/A		BOUGHT AFTER FIRE		
1717	050-230-008-000	1910	MERRILL	SFR 3BD/2BA(1555) ATT GAR(484) COV CON(420)	7/2/2021	1	1	BLOX DESIGN LLC	N/A		BOUGHT AFTER FIRE		
1718	054-132-045-000	1676	NUNNELEY	SFR 2BD/2BA+OFFICE(1385) ATT GAR(561) COV CON(67)	7/7/2021	1	1	BLOX DESIGN LLC	N/A		BOUGHT AFTER FIRE		
1719	054-161-030-000	1565	HENSON	MFH 2BED/2BA (973)	8/23/2021	1	1	HENDERSON / TUCKER					
1720	050-310-013-000	6633	DOLORES	MFH 2BD/2BA(1008) COV WOOD(96)	6/30/2021	1	1	LUNA	N/A		BOUGHT AFTER FIRE		
1721	055-440-107-000	5003	MALIBU	SFR 4BED/3BA (2538) ATT GAR (868) COV CON (497)	10/20/2021	1		F H ENTERPRISE					
1722	053-320-004-000	6105	VISTA KNOLLS	SFR 3BD/2BA(1504) ATT GAR(645) COV CON(512)	7/20/2021	1	1	DARBY	1				
1723	051-151-009-000	964	WAGSTAFF	SFR 3BD/2BA(2338) COV CON(1400) ATT GAR(816) ATT ADU(728)	6/28/2021	1	1	BOYNE TRUST	1				
1724	054-310-018-000	5490	NEWLAND	SFR 2BD/2BA+DEN(1784) ATT GAR(737) COV CON(496)	9/10/2021	1		ARISTOTLE CUSTOM HOMES LLC					
1725	054-182-037-000	1423	GRACEPHIL	SFR SITE SPECIFIC "LASSEN PEAK" SFR 3 BED/2 BA w/DEN option (1498) ATT GAR (518) COV CON (642)	6/30/2021	1	1	ECKSTROM ENTERPRISES LLC	N/A		BOUGHT AFTER FIRE		
1726	054-163-030-000	5579	WOODSMUIR	MFH 3BD/2BA(2482) COV WOOD(78)	1/28/2022	1	1	WILSONCOOK					
1727	054-310-027-000	5576	HEAVENLY	MFH 2BD/2BA+DEN(1188)	6/22/2021	1	1	GREENWELL	1				
1728	050-450-016-000	1622	PARADISEWOOD	SFR 3BD/2BA(1507) ATT GAR(476) COV CON(175) - MP ARISTOCRAT VENTURES: 1507 R SLAB OPT	7/2/2021	1	1	ARISTOCRAT VENTURES	N/A		BOUGHT AFTER FIRE		
1729	052-070-018-000	5880	CRESTVIEW	SFR 3BD/2BA(1507) ATT GAR(476) COV CON(175) - MP ARISTOCRAT VENTURES: 1507 L SLAB OPT	7/2/2021	1	1	ARISTOCRAT VENTURES	N/A		BOUGHT AFTER FIRE		
1730	054-240-036-000	1938	CRANDALL	SFR 2BD/2BA+OFFICE(1517) ATT GAR(481) COV CON (168)	7/20/2021	1	1	NIKO LLC	N/A				
1731	053-161-080-000	1487	FREESTONE	SFR 3BD/2BA(1830) ATT GAR(469) COV CON(217)	6/30/2021	1	1	LUTSIK / MENTUS	N/A		BOUGHT AFTER FIRE		
1732	053-110-086-000	1023	PLEASANT	SFR 2BD/2BA+OFFICE(1439) ATT GAR(651) COV CON(341)	7/9/2021	1	1	MILKOVIC	1				
1733	052-031-050-000	5724	REED	MFH 3BD/2BA(1200)	8/2/2021	1	1	PRATER					
1734	052-070-049-000	5874	CRESTVIEW	SITE SPECIFIC *1507* SFR 3BED/2 BA OPTION (1507) ATT GAR (476) COV CON (175)	7/2/2021	1	1	ARISTOCRAT VENTURES	N/A		BOUGHT AFTER FIRE		
1735	050-230-011-000	6689	SHAY	SFR 3BD/2BA(1860) ATT GAR(576) COV CON(144)	6/28/2021	1	1	THE KITE GROUP INC	N/A		BOUGHT AFTER FIRE		
1736	053-320-020-000	6094	VISTA KNOLLS	SITE SPECIFIC *1507* SFR 2BED/2BA + OFFICE (1507) ATT GAR (476) COV CON (175)	7/2/2021	1	1	ARISTOCRAT VENTURES	N/A		BOUGHT AFTER FIRE		
1737	055-262-025-000	5380	HARRISON	SFR 3BD/3BA(2356) ATT GAR(729) COV CON(243)	6/29/2021	1	1	OLSON / DORVILLE	N/A		BOUGHT AFTER FIRE		



Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
1738	054-141-037-000	1332	NUNNELEY	SFR - 3 BED / 2 BATH (1393) ATT GAR (479) COV CONC (108)	2/16/2022	1	1	WRIGHT FAMILY TRUST					
1739	051-072-034-000	547	BILLE	SFR 3BED/2BA (1517) ATT GAR (481) COV CON (168)	7/12/2021	1	1	BLOX DESIGN LLC	N/A		BOUGHT AFTER FIRE		
1740	050-410-005-000	6242	SAWMILL	SFR 3BD/2BA(1611) ATT GAR(430) COV CON(40)	8/12/2021	1	1	HUZOVATYY					
1741	051-083-094-000	756	RED HILL	SFR 1BD/1BA(750) COV CON(84) - MPRP 750 ADU	6/22/2021	1		SHEPPARD	N/A		BOUGHT AFTER FIRE		
1742	053-170-108-000	5983	PECK	SFR 2BD/2BA+OFFICE(1484) ATT GAR(482) COV CON(175)	8/3/2021	1	1	RPA CHALLENGE INCORPORATED					
1743	054-192-087-000	1450	ROY	MFH 1BED/1BA + DEN	6/24/2021	1	1	CHAVEZ	1				
1744	052-150-011-000	810	VIOLET	SFR 3BD/2BA(1516) ATT GAR(517) COV CON(188)	8/3/2021	1	1	RPA CHALLENGE INCORPORATED					
1745	050-120-168-000	6910	PENTZ	MFH 3BED/3BA (1836)	6/24/2021	1	1	PASTRANO-SPRINGS	1				
1746	052-273-010-000	5342	FILBERT	SFR 2BD/2BA+OFFICE(1317) ATT GAR(529) COV CON(176)	8/11/2021	1	1	WILSON					
1747	050-230-012-000	6687	SHAY	SFR 3BD/2BA(1860) ATT GAR(576) COV CON(144)	6/28/2021	1	1	THE KITE GROUP INC	N/A		BOUGHT AFTER FIRE		
1748	053-170-112-000	1548	KAY	SFR 3BD/2BA(1480) COV CON(54) SLAB OPT - MP 1480	6/22/2021	1	1	LITTLE CHICO CREEK LP	N/A		BOUGHT AFTER FIRE		
1749	052-050-017-000	723	CAMELLIA	SFR 3BD/2BA+OFFICE(1742) ATT GAR(481) COV CON(426)	7/19/2021	1	1	MENDEZ					
1750	053-190-060-000	5920	DEL MAR	SFR 2BED/2BA (1075) ATT GAR (526) COV CON (183)	6/25/2021	1	1	MURRELL FAMILY TRUST	1				
1751	055-211-030-000	1381	BENNETT	SFR 2BED/2BA + DEN (1535) ATT GAR (555) COV CON (282)	6/25/2021	1	1	DOUGLAS	1				
1752	051-220-091-000	5585	SCHMALE	SFR 4BD/3BA(2208) ATT GAR(712) COV CON(165)	6/25/2021	1	1	ANDERSON LAND & INVESTMENTS CO	N/A		NEVER BUILT ON BEFORE, NEW CONSTRUCTION		
1753	052-260-111-000	486	SUNBURST	SFR 3BD/3BA+OFFICE(2093) ATT GAR(457) COV CON(88)	7/19/2021	1	1	DUNCAN	1				
1754	052-225-015-000	5460	ALMOND	SFR 1BED/1BA (750) *SITE SPECIFIC*	6/23/2021	1	1	WILSON	1				
1755	052-237-008-000	5557	KEITH	SFR 2BD/2BA&1/2(1599) ATT GAR(528) COV CON(268)	6/25/2021	1	1	LITTLE CHICO CREEK LP	N/A				
1756	055-120-076-000	427	TIGERTAIL	SFR 3BED/2.5BA (1733) ATT GAR (729) COV CON (877)	6/29/2021	1	1	EDWARDS	1				
1757	050-340-018-000	6427	MOSS	SFR 1BD/1BA(750) ATT GAR(1470) COV CON(914) COV WOOD(440)	11/15/2021	1		RENNER					
1758	052-011-107-000	6141	DUNCOMBE	SFR 3BED/2.5BA (1720) ATT GAR (430) COV CON (122)	9/8/2021	1	1	SOSA					
1759	054-163-008-000	5561	BUTTE VIEW	SFR 3BD/2BA(1602) ATT GAR(566) COV CON(559)	8/27/2021	1	1	BABCOCK					
1760	050-390-017-000	1602	GATE	SFR 3BD/2BA(1551) ATT GAR(481) COV CON(168)	7/27/2021	1	1	VS REAL ESTATE LLC	N/A				
1761	050-390-021-000	1654	GATE	SFR 3BD/2BA(1551) ATT GAR(481) COV CON(168)	8/17/2021	1	1	VS REAL ESTATE LLC					

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1762	050-140-166-000	6803	BELLEVIEW	SFR 3BD/2BA (1816) ATT GAR (516) COV CON(388) - MPRP 1816	7/2/2021	1	1	SEGER	1		REBUILD PARADISE MASTER PLAN		
1763	050-060-089-000	6935	QUAIL	SFR 3BD/2BA(1193) COV CON(396) OPEN WOOD(60)				EVANS					
1764	054-131-091-000	1532	BIG TREE	MFH 2BD/2BA+DEN(1065)	6/30/2021	1		ITHACA HOMES LLC	1				
1765	051-092-043-000	6212	OLIVER	MFH 3BD/2BA(2038) COV WOOD(85)	4/29/2022	1	1	AITKEN					
1766	053-272-044-000	5790	FICKETT	SFR 3BD/2BA(2001) ATT GAR(525) COV CON(343)	9/3/2021	1	1	RYBCHENKO					
1767	050-280-045-000	6329	LANCASTER	SFR 2BED/2BA (1030) ATT GAR (460) COV CON (195)	8/12/2021	1	1	MILLER					
1768	055-040-033-000	188	HARRIS	MFH 2BD/2BA+DEN(960)	7/2/2021	1	1	DESANTIS	N/A		BOUGHT AFTER FIRE		
1769	051-093-064-000	6287	WALL	SFR 2/BED/2BA +DEN	7/2/2021	1	1	MEDLIN / WARREN	1		LOST 945 DEER CREEK LN		
1770	054-240-051-000	1900	CRANDALL	SFR 3BED/2BA + OFFICE (1726) ATT GAR (482) COV CON (172)	8/3/2021	1	1	TURNER					
1771	052-033-023-000	640	VALLEY VIEW	MFH 2BED/2BA (990)	10/4/2021	1	1	MELLO					
1772	055-270-033-000	2376	STEARNS	SFR 3BD/2BA(1248) ATT GAR(528) COV CON(154)	8/20/2021	1		NYAGA					
1773	055-270-009-000	5364	PENTZ	SFR 2BD/2.5BA + DEN (1505) ATT GAR (671) COV CONC (497)	7/15/2021	1		IRISH	N/A				
1774	055-130-119-000	525	CASA	SFR 2BD/2BA+OFFICE(1529) ATT GAR(621) COV CON(235)	7/20/2021	1	1	SILKWOOD	1				
1775	054-040-079-000	5700	ACADEMY	SFR 3BD/2BA(1120) COV CON(240) - MPRP BP21-01524 MIRRORED SLAB FNDTN COMP ROOF	8/11/2022	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
1776	055-150-029-000	446	APPLE	SFR 3BD/2BA(1571) ATT GAR(511) COV CON(324)	8/23/2021	1	1	RPA CHALLENGE INCORPORATED					
1777	054-132-105-000	1731	ELLIS	SFR- 2 BEDROOM, 2 BATHROOM W/ DEN (1793), ATT GAR (826), COV CONC ENTRY & PATIO (233)	9/15/2021	1	1	KRAFT BUILDERS INC					
1778	052-050-029-000	708	CAMELLIA	SFR 3BD/2B(1571) ATT GAR(518) COV CON(323)	7/15/2021	1	1	RPA CHALLENGE INCORPORATED	N/A				
1779	051-330-027-000	5850	CRESTMOR	SFR 3BD/2BA (2021) COV CON (300) ATT GAR (528)	9/24/2021	1	1	JANEWAY					
1780	054-060-110-000	5565	GRAMERCY	SFR 3BD/2BA (1458) COV CON (550) ATT GAR (556)	10/29/2021	1	1	WARNER					
1781	052-011-037-000	690	SUNSET	SFR 3BD/2BA (1648) COV CON (596) ATT GAR (672)	7/13/2021	1	1	KOEHNE	1				
1782	051-380-024-000	479	NOTTINGHAM	SFR 3BD/2BA(2060) ATT GAR(531) COV CON(298)	10/22/2021	1	1	SCHELL					
1783	051-380-020-000	439	NOTTINGHAM	SFR 3BD/2BA(2060) ATT GAR(444) COV CON(298)	10/25/2021	1	1	SCHELL					

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1784	053-070-006-000	866	CENTRAL PARK	SFR 3BD/2BA(1374) ATT GAR(528) COV CON(226)	11/12/2021	1		PHOENIX COMMUNITY INITIATIVE LLC					
1785	054-250-006-000	5576	FEATHER RIVER	MFH 2BD/2BA (1404)	8/24/2021	1	1	GOK					
1786	050-140-049-000	6797	CLARK	SFR 3BD/2BA(1656) ATT GAR(573) COV WOOD(493)	8/18/2021	1	1	BEVERINO					
1787	051-081-052-000	720	WAGSTAFF	SFR 3BD/2BA(1850) ATT GAR(448) COV CON(177)	8/3/2021	1	1	GAYDUCHIK					
1788	051-190-053-000	181	VALLEY RIDGE	SFR 3 BED/3.5 BA (2566) ATT GAR (592) COV CON (432) UNCONDITIONED BASEMENT (461)	7/22/2021	1	1	PETERSEN					
1789	053-060-018-000	6117	GREENWOOD	MFH 3BD/2BA(1499) COV WOOD(68)	8/23/2021	1	1	WOLFF FAMILY D TEETER TRUST					
1790	052-250-099-000	5550	VISTA	SFR 2BD/2BA(960) COV CON(144) SLAB FOUNDATION OPTION - MPRP 'HOPE HOUSE 2'	7/30/2021	1	1	EVANS					
1791	053-200-040-000	6019	HAZEL	MFH 2BED/2BA (1590)	9/10/2021	1	1	LASSEN GROUP LLC					
1792	053-330-113-000	5805	DEERPARK	SFR 3BD/2BA(1638) ATT GAR(574) COV CON(85)	8/3/2021	1		ROMERO					
1793	052-213-002-000	502	OAKWOOD	SFR 1BD/1BA(908) ATT GAR(848)	7/22/2021	1	1	RIVERA					
1794	051-172-057-000	6250	OAK	SFR 2BED/2BA (1405) ATT GAR (432) COV CON (111)	7/23/2021	1	1	NEUMANN					
1795	051-082-056-000	701	ASHLAND	MFH 3BD/2BA(1520) COV DECK(48)	7/21/2021	1	1	JMS SALES INC	N/A				
1796	055-202-009-000	5240	EDGEWOOD	SFR 3BED/3BA (2595) ATT GAR (440) COV CON (60)	8/15/2022	1		BIEGLER					
1797	050-200-124-000	6274	MELENE	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	8/31/2021	1	1	RYBCHENKO					
1798	052-070-021-000	5912	CRESTVIEW	MFH 2BD/2BA+DEN(1512) COV WOOD(216)	9/9/2021	1	1	HARRY					
1799	051-380-002-000	5923	YORKSHIRE	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	7/26/2021	1	1	SHKROBANETS	N/A				
1800	053-180-157-000	5930	LEGACY	SFR 3BD/2BA(1830) ATT GAR(469) COV CON(177)	9/2/2021	1	1	REZNICHENKO					
1801	050-240-031-000	1760	WHITAKER	SFR - 3BED/2BA (1774) ATT GAR (518) COV CON (150)	9/24/2021	1	1	RPA CHALLENGE LLC					
1802	054-220-030-000	5565	FEATHER RIVER	SFR 3BD/2BA(1120) COV CON(240) SLAB FOUNDATION - MPRP - HOPE HOUSE 3	7/30/2021	1	1	MAXWELL	N/A				
1803	050-350-037-000	1480	JONES	SFR 2BD/2BA(960) COV CON(144) SLAB FOUNDATION - MPRP HOPE HOUSE 2	7/19/2021	1	1	WHEELER	1				
1804	053-180-024-000	1555	SYLVAN	SFR 3BD/2&1/2(1720) ATT GAR(518) COV CON(172)	8/16/2021	1	1	RPA CHALLENGE INC					
1805	051-173-009-000	6286	HARVEY	SFR 2BD/2BA+OFFICE(1884) ATT GAR(409) COV CON(168)	9/3/2021	1	1	FISCHER					
1806	055-150-007-000	484	ELDREDGE	SFR 1BD/1BA(539) ATT GAR(569)	8/17/2021	1	1	VOLENSKI					
1807	053-110-083-000	1019	MAPLE PARK	SFR 2BD/2BA(972) ATT GAR(462) COV CON(65)	9/3/2021	1		MAHONEY CAPITAL LP					
1808	052-070-027-000	497	CRESTWOOD	SFR 4BD/2BA(1550) ATT GAR(440) COV CON(40)	9/2/2021	1	1	LUTSIK					

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1809	053-190-005-000	1376	BRILL	SFR 3BED/2.5BA (1790) ATT GAR (542) COV CON (384)	2/23/2022	1	1	RADIN					
1810	053-230-023-000	5810	SAWMILL	SFR 1BD/1BA(750) COV CON(84) MPRP 750 ADU	8/25/2021	1	1	THE KITE GROUP INC					
1811	054-230-135-000	5500	ROCKFORD	SFR 3BD/3&1/2BA(2930) ATT GAR(692) COV CON(597)	12/20/2021	1		TEETER					
1812	052-150-030-000	828	ELLIOTT	MFH - 2BED/2BA (891) + DEN	8/3/2021	1	1	STEINEMAN					
1813	051-260-040-000	283	PACIFIC	SFR - *SITE SPECIFIC* 3BED/2BA (1674) ATT GAR (543)	8/18/2021	1	1	SAFFRON DEVELOPMENT LLC					
1814	055-410-010-000	97	GRINDING ROCK	SFR 3/BED/2BA (1856) ATT GAR (440) *SITE SPECIFIC*	8/5/2021	1	1	WEST FAMILY HOMES					
1815	052-031-059-000	587	VALLEY VIEW	SFR 2BD/2BA+DEN(1620) ATT GAR(576) COV CON(410) GABLE ROOF & SLAB FOUNDATION - MP MARTIN CONSTRUCTION 1620	8/10/2021	1	1	MARTIN					
1816	052-012-022-000	800	BILLE	SFR 3BD/2BA+DEN(1807) ATT GAR(725) COV CON(386)	11/18/2021	1	1	HUFFMAN					
1817	053-110-101-000	1055	ELLIOTT	SFR 3BD/2BA (1674) ATT GAR (543) COV CONC PORCHES (252)	9/22/2021	1		RIVERA					
1818	051-146-005-000	6395	ROCKY	SFR 1BD/1BA(554) COV CON(56)	3/1/2023	1		THOMPSON					
1819	051-146-005-000	6397	ROCKY	SFR 1BD/1BA(554) COV CON(56)	3/1/2023	1		THOMPSON					
1820	051-146-005-000	6399	ROCKY	SFR 1BD/1BA(554) COV CON(56)	3/1/2023	1		THOMPSON					
1821	051-210-015-000	5577	VISTA	MFH 1BD/1BA+DEN(756)	8/23/2021	1	1						
1822	055-140-006-000	745	KINSEY	MFH 2BD/2BA(984) COV WOOD(72)	8/23/2021	1	1	WATERS					
1823	051-092-048-000	658	MADRONE	SFR 3BD/2BA(1368) ATT GAR(493) COV CON(266)	8/11/2021	1	1	KNOX					
1824	050-120-116-000	1913	DEAN	SFR 3BED/2BA (1535) ATT GAR (555) COV CON (282)	10/13/2022	1	1	ANDERSON BROTHERS CORP					
1825	050-120-117-000	1915	DEAN	SFR 3BED/BA + DEN (1703) ATT GAR (513) COV CON (291)	9/27/2021	1	1	ANDERSON BROTHERS CORP					
1826	050-220-102-000	6797	LEONE	MFH 2BD/2BA+DEN(1652) COV WOOD(179)	8/11/2021	1	1	CONNOR					
1827	052-350-017-000	691	THISTLE HILL	SFR 3BD/2BA(1721) ATT GAR(807) COV CON(184)	8/30/2021	1	1	CONNELLY					
1828	052-011-070-000	6120	MARLOW	SFR 2BED/2BA + DEN	8/13/2021	1	1	SHILOH DEVELOPMENT	N/A				
1829	055-130-004-000	5125	FOSTER	SFR 2BED/2BA + DEN (1607) COV CON (351)	8/20/2021	1	1	ROBAR					
1830	052-130-008-000	602	BOQUEST	SFR 2BED/2BA (1213) ATT GAR (494) COV CON (112)	10/12/2021	1		GUZMAN					
1831	053-310-002-000	1859	NORWOOD	SFR 2BD/2BA+DEN(1368) ATT GAR(493) COV CON(266)	8/18/2021	1	1						
1832	051-093-089-000	6221	WALL	SFR 2BED/2BA (1368) ATT GAR (493) COV CON (266)	8/11/2021	1	1	ANDERSON BROTHERS CORP					
1833	055-270-076-000	5155	COUNTRY CLUB	SFR 3BD/2&1/2BA(1535) ATT GAR(555) COV CON(282)	8/11/2021	1	1	MOLINA					
1834	050-290-045-000	1670	PAMELA	SFR 2BD/2BA(1471) COV WOOD(1170)	9/24/2021	1	1	MAYNARD					

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1835	054-230-041-000	5511	FEATHER RIVER	SFR 3BD/2BA(1720) ATT GAR(518) COV CON(454)	8/23/2021	1	1	RPA CHALLENGES INC					
1836	050-250-049-000	6233	MOUNTAIN VIEW	MFH 3BD/2BA(1782)	9/20/2021	1	1	BROOKS-CHUBB & CHUBB					
1837	055-440-132-000	5094	MALIBU	SFR 3BED/2.5BA (1973) ATT GAR (888) COV CON (501)	9/28/2021	1		WILLOW GROVE LIMITED PARTNERSHIP LLC					
1838	050-200-127-000	6287	MOUNTAIN MEADOW	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	8/25/2021	1	1	TYSHCHUK					
1839	054-040-049-000	5703	CHURCHILL	SFR 2BD/2BA+DEN(1260) ATT GAR(484) COV COV(266)	9/2/2021	1		BARE					
1840	054-240-115-000	1903	ARROWHEAD	MFH 3BD/2BA (1773)	8/26/2021	1	1	KNIFONG					
1841	054-040-105-000	5696	ACADEMY	SFR 2BD/2BA(960) COV CON(172) - MPRP22-00010 SOG, STD ORIENTATION	8/24/2022	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
1842	050-450-012-000	1637	PARADISEWOOD	SFR 3BD/2BA(1830) ATT GAT(469) COV CON(217)	9/2/2021	1	1	GAYDUCHIK					
1843	053-180-019-000	5972	PECK	SFR - 3 BED / 2 BATH (1724) ATT GAR (506) COV CON (255)	9/10/2021	1	1	LICKISS					
1844	053-200-035-000	1512	MABELLE	MFH 2BD/2BA (1216)	9/7/2021	1	1	GRAY					
1845	051-072-068-000	6229	WAGSTAFF	SFR 3BD/2BA(1786) ATT GAR(493) COV CON(302)	10/1/2021	1		CENTRAL OAK GROUP LLC					
1846	050-220-051-000	6799	REXDALE	SFR 1BD/1&1/2BA+DEN(1652) ATT GAR(564) COV CON(362)	10/8/2021	1		REYNOSO					
1847	051-152-029-000	880	THOMASSON	SFR 3BD/2BA(1710) ATT GAR(464) COV CON(187)	9/9/2021	1	1	KRASNYUK					
1848	054-191-068-000	1340	JEANNIE	SFR 3BD/2BA(1866) ATT GAR(440) COV CON(442) GABLE ROOF - MP BP21-01075	10/25/2022	1	1	SPROLES					
1849	054-260-044-000	2369	STEARNS	SFR 3BD/2BA (1581) ATT GAR (523) COV CON (265)	9/2/2021	1	1	RPA CHALLENGE INC					
1850	054-260-002-000	1823	DRENDEL	SFR 3BD/2BA (1569) ATT GAR (509) COV CON (212)	9/21/2021	1	1	RPA CHALLENGE INC					
1851	054-142-049-000	5590	FOLAND	SFR - 2 BD 2 BA (982) ATT GAR (462)	3/21/2023	1	1	WAGONER					
1852	052-022-056-000	6191	OLIVER	SFR 2BD/2BA(1399) ATT GAR(534) COV CON(60)	1/18/2022	1		DUNCAN					
1853	054-030-033-000	5682	NEWMAN	SFR 2BD/2BA+OFFICE(1611) ATT GAR(430) COV CON(40)	9/7/2021	1	1	LUTSIK					
1854	055-211-064-000	5259	LIBBY	MFH 2BD/2BA (1178)	8/27/2021	1	1	FEDERAL NATIONAL MORTGAGE ASSOCIATION					
1855	050-120-153-000	1801	EL TORO	SFR 3BD/2BA (1962) ATT GAR (555) COV WOOD PORCH (172)	9/3/2021	1	1	COWELL					
1856	052-130-040-000	558	BOQUEST	SFR 2BD/2BA(960) COV CON(144) SLAB FOUNDATION OPTION -MPRP HOPE HOUSE 2	8/25/2021	1	1	ALVAREZ					
1857	055-120-008-000	5301	FOSTER	SFR 3BD/2&1/2BA(2160) ATT GAR(623) COV CON(451)	9/14/2021	1	1	WOLT					



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1883	051-250-113-000	426	GREEN OAKS	SFR 3BD/2BA (1857) ATT GAR (568) COV CON (286)	9/15/2021	1	1	JANSSEN FAMILY TRUST					
1884	052-236-005-000	687	BUSCHMANN	SFR - 2 BED / 2 BATH (1012) ATT GAR(312) COV CON(136)	4/28/2022	1	1	DC INVESTMENTS ONE LLC					
1885	054-010-117-000	5654	CATHY	SFR 2BD/2BA(1473) ATT GAR(575) COV WOOD(326) OPEN WOOD(831)	10/11/2021	1	1	DANIELS					
1886	052-260-119-000	5487	FILBERT	SFR - 3 BED / 2 BATH (1771) ATT GAR (543) RAISED FNDTN - MP THE STARLIGHT HOME	10/7/2021	1	1	WEST FAMILY HOMES					
1887	051-460-016-000	166	VALLEY RIDGE	SFR 4BD/4.5BA(6068) ATT GAR(657) OPEN WOOD(308)	12/10/2021	1		STANLEY					
1888	052-040-057-000	738	EDWARDS	MFH 2BED/BA + DEN (1404)	3/2/2022	1	1	CHIP					
1889	050-100-063-000	1748	DRAYER	MFH 2BD/2BA+DEN(1836)	10/4/2021	1	1	HUERTA / LOTREAN					
1890	051-120-080-000	6658	PARAGALIA	*SITE SPECIFIC* "LASSEN PEAK" SFR 3BED/2BA (1498)	10/14/2021	1	1	ECKSTROM ENTERPRISES					
1891	053-330-006-000	5856	RAGAN	SFR 2BD/2BA(960) COV CON(172) SLAB FOUNDATION - MPRP HOPE HOUSE 2 REV 3	10/18/2021	1	1	TURNER					
1892	054-182-016-000	5528	LIBBY	SFR 2BD/2BA(960) COV CON(172) SLAB FOUNDATION - MPRP HOPE HOUSE 2 - REV 3	9/17/2021	1	1	CARMODY					
1893	051-152-026-000	6382	LUCKY JOHN	SFR 4BD/2.5BA(2141) ATT GAR(549)	VOID								
1894	055-060-004-000	83	ROE	MFH 2BD/2BA+DEN(1174)	9/20/2021	1	1	LIBERTY HOUSING INC					
1895	051-072-078-000	6297	WAGSTAFF	SFR 3BD/2BA(1900) ATT GAR(493) COV CON(372)	10/12/2021	1	1	MIHAILA					
1896	051-152-006-000	924	THOMASSON	SFR - 3BED/2BA (2011) ATT GAR (620) COV CON (334.50)	2/22/2022	1	1	RYSHKO					
1897	051-081-009-000	6363	GRAHAM	SFR 3BD/2BA(2504) COV CON(417) COV WOOD(203)	11/10/2022	1		LOVE					
1898	051-081-009-000	6363	GRAHAM	GUEST HOUSE - SFR 1BD/1BA(996) UNC STOR(156) ATT GAR(1152)	11/10/2022	1		LOVE					
1899	052-031-060-000	585	VALLEY VIEW	SFR 3BD/2BA(1620) ATT GAR(576) COV CON(410) GABLE ROOF GARAGE LEFT SLAB FOUNDATION - MP MARTIN CONSTRUCTION 1620	10/15/2021	1	1	MARTIN					
1900	050-180-095-000	6639	CREEKSIDE	SFR 3BD/2.5BA+OFFICE(2509) ATT GAR(595) COV CON(623)	10/21/2021	1	1	KOLYADICH					
1901	052-031-013-000	552	CASTLE	MFH 3BED/2BA (1634)	10/13/2021	1	1	KAL MANAGEMENT / KEN LOMBARDI					
1902	053-320-028-000	6081	MAXWOOD	SFR 2BED/2BA + OFFICE (1550) ATT GAR (481) COV CON (168)	1/10/2022	1	1	NIKO LLC					
1903	054-152-029-000	5545	FOLAND	SFR - 2 BED / 2 BATH +OFFICE (1710) ATT GAR (464) COV CON (187)	2/11/2022	1	1	NIKO LLC					
1904	054-230-114-000	1929	YORK TOWNE MANOR	SFR - 3BD/2BA (1611) ATT GAR (430) COV CON (40)	10/28/2021	1	1	LUTSIK					

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1905	054-230-119-000	1979	YORK TOWNE MANOR	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	1/26/2022	1	1	KRAVCHUK PAVLO ETAL					
1906	052-011-104-000	6166	OLIVER	SFR 3BED/2BA (1368) ATT GAR (493) COV CON (266)	10/14/2021	1	1	KNIFONG REVOCABLE TRUST					
1907	050-370-025-000	6565	CENTER PINE	MFH - 3 BED / 2 BATH (1647)	11/10/2021	1	1	HUNSICKER FAMILY TRUST					
1908	055-020-103-000	343	ROE	MFH - 3BED/2BA (1188)	10/26/2021	1	1	BOND					
1909	052-070-120-000	5959	CRESTVIEW	SFR 3BED/2BA (1726) ATT GAR (482) COV CON (172) OPEN CON (87)	11/29/2021	1	1	TURNER					
1910	055-440-113-000	5063	MALIBU	SFR - 3BED/2.5BA (2447) ATT GAR (624) COV CON (488)	10/27/2021	1	1	BESKO CONSTRUCTION AND DESIGN					
1911	052-272-021-000	433	GREEN OAKS	SFR 3BD/2BA(2050) ATT GAR(788) COV CON(306)	8/12/2022	1	1	NIKO LLC					
1912	055-201-063-000	1575	LA GRANDE VUE	MFH 2BD/2BA+DEN(1213)	10/25/2021	1	1	KUZMINOV					
1913	055-470-009-000	2397	TOKAY	SFR 3BD/2BA(1866) ATT GAR(440) COV CON(442) GABLE ROOF - MP ADC Z-XL	10/8/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
1914	054-172-045-000	1330	PEARSON	SFR 3BD/2BA(1674) ATT GAR(543) COV CON(252) MPRP THE MUHLBAIER	10/20/2021	1		RIVERA					
1915	050-280-025-000	6292	LANCASTER	MFH - 4 BED / 2 BATH (1674)	2/16/2022	1	1	TOKUNO					
1916	054-131-100-000	1615	HEMLOCK	SFR 3BD/2BA(1774) ATT GAR(518) COV CON(150)	10/13/2021	1	1	KUZMENKO					
1917	050-340-016-000	1335	WAGSTAFF	SFR 2 BED / 2 BATH + DEN (1101) ATT GAR (583) COV CON (24)	VOID								
1918	050-310-016-000	6639	DOLORES	SFR 3BD/2BA(1611) ATT GAR(430) COV CON(240)	8/18/2022	1	1	A PLUS CUSTOM FRAMING INC					
1919	050-290-036-000	6672	DOLORES	SFR 2BED/2BA+DEN (1474) ATT GAR (624) COV CON (586)	VOID			BARTON					
1920	051-104-048-000	8404	MONTNA	SFR 4BED/3BA (1927) ATT GAR (567) COV CON (153)	10/28/2021	1		PHOENIX COMMUNITY INITIATIVE					
1921	052-274-006-000	5351	FILBERT	SFR 3BD/2BA(1650) ATT GAR(562) COV CON(52)	10/28/2021	1		PHOENIX COMMUNITY INITIATIVE					
1922	051-310-011-000	378	CIRCLEWOOD	SFR 4BD/3BA(1915) ATT GAR(568) COV CON(153)	10/28/2021	1		PHOENIX COMMUNITY INITIATIVE					
1923	054-210-024-000	5863	PENTZ	SFR - 3 BED / 2 BATH (2107) ATT GAR (486) COV CON(212)	2/16/2022	1	1	LAVI					
1924	054-210-024-000	5654	CHANEY	SFR 2BD/2BA(993) COV CON(34) - SECONDARY DWELLING	2/16/2022	1	1	LAVI					
1925	051-083-095-000	6306	GRAHAM	SFR 2BD/2BA(960) COV CON(172) SLAB OPT MIRROR OPT(REV 1) - MPRP HOPE HOUSE 2	10/12/2021	1	1	SUMRALL					
1926	054-070-016-000	1189	GLEN	SFR 2BED/2BA + DEN (1044) COV CON (136) *SITE SPECIFIC* MP NORCAL 1044-3.2 BP21-01146	10/6/2021	1	1	SHERWOOD					



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1927	050-210-030-000	1541	BILLE	SFR 2BED/2BA (1026) ATT GAR (528) COV CON (187)	11/4/2021	1	1	PEDERSEN					
1928	053-150-080-000	1448	BILLE	SFR 2BED/2BA (1133) ATT GAR (917) COV CON (376)	11/4/2021	1	1	MOORE					
1929	053-090-018-000	6154	BERKSHIRE	SFR 2BD/2BA+OFFICE(1866) ATT GAR(440) COV CON(442) GABLE ROOF OPT (REV 1) - MP ADC Z-XL	11/1/2021	1	1	DARLING & SPROLES					
1930	054-163-022-000	5570	TRAVIS	SFR 3BD/2.5BA+OFFICE(2010) ATT GAT(536) COV CON(327)	12/21/2021	1	1	SALVA					
1931	051-260-042-000	267	PACIFIC	SFR 3BD/2BA(1710) ATT GAR(464) COV CON(247)	10/15/2021	1	1	TWINS TRANSPORTATION SERVICES INCORPORATED					
1932	050-290-039-000	6665	DOLORES	SFR 2 BD/2BA + DEN (1674) ATT GAR (576) COV CONC PORCHES (252) W/SLAB & GAS OPTIONS (MP# 20-01624)	10/18/2021	1		SINGH					
1933	054-070-050-000	1161	GLEN	MFH 1BD/1BA(745)	10/25/2021	1	1	DANIELS					
1934	051-050-069-000	829	WAGSTAFF	SFR 3BED/2.5BA (1875) ATT GAR (559) COV CON (623)	11/1/2021	1		BILLSON					
1935	051-190-081-000	178	VALLEY VIEW	SFR 3BD/2.5BA+OFFICE&RETREAT(2898) ATT GAR(988) COV CON(515) (REV 1) - MP ADC W	10/13/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
1936	054-310-046-000	5581	HEAVENLY	MFH 2BED/2BA + DEN (1215)	10/14/2021	1	1	BANNER MOUNTAIN FAMILY TRUST					
1937	051-146-021-000	6342	HARVEY	SFR 2BD/2BA+OFFICE(1250) ATT GAR(525) COV CON(55)	11/4/2021	1	1	6K CONSULTING					
1938	052-150-009-000	5825	QUEEN	SFR 2BD/2BA+OFFICE(1250) ATT GAR(525) COV CON(55)	2/18/2022	1	1	6K CONSULTING					
1939	050-150-104-000	6510	HUMMINGBIRD	SFR 3BED/2BA (1720) ATT GAR (430) COV CON (122)	3/16/2022	1		SENGKHOM / SERRANO					
1940	053-190-015-000	5887	LIBBY	SFR 3BD/2BA+DEN(2232) ATT GAR(808) COV CON(240)	11/30/2021	1	1	MCCAIN					
1941	055-060-002-000	93	ROE	MFH 3BD/2BA(1307) COV WOOD(160)	2/25/2022	1	1	LIBERTY HOUSING INC					
1942	050-230-023-000	6678	SHAY	SFR 3BD/3BA(2185) ATT GAR(420) OPEN WOOD DECK(637)	1/11/2022	1		HU QIAN QIAN					
1943	054-210-071-000	5887	PENTZ	ADU - MFH 1 BED / 1 BATH (772)	10/28/2021	1	1	MULA					
1944	053-180-138-000	5964	KIBLER	SFR - 3 BED / 2.5 BATH (1633) ATT GAR(552) COV CON(76)	10/19/2021	1	1	JONES					
1945	050-052-028-000	1658	HUCKA	SFR 2 BED / 2 BATH (1208) COV CON (296) ATT GAR (694)	11/23/2021	1	1	MCDOWELL					
1946	055-440-043-000	5255	ROYAL CANYON	SFR - 3 BED / 2 BATH (2001) ATT GAR (525) COV CON (343)	11/3/2021	1	1	MENTUS					
1947	054-120-036-000	5297	BENNETT	SFR 1BED/1BA (750) COV CON (54) (SITE SPECIFIC 750ADU RPMP)	1/21/2022	1		HOUSE OF REDEEMING LOVE					

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1948	052-182-044-000	5604	JEWELL	SFR 1BD/1BA(752) COV CON(40) RAISED MP NORCAL 752 1/1 W	10/22/2021	1	1	POWELL-HANLEY					
1949	052-204-005-000	5721	SCOTTWOOD	SFR 2BD/1BA(988) COV CON(104) RAISED - MP MENNONITE DISASTER PLAN 988	12/15/2021	1	1	DECHTER					
1950	054-120-058-000	5251	BENNETT	SFR - 2 BED / 2 BATH (960) COV WOOD (144) *HOPE HOUSE BP20-01749 REV 3* RAISED FOUNDATION OPTION	11/8/2021	1	1	MCIVER					
1951	055-261-026-000	2213	DEMILLE	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	11/16/2021	1	1	SSV INVESTMENTS LLC					
1952	051-104-123-000	6560	FIRLAND	SFR 3BD/2BA(1550) ATT GAR(440) COV CON(40)	10/25/2021	1	1	HALABURDA					
1953	050-210-035-000	6284	GLORY	SFR 3BD/2BA(1759)	12/2/2021	1		GOATES					
1954	050-040-030-000	1660	HOLLYBROOK	SFR - 2 BED 2BATH (1135)ATT GAR (560) COV CONC (390)	9/27/2022	1	1	CRONIN					
1955	051-220-025-000	5005	SKYWAY	MFH - 2 BED / 2 BATH + DEN (1608)	12/2/2021	1		CORNELIUS					
1956	054-060-004-000	830	PEARSON	MFH - 3 BED / 2 BATH (1624)	11/4/2021	1	1	JMS SALES INC					
1957	051-220-090-000	5575	SCHMALE	SFR - 4 BED / 3 BATH (2223) ATT GAR (712) COV CON (156)	10/21/2021	1	1	ANDERSON BUILDERS CORP					
1958	052-031-096-000	620	CASTLE	MFH - 2 BED / 2 BATH (965)	12/13/2021	1	1	ENOS					
1959	050-100-086-000	1755	SUNRISE	SFR 2BD/2BA(1030) ATT GAR(276) COV CON(195)	10/28/2021	1	1	MERRITT					
1960	055-080-039-000	95	RIVENDELL	SFR - 2 BED, 2 BATH (1198), ATT GAR (427), COV CONC (92)	12/15/2022	1	1	WILKS					
1961	050-240-038-000	1757	WHITAKER	SFR 2BD/2BA+DEN(1120) COV WOOD (240) OPEN WOOD(64) RAISED FOUNDATION - MPRP HOPE HOUSE 3	1/14/2022	1	1	ANDERSON					
1962	054-060-117-000	5623	GRAMERCY	MFH 3 BED, 2 BATH (1768)	11/5/2021	1	1	PARADISE VENTURES INC					
1963	054-030-044-000	5700	NEWLAND	SFR - 3 BED, 2 BATH (1779) ATT GAR (530) COV DECK (216) COV CON (57)	12/20/2021	1	1	BESKO CONSTRUCTION AND DESIGN CORP					
1964	052-022-088-000	611	SUNSET	SFR - 2 BED 1 BATH (820) COV CONC (276) ADC MODEL "D" MPRP20-00959.	2/9/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
1965	054-060-047-000	5550	NEWLAND	MFH 3BD/2BA(1512)	1/4/2022	1	1	MAIER					
1966	053-230-171-000	1648	KENFORD	SFR 3BD/2BA(1254) ATT GAR(510) COV CON(36)	3/28/2022	1	1	HOWE					
1967	053-230-171-000	1650	KENFORD	SFR 2BD/2BA(1254) ATT GAR(510) COV CON(36)	3/28/2022	1	1	HOWE					
1968	053-230-170-000	1660	KENFORD	SFR 3BD/2BA(1254) ATT GAR(510) COV CON(36)	2/3/2022	1	1	HOWE					
1969	053-230-170-000	1670	KENFORD	SFR 2BD/2BA(1254) ATT GAR(510) COV CON(36)	2/3/2022	1	1	HOWE					
1970	055-261-092-000	2177	DEMILLE	SFR (2050) ATT GAR (788) COV CON (306)	11/24/2021	1	1	HUZOVATYY					

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1971	054-201-026-000	1518	BIG PINE	MFH 2BD/2BA(876) COV WOOD(71)	2/9/2023	1	1	BARBOUR					
1972	051-082-044-000	677	MEYERS	SFR - 3 BED / 2 BATH (1196) ATT GAR (500) COV CON (20)	3/23/2022	1	1	DAHLIN					
1973	050-110-017-000	1756	SUNRISE	MFH 2BED/2BA (1056)	11/10/2021	1	1	GREGG					
1974	050-120-098-000	6893	LUNAR	MFH 2BD/2BA+DEN(1296)	7/15/2022	1	1	CMH HOMES INCORPORATED					
1975	054-164-011-000	1363	PEARSON	MFH - 3 BD 2 BATH (1760)	11/22/2022	1	1	HOLLINGSWORTH					
1976	052-011-034-000	672	BAKER	MFH 2BED/2BA + DEN (1624) W/COV PORCH	11/10/2021	1	1	JMS SALES INC					
1977	051-092-027-000	750	MADRONE	SFR - 2 BED / 2 BATH + OFFICE (1684) ATT GAR (575) COV CON (120)	11/29/2021	1	1	TERRY					
1978	050-420-015-000	1597	GATE	SFR - 3 BED / 2 BATH (1630) ATT GAR(467) COV CON(282)	11/12/2021	1	1	VS REAL ESTATE LLC					
1979	050-420-002-000	1550	GATE	SFR - 3 BED / 2 BATH (1551) ATT GAR (481) COV CON(168)	11/12/2021	1	1	VS REAL ESTATE LLC					
1980	050-420-027-000	1598	GATE	SFR - 3 BED / 2 BATH (1640) ATT GAR (589) COV CON (277)	11/12/2021	1	1	VS REAL ESTATE LLC					
1981	055-080-031-000	3418	NEAL	MFH - 3 BED / 2.5 BATH(1836)	11/10/2021	1	1	RANDELLO					
1982	050-200-145-000	1494	COUNTRY OAK	SFR - 3 BED / 2.5 BATH (1875) ATT GAR (559) COV CON (623)	12/6/2021	1	1	BILLSON					
1983	050-100-096-000	1735	DRAYER	SFR - 3 BED 2 BATH (1233) ATT GAR (403) COV CONC (56)	7/1/2022	1	1	RIVERA MIRACLE INVESTMENTS LLC					
1984	054-060-045-000	5571	NEWLAND	SFR - 3 BED / 2 BATH (1435) ATT GAR (460) COV CON (231)	1/5/2022	1	1	MAIER					
1985	055-020-002-000	3825	NEAL	MFH - 2 BED / 2 BATH + DEN (1455)	1/4/2022	1	1	LEE					
1986	053-140-089-000	1642	BILLE	SFR 3BD/2BA(1625) ATT GAR(439) COV CON(245)									
1987	050-200-074-000	6217	PARKER	SFR 2BD/2BA+DEN(1316) COV CON(144) ATT GAR(540) - GAR RIGHT SLAB FNDTN NATURAL GAS HIP ROOF OPTS MPRP BP21-01460	9/27/2022	1	1	GLEASON					
1988	054-202-031-000	1642	JARAMILLO	SFR - 2 BED / 1 BATH (624) SECONDARY DWELLING	11/23/2021	1		MELLO					
1989	055-320-007-000	1359	PARKWAY	MFH - 3 BED / 2 BATH (1027)	11/10/2021	1	1	DRIVER					
1990	055-211-019-000	5275	CALIFORNIA	MFH - 3 BED / 2 BATH (1030)	1/6/2022	1	1	AWALT					
1991	051-071-028-000	6294	WAGSTAFF	SFR - 3 BED / 2 BATH + DEN (2074) ATT GAR (552) COV CON (176)	11/23/2021	1	1	STIMSON TRUST					
1992	053-162-049-000	6057	LIBBY	MFH - 2 BED / 2 BATH + DEN(947)	12/7/2021	1	1	LEE					
1993	052-110-014-000	500	BOQUEST	MFH 2 BED/2 BEA + DEN (1782)	1/7/2021	1	1	PATEL	NA	NA	BOUGHT AFTER FIRE		
1994	051-162-025-000	6258	LUCKY JOHN	MFH 2BD/2BA+DEN(1209)	12/8/2021	1	1	BROEKEMEIER FAMILY TRUST					
1995	053-260-091-000	1868	VINEYARD	SFR - 4 BED, 2.5 BATH (2496) ATT GAR (595) COV CON (577)	12/14/2021	1	1	LUTSIK					

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1996	052-233-007-000	737	HIGHLAND	SFR 2BD/2BA(1354) ATT GAR(581) COV CON(526) UNC STOR(124)	12/2/2021	1	1	GALLMEISTER					
1997	053-190-087-000	1362	MERIAM	SFR 3BED/2BA (1535) ATT GAR (555) COV CON (282)	11/19/2021	1	1	ANDERSON BROTHERS CORP					
1998	055-280-018-000	5250	COUNTRY CLUB	SFR 3BD/2.5BA(2871) ATT GAR(691) COV CON(309) UNC STOR(330)	11/19/2021	1	1	SHELTON FAMILY TRUST					
1999	052-012-045-000	6156	RIPLEY	SFR - 3 BED / 2 BATH (1816) ATT GAR(516) COV CON(388) GARAGE LEFT - MPRP RIDGE RANCH 1816	12/14/2021	1	1	CARLI					
2000	054-210-016-000	5680	FICKETT	MFH - 2 BED / 2 BATH + DEN (1600)	3/25/2022	1		MIQUEO					
2001	052-024-088-000	6121	LOIS	SFR 2BD/2BA+DEN(1088) COV CON(56)	11/23/2021	1	1	TATREAU / MELLO					
2002	052-024-104-000	6117	LOIS	SFR 2BD/2BA+DEN(1088) COV CON(56)	11/22/2021	1	1	TATREAU / MELLO					
2003	055-261-017-000	5369	HARRISON	SFR - 3 BED / 2.5 BATH (1619) ATT GAR (576) COV CON (287)	1/13/2022	1		DAVIS					
2004	054-310-005-000	5576	ANGEL	SFR - 2 BED / 2 BATH (960) *MASTER PLAN HCRN 2-2*	2/9/2022	1	1	MOSS					
2005	053-330-143-000	1492	ELLIOTT	SFR - 2 BED / 2 BATH (840) COV CON (210)	1/26/2022	1	1	CANALES					
2006	054-201-028-000	5366	SAWMILL	MFH - 3 BED 2 BATH (1600)	8/19/2022	1	1	ALEKSEEV					
2007	053-180-023-000	1565	SYLVAN	SFR - 2 BED / 2 BATH +OFFICE (1722) ATT GAR (564) COV CON (300)	12/21/2021	1	1	GRIDYUSHKO					
2008	053-240-025-000	1810	PAIGE	SFR - 3 BED / 2.5 BATH (2130) COV CON (884)	1/4/2022	1		NEUMANN					
2009	051-260-038-000	295	PACIFIC	SFR - 3 BED / 2 BATH (1674) ATT GAR (543) *RPMP BP20-01624 MUHLBAIER GARAGE LEFT*	1/20/2022	1	1	GOITIA					
2010	055-020-039-000	5221	TOYON	SFR 4BED/3BA + GAME ROOM	5/9/2022	1	1						
2011	054-100-013-000	994	BELLA VISTA	SFR - 3 BED / 2 BATH W/ OFFICE (1415) ATT GAR (533) COV CON (213)	12/3/2021	1	1	HOWE					
2012	053-250-084-000	1825	GREENWAY	MFH - 3 BED / 2 BATH (1394)	1/4/2022	1	1	LASSEN GROUP LLC					
2013	054-230-071-000	1771	STEARNS	SFR 2BED/2BA (960) COV CON (152) *MASTER PLAN FLUMES REV 1*	5/24/2022	1		WILLIAMS					
2014	054-132-079-000	1741	ELLIS	SFR 3BED/2BA (1630) ATT GAR (467) COV CON (282)	1/27/2022	1	1	LIULKOVICH					
2015	055-261-043-000	2219	THORNBURG	SFR 3BED/2BA (1970) ATT GAR (481) COV CON (348)	12/14/2021	1	1	TAL EXPRESS INCORPORATED					
2016	054-192-090-000	5338	LIBBY	MFH3BED/2BA(1608)	12/8/2021	1	1	STANLEY					
2017	053-210-077-000	1450	SLEEPY HOLLOW	SFR - 2 BED, 2 BATH (1084), ATT GAR (529), COV CONC PORCHES (354) *ADC MP MODEL E*	12/7/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
2018	053-200-038-000	5991	HAZEL	SFR 2BED/2BA (1084) ATT GAR (529) COV CON (354) *MASTERED MODEL E BP20-02006*	12/7/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					
2019	053-011-053-000	1258	TAHOE	SFR 2BED/2BA (1084) ATT GAR (529) COV CON (354) *MASTERED MODEL E BP20-02006*	12/7/2021	1	1	AMERICAN DREAM CONSTRUCTION INC					

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2020	051-091-018-000	679	MADRONE	SFR - 3 BED, 2 BATH (1569) ATT GAR (503), COV CONC ENTRY (53) OPEN WOOD BACK PATIO (224) *MP - TRILOGY 'PONDEROSA': *	12/14/2021	1	1	COMPAGNO					
2021	051-120-034-000	966	WAGGONER	SFR 3BD/3BA(2374) ATT GAR(401) COV CON(58)	10/11/2022	1		M J INVESTMENT ENTERPRISES LLC					
2022	053-320-025-000	6087	MAXWOOD	SFR 2BED/2BA + DEN (1386) ATT GAR (486)	9/20/2022	1	1	SANDOVAL					
2023	050-320-003-000	1526	FOREST	SFR 3BD/2BA(1592) ATT GAR(616) COV CON(342)	12/7/2021	1	1	WEINS					
2024	054-030-038-000	5688	NEWLAND	MFH - 2 BED 2 BATH + DEN (1056)	10/6/2022	1	1	HEMRY					
2025	053-210-013-000	5903	HAZEL	SFR 3BD/2BA(1507) ATT GAR(476) COV CON(175) - GARAGE RIGHT SLAB FOUNDATION 3BD OPTIONS MP(1507)	12/17/2021	1		MAJESTIC VIEW INC					
2026	053-040-066-000	6010	SUNNY	SFR 3BD/2BA(1507) ATT GAR(476) COV CON (175) - GARAGE LEFT SLAB FOUNDATION 3BD OPTIONS MP(1507)	12/17/2021	1		MAJESTIC VIEW INC					
2027	051-171-104-000	6256	BERKSHIRE	MFH 2BD/2BA+DEN(1323)	12/14/2021	1	1	MONROE					
2028	051-330-041-000	310	PINEWOOD	SFR 3BD/2.5BA(2496) ATT GAR(849) COV CON(577)	2/11/2022	1	1	LUTSIK					
2029	054-152-084-000	1424	JESSIE	SFR 3BD/3BA(1722) ATT GAR(564) COV CON(300)	2/10/2022	1	1	GAYDUCHIK					
2030	051-470-005-000	209	REDBUD	SFR 3BD/2BA(2048) ATT GAR(799) COV CON(272)	1/10/2022	1	1	WELLS FAMILY TRUST					
2031	050-150-073-000	6534	HUMMINGBIRD	MFH - 2 BED + DEN 2 BATH (1493)	10/24/2022	1	1	DOWNEY					
2032	051-320-019-000	274	TRANQUIL	SFR 3BD/3BA+DEN&CRAFT ROOM(2774) ATT GAR(925) COV WOOD(530) COV CON(123)	1/6/2023	1							
2033	050-250-082-000	6481	ALEXANDER	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	1/12/2022	1	1	RYBCHENKO					
2034	052-182-098-000	5594	LITTLE GRAND CANYON	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	1/31/2022	1	1	ZHILKO					
2035	052-181-011-000	3723	HONEY RUN	SFR 4BED/2.5BA + STUDY (2556) ATT GAR (641) COV CON (35)	3/7/2022	1	1	MOORE					
2036	053-200-003-000	1504	MABELLE	SFR 2BED/2BA + OFFICE (1087) ATT GAR (575)	2/25/2022	1	1	SOLLARS					
2037	050-360-003-000	6409	PARKWOOD	SFR - 2 BED / 2 BATH + DEN(1616) ATT GAR (496) COV CON (411)	1/18/2023	1		PAWLIKOWSKI					
2038	055-261-015-000	5389	HARRISON	SFR - 2 BED / 2 BATH + DEN(1616) ATT GAR (496) COV CON (411)	8/19/2022	1		PAWLIKOWSKI					
2039	051-320-017-000	282	TRANQUIL	SFR 3BD/2BA+OFFICE(1916) ATT GAR(493) COV CON(107)	1/7/2022	1	1	VLADYMTSEV					
2040	053-272-098-000	5990	FICKETT	SFR - 2 BED 2 1/2 BATH (2447) ATT GAR (718) COV CONC (120)	8/2/2022	1	1	KIELPINSKI					
2041	053-230-034-000	1679	NUNNELEY	SFR 3BD/3BA(2378) ATT GAR(1638) COV CON(935)									
2042	051-152-031-000	896	THOMASSON	MFH 2BD/2BA(1197) COV WOOD(108)	5/24/2022	1	1	DE LA MATER					
2043	053-230-129-000	5790	LOCUST VALE	MFH 2BD/2BA+DEN(1600)	3/25/2022	1		MIQUEO					
2044	051-230-010-000	5041	RUSSELL	SFR - 2 BED / 3 BATH W/ ENCLOSED BREEZEWAY (1921) ATT GAR (641) COV CON (61) OPEN WOOD DECK (332)	1/12/2022	1		BRIGGS FAMILY TRUST					

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2045	055-130-086-000	470	STACY	SFR 3BED/2BA (1611) ATT GAR (430) COV CON (240)	1/20/2022	1	1	KOLOTYUK					
2046	052-050-024-000	662	DOGWOOD	SFR 3BD/2BA(1630) ATT GAR(467) COV CON(287)	3/21/2022	1	1	LIULKOVICH					
2047	051-320-013-000	5866	CRESTMOR	SFR 3BD/2BA(1640) ATT GAR(589) COV CON(277)	1/7/2022	1	1	LIULKOVICH					
2048	052-340-041-000	721	WINDING	SFR 3BD/2BA(1569) ATT GAR(503) COV CON(277)	1/21/2022	1	1	BUTTS / HALEY					
2049	052-080-095-000	5913	MCCLAIN	MFH - 3 BED 2 BATH (1296)	9/7/2022	1	1	WEAVER					
2050	055-270-066-000	5255	COUNTRY CLUB	SFR 3BD/2.5BA(1996) ATT GAR(771) COV CON(458)	1/7/2022	1		BURRESCIA					
2051	053-110-103-000	1032	MAPLE PARK	SFR - 3 BED / 2 BATH (1826) ATT GAR (523) COV CON (327)	2/2/2022	1	1	TELETEN					
2052	053-162-053-000	1351	ORPUT	SFR - 3 BED / 2 BATH (2373) ATT GAR (827) COV WOOD (537) COV CON(422)	3/10/2022	1		JONES					
2053	050-370-001-000	6670	SHAY	SFR - 3 BED / 2 BATH (1900) ATT GAR (493) COV CON (372)	1/10/2022	1	1	MIHAILA					
2054	051-143-010-000	6338	BERKSHIRE	MFH - 3 BED / 2 BATH (1323)	2/10/2022	1	1	CMH HOMES INC					
2055	052-040-087-000	696	EDWARDS	SFR - 3BD/2BA(1120) COV CON(240) RAISED FOUNDATION OPT - MPRP HOPE HOUSE 3	1/5/2022	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
2056	054-020-021-000	5758	NEWLAND	SFR - 2 BED / 1 BATH (988) COV CON(104) RAISED FOUNDATION END PORCH REVERSE OPTS - MP MENNONITE DISASTER PLAN 988	1/5/2022	1	1	MORENO					
2057	051-172-059-000	6272	OAK	MFH - 3 BED / 2 BATH (1782)	1/11/2022	1	1	BERNDT TRUST					
2058	051-145-038-000	6336	OAK	SFR - 1 BED / 2 BATH + DEN (824) COV CON(56) - MP 824-2.2 (NOR CAL CONSTRUCTION)	1/11/2022	1	1	BERNDT TRUST					
2059	053-330-024-000	1470	ELLIOTT	SFR 2BD/2BA+OFFICE(1582) COV CON(381)									
2060	054-250-008-000	5556	FEATHER RIVER	SFR 2BD/2BA(1232)	1/20/2022	1	1	BROWNING					
2061	053-011-066-000	6351	TAHOE	SFR - 3 BED / 2 BATH (1555) ATT GAR (484) COV CON (420)	1/25/2022	1	1	SLOBODYANY					
2062	051-145-024-000	6372	OAK	SFR 3BD/2BA(1120) COV CON(240) MIRROR SLAB FNDTN COMP ROOF OPTNS - MPRP BP21-01524	1/23/2023	1	1	ANDERSON BUILDERS CORP					
2063	054-230-094-000	5694	PENTZ	SFR - 3 BED / 2 BATH (1826) ATT GAR(523) COV CON(327)	1/10/2022	1	1	INVESTMENT SPECIALTY GROUP LLC					
2064	050-350-018-000	1402	ANDREA	MFH 3BD/2BA(1333) - MPBP23-00076	3/28/2023	1	1	RRA BUILDERS					
2065	051-180-053-000	430	CASTLE	SFR - 2 BED / 2 BATH + DEN (1569) ATT GAR (506) COV CON (53) OPEN WOOD (224) - MP TRILOGY PONDEROSA	1/31/2022	1	1	CORNERSTONE DEVELOPMENT GROUP LLC					
2066	055-270-071-000	5209	COUNTRY CLUB	SFR- 2 BED / 2 BATH (960) COV CONC (144) - (MP BP20-01388 FLUMES)	1/4/2022	1		EAGLESON					
2067	053-200-020-000	6012	HAZEL	SFR 2BD/2BA+DEN(1328) ATT GAR(408) COV CON(188)	4/6/2023	1	1	HOWE					

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2068	053-104-037-000	1279	ELLIOTT	SFR - 3 BED, 2 BATH WITH DEN (1608), ATT GAR (481), COV CONC (329)	1/25/2022	1	1	MONARREZ AND RODRIGUEZ					
2069	055-261-096-000	2185	DEMILLE	SFR - 3BD/2BA (2096) ATT GAR (700) COV CONC (592)	3/25/2022	1	1	HUGHES					
2070	054-182-015-000	5520	LIBBY	SFR 3BD/2BA (1445) ATT GAR (400) COV CON (53)	2/15/2022	1	1	BLANTON					
2071	055-270-077-000	5147	COUNTRY CLUB	SFR 3BD/2.5BA(2190) ATT GAR(812) COV CON(339)	3/21/2022	1	1	YULAEV					
2072	054-141-056-000	5721	ROUND TREE	MFH 3BD/2BA(1296)	2/4/2022	1	1	COMMUNITY HOUSING IMPROVEMENT PROGRAM					
2073	051-092-020-000	673	BILLE	SFR - 3 BED / 2 BATH (1640) ATT GAR(589) COV CON(277)	3/1/2022	1		BASSARAB					
2074	050-220-081-000	1887	MERRILL	SFR - 3 BED, 2.5 BATH (1867) ATT GAR (471) COV CONC (480)	7/13/2022	1	1	STP CAPITAL LLC					
2075	052-070-089-000	432	NADENA	SFR 2BD/2BA+DEN(1482) ATT GAR(460) COV CON(212)	4/5/2022	1	1	MB PROPERTIES LLC					
2076	055-270-034-000	2384	STEARNS	SFR 3BD/2BA(1824) ATT GAR(527) COV CON(54) (MP BP20-02095)	1/13/2022	1	1	ARKENBERG FAMILY TRUST					
2077	050-300-002-000	6676	BROOK	SFR 3BD/2BA (1824) ATT GAR (527) COV CON (54) - MP #BP20-02095	1/13/2022	1	1	ARKENBERG FAMILY TRUST					
2078	055-430-019-000	2381	CLEARVIEW	SFR 3BD/2BA(1824) ATT GAR(527) COV CON(54) (MP BP20-02095)	1/13/2022	1	1	ARKENBERG FAMILY TRUST					
2079	052-011-103-000	6119	RIPLEY	SFR - 3 BED, 2 BATH (1120) COV PORCH (240) REAR DECK (64) *RPMP HH3 BP21-01524 - 3 BED STANDARD RAISED FOUNDATION OPTIONS*	1/18/2022	1	1	HABITAT FOR HUMANITY INC					
2080	053-210-003-000	5929	SAWMILL	SFR 2BD/2BA(1136) ATT GAR(392) COV CON(24)	1/21/2022	1	1	BENGSON					
2081	053-170-124-000	1522	JUDY	SFR - 2BD/2BA (960) COV CONC (240) SLAB FOUNDATION OPTION - MPRP "ICF THE FLUMES"	2/25/2022	1		BALLOU					
2082	050-300-020-000	6669	TWIN OAKS	SFR 3BD/2BA(1736) ATT GAR(542) COV CON(281)	2/14/2022	1	1	GAYDUCHIK					
2083	052-182-072-000	5674	JEWELL	SFR - 2 BED 2 BATH + DEN (1120) RPMP HOPE HOUSE SLAB ON GRADE.	8/17/2022	1	1	FAKHOURI					
2084	054-080-054-000	5511	GARDEN VIEW	MFH 2BD/2BA(1080) COV WOOD(108)	1/11/2022	1	1	FEDERAL NATL MORTGAGE ASSOCIATION					
2085	055-262-024-000	5370	HARRISON	SFR - 3 BED / 2 BATH (1771) ATT GAR(543) - MP- THE STARLIGHT HOME	1/25/2022	1	1	WEST FAMILY HOMES					
2086	050-051-004-000	7089	CLARK	SFR - 2 BED / 2 BATH + DEN(1422) ATT GAR(437) COV CON(65) - GARAGE LEFT - MP - SILVERMARK 1422	3/2/2022	1	1	CHAPMAN					
2087	053-310-032-000	1875	CONIFER	SFR - 2 BED / 2 BATH + DEN(1422) ATT GAR(437) COV CON(65) - GARAGE RIGHT - MP - SILVERMARK 1422	3/2/2022	1		GREYPOINT DEVELOPMENT LLC					

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2088	051-071-107-000	6283	OLIVER	SFR - 3 BED / 2 BATH (1564) ATT GAR (437) COV CON (78)	2/22/2022	1	1	KCMV PROPERTIES LLC					
2089	050-200-105-000	6560	CLARK	MFH - 3 BED / 2 BATH (1213)	2/1/2022	1	1	LEBEDEV					
2090	053-011-045-000	1247	TAHOE	SFR 3BD/2BA(1116) ATT GAR(484) COV CON(20)	4/4/2022	1		DAHLIN					
2091	050-070-053-000	1405	TOWHEE	SFR - 'HOPE HOUSE 2': 2 BED, 2 BATH (960) COV PORCH (144) SLAB FOUNDATION OPTION MASTER PLAN - REBUILD PARADISE	8/29/2022	1	1	GASERO					
2092	053-162-081-000	1367	BRILL	MFH - 2 BED / 1 BATH(771)	1/24/2022	1	1	CMH HOMES INC					
2093	051-083-136-000	6358	GRAHAM	MFH - 3 BED, 2 BATH (1836)	2/4/2022	1	1	ARBSLAND					
2094	051-300-025-000	330	REDBUD	SFR 3BD/2BA(1736) ATT GAR(542) COV CON(281)	2/15/2022	1	1	LIULKOVICH					
2095	055-261-019-000	5349	HARRISON	SFR - 3BD/2BA(1389) COV CON(256)	11/2/2022	1		GRAVES					
2096	051-145-011-000	1233	CINDY	SFR - 3 BED / 2 BATH (1916) ATT GAR (493) COV CON (107)	2/15/2022	1	1	VLADYMTSEV					
2097	055-430-001-000	2378	BLUE DANUBE	SFR 3BD/2.5BA(2010) ATT GAR(536) COV CON(327)	3/7/2022	1	1	KULIKOVSKIY					
2098	053-320-057-000	6088	MAXWOOD	SFR 3BD/2.5BA(1923) ATT GAR(758) COV CON(84)									
2099	051-460-028-000	152	VALLEY RIDGE	SFR 4BD/3BA+OFFICE(3215) ATT GAR(964) COV CON(456)	1/30/2023	1		KOLYADICH					
2100	050-220-040-000	6794	REXDALE	MFH - 2 BED/2BA & DEN (1159)	3/2/2023	1	1	REYES					
2101	051-220-013-000	5535	SCHMALE	SFR 3BD/2BA(1657) ATT GAR(520) COV CON(41)	2/10/2022	1	1	WLM CONSTRUCTION INC					
2102	051-092-018-000	687	BILLE	SFR - 2 BED / 2 BATH (1425) ATT GAR (548), COV CONC (276)	2/2/2022	1	1	MARTIN					
2103	052-011-106-000	724	SUNSET	SFR - 3 BED / 2.5 BATH (1720) ATT GAR(430) COV CON(122)	3/2/2022	1		WILLIAMS					
2104	051-144-022-000	6396	DIAMOND	SFR - 2 BED 2 BATH (960) COV CONC (192) *RPMP FLUMES: KITCHEN RIGHT, GABLE ROOF, SLAB OPTIONS*	2/10/2022	1	1	TOWNE					
2105	055-150-061-000	451	LIKENS	SFR - 4 BED, 2.5 BATH (2173) ATT GAR (670) COV CONC (830)	2/8/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2106	054-240-052-000	1925	CRANDALL	SFR 3BD/2BA+OFFICE(1726) ATT GAR(482) COV CON(172)	3/8/2022	1	1	TURNER					
2107	051-093-079-000	6264	BECKER	SFR 3 BED 2 BATH (1725) ATT GAR (481) COV CONC (171)	4/4/2022	1	1	BELLO-AGUILAR					
2108	050-430-006-000	1830	APPLE VIEW	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	2/10/2022	1	1	RYBCHENKO					
2109	055-050-042-000	3475	NEAL	SFR - 3 BED / 2 BATH(1804) ATT GAR(440) COV CON(110) COV WOOD(200) GARAGE RIGHT RAISED FOUNDATION OPTS - MP GROUP BD 1804	3/3/2022	1	1	HARDING ENTERPRIZES					



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2110	052-182-048-000	5702	JEWELL	SFR - 2 BED 2 BATH (960) COV CONC (144) RPMP "HOPE HOUSE 2" SLAB, STD. ORIENTATION, ENTRY LOCATION: FRONT	2/2/2022	1	1	BROWN-SPELLINGS					
2111	053-230-186-000	1645	LIGHTY	SFR 3BD/2BA(1816) ATT GAR(516) COV CON(388) - RPMP20-00339 W/ ADDENDUM: GAR LEFT, FRONT LOAD, SOG, G/E	1/5/2023	1	1	JONES					
2112	050-210-076-000	1660	KINGS ROW	SFR 2BD/2BA (1615) ATT GAR (678) COV CON (179)	7/2/2020	1	1	HAWKINS	1		RECEIVED GRANT ALREADY, ELIGIBLE AS 2ND PROPERTY		
2113	051-132-086-000	1254	DEER	MFH - 4 BED, 2 BATH (1512)	3/15/2022	1		HENDERSON					
2114	054-182-001-000	5538	LIBBY	SFR 3 BED 2 BATH (1445) ATT GAR (400) COV CONC (53)	3/1/2022	1	1	BLANTON					
2115	051-082-060-000	751	MEYERS	SFR 3BD/2BA(1674) ATT GAR(576) COV CON(52) - MPRP THE MUHLBAIER - GAR RIGHT RAISED FOUNDATION	8/12/2022	1		MISHMASH					
2116	055-030-053-000	145	JAY BIRD	SFR - 4 BED / 3 BATH (2694) ATT GAR (859) COV CON (789)	11/19/2021	1	1	HAPP					
2117	053-310-036-000	1872	CONIFER	SFR 2BD/2BA+OFFICE(1710) ATT GAR(464) COV CON(187)	2/11/2022	1	1	SSV INVESTMENT LLC					
2118	050-250-009-000	1820	STARK	SFR 4BD/2BA(2548) COV CON(880)	3/4/2022	1		KALANQUIN					
2119	051-190-069-000	212	VALLEY VIEW	SFR 4BD/2.5BA(2357) ATT GAR(599) COV CON(541)	3/1/2022	1	1	CORTES					
2120	053-180-084-000	5979	KIBLER	SFR 2BD/2BA(1075) ATT GAR(526) COV CON(183)	2/15/2022	1	1	ANDERSON BROTHERS CORPORATION					
2121	054-202-033-000	5388	EDGEWOOD	SFR 3BD/2BA (1120) COV WOOD(240) RAISED FOUNDATION COMP ROOF OPTS - RPMP HOPE HOUSE 3	2/22/2022	1		WATTLES					
2122	051-161-018-000	6306	RUBY	SFR - 3 BD 2 BA (1508), ATT GAR (406), COV CON (119) - NCC MASTER PLAN 1508 GAR L	2/10/2022	1		CLINE					
2123	053-090-013-000	6160	BERKSHIRE	SFR 2BD/2BA+DEN(1674) ATT GAR(576) COV CON(52) GAR LEFT SLAB OPTS - MPRP THE MUHLBAIER W/ ADDENDUM									
2124	053-070-029-000	1094	FAIRVIEW	SFR 3 BED 2 BATH (1674) ATT GAR (576) COV CONC (51) MASTER PLAN "THE MUHLBAIER":	5/3/2022	1		BAJWA					
2125	051-081-043-000	646	WAGSTAFF	SFR - 3 BED / 2.5 BATH + OFFICE (2010) ATT GAR (536) COV CONC (362)	2/16/2022	1		ALEKSEEV					
2126	053-240-040-000	6341	PENTZ	SFR - 3 BED, 2 BATH (2496) ATT GAR (608) COV CONC (567)	3/8/2022	1	1	ALEKSEEV					
2127	051-104-089-000	7044	MOLOKAI	MFH 2BD/2BA+DEN&ACTIVITY ROOM(1674)	3/31/2022	1	1	SNOW					
2128	054-163-027-000	1586	HENSON	SFR - 2 BED / 2 BATH (1084) ATT GAR (529) COV CONC(354) *ADC MP MODEL E W/ GAR ADDENDUM*	3/7/2022	1	1	DARLING					
2129	054-132-050-000	5714	WOODGLEN	SFR - 2 BED, 2 BATH (1084) ATT GAR (529) COV CONC (354) *ADC MP MODEL E*	2/18/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2130	050-040-080-000	1612	SAN JOSE	MFH 3BD/2BA(1215)	2/16/2022	1	1	SLATTERY					
2131	052-050-041-000	712	POPPY	SFR 3BD/2BA(1620) ATT GAR(576) COV CON(410) GABLE ROOF GAR RIGHT SLAB FNDTN OPTS - MPBP21-00090	10/18/2022	1	1	COYNE					
2132	050-440-008-000	6234	HIMMEL	SFR 3BD/2BA(1368) ATT GAR(493) COV CON(266)	4/21/2023	1	1	RAWLIN					
2133	054-172-031-000	5530	EDGEWOOD	SFR 3 BED 2 BATH (1378) ATT GAR (440) COV CONC (154)	3/7/2022	1	1	JENSEN					
2134	054-240-141-000	2181	STEARNS	SFR 3BD/2BA(1985) ATT GAR(748) COV CON(306)	2/28/2022	1	1	HUZOVATYY					
2135	051-162-050-000	926	MAIDA	MFH 2 BED 2 BATH (1188)	2/24/2022	1		CMH HOMES INC					
2136	055-040-064-000	181	HARRIS	MFH 2BD/2BA+DEN(1512) COV WOOD(216)	3/18/2022	1		BLAZY-PETKUS					
2137	054-030-025-000	5722	NEWMAN	SFR 3BD/2BA(1674) ATT GAR(576) COV CON(52) GAR RIGHT SLAB OPTS - MPRP THE MUHLBAIER									
2138	053-330-124-000	5808	DEERPARK	SFR 2BD/2BA(1674) ATT GAR(576) COV CON(52) - MPRP THE MUHLBAIER - GAR RIGHT FRONT LOAD SLAB W-GAS ELECTRIC									
2139	054-060-024-000	5582	NEWLAND	SFR 2BD/2BA+DEN(1674) ATT GAR(576) COV CON(52) GAR RIGHT SLAB OPTS - MPRP THE MUHLBAIER W/ ADDENDUM	4/26/2022	1		BASRA					
2140	052-260-058-000	5537	FOSTER	SFR 2BD/2BA+DEN(1491) ATT GAR(567) COV WOOD (308) COV CON(189)									
2141	050-200-130-000	6284	MOUNTAIN MEADOW	SFR 3 BED 2 BATH (1859) ATT GAR (594) COV CONC (590)	3/21/2022	1	1	DIAMOND					
2142	055-180-088-000	5202	OLD CLARK	SFR - 3 BED, 2.5 BATH W/ OFFICE (2307), ATT GAR (613), COV CONC ENTRY (84), COV WOOD REAR DECK (372)	1/31/2022	1	1	SPRINGTIME HOMES LLC					
2143	053-200-002-000	1498	MABELLE	MFH 2 BED 2 BATH W DEN (1404)	2/22/2022	1	1	DELONG					
2144	054-030-023-000	5661	NEWMAN	SFR - 3 BED / 2.5 BATH (2063) ATT GAR (575) COV CON (277)	3/23/2022	1	1	ALVAREZ RICARDO CHAVEZ					
2145	055-420-007-000	2379	JOSEPHS	SFR - 3 BED, 2 BATH (1670) ATT GAR (574) COV CONC (346)	3/8/2022	1	1	BRADY					
2146	053-011-078-000	6161	CORAL	MFH 2BD/2BA+DEN(1494)	2/23/2022	1		SHUMAN					
2147	051-082-029-000	711	MEYERS	SFR 3BD/2BA (2547) ATT GAR (1066) COV CON (1292)	4/3/2020	1	1	JAARSMa	1		LOST PROPERTY at 1530 MOR-DELL RD		
2148	054-060-011-000	5557	NEWLAND	MFH 3 BED 2 BATH (1455)	2/24/2022	1	1	JAEGER					
2149	051-093-043-000	6204	GRAHAM	SFR 2BD/2BA+OFFICE(1313) ATT GAR(404) COV CON(13)	12/11/2020	1	1	FERCHAUD	1				
2150	050-310-012-000	6632	DOLORES	SFR 2BD/2.5BA(1787) ATT GAR(544) COV CON(108)	4/4/2022	1	1	AVILA					
2151	052-022-080-000	584	BILLE	SFR 2BD/2BA+DEN(1320) ATT GAR(400) COV CON(136)	4/27/2022	1	1	THOMSON					
2152	052-310-034-000	570	VALSTREAM	SFR 3BD/2BA(1600) ATT GAR(590) COV CON(110)	3/18/2022	1	1	ANDERSON REVOCABLE TRUST					

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2153	054-132-091-000	1712	ELLIS	SFR 3BD/2BA(1604) ATT GAR(660) COV CON(194)	3/7/2022	1	1	KRAFT BUILDERS INC					
2154	053-260-099-000	1840	AMORE	MFH 2 BED 2 BATH (1404) ATT COV DECK (230)	3/2/2022	1	1	TALLY FAMILY TRUST					
2155	050-052-080-000	1679	MIDDLE TREE	SFR 3BD/2BA(1551) ATT GAR(481) COV CON(168)	3/8/2022	1	1	SMAL					
2156	050-100-098-000	1739	DRAYER	SFR 3 BED 2 BATH (1722) ATT GAR (564) FRONT PORTH COV CONC (150)	3/8/2022	1	1	SMAL					
2157	050-210-048-000	6286	VIRGINIA	SFR - 3BD/2BA(1826) ATT GAR (523) COV CONC (327)	3/3/2022	1	1	VIT BUILDERS LLC					
2158	051-171-084-000	6221	STINSON	MFH 3BD/2BA(1443) COV WOOD(68)	3/15/2022	1	1	JMS SALES INC					
2159	054-240-123-000	5595	DESANTE	SFR 2BD/2BA(960) SLAB FOUNDATION MIRRORED ORIENTATION SIDE ENTRY COMP ROOF OPTS - MPRP HOPE HOUSE 2	2/25/2022	1	1	BUTCHER					
2160	053-170-055-000	5981	KIBLER	SFR 3 BED 2 BATH (1620) ATT GAR (576) COV CONC (410) MASTER PLAN. - MARTIN CONSTRUCTION 1620 PLAN: WITH OPTION FOR 3 BED, GARAGE LEFT, FRONT LOAD,FOUNDATION SLAB ON GRADE GAS/ELECTRIC	3/14/2022	1	1	MARTIN					
2161	050-280-026-000	6298	LANCASTER	SFR 2BD/2BA(1611) ATT GAR(430) COV CON(40)	3/16/2022	1	1	HUZOVATYY					
2162	051-310-015-000	391	CIRCLEWOOD	SFR - 2BD/2BA W/ DEN(1674) ATT GAR(543) COV CON(52) - RPMP20-01624 MUHLBAIER: GAR LEFT, FRONT LOAD, SOG	10/27/2022	1	1	GARCIA					
2163	054-090-040-000	5540	FLORAL	MFH 2 BED 2 BATH (1286)	3/8/2022	1	1	FANNIE MAE					
2164	050-120-015-000	6712	CHAPMAN	SFR 4 BED 2 .5 BATH (3879) ATT GAR (679) COV CONC FRONT AND BACK COMBINED (681)	5/19/2022	1		PETERSON					
2165	054-131-006-000	5741	LOCUST VALE	SFR 1BD/1BA(750) COV CON(84) PORCH LEFT SLAB OPTS - MPRP 750 ADU									
2166	051-250-119-000	310	STARLIGHT	SFR 3BD/2BA(1771) ATT GAR(543) COV WOOD(150) SLAB FNDTN - THE STARLIGHT HOME	3/3/2022	1		WEST FAMILY HOMES					
2167	055-040-035-000	5598	WILSON	SFR 2BD/2BA+DEN(768) ATT CARPORT(384)	4/19/2022	1		KESSNER					
2168	055-130-100-000	490	LEISURE	SFR 3BD/3BA+DEN(1810) ATT GAR(525) COV CON(300)	4/26/2023	1	1	MODERN ASSET MANAGEMENT INC					
2169	050-290-036-000	6672	DOLORES	SFR 2BD/2BA+DEN(1341) ATT GAR(409) COV CON(260)	10/28/2022	1	1	BARTON					
2170	051-300-003-000	319	REDBUD	SFR 2 BED 2 BATH (1030) COV CONC FRONT & BACK (225)	3/29/2022	1	1						
2171	050-150-076-000	6530	DAPHNE	MFH 2BD/2BA+DEN(1167) COV WOOD(140)	3/3/2022	1	1	BOURGEOIS					
2172	050-300-018-000	6673	TWIN OAKS	SFR - 3 BED 2 BATH (1674) ATT GAR (543) COV CONC (52) THE MUHLBAIER - MASTER PLAN GAR LEFT FRONT LOAD 2 BED SLAB ON GRADE GAS/ELECTRIC	4/19/2022	1		COUCHOT					
2173	051-370-009-000	5945	YORKSHIRE	SFR - 3 BED 2.5 BATH (2020) ATT GAR(636) COV CONC (332)	3/28/2022	1	1	DEADMOND					



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2196	052-340-035-000	743	NORTH CLOUD	SFR 3BD/2BA(1747) ATT GAR(442) COV CON(379)	10/7/2022	1	1	TORRES					
2197	054-162-017-000	1201	PEARSON	SFR 2BD/2BA(1062) ATT GAR(532) COV CON(166)	4/13/2022	1	1	HOWE					
2198	052-070-019-000	5888	CRESTVIEW	SFR - 2 BED, 2 BATH W/ DEN (1236) ATT GAR (301) COV CONC (249)	4/27/2022	1	1	LIUZZA					
2199	050-100-133-000	1731	ARANY	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	4/6/2022	1	1	TYSCHUK					
2200	051-093-096-000	6219	FERN	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	3/30/2022	1	1	OLIFERUK					
2201	054-240-135-000	5568	DESANTE	MFH 3BD/2BA(1494)	3/28/2022	1	1	BERNIK					
2202	053-190-061-000	5914	DEL MAR	SFR 3 BED 2 BATH (1736) ATT GAR (542) COV CONC (281)	6/30/2022	1	1	ZHILKO					
2203	055-120-065-000	490	WILLS	MFH 2BD/2BA+DEN(1433) COV WOOD(60)	3/22/2022	1	1	CROSLEY					
2204	055-410-024-000	98	GRINDING ROCK	MFH - 2 BED 2 BATH W/DEN (1140)	3/22/2022	1	1	BAUME					
2205	054-161-019-000	5655	WOODGLEN	MFH 3 BED 2 BATH (1512)	3/23/2022	1	1	DWELLE					
2206	051-082-053-000	696	ROBERTS	SFR 2BD/2BA+DEN(1620) ATT GAR(576) COV CON(410) GABLE ROOF GARAGE LEFT SLAB FOUNDATION OPTS - MP MARTIN CONSTRUCTION 1620	3/22/2022	1	1	CONNOR TRUST					
2207	053-200-017-000	5992	HAZEL	SFR- 2 BED / 2 BATH (1232)	4/27/2022	1	1	HERRERA					
2208	050-051-022-000	7051	CLARK	SFR - 2 BED / 2 BATH (1232)	4/27/2022	1	1	HERRERA					
2209	053-240-014-000	1824	PAIGE	SFR - 2 BED / 2.5 BATH (1547) ATT GAR(636) COV CON(508) ENCL PATIO(142)	4/1/2022	1	1	MCDANIEL					
2210	053-210-057-000	1426	SLEEPY HOLLOW	SFR - 2 BED / 2 BATH + DEN (1120) COV CONC(240) RPMP - HH3 W/ 2BD, SLAB, COMP ROOF, STD OR.	3/30/2022	1	1	ZAKRZEWSKI					
2211	055-050-065-000	99	MARLEE	MFH - 2BED/2BA + DEN (1674)	4/21/2022	1	1	DWELLE					
2212	051-093-104-000	6224	GRAHAM	MFH - 3 BED / 2 BATH (1836)	4/1/2022	1	1	SANCHEZ					
2213	053-330-117-000	5775	DEANNA	MFH 2 BED, 2 BATH (898)	4/5/2022	1	1	NGUYEN					
2214	050-180-035-000	1548	WEST	MFH 3BD/2BA(1444)	9/9/2022	1		SMITH					
2215	050-230-038-000	1852	MERRILL	SFR - 1 BED, 1 BATH (756) ATT GAR (1350) COV CONC (48)	5/16/2022	1		LAFONTAINE					
2216	050-220-124-000	6775	MATELL	SFR - 2 BED / 2 BATH (1425) ATT GAR(548) COV CON(276)	4/6/2022	1	1	THE KITE GROUP INC					
2217	052-300-016-000	5896	PINE VIEW	MFH 2BD/2BA(1200) COV WOOD(96)	5/20/2022	1	1	DWELLE					
2218	050-370-012-000	1865	JUNE	SFR - 2 BED 2 BATH (1723) ATT GAR (513) COV CONC (270)	8/17/2022	1		BESKO CONSTRUCTION AND DESIGN CORP					
2219	055-270-040-000	5446	PENTZ	SFR 2BD/2BA+OFFICE(2194) ATT GAR(516) COV CON(310)	9/16/2022	1		BESKO CONSTRUCTION AND DESIGN CORP					
2220	055-020-085-000	275	BURDEN	SFR 3BD/2BA(1674) ATT GAR(576) COV CON(50) - MPRP THE MUHLBAIER	4/12/2022	1	1	MUHLBAIER					

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2221	051-310-021-000	5405	HICKORY	SFR - 3 BED, 2 BATH (1771) ATT GAR (543) COV CONC (20) WEST MP	4/15/2022	1	1	WEST FAMILY HOMES					
2222	054-131-092-000	5674	SAWMILL	MFH 3BD/2BA(1769)	9/22/2022	1	1	FORMATION HOMES LLC					
2223	054-151-014-000	1378	BABBLING BROOK	MFH 2BED/2BA + DEN+OFFICE(2720)	3/17/2022	1	1	RHINE					
2224	052-182-095-000	5624	LITTLE GRAND CANYON	SFR - 3 BED, 3 BATH (2133) ATT GAR (689) COV CONC (387)	4/4/2022	1		ZHILKO					
2225	053-070-042-000	981	FAIRVIEW	SFR - 2 BED, 2 BATH (1312) ATT GAR (624) COV CONC (128)	VOID								
2226	055-530-028-000	5279	LAGUNA	SFR - 3 BED, 3.5 BATH (2340) W/ COND. BASEMENT (550) ATT GAR (935) COV CONC (350) COV WOOD BALCONY (260)	5/3/2022	1	1	HUZOVATYY					
2227	051-040-015-000	8697	SKYWAY	SFR 3BD/2BA(1669) ATT GAR(521) COV WOOD(320) COV CON(160)	4/1/2022	1		FOGARASSY					
2228	053-161-078-000	1465	FREESTONE	SFR - 3 BED 2 BATH (1866) ATT GAR RIGHT (440) COV CONC (442) ADC MP Z-XL	4/4/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2229	051-380-029-000	5770	CRESTVIEW	SFR 2BD/2BA+DEN(1084) ATT GAR(529) COV CON(354) - MP20-01777 ADC MODEL E	5/11/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2230	053-170-128-000	1521	JUDY	SFR - 3 BED 2 BATH (1394) ATT GAR (486) COV CONC (24)	8/1/2022	1	1	CHIP					
2231	053-170-064-000	6066	KIBLER	SFR- 3 BED / 2 BATH (1166) ATT GAR(484) COV CON(24)	8/1/2022	1	1	CHIP					
2232	053-170-063-000	1680	YOUNG	SFR 3BD/2BA(1166) ATT GAR(458) COV CON(24)	8/1/2022	1	1	CHIP					
2233	053-170-062-000	1690	YOUNG	SFR - 3 BED 2 BATH (1394) ATT GAR (486) COV CONC (24)	8/1/2022	1	1	CHIP					
2234	051-310-017-000	395	CIRCLEWOOD	SFR 2BD/2BA+OFFICE(1701) ATT GAR(556) COV CON(313)	6/28/2022	1	1	GATES & PEOPLES					
2235	052-390-054-000	6134	LAUREL	MFH - 3 BED, 2 BATH (1920)	9/7/2022	1		GUILD MORTGAGE COMPANY LLC					
2236	051-120-116-000	6710	MACHUGA	SFR - 2 BED 2 BATH (1551) ATT GAR (548) COV CONC (490)	11/15/2022	1	1	HILEY					
2237	051-040-082-000	6682	WOODLAND	SFR - 3 BED, 2 BATH (2007) ATT GAR (547) COV CONC (414)	4/4/2022	1		RPA CHALLENGE INCORPORATED					
2238	053-180-085-000	1655	LOG CABIN	SFR 2BD/2BA+DEN(1360) ATT GAR(481) COV CON(266)	4/5/2022	1	1	ANDERSON BUILDERS CORPORATION					
2239	051-093-037-000	6249	FERN	MFH - 3 BED 2 BATH (1920)	6/28/2022	1	1	GUILD MORTGAGE COMPANY LLC					
2240	052-040-086-000	690	EDWARDS	SFR 3BD/2BA(1816) ATT GAR(516) COV CON(388) - MP BP20-00339 - GAR LEFT SLAB FOUNDATION OPTS	4/27/2022	1	1	BCD PARADISE LLC					
2241	051-190-026-000	234	VALLEY VIEW	SFR - 2 BED 2 BATH (1844) ATT GARAGE (659) COV CONC (271)	12/14/2022	1	1	SCHWEIN LIVING TRUST					
2242	055-070-020-000	4941	FOSTER	SFR 2BD/2BA(1109) ATT GAR(400) COV CON(179)	4/26/2022	1	1	BREWSTER					

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2243	050-450-021-000	1669	PARADISEWOOD	SFR - 3 BED 2 BATH (2001) ATT GAR (525) COV CONC (343)	4/15/2022	1	1	GAVRILLYUK					
2244	055-440-042-000	5241	ROYAL CANYON	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	5/23/2022	1	1	MENTUS					
2245	055-150-056-000	4994	FOSTER	SFR - 2 BED 2 BATH (960) THE FLUMES RPMP MP20-01388 GABLE KITCHEN LEFT	4/13/2022	1	1	RADKE					
2246	051-260-009-000	5453	PRINCETON	MFH - 3 BD 2 BA (1280)	4/25/2023	1	1	RECONSTRUCTION RECOVERY ADVISORS INC					
2247	051-260-039-000	291	PACIFIC	SFR - 1 BED 1 BATH W/ LOFT(1600) COV CONC (991)	VOID			ELLISON					
2248	051-083-069-000	6378	GRAHAM	MFH 2BD/2BA+DEN(1215)	4/8/2022	1	1	FANNIE MAE					
2249	055-270-008-000	5350	PENTZ	MFH - 3 BED 2 BATH (1769)	5/11/2022	1	1	PARADISE VENTURES LLC					
2250	052-050-033-000	750	CAMELLIA	SFR 3 BED 2 BATH (1120) COV CONC (240) RPMP HH3 (MP21-01524) W/ 3 BD, STD LAYOUT, RAISED FNDTN.	4/28/2022	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
2251	053-170-173-000	6042	SUPREME	MFH - 3 BED 2 BATH (1474)	5/3/2022	1	1	CMH HOMES INC					
2252	053-250-101-000	6228	MORNING	SFR 3BD/2BA(1498) ATT GAR(518) COV CON(642) - MP BP21-00147	4/21/2022	1	1	ECKSTROM ENTERPRISES					
2253	055-180-040-000	1261	BENNETT	MFH - 3BD/2BA (1620)	1/13/2022	1	1	FEDERAL NATL MORTGAGE ASSOCIATION					
2254	050-390-016-000	1601	GATE	SFR 3BD/2BA(1535) ATT GAR(555) COV CON(282)	5/4/2022	1	1	ANDERSON BUILDERS CORPORATION					
2255	050-390-015-000	1605	GATE	SFR 3BD/2BA(1360) ATT GAR(481) COV CON(266)	4/20/2022	1	1	ANDERSON BUILDERS CORPORATION					
2256	054-020-018-000	5740	NEWLAND	MFH - 3 BED 2 BATH (1323)	6/9/2022	1	1	BARBARA					
2257	052-300-025-000	5915	PINE VIEW	MFH 3BD/2BA(1065)	5/4/2022	1	1	BROWN					
2258	050-100-126-000	1732	ARANY	SFR - 2 BED, 2 BATH (1701) ATT GAR (556) COV CONC (313)	9/20/2023	1		TACHINSKIY					
2259	055-211-003-000	1374	KELLER	SFR - 3 BED, 2 BATH (1316) ATT GAR (590) COV CONC (144) RPMP BUTTE CREEK MP21-01460: GAR LEFT, SOG	5/10/2022	1							
2260	050-190-072-000	1384	WAGSTAFF	MFH - 4 BED, 2 BATH (1674)	8/19/2022	1		WENGER					
2261	052-310-035-000	560	VALSTREAM	SFR 3BD/2BA(1600) ATT GAR(590) COV CON(110)	4/28/2022	1	1	ANDERSON LAND & INVESTMENT CO LP					
2262	050-052-088-000	1636	FRANKE	SFR - 3 BEDROOM, 2 BATH (2803) ATT GAR (576) COV CONC PORCHES (252) COV CONC (264) MASTER PLAN - "GOLD NUGGET"	5/2/2022	1	1	BERNDT					
2263	055-120-072-000	363	ROE	SFR 3BD/2BA(1853) COV CON(467) ENCLOSED BREEZEWAY(152) ATT GAR(900)	7/9/2021	1	1	CARBONE	1				
2264	055-050-068-000	82	BLUE JAY	SFR - 2 BED + DEN (1376) ATT GAR (1033) COV CONC (84)	3/29/2024	1		CUSICK					

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2265	051-280-008-000	6683	EVERGREEN	SFR 2BD/2BA(1856) ATT GAR(960) COV CON(1072) OPEN WOOD(551) ATT ADU(896)	7/6/2022	1		MEYER					
2266	051-300-012-000	5909	CRESTMOR	SFR - 3 BED 2 BATH (1376) ATT GAR (1033) COV CONC (84)	4/5/2024	1		CUSICK					
2267	054-172-043-000	1350	PEARSON	MFH - 3 BED 2 BATH (1248) W FACTORY PORCH (144)	4/27/2022	1	1	WHITE					
2268	053-250-093-000	6319	PENTZ	MFH - 3 BED 2 BATH (1638)	4/27/2022	1	1	KAPELLAS					
2269	053-210-050-000	5948	LIBBY	SFR - 2 BED 2 BATH (1135) ATT GAR (560) COV CONC (390)	11/3/2022	1	1	MARTIN					
2270	050-210-046-000	1605	BILLE	SFR - 2 BED 2 BATH + DEN (1620) ATT GAR (576) COV CONC (410) MASTER PLAN BP21-00090 OPTIONS: HIP ROOF GAR LEFT SLAB.	6/13/2022	1	1	HOFFMAN					
2271	055-430-026-000	2379	BLUE DANUBE	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	3/23/2023	1	1	LUTSIK					
2272	053-370-005-000	1540	ROSEMARY	SFR 3BD/2BA (1816) ATT GAR (516) COV CON(388) - MP BP20-00339	5/10/2022	1	1	PAGE					
2273	052-032-056-000	594	VALLEY VIEW	SFR 3BD/2BA (1816) ATT GAR (516) COV CON(388) - MP BP20-00339	3/2/2023	1		SHARP / BARON					
2274	053-300-071-000	1369	NUNNELEY	SFR 3BD/2BA(1859) ATT GAR(469) COV CON(177)	4/28/2022	1	1	SHKROBANETS					
2275	050-410-010-000	6270	SAWMILL	SFR - 3 BEDROOM, 2 BATH (1674) ATT GAR (543) COV CONC (52). MASTER PLAN - REBUILD PARADISE "THE MUHLBAIER": OPTIONS MATRIC: GARAGE RIGHT FRONT LOAD 3 BED SLAB ON GRADE GAS/ELEC. ADDENDUM ATTACHED KITCHEN AND MASTER BEDROOM HAVE BEEN TRANSPOSED - NO CHANGE TO SQUARE FOOTAGE.	5/13/2022	1	1	MUHLBAIER					
2276	053-280-009-000	1966	MOUNTAIN VIEW	SFR 1BD/1BA (840) COV CON (894)	8/20/2021	1	1	MCNALLEY BENOIT FAMILY TRUST					
2277	052-310-033-000	579	VALSTREAM	SFR 3BD/2BA(1600) ATT GAR(590) COV CON(110)	4/28/2022	1	1	ANDERSON FAMILY TRUST					
2278	052-310-033-000	580	VALSTREAM	SFR ADU - 1 BED, 1.5 BATH (749) ATT GAR (378) COV CONC (740)	4/28/2022	1	1	ANDERSON FAMILY TRUST					
2279	052-310-035-000	559	VALSTREAM	SFR ADU - 1 BED, 1.5 BATH (749) ATT GAR (378) COV CONC (740)	4/28/2022	1	1	ANDERSON LAND & INVESTMENT CO LP					
2280	055-530-019-000	4941	MALIBU	SFR 4BD/2.5BA(2434) ATT GAR(787) COV CON(534)	5/2/2022	1	1	RYBCHENKO					
2281	050-070-047-000	1413	TOWHEE	MFH - 2 BED 2 BATH (816)	4/26/2022	1	1	BRODERICK					
2282	050-052-025-000	7020	CLARK	SFR 3BD/2BA(1360) ATT GAR(446) COV CON(221)									
2283	053-021-008-000	6137	BOWLES	SFR - 2 BED 2 BATH (1826) ATT GAR (523) COV CONC (327)	5/16/2022	1	1	TACHINSKIY					
2284	055-020-124-000	5227	JARVIS	SFR - 2 BED 2 BATH (2553) ATT GAR (680) COV CONC (1333)	5/18/2022	1	1	MCCOY					
2285	050-250-046-000	1765	TARA	SFR 2BD/2BA(1392) COV CON(180)	7/27/2022	1		ZUNIGA					



Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2286	053-210-076-000	1446	SLEEPY HOLLOW	MFH 2BD/2BA+DEN(1027)	4/29/2022	1	1	MILLER					
2287	055-070-005-000	5021	FOSTER	MFH - 1 BED 1 BATH (800)	4/29/2022	1	1	BREWSTER					
2288	050-330-074-000	1329	SEQUOIA	SFR - 3 BED, 2 BATH (1440) COV WOOD PORCH (1493) WITH ATT GAR (587) AND RAISED/SLAB FOUNDATION MPRP - THE FARMHOUSE	5/2/2022	1	1	ROGERS					
2289	051-172-041-000	1233	BILLE	SFR 2BD/2BA+DEN(1120) COV CON(240) - SLAB FNDTN, STNDRD NO GAR 9FT PLATE HEIGHT	5/10/2023	1	1	ANDERSON BUILDERS CORP					
2290	054-310-008-000	5570	ANGEL	SFR 2BD/2BA+DEN(1816) ATT GAR (516) COV CON(388) RPMP BP20-00339 GAR RIGHT, FRONT LOAD, SOG	5/17/2022	1		YILDIRIM					
2291	050-240-071-000	1785	STARK	SFR - 3 BED, 2 BATH (1605) ATT GAR (467) COV CONC (124.5)	12/16/2022	1	1	HAURYLIUK					
2292	052-235-015-000	5578	BROOKSIDE	SFR - 1 BD 1 BA (750) COV CONC (216)	4/7/2023	1	1	HELMS					
2293	054-172-030-000	1310	PEARSON	SFR 2BD/2BA(960) - SLAB FOUNDATION STANDARD ORIENTATION SIDE ENTRY COMP ROOF - MP BP22-00010	5/10/2022	1	1	THOROUGHMAN					
2294	054-090-041-000	5541	FLORAL	MFH - 2 BD 2 BA (1080)	1/20/2023	1	1	IRISH HOMES LLC					
2295	050-420-020-000	1547	GATE	SFR 3BD/2.5BA(2007) ATT GAR(547) COV CON(414)	6/29/2023	1		RPA CHALLENGE INC					
2296	054-210-059-000	5750	FICKETT	SFR - 3 BED 2 BATH (2050) ATT GAR (788) COV CONC (306)	5/13/2022	1	1	HUZOVATYY					
2297	055-212-016-000	5242	LIBBY	SFR 2BD/2BA+DEN&RETREAT(2199) ATT GAR(646) COV CON(30)	7/19/2022	1		STRAWN					
2298	052-011-050-000	6157	RIPLEY	SFR - 2 BED / 2 BATH (960) COV CON(144) - RPMP20-01388 FLUMES SLAB & MONO PITCH	5/11/2022	1	1	LINDSAY					
2299	053-272-071-000	5870	FICKETT	SFR 1 BED 1 BA (900) COV CON (420)	8/21/2020	1	1	SCHUETTE	1				
2300	051-081-050-000	6397	GRAHAM	MFH 3BD/2BA(1568)	5/24/2022	1	1	JMS SALES INCORPORATED					
2301	053-131-013-000	1163	NUNNELEY	MFH 3BD/2BA(1600)	5/24/2022	1	1	SS SERVICES INCORPORATED					
2302	053-161-022-000	1439	POWELL	SFR 2BD/2BA+DEN(1542) ATT GAR(498) COV WOOD(83)	6/21/2022	1		GATES					
2303	051-093-035-000	6218	GRAHAM	SFR 3BD/2BA (1144) QUONSET HUT	8/24/2022	1		RAMPEL					
2304	050-240-040-000	1736	WHITAKER	SFR - 3B/2BA (1816) ATT GAR (516) COV CONC(388) MASTER PLAN REBUILD PARADISE 'RIDGE RANCH 1816' - OPTIONS: GAR LEFT FRONT LOAD 3 BED RAISED GAS/ELEC	5/27/2022	1	1	VENTURA					
2305	050-200-135-000	6291	DAWNRIDGE	SFR 3BD/2BA(1916) ATT GAR(493) COV CON(303)	5/22/2023	1	1	MURZA					
2306	050-230-018-000	6675	SHAY	SFR - 3 BED 2 BA +DEN (1482) COV CON (155) ATT GAR (476) MASTER PLAN MAXTON 1482 (TAHOE LLC)	5/23/2023	1		TAHOE LLC					

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2307	053-310-031-000	1873	CONIFER	SFR 3BD/2BA+DEN(1482) COV CON(155) ATT GAR(476) - MP BP21-00316	11/29/2022	1		IVANOV					
2308	053-070-032-000	1065	FAIRVIEW	SFR - 3 BED 2 BATH (2309) ATT GAR (525) COV CONC (345)	5/12/2023	1		PETRASHISHIN					
2309	054-191-014-000	1397	KELLER	SFR - 3 BED 2 BATH (1542) ATT GAR (498) COV COMC (83)									
2310	053-370-001-000	1500	ROSEMARY	SFR - 3 BED 2 BATH (1830) ATT GAR (469) COV CONC (75)	7/1/2022	1		ZELENYUK					
2311	054-280-021	5619	SALIDA	MFH-3BED 2BATH (1484)	5/24/2022	1	1	JMS SALES INCORPORATED					
2312	054-165-005-000	5596	CHERRY	SFR - 3 BED 2 BATH (1970) ATT GAR (481) COV CONC (348)	5/24/2022	1	1	GAYDUCHIK					
2313	051-104-098-000	8494	MONTNA	MFH - 3 BED 2 BATH (1920)	9/7/2022	1	1	GUILD MORTGAGE COMPANY LLC					
2314	055-410-002-000	79	GRINDING ROCK	SFR -3 BED 2 BATH (1631) ATT GAR (467) COV CONC (285)	6/15/2022	1	1	LUTSIK					
2315	050-210-083-000	1630	GRAYSTONE	SFR - 3 BED, 2 BATH (1970) ATT GAR (481) COV CONC (348)	6/1/2022	1	1	GAVRILYUK					
2316	053-011-080-000	6165	CORAL	SFR - 3 BED 2 BATH (1344), ATT GAR (462) MPBP22-00117 RRA PARADISE RANCH	5/18/2022	1		RRA					
2317	051-310-018-000	397	CIRCLEWOOD	SFR - 2 BED, 2 BATH + DEN (1592) ATT GAR (530) COV CONC (399) MPBP22-00407 GAR LEFT, RAISED FLOOR, HIP ROOF	5/20/2022	1	1	BUNNELL					
2318	050-052-087-000	7030	CLARK	SFR 3BD/2BA(1611) ATT GAR(430) COV CON(40)	6/2/2022	1	1	MAGDALYAN					
2319	050-171-029-000	6708	BELLEVIEW	MFH - 3 BED, 2 BATH (1512)	6/1/2022	1	1	SLIGHTOM					
2320	055-440-010-000	5271	ROYAL CANYON	SFR -3 BED, 2.5 BATH W/ OFFICE + DEN (2517) ATT GAR (987) COV CONC (281)									
2321	055-440-112-000	5055	MALIBU	SFR - 3 BED, 2 BATH W/ OFFICE (2048) ATT GAR (910) COV CONC (143)									
2322	051-092-042-000	6224	OLIVER	SFR - 2 BED, 2 BATH W/ DEN (1620), ATT GAR (576), COV CONC (410) MP21-00090 'MARTIN CONSTRUCTION 1620 PLAN'	6/2/2022	1	1	RUBINO FAMILY TRUST					
2323	050-120-109-000	1834	DEAN	SFR 4BD/3BA(1810) ATT GAR(525) COV CON(300)	5/4/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2324	054-020-058-000	5711	PEARL	MFH 3 BED/2 BA (1272)	3/4/2021	1	1	MIQUEO	NA	NA	BOUGHT AFTER FIRE		
2325	051-190-004-000	287	VALLEY VIEW	SFR - 3BD/2.5BA(2026) ATT GAR(572) COV CON(244) - MIRROR PLAN, RAISED AND SLAB, 4BD, & VARIOUS INTERIOR OPTS - MASTER PLAN NCC "EVERGREEN" -	7/6/2022	1		SQUIRREL FAMILY TRUST					
2326	051-132-089-000	1268	DEER	MFH 2 BD 2 BA (947)	2/21/2023	1	1	MUNCY					
2327	051-162-039-000	906	DEER CREEK	SFR 3BD/2BA(1296) COV WOOD(108)	6/21/2022	1	1	FANNIE MAE					
2328	052-273-020-000	5398	FILBERT	SFR 2 BED 2 BATH (1374) ATT GAR (466) COV CONC (217)	6/9/2022	1	1	TRI D HOMES LLC					
2329	051-132-084-000	1274	DEER	MFH - 2 BED, 2 BATH (810)	5/31/2023	1	1	ANDREWS					
2330	053-230-124-000	5853	KIBLER	MFH - 2 BED 2 BATH (1188)	7/1/2022	1	1	CERVANTES					

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2331	053-070-014-000	6028	MARY	SFR - ADU - 2 BED 1 BATH (720) ATT GAR (576)	11/10/2022	1		RESENDIZ					
2332	052-271-080-000	5424	FILBERT	SFR 3BD/2BA(1682) ATT GAR(582) COV CON(334)									
2333	053-210-048-000	5947	HAZEL	SFR 2BD/2BA+DEN(1120) COV CON(240) - OPTS SLAB FNDTN STNDRD NO GAR 9FT PLATE HEIGHT	5/11/2023	1	1	ANDERSON BUILDERS CORP					
2334	055-100-020-000	293	WAYLAND	SFR - ADU - 1BD/1BA(756) COV CONC(54)	6/7/2022	1	1	GAITER					
2335	054-192-075-000	1427	WOLF	SFR- 3BD/2BA (1316) COV CONC (256) REBUILD PARADISE "BUTTE CREEK"	6/24/2022	1	1	JARRED					
2336	054-132-095-000	5655	BUTTE VIEW	SFR 2BD/1.5BA(998) ATT GAR(231) COV CON(38)	6/30/2022	1	1	PHOENIX RISING TRUST					
2337	052-271-020-000	5373	FOSTER	SFR - 3 BEDROOM, 2 BATH (1674) ATT GAR (543) COV CONC PORCHES (52) MASTER PLAN - REBUILD PARADISE THE MUHLBAIER. OPTIONS MATRIX: GARAGE RIGHT 3 BED SLAB ON GRADE NATURAL GAS	6/8/2022	1	1	VC HERNANDEZ LLC					
2338	055-430-027-000	5240	XENO	SFR 3BD/2BA(2048) ATT GAR(799) COV CON(272)	6/21/2022	1	1	LUTSIK					
2339	055-440-095-000	5202	TRAFALGAR SQUARE	SFR 3BD/2BA(1630) ATT GAR(467) COV CON(288)	6/14/2022	1	1	LUTSIK					
2340	051-040-045-000	6640	LINCOLN	SFR - 3 BED 3 BATH (2434) COVERED WOOD DECK (161)									
2341	053-170-095-000	1558	SAWPECK	SFR - 3BD/2BA(1674) ATT GAR(543) COV CON(52) - RPMP20-01624 MUHLBAIER: GAR RIGHT, FRONT LOAD, SOG	6/13/2022	1	1	BATRES					
2342	053-060-009-000	6193	GREENWOOD	SFR - 2 BED, 2 BATH (1198) ATT GAR (427) COV CONC (92)	5/23/2023	1	1	PIETSCH					
2343	053-272-005-000	5860	FICKETT	SFR 3BD/3BA(2359) ATT GAR(526) COV CON(287)	7/28/2022	1		SMALLEY					
2344	054-120-047-000	5201	BENNETT	SFR 2BD/2BA(1327) COV CON(35)	6/17/2022	1	1	BALDIVID					
2345	054-141-055-000	5659	CLARA	MFH 3BD/2BD(1782)	3/6/2023	1	1	HOPP					
2346	050-350-034-000	6777	CLARK	SFR 2BD/2BA(1208) ATT GAR(723) COV CON(296)	6/28/2022	1	1	PHILLIPS					
2347	050-350-035-000	6771	CLARK	SFR 2BD/2BA(1208) ATT GAR(723) COV CON(296)	6/28/2022	1	1	PHILLIPS					
2348	054-240-142-000	2191	STEARNS	SFR 3BD/2BA(1611) ATT GAR(430) COV CON(240)	6/27/2022	1	1	HUZOVATYY					
2349	054-080-057-000	5510	GARDEN VIEW	SFR 3BD/2BA(1316)ATT GAR(590) COV CONC (144) RPMP BUTTE CREEK RAISED FOUNDATION, NAT GAS,GABLE ROOF	9/30/2022	1		KAZEMI					
2350	051-091-009-000	747	MADRONE	SFR - 2 BD, 1 BA (915) ATT GAR (462) COV CONC (245)	6/6/2023	1	1	SPEICHER					
2351	052-271-058-000	451	CIRCLEWOOD	SFR - 3 BED 2.5 BATH (1977) ATT GAR (647) COV CONC (332)	6/30/2022	1		VILLALOBOS					

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2352	055-530-033-000	5284	HARRISON	SFR 4BD/2FULL&2HALF BA(2267) ATT GAR(977) COV CON(840) OPEN WOOD(231)	6/14/2022	1		BUZZARD					
2353	053-230-065-000	5816	SAWMILL	SFR 3BD/2BA(1700) ATT GAR(589) COV CON(652)	7/1/2022	1	1	GAYDUCHIK					
2354	051-460-024-000	118	POINT WEST	SFR 4BD/2BA(3017) ATT GAR(885) COV CON(429)	8/1/2022	1	1	HUZOVATYY					
2355	051-103-007-000	8439	MONTNA	SFR - 3 BED / 2 BATH (1816) ATT GAR (516) COV CONC (388) OPTIONS MATRIX: GARAGE LEFT SIDE LOAD SLAB ON GRADE GAS/ELEC MPRP RIDGE RANCH 1816	6/22/2022	1	1	MERRIN					
2356	051-330-004-000	231	REDBUD	SFR 3BD/2.5BA(1962) ATT GAR(555) COV CON(172)	11/8/2021	1	1	LEON					
2357	053-330-155-000	5827	GRAPE	SFR 3 BED / 3 BATH (1800) ATT GAR(528) COV CON(658) COV WOOD(556) UNC BSMNT(1465)	6/13/2022	1	1	LONG					
2358	050-450-005-000	1658	PARADISEWOOD	SFR 3BD/2BA(1456) ATT GAR(400) COV CON(103)	7/11/2022	1	1	HOBDEN					
2359	055-270-069-000	5225	COUNTRY CLUB	SFR 4BD/3BA(2500) ATT GAR(886) COV CON(395)									
2360	050-120-055-000	6908	SESAME	MFH - 2 BED, 2 BATH W/ DEN (1188)	8/2/2022	1	1	TUCK					
2361	054-192-111-000	1432	DOTTIE	SFR 2BD/2BA(1198) ATT GAR(430) COV CON(92)	7/5/2022	1	1	HAAB					
2362	053-104-003-000	5894	BETTENCOURT	SFR - 2 BED 2 BATH (1198) ATT GAR (431) COV CONC (92)	8/17/2022	1	1	RENZ					
2363	052-271-032-000	615	MORRIS	SFR - 2 BED, 2 BATH (1518) ATT GAR (472) COV CONC (335)	7/13/2022	1	1	OBRIEN					
2364	053-230-156-000	1709	CONNELL	SFR 3BD/2BA(1445) ATT GAR(400) COV CON(122)									
2365	054-172-029-000	1758	STEARNS	SFR - 3BED 2 BATH (1445) ATT GAR (430) COV CONC (122)	7/28/2022	1	1	JELLEMA					
2366	051-120-132-000	1035	WAGSTAFF	SFR 3BD/2BA(2131) ATT GAR(532) COV CON(278)	7/21/2022	1	1	ARABADZHI					
2367	053-170-185-000	1652	YOUNG	SFR 3BD/2BA(2192) ATT GAR(1037) COV CON(810) UNC 1/2BA(37) UNC STOR(33)	1/27/2023	1	1	LIPPINCOTT FAMILY TRUST					
2368	055-060-023-000	70	ROE	MFH 3BD/2BA(1421) COV WOOD(80)	6/29/2022	1	1	LIBERTY HOUSING INCORPORATED					
2369	053-190-050-000	5963	DEL MAR	SFR - 3 BED 2 BATH (1674) ATT GAR (543) COV CONC (52) THE MUHLBAIER - MASTER PLAN GAR LEFT FRONT LOAD 3 BED SLAB ON GRADE GAS/ELECTRIC.	7/8/2022	1		BAKER					
2370	050-200-128-000	6292	MOUNTAIN MEADOW	SFR 3BD/2BA(2010) ATT GAR(536) COV CON(327)	6/22/2022	1	1	SMAL					
2371	051-146-040-000	6372	HARVEY	SFR 2BD/2BA(1198) ATT GAR(430) COV CON(92)	8/17/2022	1	1	GALLETINE					
2372	050-340-044-000	6453	MOSS	SFR -2 BED 2 BATH (1109) ATT GAR (430) COV CONC (102)	VOID								
2373	051-161-013-000	931	DEER CREEK	SFR - 3 BED / 2 BATH (1508) ATT GAR(406) COV CON(119) - MP20-01244	6/16/2022	1	1	RODOWICK / MICHELS					

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2374	050-240-003-000	6634	PENTZ	MFH 3 BED 2 BATH (1404)	8/12/2022	1		EARL					
2375	054-161-004-000	1561	HENSON	SFR - 2 BED, 2 BATH (1198) ATT GAR (427) COV CONC (92)	6/1/2023	1	1	KRIEGER					
2376	053-110-046-000	1051	MAPLE PARK	MFH 3BD/2BA+STUDY(1307)	6/22/2022	1	1	OWEN					
2377	051-190-101-000	218	SKYOAKS	SFR - 3 BED 3 BATH (2197) ATT GAR (527) COV CONC (312)	7/12/2022	1	1	STIMSON					
2378	052-182-082-000	5717	JEWELL	SFR 2BD/2BA+DEN(1120) COV WOOD(240) OPEN WOOD(64) - RAISED FNDTN COMP ROOF OPTS RPMP BP21-01524	8/10/2022	1	1	MUNRO					
2379	054-040-046-000	5707	CHURCHILL	SFR 2 BED / 2 BATH + DEN(1674) ATT GAR(543) COV CON(52) OPTIONS MATRIX:GAR LEFT SLAB ON GRADE NATURAL GAS MPRP THE MUHLBAIER W/ ADDENDUM.	6/22/2022	1		MENDOZA					
2380	055-060-003-000	89	ROE	MFH 2BD/2BA(984) COV WOOD(72)	7/18/2022	1	1	PAZ / SHUMP					
2381	054-240-035-000	1940	CRANDALL	SFR - 3 BED 2 BATH (1709.60) ATT GAR 9484) COV CONC (288.17)	9/21/2022	1	1	TURNER					
2382	050-310-007-000	6642	DOLORES	SFR 3BD/2BA(1866) ATT GAR(440) COV CON(442) MIRRORRED GABLE ROOF OPTS - MPBP21-01075	6/30/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2383	052-130-029-000	509	FIR	MFH - 2 BD 2 BA (1188)	6/2/2023	1	1	WITTENBERG					
2384	050-110-018-000	1804	SUNRISE	SFR 1BD/2BA(1132) ATT GAR(550) COV WOOD(298) COV CON(192)	9/11/2020	1	1	KEEN	1				
2385	051-104-087-000	7045	MOLOKAI	MFH - 3 BED 2 BATH (1566)	10/12/2022	1	1	RICHMOND					
2386	051-104-152-000	8612	STIRAS	SFR 3BD/2BA(1498) ATT GAR(518) COV CON(321) - MP BP21-00147	10/19/2022	1	1	ECKSTROM ENTERPRISES LLC					
2387	054-220-046-000	1931	FEATHER RIVER	MFH 2BD/2BA+DEN(1323)	8/12/2022	1	1	BOURGEOIS					
2388	052-320-026-000	578	CIRCLEWOOD	MFH - 3 BED 2 BATH (1782)	7/26/2022	1	1	MCINTYRE / VANGE					
2389	052-011-100-000	699	EDWARDS	SFR - 3 BED 2 BATH (1445) ATT GAR (430) COV CONC (122)	9/7/2022	1	1	SALAK					
2390	050-100-111-000	1751	DRAYER	SFR - 2 BED 2 BATH + OFFICE (1511) ATT GAR (618) COV CONC (211)	9/7/2022	1	1	SKINNER					
2391	050-370-003-000	6664	SHAY	SFR 3BD/2BA(1646) ATT GAR(486) COV CON(353) OPEN WOOD(126)	8/4/2022	1		SWANN					
2392	052-070-087-000	430	NADENA	SFR 2BD/2BA(1308) ATT GAR(500) COV CON(20)	9/26/2023	1		PARADISE ONE PARTNERS LLC					
2393	052-022-094-000	6162	LOIS	SFR - 3 BED 2 BATH (1735) ATT GAR (473) COV CONC (237)	9/1/2023	1		PARADISE ONE PARTNERS LLC					
2394	053-260-062-000	1871	DEL RIO	SFR 2BD/2BA+DEN(1605) ATT GAR(467) COV CON(250)	7/14/2022	1	1	ZHILKO					
2395	050-350-010-000	1494	JONES	SFR 3BD/2BA(1970) ATT GAR(481) COV CON(348)	6/29/2022	1		SALAZAS					
2396	055-270-010-000	5370	PENTZ	SFR 3BD/2BA+OFFICE(1734) ATT GAR(553) COV CON(528)	7/18/2022	1	1	IRISH					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2397	054-164-025-000	5630	BUTTE VIEW	MFH 2BD/2BA+DEN(1215)	6/29/2022	1	1	BANNER MOUNTAIN FAMILY TRUST					
2398	051-092-038-000	743	BILLE	SFR 3BD/2BA(1674) ATT GAR(576) COV CON(54) - MPRP THE MUHLBAIER	9/8/2021	1	1	SANCHEZ					
2399	050-440-007-000	6228	HIMMEL	SFR 3BD/2BA(1600) ATT GAR(590) COV CON(110)	7/18/2022	1	1	ANDERSON BUILDERS CORPORATION					
2400	053-150-123-000	6163	ALAMO	SFR 2BD/2BA(1075) ATT GAR(526) COV CON(183)	7/18/2022	1		ANDERSON BUILDERS CORPORATION					
2401	052-213-007-000	5169	BLACK OLIVE	SFR 3BD/2BA(1374) ATT GAR(528) COV CON(261)	8/29/2022	1		PHOENIX COMMUNITY INITIATIVE LLC					
2402	052-213-007-000	5177	BLACK OLIVE	SFR 4BD/3BA(1889) ATT GAR(567) COV CON(153)	8/29/2022	1		PHOENIX COMMUNITY INITIATIVE LLC					
2403	053-110-089-000	1020	MAPLE PARK	MFH -2 BED 2 BATH + DEN (1980)	2/7/2023	1	1	TAMAYO					
2404	052-390-053-000	6097	LAUREL	SFR 3BD/2BA(1830) ATT GAR(469) COV CON(337)	12/5/2022	1		SILCHUK					
2405	052-271-051-000	623	GREGS	SFR 3BD/2BA(1710) ATT GAR(548) COV CON(478)	2/13/2023	1		ROHRER					
2406	055-262-007-000	5469	PENTZ	SFR - 3 BED 2 BATH (1985) ATT GAR (748) COV CONC (306)	7/15/2022	1	1	REZNICHENKO					
2407	055-400-025-000	820	SENECA	SFR 2BD/2BA+DEN(1316) COV CON(144) ATT GAR(590) - MP BP21-01460 2BD GAR RIGHT SOG GABLE OPTS									
2408	055-130-088-000	450	STACY	SFR - 2 BED 2 BATH + DEN (1655) ATT GAR (567) COV CONC (164)	7/14/2022	1		KITE GROUP					
2409	050-150-102-000	1392	SALISBURY	SFR 2BD/2BA(1030) ATT GAR(276) COV CON(195)	7/26/2022	1	1	FRAZIER					
2410	053-200-051-000	5969	SAWMILL	MFH 3BD/2BA(1028)	7/22/2022	1	1	SKYRIDGE GROUP LLC					
2411	051-250-150-000	311	STARLIGHT	SFR - 4 BED 3.5 BATH (2411) ATT GAR (1297) COV CONC (812)	7/18/2022	1		YOUNIE					
2412	051-470-016-000	96	VALLEY VIEW	SFR 3BD/2BA(2050) ATT GAR(788) COV CON(306)	8/1/2022	1	1	HUZOVATYY					
2413	055-440-131-000	5084	MALIBU	SFR 3BD/3BA + DEN (2905) ATT GAR (817) COV CON (577)	3/11/2020	1	1	SCOTT	N/A		BOUGHT AFTER FIRE		
2414	050-240-051-000	1759	STARK	SFR 2BD/2BA+DEN&STUDY(1902) ATT GAR(545) COV CON(374)									
2415	051-071-120-000	6337	OLIVER	SFR - 2 BED 2 BATH + DEN (1949) ATT GAR (555) COV CONC (403)									
2416	054-131-052-000	1562	HEMLOCK	MFH - 2 BED 2 BATH (1042)	9/23/2022	1		CMH HOMES INCORPORATED					
2417	053-370-016-000	1505	ROSEMARY	SFR 3BD/2BA(1830) ATT GAR(469) COV CON(337)	9/10/2021	1	1	KRASNYUK					

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2418	050-100-062-000	1764	DRAYER	MFH 3BD/2BA+DEN(1539)	7/12/2022	1	1	POUST					
2419	054-030-011-000	5706	PARADISE	SFR 3BD/2BA(1225) COV CON(399)	8/8/2022	1		MARTINEZ					
2420	051-081-024-000	730	WAGSTAFF	SFR 3BD/2BA(1120) COV CON(240) - MPRP BP21-01524 MIRROR, SLAB, COMP ROOF OPTS	7/26/2022	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
2421	055-201-004-000	5297	EDGEWOOD	MFH 2BD/2BA(876) COV WOOD(71)	2/2/2023	1	1	WENDEL					
2422	054-132-080-000	1740	ELLIS	SFR -3 BD 2.5 BA (2262) ATT GAR (705) COV CONC (3223)	3/15/2023	1	1	MESSINA					
2423	055-120-047-000	491	WILLS	SFR 2BD/1BA(820) COV CON(276) - MP BP20-00959	7/18/2022	1	1	DARLING / SPROLES					
2424	055-120-047-000	495	WILLS	SFR 2BD/1BA(820) COV CON(276) - MP BP20-00959	7/18/2022	1	1	DARLING / SPROLES					
2425	054-230-131-000	5710	PENTZ	SFR - 3 BED 2.5 BATH + OFFICE (2009) ATT GAR (536) COV CONC (327)	4/6/2023	1	1	A+ CUSTOM FRAMING					
2426	053-162-071-000	1364	ORPUT	SFR(1749) ATT GAR(733) COV CON(374) FLIP OPT MP BP21-00037	3/14/2024	1		ROBLES ALBERTO & SANTILLAN-ROBLES CECILIA					
2427	053-330-058-000	5819	SAWMILL	SFR 2BD/2BA(1135) ATT GAR(560) COV WOOD(390)	8/8/2022	1	1	GARNER BUILT INCORPORATED					
2428	055-212-047-000	5324	LIBBY	SFR - 2 BED, 2 BATH (1055), ATT GAR (357), COV CONC (135)	7/5/2023	1	1	GREMILLION					
2429	050-082-095-000	1624	KINGDOM	MFH - 2 BED 2 BATH (1404) W/DECK (251)	8/8/2022	1	1	MELENDEZ					
2430	053-230-163-000	1659	ALEXIS	SFR 3BD/2BA(1372) ATT GAR(1186) COV CON(478)	5/5/2023	1	1	CAPRA FAMILY TRUST					
2431	052-012-024-000	816	BILLE	SFR 4BED/3.5BA +WORKROOM (2800) ATT GAR (742) COV CON (81)	7/21/2021	1	1	HARDMAN					
2432	053-190-068-000	5903	DEBBIE	SFR 3BD/2BA(1829) ATT GAR(484) COV WOOD(200) COV CON(43) - RAISED FNDTN GAR RIGHT MP BP22-00710	9/13/2022	1	1	HARDING ENTERPRIZES INC					
2433	055-261-038-000	2199	DEMILLE	SFR 3BD/3BA(2060) ATT GAR(1146) COV CON(500)	5/31/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2434	051-132-081-000	1282	DEER	MFH 2BD/2BA+DEN(1159)	3/21/2023	1	1	ANDREWS					
2435	051-103-018-000	8369	MONTNA	SFR 2BD/2BA(960) COV CON(240) - KITCH LEFT, MONO, SOG, RPMP BP20-01388 FLUMES	7/19/2022	1	1	SKARIN					
2436	053-330-129-000	1380	ELLIOTT	MFH 2BD/2BA+DEN(1027)	10/3/2022	1	1	MARTINEZ / WOODRUFF					
2437	055-050-029-000	3570	LASSEN	MFH 2BD/2BA(947) COV WOOD(71)	4/26/2023	1	1	SHEARER					
2438	051-072-089-000	533	ROBERTS	SFR 4BD/5BA & 2 HALF BATHS(6068) ATT GAR(996) COV WOOD(482) OPEN WOOD(72) COV CON(635) UNF UNC(254)	8/16/2022	1		BOLIN					
2439	054-165-011-000	1401	PEARSON	MFH 3 BD 2 BA (1296)	8/3/2020	1	1	PETRERO	1				
2440	055-330-015-000	1983	HILLPARK	SFR 2BD/1BA(915) ATT GAR(462) - GAR LEFT MP BP22-00808	7/25/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					

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2441	053-300-030-000	5776	KENGLO	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	8/12/2022	1	1	NIKO LLC					
2442	051-171-065-000	6296	BERKSHIRE	MASTER PLAN "MASTER PLAN 3" - SFR 2BD/1BA(915) ATT GAR(462) COV CONC (462)	7/26/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2443	051-143-016-000	6310	BERKSHIRE	MASTER PLAN "MASTER PLAN 3" - SFR 2BD/1BA(915) ATT GAR(462) COV CONC (462)	7/25/2022	1		AMERICAN DREAM CONSTRUCTION INC					
2444	054-165-003-000	5574	CHERRY	SFR - 3 BED 2.5 BATH (1879) ATT GAR (576) COV CONC (642)	8/19/2022	1		CARPINETTI					
2445	051-380-040-000	420	NOTTINGHAM	SFR 3BD/2BA+DEN(2125) ATT GAR(866) COV CON(282)									
2446	050-200-117-000	1437	COUNTRY OAK	SFR 3BD/2BA+DEN(2125) ATT GAR(866) COV CON(282)	6/13/2023	1		KAUR					
2447	052-070-057-000	5846	CRESTVIEW	SFR 3BD/2BA+DEN(2125) ATT GAR(866) COV CON(282)	4/12/2023	1		KAUR					
2448	054-132-053-000	5658	WOODGLEN	SFR - 3 BED 2 BATH (1611) ATT GAR (430) COV CONC (240)	8/9/2022	1	1	KOLOTYUK					
2449	052-040-051-000	6083	MARTY	MFH - 3 BED / 2 BATH (1494)	8/19/2022	1	1	BIGFOOT VENTURES LLC					
2450	052-040-047-000	6084	MARTY	MFH 3BD/2BA(1387)	8/19/2022	1	1	BIGFOOT VENTURES LLC					
2451	052-040-049-000	6088	MARTY	MFH 3BD/2BA(1494)	10/6/2022	1	1	LIPPI / TAYLOR					
2452	053-060-045-000	6079	WILLIAMS	SFR - 3 BED, 2 BATH (1286) ATT GAR (406) COV CON (200)	8/14/2020	1	1	BARKER	1				
2453	052-271-084-000	5415	FOSTER	SFR 2BD/1.5BA(1507) ATT GAR(483) COV CON(600)	6/14/2022	1	1	MCCALLUM					
2454	050-100-132-000	1739	ARANY	SFR 2BD/2BA(1184) COV CON(340)									
2455	053-230-110-000	5776	HOMESTEAD	MFH 3BD/2BA(1065)	9/14/2022	1	1	LAKE					
2456	054-030-043-000	5710	JO JOS	SFR 2BD/2.5BA+OFFICE(2000) ATT GAR(576) COV CON(850)	11/2/2022	1		KERRIGAN					
2457	053-190-101-000	5931	DEBBIE	MFH 3BD/2BA(1620)	9/7/2022	1	1	LIFE IS BEAUTIFUL TRUST					
2458	054-060-028-000	5580	NEWLAND	SFR - 3 BED, 2 BATH (1500) COV CONC (384)	2/2/2023	1	1	CARGILE					
2459	052-032-035-000	537	PRIMROSE	SFR 1 BDRM/2 BATH + DEN (1356) + OPEN WOOD DECK (270)	6/8/2021	1	1	POJE	1				
2460	050-100-135-000	1719	ARANY	SFR 2BD/1BA(915) ATT GAR(462)	2/9/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2461	054-151-027-000	916	PEARSON	SFR 3 BED/2.5 BA + OFFICE (1807.50) ATT GAR (504)	4/29/2021	1	1	RESENDIZ	1				
2462	054-142-056-000	1401	AMY	SFR- 3BD/2BA (1316) COV CONC (256) RPMP21-01460 BUTTE CREEK - KITCHEN RIGHT - SLAB ON GRADE - NATURAL GAS - 3 BED - GABLE	10/24/2022	1	1	JOHNSON					



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2463	055-120-007-000	5309	FOSTER	SFR 2BD/2BA(1109) ATT GAR(426) COV CON(179)	6/1/2023	1	1	HOAGLUND					
2464	054-161-016-000	1519	HENSON	SFR 2BD/2BA(960) COV CON(152) THE FLUMES GABLE, KITCHEN RIGHT, SLAB, N GAS	12/7/2023	1		CALL					
2465	053-310-026-000	1863	CONIFER	SFR - 3 BED 2 BATH (1802) ATT GAR (437) COV CONC (54)	10/25/2023	1		AERIE BUSINESS CONSULTING LLC					
2466	050-200-116-000	6269	HIMMEL	SFR - 3 BED 2 BATH (1802) ATT GAR (437) COV CONC (54)									
2467	052-181-020-000	3719	HONEY RUN	SFR - 2 BED, 2 BATH + DEN (1910), ATT GAR (466), COV CON (200)	8/24/2022	1	1	KLACKLE					
2468	050-110-023-000	1746	SUNRISE	SFR - 2 BED 2 BATH (1346) ATT GAR (743) COV CONC (257)	8/10/2022	1	1	STULTZ					
2469	053-320-052-000	6098	MAXWOOD	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(256)	6/8/2023	1	1	INVESTMENT SPECIALTY GROUP LLC					
2470	051-092-035-000	745	BILLE	SFR 3BD/2BA(1120) COV CON(240) & ALL OPTS SLAB FNDTN, STNDRD 1 CAR GAR(336) 9FT PLATE HEIGHT	6/21/2023	1	1	ANDERSON BUILDERS CORP					
2471	053-011-068-000	6352	TAHOE	SFR 2BD/1BA (988) COV CON (104) - SIDE PORCH REVERSE (LEFT) STEM WALL - MP BP20-01765	9/16/2022	1	1	LOOMIS					
2472	051-460-013-000	158	VALLEY RIDGE	SFR 4BD/4&1/2BA+OFFICE(4026) ATT GAR(1400) COV CON(740) UNC STOR(425)	4/20/2021	1	1	CARLSON	1				
2473	051-072-073-000	6375	AUGUST	SFR - 3 BED 2 BATH (1816) ATT GAR (516) COV CONC (388) RPMP20-00339 "RIDGE RANCH" OPTIONS MATRIX: GAR LEFT FRONT LOAD 3 BED SLAB ON GRADE GAS/ELECTRIC	8/24/2022	1	1	MOHERMAN					
2474	052-310-027-000	595	ELLIOTT	MFH - 3 BED 2 BATH (1493)	3/22/2022	1	1	RODRIGUES					
2475	050-100-123-000	1710	ARANY	SFR - 3 BED 2 BATH (1316) ATT GAR (590) COV CONC (144) RPMP BUTTE CREEK OPTIONS: GARAGE RIGHT SLAB ON GRADE NATURAL GAS 3 BED HIP	8/19/2022	1		MANN					
2476	055-120-074-000	5260	TOYON	SFR 2BD/1BA(892) COV CON(516)	6/29/2022	1	1	HEARNE					
2477	050-330-058-000	6498	LONE CEDAR	MFH 2BD/2BA + DEN (1280)	3/21/2023	1	1	RICE					
2478	055-220-019-000	1346	BENNETT	SFR - 2 BD 2 BA (960) COV CONC (144) MPBP22-00010, SOG, SIDE ENTRY, MIRRORED ORIENTATION	1/27/2023	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
2479	052-070-106-000	503	NOTTINGHAM PARK	SFR - 3 BED 2 BATH (2041) ATT GAR (788) COV CONC (326)	9/28/2022	1		CASTLE4YOU INC.					
2480	052-031-092-000	6082	MCKINNEY	SFR 2BD/2BA+DEN(1620) ATT GAR(576) COV CON(410) HIP ROOF GARAGE RIGHT SLAB FNDTN OPTS MP BP21-00090	9/27/2022	1	1	MARTIN					
2481	051-071-068-000	576	ROBERTS	MFH - 3 BED 2 BATH (1056)	VOID								
2482	050-150-022-000	1446	MAYHEW	MFH 2BD/2BA(810)	8/30/2022	1	1	ROGERS					

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2483	055-212-034-000	5232	LIBBY	SFR - 3 BD 2 BA (1120)COV CONC (240)	1/27/2023	1	1	HABITAT FOR HUMANITY OF BUTTE COUNTY					
2484	054-162-016-000	5550	SAWMILL	MFH 2BD/2BA(742) COV WOOD(70)	10/20/2022	1	1	SPENCER					
2485	051-145-066-000	1208	WAGSTAFF	MFH 3BD/2BA(1188)	10/3/2022	1	1	REGNIER					
2486	053-230-157-000	1701	CONNELL	SFR 3BD/2BA(1283) ATT GAR(472) COV CON(221) OPEN WOOD(120)	9/7/2022	1		ARCIGA					
2487	053-190-067-000	5897	DEBBIE	SFR 3BD/2BA(1804) ATT GAR(440) COV CON(110) COV WOOD(200) - GAR LEFT, RAISED FNDTN, ALL ELEC OPTS MP BP20-02090	9/13/2022	1	1	HARDING ENTERPRIZES INC					
2488	054-240-069-000	2349	STEARNS	SFR 3BD/2BA(1456) ATT GAR(437) COV CON(103)	9/13/2022	1	1	GRAHAM					
2489	053-140-009-000	1659	BILLE	SFR 2BD/1BA(988) COV CON(104) SLAB FNDTN SIDE PORCH REVERSE OPTS - MP BP20-001765 - TOP Housing Project (Nadia x126)	9/1/2022	1	1	REAM					
2490	050-380-011-000	1432	LOFTY	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	5/25/2023	1	1	RYBCHENKO					
2491	053-300-008-000	1325	DEODARA	SFR - 3 BD 2.5 BATH (1720) ATT GAR (430) COV CONC (122)	10/10/2022	1		JAIN					
2492	052-040-052-000	650	BROOKHAVEN	SFR - 3 BED 2.5 BATH ( 1720) ATT GAR (430) COV CONC (122)									
2493	052-290-022-000	823	ROE	SFR 3BD/2BA(1612) ATT GAR(732) COV CON(151)	9/20/2022	1	1	ARGEL					
2494	054-240-004-000	1890	ARROWHEAD	SFR - 3BD 2BA (1826) ATT GAR (523) COV CONC(327)	10/25/2022	1		AACH WOOD CORPORATION					
2495	053-150-126-000	6174	ALAMO	MFH 2BD/2BA+DEN(1174)	9/22/2022	1	1	SKEFFINGTON / BAKER					
2496	053-150-094-000	6174	OPAL	MFH 2BD/2BA+DEN(1174)	9/22/2022	1	1	SKEFFINGTON / BAKER					
2497	053-011-080-000	6165	CORAL	MFH- 3 BED, 2 BATH (1333) RRA MP FLEETWOOD 28502E W/ DECK/LANDINGS (120) BP23-00076	6/22/2023	1	1	RRA RECONSTRUCTION AND RECOVERY ADVISORS					
2498	053-161-098-000	6026	LIBBY	SFR 1BD/1BA(1444) ATT GAR(624) COV CON(467)	9/20/2022	1	1	CASTILLO					
2499	052-011-076-000	698	SUNSET	SFR 3BD/2BA(1440) COV WOOD(1493) SLAB FNDTN - MPRP BP21-00091	10/27/2022	1		NICOLETTI					
2500	054-020-034-000	5748	PEARL	MFH - 2 BED 2 BATH + DEN (1280)	9/14/2022	1	1	DSM DEVELOPMENT LLC					
2501	051-230-044-000	5021	RUSSELL	SFR - 3 BED, 2.5 BATH (1976), ATT GAR (484)	4/6/2020	1	1	GREENE	N/A		BOUGHT AFTER FIRE		
2502	052-320-005-000	587	CIRCLEWOOD	SFR - 2 BEDROOMS / 2 BATHROOMS (1595) ATTACHED GARAGE (440) COVERED CONCRETE (360) MPRP MODEL "Z"	9/22/2022	1	1	OSTERLUND					

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2503	052-380-034-000	644	CIRCLEWOOD	SFR - 3 BED / 2 BATH (1422) ATT GAR (437) COV CON (65) - GARAGE RIGHT SLAB 3BD OPTIONS - MP SILVERMARK 1422	3/2/2022	1	1	GREYPOINT DEVELOPMENT LLC					
2504	051-144-034-000	1192	SOFT BREEZE	SFR 2BD/2BA+DEN(1120) COV CON(240) - SLAB FNDTN, STNDRD 1 CAR GAR(336) 9FT PLATE HEIGHT OPTS	5/12/2023	1	1	ANDERSON BUILDERS CORP					
2505	051-083-137-000	6360	GRAHAM	MFH - 3 BED 3 BATH (2560)	8/18/2022	1	1	CARDY					
2506	054-182-040-000	1443	GRACEPHIL	MFH 2 BED/2 BA (1548)	6/10/2021	1	1	DULETSKY	1				
2507	053-330-071-000	5859	SAWMILL	SFR 3BD/2BA(1368) ATT GAR(493) CON CON(266)	9/22/2022	1	1	ANDERSON BUILDERS CORP					
2508	053-330-151-000	5849	SAWMILL	SFR 3BD/2BA(1368) ATT GAR(493) CON CON(266)	9/22/2022	1	1	BROWN FAMILY REV TRUST					
2509	055-090-070-000	201	WAYLAND	SFR ADU - 1 BED 1 BATH (748) COV CONC (112)	10/3/2022	1	1	HARTLEY REV I V TRUST					
2510	051-152-024-000	912	THOMASSON	SFR - 3 BED 2 BATH (1708) ATT GAR (538) COV CONC (60)									
2511	053-272-082-000	6053	PENTZ	ADU - SFR 1BD/1BA(399) OPEN WOOD(48)	1/17/2023	1		VAN ECK					
2512	050-150-087-000	6535	DAPHNE	MFH 3BD/2BA(1759) COV WOOD(25)	9/16/2022	1	1	BIRDSONG					
2513	053-140-026-000	1665	YOUNG	SFR - 2 BED 2 BATH (1198) ATT GAR (427) COV CONC (92)	10/5/2022	1	1	NORTON					
2514	054-100-018-000	5518	PALOMA	SFR 2BD/2BA(997) ATT GAR(693) COV WOOD(99)	12/15/2022	1		ELLISON					
2515	050-013-061-000	1611	CONNERS	SFR 2BD/2BA(820) COV CON(276) - MP BP20-00959	2/9/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2516	050-051-015-000	1543	WARREN	MFH - 2 BED, 2 BATH + DEN (1458)	3/6/2023	1	1	MORRIS					
2517	055-262-006-000	5479	PENTZ	MFH 3BD/2BA(1813)	10/6/2022	1		FORMATION HOMES LLC					
2518	054-152-023-000	5581	FOLAND	MFH - 2 BD BA + DEN (1872)	4/6/2023	1	1	BURKE					
2519	053-250-110-000	1819	GREENWAY	MFH 4BD/2BA(1944)	9/23/2022	1	1	EDINGTON					
2520	050-052-033-000	1651	WEE DELL	SFR - 3 BED 2 BATH (1196) ATT GAR (396) COV CONC (190)	5/22/2023	1		RESENDIZ					
2521	050-210-044-000	1587	BILLE	SFR 3BD/2BA(1200) COV CON(526) MASTER PLAN WRH1									
2522	054-260-025-000	1951	DRENDEL	MFH- 3 BED, 2 BATH (1620)	11/18/2022	1	1	DWELLE					
2523	053-190-109-000	5936	DEBBIE	SFR 3BD/2BA(1345) ATT GAR(443) COV CON(78)	4/27/2023	1	1	HOGUE FAMILY TRUST					
2524	051-190-060-000	194	VALLEY RIDGE	SFR - 3 BED, 2.5 BATH W/ DEN (2811) ATT GAR (920) COV CONC (620)	10/24/2022	1		MILEY					
2525	051-132-018-000	1237	WAGSTAFF	MFH - 2 BED 2 BATH + DEN (1213)	9/28/2022	1	1	LONGWORTH GALLI LIVING TRUST					
2526	052-274-010-000	5333	FILBERT	SFR - 3 BED, 2 BATH (1144) ATT GAR (506) COV CONC (149)	6/27/2023	1	1	HUFFMAN					
2527	054-120-056-000	5340	CLARK	MFH - 3 BD 2 BA (1512)	5/4/2023	1	1	EDWARDS					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2528	050-210-082-000	1620	GRAYSTONE	MFH 3BD/2BA(1760)	10/26/2022	1		PARADISE VENTURES LLC					
2529	050-410-016-000	6237	SAWMILL	SFR - 3 BED 2 BATH (1769) ATT GAR (710) COV CONC (497)	10/24/2022	1	1	FLAHERTY FAMILY TRUST 2018					
2530	052-232-004-000	5619	SIERRA PARK	SFR 2BD/2BA(1398) ATT GAR(434) COV CON(98)	10/18/2022	1	1	DENNEY					
2531	052-070-071-000	485	CRESTWOOD	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	9/30/2022	1	1	LUTSIK					
2532	051-480-005-000	261	CHANDLER	SFR - 4 BED 4 BATH & 2-1/2 BATHS (4103) ATT GAR (596) COV CONC (1822) W/ ADU 1 BED 1 BATH (615)	11/4/2022	1		BEEMAN					
2533	050-280-028-000	6310	LANCASTER	SFR - 2BD/2BA+DEN(1316) COV CON(144) RPMP21 01460 BUTTE CREEK: 2BD, SOG, GABLE OPTS	12/16/2022	1		LANG					
2534	055-190-006-000	4901	CLARK	SFR 4BD/3.5BA+OFFICE AND ENTERTAINMENT ROOM(3559) ATT GAR(548) COV CON(959)	8/16/2022	1	1	SAGER					
2535	054-152-087-000	5601	SAWMILL	SFR 3BD/2BA+DEN(1260) COV CON(35) - OPTS - 2 CAR GAR(590), SLAB FNDTN, NATURAL GAS - MPRP BP23-00706	7/20/2023	1	1	ANDERSON BUILDERS CORP					
2536	051-180-095-000	5925	RONISUE	SFR 2BD/2BA(1343) ATT GAR(1920) COV CON(240) OPEN WOOD(148)	10/25/2022	1		FULFORD					
2537	054-191-026-000	5351	LIBBY	SFR - 2 BED / 2 BATH + DEN (1316) COV CONC (144) ATT GAR (590) MPRP21-01460 BUTTE CREEK GAR RIGHT, SOG, NG, GABLE	3/3/2023	1		HERNANDEZ					
2538	054-182-051-000	1454	TONI	MFH 2BD/2BA+DEN(1494)	9/14/2022	1	1	FOMIN & IWABUCHI					
2539	053-150-200-000	6141	LIBBY	SFR - 2BD 2 BA (960) MPBP22-00010 RAISED FOUNDATION STEM WALL FRONT ENTRY STANDARD ORIENTATION PLAN	1/5/2023	1	1						
2540	053-190-077-000	5890	DEBBIE	MFH - 2 BED, 2 BATH + DEN (1056)	10/13/2022	1	1	HOLLINGSWORTH REV IV TRUST					
2541	055-050-069-000	72	SEAMAN	SFR - 3 BED 2 BATH (2100) ATT GAR (1152) COV CONC (780)	8/18/2023	1		FAVILLA					
2542	054-131-061-000	1578	NUNNELEY	SFR 3BD/2BA(1445) ATT GAR(543) COV CON(84)									
2543	050-082-058-000	1651	TIMBER	SFR 3BD/2BA+OFFICE(1538) ATT GAR(531) COV CON(136)	2/21/2023	1		MARTINEZ / GALVAN					
2544	050-230-050-000	1766	MERRILL	SFR - 2 BED 1 BATH (988) COV CONC (104 MPRP "THE JEWELL"	10/18/2022	1	1	REYES					
2545	053-230-027-000	5782	KIBLER	MFH - 3 BED 2 BATH (1493)	11/9/2022	1	1	DSM DEVELOPMENT LLC					
2546	051-380-021-000	449	NOTTINGHAM	SFR - 3 BED 2 BATH (2120) ATT GAR (482) COV CONC (291)	2/16/2023	1	1	TRI D HOMES LLC					
2547	053-330-140-000	1398	ELLIOTT	SFR 3BD/2BA(1120) COV CON(240) SLAB FNDTN - MPRP BP21-01524	10/21/2022	1	1	ANDERSON BUILDERS CORP					
2548	052-330-008-000	614	SCOTT	SFR 3BD/2BA(1120) CON(240) - OPTS SLAB FNDTN STNDRD 1 CAR GAR(336) 9FT PLATE HEIGHT - MPRP BP23-00245	5/11/2023	1	1	TRINCA					

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2549	052-237-011-000	705	BUSCHMANN	SFR 3BD/2BA+OFFICE(1642) ATT GAR(507) COV CON(348)	8/16/2023	1		MEDINA					
2550	052-212-006-000	108	PEARSON	SFR 1BD/1BA(750) COV CON(84) - MPRP BP20-02118	11/1/2022	1		MARTINEZ					
2551	050-180-097-000	6647	PENTZ	SFR 3BD/2BA(1445) ATT GAR(430) COV CON(73)	11/4/2022	1		DANIELS					
2552	053-140-093-000	1657	PEPE	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	2/8/2022	1	1	PROSPEROUS ROAD INC					
2553	053-110-102-000	1028	MAPLE PARK	MFH 3BD/2BA(1494)	1/5/2023	1	1						
2554	051-290-012-000	345	RANKIN	SFR 2 BED/ 2BA + SEWING ROOM (1570) ATT GAR (503) COV CON (240)	5/14/2021	1	1	HORYLEV / SMITH	1				
2555	054-152-066-000	5576	FOLAND	MFH 2BD/2BA+DEN(1566)	10/28/2022	1	1	CLINGAN / KELSAY					
2556	054-060-035-000	5577	NEWLAND	SFR 3BD/2BA(1456) ATT GAR(437) COV CON(103)	11/16/2022	1	1	CLARK					
2557	051-050-096-000	6672	VIEW ACRES	SFR 2BD/2BA+OFFICE(1476) ATT GAR(576) COV CON(399)	9/29/2022	1	1	CHRISTENSEN					
2558	054-191-081-000	1351	MANHATTAN	MFH 2BD/2BA(956) COV WOOD(70)	3/14/2023	1	1	YUGO					
2559	053-180-012-000	1566	SYLVAN	SFR - 3 BED 2 BATH (1524) ATT GAR (612) COV CONC (214)	2/1/2023	1		FOSTER / BUSH					
2560	054-202-049-000	5369	BREEZEWOOD	SFR - 4 BED 3.5 BATH (3804) ATT GAR (1040) COV CONC (123)	11/30/2022	1		ADAMS					
2561	053-330-009-000	1332	ELLIOTT	SFR 2BD/2BA (915) COV CON (168)	2/28/2020	1	1	PRIMER	1				
2562	050-380-002-000	1447	LOFTY	SFR 2BD/2BA+DEN(1368) ATT GAR(493) COV CON(266)	10/20/2022	1	1	KNIFONG REVOCABLE INTER VIVOS TRUST					
2563	054-310-001-000	5584	ANGEL	SFR - 2 BED, 2 BATH + DEN (1405) ATT GAR (574) COV CONC (228)	1/6/2023	1							
2564	052-260-146-000	574	HILLCREST	SFR 3BD/2BA(1775) ATT GAR(581) COV CON(423)	12/6/2023	1		MAHONEY CAPITAL LP					
2565	052-260-130-000	566	HILLCREST	SFR - 3 BED / 2 BATH (1682) ATT GAR (582) COV CON (480)	1/16/2024	1		MAHONEY CAPITAL LP					
2566	055-020-055-000	335	ROE	SFR - 3 BED, 2.5 BATH (2728) ATT GAR (1212) COV CONC (1231)	12/8/2022	1		AHLGREN					
2567	054-152-052-000	5550	FOLAND	SFR 4BD/3.5BA(2810) ATT GAR(662) COV CON(3470)	1/23/2023	1		HERNANDEZ					
2568	055-220-051-000	5154	LAUREL OAK	SFR 4BD/2BA(2048) ATT GAR(598) COV CON(1195)	7/18/2022	1	1	TARRANT					
2569	055-262-051-000	1886	MARYWOOD	SFR 3BD/2BA(1368) ATT GAR(492) COV CON(266)	6/22/2023	1		WILLIAMS					
2570	052-070-075-000	527	CRESTWOOD	SFR - 2 BED 2 BATH (1405) ATT GAR (432) COV CONC (111)									
2571	054-060-029-000	5568	NEWLAND	SFR - 3 BD 2 BTH + DEN (1120) COV CONC (240) HOPE HOUSE MPRP 21-01524	1/5/2023	1	1	VIGIL					
2572	054-142-101-000	5730	MIDDLE LIBBY	SFR 2BD/2BA(884) COV CON(112)	12/6/2022	1		FORRESTER					
2573	052-290-059-000	5378	SCOTTWOOD	SFR 2BD/2BA + DEN(1316) COV CON(144) - RPMP BP21-01460	1/4/2023	1							
2574	051-171-087-000	1164	SAPPHIRE	MFH - 2 BD 2 BA (864)	3/16/2023	1	1	HASKINS					

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2575	050-360-016-000	6440	RIX	SFR - 2 BED 1 BATH (1375) COV CONC (175)	11/21/2022	1		JOSEPH					
2576	053-320-021-000	6105	MAXWOOD	SFR - 3BD/2BA (1316) COV CONC (144) ATT GAR (590) MPRP "BUTTE CREEK" OPTIONS MATRIX: GAR LEFT SLAB ON GRADE NATURAL GAS GABLE	7/31/2023	1		VALLEY HOMES SALES INC					
2577	052-238-038-000	735	CRAWFORD	MFH 2BD/2BA(864)	4/5/2023	1	1	BURDICK					
2578	051-132-102-000	1275	WAGSTAFF	SFR - 1 BED, 1 BATH (750) ATT GAR (750)	1/12/2023	1		LAYFIELD					
2579	051-143-001-000	6372	BERKSHIRE	SFR - 2 BED 2 BATH + OFFICE (1551) ATT GAR (481) COV CONC (168)									
2580	051-320-018-000	278	TRANQUIL	SFR 3BD/2BA(1620) ATT GAR(576) COV CON(410) - HIP ROOF GARAGE LEFT RAISED FNDTN OPTS MP BP21-00090	4/21/2023	1	1	HEGLESON					
2581	055-212-040-000	1455	CARROLL	MFH 3BD/2BA(1188)	2/1/2023	1	1	BENZ					
2582	051-071-023-000	6246	WAGSTAFF	SFR 2BD/2BA+DEN(1674) ATT GAR(576) COV CON(252) - MPRP BP20-01624	1/27/2023	1		STIMSON					
2583	055-440-026-000	5122	FEATHER ROCK	SFR - 3 BED 3 BATH + DEN (2197) ATT GAR (527) COV CONC (312)	12/22/2023	1		STIMSON					
2584	050-013-054-000	7214	CANDLEWOOD	SFR 3BD/3BA(1855) ATT GAR(431) COV CON(73)	12/29/2022	1		OSUMAH					
2585	055-111-024-000	5295	SCOTTWOOD	SFR - 3 BED 2 BATH (1316) ATT GAR (590) COV CONC (144) OPTIONS MATRIX: GAR RIGHT, RAISED, NATURAL GAS, GABLE, 3 BED									
2586	050-280-048-000	6303	LANCASTER	SFR 2BD/2BA(1034) ATT GAR(443) COV CON(36)	3/2/2023	1		GUERRA					
2587	053-011-050-000	1238	TAHOE	SFR - 2BD/1.5BA (1093) ATT GAR (483) COV CONC (101)	7/6/2023	1	1	KOVALCHUK					
2588	053-110-002-000	1012	MAPLE PARK	SFR 3BD/2BA(1445) ATT GAR(430) COV CON(73)	11/22/2022	1		HEMBEL					
2589	053-161-079-000	1471	FREESTONE	SFR - 3 BED 3 BATH + OFFICE (1809) ATT GAR (528) COV CONC (230)	12/9/2022	1	1	AMERICAN DREAM CONSTRUCTION					
2590	051-300-015-000	311	ROSE	SFR 4BD/2.5BA(2336) ATT GAR(776) COV CON(431)	12/15/2022	1	1	BLACK PEARL VENTURES INC					
2591	054-060-027-000	5636	NEWLAND	SFR - 3 BED, 2 BATH (1433) ATT GAR (781) COV CONC (277)	6/14/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2592	050-120-061-000	6900	PENTZ	SFR 2 BED 1 BATH (779) ICF HOME	11/14/2023	1		GREEN BUILDER PRODUCTS INC					
2593	053-021-002-000	884	BILLE	SFR - 4 BED 2.5 BATH (2245) ATT GAR (533) STORAGE (302) COV CONC (502)	9/6/2022	1	1	VAN ECK /YELENSKAYA					
2594	050-350-012-000	6733	CLARK	SFR 2BD/2BA(1200) ATT GAR(308) COV CON(112)	12/16/2022	1		KHAN					
2595	053-260-088-000	1875	VINEYARD	SFR- 3 BED 3.5 BATH (2680) ATT GAR (948) COV CONC (186)	12/14/2022	1		AVILA					
2596	055-290-069-000	5156	ROYAL CANYON	SFR 3BD/2.5BA+OFFICE(2439) ATT GAR(745) COV CON(626)	12/21/2022	1	1	RYBCHENKO					
2597	051-171-046-000	6204	FORGOTTEN	SFR - 3B/2BA (1816) ATT GAR (516) COV CONC(388) MPRP "RIDGE RANCH"	11/28/2022	1	1	BCD PARADISE LLC					

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2598	052-031-102-000	533	VALLEY VIEW	SFR 3BD/2BA(1316) ATT GAR(590) COV CON(144) - MPRP BP21-01460 GAR RIGHT SLAB GABLE ROOF OPTS	2/23/2023	1		EGAN					
2599	054-163-037-000	1570	HENSON	MFH 2BD/2BA+DEN(1215)	3/6/2023	1		FREEMAN					
2600	053-162-035-000	1382	MCCULLOUGH	SFR - 2 BED 2 BATH + OFFICE (1200) ATT GAR (480) COV CONC (90)	7/5/2023	1	1	DREAM HOMES & INVESTMENT LLC					
2601	055-430-008-000	5255	XENO	SFR - 2 BED, 1 BATH (915) ATT GAR(462) ADC MP3 MPBP22-00808: GAR LEFT, SOG	12/9/2022	1	1	AMERICAN DREAM CONSTRUCTION					
2602	053-320-002-000	6109	VISTA KNOLLS	SFR - 3 BED 2 BATH (1640) ATT GAR (589) COV CONC (277)									
2603	053-140-084-000	6153	ERIKA	SFR - 2 BED / 2 BATH (960) RPMP22-00010: RAISED FNDTN, STD ORIENTATION, SIDE ENTRY	12/15/2022	1	1	WIGHAM					
2604	055-030-047-000	130	COAST RANGE	SFR 3BD/2BA(2400) ATT GAR(492) COV CON(72) COV WOOD(400) UNC BSMNT(948)									
2605	051-172-009-000	6234	AZALEA	SFR - 2 BD 1.5 BA (816) ATT GAR (338) COV CONC (116)	1/19/2023	1	1	CRABTREE					
2606	054-132-104-000	1725	ELLIS	SFR 2BD/1BA(915) ATT GAR(462) - MP BP22-00808	12/9/2022	1	1	AMERICAN DREAM CONSTRUCTION INC					
2607	054-132-069-000	5675	CHERRY	SFR 3BD/3BA(2678) ATT GAR(915) COV CON(464)	1/31/2023	1		DILLON					
2608	054-230-116-000	1949	YORK TOWNE MANOR	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	1/10/2023	1	1						
2609	051-071-094-000	6343	BASTON	SFR 3BD/2BA(1433) ATT GAR(781) COV CON(325)	6/27/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2610	052-022-033-000	566	BILLE	SFR - 3 BED / 2 BATH (1816) ATT GAR (516) COV CONC (388) MPRP20-00339 GAR LEFT, FRONT LOAD, SOG, G/E									
2611	054-030-047-000	5701	NEWMAN	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	1/10/2022	1	1						
2612	050-240-076-000	1721	STARK	SFR 3BD/2BA(1460) ATT GAR(625) COV CON(277)	3/1/2023	1		PROK / PROKOPENKO					
2613	051-120-006-000	905	WAGGONER	SFR - 3 BED 2 BATH (2127) ATT GAR (974) COV CONC (612)	3/21/2023	1		BAILEY					
2614	050-200-073	6205	HIMMEL	SFR - 3 BED / 2 BATH (1674) ATT GAR(543) COV CON(52) RPMP20-01624 GAR RIGHT, SOG, NG	12/14/2022	1		GLEASON					
2615	050-200-073-000	6215	HIMMEL	SFR - 2BD/2BA + DEN (1316) COV CONC (144) ATT GAR (590) RPMP21-01460 GAR RIGHT SOG NG HIP ROOF	12/14/2022	1		GLEASON					
2616	052-237-010-000	711	BUSCHMANN	MFH 2BD/2BA(864)	12/15/2022	1	1	MURRAY					
2617	053-170-040-000	5985	KIBLER	SFR - 2 BED 1 BATH (915) ATT GAR (462) ADC MP3 MPBP22-00808, GAR R, SOG	1/18/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2618	051-104-078-000	8586	RIDGECREST	SFR 3BD/2BA(1318) ATT GAR(509) COV CON(143)	1/23/2023	1		KRASNYUK					





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2643	055-080-040-000	193	RIVENDELL	SFR 3BD/3BA(2931) COV CON(926) OPEN WOOD(308)	12/16/2022	1	1	SCHMIDT					
2644	051-300-010-000	263	REDBUD	SFR 3BD/3.5BA(2791) ATT GAR(646) COV CON(990)									
2645	051-040-043-000	6726	WOODLAND	SFR 2BD/2BA(1513) ATT GAR(681)	8/30/2022	1	1	SHUMAN					
2646	055-520-109-000	5186	ROYAL CANYON	SFR 3BD/2.5BA + OFFICE (2672) ATT GAR (996) COV WOOD DECK (854) COV CON (70)	7/31/2020	1	1	RAINWATER	NA	NA	BOUGHT AFTER FIRE		
2647	052-201-018-000	6044	FOSTER	SFR - 2 BD 2 BATH (1109) ATT GAR (400) COV CONC (179)	1/19/2023	1		BELLER					
2648	055-040-064-000	181	HARRIS	SFR - 2 BD 2BA (1325) COV CONC (93)	2/17/2023	1		PETKUS / BLAZY - PETKUS					
2649	055-410-005-000	87	GRINDING ROCK	SFR 3BD/2BA(1569) ATT GAR(506) COV CON(277) - MP BP21-00307	8/4/2023	1	1	TRILOGY CONSTRUCTION INC					
2650	052-233-002-000	736	SPRING	SFR - 1 BD 1 BA (400) COV CONC (72)	4/18/2023	1		DOUVILLE					
2651	052-032-055-000	590	VALLEY VIEW	SFR - 2BD/2BA (1198) ATT GAR (427) COV CONC (92)	8/14/2023	1	1	JENNINGS					
2652	054-090-001-000	868	BUSCHMANN	MFH - 4 BED / 2 BATH (1512)	9/1/2023	1	1	HOLLINGSWORTH					
2653	051-144-025-000	6338	DIAMOND	SFR 3BD/2BA+DEN(1260) COV CON(35) - OPTS ATT 2 CAR GAR(590) SOG, NAT GAS, 9' PT HGHT - RPMP23-00706	8/16/2023	1	1	ANDERSON BUILDERS CORP					
2654	051-081-034-000	741	ROBERTS	SFR - 2 BD 2 BA + DEN (1120) COV CONC (240) MPRP21-01524 SOG FRONT ENTRY	3/15/2023	1		CRANE					
2655	054-230-023-000	1858	LILLIAN	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	5/26/2023	1	1	PAVLO BUILDER LLC					
2656	052-031-125-000	5971	ACORN	SFR - 3BD/2BA (1409) ATT GAR (431) COV CONC (164)	7/18/2023	1	1	AURANEN					
2657	055-140-003-000	5199	SCOTTWOOD	SFR - 2 BD 1 BA (988) COV CONC (104) MPBP20-01765 SIDE PORCH OPTION SOG "THE JEWELL"	1/13/2023	1	1	KELLOGG					
2658	052-012-048-000	850	BILLE	SFR 3BD/2BA(2024) ATT GAR(552) COV CON(363)	4/25/2022	1	1	TERRY					
2659	051-300-014-000	5891	CRESTMoor	SFR - 4 BE 2.5 BA (2336) ATT GAR (773) COV CONC (431)	1/23/2023	1		BLACK PEARL VENTURES INC					
2660	050-100-134-000	1725	ARANY	SFR -3 BD 2.5 BA (2166) ATT GAR (792) COV CONC (117)									
2661	054-080-068-000	5499	NEWLAND	SFR - 2 BED / 2 BATH (960) COV CONC (144) - RPMP20-01388 KITCH RIGHT, GABLE, RAISED FNDTN, NG									
2662	051-083-060-000	6399	LUCKY JOHN	SFR - 2 BD 2 BA (1745) ATT GAR (483) COV CONC (272)									
2663	054-161-033-000	1583	HENSON	SFR - 3 BD 2.5 BA (1751) ATT GAR (529) COV CONC (192)									
2664	052-031-005-000	5952	WOODSDALE	MFH - 3 BD/2BA (1593)	6/8/2023	1	1	JONES					
2665	052-143-006-000	5826	BLACK OLIVE	MFH 3BD/2BA(1273)	6/13/2023	1	1	HENEGAR					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2666	050-200-054-000	6225	MELODY	SFR - 2 BD 2 BA + OFFICE (1605) ATT GAR (467) COV CONC (250)									
2667	052-244-009-000	791	BUSCHMANN	SFR 3BD/2BA(1409) ATT GAR(430) COV CON(164)	8/21/2023	1	1	GIBSON					
2668	053-210-001-000	5942	HAZEL	SFR - 3 BD 2 BA (1498) ATT GAR (518) COV CONC (321) MPBP 21-00147	11/22/2023	1		ECKSTROM ENTERPRISES LLC					
2669	055-180-091-000	1247	BENNETT	SFR 4BD/2.5BA(2136) ATT GAR(575) COV CON(700)	4/14/2023	1	1	SIMMONS					
2670	051-180-066-000	405	VALLEY VIEW	SFR 3BD/2BA(1834) ATT GAR(576) COV PORCH(264) - SLAB FNDTN GAR LEFT KITCH FRONT OPTS MP BP22-00223									
2671	052-300-022-000	5893	PINE VIEW	SFR - 2BD/2BA (1433) ATT GAR (763) COV CONC (286)	6/14/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2672	050-220-035-000	1823	MERRILL	MFH 3 BD 2 BA (1444)	10/7/2020	1	1	LINDSAY	NA	NA	BOUGHT AFTER FIRE		
2673	055-060-043-000	163	SUTTER	SFR 3BD/2BA(1507) ATT GAR(624) COV CON(700)	7/26/2021	1	1	MCDANIEL					
2674	052-130-004-000	566	BOQUEST	SFR 3BD/2BA(1280) ATT GAR(576) UNC BSMNT(673) COV WOOD(320) OPEN WOOD(400)									
2675	050-180-032-000	6371	FOREST	SFR - 3 BD 2 BA (1296) ATT GAR (550) COV CONC (342)	3/13/2023	1		SMITH / PETERSON					
2676	053-190-054-000	5956	DEL MAR	SFR 3BD/2BA(1773) ATT GAR(646) COV CON(233)									
2677	052-181-018-000	3707	HONEY RUN	SFR - 3 BD 2 BA (2498) COV CONC (584)	4/24/2023	1		KLACKLE					
2678	052-235-016-000	5584	BROOKSIDE	SFR - 2 BED, 2 BATH + DEN (1120), COV CONC PORCH (240) RPMP HH3 (2 BED+DEN OPTION, SLAB ON GRADE, MIRROR OPTION)	1/5/2022	1	1	THOMAS					
2679	051-250-014-000	3927	NEAL	SFR 4BD/3.5BA(3200) ATT GAR(1488) COV CON(884)	3/27/2023	1		REINBOLD					
2680	051-250-130-000	371	STARLIGHT	SFR 3BD/2BA(1657) ATT GAR(520) COV CON(41)	6/13/2022	1	1	WLM CONSTRUCTION INC					
2681	051-260-008-000	5465	PRINCETON	SFR 3BD/2BA(1579) ATT GAR(521) COV CON(154)	3/22/2024	1		DATWYLER & WICKMAN					
2682	055-212-041-000	1450	IDLEWILD	SFR 2BD/2BA (960) UNCON SPACE BASEMENT (960) GABLE OPTION, RAISED FOUNDATION MP BP21-00218 W/ADDENDUM	1/18/2023	1		HABRIEL					
2683	051-050-075-000	6639	VIEW ACRES	SFR 2BD2BA W/ DEN(1164) ATT GAR(347) COV CON(72) EXT UNC STORAGE (26) MIRROR OPT GAR LEFT - MPRP BP20-01737									
2684	054-240-128-000	5576	PENTZ	SFR 2BD/2BA(960) COV CON(144) - MPRP BP20-01388									
2685	053-250-008-000	6215	PENTZ	SFR 2BD/2BA + DEN(1316) COV CON(144) ATT GAR(590) - MPRP BP21-01460									
2686	050-220-111-000	1912	MOLL	SFR 2BD/2BA (960) GABLE UNCON SPACE (152) SOG PROPANE - MP BP20-01388	1/17/2023	1		GAYLORD					



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2709	055-180-093-000	1105	LANSER	SFR 2BD/2BA + DEN(1316) COV CON(144) - MPRP BP21-01460	4/18/2023	1		SCOTT					
2710	051-093-005-000	6269	WALL	SFR 2BD/1BA (820) COV CON (276) ATT GAR (260) - MP BP20-00959	WITHDRAWN								
2711	051-093-005-000	6269	WALL	SFR 1BD/1BA+DEN(820) COV CON (276) ATT GAR (260) - MP BP20-00959	WITHDRAWN								
2712	055-130-121-000	540	CASA	SFR 3BD/2BA+DEN(1260) COV CON(35) - OPTS 2 CAR GAR(590)\ SLAB FNDTN, NATURAL GAS	8/17/2023	1	1	ANDERSON BUILDERS CORP					
2713	054-161-017-000	5646	SAWMILL	SFR 1BD/1BA (750) COV CON (54) PORCH LEFT, RAISED, NG - MP BP20-02118									
2714	050-150-090-000	1381	SALISBURY	SFR - 2 BD 2 BA + DEN (1316) ATT GAR (590) COV CONC (144) MPRP BP1-01460									
2715	051-083-120-000	6368	GRAHAM	SFR 4BD/3BA(2176) ATT GAR(895) COV WOOD(426)	4/19/2023	1		TOPETE					
2716	051-071-068-000	576	ROBERTS	SFR 3BD/2BA(1652) ATT GAR(624) COV CON(108) SLAB OPT B ROOF - MP BP21-00519	1/24/2024	1		TRILOGY CONSTRUCTION INC					
2717	050-370-023-000	6560	CENTER PINE	SFR 3BD/2BA(1652) ATT GAR(624) COV CON(108) SLAB OPT ROOF B									
2718	051-104-065-000	6568	MONTNA	SFR 3BD/2BA(1508) ATT GAR(502) COV CON(70)	3/25/2022	1	1	RPA CHALLENGE INC					
2719	051-102-030-000	6563	ROCKY	SFR 2BD/2BD+DEN(1120) COV CON(240) MIRROR SLAB FNDTN COMP ROOF OPTNS - MPRP BP21-01524	1/19/2023	1	1	ANDERSON BUILDERS CORP					
2720	050-140-074-000	6838	CLARK	SFR 3BD/2BD(1120) COV CON(240) MIRROR SLAB FNDTN COMP ROOF OPTNS - MPRP BP21-01524	2/1/2023	1	1	ANDERSON BUILDERS CORP					
2721	050-200-057-000	6221	MELODY	SFR 3B/2BA (1816) ATT GAR (516) COV CONC(388) - MPBP20-00339 'RIDGE RANCH	1/18/2023	1	1	BCD PARADISE LLC					
2722	050-410-017-000	6231	SAWMILL	SFR 3BD/2.5BA(2160) ATT GAR(1332) COV CON(700)	2/14/2023	1		MURUFAS					
2723	054-191-046-000	5431	T J	SFR 2BD/2BA(1135) ATT GAR(560) COV CON(390)									
2724	053-210-056-000	1424	SLEEPY HOLLOW	SFR 2BD/2BA+TV ROOM(1296) ATT GAR(497) COV CON(230)	3/24/2021	1	1	CASTANEDA	NA	NA	BOUGHT AFTER FIRE		
2725	052-235-014-000	5574	BROOKSIDE	SFR - 1 BED, 1 BATH (750), COV CONC PORCH(84) MASTER PLAN - REBUILD PARADISE FOUNDATION "750 ADU":	12/5/2022	1	1	AGOSTA					
2726	051-330-046-000	260	PINEWOOD	SFR 3BD/2.5BA+OFFICE(2439) ATT GAR(745) COV WOOD(496) COV CON(130)									
2727	055-280-007-000	5156	COUNTRY CLUB	SFR 3BD/2.5BA(2799) ATT GAR(868) COV WOOD(613) COV CON(147)									
2728	052-193-017-000	3858	HONEY RUN	SFR - 4 BD 3 BA (2404) ATT GAR (825) COV CONC (550)									
2729	050-120-164-000	1906	DEAN	SFR 3BD/2BA (1816) ATT GAR (516) COV CON (388) - REBUILD PARADISE MP	12/31/2020	1	1	LABERBERA	NA	NA	BOUGHT AFTER FIRE		
2730	050-100-084-000	1771	SUNRISE	SFR 2BD/2BA+OFFICE(1266) ATT GAR(584) COV CON(99) ATT ADU 1BD/1BA+OFFICE(638)	3/8/2022	1	1	APEX CPM					



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2754	052-070-072-000	471	CRESTWOOD	SFR 2BD/1.5BA(1093) ATT GAR(483) COV CON(101)	7/18/2023	1	1	LUTSIK CONSTRUCTION INC					
2755	053-030-022-000	5985	MAXWELL	SFR 1BD/2BA(803)	2/1/2021	1	1	ZOOK / LI	NA	NA	BOUGHT AFTER FIRE		
2756	054-131-050-000	5712	SAWMILL	MFH 3BD/2BA(1213)	3/13/2023	1		SKYRIDGE BROTHERS LLC					
2757	055-262-026-000	5390	HARRISON	SFR 3BD/3BA(2324) ATT GAR(872) COV CON(531)	4/22/2022	1	1	HALABURDA					
2758	053-170-110-000	6020	SAWMILL	MFH 3BD/2BA(1027)									
2759	053-300-052-000	5772	INGALLS	SFR - 4BD/3BA (4063) ATT GAR (1020) COV CON (276)	3/25/2020	1	1	GREENE	1				
2760	055-060-032-000	5208	HARMONY	MFH 2BD/2BA(1404) COV WOOD(251)	12/2/2022	1	1	BAINES					
2761	050-200-150-000	1470	COUNTRY OAK	SFR - 3 BED 2 BATH (2014.10) ATT GA (630.91) COV CONC (145.21)	1/30/2023	1	1	TURNER					
2762	050-090-054-000	7274	PENTZ	MFH - 3 BD/2BA (1333) MP23-00076 FLEETWOOD 28502E	8/24/2023	1	1	RECONSTRUCTION AND RECOVERY ADVISORS INC					
2763	053-230-064-000	5824	SAWMILL	SFR 3BD/2BA+DEN(1260) COV CON(35) - OPTS ATT 2 CAR GAR(590), SLAB, NG, MIRRORED	9/13/2023	1	1	ANDERSON BUILDERS CORPORATION					
2764	052-050-044-000	840	CAMELLIA	SFR 2BD/2BA(1201) ATT GAR(428) COV CON(92)	10/3/2023	1	1	WOOD					
2765	055-211-051-000	5225	SQUIRE	MFH - 2 BED, 2 BATH (947) W/ COV PORCH (70)	2/21/2023	1		KINDER					
2766	052-110-007-000	609	BOQUEST	SFR 2BD/2BA(1226) ATT GAR(501) COV CON(146)	5/1/2023	1	1	JAY					
2767	054-210-058-000	5977	PENTZ	SFR 2BD/2BA+DEN(1904) ATT GAR(1392) COV CON(844)	12/28/2022	1	1	STEWART					
2768	052-182-065-000	5674	LITTLE GRAND CANYON	SFR - 2 BD 2 BA (1531) ATT GAR (493) COV CONC (147)	4/4/2023	1		LOTTI					
2769	054-165-002-000	5562	CHERRY	SFR - 3 BED, 3 BATH W/ OFFICE (2483) ATT GAR (1174) COV CONC (606)	4/21/2023	1	1	FARIA					
2770	055-020-046-000	322	ROE	SFR 2BD/2BA+OFFICE(1404) ATT GAR(648) COV CON(120) OPEN WOOD(400)	4/17/2023	1		SCHWELLENBACH					
2771	055-410-012-000	99	GRINDING ROCK	SFR - 3 BD 2 BA (1735) ATT GAR (458) COV CONC (178)	4/19/2023	1		VARGAS / GARCIA					
2772	054-192-086-000	1495	MAGADON	MFH 3BD/2BA(1552) COV WOOD(68)	8/7/2023	1	1	CRANNEY					
2773	055-530-001-000	4972	MALIBU	SFR - 3 BD 3.5 BA (2274) 2 ATT GARS (1012) COV CONC (219)									
2774	054-161-034-000	5646	GYPSY	MFH - 2BD/2BA+DEN(1400)	5/24/2023	1	1	LLAMAS					
2775	050-210-025-000	6213	FOREST	SFR 3BD/2BA (1275) ATT GAR(464) COV CON(30)	8/16/2023	1	1	KRAFT BUILDERS INC					
2776	055-112-051-000	786	ROE	SFR 2BD/2BA(1198) ATT GAR(427) COV CON(92)	6/13/2023	1		BRUNE					
2777	053-023-012-000	6108	BOWMAN	MFH 2BD/2BA+DEN(1200)	3/21/2023	1		BLALOCK					

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2778	050-100-140-000	7110	PENTZ	SFR - 3 BED, 2 BATH (1493) COV WOOD PORCH (1440) WITH ATT GAR (587) AND RAISED FOUNDATION OPTION	2/24/2022	1	1	TAYLOR					
2779	053-170-129-000	1531	JUDY	SFR - 2 BD 2 BA (960) COV CONC (144) MPRP22-00010 RAISED FLOOR, FRONT ENTRANCE	2/14/2023	1	1	KRAFT / BLAIR					
2780	052-024-015-000	591	CASTLE	SFR - 2 BED, 2 BATH (1383) COV CONC (538)	5/31/2023	1		BLACK / HAMMANG					
2781	053-190-075-000	5902	DEBBIE	SFR - 3 BD 2 BA (2625) ATT GAR (634) SHOP (257) COV CONC (409)	5/15/2023	1	1	ALDERSON					
2782	054-171-125-000	5512	SAWMILL	SFR - 2 BED, 2 BATH (1057) ATT GAR (357)	5/5/2023	1		SPROLES					
2783	051-330-055-000	5800	ROYAL	SFR - 3BD/2BA (2047) ATT GAR (799) COV CONC (308)	9/20/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2784	050-240-033-000	1752	WHITAKER	SFR - 3 BED, 2 BATH (1516) ATT GAR (541) COV CONC (352) W/ ATT ADU: 2 BED, 1 BATH (997) ATT GAR (396) COV CONC (142)	1/5/2023	1	1	KUSENKO LIVING TRUST					
2785	053-320-054-000	6094	MAXWOOD	SFR 3BD/2BA(1439) ATT GAR(459) COV CON(90)	6/26/2023	1	1	SANDOVAL					
2786	051-260-015-000	5427	PRINCETON	SFR - 2 BED, 2 BATH (1424) COV CONC (472)	7/7/2023	1		JOHNSON					
2787	054-210-092-000	5755	FICKETT	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	5/3/2023	1	1	LUTSIK					
2788	054-142-102-000	5726	MIDDLE LIBBY	MFH - 2BD/2BA + DEN (1056)	10/13/2023	1	1	WELCH					
2789	052-170-039-000	689	MICHAEL	SFR 2BD/2BA(960) COV CON(144) - KITCHEN LEFT GABLE ROOF SLAB FNDTN OPTS MPRP BP20-01388	9/13/2022	1	1	DEATON					
2790	050-172-025-000	1551	WAGSTAFF	MFH 2BD/2BA(947) COV WOOD(70)	8/7/2023	1	1	STYER					
2791	054-132-031-000	5732	WOODGLEN	MFH - 2BD/2BA (1266)	8/15/2023	1	1	CRITSER					
2792	054-210-066-000	1911	LOWRY	MFH 2BD/2BA+DEN(1600)	5/16/2023	1		MCMILLEN					
2793	051-144-037-000	6390	WOODHALL	SFR 2BD/2BA(1066) ATT GAR(597) COV CON(202)	5/26/2023	1	1	MAGDALYAN					
2794	054-310-011-000	5564	ANGEL	MFH - 2BD/2BA (1272)	6/27/2023	1	1	E & E CARLONI INVESTMENTS LLC					
2795	054-230-060-000	1966	FEATHER RIVER	MFH 3BD/2BA+DEN(1759) COV WOOD(23)									
2796	055-201-045-000	1575	SUNNY ACRES	SFR - 2 BD 2 BA (1198) ATT GAR (427) COV CONC (92)	3/21/2024	1		PIERRO					
2797	051-094-016-000	6319	LUCKY JOHN	SFR 3BD/2.5BA(1867) ATT GAR(471) COV CON(480)	8/4/2022	1	1	STP CAPITAL LLC					
2798	053-190-044-000	5927	DEL MAR	SFR 3BD/2BA(1856) ATT GAR(440) COV CON(20) OPEN DECK(160) - RAISED FNDTN GAR RIGHT ALL ELEC MP BP21-00892	9/13/2022	1	1	HARDING ENTERPRIZES INC					
2799	053-330-152-000	1390	ELLIOTT	SFR - 3 BD 2 BA (1640) ATT GAR (589) COV CONC (277)	6/6/2023	1	1	YELENSKIY					
2800	050-150-088-000	1371	HERMAN	SFR - 2BD/2BA + DEN (1316) ATT GAR (617) COV CONC (144) OPTIONS MATRIX: GAR LEFT SLAB ON GRADE PROPANE HIP & FRONT LOAD	8/29/2023	1	1	AMERICAN DREAM CONSTRUCTION					

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2801	050-060-043-000	1442	BEL AIR	SFR 3 BED 2 BA (1816) ATT GAR (516) COV CON (388)	11/18/2020	1	1	FITZGERALD	NA	NA	BOUGHT AFTER FIRE		
2802	054-250-018-000	1871	DRENDEL	SFR 4BD/2.5BA(2264) ATT GAR(524) COV CON(922)	5/24/2023	1		LEDUC					
2803	053-162-067-000	1339	BRILL	SFR 3B/2BA (1816) ATT GAR (516) COV CONC(388) - MPBP20-00339 'RIDGE RANCH	1/18/2023	1	1	BCD PARADISE LLC					
2804	050-040-003-000	9089	SKYWAY	SFR - 2 BD 2.5 BA (1559) ATT GAR (3784) COV CONC (528) COV WOOD (528)	5/18/2023	1		FISCHER DEVELOPMENTS INC					
2805	050-090-047-000	7260	PENTZ	MFH - 3 BD 2 BA (1176)	8/11/2023	1		VORHEIS					
2806	055-232-018-000	5140	EDGEWOOD	MFH - 3 BD/2BA (1368)	10/25/2023	1	1	KENNEDY					
2807	053-330-101-000	5825	DEERPARK	MFH 2BD/2BA+DEN(890)	3/21/2023	1	1	KINGERY					
2808	054-020-055-000	5740	PEARL	MFH - 2 BED, 2 BATH W/ DEN (1188)	4/24/2023	1		FRANCIS - KNOWLES					
2809	054-030-046-000	5712	NEWLAND	MFH - 2 BED, 2 BATH (957) COV WOOD (72)	5/4/2023	1		DEJESUS					
2810	050-110-005-000	1754	SUNRISE	SFR 2BD/2BA(884) COV CON(56)	7/5/2023	1	1	BUTTE COUNTY CONSTRUCTION INC					
2811	054-182-039-000	1118	PEARSON	MFH - 2 BED, 2 BATH + DEN (1296)	8/17/2023	1	1	BARSTOW					
2812	054-240-049-000	1906	CRANDALL	SFR 2BD/2BA+DEN&STUDY(1816) ATT GAR(516) COV CON(388)	11/8/2021	1	1	FOOR					
2813	054-131-070-000	5696	SAWMILL	MFH - 2 BED, 2 BATH W/ DEN(1512)	8/7/2023	1	1	SLATON					
2814	051-083-012-000	6437	LUCKY JOHN	SFR 2BD/2BA(1198) ATT GAR(427) COV CON(92)	10/16/2023	1	1	CHILDS					
2815	054-060-014-000	862	PEARSON	SFR - 2BD/2BA (1109) ATT GAR (426) COV CONC (179)	7/18/2023	1		DAVIS					
2816	051-143-015-000	6303	DIAMOND	SFR - 2 BD 2 BA (768) COV CONC (214) OPEN WOOD DECK (236)	6/16/2023	1		FITZWATER					
2817	051-380-031-000	489	NOTTINGHAM PARK	SFR - 4 BD/2.5BA (2157) ATT GAR (505) COV CONC (135.5)	5/22/2023	1		OSUMAH					
2818	052-070-094-000	465	CRESTVIEW	SFR 3BED/2BA (1558) ATT GAR (527) COV CON (254)	10/26/2021	1	1	VAUGHAN					
2819	052-182-006-000	3756	HONEY RUN	SFR - 2 BED 2 BATH (824) COV CONC (240)	9/20/2022	1	1	BINYON					
2820	052-050-004-000	793	CAMELLIA	SFR - 3 BD/2BA (1316) COV CONC (256) RPMP "THE WILLOW" RAISED FOUNDATION NAT GAS GABLE	10/25/2023	1		CALL					
2821	050-013-051-000	7215	PENTZ	MFH - 3 BED 2 BATH (1528)	8/9/2022	1	1	FORMATION HOMES LLC					
2822	055-150-062-000	459	LIKENS	SFR - 3 BD/2.5BA (2247) ATT GAR (936) COV CONC (491)	6/5/2023	1		LUI					
2823	055-130-138-000	5180	STARGATE	MFH - 2 BED / 2 BATH + DEN (1458)	5/25/2023	1		SIMONDS					
2824	050-330-070-000	1308	SEQUOIA	SFR 3BD/3BA(2531) ATT GAR(999) COV CON(614)	7/12/2023	1	1	CURTIS					
2825	053-090-001-000	1050	BILLE	SFR 3BD/2BA(1772) ATT GAR(440) COV CON(203)									
2826	050-040-013-000	7185	CLARK	MFH - 3 BED, 2 BATH (1233)	5/31/2023	1		BOWDY					



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2827	054-030-048-000	5695	NEWMAN	MFH -2 BD 2 BA + DEN (1188)	2/7/2023	1	1	ZIDARU					
2828	050-220-137-000	1701	MERRILL	MFH 4BD/2BA(1493)	10/27/2023	1	1	HOLLINGSWORTH					
2829	051-091-029-000	6276	OLIVER	SFR 2BD/2BA(1198) ATT GAR(427) COV CON(92)	6/13/2023	1	1	BROW					
2830	051-180-070-000	433	VALLEY VIEW	SFR 3BD/2BA(1963) ATT GAR(648) COV CON(310)	12/28/2023	1		SPERSKE					
2831	051-103-015-000	8391	MONTNA	SFR - 3BD/2BA (1962) ATT GAR (913) COV CONC (419.5)	11/6/2023	1		KRAVCHUK					
2832	055-090-037-000	3290	NEAL	MFH 2BD/2BA+DEN(1215)	6/21/2023	1	1	NIEMELA					
2833	053-200-063-000	5982	HAZEL	MFH 3BD/2BA(1266) COV WOOD(60)	10/16/2023	1	1	DSM DEVELOPMENT LLC					
2834	051-110-014-000	6565	GREGORY	SFR 4BD/3&1/2BA(2558) ATT GAR(480) UNF UNC(1373) OPEN WOOD(660) COV CON(232)	7/28/2021	1	1	RANKIN	N/A		FUNDING UNAVAILABLE		
2835	054-131-073-000	1530	MOR-DELL	SFR 2BD/2BA+DEN(1316) COV CON(256) - GABLE SLAB NG OPTS									
2836	051-104-090-000	7048	MOLOKAI	MFH 3BD/2BA(1333) - MP BP23-00076	9/12/2023	1	1	RRA BUILDERS					
2837	051-180-040-000	368	VALLEY VIEW	MFH 2BD/2BA(984) COV WOOD(72)	8/2/2023	1		HEINKE					
2838	050-171-018-000	6726	BELLEVIEW	SFR - 2 BED 2 BATH + DEN (1863) ATT GAR (504) COV CONC (264)	7/6/2022	1	1	WRIGHT					
2839	052-150-015-000	810	WINDSOR	SFR 2BD/2BA (1310) ATT GAR (564) COV CONC (67)	7/17/2023	1		HERRERA VASQUEZ					
2840	051-040-048-000	6644	LINCOLN	SFR - 3BD/2BA (1233) ATT GAR (403) COV CONC (56)	7/17/2023	1		HERRERA VASQUEZ					
2841	050-250-066-000	6241	MOUNTAIN VIEW	SFR - 1 BD/1BA (770) COV CONC (70)	7/10/2023	1		SHILOH DEVELOPMENT LLC					
2842	050-082-035-000	6958	CLARK	MFH 2BED/2BA + DEN (1188) COVERED PORCH (162)	7/19/2022	1	1	MARTIN					
2843	053-140-034-000	1685	YOUNG	SFR - 3 BED, 2 BATH (1605)ATT GAR (467)COV CONC (256)	7/5/2022	1	1	VS REAL ESTATE LLC					
2844	050-330-045-000	6475	SIMON	MFH - 2BD/2BA (891)	9/26/2023	1	1	LAMBERT					
2845	052-340-036-000	5533	SCOTTWOOD	SFR 2BD/1BA(1156) COV CON(165)	9/26/2023	1		DUNCAN					
2846	050-290-032-000	6664	DOLORES	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(258)	8/1/2023	1		KOLYADICH					
2847	053-330-086-000	1421	NUNNELEY	SFR 2BD/2BA+DEN(1120) COV CON(240) : SLAB FNDTN, STNDRD NO GAR 8FT PLATE HEIGHT OPTS	8/2/2023	1		MUSCO					
2848	051-120-082-000	6648	PARAGALIA	SFR - 3 BD/2BA (1316) ATT GAR LEFT FRONT LOAD (617) COV CONC (144) RAISED, GABLE, NAT GAS MPRP23-00187	8/11/2023	1		ROJAS					
2849	053-180-133-000	5876	KIBLER	SFR - 3BD/2BA (2230) ATT GAR (1039) COV CONC (509)	6/20/2023	1	1	BLYSHCHYK					
2850	052-273-005-000	5382	FILBERT	SFR 3BD/2BA(2132) ATT GAR(628) COV CON(54)	6/12/2023	1	1	VC HERNANDEZ LLC					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2851	054-161-021-000	1545	HENSON	SFR - 2 BED 2 BATH (960) COV CONC (152) - RPMP THE FLUMES GABLE OPTION	4/14/2022	1	1	SIEGFRIED					
2852	055-440-103-000	5248	PENTZ	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)									
2853	050-200-015-000	6434	CLARK	SFR - 2 BED, 1 BATH (1161)	9/14/2022	1	1	HENDERSON					
2854	055-060-035-000	3752	NEAL	CONVERSION - GAR TO SFR 1BD/1BA(760)	10/5/2023	1		KNADLER					
2855	050-240-029-000	1821	STARK	SFR 2BD/2BA+DEN(1120) ATT GAR(336) COV CON(240)	10/13/2023	1	1	GOWINS					
2856	054-192-085-000	1489	MAGADON	SFR 3BD/3BA(1525) ATT GAR(1129) COV CON(1975)	1/3/2022	1	1	GRONSETH					
2857	053-190-059-000	5926	DEL MAR	SFR 2BD/1.5BA(1093) ATT GAR(483) COV CON(101)	8/1/2023	1		LUTSIK					
2858	052-050-025-000	701	CAMELLIA	SFR - 3 BED 2 BATH (1605) ATT GAR (467) COV CONC (124.5)	11/4/2022	1	1	SS INVESTMENT LLC					
2859	053-260-030-000	1820	HEYNEN	SFR - 3 BED, 2 BATH (1664) ATT GAR (445) COV CONC (28)	4/14/2023	1	1	6K CONSULTING INC					
2860	052-241-023-000	5757	HOLLY	SFR 2BD/2BA(1175) ATT GAR(535) COV CON(343)	7/10/2023	1	1	HUSA					
2861	052-110-009-000	480	BOQUEST	SFR 3BD/2BA+DEN(1260) COV CON(35) RPMP23-00706 OPTS ATT 2 CAR GAR(590) SOG, NAT GAS, MIRRORED	11/3/2023	1	1	ANDERSON BUILDERS CORP					
2862	051-162-073-000	899	BILLE	SFR 2BD/2BA+OFFICE(2110) ATT GAR(891) ENCLOSED PORCH(504) COV CON(169)	4/14/2021	1	1	WRIGHT	1				
2863	053-161-099-000	6030	LIBBY	SFR - 3 BED, 3 BATH + OFFICE (2671) ATT GAR (964) COV CON (451)	2/11/2021	1	1	WILK	NA	NA	BOUGHT AFTER FIRE		
2864	055-180-105-000	5130	OLD CLARK	MFH - 2 BED, 2 BATH + DEN (1512)	3/23/2023	1	1	SMITH					
2865	052-380-005-000	635	CIRCLEWOOD	MFH - 3BD/2BA (1566)	9/21/2023	1	1	BRENTON					
2866	050-171-004-000	1710	MERRILL	SFR - 2 BED 2 BATH + DEN (1120) RPMP23-00244 RAISED FNDTN, STD ORIENTATION, 9' TOP PLATE	10/9/2023	1		HALEY					
2867	055-262-028-000	5410	HARRISON	SFR - 3 BED, 2.5 BATH (2635), ATT GAR (737), COV CONC (285)	4/24/2020	1	1	PETERSON	1				
2868	053-190-052-000	5970	DEL MAR	SFR - 3BD/2BA(1771) ATT GAR(543) - MP21-00474 SOG, GAR RIGHT, ALL ELEC	9/13/2022	1	1	HARDING ENTERPRIZES INC					
2869	054-250-009-000	5550	FEATHER RIVER	MFH - 3 BD 2 BA (2007)	1/3/2023	1	1	BIGFOOT HOMES INC					
2870	055-140-012-000	5085	EDEN	SFR - 3 BD 3 BA (2379) COV CONC (508)	6/8/2023	1	1	VONDRACEK					
2871	055-040-032-000	5590	WILSON	SFR - 1BD/2BA + OFFICE (1337) ATT GAR (365) COV CONC (1044)									
2872	055-400-040-000	5249	ROSEHILL	SFR - 2BD/2BA (1055) ATT GAR (357) COV CONC (397)	7/31/2023	1		AMERICAN DREAM CONSTRUCTION					
2873	051-093-005-000	6269	WALL	SFR - 3 BD/3BA (2725) ATT GAR (1307)	9/5/2023	1		AMERICAN DREAM CONSTRUCTION					
2874	053-060-011-000	6177	GREENWOOD	MFH 2BD/2BA+DEN(1026)	12/15/2023	1	1	FIERRO					

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2875	051-171-008-000	6277	DIAMOND	MFH - 3 BD 2 BA (1494)	3/13/2023	1	1	SKYRIDGE BROTHERS LLC					
2876	055-400-007-000	5268	SCOTTWOOD	SFR 2BD/2BA+DEN(1316) ATT GAR(617) COV CON (144) RPMP23-00187 GABLE, SOG, LPG, GAR LEFT, FRNT LD	7/24/2023	1		NOBLE DEVELOPMENT SERVICES LLC					
2877	051-050-050-000	833	WAGSTAFF	SFR 3/2.5 (2256) ATT GAR (650) UNC BSMNT (1187) COV CON (384)	2/18/2020	1	1	CHEARY	1				
2878	053-300-006-000	1319	DEODARA	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	8/9/2023	1		BESHTA					
2879	050-130-013-000	1960	DEAN	SFR 1BD/2BA(788) ATT GAR(1126)									
2880	052-380-036-000	639	CIRCLEWOOD	MFH - 2BD/2BA (1080)	8/25/2023	1	1	CROOK					
2881	053-170-172-000	6044	SUPREME	SFR - 2 BD 2 BA (1123) ATT GAR (507) COV CONC (66)	9/27/2023	1	1	CORNERSTONE DEVELOPMENT GROUP LLC					
2882	053-170-155-000	1690	COVEY RUN	MFH - 3 BEDROOMS / 2 BATHROOMS (1080)	9/28/2023	1	1	DUNKINSON / STILES					
2883	055-140-022-000	5198	SCOTTWOOD	MFH - 2BD/2BA + DEN (1188)	8/2/2023	1		DAVIS					
2884	054-210-023-000	5664	CHANEY	SFR - 3BD/2BA(1829) COV CON(243) ATT GAR(484) OPTS STANDARD OR MIRRORED, SOG FNDTN	11/14/2023	1	1	WEST FAMILY TRUST					
2885	054-152-011-000	5557	FOLAND	SFR 3BD/2BA(1584) ATT GAR(550) COV CON(106)	11/27/2023	1	1	CLEARY					
2886	054-172-048-000	1358	PEARSON	MFH - 3 BED, 2 BATH (1120)	7/14/2023	1		FORESTER					
2887	054-172-049-000	1360	PEARSON	MFH 3BD/2BA(1120)	7/14/2023	1		FORESTER					
2888	052-320-006-000	589	CIRCLEWOOD	SFR 2BD/2BA(1020) ATT GAR(648) COV CON(204)	11/27/2023	1	1	FROST / FIELDER					
2889	053-300-039-000	1373	NUNNELEY	SFR 2BD/2BA(1109) ATT GAR(179) COV CON(426)									
2890	053-272-088-000	6033	PENTZ	SFR 3BED/2BA (1720) ATT GAR (430) COV CON (122)	5/6/2022	1	1	GOMEZ					
2891	050-082-065-000	1701	TIMBER WALK	MFH 2BD/2BA (1073)	8/1/2023	1		PARADISE SFH PRESIDIO VILLA LLC					
2892	055-060-021-000	3636	NEAL	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(256)	6/1/2022	1	1	VS REAL ESTATE LLC					
2893	054-260-003-000	1817	DRENDEL	MFH 3BD/2BA (1280)	8/1/2023	1		PARADISE SFH PRESIDIO VILLA LLC					
2894	052-290-108-000	5486	SCOTTWOOD	SFR - 2 BED 2 BATH (1494) ATT GAR (318) COV CONC (108)	7/19/2022	1	1	STARK					
2895	055-190-041-000	5035	CIRCLE	MFH 2BD/2BA(947)	3/7/2024	1		FIELDS INTER VIVOS REV TRUST					
2896	051-104-076-000	8570	RIDGECREST	MFH 3BD/2BA+DEN(1387)	8/1/2023	1		PARADISE SFH PRESIDIO VILLA LLC					

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2897	055-470-006-000	2391	TOKAY	SFR - 3 BD/2BA (1970) ATT GAR (1043) COV CONC (150) COV DECK (360)	11/13/2023	1		GORDON					
2898	050-082-086-000	1610	TIMBER WALK	MFH 2BD/2BA+DEN(1053)	5/9/2023	1	1	LENARCIC / GRIGGS					
2899	053-310-003-000	1861	NORWOOD	SFR 2BD/2BA+DEN(1275) ATT GAR(464) COV CON(30)	8/16/2023	1		KRAFT BUILDERS INC					
2900	054-181-047-000	5555	LIGHTFOOT	MFH 2 BED 2 BATH (1512)	9/29/2023	1	1	KHANG					
2901	052-235-022-000	5587	SIERRA PARK	SFR 2BD/1.5 BA(998) ATT GAR(231) COV CON(38)	3/10/2023	1	1	STANLEY					
2902	051-081-031-000	6390	LORRIE	MFH - 2 BED, 2 BATH (864)	9/8/2023	1	1	PIERCE					
2903	053-200-043-000	5947	SAWMILL	SFR - 3BD/2BA (1316) ATT GAR (617) COV CONC (144) RPMP23-00187 GAR LEFT, SOG, NAT GAS, GABLE, FRONT LOAD									
2904	055-261-017-000	5369	HARRISON	SFR 3BD/3.5BA+STUDY(2560) ATT GAR(894) COV CON(1468)									
2905	050-150-099-000	1391	HERMAN	MFH - 2BD/2BA (1263)	10/20/2023	1	1	ROSALES					
2906	052-150-039-000	5824	TULIP	SFR 2BD/2BA(960) COV WOOD(144) OPEN WOOD(16) RPMP23-00299 RAISED FNDTN, 8 FT PLATE HEIGHT	8/2/2023	1	1	RALSTON					
2907	051-250-092-000	5350	ORCHARD	SFR 2BD/2BA(960) COV WOOD(144) OPEN WOOD(16) - OPTS RAISED FNDTN 8 FT PLATE HEIGHT - RPMP23-00299	9/21/2023	1		CARLSON					
2908	054-310-049-000	5583	ANGEL	MFH 2BD/2BA(876) COV WOOD(71)	10/23/2023	1	1	BOLIN					
2909	054-152-054-000	5582	FOLAND	SFR3BD/2BA(1620) ATT GAR(576) COV CON(410) - OPTS STANDARD HIP ROOF KITCHEN FRONT	9/7/2023	1		MARTIN					
2910	051-093-083-000	819	BILLE	SFR - 2BD/2BA + DEN (1444) ATT GAR (509) COV CONC (354)	8/18/2023	1		STEFFEN					
2911	051-320-007-000	269	TRANQUIL	SFR - 3 BD/2BA (1812) ATT GAR (440) COV CONC (96) MPBP23-00538 OPT: PLAN LEFT, SOG, NAT GAS	9/13/2023	1		MALLORY					
2912	054-260-018-000	1900	DRENDEL	SFR 3BD/3BA(2725) ATT GAR(1307) COV CON(729)	7/26/2023	1	1	AMERICAN DREAM CONSTRUCTION INC					
2913	053-011-110-000	6096	WILLIAMS	MFH - 3 BED, 2 BATH (1413)	8/9/2023	1		SHEPPARD					
2914	054-192-063-000	5390	LIBBY	SFR 3BD/2BA(1722) ATT GAR(564) COV CON(367)	8/3/2023	1	1	BESHTA					
2915	050-370-017-000	1882	JUNE	SFR - 3BD/2BA (1433) ATT GAR (781) COV CONC (276)	9/14/2023	1		AMERICAN DREAM CONSTRUCTION INC					
2916	055-400-058-000	5246	ROSEHILL	SFR - 3BD/3BA + DEN (2060) ATT GAR (1146) COV CONC (500)									
2917	055-270-061-000	5305	COUNTRY CLUB	SFR - 4 BED, 3 BATH W/ OFFICE (2806), ATT GAR (849), COV CONC (177)	8/17/2022	1	1	POORNAZH FIRE CONTROL INC					
2918	053-260-031-000	1816	HEYNEN	MFH 4BD/2BA(1782)	9/8/2023	1		WORTHINGTON					
2919	054-230-112-000	1909	YORK TOWNE MANOR	SFR 2BD/2BA(1093) ATT GAR(483) COV CON(101)	10/30/2023	1	1	MENTUS					



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2944	054-131-056-000	5687	WOODGLEN	MFH - 3BD 2BA (1242)	9/8/2023	1		BOWDY					
2945	054-040-129-000	490	NUNNELEY	MFH - 2 BD/2BA + DEN (1213)	9/12/2023	1		SIMANDAN					
2946	054-152-050-000	1416	STONEHURST	MFH - 3 BED, 2 BATH (1665)	9/11/2023	1		BERNDT DE PINEDA					
2947	054-050-081-000	5587	LINRICH	SFR 2BD/2BA(1275) ATT GAR(492) COV CON(108) OPTS MIRRORED NAT GAS	10/5/2023	1		AMERICAN DREAM CONSTRUCTION INC					
2948	054-050-081-000	5589	LINRICH	SFR 2BD/2BA(1275) ATT GAR(492) COV CON(108) OPTS NAT GAS	10/5/2023	1		AMERICAN DREAM CONSTRUCTION INC					
2949	051-260-004-000	217	PACIFIC	SFR 3BD/2BA(1368) ATT GAR(493) COV CON(266)	10/21/2022	1	1	BUTTS & GRIFFEN					
2950	050-340-001-000	6446	DORA LEE	SFR - 3 BED 2 BATH (1120) RPMP HOPE HOUSE SLAB ON GRADE	7/25/2023	1	1	HABITAT FOR HUMANITY BUTTE COUNTY					
2951	055-120-094-000	481	TIGERTAIL	SFR 3BD/2BA(2132) ATT GAR(628) COV CON(54)	12/15/2023	1		VC HERNANDEZ LLC					
2952	054-240-133-000	2235	STEARNS	SFR - 3BD/2BA (1428) ATT GAR (509) COV CONC (150)	3/25/2024	1		PARADISE ONE PARTNERS LLC					
2953	054-240-134-000	5562	DESANTE	SFR - 3 BD/2BA (1428) ATT GAR (509) COV CONC (150)	11/28/2023	1		PARADISE ONE PARTNERS LLC					
2954	051-290-001-000	345	REDBUD	SFR - 3BD/2BA (1428) ATT GAR (509) COV CONC (150)	12/13/2023	1		PARADISE ONE PARTNERS LLC					
2955	051-172-025-000	6236	OAK	MFH 2BD/2BA+DEN(1188)	9/26/2023	1		HEANEY					
2956	053-090-010-000	6138	BERKSHIRE	SFR - 2BD/2BA + DEN (1316) ATT GAR (617) COV CONC (144) MPBP23-00187 OPTIONS MATRIX: GAR LEFT RAISED NAT GAS GABLE FRONT LOAD									
2957	050-340-004-000	6465	DORA LEE	SFR - 3BD/2BA (1120) COV CONC (240) RPMP23-00245 MIRROR, SOG, 9' TOP PLATE	7/25/2023	1	1	HABITAT FOR HUMANITY BUTTE COUNTY					
2958	055-270-082-000	5512	PENTZ	MFH 3 BEDROOMS / 2 BATHROOMS (800)	10/5/2021	1	1	RUSHIN					
2959	050-390-020-000	1642	GATE	SFR - 2BD/2BA+OFFICE (1551) ATT GAR (481) COV CONC (168)	10/10/2023	1		E AND O BUIILDERS INC					
2960	054-162-008-000	5604	SAWMILL	SFR - 2BD/2BA(960) COV WOOD(72) RPMP23-00299 OPTS: MIRRORED, SIDE ENTRY, RAISED FNDTN, 9' TOP PLATE	10/16/2023	1	1	MAG CONSTRUCTION LLC					
2961	051-082-050-000	6320	OLIVER	MFH - 3BD/2BA (1266)	12/20/2023	1		SCHWARZWELLER FAMILY TRUST					
2962	055-212-023-000	1428	IDLEWILD	SFR - 1 BD 1 BA (750) COV CONC (54) MPRP20-02118 PORCH LEFT, RAISED, GAS/ELEC	2/14/2023	1	1	MANN					
2963	053-021-074-000	6173	BOWLES	SFR - 3 BD, 2 BA (1603) ATT GAR (314) OPEN DECK (96)	10/11/2023	1		HEER					
2964	052-011-091-000	6150	DUNCOMBE	SFR - 3BD/2BA (1595) ATT GAR (749) COV CONC (151)	10/26/2023	1		SOLORIO-MATA					

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2965	053-140-055-000	1562	BOYDEN	SFR 2BD/2BA+OFFICE(1379) ATT GAR(430) COV CON(191)	6/21/2023	1	1	RIVERA MIRACLE LLC					
2966	051-101-018-000	6634	QUAIL	SFR - 3BD/2BA (1120) MP HOPE 3.2 SLAB FOUNDATION STANDARD 8' TOP PLATE ORIENTATION PLAN	10/24/2023	1		HABITAT FOR HUMANITY OF BUTTE COUNTY					
2967	053-170-074-000	1554	KAY	SFR - 2BD/1BA (968) ATT GAR (240) COV CONC (144)	9/21/2023	1	1	FERNANDES					
2968	051-144-036-000	6404	WOODHALL	SFR - 2BD/21BA (1153) ATT GAR (590) COV CONC (122)	9/26/2023	1	1	MAGDALYAN					
2969	054-260-045-000	2375	STEARNS	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	10/9/2023	1	1	VIT BUILDERS					
2970	054-230-016-000	1871	LILLIAN	SFR - 3BD/2BA (1551) ATT GAR (481) COV CONC (168)	11/3/2023	1		E AND O BUILDERS					
2971	050-180-023-000	1694	WAGSTAFF	MFH - 2 BED 2 BATH + DEN (1199)									
2972	053-300-049-000	5767	BONNIE	SFR - 2BD/2BA + DEN (1120) MPBP23-00244 OPTS: RAISED, STD OR, 9' TOP PLATE	11/2/2023	1		CIAN ENTERPRISE INC					
2973	052-143-003-000	5774	BLACK OLIVE	SFR 2BD/2BA(1275) ATT GAR(492) COV CON(108) OPTS GAR RIGHT, NAT GAS	4/10/2024	1		AMERICAN DREAM CONSTRUCTION INC					
2974	052-143-003-000	5772	BLACK OLIVE	SFR 2BD/2BA(1275) ATT GAR(492) COV CON(108) OPTS GAR LEFT, NAT GAS	4/10/2024	1		AMERICAN DREAM CONSTRUCTION INC					
2975	054-050-082-000	5595	LINRICH	SFR 2BD 2BA (1275) ATT GAR (492)COV CONC(108) MP23-00833 GAR RIGHT, NAT GAS	9/25/2023	1		AMERICAN DREAM CONSTRUCTION INC					
2976	054-050-082-000	5597	LINRICH	SFR 2BD 2BA (1275) ATT GAR (492)COV CONC(108) MP23-00833 GAR LEFT, NAT GAS	9/27/2023	1		AMERICAN DREAM CONSTRUCTION INC					
2977	050-090-006-000	1752	HONEYSUCKLE	SFR - 2BD/2BA + DEN (1120) COV CONC (340)	10/11/2023	1		SANCHEZ					
2978	054-201-032-000	1533	FRONTIER	SFR - 2BD/2BATH (1200) COV CONC (132)	10/12/2023	1		KIMBALL					
2979	053-180-149-000	1689	LINDHOLM	SFR - 3BD/2BA (1551) ATT GAR (381) COV CONC (168)	10/25/2023	1		MAKO CONSTRUCTION					
2980	050-380-014-000	1438	LOFTY	SFR - 2BD/2BA + OFFICE (1551) ATT GAR (481) COV CONC (168)	12/15/2023	1		MAKO CONSTRUCTION					
2981	055-130-118-000	465	LEISURE	MFH - 2 BEDROOMS / 2 BATHROOMS + DEN (1381) COVERED WOOD(189)	9/26/2023	1		MACLEAN					
2982	055-020-094-000	5241	JARVIS	SFR 3BD/2BA (1316) ATT GAR (617) COV CON (144) "THE WILLOW" OPTIONS: GAR RIGHT SOG NAT GAS GABLE FRONT LOAD	10/5/2023	1		BITKER					
2983	051-040-079-000	6668	WOODLAND	SFR - 3 BD 2 BA (1640) ATT GAR (589) COV CONC (277)	6/16/2023	1	1	NIKO LLC					
2984	050-011-022-000	1490	BADER MINE	SFR - 1BD/1BA (750) COV CONC (216)	4/3/2024	1		GANN					
2985	052-320-008-000	593	CIRCLEWOOD	SFR 2BD/2BA(1020) ATT GAR(648) COV CON(204)	11/27/2023	1	1	FROST / FIELDER					
2986	054-172-034-000	5524	EDGEWOOD	SFR - 2BD/2BA (960) COV CONC (72)									
2987	050-070-052-000	1401	TOWHEE	MFH - 2BD/2BA + DEN (1242)	9/13/2023	1	1	PAGE					
2988	050-060-060-000	1440	COLDREN	SFR 2BD/2BA(1237) ATT GAR(439) COV CON(149)	11/13/2023	1		BROW					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
2989	054-164-005-000	5607	CHERRY	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	11/21/2023	1	1	RYBCHENKO					
2990	053-021-014-000	926	BILLE	MFH 4BD/2BA(1800)	9/21/2022	1	1	FORMATION HOMES LLC					
2991	050-300-027-000	6679	BROOK	SFR - 2BD/2BA (960)	10/30/2023	1		RILEY					
2992	051-172-032-000	6222	AZALEA	SFR - 4 BED, 2 BATH (1609) ATT GAR (590) COV PORCHES (167)	7/24/2023	1	1	SHELTON					
2993	055-050-067-000	62	SUTTER	SFR 3BD/2BA(1925) ATT GAR(600) COV WOOD(1084) UNC BSMT(432)	11/14/2023	1		VOLLMER					
2994	052-238-033-000	5580	KEITH	MFH 2BD/2BA(891)	11/1/2023	1		ISAACS					
2995	054-151-066-000	5548	MARK	MFH -2BD/2BA + DEN (1065)	9/15/2023	1	1	WATSON					
2996	052-150-047-000	5845	JAMES	MFH - 4 BD/2BA (1620)	11/7/2023	1		BERNDT TRUST					
2997	053-104-006-000	1229	ELLIOTT	MFH - 2BED/2BA + DEN (1215)	11/29/2023	1	1	STEVENS					
2998	052-272-008-000	5397	FILBERT	SFR - 3BD/3BA +DEN (1969) ATT GAR (598) COV CONC (480)	10/23/2023	1		COMER					
2999	053-131-086-000	5823	COPELAND	SFR 2BD/2BA (1536) ATT GAR (461) COV CON (520) COV DECK (312)	10/19/2020	1	1	TOWNSEND	1				
3000	053-300-064-000	5778	BONNIE	SFR 3BD/2BA(1829) COV CON(48) OPEN WOOD(200) ATT GAR (484) - OPTS MIRRORED RAISED FNDTN	11/1/2023	1		HARDING ENTERPRIZES INC					
3001	051-093-049-000	6239	FERN	SFR - 3BD/2BA (1316) ATT GAR (617) COV CONC (144) RPMP23-00187: GAR RIGHT, SOG, NAT GAS, GABLE, FRONT LOAD	10/20/2023	1		GARNER BUILT INC					
3002	050-300-019-000	6671	TWIN OAKS	SFR 3BD/2BA(1631) ATT GAR(467) COV CON(285)	9/11/2023	1	1	MATSYK					
3003	053-131-017-000	1115	NUNNELEY	SFR - 3BD/2BA (1316) ATT GAR (617) COV CONC (144) RPMP23-00187: GAR LEFT, SOG, LPG, HIP, FRONT LOAD	12/5/2023	1		STAHL FAMILY TRUST					
3004	050-082-061-000	1720	TIMBER	SFR - 2BD/2BA+DEN(1316) ATT GAR(617) COV CON (144) - RPMP23-00187 GAR RIGHT, SOG, NG, HIP, FRONT LOAD	12/11/2023	1		GARNER BUILT INC					
3005	050-380-018-000	9001	SKYWAY	MFH 3BD/2BA(1829)	11/30/2023	1		PERRY					
3006	054-050-063-000	475	ESPING	MFH - 2 BED, 2 BATH + OFFICE (1458)	10/18/2023	1	1	GARRISON					
3007	055-440-022-000	5131	FEATHER ROCK	SFR 3BD/2BA(1826) ATT GAR(523) COV CON(327)	1/5/2024	1		MENTUS					
3008	051-320-010-000	281	TRANQUIL	SFR 3BD/2BA(1392) ATT GAR(513) COV CON(91)	11/20/2023	1		HILLER					
3009	050-360-005-000	6413	PARKWOOD	MFH 3BD/2BA+ACTIVITY ROOM(1674)	11/29/2023	1		HUBBARD					
3010	054-260-053-000	2395	STEARNS	SFR 3BD/2BA+DEN(1809) ATT GAR(528) COV CON(299)	7/26/2023	1	1	AMERICAN DREAM CONSTRUCTION					
3011	053-150-061-000	6113	SAWMILL	SFR - 1 BD/1BA (750) COV WOOD DECK (53) MP23-00923: RAISED FNDTN, 9' TOP PLATE	11/27/2023	1		ARNOLD					
3012	050-140-152-000	1625	CYPRESS	MFH 3BD/2BA(1990) COV WOOD(134)	11/7/2023	1		BERNDT TRUST					





Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
3035	053-011-049-000	1232	TAHOE	SFR 2BD/2BA(1093) ATT GAR(483) COV CON(101)	1/2/2024	1		KOVALCHUK					
3036	050-220-123-000	6779	MATELL	SFR - 3BD/2.5BA (2010) ATT GAR (536) COV CONC (327)	12/28/2023	1		BESHTA					
3037	053-200-021-000	6025	HAZEL	SFR 2BD/2BA+DEN(1120) COV WOOD(240) OPEN WOOD(64) - OPTS RAISED FNDTN, STNDRD, NO GAR, 8FT PLATE HEIGHT	12/18/2023	1		ATKINSON					
3038	055-020-128-000	245	ROE	MFH - 3BD 2BA (1306)	1/3/2024	1		NASO					
3039	053-011-054-000	1266	TAHOE	SFR 3BD/2BA(1460) ATT GAR(576) COV CON(103)	2/21/2023	1	1	PROSPEROUS ROAD INC					
3040	055-100-021-000	327	WAYLAND	MFH - 3BD/3BA + DEN (2400) TRIPLE WIDE	10/27/2023	1	1	ORLANDO					
3041	050-330-079-000	1318	SEQUOIA	SFR 3BD/2BA+DEN (1260) COV CON(35) - ATT 2 CAR GAR(590), RAISED FNDTN, NATURAL GAS, MIRRORED ORIENTATION	12/13/2023	1		ROGERS					
3042	055-220-052-000	1450	BENNETT	MFH - 2 BED, 1 BATH (783) WITH COV PORCH (108)	1/9/2024	1		KELLY					
3043	054-171-072-000	1215	LURENA	MFH - 2BD/2BA	12/19/2023	1		URADZIONEK					
3044	053-200-013-000	5954	HAZEL	SFR 3BD/2BA(1223) ATT GAR(291) COV CON(154)	1/19/2024	1	1	ANDERSON BUILDERS CORP					
3045	052-390-005-000	6164	CLIFF	SFR 2BD/2BA(1024) ATT GAR(312) COV CON(134)	2/6/2024	1		MARINELLO REAL ESTATE COMPANY LLC					
3046	050-040-040-000	7174	CLARK	SFR 3BD/2BA(1569) ATT GAR(506) COV CON(53)	12/27/2023	1	1	FANNIE MAE					
3047	054-240-033-000	1860	MOSURE	MFH 2BD/2BA+DEN(1213)	1/29/2024	1		KUZMINOV					
3048	054-142-012-000	5675	SAWMILL	SFR - 1BD/1BA(806)	2/13/2024	1		AMERICAN DREAM CONSTRUCTION INC					
3049	055-050-085-000	101	FOUNTAIN	SFR - 3BD/2BA (1703) ATT GAR (620) COV CONC (182)	12/21/2023	1		RIVERA					
3050	053-170-188-000	1695	AMBERWOOD	SFR - 2 BED, 1 BATH (1295) ATT GAR (570) UNFIN UNC (779), UNC BASEMENT (225), COV CONC (486)	3/4/2024	1		MUSICK					
3051	052-070-119-000	5803	PERRY MASON	SFR - 2BD/2BA (1020) ATT GAR (648) COV CONC (204)	3/11/2024	1		FROST / FIELDER					
3052	055-090-026-000	3332	NEAL	MFH - 3BD/2BA (1280)	1/2/2024	1		LEE					
3053	053-330-022-000	1462	ELLIOTT	MFH 3BD/2BA(1296)	3/12/2024	1		ELLSWORTH					
3054	052-031-049-000	5734	REED	MFH - 3BD/2BA (1344)	1/2/2024	1		DSM DEVELOPMENT LLC					
3055	051-081-053-000	712	WAGSTAFF	SFR 2BD/2BA(1093) ATT GAR(483) COV CON(101)	2/12/2024	1		LUTSIK CONSTRUCTION INC					
3056	054-210-120-000	5714	FICKETT	SFR 3BD/2BA(1605) ATT GAR(467) COV CON(251)	12/22/2023	1		LUTSIK CONSTRUCTION INC					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
3057	055-112-011-000	854	ROE	SFR 2BD/2BA+DEN&OFFICE(1260) COV CON(35) ATT 2 CAR GAR(590), SLAB FNDTN, NATURAL GAS MIRRORED ORIENTATION	2/22/2024	1		DAVEY					
3058	053-330-109-000	5771	DEERPARK	MFH 3BD/2BA(1458)									
3059	055-170-020-000	5075	EDEN	MFH 3BD/2BA(864)	1/4/2024	1		MOORE					
3060	055-201-042-000	5247	EDGEWOOD	MFH 4BD/2BA(2110) COV WOOD(120)	4/3/2024	1		KANE / KIMBALL					
3061	053-070-002-000	832	CENTRAL PARK	SFR 3BD/2BA(1120) COV CON(240) - OPTS SLAB FNDTN, MIRRORED, 8FT PLATE HEIGHT	1/26/2024	1		HABITAT FOR HUMANITY OF BUTTE COUNTY					
3062	053-060-031-000	845	CENTRAL PARK	SFR 3BD/2BA(1120) COV CON(240) - OPTS SLAB FNDTN, STANDARD, 8FT PLATE HEIGHT	1/26/2024	1		HABITAT FOR HUMANITY OF BUTTE COUNTY					
3063	053-060-049-000	851	CENTRAL PARK	SFR 3BD/2BA(1120) COV CON(240) - OPTS SLAB FNDTN, MIRRORED, 8FT PLATE HEIGHT	1/26/2024	1		HABITAT FOR HUMANITY OF BUTTE COUNTY					
3064	054-020-036-000	1294	NUNNELEY	SFR 2BD/2BA(960) COV CON(144) - OPTS SIDE ENTRY, MIRRORED, SLAB, 8FT PLATE HEIGHT	2/12/2024	1		HABITAT FOR HUMANITY OF BUTTE COUNTY					
3065	051-173-027-000	6282	HARVEY	SFR 1BD/1BA+OFFICE(815) COV CON(75)	2/9/2024	1		ACEVEDO					
3066	053-180-088-000	1646	LOG CABIN	SFR 2BD/1BA(968) ATT GAR(240) COV CON(144)	3/12/2024	1		FERNANDES					
3067	055-440-001-000	4974	COUNTRY CLUB	SFR 3BD/2BA(1974) ATT GAR(570) COV CON(192) UNC STOR(62)									
3068	051-300-019-000	277	ROSE	SFR 3BD/2BA(1486) ATT GAR(517) COV CON(233)	1/29/2024	1		VIT BUILDERS LLC					
3069	052-022-091-000	6161	BEACON	MFH - 3BD/2BA (1493)	1/29/2024	1		ALEKSEEV					
3070	053-104-035-000	5892	COPELAND	SFR - 3BD/2BA(1316) COV CON(256) - RPMP23-00187: KITCH LEFT, GABLE, SOG, NG	3/8/2024	1		REYES					
3071	051-120-017-000	973	WAGGONER	SFR - 2BD/1.5BA (1162) ATT GAR (1196) COV CONC (138)									
3072	050-250-092-000	1760	STARK	MFH 3BD/2BA(1543) COV WOOD(20)	1/17/2024	1		BARNES					
3073	054-100-005-000	977	BELLA VISTA	SFR 3BD/2BA(1346) ATT GAR(642) COV CON(118)	1/31/2024	1		AVILA					
3074	052-070-079-000	5825	CRESTVIEW	SFR 2BD/2BA(1123) ATT GAR(460) COV CON(101)	2/1/2024	1		GAYDUCHIK					
3075	050-172-006-000	6752	CLARK	SFR 3BD/2.5BA(2343) ATT GAR(614) COV CON(369) UNC UNF(607)	4/12/2024	1		MEDINA / RINCON					
3076	051-230-005-000	4701	SKYWAY	SFR - 2BD/3BA W/OFFICE (2580) SHOP (994) ATT GAR (720) COV CONC (824) OPEN WOOD DECK (312)									
3077	053-161-059-000	6070	LIBBY	SFR 3BD/2BA(1829) COV CON(43) ATT GAR (484) OPEN WOOD(200) - W/OPTS STANDARD ORIENTATION RAISED FNDTN	2/20/2024	1		HARDING ENTERPRIZES INC					
3078	050-090-035-000	7248	PENTZ	SFR 1BD/1BA (900) ATT GAR (780)									
3079	050-300-005-000	6670	BROOK	SFR 3BD/2BA(1812) ATT GAR(440) COV CON(101) OPEN WOOD(200) RAISED FNDTN	2/20/2024	1		HARDING ENTERPRIZES INC					

Count	APN	Address	Street	Description	Date Issued	Issued	C/O	Owner	NVPG Eligibility	GSFA Grant Applied	Comments	MCO Received	Permit Withdrawn
3080	051-083-103-000	832	FAWNDALE	MFH - 3BD/2BA(1188)	2/6/2024	1		RAY					
3081	053-190-046-000	5939	DEL MAR	SFR - 3BD/2BA (1605) ATT GAR (467) COV CONC (125)	2/13/2024	1		GAYDUCHIK					
3082	052-011-029-000	679	EDWARDS	SFR - 3BD/2BA (1682) ATT GAR (582) COV CONC (480)									
3083	054-192-114-000	5384	LIBBY	MFH 3BD/2BA(1041)	2/21/2024	1		VANDEVIER					
3084	055-212-059-000	5230	LIBBY	MFH 3BD/2BA(1215)	2/1/2024	1		RUSSELL					
3085	055-140-048-000	5155	EDEN	SFR - 3BD/2BA (1440) COV CON (324)	4/16/2024	1		MUHLBAIER					
3086	052-237-007-000	5563	KEITH	SFR 3BD/2BA(1316) COV CON(256) - RPMP23-00187: GABLE, SOG, NG, KITCH LEFT									
3087	051-172-052-000	6267	HARVEY	SFR 2BD/2BA(1093) ATT GAR(483) COV CON(101)	3/25/2024	1		MOROZ					
3088	053-300-012-000	1314	DEODARA	SFR 3BD/2BA(1486) ATT GAR(517) COV CON(233)	2/2/2024	1		TACHINSKIY					
3089	053-260-092-000	1866	VINEYARD	SFR 4BD/3BA(2799) ATT GAR(868) COV CON(760)	3/12/2024	1		RYBCHENKO					
3090	050-320-002-000	1524	FOREST	SFR 3BD/2BA(1665) ATT GAR(523) COV CON(212)	2/7/2024	1		WEINS FAMILY TRUST					
3091	054-132-094-000	1724	ELLIS	SFR 2BD/2BA + DEN(1863) ATT GAR(575) COV CON(264) - OPTS MIRRORED SLAB 9FT TOP PLATE & NAT GAS									
3092	054-230-031-000	1847	DEERWOOD	MFH 3BD/2BA(1458) COV WOOD(207)	3/5/2024	1		TEETER					
3093	055-470-008-000	2395	TOKAY	SFR - 4BD/3BA (1940) ATT GAR (476) COV CONC (34)	3/1/2024	1		PELA					
3094	052-272-006-000	5383	FILBERT	SFR 3BD/2BA(1829) COV CON(43) ATT GAR(484) OPEN WOOD(200) MP23-00997: STD, RAISED, NG	2/6/2024	1		WEST FAMILY HOMES					
3095	052-031-128-000	6000	ACORN	SFR - 3BD/2BA(1866) ATT GAR(1018) COV CON(718)	2/27/2024	1		CHOCTAW HOUSING GROUP INC					
3096	050-210-045-000	6211	VIRGINIA	MFH 3BD/2BA(1543) COV WOOD(23)	2/21/2024	1		GONZALES					
3097	053-170-023-000	6052	KIBLER	SFR - 3 BED, 2 BATH (1674) ATT GAR (543) COV CON (33) RPMP23-00936 OPTIONS: GAR LEFT, RAISED, NAT GAS, HIP ROOF	2/23/2024	1		POLIQVIN					
3098	050-340-018-000	6427	MOSS	MFH - 2BD/2BA + DEN (1333) MPBP23-00076 (MP FLEETWOOD 28502E)	3/6/2024	1		DODSON					
3099	054-310-035-000	5559	ANGEL	SFR 2BD/2BA(1012) ATT GAR(288) COV CON(290)	2/14/2024	1		ANDERSON BUILDERS CORP					
3100	055-440-003-000	4990	COUNTRY CLUB	SFR - 3BD/2BA (1700) ATT GAR (589) COV CONC (649)									
3101	052-032-044-000	530	VALLEY VIEW	SFR - 2BD/2BA W/ DEN (1550) ATT GAR(470) COV CON(336)									
3102	053-101-013-000	1008	MAPLE PARK	MFH 3BD/2BA(1280)	3/6/2024	1		VCD CORPORATION					











Table 2 Parcels With Multi-Family Potential From Housing Element Appendix D

Assessor Parcel Number	General Plan Designation (Current)	Zoning Designation (Current)	Parcel Size (Acres)	Lower Income Capacity	Moderate Income Capacity	Above Moderate Income Capacity	Total Capacity (DUs)	Notes
054-120-021-000	MR	MF	18.58	0	68	68	136	
050-190-053-000	MR	MF	12.48	0	46	46	92	
050-190-039-000	MR	MF	10.96	0	40	41	81	
053-150-103-000	MR	MF	10.79	0	39	40	79	
051-164-060-000	MR	MF	8.75	6	12	46	64	
054-080-038-000	MR	MF	6.18	4	9	32	45	
053-380-001-000	MR	MF	6.5	44	0	0	44	
051-440-001-000	MR	MF	9.8	0	0	40	40	
054-060-101-000	MR	MF	4.93	1	10	26	37	
053-111-034-000	CS	CS	4.35	3	6	23	32	
054-060-103-000	MR	MF	4.41	3	6	23	32	
050-011-013-000	MR	MF	3.79	2	5	21	28	
052-060-013-000	MR	MF	3.5	2	5	19	26	
052-040-092-000	MR	MF	3.46	2	5	18	25	
052-160-015-000	MR	MF	3.35	2	5	18	25	
050-070-082-000	MR	MF	3.12	2	4	17	23	
052-160-013-000	MR	MF	2.45	2	3	13	18	
052-040-084-000	MR	MF	2.29	2	3	12	17	
054-060-102-000	MR	MF	2.13	1	3	12	16	
052-012-052-000	MR	MF	1.9	0	3	11	14	
053-080-002-000	MR	MF	1.84	0	3	11	14	
053-080-005-000	MR	MF	1.84	0	3	11	14	
053-080-006-000	MR	MF	1.89	0	3	11	14	
052-040-085-000	MR	MF	1.71	0	2	10	12	
053-120-052-000	MR	MF	1.62	0	0	12	12	
050-040-001-000	MR	MF	1.3	0	2	8	10	
053-080-003-000	MR	MF	1.32	0	2	8	10	
053-120-080-000	MR	MF	4.72	0	0	10	10	
050-040-147-000	MR	MF	1.12	0	1	7	8	
052-150-054-000	MR	MF	1.12	0	1	7	8	
053-103-025-000	TC	CC	0.68	0	0	8	8	
050-040-002-000	MR	MF	1	0	1	6	7	
051-163-005-000	TC	CC	0.62	0	0	7	7	
053-030-045-000	MR	MF	0.95	1	1	5	7	
053-040-040-000	MR	MF	1	0	1	6	7	
053-120-071-000	MR	MF	2.65	0	0	6	6	
051-164-039-000	MR	MF	0.69	0	1	4	5	
052-143-010-000	MR	MF	0.66	0	1	4	5	
053-040-041-000	MR	MF	0.69	0	1	4	5	
050-040-003-000	MR	MF	0.5	0	2	2	4	

Assessor Parcel Number	General Plan Designation (Current)	Zoning Designation (Current)	Parcel Size (Acres)	Lower Income Capacity	Moderate Income Capacity	Above Moderate Income Capacity	Total Capacity (DUs)	Notes
051-220-069-000	MR	MF	1.4	0	0	4	4	
052-060-027-000	MR	MF	0.57	0	1	3	4	
052-080-006-000	CS	CS	1	0	0	4	4	
052-150-044-000	MR	MF	0.54	0	0	4	4	
052-160-011-000	MR	MF	0.52	0	1	3	4	
052-213-011-000	TR	TR 1/3	0.68	0	0	4	4	
053-030-017-000	MR	MF	0.54	0	1	3	4	
053-030-018-000	MR	MF	0.54	0	1	3	4	
053-030-019-000	MR	MF	0.48	0	1	3	4	
053-030-041-000	MR	MF	0.53	0	1	3	4	
052-143-003-000	MR	MF	0.41	0	1	2	3	
053-030-031-000	MR	MF	0.46	0	1	2	3	
051-102-047-000	TR	TR 1/3	2.29	0	1	1	2	
051-132-038-000	TR	TR 1/2	1	0	1	1	2	
051-164-033-000	TR	TR 1/3	0.24	0	0	2	2	
052-142-020-000	CC	CB	0.4	0	0	2	2	
052-143-001-000	MR	MF	0.28	0	1	1	2	
052-143-002-000	MR	MF	0.21	0	1	1	2	
052-143-004-000	MR	MF	0.23	0	1	1	2	
052-143-006-000	MR	MF	0.2	0	1	1	2	
052-160-004-000	MR	MF	0.21	0	1	1	2	
052-160-010-000	MR	MF	0.19	0	1	1	2	
053-030-020-000	MR	MF	0.44	0	1	1	2	
053-030-021-000	MR	MF	0.34	0	1	1	2	
053-080-034-000	MR	MF	0.29	0	1	1	2	
053-120-081-000	MR	MF	1.87	0	0	2	2	
054-080-044-000	TC	CC	0.44	0	0	2	2	
054-080-044-000	TC	CC	0.44	0	0	2	2	
053-030-036-000	MR	MF	0.2	0	0	1	1	
051-440-020-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-021-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-022-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-023-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-024-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-025-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-026-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-027-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-028-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-029-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-030-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-031-000	MR	MF	0	0	0	0	0	Condo Parcel

Assessor Parcel Number	General Plan Designation (Current)	Zoning Designation (Current)	Parcel Size (Acres)	Lower Income Capacity	Moderate Income Capacity	Above Moderate Income Capacity	Total Capacity (DUs)	Notes
051-440-032-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-033-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-034-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-035-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-036-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-037-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-038-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-039-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-040-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-004-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-005-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-006-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-007-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-008-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-009-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-010-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-011-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-012-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-013-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-014-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-015-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-016-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-017-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-018-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-019-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-020-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-021-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-022-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-023-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-024-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-025-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-026-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-027-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-028-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-029-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-030-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-031-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-032-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-033-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-034-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-035-000	MR	MF	0	0	0	0	0	Condo Parcel

Assessor Parcel Number	General Plan Designation (Current)	Zoning Designation (Current)	Parcel Size (Acres)	Lower Income Capacity	Moderate Income Capacity	Above Moderate Income Capacity	Total Capacity (DUs)	Notes
053-380-036-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-037-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-038-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-039-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-040-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-041-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-042-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-043-000	MR	MF	0	0	0	0	0	Condo Parcel
053-380-044-000	MR	MF	0	0	0	0	0	Condo Parcel
051-440-002-000	MR	MF	0	0	0	0		Condo Parcel
051-440-003-000	MR	MF	0	0	0	0		Condo Parcel
051-440-004-000	MR	MF	0	0	0	0		Condo Parcel
051-440-005-000	MR	MF	0	0	0	0		Condo Parcel
051-440-006-000	MR	MF	0	0	0	0		Condo Parcel
051-440-007-000	MR	MF	0	0	0	0		Condo Parcel
051-440-008-000	MR	MF	0	0	0	0		Condo Parcel
051-440-009-000	MR	MF	0	0	0	0		Condo Parcel
051-440-010-000	MR	MF	0	0	0	0		Condo Parcel
051-440-011-000	MR	MF	0	0	0	0		Condo Parcel
051-440-012-000	MR	MF	0	0	0	0		Condo Parcel
051-440-013-000	MR	MF	0	0	0	0		Condo Parcel
051-440-014-000	MR	MF	0	0	0	0		Condo Parcel
051-440-015-000	MR	MF	0	0	0	0		Condo Parcel
051-440-016-000	MR	MF	0	0	0	0		Condo Parcel
051-440-017-000	MR	MF	0	0	0	0		Condo Parcel
051-440-018-000	MR	MF	0	0	0	0		Condo Parcel
051-440-019-000	MR	MF	0	0	0	0		Condo Parcel
053-030-046-000	MR	MF	0	0	0	0		Condo Parcel
053-380-002-000	MR	MF	0	0	0	0		Condo Parcel
053-380-003-000	MR	MF	0	0	0	0		Condo Parcel

APPENDIX 1B

# WINDSHIELD SURVEY



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
050-011-007-000	PARADISE IRRIGATION DISTRICT		Vacant	No		TC
050-011-013-000	SKYWAY LAND PROJECT LLC	9141 SKYWAY	Vacant	No		MR
050-011-015-000	LING FAMILY TRUST	9225 SKYWAY	Commercial	Yes		TC
050-011-026-000	ACORN LLC	9241 SKYWAY	Commercial	Yes		TC
050-011-031-000	SKYWAY LAND PROJECT LLC	9189 SKYWAY	Commercial	Yes	Vintage shoppe on right side of parcel	TC
050-011-032-000	MAIN CHRIS & KATHRYN REV INTER VIVOS TRUST	1520 BADER MINE RD	Commercial	Yes	Two commercial buildings	TC
050-012-001-000	MURPHY WAYNE ANTHONY	9172 SKYWAY	Vacant	No		TC
050-012-002-000	NEWPORT FEDERAL	9156 SKYWAY	Vacant	No		TC
050-012-003-000	NEWPORT FEDERAL	9154 SKYWAY	Vacant	No		TC
050-012-004-000	JAYNES REVOCABLE INTER VIVOS TRUST	7245 CLARK RD	Commercial	Yes		TC
050-012-005-000	KRAMOS PAMELA	9148 SKYWAY	Vacant	No		TC
050-013-027-000	TOPOLINSKI JAMES C	9208 SKYWAY	Commercial	Yes	Looks like spans both parcels	TC
050-013-030-000	HASS JEFFERY T	9226 SKYWAY	Vacant	No		TC
050-013-031-000	WILLIAMS MARK EDMOND & ALMA IRIS	9232 SKYWAY	Vacant	No		TC
050-013-032-000	MUNJAR STEVEN & TERESA	9238 SKYWAY	Vacant	No		TC
050-013-033-000	MUNJAR STEVEN & TERESA	9244 SKYWAY	Vacant	No		TC
050-013-034-000	MUNJAR STEVEN & TERESA	9250 SKYWAY	Vacant	No		TC
050-013-035-000	SAETURN NAYTA	9256 SKYWAY	Vacant	No		TC
050-013-036-000	WALLIN LINNIE DEAN & BARBARA R	9262 SKYWAY	Vacant	No		TC
050-013-037-000	WALLIN LINNIE DEAN	9268 SKYWAY	Vacant	No		TC
050-013-038-000	SUPERIOR CONTRACTORS INC	9272 SKYWAY	Vacant	No	Concrete foundation spans both parcels. For sale	TC
050-013-039-000	TOPOLINSKI JAMES C	9210 SKYWAY	Commercial	Yes	Looks like spans both parcels	TC
050-013-040-000	MANGRUM ROBERT A	9220 SKYWAY	Vacant	No		TC
050-013-065-000	FASTRIP OIL CO. L.P.	9190 SKYWAY	Commercial	Yes	Gas station	TC
050-030-004-000	TOWN OF PARADISE		O	No	Bike path	R
050-040-001-000	HAYS RANDOLPH P & ANNE K REVOCABLE LIVING TRUST	9115 SKYWAY	Vacant	Other	Potential construction no structure	MR
050-040-002-000	WATSON FAMILY TRUST ESTATE	9101 SKYWAY	Vacant	No		MR
050-040-003-000	FISCHER DEVELOPMENTS INC	9089 SKYWAY	Single Family	Yes	Possible single family large garage	MR
050-040-007-000	FOGARASSY ARPAD J	9045 SKYWAY	Single Family	Yes		TC
050-040-009-000	TOWN OF PARADISE		O		Abandoned railroad, bike use.	R
050-040-067-000	GENNA MICHAEL VINCENT & TONYA LYNN	9128 SKYWAY	Vacant	No		TC
050-040-068-000	NEWPORT FEDERAL	16 SKYWAY	Vacant	No		TC
050-040-121-000	AMERICAN SELF STORAGE LLC	9100 SKYWAY	Commercial	Yes		TC
050-040-131-000	ANDERSON BROTHERS CORP	9034 SKYWAY	Multi-Family	Yes	Senior community	MR
050-040-143-000	MILLER RODNEY LOUIS & CHERYL LYNN FAMILY TRUST	9061 SKYWAY	Multi-Family	Yes	Multiple residential structures	TC
050-040-144-000	MILLER RODNEY LOUIS & CHERYL LYNN FAMILY TRUST	9065 SKYWAY	Multi-Family	Yes	Multiple residential structures	TC
050-040-147-000	PARADISE AERIE 2960 FRATERNAL ORDER OF EAGLES INC	9079 SKYWAY	Commercial	Yes		MR
050-060-017-000	WILLIAMS JOHN R ETAL	8899 SKYWAY	Vacant	No		TR
050-060-031-000	FYLSTRA REV TRUST	8886 SKYWAY	Vacant	No		TR
050-060-032-000	PALADE FAMILY TRUST	8894 SKYWAY	Vacant	No		TR
050-060-033-000	PUTNAM FAMILY TRUST	8902 SKYWAY	Vacant	No		TR
050-060-036-000	TOWN OF PARADISE		O	No	Bike path	R
050-060-040-000	ADAMSON FRED & TAMI	1450 JUSTA RD	Vacant	No	Equipment on site	AR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
050-060-043-000	FITZGERALD MIKE	1442 BEL AIR DR	Single Family	Yes		TR
050-060-044-000	SHEARMAN JUSTIN C ETAL	8959 SKYWAY	Vacant	No		TR
050-060-052-000	WULF KAREN L	8991 SKYWAY	Single Family	Yes		TC
050-060-060-000	BROW KENNETH	1440 COLDREN RD	Vacant	Trailer		TC
050-060-069-000	COLYER REVOCABLE INTER VIVOS TRUST	8917 SKYWAY	Vacant	No	Possible construction vehicle on site	TC
050-060-071-000	MORRIS FAMILY TRUST	1450 BEL AIR DR	Vacant	Trailer		TR
050-060-072-000	CLEMENS DAVID FOSTER & SUSAN RAE	8969 SKYWAY	Vacant	No		TC
050-060-074-000	WALKER JACQUELYN	6777 MOORE RD	Single Family	Yes	Equipment on site	AR
050-060-075-000	HUTH FAMILY TRUST	9000 SKYWAY	Commercial	Yes	Assisted living	AR
050-060-080-000	GONZALEZ HECTOR M & CAMPOS ILEANNA G	8983 SKYWAY	Vacant	No		TC
050-060-082-000	GOODWIN WILLIAM F & GODINEZ DEANNA	8891 SKYWAY	Vacant	No		TR
050-060-083-000	JESSEN TERESA MARIE	8869 SKYWAY	Vacant	No	Vineyards	TR
050-060-086-000	ALJASSANI AMEEN	8901 SKYWAY	Vacant	No		TC
050-060-093-000	KNIFONG REVOCABLE INTER VIVOS TRUST	8912 SKYWAY	Vacant	No		TC
050-060-095-000	MANGRUM ROBERT A		Single Family	Yes		TC
050-060-097-000	CLARKSON TRUST	8935 SKYWAY	Commercial	Yes		TC
050-070-004-000	JESSEN DAVID K & KATRINA E	8861 SKYWAY	Vacant	No	Vineyards/gardened	TR
050-070-005-000	LUONG CAN D & CAO HANH T	8841 SKYWAY	Vacant	Other	Sheds present	TR
050-070-006-000	SHIELDS MARK & LORINE	8837 SKYWAY	Vacant	No		TR
050-070-014-000	JAIN NEELAM	8746 SKYWAY	Vacant	No		TR
050-070-015-000	EVESLAGE WALLEEN Y LIVING TRUST	8760 SKYWAY	Vacant	No		MR
050-070-019-000	MAHONEY CAPITAL LP	8822 SKYWAY	Vacant	No		TR
050-070-024-000	PARADISE IRRIGATION DISTRICT		Vacant	No		TR
050-070-025-000	PACIFIC GAS & ELECTRIC CO		Vacant	No		TR
050-070-033-000	JENKS BRADLEY R & JULIE A FAMILY REVOCABLE TRUST	8716 SKYWAY	Vacant	No		TR
050-070-034-000	TAMAYO JUAN C & ANGELA N ETAL	8738 SKYWAY	Vacant	No		TR
050-070-035-000	STAMPS CHRISTINE C TRUST	8720 SKYWAY	Vacant	No		TR
050-070-042-000	NEWPORT FEDERAL	8797 SKYWAY	Single Family	Yes		TR
050-070-043-000	CARRUTHERS JAMES D & MACHAEL L	8807 SKYWAY	Vacant	No		TR
050-070-044-000	WHATCOTT ELVA	8735 NUGGET LN	Single Family	Yes		TR
050-070-046-000	MANIC INVESTMENTS LLC	1417 TOWHEE LN	Vacant	No		TR
050-070-047-000	BRODERICK JAMES L ETAL	1413 TOWHEE LN	Single Family	Yes		TR
050-070-049-000	LYONS PATRICIA A ETAL	1419 TOWHEE LN	Single Family	Yes		TR
050-070-051-000	PHE LLC	8736 NUGGET LN	Vacant	No		TR
050-070-052-000	PAGE BEA TRUST	1401 TOWHEE LN	Vacant	No		TR
050-070-053-000	GASERO ANTHONY C & LINDA SUE ESTATE	1405 TOWHEE LN	Single Family	Yes		TR
050-070-054-000	NELSON JEROME C & JOANNE LEE	1409 TOWHEE LN	Single Family	Yes		TR
050-070-055-000	WILLIAMS FAMILY BYPASS TRUST ETAL	8846 SKYWAY	Vacant	No		TR
050-070-056-000	WILLIAMS FAMILY BYPASS TRUST ETAL	8854 SKYWAY	Vacant	No		TR
050-070-057-000	WILLIAMS FAMILY BYPASS TRUST ETAL	8850 SKYWAY	Vacant	No		TR
050-070-058-000	SKYWAY ASSEMBLY OF GOD	8792 SKYWAY	Commercial	Yes	Church in a house	CS
050-070-060-000	KLEINERT AUDRIE M REVOCABLE TRUST		Vacant	No		MR
050-070-061-000	KLEINERT AUDRIE M REVOCABLE TRUST	8774 SKYWAY	Vacant	No		MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
050-070-072-000	WILLIAMS FAMILY BYPASS TRUST ETAL	1416 BURDAPARADISE LN	Vacant	No		TR
050-070-073-000	HORNING M C JR	8777 SKYWAY	Vacant	No	Possible commercial	CS
050-070-075-000	PARADISE IRRIGATION DISTRICT	8770 SKYWAY	Commercial	Other	Tank and construction trailer	PI
050-070-077-000	PARADISE IRRIGATION DISTRICT		Commercial	Other	Tank and construction trailer	PI
050-070-079-000	MARTIN JOHN T	8727 SKYWAY	Single Family	Yes		TR
050-070-080-000	GIPPERT WILLIAM E REV INT VIV TRUST	8721 SKYWAY	Single Family	Yes		TR
050-070-081-000	WILDER CRAIG D FAMILY TRUST	8872 SKYWAY	Vacant	No		TR
050-070-082-000	KLEINERT AUDRIE M REV TRUST	8764 SKYWAY	Vacant	Trailer		MR
050-070-083-000	PARADISE IRRIGATION DISTRICT		Single Family	Yes		MR
050-150-002-000	JENKS BRADLEY R & JULIE A FAMILY REV TRUST	8710 SKYWAY	Vacant	No		TC
050-172-034-000	PARADISE UNIFIED SCHOOL DISTRICT	6696 CLARK RD	Commercial	Yes		TC
050-172-040-000	PILLSBURY CHRISTOPHER H & CHRISTIE ANNE	6678 CLARK RD	Commercial	Yes		TC
050-172-041-000	PARADISE METHODIST CHURCH	6722 CLARK RD	Commercial	Yes		CS
050-190-024-000	YOUNG MARGARET E	6370 ROCKY LN	Single Family	Yes		MR
050-190-026-000	TAYLOR JAMES & TAMI REV TRUST	6378 ROCKY LN	Single Family	Yes		TR
050-190-039-000	1368 GARNET LLC	1368 GARNET LN	Multi-Family	Yes	Mobile home park	MR
050-190-052-000	JENKS BRAD & KAREN REVOCABLE I V TRUST ETAL	6653 CLARK RD	Commercial	Yes		TC
050-190-053-000	1280 WAGSTAFF LLC	1280 WAGSTAFF RD	Multi-Family	Yes		MR
050-190-056-000	SAWYER CANDICE M	6621 CLARK RD	Single Family	Yes		TC
050-190-057-000	BLANTON KENNETH D JR	6627 CLARK RD	Commercial	Yes		TC
050-190-060-000	DAVIS FAMILY TRUST	6543 CLARK RD	Vacant	No		CS
050-190-061-000	MOUSER GEORGE CORBETT REVOCABLE TRUST	6553 CLARK RD	Single Family	Yes		CS
050-190-062-000	BARON MARGARET LOUISE FAMILY REV IV TRUST	6635 CLARK RD	Commercial	Yes		TC
050-190-065-000	COBBLESTONE COURT LLC	6585 CLARK RD	Multi-Family	Yes	Apt complex	TC
050-190-076-000	COBBLESTONE COURT LLC	6569 CLARK RD	Commercial	Yes		CS
050-190-077-000	SCHLOBOHM SHERRY M REVOCABLE LIVING TRUST	1375 ARMSTRONG PL	Vacant	No		MR
050-190-078-000	ALLIANCE LEGACY FOUNDATION		Vacant	Yes		CS
050-200-010-000	WLM CONSTRUCTION INC	6255 PINECREST DR	Vacant	No	Some free standing metal structures	TR
050-200-080-000	LUNG REV INT VIV TRUST	6530 CLARK RD	Vacant	No		TR
050-200-081-000	LUNG REV INT VIV TRUST	6532 CLARK RD	Single Family	Yes		TR
050-200-085-000	BERKOWITZ JAY G & STEPHANIE L	6410 CLARK RD	Vacant	No		TC
050-200-091-000	KHALID MUHAMMAD & IRSHAD MONIBA K	6420 CLARK RD	Commercial	Yes		TC
050-200-099-000	FIRST BAPTIST CHURCH OF PARADISE CALIFORNIA	6500 CLARK RD	Commercial	Yes		CS
050-200-102-000	CHOW LAI CHYAN	6538 CLARK RD	Vacant	Other	Sheds	TR
050-200-103-000	WALKER DOROTHY ANN REVOCABLE LIVING TRUST	6562 CLARK RD	Vacant	No		TR
050-200-104-000	CHRISTIAN & MISSIONARY ALL CHURCH OF PARA	6491 CLARK RD	Commercial	Yes		CS
050-200-105-000	CALVILLO RAFAEL & JESSENIA	6560 CLARK RD	Single Family	Yes		TR
050-200-106-000	ONSTEIN JASON SCOTT & SHAWNA RENEE	6568 CLARK RD	Vacant	No		TR
050-200-109-000	UNITED STATES POSTAL SERVICE	6469 CLARK RD	Commercial	Yes		PI
050-200-110-000	CENTRAL BANK	6405 CLARK RD	Vacant	No		TC
050-200-151-000	SAYEGH ZAHER & TANIA	6404 CLARK RD	Vacant	No		TC
050-200-152-000	ONSTEIN JASON	1429 JUNIPER LN	Vacant	Other	House in construction	TR



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
050-200-154-000	WLM CONSTRUCTION INC	6462 CLARK RD	Vacant	No	Lot of cars	TC
050-200-157-000	WLM CONSTRUCTION INC		Vacant	Trailer	Shed in gravel yard	TC
050-200-158-000	WLM CONSTRUCTION INC		Commercial	Trailer	Rock yard	TC
050-350-013-000	ESTEP ASHLEY REVOCABLE TRUST	6721 CLARK RD	Vacant	No		TC
050-360-036-000	JPMORGAN CHASE BANK	6669 CLARK RD	Commercial	Yes		TC
050-360-037-000	TEGTMEIER ASSOCIATES INC	6701 CLARK RD	Commercial	Yes		TC
050-380-001-000	POTTS LESLIE J REV TRUST	1401 LOFTY LN	Vacant	No		TR
050-380-016-000	LEWIS JEFF & MALINDA FAMILY TRUST	9005 SKYWAY	Vacant	No		TR
050-380-017-000	POLKINGHORNE STEVEN G	9003 SKYWAY	Vacant	No		TR
050-380-018-000	PERRY CALVIN M III & LANETTE A ETAL	9001 SKYWAY	Vacant	No		TR
050-400-001-000	CONRAD ETHAN	6646 CLARK RD	Commercial	Yes		TC
050-400-005-000	CONRAD ETHAN	6616 CLARK RD	Commercial	Yes		TC
050-400-006-000	CONRAD ETHAN	6640 CLARK RD	Commercial	Yes	Empty	TC
050-400-007-000	CONRAD ETHAN	1490 WAGSTAFF RD	Vacant	No		TC
050-400-009-000	CONRAD ETHAN	6636 CLARK RD	Commercial	Yes		TC
050-400-010-000	CONRAD ETHAN	6626 CLARK RD	Commercial	Yes		TC
050-400-011-000	CONRAD ETHAN	6600 CLARK RD	Commercial	Yes		TC
050-400-012-000	CONRAD ETHAN	0 CLARK RD	Commercial	No	Parking lot	TC
050-400-015-000	MCCULLOUGH TRUST ESTATE	6574 CLARK RD	Commercial	Yes		TC
051-040-015-000	FOGARASSY ARPAD J	8697 SKYWAY	Single Family	Yes		TR
051-040-034-000	GOODEN FAMILY TRUST	8699 SKYWAY	Vacant	No		TR
051-101-001-000	CARRERA FABIAN GUADALUPE & MARIA IZABELLA	8693 SKYWAY	Single Family	Yes		TR
051-101-010-000	APPLE-SKEAHAN REVOCABLE TRUST	8655 SKYWAY	Vacant	No		NC
051-101-011-000	APPLE RUSSELL LIVING TRUST	8669 SKYWAY	Vacant	No		NC
051-101-012-000	DANG PHUC THI	8675 SKYWAY	Vacant	No		TR
051-101-017-000	PROVIDENT TRUST GROUP LLC FBO BEDSAUL KENNETH	8685 SKYWAY	Vacant	No		TR
051-102-010-000	MITTAG PENELOPE ANN	8596 SKYWAY	Single Family	Yes		TR
051-102-022-000	GROOS STEVEN P & ARLENE	8604 SKYWAY	Vacant	No		TR
051-102-024-000	GREYPOINT DEVELOPMENT LLC	8654 SKYWAY	Single Family	Yes		TR
051-102-026-000	SHUEY DIANA E TRUST	6571 ROCKY LN	Vacant	No		TR
051-102-029-000	SCOTT LESLIE & CONNIE H REVOCABLE LIVING TRUST	6561 ROCKY LN	Vacant	No		TR
051-102-030-000	STEWART CHRISTINA M	6563 ROCKY LN	Single Family	Yes		TR
051-102-031-000	PETERSON MARLEAU	8618 SKYWAY	Vacant	No		TR
051-102-032-000	BROLLIAR JOSEPH E & KIMBERLY D	8606 SKYWAY	Single Family	Yes		TR
051-102-036-000	STARK CAROL	8680 SKYWAY	Vacant	No	Electrical meter	TC
051-102-037-000	STARK CAROL	8670 SKYWAY	Vacant	No		TC
051-102-038-000	TALAMANTES FAMILY TRUST	6581 ROCKY LN	Single Family	Yes		TC
051-102-047-000	LE VICTOR VIET ETAL	8634 SKYWAY	Vacant	No		TR
051-104-025-000	HIGGINS GREGORY & JUDY	8561 SKYWAY	Vacant	No		TR
051-104-026-000	MORGAN DALE A	6563 MONTNA DR	Single Family	Yes		CS
051-104-031-000	ODOR FAMILY TRUST	8451 SKYWAY	Vacant	No		CS
051-104-032-000	MALHOTRA SATWANT	8435 SKYWAY	Vacant	No		CS
051-104-033-000	PATZER PAULETTE PAIGE ETAL	8423 SKYWAY	Single Family	Yes		CS

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
051-104-112-000	SOTO-SANTILLAN SANTIAGO & GUILLEN PATRICIA CHAVEZ	8645 SKYWAY	Vacant	No		TR
051-104-123-000	EILAND HARRY FLETCHER & MARYANN	6560 FIRLAND DR	Single Family	Yes		TR
051-104-131-000	WILSON MARC & SHERRY	8461 SKYWAY	Vacant	No		CS
051-104-153-000	JDC FAMILY TRUST	8621 SKYWAY	Vacant	No		TR
051-104-154-000	LINDGREN REVOCABLE TRUST	8615 SKYWAY	Vacant	No		TR
051-104-162-000	HOWARD ERIN & SHANNON JAMES	8637 SKYWAY	Vacant	No		TR
051-104-163-000	CONNOR FAMILY TRUST	8585 SKYWAY	Vacant	No		TR
051-104-166-000	WALLING CASSANDRA & PARISH ABRAHAM	8471 SKYWAY	Vacant	No		CS
051-104-167-000	JENSEN SUSIE	8481 SKYWAY	Vacant	No		CS
051-104-171-000	KNOWLES FAMILY TRUST	8601 SKYWAY	Vacant	No		NC
051-104-172-000	TAPPER JB LIVING TRUST	8491 SKYWAY	Vacant	No		CS
051-131-002-000	STUERMER NICOLE M REVOCABLE TRUST	8381 SKYWAY	Vacant	No		CS
051-131-013-000	DUBOSE FAMILY TRUST	SKYWAY	Commercial	Yes		TC
051-131-014-000	DUBOSE FAMILY TRUST	8337 SKYWAY	Vacant	Trailer	Commercial	TR
051-131-017-000	CALIFORNIA VOCATIONS INC	8279 SKYWAY	Commercial	Yes		TC
051-131-019-000	MALHOTRA SATWANT KAUR ETAL	8247 SKYWAY	Commercial	Yes		TC
051-132-029-000	PENTECOSTAL CHURCH OF GOD NORTHERN DISTRICT OF CAL	1147 WAGSTAFF RD	Commercial	Yes		TC
051-132-031-000	HEGENBART ERIC J & HEGENBART HELEN L	8322 SKYWAY	Vacant	No	Trucks on property	TC
051-132-033-000	GILBERTSON KURT L & KIM A	8354 SKYWAY	Vacant	No		TC
051-132-035-000	COUNTY OF BUTTE	SKYWAY	Vacant	No	Site construction in progress	TC
051-132-038-000	VOLLMER DEREK	SKYWAY	Vacant	No		TR
051-132-042-000	NEWPORT FEDERAL	8566 SKYWAY	Vacant	No		NC
051-132-051-000	SADLER MATTHEW OWEN & TAMMY RENEE	8336 SKYWAY	Vacant	No		TC
051-132-059-000	HOWARD SHANNON JAMES & ERIN REV INTER VIVOS TRUS	8556 SKYWAY	Single Family	Yes		NC
051-132-070-000	OBRIEN TERESE M	1214 ARLENE WAY	Vacant	No		TR
051-132-071-000	LANSER RICHARD J	1220 ARLENE WAY	Vacant	No		TR
051-132-096-000	DUNHAM ATHENIA MARIE	1196 ARLENE WAY	Vacant	No		TR
051-132-099-000	DAVIS TOMMY R & ALICIA D	8520 SKYWAY	Vacant	No		TR
051-132-100-000	HUDGENS VIOLET	8542 SKYWAY	Vacant	No		NC
051-132-104-000	STUKEY FLORICA ETAL	1217 ARLENE WAY	Single Family	Yes		TR
051-132-105-000	FOLEY FLORICA REV TRUST	1203 ARLENE WAY	Vacant	No		TR
051-132-114-000	BARTOK JOSEPH A	8548 SKYWAY	Vacant	No		NC
051-132-115-000	BARTOK JOSEPH A	1197 ARLENE WAY	Vacant	Trailer		NC
051-132-119-000	GIELOW PETE D	8386 SKYWAY	Vacant	No		TC
051-132-120-000	GIELOW PETE D	SKYWAY	Vacant	No		TC
051-132-124-000	SAIGE SEVEN	8272 SKYWAY	Vacant	No		TC
051-132-125-000	GUDGEL KASEY M	8450 SKYWAY	Vacant	No	Construction equipment present	TR
051-132-127-000	VOLLMER DEREK N	8466 SKYWAY	Single Family	Yes		TR
051-141-004-000	DEWELL REVOCABLE INTER VIVOS TRUST	8165 SKYWAY	Vacant	No		TC
051-141-006-000	SINGH PRABHJOT & KAUR AMANPREET	8229 SKYWAY	Commercial	Yes		TC
051-142-001-000	ROGERS ARVEL RUSSELL ESTATE	8132 SKYWAY	Vacant	Trailer		TC
051-142-010-000	BOWEN PATRICIA A ETAL	SKYWAY	Vacant	No		TC
051-142-012-000	SKYWAY FUELS INC	8226 SKYWAY	Commercial	Other	Abandoned gas station	TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
051-142-017-000	WANG JIN CAN & LI YAN XUE	8188 SKYWAY	Commercial	Yes		TC
051-142-019-000	HAIR FOTI MICHELLE ETAL	8200 SKYWAY	Commercial	Yes		TC
051-151-021-000	LEW CHESTER S	8083 SKYWAY	Vacant	No		TC
051-151-022-000	LEW DUAN LIVING TRUST	1037 THOMASSON LN	Vacant	Yes	Barn or shed	RR
051-151-063-000	SANCHEZ SHERYL ANE & EDDIE	8093 SKYWAY	Commercial	Yes		TC
051-151-071-000	PARADISE PACIFIC TRUST	8095 SKYWAY	Vacant	Trailer		TC
051-151-072-000	KHAN SUNNY F & MAIMUNA S	8099 SKYWAY	Vacant	No		TC
051-152-016-000	JOHNSON JEROME & MARY	7931 SKYWAY	Vacant	Trailer	Multiple trailers	TC
051-152-034-000	GILBERTSON FAMILY TRUST	7967 SKYWAY	Commercial	Yes		TC
051-153-001-000	PARADISE PINES CONGREGATION OF JEHOVAHS WITNESSES	7874 SKYWAY	Commercial	Yes		TC
051-153-004-000	DREWS RONALD E & SUZANNE C	7998 SKYWAY	Vacant	Trailer		TC
051-153-005-000	THOMPSON ADAM & ALYSSA	8030 SKYWAY	Vacant	Trailer		TC
051-153-006-000	LEW DUAN LIVING TRUST	8064 SKYWAY	Vacant	No		TC
051-153-008-000	MAHONEY CAPITAL LP	7974 SKYWAY	Vacant	No		TR
051-153-011-000	LASSEN GROUP LLC	8092 SKYWAY	Vacant	No		TC
051-153-012-000	SINGH KABDUL & KAUR MANJIT	8084 SKYWAY	Vacant	No		TC
051-153-013-000	MAHONEY CAPITAL LP	7974 SKYWAY	Vacant	No		TC
051-153-014-000	TALLEY RICHARD E	GREEN TREE CT	Commercial	Yes		TC
051-153-015-000	PIERCE DAVID & JEANNE FAMILY	1030 GREEN TREE CT	Single Family	Other	Shed	TC
051-153-016-000	ROSS JOHN ALLAN & MCCORMICK MICHELE LYN	1041 GREEN TREE CT	Vacant	No		TC
051-163-002-000	CRAWFORD REV INT VIV TRUST	7831 SKYWAY	Vacant	No		TC
051-163-003-000	TRAN QUY MANH ETAL	7809 SKYWAY	Vacant	No		TC
051-163-005-000	COOK RONALD & SHAUNDRA TRUST	7769 SKYWAY	Multi-Family	Yes		TC
051-163-006-000	KARLSTEDT STEVE	7745 SKYWAY	Vacant	No		TC
051-163-008-000	ROPP JOHN C	7691 SKYWAY	Vacant	No		TC
051-163-020-000	KARLSTEDT STEVEN	7717 SKYWAY	Vacant	No		TC
051-163-021-000	ROPP JOHN C	7707 SKYWAY	Vacant	No		TC
051-163-031-000	GARCIA ANTONIO RIVERA ETAL	7635 SKYWAY	Commercial	Yes		TC
051-163-032-000	FILLMORE LAURA REVOCABLE INTER VIVOS TRUST	969 BILLE RD	Commercial	Yes		TC
051-163-035-000	JAIN JAI KUMAR & NEELMAN	7785 SKYWAY	Vacant	No		TC
051-163-038-000	MOSELEY TRUST	7671 SKYWAY	Commercial	Yes		TC
051-163-039-000	CRAWFORD REVOCABLE INTER VIVOS TRUST	7837 SKYWAY	Vacant	No		TC
051-164-012-000	FISCHER DEVELOPMENT INC	7760 SKYWAY	Commercial	Yes	Building under construction	TC
051-164-019-000	WILLIAMS FAMILY SURVIVORS TRUST	1003 BILLE RD	Vacant	No	Combo with front parcel	TC
051-164-021-000	NEWPORT FEDERAL	7786 SKYWAY	Vacant	No		TC
051-164-032-000	JOHNSON CHRISTINE E SPECIAL NEEDS TRUST	1037 BILLE RD	Single Family	Yes		TR
051-164-033-000	MARJAMA FAMILY PARTNERS LP	1033 BILLE RD	Multi-Family	Yes	Duplex	TR
051-164-039-000	SCUDDER BILLY L & BARBARA J	1047 ROCHELLE LN	Vacant	No		MR
051-164-040-000	KAUR-KHAK HARPREET ETAL	1017 ROCHELLE LN	Vacant	No		MR
051-164-042-000	EVESLAGE WALLEEN Y LIVING TRUST	1009 BILLE RD	Commercial	No	Combo with left parcel	TR
051-164-044-000	RASER FAMILY TRUST	1019 BILLE RD	Multi-Family	Yes		TR
051-164-053-000	RRA RECONSTRUCTION & RECOVERY ADVISORS INC	7654 SKYWAY	Vacant	No		TC
051-164-054-000	PHILLIPS MATTHEW H & STACY	7816 SKYWAY	Commercial	No	Asphalt	TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
051-164-056-000	WILLIAMS FAMILY SURVIVORS TRUST	1001 BILLE RD	Commercial	Yes		TC
051-164-057-000	STATEWIDE HOMES INC	7668 SKYWAY	Commercial	Yes		TC
051-164-058-000	PHILLIPS MATTHEW H	7856 SKYWAY	Commercial	Yes		TC
051-164-060-000	SKYWAY VALUE LLC	7726 SKYWAY	Vacant	No		MR
051-164-061-000	STATEWIDE HOME INC	7686 SKYWAY	Vacant	Other	Unseated trailer homes on property	TC
051-164-062-000	UNITED PENTECOSTAL CHURCH OF PARADISE	1007 BILLE RD	Commercial	Yes	Church	TC
051-220-003-000	STICKEL FAMILY TRUST	5335 SKYWAY	Vacant	No		TC
051-220-005-000	HUANG ZHONG J & LANG QIU LI	5225 SKYWAY	Vacant	No		TC
051-220-006-000	HUANG ZHONG J & LANG QIU LI	5500 SCHMALE LN	Vacant	No		TR
051-220-009-000	GUEVARRA PHILIP	5526 SCHMALE LN	Vacant	No		TR
051-220-044-000	MAHINDRU VISHAL ETAL	5311 SKYWAY	Vacant	No		TC
051-220-048-000	ZWEIFEL TRUST ESTATE	4857 SKYWAY	Vacant	No		RR
051-220-052-000	DUNCAN LARRY R & SHIRLEY	4867 SKYWAY	Vacant	No		RR
051-220-053-000	PRINCE REV I V TRUST	4847 SKYWAY	Vacant	No		RR
051-220-054-000	SACHDEVA PROPERTIES LLC	5309 SKYWAY	Commercial	Yes		TC
051-220-055-000	DEVLIN THOMAS D TRUST	5520 SCHMALE LN	Vacant	No		TR
051-220-057-000	LOYAL ORDER OF MOOSE 2227 INC		Vacant	No		TC
051-220-065-000	PARADISE APARTMENTS LLC	4903 SKYWAY	Multi-Family	Yes		MR
051-220-069-000	PAKAN DANIEL EDWARD ETAL	5503 LONGVIEW DR	Multi-Family	Yes		MR
051-220-074-000	HORNER JARED H	5519 SCHMALE LN	Single Family	Yes		TR
051-220-075-000	HUANG ZHONG JUN & LANG QUI LI	5499 SCHMALE LN	Vacant	No		TR
051-220-076-000	IMHOFF RONALD & BARBARA REV MANAG TRUST	5507 SCHMALE LN	Multi-Family	Yes	Separate houses on lot	TR
051-220-077-000	SARMIENTO CONCEPCION M	5506 SCHMALE LN	Vacant	No		TR
051-220-088-000	SIERRA CENTRAL CREDIT UNION	5175 SKYWAY	Commercial	Yes		TC
051-220-103-000	FEATHER RIVER HOSPITAL	5125 SKYWAY	Commercial	Yes		TC
051-230-034-000	BEAN ROBERT L FAMILY TRUST	4712 SKYWAY	Vacant	No		RR
051-230-038-000	PRICE DENNIS D & MAYRA J	4736 SKYWAY	Vacant	No		TC
051-230-039-000	MCCREARY SEAN F & LISA D	4740 SKYWAY	Vacant	No		TC
051-230-040-000	MCCREARY SEAN F & LISA D	4742 SKYWAY	Commercial	Yes		TC
051-230-041-000	CANYON VIEW APARTMENTS LLC	4758 SKYWAY	Multi-Family	Yes		TC
051-230-042-000	HOWARD FAMILY TRUST	4770 SKYWAY	Vacant	No		TC
051-230-047-000	ANDERSON BROTHERS CORP RETIREMENT PLAN TRUST	SKYWAY	Vacant	No		TC
051-230-054-000	ANDERSON BROTHERS CORPORATION	4716 SKYWAY	Vacant	No		TC
051-230-055-000	ANDERSON BROTHERS CORPORATION	4720 SKYWAY	Vacant	No		TC
051-230-058-000	HARTLEY KAYLA	4839 SKYWAY	Vacant	No		RR
051-440-001-000	COVERED BRIDGE PROPERTY LLC	3631 CONNIE CIR	Vacant	No		MR
051-440-002-000	COVERED BRIDGE PROPERTY LLC	3631 CONNIE CIR	Vacant	No		MR
051-440-003-000	COVERED BRIDGE PROPERTY LLC	3631 CONNIE CIR	Vacant	No		MR
051-440-004-000	COVERED BRIDGE PROPERTY LLC	3631 CONNIE CIR	Vacant	No		MR
051-440-005-000	COVERED BRIDGE PROPERTY LLC	3619 CONNIE CIR	Vacant	No		MR
051-440-006-000	COVERED BRIDGE PROPERTY LLC	3619 CONNIE CIR	Vacant	No		MR
051-440-007-000	COVERED BRIDGE PROPERTY LLC	3619 CONNIE CIR	Vacant	No		MR
051-440-008-000	COVERED BRIDGE PROPERTY LLC	3619 CONNIE CIR	Vacant	No		MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
051-440-009-000	COVERED BRIDGE PROPERTY LLC	3605 CONNIE CIR	Vacant	No		MR
051-440-010-000	COVERED BRIDGE PROPERTY LLC	3605 CONNIE CIR	Vacant	No		MR
051-440-011-000	COVERED BRIDGE PROPERTY LLC	3605 CONNIE CIR	Vacant	No		MR
051-440-012-000	COVERED BRIDGE PROPERTY LLC	3605 CONNIE CIR	Vacant	No		MR
051-440-013-000	COVERED BRIDGE PROPERTY LLC	3593 CONNIE CIR	Vacant	No		MR
051-440-014-000	COVERED BRIDGE PROPERTY LLC	3593 CONNIE CIR	Vacant	No		MR
051-440-015-000	COVERED BRIDGE PROPERTY LLC	3593 CONNIE CIR	Vacant	No		MR
051-440-016-000	COVERED BRIDGE PROPERTY LLC	3593 CONNIE CIR	Vacant	No		MR
051-440-017-000	COVERED BRIDGE PROPERTY LLC	3606 CONNIE CIR	Vacant	No		MR
051-440-018-000	COVERED BRIDGE PROPERTY LLC	3606 CONNIE CIR	Vacant	No		MR
051-440-019-000	COVERED BRIDGE PROPERTY LLC	3606 CONNIE CIR	Vacant	No		MR
051-440-020-000	COVERED BRIDGE PROPERTY LLC	3606 CONNIE CIR	Vacant	No		MR
051-440-021-000	COVERED BRIDGE PROPERTY LLC	3622 CONNIE CIR	Vacant	No		MR
051-440-022-000	COVERED BRIDGE PROPERTY LLC	3622 CONNIE CIR	Vacant	No		MR
051-440-023-000	COVERED BRIDGE PROPERTY LLC	3622 CONNIE CIR	Vacant	No		MR
051-440-024-000	COVERED BRIDGE PROPERTY LLC	3622 CONNIE CIR	Vacant	No		MR
051-440-025-000	COVERED BRIDGE PROPERTY LLC	3549 CONNIE CIR	Vacant	No		MR
051-440-026-000	COVERED BRIDGE PROPERTY LLC	3549 CONNIE CIR	Vacant	No		MR
051-440-027-000	COVERED BRIDGE PROPERTY LLC	3549 CONNIE CIR	Vacant	No		MR
051-440-028-000	COVERED BRIDGE PROPERTY LLC	3549 CONNIE CIR	Vacant	No		MR
051-440-029-000	COVERED BRIDGE PROPERTY LLC	3559 CONNIE CIR	Vacant	No		MR
051-440-030-000	COVERED BRIDGE PROPERTY LLC	3559 CONNIE CIR	Vacant	No		MR
051-440-031-000	COVERED BRIDGE PROPERTY LLC	3559 CONNIE CIR	Vacant	No		MR
051-440-032-000	COVERED BRIDGE PROPERTY LLC	3559 CONNIE CIR	Vacant	No		MR
051-440-033-000	COVERED BRIDGE PROPERTY LLC	3569 CONNIE CIR	Vacant	No		MR
051-440-034-000	COVERED BRIDGE PROPERTY LLC	3569 CONNIE CIR	Vacant	No		MR
051-440-035-000	COVERED BRIDGE PROPERTY LLC	3569 CONNIE CIR	Vacant	No		MR
051-440-036-000	COVERED BRIDGE PROPERTY LLC	3569 CONNIE CIR	Vacant	No		MR
051-440-037-000	COVERED BRIDGE PROPERTY LLC	3581 CONNIE CIR	Vacant	No		MR
051-440-038-000	COVERED BRIDGE PROPERTY LLC	3581 CONNIE CIR	Vacant	No		MR
051-440-039-000	COVERED BRIDGE PROPERTY LLC	3581 CONNIE CIR	Vacant	No		MR
051-440-040-000	COVERED BRIDGE PROPERTY LLC	3581 CONNIE CIR	Vacant	No		MR
051-440-098-000			Vacant	No		MR
051-440-099-000			Vacant	No		MR
052-012-052-000	AVILA NORBERTO S	6137 LUCKY JOHN RD	Vacant	No		MR
052-040-015-000	TITLED LAND COMPANY LLC	6061 WESTCHESTER WAY	Vacant	No		TC
052-040-069-000	AVILA NORBERTO SANCHEZ	7099 SKYWAY	Vacant	No	Regular food location	TC
052-040-084-000	YUHASZ JAMES Z	6186 CENTER ST	Vacant	No		MR
052-040-085-000	HOLLIS JAMES PAUL	6189 CENTER ST	Vacant	No		MR
052-040-088-000	MADSEN NORMAN & ELSE REVOCABLE TRUST	7020 SKYWAY	Commercial	Yes	Shared with other parcel	TC
052-040-089-000	CORNERSTONE DEVELOPMENT GROUP LLC	7030 SKYWAY	Commercial	Yes		TC
052-040-092-000	766 EDWARDS LLC	766 EDWARDS LN	Vacant	No		MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-040-093-000	PONDEROSA PROFESSIONAL CENTER LLC	6047 LUCKY JOHN RD	Vacant	Other	possible shed	TC
052-040-095-000	KEENAN GARY N & PAMELA	7039 SKYWAY	Vacant	No	Food truck area	TC
052-040-096-000	GREITZER GEOFFREY M	7067 SKYWAY	Vacant	No	Food truck area	TC
052-040-097-000	BENITO FAMILY BYPASS TRUST	6930 SKYWAY	Commercial	Yes		TC
052-040-098-000	IRONWOOD ENTERPRISES LLC	6970 SKYWAY	Vacant	No	Parking lot	TC
052-040-099-000	IRONWOOD ENTERPRISES LLC		Vacant	No		TC
052-040-100-000	IRONWOOD ENTERPRISES LLC	6084 SKYMEADOW WAY	Vacant	No		TC
052-040-101-000	IRONWOOD ENTERPRISES LLC	6072 SKYMEADOW WAY	Commercial	Yes		TC
052-040-102-000	PONDEROSA PROFESSIONAL CENTER LLC	7050 SKYWAY	Commercial	Yes		TC
052-040-103-000	LUNA JESUS PEREZ & GONZALEZ FLORA	7084 SKYWAY	Vacant	No		TC
052-040-104-000	THE SALVATION ARMY	7015 SKYWAY	Vacant	No	Foundation only	TC
052-040-105-000	YUHASZ JAMES Z	7025 SKYWAY	Vacant	No	Foundation only	TC
052-040-106-000	YUHASZ JAMES Z	7005 SKYWAY	Vacant	No		MR
052-050-063-000	PROTESTANT EPSCPL CH IN DIOCESE OF NO CA	5872 OLIVER RD	Commercial	Yes		CS
052-060-011-000	MAHINDRU VISHAL ETAL	6801 SKYWAY	Commercial	Yes		TC
052-060-013-000	CAPE COD MOBILE ESTATES LLC	6799 SKYWAY	Vacant	No	Empty shed	MR
052-060-016-000	BESS GARY M & RATEKIN CYNTHIA S REVOCABLE TRUST	6931 SKYWAY	Vacant	No		TC
052-060-018-000	US BANK OF CALIFORNIA	6817 SKYWAY	Commercial	Yes		TC
052-060-019-000	MAHONEY CAPITAL LP	6137 CENTER ST	Commercial	Yes		TC
052-060-020-000	BUTTE HFP LLC	6141 CENTER ST	Commercial	Yes		TC
052-060-026-000	THOMSON DONN & GERALDINE REV INT VIV TRUST	6177 CENTER ST	Vacant	No		TC
052-060-027-000	YUHASZ JAMES Z	6184 CENTER ST	Vacant	Yes	Storage shed	MR
052-060-028-000	PARADISE ASSOCIATION OF REALTORS	6178 CENTER ST	Vacant	No		TC
052-060-029-000	PARADISE ASSOCIATION OF REALTORS	6172 CENTER ST	Vacant	No		TC
052-060-030-000	LANDER CHRIS & WILMA FAMILY TRUST	6166 CENTER ST	Vacant	No		TC
052-060-033-000	BASS FAMILY TRUST	6146 CENTER ST	Commercial	Yes		TC
052-060-034-000	FULTON & ASSOCIATES LLC	6901 SKYWAY	Commercial	Yes		TC
052-060-037-000	MOOTZ REVOCABLE INTER VIVOS TRUST	6779 SKYWAY	Commercial	Yes		TC
052-060-038-000	SAINT GERMAIN FOUNDATION	6769 SKYWAY	Single Family	Yes		TC
052-060-039-000	BESS GARY M & CYNTHIA S RATEKIN REVOCABLE TRUST	6933 SKYWAY	Vacant	No		TC
052-060-040-000	HUANG ZHONG JUN & LANG QIU LI	6929 SKYWAY	Vacant	No		TC
052-060-041-000	LUNA JESUS PEREZ & GONZALEZ FLORA	6945 SKYWAY	Commercial	Yes		TC
052-060-042-000	CAMINO PROPERTIES LLC	6160 CENTER ST	O	Yes	Sheds	TC
052-060-043-000	NOR CA CONF OF SEVENTH DAY ADVENTISTS	6153 CENTER ST	Commercial	Yes		TC
052-060-044-000	THOMSON DONN & GERALDINE REVOCABLE I V TRUST	6165 CENTER ST	Vacant	No		TC
052-080-006-000	PARADISE LUTHERAN CHURCH	780 LUTHER DR	Commercial	Yes		CS
052-080-010-000	POE LARRY R & C RENEE	5985 MCCLAIN LN	Single Family	Yes		TR
052-080-011-000	BOCK WILLIAM & BIDA FAMILY TRUST	5977 MCCLAIN LN	Single Family	Yes		TR
052-080-012-000	KLEMPA REVOCABLE INTER VIVOS TRUST	5974 MCCLAIN LN	Commercial	Other	Shed and parking lot	TC
052-080-014-000	KLEMPA REVOCABLE INTER VIVOS TRUST	837 ELLIOTT RD	Vacant	No		TR
052-080-015-000	BATES MICHAEL L & JERRE A (CBVA)	5964 MCCLAIN LN	Single Family	Yes		TR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-080-021-000	HARO FAMILY TRUST	5836 MCCLAIN LN	Vacant	No		TR
052-080-025-000	FERTIG LUCILLE ANNE ETAL	5921 MCCLAIN LN	Vacant	No		TR
052-080-038-000	SPRAGUE JANELL & ANDREW LIVING TRUST	851 ELLIOTT RD	Vacant	No		TR
052-080-040-000	PARADISE UNIFIED SCHOOL DISTRICT	MAXWELL DR	Vacant	No	School	PI
052-080-041-000	TOWN OF PARADISE		Vacant	No		R
052-080-047-000	FALKENSTROM KENNETH L	797 LUTHER DR	Single Family	Yes		TR
052-080-049-000	CLAYTON KAYLEN & LAUREN	5989 MCCLAIN LN	Vacant	No		TR
052-080-051-000	WILLIAMS MATTHEW RAYMOND	5993 MCCLAIN LN	Single Family	Yes		TR
052-080-053-000	REIN TERESA L	5942 MCCLAIN LN	Vacant	No		TR
052-080-054-000	BIRTWELL LESLIE	5960 MCCLAIN LN	Vacant	No		TR
052-080-057-000	BOCK WILLIAM & BIDA FAMILY TRUST	5965 MCCLAIN LN	O	No	Yard for parcel to the north	TR
052-080-058-000	SINGH INDERPAL	5963 MCCLAIN LN	Vacant	No		TR
052-080-068-000	THOMAS GREGORY S & FALKENSTROM GINA	786 LUTHER DR	Single Family	Yes		TR
052-080-069-000	KENNEDY AMELIA H L ETAL	784 LUTHER DR	Vacant	No		TR
052-080-073-000	HALE MICHELLE E ETAL	827 ELLIOTT RD	Vacant	No		TC
052-080-074-000	YOUTH FOR CHANGE	841 ELLIOTT RD	Vacant	Other	Shed	TR
052-080-077-000	MERRITT INGRAHAM FAMILY TRUST	835 ELLIOTT RD	Vacant	No		TR
052-080-082-000	VAIL ALAN G & JANET M FAMILY TRUST	805 ELLIOTT RD	Vacant	No		TC
052-080-083-000	PFEIL TRUST	805 LUTHER DR	Vacant	No		TR
052-080-084-000	HIGNELL FAMILY PARADISE SHOPPING CENTER LLC	LUTHER DR	Vacant	No		TR
052-080-089-000	LAFABREGUE DAVID D & THOMAS BONNIE J FAMILY TRUST	804 LUTHER DR	Vacant	No		TR
052-080-090-000	LAFABREGUE DAVID D & THOMAS BONNIE J FAMILY TRUST	806 LUTHER DR	Vacant	No		TR
052-080-092-000	GARCIA FRANCISCO R & LEON JULIETA R	6808 SKYWAY	Commercial	Yes		TC
052-080-094-000	COUNTY OF BUTTE	6550 SKYWAY	Commercial	Yes		PI
052-080-095-000	WEAVER SAM J & JOSEFINA A ETAL	5913 MCCLAIN LN	Single Family	Yes		TR
052-080-097-000	MONARREZ JOSE ANTONIO & RODRIGUEZ-MONARREZ AURELIA	5903 MCCLAIN LN	Vacant	No		TR
052-080-099-000	PACIFIC GAS & ELECTRIC CO	5910 MCCLAIN LN	Commercial	Other	Power plant	TR
052-080-104-000	CAMINO PROPERTIES LLC	859 ELLIOTT RD	Vacant	No		TR
052-080-105-000	AUBURN STORAGE LLC	6800 SKYWAY	Commercial	Yes		TC
052-080-107-000	KLEMPA REVOCABLE INTER VIVOS TRUST	7010 SKYWAY	Commercial	Yes		TC
052-080-108-000	BRYNING KANDY S	815 ELLIOTT RD	Vacant	No		TC
052-080-109-000	HALE MICHELLE E ETAL	ELLIOTT RD	Vacant	No		TC
052-080-111-000	ROMAN CATHOLIC BISHOP OF SACRAMENTO	765 ELLIOTT RD	Commercial	Yes		CS
052-080-112-000	HIGNELL FAMILY PARADISE SHOPPING CENTER LLC	6848 SKYWAY	Commercial	Yes		TC
052-080-113-000	BURKETT FAMILY TRUST	795 ELLIOTT RD	Commercial	Yes		TC
052-090-017-000	LLAMAS DAVID	664 MEMORIAL WAY	Vacant	No		TR
052-090-018-000	BARKER TRAVIS L & AMY M	668 MEMORIAL WAY	Vacant	No		TR
052-090-019-000	COX CLAIRE A	672 MEMORIAL WAY	Single Family	Yes		TR
052-090-020-000	PHAM THAO	674 MEMORIAL WAY	Vacant	No		TR
052-090-021-000	GONZALES JULIAN F & ANDREA R	676 MEMORIAL WAY	Vacant	No		TR
052-090-022-000	HEALD SHERRY LEE	678 MEMORIAL WAY	Vacant	Trailer		TR
052-090-023-000	RAMSEY BARBARA A	680 MEMORIAL WAY	Vacant	Yes		TR
052-090-024-000	MONNEY PAUL KYLE & MARY ROSE	682 MEMORIAL WAY	Vacant	No		TR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-090-025-000	CONLY PAMELA A	684 MEMORIAL WAY	Vacant	No		TR
052-090-026-000	PATINO-DALE CARMEN I	6587 SKYWAY	Vacant	No		TC
052-090-027-000	HURLEY MILLER LIVING TRUST	6607 SKYWAY	Commercial	Yes		TC
052-090-028-000	PEREZ JESUS	692 MEMORIAL WAY	Vacant	No		TR
052-090-029-000	MANWILL GARALD R & SHAUNA L	688 MEMORIAL WAY	Vacant	No		TR
052-090-030-000	DAVIS ROBERT & MARLENE F	681 MEMORIAL WAY	Vacant	No		TR
052-090-031-000	YEAGER FAMILY TRUST	679 MEMORIAL WAY	Vacant	No		TR
052-090-032-000	LOTTI SUZANNE ESTATE	677 MEMORIAL WAY	Single Family	Yes		TR
052-090-035-000	STRUVE WILLIAM M JR & CHERYL	671 MEMORIAL WAY	Vacant	No		TR
052-090-036-000	SHERMAN JAY	665 MEMORIAL WAY	Single Family	Yes		TR
052-090-043-000	KEOBOUAHOM LOK & MANKHAMSENE KHEK	692 MICHAEL LN	Single Family	Yes		TR
052-090-046-000	COUNTY OF BUTTE	SKYWAY	Vacant	No		TC
052-090-047-000	KEOBOUAHOM LOK & MANKHAMSENE KHEK	6689 SKYWAY	Commercial	Yes		TC
052-090-050-000	STAUSS FAMILY TRUST	673 MEMORIAL WAY	Vacant	No		TR
052-090-056-000	STAUSS FAMILY TRUST	675 MEMORIAL WAY	Vacant	Trailer	2 RVs	TR
052-090-060-000	KENNEDY DANIEL R REVOCABLE TRUST ESTATE	6545 SKYWAY	Commercial	Yes		TC
052-090-062-000	KENNEDY DANIEL R REVOCABLE TRUST ESTATE	6500 SKYWAY	Commercial	Yes		TC
052-090-063-000	KENNEDY DANIEL R REVOCABLE TRUST ESTATE	6553 SKYWAY	Commercial	Yes		TC
052-090-064-000	TRILIGHT PROPERTIES LLC	6625 SKYWAY	Commercial	Yes		TC
052-090-998-000			Vacant	No		TR
052-110-060-000	LUNA JESUS PEREZ	5800 TANGLEWOOD DR	Vacant	No		TR
052-121-004-000	SERL BLAKE WILLIAM	684 ELLIOTT RD	Vacant	No		CC
052-121-011-000	HUANG ZHONG & LI LANG QIU	6393 SKYWAY	Commercial	Yes		CC
052-121-015-000	BENNETT LOREN G REVOCABLE I V TRUST	5831 WILDWOOD LN	Commercial	Yes		CC
052-121-016-000	BENNETT LOREN G REVOCABLE I V TRUST	WILDWOOD LN	Commercial	Yes		CC
052-121-020-000	GOETZ PERRY & DEBORA	5807 WILDWOOD LN	Vacant	No		CC
052-121-021-000	GOETZ PERRY G	5805 WILDWOOD LN	Vacant	No		CC
052-121-022-000	MADAAN RAJNI	5799 WILDWOOD LN	Vacant	No		CC
052-121-023-000	MADAAN RAJNI	5795 WILDWOOD LN	Vacant	No		CC
052-121-024-000	MARCUS STEVEN & LESLIE D CARLON REV TRUST	6349 SKYWAY	Vacant	No		CC
052-121-027-000	WHARTON TERRENCE BRADLEY SEPARATE PROPERTY TRUST	6319 SKYWAY	O	Yes	Mixed use commercial residential	CC
052-121-028-000	HUGGINS TERRY G & DEVVY K	6311 SKYWAY	Commercial	Yes		CC
052-121-032-000	PIERCE RONALD G & ONSUM PIERCE CAROL J	6405 SKYWAY	Commercial	Yes		CC
052-121-034-000	CROWDER STEVEN & LORI J	6345 SKYWAY	Vacant	No		CC
052-121-035-000	PHE LLC	6333 SKYWAY	Commercial	Yes		CC
052-121-039-000	MADAAN RAJNI B	BOQUEST BLVD	Vacant	No		CC
052-121-042-000	PEREZ LUNA JESUS	5827 WILDWOOD LN	Commercial	Yes		CC
052-121-043-000	FOUR BY FOUR INVESTMENT LLC	6407 SKYWAY	Commercial	Yes		CC
052-121-044-000	HUANG ZHONG JUN & LI LANG QIU	6433 SKYWAY	Commercial	Yes		CC
052-121-045-000	SINCLAIR RONALD D & KATHY A JT	6475 SKYWAY	Commercial	Yes		CC
052-121-046-000	TRAUTVETTER MICHAEL RICHARD	6457 SKYWAY	Vacant	No		CC
052-121-047-000	CASTALDO JOHN & JACKLYN REV TRUST	6371 SKYWAY	Commercial	Yes		CC



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-122-002-000	HUFF FAMILY TRUST	724 ELLIOTT RD	Vacant	No		CC
052-122-008-000	RANK JOHN AND SHERRY REVOCABLE IV TRUST	5951 ALMOND ST	Vacant	No		CC
052-122-019-000	STEELE REVOCABLE INTER VIVOS TRUST	6460 SKYWAY	Vacant	No		CC
052-122-020-000	STEELE REVOCABLE INTER VIVOS TRUST	SKYWAY	Vacant	No		CC
052-122-022-000	MCPHERRAN FAMILY TRUST	5911 ALMOND ST	Vacant	No		CC
052-122-023-000	CHILDERS CODY	5985 ALMOND ST	Single Family	Yes		CC
052-122-024-000	FOX PAULETTE J	5995 ALMOND ST	Vacant	No		CC
052-122-025-000	MCPHERRAN FAMILY TRUST	5925 ALMOND ST	Vacant	No		CC
052-122-026-000	PRIOLA GEORGE T & PETERSEN MARGARET V	5887 ALMOND ST	Vacant	No		CC
052-122-027-000	VALERO MARKETING & SUPPLY COMPANY	6490 SKYWAY	Vacant	No		CC
052-122-028-000	HOANG HUY	6390 SKYWAY	Commercial	Yes		CC
052-122-029-000	STEEL REVOCABLE INTER VIVOS TRUST	6426 SKYWAY	Vacant	No		CC
052-122-030-000	SKYWAY PARTNERS LLC	6400 SKYWAY	Commercial	Yes		CC
052-122-031-000	WARREN JON H & SUZANNE M REV LIVING TRUST	5973 ALMOND ST	Vacant	No		CC
052-122-032-000	PARROTT BRENT & ALEXIS LIVING TRUST	5975 ALMOND ST	Vacant	No		CC
052-122-033-000	VANBIBBER REVOCABLE INTER VIVOS TRUST	740 ELLIOTT RD	Commercial	Yes		CC
052-122-034-000	PRIOLA GEORGE T & PETERSEN MARGARET V	5907 ALMOND ST	Vacant	No		CC
052-122-999-000			Vacant	No		CC
052-123-001-000	HORYLEV FAMILY REV INTER VIVOS TRUST	749 WILLOW ST	Vacant	No		MR
052-123-002-000	COUNTY OF BUTTE	ALMOND ST	Vacant	No		CC
052-123-006-000	TITENSOR FAMILY TRUST	ALMOND ST	Vacant	No		CC
052-130-026-000	BOYS & GIRLS CLUB OF PARADISE RIDGE	509 INEZ WAY	Commercial	No		CC
052-130-032-000	BROSHEARS JAMES A & CYDNEY L	6265 SKYWAY	Commercial	Yes		CC
052-130-043-000	BOYS & GIRLS CLUBS OF THE NORTH VALLEY	6241 SKYWAY	Commercial	Yes		CC
052-130-044-000	TRZASKALSKI JENNIFER	6201 SKYWAY	Commercial	Yes		CC
052-130-045-000	TOWN OF PARADISE	6295 SKYWAY	Commercial	Yes		CC
052-130-049-000	TOWN OF PARADISE	6201 SKYWAY	Commercial	No		CC
052-141-001-000	CORBETT SOPHIA N REVOCABLE I V TRUST	5875 ALMOND ST	Vacant	No		CC
052-141-002-000	CORBETT SOPHIA N REVOCABLE I V TRUST	ALMOND ST	Vacant	No		CC
052-141-003-000	PUCKETT DONNIE & PHELAN-SMITH CAROL	5859 ALMOND ST	Vacant	No		CC
052-141-004-000	COMMUNITY RESOURCE COALITION INTERNATIONAL	5849 ALMOND ST	Vacant	No		CC
052-141-005-000	CORBETT SOPHIA N REVOCABLE I V TRUST	5847 ALMOND ST	Vacant	No		CC
052-141-006-000	LS PROPDROP LLC	6308 SKYWAY	Commercial	Yes		CC
052-141-007-000	ELLIS KRISTIN E	5789 ALMOND ST	Vacant	No		CC
052-141-008-000	VAUGHN THOMAS	5777 ALMOND ST	Vacant	No		CC
052-141-009-000	BURNS EDWARD J	5757 ALMOND ST	Vacant	No		CC
052-141-010-000	WEAVER ANNE G	757 FIR ST	Vacant	No		CC
052-141-011-000	MORALLI JOSEPH DEAN	739 FIR ST	Vacant	No		CC
052-141-012-000	LASSEN GROUP LLC	721 FIR ST	Vacant	No		CC
052-141-013-000	LASSEN GROUP LLC	725 FIR ST	Vacant	No		CC
052-141-015-000	MYERS BAKER FAMILY TRUST	691 FIR ST	Commercial	Yes		CC
052-141-016-000	PARADISE HORIZON LLC	6256 SKYWAY	Commercial	Yes		CC
052-141-017-000	LOVE VARLINSKY TRUST	6268 SKYWAY	Commercial	Yes		CC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-141-020-000	BURTON CHRISTINA U & CHARLES M	6294 SKYWAY	Commercial	Yes		CC
052-141-026-000	BELLER VICTOR	703 FIR ST	Vacant	No		CC
052-141-030-000	LEONARD FAMILY TRUST	6344 SKYWAY	Commercial	Yes		CC
052-141-031-000	LEONARD FAMILY TRUST	0 SKYWAY	Vacant	No		CC
052-141-032-000	PARADISE PACIFIC TRUST	6276 SKYWAY	Commercial	Yes		CC
052-142-001-000	STOVER STEPHEN W & JO ANN	716 WILLOW ST	Vacant	No		CC
052-142-004-000	PERKINS DANIEL TAYLOR	5799 BLACK OLIVE DR	Vacant	No		CC
052-142-005-000	CASTRO JANET	5769 BLACK OLIVE DR	Vacant	No		CC
052-142-006-000	MANWILL GARALD R & SHAUNA L	5747 BLACK OLIVE DR	Vacant	No		CC
052-142-007-000	MACHADO DARLA KAY	5735 BLACK OLIVE DR	Vacant	No		CC
052-142-008-000	CERVANTES SHANIECE ROSARIO & MELGAR-FILGUERA MARIO	795 FIR ST	Vacant	No		CC
052-142-010-000	SIERCKS BRUCE L & VALERIE L	5800 ALMOND ST	Vacant	No		CC
052-142-011-000	SAWYER YVONNE J	727 HAMMA DR	Single Family	Yes		CC
052-142-016-000	MILBAUER FAMILY TRUST	5758 ALMOND ST	Vacant	No		CC
052-142-017-000	BAILEY DONALD P & MYRA L REVOCABLE TRUST	5778 ALMOND ST	Vacant	No		CC
052-142-018-000	FISCHER ROBERT D ETAL	5860 ALMOND ST	Vacant	No		CC
052-142-019-000	MILLER MICHAEL ALAN	5811 BLACK OLIVE DR	Vacant	No		CC
052-142-020-000	SCHOTT DAVID C REVOCABLE INTER VIVOS TRUST	5851 A & B BLACK OLIVE DR	Single Family	Yes		CC
052-143-001-000	CORDEIRO LIVING TRUST	5734 BLACK OLIVE DR	Vacant	No		MR
052-143-002-000	CALDWELL CRAIG C & CHERYL D	5754 BLACK OLIVE DR	Vacant	No		MR
052-143-003-000	AMERICAN DREAM CONSTRUCTION INC	5772 BLACK OLIVE DR	Vacant	No	Foundation in progress	MR
052-143-004-000	DRAGAVON PAUL & MARY REGINA DAWSON REVOCABLE LIVIN	5798 BLACK OLIVE DR	Vacant	No		MR
052-143-005-000	FOSTER MARK B & DAWN D	5806 BLACK OLIVE DR	Single Family	Yes		MR
052-143-006-000	HENEGAR JORDAN	5826 BLACK OLIVE DR	Single Family	Yes		MR
052-143-010-000	HOWE MATTHEW	5726 BLACK OLIVE DR	Vacant	No		MR
052-150-004-000	SS SERVICES INC	5867 QUEEN DR	Commercial	Yes		TC
052-150-005-000	WATERS JOHN A & LORRAINE M	5861 QUEEN DR	Vacant	No		TR
052-150-006-000	MASSEY KENT & MICHELLE REV LIVING TRUST	5851 QUEEN DR	Vacant	No		TR
052-150-007-000	MASSEY KENT & MICHELLE REV LIVING TRUST	5845 QUEEN DR	Single Family	Yes		TR
052-150-008-000	MASSEY KENT & MICHELLE	5837 QUEEN DR	Vacant	No		TR
052-150-009-000	BATCHEL-MIR SANDRA	5825 QUEEN DR	Single Family	Yes		TR
052-150-010-000	POSTLER ALFRED & BRAMBLEBERRY NILI	802 VIOLET WAY	Vacant	No		TR
052-150-011-000	EASTMAN DANIEL M & MICHELLE	810 VIOLET WAY	Single Family	Yes		TR
052-150-012-000	RITZA ASHLEY D	809 VIOLET WAY	Vacant	No		TR
052-150-013-000	ANDERSON SANDRA K REVOCABLE TRUST	5836 QUEEN DR	Vacant	No		TR
052-150-014-000	STEELE VICKIE A	802 WINDSOR DR	Vacant	No		TR
052-150-015-000	HERRERA JOSE B V & AGUIRRE MARTHA LILIA M	810 WINDSOR DR	Vacant	No		TR
052-150-016-000	CHAVEZ FRANCISCO JAVIER MEDINA	805 WINDSOR DR	Vacant	No		TR
052-150-028-000	MARTIN JOHN THOMAS	800 ELLIOTT RD	Single Family	Yes		TC
052-150-029-000	SEE RYAN & NATASHA	801 WINDSOR DR	Vacant	No		TR
052-150-030-000	STEINEMAN LIDIA R FAMILY TRUST	828 ELLIOTT RD	Single Family	Yes		TC
052-150-033-000	CAMINO PROPERTIES LLC	860 ELLIOTT RD	Vacant	No		MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-150-036-000	MAHONEY CAPITAL LP	840 ELLIOTT RD	Vacant	No		MR
052-150-037-000	WILSON RAYMOND HARRY & TERRY J	816 ELLIOTT RD	Vacant	No		TC
052-150-038-000	KEITH JAYNE A	5846 TULIP LN	Vacant	No		TR
052-150-039-000	RALSTON DANIEL K	5824 TULIP LN	Single Family	Yes		TR
052-150-044-000	BERNDT ROBERT P TRUST	5851 JAMES DR	Multi-Family	Yes		MR
052-150-045-000	BERNDT ROBERT P TRUST	5849 JAMES DR	Vacant	No		MR
052-150-046-000	BERNDT TRUST ETAL	5847 JAMES DR	Single Family	Yes		MR
052-150-047-000	BERNDT TRUST	5845 JAMES DR	Vacant	Other	Prefab home not places	MR
052-150-048-000	BERNDT TRUST	5842 JAMES DR	Vacant	No		MR
052-150-049-000	BERNDT TRUST	5844 JAMES DR	Vacant	No		MR
052-150-050-000	NEDELKOW KIMBERLY	5846 JAMES DR	Vacant	No		MR
052-150-051-000	NEDELKOW KIMBERLY	5848 JAMES DR	Vacant	No		MR
052-150-053-000	SCHOTT JAMES ALLEN LIVING TRUST	5952 ALMOND ST	Vacant	No		CC
052-150-054-000	SCHOTT JAMES ALLEN LIVING TRUST	ALMOND ST	Vacant	No		MR
052-150-055-000	PACIFIC GAS & ELECTRIC CO		Commercial	Trailer		CS
052-150-056-000	PACIFIC TELEPHONE & TELEGRAPH COMPANY		Commercial	Yes		CS
052-150-057-000	TITENSOR FAMILY TRUST	6030 ALMOND ST	Vacant	No		CC
052-160-003-000	SMITH KARA J LIVING TRUST	766 WILLOW ST	Single Family	Yes		MR
052-160-004-000	SMITH KARA J LIVING TRUST	772 WILLOW ST	Vacant	No		MR
052-160-010-000	BLUNCK DAPHNE L	773 WILLOW ST	Vacant	No		MR
052-160-011-000	EVANISKO SASHA M ETAL	780 WILLOW ST	Vacant	No		MR
052-160-013-000	SCHOTT DAVID C REVOCABLE INTER VIVOS TRUST	759 WILLOW ST	Vacant	Trailer		MR
052-160-014-000	ARMPFIELD SOMBOON ETAL	779 WILLOW ST	Single Family	Yes		MR
052-160-015-000	WEST FAMILY HOMES INC	5838 BLACK OLIVE DR	Vacant	No		MR
052-160-018-000	SHADOWBROOK VILLA LLC	443 NUNNELEY RD	Multi-Family	Yes		MR
052-160-019-000	WEST FAMILY HOMES INC	5848 BLACK OLIVE DR	Multi-Family	Yes		MR
052-170-042-000	NEEDHAM GERALDINE M	6729 SKYWAY	Vacant	No		TC
052-170-043-000	NEEDHAM DAVID	6717 SKYWAY	Vacant	No		TC
052-170-044-000	NEEDHAM RANDY	6995 SKYWAY	Vacant	No		TC
052-182-044-000	POWELL-HANLEY LAURA MARIE	5604 JEWELL RD	Single Family	Yes		TC
052-182-085-000	BILLINGS DAVID L & BOWEN-BILLINGS DEBORAH J	5675 SKYWAY	Vacant	No		TC
052-182-086-000	MAHONEY CAPITAL LP	5737 SKYWAY	Vacant	No		TC
052-182-087-000	WILLIAMS WILLIAM D LIVING TRUST	5747 SKYWAY	Vacant	No		TC
052-182-090-000	MAHONEY CAPITAL LP	5701 SKYWAY	Vacant	No		TC
052-182-091-000	WOODCOX EUGENE A & PAMELA J REVOCABLE FAMILY TRUST	5757 SKYWAY	Vacant	No		TC
052-182-092-000	UDOVICH SKYWAY TRUST ESTATE	5795 SKYWAY	Vacant	No		TC
052-182-093-000	ERNST GREGORY	5651 SKYWAY	Vacant	No		TC
052-182-094-000	OLSON GARY & STACEY	5691 SKYWAY	Vacant	No		TC
052-191-001-000	DUNCAN LARRY R & SHIRLEY	6197 SKYWAY	Vacant	No		CC
052-191-002-000	DUNCAN LARRY R & SHIRLEY	6189 SKYWAY	Vacant	No		CC
052-191-003-000	SOTO-SANTILLAN SANTIAGO & GUILLEN PATRICIA CHAVEZ	6177 SKYWAY	Vacant	No		CC
052-191-004-000	MARCUS STEVEN & LESLIE D CARLON REV TRUST	6171 SKYWAY	Vacant	No		CC
052-191-005-000	MARCUS STEVEN & LESLIE CARLON REV TRUST	6165 SKYWAY	Vacant	No		CC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-191-006-000	DSM DEVELOPMENT LLC	6149 SKYWAY	Vacant	No		CC
052-191-007-000	KAHLON AMARJEET & PARMINDER REV TRUST	6145 SKYWAY	Vacant	No		CC
052-191-009-000	WINELAND LINDA SUE REVOCABLE I V TRUST	3851 HONEY RUN RD	Vacant	No		RR
052-191-014-000	STEIN FAMILY TRUST ETAL	6141 SKYWAY	Vacant	No		CC
052-191-019-000	WHITEMAN STEPHEN PAUL & DIANNE M JT	3867 HONEY RUN RD	Vacant	No		CC
052-191-021-000	GILLESPIE HOLLY	6133 SKYWAY	Vacant	No		CC
052-191-024-000	ROBINSON EFREN & ADRIANA	6119 SKYWAY	Vacant	No		CC
052-192-001-000	TOWN OF PARADISE	6148 SKYWAY	Vacant	No		CC
052-192-006-000	FU JOHN & JIN LI	605 BIRCH ST	Commercial	No		CC
052-192-014-000	MILLER FLOYD & NELDA FAMILY TRUST	5999 FOSTER RD	Vacant	No		CC
052-192-015-000	ESTRADA DONALD & BILLE	6118 SKYWAY	Commercial	Yes		CC
052-193-002-000	TAFT FAMILY TRUST	6087 SKYWAY	Vacant	No		CC
052-193-011-000	FU JOHN & JIN LI	6011 SKYWAY	Vacant	No		CC
052-193-019-000	HOWARD FAMILY TRUST	6009 SKYWAY	Vacant	No		CC
052-193-020-000	CLEWETT STANLEY P LIVING TRUST ESTATE	6051 SKYWAY	Vacant	No		CC
052-193-021-000	CLEWETT STANLEY P LIVING TRUST ESTATE	6059 SKYWAY	Vacant	No		CC
052-193-022-000	HOLLIDAY JARROD & KELLY	6067 SKYWAY	Commercial	Yes		CC
052-193-025-000	FU JOHN & JIN LI	6041 SKYWAY	Vacant	No	In construction	TC
052-194-002-000	WILLIAM HAMILTON LLC	5949 FOSTER RD	Vacant	No		CC
052-194-003-000	FARREY RANDY E & CYNTHIA A	99 PEARSON RD	Vacant	No		CC
052-194-004-000	PRIOLA GEORGE THEODORE & PETERSON MARGARET V	67 PEARSON RD	Vacant	No		CC
052-194-006-000	FLAHERTY BRIAN E	6060 SKYWAY	Vacant	No		CC
052-194-008-000	PRIOLA GEORGE THEODORE & PETERSEN MARGARET V	45 PEARSON RD	Vacant	No		CC
052-194-009-000	WEBER HERB SS	35 PEARSON RD	Vacant	No		CC
052-194-010-000	PARADISE PACFIC TRUST	6020 SKYWAY	Vacant	Yes		CC
052-194-013-000	PARADISE PACFIC TRUST	6044 SKYWAY	Vacant	No		CC
052-194-014-000	FLAHERTY BRIAN	6064 SKYWAY	Vacant	No		CC
052-194-015-000	FLAHERTY BRIAN E & ROSS ESPERANZA	592 BIRCH ST	Vacant	No		CC
052-201-001-000	PERRY LANCE DOUGLAS	688 FIR ST	Commercial	Yes	Appears abandoned	CC
052-201-002-000	WANEE EMERY JEFFREYS & LUCILLE B TRUST	700 FIR ST	Vacant	No		CC
052-201-003-000	STEMPLE RICK & PATTI LIVING TRUST	710 FIR ST	Vacant	No		CC
052-201-004-000	BATTLE LEO A & THERESA M ETAL	722 FIR ST	Vacant	No		CC
052-201-005-000	WILLIAMS FAMILY TRUST ETAL	732 FIR ST	Vacant	No		CC
052-201-006-000	MCCARTHY BRENT M & JENNA L	750 FIR ST	Vacant	No		CC
052-201-007-000	TEETER REV INTER VIVOS TRUST	758 FIR ST	Vacant	No		CC
052-201-008-000	TEETER REV INTER VIVOS TRUST	FIR ST	Vacant	No		CC
052-201-009-000	TEETER REV INTER VIVOS TRUST	5729 ALMOND ST	Vacant	No		CC
052-201-010-000	NEWTON BRACEWELL INC	5691 ALMOND ST	Commercial	Other	Shed	CC
052-201-013-000	HEIN FAMILY TRUST	5675 ALMOND ST	Vacant	No		CC
052-201-015-000	LYONS PAUL C TRUST	5605 ALMOND ST	Commercial	Yes		CC
052-201-018-000	BELLER VICTOR CRAIG	6044 FOSTER RD	Single Family	Yes		CC
052-201-029-000	WARREN JEREMY L & PAULA N	5669 ALMOND ST	Vacant	No		CC
052-201-030-000	NEWTON BRACEWELL INC	5691 ALMOND ST	Commercial	Yes		CC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-201-031-000	MEANS FAMILY TRUST	6036 FOSTER RD	Vacant	No		CC
052-201-032-000	MEANS FAMILY TRUST	FOSTER RD	Commercial	No	Parking	CC
052-201-033-000	LYONS PAUL C TRUST	BIRCH ST	Vacant	Yes		CC
052-201-034-000	MANGRUM FAMILY TRUST	5655 ALMOND ST	Vacant	No		CC
052-201-036-000	COLGRAVE REVOCABLE IV BYPASS TRUST	5990 FOSTER RD	Commercial	Yes		CC
052-201-037-000	JAMES CHARLES A FAMILY TRUST	6226 SKYWAY	Vacant	No		CC
052-201-038-000	ELY MARSHALL & BARBARA FAMILY TRUST	6196 SKYWAY	Vacant	No		CC
052-201-039-000	HANSON GENEVA REVOCABLE TRUST ESTATE	6052 FOSTER RD	Vacant	No		CC
052-202-001-000	WILLIAMS FAMILY SURVIVORS TRUST ETAL	800 FIR ST	Vacant	No		CC
052-202-002-000	SMITH VICKY L	822 FIR ST	Vacant	No		CC
052-202-003-000	COLLETT MARY MARGARET REV LIVING TRUST	834 FIR ST	Vacant	No		CC
052-202-004-000	COLLETT MARY MARGARET REV LIVING TRUST	5691 BLACK OLIVE DR	Vacant	No		CC
052-202-006-000	BERNDT DE PINEDA RHONDA L	5718 ALMOND ST	Vacant	No		CC
052-202-007-000	PARADISE COMMUNITY COUNCIL INC	5726 ALMOND ST	Vacant	No		CC
052-202-013-000	HORNING M C JR	805 CEDAR ST	Vacant	No		CC
052-203-001-000	TOWN OF PARADISE	ALMOND ST	Commercial	No		CC
052-203-012-000	TOWN OF PARADISE		Commercial	No	Parking	CC
052-203-024-000	TOWN OF PARADISE	767 BIRCH ST	Commercial	Yes		CC
052-203-025-000	TOWN OF PARADISE		Commercial	No	next to fire station	CC
052-203-026-000	TOWN OF PARADISE	767 BIRCH ST	Commercial	Yes		CC
052-203-028-000	TOWN OF PARADISE	5595 BLACK OLIVE DR	Commercial	No		CC
052-203-029-000	TOWN OF PARADISE	5595 BLACK OLIVE DR	Commercial	Yes		CC
052-203-030-000	TOWN OF PARADISE CORP	822 CEDAR ST	Commercial	No		CC
052-203-031-000	TOWN OF PARADISE	ALMOND ST	Commercial	No		CC
052-203-032-000	TOWN OF PARADISE	5631 BLACK OLIVE DR	O	Yes	Mix use	CC
052-203-033-000	TOWN OF PARADISE	5619 BLACK OLIVE DR	Commercial	Yes		CC
052-203-034-000	TOWN OF PARADISE		Commercial	Yes		CC
052-204-001-000	MADSEN NORMAN B & ELSE M REVOCABLE TRUST	5680 BLACK OLIVE DR	Vacant	No		PI
052-204-002-000	MADSEN NORMAN B & ELSE M REVOCABLE TRUST	5704 BLACK OLIVE DR	Vacant	No		PI
052-204-003-000	MORRIS JASON A	5731 SCOTTWOOD RD	Vacant	No		TR
052-204-004-000	EPPERSON THEODORE G JR	5727 SCOTTWOOD RD	Vacant	No		TR
052-204-005-000	DECHTER LORRAINE	5721 SCOTTWOOD RD	Single Family	Yes		TR
052-204-006-000	SAKSCHIEWSKI DAVID & KORENE	5715 SCOTTWOOD RD	Vacant	No		TR
052-204-008-000	TOWN OF PARADISE	5588 BLACK OLIVE DR	O	No	Parking	CS
052-204-009-000	TOWN OF PARADISE	5602 BLACK OLIVE DR	O	No	Parking lot	CS
052-204-010-000	TOWN OF PARADISE	0 BLACK OLIVE DR	Commercial	No		R
052-204-012-000	MADSEN NORMAN B & ELSE M REVOCABLE TRUST	5680 BLACK OLIVE DR	Vacant	No		PI
052-211-006-000	MARTIN JOHN T	5915 SKYWAY	Commercial	Yes		TC
052-211-007-000	SAFEWAY INC	5887 SKYWAY	Vacant	No		TC
052-211-010-000	BREED DAVID	505 FRIENDLY WAY	Vacant	No		TC
052-211-011-000	BANNER MOUNTAIN FAMILY TRUST	508 FRIENDLY WAY	Vacant	No		TC
052-211-021-000	SAFEWAY INC	5833 SKYWAY	Vacant	No		TC
052-211-031-000	WILSON TRUST ETAL	5995 SKYWAY	Commercial	Yes		TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-211-035-000	5933 SKYWAY LLC	5933 SKYWAY	Vacant	No		TC
052-211-036-000	SAFEWAY INC	5851 SKYWAY	Vacant	No		TC
052-211-037-000	SAFEWAY INC	5825 SKYWAY	Vacant	No		TC
052-211-041-000	LARRY KNIFONG INC	SKYWAY	Vacant	No		TC
052-211-045-000	MULHOLLAND RHONDA LYNN	572 BARBARA WAY	Multi-Family	Yes		TC
052-212-001-000	MUCHAMEL JEFF & HAYAT FAMILY TRUST	10 PEARSON RD	Vacant	No		CC
052-212-003-000	LAWSON JON R & SHERYL A	52 PEARSON RD	Vacant	No		CC
052-212-004-000	SILBERISEN JONATHAN & LITA	72 PEARSON RD	Single Family	Yes		CC
052-212-005-000	SKYWAY PARTNERS LLC	92 PEARSON RD	Vacant	No		CC
052-212-006-000	CAREWAY-MARTINEZ VONDA	108 PEARSON RD	Vacant	Trailer		TR
052-212-007-000	DI DUCA BENEDICT C REV TRUST	5863 FOSTER RD	Vacant	No		TR
052-212-009-000	CALDWELL LIVING TRUST	577 OAKWOOD LN	Vacant	No		TR
052-212-012-000	HAMLIN MICHELLE Y	549 OAKWOOD LN	Vacant	No		TR
052-212-013-000	HAMLIN MICHELLE YVONNE & PSICK ZACHARY EDWARD	533 OAKWOOD LN	Vacant	No		TC
052-212-014-000	A M FOOD & LIQUOR CORPORATION	525 OAKWOOD LN	Vacant	No		TC
052-212-017-000	MUCHAMEL JEFF & HAYAT FAMILY TRUST	5974 SKYWAY	Vacant	No		CC
052-212-019-000	MUCHAMEL JEFF & HAYAT	5944 SKYWAY	Vacant	No		TC
052-212-020-000	A M FOOD & LIQUOR CORPORATION	26 PEARSON RD	Vacant	No		CC
052-212-021-000	A & M FOOD LIQUOR CORP A CALIF CORP	20 PEARSON RD	Vacant	No		CC
052-212-022-000	TANIPE CORP	597 OAKWOOD LN	Single Family	Yes		TR
052-212-023-000	DALLA FAMILY TRUST	587 OAKWOOD LN	Multi-Family	Yes		TR
052-212-024-000	WILLIAMS ANNA LEE ETAL	569 OAKWOOD LN	Vacant	No		TR
052-212-025-000	VRBETA LIVING TRUST	561 OAKWOOD LN	Vacant	No		TR
052-213-002-000	GARCIA MARTIN RIVERA & DERIVERA ADRIANA GARCIA REV	502 OAKWOOD LN	Single Family	Yes		TC
052-213-003-000	RUIZ RAMON JR & TIFFANY MARIE	510 OAKWOOD LN	Vacant	No		TC
052-213-004-000	BALSAMO LOUIS W III ETAL	530 OAKWOOD LN	Vacant	No		TR
052-213-007-000	PHOENIX COMMUNITY INITATIVE LLC	5177 BLACK OLIVE DR	Single Family	Yes	Building being built possible multi family	TR
052-213-010-000	VRBETA LIVING TRUST	574 OAKWOOD LN	Vacant	No		TR
052-213-011-000	FROST JAMES R	546 OAKWOOD LN	Multi-Family	Yes		TR
052-213-012-000	BORDIN-HUITT MARIE REVOCABLE TRUST	5179 BLACK OLIVE DR	Vacant	No		TR
052-213-013-000	BORDIN-HUITT MARIE REVOCABLE TRUST	5183 BLACK OLIVE DR	Vacant	No		TR
052-213-016-000	PARSONS FAMILY TRUST	5924 SKYWAY	Vacant	No		TC
052-213-019-000	STAMPS CHRISTINE C TRUST	5848 SKYWAY	Vacant	No		TC
052-213-020-000	STAMPS CHRISTINE C TRUST	5848 SKYWAY	Vacant	No		TC
052-213-021-000	STAMPS CHRISTINE C TRUST	BLACK OLIVE DR	Vacant	No		TC
052-213-023-000	FLAHERTY BRIAN	0 SKYWAY	Vacant	No		TC
052-213-024-000	STAHL FAMILY TRUST	5880 SKYWAY	Vacant	No		TC
052-213-025-000	CHANCE AENEAS & VERA-CHANCE LITA M	5850 SKYWAY	Vacant	No		TC
052-221-001-000	BELL ABIGAIL GRACE ETAL	BIRCH ST	Vacant	No		CC
052-221-002-000	WEST JOHN F & ANN W	700 BIRCH ST	Multi-Family	Yes		CC
052-221-004-000	KIBBE TRUST	5551 ALMOND ST	Commercial	Yes		CC
052-221-006-000	ARINO JEFFERSON L & LUCY ANN	119 PEARSON RD	Commercial	Yes		CC
052-221-007-000	TURNER WILLIAM B	5922 FOSTER RD	Commercial	No	Parking	CC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-221-010-000	BELLER VICTOR	5577 ALMOND ST	Single Family	Yes		CC
052-221-011-000	LYONS PAUL C TRUST	BIRCH ST	Vacant	No		CC
052-221-012-000	JOYNER TREVOR A	145 PEARSON RD	Commercial	Yes		CC
052-222-001-000	BULLOCK WARREN & CHARYL	5580 ALMOND ST	Commercial	Yes		CC
052-222-002-000	HAUGSE FAMILY TRUST	770 BIRCH ST	Commercial	Yes		CC
052-222-003-000	AU PATRICK ETAL	774 BIRCH ST	Commercial	Yes		CC
052-222-005-000	OROVILLE HOSPITAL	5543 BLACK OLIVE DR	Commercial	Yes		CC
052-222-006-000	OROVILLE HOSPITAL	5537 BLACK OLIVE DR	Commercial	Yes		CC
052-222-011-000	PARADISE ART CENTER	5564 ALMOND ST	Commercial	Yes		CC
052-222-012-000	BULLOCK CHARYL SUZANNE & WARREN BENJAMIN	5574 ALMOND ST	Vacant	No	Commercial alley	CC
052-222-015-000	TOWN OF PARADISE	786 BIRCH ST	Vacant	No	Fire dept parking	CC
052-222-017-000	SOETH REVOCABLE INT VIV TRUST	205 PEARSON RD	Commercial	Yes		CC
052-222-018-000	SMITH EDWARD N & MARILYN A	175 PEARSON RD	Vacant	No		CC
052-222-019-000	MANSELL DONALD E & GRACE	153 PEARSON RD	Vacant	No		CC
052-223-002-000	HIGHTOWER ROBERT L	5699 SCOTTWOOD RD	Vacant	No		TR
052-223-008-000	CRAIG MEMORIAL CONGREGATIONAL CHURCH OF PARADISE	307 PEARSON RD	Vacant	No		CS
052-223-009-000	CRAIG MEMORIAL CONGREGATIONAL CHURCH	291 PEARSON RD	Vacant	No		CS
052-223-011-000	FREEDLE CLINT & ZWICKER MARY	5424 BLACK OLIVE DR	Vacant	No		TC
052-223-012-000	FREEDLE CLINT & ZWICKER MARY L	5446 BLACK OLIVE DR	Vacant	No		TC
052-223-013-000	FREEDLE CLINT & ZWICKER MARY L	5446 BLACK OLIVE DR	Vacant	No		CC
052-223-021-000	EBENEZER TRUST	5687 SCOTTWOOD RD	Vacant	No		TR
052-223-022-000	CROSSEN ADRIA	5693 SCOTTWOOD RD	Vacant	No		TR
052-223-023-000	BENSEL CONNIE	5697 SCOTTWOOD RD	Single Family	Yes		TR
052-223-026-000	CRAIG MEMORIAL CONGREGATIONAL CHURCH	5665 SCOTTWOOD RD	Commercial	No		CS
052-223-028-000	BOIVIE LAWRENCE S & DEBORAH KISLINGBURY	5709 SCOTTWOOD RD	Vacant	No		TR
052-223-029-000	HARTLEY REVOCABLE INTER VIVOS TRUST	220 PEARSON RD	Commercial	Yes		CC
052-223-030-000	TOWN OF PARADISE	5570 BLACK OLIVE DR	Commercial	Yes		CS
052-223-031-000	TOWN OF PARADISE	5456 BLACK OLIVE DR	Vacant	No		CC
052-224-002-000	KOJIMA SHIGEO & TOMOYO MOMO	136 PEARSON RD	Vacant	No		CC
052-224-003-000	KOJIMA SHIGEO & TOMOYO MOMO	140 PEARSON RD	Vacant	No		CC
052-224-004-000	SMITH ANDREW W & NIKKI JO	148 PEARSON RD	Vacant	No		CC
052-224-009-000	STANWOOD JAMES TANNER	130 PEARSON RD	Vacant	No		CC
052-224-010-000	PINE BRUCE C & WENDY B	5461 ALMOND ST	Vacant	No		TC
052-224-011-000	HANCOCK EUGENE C & DARLENE G	5808 FOSTER RD	Vacant	No		TC
052-225-004-000	SIINO JOSEPH	208 PEARSON RD	Vacant	Yes		CC
052-225-011-000	YOUSEFI KAMRAN & MIRFARSI SAHAR	5435 BLACK OLIVE DR	Vacant	No		CC
052-225-012-000	NOLL REV TRUST	5415 BLACK OLIVE DR	Single Family	Yes		TC
052-225-013-000	WILSON RAYMOND H & TERRY JEANINNE JT	5403 BLACK OLIVE DR	Single Family	Yes		TC
052-225-014-000	CAUNTAY BENJAMIN H ETAL	5381 BLACK OLIVE DR	Single Family	Yes		TC
052-225-015-000	FISCHER ROBERT D ETAL	5460 ALMOND ST	Single Family	Yes		TC
052-225-017-000	BOULDERS AND SAND LLC	162 PEARSON RD	Commercial	Yes		CC
052-225-019-000	TOWN OF PARADISE	176 PEARSON RD	Vacant	No	Parking	CC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-225-020-000	SOETH REVOCABLE INT VIV TRUST ETAL	182 - 192 PEARSON RD	Commercial	Yes		CC
052-226-001-000	WAHL THOMAS EUGENE	5654 SIERRA PARK DR	Vacant	No		TR
052-226-002-000	GONZALEZ ABRAHAM ETAL	296 PEARSON RD	Vacant	No		TR
052-226-004-000	HUNN CASWELL BETTY J SEPARATE PROPERTY TRUST	338 PEARSON RD	Vacant	No		TC
052-226-009-000	FIGUEROA FAMILY TRUST	5642 SIERRA PARK DR	Vacant	No		TR
052-226-010-000	RUBIOLO DOUGLAS A & TINA M REV TRUST	5646 SIERRA PARK DR	Vacant	No		TR
052-226-011-000	JELLEMA REVOCABLE INT VIV TRUST ETAL	5650 SIERRA PARK DR	Vacant	No		TR
052-226-015-000	GALLEGOS GABRIEL ETAL	308 PEARSON RD	Vacant	Other	Shed	TC
052-226-016-000	NG WILLIAM & CORINA	745 SPRING LN	Vacant	No		TR
052-227-002-000	TOWN OF PARADISE		Vacant	No		TR
052-231-001-000	LUTHER JOY ANN	5348 BLACK OLIVE DR	Vacant	No		TC
052-231-002-000	LUTHER JOY ANN	5358 BLACK OLIVE DR	Vacant	No		TC
052-231-003-000	LUTHER RAY & JOY ANN	5374 BLACK OLIVE DR	Vacant	No		TC
052-231-004-000	BEBICH DARLENE M	5382 BLACK OLIVE DR	Vacant	No		TC
052-231-005-000	SINGH RANJEET & KAUR ADARSHDEEP	5406 BLACK OLIVE DR	Vacant	No		TC
052-231-006-000	TOWN OF PARADISE	0 BROOKSIDE AVE	Vacant	No		CS
052-232-002-000	TOWN OF PARADISE	5625 SIERRA PARK DR	Vacant	No		TR
052-232-003-000	DENNEY ERIKA ETAL	5621 SIERRA PARK DR	Vacant	No		TR
052-232-004-000	DENNEY TODD C & ALYSHA N	5619 SIERRA PARK DR	Single Family	Yes		TR
052-232-006-000	ERICKSON DUANE H REV TRUST ESTATE	5609 SIERRA PARK DR	Single Family	Trailer		TR
052-232-007-000	LIPSKI PETER A J & LINDA C REV LIVING TRUST	BROOKSIDE AVE	Vacant	No		TR
052-232-009-000	MAY FAMILY TRUST	5629 SIERRA PARK DR	Vacant	No		TR
052-232-010-000	TALKEN SHIRLEY FAMILY TRUST	5633 SIERRA PARK DR	Vacant	No		TR
052-233-001-000	PERLINGER SUSAN R	5640 SIERRA PARK DR	Vacant	No		TR
052-233-002-000	DOUVILLE RHEA M	736 SPRING LN	O	Yes	Tiny house and shed	TR
052-233-005-000	NICHOLSON JAMES & DONNA TRUST	5617 SCOTTWOOD RD	Vacant	No		TR
052-233-006-000	SWANN MICHAEL	5607 SCOTTWOOD RD	Vacant	No		TR
052-233-007-000	GALLMEISTER VELMA A REV TRUST	737 HIGHLAND LN	Single Family	Yes		TR
052-233-010-000	TOBIAS CAROLE CRISTINE LIVING TRUST	729 HIGHLAND LN	Single Family	Yes		TR
052-233-012-000	NICHOLSON JAMES & DONNA TRUST	746 SPRING LN	Vacant	No		TR
052-233-013-000	NICHOLSON JAMES & DONNA TRUST	740 SPRING LN	Vacant	No		TR
052-233-016-000	SWAN DEBORAH	5628 SIERRA PARK DR	Single Family	Yes		TR
052-234-002-000	WENDT CARRIE	5625 BROOKSIDE AVE	Single Family	Yes		TR



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-234-003-000	WENDT CARRIE A	5616 FOSTER RD	Vacant	No		TR
052-235-001-000	LIPSKI PETER A J & LINDA C REV LIVING TRUST	5610 BROOKSIDE AVE	Vacant	Trailer		TR
052-235-002-000	BGATOV ALEXANDER	5605 SIERRA PARK DR	Vacant	No		TR
052-235-004-000	SILVA ANTHONY J JR	5581 SIERRA PARK DR	Vacant	No		TR
052-235-005-000	TAYLOR BRIAN ANDREW & MEGAN SUZANNE	5575 SIERRA PARK DR	Single Family	Yes		TR
052-235-006-000	SINGH AMRINDER & KAUR MANJINDER	5569 SIERRA PARK DR	Vacant	No		TR
052-235-014-000	AGOSTA FRED FRANK	5574 BROOKSIDE AVE	Vacant	Trailer		TR
052-235-015-000	HIGNELL INC	5578 BROOKSIDE AVE	Single Family	Yes		TR
052-235-016-000	THOMS ELIZABETH ETAL	5584 BROOKSIDE AVE	Single Family	Yes		TR
052-235-017-000	CARTER ALAN & THOMS ELIZABETH	5590 BROOKSIDE AVE	Vacant	Trailer		TR
052-235-018-000	CARTER ALAN & THOMS ELIZABETH LIVING TRUST	5596 BROOKSIDE AVE	Single Family	Yes		TR
052-235-019-000	STEENSON HOLLY LAVANIA	5600 BROOKSIDE AVE	Vacant	No		TR
052-235-020-000	WILLIAMS JOHN R	5604 BROOKSIDE AVE	Vacant	No		TR
052-235-022-000	STANLEY JEREMIAH E	5587 SIERRA PARK DR	Single Family	Yes		TR
052-235-023-000	ENNS JOHN G & MICHELLE R	5591 SIERRA PARK DR	Single Family	Other	Unset prefab home	TR
052-235-024-000	ADDISON ERIC K	5595 SIERRA PARK DR	Vacant	No		TR
052-235-025-000	RAWIE GLENN W & MEGAN RENEE	649 BUSCHMANN RD	Vacant	No		TR
052-235-027-000	APEX CPM	5588 FOSTER RD	Vacant	No		TR
052-235-028-000	AGLIOLO MICHAEL J & NANCY E	5570 BROOKSIDE AVE	Vacant	No		TR
052-235-029-000	CHIAVOLA ROBERT L & PATRICIA A	5553 SIERRA PARK DR	Vacant	No		TR
052-235-030-000	PHILLIPS MATTHEW H	651 BUSCHMANN RD	Single Family	Yes		TR
052-235-031-000	REYES-RESENDIZ ELEAZAR	5565 SIERRA PARK DR	Vacant	No		TR
052-235-032-000	REYES-RESENDIZ ELEAZAR	5559 SIERRA PARK DR	Single Family	Yes		TR
052-236-001-000	LEGG JAMES A & ANNA M	5572 SIERRA PARK DR	Vacant	No		TR
052-236-002-000	BARBOUR FRANCIS D JR & JOHNSON LAURIE A REV LIV TR	5571 LOGAN DR	Vacant	No		TR
052-236-003-000	ROUX MARY E	5565 LOGAN DR	Vacant	No		TR
052-236-004-000	KAUR FNU MANJINDER	693 BUSCHMANN RD	Vacant	No		TR
052-236-005-000	BRIGGS JOSEPH RALPH & BRIANNA NICOLE	687 BUSCHMANN RD	Single Family	Yes		TR
052-236-007-000	RASMUSSEN REV LIVING TRUST	679 BUSCHMANN RD	Single Family	Yes		TR
052-236-008-000	POWELL BRIAN DOUGLAS & CHRISTINA MARIE	5570 SIERRA PARK DR	Vacant	No		TR
052-237-001-000	SINGH AMRINDER	5590 SIERRA PARK DR	Vacant	No		TR
052-237-005-000	MURRAY DAVID W ETAL	5571 KEITH RD	Single Family	Yes		TR
052-237-006-000	HUMMER SEAN E & ASHLEE B	5569 KEITH RD	Vacant	No		TR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-237-007-000	FITZGERALD NOLAN MICHAEL	5563 KEITH RD	Vacant	No		TR
052-237-008-000	FREIMUTH HENRY WILLIAM JR	5557 KEITH RD	Single Family	Yes		TR
052-237-009-000	VALENCIA EDMA MARIE QUIAMBAO & DECEM ALBERT TING	5553 KEITH RD	Single Family	Yes		TR
052-237-010-000	MURRAY KAREN L	711 BUSCHMANN RD	Single Family	Yes		TR
052-237-011-000	MEDINA FRANCISCO JAVIER & MA ROSARIO	705 BUSCHMANN RD	Vacant	No		TR
052-237-012-000	SAVAGE FRANK N	5558 LOGAN DR	Vacant	No		TR
052-237-014-000	SHEARER JACQUELINE	5566 LOGAN DR	Vacant	No		TR
052-237-015-000	MANWILL GARALD R II & SHAUNA L	5562 LOGAN DR	Vacant	No		TR
052-237-016-000	COUCHOT JUSTIN J	5587 KEITH RD	Vacant	No		TR
052-237-017-000	ACKLEY CHRISTOPHER & DELILAH	5575 KEITH RD	Vacant	No		TR
052-237-018-000	JONES CHRISTOPHER L	5594 SIERRA PARK DR	Single Family	Yes		TR
052-237-019-000	DONATI RONALD C & HAIDEE A	5596 SIERRA PARK DR	Vacant	Yes		TR
052-238-004-000	HUNKINS FAMILY TRUST	5577 SCOTTWOOD RD	Vacant	No		CS
052-238-006-000	HOWELL THOMAS SQUIRE JR SPECIAL NEEDS TRUST	5565 SCOTTWOOD RD	Vacant	No	Part of larger sf parcel	CS
052-238-009-000	HOLLOWAY MICHELLE RENEE	5556 KEITH RD	Vacant	No		TR
052-238-010-000	WILSON KELLE K	5560 KEITH RD	Vacant	No		TR
052-238-011-000	SCHWARTZ KIMBERLY ANN & DAVID WAYNE	5564 KEITH RD	Single Family	Yes		TR
052-238-015-000	CASEY VALERIE J	5583 SCOTTWOOD RD	Vacant	No		CS
052-238-017-000	LONGMIRE ROBERT JEFFERY	5579 SCOTTWOOD RD	Vacant	No		CS
052-238-020-000	PAGE THERESA	5585 SCOTTWOOD RD	Single Family	Yes		CS
052-238-026-000	JONES DEBORA M & FREDDIE D	738 HIGHLAND LN	Vacant	No		TR
052-238-028-000	BRAVO NATHAN	5587 SCOTTWOOD RD	Vacant	No		CS
052-238-029-000	WHITESIDE SARA JAYNE ESTATE	742 HIGHLAND LN	Vacant	No		TR
052-238-030-000	IN VOEGE WE TRUST	734 HIGHLAND LN	Vacant	No		TR
052-238-032-000	ISAACS NOAH B	5568 KEITH RD	Single Family	Yes		TR
052-238-033-000	ISAACS MICHAEL	5580 KEITH RD	Vacant	No		TR
052-238-034-000	BRADFORD DYLAN ETAL	726 HIGHLAND LN	Vacant	No		TR
052-238-035-000	KLING DANIEL ETAL	5590 KEITH RD	Single Family	Yes		TR
052-238-036-000	BRADLEY JOHN	748 HIGHLAND LN	Vacant	No		CS
052-238-037-000	DEANDA EDWARD	741 CRAWFORD LN	Single Family	Yes		TR
052-238-038-000	BURDICK DAVID PAUL	735 CRAWFORD LN	Single Family	Yes		TR
052-238-039-000	VILLEGAS JORGE HERNANDEZ & PADILLA VERONICA VILLEG	5581 SCOTTWOOD RD	Vacant	No		CS
052-238-040-000	HOWELL THOMAS SQUIRE JR SPECIAL NEEDS TRUST	SCOTTWOOD RD	Vacant	No	Part of larger sf parcel	CS
052-238-041-000	HOWELL THOMAS SQUIRE JR SPECIAL NEEDS TRUST	SCOTTWOOD RD	Vacant	No	Part of larger sf parcel	CS
052-238-042-000	GUEVARRA PHILIP DELACRUZ	5571 SCOTTWOOD RD	Commercial	Yes		CS
052-238-043-000	HOWELL THOMAS SQUIRE JR SPECIAL NEEDS TRUST	731 BUSCHMANN RD	Single Family	Yes		TR
052-241-002-000	MASSON RICHARD ALAN & CAROLE MARIE	5768 HOLLY LN	Single Family	Yes		TR
052-241-003-000	BEHAR SAMUEL G	5760 HOLLY LN	Vacant	No		TR
052-241-005-000	LEMASTER WENDY M & MICHAEL A JR	5729 SHADY LN	Vacant	No		TR
052-241-006-000	RASH ELIZABETH & JAMES	5736 HOLLY LN	Vacant	Other	Shed	TR
052-241-008-000	JONES RICHARD E	771 OAK ST	Single Family	Yes		TR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-241-010-000	JONES RICHARD E & KARLEE J	5730 SCOTTWOOD RD	Vacant	Trailer		TR
052-241-011-000	MCDANIEL CHARLES P	5738 SCOTTWOOD RD	Vacant	No		TR
052-241-012-000	AURENTZ ROBERT D & ALECIA MADELYNN	5741 HOLLY LN	Single Family	Yes		TR
052-241-015-000	DODSON CALVIN E	755 OAK ST	Vacant	No		TR
052-241-016-000	DIDUCA JULIE A REVOCABLE INTER VIVOS TRUST	761 OAK ST	Vacant	No		TR
052-241-018-000	CUTLER BARRY TODD & LAVANWAY ALICE JEAN	5723 SHADY LN	Single Family	Trailer		TR
052-241-020-000	PALOMAR JOSEPH	5716 HOLLY LN	Single Family	Yes		TR
052-241-021-000	JONES RICHARD	0 HOLLY LN	Vacant	No		TR
052-241-022-000	LAWRENCE MARK J ETAL	5720 HOLLY LN	Vacant	No		TR
052-241-023-000	HUSA WILLIAM	5757 HOLLY LN	Single Family	Yes		TR
052-241-024-000	HUSA WILLIAM J	5750 SCOTTWOOD RD	Vacant	No		TR
052-241-025-000	WHITE CHARLINE ETAL	5735 SHADY LN	Vacant	Other	Shed	TR
052-241-026-000	CURTIS MAUREEN E	5755 SHADY LN	Vacant	No		TR
052-241-027-000	STAHL EDWIN DANIEL II	5748 HOLLY LN	Vacant	No		TR
052-241-028-000	THOMSON STEVE	5744 HOLLY LN	Vacant	No		TR
052-242-001-000	BARNES BRENDA B	5762 SHADY LN	Single Family	Yes		TR
052-242-002-000	KOHLER CHRISTOPHER O	430 NUNNELEY RD	Vacant	No		TR
052-242-009-000	NORTHERN CA CONFERENCE OF SEVENTH DAY ADVENTISTS	395 PEARSON RD	Vacant	No		RR
052-242-010-000	COX CURTIS M ETAL	355 PEARSON RD	Vacant	No		RR
052-242-011-000	DITTENHOEFER JOHN M	5676 SCOTTWOOD RD	Vacant	No		RR
052-242-012-000	MEISNER GARY JAMES	5682 SCOTTWOOD RD	Vacant	No		RR
052-242-013-000	BAKER FAMILY PROPERTIES LLC	5686 SCOTTWOOD RD	Vacant	No		RR
052-242-014-000	BAKER THOMAS E & PAM WATSON	5700 SCOTTWOOD RD	Vacant	No		TR
052-242-015-000	ANDREWS SHIRLEY L	766 OAK ST	Vacant	Other	Building being constructed	TR
052-242-016-000	JONES RICHARD E & KARLEE J	770 OAK ST	Vacant	No		TR
052-242-018-000	MICALIZIO DAVID A V	802 OAK ST	Vacant	Yes		TR
052-242-021-000	POLONY KATY JO HINDE	5758 SHADY LN	Vacant	No		TR
052-242-032-000	NIXON KEVIN	5728 SHADY LN	Single Family	Yes		TR
052-242-033-000	KLUNGTVET LARRY D & LUCRETIA J REV LIVING TRUST	5732 SHADY LN	Single Family	Yes		TR
052-242-036-000	LIPKIN ANDREW	776 OAK ST	Vacant	No		TR
052-242-037-000	SCOTT PAUL	780 OAK ST	Vacant			TR
052-242-038-000	WENDT CARRIE	778 OAK ST	Vacant	No		TR
052-242-039-000	N CALIFORNIA CON SEVETH DAY ADVENTISTS	5726 SHADY LN	Vacant	No		TR
052-242-042-000	HELMERSSON ANDERS ETAL	5722 SHADY LN	Vacant	No		TR
052-242-043-000	NORTHERN CA CON SEVENTH-DAY ADVENTISTS	5718 SHADY LN	Vacant	No		TR
052-242-047-000	FLORES J JESUS GARCIA ETAL	436 NUNNELEY RD	Vacant	No		TR
052-242-048-000	NORTHERN CA CONFERENCE OF 7TH DAY ADVENTISTS	5751 ACADEMY DR	Single Family	Yes		TR
052-242-049-000	NO CALIF CONF ASSN SEVENTH DAY ADVENTISTS	5699 ACADEMY DR	Commercial	Yes		CS
052-242-050-000	NORTHERN CALIFORNIA CONF OF SEVENTH DAY ADVENTISTS	5741 ACADEMY DR	Vacant	No		TR
052-242-051-000	NO CALIF CONF ASSN SEVENTH DAY ADVENTISTS	5683 ACADEMY DR	Commercial	No	Part of school property	CS
052-243-001-000	MURASKO DON & SYLVIA B	400 PEARSON RD	Single Family	Yes		RR
052-243-007-000	COLE DEBORAH RESIDENCE TRUST	801 COLLEGE HILL RD	Vacant	No		RR
052-244-001-000	TADDEI STEVEN M	5650 SCOTTWOOD RD	Single Family	Yes		RR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
052-244-026-000	BRAINARD WILMA JEAN REV INT VIV TRUST ESTATE	PEARSON RD	Vacant	No		RR
052-244-029-000	MALLAN FAMILY LLC		Vacant	No		TC
052-244-031-000	MALLAN FAMILY LLC	450 PEARSON RD	Commercial	Yes		TC
052-250-002-000	MENESINI ANDREW T	5613 JEWELL RD	Multi-Family	Yes		TR
052-250-026-000	VRBETA LIVING TRUST	580 OAKWOOD LN	Vacant	No		TR
052-250-027-000	ALVIES PAUL H	584 OAKWOOD LN	Vacant	No		TR
052-250-028-000	GOITIA JOSEPH & LAURA	588 OAKWOOD LN	Vacant	No		TR
052-250-029-000	BELTRAMO DAVE & DOLLY	596 OAKWOOD LN	Vacant	No		TR
052-250-030-000	NEVILLE GERALD M	5785 FOSTER RD	Vacant	No		TR
052-250-032-000	ZOOK DEITRICH & LI LIN	5279 BLACK OLIVE DR	Vacant	No		TR
052-250-034-000	MACHADO DARLA KAY	5243 BLACK OLIVE DR	Single Family	Yes		TR
052-250-035-000	BLACK RIVER LAND COMPANY LLC	5235 BLACK OLIVE DR	Vacant	No		TR
052-250-037-000	LEE CARL	5581 FOSTER RD	Single Family	Yes		RR
052-250-038-000	COUNTY OF BUTTE	5571 FOSTER RD	Vacant	No		RR
052-250-040-000	SHIELDS WILLIAM R ETAL	5683 FOSTER RD	Vacant	No		RR
052-250-043-000	STIER KENNETH EDWARD TRUST	508 TOWN LN	Single Family	Yes		TC
052-250-045-000	STIER JEFFREY & LAMBERT TERESA	504 TOWN LN	Vacant	No		TC
052-250-046-000	CRAWFORD KEVIN L	5275 BLACK OLIVE DR	Single Family	Yes		TR
052-250-047-000	MAHONEY CAPITAL LP	5271 BLACK OLIVE DR	Vacant	No		TR
052-250-052-000	COLUNGA RICHARD & DEBBIE	5612 SKYWAY	Vacant	No		TC
052-250-070-000	GARCIA MANUEL J & PAMELA	5659 FOSTER RD	Vacant	No		RR
052-250-077-000	TOWN OF PARADISE	5533 SKYWAY	Commercial	Yes		PI
052-250-077-000	TOWN OF PARADISE	5533 SKYWAY	Commercial	Yes		PI
052-250-078-000	GARCIA MARTIN RIVERA	5571 SKYWAY	Multi-Family	Yes		TC
052-250-083-000	MAXWELL BANDI LIVING TRUST	5678 SKYWAY	Vacant	No		TC
052-250-084-000	POLLAK LANA	5742 SKYWAY	Vacant	Trailer		TC
052-250-085-000	PINOCCHIO FAMILY TRUST	5389 SKYWAY	Vacant	No		TC
052-250-086-000	DINYARI SHOGHI	5615 SKYWAY	O	Trailer	Trailer rv parking	TC
052-250-087-000	JIMENEZ EDWARD C & JANICE M LIVING TRUST	5610 SKYWAY	Commercial	Yes		TC
052-250-088-000	PATEL JAY K & SANGITA J	5423 SKYWAY	Vacant	No		TC
052-250-089-000	GONZALEZ LEONARDO ETAL	5700 SKYWAY	Single Family	Yes		TC
052-250-094-000	BURMAN LAURA J ETAL	5447 SKYWAY	Vacant	No		TC
052-250-098-000	THOMAS RAYANN LEA	5736 SKYWAY	Vacant	No		TC
052-250-101-000	JOHNSON FAMILY TRUST	5628 SKYWAY	Vacant	No		TC
052-250-102-000	JACOBSON KENNETH A	5467 SKYWAY	Vacant	No		TC
052-250-103-000	KOPKA BRIAN M & ANNA	5475 SKYWAY	Vacant	No		TC
052-250-104-000	FU JOHN	5771 FOSTER RD	Vacant	No		TR
052-250-105-000	THE ARC OF BUTTE COUNTY INC	FOSTER RD	Vacant	No		TR
052-250-106-000	CHINNOCK GEOFFREY R & JOELLE S	5675 FOSTER RD	Single Family	Yes		RR
052-250-114-000	CASTALDO JOHN & JACKLYN REV TRUST	5570 SKYWAY	Vacant	No	Food truck parking	TC
052-250-120-000	HEINKE JOHN T & F	5505 SKYWAY	Vacant	Other	Shed	TC
052-250-122-000	ESTEP ASHLEY E REVOCABLE TRUST	5778 SKYWAY	Vacant	No		TC
052-250-123-000	HEXIMER OLIVER P & RAQUEL LIVING TRUST	5178 BLACK OLIVE DR	Vacant	No		TC

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052-250-124-000	THE ARC OF BUTTE COUNTY INC	5325 BLACK OLIVE DR	Vacant	No		PI
052-260-078-000	JOHNSON FAMILY TRUST	5420 SKYWAY	Vacant	No		TC
052-260-080-000	CASTALDO JOHN & JACKLYN REV TRUST	5498 SKYWAY	Vacant	No		TC
052-260-090-000	PACIFIC GAS & ELECTRIC CO		Vacant	No		TC
052-260-092-000	ELLOWAY TIMOTHY S & NANCY	5428 SKYWAY	Commercial	Yes		TC
052-260-093-000	PARADISE COMMUNITY COUNCIL INC	5440 SKYWAY	Commercial	Yes	Appears to be large shed or small warehouse	TC
052-260-139-000	BEAN ROBERT L FAMILY TRUST	5538 SKYWAY	Vacant	No		TC
052-260-140-000	CASTALDO JOHN & JACKLYN REV TRUST	5522 SKYWAY	Vacant	No		TC
052-260-141-000	JACUZZI DANIEL C	5350 SKYWAY	Vacant	No		TC
052-260-142-000	JACUZZI DANIEL C	5312 SKYWAY	Vacant	No		TC
052-260-147-000	STARKMAN TIMOTHY S LIVING TRUST	5370 SKYWAY	Vacant	No		TC
053-011-029-000	TRAUTMAN SUSAN W ETAL	CLARK RD	Vacant	No		TC
053-011-054-000	CHEBUKIN PAVEL & ANNA	1266 TAHOE WAY	Single Family	Yes		TR
053-011-055-000	CARRILLO REVOCABLE TRUST	6333 CLARK RD	Vacant	No		TR
053-011-057-000	ARMSTRONG CHRISTINE A ETAL	6351 CLARK RD	Vacant	No		TC
053-011-113-000	6361 CLARK ROAD LLC	6361 CLARK RD	Vacant	No		TC
053-012-022-000	PARADISE IRRIGATION DISTRICT	6332 CLARK RD	Commercial	Yes		CS
053-012-023-000	F & B LAND HOLDINGS LLC	6312 CLARK RD	Vacant	Other	Self service car wash abandoned	TC
053-012-025-000	MAGPUSAO GEORGE SIERRA & LAULHATI V	6292 CLARK RD	Vacant	No		CS
053-012-029-000	JUBILEE ON THE RIDGE	6280 CLARK RD	Commercial	Yes		CS
053-021-057-000	DAVIS KRISTAL A	6110 BOWLES BLVD	Vacant	No		TR
053-021-058-000	DECAZARES EMMA TINOCO & MIRANDA YOVANE CAZARES	6094 BOWLES BLVD	Vacant	No		TR
053-021-063-000	LUNA JESUS PEREZ		Vacant	No		TR
053-021-064-000	LUNA JESUS PEREZ	7357 SKYWAY	Vacant	No		TC
053-021-065-000	LUNA JESUS PEREZ	7357 SKYWAY	Vacant	No		TC
053-021-079-000	MCCOY MICHAEL & JANICE	7515 SKYWAY	Commercial	Yes	Building is vacant	TC
053-021-080-000	HUTTON WALTER MILLARD REV TRUST	7455 SKYWAY	Vacant	No		TC
053-021-081-000	DUNCAN JAMIE A REV TRUST	7337 SKYWAY	Vacant	No		TC
053-021-082-000	LEE FAMILY TRUST	7321 SKYWAY	Commercial	Yes	Appears abandoned	TC
053-021-083-000	ONSTEIN REVOCABLE INTER VIVOS TRUST	THELMA CT	Vacant	No		TC
053-021-085-000	CASTILLO RENE & CHRISTINA ETAL	7529 SKYWAY	Commercial	No	Combined with adj	TC
053-021-086-000	QIN DAVID S & ZHANG TRACY J	7389 SKYWAY	Vacant	No		TC
053-021-087-000	RG PIERCE PROPERTIES LLC	6154 LUCKY JOHN RD	Vacant	No		TC
053-021-088-000	WESTERN PACIFIC DEVELOPMENT GROUP LTD	7209 SKYWAY	Vacant	No		TC
053-021-089-000	JENNINGS BRYAN C & SHARON REV SURVIVORS TRUST	7419 SKYWAY	Vacant	No		TC
053-021-098-000	HEER BALJIT S & PARVINDER K	7575 SKYWAY	Commercial	Yes		TC
053-021-099-000	BERNDT TRUST	7387 SKYWAY	Vacant	No		TR
053-021-100-000	TAVES EDWARD & OPHELIA FAMILY TRUST ESTATE		Commercial	Yes		TC
053-021-999-000			Vacant	No	Road parcel	TC
053-022-014-000	CAMPION CURTIS & DENISE FAMILY TRUST ETAL	7420 SKYWAY	Vacant	No		TC
053-022-019-000	SINGH NAVJEET	7472 SKYWAY	Vacant	No		TC
053-022-022-000	HELGERSON BRIAN ETAL	7500 SKYWAY	Vacant	No		TC
053-022-025-000	ISLAM MUHAMMAD A ETAL	7406 SKYWAY	Vacant	No		TC

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053-022-027-000	ATHERTON CHRISTIAN AURTHUR	7448 SKYWAY	Vacant	No		TC
053-022-029-000	GARCIA FRANCISCO R & RIVERA JULIETA	7334 SKYWAY	Vacant	No		TC
053-022-031-000	PARADISE 123 LLC	7542 SKYWAY	Commercial	Yes		TC
053-022-032-000	SKYWAY/BILLE W G INVESTORS L P	7576 SKYWAY	Commercial	Yes		TC
053-022-033-000	OREILLY AUTO ENTERPRISES LLC	7368 SKYWAY	Commercial	Yes		TC
053-030-002-000	GIST FAMILY TRUST	6102 LUCKY JOHN RD	Multi-Family	Yes	Mobile homes	TC
053-030-005-000	JOHNSON CHRISTINE E SPECIAL NEEDS TRUST	6082 LUCKY JOHN RD	Vacant	Other	Shed	TC
053-030-011-000	YOUTH FOR CHANGE	6083 MAXWELL DR	Vacant	No		TC
053-030-017-000	QUAYLE DARLENE L	6025 MAXWELL DR	Vacant	No		MR
053-030-018-000	ROSENBLATT RADAI	6015 MAXWELL DR	Vacant	No		MR
053-030-019-000	WILDER FAMILY TRUST ETAL	6003 MAXWELL DR	Vacant	No		MR
053-030-020-000	EVESLAGE WALLEEN Y LIVING TRUST	5995 MAXWELL DR	Vacant	No		MR
053-030-021-000	ZUBIRI CAROLINA	5989 MAXWELL DR	Vacant	No		MR
053-030-022-000	ZOOK DEITRICH & LI LIN	5985 MAXWELL DR	Commercial	Yes	Building is vacant	MR
053-030-023-000	GALE ANNETTE H TRUST	5979 MAXWELL DR	Vacant	No		MR
053-030-024-000	TOWN OF PARADISE		Vacant	No	Bikeway	R
053-030-029-000	CORONADO-MORA BETTY SUE & MORA SALVADOR S LIVING T	6078 LUCKY JOHN RD	Vacant	No		TC
053-030-031-000	GLOBAL ARCH CONSTRUCTION INCORPORATED	6029 MAXWELL DR	Vacant	No		MR
053-030-034-000	M C HORNING JR	7126 SKYWAY	Commercial	Yes		TC
053-030-035-000	VARELA JUAREZ RAMON OSBERTO	6079 MAXWELL DR	Vacant	No		MR
053-030-036-000	MANGRUM ROBERT A ETAL	6075 MAXWELL DR	Vacant	No		MR
053-030-041-000	BLANTON KENNETH D JR	6035 MAXWELL DR	Vacant	No		MR
053-030-045-000	GRAY ERIC & NONA	6055 MAXWELL DR	Vacant	No		MR
053-030-046-000	GRAY ERIC & NONA	6045 MAXWELL DR	Vacant	No		MR
053-030-047-000	THAM HONG ANH & LAN THANH HENG REVOCABLE FAMILY TR	7186 SKYWAY	Vacant	No	Parking lots	TC
053-030-048-000	POWELL JON & THERESA FAMILY TRUST	6090 LUCKY JOHN RD	Vacant	No		TC
053-030-049-000	HAWKS ANNA EVERDINA ETAL	6066 LUCKY JOHN RD	Vacant	No		TC
053-030-050-000	ORLAND PROPERTY LLC	7300 SKYWAY	Vacant	No		TC
053-030-051-000	JANSSEN FAMILY TRUST ETAL	0 SKYWAY	Vacant	No		TC
053-030-052-000	JANSSEN FAMILY LIVING TRUST ETAL	7284 SKYWAY	Vacant	No		TC
053-030-053-000	BEYOND FITNESS LP	7224 SKYWAY	Vacant	No		TC
053-030-054-000	YOUTH FOR CHANGE	7200 SKYWAY	Commercial	Yes		TC
053-040-007-000	BERNDT TRUST	6221 CLARK RD	Commercial	Yes		TC
053-040-028-000	MENENDEZ JONATHAN ETAL	1226 WOODCROFT RD	Vacant	No		TC
053-040-032-000	TRAUTMAN SUSAN W ETAL	6243 CLARK RD	Single Family	Yes		TC
053-040-035-000	MCDONALDS CORPORATION	6186 CLARK RD	Vacant	No		TC
053-040-036-000	HOFFROGGE ELIZABETH M ETAL	6166 CLARK RD	Vacant	No		TC
053-040-037-000	F & B LAND HOLDINGS LLC	6200 CLARK RD	Vacant	No		TC
053-040-038-000	LEE FAMILY TRUST	6220 CLARK RD	Vacant	No		TC
053-040-039-000	LEE FAMILY TRUST		Vacant	No		MR
053-040-040-000	PORTER EDWARD F JR & MARYLOU ETAL	6240 CLARK RD	Vacant	No		MR
053-040-041-000	DALE MARK W & TONYA R B	6254 CLARK RD	Vacant	No		MR
053-040-046-000	CUMMINGS DONALD W ETAL	6235 CLARK RD	Vacant	No		TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
053-040-050-000	HERNANDEZ JOVITO & VILLASENOR MARIA A	6150 CLARK RD	Vacant	No	Food truck lot	TC
053-040-059-000	BERNDT ROBERT P TRUST ETAL	6225 CLARK RD	Vacant	No		TC
053-040-060-000	BOWERS JANET L	6207 CLARK RD	Commercial	Other	Sheds	TC
053-050-027-000	POE KEVIN & SASHA	1043 CENTRAL PARK DR	Commercial	Other	Sheds	TC
053-050-042-000	ZHANG YING ETAL	6201 CLARK RD	Vacant	No		TC
053-060-033-000	KEYSER SUSAN M & DENNIS TRUST	811 CENTRAL PARK DR	Vacant	No		TR
053-060-034-000	PINOCCHIO FRANK P & COSMA	6070 MAXWELL DR	Vacant	No		TR
053-060-035-000	HENSON LESLIE J	6078 MAXWELL DR	Vacant	No		TR
053-070-001-000	VANBIBBER REVOCABLE INT VIV TRUST	6056 MAXWELL DR	Single Family	Yes		TR
053-070-021-000	DRAKE THOMAS FRANK & ROWENA GEER	984 FAIRVIEW DR	Single Family	Yes		TR
053-070-029-000	BAJWA PARDEEP SINGH	1094 FAIRVIEW DR	Vacant	Other	Shed	TR
053-070-030-000	COOK MARK D	1095 FAIRVIEW DR	Vacant	No		TR
053-070-036-000	NELSON NICHOLAS J & RACHEL M	6038 MAXWELL DR	Vacant	No		TR
053-070-041-000	RAMOS RAQUEL	979 FAIRVIEW DR	Vacant	No		TR
053-080-002-000	ANDERSON FAMILY TRUST	WILLIAMS DR	Vacant	No		MR
053-080-003-000	ANDERSON FAMILY BYPASS TRUST ESTATE	WILLIAMS DR	Vacant	No		MR
053-080-005-000	ANDERSON FAMILY TRUST	WILLIAMS DR	Vacant	No		MR
053-080-006-000	ANDERSON FAMILY BYPASS TRUST ESTATE	WILLIAMS DR	Vacant	No		MR
053-080-013-000	WILK ANDREW & JESSICA	6179 CLARK RD	Vacant	No		TC
053-080-014-000	CARE NET PREGNANCY CENTER OF PARADISE	6189 CLARK RD	Vacant	No		TC
053-080-016-000	GAVETT TOLLEIF K & GINA M REVOCABLE TRUST	1000 SAXBERG DR	Single Family	Yes		TR
053-080-017-000	PICOU & SCHROLL REV TRUST	6182 WOODBROOK CIR	Single Family	Yes		TR
053-080-018-000	SWANSON ALFRED ETAL	6178 WOODBROOK CIR	Single Family	Yes		TR
053-080-019-000	PETERSEN FAMILY TRUST	6179 WOODBROOK CIR	Single Family	Yes		TR
053-080-020-000	SCHREINDL DAVIN J	6181 WOODBROOK CIR	Vacant	No		TR
053-080-021-000	SCHUCHERT LIVING TRUST	994 SAXBERG DR	Vacant	No		TR
053-080-022-000	SKILLMAN FAMILY TRUST	988 SAXBERG DR	Vacant	No		TR
053-080-025-000	HODGE RICHARD & RIVERS ALTHEA	993 SAXBERG DR	Vacant	No		TR
053-080-026-000	SMITH MATTHEW C & WENDY WEBER	995 SAXBERG DR	Vacant	No		TR
053-080-027-000	PEREZ TRAVIS & JANEL	997 SAXBERG DR	Vacant	No		TR
053-080-028-000	ROSSETTI JOSEPH R	999 SAXBERG DR	Vacant	No		TR
053-080-034-000	JEFFREY G VESELY CPA EMPLOYEE RETIREMENT PLAN ETAL	5998 WILLIAMS DR	Vacant	No		MR
053-080-035-000	NOYER CHRISTINE	6006 WILLIAMS DR	Single Family	Yes		MR
053-080-038-000	SAXBERG EMIL J & VERA F CP	1000 BROOKWOOD CIR	Vacant	No		TR
053-080-040-000	STEWART THOMAS A	6161 CLARK RD	Commercial	Yes		TC
053-080-041-000	STEWART THOMAS A	6161 CLARK RD	Commercial	Yes		TC
053-080-042-000	BCC & C REAL ESTATE PARTNERSHIP	6161 CLARK RD	Commercial	Yes		TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
053-080-043-000	BCC & C REAL ESTATE PARTNERSHIP	6161 CLARK RD	Commercial	Yes		TC
053-080-044-000	FEATHER RIVER HOSPITAL	6161 CLARK RD	Commercial	Yes		TC
053-080-045-000	STEWART THOMAS A & KIM CP	6161 CLARK RD	Commercial	Yes		TC
053-080-046-000	HANOSH FRED N & ARLYSS A FAMILY TRUST ETAL	6161 CLARK RD	Commercial	Yes		TC
053-080-047-000	HANOSH FRED N & ARLYSS A FAMILY TRUST	6161 CLARK RD	Commercial	Yes		TC
053-080-052-000	GUEVARRA PHILIP	987 SAXBERG DR	Vacant	No		TR
053-080-053-000	ATHERTON CHRISTIAN A	991 SAXBERG DR	Vacant	No		TR
053-080-054-000	CHOLLY SUSAN B	1001 BROOKWOOD CIR	Single Family	Yes		TR
053-080-055-000	FRY DOLORES M REVOCABLE INTER VIVOS TRUST ESTATE	1005 BROOKWOOD CIR	Vacant	No		TR
053-080-056-000	BASS LAKE PROPERTIES LLC	6127 CLARK RD	Commercial	Yes		CS
053-080-098-000			Commercial	No	Parking for commercial	TC
053-080-099-000			Vacant	No	Parking for commercial	TC
053-101-001-000	ANDERSON FAMILY BYPASS TRUST ESTATE		Vacant	No		TR
053-101-022-000	GUYNN INC	6077 CLARK RD	Vacant	No		TC
053-101-023-000	GALVAN BONNIE JEAN & HIPOLITO	6099 CLARK RD	Vacant	No		CS
053-101-025-000	WIPPLER KATHARINA		Vacant	No		TC
053-101-026-000	GUYNN INC	6081 CLARK RD	Commercial	Yes		TC
053-101-027-000	GUYNN INC	6075 CLARK RD	Vacant	No		TC
053-101-028-000	RICKARDS FAMILY TRUST	6107 CLARK RD	Vacant	No		CS
053-101-029-000	ANDERSON FAMILY BYPASS TRUST ESTATE	6117 CLARK RD	Vacant	No		CS
053-102-015-000	MAWER JANET S ETAL	0 CLARK RD	Vacant	No		TC
053-102-016-000	DEWELL REVOCABLE INTER VIVOS TRUST	6057 CLARK RD	Vacant	No		TC
053-102-017-000	OLSON ANDREW C & MAWER-OLSON MARSHA ETAL	6047 CLARK RD	Commercial	Yes	Abandoned	TC
053-102-019-000	THRIFTY PAYLESS INC LESSEE	5991 CLARK RD	Commercial	Yes		TC
053-103-025-000	MARJAMA FAMILY PARTNERS LP	1157 ELLIOTT RD	Multi-Family	Yes	Duplex	TC
053-103-027-000	WROBEL ROGER A & PAMELA K	1181 ELLIOTT RD	Single Family	Yes		TC
053-103-028-000	OVCIN FAMILY TRUST ETAL		Vacant	No		TC
053-103-031-000	COOK RONALD & SHAUNDRA TRUST	6118 CLARK RD	Vacant	No		MR
053-103-032-000	COOK RONALD & SHAUNDRA TRUST	6108 CLARK RD	Vacant	No		MR
053-103-036-000	SAFEWAY INC	6020 CLARK RD	Vacant	No		TC
053-103-037-000	99 PLUS GROCERY INC	6026 CLARK RD	Vacant	No		TC
053-103-038-000	SAYEGH BROTHERS INC	6032 CLARK RD	Vacant	No		TC
053-103-039-000	SAYEGH BROTHERS INC	6038 CLARK RD	Vacant	Other	Shed	TC
053-103-040-000	F & F INVESTMENT CO ETAL	6044 CLARK RD	Vacant	No		TC
053-103-041-000	F & F INVESTMENT CO ETAL	0 CLARK RD	Vacant	No		TC
053-103-042-000	SAYEGH BROTHERS INC	6002 CLARK RD	Vacant	No		TC
053-103-043-000	SAYEGH BROTHERS INC	6008 CLARK RD	Vacant	No		TC
053-103-044-000	SAYEGH BROTHERS INC	6014 CLARK RD	Vacant	No		TC
053-103-045-000	COUCHOT MAURICE J JR AND LESLIE L	5990 CLARK RD	Commercial	Yes		TC
053-110-010-000	PARADISE UNIFIED SCHOOL DISTRICT	5944 MAXWELL DR	Vacant	No		PI
053-110-012-000	WILSON MARC & SHERRY	5968 MAXWELL DR	Vacant	No		TR



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
053-110-041-000	PARADISE UNIFIED SCHOOL DISTRICT	5888 MAXWELL DR	Vacant	No		TR
053-110-042-000	PARADISE UNIFIED SCHOOL DISTRICT	5892 MAXWELL DR	Vacant	No		TR
053-110-043-000	LEERHUBER ROBERT A	5894 MAXWELL DR	Vacant	No		TR
053-110-062-000	PARADISE UNIFIED SCHOOL DISTRICT	5908 MAXWELL DR	Vacant	No		TR
053-110-063-000	WLM CONSTRUCTION INC	5900 MAXWELL DR	Vacant	No		TR
053-110-064-000	PARADISE UNIFIED SCHOOL DISTRICT		Commercial	Yes	School	PI
053-110-065-000	PARADISE UNIFIED SCHOOL DISTRICT	5958 MAXWELL DR	Vacant	No		PI
053-110-075-000	MIQUEO PEDRO	5876 MAXWELL DR	Vacant	No		TR
053-110-092-000	PARADISE UNIFIED SCHOOL DISTRICT	MAXWELL DR	Vacant	No	Parking lot	PI
053-110-093-000	PARADISE UNIFIED SCHOOL DISTRICT		Commercial	No		PI
053-110-094-000	PARADISE UNIFIED SCHOOL DISTRICT		Vacant	No		PI
053-110-098-000	BOURGEOIS LEO J LIVING TRUST	5974 MAXWELL DR	Single Family	Yes		TR
053-110-099-000	WILSON MARC & SHERRY	6000 MAXWELL DR	Vacant	No		TR
053-111-001-000	PARADISE UNIFIED SCHOOL DIST	5911 MAXWELL DR	Commercial	Yes		PI
053-111-012-000	CAMINO PROPERTIES LLC	869 ELLIOTT RD	Vacant	No		TR
053-111-014-000	PARADISE UNIFIED SCHOOL DISTRICT		Vacant	No		TR
053-111-015-000	PARADISE UNIFIED SCHOOL DISTRICT	897 ELLIOTT RD	Vacant	No		TR
053-111-028-000	PARADISE UNIFIED SCHOOL DISTRICT	915 ELLIOTT RD	Vacant	No		TR
053-111-030-000	FIRST ASSEMBLY OF GOD OF PARADISE		Commercial	Yes		CS
053-111-032-000	SIEMENS JASON CHRISTOPHER ETAL	883 ELLIOTT RD	Single Family	Yes		TR
053-111-033-000	CALDWELL MICHAEL JAY ETAL	881 ELLIOTT RD	Single Family	Yes		TR
053-111-034-000	FIRST ASSEMBLY OF GOD OF PARADISE	931 ELLIOTT RD	Vacant	No		CS
053-120-052-000	CAMINO PROPERTIES LLC	5941 CAMINO RD	Multi-Family	Yes		MR
053-120-054-000	YUHASZ JAMES Z	5923 CLARK RD	Commercial	Yes		TC
053-120-055-000	SHADOWBROOK VILLA LLC	1077 SHADOWBROOK WAY	Multi-Family	Yes		MR
053-120-061-000	FUCHS FAMILY TRUST ESTATE	880 ELLIOTT RD	Vacant	No		MR
053-120-062-000	DALLA JERRY SEPARATE TRUST	5940 CAMINO RD	Multi-Family	Yes		MR
053-120-064-000	SKYWAY PARTNERS LLC	5921 CLARK RD	Commercial	Yes		TC
053-120-071-000	CAMINO PROPERTIES LLC	5921 CAMINO RD	Multi-Family	Yes		MR
053-120-074-000	BREAU JAKOB & JULIANE 1991 TRUST	1080 ELLIOTT RD	Vacant	No		TC
053-120-075-000	SHADOWBROOK INVESTORS	1090 SHADOWBROOK WAY	Multi-Family	Yes		MR
053-120-076-000	SHADOWBROOK VILLA LLC	1077 SHADOWBROOK WAY	Multi-Family	Yes		MR
053-120-080-000	CAMINO PROPERTIES LLC	5930 CAMINO RD	Multi-Family	Yes		MR
053-120-081-000	CAMINO PROPERTIES LLC	475 NUNNELEY RD	Multi-Family	Yes		MR
053-120-082-000	BP WEST COAST PRODUCTS LLC	5987 CLARK RD	Commercial	Yes		TC
053-120-083-000	PACWEND INC		Vacant	No		TC
053-120-084-000	PARADISE PERFORMING ARTS CENTER	777 NUNNELEY RD	Commercial	Yes		CS
053-120-085-000	PARADISE COMMUNITY CENTER	877 NUNNELEY RD	Vacant	No		CS
053-131-017-000	STAHL FAMILY TRUST	1115 NUNNELEY RD	Vacant	No		TR
053-131-018-000	BUTTS DONNA G FAMILY TRUST	1109 NUNNELEY RD	Single Family	Yes		TR

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053-131-027-000	JAYNES BARKER & BILLE REVOCABLE INT VIV TRUST	1099 NUNNELEY RD	Vacant	No		TC
053-131-028-000	HERRERA JOSE ANTONIO VASQUEZ	5878 CLARK RD	Vacant	No		TC
053-131-073-000	GARCIA MARIA S	1132 ELLIOTT RD	Commercial	Yes		TC
053-131-074-000	CARMACK RICHARD B	1142 ELLIOTT RD	Single Family	Yes		TC
053-131-075-000	PERRY SHIRLEY F LIVING TRUST	1144 ELLIOTT RD	Single Family	Yes		TC
053-131-078-000	TABLE MOUNTAIN MASONIC BLDG ASSOC		Vacant	No		TC
053-131-088-000	DARBY FAMILY TRUST	5954 CLARK RD	Vacant	No		TC
053-131-089-000	CONTRERAS REVOCABLE TRUST	1122 ELLIOTT RD	Commercial	Yes		TC
053-131-090-000	JAYNES BARKER & BILLE REVOCABLE INT VIV TRUST	5864 CLARK RD	Commercial	Other	Garage	TC
053-131-094-000	TABLE MT MASONIC LODGE BLDG ASSOC	5934 CLARK RD	Commercial	Yes		TC
053-131-096-000	COUNTY OF BUTTE	5922 CLARK RD	Commercial	Yes		PI
053-131-100-000	HORNING M C JR	5910 CLARK RD	Commercial	Yes		TC
053-131-101-000	EUBANKS LEE S REVOCABLE LIVING TRUST ETAL	5898 CLARK RD	Vacant	No		TC
053-131-102-000	EUBANKS LEE S REVOCABLE LIVING TRUST	5888 CLARK RD	Vacant	No		TC
053-150-006-000	WILLIAM HAMILTON LLC	1328 BILLE RD	Vacant	No		TR
053-150-071-000	WAGNER GREG	1326 BILLE RD	Vacant	No		TC
053-150-103-000	STACH RICHARD & GAUMER DEBORAH	1340 BILLE RD	Multi-Family	Trailer	Trailer park	MR
053-150-154-000	WEBER EMILY SS	6390 CLARK RD	Vacant	No		TC
053-150-194-000	ROSE CHAPEL INC	6382 CLARK RD	Commercial	Yes		TC
053-150-197-000	PARADISE IRRIGATION DISTRICT		Commercial	Yes		CS
053-150-198-000	PARADISE IRRIGATION DISTRICT		Single Family	Yes		TC
053-150-199-000	PARADISE IRRIGATION DISTRICT		Single Family	Yes		TC
053-380-001-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-002-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-003-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-004-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-005-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-006-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-007-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-008-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-009-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-010-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-011-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-012-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-013-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-014-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-015-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-016-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-017-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-018-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-019-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-020-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-021-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
053-380-022-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-023-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-024-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-025-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-026-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-027-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-028-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-029-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-030-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-031-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-032-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-033-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-034-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-035-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-036-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-037-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-038-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-039-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-040-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-041-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-042-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-043-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-044-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	Condos being built	MR
053-380-099-000	EAGLEPOINTE PACIFIC ASSOC CLP	5975 MAXWELL DR	Vacant	No	In development	MR
053-400-001-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-002-000	BALBUTIN JANET A TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-003-000	HADLEY FAMILY TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-004-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-005-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-006-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-007-000	NISWONGER JEROME W H & BRENDA REVOCABLE TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-008-000	WILLIAMS JENNIFER DIANE LIVING TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-009-000	ZUMWALT RICHARD & BARBARA	6283 CLARK RD	Commercial	Yes		CS
053-400-010-000	NISWONGER JEROME W H & BRENDA REVOCABLE TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-011-000	NISWONGER JEROME W H & BRENDA REVOCABLE TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-012-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-013-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-014-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-015-000	FEATHER RIVER HOSPITAL	6283 CLARK RD	Commercial	Yes		CS
053-400-016-000	BRASCH FAMILY TRUST	6283 CLARK RD	Commercial	Yes		CS
053-400-018-000	PARADISE MEDICAL CENTER BUILDING OWN ASSOC		Vacant	No		CS
053-400-019-000	FEATHER RIVER HOSPITAL ETAL		Vacant	No		CS
053-400-099-000			Vacant	No		CS

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-010-097-000	NEADE MICHAEL L AND EMERLINE R FAMILY TRUST	5770 CLARK RD	Commercial	Trailer	RV park with building	TC
054-010-098-000	TRMC RETAIL LLC	5734 CLARK RD	Vacant	Trailer		TC
054-010-100-000	JONES RON & JODY REVOCABLE INTER VIVOS TRUST	5780 CLARK RD	Vacant	No		TC
054-010-105-000	A-1 U-LOCK MINI STORAGE LLC	5790 CLARK RD	Vacant	No		TC
054-010-114-000	KASZA JENNIFER & ATTILA FAMILY TRUST ETAL	5796 CLARK RD	Vacant	No		TC
054-010-115-000	A-1 U-LOCK MINI STORAGE LLC	5792 CLARK RD	Commercial	Yes	Storage	TC
054-040-009-000	HART DEIDRE	5704 SUSIE LN	Vacant	No		TC
054-040-010-000	PUGS PROPERTIES LLC	5710 SUSIE LN	Single Family	Yes		TR
054-040-015-000	YOUTH FOR CHANGE	581 PEARSON RD	Vacant	No		TC
054-040-016-000	CVMP LLC	573 PEARSON RD	Vacant	No		TC
054-040-020-000	BRASWELL ELLEN & CECIL REV MANAGEMENT TRUST	549 PEARSON RD	Commercial	Yes		TC
054-040-021-000	BUTTE COUNTY	541 PEARSON RD	Commercial	Yes		TC
054-040-023-000	COUNTY OF BUTTE	539 PEARSON RD	Vacant	No		TR
054-040-024-000	PARADISE COMMUNITY GUILDS INC	511 PEARSON RD	Vacant	No		TC
054-040-025-000	PARADISE UNIFIED SCHOOL DISTRICT	503 PEARSON RD	Vacant	No		TC
054-040-026-000	CALIFORNIA STATE GRANGE	5704 CHAPEL DR	Vacant	No		TR
054-040-027-000	ROBERTS MARK E & SUSAN L ETAL	5705 CHAPEL DR	Single Family	Yes		TR
054-040-039-000	JACKSON LEROY	5710 ACADEMY DR	Vacant	No		TR
054-040-045-000	MONTOYA FAMILY TRUST	5711 CHURCHILL RD	Single Family	Yes		TR
054-040-046-000	MENDOZA ISAAC & AGUILAR ISABELLA ROSE	5707 CHURCHILL RD	Single Family	Yes	Being built	TR
054-040-049-000	BARE MARK E & CINDY	5703 CHURCHILL RD	Single Family	Yes	Being built	TR
054-040-050-000	MANGRUM FAMILY TRUST	PEARSON RD	Vacant	No		TC
054-040-051-000	CALIFORNIA VOCATIONS INC	633 PEARSON RD	Commercial	Yes		TC
054-040-052-000	COPPING LIVING FAMILY TRUST	5710 CHURCHILL RD	Vacant	No		TR
054-040-055-000	STARK CAROL R	491 PEARSON RD	Commercial	Yes		TC
054-040-056-000	DREBERT CRAIG A REV INT VIV TRUST	635 PEARSON RD	Commercial	Yes		TC
054-040-062-000	HALL PETROLEUM COMPANY	5725 CLARK RD	Commercial	Yes		TC
054-040-066-000	LANG SYDNEY & LOIS TRUST	5724 SYDNEY LN	Single Family	Yes		TR
054-040-071-000	ANDRONIC CONSTANTIN & MICHAELA	887 RITA LN	Vacant	No		TR
054-040-079-000	HABITAT FOR HUMANITY OF BUTTE COUNTY	5700 ACADEMY DR	Single Family	Yes		TR
054-040-089-000	HASS JEFFERY T	637 PEARSON RD	Commercial	Yes		TC
054-040-100-000	CRAWFORD GWEN V	886 RITA LN	Vacant	No		TR
054-040-102-000	ROBERTS MARK E FAMILY TRUST	893 RITA LN	Single Family	Yes		TR
054-040-105-000	HABITAT FOR HUMANITY OF BUTTE COUNTY	5696 ACADEMY DR	Single Family	Yes		TR
054-040-106-000	ROBERTS MARK E FAMILY TRUST	5698 ACADEMY DR	Vacant	No		TR
054-040-110-000	SCOTT MARIANNE T REVOCABLE INTER VIVOS TRUST	591 PEARSON RD	Vacant	No		TC
054-040-111-000	TRAVERS REVOCABLE INTER VIVOS TRUST	529 PEARSON RD	Commercial	Yes		TC
054-040-112-000	TRAVERS REVOCABLE INTER VIVOS TRUST		Vacant	No		TC
054-040-113-000	CALIFORNIA VOCATIONS INC	565 PEARSON RD	Vacant	Trailer		TR
054-040-114-000	ANDERSON ERIK H & THELMA ETAL	5708 SYDNEY LN	Vacant	No		TR
054-040-115-000	LANG SYDNEY & LOIS TRUST		Vacant	No		TR
054-040-116-000	KITTO GARY A & JULIE A	5799 CLARK RD	Vacant	No		TC
054-040-117-000	KITTO GARY & JULIE A	5799 CLARK RD	Vacant	No		TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-040-121-000	VACATION PROPERTIES LLC	5775 CLARK RD	Commercial	Yes		TC
054-040-122-000	MANGRUM FAMILY TRUST	635 PEARSON RD	Vacant	Trailer	Multiple rvs don't look lived in	TC
054-040-124-000	CONLY PAMELA A & HOWARD	508 NUNNELEY RD	Vacant	No		TR
054-040-125-000	DALOISIO JAMES A SPECIAL NEEDS TRUST	504 NUNNELEY RD	Vacant	Other	Shed	TR
054-040-126-000	VANORDER DAVID H & ANDREA K	500 NUNNELEY RD	Vacant	No		TR
054-040-127-000	SCHROEDER SAMANTHA ETAL	498 NUNNELEY RD	Vacant	No		TR
054-040-128-000	PHELAN JULIA REV LIVING TRUST	494 NUNNELEY RD	Vacant	No		TR
054-040-129-000	NACOL QUINN ELIZABETH & KYLE	490 NUNNELEY RD	Single Family	Yes		TR
054-040-130-000	NASTRI FAMILY TRUST	482 NUNNELEY RD	Vacant	No		TR
054-040-131-000	HINDMARSH PRISCILLA A FAMILY TRUST	480 NUNNELEY RD	Vacant	No		TR
054-040-132-000	RHODEN AMBER S	478 NUNNELEY RD	Vacant	No		TR
054-040-133-000	SCOTT JAMES B	474 NUNNELEY RD	Vacant	No		TR
054-040-134-000	HUBBARD MADELINE	5750 ACADEMY DR	Vacant	No		TR
054-040-135-000	PARADISE IRRIGATION DISTRICT		Commercial	Other	Water tank	PI
054-040-136-000	NO CALIF CONF ASSN SEVENTH DAY ADVENTISTS	5720 ACADEMY DR	Vacant	Trailer	Under construction	CS
054-040-137-000	HAYES ARTHUR C & MELISSA	5719 SUSIE LN	Single Family	Yes		TR
054-040-138-000	VAIL ALAN G & JANET M FAMILY TRUST	597 PEARSON RD	Vacant	No		TC
054-040-143-000	DAWSON CINDY DIANE	5781 CLARK RD	Vacant	No		TC
054-040-144-000	VACATION RENTAL PROPERTIES LLC	5821 CLARK RD	Commercial	Yes		TC
054-040-145-000	KINCAIDE FAMILY TRUST	5791 CLARK RD	Vacant	No		TC
054-040-146-000	GOLD NUGGET DAYS INC	459 PEARSON RD	Commercial	Yes		TC
054-040-147-000	WILKINSON FAMILY TRUST ETAL	555 PEARSON RD	Vacant	No		TC
054-040-148-000	GLEASON EDWARD & FREDALEE REV TRUST	615 PEARSON RD	Vacant	Other	Foundation construction in process	TC
054-050-003-000	PARADISE RECREATION DISTRICT	502 PEARSON RD	Vacant	No		PI
054-050-005-000	PARADISE UNIFIED SCHOOL DISTRICT	588 PEARSON RD	Vacant	No		PI
054-050-023-000	PARADISE UNIFIED SCHOOL DISTRICT	5657 RECREATION DR	Commercial	Yes		PI
054-050-027-000	TOVALIN JUAN MICHAEL	5667 CLARK RD	Vacant	No		TC
054-050-028-000	PARADISE UNIFIED SCHOOL DISTRICT	622 PEARSON RD	Vacant	No		PI
054-050-029-000	WILLIAM DERBY LLC ETAL	5657 CLARK RD	Vacant	No		TC
054-050-030-000	BANNISTER STUART L & TERRIE L	5647 CLARK RD	Vacant	No		TC
054-050-040-000	DEOL HITPAL S & DAVINDER K	658 PEARSON RD	Vacant	No		TC
054-050-089-000	672 PEARSON LLC	672 PEARSON RD	Commercial	Yes		TC
054-050-092-000	PARADISE UNIFIED SCHOOL DISTRICT		Commercial	Trailer		PI
054-050-093-000	KIM CHUL Y	646 PEARSON RD	Vacant	No		TC
054-050-101-000	MALLAN FAMILY LLC	458 PEARSON RD	Commercial	Yes		TC
054-050-102-000	SHELL DAVE & TERI	1085 BUSCHMANN RD	Vacant	No		TC
054-050-103-000	SHELL DAVE & TERI	5645 CLARK RD	Vacant	No		TC
054-060-101-000	PARADISE LAND PROJECT LLC LESSOR	5600 CLARK RD	Commercial	Other	Construction trailers PG&E	MR
054-060-102-000	PARADISE LAND PROJECT LLC LESSOR	CLARK RD	Commercial	Other	Construction trailers PG&E	MR
054-060-103-000	PARADISE LAND PROJECT LLC LESSOR	CLARK RD	Commercial	Other	Construction trailers PG&E	MR
054-060-104-000	COUCHOT LESLIE & MAURICE JR	5700 CLARK RD	Commercial	Yes		TC
054-080-005-000	KNAUFF RONALD G		Vacant	No		MR
054-080-016-000	STRONG MAN EQUIPMENT LLC	5520 CLARK RD	Vacant	No		TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-080-021-000	EMSHIRE LLC	5552 CLARK RD	Vacant	Other	Construction trailer	TC
054-080-022-000	WU CHIH HWA & HU YI	5542 CLARK RD	Commercial	Yes		TC
054-080-038-000	BLUE HAVEN MHP LLC	5500 CLARK RD	Multi-Family	Yes		MR
054-080-043-000	STRONG MAN EQUIPMENT LLC	5524 CLARK RD	Vacant	No		TC
054-080-044-000	MARTIN JOHN	5522 CLARK RD	Multi-Family	Yes		TC
054-080-061-000	CROSSFIRE TREE & VEGETATION SERVICES INC	5460 CLARK RD	O	Other	Construction yard with trailer	TC
054-080-064-000	JONES JAMES W & MARY B FAMILY TRUST		Vacant	No		TC
054-080-065-000	COMPAC ENGINEERING INC	1111 NOFFSINGER LN	Commercial	Yes		TC
054-090-028-000	VISINONI DINO & LISA FAMIY TRUST ETAL	5505 CLARK RD	Vacant	Other	Construction trailer	TC
054-090-029-000	SAMPSON REAL ESTATE LLC	5491 CLARK RD	Vacant	Other	Shed	TC
054-090-054-000	PETERSON FAMILY TRUST	1080 BUSCHMANN RD	Vacant	No		MR
054-090-063-000	SCOUGALE BARRY & KAREN TRUST	5557 CLARK RD	Vacant	No		TC
054-090-064-000	VISINONI DINO & LISA FAMIY TRUST ETAL	5515 CLARK RD	Vacant	No		TC
054-090-068-000	FIRST ASSEMBLY OF GOD OF PARADISE	5445 CLARK RD	Commercial	Yes		TC
054-090-070-000	NORTHGATE REAL ESTATE LLC ETAL	5475 CLARK RD	Commercial	Yes		TC
054-110-023-000	ROONEY FAMILY TRUST	5427 CLARK RD	Single Family	Yes		TC
054-110-050-000	COLE JUAN III	1080 EWALD CT	Commercial	Yes		LI
054-110-053-000	MAEHL FAMILY REVOCABLE IV TRUST	1091 EWALD CT	Commercial	Yes	Storage	LI
054-110-054-000	MARTIN FAMILY TRUST ESTATE	1103 EWALD CT	Vacant	No		LI
054-110-058-000	HEINKE PROPERTIES LLC	5369 CLARK RD	Vacant	Other	Construction trailer	LI
054-110-061-000	COLE JUAN REX III	5385 CLARK RD	Commercial	Yes		LI
054-110-062-000	COLE JUAN REX III	5399 CLARK RD	Commercial	Yes		LI
054-120-016-000	MOORE V DIANE REVOCABLE TRUST	5372 CLARK RD	Vacant	No		TC
054-120-017-000	GREGORY LISA-ANNE ETAL	5370 CLARK RD	Vacant	No		TC
054-120-019-000	HEINKE JOHN RANDAL	5360 CLARK RD	Vacant	No	Covered storage	LI
054-120-021-000	PINECREST MOBILE HOME PARK LLC	5436 CLARK RD	Vacant	No	Abandoned rv and car	MR
054-120-033-000	MONTGOMERY FAMILY TRUST	5420 CLARK RD	Vacant	No		TC
054-120-056-000	EDWARDS SHANE G & JENNIFER L	5340 CLARK RD	Single Family	Yes		AR
054-120-061-000	HHAYS INCORPORATED	5380 CLARK RD	Vacant	No		TC
054-120-070-000	WILSON FAMILY TRUST	5368 CLARK RD	Commercial	Yes		AR
054-120-075-000	HHAYS INCORPORATED	1111 EWALD CT	Commercial	Yes		TC
054-120-076-000	HHAYS INCORPORATED		Vacant	No		TC
054-120-077-000	HHAYS INCORPORATED	5400 CLARK RD	Commercial	Yes		TC
054-120-078-000	ROGERS MATTHEW & REBECCA	1115 EWALD CT	Commercial	Yes		TC
054-290-038-000	GARCIA MARTIN RIVERA & DERIVERA ADRIANA GARCIA REV	5836 CLARK RD	Commercial	Yes	Sheds	TC
054-290-040-000	CALVARY BAPTIST CHURCH PARADISE	5850 CLARK RD	Vacant	No		CS
054-290-041-000	STP CAPITAL LLC	5820 CLARK RD	Vacant	No		TC
054-290-042-000	STP CAPITAL LLC	5826 CLARK RD	Vacant	Other	Shed	TC
054-290-044-000	AMERICAN DREAM CONSTRUCTION INC	5810 CLARK RD	Commercial	Yes		TC
054-330-016-000	JAS PROPERTIES LLC	5859 CLARK RD	Commercial	Yes		TC
054-330-018-000	SMITH BRADLEY M REVOCABLE TRUST	5875 CLARK RD	Vacant	No	Under construction	TC
054-330-019-000	GAJDA DAVID & DANA TRUST	5889 CLARK RD	Commercial	Yes		TC
054-330-024-000	VACATION RENTAL PROPERTIES LLC	5821 CLARK RD	Commercial	Yes	Storage	TC

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-330-025-000	CORRIGAN PATRICK T & JILL A	5837 CLARK RD	Commercial	Yes		TC
054-330-026-000	CORRIGAN PATRICK T & JILL A	5835 CLARK RD	Commercial	Yes		TC
054-350-001-000	CHRISTENSEN RUTH ANN TRUST	12296 STONE CANYON CT	Single Family	Yes		MR
054-350-002-000	WRIGHT REBEKAH L LIVING TRUST	12294 STONE CANYON CT	Single Family	Yes		MR
054-350-003-000	BELL ROBERT O & CYNTHIA A FAMILY TRUST	12292 STONE CANYON CT	Single Family	Yes		MR
054-350-004-000	COBB TRUST	12290 STONE CANYON CT	Single Family	Yes		MR
054-350-005-000	BRUNSON KATHLEEN M	4264 FIELDSTONE CT	Single Family	Yes		MR
054-350-006-000	GRIFFITHS GEORGE H & VALERIE J	4262 FIELDSTONE CT	Single Family	Yes		MR
054-350-007-000	ANDERSON SHERI	4260 FIELDSTONE CT	Single Family	Yes		MR
054-350-008-000	ROGERS BETTY A LIVING TRUST	4258 FIELDSTONE CT	Single Family	Yes		MR
054-350-009-000	LOOMIS DONALD R & JANE W	4256 FIELDSTONE CT	Single Family	Yes		MR
054-350-010-000	RYAN INTER VIVOS SURVIVORS TRUST	4257 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-011-000	COX DOLORES A REVOCABLE INTER VIVOS TRUST	4259 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-012-000	GRAY KATHY	4261 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-013-000	LINDSAY DANIELLE A	4263 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-014-000	SINCLAIR SHELLI	4262 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-015-000	DEWITT LESLIE A TRUST	4260 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-016-000	COOKE JODIE A	4258 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-017-000	MARTIN FAMILY TRUST	4256 ROCKY RIDGE CT	Single Family	Yes		MR
054-350-018-000	MAZUR MARLA	12244 STONERIDGE CIR	Single Family	Yes		MR
054-350-019-000	WOOD SUN KIM P	12240 STONERIDGE CIR	Single Family	Yes		MR
054-350-020-000	LINDGREN REVOCABLE TRUST	12236 STONERIDGE CIR	Single Family	Yes		MR
054-350-021-000	HEFFERNAN SUSAN	12247 STONERIDGE CIR	Single Family	Yes		MR
054-350-022-000	MALONE JOHN TRUST	12251 STONERIDGE CIR	Single Family	Yes		MR
054-350-023-000	PRESENTATI JAMES & KATHLEEN	12253 STONERIDGE CIR	Single Family	Yes		MR
054-350-024-000	DYSERT KATHLEEN A REVOCABLE TRUST	12257 STONERIDGE CIR	Single Family	Yes		MR
054-350-025-000	MILLER SCOTT ETAL	12259 STONERIDGE CIR	Single Family	Yes		MR

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-350-026-000	JOHNSON FAMILY TRUST	4242 STONECREST CT	Single Family	Yes		MR
054-350-027-000	MORTON LIVING TRUST	4240 STONECREST CT	Single Family	Yes		MR
054-350-028-000	PRIETO ISADORE JOHN JR & LORI ANN	4238 STONECREST CT	Single Family	Yes		MR
054-350-029-000	JOHNS KATHERINE I ETAL	4236 STONECREST CT	Single Family	Yes		MR
054-350-030-000	JACQUES FAMILY REV TRUST	4234 STONECREST CT	Single Family	Yes		MR
054-350-031-000	JOHNSON FAMILY TRUST	12290 STONECREEK CT	Single Family	Yes		MR
054-350-032-000	COFFMAN ANITA J	12292 STONECREEK CT	Single Family	Yes		MR
054-350-033-000	ARNOLDY MARY DEENA REV TRUST	12294 STONECREEK CT	Single Family	Yes		MR
054-350-034-000	MARTIN FAMILY TRUST	12296 STONECREEK CT	Single Family	Yes		MR
054-350-035-000	PONCI JENNIFER TRUST	4249 FIELDSTONE CT	Single Family	Yes		MR
054-350-036-000	ORR DEBRA JEAN LIVING TRUST	4251 FIELDSTONE CT	Single Family	Yes		MR
054-350-037-000	JACOBSON WILLIAM & PERRY SUSAN TRUST	4253 FIELDSTONE CT	Single Family	Yes		MR
054-350-038-000	SZEKER FAMILY TRUST	4255 FIELDSTONE CT	Single Family	Yes		MR
054-350-039-000	STAHL FAMILY TRUST	4257 FIELDSTONE CT	Single Family	Yes		MR
054-360-001-000	PEPPER NANCY M	12139 STONERIDGE CIR	Single Family	Yes		MR
054-360-002-000	HERRICK RAY FAMILY TRUST	12141 STONERIDGE CIR	Single Family	Yes		MR
054-360-003-000	SCHREIBER FAMILY TRUST	12143 STONERIDGE CIR	Single Family	Yes		MR
054-360-004-000	JASPERSON JOHN A LIVING TRUST	12145 STONERIDGE CIR	Single Family	Yes		MR
054-360-005-000	MCCONNELL CYNTHIA K ETAL	12149 STONERIDGE CIR	Single Family	Yes		MR
054-360-006-000	FAWRUP FAMILY TRUST	12151 STONERIDGE CIR	Single Family	Yes		MR
054-360-007-000	ANDERSON THERESE MARIE	12153 STONERIDGE CIR	Single Family	Yes		MR
054-360-008-000	KERN JAMES O & JOANN FAMILY LIVING TRUST	12157 STONERIDGE CIR	Single Family	Yes		MR
054-360-009-000	MCLANE FAMILY TRUST	12165 STONERIDGE CIR	Single Family	Yes		MR
054-360-010-000	CLIFF FAMILY TRUST	12169 STONERIDGE CIR	Single Family	Yes		MR
054-360-011-000	WALDEN FAMILY REV TRUST	12171 STONERIDGE CIR	Single Family	Yes		MR
054-360-012-000	SCOTT FAMILY TRUST	12175 STONERIDGE CIR	Single Family	Yes		MR



APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
054-360-013-000	DARLINGTON MARILYNN J TRUST	12177 STONERIDGE CIR	Single Family	Yes		MR
054-360-014-000	CORBIT BRIAN & KEITHA	12197 STONERIDGE CIR	Single Family	Yes		MR
054-360-015-000	MAZZONI JOHN CHARLES & ANNE LOUISE GIEL	12201 STONERIDGE CIR	Single Family	Yes		MR
054-360-016-000	DAVIS ETHEL E FAMILY TRUST	12203 STONERIDGE CIR	Single Family	Yes		MR
054-360-017-000	MANGRUM ROBERT A ETAL	12207 STONERIDGE CIR	Single Family	Yes		MR
054-360-018-000	MORROW REVOCABLE INTER VIVOS TRUST	12209 STONERIDGE CIR	Single Family	Yes		MR
054-360-019-000	SCOTT DWIGHT W & PENNY J	12211 STONERIDGE CIR	Single Family	Yes		MR
054-360-020-000	KNAPPENBERGER JO ANN	12217 STONERIDGE CIR	Single Family	Yes		MR
054-360-021-000	KNAPPENBERGER JO ANN	12219 STONERIDGE CIR	Single Family	Yes		MR
054-360-022-000	COBLE SHIRLEY J TRUST	12223 STONERIDGE CIR	Single Family	Yes		MR
054-360-023-000	DALESSANDRO KATHRYNN	12225 STONERIDGE CIR	Single Family	Yes		MR
054-360-024-000	BLOOMER REV IV TRUST	12289 STONECREEK CT	Single Family	Yes		MR
054-360-025-000	ARKENBERG FAMILY TRUST	12291 STONECREEK CT	Single Family	Yes		MR
054-360-026-000	FISHER HELEN J REVOCABLE LIVING TRUST	12293 STONECREEK CT	Single Family	Yes		MR
054-360-027-000	JOHNSON FAMILY TRUST	12295 STONECREEK CT	Single Family	Yes		MR
054-370-099-000			Commercial	Other	Sheds and rvs	MR
055-180-039-000	HOOGEVEEN NICOLAAS J	5060 OLD CLARK RD	Vacant	No		LI
055-180-049-000	HORNING M C JR	CLARK RD	Vacant	No		LI
055-180-073-000	WESTERN KEYS LLC	940 EASY ST	Commercial	Yes	Looks abandoned	LI
055-180-076-000	TOWN OF PARADISE	0 AMERICAN WAY	Commercial	Yes		LI
055-180-077-000	HORNING M C JR	951 AMERICAN WAY	Commercial	Other	Structure maybe shed.	LI
055-180-079-000	BULLOCK WARREN B & CHARYL S	5045 CLARK RD	Vacant	No		LI
055-180-080-000	TOWN OF PARADISE		Vacant	No		LI
055-180-083-000	LAGUNAS ALEJANDRO RIVERA & ORNELAS ANDREA RIVERA	5075 CLARK RD	Single Family	Yes		LI
055-180-085-000	BRANDI ANTONIO M & ANA O	5234 OLD CLARK RD	Vacant	No		AR
055-180-086-000	ANDERSON NIKKI LEE REV LIVING TRUST ESTATE	5220 OLD CLARK RD	Vacant	No		AR
055-180-087-000	SPRINGTIME HOMES INCORPORATED	5212 OLD CLARK RD	Single Family	Yes		AR
055-180-088-000	SPRINGTIME HOMES INC	5202 OLD CLARK RD	Vacant	No		AR
055-180-092-000	DOUVILLE-COLLIER SADIE A	1101 LANSER DR	Vacant	No		AR
055-180-095-000	CHAMBERS KELLY	840 PALMER HILL RD	Vacant	No		LI
055-180-097-000	HESK LLC	958 MCKALE RD	Commercial	Yes		LI

APN	Owner	Location	Parcel Type	Building Present?	Notes	Paradise Land Use Code
055-180-098-000	HESK LLC	0 AMERICAN WAY	Vacant	No		LI
055-180-099-000	NORTHERN HOLDINGS LLC	920 AMERICAN WAY	Commercial	Yes		LI
055-180-100-000	WESTERN KEYS LLC	919 EASY ST	Commercial	Yes		LI
055-180-101-000	WESTERN KEYS LLC	0 CLARK RD	Vacant	No		LI
055-180-104-000	MAI PROPERTIES LLC	5100 CLARK RD	Commercial	Yes		LI
055-190-013-000	MIHLD EDWARD JAMES & ZELLA MARIE	5035 CLARK RD	Vacant	No		LI
055-190-028-000	STEELE LEASING LLC	5024 CLARK RD	Vacant	No		LI
055-190-048-000	ARISTOTLE CUSTOM HOMES LLC	0 CLARK RD	Vacant	No		LI
055-190-056-000	WALKER DAVID LIVING TRUST ESTATE	839 DEER HAVEN CT	Vacant	No		LI
066-430-005-000	ABD EDWIN K REV LIVING TRUST	9325 SKYWAY	Vacant	No		TC
066-430-007-000	ABD EDWIN K REV LIVING TRUST	0 SKYWAY	Vacant	No		TC
066-440-017-000	RUDOLPH BERTRAM F JR ESTATE	9289 SKYWAY	Vacant	No	Road parcel	TC
066-440-018-000	GUY JOSHUA & KAMI	9291 SKYWAY	Vacant	No		TC
066-440-019-000	GUY JOSHUA & KAMI	9297 SKYWAY	Vacant	No		TC
066-440-020-000	VRBETA LIVING TRUST	9301 SKYWAY	Vacant	No		TC
066-440-021-000	TOPOLINSKI JAMES C	9315 SKYWAY	O	No	Looks like active construction (backhoe present)	TC
066-440-023-000	TGAS REAL ESTATE HOLDINGS LLC	9287 SKYWAY	Commercial	No	Propane lot	TC
066-440-024-000	TGAS REAL ESTATE HOLDINGS LLC	9287 SKYWAY	Commercial	No	Toms tree service	TC
066-460-019-000	SUPERIOR CONTRACTORS INC	9300 SKYWAY	Vacant	No	Concrete foundation spans both parcels. For sale	TC

APPENDIX 1C

# REVIEW OF WASTEWATER GENERATION RATES, DIURNAL PATTERNS, AND INFLOW AND INFILTRATION RATES

Table 1C.1 ADFW Assumptions for California Municipalities

Agency	Approximate Per Capita Flow (gpd/capita)	Commerical Range (gpd/ac)		Industrial Range (gpd/ac)	
<i>Atascadero, CA</i>	75	700	700	250	250
<i>Burlingame, CA</i>	50	1,300	1,300	1,400	1,400
<i>Chico, CA</i>	70	1,200	1,200	700	700
<i>Dixon, CA</i>	68	1,100	1,100	1,400	1,400
<i>DSRSD, CA</i>	60	700	900	900	900
<i>Fresno, CA</i>	60	230	760	1,290	2,690
<i>Galt, CA</i>	85	800	800	800	800
<i>King City, CA</i>	<i>n/a</i>	750	750	550	550
<i>Lincoln, CA</i>	99	1,600	1,600	2,500	2,500
<i>Madera, CA</i>	86	950	950	950	950
<i>Modesto, CA</i>	70	500	600	1,000	1,000
<i>Morro Bay, CA</i>	56	550	550	400	400
<i>MVSD, CA</i>	<i>n/a</i>	700	700	700	1,500
<i>Oakdale, CA</i>	52	400	900	200	200
<i>Oroville, CA</i>	73	600	2,000	150	1,000
<i>Salinas, CA</i>	55	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
<i>Shasta Lake, CA</i>	67	590	590	400	420
<i>St Helena, CA</i>	66	1,090	1,090	960	960
<i>Tracy, CA</i>	70	900	900	750	750
<i>Turlock, CA</i>	75	750	750	500	500
<i>West Sacramento, CA</i>	100	1,500	1,500	2,000	2,000

Notes:

(1) *Italic values are from Carollo master planning projects.*

Table 1C.2 Peak I/I Rates for California Municipalities

Agency	ADWF (mgd)	PWWF (mgd)	Area (acres)	Rough Estimate of Pk I/I Rate (gpd/ac)	Future Peak I/I Rate Assumed (gpd/ac)
Atascadero, CA	1.17	7.6	1,893	2,750	<i>In Progress</i>
Burlingame, CA	2.5	24.6	2,347	8,990	n/a
Chico, CA	6.38	21.9	7,227	1,800	750
Dixon, CA	1.09	4.3	2,397	1,060	500
DSRSD, CA	6.63	18.85	6,445	1,400	1,400
Fresno, CA	64.1	123.9	61,200	560	370
Galt, CA	2.3	7.01	2,766	1,370	500
King City, CA	0.86	4.36	976	3,230	1,000
Lincoln, CA	2.8	32.4	11,200	2,540	n/a
Madera, CA	6.1	15.5	8,236	850	n/a
Modesto, CA	21.5	68.6	22,563	1,710	1,000
Morro Bay, CA	0.88	7.9	8,715	770	1,000
MVSD, CA	1.15	5.66	2,312	1,750	1,000
Oakdale, CA	1.59	6.61	2,421	2,000	1,600
Oroville, CA	1.77	11.27	1,947	4,520	400
Salinas, CA	10.5	25.8	7,773	1,970	500
Shasta Lake, CA	0.63	4.8	1,564	2,510	n/a
St Helena, CA	0.39	5.09	746	6,090	500
Tracy, CA	7.35	16.95	7,176	930	500
Turlock, CA	10.6	41.7	10,757	2,500	1,000
West Sacramento, CA	4.66	22.73	14,772	1,100	n/a
Average	n/a	n/a	n/a	2,400	800

Notes:

(1) Italic values are from Carollo master planning projects.

Table 1C.3 City of Chico Example Residential Diurnal Flow Curve

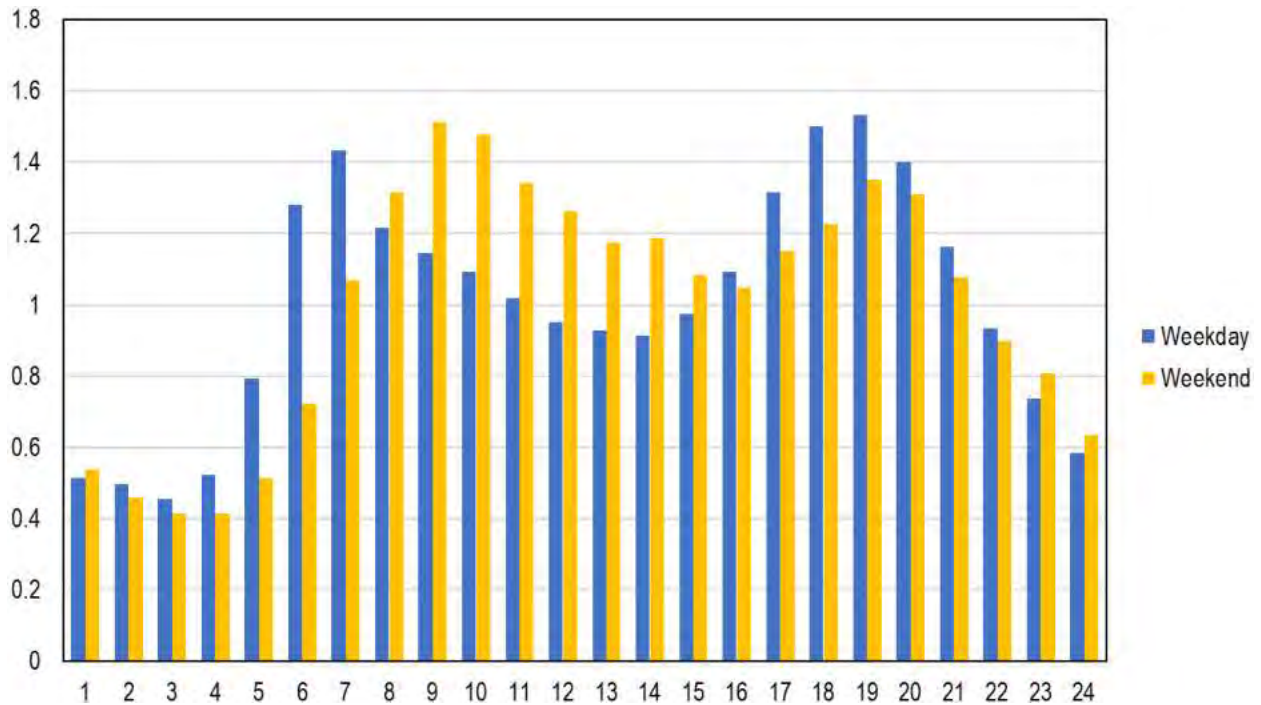


Table 1C.4 City of Chico Example Non-Residential Diurnal Flow Curve

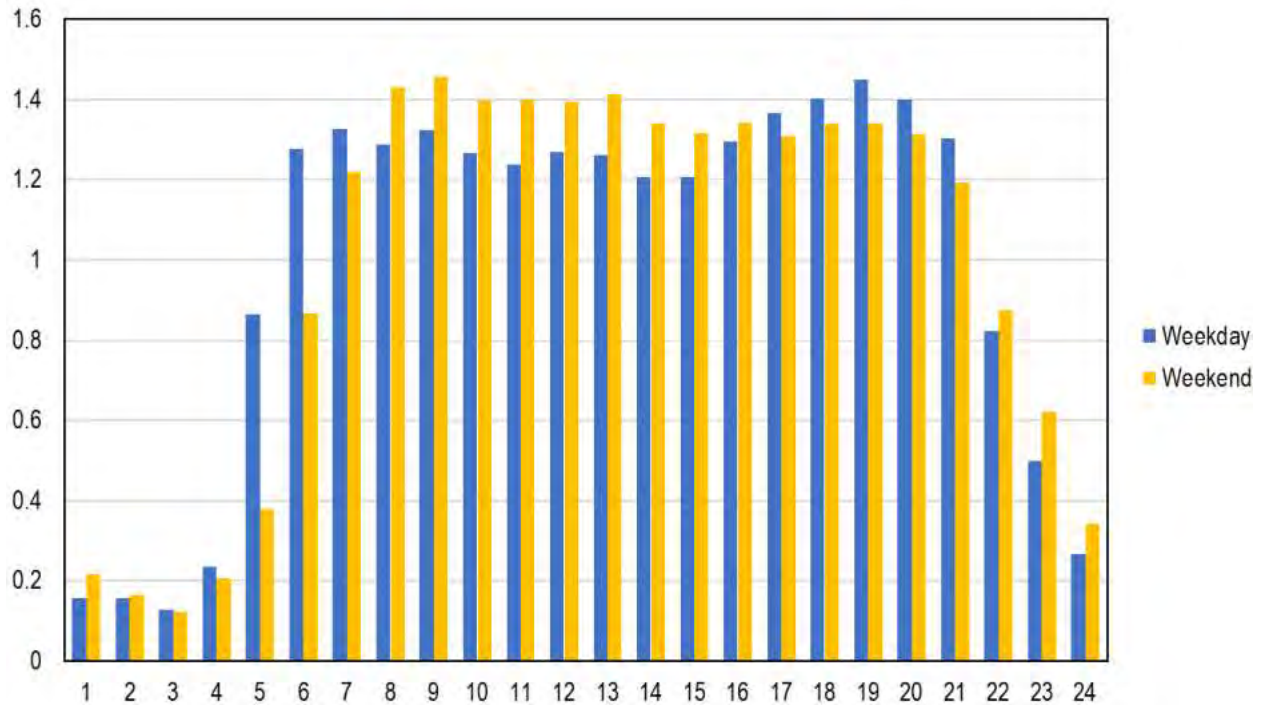


Table 1C.5 Agency 1 Residential Diurnal Flow Curve

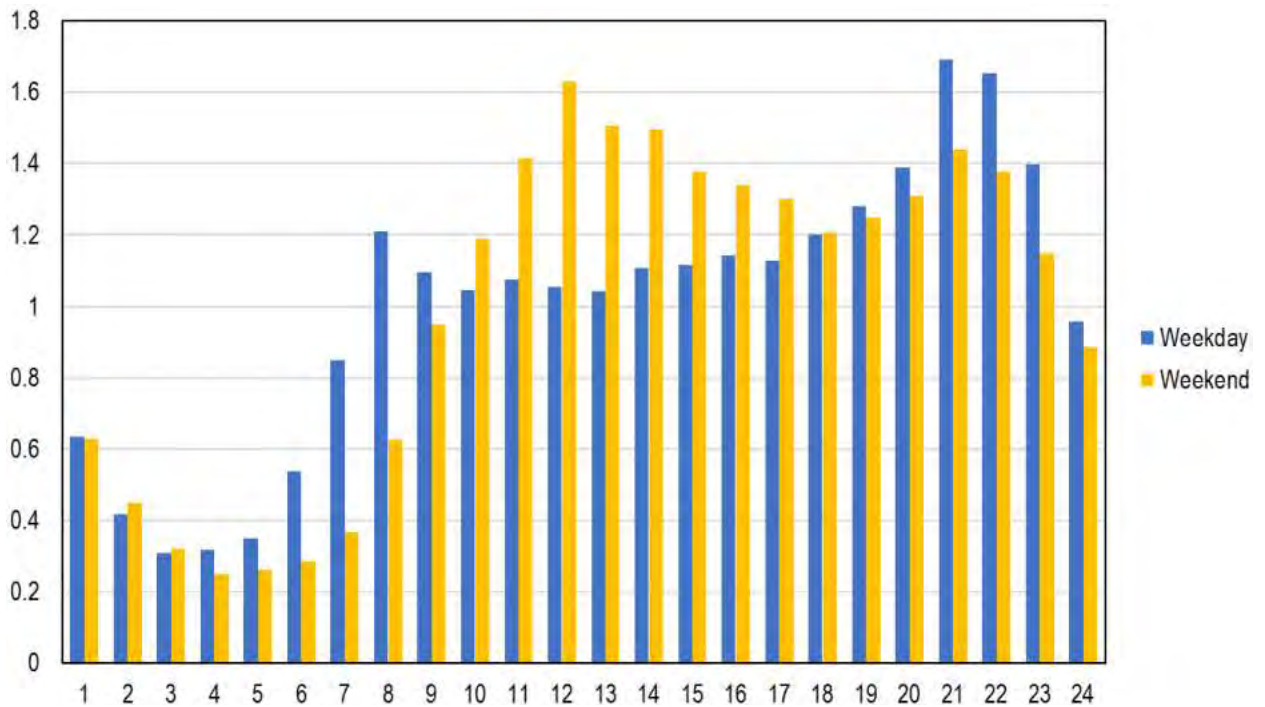


Table 1C.6 Agency 1 Non-Residential Diurnal Flow Curve

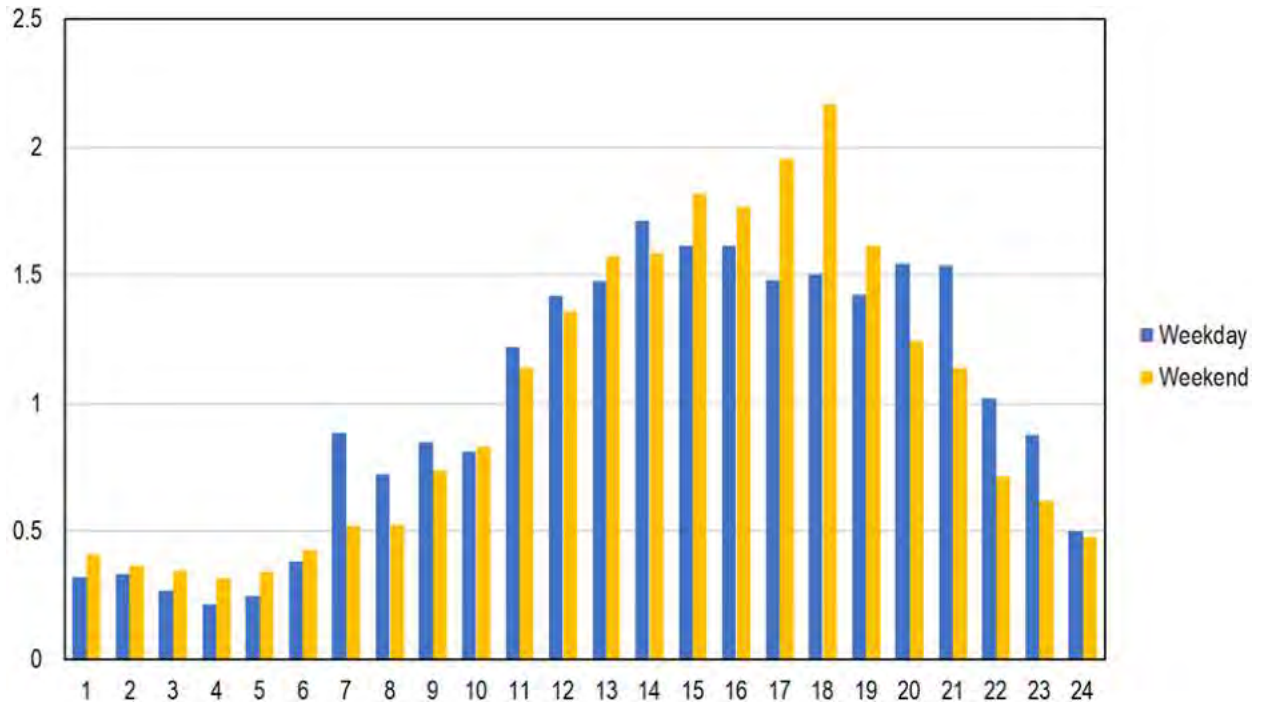


Table 1C.7 Agency 2 Residential Diurnal Flow Curve

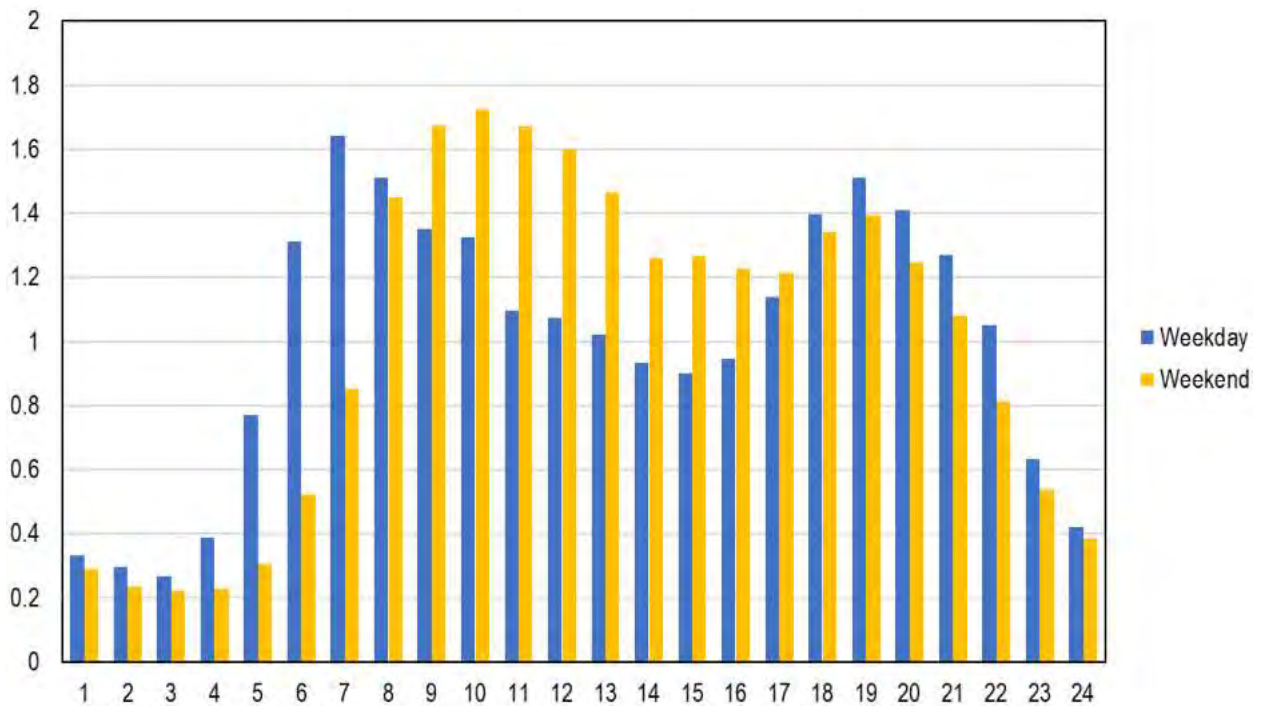
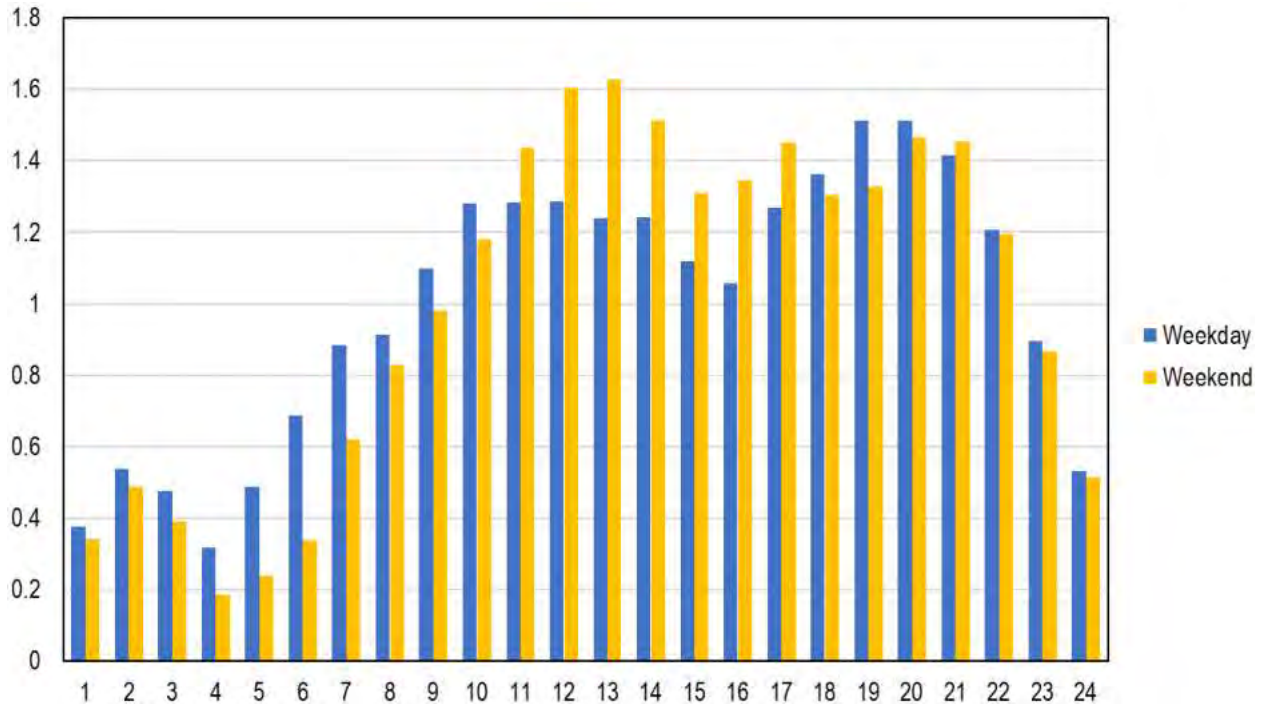


Table 1C.8 Agency 2 Non-Residential Diurnal Flow Curve





APPENDIX B

# P18 HYDRAULIC ANALYSIS



TOWN OF PARADISE  
Paradise Sewer Project

TECHNICAL MEMORANDUM 2

# City of Chico P-18 Analysis



DRAFT / October 2024





TOWN OF PARADISE  
**Paradise Sewer Project**

TECHNICAL MEMORANDUM 2

# City of Chico P-18 Analysis

DRAFT / October 2024

This document is released for the purpose of information exchange review and planning only under the authority of Ryan F. Orgill, October 31, 2024, California C-75802.

# Contents

## TM 2 CITY OF CHICO P-18 ANALYSIS

2.1	Introduction	2-1
2.1.1	Purpose	2-1
2.1.2	Background	2-1
2.2	Methodology	2-2
2.2.1	Wastewater Flow Rates	2-2
2.2.2	City of Chico Planning Criteria	2-2
2.3	Capacity Analysis	2-4
2.3.1	Sewer Service Area Peak Wet Weather Flow	2-5
2.3.2	Extended Sewer Service Area Peak Wet Weather Flow	2-7
2.4	Findings and Recommendations	2-9

# Appendices

## APPENDIX 2A CITY OF CHICO WASTEWATER COLLECTION SYSTEM HYDRAULIC GRADE LINES

# Tables

Table 2.1	Project Wastewater Flow Rates	2-2
Table 2.2	Maximum Flow Depth Criteria	2-4
Table 2.3	SSA PWWF - Initial and Secondary Pipeline Deficiencies by Diameter	2-5
Table 2.4	Extended SSA PWWF - Initial and Secondary Pipeline Deficiencies by Diameter	2-7

# Figures

Figure 2.1	Overview of Project	2-1
Figure 2.2	Overview of P-18 and the City's Wastewater Collection System	2-3
Figure 2.3	SSA PWWF - Initial and Secondary Pipeline Deficiencies	2-6
Figure 2.4	Extended SSA PWWF - Initial and Secondary Pipeline Deficiencies	2-8

## Abbreviations

ADWF	average dry weather flow
Carollo	Carollo Engineers, Inc.
Chico Master Plan	City of Chico's Wastewater Collection System Master Plan
City	City of Chico
Design-Builder	MCI and Carollo
d/D	depth to pipe diameter ratio
HGL	hydraulic grade line
MCI	Mountain Cascade, Inc.
P-18	Project 18
PDB	progressive design build
PDWF	peak dry weather flow
Project	Paradise Sewer Project
PWWF	peak wet weather flow
SSA	sewer service area
TM	technical memorandum
Town	Town of Paradise
WPCP	water pollution control plant

## TM 2 CITY OF CHICO P-18 ANALYSIS

### 2.1 Introduction

#### 2.1.1 Purpose

Mountain Cascade, Inc. (MCI) and Carollo Engineers, Inc. (Carollo) are teamed to design and construct the Paradise Sewer Project (Project) using an alternative project delivery method called progressive design build (PDB). MCI and Carollo (Design-Builder) developed this technical memorandum (TM) during the planning phase of the Project.

The purpose of this TM is to determine if the planned Project 18 (P-18) from the City of Chico's (City) Wastewater Collection System Master Plan (Chico Master Plan), as well as the City's existing infrastructure downstream of P-18, could accommodate the Project's peak flows as an alternative to the Project's export pipeline. A capacity analysis of P-18 was performed to provide a recommendation to the Town of Paradise (Town) regarding the viability of pursuing P-18 as an alternative to the Project's export pipeline.

#### 2.1.2 Background

The Project consists of two main components: the sewer collection system and an export pipeline that will convey the Town's wastewater 18 miles to the Water Pollution Control Plant (WPCP). The export pipeline consists of two sections of pipeline: 4.54 miles of stacked gravity pipeline, and 13.4 miles of gravity force main. Figure 2.1 is an overview of the Project with the initial alignment.

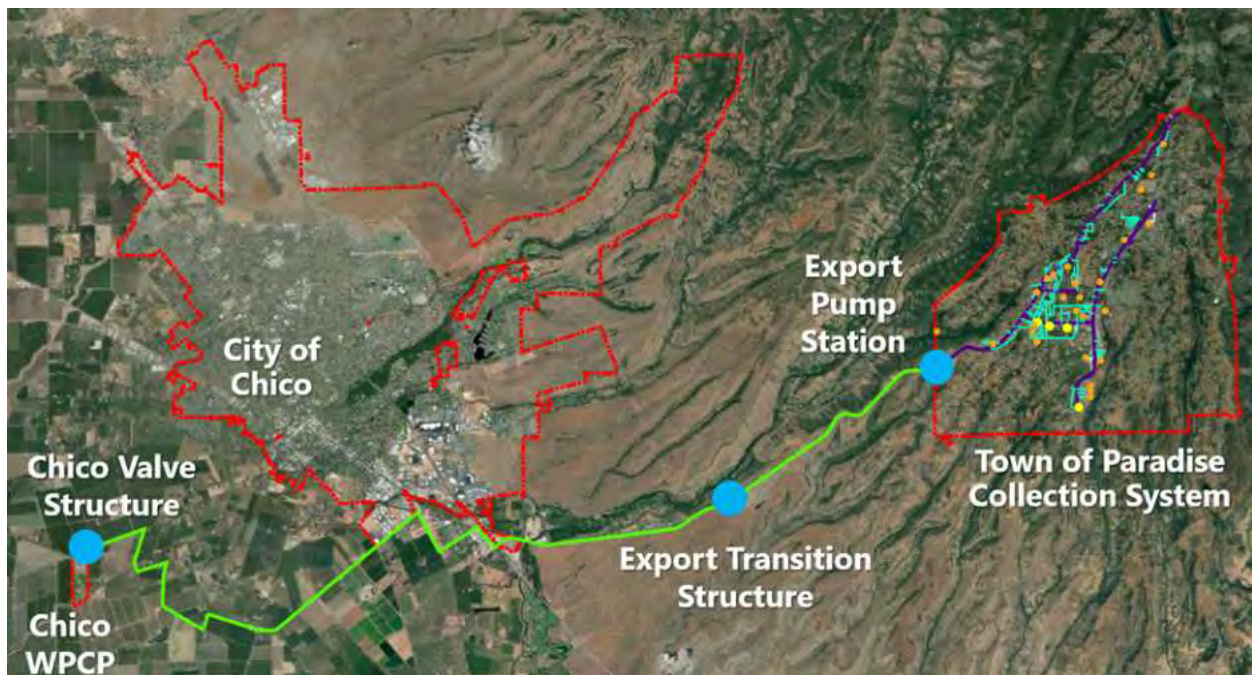


Figure 2.1 Overview of Project

For the purposes of this analysis, the Project’s projected peak flows were routed through the City’s collection system hydraulic model starting at P-18 as an alternative alignment to the Project’s export pipeline. Routing the Project’s wastewater flow through P-18 would eliminate the need for approximately 9.6 miles of gravity force main pipeline. The City’s wastewater collection system hydraulic model was used by the design build team with permission from the City to perform this analysis.

P-18 is a planned 24-inch gravity sewer project by the City anticipated to commence construction in 2025. The export pipeline, which will be installed parallel to the P-18 pipeline, will share a similar alignment as the export pipeline for approximately 8,400 feet along Hegan Lane, Entler Avenue, and at the Highway 99 crossing. For this analysis, the Paradise sewer flows were assumed to connect to P-18 behind the California Highway Patrol Chico Communications Center along Southgate Avenue, as shown on Figure 2.2.

## 2.2 Methodology

This section summarizes the methodology used to perform the hydraulic model runs and to identify deficiencies within the City’s collection system.

### 2.2.1 Wastewater Flow Rates

The City’s collection system was analyzed using the City’s build-out peak wet weather flow (PWWF) scenario along with additional wastewater flow from the Project. PWWF associated with the Paradise sewer service area (SSA) and 25 percent of the Extended SSA were routed through P-18. Table 2.1 contains the average dry weather flow (ADWF), peak dry weather flow (PDWF), and PWWF associated with the SSA and the Extended SSA.

Table 2.1 Project Wastewater Flow Rates

Scenario Flow Condition	Flow (million gallons per day)	
	SSA <sup>(1)</sup>	Extended SSA
ADWF	0.85	1.34
PDWF	1.21	2.05
PWWF	2.28	4.82

Notes:

(1) Includes flow associated with the Clark Road Extension, as described in *TM 1 - Sewer Collection System and Export Pipeline Hydraulic Modeling*.

### 2.2.2 City of Chico Planning Criteria

The City’s planning criteria, as established in the Chico Master Plan, were used to determine if the additional flow associated with Paradise would contribute to deficiencies downstream of the potential P-18 connection point. The primary criterion to identify pipeline capacity deficiencies or to size new sewer improvements is the maximum flow depth to pipe diameter ratio (d/D). The d/D is defined as the depth of flow (d) in a pipe during peak flow conditions divided by the pipe’s diameter (D). The following sections contain the accepted gravity pipe criteria from the Chico Master Plan.

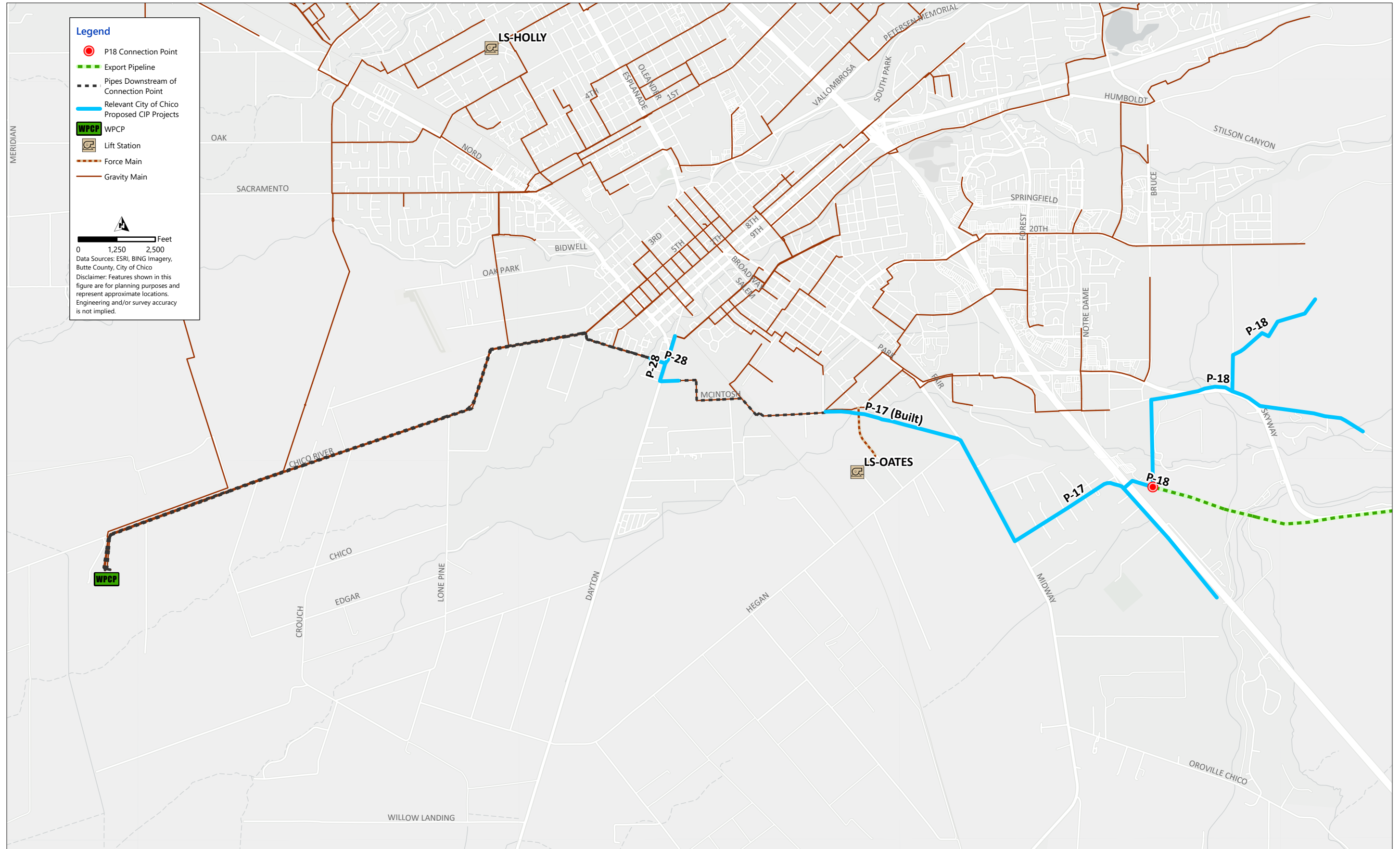


Figure 2.2 Overview of P-18 and the City's Wastewater Collection System  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT



### 2.2.2.1 Flow Depth for Existing Sewers

Existing sewers were evaluated upon the hydraulic grade line (HGL) in upstream and downstream manholes rather than using d/D criteria. The HGL, or water level, was allowed to rise to a distance halfway between the manhole rim and pipe crown, or up to 5 feet below the manhole rim during PWWF conditions, whichever is more conservative. This criterion is summarized in Table 2.2.

Table 2.2 Maximum Flow Depth Criteria

Maximum Flow Depth for Existing Sewers	
PWWF	Surcharge to halfway between manhole rim and pipe crown, or surcharge to 5 feet below rim.
Maximum d/D for New Sewers	
Pipe Diameter (inches)	Maximum d/D
Less than 12	0.50
12 to 18	0.67
Larger than 18	0.75

### 2.2.2.2 Flow Depth for New Sewers

For new pipes less than 12 inches in diameter, the d/D value was to be less than 0.5, or 50 percent, of the pipeline depth. For new 12- to 18-inch diameter pipes, the d/D value was to be less than 0.67. For new pipes larger than 18 inches in diameter, the d/D value was to be less than 0.75. The analysis criteria are summarized in Table 2.2.

## 2.3 Capacity Analysis

A capacity analysis was performed to identify hydraulic deficiencies when routing the Projects wastewater through the City’s collection system. Deficiencies were initially identified and were improved by increasing the pipeline diameter to eliminate any backwater surcharging, or “bottlenecking.” After improving an initial deficiency, a secondary deficiency may be observed downstream. Secondary deficiencies are created by the additional flow the improved pipe can convey downstream. Initial and secondary deficiencies were identified while routing the Project’s SSA and Extended SSA PWWF through the City’s collection system during the City’s build-out PWWF scenario.

HGL profiles that show how the City’s collection system responded to the additional flows from the Project can be found in Appendix 2A. Within Appendix 2A, various locations were inspected to compare HGLs from SSA PWWF and Extended SSA PWWF to the City’s build-out PWWF.

### 2.3.1 Sewer Service Area Peak Wet Weather Flow

Adding the SSA PWWF into the City’s collection system resulted in 7.6 miles of initial deficiencies and 3.7 miles of secondary deficiencies. Figure 2.3 shows the location of initial and secondary deficiencies. Table 2.3 contains the deficient pipeline diameter by length.

Table 2.3 SSA PWWF - Initial and Secondary Pipeline Deficiencies by Diameter

Pipe Diameter (inches)	Length of Deficient Pipeline (feet)	
	Initial Deficiency	Secondary Deficiency
10	200	-
14	940	-
16	130	10
18	6,480	380
20	260	10
21	310	-
24	15,090	11,440
27	4,390	-
33	10,980	6,980
36	600	130
39	170	300
42	540	10
<b>TOTAL</b>	<b>40,080 (7.6 miles)</b>	<b>19,250 (3.7 miles)</b>

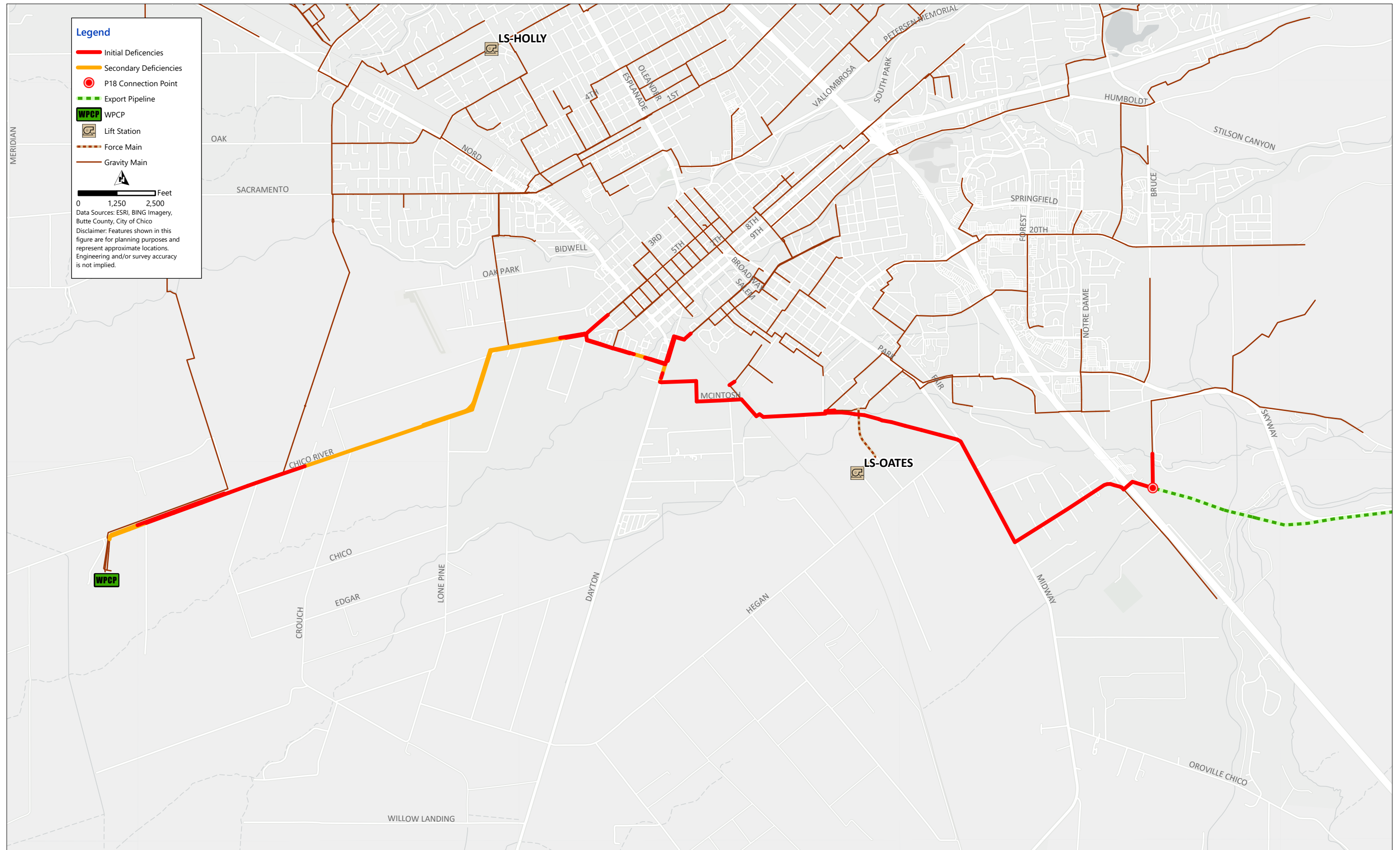


Figure 2.3 SSA PWWF - Initial and Secondary Pipeline Deficiencies  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

### 2.3.2 Extended Sewer Service Area Peak Wet Weather Flow

Adding the Extended SSA PWWF into the City’s collection system resulted in 10.8 miles of initial deficiencies and 3.6 miles of secondary deficiencies. Figure 2.4 shows the location of initial and secondary deficiencies. Table 2.4 contains the deficient pipeline diameter by length.

Table 2.4 Extended SSA PWWF - Initial and Secondary Pipeline Deficiencies by Diameter

Pipe Diameter (inches)	Length of Deficient Pipeline (feet)	
	Initial Deficiency	Secondary Deficiency
10	840	-
12	4,660	-
14	940	-
15	770	-
16	130	10
18	13,790	410
20	260	10
21	1,320	-
24	15,090	11,440
27	6,400	-
33	11,020	6,980
36	730	-
39	470	-
42	540	10
<b>TOTAL</b>	<b>56,970 (10.8 miles)</b>	<b>18,850 (3.6 miles)</b>

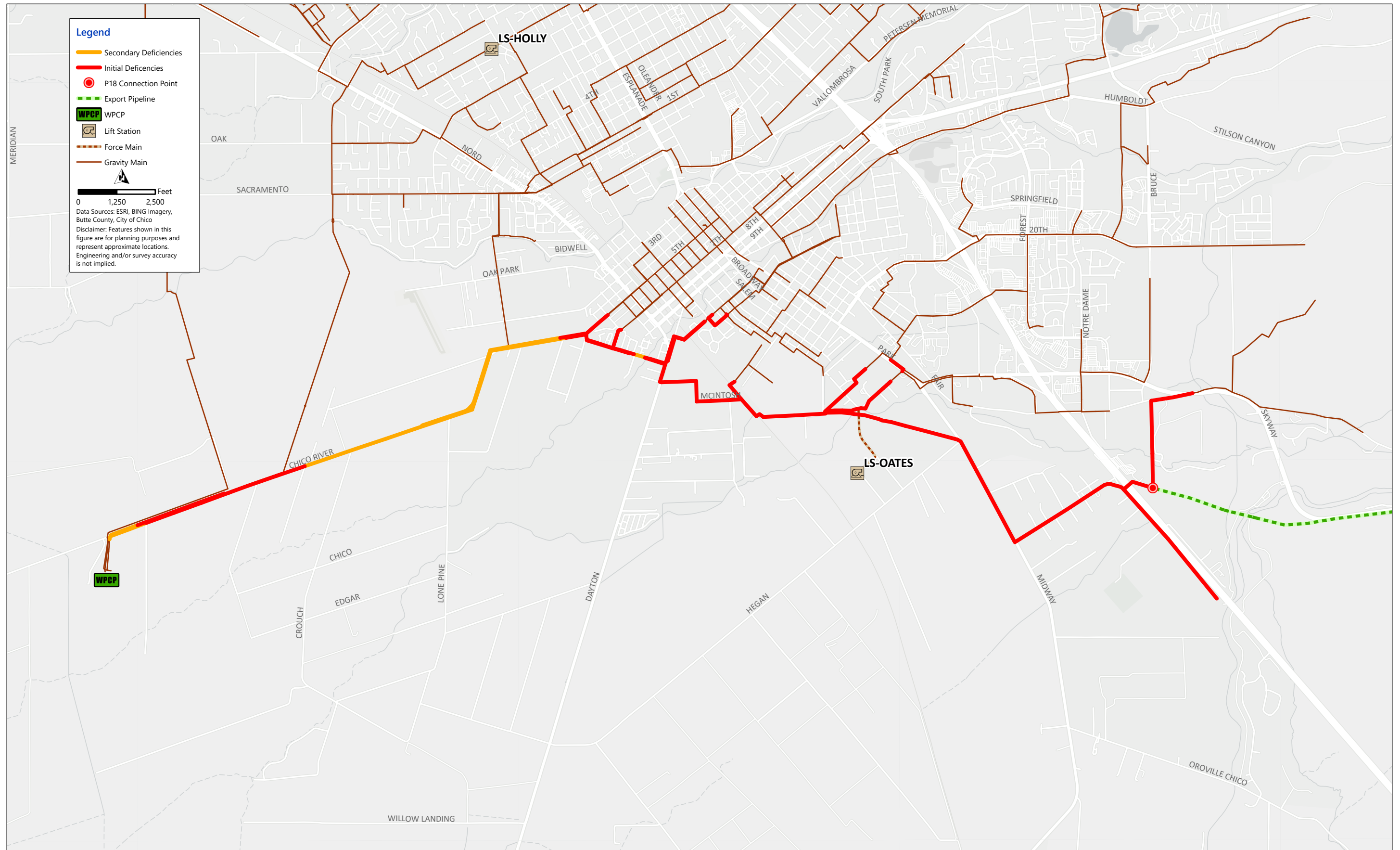


Figure 2.4 Extended SSA PWWF - Initial and Secondary Pipeline Deficiencies  
TOWN OF PARADISE  
PARADISE SEWER PROJECT

## 2.4 Findings and Recommendations

Due to the length of deficient pipeline in the City's collection system, using P-18 as an alternative to the Project's export pipeline was determined to not be beneficial to the City or to the Town. There are several factors that contributed to these findings:

1. Operations: Due to the nature of the design of the export pipeline operating under pressure, connecting to the City's gravity system will create operational complexities and will require complex hydraulic structures at the point of connection.
2. Construction Complexities: Construction of the improvements to mitigate those deficiencies will be complex due to the significant number of deficiencies created by routing the Project's flows through the City's system. The improvements will cause significant public impact and operational issues related to bypass pumping. These factors would significantly increase the design and construction complexity, with no benefit from a reduction in costs.
3. The length of deficient pipeline within the City's collection system exceeds the length of pipeline this design alternative intended to eliminate and is not anticipated to result in a Project cost savings.

Because of these factors, and after discussing the initial results with the Town, the Town confirmed further evaluation was not needed and a set of required pipeline improvements was not developed.

APPENDIX 2A

# CITY OF CHICO WASTEWATER COLLECTION SYSTEM HYDRAULIC GRADE LINES

Prepared for  
Town of Paradise

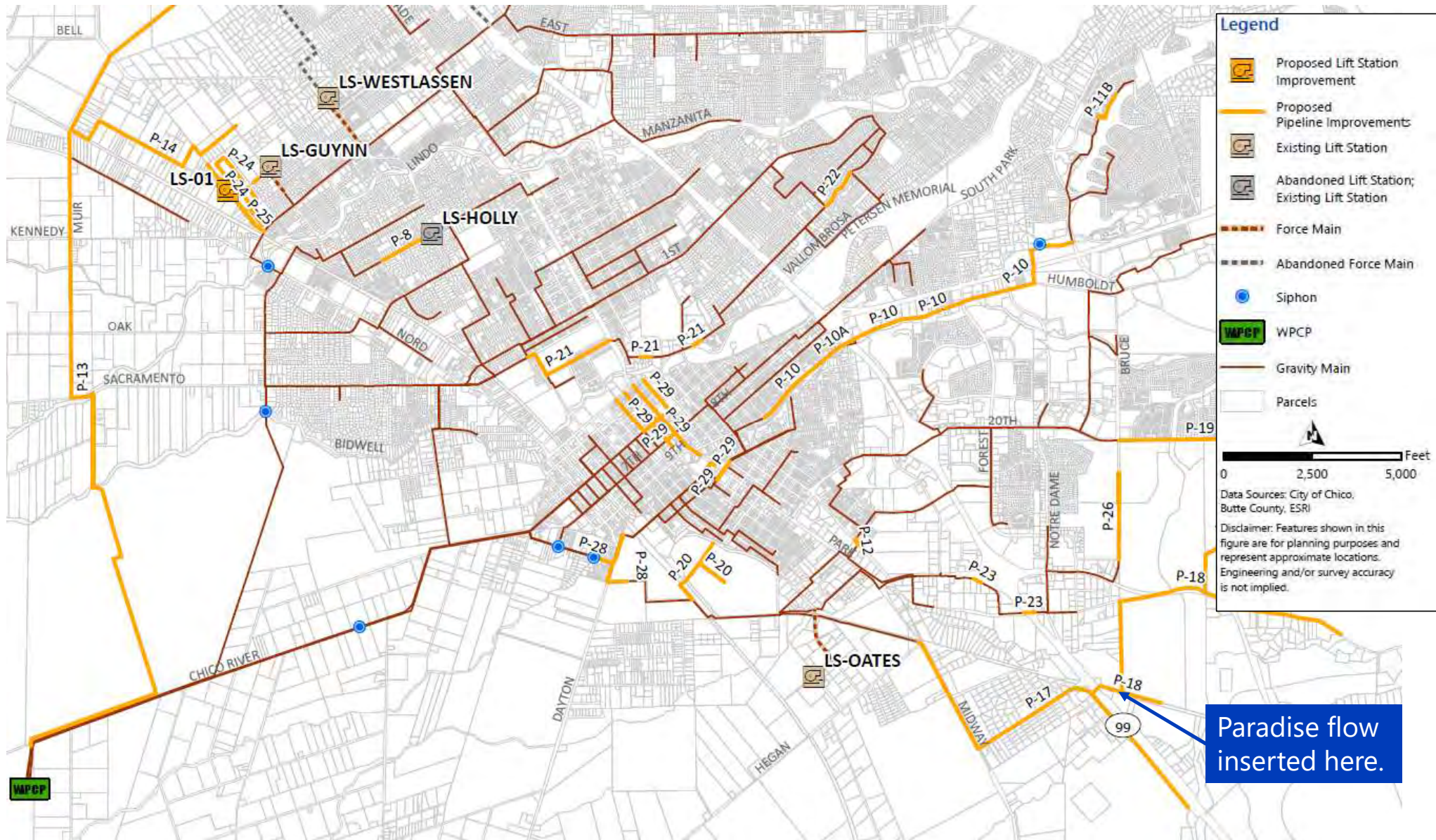
# Paradise Sewer Project

## **P-18 Export Pipeline Alternative Analysis (Preliminary)**

September 24, 2024







Paradise flow inserted here.

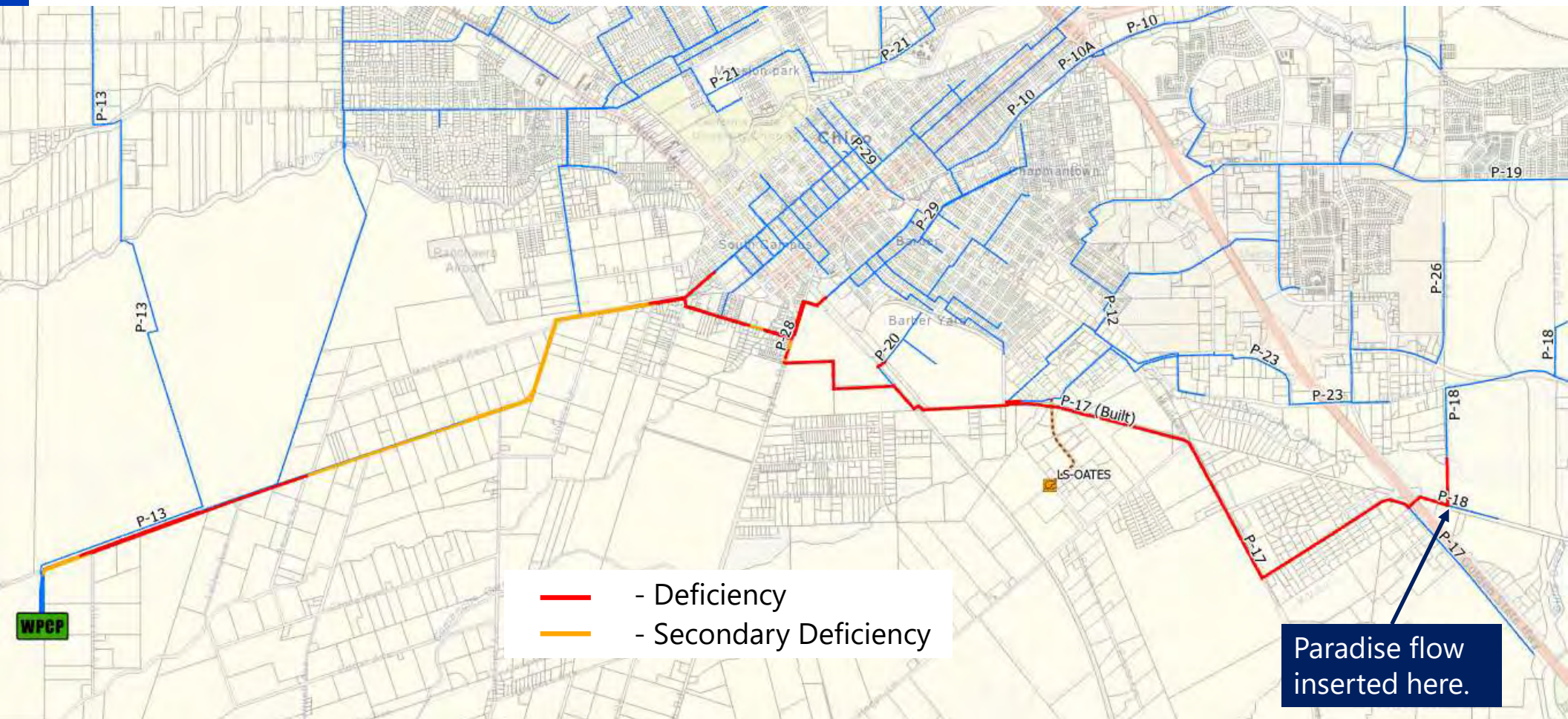
## Chico Flow Depth Criteria

Maximum Flow Depth for Existing Sewers	
PWWF	Surcharge to halfway between manhole rim and pipe crown, or surcharge to 5 feet below rim
Maximum d/D for New Sewers	
Pipe Diameter (inches)	Maximum d/D
Less than 12	0.50
12 to 18	0.67
Larger than 18	0.75

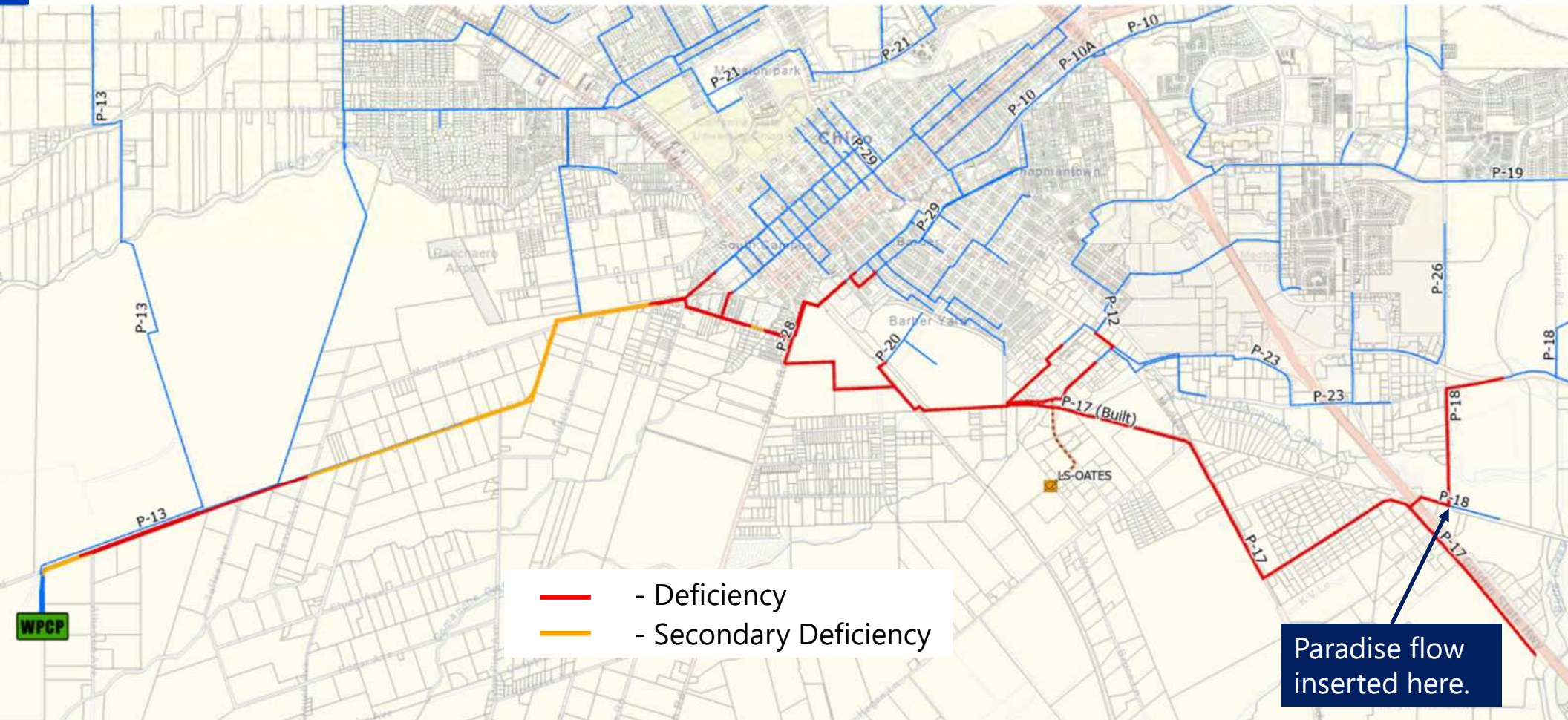
# Paradise Flow Summary

Scenario Flow Condition	Flow (mgd)		
	SSA	SSA With Clark Road Extension	Extended SSA
ADWF	0.80	0.85	1.34
PDWF	1.21	1.21	2.05
PWWF	2.12	2.28	4.82

# Deficiencies During Paradise SSA PWWF

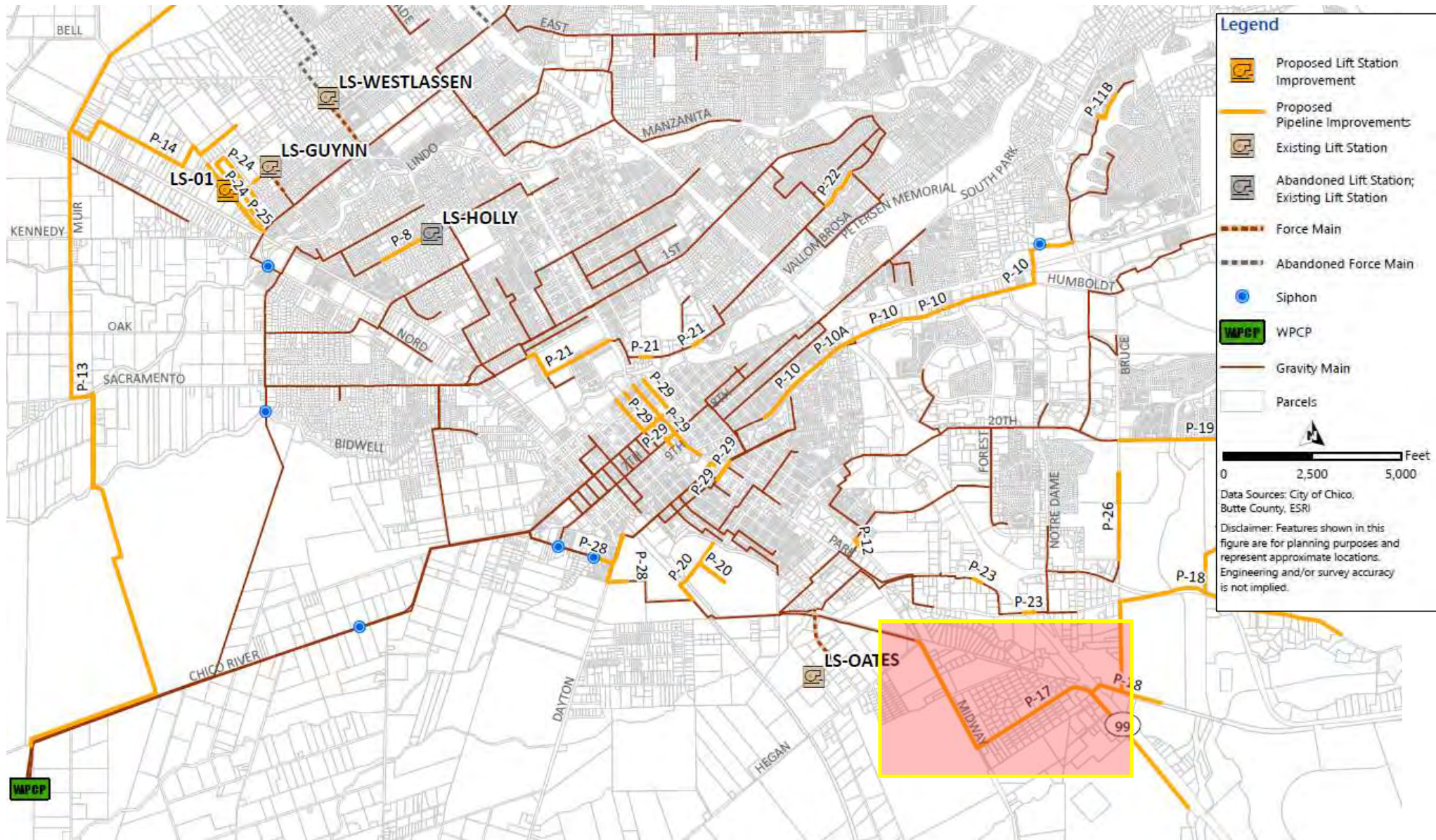


# Deficiencies During Paradise Extended SSA PWWF



01

P-18 and P-17

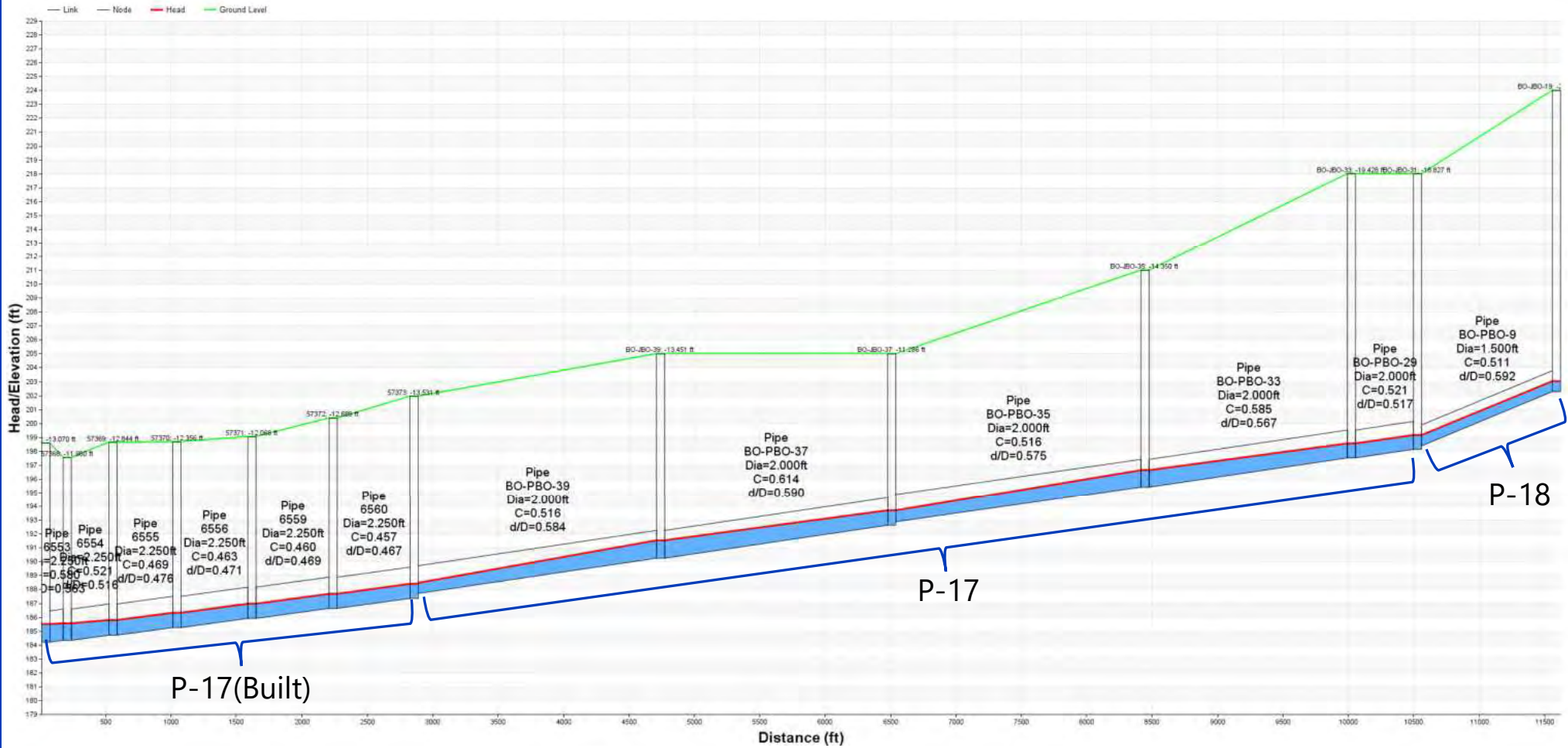




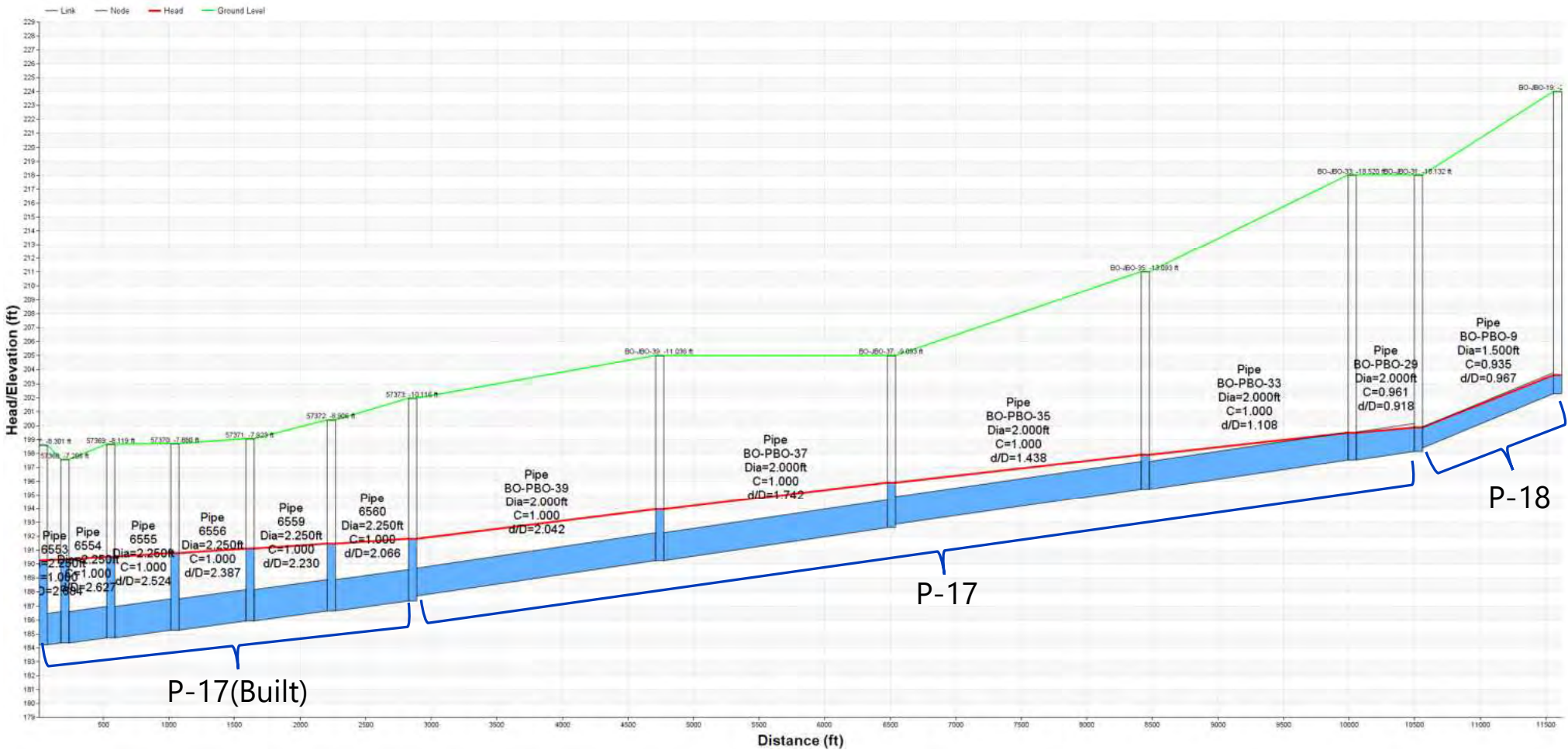
Paradise flow inserted here.



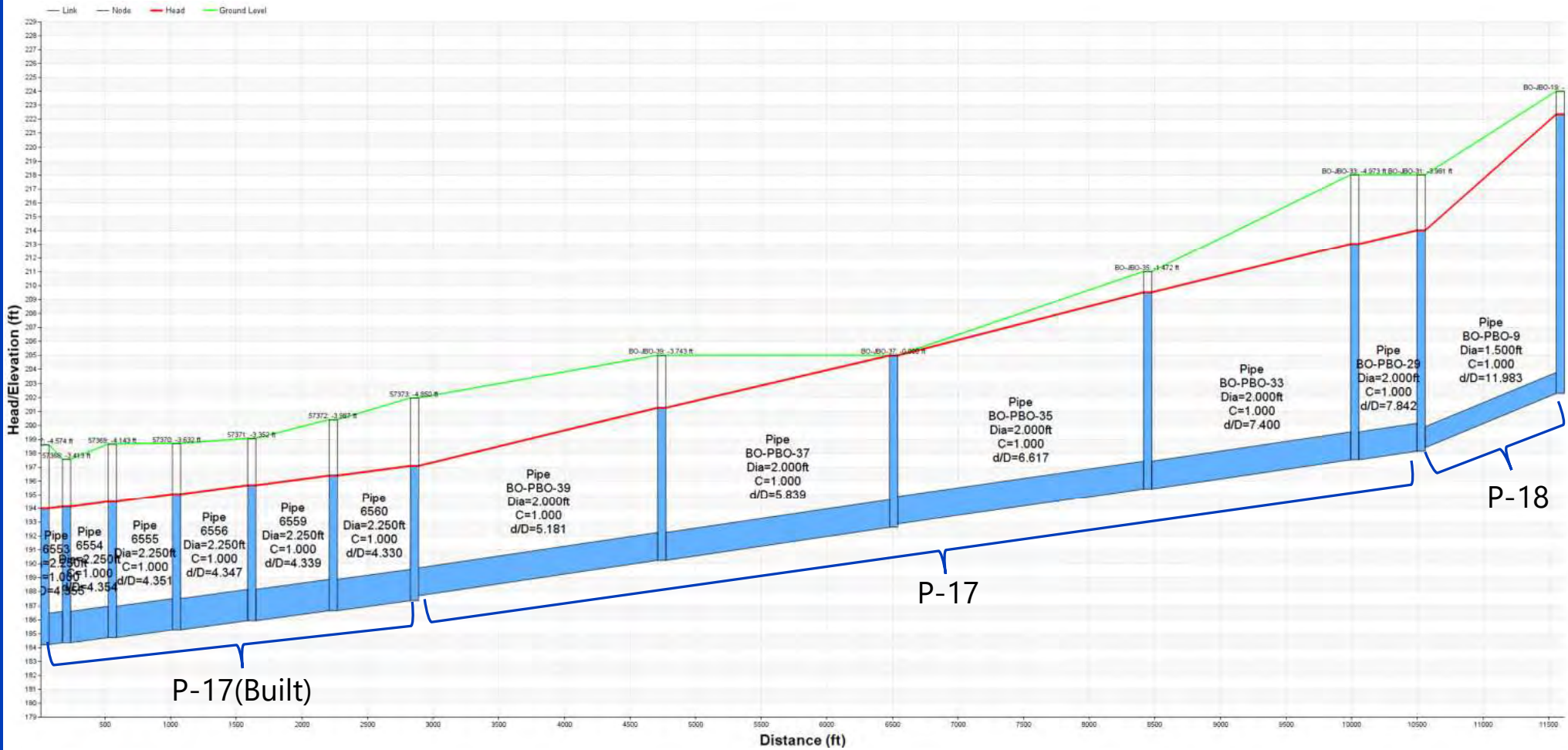
# Chico Build-Out with Master Plan Improvements (No Paradise Flows)



# Chico Build-Out with Master Plan Improvements + Paradise SSA



# Chico Build-Out with Master Plan Improvements + Paradise Extended SSA

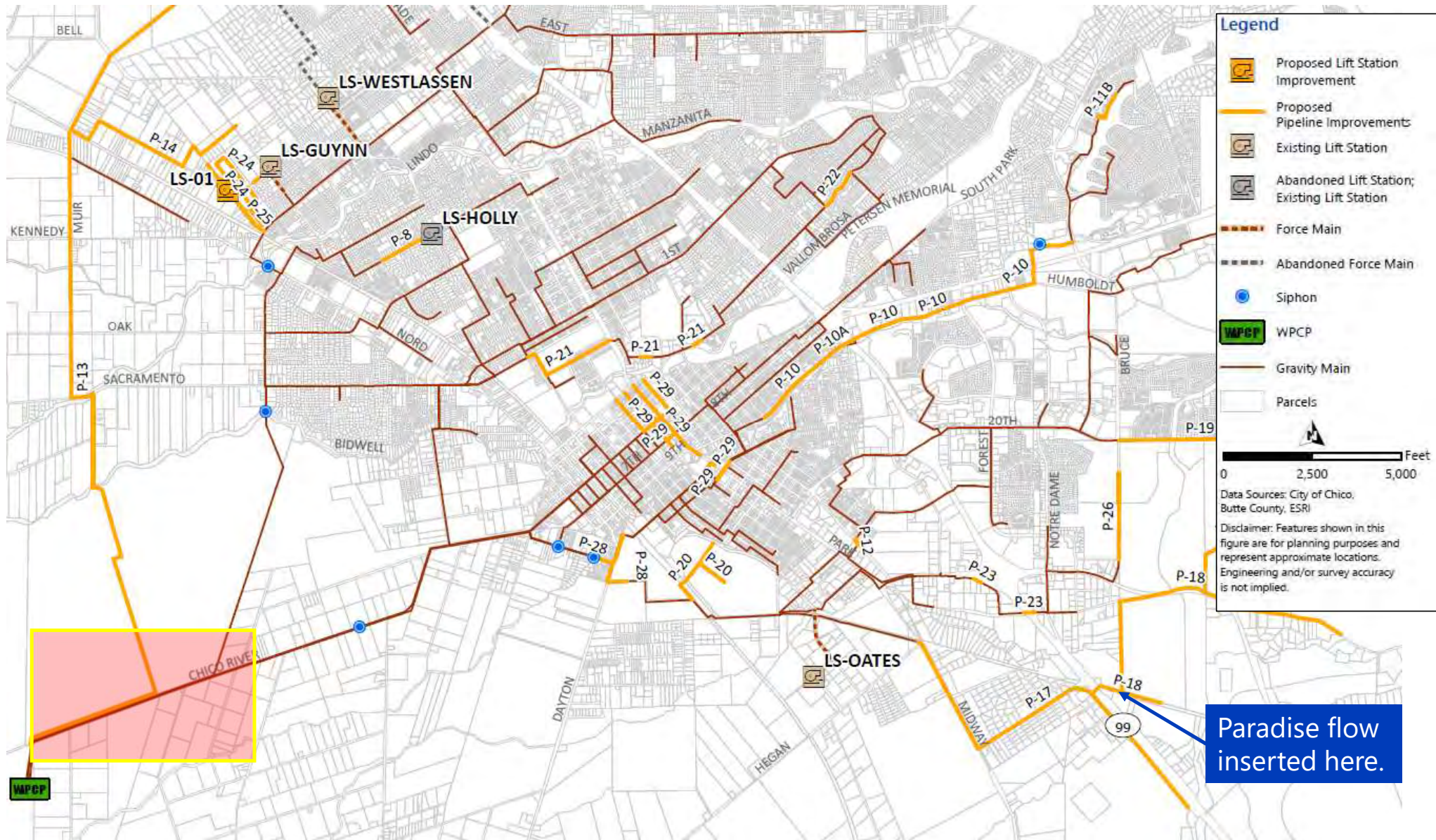


02

# Chico River Road

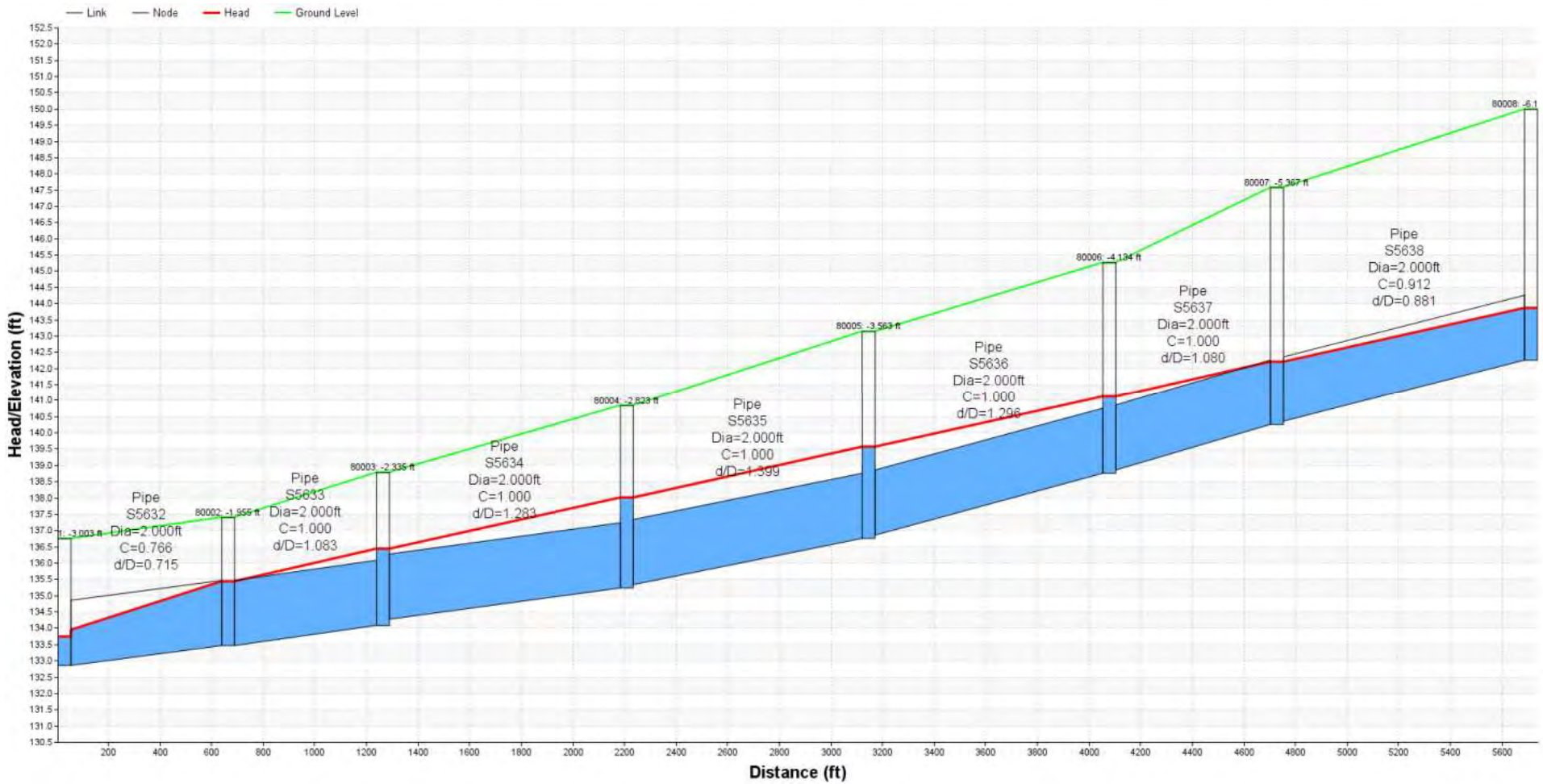
South Line (24-inch), Upstream of WPCP



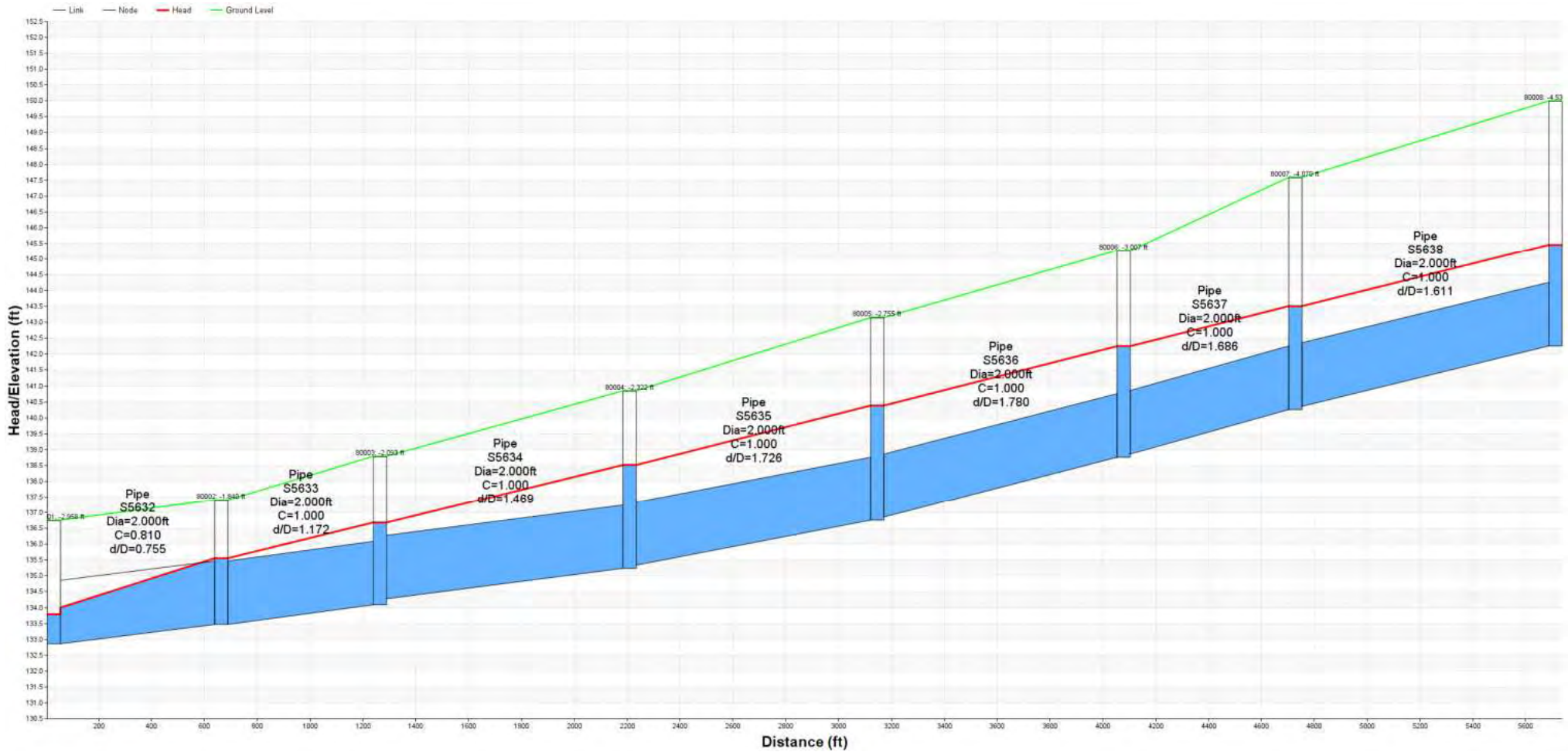




# Chico Build-Out with Master Plan Improvements (No Paradise Flows)

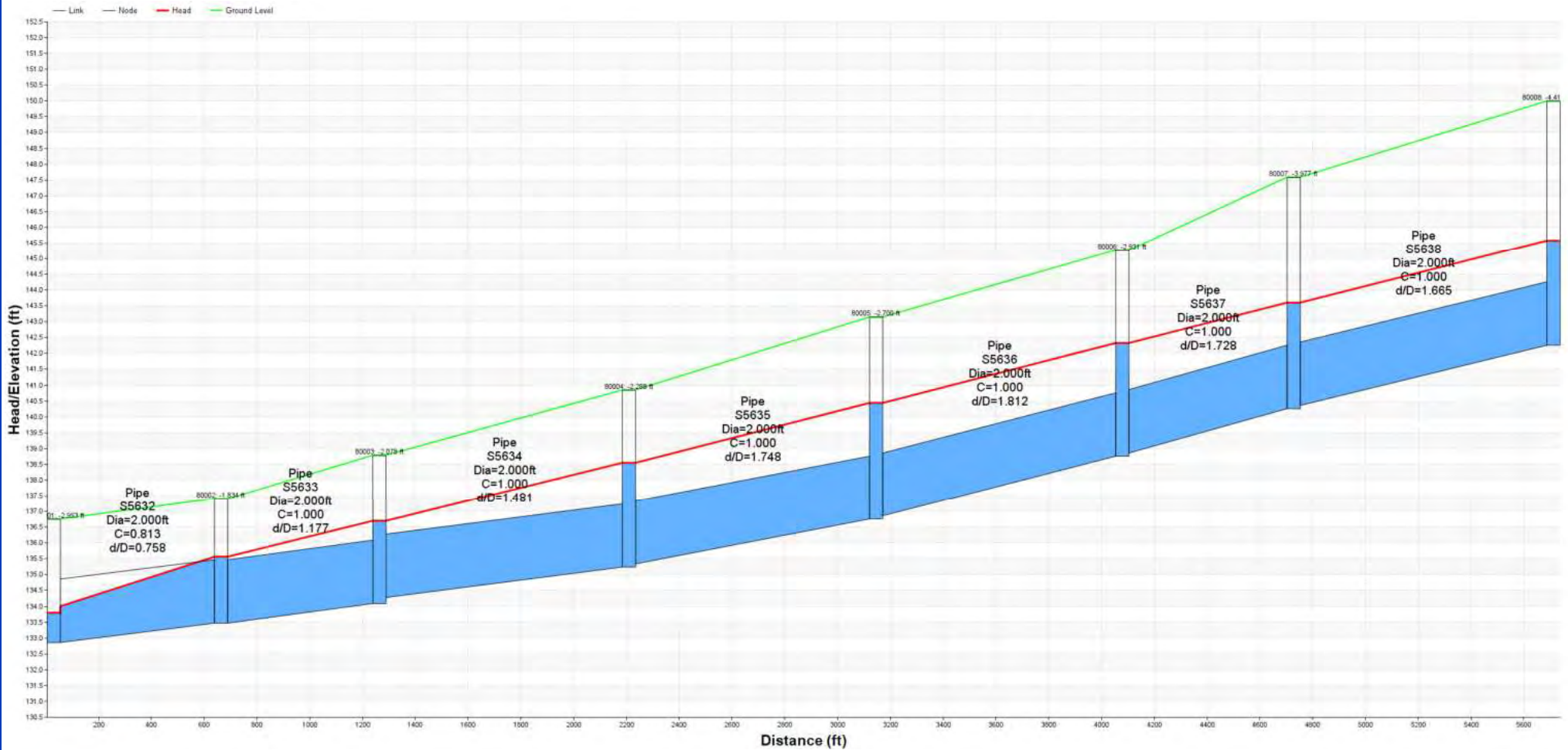


# Chico Build-Out with Master Plan Improvements + Paradise SSA





# Chico Build-Out with Master Plan Improvements + Paradise Extended SSA

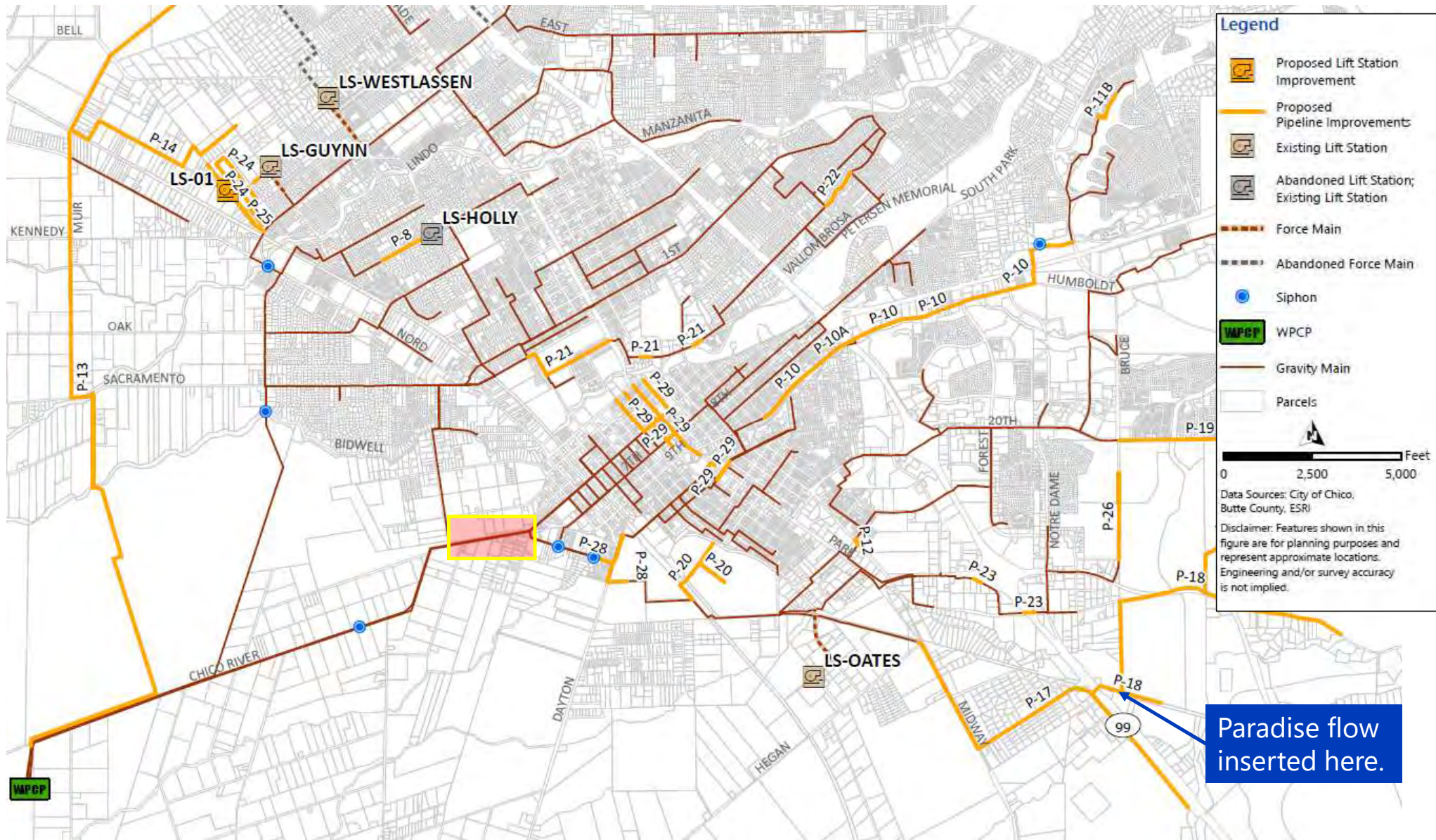


03

# Chico River Road

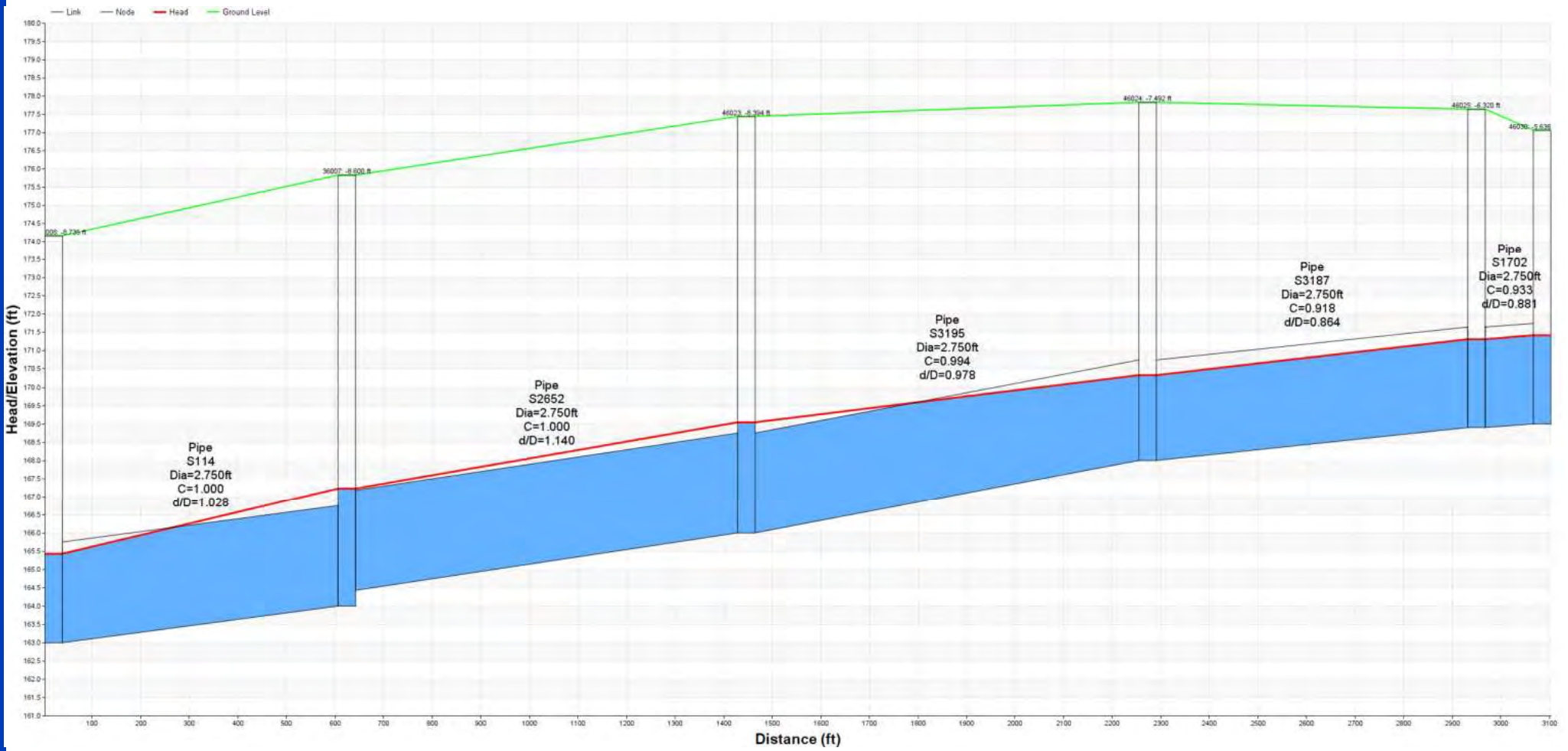
North Line (33-inch), Downstream of Pomona Siphon



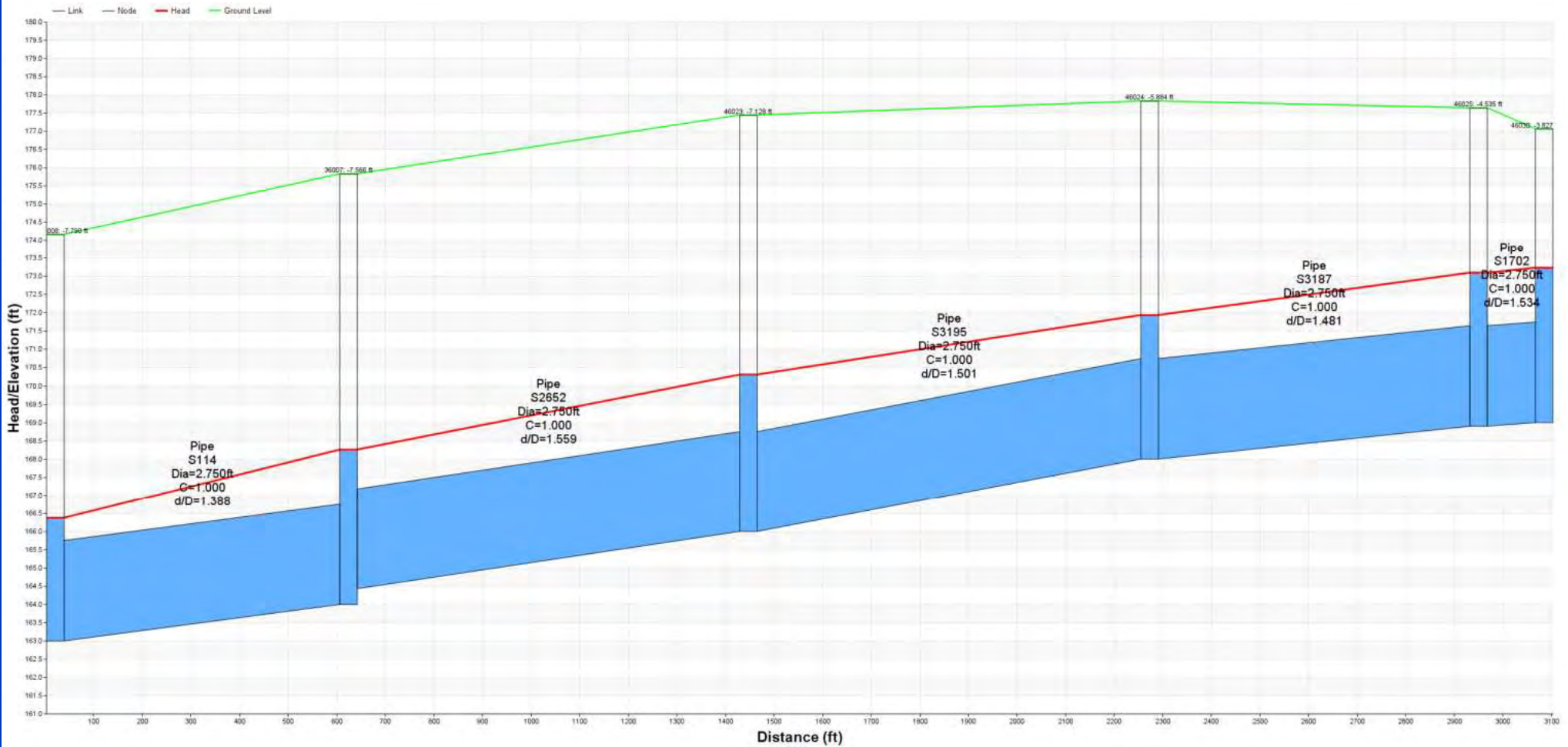




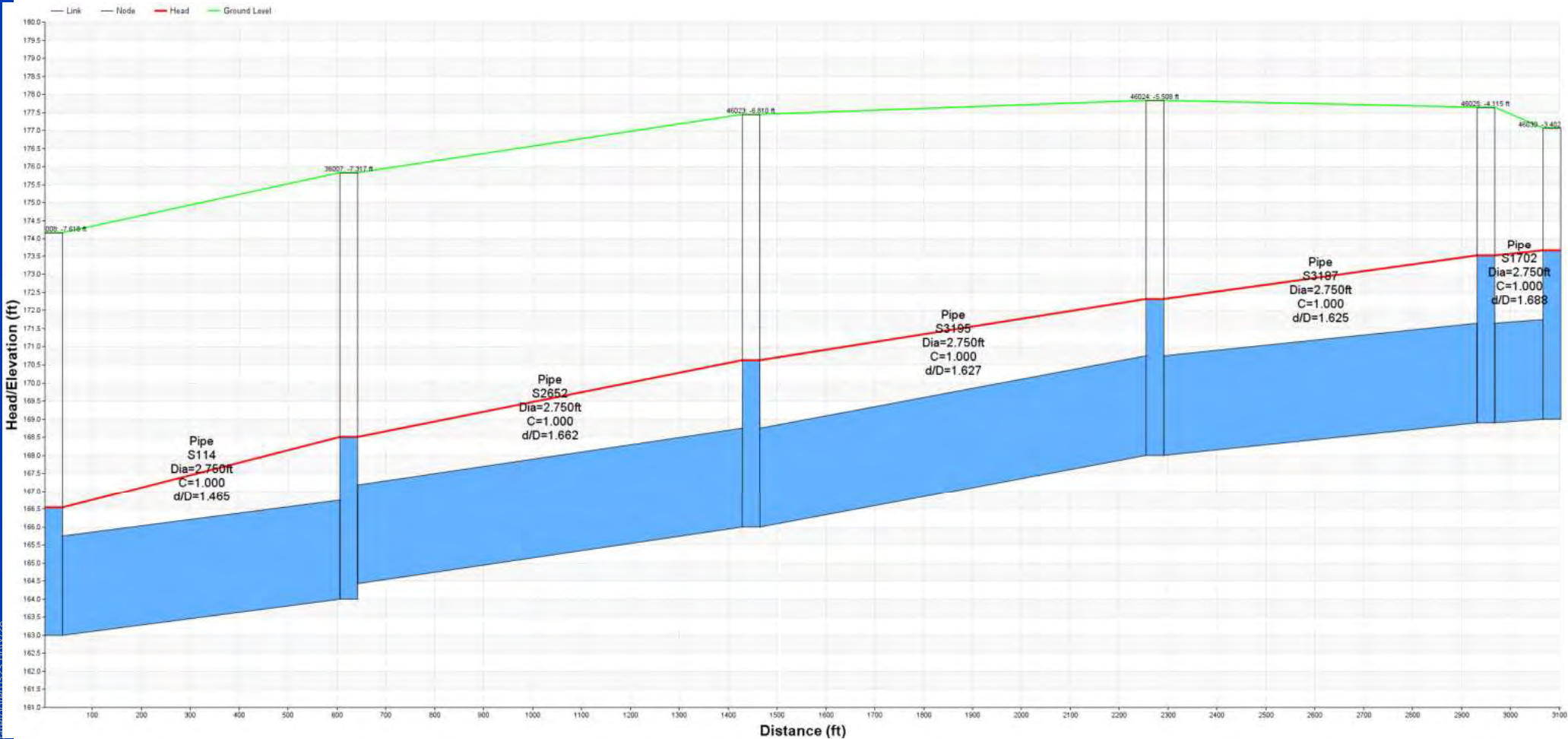
# Chico Build-Out with Master Plan Improvements (No Paradise Flows)



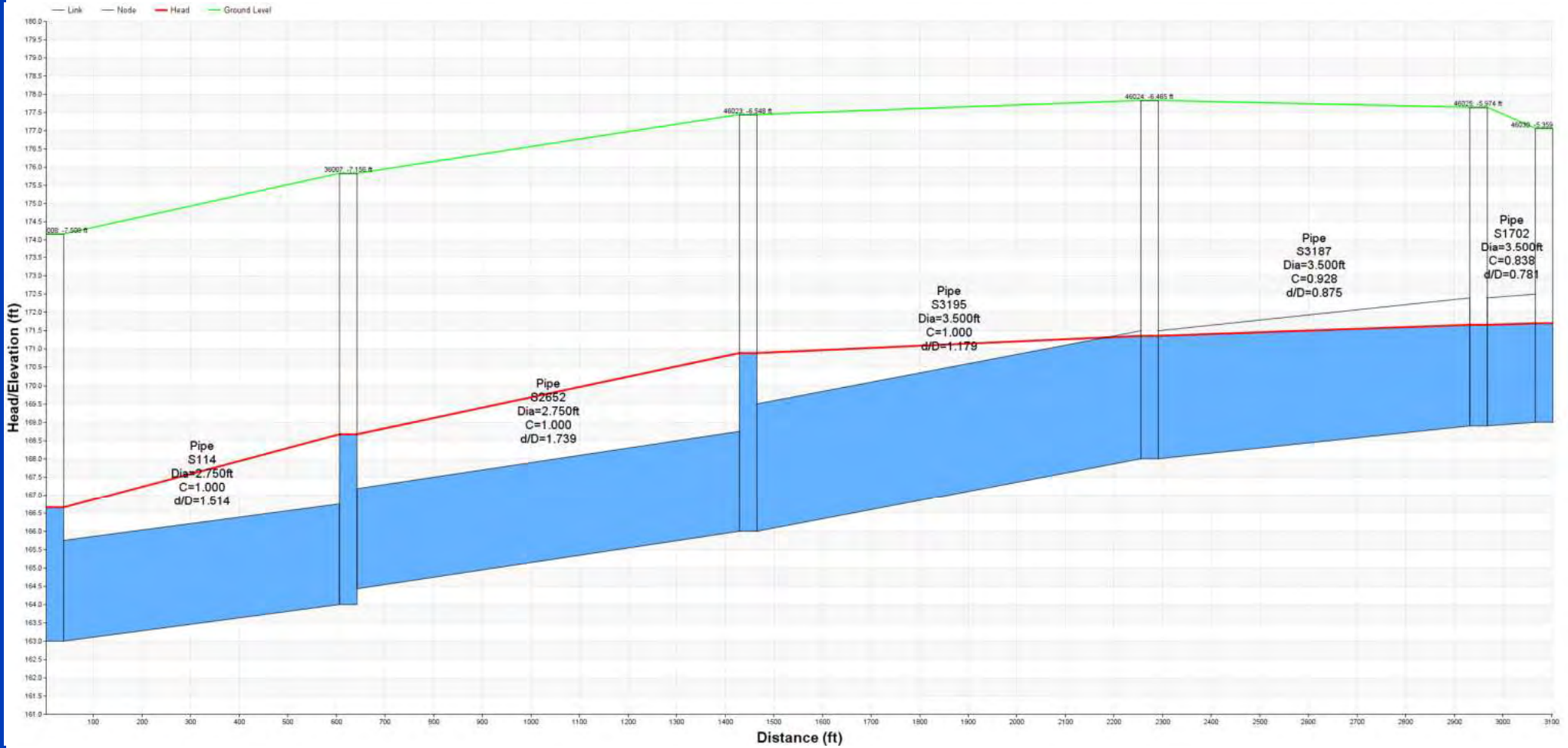
# Chico Build-Out with Master Plan Improvements + Paradise SSA



# Chico Build-Out with Master Plan Improvements + Paradise Extended SSA

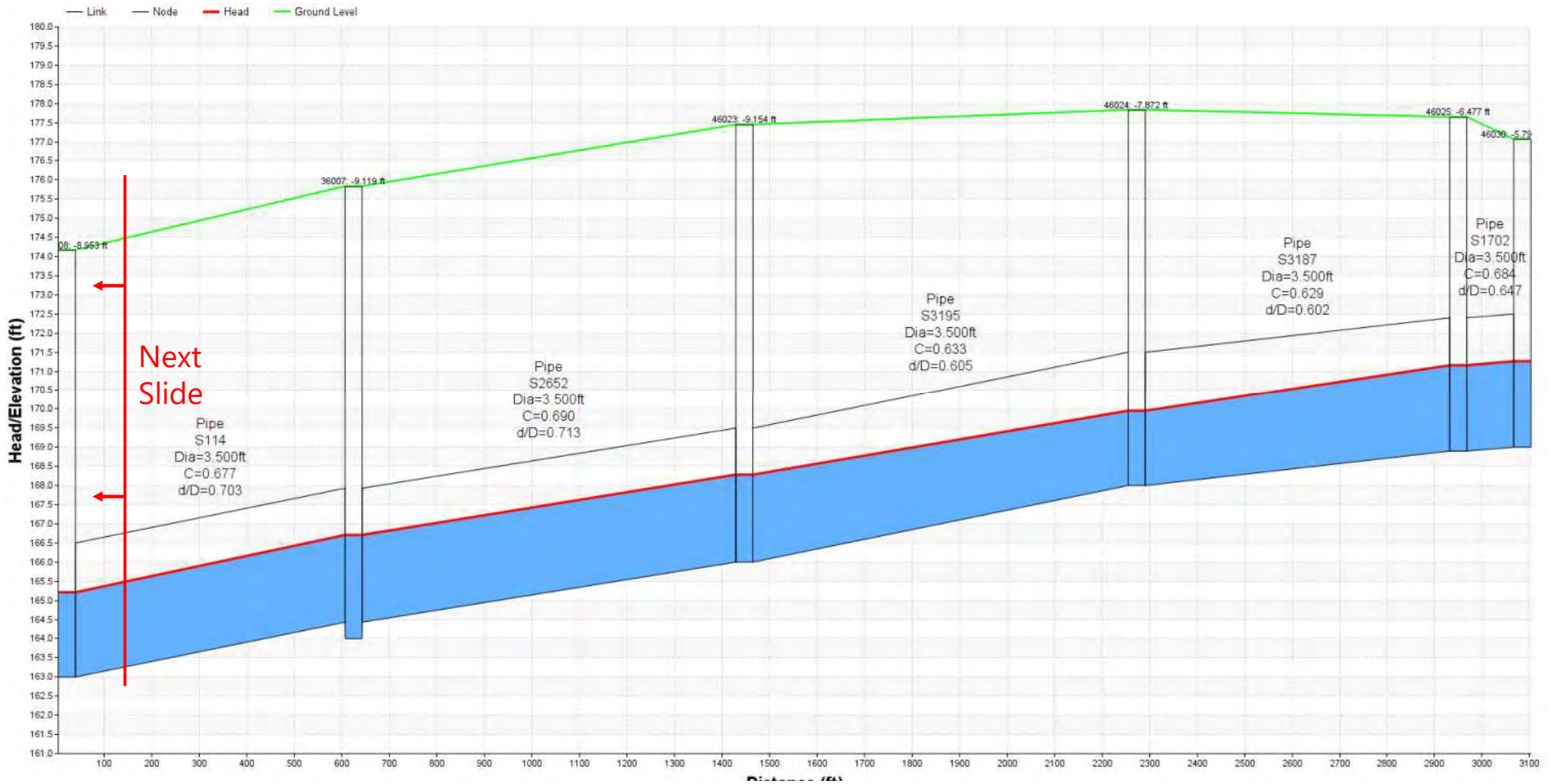


# Chico Build-Out with Master Plan Imp. + Paradise SSA with Imp.

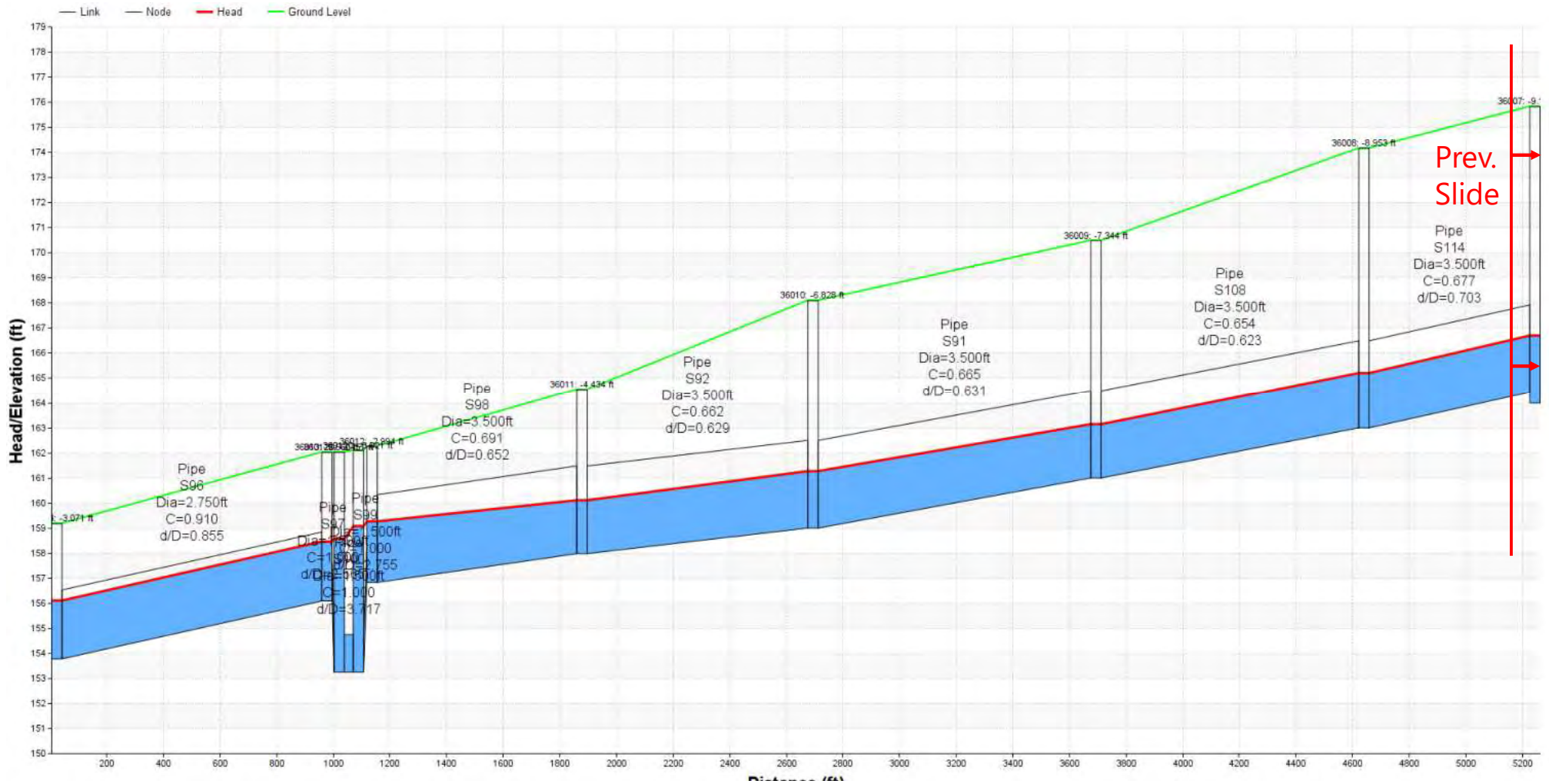




# Chico Build-Out with Master Plan Imp. + Paradise Extended SSA with Imp.



# Chico Build-Out with Master Plan Imp. + Paradise Extended SSA with Imp.

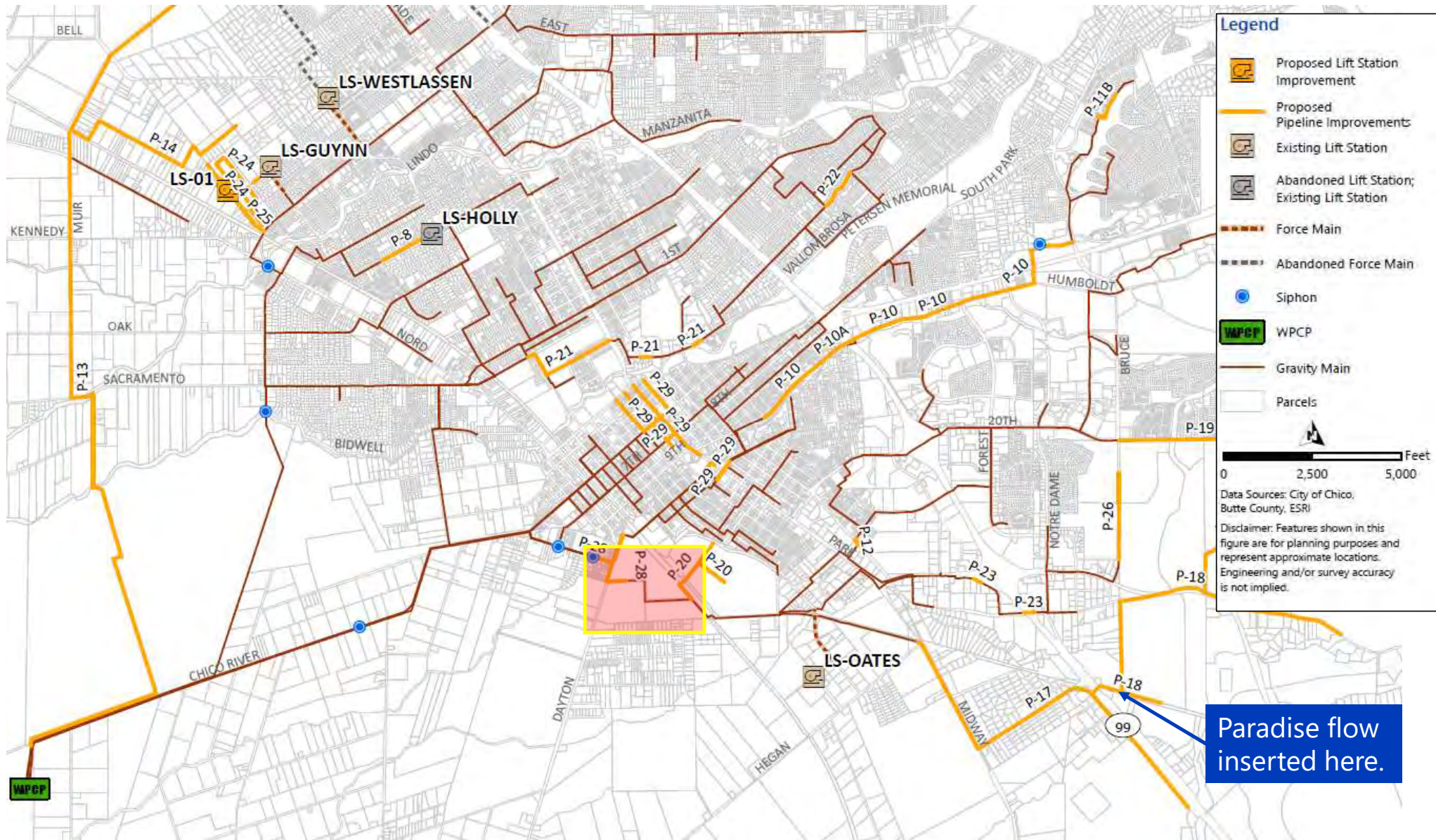


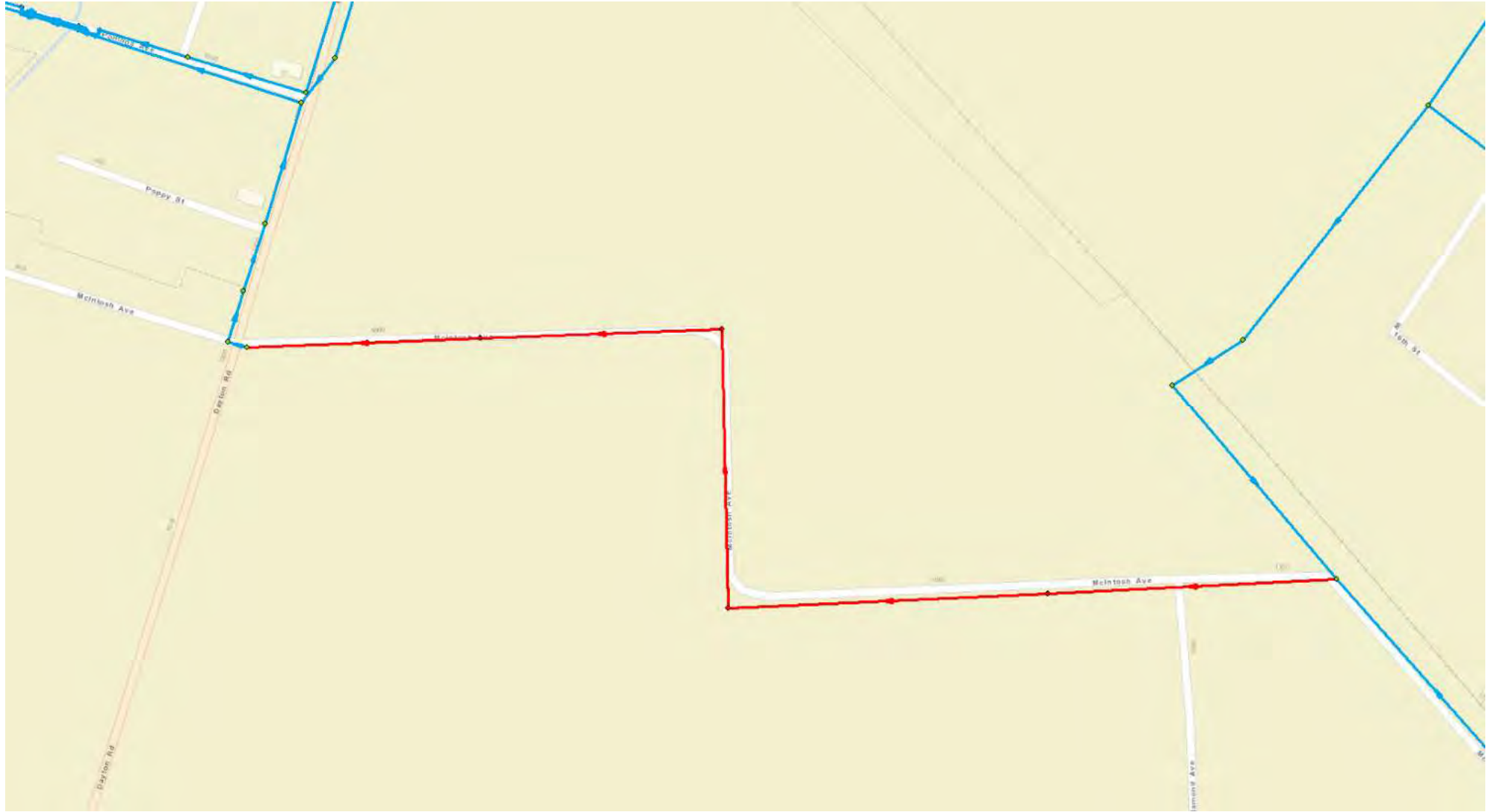
Prev. Slide

04

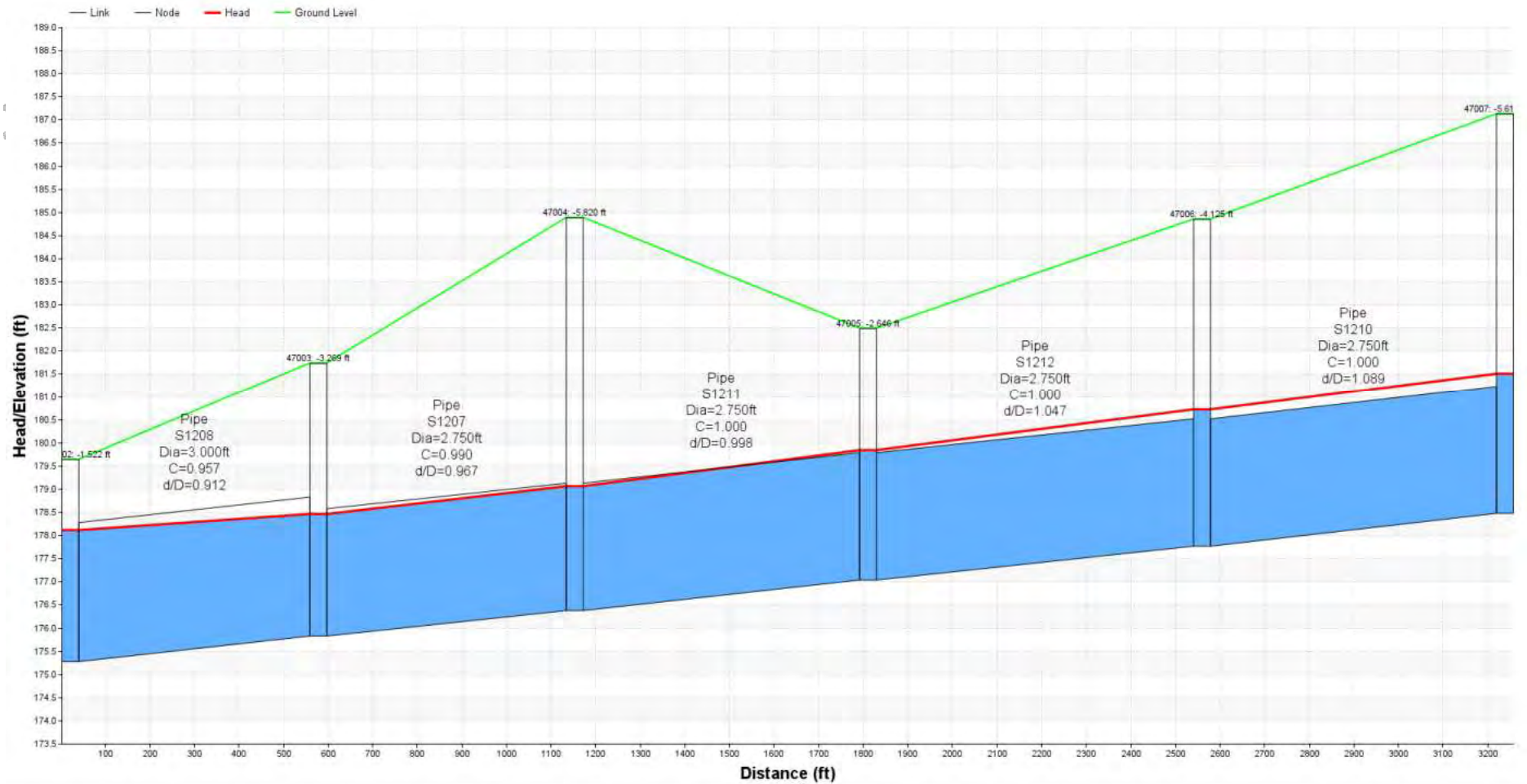
# Dayton Rd and MacIntosh Ave

Upstream of Pomona Ave Siphon

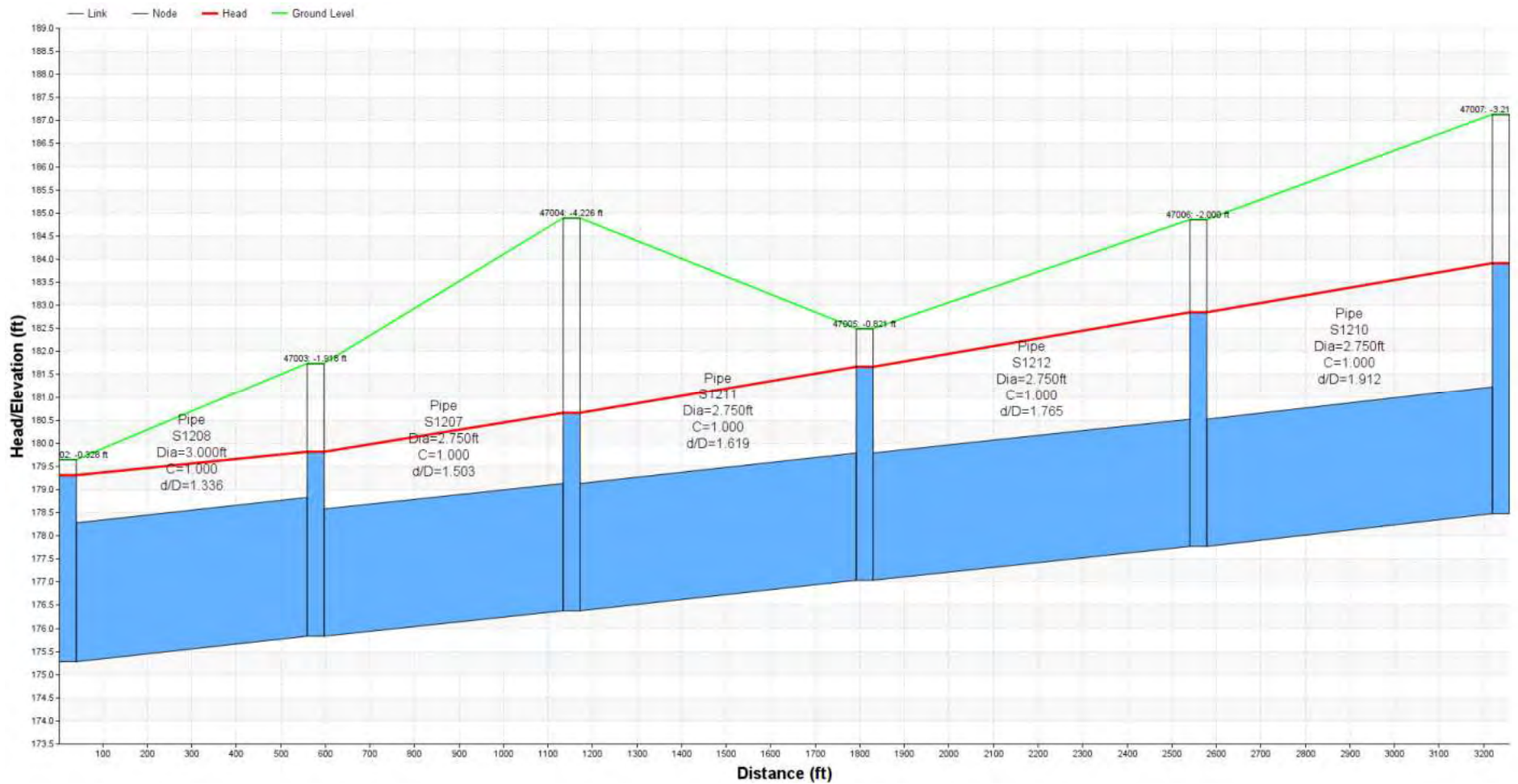




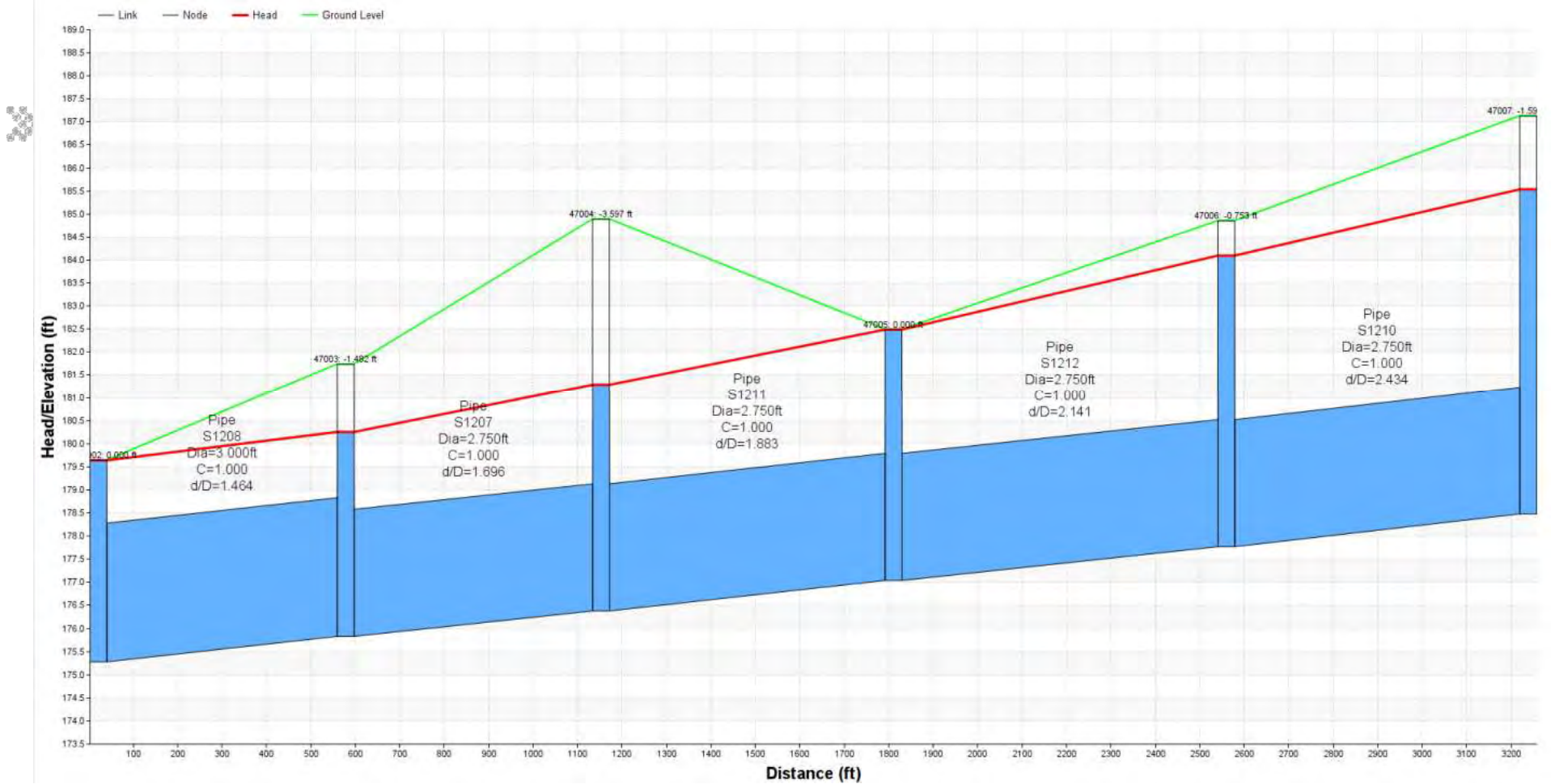
# Chico Build-Out with Master Plan Improvements



# Chico Build-Out with Master Plan Improvements + Paradise SSA



# Chico Build-Out (w/IMP) + Extended SSA





APPENDIX C

# DESKTOP REVIEW OF GEOLOGIC, GEOTECHNICAL, AND ENVIRONMENTAL CONDITONS



*View of Tuscan Formation cliffs from the Butte Creek Watershed Overlook.*

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# Desktop Review of Geologic, Geotechnical, and Environmental Conditions

Town of Paradise Sewer Project

Report | Butte County, California

04.00245833-PR-001 03 | September 9, 2024

Final

**Carollo Engineers, Inc.**

# Document Control

## Document Information

Project Title	Town of Paradise Sewer Project
Document Title	Desktop Review of Geologic, Geotechnical, and Environmental Conditions
Fugro Project No.	04.00245833
Fugro Document No.	04.00245833-PR-001
Issue Number	03
Issue Status	Final
Fugro Legal Entity	Fugro USA Land, Inc.
Issuing Office Address	1777 Botelho Drive, Suite 262, Walnut Creek, California 94596

## Client Information

Client	Carollo Engineers, Inc.
Client Address	2795 Mitchell Drive, Walnut Creek, California 94598
Client Contact	Jon Marshall
Client Document No.	202983

## Revision History

Issue	Date	Status	Comments on Content	Prepared By	Checked By	Approved By
01	07/16/2024	Draft	For client review	JN/JS/JA	AJ	RLB
02	07/26/2024	Draft	Updated Draft	JS/JN	AJ/JA	RLB
03	09/09/2024	Final	Submittal to the Town	JN/JS/JA	AJ	RLB

## Project Team

Initials	Name	Role
AJ	Albert Johan	Project Manager
JS	Janet Sowers	Principal Geologist
JA	Jeriann Alexander	Principal Engineer
JN	John Niles	Senior Project Geologist
KET	Karen Emery-Tonkovich	Principal Geologist
RLB	Ronald L. Bajuniemi	Principal Consultant



**FUGRO**

Fugro USA Land, Inc.  
1777 Botelho Drive, Suite 262  
Walnut Creek, California 94596  
USA

**Carollo Engineers, Inc.**

Jon Marshall  
2795 Mitchell Drive  
Walnut Creek, California 94598

September 9, 2024

**Dear Mr. Marshall,**

Fugro is pleased to present this report "Desktop Review of Geologic, Geotechnical, and Environmental Conditions," in support of the Town of Paradise Sewer Project. The report summarizes available geologic, geotechnical, and environmental information along the planned alignment of the Paradise Collection System and Export Pipeline. The purpose of the desktop review is to characterize the subsurface soils and rock, identify any geologic hazards or adverse subsurface environmental conditions that may affect pipeline construction or long-term integrity of the project, and provide preliminary geotechnical investigation planning for the design level investigations.

We appreciate the opportunity to be of service and look forward to your review.

Sincerely,

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# Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
1.1	Project Description	1
1.2	Scope of Services	1
<b>2.</b>	<b>Geologic Setting</b>	<b>3</b>
2.1	Physiography	3
2.2	Bedrock Geology and Structure	3
2.3	Quaternary Geology	4
<b>3.</b>	<b>Geologic Hazards</b>	<b>6</b>
3.1	Seismic Hazards	6
3.2	Landslides	7
3.3	Volcanic Hazards	7
3.4	Flooding, Erosion, and Sedimentation	8
	3.4.1 Flood Hazard in the Town	8
	3.4.2 Flood Hazard along the Export Pipeline	8
3.5	Corrosive Soils	9
<b>4.</b>	<b>Subsurface Conditions</b>	<b>10</b>
4.1	Soil Characteristics and Distribution	10
	4.1.1 Soil Types in the Town	10
	4.1.2 Soil Types along the Export Pipeline	12
4.2	Geotechnical Properties from Existing Data	14
	4.2.1 Geotechnical Data in the Town	14
	4.2.2 Geotechnical Data along the Export Pipeline	15
	4.2.3 Geophysical Data	16
4.3	Environmental Conditions	17
	4.3.1 Groundwater	17
	4.3.2 Regulatory Records Review	17
	4.3.3 Discussion of Environmental Review	18
	4.3.4 Environmental Conclusions	20
<b>5.</b>	<b>Discussion and Conclusions</b>	<b>25</b>
<b>6.</b>	<b>Recommendations</b>	<b>26</b>
6.1	Additional Data Gathering	26
6.2	Construction Considerations	26
	6.2.1 Excavatability	26
	6.2.2 Temporary Stability of Excavation Walls	27

6.2.3	Dewatering	28
6.3	Exploration Plan	28
<b>7.</b>	<b>Limitations</b>	<b>30</b>
<b>8.</b>	<b>References</b>	<b>31</b>
	Websites	32
	List of Plates	34

## Appendices

Appendix A Field Photographs

Appendix B Soil Series Descriptions

Appendix C Existing Borehole Logs

Appendix D Comments and Responses

## Tables in the Main Text

Table 2.1: Bedrock Stratigraphic Units (Harwood et al., 1981)	4
Table 2.2: Quaternary Stratigraphic Units (Harwood et al., 1981)	5
Table 4.1: Soil Types in the Town (Wert & Associates, 1992)	12
Table 4.2: Borehole Log Summary for Export Pipeline West of Butte Creek	15
Table 4.3: Top-of-Rock Elevation in Historical Boreholes near Butte Creek	16
Table 4.4: Summary of Land Use, Environmental Case Review, and Hazard Ranking	22
Table 6.1: Geotechnical Conditions and Preliminary Exploration Approach	29

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# 1. Introduction

Fugro USA Land, Inc. (Fugro) is providing geotechnical engineering services for the Town of Paradise Sewer Project (Project) for the Town of Paradise (Town). The project site is in Butte County, California as shown on the Project Location Map, **Plate 1**. This report presents the results of our Desktop Study to assist with design level investigations and development of preliminary recommendations. We understand that future services will include a design level investigation and providing consultation during final design and construction. The Town's comments on this report and our responses are documented in **Appendix D**.

## 1.1 Project Description

The Town plans to construct a new wastewater Collection System to serve residents and businesses in the Town. The system will consist of a network of underground pipes to collect wastewater (Core Collection System) within the Town and an 18-mile-long export pipeline that will transport it to the Chico Water Pollution Control Plant (CWPCP) (**Plate 1**). We established mile markers for the export pipeline, starting at Mile 0 at the CWPCP and extending to Mile 18 at the western edge of the Town limits. We will adopt the official pipeline stationing once it becomes available.

The Core Collection System will consist of approximately 157,000 feet of 6-inch to 15-inch diameter gravity sewers, approximately 29,000 feet of 2- to 4-inch- diameter force mains, and approximately 28 pump stations within the Town.

The majority of the Export Pipeline System is designed to use gravity to convey wastewater, taking advantage of the natural elevation drop along the proposed pipeline alignment. A few pump stations may be incorporated if necessary. It will consist of 8-inch to 12-inch diameter pipelines, transition chamber, emergency flow storage structure, and the flow control and metering structure installed at a depth of approximately 10 to 15 feet deep.

As the pipeline leaves Skyway and continues west, there will be the following five trenchless crossings: Butte Creek, Highway 99, the Union Pacific Railroad, Comanche Creek, and Little Chico Creek. Fugro submitted a draft Field Investigation Plan on April 4, 2024, providing a summary of the early phase geotechnical field exploration program, exploration locations, and access routes for these trenchless crossings.

## 1.2 Scope of Services

The scope of our services performed for this Desktop Study included:

- **Review of existing data.** The desktop study is based primarily on a review of available information, including documents provided by the Town, published maps and articles, and

data obtained from agencies websites. A complete list of reports and websites we reviewed is provided in the References section at the end of this report.

- **Field reconnaissance.** A Fugro team consisting of two geologists and one geotechnical engineer made two one-day trips to conduct field reconnaissance and mark the early phase boreholes. Safak Ozturk and Albert Johan conducted field reconnaissance on April 1, 2024, and Janet Sowers and Albert Johan conducted field reconnaissance on April 8, 2024.
- **Preliminary geologic map.**
- **Preliminary geologic and environmental hazards evaluation.**
- **Preliminary geotechnical recommendations.**
- **Discussion of construction considerations.**
- **Preliminary geotechnical investigation plan for the design level investigations.**

Subsurface exploration or laboratory testing was beyond the scope of services for the Desktop Study.



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## 2. Geologic Setting

The geologic setting of the project area, including its physiography, bedrock stratigraphy and structure and the nature and origin of the unconsolidated Quaternary deposits are reviewed below.

### 2.1 Physiography

The Town is located on a volcanic plateau that gently slopes (5-6 degrees) southwest toward the Sacramento Valley (**Plate 2**). The elevation of the Town varies from 2200 feet at the north end of Town, to about 1200 feet at the south end. The plateau features gently sloping parallel ridges separated by drainage swales where streams arising on the plateau have eroded the underlying deposits.

The plateau is bounded by the steep-walled incised canyons of Little Butte Creek on the west and the West Branch of the Feather River on the east. These streams drain large watersheds that extend into the Sierra Nevada to elevations of 7,000 feet or more.

### 2.2 Bedrock Geology and Structure

Weathered volcanic deposits comprise the bedrock that underlies the Collection System in the Town and about 7 miles of the export pipeline, starting from Mile 10.5 at Butte Creek. These volcanic deposits are of Pliocene age, 2.6 to 5.3 million years ago (Harwood et al., 1981), and are known as the Tuscan Formation (**Table 2.1**). The Tuscan Formation consists of layers of basaltic to andesitic volcanic mudflows, lahars, tephra, breccia, lava flow, sandstone, mudstone, and reworked tuff (Gonzales, 2014). These volcanic deposits are thought to have erupted from Mount Yana, located about 30 miles NNE of Paradise, an inactive volcano belonging to the Cascade volcanic chain, of which nearby Mt. Lassen is the southernmost active volcano (Gonzalez, 2014).

The planar layers of the Tuscan Formation are seen exposed in the deep canyons cut by streams on either side of the plateau that the Town sits on. The beds dip 5 degrees to the southwest, approximately parallel to the top of the plateau.

The Tuscan Formation continues to dip to the southwest past Mile 10.4 where the Export Pipeline alignment crosses Butte Creek. From this point to the west the pipeline is underlain by Quaternary alluvial deposits, which now overlap the top of the Tuscan Formation (Gonzales, 2014). Westward the alluvial deposits thicken, and the Tuscan Formation gradually descends beneath them. In this part of the Sacramento Valley, the Tuscan Formation serves as a major aquifer, tapped for municipal water by the City of Chico (City).

The approximate 5-degree southwest slope of the Tuscan Formation reflects the original slope of the deposits as they were laid down, sloping away from their volcanic source. The dip varies

slightly where the beds were later deformed by tectonic processes. The Chico Monocline fault is a blind-thrust over which the Tuscan Formation makes a monoclinical flexure. Bedding steepens over the flexure, causing bending moment faults in the beds of the Tuscan formation. These faults are shown on the geologic map in **Plate 3** as a 3-mile-wide band of multiple short faults. West of this zone of faults, bedding returns to a more gentle dip.

**Table 2.1: Bedrock Stratigraphic Units (Harwood et al., 1981)**

Symbol	Age	Unit Name	Description
Tbp	Pliocene (2.6 – 5.3 Ma)	Olivine Basalt of Paradise	Gray, slightly vesicular olivine basalt. Aggregates of plagioclase, as much as 15 mm in length, form abundant white phenocrysts, aggregates of olivine as much as 10 mm in diameter form glassy yellow-green phenocrysts in a gray matrix.
Ttc		Tuscan Formation Unit C	Mostly lahar deposits composed of angular to subrounded volcanic clasts as much as 3 m in diameter in a matrix of gray-tan volcanic mudstone. Includes minor beds of volcanic breccia, volcanic conglomerate, sandstone, and siltstone.
Ttb		Tuscan Formation Unit B	Lahar deposits, and volcanic conglomerate and sandstone, interbedded in equal layers; 130 m thick.
Tta		Tuscan Formation Unit A	Interbedded lahar deposits, volcanic conglomerate, volcanic sandstone, siltstone, containing fragments of metamorphic rocks
Tt		Tuscan Formation, undivided	Interbedded lahar deposits, volcanic conglomerate, volcanic sandstone, siltstone, and pumiceous tuff.
Kc	Cretaceous (66-145 Ma)	Chico Formation	Tan, yellowish-brown to light gray, fossiliferous marine sandstone with beds of conglomerate and siltstone; 650 m thick.

## 2.3 Quaternary Geology

Quaternary alluvial deposits underlie the Export Pipeline alignment from Mile 0.0 at the CWPCP to Mile 10.4, where Butte Creek is crossed. They form a wedge overlying the Tuscan Formation as it continues to descend beneath the Sacramento Valley.

From Mile 10.4 where the pipeline will cross Butte Creek, west to the Highway 99 crossing at Mile 9.85, the pipeline passes through the wide flood plain of Butte Creek. Here gravelly and sandy deposits of late-1800s mining tailings fill the valley (**Plate 3**). These tailings consist of gravelly alluvium derived from igneous, metamorphic, and sedimentary rock, described at the surface as very gravelly sandy loam (Burkett & Conlin, 2006). Although deposits of mining tailings in many California streams consist of lines or piles of gravel, the surface of the deposits in this reach are almost level and covered with grass, thus may have been graded.

From Mile 9.85 west to Mile 0.0, the pipeline alignment crosses late Pleistocene to Holocene alluvial deposits, mapped as the Upper Modesto Formation (Harwood et al., 1981) (**Table 2.2**). They were deposited as an alluvial fan, formed from layers of sand, silt, and gravel brought down

by Butte Creek and spread out in a fan-shaped deposit on the flatlands. The soils are composed of loamy sandy alluvium derived from mixed lithologies (Burkett & Conlin, 2006).

**Table 2.2: Quaternary Stratigraphic Units (Harwood et al., 1981)**

Symbol	Age	Unit Name	Description
Af	Historical	Artificial Fill	Areas underlain by at least 5 feet of fill
T		Mine Tailings	Gravelly and sandy deposits and debris piles along Butte Creek, laid down during 1800s gold mining
Qsc		Stream Channel Deposits	Gravel, sand, and silt in the channels of streams
Qc	Holocene	Colluvial Deposits	Gravel, sand, silt, and clay accumulated at the base of slopes or in swales, > 5 feet thick
Qb		Basin Deposits	Fine grained alluvium, clay and silt, deposited in low areas downslope of the alluvial fans and adjacent to the Sacramento River,
Qmu	Late Pleistocene	Upper Modesto Formation	Alluvial fan deposits, sand, silt and clay, derived from mixed lithologies.
Qrb	Middle Pleistocene	Red Bluff Formation	Weathered alluvial deposits overlying the Tuscan Formation

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## 3. Geologic Hazards

Geologic hazards that may impact the pipeline alignment along the Export Pipeline and the Collection System are addressed in this section. They include seismic hazards, landslides, volcanic eruptions, flooding, erosion, and sedimentation.

### 3.1 Seismic Hazards

Seismic hazards addressed below include surface faulting, ground shaking, and seismically induced liquefaction.

The Export Pipeline alignment is crossed by multiple small subparallel faults identified by Harwood et al. (1991) (**Plate 3**). These faults are mapped where they displace Pliocene-age beds of the Tuscan Formation. The faults likely represent bending moment faults in the crest of the anticline above the blind Chico Monocline reverse fault (Harwood & Helley, 1987). The surface projection of the Chico Monocline fault is shown on **Plate 3** immediately west of the surface faults and has no surface expression.

No evidence of Holocene or late Pleistocene activity has yet been identified associated with these faults, and no earthquake fault rupture hazard zone has been delineated by the California Geological Survey (CGS, 2024). Therefore, we judge the hazard to the Export Pipeline and Collection System of surface fault rupture to be low.

Ground shaking from distant earthquakes may constitute a hazard to the planned Export Pipeline and Collection System. Fugro (2007) performed a seismic hazard assessment for the CWPCP, which included developing California Building Code (CBC) and deterministic response spectra, and a probabilistic seismic hazard analysis. The analysis concluded that the average peak ground acceleration (PGA) is about 0.17 g for an earthquake with a mean return period of 475 years. A project-specific seismic hazard analysis, using current CBC codes, is planned for a future phase of the Project.

Liquefaction may be induced by earthquake ground shaking in saturated cohesionless granular sediments such as loose sands and silts in areas of high groundwater. These conditions have the potential to occur along the western part of the Export Pipeline alignment, approximately Mile 0 to 9. Fugro (2007) evaluated liquefaction hazard at the CWPCP (Mile 0) based on borehole data and concluded that the sediments had sufficient density and cohesion to have a low potential for liquefaction during moderate seismic shaking. Geotechnical exploration along the pipeline alignment will provide a more detailed stratigraphic characterization of the subsurface and thus a more robust assessment of the potential for seismically induced liquefaction.

## 3.2 Landslides

The hazard of landslides is evaluated through review of landslide susceptibility maps prepared by the California Geological Survey, review of known occurrences of landslides in the project area and the factors that govern their occurrence, and review of lidar data collected after the November 2018 Camp Fire (USGS, 2018).

A landslide susceptibility map created by the California Geological Survey (CGS, 2011) shows that in the Town area, the steep slopes of the canyon walls are susceptible to deep seated landslides (**Plate 4**). Inspection of aerial photography and lidar data for the canyon show that the canyon walls erode by shallow landslides and rockslides, debris flows, and occasional deep seated rotational landslides. Landslide scars where vegetation has been removed are visible on some of the slopes on the north wall of the Butte Creek Canyon. And one large rotational landslide is evident from the topography in an adjacent canyon to the north.

The canyon walls adjacent to the Skyway are well vegetated and do not show evidence of recent slope failure (**Appendix A**, Photo 7), suggesting the slopes may have been stable for many years. Hazard to the Export Pipeline from landslides is likely low over most of the Skyway area (Mile 10.5 to 18.1), but merits further investigation where the alignment is close to the escarpment.

The Export Pipeline will be laid on the southeast margin of Skyway, the side farthest from the escarpment, therefore will lie at least 100 feet from the escarpment, or the width of the four-lane divided highway. In several locations, specifically near Mile 13.2, 15.7 16.15 and 16.6-16.8, the southbound lane is within 50 feet of the top of the escarpment (**Plate 5**). These locations should be the primary focus of investigations and field inspections. A field inspection and review of Butte County Road construction and maintenance records for Skyway is recommended.

## 3.3 Volcanic Hazards

The nearest active volcano, Lassen Peak, is approximately 50 miles north of the Town. Lassen Peak is the southernmost active volcano of the Cascade chain, which includes well known Mount Saint Helens, Mount Shasta, and Mount Rainier. Lassen Peak's most recent eruption occurred in 1914-1915 (Clynne & Muffler, 2010). Avalanches, mudflows, and flows of hot ash and gas devastated nearby areas, and volcanic ash fell as far away as 200 miles to the east (USGS, 2000). Were Lassen Peak to erupt again, the project site would not be affected by lava flows, mudflows, lahars, or ash flows due to favorable topographic barriers. Flows are most likely to be directed to the north.

The project site could be affected by ash fall from a large explosive eruption, such as occurred in 1914-1915. Studies by the USGS (2000) estimate that the area of moderate ash fall (2 inches or more) could extend approximately 30 miles from Lassen Peak, however the distribution of airfall ash is dependent on wind directions, which are typically toward the east, rather than south.

The volcanic hazard is judged to be low for airfall ash, and very low for any type of volcanic flow. Airfall ash would primarily affect the above-ground components of the project.

### 3.4 Flooding, Erosion, and Sedimentation

The hazard of flooding and associated erosion and sedimentation are addressed separately for the Town and the Export Pipeline.

#### 3.4.1 Flood Hazard in the Town

Flooding within the Town was initially assessed in the 1980 Master Storm Drainage Study and Facilities Plan. Special Permit Zones, were defined as narrow zones along the many small swales and drainageways that partition the ridges. These zones were intended to ensure potential buyers are aware that a property may be subject to flooding, ensure that those that occupy the zones assume responsibility, and ensure that new development or improvements consider and account for flood hazard (Town Ordinance No. 620 and PMC 8.55).

After the Camp Fire a 2022 Storm Drain Master Plan was prepared and the zone boundaries were refined to increase detail and accuracy. The new map shows seven categories of relative flood hazard, depicted on the map as progressively darker shades of blue (**Plate 6**). Like the 1980 map, flood hazard zones form narrow strips along the drainageways.

Though they may be dry in the summer, these drainageways fill with fast-moving runoff during winter storm event. Over time, they erode their channels, flow southwest down the sloping plateau though incised canyons, and drop their sediment at the margin of the Sacramento Valley as alluvial fan deposits.

#### 3.4.2 Flood Hazard along the Export Pipeline

Along the Skyway grade from the Town to Butte Creek (Mile 18.1 to 10.4) the export pipeline follows a narrow ridge which crosses no streams or drainageways. Flood hazard in this segment is very low.

However, from the Butte Creek crossing (Mile 10.4) west to the end of the pipeline (Mile 0.0), flood hazard maps published by the Federal Emergency Management Administration (FEMA) show broad areas of high flood hazard (**Plate 7**).

Prior to urban development, Butte Creek discharged from the mouth of its canyon, spreading water and sediment across the flatlands and gradually building an alluvial fan. Now the creek, and other local creeks are confined in channels and ditches, lined with levees. Yet they can overtop their banks and flood the adjacent flatlands in large storm events.

The flow in Butte Creek was increased in the 1950s with the construction of the Little Chico Creek Diversion Structure. This structure diverts approximately two thirds of the high flow of Little

Chico Creek into Butte Creek, to reduce flooding problems in the City of Chico from Little Chico Creek (Northstar, 2021) The planned alignment of the Export Pipeline crosses both Butte Creek and the diversion canal above their confluence where they are approximately 600 feet apart (**Plate 8**).

The Butte Creek Weir is a low concrete dam built to help manage flood discharges, provide irrigation water, and prevent erosion of the creek bed. A fish ladder, added around 1997 to the southeast side of the weir, allows fish to swim up into the headwaters of Butte Creek. The weir measures about 150 feet across including the fish ladder (**Appendix A**, Photo 9). Based on 1997 construction drawings for the fish ladder, the elevation of the downstream toe of the dam is about 220 ft, and the crest is around 232 ft.

The flood hazard map (**Plate 7**) shows areas where flood hazard is relatively high, having a 1 percent or more chance of occurring any given year. These flood-prone areas are intersected by the Export Pipeline from Mile 1 to 4, where Comanche Creek and Little Chico Creek overtop their banks, and at Mile 10.4, where the pipeline will cross beneath Butte Creek.

In addition to high water, flooding may cause erosion and scouring of creek banks or levees, and sedimentation both in the channel and as a layer of silt across the flooded areas. For example, Highway 99 crosses Butte Creek downstream from the confluence with the Little Chico diversion canal. The northbound lane of Highway 99 was replaced by Caltrans in 2014 due to scouring by Butte Creek at the bridge underpinning. The creek bank was then reinforced with rip rap around the bridge abutments to prevent future scouring.

The hazard to the Export Pipeline of erosion and scouring at creek crossings will be mitigated through planned Horizontal Directional Drilling (HDD) trenchless crossings of Butte Creek, Comanche Creek, and Little Chico Creek.

### 3.5 Corrosive Soils

Soils with very low or very high pH, high sulfate, high salinity, or high alkalinity can hasten the corrosion of buried steel and concrete. The USDA soil survey (Burkett & Conlin, 2006) provides chemical data on the soils in the Butte area. Soils along the project alignment are found to have neutral to very slightly acid pH values ranging from 6 to 7. None of these soils are noted to have high sulfate content, or to be saline or alkaline. Based on these data, the hazard of corrosive soils is judged to be low.

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## 4. Subsurface Conditions

In this section we review existing information related to soil, rock, and environmental conditions along the alignment of the Export Pipeline and the Collection System. Section 4.1 is a review of information on pedologic soil types mapped and described for the Butte area by the U. S. Department of Agriculture, along with the more detailed descriptions of soils by Wert & Associates (1992) in the Town. These studies provide insights into the nature and origin of the soils likely to be encountered during pipeline construction.

Section 4.2 is a review of existing geotechnical data relevant to conditions that may be encountered along the alignment of the Export Pipeline and the Collection System. These data were collected for design of various unrelated construction projects, including bridges, plants, and the rehabilitation of roads damaged in the 2017 Camp Fire.

Section 4.3 is a review of environmental data that document or suggest the presence and nature of potentially hazardous contaminants in the subsurface along the alignment of the Export Pipeline and the Collection System. This information is required for health, safety, and environmental planning, and will support both the geotechnical exploration plan and eventual construction.

### 4.1 Soil Characteristics and Distribution

A valuable source of information and understanding of the nature of the soils to be excavated for pipeline emplacement is available in soil surveys conducted for agricultural use and for shallow waste disposal. These surveys focus on the upper 5 to 10 feet of the soil and provide insights into the formation and origin of the soils in addition to their physical characteristics.

#### 4.1.1 Soil Types in the Town

Pedologic soil types in the Town area have been described and mapped by the U. S. Department of Agriculture (Watson et al., 1929; Burkett & Conlin, 2006). Pedologic soil types are differentiated in soil surveys based on the properties of the upper 4 to 8 feet of the soil. The focus of these surveys is to identify and delineate soils based on their potential uses for agriculture and other uses such as septic fields and pipeline trenches.

The earliest soil survey map was created in 1929 by Watson et al. They identify two soil types within the town: the Aiken clay loam and the stoney phase of the Aiken clay loam, describing them as having formed from weathering of basalt and basaltic volcanoclastics. The Aiken soil series was first defined in Amador County.

Later, the Burkett and Conlin (2006) in the *Soil Survey of Butte Area*, remapped the area and established a new series, the Paradiso loam, to represent the soils in the Town, replacing the



Aiken series of Watson et al. (1929). The type-locality of the Paradiso soil series is within the town. The descriptions of the Aiken and Paradiso soils are similar. The presence of volcanic tephra overlying the volcanic and volcanoclastic deposits is recognized in the upper few feet of the Paradiso soil.

The Paradiso loam is described as very deep, well-drained soil that formed in weathered tephra over residuum from volcanic rocks. The Paradiso loam formed on slopes from 2 to 30 percent under a mean annual precipitation of about 55 inches and mean annual temperature of about 57 degrees Fahrenheit (14 degrees Celsius) (Burkett & Conlin, 2006). A full description of the Paradiso soil series is included in **Appendix B**.

Within the Town, a very detailed soil map was prepared by Wert & Associates to evaluate the potential of different soil types for wastewater disposal (Wert, 1992). They identified and mapped a total of thirteen soil types. Soil types vary according to landscape position, moisture, depth to bedrock, depth to water table, parent material, gravel and boulder content, and presence of impermeable horizons. This work pre-dated the establishment of the Paradiso soil series, thus Wert (1992) applied the name "Aiken" to three of the thirteen soil types mapped. Soils mapped by Wert (1992) are listed in **Table 4.1** and shown in map view on **Plate 9**. Exposures of the soil along Pearson Road in the Town are shown in **Appendix A**, Photos 1 through 6.

The three Aiken soils constitute about two thirds of the soils in the Town. The Aiken soils - Aiken deep, Aiken very deep, and Aiken bouldery phase - are found on the gentle ridge tops and side slopes, where deep weathering under a mature forest cover has produced a yellowish red to reddish brown clay loam. Other soil types were identified that occur in other microenvironments or within from specific geologic strata, such as soils in swales formed in alluvium washed from the nearby slope, or soils formed on steep canyon walls, wetland soils, and soils that fill the cracks between basalt boulders.

The study by Wert highlights the variability of soils at a site-specific level, although each formed from the weathering of the Tuscan Formation.

**Table 4.1: Soil Types in the Town (Wert & Associates, 1992)**

Symbol	Soil Series	Landscape position	Description
AVD	Aiken Very Deep	Gentle ridge crests and side slopes	Red clay loam, well-drained, 5 to 20 feet deep, with 0 to 50% gravel over weathered Tuscan Formation
AD	Aiken Deep	Gentle ridge crests and side slopes	Red clay loam, well-drained, 40 to 60 inches deep, with 0 to 50% gravel over weathered Tuscan Formation
BA	Aiken Bouldery Phase	Adjacent to steep canyons on the southern end of Paradise	Red clay loam, well-drained, 4 to 5 feet deep, with over 50% gravel, over weathered Tuscan Formation
PR	(Unnamed)	In gaps and cracks of basalt post rock	Reddish brown clay loam
C	Cohasset	South end of Paradise on the sides of canyon walls	Dark reddish-brown clay lam and red clay loam 40-60" deep, over weathered, hard, Tuscan Formation
MC	Guenoc	South end of Paradise on the sides of canyon walls	Reddish-brown clay loam, 20-40" deep over moderately hard Tuscan Formation
SC	(Unnamed)	Canyon walls and adjacent to Rockland	Reddish-brown clay loam, 10-20" deep, over hard Tuscan Formation
T	Toomes	Intermingled with Rockland	Very gravelly loam with >50% gravels and cobbles
W	(Unnamed)	Wetlands	Dark brown to black clay, $\geq 5$ feet deep, over saprolite. Developed from alluvium
TW	(Unnamed)	Swales and gentle drainageways	Reddish-brown to red clay loam with mottles, 90" deep, over massive mottled clay to 120", over yellowish-red clay loam, mottled, to 160", over mottled saprolite. Developed from alluvium derived from Aiken soils.
MA	(Unnamed)	Swales and gentle drainageways	Dark reddish-brown clay loam over reddish brown mottled clay to 70" over massive grey clay to 70" over mottled saprolite. Developed from alluvium derived from Aiken soils.
SM	(Unnamed)	South part of Paradise	Dark brown clay loam, mottled, <20" deep, over saprolite
PO	Mariposa	Northwest corner of Paradise	Red clay loam, 10-20", over metasedimentary rocks.

#### 4.1.2 Soil Types along the Export Pipeline

Soil types along the Export Pipeline are described in the USDA soil survey (Burkett & Conlin, 2006). A generalized map of soil units is shown in **Plate 10**. The soils are described below from Mile 0.0 to Mile 18 based on the soil survey by Burkett and Conlin (2006). The generalized soil units are generally consistent with geologic mapping of Harwood et al. (1981) (**Plate 3**).

From the CWPCP at Mile 0.0 to approximately Mile 4.5, the alignment traverses soils deposited in flood basins of the Sacramento Valley. The soils are deep fine-grained, nearly level, and formed from clayey alluvium derived from volcanic rocks. In some areas the soil overlies a horizon of cemented alluvium derived from volcanic rocks.

From Mile 4.5 to 9.7, the alignment traverses alluvial fan deposits of Butte Creek and Comanche Creek. The soils are deep and nearly level, sloping <1 percent to the west, and consist of loamy alluvium of sand, silt, and clay. They are often used for walnut and almond orchards. These soils are mapped as the Modesto Formation by Harwood et al. (1981).

From Mile 9.7 to Mile 10.2 the alignment traverses historical mine tailings, deep deposits of sand, gravel and cobbles that originated as dredger tailings deposited in the flood plain of Butte Creek in the mid-late 1800s.

From Mile 10.2 to 10.5 the alignment makes a trenchless crossing beneath the Diversion Channel and the Butte Creek channel with its adjacent gravel bars and terraces. Bedrock elevation rises eastward and will likely be encountered in the trenchless crossing of Butte Creek.

From Mile 10.5 to the end of the Export Pipeline a Mile 18.1, the pipeline traverses soils developed from the weathering of the Pliocene volcanic deposits of the Tuscan Formation. The soils are divided into two groups based on the moisture and temperature gradients as elevation rises toward the Town.

From Mile 10.5 to Mile 16, soils are shallow, gently sloping to moderately steep, reddish brown loamy soils with gravels and cobbles over indurated volcanic mudflow breccia. The surface of these soils features a mound and swale microrelief clearly visible in aerial photography. The presence of shallow bedrock (2 to 14 inches) and the accumulation of clay and manganese in the subsoil near the top of the bedrock restricts vertical drainage and enables the formation of vernal pools and mounds. These soils are mapped as the Jokerst series (low spots between the mounds) and Doemill series (mound soils) (Burkett & Conlin, 2006). Their official descriptions are provided in **Appendix B**.

From Mile 16 to 18.1 the alignment continues to traverse shallow soils that developed from the weathering of Pliocene volcanic mudflow deposits of the Tuscan Formation. The depth of weathering here is greater than from Mile 10.6 to 16, in part from increased moisture and vegetation associated with the rise in elevation. The soil continues to be shallow, described by the USDA as 9 inches thick over the weathered volcanic mudflow deposits of the Rockstripe soil series (**Appendix B**).

Soils deepen significantly past Mile 18.1 and are mapped in the Town as the Paradiso Soil Series (Burkett & Conlin, 2006) (**Appendix B**), as described in the previous section.

## 4.2 Geotechnical Properties from Existing Data

Geotechnical data are generally sparse along the alignment and concentrated at specific facilities. HDR (2023) prepared a memorandum in which available geotechnical data are reviewed. This section includes review of many of the same reports reviewed by HDR (2023), along with some additional reports.

### 4.2.1 Geotechnical Data in the Town

Much of the existing geotechnical data for the Town consists of shallow (1 to 4 feet) borings along roadways. HDR (2023) prepared a map of the extent of existing geotechnical data within the Town (**Plate 11**). Selected geotechnical studies and their findings are summarized below.

Shallow cores (1 to 4 feet) were drilled along roadways in preparation for re-paving of roads damaged in the 2017 Camp Fire. Separate geotechnical reports are available for a total of 98 miles of roadway, divided into Zone 1, Zone 2, and Zone 3, which together comprise the major road system of the Town.

In Zone 1, the eastern third of the town, 20 cores were drilled to depths of 4 to 5 feet along 22 miles of roadway (WRECO, 2021). Soils beneath the pavement were predominantly elastic silt and fat clay soils with varying quantities of sand and gravel. Cobbles were encountered in five of the holes.

In Zone 2, the northwestern third of the Town, a total of 48 cores were drilled to depths of 1 to 5 feet along 12 miles of roadway (Crawford & Associates, 2022). Core data are tabulated in the report and with subgrade soil types listed. Typical soil types include sandy lean clay, clayey sand, sandy lean clay with gravel, lean clay with sand, gravelly lean clay, and fat clay with sand. Cobbles were encountered in nine of the cores.

In Zone 3, the central third of the Town, a total of 30 borings were drilled to depths of five feet along 20 miles of roadway. Soils typically consisted of medium plasticity sandy lean clay and sandy lean clay with gravel.

Four deeper borings were drilled in September of 2017 for the planned Paradise Transit Center on Birch Street west of Black Olive Drive (Crawford & Associates, 2017). Borehole B-1 encountered hard brown lean clay with sand to 7.5 feet, underlain by hard brown elastic silt with sand to 13.6 feet. Boreholes B-2, B-3, and B-4 encountered brown silt and clay with sand and cemented nodules to about 8 feet, lean clay and sand to a depth of 15.5 feet, and sandy silt to 16.5.

The geotechnical descriptions of the soils encountered in boreholes throughout the Town are consistent with their formation from deep and prolonged weathering of volcanic and volcanoclastic deposits, and with the soil descriptions of Wert (1992) reviewed above.

## 4.2.2 Geotechnical Data along the Export Pipeline

Geotechnical data near the Export Pipeline were available at several locations west of the Butte Creek crossing (Mile 0 through 11). Some of these data were previously reviewed and summarized by HDR (2023). The locations of previous geotechnical investigations are listed in **Table 4.2** along with general descriptions of the subsurface materials encountered. Locations are shown on **Plates 8** and **12**. These data inform anticipated soil conditions for the planned borehole investigations along the Export Pipeline alignment.

No borehole data were identified for Mile 11 through 18. However, geophysical data were collected along Skyway between Mile 12 and 15 (HDR, 2023) and are reviewed in **Section 4.2.3**.

**Table 4.2: Borehole Log Summary for Export Pipeline West of Butte Creek**

Location*	Report	Nearest Pipeline Mile	Description from Log
Chico Water Pollution Control Plant	Fugro, 2007	0.0	B-5 and B-6: Firm silt (ML) with lenses of sand and gravel 6-22 ft, with clay and white mottling below 13 feet B-3: Stiff sandy silt (ML) 0-15 ft, hard clay (CL) 15-28 ft, sand (SM) 28-42 ft, and gravel (GW) 42 to 46 feet
M&T Canal at Chico River Road (Caltrans)	Moore & Taber (1978)	0.0	Stiff sandy silt and clays extending to depths of 18 to 20 feet, underlain by dense to very dense silty gravel
Edgar Slough at Stirling Junction	Caltrans (1951)	8	Silty clay, clayey silt, loose silty sand and gravel, and wet brown clay to a depth of 11 feet, underlain by weathered rock
Kinder Morgan Chico Terminal	Levine-Fricke	8	Medium stiff silt and clay with interbedded layers of sands extending to depths of 9 to 15 feet, underlain by dense to very dense silty gravel to clayey gravel to depths of 20 to 25 feet. (HDR, 2023)
Edgar Slough at Hwy 99	Caltrans (1951)	9.4	Loose to medium dense silty sand extending to depths of 5 and 6 feet, underlain by dense sandy gravel to depths of about 15 and 18 feet. Stiff to very stiff clay and silt underlies the gravel
Peterson Tractor Co.	EES (1989)	10	Dense gravel with clayey sand extending to depths of 10 and 15 feet. Dense sand and clayey sand underlie the gravel layer extending to depths of 20 and 25 feet. (HDR, 2023)
Butte Creek at Highway 99 (Caltrans)	Caltrans (2011)	10	Loose gravel, sand and cobbles to a depth of about 10 feet, underlain by layers of stiff sandy clay, dense gravel, and sand extending to the top of bedrock at 42 feet
Butte Creek at Skyway	Moore & Taber (1976)	11	Dense silty fine to coarse sandy gravel and cobbles, up to 20 feet thick, over cemented volcanic mudflow bedrock
*See Plates 7 and 11 for borehole locations.			

To anticipate subsurface conditions that will be encountered along the planned trenchless pipeline crossing of Butte Creek and the Diversion Channel, top-of-bedrock elevation data were compiled from four nearby locations. These elevations are shown in **Table 4.3**. These data will also inform conditions in the upcoming project boreholes to be drilled at the crossing. A comparison of these data to the elevation of the Butte Creek weir at 220 to 232 feet, suggests the weir may have been founded on bedrock.

**Table 4.3: Top-of-Rock Elevation in Historical Boreholes near Butte Creek**

Location	Borehole	Top-of-Rock Elevation (ft. msl)	Rock Description from Log
Highway 99, Butte Creek Bridge #12-126 1951?	T.H-3	187	Weathered rock
Highway 99, Butte Creek Bridge, 1985	B-3	188	Decomposed tuffaceous sandstone
	B-5	191	Gray-brown tuffaceous sandstone, fine to medium sand
Highway 99, Butte Creek Bridge, 2011	RC-10-001, -002, and -003	186, 188, 187	Volcanic conglomerate with tuffaceous matrix, volcanic sandstone
Chico Skyway Bridge Over Butte Creek	B-1	234	Cemented volcanic mudflow
	B-2	211	Cemented volcanic mudflow
	B-3	223	Cemented volcanic mudflow
	B-4	214	Very dense, brown, silty, fine to medium sand with volcanic rock fragments (very weathered mudflow?)
	B-5	226	Volcanic agglomerate

### 4.2.3 Geophysical Data

Geophysical surveys were performed for by Terracon in 2023 at four locations along the Skyway portion of the alignment (approximately Mile 12, 13.5, 14.3 and 15.5) to evaluate subsurface velocity and estimate rippability. The results were included as an Appendix to HDR (2023). The data show that bedrock is shallow or at the surface along the project areas between Skyway Bridge and Paradise. Pressure wave ( $V_p$ ) velocities as high as 9,000 feet per second (ft/sec) are encountered in the upper 5 feet. Overall,  $V_p$  readings in the upper five feet typically ranged from 3,000 to 8,000 ft/sec.

These results are consistent with soil survey descriptions of the native soil here as very shallow, 2 to 14 inches thick, over weathered bedrock (Burkett & Conlin, 2006).

## 4.3 Environmental Conditions

### 4.3.1 Groundwater

Regionally, groundwater is expected to follow topography and flow southwest from the Town to the City. Based on a review of publicly available information on the State Water Resource Control Board (SWRCB) GeoTracker website, depth to groundwater varies substantially throughout the Project area. Within Paradise, depending on location, depth to water can vary from between 5 to 15 feet below ground surface (bgs) along the Skyway to depths between 30 and 50 feet bgs on the Clark Road side of the Town.

Within the Chico area, groundwater at the Kinder Morgan Chico Terminal has been identified within four different depth-specific groundwater zones. Within the shallow zone, Zone 1, groundwater has been observed to be at depths between 6 feet and 20 feet; in Zone 2 between 10 to 54 feet; in Zone 3 between 43 to 51 feet bgs; and in Zone 4 between 48 and 56 feet bgs.

We note as part of the monitoring for the Skyway Subdivision Groundwater Plume located off Speedway Avenue, groundwater has been identified in three groundwater zones; in wells screened within Zone A groundwater depths ranged between 25 and 66 feet bgs, in Zone B groundwater ranged between 25 and 93 feet bgs, and in Zone C groundwater ranged between 70 and 95 feet bgs.

Groundwater in some of these identified zones are likely under artesian pressures which influence the depths to groundwater observed and are significantly dependent on the hydrologic cycle and rainfall events. Depth to groundwater and groundwater quality should be further evaluated.

### 4.3.2 Regulatory Records Review

Fugro reviewed available online environmental regulatory agency records and summaries for sites within the Project alignments. We also reviewed documents made available to Fugro during this preliminary assessment study.

Based on our review of the agency files coupled with observations made during Fugro's site reconnaissance, sites adjacent to the Project corridor that either have an open or closed regulatory case or sites which due to their observed land use have a higher likelihood of chemical or petroleum usage and thus the risk of encountering impacts to soil and/or groundwater within the construction zone is higher, are summarized in **Table 4.4** at the end of this section. These data should not be considered an exhaustive list of high-risk sites, but rather an overview of potential risks which inform our findings and recommendations for further investigation).

For each site included in **Table 4.4**, Fugro has assigned a Hazard Ranking (HR) system as follows:

- **Hazard Ranking 1:** A site that will likely affect Project construction. Contamination of soil and/or groundwater is confirmed to be within the Project ROW alignments.
- **Hazard Ranking 2:** A site with the potential to affect the Project, either because of the presence of contamination that may likely migrate into the Project ROW construction areas or because the extent of contamination at the site is unknown.
- **Hazard Ranking 3:** A site that is not known to be contaminated, but due to current or historical use could possibly have contamination or would likely contain residual contamination from past remediation that could affect Project ROW construction areas.
- **Hazard Ranking 4:** A site with no documented chemical releases but are chemical users or waste generator sites based on type of land use. Sites with this hazard ranking may have less potential to affect the Project ROW construction areas.

Results are discussed below by main Project area; the Town, the Skyway (from the Y to the City of Chico area), and the City of Chico area.

### 4.3.3 Discussion of Environmental Review

#### 4.3.3.1 Town of Paradise

Current land uses within this portion of the proposed Project area comprise a mix of rural residential and re-established commercial, to rural highway commercial/industrial corridors. Waste at these properties is disposed through septic systems, some of which were damaged during the fire, and as such, soil and groundwater within the Project corridor may be impacted by bacteria including total and fecal coliforms and E.coli.

Remnant fire related debris may also be encountered in shallow soil during Project construction as the Town was devastated by the 2018 Camp Fire. Although streets have been rebuilt, it is unknown if all fire related debris and contaminants including petroleum hydrocarbons, semi-volatile organic compounds (SVOCs), asbestos (from burned structures), and heavy metals, primarily lead, have been fully remediated as part of Town restoration activities.

In addition, several open and closed regulatory case files were identified during our review of the regulatory agency databases. These cases are primarily former UST cases where soil and/or groundwater was impacted by petroleum hydrocarbons and/or volatile organic compounds (VOCs). Further, there are current permitted UST facilities identified adjacent to the Project corridor including gasoline service stations. Our site reconnaissance has also identified other land uses including automotive repair, agricultural equipment repair, and auto parts stores within the Project corridor that could have the potential to impact soil and groundwater within the proposed alignment.



As such, it is anticipated that soil and groundwater within Paradise portion of the Project may contain heavy metals including lead, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, polychlorinated biphenyls (PCBs), asbestos, and biological bacteria within the construction zone.

#### 4.3.3.2 Skyway (Mile 10.5 to 18.1)

No open or closed regulatory case files were identified for the portion of the Project alignment that is located on Skyway, between the Y and the City of Chico area.

Land use was observed to be primarily open space with rural residential housing, which most likely disposes of waste through septic systems, and as such, soil and groundwater within the Project corridor may be impacted by bacteria including total and fecal coliforms and E.coli.

Remnant fire related debris may be encountered in shallow soil during Project construction as this portion of the corridor was also affected by the 2018 Camp Fire. In addition, the Paradise Rod and Gun Club is present south of Skyway (at 3420 Skyway). Further, a large area of land located south of Skyway (and west of the Paradise Rod and Gun Club) was utilized as a staging area during the 2018 Camp Fire response.

As such, it is anticipated that soil and groundwater within this portion of the Project corridor may contain heavy metals particularly lead, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, PCBs, asbestos, and biological bacteria within the construction zone.

#### 4.3.3.3 City of Chico Area (Mile 0 to 10.5)

Current land uses within this portion of the proposed Project area comprise a mix of rural residential, commercial/industrial, and agricultural (primarily orchards) facilities.

Based on a review of regulatory agency files, there are two groundwater plumes that have been identified within the proposed Project corridor. The first is known as the Skyway Subdivision Groundwater Plume which originates from the Former Hecker and Combustion Engineering facility located at 37 Speedway Avenue (**Plate 8**). This facility is under the oversight of the Department of Toxic Substances Control (DTSC) for chlorinated solvent impacts to groundwater including tetrachloroethene (PCE) and trichloroethene (TCE) and their degradation products. Although the facility from which the plume originated is not located immediately adjacent to the proposed Project improvements, the groundwater plume extends past Midway and Hegan Lane, beyond the UPRR tracks. Further based on information on the DTSC Envirostor site, the maximum width of the plume is not known. Based on a groundwater monitoring event completed in 2023, groundwater within the proposed Project area is still impacted by elevated concentrations of TCE, within the shallower groundwater zone, and PCE and other VOCs in the deeper zones.

The other groundwater plume that has been identified within the proposed Project corridor is the plume associated with the Kinder Morgan Chico Terminal located at 2570 Hegan Lane (Plate 8). This facility is under the oversight of the Regional Water Quality Control Board for petroleum hydrocarbon and VOCs (including benzene and MTBE) impacts to groundwater. Based on a groundwater monitoring event conducted in September 2023, contaminants are present within the shallow groundwater zone immediately adjacent to the planned Project ROW.

As such, it is anticipated that soil and groundwater within this portion of the Project corridor may contain heavy metals including lead, petroleum hydrocarbons, VOCs, SVOCs, organochlorine pesticides, and PCBs within the construction zone.

#### 4.3.4 Environmental Conclusions

Based on our review of regulatory agency databases and our site reconnaissance observations, a Hazard Ranking of 1 or 2 was assigned to a total of forty-five listed facilities within the Project area. This ranking, coupled with the known impacts from leaking septic systems as well as the devastation resulting from the 2018 Camp Fire within the Project area, indicates a high potential for soil and/or groundwater impacts that could affect Project ROW construction areas, particularly if construction activities involve soil disturbance and dewatering.

Fugro recommends conducting subsurface investigation concurrent with geotechnical field investigations to evaluate shallow soil and groundwater environmental quality conditions that will be within the planned construction zones. Investigation activities should be tailored to the portions of the Project area where intrusive work will actually occur with consideration of the depths of the excavations, proximity to ranked properties, and the potential chemicals of concern likely at those properties. Groundwater sampling is also recommended if any excavations will extend below the groundwater table and in areas where dewatering is planned. Samples should be collected from borings advanced to the maximum depth of proposed excavations along the entire Project alignment. Samples should be collected using standard industry practices regarding worker safety, equipment decontamination, field screening, soil logging, and sample handling, documentation, and chemical testing.

Soil and grab groundwater samples should be submitted to a California state-certified analytical laboratory for chemical analyses. Analytical testing to be completed should be geared toward the potential contaminants that may be encountered within the main Project areas (the Town, Skyway [from the Y to the City of Chico], and the City of Chico). Depending on the location within the Project area, soil and/or grab groundwater samples collected should be submitted for some or all of the following chemical analyses:

- Total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPHg, TPHd, and TPHmo) using EPA Method 8015m with silica-gel cleanup;
- Volatile Organic Compounds (VOCs) and MTBE using EPA Method 8260b,

- Semi-Volatile Organic Compounds (SVOCs) using EPA Method 8270c,
- Organochlorine Pesticides and PCBs using EPA Method 8081/8082,
- Title 22 Metals (CAM 17) using EPA Method 6000,
- Naturally occurring asbestos using California Air Resource Board (CARB) 435 with point counting,
- Total and Fecal Coliform and E.coli Bacteria using Method SM9221, and/or
- Total Organic Carbon using Method SM5310.

Based on the results of analyses, additional analyses of soils for soluble metals, may be appropriate to assist with assessing potential worker exposure concerns as well as to develop a profile for potential offsite disposal of soil.

Results of analyses should be compared to appropriate screening criteria, including but not limited to criteria for a worker exposure scenario and hazardous waste disposal. Based on the results of subsurface investigation, the preparation of a Soil and Groundwater Management Plan (SGMP) should be considered to address potential risks to construction workers and the general public due to contaminants of concern in soil and groundwater. The SGMP should include provisions for managing groundwater generated as part of any construction dewatering activities. The SGMP should also include provisions for management of soil excavated within the Project as part of construction, including but not limited to soil handling, stockpiling procedures, waste profile characterization, import soil requirements, stockpile erosion control measures, decontamination, transportation of waste, and dust control measures. The SGMP should also include establishing health and safety training and construction worker protection safeguards.

\*Information presented below should not be considered an exhaustive list of high risk sites, but in our opinion does provide an overview of potential risks

Table 4.4: Summary of Land Use, Environmental Case Review, and Hazard Ranking

Areas	Land Use	Land Use Risk Category	Site Name	Site Address	Potential Environmental Impacts	Notes/Comments	Hazard Ranking
<b>Town of Paradise</b>							
<b>General Area Concerns</b>							
	Any	Waste Management / Septic Systems	--	--	Most homes on septic systems, many locations also allowed to burn wastes	Local area of septic system contamination impacts	2
	Any	Within sphere of influence of Camp Fire and Dixie Fire	--	--	Fire destruction area	Fire residue blanketed area. Shallow surficial soils likely impacted by fire residue.	2
	ROW	Historic ROW	--	--	ROW contaminants may include TPH, metals, lead and asbestos due to long term vehicle travel, and chlorinated pesticides due to weed abatement practices	Likely impacts to shallow soil and embankment areas.	2
	School	Within sphere of influence of Camp Fire and Dixie Fire	Ridgeview Continuation High School	5944 Maxwell Dr.	Fire destruction area	Camp Fire debris removal conducted. Soils also contaminated by organochlorine pesticides and lead. Possible septic tank on site.	3
	Mining	Mining	Lucky John Placer Mine	Unknown - Little Butte Creek	No environmental case file reviewed. Drainages may be impacted by heavy metals, including mercury, and TPH.	Likely heavy metal and TPH impacts to drainages.	2
<b>Pearson Road</b>							
	Same as general risks identified for the Town, see above						
<b>Clark Road</b>							
	Service Station	UST/Vehicle Servicing	Western Petroleum Marketers	5725 Clark Rd.	Contaminant area restricted to site and one groundwater well across Pearson Rd to the NW.	Cleanup completed. Basalt boulders may be encountered in the subsurface. Closed under State's Low Threat Policy.	3
	Service Station	UST/Vehicle Servicing	Nella Oil SS #45	5734 Clark Rd.	Contaminant plume migrated southeasterly across Pearson Rd. from northeast corner of Pearson Rd. and Clark Rd.	TPH cleanup completed to allow continued property use.	2
<b>Skyway</b>							
	<b>Skyway to the Y</b>	<b>From Pentz Road on the North to the Y on the South</b>					
		Automotive Repair, Agricultural Equipment Repair, Auto Parts Stores	Various	--	No environmental case file reviewed, chemical and TPH chemical use suspected.	--	2
		Within sphere of influence of Camp Fire and Dixie Fire	--	--	Fire destruction area	Fire residue blanketed area. Shallow surficial soils likely chemically impacted by fire residue.	2
		UST/Vehicle Servicing	Gold Nugget Oil Company Station #2	8229 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Howards U-Pump	8226 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	1
		UST/Vehicle Servicing	Food & Liquor #100	7575 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Food & Liquor #96	7515 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	1
		UST/Vehicle Servicing	Amfork of Paradise	7472 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Beacon SS #455 Paradise	6901 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Beacon SS #681 Paradise	6490 Skyway Blvd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	McMillan Property	6226 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	USA SS #204	6148 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Paradise Fire Station #1	767 Birch St.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	ChevronSS #97126	5971 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2

Table 4.4: Summary of Land Use, Environmental Case Review, and Hazard Ranking

Areas	Land Use	Land Use Risk Category	Site Name	Site Address	Potential Environmental Impacts	Notes/Comments	Hazard Ranking
<b>Skyway (cont.)</b>	<b>Skyway to the Y</b>	<b>From Pentz Road on the North to the Y on the South</b>					
		UST/Vehicle Servicing	Hasroun Property	5986 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Honey Run Tire	6087 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Camp Property	8710 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	1
		UST/Vehicle Servicing	Hartung Glass Diesel Spill at Miller Glass	5999 Foster Rd.	Cleanup Program Site	Cleanup completed to allow continued property use.	3
		UST/Vehicle Servicing	USA SS#204	6148 Skyway Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Unocal SS #5816	6505 Skyway	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		Heating oil tank	Paradise Veterans Hall	6550 Skyway	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST/Vehicle Servicing	Western Petroleum Marketers	5725 Clark Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	3
		UST/Vehicle Servicing	Nella Oil SS #45	5734 Clark Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	3
		UST/Vehicle Servicing	ARCO SS #5819	5987 Clark Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		Vehicle Servicing	Quality Used Tire	6057 Clark Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	3
		UST/Vehicle Servicing	Pence Road Market	6435 Pence Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
<b>The Skyway (Y to Chico)</b>							
<b>Skyway</b>	<b>Skyway Y to Chico</b>						
		Shooting Range	Paradise Rod & Gun Club	3420 Skyway	No environmental case file reviewed. Heavy metals (lead) and TPH impacts suspected	--	2
		Staging Area	Former Camp Fire Response Staging Area	Skyway & Santa Rosa Rd.	No environmental case file reviewed. Heavy metals, TPH, solvents, pesticides, PCB impacts suspected	--	2
<b>City of Chico</b>							
<b>General Area Concerns</b>							
	Any	Waste Management / Septic Systems	--	--	Most rural homes/farms on septic systems, many locations also allowed to burn wastes.	Localized area of septic system contamination impacts to soil and gw.	2
	ROW	Historic ROW	--	--	ROW contaminants may include TPH, metals, lead and asbestos due to long term vehicle travel, and chlorinated pesticides due to weed abatement practices	Likely impacts to shallow soil and embankment areas.	2
	Solvent Plumes	Former Dry Cleaners, Degreaser Uses	Various	--	Impacts to soils, vapor intrusion risks, and impacts to groundwater	Solvents	3
	Agriculture	Orchards and Fields	Various	Various	Agricultural chemicals	Suspected impacts to shallow soils	2
<b>Skyway</b>	<b>Skyway to South Gate Ave</b>						
		UST	Fred Meyer Store	2350 Forest Ave.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
<b>HWY 99 Crossing</b>							
		UST/Vehicle Servicing	Gas Mart	480 Park Ave. E	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST	Wrex Products	25 Wrex Ct.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2

Table 4.4: Summary of Land Use, Environmental Case Review, and Hazard Ranking

Areas	Land Use	Land Use Risk Category	Site Name	Site Address	Potential Environmental Impacts	Notes/Comments	Hazard Ranking
<b>Butte Creek Crossing</b>							
		Body Shop, Detailing	Park Avenue Motors (currently Fix Auto Chico)	275 Park Ave. E	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
<b>Entler Ave Parallel to Hwy 99</b>							
		Print Shop	Miller's Grafix Print Shop	629 Entler Ave. #10	Inks and solvents	--	4
<b>Entler Ave to Midway</b>							
		UST	Western Petroleum Marketers	11204 Midway	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		UST	PG&E Chico Service Center	11239 Midway	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		Spill	West Valley Construction	11276 Midway	Fuel spill to soil	Cleanup completed to allow continued property use.	2
<b>Midway to Hegan Lane</b>							
		Construction Yard	West Valley Construction	11276 Midway	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
		Solvent Plume Source	Former Hecker and Combustion Engineering	37 Speedway Ave	VOC plume	Active RDIP & MNA	2
<b>Hegan Lane to Railroad Crossing</b>							
		Railroad Crossing	--	--	Creosote ties, TPH, pesticide, and metal impacts to ballast	--	2
		Petroleum Pipeline Distribution Terminal	Kinder Morgan	2570 Hegan Ln	TPH impacts to soil and groundwater	Actively being studied and assessed.	3
<b>Hegan Lane at RR to Elk Ave</b>							
		AST	Spycher Bros. almond receiving station	2932 Hegan Ln.	Not observed	AST noted in Streetside	3
<b>Chico Ave to Taffee Ave</b>							
		UST	Logan Ranch	3030 Chico Ave.	LUST Cleanup Site (soil excavation)	Cleanup completed to allow continued property use.	2
		AST	Vanella Farms	3091 Chico Ave	1 AST with containment observed away from road	Unknown	4
		AST	Unknown	3201 Chico Ave	1 AST with containment observed away from road	Unknown	4
<b>Taffee Ave at Chico Creek to Chico River Road</b>							
		AST	Farm house and barn	887 Taffee Ave.	AST	Unknown	4
<b>Chico River Road</b>							
		UST	Dutra Property	2672 Chico River Rd.	LUST Cleanup Site	Cleanup completed to allow continued property use.	2
<b>Chico River Rd. west of Alberton Ave.</b>							
		Ponds	Chico Water Pollution Control Plant	4827 Chico River Rd.	Potential wastewater pond and PFAS impact to ground and surface water	Ongoing monitoring	2
<b>Miller Ave. at Chico River Rd.</b>							
		Fuel Loading Rack	Former Tosco Bulk Oil Plant	501 Miller Ave.	Petroleum Spill Site	Cleanup completed to allow continued property use.	2

**Notes**

AST = Aboveground Storage Tank

UST = Underground Storage Tank

LUST = Leaking Underground Storage Tank

ROW = Right-of-Way

TPH = Total Petroleum Hydrocarbons

VOC = Volatile Organic Compounds

## 5. Discussion and Conclusions

Soil conditions vary along the entire Project alignment as it passes through the Sacramento Valley alluvial soils, crosses Butte Creek, the rises across shallow residual soils on the Tuscan Formation to the deep residual soils in the Town. Challenges to pipeline construction resulting from unique soil conditions are described below in order by distance along the alignment from the CWPCP.

The alignment can be divided into seven segments, A through G based on geologic and soil conditions (**Plate 13**). The conditions in each segment are described below.

- a. Mile 0 to 8: Thick loose to soft silt, sand, and clay alluvial deposits will be easily excavated, but trench walls may require support or layback. Trenchless crossings of Little Chico Creek (Mile 1.6), Comanche Creek (Mile 3.1), and UPRR (Mile 7.1) may be deep enough to penetrate the underlying dense gravels.
- b. Mile 8 to 9.6: Deposits are compact to dense and may require effort to excavate but will hold a steeper wall.
- c. Mile 9.6 to 10.2: Gravel, sand, and cobbles of the mine tailings maybe challenging to excavate. The trenchless crossing of Highway 99 will likely penetrate these tailings and the underlying alluvium.
- d. Mile 10.2 to 10.5: The trenchless crossing of the Diversion Canal and Butte Creek likely will penetrate gravelly and cobbly alluvium before reaching its full depth in the weathered Tuscan Formation bedrock.
- e. Mile 10.5 to 15: Indurated volcanic mudflow breccia of the Tuscan Formation is covered by a less-than-20 inch-thick, dense, gravelly, residual soil. Seismic refraction surveys indicate Vp velocities from 3,000 to 8,000 fps in the upper 5 feet, and up to 9,000 fps below that depth. This material may be very difficult to excavate due to its hardness and the overlying gravels and cobbles.
- f. Mile 15 to 18.1: The residual soil, a very gravelly and cobbly loam, thickens to 40 to 50 inches at these higher elevations, and the underlying Tuscan Formation is more weathered and less indurated. The presence of gravels and cobbles will be a challenge to excavation.
- g. Collection System in the town: The residual soil over the volcanic deposits here is generally quite deep consisting of lean sandy clay. The primary challenge will be the presence of cobbles and boulders of rock within the soil matrix.

Based on our review of regulatory agency databases, field reconnaissance observations, known impacts of leaking septic systems and the 2018 Camp Fire ash and smoke, we conclude that the entire Project area has the potential for soil and/or groundwater impacts that could affect Project ROW construction areas, particularly where construction activities involve soil disturbance and dewatering.

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## 6. Recommendations

Based on the results of our Desktop Study, we developed recommendations for additional data, constructions considerations and preliminary geotechnical investigation plan for the design level investigations. Our recommendations are provided in the following sections.

### 6.1 Additional Data Gathering

We offer the following recommendations regarding additional geotechnical data compilation along the alignment. Not all potentially relevant data were identified and obtained in this course of this review. If these data exist and could be made available, they will provide useful information to the project.

Additional data may include:

- a. Geotechnical information supporting the construction and maintenance of Skyway (Butte County Public Works). Boreholes may reveal soil conditions and depth of bedrock. Maintenance records may document the year, location, and repair of any slope failures or other problems that have occurred.
- b. Geotechnical data for residential or other developments sited on the ridge near the Skyway.
- c. Geotechnical data from the construction of the Butte Creek Weir and the Little Chico Creek Diversion Canal (City of Chico). The pipeline alignment and HDD crossing coincide with the location of the weir and the canal. Boreholes or construction records may help constrain the depth to bedrock and the properties of the soil and/or rock that will be penetrated.

Geologic or geotechnical data at the trenchless crossing of Butte Creek and the Diversion Channel are especially critical. Here the geology changes rapidly from volcanic bedrock to stream gravels and coarse tailings, to alluvial silts and clays. Sufficient data to model the thickness, geometry, elevation, and distribution of these materials will inform the design and construction of this crossing.

### 6.2 Construction Considerations

Based on the above understanding of the geologic and geotechnical conditions along the alignment, we anticipate specific challenges to construction and offer possible strategies and approaches to address these challenges.

#### 6.2.1 Excavatability

The presence of cobbles and boulders in the subsurface over much of the alignment poses a practical challenge to trench excavation. Cobbles and boulders occur throughout the sandy lean clay matrix of the weathered volcanic mudflow deposits, both as core stones and as colluvial



blocks, within the Town and along Mile 10.4 to 18.1 of the export pipeline. Cobbles are also a significant component of the tailing deposits at Mile 10.0 to 10.4.

Excavation of the cobbles and boulders may result in over-break beyond the designated excavation limits. Engineered fill or concrete slurry can be placed to return excavations to the planned excavation limits, if needed. Reuse of the cobbles and boulders as backfill may require crushing.

A second challenge to trench excavation is the presence of hard indurated volcanic mudflow deposits at shallow depths. This condition is expected to be most severe from Mile 10.5 to Mile 15, where the top of indurated rock is less than 20 inches deep, and somewhat less severe from Mile 15 to 18. Excavating the trench through this portion of the alignment may require additional time and involve specialized equipment or methods.

Generally, we suggest that the pipeline trench depth be as shallow as possible to improve excavatability.

## 6.2.2 Temporary Stability of Excavation Walls

The pipelines along the entire Project alignment will be placed into open excavations except for trenchless crossings at major roads and creeks. The stability of the excavation walls will depend to a large extent on the nature of the subsurface materials.

Excavations made in cobbles and boulders may result in failure as these large stones fall out of the wall. In areas with sand and gravel layers present, excavation walls are likely prone to raveling. If the excavation extends below the groundwater table, positive pore pressure may induce failure of the excavation wall.

At a minimum, excavations should be constructed in accordance with the current California Occupations Safety and Health Administration (OSHA) regulations (Title 8, California Code of Regulations) pertaining to excavations. Generally, Cal/OSHA soil types anticipated for design of temporary construction slopes consist of the following:

1. Existing fills – Type C,
2. Native soils – Type B, and
3. Intact bedrock – Type A.

All trench excavations should be adequately supported to prevent failure of the trench walls and to limit ground movement to acceptable levels. To help limit ground movement, stockpiling earth and other construction materials near open trenches should be avoided. In no case should stockpiling occur closer to trenches than allowed by federal or state regulatory agencies.

Geotechnical exploration for the design level investigations will provide subsurface information to better evaluate the temporary stability of excavation walls.

### 6.2.3 Dewatering

The contractor should be aware that groundwater, localized surficial water, perched groundwater, or springs could be encountered during construction especially during the wet season, requiring dewatering in excavations, and should provide a sump and pumping system to keep excavations free of water. The contractor should refer to the project specifications for additional dewatering requirements.

There may be permitting requirements for discharge of water removed from excavations. All necessary permits should be obtained prior to excavation.

We recommend installing groundwater monitoring wells along the pipeline alignment where shallow groundwater conditions are anticipated. All monitoring wells should be abandoned by the contractor when they are no longer needed and/or at the completion of construction in accordance with all state and local requirements.

## 6.3 Exploration Plan

The potential for environmental contamination of soil and groundwater is high along the entire alignment. Soils and groundwater should be tested during the exploration phase to identify the type and distribution of the contamination. A combination of field testing and laboratory testing will be needed. A health and safety plan must establish best practices and procedures to manage risk to personnel and the environment. Detailed recommendations are provided in **Section 4.3**.

Tailor the geotechnical investigations to the geotechnical conditions present in each individual segment. In **Table 6.1** below, we provide a preliminary approach for the design level geotechnical investigations for each segment defined in **Section 5**.

As this is a progressive design-build project, geotechnical investigations will be performed in phases and confirmed with the design-build teams and the Town at each phase. This approach will balance the need for geotechnical information, the risk of encountering unanticipated ground conditions during construction, and cost.

The degree to which cobbles and boulders are present is difficult to judge based solely on borehole data as the hole may completely miss the cobbles or may hit refusal on a cobble directly in its path. Test pits are recommended to better assess this issue. We recommend that the Cone Penetration Tests (CPTs) and borings go to a depth of 20 to 30 feet, and test pits to the target depth of pipeline excavation. Boring depths for the trenchless crossings are provided in our Phase I Geotechnical Field Investigation Plan (Fugro, 2024). We recommend using heavy duty equipment, such as a Caterpillar D9R excavator or equivalent, to perform test pits for better assessment of rippability.

**Table 6.1: Geotechnical Conditions and Preliminary Exploration Approach**

Segment	Mile Marker	Geologic Conditions	Potential Geotechnical Concerns	Exploration Approach
A	0-8	Loose to firm fine-grained alluvium with gravel layers below 9 feet	Trench wall instability, shallow groundwater. Trenchless crossing may encounter gravel	CPTs every 1,500 feet; borings at the three trenchless crossings and every 6,000 feet; monitoring wells at potential shallow groundwater locations
B	8-9.6	Stiff sandy silt and clay alluvium with gravel layers below 9 feet	Shallow groundwater	CPTs every 1,500 feet; borings every 3,000 feet; monitoring wells at potential shallow groundwater locations
C	9.6-10.2	Loose to dense sand, gravel, and cobbles of historical mine tailings	Caving of loose rocks and over-break. Trenchless crossing through mine tailings	Borings at the Highway 99 trenchless crossing and every 1,500 feet; test pits every 500 feet
D	10.2-10.5	Active drainages with loose gravel, sand and silt, shallow bedrock	Trenchless crossing through weathered bedrock and gravelly alluvium	Borings and monitoring wells at Butte Creek trenchless crossing; test pit at ingress and egress
E	10.5-15	Very shallow, hard, weathered volcanic deposits	Difficult excavation, over-excavation	Test pits every 1,500 feet; borings every 3,000 feet; seismic refraction
F	15-18.1	Shallow soil over hard, weathered volcanic deposits	Difficult excavation, over-excavation, landslide susceptibility	Test pits every 1,500 feet; borings every 3,000 feet; seismic refraction
G	-	Weathered volcanic deposits: lean sandy clay with gravel, cobbles, and boulders	Over-break due to boulders and cobbles in soil matrix, seasonal shallow groundwater along drainages	Test pits every 1,500 feet; borings at every pump station location and at least one boring every 1000 feet by 1000 feet grid; seismic refraction along Skyway and Clark Road; monitoring wells at potential shallow groundwater locations
Note: See Plate 13 for map of segments				

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## 7. Limitations

Fugro has prepared this report in a professional manner, using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent geotechnical and environmental consultants. Fugro shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, not readily observable, or reviewable within the scope and schedule of the services provided. This Study is intended for the purpose of evaluating the potential for contamination to be present through the completion of limited research and in no way represents a conclusive or complete site characterization of the Project area. Fugro also notes that the facts and conditions referenced in this report may change over time, and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report. Fugro believes that conclusions stated herein to be factual, but no guarantee is made or implied. This report has been prepared for the benefit of the Carollo and Mountain Cascade. The information contained in this report, including all exhibits and attachments, may not be used by any party other than the noted entities without the express written consent of Fugro.

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[www.geotracker.swrcb.ca.gov](http://www.geotracker.swrcb.ca.gov)

Various Camp Fire documentation websites

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## List of Plates

Title	Plate No.
Site Location	1
Topography of Export Pipeline Alignment	2
Geology of the Site Area	3
Landslide Susceptibility Map	4
Oblique View of Export Pipeline Alignment, Mile 15 to 18	5
Special Permit Zones for the Town of Paradise	6
Flood Hazard Map of Chico Area	7
Existing Geotechnical Data – Miles 8 to 11	8
Wert Soil Units – Town of Paradise	9
Generalized Soil Types Along Alignment	10
Existing Geotechnical Data in the Town of Paradise	11
Existing Geotechnical Data – Miles 0 to 6	12
Geotechnical Segmentation of Alignment	13



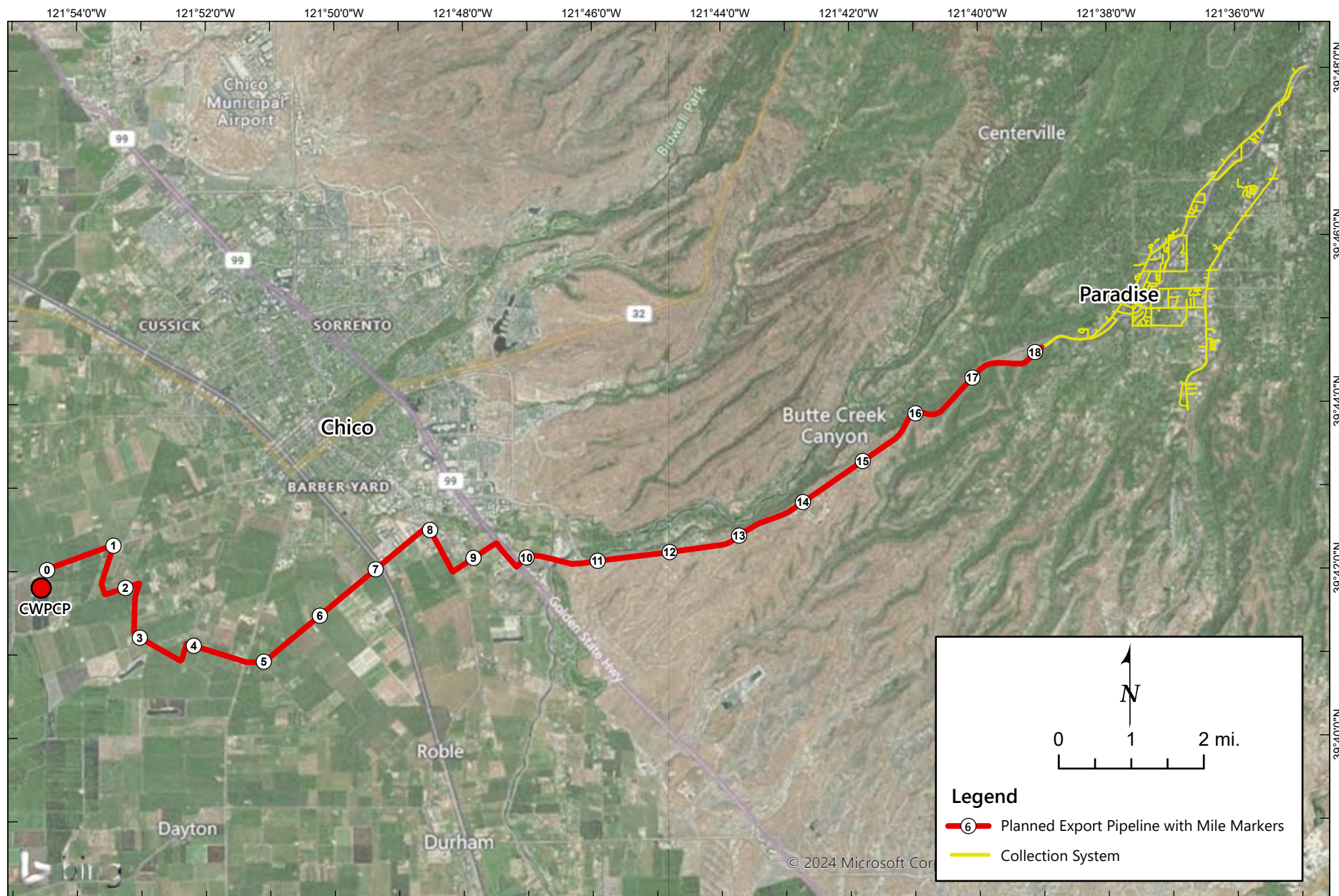
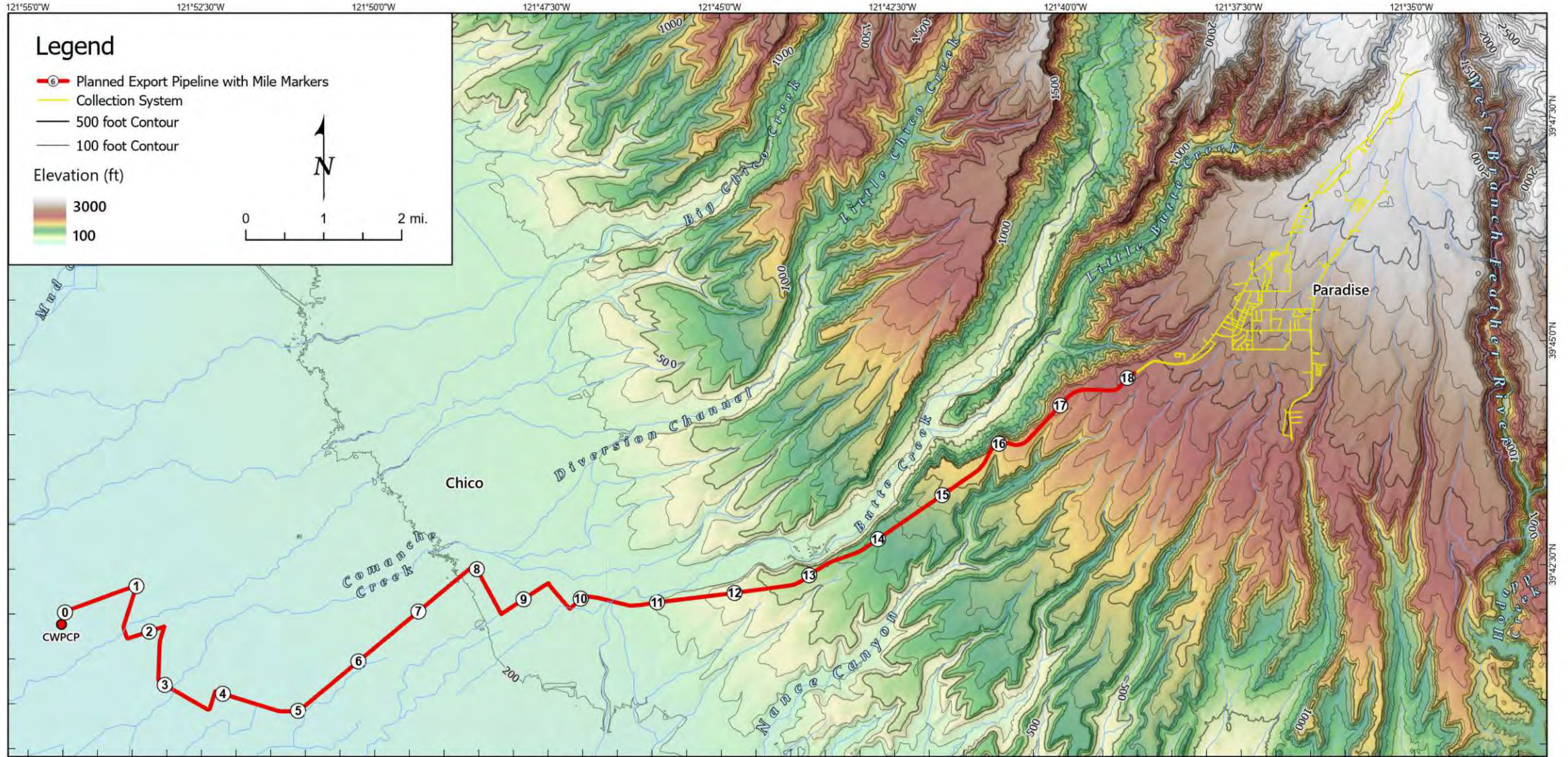
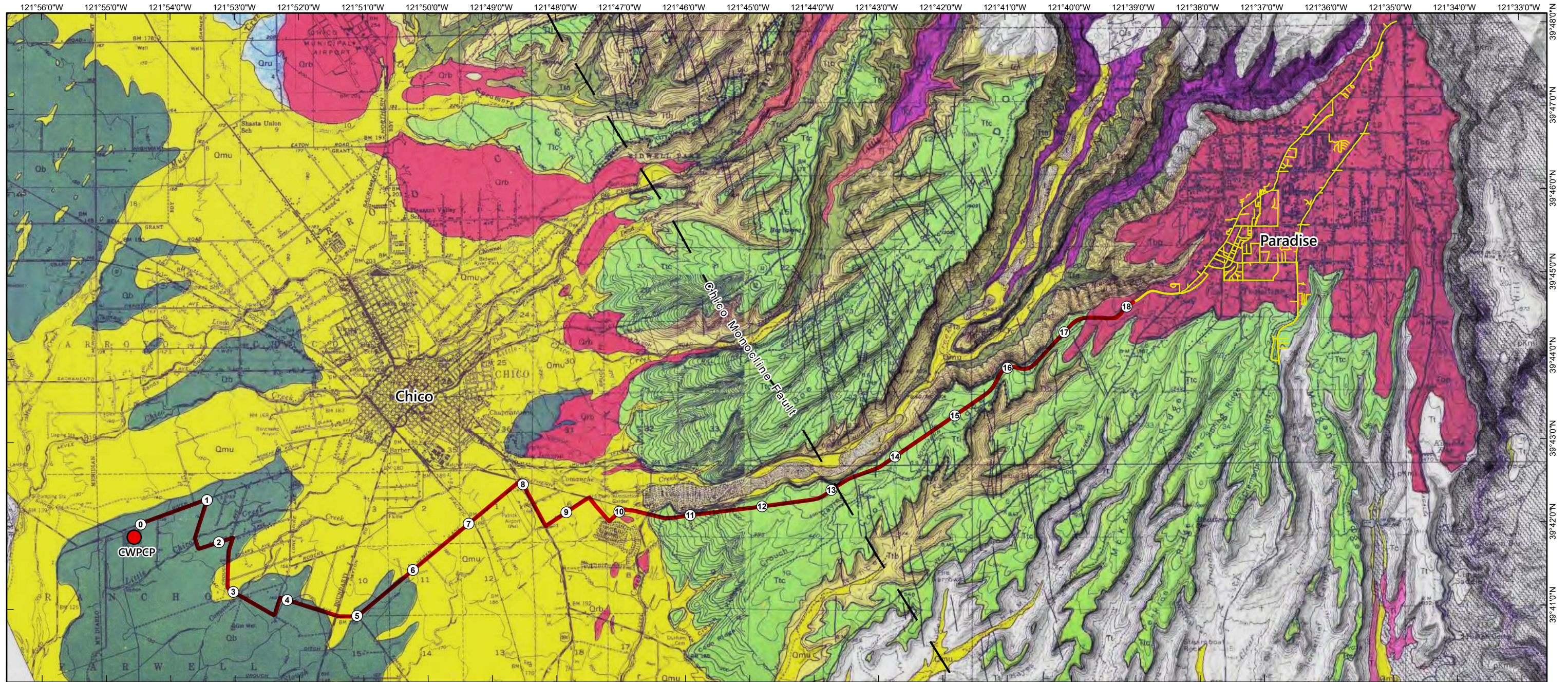


Plate 1: Site Location



Elevation Source: USGS 10m DEM, 2021

Plate 2: Topography of Export Pipeline Alignment

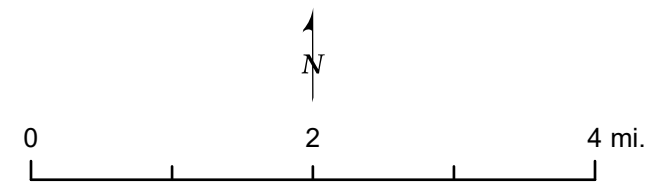


Mapping Sources: Harwood et al, 1981; Helley and Harwood, 1985. Elevation Source: USGS 10m DEM, 2021

Geologic Units

Symbol	Age	Unit Name
Qb	Quaternary	Basin Deposits
Qmu		Modesto Formation upper
Qrb		Red Bluff Formation
Tbp	Pliocene (2.6 – 5.3 Ma)	Olivine Basalt of Paradise
Ttc		Tuscan Formation Unit C
Ttb		Tuscan Formation Unit B
Tta		Tuscan Formation Unit a
Tt		Tuscan Formation, undivided
Kc	Cretaceous (66-145 Ma)	Chico Formation

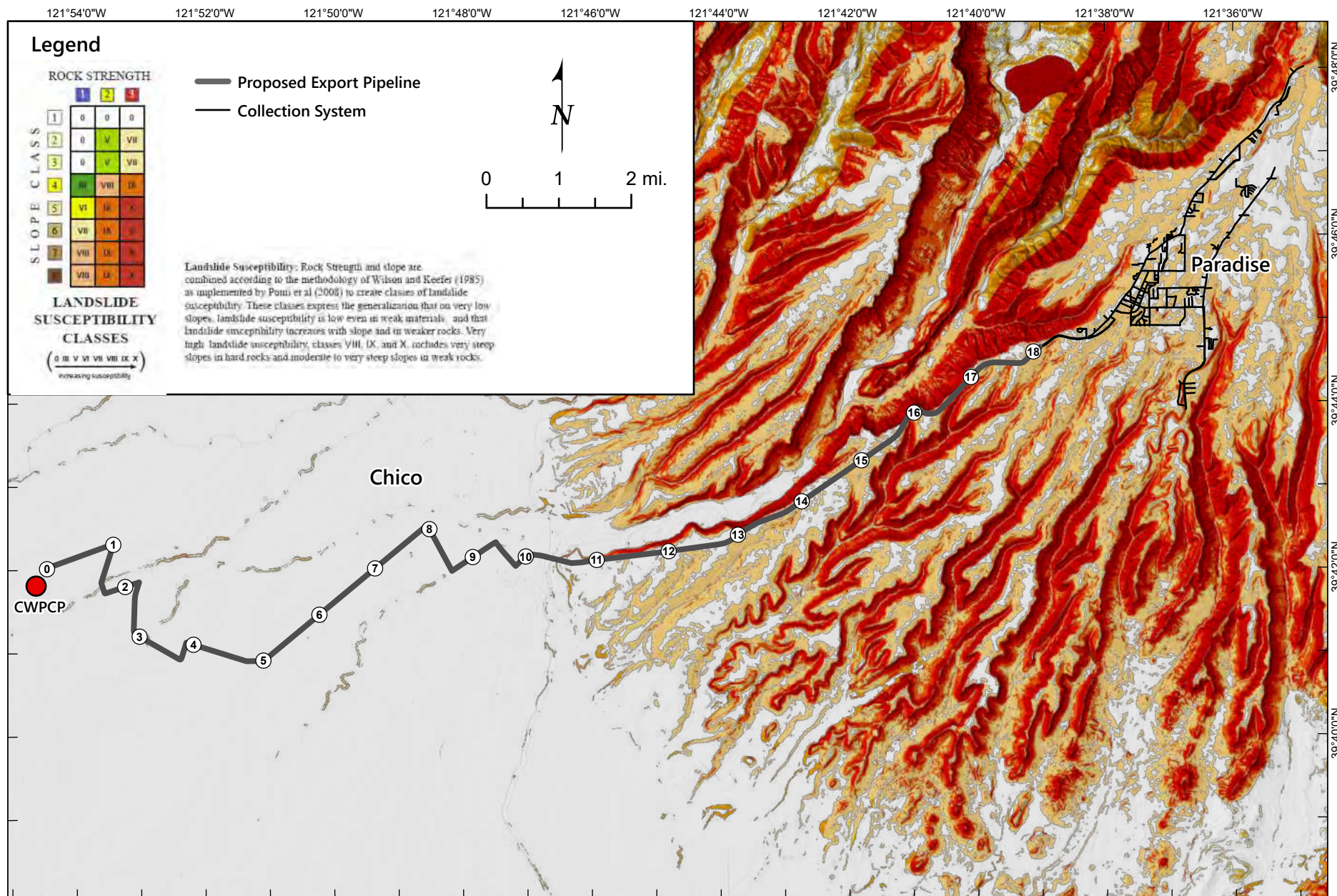
See Table 1 for Unit Descriptions



Legend

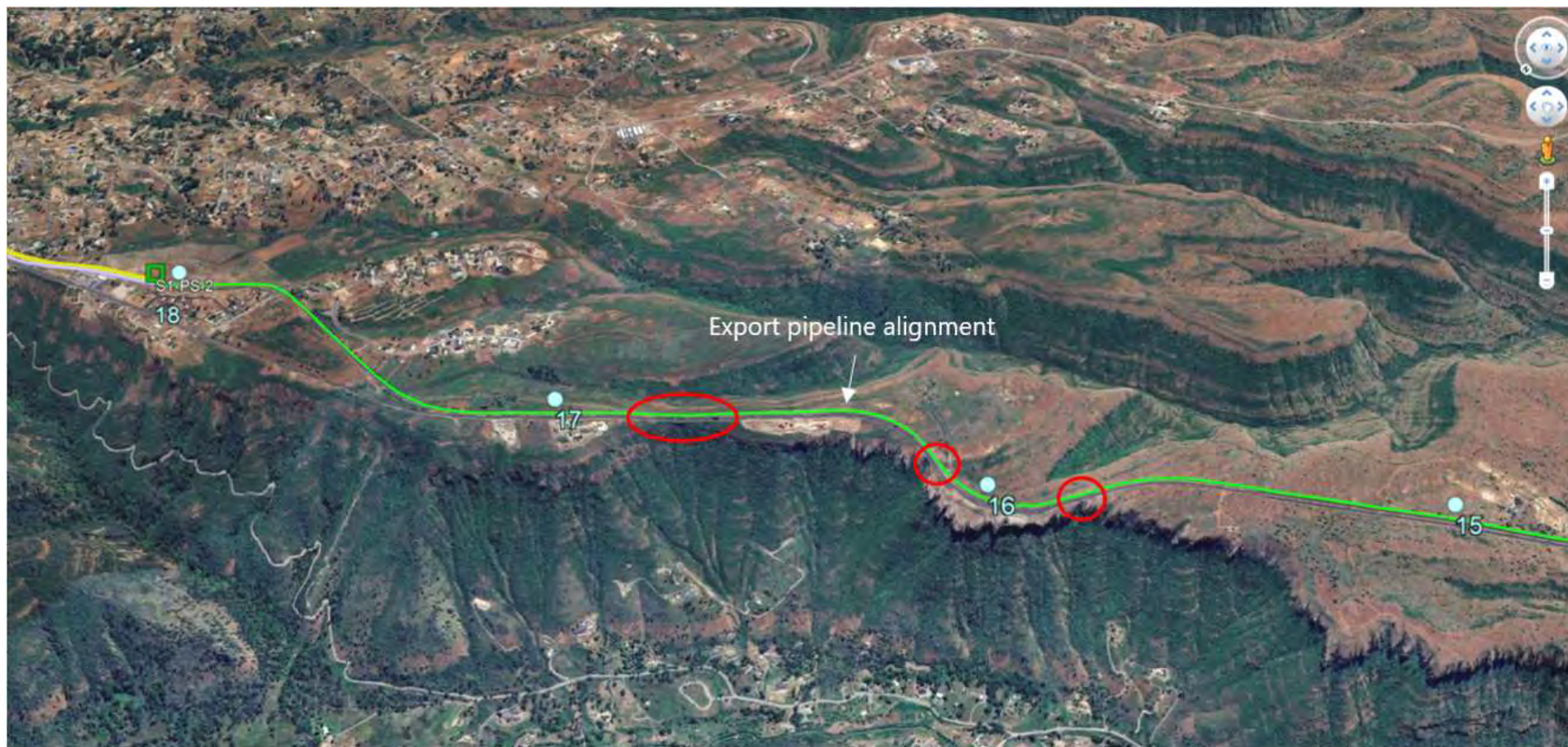
- ⑥ Planned Export Pipeline with Mile Markers
- Collection System
- Faults

Plate 3: Geology of the Site Area



Source: CGS, 2010

Plate 4: Landslide Susceptibility Map



Google Earth 2023 Imagery


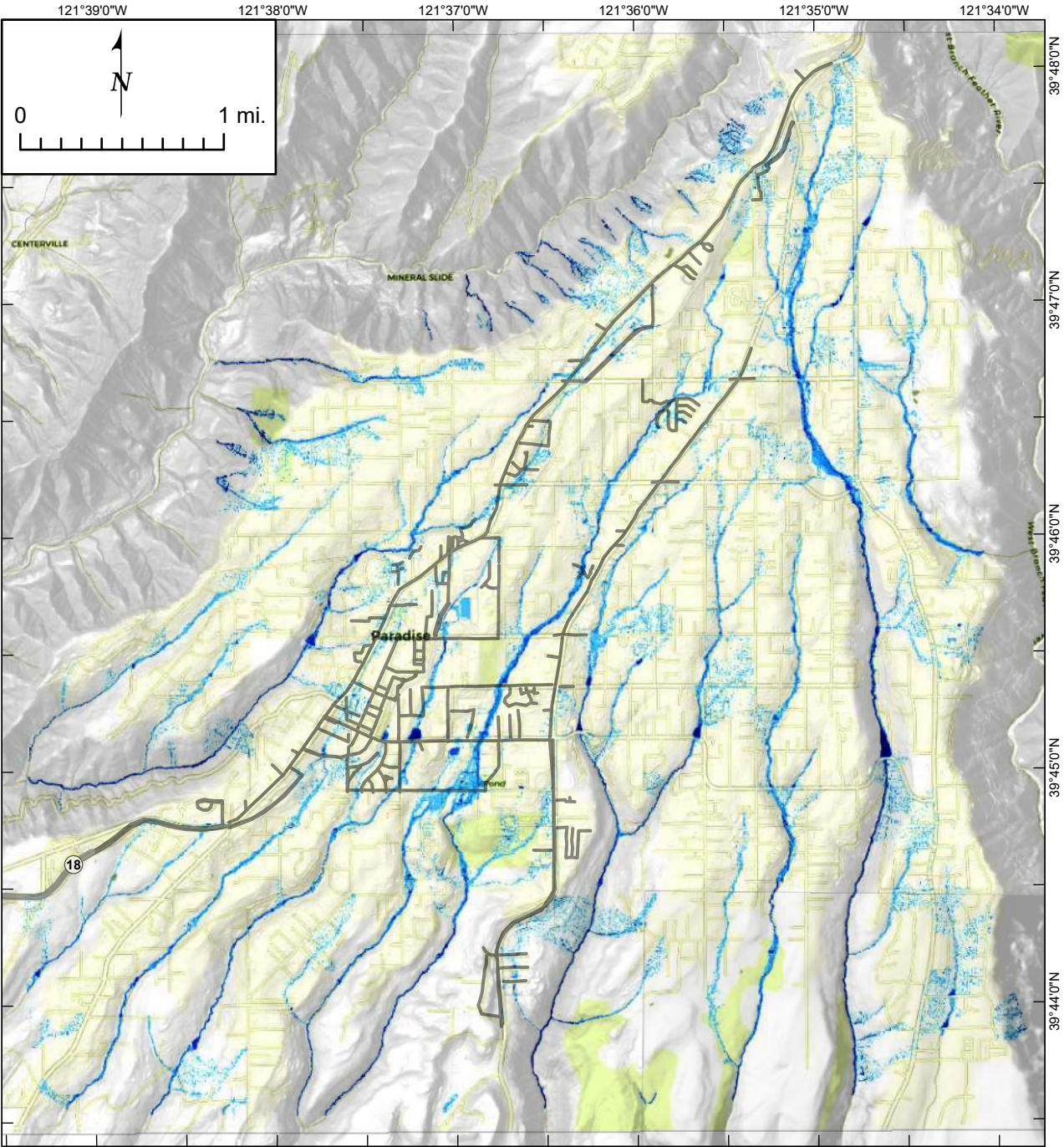
 Alignment close to escarpment

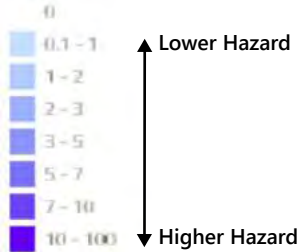
Plate 5: Oblique View of Export Pipeline Alignment, Mile 15 to 18



Data Source: 2022 Town of Paradise Storm Drain Master Plan; Elevation Source: USGS 2018 LiDAR and 2021 10m DEM

**Legend**

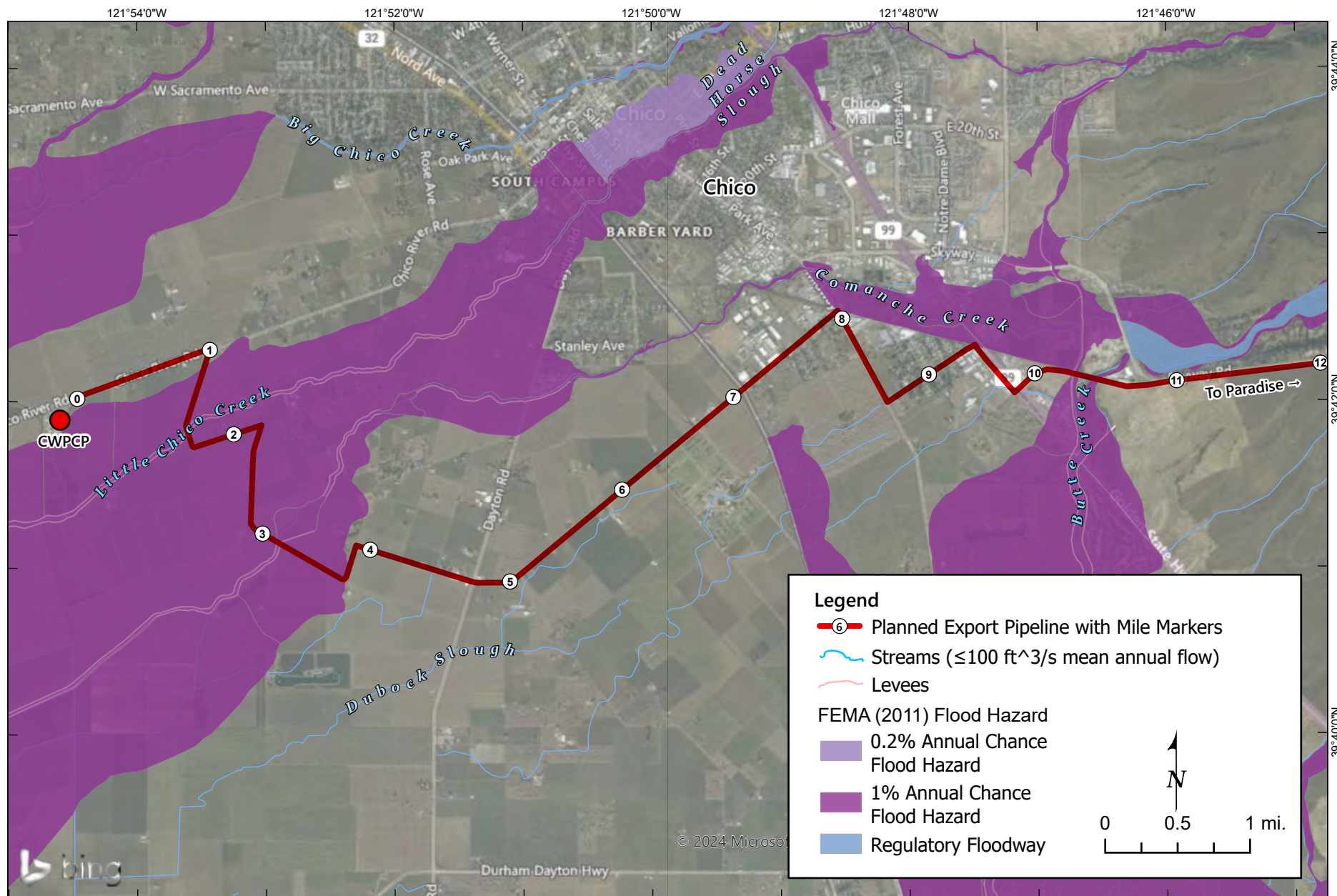
**Special Permit Zones**



- Planned Export Pipeline with Mile Markers
- Collection System

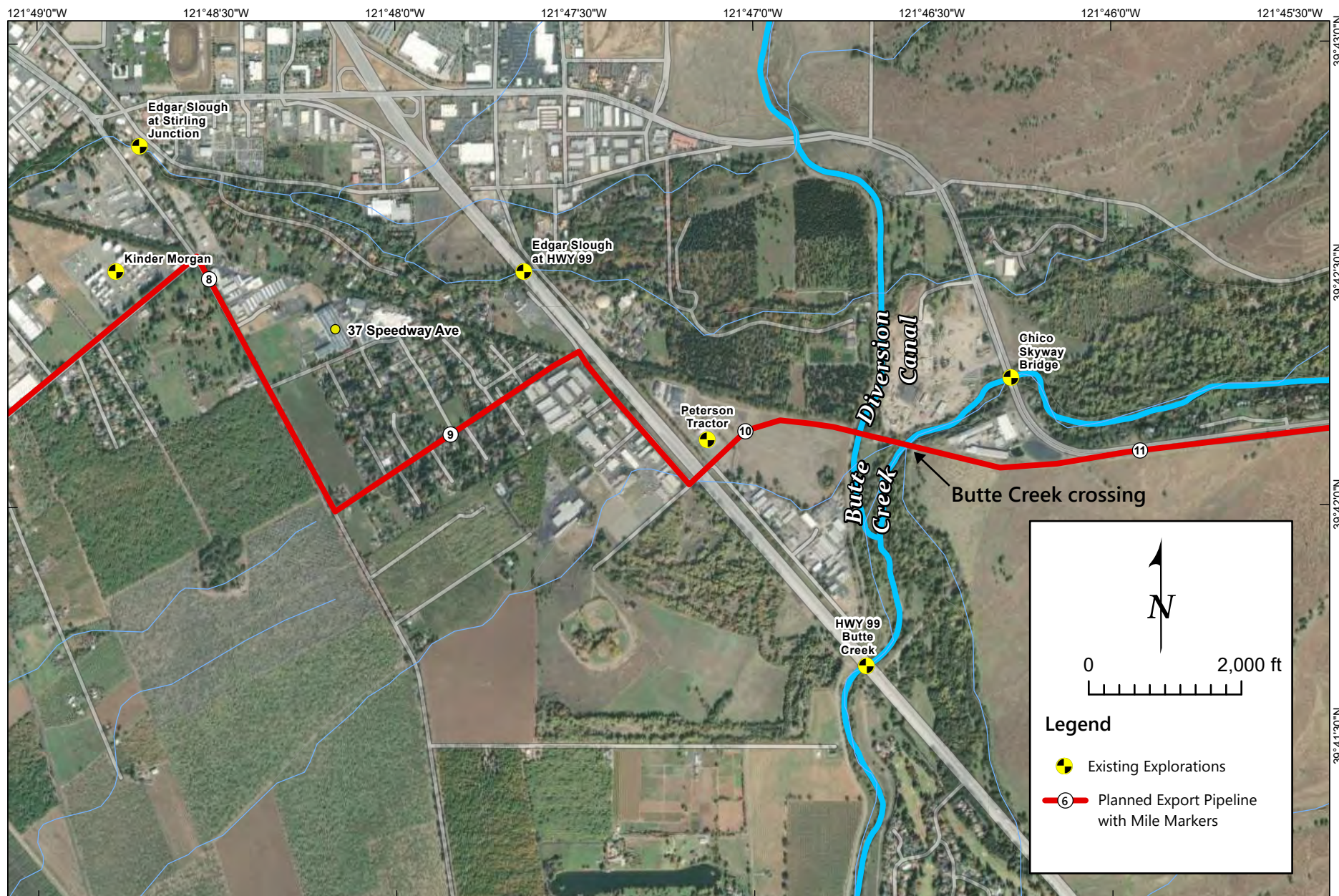
Plate 6 : Special Permit Zones





Base map: BING

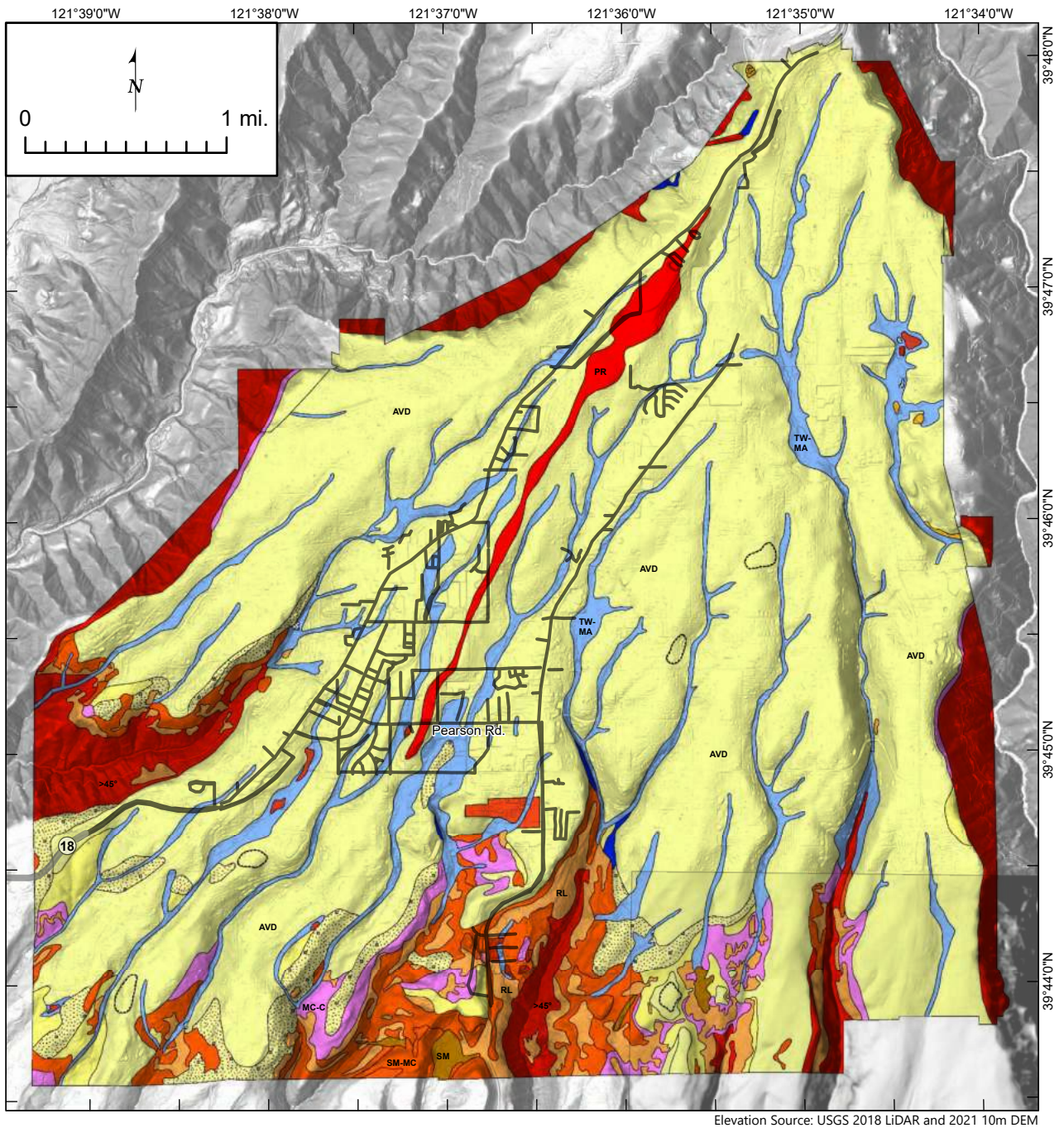
Plate 7: Flood Hazard Map of Chico Area



Base map: BING

Plate 8: Existing Geotechnical Data - Miles 8 to 11



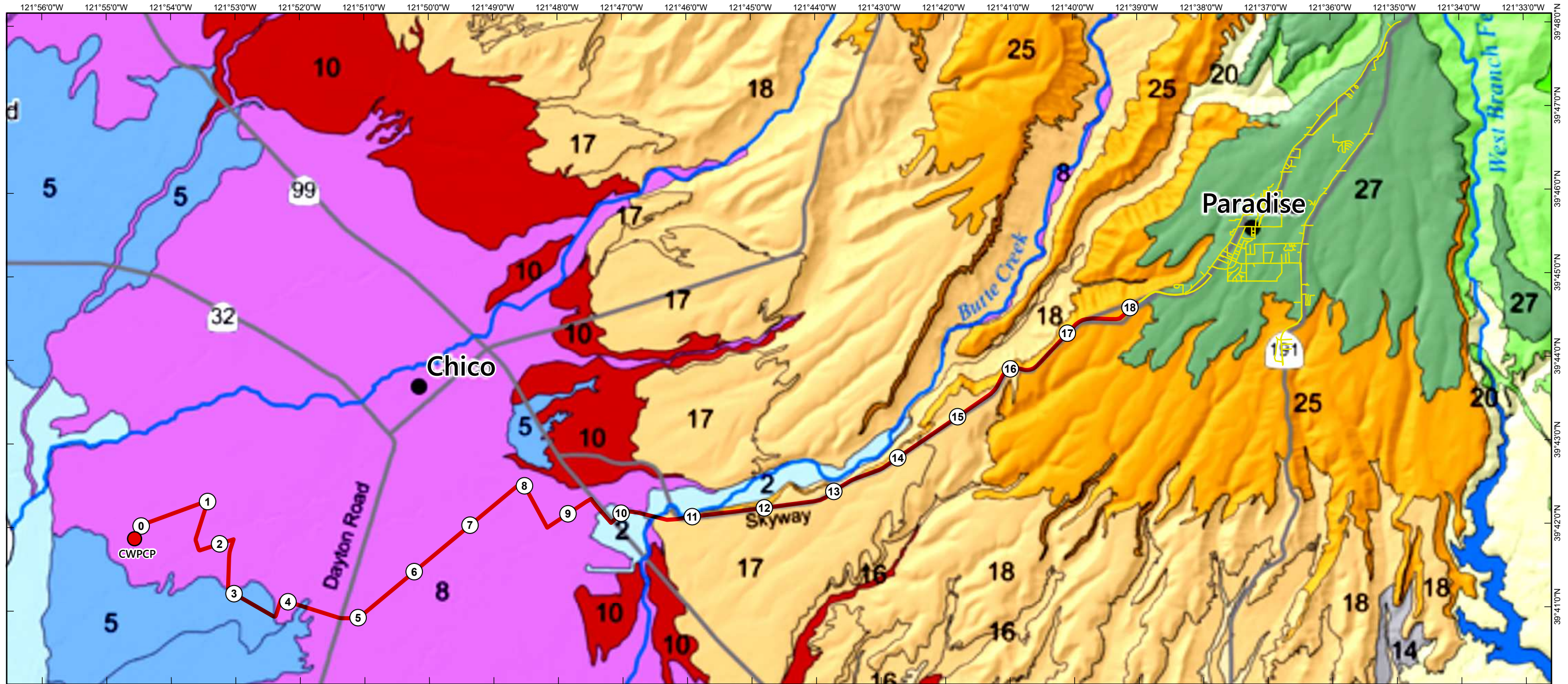


**Legend**

Soils		
SLOPE > 45%	TW-MA - COMP. OF 2 UNNAMED SERIES WITH SEAS. WATER TABLES	Q - QUARRIES
VERY SLOW PERMEABILITY IN SUBSOIL	CF - CUTS AND FILLS	RL - ROCKLAND
AD - AIKEN	F - FILLS	SC-MC - SHALLOW CLAY LOAM - MOD. DEEP CLAY LOAM COMPLEX
AVD - AIKEN VERY DEEP	PO - MARIPOSA	SC-T - SHALLOW CLAY LOAM - TOOMES COMPLEX
AVD - AIKEN VERY DEEP 30-45%	MC-C - MODERATELY DEEP CLAY LOAM - COHASSET COMPLEX	SM - SHALLOW, VERY POORLY DRAINED SOIL
BA - BOULDERY AIKEN	N/A	POND
W - WETLAND/SWAMP/MARSHES	PR - BASALT FLOW WITH SOIL BETWEEN COLUMNS OF ROCK	

- Planned Export Pipeline with Mile Markers
- Collection System

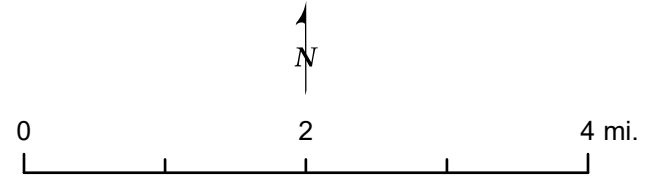
Plate 9: Wert Soil Units - Town of Paradise  
 04.00245833 | Paradise Sewer PDB - Desktop Study



Mapping Sources: Burkett and Conlin (2006)

Soil Units

Number	Soil	Origin
2	Sand, gravel, cobbles	Mining debris in channels and flood plains
5	Clay and silt	Flood basin deposits
8	Sand, silt, and clay	Alluvial fan deposits
10	Redsluff-Redtough-Redswale	Thermic soils formed in cascade alluvium
17	Shallow gravelly loam	Weathered volcanic mudflows
25	Sandy clay with gravel	Weathered volcanic mudflows
27	Deep sandy clay with gravel	Weathered volcanic mudflows

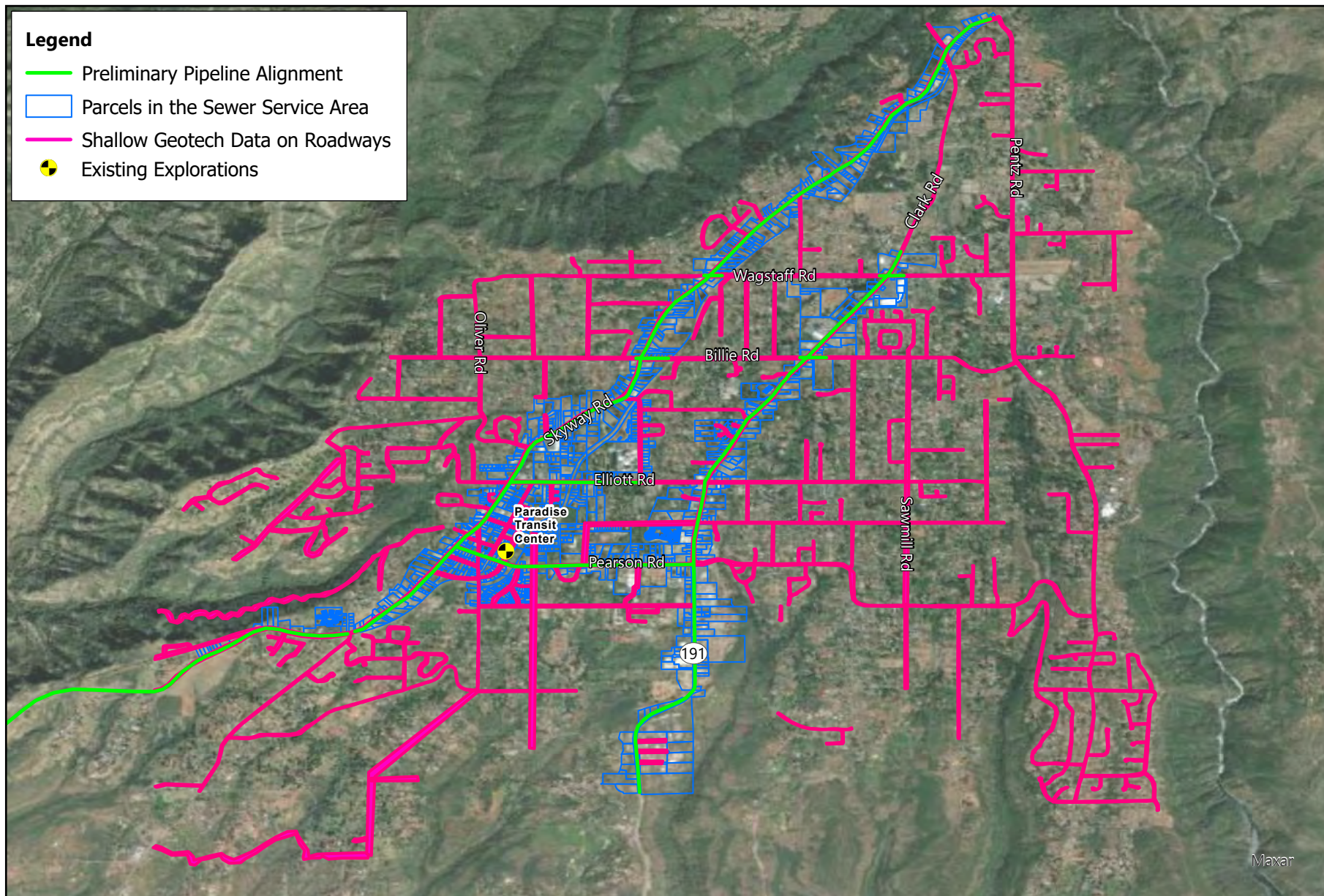


**Legend**

- ⑥ Planned Export Pipeline with Mile Markers
- Collection System

Plate 10: Generalized Soil Types along Alignment



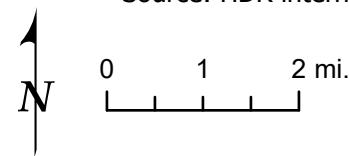


Source: HDR internal document , 2024

Plate 11: Existing Geotechnical Data in the Town of Paradise

04.00245833 | Paradise Sewer PDB - Desktop Study

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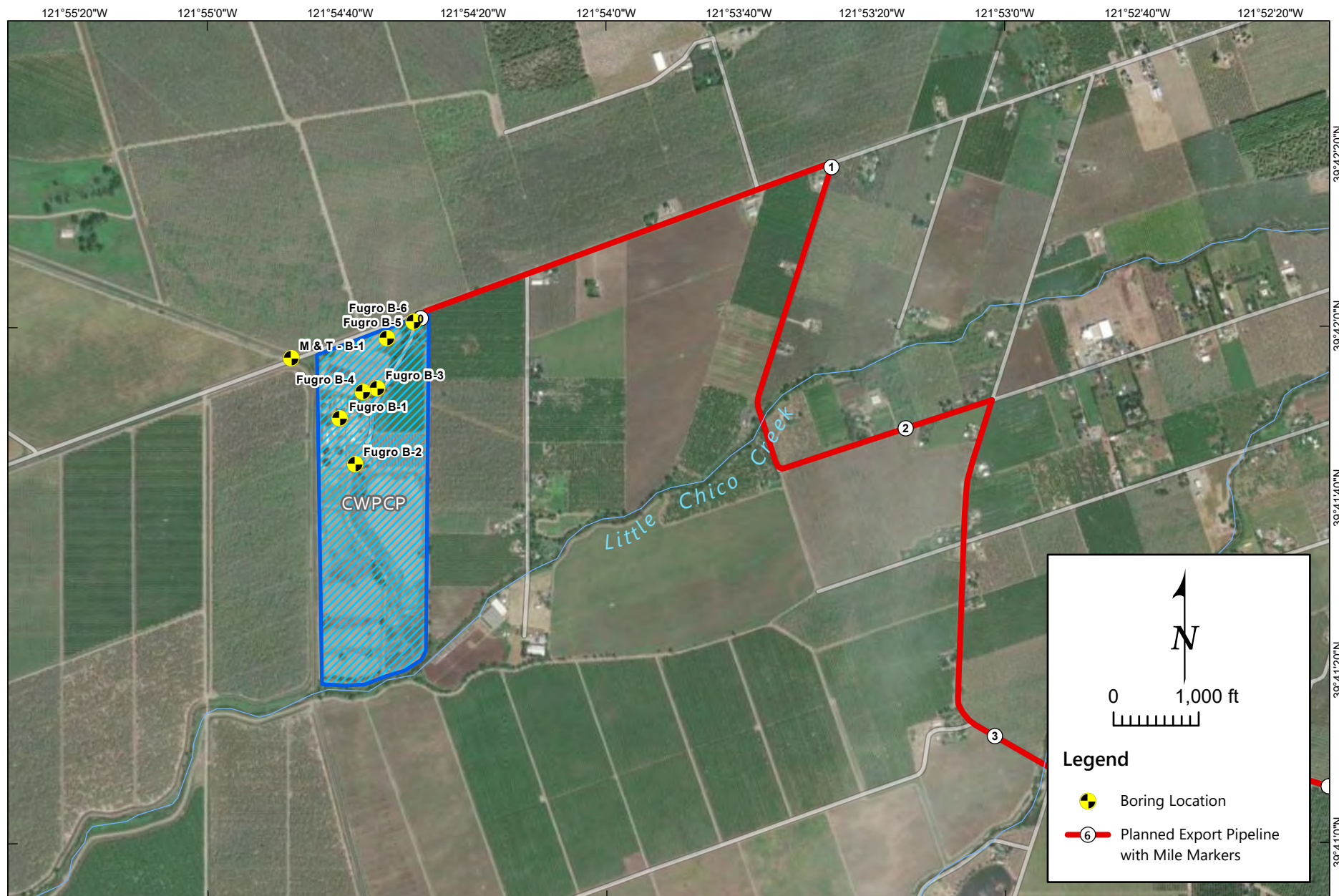
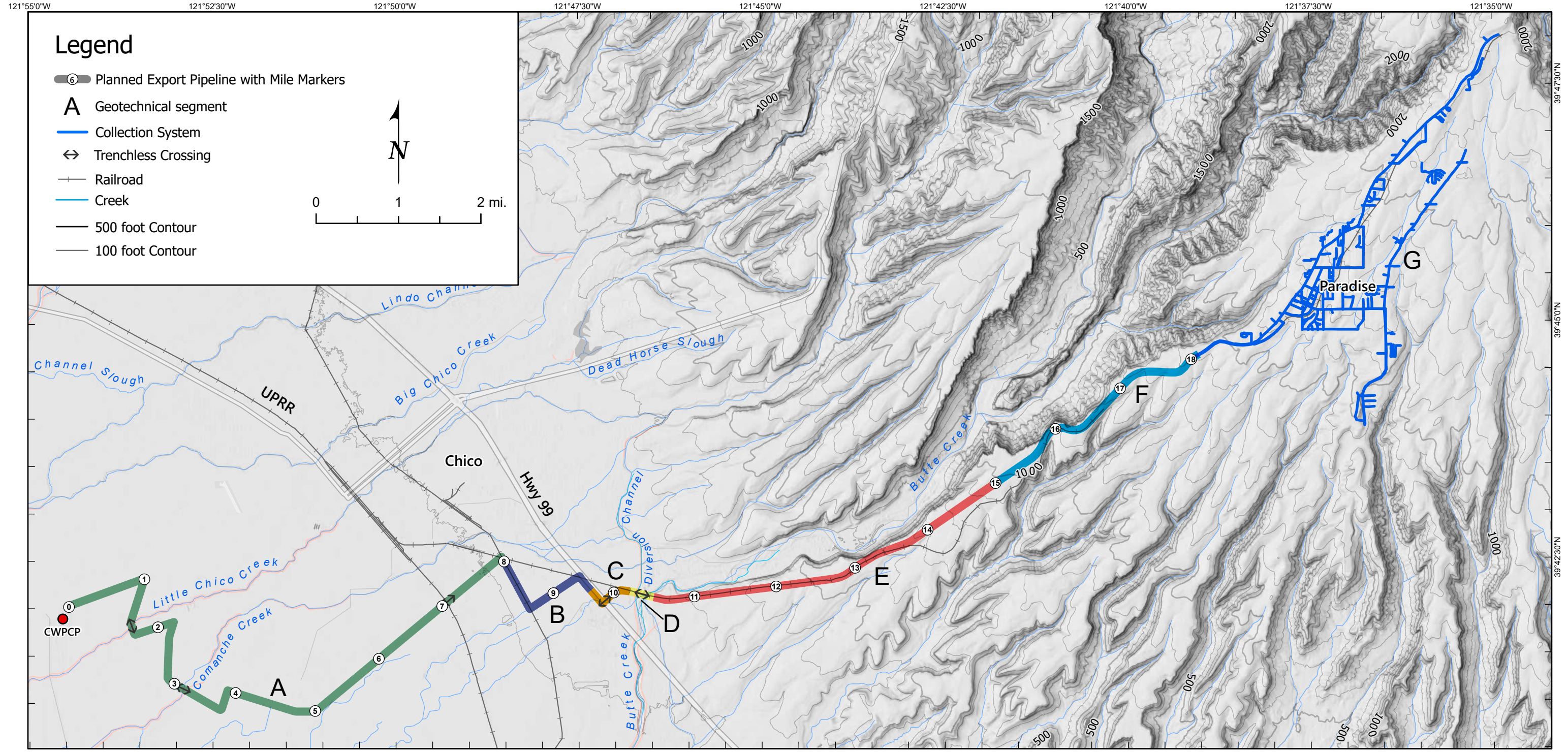


Plate 12: Existing Geotechnical Data - Miles 0 to 6



Elevation Source: USGS 10m DEM, 2021

Segment	Geologic Conditions	Potential Geotechnical Concerns	Preliminary Exploration Approach
A	Loose to firm fine-grained alluvium with gravel layers below 9 ft.	Trench wall instability, shallow groundwater. Trenchless crossing may encounter gravel	CPTs every 1,500 ft.; borings at the three trenchless crossings and every 6,000 ft.; monitoring wells at potential shallow groundwater locations
B	Stiff sandy silt and clay alluvium with gravel layers below 9 ft.	Shallow groundwater	CPTs every 1,500ft.; borings every 3,000 ft.; monitoring wells at potential shallow groundwater locations
C	Loose to dense sand, gravel, and cobbles of historical mine tailings	Caving of loose rocks and over-break. Trenchless crossing through mine tailings	Borings at the Highway 99 trenchless crossing and every 1,500 ft.; test pits every 500 ft.
D	Active drainages with loose gravel, sand and silt, shallow bedrock	Trenchless crossing through weathered bedrock and gravelly alluvium	Borings and monitoring wells at Butte Creek trenchless crossing; test pit at egress
E	Very shallow, hard, weathered volcanic deposits	Difficult excavation, over-excavation	Test pits every 1,500 ft.; borings every 3,000 ft.; seismic refraction
F	Shallow soil over hard, weathered volcanic deposits	Difficult excavation, over-excavation, landslide susceptibility	Test pits every 1,500 ft.; borings every 3,000 ft., seismic refraction
G	Weathered volcanic deposits: lean sandy clay with gravel, cobbles, and boulders	Over-break due to boulders and cobbles in soil matrix, seasonal shallow groundwater along drainages	Test pits every 1,500 ft.; borings at every pump station location and at least one boring every 1000 ft. by 1000 ft. grid; seismic refraction along Skyway and Clark Road; monitoring wells at potential shallow groundwater locations

Plate 13: Geotechnical Segmentation of Alignment



# Appendix A

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## Field Photographs



Photo 1: Road cut along Pearson Road exposes the Paradise olivine basalt over deeply weathered volcanic mudflows (lahars) (Tpb).



Photo 2: Closeup of blocks of the Paradise olivine basalt with residual soil between blocks. This is the PR soil unit of Wert & Associates (1992).



Photo 3: Gravelly volcanic mudflow bed below the basalt on Pearson Road. Note that erosion has removed most of the basalt at this location. Pearson Road.



Photo 4: Closeup of spheroidal weathering of cobbles in the volcanic mudflows. Pearson Road.





Photo 5: A “core stone” of basalt surrounded by spheroidal weathering layers. Pearson Road.



Photo 6: Weathered volcanic mudflow deposits beneath the basalt. Pearson Road.



Photo 7: Butte Creek Watershed Overlook (mile 16), view west, showing caprock of Pliocene lahars (Ttc).



Photo 8: Butte Creek Watershed Overlook (mile 16), view east, showing Little Butte Creek valley and lahar caprock.



Photo 9: Butte Creek Weir, view east, with fish ladder in the distance.



Photo 10: Levee Road near Butte Creek proposed pipeline crossing.

The line of trees borders the Little Chico Butte Creek Diversion Canal, which joins Butte Creek about 0.5 miles downstream of this point.

# Appendix B

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## Soil Series Descriptions

LOCATION JOKERST

CA

Established Series

IRD: AEC/DWB/DWH

10/2006

## JOKERST SERIES

The Jokerst series consists of very shallow, poorly drained soils that formed in residuum from volcanic mudflow breccia. Jokerst soils are in swales and in broad planar areas on ridge tops and side slopes on volcanic ridges in Cascade foothills. Slopes range from 0 to 30 percent. The mean annual precipitation is about 26 inches, (660 mm) and the mean annual temperature is about 60 degrees F, (16 degrees C).

**TAXONOMIC CLASS:** Loamy, mixed, superactive, thermic Lithic Haploxeralfs

**TYPICAL PEDON:** Jokerst very cobbly loam on a west facing 3 percent slope under a cover of annual grasses and forbs at an elevation of 317 feet, (97 m). When described on 3/26/97 the soil was dry from 0 to 1 inch, (0 to 2.5 cm) and slightly moist from 1 to 4 inches, (2.5 to 10 cm). (Colors are for dry soil unless otherwise noted).

**A**--0 to 1 inches, (0 to 3 cm); reddish yellow (7.5YR 6/6) very cobbly loam, dark reddish brown (2.5YR 3/4) moist; 15 percent clay; weak medium platy structure parting to moderate fine and medium subangular blocky; moderately hard, firm, slightly sticky and slightly plastic; many very fine roots; few very fine vesicular and tubular pores; noneffervescent; 10 percent gravel, 15 percent cobbles and 10 percent stones; slightly acid, pH 6.4 by pH meter 1:1 water; clear smooth boundary. (0.5 to 1 inch, (1 to 3 cm) thick)

**Bt**--1 to 4 inches, (3 to 10 cm); reddish yellow (5YR 6/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; 18 percent clay; moderate fine and medium platy structure parting to moderate medium subangular blocky; moderately hard, firm, slightly sticky and slightly plastic; common very fine roots; common very fine vesicular and tubular pores; many faint continuous clay films on faces of peds and on rock fragments; common fine irregular iron-manganese masses between peds; noneffervescent; 15 percent gravel and 10 percent cobbles and 5 percent stones; slightly acid, pH 6.5 by pH meter 1:1 water; abrupt smooth boundary. (1 to 10 inches, (2.54 to 25 cm) thick)

**R**--4 inches, (10 cm); indurated volcanic mudflow breccia; roots are matted on top; 1/16 inches (2mm) manganese capping.

**TYPE LOCATION:** Butte County, California; about 0.7 miles north of Rock Creek Road, and about 2.8 miles east of Meridian Road; approximately 1625 feet south and 775 feet west of the northeast corner of Section 16, Township 23 N., Range 1 E., 39 degrees, 51 minutes, 3.18 seconds North latitude and 121 degrees, 51 minutes, 54.71 seconds West longitude, NAD83 U.S.G.S. Quad: Richardson Springs SE, California.

**RANGE IN CHARACTERISTICS:** Depth to lithic bedrock is 4 to 10 inches, (5 to 25 cm). The mean annual soil temperature is 59 to 64 degrees F, (15 to 18 degrees C). The soil moisture control section is dry in all parts from about May to about October (about 150 to 200 days). The particle-size control section averages 18 to 24 percent clay and 10 to 35 percent rock fragments, mostly gravel. Mineralogy is mixed. A fluctuating water table can occur between the top of the bedrock and the surface of the soil from November through March. Redoximorphic features such as iron-manganese masses occur in the A and Bt horizons, iron-manganese concretions in the Bt horizon, and manganese masses occur in layers 1/16 to 1/8 inch, (2 to 4 mm) thick on top of the bedrock. Rock fragments on the surface range from 0 to 10 percent gravel, 2 to 30 percent cobbles, 3 to 50 percent stones and 0 to 5 percent boulders. Some pedons have a 1/16 inch, (2 mm) thick organic mat on the surface.

The A horizon dry color is 5YR 4/6, 5/6 or 7.5YR 6/6. Moist color is 2.5YR 3/3, 3/4, 5YR 3/2, 3/4, 4/3, 7.5YR 3/2 or 3/3. Texture is loam, gravelly loam, cobbly loam, stony loam, very cobbly loam or very stony loam. Clay content ranges from 12 to 21 percent. Rock fragments range from 10 to 25 percent gravel, 10 to 40 percent cobbles and 0 to 30 percent stones. Reaction ranges from slightly acid to neutral.

The Bt horizon dry color is 5YR 5/6, 6/6 or 7.5YR 6/6. Moist color is 2.5YR 3/3, 3/4, 5YR 4/3, 4/4, 7.5YR 3/3 or 3/4. Texture is loam, gravelly loam or cobbly loam. Clay content ranges from 16 to 25 percent. Rock fragments range from 10 to 25 percent gravel, 0 to 20 percent cobbles and 0 to 10 percent stones. Reaction ranges from slightly acid to neutral.

**COMPETING SERIES:** These are the [Millerton](#) and [Doemill](#) series. Millerton soils are well drained and have a sandy loam surface. Doemill soils are somewhat poorly drained and shallow.

**GEOGRAPHIC SETTING:** Jokerst soils are in swales and broad planar areas on ridge tops and side slopes on volcanic ridges of the Tuscan Formation. Slopes range from 0 to 30 percent. These soils formed in residuum weathered from volcanic mudflow breccia. Elevation is 165 to 1700 feet, (50 to 518 m). Mean annual precipitation is 25 to 40 inches, (635 to 1016 mm). The mean annual temperature is 60 to 62 degrees F, (16 to 17 degrees C). Frost free season is 250 to 260 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** This is the [Doemill](#) soil. Doemill soils are on mounds and are shallow.

**DRAINAGE AND PERMEABILITY:** Poorly drained, frequently ponded up to 1 inch (3 cm) for brief duration on gentler slopes from December through March; moderate saturated hydraulic conductivity. The soils are frequently flooded for very brief periods on gentler slopes from December through March. A fluctuating water table can occur between the top of the bedrock and the surface of the soil from November through March.

**USE AND VEGETATION:** This soil is used for livestock grazing, wildlife habitat, watershed, and home site development. Vegetation is soft chess, ryegrass, filaree, goldfields, navarretia, moss and tidytips and blue oak, buckbrush, Pacific poison oak and foothill pine at higher elevations.

**DISTRIBUTION AND EXTENT:** Butte County, California

LOCATION DOEMILL

CA

Established Series

IRD: AEC/DWB/DWH

10/2006

## DOEMILL SERIES

The Doemill series consists of shallow, somewhat poorly drained soils that formed in residuum from volcanic mudflow breccia. Doemill soils are on mounds and convex areas on ridge tops and side slopes on volcanic ridges in Cascade foothills. Slopes range from 0 to 30 percent. The mean annual precipitation is about 26 inches, (660 mm) and the mean annual temperature is about 61 degrees F, (16 degrees C).

**TAXONOMIC CLASS:** Loamy, mixed, superactive, thermic Lithic Haploxeralfs

**TYPICAL PEDON:** Doemill gravelly loam, on a west facing 3 percent slope under a cover of annual grasses and forbs at an elevation of 319 feet, (97 m). When described on 3/26/97 the soil was dry from 0 to 1 inch, (0 to 2.5 cm) and slightly moist from 1 to 14 inches, (2.5 to 36 cm). (Colors are for dry soil unless otherwise noted).

**A**--0 to 1 inches, (0 to 2.5 cm); strong brown (7.5YR 5/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; 19 percent clay; moderate fine and medium platy structure parting to moderate fine subangular blocky; slightly hard, friable, nonsticky and slightly plastic; many very fine and few fine roots; few very fine tubular pores and common very fine irregular pores; noneffervescent; 15 percent gravel; slightly acid, pH 6.1 by pH meter 1:1 water; clear smooth boundary. (1 to 2 inches, (2.5 to 5 cm) thick)

**Bt1**--1 to 5 inches, (2.5 to 13 cm); yellowish red (5YR 5/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; 23 percent clay; moderate medium subangular blocky structure; moderately hard, firm, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine vesicular and tubular pores; common distinct discontinuous clay films on faces of peds; noneffervescent; 20 percent gravel; neutral, pH 6.8 by pH meter 1:1 water; gradual smooth boundary.

**Bt2**--5 to 9 inches, (13 to 23 cm); yellowish red (5YR 5/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; 24 percent clay; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and few fine vesicular and tubular



pores; common distinct discontinuous clay films on faces of peds; noneffervescent; 15 percent gravel; neutral, pH 6.7 by pH meter 1:1 water; gradual smooth boundary.

**Bt3**--9 to 14 inches, (23 to 36 cm); yellowish red (5YR 5/6) gravelly loam, dark reddish brown (2.5YR 3/4) moist; 26 percent clay; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and common fine vesicular and tubular pores; common distinct discontinuous clay films on faces of peds; noneffervescent; 20 percent gravel and 10 percent cobbles; neutral, pH 6.7 by pH meter 1:1 water; abrupt smooth boundary. (Combined thickness of the Bt horizon is 8 to 19 inches, (20 to 48 cm) thick).

**R**--14 inches, (36 cm); indurated volcanic mudflow breccia; roots are matted on surface; 1/16 inch (2 mm) manganese capping.

**TYPE LOCATION:** Butte County, California; about 0.7 miles north of Rock Creek Road and about 2.8 miles east of Meridian Road; approximately 1,600 feet south and 750 feet west of the northeast corner of Section 16, T.23N., R.1E., 39 degrees, 51 minutes, 3.57 seconds north latitude and 121 degrees, 51 minutes, 54.65 seconds west longitude, NAD83. U.S.G.S. Quad: Richardson Springs, California.

**RANGE IN CHARACTERISTICS:** Depth to lithic bedrock is 10 to 20 inches, (25 to 51 cm). The mean annual soil temperature is 59 to 64 degrees F, (15 to 18 degrees C). The soil moisture control section is dry in all parts from about May to about October (about 150 to 200 days). The particle-size control section averages 18 to 27 percent clay and 2 to 35 percent rock fragments, mostly gravel. Mineralogy is mixed. A fluctuating water table can occur between the top of the bedrock and 2 inches (5 cm) below the surface of the soil from November through March. Redoximorphic features such as iron-manganese masses occur in the Bt horizon and manganese accumulations occur in layers 1/16 to 1/8 inch thick on top of the bedrock. Rock fragments on the surface range from 0 to 20 percent gravel, 2 to 10 percent cobbles, 0 to 10 percent stones and 0 to 5 percent boulders. Some pedons have a 1/16 inch, (2 mm) thick organic mat on the surface.

The A horizon dry color is 5YR 4/6, 5/6 or 7.5YR 5/6. Moist color is 2.5YR 3/4, 5YR 3/3, 3/4, 4/3, 4/4 or 7.5YR 3/3. Texture is loam or gravelly loam. Clay content ranges from 15 to 24 percent. Rock fragments range from 1 to 15 percent gravel, 0 to 10 percent cobbles and 0 to 10 percent stones. Reaction ranges from moderately acid to slightly acid.

The Bt horizon dry color is 5YR 5/6 or 7.5YR 5/6. Moist color is 2.5YR 3/3, 3/4, 5YR 3/3, 3/4 or 4/4. Texture is loam, gravelly loam, cobbly loam, gravelly clay loam or

very gravelly clay loam. Clay content ranges from 18 to 30 percent. Rock fragments range from 2 to 20 percent gravel, 0 to 20 percent cobbles and 0 to 10 percent stones. Reaction ranges from slightly acid to neutral.

**COMPETING SERIES:** These are the [Millerton](#) and [Jokerst](#) soils. Millerton soils have no water table. Jokerst soils are very shallow.

**GEOGRAPHIC SETTING:** Doemill soils are on mounds and broad convex and planar areas on ridge tops and side slopes on volcanic ridges in Cascade foothills. Slopes range from 0 to 30 percent. These soils formed in residuum weathered from volcanic mudflow breccia. Elevation is 165 to 1700 feet, (50 to 518 m). Mean annual precipitation is 25 to 40 inches, (635 to 1016 mm). The mean annual temperature is 61 to 62 degrees F, (16 to 17 degrees C). Frost free season is 250 to 260 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** This is the [Jokerst](#) soil. Jokerst soils are in swales and concave positions and are very shallow.

**DRAINAGE AND PERMEABILITY:** Somewhat poorly drained; very high runoff; moderate saturated hydraulic conductivity in the A horizon and moderate to moderately slow in the Bt horizon. A fluctuating water table can occur between the top of the bedrock and 2 inches (5 cm) below the surface of the soil from November through March.

**USE AND VEGETATION:** This soil is used for livestock grazing, wildlife habitat, watershed and home site development. Vegetation is soft chess, filaree, Mediterranean barley, ripgut brome, medusahead, clover, yellow starthistle, goldfields and wild oat with blue oak, foothill pine, manzanita, Pacific poison oak and buckbrush at higher elevations.

**DISTRIBUTION AND EXTENT:** Butte County, California. MLRA 18 - Sierra Nevada Foothills (Cascade part). The soils are moderately extensive.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Butte County, California 2005. Source of name from Doemill Ridge.

**REMARKS:**

Diagnostic horizons and features recognized in this pedon are:  
Ochric epipedon - zone from 0 to 1 inches, (0 to 2.54 cm) (A)

Argillic horizon - zone from 1 to 14 inches, (2.54 to 36 cm) (Bt1, Bt2, Bt3)

Lithic Contact - at 14 inches, (36 cm).

Particle-size control section - zone from 0 to 14 inches, (0 to 36 cm).

Soil moisture control section - zone from 6 to 14 inches, (15 to 36 cm).

**ADDITIONAL DATA:** Reference data from lab pedon number: 01N0255, NSSL,  
Lincoln, NE.

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National Cooperative Soil Survey  
U.S.A.

LOCATION PARADISO

CA

Established Series

IRD: AEC/DWB/DWH/SBS

10/2006

## PARADISO SERIES

The Paradiso series consists of very deep, well drained soils that formed in weathered tephra over residuum from volcanic rocks. Paradiso soils are on volcanic ridge tops in Cascade mountains. Slopes range from 2 to 30 percent. The mean annual precipitation is about 55 inches, (1397 mm) and the mean annual temperature is about 57 degrees F, (14 degrees C).

**TAXONOMIC CLASS:** Fine, mixed, semiactive, mesic Andic Haploxeralfs

**TYPICAL PEDON:** Paradiso loam, on a south facing 5 percent slope under a cover of ponderosa pine and black oak at an elevation of 2125 feet, (648 m). When described on 7/1/96 the soil was very slightly moist throughout. (Colors are for dry soil unless otherwise noted)

**Oi**--0 to 2 inches, (0 to 5 cm); needles, leaves and twigs. (0 to 5 inches, (0 to 13 cm) thick)

**A**--2 to 4 inches, (5 to 10 cm); brown (7.5YR 4/4) loam, dark reddish brown (5YR 3/3) moist; 25 percent clay; strong fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine to medium irregular and tubular pores; noneffervescent; 5 percent gravel; slightly acid, pH 5.8 by pH meter 1:1 water; NaF pH 10.0; clear smooth boundary. (1 to 4 inches, (2.54 to 10 cm) thick)

**ABt**--4 to 9 inches, (10 to 23 cm); reddish brown (5YR 5/4) clay loam, reddish brown (5YR 4/3) moist; 33 percent clay; strong fine and medium granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine and common medium roots; many very fine to medium tubular pores; common distinct continuous clay films on faces of peds and in pores and common distinct discontinuous clay bridging between sand grains; noneffervescent; 5 percent gravel; slightly acid, pH 5.9 by pH meter 1:1 water; NaF pH 10.5; clear smooth boundary. (0 to 7 inches, (0 to 18 cm) thick)

**Bt1**--9 to 16 inches, (23 to 41 cm); reddish brown (2.5YR 5/4) clay loam, dark reddish brown (2.5YR 3/4) moist; 36 percent clay; weak medium subangular blocky structure parting to moderate fine granular; slightly hard, friable, moderately sticky and moderately plastic; many very fine to medium roots; many very fine to medium tubular pores; common distinct continuous clay films on faces of peds and in pores; noneffervescent; 5 percent gravel; slightly acid, pH 5.6 by pH meter 1:1 water; NaF pH 10.5; gradual smooth boundary.

**Bt2**--16 to 25 inches, (41 to 64 cm); reddish brown (2.5YR 5/4) clay loam, dark reddish brown (2.5YR 3/4) moist; 39 percent clay; weak fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine to medium roots; many very fine to medium tubular pores; many distinct continuous clay films on faces of peds and in pores; noneffervescent; 3 percent gravel; slightly acid, pH 5.5 by pH meter 1:1 water; NaF pH 10.5; gradual smooth boundary.

**Bt3**--25 to 45 inches, (64 to 114 cm); reddish yellow (5YR 6/6) clay, reddish brown (5YR 4/4) moist; 50 percent clay; strong medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine to medium roots; many very fine to medium tubular pores; many distinct continuous clay films on faces of peds and in pores; noneffervescent; 2 percent gravel; slightly acid, pH 6.2 by pH meter 1:1 water; NaF pH 10.3; gradual smooth boundary.

**Bt4**--45 to 58 inches, (114 to 147 cm); reddish yellow (7.5YR 6/6) clay loam, reddish brown (5YR 4/4) moist; 33 percent clay; strong fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine and fine tubular pores; many distinct continuous clay films on faces of peds and in pores; noneffervescent; 1 percent gravel; slightly acid, pH 6.5 by pH meter 1:1 water; NaF pH 10.5; gradual smooth boundary.

**Bt5**--58 to 74 inches, (147 to 188 cm); light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; 28 percent clay; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores and few fine tubular pores; many distinct continuous clay films on faces of peds and in pores; noneffervescent; 1 percent gravel; moderately acid, pH 6.6 by pH meter 1:1 water; NaF pH 10.5; gradual smooth boundary. (Combined thickness of the Bt horizon is 49 to 79 inches, (125 to 201 cm) thick)

**2Bt6**--74 to 84 inches, (188 to 213 cm); light yellowish brown (10YR 6/4) loam, strong brown (7.5YR 4/6) moist; 26 percent clay; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very

fine and fine roots; common very fine tubular pores and few fine tubular pores; many distinct continuous clay films on faces of peds and in pores; noneffervescent; 5 percent gravel; slightly acid, pH 6.5 by pH meter 1:1 water. (0 to 20 inches, (0 to 51 cm) thick)

**TYPE LOCATION:** Butte County, California; about 0.6 miles north of the intersection of Clark Road and Wagstaff Road; approximately 300 feet north and 2000 feet east of the southwest corner of Section 1, Township 22 N., Range 3 E., 39 degrees, 47 minutes, 13.6 seconds North latitude and 121 degrees, 35 minutes, 24.2 seconds West longitude, NAD83. U.S.G.S. Quad: Paradise East, California.

**RANGE IN CHARACTERISTICS:** Depth to paralithic bedrock is greater than 60 inches, (152 cm). The mean annual soil temperature is 55 to 59 degrees F, (13 to 15 degrees C). The soil moisture control section is dry in all parts from about July to about October (about 90 days). The particle-size control section averages 35 to 50 percent clay and 0 to 15 percent rock fragments, mostly gravel. Mineralogy is mixed. Acid oxalate extractable Al plus 1/2 Fe is 1 or more to a depth of 7 inches, (18 cm) below the mineral surface. Rock fragments on the surface range from 0 to 15 percent gravel, 0 to 5 percent cobbles, 0 to 5 percent stones, and 0 to 5 percent boulders. Some pedons have clay textures in the lower Bt horizons.

The A horizon dry color is 7.5YR 4/4, 5/4, 5YR 5/4 or 6/4. Moist color is 5YR 3/3 or 4/3. Texture is loam. Clay content ranges from 17 to 27 percent. Rock fragments range from 0 to 15 percent gravel. Base saturation by sum of cations ranges from 30 to 40 percent. NaF pH ranges from 9.3 to 10.5. Reaction ranges from moderately acid to neutral.

The ABt horizon dry color is 5YR 5/4, 5/6 or 6/4. Moist color is 5YR 3/3, 4/3 or 2.5YR 3/4. Texture is loam or clay loam. Clay content ranges from 24 to 35 percent. Rock fragments range from 0 to 5 percent gravel. Base saturation by sum of cations ranges from 25 to 40 percent. NaF pH ranges from 9.8 to 10.5. Reaction ranges from moderately acid to neutral.

The upper part of the Bt horizon dry color is 5YR 5/4, 6/4, 5/6, 6/6, 2.5YR 5/4 or 6/6. Moist color is 2.5YR 3/4, 4/6 or 5YR 4/4. Texture is loam, clay loam or silty clay loam. Clay content ranges from 25 to 40 percent. Rock fragments range from 0 to 5 percent gravel. Base saturation by sum of cations ranges from 25 to 40 percent. NaF pH ranges from 9.5 to 10.5. Reaction ranges from moderately acid to neutral.

The middle part of the Bt horizon dry color is 5YR 5/6, 6/6 or 2.5YR 5/4. Moist color is 2.5YR 3/4, 4/4, 4/6 or 5YR 4/4. Texture is clay loam, silty clay loam, clay or silty clay. Clay content ranges from 35 to 55 percent. Rock fragments range from 0 to 5

percent gravel. Base saturation by sum of cations ranges from 25 to 45 percent. NaF pH ranges from 9.5 to 10.5. Reaction ranges from strongly acid to neutral.

The lower part of the Bt horizon dry color is 7.5YR 5/4, 6/4, 6/6, 5YR 5/4, 5/6 or 6/6. Moist color is 5YR 4/4, 4/6 or 7.5YR 4/4. Texture is loam, gravelly loam or clay loam. Clay content ranges from 17 to 35 percent. Rock fragments range from 0 to 25 percent gravel and 0 to 10 percent cobbles. Base saturation by sum of cations ranges from 35 to 50 percent. NaF pH ranges from 9.2 to 10.5. Reaction ranges from very strongly acid to neutral.

The 2Bt horizon dry color is 10YR 6/4, 6/6, 7/6 or 7.5YR 6/4. Moist color is 7.5YR 4/4, 4/6, 5/6, 10YR 4/4 or 5/6. Texture is loam or gravelly loam. Clay content ranges from 17 to 27 percent. Rock fragments range from 0 to 35 percent gravel and 0 to 15 percent cobbles. Base saturation by sum of cations ranges from 35 to 50 percent. NaF pH ranges from 9.2 to 10.5. Reaction ranges from very strongly acid to slightly acid.

**COMPETING SERIES:** There are no other series in this family.

**GEOGRAPHIC SETTING:** Paradiso soils are on volcanic ridge tops in Cascade mountains. Slopes range from 2 to 30 percent. These soils formed in weathered tephra over residuum weathered from volcanic rocks. Elevation is 1220 to 3730 feet, (372 to 1137 m). Mean annual precipitation is 35 to 73 inches, (889 to 1854 mm). The mean annual temperature is 53 to 59 degrees F, (12 to 15 degrees C). Frost free season is 145 to 255 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Beecee](#), [Lydon](#), [Schott](#) and [Tusccoll](#) series. Beecee soils are on side slopes and are medial-skeletal. Lydon soils are on ridge tops and side slopes and are moderately deep to lithic bedrock. Schott soils are on ridge tops and sides slopes, are deep and loamy-skeletal. Tusccoll soils are on side slopes and are fine-loamy.

**DRAINAGE AND PERMEABILITY:** Well drained; medium to high runoff; moderate saturated hydraulic conductivity in the A horizon, moderate to moderately slow in the ABt and upper Bt horizons, moderately slow to slow in the middle Bt horizon, moderate to moderate slow in the lower Bt horizon and moderate in the 2Bt horizon.

**USE AND VEGETATION:** This soil is used for timber production, home site development with on site wastewater disposal, wildlife habitat, and watershed. Vegetation is ponderosa pine, California black oak, Douglas-fir, sugar pine, incense cedar, whiteleaf manzanita, California laurel, deerbrush, Pacific poison oak,

brackenfern, scotch broom, broadleaf starflower, lupine, Orcutt brome, canyon live oak and some white fir.

**DISTRIBUTION AND EXTENT:** Butte County, California and occurs in the M261D1(Shingletown-Paradise) subsection of the M261D(Southern Cascades) section. MLRA 22B Southern Cascade Mountains. The soils are not extensive.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Davis, California

**SERIES ESTABLISHED:** Butte County, California 2005. Source of name from the town of Paradise.

**REMARKS:**

Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon - zone from 2 to 4 inches, (5 to 10 cm) (A)

Argillic horizon - zone from 4 to 58 inches, (10 to 147 cm) (ABt, Bt1, Bt2, Bt3, Bt4).

Meets andic subgroup based on oxalate Aluminum and 1/2 Iron in upper 38 centimeters.

Particle-size control section - zone from 4 to 24 inches, (10 to 61 cm).

The soil moisture control section - zone from 8 to 18 inches, (20 to 46 cm).

Bulk density is assumed to be 1 g/cc or less in the upper 9 inches, (23 cm).

**ADDITIONAL DATA:** Reference samples from lab pedon number: 97P0306, NSSL, Lincoln, NE.

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National Cooperative Soil Survey  
U.S.A.



Established Series  
IRD: AEC/DWB  
03/2006

## ROCKSTRIPE SERIES

The Rockstripe series consists of very shallow, somewhat poorly drained soils that formed in residuum from volcanic mudflow breccia. Rockstripe soils are on ridge tops and side slopes on Cascade foothills. Slopes range from 2 to 100 percent. The mean annual precipitation is about 35 inches, (889 mm) and the mean annual temperature is about 59 degrees F, (15 degrees C).

**TAXONOMIC CLASS:** Loamy-skeletal, mixed, active, nonacid, mesic Lithic Xerorthents

**TYPICAL PEDON:** Rockstripe very gravelly loam, on a west facing 18 percent slope under a cover of soft chess, hairy pink, wild oat, California brome and scattered yellow starthistle, yerba santa, buckbrush, scrub oak, foothill pine and manzanita at an elevation of 1280 feet, (390 m). When described on 11/02/1998 the soil was slightly moist throughout. (Colors are for dry soil unless otherwise noted).

**A--**0 to 2 inches, (0 to 5 cm); light reddish brown (5YR 6/4) very gravelly loam, reddish brown (5YR 4/3) moist; 21 percent clay; moderate fine subangular blocky parting to moderate fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine roots; many very fine, fine and medium tubular and irregular and common coarse tubular pores; 5 percent stones, 5 percent cobbles, and 25 percent gravel; slightly acid, pH 6.5 by Hellige-Truog; gradual smooth boundary. (1 to 4 inches, (3 to 10 cm) thick)

**Bt1--**2 to 6 inches, (5 to 15 cm); reddish brown (5YR 5/4) very cobbly loam, reddish brown (5YR 4/3) moist; 23 percent clay; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine roots; common very fine, fine and medium tubular pores; 30 percent discontinuous faint clay films; 20 percent cobbles and 20 percent gravel; slightly acid, pH 6.4 by Hellige-Truog; gradual smooth boundary.

**Bt2--**6 to 9 inches, (15 to 24 cm); reddish brown (5YR 5/4) cobbly loam, reddish brown (5YR 4/3) moist; 25 percent clay; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; common very

fine and fine roots; common very fine, fine and medium tubular pores; 50 percent discontinuous distinct clay films; 15 percent cobbles and 15 percent gravel; slightly acid, pH 6.4 by Hellige-Truog; abrupt smooth boundary. (Combined thickness of the Bt horizon is 1 to 9 inches, (3 to 23 cm) thick).

**R**--9 inches, (24 cm); indurated mudflow breccia bedrock.

**TYPE LOCATION:** Butte County, California, about 0.2 miles west southwest of the intersection of Highway 32 and Santos Road, approximately 600 feet south and 2600 feet west of the northeast corner of Section 2, Township 22 N., Range 2 E., 39 degrees, 47 minutes, 51 seconds North latitude and 121 degrees, 43 minutes, 21 seconds West longitude, NAD83 - U.S.G.S. Quad: Paradise West, California.

**RANGE IN CHARACTERISTICS:** Depth to lithic bedrock is 2 to 10 inches, (5 to 25 cm). The mean annual soil temperature is 55 to 59 degrees F, (13 to 15 degrees C). The particle-size control section averages 17 to 27 percent clay and 35 to 75 percent rock fragments, mostly gravel and cobbles. Mineralogy is mixed. Rock fragments on the surface range from 5 to 30 percent gravel, 0 to 20 percent cobbles, 0 to 20 percent stones, and 0 to 10 percent boulders.

The A horizon dry color is 7.5YR 6/2, 6/3, 6/4 or 5YR 6/4. Moist color is 7.5YR 3/2, 3/4, 4/3 or 5YR 4/3. Texture is very gravelly loam, very gravelly sandy clay loam or very gravelly sandy loam. Clay content ranges from 15 to 25 percent. Rock fragments range from 25 to 45 percent gravel, 0 to 10 percent cobbles, 0 to 10 percent stones and 0 to 10 percent boulders. Reaction ranges from slightly acid to neutral.

The Bt horizon dry color is 7.5YR 5/4, 6/3, 6/4, 7/3 or 5YR 5/4. Moist color is 7.5YR 3/4, 4/2, 4/3 or 5YR 4/3. Texture is gravelly loam, very gravelly loam, cobbly loam, very cobbly loam, very gravelly sandy clay loam or extremely stony sandy loam. Clay content ranges from 17 to 27 percent. Rock fragments range from 15 to 35 percent gravel, 0 to 30 percent cobbles, 0 to 30 percent stones, and 0 to 10 percent boulders. Reaction is slightly acid.

**COMPETING SERIES:** This is the [Etsel](#) series. Etsel soils lack a cambic horizon.

**GEOGRAPHIC SETTING:** Rockstripe soils are on ridge tops and canyon side slopes on Cascade foothills. Slopes range from 2 to 100 percent. These soils formed in residuum weathered from volcanic mudflow breccia. Elevation is 500 to 2600 feet, (152 to 792 m). Mean annual precipitation is 30 to 62 inches, (762 to 1575 mm). The mean annual temperature is 56 to 61 degrees F, (13 to 16 degrees C). Frost free season is 200 to 260 days.

**GEOGRAPHICALLY ASSOCIATED SOILS:** These are the [Paradiso](#), [Schott](#), [Chinacamp](#) and [Slideland](#) soils. Paradiso and Schott soils are on ridge tops at higher elevations and are very deep and deep respectively. Chinacamp and Slideland soils are on lower positions on canyon side slopes and are very deep.

**DRAINAGE AND PERMEABILITY:** Somewhat poorly drained; very high runoff; moderate to moderately rapid saturated hydraulic conductivity.

**USE AND VEGETATION:** This soil is used for home site development, wildlife habitat, watershed and some livestock grazing. Vegetation is soft chess, hairy pink, California brome, wild oat, yellow starthistle, hedgehog dogtail, moss, buckbrush, whiteleaf manzanita, California laurel, scrub oak, yerba santa, foothill pine, Pacific poison oak and canyon live oak.

**DISTRIBUTION AND EXTENT:** Butte County, California and occur in the (M261Fa) Tuscan Flows subsection of the (M261F) Sierra Nevada Foothills section. MLRA: 18 - Sierra Nevada Foothills (Cascade part). The soils are not extensive.

**MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE:** Davis, California

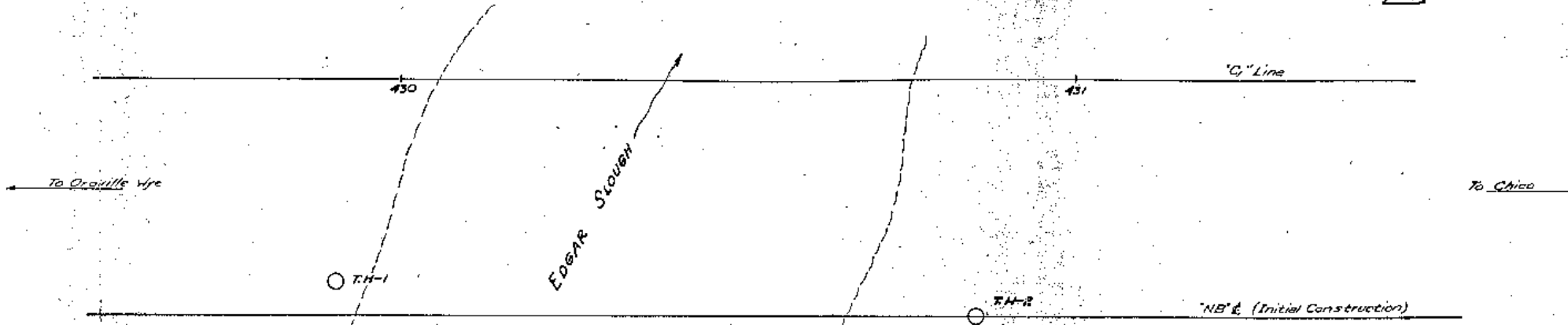
**SERIES ESTABLISHED:** Butte County, California 2005. Source of name is coined from the vegetation pattern (strips of grass associated with hard mudflow beds amongst brush and trees associated with deeper soils) the soil exhibits on aerial photographs.

**REMARKS:** Diagnostic horizons and features recognized in this pedon are:  
Ochric epipedon zone from 0 to 2 inches, (0 to 5 cm) (A)  
Cambic horizon zone from 2 to 9 inches, (5 to 24 cm) (Bt1, Bt2)  
Lithic contact 9 inches, (24 cm)  
Particle-size control section for this pedon: 0 to 9 inches, (0 to 24 cm)  
The soil moisture control section zone at 9 inches, (23 cm) is dry in all parts from about June to October (about 135 days).

# Appendix C

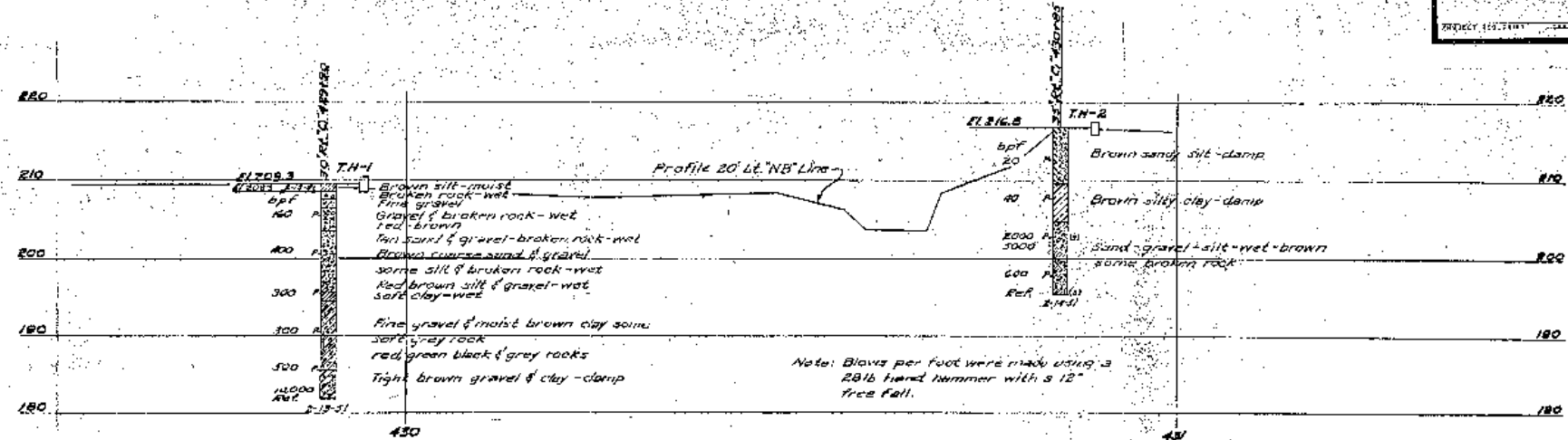
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## Existing Borehole Logs



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY			
DESIGNER	DATE	PROJECT	BRIDGE NO.
<b>EDGAR SLOUGH BRIDGE</b>			
<b>LOG OF TEST BORINGS 2 of 2</b>			
PROJECT NO.	DATE	CU: 03	BRIDGE NO. 12-128
ENGINEER	DATE	WO: 283801	

**AS BUILT PLANS**  
Contract No. S2-1475-NY  
Date Completed \_\_\_\_\_  
Document No. 32201395



**BM**  
Railroad Spike in 4" Oak  
20' N. Station 'C', 430' N  
Elevation 217.99

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

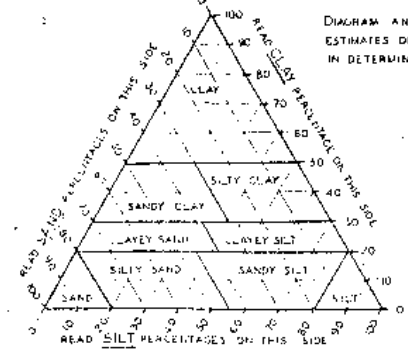


DIAGRAM AND TABLE SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

CLASS NAME	SAND PERCENTAGE PRESENT	SILT PERCENTAGE PRESENT	CLAY PERCENTAGE PRESENT
SAND	60-100	0-20	0-20
SILTY SAND	45-60	0-30	0-20
SANDY SILT	0-45	35-60	0-20
SILT	0-20	60-100	0-20
CLAYEY SILT	0-30	32-60	20-30
SANDY CLAY	30-70	0-40	30-50
SILTY CLAY	0-30	20-75	10-50
CLAY	0-50	0-40	50-100

IF GRAVEL IS PRESENT IN APPLICABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, AS "GRAVELLY SAND". THE TERMS "LOW", "MEDIUM" AND "HIGH" WHEN USED TO DESCRIBE GRAVEL, SAND AND SILT REFER TO STANDARD GRADE SIZE LIMITS.

**LEGEND OF BORING OPERATIONS**

- PLAN OF ANY BORING
  - SAMPLER BORING
  - ROTARY WASH BORING
  - CLOSED SAMPLER DRIVEN
  - CORE BORING
  - ⊕ 2 1/2" PENETROMETER BORING
  - 1 3/8" SAMPLER BORING
  - 2 1/2" AUGER BORING
  - 10 3/4" AUGER BORING
  - CASING BORING
  - JET BORING
  - ⊕ SAMPLE TAKEN
  - ⊕ 1 1/2" A-ROD BORING
- THE APPROPRIATE BORING SYMBOLS, DESIGATING THE METHOD OF OPERATION ARE SHOWN AT THE UPPER RIGHT-HAND CORNER OF THE RESPECTIVE BORING. WHERE TOOL CHANGES WERE MADE DURING THE BORING OPERATION SYMBOLS ARE SHOWN AT THE POINT OF CHANGE.

**LEGEND OF EARTH MATERIALS**

- GRAVEL - G
- SAND - S
- SILT - SI
- CLAY - C
- SILTY SAND - S-S
- CLAYEY SAND - C-S
- SANDY SILT - S-SI
- CLAYEY SILT - C-SI
- SANDY CLAY - S-C
- SILTY CLAY - SI-C
- PEAT & ORGANIC CLAY - O
- SANDSTONE - SS
- SHALE - SH
- BROKEN ROCK (FRAGMENTS) - BR
- ROCK - R

**ABBREVIATIONS**

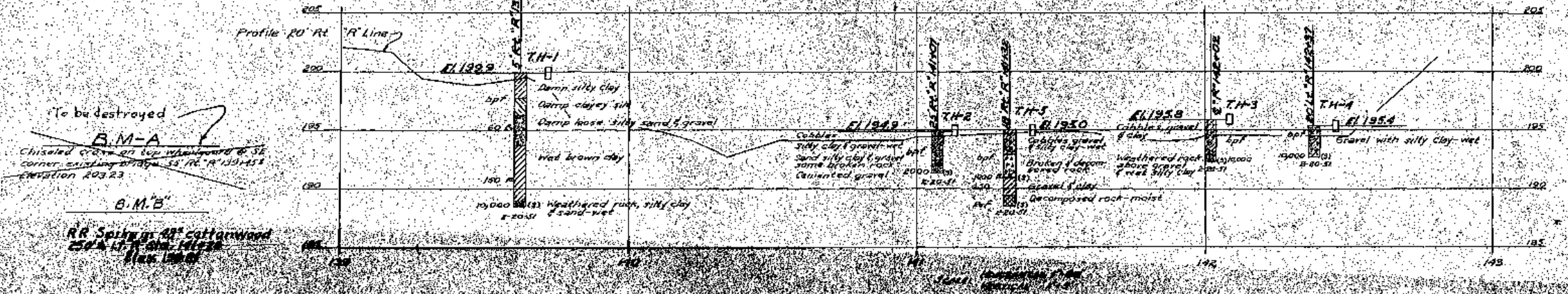
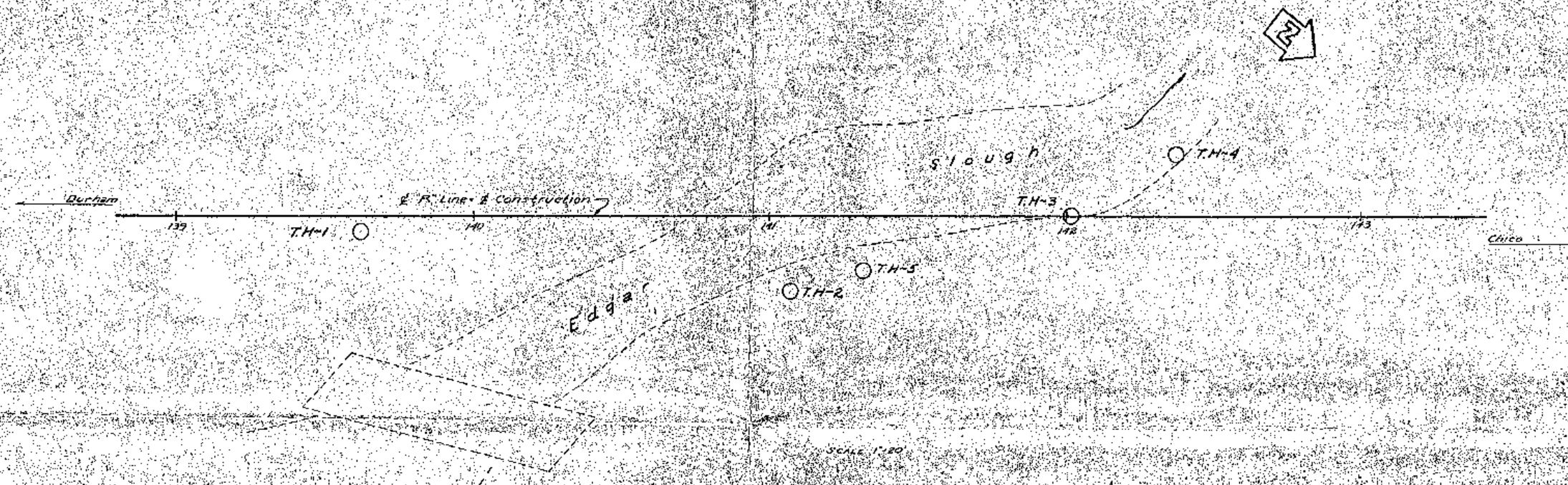
- EL 59.4 ELEVATION OF GROUND AT TEST HOLE
- bpf BLOWS PER FOOT - (SEE NOTE ABOVE)
- P PHILLED PIPE
- M MOISTURE AS % OF WET WEIGHT
- N 54.3 ELEVATION OF GROUND WATER AND DATE

**NOTES**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (C) OF THE STANDARD SPECIFICATIONS AND TO THE SPECIAL PROVISIONS ACCOMPANYING THIS SET OF PLANS.  
CLASSIFICATION OF EARTH MATERIAL AS SHOWN ON THIS SHEET IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSTRUED TO IMPLY MECHANICAL ANALYSIS.

**MICROFILMEL**

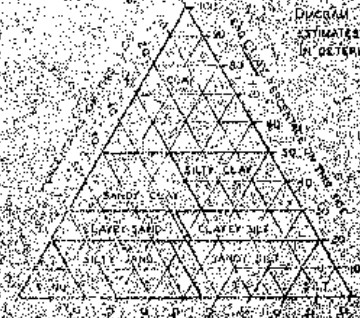
**BRIDGE ACROSS EDGAR SLOUGH - UPPER CROSSING**  
**LOG OF TEST BORINGS**  
SCALE 1" = 10'  
BRIDGE NO. 12-128  
DRAWING NO. C-2639-55



Note: Blows per foot were made using a 20 lb hand hammer with a 15" free fall.

**MICROFILMED**

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS



GROUPING USED IN STANDARD CLASSIFICATION

CLASS NAME	PERCENTAGE OF SILT PRESENT	PERCENTAGE OF CLAY PRESENT
SANDY SILT	65-85	5-15
SILT	45-65	5-15
SANDY CLAY	35-65	15-40
CLAY	15-40	40-60
SILT CLAY	40-60	5-15
CLAYEY SILT	60-85	5-15
CLAYEY SAND	35-65	5-15
SANDY CLAYEY SILT	65-85	15-40
CLAYEY SANDY SILT	65-85	5-15
SANDY CLAYEY CLAY	35-65	15-40
CLAYEY SANDY CLAY	35-65	15-40
SANDY CLAYEY CLAY	35-65	15-40
CLAYEY SANDY CLAY	35-65	15-40

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- SAMPLE BORING
- ⊠ POTABLE WATER BORING
- CLOSED SAMPLER DRIVEN
- ⊙ CORE BORING
- ⊕ PERFO-RATER BORING
- ⊖ SAMPLER BORING
- ⊗ OTHER BORING
- ⊘ OTHER BORING
- ⊙ CATCH BOTTLE
- ⊕ 1/2" DIA. PIPE
- ⊖ 1/2" DIA. PIPE
- ⊗ OTHER PIPE
- ⊘ OTHER PIPE

LEGEND OF EARTH MATERIALS

- ▨ SAND
- ▩ SILT
- ▧ SILTY SAND
- ▦ SILTY CLAY
- ▥ CLAY
- ▤ SANDY SILT
- ▣ SANDY CLAY
- ▢ CLAYEY SAND
- CLAYEY SILT
- CLAYEY CLAY
- ▟ SANDY CLAYEY SILT
- ▞ CLAYEY SANDY SILT
- ▝ SANDY CLAYEY CLAY
- ▜ CLAYEY SANDY CLAY
- ▛ SANDY CLAYEY CLAY
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- ▂ SANDY CLAYEY CLAY
- ▁ CLAYEY SANDY CLAY

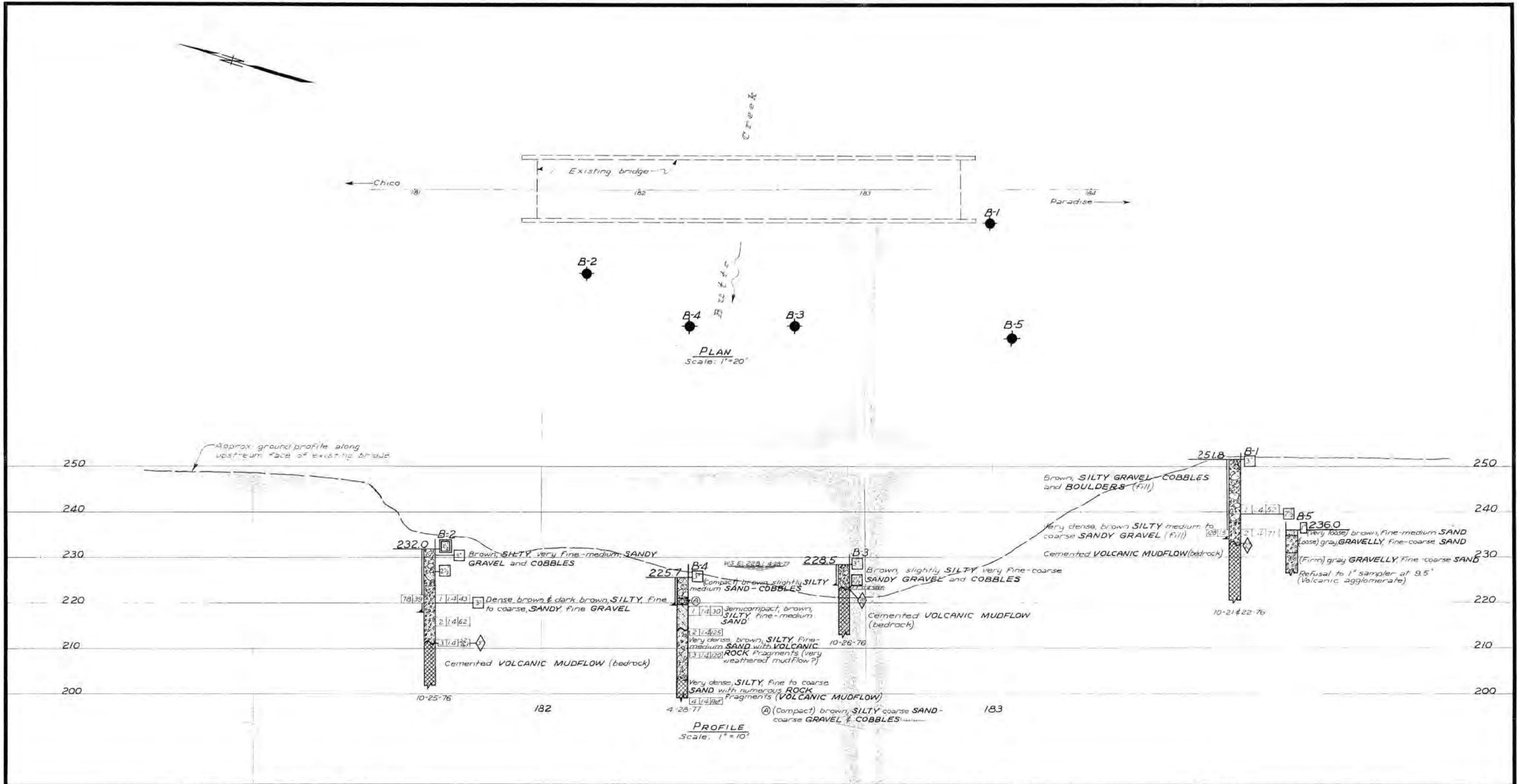
ABBREVIATIONS

- EL 50.0 ELEVATION OF GROUND AT TEST POINT
- BL 20.0 BLOW PER FOOT - SEE NOTE ABOVE
- W.P. WATER TABLE
- W.G. WATER GROUND
- W.L. WATER LEVEL
- W.M. WATER METER
- W.S. WATER SUPPLY
- W.T. WATER TOWER
- W.W. WATER WORKS
- W.Y. WATER YARD
- W.Z. WATER ZONE
- W.A. WATER AREA
- W.L. WATER LEVEL
- W.M. WATER METER
- W.S. WATER SUPPLY
- W.T. WATER TOWER
- W.W. WATER WORKS
- W.Y. WATER YARD
- W.Z. WATER ZONE
- W.A. WATER AREA

NOTES

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE STANDARD SPECIFICATIONS AND TO THE REVISIONS THEREOF. CLASSIFICATION OF EARTH MATERIALS FROM FIELD INSPECTION AND IS NOT TO BE CONSIDERED FINAL.

**LOG OF TEST BORING**  
 DATE: 9-11-51  
 LOCATION: [illegible]  
 DRAWN BY: [illegible]



### LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION																																																																																																																																						
Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW																																																																																																																								
Highly organic soils	Sills and clays Liquid limit greater than 50		Sills and clays Liquid limit less than 50		Sands with fines >12% fines		Clayey sands <5% fines		Gravels with fines >5% fines		Clean gravels <5% fines		Clean gravels <5% fines																																																																																																																									
	Fine grained soils (More than 50% is smaller than No. 200 sieve)				Coarse grained soils (More than 50% is larger than No. 200 sieve)																																																																																																																																	
LABORATORY CLASSIFICATION CRITERIA																																																																																																																																						
OW and SW - $C_u \geq \frac{D_{60}}{D_{10}}$ greater than 4 for GW B 6 for SW, $C_u = \frac{D_{60}}{D_{10}}$ between 1 & 3. GM and SM - Afterberg limits below "A" line or P.I. less than 4. GC and SC - Afterberg limits above "A" line with P.I. greater than 7.																																																																																																																																						
<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Plasticity Index</th> <th>Plasticity Limit</th> <th>Plasticity Index</th> <th>Plasticity Limit</th> <th>Plasticity Index</th> <th>Plasticity Limit</th> <th>Plasticity Index</th> <th>Plasticity Limit</th> <th>Plasticity Index</th> <th>Plasticity Limit</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>10</td> <td>4</td> <td>10</td> <td>4</td> <td>10</td> <td>4</td> <td>10</td> <td>4</td> <td>10</td> <td>4</td> </tr> <tr> <td>20</td> <td>7</td> <td>20</td> <td>7</td> <td>20</td> <td>7</td> <td>20</td> <td>7</td> <td>20</td> <td>7</td> </tr> <tr> <td>30</td> <td>10</td> <td>30</td> <td>10</td> <td>30</td> <td>10</td> <td>30</td> <td>10</td> <td>30</td> <td>10</td> </tr> <tr> <td>40</td> <td>14</td> <td>40</td> <td>14</td> <td>40</td> <td>14</td> <td>40</td> <td>14</td> <td>40</td> <td>14</td> </tr> <tr> <td>50</td> <td>18</td> <td>50</td> <td>18</td> <td>50</td> <td>18</td> <td>50</td> <td>18</td> <td>50</td> <td>18</td> </tr> <tr> <td>60</td> <td>22</td> <td>60</td> <td>22</td> <td>60</td> <td>22</td> <td>60</td> <td>22</td> <td>60</td> <td>22</td> </tr> <tr> <td>70</td> <td>26</td> <td>70</td> <td>26</td> <td>70</td> <td>26</td> <td>70</td> <td>26</td> <td>70</td> <td>26</td> </tr> <tr> <td>80</td> <td>30</td> <td>80</td> <td>30</td> <td>80</td> <td>30</td> <td>80</td> <td>30</td> <td>80</td> <td>30</td> </tr> <tr> <td>90</td> <td>34</td> <td>90</td> <td>34</td> <td>90</td> <td>34</td> <td>90</td> <td>34</td> <td>90</td> <td>34</td> </tr> <tr> <td>100</td> <td>38</td> <td>100</td> <td>38</td> <td>100</td> <td>38</td> <td>100</td> <td>38</td> <td>100</td> <td>38</td> </tr> </tbody> </table>															Plasticity Index	Plasticity Limit	Plasticity Index	Plasticity Limit	Plasticity Index	Plasticity Limit	Plasticity Index	Plasticity Limit	Plasticity Index	Plasticity Limit	0	0	0	0	0	0	0	0	0	0	10	4	10	4	10	4	10	4	10	4	20	7	20	7	20	7	20	7	20	7	30	10	30	10	30	10	30	10	30	10	40	14	40	14	40	14	40	14	40	14	50	18	50	18	50	18	50	18	50	18	60	22	60	22	60	22	60	22	60	22	70	26	70	26	70	26	70	26	70	26	80	30	80	30	80	30	80	30	80	30	90	34	90	34	90	34	90	34	90	34	100	38	100	38	100	38	100	38	100	38
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Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis, unless so stated.																																																																																																																																						

### LEGEND OF BORING OPERATIONS

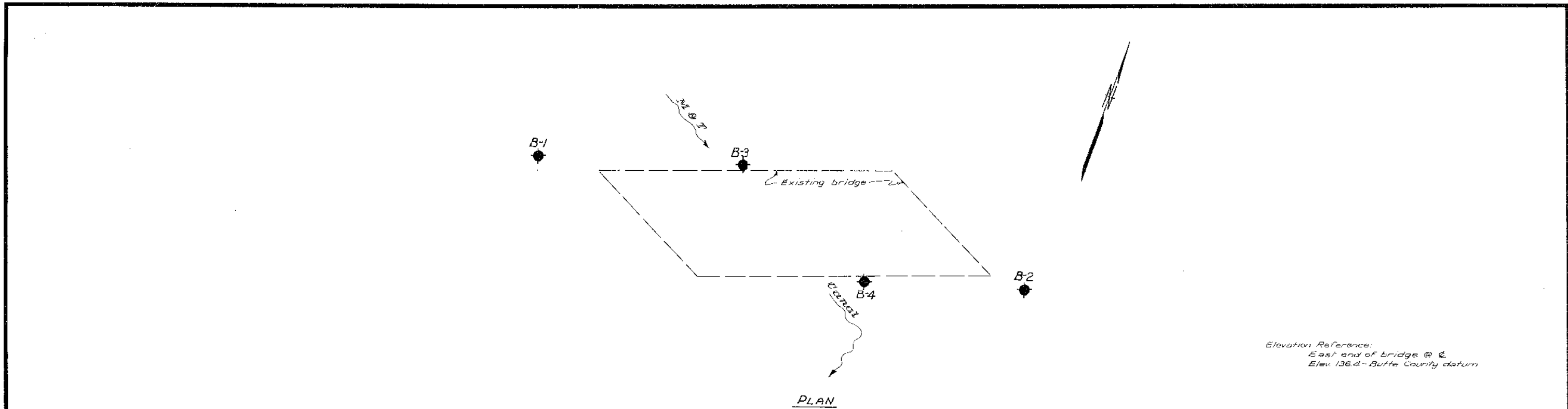
ROTARY BORING		PENETRATION TEST	
●	Plan of any boring	●	Location
⊕	Rotary boring	⊕	Top hole elev.
⊖	Diamond core boring	⊖	Pushed
⊙	Auger boring	⊙	Blows per foot
⊚	Sample boring	⊚	(Using 140 lb hammer with 30" drop)
⊛	Jet boring	⊛	Graphic representation of driving rate
⊜	Test pit	⊜	Blows per foot
⊝	2 1/4" Cone penetrometer	⊝	Date
⊞	2 1/2" Cone penetrometer	⊞	Blows per foot

MOORE & TABER NORTHERN CALIFORNIA CONSULTING ENGINEERS AND GEOLOGISTS

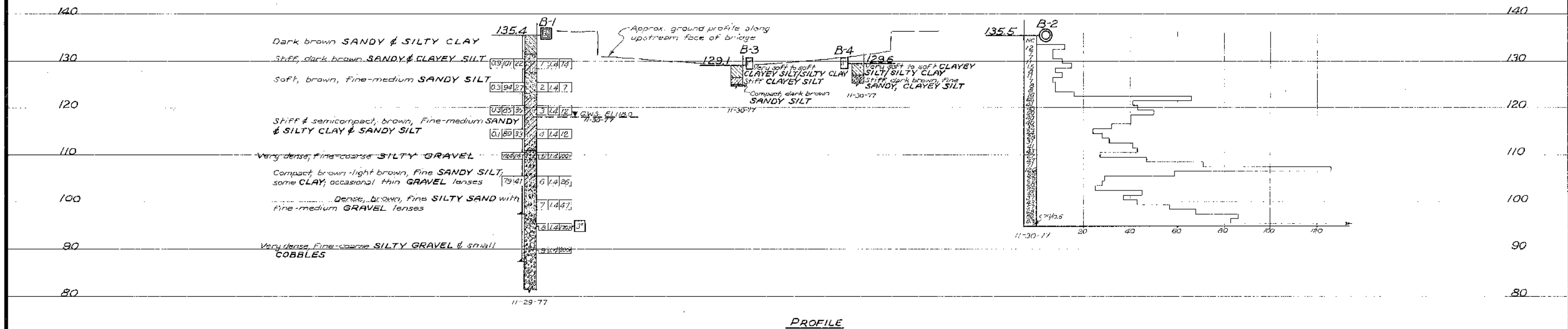
APPROVED *C. J. Van Alstine* REGISTERED CIVIL ENGINEER No. 17256 JOB No. 376/33-5.2

## BUTTE COUNTY CHICO SKYWAY BRIDGE ACROSS BUTTE CREEK LOG OF TEST BORINGS

Scale: As shown      Date: December, 1976      By: J.O.D.      Drawing



Elevation Reference:  
 East end of bridge @ C  
 Elev. 136.4 - Butte County datum



### LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION														
Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW
Highly organic soils	Sills and clays Liquid limit greater than 50		Sills and clays Liquid limit less than 50		Sands with fines >12% fines		Clean sands <5% fines		Sands - more than 50% of coarse fraction is smaller than N#4 sieve		Clayey silts >12% fines		Clean gravels <5% fines	
Fine grained soils (More than 50% is smaller than N#200 sieve)						Coarse grained soils (More than 50% is larger than N#200 sieve)								

LABORATORY CLASSIFICATION CRITERIA									
Plasticity Index (PI)		Liquid Limit (LL)		Shrinkage Limit (SL)		Plasticity Index (PI)		Liquid Limit (LL)	
OH	CH	ML	CL	ML	CL	ML	CL	ML	CL
OH	CH	ML	CL	ML	CL	ML	CL	ML	CL

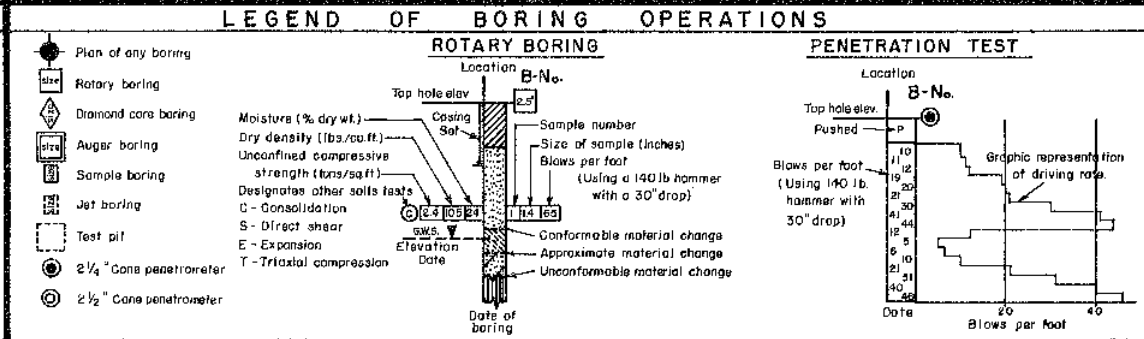
MATERIAL SYMBOLS									
Gravel	Peat or organic matter	Gravel	Peat or organic matter	Gravel	Peat or organic matter	Gravel	Peat or organic matter	Gravel	Peat or organic matter
Sand	Fill material	Sand	Fill material	Sand	Fill material	Sand	Fill material	Sand	Fill material
Silt	Shale	Silt	Shale	Silt	Shale	Silt	Shale	Silt	Shale
Clay	Sandstone	Clay	Sandstone	Clay	Sandstone	Clay	Sandstone	Clay	Sandstone
Sandy clay or clayey sand	Limestone	Sandy clay or clayey sand	Limestone	Sandy clay or clayey sand	Limestone	Sandy clay or clayey sand	Limestone	Sandy clay or clayey sand	Limestone
Sandy silt or silty sand	Metamorphic rock	Sandy silt or silty sand	Metamorphic rock	Sandy silt or silty sand	Metamorphic rock	Sandy silt or silty sand	Metamorphic rock	Sandy silt or silty sand	Metamorphic rock
Silty clay or clayey silt	Igneous rock	Silty clay or clayey silt	Igneous rock	Silty clay or clayey silt	Igneous rock	Silty clay or clayey silt	Igneous rock	Silty clay or clayey silt	Igneous rock

### LEGEND OF BORING OPERATIONS

CONSISTENCY CLASSIFICATION FOR SOILS		
According to the Standard Penetration Test		
No. of blows	Granular	Cohesive
0-5	Very loose	Very soft
6-10	Loose	Soft
11-20	Semicompact	Stiff
21-35	Compact	Very stiff
36-70	Dense	Hard
>70	Very dense	Very hard

ROTARY BORING		
Plan of any boring	Moisture (% dry wt.)	Top hole elev.
Rotary boring	Dry density (lbs./cu.ft.)	Casing
Diamond core boring	Unconfined compressive strength (tons/sq.ft.)	Soil
Auger boring	Designates other soils tests	Sample number
Sample boring	C - Consolidation	Size of sample (inches)
Jet boring	S - Direct shear	Blows per foot (Using a 140 lb hammer with a 30" drop)
Test pit	E - Expansion	Date of boring
	T - Triaxial compression	Conformable material change
		Approximate material change
		Unconformable material change



MOORE & TABER NORTHERN CALIFORNIA CONSULTING ENGINEERS AND GEOLOGISTS

APPROVED: *[Signature]* 1-6-77 REGISTERED CIVIL ENGINEER No. 9165 JOB No. 377/96

**BUTTE COUNTY**  
**CHICO RIVER ROAD BRIDGE**  
 ACROSS  
**M & T CANAL**  
**LOG OF TEST BORINGS**

Scale: 1" = 10' Date: December '77 By: J.D.D. Drawing  
 Check by: F.P.T.





MAJOR DIVISIONS			GROUP NAMES		GENERAL NOTES								
COARSE-GRAINED SOILS More than 50% retained on the No. 200 sieve	GRAVELS  MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	Clean gravels less than 5% fines	<b>GW</b>	Well-Graded Gravel		<p><b>Classification of Soils per ASTM D2487 or D2488</b></p> <p>Geologic Formation noted in bold font at the top of interpreted interval</p> <p>Sloped line in break column indicates transitional boundary</p> <p>Blow counts for California Liner Sampler shown in ( )</p> <p>Length of sample symbol approximates recovery length</p> <p><b>SAMPLER DRIVING RESISTANCE</b></p> <p>Number of blows with 140 lb. hammer, falling 30-in. to drive sampler 1-ft. after seating sampler 6-in.; for example,</p> <table border="1"> <tr> <th>Blows/ft</th> <th>Description</th> </tr> <tr> <td>25</td> <td>25 blows drove sampler 12" after initial 6" of seating</td> </tr> <tr> <td>50/7"</td> <td>50 blows drove sampler 7" after initial 6" of seating</td> </tr> <tr> <td>Ref/3"</td> <td>50 blows drove sampler 3" during initial 6" seating interval (Ref=Refusal)</td> </tr> </table> <p><b>STRENGTH TEST METHOD</b></p> <p>U = Unconfined Compression                      Q = Unconsolidated Undrained Triaxial                      T = Torvane                      P = Pocket Penetrometer                      M = Miniature Vane                      F = Field Vane</p> <p><b>OTHER TESTS</b></p> <p>k = Permeability      EI = Expansion Index                      Consol = Consolidation      OVM = Organic Vapor                      Gs = Specific Gravity      Measurement                      MA = Particle Size Analysis</p> <p><b>WATER LEVEL SYMBOLS</b></p> <p> Initial or perched water level   Final ground water level   Seepages encountered</p>	Blows/ft	Description	25	25 blows drove sampler 12" after initial 6" of seating	50/7"	50 blows drove sampler 7" after initial 6" of seating	Ref/3"
		Blows/ft	Description										
		25	25 blows drove sampler 12" after initial 6" of seating										
		50/7"	50 blows drove sampler 7" after initial 6" of seating										
	Ref/3"	50 blows drove sampler 3" during initial 6" seating interval (Ref=Refusal)											
	Gravels with more than 12% fines	<b>GP</b>	Poorly Graded Gravel										
	SANDS  MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	Clean sand less than 5% fines	<b>GM</b>	Silty Gravel									
		Gravels with more than 12% fines	<b>GC</b>	Clayey Gravel									
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve	SILTS AND CLAYS  Liquid Limit Less than 50%	Clean sand less than 5% fines	<b>SW</b>	Well-Graded Sand									
		SANDS  MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	Poorly Graded Sand	<b>SP</b>	Poorly Graded Sand								
			Sands with more than 12% fines	<b>SM</b>	Silty Sand								
		SILTS AND CLAYS  Liquid Limit Greater than 50%	Clayey Sand	<b>SC</b>	Clayey Sand								
	SILTS AND CLAYS  Liquid Limit Less than 50%		Silt	<b>ML</b>	Silt								
			Lean Clay	<b>CL</b>	Lean Clay								
			Organic Silt	<b>OL</b>	Organic Silt								
	SILTS AND CLAYS  Liquid Limit Greater than 50%	Elastic Silt	<b>MH</b>	Elastic Silt									
Fat Clay		<b>CH</b>	Fat Clay										
Organic Clay		<b>OH</b>	Organic Clay										
HIGHLY ORGANIC SOILS			<b>PT</b>	Peat or Highly Organic Soils									
FILL			<b>FILL</b>	Debris or Mixed Fill									
AC			<b>AC</b>	Asphalt Concrete Pavement with Aggregate Base									

**SAMPLER TYPE**

Samplers and sampler dimensions (unless otherwise noted in report text) are as follows:

1 SPT Sampler, driven 1 3/8" ID, 2" OD	6 Hand Auger Sample
2 MOD CA Liner Sampler 2 3/8" ID, 3" OD	7 Lexan Sample
3 CA Liner Sampler 1 7/8" ID, 2.5" OD	8 Pitcher Sample
4 Thin-walled Tube, pushed 2 7/8" ID, 3" OD	9 Vibracore Sample
5 Bulk Bag Sample (from cuttings)	10 No Sample Recovered
	11 Rock Core

**SOIL STRUCTURE**

Fissured: Containing shrinkage or relief cracks, often filled with fine sand or silt, usually more or less vertical.

Pocket: Inclusion of material of different texture that is smaller than the diameter of the sample.

Parting: Inclusion less than 1/8 inch thick extending through the sample.

Seam: Inclusion 1/8 inch to 3 inches thick extending through the sample.

Layer: Inclusion greater than 3 inches thick extending through the sample.

Laminated: Soil sample composed of alternating partings or seams of different soil types.

Interlayered: Soil sample composed of alternating layers of different soil type.

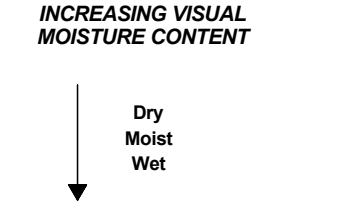
Intermixed: Soil sample composed of pockets of different soil type, and layered or laminated structure is not evident.

**CONSISTENCY**

Clays	Blows/Foot SPT	Undrained Shear Strength (ksf)
<b>Very Soft</b>	0 - 2	0 - 0.25
<b>Soft</b>	3 - 4	0.25 - 0.5
<b>Firm</b>	5 - 8	0.5 - 1
<b>Stiff</b>	9 - 16	1 - 2
<b>Very Stiff</b>	17 - 32	2 - 4
<b>Hard</b>	Over 32	Over 4

**RELATIVE DENSITY**

Sands and Gravels	Blows/Foot SPT
<b>Very Loose</b>	0 - 4
<b>Loose</b>	4 - 10
<b>Medium Dense</b>	11 - 30
<b>Dense</b>	31 - 50
<b>Very Dense</b>	Over 50



Information on each boring log is a compilation of subsurface conditions and soil or rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the time and places indicated, and can vary with time, geologic condition, or construction activity.





DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 134.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S <sub>u</sub> , ksf	OTHER TESTS
					<b>MATERIAL DESCRIPTION</b>							
1		1		(8)	Fill: Clay (CL): firm to stiff, brown, moist, with rootlets						4.5 P	
2		2			- grades silty clay, trace sand							
3		3		(8)								
4		4										
5												
6												
7		5		(5)	Silty CLAY (CL-ML): firm, reddish brown, wet, trace sand							
8		6										
9												
10												
11		7		(9)	- grades stiff below 16'		53		44	19		
12		8										
13												
14												
15												
16												
17												
18												
19		9		(11)	- grades gray/dark gray below 21.5 feet	75	47				0.8 Q	
20		10										
21		11										
22												
23												
24												
25					SAND (SP): medium dense, brown, wet, fine grained sand, trace silt							
26												
27												
28												
29												
30		12		31	- grades dense			9				
31												
32												
33												
34												
35		13		29								
36												
37												
38												
39												
40		14		4	Silty CLAY (CL-ML): soft to firm, gray, wet			89				
41												
42												
43												
44												
45				50/ref	grades hard, large cobbles and gravel at 44 feet							

BORING DEPTH: 44.0 ft  
 DEPTH TO WATER: 8.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 5, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-1**  
 WPCP 12-MGD Expansion Project  
 Chico, California





DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 139.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, $S_u$ , ksf	OTHER TESTS
					MATERIAL DESCRIPTION							
1		1		(18)	Fill: CLAY (CL): very stiff, brown, moist, with gravel and trace sand							
2		2										
3		3		(9)	CLAY (CL): stiff, dark brown, moist							
4		4										
5		5		(9)	- grades silty clay	89	29				1.8 P 1.7 Q	
6		6										
7		7		(13)	Silty SAND (SM): medium dense, brown, wet			43				
8		8										
9		9		(35)	▼ - grades olive gray, increase silt content, dense						4.5 P	
10		10										
11		11		(21)	Sandy SILT (ML): very stiff, olive with white calcium mottling, wet			55				
12		12										
13		13		(29)	- grades brown with gray mottling, trace sand						2.6 P	
14		14										
15		15		(30)	- grades reddish brown, increased clay content							
16		16										

BORING DEPTH: 36.5 ft  
 DEPTH TO WATER: 20.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 4, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-2**  
 WPCP 12-MGD Expansion Project  
 Chico, California





DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 135.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, $S_u$ , ksf	OTHER TESTS
0		1		(19)	Fill: Sandy SILT (ML): very stiff, brown, moist, fine grained sand, with wood and rootlets							
5		3		(10)	Sandy SILT (ML): stiff, reddish brown, moist, fine grained sand			59				
10		5		(42)	- grades hard, wet							
15		7		(40)	CLAY (CL): hard, reddish brown with gray mottling, moist, with silt		24		37	18	4.5 P	
20		9		(37)	▽ - grades wet						4.5 P	
25		11		(23)	- grades very stiff below 25 feet							
30				(19)	Silty SAND (SM): medium dense, brown, wet							
35		13		11				34				
45		14		89/11"	Gravel (GW): very dense, brown, wet, with sand							

BORING DEPTH: 46.5 ft  
 DEPTH TO WATER: 19.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 4, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-3**  
 WPCP 12-MGD Expansion Project  
 Chico, California





DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 134.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, % PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, $S_u$ , ksf	OTHER TESTS
					<b>MATERIAL DESCRIPTION</b>						
		1		(24)	Asphalt Concrete (AC):						
		2			Fill: CLAY (CL): very stiff, brown, moist					3.3 P	
					Fill: Silty SAND (SM): loose, reddish brown, moist, with rootlets						
5		3		(7)				26			
		4									
10		5		(54)	- with sandy gravel layer at 10 feet					4.5 P	
		6			Silty CLAY (CL-ML): hard, reddish brown, moist						
		7									
15		8		(25)	Silty SAND (SM): medium dense, reddish brown with olive gray mottling, wet			32			
		9									
20		10		(23)	▽					2.5 P	
		11									
25											
30											
35											
40											
45											

BORING DEPTH: 21.5 ft  
 DEPTH TO WATER: 19.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 4, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-4**  
 WPCP 12-MGD Expansion Project  
 Chico, California





DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 135.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, $S_u$ , ksf	OTHER TESTS		
					MATERIAL DESCRIPTION									
5  10  15  20  25  30  35  40  45		1		(15)	Fill: CLAY (CL): stiff, brown, moist  Fill: Silt (ML): stiff, reddish brown, moist, with clay  SILT (ML): stiff, reddish brown, moist - grades to sandy silt, hard - sand and gravel lenses, moist, dense - grades hard with white mottling, some clay, trace sand  ▽  (45)									
		2												
		3		(15)									2.5 P	
		4												
		5		(48)										
		6												
		7		35										
		8												
		9		(45)									4.5 P	

BORING DEPTH: 21.5 ft  
 DEPTH TO WATER: 18.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 5, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-5**  
 WPCP 12-MGD Expansion Project  
 Chico, California





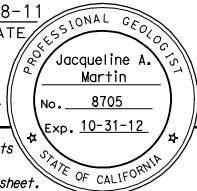
DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: 4827 Chico River Road  SURFACE EL: 137.0 ft +/- (rel. MSL datum)	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, $S_u$ , ksf	OTHER TESTS
					MATERIAL DESCRIPTION							
		1		(7)	Fill: SILT (ML): firm, brown, moist							
		2										
5		3		(6)	SILT (ML): firm, reddish brown, moist							
		4										
10		5		(9)	- loose fine grained sand lenses							
		6			- grades hard, with clay and white mottling, some sand							
15		7		(77/10")								
		8										
20		9		(34)								
		10					33		30	5		
25												
30												
35												
40												
45												

BORING DEPTH: 21.5 ft  
 DEPTH TO WATER: 19.0 ft  
 BACKFILL: Cement-Bentonite Grout  
 COMPLETION DATE: November 5, 2003  
 NOTES: 1. Terms and symbols defined on Plate A-1.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger  
 HAMMER TYPE: Automatic Trip, 144 lb  
 RIG TYPE: CME 75  
 DRILLED BY: WESTEX,  
 LOGGED BY: J Mitchell

**LOG OF BORING NO. B-6**  
 WPCP 12-MGD Expansion Project  
 Chico, California



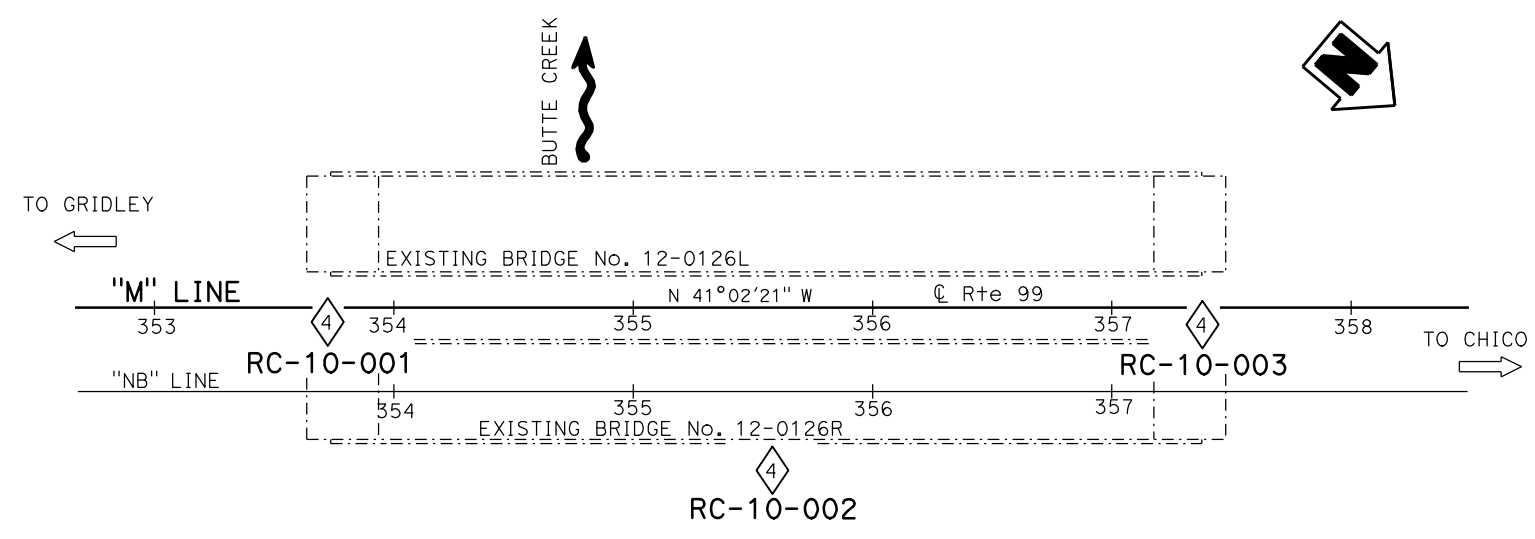
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			
Jacqueline A. Martin PROFESSIONAL GEOLOGIST			12-8-11 DATE		
PLANS APPROVAL DATE _____					
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

**BENCH MARK**

CM 28.60  
 Fnd REBAR w/PUNCH  
 65.20 FT Rt @ Rte 99  
 Sta 343+92.193  
 N 2,378,159.79  
 E 6,624887.96  
 Elev 217.55'  
 NGVD29

CM 29.05  
 Fnd REBAR w/PUNCH  
 76.97 FT Lt @ Rte 99  
 Sta 369+76.15  
 N 2,380,015.42  
 E 6,623084.17  
 Elev 220.22'  
 NGVD29



**PLAN**  
 1" = 40'

**LABORATORY TEST RESULTS FOR STRENGTH TESTING**

BORING RC-10-001		BORING RC-10-002		BORING RC-10-003	
Elevation (ft)	Type/Result (psi)	Elevation (ft)	Type/Result (psi)	Elevation (ft)	Type/Result (psi)
186.7-185.7	PL <sub>(1s50)</sub> = 641.0	182.3-181.8	UC=511.2	184.5-184.0	UC=706.1
185.7-185.2	UC=12864.0**	175.0-174.6	UC=1403.0	183.3-182.8	UC=405.8
184.7-184.2	UC=1050.0	172.3-171.3	UC=6508.0	177.8-177.3	PL <sub>(1s50)</sub> = 1165.0
184.2-183.7	UC=5689.0**	168.8-167.8	UC=2158.0	177.3-176.8	UC=449.2
182.0-181.4	UC=904.0	159.3-158.8	UC=660.8	174.8-174.3	UC=397.0
181.2-180.7	UC=531.8	151.8-151.3	PL <sub>(1s50)</sub> = 1328.0	171.3-170.8	UC=437.4
180.4-179.8	PL <sub>(1s50)</sub> = 765.0	146.8-145.8	UC=1104.0	167.0-166.5	PL <sub>(1s50)</sub> = 269.0
178.7-178.2	UC=299.3	137.3-136.3	UC=1675.0	166.3-165.8	UC=1152.0
175.7-175.2	PL <sub>(1s50)</sub> = 52.0**	130.3-129.3	UC=2175.0	161.3-160.8	UC=2192.0
169.2-168.2	PL <sub>(1s50)</sub> = 36.0	114.8-114.3	UC=5579.0	153.3-152.8	UC=2564.0**
161.7-161.2	UC=966.6	110.3-109.3	UC=1737.0	146.8-146.3	UC=1620.0
158.7-158.2	UC=519.0			143.8-143.3	UC=1858.0
148.7-148.2	UC=2036.0			140.8-140.3	UC=16108.0**
144.7-144.2	UC=2051.0			135.3-134.8	UC=790.2
139.2-138.7	UC=484.0			133.3-132.8	UC=1348.0
137.7-137.2	UC=821.0			129.8-129.3	UC=830.5
131.7-131.2	UC=2206.0			124.3-123.8	UC=3069.0
105.7-104.9	UC=1575.0			107.3-106.8	UC=2130.0

**Notes:**

- Ground water was measured during the field investigation in Borings RC-10-001 and RC-10-003. Please refer to these borings for ground water level measurements. During the field investigation, ground water was not measured in Boring RC-10-002. This boring was immediately backfilled after completion of the drilling operation.
- Ground water levels indicated on the Log of Test Borings (LOTB) sheets reflect the measured ground water levels in the borehole on the specified date. Ground water surface elevations are subject to seasonal fluctuations and will be encountered at higher or lower elevations depending upon conditions at time of construction.
- Very hard and hard boulders and cobbles are visible in the river channel near Pier 2 location. Some boulders and cobbles were also encountered at various elevations during the subsurface investigation and are shown on the LOTB.
- Rock core samples from the 2010 subsurface investigation are available for viewing by bidders at the California Department of Transportation, Transportation Laboratory, 5900 Folsom Blvd., Sacramento, CA.
- During the 2010 subsurface investigation, cobbles, boulders and rock samples were collected from several borings and submitted to the laboratory for strength testing. The laboratory strength test results are provided in the Table on page 1 of the LOTBs. This table provides strength test data at specific elevations for the borings. The test sample was taken within the elevation interval. Laboratory rock strength test data is available for viewing at the California Department of Transportation, Transportation Laboratory, 5900 Folsom Blvd., Sacramento, CA.
- PL<sub>(1s50)</sub> = Point Load Strength corrected to a diameter of 50 mm.

\*\* The test specimen length/diameter ratio was not in compliance with test method.

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BUTTE CREEK BRIDGE (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 12-0126R		<b>LOG OF TEST BORINGS 1 OF 8</b>	
NAME: R. Buell		CHECKED BY: B. Barnes		FIELD INVESTIGATION BY: J. A. Martin		POST MILE 28.7			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 03000005091		CONTRACT NO.: 03-3E6201	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET OF	
						11-15-11 11-29-11 12-08-11		X X	

USERNAME => s116982 DATE PLOTTED => 08-DEC-2011 TIME PLOTTED => 15:27





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			

Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 PROFESSIONAL GEOLOGIST  
 Jacqueline A. Martin  
 No. 8705  
 Exp. 10-31-12  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 8

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).



<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BUTTE CREEK BRIDGE (REPLACE)</b>	
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY:	BRIDGE NO.	<b>LOG OF TEST BORINGS 3 OF 8</b>					
NAME: R. Buell	CHECKED BY: XX	L. Sepulveda	12-0126R						
			POST MILE						
			28.7						
065 CIVIL LOG OF TEST BORINGS SHEET			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	UNIT: 3643	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				PROJECT NUMBER & PHASE: 03000005091		CONTRACT NO.: 03-3E6201		REVISION DATES	SHEET OF
								11-15-11 11-29-11 12-08-11	X X
				FILE => butte3.dgn					

USERNAME => s116982 DATE PLOTTED => 08-DEC-2011 TIME PLOTTED => 15:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			

Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 PROFESSIONAL GEOLOGIST  
 Jacqueline A. Martin  
 No. 8705  
 Exp. 10-31-12  
 PLANS APPROVAL DATE  
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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 8



This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BUTTE CREEK BRIDGE (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		FIELD INVESTIGATION BY:		BRIDGE NO. 12-0126R		<b>LOG OF TEST BORINGS 4 OF 8</b>	
NAME: R. Buehl		CHECKED BY: XX		J. A. Martin		POST MILE 28.7			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 0300005091		CONTRACT NO.: 03-3E6201	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET OF X X	

USERNAME => s116982 DATE PLOTTED => 08-DEC-2011 TIME PLOTTED => 15:27

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			

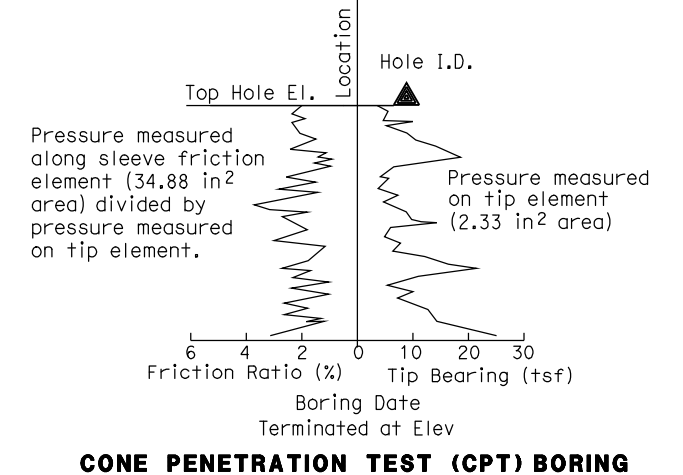
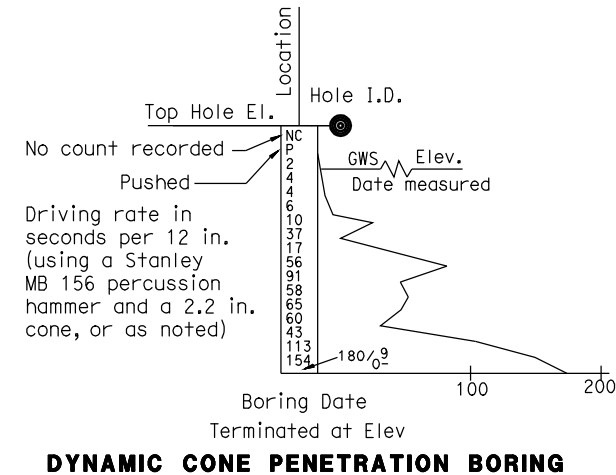
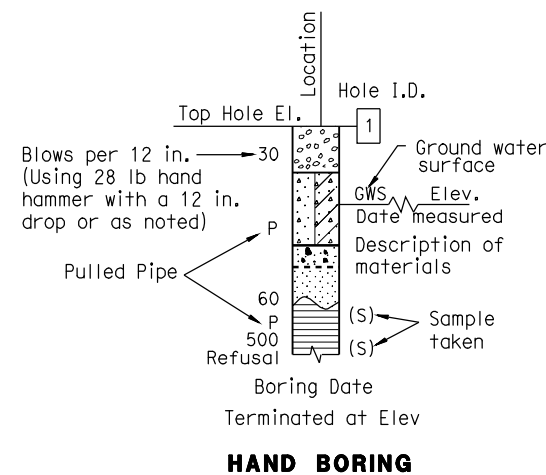
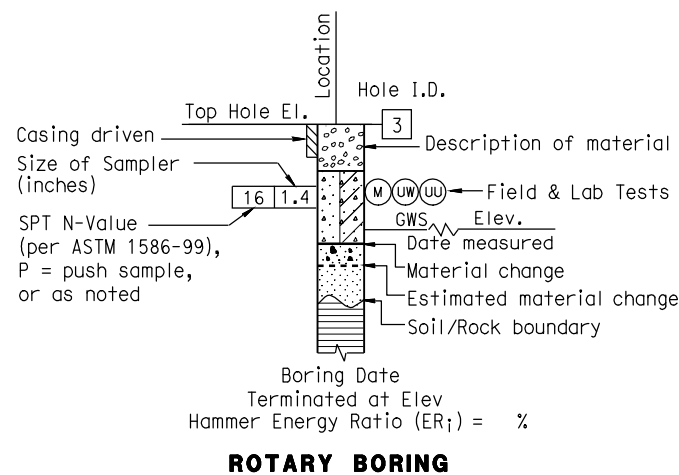
Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 PLANS APPROVAL DATE  
 No. 8705  
 Exp. 10-31-12  
 STATE OF CALIFORNIA  
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other (note on LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



ENGINEERING SERVICES	GEOTECHNICAL SERVICES PREPARED BY: I.C-Remmen	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 12-0126R	<b>BUTTE CREEK BRIDGE (REPLACE)</b> <b>LOG OF TEST BORINGS 5 OF 8</b>
				POST MILE 28.7	

UNIT: 3643  
 PROJECT NUMBER & PHASE: 03000005091  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS  
 FILE => butte5.dgn

USERNAME => s116982 DATE PLOTTED => 08-DEC-2011 TIME PLOTTED => 15:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			

Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly-graded GRAVEL		SANDY lean CLAY
	Poorly-graded GRAVEL with SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with SILT		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND		SILTY CLAY with SAND
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		GRAVELLY SILTY CLAY
	Poorly-graded GRAVEL with SILT		SILTY CLAY with GRAVEL
	Poorly-graded GRAVEL with SILT and SAND		SANDY SILTY CLAY with GRAVEL
	Poorly-graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY SILTY CLAY
	Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		GRAVELLY SILTY CLAY with SAND
	SILTY GRAVEL		ORGANIC lean CLAY
	SILTY GRAVEL with SAND		ORGANIC lean CLAY with SAND
	CLAYEY GRAVEL		SANDY ORGANIC lean CLAY
	CLAYEY GRAVEL with SAND		GRAVELLY ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL		GRAVELLY ORGANIC lean CLAY with SAND
	SILTY, CLAYEY GRAVEL with SAND		
	Well-graded SAND		ORGANIC SILT
	Well-graded SAND with GRAVEL		ORGANIC SILT with SAND
	Poorly-graded SAND		SANDY ORGANIC SILT
	Poorly-graded SAND with GRAVEL		GRAVELLY ORGANIC SILT
	Well-graded SAND with SILT		GRAVELLY ORGANIC SILT with SAND
	Well-graded SAND with SILT and GRAVEL		
	Well-graded SAND with CLAY (or SILTY CLAY)		Fat CLAY
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		Fat CLAY with SAND
	Poorly-graded SAND with SILT		SANDY fat CLAY
	Poorly-graded SAND with SILT and GRAVEL		GRAVELLY fat CLAY
	Poorly-graded SAND with CLAY (or SILTY CLAY)		GRAVELLY fat CLAY with SAND
	Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		
	SILTY SAND		Elastic SILT
	SILTY SAND with GRAVEL		Elastic SILT with SAND
	CLAYEY SAND		SANDY elastic SILT
	CLAYEY SAND with GRAVEL		GRAVELLY elastic SILT
	SILTY, CLAYEY SAND		GRAVELLY elastic SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		
	PEAT		ORGANIC fat CLAY
			ORGANIC fat CLAY with SAND
	COBBLES		ORGANIC elastic SILT
	COBBLES and BOULDERS		ORGANIC elastic SILT with SAND
			SANDY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
			ORGANIC SOIL
			ORGANIC SOIL with SAND
			SANDY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UU)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE	
Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE		
Description	Size (in.)	
Boulder	Greater than 12	
Cobble	3 - 12	
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay	Less than 1/300	

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 12-0126R	BUTTE CREEK BRIDGE (REPLACE) LOG OF TEST BORINGS 6 OF 8	
				POST MILE 28.7		
PREPARED BY: I.C-Remmen	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3643 PROJECT NUMBER & PHASE: 03000005091	CONTRACT NO.: 03-3E6201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET OF X X

GS LOTB SOIL LEGEND  
 FILE => butte6.dgn  
 DATE PLOTTED => 08-DEC-2011  
 USERNAME => s116982

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99			

*Jacqueline A. Martin* 12-8-11  
 PROFESSIONAL GEOLOGIST DATE

No. 8705  
 Exp. 10-31-12

PLANS APPROVAL DATE \_\_\_\_\_

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**PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)**

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces } \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD\* Indicates soundness criteria not met.

**BEDDING SPACING**

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

**LEGEND OF ROCK MATERIALS**

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

**ROCK HARDNESS**

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

**WEATHERING DESCRIPTORS FOR INTACT ROCK**

Description	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

**FRACTURE DENSITY**

Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

<b>ENGINEERING SERVICES</b>	<b>GEOTECHNICAL SERVICES</b>	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH X</b>	BRIDGE NO. 12-0126R POST MILE 28.7	<b>BUTTE CREEK BRIDGE (REPLACE)</b> <b>LOG OF TEST BORINGS 7 OF 8</b>
	PREPARED BY: I.C-Remmen				
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3643 PROJECT NUMBER & PHASE: 0300005091	CONTRACT NO.: 03-3E6201	DISREGARD PRINTS BEARING EARLIER REVISION DATES
			FILE => butte7.dgn	REVISION DATES	SHEET OF
				12-08-11	X X

USERNAME => s116982 DATE PLOTTED => 08-DEC-2011 TIME PLOTTED => 15:27

# Appendix D

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## Comments and Responses

**Response to HDR review comments of August 14, 2024 on Fugro's Desktop Review of Geologic, Geotechnical, and Environmental Conditions, Rev. 2, provided to Carollo and dated July 26, 2024.  
Incorporated internal discussion with Carollo on 08/27/2024**

Section	Task #	HDR comment	Fugro comments
2.0	1	Review Butte County General Plan 2030	We agree that there may be a liquefaction hazard and identified it from Mile Marker 0 to 9. We've identified flood hazard and environmental hazards in our Desktop Study Report.
2.0	2	Kinder Morgan Asset map showing line	We are aware of the approximate location of the Kinder Morgan pipelines. Carollo will consider the crossing of the pipelines during design.
2.0	3	PG&E transmission line	We are aware of the approximate location of the PG&E Transmission Lines. Carollo will consider these lines during design.
2.0	4	Historical topographic maps	We will take this under consideration but do not expect it to change our site investigation approach.
2.0	5	Historical aerial photographs	Similar to above.
2.0	6	On-line Mining District records could provide thickness of mining debris	We are aware of the mining boundaries and have planned the geotechnical investigation accordingly.
2.0	7	Groundwater data	We used GeoTracker database for information on shallow groundwater.
2.0	8	National Levee Database	We have provided general flood risk using the FEMA maps. The levee condition and risk of breach is not in Fugro's scope.
2.0	9	DWR- NULE evaluations	Carollo will be describing the levee crossing design guidelines in the Basis of Design Report (BODR). HDR is acquiring appropriate permits for the levee crossings
3.0	10	Field Reconnaissance could have been more thorough.	Access is not available on the east side. Looking from the west side, there do not appear to be rice fields on the east side.
4.0	11	May need more thorough mapping of mining debris	We are primarily concerned about mine tailings at the Butte Creek crossing and have developed our trenchless crossing borings to address this. We may perform additional investigations depending on what we encounter during Phase 1 investigation.
5.0	12	Include discussion of Geologic hazard section of Butte County General Plan.	This will be included in the geotechnical interpretive reports.
5.0	13	Cross-reference mile markers in Table 4.4	This detail will be provided in geotechnical interpretive reports and Phase 2 ESA studies are recommended.
5.0	14	Seismic PGA needed for alignment	This will be included in the geotechnical interpretive reports.
5.0	15	Include a Phase 1 Environmental report for specific sites.	We recommend Phase 2 ESA studies concurrent with the geotechnical investigations. This will include testing for pesticides and other potential contaminants as already recommended in the desktop study.
5.0	16	Risk and hazard of liquefaction, seismic settlement, and seismic densification	This will be included in the geotechnical interpretive reports.
6.0	17	Figure 13 presents the investigation approach and not a plan.	This desktop study was not intended to be an investigation plan. It provides a roadmap for future site investigations.
6.0	18	Use existing seismic refraction data to anticipate excavation methods.	This will be included in the geotechnical interpretive reports, and will include data from our proposed seismic refraction lines, test pits, and boreholes.
7.0	19	Suggest breaking the alignment into smaller sections.	Segments were defined on the basis of geologic and geotechnical data and the proposed exploration approach. The need for further definition will be assessed as more data are gathered.
7.0	20	Developing a detailed table of crossings would be beneficial.	Carollo's BODR will include additional information on the crossings.



APPENDIX D

# EXPORT PIPELINE ALIGNMENT DRAWINGS

**Legend**

- Manhole
- ☐ Pump Station
- Export Pipeline
  - Gravity
  - - - Force Main
  - From Sewer Collection System
- Aquatic Features
- Tax Parcels
- ▨ Property Acquisition



Export Pipeline Pump Station

Skyway Rd

Bay Tree Dr

Tuscan Dr

Vista Village Dr

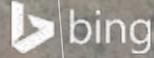
Granda Vista Dr

Skyway Crossroad Rd

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



**Legend**

- Export Pipeline
  - Force Main
- Tax Parcels
- Property Acquisition

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

- Export Pipeline
  - Force Main
  - Aquatic Features
  - Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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**Vicinity Map**

bing



**Legend**

- Export Pipeline
  - Force Main
  - Aquatic Features
  - Tax Parcels

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
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**Vicinity Map**

bing



**Legend**

- Manhole
- Export Pipeline
  - Gravity
  - - - Force Main
- Aquatic Features
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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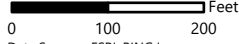
**Vicinity Map**

Chico



**Legend**


- Export Pipeline
  - Gravity
  - Aquatic Features
  - Tax Parcels



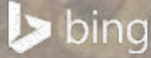
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.  
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**Vicinity Map**



Chico




**Legend**

Export Pipeline

- Gravity
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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**Vicinity Map**

Chico

bing





**Legend**

- Export Pipeline
  - Gravity
  - Aquatic Features
  - Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico

bing



**Legend**

- Export Pipeline
  - Gravity
  - Aquatic Features
  - Tax Parcels







0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico



**Legend**

-  Transition Structure
- Export Pipeline
  -  Gravity
  -  Gravity Force Main
-  Aquatic Features
-  Tax Parcels
-  Property Acquisition



Transition Structure  
& Emergency  
Overflow Structure

Skyway Rd

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



**Legend**

- Export Pipeline
  - Gravity Force Main
  - Aquatic Features
  - Tax Parcels

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.





**Vicinity Map**

bing




**Legend**

Export Pipeline

-  Gravity Force Main
-  Aquatic Features
-  Tax Parcels
-  Permanent Easement


 Feet

0 100 200

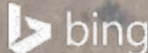
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico

 bing




**Legend**

Export Pipeline

- Gravity Force Main
- Aquatic Features
- Tax Parcels
- Permanent Easement


 Feet

0 100 200

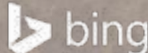
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Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico

 bing




**Legend**

Export Pipeline

- █ Gravity Force Main
- █ Aquatic Features
- Tax Parcels
- Permanent Easement


 Feet

0 100 200

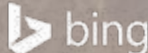
Data Sources: ESRI, BING Imagery, Butte County.

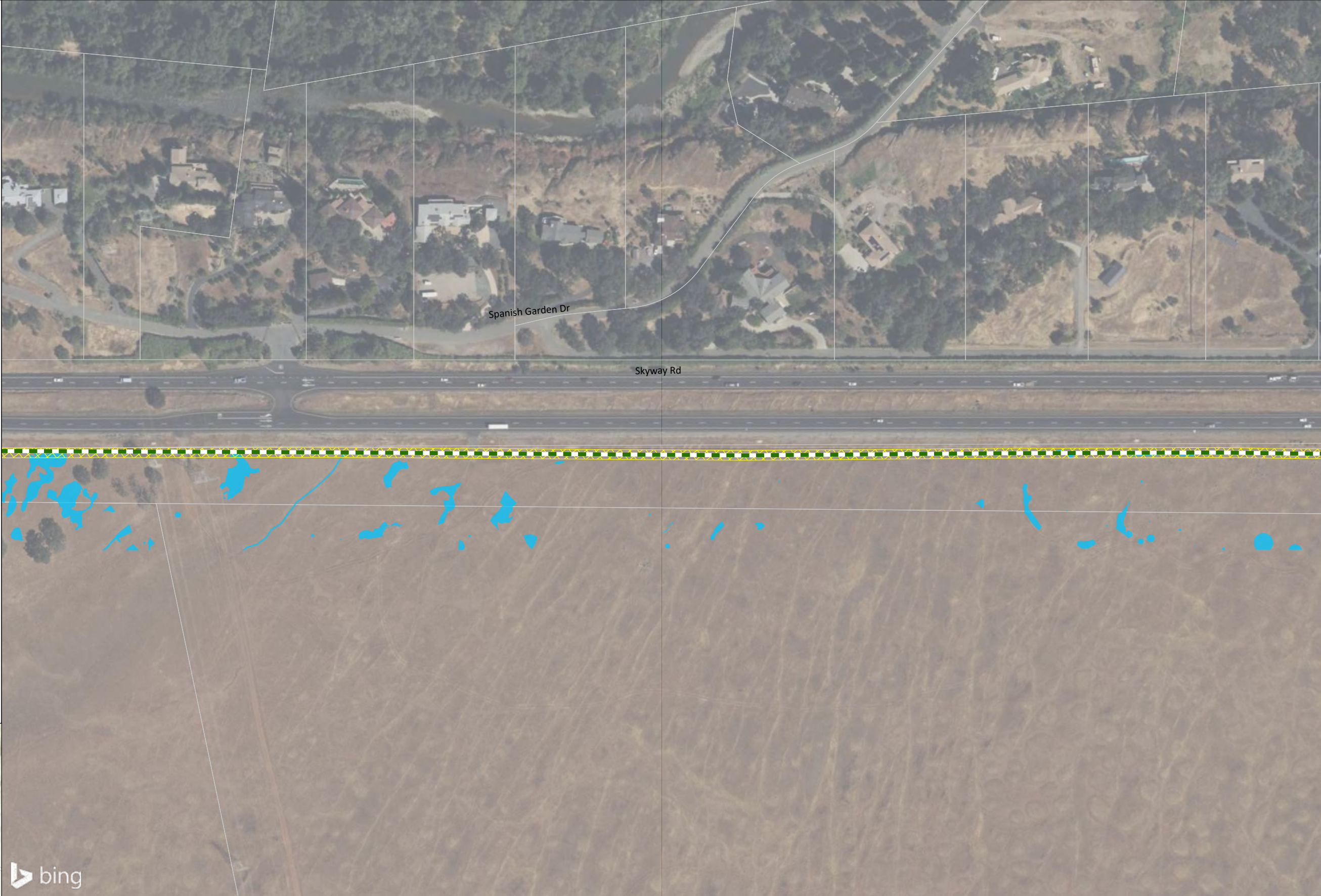
Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico

 bing




**Legend**

Export Pipeline

- Gravity Force Main
- Aquatic Features
- Tax Parcels
- Permanent Easement


 Feet

0 100 200

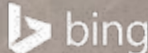
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico





 bing





**Legend**

Export Pipeline


-  Gravity Force Main
-  Aquatic Features
-  Tax Parcels
-  Permanent Easement

0 100 200 Feet

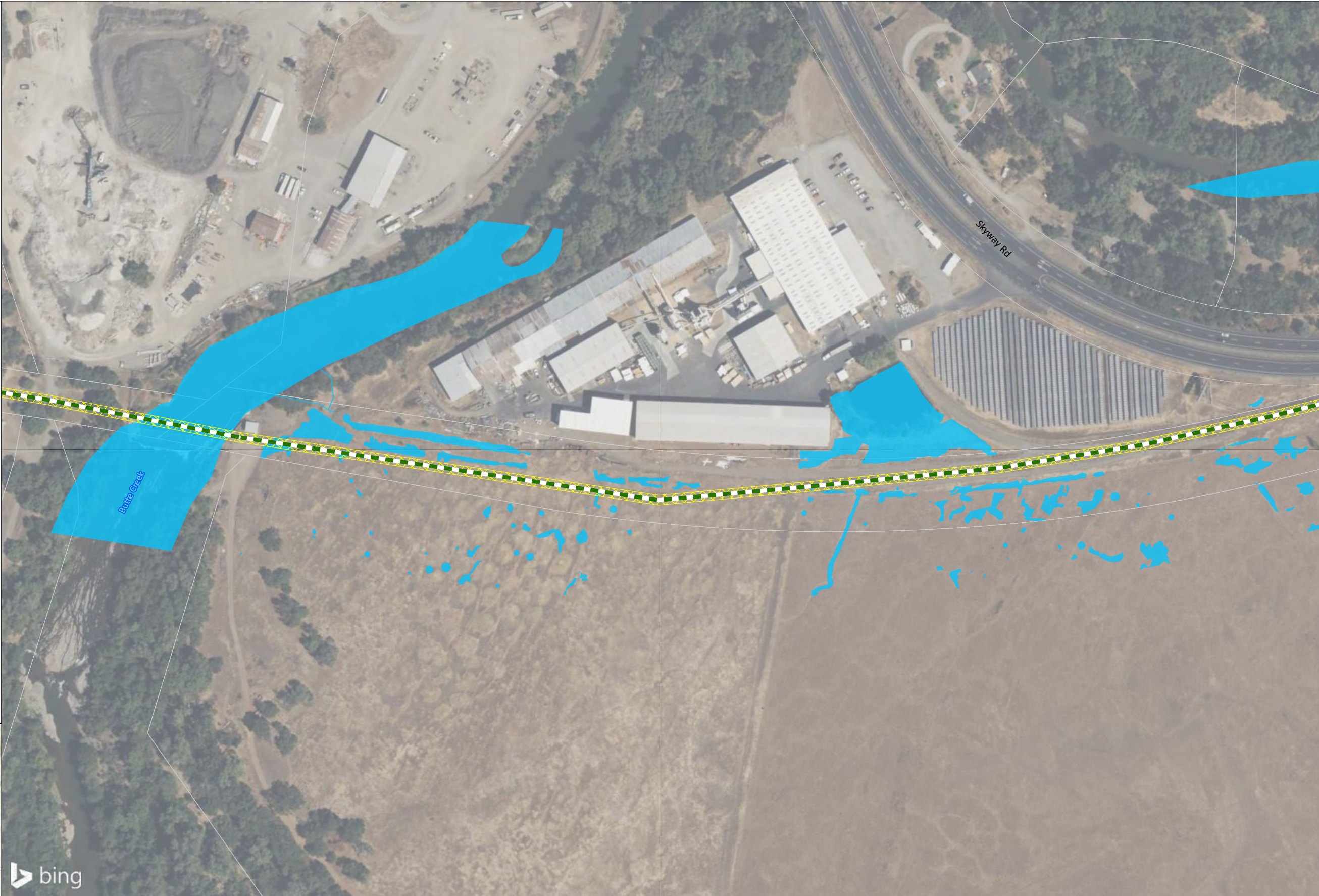
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



bing



**Legend**

- Export Pipeline
  - Gravity Force Main
  - Aquatic Features
- Tax Parcels
- Permanent Easement

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County,  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico

Golden State Hwy State Rte 99

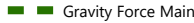
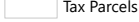
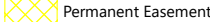
Southgate Ln

bing



**Legend**

Export Pipeline


-  Gravity Force Main
-  Tax Parcels
-  Permanent Easement

0 100 200 Feet


Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico




**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

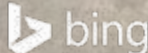
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico




**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

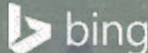
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico






**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

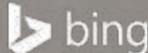
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico




**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

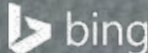
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Chico




**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

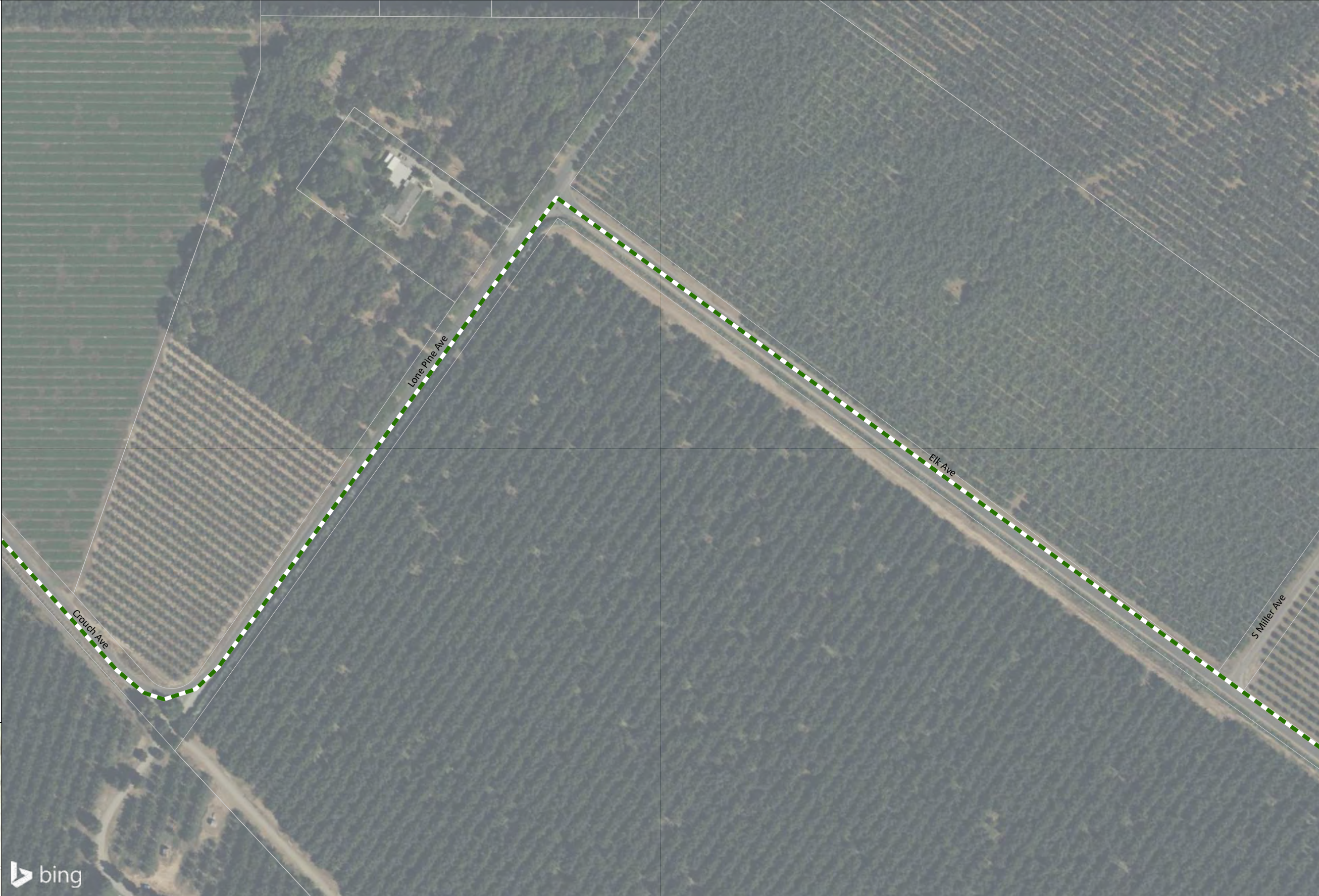
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- █ Gravity Force Main
- █ Aquatic Features
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.




**Vicinity Map**

bing




**Legend**

Export Pipeline

-  Gravity Force Main
-  Aquatic Features
-  Tax Parcels


 Feet

0 100 200

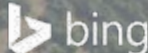
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico






**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County,  
Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.




**Vicinity Map**

Chico




**Legend**

Export Pipeline

-  Gravity Force Main
-  Aquatic Features
-  Tax Parcels


 Feet

0 100 200

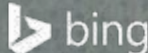
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**



Chico




**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

bing



**Legend**

Export Pipeline

- Gravity Force Main
- Tax Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

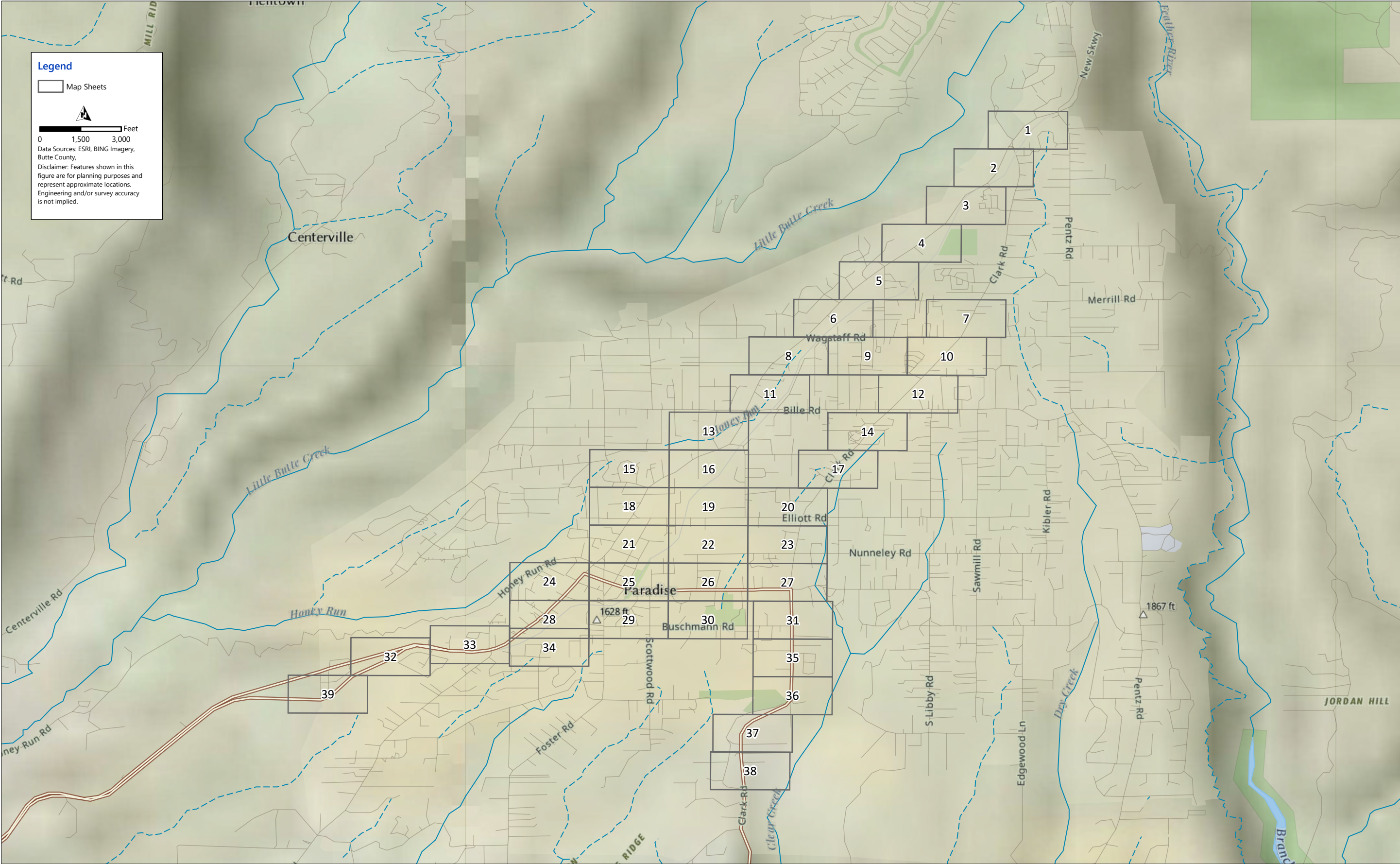
**Vicinity Map**

bing













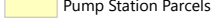
APPENDIX E

# COLLECTION SYSTEM ALIGNMENT DRAWINGS



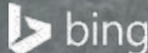
Map Book Alignment and Town System Overview Map  
 TOWN OF PARADISE  
 PARADISE SEWER PROJECT

**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
 Magalia  
 Paradise




**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Force Main
- Gravity Main by Diameter
- 8"
- Tax Parcels
- Storm Drain Pipeline Diameter
- 13" - 18"
- 19" - 30"
- Stormwater Point Feature
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Magalia

Paradise







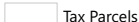
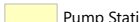
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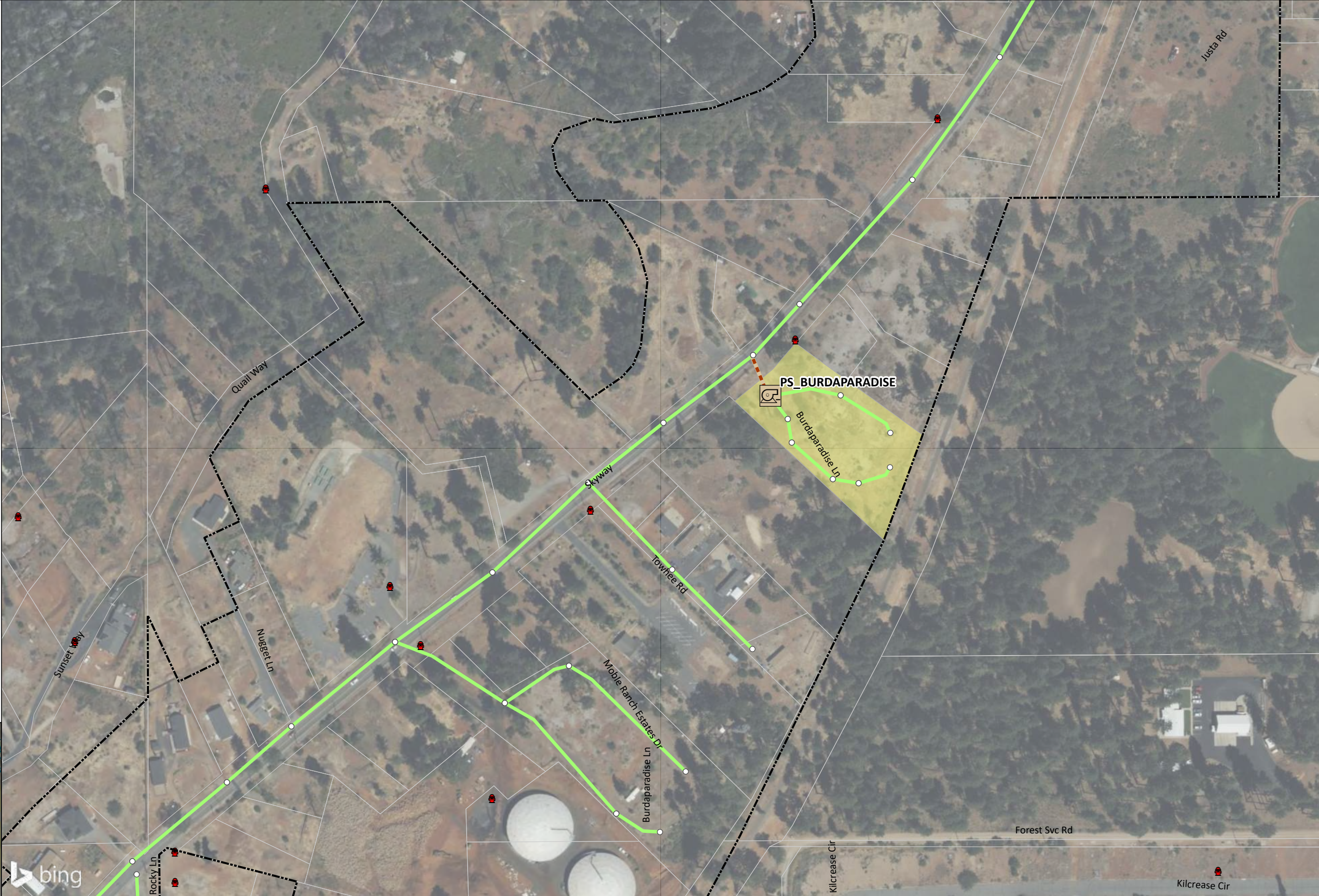






**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
-  8"
-  Tax Parcels
-  Pump Station Parcels












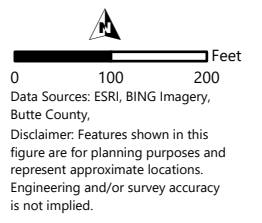
0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



- Legend**
-  Lift Station
  -  SSA Boundary
  -  Hydrant
  -  Manhole
  -  Force Main
  - Gravity Main by Diameter**
  -  8"
  -  Tax Parcels
  -  Creeks
  -  Pump Station Parcels



**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 6" - 12"
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**














Magalia

Paradise

bing



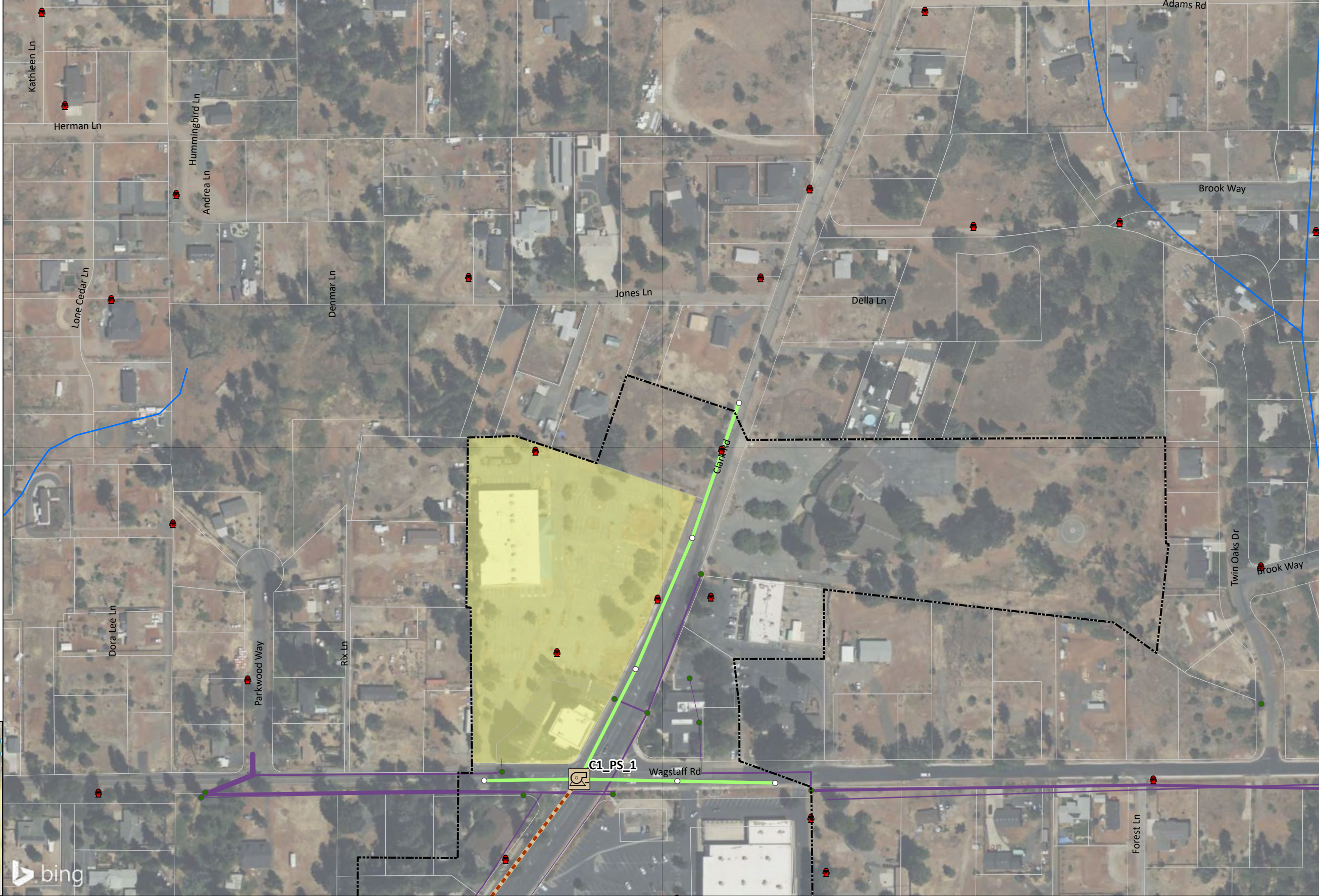
Legend

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
  -  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 6" - 12"
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**












Magalia

Paradise

bing



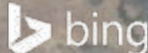
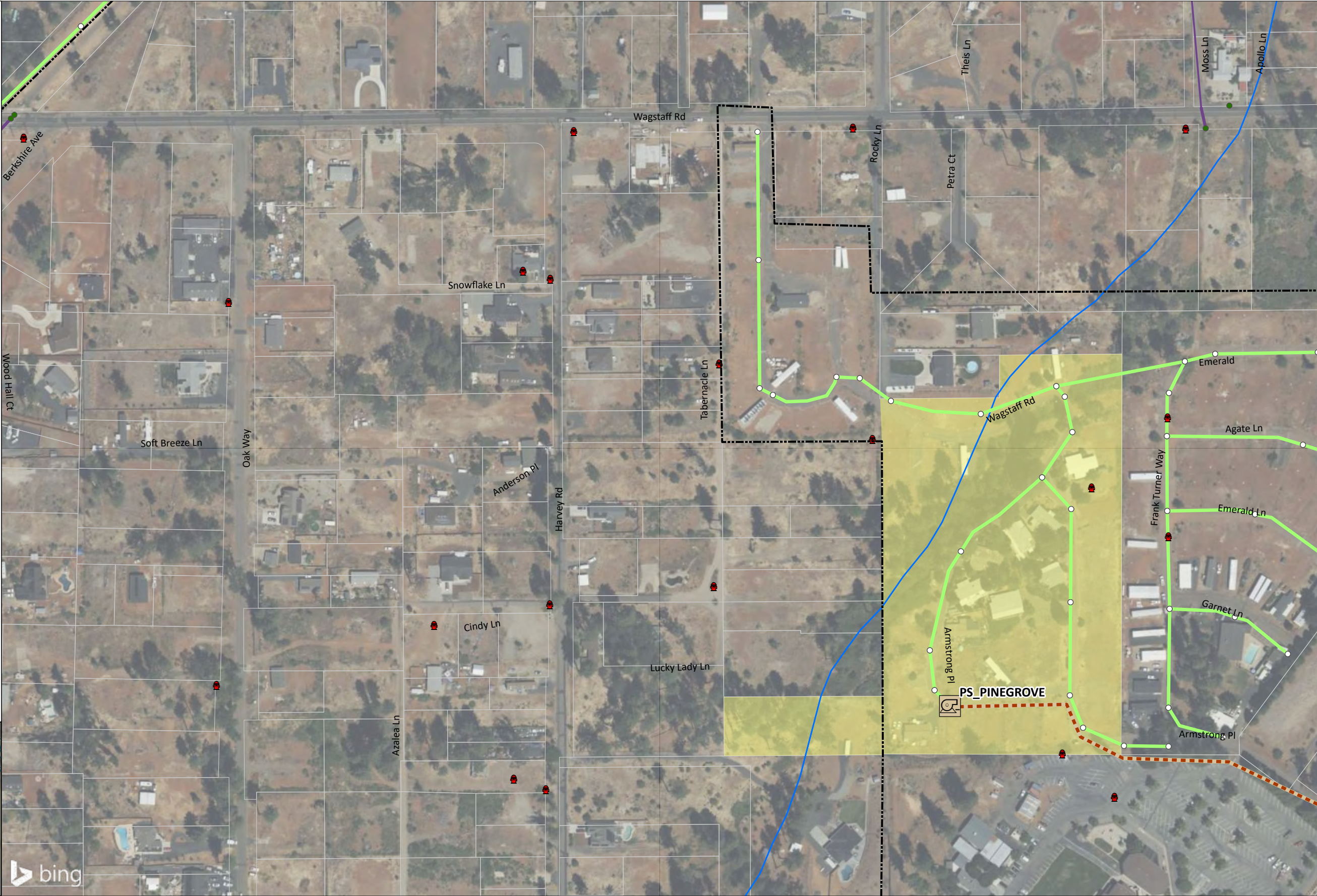
**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter
-  13" - 18"
-  19" - 30"
-  Stormwater Point Feature
-  Creeks














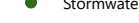
0 100 200 Feet


Data Sources: ESRI, BING Imagery, Butte County.  
Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
Magalia  
Paradise

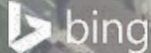
**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

 Feet  
0 100 200

Data Sources: ESRI, BING Imagery, Butte County.  
Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
Magalia  
Paradise






**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 6" - 12"
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**







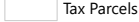






Magalia

Paradise

bing

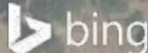


**Legend**
















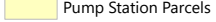
-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
 Magalia  
 Paradise

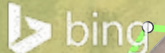
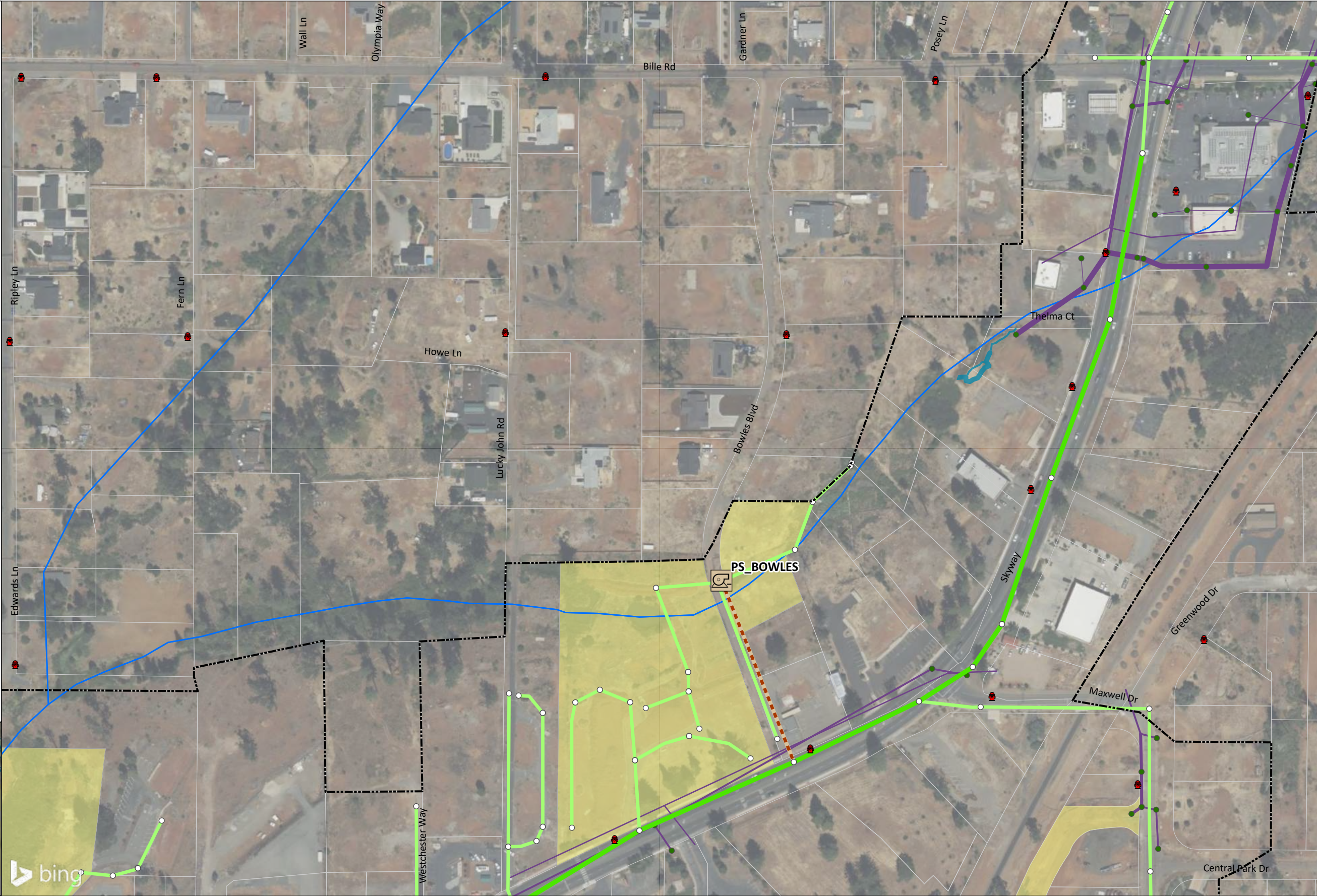



**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  10" - 12"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels
-  Intermittent Channel

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County,  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
 Magalia  
 Paradise

**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 6" - 12"
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**

Magalia














Paradise

Central Park Dr

bing



Legend

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

Vicinity Map

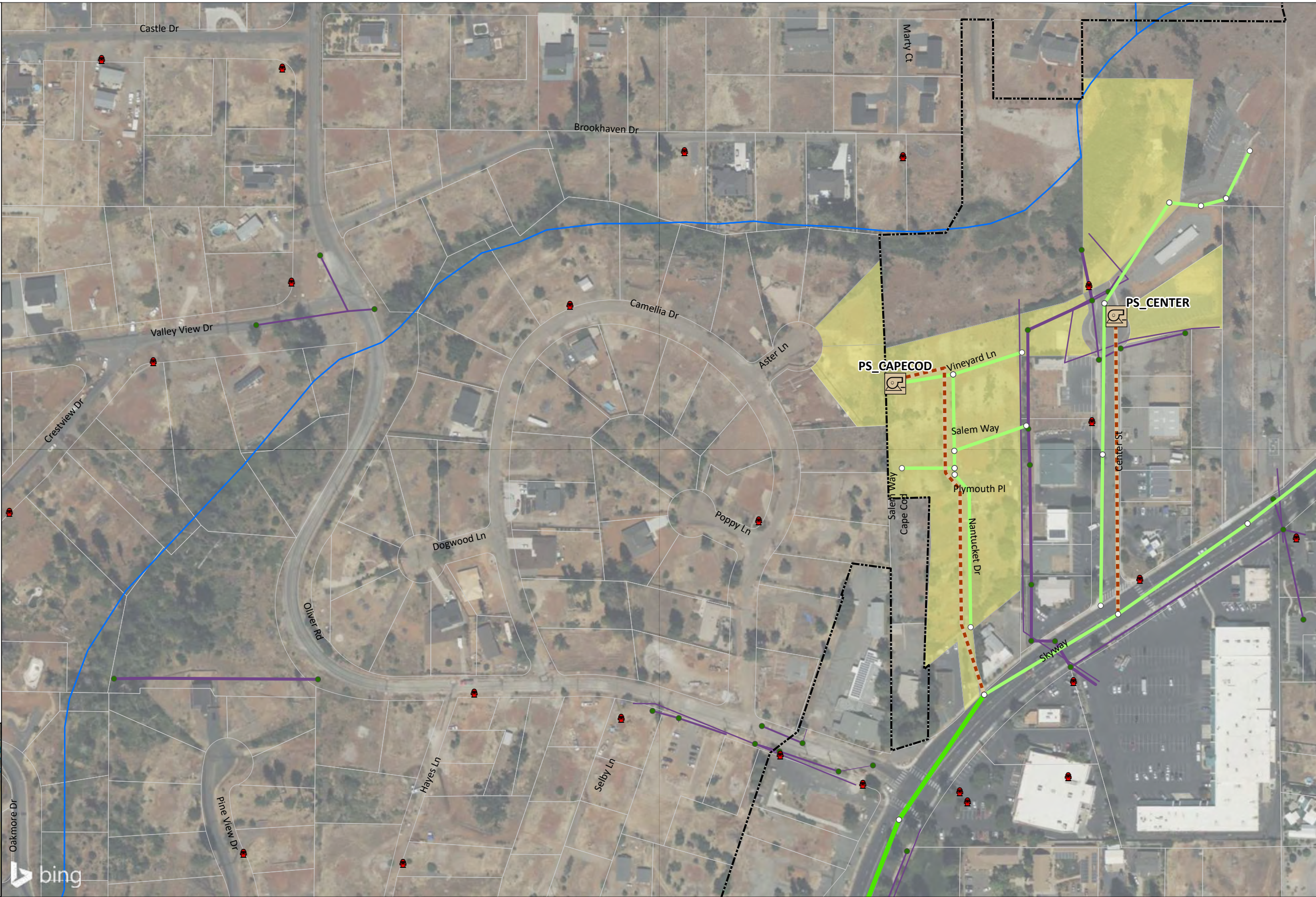


Magalia


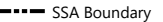


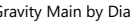








Paradise

Oakmore Dr

bing



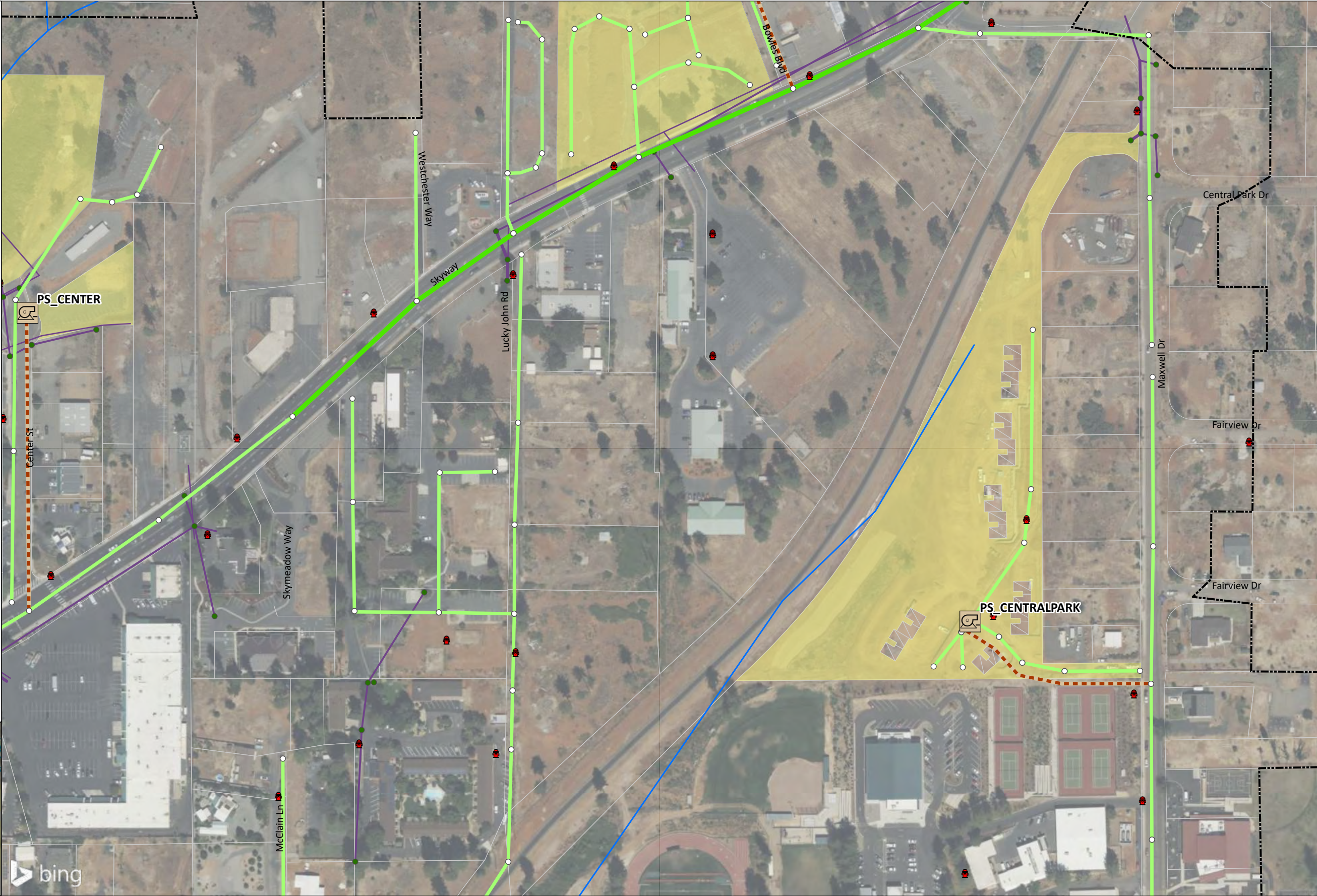
Legend

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  10" - 12"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels















0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



Legend

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  10" - 12"
-  Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**


















Magalia

Paradise




**Legend**


-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  10" - 12"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.













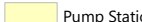

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**Vicinity Map**





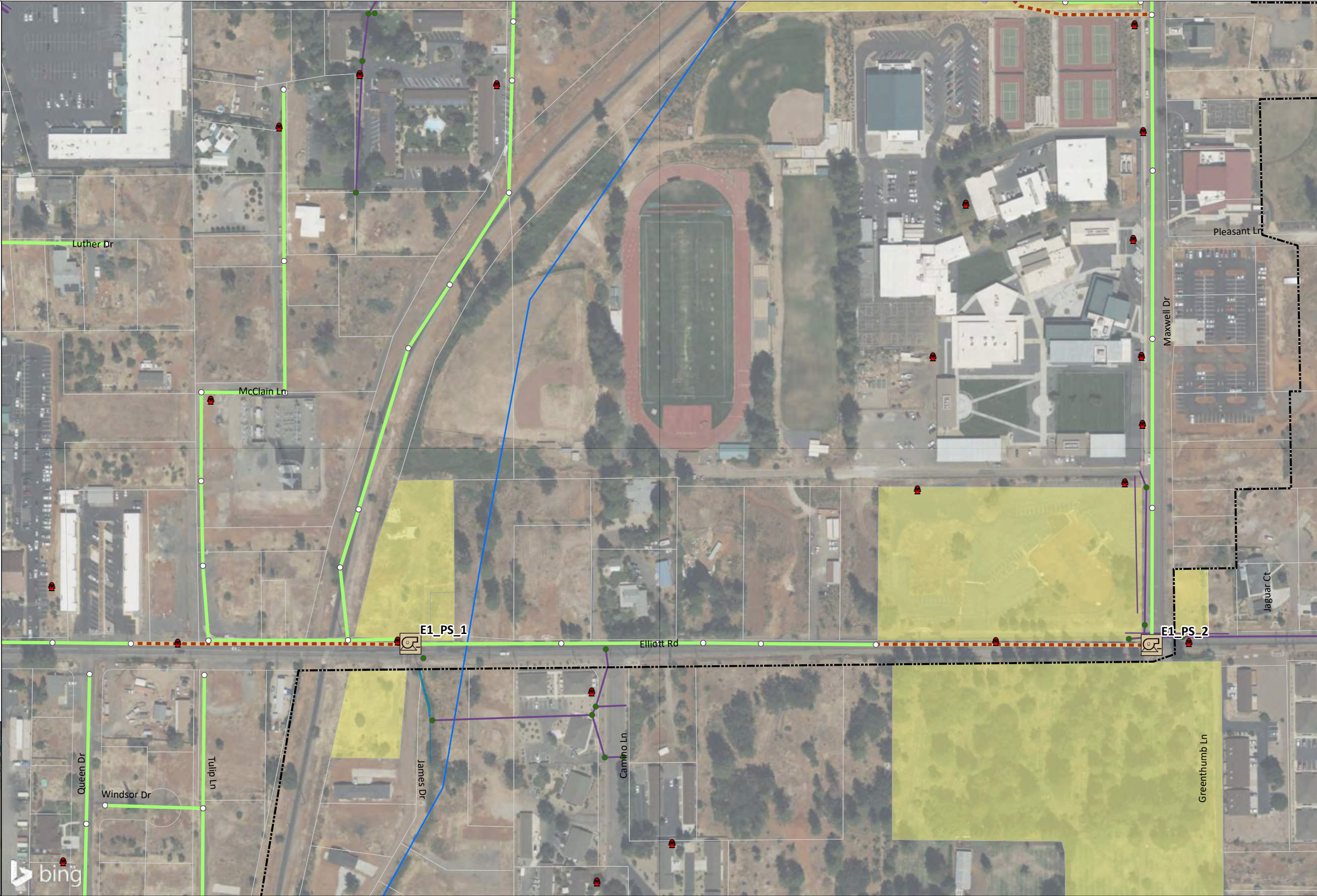

Legend

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels
-  Intermittent Channel
















0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



**Legend**


-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  10" - 12"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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**Vicinity Map**


















Magalia

Paradise

bing


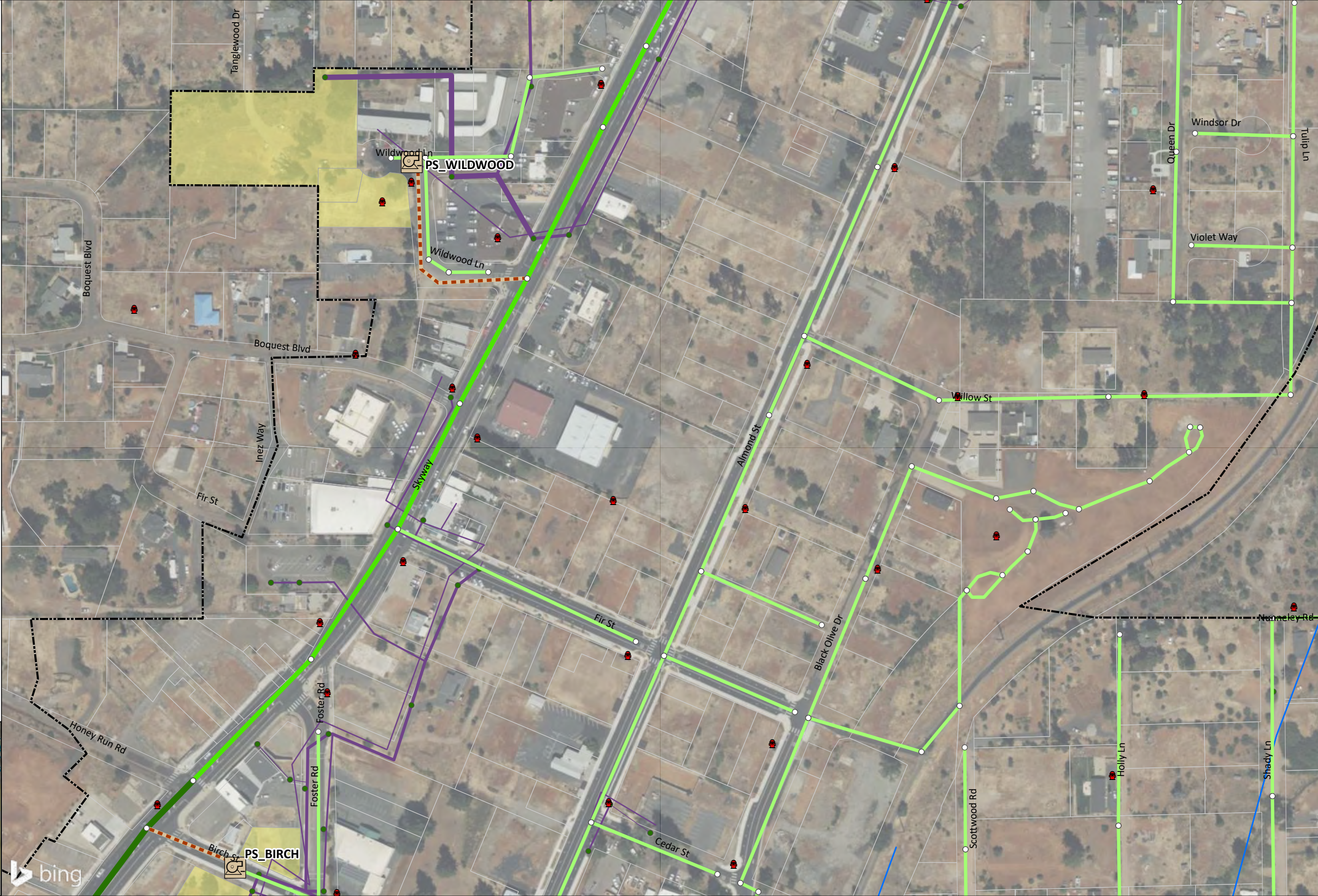


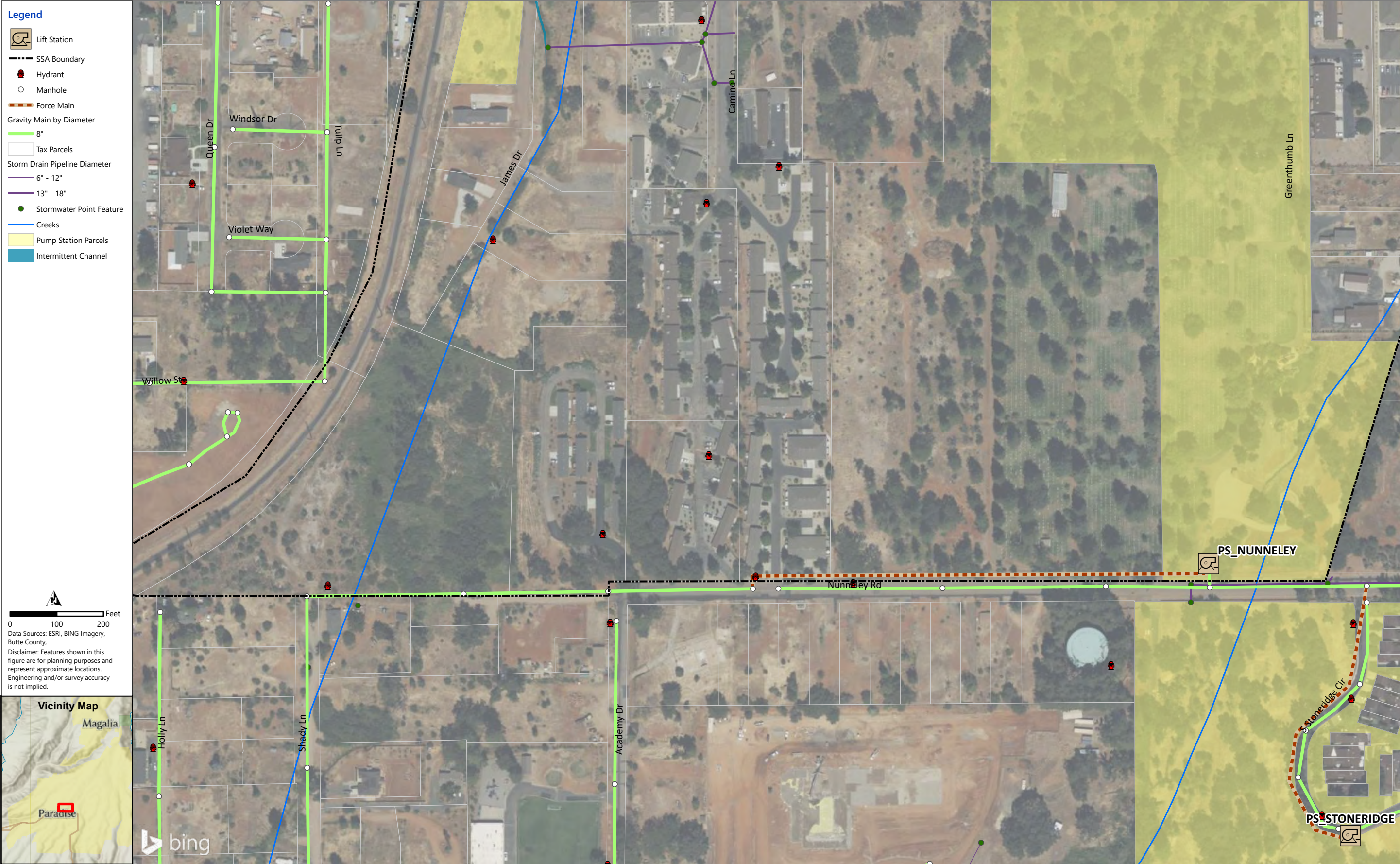
**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  10" - 12"
  -  15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
  -  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
 Magalia  
 Paradise


















- Legend**
- Lift Station
  - SSA Boundary
  - Hydrant
  - Manhole
  - Force Main
  - Gravity Main by Diameter
    - 8"
  - Tax Parcels
  - Storm Drain Pipeline Diameter
    - 6" - 12"
    - 13" - 18"
  - Stormwater Point Feature
  - Creeks
  - Pump Station Parcels
  - Intermittent Channel

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County,  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



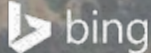


**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  10" - 12"
  -  15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
  -  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

**Vicinity Map**  
 Magalia  
 Paradise























**Legend**


- Lift Station
- SSA Boundary
- Hydrant
- Manhole
- Force Main
- Gravity Main by Diameter
  - 8"
  - 10" - 12"
  - 15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 6" - 12"
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks
- Pump Station Parcels
- Ephemeral Channel
- Intermittent Channel

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
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**Vicinity Map**  
 Magalia  
 Paradise



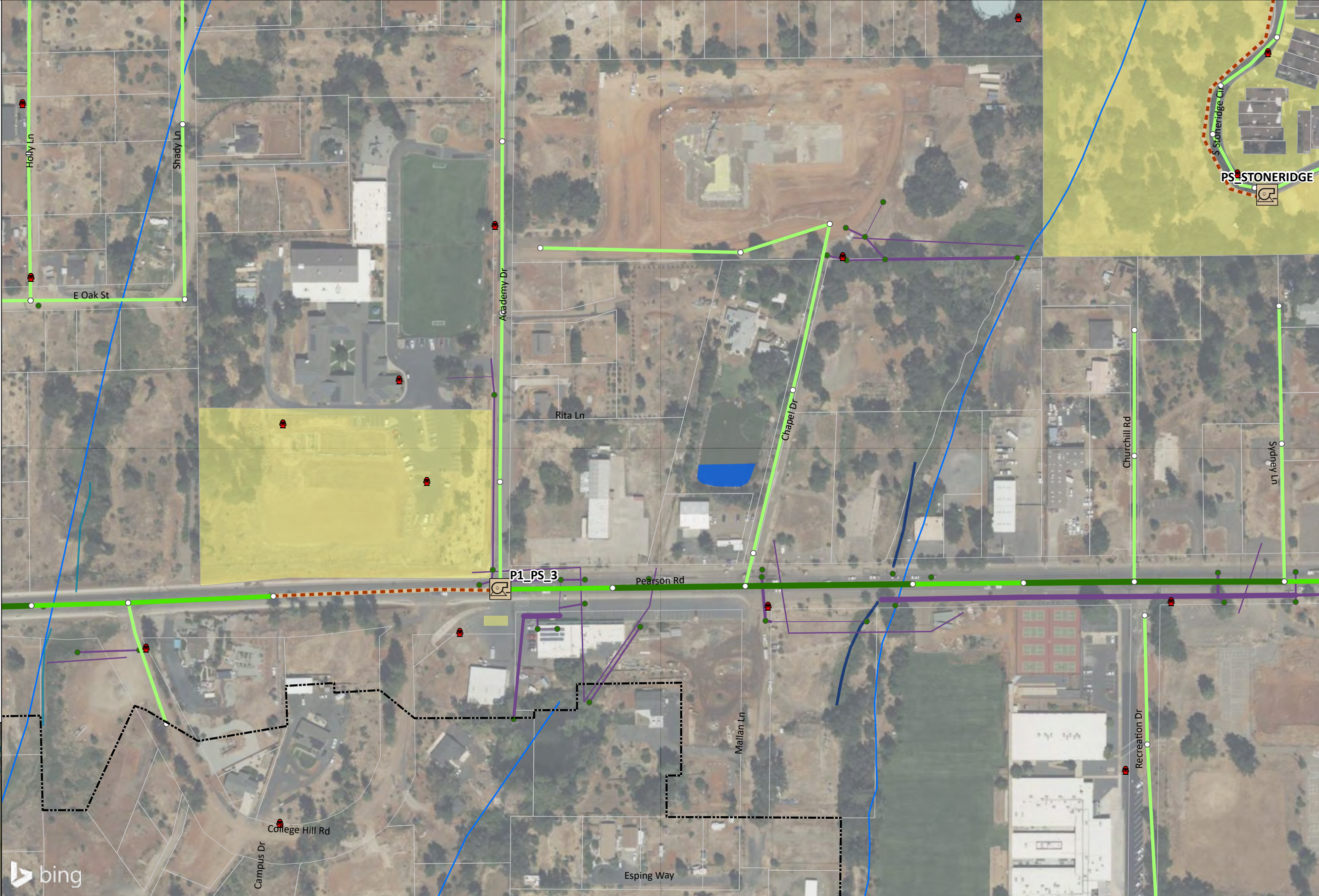
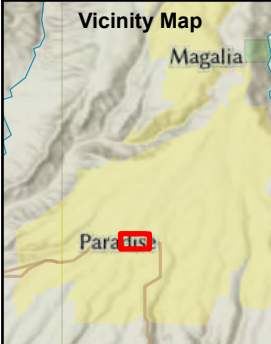
- Legend**
-  Lift Station
  -  SSA Boundary
  -  Hydrant
  -  Manhole
  -  Force Main
  - Gravity Main by Diameter**
  -  8"
  -  10" - 12"
  -  15" - 18"
  -  Tax Parcels
  - Storm Drain Pipeline Diameter**
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
  -  31" - 84"
  -  Stormwater Point Feature
  -  Creeks
  -  Pump Station Parcels
  -  Freshwater Pond
  -  Intermittent Channel
  -  Perennial Channel

 Feet

0 100 200

















Data Sources: ESRI, BING Imagery, Butte County.

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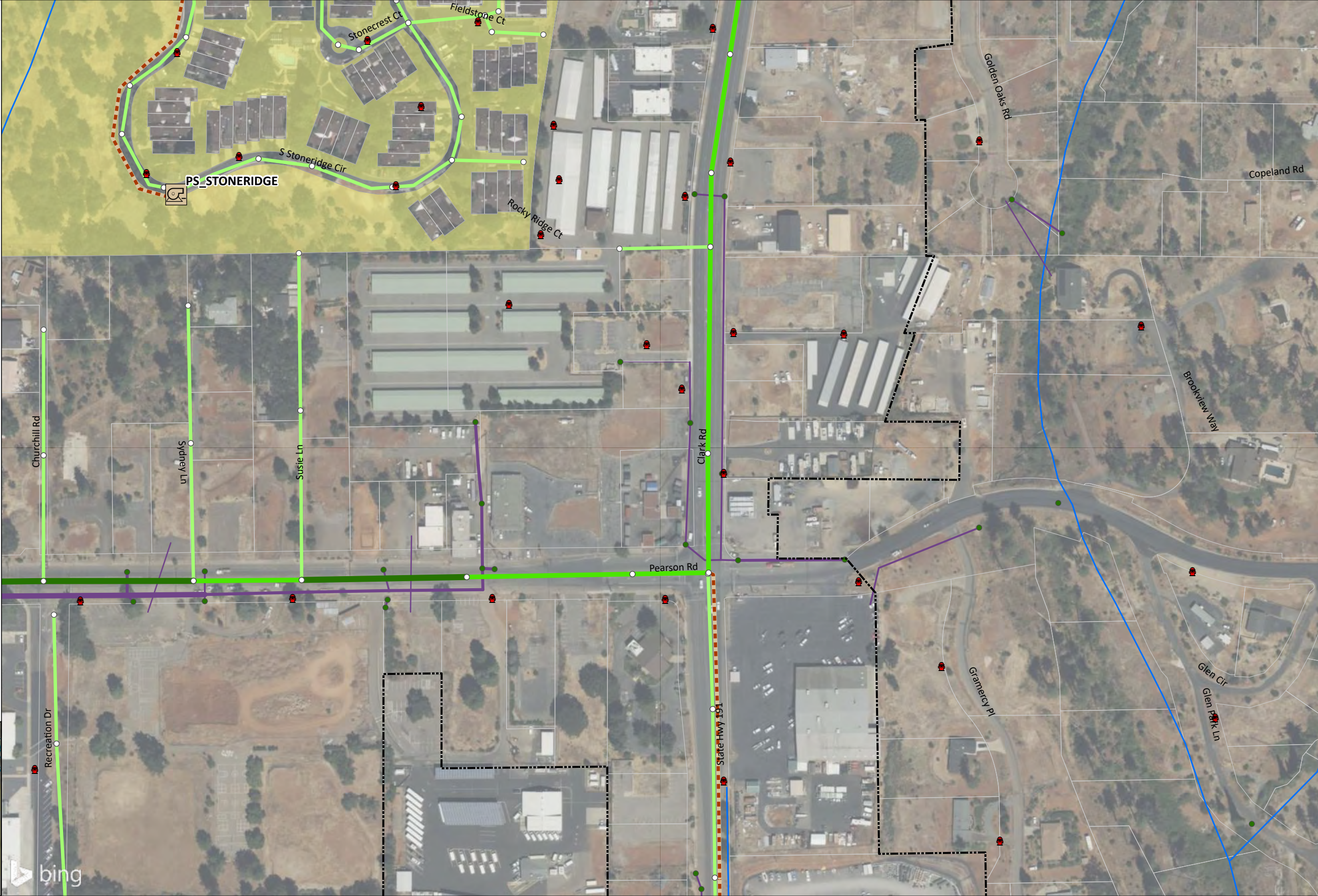
**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  10" - 12"
-  15" - 18"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

**Vicinity Map**

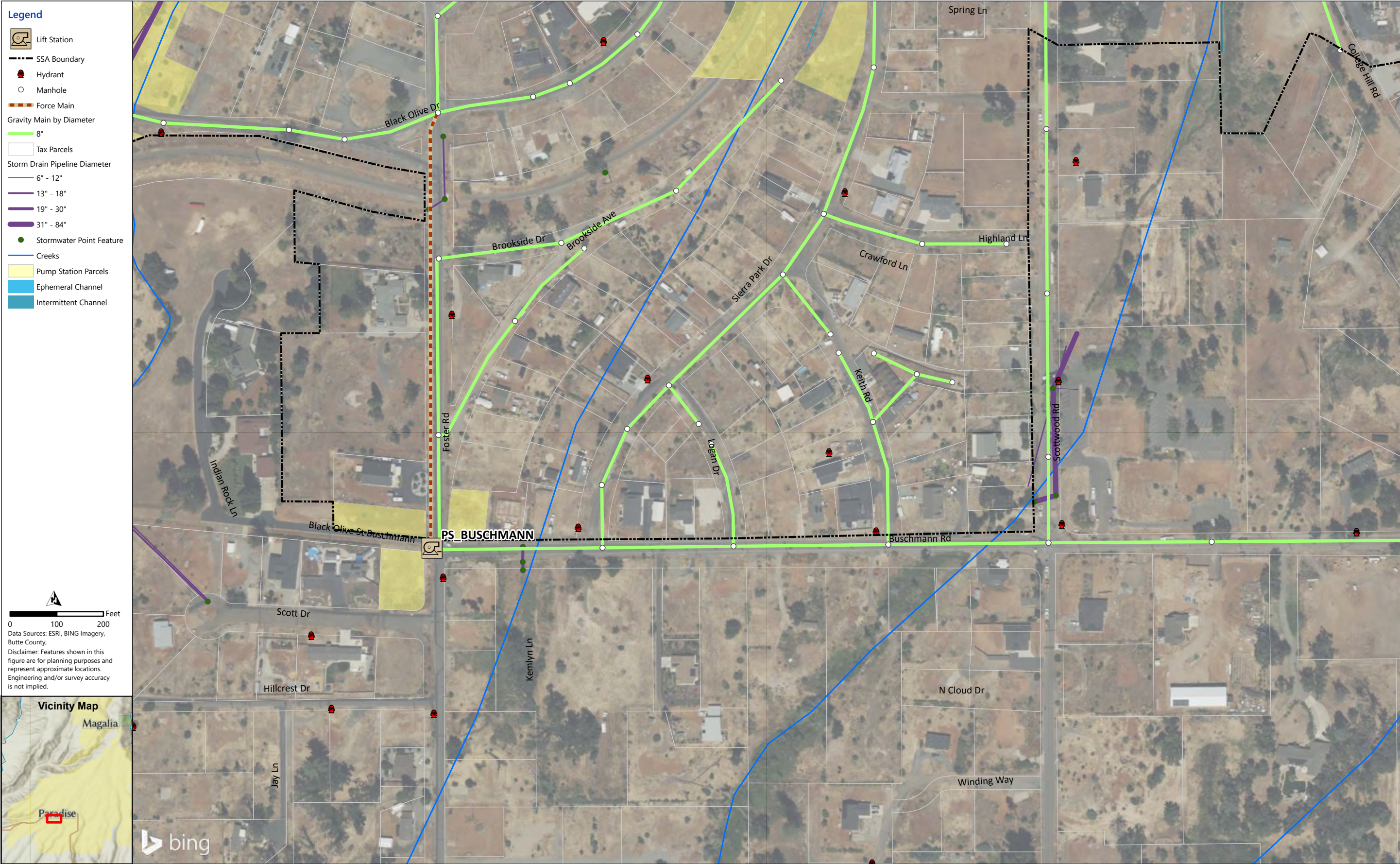


Magalia  
Paradise



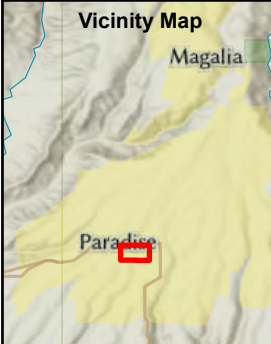
0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
 Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.



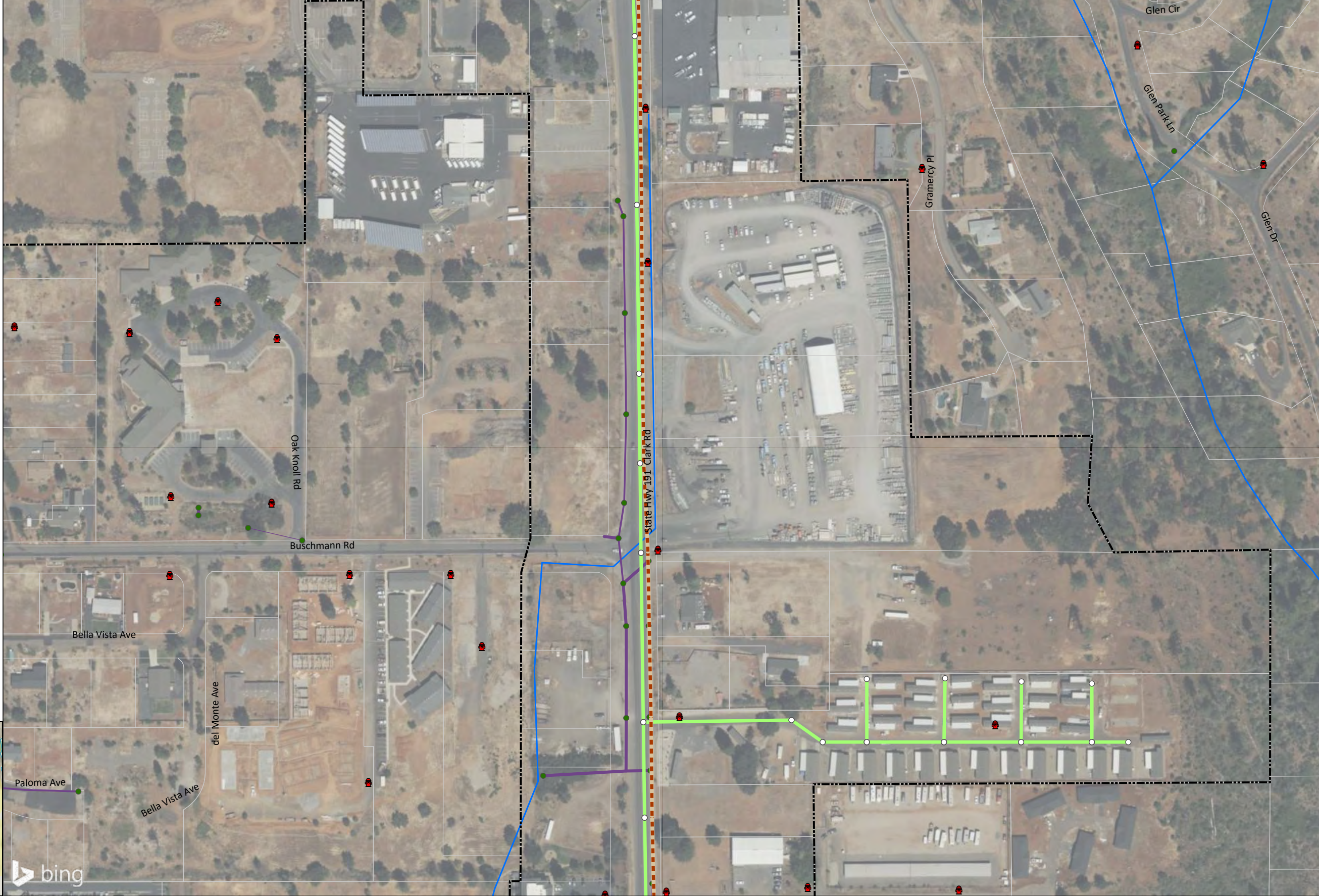
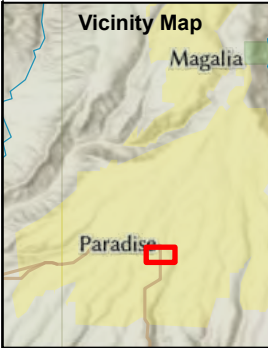
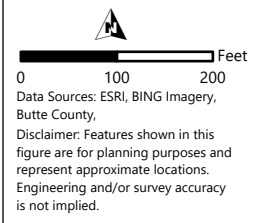


- Legend**
- SSA Boundary
  - Hydrant
  - Manhole
  - Gravity Main by Diameter
    - 8"
  - Tax Parcels
  - Storm Drain Pipeline Diameter
    - 13" - 18"
    - 19" - 30"
    - 31" - 84"
  - Stormwater Point Feature
  - Creeks
  - Intermittent Channel
  - Perennial Channel

0 100 200 Feet  
 Data Sources: ESRI, BING Imagery, Butte County.  
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- Legend**
- SSA Boundary
  - Hydrant
  - Manhole
  - Force Main
  - Gravity Main by Diameter
    - 8"
  - Tax Parcels
  - Storm Drain Pipeline Diameter
    - 6" - 12"
    - 13" - 18"
    - 19" - 30"
  - Stormwater Point Feature
  - Creeks



**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 13" - 18"
- Creeks

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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**Vicinity Map**














Magalia


Paradise

bing



Legend

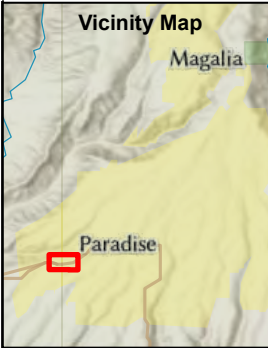
-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
  -  15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  6" - 12"
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

 Feet

0 100 200

Data Sources: ESRI, BING Imagery, Butte County.

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**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
  - 8"
  - 15" - 18"
- Tax Parcels
- Storm Drain Pipeline Diameter
  - 13" - 18"
  - 19" - 30"
  - 31" - 84"
- Stormwater Point Feature
- Creeks
- Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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**Vicinity Map**

Magalia







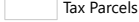






Paradise

bing





**Legend**


-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

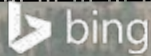
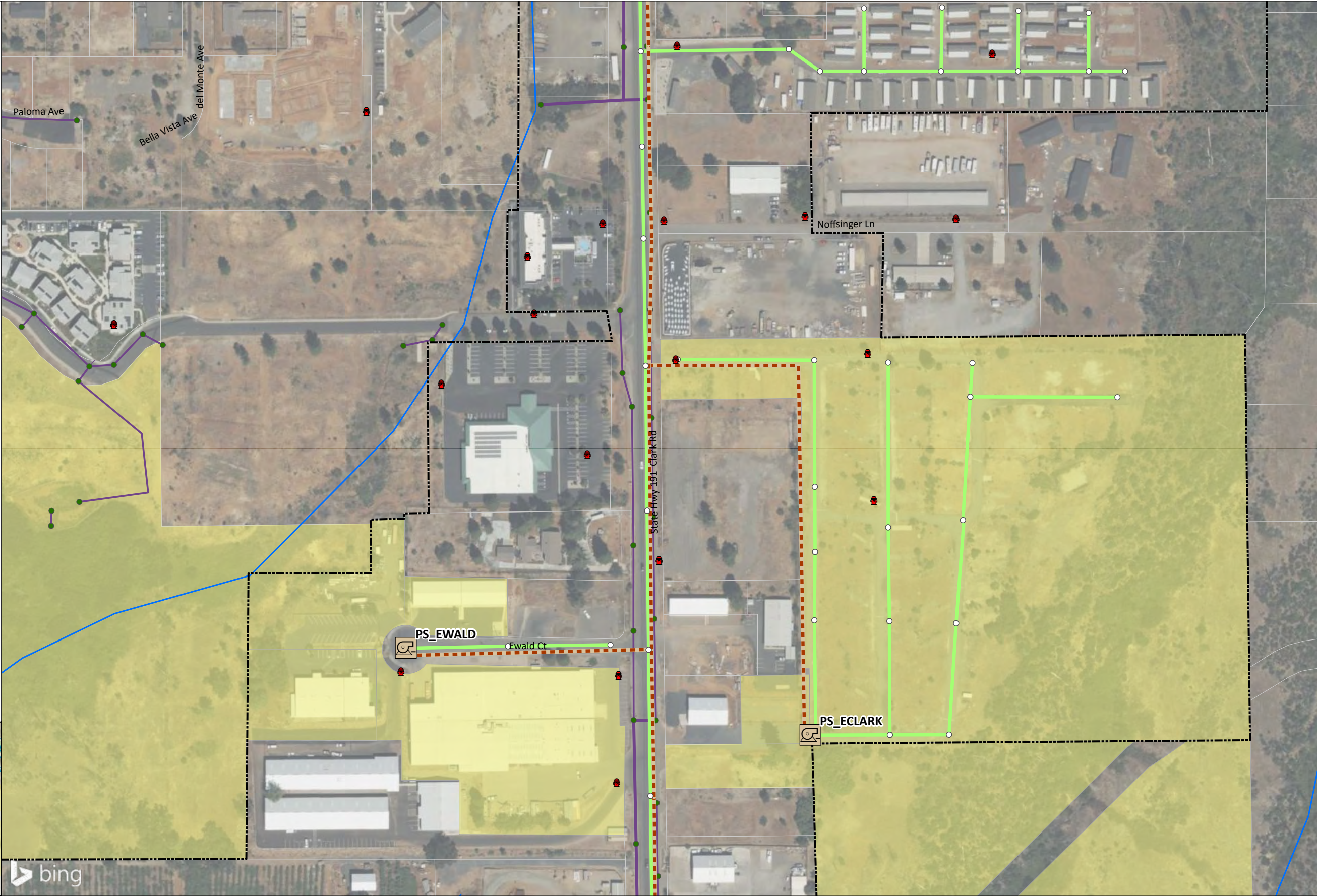
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**Vicinity Map**

















Magalia

Paradise


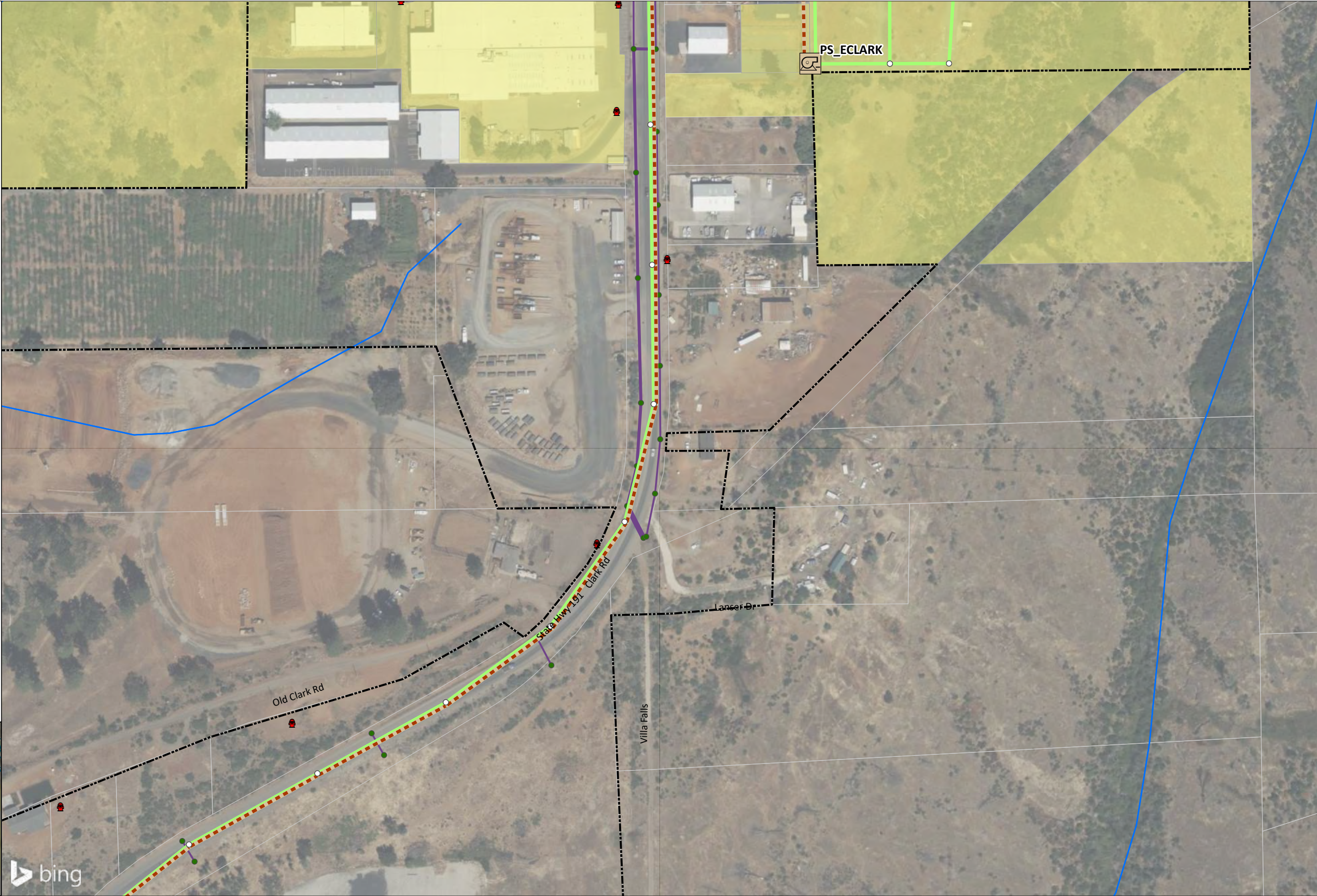
**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels












 Feet  
0 100 200

Data Sources: ESRI, BING Imagery, Butte County.  
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**Vicinity Map**  
Magalia  
Paradise

**Legend**

-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter
  -  8"
- Tax Parcels
- Storm Drain Pipeline Diameter
  -  13" - 18"
  -  19" - 30"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels


  

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

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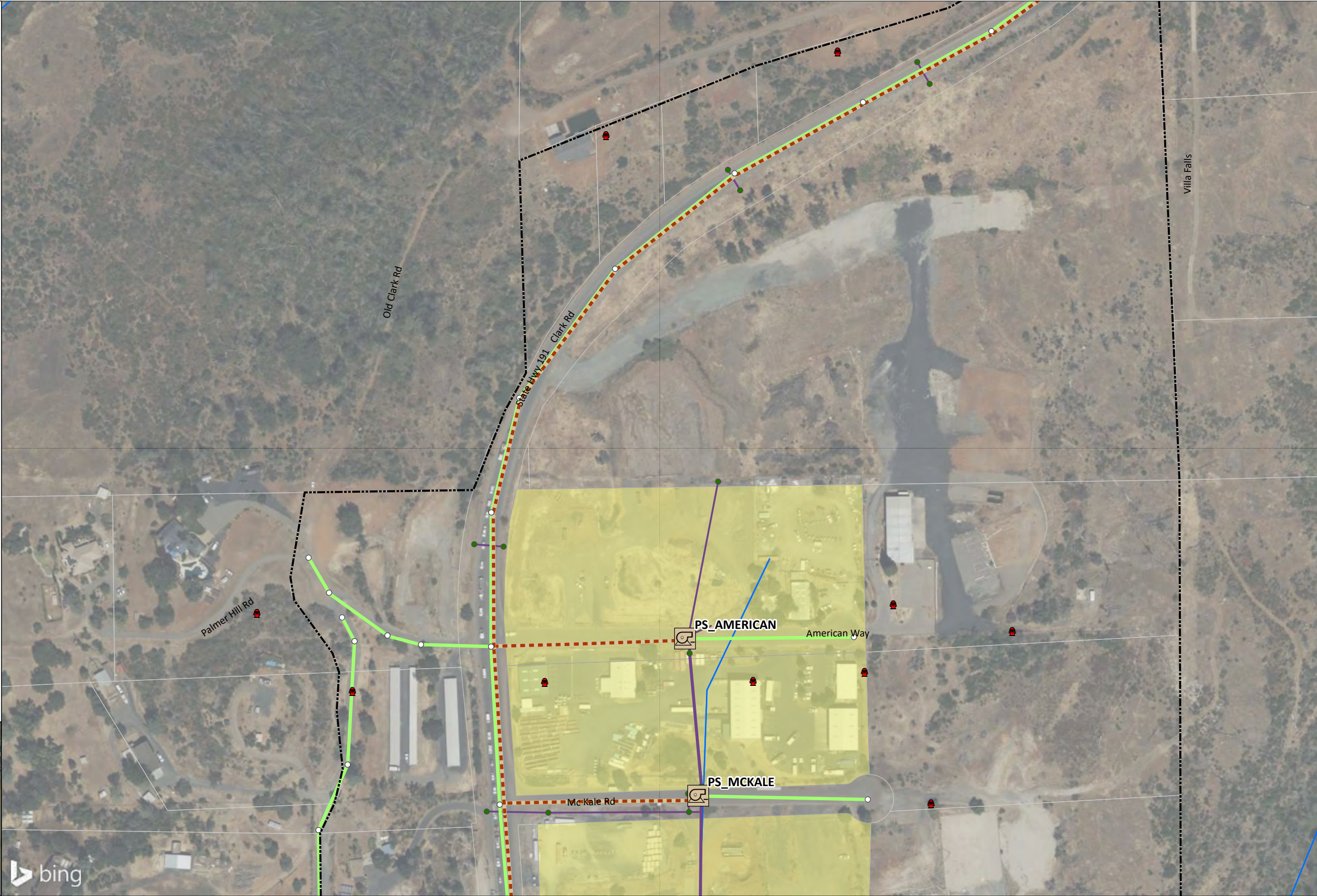
**Vicinity Map**

















Magalia

Paradise

bing



**Legend**


-  Lift Station
-  SSA Boundary
-  Hydrant
-  Manhole
-  Force Main
- Gravity Main by Diameter**
-  8"
-  Tax Parcels
- Storm Drain Pipeline Diameter**
-  6" - 12"
-  13" - 18"
-  19" - 30"
-  31" - 84"
-  Stormwater Point Feature
-  Creeks
-  Pump Station Parcels

0 100 200 Feet

Data Sources: ESRI, BING Imagery, Butte County.

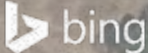
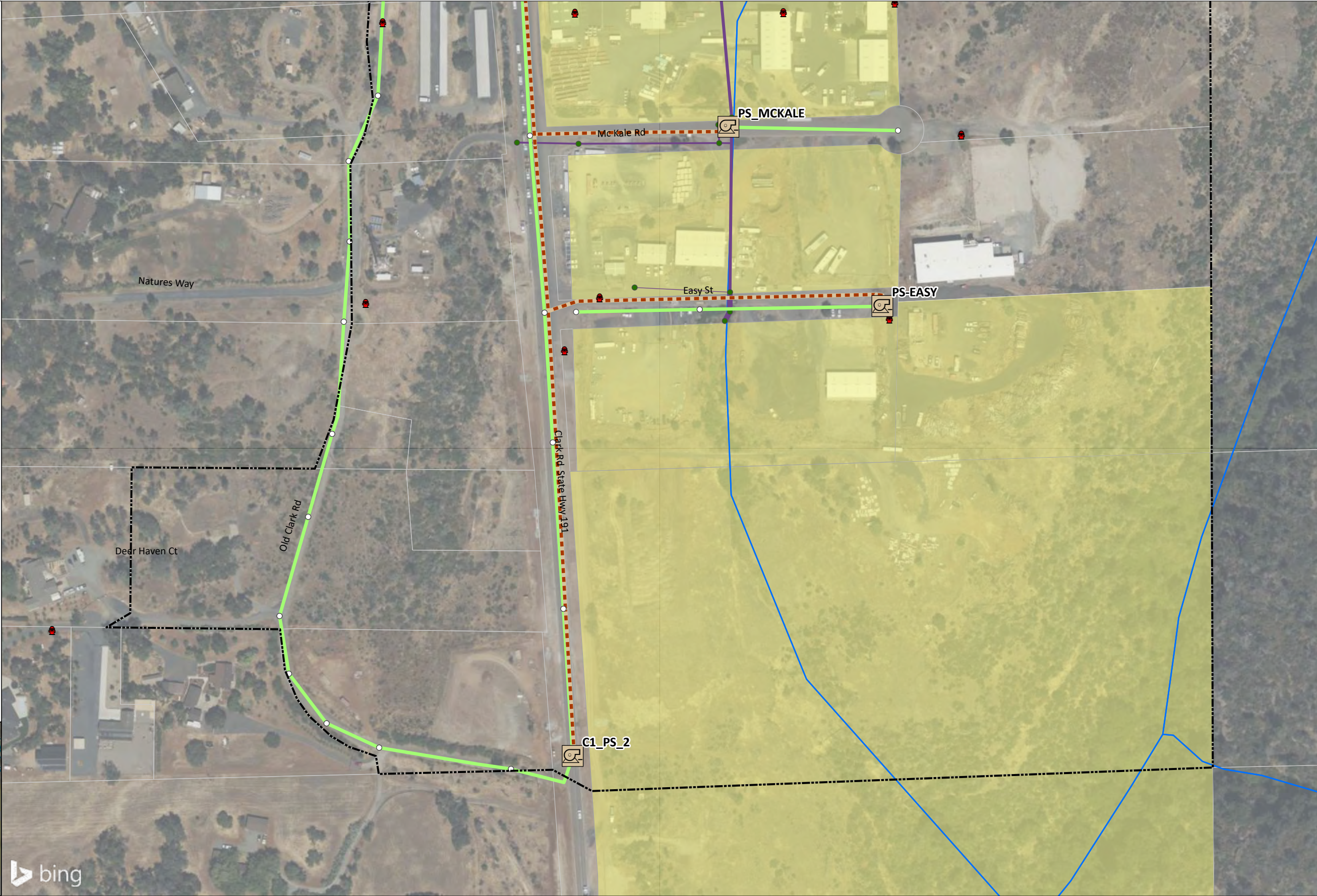
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**Vicinity Map**



Magalia

Paradise

**Legend**

- SSA Boundary
- Hydrant
- Manhole
- Gravity Main by Diameter
- 15" - 18"
- Tax Parcels
- Creeks
- Ephemeral Channel
- Seep
- Slope Seep
- Swale
- Vernal Pool



0 100 200 Feet

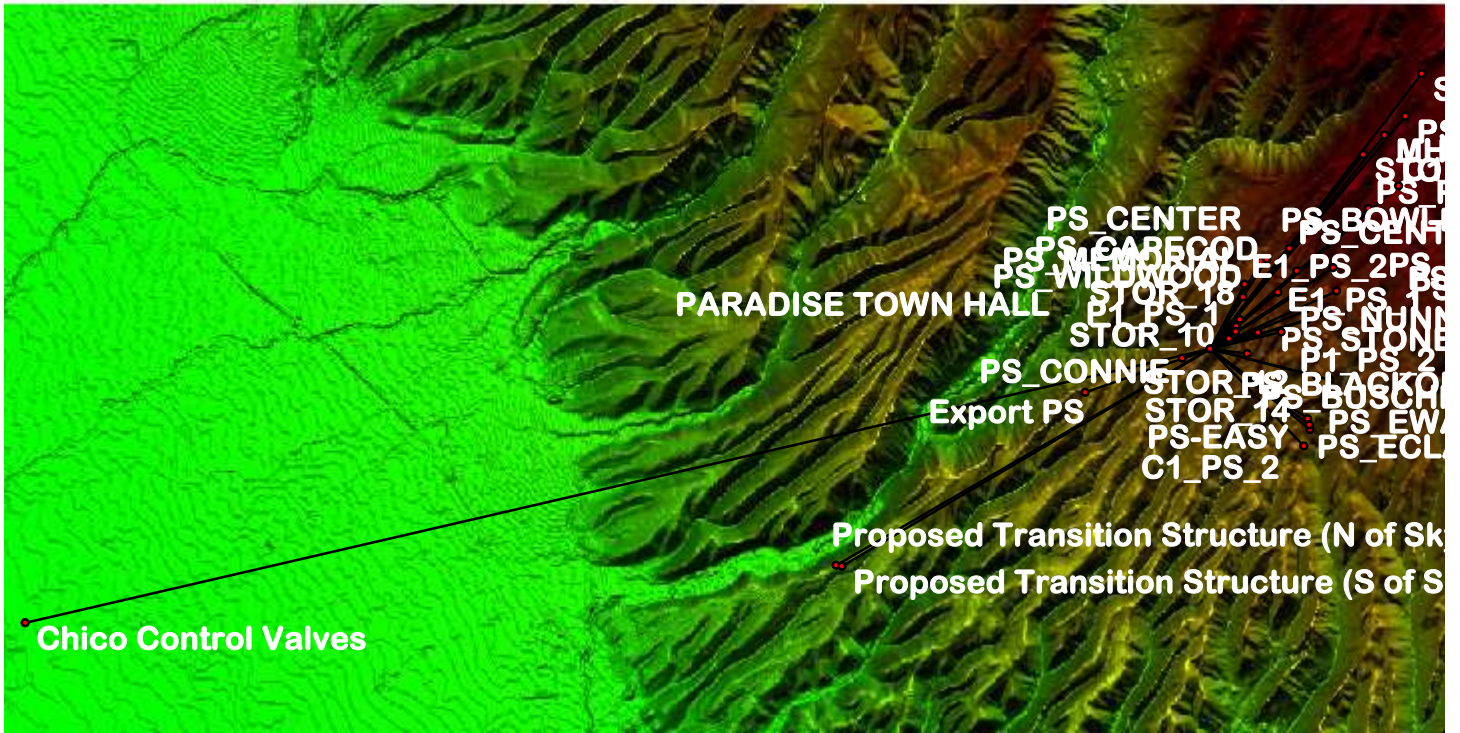
Data Sources: ESRI, BING Imagery, Butte County.

Disclaimer: Features shown in this figure are for planning purposes and represent approximate locations. Engineering and/or survey accuracy is not implied.

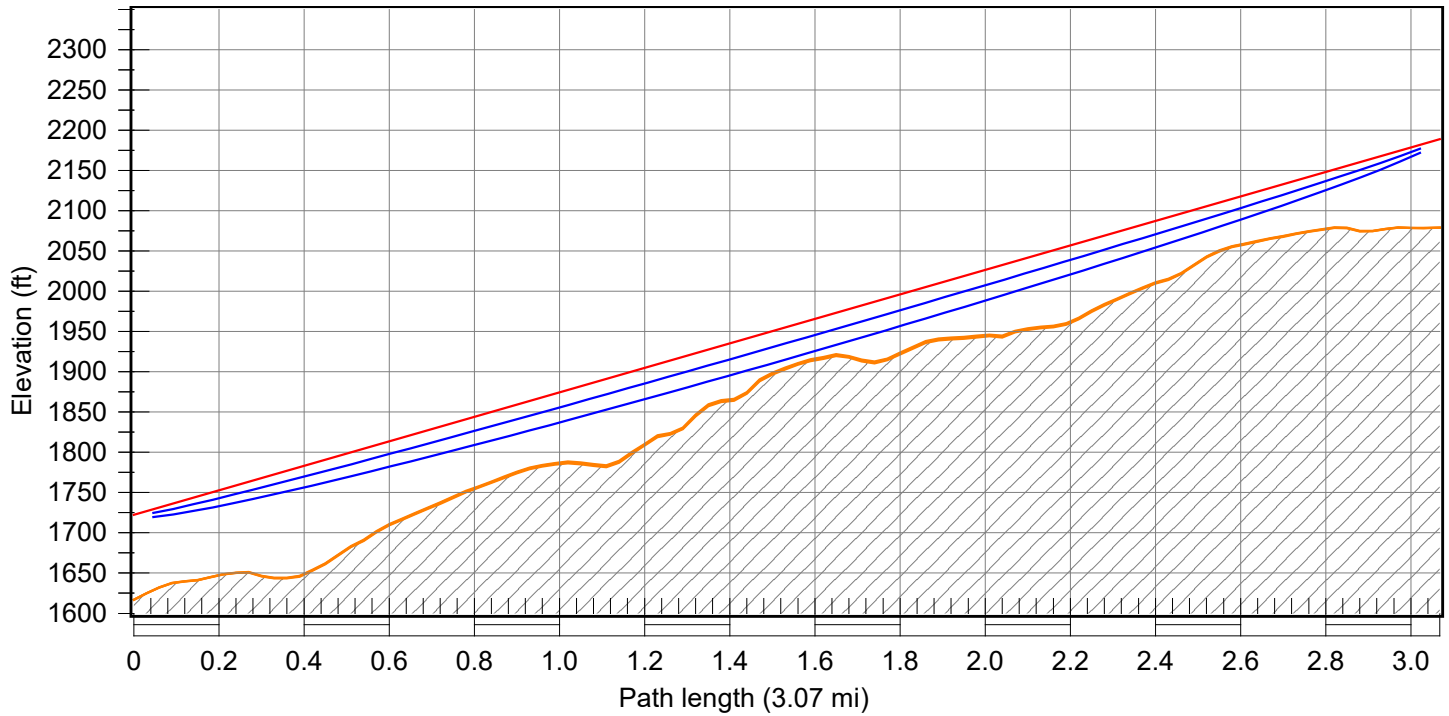


APPENDIX F

# RADIO PATH VERIFICATION



Transmission summary (PARADISE TOWN HALL-C1\_PS\_1.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

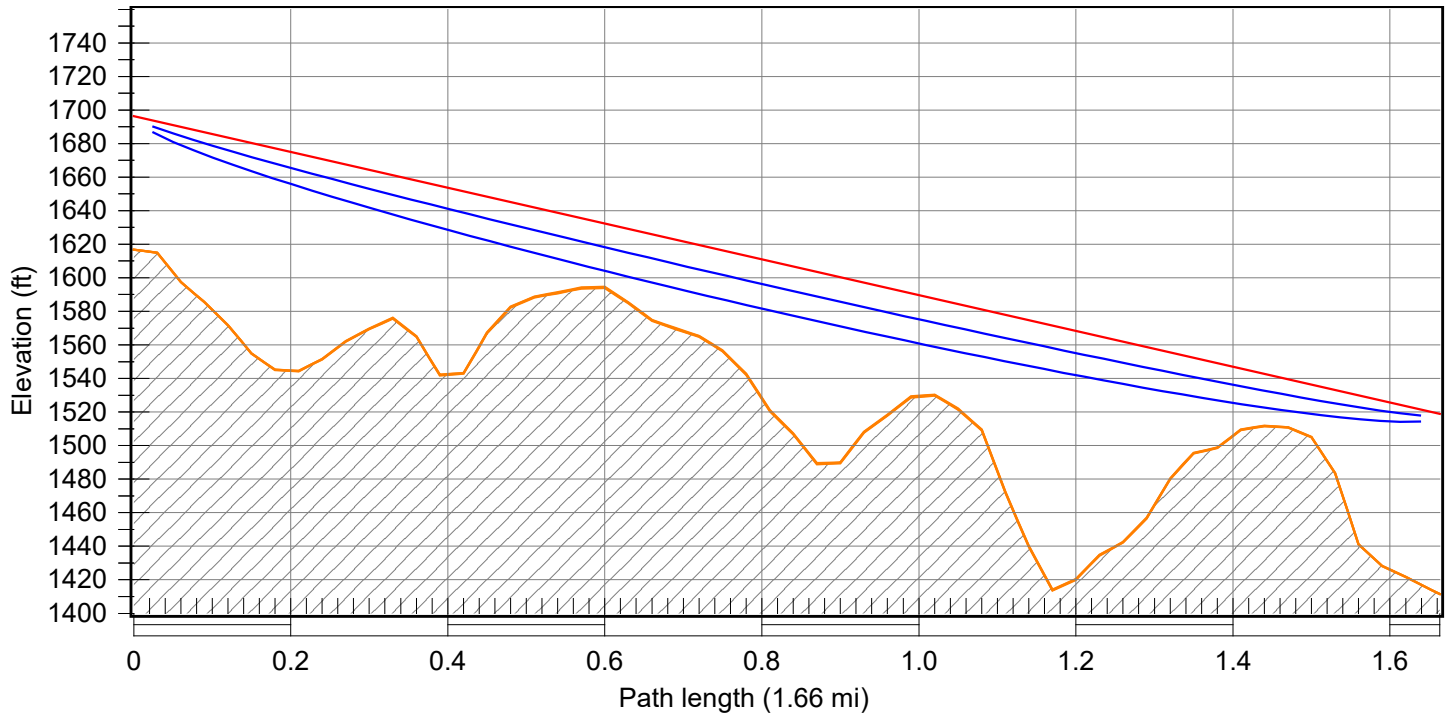
	PARADISE TOWN HALL	C1_PS_1
Latitude	39 44 57.56 N	39 46 42.20 N
Longitude	121 38 02.22 W	121 35 25.30 W
True azimuth (°)	49.16	229.18
Vertical angle (°)	1.63	-1.67
Elevation (ft)	1616.72	2079.02
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	105.67	109.61
TX line length (ft)	181.95	186.56
TX loss (dB)	4.64	4.73
RX loss (dB)	4.64	4.73
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.51	39.42
Receive signal (dBm)	-62.52	-62.52
Thermal fade margin (dB)	27.48	27.48



	PARADISE TOWN HALL	C1_PS_1
Effective fade margin (dB)	27.48	27.48
Annual 2 way multipath availability (%)	99.99998	
Annual 2 way multipath unavailability (sec)	6.63	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-C1\_PS\_2.pl5)



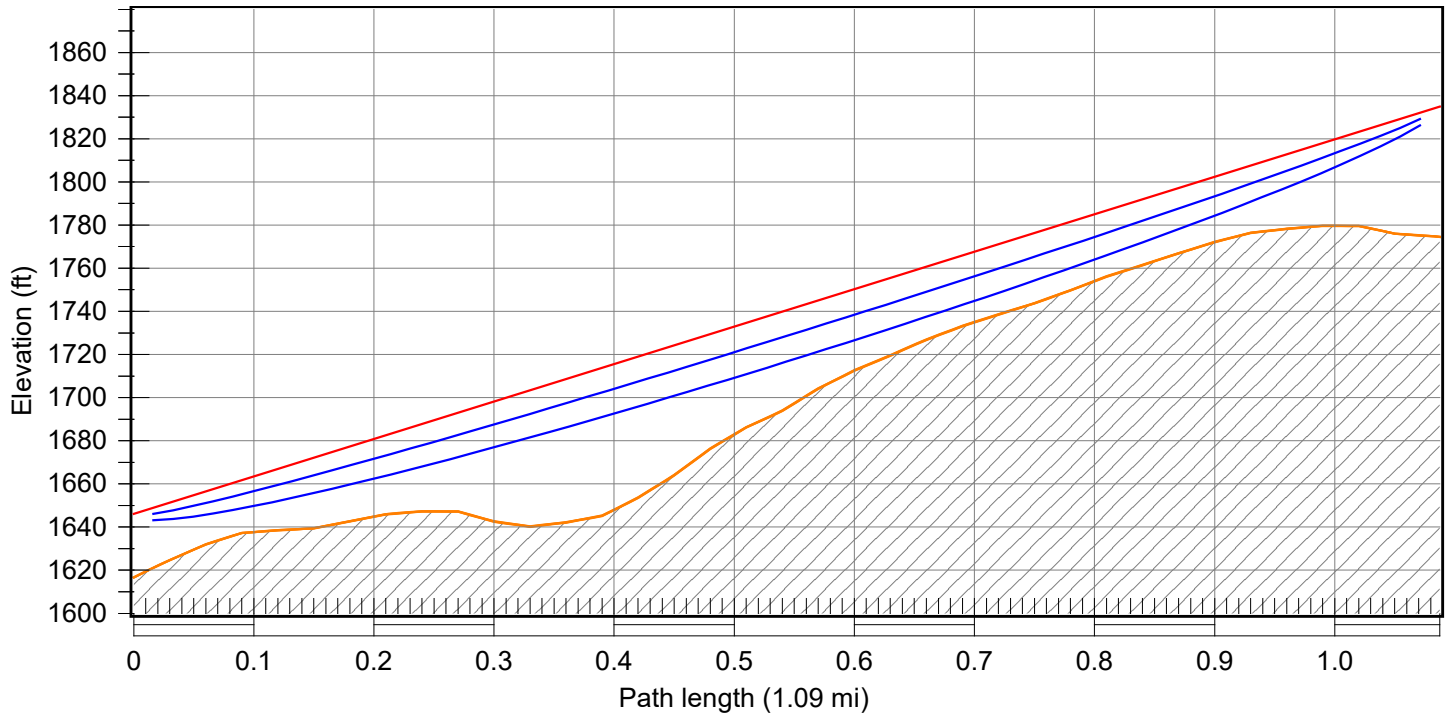
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	C1_PS_2
Latitude	39 44 57.56 N	39 43 55.02 N
Longitude	121 38 02.22 W	121 36 44.28 W
True azimuth (°)	136.10	316.11
Vertical angle (°)	-1.17	1.15
Elevation (ft)	1616.72	1411.50
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	79.67	107.38
TX line length (ft)	152.82	168.55
TX loss (dB)	4.06	4.37
RX loss (dB)	4.06	4.37
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.09	39.78
Receive signal (dBm)	-56.25	-56.25
Thermal fade margin (dB)	33.75	33.75
Effective fade margin (dB)	33.75	33.75

	PARADISE TOWN HALL	C1_PS_2
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.13	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-E1\_PS\_1.pl5)



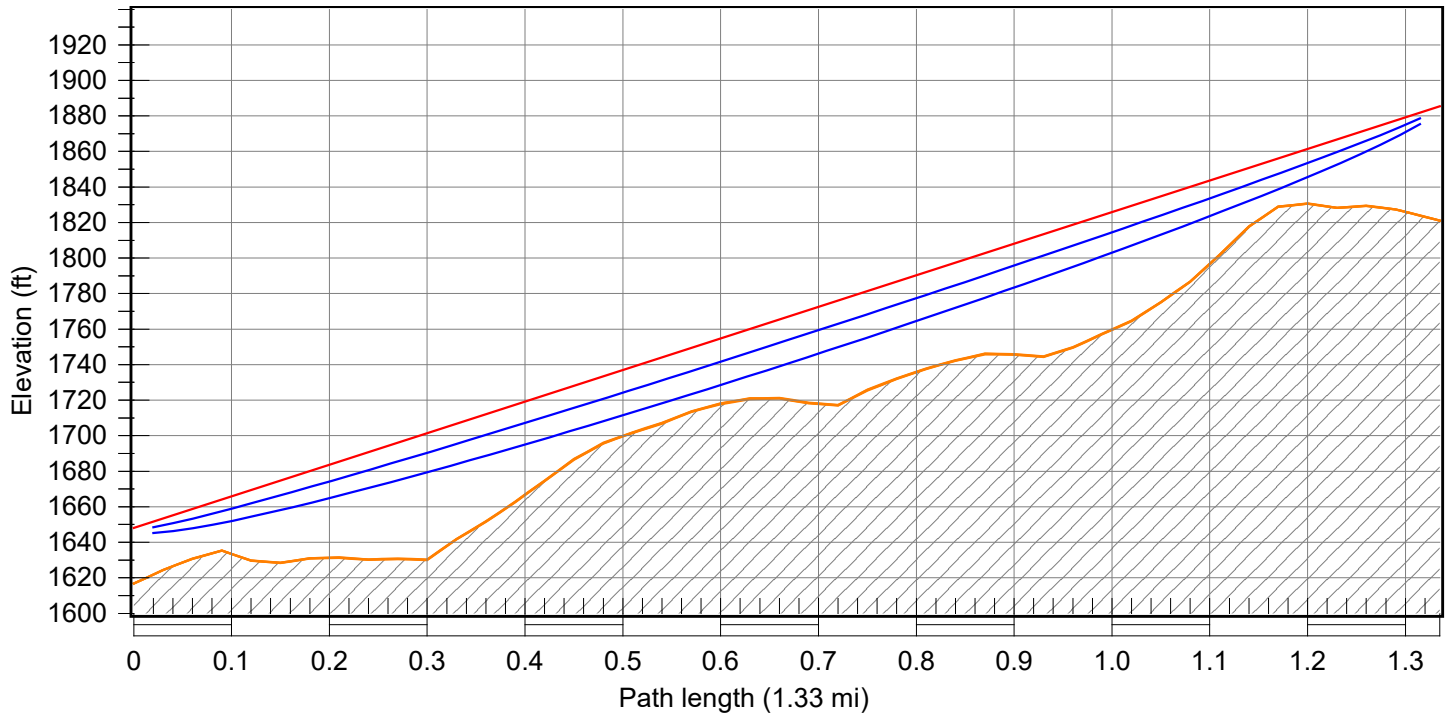
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	E1_PS_1
Latitude	39 44 57.56 N	39 45 33.77 N
Longitude	121 38 02.22 W	121 37 05.63 W
True azimuth (°)	50.34	230.35
Vertical angle (°)	1.88	-1.89
Elevation (ft)	1616.72	1774.55
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	29.41	60.30
TX line length (ft)	93.80	126.06
TX loss (dB)	2.88	3.52
RX loss (dB)	2.88	3.52
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.27	40.63
Receive signal (dBm)	-50.52	-50.52
Thermal fade margin (dB)	39.48	39.48

	PARADISE TOWN HALL	E1_PS_1
Effective fade margin (dB)	39.48	39.48
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.02	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-E1\_PS\_2.pl5)



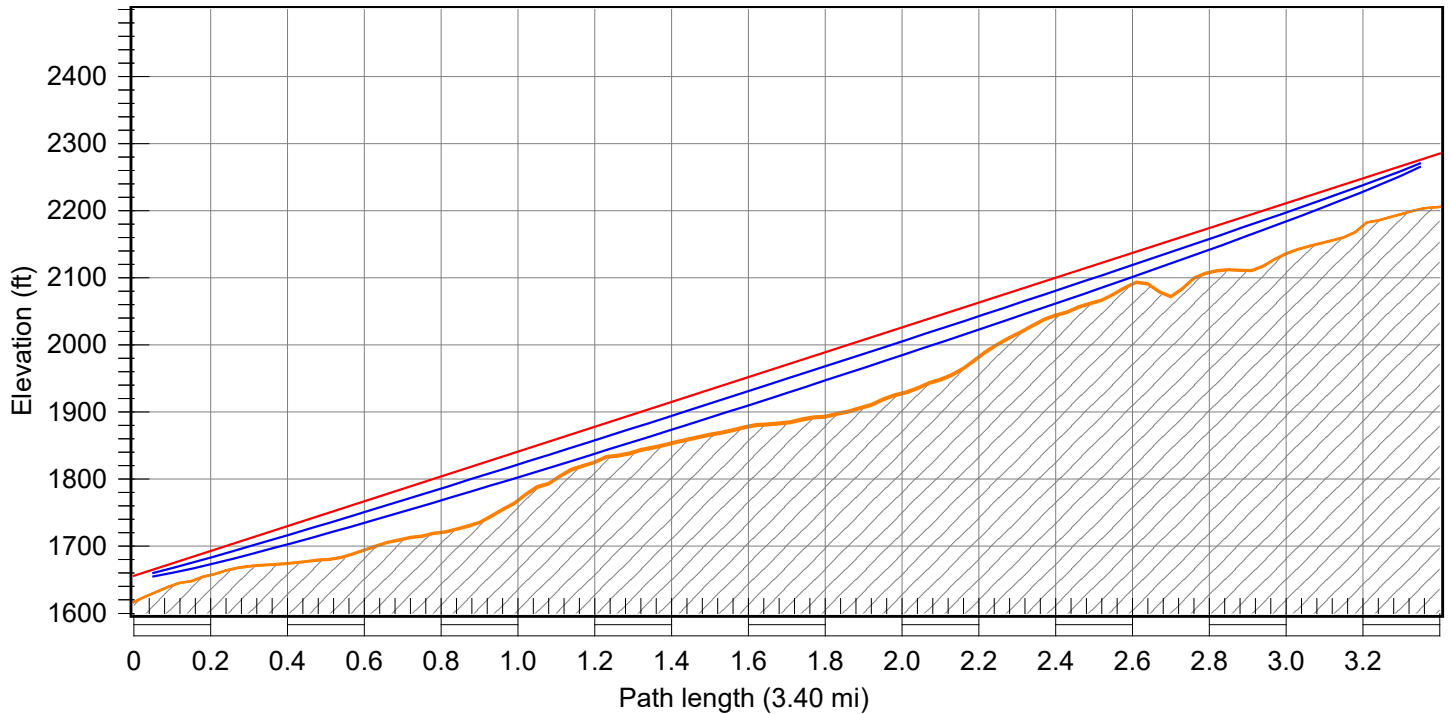
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	E1_PS_2
Latitude	39 44 57.56 N	39 45 34.56 N
Longitude	121 38 02.22 W	121 36 45.76 W
True azimuth (°)	57.91	237.92
Vertical angle (°)	1.92	-1.94
Elevation (ft)	1616.72	1821.12
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	31.34	64.31
TX line length (ft)	104.24	124.27
TX loss (dB)	3.08	3.49
RX loss (dB)	3.08	3.49
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.07	40.66
Receive signal (dBm)	-52.48	-52.48
Thermal fade margin (dB)	37.52	37.52

	PARADISE TOWN HALL	E1_PS_2
Effective fade margin (dB)	37.52	37.52
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.05	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-MH\_C\_142.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

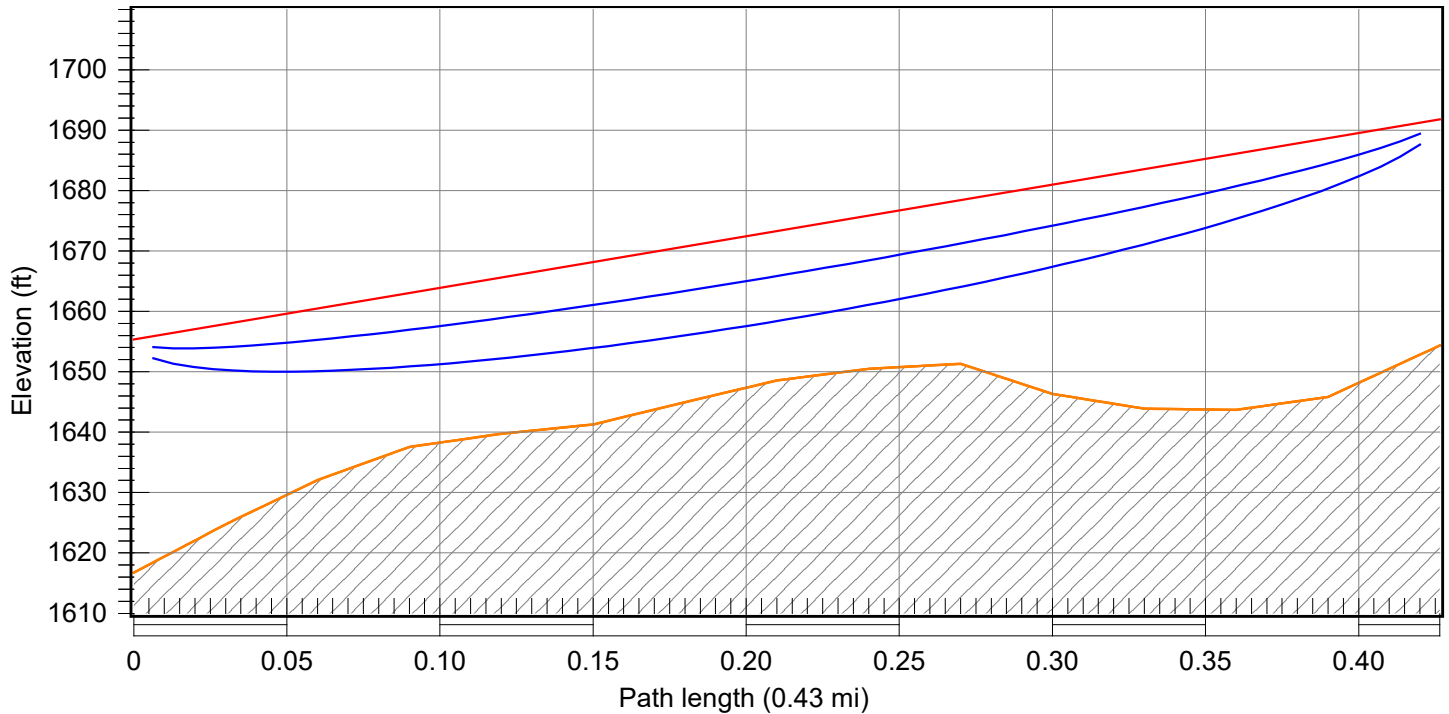
	PARADISE TOWN HALL	MH_C_142
Latitude	39 44 57.56 N	39 47 14.93 N
Longitude	121 38 02.22 W	121 35 36.74 W
True azimuth (°)	39.24	219.27
Vertical angle (°)	1.99	-2.03
Elevation (ft)	1616.72	2205.82
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	39.15	79.06
TX line length (ft)	119.00	150.87
TX loss (dB)	3.38	4.02
RX loss (dB)	3.38	4.02
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.77	40.13
Receive signal (dBm)	-61.44	-61.44
Thermal fade margin (dB)	28.56	28.56



	PARADISE TOWN HALL	MH_C_142
Effective fade margin (dB)	28.56	28.56
Annual 2 way multipath availability (%)	99.99998	
Annual 2 way multipath unavailability (sec)	7.05	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-P1\_PS\_1.pl5)



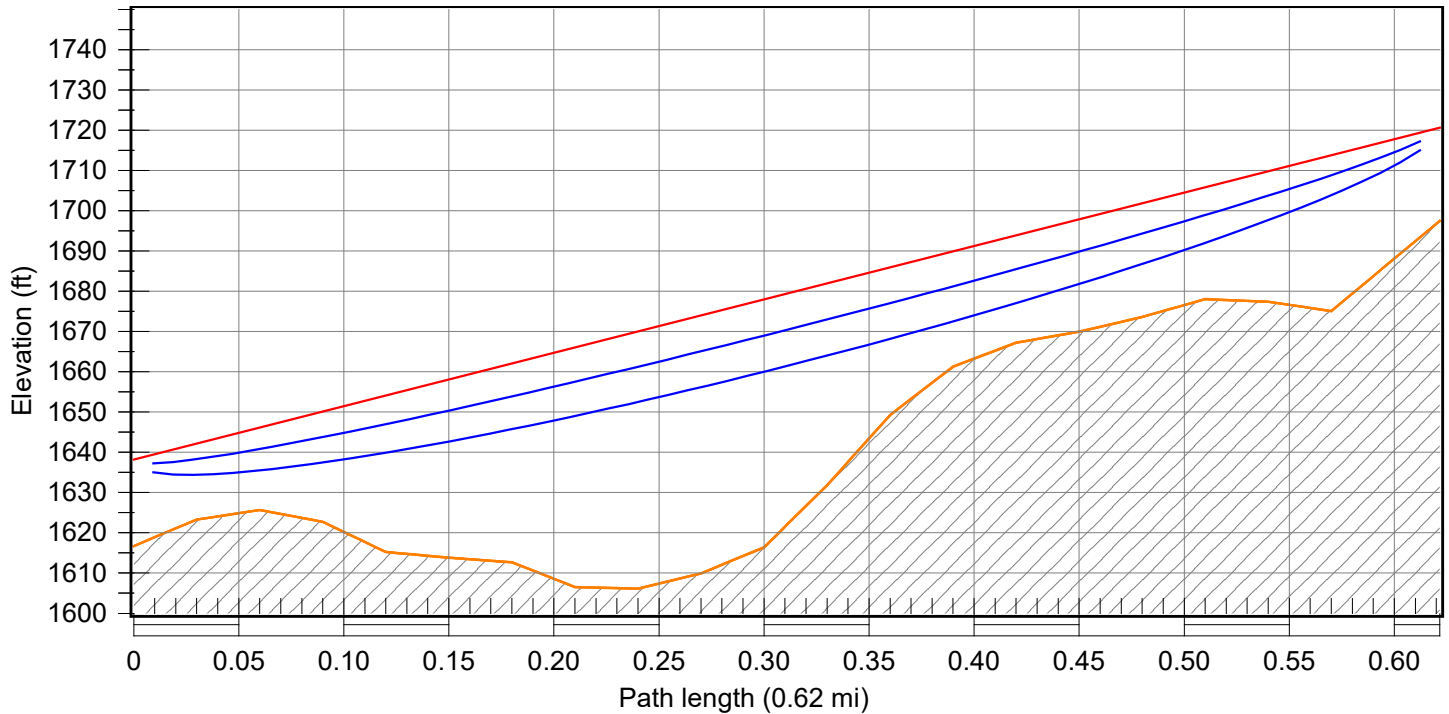
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	P1_PS_1
Latitude	39 44 57.56 N	39 45 12.17 N
Longitude	121 38 02.22 W	121 37 40.48 W
True azimuth (°)	48.96	228.97
Vertical angle (°)	0.93	-0.93
Elevation (ft)	1616.72	1654.32
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	38.61	37.46
TX line length (ft)	98.68	97.23
TX loss (dB)	2.97	2.94
RX loss (dB)	2.97	2.94
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.18	41.21
Receive signal (dBm)	-41.90	-41.90
Thermal fade margin (dB)	48.10	48.10

	PARADISE TOWN HALL	P1_PS_1
Effective fade margin (dB)	48.10	48.10
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-P1\_PS\_2.pl5)



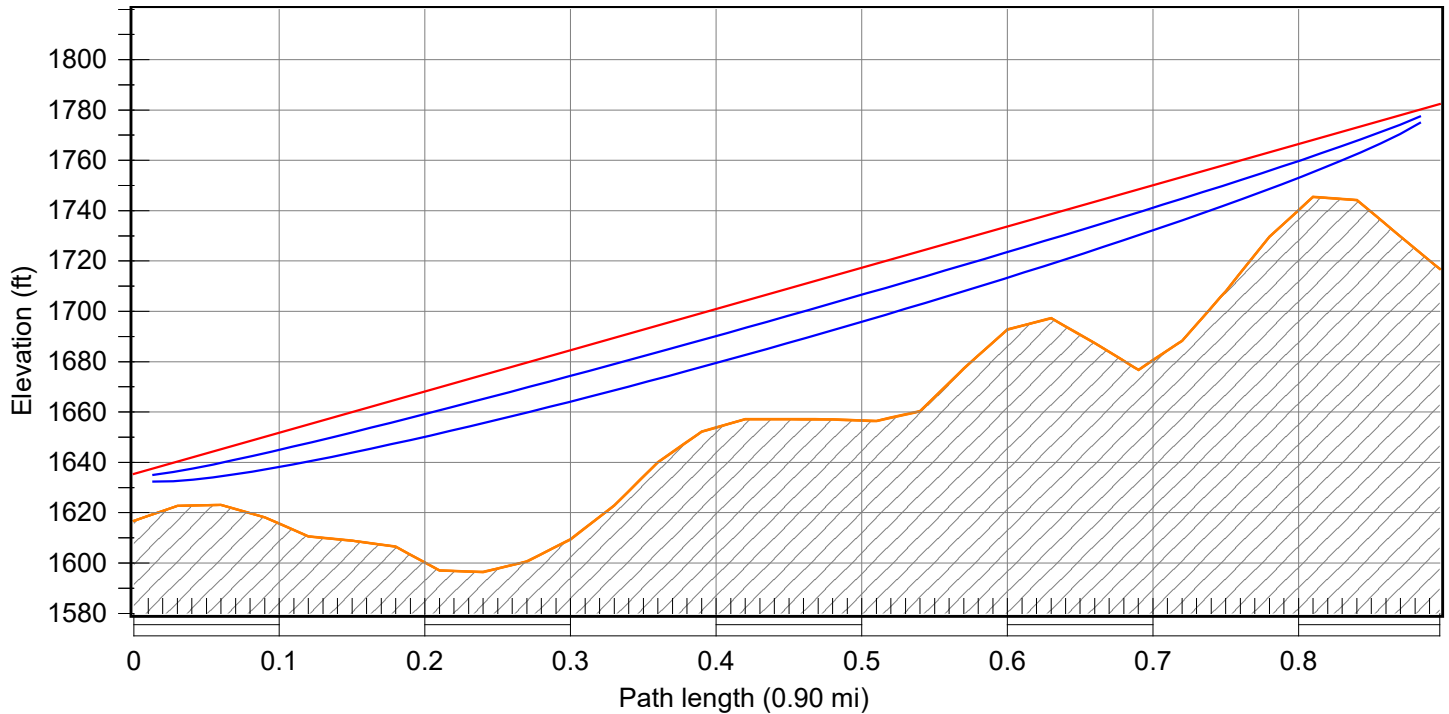
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	P1_PS_2
Latitude	39 44 57.56 N	39 45 07.92 N
Longitude	121 38 02.22 W	121 37 22.40 W
True azimuth (°)	71.37	251.38
Vertical angle (°)	1.44	-1.44
Elevation (ft)	1616.72	1697.48
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	21.44	23.14
TX line length (ft)	77.83	86.68
TX loss (dB)	2.56	2.73
RX loss (dB)	2.56	2.73
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.59	41.42
Receive signal (dBm)	-44.55	-44.55
Thermal fade margin (dB)	45.45	45.45

	PARADISE TOWN HALL	P1_PS_2
Effective fade margin (dB)	45.45	45.45
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-P1\_PS\_3.pl5)



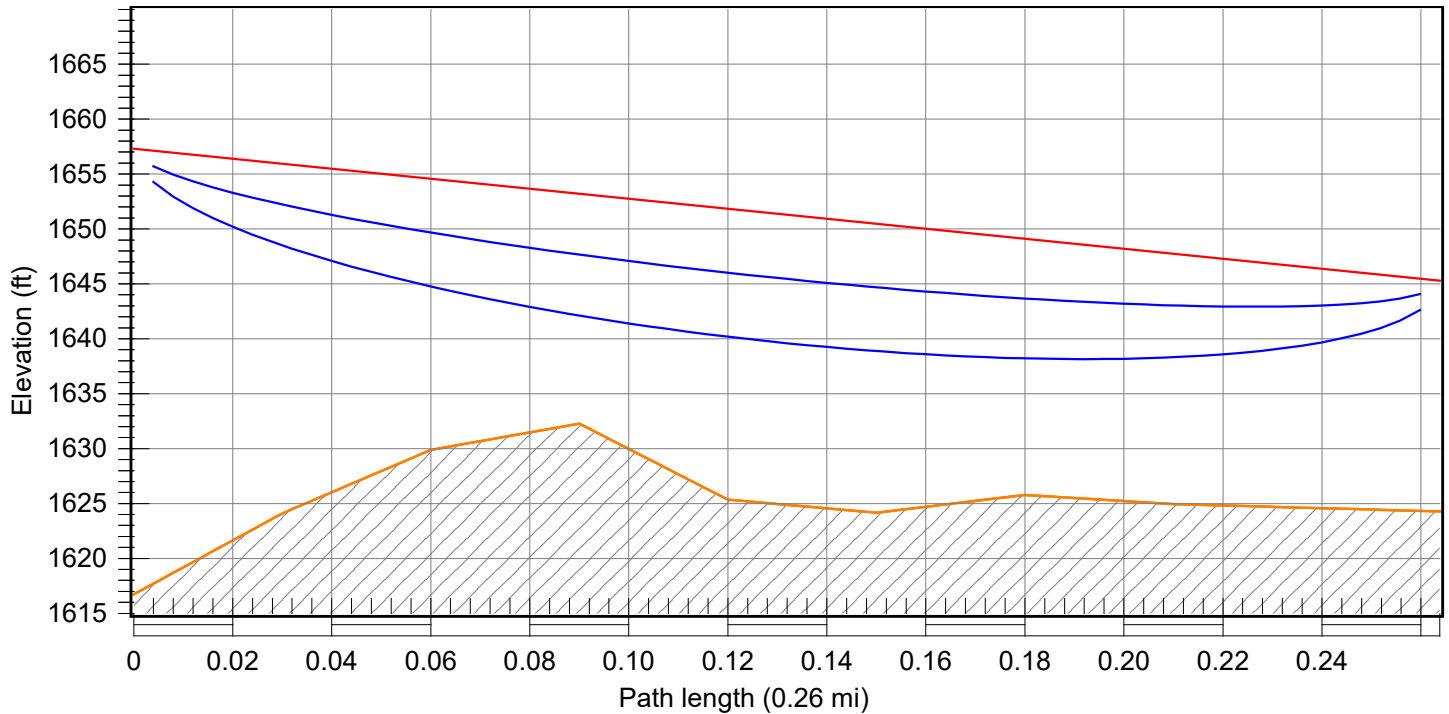
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	P1_PS_3
Latitude	39 44 57.56 N	39 45 08.32 N
Longitude	121 38 02.22 W	121 37 03.22 W
True azimuth (°)	76.71	256.72
Vertical angle (°)	1.77	-1.78
Elevation (ft)	1616.72	1716.85
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	18.66	65.48
TX line length (ft)	74.20	124.32
TX loss (dB)	2.48	3.49
RX loss (dB)	2.48	3.49
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.67	40.66
Receive signal (dBm)	-48.42	-48.42
Thermal fade margin (dB)	41.58	41.58
Effective fade margin (dB)	41.58	41.58

	PARADISE TOWN HALL	P1_PS_3
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.01	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_BLACKOLIVE.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

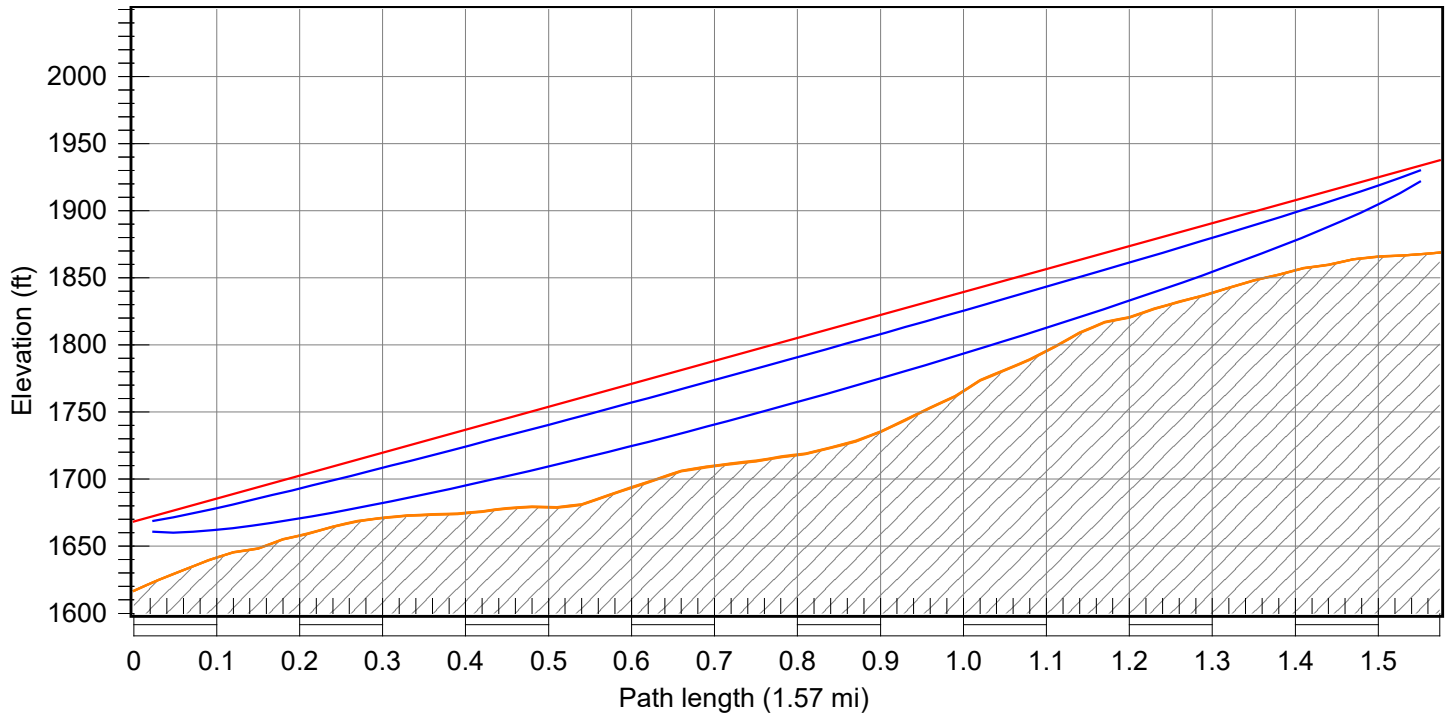
	PARADISE TOWN HALL	PS_BLACKOLIVE
Latitude	39 44 57.56 N	39 45 04.14 N
Longitude	121 38 02.22 W	121 37 46.56 W
True azimuth (°)	61.44	241.44
Vertical angle (°)	-0.50	0.49
Elevation (ft)	1616.72	1624.28
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	40.59	21.02
TX line length (ft)	99.45	75.61
TX loss (dB)	2.99	2.51
RX loss (dB)	2.99	2.51
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.16	41.64
Receive signal (dBm)	-37.31	-37.31
Thermal fade margin (dB)	52.69	52.69



	PARADISE TOWN HALL	PS_BLACKOLIVE
Effective fade margin (dB)	52.69	52.69
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_BOWLES.pl5)



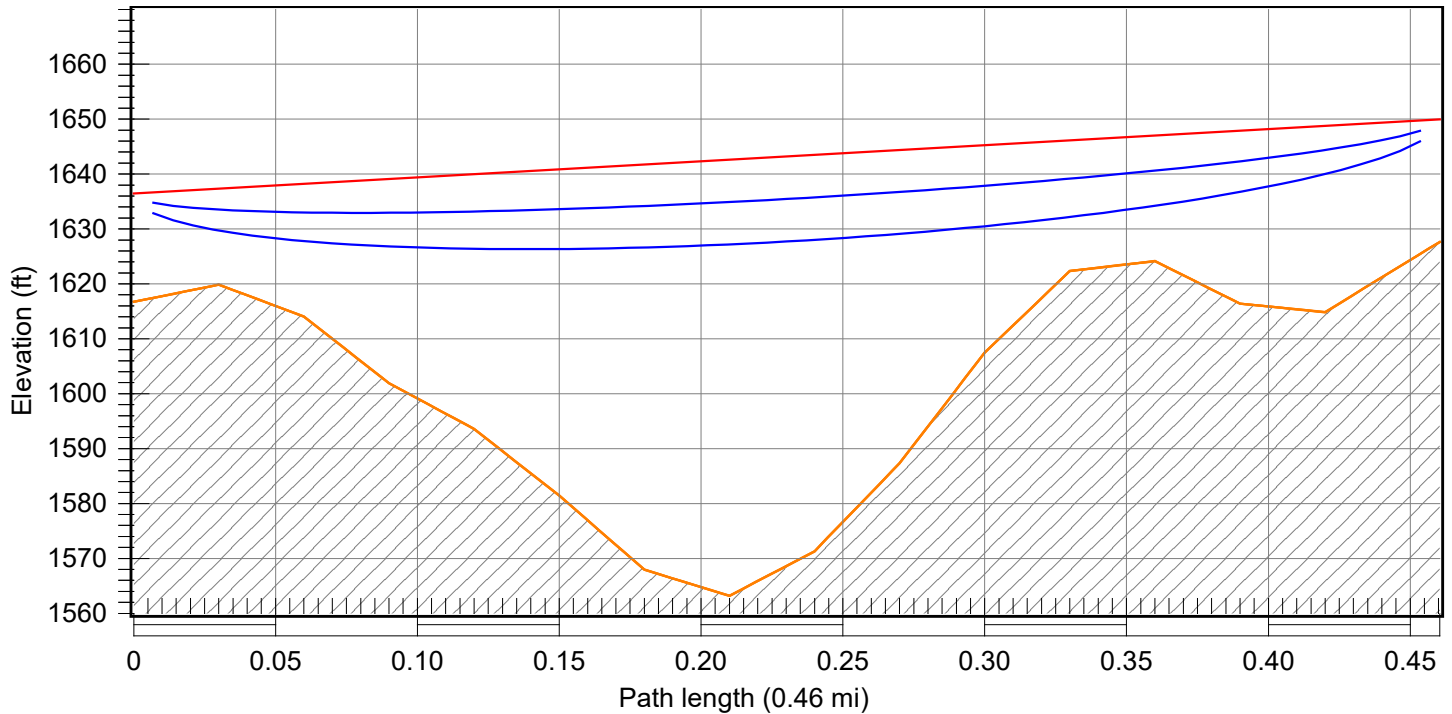
F = 900.00 MHz K = 1.33, 0.67 %F1 = 100.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_BOWLES
Latitude	39 44 57.56 N	39 46 01.92 N
Longitude	121 38 02.22 W	121 36 56.12 W
True azimuth (°)	38.40	218.41
Vertical angle (°)	1.85	-1.86
Elevation (ft)	1616.72	1868.72
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	51.60	68.73
TX line length (ft)	101.60	118.73
TX loss (dB)	3.03	3.37
RX loss (dB)	3.03	3.37
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.12	40.78
Receive signal (dBm)	-53.75	-53.75
Thermal fade margin (dB)	36.25	36.25
Effective fade margin (dB)	36.25	36.25

	PARADISE TOWN HALL	PS_BOWLES
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.12	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_BUSCHMANN (Grinder).pl5)



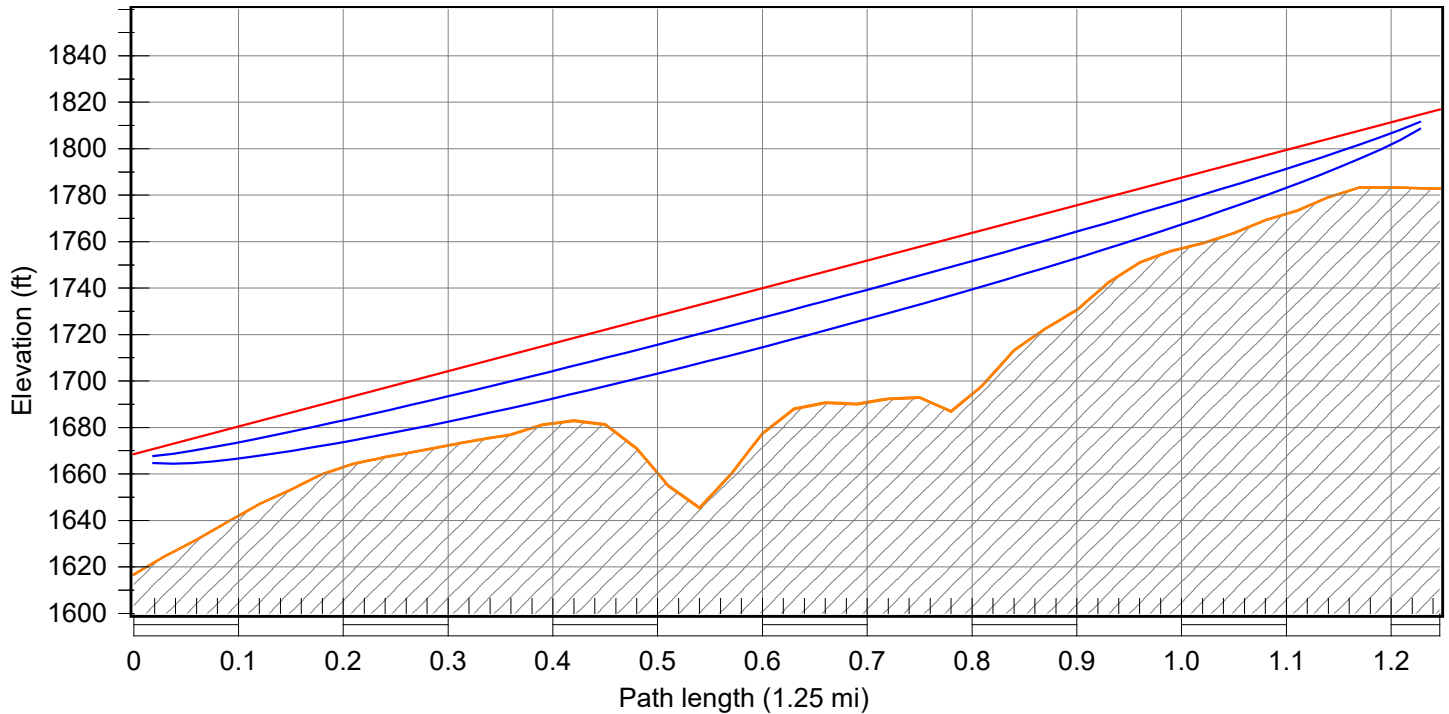
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_BUSCHMANN (Grinder)
Latitude	39 44 57.56 N	39 44 54.42 N
Longitude	121 38 02.22 W	121 37 31.37 W
True azimuth (°)	97.51	277.51
Vertical angle (°)	0.32	-0.32
Elevation (ft)	1616.72	1627.63
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	19.74	22.31
TX line length (ft)	74.41	83.43
TX loss (dB)	2.49	2.67
RX loss (dB)	2.49	2.67
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.66	41.48
Receive signal (dBm)	-41.81	-41.81
Thermal fade margin (dB)	48.19	48.19
Effective fade margin (dB)	48.19	48.19

	PARADISE TOWN HALL	PS_BUSCHMANN (Grinder)
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_CAPECOD.pl5)



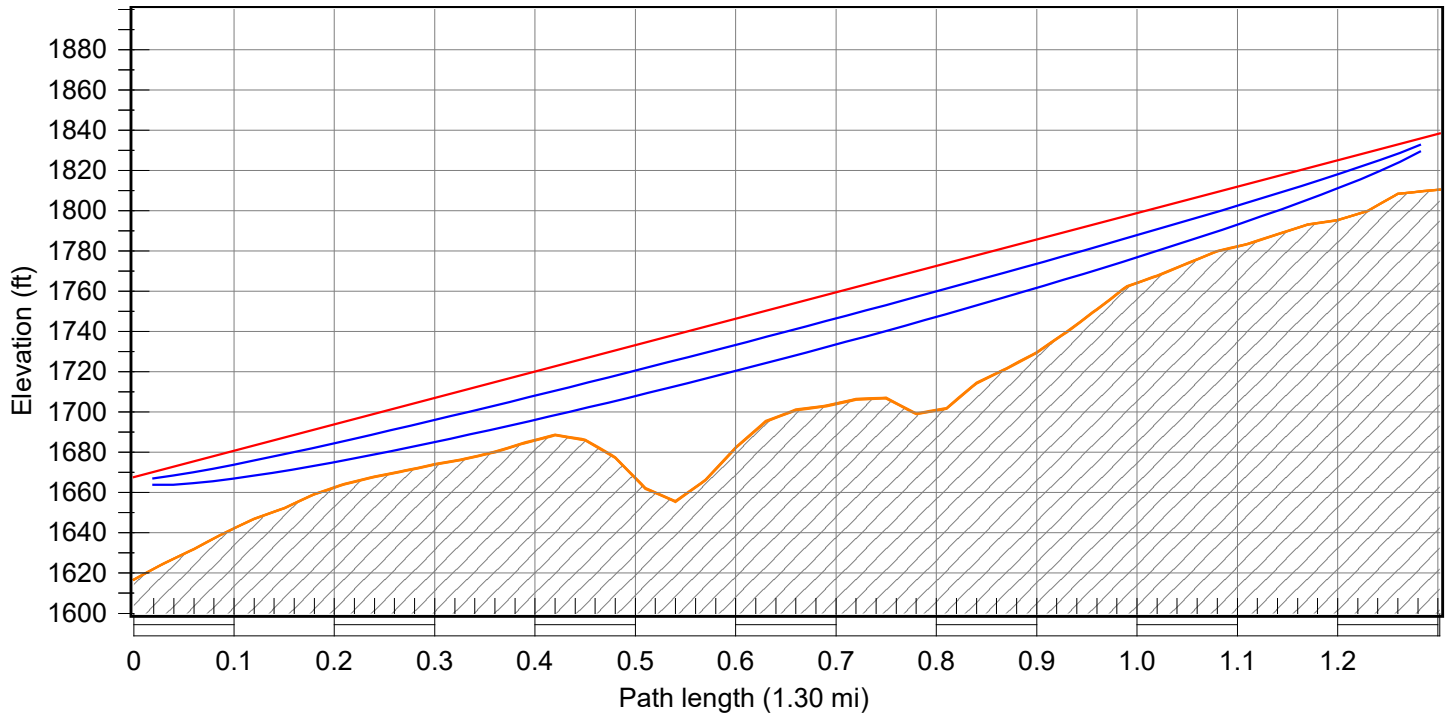
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_CAPECOD
Latitude	39 44 57.56 N	39 45 53.75 N
Longitude	121 38 02.22 W	121 37 19.81 W
True azimuth (°)	30.22	210.23
Vertical angle (°)	1.28	-1.30
Elevation (ft)	1616.72	1782.76
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	51.88	34.18
TX line length (ft)	118.27	97.20
TX loss (dB)	3.37	2.94
RX loss (dB)	3.37	2.94
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.78	41.21
Receive signal (dBm)	-51.62	-51.62
Thermal fade margin (dB)	38.38	38.38

	PARADISE TOWN HALL	PS_CAPECOD
Effective fade margin (dB)	38.38	38.38
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.04	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_CENTER.p15)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

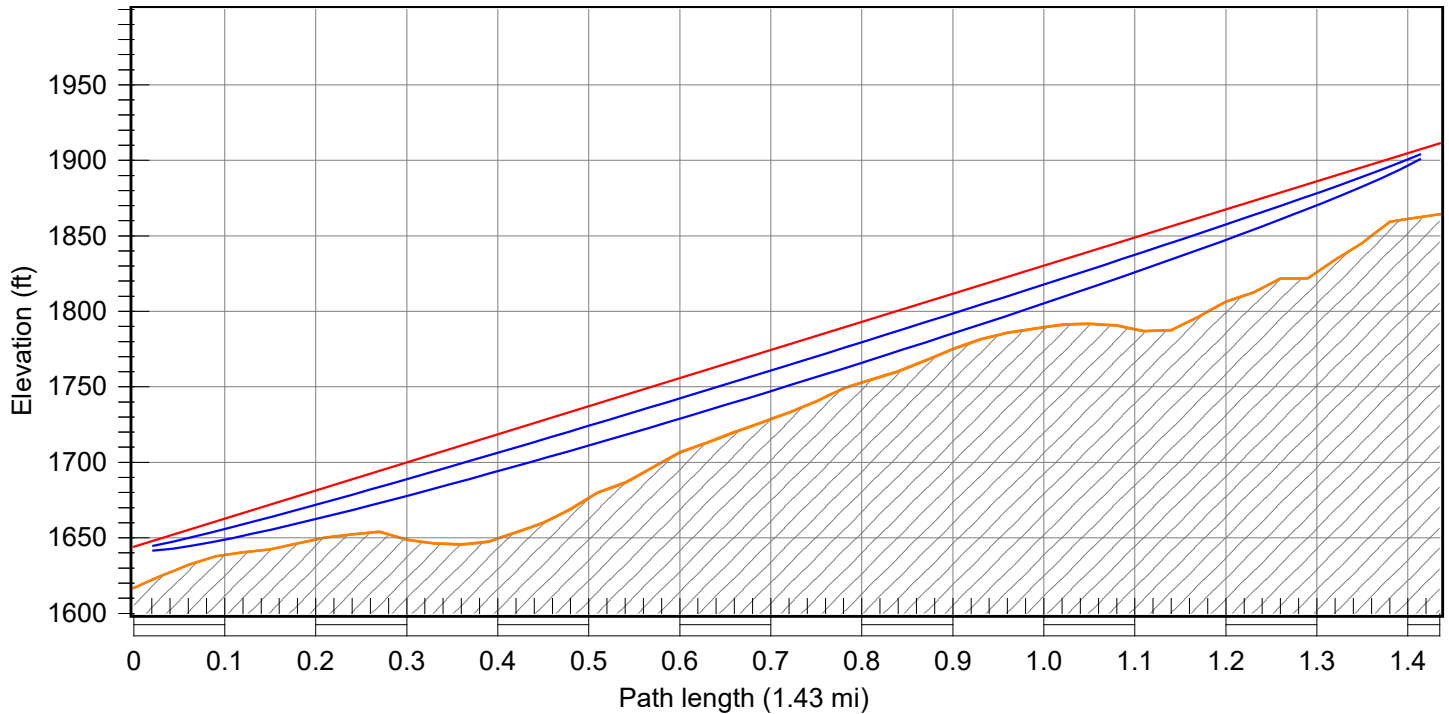
	PARADISE TOWN HALL	PS_CENTER
Latitude	39 44 57.56 N	39 45 54.94 N
Longitude	121 38 02.22 W	121 37 15.13 W
True azimuth (°)	32.35	212.36
Vertical angle (°)	1.42	-1.43
Elevation (ft)	1616.72	1810.52
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	50.94	27.82
TX line length (ft)	119.18	89.79
TX loss (dB)	3.38	2.80
RX loss (dB)	3.38	2.80
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.77	41.35
Receive signal (dBm)	-51.87	-51.87
Thermal fade margin (dB)	38.13	38.13



	PARADISE TOWN HALL	PS_CENTER
Effective fade margin (dB)	38.13	38.13
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.04	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_CENTRALPARK.pl5)



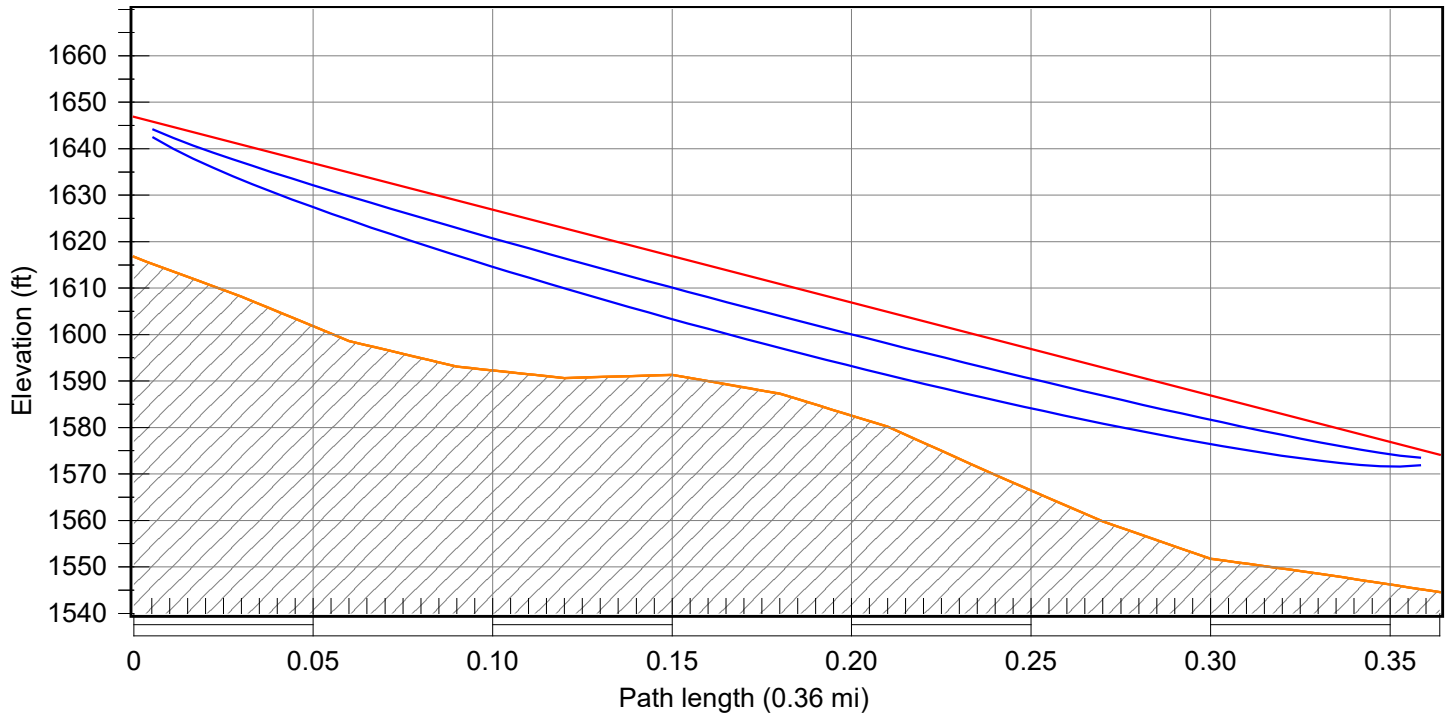
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_CENTRALPARK
Latitude	39 44 57.56 N	39 45 47.48 N
Longitude	121 38 02.22 W	121 36 49.93 W
True azimuth (°)	48.17	228.18
Vertical angle (°)	2.01	-2.03
Elevation (ft)	1616.72	1864.39
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	27.38	46.93
TX line length (ft)	89.21	117.38
TX loss (dB)	2.78	3.35
RX loss (dB)	2.78	3.35
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.37	40.80
Receive signal (dBm)	-52.67	-52.67
Thermal fade margin (dB)	37.33	37.33

	PARADISE TOWN HALL	PS_CENTRALPARK
Effective fade margin (dB)	37.33	37.33
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.07	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_CONNIE.pl5)



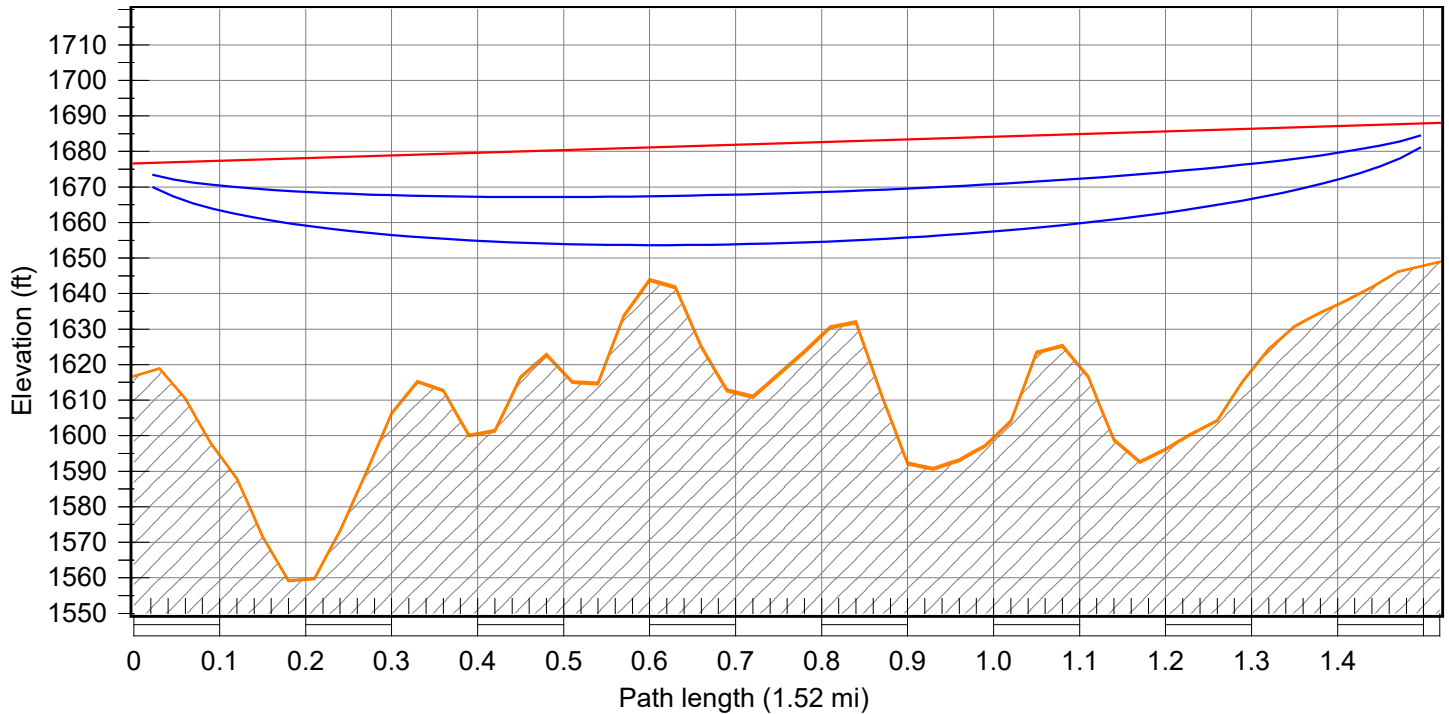
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_CONNIE
Latitude	39 44 57.56 N	39 44 51.47 N
Longitude	121 38 02.22 W	121 38 25.51 W
True azimuth (°)	251.28	71.28
Vertical angle (°)	-2.17	2.17
Elevation (ft)	1616.72	1544.57
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	30.16	29.54
TX line length (ft)	89.42	88.61
TX loss (dB)	2.79	2.77
RX loss (dB)	2.79	2.77
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.36	41.38
Receive signal (dBm)	-40.17	-40.17
Thermal fade margin (dB)	49.83	49.83
Effective fade margin (dB)	49.83	49.83

	PARADISE TOWN HALL	PS_CONNIE
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_ECLARK.pl5)



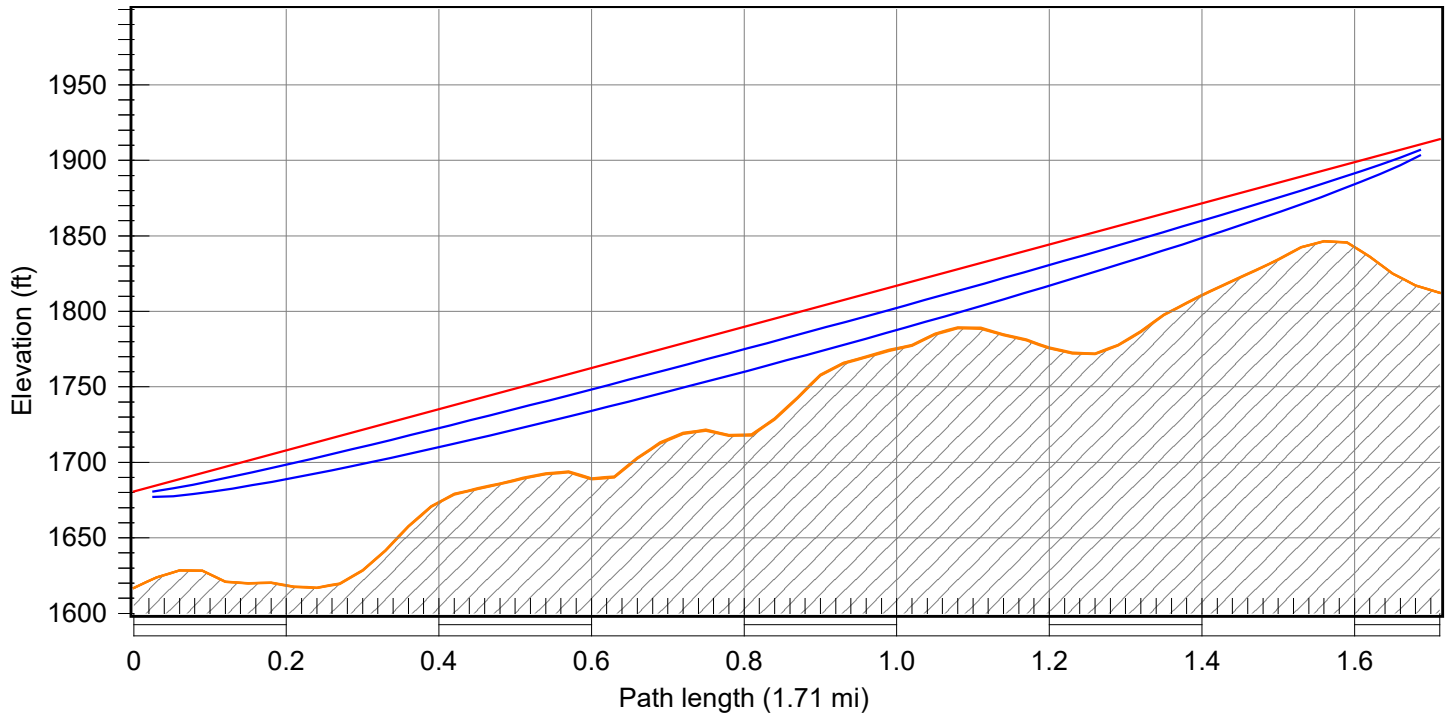
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_ECLARK
Latitude	39 44 57.56 N	39 44 37.64 N
Longitude	121 38 02.22 W	121 36 22.86 W
True azimuth (°)	104.55	284.56
Vertical angle (°)	0.07	-0.09
Elevation (ft)	1616.72	1648.92
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	59.88	39.11
TX line length (ft)	131.11	102.97
TX loss (dB)	3.62	3.06
RX loss (dB)	3.62	3.06
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.53	41.09
Receive signal (dBm)	-53.71	-53.71
Thermal fade margin (dB)	36.29	36.29
Effective fade margin (dB)	36.29	36.29

	PARADISE TOWN HALL	PS_ECLARK
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.11	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_EELLIOTT.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

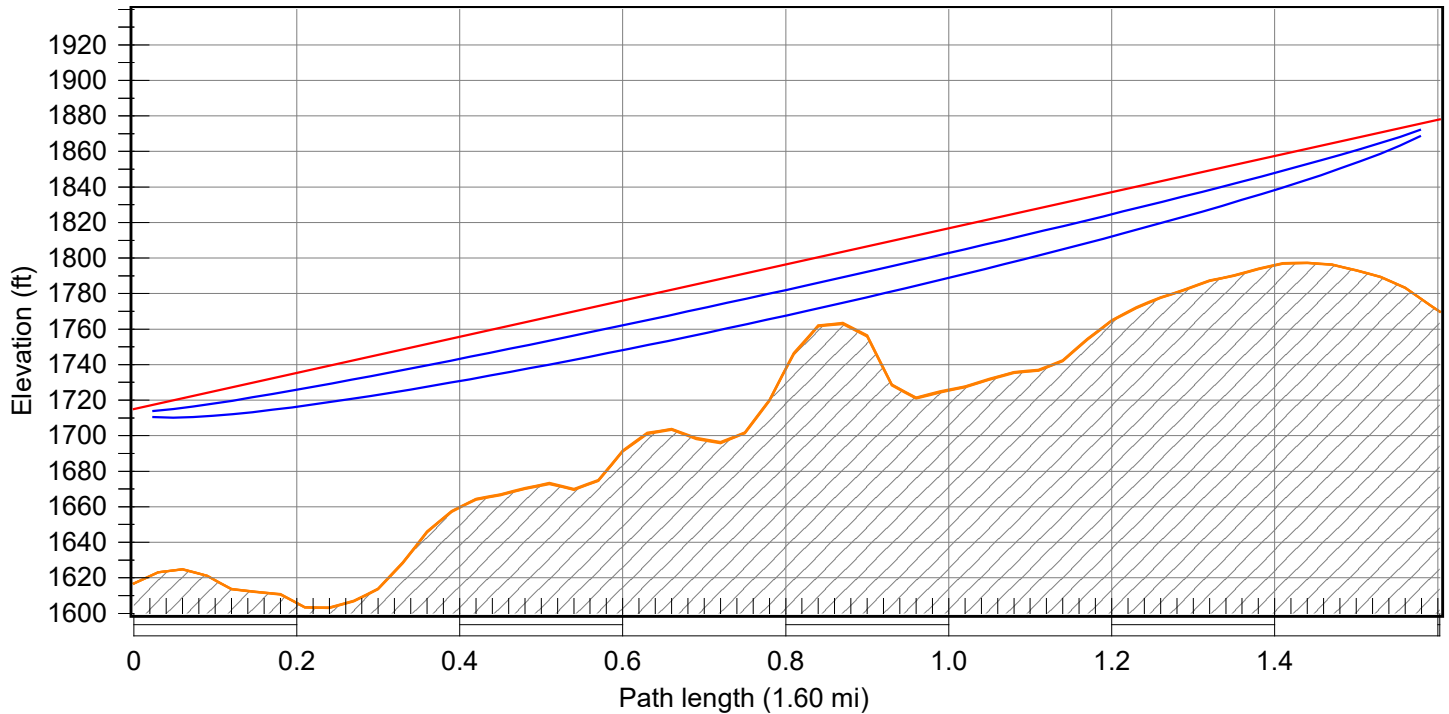
	PARADISE TOWN HALL	PS_EELLIOTT
Latitude	39 44 57.56 N	39 45 34.63 N
Longitude	121 38 02.22 W	121 36 16.96 W
True azimuth (°)	65.46	245.48
Vertical angle (°)	1.47	-1.49
Elevation (ft)	1616.72	1812.29
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	64.06	101.68
TX line length (ft)	128.29	174.28
TX loss (dB)	3.57	4.49
RX loss (dB)	3.57	4.49
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.58	39.66
Receive signal (dBm)	-56.12	-56.12
Thermal fade margin (dB)	33.88	33.88



	PARADISE TOWN HALL	PS_EELLIOTT
Effective fade margin (dB)	33.88	33.88
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.26	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_ENUNNLEY.p15)



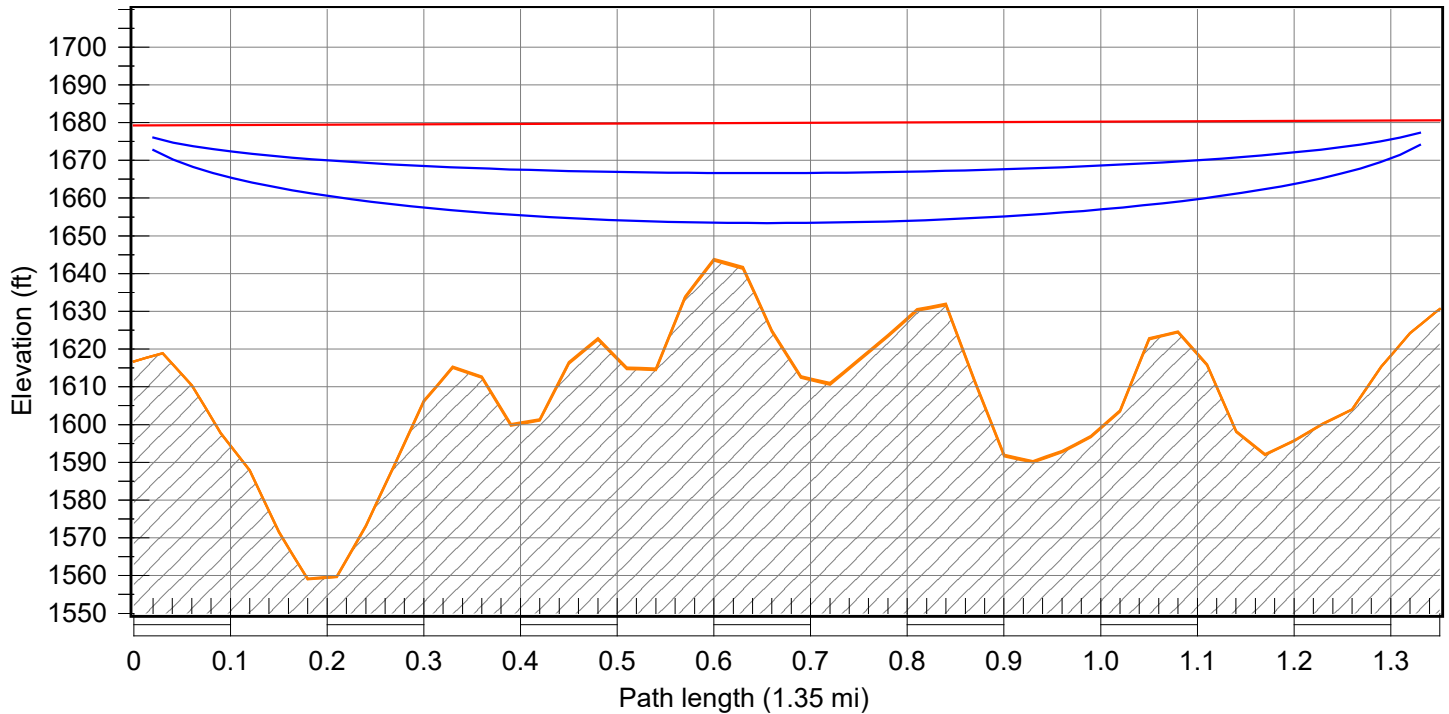
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_ENUNNLEY
Latitude	39 44 57.56 N	39 45 21.67 N
Longitude	121 38 02.22 W	121 36 18.50 W
True azimuth (°)	73.23	253.25
Vertical angle (°)	1.10	-1.11
Elevation (ft)	1616.72	1769.77
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	98.30	108.33
TX line length (ft)	166.54	178.43
TX loss (dB)	4.33	4.57
RX loss (dB)	4.33	4.57
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.82	39.58
Receive signal (dBm)	-56.39	-56.39
Thermal fade margin (dB)	33.61	33.61
Effective fade margin (dB)	33.61	33.61

	PARADISE TOWN HALL	PS_ENUNNLEY
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.23	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_EWALD.pl5)



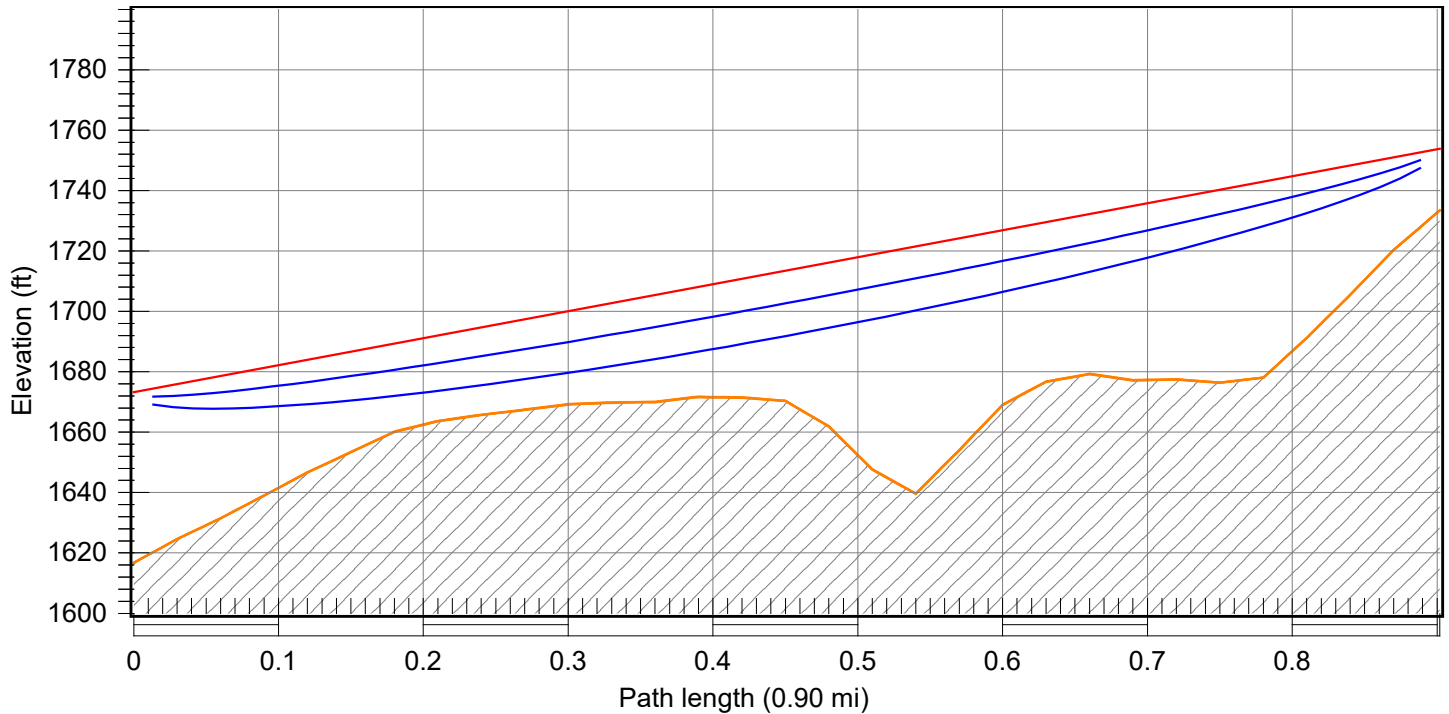
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_EWALD
Latitude	39 44 57.56 N	39 44 39.80 N
Longitude	121 38 02.22 W	121 36 33.88 W
True azimuth (°)	104.59	284.60
Vertical angle (°)	0.00	-0.02
Elevation (ft)	1616.72	1630.61
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	62.49	49.96
TX line length (ft)	131.76	115.37
TX loss (dB)	3.64	3.31
RX loss (dB)	3.64	3.31
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.51	40.84
Receive signal (dBm)	-52.95	-52.95
Thermal fade margin (dB)	37.05	37.05

	PARADISE TOWN HALL	PS_EWALD
Effective fade margin (dB)	37.05	37.05
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.06	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_MEMORIAL.p15)



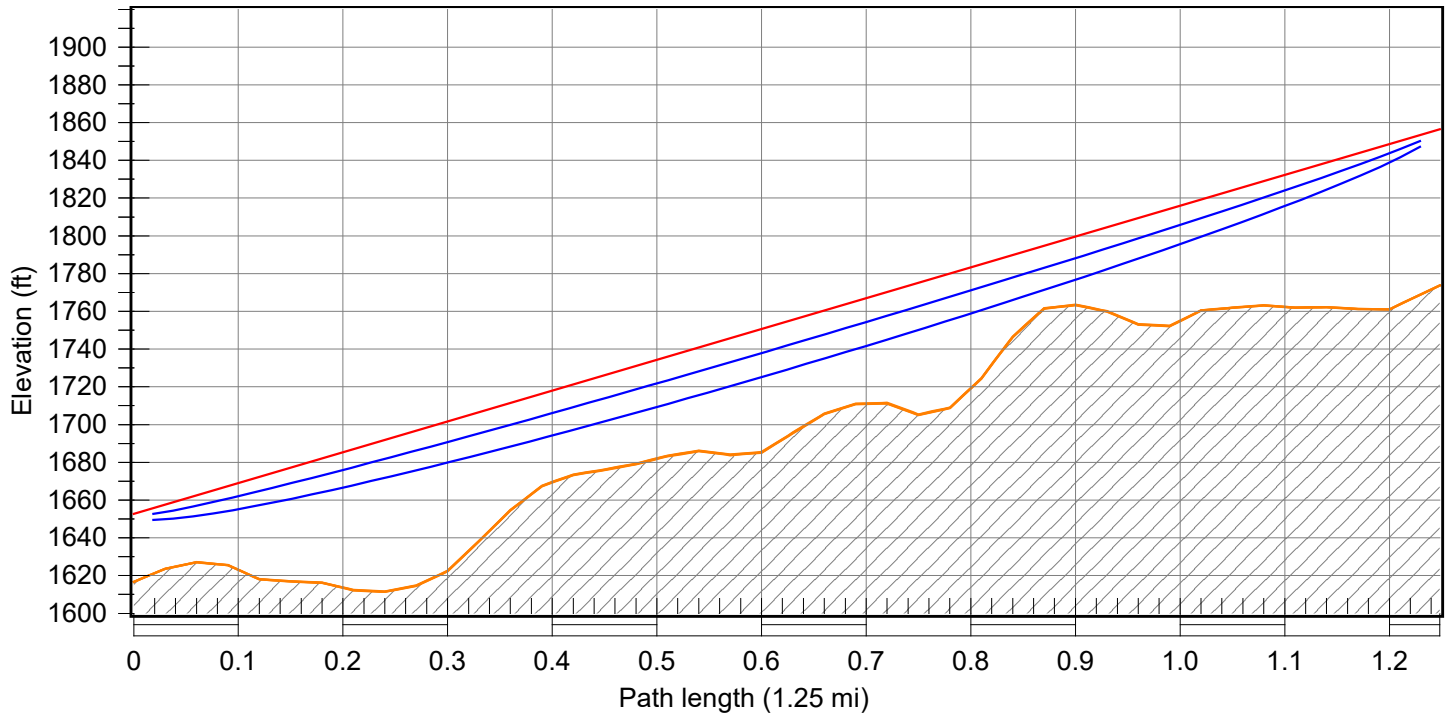
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_MEMORIAL
Latitude	39 44 57.56 N	39 45 39.06 N
Longitude	121 38 02.22 W	121 37 33.49 W
True azimuth (°)	28.11	208.12
Vertical angle (°)	0.97	-0.98
Elevation (ft)	1616.72	1733.38
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	56.49	20.49
TX line length (ft)	119.26	84.03
TX loss (dB)	3.39	2.68
RX loss (dB)	3.39	2.68
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.76	41.47
Receive signal (dBm)	-48.56	-48.56
Thermal fade margin (dB)	41.44	41.44

	PARADISE TOWN HALL	PS_MEMORIAL
Effective fade margin (dB)	41.44	41.44
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.01	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_NUNNLEY.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

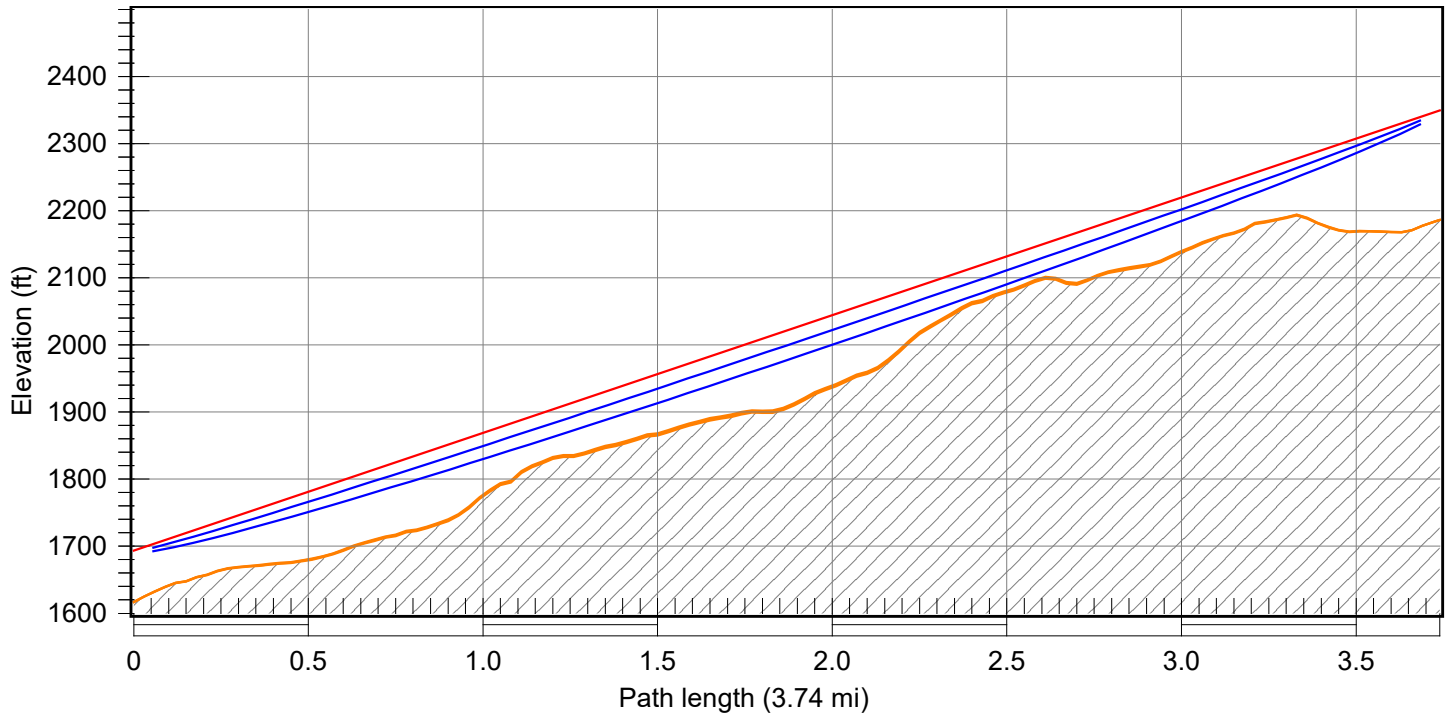
	PARADISE TOWN HALL	PS_NUNNLEY
Latitude	39 44 57.56 N	39 45 21.60 N
Longitude	121 38 02.22 W	121 36 43.81 W
True azimuth (°)	68.33	248.34
Vertical angle (°)	1.76	-1.78
Elevation (ft)	1616.72	1773.69
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	35.95	82.74
TX line length (ft)	94.13	151.57
TX loss (dB)	2.88	4.03
RX loss (dB)	2.88	4.03
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.27	40.12
Receive signal (dBm)	-52.24	-52.24
Thermal fade margin (dB)	37.76	37.76
Effective fade margin (dB)	37.76	37.76



	PARADISE TOWN HALL	PS_NUNNLEY
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.04	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_PHEASANT.pl5)



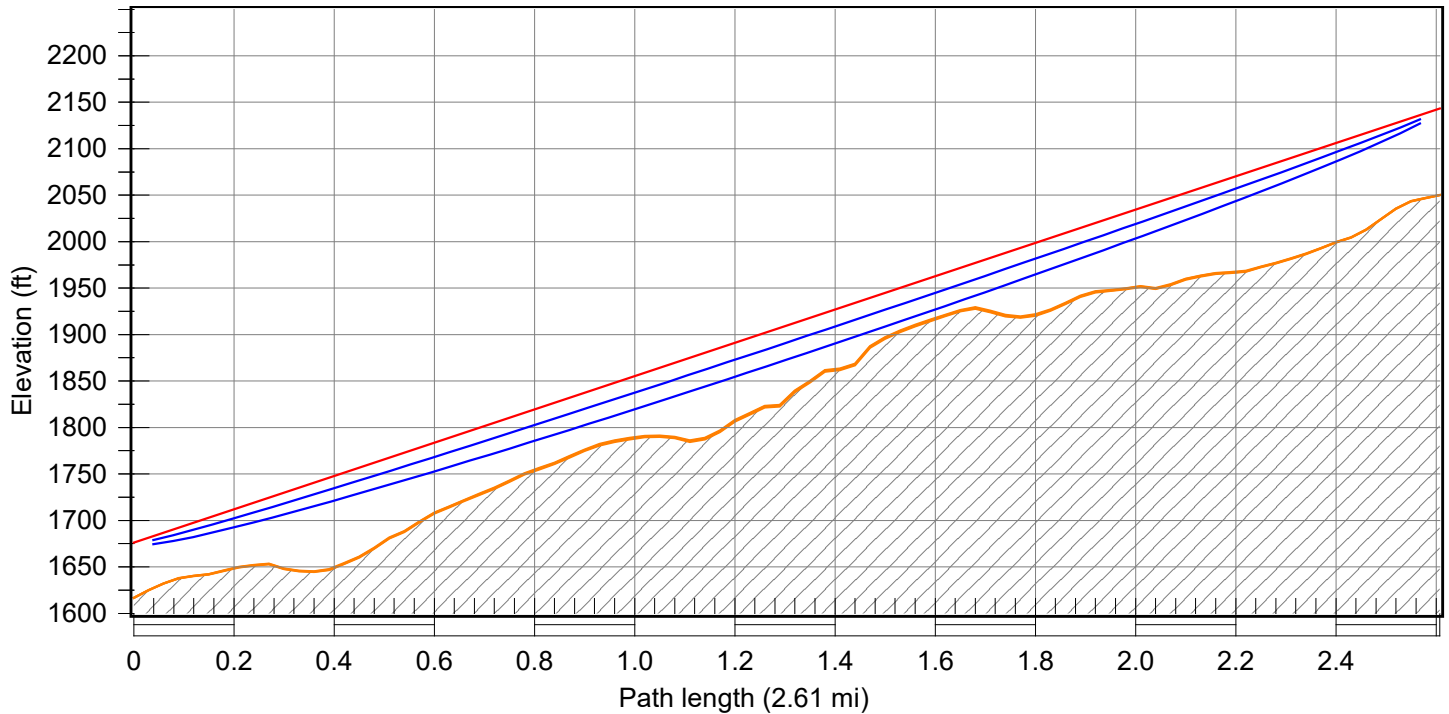
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_PHEASANT
Latitude	39 44 57.56 N	39 47 26.88 N
Longitude	121 38 02.22 W	121 35 19.50 W
True azimuth (°)	40.05	220.08
Vertical angle (°)	1.88	-1.92
Elevation (ft)	1616.72	2186.11
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	76.70	163.12
TX line length (ft)	156.29	240.52
TX loss (dB)	4.13	5.81
RX loss (dB)	4.13	5.81
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.02	38.34
Receive signal (dBm)	-64.81	-64.81
Thermal fade margin (dB)	25.19	25.19

	PARADISE TOWN HALL	PS_PHEasant
Effective fade margin (dB)	25.19	25.19
Annual 2 way multipath availability (%)	99.99994	
Annual 2 way multipath unavailability (sec)	20.35	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_PINEGROVE.pl5)



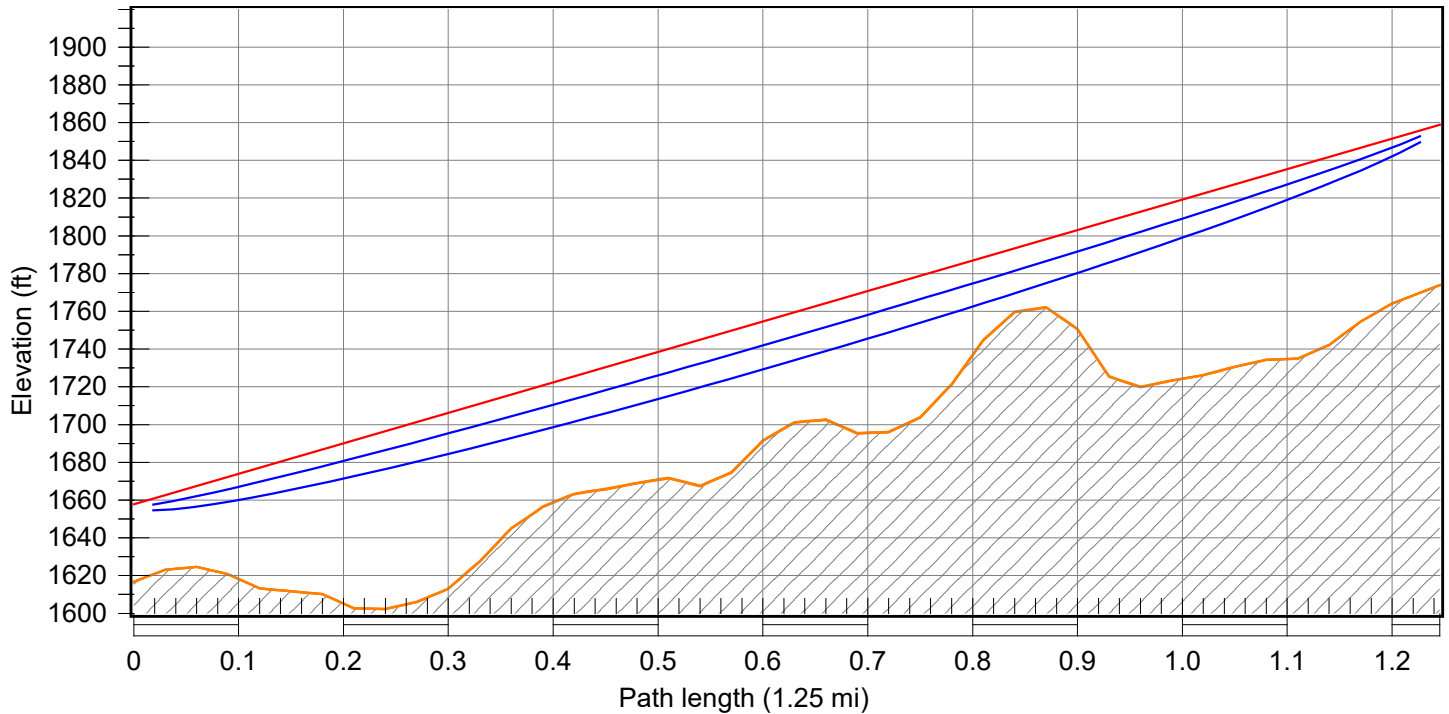
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_PINEGROVE
Latitude	39 44 57.56 N	39 46 27.70 N
Longitude	121 38 02.22 W	121 35 50.21 W
True azimuth (°)	48.49	228.51
Vertical angle (°)	1.93	-1.96
Elevation (ft)	1616.72	2050.16
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	59.53	93.07
TX line length (ft)	130.04	169.26
TX loss (dB)	3.60	4.39
RX loss (dB)	3.60	4.39
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.55	39.76
Receive signal (dBm)	-59.72	-59.72
Thermal fade margin (dB)	30.28	30.28

	PARADISE TOWN HALL	PS_PINEGROVE
Effective fade margin (dB)	30.28	30.28
Annual 2 way multipath availability (%)	99.99999	
Annual 2 way multipath unavailability (sec)	2.14	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_STONERIDGE.p15)



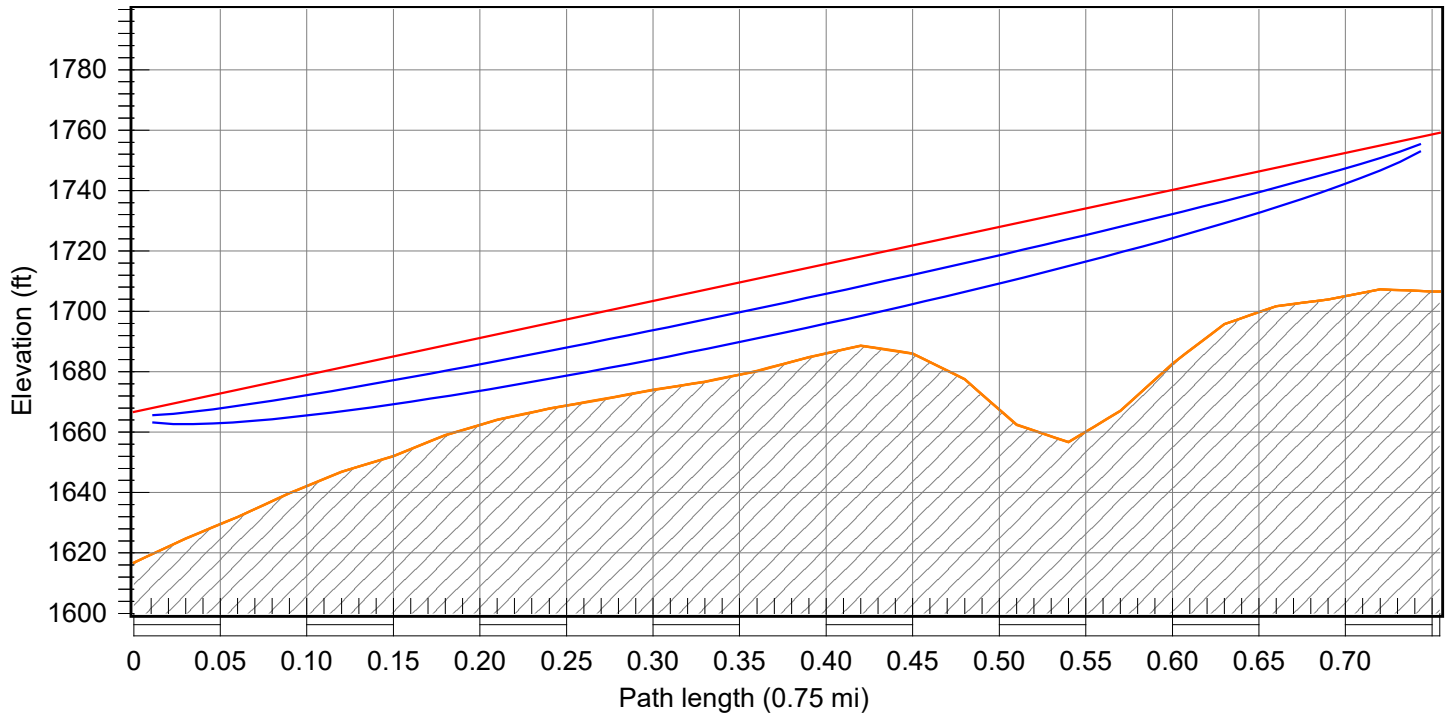
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_STONERIDGE
Latitude	39 44 57.56 N	39 45 15.84 N
Longitude	121 38 02.22 W	121 36 41.44 W
True azimuth (°)	73.65	253.67
Vertical angle (°)	1.75	-1.76
Elevation (ft)	1616.72	1773.80
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	41.04	85.06
TX line length (ft)	100.26	154.18
TX loss (dB)	3.01	4.08
RX loss (dB)	3.01	4.08
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.14	40.07
Receive signal (dBm)	-52.39	-52.39
Thermal fade margin (dB)	37.61	37.61

	PARADISE TOWN HALL	PS_STONERIDGE
Effective fade margin (dB)	37.61	37.61
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.04	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_WILDWOOD.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

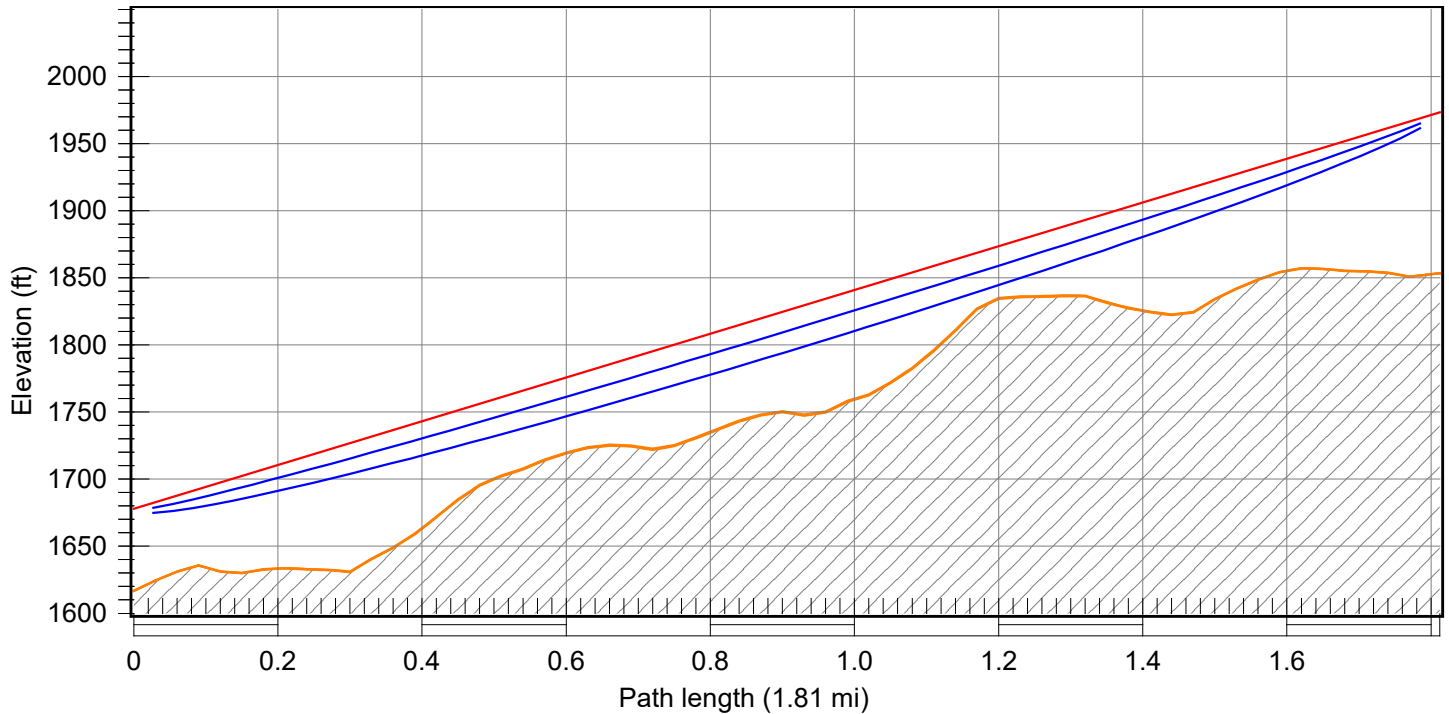
	PARADISE TOWN HALL	PS_WILDWOOD
Latitude	39 44 57.56 N	39 45 30.74 N
Longitude	121 38 02.22 W	121 37 34.79 W
True azimuth (°)	32.54	212.54
Vertical angle (°)	1.33	-1.33
Elevation (ft)	1616.72	1706.51
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	49.95	52.61
TX line length (ft)	112.22	116.60
TX loss (dB)	3.24	3.33
RX loss (dB)	3.24	3.33
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.91	40.82
Receive signal (dBm)	-47.52	-47.52
Thermal fade margin (dB)	42.48	42.48



	PARADISE TOWN HALL	PS_WILDWOOD
Effective fade margin (dB)	42.48	42.48
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS\_WOODBROOK.pl5)



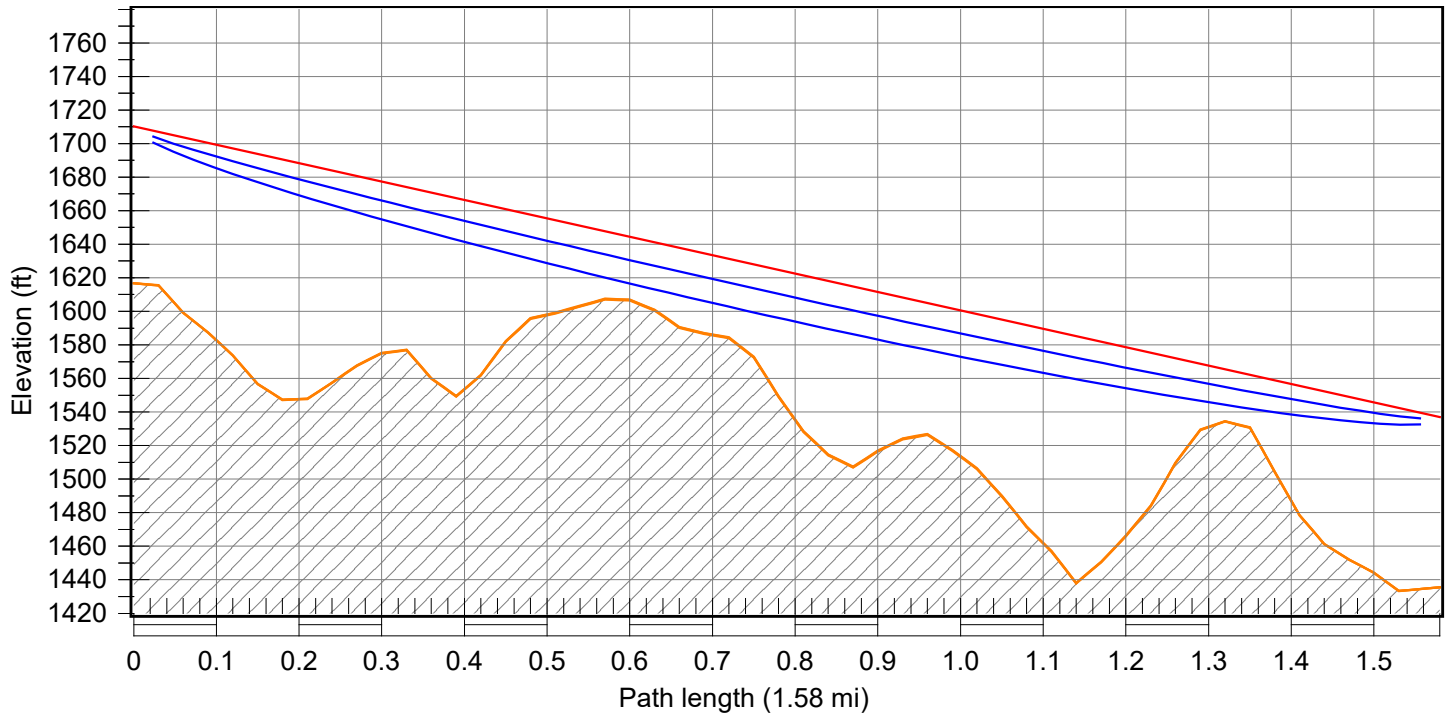
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS_WOODBROOK
Latitude	39 44 57.56 N	39 45 49.50 N
Longitude	121 38 02.22 W	121 36 19.87 W
True azimuth (°)	56.67	236.68
Vertical angle (°)	1.76	-1.78
Elevation (ft)	1616.72	1853.39
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	61.12	119.87
TX line length (ft)	122.94	193.06
TX loss (dB)	3.46	4.86
RX loss (dB)	3.46	4.86
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.69	39.29
Receive signal (dBm)	-56.89	-56.89
Thermal fade margin (dB)	33.11	33.11

	PARADISE TOWN HALL	PS_WOODBROOK
Effective fade margin (dB)	33.11	33.11
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.37	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-PS-EASY.p15)



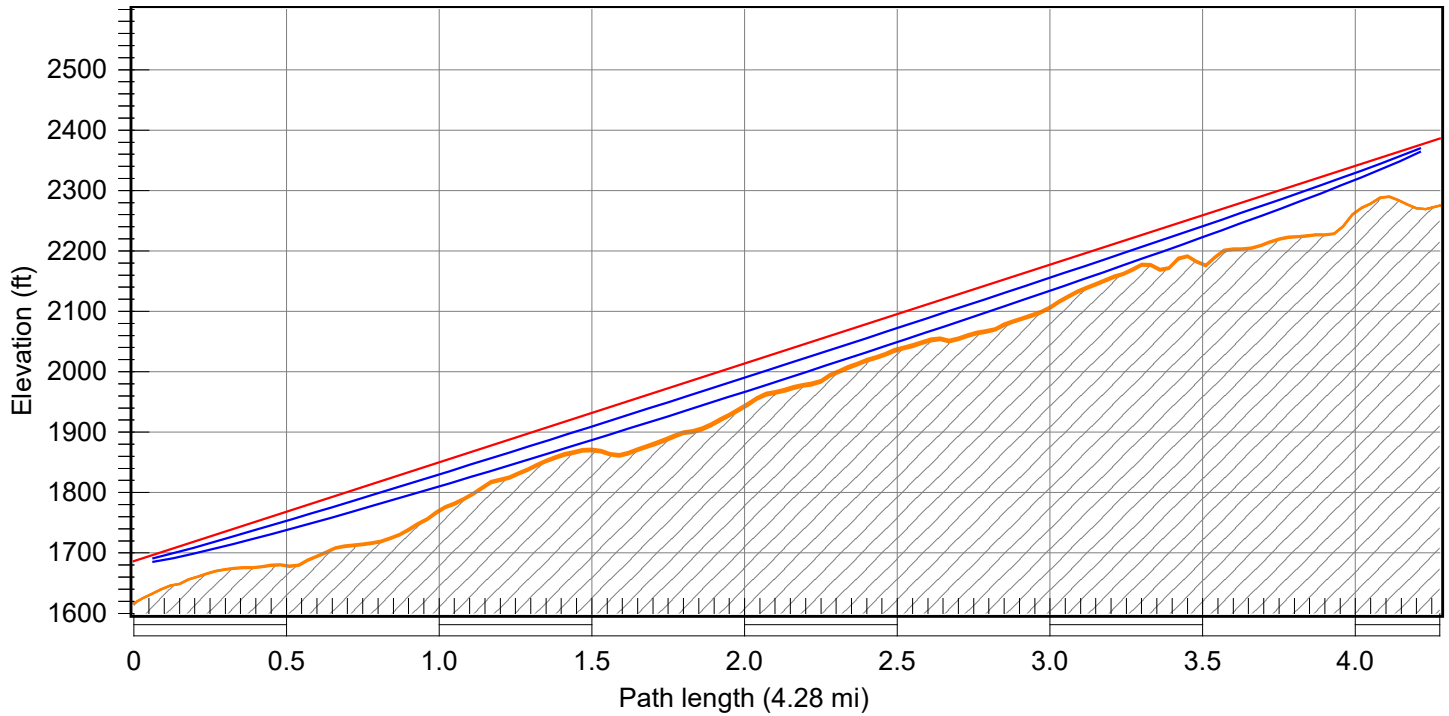
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	PS-EASY
Latitude	39 44 57.56 N	39 44 05.68 N
Longitude	121 38 02.22 W	121 36 39.28 W
True azimuth (°)	129.01	309.02
Vertical angle (°)	-1.20	1.18
Elevation (ft)	1616.72	1435.43
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	93.47	101.63
TX line length (ft)	165.67	164.21
TX loss (dB)	4.31	4.28
RX loss (dB)	4.31	4.28
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.84	39.87
Receive signal (dBm)	-55.97	-55.97
Thermal fade margin (dB)	34.03	34.03
Effective fade margin (dB)	34.03	34.03

	PARADISE TOWN HALL	PS-EASY
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.11	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-S1\_PS\_1.pl5)



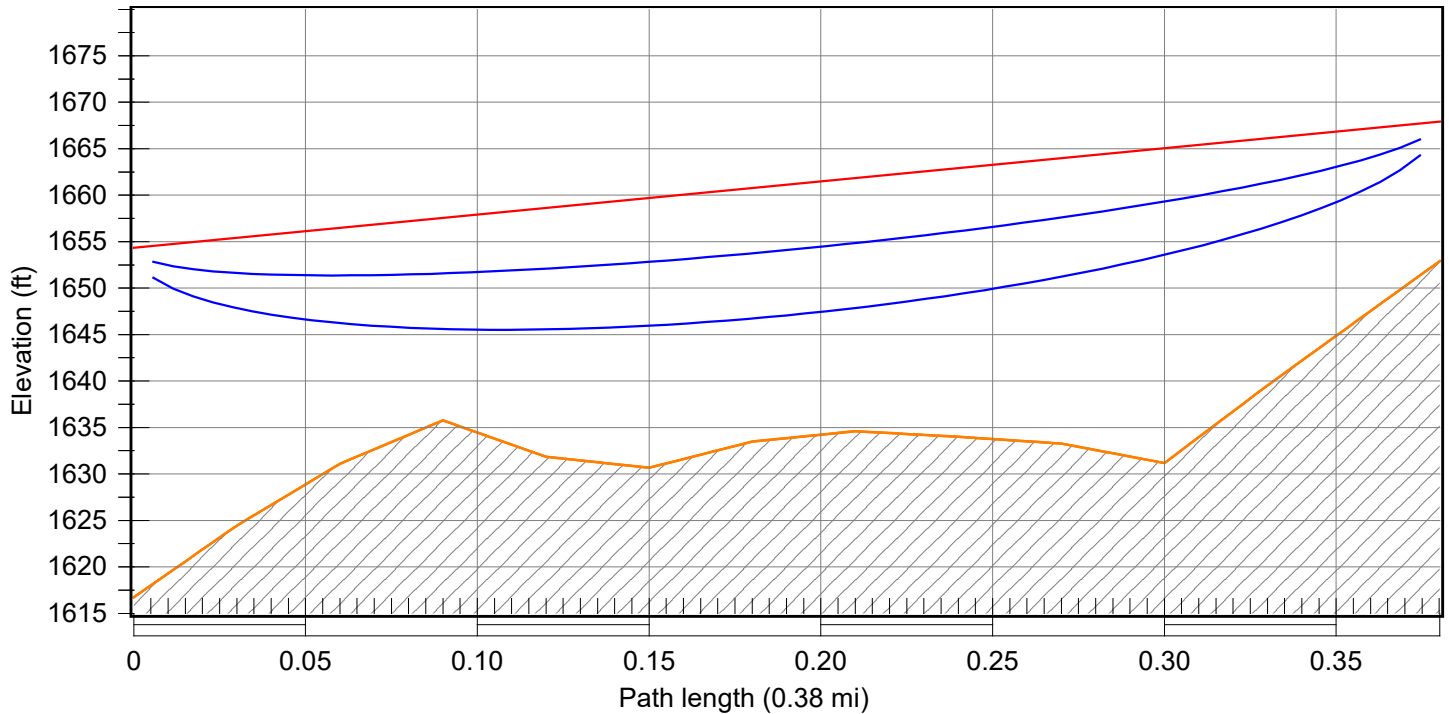
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	S1_PS_1
Latitude	39 44 57.56 N	39 47 54.35 N
Longitude	121 38 02.22 W	121 35 05.86 W
True azimuth (°)	37.57	217.60
Vertical angle (°)	1.75	-1.80
Elevation (ft)	1616.72	2275.16
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	69.69	110.90
TX line length (ft)	150.36	188.20
TX loss (dB)	4.01	4.76
RX loss (dB)	4.01	4.76
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.14	39.39
Receive signal (dBm)	-64.81	-64.81
Thermal fade margin (dB)	25.19	25.19

	PARADISE TOWN HALL	S1_PS_1
Effective fade margin (dB)	25.19	25.19
Annual 2 way multipath availability (%)	99.99990	
Annual 2 way multipath unavailability (sec)	30.42	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-STOR\_10.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

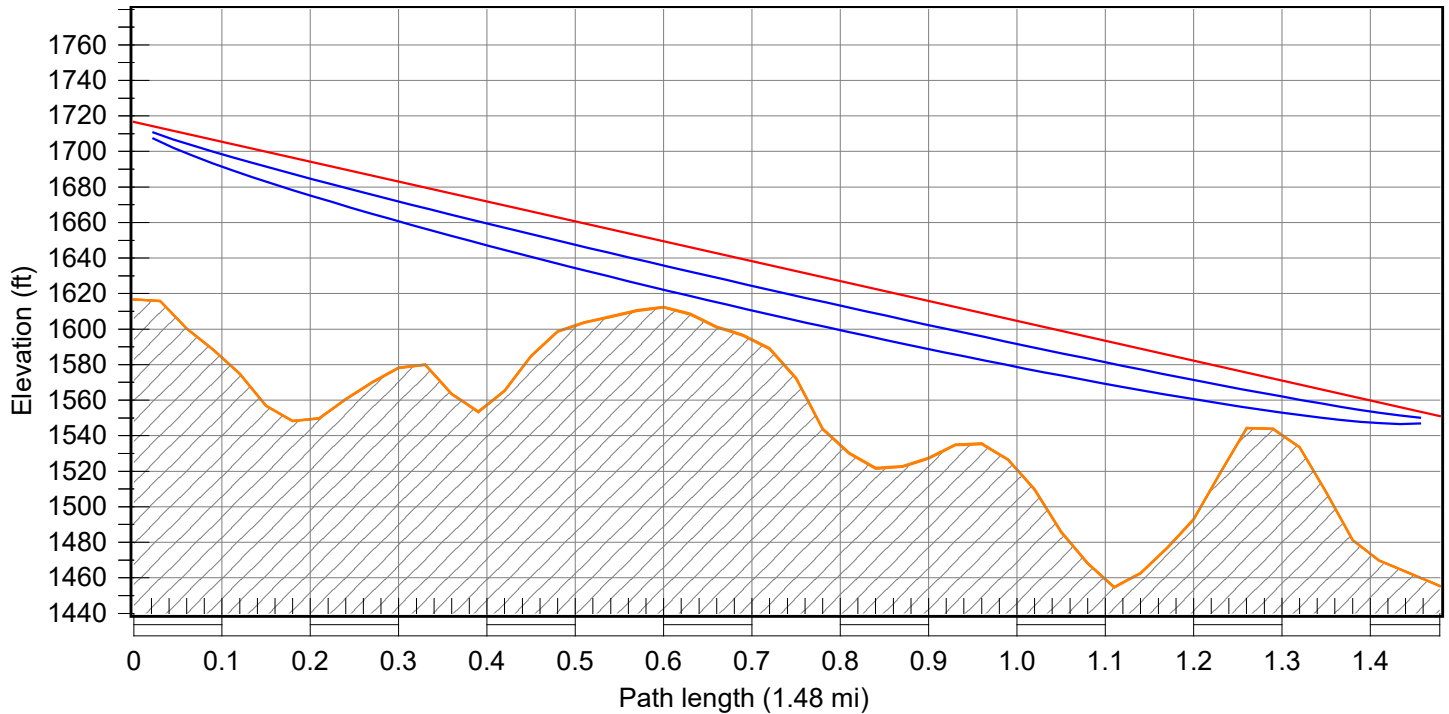
	PARADISE TOWN HALL	STOR_10
Latitude	39 44 57.56 N	39 45 08.64 N
Longitude	121 38 02.22 W	121 37 40.91 W
True azimuth (°)	56.04	236.04
Vertical angle (°)	0.39	-0.39
Elevation (ft)	1616.72	1652.91
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	37.62	15.00
TX line length (ft)	97.14	67.97
TX loss (dB)	2.94	2.36
RX loss (dB)	2.94	2.36
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.21	41.79
Receive signal (dBm)	-40.29	-40.29
Thermal fade margin (dB)	49.71	49.71
Effective fade margin (dB)	49.71	49.71



	PARADISE TOWN HALL	STOR_10
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-STOR\_12.pl5)



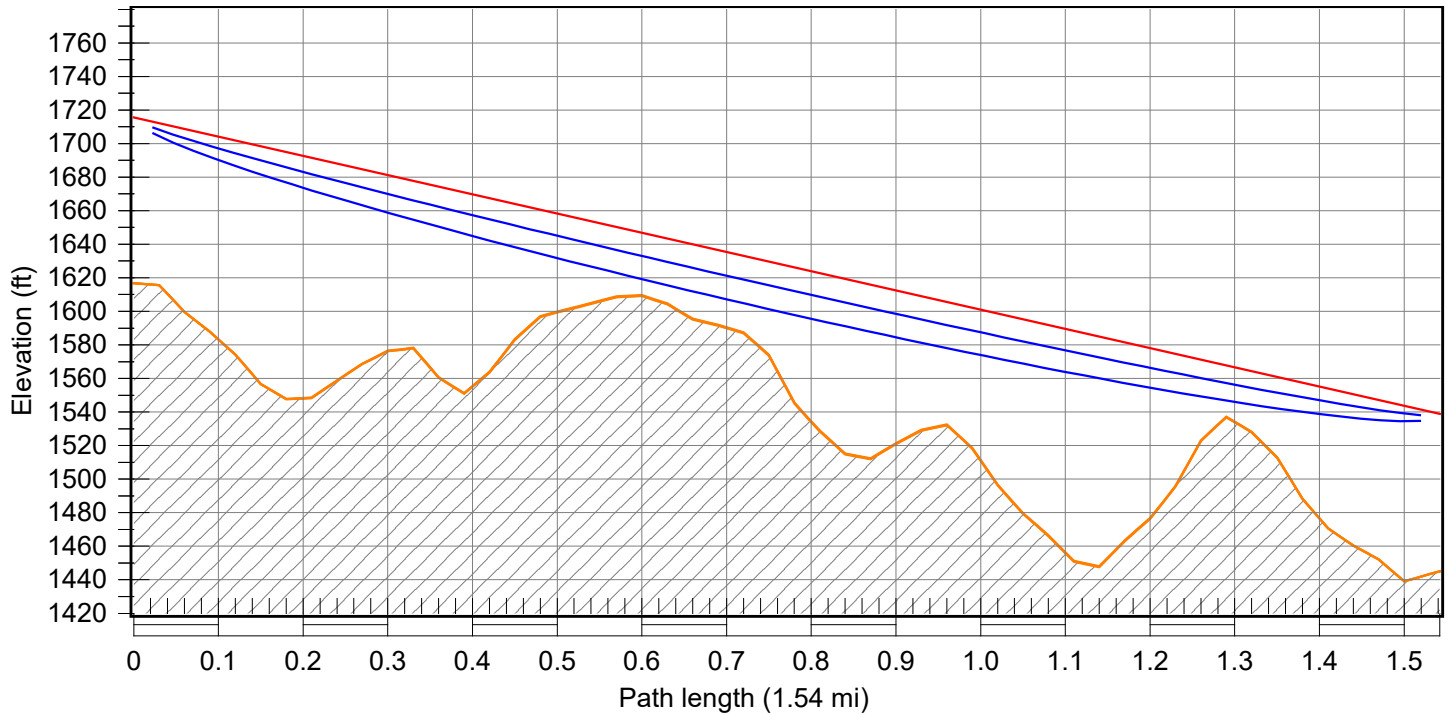
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	STOR_12
Latitude	39 44 57.56 N	39 44 12.37 N
Longitude	121 38 02.22 W	121 36 41.22 W
True azimuth (°)	125.85	305.86
Vertical angle (°)	-1.22	1.21
Elevation (ft)	1616.72	1455.39
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	99.83	95.69
TX line length (ft)	173.08	156.42
TX loss (dB)	4.46	4.13
RX loss (dB)	4.46	4.13
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.69	40.02
Receive signal (dBm)	-55.39	-55.39
Thermal fade margin (dB)	34.61	34.61
Effective fade margin (dB)	34.61	34.61

	PARADISE TOWN HALL	STOR_12
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.08	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-STOR\_14.pl5)



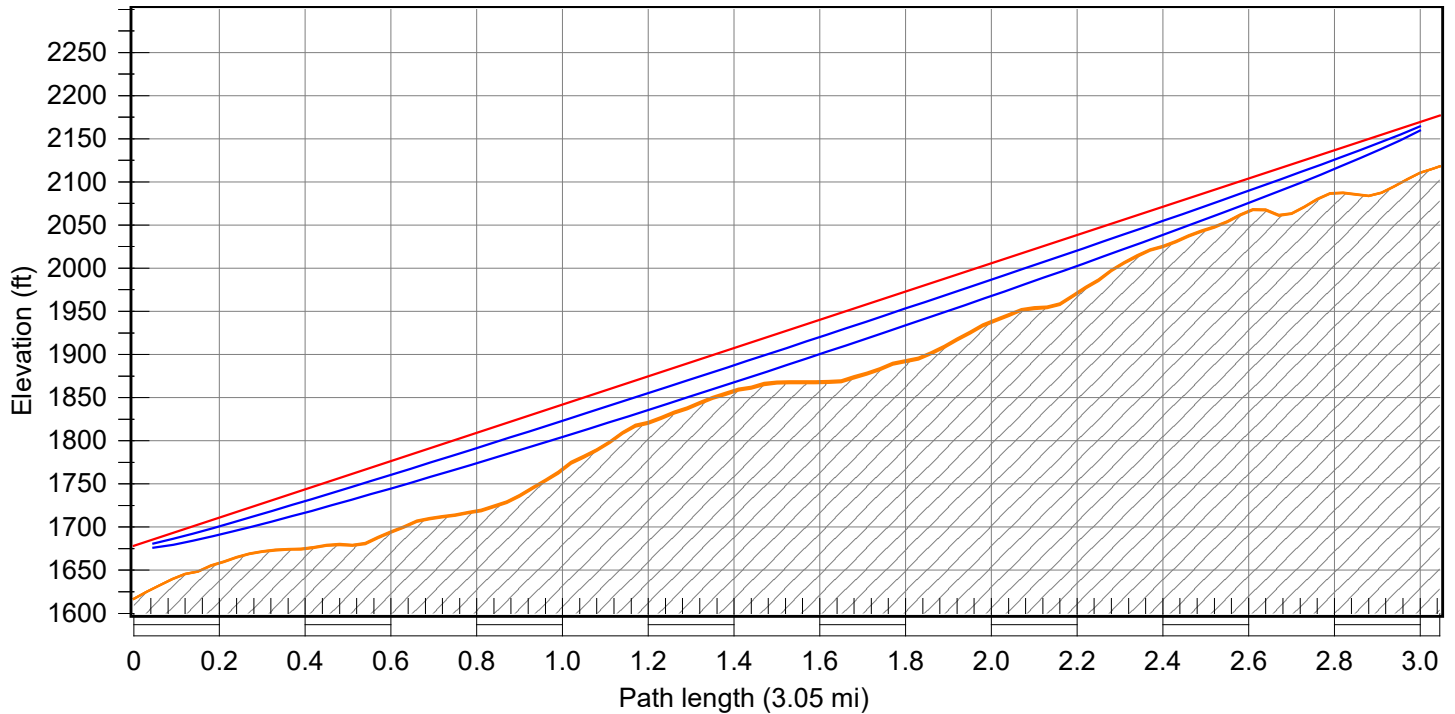
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	STOR_14
Latitude	39 44 57.56 N	39 44 08.41 N
Longitude	121 38 02.22 W	121 36 39.71 W
True azimuth (°)	127.65	307.66
Vertical angle (°)	-1.25	1.24
Elevation (ft)	1616.72	1445.08
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	98.85	93.80
TX line length (ft)	171.13	156.13
TX loss (dB)	4.42	4.12
RX loss (dB)	4.42	4.12
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.73	40.03
Receive signal (dBm)	-55.71	-55.71
Thermal fade margin (dB)	34.29	34.29
Effective fade margin (dB)	34.29	34.29

	PARADISE TOWN HALL	STOR_14
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.09	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-STOR\_16.pl5)



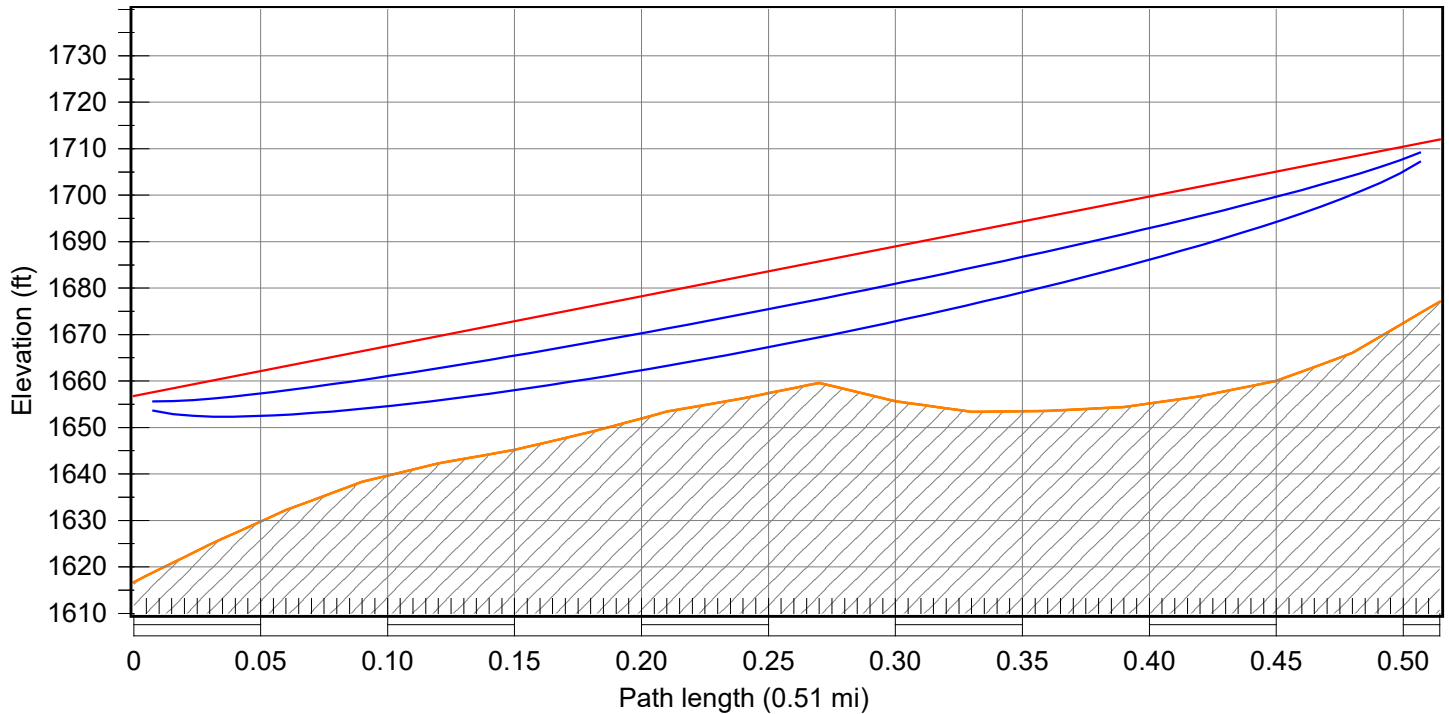
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	STOR_16
Latitude	39 44 57.56 N	39 47 02.40 N
Longitude	121 38 02.22 W	121 35 54.82 W
True azimuth (°)	38.21	218.23
Vertical angle (°)	1.76	-1.79
Elevation (ft)	1616.72	2118.07
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	61.39	58.68
TX line length (ft)	142.26	129.55
TX loss (dB)	3.85	3.59
RX loss (dB)	3.85	3.59
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	40.30	40.56
Receive signal (dBm)	-60.52	-60.52
Thermal fade margin (dB)	29.48	29.48

	PARADISE TOWN HALL	STOR_16
Effective fade margin (dB)	29.48	29.48
Annual 2 way multipath availability (%)	99.99999	
Annual 2 way multipath unavailability (sec)	4.10	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-STOR\_18.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

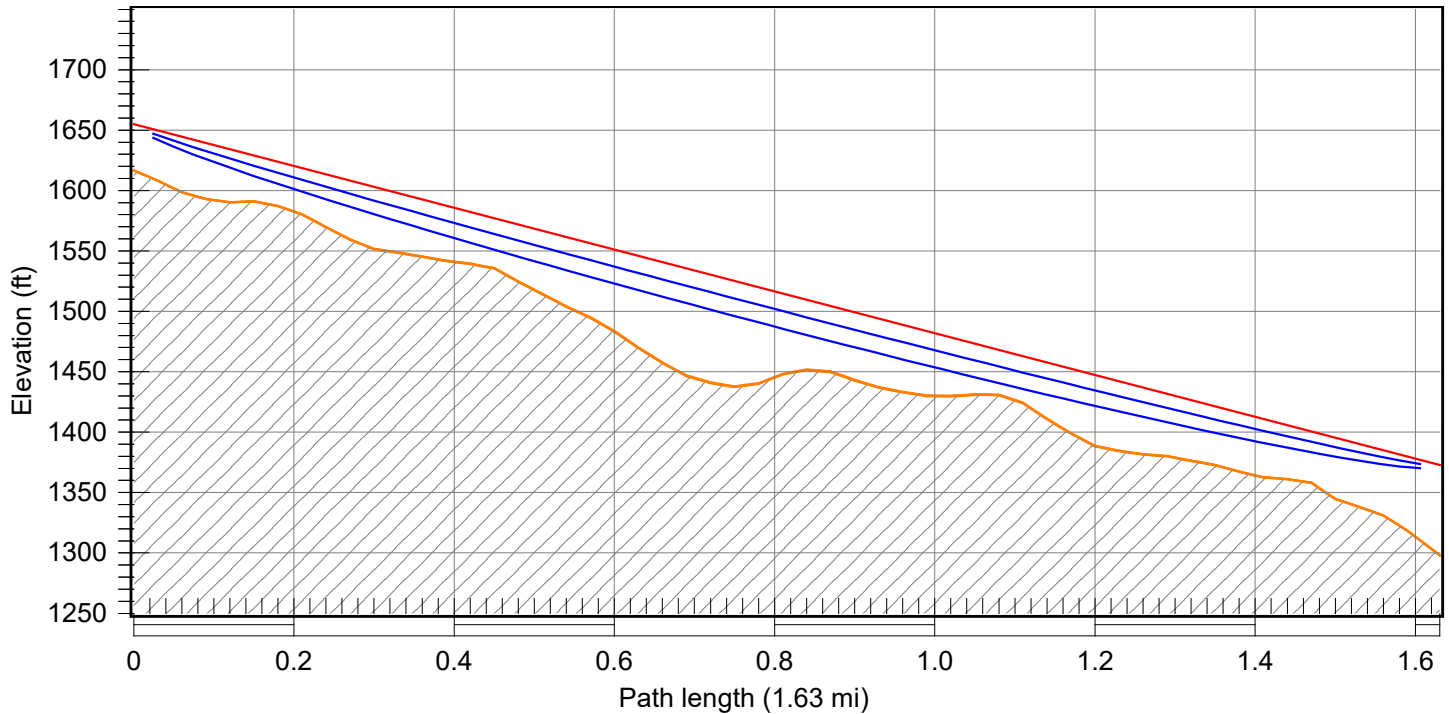
	PARADISE TOWN HALL	STOR_18
Latitude	39 44 57.56 N	39 45 16.31 N
Longitude	121 38 02.22 W	121 37 37.34 W
True azimuth (°)	45.68	225.69
Vertical angle (°)	1.16	-1.17
Elevation (ft)	1616.72	1677.04
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	40.08	34.93
TX line length (ft)	100.24	96.53
TX loss (dB)	3.00	2.93
RX loss (dB)	3.00	2.93
Diffraction loss	0.00	
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.15	41.22
Receive signal (dBm)	-43.55	-43.55
Thermal fade margin (dB)	46.45	46.45



	PARADISE TOWN HALL	STOR_18
Effective fade margin (dB)	46.45	46.45
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.00	

Multipath fading method - Vigants - Barnett  
Rain fading method - Crane

Transmission summary (PARADISE TOWN HALL-Export PS.pl5)



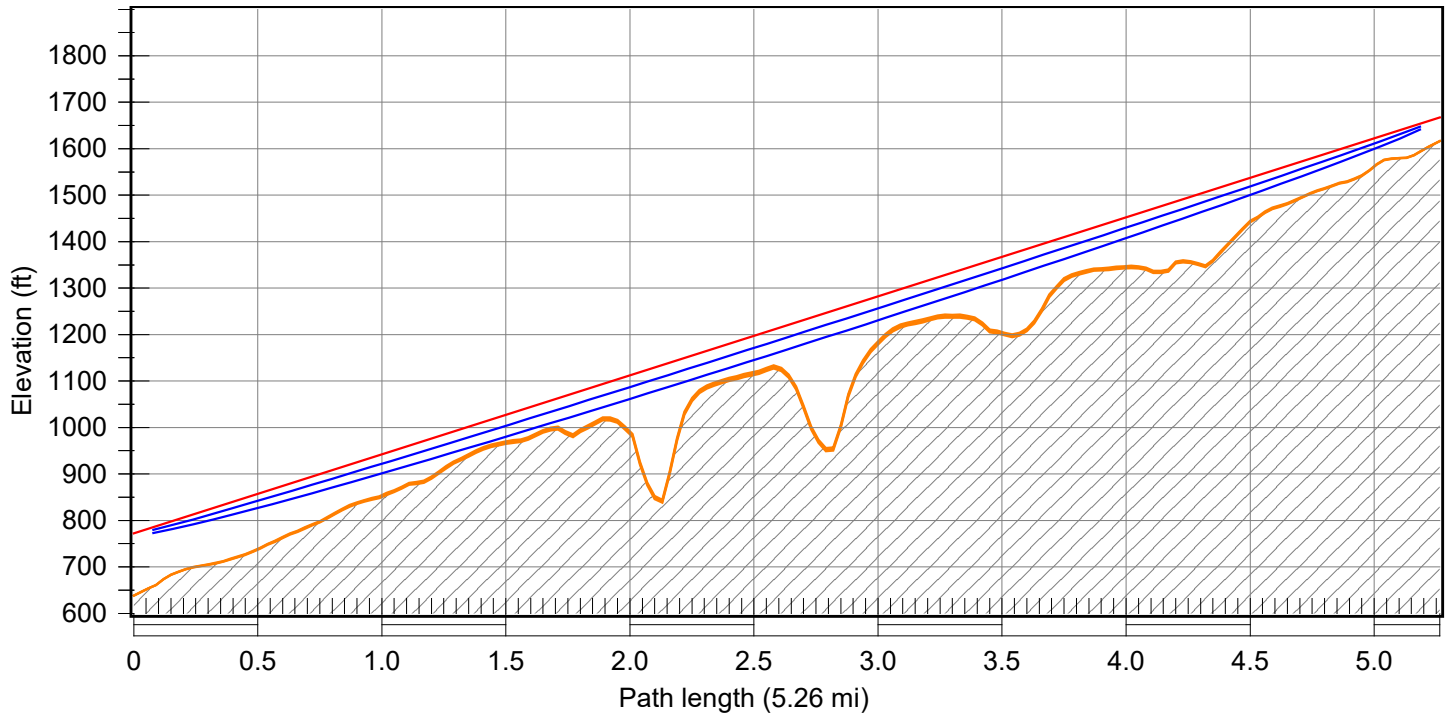
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	PARADISE TOWN HALL	Export PS
Latitude	39 44 57.56 N	39 44 29.56 N
Longitude	121 38 02.22 W	121 39 46.27 W
True azimuth (°)	250.79	70.77
Vertical angle (°)	-1.88	1.87
Elevation (ft)	1616.72	1298.07
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	38.14	74.88
TX line length (ft)	88.14	124.88
TX loss (dB)	2.76	3.50
RX loss (dB)	2.76	3.50
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.39	40.65
Receive signal (dBm)	-53.91	-53.91
Thermal fade margin (dB)	36.09	36.09
Effective fade margin (dB)	36.09	36.09

	PARADISE TOWN HALL	Export PS
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (sec)	0.14	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (Proposed Transition Structure (S of Skyway)-PARADISE TOWN HALL.p15)



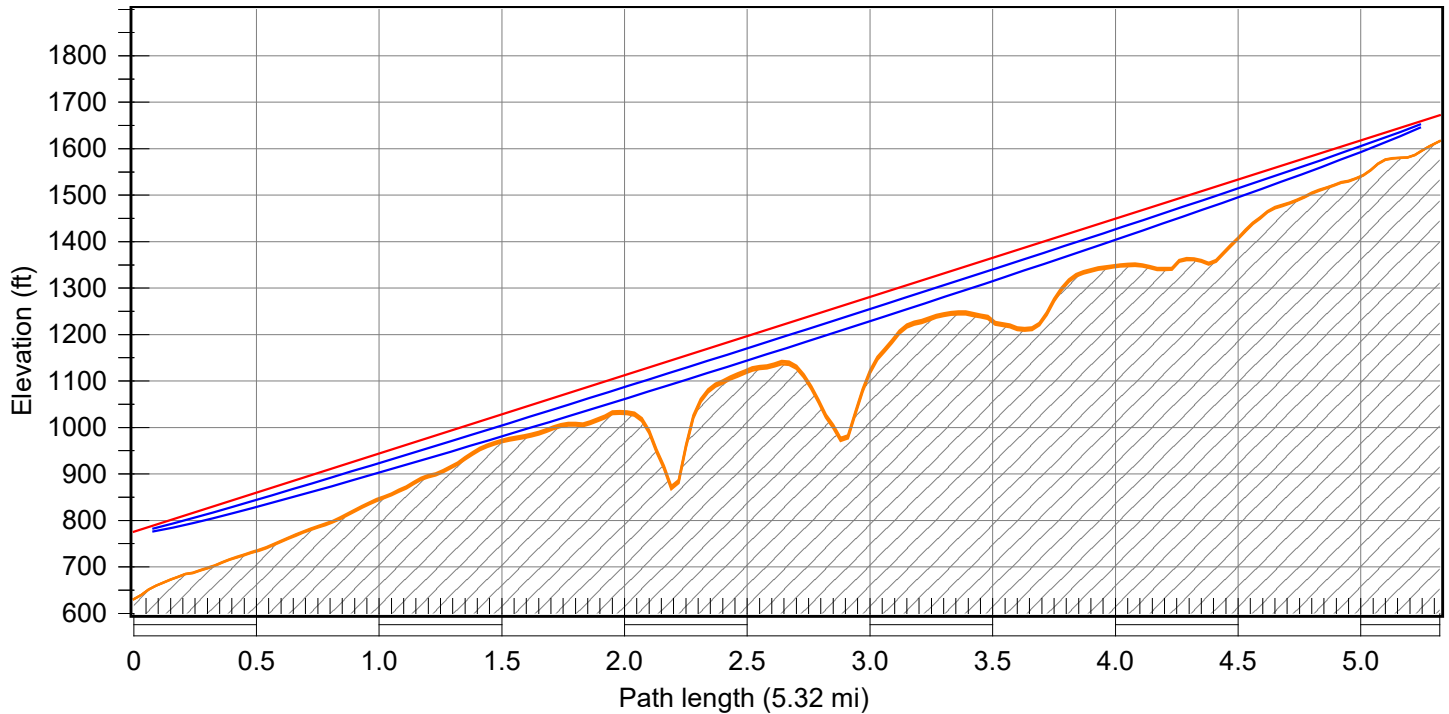
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	Proposed Transition Structure (S of Skyway)	PARADISE TOWN HALL
Latitude	39 42 37.82 N	39 44 57.56 N
Longitude	121 43 08.45 W	121 38 02.22 W
True azimuth (°)	59.39	239.44
Vertical angle (°)	1.82	-1.87
Elevation (ft)	638.00	1616.72
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	134.31	50.59
TX line length (ft)	184.31	100.59
TX loss (dB)	4.69	3.01
RX loss (dB)	4.69	3.01
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.46	41.14
Receive signal (dBm)	-65.55	-65.55
Thermal fade margin (dB)	24.45	24.45

	Proposed Transition Structure (S of Skyway)	PARADISE TOWN HALL
Effective fade margin (dB)	24.45	24.45
Annual 2 way multipath availability (%)	99.99993	
Annual 2 way multipath unavailability (sec)	20.69	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (Proposed Transition Structure (N of Skyway)-PARADISE TOWN HALL.pl5)



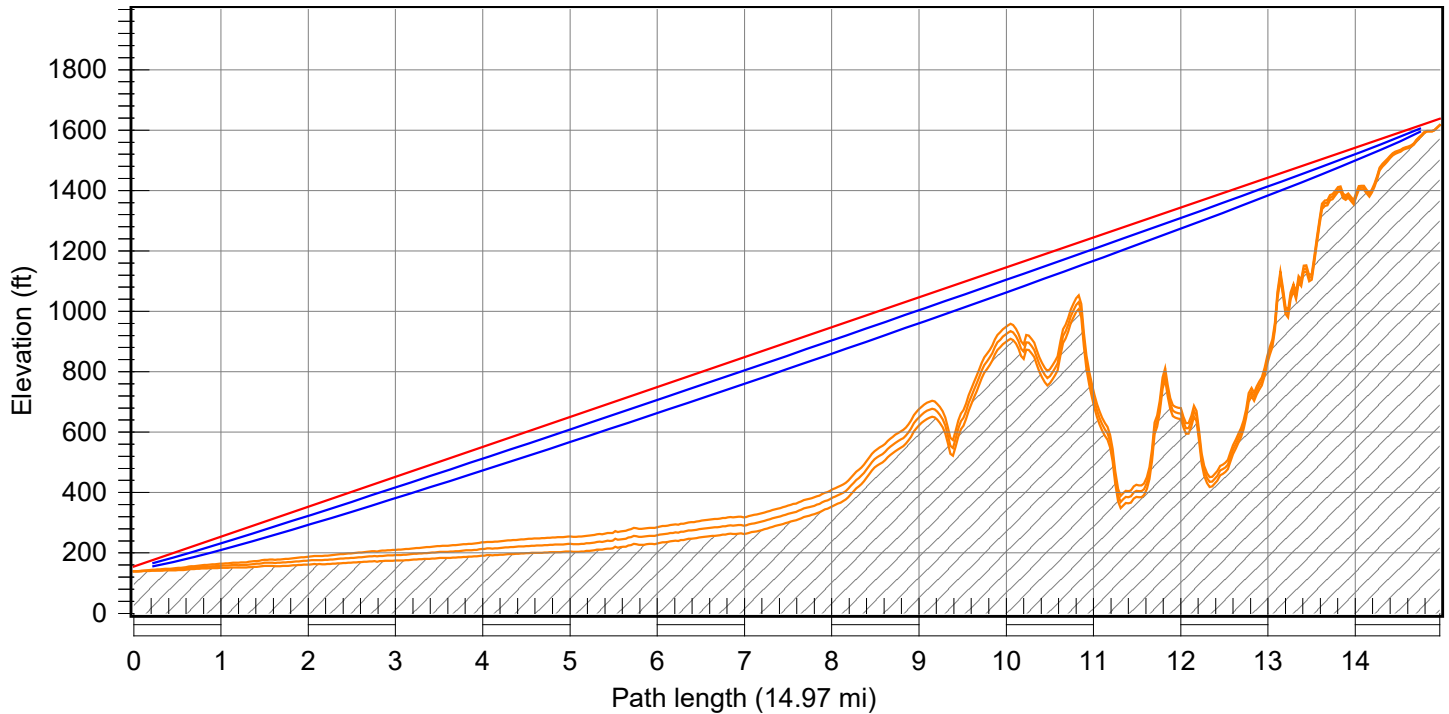
F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	Proposed Transition Structure (N of Skyway)	PARADISE TOWN HALL
Latitude	39 42 38.51 N	39 44 57.56 N
Longitude	121 43 13.46 W	121 38 02.22 W
True azimuth (°)	59.92	239.97
Vertical angle (°)	1.80	-1.86
Elevation (ft)	630.67	1616.72
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	144.76	55.26
TX line length (ft)	194.76	105.26
TX loss (dB)	4.90	3.11
RX loss (dB)	4.90	3.11
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	39.25	41.04
Receive signal (dBm)	-65.95	-65.95
Thermal fade margin (dB)	24.05	24.05

	Proposed Transition Structure (N of Skyway)	PARADISE TOWN HALL
Effective fade margin (dB)	24.05	24.05
Annual 2 way multipath availability (%)	99.99992	
Annual 2 way multipath unavailability (sec)	26.63	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

Transmission summary (Chico Control Valves-PARADISE TOWN HALL.pl5)



F = 900.00 MHz K = 1.33, 0.67 %F1 = 60.0, 30.0, 60.0

	Chico Control Valves	PARADISE TOWN HALL
Latitude	39 42 01.21 N	39 44 57.56 N
Longitude	121 54 27.46 W	121 38 02.22 W
True azimuth (°)	76.86	257.04
Vertical angle (°)	0.99	-1.16
Elevation (ft)	138.84	1616.72
Antenna model	940F6 (TR)	940F6 (TR)
Antenna gain (dBi)	8.15	8.15
Antenna height (ft)	15.83	21.45
TX line length (ft)	65.83	71.45
TX loss (dB)	2.32	2.43
RX loss (dB)	2.32	2.43
Radio model	ORBIT MCR 900 MHZ	ORBIT MCR 900 MHZ
TX power (dBm)	36.00	36.00
EIRP (dBm)	41.83	41.72
Receive signal (dBm)	-71.75	-71.75
Thermal fade margin (dB)	18.25	18.25
Effective fade margin (dB)	18.25	18.25



	Chico Control Valves	PARADISE TOWN HALL
Annual 2 way multipath availability (%)	99.99837	
Annual 2 way multipath unavailability (sec)	513.97	

Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

APPENDIX G

# PRELIMINARY DESIGN AND CONSTRUCTION SCHEDULE

**Project Paradise Sewer Project Baseline ScheduleRev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	
<b>Project Paradise Sewer Project Baseline ScheduleRev0</b>														
<b>Town &amp; OA Preconstruction Activities</b>														
<b>Town Council &amp; Prop 218</b>														
PRECON-1040	Prepare Municipal Code	PC-7x8	545	06/01/24A	11/27/25	[Gantt bar for PRECON-1040]								PRECON-1040
PRECON-1200	Procure a Rate Consultant	PC-7x8	130	12/17/24*	04/25/25	[Gantt bar for PRECON-1200]								PRECON-1200
PRECON-1210	Chico Adopts Treatment Only Fee	PC-7x8	545	12/17/24*	06/14/26	[Gantt bar for PRECON-1210]								PRECON-1210
PRECON-1300	Operating Agreement w/ Chico	PC-7x8	365	02/27/25	02/26/26	[Gantt bar for PRECON-1300]								PRECON-1300
PRECON-1330	Prepare Rate Study	PC-7x8	545	04/26/25	10/22/26	[Gantt bar for PRECON-1330]								PRECON-1330
PRECON-1640	Adopt Sewer Rates	PC-7x8	80	10/23/26	01/10/27	[Gantt bar for PRECON-1640]								PRECON-1640
<b>Temporary and Permanent Property Acquisition</b>														
PRECON-1340	Identify Permanent/ Temporary Property Needs	PC-5x8ENG	20	08/27/25	09/24/25	[Gantt bar for PRECON-1340]								PRECON-1340
PRECON-1370	Initial Property Owner Outreach	PC-5x8ENG	130	09/25/25	04/01/26	[Gantt bar for PRECON-1370]								PRECON-1370
<b>Permanent Property ROW Acquisition</b>														
PRECON-1440	Draft Plat Maps and Legal Descriptions	PC-5x8ENG	10	05/12/26	05/26/26	[Gantt bar for PRECON-1440]								PRECON-1440
PRECON-1550	City Review	PC-5x8ENG	10	05/27/26	06/09/26	[Gantt bar for PRECON-1550]								PRECON-1550
PRECON-1580	Finalize Plat Maps and Legal Descriptions	PC-5x8ENG	10	06/10/26	06/23/26	[Gantt bar for PRECON-1580]								PRECON-1580
PRECON-1590	Title Reports	PC-5x8ENG	10	06/10/26	06/23/26	[Gantt bar for PRECON-1590]								PRECON-1590
PRECON-1600	Prepare ROW Cost Estimate	PC-5x8ENG	14	06/24/26	07/14/26	[Gantt bar for PRECON-1600]								PRECON-1600
PRECON-1610	Town Council Approval of ROW Cost Estimate	PC-5x8ENG	10	07/15/26	07/28/26	[Gantt bar for PRECON-1610]								PRECON-1610
PRECON-1620	Appraisal Process	PC-5x8ENG	100	07/29/26	12/18/26	[Gantt bar for PRECON-1620]								PRECON-1620
PRECON-1670	Property Negotiations	PC-5x8ENG	205	12/21/26	10/11/27	[Gantt bar for PRECON-1670]								PRECON-1670
PRECON-1700	Obtain Private Property Rights	PC-5x8ENG	5	10/12/27	10/18/27	[Gantt bar for PRECON-1700]								PRECON-1700
PRECON-1740	ROW Certification Complete	PC-5x8ENG	1	10/19/27	10/19/27	[Gantt bar for PRECON-1740]								PRECON-1740
<b>Permitting</b>														
<b>USACE Section 408 CP for Geotech</b>														
PRECON-1150	Prepare Draft 408 Application Package for Geotech	PC-5x8ENG	5	10/04/24	10/10/24	[Gantt bar for PRECON-1150]								PRECON-1150
PRECON-1160	Town Review	PC-5x8ENG	5	10/11/24	10/17/24	[Gantt bar for PRECON-1160]								PRECON-1160
PRECON-1170	Prepare Final 408 Application Package for Geotech	PC-5x8ENG	5	10/18/24	10/24/24	[Gantt bar for PRECON-1170]								PRECON-1170
PRECON-1180	Submit Final 408 for Geotech to CVFPB	PC-7x8	1	10/25/24	10/25/24	[Gantt bar for PRECON-1180]								PRECON-1180
PRECON-1190	CVFPB Review	PC-7x8	120	10/26/24	02/22/25	[Gantt bar for PRECON-1190]								PRECON-1190
PRECON-1320	USACE Review	PC-7x8	180	02/23/25	08/21/25	[Gantt bar for PRECON-1320]								PRECON-1320
PRECON-1350	USACE Issues Letter of Completion to CVFPB	PC-7x8	1	08/22/25	08/22/25	[Gantt bar for PRECON-1350]								PRECON-1350
PRECON-1360	CVFPB issues Letter of Permission to Board of Directors	PC-7x8	65	08/23/25	10/26/25	[Gantt bar for PRECON-1360]								PRECON-1360
PRECON-1380	CFVPB Board of Directors issues 408 for Geotech	PC-7x8	1	10/27/25	10/27/25	[Gantt bar for PRECON-1380]								PRECON-1380
<b>USACE Section 408 CP for HDD</b>														
PRECON-1410	Prepare Draft 408 Application Package for HDD	PC-5x8ENG	5	03/10/26	03/16/26	[Gantt bar for PRECON-1410]								PRECON-1410
PRECON-1420	Town Review	PC-5x8ENG	5	03/17/26	03/23/26	[Gantt bar for PRECON-1420]								PRECON-1420
PRECON-1430	Prepare Final 408 Application Package for HDD	PC-5x8ENG	5	03/24/26	03/30/26	[Gantt bar for PRECON-1430]								PRECON-1430
PRECON-1480	Submit Final 408 for Geotech to CVFPB	PC-7x8	1	03/31/26	03/31/26	[Gantt bar for PRECON-1480]								PRECON-1480
PRECON-1490	CVFPB Review	PC-7x8	150	04/01/26	08/28/26	[Gantt bar for PRECON-1490]								PRECON-1490
PRECON-1630	USACE Review	PC-7x8	367	08/29/26	08/30/27	[Gantt bar for PRECON-1630]								PRECON-1630
PRECON-1710	USACE Issues Letter of Completion to CVFPB	PC-7x8	1	08/31/27	08/31/27	[Gantt bar for PRECON-1710]								PRECON-1710
PRECON-1730	CVFPB issues Letter of Permission to Board of Directors	PC-7x8	65	09/01/27	11/04/27	[Gantt bar for PRECON-1730]								PRECON-1730
PRECON-1760	CFVPB Board of Directors issues 408 for HDD	PC-7x8	1	11/05/27	11/05/27	[Gantt bar for PRECON-1760]								PRECON-1760
<b>USACE 404 Permit</b>														
PRECON-1450	Prepare 404 Application based on 60%	PC-7x8	10	05/12/26	05/21/26	[Gantt bar for PRECON-1450]								PRECON-1450
PRECON-1540	Town Review	PC-7x8	10	05/22/26	05/31/26	[Gantt bar for PRECON-1540]								PRECON-1540
PRECON-1560	Submit Revised 404 Application to USACE	PC-7x8	1	06/01/26	06/01/26	[Gantt bar for PRECON-1560]								PRECON-1560
PRECON-1570	USACE Review of 404 Application	PC-7x8	270	06/02/26	02/26/27	[Gantt bar for PRECON-1570]								PRECON-1570
PRECON-1720	USACE issues 404 Permit	PC-7x8	1	09/01/27	09/01/27	[Gantt bar for PRECON-1720]								PRECON-1720

**Project Paradise Sewer Project Baseline ScheduleRev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	2
<b>CVRWQCB 401 Permit</b>														
PRECON-1220	Prepare Updated 401 Application Based on BODR	PC-7x8	10	12/17/24	12/26/24									
PRECON-1240	Town Review	PC-7x8	5	12/27/24	12/31/24									
PRECON-1260	Submit 401 to RWQCB based on BODR	PC-7x8	1	01/01/25	01/01/25									
PRECON-1280	RWQCB Review	PC-7x8	85	01/02/25	03/27/25									
PRECON-1310	Prepare response to RWQCB including 60% design	PC-7x8	177	05/12/26*	11/04/26									
PRECON-1680	Town Review	PC-7x8	10	11/05/26	11/14/26									
PRECON-1690	Submit Response to RWQCB	PC-7x8	1	11/15/26	11/15/26									
PRECON-1750	CVWQCB Issues 401 Permit	PC-7x8	1	11/06/27	11/06/27									
<b>CDFW - 1602 Lake &amp; Streambed Alteration Agreement</b>														
PRECON-1230	Prepare Draft Streambed Application	PC-7x8	10	12/17/24	12/26/24									
PRECON-1250	Town Review	PC-7x8	5	12/27/24	12/31/24									
PRECON-1270	Submit Streambed Application to CDFW based on BODR	PC-7x8	1	01/01/25	01/01/25									
PRECON-1290	CDFW Review	PC-7x8	200	01/02/25	07/20/25									
PRECON-1390	Prepare Response to CDFW including 60% design	PC-7x8	25	05/12/26	06/05/26									
PRECON-1460	Town Review	PC-7x8	5	06/06/26	06/10/26									
PRECON-1500	Submit Responses to CDFW	PC-7x8	1	06/11/26	06/11/26									
PRECON-1520	CDFW Issues 1602 Lake & Streambed Alteration Agreement	PC-7x8	90	06/12/26	09/09/26									
<b>CDFW - CESA Incidental Take Permit (ITP)</b>														
PRECON-1120	CDFW Review	PC-7x8	200	08/04/24A	09/01/24									
PRECON-1400	Prepare Response to CDFW	PC-7x8	25	05/12/26	06/05/26									
PRECON-1470	Town Review	PC-7x8	5	06/06/26	06/10/26									
PRECON-1510	Submit Responses to CDFW	PC-7x8	1	06/11/26	06/11/26									
PRECON-1530	CDFW issues CESA ITP	PC-7x8	100	06/12/26	09/19/26									
<b>Section 106 (SHPO &amp; Tribal)</b>														
PRECON-1070	Conduct Tribal consultations	PC-7x8	60	07/10/24A	09/07/24									
PRECON-1140	SHPO Review	PC-7x8	30	08/27/24A	09/25/24									
<b>Permit Completion</b>														
PRECON-1650	County Encroachment Permit	PC-7x8	120	12/11/26	04/09/27									
PRECON-1660	City Permit	PC-7x8	90	12/11/26	03/10/27									
PRECON-1770	All Environmental Permits Complete	PC-7x8	1	11/07/27	11/07/27									
<b>Design &amp; Construction</b>														
<b>Phase 1A</b>														
<b>Task 1: Project Management</b>														
<b>1.2 - Meetings</b>														
TASK1-ENG-1240	Phase 2 Preliminary Services Amendment Review Meetings #1	PC-5x8ENG	1	11/15/24	11/15/24									
TASK1-ENG-1250	Phase 2 Preliminary Services Amendment Review Meetings #2	PC-5x8ENG	1	11/18/24	11/18/24									
TASK1-ENG-1260	Phase 2 Preliminary Services Amendment Review Meetings #3	PC-5x8ENG	1	11/19/24	11/19/24									
<b>Task 3: Field Investigation Plan</b>														
<b>3.2 - Existing Utility Research</b>														
TASK3-ENG-1200	Meet with Utilities, if needed	PC-5x8ENG	66	08/06/24A	11/06/24									
<b>3.3 - Field Investigation Plan</b>														
<b>Geotechnical and Hazardous Materials</b>														
TASK3-ENG-1140	Develop Field Investigation Plan	PC-5x8ENG	15	08/15/24A	09/05/24									
TASK3-ENG-117	Internal QC Review	PC-5x8ENG	5	09/06/24	09/12/24									
TASK3-ENG-118	Submit Draft Plan	PC-5x8ENG	1	09/12/24	09/12/24									

**Project Paradise Sewer Project Baseline ScheduleRev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	2
TASK3-ENG-119	Town Review	PC-5x8ENG	10	09/13/24	09/26/24									
TASK3-ENG-122	Update Final Plan	PC-5x8ENG	5	09/27/24	10/03/24									
TASK3-ENG-123	Submit Final Plan	PC-5x8ENG	1	10/03/24	10/03/24									
<b>Pothole Plan</b>														
TASK3-ENG-1210	Review Utilities As-builts	PC-5x8ENG	20	08/06/24 A	09/03/24									
TASK3-ENG-125	Develop Pothole Plan	PC-5x8ENG	15	09/04/24	09/24/24									
TASK3-ENG-126	QC Pothole Plan	PC-5x8ENG	5	09/25/24	10/01/24									
TASK3-ENG-127	Submit Pothole Plan	PC-5x8ENG	1	10/02/24	10/02/24									
TASK3-ENG-128	Town Review Pothole Plan	PC-5x8ENG	5	10/03/24	10/09/24									
TASK3-ENG-129	Updated Final Pothole Plan	PC-5x8ENG	10	10/10/24	10/23/24									
TASK3-ENG-130	Submit Final Pothole Plan	PC-5x8ENG	1	10/24/24	10/24/24									
<b>Task 5: Basis of Design Report</b>														
<b>5.1 - Draft Basis of Design Report</b>														
TASK5-ENG-1050	DRAFT BODR	PC-5x8ENG	20	08/09/24 A	09/30/24									
TASK5-ENG-1060	Internal QC Review	PC-5x8ENG	0	10/01/24	10/01/24									
TASK5-ENG-1070	Submit Draft BODR	PC-5x8ENG	1	10/18/24	10/18/24									
TASK5-ENG-1080	Town Review	PC-5x8ENG	10	10/21/24	11/01/24									
<b>5.7 - Draft BODR Review Meetings</b>														
TASK5-ENG-1090	Town Review Workshop #1 - Collection System	PC-5x8ENG	1	11/04/24	11/04/24									
TASK5-ENG-1100	Town Review Workshop #2 - Export Pipeline	PC-5x8ENG	1	11/14/24	11/14/24									
<b>5.8 - Final BODR</b>														
TASK5-ENG-1110	Update Final BODR	PC-5x8ENG	20	11/15/24	12/16/24									
TASK5-ENG-1120	Submit Final BODR	PC-5x8ENG	1	12/16/24	12/16/24									
<b>Task 6: Funding Support</b>														
TASK6-ENG-1000	Funding Support	PC-5x8ENG	200	03/18/24 A	12/30/24									
<b>Task 7: Permitting Support</b>														
TASK7-ENG-1000	Permitting Support	PC-5x8ENG	200	03/18/24 A	12/30/24									
<b>Task 8: Stakeholder and Public Outreach Support</b>														
TASK8-ENG-1000	Public Outreach Support	PC-5x8ENG	200	03/19/24 A	12/31/24									
<b>Task 9: Design and Construction Phasing Plan and Schedule</b>														
TASK9-ENG-1080	Update Final Phasing Plan and Schedule	PC-5x8ENG	14	12/17/24	01/07/25									
TASK9-ENG-1090	Submit Final Phasing Plan and Schedule	PC-5x8ENG	1	01/07/25	01/07/25									
<b>Task 10: Cost Model</b>														
TASK10-ENG-1090	Update Estimate per BODR	PC-5x8ENG	22	12/16/24	01/16/25									
TASK10-ENG-1100	Town Review	PC-5x8ENG	13	01/17/25	02/04/25									
TASK10-ENG-1110	Town Review Workshop #1	PC-5x8ENG	1	02/05/25	02/05/25									
TASK10-ENG-1120	Town Review Workshop #2	PC-5x8ENG	1	02/05/25	02/05/25									
TASK10-ENG-1130	Update Final Baseline Cost Model	PC-5x8ENG	14	02/06/25	02/26/25									
TASK10-ENG-1140	Submit Final Baseline Cost Model	PC-5x8ENG	1	02/26/25	02/26/25									
<b>Task 11: Phase 1 Additional Preliminary Services</b>														
PH1A-SURV-1040	Execute Survey Change Proposal	PC-5x8ENG	1	09/03/24	09/03/24									
<b>11.2 - Additional Phase 1 Topographic Survey</b>														
<b>Survey Field Investigation - Town</b>														
FI-1000	Establish Control - For Town	PC-5x8	24	10/01/24*	11/01/24									
FI-1040	Topographic Survey	PC-5x8	20	11/04/24	12/03/24									
FI-1080	Supplemental Site Survey	PC-5x8	49	12/04/24	03/24/25									

**Project Paradise Sewer Project Baseline Schedule Rev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	2
FI-1180	Boundary Survey	PC-5x8	29	03/25/25	05/02/25		■							
<b>Survey Field Investigation - Export Pipeline</b>														
FI-1010	Topographic Survey	PC-5x8	24	10/01/24	11/01/24		■							
FI-1050	Supplemental Site Survey	PC-5x8	20	11/04/24	12/03/24		■							
FI-1090	Boundary Survey	PC-5x8	20	12/04/24	01/24/25		■							
<b>Phase 1A Completion</b>														
PH1A-COMP-1000	Develop Phase 1B Scope & Budget (to 30% Design)	PC-5x8ENG	34	08/12/24 A	09/27/24		■							
PH1A-COMP-1010	Submit Phase 1B Scope & Budget (to 30% Design)	PC-5x8ENG	1	09/30/24	09/30/24									
PH1A-COMP-1020	Town Review of Phase 1B Scope & Budget (to 30% Design)	PC-5x8ENG	15	10/01/24	10/21/24									
PH1A-COMP-1030	Execute Change for Phase 1B Scope & Budget (to 30% Design)	PC-5x8ENG	5	10/22/24	10/28/24									
PH1A-COMP-1040	Completion Phase 1A	PC-5x8H	0		05/02/25									
<b>Phase 1B Design Work</b>														
<b>Perform Field Investigations</b>														
<b>Geotechnical Investigations</b>														
FI-1020	Boring Permits	PC-5x8ENG	10	10/04/24	10/17/24		■							
FI-1060	Field Investigations	PC-5x8	49	10/18/24	01/22/25		■							
FI-1160	Laboratory Analysis	PC-5x8ENG	20	01/23/25	02/20/25									
FI-1190	Internal QC Review	PC-5x8ENG	5	02/21/25	02/27/25									
FI-1200	Submit Draft Report	PC-5x8ENG	1	02/27/25	02/27/25									
FI-1210	Town Review	PC-5x8ENG	10	02/28/25	03/13/25									
FI-1230	Update Final Report	PC-5x8ENG	10	03/14/25	03/27/25									
FI-1240	Submit Final Report	PC-5x8ENG	1	03/27/25	03/27/25									
FI-1290	Field Investigations - 408 Jurisdiction	PC-5x8ENG	10	10/28/25	11/10/25									
<b>Hazardous Materials Investigations</b>														
FI-1030	Boring Permits	PC-5x8ENG	10	10/04/24	10/17/24		■							
FI-1070	Field Investigations	PC-5x8	15	10/18/24	11/07/24		■							
FI-1100	Laboratory Analysis	PC-5x8ENG	20	11/08/24	12/09/24									
FI-1120	Internal QC Review	PC-5x8ENG	10	12/10/24	12/23/24									
FI-1130	Submit Draft Report	PC-5x8ENG	1	12/23/24	12/23/24									
FI-1140	Town Review	PC-5x8ENG	10	12/24/24	01/08/25									
FI-1150	Update Final Report	PC-5x8ENG	10	01/09/25	01/22/25									
FI-1170	Submit Final Report	PC-5x8ENG	1	01/22/25	01/22/25									
<b>Preliminary Design (30%, Potholing, Property, &amp; Permit)</b>														
FI-1260	Develop 30% Design Drawings for Field Investigations - Export Pipeline	PC-5x8ENG	80	05/05/25	08/26/25		■							
FI-1270	Update Potholing Plan	PC-5x8ENG	10	08/27/25	09/10/25									
FI-1280	Utility Potholing	PC-5x8	67	09/11/25	12/23/25									
<b>Collection System</b>														
FI-1110	Develop 30% Design Drawings for Field Investigations	PC-5x8ENG	80	12/17/24	04/10/25		■							
FI-1220	Update Pothole Plan & Identify Utilities	PC-5x8ENG	20	04/11/25	05/08/25									
FI-1250	Collection System Utility Potholing	PC-5x8	200	05/09/25	04/09/26									
<b>Export Pipeline</b>														
<b>Trenchless Evaluation Memorandum</b>														
FI-1300	Draft Trenchless Evaluation Memo	PC-5x8ENG	10	11/11/25	11/24/25									
FI-1310	Internal QC Review	PC-5x8ENG	5	11/25/25	12/03/25									
FI-1320	Town Review	PC-5x8ENG	10	12/04/25	12/17/25									
FI-1330	Final Trenchless Evaluation Memo	PC-5x8ENG	5	12/18/25	12/24/25									
<b>Permit Approvals - TBD</b>														
<b>Caltrans</b>														
PERMIT-1000	Initial Coordination	PC-5x8ENG	20	12/26/25	01/23/26									
PERMIT-1020	Preliminary Submittal	PC-5x8ENG	5	01/26/26	01/30/26									

**Project Paradise Sewer Project Baseline Schedule Rev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031
PERMIT-1050	Permit Submittal	PC-5x8ENG	5	04/14/26	04/20/26								
PERMIT-1080	Permit Review	PC-5x8ENG	40	04/21/26	06/16/26								
PERMIT-1100	Obtain Permit	PC-5x8ENG	1	06/16/26	06/16/26								
<b>UPRR</b>													
PERMIT-1010	Initial Coordination	PC-5x8ENG	5	12/26/25	01/02/26								
PERMIT-1030	Permit Submittal	PC-5x8ENG	5	04/14/26	04/20/26								
PERMIT-1060	Permit Review	PC-5x8ENG	125	04/21/26	10/15/26								
PERMIT-1110	Obtain Permit	PC-5x8ENG	5	10/16/26	10/22/26								
<b>Ca-OSHA Mining / Tunneling Permit, if needed</b>													
PERMIT-1040	Permit Submittal	PC-5x8ENG	5	04/14/26	04/20/26								
PERMIT-1070	Permit Review	PC-5x8ENG	30	04/21/26	06/02/26								
PERMIT-1090	Obtain Permit	PC-5x8ENG	5	06/03/26	06/09/26								
<b>30% Cost Model Update</b>													
30-COSTMD-1000	Update Cost Model for 30% Plan	PC-5x8ENG	40	08/27/25	10/22/25								
30-COSTMD-1020	Submit 30% Cost Model to Town	PC-5x8ENG	1	10/23/25	10/23/25								
30-COSTMD-1010	Town Review of 30% Cost Model	PC-5x8ENG	10	10/24/25	11/06/25								
30-COSTMD-1030	30% Cost Model Workshop & Meeting Reviews	PC-5x8ENG	10	11/07/25	11/20/25								
30-COSTMD-1040	Updated 30% Cost Model	PC-5x8ENG	20	11/21/25	12/22/25								
30-COSTMD-1050	Develop Subcontractor Plan	PC-5x8ENG	60	12/23/25	03/19/26								
30-COSTMD-1060	Town Review of Subcontractor Plan	PC-5x8ENG	10	03/20/26	04/02/26								
30-COSTMD-1070	Subcontractor Plan Workshops	PC-5x8ENG	10	04/03/26	04/16/26								
30-COSTMD-1080	Finalize Subcontractor Plan	PC-5x8ENG	10	04/17/26	04/30/26								
30-COSTMD-1090	Develop Subcontractor Prequalification Packages	PC-5x8ENG	40	05/01/26	06/26/26								
30-COSTMD-1100	Subcontractor Pre-qualifications	PC-5x8ENG	60	06/29/26	09/22/26								
<b>Design Collection System &amp; Export Pipeline 60% to 90%</b>													
COLL-BUDG-2000	Develop Phase 1C Scope & Budget (to 90% Design)	PC-5x8ENG	60	04/10/26	07/06/26								
COLL-BUDG-2020	Submit Phase 1C Scope & Budget (to 90% Design)	PC-5x8ENG	1	07/06/26	07/06/26								
COLL-BUDG-2010	Negotiate Phase 1C Scope & Budget (to 90% Design)	PC-5x8ENG	15	07/07/26	07/27/26								
COLL-BUDG-2030	Execute Change Phase 1C Scope & Budget (to 90% Design)	PC-5x8ENG	5	07/28/26	08/03/26								
<b>Collection System - Design</b>													
<b>60% Design</b>													
COLL-DESG-2000	Develop Design Drawings & Technical Specifications	PC-5x8ENG	70	12/31/25	04/09/26								
COLL-DESG-2010	Quality Control Review	PC-5x8ENG	5	04/10/26	04/16/26								
COLL-DESG-2020	Update Based on QC Review	PC-5x8ENG	5	04/17/26	04/23/26								
COLL-DESG-2030	Submit 60% Design	PC-5x8ENG	1	04/24/26	04/24/26								
COLL-DESG-2040	Town Review	PC-5x8ENG	10	04/27/26	05/08/26								
COLL-DESG-2050	Design Review Workshop	PC-5x8ENG	1	05/11/26	05/11/26								
<b>90% Design</b>													
COLL-DESG-2060	Develop Design Drawings & Technical Specifications	PC-5x8ENG	70	08/04/26	11/10/26								
COLL-DESG-2070	Quality Control Review	PC-5x8ENG	5	11/11/26	11/17/26								
COLL-DESG-2080	Update Based on QC Review	PC-5x8ENG	5	11/18/26	11/24/26								
COLL-DESG-2090	Submit 100% Design	PC-5x8ENG	5	11/25/26	12/03/26								
COLL-DESG-2100	Approval Review	PC-5x8ENG	10	11/25/26	12/10/26								
<b>Export Pipeline - Design to 90%</b>													
<b>Export Pipeline - Design / Package 1 - Trenchless Crossings</b>													
<b>60% Design</b>													
EXPRT-DESG-1060	Develop Design Drawings & Technical Specifications	PC-5x8ENG	30	12/26/25	02/06/26								
EXPRT-DESG-1070	Quality Control Review	PC-5x8ENG	5	02/09/26	02/13/26								
EXPRT-DESG-1080	Update Based on QC Review	PC-5x8ENG	5	02/17/26	02/23/26								
EXPRT-DESG-1090	Submit 60% Design	PC-5x8ENG	1	02/23/26	02/23/26								
EXPRT-DESG-1100	Town Review	PC-5x8ENG	10	02/24/26	03/09/26								
EXPRT-DESG-1110	Design Review Workshop	PC-5x8ENG	1	03/09/26	03/09/26								

**Project Paradise Sewer Project Baseline Schedule Rev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	2
<b>100% Design - For Permit Submittal</b>														
EXPRT-DESG-11	Develop Design Drawings & Technical Specifications	PC-5x8ENG	15	03/10/26	03/30/26									
EXPRT-DESG-11	Quality Control Review	PC-5x8ENG	5	03/31/26	04/06/26									
EXPRT-DESG-11	Update Based on QC Review	PC-5x8ENG	5	04/07/26	04/13/26									
EXPRT-DESG-11	Submit 90% Design	PC-5x8ENG	1	04/13/26	04/13/26									
EXPRT-DESG-11	Town Review	PC-5x8ENG	10	04/14/26	04/27/26									
EXPRT-DESG-11	Design Review Workshop	PC-5x8ENG	1	04/27/26	04/27/26									
EXPRT-DESG-11	Update, if needed, for Permit Submittal	PC-5x8ENG	5	04/28/26	05/04/26									
<b>Export Pipeline - Design Non-Trenchless Crossings to 90%</b>														
<b>60% Design</b>														
EXPRT-DESG-10	Develop Design Drawings & Technical Specifications	PC-5x8ENG	70	03/28/25	07/07/25									
EXPRT-DESG-10	Quality Control Review	PC-5x8ENG	5	07/08/25	07/14/25									
EXPRT-DESG-10	Update Based on QC Review	PC-5x8ENG	5	07/15/25	07/21/25									
EXPRT-DESG-10	Submit 60% Design	PC-5x8ENG	1	07/21/25	07/21/25									
EXPRT-DESG-10	Town Review	PC-5x8ENG	10	07/22/25	08/04/25									
EXPRT-DESG-10	Design Review Workshop	PC-5x8ENG	1	08/04/25	08/04/25									
<b>90% Design</b>														
EXPRT-DESG-11	Develop Design Drawings & Technical Specifications	PC-5x8ENG	70	08/04/26	11/10/26									
EXPRT-DESG-12	Quality Control Review	PC-5x8ENG	5	11/11/26	11/17/26									
EXPRT-DESG-12	Update Based on QC Review	PC-5x8ENG	5	11/18/26	11/24/26									
EXPRT-DESG-12	Submit 90% Design	PC-5x8ENG	1	11/24/26	11/24/26									
EXPRT-DESG-12	Town Review	PC-5x8ENG	10	11/25/26	12/10/26									
EXPRT-DESG-12	Design Review Workshop	PC-5x8ENG	1	12/10/26	12/10/26									
<b>Cost Model Update 60%</b>														
60-COSTMD-1000	60% Cost Model Update	PC-5x8ENG	40	05/12/26	07/08/26									
60-COSTMD-1010	Submit 60% Cost Model to Town	PC-5x8ENG	1	07/09/26	07/09/26									
60-COSTMD-1020	Town Review of 60% Cost Model	PC-5x8ENG	10	07/10/26	07/23/26									
60-COSTMD-1030	60% Cost Model Workshops with Town	PC-5x8ENG	5	07/24/26	07/30/26									
60-COSTMD-1040	Revise & Submit Final 60% Cost Model	PC-5x8ENG	20	07/31/26	08/27/26									
<b>Cost Model Update 90%</b>														
90-COSTMD-1000	90% Cost Model Update	PC-5x8ENG	40	08/28/26	10/23/26									
90-COSTMD-1050	Prepair Subcontractor Packages	PC-5x8ENG	30	08/28/26	10/09/26									
90-COSTMD-1060	Advertise Subcontractor Packages	PC-5x8ENG	60	10/12/26	01/07/27									
90-COSTMD-1020	Submit 90% Cost Model to Town	PC-5x8ENG	1	10/26/26	10/26/26									
90-COSTMD-1010	Town Review of 90% Cost Model	PC-5x8ENG	10	10/27/26	11/09/26									
90-COSTMD-1030	90% Cost Model Workshop	PC-5x8ENG	5	11/10/26	11/16/26									
90-COSTMD-1040	Revise & Submit Final 90% Cost Model	PC-5x8ENG	10	11/17/26	12/02/26									
90-COSTMD-1070	Receive Subcontractor Packages	PC-5x8ENG	10	01/08/27	01/21/27									
<b>GMP &amp; Construction</b>														
GMP-1000	Negotiate GMP	PC-5x8ENG	90	01/22/27	05/31/27									
<b>Final Design &amp; Construction of Collection System</b>														
<b>100% Design</b>														
COLL-DESG-1000	Develop Design Drawings & Technical Specifications	PC-5x8ENG	35	06/01/27	07/20/27									
COLL-DESG-1010	Quality Control Review	PC-5x8ENG	5	07/21/27	07/27/27									
COLL-DESG-1020	Update Based on QC Review	PC-5x8ENG	5	07/28/27	08/04/27									
COLL-DESG-1030	Submit 100% Design	PC-5x8ENG	1	08/04/27	08/04/27									
COLL-DESG-1040	Approval Review	PC-5x8ENG	10	08/05/27	08/18/27									
<b>Equipment Procurement</b>														
COLL-PROC-1000	Pocket Pump Stations	PC-5x8ENG	131	06/01/27	12/03/27									
COLL-PROC-1010	Precast Materials - Collection System - First Delivery	PC-5x8ENG	91	06/01/27	10/07/27									
COLL-PROC-1020	Gavity PVC pipe - First Delivery	PC-5x8ENG	91	06/01/27	10/07/27									



**Project Paradise Sewer Project Baseline Schedule Rev0**

Activity ID	Activity Name	Calendar	OD	Start	Finish	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Construct Collection System</b>														
COLL-CONST-1000	Construct Gravity Sewer System - Crew 1 (72,000 LF)	PC-5x8	677	11/08/27	11/20/30									
COLL-CONST-1010	Construct Gravity Sewer System - Crew 2 (72,000 LF)	PC-5x8	677	12/14/27	12/30/30									
COLL-CONST-1020	Construct Gravity Sewer Sytem - Crew 3 (22,000 LF)	PC-5x8	200	01/27/28	12/01/28									
COLL-CONST-1030	Trunk Forcemain (20,000 LF)	PC-5x8	228	12/11/28	12/17/29									
COLL-CONST-1040	Install Service Laterials (1469 ea)	PC-5x8	294	10/19/29	03/19/31									
COLL-CONST-1050	Construct Collector Pump Stations (28 each)	PC-5x8	190	04/08/30	01/29/31									
COLL-CONST-1060	Electrical Work & Terminations @ Pump Stations	PC-5x8	190	05/20/30	04/03/31									
<b>Final Design &amp; Construct Export Pipeline</b>														
<b>100% Design</b>														
EXP-DES-1000	Develop Design Drawings & Technical Specifications	PC-5x8ENG	30	06/01/27	07/13/27									
EXP-DES-1010	Quality Control Review	PC-5x8ENG	5	07/14/27	07/20/27									
EXP-DES-1020	Update Based on QC Review	PC-5x8ENG	5	07/21/27	07/27/27									
EXP-DES-1030	Submit 100% Design	PC-5x8ENG	1	07/27/27	07/27/27									
EXP-DES-1040	Town Aproval	PC-5x8ENG	10	07/28/27	08/11/27									
<b>Procurement - Export Pipeline - First Delivery</b>														
EXP-PROC-1000	Transition Structure	PC-5x8ENG	125	08/05/25	02/02/26									
EXP-PROC-1010	Gavity MH's	PC-5x8ENG	91	06/01/27	10/07/27									
EXP-PROC-1020	Gravity Sewer Pipe - First Deliveries	PC-5x8ENG	91	06/01/27	10/07/27									
EXP-PROC-1030	Forcemain Pipe - First Deliveries	PC-5x8ENG	91	06/01/27	10/07/27									
EXP-PROC-1040	Flow Control Valves	PC-5x8ENG	261	06/01/27	06/06/28									
EXP-PROC-1050	Flow Control Panels	PC-5x8ENG	261	06/01/27	06/06/28									
EXP-PROC-1060	Flow Control Vault	PC-5x8ENG	126	06/01/27	11/26/27									
<b>Construction - Export Pipeline</b>														
<b>Trenchless Crossings</b>														
EXP-CONST-100	HWY 99 Tunnel Crossing	PC-5x8	30	11/08/27	12/28/27									
EXP-CONST-102	Comanche Creek & Little Chico Creek Crossings	PC-5x8	20	12/29/27	02/24/28									
EXP-CONST-104	Butte Creek Crossing	PC-5x8	30	02/25/28	04/13/28									
EXP-CONST-105	Union Pacific Railroad Crossing	PC-5x8	20	04/14/28	05/11/28									
<b>Gravity Export Pipeline</b>														
EXP-CONST-103	Ridge Road Gravity Pipe (35,725 LF) - includes time for TC Setup & Testing	PC-5x8	273	11/08/27	02/26/29									
<b>Gravity Forcemain</b>														
EXP-CONST-106	Gravity Forcemain (57,294 LF) - Includes 30 days to test	PC-5x8	245	04/14/28	05/16/29									
<b>Transition &amp; Flow Control Structure</b>														
EXP-CONST-101	Transition Structure (Assume Precast MH' Sections)	PC-5x8	22	11/08/27	12/15/27									
EXP-CONST-107	Flow Control Vaults	PC-5x8	45	06/07/28	08/10/28									
EXP-CONST-108	Electrical & Instrumentation Export Pipeline	PC-5x8	75	05/17/29	08/31/29									
<b>Close-out</b>														
CLOSE-1000	Comissioning	PC-5x8H	80	04/04/31	07/28/31									
CLOSE-1010	Private Service Connections	PC-5x8	100	07/29/31	12/24/31									
CLOSE-1020	Substantial Completion	PC-5x8H	5	12/26/31	01/01/32									

Activity ID	Activity Name	Calendar	OD	Early Start	Early Finish	Total Float	2025	2026	2027	2028	2029	2030	2031	2
<b>Critical Activities</b>														
TASK3-ENG-114	Develop Field Investigation Plan	PC-5x8ENG	15	08/15/24A	09/05/24	0								
TASK3-ENG-117	Internal QC Review	PC-5x8ENG	5	09/06/24	09/12/24	0								
TASK3-ENG-118	Submit Draft Plan	PC-5x8ENG	1	09/12/24	09/12/24	0								
TASK3-ENG-119	Town Review	PC-5x8ENG	10	09/13/24	09/26/24	0								
TASK3-ENG-120	Update Final Plan	PC-5x8ENG	5	09/27/24	10/03/24	0								
TASK3-ENG-123	Submit Final Plan	PC-5x8ENG	1	10/03/24	10/03/24	0								
PRECON-1150	Prepare Draft 408 Application Package for Geotech	PC-5x8ENG	5	10/04/24	10/10/24	0								
PRECON-1160	Town Review	PC-5x8ENG	5	10/11/24	10/17/24	0								
PRECON-1170	Prepare Final 408 Application Package for Geotech	PC-5x8ENG	5	10/18/24	10/24/24	0								
PRECON-1180	Submit Final 408 for Geotech to CVFPB	PC-7x8	1	10/25/24	10/25/24	0								
PRECON-1190	CVFPB Review	PC-7x8	120	10/26/24	02/22/25	0								
PRECON-1350	USACE Issues Letter of Completion to CVFBP	PC-7x8	1	08/22/25	08/22/25	0								
PRECON-1320	USACE Review	PC-7x8	246	02/23/25	10/26/25	0								
PRECON-1360	CVFPB issues Letter of Permission to Board of Directors	PC-7x8	65	08/23/25	10/26/25	0								
PRECON-1380	CFVPB Board of Directors issues 408 for Geotech	PC-7x8	1	10/27/25	10/27/25	0								
FI-1290	Field Investigations - 408 Jurisdiction	PC-5x8ENG	10	10/28/25	11/10/25	0								
FI-1300	Draft Trenchless Evaluation Memo	PC-5x8ENG	10	11/11/25	11/24/25	0								
FI-1310	Internal QC Review	PC-5x8ENG	5	11/25/25	12/03/25	0								
FI-1320	Town Review	PC-5x8ENG	10	12/04/25	12/17/25	0								
FI-1330	Final Trenchless Evaluation Memo	PC-5x8ENG	5	12/18/25	12/24/25	0								
EXPRT-DESG-1	Develop Design Drawings & Technical Specifications	PC-5x8ENG	30	12/26/25	02/06/26	0								
EXPRT-DESG-1	Quality Control Review	PC-5x8ENG	5	02/09/26	02/13/26	0								
EXPRT-DESG-1	Update Based on QC Review	PC-5x8ENG	5	02/17/26	02/23/26	0								
EXPRT-DESG-1	Submit 60% Design	PC-5x8ENG	1	02/23/26	02/23/26	0								
EXPRT-DESG-1	Town Review	PC-5x8ENG	10	02/24/26	03/09/26	0								
EXPRT-DESG-1	Design Review Workshop	PC-5x8ENG	1	03/09/26	03/09/26	0								
PRECON-1410	Prepare Draft 408 Application Package for HDD	PC-5x8ENG	5	03/10/26	03/16/26	0								
PRECON-1420	Town Review	PC-5x8ENG	5	03/17/26	03/23/26	0								
PRECON-1430	Prepare Final 408 Application Package for HDD	PC-5x8ENG	5	03/24/26	03/30/26	0								
PRECON-1480	Submit Final 408 for Geotech to CVFPB	PC-7x8	1	03/31/26	03/31/26	0								
PRECON-1490	CVFPB Review	PC-7x8	150	04/01/26	08/28/26	0								
PRECON-1630	USACE Review	PC-7x8	367	08/29/26	08/30/27	0								
PRECON-1710	USACE Issues Letter of Completion to CVFBP	PC-7x8	1	08/31/27	08/31/27	0								
PRECON-1730	CVFPB issues Letter of Permission to Board of Directors	PC-7x8	65	09/01/27	11/04/27	0								
PRECON-1760	CFVPB Board of Directors issues 408 for HDD	PC-7x8	1	11/05/27	11/05/27	0								
PRECON-1750	CVWQCB Issues 401 Permit	PC-7x8	1	11/06/27	11/06/27	0								
PRECON-1770	All Environmental Permits Complete	PC-7x8	1	11/07/27	11/07/27	0								
COLL-CONST-1	Construct Gravity Sewer System - Crew 1 (72,000 LF)	PC-5x8 Holiday +	677	11/08/27	11/20/30	0								
COLL-CONST-1	Construct Gravity Sewer System - Crew 2 (72,000 LF)	PC-5x8 Holiday +	677	12/14/27	12/30/30	0								
COLL-CONST-1	Construct Collector Pump Stations (28 each)	PC-5x8 Holiday +	190	04/08/30	01/29/31	0								
COLL-CONST-1	Electrical Work & Terminations @ Pump Stations	PC-5x8 Holiday +	190	05/20/30	04/03/31	0								
CLOSE-1000	Commissioning	PC-5x8H	80	04/04/31	07/28/31	0								
CLOSE-1010	Private Service Connections	PC-5x8 Holiday +	100	07/29/31	12/24/31	0								
CLOSE-1020	Substantial Completion	PC-5x8H	5	12/26/31	01/01/32	0								

APPENDIX H

# MITIGATION, MONITORING, AND REPORTING PROGRAM



## Paradise Sewer Project

### Mitigation, Monitoring and Reporting Program

Paradise, CA

November 4, 2022

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# Mitigation Monitoring and Reporting Program

The Town of Paradise, California (Town), is the lead agency for the Paradise Sewer Project under CEQA. The City of Chico (City), Butte Local Agency Formation Commission (Butte LAFCo), Central Valley Regional Water Quality Control Board (RWQCB), Butte County (County), and California Department of Fish and Wildlife (CDFW) are considered Responsible Agencies under CEQA based on their discretionary approval over aspects of the Proposed Project. The Proposed Project would be located in Paradise, Chico and unincorporated areas in Butte County, California.

The Town is proposing to construct, operate, and maintain a new sewer collection system within the Town limits, with an export pipeline from the Town to the Chico Water Pollution Control Plant (WPCP). The Proposed Project would allow for the replacement of individual septic systems within the Town's sewer service area that are managed, owned, and maintained by individual property owners. The abandonment of such individual septic systems is not within the scope of this Program Environmental Impact Report (PEIR). This Proposed Project further includes the provision of wastewater treatment services from the City to the Town, to be approved by Butte LAFCo.

Specifically, the Proposed Project would consist of three primary components. The first two components are analyzed at a project level in the PEIR because sufficient information is available regarding the characteristics, timing, and locations of these proposed facilities. The third component is analyzed at a programmatic level. The three components include the following:

- **Core Collection System:** The Core Collection System would consist of pipelines and 28 small pump stations (also referred to as lift stations) to serve approximately 1,500 individual parcels within the Town's core sewer service area.
- **Export Pipeline System:** The 18-mile Export Pipeline System is proposed to convey wastewater from the Core Collection System to the Chico WPCP.
- **Extended Collection System:** The Extended Collection System would be an extension of the Core Collection System that would allow parcels within the Town limits to connect to the sewer system up to the capacity of the system infrastructure and the Town's allocation within the Chico WPCP capacity.

In order to approve these activities for the construction and operation of the Proposed Project, the Town has completed a PEIR in accordance with the California Environmental Quality Act (CEQA). This environmental review process focuses on the potential impacts caused by the Proposed Project on local resources.

In accordance with Section 21083, Public Resources Code (CEQA Guidelines Section 15097 [a]), "a public agency shall adopt a program for monitoring or reporting on the revisions which it has required and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed, the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program" (CEQA Guidelines Section 15097 (a)).

This Mitigation Monitoring and Reporting Program (MMRP) addresses the requirement. Unless noted otherwise, the Town would be the enforcing entity for all mitigation requirements, including but not limited to contractors, are responsible for implementation. Measures identified as the responsibility of contractors would be included as requirements in Town contracting agreements and construction specs.

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**Table 1. Mitigation Monitoring and Reporting Program**

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<b>Biological Resources</b>					
<p><b>Impact BIO-1:</b> Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Special-Status Plant Species</p>	<p><b>MM-BIO-1: Minimize Disturbance Footprint.</b> During site preparation for any segment of the Core Collection System, Export Pipeline System, or Extended Collection System, ground disturbance and vegetation clearing footprints, including along construction access routes or at temporary work areas, will be reduced to the smallest area feasible. Prior to any ground disturbance, a qualified biologist hired by the Town will identify areas to be avoided during construction activities; these areas will be fenced and/or flagged as close to construction limits as feasible. This mitigation measure is coordinated with <b>MM-BIO-2</b> but applies to all biological resources.</p>	Significant Impact	Less-than-Significant Impact	A qualified biologist will identify areas to be avoided during construction activities.	During site preparation, prior to construction.
	<p><b>MM-BIO-2: Special-status Plant Surveys.</b> Prior to initiating proposed ground disturbance or vegetation clearing, including along construction access routes or at temporary work areas, a qualified botanist will perform focused surveys to determine the presence or absence of special-status plant species with potential to occur in and adjacent to (within a radius of 100 feet, as prescribed by CDFW) proposed disturbance areas. These surveys will be conducted in accordance with CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018a), which requires rare plant surveys be conducted at the proper time of year when rare or endangered species are both evident and identifiable. Surveys will be scheduled to coincide with known flowering periods, and/or during appropriate developmental periods that are necessary to identify the plant species of concern. If special-status plants are identified during surveys, then <b>MM-BIO-3</b> will be implemented.</p>			A qualified botanist will perform focused surveys to determine the presence or absence of special-status plant species with potential to occur in and adjacent to proposed disturbance areas. These surveys will be conducted in accordance with CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities/Town, CDFW	Prior to ground disturbance or vegetation clearing.
	<p><b>MM-BIO-3: Special-status Plant Avoidance.</b> If any special-status plant species are found within 100 feet of ground disturbance or vegetation clearing areas, including construction access routes or temporary work areas, during <b>MM-BIO-2</b>, the following will be implemented:</p> <ul style="list-style-type: none"> <li>Any special-status plant species that are identified within 100 feet of proposed ground disturbance or vegetation clearing areas, including construction access routes or temporary work areas, but are not proposed to be disturbed (that is, the area doesn't need to be cleared for construction), will be protected by flagging, signage, orange plastic fence, and/or silt fence, as appropriate based on site conditions, to limit the effects of activities and material stockpiles on special-status plant species.</li> <li>If activities could result in the loss of greater than 10 percent of a population identified during surveys or occupied habitat for a special-status plant species, a mitigation plan will be developed and implemented by a qualified biologist for the Town that will include a program to transplant, salvage, cultivate, and reestablish the species at suitable sites (if feasible); means and methods to propagate affected special-status plants through vegetative or reproductive means (for example, harvesting of seed or seed bank through topsoil collection, salvaging and transplanting or collecting of cuttings), as appropriate for the species, and transplant at suitable receiving sites as close to the existing population as possible. The plan will be approved by CDFW and any other agencies with jurisdiction over the species found to be present prior to implementation of the plan and before initiation of any construction related activities. Propagation and transplantation will occur prior to initiation of the activity. The receiving location will be evaluated and chosen based on similarity to conditions at the transplant source location. Site conditions to consider when choosing a receiving site will include aspect, substrate, hydrology, associated species, and canopy cover. The transplanted plants will be monitored by a qualified biologist for the Town for at least 1 year following transplantation. As part of the mitigation plan, a monitoring plan will be developed and approved by CDFW with propagation goals tailored to the species that are being transplanted. If propagation goals are not met after 1 year following transplantation, then adaptive management strategies will be developed in coordination with CDFW to achieve those goals.</li> <li>The actual level of mitigation may vary depending on the sensitivity of the species, its prevalence in the area, the location of the occurrence, and the current state of knowledge about overall population trends and threats to its survival; however, at a minimum, the species and habitat will be replaced at a 1:1 ratio (individuals or acreage of occupied habitat). Ratios will be developed in coordination with and approved by CDFW.</li> </ul>			A mitigation plan will be developed and implemented by a qualified biologist for the Town or designated Contractor. The plan will be approved by CDFW and any other agencies with jurisdiction over the species found to be present prior to implementation of the plan and before initiation of any construction related activities. As part of the mitigation plan, a monitoring plan will be developed and approved by CDFW. If propagation goals are not met after 1 year following transplantation, then adaptive management strategies will be developed in coordination with CDFW to achieve those goals/CDFW and other jurisdictional agencies./Town, CDFW	Prior to ground disturbance or vegetation clearing; during construction activities; and after 1 year of initiation of a mitigation plan.



CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
	<p><b>MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training.</b> A qualified biologist will monitor construction activities that could potentially cause significant impacts on sensitive biological resources. The amount and duration of monitoring will depend on the activity and will be determined by a qualified biologist for the Town. Monitoring will be required at any location where special status species have been identified within 100 feet of vegetation clearing area. In addition, a qualified biologist will be retained by the Town to conduct mandatory contractor/worker awareness training for construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts on biological resources (e.g., plants, wildlife, and jurisdictional waters), and on the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor will ensure that they receive the mandatory training before starting work. This mandatory training will be included in all contractor construction specs and required by contract. This measure will apply to any biological resources for which complete avoidance cannot be attained through <b>MM-BIO-1</b> or resource-specific measures.</p>			<p>A qualified biologist will monitor construction activities that could potentially cause significant impacts on sensitive biological resources. A qualified biologist will conduct mandatory contractor/worker awareness training for construction personnel. If new construction personnel are added to the Project, the Contractor will ensure that they receive the mandatory training before starting work.</p>	<p>During construction activities.</p>
	<p><b>MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control.</b> Following construction of the Core Collection System, Export Pipeline System, or Extended Collection System, all exposed and/or disturbed areas resulting from ground disturbing activities, including construction access routes or temporary work areas, will be returned to their original contour and grade, and restored using locally native grass and forb seeds, plugs, or a mix of the two. Areas will be seeded with species appropriate to their topographical and hydrological character and covered with broadcast straw and/or jute netted, as appropriate for specific habitat type. For example, temporarily disturbed wetlands will be seeded with native hydrophytic species typical to the region, whereas upland areas will be seeded with an upland grass and forb mix. Several invasive and noxious weed species are known to occur in the study area, and 27 plant species classified by the California Invasive Plant Council as invasive were identified in the study area during field studies (Appendix G). In order to avoid the spread of invasive plant species in the study area, native species will be used for reseeding, and the Proposed Project will not allow any use of species listed as noxious weeds. Further, precautions will be taken to avoid the spread of invasive plant species. These include the inspection and cleaning of construction equipment and implementation of CDFW-approved eradication strategies should an invasion occur. This measure is focused on habitat, but applies to all biological resources (e.g., special status species dependent on specific habitat).</p>			<p>The construction contractor will be responsible for implementation.</p>	<p>Post-construction.</p>
<p><b>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Vernal Pool Crustaceans</b></p>	<p><b>MM-BIO-1: Minimize Disturbance Footprint.</b> See description above.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-6: No Net Loss of Aquatic Resources.</b> No net loss of aquatic resources would be achieved through impact avoidance, minimization, which are both covered under MM-BIO-1 through MM-BIO-4, and/or compensatory mitigation. Mitigation for permanent impacts on aquatic resources will be provided at a minimum 1:1 ratio. Mitigation will be achieved through onsite restoration, in-lieu fee payment, or purchase of mitigation credits at a USACE-, USFWS-, and/or CDFW-approved mitigation bank at the expense of the Town. Mitigation, as required in regulatory permits issued through CDFW, USACE, USFWS, and/or the RWQCB will be applied to satisfy this measure.</p>			<p>Mitigation will be achieved through onsite restoration, in-lieu fee payment, or purchase of mitigation credits at a USACE-, USFWS-, and/or CDFW-approved mitigation bank at the expense of the Town. Mitigation, as required in regulatory permits issued through CDFW, USACE, USFWS, and/or the RWQCB will be applied to satisfy this measure./Town, CDFW, USACE, USFWS, RWQCB</p>	<p>During construction activities and post-construction.</p>
	<p><b>MM-BIO-7: Sensitive Community Fencing.</b> If sensitive communities occur within 100 feet (250 feet for vernal pools as mandated by USFWS) of proposed ground disturbing activities, including construction access routes and temporary work areas, with no pre-existing barrier between them and the proposed ground disturbance, protective fencing, such as silt fencing, will be installed between habitats that are to be avoided and the construction limits to prevent accidental disturbance and to protect water quality during construction.</p>			<p>The construction contractor will be responsible for implementation of this mitigation in accordance with USFWS standards.</p>	<p>Prior to construction activities.</p>
	<p><b>MM-BIO-8: Dry Work Areas.</b> Ground disturbing activities within 100 feet (250 feet for vernal pools) of aquatic resources will coincide with the driest time of year and will avoid occurring within 72 hours (before or after) a rain event, if feasible.</p>			<p>The construction contractor will be responsible for implementation of this mitigation.</p>	<p>At the driest time of year and will avoid occurring within 72 hours (before or after) a rain event, if feasible.</p>

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<p><b>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Valley Elderberry Longhorn Beetle</b></p>	<p><b>MM-BIO-1. Minimize Disturbance Footprint.</b> See description above.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation.</b> If Proposed Project impacts, including along construction access routes and temporary work areas, are to take place within 165 feet of a riparian corridor where elderberry shrubs are known to be present, then a full inventory of elderberry shrubs within 165 feet of the proposed disturbance, including an assessment of whether valley elderberry longhorn beetle exit holes are present, will be conducted pursuant to the <i>Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle</i>. Based on the inventory findings, the Town and USFWS will coordinate to determine whether formal consultation is required for the Project. If formal consultation is deemed required, results of the inventory will be submitted by the Town in a Biological Assessment to USFWS. USFWS will review proposed findings and mitigation, and respond in a Biological Opinion, which will finalize elderberry mitigation that will be required of the Town for the Proposed Project.</p>			<p>An inventory of elderberry shrubs will be conducted by a qualified biologist. The Town and USFWS will coordinate to determine whether formal consultation is required for the Project. If formal consultation is deemed required, results of the inventory will be submitted by the Town in a Biological Assessment to USFWS. USFWS will review proposed findings and mitigation, and respond in a Biological Opinion, which will finalize elderberry mitigation that will be required of the Town for the Proposed Project./Town, USFWS</p>	<p>Prior to ground disturbance and vegetation clearing.</p>
	<p><b>MM-BIO-10: No Net Loss of Elderberry Shrubs.</b> Elderberry shrubs that would be directly impacted by the Proposed Project will be transplanted to a new suitable location. In addition, two credits would be purchased at a USFWS-approved bank for each shrub (2:1 ratio). Mitigation as required in regulatory permits issued through USFWS may be applied to satisfy this measure.</p>			<p>A qualified will be on site for the duration of transplanting activities The Town will obtain regulatory permits issued through USFWS./Town, USFWS</p>	<p>Prior to ground disturbance and vegetation clearing.</p>
	<p><b>MM-BIO-11: Elderberry Transplanting.</b> Elderberry shrubs would be transplanted outside the flight season of the valley elderberry longhorn beetle (March to July) and follow the most current version of the American National Standards Institute A300 (Part 6) guidelines for transplanting (<a href="http://www.tcia.org/">http://www.tcia.org/</a>). Exit-hole surveys would be completed immediately before transplanting. The number of exit holes found, GPS location of the plant to be relocated, and the GPS location of where the plant is transplanted would be reported to USFWS. A qualified biologist hired by the Town will be on site for the duration of transplanting activities to ensure compliance with avoidance and minimization measures and other conservation measures. The transplanted shrubs will be monitored by a qualified biologist during one growth season following transplant to confirm shrub survival. If the shrub(s) are deemed alive, no further monitoring or action would be necessary. If the shrub(s) are deemed dead, an additional one credit per shrub would be purchased by the Town from a USFWS-approved bank for valley elderberry longhorn beetle.</p>			<p>A qualified biologist will be on site for the duration of transplanting activities to ensure compliance with avoidance and minimization measures and other conservation measures. The transplanted shrubs will be monitored by a qualified biologist during one growth season following transplant to confirm shrub survival./Town, USFWS</p>	<p>Elderberry shrubs would be transplanted outside the flight season of the valley elderberry longhorn beetle (March to July).</p>
	<p><b>MM-BIO-12: Avoidance Areas.</b> Activities that may indirectly damage or kill an elderberry shrub (trenching, paving, etc.) will require an avoidance area of at least 20 feet from a shrub's drip line, as appropriate, depending on the type of activity. All activities that could occur within 165 feet of an elderberry shrub will also be conducted outside of the flight season of the valley elderberry longhorn beetle (March to July).</p>			<p>The construction contractor will be responsible for implementation of this mitigation.</p>	<p>All activities that could occur within 165 feet of an elderberry shrub will also be conducted outside of the flight season of the valley elderberry longhorn beetle (March to July).</p>
	<p><b>MM-BIO-13: Chemical Use.</b> Herbicides will not be used within the drip line of the shrub. Insecticides will not be used within 98 feet (30 meters, as required by USFWS) of an elderberry shrub. If deemed necessary, all chemicals will be applied using a backpack sprayer or similar direct application method.</p>			<p>The construction contractor will be responsible for implementation of this mitigation.</p>	<p>Prior to and during construction.</p>
	<p><b>MM-BIO-14: Mowing.</b> Mechanical weed removal within the drip line of the shrub would be limited to the season when adult- valley elderberry longhorn beetles are not active (August to February) and will be completed so as to not damage an elderberry shrub.</p>			<p>The construction contractor will be responsible for the implementation of this mitigation.</p>	<p>Implementation of this mitigation will be limited to the season when adult- valley elderberry longhorn beetles are not active (August to February).</p>
<p><b>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Special-Status Fishes</b></p>	<p><b>MM-BIO-15: Frac-Out-Plan.</b> Prior to construction, and as part of the specifications for the project included within the contractor agreement, the Town will require that its contractor prepare an Inadvertent Release Plan to address inadvertent loss of inert drilling fluids in the event of a frac-out during HDD for each waterbody crossing. This plan will include Best Management Practices, monitoring, and contingency procedures, and will be developed, approved by a qualified biologist hired by the Town, and implemented by the contractor during construction to avoid or counteract potential impacts on water quality, fish, or other aquatic wildlife resulting from turbidity changes from the fluids.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>The Town will require that its contractor prepare an Inadvertent Release Plan to address inadvertent loss of inert drilling fluids in the event of a frac-out during HDD for each waterbody crossing./Town, RWQCB, CDFW, USFWS</p>	<p>Prior to construction.</p>

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<p><b>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Special-status Amphibians and Reptiles</b></p>	<p><b>MM-BIO-1: Minimize Disturbance Footprint.</b> See description above.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-6: No Net Loss of Aquatic Resources.</b> See description above.</p>			<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-7: Sensitive Community Fencing.</b> See description above.</p>			<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-8: Dry Work Areas.</b> See description above.</p>			<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-16: Western Pond Turtle Visual Encounter Surveys.</b> A preconstruction survey for western pond turtle would be conducted by a qualified biologist within 24 hours prior to the onset of any ground disturbing activities that would occur within 350 feet of the Ordinary High Water Mark (OHWM) of a creek or stream. If juvenile or adult turtles are found within the survey area, they would be moved by a qualified and CDFW-permitted biologist hired by the Town at least 500 feet away from the proposed disturbance area to a location with similar habitat. If a turtle nest is found within the survey area, construction activities would not take place within 100 feet of the nest until the turtles have hatched or the eggs have been moved to an appropriate location. Any egg relocation would be conducted by a qualified and CDFW-permitted biologist in coordination with CDFW.</p>			<p>A preconstruction survey for western pond turtle would be conducted by a qualified biologist./Town, CDFW</p>	<p>Within 24 hours prior to the onset of any ground disturbing activities that would occur within 350 feet of the Ordinary High Water Mark (OHWM) of a creek or stream.</p>
	<p><b>MM-BIO-17: Foothill Yellow-legged Frog Surveys.</b> Within 3-5 days prior to working within 300 feet radius of the OHWM of a creek or stream within the foothill yellow-legged frog range, per CDFW guidelines, a qualified and CDFW-permitted biologist will survey the Proposed Project site for foothill yellow-legged frogs (adults, subadults, tadpoles or egg masses), including construction access routes and at least 500 feet upstream and downstream (CDFW 2018b). Although unlikely, if the Project activities are expected to result in effects extending beyond 500 feet downstream (e.g., heavy sedimentation that could bury egg masses or tadpole rearing sites), the survey area will be expanded to encompass the expected affected area. If surface water is present during the work period, a qualified biologist hired by the Town will inspect the work area daily for foothill yellow-legged frogs before work begins and during construction.</p>			<p>A qualified and CDFW-permitted biologist will survey the Proposed Project site for foothill yellow-legged frogs. If surface water is present during the work period, a qualified biologist hired by the Town will inspect the work area daily for foothill yellow-legged frogs before work begins and during construction./Town, CDFW</p>	<p>Within 3-5 days prior to working within 300 feet radius of the OHWM of a creek or stream within the foothill yellow-legged frog range. If surface water is present during the work period, a qualified biologist hired by the Town will inspect the work area daily for foothill yellow-legged frogs before work begins and during construction.</p>
	<p><b>MM-BIO-18: California Red-legged Frog Surveys.</b> Within 3-5 days prior to working within 300 feet of the OHWM of a creek or within 300 feet of fresh emergent wetland habitat, a qualified and CDFW-permitted biologist will conduct a visual encounter survey of the Proposed Project site for California red-legged frogs (adults, subadults, tadpoles or egg masses).</p>			<p>A qualified and CDFW-permitted biologist will conduct a visual encounter survey of the Proposed Project site for California red-legged frogs./Town, CDFW</p>	<p>Within 3-5 days prior to working within 300 feet of the OHWM of a creek or within 300 feet of fresh emergent wetland habitat.</p>
	<p><b>MM-BIO-19: Conduct Construction Activities during the Active Period for Giant Garter Snakes.</b> During biological monitoring (MM-BIO-4), the biologist will identify any suitable aquatic or upland habitat that may be used by giant garter snake within or adjacent to areas where ground disturbing and vegetation clearing activities would occur. All construction activity within 200 feet of suitable giant garter snake aquatic (generally defined as sloughs, irrigation ditches, creeks or slow-moving streams) or upland habitat (defined as grasslands or disturbed areas within 200 feet of an aquatic feature suitable for a giant garter snake) will be conducted during the snake's active period (May 1 through October 1) in order to minimize the risk that the snakes will be underground and more susceptible to injury or death from ground disturbing activities.</p>			<p>A qualified biologist will be responsible for identifying any suitable aquatic or upland habitat that may be used by giant garter snake./Town, CDFW</p>	<p>During biological monitoring, prior to ground disturbance and vegetation clearing. All construction activity within 200 feet of suitable giant garter snake aquatic will be conducted during the snake's active period (May 1 through October 1)</p>
<p><b>MM-BIO-20: Minimize Potential Effects on Giant Garter Snake Habitat.</b> Staging areas will be located more than 200 feet from any suitable giant garter snake aquatic or upland habitat as identified during monitoring by the biologist, or the area will be fenced with exclusion fencing prior to the start of construction. Vegetation clearing within 200 feet of the banks of suitable giant garter snake aquatic habitat will be limited to the minimum area necessary. The movement of heavy equipment within 200 feet of the banks of suitable giant garter snake aquatic habitat will be confined to designated haul routes to minimize habitat disturbance.</p>	<p>Monitoring will be performed by a qualified biologist. The construction contractor will be responsible for implementation of the mitigation.</p>	<p>Prior to construction, during biological monitoring.</p>			

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<p><b>Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: MBTA and FGC-Protected Birds and Raptors</b></p>	<p><b>MM-BIO-1: Minimize Disturbance Footprint.</b> See description above.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>See description above.</p>	<p>See description above.</p>
	<p><b>MM-BIO-21: MBTA- and FGC-Protected Bird and Raptor Surveys.</b> To the extent feasible, tree and vegetation clearing will be conducted outside the migratory bird nesting season (March 1 through August 31) in areas where the Town's biologist identifies potential nesting trees. However, if clearing and/or construction activities need to occur during the migratory bird nesting season in these locations, then preconstruction surveys to identify active migratory bird and/or raptor nests would be conducted by a qualified biologist within 14 calendar days prior to construction initiation. Focused surveys must be performed by a qualified biologist for the purposes of determining presence or absence of active nest sites within the proposed impact area, including construction access routes with a 500-foot buffer, where feasible.</p>			<p>The Town's biologist would be responsible for surveys and identifying potential nesting trees./Town, CDFW</p>	<p>To the extent feasible, tree and vegetation clearing will be conducted outside the migratory bird nesting season (March 1 through August 31). However, if clearing and/or construction activities need to occur during the migratory bird nesting season in these locations, then preconstruction surveys to identify active migratory bird and/or raptor nests would be conducted by a qualified biologist within 14 calendar days prior to construction initiation.</p>
	<p><b>MM-BIO-22: Protocol Swainson's Hawk Surveys.</b> In the year that construction of the Proposed Project is planned to be initiated, a qualified biologist will conduct protocol surveys for Swainson's hawk in and within 0.5-mile of all suitable habitat for the species in the Proposed Project footprint. These surveys will follow the protocol outlined in the Swainson's Hawk Technical Advisory Committee's <i>Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley</i> (CDFW 2000). If any active Swainson's hawk nests are found, the biologist will determine an appropriately sized buffer around the nest in which construction activities will not be allowed to commence until which time the nest has been determined by the biologist to have reached the end of its cycle (fledged or failed). The size of the buffer will initially be 0.25-mile per CDFW standard requirements but may be reduced in certain circumstances based on the opinion of the biologist regarding observed sensitivity of the hawks to disturbance, visual screens between the nest and disturbance, and other factors.</p>			<p>A qualified biologist will conduct protocol surveys for Swainson's hawk./Town, CDFW</p>	<p>In the year that construction of the Proposed Project is planned to be initiated.</p>
<p><b>MM-BIO-23: Nest Avoidance.</b> If active nests of any MBTA- and FGC-protected bird species are identified within the survey areas, a no-disturbance buffer would be established for all active nest sites prior to commencement of any Proposed Project construction activities to avoid construction or access-related disturbances to migratory bird nesting activities. A no disturbance buffer is a zone in which Proposed Project-related activities (that is, vegetation removal, earth moving, noise generation, and construction) cannot occur. The size of the no disturbance buffers would be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers.</p>	<p>The construction contractor will be responsible for implementation of the mitigation. The size of the no disturbance buffers would be determined by a qualified biologist./Town, CDFW</p>	<p>Prior to construction activities.</p>			

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Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: Special-Status Bats	MM-BIO-1. Minimize Disturbance Footprint. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	MM-BIO-24: Bat Surveys. Prior to implementation of Proposed Project-related activities in undisturbed portions of the Proposed Project site and in and around buildings or other human-made structures with recesses where bats could potentially roost, a qualified biologist will conduct a daytime site reconnaissance of the area. The biologist, focusing on buildings and other human-made structures or trees with cavities or exfoliating bark, would look for bats and bat signs including existing roost sites, bat guano deposits, and will listen for roosting bats. If the daytime survey does not identify the presence of potential bat roosts, no further mitigation is required. If potential roost sites are identified, an exit nighttime survey will be conducted to determine species of roosting bats, relative bat activity, and to estimate the number of individual bats. This nighttime survey may be an active or passive acoustic monitoring survey. If occupied bat roost sites are identified, appropriate spatial and temporal buffers, as defined by the Town's biologist based on experience with bat species, would be implemented to minimize impact on roosting bats during construction of the Project.			A qualified biologist will conduct a daytime site reconnaissance of the area./Town, CDFW	Prior to construction activities.
Impact BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS: American Badger	MM-BIO-1. Minimize Disturbance Footprint. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	MM-BIO-25: American Badger Detection Surveys. Within 14 days prior to implementation of Proposed Project-related activities in or adjacent to American badger habitat (annual grassland, mixed chaparral, and blue oak-foothill pine), a qualified biologist will determine if American badger dens are present within 500 feet of the proposed impact area, including construction access routes. If badger den(s) are observed, the following buffer distances, according to what type of den(s) the biologist determines it (them) to be, will be established prior to construction activities: <ul style="list-style-type: none"> <li>potential den = 30 feet</li> <li>active (adults present) den = 250 feet</li> <li>natal (young present) den = 500 feet</li> </ul> Activities permitted within and the size of the no disturbance buffers may be adjusted based on an evaluation by the qualified biologist. The buffer would be imposed until a qualified biologist determines the den is inactive.			A qualified biologist will determine if American badger dens are present within 500 feet of the proposed impact area./Town, CDFW	Within 14 days prior to implementation of Proposed Project-related activities in or adjacent to American badger habitat.
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	MM-BIO-1: Minimize Disturbance Footprint. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control. See description above.			See description above.	See description above.
	MM-BIO-6: No Net Loss of Aquatic Resources. See description above.			See description above.	See description above.
	MM-BIO-7: Sensitive Community Fencing. See description above.			See description above.	See description above.
	MM-BIO-8: Dry Work Areas. See description above.			See description above.	See description above.
Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands	MM-BIO-1: Minimize Disturbance Footprint. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control. See description above.			See description above.	See description above.
	MM-BIO-6: No Net Loss of Aquatic Resources. See description above.			See description above.	See description above.
	MM-BIO-7: Sensitive Community Fencing. See description above.			See description above.	See description above.
	MM-BIO-8: Dry Work Areas. See description above.			See description above.	See description above.
	MM-BIO-26: State or Federally Protected Wetlands Mitigation. Compensatory mitigation for temporary and permanent impacts on state and/or federally protected wetlands that cannot be avoided through other mitigation measures will be purchased by the Town at a minimum 1:1 ratio, as defined by USACE through the Section 404 permit. Mitigation might include onsite restoration approved by the USACE, in-lieu fee payment, or purchase of mitigation credits at a USACE approved mitigation bank. Mitigation as required in regulatory permits issued through the USACE and/or CDFW may be applied to satisfy this measure.			Compensatory mitigation for temporary and permanent impacts on state and/or federally protected wetlands that cannot be avoided through other mitigation measures will be purchased by the Town, in accordance with USACE 404 permitting./Town, USACE, CDFW	During and post-construction activities.

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<b>Cultural Resources</b>					
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	<p><b>MM-CUL-1: Targeted Archaeological Monitoring.</b> As described above, the archaeological survey did not include the proposed Export Pipeline System between Midway Road and Skyway due to lack of landowner consent to access. Additionally, although not fully relocated, previous monitoring work along Skyway recorded a series of sparse lithic scatters demonstrating an elevation sensitivity for near-surface archaeological sites. Therefore, based on the lack of previous survey coverage and the number of previously documented archaeological sites in the vicinity, the Project alignment between Midway Road (on the west) and the intersection of Skyway and Neal Road (on the east) will be subject to monitoring during initial ground disturbance by a qualified professional archaeologist. The archaeologist will monitor initial trenching of previously undisturbed deposits, but the monitoring may vary based on the rate of excavation, the materials excavated, and the absence/presence of artifacts and/or cultural features. In the event of an inadvertent discovery during monitoring, the procedures noted in <b>MM-CUL-2</b> will be implemented.</p>	Significant Impact	Less-than-Significant Impact	Monitoring will be performed by a qualified archeologist.	During initial ground disturbance.
	<p><b>MM-CUL-2: Follow Inadvertent Discovery Procedures.</b> If unrecorded cultural resources are encountered during Project-related ground-disturbing activities, even in the absence of an onsite archaeological monitor, a qualified cultural resources specialist will be contacted to assess the potential significance of the find. If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) is made during Project-related construction activities, ground disturbances in the area of the find will be halted, and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist will determine whether the resource is potentially significant per the CRHR and develop appropriate mitigation, such as avoidance or data recovery.</p>			<p>A qualified cultural resources specialist will be contacted to assess the potential significance of unrecorded cultural resources.</p> <p>A qualified archaeologist will be notified regarding any inadvertent discovery of cultural resources.</p>	During project-related ground-disturbing activities.
<b>Geology, Soils, and Paleontological Resources</b>					
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	<p><b>MM-GEO-1: Minimize Geologic Hazards.</b> Prior to construction, the Town will obtain the services of a qualified, licensed geotechnical engineer to prepare a design-level geotechnical report with specific recommendations to address geologic hazards, seismic safety, and soil conditions during construction. The Town will review the geotechnical report with the geotechnical engineer to develop viable measures that will avoid or minimize risks associated with ground shaking, liquefaction, landslides, unstable soils, and expansive soils during construction. The Town will require contractors to incorporate these measures into all construction plans and specifications.</p>	Significant Impact	Less-than-Significant Impact	The Town will obtain the services of a qualified, licensed geotechnical engineer to prepare a design-level geotechnical report. The Town will review the geotechnical report with the geotechnical engineer to develop viable measures. The Town will require contractors to incorporate these measures into all construction plans and specifications.	Prior to construction activities.
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	<p><b>MM-GEO-1: Minimize Geologic Hazards.</b> See description above.</p>	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	<p><b>MM-GEO-1: Minimize Geologic Hazards.</b> See description above.</p>	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	<p><b>MM-GEO-1: Minimize Geologic Hazards.</b> See description above.</p>	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	<p><b>MM-GEO-1: Minimize Geologic Hazards.</b> See description above.</p>	Significant Impact	Less-than-Significant Impact	See description above.	See description above.

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<b>Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature</b>	<b>MM-GEO-2: Inadvertent Discovery Protocol.</b> If paleontological resources are discovered during earth-moving activities, the construction crew will immediately cease work within a 50-foot radius of the find and notify the Town's Project Manager. Construction work will be halted until the collection of fossil specimens has been completed. The collection and treatment actions will occur after recovery of specimens and once scientific value can be confirmed and documented. If fossils are found, treatment actions will include sampling for microfossils, conducting paleomagnetic analysis, identifying and preparing fossils, arranging for a repository, and preparing a final report.	Significant Impact	Less-than-Significant Impact	If paleontological resources are discovered during earth-moving activities, the construction crew will immediately cease work and notify the Town's Project Manager.	During earth-moving activities.
<b>Hazards and Hazardous Materials</b>					
<b>Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials</b>	<b>MM-HAZ-1: Vehicle Equipment Access and Fueling:</b> During construction, the Town will require and enforce through encroachment permit conditions and construction documents that all vehicle traffic associated with Proposed Project-related activities will be confined to established roads, staging areas, and parking areas. Additionally, maintenance or refueling of vehicles or equipment must occur in designated areas and/or secondary containment away from waterbodies.	Significant Impact	Less-than-Significant Impact	The Town will be responsible for mitigation enforcement through encroachment permit conditions.	During construction activities.
<b>Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment</b>	<b>MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan.</b> Prior to any work set to occur within 500 feet of the Cypress Lane Site, a parcel-specific contaminated soil management plan shall be prepared to address the known contamination at the site for submittal to and approval by DTSC. The plan shall include specific hazards and provisions for how soils and groundwater will be managed at the Cypress Lane Site. The plan shall provide requirements for soil testing and characterization, soil disposal protocols, protocols governing the discovery of unknown contaminants, and soil management. The plan shall also include health and safety provisions including training requirements for site workers who may be handling contaminated material, including the transport and disposal of contaminated material; chemical exposure hazards in soil, groundwater, or soil vapor that are known to be present at the property; and mitigation and monitoring measures that are protective of the site worker and public health and safety. These health and safety provisions shall be prepared to meet OSHA requirements, Title 29 of the CFR 1910.120 and CCR Title 8, Section 5192, and all applicable federal, state, and local regulations and agency ordinances related to the proposed management, transport, and disposal of contaminated media during implementation of work and field activities. The plan shall be signed and sealed by a Certified Industrial Hygienist, who is licensed by the American Board of Industrial Hygiene. The plan shall be enforced by DTSC or another applicable regulator and included as a requirement of construction/in construction documents.	Significant Impact	Less-than-Significant Impact	The construction contractor will be responsible for implementation of a soil management plan, which will be submitted and approved by DTSC. The plan shall be signed and sealed by a Certified Industrial Hygienist who is licensed by the American Board of Industrial Hygiene. The plan shall be enforced by DTSC or another applicable regulator and included as a requirement of construction/in construction documents./Town, DTSC or other regulator	Prior to any work set to occur within 500 feet of the Cypress Lane Site.

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<p><b>Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan</b></p>	<p><b>MM-HAZ-3: Road Closure Restrictions.</b> The Proposed Project will require a Butte County encroachment permit. The standard Butte County encroachment permit requires that “at least one lane of any public road...shall be kept open for travel by the general public at all times.” Skyway consists of four lanes of traffic, two in each direction. The Proposed Project will require a Town of Paradise encroachment permit for work within the Town limits. <b>The Proposed Project will be held accountable to the <u>Butte County Local Hazard Mitigation Plan Update and policies included in the Butte County General Plan and the Town’s draft Safety Element (1994) and Hazardous Waste Management Element (1994).</u> Further, during construction, to minimize the potential for impeding emergency response vehicles at any time,</b> the Proposed Project will only close one lane of traffic at any given time, other than short instances where a two-lane closure might be required for relocation of large equipment; this will be a requirement stated in the construction documents issued by the Town. Therefore, three lanes of Skyway will always remain open.</p>	<p>Significant Impact</p>	<p>Less-than-Significant Impact</p>	<p>The Town will be responsible for obtaining a Butte County construction encroachment permit. Butte County will have authority to enforce this mitigation./Town, Butte County</p>	
	<p><b>MM-HAZ-4: Rapid Demobilization Plan.</b> <b>The Proposed Project will be held accountable to the <u>Butte County Local Hazard Mitigation Plan Update and policies included in the Butte County General Plan and the Town’s draft Safety Element (1994) and Hazardous Waste Management Element (1994).</u> Further, in the construction documents issued by the Town, the contractor will be required to prepare a rapid demobilization plan covering the one Skyway lane it occupies. Demobilization would require the contractor to cover any open trench with metal plates sufficiently strong to carry vehicle traffic, patching cut pavement, removing traffic barrier rails (if used), and moving construction equipment completely clear of the road. During fire season, the contractor will be required to have sufficient metal plating on-site to immediately cover any open trench, and conversely the length of open trenching will be limited to the amount of metal plating on-site. The contractor will also be required to have sufficient cold-mix asphalt on site to temporarily patch any cut road surface. The plan will be reviewed and approved by the Public Works Director and enforced by the Town.</b></p>			<p>The contractor will be required to prepare a rapid demobilization plan and obtain necessary materials. The plan will be reviewed and approved by the Public Works Director and enforced by the Town.</p>	<p>The rapid demobilization plan will be prepared prior to construction.</p>
	<p><b>MM-HAZ-5: Evacuation Warning Procedures.</b> <b>The Proposed Project will be held accountable to the <u>Butte County Local Hazard Mitigation Plan Update and policies included in the Butte County General Plan and the Town’s draft Safety Element (1994) and Hazardous Waste Management Element (1994).</u> Further, to minimize the potential for impeding emergency response vehicles and at the direction of the Town during an evacuation,</b> the contractor will be required to demobilize off of Skyway (MM-HAZ-4), leaving all four lanes clear for public traffic and emergency crews, within four hours if no traffic barrier rails are being used and within eight hours if traffic barrier rails are being used. Again, other than short instances where a two-lane closure might be required for relocation of large equipment, during construction, three of the four lanes of Skyway will be continuously open.</p>			<p>At the direction of the Town, the contractor will cease all construction operations and implement the rapid demobilization plan. As part of the rapid demobilization plan approved by the Public Works Director and enforced by the Town, the contractor will be required to demobilize off of Skyway.</p>	<p>In the event of an emergency requiring evacuation.</p>
	<p><b>MM-HAZ-6: Traffic Management Plan.</b> During final design, the Town will require that the engineering designer prepare a Traffic Management Plan that complies with Section 110.7 Traffic Control Plans of the <i>Highway Design Manual</i> (Caltrans 2020), that will be included in the construction documents and implemented by the construction contractor. The designer will submit the plan to the Town of Paradise, Butte County, and City of Chico’s transportation and engineering departments for review and approval before it is included in the construction documents. The plan will be prepared in accordance with professional engineering standards and will include, but not be limited to, the following requirements:</p> <ul style="list-style-type: none"> <li>• Schedule truck trips outside of the peak traffic hours, when feasible.</li> <li>• Store all equipment and materials in designated staging areas.</li> <li>• Use of signage to guide vehicles, bicyclists, and pedestrians through and/or around the construction areas.</li> <li>• Install traffic control devices where traffic conditions warrant.</li> <li>• Provide safe detours to reroute vehicle, bicycle, and pedestrian traffic.</li> <li>• Encourage construction crews to park at staging areas to limit lane closures in the public right-of-way.</li> <li>• Consult with Butte Regional Transit prior to construction to coordinate bus stop relocations (as necessary).</li> <li>• Coordinate all construction activities with the emergency service providers in the area.</li> <li>• Stop all construction work during any period of time declared as a Red Flag Warning. A Red Flag Warning is issued by the National Weather Service for weather events that may produce an increased risk of fire danger.</li> <li>• Post notices and/or appropriate signage to notify the public of upcoming construction activities, including</li> </ul>			<p>The Town will require that the engineering designer prepare a Traffic Management Plan, that will be included in the construction documents and implemented by the construction contractor. The designer will submit the plan to the Town of Paradise, Butte County, and City of Chico’s transportation and engineering departments for review and approval before it is included in the construction documents./Town, County, City</p>	<p>During final design, the Town will require that the engineering designer prepare a Traffic Management Plan.</p>



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	<p>exact location, schedule, and duration. This will include alternative access routes if a short-term full-lane closure will be required to transport equipment.</p> <ul style="list-style-type: none"> <li>The Traffic Management Plan will be enforced by the Town of Paradise.</li> </ul>				
<b>Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires</b>	<b>MM-HAZ-1: Vehicle Equipment Access and Fueling.</b> See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	<b>MM-HAZ-7: Incorporate Fire Prevention Measures.</b> Require that construction crews and equipment avoid circumstances that could cause wildfire and that crews and staff have access to fire-prevention equipment onsite. Specific fire prevention measures include: fire extinguishers or other approved fire suppressants are to be available at all times, proper storage of flammable materials, safe cutting and welding practices, proper installation of temporary electrical equipment, and use of dust-collecting apparatus on power equipment.			The construction contractor will be responsible for implementation of this mitigation.	Prior to and during construction activities.
	<b>MM-HAZ-8: Incorporate Public Safety Measures.</b> Requires that the public will receive adequate warning of construction activities and any dangerous condition that might result from the use of fences, barriers, lights, flagging, guards, and signs. This will be incorporated into the Traffic Management Plan.			The Town and construction contractor will be responsible for implementation of this mitigation.	Prior to construction activities.
	<b>MM-HAZ-9: Wildland Fire Area.</b> The Contractor will be advised that the Town of Paradise is in a Wildland Fire Area and during the summer months the fire hazard is EXTREME.			The construction contractor is responsible for implementation of this mitigation.	Prior to construction activities.
<b>Hydrology and Water Quality</b>					
<b>Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality</b>	<b>MM-HAZ-1: Vehicle and Equipment Access and Fueling.</b> See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HYD-1: Stormwater Management and Treatment Plan.</b> The Town will require in the construction agreement that the contractor prepare and implement a Proposed Project-specific Stormwater Management and Treatment Plan that addresses construction-related activities. The plan will include all of the SWPPP and Small MS4 permits, as well as the Construction BMPs included in <b>MM-HYD-2</b> .			Town will require in the construction agreement that the contractor prepare and implement a Proposed Project-specific Stormwater Management and Treatment Plan./Town, RWQCB	Prior to construction activities.
	<b>MM-HYD-2: Construction Best Management Practices:</b> Prior to initiation of ground- disturbing activities within 250 feet of vernal pools or 100 feet of other aquatic resources, construction BMPs will be employed on-site to prevent degradation to on-site and off-site aquatic resources. Methods will include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs will be in place prior to initiation of any construction activities and will remain until construction activities are completed. All erosion control methods will be maintained until all on-site soils are stabilized.			The construction contractor would be responsible for the implementation of this mitigation.	Prior to initiation of ground disturbing activities.
	<b>MM-BIO-15: Frac-Out-Plan.</b> See description under Biological Resources, above.			See description under Biological Resources, above.	See description under Biological Resources, above.
<b>Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site</b>	<b>MM-HYD-1: Stormwater Management and Treatment Plan.</b> See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
<b>Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site</b>	<b>MM-HYD-1: Stormwater Management and Treatment Plan.</b> See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
	<b>MM-HYD-3: Flood Protection Plan.</b> Prior to construction, the Town will require that the contractor prepare and implement a Flood Protection Plan for the Proposed Project. The Flood Protection Plan must include evacuation routes in the event of a flood, and will include the implementation of temporary flood barriers, such as sandbags, berms or portable fence systems, to be set up around the perimeter of the construction work area in high flood hazard areas, as discussed in Section 3.10.1.5, Tsunami, Seiche and Flood Hazards.			The Town will require that the contractor prepare and implement a Flood Protection Plan for the Proposed Project./Town, RWQCB	Prior to construction activities.

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Impact HYD-3(c): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	MM-HYD-1: Stormwater Management and Treatment Plan. See description above.	Significant Impact	Less-than-significant Impact	See description above.	See description above
	MM-HYD-3: Flood Protection Plan. See description above.			See description above.	See description above
Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	MM-HYD-3: Flood Protection Plan. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	MM-HYD-1: Stormwater Management and Treatment Plan. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
<b>Noise</b>					
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	<b>MM-NSE-1: Minimize Construction Noise.</b> Prior to construction, the Town will incorporate the following measures into all construction plans and agreements to reduce noise levels during construction: <ul style="list-style-type: none"> <li>• Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.</li> <li>• Locate stationary noise-generating equipment as far as possible from noise-sensitive receptors.</li> <li>• Use quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.</li> <li>• Maintain and tune all equipment in accordance with the manufacturer's recommendations to minimize noise emission.</li> <li>• Install temporary construction-site sound barriers near noise sources.</li> <li>• Prohibit unnecessary idling of internal combustion engines.</li> <li>• Limit use of public address systems.</li> <li>• Post the days and hours of construction as well as the name and phone number of a designated representative to be contacted for noise-related concerns at the perimeter of the construction site.</li> <li>• Comply with county, city and/or town noise policies applicable to the location's jurisdiction.</li> </ul>	Significant Impact	Less-than-Significant Impact	The Town and construction contractor will be responsible for implementation of this mitigation.	Prior to construction.
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	MM-NSE-1: Minimize Construction Noise. See description above.	Significant Impact	Less-than-Significant Impact	See description above.	See description above.
<b>Public Services</b>					
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
Impact PS-1(b): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Police Protection	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
Impact PS-1(c): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Schools	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
Impact PS-1(d): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Other Public Facilities	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
<b>Transportation</b>					
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
Impact TRA-4: Result in inadequate emergency access	MM-HAZ-6: Traffic Management Plan. See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<b>Tribal Cultural Resources</b>					
<p><b>Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</b></p> <ul style="list-style-type: none"> <li>Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or</li> <li>A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe</li> </ul>	<p><b>MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe.</b> During final design, the Town will continue to consult and coordinate with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe to identify sensitive areas to be protected during construction work and appropriate methods to protect those areas.</p>	Significant Impact	Less-than-Significant Impact	The Town will be responsible for coordination efforts with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe.	During final design.
	<p><b>MM-TRC-2: Tribal Cultural Monitoring.</b> Prior to construction, the Town will coordinate with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe to identify a Tribal Cultural Monitor, as deemed necessary by either/both Tribes, to be present during ground disturbance work within areas designated as sensitive for tribal cultural resources.</p>			The Town will coordinate with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe to identify a Tribal Cultural Monitor.	Prior to and during construction activities.
<b>Utilities and Service Systems</b>					
<p><b>Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects</b></p>	<p><b>MM-UTIL-1: Minimize Utility and Service System Disruptions.</b> During final design, to minimize disruptions to utility services, the Town will prepare a Utility Conflict and Coordination Plan that identifies outages that could affect residents and businesses, including fiber-optic/communications, water, power, and gas. As part of that plan, the public and stakeholders will be notified by signage and on Town's website of any potential service interruptions at least 2 weeks prior to construction work.</p>			The Town will prepare a Utility conflict and Coordination Plan and will be responsible for its implementation.	During final design.
<b>Wildfire</b>					
<p><b>Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan</b></p>	<p><b>MM-HAZ-3: Road Closure Restrictions.</b> See description under Hazards and Hazardous Materials, above.</p>	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<p><b>MM-HAZ-4: Rapid Demobilization Plan.</b> See description under Hazards and Hazardous Materials, above.</p>			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<p><b>MM-HAZ-5: Evacuation Warning Procedures.</b> See description under Hazards and Hazardous Materials, above.</p>			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<p><b>MM-HAZ-6: Traffic Management Plan.</b> See description under Hazards and Hazardous Materials, above.</p>			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.

CEQA Mitigation Designation	Mitigation and/or Monitoring Reporting Description	Impact Level Prior to Mitigation	Impact Level with Mitigation	Responsibilities/Enforcement	Timeframe
<b>Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire</b>	<b>MM-HAZ-1: Vehicle Equipment Access and Fueling.</b> See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-7: Incorporate Fire Prevention Measures.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-8: Incorporate Public Safety Measures.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-9. Wildland Fire Area.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
<b>Impact FIRE-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment</b>	<b>MM-HAZ-1: Vehicle Equipment Access and Fueling.</b> See description under Hazards and Hazardous Materials, above.	Significant Impact	Less-than-Significant Impact	See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-7: Incorporate Fire Prevention Measures.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-8: Incorporate Public Safety Measures.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
	<b>MM-HAZ-9. Wildland Fire Area.</b> See description under Hazards and Hazardous Materials, above.			See description under Hazards and Hazardous Materials, above.	See description under Hazards and Hazardous Materials, above.
<b>Impact FIRE-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes</b>	<b>MM-HYD-1: Stormwater Management and Treatment Plan.</b> See description under Hydrology and Water Quality, above.	Significant Impact	Less-than-Significant Impact	See description under Hydrology and Water Quality above.	See description under Hydrology and Water Quality, above.
	<b>MM-HYD-3: Flood Protection Plan.</b> See description under Hydrology and Water Quality, above.			See description under Hydrology and Water Quality, above.	See description under Hydrology and Water Quality, above.
	<b>MM-GEO-1: Minimize Geologic Hazards.</b> See description under Geology, Soils, and Paleontological Resources, above.			See description under Geology, Soils, and Paleontological Resources, above.	See description under Geology, Soils, and Paleontological Resources, above.

APPENDIX I

# UNITED STATES FISH AND WILDLIFE SERVICE BIOLOGICAL OPINION



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Suite W-2605  
Sacramento, California 95825-1846  
SFWO\_mail@fws.gov



In Reply Refer to:  
2024-0013720-S7-001

July 5, 2024  
*Sent Electronically*

Colin Nelson  
Capital Projects Manager  
Town of Paradise  
5555 Skyway Road  
Paradise, California 95969  
cnelson@townofparadise.com

Subject: Formal Consultation on the Paradise Sewer Project, Butte County, California

Dear Colin Nelson:

This letter is in response to the Town of Paradise's (Town) May 10, 2024, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Paradise Sewer Project (proposed project) in Butte County, California. Your request was received by the Service on May 10, 2024. At issue are the proposed project's effects on the federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) (fairy shrimp), giant garter snake (*Thamnophis gigas*) (snake), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle), and North Feather distinct population segment of the foothill yellow-legged frog (*Rana boylei*) (frog); and the federally endangered vernal pool tadpole shrimp (*Lepidurus packardii*) (tadpole shrimp), Butte County meadowfoam (*Limnanthes floccosa californica*) (meadowfoam), Greene's tuctoria (*Tuctoria greenei*), and hairy Orcutt grass (*Orcuttia pilosa*) (Orcutt grass). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action on which we are consulting is the issuance of a Community Development Block Grant from the Department of Housing and Urban Development (HUD) to the Town. The Town has assumed HUD's responsibilities as the lead agency under the Act for this consultation in accordance with the federal regulations on *Environmental Review Procedures for Entities Assuming HUD Environmental Responsibilities* pursuant to 24 CFR 58. Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect and is likely to adversely affect the fairy shrimp and tadpole shrimp. The findings also conclude that the proposed project may affect but is not likely to adversely affect the snake, beetle, frog, meadowfoam, Greene's tuctoria, and Orcutt grass.

In considering your request, we based our evaluation on the following:

- 1) The May 10, 2024, email from the Town requesting initiation of formal consultation.

- 2) The April 23, 2024, *Biological Assessment: Paradise Sewer Project* prepared by HDR, Inc. (consultant).
- 3) Email, phone, and video call correspondence between the Service, the Town, and the consultant.
- 4) Other information available to the Service.

### *Giant Garter Snake*

For the most recent comprehensive assessment of the species' rangewide status, please refer to the *Giant Garter Snake (Thamnophis gigas) 5-year Review: Summary and Evaluation* (Service 2020). The action area is partially located within the Butte Basin Recovery Unit for the snake at the northeastern-most extent of the snake's distribution (Service 2017a). The northeastern boundary of the snake's distribution is demarcated by Highway 99, and 592.8 acres of the action area is west of Highway 99. This portion of the action area is dominated by orchards (312.1 acres) and urban development (257.0 acres) in and surrounding the City of Chico. However, a small amount of suitable habitat for the snake is present in two stream systems that the proposed project will cross: Little Chico Creek and Comanche Creek. Suitable habitat for the snake consists of a freshwater aquatic component with protective emergent vegetative cover that allows for foraging, an upland component near the aquatic habitat that can be used for thermoregulation and for summer shelter in burrows, and an upland refugia component that can serve as winter hibernacula (Service 2017a). The proposed project will cross the two creeks by tunneling under them using horizontal directional drilling, so the creeks and adjacent upland habitat will not be impacted directly.

There is one record of the snake on Little Chico Creek 1 mile downstream of where the proposed project will cross the creek and several additional occurrences approximately 10 miles downstream of the action area around Rancho Llano Seco (Diversity Database 2024). These occurrence records are hydrologically connected to both Little Chico Creek and Comanche Creek. The vegetation community surrounding the two creek channels in the action area is mapped as valley foothill riparian. This is not ideal habitat for the snake as the aquatic habitat component must be free of a continuous riparian canopy to support the snake. However, there are portions of the two creeks adjacent to the action area where the riparian canopy is not continuous, so it is possible that the snake could be present in the action area. During the active season, the snake is typically found very close to water, with 95% of snakes observed during the active season being within 33 feet of water (Halstead et al. 2015). Snakes may travel farther from the water during the winter for brumation, though 90% of snakes observed during the winter were within 66 feet of water (Halstead et al. 2015). The Town has chosen to assume presence of the snake in the aquatic habitat of Little Chico Creek and Comanche Creek and in the adjacent banks and native upland habitat within 200 feet of the creek channels.

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measures to avoid adverse effects to the snake. The conservation measures described below are considered part of the proposed action evaluated by the Service:

- 1) Temporary work areas and ground disturbing activities will be designed to avoid all occupied habitat for the snake. Work areas and ground disturbing activities will be sited 200 feet away from occupied habitat to the maximum extent feasible. A qualified



biologist will be present during all work activities near stream crossings to ensure no work occurs within 200 feet of occupied aquatic habitat for the snake. Geotechnical investigations will be sited on existing roadways, road shoulders, or dirt access roads in the vicinity of occupied habitat for a short duration (e.g., 1–2 days). A qualified biologist will survey and flag areas to avoid prior to construction in the vicinity near occupied habitat.

- 2) Prior to work activities near occupied habitat, a qualified biologist will inspect the work areas for the snake before equipment is moved in and construction begins each day. The biologist will assess the locations of proposed work (i.e., entrance and exit pits and the placement of equipment associated with horizontal directional drilling or geotechnical activities) to assure they are not on top of or will not penetrate small mammal burrows. The biologist will visually check for the snake under vehicles and equipment prior to contractors moving them. The biologist will ensure that the contractor caps all materials on-site (conduits, pipe, etc.) precluding wildlife from becoming entrapped. The biologist will check any crevices or cavities in the work area where individuals may be present, including stockpiles that have been left for more than 24 hours where cracks/crevices may have formed. The biologist will ensure that the work area remains clear of snakes and other wildlife. To reduce the risk of entanglement and injury to the snake from fencing and erosion control materials used, the Town will use flagging instead of high-visibility fencing to mark sensitive resources for avoidance. The biologist will immediately notify the construction manager to shut down the work site if the snake is seen moving into the work area. Construction will resume once the snake has moved out of the work area on its own accord. In the unlikely event of a frac out during horizontal directional drilling activities under occupied habitat, the biologist will immediately notify the construction manager to shut down the work site and implement the Inadvertent Release Plan. Any snake observations or frac outs will be reported to the Service by the Town or its designee within 24 hours.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the snake. The proposed project reached the “may affect” level for the snake and the subsequent requirement for a biological assessment because the proposed project is within the range of the snake, suitable habitat for the snake exists within the action area, and the snake is known to occur nearby. However, because the snake is extremely unlikely to be present farther than 200 feet from aquatic habitat, the conservation measures will result in avoidance of all suitable habitat within the action area, and an Inadvertent Release Plan will be implemented in the unlikely event of a frac out, the Service considers any adverse effects to the snake to be insignificant or discountable for the purposes of this consultation.

#### *Valley Elderberry Longhorn Beetle*

For the most recent comprehensive assessment of the species’ rangewide status, please refer to the *5-year Review: Valley Elderberry Longhorn Beetle (Desmocerus californicus dimorphus)* (Service 2023a). The action area is located within the Sacramento River Management Unit for the beetle (Service 2019). Riparian corridors within and adjacent to the action area include Butte Creek, Little Chico Creek, and Comanche Creek. Elderberry shrubs are the sole host plant for the beetle. Surveys conducted by the consultant identified eight elderberry shrubs within the action area: five elderberry shrubs in riparian habitat along Butte Creek, one non-riparian shrub 950 feet east of Butte Creek on the south side of a business complex, and two isolated non-riparian shrubs

along Skyway Road. All elderberry shrubs had stems greater than 1 inch in diameter; the surveyors did not check for beetle exit holes. The two isolated elderberry shrubs along Skyway Road are within the boundaries of possible temporary work areas for the Export Pipeline System and two of the riparian elderberry shrubs are within 100 feet of a proposed geotechnical investigation work area on the west side of Butte Creek.

There is one occurrence record of the beetle within the Butte Creek riparian corridor immediately south of where the proposed project will cross Butte Creek (Diversity Database 2024). There are four other records in the California Natural Diversity Database within 5 miles of this location to the north, as well as several observations of beetle exit holes along Little Chico Creek 2.5 miles north of this location, and there are numerous beetle occurrence records along the Sacramento River approximately 9 miles to the west (Diversity Database 2024, Service 2023b).

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measures to avoid adverse effects to the beetle. The conservation measures described below are considered part of the proposed action evaluated by the Service:

- 1) Temporary signs, staking, or flagging will be used to identify the presence of beetle habitat. Elderberry shrubs with stems equal to or greater than 1 inch in diameter within 165 feet of activities will be flagged prior to construction and work activities will not be allowable within 20 feet of the dripline of any elderberry shrubs identified in the action area, consistent with the Service's *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (Service 2017b). The speed limit for the proposed project when driving on gravel or dirt access roads, overland routes, or along roadway shoulders will be set to 20 miles per hour to avoid collisions with the beetle during the active flight season.
- 2) All staging areas will be located at least 165 feet away from elderberry shrubs identified during habitat assessments in the action area.
- 3) A qualified biologist will be responsible for ensuring the fences or signs around elderberry shrubs are maintained throughout work activities. The biologist also will monitor the condition of shrubs (including the presence of dust). Biological inspection reports will be available to the Service. The two isolated elderberry shrubs identified along Skyway and near the proposed construction work area will be avoided by a minimum of 20 feet and monitored throughout the construction period. If these two shrubs exhibit indicators of physiological stress (e.g., wilting, desiccation, leaf loss) or die, this will be reported to the Service. In this unlikely event, the Town will reinitiate consultation to address effects on the beetle.
- 4) If any tree trimming will occur in the vicinity of an elderberry shrub with stems equal to or greater than 1 inch in diameter, a biological monitor will be present to ensure that no elderberry shrubs are trimmed or damaged.
- 5) The action area will be watered down as necessary to prevent dust from becoming airborne and accumulating on elderberry shrubs in and adjacent to the work areas.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the beetle. The proposed

project reached the “may affect” level for the beetle and the subsequent requirement for a biological assessment because the proposed project is within the range of the beetle, suitable habitat for the beetle exists within the action area, and the beetle is known to occur nearby. However, because the conservation measures commit to a minimum avoidance buffer of 20 feet around all elderberry shrubs, the Service considers any adverse effects to the beetle to be discountable for the purposes of this consultation.

#### *Foothill Yellow-Legged Frog, North Feather Distinct Population Segment*

For the most recent comprehensive assessment of the species’ rangewide status, please refer to the *Species Status Assessment Report for the Foothill Yellow-legged Frog (Rana boylei)* (Service 2023c). The frog is a stream-obligate species that typically occurs from sea level to approximately 5,000 ft. The frog is primarily observed in or along the edges of streams and occurs in a wide variety of vegetation types including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, mixed chaparral, and wet meadow. The frog mostly breeds along mainstem water channels and overwinters along smaller tributaries of the mainstem channel. One study in Tehama County found that the frog rarely goes beyond 40 feet from the channel during any time of the year (Bourque 2008), though another study reported finding frogs 165 feet away from water under debris (Nussbaum et al. 1983).

Numerous occurrence records of the frog have been reported throughout the Butte Creek riparian corridor from Highway 99 (just downstream of the action area) up into the Sierra Nevada Mountains, including around the edges of the Town of Paradise (Diversity Database 2024). Therefore, the entire Butte Creek riparian corridor surrounding the proposed project is considered occupied by the frog. The proposed project will only cross Butte Creek in one location between Skyway Road and Highway 99. Butte Creek does run parallel to the north side of Skyway Road up to the Town, but Butte Creek is in a canyon approximately 400 feet below Skyway Road with an extremely steep cliff between the road and the creek.

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measures to avoid adverse effects to the frog. The conservation measures described below are considered part of the proposed action evaluated by the Service:

- 1) Temporary work areas and ground disturbing activities will be designed to avoid all occupied frog habitat in the action area. Work areas and ground disturbing activities will be sited 200 feet away from occupied habitat to the maximum extent feasible. A qualified biologist will be present during all work activities in the vicinity of occupied habitat. Geotechnical investigations will be sited on existing roadways, road shoulders, or dirt access roads in the vicinity of occupied habitat for a short duration (e.g., 1–2 days). A qualified biologist will survey and flag areas to avoid prior to construction in the vicinity near occupied habitat.
- 2) Prior to work activities near occupied habitat, a qualified biologist will inspect the work areas for frogs before equipment is moved in and construction begins each day. Upland areas with ponding water will be surveyed and flagged for avoidance. The biologist will inspect equipment before work starts and will lead project traffic into work areas at the start of the day, looking for frogs and reinspecting the work area when returning from breaks. The biologist will monitor the area during work to ensure it remains free of frogs.

The biologist will immediately notify the construction manager to shut down the work site if the frog is seen moving into the work area. Construction will resume once the frog has moved out of the work area on its own accord. In the unlikely event of a frac out during horizontal directional drilling activities under occupied aquatic habitat, the biologist will immediately notify the construction manager to shut down the work site and implement the Inadvertent Release Plan. Any frog observations or frac outs will be reported to the Service by the Town or its designee within 24 hours.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the frog. The proposed project reached the “may affect” level for the frog and the subsequent requirement for a biological assessment because the proposed project is within the range of the frog, suitable habitat for the frog exists within the action area, and the frog is known to occur nearby. However, because the frog is extremely unlikely to be present farther than 200 feet from aquatic habitat, the conservation measures will result in avoidance of all suitable habitat within the action area, and an Inadvertent Release Plan will be implemented in the unlikely event of a frac out, the Service considers any adverse effects to the frog to be insignificant or discountable for the purposes of this consultation.

### *Butte County Meadowfoam*

For the most recent comprehensive assessment of the species’ rangewide status, please refer to the *5-Year Review: Butte County Meadowfoam* (*Limnanthes floccosa ssp. californica*) (Service 2023d). The action area is partially located within the Oroville Core Area (Service 2005). The Oroville Core Area is generally located on the east side of Highway 99 from Skyway Road south to the Thermalito Dam. Numerous occurrences of rare vernal pool species, including the meadowfoam, have been recorded in the southern half of the Core Area, but none have been recorded in the northern half (Diversity Database 2024). However, this lack of occurrence records is likely due to a lack of surveys. Vernal pool grassland is found along the entire length of the Oroville Core Area running north to south with only small gaps between habitat patches (Witham 2021). Because of this habitat connectivity, it is reasonably certain that some rare vernal pool species that occur in the southern half of the Core Area also occur in the northern half of the Core Area, despite the lack of survey data.

There are 105.6 acres of vernal pool grassland complex within the action area between Highway 99 and the Town, primarily on the south side of Skyway Road. Sixty-nine vernal pools have been delineated within the vernal pool grassland complex, totaling 6.7 acres. These vernal pools and associated swales are generally shallow, and this is the preferred habitat for the meadowfoam. The vernal pool grassland complexes have formed on top of soils that have a very shallow layer of bedrock, such as Doe Mill, Jokerst, and Xerorthents soil types (Natural Resources Conservation Service 2024). Thus, the hydrology of these vernal pools is generally driven by rainfall and surface flow, rather than a sub-surface perched water table.

The nearest occurrences of the meadowfoam are located 1–3 miles north of the action area in the Doe Mill Core Area (Diversity Database 2024). This includes populations within the Meriam Park Preserve, Stilson Canyon, the proposed Stonegate Project (Service File Number 08ESMF00-2016-F-0236) and associated Stonegate Preserve, and in the foothills east of the proposed Stonegate Preserve. Within the Oroville Core Area, the nearest occurrences are located 9 miles southeast of the action area near the intersection of Highways 99 and 149 (Diversity

Database 2024). This includes populations within the Dove Ridge Conservation Bank and the Preserve on Openshaw Ranch.

The consultant conducted a wetland delineation in March–June 2023; all areas were surveyed except for 51.64 acres of vernal pool grassland that were inaccessible. Although this effort was not an official rare plant survey, the thorough survey of all vernal pools met all the qualifications of a protocol-level rare plant survey except that reference sites were not checked to confirm species presence and blooming. However, other records confirm that 2023 was a good year for the meadowfoam and that the meadowfoam was present and blooming in March–April 2023 on the Meriam Park Preserve, 3 miles north of the action area (California Open Lands 2023), which provides a reasonable reference site for the action area. A protocol-level rare plant survey was conducted in April 2024, which included the previously inaccessible 51.64 acres. No meadowfoam was observed in the action area during either the 2023 delineation or the 2024 protocol-level survey. This protocol-level rare plant survey will continue through August 2024 to search for Greene’s tuctoria and the Orcutt grass, but the meadowfoam portion of the rare plant survey is complete.

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measure to avoid adverse effects to the meadowfoam. The conservation measure described below is considered part of the proposed action evaluated by the Service:

- 1) Qualified botanists will complete protocol-level botanical surveys for meadowfoam by the end of summer 2024 for the areas accessible in 2023. At the end of the survey period in August 2024, a draft survey report summarizing methods and results will be submitted to the Service for review. For the approximately 51.64 acres of inaccessible lands east of Butte Creek and south of Skyway, these areas will be surveyed in 2024 and 2025 as part of the protocol-level plant survey effort. A final survey report summarizing the results for the 51.64 additional acres will be submitted following the conclusion of the 2025 protocol-level survey efforts. In the unlikely event that the meadowfoam is found, the Town will avoid all occupied habitats within the boundaries of the catchment areas identified in the micro-watershed desktop analysis. If avoidance is not possible, the Town will reinitiate consultation to address effects on the meadowfoam.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the meadowfoam. The proposed project reached the “may affect” level for the meadowfoam and the subsequent requirement for a biological assessment because the proposed project is within the range of the meadowfoam, suitable habitat for the meadowfoam exists within the action area, and the meadowfoam is known to occur nearby. However, because the meadowfoam has not been identified within the action area after two years of surveys, the Town has committed to completing an additional survey in the areas that were inaccessible in 2023, and the Town has committed to avoiding any occupied habitat and the surrounding catchments if the meadowfoam is found during subsequent surveys, the Service considers any adverse effects to the meadowfoam to be discountable for the purposes of this consultation.

#### *Greene’s Tuctoria*

For the most recent comprehensive assessment of the species’ rangewide status, please refer to the *Greene’s Tuctoria (Tuctoria greenei) 5-Year Review: Summary and Evaluation* (Service

2007). The action area is partially located within the Oroville Core Area (Service 2005). The Oroville Core Area is generally located on the east side of Highway 99 from Skyway Road south to the Thermalito Dam. Numerous occurrences of rare vernal pool species, including Greene's tuctoria, have been recorded in the southern half of the Core Area, but none have been recorded in the northern half (Diversity Database 2024). However, this lack of occurrence records is likely due to a lack of surveys. Vernal pool grassland is found along the entire length of the Oroville Core Area running north to south with only small gaps between habitat patches (Witham 2021). Because of this habitat connectivity, it is reasonably certain that some rare vernal pool species that occur in the southern half of the Core Area also occur in the northern half of the Core Area, despite the lack of survey data.

There are 105.6 acres of vernal pool grassland complex within the action area between Highway 99 and the Town, primarily on the south side of Skyway Road. Sixty-nine vernal pools have been delineated within the vernal pool grassland complex, totaling 6.7 acres. These vernal pools and associated swales are generally shallow, which is not the preferred habitat for Greene's tuctoria. Seed germination of Greene's tuctoria occurs underwater after about two months of inundation, so extremely shallow pools that do not continuously hold water for at least two months cannot support the species (Service 2007). During hydrology monitoring in January–April 2024, only 32 of the 69 pools ever ponded water to a depth of 5 centimeters or more. The vernal pool grassland complexes have formed on top of soils that have a very shallow layer of bedrock, such as Doe Mill, Jokerst, and Xerorthents soil types (Natural Resources Conservation Service 2024). Thus, the hydrology of these vernal pools is generally driven by rainfall and surface flow, rather than a sub-surface perched water table.

There are two occurrence records of Greene's tuctoria within the Oroville Core Area that are 5 and 12 miles southeast of the action area (Diversity Database 2024). These two occurrences are located on a preserve with a conservation easement held by Northern California Regional Land Trust and on unprotected land south of Dove Ridge Conservation Bank, respectively. The largest concentration of Greene's tuctoria occurrences is located in the Vina Plains 18 miles northwest of the action area.

The consultant conducted a wetland delineation in March–June 2023; all areas were surveyed except for 51.64 acres of vernal pool grassland that were inaccessible. Although this effort was not an official rare plant survey, the thorough survey of all vernal pools met all the qualifications of a protocol-level rare plant survey except that reference sites were not checked to confirm species presence and blooming. A protocol-level rare plant survey was conducted in April 2024, which included the previously inaccessible 51.64 acres. Greene's tuctoria was not observed in the action area during either the 2023 delineation or the 2024 protocol-level survey. This protocol-level rare plant survey will continue through August 2024.

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measure to avoid adverse effects to Greene's tuctoria. The conservation measure described below is considered part of the proposed action evaluated by the Service:

- 1) Qualified botanists will complete protocol-level botanical surveys for Greene's tuctoria by the end of summer 2024 for the areas accessible in 2023. At the end of the survey period in August 2024, a draft survey report summarizing methods and results will be submitted to the Service for review. For the approximately 51.64 acres of inaccessible lands east of Butte Creek and south of Skyway, these areas will be surveyed in 2024 and

2025 as part of the protocol-level plant survey effort. A final survey report summarizing the results for the 51.64 additional acres will be submitted following the conclusion of the 2025 protocol-level survey efforts. In the unlikely event that Greene's tuctoria is found, the Town will avoid all occupied habitats within the boundaries of the catchment areas identified in the micro-watershed desktop analysis. If avoidance is not possible, the Town will reinitiate consultation to address effects on Greene's tuctoria.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect Greene's tuctoria. The proposed project reached the "may affect" level for Greene's tuctoria and the subsequent requirement for a biological assessment because the proposed project is within the range of Greene's tuctoria, vernal pool habitat exists within the action area, and Greene's tuctoria is known to occur nearby. However, because Greene's tuctoria has not been identified within the action area after two years of surveys, the Town has committed to completing an additional survey in the areas that were inaccessible in 2023, and the Town has committed to avoiding any occupied habitat and the surrounding catchments if Greene's tuctoria is found during subsequent surveys, the Service considers any adverse effects to Greene's tuctoria to be discountable for the purposes of this consultation.

### *Hairy Orcutt Grass*

For the most recent comprehensive assessment of the species' rangewide status, please refer to the *Hairy Orcutt Grass (Orcuttia pilosa) 5-Year Review: Summary and Evaluation* (Service 2009). The action area is partially located within the Oroville Core Area (Service 2005). The Oroville Core Area is generally located on the east side of Highway 99 from Skyway Road south to the Thermalito Dam. Numerous occurrences of rare vernal pool species have been recorded in the southern half of the Core Area, but none have been recorded in the northern half (Diversity Database 2024). However, this lack of occurrence records is likely due to a lack of surveys. Vernal pool grassland is found along the entire length of the Oroville Core Area running north to south with only small gaps between habitat patches (Witham 2021). Because of this habitat connectivity, it is reasonably certain that some rare vernal pool species that occur in the southern half of the Core Area also occur in the northern half of the Core Area, despite the lack of survey data. The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* included the Oroville Core Area as a target conservation area for the Orcutt grass because at the time there was one occurrence of the species known from the intersection of Highway 99 and Durham Pentz Road reported in 1986 (Service 2005). However, more recent surveys did not identify the Orcutt grass at this location and this occurrence is suspected to be a misidentification of Greene's tuctoria (Eco-Analysts 2010). The nearest occurrence records of the Orcutt grass are located in the Vina Plains 18 miles northwest of the action area (Diversity Database 2024).

There are 105.6 acres of vernal pool grassland complex within the action area between Highway 99 and the Town, primarily on the south side of Skyway Road. Sixty-nine vernal pools have been delineated within the vernal pool grassland complex, totaling 6.7 acres. These vernal pools and associated swales are generally shallow, which is not typically suitable habitat for the Orcutt grass. The Orcutt grass germinates underwater and proceeds to grow underwater for 3 months or more and thus requires vernal pools that hold water for a very long period of time (Service 2005). During hydrology monitoring in January–April 2024, only 32 of the 69 pools ever ponded water to a depth of 5 centimeters or more, only 6 pools still had ponded water by March 26, and only 2 pools still had ponded water by April 18. The vernal pool grassland complexes have formed on top of soils that have a very shallow layer of bedrock, such as Doe Mill, Jokerst, and

Xerorthents soil types (Natural Resources Conservation Service 2024). Thus, the hydrology of these vernal pools is generally driven by rainfall and surface flow, rather than a sub-surface perched water table.

The consultant conducted a wetland delineation in March–June 2023; all areas were surveyed except 51.64 acres of vernal pool grassland that were inaccessible. Although this effort was not an official rare plant survey, the thorough survey of all vernal pools met all the qualifications of a protocol-level rare plant survey except that reference sites were not checked to confirm species presence and blooming. A protocol-level rare plant survey was conducted in April 2024, which included the previously inaccessible 51.64 acres. The Orcutt grass was not observed in the action area during either the 2023 delineation or the 2024 protocol-level survey. This protocol-level rare plant survey will continue through August 2024.

In addition to the general conservation measures described in the *Conservation Measures* section, the Town has proposed the following species-specific conservation measure to avoid adverse effects to the Orcutt grass. The conservation measure described below is considered part of the proposed action evaluated by the Service:

- 1) Qualified botanists will complete protocol-level botanical surveys for the Orcutt grass by the end of summer 2024 for the areas accessible in 2023. At the end of the survey period in August 2024, a draft survey report summarizing methods and results will be submitted to the Service for review. For the approximately 51.64 acres of inaccessible lands east of Butte Creek and south of Skyway, these areas will be surveyed in 2024 and 2025 as part of the protocol-level plant survey effort. A final survey report summarizing the results for the 51.64 additional acres will be submitted following the conclusion of the 2025 protocol-level survey efforts. In the unlikely event that the Orcutt grass is found, the Town will avoid all occupied habitats within the boundaries of the catchment areas identified in the micro-watershed desktop analysis. If avoidance is not possible, the Town will reinitiate consultation to address effects on the Orcutt grass.

After reviewing all the available information, the Service concurs with your determination that the proposed project may affect but is not likely to adversely affect the Orcutt grass. The proposed project reached the “may affect” level for the Orcutt grass and the subsequent requirement for a biological assessment because the proposed project is within the range of the Orcutt grass, vernal pool habitat exists within the action area, and the Orcutt grass is known to occur nearby. However, because the hydrology of the vernal pool habitat in the action area is not suitable for the Orcutt grass, Orcutt grass has not been identified within the action area during surveys, the Town has committed to completing an additional survey in the areas that were inaccessible in 2023, and the Town has committed to avoiding any occupied habitat and the surrounding catchments if the Orcutt grass is found during subsequent surveys, the Service considers any adverse effects to the Orcutt grass to be discountable for the purposes of this consultation.

The remainder of this document provides our biological opinion on the effects of the proposed project on the fairy shrimp and tadpole shrimp.



## **Consultation History**

*September 27, 2023:* The Service attended a pre-project early coordination meeting with the Town and the consultant to learn about the proposed project and provide technical assistance.

*November 15, 2023:* The Service attended a meeting with the consultant to discuss updates to the proposed project description, environmental baseline, and provide further technical assistance on conservation measures.

*October 2023–April 2024:* Phone and email conversations between the Service and the consultant to provide technical assistance.

*April 8, 2024:* The Service attended a meeting with the consultant to review a draft version of the micro-watershed analysis.

*April 23, 2024:* The consultant submitted the biological assessment to the Service.

*May 2–3, 2024:* The consultant submitted additional information about the acreage of vegetation communities and a map of the areas where access for wetland delineation was restricted in 2023.

*May 10, 2024:* The Town sent an email to the Service accepting the effects determinations in the biological assessment and requesting initiation of formal consultation.

*May 14, 2024:* The Service provided questions and suggestions to the consultant in response to the biological assessment, and the consultant and Town provided responses agreeing with the suggested changes. This is the date that the Service received all information necessary to initiate formal consultation.

## **BIOLOGICAL OPINION**

### **Description of the Proposed Action**

The proposed project is the construction and operation of a sewer pipeline system from the Town down to the City of Chico's Water Pollution and Control Plant (Plant) (Figure 1). The Town currently relies entirely on septic systems to treat its sewage. The proposed project will consist of a Core Collection System within the center of the Town and an 18-mile Export Pipeline System that will carry wastewater from the Core Collection System to the Plant.



**Figure 1.** Map of the action area, including both the Core Collection System within the Town of Paradise and the Export Pipeline System connecting the Town to the City of Chico’s Water Pollution Control Plant (labeled as Chico WPCP). Taken from Figure 3 of the biological assessment prepared by HDR, Inc.

Planning and construction will utilize a progressive design-build method. This means that the exact location for trenching and installing pipeline is not set and the Town and contractor can make adjustments based on conditions encountered. However, the Town has committed to keeping pipeline installation and other work within a 250-foot buffer of either side of the road centerline of the proposed pipeline alignment, except for along Skyway Road between the Town and Highway 99 where there will be a 500-foot buffer on the north side and a 250-foot buffer on the south side. Along Skyway Road, the pipeline alignment is generally anticipated to be installed just south of the road, but the progressive design-build method will allow for the potential to alter the alignment within the buffer if needed.

Construction of the Core Collection System will occur over approximately 22 months, with mobilization beginning in spring 2025 and completion by spring 2028. The Export Pipeline System will be constructed over an 18-month period beginning in spring 2026 and ending in fall 2027. Each of these components will go through their own individual startup periods to confirm operation of each one individually. Then the entire system will go through a 2-month system start-up period in March and April 2028 to confirm operation of the Core Collection System and Export Pipeline System.

Upon completion of the proposed project, a Post-Construction Report will be submitted to the Service within 60 calendar days. The Post-Construction Report will include, but not be limited to, the following:

- A summary of the proposed project including schedule and sequence of construction activities.
- A discussion of the construction monitoring results including compliance with all conservation measures and copies of all biological monitoring datasheets.
- A table listing all species observed during construction.
- A table summarizing the actual impact acreages to listed species' habitat.
- A table summarizing the types and totals of credits purchased.
- A log of before and after photo-documentation of the action area.
- A summary of onsite restoration activities implemented after ground disturbing activities.
- As-built drawings.
- Attachments of the final compensatory mitigation documentation from a Service-approved conservation or mitigation bank.

### *Geotechnical Investigations*

To support the ongoing design and construction methods of the proposed project, the Town will conduct surface geophysical and sub-surface geotechnical investigations in 2024 and 2025. Geotechnical investigations will occur throughout the action area, though exact locations are not currently defined except for planned investigations where the pipeline will cross Butte Creek, Comanche Creek, and Little Chico Creek. All locations will be sited outside of sensitive biological resources.

Surface geophysical investigations will consist of non-invasive surveys to determine stratification properties. Sub-surface geotechnical investigations will consist of underground exploration utilizing several methods such as pavement borings, auger borings, sonic borings, hazardous material borings, cone penetration tests, piezometers, wells, test pits, and pot holing. The methods that require drilling of boreholes will use augers that vary between 4 inches and 24 inches in diameter, and depths will range from 3 to 100 feet. Cone penetration tests will insert a minimally invasive probe that is 1.7 inches in diameter to a depth of 10 to 50 feet. Test pits will involve an excavator or backhoe excavating a pit up to 10 feet in diameter and 10 to 15 feet in depth. Installation of wells and piezometers will occur in selected boring locations and may be temporary or permanent.

Vehicle access to geotechnical investigation sites will occur on existing roadways and dirt access routes. However, sites around the proposed project's crossing of Butte Creek may require additional overland access through portions of grassland; if so, overland routes will be as direct as possible and require no excavation or grubbing. Vegetation removal is not anticipated, but if required either for access or to avoid hazards (e.g., wildland fire) it will be performed to the minimum extent feasible and with biological monitors present to avoid any sensitive resources, including riparian and wetland habitats. Vegetation may be mowed or pruned in work areas using handheld gas- or battery-powered equipment. Equipment, vehicles, and materials will be staged onsite in designated work areas. All staging areas will be located outside of wetlands and other aquatic resources and adhere to species-specific buffer zones to the maximum extent feasible.

Geotechnical investigations are anticipated to occur between fall 2024 and fall 2025. The duration of activities at each site will vary from 1 hour to 1 week depending on the conditions and type of activity.

### *Core Collection System*

The infrastructure proposed to serve the Town's sewer service area is called the Core Collection System, which aligns with what is defined as the sewer service area in the Town of Paradise 2022 Housing Element. The Core Collection System will support the centralized businesses and housing, including approximately 1,500 parcels along the Skyway Road, Clark Road, and Pearson Road corridors. Most of the Core Collection System components will be constructed within the Town's existing public right-of-way. The portion of the action area associated with the Core Collection System is 722.9 acres in size, though the work area itself will only total 10.67 acres.

The Core Collection System will consist of approximately 157,000 feet of 6- to 8-inch-diameter gravity sewers, 29,000 feet of 2- to 4-inch-diameter force mains, and up to 28 pump stations. The pipelines will be buried approximately 3–15 feet below the ground surface, depending on local topography and sewer system design features and constraints. At individual parcels, public sewer laterals (typically 4 inches in diameter) will extend from the Core Collection System's gravity sewer main to the property line, transitioning to a private sewer lateral within the parcel that leads to the building.

Construction within the Town's right-of-way will use open-cut trenching methods to install the pipes and structures that comprise the Core Collection System. The width of the trench will be a maximum of 6 feet wide buffered by a temporary construction work area of 40 feet (20 feet on each side of the trench). Work crews will install the pipe and structures, then backfill the excavation, restore the ground surface to its previous or better conditions, and re-establish full access to the area. The required maintenance holes and pump stations will involve similar construction methods of open cuts, installation, backfill, and restoration. Where located within public streets, portions of the Town's right-of-way will serve as a temporary construction zone. Construction of the Core Collection System is estimated to take approximately 22 months to complete.

### *Export Pipeline System*

The proposed 18-mile Export Pipeline System will start at the southern end of the Core Collection System as a gravity sewer line and will continue southwest to the City of Chico for connection to the Plant. The Export Pipeline System will be primarily constructed within Butte County's (County) existing public right-of-way except for approximately 1.1 miles pipeline in southern Chico and at the connection with the Plant. The portion of the action area associated with the Export Pipeline System is 1,332.3 acres in size, though the work area itself will only total 5.95 acres.

The Export Pipeline System will contain the following sub-components:

- 1) The Ridge Gravity Section starts at the connection to the Core Collection System and continues downhill along Skyway Road for 7.5 miles. In this section, wastewater will flow by gravity, so no pump stations will be required. This section will include an 8-inch-diameter sewer pipe, a 10-inch-diameter sewer pipe, and a 2-inch-diameter fiber optic conduit. The pipes and conduit will be installed approximately 10 feet deep and will remain within the County's right-of-way.

- 2) The Transition Chamber will connect the Ridge Gravity Section to the Gravity Force Main Section. The Transition Chamber will be installed along Skyway, just before the pipeline reaches the City of Chico limits. The chamber will be a below-ground structure, approximately 10–12 feet in diameter and 10–15 feet deep, with a small box-like structure aboveground to house electronics associated with measurement devices within the chamber.
- 3) The Gravity Force Main Section starts at the Transition Chamber and continues across the flatter valley floor for 10.5 miles until it connects to the City of Chico's Plant. Wastewater will be under pressure from the gravity flow of the Ridge Gravity Section, so no pump stations will be required. This section will include a 12-inch diameter sewer pipe and a 2-inch-diameter fiber optic conduit. The pipe and conduit will be installed at varying depths, with a minimum depth of 3 feet, along existing roads within the County's right-of-way or within permanent sewer easements obtained from private property owners if necessary.
- 4) Approximately 80 maintenance holes will be installed along the Ridge Gravity Section and Gravity Force Main Section, spaced approximately 500 feet apart.
- 5) A Flow Control and Metering Structure, located at or near the Plant, will consist of two below-ground chambers next to each other, each approximately 8 feet in diameter and 10–15 feet deep. A small, aboveground, box-like structure will house electronics associated with the flow control and measurement devices installed below-ground. From the two underground chambers, wastewater will flow into the existing Inflow Sewer Junction Box A at the Plant. This will be the terminus of the Export Pipeline System.

Construction of the Export Pipeline System will primarily use open-cut trenching methods to install the pipes and structures. The width of the trench will be approximately 5 feet. Work crews will install the pipe and structures, then backfill the excavation and restore the ground surface to its previous or better condition. Excess soil produced by the excavation will be disposed of consistent with all regulatory requirements. Along the Skyway Road segment and segments along other county roads, construction will generally be limited to the County's right-of-way within and adjacent to those roads. Up to 19 staging areas have been identified for potential use by the contractor to store pipe, backfill materials, and construction equipment. These locations have been selected to avoid effects to sensitive environmental resources. Staging areas will have temporary fencing installed to provide a secure storage area and may require minor grading to create a level work surface. No permanent paving will be done. Any unpaved areas temporarily used for construction staging will be returned to their original or better condition.

Horizontal direction drilling methods will be used at the three locations where the Export Pipeline System will cross Butte Creek, Comanche Creek, and Little Chico Creek. Horizontal direction drilling will allow for drilling under these creek systems, thus minimizing impacts to the riparian corridors. A launching pit and a receiving pit will be excavated on either side of the creek to store soil from the drilling process. These pits will be approximately 10 feet long by 5 feet wide by 5 feet deep and will be located outside of the sensitive riparian areas. Pipe installation will then involve drilling a small-diameter pilot hole under the creek, enlarging the borehole to the size of the pipe, and then pulling the prefabricated pipe into the borehole. The horizontal direction drilling crossings will be between 20 feet and 60 feet below the waterbody. The contractor will prepare an Inadvertent Release Plan, which will be submitted to the Service for review and approval, that will establish required construction practices to minimize risk of a

release, establish monitoring requirements, and define contingency procedures that will be followed if the directional bores or pipeline installations caused movement of the soil (referred to as a frac-out) in the waterbody. However, this scenario is highly unlikely due to the geologic formations that are present under these specific waterways.

Microtunneling methods will be used at two locations where the Export Pipeline System will cross Highway 99 and the Union Pacific Railroad tracks on Hegan Lane. The California Department of Transportation and Union Pacific Railroad both require pipelines to be installed inside an outer casing pipe when crossing below their facilities. Microtunneling is a construction method that allows installation first of a casing pipe, and then insertion of the primary pipe. This will involve excavation at an estimated depth of 30 feet, with a 30-foot by 12-foot launching pit, a 12-foot by 12-foot receiving pit, and work areas surrounding each pit. The work areas will be within previously disturbed areas and include a stockpile area for the excavated material of the launching and receiving pits. The pits will be outfitted with temporary water inflow controls and watertight shoring to stabilize the pits during construction. The shoring is typically installed using a pile driver (vibratory or impaction) or an auger with a drill rig during excavation of the pits. A 26-inch-diameter or 28-inch-diameter steel casing will be installed, then the pipeline will be installed within the steel casing, and then the pits will be backfilled.

### *Operations and Maintenance*

The Town will own, operate, and maintain the Core Collection System and Export Pipeline System. Most inspection, monitoring, and maintenance procedures will not involve any ground disturbance. However, if a pipeline segment ever breaks or leaks, then excavation will be needed to replace the segment. For any operations and maintenance activities that do require physical access to the pipeline, construction methods of open cut trenching, installation, backfill, and restoration, similar to construction of the Core Collection System, will be used. The same temporary construction footprint will be used (i.e., trench width will be at most 6 feet wide buffered by a temporary work area of 20 feet on either side), so no new areas will be disturbed.

### *Conservation Measures*

The following is a summary of the proposed general conservation measures, as outlined in the biological assessment, to avoid and minimize effects of the proposed project on the fairy shrimp, tadpole shrimp, snake, beetle, frog, meadowfoam, Greene's tuctoria, and Orcutt grass, as well as other environmental resources. The conservation measures proposed below are considered part of the proposed action evaluated by the Service in this biological opinion. Please see the biological assessment for the full description of these conservation measures.

#### 1) Worker Awareness Training

Prior to the start of ground-disturbing work, a qualified biologist will conduct a mandatory biological awareness training for field management and construction personnel on the importance of protecting sensitive natural resources. All project personnel will be educated on the types of sensitive resources located in the affected areas and the measures required to avoid and minimize effects on these resources.

#### 2) Construction Best Management Practices

All construction in and adjacent to suitable habitat for listed species will implement best management practices and have construction monitored by a qualified technical specialist(s). Depending on the resource of concern and construction timing, construction

activities and areas will be monitored for compliance with water quality regulations (stormwater pollution prevention plan monitoring) and with measures developed for sensitive biological resources (biological monitoring).

The Town will identify a Project Biologist and provide this individual's qualifications to the Service for approval. The Project Biologist is responsible for implementing environmental commitments in compliance with the terms and conditions outlined in applicable project permits. The Project Biologist will direct compliance activities carried out by the proposed project's Biological Monitors.

The Project Biologist will be in charge of selecting other qualified biologists to serve as Biological Monitors. A qualified biologist is a person who has demonstrated knowledge and experience with the relevant species and their habitats. There will be two types of Biological Monitors. "Designated Biologists" will be staff experienced with individual species. They will be responsible for any species-specific activities like species surveys and ensure that specific measures that have been integrated into the proposed project design and permit requirements are being implemented correctly during construction and are working appropriately and as intended for the protection of listed species. "General Biological Monitors" will be professional biologists with general roles and technical responsibilities. They will work under the supervision and training of designated biologists and will be responsible for the general monitoring activities within each work area.

All of these categories of biologists will have the authority to temporarily stop work in any area where a listed species has been observed until that individual has passively or physically been moved outside of the work area or when any measures or best management practices are not functioning appropriately for the protection of listed species. The Biological Monitors will be present onsite within a reasonable monitoring distance during all ground-disturbing activities that have the potential to affect biological resources as directed by the Project Biologist and will be the principal agents in the direct implementation of the proposed project's permit conditions.

Temporary signs, staking, or flagging will be used to identify sensitive biological resources, and project personnel will be advised to avoid disturbance of these areas. Exclusionary fencing may be placed at the edge of active construction activities and staging areas (after having been cleared by biological surveys) to delineate work areas, restrict workers or equipment from entering sensitive areas, and restrict wildlife access from the adjacent habitats. Project-related vehicles will observe a speed limit of 20 miles per hour in construction areas where it is safe and feasible to do so, except on county roads and state and federal highways. All vehicle parking will be restricted to established areas, existing roads, or other suitable areas. To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches more than 1-foot-deep will be covered at the close of each working day with plywood boards or similar rigid material. All construction pipes, culverts, or similar structures, construction equipment, or construction debris left overnight in areas that may be occupied by wildlife will be inspected by the biological monitor or the contractor prior to being used for construction. Plastic monofilament netting or similar material will not be used for erosion control, because smaller wildlife may become entangled or trapped in it. Rodenticides and herbicides will only be used in accordance with the manufacturer's recommended

uses and applications and in such a manner as to prevent primary or secondary poisoning of listed species and depletion of prey populations upon which they depend.

To minimize temporary disturbances, all project-related vehicle traffic and material storage will be restricted to established and/or designated ingress/egress points, construction areas, and other designated staging/storage areas. These areas will be included in preconstruction surveys and, to the extent possible, will be established in locations disturbed by previous activities to prevent further effects. Upon completion of the proposed project, all areas subject to temporary ground disturbance will be recontoured to pre-project elevations, as appropriate and necessary, and revegetated with native vegetation to promote restoration of the area to pre-project conditions.

3) Stormwater Pollution Prevention Plan

The Town or its contractors will ensure the preparation and implementation of a Stormwater Pollution Prevention Plan to control short-term and long-term effects associated with construction-generated stormwater runoff. This will include erosion control measures, sediment control measures, management measures for construction materials, waste management measures, accidental spill prevention and response measures, non-stormwater management measures, and inspection and monitoring common to all risk-level sites.

4) Erosion and Sediment Control Plan

The Town or its contractors will ensure the preparation and implementation of an Erosion and Sediment Control Plan to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities. These measures will be incorporated into the Stormwater Pollution Prevention Plan.

5) Spill Prevention, Containment, and Countermeasure Plan

As required by local, state, or federal regulations, the Town will require that construction contractors develop a Spill Prevention, Containment, and Countermeasure Plan for implementation where ground-disturbing activities occur. This plan will address actions used to prevent spills in addition to specifying actions that will be taken should any spills occur, including emergency notification procedures.

6) Hazard Materials Management

The Town will ensure that each contractor responsible for work on the proposed project will develop and implement a Hazard Materials Management Plan before beginning construction. The plan will provide detailed information on the types of hazardous materials used or stored at all sites associated with the water conveyance facilities; phone numbers of applicable city, county, state, and federal emergency response agencies; primary, secondary, and final cleanup procedures; emergency response procedures in case of a spill; and other applicable information. The plan will include appropriate practices to reduce the likelihood of a spill of toxic chemicals and other hazardous materials during construction and operations and maintenance. A specific protocol for the proper handling and disposal of hazardous materials will be established before construction activities begin and will be enforced by the Town.

7) Treatment of Vehicles, Equipment, Hazardous Materials, and Dust

Vehicles will observe the posted speed limit on hard-surfaced roads and a 20 mile per hour speed limit on unpaved areas during travel within habitat for federally listed species.



Vehicles and equipment will restrict off-road travel to the designated construction areas. Construction vehicles and equipment left onsite overnight will be thoroughly inspected each day for wildlife (both underneath the vehicle and in open cabs) before they are moved. All construction equipment will be inspected daily and properly maintained to prevent leaks of fuels, lubricants, or other fluids. To prevent possible resource damage from hazardous materials, such as motor oil or gasoline, construction personnel will not service or refuel vehicles, construction equipment, or motorized tools within 300 feet of any aquatic habitat or any elderberry shrubs, or any populations of meadowfoam, Greene's tuctoria, or Orcutt grass. Gravel roadways, staging areas, and other applicable areas will be sprayed with water as needed to minimize dust during construction activities, particularly in the vicinity of listed species habitat such as elderberry shrubs.

8) Decontamination

The Town will follow appropriate decontamination protocols prior to any staff, equipment, tools, or vehicles entering wetland features or moist soils associated with these features to minimize spread of pathogens.

9) Minimization of Habitat Disturbance

The Town will limit habitat disturbance, including alterations to existing hydrology, to the minimal area necessary to facilitate construction and operations and maintenance, including locating temporary work areas within the proposed project alignment, with consideration of connectivity between isolated patches of occupied habitat. The boundaries of the disturbance areas (including staging, access, and construction areas) will be clearly marked and monitored, and construction personnel and equipment will be confined within the delineated disturbance area boundary. Food-related trash will be disposed of in closed containers and removed from the site daily. No personnel will lure or feed wildlife. No pets or firearms will be allowed on site.

10) General Terrestrial Avoidance and Minimization Measures

At least 2 weeks prior to mobilization, the project engineer, construction foreman, and a qualified biologist will conduct a joint preconstruction survey of areas where construction impacts will occur. This team will review the site location and construction plan and coordinate in the field the final work locations and the extent of the ground surface preparations. The team will also confirm means of access by construction personnel and coordinate in the field the final means of transportation and route of transportation for accessing the locations.

Qualified biologists will conduct pre-construction surveys prior to the initiation of activities and will monitor these activities. The clearing of vegetation or digging of soil will be limited to the minimal area necessary to facilitate work activities. If any of the temporary work areas need to be moved or additional locations are needed, then these areas will be reviewed for sensitive biological resources applying the same methodology as described in the biological assessment, which includes a process for adjusting the locations to avoid and minimize effects on sensitive biological resources. The Town will notify the Service of any new or relocated work areas in a brief letter report with a map prior to work beginning at these locations.

Work within 250 feet of wetlands will have sediment control measures preventing transport of sediment from work areas to reduce runoff and onsite tracking. Work within 250 feet of wetlands will cover and berm loose stockpiles, store chemicals in watertight

containers, minimize exposure of materials to stormwater, and designate refueling, inspection, and maintenance sites more than 300 feet from aquatic habitats.

11) Restoration of Temporarily Disturbed Areas

The Town will restore temporarily disturbed areas to pre-project conditions within a year after the activity causing habitat disturbance is completed. When restoring temporarily impacted habitat, the Town will utilize native plant species from a reputable source appropriate to the area and will control the spread of invasive plant species.

12) Minimize the Effects of Lighting

For all construction lighting and any permanent lighting associated with facilities, the Town will shield the lights and direct them away from adjacent habitat areas.

13) Invasive Plant Species

To minimize the spread of nonnative, invasive plant species in the action area, the Town will retain a qualified botanist or weed scientist prior to clearing operations to determine if affected areas contain invasive plants. If areas to be cleared contain invasive plants, then chipped vegetation material from those areas will not be used for erosion control. In these cases, the material will be disposed of to minimize the spread of invasive plant propagules (e.g., burning, composting). To minimize the introduction of invasive plant species, construction vehicles and construction machinery will be cleaned prior to entering construction sites that are in or adjacent to natural communities other than cultivated lands and prior to entering any restoration sites or conservation lands other than cultivated lands. Vehicles working in or traveling off paved roads through areas with infestations of invasive plant species will be cleaned before traveling to other parts of the action area. Cleaning stations will be established at the perimeter of covered activities along construction routes as well as at the entrance to reserve system lands. Biological monitoring will include locating and mapping locations of invasive plant species within the construction areas during the construction phase and the restoration phase. Infestations of invasive plant species will be targeted for control or eradication as part of the restoration and revegetation of temporarily disturbed construction areas.

In addition to the general conservation measures described above, the Town has proposed the following species-specific conservation measures to minimize effects on the fairy shrimp and tadpole shrimp. The conservation measures proposed below are considered part of the proposed action evaluated by the Service in this biological opinion.

- 1) Temporary work areas with flexible locations and staging areas will be sited to avoid vernal pool habitat within the boundaries of the catchment areas identified in the micro-watershed desktop analysis.
- 2) In order to offset the loss of fairy shrimp and tadpole shrimp habitat, the Town will purchase vernal pool species preservation credits for fairy shrimp and tadpole shrimp at a 3:1 ratio for all adverse effects (3 acres of preservation credits to 1 acre of habitat affected) at a Service-approved vernal pool conservation or mitigation bank whose service area includes the proposed project. Therefore, the Town has proposed to offset the maximum possible loss of 5.7 acres of suitable fairy shrimp and tadpole shrimp habitat with the purchase of 17.1 acres of preservation credits. The credits will be purchased prior to earthmoving.

## Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action.” For the proposed project, the action area encompasses 2,055 acres surrounding the potential pipeline alignment (Figure 1). This includes a 250-foot buffer on either side of the road centerline for the Core Collection System in the Town (722.9 acres), a 250-foot buffer on the south side of Skyway Road and a 500-foot buffer on the north side of Skyway Road for the Export Pipeline System east of Highway 99 (739.5 acres), and a 250-foot buffer on either side of the road centerline for the Export Pipeline System west of Highway 99 (592.8 acres).

## Analytical Framework for the Jeopardy Determination

Section 7(a)(2) of the Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. “Jeopardize the continued existence of” means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the current rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the current condition of the species in the action area without the consequences to the listed species caused by the proposed action, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines all consequences to listed species that are caused by the proposed federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-federal activities in the action area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of the listed species.

## Status of the Species

For the most recent comprehensive assessment of the rangewide status of the fairy shrimp and the tadpole shrimp, please refer to the *Vernal Pool Fairy Shrimp* (*Branchinecta lynchi*), *Vernal Pool Tadpole Shrimp* (*Lepidurus packardii*), and *Conservancy Fairy Shrimp* (*Branchinecta conservatio*) *5-Year Review: Summary and Evaluation* (Service 2024). No change in either species’ listing status was recommended in this 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of fairy shrimp and tadpole shrimp habitat throughout the various recovery units, including the Northeastern Sacramento Valley Vernal Pool Region where the proposed project is located (Service 2005), to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species.

## Environmental Baseline

*Environmental baseline* refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

Elevations range from 41 feet above sea level in the west to 715 feet above sea level in the east. Land use and habitat types vary significantly across the lands in and surrounding the action area. The consultant initially characterized vegetation communities in the action area based on maps from the California Habitat Relationships System (Department 2021) and ground truthed this data during habitat assessments in the field on February 23–25, April 1, and April 16, 2021. In the Core Collection System within the Town, the dominant community is developed land (413.1 acres), with significant amounts of blue oak-foothill pine woodland (150.1 acres) and disturbed/ruderal land (145.8 acres) as well. In the Export Pipeline System west of Highway 99 within the City of Chico and adjacent lands, the dominant vegetation communities are deciduous orchard (312.1 acres), developed land (129.2 acres), and disturbed/ruderal land (127.4 acres). In the Export Pipeline System east of Highway 99, vegetation communities are much more variable due to the large elevational gradient. Vegetation communities include: developed land (213.6 acres), blue oak-foothill pine woodland (167.5 acres), wild oats and annual brome grassland with vernal pools (105.6 acres), mixed toyon interior live oak chaparral (83.5 acres), wild oats and annual brome grassland without vernal pools (80.9 acres), disturbed/ruderal land (33.4 acres), non-native woodland (25.4 acres), valley foothill riparian (15.4 acres), valley oak woodland (8.4 acres), and open water (5.8 acres),

The consultant conducted a wetland delineation in March–June 2023. However, an approximately 51.64-acre portion of the action area on the south side of Skyway Road between Butte Creek and Rocky Bluff Drive was not surveyed due to lack of access. Access was granted in 2024, and thus the consultant was able to delineate all wetland features and monitor the hydrology of all vernal pools within the action area in January–April 2024. Average annual rainfall for the Paradise region is 54.84 inches; the cumulative rainfall for the 2022–2023 wet season was slightly above average at 60.56 inches, and the cumulative rainfall for the 2023–2024 wet season was slightly below average (as of April 18, 2024) at 42.98 inches (California Department of Water Resources 2024). Delineated wetlands included 6.7 acres of vernal pools, 5.8 acres of sloped swales, 1.9 acres of seeps, 3.12 acres of perennial channels, 0.21 acre of ephemeral channels, 0.14 acre of intermittent channel, and 0.53 acre of freshwater pond. Butte Creek runs parallel to Skyway Road on the north side of the road for most of the action area on the east side of Highway 99, but only overlaps with the action area near the proposed crossing between Skyway Road and Highway 99. Comanche Creek and Little Chico Creek also cross through the action area west of Highway 99.

There are 105.6 acres of vernal pool grassland complex within the action area between Highway 99 and the Town, primarily on the south side of Skyway Road. Sixty-nine vernal pools were delineated within the vernal pool grassland complex, totaling 6.7 acres. These vernal pools and associated swales are generally shallow. During hydrology monitoring in January–April 2024,

only 32 of the 69 pools ever ponded water to a depth of 5 centimeters or more, indicating that several of the pools may only support the fairy shrimp or tadpole shrimp in years with above average rainfall. The vernal pool grassland complexes have formed on top of soils that have a very shallow layer of bedrock, such as Doe Mill, Jokerst, and Xerorthents soil types (Natural Resources Conservation Service 2024). Thus, the hydrology of these vernal pools is generally driven by rainfall and surface flow, not a sub-surface perched water table.

The consultant completed a micro-watershed analysis on April 18, 2024, to assess potential effects of the proposed project to vernal pools. The area of analysis was the Export Pipeline System east of Highway 99, 250 feet on either side of the pipeline centerline on the south side of Skyway Road. Results showed that Skyway Road generally acts as a ridgeline, with water on the north and south flowing north into the ravine around Butte Creek or south into the vernal pool grasslands, respectively. About 133.61 acres (27.4%) of the 488.22-acre area of analysis have surface water exchange with the pipeline centerline. Of the total 6.7 acres of vernal pools mapped in the project study area, approximately 5.7 acres occur within the exchange catchment areas. Although this modeling method is only an estimate of the way the surface water flows in the area of analysis, the most detailed data available was used to provide as much accuracy as possible.

The action area is within the Northeastern Sacramento Valley Vernal Pool Region and includes a small part of the Oroville Core Area on the south side of Skyway Road (Service 2005). The Oroville Core Area is generally located on the east side of Highway 99 from Skyway Road south to the Thermalito Dam. A total of 19,210 acres of vernal pool grasslands are estimated to remain within the Oroville Core Area as of 2018 (Witham 2021). Numerous occurrences of rare vernal pool species, including the fairy shrimp and tadpole shrimp, have been recorded in the southern half of the Core Area, but none have been recorded in the northern half (Diversity Database 2024). However, this lack of occurrence records is likely due to a lack of surveys. Vernal pool grassland is found along the entire length of the Oroville Core Area running north to south with only small gaps between habitat patches (Witham 2021). Because of this habitat connectivity, it is reasonably certain that some rare vernal pool species that occur in the southern half of the Core Area also occur in the northern half of the Core Area, despite the lack of survey data.

The Town did not conduct protocol-level surveys for the fairy shrimp or tadpole shrimp and instead chose to assume presence of the species in all vernal pools within the action area. The nearest known occurrence of the fairy shrimp is 5.5 miles northwest of the action area on the Bidwell Ranch Preserve (Diversity Database 2024). The two nearest known occurrences of the tadpole shrimp are 1–3 miles north of the action area in the Doe Mill Core Area and 5.5 miles northwest of the action area on the Bidwell Ranch Preserve (Diversity Database 2024). Within the Oroville Core Area, the nearest occurrences of both the fairy shrimp and tadpole shrimp are located 9 miles southeast of the action area near the intersection of Highways 99 and 149 (Diversity Database 2024). This includes populations within the Dove Ridge Conservation Bank and the Preserve on Openshaw Ranch.

### **Effects of the Action**

*Effects of the action* are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action.

Up to 5.7 acres of vernal pools within the action area may be adversely affected by the proposed project. In some locations, construction activities such as trenching may need to occur within the pools themselves, resulting in the destruction of the pools and the crushing of fairy shrimp and tadpole shrimp eggs. Although the Town has committed to restoring and recontouring the soil after construction is complete, appropriate vernal pool hydrology is not expected to be restored because the shallow bedrock soil layer that supported ponding will have been disturbed and broken up. In other locations, the pools themselves will be avoided, but construction will still occur within catchments that contain vernal pools. The disturbance of the shallow bedrock soil layer will interfere with future surface water flows that collect in the catchments' vernal pools, altering the hydrology of the pools to an extent that they will likely no longer hold water long enough to support the lifecycle of the fairy shrimp or tadpole shrimp. Because the vernal pools within the action area are supported by a very shallow bedrock layer and are thus fed almost entirely by surface flows, it is not expected that vernal pools outside of catchments where construction occurs will experience changes in hydrology.

Future operations and maintenance activities that involve trenching to access the pipeline will use the same temporary construction footprint as pipeline installation, so no vernal pools will be disturbed that were not already disturbed by pipeline installation.

As noted previously in the *Description of the Proposed Action* section, the project proponent has also proposed a set of conservation measures, including the commitment to provide compensatory habitat as a condition of the action. This compensatory habitat is intended to minimize the effect on the species of the proposed project's anticipated incidental take, resulting from the permanent loss of habitat described above. The compensatory habitat proposed will be in the form of purchasing vernal pool species preservation credits from a Service-approved conservation or mitigation bank.

This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory lands will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

### **Cumulative Effects**

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

### **Conclusion**

After reviewing the current status of the fairy shrimp and tadpole shrimp, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Paradise Sewer Project, as proposed, is not likely to jeopardize the continued existence of the fairy shrimp or the tadpole shrimp. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not

rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following:

- 1) The 5.7 acres of vernal pool habitat that will be adversely affected by the proposed project represents a small portion of the habitat available in the Oroville Core Area and the Northeastern Sacramento Valley Vernal Pool Region.
- 2) The proposed conservation measures will ensure that habitat for the fairy shrimp and the tadpole shrimp will be protected and managed in perpetuity.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be undertaken by the Town so that they become binding conditions of any grant or permit issued as appropriate, for the exemption in section 7(o)(2) to apply. The Town has a continuing duty to regulate the activity covered by this incidental take statement. If the Town (1) fails to assume and implement the terms and conditions or (2) fails to require adherence to the terms and conditions of the incidental take statement through enforceable terms that are added to any permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Town must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

#### **Amount or Extent of Take**

The Service anticipates that incidental take of the fairy shrimp and the tadpole shrimp will be difficult to detect due to the fact that it is not possible to know how many eggs are in the soil of any wetland feature. Incidental take of the fairy shrimp and the tadpole shrimp in the form of mortality will result from the destruction or hydrological alteration of 5.7 acres of vernal pools that provide suitable habitat within the action area. The life stage affected by this action will be the fairy shrimp's and the tadpole shrimp's eggs, which are embedded in the soil and are difficult to detect without a detailed microscopic analysis. Therefore, due to the fact that it is not possible to know how many eggs are in the soil of any feature, or how many eggs will occupy any feature later in time, the Service cannot quantify the total number of fairy shrimp and tadpole shrimp eggs that we anticipate will be taken as a result of the proposed project. In instances in which the

total number of eggs anticipated to be taken cannot be determined, the Service may use the acreage of habitat impacted as a surrogate for the take of eggs. Therefore, the Service anticipates take incidental to the proposed project as the killing of all fairy shrimp and tadpole shrimp eggs within the 5.7 acres of suitable habitat that will be lost, which stands as a surrogate for the species.

Upon implementation of the following reasonable and prudent measure, incidental take of the fairy shrimp and the tadpole shrimp associated with the Paradise Sewer Project will become exempt from the prohibitions described in section 9 of the Act. No other forms of take are exempted under this opinion.

### **Effect of the Take**

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

### **Reasonable and Prudent Measures**

All necessary and appropriate measures to avoid or minimize effects on the fairy shrimp and tadpole shrimp resulting from implementation of the proposed project have been incorporated into the project's proposed conservation measures. Therefore, the following reasonable and prudent measure is necessary and appropriate to minimize incidental take of the fairy shrimp and tadpole shrimp:

- 1) All conservation measures, as described in the *Description of the Proposed Action* section of this biological opinion, shall be fully implemented and adhered to. Further, this reasonable and prudent measure shall be supplemented by the terms and conditions below.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the Act, the Town must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

- 1) The Town shall include full implementation and adherence to the conservation measures as a condition of any permit or contract issued for the proposed project.
- 2) The Town will provide the Service's Sacramento Fish and Wildlife Office, Sacramento Valley Division Supervisor with a copy of the completed bill of sale and payment receipt upon the purchase of all credits purchased at a Service-approved conservation or mitigation bank.
- 3) In order to monitor whether the amount or extent of incidental take anticipated from implementation of the proposed project is approached or exceeded, the Town will adhere to the following reporting requirement. Should the anticipated amount or extent of take be exceeded, the Town must immediately reinstate formal consultation, as per 50 CFR §402.16.
  - a. For those components of the action that will result in habitat loss, degradation, or modification whereby incidental take is anticipated, the Town shall provide a



precise accounting of the total acreage of habitat impacted to the Sacramento Fish and Wildlife Office Sacramento Valley Division Supervisor, SFWO\_mail@fws.gov, after completion of construction.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

- 1) The Town should work with the Service to assist in meeting the goals of the Recovery Plan for the fairy shrimp and tadpole shrimp as outlined in the December 2005 *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (Service 2005).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### **REINITIATION—CLOSING STATEMENT**

This concludes formal consultation on the Paradise Sewer Project. As provided in 50 CFR §402.16(a), reinitiation of consultation is required and shall be requested by the federal agency or by the Service where discretionary federal involvement or control over the action has been retained or is authorized by law, and:

- 1) If the amount or extent of taking specified in the incidental take statement is exceeded.
- 2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered.
- 3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence.
- 4) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Ian Perkins-Taylor by email ([ian\\_perkins-taylor@fws.gov](mailto:ian_perkins-taylor@fws.gov)) or by phone at (916) 414-6585, or Megan Cook by email ([megan\\_cook@fws.gov](mailto:megan_cook@fws.gov)), by phone at (916) 414-6492, or at the letterhead address.

Sincerely,

Michael Fris  
Field Supervisor

cc:

Julie Axt, Department of Housing and Community Development, Sacramento, California  
Danielle Tannourji, HDR, Inc., Santa Clara, California

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APPENDIX J

# NATIONAL MARINE FISHERIES SERVICE LETTER OF CONCURRENCE



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
West Coast Region  
650 Capitol Mall, Suite 5-100  
Sacramento, California 95814-4700

Refer to NMFS ECO#: WCR-2024-01257

**July 17, 2024**

Colin Nelson  
Capital Projects Manager/ Paradise Sewer Project  
Public Works Department  
Town of Paradise  
5555 Skyway  
Paradise, CA 95969

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens  
Fishery Conservation and Management Act Essential Fish Habitat Response for the  
Paradise Sewer Project

Dear Mr. Nelson:

On June 6, 2024, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that the Paradise Sewer Project is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA).

This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402. Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 Fed. Reg. 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the Act. 84 Federal Register at 45015; 89 Federal Register at 24268. We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this letter of concurrence would not have been any different under the 2019 regulations or pre-2019 regulations.

NMFS also received your request for essential fish habitat (EFH) consultation. NMFS reviewed the proposed action for potential effects on EFH pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. However, we concluded that there are no adverse effects on EFH. Therefore, we are hereby concluding EFH consultation.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public



APPENDIX K

# PERMITTING MATRIX

Issuing Agency & Permit	Expected Completion Date	Permit Received	Division of Responsibility		Needed from Support		Geotech					Collection System				Export Pipeline						
			Lead	Support	Items	Due Date	Export Creeks Crossings	Export Pipeline (Skyway)	Export Pipeline (Butte C to WPCP)	Collection System	Potholing	General Open Cut	Open Cut Creek Crossings	Trenchless Creek Crossings	South Clark Rd.	Skyway	Open Cut (Hwy 99 to WPCP)	Butte Creek	Little Chico	Comanche	Hwy99 Xing	UPRR Xing (MCI-C)
biology, waterways, levees, cultural			HDR	MCI-C	- Example of P&P drawing - Example of cross sections - Depth of trenching	Complete	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
				Town	Fairy Shrimp mitigation receipt		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NMFS – NLAA	Complete	Jul-2024	HDR	MCI-C	- Example of P&P drawing - Example of cross sections - Depth of trenching - Site-specific Frac Out Plan	Complete	X										X	X	X			
CDFW – ITP	Jul-2026		HDR	MCI-C	- Pipeline Alignment - Example of P&P drawing - Example of cross sections - Frac Out Plan						X	X	X	X	X	X	X	X	X	X	X	
CDFW – 1600 Geotech	Feb-2025		HDR	MCI-C	- Example of P&P drawing - Example of cross sections - Depth of geotechnical investigations - Timeframe/schedule		X				N/A											
CDFW – 1600 Strembed Alteration	Jul-2026		HDR	MCI-C	- 60% design (cross sections & P&P drawings) <u>Open Cut Crossings:</u> - diversion/dewatering plan (potential GW issues) - erosion control and sedimentation measures <u>Trenchless Crossings:</u> - site-specific Frac Out Plan - site-specific Drilling plan		N/A						X	X		X		X	X	X		
CVRWQCB – 401 Water Quality	Nov-2027		HDR	MCI-C	- 60% design (cross sections & P&P drawings) - water quality monitoring plan - emergency spill response/prevention plan - water quality control plan <u>Open Cut Crossings:</u> - diversion/dewatering plan (potential GW issues) - erosion control and sedimentation measures <u>Trenchless Crossings:</u> - site-specific Frac Out Plan - site-specific Drilling plan							X	X		X		X	X	X			



Issuing Agency & Permit	Expected Completion Date	Permit Received	Division of Responsibility		Needed from Support		Geotech					Collection System				Export Pipeline							
			Lead	Support	Items	Due Date	Export Creeks Crossings	Export Pipeline (Skyway)	Export Pipeline (Butte C to WPCP)	Collection System	Potholing	General Open Cut	Open Cut Creek Crossings	Trenchless Creek Crossings	South Clark Rd.	Skyway	Open Cut (Hwy 99 to WPCP)	Butte Creek	Little Chico	Comanche	Hwy99 Xing	UPRR Xing (MCI-C)	
biology, waterways, levees, cultural																							
USACE – 404	Nov-2027		HDR	MCI-C	- 60% design (cross sections & P&P drawings) - water quality monitoring plan - water quality control plan - emergency spill response/prevention plan <u>Open Cut Crossings:</u> - diversion/dewatering plan (potential GW issues) - erosion control and sedimentation measures <u>Trenchless Crossings:</u> - site-specific Frac Out Plan - site-specific Drilling plan		None required as long as geotech is outside of the ordinary high water mark (OHWM)						X				X		X				
USACE – 408 Geotech	Oct-2025		HDR	MCI-C	- Cross sections - Borings Map - site-specific Drilling plan - CP 2 Borings Checklist		X																
USACE – 408 HDD	Nov-2027		HDR	MCI-C	- 65% design drawings - CP 14 HDD Checklist - site-specific Frac Out Plan - site-specific Drilling plan - detailed subsurface investigations - scour analysis (if shallower than 50 ft) - Levee impact evaluation (if shallower than 50 ft)													X	X				
CVFPB – 3615 Minor Alteration Geotech (will be submitted with 408)	Oct-2025		HDR	MCI-C	everything needed for 408 permit		X																
CVFPB – 3615 Minor Alteration (will be submitted with 408)	Nov-2027		HDR	MCI-C	everything needed for 408 permit													X	X				
SHPO – Sec 106	Oct-2024		HDR	MCI-C	- Pipeline Alignment - description of HDD/trenchless methods - design documents for review		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Native American Tribal Consultation	Oct-2024	Aug-2024	HDR	MCI-C	- Pipeline Alignment - description of HDD/trenchless methods - design documents for review	Complete	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
CalTrans Permit				MCI-C	MCI-C																X		
UPRR Crossing Permit				MCI-C	MCI-C																	X	
UPRR Longitudinal Permit				MCI-C	MCI-C													X					
NPDES				MCI-C	MCI-C							X	x	X	X	X	X	X	X	X	X	X	
Post-Construction Stormwater				MCI-C	MCI-C										X								
County/Town Tree Removal Permit				MCI-C	MCI-C																		
Cal OSHA Mining				MCI-C	MCI-C																		
Butte County Encroachment Permit				Town	MCI-C										X	X			X	X	X	X	

Trenchless Crossings

\*USFWS BiOp gets 135 days to review after re-initiating consultation. Previous review only took 73 days

APPENDIX L

# PG&E LIDAR SURVEY CONVERSION METHOD

### *PG&E LiDAR Datum Conversion*

Datum conversion of the PG&E LiDAR data from NAVD88 to NGVD29 required evaluating the Town of Paradise published benchmark data and the Record of Survey for Pacific Gas and Electric Company (Book 197 of maps at pages 15-16). Four town benchmarks were identified for evaluation. The benchmarks were located during a field review, had published data sheets and were included in PG&E's record of survey. The attached datum conversion table identifies the four benchmarks that were analyzed for datum conversion. Each benchmark was field inspected for quality assurance and location verification. Construction projects within the town have resulted in the destruction of many monuments which affects the repeatability of survey site visits for vertical control checks. Benchmark number 5097 was identified as a monument of good quality and in a location that seemed protected from potential construction activities. The datum conversion for benchmark number 5097 from NAVD88 to NGVD29 was determined to be minus 2.53 feet. RAR converted the LiDAR surface from NAVD88 to NGVD29 by lowering the entire surface 2.53 feet.

## LiDAR Datum Conversion

### NAVD88 to NGVD29

BM ID	NAVD88 ELEV	NGVD29 ELEV PER NGS CONVERSION	NAVD88 TO NGVD29	L AND L ELEV	NAVD88 TO L AND L	NGS NGVD29 CONVERSION TO L AND L	NOTE
1029	1890.060	1887.595	[ 2.465 ]	1887.490	[ 2.570 ]	[ 0.105 ]	
1031	1993.650	1991.180	[ 2.47 ]	1991.460	[ 2.19 ]	0.280	
1084	1330.300	1327.865	[ 2.435 ]	1327.640	[ 2.66 ]	[ 0.225 ]	
5097	1742.300	1739.842	[ 2.458 ]	1739.770	[ 2.53 ]	[ 0.072 ]	
AVG			[ 2.457 ]		[ 2.4875 ]		L AND L DIFFERENCES INCONSISTENT



**L&L** LIPPINCOTT  
SURVEYING



TOWN OF PARADISE

1007 BILLE ROAD • P.O. BOX 671  
PARADISE, CA 95967  
(916) 877-4300

TOWN OF PARADISE G.P.S. GROUND CONTROL

Point No. 5097

Description: N.G.S. NAD 83 " Pearson "

Elev: 1739.77

Northing: 2399669.902

Easting: 6671694.480

Location:

Station is located on the south side of Paradise about 0.15 mile south of Pearson Road and on the south side of a school garage.

Station is reached as follows: from the U. S. Post Office, in Paradise, go south on Almond Street 0.10 mile to Pearson Road. Turn left and follow Pearson Road, easterly, 0.85 mile to a paved driveway on the right. Enter driveway and go 0.15 mile to the Station on the south side of garage.

Station, stamped " PEARSON 1974 ", is a standard California Division of Highways brass disk set in the top of a 12-inch concrete cylinder that is flush with the ground. It is 65.0 feet west of a wooden fence and 68.5 feet southeast of the southeast corner of garage. An identical disk is set in an irregular mass of concrete about 3.3 feet below the Station.

RM 1, stamped " PEARSON RM NO. 1 1974 ", is a standard California Division of Highways brass disk set in the top of a 12-inch concrete cylinder that projects about 0.1 foot above the ground. It is 5.5 feet west of wooden fence and about 1.5 feet above Station elevation.

RM 2, stamped " PEARSON RM NO. 2 1974 ", is a standard California Division of Highways brass disk set in a drill hole in the top of a concrete slab. It is 1.0 foot north of the south edge of slab, 1.2 feet west of the east edge of slab, 23.0 feet south of south side of garage and about 0.5 foot above Station elevation.

Azimuth Mark, stamped " PEARSON AZIMUTH MARK 1974 ", is a standard California Division of Highways brass disk set in the top of a 12-inch concrete cylinder that projects about 0.2 foot above the ground. It is 19.0 feet south of the centerline of dirt road and 25.0 feet east of power pole # 635B4.

Azimuth Mark is reached as follows: from the U. S. Post Office, in Paradise, go south on Almond Street 0.1 mile to Pearson Road. Turn left and follow Pearson Road, easterly, 0.9 mile to a paved alley on the left. Turn left and go 400 feet to a T intersection. Turn right and go 100 feet to the Azimuth Mark on the right.

**BASIS OF BEARING**

BEARINGS HEREON ARE BASED UPON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM OF ZONE II, NORTH AMERICAN DATUM OF 1983 (NAD83) (2011), 2010.0 EPOCH. ALL BEARINGS AND DISTANCES SHOWN HEREON ARE GRID, TO OBTAIN GROUND DISTANCES DIVIDE THE GRID DISTANCE BY THE COMBINED GRID FACTOR.

**PURPOSE OF SURVEY**

THE PURPOSE OF THIS SURVEY IS TO PROVIDE A PRIMARY HORIZONTAL AND VERTICAL CONTROL NETWORK FOR LAND SURVEYORS AND RECORD MAPPING FOR THE TOWN OF PARADISE AND PACIFIC GAS AND ELECTRIC COMPANY.

**BASIS OF GEODETIC CONTROL AND HORIZONTAL DATUM**

THE BASIS FOR GEODETIC HORIZONTAL AND VERTICAL CONTROL FOR THIS SURVEY USED FOUR CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS):

- ORVB\_OROVILLE DAM CORS ARP (NGS PID DN7510)
- P344\_VINAHELITKCN2006 CORS ARP (NGS PID DN5654)
- P346\_BUZZARDRSTCN2007 CORS ARP (NGS PID DN7395)
- QUIN\_QUINCY 7221 (NGS PID KS1340)

DATASHEETS CAN BE FOUND ON THE NATIONAL GEODETIC SURVEY (NGS) WEBSITE.

THE ESTABLISHMENT AND COORDINATE VALUES FOR EACH POINT IN THIS CONTROL NETWORK IS IN TERMS OF THE CALIFORNIA COORDINATE SYSTEM, ZONE II, NORTH AMERICAN DATUM OF 1983 (NAD83) (2011), 2010.0 EPOCH.

**BASIS OF VERTICAL DATUM**

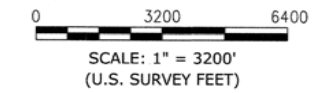
ELEVATIONS WERE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) USING NATIONAL GEODETIC SURVEY (NGS) REPORTED ELLIPSOIDAL HEIGHTS AND APPLYING THE GEOID12B MODEL USING GPS TECHNOLOGY.

**HELD CORS STATIONS AND COORDINATES**

FGDC (95% CONF. CM) STANDARD DEVIATION (CM)

CORS_ID	NAD83 2010 LAT(dms)	NAD83 2010 LON(dms)	ELLIPSE HT.(GRS80)	HORIZ.	ELLIP.	SD_N	SD_E	SD_H
ORVB	39° 33' 16.64443" N	-121° 30' 00.99489" W	1117.3797 (FEETUS)	0.20	0.56	0.08	0.08	0.29
P344	39° 55' 44.82971" N	-122° 01' 40.64407" W	164.9078 (FEETUS)	0.16	0.45	0.07	0.06	0.23
P346	39° 47' 40.94147" N	-120° 52' 02.81650" W	6685.9282 (FEETUS)	0.15	0.45	0.07	0.05	0.23
QUIN	39° 58' 28.38077" N	-120° 56' 39.88942" W	3629.7336 (FEETUS)	0.01	0.03	0	0	0.01

CONVERGENCE ANGLE AT 1031 = 00°15'21.61"  
GRID AZIMUTH = GEODETIC AZIMUTH - CONVERGENCE



**LEGEND**

- GPS VECTORS
- APPROXIMATE ROADWAY
- CONTINUOUSLY OPERATING REFERENCE STATION (CORS)
- FOUND MONUMENT AS DESCRIBED, SEE SHEET 2

**SURVEYOR'S STATEMENT**

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF PACIFIC GAS AND ELECTRIC COMPANY IN MAY, 2020.

*Robert K Cleveland* DATE 2/17/21  
ROBERT K CLEVELAND, L.S. 9016



**COUNTY SURVEYOR'S STATEMENT**

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE LAND SURVEYORS' ACT THIS 4th DAY OF MARCH, 2021

*William H Bridgnell*  
WILLIAM H BRIDGNELL, L.S. 8096  
BUTTE COUNTY SURVEYOR



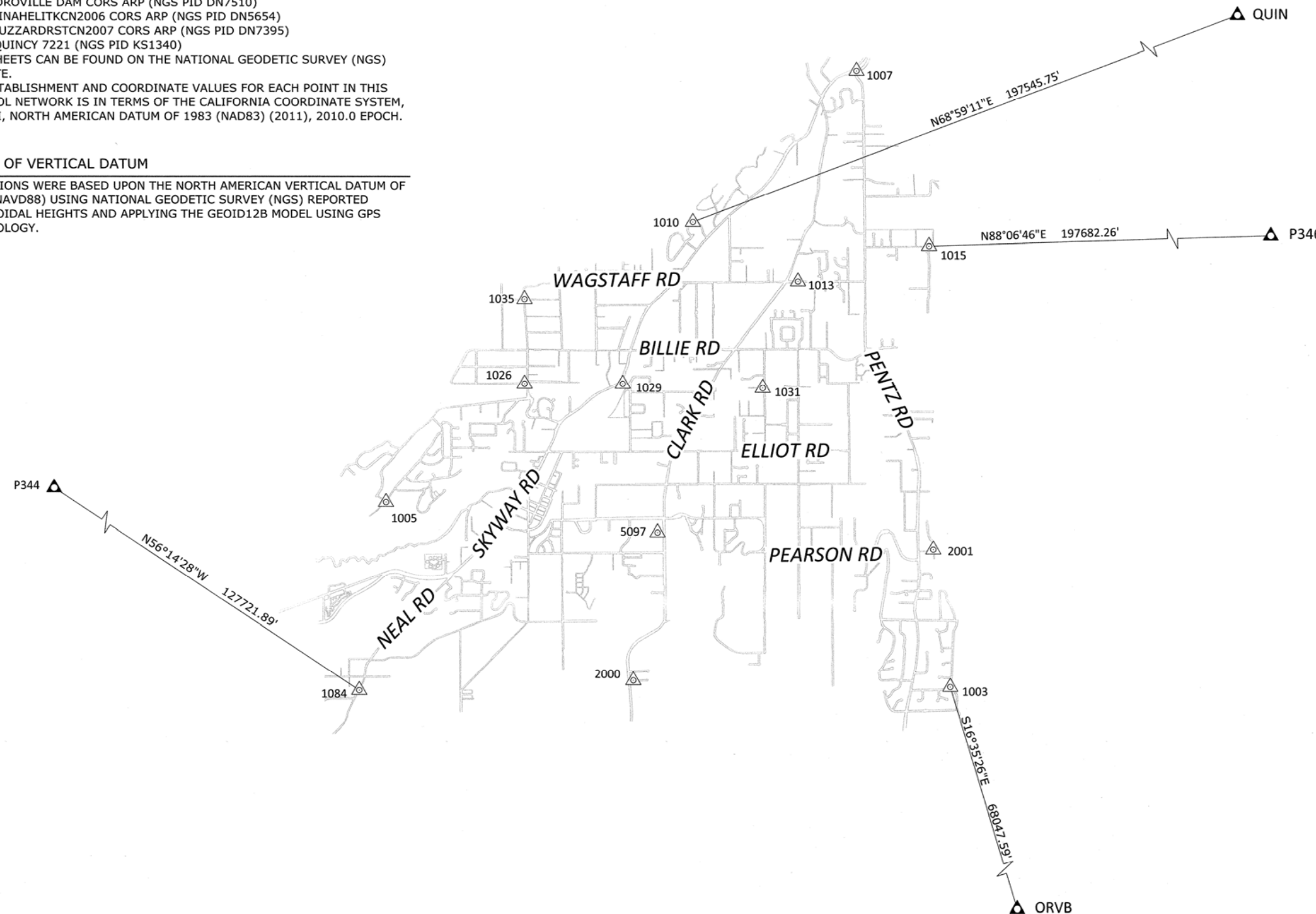
**RECORDER'S STATEMENT**

FILED THIS 5 DAY OF March, 2021, AT 12:22 P.M. IN BOOK 197 OF maps, AT PAGE 15-16, AT THE REQUEST OF PACIFIC GAS AND ELECTRIC COMPANY.

FEE: \$ 124.00 SERIAL # 2021-0010681

*Candace J. Grubbs*  
CANDACE J. GRUBBS, BUTTE COUNTY RECORDER

BY DEPUTY RECORDER \_\_\_\_\_



**RECORD OF SURVEY FOR  
PACIFIC GAS AND  
ELECTRIC COMPANY**

IN THE TOWN OF PARADISE AND UNINCORPORATED TERRITORY OF THE COUNTY OF BUTTE, STATE OF CALIFORNIA

BEING A SURVEY OF THOSE PORTIONS OF SECTIONS: 1,2,10,11,12,13,14,15,21,22,23,24,25,26,27 AND 28 OF TOWNSHIP 22 NORTH, RANGE 03 EAST; SECTIONS 6,7,18,19 AND 30 OF TOWNSHIP 22 NORTH, RANGE 04 EAST; SECTION 31 OF TOWNSHIP 23 NORTH, RANGE 04 EAST; SECTION 36 OF TOWNSHIP 23 NORTH, RANGE 03 EAST; ALL OF MOUNT DIABLO BASE AND MERIDIAN.



PACIFIC GAS AND ELECTRIC COMPANY  
245 MARKET STREET  
SAN FRANCISCO, CALIFORNIA

MONUMENT DESCRIPTIONS

POINT NO.	NORHING	EASTING	ELEV.	LATITUDE	LONGITUDE	COMBINED GRID FACTOR	DESCRIPTION
1003	2393606.30	6683138.32	1703.26	39° 44' 02.158" N	121° 34' 05.109" W	0.99990158	FOUND STANDARD BUTTE COUNTY STREET MONUMENT 2" BRASS CAP AT THE INTERSECTION OF COUNTY CLUB DRIVE AND ROYAL CANYON DRIVE NEAR 5085 COUNTY CLUB DRIVE
1005	2400850.58	6661078.11	1508.09	39° 45' 14.694" N	121° 38' 47.125" W	0.99991498	FOUND STANDARD BUTTE COUNTY STREET MONUMENT 2 1/2" BRASS DISC AT THE INTERSECTION OF ROSEBUD DRIVE BARTELS PLACE NEAR 204 ROSEBUD DRIVE
1007	2417819.52	6679524.87	2307.87	39° 48' 01.619" N	121° 34' 49.931" W	0.99988645	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 7" AT THE SOUTHEAST QUAD AT THE INTERSECTION OF NEW SKYWAY RD AND PENTZ RD. 60' EASTLY OF THE CENTERLINE OF PENTZ RD 50' SOUTHERLY OF THE CENTERLINE OF NEW SKYWAY RD NEAR 7340 PENTZ RD
1010	2411850.23	6673108.28	2045.04	39° 47' 02.911" N	121° 36' 12.477" W	0.99989553	FOUND 1/2" REBAR 0.1' BELOW THE ASPHALT AT THE END OF FIRLAND DR IN THE CUL-DE-SAC NEAR 6614 FIRLAND DR
1013	2409533.31	6677203.89	2080.84	39° 46' 39.833" N	121° 35' 20.149" W	0.99989245	FOUND STANDARD BUTTE COUNTY STREET MONUMENT 2 1/2" BRASS DISC AT THE CENTERLINE WAGSTAFF RD 465' EASTERLY OF CLARK RD. NEAR 1521 WAGSTAFF RD.
1015	2410927.87	6682327.71	2163.71	39° 46' 53.381" N	121° 34' 14.438" W	0.99988928	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 15" AT THE INTERSECTION MERRIL RD AND SHAY LN NEAR 1945 MERRILL RD.
1026	2405494.31	6666506.84	1772.36	39° 46' 00.373" N	121° 37' 37.372" W	0.99990494	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 26" IN ASPHALT 125' WESTERLY OF OLIVER DR ON CASTLE DR 6' SOUTHERLY OF THE CENTERLINE OF CASTLE NEAR 639 CASTLE DR.
1029	2405499.12	6670338.68	1890.06	39° 46' 00.262" N	121° 36' 48.300" W	0.9998993	FOUND 2" ALUMIN CAP IN SIDEWALK STAMPED "GPS P 29" IN CONCRETE SIDEWALK 125' EASTLY OF THE INTERSECTION OF SKYWAY RD AND MAXWELL DR 1.5' SOUTHERLY FROM THE SOUTHERLY FACE OF CURB NEAR 6083 MAXWELL DR
1031	2405343.89	6675812.74	1993.65	39° 45' 58.492" N	121° 35' 38.207" W	0.99989423	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 31" IN ASPHALT 1' SOUTHERLY OF THE NORTHERLY EDGE OS PAVEMENT ON ORPUT LN 60' WESTERLY OF NORTH LIBBY RD NOEARA 6077 LIBBY RD
1035	2408805.63	6666515.14	1804.95	39° 46' 33.098" N	121° 37' 37.092" W	0.99990528	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 35" IN ASPHALT AT THE INTERSECTION OF ROBERTS RD AND OLIVER READ NEAR 595 ROBERTS RD
1084	2393445.64	6660011.84	1330.30	39-44-01.553	121° 39' 01.143" W	0.99991941	FOUND 2" ALUMIN CAP ON 1/2" REBAR STAMPED "GPS P 84" IN ASPHALT AT THE SOUTHERLY RETURN OF THE SOUTHEASTERLY RETURN OF NEAL RD AND FOUNTAIN AVE 22' SOUTHERLY ALONG NEAL RD FROM THE CENTERLINE OF FOUNTAIN AVE 14' EASTERLY OF CENTERLINE OF NEAL RD NEAR 3476 NEAL RD
2000	2393847.43	6670742.21	1436.08	39° 44' 05.093" N	121° 36' 43.769" W	0.99991453	FOUND 2 1/2" BRASS DISC STAMPED "PGE 2000 KELLI" SET ON TOP OF SOUTHERLY CURB EASY STREET 147 FEET EASTERLY OF CLARK ROAD 46 FEET EASTERLY OF BEGINNING OF CONCRETE CURB AND GUTTER NEAR 919 EASY STREET
2001	2399024.35	6682473.71	1872.43	39° 44' 55.735" N	121° 34' 13.288" W	0.99989646	FOUND 2" ALUMIN CAP STAMPED "PACIFIC GAS AND ELECTRIC SURVEY CONTROL 2001" IN THE NORTHWESTLY RETURN OF FEATHER RIVER PLACE AND FEATHER RIVER PLACE 16 FEET WEST OF CENTERLINE FEATHER RIVER PLACE AND 39 FEET NORTHERLY OF CENTERLINE FEATHER RIVER PLACE NEAR 1941 FEATHER RIVER PLACE
5097	2399671.48	6671693.41	1742.30	39° 45' 02.611" N	121° 36' 31.273" W	0.99990308	FOUND 3 1/2" BRSS DISC STAMPED "PEARSON DIVISION OF HIGHWAY 1974" IN ASPHALT 560' SOUTH OF PERSON RD 270' WEST OF CLARK RD IN SCHOOL MAINTENCE YARD 48 FEET SOUTHEASTERLY OF SOUTHEASTERLY BUILDING CORNER NEAR 622 PEARSON RD

SURVEYOR'S NOTES

- THE MAIN SURVEY CAMPAIGN IS TO PROVIDE THE TOWN OF PARADISE AND PACIFIC GAS AND ELECTRIC COMPANY A PRIMARY HORIZONTAL AND VERTICAL CONTROL NETWORK FOR FIELD SURVEYS AND RECORD MAPPING.
- THE SURVEY WAS CONDUCTED ON MAY 27<sup>th</sup>, 2020
- THE HORIZONTAL AND VERTICAL NETWORK SHOWN ON THIS RECORD OF SURVEY WAS DEVELOPED USING GLOBAL POSITIONING SYSTEM (GPS) TECHNIQUES.
- DATA WAS COLLECTED USING THREE TRIMBLE R10 DUAL-FREQUENCY GNSS ANTENNAS WITH A FIXED HEIGHT ROD OF TWO METERS AND ONE R8 DUAL-FREQUENCY GNSS ANTENNA WITH A FIXED HEIGHT ROD OF TWO METERS. DATA WAS COLLECTED SIMULTANEOUSLY OVER A TWO-DAY PERIOD.
- EACH CONTROL POINT IN THE NETWORK WAS OBSERVED AT LEAST TWO TIMES FOR ONE HOUR. CONTROL POINTS 1084, 1003, 1015, AND 1010 WERE OCCUPIED FOR A TOTAL OF NINE HOURS EACH.
- POST-PROCESSING WAS PERFORMED USING MICROSURVEY STAR\*NET-PRO VERSION 8.0.2.630. A FULLY CONSTRAINED ADJUSTMENT USING THE PUBLISHED CORS STATION STANDARD DEVIATIONS AS REPORTED BY THE NATIONAL GEODETIC SURVEY (NGS).
- IN ORDER TO MAINTAIN CLARITY AS TO THE LOCATIONS OF CONTROL POINTS, GPS VECTOR LINES BETWEEN POINTS WERE EXCLUDED FROM THE EXHIBIT ON SHEET NO. 1. REFER TO THE LINE TABLE TO OBTAIN BEARING AND DISTANCE VALUES.
- ALL CONTROL POINTS WERE FOUND WITH NO PROPERTY OR BOUNDARY RELATIONSHIPS INTENDED.
- THE PUBLISHED ELLIPSOID HEIGHT FOR QUIN, QUINCY 7221 (NGS PID KS1340) WAS NOT INCLUDED WITHIN THE RIGOROUS SURVEY ADJUSTMENT TO ESTABLISH PROJECT ORTHOMETRIC HEIGHTS BUT ARE INTENDED AS NETWORK ACCURACY CONFIDENCE LEVEL CHECKS.

ERROR PROPAGATION TABLE

STATION COORDINATE STANDARD DEVIATIONS (FEETUS)

STATION	NORTHING	EASTING	ELEVATION
ORVB	0	0	0
P344	0.008456	0.008227	0.016166
P346	0.006821	0.006908	0.013255
QUIN	0	0	0.010213
1003	0.0052	0.005208	0.009045
1010	0.005417	0.005381	0.009098
1015	0.004805	0.004784	0.008633
1084	0.005242	0.005208	0.009223
1005	0.011644	0.011384	0.014576
5097	0.011443	0.011325	0.014182
2000	0.011515	0.011479	0.014811
2001	0.009052	0.00898	0.012501
1031	0.011594	0.011385	0.014327
1007	0.010332	0.009859	0.015052
1013	0.010993	0.010752	0.016709
1035	0.010721	0.01057	0.014034
1026	0.010636	0.010541	0.014094
1029	0.011738	0.011733	0.014605

LINE TABLE

ADJUSTED BEARINGS (DMS) AND HORIZONTAL DISTANCES (FEETUS) (RELATIVE CONFIDENCE OF BEARINGS IS IN SECONDS)

95% RELATIVE CONFIDENCE						
FROM	TO	GRID BEARING	GRID DISTANCE	BRG	DIST	PPM
1003	1005	N71-49-14W	23219.23	0.25	0.0275	1.185
1003	1007	N08-29-16W	24481.36	0.20	0.0250	1.0203
1003	1010	N28-48-03W	20819.29	0.13	0.0135	0.6463
1003	1013	N20-26-08W	16996.68	0.32	0.0264	1.5526
1003	1015	N02-40-46W	17340.53	0.15	0.0122	0.7017
1003	1026	N54-26-36W	20443.36	0.26	0.0256	1.2506
1003	1029	N47-06-12W	17471.98	0.34	0.0279	1.5971
1003	1031	N31-58-08W	13836.01	0.41	0.0278	2.0117
1003	1035	N47-33-43W	22524.43	0.24	0.0254	1.1288
1003	1084	S89-36-07W	23127.03	0.12	0.0131	0.5668
1003	2000	N88-53-08W	12398.45	0.46	0.0276	2.2292
1003	2001	N06-59-36W	5458.66	0.80	0.0214	3.9207
1003	5097	N62-04-44W	12952.69	0.44	0.0273	2.1089
1003	ORVB	S16-35-26E	68047.59	0.04	0.0127	0.1865
1003	P344	N61-17-38W	147432.52	0.03	0.0198	0.1346
1003	P346	N83-05-39E	198202.41	0.02	0.0163	0.0823
1003	QUIN	N62-56-23E	195814.29	0.01	0.0128	0.0654

95% RELATIVE CONFIDENCE

FROM	TO	GRID BEARING	GRID DISTANCE	BRG	DIST	PPM
1005	1010	N47-33-44E	16300.84	0.35	0.0277	1.6971
1005	1015	N64-37-41E	23518.02	0.24	0.0273	1.1599
1005	1084	S08-11-38W	7481.31	0.76	0.0281	3.7498
1007	1010	S47-04-06W	8763.84	0.59	0.023	2.6198
1007	1015	S22-07-54E	7439.81	0.64	0.0252	3.3838
1007	1084	S38-40-47W	31222.49	0.17	0.0236	0.7553
1010	1013	S60-30-10E	4705.54	1.16	0.0261	5.5444
1010	1015	S84-17-13E	9265.45	0.28	0.0124	1.3333
1010	1026	S46-05-08W	9163.89	0.58	0.0255	2.7776
1010	1029	S23-33-40W	6928.73	0.83	0.0285	4.1188
1010	1031	S22-34-16E	7046.03	0.80	0.028	3.9715
1010	1035	S65-12-48W	7262.17	0.73	0.0257	3.5421
1010	1084	S35-26-06W	22588.62	0.12	0.0133	0.5887
1010	2000	S07-29-14W	18157.62	0.31	0.0278	1.5305
1010	2001	S36-08-13E	15881.26	0.28	0.0216	1.3573
1010	5097	S06-37-36W	12260.67	0.46	0.0276	2.253
1010	ORVB	S19-26-32E	88505.52	0.03	0.0133	0.1505
1010	P344	N66-12-57W	130353.04	0.03	0.02	0.1531
1010	P346	N88-27-08E	206869.93	0.02	0.0167	0.0805
1010	QUIN	N68-59-11E	197545.75	0.01	0.0131	0.0664
1013	1015	N74-46-28E	5310.21	1.02	0.0257	4.8442
1013	1084	S46-54-02W	23545.26	0.23	0.0263	1.118
1015	1026	S71-02-43W	16727.92	0.31	0.0251	1.5027
1015	1029	S65-38-19W	13160.85	0.44	0.0283	2.153
1015	1031	S49-24-00W	8580.53	0.66	0.0273	3.1849
1015	1035	S82-21-21W	15954.34	0.33	0.0253	1.5855
1015	1084	S51-55-30W	28348.30	0.09	0.0128	0.4502
1015	2000	S34-08-55W	20638.92	0.27	0.0275	1.3324
1015	2001	S00-42-10E	11904.41	0.37	0.0215	1.8069
1015	5097	S43-22-20W	15485.30	0.36	0.0272	1.7572
1015	ORVB	S13-46-43E	84981.83	0.03	0.0117	0.1381
1015	P344	N67-23-57W	139191.13	0.03	0.0191	0.1372
1015	P346	N88-06-46E	197682.26	0.02	0.0154	0.0781
1015	QUIN	N67-43-31E	189316.07	0.01	0.0118	0.0621
1026	1035	N00-08-37E	3311.33	2.11	0.0343	10.358
1026	1084	S28-19-39W	13687.79	0.39	0.0256	1.8687
1029	1084	S40-35-18W	15872.31	0.36	0.0287	1.8071
1031	1084	S53-01-11W	19779.71	0.29	0.0276	1.3935
1035	1084	S22-56-51W	16680.00	0.32	0.026	1.5597
1084	2000	N87-51-20E	10737.89	0.53	0.0277	2.5784
1084	2001	N76-03-07E	23144.27	0.20	0.0218	0.942
1084	5097	N61-56-39E	13237.07	0.43	0.0274	2.0681
1084	ORVB	S33-11-29E	77737.15	0.03	0.0128	0.1651
1084	P344	N56-14-28W	127721.89	0.03	0.02	0.1569
1084	P346	N83-46-23E	221195.95	0.01	0.0162	0.0734
1084	QUIN	N65-41-03E	216730.76	0.01	0.0127	0.0588
ORVB	QUIN	N45-07-15E	218669.39	0	0	0

RECORD OF SURVEY FOR  
PACIFIC GAS AND  
ELECTRIC COMPANY

IN THE TOWN OF PARADISE AND UNINCORPORATED TERRITORY OF THE COUNTY OF BUTTE, STATE OF CALIFORNIA

BEING A SURVEY OF THOSE PORTIONS OF SECTIONS: 1,2,10,11,12,13,14,15,21,22,23,24,25,26,27 AND 28 OF TOWNSHIP 22 NORTH, RANGE 03 EAST; SECTIONS 6,7,18,19 AND 30 OF TOWNSHIP 22 NORTH, RANGE 04 EAST; SECTION 31 OF TOWNSHIP 23 NORTH, RANGE 04 EAST; SECTION 36 OF TOWNSHIP 23 NORTH, RANGE 03 EAST; ALL OF MOUNT DIABLO BASE AND MERIDIAN.



PACIFIC GAS AND ELECTRIC COMPANY  
245 MARKET STREET  
SAN FRANCISCO, CALIFORNIA

Page 197 Page 116