

APPENDIX C
AQUATIC RESOURCES DELINEATION

**AQUATIC RESOURCES DELINEATION
FOR THE
±3-ACRE NORWOOD AVENUE TOWNHOMES STUDY AREA
SACRAMENTO COUNTY, CALIFORNIA**



Prepared for:
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Prepared by:


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JULY 2021

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AQUATIC RESOURCES DELINEATION FOR THE ±3-ACRE NORWOOD AVENUE TOWNHOMES STUDY AREA

INTRODUCTION

Location and Setting

Salix Consulting, Inc. (Salix) prepared an Aquatic Resources delineation for the ±3-acre Norwood Avenue Townhomes study area located at 4790 Norwood Avenue at the intersection of Norwood Avenue and Main Avenue, in unincorporated Sacramento County, California. The approximate coordinates for the center of the property are 38°39'14.77" N and 121° 27'23.10" W. It is situated within the Del Paso Land Grant, Civil Colonies, which was not part of the Township/Range system. It is located in the Rio Linda 7.5-minute USGS topographic quadrangle (Figure 1).

The site is situated in the Sacramento Valley at an elevation of approximately 40 feet. The study area is bounded on the north and west by residential subdivisions, on the east and south by rural residential development. The study area is undeveloped and is regularly disked (Figure 2).

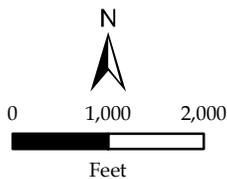
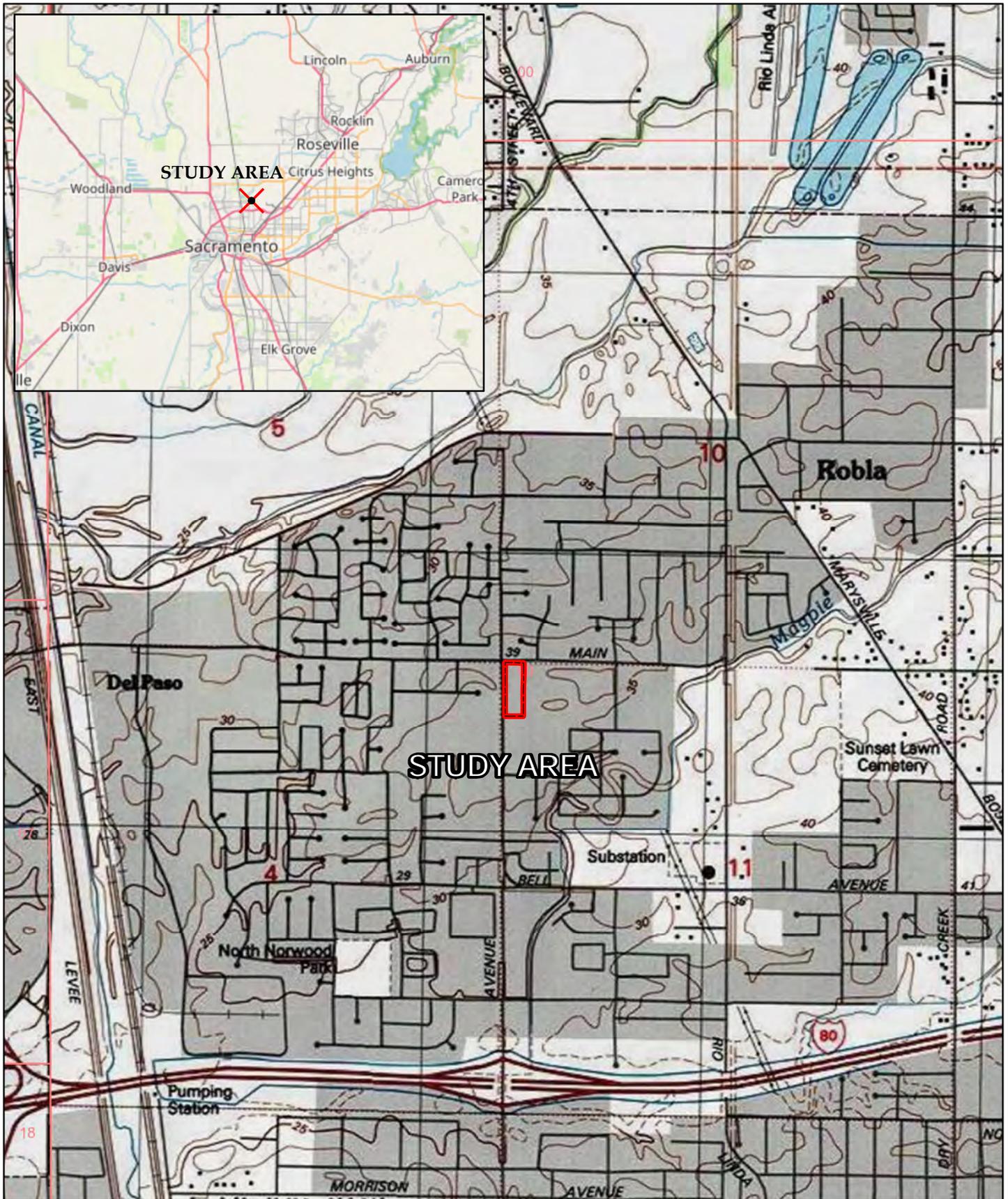
CONTACT INFORMATION

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Contact: Jeremy Jaeger

Delineated by:

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Source Maps: USGS Topographic Map
Rio Lindal Quad 1:24,000
Del Paso Land Grant T9N R5E

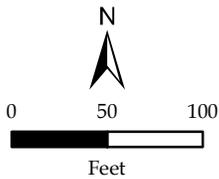
Figure 1
SITE AND VICINITY MAP

Norwood Avenue Townhomes
Sacramento County, CA



MAIN AVE

NORWOOD AVE



Study Area
(±3.13 acres)

Imagery: 5-1-21 Salix Consulting, Inc.

Figure 2

AERIAL MAP

Norwood Avenue Townhomes
Sacramento County, CA

METHODOLOGY

Aquatic resources were delineated on April 22, 2021, and on May 1, 2021, by Jeff Glazner of Salix Consulting using the 1987 Corps Manual (Environmental Laboratory 1987) as amended by the Arid West Regional Supplement (U.S. Army Corps of Engineers 2008). The site was observed on foot, and potential aquatic resources were evaluated and mapped. In addition, an Unmanned Aerial Vehicle (UAV) was utilized to generate a current aerial photo and oblique photos of the study area, which are used in this report. Three-parameter data sheets (Appendix A) were filled out at four (4) locations as indicated on the Aquatic Resources Delineation Map. Features were mapped using a Trimble GeoXT 6000 GPS (submeter).

U.S. Department of Agriculture – National Resource Conservation Service’s online Web Soil Survey (NRCS 2021) was assessed to identify mapped soils. Appendix B is a list of plants observed on the property. Where a plant species observed has a wetland indicator status (not UPL), plant nomenclature follows the National Wetland Plant List, version 3.4 (USACE 2018), Otherwise, plant nomenclature is according to *The Jepson Flora Project (Jepson eflora)*. The Corps of Engineers Aquatic Resources spreadsheet is included in Appendix C.

FINDINGS

Climate

Sacramento has a hot-summer Mediterranean climate, characterized by very hot, dry summers and mild to cool winters with occasional rainfall. The wet season is generally October through April; there may be a day or two of light rainfall in June or September. The hot season lasts for 3.7 months, from June 5 to September 26, with an average daily high temperature above 86°F. The cool season lasts for 2.9 months, from November 22 to February 18, with an average daily high temperature below 62°F. Summer heat is sometimes moderated by a sea breeze known as the "delta breeze" which comes through the Sacramento–San Joaquin River Delta from the San Francisco Bay, and temperatures cool down sharply at night.

The foggiest months are December and January. Tule fog can be extremely dense, lowering visibility to less than 100 feet. Chilling tule fog events have been known to last for several consecutive days or weeks. During tule fog events, temperatures do not exceed 50 F.

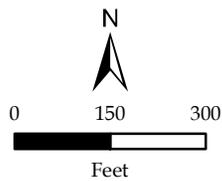
The average annual precipitation is 18.52 inches, nearly all falling in the winter months. Snowfall is rare. The 2021 rain year was well below normal with very little rain falling in the spring.

Soils

One soil unit has been mapped within the study area– San Joaquin fine sandy loam, 0 to 3 percent slopes (NRCS 2021) (Figure 3).

Soil Components

 211 - San Joaquin fine sandy loam, 0 to 3 percent slopes



Study Area
(±3.13 acres)

Imagery: Baker Williams Engineering

Figure 3

SOIL COMPONENTS

Norwood Avenue Townhomes
Sacramento County, CA

San Joaquin fine sandy loam, 0 to 3 percent slopes

The **San Joaquin component** makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on valleys, low terraces. The parent material consists of alluvium derived from granite. Depth to a root restrictive layer, duripan, is 35 to 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria.

This soil series may include inclusions of the Dierseen Series, which can have components of dense clay (Clear Lake, Galt) and have cracks that open to the surface. We observed these characteristics in the area where aquatic resources are mapped, but not anywhere else on the property.

Hydrology

The site occurs in the Lower Steelhead Creek HUC12 watershed (180201110303) part of the greater Lower American HUC8 watershed (18020111). Water on site trends presumably south towards Magpie Creek (1/3 mile south of the project site) through a series of roadside ditches and culverts and underground drainage systems. Magpie Creek flows south for less than a half-mile before entering a series of ditches along Interstate 80. These ditches flow a mile westerly before entering Steelhead Creek. Steelhead Creek flows 5 miles south until entering the Lower American River near Discovery Park and the Sacramento River.

Vegetation

The study area is primarily annual grassland that has been disturbed from regular disking. Landcover types are summarized in Table 1 below.

Biological Community	Acreage
Ruderal Annual Grassland	3.1

The entire study area, except for the area around the woody vegetation in the northern area, is regularly disked and maintained. Species growing on the site are almost entirely weedy and annual. A grove of trees and shrubs occurs in the northern area and includes cottonwood, valley oak, northern California black walnut, plum, fruitless mulberry, fig, and a dense clump of giant reed. The footprint of these species is relatively small, and they are included in the ruderal habitat.

The most common species on the site during the site evaluations were wild oat (*Avena fatua*) and ripgut grass (*Bromus diandrus*). Other common species observed were Italian rye grass (*Festuca perennis*), broad leaf filaree (*Erodium botrys*), vetch (*Vicia villosa*), yellow star thistle (*Centaurea solstitialis*), rose clover (*Trifolium hirtum*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum*), Bermuda grass (*Cynodon dactylon*), and ruby sand-spurrey (*Spergularia rubra*).

Aquatic Resources

The study area contains remnant depressions that show evidence of prolonged saturation. Four small basins have been identified that occur on distinctly different soils characterized as “dense clay” from visual observation. It is our presumption that this area of the site contains a clay inclusion that impedes percolation. The shallow basins behave as marginal wetlands as they support facultative grasses (Italian rye grass and Mediterranean barley) as well as an algal mat.

Table 2 summarizes the mapped aquatic resources. Representative site photos are presented in Figures 4a, 4b, and 4c. Figure 5 is the map of aquatic resources.

**Table 2.
Norwood Avenue Townhomes Aquatic Resources**

Type	Acreage
<u>Seasonal Wetland</u>	
SW-1	0.007
SW-2	0.005
SW-3	0.006
SW-4	0.009
Total	0.026

Seasonal Wetlands

Four seasonal wetland basins are mapped on the property. The features were first observed on December 4, 2020, then on April 22, 2021, and on May 1, 2021. The site was disked in the fall of 2020, and on April 30, 2021, so the basins were mostly lacking vegetation during the first and last site visits. During April, the grasses were growing robustly, and algal matting was present, but none of the basins were ponding or saturated.



Looking northwest over study area.

Photo Date 5-1-21.



Looking northeast over study area. Grey soils near center of site represents a dense clay inclusion and areas of perched water during winter.

Photo Date 5-1-21.



Figure 4a

AERIAL SITE PHOTOS

Norwood Avenue Townhomes

Sacramento County, CA



Looking south over area with mapped wetlands. *Photo Date 4-22-21.*



Looking south from near northeast corner of study area.
Photo Date 12-4-20.



Figure 4b

SITE PHOTOS
Norwood Avenue Townhomes
Sacramento County, CA



Looking into depression mapped as SW-1. Facultative grasses and algal matting observed.

Photo Date 4-22-21.



Looking into depression mapped as SW-3. Facultative grasses and algal matting observed.

Photo Date 4-22-21.



Figure 4c

SITE PHOTOS

Norwood Avenue Townhomes

Sacramento County, CA

Aquatic Resources

Seasonal Wetland	Acreage
SW-1	0.007
SW-2	0.005
SW-3	0.006
SW-4	0.009
Subtotal:	0.026

Total 0.026 Acre



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Study Area (±3.13 acres)



Seasonal Wetlands
(±0.03 acre)



Upland Data Point



Wetland Data Point

Figure 5

**AQUATIC RESOURCES
DELINEATION MAP**

Norwood Townhomes
Sacramento County, CA

July 19, 2021

DELINEATED BY: J. Glazner April-May 2021
DRAWN BY: H. Gallant
COORDINATE SYSTEM: NAD83 State Plane II USFT
IMAGERY: Baker-Williams Engineering Group

REFERENCES AND OTHER SOURCES

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Appendix A.
Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Norwood Avenue Townhomes City/County: Sacramento County Sampling Date: 4-22 & 5-1-21
 Applicant/Owner: Norwood North LLC State: CA Sampling Point: 01
 Investigator(s): Jeff Glazner Section, Township, Range: Del Paso Land Grant T9N R5E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): LRR C Lat: 38.653876 Long: -121.456388 Datum: NAD83
 Soil Map Unit Name: San Joaquin fine sandy loam, 0 to 3 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Depressional area with dense, cracked clay. Facultative grasses. Basin observed on April 22. Low water year.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				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 = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Festuca perennis</u>	<u>60</u>	<u>X</u>	<u>FAC</u>	
2. <u>Hordeum marinum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____				

Remarks:
 Grassy depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Norwood Avenue Townhomes City/County: Sacramento County Sampling Date: 4-22 & 5-1-21
 Applicant/Owner: Norwood North LLC State: CA Sampling Point: 02
 Investigator(s): Jeff Glazner Section, Township, Range: Del Paso Land Grant T9N R5E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): flat Slope (%): 2
 Subregion (LRR): LRR C Lat: 38.653852 Long: -121.456425 Datum: NAD83
 Soil Map Unit Name: San Joaquin fine sandy loam, 0 to 3 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Upland comparison to data point 01. Outside of basin.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: _____)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>10</u> x 3 = <u>30</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>85</u> (A) <u>385</u> (B) Prevalence Index = B/A = <u>4.5</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	_____ = Total Cover			
Herb Stratum (Plot size: _____)				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.
1. <u>Avena fatua</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	
2. <u>Bromus diandrus</u>	<u>25</u>	<u>X</u>	<u>UPL</u>	
3. <u>Bromus hordeaceus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
4. <u>Festuca perennis</u>	<u>10</u>		<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	<u>85</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____ = Total Cover			
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks:
Weedy upland grass species.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Norwood Avenue Townhomes City/County: Sacramento County Sampling Date: 4-22 & 5-1-21
 Applicant/Owner: Norwood North LLC State: CA Sampling Point: 03
 Investigator(s): Jeff Glazner Section, Township, Range: Del Paso Land Grant T9N R5E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): LRR C Lat: 38.654047 Long: -121.456218 Datum: NAD83
 Soil Map Unit Name: San Joaquin fine sandy loam, 0 to 3 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: Depressional area with evidence of seasonal saturation.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
_____ = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
<u>Herb Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Festuca perennis</u>	<u>50</u>	<u>X</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Hordeum marinum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Poa annua</u>	<u>10</u>		<u>FAC</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>80</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u> % Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____		

Remarks:
 Grassy depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Norwood Avenue Townhomes City/County: Sacramento County Sampling Date: 4-22 & 5-1-21
 Applicant/Owner: Norwood North LLC State: CA Sampling Point: 04
 Investigator(s): Jeff Glazner Section, Township, Range: Del Paso Land Grant T9N R5E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): LRR C Lat: 38.654071 Long: -121.456188 Datum: NAD83
 Soil Map Unit Name: San Joaquin fine sandy loam, 0 to 3 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <p align="center">Upland comparison to data point 03. Located just outside of basin on slope above wetland.</p>	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: _____)																				
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border: none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>360</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.2</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>85</u> (A)	<u>360</u> (B)	Prevalence Index = B/A = <u>4.2</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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UPL species <u>50</u>	x 5 = <u>250</u>																			
Column Totals: <u>85</u> (A)	<u>360</u> (B)																			
Prevalence Index = B/A = <u>4.2</u>																				
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover				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)																
Herb Stratum (Plot size: _____)																				
1. <u>Festuca perennis</u>	<u>30</u>	<u>X</u>	<u>FAC</u>																	
2. <u>Avena fatua</u>	<u>30</u>	<u>X</u>	<u>UPL</u>																	
3. <u>Bromus diandrus</u>	<u>20</u>	<u>X</u>	<u>UPL</u>																	
4. <u>Aira caryophyllea</u>	<u>5</u>		<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
_____ = Total Cover																				
% Bare Ground in Herb Stratum <u>15</u> % Cover of Biotic Crust _____																				

Remarks:
 Grassy area in and out of basin.

Appendix B
Plant Species Observed

Appendix B: Norwood Avenue Plants Observed - April/May 2021

Taxon	Common Name	Wetland Status
<i>Achyrachaena mollis</i>	Blow-wives	FAC
<i>Acmispon americanus</i>	Spanish lotus	UPL
<i>Aira caryophylla</i>	Silver European hairgrass	FACU
<i>Amsinckia menziesii</i>	Rancher's fireweed	UPL
<i>Arundo donax</i>	Giant reed	FACW
<i>Avena fatua</i>	Wild oat	UPL
<i>Brassica nigra</i>	Black mustard	UPL
<i>Bromus diandrus</i>	Ripgut grass	UPL
<i>Bromus hordeaceus</i>	Soft chess	FACU
<i>Bromus madritensis</i>	Foxtail brome	UPL
<i>Carduus pycnocephalus</i>	Italian thistle	UPL
<i>Centaurea solstitialis</i>	Yellow starthistle	UPL
<i>Centromadia fitchii</i>	Fitch's spikeweed	FACU
<i>Chenopodium album</i>	White pigweed	FACU
<i>Cichorium intybus</i>	Chicory	FACU
<i>Convolvulus arvensis</i>	Bindweed	UPL
<i>Croton setiger</i>	Turkey mullein	UPL
<i>Cynodon dactylon</i>	Bermudagrass	FACU
<i>Dittrichia graveolens</i>	Stinkwort	UPL
<i>Elymus caput-medusae</i>	Medusahead	UPL
<i>Epilobium brachycarpum</i>	Summer cottonweed	UPL
<i>Erigeron canadensis</i>	Canadian horseweed	FACU
<i>Erodium botrys</i>	Broad-leaf filaree	FACU
<i>Erodium cicutarium</i>	Red-stem filaree	UPL
<i>Festuca myuros</i>	Rattail sixweeks grass	FACU
<i>Festuca perennis</i>	Italian ryegrass	FAC
<i>Ficus carica</i>	Common fig	FACU
<i>Geranium molle</i>	Dove's-foot geranium	UPL
<i>Helminthotheca echioides</i>	Bristly ox-tongue	FAC
<i>Hirschfeldia incana</i>	Short-podded mustard	UPL
<i>Holocarpha virgata subsp. virgata</i>	Virgate tarweed	UPL
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	FAC
<i>Hordeum murinum</i>	Wall barley	FACU
<i>Hypochaeris glabra</i>	Smooth cat's-ear	UPL
<i>Juglans hindsii</i>	Northern California black walnut	FAC
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Leontodon saxatilis</i>	Long-beaked hawkbit	FACU
<i>Lupinus bicolor</i>	Miniature lupine	UPL

Taxon	Common Name	Wetland Status
<i>Matricaria discoidea</i>	Pineapple-weed	FACU
<i>Medicago polymorpha</i>	California burclover	FACU
<i>Morus alba</i>	White mulberry	FACU
<i>Olea europaea</i>	Olive	UPL
<i>Plantago lanceolata</i>	English plantain	FAC
<i>Poa annua</i>	Annual bluegrass	FAC
<i>Polygonum aviculare</i>	Common knotweed	FAC
<i>Populus fremontii</i>	Fremont cottonwood	FAC
<i>Proboscidea louisianica subsp. louisianica</i>	Common unicorn plant	FACU
<i>Prunus cerasifera</i>	Cherry plum	UPL
<i>Quercus lobata</i>	Valley oak	FACU
<i>Raphanus sativus</i>	Wild radish	UPL
<i>Rumex crispus</i>	Curly dock	FAC
<i>Sinapis alba</i>	White mustard	FAC
<i>Sonchus oleraceus</i>	Common sow-thistle	UPL
<i>Sorghum halepense</i>	Johnsongrass	FACU
<i>Spergularia rubra</i>	Ruby sand-spurrey	FAC
<i>Stellaria media</i>	Common chickweed	FACU
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Triteleia hyacinthina</i>	White triteleia	FAC
<i>Vicia sativa</i>	Common vetch	FACU
<i>Vicia villosa</i>	Winter vetch	UPL

Appendix C
USACOE Aquatic Resources Spreadsheet

