

Initial Study and Draft Mitigated Negative Declaration

Tolowa Dee-ni' Nation Wastewater System Improvements Coastal Grading Permit

November 2019



Prepared By
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List of Illustrations following Project Information Summary

1. Project Map of HVR Conveyance Improvements
2. HVR Site Map
3. Proposed TDN Wastewater Treatment Plant Improvements
4. Proposed TDN Drainfield Improvements

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- A. Biological Assessment
- B. Technical Memorandum – Flows and Loads
- C. Soil Percolation and Textual Analysis
- D. Supplemental Growth Inducement Discussion

Project Information Summary

1. **Project Title:**
Tolowa Dee-ni' Wastewater System Improvements Coastal Grading Permit
Permit Reference GP2019-22C
2. **Lead Agency Name and Address:**
Del Norte County
Community Development Department
981 H Street, Suite 110
Crescent City, CA 95531
3. **Contact Person and Phone Number:**
Taylor Carsley, Planner
(707) 464-7254
4. **Project Location and APN:**
12340 US Highway 101 North
Smith River, CA 95567
102-170-ALL, 102-710-ALL, 102-090-021, 102-720-001, 101-021-002,
102-030-015. The project area includes County road right-of-way and
Caltrans road right-of-way located along Lopez Road, US 101, and Ocean
View Drive.
5. **Project Sponsor's Name and Address:**
Tolowa Dee-ni' Nation
12340 US Highway 101 North
Smith River, CA 95567
6. **County LCP Land Use:**
Visitor Serving Commercial, Rural Residential (1 du/ac), Rural Residential
(1 du/2 ac), Agricultural Prime
7. **County Zoning:**
Commercial Recreational (CR), Rural Residential Agricultural, 1 acre
minimum lot size (RRA-1), Rural Residential Agricultural, 2 acre
minimum lot size (RRA-2), Coastal Hazard Overlay (C(H)), Agriculture
Exclusive (AE)
8. **Description of Project:**
The Tolowa Dee-ni' Nation (TDN) has submitted an application for a Coastal Grading Permit to Del Norte County for repairs and expansion to its wastewater collection and treatment system, as well as an expansion of its disposal capacity. TDN currently utilizes a wastewater treatment plant located on the Lucky 7 Fuel Mart property in Smith River which serves both fee and trust land within much of the reservation boundary. Flows are routed from the Indian Road area across US Highway 101 to be treated at the plant. From there, effluent is transported to the tribe's disposal fields on the north end of Ocean View Drive where it drains in a series of leach fields on agricultural land.

TDN is now the owner and operator of Howonquet Village and Resort (HVR) which is made up of the former Ship-Ashore Resort (HVR South) and the Salmon Harbor RV Park (HVR North). HVR North and South are licensed mobile home parks that currently utilize an On-Site Wastewater Treatment System (OTWS) located directly south of HVR, separate from the tribal treatment plant and disposal system described above. The OTWS was constructed in 1976 and consists of an aeration basin, oxidation pond, chlorination contact basin, and effluent pumping pond. Effluent is reclaimed through spray irrigation to pasturelands owned by HVR. Given changing waste discharge requirements since the development of the OTWS, TDN is replacing the current system with an alternative system to meet current guidelines for the region.

This project would fill the OTWS treatment ponds south of HVR and restore the 2.2-acre site to its original condition as pastureland. In order to connect HVR to the TDN wastewater treatment facility, multiple improvements would be necessary. A small on-site wastewater collection system would be abandoned at HVR North and a new collection system in the form of 8-inch gravity sewer mains and a lift station would be installed at HVR to collect wastewater from existing residential use and transport it off-site. A new electrical distribution system would be installed in HVR South to individual residences and buildings. Wastewater would be transported off-site via a 4-inch pressurized sewer main along Lopez Road across Highway 101 to Ocean View Drive where a gravity line will deliver wastewater to a new lift station installed at APN 102-090-021. From there, wastewater would be pressurized along Ocean View Drive to the intersection with North Indian Road where it will be gravity-fed to the wastewater treatment facility.

Improvements to the wastewater treatment facility include an expansion of the existing headworks structure to include a redundant mechanical screen and bypass and the installation of a second flow equalization tank. The existing aeration basins will be converted to anoxic treatment basins and new aeration basins immediately west of the anoxic basins will be constructed. Existing effluent pumping and solids dewatering equipment will be relocated to the headworks area and a new membrane bioreactor skid will be installed inside the existing operations building.

Treated wastewater will flow from the treatment plant approximately two miles north along an existing 4-inch pressure line to APN 101-021-002 which currently contains 2.1 acres of drainfields. The drainfields provide for subsurface disposal of treated effluent. An additional 5.2 acres of new drainfields will be installed to the south of the existing infrastructure. An approximate 7.3 acres on the west side of the property would be reserved for future replacement area.

9. Surrounding Land Uses and Settings:

The project is surrounded by a variety of land uses and settings, as portions of the project encompass a large area of the Smith River area. Howonquet Village and Resort (HVR) is surrounded by agricultural land and rural residential properties. The disposal ponds currently utilized by HVR are located adjacent to agricultural crop and pastureland. The new utility lines will run through Ocean View Drive which serves almost entirely rural residential land uses. The north end of the project is located on agricultural pastureland between Ocean View Drive and US Highway 101.

10. Required Approvals: Coastal Grading Permit, Encroachment Permit

11. Other Approval (Public Agencies): Del Norte County Planning Commission, North Coast Regional Water Quality Control Board, Caltrans, North Coast Unified Air Quality Management District

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Native American tribes, traditionally and culturally affiliated with the project area have been notified of the project application completion and the beginning of the AB 52 consultation period pursuant to PRC §21080.3.1.



K Kennedy Jenks

TOLOWA DEE-NI' NATION

FIGURE 1 : HVR CONVEYANCE
IMPROVEMENTS

KJ 1876019.00
SEPTEMBER 2019

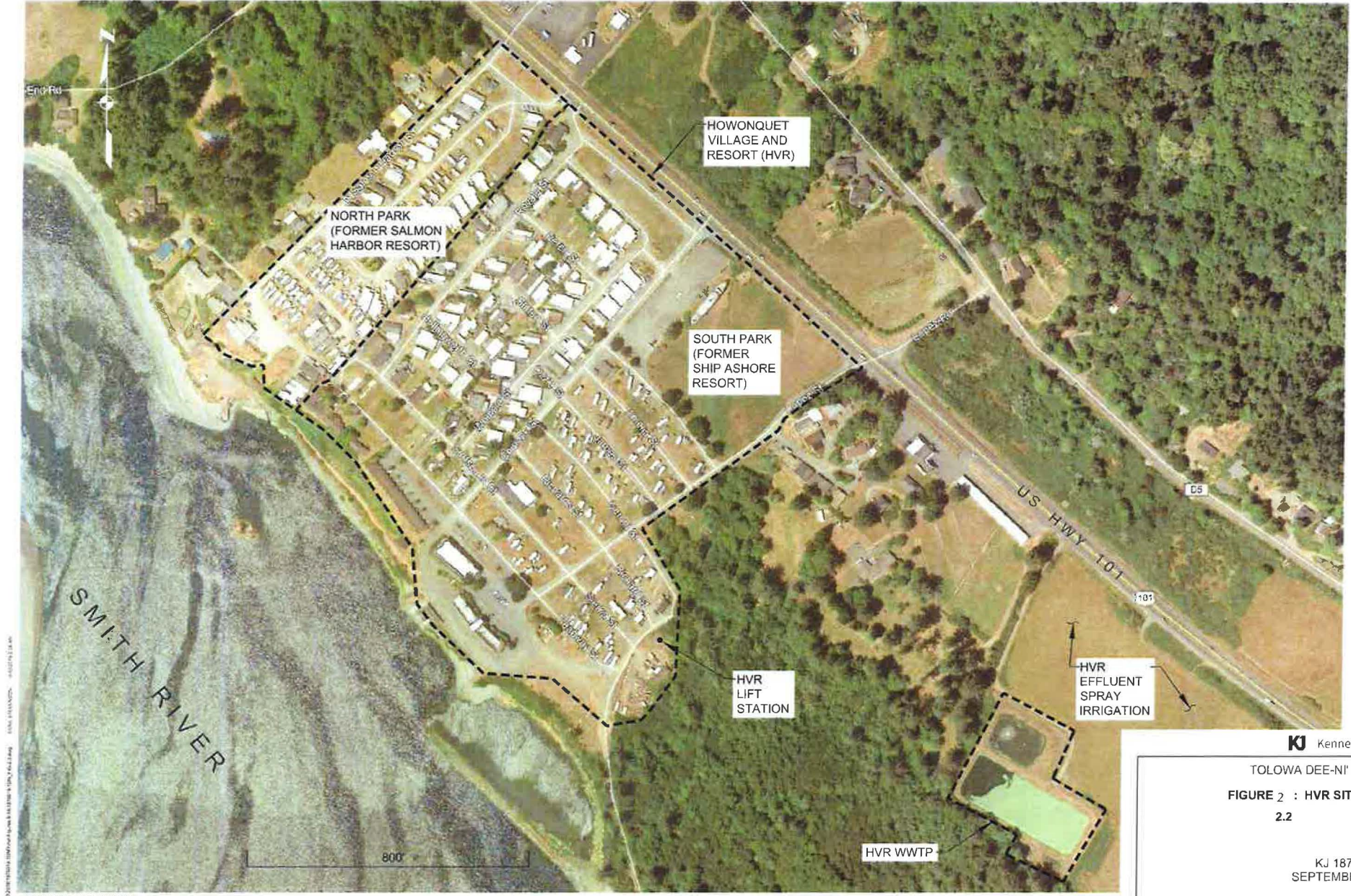
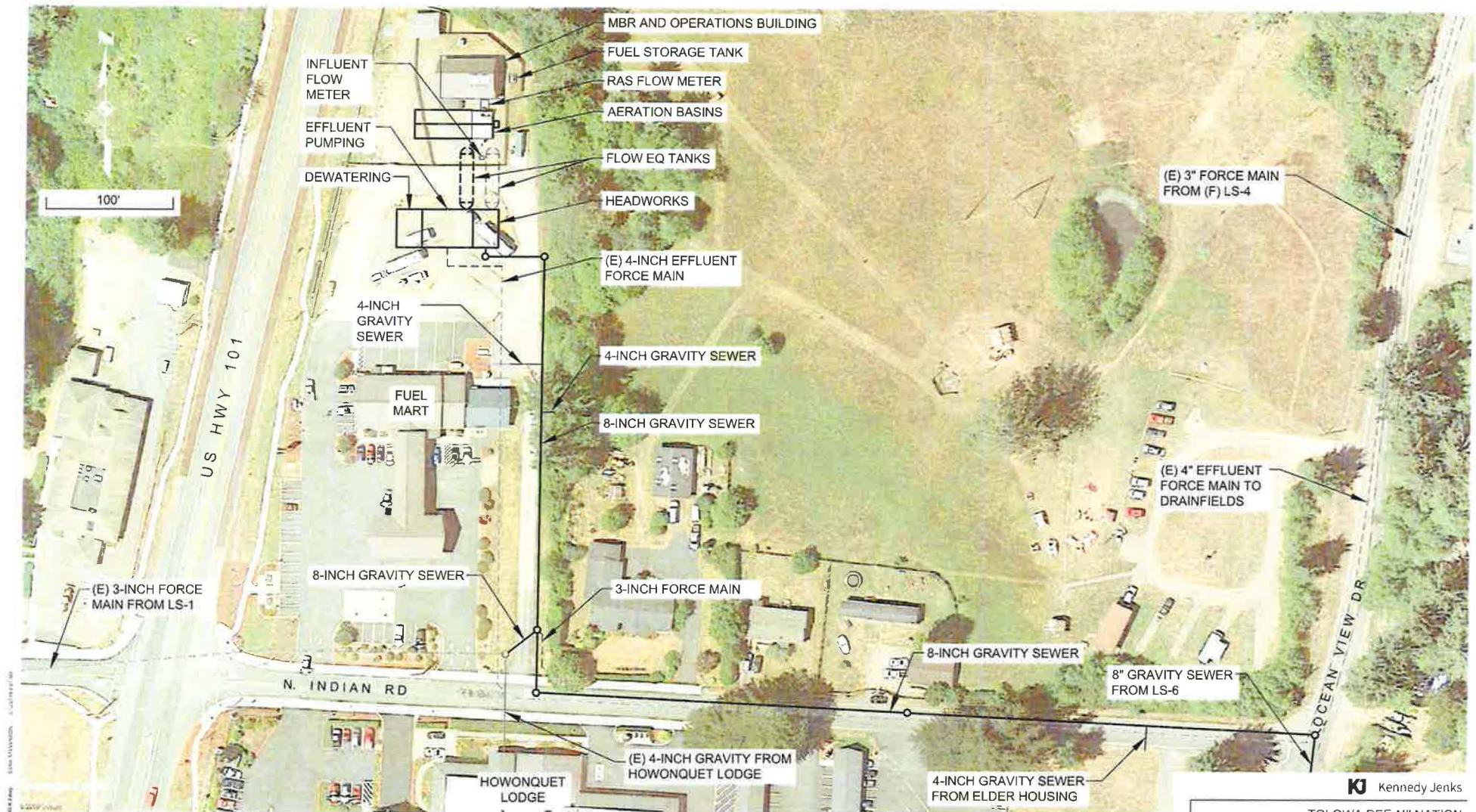


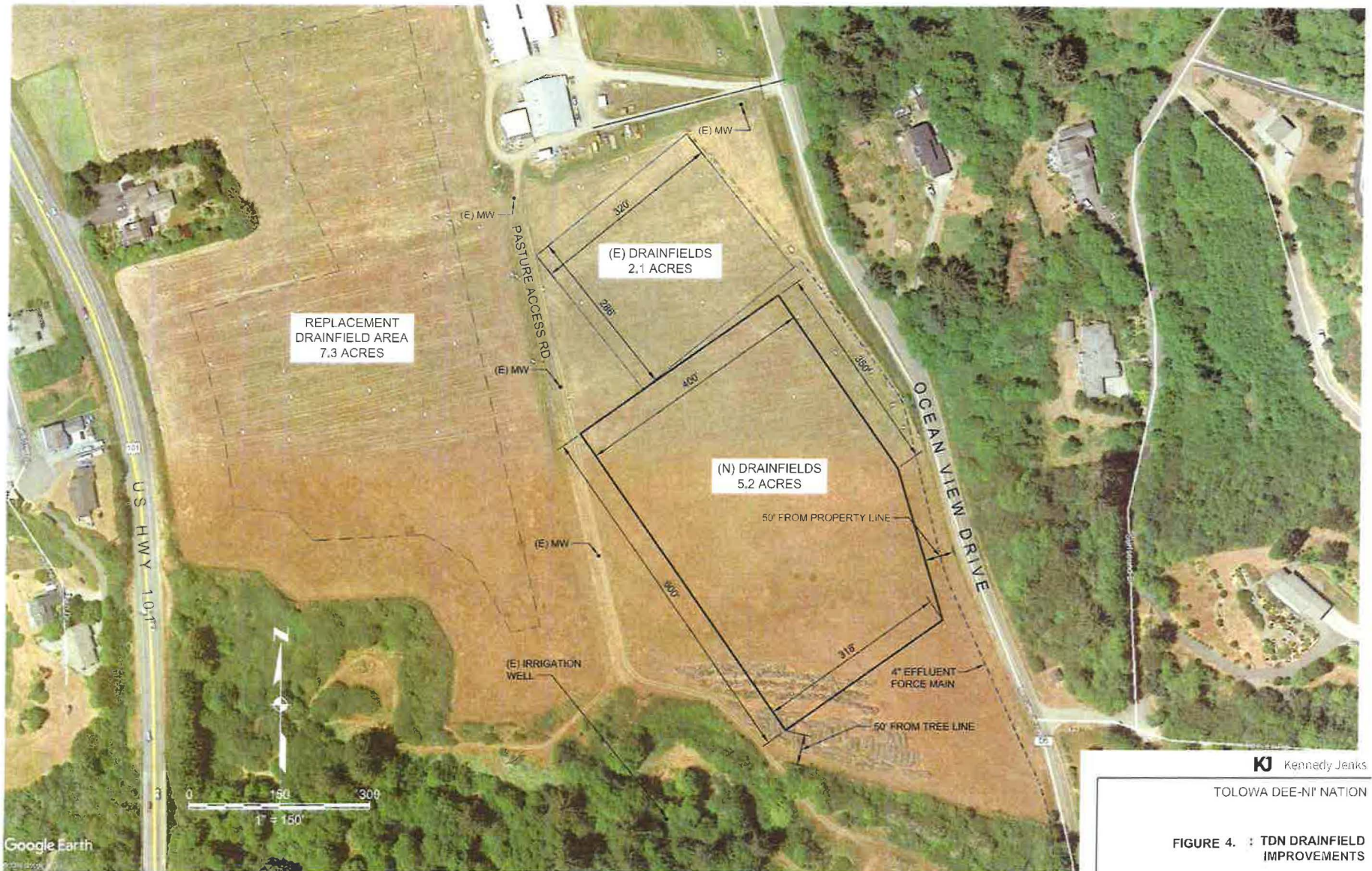
IMAGE FROM GOOGLE EARTH

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TOLOWA DEE-NI NATION
FIGURE 2 : HVR SITE PLAN
 2.2

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 SEPTEMBER 2019





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TOLOWA DEE-NI NATION

FIGURE 4. : TDN DRAINFIELD IMPROVEMENTS

KJ 1876019.00
SEPTEMBER 2019

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input type="checkbox"/>	Air Quality
<input type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input type="checkbox"/>	Geology/Soils	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards & Hazardous Materials
<input type="checkbox"/>	Hydrology / Water Quality	<input type="checkbox"/>	Land Use / Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population / Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input type="checkbox"/>	Transportation	<input type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities / Service Systems	<input type="checkbox"/>	Wildfire	<input type="checkbox"/>	Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Taylor Carsley, Planner

11/22/2019

Date

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or public views of the site and its surroundings? (Public views are those that are experienced from publically accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The Tolowa Dee-ni' Nation is located along the mouth of the Smith River and the Pacific Ocean. Land uses in the vicinity consist of residential, commercial, community facilities, timberlands, and agricultural lands. HVR is currently developed with residential uses. This project would have no foreseeable impact on scenic vistas because the project includes installing underground pipelines and associated facilities for wastewater collection and disposal within existing developed areas.
- b. This project would have no significant impacts on scenic resources. The proposed project would not impact any designated scenic resources, as it would not substantially damage trees, rock outcroppings, nor historic buildings. Further, the proposed project is not within a designated state scenic highway. The Local Coastal Program outlines evaluation criteria for designating scenic coastal resources in Del Norte County (Visual Resources Chapter, Local Coastal Program, 1983). The following are required:
 - i. Views of special interest to the general public
 - ii. Visually distinctive scenes resulting from unique contrasts or diversity in landscape patterns
 - iii. Views with special integrity or unimpaired conditions

The Local Coastal Program further specifies and defines these resource areas:

- i. View of water bodies
- ii. Views of sensitive habitats and open space
- iii. View of expressive topographic features
- iv. View of special cultural features

None of these resource areas would be impacted by the proposed project. The proposed project would require the removal of a single mid-seral Sitka spruce (*Picea sitchensis*), approximately 30-inches DBH on APN 102-090-021 on Ocean View Drive. This is to accommodate the proposed Lift Station 6, which would pressurize sewer for transport north along the right-of-way to the TDN wastewater treatment plant. This property and surrounding properties contain Sitka spruce of the same size and the removal of one tree would not be considered a significant impact to scenic resources.

- c. The project would not degrade the existing visual character or public views of the site and its surroundings. Temporary construction activities would occur within HVR, south of HVR at the OWTS ponds, along rights-of-way on Lopez Road, Ocean View Drive, and North Indian Road, on several private parcels on Ocean View Drive (102-090-021 and 101-021-002), as well as at the existing WWTF behind Lucky 7 Fuel Mart. These construction activities would not create any type of lasting effect on visual character or public views of this non-urbanized area.
- d. The project does not propose any development which would create a new source of substantial light or glare which would adversely affect views. No lighting is proposed as part of the project which would adversely affect views.

2. Agriculture and Forest Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. No portion of Del Norte County is included on the Farmland Mapping and Monitoring Program, so no Prime Farmland, Farmland of Statewide Importance exists within or near the project boundaries.
- b. A portion of the project exists within areas designated as Agriculture Prime by the Local Coastal Program and zoned Agriculture Exclusive (AE) at the extreme northern and southern terminuses of the project area. A portion of APN 102-710-008, the property containing the existing treatment ponds south of HVR is zoned AE, although the majority of the property, and all portions containing the ponds are zoned Commercial Recreational (CR) with an underlying Visitor Serving Commercial land use. No areas with an agricultural zoning will be impacted on this site by the construction activities and rehabilitation of the pond sites. Access to this site would not affect or impede use of the property for agricultural activities. The site of the drainfield expansion on the north end of Ocean View Drive, APN 101-021-002) is zoned AE as well. Historically, the site has been cultivated with commercial Easter lily bulbs. More recently, the property has been used as a drainfield for TDN's wastewater treatment facility since it was permitted through a variance and use permit in 2008 (V0803C-UP0818C). The current drainfield encompasses 2.1 acres of the property and the new proposed drainfield area would encompass 5.2 acres. A 3-acre reserve area would also be established to the west of the pasture access road. The utilization of the site for drainfields does not preclude the agricultural use of the property. Typical agricultural activities impact the upper 18 inches of the soil and irrigation water only affects the upper 12 to 24 inches of the soil. The effluent disposed of in the drainfield will be below this level and the trenches will have a minimum of five feet of separation from the bottom of the trenches to the highest

recorded ground water. Additionally, the effluent will be treated to a level that will permit it to be reused as irrigation water on the agricultural lands. The land owner is not limited to existing operations and may consider any of the permitted uses listed in County Code to maintain agricultural operations. Therefore, the project as proposed does not conflict with existing AE zoning, agricultural use, and will not result in the conversion of an AE-zoned parcel to non-agricultural uses.

- c. The project does not propose development activities on timberland, nor does it conflict with any adjacent timberland areas.
- d. The project would not result in the loss of forestland.
- e. The project does not involve any other changes in the existing environment that could adversely affect farmland or timberlands.

3. Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors or dust) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a. This project would have no foreseeable impacts on the implementation of an air quality plan. The project site is located within the North Coast Air Basin (NCAB) within the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The primary responsibility of the NCUAQMD is the control of air pollution from stationary sources. The California Air Regulatory Board (CARB) regulations construction equipment emissions. Del Norte County generally has very good air quality and is in attainment for all federal and state air quality standards.
- b. This project would have no foreseeable impacts on increasing criteria pollutants in the region. As noted above, Del Norte County is in attainment for all federal and state ambient air quality standards. Project related air quality emissions include (1) short-term construction activities related to grading and other earth moving activities, operation of construction equipment, and travel to and from the project site by workers and equipment; and (2) long-term operational emissions, primarily related to the wastewater treatment facility. Because of the relatively small footprint, limited duration of construction activities, and with best management practices incorporated into the project, the project would not result in a cumulatively considerable net increase of any criteria pollutant.
- c. The project would not be expected to generate any substantial increases to pollutants. Some temporary construction activities would generate dust and equipment emissions. These construction and operation activities will be in compliance with Rule 104, Subsection D (Fugitive Dust Emissions) of the NCUAQMD *Rules and Regulations* to reduce the amount of fugitive dust generated by the project. Additionally, the project will have to obtain and comply with the NCUAQMD Stationary Source Permits for standby generators to be installed with the proposed lift stations. To minimize potential air quality impacts associated with the project the project contractor and operator

will take reasonable precautions to prevent particulate matter from becoming airborne, including, but not limited to, the following provisions:

- Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
- The use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
- The application of asphalt, oil, water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts.
- The paving of roadways and their maintenance in a clean condition.
- The prompt removal of earth or other track out material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.
- Immediately after grading, plant ground cover/grass in disturbed areas or otherwise cover exposed disturbed areas in a manner preventing windblown dust from leaving the project site.

As discussed above, the project would result in minor and short-term construction related air emissions. Incorporation of BMP's would keep related emissions at lower levels. As these emissions are temporary in nature, health risks from project construction are not anticipated. Because construction activities would be of limited duration and project operational emissions would be consistent with existing uses, the proposed project would not expose sensitive receptors to significant pollutant concentrations.

- d. This project would have a less than significant impact in substantially increasing any emissions. As stated, the project would require a permit from the NCUAQMD and would follow the applicable rules and regulations of the air district. No criteria pollutants are in non-attainment status within the project area. Although less than significant impacts are anticipated with the current project proposal, a mitigation measure and monitoring program has been added to ensure temporary construction emissions will not affect a substantial number of people. The proposed project includes improvements to an existing wastewater treatment facility. As such, occasional odors may be noticeable in the WWTP vicinity. These potential odors depend on weather/wind conditions, are existing conditions, and would not significantly change as a result of the proposed project.

4. Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would have no impact on candidate, sensitive, or special status species identified as such though local, state, or federal regulations or agencies. A biological assessment was prepared by Galea Biological Consulting. To determine which special-status species occurred in the vicinity of the project area, California Department of Fish and Wildlife's California Natural Diversity Database (CNDDDB) was queried spatially within one mile of the project area as represented in the assessment. Additionally, the US Fish and Wildlife Information and Planning Center (IPaC) was queried to provide a list of federally-protected species potentially found near the project area, as represented in the assessment. The resulting species' occurrences are listed on Table 1 and Appendix A and mapped on Figure 2 of the biological assessment. The species identified from this spatial query and other database searches were further assessed for their potential to occur within the project area based upon previously documented occurrences, their habitat requirements, and the quality and extent of any available habitat within the project area identified in the biological assessment.

Species identified and discussed in the CNDDDB query include great egret (*Ardea alba*), great blue heron (*Ardea herodias*), northern red-legged frog (*Rana aurora aurora*), and Oregon silverspot butterfly (*Speyeria zerene hippolyta*). The IPaC query list was vetted for species that have potential habitat in the project area. This included northern spotted owl (*Strix occidentalis caurina*), tidewater goby (*Eucyclogobius newberri*), Oregon silverspot butterfly (*Speyeria zerene hippolyta*), and western lily (*Lilium occidentale*). A field investigation was performed in October 2018 and July 2019 and no preferred habitat for any sensitive species listed on Table 1 was located. The report further noted that the project would have no impact on western snowy plover, northern spotted owl, Oregon silverspot butterfly, coho salmon, or tidewater goby species or their habitats. Further, impacts to fisheries would not occur as a result of the project. The proposed drainfields are located approximately 300 feet north of Gilbert Creek with dense riparian vegetation and a road between. This was determined to be a substantial buffer to sediments and runoff.

The biologist noted potential, however non-preferred habitat for northern red-legged frogs in a drainage ditch along the north side of Ocean View Drive, the northern portion of the field proposed for drainfield expansion, and the existing treatment ponds proposed for decommissioning. Although no frogs were observed during field surveys, impacts to this species could occur as a result of construction activities without appropriate mitigation.

A botanical assessment was also completed by Kyle Wear, M.A. in August 2019. The report indicated that the scoping lists were generated from the CNDDDB, 2019 and California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants*, 2019. A floristic survey was conducted using standard methods on July 17, 2019. No special status plants were found on the survey, and a list of all plants encountered is included in the report.

- b. The proposed project is not expected to impact or adversely affect riparian habitat or other sensitive natural communities. Wetlands were found in proximity to the project area in two locations; within the parcel where Lift Station 6 will be located (APN 102-090-021) and at the existing treatment ponds proposed for removal. The biological assessment prepared discusses the identification of a drainage channel on the lift station property approximately 126 feet from the road edge when measured from the northwest corner of the property. Construction activities associated with installation of the lift station could affect riparian resources if located too near in proximity. The Local Coastal Program identifies riparian systems as environmentally sensitive habitat

area that “shall be maintained along streams, creeks and sloughs and other water courses within the Coastal Zone for their qualities as wildlife habitat, stream buffer zones, and bank stabilization” (Page 67, Coastal Element). The biological assessment has recommended that the construction activities maintain a minimum 100-foot minimum setback from the drainage channel, as is consistent with the standard ESHA-buffer prescribed in the Local Coastal Program. As this is the case, no impacts are expected to occur to riparian habitat.

- c. Wetlands were located in proximity to the project in two locations: on the property where Lift Station 6 will be located associated with a drainage channel and near the existing treatment ponds south of HVR. The project avoids impacts to both areas. As discussed in Section B, the drainage channel on the property will be adequately buffered by Lift Station 6 construction by maintaining a 100-foot separation and utilizing best management practices.

South of the treatment ponds, the biological assessment identifies Palustrine wetlands dominated by spruce forest. Additionally, a drainage channel flows from the north into those identified wetlands. Beyond the perimeter fence to the east of the ponds, another drainage channel flows from the north into the wetlands as well. According to the biological assessment, a small mowed area of potential wetlands was also located southwest of the ponds within the spruce forest canopy. Appendix B of the assessment provides the National Wetland Inventory mapping. According to the assessment, all construction activities for the filling of the treatment ponds can be conducted within the perimeter fence where wetland areas are not expected to be impacted. Although not anticipated, if heavy equipment activity requires more room to work, activity should be restricted to the immediate north area of the ponds, where wetland areas do not exist.

5. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a-c. The project application includes a cultural resources discovery plan. TDN does have extensive exploratory and mapping of cultural resources throughout the project area. The proposed project avoids known cultural resources and is located predominantly in previously disturbed areas. All excavation will be subject to the TDN Tribal Heritage Preservation Office (THPO) Permit, and conditions will be placed upon the construction contractor. Excavation will be monitored by a Cultural Monitor provided by TDN.

Ground disturbing activities could uncover previously unidentified cultural resources; potentially constituting an impact. Any inadvertent discovery of any historical or archeological resources in future project implementation is subject to the requirements of 36 CFR 800.13 (post-review discoveries). Any such discovery shall require the immediate cessation of construction activities, and the notification of TDN, where appropriate mitigation measures would be applied as to not cause a significant impact.

If skeletal remains or bones of unknown origin are found during construction, all work will stop in the vicinity of the find and the Del Norte County Coroner will be contacted immediately to determine whether the cause of death must be investigated. If the remains are determined to be Native America, the coroner should notify the THPO, who will then notify the person that is the most likely descendant. The most likely descendant will work with TDN or contractor to

develop a program for re-interment of the human remains and any associated artifacts. No additional work will take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. Implementation of these mitigation measures would reduce the unexpected disturbance of human remains, including those interred outside of dedicated cemeteries to a less than significant impact.

6. Energy

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would have no foreseeable impacts due to wasteful, inefficient, or unnecessary energy use during construction or operation. The project will consume energy in both construction and operation phases; however, adherence with State and Local plans related to energy consumption ensure that the project's energy usage is as efficient as possible.
- b. This project does not conflict with nor obstruct a state or local plan for renewable energy or energy efficiency.

7. Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. There are no known active faults that pass through the project site, nor are there any faults zoned as active by the Alquist-Priolo Act in Del Norte County. Therefore, the proposed project should have no impact with regard to potential fault rupture.

Del Norte County is subject to strong ground shaking from a variety of active seismic sources, the most significant of which is the offshore Cascadia Subduction Zone. The County has adopted the most recent building codes applicable to California and enforces the grading provisions therein, which utilizes the most current seismic design criteria for development. The proposed project would be constructed in accordance with the seismic requirements of the California Building Code which would reduce potential seismic impacts to a less than significant level.

Because the strong ground shaking could impact the wastewater system infrastructure, it is essential that all portions of the project adhere to the currently-adopted building code and meet the minimum seismic standards for the area. The design of all structures will be reviewed by a California registered civil engineer. Due to the expansive soils associated with the coastal plain on which this project is located, there is a potential liquefaction hazard that may occur with strong seismic events. The adverse effects of liquefaction include, but are not limited to local and regional ground settlement, ground cracking and expulsion of water and sand, the partial or complete loss of bearing and confining forces used to support loads, amplification of seismic shaking, and lateral spreading. With the application of proper mitigation, these potential impacts would be reduced to a less than significant level.

There are no steep slopes in the vicinity of the project area. Therefore, the project should have no impact on landslide potential.

- b. The project involves grading and excavation during construction, involving the excavation and placement of pressurized and gravity sewer lines, the installation of two lift stations, the reclamation of antiquated wastewater treatment ponds, the installation of an upgraded electrical distribution system, and the installation of approximately 5.2-acres of drainfields. The applicants will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) and obtain coverage under the California Water Board Construction General Permit Order 2009-0009-DWQ for all construction associated with the project. As such, this project does not create the potential for significant soil erosion.
- c. As noted above, the project area is at risk for liquefaction in the event of a strong seismic event. MITIGATION MEASURE FROM a. would reduce the risks of injury or loss of life from this geologic hazard.
- d. The project area is predominantly overlaid by surface soils consisting of Pleistocene age marine terrace deposits, consisting of a mostly loamy texture. Because the proposed project will be designed by a licensed civil engineer and constructed in accordance with the seismic requirements of the California Building Code, any likely damage from expansive soils would be mitigated to a less than significant level.
- e. The project does involve the expansion of 5.2 acres of drainfields on property owned by TDN and currently used for as wastewater leaching area. Soils textual analysis conducted by LACO in February 2019 indicate that soils are mostly sand at test pits 1 and 2, silty clay at test pit 3, and loamy sand at test pit 4. According to the North Coast Regional Water Quality Control Plan, soils in test pits 1, 2, and 4 are zone 1 coarse soils, suitable for percolation provided that sufficient separation from groundwater can be achieved. Percolation testing

performed by Stover Engineering in the vicinity of test pit 1 indicated that adequate separation of groundwater would be available for use of these soils as wastewater leaching areas.

- f. A search of County records indicates no presence of unique paleontological resources or geologic resources at the project site. This project would be expected to create no impacts to these resources.

8. Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would not create significant impacts to the environment from GHG emissions. The rehabilitation of the existing HVR wastewater treatment system by redirecting wastewater to the treatment facility and disposal at the Ocean View drainfields would result in minor temporary increases in GHG emissions as a result of the construction activities required to carry out the work. The project would also allow for an expansion of wastewater flows. The Technical Memorandum shows that HVR currently generates wastewater at the rate of approximately 28,100 gallons per day (gpd). According to data gathered from a master planning study, projected wastewater flows for the proposed 15 to 25 year HVR Conceptual Development Plan are approximately 60,200 gpd. With an average design period defined as 20-years, the projected wastewater flow could be assumed to take place in approximately 2040. The potential for a substantial increase in non-residential use of HVR as a result of future development can lead to the conclusion that some future increase in GHG would occur due to this wastewater treatment project. These non-residential uses contribute greatest portion of the increase in wastewater flows. The increase in the contribution of residential use is very minor as only 39 units would be added under the conceptual development plan. Other residential construction that will or could utilize the expanded sewer system, outside of HVR would increase the amount of GHG to an insignificant degree.

The County, as lead agency and the North Coast Unified Air Quality Management District (NCUQAMD) has no adopted plan, policy, regulation, or threshold for reducing GHG emissions as of 2019. When considering the impact of an individual project's share of GHG contribution, the County must determine whether the project constitutes a significant portion of the regional area's gross GHG production. Primarily, it is difficult to anticipate the effects that a project will have on GHG. For example, a project that increases development in an area may reduce GHG by allowing locals or nearby visitors to reduce the distances they travel for amenities, thus decreasing GHG production. An improved visitor serving commercial use at HVR could lead to this result. The project indirectly allows for an increase in wastewater flows of approximately 56,000 gpd, according to the Growth Inducement Analysis. Assuming an equivalent dwelling unit (EDU) produces 145 gpd, the potential increase in EDU is 386. This increase would not be simply residential, and would constitute a relatively minor increase in GHG over a long period of time, when compared to GHG production regionally, in and around the project area. No significant impacts to the environment would occur as a result of this project indirectly generating minor amounts of GHG above current levels.

- b. The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose or reducing GHG emissions.

9. Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would not create impacts related to hazards or hazardous materials. All hazardous or regulated materials that are used on-site during construction activities will be properly stored and secured, to prevent access by the general public. No hazardous materials related to the construction activities will be disposed of at the project site. Post-construction procedures will be followed when handling or storing hazardous materials, and all job-site employees will be trained in the proper usage and storage of hazardous materials.
- b. The project will not create a significant risk to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials. As part of the permitting process, the applicant will be required to prepare and implement a Stormwater Pollution and Prevention Plan (SWPPP) which reduces the risk of impacts occurring from accidental release of hazardous materials into the environment to a less than significant level. Appropriate protocols will be in place for storage of hazardous materials and actions following the accidental release of said materials.
- c. The project site is not located within one-quarter mile of a school, therefore the proposed project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- d. Based on information contained within the EnviroStor database (CalEPA, Department of Toxic Substances Control), the project will not be located on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5, and as a result, will not create a significant hazard to the public or environment.
- e. The project is not located within an airport land use plan or two miles of a public airport or public use airport, and as a result, will not result in a safety hazard or excessive noise for people residing or working in the project area.
- f. This project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

10. Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. A Waste Discharge Permit from the North Coast Regional Water Quality Control Board (NCRWQCB) will be required for the expanded wastewater treatment facility on Indian Road and disposal area on Ocean View Drive. Additionally, because the proposed project's construction footprint is larger than one acre in area, a project-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared which will implement wet weather stormwater quality, monitored by the California Water Board Construction General Permit Order 2009-0009-DWQ. Water quality standards will need to be strictly adhered to under the conditions of the waste discharge permit and monitoring will occur throughout the entire project to ensure compliance with the General Permit

Order. No significant impacts associated with the violation of any water quality standards or waste discharge requirements as they relate to surface or ground water quality are anticipated to arise as a result of this project, however a mitigation measure has been included to ensure compliance with the proposal and with applicable state and federal regulations.

- b. The project is not expected to use any significant amounts of ground water supplies. Some water would be used for temporary construction activities but would not be considered a significant amount. Further, the potential future increase in capacity of use at HVR would not constitute a significant impact in the use of groundwater, as the Smith River Plain is considered a "Low" Basin Prioritization by the Department of Water Resources. This means that the project area is not near a groundwater overdraft status and has sustainable levels of pumping and recharge. Additionally, the Smith River Community Services District draws water from Rowdy Creek, so increased usage of water for the service area would not impact groundwater supplies. No impacts would occur as a result of interfering with groundwater supplies.
- c. The project would not substantially alter the existing drainage pattern of any site or of the project area as a whole. No portion of this action would alter the course of a stream or substantially increase the addition of impervious surfaces. Two lift stations would be installed, but all other improvements would take place on areas already surfaced with impervious materials.
 - i. The project would not result in a substantial increase in erosion or siltation on- or off-site.
 - ii. The project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. As discussed above, the amount of impervious surface area increase as a result of this project is negligible.
 - iii. The project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide a substantial source of polluted runoff. The project setting is rural with no stormwater drainage systems within the area of improvements, with the exception of Indian Road. The installation of a new sewer line in the right-of-way would not create any impacts related to excessive or polluted runoff.
 - iv. The project would not redirect flood flows in any way.
- d. The project would improve the existing wastewater system that TDN uses for the HVR properties. The improvements would direct wastewater to the existing treatment facility where it would be treated and drained off-site. The project is outside of all mapped Special Flood Hazard Areas (SFHA) as Zone X area as mapped on the most recent Flood Insurance Rate Maps (FIRM) by the Federal Emergency Management Agency (FEMA). The project would not risk release of pollutants in these areas. Tsunamis are a potential risk within the project area. HVR is located in a tsunami inundation zone; however, the proposed project in this area includes installing an underground collection system that would not substantially alter the existing drainage pattern of the site or area, or risk release of pollutants. The proposed new transmission line and lift station along Ocean View Drive, the TDN WWTF improvements, and disposal fields are all located outside a mapped tsunami zone. Tsunami warning systems are in place by the County Office of Emergency Services to provide advance evacuation alerts. In addition, TDN has its own siren warning system and has its own Emergency Operation Plan that is compliant with the National Incident Management System. Accordingly, the potential impact from tsunami inundation is less than significant.
- e. The project would not conflict with nor obstruct implementation of a water quality control plan or sustainable ground water management plan. The project would comply with all NCRWQCB requirements necessary through the permitting process and the County does not have an adopted groundwater management plan as the Smith River Plain is currently a low priority basin according to the Department of Water Resources.

11. Land Use and Planning

Would the project:	Potentially	Less Than	Less Than	No Impact
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	Significant Impact	Significant Impact with Mitigation Incorporated	Significant Impact	
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project does not physically divide an established community in any way.
- b. The project does not conflict with any land use policy or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect. The project allows for HVR, which is zoned CR (Commercial Recreational) and designated VSC (Visitor Serving Commercial) by the Land Use Plan to develop with more density in the future. This is outlined in a 15 to 25 year HVR conceptual development plan produced by TDN. The wastewater improvements and expansion would not cause any impacts related to conflicts with land use plan, policies, or regulations.

12. Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a-b. No mineral resources are known to exist on-site.

13. Noise

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

the project area to excessive noise levels?				
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Discussion of Impacts

- a. A noise control plan was submitted which states that the project would result in short-term increase noise levels from construction activities. The significance of noise generated depends on the various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive receptors. Certain areas of the project would produce less of an impact with regard to noise than other areas. For example, noise related to the installation of sewer lines and the decommissioning of the existing treatment ponds at HVR would have a very insignificant effect to sensitive noise receptors, as few exist in those areas. Similarly, improvements to the wastewater treatment facility on Indian Road would be located adjacent to US Highway 101 and other loud commercial uses. Adjacent single family residences could temporarily be affected by construction noise, especially on Ocean View Drive, between Lopez Road and Indian Road. Operations occurring during the least sensitive times of the day will assist in reducing any temporary noise-related impacts that could be perceived to be significant. The declared hours of operation outlined in the project application are limited from 7 am to 7 pm. No significant impacts associated with noise are anticipated to arise as a result of this project as proposed; a mitigation measure has been included to ensure compliance with the proposal.
- b. The project requires temporary construction activities that will lead to some generation of groundborne vibration and noise levels. As discussed above, the majority of minor impacts will occur in proximity to sensitive residential uses, particularly along Ocean View Drive. While some vibration and noise would be generated from construction, it would be considered less than significant due to the temporary nature of the work required and work schedule as detailed above. No permanent or lasting vibration and significant noise increases would occur to create substantial environmental impacts post-construction.
- c. The project is not located within the vicinity of a private airstrip or an airport land use plan, or within two miles of an airport. The project would have no impacts with regard to exposure of excessive noise levels in addition to that produced by airport operations.

14. Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project is primarily focused on providing for the full development potential of HVR. HVR currently has 89 active mobile home spaces, 273 RV spaces with laundry facilities, and 16 apartments. There are 47 vacant mobile home spaces. The RV spaces and apartments currently have less than 50% occupancy due to the dilapidated state of the facilities. There is also a vacant motel and restaurant. The project could indirectly induce growth at the HVR properties as a result of improving and expanding its sewage disposal capacity, but this growth would not be considered substantial nor unplanned. The area is designated as a Visitor Serving

Commercial (VSC) area in Del Norte County's certified Local Coastal Program (LCP) and zoned Commercial Recreational (CR). The purpose of the VSC designation is to "cater to the needs of visitors to the Coastal Zone". Specific area recommendations found in the LCP for HVR, historically called Ship-Ashore, do not limit its growth for visitor serving commercial purposes. The project will provide for a reasonably small amount of growth on a regional basis within the project area. According to the Draft Technical Memorandum – Flows and Loads prepared by Kennedy Jenks, the project increases the development potential at HVR to a point of projecting a 60,200 gpd wastewater flowrate. Currently HVR produces a flow rate of approximately 28,100 gpd. An HVR Master Plan identifies potential future visitor-serving uses such as a new motel and restaurant replacing the existing motel and restaurant and a new visitor center as well as improved laundry facilities for reconfigured RV spaces. Accessory manufactured housing would remain at HVR but would not exceed a ratio of 1:2 with RV spaces per coastal zoning regulations.

Outside of HVR, TDN will tie some development into the wastewater treatment system. This includes 21 units under construction at Dat-naa-svt Village on federal trust land on Ocean View Drive. While not anticipated at this time, 22 developed parcels currently utilizing on-site sewage disposal systems could tie into the system at some point in the future. An additional 30 equivalent dwelling units may be connected to the system at some point in the future, consistent with County land use and zoning policies and regulations. This project would not change amend any land use designations, zoning districts, or induce substantial unplanned population growth, so any population growth resulting from the project would not be considered a significant impact.

- b. The project would not displace any number of existing people or housing.

15. Public Services

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would not result in substantial adverse impacts associated with the need for new or altered governmental facilities and/or public services. While the project would increase the ability to develop HVR, all development would need to comply with densities allowed for in the County's certified LCP.
- The Smith River Volunteer Fire Department will continue to provide fire protection in an area with a low fire hazard severity risk as established on California Board of Forestry mapping, so any increase in density associated with development at HVR would be considered less than significant.
 - The Del Norte County Sheriff's Office will continue to be the primary responders to calls in the unincorporated County and project area. The project would not be expected to generated substantial

need for additional Sheriff personnel, equipment, or infrastructure, so no significant impacts are expected as a result.

- iii. New development within the unincorporated County requires building permits through the Del Norte County Community Development Department, with the exception of trust land areas. Prior to building permit issuance, applicants are required to pay school mitigation impact fees to the Del Norte Unified School District to offset the anticipated impacts to schools as a result of growth. Any residential growth which would be assumed to cause the greatest impact to schools would be offset fully or partially by the requirement to pay impact fees to the district. Because of this, and because of the limited residential growth opportunities actually allowed by this project directly or cumulatively, no significant impacts on school facilities are projected as a result of the project.
- iv. The project would have no impact on public parks in the Smith River area. Smith River offers an abundance of public land, and the ability of HVR to develop as contemplated in the Master Plan would not cause any anticipated impacts to parks.
- v. No other public facilities are expected to be impacted as a result of the proposed project.

16. Recreation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The proposed project could result in some indirect population growth and will likely result in some increased development potential of visitor serving commercial facilities at HVR. This growth, however, would not significantly deteriorate recreational facilities around the project area. Smith River has an abundance of public land available for recreation, including beach access, developed parks, and other waterfront activities, as well as proximity to facilities in Oregon. Because of the large amount of recreational facilities and amenities, any impact to these features would be distributed broadly at a less than significant level.
- b. The project does not propose or cause the need for construction or expansion of recreational facilities. As no such facilities would be constructed as a result of the proposed project, no impacts would occur.

17. Transportation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision(b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a design feature (e.g.,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The proposed project should not conflict with a program, plan, ordinance, or policy addressing the circulation system.
- b. The County has adopted LOS as the metric for transportation impacts, as established in the 2003 General Plan and adopted capacities of local roadways in the Smith River area as shown in the certified Coastal Element of the General Plan. Vehicle Miles Travelled (VMT) is the transportation metric adopted by the state of California to be used in determining transportation impacts. This metric will not be in effect until July 1, 2020, at which time the County along with other CEQA Lead Agencies will use this metric. According to the Coastal Element, average daily traffic (ADT) established at the time did not come close to establish capacities on roadways. For example, Ocean View Drive was at 250 ADT with a capacity of 10,000 ADT. While this project would facilitate some amount of residential growth in the area, it would not be expected to directly nor indirectly impact the circulation system in any significant way.
- c. The proposed project would not alter design features on any transportation or circulation infrastructure.
- d. The proposed project would not alter emergency access to any parcel.

18. Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

The Del Norte County Environmental Review Committee (ERC) has assessed this application for the potential to cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074. Tribal resources are known to exist in the project vicinity; however the proposed project is not expected to cause a substantial adverse change in the significance of tribal cultural resources. The Cultural Resources Inventory prepared for the existing HVR wastewater treatment lagoons site states, "Natural Investigations contacted the Native American Heritage Commission (NAHC) on August 20, 2018, requesting a search of their Sacred Lands File for traditional cultural resources within or near the APE. The reply from the NAHC, dated August 20, 2018, states that the search indicates the presence of Native American sacred lands in the immediate vicinity, for which the Tolowa Dee-ni' Nation is the contact."

(Natural Investigations Company, Cultural Resources Inventory for the Xaa-wan'-K'wvt Village and Resort Wastewater Lagoons Improvement Project Sept. 3, 2018). The Cultural Resources Inventory concludes that the project will have no adverse effect on historic properties and recommends inadvertent discovery policies as discussed below.

Further, a member of the ERC is a member of TDN Cultural Resources Department staff, reporting directly to the Tribal Heritage Preservation Officer (THPO). The project application includes a cultural resources discovery plan. TDN does have extensive exploratory and mapping of cultural resources throughout the project area. The proposed project avoids known cultural resources, as feasible, and is located predominantly in previously disturbed areas. All excavation will be subject to the TDN THPO Permit, and conditions will be placed upon the construction contractor. Excavation will be monitored by a Cultural Monitor provided by TDN.

Ground disturbing activities could uncover previously unidentified cultural resources; potentially constituting an impact. Any inadvertent discovery of any historical or archeological resources in future project implementation is subject to the requirements of 36 CFR 800.13 (post-review discoveries). Any such discovery shall require the immediate cessation of construction activities, and the notification of TDN, where appropriate mitigation measures would be applied as to not cause a significant impact.

Mitigation includes an inadvertent discovery measure as discussed previously. If skeletal remains or bones of unknown origin are found during construction, all work will stop in the vicinity of the find and the Del Norte County Coroner will be contacted immediately to determine whether the cause of death must be investigated. If the remains are determined to be Native America, the coroner should notify the THPO, who will then notify the person that is the most likely descendant. The most likely descendant will work with TDN or contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work will take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. Implementation of these mitigation measures would reduce the unexpected disturbance of human remains, including those interred outside of dedicated cemeteries to a less than significant impact.

19. Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. The proposed project would extend the service area of the approved TDN wastewater treatment facility (WWTF). The improvements would increase the WWTF capacity to 200,000 gallons per day (gpd) which is 157,000 gpd over existing conditions. The improvements to the WWTF would take place on the same parcel which is currently made up of disturbed ground. The improvements also proposed include expansion of a 5.2-acre area of pasture as leaching field on an off-site property that would not affect any sensitive areas. Construction of the two lift stations required as part of this project would not be sited in areas that would cause significant environmental effects. The grading activities needed for the removal of the wastewater ponds south of HVR would take place outside of wetland areas as noted in the biological assessment. No significant environmental effects would be caused by the utility repairs and expansion that make up the proposed project.
- b. No impacts whatsoever are anticipated regarding the availability of adequate water supply. Both the Smith River Community Services District and TDN manage water systems in the project area and have no issues at all, currently or historically, with supply.
- c. The WWTF expansion and additional capacity generated by the 5.2-acre expansion of the system's drainfields off-site will be more than adequate for current and projected future demand on the system. The project sponsor is the provider of the sewer service. Therefore, there will be no issue regarding the ability of the provider to provide the service requested.
- d. The proposed project will not generate solid waste in excess of any state or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals.
- e. The proposed project will comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

20. Wildfire

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The proposed project would not impair an adopted emergency response plan or emergency evacuation plan.

- b. The project site is located in a State Responsibility Area for fire management and in a "Moderate" Severity Hazard Area. Do the marine influence and low severity rating (moderate is the lowest), and the fact that the installation of sewer infrastructure, upgrades to an existing wastewater treatment facility, and decommissioning of existing wastewater ponds do not pose any wildfire risk in addition to baseline conditions.
- c. The proposed project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or result in temporary or ongoing impacts to the environment.
- d. The proposed project would not expose people or structures to significant risks including flooding or landslides.

21. Mandatory Findings of Significance

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Mitigation Measures, Monitoring, and Reporting Program

While the potential for creating significant environmental impact exists on any major project, the detailed description, reports, and plans included in this project application have ensured that, as properly carried out, many potential impacts will be less than significant, without mitigation measures added. The mitigation measures included as part of this program are mainly those that are either 1) not addressed in the submitted project proposal, or 2) deemed by the Lead Agency to necessitate including in this program.

Air Quality

Mitigation

3. The applicant, at all times, shall comply with Air Quality Regulation 1, to the satisfaction of the North Coast Unified Air Quality Management District (NCUAQMD). This will require, but may not be limited to implementing the following Best Management Practices: a) apply sufficient water to suppress dust on roads used for vehicular traffic and restrict vehicle speed to 15 mph, (b) when feasible, shut down idling construction equipment, (c) revegetate disturbed areas as soon as possible after disturbance, (d) cover construction materials and stock piled soils if they are sources of fugitive dust, (e) cover dump trucks before transporting soils off-site, (f) when possible, schedule construction activities during periods of low winds to reduce fugitive dust, and (g) for all disturbed surface areas, apply dust suppression in a sufficient quantity and frequency so as to maintain a stabilized surface.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department and NCUAQMD

Monitoring: Throughout project construction

Biological Resources

Mitigation

- 4a. Surveys for amphibians shall be conducted by a qualified biologist at the proposed drainfield site prior to construction activities and at the treatment ponds after draining and before filling in. If amphibians are found, they should be collected and moved to suitable habitats by the biologist. The applicant shall provide the Community Development Department evidence that this mitigation measure has been substantially complied with.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department

Monitoring: Written report by applicant within reasonable time of completion of mitigation measure

- 4c.1. Prior to construction activities adjacent to the treatment ponds, a qualified biologist shall delineate environmentally sensitive habitat areas, and designate areas acceptable for any heavy equipment work outside of the perimeter fence, through flagging or other ground demarcation, should it be necessary.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department

Monitoring: Written report by applicant within reasonable time of completion of mitigation measure

Cultural Resources

Mitigation

- 5c. Should any archaeological resources be found during project activities, construction activities shall be halted until an evaluation of the find is made by either a qualified archaeologist or representatives of the local tribes. Any mitigation measures that may be deemed necessary must have the approval of the local tribes and the County of Del Norte, and shall be implemented by a qualified archeologist representing the County of Del Norte prior to resumption of construction activities. If human remains are exposed by a project related activity, the County of Del Norte shall comply with California State Health and Safety Code, Section 7050.5, which states that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to California Public Resources Code, Section 5097.98

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department

Monitoring: Throughout construction

Geology and Soils

Mitigation

7. The design plans for the proposed project shall be prepared by a California registered civil engineer or engineering geologist, who shall provide recommendations for reducing life safety hazards for field users during a major seismic event and resulting seismic-related ground failure.

Timing/Implementation: Prior to issuance of the grading permit

Enforcement: County Community Development Department

Monitoring: Throughout construction

Hazards and Hazardous Materials

Mitigation

- 9b. The applicant and/or contractor shall be responsible for developing and implementing a Stormwater Pollution and Prevention Plan (SWPPP) which will include a Spill Prevention Control and Countermeasure Plan (SPCCP) in the case of an accidental release of pollutants, to the satisfaction of the Community Development Department.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department

Monitoring: Throughout construction

Hydrology and Water Quality

Mitigation

- 10a. A Notice of Intent shall be filed and a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared, as required by the State Water Resources Control Board (SWRCB) as delegated to the State of California by the US EPA for projects involving more than one acre of land disturbance. The SWPPP shall incorporate appropriate Best Management Practices to control soil and surface runoff during excavation, filling, trenching, and grading. To the extent feasible, ground disturbing activities shall be conducted during the dry season (April 15 to October 31). Stockpiled soil shall be covered and protected with temporary erosion control measures. The SWPPP shall include temporary erosion control measures in the event that rainy weather occurs during construction.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department and SWRCB

Monitoring: Throughout construction

Noise

Mitigation

- 13a. A Notice of Intent shall be filed and a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared, as required by the State Water Resources Control Board (SWRCB) as delegated to the State of California by the US EPA for projects involving more than one acre of land disturbance. The SWPPP shall incorporate appropriate Best Management Practices to control soil and surface runoff during excavation, filling, trenching, and grading. To the extent feasible, ground disturbing activities shall be conducted during the dry season (April 15 to October 31). Stockpiled soil shall be covered and protected with temporary erosion control measures. The SWPPP shall include temporary erosion control measures in the event that rainy weather occurs during construction.

Timing/Implementation: Condition placed on grading permit approval prior to issuance

Enforcement: County Community Development Department and SWRCB

Monitoring: Throughout construction

Reference List

The following documents were used or referenced in the preparation of this Initial Study/Draft Mitigated Negative Declaration:

California Department of Toxic Substances Control. EnviroStor Database. Accessed online, November 15, 2019.

Federal Emergency Management Agency. (November 15, 2019). Flood Insurance Rate Map (FIRM) for Smith River (Del Norte County, CA Community Panel No. 06015C0029F). NR:FEMA.

Galea Biological Consulting. (August 2019). *Biological Assessment for Proposed HVR Project, Installation of New Sewage System Line and Leach Filed, Smith River, CA. August 2019*

Kennedy Jenks (January 2019). *Draft Technical Memorandum – Flows and Loads. Xaa-wan'-k'vwt Village and Resort (XVR) Wastewater Flow and Load Projections K/J Project No. 1876019*00.*

Kennedy Jenks (May 2019). *Draft Technical Memorandum – Preferred Alternative. Tolowa Dee-ni' Nation Xaa-wan'-k'vwt Village and Resort (XVR) Wastewater Improvement Planning Study. K/J Project No. 1876019*00.*

Kyle Wear, Botanical Consultant (August 2019). *Botanical Survey Results, XVR Wastewater Project, Del Norte County, CA.*

LACO (February 20, 2019). Soil Percolation Suitability Charts

Natural Investigations Company (September 2018). *Cultural Resources Inventory for the Xaa-an'-k'vwt Village and Resort Wastewater Lagoons Improvement Project, Sept. 3, 2018.*

Appendix A



GALEA BIOLOGICAL CONSULTING

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Tel: 707-218-6039 E-mail: frankgalea@charter.net

Biological Assessment for Proposed HVR Project, Installation of New Sewage
System Line and Leach Field, Smith River, CA. August 2019.

Submitted to:

Stover Engineering
711 H Street
Crescent City, CA 95531

Prepared by: Frank Galea, Certified Wildlife Biologist

Galea Biological Consulting
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Crescent City, CA 95531
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Submitted: August, 2019

By:

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PLANNING
COUNTY OF DEL NORTE

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1.0

SUMMARY

The Tolowa Dee-ni' Nation proposes to modify and join two existing sewer systems, one at Howonquet Village and Resort (HVR) and another at the Tribe's wastewater treatment plant located one mile to the north of HVR, into one, large system. A biological assessment was prepared for this project by Galea Biological Consulting (GBC) to determine the potential impacts of the project on sensitive wildlife and plant species, including federally or state listed species, and species of special concern. Additionally, GBC conducted a review of habitats within and adjacent to the project area to determine the scope of wetlands and riparian habitats present and to ensure that such habitats are not impacted. No sensitive or endangered species or their habitats was located in or near the proposed project area. Botanical surveys were conducted and no sensitive botanical species were located in proximity to the project area.

2.0

INTRODUCTION

2.1 Project Description

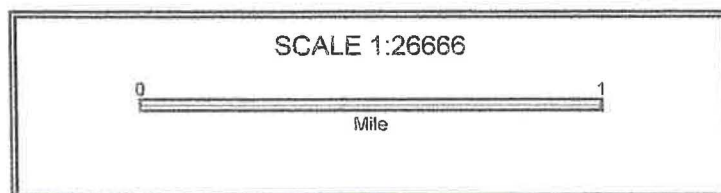
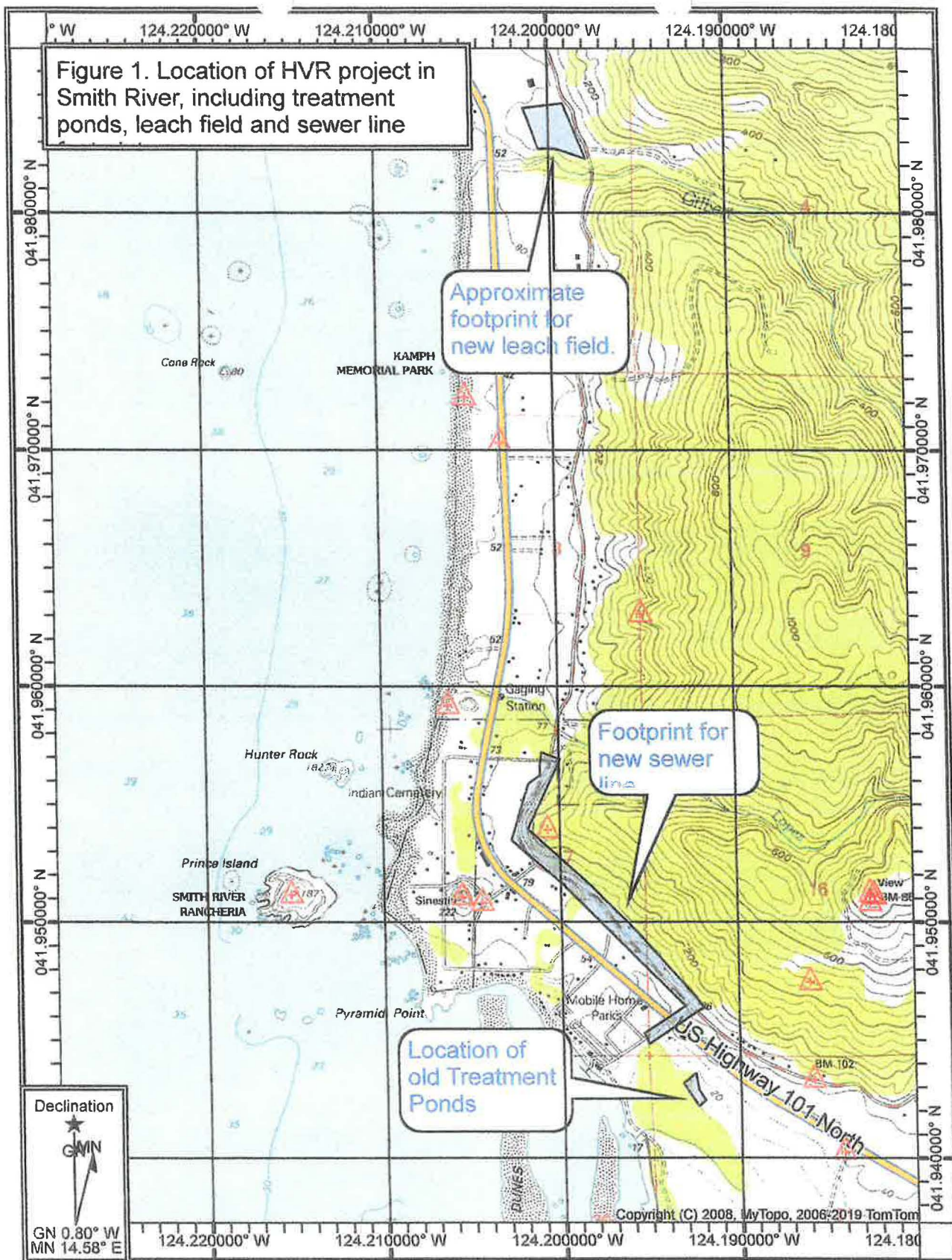
The Howonquet Village and Resort (HVR) is located two miles northwest of the town of Smith River, just west of Highway 101. Currently, an existing sewer system at HVR pipes wastewater into three treatment ponds located approximately 1,000 feet east of the resort. Wastewater is run through three ponds and chlorinated before being used for irrigation.

A wastewater treatment plant is located at the Lucky Seven casino located approximately 1.2 miles to the north of the treatment ponds. This treatment plant includes a leach field 2 miles to the north, where effluent from the treatment plant is pumped via an existing pipe to the leach field.

The Applicant is proposing to connect the two systems by installing a new pressurized sewer line between the HVR and the Tribe's treatment plant facilities located at their casino property on Highway 101, just north of the town of Smith River, California (Figure 1). The new line would originate at the resort, cross Highway 101 via Lopez Road, then continue north approximately one mile along Ocean View Drive to the casino facility. The new sewer line would be installed using directional drilling, placing the line just under the existing roadway along the north side of the road. A lift station would be placed on a parcel (102-090-021) located on the south side of Oceanview Drive, immediately adjacent to the road.

Currently, the treatment plant at the casino pumps effluent to an existing leach field located in a large field two miles to the north. This leach field would be greatly expanded into an adjacent field on the same property to handle the increased amount of effluent.

As wastewater from the resort would now be pumped to the wastewater treatment plant near the casino, the treatment ponds adjacent to the HVR resort would no longer be needed. The treatment ponds would therefore be filled in, using the earthen berms surrounding them, which were created from soils excavated from the ponds.



2.2 Environmental Setting

The project begins along the north bank of the Smith River, on the south side of Highway 101. The closest distance between the river and the project would be approximately 300 feet.

The Smith River drainage has an important anadromous fishery, containing species including federally-listed coho (*Oncorhynchus kisutch*) salmon, cutthroat trout (*Oncorhynchus clarki clarki*), steelhead trout (*Oncorhynchus mykiss irrideus*) and Chinook salmon (*Oncorhynchus tshawytscha*). The Smith River estuary also contains populations of the federally-listed tidewater goby (*Eucyclogobius newberryi*).

The treatment ponds east of the resort are located just south of Highway 101, in open fields. Immediately south of the ponds is a 32 acre stand of coastal spruce (*Picea sitchensis*) and red alder (*Alnus rubra*).

The project leaves the resort, crosses Highway 101 onto Lopez Road, up to Oceanview Drive where the project turns to the north. Lopez Road and Oceanview Drive are located in a rural residential setting, with homes set on large parcels at the foot of coastal spruce and red alder forest-covered hills. The project includes the large field two miles north of the treatment plant, where the new leach field will be installed. The field is located just west of Oceanview Drive, and is part of a large ranch with numerous pastures.

Approximately 650 feet south of the field is Gilbert Creek. Gilbert Creek flows northwestward to the Pacific Ocean, two miles north of the mouth of Smith River. Gilbert Creek is about two miles in length and is a first-order perennial coastal watercourse that is within the Smith River watershed and contains a population of cutthroat trout.

2.3 Physical Environment

The climate of northern California is characterized as Mediterranean, with cool, wet winters and warm, dry summers with frequent fog. Along the coastline, proximity to the Pacific Ocean produces high levels of humidity and results in abundant fog and fog drip precipitation. The maritime influence diminishes with distance from the coast, resulting in lesser amounts of fog, drier summer conditions and more variable temperatures. Annual precipitation in the project watershed ranges from 60 - 150 inches occurring primarily as rain during the winter months. Air temperatures measured in the Smith River area vary from 41°F to 67°F annually.

3.0

METHODS

3.1 Records Search

A records search of the California Department of Fish and Wildlife's (CDF&W) Natural Diversity Data Base (2019) was conducted to determine if any additional special-status plant or animal species had been previously reported within or near the project area. Listed and sensitive wildlife species potentially occurring within one mile of the project area are presented in Table 1.

Additionally, the U.S. Fish and Wildlife Service IPaC (Information and Planning Center) web pages was queried which provided a list of federally-protected species potentially found near the project area (Appendix A). These lists tend to be very comprehensive and list all Federally-listed species within Del Norte County. The National Wetland Inventory web page was also checked for source information regarding potential wetlands in the vicinity of the project (Appendix B).

Special-Status Species and Significant Natural Communities.

The following special-status species and sensitive community types are considered in this evaluation:

- Species that are listed, or designated as candidates for listing, as threatened or endangered under the federal Endangered Species Act;
- Species that are listed, or designated as candidates for listing as rare (plants), threatened, or endangered under the California Endangered Species Act;
- Wildlife species listed by the CDF&G as species of special concern or fully protected species;
- Communities designated by the CDFG to be "significant" natural communities;
- Plant species on List 1A, List 1B, and List 2, in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California;
- Species that meet the definition of rare or endangered under the California Environmental Quality Act (under Section 15380 of CEQA, a species not included on any formal list "shall nevertheless be considered rare or endangered if the species can be shown to meet the criteria" for listing); and
- Taxa of special concern by local agencies.

3.2 Regulatory Context

The project is located within the geographic range of several special-status plant and wildlife species. Biological resources on the site may be subject to agency jurisdictions and regulations.

(a) U.S. Fish and Wildlife Service (USFWS). The USFWS has jurisdiction over species listed as threatened or endangered under the federal Endangered Species Act (ESA). The ESA protects listed species from "take," broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity is defined as a "take" even if unintentional or accidental. An endangered plant or wildlife species is one that is

considered in danger of becoming extinct throughout all, or a significant portion of its range. A threatened species is one that is likely to become endangered within the foreseeable future.

In addition, the USFWS has a list of candidate species which the USFWS currently has enough information to support a proposal for listing. Section 9 of the ESA and its applicable regulations restrict activities with respect to endangered and threatened plants. However, these restrictions are less stringent than those applicable to fish and wildlife species. These provisions prohibit the removal of, malicious damage to, or destruction of any listed plant species "from areas under federal jurisdiction." Listed plants may not be cut, dug up, damaged or destroyed, or removed from any other area (including private lands) in knowing violation of a State law or regulation.

(b) Raptors & Migratory Bird Treaty Act (MBTA). The MBTA (16 United States Code [USC] 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorized the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. The MBTA sets seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10).

(c) U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers is responsible for regulating the discharge of fill material into waters of the U.S. Waters of the U.S. and their lateral limits are defined in 33 CFR (Code of Federal Regulations) Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and may be subject to U.S. Army Corps of Engineers jurisdiction.

(d) California Department of Fish and Wildlife (CDF&W). The CDF&W has jurisdiction over threatened or endangered species that are formally listed by the State under the California Endangered Species Act (CESA). The CESA is similar to the federal Endangered Species Act both in process and substance; it is intended to provide additional protection to threatened and endangered species in California.

The CESA does not supersede the federal Endangered Species Act, but operates in conjunction with it. Species may be listed as threatened or endangered under both acts (in which case the provisions of both State and federal laws would apply) or under only one act.

The California endangered species laws prohibit the taking of any plant listed as threatened, endangered, or rare. In California, an activity on private lands (such as development) will violate Section 9 of the Endangered Species Act if a plant species, listed under both State and federal endangered species laws, is intentionally removed, damaged, or destroyed. Under the State Fish and Game Code, the CDF&W also has jurisdiction over species that are designated as "fully protected". These species are protected against direct impacts. The CDF&W maintains informal lists of species of special concern, which are broadly defined as plants and wildlife that are of concern to CDF&W because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California.

These species, as well as threatened and endangered species, are inventoried in the California Natural Diversity Database. The CDF&W also exerts jurisdiction over the bed and banks of watercourses according to the provisions of Section 1600 to 1616 of the Fish and Game Code. The Department will require a Streambed Alteration Permit for the fill or removal of any material from any natural drainage. CDF&W's jurisdiction extends to the top of banks and may include the outer edge of riparian vegetation canopy cover.

(e) California Native Plant Society (CNPS). The CNPS has developed lists of plants of special concern in California. A CNPS List IA plant is a species, subspecies, or variety that is considered to be extinct. A List 1B plant is considered rare, threatened, or endangered in California and elsewhere. A List 2 plant is considered rare, threatened, or endangered in California, but is more common elsewhere. A List 3 plant is a species for which California Native Plant Society lacks necessary information to determine if it should be assigned to a list or not. A List 4 plant has a limited distribution in California. All List 1 and List 2 plant species meet the requirements of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the CDF&G Code, and are eligible for State listing. Therefore, List 1 and 2 species should be considered under CEQA. Very few List 3 and List 4 plants are eligible for listing, but may be locally important, and their listing status could be elevated if conditions change.

(f) CEQA Guidelines, Section 15380. Although threatened and endangered species are protected by specific federal and State statutes, the CEQA Guidelines in Section 15380(b) provide that a species not included on the federal or State lists of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria.

These criteria have been modeled after the definitions in the federal Endangered Species Act and the CDFG Code. This section was included in the CEQA Guidelines primarily to deal with situations in which a public lead agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the U.S. Fish and Wildlife Service or CDF&W. Thus, CEQA provides a lead agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

(g) Regional Water Quality Control Board. Pursuant to Section 401 of the Clean Water Act, projects that apply for a U.S. Army Corps of Engineers permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit, must obtain water quality certification from the Regional Water Quality Control Board (RWQCB) that the project will uphold State water quality standards. Alternatively, the RWQCB may elect to notify an applicant that the State may issue Waste Discharge Requirements in lieu of a Section 401 certification.

3.3 Field Investigation

A field investigation of the project area was initially conducted in October of 2018 and again in July of 2019. All potential wildlife habitats within and in proximity to the project area were assessed for their potential for listed wildlife species. Wildlife biologist Frank Galea conducted the field review for wildlife species while botanist Kyle Wear conducted a field review for sensitive plant species and their habitats. Kyle provided his results in a separate report. For wildlife an assessment area included habitats out to one mile around the actual project area. The project area was searched for potential wetlands. Trees in and adjacent to the project site were searched with high-power binoculars for nests, cavities or other potential nest sites for raptors or other large birds.

4.0

RESULTS AND POTENTIAL IMPACTS

4.1 Records Search

The CDF&W Natural Diversity Data Base (CNDDDB, 2019) and the U.S. Fish and Wildlife Service IPaC web page (Appendix A) provided a summary of those federal and state-listed and sensitive wildlife species potentially occurring at or near the project site and, for the CNDDDB, their mapped locations (Figure 2).

The IPaC web page provided a comprehensive list of federally-protected species potentially found within Del Norte County. The list includes the fisher (*Pekania pennant*), marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis caurina*), western snowy plover (*Charadrius nivosus nivosus*), yellow-billed cuckoo (*Coccyzus americanus*), short-tailed albatross (*Phoebastria albatrus*), tidewater goby (*Eucyclogobius newberryi*), Oregon silverspot butterfly (*Speyeria zerene hippolyta*) and western lily (*Lilium occidentale*). Habitat for the fisher, marbled murrelet, yellow-billed cuckoo, western snowy plover and short-tailed albatross does not exist on or near the project site, therefore these species were not assessed for impacts.

A list of those sensitive or listed animal species potentially occurring in the vicinity of the project area is presented in Table 1, including their common and Latin names. The listing status of each species and if potential habitat (as determined by GWC, based upon a review of habitat available within the assessment area) was located within the project area is also indicated in Table 1.

4.2 Field Investigation

A field review of the entire proposed project area was conducted in October of 2018 and again in July of 2019. The project runs through commercial and rural residential areas, crossing under Highway 101 once. Habitats within and near the project area are fragmented stands of spruce and alder, small, open fields connected to rural residences and one large field within an existing ranch. No preferred habitat for any sensitive species noted in Table 1 was located along the route.

Table 1. Sensitive Wildlife Species Occurring or with Potential to Occur near the Project Area
(From CNDDDB 2019 Quad search and GWC sources)

Common Name	Latin Name	Federal Status	State Status	Breeding Habitat in Project Area?	Forage Habitat in Project Area?
BIRDS					
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT	CSC	No	No
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT	CSC	No	No
Great egret	<i>Ardea alba</i>	NL	CSC	Yes	Yes
Yellow Rail	<i>Coturnicops noveboracensis</i>	NL	CSC	No	No
Great blue heron	<i>Ardea herodias</i>	NL	CSC	Yes	Yes
Bank swallow	<i>Riparia riparia</i>	NL	CT	No	No
FISH					
S. OR./N. CA Coho salmon	<i>Oncorhynchus kisutch</i>	FT	CT	No	No
Klamath Mountain Province steelhead trout	<i>Oncorhynchus mykiss irrideus</i>	None	SCS	No	No
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	None	SCS	No	No
Coastal cutthroat trout	<i>Oncorhynchus clarki clarki</i>	FSC	None	No	No
Tidewater goby	<i>Eucyclogobius newberryi</i>	FE	CE	No	No
AMPHIBIANS					
Northern red-legged frog	<i>Rana aurora aurora</i>	None	CSC	Yes	Yes
INVERTEBRATES					
Oregon silverspot butterfly	<i>Speyeria zerene hippolyta</i>	FT	None	No	Yes

Codes:

Federal Status

FE Federally endangered
 FT Federally threatened
 FSC Federal species of concern
 FPE Federally proposed for endangered listing
 FPT Federally proposed for threatened listing

State Status

CE California endangered
 CT California threatened
 CSC California species of concern (CDFW)
 CFP California fully protected

The route primarily runs along Oceanview Drive. A drainage ditch exists along the north side of the road, with banks of invasive Himalayan berry (*Rubus armeniacus*), cotoneaster (*Cononeaster horizontalis*), and other invasive plants. The ditch is dry during summer months but likely carries run-off during the rainy season, October – June. As this drainage system is in relative proximity to the Smith River, all precautions should be made to prevent sediments or pollutants from entering this drainage ditch or any other drainage associated with this project.

One property located on the south side of Oceanview Drive was recently purchased by the Applicant for the purpose of locating a lift station. The north portion of the property was found to be higher in elevation than the remainder, and was all upland habitat. The lower (south) portion of the property was relatively flat, and a drainage channel was located on the property, running northwest to southeast. The drainage channel came from another private property to the west. A minor but persistent flow of water was observed within the drainage channel, suggesting it is spring-fed. After backtracking the channel well to the west onto the adjacent property the channel was lost in brush. Road-side ditches along Oceanview Drive were checked for culverts and water flow, however this did not seem to be the source of the water, which might be spring-fed from another source. It could not be determined where the channel went from there due to thick brush, however it seemed to end in wetland habitats along the very south edge of the property, next to Highway 101. Blockage by the highway is the likely reason the limited wetland exists.

The treatment ponds were also field checked for sensitive species. The ponds are completely fenced in, and full access was not available, therefore they were reviewed from exterior of the fencing using binoculars. No evidence of western pond turtle (*Actinemys marmorata*) was observed in the algae-covered ponds. Had they been present, tracks through the algae from their movement would be evident. The ponds may provide habitat for red-legged frogs and other amphibians. Wetland habitats were located around the treatment ponds, as described in the wetland section 4.3g below.

4.3 Habitat Analysis and Impact Assessment for Fish and Wildlife

4.3a State or Federally-Listed Threatened or Endangered Species: Table 1 shows the presence of threatened or endangered species in or near the project area. The following is a discussion of those sensitive species potentially present, and an assessment of their potential to be impacted by this project.

Western Snowy Plover - The CNDDDB noted four pairs of Federally-listed western snowy plovers observed along the beach south of the Smith River during the breeding season in 1977. Surveys in Del Norte County since that time, conducted by the California State Parks and Redwood National Park, have detected no breeding pairs. No snowy plover habitat is located on or near the project area, which is approximately .3 miles from preferred habitat along the ocean and across the mouth of the Smith River. The project area and vicinity provide no habitat for the snowy plover, as this is a busy recreational RV park with a great amount of human activity. This project would have no impacts on snowy plovers nor their habitats.

Northern Spotted Owl (NSO) - The NSO is listed as federally threatened and as a California species of concern. The NSO is not uncommon over most of its range, which in northern California includes most conifer forests and mixed-conifer woodlands of the coastal mountains. It occurs locally in second-growth forests which also have a component of tanoak (*Lithocarpus densiflorus*). Such stands are usually not found close (within one mile) to the coast.

NSO prefer large diameter trees within well-shaded stands for nest sites, where they will use old nests built by other species, cavities or shaded, broken-topped trees. They prefer an overhead canopy over nests and roost sites for thermal and predator protection and are intolerant to extreme heat, especially for nest sites. Spotted owls hunt in relatively closed canopy forests with open sub-canopies and moderate stem densities.

The CNDDB shows no NSO sites in proximity to the project. The project site and the surrounding area do not contain suitable habitat for NSO as stands are fragmented, are Sitka spruce dominant and do not contain tan oak. After 30 years of NSO surveys in the immediate area, GBC has found that NSO do not utilize habitats so close to the ocean. No NSO have ever been detected in the general area. This project will have no impacts on NSO as no habitats are being impacted and the species is not known to utilize the area.

Oregon Silverspot Butterfly - The historic range of Oregon silverspot butterfly extended along the Oregon and Washington coasts south to the coastal area around Lake Earl and Smith River. While 17 historic sites were known, the current range is limited to five sites, including four in coastal Oregon and the one in Del Norte County.

The Oregon silverspot butterfly inhabits three types of grassland habitats, including coastal terrace and headland "salt spray" meadows, coastal dune systems, such as occurs in Del Norte County and montane grasslands, characterized by one Oregon site at Mount Hebo.

Females lay eggs in the debris and dried stems of the main larval food plant, the early blue violet (*Viola adunca*). This is a small, native, perennial herb with pale to deep violet flowers, which typically blooms in late spring to early summer, and dies back to the perennial rhizome during winter. Early blue violets occur widely in western North America, but within the silverspot's range, are associated with coastal grasslands. At Lake Earl, populations of Aleutian violets (*Viola langsdoeffii*) grow in wet areas adjacent to areas with early blue violets, and may serve as secondary food plants for silverspot caterpillars.

Coho Salmon -The federally-listed Coho salmon is the most sensitive species found in the Smith River and its tributaries. Coho salmon are found in streams draining into the Pacific Ocean from northern Monterey Bay to Point Hope, Alaska. They typically spawn in small to medium size coastal streams or tributaries of larger rivers with cool water temperatures (below 21° C) and low to moderate gradients.

Coho salmon rear in stream systems for 1-2 years before migrating to the sea. Because they rear in fresh water longer than other salmonids, they are more dependent on high quality stream habitat. Three habitat components are essential for all salmonid stream residents: velocity refuge, visual isolation, and overhead cover. Velocity refuge is the most important habitat characteristic for coho salmon fry although visual isolation and overhead cover are also important to reduce territorialism and predation. Coho are associated with pools or runs containing woody debris for cover.

During summer low flows, coho salmon are found in a variety of pool habitats providing adequate velocity refuge, depth and cover to help avoid predation. During the winter and spring months, their preference dramatically shifts to pool types that offer the greatest relief from winter storm flows. In the spring, coho salmon smolts in the Smith River outmigrate between April and June.

The closest this project comes to the bank of the Smith River is approximately 300 feet. This project should have no impacts on the Coho salmon or other fish species as best management practices would be implemented to prevent any impacts to the river. Recommendations for BMPs are presented in the Recommendations Section, below.

Tidewater goby – The tidewater goby, a fish species endemic to California, is found primarily in waters of coastal lagoons, estuaries, and marshes. Tidewater gobies live only in California, and historically ranged throughout coastal California, where specific habitats allowed. They currently are found at fewer locations than historically occurred, having been extirpated from some sites as a result of drainage and water quality changes, introduced predators, and drought. While most populations of tidewater goby are reduced, those in Del Norte County appear healthy and vigorous.

The species is benthic in nature, living at the bottom of shallow bodies of water. Its habitat is characterized by brackish water in shallow lagoons and in lower stream reaches. The tidewater goby, the only species in the genus *Eucyclogobius*, is mostly restricted to waters with low to moderate salinities in California's coastal wetland habitats. All life stages of the tidewater goby typically are found in lagoons in areas of low to moderate salinity. Tidewater gobies prefer a sandy substrate for breeding, but they can be found on rocky, mud, and silt substrates as well.

Tidewater goby occur in the estuary of the Smith River where waters become brackish. This project would have no impacts up on this species if all BMP's are followed.

4.3b Migratory Bird Treaty Act

Potential nesting habitat for birds covered by the Migratory Bird Treaty Act occurs within the project area in the form of dense thickets of Himalayan blackberry (*Rubus armeniacus*) and in spruce and alder stands alongside the roadways. It is therefore recommended that, if construction is to occur during the migratory bird breeding season, February 1 to August 15th, surveys for nesting migratory birds should occur by a qualified biologist in the weeks before the onset of construction. If nesting birds are located adjacent to the construction zone, construction within 300 feet of a nest site should be postponed until the young fledge the nest and are mobile.

Raptors can begin their breeding season earlier than migratory birds, however due to the limited size and density of trees in the project area, raptor nests can be easily observed if present. Also, raptors are not likely to choose this site for nesting due to high levels of traffic and human activity.

Heron and egret nests or rookeries are a possibility along the project route. The CNDDB noted several great blue heron rookeries in the area, one located just southeast of Lopez Road and two others farther east. A great egret rookery site was noted just south of Highway 101 in the vicinity of the project. As the possibility of heron or egret nests along the project route exists, surveys by a qualified biologist for these species should also be conducted at least two weeks prior to construction, if construction is to occur during the breeding season, February 1 to August 15th.

The yellow rail was also noted in the CNDDB as potentially occurring in the Smith River estuary. While this species historically wintered in coastal estuaries in northern California, such incidents are now considered rare. Some breeding populations have established in northeastern California, and the occasional yellow rail is observed in the breeding season, however no population has become established in Del Norte County.

4.3c Fisheries

The project is located directly north of the Smith River, although the project area is at least 300 feet distant. In addition to the Federally-listed Coho salmon and tidewater goby, Chinook, steelhead and cutthroat trout are found in the river.

Chinook salmon

The chinook salmon is distributed widely from Ventura River, California, to Point Hope, Alaska. Spring runs occur along the West Coast; however, fall chinook populations are considered the most viable of the sub-species and are currently under status review by the National Marine Fisheries Service. The Smith River supports a fall run chinook population.

Most of a chinook's life is spent in the ocean, spending only a short time in fresh water once it emerges from gravel. Fingerling chinook spend little time in their natal streams and migrate downstream immediately after emerging to take up residence in the river estuary as early as March, until smolt size. Fingerling chinook are abundant in small, low velocity pools, with shallow depth.

Adult chinook utilize rivers and large streams to spawn. Substrate size is generally large, with small to large cobble typically used. Within the Smith River drainage, fall run chinook spawn between late October and early February.

Steelhead Trout

Steelhead are an anadromous form of rainbow trout. The coastal species ranges from central California to the Bearing Sea.

Within the distribution are two life history types: summer-run (summer steelhead) and winter-run (winter steelhead), both of which occur in the Smith River.

Run types differ in type and duration of spawning migration and sexual maturity at the time of river entry. Summer runs enter freshwater at a sexually immature state between May and October. After several months in freshwater, summer steelhead mature and spawn. Winter-run steelhead enter freshwater sexually mature between November and April and spawn shortly thereafter.

Steelhead trout juvenile and adult life history stages have some form of freshwater existence. Generally, juvenile fish rear in freshwater for 1-3 years before migrating to sea. Of the three habitat components (velocity refuge, visual isolation, and overhead cover) thought to be essential to fish, overhead cover was found to be the most important to rearing juvenile steelhead.

Cutthroat Trout

Coastal cutthroat trout are found in small coastal streams from the Eel River in California north to Seward, Alaska. In California, they are limited to drainages along the western slope of the Coast Range, including the Smith River. Coastal cutthroat trout have both anadromous and resident forms. Coastal cutthroat require small, low gradient coastal streams that are cool ($<18^{\circ}\text{C}$) and well shaded. Small gravel, which can vary in size from 10 to 40 millimeters, is essential for spawning.

Impacts to Fisheries

Introduction of sediments or pollutants would be the most adverse impact to salmonids and other fish species. A small drainage flows from the low hills north of Highway 101, under the highway and onto Salmon Harbor resort near the south end of the property. From there it cuts across an open field as a drainage swale, then exists the property to the south where it enters the Smith River.

Any sediments or pollutants from this project could be detrimental to fisheries and could eventually reach the Smith River via the small drainage mentioned above. Adequate sediment barriers to any drainage are important to prevent sediment or pollutant introduction. As the project is located well above the Smith River and is distant from its banks, it should be relatively easy to prevent sediment or pollutant introduction using best management practices. Recommended best management practices are discussed in the Recommendations section, below.

Gilbert Creek is located approximately 300 feet south of the field proposed for the new leach field. Between the field and the creek is dense vegetation in the form of buckthorn (*Rhamnus purshiana*), wild rose (*Rosa californica*), ferns and a few, small red alder (*Alnus rubra*). Vegetation was early seral and likely becoming re-established after a prior clearing. A dirt access road was located between the field and the creek. Dense Himalayan blackberry lined the south side of the road, then riparian vegetation primarily in the form of mature red alder lined the creek. Between the dense brush and the relatively flat roadway a substantial buffer to sediments exists between the proposed leach field and Gilbert Creek.

4.3d Non-sensitive Wildlife

Black-tailed deer (*Odocoileus hemionus*), black bear (*Ursus americanus*) and other local species are known in the area, however as the project is in proximity to Highway 101, with rural residential residences and small businesses located all along the project route, there is very limited possibilities of these species being affected.

Roosevelt elk (*Cervus elaphus roosevelti*) are common in the area, as the population has greatly increased in the past 20 years. One group commonly uses the area at and around the treatment ponds east of HVR, while another group often grazes in the field where the expanded septic field is proposed. These elk groups spend most of their time in the forested areas around the site and only used these two locations for foraging and loafing. This project will have no long-term impacts on local elk populations, as both locations will still be available as forage sites for elk after construction and vegetation reclaims the marginally impacted areas.

4.3e Amphibians

Table 1 lists the northern red-legged frog (*Rana aurora*) as occurring in the area. The northern red legged frog was relatively common in wetlands, riparian areas and ponds in northern California. Loss of habitat and predation by non-native frogs has reduced or eliminated populations of a close relative, the California red-legged frog (*Rana draytonii*), in southern and central California.

In Del Norte County the northern red-legged frog this is a very common species in a wide range of habitats. This species breeds in moist areas, requiring standing water. It feeds on a variety of invertebrates, and can forage in wet fields, backyards, and in woodlots. It is designated as a Species of Special Concern by the California Department of Fish and Wildlife. Although this species is not a protected species in Del Norte County and is locally relatively abundant, population levels are not doing well in the remainder of its range.

Northern red-legged frogs can utilize a variety of habitats for foraging and they are never found far from available, standing water. There is a drainage ditch located along the north side of Oceanview Drive which could potentially support this species, although this is not preferred habitat. It is therefore recommended that a qualified biologist survey for this species immediately before construction of any given area to remove any amphibians which might be in harm's way.

The northern field where the septic system is to be enlarged also could potentially be foraging habitat for this species. No frogs were observed during field surveys; however, the field should be checked for frogs and other amphibians by a qualified biologist before the onset of construction.

The treatment ponds may provide habitat for the red-legged frog and potentially other amphibian species. As the ponds are drained before being filled, a biologist should conduct a field check for amphibian species, which should be collected and moved to suitable habitat before filling of the ponds occurs.

4.3f Sensitive Plants

The plants on the California Native Plant Society Inventory list 1B and 2 are considered rare, endangered, and threatened plants pursuant to Section 15380 of the California Environmental Quality Act (CEQA). The plants on these lists meet the definitions under the Native Plant Protection Act and/or the California Endangered Species Act of the California Department of Fish and Game Code and are eligible for state listing.

Botanist Kyle Wear conducted a botanical survey of the project and potential habitats during the proper bloom survey season in June and July of 2019. No sensitive plant species were located within the project area. The botanical survey is included as a separate report.

4.3g Wetlands

Wetlands were found in proximity to the project in two locations, within the parcel where the lift station will be located, and at the existing treatment ponds.

During habitat review for the project a drainage channel was located on parcel 102-090-021, 126 feet south of the road edge when measured from the northwest corner of the property. The drainage channel flows in a southeasterly direction, therefore the distance from the roadway to the drainage channel increases west to east on the property. A buffer of 100 feet should be applied between the drainage channel and the lift station construction area to protect wetland habitats.

At the treatment ponds, the National Wetland Inventory map shows Palustrine Forest wetlands located south of the ponds (Appendix B). These seasonal wetlands are dominated by spruce forest. A drainage channel shows on the map, east of the treatment ponds and flowing north to south into the Palustrine wetlands.

Beyond the perimeter fence, on the east side of the treatment ponds another drainage channel was located, which also carries excess water north to south into the Palustrine wetlands. A small area of potential wetlands was also located off the southwest corner of the treatment ponds, within the spruce forest area where the site is kept mowed.

All construction activities for the filling of these ponds can be conducted within the perimeter fence. If heavy equipment requires more room, activity should be restricted to the immediate north of the treatment ponds, where no wetlands exist. A biologist should consult with the construction crew for any heavy equipment work outside of the perimeter fence.

5.0

RECCOMENDATIONS FOR RESOURCE PROTECTION

- 1.0 All drainages, especially the Smith River, should be protected with a properly installed, sediment-drift fence located as far into the project area from top of bank as possible, to prevent sediments or pollutants from entering the river or any drainage channels. No spoils shall be placed or stored within 50 feet of the top of bank.
- 2.0 All construction vehicles will be maintained to prevent oil or other fluid leaks. A regular inspection for leaks and any necessary repairs will be performed on all vehicles.
- 3.0 Vehicles and equipment will be kept clean to prevent excessive build-up of oil and grease. Clean-up materials will be kept nearby in the case of any leak or spill.
- 4.0 If fueling must occur on-site, designated areas away from the drainage will be used. On-site fuel storage tanks will be located with a berm area designed to hold the tank volume. Secondary containment, such as a drain pan or drop cloth, will be used to catch spills or leaks when removing or changing fluids.
- 5.0 Construction vehicles will be stored at least 100 feet away from top of bank during non-work hours.
- 6.0 Construction should occur outside of the migratory bird breeding season (February 1st to August 15th) unless surveys for migratory bird nests are completed prior to construction and no migratory bird nests are located in proximity to construction.
- 7.0 No vegetation removal or ground disturbing work should occur during any rainfall events, nor afterwards until the ground is dry.
- 8.0 Surveys for amphibians should be conducted by a biologist at the proposed leach field site, and at the treatment ponds after they are drained and before being filled in. If amphibians are found, they should be collected and moved to suitable habitats by the biologist.
- 9.0 Before the filling of the treatment ponds, a biologist should consult with the construction crew for any heavy equipment work outside of the perimeter fence.
- 10.0 A 100 foot buffer should be placed between the drainage channel on parcel 102-090-021 and the footprint of the lift station. BMPs should be used between the lift station construction site and the drainage channel to protect wetland habitats.

6.0

STAFF QUALIFICATIONS

Habitat assessment and report writing for this project was conducted by Principal Biologist, Frank Galea. Frank is the primary Biological Consultant for Galea Biological Consulting, established in 1989. Frank is certified as a Wildlife Biologist through the Wildlife Society. And has a Master of Science Degree in Wildlife Management from Humboldt State University and a Bachelor of Science in Zoology from San Diego State University. Frank has been assessing habitat and conducting field surveys for Threatened and Endangered species for over 20 years. Frank has taken an accredited class on wetland delineation through the Wetland Training Institute, and has successfully completed a Watershed Assessment and Erosion Treatment course through the Salmonid Restoration Federation.

Botanical surveys and wetland assessments were conducted by botanist Kyle Wear. Kyle has a Master of Science Degree in Botany from Humboldt State University and has conducted botanical surveys as a consultant for over twelve years. Kyle is recognized as a highly qualified botanist for sensitive species surveys and assessment by the California Department of Fish and Wildlife. Kyle has also taken an accredited class on wetland delineation through the Wetland Training Institute.

APPENDIX A

List of Federally-listed species provided by the IPaC Website of the U.S. Fish and Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Del Norte County, California



Local office

Arcata Fish And Wildlife Office

☎ (707) 822-7201

📠 (707) 822-8411

1655 Heindon Road
Arcata, CA 95521-4573

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

APPENDIX B

**Maps of Potential Wetland Habitats associated with project area from the U.S. Fish and Wildlife
Service National Wetland Inventory**



HVR Ponds



September 7, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
 Freshwater Forested/Shrub Wetland
 Freshwater Pond

-  Lake
 Other
 Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetland Inventory Map for APN# 102-090-



September 9, 2019

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
	Freshwater Pond		Riverine		

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetland Map for Proposed Leach Field



September 9, 2019

Wetlands

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Emergent Wetland | Lake |
| Estuarine and Marine Wetland | Freshwater Forested/Shrub Wetland | Other |
| | Freshwater Pond | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Botanical Survey Results

XVR WASTEWATER PROJECT

DEL NORTE COUNTY, CA

Prepared by:

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Prepared for:

Galea Biological
200 Racoon Court
Crescent City, CA 95531

Date:

August 2019

RECEIVED

AUG 19 2019

PLANNING
COUNTY OF DEL NORTE

1. INTRODUCTION

This report presents the results of a botanical survey conducted on the XVR Wastewater Project near Smith River. The purpose of the survey was to identify special status plants and plant communities that could be impacted by the proposed project.

2. DEFINITIONS

Special Status Plants

Special status plants include taxa that are listed under the Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA), in addition to plants that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA). This includes plants with California Rare Plant Ranks (CRPR) of 1A, 1B, 2A, or 2B or other species that warrant consideration based on local or biological significance.

Special Status Plant Communities

Special status plant communities are communities with limited distribution that may be vulnerable to environmental impacts. Natural Communities recognized as sensitive are provided on the CDFW Sensitive *Natural Communities List* (CDFW 2018). The list is based on the vegetation classification in *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009). Natural communities with G or S ranks of 3 or lower are considered sensitive. However, they may not warrant protection under CEQA unless they are considered high quality. Human disturbance, invasive species, logging, and grazing are common factors considered when judging whether the stand is high quality and warrants protection.

3. ENVIRONMENTAL SETTING

Project Location

The project area begins approximately 2.5 miles northwest of Smith River. The project extends approximately 1.3 miles from Sierka Street to North Indian Road via Lopez Street and Ocean View Drive. The project is on the Smith River USGS Quadrangle (Section 17, T18N, R1W).

Soil, Topography, and Hydrology

The soil types mapped in the project area are derived marine deposits and alluvium from mixed sources (USDA, NRCS 2019). The elevation ranges from approximately 20 to 120 feet above sea level. The project area includes a flat coastal terrace west of Highway 101. The stretch along Ocean View Drive is near the base of a generally southwest and northwest facing slope. Drainage ditches run along most to the east side of Ocean View Drive.

4. METHODS

Scoping

A list of special status plants that could potentially occur on the THP was generated by consulting the *California Natural Diversity Database* (CDFW 2019) and the *CNPS Inventory of Rare and Endangered Plants* (CNPS 2019). The scoping list includes special status plants with documented occurrences on the Smith River USGS quadrangle or adjacent quadrangles; the list may include other taxa known to occur in habitat similar to the project area in Humboldt County (Table 1).

Many of the special status plants on the scoping list occur in habitat that is not present in the project area including coastal dunes and other immediate coastal habitat, higher elevation forests, and serpentine soil. The project area also lacks typical habitat for the federally endangered western lily (*Lilium occidentale*). Western lily occurs in bogs and fens such as the Crescent City Marsh and similar habitat within coastal prairie such as Point St. George. Where western lily occurs in spruce forest openings, the areas are wetlands or have a perched water table near the soil surface similar to the site at Table Bluff in Humboldt County. None of these conditions were observed in project area. There is some potential for rare plants such as woodnymph (*Moneses uniflora*) and ghost pipe (*Monotropa uniflora*) in the adjacent forests. Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*) has the highest potential to occur in the roadside habitat characteristic of most of the project area and is known to occur in close proximity to the project.

Survey

The botanical survey was conducted by Kyle Wear, M.A. Mr. Wear has over 20 years of experience conducting floristic surveys and other botanical work in northern California.

The survey was floristic in nature and followed methods outlined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). The amendment was surveyed on July 17, 2019. Approximately 3 hours were spent on the survey. A survey coverage map is provided in Figure 1. Plant taxonomy generally follows *The Jepson Manual Vascular Plants of California, Second Edition* (Baldwin et al. 2012), however the plant list may include more recent name changes. Plant communities were classified according to *A Manual of California Vegetation, 2nd Edition* (Sawyer et al. 2009).

5. RESULTS AND DISCUSSION

Special Status Plants

No special status plants were encountered on the survey. A list of all plants observed in the project area is provided in Table 2. The list may not include ornamental species in the landscaping of residences and other developed areas along the roads.

A reference population of Siskiyou checkerbloom (*Sidalcea malviflora* ssp. *patula*) near Clifford Kamph Park, near the project areas was still blooming the day of the survey, although past its peak, it was still clearly recognizable and identifiable.

Special Status Plant Communities

Much of the forest adjacent to Ocean View drive is consistent with Sitka spruce forest (*Picea sitchensis*) which is on the CDFW Sensitive *Natural Communities List*. However, there project should have no impact on adjacent forest.

Most of the project is disturbed roadside habitat with a mix of native and non-native vegetation. There are residences and other development throughout the project area. The drainfields are dominated by non-native grasses and other herbaceous vegetation.

6. REFERENCES

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Table 1. Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	1B.1	Jun-Oct	Coastal dunes	None. Occurs in immediate coastal habitat not present in project area.
<i>Anthoxanthum nitens</i> ssp. <i>nitens</i>	vanilla-grass	2B.3	Apr-Jul	Meadows and seeps (mesic)	Moderate-Unlikely. Marginal habitat at best in roadside ditches.
<i>Arabis aculeolata</i>	Waldo rockcress	2B.2	Apr-Jun	Broadleafed upland forest, Lower montane coniferous forest, Upper montane coniferous forest serpentinite	None. Project area lacks serpentinite.
<i>Arabis mcdonaldiana</i>	McDonald's rockcress	1B.1, CE, FE	May-Jul	Lower montane coniferous forest, Upper montane coniferous forest serpentinite	None. Project area lacks serpentinite.
<i>Asplenium trichomanes</i> ssp. <i>trichomanes</i>	maidenhair spleenwort	2B.1	May-Jul	Lower montane coniferous forest (rocky)	Unlikely. Occurs in higher elevation habitat.
<i>Boechera koehleri</i>	Koehler's stipitate rockcress	1B.3	(Mar)Apr-Jul	Chaparral, Lower montane coniferous forest serpentinite, rocky	None. Project area lacks serpentinite.
<i>Bryoria spiralifera</i>	twisted horsehair lichen	1B.1		North Coast coniferous forest (immediate coast) Usually on conifers	None. Occurs in immediate coastal habitat not present in project area
<i>Calamagrostis crassiglumis</i>	Thurber's reed grass	2B.1	May-Aug	Coastal scrub (mesic), Marshes and swamps (freshwater)	Moderate-Unlikely. Marginal habitat at best in roadside ditches.
<i>Calicium adspersum</i>	spiral-spored guilded-head pin lichen	2B.2		Lower montane coniferous forest, North Coast coniferous forest	None. Project area does not include old growth.

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
				Often restricted to old-growth bark of conifers that are over 200 years in age	
<i>Cardamine angulata</i>	seaside bittercress	2B.2	(Jan)Mar-Jul	Lower montane coniferous forest, North Coast coniferous forest Wet areas, streambanks	Moderate-Unlikely. Marginal habitat at best in roadside ditches.
<i>Carex arcta</i>	northern clustered sedge	2B.2	Jun-Sep	Bogs and fens, North Coast coniferous forest (mesic)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Carex lenticularis</i> var. <i>limnophila</i>	lagoon sedge	2B.2	Jun-Aug	Bogs and fens, Marshes and swamps, North Coast coniferous forest shores, beaches; often gravelly	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Carex lyngbyei</i>	Lyngbye's sedge	2B.2	Apr-Aug	Marshes and swamps (brackish or freshwater)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Carex praticola</i>	northern meadow sedge	2B.2	May-Jul	Meadows and seeps (mesic)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Carex serpenticola</i>	serpentine sedge	2B.3	Mar, May	Meadows and seeps (mesic, serpentinite)	None. Project area lacks serpentine.
<i>Carex viridula</i> ssp. <i>viridula</i>	green yellow sedge	2B.3	(Jun)Jul-Sep(Nov)	Bogs and fens, Marshes and swamps (freshwater), North Coast coniferous forest (mesic)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Cascadia nuttallii</i>	Nuttall's saxifrage	2B.1	May	North Coast coniferous forest (mesic, rocky)	Moderate. Some potential in adjacent coniferous forest.
<i>Castilleja elata</i>	Siskiyou paintbrush	2B.2	May-Aug	Bogs and fens, Lower montane coniferous forest (seeps) often serpentinite	None. Occurs in higher elevation habitat.

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Castilleja litoralis</i>	Oregon coast paintbrush	2B.2	Jun-Jul	Coastal bluff scrub, Coastal dunes, Coastal scrub sandy	None. Occurs in immediate coastal habitat not present in project area
<i>Cochlearia groenlandica</i>	Greenland cochlearia	2B.3	May-Jul	Coastal bluff scrub (on basaltic sea stack)	None. Occurs in immediate coastal habitat not present in project area
<i>Downingia willamettensis</i>	Cascade downingia	2B.2	Jun-Jul(Sep)	Cismontane woodland lake margins, Valley and foothill grassland lake margins, Vernal pools	None. Project area does not include oak woodlands or vernal pools.
<i>Empetrum nigrum</i>	black crowberry	2B.2	Apr-Jun	Coastal bluff scrub, Coastal prairie	None. Occurs in immediate coastal habitat not present in project area
<i>Eriogonum pendulum</i>	Waldo wild buckwheat	2B.2	Aug-Sep	Lower montane coniferous forest, Upper montane coniferous forest serpentinite	None. Project area lacks serpentine.
<i>Erysimum concinnum</i>	bluff wallflower	1B.2	Feb-Jul	Coastal bluff scrub, Coastal dunes, Coastal prairie	None. Occurs in immediate coastal habitat not present in project area
<i>Erythronium hendersonii</i>	Henderson's fawn lily	2B.3	Apr-Jul	Lower montane coniferous forest	Unlikely. Marginal habitat at best in adjacent coniferous forest.
<i>Erythronium howellii</i>	Howell's fawn lily	1B.3	Apr-May	Lower montane coniferous forest, North Coast coniferous forest sometimes serpentinite	Unlikely. Marginal habitat at best in adjacent coniferous forest.
<i>Erythronium oregonum</i>	giant fawn lily	2B.2	Mar-Jun(Jul)	Cismontane woodland, Meadows and seeps	Unlikely. Marginal habitat at best in adjacent coniferous forest.

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
				sometimes serpentinite, rocky, openings	
<i>Fissidens pauperculus</i>	minute pocket moss	1B.2		North Coast coniferous forest (damp coastal soil)	Unlikely. Site lacks damp coastal soil.
<i>Gentiana setigera</i>	Mendocino gentian	1B.2	(Apr-Jul)Aug-Sep	Lower montane coniferous forest, Meadows and seeps mesic	Unlikely. Occurs in wetland and higher elevation habitat.
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	1B.2	Apr-Aug	Coastal bluff scrub, Chaparral (openings), Coastal prairie, Valley and foothill grassland	Unlikely. Typically, occurs in grasslands.
<i>Gilia millefoliata</i>	dark-eyed gilia	1B.2	Apr-Jul	Coastal dunes	None. Occurs in immediate coastal habitat not present in project area
<i>Hesperis matronalis</i> var. <i>brevifolia</i>	short-leaved evax	1B.2	Mar-Jun	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie	None. Occurs in immediate coastal habitat not present in project area.
<i>Kopsiopsis hookeri</i>	small groundcone	2B.3	Apr-Aug	North Coast coniferous forest	Moderate. Potential in adjacent coniferous forest.
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	1B.2	Jan-Nov	Coastal bluff scrub, Coastal dunes, Coastal scrub	None. Occurs in immediate coastal habitat not present in project area
<i>Lathyrus japonicus</i>	seaside pea	2B.1	May-Aug	Coastal dunes	None. Occurs in immediate coastal habitat not present in project area
<i>Lathyrus palustris</i>	marsh pea	2B.2	Mar-Aug	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest mesic	Moderate-Unlikely. Marginal habitat at best in roadside ditches

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Lewisia oppositifolia</i>	opposite-leaved lewisia	2B.2	Apr-May(Jun)	Lower montane coniferous forest (mesic)	None. Occur in higher elevation habitat.
<i>Lilium occidentale</i>	western lily	1B.1, CE, FE	Jun-Jul	Bogs and fens, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest (openings)	Unlikely. Occurs in wetland and coastal prairie habitat not present in project area.
<i>Lysimachia europaea</i>	arctic starflower	2B.2	Jun-Jul	Bogs and fens, Meadows and seeps coastal	Unlikely. Marginal habitat at best in roadside ditches.
<i>Moneses uniflora</i>	woodnymph	2B.2	May-Aug	Broadleafed upland forest, North Coast coniferous forest	Moderate. Potential in adjacent forest.
<i>Monotropa uniflora</i>	ghost-pipe	2B.2	Jun-Aug(Sep)	Broadleafed upland forest, North Coast coniferous forest	High. Potential in adjacent forests.
<i>Oenothera wolfii</i>	Wolf's evening-primrose	1B.1	May-Oct	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest sandy, usually mesic	Moderate. Potential along road, roadcuts, open areas.
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	2B.2	(Jan-Apr)May-Jul(Aug)	Coastal scrub, North Coast coniferous forest Sometimes roadsides	Moderate. Potential along road cuts.
<i>Phacelia argentea</i>	sand dune phacelia	1B.1	Jun-Aug	Coastal dunes	None. Occurs in immediate coastal habitat not present in project area
<i>Pinguicula macroceras</i>	horned butterwort	2B.2	Apr-Jun	Bogs and fens (serpentine)	None. Project area lacks serpentine.
<i>Piperia candida</i>	white-flowered rein orchid	1B.2	(Mar)May-Sep	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest	Moderate. Potential along roadcuts and in adjacent forest.

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
				sometimes serpentinite	
<i>Polemonium carneum</i>	Oregon polemonium	2B.2	Apr-Sep	Coastal prairie, Coastal scrub, Lower montane coniferous forest	Moderate. Some potential on roadcuts.
<i>Potamogeton foliosus</i> ssp. <i>fibrillosus</i>	fibrous pondweed	2B.3	unk	Marshes and swamps (assorted shallow freshwater)	None. Project area lacks ponds, open water.
				Lower montane coniferous forest, Upper montane coniferous forest	Unlikely. Occurs in higher elevation habitat.
<i>Prosartes parvifolia</i>	Siskiyou bells	1B.2	May-Sep	Often roadsides, disturbed areas, and burned areas	
<i>Pyrrocoma racemosa</i> var. <i>congesta</i>	Del Norte pyrrocoma	2B.3	Aug-Sep	Chaparral, Lower montane coniferous forest serpentinite	None. Project area lacks serpentine.
<i>Ramalina thrausta</i>	angel's hair lichen	2B.1		North Coast coniferous forest On dead twigs and other lichens	Moderate. Some potential on conifers.
<i>Romanzoffia tracyi</i>	Tracy's romanzoffia	2B.3	Mar-May	Coastal bluff scrub, Coastal scrub rocky	None. Occurs in immediate coastal habitat not present in project area
<i>Sabulina howellii</i>	Howell's sandwort	1B.3	Apr-Jul	Chaparral, Lower montane coniferous forest serpentinite, xeric	None. Project area lacks serpentine.
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	May-Oct(Nov)	Marshes and swamps (assorted shallow freshwater)	None. Project area lacks ponds, open water.
				Bogs and fens, Broadleafed upland forest, Meadows and seeps, Marshes and swamps, North Coast coniferous forest, Riparian forest	Unlikely. Marginal habitat at best in roadside ditches.
<i>Sanguisorba officinalis</i>	great burnet	2B.2	Jul-Oct	often serpentinite	

Table 1 (Cont.). Special Status Plant Scoping List.

Scientific Name	Common Name	Listing Status	Blooming Period	Habitat	Potential to Occur in Project Area
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	1B.2	(Apr)May-Aug	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest often roadcuts	High. Potential along roads and open areas. Occurs near project area.
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	1B.2	Jun-Aug	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	High. Potential along roads and open areas.
<i>Silene scouleri</i> ssp. <i>scouleri</i>	Scouler's catchfly	2B.2	(Mar-May)Jun-Aug(Sep)	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	None. Occurs habitat no present in project area.
<i>Silene serpentinicola</i>	serpentine catchfly	1B.2	May-Jul	Chaparral, Lower montane coniferous forest serpentinite openings; gravelly or rocky	None. Project area lacks serpentine.
<i>Streptanthus howellii</i>	Howell's jewelflower	1B.2	Jul-Aug	Lower montane coniferous forest (serpentinite, rocky)	None. Project area lacks serpentine.
<i>Vaccinium scoparium</i>	little-leaved huckleberry	2B.2	Jun-Aug	Subalpine coniferous forest (rocky)	None. Occurs in higher elevation habitat.
<i>Viola langsдорffii</i>	Langsdorf's violet	2B.1	May-Jul	Bogs and fens (coastal)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Viola palustris</i>	alpine marsh violet	2B.2	Mar-Aug	Bogs and fens (coastal), Coastal scrub (mesic)	Moderate-Unlikely. Marginal habitat at best in roadside ditches
<i>Viola primulifolia</i> ssp. <i>occidentalis</i>	western white bog violet	1B.2	Apr-Sep	Bogs and fens (serpentinite), Marshes and swamps	None. Project area lacks serpentine.

Table 1 (Cont.). Special Status Plant Scoping List.

SPECIAL STATUS PLANT LISTING STATUS

Endangered Species Act (ESA)

FE: Federally Endangered
FT: Federally Threatened
FR: Federally Rare

California Endangered Species Act (CESA)

CE: California Endangered
CT: California Threatened
CR: California Rare

California Rare Plant Ranks

- 1A:** Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
2A: Plants Presumed Extirpated in California, But Common Elsewhere
2B: California Rare Plant Rank 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Threat Ranks

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Figure 1. Survey Coverage Map.



Table 2. List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Acer macrophyllum</i>	bigleaf maple
<i>Achillea millefolium</i>	common yarrow
<i>Agrostis</i> sp.	bent grass
<i>Aira caryophyllea</i>	European hairgrass
<i>Anthoxanthum odoratum</i>	sweet vernal grass
<i>Arrhenatherum elatius</i>	tall oatgrass
<i>Athyrium filix-femina</i>	lady fern
<i>Avena barbata</i>	slender wild oat
<i>Baccharis pilularis</i>	coyote brush
<i>Bellis perennis</i>	English daisy
<i>Boykinia occidentalis</i>	coast boykinia
<i>Bromus catharticus</i> var. <i>elatus</i>	Chilean brome
<i>Buddleja</i> sp.	butterfly bush
<i>Calamagrostis nutkaensis</i>	Pacific reed grass
<i>Cardamine oligosperma</i>	western bittercress
<i>Carex obnupta</i>	slough sedge
<i>Cerastium glomeratum</i>	mouse ear chickweed
<i>Chamomilla suaveolens</i>	pineapple weed
<i>Cortaderia jubata</i>	pampas grass
<i>Corylus cornuta</i> ssp. <i>californica</i>	California hazelnut
<i>Cotoneaster panosa</i>	cotoneaster
<i>Cotoneaster franchetii</i>	cotoneaster
<i>Crocsmia</i> sp.	crocsmia
<i>Cynosurus echinatus</i>	dogtail grass
<i>Cyperus eragrostis</i>	nut-grass
<i>Cytisus scoparius</i>	Scotch broom
<i>Dactylis glomerata</i>	orchard grass
<i>Daucus carota</i>	Queen Anne's lace
<i>Digitalis purpurea</i>	foxglove
<i>Epilobium ciliatum</i>	northern willow herb
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail
<i>Erodium</i> sp.	stork's-bill
<i>Festuca arundinacea</i>	tall fescue
<i>Fragaria chiloensis</i>	beach strawberry
<i>Frangula pushiana</i>	cascara
<i>Fuschia</i> sp.	fushia
<i>Galium aparine</i>	goose grass
<i>Galium</i> sp.	bedstraw

Table 2. List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Garrya elliptica</i>	coast silk-tassle
<i>Gaultheria shallon</i>	salal
<i>Geranium dissectum</i>	cut-leaved geranium
<i>Hedera helix</i>	English ivy
<i>Heracleum maximum</i>	cow parsnip
<i>Holcus lanatus</i>	common velvet grass
<i>Hypericum perforatum</i>	St. John's-wort
<i>Hypochaeris glabra</i>	smooth cat's-ear
<i>Ilex aquifolium</i>	English holly
<i>Iris douglasiana</i>	Douglas iris
<i>Juncus balticus</i>	wire rush
<i>Juncus bolanderi</i>	Bolander's rush
<i>Juncus effusus</i>	common rush
<i>Lamiastrum galeobdolon</i>	yellow archangel
<i>Lapsana communis</i>	nipplewort
<i>Lepidium sp.</i>	peppergrass or pepperwort
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Lithrum sp.</i>	loostrike
<i>Lonicera involucrata var. ledebourii</i>	black twinberry
<i>Lotus corniculatus</i>	birdfoot trefoil
<i>Lotus pedunculatus</i>	marsh lotus
<i>Lysimachia arvensis</i>	scarlet pimpernel
<i>Malus fusca</i>	Oregon crab apple
<i>Mentha pulegium</i>	pennyroyal
<i>Nasturtium officinale</i>	water cress
<i>Navarretia sp.</i>	Navarretia
<i>Notholithocarpus densiflorus var. densiflorus</i>	tanoak
<i>Oemleria cerasiformis</i>	oso berry
<i>Oenanthe sarmentosa</i>	Pacific water-parsley
<i>Oxalis corniculata</i>	creeping wood sorrel
<i>Oxalis oregana</i>	redwood sorrel
<i>Paspalum dilatatum</i>	dallis grass
<i>Picea sitchensis</i>	Sitka spruce
<i>Plantago coronopus</i>	cut-leaved plantain
<i>Plantago lanceolata</i>	English plantain
<i>Plantago major</i>	common plantain

Table 2. List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Poa annua</i>	annual bluegrass
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Polygonum aviculare</i>	prostrate knotweed
<i>Polystichum munitum</i>	sword fern
<i>Prosartes smithii</i>	Smith's fairy bells
<i>Prunus laurocerasus</i>	cherry laurel
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	bracken fern
<i>Raphanus sativus</i>	wild radish
<i>Rhododendron occidentale</i>	western azalea
<i>Ribes sanguineum</i> var. <i>glutinosum</i>	pink-flowering currant
<i>Rosa</i> sp.	rose
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rubus parviflorus</i>	thimbleberry
<i>Rubus spectabilis</i>	salmonberry
<i>Rubus ursinus</i>	California blackberry
<i>Rumex acetosella</i>	sheep sorrel
<i>Salix lasiandra</i> ssp. <i>lasiandra</i>	Pacific willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Sambucus racemosa</i> var. <i>racemosa</i>	red elderberry
<i>Scirpus microcarpus</i>	small-flowered bulrush
<i>Scoliopus bigelovii</i>	slink-pod
<i>Senecio jacobaea</i>	tansy ragwort
<i>Senecio minimus</i>	coast fireweed
<i>Sonchus oleraceus</i>	common sow thistle
<i>Spergularia rubra</i>	purple sand spurry
<i>Struthiopteris spicant</i>	deer fern
<i>Symphyotichum chilense</i>	California aster
<i>Toxicodendron diversilobum</i>	poison-oak
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	white clover
<i>Trisetum cernuum</i>	nodding trisetum
<i>Urtica dioica</i>	stinging nettle
<i>Vaccinium ovatum</i>	evergreen huckleberry
<i>Vaccinium parvifolium</i>	red huckleberry
<i>Vancouveria</i> sp.	inside-out flower
<i>Veronica americana</i>	American brooklime

Table 2. List of Plants Encountered in the Project Area.

Scientific Name	Common Name
<i>Vicia sativa</i>	vetch
<i>Vulpia myuros</i>	rattail sixweeks grass

Appendix B

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Draft Technical Memorandum – Flows and Loads

To: Megan Van Pelt, Natural Resources Director, Tolowa Dee-Ni' Nation
Ward Stover, Principal Engineer, Stover Engineering

From: Ben Bosse, Kennedy Jenks
Matt Horton, Kennedy Jenks

Review: Luke Werner, Kennedy Jenks

Subject: Xaa-wan'-k'wvt Village and Resort (XVR)
Wastewater Flow and Load Projections
K/J Project No. 1876019*00

Introduction

Stover Engineering has contracted with Kennedy Jenks to provide a Wastewater Improvement Planning Study for the Xaa-wan'-k'wvt Village and Resort (XVR) site. The XVR site, shown on Figure 1, was acquired by the Tolowa Dee-Ni' Nation (TDN) in November 2016 and is currently served by onsite lagoon treatment and effluent spray irrigation systems. The existing system is known to be in disrepair. Stover Engineering and Kennedy Jenks will evaluate several repair alternatives to provide reliable wastewater service to the XVR site, including construction of treatment improvements on the XVR site, as well as connection of XVR to the existing TDN wastewater system. This technical memorandum (TM) presents draft planning criteria and projected flows and loads for the XVR site as well as a preliminary evaluation of available treatment capacity at the TDN Wastewater Treatment Plant (WWTP) to assess the feasibility of connection.

XVR Wastewater Flows

The XVR site is located within the TDN and consists of two resort areas: the North Park (formerly known as the Salmon Harbor Resort) and the South Park (formerly known as the Ship Ashore Resort). The site occupies a total of 8 Fee parcels and includes a mix of residential, permanent mobile homes, and commercial recreational vehicle (RV) spaces. Stover Engineering and Kennedy Jenks attended a tour of the XVR site in July 2018 to determine current uses and occupancy rates for the XVR site. The current uses and occupancy rates are summarized in Table 1.

Table 1: XVR Site Current Uses

Connection Type	Use Category	Units	Qty	Occupancy Rate, %
North Park Mobile Home Park	Residential	Spaces	24	100
North Park RV Park	Non-Residential	Spaces	56	100
South Park Mobile Home Park	Residential	Spaces	65	100
South Park RV Park	Non-Residential	Spaces	217	33
South Park Apartments	Residential	Apartments	16	50

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Figure 1: TDN Vicinity Map

Current XVR Wastewater Flows

Average daily wastewater flows for the XVR site were estimated based on the occupancy rates presented in Table 1 and assumed average daily wastewater unit flows for each category. Current XVR average daily flows are presented in Table 2.

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Table 2: Current XVR Flows

Connection Type	Use Category	Units	Qty	Unit Flow, gpd ^(c,d)	Average Daily Flow, gpd ^(e)
North Park Mobile Home Park ^(a)	Residential	Spaces	24	145	3,500
North Park RV Park	Non-Residential	Spaces	56	100	5,600
Laundry Facilities	Non-Residential	Machines	4	500	2,000
South Park Mobile Home Park	Residential	Spaces	65	145	9,400
South Park RV Park	Non-Residential	Spaces	72	100	7,200
South Park Apartments ^(b)	Residential	Apartments	8	45	400
				Total Flow, gpd	28,100

Notes:

(a) Mobile home unit flow = one (1) Equivalent Dwelling Unit (EDU).

(b) Apartment unit flow equivalent to per capita daily flow.

(c) Unit flows for non-residential uses per Oregon Department of Environmental Quality (ODEQ) Table 340-071-0220.

(d) gpd = gallons per day.

(e) Flows rounded to the nearest hundred.

Projected XVR Wastewater Flows

TDN conducted a Master Planning Study in 2018, prepared by Jones and Jones, to evaluate the potential future development opportunities at the XVR site. Projected wastewater flows for the proposed 15 to 25 year XVR Conceptual Development Plan are summarized in Table 3.

For the purposes of this TM, the design period is defined to be a 20-year period from 2021 to 2040, with projected values corresponding to year 2040.

Table 3: Projected XVR Flows

Connection Type	Use Category	Units	Qty	Unit Flow, gpd ^(a)	Average Daily Flow, gpd ^(b)
Mobile Homes	Residential	Spaces	136	145	19,700
Hotel	Non-Residential	Rooms	50	120	6,000
Restaurant	Non-Residential	Seats	120	40	4,800
Visitors Center	Non-Residential	Employees	20	15	300
Cabins	Non-Residential	Cabins	85	100	8,500
RV Park	Non-Residential	Spaces	120	100	12,000
Tent Camping	Non-Residential	Sites	20	70	1,400
Restrooms/Shower	Non-Residential	Visitors/day	150	10	1,500
Laundry Facilities	Non-Residential	Machines	12	500	6,000
				Total Flow, gpd	60,200

Notes:

(a) Unit flows for non-residential uses per Oregon Department of Environmental Quality (ODEQ) Table 340-071-0220.

(b) Flows rounded to the nearest hundred.

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TDN Planning Criteria

The TDN provides water and wastewater services to residential, commercial, and tribal facilities located within its service area, which consists of over 500 acres of Fee and Trust parcels on the Pacific coast near the mouth of the Smith River. TDN currently provides wastewater service to approximately 70% of the residential and non-residential parcels within the TDN wastewater service area, with remaining developed parcels served by onsite treatment systems, including the XVR site. TDN currently provides water service to approximately 90% of the residential and non-residential parcels within the wastewater service area, with remaining developed parcels served by Smith River Community Services District (SRCSD). There are no industrial sources of wastewater within the TDN wastewater service area. The TDN wastewater system includes a membrane bioreactor (MBR) treatment facility constructed in 2009, as well as a collection system consisting of gravity sewers, pump stations, and forcemains within the TDN wastewater service area. The collection system was constructed in several expansion phases, with the latest phase completed in 2015. Treated effluent is disposed of via subsurface drainfields which are located 2.3 miles north of the TDN WWTP. Solids generated by the MBR system are dewatered and hauled to landfill.

The current residential and non-residential uses within the TDN wastewater service area are summarized in Tables 4 and 5, respectively. The residential population within the TDN service area was estimated by determining the number of 1, 2, and 3 bedroom dwellings currently connected to the wastewater system and estimating the average number of occupants in each dwelling category. Projected future connections for the TDN service area were determined based on discussions with TDN and are summarized in Table 6.

Table 4: Current TDN Residential Population

Use Category	Units	Qty	No. of Occupants	Persons
Residential	1 Bedroom Connections	3	2	6
	2 Bedroom Connections	25	3	75
	3 Bedroom Connections	11	4	44
Totals		39		125

Table 5: Current TDN Non-Residential Connections

Use Category	Description	No. of Connections
Non-Residential	Howonquet Hall Community Center	1
	Lucky 7 Fuel Mart	1
	Lucky 7 Casino	2
	Head Start	1
	Mess Hall	1
	United Indian Health Services	1
	TDN WWTP	1
	TDN Water Plant	1
Total		9

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Table 6: Projected TDN Connections

Use Category	Description	No. of Connections
Residential	Dat-naa-svt - 1 Bedroom Dwelling	2
Residential	Dat-naa-svt - 2 Bedroom Dwelling	6
Residential	Dat-naa-svt - 3 Bedroom Dwelling	7
Residential	Dat-naa-svt - 4 Bedroom Dwelling	6
Residential	Developed parcels, served by onsite systems, sewer laterals stubbed out	22
Residential/Non-Residential ^(a)	Undeveloped parcels located within a serviceable distance of existing sewers	29
Non-Residential	Dat-naa-svt - Community Center	1
Total		73

Notes:

(a) Trust parcels located within the TDN. Parcels have potential to be developed as either residential or non-residential uses.

The total connections and population served in Table 4 results in an average of 3.2 persons per connection. For the purposes of this TM, an EDU is defined to be equivalent to one residential connection.

Winter water use data for the period November 2016 through December 2017 were reviewed to determine base sanitary flows for residential and non-residential uses within the TDN wastewater service area, and are summarized in Table 7.

Table 7: TDN Winter Water Use Data

Water Use	Average Daily Winter Water Use, gpd
Average Residential Flow, gpd	5,645
Average Non-Residential Flow, gpd	9,213
Average Total Flow, gpd	14,858

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The average residential and non-residential winter water use for the period shown in Table 7 are assumed to be equivalent to the base sanitary flow. The residential base sanitary flow of 5,645 gpd is divided by the total population of 125 to determine average, residential per capita daily flow and flow per EDU values. The non-residential base sanitary flow of 9,213 gpd is divided by the flow per EDU value to determine the number of non-residential EDUs. A summary of planning criteria for the TDN wastewater service area is presented as Table 8.

Table 8: TDN Wastewater Planning Criteria

Parameter	TDN Service Area	
	Current	Future
Residential		
Population	125	355
Persons per EDU	3.2	3.2
Number of EDUs	39	111
Residential Base Sanitary Flow, gpd ^(a)	5,600	16,000
Per Capita Flow, gpd	45	45
Non-residential		
Number of Connections	9	10
Flow per EDU	145	145
Non-Residential Base Sanitary Flow, gpd ^(a,b)	9,200	9,400
Number of EDUs	63	65
Total Base Sanitary Flow, gpd ^(a)	14,800	25,400

Notes:

(a) Flows rounded to the nearest hundred.

(b) The Dat-naa-svt community center is assumed to generate 200 gpd.

TDN Wastewater Flows

Effluent flow data for the period from April 2016 to April 2018 were reviewed to determine current Average Dry Weather Flow, Average Annual Flow, Average Wet Weather Flow, Maximum Month Flow, Peak Day Flow, and Peak Instantaneous Flow values for the TDN wastewater service area. As the TDN WWTP does not monitor influent flow, effluent flows are assumed to reasonably approximate influent flow conditions. The observed peaking factors for current flow conditions are applied to the projected total base sanitary flow to develop projected statistical flow values. Current and projected flow conditions for the TDN wastewater service area are summarized in Table 9.

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Table 9: Current and Projected TDN Flows

Influent Condition	Current Flow, gpd ^(a)	Projected Flow, gpd ^(a)	Peaking Factor
Base Sanitary Flow	14,800	25,400	---
ADWF ^(b)	17,700	30,400	1.196
AAF ^(c)	17,800	30,500	1.203
AWWF ^(d)	17,900	30,700	1.209
MMF ^(e)	24,100	41,400	1.628
PDF ^(f)	41,300	70,900	2.791
PIF ^(g)	52,000	89,200	3.514

Notes:

- (a) Flows are rounded to the nearest hundred.
- (b) ADWF = Average Dry Weather Flow.
- (c) AAF = Average Annual Flow.
- (d) AWWF = Average Wet Weather Flow.
- (e) MMF = Maximum Month Flow.
- (f) PDF = Peak Day Flow.
- (g) PIF = Peak Instantaneous Flow.

TDN Wastewater Loads

As the TDN WWTP does not routinely sample influent load conditions as part of the monthly monitoring requirements, industry standard load values and peaking factors have been assumed for constituent loading to the TDN WWTP (*Metcalf and Eddy, 2013*). As the TDN service area does not include any industrial connections, it is assumed that wastewater generated by non-residential users is equivalent in strength to domestic, sanitary wastewater. Loading criteria are summarized in Table 10.

Table 10: TDN Loading Criteria

Constituent	Value	Peaking Factors	
		Maximum Month	Peak Day
BOD ^(a) , ppcpd ^(b)	0.180	1.3	2.6
BOD, ppd/EDU ^(c)	0.576	1.3	2.6
COD ^(d) , ppcpd	0.420	1.3	2.6
COD, ppd/EDU	1.344	1.3	2.6
TSS ^(e) , ppcpd	0.200	1.4	2.8
TSS, ppd/EDU	0.640	1.4	2.8
TKN ^(f) , ppcpd	0.029	1.3	2.3
TKN, ppd/EDU	0.093	1.3	2.3

Notes:

- (a) BOD = Biochemical Oxygen Demand.
- (b) ppcpd = pounds per capita per day.
- (c) ppd/EDU = pounds per day per EDU.
- (d) COD = Chemical Oxygen Demand.
- (e) TSS = Total Suspended Solids.
- (f) TKN = Total Kjeldahl Nitrogen.

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Current estimates of constituent loading to the TDN WWTP are determined based on the planning criteria presented in Table 8 and the per EDU constituent mass loadings presented in Table 10. Current loads for the TDN wastewater service area are summarized in Table 11. Projected loads are presented in Table 12.

Table 11: Current TDN Loads

Constituent	Average Annual	Maximum Month	Peak Day
BOD, ppd ^(a)	59	77	153
BOD, mg/L ^(b)	398	517	1,034
COD, ppd	138	179	358
COD, mg/L	928	1,206	2,412
TSS, ppd	66	92	184
TSS, mg/L	442	618	1,237
TKN, ppd	10	12	22
TKN, mg/L	64	83	147

Notes:

(a) ppd = pounds per day.

(b) mg/L = milligrams per liter.

Table 12: Projected TDN Loads

Constituent	Average Annual	Maximum Month	Peak Day
BOD, ppd	101	132	264
BOD, mg/L	399	518	1,036
COD, ppd	237	308	615
COD, mg/L	930	1,209	2,418
TSS, ppd	113	158	315
TSS, mg/L	443	620	1,240
TKN, ppd	16	21	38
TKN, mg/L	64	83	148

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XVR Connection

Assuming that the per capita constituent loading criteria applied to the TDN wastewater service area will also apply to XVR, it is possible to estimate the current and projected planning criteria for the XVR site. XVR planning criteria and the total, combined planning criteria for connecting XVR to the TDN wastewater system are presented in Table 13.

Table 13: Current and Projected Planning Criteria – XVR and TDN

Parameter	<u>XVR Service Area</u>		<u>Total, Combined XVR and TDN</u>	
	Current	Projected	Current	Projected
Residential				
Population	294	435	419	790
Persons per EDU	3.2	3.2	3.2	3.2
Number of EDUs	92	136	131	247
Residential Base Sanitary Flow, gpd ^(a)	13,300	19,700	18,900	35,700
Per Capita Flow, gpd	45	45	45	45
Non-Residential				
Number of Connections	1	1	10	11
Flow per EDU	145	145	145	145
Non-Residential Base Sanitary Flow, gpd ^(a)	14,800	40,500	24,000	49,900
Number of EDUs	102	279	165	344
Total Base Sanitary Flow, gpd ^(a)	28,100	60,200	42,900	85,600

Notes:

(a) Flows rounded to the nearest hundred.

Table 14 presents current and projected total combined flows for connection of XVR to the TDN WWTP. Current and projected total, combined loads for connection of XVR are presented in Tables 15 and 16, respectively.

Table 14: Current and Projected Flows – XVR and TDN

Influent Condition	Current Flow, gpd ^(a)	Projected Flow, gpd ^(a)	Peaking Factor
Base Sanitary Flow	42,900	85,600	---
ADWF	51,300	102,400	1.196
AAF	51,600	103,000	1.203
AWWF	51,900	103,500	1.209
MMF	69,800	139,400	1.628
PDF	119,700	238,900	2.791
PIF	150,700	300,800	3.514

Notes:

(a) Flows are rounded to the nearest hundred.

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Table 15: Current Loads – XVR and TDN

Constituent	Average Annual	Maximum Month	Peak Day
BOD, ppd	170	221	443
BOD, mg/L	396	515	1,029
COD, ppd	397	517	1,033
COD, mg/L	924	1,201	2,401
TSS, ppd	189	265	530
TSS, mg/L	440	616	1,231
TKN, ppd	27	36	63
TKN, mg/L	64	83	147

Table 16: Projected Loads – XVR and TDN

Constituent	Average Annual	Maximum Month	Peak Day
BOD, ppd	341	443	885
BOD, mg/L	396	515	1,031
COD, ppd	795	1,033	2,066
COD, mg/L	925	1,202	2,405
TSS, ppd	378	530	1,059
TSS, mg/L	440	617	1,233
TKN, ppd	55	71	126
TKN, mg/L	64	83	147

Preliminary Hydraulic Capacity Analysis

The hydraulic capacity of the TDN WWTP can be expanded by adding a second MBR treatment train to the plant. The plant was designed for a future, second train to be installed within the existing plant footprint. Table 17 presents a summary of the current hydraulic capacity of the TDN WWTP, excerpted from the WWTP Operations and Maintenance (O&M) manual, as well as capacities associated with the expansions of a second treatment train. Figures 2, 3, and 4 depict the capacity of the TDN WWTP, along with projected flows that assume uniform, exponential growth between the years 2021 and 2040.

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Table 17: TDN WWTP Design Criteria

Parameter	Units	Current Capacity	Expanded Capacity
Flows			
Average Daily	gpd	33,000	66,000
Maximum Month	gpd	40,900	81,800
Peak Day	gpd	66,000	132,000
Peak Instantaneous	gpd	85,800	171,600
Loads			
Average BOD	mg/L	350	350
Average TSS	mg/L	350	350
Average TKN	mg/L	60	60

The TDN WWTP currently has an average daily flow capacity of 33,000 gpd, and projected average annual flow for 2040 is 30,500 gpd, indicating that the plant has sufficient capacity in terms of average daily flow conditions for the design period. Being that MBR systems are limited in terms of the hydraulic peaks that can be treated, the projected maximum month and peak day flow values are shown on Figure 2 to reach capacity sooner, in years 2039 and 2037, respectively. Expanding the plant and adding a second treatment train will add capacity and allow the TDN WWTP to accommodate the maximum month and peak day projected flow values, as shown on Figure 3. Figure 4 depicts the expanded plant capacity along with projected flows that include XVR. With the connection of XVR, the TDN WWTP is expected to reach capacity in terms of average daily flow in 2028. The maximum month flow value is shown to reach capacity in 2025, and the peak day flow is shown to exceed capacity in year 2023.

Conclusions and Next Steps

Although Figure 4 shows plant hydraulic capacity being reached upon startup for the peak day flow condition, additional equalization volume upstream of the MBR system can be provided to attenuate peak flows and allow for deferment of treatment improvements. Construction of additional treatment facilities beyond the second MBR train will also increase capacity at average daily and maximum month flow conditions beyond years 2028 and 2025, respectively.

The next phase of planning work will include the evaluation of treatment alternatives at the TDN WWTP, including coordination with the MBR system manufacturer to obtain proposals for adding capacity. Current and projected loads will also be reviewed with the MBR system manufacturer, as the concentrations presented in this TM are shown to exceed the design data values included in the plant's O&M manual. Influent sampling data conducted by TDN will be evaluated. The evaluation will also look at effluent conveyance facilities and disposal drainfields to identify any needed improvements.

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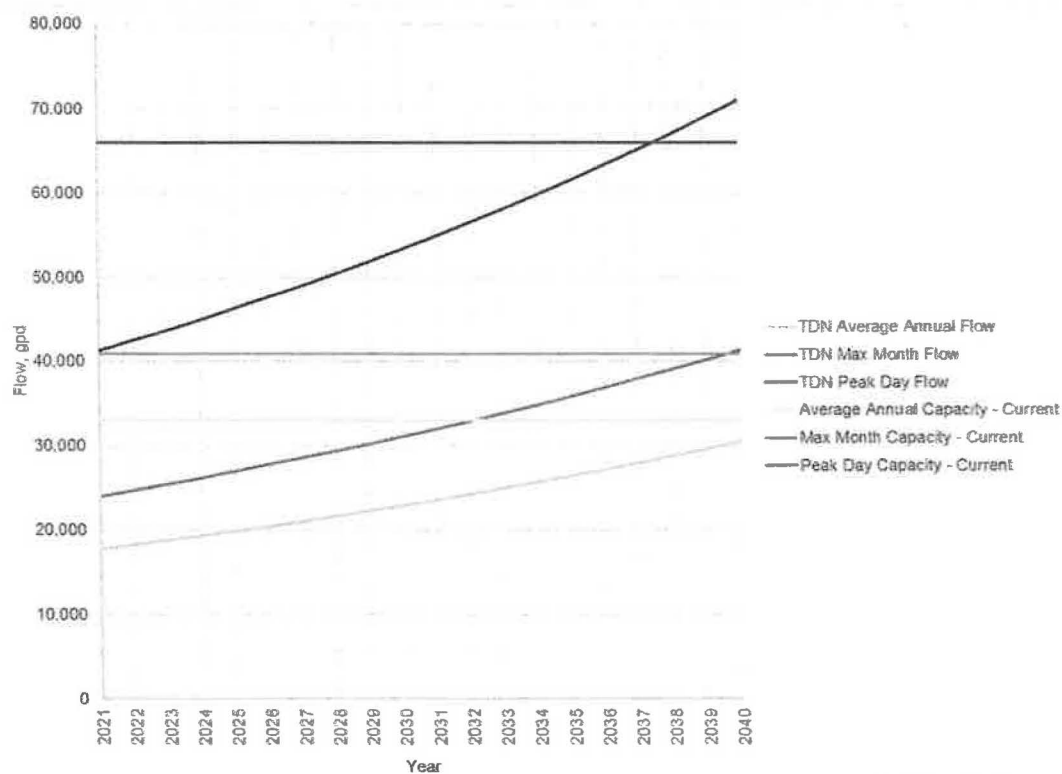


Figure 2: TDN WWTP Current Capacity

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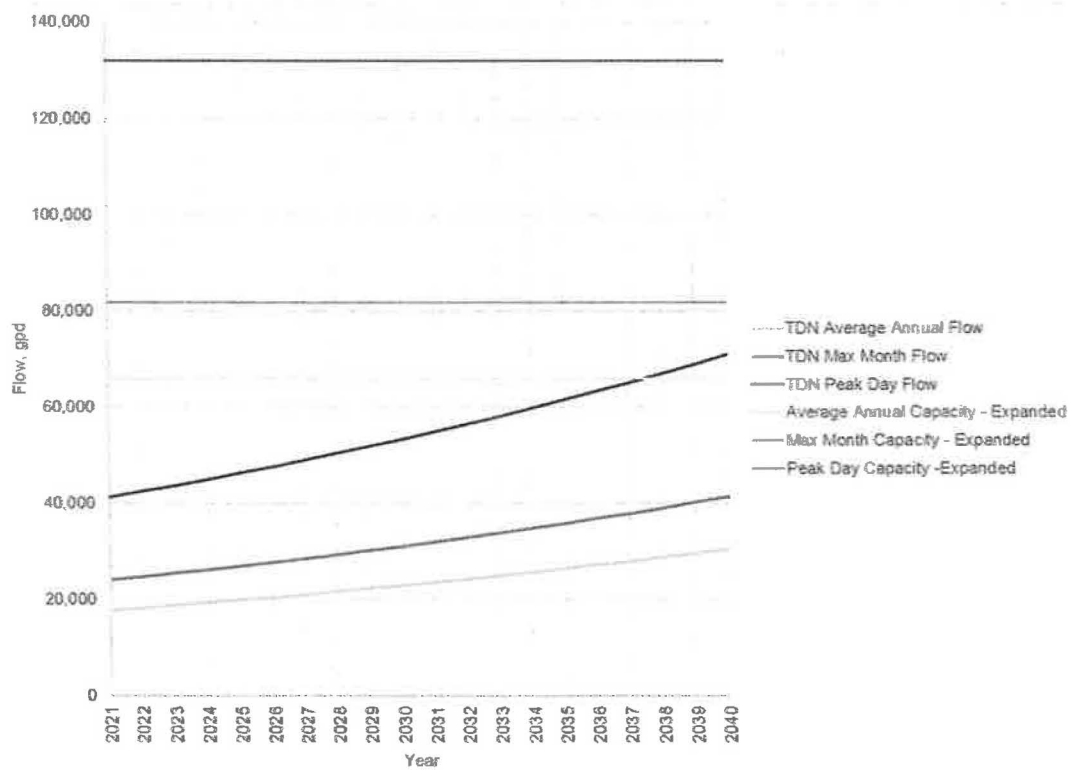


Figure 3: TDN WWTP Expanded Capacity

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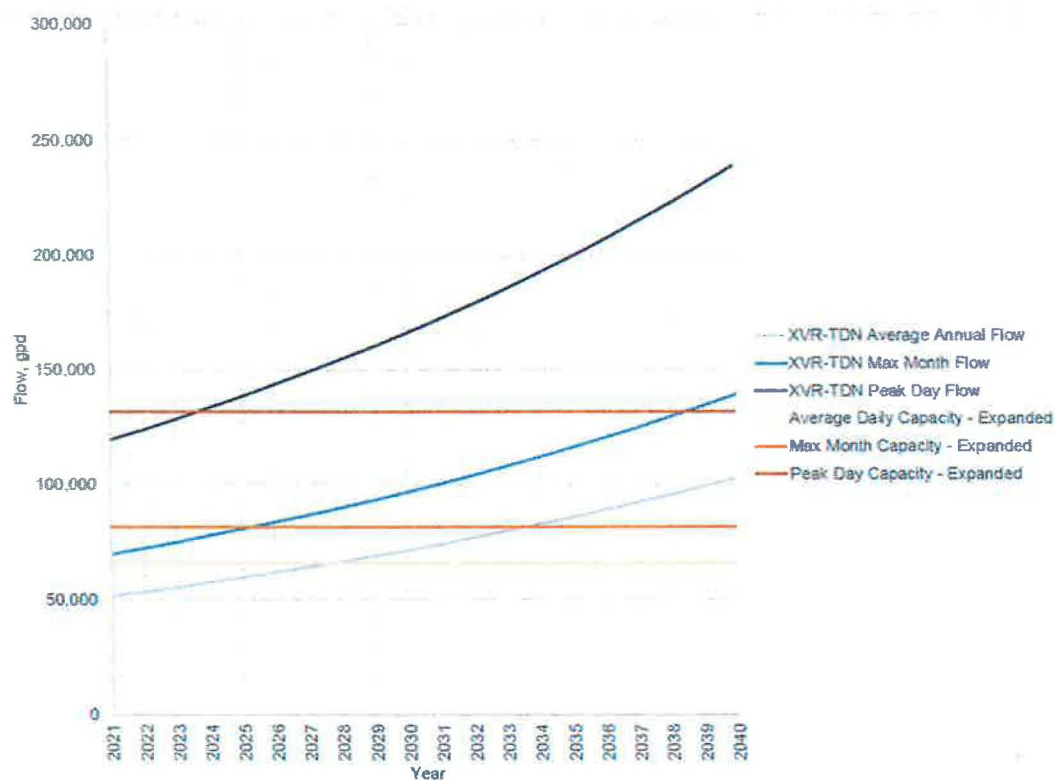


Figure 4: TDN WWTP Expanded Capacity, including XVR

Appendix C

<h1>LACO</h1> <p>21 W. 4th Street Eureka CA 95501</p>	TEXTURAL ANALYSIS		Page 1	Project No. 5260.06
	Project JN4556		Tested By CCR	Date 2/20/2019
	Location GILBERT CREEK		Checked By	Date
	Client STOVER ENGINEERING		Sample ID: 19-003EK	

Sample Location	Sample Depth	Total Sample (gm)	Retained on #10 Sieve (gm)	Passing #10 Sieve (gm)	Retained on #10 Sieve (%)	Passing #10 Sieve (%)	Coarse Adjustment (%)
#1		644.9	248.5	396.4	38.53%	61.47%	5.20%
#3		247.5	1.4	246.1	0.57%	99.43%	0.00%
#4		600.4	413.0	187.4	68.79%	31.21%	10.80%
#5		533.2	293.4	239.8	55.03%	44.97%	7.80%

WORK SHEET FOR SOIL TEXTURE (Water Quality Control Board Method)

#1	#3	#4	#5
90.1	60.6	79.8	69.7
8:40:00	8:47:00	8:54:00	9:01:00
65	65	65	64
17	65	22	44
7	7	7	7.2
10	58	15	36.8
66	67	66	66
11	37	14	21
6.8	6.7	6.8	6.8
4	30	7	14.2
88.9	4.3	81.2	47.2
4.7	50.0	9.0	20.4
6.4	45.7	9.8	32.4
SAND	SILTY CLAY	SAND	SANDY LOAM
1	4	1	2
11.1	95.7	18.8	52.8

SAMPLE DESCRIPTION

DEPTH

- A. Owendry Weight (gm)
- B. Starting Time (hr: min: sec)
- C. Temp @ 40 sec. (⁰F)
- D. Hydrometer Reading @ 40 sec. (gm/l)
- E. Composite Correction (gm/l)
- F. True Density @ 40 sec. (gm/l), (D - E)
- G. Temp. @ 2 hrs. (⁰F)
- H. Hydrometer Reading @ 2 hrs. (gm/l)
- I. Composite Correction (gm/l)
- J. True Density @ 2 hrs. (gm/l), (H - I)
- K. % Sand = 100 - [(F/A) x 100]
- L. % Clay = (J/A) x 100
- M. % Silt = 100 - (K+L)
- N. USDA Texture
- O. Soil Percolation Suitability Chart Zone
- P. Combine % Silt and Clay

LACO

SOIL SUITABILITY CHART

Page

2

Project No.

5260.06

Project

JN4556

Tested By

CCR

Date

2/20/2019

Location

GILBERT CREEK

Checked By

Date

Client

STOVER ENGINEERING

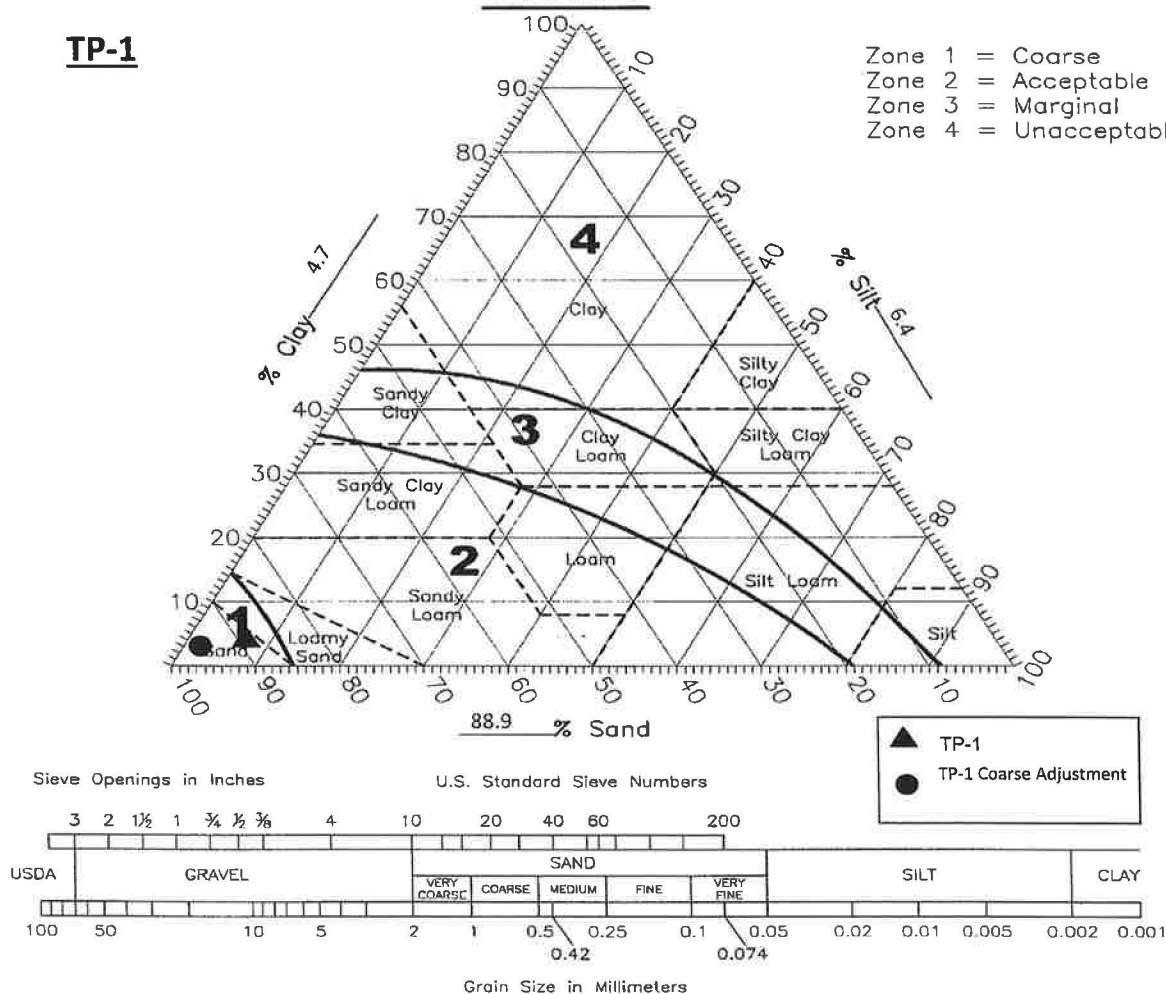
Sample ID:

19-003EK

SOIL PERCOLATION SUITABILITY CHART

TP-1

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



INSTRUCTIONS:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

LACO

SOIL SUITABILITY CHART

Page

2

Project No.

5260.06

Project

JN4556

Tested By

CCR

Date

2/20/2019

Location

GILBERT CREEK

Checked By

Date

Client

STOVER ENGINEERING

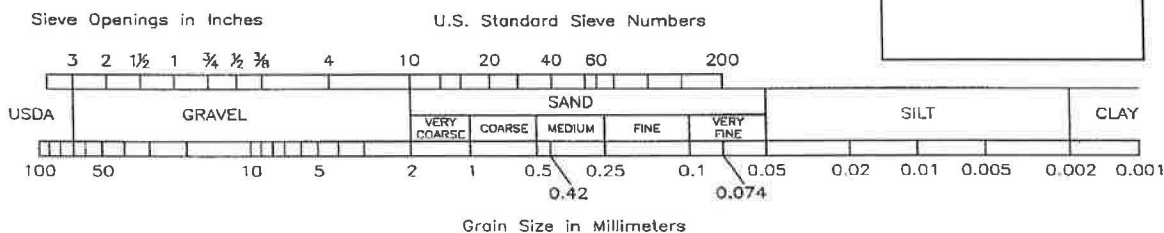
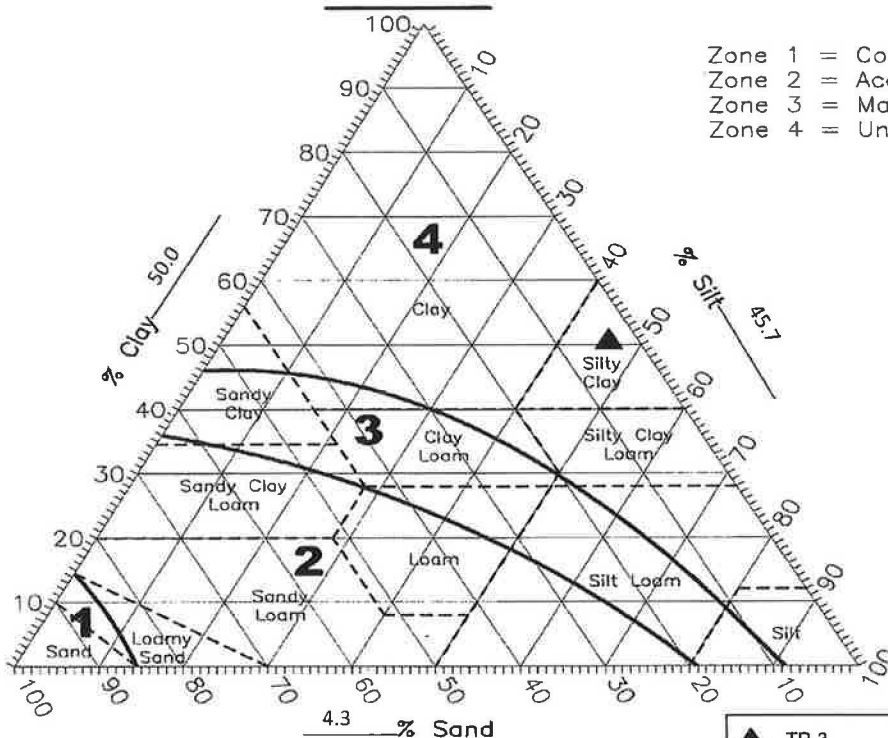
Sample ID:

19-003EK

SOIL PERCOLATION SUITABILITY CHART

TP-3

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



INSTRUCTIONS:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

LACO

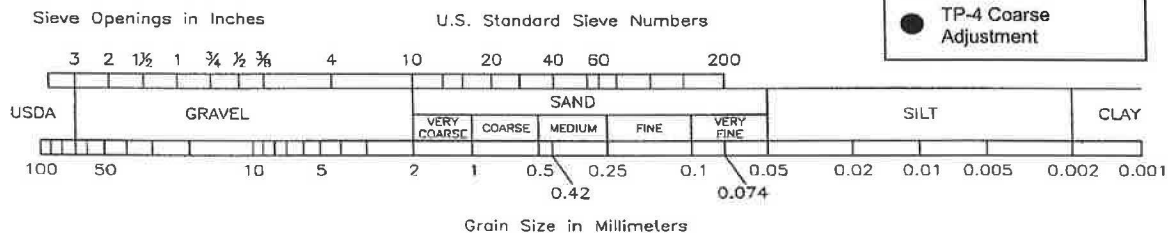
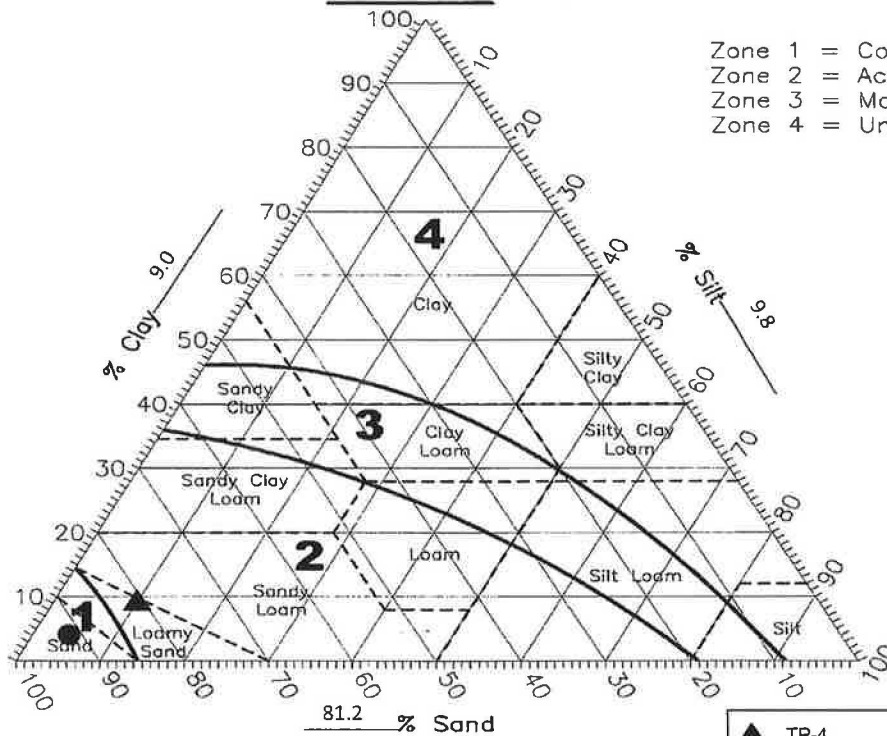
SOIL SUITABILITY CHART

Page	2	Project No.	5260.06
Project	JN4556	Tested By	CCR
Location	GILBERT CREEK	Checked By	
Client	STOVER ENGINEERING	Sample ID:	19-003EK

SOIL PERCOLATION SUITABILITY CHART

TP-4

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



INSTRUCTIONS:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

LACO

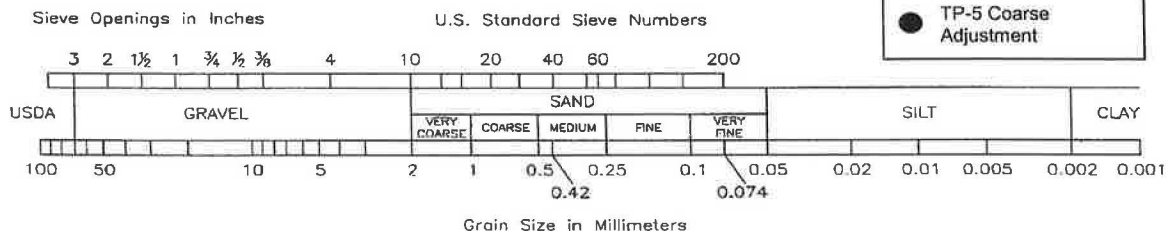
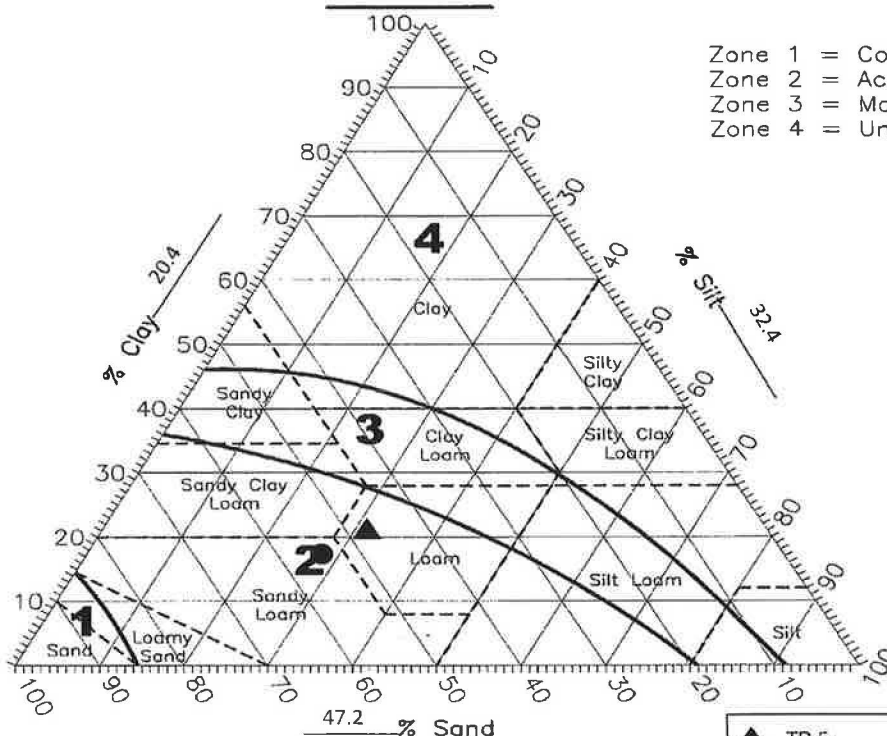
SOIL SUITABILITY CHART

Page	2	Project No.	5260.06
Project	JN4556	Tested By	CCR
Location	GILBERT CREEK	Date	2/20/2019
Client	STOVER ENGINEERING	Sample ID:	19-003EK

SOIL PERCOLATION SUITABILITY CHART

TP-5

Zone 1 = Coarse
Zone 2 = Acceptable
Zone 3 = Marginal
Zone 4 = Unacceptable



INSTRUCTIONS:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 gm/cc.

EXPLORATION TEST LOG					
Project Name		XVR WW STUDY		Job Number	4557
Hole Number		1		Hole Type	APN
Date		2/14/2019			
Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
#1					
	1	DARK GRAY	LOAMY SAND	WEAK MEDIUM GRANULAR	MOIST
	2				
	32"				
	3	OLIVE BROWN	SILTY CLAYEY SAND W/	WEAK FINE CRUMB	MOIST
	4				
	5				
	6				
	7	YELLOWISH GRAY	GRAVEL	LOOSE	MOIST
	8	NO GROUNDWATER DOWN TO 8'			
	9				
	10				
	11				

EXPLORATION TEST LOG					
by					
Project Name	XVR WW STUDY	Job Number	4557	Date	2/14/2019
Hole Number	2	Hole Type	APN		
Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
#2					
	1	DARK GRAY	LOAMY SAND	WEAK MEDIUM GRANULAR	MOIST
	2				
		GRAY	SILTY SAND	MODERATE MEDIUM BLOCKY	MOIST
	3				
	4	BROWN / YELLOWISH GRAY	SILTY SAND/ GRAVEL	MODERATE MEDIUM BLOCKY	MOIST
	5				
	6				
	7				
	8	NO GROUNDWATER DOWN TO 8'			
9					
10					
11					

EXPLORATION TEST LOG

by

Project Name XVR WW STUDY Job Number 4557 Date 2/14/2019

Hole Number 3 Hole Type APN

Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
#3	1	DARK GRAY	LOAMY	WEAK MEDIUM GRANULAR	MOIST
	2	YELLOWISH GRAY	CLAY	STRONG VERY COURSE BLOCKY	MOIST
	3				
	4				
	5				
	6				
	7				
	8	NO GROUNDWATER DOWN TO 8'			
	9				
	10				
	11				

EXPLORATION TEST LOG					
		by			
Project Name	XVR WW STUDY	Job Number	4557	Date	2/14/2019
Hole Number	4	Hole Type	APN		
Soil Sample	Depth (ft) 0'	Soil Description			
		Color	Type	Structure	Saturation
#5 (TS)	1	DARK GRAY	LOAMY	WEAK MEDIUM GRANULAR	MOIST
	26"				
#4	2	BROWN	GRAVELY SILT	MOD. COARSE GRANULAR	MOIST
	3				
	4				
	5				
	6				
	7				
	8				
	NO GROUNDWATER DOWN TO 8'				
9					
10					
11					

XVR WW STUDY
Disposal Field Observation Pits

**FIGURE 6: STOVER ENGINEERING
TEST PIT LOCATIONS
MAY 2019**



Appendix D

The proposed project would comply with all applicable County policies to abate construction-related noise impacts. Construction activities will be limited to the hours of 7 a.m. and 7 p.m. Monday through Friday, and between 7 a.m. and 7 p.m. on Saturdays. All construction equipment will be maintained in good working order and fitted with factory approved mufflers. These proposed measures would reduce noise generated by the construction of the project to the extent feasible for the project's size.

Occasional stationary noise will be created by standby generator sets as back-up power for the proposed sewer lift stations. Noise from stationary sources is addressed by Policy 2.H.3 of the Del Norte County General Plan. The mufflers and enclosures will be designed to limit nighttime stationary noise to 57 decibels at the property line of the receiver, or 25 feet from the residence for on-site permanent residents of HVR.

Other Permits and Environmental Clearances to be Secured

- Develop a Stormwater Pollution Prevention Plan and obtain coverage under the California Water Board Construction General Permit Order 2009-0009-DWQ for all construction of the project as more than one acre of ground will be disturbed.
- County Encroachment Permit for construction activities in Lopez Road, Oceanview Drive, and North Indian Road.
- Caltrans Encroachment Permit for single jack and bore casing under Highway 101 at Lopez Road.
- Tolowa Dee-ni Nation THPO Permit for all excavation activities in the project.
- North Coast Unified Air Quality Management District Stationary Source Permits for Standby Generators at the new Lift Stations.
- North Coast Regional Water Quality Control Board Waste Discharge Permit for the expanded WWTF and disposal area.
- California Housing and Community Development (HCD) Building Permit to reconnect mobile homes and buildings to the new sewer and electrical utilities.
- Submit environmental cross-cutter documents to obtain NEPA clearance from the State Water Board as the project is partially funded with Federal dollars.

Growth Inducement Discussion

The project is not proposed to induce growth but rather to provide for a reasonably small amount of growth on a regional basis within the project area, serving primarily lands owned by TDN and other lands adjacent to TDN's current sewer collection system. The previous sewer collection system projects constructed and owned by TDN generally in the South Indian Road area were conditioned that TDN must serve adjacent parcels in the future should that parcel owner request to connect to the Tribe's wastewater collection and treatment system.

The *Draft Technical Memorandum – Flows and Loads* (Tech Memo) prepared by Kennedy Jenks dated January 2019 describes the current and proposed flows for the proposed project is enclosed. A summary of that information is in this discussion. The project is primarily focused on providing for the full development potential of the HVR. HVR in its existing state currently has 89 active mobile home

spaces, 273 RV spaces with laundry facilities, and 16 apartments. There are 47 vacant mobile home spaces. The RV spaces and apartments currently have less than 50% occupancy rate due to the dilapidated state of the facilities. There is also a vacant motel and restaurant that were closed recently due to the dilapidated state of the facilities. The total flow for the facility in its current use and operation is 28,100 gallons per day (gpd).

TDN recently commissioned a master plan for HVR that identified a 25-year development horizon. Though that project is not being permitted or constructed at this time, it was necessary to identify the future improvements so that facilities only need to be constructed once and not be relocated or improved. The master plan contemplates a new motel and restaurant replacing the existing motel and restaurant. It also captures the remaining 47 vacant mobile home spaces, reconfigures the RV spaces on the site, provides improved laundry and shower facilities, and includes a visitors center. Total projected flow from HVR under the master plan is 60,200 gpd (Tech Memo, Table 3). Design wastewater flows for the existing OWTS is 71,600 gpd under the existing Waste Discharge Permit. The projected design flows for HVR are less than currently permitted so is not a growth inducing project on the HVR site.

Offsite, the Project considered existing flows to the TDN WWTF as well as potential development that could occur on existing TDN lands as well as private parcels that are located adjacent to the existing TDN collection system. The draft Tech Memo identified 39 existing equivalent dwelling units (EDU) in residential connections and 63 existing EDU in non-residential connections (hotel, casino, gas station, health clinic) for a total base flow of 14,800 gpd. Projected connections generally include the 21-unit Dat-naa-svt Village already under construction, 22 developed parcels that are currently on septic but could hook up to the collection system, 1 community center, and 29 residential/non-residential connections on Trust parcels that are within a serviceable distance to the existing or proposed sewer system. Added flow for growth is projected to be 10,600 gpd. Below is a synopsis of the various flows:

HVR Current plus Projected Flows	60,200 gpd
TDN Current Flows	14,800 gpd
TDN Added Flows	<u>10,600 gpd</u>
Total HVR/TDN Current and Projected Flow	85,600 gpd

85,600 gpd equals 590 EDU at 145 gpd/EDU which was used in the Tech Memo design parameters. 10,600 gpd equals 73 EDU. Of the 73 EDU, 21 are currently under construction at Dat-naa-svt Village and 22 are developed parcels currently on septic, so the contemplated growth is 30 EDU, or 5 percent of the total flow for the proposed project.

**TOLOWA DEE-NI NATION – HOWONQUET VILLAGE AND RESORT
WASTEWATER IMPROVEMENTS**



Supplemental Growth Inducement Discussion

Figure 2 shows parcels serviceable by the existing TDN wastewater system. Figure 3 shows all parcels that will be serviceable by the proposed improvements and is inclusive of parcels shown in Figure 2. Tables 1 and 2, included at the end of this document, list all parcels shown in Figures 2 and 3, respectively.

Data presented in Figures 2 and 3 were obtained from ParcelQuest. Figure 2 identifies a total of 97 serviceable parcels. The number of parcels that are either served or have the potential to be served by the existing TDN wastewater system were estimated in the Tech Memo, and are summarized as follows:

Use Category	Description	Status	No. of Parcels
Residential	1, 2, and 3 bedroom Connections	Connected	39
Non-Residential	Commercial and Community sites	Connected	9
Residential	Developed parcels currently on septic with laterals stubbed out	Not Connected	22
Residential	Undeveloped parcels within a serviceable distance of existing sewers	Not Connected	29
Residential	Dat Naa Svt	Not Connected	5
Total			104

The serviceable parcels data from ParcelQuest differs from the Tech Memo total by 7. This difference is relatively minor and confirms that previous estimates were fairly accurate. The difference may be attributable to the fact that the Tech Memo estimated the number of connections as opposed to parcels. For the purposes of this discussion, one connection per parcel was assumed.

The proposed system would serve the 8 parcels comprising the Howonquet Village and Resort (HVR), for a total number of serviceable parcels of 112. This compares fairly well with the parcel total of 108 indicated in Figure 3 and Table 2.

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- EXISTING SERVICE AREA
- ADDITIONAL SERVICE AREA
- ADDITIONAL SANITARY SEWER - PRESSURE
- ADDITIONAL SANITARY SEWER - GRAVITY
- EXISTING SANITARY SEWER