LACO

TECHNICAL MEMORANDUM

Biological and Rare Plant Survey
City of Trinidad/Westhaven CSD Emergency Intertie Project
Westhaven Community Services District
Westhaven, Humboldt County, California

Date: November 6, 2023
Project No.: 7095.10

Prepared For: Paul Rosenblatt, General Manager/Lead Operator
Westhaven Community Services District

Prepared By: Gary Lester, Senior Biologist/Botanist

Reviewed By: Meghan Ryan, Planning Director

Attachments:

	Figure 1:	Vicinity Map and Location Map
	Figure 2:	Site Photos
	Appendix A:	Westhaven CSD Technical Memorandum
	Appendix B:	Observed Plant Species
	Appendix C:	Observed Wildlife Species

1.0 INTRODUCTION

This technical memorandum presents the results of a biological and rare plant survey performed by LACO Associates (LACO) on behalf of the Westhaven Community Services District (CSD or District) related to an emergency water system intertie proposed between the City of Trinidad (City) and the District along the western side of Westhaven Drive. The project location is within the local and appeal jurisdictions of the Coastal Zone, requiring a Coastal Development Permit (CDP) from the County. The proposed project would include approximately 0.4 miles (or 2,112 feet) of 8-inch C-900 polyvinyl chloride (PVC) pipe connecting the distribution systems of the two agencies between the Westhaven CSD connection located at 980 Westhaven Drive [Assessor's Parcel Number (APN): 515-061-009] and the terminus at the City's Water Treatment Plant (WTP) at the property identified as APN: 515-121-018, located within the 1300 block of Westhaven Drive. Additionally, the proposed project would also entail installation of an emergency pump station and three (3) flushing hydrants (collectively, "the Site"; see Figure 1). The purpose of the study is to determine whether the proposed project area contains sensitive biological resources, including special status plant and wildlife species, and Environmentally Sensitive Habitat Areas (ESHA).

Based on information included in a Westhaven CSD technical memorandum, dated October 7, 2021 (see Appendix A), it is understood that the City's WTP has a maximum capacity of 175 gallons per minute (GPM), a firm capacity of 117 GPM, and a total storage volume of 0.3 million gallons (MG). WCSD's upgraded WTP is anticipated to have a maximum capacity of 50 GPM and total storage volume of 0.3 MG. Neither agency has the capacity to provide a large, sustained flow; however, combined, the facilities would be limited to a maximum intertie flow of 100 GPM, depending on water availability. This project would greatly improve water use efficiency by providing a modest intertie between the two agencies to be used only during an emergency.

Due to the difference in elevation, water would need to be pumped from Trinidad to Westhaven. The proposed pump station would be manually enabled with no remote-control supervisory control and data acquisition (SCADA), and would include fail-safe emergency shutdown controls.

As previously described, the project also includes the installation of three (3) proposed flushing hydrants located along the pipeline installation route. The proposed flushing hydrants would be placed along the water line to provide regular periodic flushing on the installed static water line to ensure drinking water purification and regulated drinking water quality. The flushing hydrants would be installed on the existing road shoulder in the Westhaven Drive right-of-way within existing roadside pull-outs, which appear adequately rocked. The first flushing hydrant is proposed to be located on the west shoulder of Westhaven Drive, across from the intersection of Westhaven Drive and Old Wagon Road. The second flushing hydrant would be located at the mid-point of the intertie installation, approximately 1,050 feet north of the existing hydrant designated as the tie-in point to the Westhaven CSD. Finally, the third flushing hydrant is proposed to be located approximately 135 feet south of the Trinidad WTP (see Figure 1).

2.0 METHODOLOGY

A field survey of the project location was conducted on March 17, 2023. LACO's biologist and botanist, Gary Lester, conducted the survey. Mr. Lester is qualified to conduct biological surveys, having earned an undergraduate degree in Botany and received training in recognition of the local flora and fauna and in rare plant identification and survey protocol. Additionally, Mr. Lester has conducted sensitive plant surveys, biological site investigations, wetland delineations, and wildlife surveys for over 25 years.

U.S. Geological Survey (USGS) topographic maps, aerial photography maps, and the California Department of Fish and Wildlife (CDFW, 2022) California Natural Diversity Database (CNDDB; for the Crannell Quad), relating to the project area were reviewed prior to and during the survey for potential sensitive species occurrence. A single quad database search was utilized and is considered appropriate in this case, as the project disturbance is limited to the existing roadway and public right of way.

The biological survey was conducted following CDFW protocol (2018). An intuitively controlled, seasonally appropriate survey was conducted that sampled the identified potential habitat. Plants were identified to the lowest taxonomic level (genus or species) necessary for rare plant identification. The scientific nomenclature follows the Jepson Manual (Baldwin et al., 2012).

3.0 ENVIRONMENTAL SETTING

The proposed project area is located within an existing rural residential area in the community of Westhaven, to the east of Highway 101. The topography is elevated terrace, with ground surface elevations ranging between approximately 210 to 360 feet above mean sea level (amsl).

Westhaven Drive is located adjacent to mature coastal coniferous forest with native tree dominants, including coast redwood (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), red alder (*Alnus rubra*), and Sitka spruce (*Picea sitchensis*); dense shrub cover of thimbleberry (*Rubus parviflorus*), salal (*Gaultheria shallon*), red elderberry (*Sambucus racemosa*), and coyote brush (*Baccharis pilularis*); and an understory of swordfern (*Polystichum munitum*) and California blackberry (*Rubus ursinus*). Minimum disturbance to the existing habitat is anticipated due to the proposed pipeline installation within the existing roadway.

At three locations within the Westhaven Drive pipeline installation route, the project is proposed to cross over existing perennial streams. Running from south to north, the first crossing occurs at Jolan Creek, a Class II stream that is also considered an ESHA per the Trinidad Area Plan, where the new waterline is proposed to be placed within the roadway over the existing stream culvert. This crossing location is located approximately 400 feet from the project start. The second stream crossing would occur over a tributary of Luffenholtz Creek, approximately 1,000 feet from the project start. The waterline would be installed in the roadbed over the existing stream culvert. Additionally, a proposed new flushing hydrant is proposed adjacent to this stream. The flushing hydrant is proposed to be installed in the road shoulder at a wide position of the road next to an existing property access road. The proposed flushing hydrant location is in existing road base rock and no native vegetation is growing at the location. The third stream crossing is the main fork of Luffenholtz Creek, located approximately 2,000 feet from the project start. Installation of the water pipeline at this location would occur in the roadway above the existing creek culvert.

The remaining proposed pipeline installation would occur within the existing Westhaven Drive roadway, adjacent to long established small private residences. Although significant native natural habitats are present in the vicinity, construction equipment would utilize the roadway shoulder for staging and travel, which are comprised primarily of non-native ruderal vegetation, including the WCSD connection at 980 Westhaven Drive and the terminus at the City's Water Treatment Plant.

Photographs taken during the field surveys are included as Figure 2. A complete list of plant and wildlife species observed in the project area are available in Appendices B and C.

4.0 SENSITIVE SPECIES ANALYSIS

4.1 Sensitive Plant Species Historically Reported Nearby

All species included on Lists 1 to 4 (herein referred to as sensitive species) of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (2023) were reviewed to determine potential presence in the vicinity of the project area (all the species databases referred to in this report use the U.S. Geological Survey Crannell Quad as a reference point). The CNPS inventory includes all species listed as rare or endangered by the Federal and State governments. Based on the species identified in the CNDDB and CNPS records, the range of habitats present, and the geographical range of the various

sensitive species, the species considered most likely to occur in the vicinity of the project Site are listed in Table 1, below. Only forest and seasonal stream natural habitats are present in the project area, eliminating many sensitive species specific to other types of habitats. A full list of observed plant species is included in Appendix B.

Table 1. Sensitive Species Potentially Present in the Project Area

Species	Common Name	CNPS List*	Preferred Habitat
Cardamine angulata	seaside bittercress	2B.1	Shady thickets; flowers April to June
Carex leptalea	bristle-stalked sedge	2B.2	Coastal bogs; flowers May to July
Lilium occidentale	western lily	1B.1	Coastal prairie and forest edges, flowers June to July
Lycopodium clavatum	running-pine	4.1	Forests; identifiable year-round
Montia howellii	Howell's montia	2B.2	Disturbed forest edges, damp roadsides; flowers February to May
Packera bolanderi	seacoast ragwort	2B.2	Coastal forest, forest edges; June-July
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2	Coastal prairie and forest edges, flowers May to August
Piperia candida	white-flowered rein orchid	1B.2	Mature forests; flowers May-July
Monotropa uniflora	ghost-pipe	2B.2	Dense forest, forest roadsides; flowers July

Source: CNPS, 2023.

* CNPS List Codes:
1B.1-Rare, threatened or endangered in California and elsewhere, seriously threatened in California
1B.2-Rare, threatened or endangered in California and elsewhere, moderately threatened in California
2B.1-Rare, threatened or endangered in California, but more common elsewhere, seriously threatened in California
2B.2-Rare, threatened or endangered in California, but more common elsewhere, moderately threatened in California
4.1-Plants of limited distribution, seriously threatened in California

The following summaries are for the sensitive plant species shown in Table 1:

Seaside bittercress is known from Prairie Creek Redwoods State Park (Jeff Barrett, North Coast State Parks, pers. comm.) and a recent observation (pers. obs.) from Fern Canyon and Lost Man Creek. There is potential habitat for this species in the project area. Distinctive leaf structure can be seen year-round. The seaside bittercress is classified as a CRPR (CNPS 2023) of 2B.1, and is defined as rare, threatened, or endangered in California, but more common elsewhere. A majority number of the California populations are seriously threatened. No plants of this species were observed on-site during the survey.

Bristle-stalked sedge is known only from a historical collection near Trinidad and 2011 discovery of two populations east of Trinidad (CDFW/CNDDB 2023; Jepson Interchange 2023). There is little or no habitat for this species in the project area. The northern meadow sedge is classified as a CRPR (CNPS 2023) of 2B.2, and is defined as endangered in California, but more common elsewhere. Most of the California populations are fairly threatened.

Western lily is known to occur along in the coast ranges from Sonoma County to southern Oregon. The known occurrences of western lily are typically located within coastal bluff habitat. No western lily was observed during the survey.

Running pine is known from numerous nearby populations of adjacent timber lands (CDFW/CNDDB 2023). The known occurrences are from forest habitats with low soil pH. The California populations of running pine are under a watch list ranking (4.1). This species was not located during the survey.

The **Howell's montia's** nearest known occurrence is a historic collection at Berry Glen. This species occupies exposed, recently impacted soils that remain seasonally moist through the spring. The Howell's montia is classified as a CRPR of 2B.2, and is defined as rare, threatened, or endangered in California, but more common elsewhere. This species was not located during the survey.

The **seacoast ragwort** is known only from a 1911 collection in the upper Little River basin (CDFW/CNDDB 2023; Jepson Interchange 2023). There is little or no habitat for this species in the project area. The seacoast ragwort is classified as a CRPR (CNPS 2023) of 2B.2, and is defined as endangered in California, but more common elsewhere. Most of the California populations are fairly threatened.

Habitat for the **Siskiyou checkerbloom** is coastal forest and margins in northwest California. It is reported historically on nearby Dows Prairie. Marginal habitat for this species is present within the project area, especially along the relatively less disturbed fence line and access road margins. The Siskiyou checkerbloom is classified as a CRPR of 4.2 and is defined as California plant of limited distribution and a moderate number of the California populations are threatened. A concerted effort was made to locate this native species in the non-native dominated project area fence and roadside edges. No Siskiyou checkerbloom populations were located during the survey.

The **white-flowered rein-orchid** is known from near Big Lagoon east of Highway 10, about 7 miles northeast of the project Site. It grows in dense forest habitats. The white-flowered rein-orchid is classified as a CRPR of 1B.2, and is defined as rare, threatened, or endangered in California, and a moderate number of the California populations are threatened. Very little floral diversity establishment was noted in the project area.

Ghost-pipe is a non-photosynthetic plant that obtains nutrition from a host plant, typically Douglas-fir (*Pseudotsuga menzeisii*), via a mycorrhizal association with the fungus *Russula brevipes*. Its known west coast distribution ranges from the northern California to British Columbia, in both coniferous and mixed evergreen forests. The preferred microsite conditions are typically shady and moist with a deep humus layer of topsoil. One population was found recently in nearby Sue-Meg State Park (Katarina Henderson, North Coast Region, CA State Parks, pers. comm.), along a park road shoulder. A CRPR of 2B.2, defined as rare, threatened or endangered in California, but more common elsewhere and a moderate number of the California populations are threatened. It was not observed on any roadside survey.

4.2 Potential Sensitive Wildlife Species Present

According to CNDDB records, the USFWS Crannell Quad species list (2023), the range of habitats present, and the geographical range of the sensitive animal species, the species considered most likely to occur in the vicinity of the project area are listed in Table 2, below. Only coniferous forest and seasonal freshwater wetland habitats are present in the project area, eliminating many of the sensitive species specific to other types of habitats. Although there are several stream crossings in the vicinity of the project area, the streams do not contain sensitive anadromous fish, as the streams are inaccessible for ocean-going species.

Table 2. Sensitive Wildlife Species Potentially Present in the Project Area

Species	Common Name	Fed/State List	Preferred Habitat
Aplodontia rufa humboldtiana	Humboldt mountain beaver	None	Deep loamy soils, rich adjacent vegetation
Arborimus pomo	Sonoma tree vole	None	Resident in mature Douglas-fir canopies
Ascaphus truei	Pacific tailed frog	None	Resident in or near rocky streams
Bombus occidentalis	western bumble bee	Candidate	Large range of potential habitats
Myotis evotis	long-eared myotis	None	Breeds in tree cavities, structures
Pandion haliaetus	osprey	None	Nests in mature canopy trees or snags
Rana aurora	northern red-legged frog	None	Breeds in freshwater ponds
Rana boylii	foothill yellow-legged frog	State Species of Concern	Streams and rivers in woodland, chaparral, and forest

Source: CDFW, 2023, and USFWS, 2023.

The following summaries are for the sensitive wildlife species shown in Table 2:

The **Humboldt mountain beaver** are known from lush coniferous forests, riparian woodlands, and often habitats near wetlands. Although suitable habitat occurs on-site, the obvious burrow cavities were not detected.

The **Sonoma tree vole** habitat requirements are Douglas-fir trees for feeding and year-round residency. It constructs nurseries from Douglas-fir resin duct leftovers from leaf forage material. The California populations are considered Species of Special Concern by CDFW (2023). There is limited Douglas-fir canopy habitat for the Sonoma tree vole located in the project area and no resin duct nest structures were detected.

The **Pacific tailed frog** occurs in and near clear, rocky, and swift stream courses. No individuals or suitable habitat were observed during the biological evaluation. The California populations are considered Species of Special Concern by CDFW (2023).

The **western bumble bee** can populate a large variety of habitats, including croplands, grasslands, mixed woodlands, urban areas, montane meadows, and prairie grasslands. Despite its potentially large distribution, populations have steadily declined, and the species was designated by CDFW as a candidate species for listing under the California Endangered Species Act on June 18, 2019 (CDFW, 2023). No individuals were observed during the biological evaluation.

The l**ong-eared myotis** habitat requirements are forests for roosting and open watercourses for feeding. It may establish nursery colonies in abandoned structures. The California populations are considered Species of Special Concern by CDFW (2023). There is extremely little roosting or feeding habitat for the long-legged myotis located in the project area.

Osprey are known from northern California water ways. Nests in mature canopy trees or snags are recorded. No nests were observed in the project area. Active osprey nests are protected (CDFW, 2023).

The **northern red-legged frog** habitat requirements are freshwater ponds. The California populations are considered Species of Special Concern by CDFW (2023). No frogs were observed within the study area.

The **foothill yellow-legged frog** occurs in or near streams and rivers in woodland, chaparral, and forest. It was designated as a candidate species by CDFW in 2017 and remains a California Species of Special Concern (CDFW, 2023). No individuals were observed during the biological evaluation and there is no suitable habitat within the study area.

5.0 RESULTS

5.1 Sensitive Plant Species Survey Results

The biological survey recorded no sensitive plant species within the project area. No impacts to any sensitive or special plant species are anticipated as a result of the project, as the proposed work would occur within the County right-of-way, existing roadways, and within already developed rural residential properties, and appropriate best management practices (BMPs) would be employed to ensure sensitive plant species are not impacted by the project.

5.2 Sensitive Wildlife Species Survey Results

During the course of the field survey, no sensitive or special status wildlife species were observed. As presented in Appendix C, numerous summer resident bird species were observed; however, none of the observed bird species are considered sensitive or special status species. As described above, proposed work would occur within the County right-of-way, existing roadways, and within already developed rural residential properties, and appropriate BMPs would be employed to ensure sensitive wildlife species are not impacted by the project.

5.3 Environmentally Sensitive Habitat Areas

As previously described, Jolan Creek, the tributary of Luffenholtz Creek, and the main fork of Luffenholtz Creek (all Class II watercourses) are ESHA, pursuant to Trinidad Area Plan Policy 3.30B(1) and are located near the proposed improvements. The proposed waterline and flushing hydrants that are to be installed would be located within the stream riparian buffers. However, the locations of the project components are in road shoulder comprised of base rock, and streamside vegetation and native soils are no longer present. As previously described, the flushing hydrants would be installed on the existing road shoulder in the Westhaven Drive right-of-way, within existing roadside pull-outs, which appear adequately rocked. No work would occur within the roadside ditches.

No riparian vegetation is present in the construction area and all construction adjacent to the streams is proposed to occur within the preexisting roadbed and shoulder. No wetlands, Sensitive Natural Communities, or riparian vegetation would be permanently or temporarily impacted by the proposed project. Additionally, BMPs (described below) would be employed during construction to ensure there are no impacts to the nearby riparian area, and would ensure construction materials and equipment are not placed within nearby sensitive areas. As a result, no loss of habitat or impacts to any identified ESHA will occur under the project.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Native plant communities will be adequately protected by construction kept to the existing roadways, County rights-of-way, and already developed rural residential properties. All staged equipment and materials outside of the rights-of-way shall be restricted to clearly marked areas shown on construction

documents and clearly marked in the field. The Class II streams (Jolan Creek, tributary of Luffenholtz Creek, and Luffenholtz Creek) and associated riparian buffer areas shall be identified on construction documents. Riparian buffers shall be placed at the tree drip line at each stream crossing along Westhaven Drive and no work shall extend beyond this point. Additionally, the construction contractor and/or District shall provide straw wattles adjacent to open trenching between the adjacent open trenching and the stream courses. No heavy equipment shall be allowed beyond the wattle installations. It is further recommended that construction occur during the late spring to fall dry season.

Additionally, a breeding bird survey shall be conducted prior to construction, if operations occur between March 15 and August 15. If an active native bird nest is found in proposed staging areas, then a qualified biologist shall determine if the nest is no longer active prior to construction disturbance at nest location(s).

If appropriate minimization measures and recommendations are incorporated into the proposed activities, it is the professional opinion of LACO that there will be no significant loss of biological resources, including sensitive species or ESHA, at the project Site.

7.0 REFERENCES

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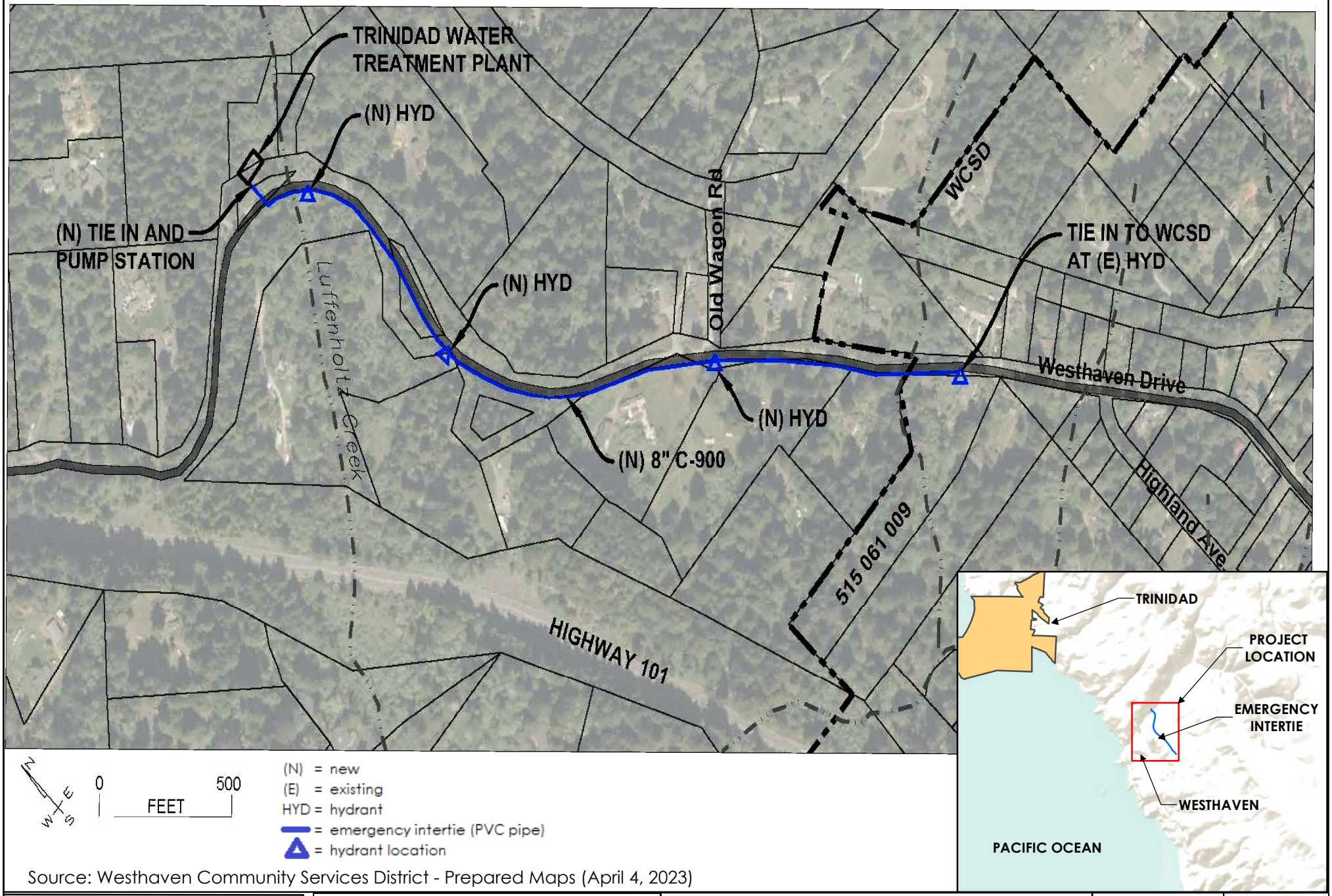
FIGURES



Source: Westhaven Community Services District - Prepared Maps (April 4, 2023)

Note:
The information illustrated in this map was derived from publicly-available GIS data. LACO Associates cannot guarantee the accuracy of the data.

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1-800-515-5054 www.lacoassociates.com

PROJECT	City of Trinidad/Westhaven CSD Emergency Intertie	BY	MCH
CLIENT	Westhaven Community Services District	CHECK	MMM
LOCATION	Westhaven, Humboldt County, California	DATE	04/06/2023
	Location and Vicinity Map		

FIGURE 1

JOB NO. 7095.10

Figure 2 - Site Photos

Photo 1: Southern project terminus at 980 Westhaven Drive (approximately 10 feet north of existing hydrant).

Photo 2: Jolon Creek Crossing (at west shoulder of Westhaven Drive).

Photo 3: Intersection of Westhaven Drive and Old Wagon Road (approximate proposed location of new flushing hydrant).

Photo 4: Shoulder Ditch (approximately 400 linear feet of seasonal wetlands).

Photo 5: Unnamed tributary of Luffenholtz Creek.

Photo 6: Proposed new flushing hydrant location at road shoulder (approximately 1,050 feet from 980 Westhaven Drive).

Photo 7: Luffenholtz Creek crossing (approximately 1,900 feet from 980 Westhaven Drive).

Photo 8: Terminus at City of Trinidad WTP
(Approximate location of new flushing hydrant, internal pump pipe riser, and electric panel).

APPENDIX A

Westhaven CSD Technical Memorandum

LACO

DRAFT TECHNICAL MEMORANDUM

TO:	Paul Rosenblatt, General Manager, Westhaven Community Services District.
FROM:	Thomas W. Warnock, Principal Engineer
DATE:	October 7, 2021
JOB NO.:	2630.13
SUBJECT:	Trinidad/Westhaven Emergency Intertie Project

BACKGROUND

Negotiations for an emergency intertie between Trinidad and Westhaven Community Services District are underway. The proposed project would include approximately 0.4 miles of 4-inch pipe connecting the distribution systems of the two agencies along with an emergency pump station. Figure 1 illustrates the approximate location of the intertie pipe alignment.

Figure 1 – Approximate Location of Intertie Pipe Alignment

It is understood that Trinidad's WTP has a maximum capacity of 175 GPM and a firm capacity of 117 GPM and total storage volume of 0.3 MG. WCSD's upgraded WTP will have a maximum capacity of 50 GPM and total storage volume of 0.3 MG. Neither agency has the capacity to provide a large, sustained flow; consequently, it is envisioned that the facilities would be limited to a maximum intertie flow of 100 GPM depending on water availability.

Water will have to be pumped from Trinidad to Westhaven because of the difference in elevation. It is envisioned that the pump station and pipe design would be designed for a maximum flow of 100 GPM. The pump station would be manually enabled with no remote-control SCADA, but it would include fail-safe emergency shutdown controls.

Table 1 itemizes a preliminary project budget including construction and indirect costs. These costs will be revised as the project moves forward and decisions are made on project funding. The total project cost is estimated at $1,272,000 in 2021. The Engineering News Record Construction Cost Index stands at 12464. It is worth noting that the ENR CCI has increased by 7% since the beginning of 2021.

Negotiations on the emergency intertie will most likely start with a Memorandum of Understanding to open discussions on issues such as 1) what constitutes and emergency; 2) duration of water transfer; 3) repayment for water transferred; 4) ownership of emergency intertie facilities; and 5) O&M of facilities. This memo serves only to provide a brief outline of the project components and approximate cost.

There are several funding alternatives/agencies that are being considered for this project including

- Integrated Regional Water Management/North Coast Resource Partnership
- Drinking Water State Revolving Fund/State Water Resources Control Board
- Local Hazard Mitigation Plan/Federal Emergency Management Agency
- Urgent Drinking Water Needs/Department of Water Resources

The City of Trinidad and WCSD are working on a joint distribution system rehabilitation project to improve water system efficiency funded through IRWM and Proposition 1. Both Trinidad and WCSD are discussed in the 2019 edition of the Humboldt County FEMA LHMP; consequently, FEMA can fund up to 75% for hazard mitigation after a disaster declaration and 25% would need to be found from other sources. This project would very much improve water use efficiency by providing a modest intertie between the two agencies to be used only during an emergency. Funding applications should be submitted as soon as possible.

APPENDIX B

Observed Plant Species

Plant Species Encountered During Field Survey of the Project Area

Species	Common Name	Fed/State List	Native / Non-Native
Abies grandis	grand fir	none	Native
Acer macrophyllum	bigleaf maple	none	Native
Agrostis exarata	spike bentgrass	none	Native
Agrostis stolonifera	creeping bentgrass	none	Non-Native
Aira caryophyllea	silver hair grass	none	Non-Native
Allium neapolitanum	white onion	none	Non-Native
Alnus rubra	red alder	none	Native
Anaphalis margaritacea	Western pearly everlasting	none	Native
Anthoxanthum odoratum	sweet vernal grass	none	Non-Native
Anthoxanthum occidentalis	California sweetgrass	none	Native
Athyrium filix-femina	lady fern	none	Native
Baccharis pilularis	coyote brush	none	Native
Bellis perennis	English lawn daisy	none	Non-Native
Berberis aquilifolium	Oregon grape	none	Native
Blechnum spicant	deer fern	none	Native
Cardamine californica	milkmaids	none	Native
Carex leptopoda	short-scale sedge	none	Native
Carex obnupta	slough sedge	none	Native
Chamerion angustifolium	fireweed	none	Native
Cirsium vulgare	bull thistle	none	Non-Native
Claytonia siberica	pink purslane	none	Non-Native
Cortaderia jubata	purple pampas grass	none	Non-Native
Dactylis glomerata	orchard grass	none	Non-Native
Deschampsia danthonioides	annual hairgrass	none	Native
Dicentra formosa	bleeding heart	none	Native
Epilobium ciliatum	American willowherb	none	Native
Equisetum arvense	common horsetail	none	Native
Festuca perenne	perennial ryegrass	none	Non-Native
Festuca subulata	bearded fescue	none	Native
Fragaria chilonesis	beach strawberry	none	Native
Frangula purshiana	cascara	none	Native
Galium aparine	cleavers	none	Native
Gautheria shallon	salal	none	Native
Holcus lanatus	velvet grass	none	Non-Native
Hydrangea	hydrangea	none	Non-Native
Hypochaeris radicata	perennial cat's ear	none	Non-Native
Ilex aquilnum	common holly	none	Non-Native
Iris douglasiana	Douglas iris	none	Native
Lapsana communis	common nipplewort	none	Non-Native
Laythrus vestitus	Pacific pea	none	Native
Leucanthrmum vulgare	ox-eye daisy	none	Non-Native
Lonicera hispidula	pink honeysuckle	none	Native
Lonicera involucrata	twinberry honeysuckle	none	Native
Luzula comosa	Pacific woodrush	none	Native
Maianthemum dilatatum	false lily of the valley	none	Native
Maianthemum stellatum	star flowered lily of the valley	none	Native
Marah oreganum	Western wild cucumber	none	Native
Oxalis oregana	redwood sorrel	none	Native
Ozmorhiza sp.	sweet cicely	none	Native

Species	Common Name	Fed/State List	Native / Non-Native
Picea sitchensis	sitka spruce	none	Native
Polystichum munitum	sword fern	none	Native
Prunella vulgaris	self-heal	none	Non-Native
Pseudotsuga menzeisii	Douglas-fir	none	Native
Pteridium aquilinum	bracken fern	none	Native
Ranunculus repens	creeping buttercup	none	Non-Native
Rhaphanus sativa	wild radish	none	Non-Native
Ribes sanguinium	red flowering currant	none	Native
Rubus armeniacus	Himalayan blackberry	none	Non-Native
Rubus parviflorus	thimbleberry	none	Native
Rubus spectabilis	salmonberry	none	Native
Rubus ursinus	California blackberry	none	Native
Rumex crispus	curly dock	none	Non-Native
Sambucus racemosa	red elderberry	none	Native
Scrophularia californica	California figwort	none	Native
Sequoia sempervirens	coast redwood	none	Native
Stachys ajugoides	bugle hedgenettle	none	Native
Symphyotrichum chilense	Pacific aster	none	Native
Taraxacum officinale	common dandelion	none	Non-Native
Thuja plicata	Pacific red cedar	none	Native
Trientalis latifolia	broad-leaved starflower	none	Native
Trifolium pratense	red clover	none	Non-Native
Trifolium repens	white clover	none	Non-Native
Trillium ovatum	Pacific trillium	none	Native
Vaccinium ovatum	evergreen huckleberry	none	Native
Vaccinium parviflorum	red huckleberry	none	Native
Viola sempervirens	redwood violet	none	Native
Zantedeschia aethiopica	calla lily	none	Non-Native

APPENDIX C

Observed Wildlife Species

Wildlife Species Encountered During Field Survey of the Project Area

Species	Common Name	Fed/State List
Bombycilla cedrorum	cedar waxwing	none
Calypte anna	Anna's hummingbird	none
Cathartes aura	turkey vulture	none
Chamaea fasciata	wrentit	none
Corthylio calendula	Ruby-crowned kinglet	none
Corvus brachyrhynchos	American crow	none
Corvus corax	common raven	none
Cyanocitta stelleri	Stellar's jay	none
Empidonax difficilis	Pacific-slope flycatcher	none
Haemorhous mexicanus	house finch	none
Haemorhous purpureus	purple finch	none
Catharus guttatus	hermit thrush	none
Patagioenas fasciata	Band-tailed pigeon	none
Melospiza melodia	song sparrow	none
Passer domesticus	house sparrow	none
Turdus migratorius	American Robin	none
Saynoris nigricans	black phoebe	none
Selasphorus sasis	Allen's hummingbird	none
Spinus psaltria	lesser goldfinch	none
Spinus tristis	American goldfinch	none
Sturnus vulgaris	European starling	none
Tachycineta thalassina	violet-green swallow	none
Troglodytes pacificus	Pacific wren	none
Vireo huttoni	Hutton's vireo	none
Zonotrichia leucophrys	white-crowned sparrow	none