JURISDICTIONAL DELINEATION REPORT FOR THE SUPERIOR AVENUE PEDESTRIAN AND BICYCLE BRIDGE AND PARKING LOT PROJECT NEWPORT BEACH, CALIFORNIA

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SECTION 1.0 – INTRODUCTION

This evaluation of regulatory jurisdiction has been prepared by Chambers Group, Inc. (Chambers Group) for use by the City of Newport Beach (City) for project planning purposes and for review and approval by the California Coastal Commission (Commission) pursuant to provisions of the California Coastal Act of 1976 (Coastal Act) and Commission regulations. Chambers Group conducted a desktop review and field survey delineation for the Superior Avenue Pedestrian and Bicycle Bridge and Parking Lot Project (proposed Project). This jurisdictional delineation report provides the identification and mapping of wetlands within and immediately adjacent to the proposed Project site that may be subject to potential Commission jurisdiction.

1.1 PROJECT/SURVEY AREA LOCATION

The proposed Project area is located within an urban, developed portion of the City of Newport Beach, California, approximately 1,000 feet from the Pacific coastline. The approximately 3.4-acre proposed Project area is located at the corner of West Coast Highway (SR-1) and Superior Avenue (see Figure 1). Specifically, the proposed Project area is located in the Santiago de Santa Ana Land Grant, as shown on the U.S. Geological Survey (USGS) *Newport Beach OE S,* 7.5-minute series topographic quadrangle, and elevations range from approximately 10 to 75 feet above mean sea level.

Legend

Project Location

N

0 200 400 800

Feet

Figure 1

Project Location Map

Name: 21169 Location & Vicinity.Mxd
Print Date: 5/20/2019, Author: esimmons

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SECTION 2.0 – PROPOSED PROJECT SUMMARY

In summary, the City proposes to construct a pedestrian and bicycle bridge overcrossing Superior Avenue, a new larger capacity parking lot, and a fenced dog park within the proposed Project area limits.

The proposed pedestrian and bicycle bridge will span Superior Avenue and will be approximately 240 to 280 feet long and approximately 12 to 16 feet wide. The superstructure will be approximately 8 to 16 feet tall. The bottom of the superstructure will be approximately 17 to 25 feet above the asphalt surface of Superior Avenue. The proposed bridge would help facilitate movement of pedestrians and bicyclists across Superior Avenue.

Following construction of the proposed Project, the proposed bridge would connect Sunset Ridge Park to a new, larger asphalt parking lot with a range of 100 to 128 parking spaces. The total area of impervious surface will include the parking lot and sidewalks, which totals approximately 65,000 square feet. Additional lighting would be provided within the parking lot to provide security lighting. The security lighting would be down-shielded to prevent light scatter. Drought tolerant landscaping will be provided, and new trees will be planted.

The construction of the proposed parking lot will require demolition of the existing parking lot and significant grading and earthwork. Excavation would be greatest (up to 27 feet) at the east side of the existing parking lot. The construction of the new parking lot would also require installation of several retaining walls with a height of up to 25 feet on the southern border of the proposed Project site along West Coast Highway. The existing Project site is on a relatively steep slope with ground elevations ranging from approximately 10 feet by West Coast Highway to approximately 75 feet by Sunset View Park per NVAD 88. Construction of the parking lot may include a bicycle fix-it station and a water fountain.

The City is currently working with the adjacent land owner (Hoag) to determine the feasibility of extending an access road through the redeveloped parking lot to connect to the lower campus of Hoag Memorial Hospital. If this option is to be exercised, the entrance from Superior Avenue will be extended to connect with the existing parking lot within Hoag Memorial Hospital.

Construction of the proposed Project would also include the installation of a fenced dog park, separating large and small dogs, which may include benches and trash cans. The dog park will be 0.2 to 0.3 acres in size.

SECTION 3.0 – REGULATORY OVERVIEW

The Commission, through provisions of the California Coastal Act of 1976, is empowered to issue Coastal Development Permits (CDP) for any portion of a proposed project located on tidelands, submerged lands, public trust lands, or lands located within the Coastal Zone where a Local Coastal Program (LCP) has not been certified. If any portion of the proposed Project is located within an area of local jurisdiction (e.g., City, County) that is covered by a certified LCP, a local CDP must be obtained from the local jurisdiction. A CDP approved by the local jurisdiction is appealable to the Commission if development has been authorized within 100 feet of a wetland.

The Commission's definition of wetlands, as defined in Section 30121 of the Coastal Act and Title 14 §13577 of the Commission's regulations, is distinctly different from the United States Army Corps of Engineers' (USACE) definition of wetlands. According to the Commission's regulations, wetlands are defined as "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes." Both definitions focus on three fundamental wetland characteristics: hydrology, soils, and vegetation. However, while the USACE definition requires the existence of all three wetland characteristics for an area to be considered a wetland, the Commission's definition of wetlands is based on the existence of only two characteristics: wetland hydrology and either a prevalence of hydrophytic vegetation or formation of hydric soils (exceptions include certain areas that lack wetland soils and vegetation). It is noted that under certain circumstances, reliable indicators of all required characteristics are not necessarily apparent, and areas may be delineated as wetlands by the USACE on the basis of indicators of only two of the three characteristics. The Commission routinely makes jurisdictional wetlands determinations based on the presence of one characteristic indicator (i.e., wetland soils or vegetation) unless there is substantial evidence that this indicator is not valid. Nevertheless, the presence of wetland hydrology during some portion of most years is fundamental to the existence of any wetland. However, the Commission will typically assume the presence of wetland hydrology when there is insufficient evidence to conclusively refute the presence of wetland hydrology and when there is a prevalence of hydrophytic vegetation or the formation of hydric soils.

SECTION 4.0 – METHODS

4.1 LITERATURE REVIEW

Prior to the field delineation, USGS topographic maps and Google Earth (Google 2018) aerial photographic images were examined to determine the potential areas on the proposed Project site and immediately adjacent that may contain wetlands subject to Commission jurisdiction. Chambers Group also utilized previously prepared environmental documentation pertaining to the former Sunset Ridge Park project north of Superior Avenue.

4.2 FIELD SURVEY

An initial survey and jurisdictional delineation of the proposed Project site and adjacent areas including the off-site slope of the north side of Superior Avenue (survey area) were conducted by Chambers Group biologists Jim Harrison and Heather Franklin on August 5, 2019. Additional follow-up delineation work was conducted Mr. Harrison on August 15, 2019. The proposed Project site and the off-site slope along the north side of Superior Avenue were surveyed on foot in order to identify areas exhibiting wetland vegetation, hydric soil indicators, and/or wetland hydrology that might denote potential Commission wetland jurisdiction. Areas of potential wetland jurisdiction were evaluated according to the current Commission criteria and when applicable the boundaries of potential jurisdictional wetlands were recorded using the Collector App on cellular phones.

Mapping data from the field delineation were digitized and recorded using Geographic Information System (GIS) software and depicted on aerial maps. Reference photographs were taken during this survey and are included as Appendix A. In addition, a Wetland Determination Data Form--Arid West Region was completed for each wetland sample plot; copies of the data forms are included as Appendix B.

4.2.1 Wetland Parameters

Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987). The potential wetland areas within the survey area were surveyed by walking through the Project site and making observations of those areas exhibiting characteristics of jurisdictional wetlands.

Areas supporting plant life potentially indicative of wetlands were evaluated in the field according to current USACE wetland delineation procedures described in the *1987 Corps of Engineers Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (version 2.0)* (United States Army Corps of Engineers 2008). The dominant and subdominant plant species present in the sample pits of these potential wetland areas were identified and their wetland indicator status noted based on the current National Wetland Plant List--Arid West Region (Lichvar et al. 2016).

Hydric Soils

A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE

1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds (USACE 2008) due to periods of anaerobic conditions in the soil. The hydric soil criterion is considered satisfied at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present.

Soils were investigated within the survey area. Sample soil pit locations were selected, and a hole was dug to a typical depth of 18 inches (unless prevented by some occluding material) or occasionally deeper to determine soil color, evidence of soil saturation, depth to shallow groundwater, and indicators of a reducing soil environment (e.g., redox concentrations or pore linings, gleyed soils, hydrogen sulfide odor). Soil matrix colors were classified using the Munsell Soil-Color Charts (Munsell Color 2009).

Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008).

Hydrologic information for the site was obtained by reviewing USGS topographic maps and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered satisfied at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two secondary indicators are found at a sample pit, the wetland hydrology criterion is considered satisfied.

SECTION 5.0 – RESULTS

Based on the observations and data collected during the fieldwork, Chambers Group identified and delineated areas both on site and off site that would meet the Commission's criteria for jurisdictional wetlands (see Figure 2). There are no jurisdictional drainage courses or streams within the proposed Project area or immediately adjacent. The results of the delineation fieldwork, broken out into on-site wetlands and off-site wetlands respectively, are presented below.

5.1 WEST COAST HIGHWAY WETLANDS

As shown on Figure 2, there is one small area (approximately 1,090 square feet, or 0.025 acre) adjacent to the proposed Project site limits that exhibits sufficient hydrology to establish a prevalence of hydrophytic vegetation and/or the formation of hydric soils. This wetland is situated on a moderately steep slope facing West Coast Highway near the southeast corner of the proposed Project site. These wetlands are composed mostly of coastal freshwater (cattail) marsh vegetation having several strong wetland indicator plants, but some portions of the wetland area are completely unvegetated (bare ground), likely attributed to past disturbance (e.g., possible slope maintenance activities and impacts from transients who were observed camping just above the wetlands at the time of the fieldwork) or perhaps an allelopathic situation with unvegetated areas having a dense cover of Eucalyptus leaves, which often inhibit the germination of other plant species. In addition, the hydrology on the slope consists of an indeterminate source of groundwater seepage. Lastly, some marginal indicators of hydric soils exist, but the soil conditions fell short of satisfying the hydric indicators (e.g., gleyed matrix, depleted matrix). These wetland parameters are described in more detail below.

It is also important to point out that this wetland area is relatively small in size and isolated from any adjacent habitat having substantive ecological value as a resource. The adjacent habitat is very disturbed and dominated by ornamental landscape vegetation, non-native weeds, and bare ground. It is also adjacent to a concrete sidewalk and West Coast Highway, which is a major arterial.

5.1.1 Vegetation

The vegetated portion of the wetland area is best classified as coastal freshwater (cattail) marsh habitat. The dominant plant species associated with this freshwater marsh habitat include cattails (*Typha* sp.) (OBL), marsh fleabane (*Pluchea odorata*) (FACW), and non-native rabbitfoot grass (*Polypogon monspeliensis*) (FACW). Other hydrophytes include needle spikerush (*Eleocharis acicularis*) (OBL), slender aster (*Symphyotrichum subulatum*) (OBL), and non-native species including African brass-buttons (*Cotula coronopifolia*) (OBL) and one Mediterranean tamarisk (*Tamarix ramosissima*) (FAC) sapling and one red gum (*Eucalyptus camaldulensis*) (FAC) sapling located above the cattails. Overall, very strong wetland plant indicators. There were no non-hydrophytes in the delineated wetland area, except for some sprawling acacia (*Acacia* sp.) (UPL) that was encroaching into the wetlands from the adjacent ornamental landscaping.

Unvegetated areas within the delineated wetland area occurred directly adjoining and upslope of the freshwater marsh habitat and immediately to the east. These unvegetated areas coincided with areas within the overall wetland that exhibited indicators of wetland hydrology. Normally, one might expect to find these areas vegetated, likely with a prevalence of hydrophytic plants, but natural and unnatural situations may account for this lack of vegetation. For instance, these unvegetated areas may have been

Legend

- Project Boundary
- Wetlands (0.178 acre)
- Soil Pit

N

0 25 50 100

Feet

Figure 2

Superior Avenue Pedestrian and Bicycle Bridge and Parking Lot Project
Coastal Commission Jurisdictional Wetlands

Name: 21169 BIO Fig 2 Coastal Commision Jurisdictional Wetland.Mxd
Print Date: 9/18/2019, Author: pcarlos

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subject to past slope and landscape maintenance activities (e.g., vegetation clearing). The presence of straw wattles indicates some level of maintenance activity on the slope previously. Also, as stated above, transients present on site may be impacting the vegetation on the slope (e.g., trampling). It is also possible the chemical materials associated with eucalyptus leaves, which are scattered about the soil surface in these areas, are resulting in an allelopathic condition in which normal germination and colonization of other plants may be chemically inhibited. Details pertaining to wetland vegetation data collected during the delineation fieldwork can be found in the Wetland Determination Data Forms – Arid West Region presented in Appendix B.

5.1.2 Soils

Wetland soil pits were selected in areas where vegetation, soil, or hydrological conditions exhibited noticeable changes, particularly from visible upland conditions to wetland conditions, in order to define the limits of jurisdictional wetland areas. In these marginal areas, soil pits were excavated to determine if hydric soils conditions existed.

Soil pit 1 (SP1) is located near the center of the West Coast Highway wetland area, where freshwater marsh habitat occurs (see Figure 2). This soil pit was selected to confirm the presence of other wetland parameters (i.e., hydric soils and wetland hydrology). Interestingly, strong indicators of wetland hydrology were present, but the soils lack positive hydric soil indicators. Specifically, no redox features were present despite the low matrix chroma of 2, and although gleyed soils did exist, the matrix value of 2.5 was too low to be an indicator of hydric soils (i.e., gleyed matrix value must be 4 or higher) (USACE 2008). This could indicate a wetland area where the wetland hydrology is relatively new and hydric soil indicators, which often take years to establish, have not had time to develop.

Soil pit 2 (SP2) was selected at a location that appeared to satisfy wetland hydrology but lacked any vegetation. This was to establish whether hydric soil indicators were present along with wetland hydrology. The soil pit revealed a multi-layered soil profile of primarily silty clay and sandy silt. Abundant redox concentrations were present within the sandy silt layers, but the matrix chroma of 4 was too high for it to be an indicator of hydric soils (USACE 2008). In addition, there were gleyed soils within 12 inches of the surface, but they only accounted for approximately 10 percent of the soil profile when at least 60 percent is required to qualify as a hydric soil indicator (USACE 2008). Consequently, the hydric soil parameter was not satisfied. Again, it could be indicating a recently established wetland where the hydric soil indicators have not had enough time to develop.

Soil pit 3 (SP3) was selected at a location that lacked any visible evidence of both wetland plants and wetland hydrology. This was to establish whether hydric soils existed there despite the absence of the other two wetland parameters. No hydric soil indicators were detected. The conclusion was that the Commission jurisdictional wetland boundary was between SP2 and SP3.

In examining the slope above the freshwater marsh habitat, soil pit 4 (SP4) appeared to have the same conditions as SP3. The soils had a different soil composition and soil colors, but no hydric oil indicators were present. Soil pit 4B (SP4B) was selected closer to the marsh habitat. Although there was no visible indicators of wetland plants or wetland hydrology, the soils at 18 inches from the surface were slightly damp. In addition, although the soils did not satisfy any of the conditions associated with hydric soils, gleyed soils again occurred within 12 inches of the surface. The gleyed soils accounted for approximately 95 percent of the soil profile from 5-18 inches, but the gleyed matrix value of 2.5 was too low to be an

indicator of hydric soils (i.e., gleyed matrix value must be 4 or higher) (USACE 2008), much like the gleyed soils at SP1. Although still not satisfying any of the wetland parameters, this indicated an approach to the wetland boundary, which was estimated to be just below SP4B on the slope.

Soil pit 5 (SP5) was selected at an on-site location that appeared to be just inside the wetland boundary. SP5 appeared to have some wetlands plants, but acacia (*Acacia* sp.), an upland plant used for landscaping, was dominant. This soil pit was excavated to determine if hydric soils and/or wetland hydrology were present. The soil consisted entirely of a very dark (10YR 2/1) silty clay but lacked any redox features. Some marginal indication of wetland hydrology existed (see SP5 data sheet, Appendix B). Therefore, this sample plot location was determined to be at the wetland boundary.

Detailed information pertaining to the soil data collected during the delineation fieldwork can be found in the Wetland Determination Data Forms – Arid West Region presented in Appendix B.

5.1.3 Hydrology

Upon seeing a moderately steep slope with prominent but very localized saturation at or near the surface, the original suspicion was that a leaky irrigation line was responsible, but there was no direct evidence of this observed during the fieldwork. It was reported to the City who then had the irrigation system in the area tested for leaks. The City also had the mainline tested for leaks. The testing results were all negative for leaks. Chambers Group then reviewed the geology and hydrology information provided in the Sunset Ridge Park Environmental Impact Report (EIR), which identified some similar slope groundwater seepage. The conclusion was that the groundwater seepage observed along several slope faces and at the toes of those slopes was likely attributed to infiltration of landscape irrigation water and runoff from the residential development to the north and above the seepage areas, and that this subsurface water then migrates downward, daylighting along the slopes where the wetlands occur. This may also explain the occurrence of wetland hydrology on both the on-site and off-site slopes where wetlands exist, since the conditions appear to be similar. Another possible explanation could be that the above normal rainfall (i.e., approximately 17.6 inches of rainfall was received during the 2018-2019 rainy season, as opposed to the approximately 11.9 inches of average annual rainfall typically received in this area) experienced this past winter and spring caused excessive soil saturation and groundwater infusion that has resulted in this substantial amount of subsurface water having moved very slowly through the soil column in the local vicinity and is still seeping out onto the slope. However, no definitive determination can be made at this time regarding the source of the subsurface water that is supporting the wetlands.

Nevertheless, the wetland hydrology criterion is being satisfied by the occurrence of soil saturation at or near the surface throughout most of the wetlands, particularly where the hydrophytic vegetation exists. However, in several instances described above, hydric soils were lacking, and in some portions of the wetland area, vegetation was lacking entirely. Nevertheless, the presence of wetland hydrology is sufficient to meet the Commission's definition/criteria for jurisdictional wetlands. See wetland field data sheets in Appendix B for details regarding hydrology at each wetland sample plot.

5.2 SUPERIOR AVENUE WETLANDS

There is one distinct area in relatively close proximity to the proposed Project area that would meet the definition of wetlands subject to potential Commission jurisdiction. This Superior Avenue wetland is located on the north side of Superior Avenue, as shown on Figure 2 and occurs on a moderately steep slope extending up the slope from the sidewalk along Superior Avenue. This wetland area (approximately 0.15 acre) identified and mapped here because of its proximity to the proposed Project

impact area associated with the building of the pedestrian and bicycle bridge.

The Superior Avenue wetland area is located on a slope that extends from the concrete-lined v-ditch at the toe of the slope to the edge of Sunset Ridge Park at the top of the slope. The dominant vegetation associated with the wetland area is cattail and non-native Mediterranean tamarisk (FAC). Other plant species present in the wetland area include needle spikerush (OBL), mulefat (*Baccharis salicifolia*) (FAC), salt heliotrope (*Heliotropium curassavicum* var. *oculatum*) (FACU), marsh fleabane (FACW), and non-native species including slender-leaved iceplant (*Mesembryanthemum nodiflorum*) (FACU), freeway iceplant (*Carpobrotus edulis*) (UPL), and a few scattered pampas grass (*Cortaderia selloana*) (FACU). The dominance of hydrophytic vegetation, cattails and Mediterranean tamarisk in this case, means the wetland plant parameter is satisfied. The soils and particularly the hydrology (groundwater seepage on the face of the slope and at the toe of the slope) associated with the slope where the wetland vegetation occurs appears to be very similar to that which occurs at the on-site wetland area. In this case, however, wetland hydrology did not appear to extend beyond the limit of the wetland vegetation. Therefore, the extent of the wetland vegetation coincides with the overall wetland boundary, as shown on Figure 2.

SECTION 6.0 – CONCLUSION

Based on the data collected and analyzed in this Commission jurisdictional delineation, Chambers Group has identified and delineated an approximately 1,090 square foot (or less than 0.03 acre) wetland area adjacent to the proposed Project site and an estimated 0.15 acre of wetlands located on the north side of Superior Avenue. These wetland areas are shown on Figure 2. As described in the Results Section above, these areas meet the Commission definition and criteria for wetlands subject to their regulatory jurisdiction; however, the findings and conclusions presented in this report, including the location and extent of wetlands subject to Commission jurisdiction, represent the professional opinion of Chambers Group and should be considered preliminary until verified by the Commission.

SECTION 7.0 – REFERENCES

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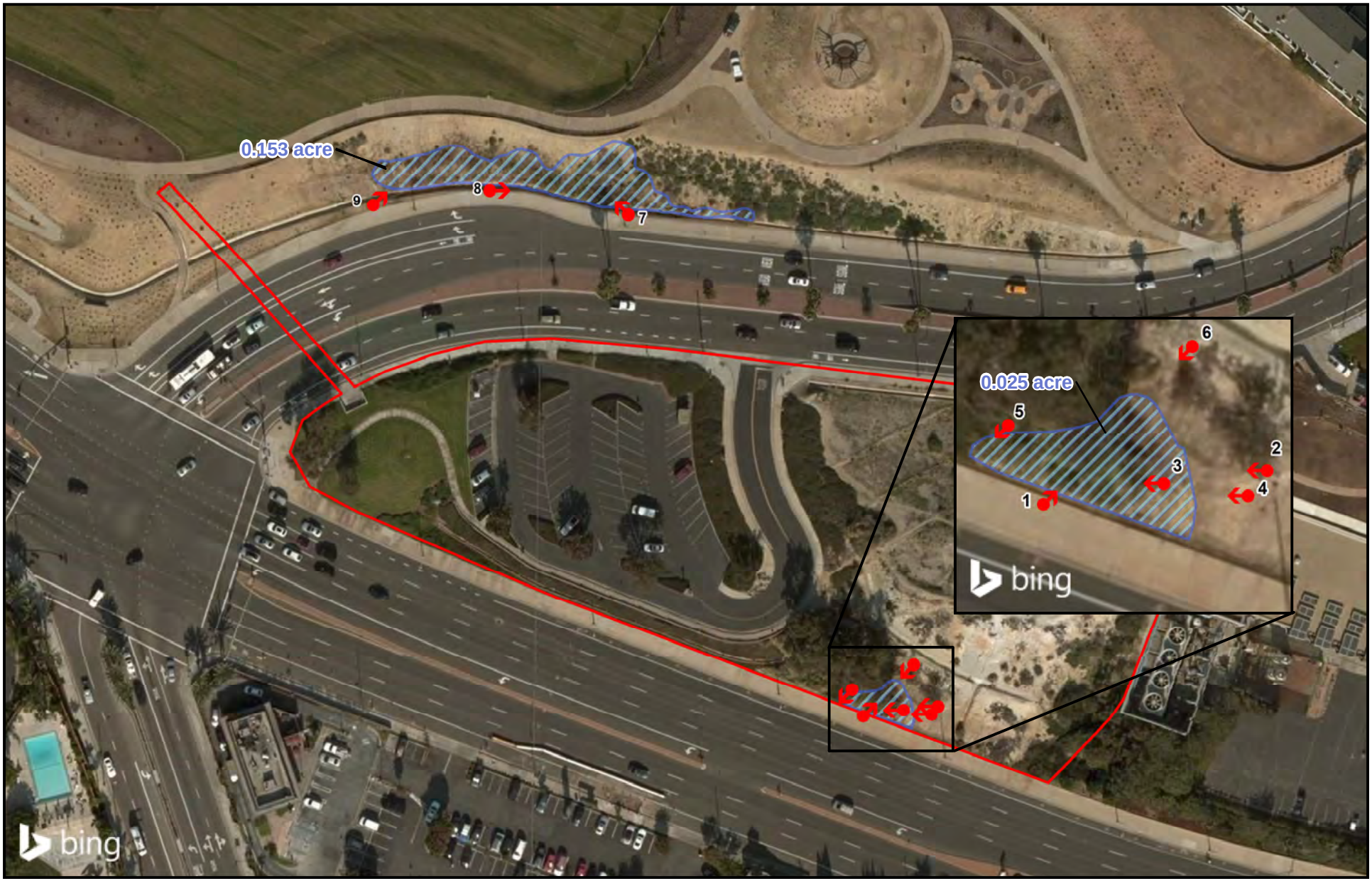
APPENDIX A – SITE PHOTOGRAPHS



Legend

Project Boundary

Wetlands (0.178 acre)

N

0 25 50 100

Feet

Appendix A

Superior Avenue Pedestrian and Bicycle Bridge and Parking Lot Project
Photo Points

Name: 21169 BIO Appendix A Photo Points.Mxd
Print Date: 9/18/2019, Author: pcarlos

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APPENDIX A – SITE PHOTOGRAPHS

	Photo 1: View of wetlands on north side of West Coast Highway. Assortment of wetland plants growing on wet slope above concrete-lined drainage ditch adjacent to sidewalk.
	Photo 2: West Coast Highway wetlands. Note saturated soils in foreground adjacent to cattails and sparsely vegetated to unvegetated conditions there.
	Photo 3: Close up of dense patch of cattails associated with on-site wetlands.

APPENDIX A – SITE PHOTOGRAPHS

	Photo 4: View of Sample Pit 2. Note saturated soils and unvegetated conditions on slope next to Sample Pit 2. Cattails in distance.
	Photo 5: View of Sample Pit 5. Note change in vegetation from wetland vegetation on left and upland vegetation on right. Wetland margin.
	Photo 6: View of Sample Pit 4. Note dry, sandy (non-hydric) soils. Lacks vegetation and hydrology.

APPENDIX A – SITE PHOTOGRAPHS

	Photo 7: View of Superior Avenue wetlands on north side of Superior Avenue. Dense stand of cattails growing on wet slope above concrete-lined drainage ditch adjacent to sidewalk.
	Photo 8: Superior Avenue wetlands. Note excess water draining off slope into the concrete-lined drainage ditch at toe of slope.
	Photo 9: Superior Avenue wetlands. View of closest point of wetlands to proposed bridge. This is limit of wetlands on slope.

APPENDIX B – WETLAND DATA SHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge Site City/County: Newport Beach/Orange Sampling Date: 5 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 1

Investigator(s): Jim Harrison / Heather Franklin Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillside Slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): Arid West Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ?

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	Is the Sampled Area within a Wetland? Per Coastal Commission criteria Yes X No _____
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: Source of groundwater seepage unknown; indeterminate whether hydrologic conditions are normal or not.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25ft. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Tamarix ramosissima	3	No	FAC
2. (one small individ.; = T. chinensis)			
3. Eucalyptus camaldulensis	2	No	FAC
4. (one small sapling)			
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: 25 ft. radius)			
1. Typha sp.	30	Yes	OBL
2. Polypogon monspeliensis	20	Yes	FACW
3. Pluchea odorata	20	Yes	FACW
4. Symphyotrichum subulatum	10	No	OBL
5. Eleocharis acicularis	10	No	OBL
6. Cotula coronopifolia	5	No	OBL
7.			
8.			
	95	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: Clearly dominated by hydrophytic vegetation. Habitat: coastal freshwater marsh (cattails).

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Sandy silt	No redox features
6-18	Gley2 2.5/10B	100					Sandy silt	Matrix Value too low to be hydric soil indicator

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): None

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: Soils gleyed 6" below surface, but Matrix Value too low (must be greater than or equal to 4) to met F2 hydric soil indicator per Arid West Supplement. Hydric soils may form in time, given wet conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes X No ____ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 1

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Stabilized standing water in sample pit at 6" below surface. Saturated soils at or near surface. Would not normally expect such wet conditions on a slope in August in So. Calif. Must be unusual (man-induced) source of water supply wetlands.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge site City/County: Newport Beach/Orange Sampling Date: 15 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 2

Investigator(s): Jim Harrison Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillside Slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): Arid West Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation ?, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ?

Are Vegetation ?, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes X No _____ (Per Coastal Commission criteria)
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: Source of groundwater seepage unknown; indeterminate whether hydrologic conditions are normal or not. Almost meets hydric soil parameter.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: No vegetation present. Same conditions as in SP 3. Some scattered Eucalyptus leaves and twigs. May have been disturbed in past due to landscape maintenance activities (vegetation removal) or transient trampling.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	45					silty clay	No redox features
0-9	2.5Y 4/4	30	7.5YR 6/8	7	C	M	Sandy silt	Chroma too high for hydric soils
9-11	2.5Y 4/4	—	7.5YR 6/8	25	C	M	Sandy silt	" "
0-11	2.5Y 5/6	10					silt	No redox features
0-11	—	15					—	Rock material
11-18	2.5Y 2.5/1	80					silty clay	No redox features
11-18	Gley2 6/10B	10					Sandy loam	Not Hydric soil indicator
11-18	2.5Y 4/4	10	7.5YR 6/8	30	C	M	Sandy silt	Chroma too high for hydric soils

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): No
Type: Rock
Depth (inches): 18 in.

Hydric Soil Present? Yes ___ No X

Remarks: Very distinct soil layering. Redox concentrations abundant, but soil matrix chroma is too high for positive hydric soil indicator. Gleyed soils with upper 12" of surface, but did not reach 60% requirement to be hydric soil indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- X Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 18
Water Table Present? Yes ___ No X Depth (inches): 18
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 18

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No saturation or inundation in sample pit to 18". Visible indication of surface water flows across surface creating a drainage pattern and leaving sediment deposits on surface.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge site City/County: Newport Beach/Orange Sampling Date: 15 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 3

Investigator(s): Jim Harrison Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillside slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): Arid west Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation ?, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ?

Are Vegetation ?, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes _____ No X (per Coastal Commission criteria)
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: ~~Source of groundwater seepage is unknown; indeterminate whether hydrologic conditions are normal or not.~~ wetland No hydrology indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: No vegetation present. Some scattered Eucalyptus leaves & sticks on surface. May have been disturbed (vegetation removal) in past. Same conditions as in SP2.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-17	10YR 3/2	80					silty clay	No redox features
0-17	—	15					rock	interspersed rock material
0-17	2.5Y 4/4	5					Sandy silt	No redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 17 inches

Hydric Soil Present? Yes ___ No X

Remarks: Several distict layers in soil column.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 17

Water Table Present? Yes ___ No X Depth (inches): 17

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 17

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Soils dry. No saturation or standing water in sample pit.
Moderately steep slope.
Some fibrous root material in soil, but no oxidized rhizospheres.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge Site City/County: Newport Beach / Orange Sampling Date: 15 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 4

Investigator(s): Jim Harrison Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillside Slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): Arid West Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation ?, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ?

Are Vegetation ?, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Per Coastal Commission criteria Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks: ~~Source of groundwater seepage unknown; indeterminate whether hydrologic conditions are normal or not.~~ No wetland hydrology indicators present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: No vegetation. Same as SP2 & SP3. Could be allelopathic condition (natural) or impacted by man.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-16	2.5Y 5/6	100					Sandy silt	No redox features
16-18	5Y 6/1	100					Silt (gray)	"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks: No visible evidence of past saturation or inundation due to lack of redox features or gleyed soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 18

Water Table Present? Yes ___ No X Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 18

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No visible evidence of wetland hydrology, which is however evident farther down the slope.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge site City/County: Newport Beach/Orange Sampling Date: 15 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 4B

Investigator(s): Jim Harrison Section, Township, Range:

Landform (hillslope, terrace, etc.): Hillside slope Local relief (concave, convex, none): Slope (%):

Subregion (LRR): Arid West Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ?, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No ?

Are Vegetation ?, Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area within a Wetland? (Per Coastal Commission criteria) Yes No X
Hydric Soil Present?	Yes No X	
Wetland Hydrology Present?	Yes No X	

Remarks: ~~Source of groundwater seepage unknown; indeterminate whether hydrologic conditions are normal or not.~~ Although doesn't meet Commission criteria for wetlands, this sample plot may be close to wetland boundary.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks: No vegetation. Eucalyptus leaves & twigs scattered about surface. May be naturally problematic due to allelopathic condition from Eucalyptus leaves.

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	2.5Y 5/6	10					Sandy silt	No redox features
0-5	10YR 3/2	90					silt	No redox features
5-18	Gley 2 2.5/10B	95					Sandy loam	Matrix Value too low for hydric soils
5-18	2.5Y 5/6	5					sandy silt	No redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: Almost met loamy gleyed matrix indicator, but matrix value (2.5) was too low (must be value of 4 or higher). Appears wetland boundary exists just downslope of this sample plot.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): 18

Water Table Present? Yes ____ No X Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): 18

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: ~~No vegetation. Eucalyptus leaves & twigs scattered about surface.~~ Although no direct visible evidence of saturation/inundation, soils at 18 inches slightly damp. May be deeper saturation. Soils also consistent. Wetland soils ~~indicate wetland~~ downslope of this sample plot would indicate wetland conditions by Commission standards.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Superior Ave. Bridge Site City/County: Newport Beach/Orange Sampling Date: 15 Aug. 2019

Applicant/Owner: City of Newport Beach State: CA Sampling Point: 5

Investigator(s): Jim Harrison Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillside Slope Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): Arid West Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ?

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	Per Coastal Commission criteria
Hydric Soil Present?	Yes _____	No X	Is the Sampled Area within a Wetland? Yes X No _____
Wetland Hydrology Present?	Yes X	No _____	

Remarks: Source of groundwater seepage unknown; indeterminate whether hydrologic conditions are normal or not. Sample plot on margin of wetlands based on hydrology indicators.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 ft. radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 ft. radius)			
1. Symphyotrichum subulatum	25	Yes	OBL
2.			
3. Acacia sp.	50	Yes	UPL
4.			
5.			
	75 = Total Cover		
Herb Stratum (Plot size: 10 ft. radius)			
1. Pluchea odorata	1	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	1 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 24 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	1	x 2 =	2
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	50	x 5 =	250
Column Totals:	76 (A)		277 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Failed both the Dominance and Prevalence Index tests. Doesn't appear to be a Problematic area.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-18	10YR 2/1	100					silty clay	No redox features

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: Very dark soil, but lacks any redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (Nonriverine)
- ___ Sediment Deposits (B2) (Nonriverine)
- ___ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes X No ____ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 16

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Saturation of soil observed at 16 inches. Standing water in sample pit equalized at 18 inches after ~~letting~~ leaving hole open for approx. 30 minutes. Although this is relatively deep saturation of soils, it is expected to rise to near the surface during rainy season in a normal rainfall year.