



Responses to
Comment Letters
Received during Public
Review of Draft PEIR

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I.1 Introduction

This Final Environmental Impact Report (FEIR) was prepared in accordance with the California Environmental Quality Act (CEQA) (Cal. Pub. Res. Code Section 21000, et seq.) and State CEQA Guidelines (Cal. Code Regs. Section 15000, et seq.). The Town of Paradise is the lead agency for the environmental review of the proposed Paradise Sewer Project and has the principal responsibility for approving the project. This Final PEIR assesses the expected environmental impacts resulting from the adoption and implementation of the proposed project and responds to public comments received on the Draft EIR.

The following sections contain

- 1) a review of CEQA Guidelines pertinent to public comments and responses,
- 2) a matrix of all letters and corresponding Town responses, and
- 3) copies of the original comment letters.

In two cases, comments received on the Draft PEIR prompted the addition of text to the final version of the document i.e., the Final PEIR. These changes are shown in **bold** format in the Final EIR. No deletions were made as a result of public comments. Small grammatical or punctuation changes that were made are not specifically called out (e.g., adding a period at end of sentence, fixing misspellings). No changes were made to the Draft PEIR appendices (App. A – H); however this appendix (Appendix I) is a new attachment to the Final PEIR.

The Final EIR also includes informational updates and clarifications. Beyond the requirements set by CEQA and relevant court cases discussed below, every attempt has been made to respond to comments that address the project in general, in an effort to provide the most complete information possible.

I.2 Responsibilities of the Town

CEQA Guidelines Section 15088(b) requires that responses be made to only those comments that are specific to the Draft EIR. In addition, in the court case *Browning-Ferris Industries of California, Inc. v. San Jose* 181 Cal. App. 3d 852 (1986), the court stated that the Lead Agency must respond to all significant environmental comments in a level of detail commensurate with that of the comment, citing *Gallegos v. California Board of Forestry* 76 Cal. App. 3d 945 (1978), *Twain Harte Homeowners Association v. County of Tuolumne* 128 Cal. App. 3d 664 (1982), and *Cleary v. County of Stanislaus* 118 Cal. App. 3d 348 (1981). Following are additional Lead Agency responsibilities as described in CEQA Guidelines (Section 15088):

- (a) “The lead agency shall evaluate comments on environmental issues received from persons who reviewed the draft EIR and shall prepare a written response. The Lead Agency

shall respond to comments raising significant environmental issues received during the noticed comment period and any extensions and may respond to late comments” (15088(a))

- (b) “The lead agency shall provide a written proposed response, either in a printed copy or in an electronic format, to a public agency on comments made by that public agency at least 10 days prior to certifying an environmental impact report” (15088 (b)).
- (c) “The written response shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections). In particular, the major environmental issues raised when the Lead Agency’s position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice. The level of detail contained in the response, however, may correspond to the level of detail provided in the comment (i.e., responses to general comments may be general). A general response may be appropriate when a comment does not contain or specifically refer to readily available information, or does not explain the relevance of evidence submitted with the comment” (15088(c)).
- (d) “The response to comments may take the form of a revision to the draft EIR or may be a separate section in the final EIR. Where the response to comments makes important changes in the information contained in the text of the draft EIR, the Lead Agency should either:
 - 1) Revise the text in the body of the EIR, or
 - 2) Include marginal notes showing that the information is revised in the response to comments (15088(d)).

Finally, “if any public agency or person who is consulted with regard to an EIR or Negative Declaration fails to comment within a reasonable time as specified by the Lead Agency, it shall be assumed, without a request for a specific extension of time, that such agency or person has no comment to make. Although the Lead Agency need not respond to late comments, the Lead Agency may choose to respond to them” (CEQA Guidelines Section 15207).

The Town’s responses to each comment on the Draft PEIR represent a good-faith, reasoned effort to address the environmental issues identified by the comments. Accordingly, Town staff’s and its consultants’ final analysis provided in the responses to comments are backed by substantial evidence. Likewise, the Town’s legal counsel prepared and/or independently reviewed responses to the Draft PEIR comments.

I.3 Responsibilities of the Commenter

CEQA Guidelines Section 15132(d) requires that the Final EIR consist of the responses of the Lead Agency to significant environmental points raised in the review and consultation process. In addition, CEQA Guidelines Sections 15201 and 15204 discuss public participation regarding the review and evaluation of EIRs. Specifically, Section 15204 states the following:

- “(a) In reviewing draft EIRs, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that

would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project. CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR” (15204 (a)).

- “(c) Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to [CEQA Guidelines] Section 15064, an effect shall not be considered significant in the absence of substantial evidence” (15204 (c)).
- “(d) Reviewing agencies or organizations should include with their comments the name of a contact person who would be available for later consultation if necessary. Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency’s statutory responsibility (15204 (d)).
- (e) This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section (15204 (e)).
- “(f) Prior to the close of the public review period for an EIR or mitigated negative declaration, a responsible or trustee agency which has identified significant effects on the environment may submit to the lead agency proposed mitigation measures which would address those significant effects. Any such measures shall be limited to impacts affecting those resources that are subject to the statutory authority of that agency. If mitigation measures are submitted, the responsible or trustee agency shall either submit to the lead agency complete and detailed performance objectives for the mitigation measures, or shall refer the lead agency to appropriate, readily available guidelines or reference documents which meet the same purpose” (15204 (f)).

Table I-1 lists those persons, organizations, and public agencies that provided written comments on the Draft PEIR. The assigned comment letter number, letter date, letter author and affiliation with a particular organization, if presented in the comment letter or if representing a public agency, is also listed. Letter numbers beginning with “W” were received on the Paradise website, while letter numbers beginning with “L” were received by email or mail post. Format for reference to specific comments in the matrix is: Letter number-Comment number (e.g., W1-1 is referencing the first letter and the first comment in that letter).

TABLE I-1 Public Agencies, Organizations, and Persons that Commented on Draft PEIR

Letter Number / Number of Comments	Date	Commentor	Affiliation
W1/1	July 17, 2022	Alice Patterson	Citizen
W2/1	July 25, 2022	Linda Barton	Citizen

Letter Number / Number of Comments	Date	Commentor	Affiliation
L1/1	July 27, 2022	Kristen Way, Environmental Scientist	State Water Resources Control Board
W3/1	July 28, 2022	Kat Carlisle	Citizen
W4/1	August 1, 2022	Earl Eckert	Citizen
W5/1	August 2, 2022	Pam Galloway	Citizen
W6/7	August 3, 2022	Brian Anderson	Citizen
W7/1	August 5, 2022	Ivan Garcia	Citizen
W8/1	August 5, 2022	Joe Rees	Citizen
W9/4	August 8, 2022	Rick Hoddinott	Citizen
L2/1	August 8, 2022	Vicki Taylor	Citizen
L3/1	August 8, 2022	Anonymous	Citizen
L4/1	August 8, 2022	Tod Kimmelshue	Citizen
W10/1	August 10, 2022	Ronald Lassonde	Citizen
W11/1	August 10, 2022	Mandi McKay	Citizen
L5/1	August 10, 2022	Richard Smith	Citizen
W12/1	August 11, 2022	Andrew D'Lugos	Citizen
W13/1	August 11, 2022	Kirk Monfort	Citizen
W14/1	August 15, 2022	Richard Stone	Citizen
W15/1	August 16, 2022	Joseph Mount	Citizen
W16/6	August 22, 2022	Brian Anderson	Citizen
W17/8	August 22, 2022	Steven Cismowski	Citizen
W18/1	August 22, 2022	Ryan Duncanwood	Citizen
W19/1	August 22, 2022	Bud Linggi	Citizen
W20/1	August 22, 2022	Diane Pajouh	Citizen
W21/1	August 22, 2022	Mike Petersen	Citizen
W22/1	August 22, 2022	Michael Schwartz	Citizen
W23/4	August 22, 2022	Gary Wolt	Citizen

Letter Number / Number of Comments	Date	Commentor	Affiliation
W24/1	August 23, 2022	Matthew Carlson	Citizen
W25/1	August 23, 2022	Tony Catalano	Citizen
W26/1	August 23, 2022	Rob Williams	Citizen
W27/1	August 24, 2022	Kevin Baxter	Citizen
W28/1	August 24, 2022	Steve DePue	Citizen
W29/1	August 24, 2022	Andrew Keller	Citizen
W30/1	August 24, 2022	William Llamas	Citizen
W31/1	August 24, 2022	Bruce McLean	Citizen
W32/1	August 24, 2022	Jeri Valdez	Citizen
W33/1	August 25, 2022	Kevin Cook	Citizen
W34/1	August 25, 2022	Kim Hunter	Citizen
W35/1	August 25, 2022	Monica Zukrow	Citizen
W36/2	August 26, 2022	David Copp	Citizen
L6/9	August 26, 2022	Ward Habriel	Citizen
W37/1	August 26, 2022	Maurine Hansen	Citizen
W38/1	August 28, 2022	Roger Cole	Citizen
L7/3	August 29, 2022	Kim Hunter, Project Manager, Land Development Division	Butte County Department of Public Works
L8/4	August 29, 2022	Leigh Ann Sutton, PE; Director Public Works Engineering	City of Chico Public Works Department
L9/11	August 29, 2022	Laurie and Jim Noble	Citizens
L10/25	August 29, 2022	Dana Ripley	Citizen
L11/12	August 30, 2022	Richard L. Harriman	Law Offices of Richard L. Harriman
W39/1	August 30, 2022	Dannette Barefield	Citizen
W40/1	August 30, 2022	Patty Wilson	Citizen

Paradise Sewer Project PEIR Comment Matrix					
Commenter/Agency	Comment Date	Letter No.	Comment No.	Comment Text	Comment Response
Alice Patterson	July 17, 2022	W1	1	I am inquiring for my partner, who lost his home in the fire... How do I find out if his property would be affected by an Easement should this sewer project be approved? This could impact how/when he rebuilds. Property address is 5975 N. Libby. Is there a list of locations where the easements would be going?	Thank you for your message. You can go to https://paradisesewer.com/ and scroll down to “Find My Property”. If you input your friend’s address, it will show you whether it is within the proposed sewer area.
Linda Barton	July 25, 2022	W2	1	I am about to choose a builder to finally rebuild in Paradise. At this moment, it appears the sewer project for Paradise will help those businesses on Skyway. Which means 99%+ of the residents won't benefit from this undertaking. Who is going to pay for this very expensive but necessary project? I am not interested in seeing it listed when I get my property tax bill.	The Town has secured grant funding for the development of the preliminary engineering and preparation of the environmental documentation. We are also working to secure grant funding for the design, right-of-way, and construction stages of the project. The connection fees have not yet been determined for property owners connecting to the system.
State Water Resources Control Board	July 27, 2022	L1	1	See attached letter. All information advisory in nature.	Thank you for the information that you provided on federal regulatory requirements that must be met as part of the Town’s proposed Clean Water State Revolving Fund (CWSRF) funding application process. We understand that the list of necessary actions referenced in your comment letter pertain to the Town’s pursuit of CWSRF funding, along with the corresponding CEQA+ process. We understand that this is not a list of actions and materials that are being recommended for inclusion in the Draft PEIR; therefore, no change has been made to the PEIR.
Kat Carlisle	July 28, 2022	W3	1	Can you tell me when the final design and right of way acquisition phases will begin for the Paradise Sewer Project please? I saw on the project schedule that these phases are anticipated to begin in Summer 2022, but I wasn't sure if that meant they have already started or not. Thank you!	Thank you for your comment and question. We have not yet started design or right of way, as we are still seeking funding for this phase of the design. We will update paradisesewer.com as soon as an updated timeline is established. This website will continue to be updated as the project phases are identified. www.Paradisesewer.com
Earl Eckert	Aug 1, 2022	W4	1	Will the agreement with Chico permit all pumped septic loads to be disposed of in paradise rather than continuing to be disposed of at the County land fill lagoon. Own property at 2199 De Mille Rd.	The public Sewer Regionalization Project Advisory Committee (SRPAC) drafted the Principals of Agreement, which were the outline of the draft Intermunicipal Agreement (IMA) between the Town of Paradise and the City of Chico. Currently, only residential and commercial sewer connections are identified and accounted for in the Sewer Service Area (SSA) and sewer discharge that will be discharged at the City of Chico Water Pollution Control Plant. Pumped septic systems discharges from residents or businesses are not accommodated in the discharge to the Chico WPCP. Disposal of pumped septic loads will not change as it is outside of the scope of this Project.
Pam Galloway	Aug 2, 2022	W5	1	I think it is a stupid waste of money that could be used for a different project. The cost of the project, the amount of time necessary to complete the sewer project and the number of people who would benefit from it should make it a non starter.	Thank you for your input. The Town appreciates all viewpoints and opinions expressed by our community.
Brian Anderson	Aug 3, 2022	W6	1	Who will handle the collection system and pump stations daily operations?	Thank you for your question. The Town of Paradise staff is in charge of maintainance and operation of the collection system and pump stations.

Paradise Sewer Project PEIR Comment Matrix					
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Brian Anderson			2	What type(s) of odor control systems will be used?	The Proposed Project includes the use of odor control canisters, as stated in Section 2.8 of the Draft PEIR. Section 3.3.4.4 explains "Routine operations and maintenance activities will include periodic inspection of the odor control cannisters, which will be provided at the Export Pipeline System's flow control and metering structure." Section 2.8 further elaborates: "Physical on-site inspection and maintenance of the air release valves and odor control canisters would be done according to the maintenance protocols that accompany the devices, and would occur every 6 months to ensure optimal performance of these devices. Air release valves would be inspected to ensure they are operating properly. The odor control canisters would be replaced as needed when the carbon media becomes saturated and loses the ability to absorb odors."
Brian Anderson			3	And projected annual cost?	The current level of design has not yet supported this level of detailed planning; annual costs have not yet been projected.
Brian Anderson			4	Where will biosolids and sewage debris be removed to?	Town of Paradise flows will join with City of Chico flows at the Chico Water Pollution Control Plant (WPCP), from which point they are treated per the Chico WPCP's current processing standards. Section 2.4.2 in the Draft PEIR outlines this process: "The sludge (biosolids) portion of the wastewater is treated by anaerobic digestion, followed by mechanical dewatering. The resulting biosolids are then hauled directly from the Chico WPCP for land application in unincorporated Sacramento County, California."
Brian Anderson			5	How many full time employees will be hired to operate and maintain Paradise Wastewater Collection and Transportation?	As stated in Section 3.3.4.1 of the Draft PEIR : "About 5-10 permanent employees would be required to serve the Proposed Project during operations and maintenance." Section 2.8 provides a further breakdown of that number: "The wastewater operations team would include...: administrative and reception staff, accounting staff, three field crew/utility staff, and one on-site service technician."
Brian Anderson			6	Under what jurisdiction/license will Paradise Wastewater be in compliance with State Water Resources Control Board?	The treatment and discharge of the flow from the Town of Paradise will be handled under the City of Chico's current permits, as outlined in Section 2.4.2 of the Draft PEIR: "The Proposed Project... would not increase nor substantially decrease the availability of sewer service within the City or County (see more details in Section 2.5.1 Core Collection System and assessment of effects in Section 3.18.4, Impact Analysis [Utilities and Service Systems]). Therefore, the Town's connection falls within the requirements of this NPDES permit." Currently, the City's treated wastewater "is regulated in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079081", as also stated in Section 2.4.2.
Brian Anderson			7	What city department will oversee Paradise wastewater operations?	The Town's Public Works department would oversee the operations of the Proposed Project. See Section 2.8 of the Draft PEIR: "The existing Public Works director would serve in a management role over sewer functions."
Ivan Garcia	Aug 5, 2022	W7	1	Good luck on the project. Would like to encourage and support the paving of a multi-use path on top of your sewer line with the ability to connect this new path to the intersection of Honey run/Skyway near Skyway golf park on the west and to the Paradise Memorial Trail in Paradise. I would suggest paving so that you can send emergency equipment up the hill to fully utilize the Skyway for emergency evacuations.	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the Town's jurisdiction. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.

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Joe Rees	Aug 5, 2022	W8	1	<p>As natural disasters increase in frequency and severity, climate change is becoming harder and harder to ignore. The rise in these disasters along with an overall growing sense of crisis when it comes to the environment is causing an increase in climate anxiety.</p> <p>In fact, a recent Yale survey found that 70 percent of Americans are now “very or somewhat worried about global warming.”</p> <p>I thought this would be an interesting topic to cover in a guest article for your website. I would address the increase in climate anxiety and what your site visitors can do to relieve their stress while also helping the environment. What do you think?</p>	<p>Thank you for your email. I appreciate your offer. Right now we are focused on the Paradise Sewer EIR, but if we see a fit in the future, we will let you know.</p>
Rick Hoddinott	Aug 8, 2022	W9	1	<p>Along the proposed alignment for the export pipeline on Entler Avenue, what is the pipe constructed of and where will it be located along the roadway?</p>	<p>Thank you for your questions. Section 2.5.2 of the Draft PEIR explains that the Export Pipeline System would be located within the Butte County right-of-way on Entler Avenue. As stated in Section 2.5.2.3, "the following materials are anticipated to be used on the Export Pipeline System construction:</p> <ul style="list-style-type: none">• PVC pipe and miscellaneous fittings• Concrete maintenance holes• Precast concrete cylinders for the Transition Chamber, the Flow Control and Metering Structure, and associated mechanical and electrical equipment for installation at each of the two structures• Metal carrier pipe at each of the five trenchless crossings• Temporary and permanent paving (asphalt)• Backfill material"
Rick Hoddinott			2	<p>How will the project address nearby wells which may be located near the proposed alignment?</p>	<p>As stated in Section 3.10.1.4: "Historical use of high-density septic systems and leach fields in Paradise have resulted in surface and groundwater contamination". Because it has been shown that septic systems can lead to "effluent in water supply resulting in degradation of water quality" (Section 3.19.1.4), implementing a sewer system would lessen the risk of contaminating nearby well water quality. All pipelines will be subject to inspection and maintenance as outlined in Section 2.8 of the Draft PEIR. Specifically, per Section 2.8 "The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Sanitary Sewer Systems General Order, or SSSGO) was adopted by the SWRCB in May 2006. The purpose of the SSSGO was to provide a consistent statewide approach for reducing sanitary sewer overflows (including leakages). Per the SSSGO, and subject to its terms, the Town will need to develop a sewer system management plan. The sewer system management plan will include policies, procedures and activities covering the planning, management, operation and maintenance of the collection system. As part of this sewer system management plan, the Town must also develop and implement an overflow emergency response plan to identify measures to protect public health and the environment." Additionally, the Proposed Project would not impact the availability of water in nearby wells. Section 3.10.4.2 of the Draft PEIR states that construction of the Proposed Project "would not cause a new deficit in aquifer volume or a lowering of the groundwater table" and that "no impact would occur on groundwater supply and recharge during operations and maintenance." Also see responses to Ripley's comment #L10-7.</p>

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Rick Hoddinott			3	Was the old railroad (Old Sacramento Northern) right of way considered for the pipe alignment in lieu of Entler Avenue?	The specific route you propose would not reduce any environmental impacts of the chosen Entler Avenue Alternative, and therefore, was not analyzed in the Draft PEIR. As stated in Section 5.1.1 of the Draft PEIR, "CEQA Guidelines Section 15126.6(a) states that 'an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project.'"
Rick Hoddinott			4	During construction, how will the project address temporary traffic control along Entler Avenue, considering CHP uses the roadway as direct access.	The Proposed Project includes implementation of mitigation measure MM-HAZ-6: Traffic Management Plan to reduce potential traffic impacts during construction. The traffic management plan will be enforced by the Town and/or contracted construction manager hired by the Town for the project and will include requirements such as: Schedule truck trips outside of the peak traffic hours, Store all equipment and materials in designated staging areas, Install traffic control devices where traffic conditions warrant, Coordinate all construction activities with the emergency service providers in the area, and Post notices and/or appropriate signage to notify the public of upcoming construction activities. Refer to Section 3.9.4.6 of the Draft PEIR for a detailed description of MM-HAZ-6: Traffic Management Plan. As discussed in 3.9.4.6, "per the SSSGO, and subject to its terms, the Town will need to develop a sewer system management plan. The sewer system management plan will include policies, procedures and activities covering the planning, management, operation and maintenance of the collection system. As part of this sewer system management plan, the Town must also develop and implement an overflow emergency response plan to identify measures to protect public health and the environment". Please also see response to Comment L7-1 from the Butte County Public Works Department.
Vicki Taylor	Aug 8, 2022	L2	1	I am so happy to see this project going forward. As a 36 year resident of Paradise I am well aware of all the projects that have fallen thru due to lack of sewers or septic capacity. I look forward to seeing new businesses in Paradise that were made possible because of the sewer project. The entire town population will certainly benefit, even if they are not directly connected.	Thank you for your input. The Town is considering all comments in preparation of the Final PEIR.
Anonymous	Aug 8, 2022	L3	1	Sounds good. Build it.	Thank you for your input. The Town is considering all comments in preparation of the Final PEIR.
Tod Kimmelshue	Aug 8, 2022	L4	1	Could the pipeline go west on the unimproved portion of Edgar Ave instead of Chico Ave. Then north to Taffee. This would save us from having to destroy a paved road (Chico Ave). I understand those are public right of ways.	Thank you for your question. City ownership of the unimproved portion of Edgar Avenue could not be confirmed. Additionally, the specific route you propose would not reduce any environmental impacts of the chosen Entler Avenue Alternative, and therefore, was not analyzed in the Draft PEIR. As stated in Section 5.1.1 of the Draft PEIR, "CEQA Guidelines Section 15126.6(a) states that 'an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project.'" We will keep your suggestion in mind as the project enters the next phase of design.

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Ronald Lassonde	Aug 10, 2022	W10	1	<p>I am very impressed with the due diligence that the Paradise Town Staff has put into the Sewer EIR. The Sewer is absolutely necessary for businesses to rebuild in our Down Town. A rebuilt Down Town is critical to the overall recovery of our town.</p> <p>We need the PEIR approved as soon as possible so we can move forward and rebuild our Town.</p>	Thank you for your input. The Town is considering all comments in preparation of the Final PEIR.
Mandi McKay	Aug 10, 2022	W11	1	<p>Chico Velo supports the Town of Paradise and the Sewer Project and encourages the project or project sponsor to include the paving of a multi-use path for bicycles and pedestrians on top of the proposed project.</p> <p>Currently, Skyway is not a safe route for bicyclists or pedestrians traveling to or from Paradise. This project provides a unique opportunity to solve dual challenges of meeting the need for wastewater infrastructure and also providing a safer, more direct route between Chico and Paradise for bicyclists and pedestrians. If the new multi-use path followed the sewer line all the way to Southgate Lane on the East side of Hwy 99, it would connect users to the existing Midway bike path on the West side of 99.</p> <p>Additionally, a multi-use path could enable emergency equipment to drive up the path and allow Skyway to be fully utilized as an emergency evacuation route.</p> <p>Thank you for the consideration- please let us know if you have questions or if Chico Velo can provide additional support.</p>	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Richard Smith	Aug 10, 2022	L5	1	<p>I own a 20 acre walnut orchard at 3662 Hegan Ln. Chico cross from Fimple/Hegan intersection. PG&E installed a new gas line on the north side of Hegan (2-3 ft.) north of edge of pavement. Where is the sewer line going to be placed in my area, under Hegan Lane? north side of Hegan Lane or south side of Hegan Lane? If on the same area as PG&E gas line, what is the minimum distance from gas line? What is the diameter of sewer line? My concern is if this trenching will kill the walnut trees/root system? or if trees will have to be removed for the trenching?</p>	Thank you for your questions. We appreciate your concerns. The Proposed Project would not remove any trees during trenching. As stated in Section 2.5.2.1 of the Draft PEIR, the ridge gravity section (from connection with Core Collection Service to transition chamber located just before pipeline reaches Chico) will consist of two separate gravity sewer pipes: one 8 inches in diameter to handle low flows, and one 10 inches in diameter that would accommodate the build out flows. The pipeline would be placed under Hegan Lane, within the public right-of-way. The Town will be following all requirements of the PG&E Greenbook (https://www.pge.com/en_US/large-business/services/building-and-renovation/greenbook-manual-online/greenbook-manual-online.page)

Paradise Sewer Project PEIR Comment Matrix					
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Andrew D'Lugos	Aug 11, 2022	W12	1	<p>Currently, Skyway is not a safe route for bicyclists or pedestrians traveling to or from Paradise. This project provides a unique opportunity to solve dual challenges of meeting the need for wastewater infrastructure and also providing a safer, more direct route between Chico and Paradise for bicyclists and pedestrians.</p> <p>I fully support the plan of paving a multi-use path for bicyclists and pedestrians.</p>	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Kirk Monfort	Aug 11, 2022	W13	1	<p>This would be a great opportunity to build a bike path to Paradise that would tie into the current Paradise Bike Path that goes from the Paradise Park up through Magalia. We never had a link from Chico to that Bike path although the right of way has been preserved from the Midway by Hagen Lane. It would also provide for service and inspection of the eventual sewer line. A Dual Use facility. There might also be transportation dollars available to do this.</p>	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Richard Stone	Aug 15, 2022	W14	1	<p>JUST PAVED ALL OF SKYWAY, IT'S REALLY A NICE ROAD. I HOPE THAT THE NEW ROAD WILL NOT BE DUG UP FOR THE SEWER PIPE AND JUST PATCHED UP TO LOOK LIKE CRAP AS THE UNDERGROUND PGE SUB COMPANYS HAVE DONE IN TOWN. SHOULD HAVE WAITED ON THE PAVING UNTILL THE SEWER WAS PUT IN. THEN PAVE THE SKYWAY.</p>	Thank you for your comment. Consistent with Town policy, paved areas that are impacted by the sewer project will be repaved in full lane widths, to avoid trench patchwork.
Joseph Mount	Aug 16, 2022	W15	1	<p>I was informed that the treatment plant had treated water they wanted move .</p> <p>Would you please send me any test result on the treated water</p>	Thanks for your inquiry. I understand your question is about the discharge/effluent from the Chico Water Pollution control plant. Although the Town of Paradise proposed to connect to the WPCP in the future, we do not yet have a connection (which is being analyzed in the current Draft PEIR). I would suggest you contact the City of Chico Water Pollution Control Plant directly to inquire about the effluent.
Brian Anderson	Aug 22, 2022	W16	1	<p>What agency will have jurisdiction to provide collection services within the Town of Paradise?</p>	Thank you for your comments on the Paradise Sewer Project. The Town of Paradise will own and operate the sewer system. We are currently scheduled to start Design and Right of Way in the near future, as funding becomes available, and the details of implementing the system will be identified at that time. Some specific details, such as the operator name license information, are not yet identified. Information on the current permit structure for the Town can be found in Section 3.10.1.6 of the Draft PEIR: "As required by Phase II of the NPDES, Butte County operates under a Small Municipal Separate Storm Sewer System (MS4) stormwater permit, which authorizes the discharge of stormwater to surface water in the state from small municipal separate storm sewer systems. The Town's MS4 Permit is currently operating under an approved waiver secured in 2021 due to the reduced population associated with the 2018 Camp Fire and other factors. See Section 2.4.2 for information on the Chico WPCP and associated NPDES permit."
Brian Anderson			2	<p>Who holds the license to operate wastewater services within Paradise jurisdiction?</p>	See above response to Comment #W16-1.
Brian Anderson			3	<p>Who will maintain and operate the pump stations ?</p>	The Town of Paradise is in charge of maintenance and operation of the collection system and pump stations.

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Brian Anderson			4	What methods of odor control will be employed at each pump station, wet well and other areas where wastewater may come in contact with atmosphere? Odor mitigation is of critical importance to our community.	The Proposed Project includes the use of odor control canisters, as stated in Section 2.8 of the Draft PEIR. Section 3.3.4.4 explains "Routine operations and maintenance activities will include periodic inspection of the odor control cannisters, which will be provided at the Export Pipeline System's flow control and metering structure." Section 2.8 further elaborates: "Physical on-site inspection and maintenance of the air release valves and odor control canisters would be done according to the maintenance protocols that accompany the devices, and would occur every 6 months to ensure optimal performance of these devices. Air release valves would be inspected to ensure they are operating properly. The odor control canisters would be replaced as needed when the carbon media becomes saturated and loses the ability to absorb odors." Additionally, see Section 3.3.4.4: "Once complete, the Proposed Project would provide an overall odor benefit, because it will replace existing septic tanks within the sewer service area that emit unpleasant odors."
Brian Anderson			5	24 hour response to spills and overflows is critical.	As stated in Section 2.8 of the Draft PEIR, the Town will "develop and implement an overflow emergency response plan... Pursuant to [the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems], the Town will be required to report sanitary system overflows... using an electronic reporting system. Review and approval by the City and County of the Town's proposed sewer system management plan would be required prior to start of operations." See Section 2.8 of the Draft PEIR for a list of minimum requirements of the Town's sewer overflow response plan.
Brian Anderson			6	An 18 mile pipeline with about a 1500 ft elevation loss, gravity flow management is critical and demands highly skilled personnel.	The proposed Export Pipeline System includes segments of both gravity flow and pressurized flow. See Section ES1.5.2 of the Draft PEIR to see the sub-components of the Export Pipeline System. The wastewater operations team will include 5-10 permanent employees, including three field crew/utility staff and one on-site service technician, as outlined in Section 2.8.
Steven Cismowski	Aug 22, 2022	W17	1	I am writing in opposition to the proposed Paradise Sewer Project. Given the increase of ground water concerns in the north state, coupled with the impacts the current and projected drought cycle is having on our groundwater resources, this project is perilously flawed.	Thank you for your input. The Town is considering all comments in the preparation of the Final PEIR. We appreciate all viewpoints and opinions expressed by our community. We discuss groundwater impacts in Section 3.10.4 of the Draft PEIR. (p.268 Butte Co Policy W-P1.8: The County supports conversion from septic systems to public sewer service, where feasible). See also responses to Ripley's comment letter #10.

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			2	Information is needed regarding the projected increase in size of the current Chico Wastewater Treatment Plant in order to accommodate this increase in treatment. Keeping in mind Chico's current growth-rate and several other LARGE development projects that will also increase demand on this facility - Valley's Edge and Barber Yard, this facility will need to expand, but to what extent?	As stated in Section 3.18.4.1 of the Draft PEIR: "The Regionalization Planning Report for the Paradise Sewer Project determined that the Chico WPCP has adequate capacity to serve the Proposed Project's projected demand and commitments, in addition to serving the City's service area within its jurisdictional boundaries (Carollo Engineers 2022)... Based on these factors, the Proposed Project would not stress the capacity of the current system. The Proposed Project would not require the construction or relocation of wastewater facilities, nor would it require expansion of the existing Chico WPCP facility." This section goes on to outline in further detail: "The Chico WPCP... has an existing capacity of 12 mgd with future expandability of up to 15 mgd. The annual average flow coming into the Chico WPCP currently is 6.3 mgd. The Proposed Project would add an additional 0.109 mgd of wastewater to the Chico WPCP influent at the time of initial connection (estimated for 2026) and a maximum of 0.464 mgd at full build-out (estimated for 2057) and would not increase or decrease the availability of sewer service within the City or County. " Further, as discussed in Section 2.4, "due to estimated future wastewater flow increases to the Chico WPCP based on the City's current and future population, including the estimated Town sewer discharge in 2026, the City would need to implement a project at the WPCP, consisting of the addition of a fourth secondary clarifier. This clarifier would be installed within the footprint of the existing plant, adjacent to three existing secondary clarifiers. The fourth clarifier is required whether Paradise connects to the Chico WPCP or not. Considering the Town's maximum of 0.464 mgd flow anticipated to connect to the City's WPCP in 2026, the fourth clarifier would be needed in 2028. Without the Town's additional flow, the fourth clarifier is needed in 2029. Finally, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement.
			3	Information and analysis are needed to fully understand the impacts of removing the equivalent of 1/8th of Big Chico Creek's average annual flow out of the current hydrological cycle based on projected peak flow at sewer build out. The long-term impacts of effectively pumping that much water out of the hydrological cycle helping feed local aquifers and creeks (chiefly, Butte Creek, the last viable salmon run off the Delta river system) is unconscionable. Paradise, pre-Camp Fire, was renowned for its forest, largely of Ponderosa pine, growing at lower altitudes than commonly encountered. The additional ground water these trees received from leach lines, not to mention additional nutrients, helped support this rich forest. Taking that life support away will certainly forever change the forest of Paradise's future canopy. Property owners wishing to replicate that forest will need to pump even more ground water to use in their landscapes further exacerbating the drying of downstream aquifers.	The Proposed Project does not include any pumping of groundwater. We understand you are referring to the removal of leach fields and the presumed loss of water to the local system. The Paradise Irrigation District (PID) supplies water to the Town of Paradise, as demonstrated in Section 3.5.1 of the Draft PEIR. From 2022 PID UWMP: "PID overlies an area with fractured rock aquifers as the only potential groundwater supply. These types of aquifers are not expected to provide a significant source of water". At the time of plan preparation, PID is not within a designated basin and not subject to compliance with the Sustainable Groundwater Management Act (SGMA). Big Chico Creek average annual flow is 300 cfs (https://sacriver.org/explore-watersheds/eastside-subregion/big-chico-creek-watershed/#:~:text=Records%20show%20that%20the%20average,during%20winter%20storm%20runoff%20events.) , or 139.9 mgd (https://www.convertunits.com/from/cfs/to/million+gallon/day+[US]). At the Project's proposed full buildout, which may not occur until 2057, the projected flow would be 0.464 mgd, which is 0.3% of the Big Chico Creek average annual flow, not 1/8th.

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			4	The proposed path crosses three surface flow creeks (Butte, Comanche and Little Chico) that countless wildlife (and residents) relies on for sustenance and recreation. While the current engineered solution for these crossings may provide sufficient cover, over time, erosion will continue to drop current creek elevations eventually exposing these lines making them vulnerable to damage and leakage.	The proposed pipeline path does not cross surface creeks; it goes underneath them at a minimum depth of 20 feet below the creek bed surface (as stated in Section 2.5.2.2 of the Draft PEIR, and shown in Figure 2-14). Further, it was determined that "Operation and maintenance activities... would not include ground disturbing activities that could expose or disturb soil. Therefore, operation and maintenance of the Proposed Project would not result in substantial soil erosion or the loss of topsoil" (Section 3.7.4.2). The Town's sewer system management plan, outlined in Section 2.8, will contain a sewer overflow response plan to respond to damage or leakage of the pipeline system, including the following minimum requirements: "Proper notification procedures so that the primary responders and the regulatory agencies are informed of all overflows in a timely manner;... Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Town's sewer overflow response plan and are appropriately trained to do so;... A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the US and minimize or correct any adverse impact on the environment; The Town Public Works Department would have on-hand the equipment and spare parts necessary to rapidly implement a repair."
			5	The system will require frequent clean out and regular servicing in order to remain functional. To fail to do so could result in calamitous disaster and contamination of numerous entities (rivers, creeks, farmland, etc.). Encumbering future municipal operations with this laborious task over such a long pipeline will certainly result in failure and/or increased costs to the consumer. There is simply no way to guarantee that funding for this team of pipeline workers and equipment will be sustainable.	Section 2.8 of the Draft PEIR includes inspection, monitoring, and maintenance procedures that will be included in the Town's sewer system management plan, which is required to comply with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Procedures that relate to clean out and regular servicing include, but are not limited to, the following: "Inspections of the Core Collection System and the Export Pipeline System would occur one to two times per year, depending on deposition observed within the system... As needed, based upon the results of the camera inspections, the pipelines would be flushed to push deposited material farther down the pipelines to the Chico WPCP... Physical inspection and maintenance of instrumentation would occur monthly according to the maintenance protocols that accompany the instruments." Funding for operations is outside the scope of this PEIR. As commenter provides an opinion on future funding availability with no reference, the Town can not respond to the final sentence.
			6	Paradise's septic waste system served to provide a governor to check unbridled growth. Removing that check, will certainly further increase Paradise's growth potential resulting in an escalating list of long-term impacts for future Butte County residents. The increase growth potential will make future fire suppression impossible, trigger roadway expansion, increase sprawl and further tax our limited natural resources, most acutely, our water resources.	We appreciate all viewpoints and opinions expressed by our community; however, since this comment consists of strictly opinion on future growth potential with no supporting evidence, the Town has no response to the commenter's thoughts. However, growth inducing impacts in the Town have been analyzed and are outlined in Section 4.4, and it is concluded that "Any inducement of the population growth that might occur as a result of the Proposed Project in the shorter term would be a return and/or regrowth and repopulation toward pre-fire levels. Any growth beyond pre-fire levels that could occur in the longer term would be consistent with the <i>Town of Paradise 2022-2030 Housing Element Update</i> (Town of Paradise 2022a). This growth would be limited by (1) the current boundaries of the Town, (2) the capacity of the Proposed Project infrastructure, and (3) the Chico WPCP operational (disposal permit allowance) and existing plant infrastructure (facilities limitations) capacity." Further, as noted in multiple locations in the Draft PEIR, this CEQA effort is limited to within the Paradise town boundaries and does not allow for sewer connections outside of the Town.
			7	This country has a rich history of failed environmental engineered solutions to current challenges. Measures like this start out seemingly a "good idea at the time" only to create unforeseen impacts for future generations to solve.	We appreciate all viewpoints and opinions expressed by our community.

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			8	I encourage you to reconsider grandfathering in previous property-owner's septic systems to allow our neighbors who have suffered so much to return to their homes and preserve the future of Paradise by ensuring large developers a foothold to urbanize our beloved mountain communities.	The scope of the Proposed Project is intended to cover the Core Collection System, and at a programmatic level, cover the potential for future connections at the request of property owners outside of the Core Collection, yet within the Town limits, which is considered in the Extended Collection System assessment. This includes an opportunity for other Town property owners to apply to connect to the sewer system in the future, following buildout of the export system. Further, Section 1.1.2 of the Draft PEIR states: "The overall purpose of the Proposed Project is not to serve the entire Town; areas will continue to exist that are served by the existing Onsite Wastewater Management Zone. Instead, the Extended Collection System would provide an opportunity for other property owners within Town limits to connect."
Ryan Duncanwood	Aug 22, 2022	W18	1	ITS GOOD	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community.
Bud Linggi	Aug 22, 2022	W19	1	I lived behind the Optimo Lodge from o/a 1948 until I went into the Service, 1960. Of course, along the way of those years, my dad went to Chico, down Neal Road, for the Crocker Bank and I might have accompanied him and used a restroom after he made the deposit. By this time, local dogs wiped out our chickens and after the Crocker Bank, we went to a Chico outfit that gave us the number of cleaned chickens we needed. The following week our destination was some place in Oroville for the steaks we needed for the next week, a long trip down Clark Road was used. So when talk of sewers for Paradise comes up, I remember the leech fields where I got my fishing worms...	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community.
Diane Pajouh	Aug 22, 2022	W20	1	I would like to request that we do not damage our new Skyway Roads that have just been installed/updated. Thank You.	Repaving of roadways would occur consistent with Town policy, such that Town paved areas that are impacted by the Proposed Project will be repaved in full lane widths, to avoid trench patchwork. For those roadways not within the Town, Butte County or the City of Chico would have jurisdiction over any repaving requirements for those sections of road.
Mike Petersen	Aug 22, 2022	W21	1	Has the town looked into putting turbines inside the 18 mile pipeline to generate electricity? I believe this has been done in other cities and might give Paradise a chance to control our own energy independence.	Thank you for your input. This is not currently part of the proposed project, as directed by Town Council.
Michael Schwartz	Aug 22, 2022	W22	1	Not the best idea they have. For too many reasons. I vote no.	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community.
Gary Wolt	Aug 22, 2022	W23	1	What policy is in place to control cost increases in the future?	Thank you for your comments and questions. The City of Chico will be the wastewater operator for the Chico Water Pollution Control Plant, and the treatment portion of the fees will be administred by the City. The Intermunicipal Agreement (IMA) between the Town of Paradise and the City of Chico addresses noticing for costs, which are compliant with all public noticing requirements for future rate increases. The Principles of Agreement, which will inform the IMA are available on the project website at paradisisesewerproject.com.
			2	Will the town of Paradise be subsidizing Chico's wastewater system, with no control on whatever increase they want or need. The ability to justify any price increase seems to be a normal phenomena.	The Town of Paradise and the City of Chico performed an assessment of the value of the existing City of Chico Water Pollution Control Plant, which are included in the Technical Memorandum and reports located on Paradiesesewer.com. The connection fee identified pays for the value of the plant at the time of connection, and accommodates the Sewer Service. See response to Comment #W23-1 for more information.

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			3	Are they incorporating any valving in the design for emergency use in the event that the pipeline or Chico's waste water facility experiences a catastrophic failure?	Yes, appropriate valving is being provided. As part of the discussion under <i>Flow Control and Metering Structure</i> in Section 2.5.2, in description of transition chamber, it is stated: "The first below-ground chamber would be dry (the wastewater would remain within the pipe that is exposed within the chamber) and would contain a magnetic flow meter and a pressure gauge on the pipeline, with the chamber being the access point to this flow meter. The second chamber would be wet, with the wastewater discharging into the chamber via a modulating plug valve. A modulating plug valve would keep the Transition Chamber and Gravity Force Main Sections full, to maintain the hydraulic function of the Gravity Force Main Section.
			4	Would valving be in place to allow Paradise to construct there own wastewater facility, or have a load out facility at a future point in time?	No, there is no valving being provided for a future Paradise wastewater facility, nor is any accommodation being provided for a load out facility, as these fall outside the scope of the proposed Project..
Matthew Carlson	Aug 23, 2022	W24	1	I support the sewer project and along with it believe a multi use path would be an invaluable asset to the community. It would encourage community health and growth. Paradise lacks safe routes currently so this is needed.	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Tony Catalano	Aug 23, 2022	W25	1	Please include a bike lane!	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Rob Williams	Aug 23, 2022	W26	1	Caltrans funded a bike riding tourism study and our Final Report identified several Signature Bikeway Routes i.e. East Bay Mud Pipeline. The report has an economic analysis of adding bike/walking paths to a local economy. See, BikeValleytoSierra.com	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Kevin Baxter	Aug 24, 2022	W27	1	I would like to mention my support for the addition of a multi use path along the Skyway during construction of the sewer line. This path would be of historic interest as it would continue the "line" used by trains in the past as well as provide a safer route for non motorized travel to and from Paradise via the Skyway. The path would also be a viable option as an alternative route for emergency vehicles or as an additional route of evacuation, should the need arise. Thank you in advance.	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Steve DePue	Aug 24, 2022	W28	1	It would be an ideal time to put in a wide paved bike trail up to Paradise on the skyway corridor. You could also put in fiber optical cable for internet use along the same right of way with the sewer project. Take advantage of multiple uses for the construction project on the sewer system. Also, the paved bike path provides superior access to the fiber optical cable and sewer lines when repairs or access is needed. Perhaps power could also be delivered from the Chico area to Paradise in an underground line rather than on poles! Planning makes for a better future!	Thank you for your comment.The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.

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Andrew Keller	Aug 24, 2022	W29	1	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. Such a path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
William Llamas	Aug 24, 2022	W30	1	Seems the Draft PEIR a done deal? So confusing. We need a more comprehensive review other than a commission and/or Board. A citywide meet up for face to face speaking is necessary. And are there any ideas on building UP in downtown. Apartment buildings may be most suitable for many residents. What about beautification projects with help of citizens? So many ideas and no leadership. Time is a wasting and we should have already planted thousands of trees.	Thank you for your input. The PEIR provides the environmental review for the proposed Paradise Sewer Project. Density (multi-family housing or vertical construction) becomes more feasible with a sewer system, and is one of the benefits of the sewer project. Section 1.3.1 of the Draft PEIR describes the public notices, scoping meetings, and public review meetings that have taken place so far: <i>"Due to restrictions under State of California Executive Order N-33-20, scoping for the Proposed Project occurred under Coronavirus Disease 2019 (COVID-19) restrictions; therefore, electronic postings, virtual meetings and physical mailings were the appropriate venues for information distribution... The Town hosted two virtual public scoping meetings to seek public and stakeholder input on the environmental scope of the Proposed Project. The first virtual public meeting took place on May 13, 2021, and included 29 public attendees. The second virtual public meeting took place on May 25, 2021, and included 14 public attendees. Public meeting attendees were encouraged to ask questions and provide input on the Proposed Project and process."</i> Beautification projects and other potential Town projects are not included in the scope of this sewer system assessment, but all comments are being reviewed by the Town for future opportunities.
Bruce McLean	Aug 24, 2022	W31	1	I live along the Little Chico Creek bike path and have cycled to Paradise up the Skyway at least once a month over the last 7 yrs. It was very disappointing not to see a dedicated two-way bike path installed when PG&E put their electrical infrastructure underground. Then it was extremely disappointing when a dedicated bike path was not installed when the Skyway was recently paved. Let's not strike out by not creating a dedicated bike path when the sever line is extended from Paradise to Chico.	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Jeri Valdez	Aug 24, 2022	W32	1	I decline the project in it's entirety! If it does not service ALL main roads as well as the WHOLE community. What is the point? Makes no sense at all.	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community and the Town is considering all comments in preparation of the Final PEIR. The Proposed Project includes the opportunity for property owners outside of the initial Core Collection System to connect to the sewer system. See Section 2.5.3 of the Draft PEIR: "The Extended Collection System would be an extension of the Core Collection System that would allow collection of sewage from parcels outside the Core Collection System, within the Town limits."

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Kevin Cook	Aug 25, 2022	W33	1	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. This path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path. I am an avid local cyclist and this would only encourage more cyclists to come visit and recreate in our community.	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
Kim Hunter	Aug 25, 2022	W34	1	I am preparing comments on behalf of the Butte County Public Works Department. Is there an email address that can be used to send comments on Monday? Thank you, Kim Hunter, Project Manager Land Development Division Butte County Public Works Department	Kim, I received your email about how to submit comments for Monday. You can send them to this group via email [email addresses included: Stanley, Ashley <astanley@townofparadise.com> , Curtis, Colette <ccurtis@townofparadise.com>, Mattox, Marc <mmattox@townofparadise.com>] or submit a hard copy in the mail. Thank you, Ashley
Monica Zukrow	Aug 25, 2022	W35	1	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. Such a path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path. Thanks for your consideration!	Thank you for your comment. The Proposed Project includes a sewer pipeline and wastewater collection system. The design and construction of pedestrian or bicycle facilities are outside of the scope of the Proposed Project. Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town. Your recommendations have been noted and will be referred to the County as a potential feature for coordination with future project opportunities.
David Copp	Aug 26, 2022	W36	1	It seems as though the Draft PEIR has been reasonably well considered. We will never know all of the impacts in advance, but the benefits of the project seem to outweigh the impacts, and it needs to progress.	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community.
			2	We think the sewer coverage area should be expanded. We have a multifamily property at 5830 Greenthumb Lane, which is just outside of the coverage area, even though it covers the area essentially across the street (Elliott Rd). We would like to have our property included, please. Thank you	The Sewer Service Area for the Core Collection System includes the commercial core and most densely populated area of the Town. Properties outside of the Core Collection System coverage area and within Town boundaries are intended to have the option to consider connecting to the sewer system as part of the Extended Service Area.

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Ward Habriel	Aug 26, 2022	L6	1	<p>First, the responsibility of Government is the safety and protection of its citizens; our basic rights of life, liberty and property. When you meet those basic rights; then, and only then, do you look for other benefits to the community that you govern.</p> <p>So, the question is about the Town Govt. meeting the basic needs of the folks in Town. The basic services for public safety are police, fire, and emergency medical services. Then ask yourself if you feel safe with the current facilities and staffing. (Remember, the third fire station was never built, the hospital is gone, and our cops are stretched thin). And there is no plan for change in these vital areas. Having a sewer does not correct or improve the absence of the above. We are no safer by having a sewer!</p>	Thank you for your input. This comment has been considered, and is outside the scope of the PEIR.
			2	<p>Second, there is no good justification to change from a septic system to a sewer system. Septic systems have worked extremely well for many rural communities for many many years. In Paradise, we have had very few failed or questionable septic systems; but let me just highlight a few examples of addressing a 'questionable' system. Cozy Diner: The Town, (based on limited space concerns) wanted to close the restaurant; there was no room to extend the leach field and the volume produced at the diner was exceeding the capacity of the existing septic system. Cozy management found a solution, agreed to spend a lot of money, and made the necessary improvements. Next, the Holiday Market leach field (it is under the asphalt parking lot) (which is not the best location for a leach field); Holiday was willing to spend a lot of money to dig up the old system and replace it with deeper drainage. It works just fine. Next, the MacDonalds Restaurant on Clark Rd. Here was another "questionable" leach field, and there was not enough property to expand it. MacDonalds Corp. increased the parking lot size to accommodate additional leach field space (at a substantial cost). And lastly, the new Safeway Store on Skyway, they wanted to add a gas station and restaurant on the property, but there wasn't enough space for an extended leach field. So, Safeway Corp. bought additional acreage to be able to accommodate a larger leach field. Each of these examples show that whatever the concern is from the Town about a septic system, there was a remedy, if the property owner was willing to spend the dollars and improve the system. Have you ever heard of someone having an 'ailment' of any kind, because the septic system failed? Septic systems are not unsafe or unhealthy. There are other CA communities with similar concerns that have never been forced by the local Govt. to re-do their septic systems.</p>	<p>We appreciate all viewpoints and opinions expressed by our community. Section 2.3.1 <i>Project Need</i> includes information from the Centers for Disease Control and Prevention (CDC), including: "Research on septic system failure is limited, but some research indicates that septic systems should be studied more carefully. “In 2013, the Centers for Disease Control and Prevention (CDC) looked at nearly four decades of data on disease outbreaks linked to drinking untreated groundwater. The data was drawn from 248 outbreaks that were reported to the CDC between 1971 and 2008. Of the 172 cases in which a source of contamination was determined, 67 percent were linked to a septic tank or an improperly designed well” (Circle of Blue 2015)."</p> <p>Further, Section 2.3.2 <i>Project Objectives and Goals</i> provides references and information from the State Water Resources Control Board and engineering findings that demonstrate the value of changing to a contained sewer system. In addition, examples noted in your comment focus on very large corporate entities that have surplus resources; however, small businesses that would also support diverse economic growth in the Town may not have the capital to fund such property expansions that, as you note, can be quite substantial in cost. Therefore, small businesses may not be able to open new retail stores or restaurants, which can then limit opportunities for regrowth of the downtown retail area.</p>

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			3	Looking at the benefits to having a sewer system, is not based on what problems you get rid of (see above); but consider the possible benefits to collection sewerage, treating it, and using the effluent. Many folks thought that if the Town got some benefit from having a sewer system, then maybe it was a good idea. There are samples all over CA where treated wastewater is used for irrigation (especially on large grass areas - schools, playgrounds, golf courses, cemetery districts, etc.) Anywhere that reclaimed water can be used reduces the amount of potable water used. Some communities have plumbed all the fire hydrants with treated wastewater. But that is not the plan for Paradise (there was an original plan to have local treatment), but the current proposal is to run a pipe (nearly 20 miles) from Paradise to Chico. The wastewater from Paradise would end up at the Chico treatment plant. The discharge of treated wastewater goes into the Sacramento River; ergo, neither Paradise nor Chico get a benefit from our wastewater.	We appreciate all viewpoints and opinions expressed by our community. This is a statement of opinion and the subject matter is responded to in depth in the commenter's remaining responses and in responses to Mr. Ripley below.
			4	And, there are costs that go along with having a sewer system: a cost to get hooked up (including, the digging up the street), a cost to discharge, a permit fee (annually or monthly), and, is that cost then passed on to consumers?	The Town is seeking grant funding for the design, right of way and construction phases of the project. The sewer pipe and lateral to the property line will be covered by the project costs. When the septic system switches over to sewer, the cost to connect the commercial facility to the sewer system will be borne by the parcel owner. The parcel owner will also be responsible for monthly sewer service fees once connected to the sewer. However, costs are not detailed in the PEIR, as they will be determined by the Town once the PEIR is approved and funding is identified.
			5	Would all the commercial facilities with new sewers raise thier prices to cover the costs of using a sewer?	The Town is seeking grant funding for the design, right of way and construction phases of the project. The sewer pipe and lateral to the property line will be covered by the project costs. When the septic system switches over to sewer, the cost to connect the commercial facility to the sewer system will be borne by the parcel owner. Commercial facilities would determine pricing for their merchandise/services.
			6	Would Paradise folks go to Magalia (with no sewer) and shop to avoid the price increases in Paradise?	We appreciate your thoughts and opinions, but can not forecast customer behavior, nor what commercial owners will charge for services.
			7	Wouldn't it be nice if there was a plan to use treated wastewater here in Paradise to irrigate our new golf course?	This comment has been considered, and is outside the scope of the PEIR.
			8	Other comments: there are septic systems in CA, where there is no requirement for an inspection every ten years.	This comment has been considered, and is outside the scope of the PEIR.
			9	There is a summary of numerous comments/complaints I received since the question of a sewer for Paradise came up seven plus years ago. But, remember, this happened before and the Town Council was 'recalled'!	This comment has been considered, and is outside the scope of the PEIR.

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Maurine Hansen	Aug 26, 2022	W37	1	I just finished paying off a \$22,000.00 hookup bill in another address. We were not in the zone to be on the first to hook up from septic, to sewer, so were required to wait. We were not able to hook up, but years later we were required to and the price hugely increased. We were told the cost would be even more if we didnt do it "now". I now live in a zone that is not part of the first hook ups. Does that mean another huge financial cost to me, in the future?	The Town is seeking grant funding for the design, right of way and construction phases of the project. The sewer pipe and lateral to the property line will be covered by the project costs. When the septic system switches over to sewer, the cost to connect the commercial facility to the sewer system will be borne by the parcel owner. The parcel owner will also be responsible for monthly sewer service fees once connected to the sewer. Costs for connections within the Core Collection System area or at the Expanded Collection System area are not evaluated in the PEIR, as they will be determined by the Town once the PEIR is approved and funding is identified.
Roger Cole	Aug 28, 2022	W38	1	<p>The proposal to hook Paradises new sewer system to an expanded Chico sewer water treatment system at the Sacramento River sounds good at first. It saves money and utilizes efficiently excess capacity of said water treatment facility. It also simplifies Paradise’s process into a pipeline construction project. However, as we all have noted from the years of the long ongoing drought, the foothills need every drop of water they can get and /or save or reuse. This plan will export millions of gallons of water from Paradise, and therefore is not good. Instead the wastewater should be treated and returned as close as possible and feasible to the water area it comes from.</p> <p>The single best feature of the existing septic tank/reach line system has been retention of treated wastewater in the ecosystem.</p> <p>A similar goal can be accomplished by constructing a primary sewage treatment plant in Paradise followed by a final treatment in a constructed wetland polishing system. This will produce many local benefits.</p> <p>After the wetland the water can flow to another reservoir location or allowed to be absorbed into the ground or flow through a stream, other kind of recharge. The benefits of retaining water cannot be overestimated. Streams with added wastewater-effluent can improve water quality and support water re-use, while creating habitat and providing urban amenities The Cost–benefit analyses of stream-flow augmentation projects many times fail to account for the full value of ecosystem services provided, including renewed habitats and enhanced urban amenities. <i>(References provided in original attached letter)</i></p>	<p>Thank you for your input. We appreciate all viewpoints and opinions expressed by our community. As required by CEQA (CEQA Guidelines Section 15126.6), the City has reviewed alternatives and examined thoe which meet the goals of the project and reduce the potential for environmental impacts. One of the goals of the Proposed Project (Section 2.3.2) is to address the public health threat by removing individual septic systems. Other goals discussed in the same section noted above, was to allow return of population, and to provide for affordable housing. The local treatment option has been reviewed a number of times (Section 2.2) and each time it has been determined that the regional connection ws recommended as the best long-term solution for the Town (Section 2.2.1). Therefore, in 2020, the Regional Board stated that "it is the Board's strong recommendation for the Town to conserve limited resources and focus its feasibility analysis on the regionalization option" (RWQCB 2020, as referenced in Section 2.2.2). Further, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement.</p>

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Butte County Department of Public Works	Aug 29, 2022	L7	1	<p>1. Permitting Authority: The PEIR acknowledges that the details of the required permitting and agreements that will be needed for the construction and ongoing operations of the Export Pipeline System within the County right-of-way have yet to be determined. Table ES-1 summarizes the anticipated required project permits and approvals for agencies and jurisdictions (p. xxiv). However, the table does not specify permitting authority for Butte County.</p> <p>The need for obtaining encroachment permits for work within the County rights-of-way is discussed several times in the PEIR, including Section 1.5 <i>Issues to be Resolved</i> (p.10). Butte County is a Responsible Agency based on its discretionary approval power over certain aspects of the project including permitting authority which should be specifically recognized in Table ES-1.</p>	<p>As discussed in the Draft PEIR in Sections ES1 and 1.1, which indicate "Butte County... [is] considered [a] Responsible Agenc[y] under CEQA based on their discretionary approval over aspects of the Proposed Project and their utilization of this PEIR for their CEQA compliance. Specifically... The County will rely on this CEQA analysis to make its decision on project elements impacting County-owned and maintained rights of way". More specific language (see new bolded text below) clarifying Butte County's permitting authority has been added to the "Permit, Approval, or Clearance" column in Table ES-1 and Table 1-1 in the Final PEIR, to read: Approval for installation and operations and maintenance of the export pipeline and any appurtenant facilities located within County rights of way; specifically for encroachment permits within County rights of way.</p>
			2	<p>2. Impact HAZ-6 Impact and Analysis: Section 3.9 Hazards and Hazardous Materials does not appear to provide adequate discussion and analysis on how the proposed mitigation measures will reduce Impacts HAZ-6 and HAZ-7 to a less than significant level.</p> <p>Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires</p> <p>The Department requests that additional discussion and analysis should be provided in the PEIR to demonstrate how the proposed Mitigation Measures, specifically MM-HAZ-3, MM-HAZ-4, and MM-HAZ-5, will reduce the identified significant impacts to a less than significant level. For example, further discussion providing information on the importance of a Rapid Demobilization Plan and how rapid demobilization will be critical during an emergency would support the proposed mitigation measures.</p>	<p>In response to the comment, the following text has been added or updated to Section 3.9.4.6, Mitigation.</p> <p>Per Section 3.9.2.3, any contractor on the project, whether in the Town, City or County, will be required to implement procedures defined in the Butte County Local Hazard Mitigation Plan Update, as adopted and annexed by the Town of Paradise. As stated in Section 3.9.2.3, The Butte County Local Hazard Mitigation Plan Update (Butte County 2019b) includes an assessment of the county’s risk and vulnerability related to natural and other identified hazards and a comprehensive mitigation strategy which includes actions and projects designed to mitigate or reduce the impacts of those hazards and to increase community resiliency. The Proposed Project will be held to the strategies in the Butte County Local Hazard Mitigation Plan Update. In addition, the same section also refers to the Butte County General Plan 2030 (Butte County 2012), noting that the Town would be held accountable to multiple goals and associated policies related to hazards and hazardous material, such as: "Policy HS-P15.3: Emergency access routes shall be kept free of traffic impediments." Finally, Section 3.9.2.3 also states that the Town will be held to their own policies presented in drafts of the "Town of Paradise General Plan, Safety Element (2022) and Hazardous Waste Management Element (2022)". Policies within these elements include: Policy SP-1: New and unmitigated land use development shall not cause the police and fire protection services emergency response times to fall below the service levels established by this plan, and Policy SP-2: Through the development review process, adequate roads shall be required to be constructed and/or improved for emergency vehicle access, particularly in high wildland fire hazard areas. Proposed Project mitigation measures, discussed below support implementation of the County and Town policies by ensuring evacuation routes would not be blocked during an emergency, that emergency response services have access to major routes, which is critical during an emergency, and that there is a plan for rapid demobilization in a situation requiring evacuation. Further, for each of the three noted mitigation measures, the following has been added to restate existing requirements prior to describing mitigation measure: The Proposed Project will be held accountable to the Butte County Local Hazard Mitigation Plan Update and policies included in the Butte County General Plan and the Town’s draft Safety Element (2022) and Hazardous Waste Management Element (2022).</p>

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			3	Both the Rapid Demobilization Plan and Evacuation Warning Procedures should be provided to Butte County Public Works for review as part of the encroachment permit application process.	In addition to the Town's commitment to the Butte County Local Hazard Mitigation Plan Update, per commenter's request, materials developed during implementation of MM-HAZ-4 (Rapid Demobilization Plan) and MM-HAZ-5 (Evacuation Warning Procedures) will be provided to Butte County Public Works during the encroachment permit application process.
City of Chico Public Works Department	Aug 29, 2022	L8	1	<p>The City understands that the Paradise Sewer Project (Project) is a critical component to the Town of Paradise's (Paradise) overall Camp Fire recovery effort and that the design of the project is in an early phase. Given the scope of the Project, the alignment of certain segments of the proposed pipeline, the location of associated equipment located within or adjacent to the City limits and Sphere of Influence, and the pipeline's ultimate connection to the City's Water Pollution Control Plant (WPCP), we look forward to coordinating closely with Paradise during the design, construction, and implementation phases of the Project. Close coordination will be particularly important for numerous reasons, including, but not limited to: 1) Avoiding potential conflicts between the Paradise Sewer Project and the City's proposed infrastructure projects that are located along or adjacent to the Project's proposed alignment (e.g., the P-18 sewer trunkline segments located within the railroad grade in South Chico and within the Entler Avenue and Midway rights-of-way, the intersection improvements at Hegan Lane and Midway, etc.). 2) Ensuring collaboration regarding the design of those project components (e.g., the Transition Chamber located off lower Skyway, the Flow Control and Metering Structure proposed near the WPCP, and all connections to the City's existing and proposed facilities) that are located within or adjacent to the City to avoid and minimize the potential environmental impacts (soil contamination, water pollution, odors, etc.) that could result from system failures.</p>	<p>Thank you for your comments. The Town also looks forward to closely coordinating with the City during the design, construction, and implementation phases of the Project. The Town agrees that close coordination will avoid and minimize the potential environmental impacts that could result from conflicts during construction or system failures at new infrastructure. Further, as discussed in Section 2.8 Proposed Operations and Maintenance, "The... Sanitary Sewer Systems General Order... (SSSGO) applies to all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe... and would be overseen by the RWQCB during permitting the proposed project under the (SSSGO). Since the Town's collection system will have more than one mile of sewer pipe, and the Town will own and operate the collection system, the Town will comply with the SSSGO. Per the SSSGO, and subject to its terms, the Town will need to develop a sewer system management plan. The sewer system management plan will include policies, procedures and activities covering the planning, management, operation and maintenance of the collection system." It is anticipated that the Town, County and City will be coordinating as this plan is being developed. Further, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement.</p>
			2	<p>The City appreciates Paradise's inclusion of the permitting requirements in the PEI R, including the Sanitary Sewer Systems General Order and associated conditions requiring the preparation of a Sewer System Management Plan and an Overflow Emergency Response Plan that will be both reviewed and approved by the City of Chico. These documents will provide the policies, procedures and activities covering the planning, management, operation, and maintenance of the collection system. In addition, these efforts will result in emergency response planning to identify measures to protect public health and the environment, particularly as they relate to an inadvertent release of sewage.</p>	<p>The Town agrees with the City's statements, and again, will be coordinating with the City during development of the Sewer System Management Plan. Further, the Town will abide by Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , which requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement.</p>

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			3	According to the PEIR, wastewater studies prepared for the Town determined the Project export pipeline system design should be based on an estimated average wastewater conveyance and treatment need for the Paradise sewer service area to be 0.464 million gallons per day (mgd). Due to the conceptual nature of the inclusion of the entire Extended Collection System outside of the Core Collection System, as identified in Figure ES-1, it is unclear at this time if serving the greater area would have the potential to exceed the maximum design of 0.464 mgd. Any future expansions should be analyzed and agreed to by the City to prevent any unforeseen wastewater exceedances that could negatively affect pipeline and plant capacities.	The 0.464 million gallon per day estimated discharge from the Town of Paradise to the City of Chico Water Pollution Control Plant is the agreed upon discharge, and an effective capacity limit. The Principles of Agreement developed between the Town of Paradise and City of Chico, which are currently being drafted into an Inter-Municipal Agreement to be adopted by the Town Council and City Council, include the maximum discharge amount and methods in which this amount would be monitored and controlled by both the Town and City. In addition, the Principles of Agreement state “The Town and the City agree to prohibit future connections to the export pipeline in the portion of the pipeline that sits outside of the Town limits or City limit.” (www.paradisesewer.com, 1st Draft Principles of Agreement version 7, 21-March-2022). Finally, the extent of area and associated flow that could be served by the sewer system within the Town (ie., the core collection system area alone, or expanded to include the extended collection system area) would be forecasted in advance to determine when and if the 0.464 million gallon per day allotment could be reached. At such a time, the Town of Paradise would approach the City of Chico in a similar fashion to determine if a mutual desire existed to accept additional flows from the Town based upon the City’s treatment plant capacity, needed connection payments and other factors – similarly as the original 0.464 million gallon per day agreement is currently being negotiated.
			4	The City looks forward to collaborating with the Town of Paradise and its professional sewer design team in the development of the project and looking for partnership opportunities that will benefit both communities.	Thank you for your comments.
Laurie and Jim Noble	Aug 29, 2022	L9	1	<i>(handwritten letter - transcribed)</i> Public Information - There needs to be a very accessible public forum of information regarding the Town of Paradise Sewer Project. Very few people have participated and know of plans to date regarding this immense project. Blue Flamingo could be a group to widely disseminate information. There are numerous and very complex issues to deal with as this project moves forward. Residents should have opportunity for input.	Thank you for your comments and reference to Blue Flamingo. The Town has made information available on multiple platforms, to provide information to the community and as required by CEQA statute: 1) the Town has put up a website to include all information related to the Proposed Project (https://paradisesewer.com); virtual public scoping meetings were held in May 2021. 3) In support of the scoping meetings and corresponding comment period, social media and email blasts went out before and after the virtual meetings, postings were made in newspapers (Paradise Post and Enterprise-Record) and project information regarding the meetings and solicitation of public comments were posted at multiple public locations. Similarly, public meetings were held in August 2022 during public review of Draft PEIR. Many of the same outlets were used in this draft release outreach, but "live" public meetings, rather than virtual, were held in Paradise and Chico.
			2	<i>(handwritten letter - transcribed)</i> Water Retention: We are hearing from individuals a very strong concern regarding grey water and stormwater retention. Both have been a significant part of Paradise's groundwater for many decades. The installation of signal lights and reconfiguring the intersection at the top of Clarke Road directed stormwater runoff to be diverted from the triangle of land between Skyway Rd and Clark. Trees on that property died over the course of a couple of years. They were cut off from their supply of water. As streets throughout town are repaired and upgraded, will the storm drains immediately run off the ridge or be directed to catchment basins? What are the details of all the plans?	Thank you for your input. The Town is considering all comments in the development of detailed design.

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			3	<i>(handwritten letter - transcribed)</i> Future Economic Development/Commercial Development: is on hold until a sewer system is in place. What is the time line for installation of the system includiing connection to west of Chico Sewage treatment Plant? How does it fit in with rebuilds and repaving of roadways?	As included in Section 2.6 Proposed Schedule of the Draft PEIR, construction of the Core Collection System is proposed to be constructed between August 2024 and May 2026. The Export Pipeline System is proposed for construction between August 2024 and July 2026. The Extended Collection System would be constructed case-by-case and could occur 2026 through 2056. In terms of roadways, repaving would occur consistent with Town policy, such that Town paved areas that are impacted by the Proposed Project will be repaved in full lane widths, to avoid trench patchwork. For those roadways not within the Town, the County or Chico would have jurisdiction over any repaving requirements for those sections of road.
			4	<i>(handwritten letter - transcribed)</i> Cal Poly: water/design ideas presented by students in Spring of 2019 should be revisited. The(y) had some good ideas - how to deal with terrain elevations, as an example.	Thank you for your input. The Town is considering all comments in the development of detailed design.
			5	<i>(handwritten letter - transcribed)</i> Santa Cruz: converting from septic tanks to sewer system - abandoned tank --> sink holes - legal disclosures for property sales - Town of Paradise policy - need to deal with.	The Town is considering all comments in the preparation of the Final PEIR and development of detailed design.
			6	<i>(handwritten letter - transcribed)</i> Davis: Sewer Issues having to clean to keep system moving.	We appreciate all viewpoints and opinions expressed by our community.
			7	<i>(handwritten letter - transcribed)</i> Drought: Issues need to be considered. This is not just in Paradise, in Butte County, in the wester states, in North America, it is a global worldwide issue and needs to be dealt with now.	We appreciate all viewpoints and opinions expressed by our community.
			8	<i>(handwritten letter - transcribed)</i> Water Added: to make the sewer system flow clear to the Sacramento River area treatment plant is possilby inappropriate be it fresh potable water added or grey water.	We appreciate all viewpoints and opinions expressed by our community.
			9	<i>(handwritten letter - transcribed)</i> Pump up Sewage: from low lying areas of the community to the main lines may be restrictive and financially prohibitive.	Section 2.5.1 of the Draft PEIR provides the preliminary design for the Core Collection System: "The Core Collection System would 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 would be buried approximately 3 to 15 feet below the ground surface, depending on local topography and sewer system design features and constraints." These 28 pump stations would provide the necessary pressure to transition the sewage to the Export Pipeline System. There are no pumps included in design of Export Pipeline System, which depends on gravity flow.
			10	<i>(handwritten letter - transcribed)</i> Land installations: Another drought issue the Town of Paradise could and should deal with immediately is lawn development/ installation. Curtail or limit it immediately there is no water, Mount Shasta is bare of snow except for a few glacial remains.	This comment has been considered, and is outside the scope of the PEIR.

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			11	<i>(handwritten letter - transcribed)</i> Draft Program Environmental Impact Report, pg 429 Hydrology and Water Quality HYD-2: is in need of more evaluation. The removal of all waters from households and businesses could have a very long lasting impact. Details of well level is swayle when opened to install solar water pump was about 6" from ground level during drought year when wells were failing in the Valley.	The Town believes it conducted sufficient analysis in Section 3.10 to meet the requirements of CEQA. All findings were disclosed and discussed in Section 3.10.4. To clarify one point, the project is limited to sewer effluent, not any potable water, which is managed by Paradise Irrigation District; therefore, there would be no removal of "all waters from households and businesses". At the time of plan preparation, Paradise Irrigation District (which services much of the Town) is not within a designated basin and not subject to compliance with the Sustainable Groundwater Management Act (SGMA). The nearest adjacent basin is the Vina Groundwater Subbasin, of which the Paradise contribution is negligible. Groundwater existing conditions are described in Section 3.10.1.3 Groundwater.
Dana Ripley	August 29, 2022	L10	1	The opportunity to provide this public comment on the Paradise Sewer Project Draft ProgramEnvironmental Impact Report (PEIR) is appreciated. As you are aware, I have been advocating for nearly two years a local water reuse project in Paradise as an alternative to the 18-mile wastewater export identified as the superior project in the draft PEIR. On November 30, 2021 I submitted to your office a white paper entitled Town of Paradise, Butte County CA, Sewer, Water Reuse and Wildfire Defense Integrated Plan (SWRWD Plan). That white paper is included in this public comment as Exhibit A. <i>(Exhibit A attached with comment letter following spreadsheet)</i>	Thank you for your input. We appreciate all viewpoints and opinions expressed by our community. The document you label a "white paper" has been referred to here as "Mr. Ripley's Sewer, Water Reuse and Wildfire Defense Integrated Plan (SWRWD Plan)" and was submitted along with proposal to the project team for review. In the document, engineering and other services are offered by you for the project that is advocated for in the SWRWD Plan, which implies a vested business interest in selection of the SWRWD option, which should be recognized. Throughout our responses to comments below, we will address the points brought up in comments that related to the SWRWD Plan. As explained, the DEIR discusses those alternatives which are reasonable and can adequately achieve the basic objectives and goals of the project, while reducing the proposed project's potential for impacts to the physical environment. Comments and information collected in Mr. Ripley's SWRWD option do not show that the chosen alternatives manifestly are unreasonable. Further, the Town's determination to eliminate the local options was discussed and reasons identified are tabled in Section 5.2 of the PEIR; it is not required by CEQA for the Town to re-defend its findings as discussed in the PEIR. Per <i>Laurel Heights, supra, 47 Cal.3d at p.393</i> as referenced in <i>Save Our Access-San Gabriel Mountains vs Watershed Conservation Authority, supra, 68 Cal.App.5th 8</i> , CEQA Guidelines define "substantial evidence as enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." Further, the Laurel Heights court "cautions that a court may not set aside an agency's approval of an EIR on the ground that an opposite conclusion would have been equally or more reasonable. CEQA's purpose is to compel government to make decisions with environmental consequences in mind" (<i>Laurel Heights, supra, 47 Cal.3d at p.393</i> as referenced in <i>Save Our Access-San Gabriel Mountains vs Watershed Conservation Authority, supra, 68 Cal.App.5th 8</i>). The Town's proposed project was not found to cause any environmental consequences after applying appropriate mitigation measures (Section 3.20 of the PEIR). Having said that, the Town has decided to respond to Mr. Ripley's comments, to the extent the comments are supported by fact and documented calculations.
			2	In light of the broad implications of the export versus local reuse options for Paradise, it may be instructive to consider the California Environmental Quality Act (CEQA) Guidelines which includes as an advantage of the “Program” EIR the following: Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Agreed, the Town has and will continue to adhere to CEQA Guidelines Section 15168 (b)(4). In addition, Section 15126.6 (a) states: "An EIR need not consider every conceivable alternative to a project..." and "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project..." (15126.6(a)). In findings of <i>Save our Access-San Gabriel Mountains vs Water Conservation Authority 68 Cal.App.5th 8</i> , in discussion of the number of alternatives evaluated, the court found: "The rule of reason (in deciding which alternatives to include) 'requires the EIR to set forth only those alternatives necessary to permit a reasoned choice' and to 'examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.'" (Bay-Delta, supra43 Cal.4that p 1163 was used as reference in court findings).

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			3	<p>Area of Known Controversy #1: Growth Inducing Impacts: The draft PEIR, Section 1.4, recognizes that there may exist growth inducing impacts specifically in the City of Chico and rural Butte County outside of Town and City limits. In a November 4, 2020 letter from the Central Valley Regional Water Quality Control Board, Region #5 (R5) addressing the local facility versus regional alternatives for Paradise, the statement is made that the “Pipeline to Chico can be cost-effectively sized to accommodate a large range of flows.” In a tabulation of pipe carrying capacities of the 10.5 mile 12” diameter export pipe force main along the valley floor (from Skyway at Butte Creek to the Chico WPCP) utilizing reasonable flow velocities ranging from 3 feet per second (fps) to 7 fps, the available capacity could potentially be as high as 1.758 million gallons per day (mgd) average daily flow (ADF). This capacity is approximately 3.8 times the 0.464 mgd ADF capacity allocated to Paradise in the inter-municipality agreement between Chico and Paradise considered as part of the draft PEIR. The tabulation indicates that up to approximately 1.3 mgd ADF of wastewater export pipe force main capacity could be available to undeveloped properties in southeast Chico as well as rural Butte County along the pipeline alignment. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>In reference to the first sentence (bolded in comment), the reference to Section 1.4 and extracted text is misrepresented. The Draft PEIR and the Town do NOT "recognize(s) that there may exist growth inducing impacts specifically in the City of Chico and rural Butte County outside of Town and City limits". Section 1.4 Areas of Known Controversy in the Draft PEIR (which is the section referenced in the comment) does state that these potential impacts "have been raised by other agencies, the public, or other stakeholders" and that the issue has been previously communicated to the Town or identified in the PEIR scoping process - there is no statement in which it could be inferred that the Town recognizes this issue may, in fact, be valid and Section 4.4 Growth Inducing Impacts speaks specifically to the Town's rebuttal of the potential for inducement in the City or Butte County, stating: "There would be no precedent-setting action that might trigger expansion of the Town as the proposed sewer system would not change Town boundaries and does not allow for service beyond those boundaries. As such, there would be no resulting development or encroachment to isolated or adjacent areas of open space. Further, the Proposed Project would not trigger unplanned expansion of the existing Chico WPCP. The proposed sewer service is within the current capacity, facility function, and purpose of the Chico WPCP." In addition, the engineering work completed by HDR did not include provision for any such additional connections to the Gravity Force Main. Finally, the Principles of Agreement developed between the Town of Paradise and City of Chico, which are currently being drafted into an Inter-Municipal Agreement to be adopted by the Town Council and City Council, states “The Town and the City agree to prohibit future connections to the export pipeline in the portion of the pipeline that sits outside of the Town limits or City limit.” (www.paradisesewer.com, 1st Draft Principles of Agreement version 7, 21-March-2022). In conclusion, as noted multiple times in the Draft PEIR and demonstrated above, the scope of the Draft PEIR and any CEQA clearance that it would provide would be limited to infrastructure to support sewer connections within the Town of Paradise boundaries.</p> <p>In regard to the export pipeline, the section of the export pipeline referred to in the comment is the Gravity Force Main. Again, the comment appears to relate to a concern about additional connections happening along the export pipeline, between the Town of Paradise and the Chico Water Pollution Control Plant. As stated in Section 2.5.2: , “A single 12-inch diameter pipe is needed for the Gravity Force Main for pipe to flow full, creating a beneficial force main based on the hydraulic behavior of the sewer (eliminating the need for a pump station, which is not a part of this system), so the effluent can reach the Chico WPCP. No pump stations would be required” and “A modulating plug valve would keep the Transition Chamber and Gravity Force Main sections full, to maintain the hydraulic function of the Gravity Force Main Section. The Gravity Force Main was sized based on a differential head criteria, not based on a velocity criteria, such as the 3 to 7 feet per second figures stated in the comment.</p>

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			4	<p>Area of Known Controversy #2: Reconsideration of Local Treatment Option: The draft PEIR, Section 1.4, recognizes potential reconsideration of local treatment plant construction instead of the proposed connection to the Chico WPCP, which was evaluated in 2017 and 2020. In both Bennett 2017 and HDR 2020, the local treatment alternatives described did not consider distributing recycled water to all parcels served by the sewer system. Conversely, the SWRWD Plan considers extensive urban reuse serving all collected parcels thereby adding a water supply component to PID’s portfolio enhancing its drought preparedness and supply resiliency. As described in the white paper, the dual distribution included in the SWRWD Plan has multiple benefits including 1) delivery of non-potable recycled water for residential, park, sports, commercial, and buffer area irrigation, 2) seasonal shallow aquifer recharge in winter months, 3) automated community-scale wildfire defense for essential facilities, public/private buildings and evacuation routes, 4) high pressure supplemental water supply for fire suppression, 5) protection of Paradise Irrigation District’s (PID) potable distribution from depressurization in the event of another extreme wildfire event, and 6) beneficial use of nutrients inherent in municipal wastewater. The draft PEIR, Section 5.2.1, Table 5.2-1 Local Alternatives and Reasons for Elimination from Consideration, lists as Local Alternative #3: Local WWTP with Water Recycling with the Town for Local Reuse and Wildfire Defense. In response to the 12 bullet points asserting infeasibility, included in this public comment is Exhibit 2 providing a rebuttal to each point individually in table format. <i>(Exhibit 2 rebuttals are considered separately beginning with Comment #9 below; all references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>Similar to the response in Mr. Ripley's Comment #3, the bolded text in this comment has been misrepresented and it is not true that the Draft PEIR or the Town recognizes this statement as accurate; in fact, the Town rebukes reconsideration of the local option and provides reasoning for the elimination in Section 5.2.1, Table 5.2-1.</p> <p>Thank you for sharing your document (referred to in the responses as "SWRWD Plan" - see response to L10-1) that provides your personal viewpoint regarding one of multiple local project options that have, in different forms, been considered by the Town. As noted in the comment, the “Local Treatment Option”, which in various forms has been assessed multiple times over the past 10-15 years, was eliminated from consideration and was not carried through the Draft PEIR as an alternative, for those reasons identified in Section 5.2.1, Table 5.2-1. CEQA Guidelines state that an EIR: "must describe a range of reasonable alternatives to the project... which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project..." (CEQA Guidelines Section 15126.6 (d)(a); italics added). <i>Save Our Access-San Gabriel Mountains vs. Watershed conservation Authority (2021) 68 Cal.App5th 8 at p.18</i> (Save Our Access) found that "... plaintiff (hadn't) explained how any of the alternatives would 'avoid or lessen one or more of (the project's) significant impacts...". “As the WCA (Watershed Conservation Authority) board found, no significant impacts were identified that could not be avoided or reduced to a less than significant level." (<i>Save Our Access, proceedings at p.18</i>). This same condition applies to the Paradise Proposed Project, which realized no significant impacts during analysis that could not be mitigated to a less-than-significant level. Mr. Ripley’s letter and all other public comment letters received and responded to in this spreadsheet do not, in fact, present any opposition to specific Draft PEIR significance findings with or without mitigation incorporated, as appropriate. Further, with reference to <i>South of Market Community Action Network vs. City and County of San Francisco (2019) 33 Cal.App.5th pp. 321, 345</i> (South of Market) findings, <i>Save Our Access</i> ' elaborates; courts found that "CEQA 'does not require that an agency consider specific alternatives that are proposed by members of the public or other outside agencies' " (Save Our Access, supra, 68 Cal.App5th 8 at p.17 with reference to South of Market proceedings pp. 321, 345).</p> <p>Additional discussion on the feasibility and reasoning for elimination of this specific option is included in response to Mr. Ripley's comment #1 above and #9 below.</p>

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			5	<p>Lost Opportunity for Recycled Water: Assuming the export pipe force main has an ADF capacity of about 1.8 mgd, the potential lost opportunity for urban water reuse in Paradise and southeast Chico could be as much as 2,000 acre-feet per year (afy). On August 11, 2022, Governor Newsom announced California’s Water Supply Strategy, Adapting to a Hotter, Drier Future. Part of the Strategy is to increase urban water recycling in coastal and inland communities to about 0.8 million acre-feet per year (MAF) by 2030 and to about 1.8 MAF by 2040. Urban water reuse in Paradise and southeast Chico would clearly be consistent with the Strategy and likely would be eligible for significant grant funding included in the 2021-2022 \$5.2 billion state appropriations for California water systems including water recycling. In its 2020 Urban Water Management Plan (UWMP), PID indicated that the community will continue to work to examine the viability of a centralized sewer system and any associated opportunities to develop a recycled water supply as it continues to recover from the Camp Fire and look to the future of rebuilding and redevelopment of Butte County. The 18-mile export plan would foreclose on any opportunity in the foreseeable future to develop a recycled water supply in Paradise. In similar fashion, Cal Water-Chico District indicated in its 2020 UWMP that Cal Water continues to actively investigate recycled water opportunities, such as satellite, or decentralized, recycled water generation at select areas within the Chico area, for use in that area. The 10.5-mile export force main pipeline would likely also foreclose on Cal Water’s ability to a develop recycled water supply in southeast Chico in the foreseeable future. In both Paradise and southeast Chico, the export pipeline would represent a lost opportunity to develop local recycled water resources that might otherwise be available. This would be inconsistent with the Governor’s Water Supply Strategy to maximize alternative urban water supplies, including recycled water for non-potable urban demands, for a more secure and resilient water supply future. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>In order to best understand calculations and comparisons presented in this comment and others, it may be easier to use consistent measures. Therefore, if you convert 0.464 million gallons per day (0.464 MGD) of Paradise effluent (that is, the maximum proposed to be conveyed to the Chico WPCP in the Draft PEIR) to acre-feet per year, you have 520.09138 acre-feet per year of wastewater (www.convertunits.com/from/million+gallon/day+[US]/to/(acre+feet)+per+year). Once you then convert acre-feet per year to MILLION acre-feet per year, which is referenced in the Governor's strategy and other municipal and agency goals, the maximum wastewater to be conveyed for treatment to the Chico WPCP from Paradise is 0.00052 million acre-feet (MAF) per year. (https://citizenmaths.com/flow/520.0913772803632-acre-feet-per-year-to-million-acre--feet-per-year). This amount equates to 0.065% of the 0.8 MAF annual increase goals mentioned in comment that the Governor's strategic plan introduces, which would likely not be considered a significant input in isolation. It is agreed that this .00052 MAF would be conveyed to Chico and, as commenter states, would not be available for Paradise as recycled water. However, Paradise has no authority over how the Chico WPCP treats wastewater, and in the future, recycling of Chico WPCP effluent for secondary use in and around the Chico area could be considered by the WPCP. As stated in the Regional Water Board's letter of November 4, 2020 which is referenced in the Draft PEIR, "The City of Chico already provides recycled water for waterfowl habitat uses, and City staff have stated that expanded recycled water use would be desirable and may be pursued in the future. Revenue generated through regionalization with Paradise could make recycled water projects more feasible for Chico."Therefore, since the Governor's California Water Supply Strategy includes increasing urban water recycling generally "in coastal and inland communities", as you have noted, and given the Regional Water Board's findings noted above, implementation of this project does not represent a "lost opportunity", as the opportunity remains to develop recycled water treatment at the Chico WPCP where there are more available resources, if doing so becomes a viable option for them in the future.</p>

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			6	<p>Issue to be Resolved: Butte LAFCo service extension approval: The draft PEIR, Section 1.5 indicates that Butte LAFCo’s approval of the 18-mile extension of sewer service by Chico to Paradise is an issue to be resolved. However, the required LAFCo approval may be in conflict with state Government Code as indicated by the Executive Officer’s letter of May 20, 2021 which states: Provisions for extension of service requests are found in Government Code §56133 and in Section 4.5 of the Commission Policies and Procedures. Service extensions outside of an agency's Sphere of Influence may only be approved by LAFCo if there is "an existing or impending threat to the health or safety of the public or the residents of the affected territory. (§56133(c)) The City/Town will need to provide documentation/justification of the existing or impending public health and safety threat the extension of services would address. This is a critical prerequisite to the project as it is the <i>only legally permissible justification available</i> [emphasis added] to the LAFCo to approve a service extension request outside of an agency's (Chico) Sphere of Influence. Since an existing or impending threat to the health or safety of the public or the residents does not exist, it appears that Butte LAFCo cannot approve the sewer extension request even if it wanted to. The only path forward on this may in fact be a waiver by the state legislature and Governor similar procedurally to Assembly Bill 36 (Gallagher, 2021). Recognizing that the 18-mile extension request is contrary to the Governor’s Water Supply Strategy because it could potentially foreclose on up to 2,000 afy of urban water recycling, the Governor would likely not support the waiver legislation even if approved by the State assembly and senate. <i>(All references used in text can be found as part of original letter and exhibits [attached])</i>.</p>	<p>Govt. Code Section 56133 applies to the request to Butte County LAFCO for Chico to provide sewer services to the Town through the pipeline; the Town is outside the City's boundary and its sphere of influence:</p> <p>(a) A city or district may provide new or extended services by contract or agreement outside its jurisdictional boundary only if it first requests and receives written approval from the commission of the county in which the affected territory is located.</p> <p>(b) The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundary but within its sphere of influence in anticipation of a later change of organization. (NOTE: Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement.</p> <p>(c) The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundary and outside its sphere of influence to respond to an existing or impending threat to the health or safety of the public or the residents of the affected territory, if both of the following requirements are met: (1) The entity applying for approval has provided the commission with documentation of a threat to the health and safety of the public or the affected residents.</p> <p> (2) The commission has notified any alternate service provider, including any water corporation as defined in Section 241 of the Public Utilities Code, that has filed a map and a statement of its service capabilities with the commission.</p> <p>In Section 2.2, the EIR discusses the existing threat to the health and safety of the public and Town residents from the existing septic systems as follows: "Failed septic systems can release untreated wastewater into groundwater at the ground surface or cause pipe failures in buildings, resulting in environmental degradation and public health risk due to water contamination or exposure to untreated wastewater." Section 2.2 cites multiple studies which assess the public health concerns related to failing septic systems, concluding: "Concurrent to and since the Town’s numerous wastewater management studies, public health [...] impacts associated with septic system usage continue to persist." In regards to comment on the Governor's Water Supply Strategy, it is important to note that it is a strategy and policy document, rather than a law. Further, the Water Board currently has water reuse policy and regulations in place (https://www.waterboards.ca.gov/water_issues/programs/recycled_water/), and still issued its 2020 Evaluation of Wastewater Treatment Plant Options letter to Paradise with those requirements in place and full awareness of the reuse issue, as can be seen from the letter's reference to recycled water and Chico (https://paradisese sewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf).</p>

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			7	<p>Scalable to Sewer Entire Town: The export project as proposed in the draft PEIR limits the Paradise wastewater contribution to the Chico WPCP to 0.464 mgd. This limits sewer service to about 1,500 residential and commercial parcels within the sewer service area (SSA). The SWRWD Plan, conversely, is scalable to whatever service area Paradise chooses long term, including service to all 10,600 parcels served by PID pre-fire. This would be consistent with a local Paradise Post press report stating: <i>(Congressman Doug) LaMalfa pointed to the sewer as an essential infrastructure need for Paradise. “You know, a portion of this is going to help with that longtime need for a sewer system to this town, which unlocks a lot of possibilities for (Paradise),” he said. He also pointed out that as Paradise rebuilds, it can be part of an important part of California’s need to build more housing, pointing out that California is 2.5 million units short of what it needs.</i> For context on the limitations with sewer service only to within the SSA, the draft PEIR states: Prior to the Camp Fire, which almost completely destroyed the town in 2018, Paradise was the largest unsewered community in California. This metric would likely remain unchanged with the 18-mile export plan serving only the SSA – Paradise would still be the largest unsewered community in California since the SSA includes only about 14% of the permitted parcels within the Town. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>- As described in Section 5.2.1, Table 5.2-1 regarding the specific reasons for not carrying the local option forward as an alternative in the Draft PEIR, the Town did not find proposed infrastructure corresponding to the local option to be “scalable”. As discussed in the draft PEIR and further elaborated on in the Regional Water Board's analysis included in a letter dated November 4, 2022 and referenced in the Draft PEIR, (https://paradisesewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf), the options would be to either (1) build small at a lower current cost to accommodate estimated levels of effluent over next 5-10 years and require an upgrade and/or demolish/rebuild of infrastructure at some future cost as the treatment needs increase with population growth in the future, or (2) build facilities to some estimated maximum capacity now at much higher short term costs and only use a small portion of the facilities for the next 10-40 years, depending on realized future population growth. Per the Regional Water Board's findings in their November 4, 2022 letter, the local option would be: "Not easily scalable. (A Paradise) WWTP would be sized for currently-proposed collection system. Adding additional service area in the future would necessitate expansion of the WWTP and conveyance infrastructure. Depending on available Rights of Way and treatment/disposal areas, suitable additional areas may not be available. Further, treatment processes may not be easily scalable without substantial redesign and reconstruction of WWTP elements. Expansion of the WWTP to accommodate larger, future flows would be costly." (https://paradisesewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf)</p> <p>- Depending on the final buildout within the Core Collection System area plus the number of future sewer expansions that may be requested during the Extended Collection System implementation, as well as changes that would be expected to occur in other California communities, the Town would not remain "the largest unsewered community in California" with implementation of the Proposed Project, but could become “the largest community in California with unsewered areas”. As a note, this sentence was used to introduce the Town's post-fire history and was referenced from Butte County Association of Governments documentation (BCAG 2019a); it was not intended to provide "context on the limitations with sewer service only to within the SSA" as stated in the comment.</p> <p>- The information presented in Mr. Ripley's SWRWD Plan and in his comment letter do not manifestly show the alternatives that were assessed in the draft PEIR are unreasonable or that they do not contribute to a range of alternatives which are capable of attaining most of the basic objectives of the project.</p>
			8	<p>State-of-the-Art Infrastructure: The same local Paradise Post press report indicated that: [Paradise Mayor Steve] Crowder pointed out that the undergrounding project by Pacific Gas and Electric is also a critical project that will make Paradise “a state-of-the-art community with a brand new infrastructure.” Beyond underground electrical power distribution, “state-of-the-art” infrastructure should also include sewer collection, potable water distribution, non-potable water distribution, independent high pressure supplemental fire supply, fiber optic distribution, and community-scale wildfire defense integrated with the recently authorized wildfire early warning system. Clearly, all underground utility construction should be coordinated and should precede construction of any new public roads where the utilities are installed. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>Thank you for your input. The Town also considers financing options when pursuing a project. The Town is seeking grant funding for Design, Right of Way and Construction of the sewer project, which is available for septic to sewer conversions, but is not currently available for the alternative utility systems described. Analysis of timing and funding for utility construction and new roadways is not included in the Draft PEIR for Town sewer service; CEQA documentation requirements for utilities construction and/or new public roads would be determined and carried out when corresponding projects are defined.</p>

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			9	(Appendix B) 1.0 State and Regional Water Board Policies supporting regionalization: Any State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) policy supporting “regionalization” is an out-of-date policy predicated on “disposal” of wastewater and not beneficial reuse. RWQCB Central Valley Region #5 (R5) Resolution R5-2009-0028 indicating support for “Regionalization” in the same resolution supports “Reclamation, Recycling, and Conservation.” In the context of the Town of Paradise proposed 18-mile export pipe, the increased discharge of secondary effluent to the Sacramento River runs against California’s long-standing strategy to minimize potable water demand and increase water recycling. The SWRCB encourages water recycling with more recent statewide policies and orders including the 2018 Water Quality Control Plan for Recycled Water and the 2016 General Order for Water Reclamation Requirements for Recycled Water Use. Further, Governor Newsom this month released California’s Water Supply Strategy which establishes a plan for significant increases in urban water recycling by both coastal and inland communities. The plan targets an increase of 0.8 million acre-feet (MAF) by 2030 and 1.8 MAF by 2040 (see Figure 1 [in App B]). Based on the state’s overwhelming need to reduce potable water demand and beneficially recycle water wherever feasible, it is the 18-mile export plan that would likely not be supported Governor’s office and would likely not be supported by state and federal funding agencies. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Please see response to Mr. Ripley's comment #5 to statements regarding the Governor's California's Water Supply Strategy and comment response #6 for discussion of the Regional Water Board's understanding of water recycling and reuse value. In regards to regionalization policies, in a letter dated November 4, 2020 from the Regional Water Board to the Paradise Town Manager cited above and in the Draft PEIR multiple times (https://paradisesewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf), preliminary findings of the Regional Water Board are as follows: "... it is the opinion of the (Regional Water) Board's technical staff that the regionalization option presents an objectively more sustainable long-term solution to the Town's wastewater infrastructure needs. Due to the apparent overwhelming advantages of the regionalization option, it is the (Regional Water) Board's strong recommendation for the Town to conserve limited financial resources and focus its feasibility analysis on the regionalization option." Further, the Regional Water Board states: "Informing this evaluation is the (Regional Water) Board's decades of experience that local wastewater treatment plants of the type being considered by the Town consistently struggle to comply with applicable regulatory requirements to protect groundwater and surface water." In the Regional Water Board's qualitative analysis attached to their Nov 2020 letter, the Board finds that: "... it is not clear if a sufficient number of users are available, or that a recycled water delivery system (within the Town) would be feasible" and "The City of Chico already provides recycled water for waterfowl habitat uses, and City staff have stated that expanded recycled water use would be desirable and may be pursued in the future. Revenue generated through regionalization with Paradise could make recycled water projects more feasible for Chico." Finally, the Regional Water Board's analysis regarding viability of financial assistance finds that a local alternative is: "Likely to receive less favorable consideration, or outright denial, especially if regionalization has similar or better overall feasibility. May not comply with State and Regional Water Board policies supporting regionalization of wastewater services." (https://paradisesewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf). Given the Regional Water Board's negative findings regarding local project feasibility, funding access, and potential for further groundwater and surface water impacts, as well as other reasons captured in Section 5.2.1, Table 5.2-1, the Town eliminated local alternatives from consideration in the Draft PEIR.
			10	(Appendix B) In the Town’s case, “regionalization” assumes connection to Chico’s water pollution control plant (WPCP) which discharges secondary effluent to the Sacramento River. In light of R5’s intent to require Chico to remove nitrogen from its discharge, the draft PEIR should not overlook the cost and energy intensity required to nitrify and denitrify prior to discharge. As a related example, R5 required Sacramento Regional Sanitation District’s WPCP in Elk Grove to remove nitrogen prior to discharge to the Sacramento River at a capital cost exceeding \$2 billion. Local reuse, conversely, would beneficially utilize nitrogen and other nutrients for agricultural, landscape, and turf fertilization. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Regarding the "R5 intent to require" the City to nitrify and denitrify (treated water) prior to discharge, the comment has been considered, and is outside the scope of the PEIR, which is about construction, operation and maintenance of the pipeline; rules for use of it are separate. For response to comments regarding local reuse being considered in the future at the Chico WPCP, please refer to the response to Mr. Ripley's comments #5 and #9. Finally, the intent of an agency cannot be confirmed or disputed by the Town as there is no backup information supporting the statement.

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			11	<p>(Appendix B) 2. Regional Board November 2020 letter supporting regionalization: The November 2020 R5 letter fails to compare local urban water reuse with river discharge and “recycled water for waterfowl habitat uses”. Nor does the letter consider the multi-benefits of a dual distribution system within the Town that would include 1) non-potable recycled water for landscape, park, turf and agricultural irrigation, 2) seasonal aquifer recharge dispersed throughout the service area, 3) state-of-the-art community-scale wildfire defense, 4) high pressure supplemental water supply for fire suppression, 5) protection against any future depressurization of PID’s potable distribution system and 6) beneficial use of nutrients inherent in wastewater. Upgrades to the Chico water WPCP for river discharge and/or agricultural reuse could easily exceed \$300 million for nutrient removal and other treatment process improvements over the next decade. The Town would be responsible for it’s proportionate share of costs and its contribution would offer zero benefit to Paradise Irrigation District’s (PID)water supply portfolio and zero benefit for the Town’s fire suppression capability. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i></p>	<p>This comment has been considered, and is outside the scope of the PEIR. It is not within the Town's jurisdiction to question or explain the Regional Water Board's findings as stated in the November 2020 letter, nor has data resulting from any level of planning/design been publicly released by the Chico WPCP that could be accurately used to estimate costs for upgrades at the Chico WPCP for recycled water or to estimate the financial contribution that the Town could be required to make. The scope of the PEIR is limited to construction of a sewer system and does not include an assessment of the potential for future water recycling at the Chico WPCP.</p> <p>Although the comment is not relevant to the project, some explanation may be of assistance. Regarding reference to the dual distribution system acting as protection against any future depressurization of PID’s potable distribution system, PID’s 2020 Urban Water Management Plan (2020 UWMP; pidwater.com) described what occurred during the Camp Fire: “Several hours into the duration of the Camp Fire, PID’s pipe network experienced a significant depressurization in a majority of its water mains. A significant number of the 10,480 individual service laterals and/or meters melted and the system partially drained. Though the WTP continued to produce water during the fire, demands from fire sprinklers, firefighting activities, and free-flowing service connections where structures once stood drained significant portions of the system. This depressurization event resulted in negative pressure in many areas throughout the main network..”. Since the same or less costly pipe materials, meters and valves are generally used in constructing purple pipe lines (recycled water) as is used in potable water lines, what occurred in the Camp Fire wouldn’t be stopped by increasing the number of lines, but by upgrades to pipeline materials or other safeguards, as would be determined by Paradise engineering team (pidwater.com) pp. 3-3 and Annex F-27).</p> <p>Further, the Mitigation Plan attached as part of PID's 2020 UWMP presents <i>Action 9. Backup Portable Generators</i> as a mitigation action based on their risk assessment study. Benefits that would result from funding this action include “The District would not experience a depressurization of distribution system (and would not) lose the ability to treat water for the Town of Paradise...”. As such, PID presents backup portable generators as the solution to mitigate the potential for a long power outage or depressurization during wildfire (pidwater.com, 2020 urban water management plan, Annex F-47).</p>

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			12	(Appendix B) The R5 letter indicates that [the] “Pipeline to Chico can be cost-effectively sized to accommodate a large range of flows.” This indicates that the pipeline can likely accommodate significant wastewater flows over and above the needs of the Town for planned developments within Chico’s southeast sphere of influence and rural Butte County along the pipeline route. Table 1 presents pipeline capacities for the proposed 10.5 mile 12” export pipe force main based on a range of flow velocities. Table 3 presents the carrying capacity of plastic pipe from an engineering manual which indicates velocities for 12” pipe within the range of 1.3 to 10.12 feet per second (fps). The 7 fps maximum figure presented in Table 1 is well within the range presented in the engineering manual. At that flow velocity, the export pipe capacity is about 2,400 gallons per minute (gpm), or about 1.7 million gallons per day (MGD) on an average day flow (ADF) basis and 3.4 mgd on a peak hour flow (PHF) basis. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	<p>The section of the export pipeline referred to in the comment is the Gravity Force Main. As stated in the Draft PEIR (pp. 43-51), “Flow leaving the Transition Chamber would be under pressure based on the gravity flow from the steep Ridge Gravity Section, and the pipe would flow full, creating a beneficial force main based on the hydraulic behavior of the sewer (eliminating the need for a pump station, which is not a part of this system), so the effluent can reach the Chico WPCP. A modulating plug valve would keep the Transition Chamber and Gravity Force Main Sections full, to maintain the hydraulic function of the Gravity Force Main Section." Therefore, the Gravity Force Main was sized based on a differential head criteria, not based on a velocity criteria, such as the 3 to 7 feet per second figures stated in the comment.</p> <p>The comment appears to relate to a concern about additional connections happening along the export pipeline, between the Town of Paradise and the Chico Water Pollution Control Plant. The engineering work completed by HDR did not include provision for any such additional connections to the Gravity Force Main. In addition, the Principles of Agreement developed between the Town of Paradise and City of Chico, which are currently being drafted into an Inter-Municipal Agreement to be adopted by the Town Council and City Council, states “The Town and the City agree to prohibit future connections to the export pipeline in the portion of the pipeline that sits outside of the Town limits or City limit.” (www.paradiseseWER.com, 1st Draft Principles of Agreement version 7, 21-March-2022). Please also refer to response to L10-6 and other discussions of the Regional Water Board's 2020 study and letter to the Town.</p>
			13	(Appendix B) At 1.7 mgd ADF, the lost opportunity for local water recycling in the Town, southeast Chico and rural Butte County could be about 2,000 acre-feet per year (afy) as indicated in Table 2. “Regionalization” as a primary justification for the 18-mile export project is clearly in conflict with the Governor’s California’s Water Supply Strategy since it forecloses on a potential 2,000 afy of urban water recycling in the Town and southeast Chico. Based on current drought and wildfire threat conditions, the Governor’s office would likely strongly support the local reuse alternative over the export alternative. In that same light, the grant funding opportunities for local water reuse would likely be significantly greater than for the 18-mile export based on the Governor’s strong emphasis on urban reuse projects anywhere in the state. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	<p>Please see responses to Mr. Ripley's comments #5 and #9. Anticipating what level of support would be imparted by the Governor's office would be speculative and does not speak to the Draft PEIR's adequacy or accuracy; therefore, this comment has been considered, but does not require specific response. However, it is anticipated that the Governor may give some deference to the findings of the Regional Water Board.</p>

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			14	(Appendix B) The R5 letter fails to acknowledge that Butte LAFCo cannot approve an 18-mile extension of sewer service absent an existing or impending public health and safety threat. The 0.1 mgd post-fire subsurface dispersal in the sewer service area (SSA) that had a pre-fire permitted subsurface dispersal capacity of about 0.5 mgd cannot be considered an existing or impending health threat. Absent such a threat, Butte LAFCo cannot approve the extension as it is the only legally permissible justification available to LAFCo to approve a service extension request outside of an agency’s (Chico) Sphere of Influence. The only path forward with the extension request therefore would likely be a waiver approved by the state legislature and the Governor, similar procedurally to Assembly Bill 36 (Gallagher, 2021). <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Please see response to Mr. Ripley's comment #6 above. Further, it is not within the Town or commenters' jurisdiction to interpret regulatory guidance or make a determination regarding what Butte LAFCo can or will approve, and, more immediately, is outside the scope of this Draft PEIR. LAFCo staff are uniquely qualified and appointed to make such determinations based on regulatory guidance and experience and the agency has its own process for public review and appeals.
			15	(Appendix B) The R5 November 2020 letter did not confirm the presence of an existing or impending public health and safety threat in Paradise of which it has the technical and regulatory authority to determine. Even if R5 made such a determination, the proposed export project serving only 14% of the Town would not alleviate most of the threat since there is ample high density residential, commercial, health care and institutional development outside of the proposed SSA which could also have subsurface dispersal issues. Absent an existing or impending health and safety threat, the 18-mile export project as indicated above is legally impermissible. In its alternative analysis of the regionalization versus local reuse options available to the Town, R5 erred in not considering Government Code restrictions on any extension of utility service from one jurisdiction to another in California. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Please see responses to Mr. Ripley's comments #11 (Town's lack of jurisdiction/expertise to explain findings of Regional Water Board), and #'s 6 and 14 (LAFCo Government Code restrictions). Further, the 2020 Regional Water Board letter was not required to discuss a public health and safety threat, as they had already declared it as such in their In a letter dated May 4, 1992; at that time the RWQCB approved the Town’s plans to establish an “Onsite Wastewater Management Zone” to address public health and environmental concerns noted in previous studies (RWQCB 1992). The 2020 letter was intended, as titled, to present an Evaluation of Wastewater Treatment Plant Options (https://paradisese sewer.com/wp-content/uploads/2021/04/2020-Central-Valley-Regional-Water-Quality-Control-Board-Alternatives-Analysis.pdf). Please also refer to comment response L10-14. Further, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement; therefore, the Town is following existing regulatory guidance.

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			16	(Appendix B) 3. Siting local wastewater facility within residential and business areas: Figure 2 presents an image of a California Title 22 water reclamation facility sited in a residential setting in southern California. This facility was permitted by R8 (Santa Ana Region) under Title 22 criteria and had operated continuously between 1981 and 2006 when the facility was decommissioned with the arrival of an Inland Empire Utilities Agency (IEUA) purple pipe extension to two adjoining golf courses. During its 25-year operation, this author was not aware of a single odor or noise complaint from residents adjacent to the facility. This image was included in the Water Reuse textbook as an example of a satellite treatment plant located in a housing development. Figure 3 presents a 2021 satellite image of the decommissioned facility indicating its close proximity to numerous residences and a swimming pool. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Although the comment is not relevant to the project, some explanation may be of assistance. In review of the text accompanying the figure in this case study (Tchobanoglous, G., et al, <i>Water Reuse, Technologies, and Applications</i> , McGraw Hill, 2007, Figure 12-17), as introduced by the commenter, some points require clarification. The author of the textbook does state "The plant... is provided with odor control facilities. The design features have proved that a wastewater facility can be constructed and operated in a residential-type setting without nuisance" (p.760). However, there is no information on noise or odor complaints received and no description provided to understand the criteria used to determine "without nuisance" or to understand what the author's thresholds were. The project "was initially conceived and built by a developer who needed a golf course to improve marketability and value of the residential property", was used solely for the Upland Hills Country Club (p.760) golf course irrigation, and payment was made by the golf course for the recycled water. The author found that "Because the influent wastewater is of domestic origin and the influent has a TDS of about 485 mg/L, the effluent is well-suited for golf course irrigation (p.761). Treatment of the wastewater, as described in the case study, was limited as compared to another case study in the same textbook for the Solaire Building in New York constructed around 2005 (751). Reclaimed water at the NY facility was limited in use to only toilet flushing and cooling tower makeup, and later added irrigation at an adjacent park. However, the NY system also required ozone oxidation, ultraviolet disinfection, and ultrafiltration membrane units, injection of potable water, and later, for irrigation, the addition of a reverse osmosis system - all absent from the process flow description for the golf course facility as described in the textbook, possibly due to changing water quality requirements for reclaimed water over time or variances in state/regional regulatory requirements. Therefore, noise and odor effects could be very different if the golf course facility were required to add those additional treatment systems. Further, the facility was decommissioned because "... the facilities are in need of upgrading to preserve their integrity. Lack of adequate local financing for improvements is an obstacle in implementing necessary upgrades. ... unfunded replacement reserves would have facilitated needed rehabilitation and upgrades to ensure continued operations without full system replacement" (p.761). Therefore, the decision was to decommission the failing local facility and connect to the Inland Empire Utilities Agency facilities (as described in commenter's discussion).
			17	(Appendix B) 4. Lack of sufficient recycled water users in area Table 3 indicates PID’s pre-fire estimate of total water demand in 2040 of 7,817 afy. This compares with 3,576 afy of PID’s pre-fire estimate of 2040 wastewater dispersal as indicated in Table 4. These two values indicate that, on an annual basis, the total service area pre-fire potable and raw water demand is roughly 2.2 times the wastewater generation. On a seasonal basis, the non-potable exterior irrigation demand could be as high as 4 times the interior potable demand on peak summer days. Clearly, with dual distribution to all served parcels, the annual average non-potable demand exceeds the potential recycled water supply. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	PID updated their Urban Water Management Plan (UWMP) in 2021, which reports much lower estimates of demand over a 20 year horizon (2025 - 2045; published in June 2021 and available at: https://pidwater.com/docs/about-your-water/water-supply/2001-pid-2020-urban-water-management-plan/file). Given there is no water reuse in the Town at this time, the calculations include all water needs for the community. In this document, PID reports: "There is no known deficit of supply in the planning horizon of this UWMP, even considering the likely impacts of climate change in that time period with increasing temperature, reduction in rainfall, and declining snowpack." (PID UWMP 2021, Section 6.13, p.6-12) In the same document, DWR Tables 7-2, 7-3, and 7-4 (pp. 7-6 to 7-7) compare PID supply with Town estimated demand 2025-2045. These calculations look at a normal year (7-2), a single dry year (7-3), and up to five years of consecutive drought conditions (7-4). Even with up to five years of consecutive drought conditions, 2025-2045, PID shows a minimum estimated 1,312 acre-foot overage . PID states: "It is important to note that in all scenarios shown in these tables, Normal Year demands are shown, without the expected conservation percentages ranging from 10-50% that would be expected in drought conditions. By comparing reduced supply volumes in dry years to Normal Year demand levels, it is shown conservatively that PID is able to successfully meet demand in all year types." (p. 7-6). The 2015 UWMP appears to no longer be available at the PID website noted above; further, there are no estimates for "wastewater dispersal" in PIDs 2022 document; therefore, the quoted wastewater numbers in this comment can not be verified or discussed.

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			18	(Appendix B) 5. Large effluent storage facility needed for winter flows: Based on information provided by Town engineers, the heat of the Camp Fire at the ground surface did damage some septic tanks, particularly those constructed of plastic or fiberglass. However, of the 11,000+ leachfields there has been no reported damage. With that context, the Sewer, Water Reuse, and Wildfire Defense (SWRWD) Plan proposes to utilize the existing 11,000+ leachfields for shallow aquifer recharge in the winter months eliminating the need for a seasonal effluent storage facility. The dual distribution will be in place, and individual irrigation controllers will be used to control and meter delivery of tertiary effluent to existing leachfields in the winter months as/when needed. Ultimately, the pre-fire 2040 estimate 3,576 afy dispersal of septic tank effluent would be reduced to about 980 afy dispersal of tertiary effluent meeting strict Title 22 unrestricted irrigation standards. These values assume the long-term objective of the SWRWD Plan to serve most if not all of PID’s 10,600 service connections and not just the 1,500 connections in the proposed SSA. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	As stated in Comment Response 17, based on PID's Urban Water Management Plan (UWMP) (2025 - 2045; published in June 2021 and available at: https://pidwater.com/docs/about-your-water/water-supply/2001-pid-2020-urban-water-management-plan/file) the 2022 UWMP (PID 2021 - reference in Comment Response 17), there is no projected shortage of water.
			19	(Appendix B) 6. Land for storage environmentally sensitive: Land for seasonal storage unnecessary. See response #5 above. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Please see response to comment #L10-4 above regarding the elimination of the local option as an alternative in the Draft PEIR.

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			20	(Appendix B) 7. Local WWTP construction would be a lengthy process: The 2016 General Order for Water Reclamation Requirements for Recycled Water Use provides an expedited path for recycle permits, since most non-potable recycled water projects rely on the same regulatory framework provided in Title 22. With low-pressure effluent collection and temporary treatment facilities at say, the abandoned Lava Creek golf course, time to first-flush would likely be less than 18 months, perhaps as little as 12 months from authorization to proceed. This compares with estimates of the gravity collection and 18-mile export project taking as much as a decade to first-flush. There is ample precedent in R5 for satellite water reuse facilities permitted under Title 22 criteria for disinfected tertiary recycled water. In combination with the 2016 General Order, the R5 approval process could be concurrent with the facility design thereby expediting the project delivery schedule. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	The project as proposed will be operational by Summer 2026, as shown in the schedule on paradisesewer.com.
			21	(Appendix B) 8. Auxiliary water system would for fire suppression would be a separate pipeline system: Yes, a separate pipeline system would be required modeled after El Dorado Irrigation District’s dual distribution system (in operation for over four decades) and San Francisco’s auxiliary water supply system (in operation for over a century). In addition, the dual distribution provides access to individual leachfields for winter subsurface dispersal and would provide assurance that, in the event of a repeat of an extreme wildfire event, that PID’s potable system would be protected from depressurization caused by the abrupt increased demand from residential sprinklers and fire-fighting activity. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	Thank you for your comments. They are outside the scope of the project and fire suppression is not one of the identified objectives of this project.

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			22	(Appendix B) 9. Inefficient oversizing of treatment facility in early years: Inefficient oversizing of infrastructure is not unique to wastewater treatment facilities – it is a given on any infrastructure project – water import and treatment facilities, power generation and transmission, highways, airports, rail facilities, ports, etc. etc. Utilization is never near optimum in the early years, and full utilization may come decades after construction is complete. For context, how efficient is a \$184 million export project when the initial flow estimate is only about 0.1 mgd serving a 2026 connected population of 1,391? Since the \$184 million figure is only a Class 5 estimate (- 30% to +50%) coupled with the recent inflation spike, the actual construction bid cost could easily exceed \$300 million – with no possible opportunity for interim temporary facilities or phasing. Where’s the early year efficiency in that? <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	The pipeline has been sized to accomodate the flow from the Core Collection and Extended Collection system, as well as the Treatment Plant capacity, within the 30-year planning horizon as laid out in the Town of Paradise 2022 General Plan Housing Element Update (Section 2.5.1.1 of the Draft PEIR). Further, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement. Estimates regarding "actual construction bid costs" would be speculative at this level of design.
			23	(Appendix B) 10. O&M for a full-scale treatment facility would be supported by a small initial ratepayer base: Figure 4 presents a satellite water reclamation facility owned and operated by Fresno County Special Districts, County Service Area #34. This facility was permitted by R5 under Title 22 criteria in 2005. Table 6 presents the 2022-2023 projected operating budget for operation and maintenance (O&M) of this facility. Compare that Fresno County CSA #34 O&M value with estimates for the export project O&M: \$254,000/yr for the regional pipeline, \$1,022,000 for the gravity collection system, and the \$491,000 contribution to Chico WPCP O&M. These annual costs total \$1,767,000/year starting at first-flush. How can the Town afford this when most of the SSA parcels are currently vacant? Add to this annual O&M cost the annual cost of the local share of loan debt repayment since it is unlikely that the project will achieve 100% grant funding for capital costs. If interior residential water use is reduced to 42 gallons per person per day (gpcd) by 2040 in accordance with recommendations by the California Department of Water Resources, the Town connected population served by a similar Title 22 facility (CSA #34 plant) could potentially be about 4,700, equal to the estimated population in the SSA at Year 2050. <i>(All references used in text can be found as part of original letter and exhibits [attached]).</i>	The local treatment alternative does not meet the goals of the project as set out in Section 2.3.2, Project Goals and Objectives. Further, as explained above, the Town has secured grant funding for the development of the preliminary engineering and preparation of the environmental documentation. We are also working to secure grant funding for the design, right-of-way, and construction stages of the project. The Town is aware of the cost estimates associated with design, construction, and operation of the sewer project, as is estimated at this early point in design. As noted in previous and subsequent comment responses, this comment does not speak to the physical environmental assessment of potential impacts that could result from proposed project implementation and speaks to potential costs, which is outside of the scope of the PEIR.

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			24	(Appendix B) 11. Treatment processes not easily scalable: The export plan has zero potential for phasing and cannot be scaled up ever once capacity is reached in the collected area of the SSA. The local treatment collection system and local water reuse plant, however, can be scaled up to ultimately serve all 10,600 connections and be designed to operate efficiently even at low initial flows. <i>(All references used in text can be found as part of original letter and exhibits [attached])</i> .	Please see Comment Response #L10-7 regarding scalability.
			25	(Appendix B) 12. Extensive ongoing monitoring required for local recycling: Table #6 does not call out monitoring costs since Fresno County operators conduct in-house lab tests as part of their normal daily and weekly routines. Monitoring costs are included in the “Professional and Specialized Services” line item. Monitoring reports are submitted by the operators to R5 on a quarterly and annual basis. All operators are state-certified and are employees of Fresno County.	Thank you for the information. The PEIR is to analyze the proposed Town sewer pipeline construction, operation and maintenance and does not include a discussion of costs.
Richard L. Harriman	August 30, 2022	L11	1	Thank you for granting my request for a one-day extension of time within which to submit the following Comments regarding the Draft Program EIR (DPEIR) for the above-referenced Project. I am submitting the following comments regarding the above-referenced proposed project on behalf of myself, as a resident of the City of Chico and the County of Butte, a taxpayer and rate payer of the City of Chico and the County of Bulle, and as a member of the Butte Environmental Council and in the public interest of other residents of the City of Chico and the County of Butte.	Thank you for your input.
			2	1. I join in the Comments submitted, by the Butte County Local Agency Formation Commission and the County of Butte, regarding the DPEIR.	Thank you for your input. We appreciate all viewpoints expressed by our community members.
			3	2. I also join in the Comments submitted by Dana Ripley, regarding the DPEIR.	Thank you for your input.

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			4	<p>3. I am requesting that the Final PETR include a copy of my letter comments, dated June 3, 2021, regarding the Notice of Preparation which were submitted on that date and that they be included in the Response to Comments on the DPEIR for the proposed sewer line project, including the article that I prepared which analyzes the public policy, legal, and environmental benefits to be gained by reconsidering the "Preferred Project." The issues raised in my letter of June 3, 2021 have not been addressed, analyzed, or considered in the DPEIR and that they be analyzed and considered in the "Project Alternatives" section of the EIR prepared for the proposed project.</p>	<p>As requested, the June 3, 2021 letter with attachments has been appended to the (this) current comment letter from Mr. Harriman (#L11) and issues raised are addressed here. Since Mr. Ripley’s SWRWD Plan and comments appear to be consistent with Mr. Harriman’s June 3, 2021 letter and current comments, some issues have already been responded to and therefore, references to Mr. Ripley’s L10 comment letter (comments 1 – 25) are provided, as appropriate.</p> <p>Issue 1. Response: Your agreement with LAFCo NOP comment letter dated May 20, 2021 is noted and the referenced LAFCo letter is attached to June 3 letter as part of this response to comments appendix;</p> <p>Issue 2. Response: Thank you for providing your “Urban Water Conservation: Another Alternative” opinion paper. Similar to the SWRWD Plan, calculations and opinions are included that the Town is not required to provide responses to as there is no substantiation or factual documentation to consider. Further, comments on costs and financing options are outside the scope of the PEIR. Any remaining points described in the your paper are similar to, and in some cases identical to, the SWRWD plan and are responded to in responses to Mr. Ripley’s letter (#L10, 1 to 25).</p> <p>Issue 3. Assessment of environmental, planning, and economic impacts corresponding to updates to the General Plan would be speculative and are outside the scope of this sewer project PEIR – as noted by Mr. Harriman, both the Town and City have separate CEQA documentation to analyze effects that may result from future updates to both communities’ General Plans.</p> <p>Issue 4. Given that the Proposed Project Description has evolved and been updated between the commenters letter date of June 3, 2021 and the posting of the Draft PEIR for public review on July 14, 2022, this issue has been resolved. There were no comments received on the Draft PEIR from Mr. Harriman or any other commenters on the Draft PEIR that contested the completeness or accuracy of the description of the Proposed Project. Further, this comment again focuses on opinion regarding the rationale for project, but does not reference facts to support the opinion; therefore, the Town is not required to respond.</p> <p>Issue 5. As you request in comment, the PEIR does “disclose, analyze, discuss and address the potential significant impacts to the environment which may occur”. However, the EIR cannot address possible future changes to the final project, as they are unknown and would be speculative; however, as required by CEQA (Section 15162 (a) and (a)(1)), “When an EIR has been certified... for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines... (that) substantial changes are proposed in the project which will require major revisions of the previous EIR... due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects”, the Town would be required to complete additional CEQA analysis if either of the conditions referenced above were to result from changes to the final project.</p> <p>Section 5.2 of the PEIR describes why the Town has eliminated the “local option” from consideration as a feasible alternative; therefore, there is no discussion of the issues presented in the letter within the “Project Alternatives” section of the PEIR, rather all are addressed here. Please also see responses to Ripley’s letter – L10, Responses #4 and #11 regarding alternatives.</p>

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			5	<p>4. The benefits for prevention of significant adverse environmental effects from recurrent wildfires on the Ridge that could be provided by the alternative recommended by Dana Ripley in his comments regarding the true "Preferred Alternative" were not considered in the previous Study relied upon in the DPEIR. The previous Study and Analysis needs to be updated in light of advantages of the locally owned and controlled specially engineered Treatment Facility on the Ridge. The reason for this request is that the previous analysis relied upon in the DPEIR was prepared before the Paradise Camp Fire and needs to be updated, due to the elevated risk of recurrent wildfire, which can be mitigated by the re-use of treated effluent to irrigate and enhance the defensive open space needed to protect new urban development in the Town of Paradise and in the County of Butte.</p>	<p>Regarding existing wildfire risk, the PEIR evaluated the proposed project in light of this resource and, with mitigation incorporated (Section 3.18.4, Table 3.19-1), the Town’s analysis found that implementation of the proposed project did not result in “significant adverse environmental effects” on Wildfire, a finding that was not disputed by Mr. Harriman in this comment letter. Development of solutions to current wildfire conditions would be a separate project and is not within the scope of this PEIR.</p> <p>As relates to the reference to Mr. Ripley’s comment, Mr. Ripley’s “preferred alternative” (as defined by Mr. Ripley and not related to the Town's CEQA analysis) was considered but eliminated from consideration as an alternative as described in the Town’s response to Mr. Ripley’s comment #L10-4. In addition, this is the first mention of the “Treatment Facility on the Ridge”, which has not been described or otherwise mentioned in comments received on Draft PEIR; the only reference to “the Ridge” was found in a letter Mr. Harriman distributed at a meeting with the Town and Town attorney, that he had written to the Chico Enterprise-Record on June 4, 2021 (Letter is provided as an attachment to Mr. Harriman's comment letter following the June 3, 2021 letter discussed in L11-4 above). In this letter to the press, “the Ridge” is described as being part of unincorporated (Butte) County, not within the Town boundaries. The Town would not have jurisdiction to propose facilities outside of the Town boundaries; therefore this is outside of the scope of this Paradise sewer project PEIR. Finally, regarding the request for additional studies and analysis, <i>ParadiseSewer.com</i> provides links to all of the studies considered in developing the Proposed Project (under the “Project Materials” tab); the list does include pre-wildfire studies, but they are matched in number by those completed since 2020, post-fire.</p> <p>Further, please refer to Comment Response #L10-4 regarding the requirements to analyze an alternative under CEQA.</p>
			6	<p>5. Although I have made this comment at public meetings regarding the proposed project, it should be noted that the DPEIR does not address, analyze, or consider the environmental, planning, and economic impacts of not requiring the preparation of the updated General Plans and Environmental Impact Reports for Town of Paradise and the City of Chico as part of the "Preferred Project" analysis, although the Butte County LAFCo has been requesting the Town of Paradise to do so, since 1985. The DEIR should require a Condition to require such updates to be prepared and approved, prior to the commencement of construction of the proposed project or as a condition of approval by LAFCo.</p>	<p>As stated in multiple Sections of the Draft PEIR, including Sections 2.2.1, 2.2.2, and 2.3.1, the Proposed Project is consistent with the goals of the 1994 Town of Paradise General Plan and accounts for growth consistent with the recently updated Town of Paradise 2022 Housing Element. Further, a resolution (#13-04, included in Appendix B of the PEIR) was adopted by the Paradise Planning Commission in 2013 finding the "1994 Paradise General Plan substantially complies with the statutory mandates under Government Code Section 65302" (Appendix B). Please also review response to L11-4 above, which discusses environmental review of updates to general plans.</p>

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Commenter/Agency	Comment Date	Letter No.	Comment No.	Comment Text	Comment Response
			7	6. The Project Description is not stable, finite, and accurate. Draft Program EIR should be revised, amended, corrected, and re-circulated and the public comment period be re-opened and new public Scoping Meetings held by the lead agencies, including both the City of Chico and the Town of Paradise. The reason for require the requested action is that because the purported rationale for the proposed project [expedited redevelopment of the Town of Paradise] will not be achieved by the development and construction of the proposed project, as defined. In fact, the construction of the Project Alternative advocated by Civil Engineer Dana Ripley could be expedited and achieved much more rapidly than the construction of the "Preferred Alternative" recommended for adoption in the DPEIR.	The project as proposed fulfills the Project Goals and objectives stated in Section 2.3.2 of the Draft PEIR. Please also review response to L11-4 above, which discusses sufficiency of the project description.
			8	7. The DPEIR fails to disclose, analyze, discuss and address the potential significant impacts to the environment which may occur, depending on what changes arc made to the "Final Project" pursuant to the "Design Build" legislation adopted in AB 36 (Gallagher). The adoption of AB 36 by the State Legislature has rendered the DPEIR's analyses legally inadequate, because the proposed Preferred Alternative may bear little or no resemblance to tbe proposed Preferred Project Alternative, due to currently unknown changes made to the final design prior to and/or during construction of the project. Further, due to the preparation of a Draft "Program" EIR, the actual project may be significantly changed during construction by circumventing the project description in the Final PEIR tluough the use of multiple Project Addendums that do not require notice to the public or public review during the course ol' construction of the Final Project design, whatever it may be.	Please see response to L11-4 above, which discusses future project plan updates. Further, <i>County of Inyo, supra, 71 Cal.App.3d</i> at p.199 as referenced in <i>South of Market v City and Co of San Francisco, supra, 33 Cal.App5th 321</i> at p.8, concludes that "the CEQA reporting process is not designed to freeze the ultimate proposal in the precise mode of the initial project; indeed, new and unforeseen insights may emerge during investigation, evoking revision of the original proposal". The Town recognizes that "Project Addendums" are not required to be noticed to the public; however, CEQA Addendums are also only allowed "if some changes or additions are necessary but none of the conditions (described in CEQA Section 15162 (a), which is quoted in L11-4, Comment 5 above)..." that would call for preparation of a subsequent EIR (new significant effects or substantially increased effects and others listed in Section 15162), would occur. Therefore, if updates to the Proposed Project did occur in the future, the Town would consider what level of additional CEQA analysis, if any, was appropriate based on the potential for new or increased physical effects on the environment or other conditions occur described in Section 15162. Further, Chico City Code Section 15.40.285, <i>Regulation of Waste Received from Other Jurisdictions</i> , requires that any project with another municipality which would utilize the Chico sanitary sewer system requires an intermunicipal agreement (IMA) and sets out the requirements for such agreement; therefore, regulatory requirements already in place are being adhered to.

Paradise Sewer Project PEIR Comment Matrix					
Commenter/Agency	Comment Date	Letter No.	Comment No.	Comment Text	Comment Response
			9	8. However, the most egregious legal inadequacy of the DPEIR is that it is barely readable and understandable, due to the lack of a Table of Contents and inadequate organization and disclosure of the Comments made during the Notice of Preparation process. The DPEIR glosses over the numerous comments and objections that were made in the Notice of Preparation process. Specifically, without having the Town General Plan updated since 1980, the changes in density requirements and other legislation that has been adopted by the State Legislature to provide for more dense residential dwelling units and reduction of Green House Gasses are barely even mentioned in the DPEIR, which results in accelerated "urban sprawl" within the Town's Sphere of Influence. Instead of focusing on dense multi-story and affordable multi--family housing in the Town's previously developed urban footprint, the "Preferred Alternative" supports and incentivizes accelerated inefficient sprawl in the Town and into the County's Jurisdiction.	<p>The Draft PEIR document begins with a Table of Contents. All comments received during the NOP public comment window are included with the DPEIR in Appendix A: NOP Scoping Report, organized into a Comment Matrix, as well as Town responses. All comments received in response to release of the Draft PEIR have been reviewed and considered in the process of creating the Final PEIR, in addition to comments received from Mr. Harriman outside of both public comment periods (see response to Comment L11-4).</p> <p>The version of the The Town of Paradise General Plan used in the development of the Draft PEIR, drafted in 1994, rather than 1980, includes amendments through 2008, and the Town of Paradise Housing Element referenced in the Draft PEIR was updated in 2022 (see response to L11-6 and PEIR, Appendix B).</p> <p>Density (multi-family housing or vertical construction) becomes more feasible with a sewer system, and is one of the benefits of the sewer project. Please see Comment Response #W17-6 regarding growth outside of the Town of Paradise. Regarding the Draft PEIR focus on affordable housing, as stated in 2.3.2 Project Objectives and Goals, providing economic recovery and construction of affordable housing are integral to the Proposed Project, being identified as the primary objectives and goals of the project to meet the needs of the community (Section 2.3.1).</p>
			10	9. Finally, the DPEIR's failure to adequately disclose, analyze, discuss, consider, and compare and contrast the expense of the Preferred Alternative to the more efficient and expandable specially engineered waste treatment facilities discussed in great length in the Comments submitted by Dana Ripley in his Comments and "White Paper" demonstrates the legal inadequacy of the DPEIR and the failure to proceed in the manner required by law, pursuant to Public Resources Code sections 21 168 and 21 168.5.	Please see Comment Response #L10-4 and #L11-5 regarding the requirements to analyze an alternative under CEQA. CEQA Guidelines Section 15064 describes how to determine significance of effects. Section 15064 (d) states that a Lead Agency should "consider direct physical changes in the environment which may be caused by the project" and defines a "direct physical change" as "a physical change in the environment which is caused by..." the project (Section 15064 (d)(1)). CEQA Guidelines Section 15124, defining what must be include in a project description, does not state that cost of a project is required. Often estimated costs at the early levels of design, such as here, carry huge contingencies as there isn't sufficient detail to make a refined cost estimate. What is required in the CEQA Project Description is "A general description of the project's technical, economic, and environmental characteristics" (Section 15124 (c)). As noted in previous response, economic recovery of the community is integral to the Proposed Project and a primary objective (Section 2.3.1).

Paradise Sewer Project PEIR Comment Matrix					
Commenter/Agency	Comment Date	Letter No.	Comment No.	Comment Text	Comment Response
			11	Please include this letter and Comments in the Record of Proceedings and include all of the Comments made regarding the Notice of Preparation previously relied upon by the public to review this very expensive and unnecessary public project in a Revised and Amended Draft EIR for the Preferred Project, instead of Program EIR for this vague, inadequately described, and expensive "Preferred Project". In addition, please remand the review of this proposed project back to the Public Works Department Staff for the preparation of an updated Project Review and Analysis, based on current water resource conditions and Wildland Urban Interface (WUI) environmental setting and background on the Town of Paradise, in the light of the Governor's Water Resiliency Portfolio and recently adopted Water Policy focusing on more efficient use of our water and energy resources. Finally, the Town of Paradise should be required to conduct the updated Study while contemporaneously updating the Town's General Plan.	Given that most of this is strictly opinion and how the Town will proceed is under jurisdiction of the Town administration, there is no response required for most of statements included in this comment. All comment letters received during the NOP public review period (July 14 through August 29, 2021) are contained and responded to in the Scoping Report that was/is attached to the PEIR (Appendix A). Comments received separately from Mr. Harriman outside of a formal public review period (June 3, 2021), have been included as attachments to this letter addressing comments on the Draft PEIR (#L11) and are responded to above in response to comment #L11-4.
			12	Thank you for the opportunity to comment on the DPEIR. Please put me on your circulation list for the this Draft EIR and/or any changes in the process, including recirculation of a revised or amended NOP, Project Description, and/or revised or amended Draft EIR for this amorphous project.	We will continue to include you in the circulation list for any further documentation on the project, as was done on previous phases of this process (see attached email dated July 14, 2022 titled <i>Paradise Sewer Project Draft PEIR is Available!</i>).
Dannette Barefield	August 30, 2022	W39	1	I support the pier project	Thank you for your input. We appreciate all viewpoints expressed by our community members.
Patty Wilson	August 30, 2022	W40	1	I only wanted to know how the sewer was going down the hill. After repaving the skyway, I would hope you would not have to dig it back up. I can not see where the town plans on digging.	Thank you for your comment. Section 2.5.2.1 outlines how the sewer flows travel the Export Pipeline System, including the Ridge Gravity Section for downhill flows and the Gravity Force Main Section for uphill flows. Any digging will take place in the public right-of-way. Much of Skyway falls under County jurisdiction, and is outside of the jurisdiction of the Town.



GAVIN NEWSOM
GOVERNOR



JARED BLUMENFELD
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

Marc Mattox
Town of Paradise
5555 Skyway
Paradise, CA 95969

Dear Mr. Mattox:

ENVIRONMENTAL IMPACT REPORT (EIR) FOR TOWN OF PARADISE (TOWN);
PARADISE SEWER PROJECT (PROJECT); BUTTE COUNTY; STATE
CLEARINGHOUSE NO. 2021050008

We understand that the Town is pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project (CWSRF No. C-06-8568-210). As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the EIR to be prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program (Program). The primary purpose for the Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state.

The Program is partially funded by the United States Environmental Protection Agency (USEPA) and requires additional "California Environmental Quality Act (CEQA)-Plus" environmental documentation and review. Two enclosures are included that illustrate the Program's environmental review process including the additional CEQA-Plus federal requirements. For the complete environmental application package and instructions please visit:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml

. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by the federal agencies or their representatives will need to be resolved prior to the State Water Board's approval of a CWSRF financing commitment for the proposed Project. For further information on the Program, please contact Mr. Brian Cary, at (916) 449-5624.

It is important to note that prior to a CWSRF financing commitment, projects subject to provisions of the Federal Endangered Species Act (ESA), must obtain ESA, Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) specific to any potential effects to special-status species.

Please be advised that the State Water Board will coordinate with the USEPA to consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to affect if the Project is to be financed by the Program. The Town will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board is responsible for ensuring compliance with Section 106 and is required to consult directly with the California State Historic Preservation Officer (SHPO). The SHPO consultation is initiated once sufficient information is provided by the CWSRF applicant (https://www.waterboards.ca.gov/water_issues/programs/grants_loans/docs/cultural_resources_report_prep.pdf). If the Town decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report.

Note that the Town will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the Program include the following (for a complete list of all federal requirements and instructions please visit

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml
:

- A. An alternative analysis discussing environmental impacts of the Project. The alternative analysis must include:

- A “no project/no action” alternative.
 - Comparative analysis among the alternatives that includes discussions of beneficial and adverse impacts on the existing environmental, future environmental, and individual sensitive environmental issues associated with the project.
 - Analysis of direct, indirect, and cumulative impacts on sensitive environmental resources, if applicable.
 - Appropriate mitigation measures to mitigate adverse impacts, if appropriate.
 - Thorough discussion of the rationale for selection of the chosen alternative for the project.
- B. A public hearing or meeting for certification of the EIR.
- C. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.
- D. Compliance with the Coastal Zone Management Act: Identify whether or not the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.
- E. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.
- F. Compliance with the Farmland Protection Policy Act: Identify whether or not the Project will result in the conversion of farmland. Identify the status of farmland (prime, unique, local or statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.
- G. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.
- H. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.

- I. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

Following are specific comments on the Town's draft EIR:

1. On page 70, there might be an error in the section references as most of the references say Section 0.

Please upload to the Financial Assistance Application Submittal Tool (FAAST) (<https://faast.waterboards.ca.gov/>) the following documents applicable to the proposed Project following the Town's completion of the CEQA process: (1) one copy of the draft and final EIR, (2) the resolution certifying the EIR and making CEQA findings, (3) all comments received during the review period and the Town's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program and (5) the Notice of Determination filed with the Butte County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

Thank you for the opportunity to review the Town's draft EIR. If you have any questions or concerns, please feel free to contact me at (916) 341-5879, or by email at Kristen.Way@waterboards.ca.gov or contact Brian Cary at (916) 449-5624, or by email at Brian.Cary@waterboards.ca.gov.

Sincerely,

Kristen Way
Environmental Scientist

Enclosures (2):

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Clean Water State Revolving Fund Below-Market Financing for Wastewater & Water Quality

cc: State Clearinghouse
(Re: SCH# 2021050008)
P.O. Box 3044
Sacramento, CA 95812-3044



TOWN OF PARADISE SEWER PROJECT

Comment Card: To submit comments on the Draft PEIR, please fill out this comment card then affix stamp and place in the mailbox.

I am so happy to see this project going forward. As a 36 year resident of Paradise I am well aware of all the projects that have fallen thru due to lack of sewers or septic capacity. I look forward to seeing new businesses in Paradise that were made possible because of the Sewer project. The entire town population will certainly benefit, even if they are not directly connected.

Your comments will be taken into consideration during the preparation of the Final PEIR

Name: Vicki Taylor

Submit comments by 5:00 p.m. August 29, 2022:

Address: 1844 Merrill Rd
Paradise

Colette Curtis
Public Information Officer
Town of Paradise
5555 Skyway
Paradise, CA 95969

Phone Number: 530-514-8525

E-mail: Audio51@aol.com

Scan and send to: ccurtis@townofparadise.com



TOWN OF PARADISE SEWER PROJECT

Comment Card: To submit comments on the Draft PEIR, please fill out this comment card then affix stamp and place in the mailbox.

Sounds good. Build it.

Your comments will be taken into consideration during the preparation of the Final PEIR

Name: _____

Address: _____

Phone Number: _____

E-mail: _____

Submit comments by 5:00 p.m. August 29, 2022:

Colette Curtis
Public Information Officer
Town of Paradise
5555 Skyway
Paradise, CA 95969

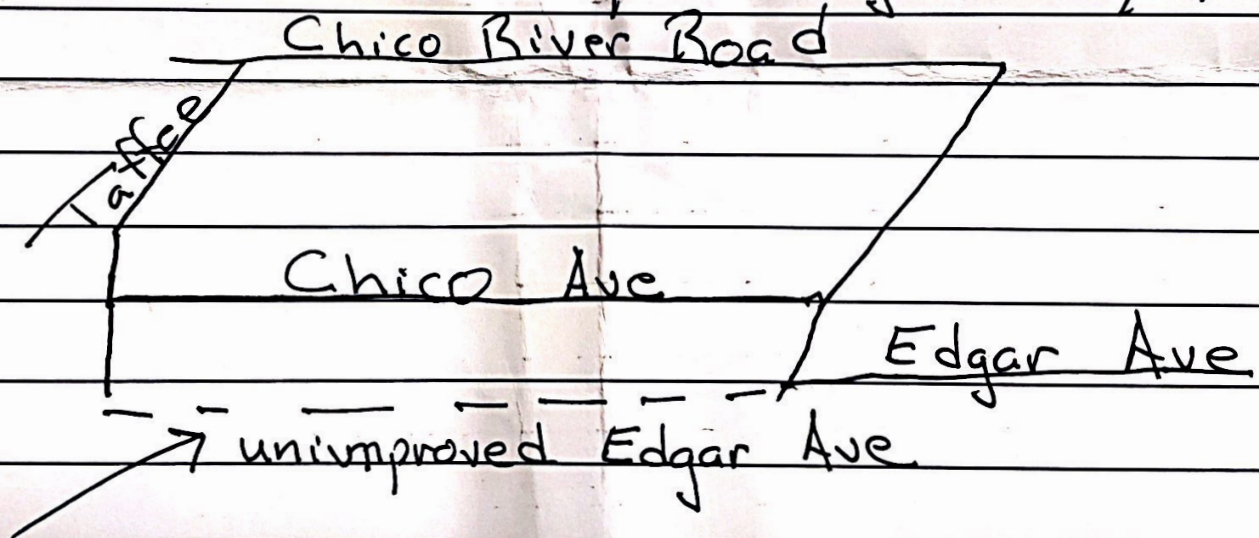
Scan and send to: ccurtis@townofparadise.com



TOWN OF PARADISE SEWER PROJECT

Comment Card: To submit comments on the Draft PEIR, please fill out this comment card then affix stamp and place in the mailbox.

Could the pipeline go west on the unimproved portion of Edgar Ave instead of Chico Ave. Then North to Taffee. This would save having to destroy a paved road (Chico Ave). I understand those are public right of ways.



Your comments will be taken into consideration during the preparation of the Final PEIR

Name: Tod Kimmelshue

Address: 8610 Harvest Ln

Durham, CA 95938

Phone Number: 530-570-1076

E-mail: Kimmelshuet@gmail.com

Submit comments by 5:00 p.m. August 29, 2022:

Colette Curtis
Public Information Officer
Town of Paradise
5555 Skyway
Paradise, CA 95969

Scan and send to: ccurtis@townofparadise.com



TOWN OF PARADISE SEWER PROJECT

Comment Card: To submit comments on the Draft PEIR, please fill out this comment card then affix stamp and place in the mailbox.

I OWN A 20 ACRE WALNUT ORCHARD AT 3662 HEGAN LN. CHICO, CROSS FROM
 FIMPLE/HEGAN INTERSECTION. PG&E INSTALLED A NEW GAS LINE ON THE NORTH SIDE
 OF HEGAN @ 2-3 ft. NORTH OF EDGE OF PAVEMENT. WHERE IS THE SEWER LINE
 GOING TO BE PLACED IN MY AREA. UNDER HEGAN LANE? NORTH SIDE OF
 HEGAN LN. OR SOUTH SIDE OF HEGAN LANE? IF ON THE SAME
 AREA AS PG&E GAS LINE, WHAT IS THE MINIMUM DISTANCE
 FROM GAS LANE? WHAT IS THE DIAMETER OF ~~THE~~ SEWER LINE?
 MY CONCERN IS IF THE TRENCHING WILL KILL THE WALNUT
~~TREE~~ TREES / ROOT SYSTEM? OR IF TREES WILL HAVE TO BE
 REMOVED FOR THE TRENCHING?

Your comments will be taken into consideration during the preparation of the Final PEIR

Name: Richard Smith

Address: 3662 HEGAN LN.
CHICO, CA. 95928

Phone Number: 530-894-4078

E-mail: _____

Submit comments by 5:00 p.m. August 29, 2022:

Colette Curtis
 Public Information Officer
 Town of Paradise
 5555 Skyway
 Paradise, CA 95969

Scan and send to: ccurtis@townofparadise.com

The Town has asked for public input regarding the proposed sewer project, and I would like to submit these comments:

First, the responsibility of Government is the safety and protection of its citizens; our basic rights are life, liberty and property. When you meet those basic rights; then, and only then, do you look for other benefits to the community that you govern. So, the question is about the Town Govt. meeting the basic needs of the folks in Town. The basic services for public safety are police, fire, and emergency medical services. Then ask yourself if you feel safe with the current facilities and staffing. (Remember, the third fire station was never built, the hospital is gone, and our cops are stretched thin). And there is no plan for change in these vital areas. Having a sewer does not correct or improve the absence of the above. We are no safer by having a sewer!

Second, there is no good justification to change from a septic system to a sewer system. Septic systems have worked extremely well for many rural communities for many many years. In Paradise, we have had very few failed or questionable septic systems; but let me just highlight a few examples of addressing a 'questionable' system. Cozy Diner: The Town, (based on limited space concerns) wanted to close the restaurant; there was no room to extend the leach field and the volume produced at the diner was exceeding the capacity of the existing septic system. Cozy management found a solution, agreed to spend a lot of money, and made the necessary improvements. Next, the Holiday Market leach field (it is under the asphalt parking lot) (which is not the best location for a leach field); Holiday was willing to spend a lot of money to dig up the old system and replace it with deeper drainage. It works just fine. Next, the MacDonalds Restaurant on Clark Rd. Here was another "questionable" leach field, and there was not enough property to expand it. MacDonalds Corp. increased the parking lot size to accommodate additional leach field space (at a substantial cost). And lastly, the new Safeway Store on Skyway, they wanted to add a gas station and restaurant on the property, but there wasn't enough space for an extended leach field. So, Safeway Corp. bought additional acreage to be able to accommodate a larger leach field. Each of these examples show that whatever the concern is from the Town about a septic system, there was a remedy, if the property owner was willing to spend the dollars and improve the system. Have you ever heard of someone having an 'ailment' of any kind, because the septic system failed? Septic systems are not unsafe, or unhealthy.

There are other CA communities with similar concerns that have never been forced by the local Govt. to re-do their septic systems.

Looking at the benefits to having a sewer system, is not based on what problems you get rid of (see above); but consider the possible benefits to collecting sewerage, treating it, and using the effluent. Many folks thought that if the Town got some benefit from having a sewer system, then maybe it was a good idea. There are samples all over CA where treated wastewater is used for irrigation (especially on large grass areas - schools, playgrounds, golf courses, cemetery districts, etc.) Anywhere that reclaimed water can be used reduces the amount of potable water used. Some communities have plumbed all the fire hydrants with treated wastewater. But that is not the plan for Paradise (there was an original plan to have local treatment), but the current proposal is to run a pipe (nearly 20 miles) from paradise to Chico. The wastewater from Paradise would end up at the Chico treatment plant. The discharge of treated wastewater goes into the Sacramento River; ergo, neither Paradise nor Chico get a benefit from our wastewater.

And, there are costs that go along with having a sewer system: a cost to get hooked up (including, the digging up the street), a cost to discharge, a permit fee (annually or monthly), and, is that cost then passed on to consumers? Would all the commercial facilities with new sewers raise their prices to cover the costs of using a sewer? Would Paradise folks go to Magalia (with no sewer) and shop to avoid the price increases in Paradise?

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AUG 26 2022

TOWN CLERK'S DEPT

- 7 Wouldn't it be nice if there was a plan to use treated wastewater here in Paradise to
irrigate our new golf course?
- 8 Other comments: there are septic systems in CA, where there is no requirement for an
inspection every ten years.
- 9 This is a summary of numerous comments/complaints I received since the question of a
sewer for Paradise came up seven + years ago. But, remember, this happened before and
the Town Council was 'recalled'!

Ward Gabriel



Department of Public Works

Joshua Pack, Director

7 County Center Drive
Oroville, California 95965

T: 530.538.7681
F: 530.538.7171

buttecounty.net/publicworks

August 29, 2022

Colette Curtis
Public Information Officer
Town of Paradise
5555 Skyway
Paradise, CA 95969

Subject: Draft Program Environmental Impact Report for the Paradise Sewer Project

Dear Ms. Curtis,

The Department of Public Works has reviewed the Draft Program Environmental Impact Report (PEIR) that was issued for the public review and comment period on July 14, 2022. Based on our review, the following comments have been prepared under Butte County's authority as a Responsible Agency:

1. **Permitting Authority:** The PEIR acknowledges that the details of the required permitting and agreements that will be needed for the construction and ongoing operations of the Export Pipeline System within the County right-of-way have yet to be determined. Table ES-1 summarizes the anticipated required project permits and approvals for agencies and jurisdictions (p. xxiv). However, the table does not specify permitting authority for Butte County.

The need for obtaining encroachment permits for work within the County rights-of-way is discussed several times in the PEIR, including Section 1.5 *Issues to be Resolved* (p. 10). Butte County is a Responsible Agency based on its discretionary approval power over certain aspects of the project including permitting authority which should be specifically recognized in Table ES-1.

2. **Impact HAZ-6 Background and Analysis:** Section 3.9 Hazards and Hazardous Materials does not appear to provide adequate discussion and analysis on how the proposed mitigation measures will reduce Impacts HAZ-6 and HAZ-7 to a less than significant level.
 - Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
 - Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

The Department requests that additional discussion and analysis should be provided in the PEIR to demonstrate how the proposed Mitigation Measures, specifically MM-HAZ-3, MM-HAZ-4, and MM-HAZ-5, will reduce the identified significant impacts to a less than significant level. For example, further discussion providing information on the importance of a Rapid Demobilization Plan and how rapid demobilization will be critical during an emergency would support the proposed mitigation measures.

- 3 — Both the Rapid Demobilization Plan and Evacuation Warning Procedures should be provided to Butte County Public Works for review as part of the encroachment permit application process.

Please feel free to contact me at (530) 538-7681 or at khunter@buttecounty.net if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kim Hunter", with a horizontal line extending to the right.

Kim Hunter
Project Manager
Butte County Public Works – Land Development Division

CC: Joshua Pack, Director, Department of Public Works



**PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

411 Main Street, 2nd Floor Phone: (530) 879-6900
P.O. Box 3420 Fax: (530) 895-4899
Chico, CA 95927-3420 www.ci.chico.ca.us

Colette Curtis, Public Information Officer
Town of Paradise
5555 Skyway
Paradise, CA 95969

August 29, 2022

**RE: DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR) FOR
PARADISE SEWER PROJECT (SCH# 2021050008)**

Dear Ms. Curtis –

Thank you for the opportunity to comment on the above referenced project. The City has reviewed the Draft PEIR and offers the following comments:

The City understands that the Paradise Sewer Project (Project) is a critical component to the Town of Paradise's (Paradise) overall Camp Fire recovery effort and that the design of the project is in an early phase. Given the scope of the Project, the alignment of certain segments of the proposed pipeline, the location of associated equipment located within or adjacent to the City limits and Sphere of Influence, and the pipeline's ultimate connection to the City's Water Pollution Control Plant (WPCP), we look forward to coordinating closely with Paradise during the design, construction, and implementation phases of the Project.

Close coordination will be particularly important for numerous reasons, including, but not limited to:

- 1) Avoiding potential conflicts between the Paradise Sewer Project and the City's proposed infrastructure projects that are located along or adjacent to the Project's proposed alignment (e.g., the P-18 sewer trunkline segments located within the railroad grade in South Chico and within the Entler Avenue and Midway rights-of-way, the intersection improvements at Hegan Lane and Midway, etc.).
- 2) Ensuring collaboration regarding the design of those project components (e.g., the Transition Chamber located off lower Skyway, the Flow Control and Metering Structure proposed near the WPCP, and all connections to the City's existing and proposed facilities) that are located within or adjacent to the City to avoid and minimize the potential environmental impacts (soil contamination, water pollution, odors, etc.) that could result from system failures.

The City appreciates Paradise's inclusion of the permitting requirements in the PEIR, including the Sanitary Sewer Systems General Order and associated conditions requiring the preparation of a Sewer System Management Plan and an Overflow

- 2 — { Emergency Response Plan that will be both reviewed and approved by the City of Chico. These documents will provide the policies, procedures and activities covering the planning, management, operation, and maintenance of the collection system. In addition, these efforts will result in emergency response planning to identify measures to protect public health and the environment, particularly as they relate to an inadvertent release of sewage.
- 3 — { According to the PEIR, wastewater studies prepared for the Town determined the Project export pipeline system design should be based on an estimated average wastewater conveyance and treatment need for the Paradise sewer service area to be 0.464 million gallons per day (mgd). Due to the conceptual nature of the inclusion of the entire Extended Collection System outside of the Core Collection System, as identified in Figure ES-1, it is unclear at this time if serving the greater area would have the potential to exceed the maximum design of 0.464 mgd. Any future expansions should be analyzed and agreed to by the City to prevent any unforeseen wastewater exceedances that could negatively affect pipeline and plant capacities.
- 4 — { The City looks forward to collaborating with the Town of Paradise and its professional sewer design team in the development of the project and looking for partnership opportunities that will benefit both communities.

If you have any questions, please feel free to contact me at (530) 879-6901 or LeighAnn.Sutton@chicoca.gov.

Sincerely,



Leigh Ann Sutton, P.E.
Direct of Public Works Engineering

Cc: Marc Mattox, Town of Paradise Public Works Director

August 29, 2022

To: Town of Paradise
From: Laurie Noble and Jim Noble

1 of 3

Regarding: Town of Paradise Sewer Project Draft Environmental Impact Report

Public Information

There needs to be a very accessible public forum of information regarding the Town of Paradise Sewer Project. Very few people have participated and know of plans to date regarding this immense project.

Blue Flamingo could be a group to widely disseminate information. There are numerous and very complex issues to deal with as this project moves forward. Residents should have opportunity for input.

Water Retention

We are hearing from individuals a very strong concern regarding grey water and storm water retention.

Both have been a significant part of Paradise's ground water for many decades. The installation of signal lights and reconfiguring the intersection ~~at~~ at the top of Clarke Road directed storm water runoff to be diverted from the triangle ^{land} between Dryway Rd and Clark. Trees on that property died over the course of a couple of years. They were cut off from their supply of water.

As streets throughout town are repaired and upgraded will the storm drains ~~run off~~ immediately run off the ridge or be directed to catchment basins? What are the details of all the plans?

Future Economic Development / Commercial Development is on hold until a sewer system is in place. What is the time line for installation of the system including connection to west of Chico Sewage Treatment Plant?

How does it fit in with rebuilds and repairing of roadways?

4

Cal Poly water/design ideas presented by students in Spring of 2019 should be revisited. They had some good ideas - how to deal with terrain elevations as an example.

5

Santa Cruz converting from septic tanks to sewer system - abandoned tank → sink holes - legal disclosures for property sales - Town of Paradise policy - need to deal with.

6

Davis - Sewer Issues having to clean to keep system moving.

intentionally
Blank

Drought issues need to be considered.

This is not just in Paradise, in Butte County, in ~~the~~ the western states, in north America it is a global world wide issue & needs to be dealt with now.

Water added to make the sewer system flow clear to the Sacramento River area ~~of a~~ treatment plant is possibly inappropriate bc it fresh potable water added or grey water.

Pump up sewage from low lying areas of the community to the main lines ~~may~~ may be restrictive and financially prohibitive.

Lawn installations

Another drought issue the Town of Paradise could and should deal with immediately is lawn development/installation. Curtail or limit it immediately there is NO water, Mount Shasta is bare of snow except for a few glacial remains.

#

3:34pm

Draft Program Environmental Impact Report page 429

Hydrology and Water Quality HYD-2: is in need of more evaluation. The removal of all waters from households and businesses could have a very long lasting impact.

Details of well level in Swayle when opened to install solar water pump was about 6" from ground level during drought year when wells were failing in the Valley. Laurie Hobbs 8/29/2022.

Date: August 29, 2022

To: Marc Mattox, mmatttox@townofparadise.com

Cc: Kevin Phillips, kphillips@townofparadise.com
Colette Curtis, ccurtis@townofparadise.com

From: Dana Ripley, PE, dana@ripleypacific.com

Re: Paradise Sewer Project, Draft Program EIR
Public Comment



Marc,

The opportunity to provide this public comment on the Paradise Sewer Project Draft Program Environmental Impact Report (PEIR) is appreciated. As you are aware, I have been advocating for nearly two years a local water reuse project in Paradise as an alternative to the 18-mile wastewater export identified as the superior project in the draft PEIR. On November 30, 2021 I submitted to your office a white paper entitled *Town of Paradise, Butte County CA, Sewer, Water Reuse and Wildfire Defense Integrated Plan* (SWRWD Plan). That white paper is included in this public comment as Exhibit A.

In light of the broad implications of the export versus local reuse options for Paradise, it may be instructive to consider the California Environmental Quality Act (CEQA) Guidelines which includes as an advantage of the "Program" EIR¹ the following:

Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts.

This public comment will attempt to respond to the draft PEIR's assertions that the SWRWD Plan is infeasible and further highlight the benefits to Rebuild Paradise goals and aspirations for restoring a vibrant community with state-of-the-art infrastructure to serve many generations to come. This PEIR is now *at an early time* when Paradise has the opportunity to reconsider *broad policy alternatives* that may have been overlooked or misunderstood in the draft report.

This draft PEIR public comment is presented as follows.

Area of Known Controversy #1: Growth Inducing Impacts

The draft PEIR, Section 1.4, recognizes that there may exist growth inducing impacts *specifically in the City of Chico and rural Butte County outside of Town and City limits.*

In a November 4, 2020 letter from the Central Valley Regional Water Quality Control Board, Region #5 (R5) addressing the local facility versus regional alternatives for Paradise, the statement is made that the *"Pipeline to Chico can be cost-effectively sized to accommodate a large range of flows."* In a tabulation of pipe carrying capacities of the 10.5 mile 12" diameter export pipe force main along the valley floor (from Skyway at Butte Creek to the Chico WPCP) utilizing reasonable flow velocities ranging from 3 feet per second (fps) to 7 fps², the available capacity could potentially be as high as 1.758 million gallons per

day (mgd) average daily flow (ADF)³. This capacity is approximately 3.8 times the 0.464 mgd ADF capacity allocated to Paradise in the inter-municipality agreement between Chico and Paradise considered as part of the draft PEIR.

The tabulation indicates that up to approximately 1.3 mgd ADF of wastewater export pipe force main capacity could be available to undeveloped properties in southeast Chico as well as rural Butte County along the pipeline alignment.

Area of Known Controversy #2: Reconsideration of Local Treatment Option

The draft PEIR, Section 1.4, recognizes potential *reconsideration of local treatment plant construction instead of the proposed connection to the Chico WPCP, which was evaluated in 2017 and 2020.*

In both Bennett 2017⁴ and HDR 2020⁵, the local treatment alternatives described did not consider distributing recycled water to all parcels served by the sewer system. Conversely, the SWRWD Plan considers extensive urban reuse serving all collected parcels thereby adding a water supply component to PID's portfolio enhancing its drought preparedness and supply resiliency. As described in the white paper, the dual distribution included in the SWRWD Plan has multiple benefits including 1) delivery of non-potable recycled water for residential, park, sports, commercial, and buffer area irrigation, 2) seasonal shallow aquifer recharge in winter months, 3) automated community-scale wildfire defense for essential facilities, public/private buildings and evacuation routes, 4) high pressure supplemental water supply for fire suppression, 5) protection of Paradise Irrigation District's (PID) potable distribution from depressurization in the event of another extreme wildfire event, and 6) beneficial use of nutrients inherent in municipal wastewater.

The draft PEIR, Section 5.2.1, Table 5.2-1 *Local Alternatives and Reasons for Elimination from Consideration*, lists as Local Alternative #3: *Local WWTP with Water Recycling with the Town for Local Reuse and Wildfire Defense*. In response to the 12 bullet points asserting infeasibility, included in this public comment is Exhibit 2 providing a rebuttal to each point individually in table format.

Lost Opportunity for Recycled Water

Assuming the export pipe force main has an ADF capacity of about 1.8 mgd, the potential lost opportunity for urban water reuse in Paradise and southeast Chico could be as much as 2,000 acre-feet per year (afy)⁶.

On August 11, 2022, Governor Newsom announced *California's Water Supply Strategy, Adapting to a Hotter, Drier Future*⁷. Part of the *Strategy* is to increase urban water recycling in coastal and inland communities to about 0.8 million acre-feet per year (MAF) by 2030 and to about 1.8 MAF by 2040⁸. Urban water reuse in Paradise and southeast Chico would clearly be consistent with the *Strategy* and likely would be eligible for significant grant funding included in the 2021-2022 \$5.2 billion state appropriations for California water systems including water recycling.

In its 2020 Urban Water Management Plan (UWMP), PID indicated that *the community will continue to work to examine the viability of a centralized sewer system and any associated opportunities to develop a recycled water supply as it continues to recover from the Camp Fire and look to the future of rebuilding and redevelopment of Butte County*⁹. The 18-mile export plan would foreclose on any opportunity in the foreseeable future to develop a recycled water supply in Paradise.

In similar fashion, Cal Water-Chico District indicated in its 2020 UWMP that *Cal Water continues to actively investigate recycled water opportunities, such as satellite, or decentralized, recycled water generation at select areas within the Chico area, for use in that area*¹⁰. The 10.5-mile export force main pipeline would likely also foreclose on Cal Water's ability to develop recycled water supply in southeast Chico in the foreseeable future.

In both Paradise and southeast Chico, the export pipeline would represent a lost opportunity to develop local recycled water resources that might otherwise be available. This would be inconsistent with the Governor's *Water Supply Strategy* to maximize alternative urban water supplies, including recycled water for non-potable urban demands, for a more secure and resilient water supply future.

Issue to be Resolved: Butte LAFCo service extension approval

The draft PEIR, Section 1.5 indicates that Butte LAFCo's approval of the 18-mile extension of sewer service by Chico to Paradise is an issue to be resolved. However, the required LAFCo approval may be in conflict with state Government Code as indicated by the Executive Officer's letter of May 20, 2021 which states:

*Provisions for extension of service requests are found in Government Code §56133 and in Section 4.5 of the Commission Policies and Procedures. Service extensions outside of an agency's Sphere of Influence may only be approved by LAFCo if there is "an existing or impending threat to the health or safety of the public or the residents of the affected territory. (§56133(c)) The City/Town will need to provide documentation/justification of the existing or impending public health and safety threat the extension of services would address. This is a critical prerequisite to the project as **it is the only legally permissible justification available** [emphasis added] to the LAFCo to approve a service extension request outside of an agency's (Chico) Sphere of Influence*¹¹.

Since *an existing or impending threat to the health or safety of the public or the residents* does not exist, it appears that Butte LAFCo cannot approve the sewer extension request even if it wanted to. The only path forward on this may in fact be a waiver by the state legislature and Governor similar procedurally to Assembly Bill 36 (Gallagher, 2021). Recognizing that the 18-mile extension request is contrary to the Governor's *Water Supply Strategy* because it could potentially foreclose on up to 2,000 afy of urban water recycling, the Governor would likely not support the waiver legislation even if approved by the State assembly and senate.

Scalable to Sewer Entire Town

The export project as proposed in the draft PEIR limits the Paradise wastewater contribution to the Chico WPCP to 0.464 mgd. This limits sewer service to about 1,500 residential and commercial parcels within the sewer service area (SSA).

The SWRWD Plan, conversely, is scalable to whatever service area Paradise chooses long term, including service to all 10,600 parcels served by PID pre-fire. This would be consistent with a local Paradise Post press report stating:

(Congressman Doug) LaMalfa pointed to the sewer as an essential infrastructure need for Paradise. "You know, a portion of this is going to help with that longtime need for a sewer system to this town, which unlocks a lot of possibilities for (Paradise)," he said. He also pointed out that as Paradise rebuilds, it can be part of an important part of California's need to build more housing, pointing out that California is 2.5 million units short of what it needs¹².

For context on the limitations with sewer service only to within the SSA, the draft PEIR states:

Prior to the Camp Fire, which almost completely destroyed the town in 2018, Paradise was the largest unsewered community in California¹³.

This metric would likely remain unchanged with the 18-mile export plan serving only the SSA – Paradise would ***still*** be the *largest unsewered community in California* since the SSA includes only about 14% of the permitted parcels within the Town.

State-of-the-Art Infrastructure

The same local Paradise Post press report indicated that:

[Paradise Mayor Steve] Crowder pointed out that the undergrounding project by Pacific Gas and Electric is also a critical project that will make Paradise "a state-of-the-art community with a brand new infrastructure."¹⁴

Beyond underground electrical power distribution, "state-of-the-art" infrastructure should also include sewer collection, potable water distribution, non-potable water distribution, independent high pressure supplemental fire supply, fiber optic distribution, and community-scale wildfire defense integrated with the recently authorized wildfire early warning system¹⁵. Clearly, all underground utility construction should be coordinated and should precede construction of any new public roads where the utilities are installed.

Summary

Section 15168(b)(4) of the CEQA Guidelines allows the lead agency to *consider broad policy alternatives and program-wide mitigation measures **at an early time*** with a "Program" EIR. This public comment suggests that now is the early time for the Town to reconsider the fundamental broad policy alternatives of 18-mile wastewater export/river discharge versus 1) water conservation, 2) water reuse, 3) aquifer recharge, 4) enhanced fire suppression, 5) community-scale wildfire defense, 6) protection of potable water distribution from depressurization and 7) beneficial use of nutrients. Further, the local reuse alternative offers the upside potential of ultimately providing sewer service to 100% of the Town.

The recommendation, therefore, is to elevate the SWRWD Plan as presented in Exhibit A to "feasible" CEQA status and then reconsider what is in fact the environmentally superior alternative. In reconsideration of the 18-mile export plan, its feasibility might rest with a legislative waiver of GC §56133(c) since absent such a waiver, it may not be *legally permissible*.

If the Town accepts the recommendation above, the draft PEIR should be recirculated consistent with CEQA guidelines¹⁶.

List of Exhibits

Exhibit A	Town of Paradise Sewer, Water Reuse and Wildfire Defense Integrated Plan White Paper, November 30, 2021
Exhibit B	Rebuttal responses to Draft PEIR Table 5.2-1: Local Alternative #3 Infeasibility, August 29, 2022

References

-
- ¹ Association of Environmental Professionals, *CEQA Statute and Guidelines*, Section 15168 (b)(4), p.240
- ² See Exhibit B, Table 1
- ³ HDR, Inc., Export Pipeline Analysis, Technical Memorandum #8, March 31, 2022. Peaking factors extracted from Table 1. Design Flows.
- ⁴ Bennett Engineering Services, *Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Alternative for Implementation*, June 21, 2017.
- ⁵ HDR, Inc., *Local Wastewater Treatment and Disposal Alternatives, Technical Memo #4, Paradise Sewer Project*, November 11, 2020.
- ⁶ See Exhibit B, Table 2
- ⁷ See *California's Water Supply Strategy*
- ⁸ See Exhibit B, Figure 1.
- ⁹ Paradise Irrigation District, 2020 Urban Water Management Plan, Section 6.7.
- ¹⁰ Cal Water-Chico Hamilton District, 2020 Urban Water Management Plan, Section 6.5.4
- ¹¹ Butte LAFCo letter dated May 20, 2021 by Executive Officer Stephen Lucas
- ¹² *Paradise to get nearly \$200 million in infrastructure funding*, Paradise Post, August 23, 2022.
- ¹³ Town of Paradise Sewer Project, Notice of Availability of Draft Program Environmental Impact Report and Public Meetings for the Paradise Sewer Project, July 14, 2022.
- ¹⁴ *Paradise to get nearly \$200 million in infrastructure funding*, Paradise Post, August 23, 2022.
- ¹⁵ *Council approves early warning project*, Paradise Post, July 16, 2022
- ¹⁶ Association of Environmental Professionals, *CEQA Statute and Guidelines*, Section 15088.5(3), p. 203

EXHIBIT A

**Town of Paradise
Butte County, CA**

**Sewer, Water Reuse and Wildfire Defense
Integrated Plan**

White Paper

Town of Paradise

Butte County, California

Sewer, Water Reuse, and Wildfire Defense Integrated Plan



White Paper

Prepared by:

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November 30, 2021

Draft v.012

print: 8/27/2022 3:03:45 PM

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Link to this report and appendices:

[Paradise SWRWD White Paper and appendices](#)

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Appendix G	CBI 2020, Paradise Nature-Based Fire Resilience Project Report
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Appendix J	San Francisco Public Utilities Commission 2017, Auxiliary Water Supply System
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Appendix L	Satellites and Artificial Intelligence create more precise wildfire maps for public, firefighters
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Appendix P	Butte Local Agency Formation Commission 2021
Appendix Q	Water Reuse and Resiliency Act
Appendix R	CalMatters 2021, Should homeowners pay for climate change?
Appendix S	Milliman 2019, Wildfire catastrophe models could spark the changes California needs
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Appendix U	Gallagher 2020, Assembly Bill 36
Appendix V	Urban Design Associates 2019, Community Recovery Plan, Make it Paradise
Appendix W	Local representatives criticize state's management of wildfires, water
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Appendix Y	Governor Newsom Signs \$15 Billion Climate Action Bills
Appendix Z	Wildfire Insurance Crisis

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This white paper¹ is presented to the Town of Paradise (TOP) and Butte County as an alternative vision and approach to solving the Town's longstanding sewer infrastructure needs. It is an attempt by the author to provide an independent view of the recognized sewer problem facing TOP, and offer an alternative opinion and recommendation as to a comparable cost, environmentally superior solution relative to the sewer project currently under California Environmental Quality Act (CEQA) review.

1.2 18-MILE WASTEWATER EXPORT PLAN

The project currently under CEQA review is described in the Notice of Preparation dated May 3, 2021, as follows:

The Proposed Project consists of three constructed components—a wastewater collection system in Paradise, an 18-mile export pipeline to convey wastewater to the Chico Water Pollution Control Plant (WPCP), and connection to the WPCP — and operation of the new sewer system. The export pipeline would begin at the southwest edge of Paradise and run for approximately 8 miles along Skyway until reaching south Chico, at which point the pipeline would leave Skyway and continue west, crossing Butte Creek, Highway 99, and the Union Pacific Railroad, and terminating at the Chico WPCP in Chico. The Proposed Project would not change the service area of the Chico WPCP other than the addition of the Paradise connection and treatment. Moreover, there would be no additional fees for Chico residents and existing Chico WPCP rate payers as a result of the Proposed Project. This long-term wastewater solution will allow for sustainable housing and business activity in Town, supporting the community's economic recovery and vitality².

For purposes of this white paper, the current proposed project is referred to as the "Export Plan." The total capital cost of the Export Plan as presented by TOP's consultant in December 2020 is \$184 million³. This estimate provides sewer service to approximately 1,470 parcels within the existing Sewer Service Area (SSA).

1.3 SEWER, WATER REUSE AND WILDFIRE DEFENSE INTEGRATED PLAN

The alternative project as presented in this white paper includes the following major components:

1. Effluent-only pressure sewer collection within the SSA
2. Local water recycling facility sited within or adjacent to TOP
3. High pressure non-potable auxiliary water supply system (AWSS)
4. Non-potable AWSS distribution to all parcels within SSA
5. Non-potable water irrigation supply for all parcels within SSA including parks, irrigated buffers, evacuation routes, high-risk slopes
6. California Title 22 disinfected tertiary recycled water for seasonal aquifer recharge

7. Non-potable water tank storage within TOP serving multiple pressure zones
8. Supplemental raw water supply for AWSS bypassing PID treatment plant in emergencies, if necessary
9. Supplemental groundwater supply for AWSS in emergencies, if necessary
10. Strategic wildfire defense capabilities including rooftop sprinklers, water cannons, water misters protecting essential and high value assets from wind-driven ember cast
11. Separation of potable and non-potable water distribution to prevent depressurization of potable system and chemical contamination caused by abrupt increase in water demand during a wildfire event
12. Robust community-scale wildfire mitigation and defense strategy to reduce insurance underwriters' risk profile and lower property insurance premiums
13. Septage receiving facility to accommodate biosolids from all TOP septic tanks
14. Expedited system delivery of 18-24 months from award of design-build contract to first flush relative to 5-10 years for the Export Plan
15. Significant opportunity for state and federal grant funding sources otherwise not available to the Export Plan
16. Ability to ultimately expand system to include all residential and commercial parcels within TOP

For purposes of this white paper the sewer, water reuse, and wildfire defense integrated plan is referred to as the "SWRWD Plan." A preliminary budget for this alternative plan is presented that relies in large part of prior estimates prepared by TOP's own consultant teams. For specific components not estimated previously, planning level budgets are presented. Based on these preliminary budgets, the capital cost of the SWRWD Plan serving the existing SSA is estimated at \$187 million.

1.4 PURPOSE OF WHITE PAPER

The intent of this white paper is to present an alternative vision and approach to solving TOP's sewer needs with a multi-dimensional set of objectives – an approach that recognizes value in local water reuse coupled TOP's overwhelming need to develop a robust community-scale wildfire defense strategy.

The Export Plan offers the one-dimensional benefit of regional wastewater disposal. The SWRWD Plan, on the other hand, offers 16 multi-dimensional co-benefits as listed in Section 1.3 above. This white paper also discusses beneficial non-technical aspects of the SWRWD Plan including permitting, capital costs, grant funding, property/wildfire insurance, system procurement, and time to implement.

By preparation of this white paper, a request is made to TOP to review the information herein and include the SWRWD Plan in the "Alternatives" section of the Draft Environmental Impact Report (DEIR) in accordance with CEQA guidelines. Upon approval of a Final EIR with both options included, TOP would be able to competitively bid the Export Plan and the SWRWD Plan on a design-build (DB) basis.

2 SEWER COLLECTION

Two alternative collection systems serving the SSA have been evaluated by TOP consultant teams previously resulting in distinctly different recommended technical approaches and cost estimates. In November 2020, HDR, Inc. in its Technical Memo #3 recommended a gravity collection system with an estimated capital cost of \$119.6 million⁴. In June 2017, Bennett Engineering Services in its Alternatives Analysis and Feasibility report recommended an effluent-only pressure sewer system with an estimated capital cost of \$47.4 million⁵. For each alternative evaluated, the specific number of parcels included within the same SSA were both approximately 1,470.

This section will briefly compare the two collection approaches evaluated previously.

2.1 GRAVITY COLLECTION

The gravity collection system proposed in 2020 consists of 154,000 lineal feet (lf) of gravity sewers, 27,000 lf of pressure force mains, 27 pump stations, 791 manholes, and 1,469 service lateral connections. Of the gravity sewers, most will require excavation in the range of 4 to 16 feet below ground, however approximately 2,000 lf will require excavation to depths ranging from 16 to 20 feet.

Excavation to these depths may prove difficult given that the Tuscan formation, in its “unweathered” state, is marked by predominantly hard and coarse rock fragments that make excavation difficult without blasting or the use of rock trenchers⁶. The constructability of deep gravity sewers in hardrock soils within the SSA is likely the predominate factor in the relatively high estimated construction cost.

Figure 1 presents images of gravity sewer construction in sandy soils showing how impactful deep trench installation of manholes and pipelines can be in residential neighborhoods. For TOP, the impact may be substantially greater if blasting or rock trenchers are required for deep trenches in hardrock areas.

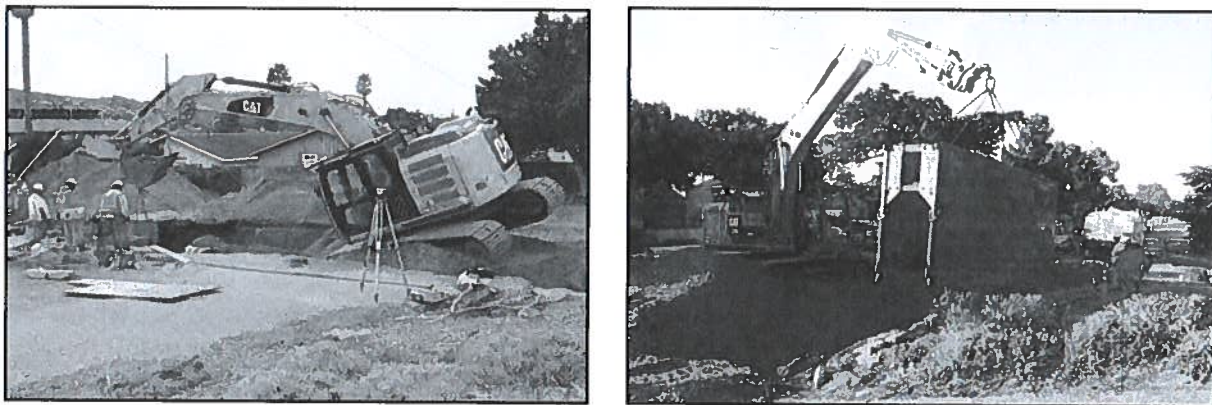


Figure 1 Gravity Collection Construction, San Luis Obispo County, CA

2.2 LIQUID-ONLY PRESSURE COLLECTION

The effluent-only pressure collection system proposed in 2017 consists of approximately 120,000 lf of sewer collectors, 60,000 lf of pressure trunks, 8,000 lf of gravity trunk, one local pump station, and 1,471 private connections each with its own interceptor tank. Since the collection system is pressurized, shallow pipelines with variable grades do not require deep trench excavations. Bennett indicated that

after conducting extensive research, a low-pressure system was selected in lieu of a more expensive gravity system. Cost savings were realized by reduced pipe size and shallower depth (three feet below the surface) for low pressure systems as compared to gravity systems⁷.

Figure 2 presents images of low-pressure collection utilizing horizontal directional drilling (HDD) construction in a residential neighborhood. HDD installation is significantly less impactful during construction relative to open deep trenches required for gravity collection.

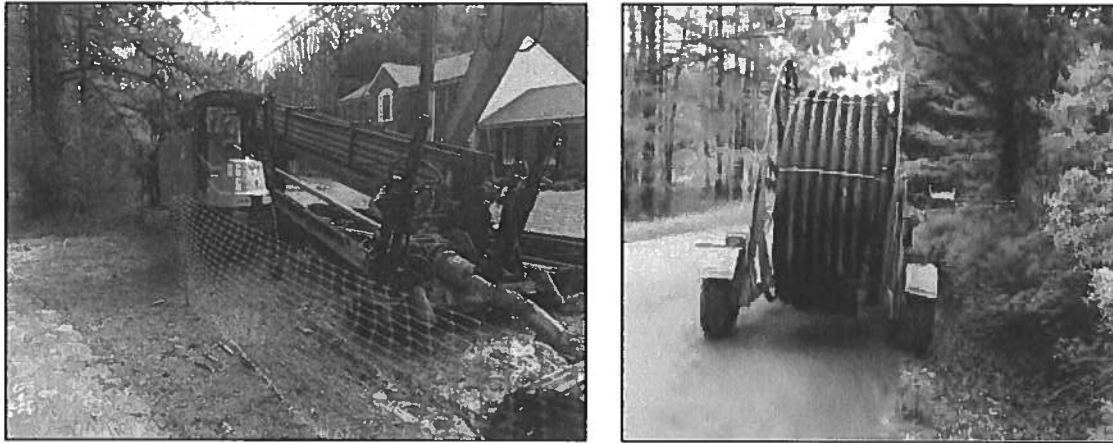


Figure 2 Horizontal Directional Drilling Low-Pressure Sewer, South Kent Island, MD

HDD construction is commonly used for other underground utilities including potable and recycled water distribution, underground electrical power distribution, cable TV, and fiber optic cable.

2.3 RECOMMENDED SWRWD COLLECTION SYSTEM

In 2020, TOP rejected the effluent only-pressure effluent collection in favor of gravity collection, as follows.

To reduce collection system capital costs, the 2017 Report recommended the use of a septic tank effluent pumping (STEP) system, which discharges into shallow gravity sewers. This STEP system would require that individual septic tanks remain in use. After completion of the 2017 Report, Paradise citizens indicated a strong preference to eliminate septic tanks and/or pumps on individual parcels. As a result, for this Project, the Town directed the development of a traditional gravity sewer system, which eliminates septic tanks⁸.

The collection system recommended for the SWRWD Plan is summarized as follows.

A low-pressure sewer effluent system is preferred to serve the Town. While the system requires a portion of infrastructure and maintenance on each parcel, it limits the number of pipelines and manholes needed in the collection system and reduces the cost of the collection system⁹.

Based on the cost estimates prepared by HDR and Bennett, a collection cost reduction of \$72.2 million is realized by selection of effluent-only pressure system. In addition to the significant cost reduction, deep trenches (up to 20 feet) required for gravity collection in hardrock areas, may in fact be infeasible from a construction standpoint absent blasting. For these reasons, the effluent only pressure collection system as recommended by Bennett is recognized as the only technically and economically feasible collection option for TOP in the SWRWD Plan.

3 WASTEWATER TREATMENT

The regional plan includes an 18-mile export pipeline for treatment at the Chico Water Pollution Control Plant (WPCP) while the SWRWD Plan includes treatment at a new local facility located within or near the TOP. This section summarizes the two options and their prior cost estimates.

3.1 EXPORT TO CHICO WPCP

Based on the HDR 2020 investigation, the cost of this option is \$52.2 million for the export pipeline and \$13.0 million for connection to the Chico WPCP, for a total of \$65.2 million¹⁰. This option would require a fee and operations agreement with the City of Chico, as well as a service extension approval from Butte LAFCo, land use approvals from Butte County, and right-of-way acquisition from various private landowners.

The alignment of the proposed 18-mile export pipeline is presented in Figure 3.

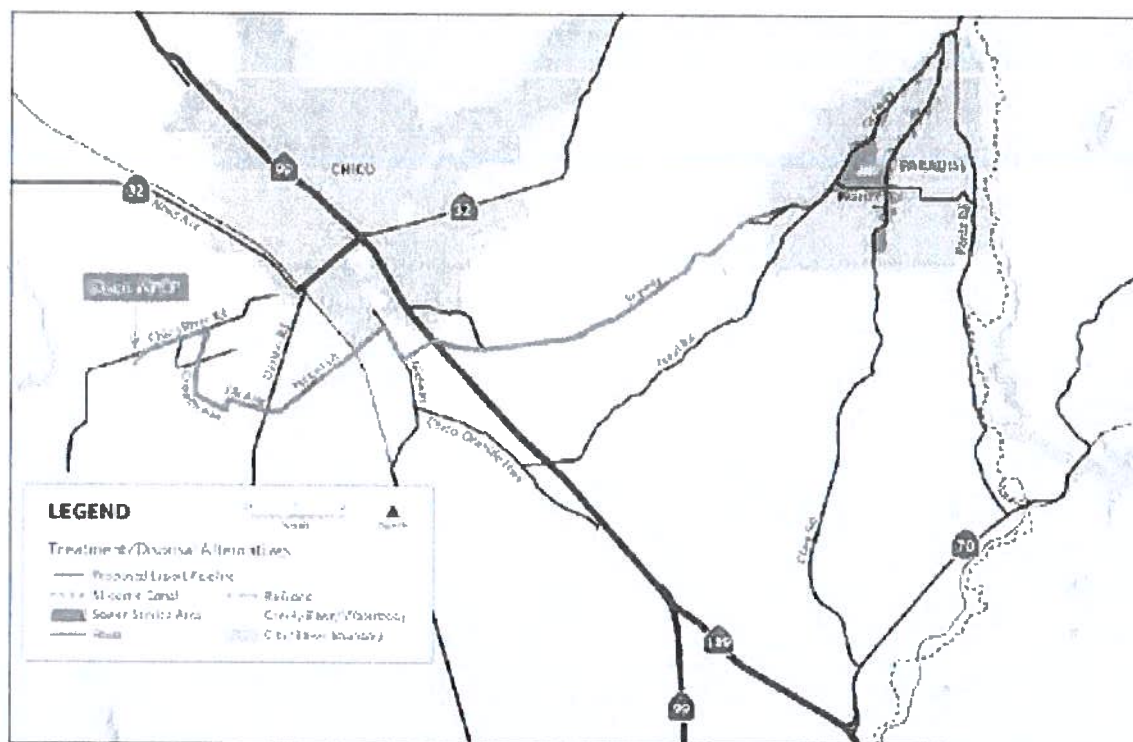


Figure 3 Export Pipeline Alignment¹¹

The Chico WPCP discharges all of its treated secondary to the Sacramento River. Based on the 2021 Cal Water Urban Water Management Plan, there are no plans for upgrading the WPCP effluent to tertiary treatment and distribution of recycled water back to the City of Chico within the foreseeable future as indicated below.

Implementation of a recycled water program at either treatment plant would require upgrades allowing for tertiary treatment and new distribution infrastructure between the treatment plant and potential District customers. Based on these conditions, a recycled water system in the Chico District is not planned at this time and will likely only be considered if conditions related to District

supply change significantly in the future. As shown in Table 6-4, there is no recycled water supply for the Chico District¹².

It would be infeasible at any point in the future to return recycled water 18-miles from the Chico WPCP back to TOP.

3.2 LOCAL TREATMENT FACILITY

Both HDR and Bennett estimated costs for a local treatment facility. For a local recycling plant producing California Title 22 (T22) disinfected tertiary recycled water with ultraviolet disinfection, HDR estimated a capital cost of \$37.4 million in 2020¹³. For a similar facility, Bennett estimated a capital cost of \$25.1 million in 2017¹⁴.

In order to minimize pumping energy and costs for recycled water use within TOP, the SWRWD Plan proposes to site the local treatment facility at a location where elevation can be preserved to the greatest extent feasible. With effluent-only pressure sewer collection, the treatment site could be located anywhere in the lower half of the SSA without any intermediate pump stations. Three potential undeveloped parcels are listed in Table 1 that are located near the lower southern limit of the TOP jurisdictional boundary (and contiguous to the SSA) that provide ample area for the treatment facility as well as for any buffer or setback requirements.

Table 1 Potential Local Treatment Sites

APN	Zoning	Acres	Street	Elevation
055-180-001	TOP	40	Old Clark Road	1,510'
054-380-002	TOP	47	Dudley Lane	1,600'
017-090-097	AG-160	59	Skyway Xing	1,370'

The area requirements for the actual treatment facility itself is less than 3 acres for a 0.45 million gallon per day (mgd) capacity serving the existing SSA¹⁵. The facility would be fully enclosed with integral noise and odor control. All critical unit processes would have component parallel redundancy consistent with T22 regulations including an on-site reserve emergency storage pond if ever needed.

Because all three parcels are located in a “very high fire hazard severity zone” the treatment facility will be constructed of fire-resistant materials including concrete, masonry, and metal siding. There would be no unit process exposed to the exterior elements including wildfire ember cast. In defense against embers, an additional layer of protection would include rooftop sprinklers and strategically placed water cannons (as presented in Section 5 below) in the facility design.

An example of a water filtration plant constructed with fire-resistant materials is presented in Figure 4. A 0.45 mgd T22 water recycling facility serving the existing 1,470 parcel SSA would be similar in size to the 12,000 square foot building shown.

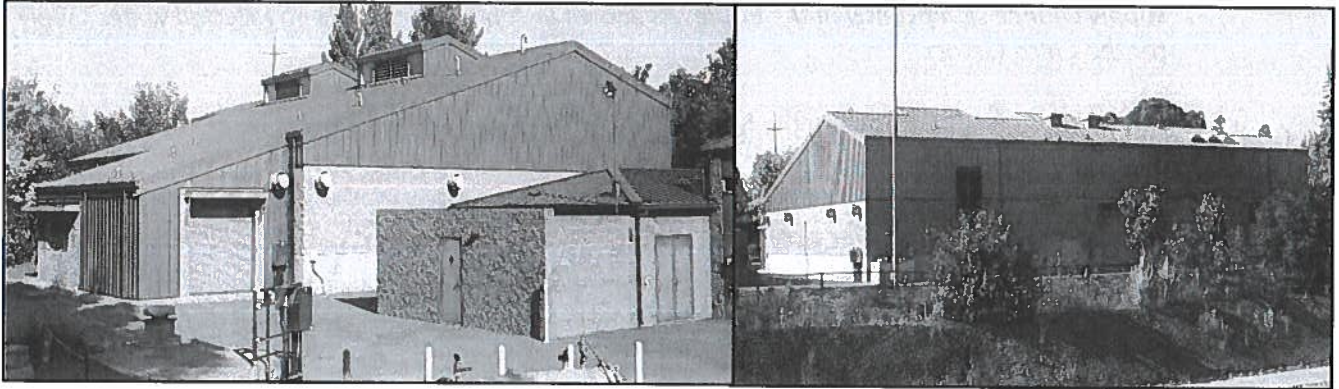


Figure 4 Fire-Resistant Water Filter Plant Building, Pleasanton, CA

3.3 SEPTAGE RECEIVING FACILITY

The proposed Export Plan does not include a septage receiving station even though that plan serves only about 14% of the existing parcels within TOP. HDR states that Providing a septage receiving station is only feasible if a local WWTP is constructed¹⁶. The SWRWD Plan includes a septage facility to serve the 1,470 parcels within the SSA as well as the approximate 9,000 TOP parcels not included in the SSA. The septage plant would be co-located with the water recycling facility discussed in Section 3.2 above and would be included in the 3-acre treatment facility footprint. The estimated capital cost of the septage receiving facility is \$10.1 million¹⁷.

3.4 ENERGY INTENSITY

The regional Export Plan requires significant energy to pump raw wastewater 10 miles from Pump Station #2 (Skyway at Butte Creek) to the Chico WPCP. The estimated energy intensity of pumping from PS #2 to the WPCP in dual 6" PVC pipelines is about 5 megawatt-hours per million gallons (MWh/mg)¹⁸. Adding an additional 1.5 MWh/mg for secondary treatment at the WPCP, the total energy intensity for the Export Plan is estimated to be about 6.5 MWh/mg.

The energy intensity of various treatment alternatives published by authoritative sources is summarized in Table 2. These are examples of local treatment process options that potentially could be used in the SWRWD Plan. By comparison, the Export Plan relative energy requirement could be multiples of the energy requirement for the local project.

The energy intensity of the collection system is assumed to be equal for the Export Plan and the SWRWD Plan, however effluent-only sewer pump efficiency is substantially higher than the pump efficiency of the 27 raw wastewater pumps used in gravity collection systems.

Due to the risk of electrical transmission equipment igniting more wildfires after the devastation of the Camp and Dixie wildfires, PG&E has recently announced plans to underground 10,000 miles of power transmission lines at a cost that could exceed \$20 billion¹⁹. This is in addition to the planned 300 miles of undergrounding power distribution in Butte County including Paradise²⁰. Based on the future costs to harden both transmission and distribution power lines, the PG&E customer costs for utility power will likely increase substantially in the foreseeable future. For this reason, the energy intensity for any project should be a critical consideration not only for environmental impact including greenhouse gas emission, but for ongoing operating costs over the life of the project.

Table 2 Energy Intensity SWRWD Treatment Alternatives

Secondary Treatment Alternatives	WEF MOP ²¹ (MWh/mg)	M&E ²² (MWh/mg)	WEF/EPRI ²³ (MWh/mg)	PA Survey ²⁴ (MWh/mg)	PA Survey ²⁵ (kWh/lb BOD)
1. Extended Aeration (EA)	--	--	--	<3.8	<2.9
2. Membrane Bioreactor (MBR)	1.8	1.9-3.8	2.7	--	--
3. Seq. Batch Reactor (SBR)	1.3	--	1.1	<1.8	<1.6
4. Oxidation Ditch (OD)	--	--	--	<2.0	<1.6
5. Trickling Filter (TF)	0.12	0.23-0.35	0.6	<0.5	<0.4

4 EFFLUENT REUSE

Reuse of municipal wastewater has many decades of history in California. Currently, over 700,000 acre-feet per year (230 billion gallons/yr) are recycled in the state for golf course, landscape, turf, agricultural, commercial, industrial, and fire suppression uses as well as groundwater recharge²⁶. The reuse of wastewater generated within TOP is the dominant distinguishing feature of the SWRWD Plan relative to the Export Plan.

4.1 DUAL DISTRIBUTION

In order to beneficially use recycled water within TOP for non-potable uses such as irrigation and fire suppression, a dual distribution pipeline network is required. For the SWRWD Plan, a “purple pipe” distribution system is proposed to serve each parcel in the SSA.

4.1.1 Residential Landscape Irrigation

The predominate non-potable water demand within TOP is residential landscape irrigation. The use of recycled water for residential landscaping has been in practice at El Dorado Irrigation District for over three decades. EID has developed outreach and technical materials available to homeowners, engineers, landscape designers, and contractors related to recycled water use on residential properties²⁷. Images of EID purple pipe recycled water irrigation systems on residential and commercial properties under construction are presented in Figure 5.

For potable water service at EID, each service connection has a water meter, backflow prevention device, and pressure reducing valve. For recycled water service, each connection has a water meter and pressure reducing valve²⁸. For the SWRWD Plan, backflow prevention devices are recommended for both potable and recycled connections.



Figure 5 Recycled Water Residential Irrigation Installation, El Dorado Hills, CA

4.1.2 Public Area Landscape Irrigation

The SWRWD Plan includes non-potable water distribution for irrigation of parks, school campuses, sports fields, irrigated road medians, etc. An example of recycled water utilized for sports field irrigation is presented in Figure 6. It should be noted that the local wholesale water district²⁹ has requested a 10% curtailment in water use by its retail customers due to spring 2021 drought conditions, however that curtailment request does not apply to recycled water irrigators. This sports park has had an active summer 2021 soccer tournament season with outstanding turf conditions despite the drought.



Figure 6 Recycled Water Irrigation of Sports Park, Pleasanton, CA

4.2 WILDFIRE RISK REDUCTION BUFFERS

In the June 2020 report by the Conservation Biology Institute, wildfire risk reduction buffers (WRRB's) are recognized as a scientific justification for a "defensible space" zone around a community. In CBI's findings, it concluded that:

The model results, as well as the conversations with the Paradise TAC, support the hypothesis that reducing flammability of land cover in the region between the wildland area and urban area in Wildfire Risk Reduction Buffers reduces risk of ignition in the urban area. According to this model, which emphasizes the effects of strong winds, focusing on reducing fire risk in the upwind areas adjacent to the town would provide maximum ignition risk-reduction benefits. We used the north-easterly "Jarbo Gap" wind direction in our analysis, but this process could be modified to explore priority locations for other wind directions or scenarios, as suggested by the Paradise TAC³⁰.

Since June 2020 when CBI issued its report on WRRB's, the 2021 Dixie Fire has demonstrated that southwesterly winds can be just as intense and destructive as the northeasterly winds of the Camp Fire. It is therefore assumed that for wildfire defense planning, that winds from any direction be included in all planning scenarios. For the SWRWD Plan, strategic perimeter WRRB's could be irrigated with non-potable water for open space recreation and areas of refuge in time of emergency. These areas could be irrigated throughout the summer season to ensure maximum protection during the fall and early winter wildfire season.

Beyond WRRB's at the perimeter of the community, interior irrigated buffers have demonstrated protection during the 2018 Camp Fire within TOP. The satellite image presented in Figure 7 clearly demonstrates how the irrigated Paradise Community Park shielded downwind buildings across Black Olive Drive from the prevailing northeasterly winds at the time. This demonstrates not only the usefulness of the linear park as defensible space, but the added benefit as an irrigated buffer to reduce flammable dry vegetation upwind of high asset value buildings and public facilities.



Figure 7 Irrigated Paradise Community Park (center), December 11, 2018³¹

This irrigated buffer concept could be replicated at essential facilities such as evacuation centers, schools, government buildings, hospital campus, churches, retirement homes, fire stations and high value commercial properties. Since wildfire wind direction is variable and unpredictable, these irrigated buffers could potentially surround essential and high valued real estate assets on all sides.

4.3 PID 2020 URBAN WATER MANAGEMENT PLAN

Paradise Irrigation District (PID) recently submitted its Urban Water Management Plan (UWMP) to the California Department of Water Resources as required by the Urban Water Management Planning Act of 1983. The Plan summarizes PID's plans for use of recycled water, as follows.

At the time of plan preparation, structures are served by septic tanks throughout the Town, with no centralized sewer system owned or operated by any entity. With no centralized sewer system, there is no opportunity for treatment or use of recycled water within PID's boundary. The viability of a local sewer system is being examined at this time at a conceptual level, creating the possibility of recycled supply in the long-term planning horizon. DWR Table 6-4 and DWR Table 6-5 reflect the inapplicability of this resource through the planning horizon of this document.

The community will continue work to examine the viability of a centralized sewer system and any associated opportunities to develop a recycled water supply as it continues to recover from the Camp Fire and look to the future of rebuilding and redevelopment of Butte County³².

4.4 SEASONAL IRRIGATION DEMAND

PID's previous 2015 UWMP provided a 2020 pre-fire water demand estimate of 6,623 acre-feet (af) for potable and raw water customers. Of that amount, 3,030 af was assumed to ultimately be discharged to septic tanks then subsurface leachfields. These values indicate that about 55% of PID's pre-fire demand was for exterior irrigation on an annual basis. Based on historical precipitation and evapotranspiration data, most of the irrigation demand would be between April and September. For the SWRWD Plan, it can be assumed that most of the recycled water produced will be used for irrigation during these months.

4.5 WINTER AQUIFER RECHARGE

During the months of October through March, there will be more recycled water produced than required for irrigation. During these months, the SWRWD Plan proposes to utilize existing leachfields for shallow aquifer recharge of the same T22 disinfected tertiary recycled water effluent quality required for unrestricted irrigation. The dual distribution system, which provides non-potable supply to each parcel within the SSA, would also discharge to the existing subsurface dispersal fields utilizing the irrigation manifolds and controllers already located at each parcel³³. This concept avoids the need for seasonal effluent storage reservoirs and/or large centralized wintertime subsurface dispersal facilities.

This concept maintains widespread distribution recharge of the fractured rock aquifer underlying TOP, which supplied domestic and agricultural demands prior to the PID surface water treatment plant and distribution system. PID has also historically used one well for seasonal supplemental supply and emergency backup, though since 2020 it is not currently in operation due to mechanical issues³⁴. Additional wells located at recycled water tank sites could supplement the AWSS system described in Section 5.2 below.

5 WILDFIRE DEFENSE

5.1 FIRE HAZARD SEVERITY ZONE MAPPING

As indicated in Figure 8, Cal Fire has designated most of the TOP land area within its jurisdictional boundary as within a “very high fire hazard severity zone” (VHFHSZ).

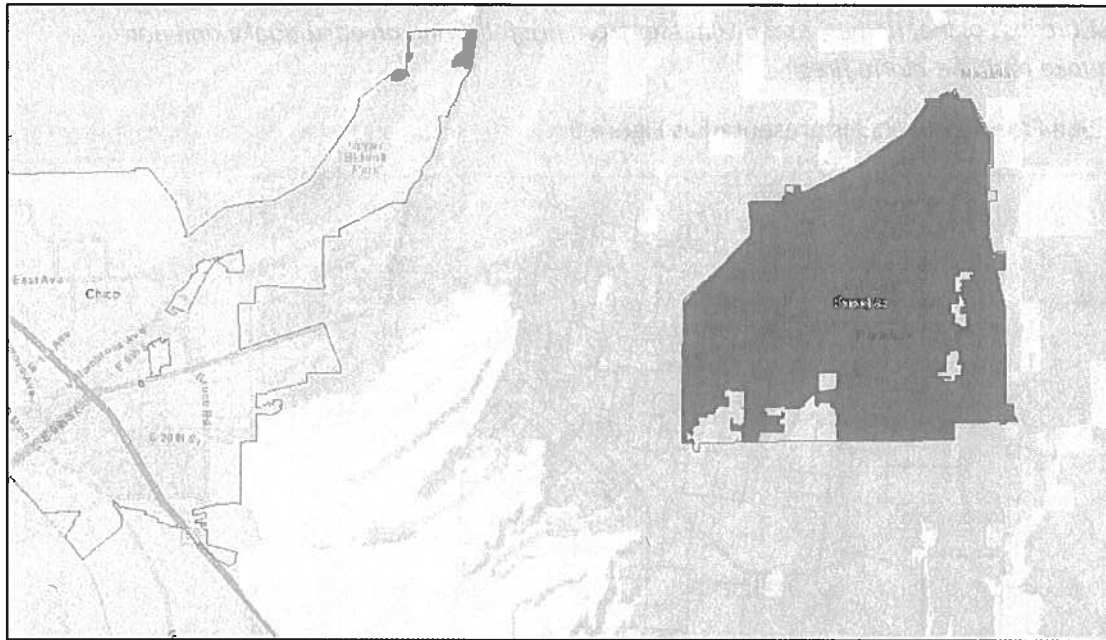


Figure 8 Fire Hazard Severity Zone Map³⁵

Beyond providing sewer and recycled water service to parcels within the SSA, the SWRWD Plan proposes a robust community-scale wildfire defense strategy in light of the VHFHSZ designation for nearly all parcels within TOP. The wildfire defense strategy is proposed to ensure that the 2018 Camp Fire devastation within the SSA never occurs again.

The January 2021 California Wildfire and Forest Resilience Action Plan states:

Protect Wildfire-Prone Homes and Neighborhoods: To address the long-term trend of more people living in the [Wildland Urban Interface] WUI, it is critical to increase vulnerable communities' resilience to uncontrolled wildfires. As described in OPR's Fire Hazard Planning Technical Advisory, developments in the WUI increase the number of ignitions, the likelihood that wildfires become urban conflagrations, putting many homes and structures at risk of being damaged or destroyed by a wildfire, and constrain fuel-management activities³⁶.

5.2 AUXILIARY WATER SUPPLY SYSTEM

The SWRWD Plan proposes a non-potable dual distribution system conceptually described in Section 4 above as a high-pressure Auxiliary Water Supply System (AWSS) for fire suppression and wildfire defense in anticipation of a potential wildfire recurrence equal in severity to the 2018 Camp Fire.

5.2.1 San Francisco AWSS

In operation for over a century, the San Francisco AWSS is an integral part of its emergency fire suppression system. The San Francisco AWSS is conceptually described as follows.

The Auxiliary Water Supply System (AWSS) is a non-potable fire-suppression water system that was built the decade following the catastrophic 1906 San Francisco earthquake. The purpose of the AWSS is to provide the San Francisco Fire Department (SFFD) with a high-pressure fire suppression water system that can be utilized during large fires. The system is vital for protection against the loss of life, homes, and businesses from fire following an earthquake and non-earthquake multiple-alarm fires³⁷.

A map of the San Francisco AWSS is presented as Figure 9.

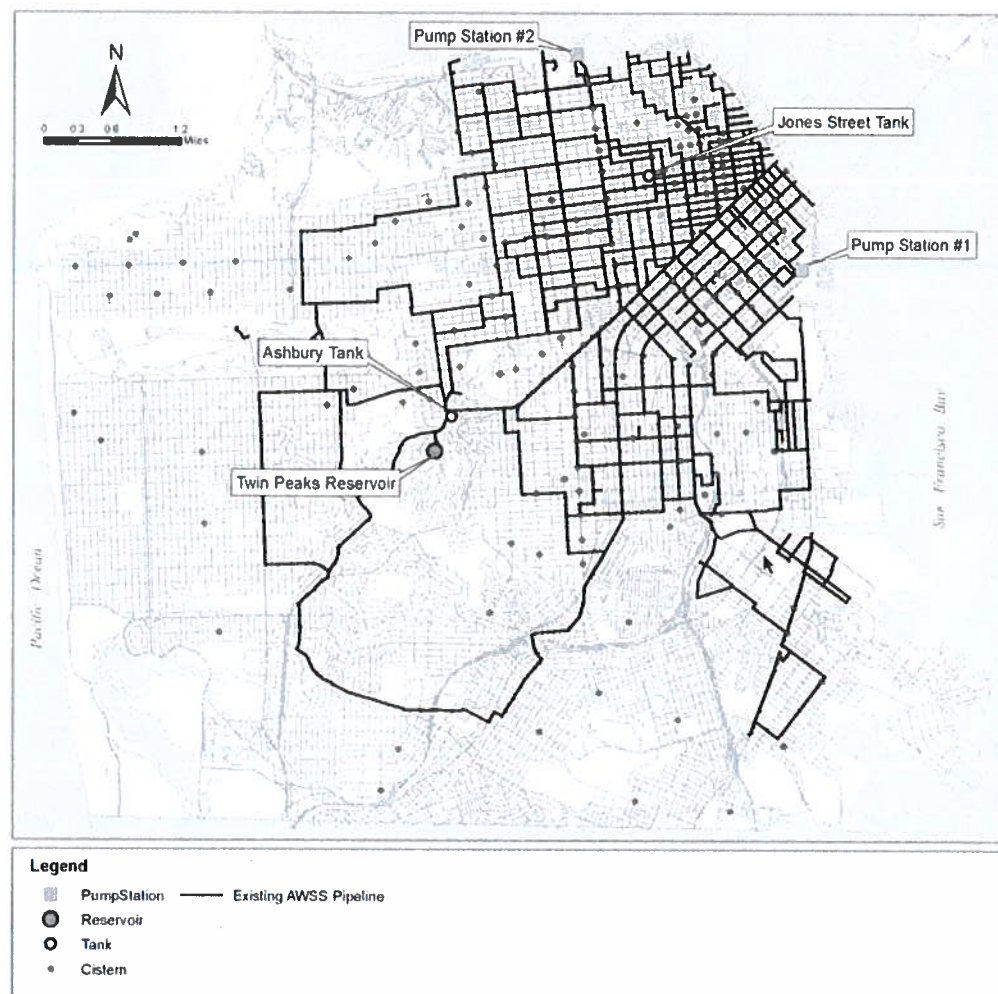


Figure 9 Map of San Francisco AWSS

The overriding objectives of the San Francisco AWSS after the 1906 earthquake were **volume and pressure**. The City had previously burned 5 times over six decades, and insurance rates soared, and, in some areas, coverage was unobtainable. *Strongly influenced by insurance companies of the period, the AWSS is dedicated to the principle that the City will never again be destroyed by fire, at least not for the lack of water for fire-fighting purposes³⁸.*

The San Francisco AWSS is supplied by three non-potable water storage facilities at elevations of 758 feet, 495 feet, and 369 feet above sea level. The system is designed to utilize elevation (without pumps required) to provide high pressure to three separate zones in the AWSS distribution system. Specially designed high-capacity high-pressure dry barrel hydrants are equipped with three threaded outlets that can be independently valved. The hydrant bonnets are color-coded for firefighters' quick recognition of the pressure zone at any particular point in the system. Black hydrants are supplied by the Twin Peaks reservoir, red hydrants by the Ashbury Tank, and blue hydrants by the Jones Steet Tank (see Figure 9 for reservoir and tank locations). Figure 10 presents examples of color-coded hydrants at various locations with the AWSS distribution system. Note the cast label on the blue bonnet "SF AWS 1909."

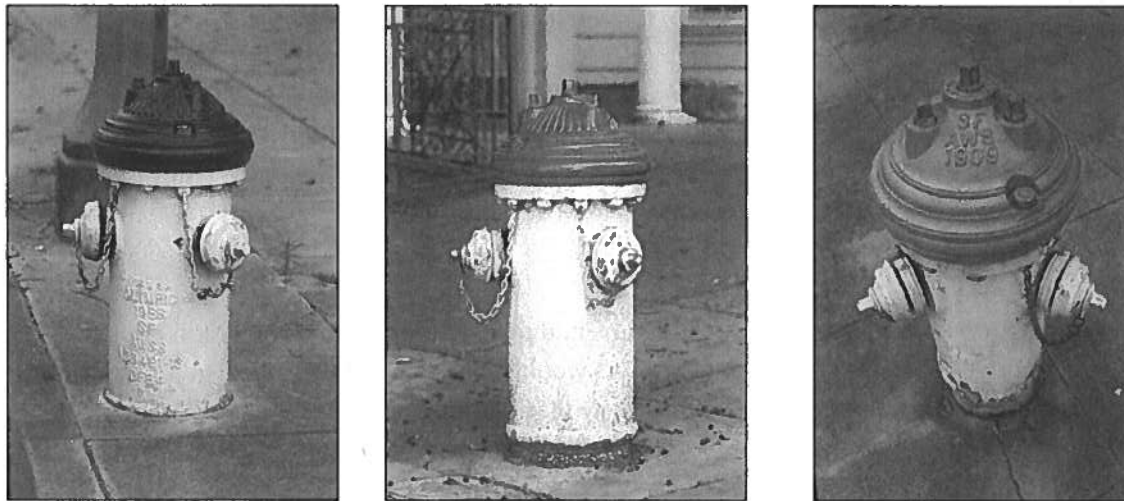


Figure 10 Color-coded SF AWSS hydrants

As a non-potable water system, the AWSS can be supplemented with supplies that do not meet drinking water standards. Figure 11 presents a fireboat manifold currently under construction at Embarcadero Fire Station No. 35 in San Francisco. In the event a large fire, fireboats can connect to the manifold and supply bay saltwater under pressure to the AWSS in the event water supply in tank storage is insufficient for whatever reason including pipe rupture caused by earthquake. The fireboat Phoenix has a pumping capacity of 9,600 gallons per minutes (gpm) and the fireboat Guardian has a pumping capacity of 24,000 gpm which provide backup supply if ever needed. A total of 5 of fireboat manifolds are located along the waterfront that were originally installed in about 1912³⁹.

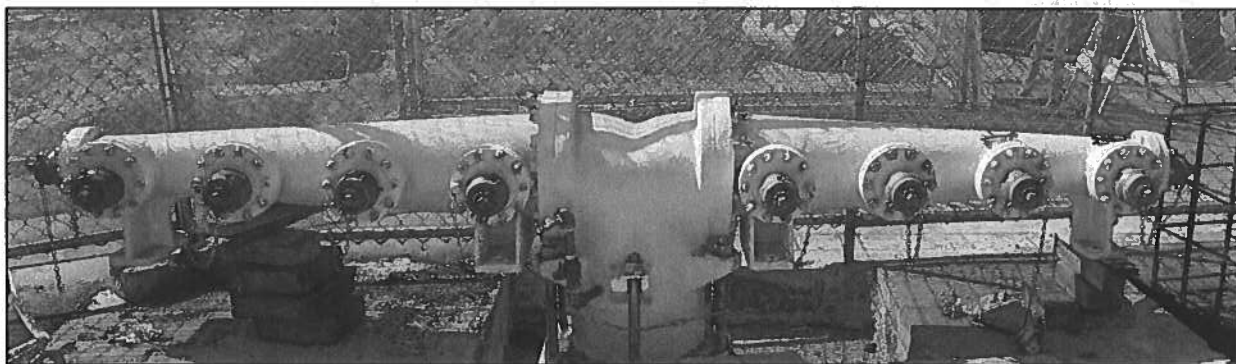


Figure 11 Fireboat manifold under construction at SF Fire Station No. 35, October 7, 2021

5.2.2 Paradise AWSS

The SWRWD Plan includes a high pressure non-potable distribution system similar in concept to the San Francisco AWSS. The source of supply would include recycled water supplemented as needed with well water and/or raw untreated reservoir water. The design criteria for tank storage, pressure zones, static and operating pressures, delivery capacities, pipeline alignments, pipeline diameters, would be developed in close coordination with local water supply and fire professionals including PID and Cal Fire-Butte County. Fire and water distribution professionals at San Francisco Public Utilities Commission (SFPUC) would also be consulted for best practices on how to best implement and operate a similar AWSS in TOP. While the San Francisco AWSS is designed for urban high-density and high-rise fires, there are likely many lessons learned on design, construction, and operation that would apply equally to a AWSS given TOP's low-density development pattern.

The overriding objective of the Paradise AWSS would be **volume and pressure** just as the case in San Francisco today 115 years after it was originally conceived. With a well-designed AWSS, Paradise would be much more resilient by being much better prepared to defend against an uncontrolled wildfire preventing a repeat of the devastation that occurred in November 2018.

5.3 PUBLIC AND PRIVATE FIRE HYDRANTS

AWSS hydrants in San Francisco supply enough volume and pressure for direct connection of attack hoses without the pressure assist of a fire engine. This would allow, for instance, local volunteer fire fighters to have sufficient flow and pressure available without assist from Cal Fire engines. Image in Figure 12 shows an AWSS hydrant supplying sufficient pressure and volume for six attack hoses simultaneously.

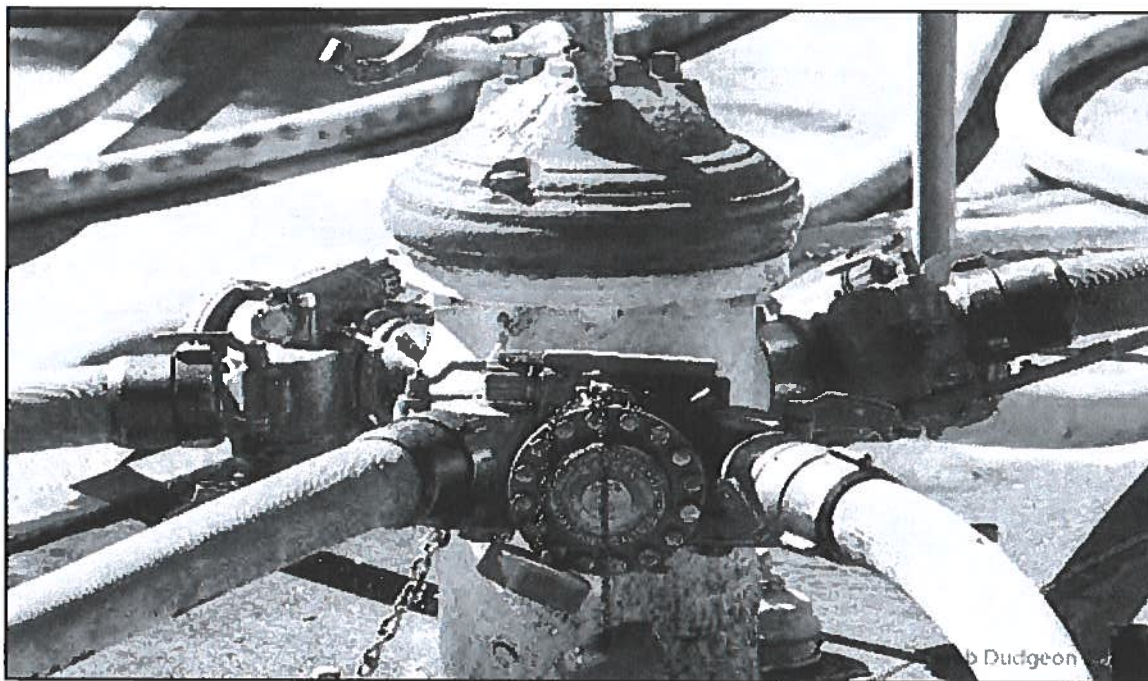


Figure 12 San Francisco AWSS hydrant direct connection of six attack hoses

The AWSS could potentially supply private hydrants and fire hoses on residential or commercial properties within the service area that may be distant from the larger public hydrants in the public right-of-way. If appropriate, a plan for private hydrants and/or private firehoses would need to be a coordinated effort by Cal Fire, PID, and TOP. Images of a private hydrant and a private fire hose reel at a California rural residential property is presented in Figure 13.

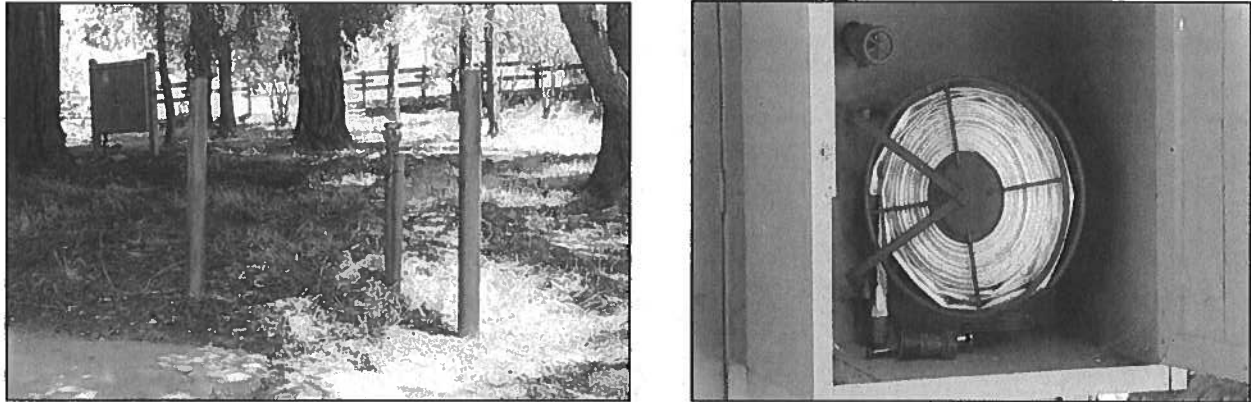


Figure 13 Private Hydrant and Fire Hose, Alameda County, CA

5.4 STRATEGIC PLACEMENT OF WATER CANNONS

High-capacity water cannons are widely used for agricultural irrigation, dust suppression, and wildfire defense⁴⁰. These water cannons have a throw radius of up to 310 feet and can be used to preemptively add moisture content to a large area in response to high-risk red alert weather forecasts. An example of a water cannon irrigating a corn field is presented as Figure 14.



Figure 14 High-Capacity Irrigation Sprinkler (Water Cannon)

The Feather River Hospital on Pentz Road is located adjacent to the steep Feather River canyon on its east side as indicated in Figure 15. The Camp Fire northeast winds against the steep canyon wall in combination with dry vegetation created a chimney effect resulting in an intense inferno at the ridgeline. Hospital and medical support buildings near or adjacent to the ridgeline were severely damaged.



Figure 15 Feather River Hospital Campus (left), Feather River Canyon (right), December 11, 2018⁴¹

In the ongoing planning efforts to restore the hospital back into service, it may be prudent to consider strategic placement of water cannons along the ridgeline to increase the vegetation water content on the high-risk canyon wall adjacent to the hospital and surrounding medical campus. While the hospital site on Pentz Road is not within the current SSA, an AWSS pipeline extension could serve this essential facility. An extension of the effluent-only pressure sewer pipeline should also be considered for the entire hospital campus.

Strategic placement of fixed water cannons could also be considered for other essential facilities such as evacuation centers, schools, fire stations, churches, and senior care facilities. Strategically placed fixed water cannons are commonly used for dust suppression at mining facilities⁴² and this same concept could be employed for protection of essential facilities both preemptively and during a wildfire incident.

For planning of a new rebuilt downtown core on Skyway, it may also be prudent planning to consider water cannons to preemptively increase water content of landscapes, hardscapes, and rooftops for the four city blocks included in the downtown planning zone.

5.5 ROOFTOP SPRINKLERS

The Paradise AWSS could also supply rooftop sprinklers for wildfire defense on government, commercial, institutional and residential buildings. An example of a rooftop sprinkler system on a rural residential building is presented in Figure 16.



Figure 16 Rooftop Sprinklers on Residential Building

5.6 USE OF SATELLITES AND ARTIFICIAL INTELLIGENCE TO PRIORITIZE WATER ALLOCATION

Preemptive use of water cannons, rooftop sprinklers, and turf/landscape sprinklers in the event of wildfire threat could increase ground and hardscape water content at a community scale. Satellite imagery and artificial intelligence technology is now being adopted by Cal Fire and local fire agencies to predict wildfire spread and risk to communities, described as follows.

What's the information used for? The images help commanders make decisions on how to best deploy their resources, keep firefighters safe, predict a fire's spread and identify structures in its path. It can aid municipalities and others who are calling for evacuations of people in harm's way⁴³.

The AWSS would be controlled by a Supervisory Control and Data Acquisition (SCADA) system where Cal Fire, PID, and incident command would have real-time information on status of water supply in tank storage and distribution system operating pressures during a wildfire emergency. *With SCADA control of the AWSS, incident command could prioritize immediate water allocations to the highest risk areas of the community to conserve available water supply if necessary. This prioritization would be guided by real-time wildfire intelligence software platforms that are now being deployed by Cal Fire, power utilities and local emergency response agencies.*

5.7 DEPRESSURIZATION OF POTABLE SYSTEM

PID's potable water pipe network experienced rapid depressurization during the Camp Fire, described as follows.

Several hours into the duration of the Camp Fire, PID's pipe network experienced a significant depressurization in a majority of its water mains. Though the WTP continued to produce water during the fire, demands from fire sprinklers, firefighting activities, and free-flowing service connections where structures once stood drained significant portions of the system. This depressurization event resulted in negative pressure in many areas throughout the main network, which caused an indeterminate amount of damage in the system. Volatile organic compounds (VOCs) were also introduced into the system as smoke, debris, and other contaminants were

drawn in through damaged system appurtenances and exposed service connections of destroyed structures⁴⁴.

This depressurization phenomenon is not unique to PID resulting from the 2018 Camp Fire - it has happened recently to numerous other communities devastated by wildfires⁴⁵. By separating the potable water system from the fire suppression water supply, the risk of depressurization of the potable system is substantially reduced since the underlying cause is the abrupt increase in water demand from residential yard sprinklers and fire-fighting activities. That demand could otherwise be on the AWSS. If depressurization were to occur on the AWSS, it is a non-potable system so any chemical contamination, if ever to occur, would not impact the community drinking water supply. The integrity and water quality of the potable system would remain intact.

In order to further ensure that the potable system does not experience negative pressures that would contaminate the distribution pipelines, backflow prevention devices are recommended for all potable service connections going forward. As an added safety precaution for the AWSS, backflow prevention devices are also recommended for all recycled water service connections.

A recycled water backflow prevention device serving a large commercial property is presented as Figure 17. Recycled water for this retail property is used for landscape irrigation, exterior hydrants, and interior fire sprinklers. A gas station is also equipped with overhead canopy recycled water sprinklers.

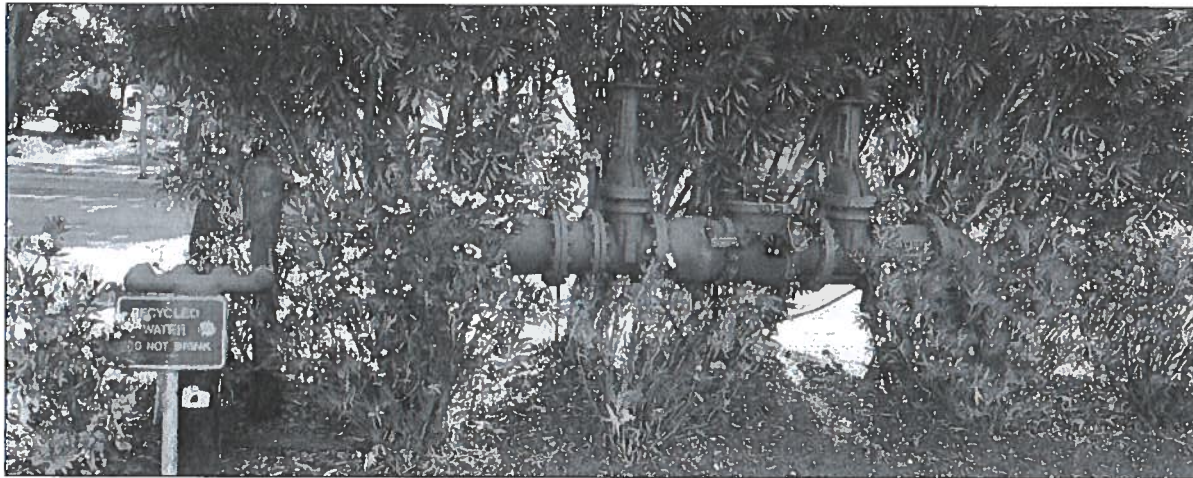


Figure 17 Backflow Protection on Recycled Water System, Livermore, CA

5.8 PID INABILITY TO DELIVER SUFFICIENT WATER SUPPLY IN WILDFIRE INCIDENT

Key design criteria in the planning and design of any water supply system include peak demand in normal operations and duration of peak demand during a firefighting incident. When the 2018 wildfire threatened, PID's ability to deliver water was constrained, described as follows.

Wildfires in or near the PID service area in the Town of Paradise provide a significant impact to the District's ability to deliver water. The 2008 fires showed that further education in the community is needed to stop the use of yard sprinklers during evacuations. The water is not beneficial and takes water away from firefighting efforts⁴⁶.

With the AWSS, PID would be able to supplement the non-potable water storage tanks with untreated Magalia surface water and/or groundwater from wells located near each storage tank. This could greatly improve the ability to supply sufficient water to the AWSS when recycled water in tank storage may be insufficient to meet the immediate incident demand. With sufficient tank storage plus immediately available supplemental supply, the water cannons, rooftop sprinklers, yard sprinklers, private hydrants, private fire hoses, etc. could be utilized to increase ground, landscape, and rooftop water content, preemptively, when wildfire warnings are issued. If evacuation orders are issued rooftop and yard sprinklers could be left on, while the large water cannons could be operated remotely to conserve supply.

Increasing water content of ground, hardscape, and building roof/siding could be an effective defense against wind-driven ember storms generated by wildfires miles upwind. This would be an added protection over and above creating defensible space around structures. Wind-driven embers were the major source of ignitions in Paradise during the 2018 Camp Fire⁴⁷. Incident command, with the SCADA system, would have the ability to prioritize available AWSS supply to zoned areas of the community at highest immediate risk. Reducing or eliminating AWSS supply in specific zones of the community would not impact the health and safety of non-evacuated residents since the potable supply would not be affected by any localized zone area shutdown.

Incident command, through the SCADA system, could also selectively activate biodegradable surfactant foam injection systems strategically located throughout the AWSS. Surfactant foams increase the effectiveness of the water that is available for fire suppression, and thereby reduce the volume of water required for any specific incident. Since the AWSS is separate from the potable water system, injection of biodegradable surfactant foam would not impact water quality of the drinking water supply. Figure 18 presents a water cannon creating a fine mist with a foam and wetting agent mixture.

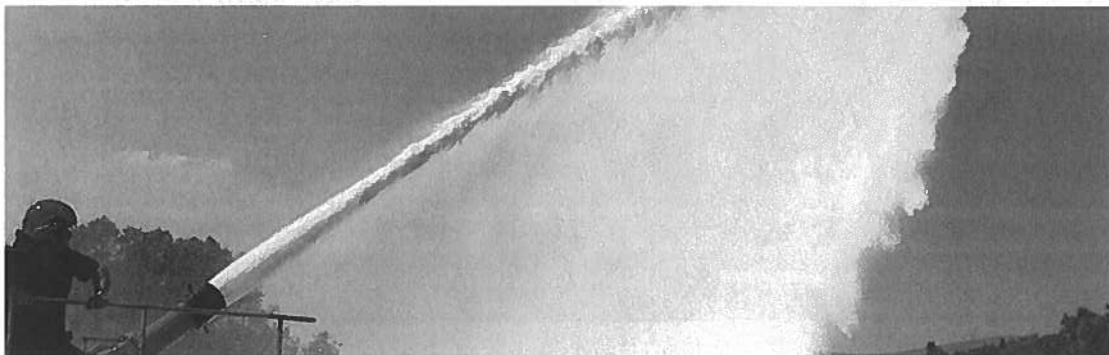


Figure 18 Firefighting Water Cannon Using Surfactant Foam

[Note: Class A foams are a mixture of foaming and wetting agents in a non-flammable solvent and are non-hazardous, non-corrosive, non-flammable, and readily biodegradable. The foam extinguishes fire by isolating the fuel, reducing the fuel temperature, and separating the supply of oxygen. Class A foam solution, containing 0.1 to 1.0% foam, reduces the tendency of water to "bead up" by lowering surface tension. This in turn allows the water to penetrate the burning surface, absorb the heat and cool the fire much more rapidly, with less water. Class A foams provide quicker control and increased penetrating power for deep seated fires ⁴⁸]

5.9 USE OF SNOW MACHINES AT 2021 CALDOR FIRE

The Caldor Fire has burned approximately 222,000 acres in El Dorado and Alpine Counties CA and Douglas County NV since ignition on August 14th. Full containment was achieved on October 25th. A total of approximately 900 structures were damaged or destroyed by this fire. Of interest to the proposed SWRWD Plan, snow cannons typically used in the winter and spring months to supplement snowpack on ski slopes, were used on an emergency basis during the Caldor Fire to increase water content of groundcover, vegetation, trees, hardscapes, and buildings at ski resorts described as follows.

Heavenly, whose slopes most years are filled with fluffy white snow and downhill skiers as the Labor Day holiday approaches, is now eerily dry and abandoned, and forced to use its snow cannons to blast streams of water to hydrate surrounding mountainside vegetation. Susan Whitman, a spokesperson for Heavenly, Northstar and Kirkwood resorts, told the paper that their hydrants pumped "significant water" onto the resort and that everyone is "laser focused on safety and mitigation at this point but we do want to be a helpful resource." Similarly, Sierra at Tahoe employed their water cannons to mitigate wildfire impact, misting nearby buildings and trees⁴⁹.

A nighttime image of a portable snow machine used as a wildfire mitigation is presented as Figure 19.



Figure 19 Portable snow cannon at Sierra-at-Tahoe, Twin Bridges, CA on August 30, 2021

Part of the detailed design development of the SWRWD Plan would be an investigation as the relative benefit of utilizing the air-assisted snow cannon versus the typical water cannon used in agriculture and dust suppression. The air-assisted snow cannons have the benefit of using less water and are efficient at increasing humidity particularly in the nighttime hours. Portable snow cannons also can be deployed when and where needed in anticipation of wildfire risks. A plan for strategic fixed and portable placement of water cannons and/or snow cannons will be based on an engineering study by fire suppression and wildfire mitigation experts in consultation with Cal Fire – Butte County.

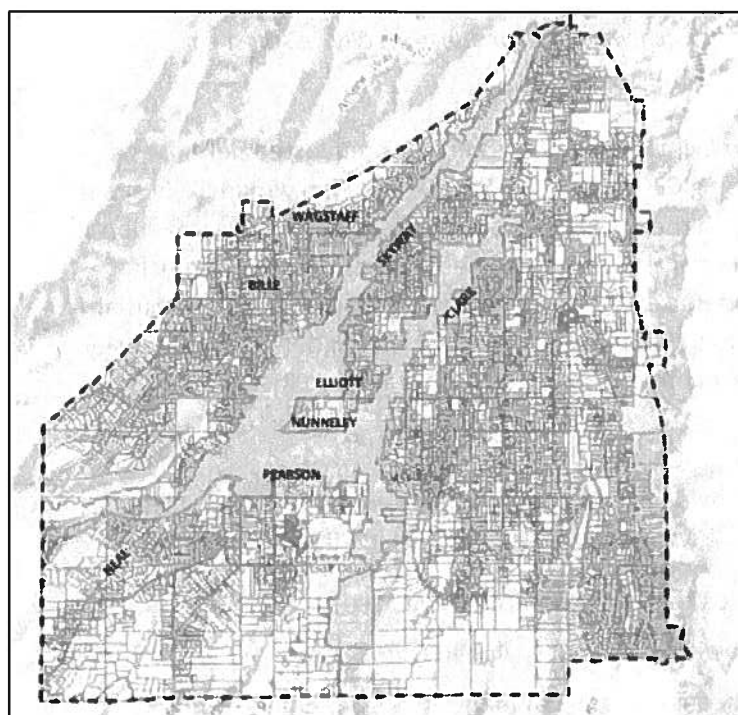
6 EXPANSION OF SEWER SERVICE AREA

This section will address the Sewer Service Area (SSA) as presently proposed in the Export Plan.

6.1 CURRENT PROPOSED SSA

The proposed SSA is presented graphically in Figure 20 and is described as follows.

The SSA contains 1,469 parcels. As of April 2020, there were 300 parcels with habitable structures within the SSA. The Project is estimated to come on-line by 2027, at which time there will be an estimated 357 occupied parcels within the SSA generating an average wastewater flow of 109,000 gallons per day (gpd; see Figure 2). It is estimated that it could take 30 years for all 1,469 parcels to be occupied, at which time the average wastewater flow would be 448,000 gpd⁵⁰.



The total number of existing TOP parcels is approximately 11,800⁵¹. Therefore, the current proposed SSA includes about 12.5% of the total number of existing TOP parcels. For the Export Plan as presented, the local gravity collection pipelines, local pump stations, local forcemains, regional pump stations, and regional forcemains would likely limit the system to 448,000 gallons per day (gpd) average dry weather flow. The land uses for the 1,469 parcels included in the SSA would forever collectively be limited to that design capacity. There would also be no potential connection of existing TOP parcels outside of the SSA. This would be particularly problematic for many commercial, high density multi-family or small lot single-family properties located adjacent or proximate to the SSA boundary.

Figure 20 Proposed Sewer Service Area

6.2 SWRWD PHASED EXPANSION BEYOND SSA

Contrary to the Export Plan, the SWRWD Plan could be expanded in logical phases to include any number of TOP parcels. The increase in wastewater flows collected would generally balance seasonally with the recycled water irrigation demand and subsurface dispersal capacity on a lot-by-lot basis since wastewater collection and non-potable distribution would be installed concurrently. The treatment facility could be expanded ultimately to serve all 11,800 parcels at any one of the three alternative treatment sites presented in Section 3.2 above. If a large discharger, such as a brewery, were proposed in the SSA the Export Plan as proposed would likely preclude that use from being permitted by TOP. The SWRWD Plan, conversely, could easily accommodate that discharger in the SSA, or anywhere within TOP, with an appropriate phased expansion plan.

7 PERMITTING

This section briefly addresses state and Butte County permitting considerations for the either the Export Plan or the SWRWD Plan.

7.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) states:

*The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.*⁵²

It would require an affirmative decision by TOP to include the SWRWD Plan, as requested herein, as a feasible alternative to the Export Plan in the ongoing CEQA review. The SWRWD Plan would likely avoid a number of environmental impacts associated with the Export Plan such as deep hardrock excavation for the local collection system, increased risk of damage to existing buried utilities with deep trench excavation, 18-miles of pipeline in unincorporated Butte County (largely undeveloped lands), potential growth inducement of connected future development along pipeline alignment, higher energy intensity relative to local reuse, and increased secondary effluent discharge to the Sacramento River.

7.2 BUTTE COUNTY LOCAL AGENCY FORMATION COMMISSION

The Butte Local Agency Formation Commission provided TOP with comments on the Paradise Sewer Project EIR Notice of Preparation. Key points of the May 20, 2021 letter⁵³ include the following.

- An extension of service application requires review and approval by LAFco
- Plan needed for sewer service for parcels within TOP but excluded from SSA
- Growth inducing impact of potential connection of development properties along 18-mile export pipe route seeking sewer service
- Loss of potential beneficial use of recycled water
- Increased wildfire hazard caused by reconstruction in a severe fire zone

Since the SWRWD Plan does not extend any service outside of the existing TOP boundary, LAFco jurisdiction would not apply therefore a LAFco application/review would not be necessary.

7.3 STATE WATER RESOURCES CONTROL BOARD

The California State Water Resources Control Board (SWRCB) regulates effluent discharge and water reuse projects in Butte County through the Region 5 Central Valley Regional Water Quality Control Board (R5). A brief discussion of SWRCB and R5 policies follows.

7.3.1 Water Quality Control Policy for Recycled Water

The Water Quality Control Policy for Recycled Water was adopted by the SWRCB on December 11, 2018. Selected excerpts from that policy⁵⁴ are presented as follows.

- *The purpose of the Policy for Water Quality Control for Recycled Water (Recycled Water Policy, hereafter Policy) is to encourage the safe use of recycled water from wastewater sources that meets the definition in California Water Code (Water Code) section 13050(n), in a manner that implements state and federal water quality laws and protects public health and the environment.*
- *When used in compliance with this Policy, California Code of Regulations, title 22 and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to fresh water or potable water for such approved uses.*
- *The State Water Board supports the use of recycled water to diversify community water supplies and mitigate the impacts of climate change.*
- *Increase the use of recycled water from 714,000 acre-feet per year (afy) in 2015 to 1.5 million afy by 2020 and to 2.5 million afy by 2030.*

7.3.2 Water Reclamation Requirements for Recycled Water Use

The SWRCB adopted statewide Water Reclamation Requirements for Recycled Water Use on June 7, 2016. Selected excerpts from that Order⁵⁵ are presented as follows.

- *Recycled water use can help to reduce local water scarcity. It is not the only option for bringing supply and demand into a better balance, but it is a viable cost-effective solution that is appropriate in many cases. The feasibility of recycled water use depends on local circumstances, which affect the balance of costs and benefits. In drought conditions, recycled water can be particularly valuable, given the scarcity of alternative supplies. In normal precipitation years recycled water use may reduce groundwater extraction.*
- *The California Legislature has declared that a substantial portion of the future water requirements of the state may be economically met by beneficial use of recycled water. (Wat. Code, § 13511.) The Legislature also expressed its intent that the state undertakes all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water requirements of the state. (Wat. Code, § 13512.*
- *Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gas emissions.*
- *Water recycling is an essential part of an overall program to manage local and regional water resources. Many local governing bodies have adopted resolutions establishing their intent to proceed with planning, permitting, and implementation of recycled water projects. These projects will provide water supply and municipal wastewater disposal benefits for communities, and will provide water supply benefits to agriculture.*

7.3.3 Policy in Support of Regionalization, Reclamation, Recycling, and Conservation for Wastewater Treatment Plants

R5 adopted a Resolution No. R5-2009-0028 in Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants on April 23, 2009. Selected excerpts from that Resolution⁵⁶ are presented as follows.

- Evaluating regionalization, reclamation, recycling and/or conservation opportunities requires a balancing of these and many other considerations, including impacts to water quality, costs, authority to implement and other factors necessary to determine if regionalization, reclamation, recycling and/or conservation are feasible and practicable for the specific facility(ies).*
- In evaluating the feasibility of regionalization, reclamation, recycling and conservation projects, the interrelationship of regionalization, reclamation, recycling, and conservation should be considered.*

R5 realized in 2009 that the interests of “regionalization” and “recycling” might require an evaluation of interrelationships – recognizing that the stated objectives might in cases be in conflict or mutually exclusive. In the case of the TOP Export Plan versus SWRWD Plan, the two alternatives are in fact mutually exclusive – TOP cannot proceed with both.

The perceived benefits in 2009 of “regionalization” (such as economy of scale and operational efficiency) may be overridden in current times by the benefits of water reuse given recurring California droughts and statewide wildfire hazards. Water reuse is the primary component of the SWRWD Plan and the dual distribution system required for wildfire defense could not be justified on its own independent of water reuse.

The SWRCB encouragement of water reuse in the 2018 Recycled Water Policy and the 2016 Water Reclamation Order, and likely encouragement of the wildfire defense plan, would probably supersede the R5 “Regionalization” Policy if ever brought to the Board’s attention for a determination.

Encouragement from the SWRCB for the Paradise SWRWD Plan could also be anticipated since it has a comparable capital cost and greater grant funding opportunities (see Section 8 below) in addition to beneficial local water reuse and offers a robust wildfire defense strategy.

8 CAPITAL COST AND FUNDING CONSIDERATIONS

This section will discuss capital cost estimates of the two plans as well as grant funding opportunities.

8.1 EXPORT PLAN COST ESTIMATE

Prior capital estimates of the Export Plan are summarized in Table 3.

The total estimated capital cost presented in HDR 2020 is \$184.7 million, however this figure did not include a local septage plant. Since the Export Plan only includes about 12.5% of the TOP parcels, there will remain about 9,000 septic tanks that will require periodic pump-out service. Therefore, it is assumed that a septage plant will be required with either the Export Plan or SWRWD Plan.

Table 3 Export Plan Cost Estimate

Plan Components	Estimate Source	Capital Cost
Local Gravity Collection	HDR 2020 ⁵⁷	119,511,000
18-mile Export Pipeline	HDR 2020 ⁵⁸	52,174,000
Chico WPCP Connection	HDR 2020 ⁵⁹	12,990,000
Local Septage Plant	HDR 2020 ⁶⁰	10,095,000
Total Export Plan		\$194,770,000

8.2 SWRWD PLAN COST ESTIMATE

Capital cost estimates for the SWRWD Plan are summarized in Table 4.

Table 4 SWRWD Plan Cost Estimate

Plan Components	Estimate Source	Capital Cost
Local Pressure Collection	Bennett 2017 ⁶¹	47,428,000
Local T22 Tertiary Treatment	Bennett 2017 ⁶²	25,099,000
Non-Potable AWSS Distribution	Ripley 2021 ⁶³	80,000,000
Non-Potable AWSS Tank Storage	Ripley 2021 ⁶⁴	10,000,000
Appurtenances, Wildfire Defense	Ripley 2021 ⁶⁵	15,000,000
Local Septage Plant	HDR 2020 ⁶⁶	10,095,000
Total SWRWD Plan		\$187,622,000

8.3 GRANT FUNDING OPPORTUNITIES

This section will briefly present a list of six potential grant funding sources available to the SWRWD Plan that likely would not be available to the Export Plan.

8.3.1 Governor Newsom's \$15 Billion Climate Crisis and Vulnerable Communities Package

Governor Newsom signed a package of 24 bills on September 22, 2021 described as follows.

Governor signs 24 bills focused on climate and clean energy efforts, drought and wildfire preparedness The largest climate package in state history, Governor Newsom highlights over \$15 billion in funding to tackle wildfire and drought challenges, build climate resilience in communities, promote sustainable agriculture and advance nation-leading climate agenda.⁶⁷

At the signing ceremony, the Governor stated:

"California is doubling down on our nation-leading policies to confront the climate crisis head-on while protecting the hardest-hit communities," said Governor Newsom. "We're deploying a comprehensive approach to meet the sobering challenges of the extreme weather patterns that imperil our way of life and the Golden State as we know it, including the largest investment in state history to bolster wildfire resilience, funding to tackle the drought emergency while building long-term water resilience, and strategic investments across the spectrum to protect communities from extreme heat, sea level rise and other climate risks that endanger the most vulnerable among us."⁶⁸

The SWRWD Plan as presented herein could be considered a strategic investment to protect Paradise from future wildfire as well as long-term water resilience.

8.3.2 Governor Newsom's \$5.1 Billion Plan for Water Infrastructure

This plan includes *\$1.3 Billion for Drinking Water/Wastewater Infrastructure especially for small and disadvantaged communities and \$150 Million for Groundwater Cleanup and water recycling to improve climate resilience⁶⁹*. This could be a potential funding source for the sewer and water reuse components of the SWRWD Plan.

8.3.3 California Senate Bill 63

This legislation proposes to fund Projects to reduce the flammability of structures and communities to prevent their ignition from wind-driven embers. The department may consider the fire risk of an area, the geographic balance of projects, and whether the project is complementary to other fire prevention or forest health activities when awarding local assistance grants⁷⁰.

This could be a potential funding source for the wildfire defense component of the SWRWD Plan.

8.3.4 California Assembly Bill 52

This bill would require the Air Resources Board to include recommendations for achieving the maximum technologically feasible and cost-effective reductions of emissions of greenhouse gases and black carbon from wildfires. The bill would also express the intent of the Legislature to appropriate an amount from the Greenhouse Gas Reduction Fund for wildfire mitigation and prevention⁷¹.

8.3.5 Water Reuse and Resiliency Act of 2021

This proposed federal legislation is described generally as follows.

But instead of new dams or desalination plants, Senators Dianne Feinstein and Alex Padilla want the state to take a more innovative approach in prepping for future megadroughts experts predict will only worsen due to global warming. In new legislation introduced Friday, the lawmakers are seeking \$1 billion to boost stormwater capture, groundwater recharge and water recycling efforts in the Golden State and throughout the U.S.⁷²

This could be a funding source for the water reuse/aquifer recharge components of the SWRWD Plan.

8.3.6 US Bureau of Reclamation Water SMART Funding

This USBR program includes funding for drought resiliency projects that decrease vulnerabilities and costs of drought, as follows.

Reclamation will provide funding for projects that build long-term resilience to drought and reduce the need for emergency response actions through this Drought Resiliency Projects Grants funding opportunity. Drought resiliency can be defined as the capacity of a community to cope with and respond to drought. Under this funding opportunity, Reclamation will fund projects that will build resiliency to drought by increasing the reliability of water supplies and improving water management⁷³.

This could be a potential funding source for the water reuse and aquifer recharge components of the SWRWD Plan.

8.3.7 US House Bill 1352

This legislation proposes to increase technical assistance to rural and small municipalities and tribal governments from \$25 million/year to \$175 million/year through to 2026. The bill includes the following text.

SEC. 222. RESIDENTIAL ONSITE SEWAGE DISPOSAL SYSTEMS. "Not later than the date that is 1 year after the date of the enactment of this section, the Administrator shall establish a grant program to make grants to users of a septic tank and drainage field for costs associated with repairing, replacing, or upgrading such tank and such field."⁷⁴

This could be a potential federal funding source for the effluent-only pressure sewer component of the SWRWD Plan since each parcel would require an upgraded on-site interceptor tank to replace each existing septic tank. Drain fields may also require upgrading since they are integral to the aquifer recharge component of the SWRWD Plan.

8.3.8 US House Bill 3684

The \$1.2 trillion Infrastructure Investment & Jobs Act recently passed the U.S. Senate and will likely reach President Biden's desk in mid-August. In that proposed legislation, there is almost \$55 billion in water infrastructure funding⁷⁵. In this funding package there are significant funding opportunities for Clean Water Infrastructure Resiliency and Sustainability, connection of homes and communities to Publicly Owned Treatment Works, and Wastewater Energy Efficiency Grants – where the SWRWD Plan may have higher eligibility rankings relative to the Export Plan.

9 PROPERTY/WILDFIRE INSURANCE

This section will address how the SWRWD Plan might assist TOP residents and businesses obtain property/ fire insurance coverage at affordable rates.

9.1 AVAILABILITY AND COST OF FIRE COVERAGE

Property owners in the VHFDSZ are facing the prospect of losing property insurance coverage due to property insurers' multi-billion dollar losses caused by widespread destruction of properties over the last four years in the western U.S. For Butte County victims of the Camp Fire, the insurance coverage crisis is summarized by State Assemblyman Gallagher, as follows.

*Assemblymember James Gallagher, a Republican whose district includes Paradise, said his constituents' biggest concern is access to coverage. They want to avoid the California FAIR Plan, which is the state's insurer of last resort that comes with a hefty premium and only covers fire damage. Critics add that the plan was never created to be a permanent solution for California homeowners seeking fire insurance. "I think that most of my constituents acknowledge that they live in high-risk areas and we are willing to pay," Gallagher said. "But it has to be a reasonable premium, and I don't think the government is going to be able to provide that on its own. You need the private insurance market to be part of that solution."*⁷⁶

*From the private insurance perspective, ember generation is the primary driver of structure ignition from wildfires, and there are ways to minimize the risk with proper planning through the creation of defensible space. Ensuring that wildfire risk is considered when planning new developments and enforcing appropriate building codes in those areas will be important moving forward*⁷⁷.

9.2 COMMUNITY HARDENING ESSENTIAL

In June 2019, the California Commission on Catastrophic Wildfire Cost and Recovery concluded the following.

*Widespread home hardening upgrades are an important strategy to reducing wildfire risks to homeowners. A McClatchy analysis of impact of the post-2008 wildfire building codes in the Camp Fire footprint shows that homes meeting these more stringent defensibility codes had much higher survivability rates than those without. This was true even where ember cast was a major driver of fire and setbacks were sometimes relatively tight. Meeting the higher standard appeared to matter a great deal in Paradise. The Insurance Institute for Business and Home Safety (IBHS)'s empirical tests of home meeting the post-2008 wildfire building code standard also indicates higher survivability. On the other hand, many homes meeting post-2008 code burned in the Tubbs Fire, indicating that more than home hardening is essential to defensibility during a fire with high ember cast.*⁷⁸

For defense against ember casts generated from wildfires that may be miles upwind, the Commission recognized that **more than home hardening is essential to defensibility**. Since ember casts respect no parcel or jurisdictional boundaries only community-scale hardening can protect against ember cast that can ignite spot fires miles downwind of a wildfire. Community-scale hardening would create a layer of defense otherwise could not exist with home or parcel-level hardening.

9.3 AWSS AS A COMMUNITY-SCALE WILDFIRE MITIGATION

The impetus for design and installation of the AWSS following the 1906 earthquake in San Francisco was from the insurance industry of the period. The insurance underwriters promoted the AWSS as a means to prevent a repeat occurrence of the devastation from fire due to a failed water supply system, as described below.

The AWSS remains the only high-pressure network of its type in the United States, and was the only public project funded by the citizenry following the Great Earthquake of 1906. The system was developed with a \$5.2 million bond issue approved by the people of San Francisco in 1908. Strongly influenced by the insurance companies of the period, the AWSS is dedicated to the principle that the City will never again be destroyed by fire, at least not for lack of water for firefighting purposes. It is capable of covering a city block (100,000 square feet) with water to a depth of 25 feet in one day⁷⁹.

There may be parallels between the San Francisco devastation from fire in 1906 and the Camp Fire in 2018. The parallels may not be just in the extent of devastation, but in how the insurance industry played/will play in ensuring that a robust firefighting AWSS is in place as a means to provide better fire defense and suppression capability – with the end result being affordable property insurance coverage on a long-term basis.

The insurance industry needs to quantify risk in order to provide equitable premiums – and that quantification is the product today of state-of-the-art proprietary computer modeling. The models consider a myriad of factors that include community risk mitigation as well as property mitigation as described below.

By recognizing mitigation features in the modeling process, insurers can calculate discounts for homeowners who mitigate risk. For wildfire, this includes features such as fire-resistive siding, specific roofing materials, and landscaping mitigation. For example, CoreLogic and AIR explicitly reflect community and homeowner mitigation characteristics in their models

As data availability improves mitigation discounts could be a catalysis to a beneficial feedback loop, not only for data collection but also for wildfire resilience. As more companies offer discounts for risk mitigation, customers will have a greater incentive to install features to reduce their homes. As mitigation features become more prevalent, more insurers may be forced to offer these discounts in order to remain competitive⁸⁰.

9.4 INSURANCE IMPACT ON REBUILD EFFORTS

The high cost of property insurance could potentially have negative impact on TOP resident and business's ability to rebuild and remain in Paradise. Recent comments from state Senator Dodd regarding his constituency in Napa County shed light on the issue of property insurance in high wildfire risk areas.

In hard-hit Napa Valley, which has burned multiple times this last decade, successful winemakers and longtime residents are weighing their options to rebuild or move out entirely simply by looking at their property insurance policies. "They just can't get insurance," said Democratic state Sen. Bill Dodd, whose district spans the region's celebrated vineyards. "Or the insurance is so expensive that there is no way they could ever afford that kind of coverage."

*Dodd said he supports allowing private insurers to factor in future disasters if it means residents in his districts can avoid exorbitant pricing offered by the FAIR plan. "So many people right now are going naked with no insurance or paying seven or eight times the annual premium they did before," the senator said. "If they raised the rates 50%, that would be a blessing."*⁸¹

Paradise Mayor Steve Crowder affirmed in September 2021 a similar insurance coverage and affordability crisis in Paradise. Hardening individual homes and buildings is a means to becoming a fire safe community, with the desired impact of lower insurance rates, indicated as follows.

*Crowder also referenced his hopes for insurance affordability in Paradise. He said the town is always looking for grants to do a variety of things, including replacing its emergency sirens and grants to help standing homes get hardened. Crowder said this includes roofing, windows or whatever else is needed. . . . "We want to be a fire safe community and we want to let the insurance industry know, 'Don't sit in an ivory tower and set our rates. Come look through our town, see what we're doing and then set our rates accordingly,'" Crowder said*⁸².

9.5 PATH FORWARD: ROBUST PARCEL-SCALE AND COMMUNITY-SCALE WILDFIRE MITIGATIONS

The wildfire defense component of the SWRWD Plan would bolster the overall objective of a fire safe community by including a robust community-scale mitigation plan over and above individual home/parcel mitigations. As a path forward, the California Office of Planning and Research Commission on Catastrophic Wildfire Cost and Recovery included the following 5 recommendations for both property-scale and community-scale mitigations in its June 2019 final report.

- **Recommendation 11.** *Set home fire risk reduction and community risk reduction standards with input from insurers and require insurers to write insurance where home owner and community both meet standards.*
- **Recommendation 12.** *Require insurers to implement a tiered mitigation credit based on the level of home hardening. This is presented as an alternative to Recommendation 11, but the Commission believes it would be far less effective than Recommendation 11 because it does not address the unavailability of insurance.*
- **Recommendation 19.** *Provide significant state investments in prevention and mitigation efforts, whether funded by a state tax and a specific fund in the state budget for direct mitigation or small grants for home hardening.*
- **Recommendation 21.** *The commission recommends that the state require that any municipality or government body that approves new development, including new construction on vacant land, is able to provide firefighting service to that property within a certain maximum time*⁸³.

The Insurance Institute for Business & Home Safety in its April 2021 report makes similar recommendations as follows.

- *Homeowners need to both reduce the presence of fuel surrounding their home and leverage advice from the likes of IBHS to harden their structure against flames and embers. While the analysis presented in this study shows a material reduction in risk by reducing fuels, ~40% of properties that had low fuel density were still destroyed in a wildfire demonstrating the importance of other factors beyond the fuel immediately surrounding the property.*

- *Community leaders need to spearhead and organize with local and national organizations that promote wildfire preparedness, because wildfire protection does not stop at the boundaries of a single property. Creating firebreaks by removing debris including dead leaves in alleyways is an example of impactful community effort.*
- *Governments and regulators need to promote good homeowner behavior and disseminate information to their communities on the risks of uncontrolled wildfires. Wildfires will not go away, and it is also possible for wildfires to re-occur at the same location, since many underlying risk factors (including topography and wind direction) do not tend to change over time.*
- *Insurance carriers need to focus on pathways to understand the specific risk and mitigation activities of individual properties. The scientific and modeling communities will continue to expand the analytical tools related to neighborhood-scale risk and other wildfire mitigation appropriately price the risk ⁸⁴.*

9.6 ROLE OF GLOBAL REINSURANCE UNDERWRITERS

John Norwood, an insurance industry lobbyist representing insurance agents, wholesalers, and carriers in Sacramento, stated in a July 2021 Insurance Journal viewpoint that:

The availability and affordability of property insurance in California are not likely to change until the worldwide reinsurance market believes California is serious about addressing its wildfire risks and there are demonstrable results in reducing the number and severity of wildfires in the state. Without the reinsurance market backing California property/casualty insurance companies, there will continue to be an availability crisis in the state for property insurance and prices for such coverage will continue to increase to the detriment of California's homeowners and businesses. ⁸⁵

Implementation of the wildfire defense component of the SWRWD Plan would likely provide definitive evidence to the global reinsurance underwriters that Paradise is indeed serious about addressing its wildfire risks.



Figure 21 Paradise neighborhood destroyed by Camp Fire, image date November 15, 2018⁸⁶

10 DESIGN-BUILD PROCUREMENT AND OPERATIONS

This section will discuss use of the design-build (DB) procurement process for the SWRWD Plan.

10.1 ASSEMBLY BILL 36 (GALLAGHER)

The proposed AB 36 legislation includes the following language.

The bill would authorize the Town of Paradise to use the design-build contracting process to provide for the provision of sewer treatment to the Town of Paradise, including for infrastructure connecting the Town of Paradise to an existing treatment facility⁸⁷.

The SWRWD plan would include a new local treatment facility, it is therefore uncertain whether AB 36 could apply to this alternative. However, there is nothing in existing state public bidding procurement law precluding TOP from including the SWRWD Plan in the DB public bidding procurement process as an “or equal” or “alternatively designed system.” In fact, procurement statutes encourage competition in all forms in the selection process and that would include alternative design concepts using the DB format.

In order for an “or equal” bid opportunity for the SWRWD Plan, the SWRWD must be included in the alternatives section of the CEQA environmental review currently in process. In this manner, the Export Plan and the SWRWD Plan could compete in a fair and equitable manner based on proposed design features, team qualifications, financial capability, and contractor ability to deliver on an established schedule.

10.2 COORDINATION WITH OTHER RIGHT-OF-WAY UNDERGROUND CONSTRUCTION

The successful SWRWD DB contractor could offer cost-saving coordination with other underground utility contractors with HDD installation of the effluent-only pressure sewer pipelines. Underground conduit installation that might be coordinated and constructed concurrently include:

- DB contractor effluent-only pressure sewer
- DB contractor non-potable water distribution
- PID potable water distribution reconstruction
- PG&E underground electrical distribution
- Fiber optic internet cable installation

Recognizing that PG&E undergrounding of electrical distribution and PID replacement of potable water lines are both in progress, time is of the essence in developing a sewer collection design and construction schedule so the coordination can begin as soon as possible.

With the Export Plan, the gravity collection planning and design could take 2 years or more once the DB contract has been awarded. The deep trenches required for the gravity sewer pipelines would likely cause significant conflicts and risks of damage to existing utilities including underground electrical conduits and potable water pipelines. In addition, road restoration costs for gravity collection pipelines, manholes and lift stations would be significantly greater than for the HDD installation of effluent-only pressure sewer lines that require no manholes or lift stations in the right-of-way.

Assuming that PID pipeline repair/reconstruction, PG&E underground electrical distribution, fiber optic broadband, SWRWD effluent collection, SWRWD non-potable distribution, AWSS hydrants and water cannons and turnouts can all be coordinated – then road restoration would be required only once instead of multiple times in a relative short period. The end product for TOP would be far superior – new state-of-the-art infrastructure for all underground utilities combined with newly reconstructed road surfaces, sidewalks, and storm drainage.

10.3 OWNERSHIP/OPERATIONS

The ownership and operation of the SWRWD system could be by either TOP or PID, or a contracted private owner/operator. A recommendation for owner/operator will be made as part of the DB bid proposal. A likely scenario would be for the DB contractor to assume operational responsibility for a startup period followed by a multi-year operation contract. Once that contract has expired, it could be renewed, rebid, or assumed by PID or TOP.

Infrastructure components located on private parcels will be maintained by whatever operating entity operates the complete system. Property owners will not be responsible for responding to alerts, routine inspections or septage pumpouts. Three “permissions” will be necessary for on-lot infrastructure design, construction and operation, summarized as follows.

1. A right of entry to allow the utility engineering contractors to visit property in order to effectively design interceptor tank system to serve the property in an acceptable manner.
2. A temporary construction easement on the property to allow a contractor to construct the new interceptor tank and abandon the existing septic tank.
3. A permanent easement will be required for the area around the tank and control panel to allow utility personnel to maintain the system in perpetuity.

Voluntary right-of-entry agreements allowing property access by utility personnel for the three permissions listed above have been successfully used elsewhere where property owner participation rates have exceeded 99%⁸⁸.

Operation of the entire SWRWD system, including the collection system, water recycling facility and non-potable dual distribution system would require nearly the same operator and managerial skillsets already available with PID’s existing staff. There could be significant ongoing operational cost savings with PID operating water supply, water reuse and wildfire defense systems.

A case study in a historic California agricultural water district with pre-1914 water rights assuming operation of a state-of-the-art municipal water recycling system, is El Dorado Irrigation District (EID) in El Dorado County, CA. The district is responsible for water supply, wastewater management, water recycling, recreation, and hydropower. *Since the late 1970’s, EID has maintained a recycled water system in El Dorado Hills. In 1989, EID reached an agreement with the Serrano Partners to develop a system to provide recycled water to irrigate the master planned community’s front yards, backyards, parks, common areas, and golf course. In 2004, the EID Board of Directors mandated the use of recycled water for all new subdivisions and developments in the recycled water service area*⁸⁹.

EID was the first district in California to deliver T22 recycled water to individual residential lots for both front and back yard landscaping.

11 COMMUNITY RECOVERY PLAN

In April 2019, TOP developed a Community Recovery Plan⁹⁰ with extensive community outreach and resident input. The Plan includes the following recovery objectives.

STRONGER: Rebuild Paradise's Economy

- *Improve utilities — underground gas and electric lines and improve fiber optic internet, cell service, etc.*
- *Install a sewer system*
- *Improve access to medical services and facilities; rebuild Feather River Hospital*

GREENER: Make Paradise Greener

- *Invest in sustainable design and infrastructure strategies, such as solar and innovative buildings*
- *Rebuilding in a more resilient way — become an example to the world and other rural communities*

Figure 22 presents an illustrative plan of the proposed new Paradise civic center, with the irrigated Paradise Community Park on the southeastern side.

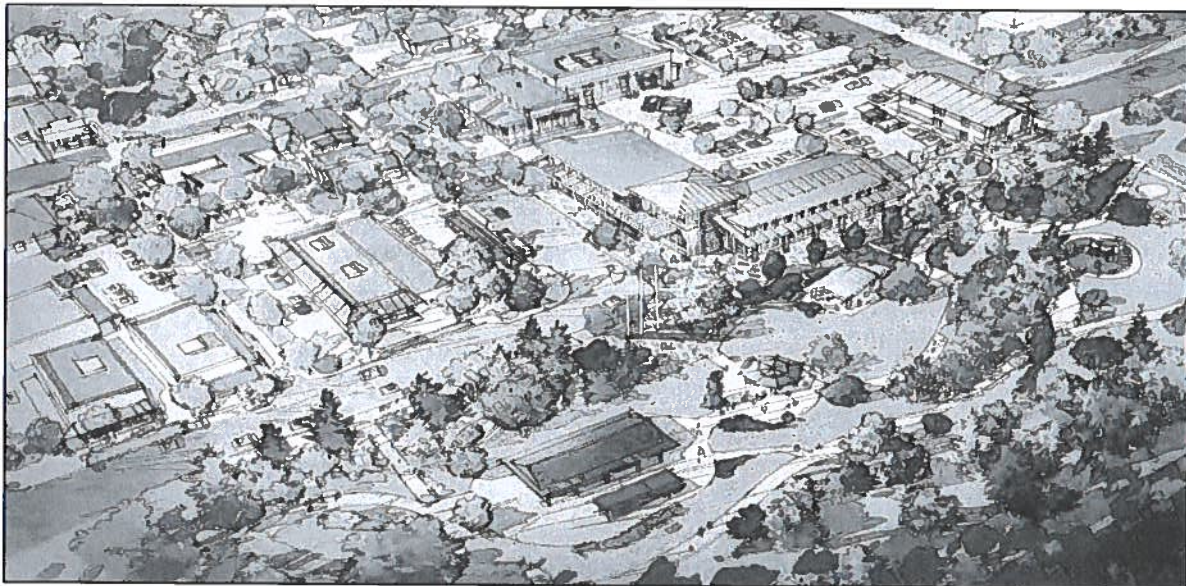


Figure 22 Paradise Recovery Plan, New Civic Center, Illustrative Plan

Wildfire defense planning should consider irrigated linear buffer strips, like the community park, on all sides surrounding the civic center. The AWSS would supply irrigation in the summer season, and strategically located water cannons would stand guard over the high-density civic center commercial and office buildings ready to provide protection from wind-driven embers cast from any direction. Rooftop sprinklers supplied by the AWSS could be installed on all civic center buildings for an added layer of protection.

This robust wildfire defense strategy could also be developed for emergency evacuation centers. As experienced in the Camp Fire, it is impossible to evacuate an entire town in a very short time frame despite evacuation planning that may already be in place. Road capacity is limited and therefore all residents may not have the time or wherewithal to escape the wildfire. Evacuation centers, such as big box retail stores, school gymnasiums, recreation centers, etc. could be strategically located around the community that could be outfitted with strategic water cannons and rooftop sprinklers supplied by the AWSS.

One foam surfactant injection system serving the entire civic center AWSS could be remotely activated so that rooftop sprinklers and water cannons would have the added fire suppression capability available with fire-retarding biodegradable foam. This foam injection concept could easily be applied to each evacuation center for an added layer of protection.

Beyond the typical turf and landscape irrigation that would be supplied by the AWSS, additional sprinklers could be installed to irrigate the hardscapes along the evacuation routes – roadway, bike lane, and sidewalks. This would ensure that evacuations would remain safe and the AWSS would suppress landed embers from blowing further and igniting downwind. Sprinklers could be activated preemptively, for instance, with the issue of a wildfire red alert or on declaration of an evacuation order.

Figure 23 presents an illustrative plan of an evacuation route included in the Community Recovery Plan.



Figure 23 Paradise Recovery Plan Vision for the Future, Evacuation Route

12 TIME IS OF THE ESSENCE

TOP is anxious to provide sewer service to the SSA in as short a timeframe as indicated below.

Timing is everything. AB 36 allows the use of design-build for these projects pursuant to existing law's authority for local agencies to use this contract methodology. This authority sunsets on January 1, 2025. According to the Town of Paradise, it plans to contract for the design of the sewer project in 2022⁹¹

The December 2020 project delivery schedule for the Export Plan is presented in Figure 24. *Recognizing the potential jurisdictional, environmental, regulatory and funding issues associated with the 18-mile export pipeline, TOP has more recently indicated that the sewer project could take 5 to 10 years to complete⁹².*

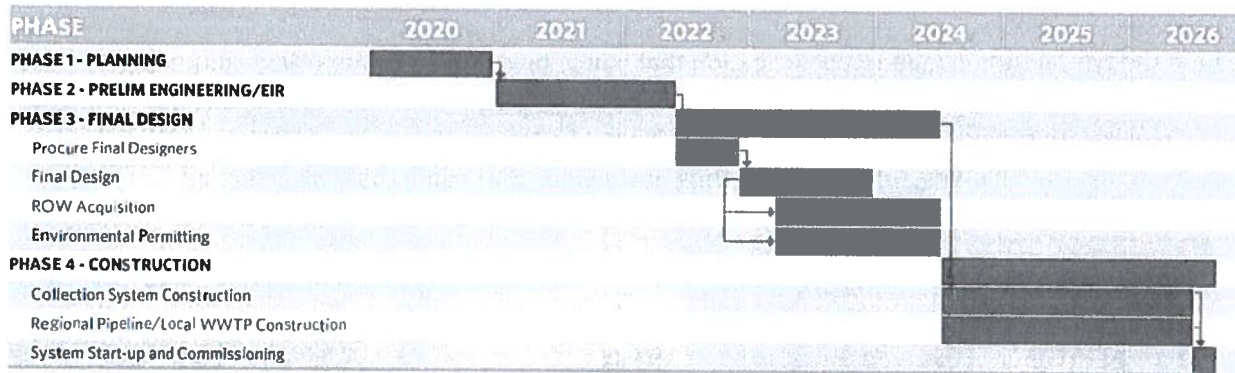


Figure 24 Export Plan Delivery Schedule⁹³

As indicated in Section 10.2 above, coordination of all underground utility construction could represent a significant time and cost savings, but only if done concurrently. In this regard, time is of the essence since PID and PG&E underground construction is in progress and ongoing.

12.1 IMPORTANCE TO REBUILD EFFORTS

The SWRWD Plan could potentially provide first flush sewer service within the SSA within 18 to 24 months of DB award. This is a fraction of the amount of design and construction time needed for the Export Plan.

Even though the Feather River Hospital on Pence Road is not in the current SSA, pressure effluent collection and an AWSS extension could be expedited in an early phase to serve this essential facility in the near term. This could be critically important to the rebuild efforts to have the hospital reopen without fear of a repeated evacuation and destruction caused by wildfire.

Recent images of the Feather River Hospital are presented in Figure 25.

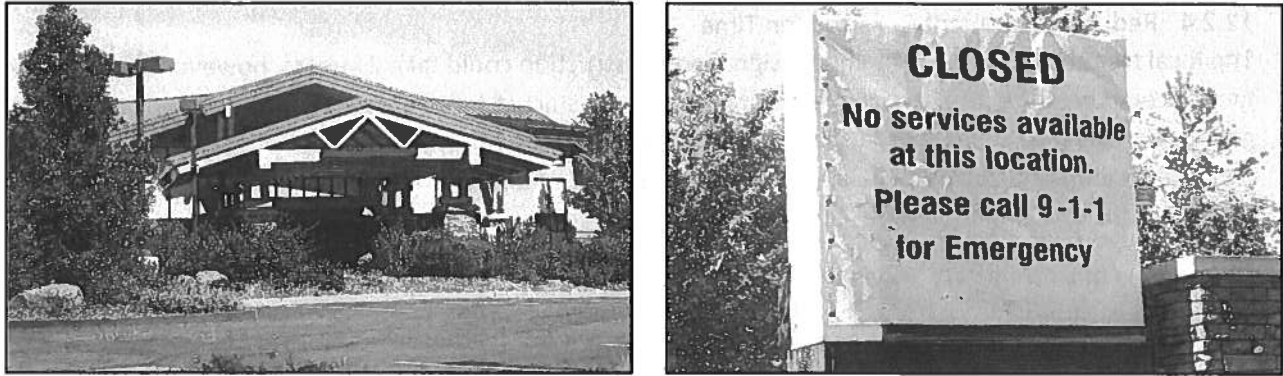


Figure 25 Feather River Hospital, May 28, 2021

Award of the SWRWD Plan could also initiate the process of insurance underwriters' work on mitigation modeling to determine premium discounts for a robust AWSS coupled with a robust wildfire defense system. Without reasonably priced insurance premiums, rebuild efforts may become constrained as construction loans and mortgages could be unavailable without reasonably priced property insurance premiums on a long-term basis.

12.2 EXPEDITED PROJECT DELIVERY

The estimated time required from award of DB contract to first flush within the SSA is 18 to 24 months, based on the following expediting factors.

12.2.1 Reduced Permitting Time

The CEQA review requirements for the SWRWD Plan are significantly less than for the Export Plan, since all construction activities are within TOP existing right-of-way and on existing parcels. There are no environmental issues associated with pipeline alignments on undeveloped lands, sensitive wetlands, creek crossings, highway crossing, increased surface discharge to the Sacramento River, etc.

As for a SWRCB/R5 water recycling permit, SWRCB Order WQ 2016-0068-DDW⁹⁴ coupled with Title 22 regulations would establish the water quality standards required for the proposed uses of recycled water and aquifer recharge. The required Engineer's Report submitted to R5 would be prepared concurrent with design of the collection and treatment systems.

12.2.2 Reduced Engineering Time

Compared with deep excavation required for gravity pipelines, manholes, and pump stations, the shallow HDD installation is as low in impact as the installation of underground electrical power distribution or fiber optic cable. The amount of engineering required for HDD is minimal, with the main design issue being avoidance of conflicts with existing buried utilities.

12.2.3 Reduced Collection Construction Time

Construction of the effluent-only pressure sewer can be constructed in phases allowing certain zones within the SAA to connect sequentially in a relatively rapid fashion. The commercial cores along Skyway and Clark Roads would be the priority, and installation of on-site interceptor tanks and controls could proceed at owners' discretion. Extensions of effluent-only sewer pipelines and AWSS pipelines could be extended to areas outside of the SSA, such as to the Feather River Hospital campus, based on priorities established by TOP.

12.2.4 Reduced Treatment Construction Time

The local treatment facility planning, design, and construction could take 2+ years, however a temporary facility could be placed into service on a rental basis since startup flows are estimated to be only 100,000 gallons per day (gpd). Small capacities could be added incrementally if needed. Delivery of a temporary package treatment facility would likely take less than three months from date of order plus an estimated three months of installation time.

An example of a temporary 3-increment 150,000 gpd facility permitted on a temporary basis by R5 is presented in Figure 26.

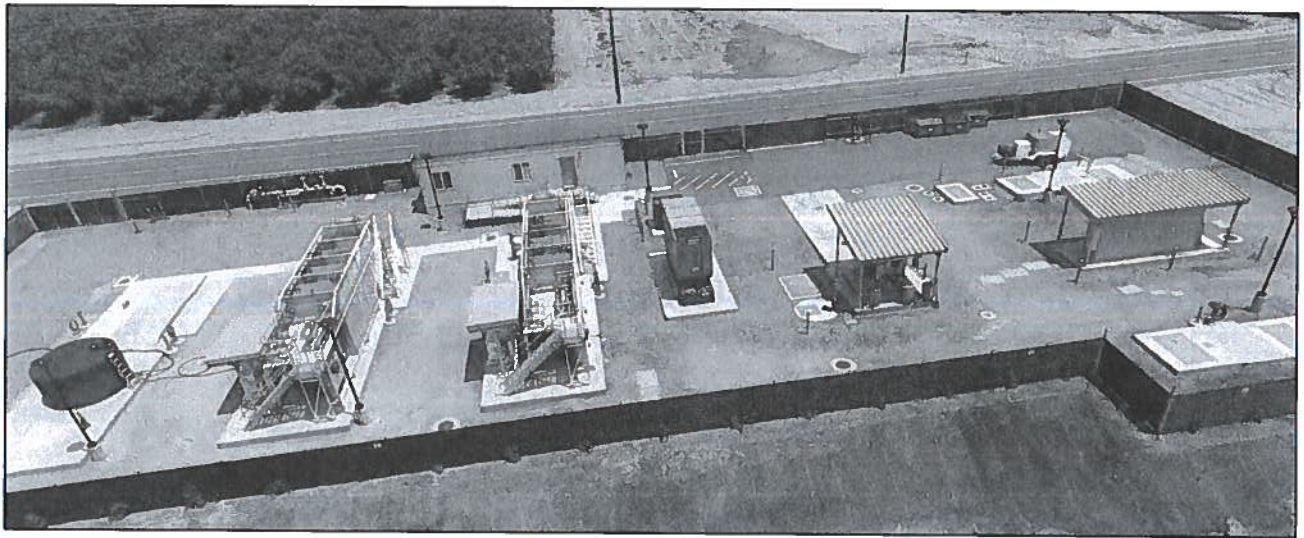


Figure 26 Temporary Package Wastewater Treatment Facility, Madera County, CA

12.2.5 Reduced Effluent Reuse Construction Time

The dual distribution piping would generally occur concurrent with the HDD collection piping installation. There may be a temporary imbalance in effluent demand relative to effluent generated on an annual or seasonal basis. In the event of an imbalance, temporary irrigation sites and/or temporary dispersal sites could be needed on an interim basis.

One site that might be considered for a temporary and/or permanent recycled water irrigation system is the Lava Creek Golf Course located on Old Clark Road. This facility was extensively damaged in the Camp Fire and has not reopened. TOP may want to consider options for Lava Creek in its rebuild campaign perhaps as municipal facility. The vineyard immediately to the north could also be a beneficial reuse site for tertiary effluent on a temporary and/or permanent basis.

This site is within TOP jurisdictional boundary and is immediately adjacent to the proposed SSA boundary. A local golf facility using recycled water could be an attractive community amenity as TOP plans its rebuild future. Recent images of Lava Creek Golf Course are presented as Figure 27.



Figure 27 Lava Creek Golf Course, May 28, 2021

13 SUMMARY

The SWRWD Plan described in this report is much more than just a sewer system. It is an integrated plan addressing not only the long-standing and pressing sewer needs of TOP but also beneficial water reuse and a robust wildfire defense strategy. Highlights are summarized below.

1. Effluent-only pressure sewer collection within the Sewer Service Area (SSA)
2. Local water recycling facility sited within or adjacent to TOP
3. High pressure non-potable auxiliary water supply system (AWSS)
4. Non-potable AWSS distribution to all parcels within SSA
5. Non-potable water irrigation supply for all parcels within SSA including parks, irrigated buffers, evacuation routes, high-risk slopes
6. California Title 22 disinfected tertiary recycled water for seasonal aquifer recharge
7. Non-potable water tank storage within TOP serving multiple pressure zones
8. Supplemental raw water supply for AWSS bypassing PID treatment plant in emergencies, if necessary
9. Supplemental groundwater supply for AWSS in emergencies, if necessary
10. Strategic wildfire defense capabilities including rooftop sprinklers, water cannons, water misters protecting essential and high value assets from wind-driven ember cast
11. Separation of potable and non-potable distribution to prevent depressurization of potable system and chemical contamination that can ensue during a wildfire event

12. Robust community-scale wildfire mitigation strategy to reduce underwriters' risk profile and lower property insurance premiums
13. Septage receiving facility to accommodate biosolids from all TOP septic tanks
14. Expedited system delivery of 18-24 months from award of design-build contract to first flush relative to 5-10 years for the Export Plan
15. Significant opportunity for state and federal grant funding sources otherwise not available to the Export Plan
16. Ability to ultimately expand system to include all residential and commercial parcels within TOP

The major advantages of the SWRWD Plan relative to the Export Plan, are summarized below.

13.1 WATER REUSE

Reuse of wastewater otherwise discharged to the Sacramento River and ultimately to the Pacific Ocean is the primary benefit of the SWRWD Plan. The value of keeping a water resource available locally is summarized by Assemblyman Gallagher in August 2021, as follows.

"Two years ago this lake [Lake Oroville] was full," Gallagher said. "Yes, we've had a drought. Yes, we have less run-off this year due to climate change. But you shouldn't see a lake this low after two years into a drought. "It's because of bad management. Water that continues to flow out this reservoir, down the river, into the Delta, into the ocean; water that is not usable for farms, for your families, for our cities — and we're the ones that are asked to cut back."95

The total potential benefit of recycling 0.45 mgd of collected wastewater from the SSA would equal approximately 160 million gallons per year (mgy). If all of the 11,500 parcels within TOP are ultimately collected and effluent reused for irrigation and aquifer recharge, the total potential benefit would be approximately 900 mgy.

13.2 PROTECTION OF POTABLE WATER DISTRIBUTION

Depressurization of water distribution systems is a largely unrecognized risk of wildfire devastation on communities in the Wildland Urban Interface. Separation of the potable distribution from the fire suppression water supply would prevent the underlying cause – the rapid increase in demand caused by residential yard sprinklers and fire hydrants occurring simultaneously. A robust AWSS coupled with SCADA controls and real time weather and incident data could intelligently manage water resources in the distribution system so that limited supply is directed to where it is needed most while at the same time preventing depressurization of the potable system. The potable system would forever be protected from rapid depressurization and the potential for chemical contamination that can ensue.

13.3 WILDFIRE RISK MITIGATION

Wildfire risk mitigation, whether recognized or not, will likely be an overarching reality of any rebuild plan going forward. Without mitigation, private property insurance may be either be unobtainable or unaffordable. Home hardening required with recently updated building codes coupled with property owner diligence in landscape and building maintenance can provide protection, but that is limited to

parcel-scale mitigation. This provides limited protection in dry weather high-wind conditions where ember casts can travel miles downwind of active wildfires.

What is missing, is community-scale hardening. Design of a robust AWSS including its potential as an automated state-of-the-art wildfire defense system ready to activate upon any threat of high-risk weather conditions. With community-scale hardening coupled with parcel-scale hardening, the insurance industry will likely recognize those robust mitigations in their rate models which would quantify risk reduction and ultimately credits in their premium rate structures. Without robust mitigations, insurance underwriters may refuse to renew policies with property owners facing the prospect of going without insurance coverage.

Unfortunately, Butte County has experienced another devastating wildfire whose ignition occurred in very close proximity to the original ignition of the 2018 Camp Fire. Both ignitions appear to have been caused by electrical transmission equipment in the Feather River Canyon. An image of the Dixie Fire smoke plume, as seen from Skyway Road in Paradise, is presented in Figure 28.

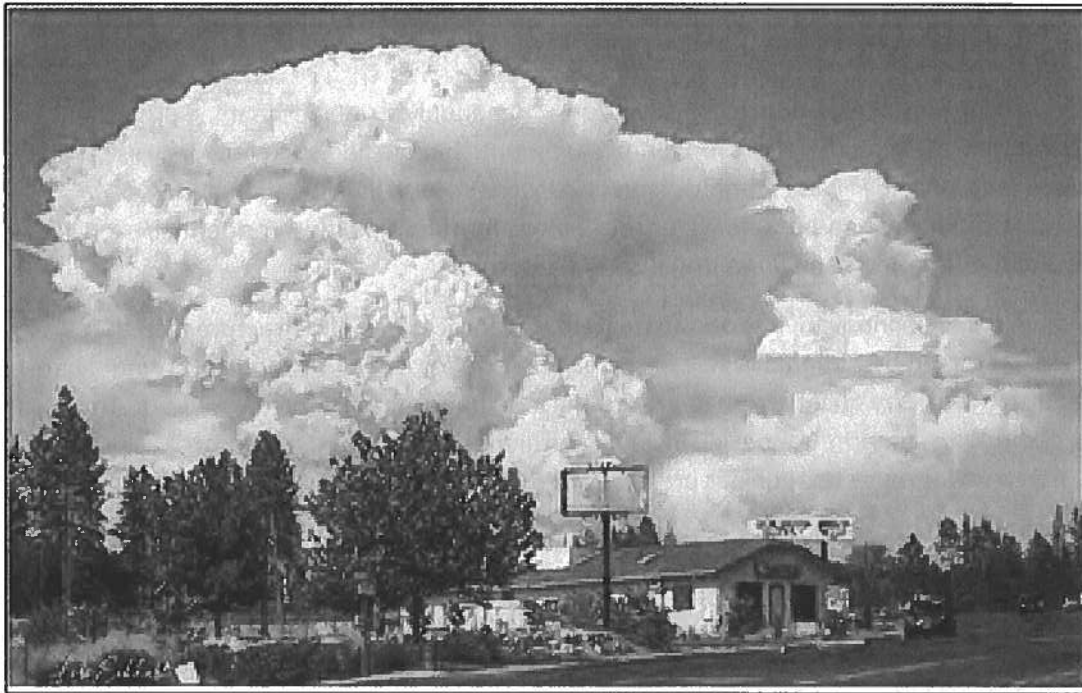


Figure 28 Dixie Fire plume of Smoke as seen July 19, 2021 from Skyway Road, Paradise⁹⁶

As demonstrated by the Camp Fire and now Dixie Fire, TOP is in a high-risk wildfire setting. Robust mitigations will be required not only for obtaining affordable property insurance, but for the most basic need to protect life and property. Without those basic protections and assurances, TOP rebuild efforts may be constrained going forward.

13.4 TIME TO FIRST FLUSH

The SWRWD Plan could be expedited at numerous levels – environmental review, design, construction, startup, etc. to provide first flush service to properties within the SSA in as little as 18 months from DB award. This compares with 5 to 10 years for the Export Plan.

13.5 GRANT OPPORTUNITIES

There are likely to be numerous state and federal grant funding opportunities available to the SWRWD Plan beyond the normal EPA/SRF and USBR wastewater programs. Due to the heightened awareness of the western U.S. drought and extended wildfire seasons, many legislative proposals have been introduced in 2020 and 2021 that could potentially support the SWRWD Plan in the near term. Seven of those grant funding programs are listed in Section 8.3 above.

13.6 CONCURRENT CEQA REVIEW REQUESTED

Similar to the Export Plan, the SWRWD Plan requires CEQA environmental review prior to any DB award. TOP would have to take an affirmative action to reissue an amended NOP to include the SWRWD Plan and then incorporate it in its draft Environmental Impact Report for certification. With a certified EIR including both the Export Plan and the SWRWD Plan, TOP could then competitively bid the two options in a fair, open and transparent DB procurement process.

14 ABOUT THE AUTHOR

Dana Ripley has four decades of experience consulting on water supply strategic planning projects engaging collaboration with team members, upper management, and outside stakeholders. His project development experience includes water supply planning associated with investigation and implementation of potable and non-potable water reuse plans for municipalities, residential/commercial development projects and large irrigators in California.

He is noted for developing an innovative septic abatement water recycling infrastructure plan that was peer-reviewed and endorsed by National Water Research Institute for its ability to protect groundwater, surface water and saltwater bay quality from degradation from domestic wastewater sources. This comprehensive community water reuse design including effluent-only pressure collection was published in a widely acclaimed water reuse textbook as presented in Figure 29⁹⁷.

Dana's water master planning portfolio includes preparation of a California SB 610 water supply assessment for a large master-planned community in the San Joaquin Valley which was approved as part of the project's CEQA entitlement. Dana also won a grant award from Metropolitan Water District of Southern California Innovative Water Supply Program to develop a template for decentralized non-potable water reuse in urban settings.

Dana has a strong interest in energy-efficient decentralized wastewater reuse treatment facilities that can be located in sensitive urban settings which produce an effluent quality consistent with California standards for unrestricted irrigation, fire suppression and other municipal/industrial non-potable water uses. Recent designs include hourly shutdown features that are compatible with renewable power sources, microgrids, and real-time utility pricing structures.

Dana holds a Bachelor of Science degree from the University of California at Davis, a MBA from the University of Santa Clara, and is a Registered Consulting Civil Engineer in California.

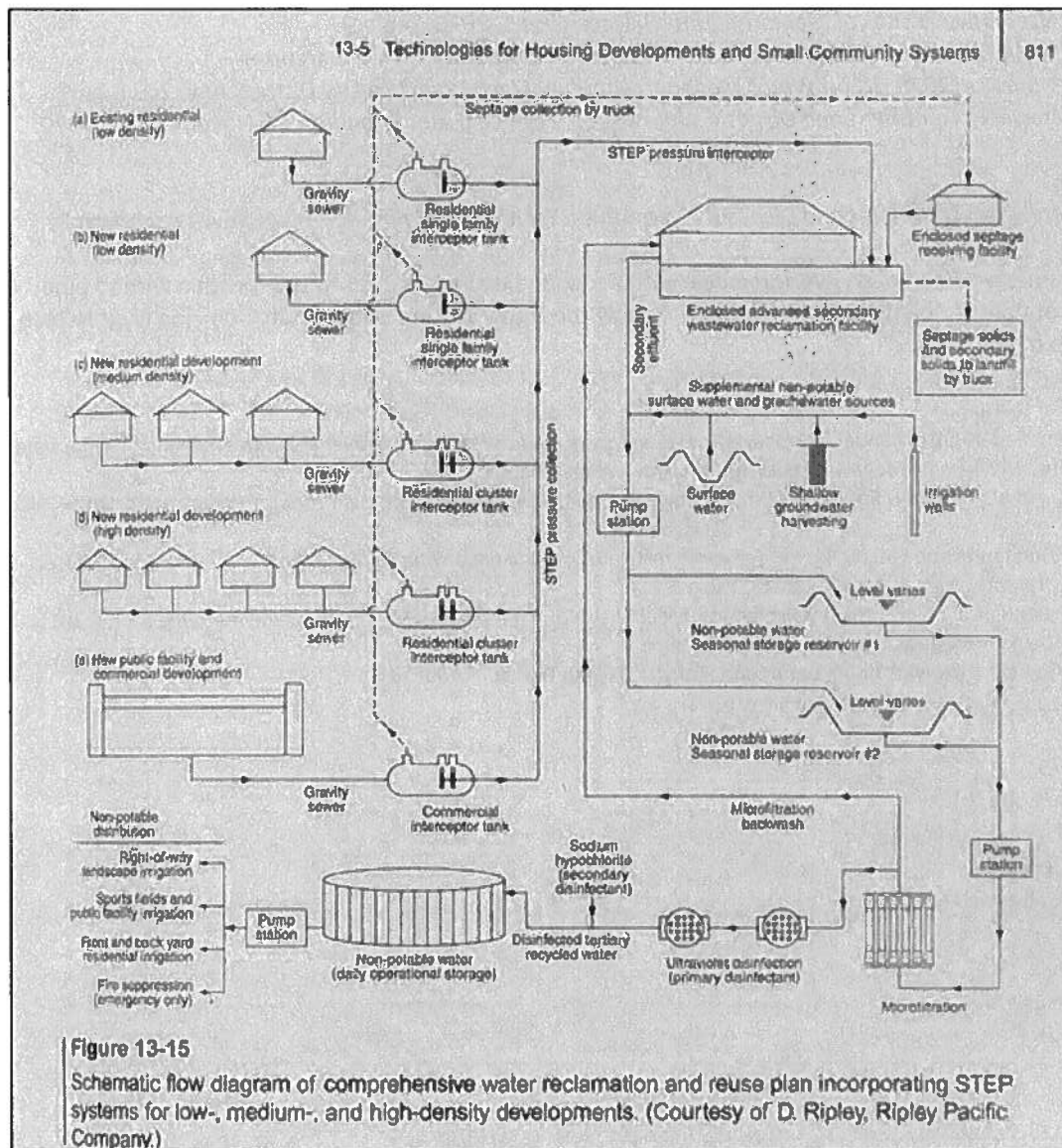


Figure 29 Flow Diagram from Figure 13-15 Water Reuse Textbook prepared by Dana Ripley

15 ENDNOTES

- ¹ For definition see [White Paper | Definition of White Paper by Merriam-Webster](#)
- ² See Appendix A-1.
- ³ See Appendix B-24
- ⁴ See Appendix C
- ⁵ See Appendix D
- ⁶ See Appendix D, p.58
- ⁷ See Appendix D, p.17
- ⁸ See Appendix B, p.2
- ⁹ See Appendix D, p.54

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- ¹⁰ HDR, *Regional Alternative Technical Memorandum #5*, December 1, 2020, Table 9.
- ¹¹ Source: Chico Enterprise Record dated October 12, 2021 (contributed by Town of Paradise)
- ¹² California Water Service, *2020 Urban Water Management Plan, Chico Hamilton City District*, June 2021, p.61
- ¹³ HDR, *Local Wastewater Treatment and Disposal Alternatives, Technical Memorandum #4*, November 11, 2020.
- ¹⁴ Appendix D, p.117
- ¹⁵ See Appendix B
- ¹⁶ HDR, *Local Wastewater Treatment and Disposal Alternatives, Technical Memorandum #4*, Nov. 11, 2020, p.22
- ¹⁷ Ibid.
- ¹⁸ Calculation assumes 54,700 lf of 6" PVC forcemain with a friction headloss of 1.35 ft/100 ft with a wire to pipe efficiency of 38% at flowrate of 400 gallons per minute using the highly efficient, heavy duty non-clog Flygt N-Tech wastewater pump model 3301.
- ¹⁹ See [One of America's Toughest CEO Jobs: Fixing PG&E - WSJ](#)
- ²⁰ See Appendix E
- ²¹ Water Environment Federation, Manual of Practice No.32, *Energy in Water Resource Recovery Facilities*, Second edition, June 2021, Table B.0. Note: MWh/mg = Megawatt hours per million gallons treated
- ²² Tchobanoglous, G., et al, Metcalf & Eddy|AECOM, *Wastewater Engineering, Treatment and Resource Recovery*, McGraw-Hill 2014, Table 17-3.
- ²³ Water Research Foundation and Electric Power Research Institute, *Electricity Use and Management in the Municipal Water Supply and Wastewater Industries*, November 2013, Table 5-2.
- ²⁴ Pennsylvania Department of Environmental Protection, *Electric Use at Pennsylvania Sewage Treatment Plants*, March 2011, Figure 6. Note: MWh/mg = Megawatt hours per million gallons.
- ²⁵ Ibid. Note: kWh/lb BOD = kilowatt hours per pound Biologic Oxygen Demand reduced.
- ²⁶ See [State Water Resources Control Board \(ca.gov\)](#)
- ²⁷ See Appendix F
- ²⁸ See Appendix F-5.
- ²⁹ Alameda County Zone 7
- ³⁰ See Appendix G
- ³¹ Source: Google Earth
- ³² Appendix H, p. 6-7.
- ³³ See Appendix F
- ³⁴ See Appendix H
- ³⁵ See [FHSZ Viewer \(ca.gov\)](#)
- ³⁶ See Appendix I, p. 30.
- ³⁷ See Appendix J
- ³⁸ Ibid.
- ³⁹ See [The Science of Firefighting: Cisterns | Exploratorium Video](#)
- ⁴⁰ See Appendix K
- ⁴¹ Source: Google Earth
- ⁴² See [Mining Solutions From Nelson Irrigation](#)
- ⁴³ See Appendix L
- ⁴⁴ See Appendix H, p.3-3.
- ⁴⁵ See Appendix M
- ⁴⁶ See Appendix H, p.F-28.
- ⁴⁷ See Appendix N
- ⁴⁸ See Appendix N, p. 14
- ⁴⁹ See [Tahoe resorts activate snow cannons to battle Caldor Fire \(audacy.com\)](#)
- ⁵⁰ See Appendix C, p. 2
- ⁵¹ Assumes TOP pre-fire population of 26,000 and residential occupancy of 2.19 persons/parcel per PID 2020 UWMP, Appendix H.
- ⁵² See [Codes Display Text \(ca.gov\)](#)
- ⁵³ See Appendix P
- ⁵⁴ See [Water Quality Control Policy for Recycled Water \(ca.gov\)](#)

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- ⁵⁵ See [wqo2016_0068_ddw \(ca.gov\)](#)
- ⁵⁶ See [Microsoft Word - Regionalization_res.doc \(ca.gov\)](#)
- ⁵⁷ See Appendix B, Table 8, p.21
- ⁵⁸ *Ibid*
- ⁵⁹ *Ibid*
- ⁶⁰ HDR, Inc., *Local Wastewater Treatment and Disposal Alternatives, Technical Memorandum #4, Paradise Sewer Project*, November 11, 2020, Appendix E (last page)
- ⁶¹ See Appendix D, Appendix A. Cost Estimates
- ⁶² *Ibid*
- ⁶³ Assumes 180,000 lineal feet of 10" steel pipe @ \$450/lf (all in)
- ⁶⁴ Assumes four 1 million gallon pre-stressed concrete circular tanks @ \$2.50/gallon (all in)
- ⁶⁵ Preliminary planning estimate for AWSS hydrants, remote actuated isolation valves, meters, backflow prevention devices, PRV's, SCADA, fixed water cannons, fixed and/or portable water misters (all in). Wildfire defense costs subject to design criteria to be established by fire suppression experts in consultation with Cal Fire – Butte County.
- ⁶⁶ HDR, Inc., *Local Wastewater Treatment and Disposal Alternatives, Technical Memorandum #4, Paradise Sewer Project*, November 11, 2020, Appendix E (last page)
- ⁶⁷ See Appendix Y
- ⁶⁸ *Ibid*.
- ⁶⁹ See [Drought Fact Sheet \(ca.gov\)](#)
- ⁷⁰ See [Bill Text - SB-63 Fire prevention: vegetation management: public education: grants: defensible space: fire hazard severity zones.](#)
- ⁷¹ See [Bill Text - AB-52 California Global Warming Solutions Act of 2006: scoping plan updates: wildfires.](#)
- ⁷² See Appendix Q
- ⁷³ See [WaterSMART | Bureau of Reclamation \(usbr.gov\)](#)
- ⁷⁴ See [H.R.1352 - 117th Congress \(2021-2022\): Water Affordability, Transparency, Equity, and Reliability Act of 2021 | Congress.gov | Library of Congress](#)
- ⁷⁵ See [U.S. Senate Near Final Vote to Pass Major Infrastructure Package](#)
- ⁷⁶ See Appendix R
- ⁷⁷ See Appendix S
- ⁷⁸ See Appendix T, Appendix III p.13.
- ⁷⁹ See Appendix J, p.1
- ⁸⁰ See Appendix S
- ⁸¹ See Appendix R
- ⁸² See Appendix X
- ⁸³ See Appendix T
- ⁸⁴ See [IBHS-Zesty-WildfireFuelMgmt.pdf](#)
- ⁸⁵ See Appendix Z
- ⁸⁶ Photo credit: Josh Edelson/AFP via Getty Images
- ⁸⁷ See Appendix U
- ⁸⁸ See [FAQ – Southern Kent Island Sewer \(skisewer.com\)](#)
- ⁸⁹ See [Recycled Water | El Dorado Irrigation District \(eid.org\)](#)
- ⁹⁰ See Appendix V
- ⁹¹ See Appendix U
- ⁹² TOP Sewer Project YouTube meeting dated May 13, 2021
- ⁹³ Source: Appendix B, p.20
- ⁹⁴ See [wqo2016_0068_ddw \(ca.gov\)](#)
- ⁹⁵ See Appendix W
- ⁹⁶ Photo credit to Lori Eckhart, Chico ER.com, July 23, 2021 edition.
- ⁹⁷ Tchobanoglous, G., et al, *Water Reuse, Issues, Technologies, and Applications*, Metcalf & Eddy|AECOM, McGraw Hill, Inc., 2007, Figure 13-15.

EXHIBIT B

Town of Paradise Sewer Project Draft Program EIR

Rebuttal Responses to Table 5.2-1 Local Alternative #3 Infeasibility

Draft PEIR Table 5.2-1 Reason for Infeasibility	Policy and Technical Responses to Infeasibility Assertions
1. State and Regional Water Board Policies supporting regionalization	<p>Any State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) policy supporting “regionalization” is an out-of-date policy predicated on “disposal” of wastewater and not beneficial reuse. RWQCB Central Valley Region #5 (R5) Resolution R5-2009-0028 indicating support for “Regionalization” in the same resolution supports “Reclamation, Recycling, and Conservation.” In the context of the Town of Paradise proposed 18-mile export pipe, the increased discharge of secondary effluent to the Sacramento River runs against California’s long-standing strategy to minimize potable water demand and increase water recycling. The SWRCB encourages water recycling with more recent statewide policies and orders including the 2018 Water Quality Control Plan for Recycled Water and the 2016 General Order for Water Reclamation Requirements for Recycled Water Use. Further, Governor Newsom this month released California’s Water Supply Strategy which establishes a plan for significant increases in urban water recycling by both coastal and inland communities. The plan targets an increase of 0.8 million acre-feet (MAF) by 2030 and 1.8 MAF by 2040 (see Figure 1). Based on the state’s overwhelming need to reduce potable water demand and beneficially recycle water wherever feasible, it is the 18-mile export plan that would likely not be supported Governor’s office and would likely not be supported by state and federal funding agencies.</p> <p>In the Town’s case, “regionalization” assumes connection to Chico’s water pollution control plant (WPCP) which discharges secondary effluent to the Sacramento River. In light of R5’s intent to require Chico to remove nitrogen from its discharge¹, the draft PEIR should not overlook the cost and energy intensity required to nitrify and denitrify prior to discharge. As a related example, R5 required Sacramento Regional Sanitation District’s WPCP in Elk Grove to remove nitrogen prior to discharge to the Sacramento River at a capital cost exceeding \$2 billion². Local reuse, conversely, would beneficially utilize nitrogen and other nutrients for agricultural, landscape, and turf fertilization.</p>
2. Regional Board November 2020 letter supporting regionalization	<p>The November 2020 R5 letter fails to compare local urban water reuse with river discharge and “<i>recycled water for waterfowl habitat uses</i>”. Nor does the letter consider the multi-benefits of a dual distribution system within the Town that would include 1) non-potable recycled water for landscape, park, turf and agricultural irrigation, 2) seasonal aquifer recharge dispersed throughout the service area, 3) state-of-the-art community-scale wildfire defense, 4) high pressure supplemental water supply for fire suppression, 5) protection against any future depressurization of PID’s potable distribution system and 6) beneficial use of nutrients inherent in wastewater. Upgrades to the Chico water WPCP for river discharge and/or agricultural reuse could easily exceed \$300 million³ for nutrient removal and other treatment process improvements over the next decade. The Town would be responsible for it’s proportionate share of costs and its</p>

Draft PEIR Table 5.2-1 Reason for Infeasibility	Policy and Technical Responses to Infeasibility Assertions
	<p>contribution would offer zero benefit to Paradise Irrigation District's (PID) water supply portfolio and zero benefit for the Town's fire suppression capability.</p> <p>The R5 letter indicates that [the] <i>"Pipeline to Chico can be cost-effectively sized to accommodate a large range of flows."</i> This indicates that the pipeline can likely accommodate significant wastewater flows over and above the needs of the Town for planned developments within Chico's southeast sphere of influence and rural Butte County along the pipeline route. Table 1 presents pipeline capacities for the proposed 10.5 mile 12" export pipe force main⁴ based on a range of flow velocities. Table 3 presents the carrying capacity of plastic pipe from an engineering manual which indicates velocities for 12" pipe within the range of 1.3 to 10.12 feet per second (fps). The 7 fps maximum figure presented in Table 1 is well within the range presented in the engineering manual. At that flow velocity, the export pipe capacity is about 2,400 gallons per minute (gpm), or about 1.7 million gallons per day (MGD) on an average day flow (ADF) basis and 3.4 mgd on a peak hour flow (PHF) basis⁵.</p> <p>At 1.7 mgd ADF, the lost opportunity for local water recycling in the Town, southeast Chico and rural Butte County could be about 2,000 acre-feet per year (afy) as indicated in Table 2.</p> <p>"Regionalization" as a primary justification for the 18-mile export project is clearly in conflict with the Governor's <i>California's Water Supply Strategy</i> since it forecloses on a potential 2,000 afy of urban water recycling in the Town and southeast Chico. Based on current drought and wildfire threat conditions, the Governor's office would likely strongly support the local reuse alternative over the export alternative. In that same light, the grant funding opportunities for local water reuse would likely be significantly greater than for the 18-mile export based on the Governor's strong emphasis on urban reuse projects anywhere in the state.</p> <p>The R5 letter fails to acknowledge that Butte LAFCo cannot approve an 18-mile extension of sewer service absent an <i>existing or impending public health and safety threat</i>⁶. The 0.1 mgd post-fire subsurface dispersal in the sewer service area (SSA) that had a pre-fire permitted subsurface dispersal capacity of about 0.5 mgd cannot be considered an <i>existing or impending health threat</i>. Absent such a threat, Butte LAFCo cannot approve the extension as it is the only legally permissible justification available to LAFCo to approve a service extension request outside of an agency's (<i>Chico</i>) <i>Sphere of Influence</i>⁷. The only path forward with the extension request therefore would likely be a waiver approved by the state legislature and the Governor, similar procedurally to Assembly Bill 36 (Gallagher, 2021).</p> <p>The R5 November 2020 letter did not confirm the presence of an <i>existing or impending public health and safety threat</i> in Paradise of which it has the technical and regulatory authority to determine. Even if R5 made such a determination, the proposed export project serving only 14% of the Town would not alleviate</p>

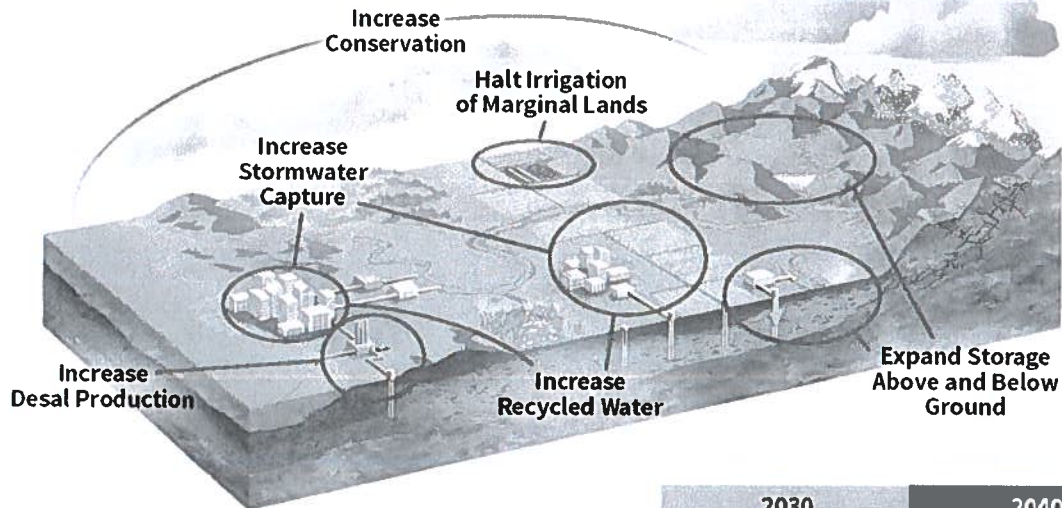
Draft PEIR Table 5.2-1 Reason for Infeasibility	Policy and Technical Responses to Infeasibility Assertions
	<p>most of the threat since there is ample high density residential, commercial, health care and institutional development outside of the proposed SSA which could also have subsurface dispersal issues. Absent an existing or impending health and safety threat, the 18-mile export project as indicated above is <i>legally impermissible</i>⁸. In its alternative analysis of the regionalization versus local reuse options available to the Town, R5 erred in not considering Government Code restrictions on any extension of utility service from one jurisdiction to another in California.</p>
<p>3. Siting local wastewater facility within residential and business areas</p>	<p>Figure 2 presents an image of a California Title 22 water reclamation facility sited in a residential setting in southern California. This facility was permitted by R8 (Santa Ana Region) under Title 22 criteria and had operated continuously between 1981 and 2006 when the facility was decommissioned with the arrival of an Inland Empire Utilities Agency (IEUA) purple pipe extension to two adjoining golf courses. During its 25-year operation, this author was not aware of a single odor or noise complaint from residents adjacent to the facility. This image was included in the <i>Water Reuse</i> textbook⁹ as an example of a satellite treatment plant located in a housing development. Figure 3 presents a 2021 satellite image of the decommissioned facility indicating its close proximity to numerous residences and a swimming pool.</p>
<p>4. Lack of sufficient recycled water users in area</p>	<p>Table 3 indicates PID's pre-fire estimate of total water demand in 2040 of 7,817 afy¹⁰. This compares with 3,576 afy of PID's pre-fire estimate of 2040 wastewater dispersal as indicated in Table 4¹¹. These two values indicate that, on an annual basis, the total service area pre-fire potable and raw water demand is roughly 2.2 times the wastewater generation. On a seasonal basis, the non-potable exterior irrigation demand could be as high as 4 times the interior potable demand on peak summer days. Clearly, with dual distribution to all served parcels, the annual average non-potable demand exceeds the potential recycled water supply.</p>
<p>5. Large effluent storage facility needed for winter flows</p>	<p>Based on information provided by Town engineers¹², the heat of the Camp Fire at the ground surface did damage some septic tanks, particularly those constructed of plastic or fiberglass. However, of the 11,000+ leachfields – there has been no reported damage. With that context, the Sewer, Water Reuse, and Wildfire Defense (SWRWD) Plan proposes to utilize the existing 11,000+ leachfields for shallow aquifer recharge in the winter months eliminating the need for a seasonal effluent storage facility. The dual distribution will be in place, and individual irrigation controllers will be used to control and meter delivery of tertiary effluent to existing leachfields in the winter months as/when needed. Ultimately, the pre-fire 2040 estimate 3,576 afy dispersal of septic tank effluent would be reduced to about 980 afy¹³ dispersal of tertiary effluent meeting strict Title 22 unrestricted irrigation standards. These values assume the long-term objective of the SWRWD</p>

Draft PEIR Table 5.2-1 Reason for Infeasibility	Policy and Technical Responses to Infeasibility Assertions
	Plan to serve most if not all of PID's 10,600 service connections and not just the 1,500 connections in the proposed SSA.
6. Land for storage environmentally sensitive	Land for seasonal storage unnecessary. See response #5 above.
7. Local WWTP construction would be a lengthy process	<p>The <u>2016 General Order for Water Reclamation Requirements for Recycled Water Use</u> provides an expedited path for recycle permits, since most non-potable recycled water projects rely on the same regulatory framework provided in Title 22. With low-pressure effluent collection and temporary treatment facilities at say, the abandoned Lava Creek golf course, time to first-flush would likely be less than 18 months, perhaps as little as 12 months from authorization to proceed. This compares with estimates of the gravity collection and 18-mile export project taking as much as a decade to first-flush.</p> <p>There is ample precedent in R5 for satellite water reuse facilities permitted under Title 22 criteria for disinfected tertiary recycled water. In combination with the 2016 General Order, the R5 approval process could be concurrent with the facility design thereby expediting the project delivery schedule.</p>
8. Auxiliary water system would for fire suppression would be a separate pipeline system	<p>Yes, a separate pipeline system would be required modeled after <u>El Dorado Irrigation District's dual distribution system</u> (in operation for over four decades) and <u>San Francisco's auxiliary water supply system</u> (in operation for over a century). In addition, the dual distribution provides access to individual leachfields for winter subsurface dispersal and would provide assurance that, in the event of a repeat of an extreme wildfire event, that PID's potable system would be protected from depressurization caused by the abrupt increased demand from residential sprinklers and fire-fighting activity¹⁴.</p>
9. Inefficient oversizing of treatment facility in early years	<p>Inefficient oversizing of infrastructure is not unique to wastewater treatment facilities – it is a given on any infrastructure project – water import and treatment facilities, power generation and transmission, highways, airports, rail facilities, ports, etc. etc. Utilization is never near optimum in the early years, and full utilization may come decades after construction is complete. For context, how efficient is a \$184 million export project when the initial flow estimate is only about 0.1 mgd serving a 2026 connected population of 1,391¹⁵? Since the \$184 million figure is only a Class 5 estimate (- 30% to +50%) coupled with the recent inflation spike, the actual construction bid cost could easily exceed \$300 million – with no possible opportunity for interim temporary facilities or phasing. Where's the early year efficiency in that?</p>

<p>10. O&M for a full-scale treatment facility would be supported by a small initial ratepayer base</p>	<p>Figure 4 presents a satellite water reclamation facility owned and operated by Fresno County Special Districts, County Service Area #34. This facility was permitted by R5 under Title 22 criteria in 2005. Table 6 presents the 2022-2023 projected operating budget for operation and maintenance (O&M) of this facility. Compare that Fresno County CSA #34 O&M value with estimates for the export project O&M: \$254,000/yr for the regional pipeline¹⁶, \$1,022,000 for the gravity collection system¹⁷, and the \$491,000 contribution to Chico WPCP O&M¹⁸. These annual costs total \$1,767,000/year starting at first-flush. How can the Town afford this when most of the SSA parcels are currently vacant? Add to this annual O&M cost the annual cost of the local share of loan debt repayment since it is unlikely that the project will achieve 100% grant funding for capital costs.</p> <p>If interior residential water use is reduced to 42 gallons per person per day (gpcd) by 2040 in accordance with recommendations by the California Department of Water Resources¹⁹, the Town connected population served by a similar Title 22 facility (CSA #34 plant) could potentially be about 4,700, equal to the estimated population in the SSA at Year 2050²⁰.</p>
<p>11. Treatment processes not easily scalable</p>	<p>The export plan has zero potential for phasing and cannot be scaled up ever once capacity is reached in the collected area of the SSA. The local treatment collection system and local water reuse plant, however, can be scaled up to ultimately serve all 10,600 connections and be designed to operate efficiently even at low initial flows.</p>
<p>12. Extensive ongoing monitoring required for local recycling</p>	<p>Table #6 does not call out monitoring costs since Fresno County operators conduct in-house lab tests as part of their normal daily and weekly routines. Monitoring costs are included in the "Professional and Specialized Services" line item. Monitoring reports are submitted by the operators to R5 on a quarterly and annual basis. All operators are state-certified and are employees of Fresno County.</p>

Closing the evaporative gap

To offset increased evaporation tied to warmer average temperatures, California must capture, recycle, de-salt, and conserve more water.



	2030		2040	
Increase Recycled Water	.8 MAF	About 5 MAF	1.8 MAF	About 7 MAF
Increase Desal Production	28,000 AF		84,000 AF	
Increase Stormwater Capture	.25 MAF		.5 MAF	
Increase Conservation	.5 MAF		.5 MAF	
SUBTOTAL FOR RECYCLED, DESAL, STORMWATER AND CONSERVATION	1.6 MAF		2.9 MAF	
Expand Storage Above and Below Ground*	3.7 MAF		4 MAF	
Total	4.8 MAF		6.9 MAF	

*Additional storage capacity does not equate to a similar volume of new water supply. MAF – million acre-feet.

CALIFORNIA'S WATER SUPPLY STRATEGY - ADAPTING TO A HOTTER, DRIER FUTURE PAGE 3 of 16 AUGUST 2022

Figure 1 Closing the evaporative gap (from California Water Supply Strategy – Adapting to a Hotter, Drier Future, p.3)

Table 1 Carrying Capacity Tabulation for 12" Pressure Pipe Flowing Full

Input Parameters	Unit	Value
Pipe nominal size	in	12.000
Pipe outside diameter	in	12.750
Pipe wall thickness	in	0.406
Pipe inside diameter	in	11.938
pi	-	3.1416
Pipe inside area	sq in	111.932
Pipe inside area	sq ft	0.777

Parameter	Unit	Flow Velocity (feet per second)				
		3.0	4.0	5.0	6.0	7.0
Flow volume	cu ft/sec	2.33	3.11	3.89	4.66	5.44
Flow volume	gal/sec	17.44	23.26	29.07	34.89	40.70
Flow volume	gal/min	1,047	1,395	1,744	2,093	2,442
Average daily flow (ADF)	mgd	0.754	1.005	1.256	1.507	1.758
Peak diurnal flow (PDF)	mgd	1.130	1.507	1.884	2.261	2.637
Peak hourly flow (PHF)	mgd	1.507	2.009	2.512	3.014	3.516
TOP capacity limit (ADF)	mgd	0.464	0.464	0.464	0.464	0.464
Chico capacity limit (ADF)	mgd	0.290	0.541	0.792	1.043	1.294

Table 2 Annual Recycled Water Lost Opportunity with Export (acre-feet per year)

Parameter	Unit	Flow Velocity (feet per second)				
		3.0	4.0	5.0	6.0	7.0
TOP RW lost opportunity	afy	520	520	520	520	520
Chico RW lost opportunity	afy	324	605	887	1,168	1,449
Total RW lost opportunity	afy	844	1,125	1,406	1,687	1,969

Table 3 Harrington Plastics Pipe Carrying Capacity Chart

PIPE CARRYING CAPACITY CHARTS



Table 9 CARRYING CAPACITY AND FRICTION LOSS FOR SCHEDULE 40 THERMOPLASTIC PIPE

Flow Rate (gpm)	Flow Rate (m³/hr)	Velocity (ft/s)	Velocity (m/s)	Friction Loss (psi/100ft)	Friction Loss (bar/100m)	Head Loss (ft/100ft)	Head Loss (m/100m)	Flow Rate (gpm)	Flow Rate (m³/hr)	Velocity (ft/s)	Velocity (m/s)	Friction Loss (psi/100ft)	Friction Loss (bar/100m)	Head Loss (ft/100ft)	Head Loss (m/100m)
1	0.0028	1.16	0.33	1.16	0.08	1.16	0.33	1	0.0028	1.16	0.33	1.16	0.08	1.16	0.33
2	0.0056	2.32	0.66	2.32	0.16	2.32	0.66	2	0.0056	2.32	0.66	2.32	0.16	2.32	0.66
3	0.0084	3.48	0.99	3.48	0.24	3.48	0.99	3	0.0084	3.48	0.99	3.48	0.24	3.48	0.99
4	0.0112	4.64	1.32	4.64	0.32	4.64	1.32	4	0.0112	4.64	1.32	4.64	0.32	4.64	1.32
5	0.0140	5.80	1.65	5.80	0.40	5.80	1.65	5	0.0140	5.80	1.65	5.80	0.40	5.80	1.65
6	0.0168	6.96	1.98	6.96	0.48	6.96	1.98	6	0.0168	6.96	1.98	6.96	0.48	6.96	1.98
7	0.0196	8.12	2.31	8.12	0.56	8.12	2.31	7	0.0196	8.12	2.31	8.12	0.56	8.12	2.31
8	0.0224	9.28	2.64	9.28	0.64	9.28	2.64	8	0.0224	9.28	2.64	9.28	0.64	9.28	2.64
9	0.0252	10.44	2.97	10.44	0.72	10.44	2.97	9	0.0252	10.44	2.97	10.44	0.72	10.44	2.97
10	0.0280	11.60	3.30	11.60	0.80	11.60	3.30	10	0.0280	11.60	3.30	11.60	0.80	11.60	3.30
12	0.0336	13.92	3.96	13.92	0.96	13.92	3.96	12	0.0336	13.92	3.96	13.92	0.96	13.92	3.96
15	0.0420	17.40	4.95	17.40	1.20	17.40	4.95	15	0.0420	17.40	4.95	17.40	1.20	17.40	4.95
20	0.0560	23.04	6.60	23.04	1.60	23.04	6.60	20	0.0560	23.04	6.60	23.04	1.60	23.04	6.60
25	0.0700	28.80	8.25	28.80	2.00	28.80	8.25	25	0.0700	28.80	8.25	28.80	2.00	28.80	8.25
30	0.0840	34.56	9.90	34.56	2.40	34.56	9.90	30	0.0840	34.56	9.90	34.56	2.40	34.56	9.90
35	0.0980	40.32	11.55	40.32	2.80	40.32	11.55	35	0.0980	40.32	11.55	40.32	2.80	40.32	11.55
40	0.1120	46.08	13.20	46.08	3.20	46.08	13.20	40	0.1120	46.08	13.20	46.08	3.20	46.08	13.20
45	0.1260	51.84	14.85	51.84	3.60	51.84	14.85	45	0.1260	51.84	14.85	51.84	3.60	51.84	14.85
50	0.1400	57.60	16.50	57.60	4.00	57.60	16.50	50	0.1400	57.60	16.50	57.60	4.00	57.60	16.50
60	0.1680	69.12	19.80	69.12	4.80	69.12	19.80	60	0.1680	69.12	19.80	69.12	4.80	69.12	19.80
70	0.1960	80.64	23.10	80.64	5.60	80.64	23.10	70	0.1960	80.64	23.10	80.64	5.60	80.64	23.10
80	0.2240	92.16	26.40	92.16	6.40	92.16	26.40	80	0.2240	92.16	26.40	92.16	6.40	92.16	26.40
90	0.2520	103.68	29.70	103.68	7.20	103.68	29.70	90	0.2520	103.68	29.70	103.68	7.20	103.68	29.70
100	0.2800	115.20	33.00	115.20	8.00	115.20	33.00	100	0.2800	115.20	33.00	115.20	8.00	115.20	33.00
125	0.3500	144.00	41.25	144.00	10.00	144.00	41.25	125	0.3500	144.00	41.25	144.00	10.00	144.00	41.25
150	0.4200	172.80	49.50	172.80	12.00	172.80	49.50	150	0.4200	172.80	49.50	172.80	12.00	172.80	49.50
175	0.4900	201.60	57.75	201.60	14.00	201.60	57.75	175	0.4900	201.60	57.75	201.60	14.00	201.60	57.75
200	0.5600	230.40	66.00	230.40	16.00	230.40	66.00	200	0.5600	230.40	66.00	230.40	16.00	230.40	66.00
225	0.6300	259.20	74.25	259.20	18.00	259.20	74.25	225	0.6300	259.20	74.25	259.20	18.00	259.20	74.25
250	0.7000	288.00	82.50	288.00	20.00	288.00	82.50	250	0.7000	288.00	82.50	288.00	20.00	288.00	82.50
275	0.7700	316.80	90.75	316.80	22.00	316.80	90.75	275	0.7700	316.80	90.75	316.80	22.00	316.80	90.75
300	0.8400	345.60	99.00	345.60	24.00	345.60	99.00	300	0.8400	345.60	99.00	345.60	24.00	345.60	99.00
325	0.9100	374.40	107.25	374.40	26.00	374.40	107.25	325	0.9100	374.40	107.25	374.40	26.00	374.40	107.25
350	0.9800	403.20	115.50	403.20	28.00	403.20	115.50	350	0.9800	403.20	115.50	403.20	28.00	403.20	115.50
375	1.0500	432.00	123.75	432.00	30.00	432.00	123.75	375	1.0500	432.00	123.75	432.00	30.00	432.00	123.75
400	1.1200	460.80	132.00	460.80	32.00	460.80	132.00	400	1.1200	460.80	132.00	460.80	32.00	460.80	132.00
425	1.1900	489.60	140.25	489.60	34.00	489.60	140.25	425	1.1900	489.60	140.25	489.60	34.00	489.60	140.25
450	1.2600	518.40	148.50	518.40	36.00	518.40	148.50	450	1.2600	518.40	148.50	518.40	36.00	518.40	148.50
475	1.3300	547.20	156.75	547.20	38.00	547.20	156.75	475	1.3300	547.20	156.75	547.20	38.00	547.20	156.75
500	1.4000	576.00	165.00	576.00	40.00	576.00	165.00	500	1.4000	576.00	165.00	576.00	40.00	576.00	165.00
525	1.4700	604.80	173.25	604.80	42.00	604.80	173.25	525	1.4700	604.80	173.25	604.80	42.00	604.80	173.25
550	1.5400	633.60	181.50	633.60	44.00	633.60	181.50	550	1.5400	633.60	181.50	633.60	44.00	633.60	181.50
575	1.6100	662.40	189.75	662.40	46.00	662.40	189.75	575	1.6100	662.40	189.75	662.40	46.00	662.40	189.75
600	1.6800	691.20	198.00	691.20	48.00	691.20	198.00	600	1.6800	691.20	198.00	691.20	48.00	691.20	198.00
625	1.7500	720.00	206.25	720.00	50.00	720.00	206.25	625	1.7500	720.00	206.25	720.00	50.00	720.00	206.25
650	1.8200	748.80	214.50	748.80	52.00	748.80	214.50	650	1.8200	748.80	214.50	748.80	52.00	748.80	214.50
675	1.8900	777.60	222.75	777.60	54.00	777.60	222.75	675	1.8900	777.60	222.75	777.60	54.00	777.60	222.75
700	1.9600	806.40	231.00	806.40	56.00	806.40	231.00	700	1.9600	806.40	231.00	806.40	56.00	806.40	231.00
725	2.0300	835.20	239.25	835.20	58.00	835.20	239.25	725	2.0300	835.20	239.25	835.20	58.00	835.20	239.25
750	2.1000	864.00	247.50	864.00	60.00	864.00	247.50	750	2.1000	864.00	247.50	864.00	60.00	864.00	247.50
775	2.1700	892.80	255.75	892.80	62.00	892.80	255.75	775	2.1700	892.80	255.75	892.80	62.00	892.80	255.75
800	2.2400	921.60	264.00	921.60	64.00	921.60	264.00	800	2.2400	921.60	264.00	921.60	64.00	921.60	264.00
825	2.3100	950.40	272.25	950.40	66.00	950.40	272.25	825	2.3100	950.40	272.25	950.40	66.00	950.40	272.25
850	2.3800	979.20	280.50	979.20	68.00	979.20	280.50	850	2.3800	979.20	280.50	979.20	68.00	979.20	280.50
875	2.4500	1008.00	288.75	1008.00	70.00	1008.00	288.75	875	2.4500	1008.00	288.75	1008.00	70.00	1008.00	288.75
900	2.5200	1036.80	297.00	1036.80	72.00	1036.80	297.00	900	2.5200	1036.80	297.00	1036.80	72.00	1036.80	297.00
925	2.5900	1065.60	305.25	1065.60	74.00	1065.60	305.25	925	2.5900	1065.60	305.25	1065.60	74.00	1065.60	305.25
950	2.6600	1094.40	313.50	1094.40	76.00	1094.40	313.50	950	2.6600	1094.40	313.50	1094.40	76.00	1094.40	313.50
975	2.7300	1123.20	321.75	1123.20	78.00	1123.20	321.75	975	2.7300	1123.20	321.75	1123.20	78.00	1123.20	321.75
1000	2.8000	1152.00	330.00	1152.00	80.00	1152.00	330.00	1000	2.8000	1152.00	330.00	1152.00	80.00	1152.00	330.00

CAUTION: Do not use or test the products in this manual with compressed air or other gases including air-over-water boosters.



Figure 2 Satellite Water Reclamation Plant, San Bernardino County, CA, image circa 1981



Figure 3 Satellite Water Reclamation Plant, San Bernardino County, CA, Google Earth image August 2021

Table 4 Paradise Irrigation District Total Water Demands, PID 2015 Urban Water Management Plan, p. 18

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040
Potable and Raw Water <i>From</i> <i>Tables 4-1 and 4-2</i>	4,282	6,623	6,940	7,298	7,620	7,817
Recycled Water Demand*	0	0	0	0	0	0
TOTAL WATER DEMAND	4,282	6,623	6,940	7,298	7,620	7,817
NOTES: *Not applicable. Recycled water is not available from Paradise Irrigation District.						

Table 5 Paradise Irrigation District Disposal of Wastewater, PID 2015 Urban Water Management Plan, p. 30

Table 6-A Disposal of wastewater (non-recycled) AF Year								
Method of disposal	2005	2010	2015	2020	2025	2030	2035	2040
On-site septic systems	2,707	2,868	2,250	3,030	3,175	3,339	3,487	3,576
Total	2,707	2,868	2,250	3,030	3,175	3,339	3,487	3,576



Figure 4 County Service Area #34 Satellite Water Reclamation Plant, Fresno County, CA, image July 2019.

Table 6 Fresno County CSA 34 WWTF Project Budget Expenditures 2022-2023

CSA 34WWTF COUNTY OF FRESNO SPECIAL DISTRICTS PROJECTED BUDGET EXPENDITURES 2022 - 2023			
		ORG:	9320
		FUND:	0830
		AUDITOR CODE:	
		SUBCLASS:	16202
ACCOUNT	BUDGET FY 2021-2022	ESTIMATED EXPENSES FY 2021 2022	PROPOSED BUDGET FY 2022 2023
Services & Supplies			
07101 General Liability Insurance	\$6,764	\$7,850	\$8,085
07205 MAINTENANCE EQUIPMENT	\$50,000	\$71,000	\$74,828
07220 MAINTENANCE BUILDING & GRO	\$51,830	\$96,736	\$117,462
07265 OFFICE EXPENSE	\$50	\$50	\$50
07268 POSTAGE	\$50	\$0	\$0
07287 PEOPLESFT FINANCIAL CHARGE	\$3,900	\$1,498	\$2,700
07295 PROFESSIONAL & SPECIALIZED S	\$366,682	\$341,254	\$281,619
07430 UTILITIES	\$164,573	\$118,863	\$132,729
07565 COUNTYWIDE COST ALLOCATION	\$76,644	\$76,644	\$0
Services & Supplies Subtotals	\$720,493	\$713,895	\$617,473
TOTAL EXPENDITURES:	\$720,493	\$713,895	\$617,473
Increase to Reserves			\$0
Total Budget (Total Expenditures + New Reserves)			\$617,473
Revenues			\$617,473
Ending Reserves/Designations 6/30/23			\$0
Drafted By _____	Approved By _____		

References

-
- ¹ Carollo, *Regionalization Planning Report for the Paradise Sewer Project*, Final, May 2020, Section 5.4.1.2, p. 5-9
- ² See [EchoWater Fast Facts](#)
- ³ Carollo, *Regionalization Planning Report for the Paradise Sewer Project*, Final, May 2020, Table 1.4 - \$216 million escalated by 1.5 to account for Class 5 (-30% to +50%) estimate upper limit.
- ⁴ HDR, Inc., *Paradise Sewer Project Draft Program Environmental Impact Report*, July 14, 2022, Section 2.5.2.1, p.39
- ⁵ HDR, Inc., *Export Pipeline Analysis Technical Memorandum #8*, March 31, 2022, Table 1 (ADF, PDF, and PHF peaking factors of 1.0, 1.5, and 2.0, respectively, extracted from mgd flow values presented).
- ⁶ See [California Government Code §56133](#)
- ⁷ Butte LAFCo letter by Executive Officer Steven Lucas, May 20, 2021
- ⁸ *Ibid.*
- ⁹ Tchobanoglous, G., et al, *Water Reuse, Technologies, and Applications*, McGraw Hill, 2007, Figure 12-17.
- ¹⁰ Paradise Irrigation District 2015 Urban Water Management Plan, Table 4.3.
- ¹¹ Paradise Irrigation District 2015 Urban Water Management Plan, Table 6-A.
- ¹² Town of Paradise, City offices, in-person meeting, November 29, 2021
- ¹³ Assuming fully rebuilt and occupied Town
- ¹⁴ Paradise Irrigation District 2020 Urban Water Management Plan, June 2021, Section 3.1.4, p.3-3
- ¹⁵ Carollo, *Regionalization Planning Report for the Paradise Sewer Project*, Final, May 2020, Table 2.6
- ¹⁶ HDR, Inc. *Regional Alternative Technical Memorandum #5*, December 1, 2020, Table 3
- ¹⁷ HDR, Inc., *Evaluation of Collection System, Technical Memorandum #3*, Table 3
- ¹⁸ HDR, Inc. *Regional Alternative Technical Memorandum #5*, December 1, 2020, Table 8
- ¹⁹ See [Results of the Indoor Residential Water Use Study](#)
- ²⁰ Carollo, *Regionalization Planning Report for the Paradise Sewer Project*, Final, May 2020, Table 2.6

**Law Offices of
Richard L. Harriman
1078 Via Verona Drive
Chico, California 95973-1031
Telephone: (530) 343-1386
Email: richardharrimanattorney@gmail.com**

August 30, 2022

SUBMITTED VIA EMAIL TRANSMISSION

mmattox@townofparadise.com

Marc Mattox
Department of Public Works
Town of Paradise
5555 Skyway
Paradise, CA 95969

Re: Town of Paradise Sewer Pipeline Project
Comments re Draft Program EIR (DPEIR)

Dear Mr.Mattox:

Thank you for granting my request for a one-day extension of time within which to submit the following Comments regarding the Draft Program EIR (DPEIR) for the above-referenced Project.

I am submitting the following comments regarding the above-referenced proposed project on behalf of myself, as a resident of the City of Chico and the County of Butte, a taxpayer and rate payer of the City of Chico and the County of Butte, and as a member of the Butte Environmental Council and in the public interest of other residents of the City of Chico and the County of Butte.

1. I join in the Comments submitted, by the Butte County Local Agency Formation Commission and the County of Butte, regarding the DPEIR.

2. I also join in the Comments submitted by Dana Ripley, regarding the DPEIR.

3. I am requesting that the Final PEIR include a copy of my letter comments, dated June 3, 2021, regarding the Notice of Preparation which were submitted on that date and that they be included in the Response to Comments on the DPEIR for the proposed sewer line project, including the article that I prepared which analyzes the public policy, legal, and environmental benefits to be gained by reconsidering the "Preferred Project."

4. The issues raised in my letter of June 3, 2021 have not been addressed, analyzed, or considered in the DPEIR and that they be analyzed and considered in the "Project Alternatives" section of the EIR prepared for the proposed project. The benefits for prevention of significant adverse environmental effects from recurrent wildfires on the Ridge that could be provided by the alternative recommended by Dana Ripley in his comments regarding the true "Preferred Alternative" were not considered in the previous Study relied upon in the DPEIR. The previous Study and Analysis needs to be updated in light of advantages of the locally owned and controlled specially engineered Treatment Facility on the Ridge. The reason for this request is that the previous analysis relied upon in the DPEIR was prepared before the Paradise Camp Fire and needs to be updated, due to the elevated risk of recurrent wildfire, which can be mitigated by the re-use of treated effluent to irrigate and enhance the defensive open space needed to protect new urban development in the Town of Paradise and in the County of Butte.

5. Although I have made this comment at public meetings regarding the proposed project, it should be noted that the DPEIR does not address, analyze, or consider the environmental, planning, and economic impacts of not requiring the preparation of the updated General Plans and Environmental Impact Reports for Town of Paradise and the City of Chico as part of the "Preferred Project" analysis, although the Butte County LAFCo has been requesting the Town of Paradise to do so, since 1985. The DEIR should require a Condition to require such updates to be prepared and approved, prior to the commencement of construction of the proposed project or as a condition of approval by LAFCo..

6. The Project Description is not stable, finite, and accurate. Draft Program EIR should be revised, amended, corrected, and re-circulated and the public comment period be re-opened and new public Scoping Meetings held by the lead agencies, including both the City of Chico and the Town of Paradise. The reason for require the requested action is that because the purported rationale for the proposed project [expedited redevelopment of the Town of Paradise] will not be achieved by the development and construction of the proposed project, as defined. In fact, the construction of the Project Alternative advocated by Civil Engineer Dana Ripley could be expedited and achieved much more rapidly than the construction of the "Preferred Alternative" recommended for adoption in the DPEIR.

7. The DPEIR fails to disclose, analyze, discuss and address the potential significant impacts to the environment which may occur, depending on what changes are made to the "Final Project" pursuant to the "Design Build" legislation adopted in AB 36 (Gallagher). The adoption of AB 36 by the State Legislature has rendered the DPEIR's analyses legally inadequate, because the proposed Preferred Alternative may bear little or no resemblance to the proposed Preferred Project Alternative, due to currently unknown changes made to the final design prior to and/or during construction of the project. Further, due to the preparation of a Draft "Program" EIR, the actual project may be significantly changed during construction by circumventing the project description in the Final PEIR through the use of multiple Project Addendums that do not require notice to the public or public review during the course of construction of the Final Project design, whatever it may be.

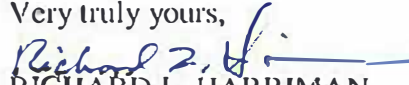
8. However, the most egregious legal inadequacy of the DPEIR is that it is barely readable and understandable, due to the lack of a Table of Contents and inadequate organization and disclosure of the Comments made during the Notice of Preparation process. The DPEIR glosses over the numerous comments and objections that were made in the Notice of Preparation process. Specifically, without having the Town General Plan updated since 1980, the changes in density requirements and other legislation that has been adopted by the State Legislature to provide for more dense residential dwelling units and reduction of Green House Gasses are barely even mentioned in the DPEIR, which results in accelerated "urban sprawl" within the Town's Sphere of Influence. Instead of focusing on dense multi-story and affordable multi-family housing in the Town's previously developed urban footprint, the "Preferred Alternative" supports and incentivizes accelerated inefficient sprawl in the Town and into the County's Jurisdiction.

9. Finally, the DPEIR's failure to adequately disclose, analyze, discuss, consider, and compare and contrast the expense of the Preferred Alternative to the more efficient and expandable specially engineered waste treatment facilities discussed in great length in the Comments submitted by Dana Ripley in his Comments and "White Paper" demonstrates the legal inadequacy of the DPEIR and the failure to proceed in the manner required by law, pursuant to Public Resources Code sections 21168 and 21168.5.

10 { Please include this letter and Comments in the Record of Proceedings and include all of the Comments made regarding the Notice of Preparation previously relied upon by the public to review this very expensive and unnecessary public project in a Revised and Amended Draft EIR for the Preferred Project, instead of Program EIR for this vague, inadequately described, and expensive "Preferred Project". In addition, please remand the review of this proposed project back to the Public Works Department Staff for the preparation of an updated Project Review and Analysis, based on **current** water resource conditions and Wildland Urban Interface (WUI) environmental setting and background on the Town of Paradise, in the light of the Governor's Water Resiliency Portfolio and recently adopted Water Policy focusing on more efficient use of our water and energy resources. Finally, the Town of Paradise should be required to conduct the updated Study while contemporaneously updating the Town's General Plan,

11 { Thank you for the opportunity to comment on the DPEIR. Please put me on your circulation list for the this Draft EIR and/or any changes in the process, including recirculation of a revised or amended NOP, Project Description, and/or revised or amended Draft EIR for this amorphous project. .

Very truly yours,


RICHARD L. HARRIMAN

cc: Steve Lucas, Butte LAFCo
Brad Stephens, County Counsel
Butte Environmental Council
Sierra Club of California
Smart Growth Advocates

RLH/hr

Law Offices of
Richard L. Harriman
1078 Via Verona Drive
Chico, California 95973-1031
Telephone: (530) 343-1386
Email: richardharrimanattorney@gmail.com

June 3, 2021

SUBMITTED VIA WEBSITE
ccurtis@townofparadise.org

Collette Curtis, PIO
Town of Paradise
5555 Skyway
Paradise, CA 95969

Re: Town of Paradise Sewer Pipeline Project
Comments re Notice of Preparation of Project EIR

Dear Ms. Curtis:

I am submitting the following comments regarding the above-referenced proposed project on behalf of myself, as a resident of the City of Chico, a taxpayer and rate payer of the City of Chico, and on behalf of the Northern California Environmental Defense Center in the public interest of other residents of the City of Chico and the County of Butte.

1. I join in the comments, dated May 20, 2021, submitted by Stephen Lucas, the Executive Officer of the Butte County Local Agency Formation Commission. [A true copy is attached hereto and is incorporated by reference herein.

2. Attached please find a copy of an article that I prepared which analyzes the public policy, legal, and environmental benefits to be gained by re-considering the "Preferred Project," and request that the issues set forth therein be analyzed and considered in the "Project Alternatives" section of the EIR prepared for the proposed project, especially the benefits for prevention of significant adverse environmental effects from recurrent wildfires on the Ridge.

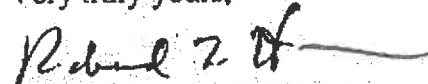
3. Although I have already made this comment at public meetings regarding the proposed project, I want to reiterate my request that the EIR analyze the environmental, planning, and economic impacts of not including the preparation of the updated General Plans and Environmental Impact Reports for Town of Paradise and the City of Chico as part of the "Preferred Project" analysis, because the proposed project will require such updates to be prepared and approved, prior to consideration of the proposed project or as a condition of approval by LAFCo.

4. The proposed Project Description is not stable, finite, and accurate, so that it is my request that the Notice of Preparation of the EIR be revised, amended, corrected, and re-circulated and the public comment period be re-opened and new public Scoping Meetings held by the lead agencies, including both the City of Chico and the Town of Paradise, because the purported rationale for the proposed project [expedited redevelopment of the Town of Paradise] will not be achieved by the development and construction of the proposed project, as defined.

5. The EIR should also disclose, analyze, discuss and address the potential significant impacts to the environment which may occur, depending on what changes are made to the final project under the "Design Build" legislation pursuant to AB 36 (Gallagher), if enacted by the State Legislature.

Thank you for the opportunity to comment on the Notice of Preparation of the EIR. Please put me on your circulation list for the Draft EIR and/or any changes in the process, including recirculation of a revised or amended NOP or Project Description.

Very truly yours,



RICHARD L. HARRIMAN
General Counsel
Northern California Environmental
Defense Center

cc: Clients

RLH/hr



BUTTE LOCAL AGENCY FORMATION COMMISSION

Attachment 2

1453 Downer Street, Suite C • Oroville, California 95965-4950
(530)538-7784 • Fax (530)538-2847 • www.buttelafco.org

May 20, 2021

Collette Curtis, Public Information Officer *Submitted Via Website:* ccurtis@townofparadise.org
Town of Paradise
5555 Skyway
Paradise, CA 95969

Re: Town of Paradise Sewer Project – Notice of Preparation of Environmental Impact Report

Dear Ms. Curtis:

The Butte Local Agency Formation Commission (LAFCo) appreciates the opportunity to provide input for the Town of Paradise Sewer Project – Notice of Preparation of Environmental Impact Report that will support the proposed sewer line extension from the City of Chico Water Pollution Control Plant (WPCP) to the Town of Paradise. This will also require the approval of an extension of services application by LAFCo as the service extension is proposed to be outside of the City's jurisdictional and Sphere of Influence boundaries.

The primary concern of LAFCo as a responsible agency with permitting authority is to ensure that the Commission is regularly consulted by affected agencies to avoid the matter *being presented to the Commission for action after important decisions and milestones have been locked in*. It is our understanding that coordination with LAFCo is identified as a Phase 2 implementation issue under the Preparation of an Environmental Impact Report (EIR) covering the selected alternative.

LAFCo's Role

Government Code Section 56133(a)(b)(c) mandates that A city or district may provide new or extended services by contract or agreement outside its jurisdictional boundary **only if it first requests and receives written approval from the commission**. The commission may authorize a city or district to provide new or extended services outside its jurisdictional boundary outside its jurisdictional boundary and outside its sphere of influence to respond to an existing or impending threat to the health or safety of the public or the residents of the affected territory, if the entity applying for approval has provided the commission with documentation of a threat to the health and safety of the public or the affected residents.

The proposal for the City to extend its sewage collection and/or wastewater treatment facilities to the Town falls under the purview of Section 56133 and therefore, LAFCo. Should the sewer service extension be approved by LAFCo for the proposed sewer service area boundary identified by the Town, any future adjustments to that boundary or additional sewer connections will require the consent the City as the contracted provider and LAFCo as the approving authority for the service extension request.

Provisions for extension of service requests are found in Government Code §56133 and in Section 4.5 of the Commission Policies and Procedures. Service extensions outside of an agency's Sphere of Influence may only be approved by LAFCo if there is "an existing or impending threat to the health or safety of the public or the residents of the affected territory. (§56133(c))

Support Documents

The City/Town will need to provide documentation/justification of the existing or impending public health and safety threat the extension of services would address. This is a critical prerequisite to the project as it is the only legally permissible justification available to the LAFCo to approve a service extension request outside of an agency's (Chico) Sphere of Influence.

Additionally, the City will have to demonstrate how such an arrangement will not impact its current residents or its responsibility to serve the existing parcels within its jurisdictional boundaries/service area who are not currently sewered and utilize on-site septic systems. This would include the remaining approximately 3,000 parcels that are not currently connected to the City's sewer infrastructure but fall under are under the Chico Urban Area Nitrate Compliance Plan which calls for the termination of on-site septic systems as a contributor to ground water nitrate contamination. It is fundamentally critical that the City ensure that it retains adequate WCCP capacity for future service demands from its residents.

Along with a determination of capacity, LAFCo will also have to review the fiscal viability of the proposed extension, particularly the projected cost to Paradise residents of such service and the assurances that City residents do not in any way subsidize the proposed service.

EIR-NOP Observations/Comments:

1. **Project Description** - The proposed project for the purposes of the EIR, should be adequately described to include not only the sewer infrastructure analysis, but the necessary Extension of Services Application that is expected to be initiated by the City of Chico and considered for approval by LAFCo. It is vitally important to recognize that limiting the "project description" to only the sewer infrastructure project will make associated regulatory agency approvals such as LAFCo's more complicated. This raises the important question of just what type of governance is anticipated now by the Town and what type of governance oversight may be useful in the future such a special district or subsidiary district? For the EIR to be of the greatest value, it should consider all alternatives that may be desired now or in the future.
- 2 **Proposed Sewer Service Area** – The proposal describes the intended Sewer Service Area, which is limited primarily to the commercial and industrial land uses along Skyway, Pearson and Clark Roads. How would future sewer connection requests *within* the Town Sewer Service Area (not along the pipe to Chico) be addressed?

There are small lot residential neighborhoods immediately adjacent to the proposed Town Sewer Service area. It seems reasonable based on early public comments to anticipate that landowners *contiguous* to the Town's Sewer Service Area/collection system with a developed use and failing septic system would desire to connect rather than repair an existing system. This is a different scenario from new development. Butte County Environmental Health Division regulations require a landowner with a failed septic system to connect to a public sewer if the access is within 250 feet of the affected parcel. How will additional requests for access to sewer services be addressed?

3. **Post Treatment (Recycled) Water** – The Town will be sending significant quantities of effluent to the City's WPCP, which will be treated, and under current conditions, discharged to the Sacramento River. Given the extreme focus on drought planning, the reuse of treated effluent is an ever more important source of scarce water supplies. At some point, the City of Chico may determine that moving to tertiary treatment and reusing this valuable resource is a priority. The question is: Who will retain the rights to treated water discharged from the Chico WPCP? Will the Town receive credit/compensation for its share of the treated effluent?
4. **WPCP Concerns** – How will the City and Town address future WPCP issues such as plant expansions, conversion to tertiary treatment and violations at the WPCP be addressed.
5. **Administration** - Who will provide overall administration of the proposed sewer extension to the Town? How will customer relations such as billing, maintenance, and new connections be accomplished?
6. **Governance Alternatives** – Should the sewer service extension be found unworkable, or if LAFCo cannot determine a legally supportable exemption from the requirements found in GC56133, what other alternatives would be considered (such as the creation of a separate subsidiary district to provide sewer service to both cities)? Such a reorganization would make 56133 no longer applicable, as the new district will have its own sphere.
7. **Growth Inducement** - Depending on the design capacity of the pipeline, its location, and its potential users, it is likely that additional development within the Town could become possible. Current on-site wastewater treatment systems greatly limit development potential. Once sewer becomes available, those growth limitations no longer apply. This analysis may be difficult to accurately assess given the age of the Town General Plan adopted in 1994. Ideally, the 1994 General Plan would be updated based on current conditions prior to estimating future sewerage flows. Additionally, other landowners outside the City boundaries in proximity to such a sewer line may request or expect that the development of those lands be permitted to utilize the new sewer line. The potential environmental impacts of such development needs to be analyzed in the EIR unless a firm prohibition on such connections is included in the project, if not, LAFCo may consider conditions of approval that would restrict access to the sewer line to parcels only within the Town's defined sewer service area.
8. **Chico Urban Area Nitrate Compliance Plan** – The Nitrate Compliance Plan was adopted in 2000 as a result of the Central Valley Regional Water Quality Control Board Prohibition Orders No. 90-126 and 905-024 which addressed the nitrate contamination in the groundwater linked to on-site septic systems in the Chico Urban Area. The orders called for existing septic systems be discontinued and connections to the City sewer system be required. Much effort and resources were spent on this program and the City has installed significant new sewage collection infrastructure over the past decade to allow all affected parcels to connect. How will the City ensure that the WPCP maintains/reserves the capacity to accommodate these remaining approximately 3,000 uses on septic systems?
9. **Increased Exposure to Severe Fire Hazard.** Development of the project is intended to encourage the growth and redevelopment of the Town of Paradise. While this has many desirable benefits, the EIR cannot ignore the serious adverse fire risk impact of the project. As the fire demonstrated, Paradise is clearly located in a severe fire zone with limited access for evacuation. Encouraging redevelopment and growth in that area will inevitably result in increased exposure of the new structures and residents to the severe fire risk. This impact is

likely to be significant over the long run. It must be analyzed and mitigation measures explored to mitigate the risk. For example, is an additional evacuation route feasible?

LAFCo is eager to be cooperative partner in the effort to bring sewer service to the Town as the project is likely to greatly assist the Town to address a serious long-term problem and augment the Town's ability to rebuild a sustainable and viable commercial district. However, we are all bound to comply with the law, even where it may hinder achievement of a desirable objective. We look forward to working with the City and Town and its partners in development of this proposal in order to determine if a legally permissible path forward can be found for LAFCo to approve the extension of services. Please do not hesitate to contact me should you have any questions

Sincerely,

Steve Lucas

Stephen Lucas
Executive Officer

cc: LAFCo

URBAN WATER CONSERVATION: ANOTHER ALTERNATIVE

By Richard L. Harriman*

The recent coordinated "roll out" of the proposed Paradise Sewage Pipeline to the City of Chico's waste water treatment facility on River Road calls for a renewed focus on "improved urban water conservation" referred to by Lester Snow, a well-respected former member of Governor Jerry Brown's administration in 2015.

California statutes mandate re-use of tertiary *treated* wastewater by urban communities within their jurisdictions. Re-use of tertiary treated wastewater from de-centralized treatment facilities for purposes that do not require potable water is defined as a "beneficial use" of water.

Civil engineering consultants have the knowledge, technology, and experience necessary to design and construct specially engineered tertiary wastewater treatment systems to serve new development or retro-fit infill development. If implemented, this technology can reduce the demand for potable urban water *by almost 90%*. Currently, facilities have been permitted by the Central Valley Regional Water Quality Control Board and are successfully operating in the cities of Fresno, Clovis, and in Madera County (and, also, in Monterey County).

Similarly, financing for de-centralized tertiary wastewater systems is available. Community Facility District (CFD) financing for public police, fire safety services, and infrastructure for public utilities is commonly utilized throughout the state. Public finance consultants are familiar with this financing; and, following the repeal of redevelopment agency statutes, other new financing options were created and are available for new systems.

The financial and environmental benefits of specially engineered de-centralized community wastewater treatment facilities are numerous. First, using small-scale wastewater treatment systems allows a local government to avoid excess treatment capacity and debt service for treatment facilities that are *over-sized* to anticipate future growth. Second, the use of small-scale community wastewater treatment facilities avoids having to *speculate* about the rate of future growth and allows the local governments to respond more accurately to *real growth*, rather than to speculate on the rate of *future growth* during *uncertain* future market conditions.

The failure to use small-scale wastewater facilities imposes an unnecessary burden on the existing local taxpayers and water users. Currently, they pay for excess unused capacity that does not benefit these rate payers---who *do not need it, and may never use it*. Using tertiary treated

wastewater from small-scale de-centralized facilities avoids the cost of having to construct and operate additional unnecessary water conveyance facilities to *return the tertiary treated waste water* to the users for re-use on site, sell it to agricultural users, or discharge for in-stream uses.

Finally, the environmental benefits of small-scale wastewater treatment facilities include re-use of urban tertiary treated wastewater closer to the original user, as required by Water Code section 53353, which will reduce the total amount of groundwater used. Second, the use of this technology allows local governments to "fine tune" the rate and amount of new growth planned for the local community. Third, these systems may be used for both new development and retrofitting in-fill growth, without expanding or surcharging the existing centralized wastewater treatment facilities. Fourth, charging the residents of the new growth and/or infill development for the cost of their own wastewater treatment facilities and operating expenses will make these residents more aware of their own water use, so they may reduce their use of potable water supplies as much as possible. Fifth, the re-use of recycled water from such facilities will reduce demand *per capita* on groundwater supplies for potable water and the cost of water for non-potable uses.

Therefore, the current paradigm of hugely expensive "design-build" large-scale centralized wastewater treatment facilities and conveyance systems should be re-examined in the light of currently available wastewater treatment technology, solar energy systems, and financing. Governor Newsom's administration should aggressively pursue "improved urban conservation" by permitting local agencies and developers to use state-of-the-art small-scale de-centralized tertiary wastewater systems for new development. This alternative can be implemented quickly and expedited by updating local general plans, general plan implementation action plans, and Subdivision Map conditions of approval. If adopted, this strategy will: 1) reduce costs for both developers and local rate payers; 2) reduce energy costs, 3) protect and enhance environmental resources; and 4) implement the mandatory "beneficial use" of recycled tertiary treated wastewater. In light of the fact that the stated Project Description is focused on the expedited re-development of the Town of Paradise and other unincorporated communities on the Ridge, the enormous cost of the proposed project, the 5-10 year time frame identified by the project consultants for the completion of the "Preferred" project, and the potential ability of recycled waste water to be used for fire control and irrigated defensible space require a re-

examination of the de-centralized specially engineered waste water treatment facilities for this project.

*Mr. Harriman is an environmental and land use attorney in Chico, who has practiced in the Central Valley for over 45 years and is a member of the Butte County Water Commission.



Richard Harriiman <richardharrimanattorney@gmail.com>

Re: Paradise Pipeline Project; Comments re Notice of Preparation/Scoping of EIR

5 messages

Richard Harriman <richardharrimanattorney@gmail.com> Fri, Jun 4, 2021 at 12:46 PM

To: rsilva@chicoer.com

Cc: Mike Wolcott <mwolcott@chicoer.com>, Natalie Hanson <nhanson@chicoer.com>

Bcc: Debra Lucero <debra@debralucero.us>, tkimmelshue@buttecounty.net, tamiritter2012@gmail.com, Dana Ripley <dana@ripleypacific.com>, aimee@planinmotion.com, Richard Harriiman <richardharrimanattorney@gmail.com>

Dear Rick:

Since I know that you are the direct contact for the Paradise Post and the Town of Paradise community,
I am reaching out to you toward the end that you and I might have a telephone conversation regarding this project.

The purpose of my request is to communicate that my clients and others in Chico and the County want you, the Town of Paradise (TOP) City Council, the Ridge community in the County, and the development community to know and understand that my clients and other members of the Chico and Butte County community support the expedited redevelopment of Paradise and the unincorporated community on the Ridge.

I would like to share with you the basis for our position that the quickest, most efficient, and most cost-effective way to jump start and fast-track the redevelopment of Paradise and the Ridge and to protect the reconstructed community on the Ridge from future wildfire events and damage to life and property is by the use of de-centralized specially engineered and designed wastewater treatment facilities on the Ridge and to retain the treated/recycled water and re-use it on the Ridge for non-potable uses, such as the creation and maintenance of green/defensible open space to protect hardened structures buffered by defensible open space. Also, I would like to have an opportunity to discuss why the TOP should initiate the update of its General Plan, including the Transportation/

Circulation/Infrastructure Element which will be required before the sewer pipeline can be approved and constructed.

We are asking you to reconsider the option originally considered and, then, rejected by the Town Council, because of the amount of time and the huge expense of constructing and maintaining the proposed sewer pipeline project---and the fact that the proposed pipeline will NOT come on line for at least 5-10 years, as estimated by the project consultants in an open meeting.

Please let me know when it would be a good time for you to discuss with you on the phone after Mike returns to the office.

Thank you for your time and consideration of this request. If you have any questions, please contact me at my office phone or cell phone or text me (24/7) Hope you have a great warm summer weekend.

Respectfully yours,

Richard Harriman
Telephone: 530) 343-1386
Cell/text: (559) 999-7953

 **FedEx Scan 2021-06-03_17-00-50.pdf**
1690K

Mail Delivery Subsystem <mailer-daemon@googlemail.com> Fri, Jun 4, 2021 at 12:46 PM
To: richardharrimanattorney@gmail.com



Address not found

Your message wasn't delivered to **rsilva@chicoer.com** because the address couldn't be found, or is unable to receive

From: [Kalaskar, Tanya](#)
To: richardharrimanattorney@gmail.com
Subject: Paradise Sewer Project Draft PEIR is Available!
Date: Thursday, July 14, 2022 2:45:00 PM
Attachments: [Paradise Sewer Project Notice of Availability.pdf](#)

Hi,

Please find attached the notice for the release of the Paradise Sewer Project Draft Program Environmental Impact Report (PEIR). The Draft PEIR is available at the following websites: [Town of Paradise](#) or [Town of Paradise Sewer Project](#). Refer to the attached notice for information about document availability, public review period, submitting comments, and public meetings. Please reach out to me at tanya.kalaskar@hdrinc.com if you have trouble accessing the attached notice.

Thank you,
Tanya

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Jul 17, 2022	W1/1	Alice	Patterson	<p>Good morning--</p> <p>I am inquiring for my partner, who lost his home in the fire... How do I find out if his property would be affected by an Easement should this sewer project be approved? This could impact how/when he rebuilds. Property address is 5975 N. Libby. Is there a list of locations where the easements would be going?</p> <p>Thank you.</p> <p>Alice</p>
Jul 25, 2022	W2/1	Linda	Barton	<p>I am about to choose a builder to finally rebuild in Paradise. At this moment, it appears the sewer project for Paradise will help those businesses on Skyway. Which means 99%+ of the residents won't benefit from this undertaking. Who is going to pay for this very expensive but necessary project? I am not interested in seeing it listed when I get my property tax bill.</p>
Jul 28, 2022	W3/1	Kat	Carlisle	<p>Hello,</p> <p>Can you tell me when the final design and right of way acquisition phases will begin for the Paradise Sewer Project please?</p> <p>I saw on the project schedule that these phases are anticipated to begin in Summer 2022, but I wasn't sure if that meant they have already started or not.</p> <p>Thank you!</p>
Aug 1, 2022	W4/1	Earl	Eckert	<p>Will the agreement with Chico permit all pumped septic loads to be disposed of in paradise rather than continuing to be disposed of at the County land fill lagoon.</p> <p>Own property at 2199 De Mille Rd.</p>
Aug 2, 2022	W5/1	Pam	Galloway	<p>I think it is a stupid waste of money that could be used for a different project. The cost of the project, the amount of time necessary to complete the sewer project and the number of people who would benefit from it should make it a non starter.</p>

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Aug 3, 2022	W6/7	brian		<p>Questions of concern from a 29 year licensed wastewater career in California:</p> <p>1) Who will handle the collection system and pump stations daily operations?</p> <p>2) What type(s) of odor control systems will be used? And projected annual cost?</p> <p>3) Where will biosolids and sewage debris be removed to?</p> <p>4) How many full time employees will be hired to operate and maintain Paradise Wastewater Collection and Transportation?</p> <p>5) Under what jurisdiction/license will Paradise Wastewater be in compliance with State Water Resources Control Board?</p> <p>6) What city department will oversee Paradise wastewater operations?</p> <p>Yours, Brian Anderson</p>
Aug 5, 2022	W7/1	Ivan	Garcia	<p>Good luck on the project. Would like to encourage and support the paving of a multi-use path on top of your sewer line with the ability to connect this new path to the intersection of Honey run/Skyway near Skyway golf park on the west and to the Paradise Memorial Trail in Paradise. I would suggest paving so that you can send emergency equipment up the hill to fully utilize the Skyway for emergency evacuations. Thank you.</p>
Aug 5, 2022	W8/1	Joe	Rees	<p>Hi,</p> <p>As natural disasters increase in frequency and severity, climate change is becoming harder and harder to ignore. The rise in these disasters along with an overall growing sense of crisis when it comes to the environment is causing an increase in climate anxiety. In fact, a recent Yale survey found that 70 percent of Americans are now “very or somewhat worried about global warming.” I thought this would be an interesting topic to cover in a guest article for your website. I would address the increase in climate anxiety and what your site visitors can do to relieve their stress while also helping the environment. What do you think?</p> <p>Thanks so much for your time, Joe Rees joe@catastrophes.info</p>

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Aug 8, 2022	W9/4	Rick	Hoddinott	<p>1. Along the proposed alignment for the export pipeline on Entler Avenue, what is the pipe constructed of and where will it be located along the roadway?</p> <p>2. How will the project address nearby wells which may be located near the proposed alignment?</p> <p>3. Was the old railroad (Old Sacramento Northern) right of way considered for the pipe alignment in lieu of Entler Avenue?</p> <p>4. During construction, how will the project address temporary traffic control along Entler Avenue, considering CHP uses the roadway as direct access.</p>
Aug 10, 2022	W10/1	Ronald	Lassonde	<p>I am very impressed with the due diligence that the Paradise Town Staff has put into the Sewer EIR. The Sewer is absolutely necessary for businesses to rebuild in our Down Town. A rebuilt Down Town is critical to the overall recovery of our town.</p> <p>We need the PEIR approved as soon as possible so we can move forward and rebuild our Town</p>
Aug 10, 2022	W11/1	Mandi	McKa7	<p>Hello-</p> <p>Chico Velo supports the Town of Paradise and the Sewer Project and encourages the project or project sponsor to include the paving of a multi-use path for bicycles and pedestrians on top of the proposed project.</p> <p>Currently, Skyway is not a safe route for bicyclists or pedestrians traveling to or from Paradise. This project provides a unique opportunity to solve dual challenges of meeting the need for wastewater infrastructure and also providing a safer, more direct route between Chico and Paradise for bicyclists and pedestrians. If the new multi-use path followed the sewer line all the way to Southgate Lane on the East side of Hwy 99, it would connect users to the existing Midway bike path on the West side of 99.</p> <p>Additionally, a multi-use path could enable emergency equipment to drive up the path and allow Skyway to be fully utilized as an emergency evacuation route.</p> <p>Thank you for the consideration- please let us know if you have questions or if Chico Velo can provide additional support.</p> <p>Thank you.</p>
Aug 11, 2022	W12/1	Andrew	D'Lugos	<p>Currently, Skyway is not a safe route for bicyclists or pedestrians traveling to or from Paradise. This project provides a unique opportunity to solve dual challenges of meeting the need for wastewater infrastructure and also providing a safer, more direct route between Chico and Paradise for bicyclists and pedestrians.</p> <p>I fully support the plan of paving a multi-use path for bicyclists and pedestrians.</p>

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Aug 11, 2022	W13/1	Kirk	Monfort	This would be a great opportunity to build a bike path to Paradise that would tie into the current Paradise Bike Path that goes from the Paradise Park up through Magalia. We have never had a link from Chico to that Bike path although the right of way has been preserved from the Midway by Hagen Lane. It would also provide for service and inspection of the eventual sewer line. A Dual Use facility. There might also be transportation dollars available to do this.
Aug 15, 2022	W14/1	Richard	Stone	JUST PAVED ALL OF SKYWAY, IT'S REALLY A NICE ROAD. I HOPE THAT THE NEW ROAD WILL NOT BE DUG UP FOR THE SEWER PIPE AND JUST PATCHED UP TO LOOK LIKE CRAP AS THE UNDERGROUND PGE SUB COMPANYS HAVE DONE IN TOWN. SHOULD HAVE WAITED ON THE PAVING UNTILL THE SEWER WAS PUT IN. THEN PAVE THE SKYWAY.
Aug 16, 2022	W15/1	Joseph	Mount	I was informed that the treatment plant had treated water they wanted move . Would you please send me any test result on the treated water . Thank You Web site OkaVate.com
Aug 22, 2022	W16/6	brian	anderson	I have not read in the reporting the following: 1)What agency will have jurisdiction to provide collection services within the Town of Paradise? 2) Who holds the license to operate wastewater services within Paradise jurisdiction? 3)Who will maintain and operate the pump stations ? 4)What methods of odor control will be employed at each pump station, wet well and other areas where wastewater may come in contact with atmosphere? As a retired SWRCB licensed WWTP operator of 29 years in the Bay Area the question above are very relevant. Odor mitigation is of critical importance to our community. 24 hour response to spills and overflows is critical. An 18 mile pipeline with about a 1500 ft elevation loss, gravity flow management is critical and demands highly skilled personnel.

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Aug 22, 2022	W17/8	Steven	Cismowski	<p>I am writing in opposition to the proposed Paradise Sewer Project. Given the increase of ground water concerns in the north state, coupled with the impacts the current and projected drought cycle is having on our groundwater resources, this project is perilously flawed. In my review of the PEIR, I could not find any information addressing the following items:</p> <p>1) Information is needed regarding the projected increase in size of the current Chico Wastewater Treatment Plant in order to accommodate this increase in treatment. Keeping in mind Chico's current growth-rate and several other LARGE development projects that will also increase demand on this facility - Valley's Edge and Barber Yard, this facility will need to expand, but to what extent?</p> <p>2) Information and analysis are needed to fully understand the impacts of removing the equivalent of 1/8th of Big Chico Creek's average annual flow out of the current hydrological cycle based on projected peak flow at sewer build out. The long-term impacts of effectively pumping that much water out of the hydrological cycle helping feed local aquifers and creeks (chiefly, Butte Creek, the last viable salmon run off the Delta river system) is unconscionable. Paradise, pre-Camp Fire, was renowned for its forest, largely of Ponderosa pine, growing at lower altitudes than commonly encountered. The additional ground water these trees received from leach lines, not to mention additional nutrients, helped support this rich forest. Taking that life support away will certainly forever change the forest of Paradise's future canopy. Property owners wishing to replicate that forest will need to pump even more ground water to use in their landscapes further exacerbating the drying of downstream aquifers.</p> <p>3) The proposed path crosses three surface flow creeks (Butte, Comanche and Little Chico) that countless wildlife (and residents) relies on for sustenance and recreation. While the current engineered solution for these crossings may provide sufficient cover, over time, erosion will continue to drop current creek elevations eventually exposing these lines making them vulnerable to damage and leakage.</p>

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Aug 22, 2022	W18/1	Ryan	Duncanwood	ITS GOOD
Aug 22, 2022	W19/1	Bud	Linggi	<p>I lived behind the Optimo Lodge from o/a 1948 until I went into the Service, 1960. Of course, along the way of those years, my dad went to Chico, down Neal Road, for the Crocker Bank and I might have accompanied him and used a restroom after he made the deposit.</p> <p>By this time, local dogs wiped out our chickens and after the Crocker Bank, we went to a Chico outfit that gave us the number of cleaned chickens we needed.</p> <p>The following week our destination was some place in Oroville for the steaks we needed for the next week, a long trip down Clark Road was used.</p> <p>So when talk of sewers for Paradise comes up, I remember the leech fields where I got my fishing worms... Bud</p>
Aug 22, 2022	W20/1	Diane	Pajouh	I would like to request that we do not damage our new Skyway Roads that have just been installed/updated. Thank You.
Aug 22, 2022	W21/1	Mike	Petersen	Has the town looked into putting turbines inside the 18 mile pipeline to generate electricity? I believe this has been done in other cities and might give Paradise a chance to control our own energy independence.
Aug 22, 2022	W22/1	Michael	Schwartz	Not the best idea they have. For too many reasons. I vote no.

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Aug 22, 2022	W23/4	Gary	Wolt	<p>What policy is in place to control cost increases in the future?</p> <p>Will the town of Paradise be subsidizing Chico's wastewater system , with no control on whatever increase they want or need. The ability to justify any price increase seems to be a normal phenomena.</p> <p>Are they incorporating Any valving in the design for emergency use in the event that the pipeline or Chico's waste water facility experiences a catastrophic failure?</p> <p>Would valving be in place to allow Paradise to construct there own wastewater facility, or have a load out facility at a future point in time?</p>
Aug 23, 2022	W24/1	Matthew	Carlson	I support the sewer project and along with it believe a multi use path would be an invaluable asset to the community. It would encourage community health and growth. Paradise lacks safe routes currently so this is needed.
Aug 23, 2022	W25/1	Tony	Catalano	Please include a bike lane!
Aug 23, 2022	W26/1	Rob	Williams	Caltrans funded a bike riding tourism study and our Final Report identified several Signature Bikeway Routes ie East Bay Mud Pipeline. The report has an economic analysis of adding bike/walking paths to a local economy. See, BikeValleytoSierra.com
Aug 24, 2022	W27/1	Kevin	Baxter	<p>I would like to mention my support for the addition of a multi use path along the Skyway during construction of the sewer line. This path would be of historic interest as it would continue the "line" used by trains in the past as well as provide a safer route for non motorized travel to and from Paradise via the Skyway. The path would also be a viable option as an alternative route for emergency vehicles or as an additional route of evacuation, should the need arise. Thank you in advance.</p> <p>Kevin Baxter</p>
Aug 24, 2022	W28/1	Steve	DePue	It would be an ideal time to put in a wide paved bike trail up to Paradise on the skyway corridor. You could also put in fiber optical cable for internet use along the same right of way with the sewer project. Take advantage of multiple uses for the construction project on the sewer system. Also, the paved bike path provides superior access to the fiber optical cable and sewer lines when repairs or access is needed. Perhaps power could also be delivered from the Chico area to Paradise in an underground line rather than on poles! Planning makes for a better future!
Aug 24, 2022	W29/1	Andrew	Keller	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. Such a path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path
Aug 24, 2022	W30/1	William	Llamas	Seems the Draft PEIR a done deal? So confusing. We need a more comprehensive review other than a commission and/or Board. A citywide meet up for face to face speaking is necessary. And are there any ideas on building UP in downtown. Apartment buildings may be most suitable for many residents. What about beautification projects with help of citizens? So many ideas and no leadership. Time is a wasting and we should have already planted thousands of trees.

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Aug 24, 2022	W31/1	Bruce	McLean	<p>I live along the Little Chico Creek bike path and have cycled to Paradise up the Skyway at least once a month over the last 7 yrs.</p> <p>It was very disappointing not to see a dedicated two-way bike path installed when PG&E put their electrical infrastructure underground. Then it was extremely disappointing when a dedicated bike path was not installed when the Skyway was recently paved.</p> <p>Let's not strike out by not creating a dedicated bike path when the sewer line is extended from Paradise to Chico.</p>
Aug 24, 2022	W32/1	Jeri	Valdez	I decline the project in it's entirety! If it does not service ALL main roads as well as the WHOLE community. What is the point? Makes no sense at all.
Aug 25, 2022	W33/1	Kevin	Cook	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. This path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path. I am an avid local cyclist and this would only encourage more cyclists to come visit and recreate in our community.
Aug 25, 2022	W34/1	Kim	Hunter	<p>I am preparing comments on behalf of the Butte County Public Works Department. Is there an email address that can be used to send comments on Monday?</p> <p>Thank you,</p> <p>Kim Hunter, Project Manager Land Development Division Butte County Public Works Department</p>
Aug 25, 2022	W35/1	Monica	Zukrow	I support the project and encourage the project to include a multi use paved path for bikes and pedestrians on top of the sewer project. Such a path could be used by emergency equipment to drive up the hill even while Skyway itself is functioning as a one-way downhill evacuation route. This is a great opportunity to also include new regional multi-use non-motorized path to connect Chico and Paradise from the intersection at Honey Run and Skyway to the Paradise Memorial Path. Thanks for your consideration!
Aug 26, 2022	W36/2	David	Copp	It seems as though the Draft PEIR has been reasonably well considered. We will never know all of the impacts in advance, but the benefits of the project seem to outweigh the impacts, and it needs to progress.
Aug 26, 2022	W36/2	David	Copp	We think the sewer coverage area should be expanded. We have a multifamily property at 5830 Greenthumb Lane, which is just outside of the coverage area, even though it covers the area essentially across the street (Elliott Rd). We would like to have our property included, please. Thank you
Aug 26, 2022	W37/1	Maurine	Hansen	I just finished paying off a \$22,000.00 hookup bill in another address. We were not in the zone to be on the first to hook up from septic, to sewer, so were required to wait. We were not able to hook up, but years later we were required to and the price hugely increased. We were told the cost would be even more if we didnt do it "now". I now live in a zone that is not part of the first hook ups. Does that mean another huge financial cost to me, in the future?

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Aug 28, 2022	W38/1	Roger	Cole	<p>The proposal to hook Paradises new sewer system to an expanded Chico sewer water treatment system at the Sacramento River sounds good at first. It saves money and utilizes efficiently excess capacity of said water treatment facility. It also simplifies Paradise’s process into a pipeline construction project.</p> <p>However, as we all have noted from the years of the long ongoing drought, the foothills need every drop of water they can get and /or save or reuse. This plan will export millions of gallons of water from Paradise, and therefore is not good. Instead the wastewater should be treated and returned as close as possible and feasible to the water area it comes from.</p> <p>The single best feature of the existing septic tank/reach line system has been retention of treated wastewater in the ecosystem.</p> <p>A similar goal can be accomplished by constructing a primary sewage treatment plant in Paradise followed by a final treatment in a constructed wetland polishing system. This will produce many local benefits.</p> <p>After the wetland the water can flow to another reservoir location or allowed to be absorbed into the ground or flow through a stream, other kind of recharge. The benefits of retaining water cannot be overestimated. Streams with added wastewater-effluent can improve water quality and support water re-use, while creating habitat and providing urban amenities The Cost–benefit analyses of stream-flow augmentation projects many times fail to account for the full value of ecosystem services provided, including renewed habitats and enhanced urban amenities.</p> <p>Sincerely,</p> <p>Roger Cole, Forest Ranch, CA</p>

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				<p>References:</p> <p>Constructed Treatment Wetlands (PDF) Phoenix Arizona Constructed wetland Project (EPA) In 1990, city managers in Phoenix, Arizona, needed to improve the performance of the 91st Avenue Wastewater Treatment Plant to meet new water quality standards issued by the Arizona Department of Environmental Quality. After learning that upgrading their treatment plant might cost as much as \$635 million, the managers started to look for a more cost-effective way to polish the treatment plant's wastewater discharge into the Salt River. A preliminary study suggested that the city consider a constructed wetland system that would polish effluent, while supporting high-quality wetland habitat for migratory waterfowl and shorebirds, including endangered species, and protecting downstream residents from flooding at a lower cost than retrofitting their existing treatment plant. As a result, the 12-acre Tres Rios Demonstration Project began in 1993 with assistance from the U.S. Army Corps of Engineers, the Bureau of Reclamation and EPA's Environmental Technology Initiative and now receives about two million gallons of effluent per day. The demonstration project was so successful that the city and the Bureau of Reclamation asked EPA for help in expanding the project to a full-scale, 800-acre project. For more information on the Tres Rios Constructed Wetlands Project, visit, http://phoenix.gov/TRESRIOS/ Constructed Wetlands: Using Human Ingenuity, Natural Processes to Treat Water, Build Habitat March, 1997, Joe Gelt, Water Resources Research Center (WRRRC), Pub. Arroyo, vol. 9, no. 4, Water Resources Research Center, Tucson, AZ, March, 1997 EPA Document: Guiding principles for siting, design, construction, operation, maintenance and monitoring of constructed treatment wetlands http://nepis.epa.gov/Exe/ZyPDF.cgi/2000536S.PDF?Dockey=2000536S.PDF</p> <p>STATE OF CALIFORNIA- REGIONAL WATER QUALITY CONTROL BOARD STAFF SUMMARY REPORT (Jessica Watkins) MEETING DATE: April 12, 2017 City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County – Reissuance of NPDES Permit January 2012 – Permit reissued Wastewater-effluent-dominated streams as ecosystem-management tools in a drier climate Front Ecol Environ 2015; 13(9): 477–485, doi:10.1890/150038 Richard G Luthy1,2*, ET al., Summarized As the water requirements of human populations increase and stream flows diminish in water-stressed regions, the base flows of urban streams are becoming increasingly dependent on wastewater Ecosystem services in wastewater-effluent-dominated streams can improve water quality and support water re-use, while creating habitat and providing urban amenities Cost–benefit analyses of stream-flow augmentation projects often fail to account for the full value of ecosystem services provided, including renewed habitats and enhanced urban amenities</p>
Aug 30, 2022	W39/1	Dannette	Barefield	I support the pier project
Aug 30, 2022	W40/1	Patty	Wilson	I only wanted to know how the sewer was going down the hill. After repaving the skyway, I would hope you would not have to dig it back up. I can not see where the town plans on digging.