

Water Supply Assessment

Prepared for
City of Davis
Davis, CA
June 2015

Water Supply Assessment

Prepared for
City of Davis
Davis, CA
June 2015



10540 White Rock Road, Suite 180
Rancho Cordova, CA 95670

Table of Contents

List of Figures	iv
List of Tables.....	iv
List of Abbreviations	vi
1. Introduction.....	1-1
1.1 Purpose.....	1-1
1.2 WSA Requirements	1-1
2. Service Area Description	2-1
2.1 Existing Service Area.....	2-1
2.1.1 Description	2-1
2.1.2 Service Area Climate.....	2-1
2.1.3 Existing and Projected Demographics.....	2-2
2.2 Description of New Developments.....	2-7
2.2.1 Mace Ranch Innovation Center.....	2-7
2.2.2 Davis Innovation Center	2-9
2.2.3 Nishi Property.....	2-10
2.2.4 Triangle	2-12
3. Existing and Projected Water Demands.....	3-1
3.1 Historical Water Demand.....	3-1
3.2 Water Demand Factors.....	3-2
3.3 Gallons per Capita per Day Target	3-5
3.4 Projected Water Demand.....	3-6
3.4.1 Buildout Demand of the Existing Service Area	3-6
3.4.2 Total Projected Water Demand	3-8
3.4.3 Projected Demands of the Proposed Developments.....	3-11
4. Water Supplies.....	4-1
4.1 Groundwater.....	4-1
4.2 Wholesale Water Supply	4-4
4.3 Recycled Water.....	4-5
4.4 Summary of Water Supplies	4-5
5. Water Supply to Demand Comparison	5-1
6. References	6-1
Appendix A: Buildout Analysis.....	A
Appendix B: Documentation of Wholesale Water Supply	B

List of Figures

Figure 2-1. General Plan and Location of Proposed Developments	2-5
Figure 2-2. Historical and Projected Population	2-6
Figure 2-3. Mace Ranch Innovation Center, Baseline Alternative.....	2-7
Figure 2-4. Mace Ranch Innovation Center, Mixed-Use Alternative.....	2-8
Figure 2-5. Davis Innovation Center.....	2-10
Figure 2-6. Nishi Property	2-11
Figure 3-1. Historical Water Use by Customer Category	3-1
Figure 3-2. Water Use per Connection by Customer Category	3-4
Figure 3-3. Historical Per Capita Water Use	3-6
Figure 4-1. Historical Water Production	4-3
Figure 4-2. Historical and Projected Use of Groundwater Supply	4-4
Figure 4-3. Historical Maximum Day and Maximum Month Peaking Factors.....	4-6
Figure 4-4. Historical and Projected Use of Water Supplies.....	4-8

List of Tables

Table 2-1. Average Monthly Climate	2-2
Table 2-2. City Service Area Historical Demographics	2-3
Table 2-3. Comparison of Employment Information	2-3
Table 2-4. Water Service Area Outside City Boundary - Willowbank and El Macero	2-4
Table 2-5. City Service Area Buildout Demographics.....	2-4
Table 2-6. Water Service Area Population – Current and Projected	2-6
Table 2-7. Mace Ranch Innovation Center Land Use and Demographics.....	2-8
Table 2-8. Davis Innovation Center Land Use and Demographics.....	2-9
Table 2-9. Nishi Property Land Use and Demographics	2-11
Table 3-1. Unit Water Demand Factors - City of Davis Public Works Design Standards, September 1991.....	3-2
Table 3-2. Unit Water Demand Factors, 2009	3-2
Table 3-3. Unit Water Demand Factors, 2013	3-3
Table 3-4. Unit Water Demand Factors Used in this Analysis	3-5
Table 3-5. Buildout Water Demands by Water Use Sector – Current Service Area (without proposed developments)	3-7
Table 3-6. Projected Water Demands by Water Use Sector – Current Service Area (without proposed developments)	3-8



Table 3-7. Summary of Buildout Demands (with Mace Ranch IC Baseline Alternative)..... 3-8

Table 3-8. Summary of Buildout Demands (with Mace Ranch IC Mixed-Use Alternative)..... 3-9

Table 3-9. Historical and Projected Average Year Demand– Current Service Area and Proposed Developments (with Mace Ranch IC Baseline Alternative), ac-ft/yr 3-9

Table 3-10. Historical and Projected Average Year Demand– Current Service Area and Proposed Developments (with Mace Ranch IC Mixed- Use Alternative), ac-ft/yr 3-9

Table 3-11. Projected Water Demands by Water Use Sector – Current Service Area and Proposed Developments (with Mace Ranch IC Baseline Alternative)3-10

Table 3-12. Projected Water Demands by Water Use Sector – Current Service Area and Proposed Developments (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr 3-10

Table 3-13. Projected Dry Year Demand (with Mace Ranch IC Baseline Alternative), ac-ft/yr 3-11

Table 3-14. Projected Dry Year Demand (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr 3-11

Table 3-15. Mace Ranch Innovation Center Buildout Demand (Baseline Alternative)..... 3-12

Table 3-16. Mace Ranch Innovation Center Buildout Demand (Mixed-Use Alternative) 3-13

Table 3-17. Davis Innovation Center Buildout Demand 3-14

Table 3-18. Nishi Property Buildout Demand 3-15

Table 3-19. Triangle Development Buildout Demand..... 3-16

Table 4-1. Groundwater Wells 4-2

Table 4-2. Annual Amount under Each Water Supply Source 4-5

Table 4-3. Water Supply Capacity, mgd 4-7

Table 4-4. Monthly Water Supply at Maximum Capacity, mgd..... 4-7

Table 4-5. Projected Deliveries to Meet Projected Demands in Average Climate Years (with Mace Ranch IC Baseline Alternative), ac-ft/yr 4-9

Table 4-6. Projected Deliveries to Meet Projected Demands in Average Climate Years (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr 4-9

Table 4-7. Projected Supply Availability by Source for Average, Single-Dry, and Multiple-Dry Years 4-9

Table 5-1. Normal Year Buildout Demand (with Mace Ranch IC Baseline Alternative) to Supply Comparison..... 5-1

Table 5-2. Normal Year Buildout Demand (with Mace Ranch IC Mixed-Use Alternative) to Supply Comparison 5-1

Table 5-3. Average Year Water Demand (with Mace Ranch IC Baseline Alternative) and Supply Comparison, ac-ft/yr..... 5-2

Table 5-4. Average Year Water Demand (with Mace Ranch IC Mixed-Use Alternative) and Supply Comparison, ac-ft/yr..... 5-2

Table 5-5. Single and Multiple Dry Year Water Demand (with Mace Ranch IC Baseline Alternative) and Supply Comparison, ac-ft/yr 5-3



List of Abbreviations

ac-ft	acre-feet	UWMP	Urban Water Management Plan
ac-ft/yr	acre-feet per year	WSA	Water Supply Assessment
ASR	aquifer storage and recovery	WDCWA	Woodland Davis Clean Water Agency
CIMIS	California Irrigation Management Information System		
City	City of Davis		
Com	Commercial		
CUWCC	California Urban Water Conservation Council		
IC	Innovation Center		
DOF	California Department of Finance		
DU	dwelling unit		
DWR	California Department of Water Resources		
EDD	California Employment Development Department		
ETo	evapotranspiration		
F	Fahrenheit		
gpcd	gallons per capita day		
gpd	gallons per day		
gpd/DU	gallons per day per dwelling unit		
gpd/SF	gallons per day per square foot		
gpm	gallons per minute		
in.	inch		
Ind	Industrial		
Inst	Institutional		
MFR	multi-family residential		
MG	million gallons		
mgd	million gallons per day		
IC	Innovation Center		
no	number		
NRC	National Resources Commission		
R&D	research and development		
SACOG	Sacramento Area Council of Governments		
SB	Senate Bill		
SFR	single-family residential		
sq ft	square foot		
TDS	total dissolved solids		
UC	University of California		
U.S.	United States		

Section 1

Introduction

This section discusses the purpose of this water supply assessment (WSA) and the WSA requirements.

1.1 Purpose

This WSA is being prepared for the purpose of documenting the availability of water supplies to serve the City of Davis (City) and the following proposed developments:

- Mace Ranch Innovation Center (IC)
- Davis IC
- Nishi Property
- Triangle

The City intends to supply water to the existing water system's service area including the demands due to the future development of currently vacant parcels. Water supplies that are excess to the amount needed to supply the buildout of the current water system's service area are available to supply additional demands outside of the current service area. The proposed developments are located outside of the water system's current service area.

This WSA develops the buildout demand of the City's current water system's service area and the demands of the proposed developments. The demands are compared to water supplies to determine the sufficiency of water supplies to serve the projected needs.

The City's 2010 Urban Water Management Plan (UWMP) projects future water demands that includes demands outside of the City's existing water service area. The UWMP also projects future water supplies that include a future wholesale water supply to supply the projected demands. Since the completion of the UWMP, changes have occurred to the City's population and water use characteristics and the capacity of the future wholesale water supply. This WSA updates the City's demand and supply projections.

1.2 WSA Requirements

Senate Bills (SB) 610 and 221 require that water assessments be included in environmental documentation for certain projects and an affirmative written verification of sufficient water supply for approval of certain development, respectively. Applicable developments are those that would have a water demand that would be equivalent or greater than the amount of water used by a 500 dwelling unit project or would increase the number of service connections by at least 10 percent. The WSA is performed in conjunction with a project's land-use approval process and must include an evaluation of the sufficiency of the water supplies available to the water supplier to meet existing and anticipated future demands including the demand associated with the proposed developments. The evaluation must cover a twenty-year period and address normal, single-dry, and multiple-dry climate years.

The WSA must identify any existing water supply entitlements, water rights, or water service contracts held by the water supplier or relevant to the identified water supply for the proposed project. If the public water supplier relies on groundwater supplies, the WSA must describe the groundwater basins from which the proposed project will be supplied. For each basin that has not been adjudicated, the assessment should indicate whether the California Department of Water Resources (DWR) has identified the basin as overdrafted or has projected that the basin will become overdrafted.

Section 2

Service Area Description

This section describes the City's existing water system service area and the new developments.

2.1 Existing Service Area

This section describes the service area, climate, and demographics of the City's water system service area.

2.1.1 Description

The City is located in the Central Valley in the southeastern corner of Yolo County and to the east of the coastal mountain range and San Francisco Bay Area, and 12 miles west of the state capital of Sacramento. The City occupies an area of about 9.8 square miles. The summation of the areas of the City's general plan land use categories is 6,143 acres. Incorporation of the City occurred in 1917, and water service is provided to all residential (single and multi-family), commercial, industrial, institutional, and irrigation customers, and for open space and fire protection uses. The City's water system service area coincides with the City's boundary, is bordered by the UC Davis campus to the south, and additionally includes the El Macero (located south of Interstate 80) and Willowbank areas that are located outside of the City's boundary.

Local development began in the 1860's around the California Pacific Railroad depot, in use today as a multimodal transportation hub. Agriculture, the City's initial primary industry, led to the location of the University of California (UC) at Davis. The State Agricultural Experiment Station at Davis was established by the UC in 1906 with degree programs to follow in the 1920's. The community soon became the economic center of the region.

The downtown core is the oldest portion of the City. Residential expansion was first to the north and west of the core. The City expanded south of I-80 and west of Highway 113 in the 1960's. Growth has expanded the urban area in all directions, built out major areas of the incorporated area, and added land to the City's service area. Significant multifamily residential development has occurred to meet increasing student population housing needs. In the commercial sector, there has been some growth in high technology and tourist related businesses.

The City continues to primarily be a residential community, with modest but growing commercial and industrial sectors. The industrial sector is primarily centered on technology and light manufacturing. The City has a stable institutional/governmental sector, consisting primarily of local government, schools, public facilities, and hospitals. The City draws visitors from its close affiliation with UC Davis, proximity to the Interstate 80 corridor, and annual special events drawing visitors from the entire region.

2.1.2 Service Area Climate

Summers in the City are warm and dry, and winters are cool and mild. The region is subject to wide variations in annual precipitation and also experiences periodic dry periods. Summers can be hot at times with up to several day periods of greater than 100 degree Fahrenheit temperatures, greatly increasing summer irrigation requirements. Based on the historical data obtained from the Western Regional Climate Center, the extreme low and high daily temperatures have been 12 and 116 degrees Fahrenheit, respectively.

Table 2-1 summarizes the City's average monthly climate conditions. As can be seen in Table 2-1, the rainy season normally begins in November and ends in March. The combination of hot and dry weather results in high water demands during the summer.

Table 2-1. Average Monthly Climate			
Month	Standard average ET_o, in	Average rainfall, in	Average temperature, °F
January	1.2	3.4	45
February	1.9	4.0	49
March	3.7	2.6	54
April	5.4	1.1	58
May	7.2	0.6	65
June	8.3	0.2	71
July	8.3	0.1	73
August	7.6	0.1	72
September	5.9	0.3	69
October	4.2	1.5	62
November	2.1	2.1	52
December	1.2	3.2	45
Annual	56.9	19.3	--

Source: Data recorded July 1982 to January 2011 from Sacramento Valley, Davis Station 6, CIMIS www.cimis.water.ca.gov.

2.1.3 Existing and Projected Demographics

The City's water system currently serves a 2014 population of approximately 68,000 that includes an estimated 1,383 people in the El Macero and Willowbank areas. Table 2-2 presents the historical population, connections, and dwelling unit data for the City's water system. The historical population was obtained from the California Department of Finance (DOF) and adjusted to account for the people living in the El Macero and Willowbank areas.

Table 2-2. City Service Area Historical Demographics					
Source	2010	2011	2012	2013	2014
Population	67,005	66,435	67,383	67,508	68,039
Connections					
SFR	14,368	14,407	14,475	14,516	
MFR	538	541	540	541	
Com/Inst/Ind	728	732	743	745	
Landscape	553	552	552	544	
Other	243	258	262	237	
Total	16,430	16,490	16,572	16,583	
Dwelling units ^a					
SFR	14,368	14,407	14,475	14,516	
MFR	12,013	12,080	12,058	12,080	
Total	26,381	26,487	26,533	26,596	

^a DUs estimated based on SF and MF connections. Assume 2010 ratio of MF DUs to MF connection, 22.3.

There are several sources that provide employment data for the City that are not consistent as shown in Table 2-3. The 2013 employment value presented in Table 2-3 is used to develop the employee unit water demand in Section 3.

Table 2-3. Comparison of Employment Information				
Source	2008	2012	2013	2035
US Census ^a		31,940		
EDD ^b			37,500	
SACOG ^c - City boundary	16,015			19,857
SACOG - SOI	18,144			21,501

^a US Census (factfinder2.census.gov)

^b California Employment Development Department (<http://www.labormarketinfo.edd.ca.gov>)

^c Sacramento Area Council of Governments (<http://www.sacog.org/infocenter/demographics/datalibrary/>)

Table 2-4 summarizes the acreage and demographic information estimated for the El Macero and Willowbank areas. These two areas are within the City's existing water system service area, and outside of the City boundary.

Table 2-4. Water Service Area Outside City Boundary - Willowbank and El Macero			
	Willowbank	El Macero	Total
Land use category area, acre			
Residential-low density	87	198	284
Park/recreation	-	178	178
Population			1,383
Dwelling units			512^a

^a Estimated based on the people per DU.

The number of dwelling units and commercial and industrial acres remaining to be added to the City to reach buildout of the existing service area were provided by the City and are presented in Table 2-5 (Davis, November 2014). The number of future dwelling units to reach buildout was obtained from the City’s housing element update (Davis, February 2014). The additional employment is estimated assuming that the future employees per acre would be 50 percent greater than the City’s current average based on the potential employment that could be generated from the remaining commercial and industrial development within the City’s current service area. Any change in the amount of development that would occur within the current service area to reach buildout could change the demand projections developed in this WSA. Table 2-5 also presents the calculated employment, population and water system connections for the buildout of the City’s current service area. The buildout population of the City’s existing water system service area is estimated to be 73,531.

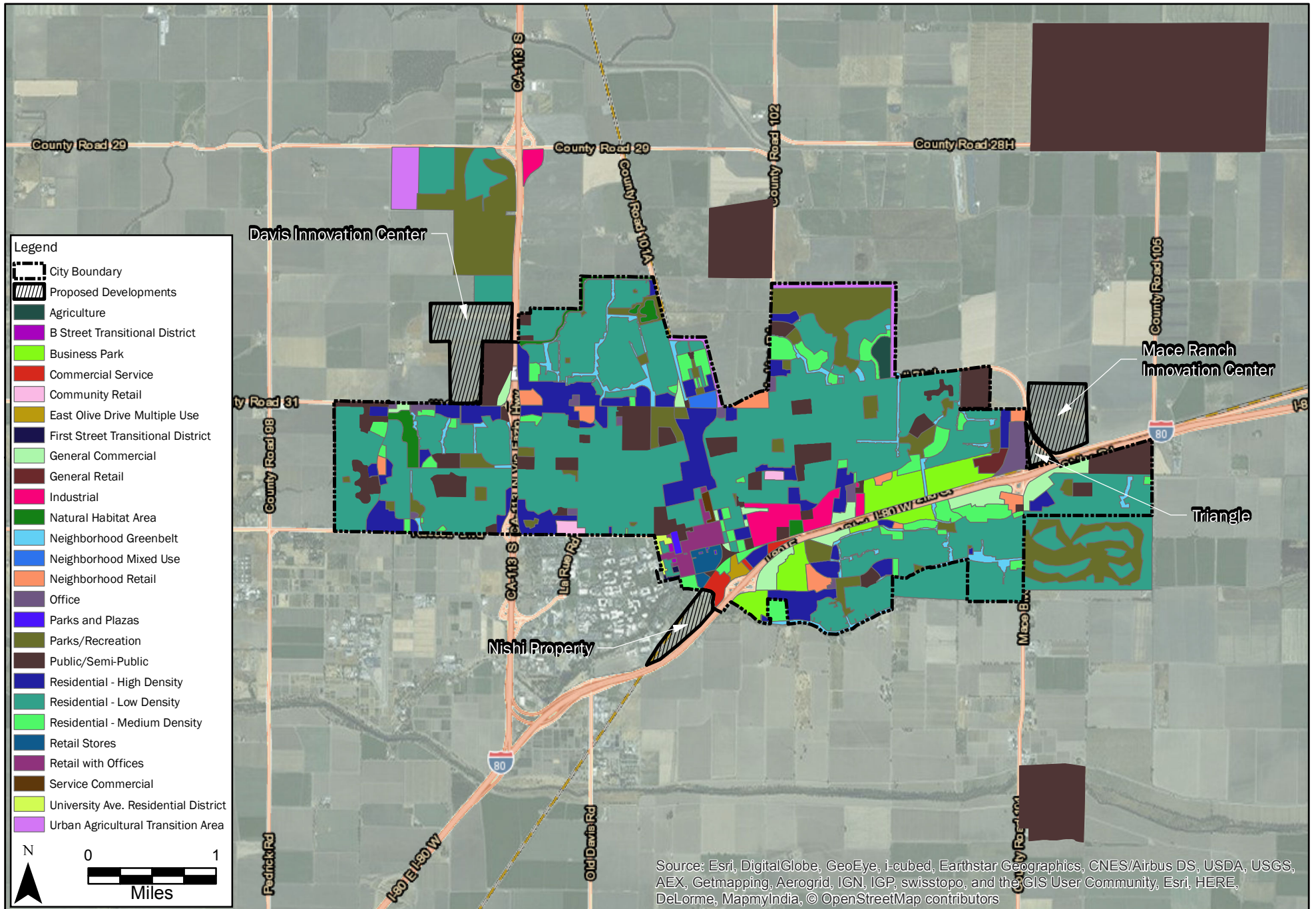
Table 2-5. City Service Area Buildout Demographics			
Source	2013	Additional increment	Buildout
Dwelling units	26,596	2,231	28,827
Employees	37,500	7,500 ^a	45,000
Connections ^b	16,583	980	17,563
Population	67,508	6,023 ^c	73,531
Commercial/Industrial areas, acre	708	116	824

^a Employee calculated based on 1.5 times proportional increase in Com/Ind area.

^b Based on 2013 MFR dwelling units/connection and 50% increase in 2013 Com/Inst/Ind connections per acre.

^c Based on 2.7 people per dwelling unit.

The City General Plan’s designated land use categories are illustrated on Figure 2-1, along with the locations of the proposed developments.



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors


	PROJECT 147050	SITE City of Davis, California	Figure 2-1
	DATE 12/17/14	TITLE General Plan and Location of Proposed Developments	

Table 2-6 presents the 2010 and projected future population for the City’s existing service area and the proposed developments as described in Section 2.2. The Mace Ranch IC development includes two alternatives consisting of the baseline and mixed-use alternatives. The projected population is based on the assumption that the City’s population located within the current service area will increase 5 percent for every 5-year interval until buildout of the existing service area as was assumed in previous City water planning documents. The proposed developments are assumed to reach 50 percent of their buildout residential population in 2020 and full population in 2025. Figure 2-2 presents the historical and projected population served by the City’s water system consisting of residents located within the City’s existing service area and the proposed developments. The City would reach buildout of the existing service area in approximately 2023 with the assumed growth rate.

Table 2-6. Water Service Area Population – Current and Projected						
	2010	2015	2020	2025	2030	2035
Existing City service area	67,005	68,896	71,463	73,531	73,531	73,531
Proposed developments (with Mace Ranch IC baseline alternative) ^a			878	1,755	1,755	1,755
Proposed developments (with Mace Ranch IC mixed-use alternative) ^b			1,958	3,915	3,915	3,915
Total (with Mace Ranch IC baseline alternative) ^a	67,005	68,896	72,341	75,286	75,286	75,286
Total (with Mace Ranch IC mixed-use alternative) ^b	67,005	68,896	73,421	77,446	77,446	77,446

^a Nishi is the only development with a residential component.

^b Both Nishi and Mace Ranch developments include a residential component.

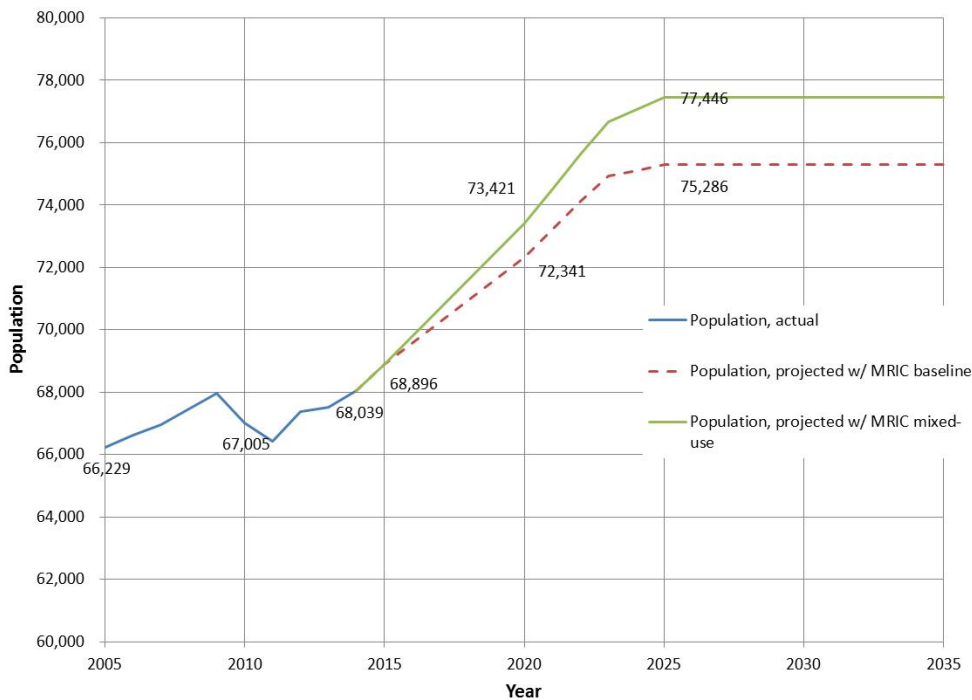


Figure 2-2. Historical and Projected Population



2.2 Description of New Developments

This section describes the characteristics of each of the proposed developments. For the purposes of the water use analysis in Section 3, the proposed developments' non-residential building areas are broken into two categories: Office and Non-office. Office area's only water use is attributable to employees personal water use such as hygiene and sanitation. The Non-office areas have additional water use beyond employee personal use such as process water for industrial equipment. These developments are located outside of the water system's service area and are illustrated on Figure 2-1.

2.2.1 Mace Ranch Innovation Center

The Mace Ranch IC is a proposed 211 acre site located north of County Road 32A and I-80 and east of Mace Boulevard. The Mace Ranch IC site is to include research and office facilities, retail, and hotel/conference center facilities. Several privately maintained parks and open space areas including greenways, courtyards, commons, orchards and plazas are included. The Mace Ranch IC development includes two alternatives consisting of the baseline and mixed-use alternatives. The mixed-use alternative contains the same land uses and acreages as the baseline alternative with the exception of the addition of 750-850 multi-family residential units. Figure 2-3 illustrates the preferred land use plan for the Mace Ranch IC baseline alternative and Figure 2-4 illustrates the preferred land use plan for the Mace Ranch IC mixed-use alternative. Table 2-7 summarizes the proposed land use and demographics for both alternatives.



Figure 2-3. Mace Ranch Innovation Center, Baseline Alternative

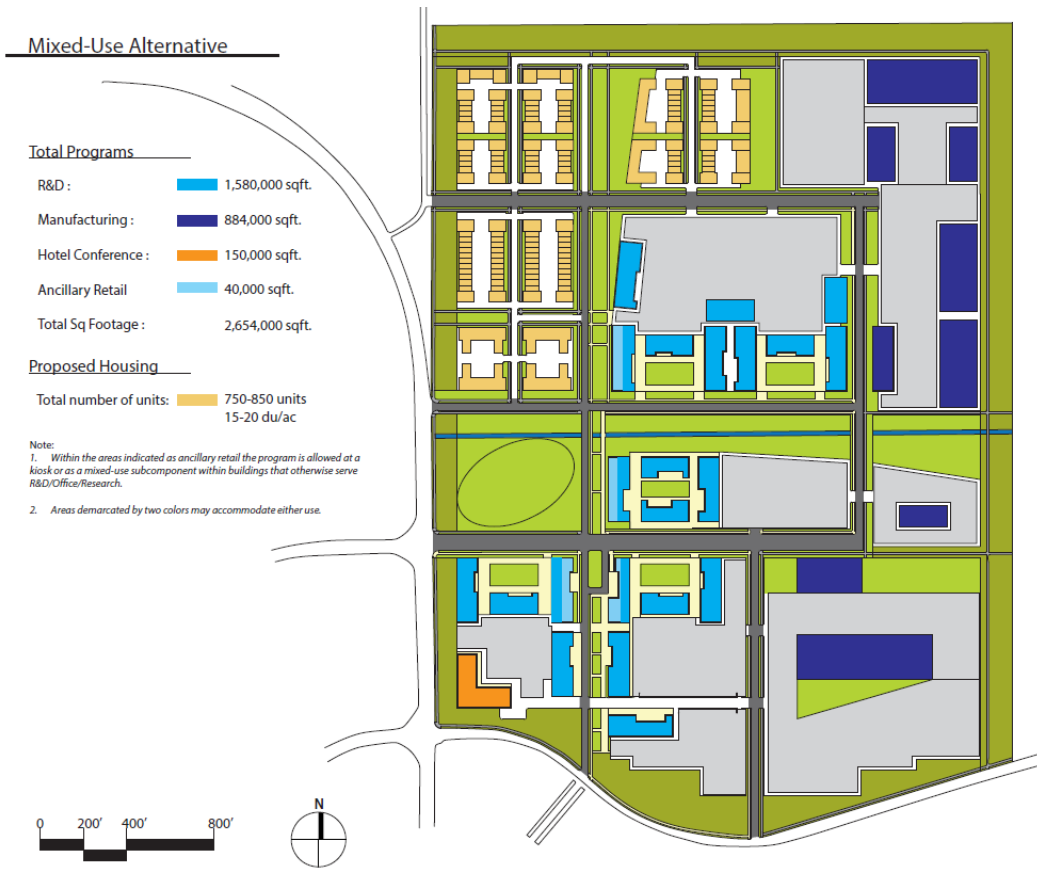


Figure 2-4. Mace Ranch Innovation Center, Mixed-Use Alternative

Table 2-7. Mace Ranch Innovation Center Land Use and Demographics

Land use	Floor space, sq ft	Land area, acre	Employees	Rooms	Customers/visitors	Residents
Office	1,580,000		5,633 ^a			
Non-office	884,000		-- ^b			
Retail	40,000		200			
Retail customers					2,842 ^c	
Hotel - guest rooms				150		
Convention center					667	
Hotel - employee/common areas	150,000		50			
Residential mixed-use alternative ^d						2,160
Open space		75				
Total (with baseline alternative)	2,654,000	75	5,883	150	3,509	
Total (with mixed-use alternative)	2,654,000	75	5,883	150	3,509	2,160

^a Total of all employees for office and non-office.

^b Non-office employees are included in total above.

^c Retail customers estimated based on 50 percent of on-site non-retail employees.

^d The residential component is only applicable to the mixed-use alternative.

2.2.2 Davis Innovation Center

The Davis IC is a proposed 207 acre development located adjacent to the City's water system and to the west of Highway 113 and North of Covell Blvd. The Davis IC site is to include tech office facilities, research and development (R&D) and flex space, hotel/exhibition and visitor center facilities, and open space/landscaping. Table 2-8 summarizes and Figure 2-5 illustrates the preferred land use plan for the Davis IC.

Table 2-8. Davis Innovation Center Land Use and Demographics

Land use	Floor space, sq ft	Land area, ac	Employees	Rooms	Customers/visitors
Office	2,400,000		10,536 ^a	-	-
Non-office	1,280,000		-- ^b	-	-
Retail	120,000		240	-	-
Retail customers	-		-	-	5,301 ^c
Hotel/exhibition/visitor center (employees)	200,000		66	-	-
Hotel/exhibition/visitor center	-		-	200	-
Convention center	-		-	-	1,000
Open space		85	-	-	-
Total	4,000,000	208	10,842	200	6,301

^a Total of all employees for office and non-office

^b Non-office employees are included in total above.

^c Retail customers estimated based on 50 percent of on-site non-retail employees.

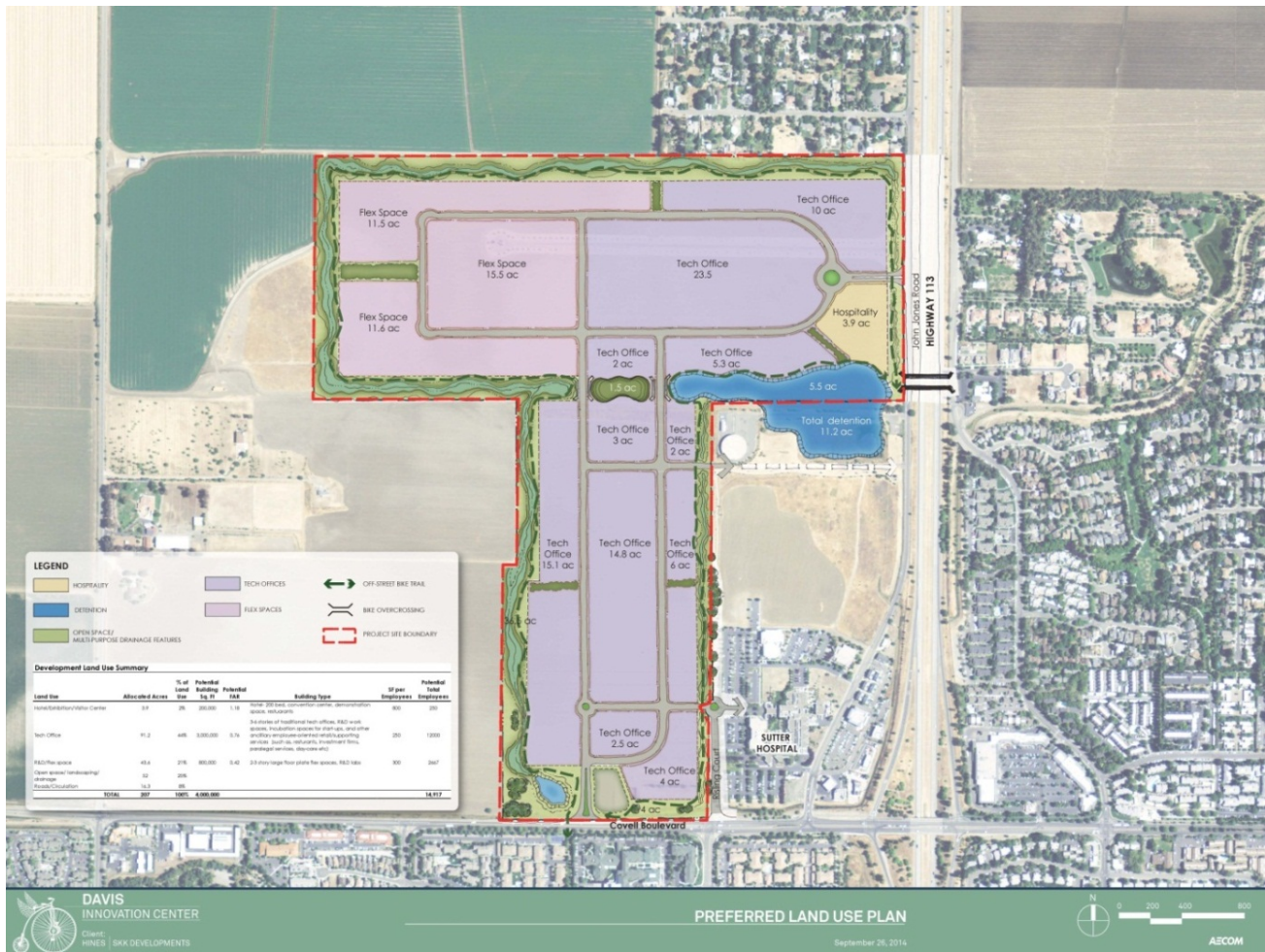


Figure 2-5. Davis Innovation Center

2.2.3 Nishi Property

The Nishi property is a proposed 46.9 acre development bounded to the south by Highway 80 and to the north by the railroad, just west of Olive Drive. The 26.5 acres of developable area of the Nishi property will be approximately split between business and residential areas. The remaining acreage will include detention, Putah Creek Parkway, and roads and easements. Table 2-9 summarizes and Figure 2-6 illustrates the land use plan for the Nishi Property.

Table 2-9. Nishi Property Land Use and Demographics

Land use	Floor space, sq ft	Land area, acre	Dwelling units	Employees	Population	Customers
Office	264,712			1,412 ^a		
Non-office	88,238			-- ^b		
Retail	47,950			96		
Retail (business water use)						1,705 ^c
Residential			650		1,755	
Open space		5				
Total	400,900	47	650	1,508	1,890	1,705

^a Total of all employees for office and non-office.

^b Non-office employees are included in total above.

^c Retail customers estimated based on 50 percent of on-site non-retail employees and residential population.

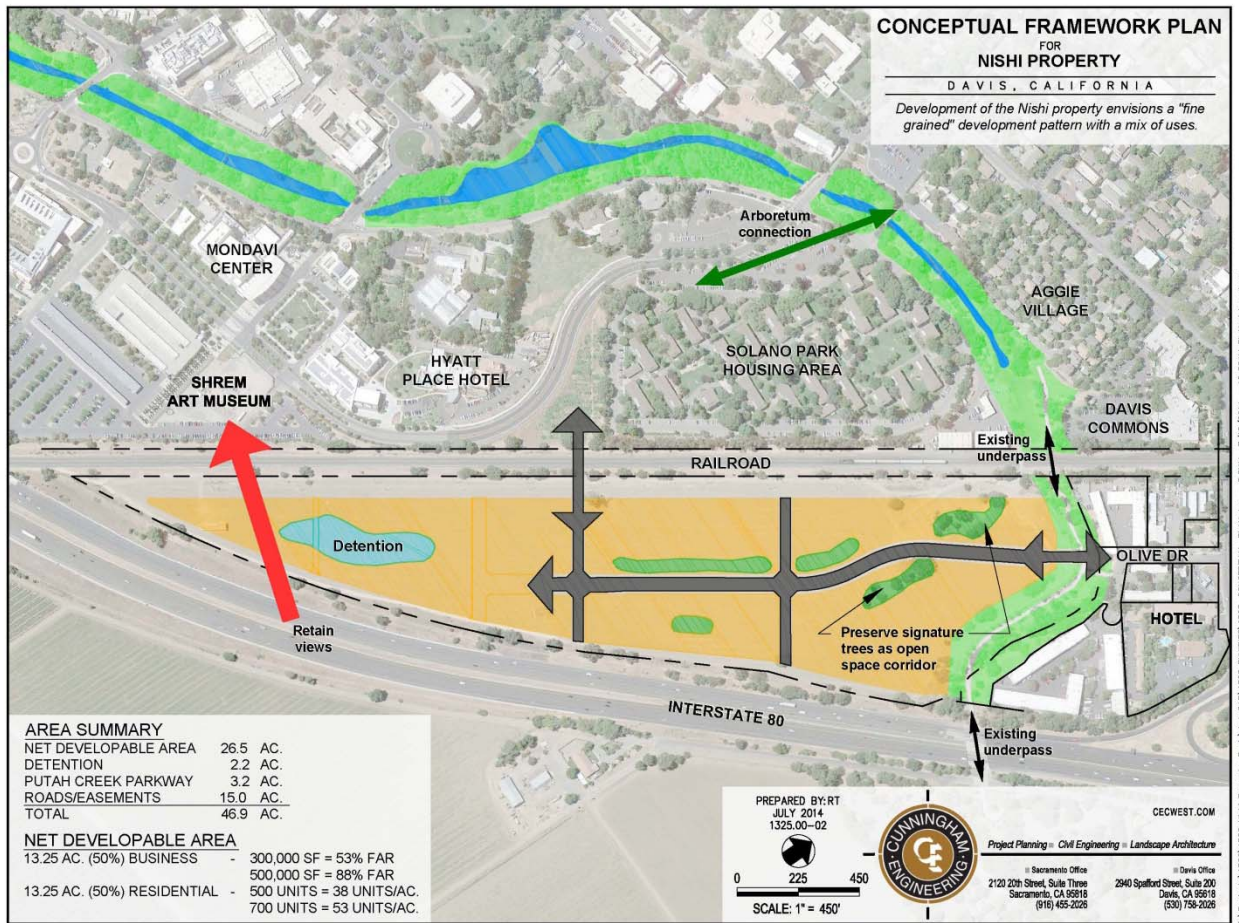


Figure 2-6. Nishi Property

2.2.4 Triangle

The Triangle property is located adjacent to El Macero. Table 2-10 summarizes the land use and demographics within the Triangle development.

Table 2-10. Triangle Development Land Use and Demographics				
Land use	Floor space, sq ft	Land area, acre	Employees	Customers
Office	45,901	-	108	-
Retail	25,155	-	50	-
Retail (business water use)	-	-	-	1,200 ^a
Landscaped area (12% of total)	-	2	-	-
Total	71,056	17	158	1,200

^a Retail customers estimated based on 24 customers per retail employee.

Section 3

Existing and Projected Water Demands

This section describes historical and projected water demand for the City and the proposed developments. The historical demand combined with the historical demographics is used to evaluate water use characteristics and develop demand factors. The demand factors are then used with the future demographics to develop the demand projections. The buildout demand of the existing water system's service area is projected as well as the future demand that would occur outside of the existing service area.

3.1 Historical Water Demand

Figure 3-1 presents the City's historical water demand. The City's total annual water use grew steadily until 2002, when it peaked at 15,112 acre-feet per year (ac-ft/yr) and has decreased since then.

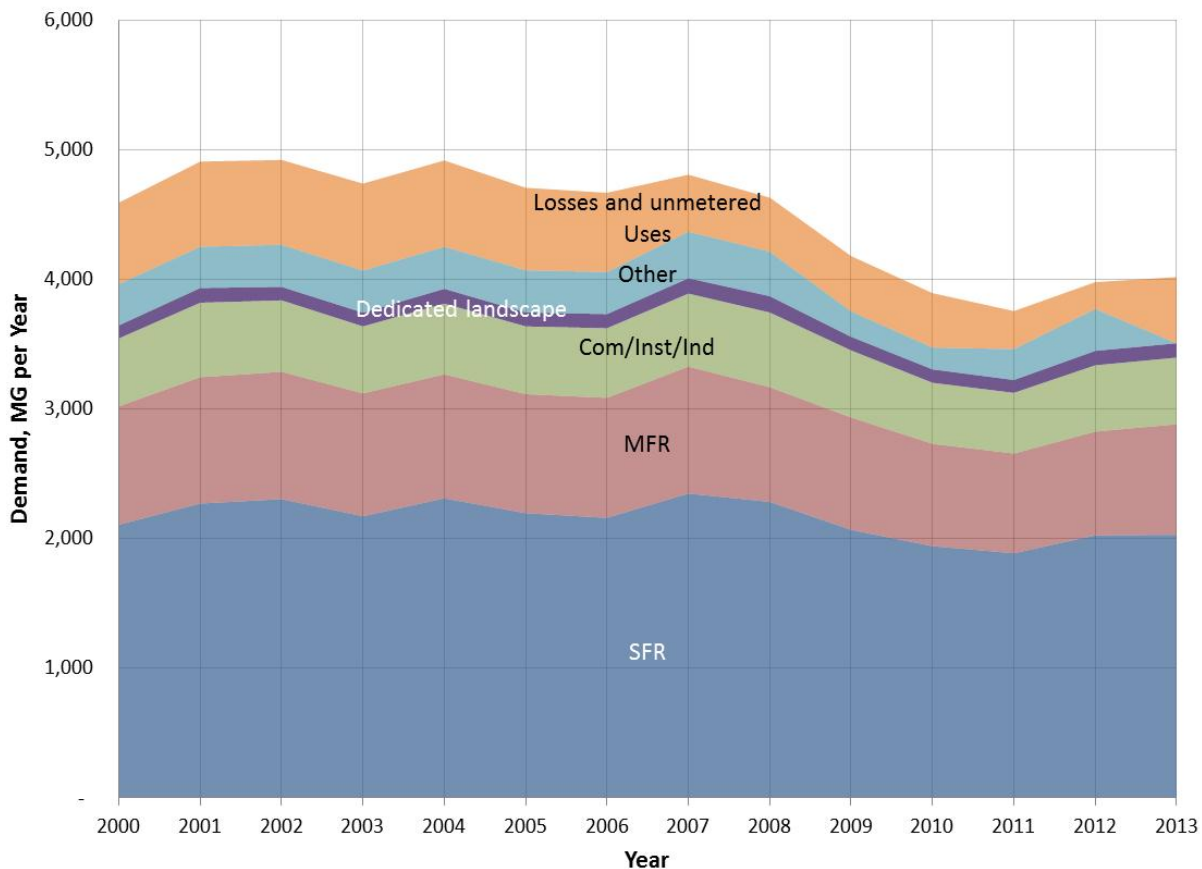


Figure 3-1. Historical Water Use by Customer Category

3.2 Water Demand Factors

The City’s historical water use combined with demographic data provides demand factors that are adjusted and then used to estimate future water use. While this section describes a variety of water demand factors, a smaller subset is used to develop the projections in Section 3.3.

The City’s Public Works Design Standards from September 1991 provide unit water demand factors per dwelling unit (DU) and per acre by type of use. Table 3-1 summarizes these factors. These 1991 demand factors over-estimate current demands since unit water demands have declined in the last few years, particularly since the installation of water meters for the City’s water customers that was started in 1990 and completed in 1997. The current water demand factors were developed based on an evaluation of 2009 and 2013 data.

Type of use	gpd per DU	gpd per acre
Single family residential	612	
Multi-family residential	260	
Mobile home parks	270	
Institutional (schools/hospitals)		1,800
Retail, commercial, and industrial		2,500
Other uses	As approved	As approved

A large sample (92 percent of total customers) of the City’s 2009 customer water demand data combined with the parcel acreage provides insight into the 2009 unit water demands per acre by customer category. Table 3-2 summarizes the results of this analysis of the 2009 data. The 4,312 acres in the sample compares to the total City general plan area of 6,281 acres. As can be seen in Table 3-2, the 2009 demand factors are lower than the City’s standard unit demand factors, except for the multi-family residential factor.

Water use sector	Demand - ac-ft/yr	Area, acre	Connections analyzed, no.	Unit water demand factors		
				ac-ft/yr per acre	gpd per DU	gpd per acre
Single family	6,123	2,644	14,041	2.32	389	2,067
Multi-family	2,507	499	353	5.02	294	4,483
Com/Inst/Ind	1,343	853	494	1.57		1,406
Landscape Irrigation	310	104	100	2.99		2,667
Parks	490	212	94	2.31		2,066
Total sample	10,772	4,312	15,082	2.50		2,231



Estimates of unit water demand factors based on 2013 water demand, estimated acreage, and demographics are presented in Table 3-3 for the customer sectors where demand factors are needed for this analysis. The indoor unit demand proportions are also shown. The acreage for each customer category in 2013 is estimated assuming the growth in acreage by customer category from 2009 to 2013 is proportional to the growth in connections for the same time period. The total 2009 acreage for each customer category is estimated by escalating the 2009 sample acreage in Table 3-2 by the proportion of the number of 2009 actual connections to sample connections. The landscape irrigation sector is not included in Table 3-9 because an accurate acreage could not be developed from the small sample from 2009. The 2013 demand factors per acre and per dwelling unit are slightly less than the 2009 analysis demand factors, except that the multifamily residential demand per acre is substantially lower in the 2013 analysis.

The commercial, industrial, and institutional water demand in 2013 was 38 gpd per employee based on the 1,577 ac-ft/yr used by the commercial, institutional, and industrial customer sectors and 37,500 employees from Table 2-3.

Table 3-3. Unit Water Demand Factors, 2013

Water use sector	Demand - ac-ft/yr	Estimated area, acre	Connections	DUs	Unit water demand factors			Unit water demand factors - indoor		
					ac-ft/yr per acre	gpd per DU	gpd per acre	Indoor, % of total	gpd per DU	gpd per acre
Single family	6,233	2,733	14,516	14,516	2.28	383	2,036	49%	188	
Multi-family	2,618	765	541	12,080	3.42	193	3,056	49%	95	
Com/Inst/Ind	1,577	1,286	745		1.23		1,095	46%		504

Figure 3-2 presents the unit water demands per connection for the major customer categories for over the last fourteen year period. As can be seen on Figure 3-2, the unit water demands peaked for the multifamily residential and commercial, industrial, and institutional categories in 2004 and have been trending generally downward since. The single family residential and landscape categories has been stable since 2009.

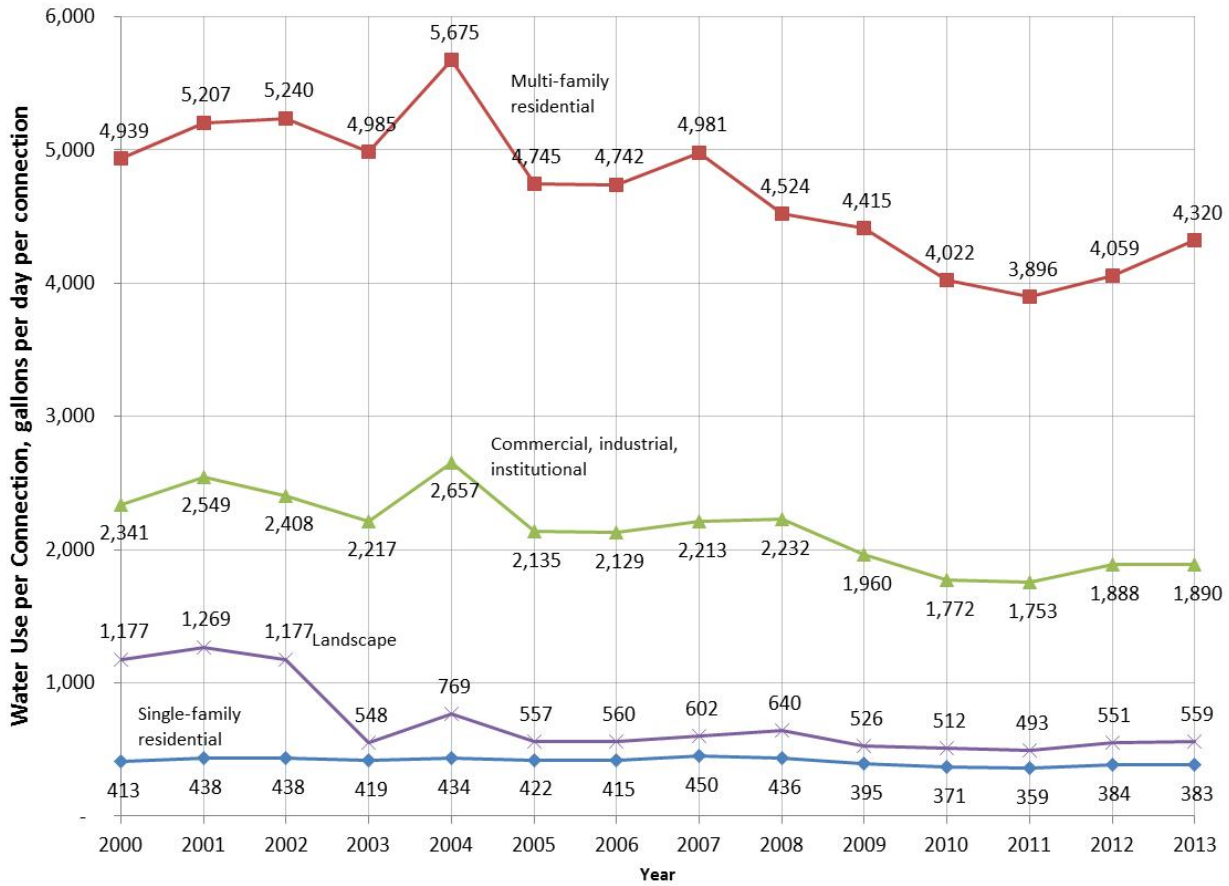


Figure 3-2. Water Use per Connection by Customer Category

Table 3-4 presents the unit demand factors used to develop the water demand projections of the future increment of growth to reach buildout and for the proposed developments. The residential unit demands that are used to develop the demand projections are assumed to be 10 percent less than the 2013 values. This is because of the expected lower water use in new residential dwelling units due to the use of water fixtures that are compliant with current standards. The commercial and industrial unit demands per acre are assumed to be 50 percent greater than the 2013 values because the City expects that future development of this type will have more employment per acre compared to the City’s existing overall average. Some of the demand factors are engineering estimates as noted in Table 3-4.

Table 3-4. Unit Water Demand Factors Used in this Analysis

	SFR	MFR	Com/Inst/Ind	Landscape	Retail/ convention	Hotel
gpd/DU ^a	345	174	-	-	-	-
gpd/ac	-	-	2,400 ^b	2,712	-	-
gpd/employee	-	-	38	-	-	-
gpd/employee (indoor) ^c	-	-	15	-	-	-
gpd/1,000 sf (manufacturing or development water) ^c	-	-	90	-	-	-
gpd/room ^c	-	-	-	-	-	150
gpd/visitor or customer ^c	-	-	-	-	3	-
gpd/person(indoor) ^a	57	57	-	-	-	-
gpd/connection	345 ^a	3,888 ^a	1,890 ^b	-	-	-
gpcd - through 2020 ^c	-	-	-	-	164	-
gpcd - after 2020 ^c	-	-	-	-	150	-

^a 90% of 2013 factor.

^b 50% greater than 2013 factor.

^c Engineering estimate.

3.3 Gallons per Capita per Day Target

New requirements regarding per capita water use targets are defined in the Water Conservation Act of 2009 that was signed into law in November 2009 as part of a comprehensive water legislation package. Known as Senate Bill (SB) X7-7, the legislation sets a goal of achieving a 20 percent reduction in urban per capita water use statewide by 2020. SBX7-7 requires that retail water suppliers define in their 2010 urban water management plans the gallons per capita per day (gpcd) targets for 2020, with an interim 2015 target.

Water purveyors are required to select one of the four methods that the legislation defines for establishing a gpcd target. The City selected in the 2010 UWMP the gpcd target determined by Method 3, which results in a 167 gpcd target by the year 2020. The City’s per capita water use has been trending downward as shown on Figure 3-3. With a 2013 per capita water use of 163 gpcd, the City’s per capita water use is already lower than the 2020 target. The estimated 2014 per capita water use of 143 gpcd is even lower likely mostly due to the reduction of water use by the City’s customers as a response to the drought.

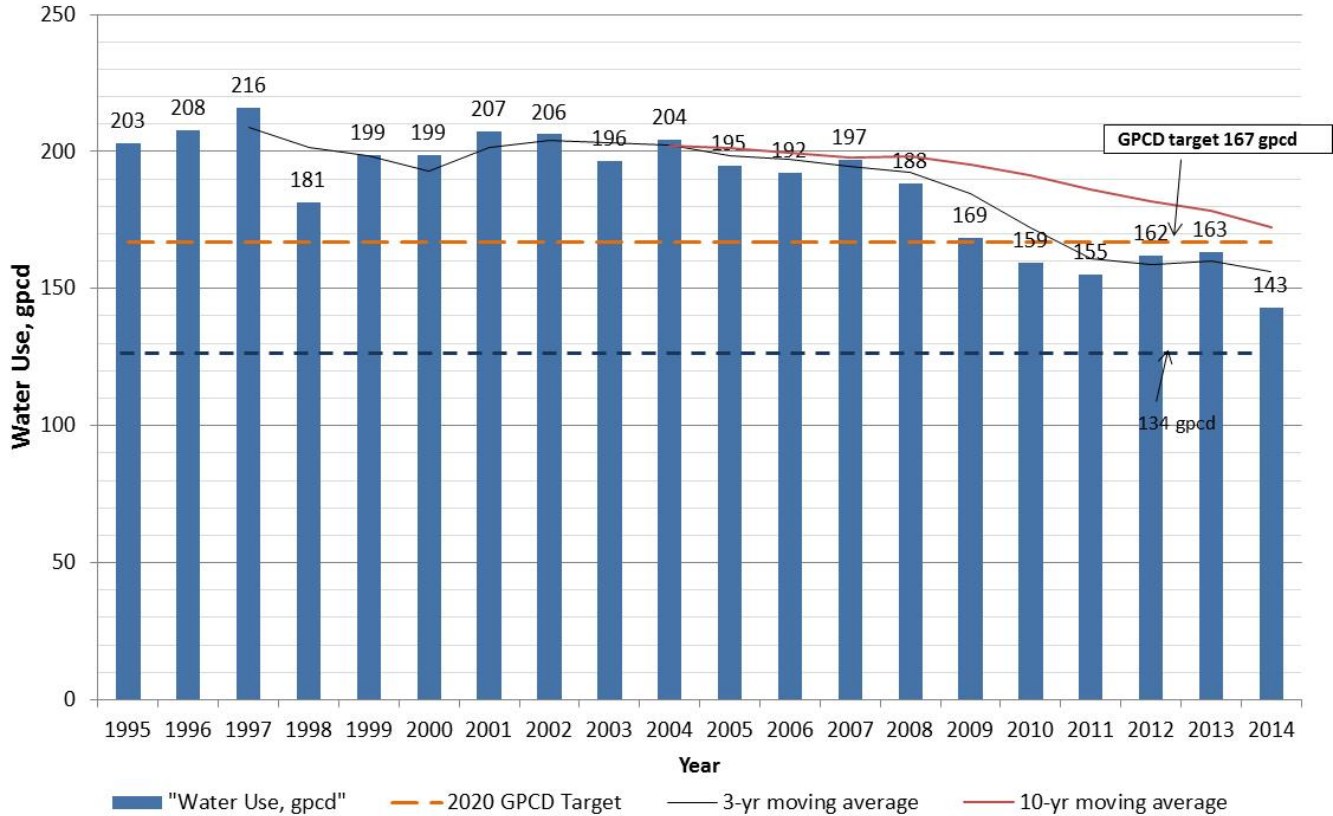


Figure 3-3. Historical Per Capita Water Use

The City’s Natural Resources Commission (NRC) through its Water Management Subcommittee has recommended that the City reduce per capita water use an additional 20 percent from the City’s 2020 water use target of 167 gpcd. The NRC’s recommended target is 134 gpcd. This WSA assumes that the City will achieve a 150 gpcd by 2025, which is 10 percent less than the 2020 target. Selecting the midpoint of 150 gpcd between the NRC recommended target of 134 gpcd and the 2020 target of 167 gpcd allows for the possibility that the City is not able to achieve the lower NRC recommended value.

It is assumed for the purpose of the demand projections developed for this WSA that the per capita water use for the City’s existing service area will be 161 gpcd from 2015 to 2020. The per capita water use for the population residing within the existing service area is then assumed to decline to 150 gpcd by 2030.

3.4 Projected Water Demand

This section presents the City’s projected water demands through 2035. These projections include the buildout demand of the City’s existing water system’s service area and the proposed developments, as well as the demands for growth outside of the existing service area.

3.4.1 Buildout Demand of the Existing Service Area

The buildout demand of the City’s existing service area is projected based on the estimated number of connections by type of connection that remain to be added to the City’s water system. The estimated number of connections remaining to be added is multiplied with the unit demand factors presented in Section 3.3 to determine the increment of demand to be added to reach buildout. That increment of demand is then added to the actual 2013 demand to develop the total buildout demand. As presented in

Table 3-5, the water demand at the buildout of the City’s existing water system service area is projected to be 13,258 ac-ft/yr. This demand is equivalent to an overall demand of 161 gpcd. The projected buildout maximum day demand is 21.3 mgd, which is used in Section 5.1 to compare to the maximum day capacity of the water supply facilities. As the impact of increased water conservation takes effect and the overall per capita demand is reduced to 150 gpcd as discussed in Section 3.3, the buildout demand of the existing service area is projected to decline to 12,356 ac-ft/yr by 2030. This decline in the overall per capita demand after the estimated buildout year of 2023 will result in a similar decline in the connection demand factors presented in Tables 3-4 and 3-5.

The increment of demand to reach buildout was also calculated using the unit demand per dwelling unit, per employee, per commercial and industrial acre, and per capita to verify consistency of the results. Appendix A contains the buildout demand projections using these other approaches as well as a summary of the assumptions and estimates used for the analysis.

Table 3-5. Buildout Water Demands by Water Use Sector – Current Service Area (without proposed developments)

	2013 connections	2013 demand, ac-ft/yr	Additional connections	gpd/connection ^a	Additional demand to buildout, ac-ft/yr	Total demand at buildout, ac-ft/yr	Maximum day demand at buildout ^c , mgd
SFR	14,516	6,233	815	345 ^a	315	6,548	
MFR	541	2,618	63	3,888 ^a	276	2,894	
Com/Inst/Ind	745	1,577	101	1,890 ^b	213	1,791	
Landscape	544	341	0			341	
Other	237	-	0			-	
Subtotal (water sales)	16,583	10,768			804	11,572	
Losses and unmetered uses		1,568			117	1,685	
Total (water production)		12,336			922	13,258	21.3

^a Based on a 10% reduction of 2013 unit demands.

^b Based on a 50% increase of 2013 unit demands.

^c Maximum day demand calculated using a 1.8 peaking factor.

^d Assume 13% system loss factor.

Table 3-6 presents the projected water demand in five year intervals of the City’s current water system service area by water use sector. Table 3-6 does not include demands from the proposed developments since the proposed developments are planned to be located outside of the current service area. As Table 3-6 shows, the total demand is reduced after the buildout year in 2023 as the per capita water use within the City’s existing service area declines to 150 gpcd by 2030 as discussed in Section 3.3. The total water demand for 2015 and 2020 is determined by assuming the per capita demand is 161 gpcd and 155 gpcd is assumed for 2025. The water use by sector in Table 3-6 for the years other than 2023 is estimated by assuming the relative same proportion of sector demands as in 2023. The water demands are presented in five year increments through 2035 in Table 3-6 to be consistent with the tables required for water supply assessments (DWR, 2001).

Table 3-6. Projected Water Demands by Water Use Sector – Current Service Area (without proposed developments)

Water use sector	Projected water demand, ac-ft/yr					
	2015	2020	2023	2025	2030	2035
Single family	6,332	6,344	6,590	6,285	6,082	6,082
Multi-family	2,659	2,804	2,802	2,777	2,688	2,688
Com/Inst/Ind	1,602	1,735	1,801	1,719	1,663	1,663
Landscape	346	330	343	327	316	316
Subtotal	10,939	11,213	11,534	11,108	10,749	10,749
System losses	1,635	1,676	1,724	1,660	1,606	1,606
Total	12,574	12,889	13,258	12,767	12,356	12,356

3.4.2 Total Projected Water Demand

The projected buildout annual and maximum day demands of the City's current service area and of the proposed developments are summarized in Table 3-7 with the Mace Ranch IC baseline alternative. The projected buildout annual and maximum day demands of the City's current service area and of the proposed developments with the Mace Ranch IC mixed-use alternative are summarized in Table 3-8. The development of the water demands for the proposed developments is presented in Section 3.4.3. The buildout of the City's current service area and the proposed developments is assumed to occur in 2025. The buildout demand of the City's existing service area is projected to decline as the per capita water use within the current service area drops to 150 gpcd by 2030.

Table 3-7. Summary of Buildout Demands (with Mace Ranch IC Baseline Alternative)

	Annual, ac-ft/yr	Maximum day, mgd
Existing City service area ^a	13,258	21.3
Proposed developments ^b	1,066	1.3
Total ^c	14,324	22.6

^a Buildout demand for the City's existing service area, which is projected to occur with the assumed growth rate in 2023. Buildout demand projected to decline to 12,356 ac-ft/yr and 19.9 mgd by 2030.

^b Buildout demand for the proposed developments assumed to occur in 2025. Proposed developments are located outside of the City's current service area. This assumes the Mace Ranch IC baseline alternative.

^c This total would occur if the buildout of the City's existing service area and the proposed developments occur in the same year. See Table 3-9 for the total demand with staggered buildout years.

Table 3-8. Summary of Buildout Demands (with Mace Ranch IC Mixed-Use Alternative)

	Annual, ac-ft/yr	Maximum day, mgd
Existing City service area ^a	13,258	21.3
Proposed developments ^b	1,203	1.5
Total^c	14,461	22.8

^a Buildout demand for the City’s existing service area, which is projected to occur with the assumed growth rate in 2023. Buildout demand projected to decline to 12,356 ac-ft/yr and 19.9 mgd by 2030.

^b Buildout demand for the proposed developments assumed to occur in 2025. Proposed developments are located outside of the City’s current service area. This assumes the Mace Ranch IC mixed-use alternative.

^c This total would occur if the buildout of the City’s existing service area and the proposed developments occur in the same year. See Table 3-10 for the total demand with staggered buildout years.

The City’s historical and projected normal climate year water demands for the existing service area and the proposed developments (with the MRIC baseline alternative) are presented in Table 3-9. A normal climate year is defined to be a calendar year that has average or normal climate, and is typically quantified by precipitation and evapotranspiration. The total demand is projected to peak in approximately 2023 and then decline due to the drop in the per capita demand within the City’s existing service area.

Table 3-9. Historical and Projected Average Year Demand- Current Service Area and Proposed Developments (with Mace Ranch IC Baseline Alternative), ac-ft/yr

	2005	2010	2015	2020	2023	2025	2030	2035
Current service area	14,452	11,954	12,574	12,889	13,258	12,767	12,356	12,356
Proposed developments	-	-	-	533	852	1,066	1,066	1,066
Total	14,452	11,954	12,574	13,421	14,110	13,833	13,421	13,421

The City’s historical and projected normal climate year water demands for the existing service area and the proposed developments (with the MRIC mixed-use alternative) are presented in Table 3-10.

Table 3-10. Historical and Projected Average Year Demand- Current Service Area and Proposed Developments (with Mace Ranch IC Mixed- Use Alternative), ac-ft/yr

	2005	2010	2015	2020	2023	2025	2030	2035
Current service area	14,452	11,954	12,574	12,889	13,258	12,767	12,356	12,356
Proposed developments	-	-	-	602	962	1,203	1,203	1,203
Total	14,452	11,954	12,574	13,491	14,220	13,970	13,559	13,559

Table 3-11 presents the projected water demand by water use sector in five year intervals through 2035 for the entire water system, consisting of the existing service area and the proposed developments (with the MRIC baseline alternative).



Table 3-11. Projected Water Demands by Water Use Sector – Current Service Area and Proposed Developments (with Mace Ranch IC Baseline Alternative)

Water use sector	Projected water demand, ac-ft/yr				
	2015	2020	2025	2030	2035
Single family	6,332	6,418	6,370	6,165	6,165
Multi-family	2,659	2,759	2,770	2,683	2,683
Com/Inst/Ind	1,602	2,017	2,267	2,211	2,211
Landscape	346	482	628	618	618
Subtotal	10,939	11,677	12,035	11,676	11,676
System losses	1,635	1,745	1,798	1,745	1,745
Total	12,574	13,421	13,833	13,421	13,421

The projected water demand by water use sector for the entire water service, consisting of the existing service area and the proposed developments (with the MRIC mixed-use alternative) is presented in Table 3-12.

Table 3-12. Projected Water Demands by Water Use Sector – Current Service Area and Proposed Developments (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr

Water use sector	Projected water demand, ac-ft/yr				
	2015	2020	2025	2030	2035
Single family	6,332	6,418	6,370	6,165	6,165
Multi-family	2,659	2,820	2,889	2,803	2,803
Com/Inst/Ind	1,602	2,017	2,267	2,211	2,211
Landscape	346	482	628	618	618
Subtotal	10,939	11,737	12,154	11,796	11,796
System losses	1,635	1,754	1,816	1,763	1,763
Total	12,574	13,491	13,970	13,559	13,559

The projected demand for single dry and multiple dry years is provided in Table 3-13. During dry periods the hotter and drier conditions result in more outside water use. The impact on the City’s water demands due to dry periods is estimated based on the weather normalization methodology developed by the California Urban Water Conservation Council (CUWCC) (Western Policy Research, 2011). The methodology uses monthly evapotranspiration (ET₀) and precipitation for any particular year compared to the average monthly climate values to determine the change in annual water use.

To estimate the City’s dry year demands using the normalization methodology, the single dry year is assumed to be 2013 and the multiple dry year period is assumed to be 2012, 2013, and 2014. The 2013 calendar year was one of the lowest years of precipitation on record in California. In 2014, due to the continuing drought, the State Water Resources Control Board fully curtailed all post-1914 water rights



diversions from the Sacramento River and its tributaries for several months. The actual monthly ET_o and precipitation for these years was used to determine that water demands in 2012, 2013, and 2014 were 2.5, 6.0, and 3.0 percent higher than the demand in a normal climate year, respectively. These adjustments are applied to the normal year demand projections to estimate in Table 3-13 the dry year demands for the City with the MRIC baseline alternative and in Table 3-14 for the City with the MRIC mixed-use alternative.

Table 3-13. Projected Dry Year Demand (with Mace Ranch IC Baseline Alternative), ac-ft/yr					
	2015	2020	2025	2030	2035
Single dry year ^a	13,328	14,227	14,663	14,226	14,226
Multiple dry years ^b					
Year 1	12,888	13,757	14,179	13,757	13,757
Year 2	13,328	14,227	14,663	14,226	14,226
Year 3	12,951	13,824	14,248	13,824	13,824

^a Single dry year based on 2013 weather normalization.

^b Multiple dry year – Year 1 based on 2012, Year 2 based on 2013, and Year 3 based on 2014 weather normalization.

Table 3-14. Projected Dry Year Demand (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr					
	2015	2020	2025	2030	2035
Single dry year ^a	13,328	14,300	15,073	14,809	14,373
Multiple dry years ^b					
Year 1	12,888	13,828	14,576	14,320	13,898
Year 2	13,328	14,300	15,073	14,809	14,373
Year 3	12,951	13,896	14,647	14,390	13,966

^a Single dry year based on 2013 weather normalization.

^b Multiple dry year – Year 1 based on 2012, Year 2 based on 2013, and Year 3 based on 2014 weather normalization.

3.4.3 Projected Demands of the Proposed Developments

The buildout water demands for the Mace Ranch IC (baseline alternative), Mace Ranch IC (mixed-used alternative), Davis IC, Nishi, and Triangle are shown in Tables 3-15, 3-16, 3-17, 3-18 and 3-19, respectively. As presented in Tables 3-15 and 3-16, twenty percent of the outdoor irrigation demand for Mace Ranch IC is assumed to be supplied by the City and 80 percent is assumed to be supplied by other sources. The projected buildout annual and maximum day demands of the proposed developments total 1,066 ac-ft/yr and 1.22 mgd, respectively with the Mace Ranch IC baseline alternative. With the Mace Ranch IC mixed-use alternative, the projected buildout annual and maximum day demands of the proposed developments total 1,203 ac-ft/yr and 1.46 mgd.

Table 3-15. Mace Ranch Innovation Center Buildout Demand (Baseline Alternative)

Land use	Developer provided information			Visitors/ guests	Unit demand factors			Average annual demand					Maximum day demand				
	Acres or square feet	Employees/ people	Rooms		gpd/ac ^a or gpd/ 1,000 sq ft	gpd/ employee or visitor (indoor)	gpd/ room	Indoor demand, gpd	Outdoor demand- supplied by City ^d , gpd	Outdoor demand- supplied by other, gpd	Total demand- supplied by City, gpd	Total demand - supplied by City, ac-ft/yr	Indoor peaking factor	Indoor MDD, gpd	Peak day application ^e , in/day	Outdoor MDD - supplied by City, gpd	Outdoor MDD - supplied by other, gpd
Office		5,633			15		84,495			84,495	95	1.3	109,844				109,844
Non-office	884,000				90		79,560			79,560	89	1.0	79,560				79,560
Retail		200			15		3,000			3,000	3	1.3	3,900				3,900
Retail customers				2,842	3		8,526			8,526	10	1.0	8,526				8,526
Hotel – guest rooms			150			150	18,000			18,000	20		22,500				22,500
Convention center ^b				667	15		3,002			3,002	3		10,005				10,005
Hotel – employee/ common areas		50			15		750			750	1	1.3	975				975
Open space	75				2,712			40,680	162,720	40,680	46			0.19	76,343	305,374	76,343
Total		5,883	150	3,509			197,333	40,680	162,720	238,013	267		235,310		76,343	305,374	311,653

^a Unit demand for landscape irrigation is based on 70% of effective ETo.

^b MDD for convention center is based on full occupancy of the facility. Average day demand for the convention center is based on the assumption that the convention facilities will be fully utilized 15 weeks out of the year (30%).

^c Unit demand factor for hotel room is used to calculate MDD for hotel rooms. Average annual hotel room demand is 80% of MDD.

^d 20% of outdoor irrigation demand supplied by City.

^e Peak day application rate is based on 70% of maximum month Eto, 8.3 in/month.



Table 3-16. Mace Ranch Innovation Center Buildout Demand (Mixed-Use Alternative)

Land use	Developer provided information			Visitors/ guests	Unit demand factors			Average annual demand				Maximum day demand					
	Acres or square feet	Employees/ people	Rooms		gpd/ac ^a or gpd/1,000 sq ft	gpd/ employee or visitor/ resident (indoor)	gpd/room	Indoor demand, gpd	Outdoor demand-supplied by City ^d , gpd	Outdoor demand-supplied by other, gpd	Total demand-supplied by City, gpd	Total demand - supplied by City, ac-ft./yr	Indoor peaking factor	Indoor MDD, gpd	Peak day application ^e , in./day	Outdoor MDD - supplied by City, gpd	Outdoor MDD - supplied by other, gpd
Office		5,633			15		84,495			84,495	95	1.3	109,844				109,844
Non-office	884,000				90		79,560			79,560	89	1.0	79,560				79,560
Retail		200			15		3,000			3,000	3	1.3	3,900				3,900
Retail customers				2,842	3		8,526			8,526	10	1.0	8,526				8,526
Hotel – guest rooms			150			150	18,000			18,000	20		22,500				22,500
Convention center ^b				667	15		3,002			3,002	3		10,005				10,005
Hotel – employee/ common areas		50			15		750			750	1	1.3	975				975
Residential		2,160			57		123,120			123,120	138	1.1	135,432				135,432
Open space	75				2,712			40,680	162,720	40,680	46			0.19	76,343	305,374	76,343
Total		8,043	150	3,509			320,453	40,680	162,720	361,133	404		370,742		76,343	305,374	447,085

^a Unit demand for landscape irrigation is based on 70% of effective ETo.

^b MDD for convention center is based on full occupancy of the facility. Average day demand for the convention center is based on the assumption that the convention facilities will be fully utilized 15 weeks out of the year (30%).

^c Unit demand factor for hotel room is used to calculate MDD for hotel rooms. Average annual hotel room demand is 80% of MDD.

^d 20% of outdoor irrigation demand supplied by City.

^e Peak day application rate is based on 70% of maximum month Eto, 8.3 in./month.



Table 3-17. Davis Innovation Center Buildout Demand

Land use	Developer provided information			Unit demand factors			Average annual demand				Maximum day demand					
	Acres or square feet	Employees/ people	Rooms	Visitors/ guests ^e	gpd/ acre ^a or gpd/ 1,000 sq ft	gpd/ employee or visitor (indoor)	gpd/ room ^c	Indoor demand, gpd	Outdoor demand ^e , gpd	Total demand, gpd	Total demand, ac-ft/yr	Indoor peaking factor	Indoor MDD, gpd	Peak day application ^d , in/day	Outdoor MDD ^e , gpd	Total MDD, gpd
Office		10,536				15		158,040		158,040	177	1.3	205,452			205,452
Non-office	1,280,000				90			115,200		115,200	129	1.0	115,200			115,200
Retail		240				15		3,600		3,600	4	1.3	4,680			4,680
Retail customers				5,301		3		15,903		15,903	18	1.0	15,903			15,903
Hotel/exhibition/visitor center (employees)		66				15		990		990	1	1.3	1,287			1,287
Hotel/exhibition/visitor center ^c			200				150	24,000		24,000	27		30,000			30,000
Convention center ^b				1,000		15	-	4,500		4,500	5	-	15,000			15,000
Open space ^d	85				2,712				230,520	230,520	258		-	0.19	438,570	438,570
Total		10,842	200	6,301				322,233	230,520	552,753	619		387,522		438,570	826,092

^a Unit demand for landscape irrigation is based on 70% of effective ETo.

^b MDD for convention center is based on full occupancy of the facility. Average day demand for the convention center is based on the assumption that the convention facilities will be fully utilized 15 weeks out of the year (30%).

^c Unit demand factor for hotel room is used to calculate MDD for hotel rooms. Average annual hotel room demand is assuming average annual 80% occupancy.

^d Peak day application rate is based on 70% of maximum month Eto, 8.3 in/month.

^e All outdoor irrigation demand is supplied by the City.



Table 3-18. Nishi Property Buildout Demand

Land use	Developer provided information			Visitors/ guests	Unit demand factors		Average annual demand				Maximum day demand			
	Acres or square feet	Residential population	Employees		gpd/acre or gpd/1,000 sq ft	gpd/ employee or visitor (indoor)	Indoor demand, gpd	Outdoor demand ^b , gpd	Total demand, gpd	Total demand, ac-ft/yr	Indoor peaking factor	Indoor MDD, gpd	Peak day application ^c , in/day	Outdoor MDD ^b , gpd
Office			1,412		15	21,180		21,180	24	1.3	27,534			27,534
Non-office	88,238				90	7,941		7,941	9	1.0	7,941			7,941
Retail			96		15	1,440		1,440	2	1.3	1,872			1,872
Retail (business water use)				1,705	3	5,115		5,115	6	1.0	5,115			5,115
Residential		1,755			57	100,035		100,035	112	1.1	110,039			110,039
Open space ^a	5				2,712		13,560	13,560	15			0.19	25,798	25,798
Total		1,755	1,508			135,711	13,560	149,271	167		152,501		25,798	178,299

^a Unit demand for landscape irrigation is based on 70% of effective ETo.

^b All outdoor irrigation demand is supplied by the City.

^c Peak day application rate is based on 70% of maximum month ETo, 8.3 in/month.

Table 3-19. Triangle Development Buildout Demand

Land use	Developer provided information		Customers	Unit demand factors		Average annual demand				Maximum day demand			
	Acres or square feet	Employees		gpd/acre or gpd/1,000 sq ft	gpd/employee or customer (indoor)	Indoor demand, gpd	Outdoor demand ^b , gpd	Total demand, gpd	Total demand, ac-ft./yr	Indoor peaking factor	Indoor MDD, gpd	Peak day application ^c , in/day	Outdoor MDD ^b , gpd
Office		108		15	1,620		1,620	2	1.3	2,106			2,106
Retail		50		15	750		750	1	1.3	975			975
Retail (business water use)			1,200	3	3,600		3,600	4	1.0	3,600			3,600
Landscaped area (12% of total) a	2			2,712		5,288	5,288	6			0.19	10,061	10,061
Total		158	1,200		5,970	5,288	11,258	13		6,681		10,061	16,742

^a Unit demand for landscape irrigation is based on 70% of effective ETo.
^b All outdoor irrigation demand is supplied by the City.
^c Peak day application rate is based on 70% of maximum month ETo, 8.3 in/month.

Section 4

Water Supplies

This section describes the City's water supplies that currently consist of groundwater and recycled water and in the future will include surface water.

4.1 Groundwater

The City currently uses groundwater as its sole potable water supply source. The City pumps groundwater from the Yolo subbasin, 5-21.6, which is a portion of the larger Sacramento Valley groundwater basin. The Yolo subbasin is not adjudicated and there are no legal restrictions to groundwater pumping. DWR Bulletin 118 does not consider the basin to be in overdraft (DWR, 2003). The City together with the University of California Davis prepared a groundwater management plan in April 2006 (City, 2006).

The City obtains groundwater from both the deep and intermediate depth aquifers. The City's deep aquifer zone exists throughout the service area, and is more predominant to the north and west. The deep aquifer zone slopes downward from the west of the service area, with gradual flattening towards the east. Both the City and UC Davis primarily rely on the deep aquifer due to its generally better quality in terms of hardness and total dissolved solids compared to water produced from the intermediate depth aquifer.

The productive aquifers in the Davis area of Yolo County occur in the Tehama and younger formations. In most areas of Yolo County, the sands and gravel of the Tehama Formation are thin, discontinuous layers between silt and clay deposits. In much of the eastern portion of Yolo County, productive aquifers are found up to 700 feet below ground surface with few productive aquifers in the 700-foot to 1,000-foot depth range. In the area (especially to the west), good quality water is also found in the Tehama Formation at depths of approximately 1,200 feet to 1,500 feet.

Aquifers in the Davis area are recharged by percolation of rainfall and to a lesser extent irrigation water. Other significant sources include infiltration in streambeds, channels, and the Yolo Bypass. Relatively course-grained deposits line both Putah and Cache Creeks, allowing substantial infiltration. The deep aquifer has a much longer recharge period as compared to the intermediate depth aquifer, on the order of thousands of years versus hundreds of years, respectively.

Bulletin 118 states that the Yolo subbasin does not exhibit any significant declines in groundwater levels, with the exception of localized pumping depressions in several areas including in the vicinity of Davis (DWR, 2003). Historical groundwater elevation measurements show that groundwater elevations declined through the 1950s and 1960s and then increased as a result of the implementation of the Lake Berryessa and Indian Valley Reservoir regional surface water supply projects. In addition to the groundwater elevation changes resulting from variation in land and water use practices over time, groundwater elevations have fluctuated in response to changes in precipitation. Groundwater elevations in the falls of 1977 and 1992 were near the historical lows recorded in the mid 1960s. The maximum groundwater elevation measurements were recorded in spring 1983, the same year that the maximum annual precipitation was recorded (City, 2006).

In the vicinity of Davis and UC Davis, the base of fresh groundwater occurs at a depth of approximately 2,800 feet below mean sea level, implying that the fresh water aquifer is about 2,800 feet thick. The total amount of water contained to a depth of 2,000 feet in the 11,600 acre (ac) groundwater management plan

area is estimated to be over 2 million acre-feet (ac-ft). The amount of water in storage is estimated to be approximately 120,000 ac-ft assuming a specific yield of 10 percent (City, 2006).

The City's groundwater supply is provided by 20 active wells that are located within the City's water system service area and presented in Table 4-1. Some of the wells pump from the intermediate depth aquifer and the newer wells pump from the generally better quality (lower hardness and salinity) deep aquifer. As shown in Table 4-1, some of the deep aquifer wells do have water quality issues with manganese. However, the higher hardness and total dissolved solids in the intermediate depth wells makes them undesirable to use routinely. The deep well reliable capacity presented in Table 4-1 is the capacity assuming that at least one well is available as a backup supply should an operating well stops functioning.

Table 4-1. Groundwater Wells			
Well No.	Well depth classification	Capacity, gpm	Status
1	Intermediate	1,040	Active
EM3	Intermediate	1,165	Active
7	Intermediate	946	Active
11	Intermediate	1,360	Active
14	Intermediate	1,500	Active
15	Intermediate	1,178	Active
19	Intermediate	1,200	Active
20	Intermediate	1,108	Active
21	Intermediate	1,120	Active
22	Intermediate	1,183	Active
23	Intermediate	1,700	Active
24	Intermediate	1,855	Active
25	Intermediate	1,035	Active
26	Intermediate	1,591	Active
27	Intermediate	1,058	Active
28	Deep	591	Active, future backup.
29	Deep	1,221	Standby, inactive due to water quality concerns, assume not available.
30	Deep	1,712	Active, future backup.
31	Deep	2,759	Active
32	Deep	2,339	Active, treatment for Mn.
33	Deep	1,750	Active.
34 (Corp Yard)	Deep	2,348	Well casing installed. Well to be completed in the future.
Total capacity	--	28,190	Does not include capacity from Well 29 and 34.
Total deep well reliable capacity	--	9,196	13.2 mgd with Wells 28 and 30 as backup, no Well 29.

The City’s historical annual water production for the potable water system that is totally made up of groundwater is depicted in Figure 4-1.

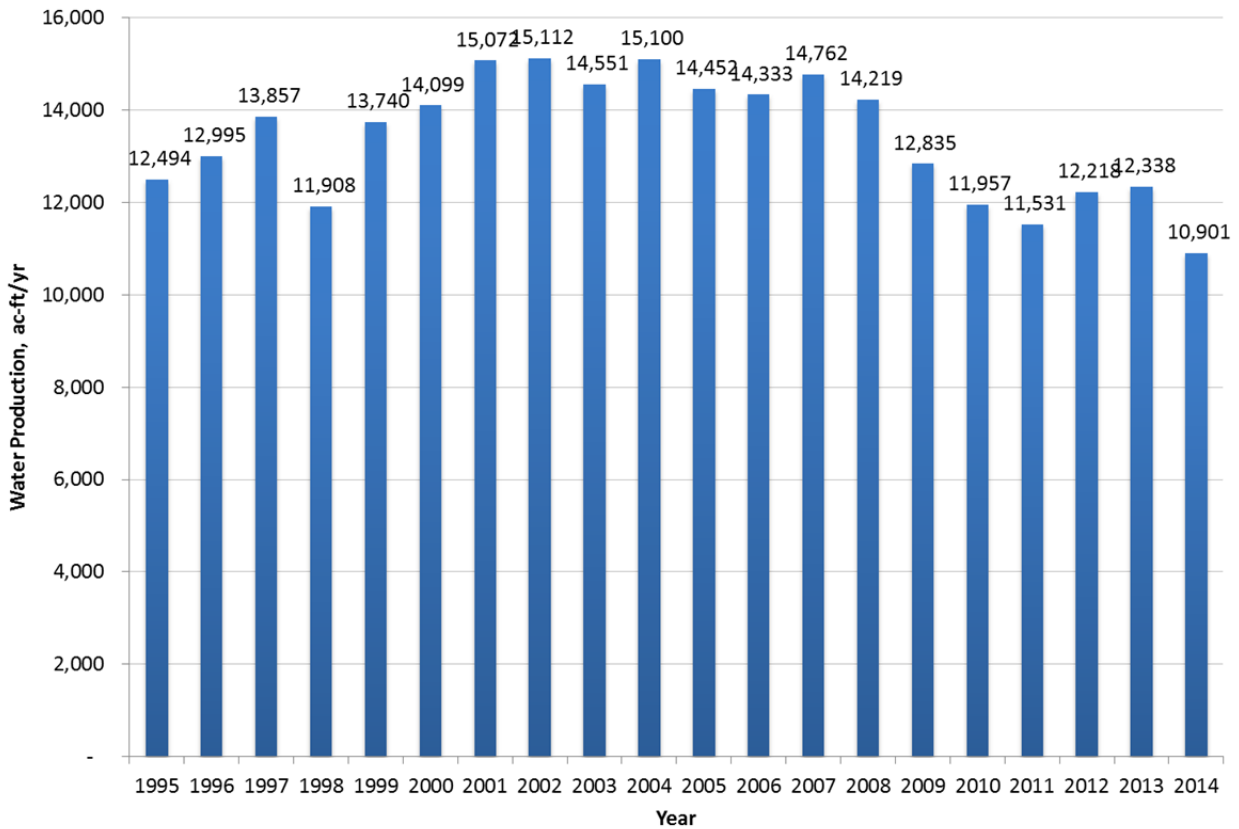


Figure 4-1. Historical Water Production

The City plans to reduce the amount of groundwater use and only use the deep aquifer wells once surface water becomes available. The intermediate aquifer wells will be retired, placed on standby, and/or converted to nonpotable service. Wells 31, 32, 33, and 34 would be the priority operating wells, with Wells 28 and 30 serving as the backup wells. It is assumed that Well 29 is not available. Future planned deep aquifer groundwater improvements include installing well head treatment and completing the above ground features for existing Well 34 and installing a new Well 35 after the year 2020 with treatment to replace existing Well 28. Figure 4-2 presents the historical and projected future annual use of groundwater from the intermediate and deep aquifers. The sharp drop of projected groundwater use depicted in Figure 4-2 in 2017 coincides with the beginning of wholesale surface water deliveries. During periods of Term 91 curtailments, the groundwater use depicted in Figure 4-2 could be greater than depicted.

The City’s water supply quantity available from groundwater is not impacted by dry, average, or wet years. In dry years the groundwater levels may decline, but this does not reduce the pumping capacity of the City’s wells until the groundwater levels drop significantly. The City has an agreement with UC Davis to limit the maximum daily groundwater pumping capacity of the deep aquifer wells.

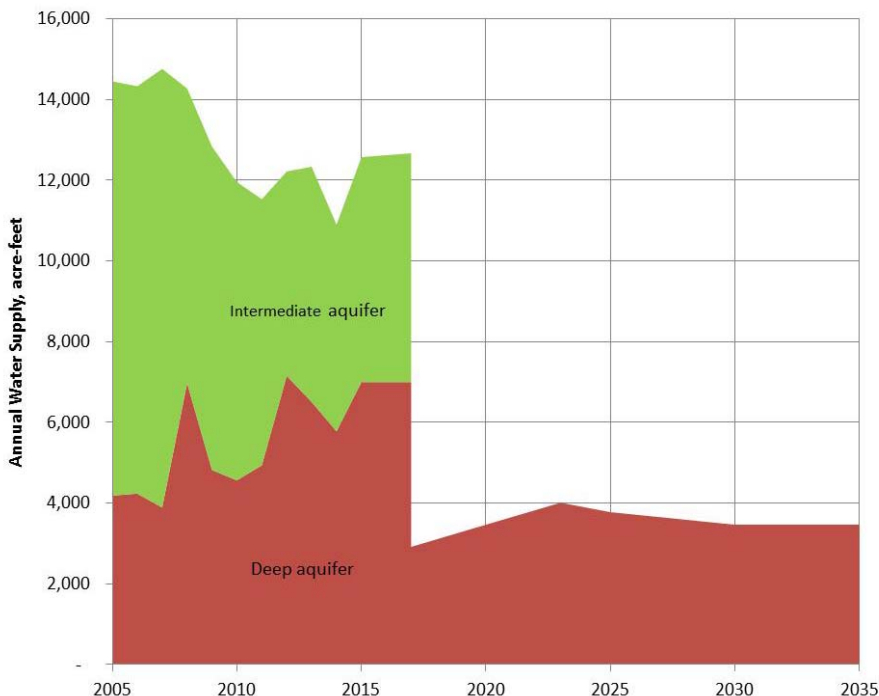


Figure 4-2. Historical and Projected Use of Groundwater Supply

Treatment facilities may be needed on some of the existing wells in the future depending on changes in groundwater quality and drinking water standards. Currently all of the wells meet the drinking water standards.

4.2 Wholesale Water Supply

The City is planning on purchasing wholesale surface water from the Woodland Davis Clean Water Agency (WDCWA) to use in combination with groundwater from the deep wells. The project participants consist of the City, City of Woodland, and UC Davis. The City estimates the wholesale surface water supply to become available by 2016.

The planned WDCWA surface water treatment plant capacity is 30 mgd. Up to 12 mgd will be conveyed to the City through a 30 inch diameter transmission pipeline. The City will be supplying up to 1.8 mgd of surface water to UC Davis, which means that the maximum capacity available for the City will be 10.2 mgd.

The WDCWA has two Sacramento River water rights consisting of a primary water right of 45,000 ac-ft/yr and a secondary right of 10,000 ac-ft/yr. The City’s share of this supply would be 18,700 ac-ft/yr assuming that it is proportional to the share of the proposed treatment plant capacity. The surface water treatment plant capacity would have to be enlarged for the City to be able to fully utilize this amount.

The primary water right is subject to Term 91, which can result in a curtailment of that supply. In the event of a Term 91 curtailment, the secondary water right could be used for the April to October period. When the US Bureau of Reclamation declares a Lake Shasta critical year, the secondary water right is reduced to 7,500 ac-ft/yr. Historically, the majority of Term 91 curtailments have been 3 months or less in duration. 2014 is unique in that it is the first year since the Term 91 regulations went into effect in 1984 that the curtailments have been in effect for most of the year. A Lake Shasta critical year has been declared in 2012, 2013, and 2014, which are three of the seven years of the occurrence of this declaration over the last 40 years.

An analysis of the ability of the WDCWA to supply water during drought conditions concludes that 64 and 42 percent of the annual water demands of the project participants would have been met in 2013 and 2014, respectively. These two years represent the two most severe water right curtailment years since Term 91 went into effect in 1984. The WDCWA has the option of purchasing supplemental Sacramento River water from water rights holders not covered by Term 91. The analysis concludes that the two existing water rights, in combination with deep aquifer groundwater pumping by the City of Davis, an aquifer storage and recovery (ASR) program by the City of Woodland, and the option to purchase supplemental Sacramento River water, are expected to meet the anticipated water demands of all of the project participants (WDCWA, 2014). A draft environmental impact report is currently being prepared for the ASR program. If implemented, an ASR program could mitigate the wholesale supply reduction impacts of Term 91 curtailments.

Documentation regarding the planned wholesale water supply is presented in Appendix B.

4.3 Recycled Water

The City uses a portion of its secondary treated effluent as the primary source of water for approximately 77 acres of a 398-acre, City-owned reclamation wetland facility. The estimated consumptive use by the wetlands is 340 ac-ft/yr. The influent to, and effluent from, the wetlands varies by year. The City does not use recycled water to supply water demands within the City’s water system service area. Therefore, recycled water is not included in this WSA as a supply source that can be used to help meet the demands presented in Section 3. The City may decide at a future time to construct the facilities to be able to use recycled water to supply some portion of the demands presented in Section 3 if needed and feasible.

4.4 Summary of Water Supplies

The City Council decided in 2013 that the City’s long range water portfolio will consist of surface water and groundwater that is supplemented by well conversion/irrigation, aquifer storage and recovery, rainwater catchment, grey water, and storm water, with water conservation to reduce demands. Some of the supplies would not be implemented until sometime in the future, although the ASR option is currently being evaluated by the WDCWA and might be implemented sooner. Surface water and deep aquifer groundwater combined with water conservation comprise the majority of the supply. For the purposes of this WSA, it is assumed that the City will utilize the wholesale surface water supply and the deep aquifer groundwater. Water conservation will continue to be implemented to reduce the City’s existing service area per capita water use from the 20X2020 target of 167 gpcd to achieve 150 gpcd by 2030. The other water portfolio elements would result in very small amounts of water and it is assumed that they would be implemented if needed to provide more potable water supply.

The maximum annual amount available of each water supply available to the City is presented in Table 4-2. These amounts do not consider any limitations due to the capacities of existing water system supply facilities and infrastructure.

Table 4-2. Annual Amount under Each Water Supply Source

Supply	Contract amount, ac-ft/yr	Entitlement	Right	Contract	Ever used
Groundwater	No limit		X		Yes
Wholesale surface water	18,700			X	No

^a While there is no legal limit on annual pumping, the City has agreed with UC Davis to limit total groundwater pumping capacity.

^b Assume proportional to treatment plant capacity share. The actual amount available to the City will be limited by the capacities of the supply facilities and intermittent Term 91 curtailments.



The annual amounts of groundwater and wholesale surface water available to the City are limited by the capacities of the water supply infrastructure. The water supply infrastructure is sized to serve the maximum day demand. Figure 4-3 presents the City’s historical maximum day and maximum month peaking factors.

Once wholesale surface water becomes available, the City’s maximum day supply capacity will be 23.2 mgd, which consists of the 13.2 mgd capacity of the deep aquifer wells and the 10.2 mgd capacity of the wholesale surface water supply. The City will have additional groundwater supply capacity from some of the intermediate depth wells that will be kept for emergency standby purposes. These other wells are assumed to not be normally operational.

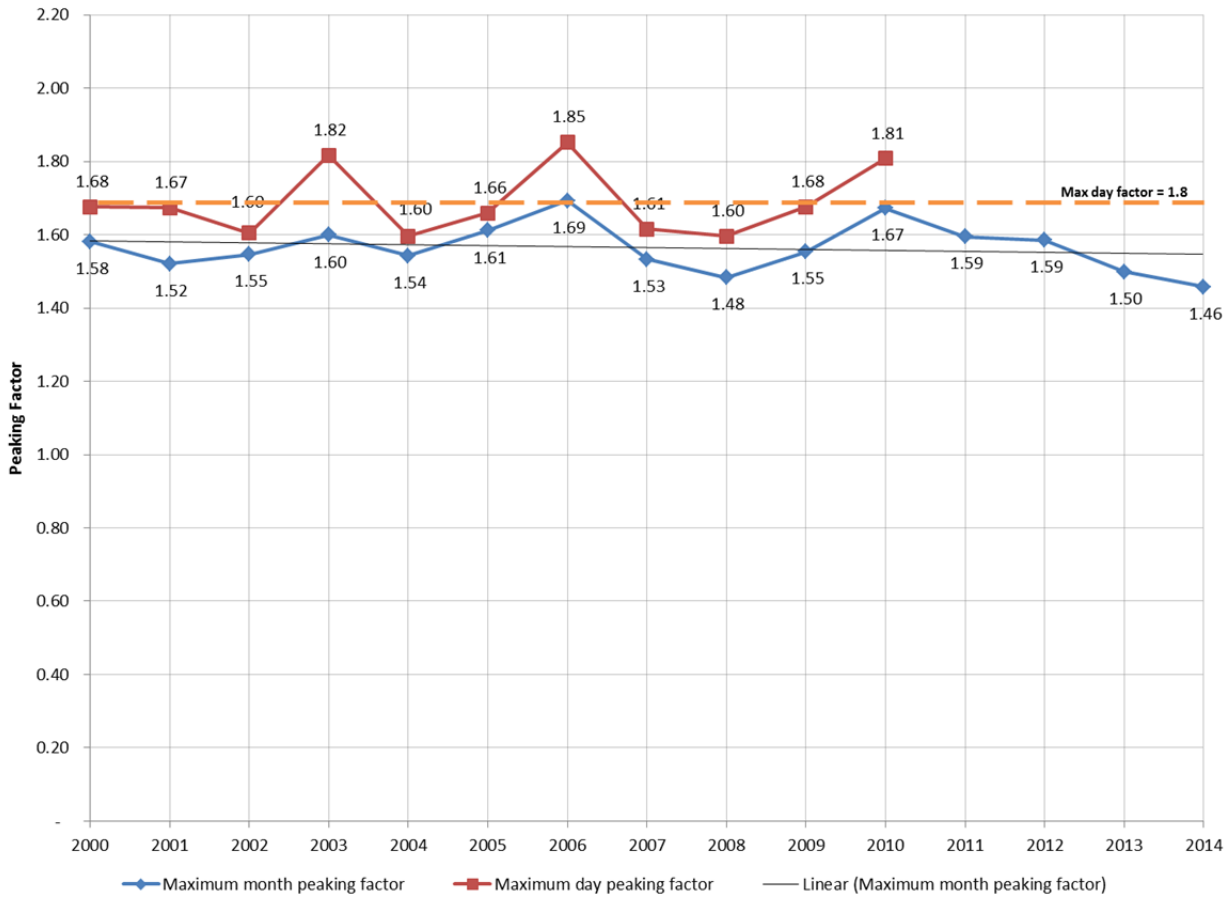


Figure 4-3. Historical Maximum Day and Maximum Month Peaking Factors

The annual supply that would be provided to the City as a result of the maximum day supply capacity is quantified by using the maximum day to maximum month peaking factor of 1.08 to compute the maximum month supply capacity and the monthly distribution for a twelve month period. The amounts of surface water and groundwater that would make up the annual supply would vary based on how the system is operated. The City plans to maximize surface water use by routinely using the surface water supply as a base load and using the deep aquifer wells as a supplemental supply during the summer when demands would exceed the surface water supply capacity. The other bookend would be to maximize the use of groundwater.

Table 4-3 presents the City’s maximum day and annual supply capacity and the breakdown of the surface water and groundwater supply amounts for the two operational scenarios. Table 4-4 presents the City’s monthly and annual use of water supplies with the full use of the City’s supply facilities. The 10.2 mgd wholesale water supply capacity would be equivalent to 11,426 ac-ft/yr if the City could utilize the 10.2 mgd year round. However, because of the lower demands in the winter months, the wholesale water supply capacity is 10,404 ac-ft/yr as shown in Table 4-4.

Table 4-3. Water Supply Capacity, mgd			
Water supply	Maximum day, mgd	Annual with maximized surface water, ac-ft/yr ^a	Annual with maximized groundwater, ac-ft/yr ^b
Surface Water	10.2	10,404	2,996
Groundwater	13.2	4,848	12,257
Total	23.4	15,253	15,253

^a Annual supplies with maximum use of the wholesale water supply.

^b Annual supplies with maximum use of the City’s groundwater wells.

Table 4-4. Monthly Water Supply at Maximum Capacity, mgd							
Month	Provided supply with maximized surface water ^a			Provided supply with maximized groundwater ^b			Monthly demand factor, month/annual water use
	Surface water	Groundwater	Total	Surface water	Groundwater	Total	
January	7.8	-	7.8	-	7.8	7.8	0.047
February	6.9	-	6.9	-	6.9	6.9	0.042
March	8.4	-	8.4	-	8.4	8.4	0.051
April	10.2	1.8	12.0	-	12.0	12.0	0.074
May	10.2	6.1	16.3	3.1	13.2	16.3	0.100
June	10.2	8.4	18.6	5.4	13.2	18.6	0.114
July	10.2	11.5	21.7	8.5	13.2	21.7	0.133
August	10.2	11.3	21.5	8.3	13.2	21.5	0.132
September	10.2	9.1	19.3	6.1	13.2	19.3	0.118
October	10.2	3.6	13.8	0.6	13.2	13.8	0.085
November	9.4	-	9.4	-	9.4	9.4	0.057
December	7.6	-	8	-	7.6	7.6	0.047
Total, ac-ft/yr	10,404	4,848	15,253	2,996	12,257	15,253	

^a Monthly supplies with maximum use of the wholesale water supply.

^b Monthly supplies with maximum use of the City’s groundwater wells.

Figure 4-4 depicts the historical and projected use of the groundwater and surface water supplies through 2035, as well as the amount of planned water conservation. The amount of water conservation savings is the difference between the 2020 per capita water use target of 167 gpcd and the projected per capita water use in the future.

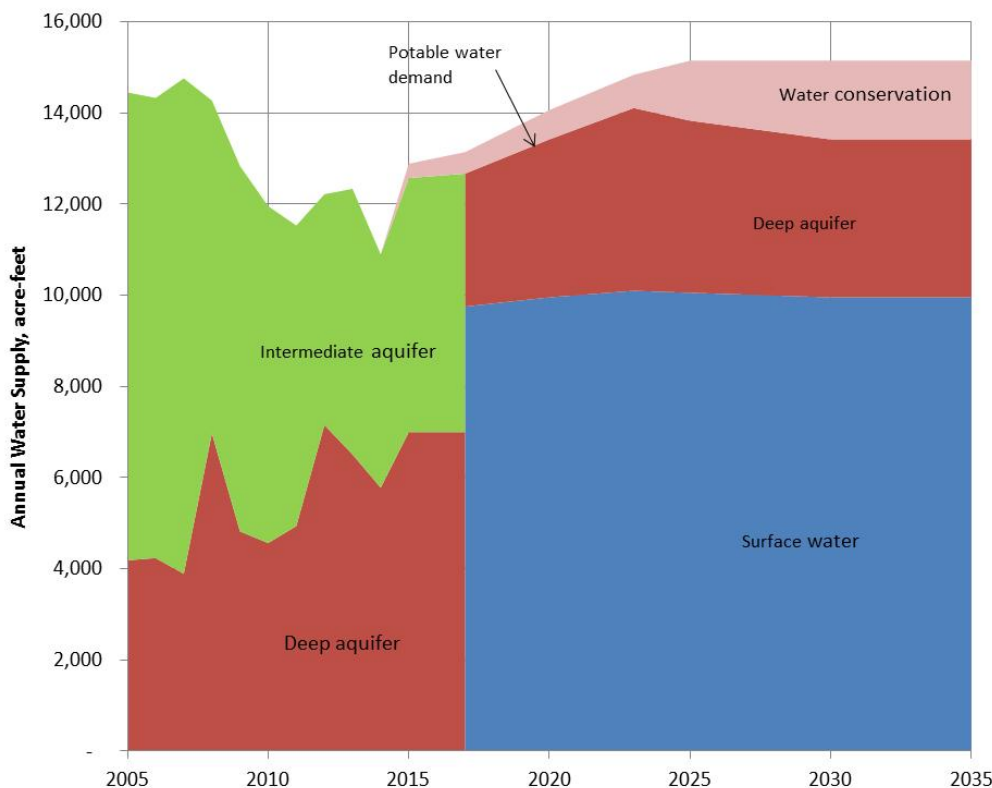


Figure 4-4. Historical and Projected Use of Water Supplies

The City’s actual and projected annual water deliveries for average climate years by type of supply are summarized by source of supply in Tables 4-5 and 4-6 for the City plus proposed developments with the Mace Ranch IC baseline and mixed-use alternatives. These values represent the projected supply amounts to be used with a maximize surface water use operational approach as shown in Table 4-4. Table 4-7 presents the maximum amount of supply available from each source for the different climate year types limited by the capacities of the supply facilities. The projected supply available for the single dry and multiple dry years in Table 4-7 assumes an operational mode where the maximum use of the City’s groundwater wells is the priority as shown in Table 4-4.

The wholesale supply values in Tables 4-5, 4-6, and 4-7 represent the projected supply deliveries and availability by type of supply for the average climate years during which Term 91 curtailments do not constrain surface water deliveries below the surface water treatment plant capacity. Table 4-7 also presents the supply availability by type of supply for dry years.

Under current demand conditions, any curtailments longer than 3 months would likely reduce surface water deliveries below plant capacity. By 2035, it is possible that a 2-month curtailment would limit deliveries below plant capacity. In the case of Term 91 curtailments during an average climate year, the City would

increase the use of the groundwater supply or the wholesale supply amounts would remain the same through the use of the option to purchase supplemental Sacramento River water.

Table 4-5. Projected Deliveries to Meet Projected Demands in Average Climate Years (with Mace Ranch IC Baseline Alternative), ac-ft/yr

Water supply	2010 (actual)	2015	2020	2025	2030	2035
Wholesaler - WDCWA	-	-	9,955	10,056	9,955	9,955
Supplier produced groundwater	11,957	12,574	3,466	3,777	3,466	3,466
Total	11,957	12,574	13,421	13,833	13,421	13,421

^a Projected supply deliveries for the average climate years in which Term 91 curtailments do not constrain surface water deliveries. See text.

Table 4-6. Projected Deliveries to Meet Projected Demands in Average Climate Years (with Mace Ranch IC Mixed-Use Alternative), ac-ft/yr

Water supply	2010 (actual)	2015	2020	2025	2030	2035
Wholesaler - WDCWA	-	-	9,972	10,090	9,989	9,989
Supplier produced groundwater	11,957	12,574	3,519	3,880	3,570	3,570
Total	11,957	12,574	13,491	13,970	13,559	13,559

^a Projected supply deliveries for the average climate years in which Term 91 curtailments do not constrain surface water deliveries. See text.

Table 4-7. Projected Supply Availability by Source for Average, Single-Dry, and Multiple-Dry Years

Water supply sources	Average/normal water year supply, ac-ft/yr	Single Dry Year, ac-ft/yr	Multiple Dry Years, ac-ft/yr			
			Year 1	Year 2	Year 3	Year 4
Wholesale - WDCWA ^a	10,404	2,996	2,996	2,996	2,996	2,996
Supplier produced groundwater ^b	4,848	12,257	12,257	12,257	12,257	12,257
Total	15,253	15,253	15,253	15,253	15,253	15,253

Note: Projected available supplies constrained by the capacities of the supply facilities as shown in Table 4-4.

^a Assume maximum use of wholesale water supply capacity in average years assuming no Term 91 curtailments. See text.

^b Assume maximum use of City's groundwater supply capacity in single dry and multiple dry years. This is the maximum annual capacity of the City's deep aquifer wells.

Table 4-8 presents the projected availability of dry year supplies in five year intervals through 2035 based on the capacities of the supply facilities, except 2015 is based on the projected use of the existing groundwater supply.

Table 4-8. Projected Dry Year Supply Availability, ac-ft/yr					
	2015	2020	2025	2030	2035
Single dry year	13,328	15,253	15,253	15,253	15,253
Multiple dry years					
Year 1	12,888	15,253	15,253	15,253	15,253
Year 2	13,328	15,253	15,253	15,253	15,253
Year 3	12,951	15,253	15,253	15,253	15,253

Note: Projected available supplies constrained by the capacities of the supply facilities as shown in Table 4-4, except 2015 is projected use of the supply. The breakdown of surface water and groundwater quantities is shown in Table 4-6.

Section 5

Water Supply to Demand Comparison

A water supply to demand comparison is presented for the City existing water system and proposed developments with both alternatives for the Mace Ranch IC.

The buildout annual and maximum day demands of the City's existing service area and the proposed developments (with the Mace Ranch IC baseline alternative) are compared to the supply capacity in Table 5-1.

Table 5-1. Normal Year Buildout Demand (with Mace Ranch IC Baseline Alternative) to Supply Comparison

	Annual, ac-ft/yr	Maximum day, mgd
Demand		
Existing City service area ^a	13,258	21.3
Proposed developments	1,066	1.3
Total ^b	14,324	22.6
Supply ^c	15,253	23.4

^a Declining to 12,356 ac-ft/yr and 19.9 mgd as the City's service area per capita water use drops to 150 gpcd.

^b This total would occur if the buildout of the City's existing service area and the proposed developments (with Mace Ranch IC baseline alternative) occur in the same year. See Table 5-3 for the total demand with staggered buildout years.

^c Based on capacity of supply facilities from Table 4-3.

The buildout annual and maximum day demands of the City's existing service area and the proposed developments (with the Mace Ranch IC mixed-use alternative) are compared to the supply capacity in Table 5-2.

Table 5-2. Normal Year Buildout Demand (with Mace Ranch IC Mixed-Use Alternative) to Supply Comparison

	Annual, ac-ft/yr	Maximum day, mgd
Demand		
Existing City service area ^a	13,258	21.3
Proposed developments	1,203	1.5
Total ^b	14,461	22.8
Supply ^c	15,253	23.4

^a Declining to 12,356 ac-ft/yr and 19.9 mgd as the City's service area per capita water use drops to 150 gpcd.

^b This total would occur if the buildout of the City's existing service area and the proposed developments (with Mace Ranch IC mixed-use alternative) occur in the same year. See Table 5-4 for the total demand with staggered buildout years.

^c Based on capacity of supply facilities from Table 4-3.

Table 5-3 compares the City’s projected normal year water demands to the supplies in five year intervals to 2035. The water demands represent the City’s total water demands and consist of the demands within the City’s existing service area and the demands of the proposed developments (with the Mace Ranch IC baseline alternative).

Table 5-3. Average Year Water Demand (with Mace Ranch IC Baseline Alternative) and Supply Comparison, ac-ft/yr					
	2015	2020	2025	2030	2035
Demand within current service area	12,574	12,889	12,767	12,356	12,356
Demand of proposed developments	-	533	1,066	1,066	1,066
Total demand	12,574	13,421	13,833	13,421	13,421
Supply ^a	12,574	15,253	15,253	15,253	15,253
Supply minus demand	-	1,831	1,419	1,831	1,831

^a Based on capacity of supply facilities from Table 4-3. 2015 supply is projected use of existing groundwater supply.

Table 5-4 compares the City’s projected normal year water demands to the supplies in five year intervals to 2035. The water demands represent the City’s total water demands and consist of the demands within the City’s existing service area and the demands of the proposed developments (with the Mace Ranch IC mixed-use alternative).

Table 5-4. Average Year Water Demand (with Mace Ranch IC Mixed-Use Alternative) and Supply Comparison, ac-ft/yr					
	2015	2020	2025	2030	2035
Demand within current service area	12,574	12,889	12,767	12,356	12,356
Demand of proposed developments	-	602	1,203	1,203	1,203
Total demand	12,574	13,491	13,970	13,559	13,559
Supply ^a	12,574	15,253	15,253	15,253	15,253
Supply minus demand	-	1,762	1,283	1,694	1,694

^a Based on capacity of supply facilities from Table 4-3. 2015 supply is projected use of existing groundwater supply.

As shown in the tables above, the capacities of the City’s water supply facilities are sufficient to supply the City’s normal year buildout demand of the existing service area and the demands of the proposed developments with both Mace Ranch IC alternatives.

Tables 5-5 and 5-6 provide a water supply and demand comparison for single and multiple dry years through the year 2035 with the Mace Ranch IC baseline and mixed-use alternatives, respectively. As can be seen in Table 5-5, the City has the supplies to be able to meet dry year demands of the existing service area and the proposed developments.

Table 5-5. Single and Multiple Dry Year Water Demand (with Mace Ranch IC Baseline Alternative) and Supply Comparison, ac-ft/yr

	2015	2020	2025	2030	2035
Single dry year					
Demand ^a	13,328	14,227	14,663	14,226	14,226
Supply ^b	13,328	15,253	15,253	15,253	15,253
Supply minus demand	-	1,026	590	1,026	1,026
Multiple dry years					
Year 1					
Demand ^a	12,888	13,757	14,179	13,757	13,757
Supply ^b	12,888	15,253	15,253	15,253	15,253
Supply minus demand	-	1,496	1,074	1,496	1,496
Year 2					
Demand ^a	13,328	14,227	14,663	14,226	14,226
Supply ^b	13,328	15,253	15,253	15,253	15,253
Supply minus demand	-	1,026	590	1,026	1,026
Year 3					
Demand ^a	12,951	13,824	14,248	13,824	13,824
Supply ^b	12,951	15,253	15,253	15,253	15,253
Supply minus demand	-	1,428	1,005	1,429	1,429

^a Based on Table 3-13 and includes demands of proposed developments (with Mace Ranch IC baseline alternative).

^b Based on capacity of supply facilities from Table 4-3. 2015 supply is projected use of existing groundwater supply.

Table 5-6. Single and Multiple Dry Year Water Demand (with MRIC Mixed-Use Alternative) and Supply Comparison, ac-ft/yr

	2015	2020	2025	2030	2035
Single dry year					
Demand ^a	13,328	14,300	15,073	14,809	14,373
Supply ^b	13,328	15,253	15,253	15,253	15,253
Supply minus demand	-	953	180	444	880
Multiple dry years					
Year 1					
Demand ^a	12,888	13,828	14,576	14,320	13,898
Supply ^b	12,888	15,253	15,253	15,253	15,253
Supply minus demand	-	1,425	678	933	1,355
Year 2					
Demand ^a	13,328	14,300	15,073	14,809	14,373
Supply ^b	13,328	15,253	15,253	15,253	15,253
Supply minus demand	-	953	180	444	880

Table 5-6. Single and Multiple Dry Year Water Demand (with MRIC Mixed-Use Alternative) and Supply Comparison, ac-ft/yr					
	2015	2020	2025	2030	2035
Year 3					
Demand ^a	12,951	13,896	14,647	14,390	13,966
Supply ^b	12,951	15,253	15,253	15,253	15,253
Supply minus demand	-	1,428	1,005	1,429	1,429

^a Based on Table 3-14 and includes demands of proposed developments (with Mace Ranch IC mixed-use alternative).

^b Based on capacity of supply facilities from Table 4-3. 2015 supply is projected use of existing groundwater supply.

There are several options that could be implemented that would increase the City’s available water supply to serve new customers. These options include:

- Remove the parks’ water demand off of the potable water system by converting some of the City’s existing intermediate depth wells to irrigation wells.
- Implement additional water conservation efforts to reduce the City’s per capita demand to 134 gpcd.
- The maximum day capacity is the limiting factor of the water supply facilities. This could be increased by adding a deep aquifer well without significantly increasing the annual use of the deep aquifer. The wholesale surface water supply capacity could also be expanded since the surface water supply availability exceeds the planned capacity.
- Implement the other supply options that were developed in the Integrated Water Resources Study in 2013.

Section 6

References

- California Department of Water Resources. 2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. October.
- California Department of Water Resources. 2003. California's Groundwater. Bulletin 118. March.
- United States Census Bureau, 2010 Census, Fact Finder, "2010 Demographic Profile Data",
http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1
(June 11, 2012)
- Aquacraft Water Engineering & Management. 2011. California Single Family Water Use Efficiency Study. April 20.
- BAE Urban Economics, Inc. 2014. City of Davis Economic Evaluation of Innovation Park Proposals. December 19.
- CIMIS. www.CIMIS.water.ca.gov
- City of Davis. 2007. Davis General Plan, Adopted May 2001/Amended Through January 2007.
- City of Davis. 2011. Water Distribution System Optimization Plan. May.
- City of Davis. 2011. 2010 Urban Water Management Plan. July.
- City of Davis. 2013. Integrated Water Resources Study. August.
- City of Davis. 2013. Water Distribution System Optimization Plan Update. November.
- City of Davis. 2014. City of Davis 2013-2021 Housing Element Update. February. Word file titled "Davis HE Section 04 Site Inventory and Local Resources 2-25-14.docx".
- City of Davis. 2014. Emails from Michael Lindquist dated November 14 and 21.
- City of Davis/UC Davis. 2006. Groundwater Management Plan. April.
- Lilly, A.B. 2009. Proposed Water Rights and Water Supplies for Davis-Woodland Project. Technical memorandum to Woodland City Council. Bartkiewicz, Kronick & Shanahan. June 16.
- Lilly, A.B. 2011. Davis-Woodland Water Supply - Project Water Rights Briefing Paper. Bartkiewicz, Kronick & Shanahan. November 28.
- Western Policy Research. 2011. GPCD Weather Normalization Methodology. December 13.
- Woodland-Davis Clean Water Agency. 2014. Memorandum regarding the Ability of the Davis Woodland Water Supply Project to Accommodate Extreme Drought Conditions. October.

Appendix A: Buildout Analysis

Key Assumptions

Buildout Demand – Existing City Service Area

Approach 1. By Acres and DUs

1. Additional single family residential (SFR) development:
 - a. Additional dwelling units (DUs) to buildout are based on the City's Community Development Department estimate of available amount of housing units within the City limits from Table 40 and 41 in Section 4 of the City of Davis 2013-2021 Housing Element Update, February 25, 2014. Tables 40 and 41 sum to 1,359 additional DUs. This is increased by 20 percent to 1,631 DUs to account for additional DUs not included in the Housing Element Update.
 - b. It is assumed one-half of the Housing Element DUs are single family residential (SFR) (815) and one-half are multi-family residential (MFR) (815).
 - c. An additional 600 multi-family DUs are added to account for conversions to residential from commercial uses.
2. Additional acres to buildout:
 - a. Additional acres to buildout for commercial/institutional/industrial customer sector are from Brian Abbanat in the City's Community Development Department. Total commercial/industrial area is 824 acres, with 116 acres available to be developed. The 824 acres includes 20 acres that will be available in the Cannery development.
3. SFR unit water demand, gpd/DU – Water use per dwelling unit for additional SFR development is based on the 2013 SFR gpd/DU reduced by 10 percent to anticipate more water efficient future development.
4. MFR unit water demand, gpd/DU - Water use per dwelling unit for additional MFR development is based on the 2013 MFR gpd/DU reduced by 10 percent to anticipate more water efficient future development.
5. CII unit water demand, gpd/acre – Water use per acre for CII is based on a higher CII use per acre than recent years to account for increased density in CII development per acre.
6. Unit water demand planning factors for CII used by Sacramento County Water Agency (SCWA) and City of Sacramento were also considered.
 - a. SCWA – Commercial/industrial = 1,800 gpd/acre
 - b. City of Sacramento – Commercial = 1,340 gpd/acre, Industrial = 800 gpd/acre, 72 gpd/employee

Approach 2. By Employees and DUs

1. Same as method 1 for residential estimate.
2. Additional employees to buildout:
 - a. Based on the California Employee Development Department (CA EDD) estimate of 2013 employees and the City's estimated additional 14 percent (0.14 = 116 acres/824 acres) growth in commercial/industrial development.
 - b. Other information such as estimated 2012 employees from US Census were also considered.

- c. It is assumed that the future employees will be 50% greater per acre than the City's current employees per acre.
3. CII unit water demand, gpd/employee – Water use per employee for CII based on 2013 employees from CA EDD and 2013 CII water demand.

Approach 3. By Population and GPCD

1. Additional population
 - a. Increment of population growth is based on the City's estimated 2,231 dwelling units to buildout multiplied times 2.7 people per dwelling unit.
 - b. 2.7 people per dwelling unit is based on the City standard people per equivalent dwelling unit (EDU).
2. 150 gpcd is a 10 percent reduction in the City's 20x2020 GPCD target of 167 gpcd.

Approach 4. By Connections

1. Additional connections:
 - a. Additional SFR connections based on the number of additional single family DUs (815).
 - b. Additional MFR connections based on the number of additional multi-family DUs (1,415) divided by the number of multi-family DUs per multi-family connection.
 - c. The number of multi-family DUs per multi-family connection is calculated by using the US Census number of 2010 dwelling units. It is assumed the number of single family connections equals the number of single family dwelling units. The US Census total 2010 dwelling units minus the 2010 number of single family connections is the estimated 2010 number of multi family dwelling units. The 2010 multi family dwelling units divided by the 2010 multi-family connections is 22.3.
 - d. Additional commercial/industrial/institutional (CII) connections are based on future CII acreage having 50% more connections per future CII acre than the City's current CII connections per CII acre.
 - e. It is assumed there is not additional growth in "landscape" or "other" connections.
2. Unit water demand for residential connections reduced by 10 percent to anticipate more water efficient future development.

Buildout Demand – Proposed Developments

Davis Innovation Center

1. Convention Center capacity assumed to be 1,000 people.
2. City supply is used for all outdoor irrigation demand.
3. Unit demand factors
 - a. gpd/acre – 70 percent of effective evapotranspiration (ET_o). ET_o and precipitation based on the July 1982 to January 2011 average for CIMIS Sacramento Valley, Davis Station 6.
 - b. gpd/employee (indoor) – Based on 2013 indoor CII use
 - c. gpd/room – typical usage.
4. Average annual demand
 - a. Average annual hotel room demand is 80 percent of maximum day demand (MDD) which is based on an assumed average 80 percent occupancy.
 - b. Average annual convention center visitor demand is based on the assumption that the convention facilities will be fully utilized 15 weeks out of the year, which is approximately 30 percent of the year.
5. Maximum day demand
 - a. Indoor peaking factor – used for office/retail/visitor center. Assumed to be 30% greater than average day demand
 - b. Hotel guest rooms – Unit demand factor for hotel room is used to calculate the MDD for hotel rooms at full occupancy.
 - c. Convention center people (attendees) – MDD based on full occupancy. No peaking factor for convention center guests.
 - d. Outdoor landscape – peak day application rate is based on 70 percent of the maximum month ET_o,

Mace Ranch Innovation Center/Triangle

1. Assume hotel has 150 rooms.
2. 20 percent of Mace IC outdoor irrigation demand supplied by the City. All of Triangle irrigation demand supplied by the City.
3. Unit demand factors
 - a. gpd/acre – 70 percent of effective ET_o. ET_o and precipitation based on the July 1982 to January 2011 average for CIMIS Sacramento Valley, Davis Station 6.
 - b. gpd/employee (indoor) – Based on 2013 indoor CII use.
 - c. gpd/room – typical usage.
4. Average annual demand
 - a. Average annual hotel room demand is 80 percent of MDD which is based on an assumed average 80 percent occupancy.
 - b. Average annual convention center visitor demand is based on the assumption that the convention facilities will be fully utilized 15 weeks out of the year, which is approximately 30 percent of the year.
5. Maximum day demand

- a. Indoor peaking factor – used for office and retail. Assumed to be 30% greater than average day demand
- b. Hotel guest rooms – Unit demand factor for hotel room is used to calculate the MDD for hotel rooms at full occupancy.
- c. Convention center people (attendees) – MDD based on full occupancy. No peaking factor for convention center visitors.
- d. Outdoor landscape – peak day application rate is based on 70 percent of the maximum month ETo,

Nishi Property

1. All outdoor demands are supplied by the City.
2. Unit demand factors
 - a. gpd/acre – 70 percent of effective ETo. ETo and precipitation based on the July 1982 to January 2011 average for CIMIS Sacramento Valley, Davis Station 6.
 - b. gpd/employee (indoor) – Based on 2013 indoor CII use.
 - c. gpd/person (indoor) – 2013 indoor residential per capita demand.
3. Maximum day demand
 - a. Indoor peaking factor – used for employees and residential population. Assumed to be 10% greater than average day demand for residential and 30% greater for office/retail.
 - b. Outdoor landscape – peak day application rate is based on 70 percent of the maximum month ETo,

Appendix B: Documentation of Wholesale Water Supply

Davis-Woodland Water Supply Project Authority Joint Powers Agreement

State Water Resources Control Board Decision 1650

WDCWA Amended License for Diversion and Use of Water License 904A

WDCWA Amended License for Diversion and Use of Water License 5487A

Appendix 9. Government Approvals, Utilities and Landowner Coordination

Agenda Board of Directors Regular Meeting – June 19, 2014

Woodland-Davis Clean Water Agency and University of California Agreement
Concerning Potential Water Supply Contract

**DAVIS-WOODLAND WATER SUPPLY PROJECT AUTHORITY
JOINT POWERS AGREEMENT**

This Joint Powers Agreement is made this 15th day of September 2009 by and between the City of Davis, a general law city, and the City of Woodland, a general law city, who agree as follows:

1. DEFINITIONS. For purposes of this Agreement, the words and phrases below shall have the following meanings:

1.1. "Act" means the Joint Exercise of Powers Act, California Government Code title I, division 7, chapter 5 (commencing with Section 6500).

1.2. "Agreement" means this Joint Powers Agreement.

1.3. "Authority" means the Davis-Woodland Water Supply Project Authority created pursuant to this Agreement.

1.4. "Board" or "Board of Directors" means the governing body of the Authority as established by this Agreement.

1.5. "Capital Costs" mean the Project-related costs of Construction, financing, acquiring, planning, designing, and Environmental Documentation and Permitting (including any mitigation costs or filing fees related to Permitting), and the funding of a reasonable construction reserve. Capital Costs include both the Capital Costs of initial Project construction and subsequent Capital Costs of Project repair, replacement, modification and improvement. Capital costs include any one-time initial costs and payments under a water supply contract approved by the Authority, but not the on-going costs of water under a water supply contract.

1.6. "Construction" means the Project-related procurement of material, parts and equipment, conducting construction, construction management and related field services including project management activities, contractor management, design assistance during construction, as-built-drawings, and startup testing.

1.7. "CEQA" means the California Environmental Quality Act.

1.8. "Effective Date" means the effective date of this Agreement and the Authority as provided in section 3.4.

1.9. "Dedicated Capacity" means the capacity of the Project Facilities dedicated to each Project Participant as set forth below in section 7.3.

1.10. "Director" means a member of the Board of Directors.

1.11. "District" means the Yolo County Flood Control and Water Conservation District.

1.12. "Environmental Documentation" means all activities and documents required to comply with federal and/or state environmental, water quality and endangered species laws and regulations (including CEQA) in connection with Permitting and the construction and operation of the Project.

1.13. "Final EIR" means the Davis-Woodland Water Supply Project Final Environmental Impact Report dated October 2007 certified by the Davis City Council on October 16, 2007.

1.14. "Final Engineering" means engineering and related activities that are necessary or appropriate to develop and prepare final design plans, specifications, drawings, and bidding and construction documents for the Project.

1.15. "Fiscal Year" means July 1 through June 30 or such other period as the Board may determine.

1.16. "Fixed Operating Costs" means those Project-related operating, maintenance and management costs that are incurred irrespective of the amount of water conveyed through the Project, including, but not limited to, consultant costs, employee salaries and expenses, debt service costs on any bonds or other indebtedness issued to finance the Capital Costs, bond reserve funds, and the costs of bond or financing agreements.

1.17. "Force Majeure" means delays or defaults due to acts of God, government (other than acts or failure to act by one of the Parties), litigation, including litigation challenging the validity of this Agreement or any element thereof, general strikes or other force or event beyond the responsible party's reasonable control.

1.18. "Individually-Owned Project Facility" means a Project Facility to be financed and constructed by the Authority as part of the Project, but to be owned and operated by one of the Project Participants as described on Exhibit A.

1.19. "mgd" means millions of gallons of water per day.

1.20. "Participating Agency" means UC Davis and any other future participating agency approved pursuant to section 4.2.

1.21. "Parties" mean the Cities of Davis and Woodland. "Party" means either one of the Parties.

1.22. "Permitting" means all activities and documents to apply for and acquire the permits and licenses that are required under federal, state and/or local laws and regulations to construct and operate the Project, including, but not limited to, conducting required studies, endangered species act consultation, environmental documentation, public notifications, preparation of permit and license applications, consultation and negotiations with involved persons and organizations including regulatory agencies. Permitting also shall include the acquisition of water right permits, licenses and contract water supplies that are necessary or appropriate for the Project.

1.23. "Project" means the preferred project alternative as described in the Final EIR and as approved by the City of Davis in its City Council resolution approved on October 16, 2007, and any changes to this preferred alternative that are approved by the Authority.

1.24. "Project Facility" or "Project Facilities" means each facility or all facilities (as the case may be) identified as a Project Facility in Exhibit A, attached hereto and incorporated herein.

1.25. "Project Participants" mean the Parties and, subject to the timely approval of an Authority-UC Davis water supply agreement pursuant to section 7.6, UC Davis. If the Authority and UC Davis do not timely approve a water supply agreement pursuant to section 7.6, then UC Davis will not be considered a Project Participant. "Project Participant" means any one of the Project Participants.

1.26. "RD 2035" means Reclamation District 2035.

1.27. "Transmission Piping" means the treated water transmission lines between the water treatment plant to be constructed as part of the Project and the Davis, UC Davis, and Woodland distribution systems, and excludes the pipeline between the Project's water intake facilities in the Sacramento River and the water treatment plant.

1.28. "UC Davis" means The Regents of the University of California acting for and on behalf of the University of California at Davis.

1.29. "Variable Operating Costs" mean those Project-related operating and maintenance costs and other costs that are dependent on, and vary based on, the volume of water actually conveyed through the Project (including, but not limited, to the costs of water (e.g., supplied under a water supply contract) and power), length or size of the Transmission Piping, or such other method as may be established by the unanimous Board approval.

2. **RECITALS.** This Agreement is made with reference to the following background recitals.

2.1. The Parties each have the authority to develop, construct, operate and maintain water supply facilities and services. The Parties have agreed to jointly pursue development and implementation of a project that would involve, if finally approved, implemented and constructed, a new treated surface water supply. The Parties desire to implement this goal by creating a joint exercise of powers authority to exercise those powers in common for their mutual benefit as provided in this Agreement. The principal goal of this Agreement and Project is to provide a long-term, secure, reliable, high-quality water supply for the mutual benefit of the Parties. The objective is to provide a treated surface water supply for the Parties by 2016.

2.2. The Parties and UC Davis previously have cooperated in the planning and development of a supplemental regional treated surface water supply pursuant to a series of memoranda of understanding dated July 12, 2000, November 18, 2003 and June 1, 2005 (as amended in October, 2007 and further amended in May, 2009), copies of which are on file with

each of the Parties (the "MOUs"). Pursuant to the 2000 and 2003 MOUs, the following documents were prepared: the City of Davis and University of California, Davis Joint Water Supply Feasibility Study dated September 2002; and, the Preliminary Environmental Review City of Davis, UC Davis and City of Woodland Joint Water Supply Feasibility Study dated July 2004; copies of which are on file with each of the Parties.

2.3. Pursuant to the 2005 MOU and based on the 2002 and 2004 studies, Davis has acted as a lead agency under CEQA in the preparation of an environmental impact report for the Davis-Woodland Water Supply Project. On October 16, 2007, the Davis City Council certified the Davis-Woodland Water Supply Project Final Environmental Impact Report and approved the preferred project alternative (as described in the Final EIR) as the project to be implemented.

2.4. On November 6, 2007, the Woodland City Council adopted findings as a CEQA responsible agency with respect to the Davis-Woodland Water Supply Project Final Environmental Impact Report and approved the preferred project alternative as the project to be implemented.

2.5. The 2005 MOU contemplates that further Project implementation will consist of Phases 3-5, which include Project-related acquisition of water rights, water supply contracts, permits (including additional environmental review and documentation), lands and rights-of-way, engineering, financing, construction, start-up, operation and maintenance. The 2005 MOU provides that subsequent Project phases will be implemented pursuant to a joint powers agreement or other agreement. This Agreement is the "Phase 3-5 Agreement" as contemplated by the 2005 MOU. The purpose of this Agreement is to provide the legal mechanism under which the Authority will conduct and implement Project Phases 3-5 (as defined in the MOU dated June 1, 2005) for the benefit of the Parties.

2.6. The Parties have agreed to share in the costs of Project-related acquisition of water rights, water supply contracts, Environmental Documentation, Permitting, design, Final Engineering, financing, property and rights-of-way acquisition, Construction, operation, maintenance and management of the Project on and subject to the terms of this Agreement.

2.7. The Parties have a joint and mutual interest in the successful planning, design, construction and operation of the Project. The Parties each have the power to design, finance, lease, purchase, condemn, acquire, construct, operate, maintain, sell, hypothecate or otherwise dispose of the Project and related property for the purpose of the production, treatment and distribution of water as provided herein.

2.8. These powers can be exercised best through the cooperative action of the Parties through a joint exercise of powers agreement. Each of the Parties is authorized to contract with the other for the joint exercise of these common powers under the Joint Exercise of Powers Act.

3. CREATION OF AUTHORITY.

3.1. Authority. This Agreement is authorized by, and entered into pursuant to, the Act and other applicable law.

3.2. Authority Created. There is hereby created a public agency to be known as the "Davis–Woodland Water Supply Project Authority." The Authority shall be a public agency separate from the Parties. The Authority may change its name at any time through adoption of a resolution by the Board of Directors.

3.3. Liabilities. The debts, liabilities, contracts and obligations of the Authority shall be the debts, liabilities, contracts and obligations of the Authority alone. No debt, liability, contract or obligation of the Authority shall be or constitute a debt, liability, contract or obligation of the Parties or either of them. The Authority shall not have the authority to bind the Parties or either of them to any debt, liability, contract or obligation. However, a Party or Parties separately may contract for, or otherwise expressly assume responsibility for, a specific debt, liability, contract or obligation of the Authority, but only the Parties or Parties expressly assuming responsibility shall be so bound, and no other Party then shall be liable for such debt, liability, contract or obligation.

3.4. Effective Date. The effective date of this Agreement and of the legal existence of the Authority shall be the date first set forth above, and this Agreement and the Authority shall continue in full force and effect until terminated as provided in this Agreement.

3.5. No Restriction on Other JPA. Nothing in this Agreement shall prevent the Parties from entering into other joint powers agreements.

4. ORGANIZATION, BOARD AND OFFICERS.

4.1. Membership. The Parties of the Authority shall be the Cities of Davis and Woodland.

4.2. Participating Agencies.

4.2.1. UC Davis shall participate as a Participating Agency with the Authority. UC Davis is a Participating Agency because it is anticipated that UC Davis will transfer and assign a pending water right permit application to the Authority and that UC Davis will become a Project Participant and receive Dedicated Capacity in the Project and a water supply from the Authority. District could become a future Participating Agency because it is responsible for countywide water planning, management and coordination, it is a potential Project funding partner, and it may provide a water supply to the Project. RD 2035 could become a future Participating Agency because the Project may utilize its Sacramento River water diversion/intake facility. The Authority Board may by resolution approve additional Participating Agencies.

4.2.2. The Participating Agency shall be entitled to participate in open session Board meetings regarding the planning, design, construction and operation of the Project. Authority may consult from time to time with current and potential future Participating Agencies regarding Project design, planning and implementation. Authority may cooperate and consult with current and potential future Participating Agencies regarding countywide and regional water planning, management and conjunctive use issues. UC Davis also may have Dedicated Capacity in the Project and a water supply pursuant to an Authority-UC Davis water supply agreement.

4.3. Board of Directors. The Authority shall be governed by a legislative body known as the Board of Directors. The Board shall consist of four directors, with two appointed by each Party. Each Party shall also select one alternate. Each Director shall be entitled to one vote. The Participating Agency may appoint a non-voting member to the Board who shall sit with the four voting Directors at open session Board meetings, and have the right to participate in public Board discussions but shall not be counted towards a quorum, and may not make, or second, motions. The Participating Agency may also appoint an alternate member to the Board to attend in absence of the designated Participating Agency representative.

4.4. Selection of Directors. Within 30 days after the execution of this Agreement by both of the Parties, each Party shall designate and appoint two representatives to serve as Directors on the Board. Each Party also shall appoint an alternate Director. For each Party, each representative shall be a city council member. The alternate member shall also be a city council member. Alternates shall assume all rights of a Director representing the appointing entity and shall have the authority to act in the absence of a Director or in the event that a Director has a conflict of interest that precludes participation by the Director in any decision-making process of the Authority. Each Party shall give written notice to the Authority Secretary of the names of its Directors and alternate Director. The names of all directors and alternates shall be on file with the Board. Each of the Directors and alternate Directors shall hold office from the first meeting of the Board after the appointment of the Director or alternate Director until a successor is selected. Directors, alternate Directors and Participating Agency members shall serve at the pleasure of the governing body of their appointing Parties or agency and may be removed at any time, with or without cause, at the sole discretion of such governing body.

4.5. Compensation. No Director shall receive any compensation from the Authority for serving as such; however, a Director may be reimbursed for necessary and actual expenses incurred by such Director in the conduct of the Authority's business. Except as specifically provided in this Agreement, staff of the Parties shall not be compensated by the Authority for their time incurred on Authority business and affairs.

4.6. Board Action.

4.6.1. All the power and authority of the Authority will be exercised by the Board, subject, however, to the rights reserved by the Parties as set forth in this Agreement, and provided further that the Board may delegate such powers and authority to its officers, employees, contractors and others as the Board deems appropriate.

4.6.2. The Board may act only by ordinance, resolution or motion.

4.6.3. For the purposes of transacting the business of the Board, a quorum shall consist of three Board Directors. A majority vote of the entire Board shall be required for any Board action, except where different voting requirements are provided for in this Agreement.

4.7. Principal Office. The Board shall designate a location in Yolo County as the principal Authority office. The Board may change the principal office from time to time.

4.8. Meetings. The time, frequency and place of regular meetings of the Board shall be determined by resolution adopted by the Board, with a copy of such resolution furnished to each Party and Participating Agency. All meetings of the Board shall be called, noticed, held and conducted subject to the provisions of the Ralph M. Brown Act (Government Code title 5, division 2, part 1, chapter 9 (commencing with Section 54950)).

4.9. Organization of the Board. The Board shall elect a Chair and a Vice-Chair to serve for a term of one year, unless sooner terminated at the pleasure of the Board. The first Chair and Vice-Chair appointed shall hold office from the date of appointment to June 30 of the ensuing year. The position of Chair and Vice-Chair shall alternate between representatives of each Party. The Board may, from time to time, determine the dates for the commencement and completion of the terms of the Chair and Vice-Chair.

4.10. Officers. The Authority shall provide for and appoint the following officers:

4.10.1. Treasurer/Auditor. The Treasurer shall function as the combined offices of Treasurer and Auditor pursuant to Government Code Section 6505.6, and shall strictly comply with the statutes relating to the duties of such offices found in the Act. The Treasurer shall be the depository and have custody of all money of the Authority from whatever source, and shall draw all warrants and pay demands against the Authority as approved by the Board. The Treasurer shall cause independent audits of the finances of the Authority to be made by a certified public accountant in compliance with Government Code Section 6505. The Treasurer shall serve at the pleasure of the Board.

In lieu of designating the Treasurer and Auditor as set forth in section 4.10.1, the Board may designate the treasurer of one of the parties or a certified public accountant to be the Treasurer, as set forth in Government Code Section 6505.5. The Board shall then designate an Auditor as set forth in section 6505.5. The Treasurer shall serve at the pleasure of the Board.

4.10.2. Secretary. The Secretary shall cause to be kept minutes of all meetings of the Board. The Secretary shall maintain the records of the Authority. The Secretary shall be appointed by and shall serve at the pleasure of the Board.

4.10.3. General Counsel. The General Counsel shall provide legal advice and services to the Authority. The General Counsel shall be appointed by and shall serve at the pleasure of the Board.

The initial Treasurer/Auditor, Secretary and General Counsel shall be appointed by the Board at its first meeting.

4.10.4. Additional Officers. The Board may appoint such additional officers as it deems necessary or appropriate.

4.10.5. Qualifications. Any officer, employee or agent of the Board also may be an officer, employee or agent of any of the Parties. Except as specifically provided in section 4.14, no officer, employee, agent or attorney of any of the Parties shall receive compensation from the Authority for time spent on Authority matters.

4.11. Technical Committee. There shall be a Technical Committee consisting of each Party's public works director or his or her designee. The Technical Committee shall be responsible for monitoring the activities of the Authority on behalf of the Parties and making such reports as the Board deems appropriate. The Technical Committee may make recommendations to the Board with respect to the appointment and termination of the Authority Project Manager. The Technical Committee shall consult with and advise the Project Manager concerning Project design, planning and implementation. The Technical Committee may only take action if the Public Works Directors, or designees, of both parties agree. The Participating Agency may be involved in Technical Committee meetings subject to Technical Committee member invitation.

4.12. Privileges, Liability and Immunity. All of the privileges and immunities from liability, exemption from laws, ordinances and rules, all pension, relief, disability, workers' compensation and other benefits which apply to the activities of officers, agents, or employees of any of the Parties when performing their respective functions shall apply to the same degree and extent while such individuals are engaged in the performance of any of the functions and other duties under this Agreement. None of the officers, agents, or employees appointed by the Board shall be deemed by reason of their employment by the Board to be employed by any of the Parties or subject to any of the requirements of such Parties.

4.13. Project Manager. Upon Board determination of necessity, the Board shall appoint a Project Manager who shall be responsible to the Board for the proper and efficient administration of the Authority as directed by the Board pursuant to the provisions of this Agreement or of any ordinance, resolution or order of the Board not inconsistent with this Agreement. The Project Manager may be retained under contract with the Authority, be an employee of the Authority, or be an employee of one of the Parties. The Project Manager shall report directly to the Board and serve as staff to the Authority. Any communications, correspondence or other material that is furnished to the Board by the Project Manager shall also be furnished to the Technical Committee unless the Project Manager is directed otherwise by the Board. The Project Manager shall serve at the pleasure of the Board. In addition to any other duties that may be assigned by the Board, the Project Manager shall have the following authority:

4.13.1. Under the policy direction of the Board, and in consultation with the Technical Committee, to plan, organize, administer, implement and direct all activities of the Project and Authority;

4.13.2. To authorize expenditures within the designations and limitations of the budget approved by the Board;

4.13.3. To make recommendations to and requests of the Board concerning any matter which is to be performed, done or carried out by the Authority;

4.13.4. To assign, supervise and otherwise control the activities of any Authority employees, Party employees assigned to the Authority, and contractors that may be retained by the Authority; and,

4.13.5. To have charge and control of and manage all real and personal property acquired by the Authority.

4.14. Staff. A Party may assign its employees to serve as officers or perform other services for the Authority, subject to the approval of both the Authority and Party. The services of such assigned employees shall be at the expense of the contributing Party, unless the contributing Party and the Authority enter into a written agreement to reimburse the Party for the value of the services provided by the assigned employees. The Authority also may enter into appropriate contracts for staff services or employ staff directly.

4.15. Bylaws and Rules. The Board may adopt from time to time such bylaws, rules and regulations for the conduct of its meetings and affairs of the Authority as may be necessary or appropriate.

5. POWERS AND PURPOSES.

5.1. Purposes. Each Party has in common the power to study, plan, develop, finance, acquire, condemn, lease, design, construct, maintain, repair, manage, operate, control and dispose of the Project Facilities, either alone or in cooperation with other public or private entities. The purpose of this Agreement is to jointly exercise some or all of the foregoing common powers, as appropriate, and for the exercise of such additional powers as may be authorized by law in the manner set forth in this Agreement, in order to provide for the most cost-efficient and timely acquisition of water rights, water supply contracts, Environmental Documentation, Permitting, design, Final Engineering, financing, property and rights-of-way acquisition, Construction, operation, maintenance and management of the Project. A related purpose of this Agreement is to better manage and coordinate the area surface and groundwater resources for the mutual benefit of the Parties.

5.2. Powers. All of the power and authority of the Authority shall be exercised by the Board. Subject to the conditions and restrictions in this Agreement, the Authority, in its own name, shall have the common powers of the Parties and as otherwise granted by the Act, in order to achieve the purposes of the Authority as set forth in Section 5.1. The Authority is

authorized in its own name to do all acts necessary or convenient to the exercise of these powers and for these purposes, including but not limited to any or all of the following:

5.2.1. To exercise jointly the common powers of the Parties in studying, planning, designing and implementing the Project and other water supply projects consistent with this Agreement.

5.2.2. To make and enter contracts, and to execute leases, installment sale contracts or installment purchase contracts in accordance with procedures and requirements as permitted by law.

5.2.3. To contract for or employ clerical, administrative, technical or professional staff or consultant support of any kind including engineers, attorneys, planners, financial consultants or other agents or employees.

5.2.4. To design, acquire, construct, manage, maintain and operate any buildings, works, or improvements.

5.2.5. To acquire real or personal property, including, without limitation, by purchase, lease, gift, bequest, devise, or exercise of the power of eminent domain; to hold, manage, lease and dispose of any such property.

5.2.6. To hold, manage, operate and maintain all Authority property, facilities, buildings, structures, vehicles, apparatus and equipment.

5.2.7. To incur debts, liabilities or obligations subject to limitations set forth in this Agreement.

5.2.8. To sue and be sued in its own name.

5.2.9. To receive gifts, contributions and donations of property, funds, services and other forms of assistance from persons, firms, corporations and any governmental entity.

5.2.10. To apply for and accept appropriate grants and loans under any federal, state or local programs for assistance in developing the Project, or any future authorized modifications to the Project.

5.2.11. To enter into arrangements for the transmission, purchase and sale of electrical power, or the trading of electrical power, related to operation of the Project.

5.2.12. To obtain, in its own name, all necessary and appropriate permits, licenses, entitlements, opinions and rulings.

5.2.13. To procure bonds, insurance and self-insurance as it deems advisable to protect the Parties and Authority and its property, officers, employees, contractors and agents.

5.2.14. To form and administer nonprofit corporations to do any part of what the Authority could do, or to perform any proper corporate function, and enter into agreements with such a corporation.

5.2.15. To issue bonds and certificates of participation in accordance with applicable statutes, including, but not limited to, the following: Article 2, Chapter 5, Title 1, Division 7 of the California Government Code, commencing with Section 6540; Chapter 6, Title 5, Division 2 of the California Government Code, commencing with Section 54300; and, Article 4, Chapter 5, Title 1, Division 7 of the California Government Code, commencing with Section 6584.

5.2.16. To use other financing acts, including, but not limited to, the Mello-Roos Community Facilities District Act of 1982, the Municipal Improvement Act of 1913 and the Improvement Bond Act of 1915.

5.2.17. To exercise any of the powers set forth in the Marks-Roos Local Bond Pooling Act of 1985 (Article 4 (commencing with Section 6584) of the Act).

5.2.18. To enter into agreements incident to the issuance of bonds and certificates of participation for the purpose of enhancing the credit or liquidity of such bonds, or to place such bonds on a different payment schedule, such as an interest rate swap, cap or similar instrument, or in connection with the investment of the proceeds of such bonds.

5.2.19. To levy and collect revenue and funding as authorized by law.

5.2.20. To enter into agreements with the Parties and Participating Agencies for the construction, operation, maintenance and/or management of certain Project Facilities.

Notwithstanding the foregoing, the Authority shall have any additional powers conferred under the Act, insofar as such additional powers may be necessary or desirable to accomplish the purposes of the Authority.

5.3. Manner of Exercise of Powers. To the extent not specifically provided for in this Agreement or the Act, the Authority shall exercise its powers subject to the restrictions upon the manner of exercising the powers under the laws applicable to the City of Woodland.

5.4. Use of Project Water. The Authority shall operate the Project and use its best efforts to ensure that the Dedicated Capacity set forth in section 7.3 is, at all times, fully available for use by the Project Participants within their respective service areas. A Project Participant shall not sell, convey, transfer or make its Dedicated Capacity available to a third-party without the prior approval of the Authority. This restriction shall not apply to a Project Participant's water service obligations to provide treated water within its service area. A Project Participant shall not use, convey or transfer Project water for use outside the authorized place of use specified in the Authority's water right permit(s) or license(s).

6. ALLOCATION OF COSTS, FINANCE AND ACCOUNTING

6.1. Initial Advance. Upon the Effective Date, each Party shall forthwith advance to the Authority the sum set forth below as initial start-up funding for the Authority to be used until the adoption of the initial budget and payment of invoices as provided below. These amounts shall be applied as advances toward a Party's contribution for the first year's budget.

Davis	47.9 %	\$ 958,000
Woodland	52.1 %	\$ 1,042,000
TOTAL	100 %	\$ 2,000,000

6.2. Allocation of Costs. The costs incurred by the Authority in carrying out its functions shall be allocated between the Project Participants as follows:

6.2.1. Capital Costs. Capital Costs for the Project Facilities shall be allocated based on the following percentage shares:

Cost Category (see Ex. A for detailed explanation)	Percentage Share		
	Davis	Woodland	UC Davis
Project Facilities other than listed below	44.4%	52.1%	3.5%
Transmission Piping from water treatment plant to Davis-area distribution system	92.7%	0%	7.3%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%	0%
Davis Individually-Owned Project Facilities	100%	0%	0%
Woodland Individually-Owned Project Facilities	0%	100%	0%
UC Davis Individually-Owned Project Facilities	0%	0%	100%

These percentage shares shall apply to both the initial construction of the Project Facility and future capital costs relating to the repair, replacement, renovation, modification or improvement of the Project Facility. For the Individually-Owned Project Facilities, the percentage shares shall apply to initial construction only, because the Authority will not be responsible for future capital costs (see section 6.3). The percentage shares reflect the volume of water allocated from the project pursuant to this Agreement. If the percentage shares change by written agreement between the Parties and/or Participating Agencies, the percentages for cost sharing shall also change. The percentage shares of any Project expansion shall be determined by the Parties participating in the expansion.

In the Final Engineering and Construction phases of the Project, the Authority shall keep and maintain accurate records showing and segregating the Capital Costs of the various Project Facility cost categories set forth above. In the Construction of the Project Facilities and

preparation of bid and construction documents, the Authority shall proceed in such a manner as to enable it to determine and segregate these Capital Costs.

The foregoing table assumes that the Authority and UC Davis enter into a UC Davis water supply agreement pursuant to section 7.6. If such an agreement is not timely approved, then the following table shall apply:

Cost Category (see Ex. A for detailed explanation)	Percentage Share	
	Davis	Woodland
Project Facilities other than listed below	46.1%	53.9%
Transmission Piping from water treatment plant to Davis-area distribution system	100%	0%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%
Davis Individually-Owned Project Facilities	100%	0%
Woodland Individually-Owned Project Facilities	0%	100%

6.2.2. Fixed Operating Costs. Fixed Operating Costs for the Transmission Piping and the Individually-Owned Project Facilities, shall be allocated based on the following percentage shares:

Cost Category (see Ex. A for detailed explanation)	Percentage Share		
	Davis	Woodland	UC Davis
Transmission Piping from water treatment plant to Davis-area distribution system	92.7%	0%	7.3%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%	0%
Davis Individually-Owned Project Facilities	100%	0%	0%
Woodland Individually-Owned Project Facilities	0%	100%	0%
UC Davis Individually-Owned Project Facilities	0%	0%	100%

The percentage shares reflect the volume of water allocated from the project pursuant to this Agreement. If the percentage shares change by written agreement between the Parties and/or Participating Agencies, the percentages for cost sharing shall also change. The preceding table assumes that the Authority and UC Davis enter into a UC Davis water supply agreement pursuant to section 7.6. If such an agreement is not timely approved, then the following table shall apply to Fixed Operating Costs for the Transmission Piping and the Individually-Owned Project Facilities:

Cost Category (see Ex. A for detailed explanation)	Percentage Share	
	Davis	Woodland
Transmission Piping from water treatment plant to Davis-area distribution system	100%	0%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%
Davis Individually-Owned Project Facilities	100%	0%
Woodland Individually-Owned Project Facilities	0%	100%

Fixed Operating Costs for the Project Facilities other than the Transmission Piping and the Individually-Owned Project Facilities shall be allocated based on the following percentage shares:

Davis	44.4 %
Woodland	52.1 %
UC Davis	3.5 %
Total	100%

The preceding table assumes that the Authority and UC Davis enter into a UC Davis water supply agreement pursuant to section 7.6. If such an agreement is not timely approved, then the following table shall apply to Fixed Operating Costs other than the Transmission Piping and the Individually-Owned Project Facilities:

Davis	46.1 %
Woodland	53.9 %
Total	100%

6.2.3. Variable Operating Costs. Variable Operating Costs for Project Facilities other than the Transmission Piping and the Individually-Owned Project Facilities shall be allocated between the Project Participants based on each Project Participant's proportionate share of the volume of use of the Project Facilities or such other method as may be established by the unanimous Board approval.

6.2.4. The Parties' respective percentage shares in this section 6.2 may be changed by unanimous Board approval. The UC Davis percentage shares shall not be changed without UC Davis' prior written consent and unanimous Board approval.

6.3. Transmission Piping Operating Costs.

6.3.1. Fixed Operating Costs for the Transmission Piping shall be allocated based on the following percentage shares:

Cost Category (see Ex. A for detailed explanation)	Percentage Share		
	Davis	Woodland	UC Davis
Transmission Piping from water treatment plant to Davis-area distribution system	92.7%	0%	7.3%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%	0%

The percentage shares reflect the volume of water allocated from the project pursuant to this Agreement. If the percentage shares change by written agreement between the Parties and/or Participating Agencies, the percentages for cost sharing shall also change.

The preceding table assumes that the Authority and UC Davis enter into a UC Davis water supply agreement pursuant to section 7.6. If such an agreement is not timely approved, then the following table shall apply:

Cost Category (see Ex. A for detailed explanation)	Percentage Share	
	Davis	Woodland
Transmission Piping from water treatment plant to Davis-area distribution system	100%	0%
Transmission Piping from water treatment plant to Woodland distribution system	0%	100%

6.3.2. Variable Operating Costs. Variable Operating Costs for the Transmission Piping shall be allocated between the Project Participants based on the volume of use or the length or size of the Transmission Piping or such other method as may be established by the unanimous Board approval.

6.3.3. The Parties' respective percentage shares in this section 6.3 may be changed by unanimous Board approval. The UC Davis percentage shares shall not be changed without UC Davis' prior written consent and unanimous Board approval.

6.4. Individually-Owned Project Facilities.

6.4.1. The Individually-Owned Project Facilities (as described on Exhibit A) may be included as part of the Project and financed and constructed by the Authority. Upon completion of construction of any Individually-Owned Project Facility, the Authority will convey all of its right, title and interest in the completed Individually-Owned Project Facility to the Project Participant that is served by that Project Facility (as shown on Exhibit A) and that

Project Participant shall accept the conveyance of the completed Project Facility and thereafter be responsible for the ownership, operation, maintenance, repair, replacement, modification and improvement of that Project Facility. The Authority shall have no obligation to operate, maintain, repair, replace, modify or improve any Individually-Owned Project Facility.

6.4.2. For an Individually-Owned Project Facility (as described on Exhibit A), Capital Costs may include such costs related to the initial design and Construction of that Project Facility. The Capital Costs of an Individually-Owned Project Facility shall be allocated entirely to the Project Participant that will be served by that Project Facility (see section 6.2.1). After completion of initial construction and conveyance of the completed Individually-Owned Project Facility to a Project Participant (reference section 6.3.1), the Authority shall not incur or allocate to the Project Participants any subsequent Capital Costs related to the repair, replacement, modification or improvement of the Individually-Owned Project Facility. The Authority will not be responsible for the operation and maintenance of any Individually-Owned Project Facility, and the Authority shall not incur or allocate to the Project Participants any Fixed Operating Costs or Variable Operating Costs related to the operation and maintenance of any Individually-Owned Project Facility.

6.5. Payment Obligations.

6.5.1. Each of the Parties agrees that its water enterprise fund or such other fund as a Party may determine, but not the Party's general fund to be responsible for paying its respective share of all costs of the Authority in accordance with the payment schedule adopted by the Board pursuant to section 6.4.2 below, and consistent with the cost allocation methodology set forth in section 6.2 and any bonds or certificates of financing issued or financing agreements entered into by Authority.

6.5.2. All costs of the Authority shall be annually assessed on the Parties by the Board in amounts sufficient to meet the obligations of the Authority for that fiscal year as set forth in the Authority's annual budget. The Board also shall establish a payment schedule for each annual assessment consistent with the projected cash flow needs of the Authority and any bonds or financing agreements entered into by the Authority. Each Party's water enterprise fund or such other fund as a Party may determine, but not the Party's general fund, will be responsible for the payment of this annual assessment whether or not the Project Facilities are constructed, operating, damaged or destroyed, whether or not the Dedicated Capacity of each Party established pursuant to section 7.3 is actually available to or utilized by the Party, whether or not water is available for diversion to the Project, and regardless of the occurrence of any Force Majeure event.

6.5.3. Notwithstanding anything to the contrary herein, each of the Parties shall be individually liable to the other Party for its failure to pay its respective share of the Authority's annual costs (including but not limited to debt service on any bonds or related obligations). In the event that a Party fails to make any payment of such costs (a "Defaulting Party"), the non-defaulting Party may make such payment on behalf of the Defaulting Party, but the Defaulting Party shall remain obligated to reimburse the non-defaulting Party for such advance with interest calculated at one and one-half the rate of return earned by the treasury of the non-defaulting Party during the time period of the default. If the Defaulting Party has not

repaid the non-defaulting Party for such advance by the end of the fiscal year in which the default first occurs, the non-defaulting Party may take such legal action as it deems appropriate to enforce payment of such obligation.

6.5.4. Any payment remaining unpaid by a Party 30 days after its due date shall bear interest at the rate of one percent per month beginning on the due date. In the event of such a default, in addition to any other remedy that may be available, the Authority may cease providing water to the Defaulting Party until the delinquent amount with interest has been paid in full.

6.6. Revenue Deficit. If insufficient revenue is collected by the Authority to satisfy all of its annual costs (other than by reason of a failure of any Party to pay its share of costs), then such deficiency will be assessed by the Authority against all Parties in the same manner as costs were allocated to each Party for the fiscal year in which such deficit was incurred.

6.7. Budget Reserves and Excess Revenues. The Board shall determine on an annual basis, prior to the beginning of each fiscal year, a level of reasonable cash reserves to be accumulated by the Authority. This reserve shall be accumulated from revenues collected in excess of all actual costs of the Authority. Once the targeted reserve level is reached, all additional revenues collected in excess of the actual costs of the Authority shall be considered excess revenue and, subject to any limitation in any bond or other financing agreement, carried forward as revenue for the next fiscal year and serve to reduce each Party's respective assessment for such subsequent fiscal year.

6.8. Annual Budget. Within 90 days after the first meeting of the Board, and thereafter prior to the commencement of each fiscal year, the Board shall adopt a budget, including a projection of Capital Costs, Fixed Operating Costs and Variable Operating Costs for the Project for the ensuing fiscal year. The budget also shall include a forecast of the Agreement payment obligations for each of the Parties for the subsequent four years. After the adoption of the initial budget, if the Board because of a tie-vote or other reason fails to timely approve an annual budget, then the prior year's annual budget (plus a cost of living adjustment for expenditures to reflect the prior year's change in the Consumer Price Index for All Urban Consumers for the west urban area as reported by the U.S. Bureau of Labor Statistics) shall continue in effect until superseded by a new Board-approved budget and the former budget shall provide appropriation authority for ongoing Authority expenditures consistent with that budget, as adjusted.

6.9. Reconciliation of Fixed and Variable Costs. As soon as practicable following the commencement of a fiscal year, the Board shall, upon recommendation of the Treasurer, reconcile Fixed and Variable Operating Costs for the prior fiscal year. The amount so reconciled shall then be factored into the calculation of projected Fixed and Variable Operating Costs for the next fiscal year.

6.10. Accounting Procedures. The Authority shall keep and maintain strict accountability of all funds, receipts and expenses, and shall keep and maintain appropriate records and accounts of all funds, receipts and expenses under this Agreement in accordance with

accounting and bookkeeping practices established by, or consistent with, those utilized by the Controller of the State of California for like public entities. In particular, the Treasurer shall comply strictly with requirements of the Act. The Authority shall allow any Party, or any of its employees, accountants, attorneys or agents to review, inspect, copy and audit any such records and accounts, including source documents.

6.11. Assets. The Authority shall maintain records of all vehicles, apparatus, equipment and other assets and property contributed by each Party.

6.12. Expenditures. The Board shall establish and comply with a system and procedure for the review and approval of Authority expenditures and claims and the drawing and signing of Authority warrants or checks. All expenditures shall be consistent with the approved budget, except as otherwise determined by the Board.

6.13. Audit. Annually, biennially, or on any longer period as permitted by law, the Board shall contract with an independent certified public accountant to perform a financial audit of the accounts and records of the Authority. Copies of such audit reports shall be filed with each Party and Participating Agency and, if required, with the State Controller within six months of the end of the audited fiscal year, or such other period permitted or required by law.

6.14. Capital Improvement Plan. The Authority shall adopt a capital improvement plan, which shall indicate the approximate location, size, time of availability, and cost estimates of the Project Facilities. The first capital improvement plan shall be adopted within one year from the date of this Agreement. The capital improvement plan shall be updated no less frequently than every five years thereafter, and may be updated more frequently if determined necessary by the Board, for reasons including but not limited to in order to respond to new regulations requiring changes in the Project Facilities.

6.15. Pre-Effective Date Debts and Cost Sharing.

6.15.1. The Project-related debts, liabilities and obligations of each Party accrued prior to the Effective Date shall remain the debts, liabilities and obligations of that Party and shall not be assumed by or transferred to the Authority. After the Effective Date, any debt, liability or obligation of the Authority must be expressly approved or accepted by the Authority, and a Party's post-Effective Date debts, liabilities, obligations and assets shall remain that Party's debts, liabilities, obligations and assets unless expressly transferred to and accepted by the Authority.

6.15.2. The Memorandum of Understanding for Environmental Review of the Yolo Regional Treated Surface Water Project dated June 1, 2005 (as amended in October, 2007 and further amended in May, 2009), shall continue to apply to and govern the cost sharing of Project-related costs accrued prior to the Effective Date. This Agreement shall apply to and govern the cost sharing of Project-related costs accrued after the Effective Date.

7. PROJECT FACILITIES AND CAPACITY.

7.1. Authorized Project Facilities. Subject to the restrictions and limitations of this Agreement and the completion of the Environmental Documentation and Permitting, and as required by law, the Authority is authorized to implement and undertake the acquisition of water rights and water supply contracts, design, Final Engineering, financing, property and rights-of-way acquisition, Construction, operation, maintenance and management of and for the Project Facilities. Authority shall pursue and implement the Project pursuant to the master schedule attached as Exhibit B and incorporated herein. The Authority Board may modify the Project schedule from time to time.

7.1.1. The overall Project service area and anticipated water right place of use are shown on Exhibit C, attached hereto and incorporated herein. The Project service area shall expand concurrent with the annexation of territory to either Party or the expansion of the UC Davis campus boundaries by UC Davis (subject to the approval of an Authority-UC Davis water supply agreement pursuant to section 7.6). The Project service area and water right place of use also may be expanded by the Board from time to time. Each of these types of expansions is subject to State Water Resources Control Board approval of any change in the authorized place of use in any applicable water-right permit or license.

7.1.2. The final Project design plans shall include a fixed point of delivery of water from the Authority transmission facilities to the each Project Participant's local distribution facilities and there shall be an Authority meter and backflow prevention device at each point of delivery.

7.2. Expenditure Controls. The Authority shall secure the written approval of the City Council of each Party before (i) issuing any bonded indebtedness or certificates of participation, (ii) commencing Final Engineering, or (iii) commencing Construction.

7.3. Dedicated Capacity.

7.3.1. Upon completion of construction of the Project Facilities, each Project Participant shall be entitled to exclusive use of the following Dedicated Capacity in the Project Facilities without regard to whether the Project Participant actually uses such facilities for the delivery of water:

Davis	23 mgd	44.4%
Woodland	27 mgd	52.1%
UC Davis	1.8 mgd	3.5%
Total	51.8 mgd	100%

The percentage shares reflect the volume of water allocated from the project pursuant to this Agreement. If the percentage shares change by written agreement between the Parties and/or Participating Agencies, the percentages for cost sharing shall also change. The Project Participants' rights to receive treated water from the Project also are subject to the following

annual limits: (a) Davis: 20,131 acre-feet per year (af/yr); (b) Woodland 24,006 af/yr; and (c) UC Davis: 2,000 af/yr. These annual limits will be calculated on a calendar year accounting period unless a different water-year accounting period is specified in the water-right permits or licenses for the Project.

7.3.2. Section 7.3.2 assumes that the Authority and UC Davis enter into a UC Davis water supply agreement pursuant to section 7.6. If such an agreement is not timely approved, then the following table and annual limits shall apply:

Davis	23.9 mgd	46.1%
Woodland	27.9 mgd	53.9 %
Total	51.8 mgd	100%

Annual limits: (a) Davis: 21,053 af/yr; and (b) Woodland: 25,084 af/yr.

7.3.3. If the Authority expands the Project Facilities to produce greater than 51.8 mgd or 46,137 af/yr, then the foregoing quantities (the daily limits in mgd or the annual limits in af/yr, or both) and percentages shall be adjusted as determined by the Board; however, the quantity (mgd) of Dedicated Capacity allocated to UC Davis and the annual limit for UC Davis shall not be increased without its written consent (i.e., if UC Davis chooses not to consent to and participate in a Project expansion, then its Dedicated Capacity and annual limit would remain fixed and its percentage share of the expanded Project would be reduced accordingly or the percentages may be revised by written agreement between the Parties and UC Davis to reflect a different basis for calculation). If the Authority constructs Project Facilities or a first phase Project of less than 51.8 mgd, then the foregoing percentage shares shall remain fixed and the daily and annual limits shall be adjusted accordingly.

7.4. **Water Delivery.** After completion of construction of the Project Facilities, the Authority shall make available and deliver to each Project Participant a total amount of treated water up to its respective Dedicated Capacity shares, subject to the terms and conditions of this Agreement and the availability of water. The water shall be delivered to the points of delivery as shown on the final Project plans and specifications. The Authority shall deliver treated water that meets all state and federal drinking water quality standards applicable to the Project at the time of the delivery. The Authority shall consult with the Project Participants on a regular basis to determine specific schedules of deliveries, and, consistent with the terms of this Agreement, the Authority shall use its best efforts to meet the requirements of the Project Participants. If a Project Participant does not desire or take its full entitlement of available water, then the amount of water not delivered to that Project Participant may be made available and delivered to other Project Participants that are interested in additional water deliveries. The Authority shall keep and maintain a monthly schedule of the actual quantities of water delivered to each of the Project Participants.

7.5. Changes in Dedicated Capacity Shares.

7.5.1. The Parties' respective Dedicated Capacity shares may be changed by unanimous Authority Board approval. The UC Davis Dedicated Capacity share shall not be changed without UC Davis' prior written consent and unanimous approval by the Authority Board.

7.5.2. Any two or more of the Project Participants may adjust their respective Dedicated Capacity shares and redistribute their respective shares among themselves, so long as the total Dedicated Capacity share percentages of the Project Participants in the redistribution remains the same after the redistribution. The redistribution may be temporary or permanent. The redistribution shall be in writing approved and signed by the involved Project Participants and filed with the Authority. If temporary, the writing shall indicate the effective dates of the redistribution. The redistribution also may reallocate the Project Participants' respective payment shares under section 6.2, in which case the writing also shall indicate the changes to the section 6.2 shares, whether temporary or permanent, and, if temporary, the effective dates of the changes.

7.6. UC Davis Water Supply Agreement. The Parties intend that the Authority will enter into a water supply agreement with UC Davis by which the Authority would agree to provide the treated water supply and Dedicated Capacity to UC Davis (subject to the limitations of this Agreement) and UC Davis would assign to the Authority its interests in pending water right permit Application 30358A (on file with the State Water Resources Control Board), on and subject to terms agreeable to the Authority and UC Davis. The water supply agreement shall contain indemnification provisions consistent with sections 8.2 and 8.4 of this Agreement. If the Authority and UC Davis do not finally approve and execute the UC Davis water supply agreement by or before June 30, 2010, then the Authority may proceed with the Project without UC Davis' participation. This deadline may be extended by the Board.

7.7. Reduction in Capacity of Project Facilities. If, for any reason (including, but not limited to, water supply availability, drought, restrictions on diversion, regulatory requirements, damage, or maintenance), the daily water delivery capacity of the Project Facilities is less than 51.8 mgd at any time, and such reduction is not due to an act or omission of any Project Participant, then the available capacity shall be allocated among the Project Participants based on their percentage shares of Dedicated Capacity as set forth in section 7.3. If, for any reason, the annual water delivery capacity of the Project Facilities is less than 46,137 af/yr, and such reduction is not due to an act or omission of any Project Participant, then the annual amounts of available water shall be allocated among the Project Participants based on the percentage shares of Dedicated Capacity as set forth in section 7.3. If reductions in both the daily water delivery capacity of 51.8 mgd and the annual limit of 46,137 af/yr occur, then available daily water delivery capacity shall be allocated first, and the available annual limit then shall be allocated in a manner that is consistent with the allocated daily water delivery capacity. If the reduction is due to an act or omission of a Project Participant, then that Project Participant shall be responsible for absorbing the amount of the reduction attributable to its act or omission from its share of Dedicated Capacity or annual limit.

7.8. Ownership of Project Facilities. Except as otherwise provided by section 6.3, all Project Facilities shall be owned by and held in the name of the Authority for the benefit of the Project Participants in accordance with the terms of this Agreement.

7.9. Water Right Application Assignment. Upon execution of this Agreement, the City of Davis shall assign its interests in pending water right Application 30358A (on file with the State Water Resources Control Board), the City of Woodland shall assign its interests in pending water right Application 30358B (on file with the State Water Resources Control Board) to the Authority, and the Parties shall ask UC Davis to assign its interests in Application 30358A, to the Authority. The Authority thereafter shall diligently prosecute these applications, or any portions of these applications that have been assigned to the Authority, for the benefit of the Parties, and for the benefit of UC Davis, if UC Davis has assigned its interests in Application 30358A to the Authority.

8. INDEMNIFICATION.

8.1. By Authority. The directors, officers, employees, agents and volunteers of the Authority shall be entitled to defense and indemnification by the Authority as provided under Government Code title 1, division 3.6, part 2, chapter 1, article 4 (commencing with Section 825) and title 1, division 3.6, part 7 (commencing with section 995). The Authority shall indemnify, defend, protect, and hold harmless each Party, and its officers, employees, agents and volunteers, from and against any and all liability, losses, claims, damages, expenses, and costs (including attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of or in connection with the Authority's performance under this Agreement or failure to perform under this Agreement. The Parties acknowledge that the Authority's insurance and indemnity-related costs will be costs of Authority operations for which they will be liable for under section 6.

8.2. By a Party. Each Party shall indemnify, defend, protect, and hold harmless the Authority and the other Party, and their respective directors, officers, employees, agents and volunteers, from and against any and all liability, losses, claims, damages, expenses, and costs (including attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of or in connection with the Party's performance under this Agreement or failure to perform under this Agreement.

8.3. Survival. These indemnification obligations shall survive and continue in full force and effect after termination of this Agreement for any reason with respect to any actions or omissions that occurred before the date of termination.

8.4. Authority Not Liable for Operation Beyond Point of Delivery. The Authority and its directors, officers, agents, contractors, employees and volunteers shall not be liable for the control, carriage, handling, use, disposal, or distribution of Project water supplied to a Party after such water has passed the point of delivery to that Party, nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond that point of delivery; and each Party shall indemnify and hold harmless the Authority pursuant to section 8.2 from any such damages, claims or liability. The Authority shall

have no right, title or interest in Project water after the water has passed the point of delivery to a Party.

8.5. Parties Not Liable for Operation Upstream From Point of Delivery. A Party and its officers, agents, contractors, employees and volunteers shall not be liable for the control, carriage, handling, use, disposal, or distribution of Project water before such water has passed the point of delivery to the Party; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such water before it has passed that point of delivery; and the Authority shall indemnify and hold harmless the Party pursuant to section 8.1 from any such damages, claims or liability.

8.6. The indemnification and hold harmless provisions of this section 8 shall apply in lieu of the right of contribution provisions at Government Code Sections 895-895.8.

9. TERM, WITHDRAWAL AND DISSOLUTION.

9.1. Term. This Agreement and the Authority shall continue in existence until terminated and dissolved in accordance with the terms of this section 9.

9.2. Withdrawal Prior to Bonds. Prior to Board approval of the issuance of any bonded indebtedness or certificates of participation, either Party may terminate this Agreement and dissolve the Authority upon giving the other Party and the Board 90 days prior written notice of termination; provided, however, the Parties shall be obligated for their share of all liabilities and expenses of the Authority incurred prior to the effective date of such termination. If the Board has received such notice of termination, it shall be prohibited from issuing any bonded indebtedness or certificates of participation or awarding any contracts for Construction. If this Agreement is terminated pursuant to this section 9.2, then the Parties shall ask the State Water Resources Control Board to allocate any water right application or permit that is, or any water right applications or permits that are, held by the Authority among the Project Participants: (a) according to the percentages in Dedicated Capacity and the annual limits specified in the first part of section 7.3, if the Authority and UC Davis have entered into a UC Davis water supply contract pursuant to section 7.6 and UC Davis has assigned its interests in Application 30358A to the Authority; or (b) according to the percentages in Dedicated Capacity and the annual limits specified in the second part of section 7.3, if the Authority and UC Davis have not entered into a UC Davis water supply contract pursuant to section 7.6 and UC Davis has not assigned its interests in Application 30358A to the Authority.

9.3. Dissolution After Bonds. After Board approval of the issuance of any bonded indebtedness or certificates of participation, this Agreement and the Authority may be terminated and dissolved by approval of the Parties expressed by resolution of the governing board of each Party approving a dissolution agreement pursuant to section 9.4. The Authority shall not be dissolved until all debts and liabilities of the Authority have been discharged or assumed in accordance with this Agreement and the dissolution agreement. During the outstanding term of any Authority bonds, certificates of participation or other indebtedness, this Agreement and the Authority shall not be terminated unless (a) the indebtedness is first paid off in full before the effective date of the termination, or (b) the indebtedness is assigned to and

assumed by one or both of the Parties or a responsible successor entity and there is alternate security for the indebtedness in a form and manner approved by bond counsel selected by the Authority as lawful and adequately protecting the interests of any holders of evidence of indebtedness of the Authority.

9.4. Dissolution Agreement. Subject to section 9.3 above, this Agreement and the Authority may be dissolved pursuant to a dissolution agreement approved by both Parties that provides for the dissolution of the Agreement and Authority, the utilization, distribution, transfer and assignment of the funds, assets and property (including any completed or partially constructed Project Facilities) of the Authority, and the transfer and assignment of the rights, liabilities and obligations of the Authority. If, at the time of dissolution, the Authority has completed any Project Facility, then the dissolution agreement also must provide for one of the Parties or a responsible successor entity to assume the rights, liabilities and obligations to continue the operation and maintenance of the Project Facility or Facilities. If, at the time of dissolution, the Authority has acquired any water right permit or license, then the dissolution agreement also must provide for the transfer and assignment of the permit or license to one of the Parties or a responsible successor entity that will hold, maintain and exercise the permit or license for the benefit of the Project Participants. Any such water right transfer and assignment would be subject to approval by the State Water Resources Control Board, if required. If, at the time of dissolution, the Authority is a party to a water supply agreement with UC Davis, then the dissolution agreement also must provide for one of the Parties or a responsible successor entity to assume the rights, liabilities and obligations under the UC Davis water supply agreement and to continue to provide water to UC Davis. Upon dissolution of the Authority pursuant to a dissolution agreement approved pursuant to this section, the funds, assets, property, rights, liabilities and obligations of the Authority shall be utilized, distributed, transferred and assigned as provided by the dissolution agreement.

10. GENERAL PROVISIONS.

10.1. Integration. This Agreement constitutes the sole, final, complete, exclusive and integrated expression and statement of the terms of this contract among the Parties concerning the subject matter addressed herein, and supersedes all prior negotiations, representations or agreements, either oral or written, that may be related to the subject matter of this Agreement, except those other documents that are expressly referenced in this Agreement.

10.2. Construction and Interpretation. It is agreed and acknowledged by the Parties that this Agreement has been arrived at through negotiation, and that each Party has had a full and fair opportunity to revise the terms of this Agreement. Consequently, the normal rule of construction that any ambiguities are to be resolved against the drafting Party shall not apply in construing or interpreting this Agreement.

10.3. Waiver. The waiver at any time by any Party of its rights with respect to a default or other matter arising in connection with this Agreement shall not be deemed a waiver with respect to any subsequent default or matter.

10.4. Remedies Not Exclusive. The remedies provided in this Agreement are cumulative and not exclusive, and are in addition to any other remedies that may be provided by

law or equity. The exercise by either Party of any remedy under this Agreement shall be without prejudice to the enforcement of any other remedy.

10.5. Severability. The invalidity, illegality or unenforceability of any provision of this Agreement shall not render the other provisions unenforceable, invalid or illegal.

10.6. Successors and Assigns. Except as otherwise provided by law or legally ordered by the Yolo County Local Agency Formation Commission as part of a local government organization or reorganization proceeding, the rights and duties of the Parties under this Agreement shall not be assigned or delegated without the prior written consent of the other Party. Any attempt to assign or delegate such rights or duties in contravention of this Agreement shall be null and void. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations of the Authority then in effect, and may be subject to such additional reasonable conditions of approval imposed by the Party approving the assignment or delegation.

10.7. No Third Party Beneficiaries. This Agreement shall not be construed to create any third party beneficiaries. This Agreement is for the sole benefit of the Parties, and their permitted successors, transferees and assignees, and no other person or entity shall be entitled to rely upon or receive any benefit from this Agreement or any of its terms.

10.8. Amendment. This Agreement may be modified or amended only by a subsequent written agreement approved by the governing board of each Party and executed by both Parties. The addition of new parties to the Authority shall require an amendment of this Agreement.

10.9. Governing Law. Except as otherwise required by law, this Agreement shall be interpreted, governed by, and construed under the laws of the State of California. The County of Yolo shall be venue for any state court litigation and the Eastern District of California shall be venue for any federal court litigation concerning the enforcement or construction of this Agreement; provided, however, that, for state litigation, each Party retains its rights under Code of Civil Procedure Section 394 to change venue or to assign an out-of-county judge.

10.10. Notice. Any notice, demand, invoice or other communication required or permitted to be given under this Agreement shall be in writing and either served personally or sent by prepaid, first class U.S. mail and addressed as follows:

Davis:	Woodland:
City Manager	City Manager
City of Davis	City of Woodland
23 Russell Boulevard	300 First Street
Davis, CA 95616	Woodland, CA 95695

Any Party may change its address by notifying the other Party in writing of the change of address.

10.11. Counterparts. This Agreement may be executed by the Parties in separate counterparts, each of which when so executed and delivered shall be an original, but all such counterparts shall together constitute but one and the same instrument.

CITY OF DAVIS


Mayor

Attest:


City Clerk

Approved as to form:


City Attorney


CITY OF WOODLAND


Mayor

Attest:


City Clerk

Approved as to form:


City Attorney

LIST OF EXHIBITS

- Exhibit A List of Davis-Woodland Joint Water Supply Project Facilities
- Exhibit B Project Schedule
- Exhibit C Project Service Area and Anticipated Water Right Place of Use

EXHIBIT A

List of Davis-Woodland Joint Water Supply Project Facilities

- I. Authority facilities -- Project facilities to be financed, constructed, owned and operated by the Authority:
 1. Regional water treatment plant (serving all parties)
 2. Water intake/pump station
 3. Raw water transmission pipelines (common pipelines that serve all parties)
 4. Regional water booster pump station
 5. Davis/UC Davis treated water transmission pipeline
 6. Woodland treated water transmission pipeline

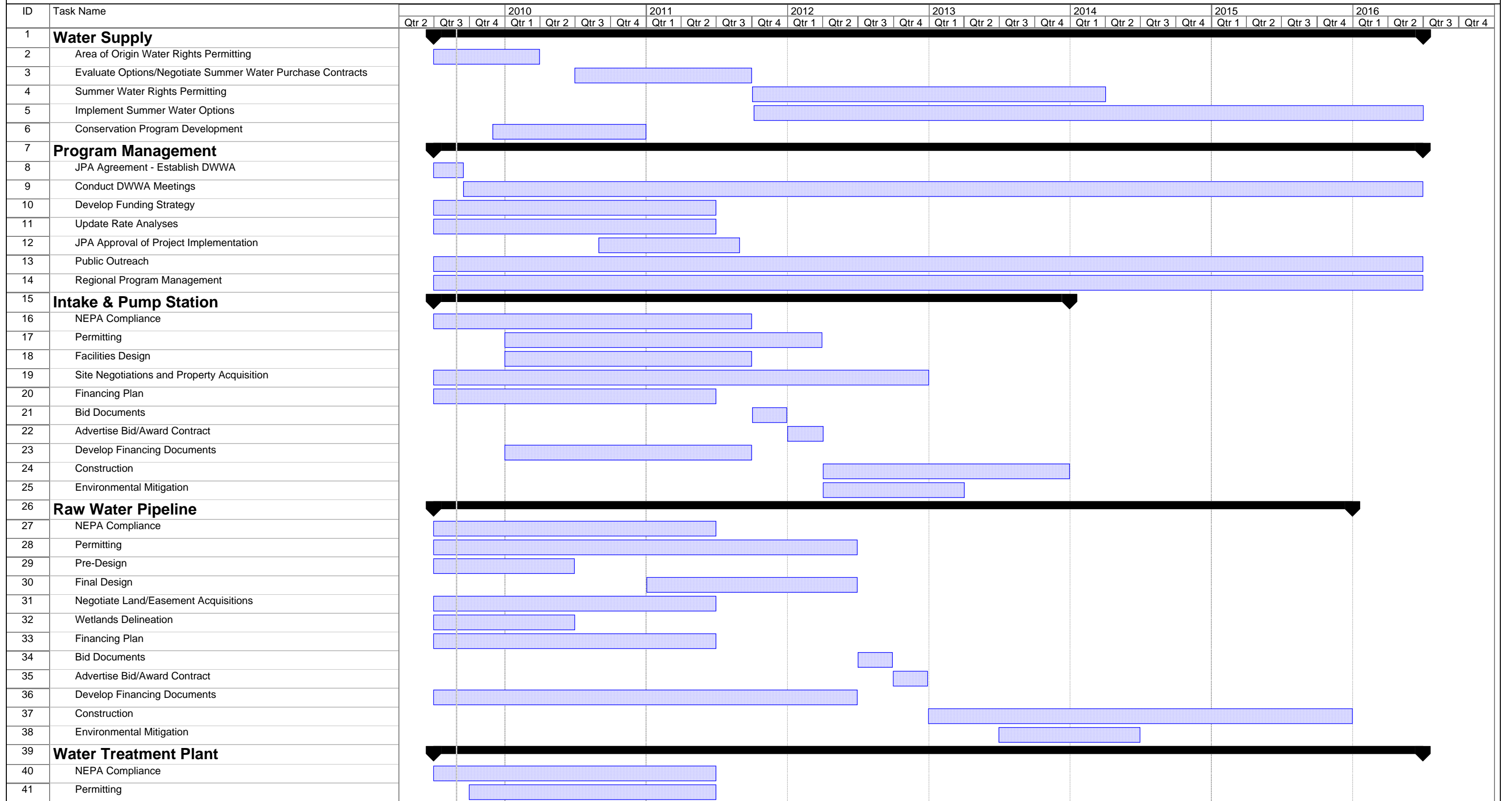
- II. Individually-Owned Project Facilities -- Project Facilities to be financed and constructed by the Authority as part of the Project, but thereafter owned and operated by another agency:
 - A. Woodland local facilities
 - B. Davis local facilities
 - C. UC Davis local facilities

The Project Facilities are described in Exhibit C.

EXHIBIT B
Project Schedule

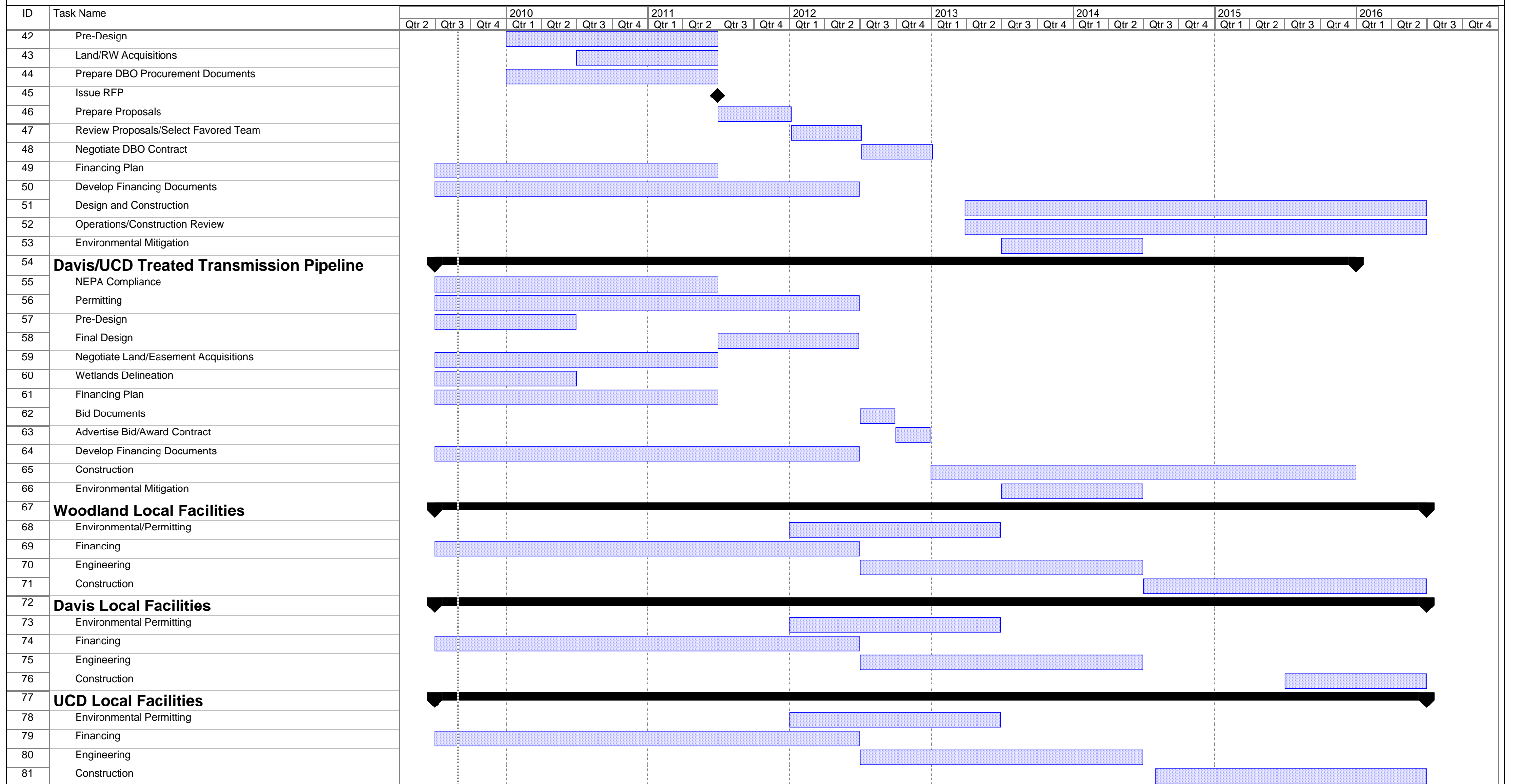
[Attached on the following pages]

Davis-Woodland Water Supply Project Base Schedule



Project: Exhibit B DWWSP Base Sche Date: Fri 8/28/09	Task Milestone Summary	Rolled Up Task Rolled Up Milestone	Rolled Up Progress Split	External Tasks Project Summary	Group By Summary Deadline
---	--------------------------	-------------------------------------	---------------------------	---------------------------------	----------------------------

Davis-Woodland Water Supply Project Base Schedule



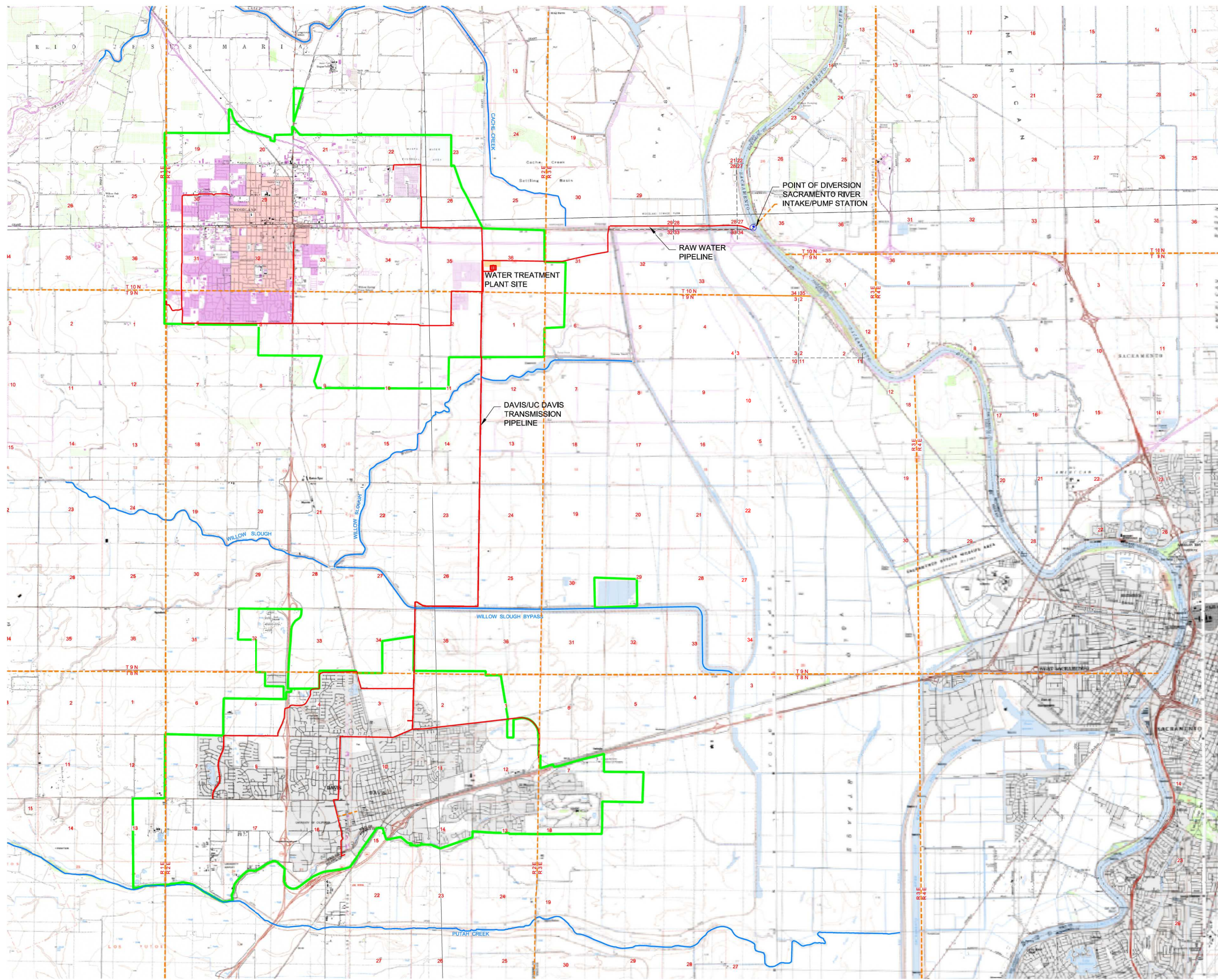
Project: Exhibit B DWWSP Base Sche Date: Fri 8/28/09	Task		Milestone		Rolled Up Task		Rolled Up Progress		External Tasks		Group By Summary	
	Progress		Summary		Rolled Up Milestone		Split		Project Summary		Deadline	

EXHIBIT C

Project Service Area and Anticipated Water Right Place of Use

[Attached on the following pages]

N:\Clients\204_Woodland\00-09-25_Davis-Woodland_Water_Supply_Project_Phase_1\CAD\Figures\204-0925-JPA-Exhibit_C-August_2009.dwg 8-28-09 03:19:36 PM gnichols



0 1800 3600
SCALE IN FEET

POINT OF DIVERSION			
DESCRIPTION	STREAM	LOCATION CALIFORNIA COORDINATE SYSTEM ZONE 2	PROJECTED 40-ACRE TRACT M.D.B.&M.
RD 2035 INTAKE	SACRAMENTO RIVER	N 367,950 E 2,105,850	SE 1/4 OF SW 1/4, SEC. 27, T.10N, R.3E

LEGEND	
	PLACE OF USE BOUNDARY
	WATER TRANSMISSION PIPELINE
	STREAM
	POINT OF DIVERSION

NOTE:
1 THE POINT OF DIVERSION ON THIS MAP ARE BASED ON THE FOLLOWING COORDINATE SYSTEM: CALIFORNIA STATE PLANE, ZONE 2, NAD 27, HORIZONTAL DATUM, FEET.

Exhibit C
City of Woodland
City of Davis
and
The University of California, Davis
PROJECT SERVICE AREA
AND
ANTICIPATED WATER RIGHT PLACE OF USE

WEST YOST ASSOCIATES
AUGUST 2009

Consulting Engineers

**STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD**

DECISION 1650

In the Matter of Water Right Applications 30358A and 30358B

Woodland-Davis Clean Water Agency
Applicant

California Sportfishing Protection Alliance
City of Sacramento
Department of Fish and Game
Department of Water Resources
Natomas Central Mutual Water Company
Pelger Mutual Water Company
Reclamation District 108
Reclamation District 1004
Reclamation District 2035
Reclamation District 2068
State Water Contractors
Sutter Mutual Water Company
United States Department of the Interior
Westlands Water District
Protestants¹

SOURCE: Sacramento River tributary to Suisun Bay

COUNTY: Yolo

**DECISION CONDITIONALLY APPROVING WATER RIGHT APPLICATIONS
30358A AND 30358B, COMBINING THEM INTO APPLICATION 30358,
AND AUTHORIZING ISSUANCE OF A SINGLE PERMIT**

BY THE BOARD:

WHEREAS

1. Application 30358 was filed with the State Water Resources Control Board (State Water Board or Board) on April 19, 1994 by the Yolo County Flood Control and Water Conservation District (District). On March 1, 2002, the application was split and re-assigned. Application 30358A was assigned to City of Davis (Davis) and University of California, Davis (UCD) and Application 30358B was assigned to the City of Woodland (Woodland). Davis and Woodland filed their notices of assignment on December 14, 2010. (WDCWA-13 & WDCWA-14.) UCD filed its notice of assignment on December 22, 2010. (WDCWA-300.) Both Application 30358A and Application 30358B were assigned to the Woodland-Davis Clean Water Agency (WDCWA). At the hearing on

¹ On November 17, 2010, South Delta Water Agency (SDWA), submitted a timely Notice of Intent to Appear (NOI) at the hearing. However, at the hearing on January 18, 2011, SDWA withdrew its request to participate and presented a policy statement instead.

January 19, 2011, WDCWA requested Applications 30358A and 30358B be re-combined into one Application 30358.

- The applicant requests to divert water from the Sacramento River at the following point of diversion:

By California Coordinate System of 1983, Zone 2	40-acre subdivision of public land survey	Projected Section	Township	Range	Base and Meridian
North 2,008,200 feet and East 6,667,300 feet	NE¼ of NW¼	34	10N	3E	MD

- The intended uses are municipal, irrigation, fisheries and aquaculture research. Under Application 30358A, WDCWA seeks an appropriative right to divert 53.3 cubic feet per second (cfs) to be diverted from January 1 to December 31 of each year, with a maximum annual diversion of 30,000 acre-feet per year (afy). Under Application 30358B, WDCWA seeks an appropriative right to divert 26.8 cfs to be diverted from January 1 to December 31 of each year with a maximum annual diversion of 15,000 afy. The total amount of water appropriated under both permits is not to exceed 80.1 cfs as an average 30-day diversion rate and not to exceed 100 cfs as an instantaneous diversion rate. WDCWA requests that the maximum total amount diverted under both Applications 30358A and 30358B be limited to 45,000 afy.
- Combining the requested rates and amounts into a single application does not expand the requested water right or hinder WDCWA's operation of the project.
- WDCWA requests that the purpose and place of use be as described below and shown on the map filed by the applicant and dated November 11, 2010:

Purpose of Use	Place of use	Projected Sections	Township	Range	Base and Meridian	Acres
Municipal	City of Davis and University of California, Davis, and City of Woodland.		8N	1E, 2E, 3E	MD	
			9N	2E, 3E		
			10N	2E, 3E		
Irrigation	City of Davis and University of California, Davis, and City of Woodland.		8N	1E, 2E, 3E	MD	168,600
			9N	2E, 3E		
			10N	2E, 3E		
Fisheries and Aquaculture Research	University of California, Davis	16, 21	8N	2E	MD	

Protests

- The original Application 30358 was noticed on October 14, 1994. The following protests were filed: (a) Vincent De Dominic, (b) California Sportfishing Protection Alliance (CSPA), (c) Department of Fish and Game (CDFG), (d) Department of Water Resources (DWR), (e) Westlands Water District (Westlands), (f) State Water Contractors (Contractors), (g) Reclamation District 2035 (RD 2035), (h) City of Sacramento (City), (i) United States Department of the Interior (Interior), (j) Reclamation District 2068

(RD 2068), (k) Reclamation District 1004 (RD 1004) and a joint protest filed by (l) Reclamation District 108, Pelger Mutual Water Company, Sutter Mutual Water Company, and Natomas Central Mutual Water Company (Joint Water Suppliers).

7. Vincent De Dominico protested based on environmental considerations. However, the State Water Board did not accept the protest due to Mr. Dominico's failure to provide specific facts to support allegations of adverse environmental impacts. The protests filed by Interior and Contractors were dismissed, with the understanding that standard permit term 91 be included in any permits issued on the 1994 Application 30358. The protests filed by DWR and Westlands were also resolved with the understanding that standard permit terms 80, 90 and 91² would be added to any permit issued to the applicant.
8. The protests filed by the City, RD 2035, RD 2068, RD 1004, and the Joint Water Suppliers are based on both claimed prior rights and agreements in existing contracts. These protests have been resolved through inclusion of specific permit terms that recognize prior rights.
9. The protest filed by CDFG was dismissed with the understanding that permit terms cited in Appendix A of the protest dismissal agreement would be included in any permits issued on Applications 30358A and 30358B. Among the terms is the combined 100 cfs instantaneous diversion rate limitation.
10. After public notice, the State Water Board held an evidentiary hearing on January 18 and 19, 2011. The hearing provided an opportunity for WDCWA and CSPA (the only remaining protestant), to present evidence and arguments in support of their positions.
11. Based on the evidence presented at the hearing, the State Water Board finds and concludes as follows:

Water Availability

12. When considering whether to approve an application to appropriate water, the State Water Board must determine whether unappropriated water is available to supply the project described in an application. (Wat. Code, §1375, subd. (d).) This requirement is intended to avoid over-committing the water supply. Therefore, the evaluation is by necessity conservative. This evaluation includes consideration of other diversions authorized under existing permits and licenses to determine whether, and on what conditions, to approve new appropriations. The State Water Board also takes into account, whenever it is in the public interest, the amounts of water needed to remain in the source for protection of beneficial uses. Beneficial uses include, but are not limited to, instream uses, recreation and the preservation of fish and wildlife habitat. (Wat. Code, § 1243.)
13. Unappropriated water includes water that has not been previously appropriated or diverted for riparian use. (Wat. Code, §§ 1201, 1202.) According to the State Water Board's regulations, a permit can be issued only for unappropriated water. Unappropriated water does not include water being used pursuant to an existing right, whether the right is owned by the applicant or by another person. (Cal. Code Regs., tit. 23, § 695.)

² Term 80 reserves jurisdiction to change the season of diversion to conform to later findings of the Board concerning availability of water and protection of beneficial uses in the Sacramento-San Joaquin Delta and San Francisco Bay. Term 90 subjects permits to prior rights and in any year of water scarcity, the season of diversion authorized under the permit may be reduced or completely eliminated by order of the Board. Term 91 will be discussed in more detail later in this Decision.

14. WDCWA performed a water availability analysis using the CalSim II model, which showed water is available when Term 91 is not in effect. Term 91 requires inbasin diverters to curtail diversions when the State Water Project (SWP) and Central Valley Project (CVP) are releasing stored water to maintain Sacramento-San Joaquin Delta (Delta) water quality objectives or other inbasin entitlements. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the State Water Board for maintenance of water quality, fish and wildlife. Export diversions and CVP and SWP carriage water are specifically excluded from the definition of inbasin entitlements. Term 91 provides a real-time mechanism for determining when water is available for appropriation for use within the Sacramento-San Joaquin Delta watershed. (State Water Board Decision 1594 (1983) at p. 24.)
15. The CalSim II analysis was included in the October 2007 Davis-Woodland Water Supply Project Environmental Impact Report (Water Supply EIR). (SWRCB-2.) CalSim II is an application of the Water Resources Integrated Modeling System software that was jointly developed by the United States Bureau of Reclamation (USBR) and DWR for performing planning studies related to the CVP and SWP operations. Because the CVP and SWP are California's largest water projects, their operations influence, and at times control, flow in the Sacramento and San Joaquin river basins and the Delta. (WDCWA-100, p. 3.) In the Water Supply EIR, WDCWA performed a project-specific CalSim II analysis to provide information on Delta flows, river flows, water deliveries, and reservoir carryover storage. WDCWA then used these data to assess how diversions associated with its project would affect deliveries to other water users, Delta flow conditions, and in-stream aquatic and fisheries resources. (SWRCB-2, Water Supply EIR, p. 3.2-31.) In the model, upstream water use is approximated using best available estimates of diversions and depletions using land use and irrigation factors to depict actual water use as accurately as possible. All of the scenarios were modeled over the 82-year period of hydrological record from 1922 through 2003. (WDCWA-100, p. 5.)
16. CSPA's witness, Bill Jennings, cautioned the Board about making decisions based on the CalSim II model because of its inadequacies, its complexity, and the complexity of the Delta system. Mr. Jennings also cautioned the use of CalSim II in absolute mode.³ (CSPA-BJ#2, pp. 11-12.) CSPA contends that the Delta and its tributaries are over-appropriated.⁴ WDCWA admitted that the CalSim II model is not perfect and has limitations. For instance, CalSim II uses monthly time steps and, therefore, does not estimate daily variations that may occur in the rivers under actual flow and climate conditions. (SWRCB-2, Water Supply EIR, p. 3.2-31.) WDCWA's witness, Walter Bourez presented testimony regarding the various limitations of the model and how those were handled in the applicant's analysis. The analysis was done in comparative mode, rather than absolute mode. Mr. Bourez testified that in the comparative analysis, model biases tend to cancel out. As such, the measured differences in comparative analysis are

³ CalSim II can be used in either a comparative or an absolute mode. In the absolute mode, results of a single model run, such as the amount of delivery or reservoir levels, are considered directly. The comparative mode consists of comparing two model runs, one that contains a proposed project alternative and one that does not. Model results are generally believed to be more reliable in a comparative study than an absolute study. This is because all of the assumptions are the same for both the with-project and without-project model runs, except the action itself, and the focus of the analysis is the differences in the results. (WDCWA 100, p. 4; Water Supply EIR, Vol. 2, p. 3-20)

⁴ CSPA, however, did not submit any expert testimony regarding how to model water availability in the Delta or its tributaries.

generally considered more accurate than the absolute values of the individual studies. Despite its limitations, WDCWA concluded that the CalSim II model is the best available tool for determining when water will be available for appropriation for its project. (WDCWA-100, pp. 3-6.) During the hearing, Board Member Doduc asked Mr. Bourez how confident he was in the model and in the results. Mr. Bourez stated that although the model does not capture all of the nuances and daily operations of the system, it does a good job of depicting the way the system works and he has a high level of confidence in the model. (January 19, 2011 R.T., pp.71-73.)

17. Prior to the hearing, WDCWA performed an updated analysis in support of the Water Supply EIR in response to changes that have occurred to the CVP and SWP system operating criteria and reduction in demand for the project. (WDCWA-100, p. 5.) According to the updated modeling, although the total diversion amount requested in the Applications, 45,000 afy, would not be available for diversion in most years, the full amount would be available in some wet years. (WDCWA-100; WDCWA-102; WDCWA-103.) WDCWA's witness, Mr. Bourez concluded that the effects of WDCWA diversions under its proposed water-right applications that were found in the updated modeling are very similar to the effects found in the modeling done for the Water Supply EIR. Therefore, the updated modeling did not change the conclusions in the EIR. (WDCWA-100, p. 8.)

Face Value of Water Rights versus Actual Water Use

18. CSPA disputed WDCWA's water availability analysis. CSPA argued at the hearing and in written testimony that the Delta system is fully appropriated, and is in fact over appropriated based on the face value of water rights issued for diverters in the Delta watershed. CSPA argued that although face value water right licenses and permits may exceed actual water use, the State Water Board simply does not know how much water is actually being diverted by water right holders.
19. CSPA's primary witness, Chris Shutes, references the findings contained in State Water Board Draft Decision 1630 and the State Water Board's August 3, 2010 Delta Flow Criteria Report⁵ to support CSPA's contention that the Delta river system is over-appropriated. Mr. Shutes also references a September 26, 2008 letter to Delta Vision to support CSPA's position that the Bay-Delta watershed is over-appropriated and the actual water use is unknown. (CSPA-CS#2., pp. 9-10.) Bill Jennings, witness for CSPA, also testified that the watershed is over-appropriated. (CSPA-BJ#2, pp. 6-11.)
20. WDCWA asserted that the face value of water rights is not an accurate indication of actual water use because water rights include both consumptive and non-consumptive uses and water rights may contain maximum diversion limits that are far less than the face value of the water right. (WDCWA-100, pp. 10-11.) WDCWA's witness, Mr. Bourez, concludes that the best available tool for determining when water will be available for appropriation is the CalSim II modeling. Based on CalSim II modeling, water is available for appropriation and Term 91 will prohibit diversions under the permit when there is no unappropriated water available. (WDCWA-100, p. 13.)

⁵ Water Code section 85086 required the State Water Board to develop new flow criteria to protect public trust resources for the Delta ecosystem and to submit its flow criteria determinations to the Delta Stewardship Council within 30 days of their development. The State Water Board conducted a public informational proceeding, held on March 22-24, 2010, and considered the information submitted in connection with that proceeding in developing the flow criteria contained in the Delta Flow Criteria Report.

21. The face value of a permit or license is the amount that could be diverted if diversions occurred at the maximum amount authorized under the permit or license during the entire period when the permit or license authorizes diversion, without regard to bypass conditions or other constraints that have the practical effect of limiting diversions without expressly imposing a maximum amount of diversion. (Cal. Code Regs., tit. 23, § 1066, subd. (b).) Numerous factors result in the face value of permits vastly exceeding the amount that is available for appropriation. These include, but are not limited to, multiple permits and licenses for repeated diversion and re-diversion of the same water before it is delivered to its ultimate destination, return flows from conveyance losses or after use (including non-consumptive uses), and permit and license conditions such as bypass requirements and Term 91 that limit diversions but do not reduce face value. Face value also includes large amounts authorized to be diverted to storage, even though the circumstances when there is both sufficient unappropriated water available to divert the full amount authorized and the permitted or licensed project has the storage capacity to capture it all may occur rarely, perhaps only once when the reservoir is first filled. The authorization to divert the face value amount is a benefit to the water right holder, as it provides both flexibility and the ability to divert in times of abundant supply for use in times of shortage. The face value of permits and licenses, however, is not a good measure of amounts likely to be used or the availability of unappropriated water.⁶
22. Use of the total face value of permits and licenses in the Delta watershed to determine the availability of unappropriated water for Application 30358 would be inconsistent with watershed of origin principles. A substantial portion of the face value of permits and licenses in the Delta watershed is attributable to permits and licenses held by USBR and DWR for Delta exports by the CVP and SWP. An appropriation for use within the watershed of origin has a right prior to any rights for export by the CVP or SWP. (Wat. Code, § 11460.)

Public Trust Resources and Delta Flow Criteria Report

23. CSPA's primary concern is that the constraints used in WDCWA's modeling do not ensure there will be adequate flow to protect public trust resources. On August 3, 2010, the State Water Board issued a report entitled Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (Report). (CSPA-CS#2, pp. 1-2.) CSPA's witness, Chris Shutes, testified that the Report concludes that Delta outflow is deficient by an average of about 5 million cfs to protect public trust resources. (CSPA-CS#2, p. 2.) Mr. Jennings testified that there has been a decline in water quality in the Delta and Sacramento River, which are impaired by a broad suite of pollutants. Water diversions from the Delta and Sacramento River result in decreased flow, which increases both the concentration and residence time of pollutants, exacerbating the effects of toxic pollutants on public trust resources. (CSPA-BJ#2, pp. 3-6.) CSPA asserts that while the causes of fishery declines in the Delta are numerous and include contaminants and invasive species, there are other major factors contributing to the decline. These are major reductions in Delta inflow and outflow that have resulted in loss and degradation of habitat, massive changes in the historic hydrograph, and the effects of export operations. (CSPA-BJ#2, p. 3.)

⁶ CSPA also argues that the State Water Board does not know the extent of diversions by those claiming riparian or pre-1914 water rights or the amount of consumptive water rights in permits that have not been exercised, such as DWR and USBR's pending petitions for extension of time to develop their water rights. Pre-1914 and riparian water rights are a factor in water availability and new statutory requirements enacted by the Legislature in 2009 will assist the Board in determining more accurate values for these types of diversions.

24. In response to the Report, WDCWA presented evidence to estimate how frequently water would be available for diversion under its proposed water right permit if the State Water Board were to adopt the Delta flow criteria contained in the Report. (WDCWA-100, p. 8.) WDCWA asserts that even if the State Water Board were to adopt more stringent flow criteria as regulatory requirements, water would still be available for diversion during December through March (a 4-month period) of many water years. (WDCWA-100, p. 9.) On rebuttal, CSPA presented a table, Exhibit CSPA-CS#19, which, according to Mr. Shutes shows that the average annual diversion under WDCWA's permits would be only 2,356 acre-feet (af) of water if the Delta flow criteria were adopted. While it is clear that it is not possible for WDCWA to physically divert the full 45,000 af in a 4-month period of time because of the 80.1 cfs average diversion rate limitation, the evidence shows there would be some amount of water available for diversion if the Delta flow criteria were adopted. The quantity of water that WDCWA actually diverts may, however, be further limited if monthly demand is less than the quantity of water that is available for diversion.
25. Although the legislatively-mandated Report is informative as to Delta water needs, the report was only an informational report. In the Report, the Board clearly states that none of the determinations in the Report have regulatory or adjudicatory effect and the Report is for informational purposes only. The Report does not account for different water year types, future regulatory actions the Board may take, nor make recommendations as to how the Board should balance various public interest factors in managing flow in the Delta watershed. If the State Water Board develops new Delta flow criteria with regulatory effect, it must ensure the reasonable protection of beneficial uses, which may entail balancing of competing beneficial uses of water, including municipal and industrial uses, agricultural uses, and other environmental and instream uses.
26. CSPA asserts that because there may be less water available for diversion in the future, it is not in the public interest to approve the applications and they should be denied. (January 19, 2011 R.T., pp. 19-22.) If the Board establishes more stringent water quality objectives for the Delta in a future proceeding, and amends the permits held by USBR and DWR to require implementation of those objectives, as the Board has with previous updates to the water quality objectives for the Delta, the effect likely will be to reduce the amount of water that can be diverted under water rights subject to Term 91. If the CVP and SWP are required to release stored water more often, Term 91 curtailments will be imposed more often, and the diversions that may be made under permits subject to Term 91 will be reduced accordingly. Term 91 provides a real-time mechanism for determining when water is available for appropriation consistent with the water quality objectives incorporated into the permits for the CVP and SWP. Therefore conditioning a permit based on Term 91 serves to limit diversions consistent with water quality objectives, without having to update the permit each time water quality objectives are updated. WDCWA acknowledged that any permit the Board issues would include Term 91, which will prohibit diversion at certain times. (WDCWA-100, p. 13.) WDCWA further acknowledged that any new Delta regulatory standards that may be adopted by the Board in the future could reduce the water available for diversion. (WDCWA-100, p. 2.)
27. Although new objectives could reduce the average annual amount of water available for appropriation, both parties agree that some water would be available for appropriation even if the flow criteria outlined in the Report were incorporated as new regulatory requirements.

Alternate Water Supply

28. In order to avoid creating a permanent demand for water deliveries based on a water supply that may be reduced as Term 91 reduces the period over which diversions may be made, WDCWA must demonstrate an alternate source of water supply for use when Term 91 is in effect. The Deputy Director for Water Rights will evaluate the acceptability of the alternate source and no water may be diverted by WDCWA until the alternate source is approved. The evaluation will include but not be limited to, the dependability of the alternate source, the need to avoid injury to other legal users of water, and mitigation measures necessary to reduce impacts to public trust resources.

Water Quality Improvements and Groundwater Substitution Impacts

29. The project may contribute to water quality improvements in the water discharged to the Delta watershed (Sacramento River, San Joaquin River, and Yolo Bypass). Existing groundwater wells which the City of Davis, Woodland and UCD rely on for their water supply are high in boron, selenium and dissolved solids. These constituents largely pass through the wastewater treatment systems and are discharged to the Delta. Replacing a portion of the groundwater with surface water will result in a reduction in concentrations of these constituents to the Tule Canal, Willow Slough Bypass, and Conaway Ranch Toe Drain downstream of the wastewater treatment plants and tributary to the Delta. The proposed project would result in an annual reduction of approximately 12,200 tons of salt, the equivalent of a 54 percent reduction of salt load in the treated effluent. (SWRCB-2, Water Supply EIR, p. 3.2-35.)
30. As measured by Electrical Conductivity (EC) levels, the proposed project would reduce EC in the treated effluent by 75 percent for the City of Davis, 63 percent for the City of Woodland, and 19 percent for UCD. (SWRCB-2, Water Supply EIR, p. 3.2-43.) In addition, reduced concentrations of boron and selenium in the source water will result in a reduction in these and other constituents in the treated effluent.
31. The Water Supply EIR (SWRCB-2) states that WDCWA will not purchase surface water that results from agricultural lands being taken out of production. WDCWA will only enter into water transfer agreements with willing sellers who would use a substitute water supply, such as local groundwater, or implement water conservation measures that would make water available for transfer without adversely affecting existing agricultural uses. Therefore, any transfers of water from senior water right holders to WDCWA to serve as the required alternate water supply may result in increased pumping of groundwater to substitute for surface water in order to support continued agricultural production. According to the Water Supply EIR, the future water sellers are all located in Sacramento, Sutter, Yolo, Colusa, Yuba, Tehama, or Shasta Counties, but all within two major groundwater basins, the Sacramento Valley Groundwater Basin and the Redding Groundwater Basin. (SWRCB-2, Water Supply EIR, p. 3.3-1.)
32. Groundwater in the Redding Groundwater Basin is characterized as magnesium-calcium bicarbonate and calcium-magnesium bicarbonate or magnesium-sodium bicarbonate and sodium-magnesium bicarbonate type waters. Localized areas with high boron, iron, manganese, and nitrate concentrations occur in the subbasin. The groundwater in the Sacramento Valley Groundwater Basin is considered a single aquifer system composed of 18 groundwater subbasins. (SWRCB-2, Water Supply EIR, p. 3.3-1.) The Cities of Woodland and Davis, UC Davis, and one of the potential sellers, Conaway Preservation Group, are all located in one of the subbasins, the Yolo Groundwater Subbasin. This subbasin is characterized by a sodium magnesium, calcium magnesium, or magnesium

bicarbonate chemistry. (SWRCB-2, Water Supply EIR, p. 3.3-3.) The subbasin also contains high concentrations of boron, selenium, and other inorganic compounds. (SWRCB-2, Water Supply EIR, p. 3.3-3.)

33. The Water Supply EIR (SWRCB-2) determined that the replacement well locations must be chosen so as to not have impacts on surface water flows of the Sacramento River or other waterways in the Delta watershed. A study that identified the approximate location of each production well to be used to replace transferred surface water supplies was based on criteria defined by DWR. (SWRCB-2, Water Supply EIR, p. 3.3-33.) These criteria were used to select well locations that would have no impacts on surface water features that have hydraulic connections to groundwater aquifers.
34. To be consistent with the DWR criteria, Mitigation Measures 3.3-3 were adopted in the Final EIR. (SWRCB-2, Water Supply EIR, p. ES-13.) These measures assure that the replacement wells pump water from groundwater aquifers so as not to deplete the surface water flows. However, the replacement of groundwater for surface water also contributes to the concern about increased lower quality agricultural return flows associated with the increased use of groundwater for irrigation. Depending on the crops grown, the irrigation systems used, and the tail water drainage in place, the agricultural return flows may return higher concentrations of constituents such as salts, boron, selenium and other organic compounds to the Delta watershed. At some point, the improved treated effluent discharged to the Delta watershed from the treatment plants may not compensate for the poorer water quality discharged to the same watershed from irrigation return flows. Although the magnitude of this problem will not be addressed in this Decision, it will be a factor the Deputy Director for Water Rights considers when evaluating potential alternate water supplies. These topics were not a part of this Water Rights proceeding, since the scope was not intended to evaluate long-term transfers. However, the State Water Board will be required to do a CEQA evaluation at the time when a Petition for a long-term transfer of water is submitted.
35. The CalSim II model was also used to calculate the maximum monthly upstream movement of the X-2⁷ location with the proposed Project. The movement was calculated to be approximately 1.1 km (3,609 ft). (SWRCB, vol .2, App. B. p. 5-32.) The Water Supply EIR concluded that the upstream movement of 1.1 km that would occur from other foreseeable projects would constitute a significant change in X-2 position. Because no mitigation measures are available to avoid this impact, this would therefore result in a cumulatively significant and unavoidable impact to water quality within the Delta. (SWRCB 2, p.6-25.)

Changes in Sacramento River Flow to the Delta

36. James Yost, an expert witness for WDCWA, testified, "60 or 70 percent of the surface water diverted for use by the two cities will be returned as return flow." He went on to state, "and it may even be higher than that, because both cities are embarking on a program to install the capability to pump ground water for landscape irrigation in their parks and other places in the city, and they wouldn't use the surface water." (January 18, 2011 R.T., p. 77-78.) Based on this information, if the operation of the Wastewater Treatment facilities for WDCWA remains the same, there could be a net increase in flow of water returned to the Delta over existing treatment flows.

⁷ The location of 2 parts per thousand (ppt) salinity within the Delta. Its position varies and is measured in kilometers upstream of the Golden Gate Bridge.

37. The Yolo Groundwater subbasin is recharged by the Sacramento River, its tributaries, agricultural return flows, local precipitation, and contributions from adjacent basins. WDCWA presented evidence showing that a reduction in groundwater pumping would reduce the depletion of local groundwater supplies, reduce the occurrence of land subsidence, and may contribute to an increase in flows to the Delta watershed. Mr. Yost also testified that the ground water basin underlying the east Yolo County area has significant releases to the Sacramento River. He testified that when the two cities quit pumping groundwater, the groundwater basin will build up and releases [to the Delta] will increase. (January 18, 2011 R.T., p. 77.)

Watershed of Origin Statute

38. WDCWA intends to divert water under Application 30358 for inbasin use. The watershed of origin statute requires that elements of the CVP and SWP not deprive the watershed or the area where water originates (or immediately adjacent areas that can be conveniently supplied with water) of the prior right to water that could be reasonably required to supply the present and future beneficial needs of the watershed area, any of its inhabitants, or property owners. (Wat. Code §§ 11460-11463; see also, *El Dorado Irrigation Dist. v. State Water Resources Control Bd.* (2006) 142 Cal.App.4th 937, 947 (*El Dorado*); *United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 138.) Section 11460 applies to the operation of the SWP by the DWR and the operation of the CVP by USBR. (*United States v. State Water Resources Control Bd.*, at pp. 138-139; see also *State Water Resources Control Board Cases*, 136 Cal.App.4th 674, 754.) This does not mean that a permit holder in the watershed of origin is entitled to use water previously diverted to storage by the CVP or SWP. (*El Dorado Irr. Dist. v. State Water Resources Control Bd.* (2006) 142 Cal.App.4th 937, 962.) It does mean, however, that at times when natural and abandoned flows are insufficient for all diversions, diversions for export by the CVP and SWP, including diversions to storage for export later in the year, must be curtailed before any diversions entitled to watershed of origin are curtailed. The State Water Board, therefore, may grant a permit for an inbasin diversion, even if granting those inbasin permits may reduce the water supply available to the SWP and CVP for export.
39. The watershed of origin statute also provides a basis for WDCWA to obtain a water supply at times when it cannot divert under Application 30358. When Term 91 is in effect and WDCWA cannot divert under its permit, the watershed of origin statute (Wat. Code, § 11460 et seq.) provides a means to obtain an alternative water supply through a contract with USBR or DWR. The statute reserves a priority for the beneficial use of water within its area of origin that can be asserted by someone who has or seeks a contract with USBR or DWR for the use of that water. (*State Water Resources Control Bd. Cases* (2006) 136 Cal.App.4th 674, 758.)

Conclusions

40. While water rights may exist for diversions in excess of what might occur in any one year, diversions will not occur up to this level in all circumstances. Diversions of water must follow the water right priority system, including the priorities for watershed of origin rights. Furthermore, water is only available for diversion after the flow dependant objectives included in the Bay-Delta Plan are satisfied. The Bay-Delta Plan includes flow dependant objectives for the protection of various beneficial uses including fish and wildlife, municipal and industrial, and agricultural uses that vary based on water year type and time of year. The State Water Board retains continuing authority over permits and can, as necessary, modify water right terms and conditions to limit diversions under certain conditions. In addition, the State Water Board may modify the flow dependant objectives included in the Bay-Delta Plan to ensure the protection of beneficial uses.

41. Having considered the foregoing, the State Water Board finds and concludes that there is unappropriated water available for appropriation under Applications 30358A and 30358B, combined by this decision into Application 30358. During certain flow periods, up to 45,000 afy of water is available for appropriation by direct diversion for beneficial use. The permit issued pursuant to this decision will be subject to all prior rights to the use of water and Term 91. When Term 91 is in effect, WDCWA will not be authorized to divert water and must rely on an alternative water supply approved by the Deputy Director for Water Rights. Term 91 provides a real-time mechanism for limiting diversion under a permit to periods when water is available for appropriation under the permit holder's priority. The amount of water WDCWA seeks to appropriate will not always be available for diversion and may vary from month to month and year to year. WDCWA has demonstrated, however, that water will be available for appropriation. WDCWA must obtain a long-term water supply covering those periods when water is not available for diversion pursuant to this permit. WDCWA shall submit documentation subject to review and approval by the Deputy Director for Water Rights that an alternate water supply has been secured for the development period under this permit. The alternate water supply must be equivalent to the diversion quantities scheduled for use under this permit. Before issuing a license that confirms the right to appropriate 45,000 afy, the State Water Board will determine whether such an amount has been applied to beneficial use by WDCWA. (Wat. Code, §1610.) If WDCWA does not capture and put the full 45,000 afy to beneficial use, the State Water Board will, when the project is licensed, reduce the right to appropriation to the maximum amount of water put to beneficial use in any one year. (Wat. Code, §1610.5.)
42. Approval of Application 30358, subject to the conditions included in this Decision, is in the public interest because it will: 1) provide a reliable water supply to meet existing and future needs; 2) improve water quality for drinking water purposes, and 3) improve the quality of treated wastewater effluent discharged by WDCWA.

Environmental and Public Trust Impacts

43. The State Water Board reviewed the following CEQA documents as part of its consideration of Application 30358: 1) City of Davis Sphere of Influence (Local Agency Formation Commission (LAFCO) no. S-207) Mitigated Negative Declaration (MND); 2) General Plan Final Environmental Impact Report (SCH # 95053061), February 1996 (General Plan EIR), and 3) The Davis-Woodland Water Supply Project Draft Environmental Impact Report (SCH # 2006042175), Volume 2: Water Right Diversion Modeling Technical Appendix, March 2007 (Water Supply EIR).
44. The LAFCO Mitigated Negative Declaration determined the project will have less than significant effects on the environment within the City of Davis Sphere of Influence.
45. The LAFCO General Plan EIR determined the development of areas within the Sphere of Influence of the City of Woodland will cause significant environmental impacts, including the conversion of prime agricultural land, loss of habitat and increased noise level. The State Water Board, as a responsible agency under the California Environmental Quality Act (CEQA), makes no determination on impacts outside its purview. The significant impacts identified in the LAFCO General Plan EIR do not include water resource impacts, such as impacts on water quality, water supply, or instream beneficial uses, within the State Water Board's purview as a responsible agency. The lead agency (LAFCO) under CEQA, found that benefits associated with amending the Sphere of Influence and City of Woodland General Plan will outweigh the negative impacts of such a change, and issued a Statement of Overriding Considerations.

46. The City of Davis, as the lead agency under CEQA completed and certified the Water Supply EIR in October 2007 for the water supply project. The City was required to adopt findings on the feasibility of reducing or avoiding significant environmental impacts, (Cal. Code Regs., tit. 14, § 15091), to adopt a statement of overriding considerations identifying the benefits of project approval that outweigh the project's significant unavoidable effects on the environment (Cal. Code Regs., tit. 14, § 15093), and adopt the Mitigation Monitoring and Reporting Program (Cal Code Regs., tit. 14, § 15097.) The City determined that the significant and unavoidable impacts associated with the project where mitigation was infeasible are impacts to: (i) land use and agriculture, (ii) air quality, (iii) noise, and (iv) aesthetic resources. The State Water Board, as responsible agency under CEQA, makes no determination on significant and unavoidable impacts that are outside the State Water Board's purview as a responsible agency.
47. The Water Supply EIR also identifies the following significant and unavoidable impacts that are within the purview of the State Water Board as a CEQA responsible agency: (i) the project would provide additional water supply resulting in the need to construct a new wastewater treatment plant in the future; and (ii) the cumulative contribution to the loss of fish species. The EIR states that the project, in combination with other future projects, would cause only minimal impacts to overall aquatic habitat and quality. It concludes there would not be any substantial reduction in fish populations or the quality or quantity of aquatic habitat in the Sacramento River-Delta system for any fish species as a result of the proposed project. Therefore, the EIR concludes that the proposed project is not likely to adversely affect special-status fish or their habitats. The impacts to fisheries resulting from project-related changes to Sacramento River and Delta hydrology would therefore not be significant. However, several future projects listed in Table 6-3 of the EIR have the potential to impact special-status fish species. It is unknown at this time the extent to which other future planned or under construction projects would result in cumulatively considerable impacts. The Sacramento River in the vicinity of the project contains sensitive habitats and species whose loss would be considered a significant impact and the project will facilitate future growth and development. Therefore, the EIR concludes that the impacts of the project, in combination with other projects, may cause cumulatively considerable adverse effects on sensitive fish species and water quality of the Sacramento River or Delta. The Davis City Council adopted a Statement of Overriding Considerations for these impacts.
48. The State Water Board, as responsible agency, will issue a Notice of Determination within five days of issuance of this decision.
49. The State Water Board has an independent obligation to consider the effect of the proposed projects on public trust resources and to protect those resources where feasible. (*National Audobon Society v. Superior Court* (1983) 33 Cal.3d 419.) In order to comply with our public trust duty, the permits will be conditioned based on the mitigation measures in the Water Supply EIR and any other measures the Board deems necessary to protect public trust resources.
50. There is no evidence that approval of the application, with the inclusion of the mitigation measures, will have any adverse impacts on public trust resources.
51. The Water Supply EIR identifies significant, mitigable impacts to biological resources such as candidate, sensitive or special-status plant and animal species, riparian habitats, vernal pools or wetlands. In accordance with Cal. Code Regs., tit. 14, § 15091, subd. (a)(1), the State Water Board makes independent findings regarding those impacts within its purview

as a responsible agency. The State Water Board finds these impacts can be avoided or reduced to a less than significant effect through incorporation of the mitigation and monitoring program in paragraphs 71-83 of the Decision.

52. With the Proposed Project, WDCWA would divert up to 46.1 thousand acre-feet/year (TAF/yr) of surface water by the year 2040. These surface water supplies would be supplemented with about 7.5 TAF/ yr from local groundwater sources and 2.0 TAF/ yr of water from the existing Solano Project being available for use at UCD to meet WDCWA's anticipated 55.6 TAF/yr water demand.

The State Water Board has reviewed the project alternatives described in the Water Supply EIR and makes the following findings:

a. No Project Alternative

If this alternative is implemented, WDCWA will not acquire any new surface water supply from the Sacramento River, and would continue to rely solely on groundwater. Reliable groundwater water supply is suspected to be insufficient to meet future demands, contains high concentrations of salts and other minerals, and is vulnerable to historical and current land use practices.

b. Water Supply Alternative 1 – 2030 Plan Horizon Supply at 45.8 million gallons/day (MGD)

Under this alternative, WDCWA would divert up to 40.4 TAF/yr of surface water from the Sacramento River, while continuing to rely on groundwater to meet peak demands. If this alternative is implemented, development taking place after 2030 would require water supplies developed with another project not considered in this alternative.

c. Water Supply Alternative 2 – Existing General Plan Horizon Supply with 39.8 MGD Diversion

Under this alternative, WDCWA would divert 35.1 TAF/yr of surface water and 3.9 TAF/yr of groundwater. This alternative has the same limitations as Alternative 1; additional water supplies needed to meet future demand beyond the existing General Plan would need to be acquired under another project.

d. Water Supply Alternative 3 – 2040 Planning Horizon Supply with Aggressive Conservation and 47.8 MGD Diversion

The water supply under this alternative would include 5.9 TAF/yr of groundwater, a maximum surface water diversion of 42.2 TAF/yr, and a 10% reduction in water use by the Cities of Davis, Woodland and the UCD campus through aggressive water conservation. This alternative assumes the implementation of conservation measures beyond what is currently being implemented by WDCWA. It is unknown if those conservation measures can be successfully implemented.

e. Water Supply Alternative 4 – 2040 Planning Horizon Supply with 106 MGD Diversion

Under this alternative, all groundwater pumping would cease and WDCWA would rely on new water right permits and water transfer from senior water right holders. Alternative 4 would provide water to supply WDCWA's anticipated 2040 demand. However, similar to Alternative 1 and 2, water supplies to meet additional demand would not be provided under this alternative and will need to be part of a separate project.

- f. Water Supply Alternative 5 – 2040 Planning Horizon Supply at 18.8 MGD Diversion
If this alternative is implemented, groundwater would supply 33.2TAF/yr and surface water diversion would be 20.5 TAF/yr. Under this alternative, the bulk of the water supply will come from groundwater. Therefore, this alternative has similar limitations as the No Project Alternative.
53. Under the No Project Alternative, WDCWA will rely solely on groundwater. Similarly, under Alternative 5, WDCWA will rely on groundwater to supply a large portion of its needs. Neither of those alternatives will allow WDCWA to meet the goal of reducing EC and improving the quality of the wastewater effluent. Under Water Supply Alternatives 1, 2, and 4, WDCWA will need to acquire additional water supplies to meet demands beyond the existing General Plan, the year 2030 or unknown additional demands. Water Supply Alternative 3 relies on unproven, aggressive conservation measures.
54. Under the proposed Project, WDCWA will meet its goal of reducing salt concentrations in the WWTP effluent until the year 2040. Therefore, the State Water Board finds the proposed project is the environmentally superior alternative.
55. The State Water Board finds the water will be diverted and used without unreasonable effect upon fish, wildlife, or other instream beneficial uses.
56. In accordance with Cal. Code Regs., tit. 14, § 15091, subd. (a)(3), the State Water Board must make independent findings regarding those impacts within its purview as a responsible agency. If it determines it is infeasible to adopt alternatives or mitigation measures that mitigate those impacts to a less than significant level, it must adopt a Statement of Overriding Considerations pursuant to section 15093.
57. Several future projects listed in Table 6-3 of the EIR have the potential to impact special-status fish species. It is unknown at this time the extent to which other future planned or under-construction projects would result in cumulatively considerable impacts. The Sacramento River in the vicinity of the project contains sensitive habitats and species whose loss would be considered a significant impact and the project will facilitate future growth and development. Therefore, the State Water Board concludes that the impacts of the project, in combination with other projects, may cause cumulatively considerable adverse effects on sensitive fish species and water quality of the Sacramento River or Delta.

Statement of Overriding Considerations

58. Conditional approval of WDCWA's Water Right Application 30358 will benefit public health by: 1) providing a reliable water supply to meet existing and future needs; 2) improving water quality for drinking water; and 3) improving the quality of treated wastewater effluent discharged to the Sacramento River. As a result of the Project, a currently unscreened diversion on the Sacramento River will be screened thereby providing additional protection to the resident fish species. The State Water Board finds these specific benefits provide the justification to override the cumulatively significant unavoidable effects of Project implementation to degrade water quality and fisheries of the Sacramento River or Delta.

THEREFORE, IT IS HEREBY ORDERED THAT THE APPLICATIONS ARE APPROVED AND COMBINED IN ORDER TO ISSUE A SINGLE PERMIT SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

59. The source and point of diversion are as described in paragraph 2 above.

60. The rate and amount authorized for diversion under Application 30358 is the total requested under both Applications 30358A and 30358B. The combined amount is as described below:

The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed a 30-day average diversion rate of 80.1 cubic feet per second and an instantaneous diversion rate of 100 cubic feet per second, to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 45,000 afy.

61. The place of use and purposes of use are as described in paragraph 5 above.
62. The permit issued under this application will include the following standard terms:
- a. Standard Term 6: The amount authorized for appropriation may be reduced in the license if investigation warrants.
 - b. Standard Term 10: Progress reports shall be submitted promptly by Permittee when requested by the State Water Board until a license is issued.
 - c. Standard Term 11: Permittee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by said State Water Board, reasonable access to project works to determine compliance with the terms of this permit.
 - d. Standard Term 12: Pursuant to California Water Code sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of Permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the Permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

- e. Standard Term 13: The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Board if, after notice to the Permittee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.
- f. Standard Term 14: This permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531-1544). If a "take" will result from any act authorized under this water right, the Permittee shall obtain authorization for an incidental take prior to construction or operation of the project. Permittee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the project authorized under this permit.
- g. Standard Term 15: Permittee shall maintain records of the amount of water diverted and used to enable State Water Board to determine the amount of water that has been applied to beneficial use pursuant to Water Code section 1605.
- h. Standard Term 22: This permit shall not be construed as conferring upon the Permittee right of access to the point of diversion.
- i. Standard Term 29A: Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein.

- j. Standard Term 30: If it is determined after permit issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany the application, Permittee shall, at his expense have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, Title 23. Said revision(s) or map(s) shall be furnished upon request of the Chief, Division of Water Rights.
- k. Standard Term 63: No work shall commence and no water shall be diverted, stored or used under this permit until a copy of a stream or lake alteration agreement between the State Department of Fish and Game and the Permittee is filed with the Division of Water Rights. Compliance with the terms and conditions of the agreement is the responsibility of the Permittee. If a stream or lake agreement is not necessary for this permitted project, the Permittee shall provide the Division of Water Rights a copy of a waiver signed by the State Department of Fish and Game.
- l. Standard Term 80: The State Water Board reserves jurisdiction over this permit to change the season of diversion to conform to later findings of the State Water Board concerning availability of water and the protection of beneficial uses of water in the Sacramento-San Joaquin Delta and San Francisco Bay. Any action to change the authorized season of diversion will be taken only after notice to interested parties and opportunity for hearing.
- m. Standard Term 90: This permit is subject to prior rights. Permittee is put on notice that, during some years, water will not be available for diversion during portions or all of the season authorized herein. The annual variations in demands and hydrologic conditions in the Sacramento - San Joaquin Delta are such that, in any year of water scarcity, the season of diversion authorized herein may be reduced or completely eliminated by order of the State Water Board, made after notice to interested parties and opportunity for hearing.
- n. Standard Term 91: No diversion is authorized by this permit when satisfaction of inbasin entitlements requires release of supplemental Project water by the Central Valley Project or the State Water Project.
 - i. Inbasin entitlements are defined as all rights to divert water from streams tributary to the Sacramento-San Joaquin Delta or the Delta for use within the respective basins of origin or the Legal Delta, unavoidable natural requirements for riparian habitat and conveyance losses, and flows required by the State Water Board for maintenance of water quality and fish and wildlife. Export diversions and Project carriage water are specifically excluded from the definition of inbasin entitlements.
 - ii. Supplemental Project water is defined as that water imported to the basin by the projects plus water released from Project storage which is in excess of export diversions, Project carriage water, and Project inbasin deliveries.

The State Water Board shall notify Permittee of curtailment of diversion under this term after it finds that supplemental Project water has been released or will be released. The Board will advise Permittee of the probability of imminent curtailment of diversion as far in advance as practicable based on anticipated requirements for supplemental Project water provided by the Project operators.

- o. Standard Term 203: The Permittee shall obtain all necessary state and local agency permits required by other agencies prior to construction and diversion of water. Copies of such permits and approvals shall be forwarded to the Chief, Division of Water Rights.
 - p. Standard Term 215: Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Chief of the Division of Water Rights shall be notified of the discovery and a professional archeologist shall be retained by the Permittee to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Chief of the Division of Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Chief of the Division of Water Rights.
63. Construction work and completed application of the water to the authorized use shall be prosecuted with reasonable diligence and completed by December 31, 2040.
64. Permittee shall install and maintain devices satisfactory to the State Water Board to measure the instantaneous rate of diversion, the amounts of water diverted each day, and the cumulative quantity of water diverted under this permit. Permittee shall make daily readings of these measuring devices and record these readings. Records of all such measurements shall be maintained by the Permittee, and made available to interested parties upon reasonable request. Permittee also shall, subject to any applicable Homeland Security restrictions, post such records on a publicly accessible website within 48 hours after the measurements are made. Copies of the records shall be submitted to the State Water Board with the annual "Progress Report by Permittee" and Permittee shall submit copies of these records to the CDFG each year when these records are submitted to the State Water Board.

Permittee shall allow the CDFG, or a designated representative, reasonable access to measuring devices for the purpose of verifying measurement readings.

Although water may be diverted by both Permittee and Reclamation District 2035 ("RD 2035") at the same intake facility on the Sacramento River, the water pumped by Permittee and the water pumped by RD 2035 must be pumped through separate pumps and pipes, with separate meters, and may not be commingled after pumping.

65. The right to divert water under this permit is junior in priority to the following prior rights:
- a. City of Sacramento under any valid pre-1914 appropriative right and appropriation issued pursuant to Permits 992, 11358, 11359, 11360 and 11361 (Applications 1743, 12140, 12321, 12622, and 16060);

- b. Conaway Preservation Group, LLC under any valid riparian rights and Licenses 904, 905, and 5487 (Applications 1199, 1588 and 12073);
 - c. Reclamation District No. 2068 to divert water under Licenses 6103 and 9339 (Applications 2318 and 19229), and Permit 19205 (Application 24961);
 - d. Reclamation District No. 1004 under any valid riparian rights and License 3165 (Applications 27), and Permit 16771 (Application 23201);
 - e. Reclamation District No. 108 under any valid riparian rights, Licenses 3065, 3066, 3067 and 7060 (Applications 576, 763, 1589 and 11899);
 - f. Pelger Mutual Water Company under Licenses 613A and 8547 (Applications 1765A and 12470);
 - g. Natomas Central Mutual Water Company under any valid riparian rights, Licenses 1050, 2814, 3109, 3110, 9794, and 9989 (Applications 534, 1056, 1203, 1413, 15572 and 22309), Permit 19400 (Application 25727); and
 - h. Sutter Mutual Water Company, under any valid riparian rights and Licenses 547, 552, 657, 882, 1110, 2240, 2817, 2818, 2819, 2820-a, 2821, 2822, 2823, 4562, 5432, 8220 and 8547 (Applications 1769, 1758, 1772, 3195, 1763, 7886, 581, 878, 879, 880, 9760, 1160, 10658, 11953, 14584, 16677, and 12470).
66. Prior to issuance of a permit, WDCWA shall submit a project map that meets the requirements of California Code of Regulations, Title 23, Chapter 2, Article 7.
67. No water shall be diverted under this permit until Permittee obtains a long-term water supply covering those periods when water is not available for diversion pursuant to this permit. Permittee shall submit documentation subject to review and approval by the Deputy Director for Water Rights that an alternate water supply has been secured for the development period under this permit. The alternate water supply must be equivalent to the diversion quantities scheduled for use under this permit.
68. To minimize potential impacts on drainage and floodplains, Permittee shall:
- a. Prior to construction, obtain a 401 Certification issued by the State Water Board or the Regional Water Quality Control Board and provide a copy of the 401 Certification to the Division of Water Rights (Division). Permittee shall also consult with the CDFG regarding the proposed upland sites where spoil material from trenching will be stockpiled. After making this consultation, Permittee shall provide the CDFG with a map of these proposed sites and Permittee's proposed conditions for using these sites.
 - b. Test any trench and tunnel spoils that are stockpiled at any upland site before replacement back into any excavated area or transportation to offsite disposal. Spoils containing high volumes of water shall be detained and allowed to settle at an upland site to reduce turbidity before the spoils are tested. If any such spoils are found to be contaminated by lubrication or hydraulic fluids, then such spoils will be collected and disposed of at a permitted waste disposal facility.

69. To minimize potential impacts on agriculture, Permittee shall:
- a. Install the water conveyance pipeline and transmission pipelines at a depth (to the top of the pipe) ranging from four to seven feet below the ground surface. Installation at this depth should be sufficient to avoid conflict with expected agricultural production activities. Final depths shall be established in consultation with an agricultural specialist and landowners to ensure no conflict with future agricultural practices.
 - b. Establish permanent Prime Farmland agricultural conservation easement at a ratio of 2:1 for the acreage of Prime Farmland that would be permanently displaced with Project development.
70. Permittee shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), acceptable to the Central Valley Regional Water Quality Control Board, for all Project construction activities, including:
- a. Conduct all instream construction activities during the low-flow period of May 30 through October 15.
 - b. Place sediment curtains around the construction or maintenance zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone.
 - c. Install silt fencing, including appropriate setbacks, where feasible, in all areas where construction occurs within 100 feet of known or potential steelhead habitat. Silt fencing will be installed adjacent to all aquatic habitat.
 - d. Isolate fresh concrete from wetted channels for a period of 30 days after it is poured. If a 30-day curing period is not feasible, a concrete sealant approved for use in fisheries habitat may be applied to the surfaces of the concrete structure. If a sealant is used, the manufacturer's guidelines for drying times will be followed before reestablishing surface flows within the work area.
 - e. Locate spoil sites (concrete wash areas) so as to prevent drainage into the Sacramento River. If a spoil site drains towards the Sacramento River, then lined catch basins will be constructed to intercept sediment before it reaches the channel and removal of spoils will be conducted daily during routine maintenance of work sites. Spoil sites will be graded to reduce the potential for erosion.
 - f. Not leave disturbed surfaces without erosion control measures (consistent with the SWPPP) in place during the wet season from October 15 through April 30. Erosion protection shall be provided on all cut and graded slopes and vegetative cover shall be established on each construction site as soon as possible after disturbance of the site.
71. The permit shall include the following mitigation measures based on the Mitigation Monitoring Plan from the Water Supply EIR and on the protest-dismissal agreement executed by WDCWA and CDFG. All certifications or reports necessary for approval by the Deputy Director for Water Rights shall be submitted together in one report prior to construction activities. The report shall also include the status of those measures that require approval by other agencies.

72. No water shall be diverted under this permit except through a fish screen on the intake to the diversion structure, satisfactory to meet the physical and operational specifications of the CDFG, United States Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS), as specified at the time the last permit for construction is issued, to protect species of fish listed as endangered or threatened species under the California Endangered Species Act (Fish and Game Code sections 2050 to 2098) or the federal Endangered Species Act (16 U.S.C. sections 1531 to 1544). Construction, operation, and maintenance costs of the required facility are the responsibility of the Permittee.
73. To minimize potential impacts on biological resources, Permittee shall:
- a. Prior to construction, evaluate impacts to trees within the City of Davis city limits and submit the evaluation to the City and Deputy Director for Water Rights for review. If deemed necessary by the City, Permittee shall apply for a permit and abide by any permit requirements for tree pruning or removal. In addition, sensitive habitats and wildlife shall be identified and protected for projects within the City of Davis, under the HAB 1.1 policy.
 - b. Conform project design, construction, and operation plans with, to the greatest extent possible, biological conservation goals fundamental to the ongoing Yolo County NCCP/HCP development process.
 - c. In consultation with CDFG, prepare and implement a Revegetation Program Plan that provides for the establishment and ongoing maintenance of native riparian species in all disturbed bank-side construction areas.
 - d. Conduct site preparation and installation of the sheet pile cofferdam during the summer and fall. A pre-construction Giant Garter snake (GGS) survey shall be conducted at the intake site prior to any cofferdam staging activity. The GGS survey shall be conducted by a qualified biologist acceptable to the Deputy Director for Water Rights in accordance with USFWS survey protocols, and findings shall be reported to CDFG, USFWS and the Division. As appropriate, follow-up inspections for presence of GGS individuals shall be conducted within 24 hours of initiating activity.
 - e. Offset the permanent loss of 0.1 acres of channel margin habitat or shallow water habitat because of installation of the diversion/intake facility, by purchasing off-site mitigation habitat in a ratio agreeable to CDFG, the Deputy Director for Water Rights and other agencies consulted. Permittee will work in consultation with CDFG, USFWS and NMFS to characterize functionally equivalent habitat for channel margin loss, and to identify the appropriate ratio of in-kind riparian corridor habitat suitable for use by wildlife species known to reside within two river miles of the intake construction site.
 - f. During installation of a cofferdam and dewatering, ensure that a qualified fisheries biologist acceptable to the Deputy Director for Water Rights will design and conduct a fish rescue and relocation effort to collect fish from the area within the cofferdam involving the capture and return of those fish to suitable habitat within the Sacramento River. To ensure compliance, the fisheries biologist will observe the initial dewatering activities within the cofferdam. The fish rescue plan will be provided for review and comment to NMFS, USFWS, CDFG and the Division prior to implementation. The success of this dewatering measure will be the effective

capture and removal of fish from the area to be dewatered with a minimum of capture and handling mortality for those fish returned to the Sacramento River.

- g. Install sheet piles and beams during construction of the cofferdam for the intake structure using a vibrating method. Prior to pile driving by any technique other than the vibrating method, Permittee will provide to CDFG, and the Deputy Director for Water Rights, a scientifically supported analysis to demonstrate that effects of the method will be limited to thresholds below that which could create sound pressure injury to juvenile salmonids in the vicinity.
74. In order to prevent impacts to special status plant species (Alkali milk-vetch, brittlescale, San Joaquin spearscale (saltbrush), palmate-bracted bird's beak, Heckard's peppergrass, Ferris milk-vetch, heartscale, rose mallow, Sanford's arrowhead, and Brazilian watermeal), Permittee shall:
- a. Perform a pre-construction survey for rare plants at the selected diversion/intake site and conveyance pipeline route. The survey shall be conducted by a qualified botanist acceptable to the Deputy Director for Water Rights during the appropriate season for identification, according to California Native Plant Society Botanical Survey Guidelines, included in Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR. Data shall be compiled and reported to CDFG and the Deputy Director for Water Rights before initiating any construction.
 - b. Identify populations of palmate-bracted bird's beak that would be directly affected by project construction. Temporary preservation fencing shall be installed to protect individuals, and fencing shall provide a minimum 25-foot distance exclusion area. Indirect effects due to changes in hydrology or other ecological requirements for this species shall be evaluated and modifications to the project design/construction shall be incorporated to minimize indirect effects to palmate-bracted bird's beak.
 - c. Avoid specimens as feasible, or identify and protect with orange fencing, individual Ferris's milk-vetch, alkali milk-vetch, heartscale, brittlescale, San Joaquin saltbush, Heckard's pepper-grass, rose-mallow, Sanford's arrowhead, Brazilian watermeal, or other special-status species without state or federal status that are detected within the proposed project area during the pre-construction survey, and notify CDFG. Where these sensitive plants cannot be avoided, additional mitigation measures shall be implemented by Permittee in consultation with CDFG, prior to construction. These measures may include, but are not limited to the following:
 - i. Minimizing impacts by restricting removal of plants to a few individuals of a relatively large population;
 - ii. Preparing a plan to relocate plants to suitable habitat outside the proposed Project area to a CDFG-approved site;
 - iii. Restoring or enhancing occupied habitat at an off-site location with appropriate ecological conditions to support the affected sensitive species.
 - iv. Locating the pipelines entirely underground and returning the ground surface to pre-project grade and contours.

- v. Locating Pipeline alignments according to paragraph 6 of the CDFG Protest Dismissal Agreement, dated October 29, 2009.
 - vi. Consulting with CDFG on constraints and opportunities for viable off-site habitat enhancement/creation for the species concerned and implement a plan for restoration and enhancement. The plan shall include a five-year monitoring and maintenance program to evaluate and support the establishment of the sensitive species, and shall include contingencies for additional recruitment, planting and monitoring, as necessary, if survivorship falls below 75%.
 - vii. Preserving occupied habitat for the species on-site or at another regional location.
75. To prevent impacts to vernal pool and seasonal wetland species (Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, and western spadefoot), Permittee shall:
- a. Prior to project construction, survey the selected diversion/intake pipeline corridor area and assess the potential to support vernal pool and seasonal wetlands. All vernal pools and wetlands within 250 feet of the selected diversion/intake pipeline corridor shall be included in the assessment.
 - b. Undertake one of the following two actions for all vernal pool and seasonal wetland habitats identified during the wetland delineation:
 - i. Survey for presence or absence of vernal pool crustaceans according to USFWS survey protocol (in the February 28, 1996 Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California, (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR), where those pools found to contain vernal pool crustaceans shall be mitigated by (c), (d), and (e) below. All other pools shall be mitigated at a 1:1 compensation ratio, or
 - ii. Assume that the vernal pool is occupied by vernal pool crustaceans and measures (c), (d), and (e) shall be implemented for all pools.
 - c. Avoid completely all identified vernal pool and seasonal wetland habitats. The USFWS considers disturbance within 250 feet of all vernal pool wetlands to be an impact. Therefore, all wetlands shall be avoided by 250 feet and protected within that buffer. Protective measures may consist of temporary fencing such as silt fencing and plastic construction fencing. Also, Best Management Practices (BMPs) and Stormwater Pollution Prevention Plan methods shall be implemented during construction to avoid indirect water quality impacts to wetlands. These pools shall be considered “avoided” and no further mitigation is necessary.
 - d. If impacts to vernal pool and seasonal wetlands cannot be avoided but can be protected from direct fill or ground disturbance, the wetlands shall be identified and protected using temporary fencing, which shall take the form of silt fencing and temporary plastic construction fencing placed no closer than 25 feet from the edge of the pool. The distance between the pool and protective fencing shall be maximized wherever possible. These pools will be considered as “indirectly affected” by project activities and shall be mitigated in accordance with the

February 28, 1996 Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). Some pools may be considered avoided if it can be shown that the proposed project activity would not adversely impact their surface and subsurface hydrology. This shall be considered on a case-by-case basis by a qualified biologist and hydrologist acceptable to the Deputy Director for Water Rights.

- e. Calculate the area of impacts for pools that will be directly impacted by project activities. For the purpose of this calculation, any portion of a pool that is directly impacted by project activities would result in the entire pool being identified as being permanently impacted. Impacted pools shall then be mitigated in accordance with the February 28, 1996 Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California (see Appendix C2 of the 2007 Water Supply Draft EIR).
 - f. Conduct a pre-construction survey of the selected diversion/intake pipeline corridor area to assess the potential to support vernal pool and seasonal wetlands which may support California tiger salamander (CTS) and western spadefoot. The survey shall include the entire project footprint and all areas within 1.24 miles of proposed project activities (where site access allows) for the presence of CTS using the protocol provided in the October 2003 Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). Should CTS be detected in the area, all ground squirrel burrows and vernal pools shall be mapped within 1.24 miles of the project, and all vernal pool areas shall be calculated within this area.
 - g. Identify vernal pools and burrows that can be protected from project activities and protect these sites from disturbance using temporary fencing. Temporary fencing shall take the form of silt fencing and temporary plastic construction fencing placed no closer than 25 feet from the edge of the habitat. The distance between the habitat and protective fencing shall be maximized wherever possible. Protective fencing around vernal pools identified as potential habitat for special-status amphibians shall be constructed in a way that allows CTS and western spadefoot to access these wetlands.
 - h. Quantify impacts to vernal pools and occupied CTS burrows, impacted vernal pools and burrow habitat and mitigate and compensate in accordance with (c) above. Burrows that cannot be avoided shall be excavated by a biologist approved by USFWS and the Deputy Director for Water Rights prior to construction using hand tools. Excavated CTS shall be relocated off the project site to a USFWS-approved site.
76. To prevent impacts to Valley elderberry longhorn beetle, Permittee shall:
- a. Survey the selected diversion/intake pipeline corridor area prior to construction for the presence of elderberry shrubs. The survey shall be conducted according to USFWS's July 9, 1999 Conservation Guidelines for Valley Elderberry Longhorn Beetle (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). The survey may be conducted concurrently with the rare plant surveys.

- b. Avoid identified elderberry shrubs by a minimum of 100 feet during construction of the diversion/intake pipeline corridor. If complete avoidance is not feasible, USFWS shall be consulted regarding impacts to valley elderberry longhorn beetle. Compensation for disturbance within 100 feet of shrubs will be implemented in a manner approved by USFWS, CDFG, and the Deputy Director for Water Rights, and may include transplanting elderberry shrubs into a conservation area for valley elderberry longhorn beetle. The conservation area must be at least 1,800 square feet and should be planted with five additional elderberry plants plus five native associated plants for every one transplanted/impacted elderberry shrub. Refer to USFWS's July 9, 1999 Conservation Guidelines for Valley Elderberry Longhorn Beetle (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR), for details.

77. To prevent impacts to giant garter snake and western pond turtle, Permittee shall:

- a. Conduct a pre-construction survey of the selected diversion/intake and pipeline siting option for giant garter snake habitat suitability within one year of anticipated construction. The survey area shall include up to 200 feet of upland habitat surrounding potential aquatic habitat for giant garter snake according to the USFWS November 13, 1997 programmatic biological opinion for giant garter snake. Habitat assessments shall follow CDFG guidelines Appendix D: Protocols for Pre-Project Surveys to Determine Presence or Absence for the Giant Garter Snake and to Evaluate Habitats, as cited in the USFWS Draft Recovery Plan for the Giant Garter Snake (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR).
- b. If suitable giant garter snake habitat is present, implement the following mitigation measures in accordance with the USFWS programmatic biological opinion for giant garter snake which pertain to Level 3 impacts.
 - i. Construction activity within giant garter snake habitat shall occur between May 1 and October 1, which is the active period for the snake. Between October 2 and April 30, the USFWS Sacramento Fish and Wildlife Office and CDFG, North Central Region, shall be consulted to determine if additional measures are necessary to minimize and avoid take. Such measures might include, but are not limited to, requiring a biological monitor on site during construction within giant garter snake habitat.
 - ii. Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
 - iii. Construction personnel shall participate in a Service-approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the USFWS and the Deputy Director for Water Rights shall instruct all construction personnel about giant garter snake as directed in the USFWS programmatic biological opinion for giant garter snake. Proof of this instruction shall be submitted to the USFWS, Sacramento Fish and Wildlife Office, CDFG, North Central Region and the Deputy Director for Water Rights.

- iv. Pre-construction surveys for the giant garter snake shall be conducted by a biologist approved by USFWS and the Deputy Director for Water Rights within 24 hours prior to ground disturbance. Giant garter snake encounters and field reports shall be addressed per the USFWS programmatic biological opinion for giant garter snake.
- v. Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.
- vi. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.
- vii. Preserved giant garter snake habitat shall be designated as Environmentally Sensitive Areas and shall be flagged by a qualified biologist approved by CDFG, USFWS and the Deputy Director for Water Rights and shall be avoided by all construction personnel.
- viii. After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions. Restoration work may include replanting emergent vegetation as directed in the USFWS programmatic biological opinion for giant garter snake.
- ix. Impacts to giant garter snake habitat shall be mitigated in accordance with USFWS mitigation compensation ratios, based on described levels of impact in the programmatic biological opinion. More than two season duration and temporary or permanent losses of habitat shall be compensated at 3:1 or the ratios described in Table 1 on page 7 of the USFWS November 13, 1997 programmatic biological opinion for giant garter snake (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR) and shall meet the criteria listed in the USFWS programmatic biological opinion for giant garter snake.
- x. All wetland and upland acres created and provided for the giant garter snake shall be protected in perpetuity by a Service-approved conservation easement or similarly protective covenants in the deed and comply with provisions in the USFWS programmatic biological opinion for giant garter snake. Documentation of such land preservation shall be provided to CDFG and the Deputy Director for Water Rights.
- xi. The Reporting Requirements shall be fulfilled in compliance with the USFWS programmatic biological opinion for giant garter snake and the reports shall be submitted to the USFWS, CDFG and the Deputy Director for Water Rights.
- xii. Replacement of affected giant garter snake habitat shall be made at a 3:1 ratio.
- xiii. All replacement habitats must include both upland and aquatic habitat components. Upland and aquatic habitat components must be included in the replacement habitat at a ratio of 2:1 upland acres to aquatic acres.

xiv. If restoration of habitat is a component of the replacement habitat, one year of monitoring restored habitat with a photo documentation report due one year from implementation of the restoration with pre- and post-project area photos.

xv. Five years of monitoring replacement habitat with photo documentation report due each year to CDFG, USFWS and the Division.

78. To prevent impacts to Swainson's Hawk, Permittee shall:

- a. Conduct a pre-construction breeding-season survey (between March 1 and September 15) in the year when construction is scheduled to commence. The survey will be conducted by a qualified biologist, acceptable to CDFG and the Deputy Director for Water Rights, and according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley, prepared by the Swainson's Hawk Technical Advisory Committee, dated May 31, 2000, (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). The survey area shall include all lands with a one quarter-mile radius around any Project construction activities scheduled to occur during that breeding season. If any nesting Swainson's Hawks are detected, Permittee shall establish a buffer zone of one-quarter mile around the nest site, within which there will be no construction unless one of the following has occurred:
 - i. Based on ongoing monitoring of the nest site by a qualified biologist, and subsequent consultation with the CDFG, it is determined by the CDFG that work can occur within the buffer zone, along with the conditions under which such work may be carried out. Depending on conditions specific to each nest, it may be possible to allow construction activities within the buffer zone without impacting breeding behavior. In these cases, the nest will be monitored by a qualified biologist acceptable to CDFG. The monitor will have all stop authority. If, in the professional opinion of the monitor, project activities are negatively affecting the nesting or breeding behavior of the birds, then the monitor shall stop all construction activity within the designated buffer zone, and construction activities within this designated buffer zone shall not resume until either the monitor has determined that the young have fledged and the nest is empty or as otherwise approved by CDFG; or,
 - ii. Monitoring has demonstrated, and CDFG has concurred, that adults are no longer utilizing the nest area and/or birds of the year have fully fledged.
- b. Mitigate for permanent loss of Swainson's Hawk foraging habitat associated with the construction of the Water Treatment Plant facility. Compensation shall follow guidance in the May 2, 2002 Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into between CDFG and the Yolo County HCP/NCCP Joint Powers Agency (Habitat JPA), with the mitigation fee increase described in the January 26, 2004 staff report regarding this agreement. This agreement requires that:
 - i. Urban development. Permittee shall pay an acreage-based mitigation fee into the Wildlife Mitigation Trust Account established by the Habitat JPA in an amount, as determined by the Habitat JPA Board, sufficient to fund the acquisition, enhancement and long-term management of one (1) acre of Swainson's Hawk foraging habitat for every one (1) acre of foraging habitat that is lost to urban development.

- ii. A calculated fee of \$5,800.00 per acre is sufficient to fund the acquisition and preservation as of January 2004. This fee amount may be adjusted to reflect updated costs for acquisition of habitat.
 - iii. With written approval of and subject to conditions determined by CDFG, an urban development Permittee may transfer fee simple title or a conservation easement over Swainson's Hawk foraging habitat, along with appropriate enhancement and management funds, in lieu of paying the acreage-based mitigation fee.
79. To prevent impacts to western yellow-billed cuckoo, Cooper's hawk, white-tailed kite, yellow warbler, loggerhead shrike, northern harrier and short-eared owl, Permittee shall:
- a. Implement measures 78a. and 78b. above for Swainson's Hawk, and apply them to western yellow-billed cuckoo. Apply these measures, but modify survey area to include 500 feet around the construction activities, and modify buffer areas to include 500 feet around any Cooper's hawk, white-tailed kite, yellow warbler or loggerhead shrike nest.
 - b. Implement measure 78a. and 78b. above for Swainson's Hawk and apply them to northern harrier and short-eared owl, but modify survey area to include 500 feet around the construction activities; and modify buffer areas to include 500 feet around a nest.
80. To prevent impacts to Burrowing Owl, Permittee shall:
- a. Survey the entire route of the chosen siting diversion/intake pipeline corridor and Water Treatment Plant (WTP) footprint for burrowing owls according to the October 17, 1995 CDFG Staff Report on Burrowing Owl Mitigation (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR), which includes survey guidelines for burrowing owl. The surveys must be conducted prior to project construction and shall be conducted by a qualified biologist acceptable to the Deputy Director for Water Rights. Data shall be compiled and reported to CDFG before initiating any construction activities. The guidelines include the following:
 - i. Conduct a winter survey (to be conducted between December 1 and January 31) and a survey during the breeding season (to be conducted April 15 to July 15).
 - ii. Conduct the survey beginning one hour before sunrise and two hours after, OR two hours before sunset and one hour after.
 - iii. The survey area shall include suitable habitat within a 500-foot radius around the Project construction zone.
 - b. If occupied burrows are identified, implement the measures included in the October 17, 1995 CDFG Staff Report on Burrowing Owl Mitigation (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). These include but are not limited to the following measures:
 - i. Owls shall not be disturbed from February 1 through August 31. Establish an avoidance buffer of 160 feet (September 1 through January 31) or 250 feet (February 1 through August 31) and monitor the nest burrow during construction activity. Any indication of impacts to the breeding pair as a result of construction

shall be reported to CDFG whereby CDFG may have the authority to halt construction until the young have fledged from the nest.

- ii. If impacts to owls cannot be avoided, then CDFG shall be consulted on minimization measures such as using passive relocation techniques during the non-breeding season (September 1 through January 31).
 - iii. A minimum of 6.5 acres of foraging habitat must be preserved for every occupied burrow potentially impacted (within 160 feet or 250 feet of the construction activity, depending on the season). Foraging habitat shall be preserved according to CDFG guidelines.
81. To prevent impacts to tricolored blackbird, white-faced ibis, western snowy plover, and bank swallow, Permittee shall implement measure 78a. and 78b. above for Swainson's hawk and apply them to the above-listed species, but modify survey area to include 500 feet around the construction activities; and modify buffer areas to include 500 feet around nesting colonies/locations.
82. To prevent impacts to riparian habitat or other sensitive natural communities, Permittee shall:
- a. Prior to construction, conduct an assessment within the project area to provide the basis of a vegetation mitigation plan. A vegetation mitigation plan will be developed in consultation with CDFG and the Deputy Director for Water Rights. The plan shall contain species expected to be found in the vicinity of project sites. Details about the species and their past occurrence shall be included in the plan. Permittee shall comply with all terms and conditions of the plan, including additional mitigation provisions to be implemented. Permittee will follow performance standards in developing the plan. The requirements will consist of one or more of the following provisions:
 - i. Establish an oak tree conservation easement in coordination with Yolo County to protect and preserve trees commensurate with the removal of large oaks as a result of project implementation.
 - ii. Replace and maintain trees, for seven years, at a rate of 1 tree per 1-inch of tree diameter removed as measured at diameter breast height. Because this measure would only fulfill one-half of the required mitigation for the project, one or more of the other provisions would need to be implemented to fulfill the remaining mitigation requirements.
 - iii. Contribute funds to a suitable oak woodland conservation fund, as established in accordance with § 1363 of the Fish and Game Code
 - iv. Consult with Yolo County and CDFG to determine and agree to implement other suitable measures consistent with the Yolo County Oak Woodland Conservation and Enhancement Plan 2007 and § 21083.4(a) of the California Public Resources Code.
 - b. For any drainage that would be crossed using trenchless construction techniques, the bore pits will be excavated at least 50 feet outside the edge of riparian vegetation to minimize impacts to waterways and adjacent areas.

- c. All new project-related groundwater wells within water sellers' service areas shall be sited in areas that are not within 0.25 mile of wetlands and other sensitive biological resources that could be affected by groundwater drawdown.
83. To prevent impacts to federally protected wetlands, Permittee shall:
- a. Prior to construction, conduct and submit for approval a formal wetland delineation report for the proposed Project area for verification through the Army Corp of Engineers (ACOE). Permittee shall obtain a Section 404 (Clean Water Act) permit for impacts to jurisdictional wetlands from the ACOE and a Section 401 water quality certification from the RWQCB or State Water Board and shall comply with all conditions of the permit and certification. In association with either the permit or certification, compensatory mitigation for impacts to jurisdictional wetlands may be required. ACOE mitigation guidelines emphasize on-site mitigation preference, but in the potential case that on-site mitigation is not available, Permittees shall either purchase wetland mitigation credits from an ACOE - approved mitigation bank that services the area containing the proposed project or prepare a plan to implement mitigation at an off-site location.
 - b. For open trench construction crossing minor wetland ditches (less than 15 feet in width), the following measures shall be implemented:
 - i. Implement compliance measures, described in Section 3.7, Geology, Soils, and Seismicity for Impact 3.7-1, to reduce indirect impacts to wetlands and other waters during open trench construction;
 - ii. Conduct trenching and construction activities across drainages during low-flow or dry periods as feasible;
 - iii. If working in active channels, install cofferdam upstream and downstream of stream crossing to separate construction area from flowing waterway;
 - iv. Place sediment curtains upstream and downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone;
 - v. Locate spoil sites such that they do not drain directly into the drainages and/or seasonal wetlands;
 - vi. Store equipment and materials away from the drainages and wetland areas. No debris will be deposited within 250 feet of the drainages and wetland areas.
 - vii. Prepare and submit to CDFG and the Deputy Director for Water Rights for approval, a revegetation implementation plan to restore vegetation in all temporarily disturbed wetlands and other waters using native species seed mixes and container plant material that are appropriate for existing hydrological conditions. All disturbed drainages will be restored to pre-construction conditions.

84. In addition to reporting required prior to construction activities, Permittee shall prepare and submit to the Deputy Director for Water Rights annual reports that include the status of compliance with the mitigations and monitoring required by paragraphs 71-83 above. Annual reports shall be submitted by October 1 of each year.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a decision duly and regularly adopted at a meeting of the State Water Resources Control Board held on March 1, 2011.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Dwight P. Russell

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board



STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

Amended License for Diversion and Use of Water

APPLICATION 1199A
Page 1 of 5

PERMIT 614A

LICENSE 904A

THIS IS TO CERTIFY, That

Woodland-Davis Clean Water Agency
1717 Fifth Street
Davis, CA 95616

has the right to the use of the waters of **Sacramento River in Yolo County**

tributary to **Suisun Bay**

for the purpose of **municipal, industrial, irrigation, fisheries and aquaculture research and incidental fish and wildlife enhancement uses.**

The Deputy Director for Water Rights finds that: (a) the change will not operate to the injury of any lawful user of water; (b) good cause has been shown for the change; (c) the petition does not constitute the initiation of a new right; and (d) the State Water Resources Control Board (State Water Board) has made the required findings pursuant to the California Environmental Quality Act (CEQA) or the project is exempt from CEQA.

Additionally, the State Water Board has complied with its independent obligation to consider the effect of the proposed project on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 [189 Cal.Rptr. 346], 658 P.2d 709.)

This amended license is being issued in accordance with the redelegations of authority (Resolution No. 2012-0029). Therefore, this amended license on **Application 1199** filed on **March 1, 1919** has been approved by the State Water Board **SUBJECT TO PRIOR RIGHTS** and to the limitations and conditions herein.

Amended License 904A supersedes the license originally issued on **April 18, 1930**, which was perfected in accordance with the laws of California, the Regulations of the State Water Board, or its predecessor, and the terms of **Permit 614**. The priority of this right dates from **March 1, 1919**. Proof of maximum beneficial use of water under this license was made as of **October 8, 10 and 11, 1921 and July 13, 1922** (the date of inspection).

The amount of water to which this right is entitled and hereby confirmed is limited to the amount actually beneficially used for the stated purposes and shall not exceed an average diversion rate of **eighty (80) cubic feet per second** and an instantaneous diversion rate of **one hundred (100) cubic feet per second** by direct diversion from (a) **about April 1 to about September 30** of each year for irrigation, and (b) **April 1 to September 30** of each year for all other beneficial uses. Total maximum authorized diversions during July 1 through September 30 of each year shall not exceed **7,500 acre-feet per year**. The maximum quantity diverted under this license shall not exceed **10,000 acre-feet per year**.

The maximum combined diversion under License 904A (Application 1199A) and License 5487A (Application 12073A) shall not exceed **10,000 acre-feet per year**.

THE POINT OF DIVERSION OF SUCH WATER IS LOCATED:

By California Coordinate System of 1983, Zone 2, North 2,008,200 feet and East 6,667,300 feet, being within NE¼ of NW¼ of projected Section 34, T10N, R3E, MDB&M.

Upon completion of a fish screen diversion facility, diversion at the following point of diversion shall be discontinued:

By California Coordinate System of 1983, Zone 2, North 2,008,400 feet and East 6,667,100 feet, being within SE¼ of SW¼ of Section 27, T10N, R3E, MDB&M.

THE POINTS OF REDIVERSION OF SUCH WATER ARE LOCATED:

1. By California Coordinate System of 1983, Zone 2, North 1,997,410 feet and East 6,656,940 feet, being within NE¼ of NW¼ of Section 8, T9N, R3E, MDB&M.
2. By California Coordinate System of 1983, Zone 2, North 1,997,830 feet and East 6,650,590 feet, being within SW¼ of SW¼ of Section 6, T9N, R3E, MDB&M.

A DESCRIPTION OF THE LANDS OR THE PLACE WHERE SUCH WATER IS PUT TO BENEFICIAL USE IS AS FOLLOWS:

Municipal and Industrial uses within City of Woodland, City of Davis and University of California, Davis within T8N, R1E, R2E and R3E; T9N, R2E and R3E; T10N, R2E and R3E, MDB&M; Irrigation on 23,950 acres within T8N, R1E, R2E and R3E; T9N, R2E and R3E; T10N, R2E and R3E, MDB&M; and Fisheries and Aquaculture Research within projected Sections 16 and 21, T8N, R2E, MDB&M as shown on map dated March 28, 2011 filed with the State Water Board.

Irrigation and incidental fish and wildlife enhancement on 21,314 acres within T9N, R2E; T9N, R3E; T10N, R2E and T10N, R3E, MDB&M, as shown on map dated February 17, 1920 filed with the State Water Board.

License 904A is specifically senior in priority to License 904B for water put to municipal and industrial purposes of use. For all other purposes of use, Licenses 904A and 904B shall have co-equal priority.

Any water diverted under this license and conveyed to a municipal water treatment plant shall be construed as being used for municipal and/or industrial use and shall be separately reported by licensee. Licensee shall make monthly reporting data publicly available. Licensee shall timely inform the owner(s) of Licenses 904B and 5487B (Applications 1199B and 12073B) of the site where these public data will be available, and of any subsequent changes thereto.

The maximum seasonal quantity of water to be directly diverted pursuant to Licenses 904A and 5487A and under licensee's Sacramento River Settlement Contract with the U.S. Bureau of Reclamation shall not exceed 10,000 acre-feet during the period from about April 1 through about October 31 during the term of that contract or any renewals thereof, and for an amount not to exceed 10,000 acre-feet during the period from about April 1 through about October 31, if that contract is not in place.

Licensee shall install and maintain devices satisfactory to the State Water Board to measure the instantaneous rate of diversion, the amounts of water diverted each day, and the cumulative quantity of water diverted under this license. Licensee shall make daily readings of these measuring devices and record these readings separately for each water right held by Licensee. Records of all such measurements shall be maintained by Licensee, and made available to interested parties upon reasonable request. Licensee also shall, subject to any applicable Homeland Security restrictions, post such records on a publicly accessible website within 48 hours after the measurements are made. Copies of the records shall be submitted to the State Water Board with the annual Report of Licensee and concurrently submitted to the Department of Fish and Game.

Licensee shall allow the Department of Fish and Game, or a designated representative, reasonable access to measuring devices for the purpose of verifying measurement readings.

Irrespective of whether the diversion intake facility is used by more than one entity, the water diverted by Licensee shall be separately accounted for. After diversion, the water diverted by Licensee shall be conveyed to a separate metering facility and separately metered and reported.

After January 1, 2016, no water shall be diverted under this license except through a fish screen on the intake to the diversion structure, satisfactory to meet the physical and operational specifications of the Department of Fish and Game, U.S. Fish and Wildlife Service and National Marine Fisheries Service, as specified at the time the last permit for construction is issued, to protect species of fish listed as endangered or threatened under the California Endangered Species Act (Fish and Game Code sections 2050 to 2098) or the federal Endangered Species Act (16 U.S.C. sections 1531 to 1544). Construction, operation, and maintenance costs of the required facility are the responsibility of the Licensee.

Licensee shall comply with all applicable requirements in existing and future biological opinions and permits, including any permits issued by the Department of Fish and Game, State or Regional Water Boards, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Army Corps of Engineers, for aquatic and terrestrial species associated with activities involving this license.

While Licensee's Sacramento River Settlement Contract with the United States is in effect, the amount authorized for diversion under Licenses 904A and 5487A in any month shall not exceed the quantities listed for each month in Exhibit A to Contract No. 14-06-200-7422X-R-1 except as provided for by the terms of that contract, and the total amount shall not exceed 10,000 acre-feet per year.

If it is determined after license issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany the application, Licensee shall, at his expense, have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, Title 23. Said revision(s) or map(s) shall be furnished upon request of the Deputy Director for Water Rights.

The right hereby confirmed to the diversion and use of water is restricted to the point or points of diversion herein specified and to the lands or place of use herein described.

Reports shall be filed promptly by the licensee on the appropriate forms which will be provided for the purpose from time to time by the State Water Board.

Licensee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by the State Water Board, reasonable access to project works to determine compliance with the terms of this license.

Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this license, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this license with a view to eliminating waste of water and to meeting the reasonable water requirements of licensee without unreasonable draft on the source. Licensee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to: (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this license and to determine accurately water use as against reasonable water requirement for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the licensee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution article X, section 2; is consistent with the public interest and is necessary to preserve or restore the uses protected by the public trust.

The quantity of water diverted under this license is subject to modification by the State Water Board if, after notice to the licensee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that: (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

This license does not authorize any act which results in the taking of a threatened or endangered species or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2089) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the licensee shall obtain authorization for an incidental take prior to construction or operation of the project. Licensee shall be responsible for meeting all requirements of the state or federal Endangered Species Acts for the project authorized under this license.

If construction or rehabilitation work is required for the diversion works covered by this license within the bed, channel, or bank of the affected water body, the licensee shall enter into a streambed or lake alteration agreement with the State Department of Fish and Game. Licensee shall submit a copy of the agreement, or waiver thereof, to the Division of Water Rights prior to commencement of work. Compliance with the terms and conditions of the agreement is the responsibility of the licensee.

This license is granted and the licensee accepts all rights herein confirmed subject to the following provisions of the Water Code:

Section 1625. Each license shall be in such form and contain such terms as may be prescribed by the State Water Board. Section

1626. All licenses shall be under the terms and conditions of this division (of the Water Code).

Section 1627. A license shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code) but no longer.

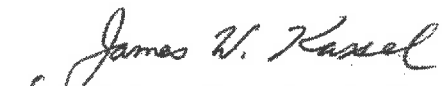
Section 1628. Every license shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article (of the Water Code) and the statement that any appropriator of water to whom a license is issued takes the license subject to the conditions therein expressed.

Section 1629. Every licensee, if he accepts a license, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any license granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any licensee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any licensee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1630. At any time after the expiration of twenty years after the granting of a license, the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State shall have the right to purchase the works and property occupied and used under the license and the works built or constructed for the enjoyment of the rights granted under the license.

Section 1631. In the event that the State, or any city, city and county, municipal water district, irrigation district, lighting district, or political subdivision of the State so desiring to purchase and the owner of the works and property cannot agree upon the purchase price, the price shall be determined in such manner as is now or may hereafter be provided by law for determining the value of property taken in eminent domain proceedings.

STATE WATER RESOURCES CONTROL BOARD


for *Barbara Evoy, Deputy Director*
Division of Water Rights

Dated: DEC 21 2012



STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

Amended License for Diversion and Use of Water

APPLICATION 12073A
Page 1 of 5

PERMIT 7234A

LICENSE 5487A

THIS IS TO CERTIFY, That

Woodland-Davis Clean Water Agency
1717 Fifth Street
Davis, CA 95616

has the right to the use of the waters of **Sacramento River** in **Yolo County**
tributary to **Suisun Bay**

for the purpose of **municipal, industrial, irrigation, fisheries and aquaculture research and incidental fish and wildlife enhancement uses.**

The Deputy Director for Water Rights finds that: (a) the change will not operate to the injury of any lawful user of water; (b) good cause has been shown for the change; (c) the petition does not constitute the initiation of a new right; and (d) the State Water Resources Control Board (State Water Board) has made the required findings pursuant to the California Environmental Quality Act (CEQA) or the project is exempt from CEQA.

Additionally, the State Water Board has complied with its independent obligation to consider the effect of the proposed project on public trust resources and to protect those resources where feasible. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419 [189 Cal.Rptr. 346], 658 P.2d 709.)

This amended license is being issued in accordance with the redelegations of authority (Resolution No. 2012-0029). Therefore, this amended license on **Application 12073** filed on **September 8, 1947** has been approved by the State Water Board **SUBJECT TO PRIOR RIGHTS** and to the limitations and conditions herein.

Amended License 5487A supersedes the license originally issued on **March 24, 1959**, which was perfected in accordance with the laws of California, the Regulations of the State Water Board, or its predecessor, and the terms of **Permit 7234**. The priority of this right dates from **September 8, 1947**. Proof of maximum beneficial use of water under this license was made as of **September 29, 1958** (the date of inspection).

The amount of water to which this right is entitled and hereby confirmed is limited to the amount actually beneficially used for the stated purposes and shall not exceed an average diversion rate of **eighty (80) cubic feet per second** and an instantaneous diversion rate of **one hundred (100) cubic feet per second** by direct diversion from (a) about **October 1 to about October 31** of each year for irrigation and (b) **October 1 to October 31** of each year for all other beneficial uses. The maximum quantity diverted under this license shall not exceed **4,919 acre-feet** per year.

The maximum combined diversion under License 904A (Application 1199A) and License 5487A (Application 12073A) shall not exceed **10,000 acre-feet** per year.

THE POINT OF DIVERSION OF SUCH WATER IS LOCATED:

By California Coordinate System of 1983, Zone 2, North 2,008,200 feet and East 6,667,300 feet, being within NE¼ of NW¼ of projected Section 34, T10N, R3E, MDB&M.

Upon completion of a fish screen diversion facility, diversion at the following point of diversion shall be discontinued:

By California Coordinate System of 1983, Zone 2, North 2,008,400 feet and East 6,667,100 feet, being within SE¼ of SW¼ of Section 27, T10N, R3E, MDB&M.

THE POINTS OF REDIVERSION OF SUCH WATER ARE LOCATED:

1. By California Coordinate System of 1983, Zone 2, North 1,997,410 feet and East 6,656,940 feet, being within NE¼ of NW¼ of Section 8, T9N, R3E, MDB&M.
2. By California Coordinate System of 1983, Zone 2, North 1,997,830 feet and East 6,650,590 feet, being within SW¼ of SW¼ of Section 6, T9N, R3E, MDB&M.

A DESCRIPTION OF THE LANDS OR THE PLACE WHERE SUCH WATER IS PUT TO BENEFICIAL USE IS AS FOLLOWS:

Municipal and Industrial uses within City of Woodland, City of Davis and University of California, Davis within T8N, R1E, R2E and R3E; T9N, R2E and R3E; T10N, R2E and R3E, MDB&M; Irrigation on 23,950 acres within T8N, R1E, R2E and R3E; T9N, R2E and R3E; T10N, R2E and R3E, MDB&M; and Fisheries and Aquaculture Research within projected Sections 16 and 21, T8N, R2E, MDB&M as shown on map dated March 28, 2011 filed with the State Water Board.

Irrigation and incidental fish and wildlife enhancement on 17,628.32 net acres within a gross acreage of 18,998 acres within T9N, R2E; T9N, R3E; T10N, R2E and T10N, R3E, MDB&M, as shown on a map dated November, 1947 filed with the State Water Board.

License 5487A is specifically senior in priority to License 5487B for water put to municipal and industrial purposes of use. For all other purposes of use, Licenses 5487A and 5487B shall have co-equal priority.

Any water diverted under this license and conveyed to a municipal water treatment plant shall be construed as being used for municipal and/or industrial use and shall be separately reported by licensee. Licensee shall make monthly reporting data publicly available. Licensee shall timely inform the owner(s) of Licenses 904B and 5487B (Applications 1199B and 12073B) of the site where these public data will be available, and of any subsequent changes thereto.

The maximum seasonal quantity of water to be directly diverted pursuant to Licenses 904A and 5487A and under licensee's Sacramento River Settlement Contract with the U.S. Bureau of Reclamation shall not exceed 10,000 acre-feet during the period from about April 1 through about October 31 during the term of that contract or any renewals thereof, and for an amount not to exceed 10,000 acre-feet during the period from about April 1 through about October 31, if that contract is not in place.

Licensee shall install and maintain devices satisfactory to the State Water Board to measure the instantaneous rate of diversion, the amounts of water diverted each day, and the cumulative quantity of water diverted under this license. Licensee shall make daily readings of these measuring devices and

record these readings separately for each water right held by Licensee. Records of all such measurements shall be maintained by Licensee, and made available to interested parties upon reasonable request. Licensee also shall, subject to any applicable Homeland Security restrictions, post such records on a publicly accessible website within 48 hours after the measurements are made. Copies of the records shall be submitted to the State Water Board with the annual Report of Licensee and concurrently submitted to the Department of Fish and Game.

Licensee shall allow the Department of Fish and Game, or a designated representative, reasonable access to measuring devices for the purpose of verifying measurement readings.

Irrespective of whether the diversion intake facility is used by more than one entity, the water diverted by Licensee shall be separately accounted for. After diversion, the water diverted by Licensee shall be conveyed to a separate metering facility and separately metered and reported.

After January 1, 2016, no water shall be diverted under this license except through a fish screen on the intake to the diversion structure, satisfactory to meet the physical and operational specifications of the Department of Fish and Game, U.S. Fish and Wildlife Service and National Marine Fisheries Service, as specified at the time the last permit for construction is issued, to protect species of fish listed as endangered or threatened under the California Endangered Species Act (Fish and Game Code sections 2050 to 2098) or the federal Endangered Species Act (16 U.S.C. sections 1531 to 1544). Construction, operation, and maintenance costs of the required facility are the responsibility of the Licensee.

Licensee shall comply with all applicable requirements in existing and future biological opinions and permits, including any permits issued by the Department of Fish and Game, State or Regional Water Boards, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Army Corps of Engineers, for aquatic and terrestrial species associated with activities involving this license.

While Licensee's Sacramento River Settlement Contract with the United States is in effect, the amount authorized for diversion under Licenses 904A and 5487A in any month shall not exceed the quantities listed for each month in Exhibit A to Contract No. 14-06-200-7422X-R-1 except as provided for by the terms of that contract, and the total amount shall not exceed 10,000 acre-feet per year.

If it is determined after license issuance that the as-built conditions of the project are not correctly represented by the map(s) prepared to accompany the application, Licensee shall, at his expense, have the subject map(s) updated or replaced with equivalent as-built map(s). Said revision(s) or new map(s) shall be prepared by a civil engineer or land surveyor registered or licensed in the State of California and shall meet the requirements prescribed in section 715 and sections 717 through 723 of the California Code of Regulations, Title 23. Said revision(s) or map(s) shall be furnished upon request of the Deputy Director for Water Rights.

The right hereby confirmed to the diversion and use of water is restricted to the point or points of diversion herein specified and to the lands or place of use herein described.

Reports shall be filed promptly by the licensee on the appropriate forms which will be provided for the purpose from time to time by the State Water Board.

Licensee shall allow representatives of the State Water Board and other parties, as may be authorized from time to time by the State Water Board, reasonable access to project works to determine compliance with the terms of this license.

Pursuant to Water Code sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this license, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

The continuing authority of the State Water Board may be exercised by imposing specific requirements over and above those contained in this license with a view to eliminating waste of water and to meeting the reasonable water requirements of licensee without unreasonable draft on the source. Licensee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to: (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this license and to determine accurately water use as against reasonable water requirement for the authorized project. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the State Water Board also may be exercised by imposing further limitations on the diversion and use of water by the licensee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the State Water Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution article X, section 2; is consistent with the public interest and is necessary to preserve or restore the uses protected by the public trust.

The quantity of water diverted under this license is subject to modification by the State Water Board if, after notice to the licensee and an opportunity for hearing, the State Water Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the State Water Board finds that: (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges.

This license does not authorize any act which results in the taking of a threatened or endangered species or candidate species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2089) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). If a "take" will result from any act authorized under this water right, the licensee shall obtain authorization for an incidental take prior to construction or operation of the project. Licensee shall be responsible for meeting all requirements of the state or federal Endangered Species Acts for the project authorized under this license.

If construction or rehabilitation work is required for the diversion works covered by this license within the bed, channel, or bank of the affected water body, the licensee shall enter into a streambed or lake alteration agreement with the State Department of Fish and Game. Licensee shall submit a copy of the agreement, or waiver thereof, to the Division of Water Rights prior to commencement of work. Compliance with the terms and conditions of the agreement is the responsibility of the licensee.

This license is granted and the licensee accepts all rights herein confirmed subject to the following provisions of the Water Code:

Section 1625. Each license shall be in such form and contain such terms as may be prescribed by the State Water Board. Section 1626. All licenses shall be under the terms and conditions of this division (of the Water Code).

Section 1627. A license shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code) but no longer.

Section 1628. Every license shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article (of the Water Code) and the statement that any appropriator of water to whom a license is issued takes the license subject to the conditions therein expressed.

Section 1629. Every licensee, if he accepts a license, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefore shall at any time be assigned to or claimed for any license granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any licensee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any licensee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Section 1630. At any time after the expiration of twenty years after the granting of a license, the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State shall have the right to purchase the works and property occupied and used under the license and the works built or constructed for the enjoyment of the rights granted under the license.

Section 1631. In the event that the State, or any city, city and county, municipal water district, irrigation district, lighting district, or political subdivision of the State so desiring to purchase and the owner of the works and property cannot agree upon the purchase price, the price shall be determined in such manner as is now or may hereafter be provided by law for determining the value of property taken in eminent domain proceedings.

STATE WATER RESOURCES CONTROL BOARD

James W. Kassel
for *Barbara Evoy, Deputy Director*
Division of Water Rights

Dated: DEC 21 2012

Appendix 9. Government Approvals, Utilities and Landowner Coordination

- 9.1 Purpose 9-1
- 9.2 Fees and Permits 9-1
- 9.3 Environmental Permits Background 9-1
- 9.4 Phase I Environmental Site Assessment Studies 9-2
- 9.5 Company Responsibilities: EMMS, Water Rights, Licenses, CDFG Agreement, NEPA/CEQA and Regulatory Requirements 9-2
 - 9.5.1 Traffic-Related Requirements 9-2
 - 9.5.1.1 Special Construction Techniques to Mitigate and Roadway Traffic Impacts 9-2
 - 9.5.1.2 Traffic Control and Management Plan..... 9-2
 - 9.5.1.3 Vehicle Movement and Detour Plans 9-3
 - 9.5.1.4 Repair Road Damage..... 9-3
 - 9.5.1.5 Implement Traffic Control Measures 9-3
 - 9.5.1.6 Required Notifications 9-4
 - 9.5.1.7 Traffic-Related Coordination During Construction 9-4
 - 9.5.2 Hazardous Materials Management Related Requirements 9-4
 - 9.5.2.1 Hazardous Materials Management Plan 9-4
 - 9.5.2.2 Transportation, Storage and Handling 9-5
 - 9.5.2.3 Response to Release of Hazardous Materials 9-5
 - 9.5.2.4 Construction Near Contaminated Areas..... 9-5
 - 9.5.3 Storm Water Pollution and Drainage Related Requirements 9-6
 - 9.5.4 Clean Water Act Section 401 Certificate 9-8
 - 9.5.5 Drainage Plan 9-8
 - 9.5.6 Drainage and Prevention of Erosion 9-9
 - 9.5.7 Dewatering of Construction Site 9-9
 - 9.5.7.1 Containment of Groundwater from Dewatering..... 9-9
 - 9.5.7.2 Testing of Groundwater Before Disposal 9-9
 - 9.5.7.3 Groundwater Disposal and Monitoring 9-10
 - 9.5.7.4 Temporary Replacement Water Supply 9-10
 - 9.5.8 Trenching and Excavation 9-10
 - 9.5.8.1 Trenching Near Minor Wetland Ditches 9-10
 - 9.5.8.2 Testing of Spoils 9-11
 - 9.5.9 Protection of Biological Resources 9-11
 - 9.5.9.1 Revegetation Plan 9-11
 - 9.5.9.2 Timing of Commencement of Construction Based on Breeding Season..... 9-11
 - 9.5.9.3 Unavoidable Work During Breeding Season..... 9-12
 - 9.5.9.4 Avoidance of Rare Plant Species..... 9-12
 - 9.5.9.5 Avoidance of Elderberry Shrubs..... 9-13
 - 9.5.9.6 Protection of Giant Garter Snake Habitat..... 9-13
 - 9.5.9.7 Avoidance of Vernal Pools and Seasonal Wetlands 9-14
 - 9.5.9.8 Construction Near Burrows 9-15
 - 9.5.9.9 Avoidance of Swainson’s Hawk Nests 9-15
 - 9.5.9.10 Avoidance of Other Nesting Sites 9-16
 - 9.5.9.11 Avoid Burrowing Owls 9-17
 - 9.5.9.12 Evaluate Impact to City of Davis Trees 9-17
 - 9.5.9.13 Fish Screen Performance..... 9-17
 - 9.5.10 Noise Control 9-18
 - 9.5.10.1 General Requirements – All Construction Locations 9-18
 - 9.5.10.2 County of Yolo 9-18

9.5.10.3 City of Woodland 9-18

9.5.10.4 Construction of Pipelines in Urban Areas..... 9-18

9.5.10.5 Facilities With Stationary Equipment..... 9-19

9.5.11 Air Quality Control..... 9-19

9.5.11.1 Agency Air Quality Construction Mitigation Manager..... 9-19

9.5.11.2 Mitigating Project-Related Air Quality Impacts 9-20

9.5.11.3 Mitigating Project-Related Fugitive Dust Impacts 9-20

9.5.12 General and Miscellaneous Requirements 9-21

9.5.12.1 Water Storage Tanks..... 9-21

9.5.12.2 Mitigate Impact of Corrosive Soils..... 9-21

9.5.12.3 Outdoor Lighting 9-22

9.5.12.4 Unforeseen Discovery of Historic Property During Construction 9-22

9.5.12.5 Utility Avoidance Plan..... 9-23

9.5.12.6 Fire Prevention 9-23

9.5.12.7 Depth of Pipelines 9-23

9.5.12.8 Landscaping 9-24

9.5.12.9 Bank-Side Vegetation Program Plan..... 9-24

9.6 Government Approvals..... 9-24

9.6.1 Government Approvals Related to the California Environmental Quality Act/National Environmental Policy Act Process to be Procured by the Agency..... 9-24

9.6.1.1 CEQA Compliance 9-24

9.6.1.2 NEPA Compliance..... 9-24

9.6.1.2.1 U.S. Army Corps of Engineering – Individual Permit..... 9-25

9.6.1.2.2 Section 7 Consultation 9-25

9.6.1.2.3 State Historic Preservation Officer Section 106 Compliance 9-25

9.6.1.2.4 CDFG Section 2080.1 Consistency Determination 9-25

9.6.1.2.5 CDFG 1600 Streambed Alteration Agreement 9-26

9.6.2 Government Approvals Procured by the Agency..... 9-26

9.6.2.1 Department of Homeland Security – Federal Emergency Management Agency Conditional Letter of Map Revision for the Facility Site 9-26

9.6.2.2 Local Landowner Rights of Entry, Easement Agreements, Joint Ownerships and Leasehold Tenants in Common 9-27

9.6.3 Government Approvals Requiring Company Input 9-28

9.6.3.1 Caltrans Parent Encroachment Permit..... 9-28

9.6.3.2 FEMA LOMR Application for the Facility Site..... 9-29

9.6.4 Government Approvals and Utilities to be Procured by the Company 9-29

9.6.4.1 California Department of Public Health New Domestic Water Supply Permit..... 9-30

9.6.4.2 Pacific Gas and Electric Company Power..... 9-32

9.6.4.3 Construction General Permit for Stormwater 9-33

9.6.4.4 Regional Water Board Permit for Construction Dewatering..... 9-36

9.6.4.5 Authority to Construct/Permit to Operate – Yolo Solano Air Quality Management District..... 9-38

9.6.4.6 Cal OSHA Safety Permits 9-38

9.6.4.7 Central Valley Flood Protection Board / RD1600 – Levee Crossing and Construction 9-39

9.6.4.8 Yolo County Requirements 9-40

9.6.4.8.1 Coordination..... 9-40

9.6.4.8.2 Other Permit Requirements 9-40

9.6.4.8.3 Allocation of Costs and Fees 9-41

9.6.4.9 Local Fire Marshal Jurisdiction Approval..... 9-41

9.6.4.10 City Encroachment Permits / Utility Connections / Building Department Permits / Planning Commission 9-42

Table of Contents



- 9.6.4.11 Caltrans Permits 9-43
 - 9.6.4.11.1 Encroachment Double Permit 9-43
 - 9.6.4.11.2 Oversize/Overweight Permit 9-43
 - 9.6.4.11.3 Traffic Management Plan 9-44
- 9.6.4.12 CDFG 1600 Streambed Alteration Agreement for Project Raw and Treated Water Pipelines 9-44
- 9.7 Company Coordination with Landowners 9-44
 - 9.7.1 Coordination with Yolo County Farm Bureau - Construction Traffic Coordination 9-44
 - 9.7.2 Coordination with Pacific Coast Producers 9-46
 - 9.7.3 Coordination with RD 2035 and Conaway Preservation Group 9-48
 - 9.7.3.1 Company Requirements and Conditions 9-49
 - 9.7.4 Coordination with CleanPath PVUSA Solar Farm 9-52

List of Attachments

- Attachment 9A: Drinking Water Permit Tracking Log
- Attachment 9B: RD 2035 Critical Facilities
- Attachment 9C: Encroachment Permit Conditions of Approval

(THIS PAGE LEFT BLANK INTENTIONALLY)

9.1 PURPOSE

The purpose of this Appendix is to provide background information regarding environmental, design and construction permitting work conducted for the Agency and set forth Company Design-Build Period and Operation Period Governmental Approvals required for the Project.

9.2 FEES AND PERMITS

The Company shall comply with all the terms, conditions, mitigation measures, limitations and requirements included as part of all Governmental Approvals and bonds required by any Governmental Body to perform work, construct, erect, test, start-up, operate, maintain, repair and replace the Project. The Company shall give all notices necessary and incidental to the due and lawful prosecution of the Project.

Any Governmental Approvals, bonds, and fees therefore required for the performance of work under this Service Contract and not specifically mentioned herein as being obtained and paid for by the Agency shall be the responsibility of the Company.

The Company shall post at the Sites all required Governmental Approvals as stipulated by the respective Governmental Body.

9.3 ENVIRONMENTAL PERMITS BACKGROUND

Main Regional Water System work includes the following areas: Ancillary Facilities at the Ancillary Facilities Parcel near the Raw Water Intake, Agency pipelines from the Raw Water Intake to the Regional Water Treatment Facility (Facility) and pipelines from the Facility to each City's Point of Interconnection, and the Facility.

RD 2035 is replacing its existing 400 cubic feet per second (cfs) intake on the Sacramento River to provide a modern facility and install fish screens that comply with the California Department of Fish and Game (CDFG) and the National Marine Fisheries Service (NMFS) fish screen design criteria specifically to allow migrating Chinook salmon, as well as other fish species, to pass by the intake without risk of entrainment. The Agency has entered into the *Sacramento River Joint Intake and Diversion Agreement* with RD 2035 to share this intake, adding pumps and equipment to supply up to 80 cfs to the Facility. In addition, the Agency and RD 2035 have entered into the *Agency-RD 2035 Raw Water Intake Operation and Maintenance Agreement* and the *Implementation Agreement* (concerning the operation and maintenance of the Raw Water Intake Site. Both of these agreements are included in the Reference Documents.

The City of Davis (prior to the formation of the Agency) prepared and certified an Environmental Impact Report (EIR) in October of 2007 that evaluated alternatives for developing a surface water project for the Cities and the University. The EIR identified the joint use of a new RD 2035 replacement intake as the preferred alternative over the construction of a new intake on the Sacramento River. Joint use of this intake represents an opportunity to consolidate two Sacramento River intakes into one facility.

9.4 PHASE I ENVIRONMENTAL SITE ASSESSMENT STUDIES

The Agency has commissioned *Phase I Environmental Site Assessment (ESA) Studies* for both the Facility and Raw Water Intake Sites.

The purpose of the *Phase I ESA Studies* are to identify “recognized environmental conditions” (RECs) and “historical RECs,” as defined by the American Society for Testing and Materials (ASTM) Designation E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. An REC is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

The conclusion in both reports was the same: “No evidence of RECs was observed on the Site or on adjacent or nearby properties. Additional environmental assessment of the Site does not appear to be warranted at this time.”

9.5 COMPANY RESPONSIBILITIES: EMMS, WATER RIGHTS, LICENSES, CDFG AGREEMENT, NEPA/CEQA AND REGULATORY REQUIREMENTS

The 2007 *Davis-Woodland Water Supply Project Final EIR, Addenda* and related Mitigation Monitoring and Reporting Plan, *Water Right Permits*, and the *California Department of Fish and Game Protest Dismissal Agreement* dated November 4, 2009 impose certain Environmental Mitigation Measures (EMMs), terms, conditions and other requirements to reduce impacts the Project may have on the environment. Company responsibilities for certain EMMs, terms, conditions and other requirements are listed below. Copies of the EIR EMMs, the *Water Right Permits*, and *California Department of Fish and Game Protest Dismissal Agreement* are provided in the Reference Documents.

9.5.1 Traffic-Related Requirements

9.5.1.1 Special Construction Techniques to Mitigate and Roadway Traffic Impacts

Company shall incorporate into the Project design and engineering special construction techniques (e.g., horizontal boring, directional drilling or night construction) on roadways with high traffic volume to avoid creating traffic conditions with a Level of Service D or worse.

(Reference: EIR Measure 3.12-1c.)

9.5.1.2 Traffic Control and Management Plan

Company shall prepare and implement a Traffic Control/Management Plan, which shall be approved by the appropriate local jurisdiction (i.e., County of Yolo, City of Woodland, Sierra Northern Railway) and the State Department of Transportation (Caltrans) prior to commencing construction. The Traffic Control/ Management Plan shall:

- Include a discussion of work hours, haul routes, limits on the length of open trench, work area delineation, traffic control and flagging;

- Identify all access and parking restriction and signage requirements;
- Include a plan for notifications and a process for communication with affected residents and businesses prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which lanes and access point/driveways would be blocked on which days and for how long) and a toll-free telephone number for receiving questions or complaints;
- Include a plan to coordinate all construction activities with emergency service providers in the area at least one month in advance. Emergency service providers would be notified of the timing, location, and duration of construction activities;
- Ensure that all roads will remain passable to emergency service vehicles at all times;
- Include the requirement that all open trenches be covered with metal plates at the end of each workday to accommodate traffic and access; and
- Specify the street restoration requirements pursuant to agreements with the local jurisdictions.

(Reference: EIR Measure 3.12-1b.)

9.5.1.3 Vehicle Movement and Detour Plans

Company shall prepare and implement vehicle movement and detour plans to minimize impact to local street circulation, driveway access, and displacement of on-street parking. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone. Pipeline construction in urban areas will limit trench length to no more than seventy-five (75) feet to minimize displacement of on-street parking

(Reference: EIR Measures 3.12-1d.)

9.5.1.4 Repair Road Damage

Any road or highway damaged by the Company's Project-related construction activities shall be repaired to a structural condition equal to that which existed at the start of construction.

(Reference: EIR Measure 3.12-4c.)

9.5.1.5 Implement Traffic Control Measures

Company shall implement traffic control measures consistent with the provisions of the *California Joint Utility Traffic Control Committee (CJTUCC) Work Area Protection and Traffic Control Manual* (CJTUCC, 1996), which shall include requirements to ensure safe maintenance of traffic flow through or around the construction work zone, and safe access of police, fire, and other rescue vehicles. In areas where construction activity is taking place within a roadway, Company shall ensure that sufficient roadway width remains so that the roadway is at all times passable by emergency vehicles.

(Reference: EIR Measures 3.10-5b, 3.12-1a.)

9.5.1.6 Required Notifications

Company shall notify emergency responders as well as local residents of scheduled or potential Project-related impairments to roadway operations, traffic movement and circulation.

(Reference: EIR Measure 3.10-5a.)

9.5.1.7 Traffic-Related Coordination During Construction

Throughout the Project construction phase, Company shall:

- Identify and utilize areas for equipment parking, staging, and construction crew parking to limit lane closures in the public right-of-way;
- Coordinate with Caltrans, Yolo County, City of Woodland, and any other appropriate entity, regarding measures to minimize the cumulative effect of simultaneous construction activities; and
- Consult with Yolobus and Unitrans Transit to coordinate bus stop relocations (as necessary) and to reduce potential interruption of transit service.

(Reference: EIR Measures 3.12-1e, 3.12-1f, 3.12-1g.)

9.5.2 Hazardous Materials Management Related Requirements

9.5.2.1 Hazardous Materials Management Plan

Company shall prepare and implement a Hazardous Materials Management Plan (HMMP) for construction of the Project. The HMMP shall provide for safe storage, containment, and disposal of chemicals and hazardous materials related to Project construction, including waste materials. The plan shall include, but shall not be limited to, the following:

- A description of hazardous materials and hazardous wastes;
- Handling, transport, treatment, and disposal procedures, as relevant for each hazardous material or hazardous waste;
- Preparedness, prevention, contingency, and emergency procedures, including emergency contact information;
- Personnel training including, but not limited to:
 - recognition of existing or potential hazards resulting from accidental spills or other releases;
 - implementation of evacuation, notification and other emergency response procedures;
 - management, awareness, and
 - handling of hazardous materials and hazardous wastes, as required by their level of responsibility; and
- Equipment maintenance procedures.

Company shall keep a copy of the HMMP on-site at all times during the Project's construction phase. Company shall make the HMMP available for review by construction inspectors and Agency personnel during all times when construction activities are ongoing.

A Material Safety Data Sheet (MSDS) shall be kept on-site for each on-site, hazardous chemical. Hazardous material storage areas, including temporary storage areas, shall be equipped with secondary containment sufficient in size to contain the volume of the largest container or tank.

(Reference: EIR Measure 3.10-1d.)

9.5.2.2 Transportation, Storage and Handling

During the course of construction, Company shall transport, store and handle construction-related hazardous materials in a manner that is consistent with all relevant federal, State and local laws, regulations and guidelines, including those recommended and enforced by the Department of Transportation, Central Valley Regional Water Quality Control Board (Regional Water Board), the local fire departments, and the local environmental health department. Such recommendations include all appropriate recommendations related to transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials using applicable federal, State and/or local regulatory agency protocols. In addition, Company shall take all precautions required by the Regional Water Board issued *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activities*. Construction-related hazardous materials and hazardous wastes (e.g. fuels and waste oils) shall be stored away from stream channels and steep banks to prevent these materials from entering surface waters in the event of an accidental release. These materials shall be kept at least 500 feet from nearby residences or other potential sensitive land uses. This includes materials stored for expected use, materials in equipment and vehicles and waste materials.

(Reference: EIR Measures 3.10-1a, 3.10-1b.)

9.5.2.3 Response to Release of Hazardous Materials

In the event of a release of hazardous materials, Company shall immediately control the source of the release and immediately contain such a release utilizing appropriate containment measures. If required by the local fire department, the local environmental health department, or any other Governmental Body, Company shall dispose of all contaminated media at an offsite facility approved to accept such media.

(Reference: EIR Measure 3.10-1a.)

9.5.2.4 Construction Near Contaminated Areas

Prior to commencement of construction, the Agency shall prepare a hazardous materials contamination evaluation as required by EIR Measures 3.10-2 and 3.10-3 and it will provide the results of that evaluation to the Company. Based on the results of that evaluation, Company shall avoid disturbing contaminated areas during Project construction; or Company shall undertake work within the contaminated areas in accordance with the standards approved by the

State Department of Toxic Substances Control or Yolo County Health Department to ensure that hazardous materials will not be released as a result of the ground disturbance. If unidentified contaminated soil and/or groundwater are encountered or if suspected contamination is encountered during any construction activities, work shall be halted in the area of potential exposure, and the type and extent of contamination shall be identified. A qualified professional, in consultation with appropriate Governmental Bodies, will then develop and implement a plan to remediate the contamination and properly dispose of the contaminated material.

(Reference: EIR measures 3.10-2, 3.10-3.)

9.5.3 Storm Water Pollution and Drainage Related Requirements

- Company shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), acceptable to the Regional Water Board, for all Project construction activities. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge and shall require the implementation of Best Management Practices (BMPs) to reduce pollutants in storm water discharges. See additional Company SWPPP requirements included in Section 9.6.4.3 (Construction General Permit for Stormwater) of this Appendix.
- The SWPPP shall include the following required actions of Company:
 - Conduct all instream construction activities during the low-flow period of May 30 through October 15.
 - Place sediment curtains around the construction or maintenance zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone.
 - Install silt fencing, including appropriate setbacks, where feasible, in all areas where construction occurs within 100 feet of known or potential steelhead habitat. Silt fencing will be installed adjacent to all aquatic habitat.
 - Isolate fresh concrete from wetted channels for a period of thirty (30) days after it is poured. If a 30-day curing period is not feasible, a concrete sealant approved for use in fisheries habitat may be applied to the surfaces of the concrete structure. If a sealant is used, the manufacturer's guidelines for drying times will be followed before reestablishing surface flows within the work area.
 - Locate spoil sites (concrete wash areas) so as to prevent drainage into the Sacramento River. If a spoil site drains towards the Sacramento River, then lined catch basins will be constructed to intercept sediment before it reaches the channel and removal of spoils will be conducted daily during routine maintenance of work sites. Spoil sites will be graded to reduce the potential for erosion.
 - Do not leave disturbed surfaces without erosion control measures (consistent with the SWPPP) in place during the wet season from October 15 through April 30. Erosion protection shall be provided on all cut and graded slopes and vegetative cover shall be established on each construction site as soon as possible after disturbance of the site.

- The SWPPP shall include the following BMPs:
 - Measures to reduce turbidity of pumped shallow groundwater prior to discharge, including temporary detention before discharge.
 - Excavation and grading activities in areas with steep slopes or directly adjacent to open water shall be scheduled for the dry season only (April 30 to October 15), to the extent possible. This will reduce the chance of severe erosion from intense rainfall and surface runoff.
 - If excavation occurs during the rainy season, storm runoff from the construction area shall be regulated through a storm water management/erosion control plan that shall include temporary onsite silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of offsite sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site.
 - Temporary erosion control measures (such as fiber rolls, staked straw bales, detention basins, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body.
 - Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures.
 - Erosion protection shall be provided on all cut-and-fill slopes. Revegetation shall be facilitated by mulching, hydroseeding, or other methods and shall be initiated as soon as possible after completion of grading and prior to the onset of the rainy season (by October 15).
 - A vegetation and/or engineered buffer shall be maintained, to the extent feasible, between the construction zone and all surface water drainages including riparian zones.
 - Vegetative cover shall be established on the construction site as soon as possible after disturbance.
 - BMPs selected and implemented for the Project shall be in place and operational prior to the onset of major earthwork on the site. The construction phase facilities shall be maintained regularly and cleared of accumulated sediment as necessary. Effective mechanical and structural BMPs that could be implemented at the Sites include the following:
 - § Mechanical storm water filtration measures, including oil and sediment separators or absorbent filter systems such as the Stormceptor[®] system, can be installed within the storm drainage system to provide filtration of storm water prior to discharge;

- § Vegetative strips, high infiltration substrates, and grassy swales can be used where feasible throughout the development to reduce runoff and provide initial storm water treatment;
 - § Roof drains shall discharge to natural surfaces or swales where possible to avoid excessive concentration and channelizing storm water;
 - § Permanent energy dissipaters can be included for drainage outlets;
 - § The water quality detention basins shall be designed to provide effective water quality control measures including:
 - ✓ Maximize detention time for settling of fine particles;
 - ✓ Establish maintenance schedules for periodic removal of sedimentation excessive vegetation, and debris that may clog basin inlets and outlets; and
 - ✓ Maximize the detention basin elevation to allow the highest amount of infiltration and settling prior to discharge;
 - § Hazardous materials such as fuels and solvents used on the construction sites shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents will be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. A stockpile of spill cleanup materials shall be readily available at all construction sites. Employees shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities; and
 - § Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.
- The SWPPP shall include measures for removing sediment from water pumped for trench dewatering before the water is released to waterways.

(Reference: Permit No. 20281, § 28; CDFG Measure 3.6-4a; EIR Measures 3.3-1a & 3.6-4a.)

9.5.4 Clean Water Act Section 401 Certificate

The Company shall cooperate with the Agency in order to assist the Agency in obtaining from the Regional Water Board a certificate under Section 401 of the federal Clean Water Act, and shall take any action required by any condition in such a certificate.

(Reference: Permit No. 20281, § 26.a.)

9.5.5 Drainage Plan

Company shall prepare and implement a drainage plan for the Facility. The drainage plan shall include measures to infiltrate, retain, or otherwise channel runoff away from areas of open soil and other features subject to erosion or flooding. Receiving drainage ditches or canals shall be sized appropriately to contain anticipated stormwater flows. Runoff waters shall be discharged in a manner to prevent downstream or offsite flooding, erosion, or sedimentation. Stormwater runoff shall be discharged into a drainage ditch or canal sized appropriately to accept discharge from Project facilities.

(Reference: EIR Measures 3.4-2 & 3.4-3.)

9.5.6 Drainage and Prevention of Erosion

Stormwater and runoff from Project facilities shall be directed into drainage ditches, channels, swales, infiltration basins, or other features that have sufficient capacity to divert and contain stormwater flows without inducing substantial soil erosion or loss of topsoil from levees or other areas. For any drainage that would be crossed using trenchless construction techniques, the bore pits will be excavated at least fifty (50) feet outside the edge of riparian vegetation to minimize impacts to waterways and adjacent areas.

(Reference: Permit No. 20281, § 40.b.; CDFG Measure 3.6-8b; EIR Measures 3.6-8b & 3.7-2a.)

9.5.7 Dewatering of Construction Site

9.5.7.1 Containment of Groundwater from Dewatering

During construction, if groundwater from dewatering activities cannot be contained onsite, it shall be pumped into suitable detention facilities or Baker tanks or equivalent with sufficient capacity to control the volume of groundwater. Tanks shall be equipped with a gel coagulant, filter system, or other containment to remove sediment. The remaining water will then be discharged to nearby irrigation or drainage ditches, in accordance with Regional Water Board requirements for discharges from general construction activities and trench dewatering. Within upland areas, sprinkler or other irrigation systems may be used to disperse the water over adjacent fields. BMPs, as described in the SWPPP, will also be implemented, as appropriate, to retain, treat, and dispose of groundwater from dewatering activities. Additional measures shall include but are not limited to:

- Temporarily retain pumped groundwater, as appropriate, to reduce turbidity and concentrations of suspended sediments before discharge to surface waterways;
- Convey pumped groundwater to a suitable land disposal area capable of percolating flows; and,
 - Incorporation of other measures from the *2004 Caltrans Storm Water Quality Handbook*, Section 7 (Dewatering Operations). See additional Company requirements for construction dewatering included in Section 9.6.4.4 (Regional Water Board Permit for Construction Dewatering) of this Appendix.

(Reference: EIR Measures 3.3-1b, 3.4-6)

9.5.7.2 Testing of Groundwater Before Disposal

Company shall test all groundwater that is collected during dewatering before disposing of such groundwater. Company shall comply with all applicable laws, regulations and requirements of the Regional Water Board when testing and disposing of groundwater that is collected during dewatering.

(Reference: EIR Measures 3.3-1b)

9.5.7.3 Groundwater Disposal and Monitoring

Company shall dispose of all groundwater that is collected during dewatering in a manner that complies with all applicable State laws and regulations. Groundwater from dewatering of excavated areas shall be discharged into a drainage ditch or canal sized appropriately to accept the discharge. Company shall implement a groundwater discharge monitoring program implemented to ensure that receiving water quality does not exceed levels that would impact aquatic resources and agricultural use. If monitoring reveals that water quality would impact these beneficial uses, discharges to surface waterways will be reduced or diluted to acceptable levels, or terminated. If discharges are reduced or terminated, groundwater will be disposed through land application to an area sufficient to receive the discharge without creating additional runoff.

(Reference: EIR Measures 3.3-1c)

9.5.7.4 Temporary Replacement Water Supply

If groundwater dewatering activities temporarily result in interruption of a water supply for agricultural or other beneficial use, Company shall provide a temporary replacement water supply to maintain use or pay the affected third-party sufficiently to fairly compensate for the value of the lost agricultural crops or other temporary changes to land use resulting from water supply interruption.

(Reference: EIR Measures 3.3-2)

9.5.8 Trenching and Excavation

9.5.8.1 Trenching Near Minor Wetland Ditches

For open trench construction crossing minor wetland ditches (less than fifteen (15) feet in width), the following measures shall be implemented:

- conduct trenching and construction activities across drainages during low-flow or dry periods as feasible;
- if working in active channels, install cofferdam upstream and downstream of stream crossing to separate construction area from flowing waterway;
- place sediment curtains upstream and downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone;
- locate spoil sites such that they do not drain directly into the drainages and/or seasonal wetlands;
- store equipment and materials away from the drainages and wetland areas; no debris will be deposited within 250 feet of the drainages and wetland areas; and

- restore all disturbed drainages to pre-construction conditions and restore all vegetation in temporarily disturbed wetlands using native species seed mixes and container plant material that are appropriate for existing hydrological conditions in accordance with the Revegetation Plan.

(Reference: Permit No. 20281, § 41.b.; CDFG Measure 3.6-9b; EIR Measure 3.6-9b.)

9.5.8.2 Testing of Spoils

Company shall test any trench and tunnel spoils that are stockpiled at any upland site before replacement back into any excavated area or transportation to offsite disposal. Spoils containing high volumes of water shall be detained and allowed to settle at an upland site to reduce turbidity before the spoils are tested. If any such spoils are found to be contaminated by lubrication or hydraulic fluids, then such spoils will be collected and disposed of at a permitted waste disposal facility.

(Reference: Permit No. 20281, § 26.b.; CDFG Measure 3.4-7b; EIR Measure 3.4-7.)

9.5.9 Protection of Biological Resources

9.5.9.1 Revegetation Plan

Before commencing open-trench construction that crosses a minor wetland ditches (less than fifteen (15) feet in width), Company shall prepare a revegetation plan to: (a) restore vegetation in all temporarily disturbed wetlands and other waters using native species seed mixes and container plant material that are appropriate for existing hydrological conditions; (b) restore all disturbed drainages to their pre-construction conditions; and (c) provide for the establishment and ongoing maintenance of native riparian species in all disturbed bank-side construction areas. Company shall implement the plan during construction.

(Reference: Permit No. 20281, §§ 31.c., 41.b.vii.; CDFG Measure 3.6-9b.; EIR Measure 3.6-9b.)

9.5.9.2 Timing of Commencement of Construction Based on Breeding Season

If feasible, Company shall commence construction outside of the March 1 through September 15 nesting season for Swainson's Hawk, Yellow-billed Cuckoo, Cooper's Hawk, White-tailed Kite, Yellow Warbler, Loggerhead Shrike, Northern Harrier and Short-eared Owl Tricolored Blackbird, White-faced Ibis, Western Snowy Plover and Bank Swallow. If construction activities begin between September and March, then construction may proceed until it is determined that an active nest is subject to abandonment as a result of construction activities. Construction activities must be in full force, including at a minimum, grading of the site and development of infrastructure to qualify as "pre-existing construction." A minor activity that initiates construction but does not involve full construction will not qualify as "pre-existing construction." If nesting commences in the vicinity of the Project under pre-existing construction condition, then it is assumed that the birds are or will habituate to the construction activities.

(Reference: EIR Measure 3.6-7q.)

9.5.9.3 Unavoidable Work During Breeding Season

If construction must occur during the breeding season (March 1 through September 15), then prior to Project construction, Company shall survey the chosen siting diversion/intake pipeline corridor for nesting Swainson's Hawks, Yellow-billed Cuckoos, Cooper's Hawks, White-tailed Kites, Yellow Warblers, Loggerhead Shrikes, Northern Harrier and Short-eared Owl Tricolored Blackbirds, White-faced Ibis, Western Snowy Plovers and Bank Swallows during the nesting season the year when construction is anticipated to occur. Surveys shall be conducted by a qualified biologist and, for Swainson's Hawks, according to the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, included in EIR Appendix C2. The survey area shall include a half-mile (1/2) radius around the Project construction activities.

(Reference: EIR Measure 3.6-7r.)

9.5.9.4 Avoidance of Rare Plant Species

Agency shall prepare and provide to Company a pre-construction rare plant species survey. Based on the survey results, Company shall undertake the following mitigation measures, as applicable:

- Identified populations of palmate-bracted bird's beak that would be directly affected by Project construction shall be completely avoided. Temporary preservation fencing shall be installed to protect individuals, and fencing shall provide a minimum 25-foot distance exclusion area. Indirect effects due to changes in hydrology or other ecological requirements for this species shall be evaluated and modifications to the Project design/construction shall be incorporated to minimize indirect effects to palmate-bracted bird's beak.
- Avoid specimens as feasible, or identify and protect with orange fencing, individual Ferris's milk-vetch, alkali milk-vetch, heartscale, brittlescale, San Joaquin saltbush, Heckard's pepper-grass, rose-mallow, Sanford's arrowhead, Brazilian watermeal, or other special-status species without state or federal status that are detected within the Project area during the pre-construction survey, and notify CDFG. Where these sensitive plants cannot be avoided, additional mitigation measures shall be implemented by Company in consultation with CDFG, prior to construction. These measures may include, but are not limited to the following:
 - Minimizing impacts by restricting removal of plants to a few individuals of a relatively large population;
 - Preparing a plan to relocate plants to suitable habitat outside the Project area to a CDFG-approved site;
 - Restoring or enhancing occupied habitat at an off-site location with appropriate ecological conditions to support the affected sensitive species;
 - Locating the pipelines entirely underground and returning the ground surface to pre-Project grade and contours;
 - Locating pipeline alignments according to Paragraph 6 of the *CDFG Protest Dismissal Agreement*, dated October 29, 2009;

- Consulting with CDFG on constraints and opportunities for viable off-site habitat enhancement/creation for the species concerned and implement a plan for restoration and enhancement. The plan shall include a five-year monitoring and maintenance program to evaluate and support the establishment of the sensitive species, and shall include contingencies for additional recruitment, planting and monitoring, as necessary, if survivorship falls below 75 percent (75%); and
- Preserving occupied habitat for the species on-site or at another regional location.

(Reference: Permit No. 20281, § 32; CDFG Measures 3.6-7a, 3.6-7b & 3.6-7c; EIR Measures 3.6-7a, 3.6-7b & 3.6-7c.)

9.5.9.5 Avoidance of Elderberry Shrubs

Agency shall prepare and provide to Company a pre-construction survey for the presence of elderberry shrubs. Based on the survey results, Company shall avoid identified elderberry shrubs by a minimum of 100 feet during construction of the diversion/intake pipeline corridor. If complete avoidance is not feasible, U.S. Fish and Wildlife Service (USFWS) shall be consulted regarding impacts to valley elderberry longhorn beetle. Compensation for disturbance within 100 feet of shrubs will be implemented in a manner approved by USFWS, CDFG, and the State Water Resources Control Board (SWRCB) Deputy Director for Water Rights, and may include transplanting elderberry shrubs into a conservation area for valley elderberry longhorn beetle. The conservation area must be at least 1,800 square feet and should be planted with five (5) additional elderberry plants plus five (5) native associated plants for everyone transplanted/impacted elderberry shrub. Refer to USFWS's July 9, 1999 Conservation Guidelines for Valley Elderberry Longhorn Beetle (see Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR), for details.

(Reference: Permit No. 20281, § 34.b.; CDFG Measure 3.6-7m; EIR Measure 3.6-7m.)

9.5.9.6 Protection of Giant Garter Snake Habitat

Agency shall prepare and provide to Company a pre-construction survey for giant garter snake habitat. If, based on the survey results, suitable giant garter snake habitat is present, then Company shall implement the following mitigation measures in accordance with the USFWS programmatic biological opinion for giant garter snake which pertain to Level 3 impacts, which are those where (a) there is a permanent loss of less than three (3) acres of both aquatic and upland habitat for giant garter snake; (b) there is a permanent loss of less than one (1) acre of aquatic habitat for giant garter snake; (c) there is a permanent loss of less than 218 linear feet of bank habitat; and (d) temporary disturbances are less than twenty (20) acres and will occur over greater than two (2) seasons.

- Construction activity within giant garter snake habitat shall occur between May 1 and October 1, which is the active period for the snake. Between October 2 and April 30, the USFWS Sacramento Fish and Wildlife Office and CDFG, North Central Region, shall be consulted to determine if additional measures are necessary to minimize and avoid take. Such measures might include, but are not limited to, requiring a biological monitor on site during construction within giant garter snake habitat.

- Any dewatered habitat must remain dry for at least fifteen (15) consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.
- Construction personnel shall participate in an Agency-approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Endangered Species Act. Prior to construction activities, a qualified biologist approved by the USFWS and the SWRCB Deputy Director for Water Rights shall instruct all construction personnel about giant garter snake as directed in the USFWS programmatic biological opinion for giant garter snake. Proof of this instruction shall be submitted to the USFWS, Sacramento Fish and Wildlife Office, CDFG, North Central Region and the SWRCB Deputy Director for Water Rights.
- Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.
- Movement of heavy equipment to and from the Project site shall be restricted to established roadways to minimize habitat disturbance.
- Preserved giant garter snake habitat shall be designated as Environmentally Sensitive Areas and shall be flagged by a qualified biologist approved by CDFG, USFWS and the SWRCB Deputy Director for Water Rights and shall be avoided by all construction personnel.
- After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-Project conditions. Restoration work may include replanting emergent vegetation as directed in the USFWS programmatic biological opinion for giant garter snake.

(Reference: Permit No. 20281, § 35.b. CDFG Measure 3.6-7o; EIR Measure 3.6-7o.)

9.5.9.7 Avoidance of Vernal Pools and Seasonal Wetlands

Agency shall prepare and provide to Company a pre-construction survey of vernal pools and seasonal wetlands. Based on the survey results, Company shall undertake the following mitigation measures, as applicable:

- All vernal pool and seasonal wetland habitats identified shall be avoided completely. The USFWS considers disturbance within 250 feet of all vernal pool wetlands to be an impact. Therefore, all wetlands shall be avoided by 250 feet and protected within that buffer. Protective measures may consist of temporary fencing such as silt fencing and plastic construction fencing. Also, BMPs and SWPPP methods shall be implemented during construction to avoid indirect water quality impacts to wetlands. These pools shall be considered "avoided" and no further mitigation is necessary.

- If impacts to vernal pool and seasonal wetlands cannot be avoided but can be protected from direct fill or ground disturbance, then these wetlands shall be identified and protected using temporary fencing, which shall take the form of silt fencing and temporary plastic construction fencing placed no closer than twenty-five (25) feet from the edge of the pool. The distance between the pool and protective fencing shall be maximized wherever possible. These pools will be considered as "indirectly affected" by Project activities and shall be mitigated in accordance with the February 28, 1996 Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (a copy of which is in Appendix C2 of the Davis-Woodland Water Supply Project Draft EIR). Some pools may be considered avoided if it can be shown that the Project activity would not adversely impact their surface and subsurface hydrology. This shall be considered on a case-by-case basis by a qualified biologist and hydrologist. The distance between the habitat and protective fencing shall be maximized wherever possible. Protective fencing around vernal pools identified as potential habitat for special-status amphibians shall be constructed in a way that allows California tiger salamander and western spadefoot to access these wetlands.
- For pools that will be directly impacted by Project activities, the area of impact shall be calculated. For the purpose of this calculation, any portion of a pool that is directly impacted by Project activities would result in the entire pool being identified as being permanently impacted. Impacted pools shall then be mitigated in accordance with the February 28, 1996 *Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office, California* (a copy of which is in Appendix C2 of the *Davis-Woodland Water Supply Project Draft EIR*).
(Reference: CDFG Measure 3.6-7f – 3.6-7j.)

9.5.9.8 Construction Near Burrows

- Burrows that cannot be avoided shall be excavated by a USFWS-approved biologist prior to construction using hand tools. Excavated California tiger salamanders shall be relocated off the Project site to a USFWS-approved site. Company shall not conduct construction activities near such burrows until after excavation.

(Reference: CDFG Measure 3.6-7k.)

9.5.9.9 Avoidance of Swainson's Hawk Nests

Agency shall prepare and provide to Company a pre-construction breeding-season survey for Swainson's Hawk nests. If, based on the survey results, any nesting Swainson's Hawks are detected, Agency and Company shall establish and maintain a buffer zone of one-quarter mile around the nest site, within which there will be no construction unless one of the following has occurred:

- Based on ongoing monitoring of the nest site by a qualified biologist, and subsequent consultation with the CDFG, it is determined by the CDFG that work can occur within the buffer zone, along with the conditions under which such work may be carried out. Depending on conditions specific to each nest, it may be possible to allow construction activities within the buffer zone without impacting breeding behavior. In these cases, the nest will be monitored by a qualified biologist acceptable to CDFG. The monitor will have all stop authority. If, in the professional opinion of the monitor, Project activities are negatively affecting the nesting or breeding behavior of the birds, then the monitor shall stop all construction activity within the designated buffer zone, and construction activities within this designated buffer zone shall not resume until either the monitor has determined that the young have fledged and the nest is empty or as otherwise approved by CDFG; or,
- Monitoring has demonstrated, and CDFG has concurred, that adults are no longer utilizing the nest area and/or birds of the year have fully fledged.

(Reference: Permit No. 20281, § 36; CDFG Measure 3.6-7q; EIR Measure 3.6-7r, 3.6-7s.)

9.5.9.10 Avoidance of Other Nesting Sites

Agency shall prepare and provide to Company a pre-construction breeding-season survey for Cooper's hawk, white-tailed kite, yellow warbler, loggerhead shrike, northern harrier, short-eared owl, tricolored blackbird, white-faced ibis, western snowy plover, and bank swallow nests. If, based on the survey results, any nesting sites are detected, Agency and Company shall establish and maintain a buffer zone of 500 feet around the nest site, within which there will be no construction unless one of the following has occurred:

- Based on ongoing monitoring of the nest site by a qualified biologist, and subsequent consultation with the CDFG, it is determined by the CDFG that work can occur within the buffer zone, along with the conditions under which such work may be carried out. Depending on conditions specific to each nest, it may be possible to allow construction activities within the buffer zone without impacting breeding behavior. In these cases, the nest will be monitored by a qualified biologist acceptable to CDFG. The monitor will have all stop authority. If, in the professional opinion of the monitor, Project activities are negatively affecting the nesting or breeding behavior of the birds, then the monitor shall stop all construction activity within the designated buffer zone, and construction activities within this designated buffer zone shall not resume until either the monitor has determined that the young have fledged and the nest is empty or as otherwise approved by CDFG; or
- Monitoring has demonstrated, and CDFG has concurred, that adults are no longer utilizing the nest area and/or birds of the year have fully fledged.

(Reference: Permit No. 20281, §§ 37, 39; CDFG Measures 3.6-7t, 3.6-7u, 3.6-7x; EIR Measures 3.6-7t, 3.6-7u, 3.6-7x.)

9.5.9.11 Avoid Burrowing Owls

Agency shall prepare and provide to Company a pre-construction survey for burrowing owls. If, based on the survey results, occupied burrows are identified, then Company shall implement the mitigation measures included in the October 17, 1995 *CDFG Staff Report on Burrowing Owl Mitigation* (see Appendix C2 of the *Davis-Woodland Water Supply Project Draft EIR*). These include but are not limited to the following measures:

- Owls shall not be disturbed from February 1 through August 31. Establish an avoidance buffer of 160 feet (September 1 through January 31) or 250 feet (February 1 through August 31) and monitor the nest burrow during construction activity. Any indication of impacts to the breeding pair as a result of construction shall be reported to CDFG whereby CDFG may have the reference to halt construction until the young have fledged from the nest.
- If impacts to owls cannot be avoided, then Company shall cooperate with Agency in consultation with CDFG regarding the use of minimization measures such as using passive relocation techniques during the non-breeding season (September 1 through January 31).

(Reference: Permit No. 20281, § 38; CDFG Measures 3.6-7v & 3.6-7w; EIR Measures 3.6-7v & 3.6-7w.)

9.5.9.12 Evaluate Impact to City of Davis Trees

If any part of the Project is constructed in the City of Davis, Agency shall evaluate the extent to which planned construction activities will impact trees within the City of Davis city limits and submit the evaluation to the City and Agency, which Agency shall submit to the SWRCB Deputy Director for Water Rights for review. If deemed necessary by the City of Davis, Agency shall apply for a permit, and the Company shall abide by any permit requirements, for tree pruning or removal. In addition, sensitive habitats and wildlife shall be identified and protected for projects within the City of Davis, under the HAS 1.1 policy.

(Reference: Permit No. 20281, § 31.a.; CDFG Measure 3.6-2; EIR Measure 3.6-2.)

9.5.9.13 Fish Screen Performance

The Company shall implement the *Davis-Woodland Water Supply Project Positive Barrier Fish Screen Performance Evaluation and Monitoring Plan* that is described in Appendix C of the *California Department of Fish and Game Protest Dismissal Agreement* for the fish screen described in that plan, and it will operate, maintain, repair and replace this fish screen as necessary to address any problems that are identified through this monitoring program.

(Reference: CDFG Agreement, § 5 & App. C.)

9.5.10 Noise Control

9.5.10.1 General Requirements – All Construction Locations

- In order to avoid noise-sensitive hours of the day and night, Company shall perform Project-related construction work only on those days and at those times that are authorized under this section. Company shall designate an on-site complaint and enforcement manager, which shall track and respond to all questions and complaints related to noise. Upon commencing construction work, Company shall post signs at all construction site entrances in order to for the purposes of informing all contractors and subcontractors, their employees, agents, material haulers, and all other persons at the applicable construction sites, of the basic requirements under this section. Such signs shall include a day and evening contact phone number for the job site, and a contact phone number in the event of noise-related problems.
- In all locations, pile-driving shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday, with no pile-driving permitted between 12:30 p.m. and 1:30 p.m.
- No amplified sources (e.g., stereo “boom boxes”) shall be used in the vicinity of residences during Project construction.

(Reference: EIR Measures 3.9-1a, 3.9-1b, 3.9-1d, 3.9-1e.)

9.5.10.2 County of Yolo

Construction activities in the unincorporated County of Yolo jurisdiction shall be limited to between the hours of 7:00 a.m. and 7:00 p.m. Monday through Friday, and only interior construction shall be allowed between the hours of 7:00 a.m. and 7:00 p.m. on Saturday.

(Reference: EIR Measure 3.9-1a.)

9.5.10.3 City of Woodland

Construction activities within the City of Woodland jurisdiction shall be limited to between 7 a.m. to 6 p.m. Monday through Saturday, and between the hours of 9 a.m. and 6 p.m. on Sunday.

(Reference: EIR Measure 3.9-1a.)

9.5.10.4 Construction of Pipelines in Urban Areas

To reduce daytime noise impacts due to construction of the treated water transmission pipelines in urban areas, Company shall implement the following measures:

- Equipment and trucks used for Project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds) wherever feasible.

- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 A-weighting decibels (dBA). External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible.
- Stationary construction noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent this does not interfere with construction purposes.

(Reference: EIR Measure 3.9-1c.)

9.5.10.5 Facilities With Stationary Equipment

Company shall design and construct all above ground Project facilities that include stationary equipment (e.g., emergency generators, the Facility heating, ventilation and air conditioning (HVAC) systems, pumps, motors, blowers, and compressors and the diversion/intake and groundwater well pump equipment) with acoustically baffled/shielded enclosures around the stationary, noise-generating equipment to meet the jurisdictionally applicable County of Yolo or City of Woodland sound level requirements at nearby land use property lines. If the City of Woodland or Yolo County with jurisdiction over the facility area does not have established exterior sound level requirements for sensitive receptors, such as Yolo County, then the location and operation of the equipment shall be designed such that the generation of noise levels at the exterior of residences or commercial/industrial uses in the vicinity is no more than 45 dBA Equivalent Continuous Noise Level (Leq) or 55 dBA Leq, respectively. However, for sensitive receptors in areas with existing elevated ambient night-time noise levels, such as receptors near major roadways, the enclosures for stationary equipment shall be designed such that noise levels from the stationary equipment shall not exceed the existing ambient night-time hourly Leq noise levels at the receptor.

(Reference: EIR Measure 3.9-1g.)

9.5.11 Air Quality Control

9.5.11.1 Agency Air Quality Construction Mitigation Manager

Agency shall designate an Air Quality Construction Mitigation Manager (AQCMM), who shall be responsible for ensuring that the Project satisfies all air quality-related mitigation measures that must be implemented pursuant to the EIR. The AQCMM shall ensure that Company is complying with applicable air quality laws and each of the requirements under this section. See additional Company requirements included in this Section 9.6.4.5 (Authority to Construct/Permit to Operate – Yolo Solano Air Quality Management District) in this Appendix.

(Reference: EIR Measure 3.8-1a.)

9.5.11.2 Mitigating Project-Related Air Quality Impacts

See additional Company requirements included in Section 9.6.4.5 (Authority to Construct/Permit to Operate – Yolo Solano Air Quality Management District) in this Appendix.

Company shall take the following actions in order to mitigate Project-related air quality impacts:

- Use catalyst and filtration technologies, and retrofit existing engines in construction equipment to the extent that such equipment is available and cost-effective.
- All diesel-fueled engines used in the construction of the Project shall use ultra-low sulfur diesel fuel, which contains no more than 15 parts per million (ppm) sulfur or alternative fuels (i.e., reformulated fuels, emulsified fuels, compressed natural gas, or power with electrification). Low sulfur diesel fuel (500 ppm sulfur content) shall be used only if evidence is obtained and maintained from the fuel supplier(s) that ultra-low sulfur diesel fuel is unavailable in the Project area.
- All construction diesel engines, which have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 3 California Emission Standards for Off-road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, § 2423 (b)(1) unless certified by the AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 3 engine is not available for any off-road engine larger than 50 hp, that engine shall be a Tier 2 or Tier 1 engine.
- To assist the AQCMM in identifying engines that comply with the above requirement over the period of Project construction, all diesel-fueled engines used in the construction of the Project shall have clearly visible tags issued by the AQCMM showing that the engine meets the above requirement.
- Minimize idling time to five (5) minutes when construction equipment is not in use, unless per engine manufacturer's specifications or for safety reasons more time is permitted or required.
- To the extent practicable, manage operation of heavy-duty equipment to reduce emissions such as maintain heavy-duty earthmoving, stationary and mobile equipment in optimum running conditions which can result in 5 percent (5%) fewer emissions.
- To the extent practicable, employ construction management techniques such as timing construction to occur outside the ozone season of May through October, or scheduling equipment use to limit unnecessary concurrent operation.

(Reference: EIR Measure 3.8-1a.)

9.5.11.3 Mitigating Project-Related Fugitive Dust Impacts

Company shall implement the following fugitive dust mitigation measures in order to keep fugitive dust levels below Yolo Solano Air Quality Management District thresholds of significance:

- Limit grading activities to less than ten (10) acres on a given day.

- Water all construction sites as needed to control dust.
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction Projects that are unused for at least four (4) consecutive days).
- Limit on-site vehicles to a speed of fifteen (15) miles per hour on unpaved roads.
- Suspend land clearing, grading, earth moving, or excavation activities when winds exceed twenty (20) miles per hour (mph).
- Cover inactive soil storage piles.
- Cover all trucks entering or exiting the Sites hauling soil, sand, and other loose materials that could create dust.
- Ensure that construction equipment is properly tuned and maintained in accordance with manufacturers' specifications.
- Sweep or wash all paved streets adjacent to the development site at the end of each day as necessary to remove excessive accumulations of silt and/or mud which may have accumulated as a result of activities on the development site.
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within twenty-four (24) hours. The telephone number of the Yolo Solano Air Quality Management District shall also be visible to ensure compliance with Yolo Solano Air Quality Management District rules.

(Reference: EIR Measure 3.8-1b.)

9.5.12 General and Miscellaneous Requirements

9.5.12.1 Water Storage Tanks

The design of the Facility and water storage tanks, including the choice of color and materials, shall seek to reduce the visual contrast of the Facility. Bright and reflective materials and colors shall be avoided. Additionally, landscaping including revegetation of disturbed areas, plantings of trees, and/or minor topographic enhancements, shall be utilized to minimize textural and aesthetic contrasts with surrounding areas.

(Reference: EIR Measure 3.16-3a & b.)

9.5.12.2 Mitigate Impact of Corrosive Soils

In order to mitigate potential damage caused to Project facilities by corrosive soils, appropriate measures shall be incorporated into Project design to prevent or minimize corrosion to steel and concrete components susceptible to damage from corrosive soils.

(Reference: EIR Measure 3.7-1c.)

9.5.12.3 Outdoor Lighting

Outdoor light sources shall be properly shielded and installed to prevent light trespass onto adjacent properties. Flood or spot lamps installed for purposes other than waterway navigation shall be directed downward when the source is visible from any offsite residential property or public roadway. To the extent that security levels would be maintained, automatic lighting shall be employed to reduce non-critical light emissions.

(Reference: EIR Measure 3.16-4.)

9.5.12.4 Unforeseen Discovery of Historic Property During Construction

- If a previously undiscovered historic property is inadvertently encountered during construction, all work in the immediate vicinity of the property except that necessary to secure and protect the property will cease until the Company can secure assistance from a professional archaeologist who shall evaluate and, if necessary, mitigate effects to the discovery. Evaluation and mitigation will be carried out in consultation with the federal lead agency and State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800.11(b)(2)(ii).
- Should any buried prehistoric archeological indicators be uncovered during Project construction, Company shall immediately cease construction activities within 100 feet of the find and notify Agency regarding the find. Company shall cooperate with Agency and Agency-retained archeologist in: (a) notifying the SWRCB of the find; (b) evaluating the find; and (c) recommending and implementing appropriate mitigation measures.
- Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Chief of the SWRCB Division of Water Rights.
- If human remains are discovered during an archaeological survey, archaeological testing, data recovery or any construction activities, work in the immediate vicinity of the discovery will cease except to secure and protect the remains. Company or its consulting archaeologist will immediately notify the County Coroner, per state law. Company shall ensure that any human remains and grave-associated artifacts discovered are also managed in accordance with California state law, which includes but is not necessarily limited to: Section 7050.5 of the Health and Safety Code, and Sections 5097.94, 5097.98, and 5097.99 of the Public Resources Code.

(Reference: EIR Measure 3.14-1, Task IV; Permit No. 20281, § 22.)

9.5.12.5 Utility Avoidance Plan

Company shall prepare and implement a Utility Avoidance Plan to ensure that the Project plans and specifications contain a detailed engineering and construction plan to avoid utility conflicts. Measures to avoid utility conflicts may include, but are not limited to:

- Verification of utility locations through field survey and use of the Underground Service Alert services.
- Preparation of detailed specifications during the Project design phase to include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utilities shall be notified of construction plans and schedule. Arrangements may be made with affected utilities to protect, relocate, or temporary disconnect services to utility customers.
- Notification of residents and businesses in the Project area of planned utility service disruption at least two to four days in advance, in conformance with county and state standards.
- Reconnection of cables and lines that are disconnected as soon as possible after disconnection.

(Reference: EIR Measure 3.13-6.)

9.5.12.6 Fire Prevention

- During construction, Company shall ensure that all staging areas, welding areas, or areas slated for development using spark-producing equipment are cleared of dried vegetation or other materials that could serve as fire fuel in order to maintain a firebreak.
- Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws. All off-road equipment using internal combustion engines shall be equipped with spark arrestors.
- Company's work crews shall be equipped with sufficient fire suppression equipment to ensure that any fire resulting from construction activities is immediately extinguished.

(Reference: EIR Measures 3.10-6a, 3.10-6b.)

9.5.12.7 Depth of Pipelines

Company shall install the water conveyance pipeline and transmission pipelines at a depth (to the top of the pipe) ranging from four (4) to seven (7) feet below the ground surface. Installation at this depth should be sufficient to avoid conflict with expected agricultural production activities.

(Reference: Permit No. 20281, § 27.a.; CDFG Measure 3.5-4a; EIR Measure 3.5-4a.)

9.5.12.8 Landscaping

The Company shall develop a landscaping plan that utilizes native vegetation to shield the Facility from adjacent properties, the Sacramento River, and nearby residences, to the extent feasible. Plan to be prepared and stamped by a California Registered Landscape Architect.

(Reference: EIR Measure 3.16-3c.)

9.5.12.9 Bank-Side Vegetation Program Plan

The Agency in consultation with CDFG will prepare a Re-Vegetation Program Plan, to be implemented by the Company that will provide for the establishment and ongoing maintenance of native riparian species in all disturbed bank side construction areas of the Raw Water Intake Site.

(Reference: EIR Measure 3.16-3c.)

9.6 GOVERNMENT APPROVALS

9.6.1 Government Approvals Related to the California Environmental Quality Act/National Environmental Policy Act Process to be Procured by the Agency

The Agency will be responsible for procuring and maintaining Governmental Approvals related to the California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) process and other environmental laws as provided by this section. The Company will comply with and implement the terms, conditions, mitigation measures, limitations and requirements included as part of these Governmental Approvals.

Some Governmental Bodies may require final design Drawings before finalizing a Government Approval. The Company shall provide interim and final design Drawings as needed by the Agency to secure Government Approvals.

The following sections outline the anticipated Governmental Approval process.

9.6.1.1 CEQA Compliance

CEQA compliance for facilities based on a benchmark design has been completed.

9.6.1.2 NEPA Compliance

Preparation of the Environmental Assessment (EA) for the Raw Water Intake is currently being finalized. It is anticipated that the Finding of No Significant Impact (FONSI) will be approved by the United States Bureau of Reclamation by October 31, 2013.

9.6.1.2.1 U.S. Army Corps of Engineering – Individual Permit

Section 404 and Section 10 of the Federal Clean Water Act regulates discharge of fill material into “waters of the United States” and the construction of structures in, over, or under; excavation of material from; or deposition of material into navigable waters, respectively. Project facilities will potentially impact “waters of the United States” and navigable waters of the United States which are regulated by the U.S. Army Corps of Engineering (Corps). Issuance of the Section 404/10 Corps Permit for the project is estimated to be October 31, 2013. The *RD 2035/WDCWA Joint Intake Project/Davis Woodland Water Supply Project Section 404 and 10 Permit Application* (February 2012) is included as Reference Document 15.

9.6.1.2.2 Section 7 Consultation

The Federal Endangered Species Act (FESA) (16 USC 1531 et. seq.) requires formal consultation if a project involving a federal agency will result in the “taking” of a species currently listed as threatened or endangered. Under Section 7 of the FESA, the lead Federal Agency must prepare and submit to the USFWS and/or the NMFS a Biological Assessment if a listed species could be impacted by the proposed action. After review of the Biological Assessment (BA), USFWS and/or NMFS will issue a Biological Opinion (BO) which may allow incidental “take” of protected species. Completion of the Section 7 process for the project will be satisfied through the issuance of a BO from the USFWS and NMFS. The USFWS issued a BO on the project on August 7, 2013. The BO from NMFS is expected by October 31, 2013.

9.6.1.2.3 State Historic Preservation Officer Section 106 Compliance

Federal and federally-sponsored programs and projects are reviewed by the Office of Historic Preservation (OHP) pursuant to Sections 106 and 110 of the National Historic Preservation Act (NHPA). Section 106 of the NHPA, as amended, requires federal agencies to consider the effects of proposed federal undertakings on historic properties. Completion of the Section 106 process for the project is done concurrently with the Corps Section 404 permitting process and is estimated to be completed by October 31, 2013.

9.6.1.2.4 CDFG Section 2080.1 Consistency Determination

In order for the CDFG to issue a Consistency Determination (CD), the CDFG must determine that the conditions specified in the federal incidental take statement or the federal incidental take permit obtained during the Section 7 process, are consistent with the California Endangered Species Act (CESA). The CDFG will only be able to provide a CD until after the BOs are developed by USFWS and NFMS during Section 7 consultation and the Corps Section 404 permitting process. Issuance of a CD for the project is estimated to be completed by October 31, 2013.

9.6.1.2.5 CDFG 1600 Streambed Alteration Agreement

CDFG Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state and requires any person, governmental agency, or public utility proposing an activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, must first notify CDFG of such proposed activity. Based on the information contained in the notification form and possible field inspection, CDFG may propose modifications to the proposed construction to allow for the protection of the fish and wildlife resources. CDFG bases evaluation of notification of a proposed streambed alteration on the anticipated impact of the proposed project on fish and wildlife resources. Consequently, CDFG will write the Streambed Alteration Agreement (SAA) with terms and conditions designed to protect and/or compensate for these resources. A SAA was completed for the intake portion of the project in May, 2013. Section 401 Water Quality Certification

Any project that includes filling of wetlands or surface waters will require a permit from the Corps, as described above. Pursuant to federal law, the Regional Water Board must certify that the Corps permit meets all state water quality standards and is the primary agency processing these certifications. The certification requirement applies to all Corps Government Approvals, including individual permits, nationwide permits (including those nationwide permits that do not require notification to the Corps), regional permits, and letters of permission. The Regional Water Board may either recommend granting certification, with conditions, or denying it. If certification is denied, the project cannot be built. Water Quality Certification for the project is estimated to be completed by November 30, 2013.

9.6.2 Government Approvals Procured by the Agency

The Agency will be responsible for obtaining the Government Approvals, agreements, landowner right of entry and easements set forth in Section 9.6.2.1 (Department of Homeland Security – Federal Emergency Management Agency Conditional Letter of Map Revision for the Facility Site) of this Appendix.

9.6.2.1 Department of Homeland Security – Federal Emergency Management Agency Conditional Letter of Map Revision for the Facility Site

The Agency will submit a Conditional Letter of Map Revision (CLOMR) to Department of Homeland Security (DHS) – Federal Emergency Management Agency (FEMA). The Facility Site will be filled to raise it above the 200-year flood plain to eliminate flood insurance premiums for the Facility and to comply with City of Woodland Building Department requirements. The process to obtain a Letter of Map Revision (LOMR) from FEMA can take many months and the submission of a CLOMR begins this process and increases the likelihood of a timely FEMA approval and issuance of a LOMR. The CLOMR will provide FEMA's comment on the Project that would, upon construction, result in the modification of the existing Special Flood Hazard Area (SFHA). The CLOMR will not remove the site from the SFHA or change the FEMA National Flood Insurance Program (NFIP) Map. A LOMR application will have to be submitted to DHS-FEMA once the site has been raised to its final building pad elevation in order to officially remove the Facility Site from the SFHA and revise the NFIP Map.

The Agency will complete the following tasks:

- Prepare a technical memorandum describing the proposed site work, analysis methods, and results.
- Complete application forms.
- Develop and conduct hydraulic modeling to determine the revised SFHA based on the proposed site work.
- Prepare a preliminary site plan indicating proposed site elevations and the extents of site work.
- Prepare a certified topographic map.
- Prepare annotated DHS-FEMA Flood Insurance Rate Map (FIRM) to reflect changes due to site work.
- Prepare documentation that demonstrates compliance with the Endangered Species Act.
- Submit copies of FEMA CLOMR application to the City of Woodland Building Department.
- If applicable, the Agency will also complete the above tasks for the Supplemental Facility Site.

9.6.2.2 Local Landowner Rights of Entry, Easement Agreements, Joint Ownerships and Leasehold Tenants in Common

See Appendix 1 (Property and Easement Data) for detailed information.

Regarding Barton Parcels Assessor's Parcel Number (APN) 042-010-068 and 042-010-037, the Company shall comply with the following conditions:

- Heavy equipment and tractor trailers shall access the pipeline easements from County Road 102 or County Road 24.
- Contractor shall provide temporary gates as needed to access the easements directly from the public roads.
- Only light duty vehicles may enter through the paved access which also serves as entrance to the golf course.
- No contractor parking will be allowed in golf course parking lot.
- All damage to the paved entrance shall be repaired by the contractor at no additional cost to the Agency or the property owner.

Regarding work on the Heidrick McGinnis property (APN 042-120-014), the Company shall comply with the following conditions:

- Access route to and from areas of work shall be as designated by the property owner.

- No above ground appurtenances will be allowed; Company shall modify the profile of the pipeline such that above ground appurtenances will not be necessary within this parcel.

The Company shall coordinate with local landowners and farmers regarding the following: site access, irrigation and tailwater drainage requirements, and surface restoration, and shall provide crop loss reimbursements to farmers resulting from construction activities as may be required by easement or other agreement requirements.

Refer to Section 9.7.3 (Coordination with RD 2035 and Conaway Preservation Group) of this Appendix for coordination requirements specific to RD 2035 and CPG.

9.6.3 Government Approvals Requiring Company Input

Some Governmental Bodies may require final design Drawings before finalizing a Governmental Approval. The Company shall provide interim and final design Drawings as needed by the Agency to secure Government Approvals for which the Agency is responsible hereunder. See Section 9.6.2 (Government Approvals Procured by the Agency) of this Appendix for more information.

Additional Government Approvals anticipated that will require Company input, but will be obtained by the Agency, are identified in this section.

9.6.3.1 Caltrans Parent Encroachment Permit

A Caltrans Encroachment Permit will be required where the pipelines cross under I-5. See Appendix 1 (Property and Easement Data) for pipeline alignment details at I-5. The permit process involves two (2) permits: a Parent Permit to be issued to the Agency as the owner of the encroachment and a Double Permit to be issued to the Company. The Agency will apply for and pay for the Parent Permit upon completion and submission of 90 percent (90%) construction documents by the Company. The Company shall be responsible for applying for and obtaining the Double Permit. The Caltrans contact for District 3 is Judy McCunlough, (530) 741-4407. An alternative contact is Shawn Rice, (530) 741-4204. Website: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>.

The Parent Permit typically takes up to two months to process and the Double Permit is usually issued within two (2) weeks after application.

The Company shall comply with the following requirements regarding the permit:

- Pay Double Permit fees.
- Open cut construction within Caltrans' right-of-way will not be allowed.
- Bore pits shall be outside Caltrans' right-of-way.
- Final Construction Plans wet stamped and wet signed will be required before work can start.

- Provide Final Construction Plans to the Agency four (4) months prior to the anticipated start of construction of the pipeline crossing I-5.

9.6.3.2 FEMA LOMR Application for the Facility Site

The Agency will obtain a LOMR from DHS-FEMA. The LOMR is FEMA's modification of the effective FIRM and is the final step to officially remove the Facility Site from the FEMA SFHA.

The Company will provide the following to the Agency nine months prior to the completion of construction of the Facility:

- Certified topographic map indicating building pad elevations and building finish floor elevations. Map must be certified by a registered civil engineer or land surveyor.
- As-built plans for the building pads (grading plan) and site plan.

The Agency will complete the following tasks within two months of receiving the items listed above:

- Prepare technical memorandum describing changes to the work since submittal of the CLOMR application, changes to the hydraulic model (if necessary), and a comparison of the results from the CLOMR application and LOMR applications.
- Complete application forms.
- Update hydraulic models, as necessary, to reflect the as-built plans.
- Prepare annotated DHS-FEMA FIRM to reflect final floodplain map revisions.
- Prepare Geographic Information Systems (GIS) based database indicating the proposed revised floodplain.
- Submit copies of application and associated documents to the City of Woodland Building Department.
- If applicable, the Agency will also complete the above tasks for the Supplemental Facility Site.

9.6.4 Government Approvals and Utilities to be Procured by the Company

The Company shall obtain and pay for the costs of filing, applying for and implementing the Governmental Approvals and agreements listed in this section necessary to design, construct, Acceptance Test, operate and maintain the Project in accordance with the requirements of the Service Contract.

The Company shall comply with all the terms, conditions and requirements attached to all Government Approvals and bonds required by any local, State, or federal agencies to perform work, construct, erect, test and start-up of any equipment or facility for the Project. The Company shall give all notices necessary and incidental to the due and lawful prosecution of the Project.

The Company shall post at the site of work all Government Approvals and postings, as stipulated by the respective regulatory agency.

9.6.4.1 California Department of Public Health New Domestic Water Supply Permit

The California Department of Public Health (CDPH) will require that the Agency obtain a New Domestic Water Supply Permit for the Project. CDPH has assigned the Agency the following Public Water System Number: 5710012. The Company shall be responsible for all aspects of the new permit, including fees, with assistance from the Agency as outlined below. The Company shall be responsible for maintaining the CDPH permit, including all required water sampling, and all fees throughout the Term. The Cities will be responsible for amending their existing permits to accommodate the new water supply. The Company shall assist the Cities in amending their permits by providing necessary information related to the design, construction, and operation of Project facilities.

CDPH has requested the Agency to conduct an aerosol study to determine if microbial aerosols from the City of Woodland's wastewater treatment plant are being transported to the Facility Site. The Agency has selected a team comprised of scientists from Kleinfelder and the University to conduct this study. Sampling and analysis is complete and a Draft Aerosol Study Report is pending for Agency and CDPH approval. The Agency will keep the Company informed of the final study results. It is anticipated there will be no impact on the Project from the results of the study.

The New Domestic Water Supply Permit Application involves the following components:

- The Application for Domestic Water Supply Permit form.
- The Technical, Managerial, and Financial (TMF) Assessment Form and information.
- The Permit Technical Report.

It is anticipated that the process to obtain the CDPH Permit will take several years and require input from the Agency. To that end, the Agency has conducted several meetings with the CDPH to initiate the permitting process. Instructions for the TMF submissions and Technical Report can be found on CDPH's website.

The Company shall include the Agency in the application process, including meetings and technical document review and approval prior to submissions. The Company shall follow the following protocol for the collection of TMF materials that will be compiled for the permit:

- The Company shall meet with the Agency on a quarterly basis initially and then monthly the year before Project start-up, to coordinate the procurement of the operating permit. The Company shall produce the following meeting materials: meeting agendas, decision logs, and action items. The Agency will maintain a TMF Tracking Log.
- TMF's shall be submitted in draft form for review by the Agency and City representatives.

- The Agency will create a SharePoint site specifically as a depository for CDPH technical submissions and tracking. Read only access will be assigned to CDPH representatives so that they can check progress and review TMFs. Read/write access will be assigned to the Agency, its representatives, and to approved Company representatives.
- CDPH has indicated a preference for a complete final Permit-to-Operate application.
- Upon Agency approval, six (6) final hard copies of the Permit shall be produced. Three (3) copies shall be transmitted to the CDPH by the Agency, The Agency will keep two (2) copies, and one (1) hard copy shall be kept by the Company.
- All submissions to the CDPH shall be transmitted via the Agency on Agency letterhead.

CDPH has prepared instructions and guidelines to assist in the application process. These are available on-line at www.cdph.ca.gov.

CDPH has identified required permit items in a table titled “Permit Technical Report and TMF Required Items – New Surface Water System” available on-line at www.cdph.ca.gov. Agency Representatives have reviewed this table with CDPH staff to determine items requiring Company and Agency input and developed a table titled, “Drinking Water Permit Tracking Log”. This table is included as Attachment 9A. The Company is entirely responsible for obtaining and maintaining the CDPH water supply permit. The table titled “Drinking Water Permit Tracking Log” identifies elements of the Drinking Water Permit Application documents where the Agency will provide input to assist the Company in completing the required documents. The completeness of this table and identification of document submissions in this table shall be verified by the Company.

To date, the Agency has submitted the following items to CDPH for review:

- *Watershed Sanitary Survey, 2010*
- *EPA Long Term 2 (LT2) Compliance Monitoring Report, 2012*
- *Water Supply Permitting Sampling Plan, 2009*
- *Sacramento River Water Quality Assessment Report, 2011*
- CEQA compliance

CDPH has responded in writing regarding the *LT2 Compliance Monitoring Report* and has confirmed the source water has a Bin 1 classification. Regarding the *2011 Sacramento River Water Quality Assessment Report* CDPH has responded in writing that this report along with limited continued source water monitoring will satisfy the Source Water Quality Analysis component of the domestic water supply permit application. Any additional water quality sampling and analysis needed to satisfy CDPH Permit Application requirements shall be the responsibility of the Company.

The Agency shall provide input on the following general system information to assist the Company in completing the required permitting documents:

- Managerial Information: ownership, owner's organization chart, planning, policies.
- Financial Information: budget projections, budget control, capital improvements, reserves.
- Source Information: supply, water rights, 10-year growth analysis, 10-year source capacity assessment, source water Title 22 test results collected between August 2009 and December 2012, source water bacteriological test results, surface source data sheet, and recreation activities description.

9.6.4.2 Pacific Gas and Electric Company Power

The Company shall be responsible for obtaining power to construct the Project facilities in accordance with subsection 4.1(P) (Electrical Power Required during Operations) of the Service Contract. The Agency is coordinating obtaining PG&E power for the operation of the Facility and either PG&E or Western Area Power Authority (WAPA) power at the Raw Water Intake. Because of the Project's size and the possibility of a long lead time to arrange for power and to study the possible electrical power distribution system modifications that may be required, the Agency submitted power applications to PG&E in March of 2011 based on a benchmark treatment plant design and revised power applications in August of 2013 based on the Company's Proposal. Two (2) applications were submitted: one for the Project's portion of the Raw Water Intake Common Facilities and Raw Water Intake Agency Facilities and one for the Facility. Applications for power during the construction process were not submitted and shall be the responsibility of the Company.

The Agency is pursuing the ability to purchase WAPA power for its Raw Water Intake facilities. The Agency will keep the Company informed on the progress of this pursuit.

Quarterly coordination meetings starting in March of 2011 have been held to review Project power needs and to develop a collaborative working relationship with PG&E. Topics covered and conclusions made in these meetings are documented below:

- Estimated Agency Power loads at the Raw Water Intake: Initial loads are based on the Agency pumping 31 mgd (48 cfs). Agency pumping will increase to 40 mgd in about fifteen (15) years and to 52 mgd in about thirty-five (35) years. This load will be continuous (twenty-four hours a day, seven days a week) during the summer months.
 - Design load for Agency intake facilities (conduits, space, etc.), 2016: 2,256 kVA
 - Initial load in year 2016: 1,485 kVA
 - Load in year 2035: 1916 kVA
 - Load in year 2050: 2,256 kVA
 - The Agency's equipment shall utilize variable frequency drives (VFDs). Pump power factors shall be 0.95 or better.
- Estimated power load for the Facility: 300 Amps, 12,470 Volts.

- Estimated power loads may change based on specific Company design details. Power load estimate changes from those provided in the Company's Proposal shall be communicated to PG&E at the earliest date possible.
- PG&E will conduct a Power Distribution System Study to determine the optimal substation power source and transmission lines.
- Substation modification costs are the responsibility of PG&E.
- The Power Distribution Study will be made available to the Company upon study completion.
- PG&E will investigate the possibility of providing separate power feeds.
- Existing power line poles and right-of ways will be used to transmit power from the substation(s) to the facilities. Because power poles and right-of-ways exist to both the Raw Water Intake and Facility sites, PG&E will be responsible for power line improvement costs.
- The Company shall apply for and participate in PG&E's Savings by Design Program.
- The Agency, Company and PG&E will meet on a quarterly basis to collaborate on progress toward obtaining power.

9.6.4.3 Construction General Permit for Stormwater

The 1972 amendments to the Federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources. The 1987 amendments to the Clean Water Act (CWA) created a new section of the CWA devoted to stormwater permitting (Section 402(p)). The EPA has delegated permitting authority to the SWRCB. The SWRCB issues both general and individual permits. Construction activities are regulated under the *NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit), Order No. 2009-DWQ and NPDES No. CAS000002*, Effective July 1, 2010. This General Permit supersedes Order No. 99-08-DWQ except for enforcement purposes.

Dischargers whose projects disturb one or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that, in total, disturbs one (1) or more acres, are required to obtain coverage under the General Permit, *Construction General Permit Order 2009-0009-DWQ*.

Construction activity includes, but is not limited to: clearing, grading, demolition, excavation, construction of new structures, pipelines and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. This includes construction access roads, staging areas, storage areas, stockpiles, and any off-site areas which receive run-off from the construction project, such as discharge points into receiving water.

Detailed Permit requirements and information can be found at the following State website:

http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Coverage under the General Permit requires the submission of Permit Registration Documents (PRDs) prepared by a Qualified SWPPP Developer (QSD).

PRDs include the following:

- Notice of Intent (NOI)
- Risk Assessment
- Site Map
- SWPPP
- Annual Fee
- Signed Certification Statement

The Company shall refer to the State website listed above for additional requirements not included in this list.

Submission of PRDs, Annual Report and other Compliance Documents must be made using the State's on-line application system – Stormwater Multi-Application and Reporting Tracking System (SMARTS). Implementation of the requirements of the General Permit and the SWPPP during construction must be done by a Qualified SWPPP Practitioner (QSP).

While the Agency will be the Legally Responsible Person, as defined by the Regional Water Board, for the Permit to the Regional Water Board for causing the preparation of and compliance with the various PRDs called for in the permit, the Agency will require the Company to provide the detailed planning and compliance activities required insofar as they would potentially affect the Company's methods and means of performing the work.

The Company shall be responsible for the following items and fees:

- Prepare all PRDs, in accordance with Permit requirements, for review and approval by the Agency prior to Company submission.
- Pay all Permit fees.
- Comply with the SWRCB, Regional Water Board, County, City, and other local agency requirements regarding stormwater management, inspection, and monitoring.
- Prepare and submit the SWPPP for Agency review at least thirty (30) days prior to any soil disturbing construction in accordance with General Permit requirements.
- Install, construct, implement, monitor, maintain and remove upon completion all of the BMPs and other pollution prevention measures in accordance with the General Permit.
- Provide the Agency the names and 24-hour phone numbers for parties responsible for implementing, monitoring, inspecting and maintaining the SWPPP.
- The Company shall be bound to the conditions on the NOI and will be responsible for all costs associated with the implementation of the SWPPP, including all fines, damages and job delays incurred due to failure to implement the requirements of the Permit.

- Maintain a copy of the NOI, SWPPP and Permit at the Sites at all times, and shall make the SWPPP available to Agency, Agency Representatives, and the State Water Quality Control Board during construction activities. Contractor shall allow authorized agents of the State Water Quality Control Board, SWRCB, U.S. EPA, and local stormwater management personnel upon the presentation of credentials and other documents as may be required by Laws and Regulations to accomplish the following:
 - Enter, at reasonable times, upon the construction site and Company’s facilities pertinent to the work.
 - Have access to and copy, at reasonable times, any records that must be kept as specified in the General Permit.
 - Inspect, at reasonable times, the construction site and related erosion and sediment control measures.
 - Sample or monitor, at reasonable times, for the purpose of ensuring compliance with the General Permit.
- Notify the Agency immediately following a request from any Governmental Body to enter, inspect, sample, monitor or otherwise access the Sites or the Project’s records.
- Take the proper actions to prevent stormwater coming into contact with contaminants and sediments from migrating offsite or entering storm sewer drainage systems. The Contractor shall take immediate action if directed by the Agency, or if the Company observes contaminants and/or sediments entering the storm drainage system, to prevent further stormwater from entering the system.
- Update the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to stormwater.
- Be responsible for meeting the requirements of the General Permit, except as specifically noted herein.
- Submit all documents and reports to the Agency prior to uploading to the SMARTS website.
- SWPPP shall be prepared by a QSD, as defined in Section VII of the General Permit.
- The SWPPP and each amendment to the SWPPP must be signed by the QSD.
- Designate a QSP.
- Ensure all BMPs are implemented by a QSP.
- QSP is responsible for non-stormwater and stormwater visual observations, sampling and analysis.
- QSP shall meet the certification requirements of Section VII of the General Permit.
- Prepare the annual compliance report and submit to the Agency thirty (30) days prior to September 1 of each year. Annual report shall comply with the requirements of Section XVI (Annual Reporting Requirements) of the General Permit. Submit the annual report using the SMARTS system.

- Prepare all documents required for the Notice of Termination (NOT) when construction is complete.
- If a violation of the Permit is due to the Company's actions, or inactions, and a fine is assessed, the Company shall be responsible for the fine.
- Check the State website listed above for additional requirements not included in this list.

9.6.4.4 Regional Water Board Permit for Construction Dewatering

The Company shall be responsible for obtaining all Governmental Approvals from Governmental Bodies with control over all dewatering matters. The Company shall be responsible for complying with all regulatory requirements applicable to construction dewatering.

Construction dewatering for the Project is regulated by the SWRCB and the Regional Water Board. The Company can download orders on the internet site at: <http://www.waterboards.ca.gov/centralvalley/>.

The Agency recognizes that the cost of the Company's dewatering program will depend on the nature of the discharge, and the discharge requirements imposed by the SWRCB and Regional Water Board. The Agency has reviewed the following regulatory documents, which could potentially be used to regulate the discharge:

- *Coalition Group Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order Nos. R5-2006-0053 and MRP R5-2008-0005) (Coalition Group Conditional Waiver)*. The *Coalition Group Conditional Waiver* is applicable for agricultural use of the water.
- *The Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (State Board Water Quality Order No. 2003 – 0003 - DWQ)*, if appropriate, for any dewatering activity.
- *The Regional Water Board Dewatering and other Low Threat Discharges to Surface Waters General Permit (Order No. R5-2008-0081, NPDES No. CAG995001)*, if appropriate, for any dewatering activity, including removal and discharge of groundwater, accumulated rainwater and removal of water from cofferdams or diversions.
- *The Regional Water Board Waste Discharge Requirements for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Order No. R5-2008-0082, NPDES No. CAG995002)*, if appropriate, for any dewatering activity.

- The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Water Resources Control Board and California Environmental Protection Agency, 2005), which contains exceptions for certain types of discharges necessary to implement control measures for drinking water systems regulated under the federal Safe Drinking Water Act or the California Health and Safety Code. Categorical exceptions may be granted for draining water supply reservoirs, canals, and pipelines for maintenance, or for draining water treatment facilities for cleaning or maintenance.

Agricultural use of dewatering water is the apparent most feasible discharge method, provided all regulatory requirements are met, as described below.

The Agency has negotiated an agreement entitled *Agreement Concerning Construction Water* with RD 2035 (*Construction Water Agreement*), included as a Reference Document, defining conditions and requirements the Company shall meet. The following are conditions regarding the agricultural use of groundwater generated during dewatering:

- Allowable timing and rates of dewatering discharge to RD 2035's canals.
- Dewatering discharge conveyance requirements.
- Dewatering discharge monitoring requirements.

Pursuant to the *Construction Water Agreement*, the rate of water usage must be the same rate that would have been used for agricultural production in the absence of the discharge. In other words, the usage of the groundwater generated by construction dewatering must be at agronomic rates. During the non-growing season, the groundwater generated by construction dewatering can be used for rice decomposition, but at the same rate that water production would have been used in the absence of the dewatering project.

Discharges from the RD 2035 canals are regulated by the Regional Water Board under the Coalition Group Conditional Waiver. Current monitoring is under the auspices of the Yolo County Farm Bureau (the Farm Bureau) Subwatershed Program. Delivery of groundwater generated by construction dewatering to RD 2035 canals by the Company must conform to the Coalition Group Conditional Waiver and be coordinated with RD 2035. A map showing RD 2035 water supply canals, drainage canals, and other infrastructure is included as Attachment 9B.

The Regional Water Board stated in a letter dated December 11, 2012 that if groundwater generated during construction dewatering is beneficially used for agricultural purposes as defined in the *Construction Water Agreement*, then the Regional Water Board will permit the discharge under Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality (*State Board Water Quality Order No. 2003 – 0003 - DWQ*).

The Company shall be responsible for complying with the *Construction Water Agreement*. The Company shall be responsible for filing a NOI to discharge and complying with the *State Board Water Quality Order No. 2003 – 0003 – DWQ*. The Company shall file a Notice of Termination with the Regional Water Board on completion of the dewatering activities.

Use of the canals does not eliminate the need for additional dewatering sites identified in the *Agreement for Conveyance of Real Property* (see Appendix 1 (Property and Easement Data)).

Regarding dewatering operations, the Company shall be responsible for costs to mitigate damages resulting from sand infiltration, migration of fines and consequent land settlement issues and liabilities.

Conditions for agricultural use of the dewatering water may change due to regulatory developments. The Company shall be responsible for complying with the relevant and applicable regulatory requirements at the time of dewatering discharge.

9.6.4.5 Authority to Construct/Permit to Operate – Yolo Solano Air Quality Management District

The Company shall comply with all air pollution control rules, regulations, ordinances and statutes which apply to any work performed on the Project, including any air pollution control rules, regulations, ordinances and statutes, specified in California Government Code Section 11017.

The Company is hereby alerted to the fact that the Yolo Solano Air Quality Management District will have specific restrictions and requirements on the Company related to construction activities at Project worksites. The Company shall assume full responsibility for conforming to the Yolo Solano Air Quality Management District's restrictions and requirements, including all permit fees.

The Yolo Solano Air Quality Management District requires several Governmental Approvals prior to the initiation of construction activities, including:

- Authority to Construct.
- Permit to Operate.
- Standby Emergency Engine Permit as required.

See requirements outlined in Section 9.5.11.2 (Mitigating Project-Related Air Quality Impacts) of this Appendix.

In the event the regulatory agency levies any fine or charge against the Agency as a result of the Company's failure to comply with this regulation, the Company shall reimburse the Agency upon demand the full amount of said fine. The Agency shall have the right to deduct funds from monies due the Company should the Company fail to reimburse the Agency as stated herein.

9.6.4.6 Cal OSHA Safety Permits

The Company shall apply for, obtain, and pay for all safety related Governmental Approvals required by the Department of Industrial Relations, CalOSHA and the California Code of Regulations, Title 8. These Governmental Approvals include, but are not limited to, the following areas: excavations, tunneling and underground classification, trenches, construction (building structure, scaffolding, or falsework) and demolition.

9.6.4.7 Central Valley Flood Protection Board / RD1600 – Levee Crossing and Construction

The Central Valley Flood Protection Board (CVFPB) is responsible for levee protection at the Joint Intake Facility. The CVFPB website is: <http://www.cvfpb.ca.gov>. The Company shall apply for, obtain, and pay for all permits required by the CVFPB for work performed at the Raw Water Intake and levees in CVFPB's jurisdiction.

As listed below, the Company shall be required to coordinate with and obtain approval from impacted Reclamation Districts, RD 1600 and RD 2035, for work in the Raw Water Intake area. Regarding RD 2035, see requirements listed in the *Draft Agency-RD 2035 Raw Water Intake Operation and Maintenance Agreement* of the Reference Documents. Representatives from RD 1600 have expressed interest in construction methods, levee safety, construction staging areas, and traffic control. Further information regarding RD 1600 is located in the Section 9.7.1 (Coordination with Yolo County Farm Bureau – Construction Traffic Coordination) of this Appendix.

CVFPB has requested that the Company not contact them directly but work through the Agency regarding questions.

A CVFPB permit is required for any project or plan of work that:

- Is within federal flood control project levees and within a CVFPB easement, or
- May have an effect on the flood control functions of project levees, or
- Is within a CVFPB designated floodway, or
- Is within regulated Central Valley streams listed in Table 8.1 in Title 23 of the California Code of Regulations.

Typical permit components include but are not limited to the following:

- Encroachment Permit Application – Department of Water Resources (DWR) Form 3615.
- Environmental Assessment Questionnaire – DWR Form 3615a.
- Endorsement from RD 1600 that has responsibility for levee maintenance.
- Exhibits/Drawings depicting the work (minimum 60 percent (60%) design level). Shall be produced in 8-1/2- by 11-inch format. Drawings shall including the following:
 - Location map.
 - Plan and elevations views.
 - Levee cross sections indicating the elevation of crown, toes, low-water surface, and design floodplain.
 - Channel scour analysis studies for pipeline crossings in the Willow Slough Bypass and Yolo Bypass.

- Necessary documents to show CEQA compliance (i.e., Categorical Exemption, Negative Declaration, or EIR). These documents will be available from the Agency. Open cut installations may require an addendum to the EIR. If required, the cost of such an addendum would be the responsibility of the Company.
- Note that construction is not allowed in the Yolo Bypass nor in the Willow Slough Bypass from November 1 to April 15 each year or when there is flooding, per Title 23 of the California Code of Regulations.

Fees and Schedule:

- No fee will be required.
- Permit Application review typically takes between fifty (50) to sixty (60) days.
- The Company must notify the Department of Water Resources ten (10) days before construction begins by mailing the start card provided by the CVFPB when the permit is issued.

9.6.4.8 Yolo County Requirements

The Agency has met with Yolo County representatives regarding the Project to develop conditions for County Encroachment Permits. These conditions are defined in the *Encroachment Permit Conditions of Approval*, included herein as Attachment 9C. The Company shall incorporate the conditions of approval listed in this document for the Design-Build Period and the Operation Period. All coordination with the County shall be subject to review and approval by the Agency prior to submission to the County.

9.6.4.8.1 *Coordination*

Coordination with County will be through Mr. Panos Kokkas, 292 West Beamer Street, Woodland, CA 95695. Panos.Kokkas@yolocounty.org, (530) 666-8775.

- Project work in the unincorporated area is not subject to County plan approval or zoning and building code permits and requirements.

9.6.4.8.2 *Other Permit Requirements*

Applicable County Governmental Approvals and other required information:

- Encroachment Permit for all work in County roads.
- Flood Hazard Development Permit.
- Yolo County Well Permits in County jurisdiction for any new wells related to the work.
- SWPPP and NOI for construction in County jurisdiction, as required by the Regional Water Board. The General Permit and NOI to be obtained and maintained by the Company.

- All applicable Project-related County fees will be paid by the Agency.
- The County will inspect items related to pipe trench excavation and backfilling, traffic control, and road restoration including pavement, concrete road bed, shoulders, signage and striping.

9.6.4.8.3 Allocation of Costs and Fees

Permitting, design review, testing and inspection costs associated with the County shall be as follows:

- An encroachment permit “fee” will not be assessed. All actual/direct County costs will be billed to the Project for the design review, inspection, and compaction testing of facilities within County jurisdiction.
- The Agency will directly reimburse the County for the design review and the inspection.
- As noted in this section, The Company will be responsible for reimbursement to the County for initial testing costs and any costs associated with re-testing (including the associated inspection labor). The Company shall assume the geotechnical company assigned by the County to the Project will be on-site 2 – 3 hours/day (assuming an 8-hour work day) to observe construction and take compaction tests. The Company shall assume that the geotechnical company will be on-site thirty percent (30%) of the time during pipeline construction period within the Yolo County ROW.
- The Agency will pay for the County Flood Hazard Development Permit fee (the Company shall be responsible for other flood permits required by other permitting agencies).
- The Company shall be responsible for all SWPPP costs with the County and other permitting agencies.

9.6.4.9 Local Fire Marshal Jurisdiction Approval

The Company shall obtain review and approval from the Elkhorn Fire District for work associated with the construction and operation of the Raw Water Intake Common Facilities and the City of Woodland for the Facility. Approvals anticipated but not limited to the following:

- Storage of hazardous materials and for fire code compliance for work associated with the construction and operation of facilities.
- Approval of construction traffic plans.
- Approval of the Emergency Response Plan for the Project.

9.6.4.10 City Encroachment Permits / Utility Connections / Building Department Permits / Planning Commission

The Company shall be responsible for obtaining Encroachment Permit(s) as required for construction within City of Woodland streets. The City of Woodland shall waive associated encroachment permit fees for this work.

While there is no construction within City of Davis streets, the Davis Finished Water Transmission Main will traverse the edge of the CleanPath PVUSA Solar Farm, which is on City of Davis property. See requirements related to this site in Section 9.7.4 (Coordination with CleanPath PVUSA Solar Farm) of this Appendix.

The Facility is within the City of Woodland limits and will be subject to City of Woodland Planning Commission review and comment and City of Woodland Building Department approval. The Company shall be responsible for preparing architectural renderings from three viewpoints and preparing presentation materials at three commission meetings.

The Company shall be responsible for the following costs associated with connection to City of Woodland Utilities for domestic water service, domestic sewer service and site drainage:

- Utility connection fees
- Design and installation
 - yard piping
 - necessary appurtenances
 - structures
- Ongoing utility service charges

The Company shall be responsible for preparing Building Department Plan Check Review Documents and responses to Plan Check Review Comments until plans are approved. The Company shall be responsible for paying all related costs to obtain Building Permits for occupied buildings and structures in the Project, such as administration buildings, maintenance buildings, canopies and electrical buildings.

For the portion of the work located within the City of Woodland, the Company shall comply with applicable City of Woodland grading (including grading permit), flood damage prevention, SWPPP and fire safety requirements. For the buildings and structures in the Facility that contain “occupiable space” as defined by the California Building Code (such as administration buildings, maintenance buildings, canopies and electrical buildings), the Company shall comply with applicable City of Woodland Building Department building permit, plan check and inspection requirements. The Company shall pay all applicable City of Woodland permit-related fees and costs in accordance with City of Woodland requirements (but not including City of Woodland development and impact fees).

9.6.4.11 Caltrans Permits

9.6.4.11.1 *Encroachment Double Permit*

Encroachment permits are anticipated at the following locations:

- A Caltrans Encroachment Permit will be required where the pipelines cross under I-5. See Appendix 1 (Property and Easement Data) for pipeline alignment details at I-5. Also see Section 9.6.3 (Government Approvals Requiring Company Input) of this Appendix.
- At the perpendicular crossings (borings), one for raw water and one for Woodland treated water, where construction will be within the right-of-way proper.
- At the I-5 northbound off ramp to County Road 22, where there is potential to effect traffic.
- For the closing County Road 22, this will force a detour onto I-5.

The permit process involves two permits: a Parent Permit to be issued to the Agency as the owner of the encroachment, and a Double Permit to be issued to the Company. The Agency will apply for and pay for the Parent Permit upon completion and submission of 90-percent construction documents by the Company (see Section 9.6.3 (Government Approvals Requiring Company Input) of this Appendix regarding the Parent Permit). The Company shall apply for the Double Permit.

The Caltrans contact for District 3 is Judy McCunlough, (530) 741-4407. An alternative contact is Shawn Rice, (530) 741-4204. Website: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>.

The Double Permit is usually issued within two (2) weeks after the application is received.

The Company shall comply with the following requirements regarding the permit:

- Open cut construction within Caltrans' right-of-way will not be allowed.
- Bore pits shall be outside Caltrans' right-of-way.
- Final Construction Plans wet stamped and wet signed will be required before work can start.
- Provide Final Construction Plans to the Agency four (4) months prior to the anticipated start of construction of the pipelines crossing I-5.

9.6.4.11.2 *Oversize/Overweight Permit*

If oversized or overweight vehicles are to be operated on State facilities, then an oversized or overweight truck permit must be obtained from Caltrans Headquarters Transportation permits. Information regarding this permit is available at: <http://www.dot.ca.gov/hq/traffops/permits/>.

9.6.4.11.3 Traffic Management Plan

The Company shall prepare a Traffic Management Plan (TMP) for the movement of materials to the site during construction of the project. The TMP must include time of material deliveries and proposed routes. It is recommended that trucks avoid the use of State facilities during peak commute hours. The plan shall be submitted to the Agency for review and approval and upon approval to Caltrans and all potentially impacted jurisdictions.

9.6.4.12 CDFG 1600 Streambed Alteration Agreement for Project Raw and Treated Water Pipelines

The Company shall be responsible for obtaining a Streambed Alteration Agreement (SAA) for the Project Raw Water Pipelines and Treated Water Pipelines. The company shall be responsible for the preparation of all necessary design Drawings, documents, coordination meetings and fees required to obtain the SAA.

CDFG Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state and requires any person, governmental agency, or public utility proposing an activity that will divert or obstruct the natural flow or change the bed, channel or bank of any river, stream, or lake, or proposing to use any material from a streambed, must first notify CDFG of such proposed activity. Based on the information contained in the notification form and possible field inspection, CDFG may propose modifications to the proposed construction to allow for the protection of the fish and wildlife resources. CDFG bases evaluation of notification of a proposed streambed alteration on the anticipated impact of the proposed project on fish and wildlife resources. Consequently, CDFG will write the SAA with terms and conditions designed to protect and/or compensate for these resources.

9.7 COMPANY COORDINATION WITH LANDOWNERS

9.7.1 Coordination with Yolo County Farm Bureau - Construction Traffic Coordination

The Farm Bureau is a member of the California Farm Bureau Federation and is a non-governmental, non-profit, voluntary membership California Corporation with the purpose to protect and promote agricultural interests throughout Yolo County and the State and to find solutions to the problems of the farm, the farm home and the rural community. The California Farm Bureau Federation strives to protect and improve the ability of farmers and ranchers engaged in the production of agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources.

Agency engineers have met with key members of the California Farm Bureau to discuss the Project and determine needs. Representatives from RD 1600 and the Elkhorn Fire District (department of jurisdiction) are also members of the California Farm Bureau Federation and attended the meeting.

- Discussions included the following topics: Traffic use and service areas for County Roads 22, 102, 103, and 117.

- Elkhorn Fire District responsibilities and emergency response requirements for firefighting and flood-fighting.
- Harvest times and farm equipment access during construction.
 - Farm equipment is not allowed on the freeway without permits. Permits are required for vehicles that travel slower than normal traffic or exceed weight limits.
 - Farmers need access along County Road 22 and County Road 117 during construction. Road 22 may be closed for up to sixty days as described below. County Road 117 shall remain open at all times.
 - Minimum width necessary for farm equipment is twenty (20) feet.
 - Most harvest activity is limited to day time hours, night closures should be okay between 10 p.m. and 5 a.m., except during tomato harvest season.
 - Tomato harvest is twenty-four (24) hours a day seven (7) days a week operation.
 - One-way traffic should be limited to local and farm traffic only.
 - Harvest seasons overlap beginning around June and ending around November 1st. Tomatoes are generally harvested between July and mid-October.
 - Many farmers and harvest trucks use the County Road 103 bridge and dirt road between County Road 22 and County Road 25 to avoid congestion along Road 102 and to avoid having to drive through the City of Woodland. RD 2035 gives permission to use roads through its district.

Discussion items regarding a sixty day closure of County Road 22 for pipeline construction:

- Road 22 through the Yolo Bypass is used regularly to transport farm equipment between separate areas that are farmed by the same individual farmer who farms on both sides of the Yolo Bypass. (Lots of back and forth driving.)
- The farm equipment transport is needed most during planting season and harvest season.
- Commercial vehicles used to transport produce can use I-5 to bypass Road 22.
- Farm equipment requires trailering and special permitting and fees (CHP and Caltrans) to use I-5.
- Trailering the equipment usually requires break-down and reassembly at each end of the transport.
- Road closure between May 15 and July 15, would most likely have the least impact on farmers, but this shall be confirmed with the Bureau.
- Closure shall be a continuous 60 day closure for one construction season.
- The Agency will coordinate with the Farm Bureau regarding the closure of County Road 22 and will work with the Bureau and its members to fairly compensate farmers for the costs associated with using alternative transportation routes.

Company responsibilities:

- The Company shall coordinate traffic plans during design and construction with the Farm Bureau.
- The Company shall submit traffic plans to the Farm Bureau for review and comment at the 90-percent (90%) design level.

9.7.2 Coordination with Pacific Coast Producers

Pacific Coast Producers (PCP) is an agricultural cooperative owned by approximately 165 grower members and is California's premier private label packer of high quality canned fruits and tomatoes. The company has three processing facilities located in Lodi, Oroville and Woodland.

The Woodland processing facility is in the City of Woodland west of the Facility Site. An 18-inch pipeline from the processing facility traverses along the length of Main Street to near the farm road adjacent to the Woodland Drainage and High Line Canal, and makes a 90 degree right turn to the south. From there the pipeline traverses south to the Northeast corner of the abandoned City of Woodland Water Pollution Control Facility ponds. The pipeline then turns east and traverses under the Woodland Drainage and Highline Canals and traverses adjacent to the north boundary of the abandoned PCP aeration ponds toward the current PCP treatment facility and land application site. The land application site borders the east and south sides of the abandoned aeration ponds and is used for the disposal of byproduct, wastewater and generally for farming operations. The land application site is approximately 1,400 feet from the Facility Site.

Agency and representatives from the City of Woodland met with PCP representatives in May 2011 to coordinate PCP needs and requirements regarding the Project.

The Company shall incorporate the following Design-Build Period and Operation Period requirements and constraints in the Project:

- The Company shall coordinate these requirements and constraints, including access, security and construction schedule in the vicinity of PCP facilities with PCP representatives on a monthly basis throughout Project construction.
- Mona Shulman, Vice President, is the designated PCP contact. Phone number (209) 367-6271.
- The Company will not be allowed to use the farm road (adjacent to the High Line Canal) overcrossing of I-5 (also known as the County Road 103 Bridge as labeled on the Critical Facilities Map).
- PCP will require power at all times to operate the irrigation system during the processing season and to operate incidental ranch equipment during the off season.

- PCP will require road access that can accommodate tanker trucks (HS-20 loading) forty (40) feet in length hourly from July to October. The farm road off East Main Street adjacent to the High Line Canal would be preferable, but there may also need to be access from County Road 25 up the farm road adjacent to the High Line Canal to accommodate the construction schedule. Both roads will need to be maintained to handle the tanker trucks.
- The Company shall confirm the location of PCP's 18-inch tomato wastewater pipeline by potholing in the vicinity of construction areas. This is to ensure there are no impacts during construction of the raw water pipelines, as both pipelines run along the northern boundary of the land application site.
- PCP's groundwater monitoring wells shall be protected and shall remain in service where possible. Road improvements and maintenance for construction access and Facility operations may require that some monitoring wells will need to be abandoned and moved. The Agency will be responsible for coordinating and providing new monitoring wells.
- The Company shall be responsible for all costs associated with abandoning up to four (4) existing monitoring wells affected by access road or pipeline construction:
 - Well abandonment per County and State requirements.
 - Regional Water Board approval and associated documentation.
 - New well costs and equipping to match existing wells.
 - Reimbursement of all PCP costs regarding moving wells (staff, consultant fees, or other).
- Security at the Sites shall be maintained at all times, including additional gates to prevent access to PCP's land application site and to Conaway Ranch by the public.

Potential year-round PCP operation impacts on the Project:

- Future PCP tanker truck traffic along the north side of the Facility Site boundary could generate dust. If the dust is problematic, the Company shall water or add a gravel surface to the roadway at its own cost.
- The Company shall fully retain and dispose of both construction dewatering discharge and stormwater discharge from project facilities through a separate culvert to the Conaway drainage ditch so that no impacts to PCP shall occur.
- The Company shall provide training and cautionary information to its employees with regard to seasonal PCP truck traffic.
- There may be concentrations of flies in the area near the PCP treatment facilities during the summer when PCP is processing tomato waste.
- The location of monitoring wells on the PCP land application site are shown on the Project *Critical Facilities Map* included in the *Implementation Agreement* of the Reference Documents.

9.7.3 Coordination with RD 2035 and Conaway Preservation Group

Agency and representatives from the Cities have met with RD 2035 and CPG to coordinate needs and requirements regarding the Project. Discussions have centered on the following topics: the Raw Water Intake, water purchases, easements acquisition, farmer crop losses related to construction, construction dewatering disposal, construction traffic, post construction traffic (plant operation), pipeline construction through farmland, access roads, crossing drainage ditches, and Project storm water runoff. The following agreements and documents have been completed to date and are included in Reference Documents. (Documents noted as “Draft” will be provided to the Company when finalized.) The Company shall comply with all applicable provisions, conditions and limitations in the following agreements and documents:

- *Sacramento River Joint Intake and Diversion Agreement*, dated December 21, 2010, by and between the Woodland-Davis Clean Water Agency and Reclamation District 2035 (“*Joint Intake Agreement*”).
- *Water Agreement*, dated as of December 21, 2010, by and between the Woodland-Davis Clean Water Agency, Tri-City Water and Farm, LLC, and Conaway Preservation Group, LLC. (“*Water Agreement*”).
- *Easement Agreement (Raw and Treated Water Transmission Lines and Cable)*, between the Woodland-Davis Clean Water Agency and Conaway Preservation Group, LLC, dated August 22, 2013
- *Agreement for the Conveyance of Real Property (Conaway Ranch Water Purchase)*, dated as of December 21, 2010, by and between the Woodland-Davis Clean Water Agency, Reclamation District 2035, Tri-City Water and Farm, LLC, and Conaway Preservation Group, LLC (“*Real Property Agreement*”).
- *Draft Implementation Agreement* between the Woodland-Davis Clean Water Agency, Reclamation District 2035, and Conaway Preservation Group, LLC (“*Implementation Agreement*”).
- *Agreement Concerning Construction Water* dated August 3, 2012, by and between the Woodland-Davis Clean Water Agency and Reclamation District 2035 (“*Construction Water Agreement*”).
- *WDCWA-RD 2035 Joint Intake Operations Agreement draft* dated May 28, 2013.

9.7.3.1 Company Requirements and Conditions

The Company shall incorporate the following Design-Build Period and Operation Period requirements and conditions in the Project:

- Compliance with the *Implementation Agreement*. The Company shall comply with the requirements of the *Implementation Agreement*, including but not limited to the following:
 - Plans and Specifications for facilities located within CPG or RD 2035 boundaries are subject to review by RD 2035 and CPG at the 30 percent (30%), 90 percent (90%) and 100 percent (100%) design levels. The Company will coordinate with RD 2035 and CPG to facilitate that review.
 - All construction must avoid impacts to critical facilities of RD 2035 and CPG. See the map depicting critical facilities entitled "*Critical Facilities Map*" (also known as "*RD 2035 Critical Map*" or "*Critical Facilities Map*") included in the *Implementation Agreement* of the Reference Documents.
 - The Company shall be responsible for all monetary impacts (physical and crop damage [not including crop damage defined in the *Real Property Agreement* Section 2.4]) resulting from damage to RD 2035 or CPG facilities and crops.
 - RD 2035 and CPG each have the right to enforce all of these requirements and rights.
 - Coordination with oil and gas leaseholders, whether of record or not.
- Farmer crop losses related to construction:
 - All coordination with RD 2035 and CPG farmers shall be through Regina Cherovsky, 45332 County Road 25 Woodland, CA 95776, (530) 662-1484.
 - The Company shall comply with the requirements of Section 2.4 and all other provisions of the *Agreement for Conveyance of Real Property*.
 - The Company shall be responsible for the costs of crop related damages beyond those described in Section 2.4 of the *Agreement for Conveyance of Real Property*. By way of amplification rather than limitation, the limited exemption from liability for crop damage contained in Section 2.4 of the *Agreement for Conveyance of Real Property* is not applicable to crop damage resulting from damage to Critical Facilities.
 - Compensation for crop related damages shall be at rates negotiated between the Company and RD 2035, and CPG representatives.
- Construction Dewatering Disposal:
 - The Company shall follow the provisions of the Agreement Concerning Construction Water. See Section 9.6.4.4 (Regional Water Board Permit for Construction Dewatering) of this Appendix for additional information.

- Construction Traffic and Road Improvements:
 - The Company shall restrict construction traffic access onto and within Conaway Ranch to the following routes:
 - I-5 to County Road 102, County Road 102 to County Road 25, County Road 25 to the intersection of County Road 103, then north on the farm road parallel to the RD 2035 High Line Canal.
 - I-5 to County Road 102, County Road 102 to County Road 24, County Road 24 to a new north-south access road to the Facility Site.
 - East Main Street/County Road 22 to the existing north-south farm road that traverses under I-5 adjacent to the Yolo Bypass west levee.
 - The Company will not be allowed to use the I-5 overpass from East Main Street to the Facility site.
 - The Company shall provide security control and gates with security card access at all construction traffic access points to the Conaway Ranch.
 - The Company shall protect all gas pipelines in construction areas and relocate gas lines and appurtenances where necessary.
 - The Company shall improve or replace the culvert at High Line Canal and County Road 25 to accommodate construction traffic.
 - The current capacity of canals shall be maintained (no hydraulic impact).
 - Work in canals shall not interrupt required flow capacities.
 - Construction-related work adjacent to or crossing the High Line Canal shall not damage the canal or cause disruption of irrigation flow.
 - Company shall evaluate the condition of the High Line Canal prior to beginning construction work adjacent to or crossing the canal. Design shall include measures to protect the canal during construction and mitigate damage to the canal due to use of the access roads by heavy equipment. This may include fortification or reinforcement of the existing canal.
 - Prior to construction, the Company shall video tape and document the condition of RD 2035/CPG farm roads and canals that may be impacted by the Company's activities. Copies of the road and canal condition documentation and video tapes shall be submitted to the Agency and RD 2035/CPG for a record of pre-construction conditions.
 - Upon completion of construction, the Company shall video record and document the condition of RD 2035/CPG farm roads and canals previously documented. Copies of the road condition documentation and video tapes shall be submitted to the Agency and RD 2035/CPG for a record of post-construction conditions.
 - The Company shall maintain construction access farm roads and canals during construction and repair damages due to construction traffic or use at the completion of construction. The farm roads and canals shall be returned to their pre-construction condition.

- The Company shall provide traffic security plans to the Agency, CPG and RD 2035 for review and approval prior to commencement of construction activities.
- See Section 9.7.2 (Coordination with Pacific Coast Producers) of this Appendix regarding PCP requirements and conditions.
- Post Construction Traffic:
 - The Company shall limit Facility operations and maintenance traffic to County Road 24.
 - The Company shall coordinate with RD 2035 and CPG at all times regarding access to Conaway Ranch for pipeline and related facilities maintenance, access, repair, replacement, inspection, improvement and operation.
 - The Company shall provide a post construction/operation traffic plan to the Agency and RD 2035 for review and approval three (3) months prior to operation of the Facility.
 - See Section 9.7.2 (Coordination with Pacific Coast Producers) of this Appendix regarding PCP requirements and conditions.
- Pipeline Construction Through Farmlands
 - All coordination with RD 2035 and CPG farmers shall be through Regina Cherovsky 45332 County Road 25 Woodland, CA 95776 (530)-662-1484.
 - Some CPG fields are flooded during rice growing season. There may be lateral saturation of portions of the temporary construction easements. The Company shall coordinate this potential with RD 2035 and CPG and include all additional crop loss, RD 2035 and other costs associated with usability of construction easements in its bid price.
 - RD 2035 and CPG shall have access to all areas of Conaway Ranch at all times, not including areas under construction.
- Protection of Siphon Crossing:
 - The Company shall protect the existing CPG siphon during construction.
 - The Company shall be responsible for all monetary impacts (physical and crop damage) resulting from siphon damage.
 - See Appendix 3 (Project Technical Requirements) for details.
- Pipeline Appurtenances in Farmland
 - See Appendix 3 (Project Technical Requirements) for details.
 - All construction must avoid impacts to critical facilities of RD 2035 and CPG. See the *Critical Facilities Map* included in the *Implementation Agreement* of the Reference Documents.

- Pipelines Construction at High Line Canal
 - Construction of pipelines under the High Line Canal shall not damage the canal or disrupt irrigation flow. Pipelines shall be installed using trenchless construction methods, or irrigation flow shall be bypassed, and canal restored to condition equal to or better than existing.
- Intake Operation and Maintenance Responsibility
 - The Company shall be responsible for the operation and maintenance of the Raw Water Intake Agency Facilities and Raw Water Intake Common Facilities as provided in the Joint Intake and Diversion Agreement and Agency-RD 2035 Raw Water Intake Operation and Maintenance Agreement. See also Section 3.3 (Raw Water Intake Facilities) of Appendix 3.
 - RD 2035 will be responsible for the operation and maintenance of its separate Raw Water Intake RD 2035 Facilities as provided in the *Sacramento River Joint Intake and Diversion Agreement* and *Agency-RD 2035 Joint Intake Operations Agreement* (Reference Documents 8 and 9).

9.7.4 Coordination with CleanPath PVUSA Solar Farm

CleanPath Ventures operates an 86-acre PVUSA solar farm just north of the City of Davis limits at 24662 County Road 22. The solar farm land is leased from the City of Davis under an agreement with Nuon Renewable Ventures. CleanPath acquired the facility from Nuon in recent years. The Davis Finished Water Transmission Main will enter onto the solar farm property adjacent to County Road 102 and just inside the facility fence line. This is due to existing utilities located in County Road 102.

The City of Davis is currently in discussions with CleanPath to expand the PVUSA solar facility within the existing lease area. CleanPath is aware that the Davis Finished Water Transmission Main will impact the lease area along the County Road 102 frontage. The renegotiated lease for the solar facility expansion is expected to incorporate right-of-entry for construction of the Davis Finished Water Transmission Main.

Coordination regarding construction on the solar farm property shall be with Mr. Mitch Sears, City of Davis Sustainability Program Manager, (530) 747-5888.

ATTACHMENT 9A

Drinking Water Permit Tracking Log

(THIS PAGE LEFT BLANK INTENTIONALLY)

Davis-Woodland Water Supply Project (DWWSP) CDPH Drinking Water Permitting Checklist

Submittal No.	Document	Primary Responsibility	Entity Responsible for Document Preparation			WDCWA Completion Date		Sharepoint Upload Date (CDPH Informal Review)	CDPH Submittal Date	CDPH Approval Date	Working Comments
			DBO Firm	Owner's Representative		Planned	Actual				
				West Yost	Trussell Tech						
1	Permit Application (Signed and Notorized Cover Sheet to accompany TMF and TR)	WDCWA	X								
	i. Signed Permit Application Cover Sheet	X	X								
2	Technical, Managerial, Financial (TMF) Report	WDCWA		X						Reference is TMF Assessment Form .	
	i. Water System Name, Number and Physical Address			X							
	ii. Consolidation Feasibility			X							
	iii. System Description - Provide a System Map Showing:			X							
	• Current Service Area Boundary										
	• Sources										
	• Treatment Facilities										
	• Pumping Stations										
	• Pressure Zones										
	• Storage Tanks										
	• Potential Contaminant Hazards										
	• Projected 10-Yr Growth Boundaries										
	iv. Certified Operators - Provide Operator Names, Grades, and proof of Certification		X								
	v. Source Capacity - Submit the following:			X							
	• Documentation that water system has a sufficient water supply			X							
	• Water conservation plan			X							
	• A plan for metering system			X							
	• Map of existing service area which includes water sources and sites/sources of potential contamination.			X							
	• Documentation that demonstrates the water sources are protected from vandalism, etc.			X							
	• 10-year potential growth plan.			X							
	• Plan for additional water rights, IF NEEDED.			X							
	vi. Operations Plan		X								
	vii. Training - Submit plan for training of all personnel.		X								
	viii. Ownership - Must be clearly identified for all components of the water system:	X		X							
	• Formation papers (e.g., JPA)			X							
	• Deeds and other ownership documentation			X							
	• Easements, leases, agreements for land and components not owned by Water System.			X							
	• Encumbrances, etc. that affect Owner's control of water system			X							
	• Future changes in ownership and related items			X							
	ix. Water Rights - Provide the following documentation:	X		X							
	• List of current and emergency water sources			X							
	• Describe long-term availability of these water sources			X							
	• Adjudicated or unadjudicated basin for groundwater?			n/a							
	• Type of water rights for surface water?			X							
	x. Organization - Provide org chart indicating lines of authority, names and phone numbers, and available contract certified operators.		X								
	xi. Emergency Response Plan		X								
	xii. Policies - Provide a policy manual that describes procedures pertinent to the management of the water system.		X								
	xiii. 5-Year Budget Projection and CIP			X							
	xiv. Budget Control - Provide a detailed financial policy that indicates budget control procedures, financial reporting, etc.			X							

Davis-Woodland Water Supply Project (DWWSP) CDPH Drinking Water Permitting Checklist

Submittal No.	Document	Primary Responsibility	Entity Responsible for Document Preparation			WDCWA Completion Date		Sharepoint Upload Date (CDPH Informal Review)	CDPH Submittal Date	CDPH Approval Date	Working Comments
			DBO Firm	Owner's Representative		Planned	Actual				
				West Yost	Trussell Tech						
3	Permit Technical Report	WDCWA	X								References are (1) <i>Domestic Water Supply Permit - Applicant Instructions</i> (CDPH on-line), (2) Permit Technical Report Guidance (G. Peterson), and (3) Engineering Report Outline (B. Kidwell). Primary reference is Domestic Water Supply Permit - Applicant Instructions.
	i. General Water System Information			X							
	• Type of permit, New or Amended.			X							
	• Number and type of service connections (i.e., metered or flat-rate), population served.			X							
	• Owner of the water system and description of the owner's legal authority			X							
	• Period of Use			X							
	• Map delineating service area boundaries.			X							
	• Map showing water sources, treatment facilities, storage facilities, major distribution facilities, and primary transmission lines.			X							
	• Feasibility of consolidation evaluation			X							
	• Organization chart for water system.		X								
	ii. Financial Information			X							Reference - Permit Technical Report Guidance
	• Anticipated source of revenue and expenditures for 5 years.			X							
	• Plan for emergency funds			X							
	iii. Source Water Information			X							
	• Description of type and location of all sources of water used by the system. Also description of auxiliary supplies.			X							
	• Documentation of Water Rights			X							
	• Anticipated 10 year growth and water demand for system			X							
	• Analysis of 10 year source capacity and ability to provide adequate water			X							
	• Source water assessment of vulnerability to contaminantion, in accordance with DWSAP.			X	X						
3A	• Source water quality analysis (2009-2010).				X	Mar-11	Mar-11	Mar-12	Mar-12		Completed. Will be updated with additional data when Technical Report is submitted
	• Source water quality analysis (updated)				X						Update will include additional data collected from 2011 to plant startup (estimated 2016)
	• Description of recreational activities in watershed.			X	X						Reference: Permit - Technical Report Guidance
	iv. Treatment and Design Information		X								
	• Detailed Information about proposed facility and <u>each</u> unit process. Include a facility layout.		X								As per Engineering Report Outline, this item should also discuss (a) treatment reliability and alarms, (b) monitoring and controls, (c) auto shut-offs, (d) standby power.
	• Design criteria, design parameters, and design capacities		X								
	• Descriptions of treatment chemicals		X								
	• Details of disinfection facilities and credit (CT, residuals, etc.)		X								
	v. Distribution System Information		X								Only relevant from the pump station at the RWTF to the Points of Interconnect.
	• Scaled map showing locations of all pumping stations, storage tanks, mains, hydrants, isolation valves, flushing valves, and delineation of all pressure zones.	Not Applicable									
	• Detailed information about all transmission mains and distribution mains.		X	X							
	• Location of hydrants, isolation valves, etc.		X	X							
	• Detailed design information about all pump stations and storage tanks or reservoirs		X	X							
	• Detailed information demonstrating that operating pressure will be maintained throughout the distribution system.	Not Applicable									
	• Hydraulic Profile		X								

Davis-Woodland Water Supply Project (DWWSP) CDPH Drinking Water Permitting Checklist

Submittal No.	Document	Primary Responsibility	Entity Responsible for Document Preparation			WDCWA Completion Date		Sharepoint Upload Date (CDPH Informal Review)	CDPH Submittal Date	CDPH Approval Date	Working Comments
			Owner's Representative			Planned	Actual				
			DBO Firm	West Yost	Trussell Tech						
	vi. Operational Plans - Water Quality Monitoring Plan		X								
	• Plan describing monitoring (a) source water, (b) locations at the treatment plant, and (c) distribution system		X		X						
	vii. Operational Plans - Water Systems Operations Plan		X								
	• <u>Comprehensive plan</u> describing procedures necessary to successfully operate the WTP. This plan should include information about treatment reliability, alarms, monitoring and controls, auto shut-offs, standby power, operations and maintenance plans, and plant security and safety.		X								
	• Names of persons responsible for operation and maintenance		X								
	• Organization chart showing personnel and certifications		X								
	• Emergency Chlorination Plan		X							Reference: Engineering Report Outline	
	• Complaint program		X	X						Reference: Engineering Report Outline	
	viii. Operational Plans - Emergency / Disaster Plan		X								
	• Description of how the System will notify customers of any drinking water compliance issues.		X	X							
	• Plan for responding to major disasters such as earthquakes, floods, and power outages that may occur within the service area.		X	X							
	ix. Operational Plans - Cross-Connection Control	Not Applicable								Reference: Engineering Report Outline	
	• Detailed plan of the System's Cross-Connection Control Program										
	x. Environmental Documentation			X							
	• Demonstrate compliance with CEQA			X							
	• Complete CDPH's Environmental Information Form			X							
4	Engineering Design Report	WDCWA	X								
4A	i. 10% Drawings - Conceptual Level Design		X								
4B	ii. ___% Drawings - Interim Design		X								
4C	iii. ___% Drawings		X								
4D	iv. 100% As-Built Design Drawings and Specifications		X								
5	Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Compliance Monitoring Report	WDCWA			X						
	i. LT2ESWTR Compliance Monitoring Report				X	Dec-11	Dec-11		Dec-11	Determined Bin 1 Classification; Submitted to CDPH; awaiting CDPH response	
6	Watershed Sanitary Survey	WDCWA									
	i. Watershed Sanitary Survey Update		WDCWA is part of Regional Group Effort (done by Starr Consulting)			Dec-10	Dec-10		n/a	n/a	Updated every 5 years; 2015 Update contracted
7	Drinking Water Source Assessment Plan (DWSAP)	WDCWA		X							
	i. Drinking Water Source Assessment Plan (DWSAP)			X	X	Aug-13				Preparation can begin now using information in the Watershed Sanitary Survey. Not to be submitted until after DBO contract awarded.	
8	California Environmental Quality Act (CEQA) Report	WDCWA		X							
	i. California Environmental Quality Act (CEQA) Report			X							

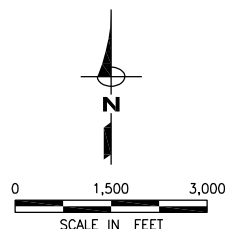
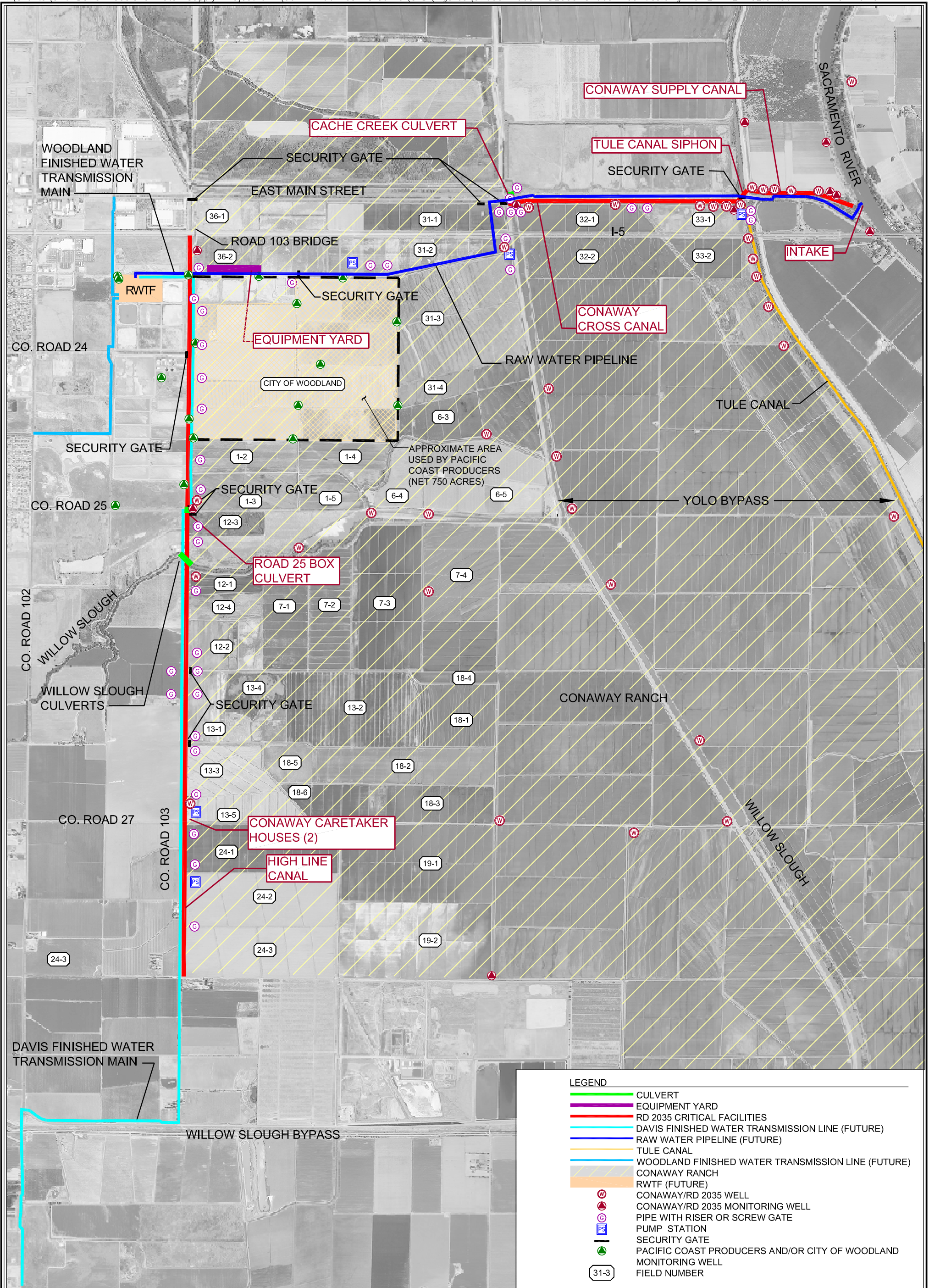
Note: The Agency shall only be responsible for the items designated herein as WDCWA responsibility. The Company (DBO Firm) shall be responsible for any additional items required by the CDPH not identified herein.

(THIS PAGE LEFT BLANK INTENTIONALLY)

ATTACHMENT 9B

RD 2035 Critical Facilities

(THIS PAGE LEFT BLANK INTENTIONALLY)



RD 2035 CRITICAL FACILITIES

(THIS PAGE LEFT BLANK INTENTIONALLY)

ATTACHMENT 9C

Encroachment Permit Conditions of Approval

(THIS PAGE LEFT BLANK INTENTIONALLY)

Revised August 2013

The Design Build Operate (DBO) contractor to be hired by the Woodland-Davis Clean Water Agency (Agency) to design and construct the Davis Woodland Water Supply Project (Project) shall obtain an encroachment permit from Yolo County (County) for all work within County rights-of-way. This work includes, but is not limited to setting up detours or traffic control, installing transmission pipelines, pipeline appurtenances, and associated roadway and roadway appurtenances replacement and repairs. No work shall begin within the road right-of-way without an approved encroachment permit issued by the County. This document lists the conditions of approval for obtaining a County encroachment permit. The DBO contractor will be responsible for meeting each of the requirements below.

This document contains the requirements for Coordination and Design that the DBO contractor is responsible for. Attached to this document is the “Benchmark Project Pipeline Alignment Trench Cross Section Index” and Figures 1 through 11. The Index references stationing as provided in the Benchmark Project, which includes the conceptual design of the pipeline. The Benchmark Project plan and profile drawings with stationing are available as a separate document. Figures 1 through 11 are cross sections of the road and pipeline at representative locations along the pipeline alignment. The Figures and Index are intended to be used in conjunction with the Benchmark Project conceptual design documents. The Benchmark Project documents are voluminous and are intentionally not included herein.

COORDINATION

1. Coordination with County will be through Mr. Panos Kokkas, 292 West Beamer Street, Woodland, CA 95695. Panos.Kokkas@yolocounty.org, (530) 666-8775.
2. Project work in the unincorporated area is not subject to County plan approval or zoning and building code permits and requirements. However, prior to the issuance of an encroachment permit, the DBO contractor shall agree to submit pipeline drawings at the following stages:
 - a. Detailed alignment drawings (approximately 30 percent).
 - b. 60 percent plan and profile drawings, including locations of pipeline appurtenances.
 - c. 90 percent plan and profile drawings, including locations and installation details of pipeline appurtenances, pipeline trench sections, road cross sections, roadside ditches, signage details and concrete road (County Road 22) repair details, if applicable.
 - d. 100 percent plan and profile drawings showing the above mentioned details.
 - e. Prior to roadway repair/restoration submit As-built Plan and Profile Drawings showing details listed above.
 - f. Submit As-built Plan and Profile Drawings at the completion of roadway repairs or restoration.

3. Submit for review and approval:
 - a. Traffic handling and detour plans.
 - b. Road closure schedules.
 - c. Anticipated construction schedule for inspector and testing coordination.
 - d. Roadway repair/surface restoration/reconstruction plans and details. See Design Requirements Conditions No. 11, 12, 13, and 14 for requirements.
 - e. Striping plans.
 - f. Compaction methods.
4. Coordinate with the Yolo County Farm Bureau regarding construction traffic and detour plans prior to submitting plans. The Farm Bureau is particularly concerned with traffic conditions during harvest and access during emergencies such as “flood fights.”
5. Road closures shall be limited as follows:
 - a. Traffic Control Plans for road closures shall be approved by the County Engineer.
 - b. Provisions for local traffic access via detour or flagging shall be made at all times.
 - c. County Road (CR) 22: Maximum of 60 continuous calendar days between April 15th and October 31st, based on Central Valley Flood Protection Board and Yolo County Farm Bureau approval. CR 22 shall only be closed once.
 - d. CR 103: Portions of the road may be closed for day time construction only. No more than 2,000 feet may be closed a one time.
 - e. CR 28H: Road may be closed for up to 14 calendar days. Provide detours for local traffic. Provide detour signs to identify access to the Yolo County Central Landfill from CR 102, CR 103, CR 27 and CR 104. Road closures shall be coordinated with the Yolo County Public Works and Yolo County Central Landfill at (530) 666-8729
 - f. CR 25: Access from CR103 to the east shall be provided at all times.

DESIGN REQUIREMENTS

1. Pipelines shall be constructed within existing road right-of-way and outside the paved area wherever possible. It is anticipated that approximately 70 percent of the raw water pipeline installed east of the Yolo Bypass east levee can be installed outside the paved area; 100 percent of the pipeline within the Yolo Bypass will be located within the north shoulder; and approximately 70 percent of the Davis finished water transmission mains can be installed at or outside the edge of pavement (EP).
2. All access manholes, control valve vaults, and all other appurtenances shall be located outside the paved area to minimize differential settlement in roadways, and to minimize future conflicts between utility box lids and paving operations.

3. The pipelines shall be placed outside the pavement wherever possible while maintaining:
 - a. Minimum 4 feet horizontal separation from parallel drainage ditches as measured from high water (lowest bank) line to nearest pipe wall unless the DBO contractor obtains California Department of Public Health exemption (for this evaluation a ditch is defined as a channel carrying surface runoff that is more than one (1) foot deep).
 - b. Minimum three (3) feet horizontal separation from fiber optic lines.
4. Minimum depth (top of pipe to finished grade) under paved area is 4 feet.
5. Minimum depth (top of pipe to finished grade) under unpaved areas is 6 feet, or 3 feet below flow line of drainage ditch within five (5) feet of pipe centerline, whichever is greater.
6. All exposed appurtenances such as air release and vacuum valves shall be located eight (8) feet from the travelled way or in line with power poles to the greatest extent possible. Above ground appurtenances shall be permanently marked with a type L-2 (CA DOT) object marker with blue reflective tape.
7. All access manholes, control valve vaults, valve boxes and all other appurtenances within the Yolo County Right-of-Way shall be H-20 traffic rated.
8. Depending on final alignment, pipelines installed in County right-of-way shall be as shown on Figures 1-11 with materials and relative compaction (RC) as shown in Tables 9C-1 through 9C-5.

Table 9C-1. Pipe Trench Parameters County Road 22

County Road 22 (Road 117 to Yolo Bypass East Levee)		
Distance between Edge of Pavement and Nearest Trench Wall	Pipe Zone ^(a,b)	Trench Zone ^(c)
6' or More (Figure 1)	Crushed Rock or Class 2 AB (90% RC) or CDF	Class 2 AB or Conditioned Native (90% RC)
1' to 6' (Figure 2)	Crushed Rock or Class 2 AB (95% RC) or CDF	Class 2 AB (95% RC)
1' Outside to 2' Inside the Edge of Pavement (Figure 3)	Crushed Rock or Class 2 AB (95% RC) or CDF	Class 2 AB (95% RC)
In Roadway (Edge of Trench 2' or more Inside Edge of Pavement) (Figure 4)	Controlled Density Fill (CDF)	Controlled Density Fill (CDF)

(a) Pipe zone backfill shall be placed in such a way that tape wrap coating is not damaged.
 (b) Compaction in pipe zone by water jetting will not be allowed.
 (c) Compaction methods for trench zone shall be approved by the Yolo County engineer. Hand tamping will not be allowed.

Table 9C-2. Pipe Trench Parameters County Road 22 within the Yolo Bypass

County Road 22 (Between the Yolo Bypass East and West Levees)		
Distance between Edge of Concrete and Nearest Trench Wall	Pipe Zone	Trench Zone
0' to 15' (Figure 5)	Controlled Density Fill	Controlled Density Fill (CDF)

Table 9C-3. Bore Pit Parameters County Road 25

County Road 25		
Distance between Edge of Pavement and Nearest Bore Pit Wall	Pipe Zone	Trench Zone
In Roadway (Figure 10)	Crushed Rock or Class 2 AB (95% RC) or CDF	Crushed Rock or Class 2 AB (95% RC) or CDF

Table 9C-4. Pipe Trench Parameters County Road 103

County Road 103 (Road 25 to Road 28H)		
Distance between Edge of Pavement and Nearest Trench Wall	Pipe Zone ^(a,b)	Trench Zone ^(c)
3' or More (Figure 6)	Crushed Rock or Class 2 AB (90% RC) or CDF	Class 2 AB or Conditioned Native (90% RC)
1' to 3' (Figure 7)	Crushed Rock or Class 2 AB (95% RC) or CDF	Class 2 AB (95% RC)
1' Outside to 2' Inside the Edge of Pavement (Figure 8)	Crushed Rock or Class 2 AB (95% RC) or CDF	Class 2 AB (95% RC)
In Roadway (Edge of Trench 2' or more Inside Edge of Pavement) (Figure 9)	Controlled Density Fill (CDF)	Class 2 AB (95% RC)

(a) Pipe zone backfill shall be placed in such a way that tape wrap coating is not damaged.
 (b) Compaction in pipe zone by water jetting will not be allowed.
 (c) Compaction methods for trench zone shall be approved by the Yolo County engineer. Hand tamping will not be allowed.

Table 9C-5. Pipe Trench Parameters County Road 28H

County Road 28H		
Distance between Edge of Pavement and Nearest Trench Wall	Pipe Zone	Trench Zone
In Roadway (Figure 11)	Controlled Density Fill	Controlled Density Fill (CDF)

9. Entry and exit pits for HDD along County Road 22 between east and west levee shall be located within County Road 22. HDD pits shall be backfilled with Class 2 aggregate base (95% RC) or controlled density fill (CDF). The DBO contractor shall submit design details and calculations for repair of concrete for Agency and County review and approval to ensure seam will not crack or separate. See above road closure information for additional requirements.
10. The DBO contractor shall video record the condition of existing County road pavement prior to construction, and again after road repairs have been completed on all existing County roads that will be impacted by pipeline construction. The County will perform road repairs prior to DBO contractor performing the video inspection so that there is a consistent standard to which the road shall be returned. The DBO shall provide written notice to the County 30 days prior to video recording. County and Agency engineers shall determine the extent of damaged roadways and areas after construction. The DBO shall restore the roadway to the preconstruction condition.
11. For the purposes of this Yolo County Encroachment Permit, “Road Repairs” shall apply when there are potholes or other limited areas of damage that require repair in order to meet the preconstruction conditions. Road repairs shall include sawcutting straight (parallel and perpendicular to the traveled way) lines a minimum of one foot beyond the damaged area (4 foot by 4 foot minimum area), excavating, backfilling, and compacting the aggregate base to 95% RC and to the depth shown in Table 9C-6, and installing asphalt concrete mix to the depth shown in Table 9C-6.
12. For the purposes of this Yolo County Encroachment Permit, “Road Grind and Replace” shall apply when the damage to the existing road would result in repaired area in excess of 30% of the area for any given 200 linear foot reach of roadway, or where called for in Figures 1 through 11. The 200 linear foot reach may be calculated for each half of the roadway. (*i.e.*, if the damage is just in one lane, the Grind and Replace shall only be implemented from centerline to the EP (full lane width) of the affected side.) Road Grind and Replace shall include sawcutting at the centerline of the road, grinding the top 3-inches of existing asphalt from centerline to EP, and installing 3-inches of new asphalt concrete. If the existing asphalt is less than or equal to 3-inches thick, the existing aggregate base shall be re-compacted to 95% RC prior to asphalt installation. Sufficient quantity of aggregate base shall be removed to install the 3-inches of new asphalt. The new asphalt pavement shall match the existing grades and elevations.

13. The pipeline side of County Road 103 shall automatically receive the “Road Grind and Replace” treatment for the full lane width (centerline to EP) for the full length for which the pipeline is parallel to the road. The full lane “Grind and Replace” shall be implemented regardless of the distance of the pipeline from the road. The non-pipeline side shall be restored to preconstruction conditions by either “Repair” or “Grind and Replace” based on the extent of actual damage as determined by County and Agency engineers and as described above.
14. Structural section for road repairs or reconstruction shall conform to Table 9C-6 below and Figures 1 through 11. In case of conflict between Table 9C-6 and the Figures 1 through 11, Table 9C-6 shall govern.

Table 9C-6. Roadway Structural Sections

Location	Design Resistance Value	Design Traffic Index	Class 2 Aggregate Base, inches	Asphalt Concrete (Road Repair) inches	Asphalt Concrete ^(a) (Grind & Replace) inches
Road 22, East of Yolo Bypass	11	10	19	6	3
Road 22, Within Yolo Bypass ^(b)	Not Available	Not Available	13	Not Applicable	Not Applicable
Road 103	5	6	12	5	3
Road 25	6	10	21	7	3
Road 28H	Not Available	10	12	4	3

^(a) Grind and replace asphalt concrete shall include two (2) lifts for a total thickness as shown above.
^(b) Road 22 within the Yolo Bypass is a reinforced concrete road. The road shall be reconstructed with reinforced concrete to match the existing conditions. Rebar size and spacing for reinforced concrete shall match existing. See Figure 5.

15. All construction related road repairs shall be neatly saw-cut prior to repair.
16. Comply with Yolo County Standard Detail 4-17 for Trench Sections in Improved Areas. If Detail 4-17 conflicts with the details and requirements herein, the details and requirements herein shall govern.

OTHER PERMIT REQUIREMENTS

1. Applicable County Governmental Approvals and Other Information Required:
 - a. Encroachment Permit for all work in County roads.
 - b. Flood Hazard Development Permit. The Agency will pay the Yolo County Flood Hazard Development Permit fee. The DBO contractor shall be responsible for other flood permits required by other permitting agencies.
 - c. Yolo County Well Permits in County jurisdiction for any new wells related to the work.

- d. SWPPP and NOI for construction in County jurisdiction, as required by the State RWQCB. The General Permit and NOI to be obtained and maintained by the DBO contractor. The DBO contractor shall contact the Yolo County Building Department to discuss the costs for the SWPPP. The DBO contractor is responsible for all SWPPP costs.
- e. All applicable Project-related County design review and inspection fees will be paid by the Agency.
- f. The County will inspect items related to pipe trench excavation and backfilling, traffic control, and road restoration including pavement, concrete road bed, shoulders, signage and striping.
- g. The County will perform compaction testing on all trenches and pavement within the County right-of-way. The DBO contractor will reimburse the County for initial testing costs and any costs associated with retesting.

Attachments:

Benchmark Project Pipeline Alignment Trench Cross Section Index

Figure 1. Pipeline/Road Cross Section – County Road 22 (east of Yolo Bypass, pipe trench away from road shoulder)

Figure 2. Pipeline/Road Cross Section – County Road 22 (east of Yolo Bypass, pipe trench near or in road shoulder)

Figure 3. Pipeline/Road Cross Section – County Road 22 (east of Yolo Bypass, pipe trench in road shoulder or at road edge of roadway)

Figure 4. Pipeline/Road Cross Section – County Road 22 (east of Yolo Bypass, pipe trench in roadway)

Figure 5. Pipeline/Road Cross Section – County Road 22 (in Yolo Bypass, pipe trench in north shoulder)

Figure 6. Pipeline/Road Cross Section – County Road 103 (pipe trench away from shoulder)

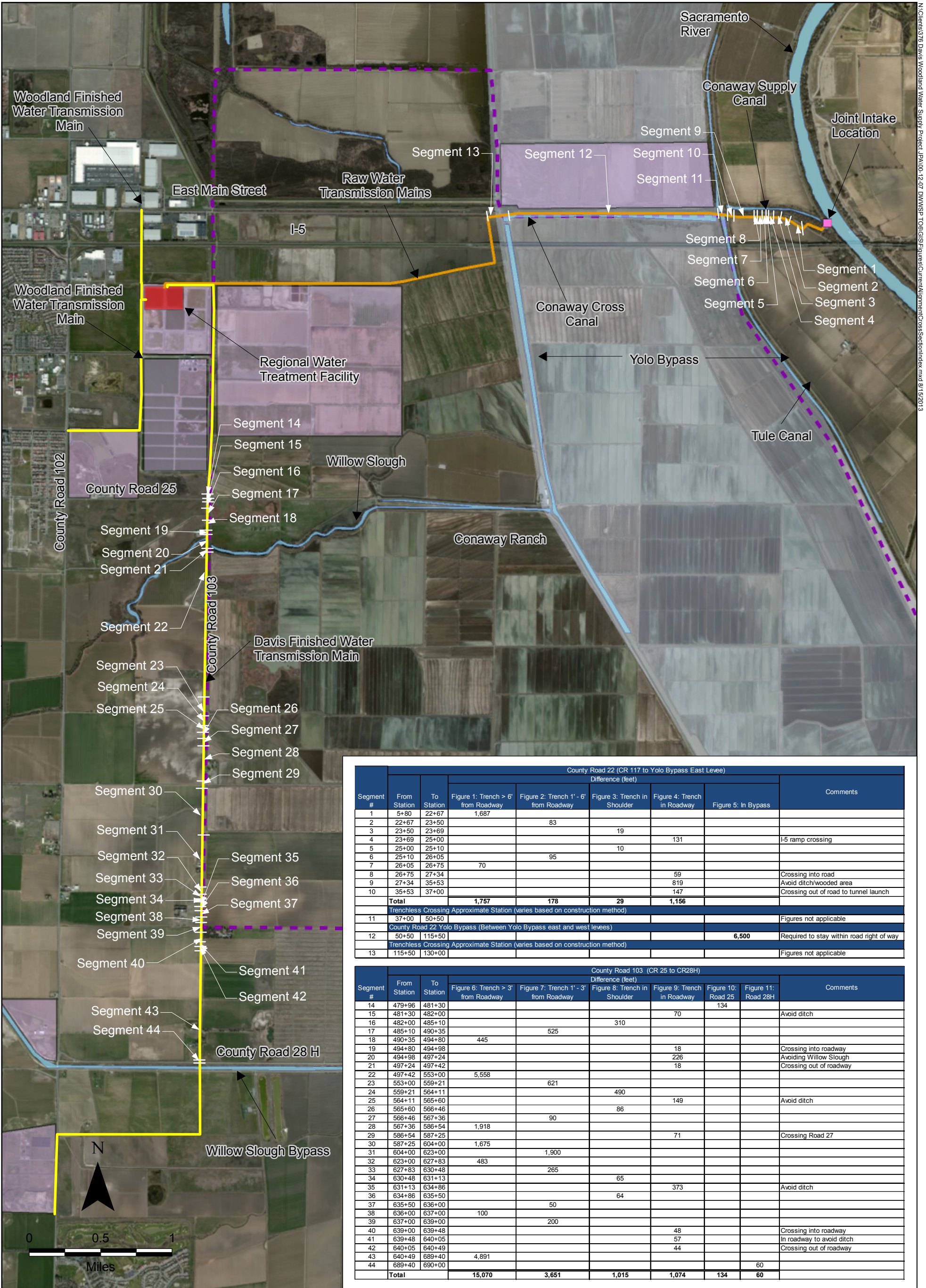
Figure 7. Pipeline/Road Cross Section – County Road 103 (pipe trench in shoulder)

Figure 8. Pipeline/Road Cross Section – County Road 103 (pipe trench at roadway edge)

Figure 9. Pipeline/Road Cross Section – County Road 103 (pipe trench in roadway)

Figure 10. Pipeline/Road Cross Section – County Road 25 (Bore and Jack)

Figure 11. Pipeline/Road Cross Section – County Road 103/28H (pipe trench in roadway)



County Road 22 (CR 117 to Yolo Bypass East Levee)								
Segment #	From Station	To Station	Difference (feet)					Comments
			Figure 1: Trench > 6' from Roadway	Figure 2: Trench 1' - 6' from Roadway	Figure 3: Trench in Shoulder	Figure 4: Trench in Roadway	Figure 5: In Bypass	
1	5+80	22+67	1,687					
2	22+67	23+50		83				
3	23+50	23+69			19			
4	23+69	25+00				131		I-5 ramp crossing
5	25+00	25+10			10			
6	25+10	26+05		95				
7	26+05	26+75	70					
8	26+75	27+34				59		Crossing into road
9	27+34	35+53				819		Avoid ditch/wooded area
10	35+53	37+00				147		Crossing out of road to tunnel launch
Total			1,757	178	29	1,156		
Trenchless Crossing Approximate Station (varies based on construction method)								
11	37+00	50+50						Figures not applicable
County Road 22 Yolo Bypass (Between Yolo Bypass east and west levees)								
12	50+50	115+50				6,500		Required to stay within road right of way
Trenchless Crossing Approximate Station (varies based on construction method)								
13	115+50	130+00						Figures not applicable

County Road 103 (CR 25 to CR28H)								
Segment #	From Station	To Station	Difference (feet)					Comments
			Figure 6: Trench > 3' from Roadway	Figure 7: Trench 1' - 3' from Roadway	Figure 8: Trench in Shoulder	Figure 9: Trench in Roadway	Figure 10: Road 25	
14	479+96	481+30						
15	481+30	482+00				70	134	Avoid ditch
16	482+00	485+10			310			
17	485+10	490+35		525				
18	490+35	494+80	445					
19	494+80	494+98				18		Crossing into roadway
20	494+98	497+24				226		Avoiding Willow Slough
21	497+24	497+42				18		Crossing out of roadway
22	497+42	553+00	5,558					
23	553+00	559+21		621				
24	559+21	564+11			490			
25	564+11	565+60				149		Avoid ditch
26	565+60	566+46			86			
27	566+46	567+36		90				
28	567+36	586+54	1,918					
29	586+54	587+25				71		Crossing Road 27
30	587+25	604+00	1,675					
31	604+00	623+00		1,900				
32	623+00	627+83	483					
33	627+83	630+48		265				
34	630+48	631+13			65			
35	631+13	634+86				373		Avoid ditch
36	634+86	635+50			64			
37	635+50	636+00		50				
38	636+00	637+00	100					
39	637+00	639+00		200				
40	639+00	639+48				48		Crossing into roadway
41	639+48	640+05				57		In roadway to avoid ditch
42	640+05	640+49				44		Crossing out of roadway
43	640+49	689+40	4,891					
44	689+40	690+00					60	
Total			15,070	3,651	1,015	1,074	134	60

LEGEND

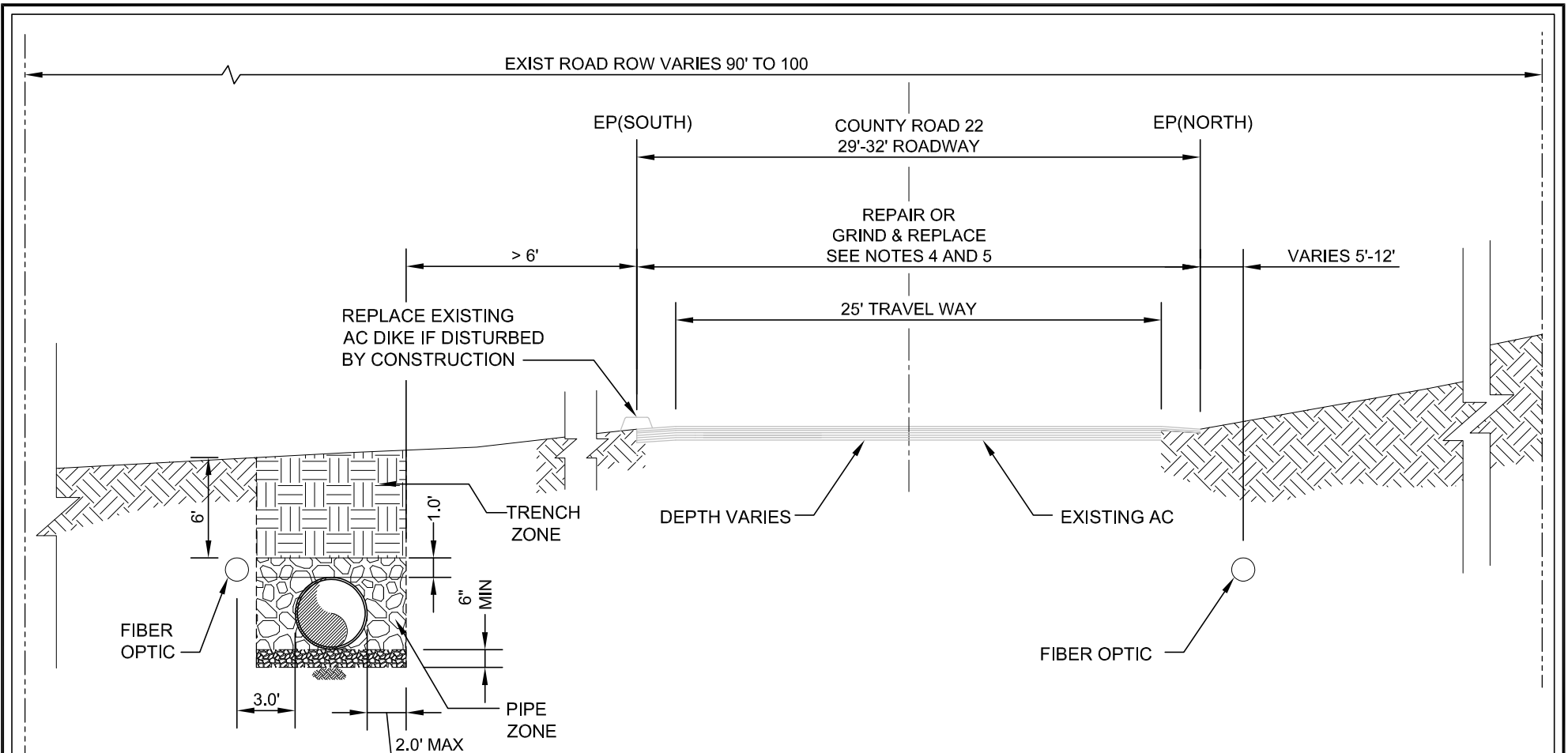
- Raw Water Transmission Mains
- Finished Water Transmission Mains
- Proposed Intake Site
- Regional Water Treatment Facility
- City Owned Parcels
- Conway Ranch Boundary
- Yolo Bypass



**Woodland-Davis Clean Water Agency
Davis Woodland Water Supply Project
BENCHMARK PROJECT
PIPELINE ALIGNMENT
PIPE TRENCH
CROSS SECTION INDEX**

N:\01\11\13\1376 Davis Woodland Water Supply Project JPA00-12-07 DWWSA-100\GIS\Figures\CrossSection\CrossSectionIndex.mxd 8/15/2013

(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:

1. SEE TABLE 1 FOR PIPE TRENCH PARAMETERS.
2. SEE TABLE 6 FOR ROADWAY STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
3. ROAD AND SHOULDERS SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
4. POTHOLES AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 19" BASE AND 6" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.

6. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

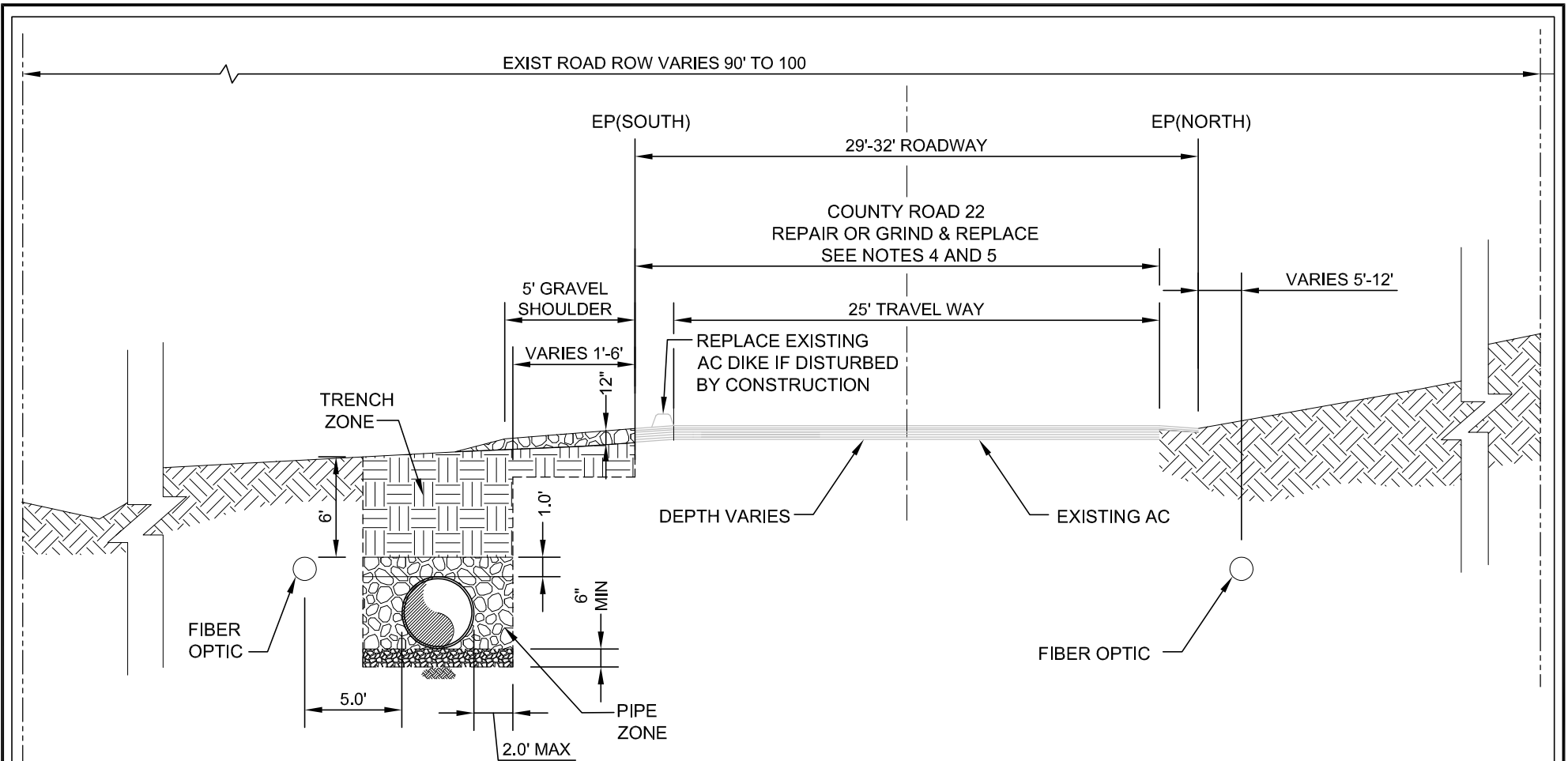
NOT TO SCALE

Figure 1

**Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 22
(CR 117 TO YOLO BYPASS EAST LEVEE)**



(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:

1. SEE TABLE 1 FOR PIPE TRENCH PARAMETERS.
2. SEE TABLE 6 FOR STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
3. ROAD AND SHOULDER SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
4. POTHOLES AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 19" BASE AND 6" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.

6. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

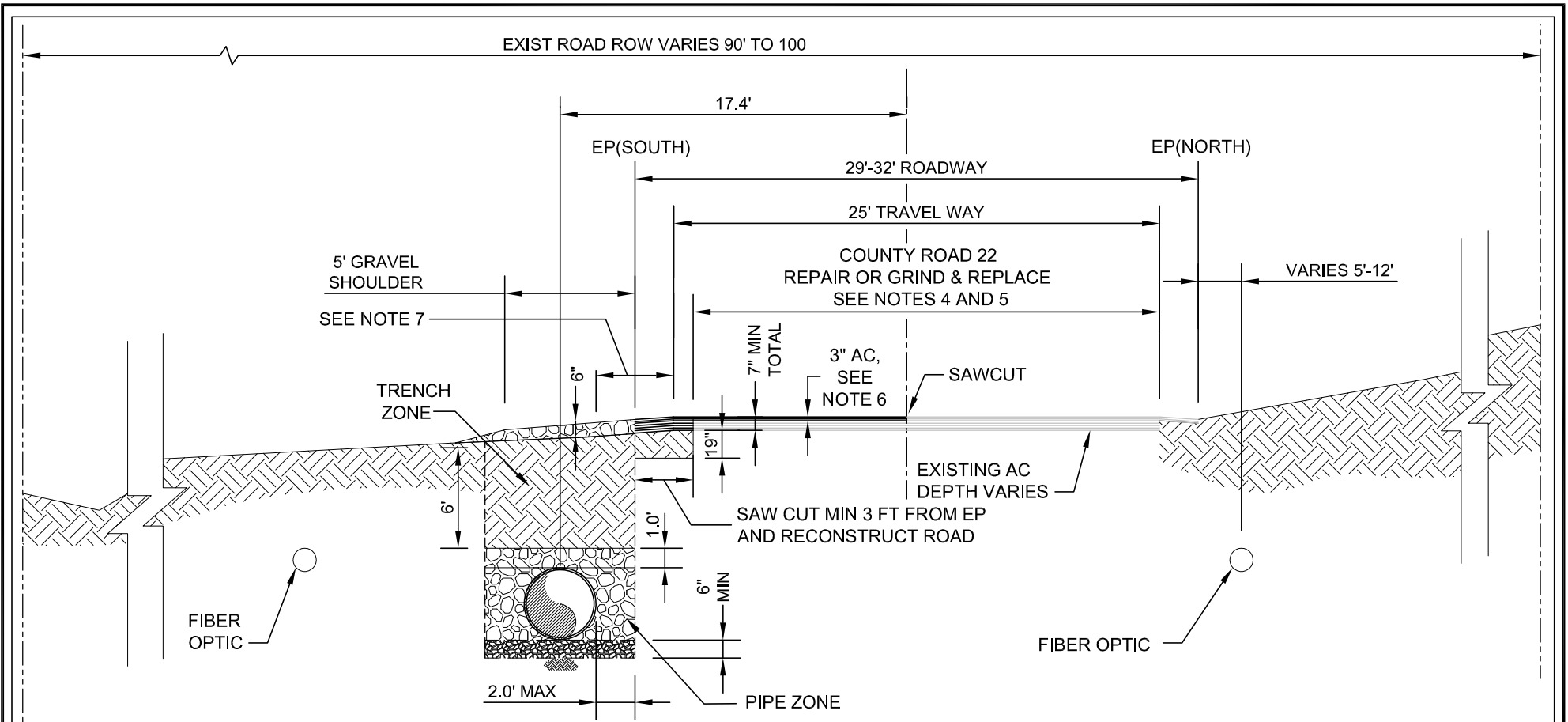
NOT TO SCALE

Figure 2

Davis Woodland Water Supply Project
 PIPELINE/ROAD CROSS SECTION
 COUNTY ROAD 22
 (CR 117 TO YOLO BYPASS EAST LEVEE)



(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:

1. SEE TABLE 1 FOR PIPE TRENCH PARAMETERS.
2. SEE TABLE 6 FOR STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
3. ROAD AND SHOULDER SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
4. POTHOLES SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 19" BASE AND 6" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PRIOR TO OVERLAY. CONFORM TO "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
6. GRIND EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK RECOMPACT BASE TO 95% RC. PROVIDE 3" A.C. AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.
7. THIS DETAIL IS APPLICABLE WHERE EDGE OF TRENCH IS LESS THAN 1 FOOT OUTSIDE EDGE OF PAVEMENT TO LESS THAN 2 FEET INSIDE EDGE OF PAVEMENT.
8. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

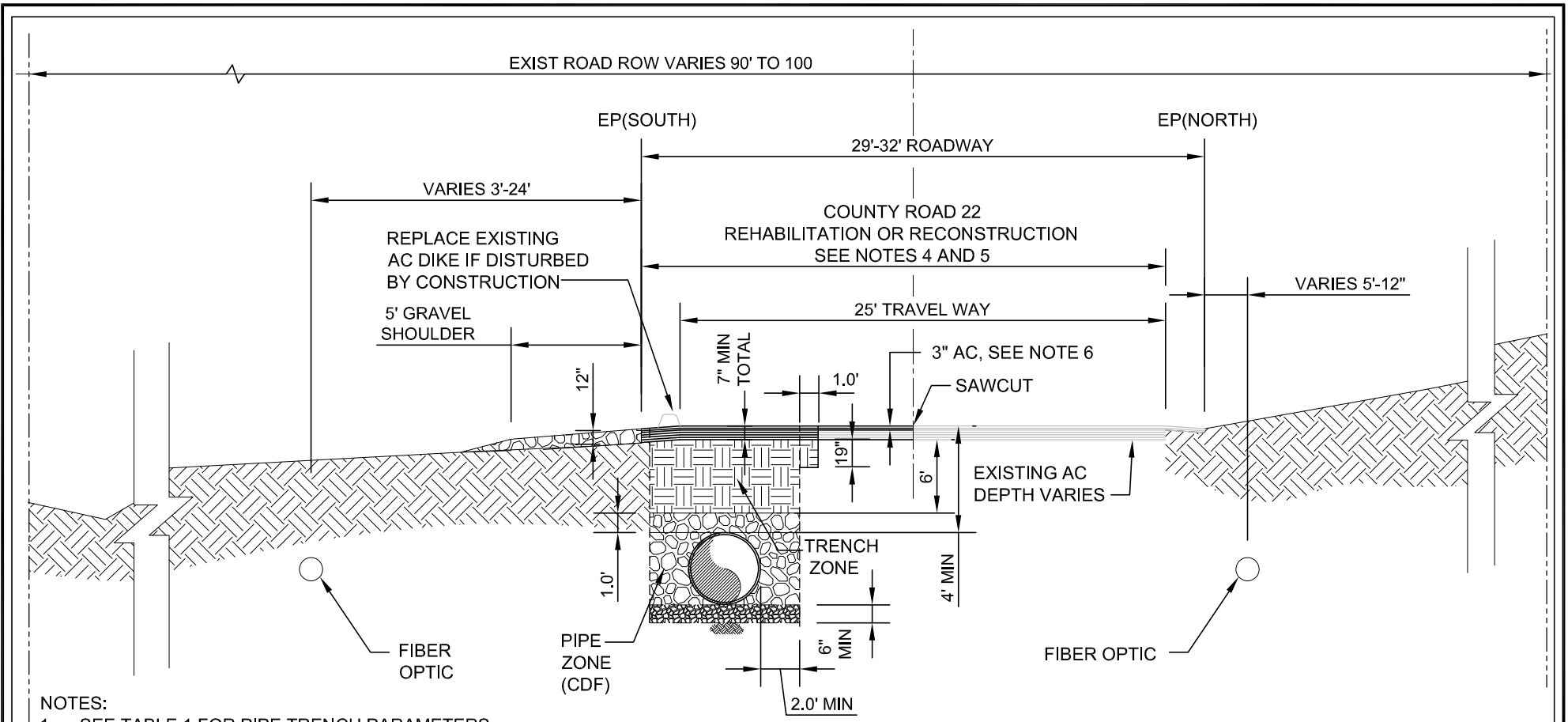
NOT TO SCALE

Figure 3

Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 22
(CR 117 TO YOLO BYPASS EAST LEVEE)



(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:


1. SEE TABLE 1 FOR PIPE TRENCH PARAMETERS.
2. SEE TABLE 6 FOR ROADWAY STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
3. ROAD AND SHOULDER SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
4. POTHOLES SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 19" BASE AND 6" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
6. GRIND EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK RECOMPACT BASE TO 95% RC. PROVIDE 3" A.C. AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.

7. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

NOT TO SCALE

Figure 4

**Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 22
(CR 117 TO YOLO BYPASS EAST LEVEE)**

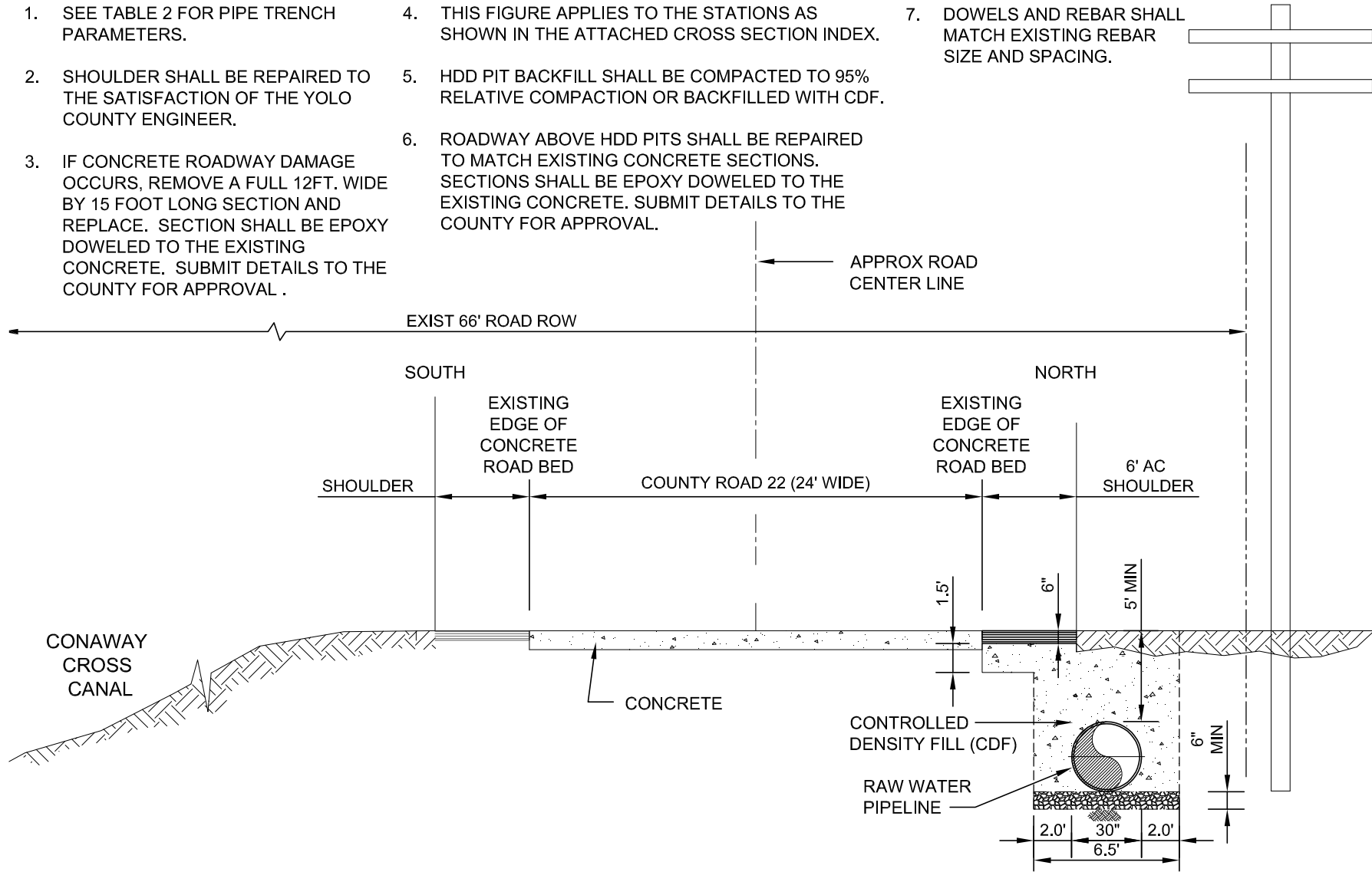


WEST YOST
ASSOCIATES
Consulting Engineers

(THIS PAGE LEFT BLANK INTENTIONALLY)

NOTES:

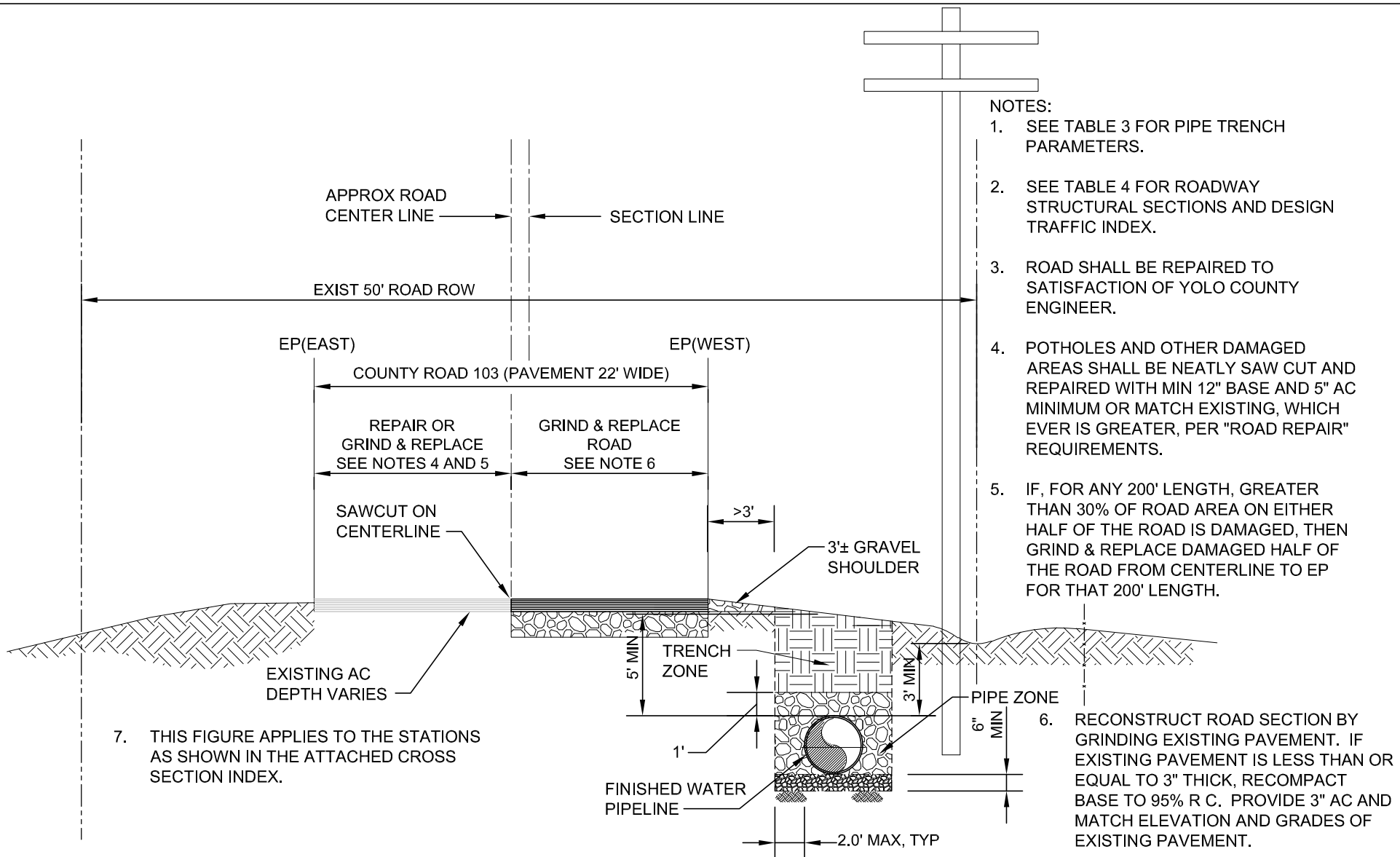
1. SEE TABLE 2 FOR PIPE TRENCH PARAMETERS.
2. SHOULDER SHALL BE REPAIRED TO THE SATISFACTION OF THE YOLO COUNTY ENGINEER.
3. IF CONCRETE ROADWAY DAMAGE OCCURS, REMOVE A FULL 12FT. WIDE BY 15 FOOT LONG SECTION AND REPLACE. SECTION SHALL BE EPOXY DOWELED TO THE EXISTING CONCRETE. SUBMIT DETAILS TO THE COUNTY FOR APPROVAL .
4. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.
5. HDD PIT BACKFILL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION OR BACKFILLED WITH CDF.
6. ROADWAY ABOVE HDD PITS SHALL BE REPAIRED TO MATCH EXISTING CONCRETE SECTIONS. SECTIONS SHALL BE EPOXY DOWELED TO THE EXISTING CONCRETE. SUBMIT DETAILS TO THE COUNTY FOR APPROVAL.
7. DOWELS AND REBAR SHALL MATCH EXISTING REBAR SIZE AND SPACING.



NOT TO SCALE

Figure 5
Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 22
(BETWEEN YOLO BYPASS
EAST AND WEST LEVEES)

(THIS PAGE LEFT BLANK INTENTIONALLY)



- NOTES:
1. SEE TABLE 3 FOR PIPE TRENCH PARAMETERS.
 2. SEE TABLE 4 FOR ROADWAY STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
 3. ROAD SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
 4. POTHoles AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 12" BASE AND 5" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
 5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
 6. RECONSTRUCT ROAD SECTION BY GRINDING EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK, RECOMPACT BASE TO 95% R.C. PROVIDE 3" AC AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.

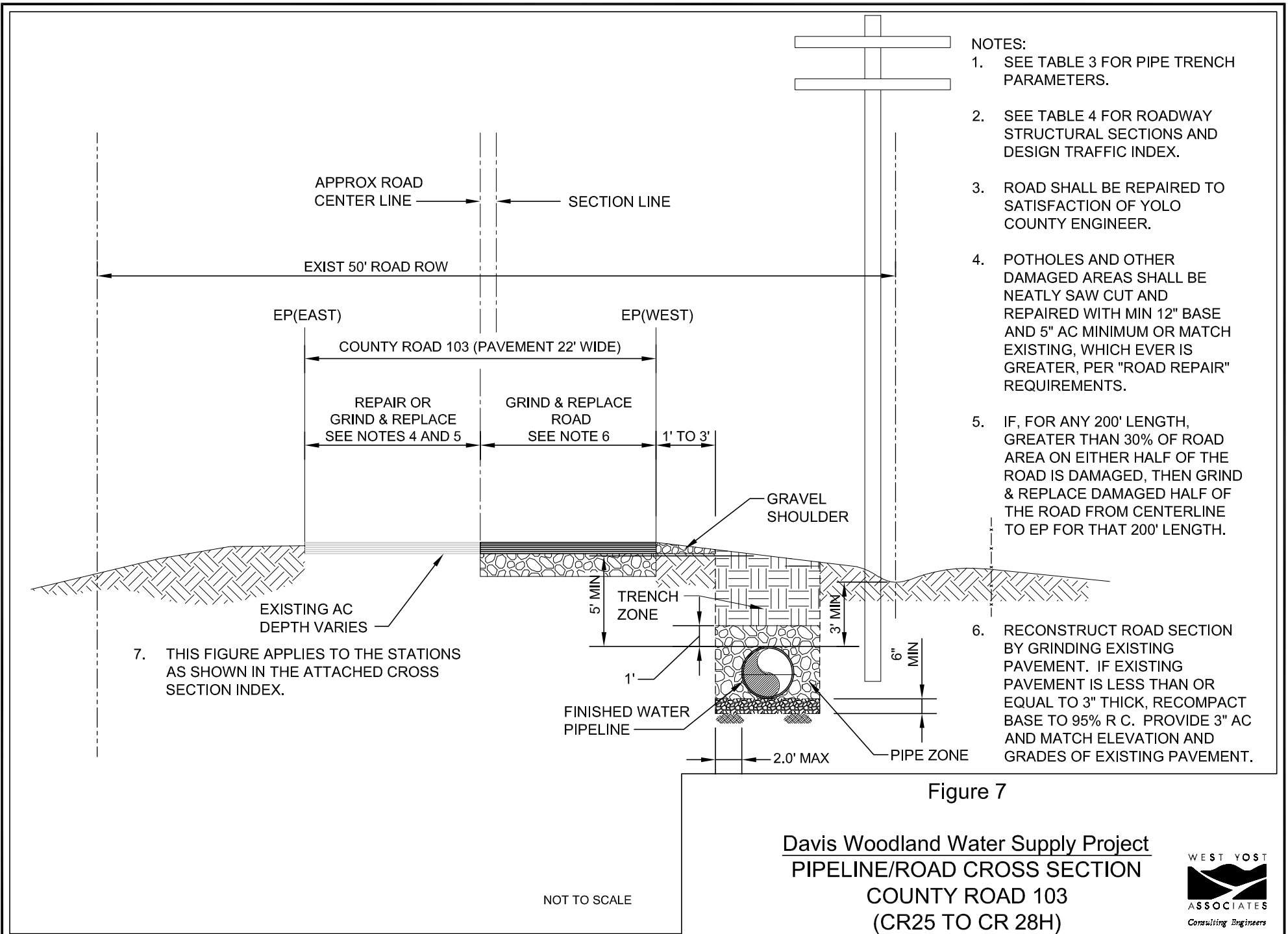
7. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

NOT TO SCALE

Figure 6
Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 103
(CR 25 TO CR 28H)



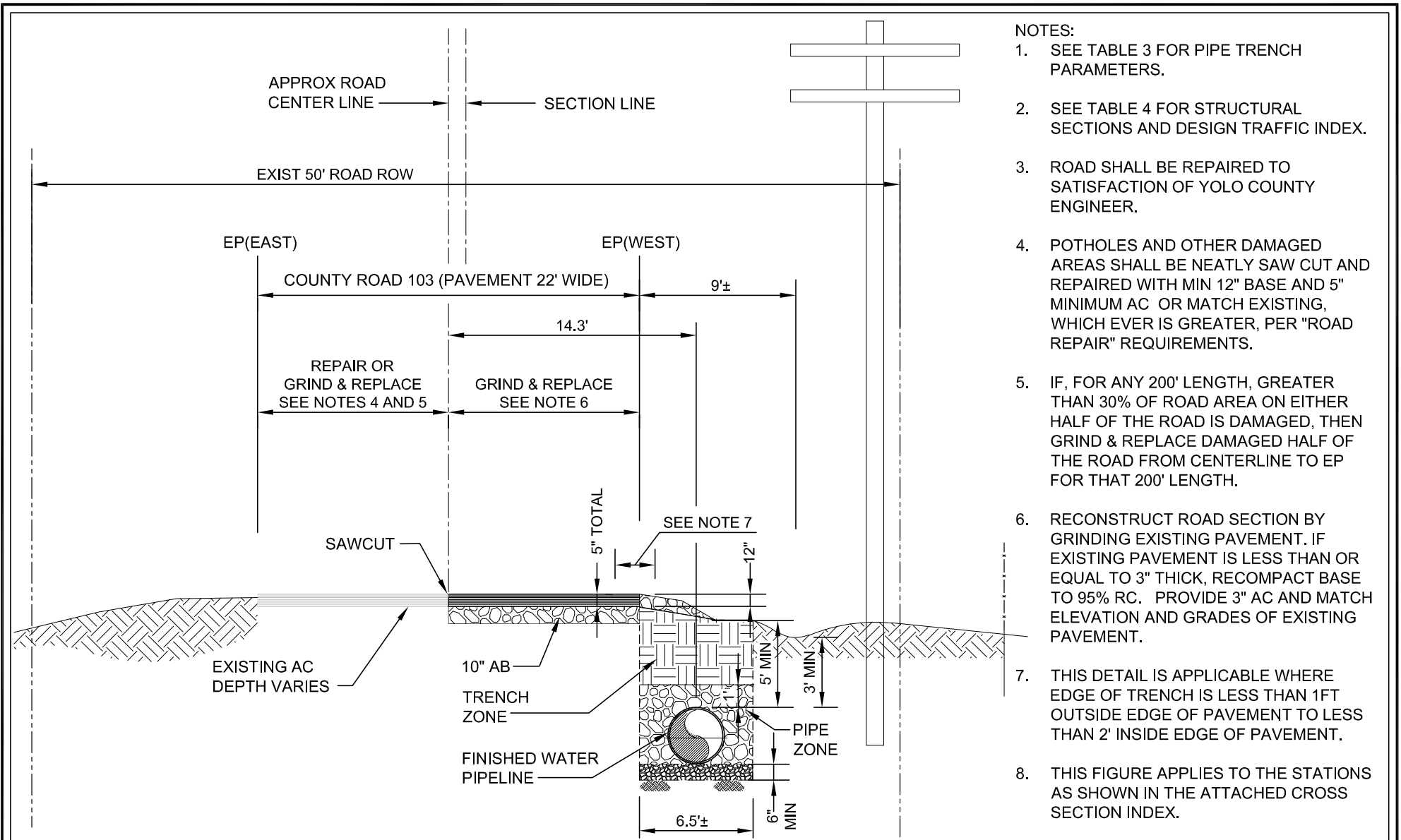
(THIS PAGE LEFT BLANK INTENTIONALLY)



- NOTES:
1. SEE TABLE 3 FOR PIPE TRENCH PARAMETERS.
 2. SEE TABLE 4 FOR ROADWAY STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
 3. ROAD SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
 4. POTHoles AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 12" BASE AND 5" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
 5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
 6. RECONSTRUCT ROAD SECTION BY GRINDING EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK, RECOMPACT BASE TO 95% R C. PROVIDE 3" AC AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.

7. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

(THIS PAGE LEFT BLANK INTENTIONALLY)



- NOTES:**
1. SEE TABLE 3 FOR PIPE TRENCH PARAMETERS.
 2. SEE TABLE 4 FOR STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
 3. ROAD SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
 4. POTHOLES AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 12" BASE AND 5" MINIMUM AC OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
 5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
 6. RECONSTRUCT ROAD SECTION BY GRINDING EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK, RECOMPACT BASE TO 95% RC. PROVIDE 3" AC AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.
 7. THIS DETAIL IS APPLICABLE WHERE EDGE OF TRENCH IS LESS THAN 1FT OUTSIDE EDGE OF PAVEMENT TO LESS THAN 2' INSIDE EDGE OF PAVEMENT.
 8. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

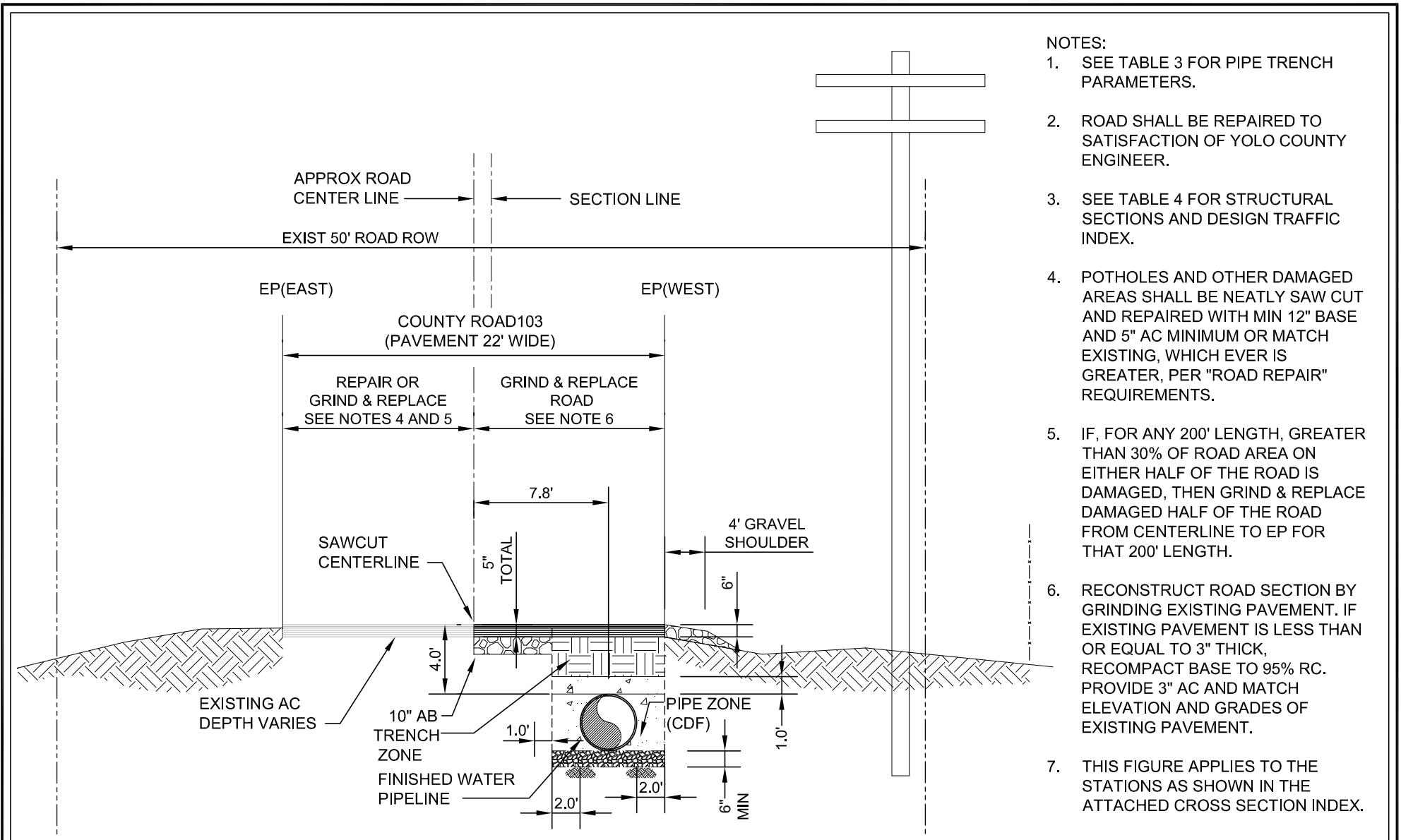
Figure 8

Davis Woodland Water Supply Project
 PIPELINE/ROAD CROSS SECTION
 COUNTY ROAD 103
 (CR 25 TO CR 28H)

NOT TO SCALE



(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:

1. SEE TABLE 3 FOR PIPE TRENCH PARAMETERS.
2. ROAD SHALL BE REPAIRED TO SATISFACTION OF YOLO COUNTY ENGINEER.
3. SEE TABLE 4 FOR STRUCTURAL SECTIONS AND DESIGN TRAFFIC INDEX.
4. POTHOLES AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 12" BASE AND 5" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR ANY 200' LENGTH, GREATER THAN 30% OF ROAD AREA ON EITHER HALF OF THE ROAD IS DAMAGED, THEN GRIND & REPLACE DAMAGED HALF OF THE ROAD FROM CENTERLINE TO EP FOR THAT 200' LENGTH.
6. RECONSTRUCT ROAD SECTION BY GRINDING EXISTING PAVEMENT. IF EXISTING PAVEMENT IS LESS THAN OR EQUAL TO 3" THICK, RECOMPACT BASE TO 95% RC. PROVIDE 3" AC AND MATCH ELEVATION AND GRADES OF EXISTING PAVEMENT.
7. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

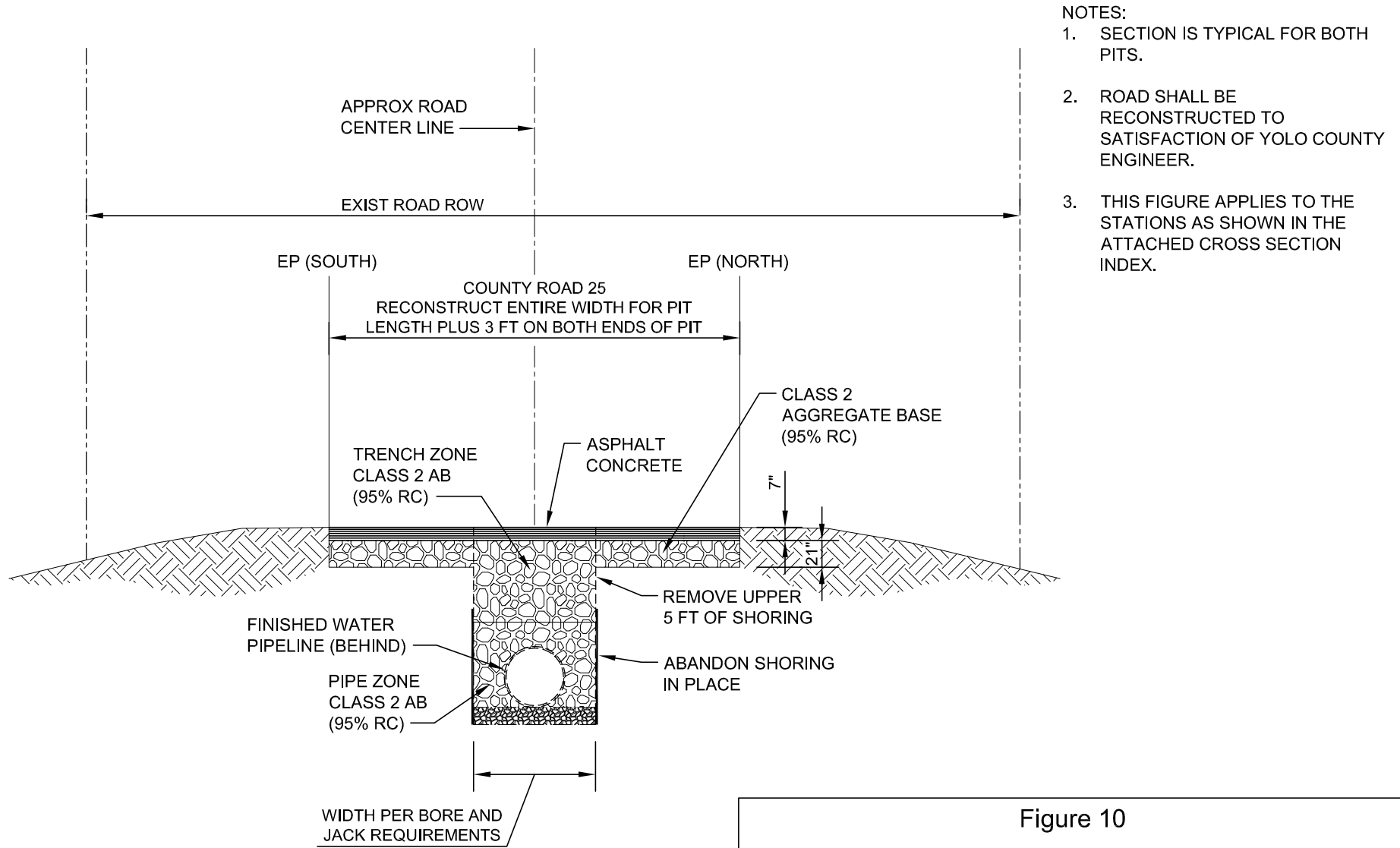
Figure 9

**Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 103
(CR 25 TO CR 28H)**

NOT TO SCALE



(THIS PAGE LEFT BLANK INTENTIONALLY)



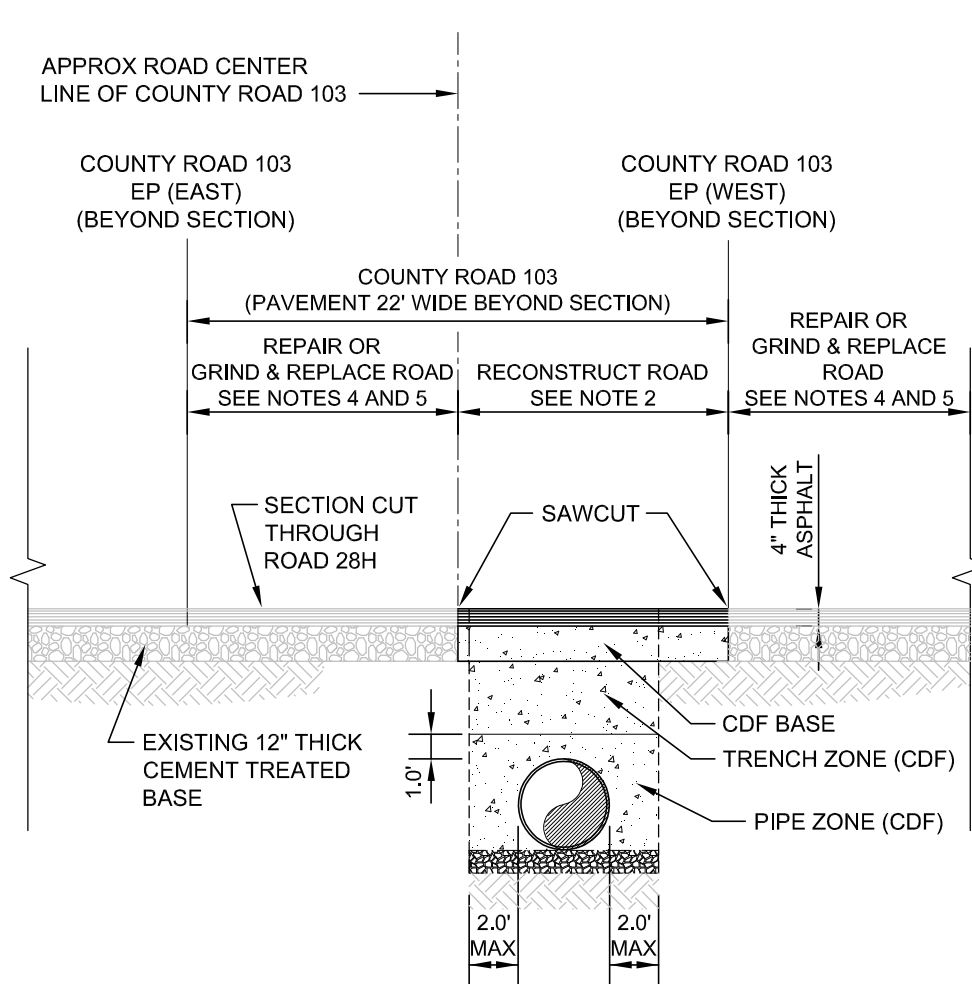
NOTES:

1. SECTION IS TYPICAL FOR BOTH PITS.
2. ROAD SHALL BE RECONSTRUCTED TO SATISFACTION OF YOLO COUNTY ENGINEER.
3. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

Figure 10

Davis Woodland Water Supply Project
PIPELINE/ROAD CROSS SECTION
COUNTY ROAD 25
(BORE AND JACK PITS)

(THIS PAGE LEFT BLANK INTENTIONALLY)



NOTES:

1. SEE TABLE 3 FOR PIPE TRENCH PARAMETERS.
2. MATCH EXISTING AC THICKNESS. PROVIDE CDF AS BASE MATERIAL.
3. ROAD SHALL BE REPAIRED TO THE SATISFACTION OF THE YOLO COUNTY ENGINEER.
4. POTHOLES AND OTHER DAMAGED AREAS SHALL BE NEATLY SAW CUT AND REPAIRED WITH MIN 10" BASE AND 5" AC MINIMUM OR MATCH EXISTING, WHICH EVER IS GREATER, PER "ROAD REPAIR" REQUIREMENTS.
5. IF, FOR THE WIDTH OF COUNTY ROAD 28H, GREATER THAN 30% OF ROAD AREA IS DAMAGED, THEN GRIND & REPLACE TO INCLUDE ALL DAMAGED AREAS FOR THE WIDTH OF COUNTY ROAD 28H.
6. THIS FIGURE APPLIES TO THE STATIONS AS SHOWN IN THE ATTACHED CROSS SECTION INDEX.

Figure 11

Davis Woodland Water Supply Project
 PIPELINE/ROAD CROSS SECTION
 COUNTY ROAD 28H
 (PIPE TRENCH IN ROADWAY)

NOT TO SCALE

(THIS PAGE LEFT BLANK INTENTIONALLY)



**AGENDA
BOARD OF DIRECTORS
REGULAR MEETING
Davis City Council Chambers
23 Russell Boulevard
Davis, CA 95616**

Thursday

June 19, 2014

3:00 P.M.

**Chair: Joe Krovoza, Vice Chair: Bill Marble
Directors: Marlin "Skip" Davies, Brett Lee**

ROLL CALL

APPROVAL OF AGENDA

PUBLIC COMMENT: Opportunity for public comment on non-agenda items. This time is reserved for members of the public to address the Board on any item of interest not appearing on the agenda that is within the subject matter jurisdiction of the Agency. The Board may not act on non-agenda items, except as authorized by Government Code section 54954.2.

Members of the public may address the Board of Directors concerning any item described below during the Board's consideration of that item. The Chair will invite public comment following Board discussion and deliberation of the item and, if applicable, before Board action.

PRESENTATION:

Presentation to Doug Baxter, former City of Woodland Public Works Project Manager/Engineer

AGENCY BUSINESS:

1. Consent Items:
 - a. Approval of May 15, 2014 regular meeting minutes
 - b. Contractor Change Order Summary
 - c. Energy Efficiency Update
 - d. Project Financing Update
 - e. FY2013-14 Third Quarter Treasurer's Report
 - f. Adoption of Resolution supporting North State Water Alliance water reliability principles
2. Consider approving the budget for Fiscal Year 2014-2015
3. Consider approval of Task Orders to Agency consulting services agreements as follows:
 - a. Task Order #8 under West Yost Associates, Inc. Agreement for FY2014-2015 project engineering and management work and services.
 - b. Task Order #4 under Agency Consultant Services Agreement with Kim Floyd Communications, Inc. for FY2014-2015.

4. Consider approval of amended agreement with Diemer Engineering, Inc. for General Manager and administration services.
5. Consider approval of resolution approving CEQA Addendum No. 7 to Project Final EIR, concerning changes of construction hours for contractors and Davis treated water pipeline alignment, and making related findings.
6. Consider election of Board Chair and Vice-Chair for fiscal year beginning July 1, 2014
7. Long Range Board Calendar
8. Correspondence
 - a. Letter to John Laird, Natural Resources Agency from Pablo Arroyave, Bureau of Reclamation, dated May 14, 2014
 - b. Letter from to WDCWA from California Department of Public Health approving the State Drinking Water SRF Loan documents, dated June 4, 2014.
9. Technical Advisory Committee comments
10. Board Member Comments
11. Adjournment

In compliance with the Americans with Disabilities Act, if you are a disabled person and need a disability-related modification or accommodation to participate in this meeting, please contact Lynanne Mehlhaff at 530-757-5673. Requests must be made as early as possible and at least one-full business day before the start of the meeting.

Documents and materials relating to an open session agenda item that are provided to the Board of Directors less than 72 hours prior to a regular meeting will be available for public inspection and copying at the Woodland-Davis Clean Water Agency office, Davis Public Works, 1717 Fifth Street, Davis, CA 95616; contact Lynanne Mehlhaff, Board Secretary, 530-757-5673 or Lmehlhaff@WDCWA.com.



Lynanne Mehlhaff, Secretary

Dated: *June 13, 2014*



Board of Directors

Minutes of the May 15, 2014 Regular Board Meeting

The Board of Directors of the Woodland-Davis Clean Water Agency (WDCWA) met in a regular meeting on Thursday, May 15, 2014 beginning at 3:00 p.m. in the Woodland City Hall Chambers, 300 First Street, Woodland, California.

Call to Order and roll call

The meeting was called to order by Chair Joe Krovoza at 3:04 p.m. Director Skip Davies and Director Brett Lee were present. Vice-Chair William Marble was absent. Sid England, a participating non-voting agency representative from U.C. Davis and Don Saylor, a participating non-voting agency representative from Yolo County were absent.

Approval of Meeting Agenda

Director Lee moved approval of the Agenda and Director Davies seconded the motion. The Agenda was approved unanimously 3 to 0.

Public Comment

There were no public comments.

1. Closed Session: Closed session conference with real property negotiators concerning price and terms of payment relating to: Real property – pipeline easement across property at 42305 County Road 29, Davis, CA (Yolo Co. APN 042-120-010); Agency Negotiators – General Counsel Richard Shanahan and Yoli Matranga (with Bender Rosenthal); and, Other Negotiating Parties – Mary Jane Lillard Trust.

The closed session began at 3:06 p.m. and ended at 3:29 p.m.
Chair Krovoza announced that there was no reportable action from the closed session.

2. Consent Items

- a. Approval of April 17, 2014 regular meeting minutes
- b. Contractor Change Order Summary

Chair Krovoza moved approval of the consent items and Director Lee seconded the motion. The motion carried 3 to 0.

3. Consider adoption of resolution approving State Revolving Fund Funding Agreement with the California Department of Public Health and related Agreement for the Assumption of Obligations under Funding Agreement, and authorizing related actions.

Richard Shanahan, General Counsel, explained that the City of Woodland applied to the California Department of Public Health (CDPH) for a loan under the Safe Drinking Water State Revolving Fund (SRF) to fund the City of Woodland share of the capital costs of the Davis-Woodland Water Supply Project. The loan application was split into two applications, one by

Woodland for its local water system improvement costs (\$31,503,088.00) and one by the Agency for the Woodland share of the regional water supply project costs (\$111,358,449.00). CDPH and the Agency have negotiated and prepared a proposed Funding Agreement between CDPH and the Agency which is attached to the staff report. The Funding agreement provides for an \$111,358,449 loan, 20-year repayment period, and a 1.7875 percent per year fixed interest rate. Semiannual interest payments would commence during construction and principal and interest payments would commence after completion of Project construction. Under the Funding Agreement, the Agency dedicates revenue received by the Agency from the City of Woodland pursuant to Woodland's obligations under the Amended and Restated Woodland-Davis Clean Water Agency Joint Powers Agreement as the source of revenue to repay the loan and it pledges the Woodland payment revenue as collateral for the loan. Because of the Agency's role as a water wholesaler, it is not in a position to directly pledge water system rates and charges revenue toward loan repayment. Instead, the security for the Agency loan commitment is Woodland's obligation under the Joint Powers Agreement, and Woodland's obligation in turn is secured by its rates and charges revenue. Consequently, in connection with the Funding Agreement, CDPH, Agency and City of Woodland also negotiated and prepared the proposed Agreement for the Assumption of Obligations under Funding Agreement (the "Assumption Agreement"), which is attached to the staff report. CDPH requires that Agency Board action to approve the Funding Agreement and Assumption Agreement be memorialized by a Board resolution. Agency staff therefore has prepared the attached resolution to the staff report and recommends approval.

Paul Navazio, City of Woodland City Manager, said that the Woodland City Council this past Tuesday night approved and authorized for the JPA to approve these two agreements.

Chair Krovoza asked for any public comment and there was none.

Director Davies said the Woodland City Council expressed their appreciation and excitement over obtaining this loan and moved adoption of the resolution approving the State Fund Funding Agreement with the California Department of Public Health and related Agreement for the Assumption of Obligations under Funding Agreement, and authorized related actions.

Director Lee seconded the motion.

Chair Krovoza said this was an historic and unexpected achievement when looking back to what was thought we may be able to achieve on funding this project.

Director Lee said the interest rate is much lower than private bond rates so this will make a big difference in the water rates that the ratepayers of the City of Woodland will pay.

Mr. Navazio said that the savings in debt service on a 20 year amortization is savings in excess of \$100 million over the life of the project with this loan.

After some discussion, the Board voted unanimously 3 to 0 in favor of the motion.

4. Consider approval of CH2M HILL Service Contract Change Order No. 5 and Operating Notice implementing State Revolving Fund-related requirements and approving a related design-build price increase.

Mr. Shanahan, Agency Counsel, explained that the Agency had anticipated possible future approval of project financing through the State Revolving Fund program. SRF program funded projects require that the project construction contract and prime contractor implement and comply with several special terms and conditions which are listed in the CH2M HILL Service Contract Appendix 19. The various federal and state obligations and conditions imposed on SRF funded projects are substantial and costly to implement. In negotiating the Service Contract, the parties anticipated the likelihood of SRF funding and therefore negotiated and included a provision that if the Agency implements SRF funding, then the design-build price will be increased by \$350,000 to cover CH2M HILL's costs to implement the requirements. Change Order No. 5 has been prepared to implement the SRF-related requirements and approve a related design-build price increase of \$350,000. Agency Staff recommends that the Board approve Change Order No. 5.

*Director Davies moved to approve the CH2M HILL Service Contract Change Order No. 5 and Operating Notice implementing State Revolving Fund-related requirements and approving a related design-build price increase. Director Lee seconded the motion.
The motion carried 3 to 0.*

5. Long Range Board Calendar

The June meeting will have the final budget and remaining consultant contracts that are subject to renewal as well as an energy efficiency update.

Director Lee said he was not available at this time for the June 19th meeting and wanted to know if the meeting date could be changed to either the week before or after the 19th. After some discussion, it was decided that the Board Secretary would poll the Board on availability for a June Board meeting and discuss with the General Manager.

6. Correspondence

There was no correspondence.

7. Technical Advisory Committee comments

Diane Phillips, City of Davis Project Manager and Engineer, reported on the City of Davis's water lines that are being designed to be built in the city for the surface water project. The project is on schedule for the pipelines to be installed in time for CH2M HILL's acceptance testing on the water lines in May 2016.

Greg Meyer, City of Woodland Public Works Director, said the City of Woodland 3 million gallon storage water tank is nearing completion and should be put in to service next month.

8. Board Member Comments

There were no comments.

9. Adjournment

The meeting was adjourned by consensus at 3:52 p.m.

Respectfully submitted,



Lynanne Mehlhaff, Board Secretary

Draft

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: DBO Service Contract Change Order Summary

RECOMMENDATION:

Receive the DBO Service Contract Change Order Summary.

BACKGROUND AND DISCUSSION:

The DBO service contract change order summary is an ongoing list of change orders that have been approved by either the Board or the General Manager for the specific changes listed. Staff will continue to maintain this list and provide it at each Board meeting.

FISCAL IMPACT:

Funding for change orders is included in the current and future years budgets, as appropriate.

**Woodland-Davis Clean Water Agency
DBO Service Contract Change Order Summary**

Last Updated: June 10, 2014

Change Order No.	Date Issued	Description	Approved By (Board/General Manager)	Cost Change	Project Completion Schedule Change	Funded By	Comments
1	2/4/2014	Additional 2 MG storage and associated pumping for Woodland located at the RWTF	Board	\$ 2,914,085	No	Woodland	Previously approved by Board on 10/10/13 Board Meeting
2	2/20/2014	Additional annual O&M costs associated with Woodland storage and pumping at RWTF	Board	\$3,000/year	No	Woodland	Approved by Board 2/20/14
3	4/2/2014	Modify contract language to allow for two construction start dates - one for the RWTF and one for the offsite pipelines	General Manager	\$ -	No	N/A	Approved by GM
4	4/16/2014	Reduce Change Order No. 1 to eliminate fire sprinkler allowance (plus overhead and mark-up)	General Manager	\$ (98,961)	No	Woodland	Approved by GM
5	5/15/2014	Implement SRF Program requirements and increase DB Price as noted.	Board	\$ 350,000	No	Agency	Approved by Board 5/15/14
6	Pending	Change in construction work hours	GM (see comments)	\$ -	No	N/A	May be approved by GM following Board approval of EIR Addendum at 6/19/14 Board Meeting

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Preliminary Results of Solar Project Feasibility Assessment

RECOMMENDATION

This is an informational item only and no board action is requested at this time.

BACKGROUND AND DISCUSSION

The Woodland-Davis Clean Water Agency (Agency) contracted with TerraVerde Renewable partners (TV) to provide the following services:

- Review the draft service contract and provide the Agency input on its adequacy and any suggestions on how it could be modified to ensure the Davis Woodland Water Supply Project (DWWSP) is energy efficient and the carbon footprint is minimized.
- Review the CH2MHill (CH) project design to provide input to the Agency on any possible changes that could improve energy efficiency.
- Conduct a preliminary analysis of the feasibility of constructing a solar facility that could provide power to the Regional Water Treatment Facility (RWTF) and result in energy and cost savings, and a reduced carbon footprint.

TV has completed the first two work tasks, and will be providing the Agency with formal documentation of the results of this effort. In general, TV has concluded that the service contract as drafted provides a good mechanism for the Agency to work with CH to minimize energy use through both contractual penalties and incentives, and that the CH design has integrated significant energy reducing measures.

TV has now completed a preliminary analysis of the feasibility of constructing a solar facility that could provide electricity load reduction and operational cost savings by providing a lower cost of electricity than is available from the electrical utility. The Agency just received a draft of this preliminary analysis and is working with TV to answer technical questions related to the assumptions in the analysis. The assessment is based on analysis of two scenarios: a 1MWac Net Energy Meter facility (that would allow the Agency to accrue back-feed production credits), and a 2MWac Net Energy Meter Multiple Tariff facility (which would be subject to non-export restrictions; that is the electricity production from the second MW would not be allowed to be back-fed to the grid). It is assumed that either facility option would be financed and constructed by a private party, and through a Power Purchase Agreement (PPA), the Agency would make payments each year. Preliminary findings indicate that either facility could result in a net

operating benefit when analyzed over a 25-year period, both financially and environmentally. The financing benefits are sensitive to assumptions regarding financing costs, and utility rate increases, and the values used in the preliminary analysis are commonly accepted values in the power industry.

The Agency will work with TV to further evaluate the assumptions used in the preliminary assessment through a sensitivity analysis. In addition, the benefits are sensitive to the location of the facility and its distance from the RWTF, and the Agency will be working with TV to better understand where this facility could be sited, and how siting will impact financial feasibility. The results of this further evaluation will be presented to the board in the next meeting.

FISCAL IMPACT

None

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Update on Project Funding/Financing Efforts

RECOMMENDATION

Receive funding/financing update.

BACKGROUND AND DISCUSSION

This update highlights the activities currently being pursued regarding funding/financing for the project to minimize the rate impact on member agencies.

Joint Intake Facility Funding

In March, RD2035 received construction bids on the Joint Intake project and subsequently awarded a construction contract to Balfour Beatty. RD2035 also revised its project costs and the components eligible for grant funding based on the final construction contract amount. As a result, the federal government grant funding request has increased from \$16.7 M to \$21.2M. The Bureau is generally in agreement with the requested increase and has indicated that the funds remaining to be committed are likely available in the current FY14 budget. A detailed request for approval of the remaining grant funds has been submitted and is currently being reviewed by the Bureau.

Staff efforts to secure matching state grant funds for the project are continuing. \$10M in Proposition 40 grant funds for the project was included in the State's approved FY13-14 budget. Current efforts are focused on identifying funding sources for the remaining \$11.2 M (increased from \$6.7M as a result of RD2035's recent budget update) in state matching grants for inclusion in the FY 15 state budget.

The Agency also continues to pursue State Revolving Fund loan opportunities:

State Revolving Fund Loans.

Securing of SRF funding continues to be a high priority for lowering overall project costs through low interest financing and deferral of full principal and interest payments until one year after construction is completed.

The State's SRF programs are administered under the auspices of separate federal laws: The Clean Water Act and The Safe Drinking Water Act. These programs address different infrastructure needs; wastewater treatment issues and drinking water supply issues, respectively. Since the DWWSP solves both critical water supply issues and critical treated wastewater discharge issues for both cities, SRF funding is available from both programs within the qualifications criteria of each program.

Safe Drinking Water Act SRF (SDWA SRF) funding. As previously reported, the California Department of Public Health (CDPH) determined that Woodland's portion of the surface water project was qualified for SRF funding under Category F (water systems that distribute water or have removed a well from service containing nitrates/nitrites in excess of the MCL). CDPH also determined that while Davis has experienced nitrate contamination of their wells, their problem is not severe enough to qualify under Category F.

Last December, the California Department of Public Health (CDPH) confirmed that the Agency's \$111.36M application for Woodland's share of the regional facilities and Woodland's \$31.50M application for local distribution system improvements was accepted, and that SRF loans for these amounts at an interest rate of 1.7875% and a term of 20 years were being offered. Final SRF loan agreements for both regional and local distribution system improvements were fully executed earlier this month.

Clean Water Act SRF (CW SRF) funding. The CW SRF is administered by the State Water Resources Control Board (SWRCB). The Agency previously submitted a \$207M application for CW SRF funding for both Woodland and Davis' share of the regional facilities (non-grant funded portion of the Joint Intake Facility, Raw Water Pipelines, Regional Water Treatment Plant, and Treated Water Pipelines).

Now that Woodland has accepted and executed an SRF loan agreement with CDPH, only Davis' portion of the SWRCB original application continues to be pursued. The Agency has had on-going meetings with SWRCB staff to review technical and legal requirements. The Agency has requested extended 30 year term financing based on the regional benefits of the project.

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Paul Navazio, Agency Treasurer

SUBJECT: Quarterly Treasurer's Report for the Period Ending March 31, 2014

RECOMMENDATION

This agenda item represents the Treasurer's Report for the third quarter of fiscal year 2013/14. It includes a summary of deposit and expenditure activity, as well as the status of Agency funds for the six-month period from July 1, 2013 through March 31, 2014. This is an informational report and therefore no Board action is required.

BACKGROUND AND DISCUSSION

Agency revenues for the third quarter of FY2013/14 of \$6,804,086 were recorded. Year-to-date revenues of \$21,787,552 reflect contributions through the third quarter of the fiscal year from the City of Woodland (\$11,301,300) and the City of Davis (\$10,474,300), based on the Agency's approved budget for FY2013/14, as well as interest earnings of \$11,952.

Agency expenditures for the third quarter ending March 31, 2014 totaled \$8,907,311 bringing expenditures through the first nine months of the fiscal year to \$10,586,373 - well within the authorized WDCWA budget of \$32,150,952.

This quarter's expenditures reflect the acquisition of the Water Treatment Facility site from the City of Woodland (\$2,885,454) as well as initial costs associated with design and engineering of regional project facilities incurred via the contract with CH2Mhill (\$4,084,493).

Cumulative project-to-date activity for the Agency results in an (unaudited) Unrestricted Fund Balance as of March 31, 2014 of \$18,650,615, representing an increase of \$11,201,179 from the fund balance reported at the end of the 2012/13 fiscal year.

ATTACHMENTS:

1. Summary of WDCWA Revenues and Expenditures - 7/1/13 through 3/31/14
2. Agency Fund Balances as of March 31, 2014

Woodland - Davis Clean Water Agency
Quarterly Treasurer / Auditor Report

FY2013/14
Period: 7/1/13 - 3/31/14

Revenues & Expenditures

	Original Budget	Adjusted Budget	Actuals (Thru 3/31/14)		Variance
			Quarter	Year-to-Date	
REVENUES					
<i>Acct.</i>					
<i>Funding Contributions</i>					
City of Davis	1579 \$ 14,071,500	\$ 14,071,500	\$ 3,101,200	\$ 10,474,300	\$ 3,597,200
City of Woodland	1579 18,080,100	18,080,100	3,701,600	11,301,300	6,778,800
UC Davis	1579				-
Interest Earnings		-	1,286	11,952	11,952
Sub-Total Funding Contributions	\$ 32,151,600	\$ 32,151,600	\$ 6,804,086	\$ 21,787,552	\$ 10,364,048
Total Revenues	\$ 32,151,600	\$ 32,151,600	\$ 6,804,086	\$ 21,787,552	\$ 10,364,048
EXPENDITURES					
<i>Acct.</i>					
<i>General Administration Expenses</i>					
JPA Admin Staff	\$ 298,000	\$ 298,000	\$ 85,493	\$ 251,607	\$ 46,393
JPA Treasurer	40,000	40,000	12,100	33,520 ^x	6,480
JPA Legal Counsel	70,000	70,000	39,405	76,296 ^x	(6,296)
Agency Lobbyist	30,000	30,000	20,000	20,000	10,000
Public Outreach	150,000	150,000	20,656	36,786 ^x	113,214
Memberships	10,000	10,000	-	-	10,000
Incidental / Materials/Supplies	20,000	20,000	-	500	19,500
Technical Support	46,000	46,000	-	-	46,000
Admin. Contingency	66,000	66,000	-	-	66,000
	\$ 730,000	\$ 730,000	\$ 177,655	\$ 418,709	\$ 311,291
<i>Capital Project Expenses</i>					
Program Management	\$ 873,000	\$ 873,000	\$ 236,113	\$ 543,033 ^x	\$ 329,967
Regional Facilities Planning / Pre-Design	241,000	241,000	373,758	458,542 ^x	(217,542)
Water Rights Permit	295,000	295,000	20,073	79,796 ^x	215,204
Environmental Permitting	330,000	330,000	130,232	265,681	64,319
Supplemental Water Supply	185,000	185,000	-	-	185,000
Land Acquisition and Permit Fees	3,431,645	3,431,645	2,925,663	3,030,217	401,428
DBO Procurement	1,333,000	1,333,000	23,914	660,238	672,762
Technical Services	426,000	426,000	-	110,253	315,747
Construction		-			-
DBO Contract - Agency Expenses	4,466,500	4,466,500	935,411	935,411	3,531,089
DBO Contract = Design / Construction	15,220,000	15,220,000	4,084,493	4,084,493	11,135,507
RWTF Site Fill	35,000	35,000	-	-	35,000
Joint Intake	2,729,000	2,729,000	-	-	2,729,000
Contingency Reserve	\$ 1,855,807	\$ 1,855,807			\$ 1,855,807
Sub-Total Expenditures	\$ 32,150,952	\$ 32,150,952	\$ 8,907,311	\$ 10,586,373	\$ 21,564,579

**Woodland - Davis Clean Water Agency
Quarterly Treasurer / Auditor Report**

Statement of Fund Balance

Period: 7/1/13 - 3/31/14

Beginning Fund Balance (7/1/13)		<u>\$ 7,449,436</u>						
Revenues								
Funding Contributions	21,775,600							
Interest Earnings	\$ 11,951.97	-						
Other		-						
Total Receipts		<u>\$ 21,787,552</u>						
Expenditures								
Contract Services	10,586,373							
Accrued Expenditures	-							
Total Disbursements/ Commitments		<u>\$ 10,586,373</u>						
Ending Fund Balance (3/31/14)		<u>\$ 18,650,615</u>						
<table> <tr> <td style="padding: 2px;"><i>Restricted Fund Balance</i></td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;"><i>Unrestricted Fund Balance</i></td> <td style="text-align: right;">\$</td> <td style="text-align: right;">18,650,615</td> </tr> </table>			<i>Restricted Fund Balance</i>			<i>Unrestricted Fund Balance</i>	\$	18,650,615
<i>Restricted Fund Balance</i>								
<i>Unrestricted Fund Balance</i>	\$	18,650,615						
Change in Fund Balance		\$ 11,201,179						

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Resolution Supporting North State Water Alliance Water Reliability Principles

RECOMMENDATION

Adopt a resolution supporting the North State Water Alliance principles concerning water supply reliability and related matters.

BACKGROUND AND DISCUSSION

The North State Water Alliance is a coalition of cities, counties, water providers, business, agriculture and community groups in Northern California. Its membership includes the Northern California Water Association, Mountain Counties Water Resources Association, Sacramento Regional Water Authority, Sacramento Area Council of Governments, Sacramento Metro Chamber of Commerce, and other business, trade and local government groups and organizations. The Alliance supports comprehensive responsible statewide water solutions that protect the economy, environment and quality of life for the north state and for all Californians. Additional information regarding the Alliance can be found at www.northstatewater.org.

At a press conference last week, the Alliance called upon the California Legislature and Governor to act quickly on a water bond that improves statewide water supply reliability and that meets the following criteria: maintain water rights for stability and certainty in water operations; advance new water storage and operational improvements in order to increase flexibility in managing water during dry periods; increase groundwater storage through recharge, storage and extraction projects for safe drinking water supplies; improve urban water management and maximize statewide water savings through projects that support recycling, stormwater management and conservation; and protect and restore watersheds and ecosystems and prioritize migratory corridors needing immediate assistance, including those for salmon and steelhead and water supplies along the Pacific Flyway.

In 2012, the Agency Board adopted its Resolution No. 2012-02 that approved support of the Alliance and its principles. Since then, and in response to further proposals concerning the Sacramento-San Joaquin Delta and in light of the current drought, the Alliance has further revised its statement of water reliability and related principles. The Agency has been asked to adopt the attached resolution supporting these principles. The resolution supports the Alliance principles concerning water supply reliability and assurances, water conservation, water supply development, comprehensive statewide

operational plan for water supply reliability, appropriate Delta solutions, and related matters. The principles have been adopted by all five of the primary Alliance partners. Agency staff supports these principles and recommends approval of the resolution. In addition to demonstrating support for the Alliance, the Board's adoption of the principles will provide policy guidance to Agency staff in responding to and managing these concerns and issues.

FISCAL IMPACT

There are no fiscal impacts associated with the recommended action.

RESOLUTION NO. 2014-07

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE WOODLAND-DAVIS CLEAN WATER AGENCY
SUPPORTING NORTH STATE WATER ALLIANCE
WATER RELIABILITY AND RELATED PRINCIPLES**

WHEREAS, the Sacramento Valley and adjacent Coast Ranges and Sierra Nevada (the North State) is a unique place linked by its water resources;

WHEREAS, the North State is committed to balancing economic, environmental and social sustainability for the entire State;

WHEREAS, reliable and sufficient supplies of water are critical to a vibrant economy, a healthy environment, and the State's overall quality of life;

WHEREAS, the North State understands and recognizes the importance of regional coordination and collaboration in developing implementable solutions to address existing and future water resources challenges and opportunities;

WHEREAS, changing hydrology and sea level caused by climate change, coupled with population growth, forest management practices, and increasingly stringent and rigid regulatory requirements impinge on current water supplies to meet California's needs; and

WHEREAS, the currently proposed solutions for the Delta pose serious risks for the water supply reliability of the North State;

WHEREAS, the California drought of 2012-2014 underscores the water supply and water management challenges we face and the urgency for action to address these challenges; and

WHEREAS, in order to protect our region's interest, the Woodland-Davis Clean Water Agency, in partnership with other key regional partners, seeks to promote regional cooperation on water issues, and to be part of a collaborative and comprehensive plan to meet all of California's water needs.

NOW, THEREFORE, BE IT RESOLVED that, in partnership with other key regional partners, the Board of Directors of the Woodland-Davis Clean Water Agency supports actions based on the following principles:

1. Water rights and area-of-origin protections must be recognized and preserved through water supply assurances to guarantee reliable supplies for all beneficial water uses and environmental needs.

2. The North State will continue to aggressively pursue water conservation and efficiency measures that promote our regional self-reliance and water supply reliability.

3. We will continue to invest in water supply development, water recycling and reuse, increased water storage capacity, and other water management projects and programs that are cost effective and improve our regional self-sufficiency, and that serve to benefit other regions of the State.

4. State and federal actions must respect and not impinge on or preempt the authority and responsibilities of cities, counties, and other local agencies to take actions in the interests of the jurisdiction and its citizens.

5. The North State will continue to work with state and federal governments to develop a comprehensive operational plan for statewide water supply reliability, including investing in regional water supply reliability and self-reliance. This operational plan must also demonstrate how the state's water system will meet future water demand while adapting to the effects of climate change. This plan should address adaptive management changes in the current rigid regulatory requirements.

6. Stakeholders in the North State must be fully involved in all aspects of the development of a Delta solution and other state and federal water policies and operations that affect the region.

7. We support a Delta solution that is: part of a comprehensive statewide solution to address California's long-term water supply challenges; based on sound science to ensure it is effective and implemented in an equitable manner; requires the beneficiaries of any actions associated with a Delta solution to fully fund the costs of such actions; avoids or fully mitigates negative economic, environmental, or societal impacts to areas in our region; and, provides a meaningful role in governance for representatives of the North State.

8. We support a statewide plan for water reliability that supports the economic, environmental, and social needs of all of California. Such a plan must support the diverse urban, rural, agricultural, environmental, recreational, power generation, and flood protection needs of the North State.

PASSED AND ADOPTED by the Board of Directors of the Woodland-Davis Clean Water Agency on this 19th day of June 2014 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

By: _____
Joe Krovoza, Chair

Attest:

Lynanne Mehlhaff, Secretary

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Proposed Budget for FY 2014-15 and Future Anticipated Operation and Maintenance Costs

RECOMMENDATION

Move to adopt the proposed Fiscal Year 2014-15 budget.

PROPOSED BUDGET

The Board was presented with a draft budget for Fiscal Year (FY) 2014-15 at the April 17, 2014 meeting. There have been a few changes, as described in Exhibit A, to individual line items and the total capital project budget has been modified to \$96,477,108. The reduction in the FY 2014-15 budget was largely due to a shift in the expected expenditures between fiscal years and is based on CH2M Hill's May 30, 2014 drawdown schedule for the design and construction of the regional facilities and to recognize the delayed payment of the 10% private financing portion of the DBO contract. The overall project cost remains unchanged at \$270.7 million.

A detailed breakdown of the proposed FY 2014-15 Agency Capital Project budget is provided in Exhibit B. The budget is presented with the following sub-categories: Agency Administration, Program Management, Regional Facilities Design Criteria, Water Right Permits, Environmental and Permitting, Supplemental Water Supply, Land and Right-of-Way Acquisition, Pre-Design and Joint Intake Design, Construction, and Capital Contingency. These categories capture the principal areas of activity for the Agency.

Exhibit C provides a summary of the project capital costs, including expenditures from the JPA's inception through FY 12/13, anticipated expenditures through the end of this fiscal year, the proposed FY 14/15 budget, and anticipated expenditures through the completion of the project in FY 16/17. Table 1 in Exhibit C shows the cash flow needs for the Agency and Tables 2 and 3 show the anticipated budget for the cities of Woodland and Davis, respectively.

The anticipated operation and maintenance annual budgets for the next ten years are included as Exhibit D. Operations and Maintenance funds won't be needed until after the facilities are constructed and project operation begins so there is no budget allocation for this category next fiscal year. The Agency's obligation to purchase water from Conaway Preservation Group (CPG) does not begin until 2016.

An Explanation of the major budget categories included in Exhibit B follows.

Agency Administration

Anticipated expenses in this category include: the General Manager, Administrative Secretary, Treasurer, accounting services, Legal Counsel, lobbyists, organization memberships, and public outreach. Most of these functions are being provided through contracts or by city staff; General Manager and Secretary (Diemer Engineering, Inc.), Treasurer (City of Woodland), accounting services (City of Davis), Legal Counsel (Bartkiewicz, Kronick & Shanahan), Lobbyist (shared contract with RD2035), and public outreach (Kim Floyd Communications and West Yost Associates).

Collectively, the General Manager and Secretary budgets are captured under Administrative Staff. The General Manager and the Secretary positions are compensated on an hourly basis. The Treasurer's and accounting services are provided at a flat monthly rate which includes provisions for an annual audit and other financial support services. Legal Counsel is compensated on an hourly basis and a budget has been established for general Agency support. Additional legal support for specific activities relating to water/land acquisitions and delivery of the capital project are captured under the appropriate Capital Project cost category.

The Agency and CPG jointly fund the services of a lobbying firm(s) to assist both RD 2035 and the Agency in securing federal and state funding for the Joint Intake Project.

There is also a modest budget for the Agency's membership in appropriate professional organizations and a budget for incidental Agency costs related to Agency activities.

Making information available to the public and helping raise the awareness of the benefits of the surface water project is an Agency priority. Efforts this fiscal year have focused on media releases, website updates, community meetings, and progress updates to the public on Project implementation through a newsletter, press releases, and direct communications. Next fiscal year it is anticipated that these outreach efforts will continue. Engineering technical services to assist with Public Outreach are also budgeted for under Agency Administration.

A 10% contingency for unanticipated Agency administrative expenses is included to provide flexibility.

Program Management

The surface water project is a very large and complex capital project with many activities proceeding simultaneously. This budget item covers regular project team meetings; updates to the schedule; representation of the Agency at bi-weekly Joint Intake Management meetings and oversight of the joint intake project activities; assistance to the Agency with budgeting and grant and loan funding activities; Agency Board meeting preparation and attendance; maintenance of the project SharePoint site; technical engineering support; and continued coordination with the team of consultants working directly for the Agency and under subcontract to West Yost.

Regional Facilities Design Criteria

This work includes the development of information necessary for design and construction. Most items under this subcategory were complete in advance of the DBO contract. However, there are a few remaining tasks that will continue next year. These items include the following: alternative energy investigations and water quality sampling.

Water Right Permits

This category includes environmental, legal, and engineering work to support amendments to the Agency's water rights. The amendments will allow water diverted under the Agency's water right permits to be stored as needed for implementation of the aquifer storage and recovery (ASR) program. To support the amended permit, a Supplemental Environmental Impact Report (SEIR) for the ASR Program will be finalized this fiscal year.

Environmental and Permitting

Environmental permitting activities for next fiscal year include finalization of environmental permit applications for the joint intake, project pipelines, and regional water treatment facility (RWTF). Other permitting activities include ongoing coordination with entities such as PG&E, WAPA, Central Valley Flood Protection Board, California Department of Public Health, and Yolo County as needed to secure project permits.

Supplemental Water Supply

Although the primary focus of supplemental water supply next fiscal year will be ASR, potential water purchase options may also be investigated and considered over the next couple of years as more information becomes available on the impact of the current drought.

Land and Right-of-Way (ROW) Acquisition

Land and ROW Acquisitions should be complete this fiscal year. Only minimal legal and engineering assistance is anticipated next fiscal year to confirm and complete easement purchases.

Pre-Design and Joint Intake Design

Design work has been completed. Only minimal effort for coordinating with WAPA and PG&E is anticipated under this budget category for next fiscal year.

Construction

Construction includes three subcategories and includes two major contracts: the design-bid-build (DBB) contract for the joint intake project and the design-build-operate (DBO) contract for the regional pipelines and RWTF.

Quality Assurance and Contract Compliance

In addition to the DBO direct costs, this category includes other design and construction-related costs for the Agency such as permit fees, review of the DBO design, DBO contract compliance, construction submittal and request for information reviews, construction quality assurance, and environmental construction monitoring and mitigation.

DBO Design and Construction

The bulk of the RWTF and regional pipelines will be constructed next fiscal year and is expected to continue into FY 2015-16, concluding in June 2016. Budgeted items include the final design and construction portions of the DBO contract. The DBO contract cost included in this budget is the original DBO contract amount plus the cost of change orders. Two significant change orders have been implemented to provide for additional Woodland-only storage, and for contractor efforts required for compliance with the SRF funding provisions and to accommodate material escalation costs, both of which were allowed within the Service Contract.

Design-Bid-Build Projects

There are two DBB projects associated with the Davis Woodland Water Supply Project: the RWTF site fill project and the Joint Intake project. Because the RWTF site fill project is complete, only the Joint Intake project is described below.

Joint Intake Construction

Construction on the DBB contract for the joint intake project commenced this fiscal year and will be in full swing next fiscal year. The Agency will fund the cost of all Agency-only facilities and its proportional share of the common intake facilities. The Agency is also responsible to fund the five percent local cost share of grant funding for the joint intake and a portion of the construction management, engineering services during construction, and environmental mitigation and monitoring costs associated with the intake.

Capital Contingency

A three percent contingency is included on all project capital costs for the next fiscal year, and approximately five percent contingency on all non-DBO contract engineering related tasks.

PAYMENT SCHEDULE

The Agency staff plans to continue invoicing the member agencies on a quarterly basis. A quarterly cash flow schedule is included with Exhibit B.

PROJECTED BUDGET

Exhibits B and C were prepared based on CH2M HILL's current construction schedule. Currently the anticipated project Acceptance Date is in June 2016. This completion date is three months in advance of the Contract-required Acceptance Date.

Exhibit D shows the projected costs for the next ten years for Operations and Maintenance, including Supplemental Water Purchase (The Supplemental Water Purchase is based on the agreement to purchase CPG's senior water right on the Sacramento River), and Agency Administration costs. The estimate for O&M is based on the DBO contract with CH2M Hill and the anticipated water quality and demand needs of Davis and Woodland. A reduced level of Agency Administration activities will occur during the operation and maintenance period. The anticipated expenses in this category include: the General Manager, Administrative

Secretary, Treasurer, accounting services, annual Agency audit, Legal Counsel, organization memberships, public outreach, and limited engineering and environmental technical support. Most of these functions will be provided through contracts or by city staff.

AGENCY CONSULTANT CONTRACTS

For the Board's reference, a summary of Agency consultants, legal counsel, and contractors' FY 14/15 budgets is provided in Exhibit E. The services provided by each and the FY 14/15 budgeted costs are detailed in the top of the exhibit, and the total project contract amount for each is shown at the bottom.

The adjustments made to the Fiscal Year 2014-2015 budget from the draft budget presented to the Board in April resulted in a reduction of \$6.4 million. The specific line item changes and a brief description of the reason for each change are noted below.

- Task 7 (Incidental Costs) budget was increased by \$26,000 for the Agency's participation in the Sacramento River Watershed Sanitary Survey Update.
- Task 18 (Joint Intake Overall Management) budget was increased by \$10,000 to account for additional effort that will be required to participate in the management of the joint intake project.
- Task 61 (Water Purchase) budget was increased by \$15,000 due to recent water rights curtailments on the Sacramento River indicating that supplemental surface water purchase may need to be pursued for this project.
- Task 70 (Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions) budget was increased by \$19,000 to finalize easements that are not yet obtained.
- Task 136 (DBO Design Review Conformance) budget decreased by \$75,000 as some of the design review work has been shifted to FY 2015-2016.
- Task 138 (Equipment Submittal and RFI Review) budget was decreased by \$20,000 as some equipment submittal and RFI review work has been shifted to FY 2015-2016.
- Tasks 147 – 159 (DBO Contract) budget was decreased by \$7.0 million based on CH2M Hill's May 30, 2014 drawdown schedule and to recognize the delayed payment of the 10% private financing portion of the DBO contract. These costs have been shifted to FY 2015-2016.
- Tasks 160 – 165 (Joint Intake) budget was increased by \$770,000 due to the delay in payment to PG&E for the needed infrastructure improvements. These costs have been shifted from FY 2013-2014 to FY 2014-2015.
- Task 166 (Agency Construction Oversight) budget was increased by \$27,000 because it is believed that additional effort will be required to adequately oversee construction of the Agency's facilities portion of the joint intake project.
- Task 169 (Capital Contingency) budget was decreased by \$160,000 due to the decrease in the annual budget.

WDCWA - FY 14/15 Budget Quarterly Breakdown
Davis-Woodland Water Supply Project with Joint Intake⁽¹⁾⁽²⁾
 All Project Partners (Nominal Dollars)⁽⁶⁾

Item No.	ACTION OR COST CATEGORY	Total Annual Budget	FY 14/15			
			Q1	Q2	Q3	Q4
1	Agency Administration					
2	Agency Administrative Staff	\$298,000	\$74,500	\$74,500	\$74,500	\$74,500
3	Agency Treasurer and Accounting Services	\$70,000	\$17,500	\$17,500	\$17,500	\$17,500
4	Agency Legal Counsel	\$75,000	\$18,750	\$18,750	\$18,750	\$18,750
5	Agency Lobbyists	\$30,000	\$15,000	\$15,000	\$0	\$0
6	Organizational Membership Costs	\$10,000	\$10,000	\$0	\$0	\$0
7	Incidental Costs(4)	\$46,000	\$11,500	\$11,500	\$11,500	\$11,500
8	Public Outreach Consultant	\$70,000	\$17,500	\$17,500	\$17,500	\$17,500
9	Environmental Technical Support	\$0	\$0	\$0	\$0	\$0
10	Engineering Technical Support	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
11	Administrative Contingency(7) (Item numbers 2 - 10)	\$62,900	\$15,725	\$15,725	\$15,725	\$15,725
12	Subtotal Agency Administration	\$691,900	\$187,975	\$177,975	\$162,975	\$162,975
13	Program Management					
14	Project Program Management	\$300,000	\$75,000	\$75,000	\$75,000	\$75,000
15	Technical Services to Agency	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000
16	Technical Services to Davis	\$97,000	\$24,250	\$24,250	\$24,250	\$24,250
17	Technical Services to Woodland	\$46,000	\$11,500	\$11,500	\$11,500	\$11,500
18	Joint Intake Overall Management	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
19	Construction Quality Assurance Contract Procurement	\$0	\$0	\$0	\$0	\$0
20	Program Budgeting & Scheduling	\$80,000	\$20,000	\$20,000	\$20,000	\$20,000
21	Grant and Loan Funding Assistance & Administration	\$50,000	\$12,500	\$12,500	\$12,500	\$12,500
22	FPC/Contract Procurement - Technical Assistance	\$0	\$0	\$0	\$0	\$0
23	FPC/Contract Procurement - Legal Assistance	\$0	\$0	\$0	\$0	\$0
24	Subtotal Program Management	\$643,000	\$160,750	\$160,750	\$160,750	\$160,750
25	Regional Facilities Design Criteria					
26	Chlorine/Chloramine Mixing Study	\$0	\$0	\$0	\$0	\$0
27	Aerosol Study	\$0	\$0	\$0	\$0	\$0
28	Water Supply Availability Analysis	\$0	\$0	\$0	\$0	\$0
29	Dewatering Technical Assistance/Coordination	\$0	\$0	\$0	\$0	\$0
30	Telecommunications Coordination	\$0	\$0	\$0	\$0	\$0
31	Energy Consultant	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500
32	RWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
33	RWTF Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
34	Davis TWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
35	Woodland TWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
36	Surface Water Quality Sampling Program	\$95,000	\$23,750	\$23,750	\$23,750	\$23,750
37	Subtotal Regional Facilities Planning and Pre-Design	\$105,000	\$26,250	\$26,250	\$26,250	\$26,250
38	Water Right Permits					
39	<u>WDCWA Permit</u>					
40	Environmental (Supplement to the EIR for ASR)	\$95,000	\$23,750	\$23,750	\$23,750	\$23,750
41	ASR Program Related to Agency SEIR	\$134,000	\$33,500	\$33,500	\$33,500	\$33,500
42	Engineering Technical Support for WDCWA Permit Hearing	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
43	Legal	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
44	<u>WDCWA/CPG Water Right Permit Assignment and BuRec Contract Assignment</u>					
45	Environmental	\$0	\$0	\$0	\$0	\$0
46	Engineering	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500
47	Legal	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000
48	Subtotal Water Right Permits	\$329,000	\$82,250	\$82,250	\$82,250	\$82,250
49	Environmental & Permitting					
50	<u>Facilities Permitting</u>					
51	Environmental - DWWSP	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
52	Environmental - RWTF	\$0	\$0	\$0	\$0	\$0
53	Environmental - Heidrick/McGinnis & Lillard	\$0	\$0	\$0	\$0	\$0
54	Engineering	\$135,000	\$33,750	\$33,750	\$33,750	\$33,750
55	Legal	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
56	<u>Plan B</u>					
57	Environmental (SEIR)	\$0	\$0	\$0	\$0	\$0
58	Subtotal Environmental & Permitting	\$175,000	\$43,750	\$43,750	\$43,750	\$43,750
59	Supplemental Water Supply					
60	Yolo Flood	\$0	\$0	\$0	\$0	\$0
61	Water Purchase	\$15,000	\$3,750	\$3,750	\$3,750	\$3,750
62	Legal	\$0	\$0	\$0	\$0	\$0
63	Subtotal Supplemental Water Supply	\$15,000	\$3,750	\$3,750	\$3,750	\$3,750
64	Land/RW Acquisitions					
65	Legal Services	\$5,000	\$1,250	\$1,250	\$1,250	\$1,250
66	Railroad Easement Negotiations & Legal Documents	\$0	\$0	\$0	\$0	\$0
67	Intake Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
68	Raw Water Pipeline Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
69	RWTF Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
70	Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions	\$19,000	\$4,750	\$4,750	\$4,750	\$4,750
71	Heidrick/McGinnis & Lillard Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
72	Woodland Treated Water Pipelines Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
73	Eminent Domain Assistance (technical)	\$0	\$0	\$0	\$0	\$0
74	Eminent Domain Services (legal)	\$0	\$0	\$0	\$0	\$0
75	<u>Property/Easement Purchase</u>					
76	Regional Water Treatment Facility Site/Agency Purchase	\$0	\$0	\$0	\$0	\$0
77	Not Used	\$0	\$0	\$0	\$0	\$0
78	Raw Water Pipeline Easements Appraisal Fee Reimbursement	\$0	\$0	\$0	\$0	\$0
79	RWTF Site Appraisal Fee & Phase I ESA	\$0	\$0	\$0	\$0	\$0
80	Davis Treated Water Pipeline Easements Appraisal Fee Reimbursement	\$0	\$0	\$0	\$0	\$0
81	Woodland Treated Water Pipelines Easements Appraisal Fee Reimbursement	\$1	\$0	\$0	\$0	\$0
82	Joint Intake Easement Purchase	\$0	\$0	\$0	\$0	\$0
83	Raw Water Pipeline Easements Purchase	\$0	\$0	\$0	\$0	\$0
84	Davis Treated Water Pipeline Easements Purchase	\$0	\$0	\$0	\$0	\$0
85	Woodland Treated Water Pipelines Easements Purchase	\$0	\$0	\$0	\$0	\$0
86	Subtotal Land/RW Acquisitions	\$24,000	\$6,000	\$6,000	\$6,000	\$6,000

Item No.	ACTION OR COST CATEGORY	FY 14/15				
		Total Annual Budget	Q1	Q2	Q3	Q4
87	Pre-Design and Joint Intake Design					
88	DBO Contract Procurement					
89	Finalize RFP Appendices	\$0	\$0	\$0	\$0	\$0
90	Construction Counsel Proposal Preparation and Review	\$0	\$0	\$0	\$0	\$0
91	Financial Consultant Proposal Review/VFM Analysis	\$0	\$0	\$0	\$0	\$0
92	Legal Review of Procurement Documents	\$0	\$0	\$0	\$0	\$0
93	Pre-Design Fee	\$0	\$0	\$0	\$0	\$0
94	Finalize RFP & Prepare Addenda	\$0	\$0	\$0	\$0	\$0
95	Coordination with Energy Consultant	\$5,000	\$1,250	\$1,250	\$1,250	\$1,250
96	Review/Screen Proposals	\$0	\$0	\$0	\$0	\$0
97	<i>Negotiations with DBO Contractor</i>					
98	Construction Counsel Contract Negotiations	\$0	\$0	\$0	\$0	\$0
99	Financial Consultant	\$0	\$0	\$0	\$0	\$0
100	Legal	\$0	\$0	\$0	\$0	\$0
101	Engineering	\$0	\$0	\$0	\$0	\$0
102	<i>Subtotal DBO Procurement</i>	<i>\$5,000</i>	<i>\$1,250</i>	<i>\$1,250</i>	<i>\$1,250</i>	<i>\$1,250</i>
103	Technical Services					
104	PG&E Distribution Study	\$0	\$0	\$0	\$0	\$0
105	WAPA Power Application & Investigation - Technical	\$10,000	\$10,000	\$0	\$0	\$0
106	WAPA Power Application & Investigation - Legal	\$0	\$0	\$0	\$0	\$0
107	DBO Facilities					
108	Water Treatment Plant	\$0	\$0	\$0	\$0	\$0
109	Raw Water Pipeline	\$0	\$0	\$0	\$0	\$0
110	Plan B Intake	\$0	\$0	\$0	\$0	\$0
111	Transmission Pipeline between RWTF and Davis	\$0	\$0	\$0	\$0	\$0
112	Heidrick/McGinnis & Lillard	\$0	\$0	\$0	\$0	\$0
113	Transmission Pipeline between RWTF and Woodland	\$0	\$0	\$0	\$0	\$0
114	RWTF Site Fill					
115	Design	\$0	\$0	\$0	\$0	\$0
116	Preconstruction Dewatering	\$0	\$0	\$0	\$0	\$0
117	Joint Intake					
118	30% Design	\$0	\$0	\$0	\$0	\$0
119	Agency 30% Design & Review	\$0	\$0	\$0	\$0	\$0
120	100% Joint Intake Design of Sacramento Intake/Pump Station	\$0	\$0	\$0	\$0	\$0
121	Security System Design	\$0	\$0	\$0	\$0	\$0
122	Security System Consultant	\$0	\$0	\$0	\$0	\$0
123	Joint Intake Workshop with DBO Teams	\$0	\$0	\$0	\$0	\$0
124	Coordination with RD 2035, MWH, and Regulatory Agencies	\$0	\$0	\$0	\$0	\$0
125	100% Agency Electrical Design & River Modeling	\$0	\$0	\$0	\$0	\$0
126	Agency 100% Design Review	\$0	\$0	\$0	\$0	\$0
127	Bidding Services	\$0	\$0	\$0	\$0	\$0
128	<i>Subtotal Technical Services</i>	<i>\$10,000</i>	<i>\$10,000</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
129	Subtotal Design	\$15,000	\$11,250	\$1,250	\$1,250	\$1,250
130	Construction					
131	Agency Quality Assurance and Contract Compliance					
132	Construction Counsel (legal)	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500
133	Legal	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
134	Agency Permit Fees	\$265,000	\$66,250	\$66,250	\$66,250	\$66,250
135	Farm Bureau Reimbursement	\$25,000	\$12,500	\$0	\$0	\$12,500
136	DBO Design Review Conformance	\$583,000	\$408,100	\$174,900	\$0	\$0
137	Construction Compliance with Approved Design	\$44,000	\$11,000	\$11,000	\$11,000	\$11,000
138	Equipment Submittal and RFI Review	\$500,000	\$125,000	\$125,000	\$125,000	\$125,000
139	Design/Construction Coordination and As Needed Technical Services	\$50,000	\$12,500	\$12,500	\$12,500	\$12,500
140	Acceptance Test Plan, Testing and Closeout	\$25,000	\$0	\$0	\$0	\$25,000
141	Construction Quality Oversight	\$956,803	\$239,201	\$239,201	\$239,201	\$239,201
142	As-Needed Construction Oversight Services	\$24,325	\$6,081	\$6,081	\$6,081	\$6,081
143	Environmental Construction Monitoring	\$148,980	\$37,245	\$37,245	\$37,245	\$37,245
144	Environmental Mitigation Credits for Pipelines	\$0	\$0	\$0	\$0	\$0
145	<i>Subtotal Agency Expenses of Design and Construction Phase of DBO Contract</i>	<i>\$2,662,108</i>	<i>\$927,877</i>	<i>\$682,177</i>	<i>\$507,277</i>	<i>\$544,777</i>
146	DBO Design and Construction					
147	Design-Build Portion of DBO Contract	\$80,101,598	\$7,048,574	\$11,526,495	\$25,719,716	\$35,806,813
148	Woodland-Only Storage at RWTF (Change Order Nos. 1 & 4)	\$1,569,981	\$929,285	\$291,501	\$304,092	\$45,103
149	SRF Change Order	\$151,200	\$37,800	\$37,800	\$37,800	\$37,800
150	Material Escalation	\$250,000	\$250,000	\$0	\$0	\$0
151	<i>Subtotal Design-Build Portion of DBO Contract</i>	<i>\$82,072,779</i>	<i>\$8,265,658</i>	<i>\$11,855,796</i>	<i>\$26,061,608</i>	<i>\$35,889,716</i>
152	Design-Bid-Build Projects					
153	RWTF Site Fill					
154	Construction	\$0	\$0	\$0	\$0	\$0
155	Engineering Services During Bidding & Construction, Construction Management, and Inspection	\$0	\$0	\$0	\$0	\$0
156	Post-Construction Settlement Monitoring	\$0	\$0	\$0	\$0	\$0
157	<i>Subtotal RWTF Site Fill</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>	<i>\$0</i>
158	Joint Intake(5)					
159	Permit Fees	\$0	\$0	\$0	\$0	\$0
160	5% Local Cost Share of Grant Funding	\$845,676	\$211,419	\$211,419	\$211,419	\$211,419
161	Construction	\$4,362,072	\$1,090,518	\$1,090,518	\$1,090,518	\$1,090,518
162	Joint Intake Construction Contingency (10%)(6)	\$436,207	\$109,052	\$109,052	\$109,052	\$109,052
163	PG&E Connection Costs for WAPA Power	\$788,785	\$788,785	\$0	\$0	\$0
164	Joint Intake Legal & Environmental Costs	\$30,800	\$7,700	\$7,700	\$7,700	\$7,700
165	Engineering Services During Construction & Construction Management	\$542,227	\$135,557	\$135,557	\$135,557	\$135,557
166	Agency Construction Oversight	\$77,000	\$19,250	\$19,250	\$19,250	\$19,250
167	<i>Subtotal Joint Intake</i>	<i>\$7,082,767</i>	<i>\$2,362,281</i>	<i>\$1,573,496</i>	<i>\$1,573,496</i>	<i>\$1,573,496</i>
168	Subtotal Construction	\$91,817,654	\$11,555,816	\$14,111,469	\$28,142,381	\$38,007,989
169	Capital Contingency(3) (Item numbers 14 - 183)	\$2,661,554	\$665,389	\$665,389	\$665,389	\$665,389
170	TOTAL CAPITAL PROJECT BUDGET	\$96,477,108	\$12,743,180	\$15,278,833	\$29,294,745	\$39,160,353
171	Woodland Allocation	\$51,967,500	\$7,198,620	\$8,247,520	\$15,700,563	\$20,820,798
172	Davis Allocation	\$44,510,000	\$5,544,675	\$7,031,406	\$13,594,275	\$18,339,645

(Estimated Total Development Cost of Surface Water Supply Facilities, 2013 - 2023, mid-2013 cost basis)

- (1) Based on a joint Sacramento River Intake and Pump Station with RD 2035.
- (2) Project delivery includes DBO for the Regional Water Treatment Facility (30 mgd initial capacity), raw water pipelines, and finished water pipeline, and DBB for the joint intake/pump station.
- (3) Capital contingency is 3% of the DBO contract amount plus 5% on all engineering-related tasks.
- (4) Agency incidental costs include \$2,500 per year per board member, \$1,000 per month for Agency expenditures and \$26,000 for WDCWA's participation in the Sacramento River Watershed Sanitary Survey Update.
- (5) Assumes Agency pays for 5% local cost share of grant funded portion of joint intake, Agency-only facilities, and Agency portion (17%) of common facilities.
- (6) 10% construction contingency required by Joint Intake grant funding agencies.
- (7) 10% contingency of Agency administration costs.
- (8) Costs based on actual or proposed contracts and, therefore, account for inflation/escalation.

Cost Allocation Color Legend

	Regional facilities split by all partners
	Regional facilities paid for by Davis
	Regional facilities paid for by Woodland

**Woodland-Davis Clean Water Agency
Davis-Woodland Water Supply Project Draft Capital Cost Expenditure Plan**

Table 1. Agency Fiscal Year Capital Expenditure Plan in Nominal Dollars⁽²⁾

Cost Category	Total Budget	Budget Expended (9/09 - 6/11)	Expenditures FY 11/12 - FY 12/13	Expected Expenditures FY 13-14	Proposed FY 14-15 Budget	FY 15-16 Budget	FY 16-17 Budget
Environmental & Permitting	\$1,326,000	--	\$784,000	\$245,000	\$175,000	\$112,000	\$10,000
Land/RW Acquisitions	\$4,173,000	--	\$732,000	\$3,417,000	\$24,000	\$0	\$0
Design	\$4,666,000	--	\$3,535,000	\$1,116,000	\$15,000	\$0	\$0
Joint Intake Construction	\$16,518,000	--	\$0	\$1,562,000	\$7,083,000	\$6,294,000	\$1,579,000
DBO Design & Construction ⁽³⁾⁽⁴⁾	\$144,819,000	--	\$0	\$12,229,000	\$82,073,000	\$50,479,000	\$38,000
Quality Assurance & Contract Compliance	\$8,585,000	--	\$146,000	\$3,190,000	\$2,662,000	\$2,385,000	\$202,000
Agency Administration	\$3,205,000	--	\$1,176,000	\$674,000	\$692,000	\$663,000	\$0
Capital Contingency	\$6,598,000	--	\$0	\$2,225,000	\$2,662,000	\$1,683,000	\$28,000
Program Management	\$4,272,000	--	\$1,976,000	\$825,000	\$643,000	\$567,000	\$261,000
Regional Facilities Design Criteria	\$1,272,000	--	\$834,000	\$238,000	\$105,000	\$95,000	\$0
Water Right Permits	\$1,575,000	--	\$921,000	\$274,000	\$329,000	\$51,000	\$0
Supplemental Water Supply	\$37,000	--	\$7,000	\$0	\$15,000	\$15,000	\$0
Total Regional Project Costs⁽¹⁾	\$204,537,000	\$7,491,000	\$10,111,000	\$25,995,000	\$96,478,000	\$62,344,000	\$2,118,000
Cumulative Total	--	\$7,491,000	\$17,602,000	\$43,597,000	\$140,075,000	\$202,419,000	\$204,537,000

⁽¹⁾ Total regional project budget includes expenditures between September 2009 and June 30, 2011.

⁽²⁾ Costs based on actual or proposed contracts and, therefore, account for inflation/escalation.

⁽³⁾ Based on Final Service Contract signed October 10, 2013, including additional SRF compliance and Woodland storage and pumping at the RWTF.

⁽⁴⁾ Based on May 30, 2014 drawdown schedule from CH2M HILL.

**Woodland-Davis Clean Water Agency
Davis-Woodland Water Supply Project Draft Capital Cost Expenditure Plan**

Table 2. City of Woodland Fiscal Year Capital Expenditure Plan in Nominal Dollars⁽²⁾

Cost Category	Total Budget	Budget Expended (9/09 - 6/11)	Expenditures FY 11/12 - FY 12/13	Expected Expenditures FY 13-14	Proposed FY 14-15 Budget	FY 15-16 Budget	FY 16-17 Budget
Environmental & Permitting	\$677,000	--	\$405,000	\$123,000	\$88,000	\$56,000	\$5,000
Land/RW Acquisitions	\$2,117,000	--	\$420,000	\$1,694,000	\$3,000	\$0	\$0
Design	\$2,559,000	--	\$1,975,000	\$576,000	\$8,000	\$0	\$0
Joint Intake Construction	\$8,898,000	--	\$0	\$842,000	\$3,812,000	\$3,393,000	\$851,000
DBO Design & Construction ⁽³⁾⁽⁴⁾	\$78,261,000	--	\$0	\$6,817,000	\$44,341,000	\$27,083,000	\$20,000
Quality Assurance & Contract Compliance	\$4,577,000	--	\$93,000	\$1,696,000	\$1,414,000	\$1,267,000	\$107,000
Agency Administration	\$1,647,000	--	\$632,000	\$337,000	\$346,000	\$332,000	\$0
Capital Contingency	\$3,552,000	--	\$0	\$1,201,000	\$1,434,000	\$902,000	\$15,000
Program Management	\$2,251,000	--	\$1,090,000	\$461,000	\$296,000	\$284,000	\$120,000
Regional Facilities Design Criteria	\$700,000	--	\$480,000	\$119,000	\$53,000	\$48,000	\$0
Water Right Permits	\$1,145,000	--	\$813,000	\$139,000	\$167,000	\$26,000	\$0
Supplemental Water Supply	\$20,000	--	\$4,000	\$0	\$8,000	\$8,000	\$0
Total Regional Project Costs⁽¹⁾	\$110,419,000	\$4,015,000	\$5,912,000	\$14,005,000	\$51,970,000	\$33,399,000	\$1,118,000
Cumulative Total	--	\$4,015,000	\$9,927,000	\$23,932,000	\$75,902,000	\$109,301,000	\$110,419,000

⁽¹⁾ Total regional project budget includes expenditures between September 2009 and June 30, 2011.

⁽²⁾ Costs based on actual or proposed contracts and, therefore, account for inflation/escalation.

⁽³⁾ Based on Final Service Contract signed October 10, 2013, including additional SRF compliance and Woodland storage and pumping at the RWTF.

⁽⁴⁾ Based on May 30, 2014 drawdown schedule from CH2M HILL.

**Woodland-Davis Clean Water Agency
Davis-Woodland Water Supply Project Draft Capital Cost Expenditure Plan**

Table 3. City of Davis Fiscal Year Capital Expenditure Plan in Nominal Dollars⁽²⁾

Cost Category	Total Budget	Budget Expended (9/09 - 6/11)	Expenditures FY 11/12 - FY 12/13	Expected Expenditures FY 13-14	Proposed FY 14-15 Budget	FY 15-16 Budget	FY 16-17 Budget
Environmental & Permitting	\$651,000	--	\$379,000	\$123,000	\$88,000	\$56,000	\$5,000
Land/RW Acquisitions	\$2,056,000	--	\$312,000	\$1,722,000	\$22,000	\$0	\$0
Design	\$2,108,000	--	\$1,560,000	\$540,000	\$8,000	\$0	\$0
Joint Intake Construction	\$7,621,000	--	\$0	\$720,000	\$3,271,000	\$2,902,000	\$728,000
DBO Design & Construction ⁽³⁾⁽⁴⁾	\$66,558,000	--	\$0	\$5,412,000	\$37,732,000	\$23,396,000	\$18,000
Quality Assurance & Contract Compliance	\$4,008,000	--	\$54,000	\$1,494,000	\$1,248,000	\$1,118,000	\$94,000
Agency Administration	\$1,559,000	--	\$544,000	\$337,000	\$346,000	\$332,000	\$0
Capital Contingency	\$3,045,000	--	\$0	\$1,024,000	\$1,227,000	\$781,000	\$13,000
Program Management	\$2,021,000	--	\$886,000	\$363,000	\$347,000	\$284,000	\$141,000
Regional Facilities Design Criteria	\$573,000	--	\$353,000	\$119,000	\$53,000	\$48,000	\$0
Water Right Permits	\$433,000	--	\$108,000	\$136,000	\$163,000	\$26,000	\$0
Supplemental Water Supply	\$19,000	--	\$3,000	\$0	\$8,000	\$8,000	\$0
Total Regional Project Costs⁽¹⁾	\$94,128,000	\$3,476,000	\$4,199,000	\$11,990,000	\$44,513,000	\$28,951,000	\$999,000
Cumulative Total	--	\$3,476,000	\$7,675,000	\$19,665,000	\$64,178,000	\$93,129,000	\$94,128,000

⁽¹⁾ Total regional project budget includes expenditures between September 2009 and June 30, 2011.

⁽²⁾ Costs based on actual or proposed contracts and, therefore, account for inflation/escalation.

⁽³⁾ Based on Final Service Contract signed October 10, 2013, including additional SRF compliance.

⁽⁴⁾ Based on May 30, 2014 drawdown schedule from CH2M HILL.

Draft WDCWA - Annual Operations and Maintenance Costs

EXHIBIT D

All Project Partners (Nominal Dollars)

ACTION OR COST CATEGORY	Projected Expenditures Sept. 2009 – June 30, 2014	Fiscal Year										TOTAL
		FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	
WATER PURCHASE BUDGET	\$0	\$0	\$2,600,000	\$2,652,000	\$2,705,000	\$2,759,000	\$2,814,000	\$2,871,000	\$2,928,000	\$2,987,000	\$3,046,000	\$25,362,000
OPERATION & MAINTENANCE BUDGET ⁽¹⁾	\$0	\$0	\$0	\$7,837,000	\$7,844,000	\$8,023,000	\$8,206,000	\$8,470,000	\$8,626,000	\$8,836,000	\$8,795,000	\$66,637,000
AGENCY ADMINISTRATION ⁽²⁾	\$0	\$0	\$0	\$574,000	\$367,000	\$383,000	\$397,000	\$415,000	\$429,000	\$449,000	\$465,000	\$3,479,000
TOTAL ANNUAL COSTS	\$0	\$0	\$2,600,000	\$11,063,000	\$10,916,000	\$11,165,000	\$11,417,000	\$11,756,000	\$11,983,000	\$12,272,000	\$12,306,000	\$95,478,000
Woodland Allocation	\$0	\$0	\$1,401,400	\$5,902,700	\$5,856,400	\$6,002,800	\$6,156,900	\$6,354,300	\$6,508,100	\$6,682,900	\$6,612,100	\$51,477,600
Davis Allocation	\$0	\$0	\$1,198,600	\$5,160,400	\$5,058,900	\$5,161,200	\$5,260,400	\$5,401,800	\$5,475,200	\$5,588,700	\$5,694,400	\$43,999,600

⁽¹⁾ Operations and maintenance costs assume the use of WAPA power at the Joint Intake, include escalation (OMB and EIA escalation used for O&M costs & 4% annual escalation assumed for agency administration costs), and a 5% contingency on all O&M costs.

⁽²⁾ Includes 10% contingency

WDCWA Fiscal Year 14/15 Consultant/Legal/Contractor Budget Portions by Cost Category

Cost Category	Consultant/Legal/Contractor	Services Provided	Budget	Subconsultant/Subcontractor Portion
Agency Administration				
	West Yost Associates	engineering	\$30,000	
	Kim Floyd Communications	public outreach	\$70,000	
	California Strategies	advocacy	\$30,000	
	BKS	legal	\$75,000	
Program Management				
	West Yost Associates	engineering	\$643,000	
Regional Facilities Planning and Pre-Design				
	West Yost Associates	engineering	\$95,000	TT (\$38,000); EET (\$13,000)
	TerraVerde	energy	\$10,000	
Water Right Permits				
	West Yost Associates	engineering	\$174,000	
	ESA	environmental/permitting	\$95,000	
	BKS	legal	\$60,000	
Environmental & Permitting				
	West Yost Associates	engineering	\$135,000	TT (\$39,000)
	ESA	environmental/permitting	\$20,000	
	BKS	legal	\$20,000	
Supplemental Water Supply				
	West Yost Associates	engineering	\$15,000	
Land/RW Acquisitions				
	West Yost Associates	engineering	\$19,000	BR (\$8,000)
	BKS	legal	\$5,000	
Design				
	West Yost Associates	engineering	\$15,000	
Construction				
	West Yost Associates	engineering	\$1,279,000	TT (\$159,000); FR (\$78,000); LN (\$19,000); VA(\$19,000); JC (\$42,000); BT (\$32,000); SE (\$11,000)
	Psomas	quality control	\$981,128	VN (\$117,680); FR (\$25,000), AE (\$10,000); EN (\$50,000)
	ESA	environmental/permitting	\$148,980	
	BKS	legal	\$30,000	
	Hawkins Delafield	specialty legal	\$10,000	
	CH2M Hill	design/construction	\$82,072,779	unknown
	RD 2035 (Balfour Beatty, MWH, PG&E)	construction	\$7,005,767	unknown
Capital Contingency				
	West Yost Associates	engineering	\$120,000	

WDCWA Summary of Consultant Contracts

Consultants/Legal/Contractors	Contract(s) Term	Services Provided	Contract Amount	Notes/Status
West Yost Associates	7/1/14 - end of DBO construction*	engineering	\$4,392,000	\$2,525,000 budgeted in FY 14/15
Terra Verde	5/22/13 - completion of services*	energy	\$20,000	\$10,000 budgeted in FY 14/15
ESA	Oct. 2011 - end of DBO construction*	environmental/permitting	\$357,552	Contract amount shown for environmental mitigation monitoring only (\$148,980 budgeted in FY 14/15); does not include completion of SEIR
Kim Floyd Communications	7/1/14 - end of DBO construction*	public outreach	\$140,000	\$70,000 budgeted in FY 14/15
BKS	no-date	legal	\$190,000	open-ended contract
Hawkins Delafield	7/1/13-6/30/14	specialty legal	\$10,000	as needed
California Strategies	expected for FY 14/15	advocacy	\$30,000	contracted through RD 2035
Psomas	through end of DBO construction*	quality control	\$2,496,930	\$981,128 budgeted in FY 14/15
CH2M Hill	DBO contract	construction	\$ 144,317,896	\$82,072,779 budgeted in FY 14/15
RD 2035	through end of Joint Intake construction	construction	\$ 16,331,242	Balfour Beatty, MWH, PG&E and others contracted through RD 2035 (\$7,005,767 budgeted for FY 14/15)
Anticipated Total Contracts Amount			\$168,285,620	

*End of construction anticipated to be June 30, 2016

Subconsultant/Subcontractor Key:

TT = Trussell Technologies; FR = Frish Electrical; JC = Jacobs Associates; EET = Eurofins Eaton Analytical; BR = Bender Rosenthal; LN = Lionakis; VA = V&A Consultants; BT = Bennett Trenchless; SE = Stanton Engineering; VN = Vanir; AE = Argonaut Ecological; EN = ENGEO



DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Consideration of Task Order No. 8 to Agreement for Professional Engineer Services with West Yost Associates, Inc. for Services through Water Supply Project Construction Acceptance

RECOMMENDATION

Move to approve Task Order No. 8 to the Agreement for Professional Engineer Services with West Yost Associates, Inc. to extend the contract term and scope of work through Water Supply Project construction acceptance.

BACKGROUND AND DISCUSSION

On November 1, 2009, the Agency approved an Agreement for Professional Engineering Services with West Yost Associates, Inc. for project engineering and related services. The services are set to expire on June 30, 2014.

Agency staff desires to continue the West Yost Associates work and services for the duration of construction. We have worked with West Yost staff on the preparation of the attached Task Order No. 8 for consideration by the Board. Under this proposal, West Yost would provide the Agency with continued project administration, program management and engineering services through the completion of construction acceptance under the CH2M HILL Service Contract, which is anticipated to be in June 2016. Administration and management services include engineering technical support, conduct of regular project team meetings, decision tracking, maintenance of a document sharing SharePoint website, project scheduling and budgeting, grant and loan funding assistance, and continued management of the Agency's consultant team. Engineering services include reviewing design submittals, ensuring contract compliance for design related items, permit support and assistance, finalizing the acquisition of land and rights-of-way for project facilities, completing technical work required for the preparation of a supplemental environmental impact report for the ASR program, and oversight of the Agency's facilities portion of the joint intake construction. The Task Order and accompanying scope of work provide greater detail on each of the proposed tasks. The Task Order provides for a \$4,392,000 not-to-exceed contract amount for the remaining construction phase of the project, which is expected to span the next two fiscal years (FY 2014-15 and FY 2015-16), but which could extend into FY 2016-17 depending upon construction progress. For comparison, Task Order No. 7 for FY 2013-14 was in the amount of \$3,292,000. As the project moves further into the construction and operation phase, West Yost's role will continue to diminish.



FISCAL IMPACT

Approval of the Task Order would authorize \$4,392,000 of ongoing project engineering, management and related services in the two following fiscal years until construction is complete. This expenditure has been included in and is compatible with the Fiscal Year 2014-15 budget and planned Fiscal Year 2015-2016 Agency budget.

TASK ORDER NO. 8
WOODLAND-DAVIS CLEAN WATER AGENCY
SERVICES AGREEMENT
FOR
PROJECT ENGINEERING SERVICES

In accordance with the Woodland-Davis Clean Water Agency (“Agency”) Services Agreement for Professional Engineer Services with West Yost Associates (“Consultant”), dated November 1, 2009 (the “Agreement”), Consultant is authorized to complete the additional work approved in this Task Order No. 8 according to the work scope, budget, compensation and schedule described below.

WORK SCOPE

Consultant will perform all services and tasks described in the attached Scope of Work for Consultant Services dated June 2014.

BUDGET

The costs for Consultant’s additional services under this Task Order shall not exceed \$4,392,000.

COMPENSATION

Compensation shall be in accordance with the fee and payment provisions of the Agreement and all costs in Table 2 of the June 2014 Scope of Work. If Consultant believes additional compensation will be necessary to complete tasks beyond the Task Order limit, Consultant may request additional compensation in writing prior to reaching the authorized limit. Consultant will not charge Agency in excess of this limit without prior written approval of the Agency. West Yost hourly rates shall be based on the attached rate schedule. Annual rate increases are allowed based on the West Yost published rate schedule, at a maximum rate increase of three percent per year.

SCHEDULE

All tasks will be completed consistent with the master project schedule. This Task Order shall expire on June 30, 2016.

WEST YOST ASSOCIATES, INC.

WOODLAND-DAVIS CLEAN WATER
AGENCY, a joint powers authority

Signature
James A. Yost

Signature
Dennis M. Diemer

Printed Name
Principal

Printed Name
General Manager

Title

Title

Date

Date



WEST YOST ASSOCIATES, INC.

2014 Billing Rate Schedule

(Effective January 1, 2014 through December 31, 2014)*

Position	Labor Charges (dollars per hr)
Principal/Vice President	240
Engineering Manager	229
Principal Engineer/Scientist	207
Senior Engineer/Scientist/GIS Analyst	186
Associate Engineer/Scientist	169
GIS Analyst	164
Engineer II/Scientist II	147
Engineer I/Scientist I	126
Construction Manager III	186
Construction Manager II	169
Construction Manager I	158
Resident Inspector III	140
Resident Inspector II	129
Resident Inspector I	115
Sr. Designer/Sr. CAD Operator	120
Designer/CAD Operator	107
IT Support	150
Engineering Aide	71
Administrative IV	109
Administrative III	98
Administrative II	82
Administrative I	66

Hourly labor rates include Direct Costs such as general computers, system charges, telephone, fax, routine in-house copies/prints, postage, miscellaneous supplies, and other incidental project expenses.

Outside Services such as vendor reproductions, prints, shipping, and major West Yost reproduction efforts, as well as Engineering Supplies, Travel, etc. will be billed at actual cost plus 15%.

Mileage will be billed at the current Federal Rate.

Subconsultants will be billed at actual cost plus 10%.

Computers are billed at \$25 per hour for specialty models and AutoCAD.

Expert witness, research, technical review, analysis, preparation and meetings billed at 150% of standard hourly rates. Expert witness testimony and depositions billed at 200% of standard hourly rates.

A Finance Charge of 1.5% per month (an Annual Rate of 18%) on the unpaid balance will be added to invoice amounts if not paid within 45 days from the date of the invoice.

*This schedule will be updated annually.



WEST YOST ASSOCIATES, INC.

2014 Billing Rate Schedule

(Cont'd.)

(Effective January 1, 2014 through December 31, 2014)*

SURVEYING AND EQUIPMENT CHARGES

Position	Labor Charges (dollars per hr)
GPS, 3-Person	366
GPS, 2-Person	317
GPS, 1-Person	246
Survey Crew, 2-Person	268
Survey Crew, 1-Person	202

EQUIPMENT CHARGES

Equipment	Billing Rate (dollars per day)	Billing Rate (dollars per week)
DO Meter	16	81
pH Meter	5	26
Automatic Sampler	128	698
Transducer/Data Logger	40	202
Hydrant Pressure Gage	11	49
Hydrant Pressure Recorder (HPR)	—	202
Hydrant Wrench	5	32
Pilot Diffuser	29	132
Well Sounder	29	132
Ultrasonic Flow Meter	—	264
Vehicle	87	437
Velocity Meter	11	64
Water Quality Multimeter	173	946
Thickness Gage	—	70

* This schedule will be updated annually.

Scope of Work for Consultant Services Davis Woodland Water Supply Project

Prepared for

**Woodland-Davis
Clean Water Agency**

June 2014



List of Acronyms and Abbreviations iii

Scope of Services

- Agency Administration 3
 - Task 10: Engineering Technical Support 3
 - Material Review and Preparation..... 3
 - Meetings/Event Booths..... 3
 - Publications Repository 4
- Program Management 4
 - Task 14: Project Program Management 4
 - Task 15: Technical Services to Agency 4
 - Task 16: Technical Services to Davis 5
 - Task 17: Technical Services to Woodland 5
 - Task 18: Joint Intake Overall Management..... 5
 - Task 20: Program Budgeting and Scheduling..... 5
 - Task 21: Grant and Loan Funding Assistance & Administration..... 6
- Water Quality Sampling Program 6
 - Task 36: Surface Water Quality Sampling Program 6
- Water Right Permits 7
 - Task 41: WDCWA Water Right Permit – ASR Program Related to Agency SEIR 7
 - Task 42: WDCWA Water Right Permit – Engineering Technical Support for WDCWA Permit Hearing 10
 - Task 46: WDCWA/CPG Water Right Permit Assignment and BuRec Contract Assignment – Engineering Technical Support..... 10
- Environmental and Permitting..... 10
 - Task 54: Facilities Permitting 10
- Supplemental Water Supply 12
 - Task 61: Water Purchase..... 12
- Land/RW Acquisitions..... 13
 - Task 70: Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions 13
- Energy Program..... 13
 - Task 95: Coordination with Energy Consultant 13
 - Task 105: WAPA Power Application & Investigation – Technical Support 13
- Construction-Related Services 14
 - Task 136: DBO Design Review Conformance 14
 - Task 137: Construction Compliance with Approved Design 14
 - Task 138: Equipment Submittal and RFI Review..... 15
 - Task 139: Design/Construction Coordination and As Needed Technical Services 15
 - Task 140: Acceptance Test Plan, Testing and Closeout 15
 - Task 166: Joint Intake Agency Construction Oversight 15
 - Task 184: Engineering Contingency 16

Table of Contents



List of Tables

Table 1. WDCWA Proposed Budget.....	17
Table 2. West Yost Associates DWWSP Cost Estimate Summary Task Order No. 8.....	19

List of Acronyms and Abbreviations

AIS	American Iron and Steel
ASR	Aquifer Storage Recovery
Bender Rosenthal	Bender Rosenthal, Inc.
BKS	Bartkiewicz, Kronick & Shanahan
BoR	U.S. Bureau of Reclamation
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CPG	Conaway Preservation Group
CWSRF	Clean Water State Revolving Fund
DBE	Disadvantaged Business Enterprise
DBO	Design-Build-Operate
DWWSP	Davis Woodland Water Supply Project
EIR	Environmental Impact Report
ESA	Environmental Science Associates
FY	Fiscal Year
IWFM	Integrated Water Flow Model
Kim Floyd	Kim Floyd Communications
MWH	Montgomery, Watson, Harza
PG&E	Pacific Gas & Electric
RD 2035	Reclamation District 2035
SDWSRF	Safe Drinking Water State Revolving Fund
SRF	State Revolving Fund
SWRCB	State Water Resources Control Board
TMF	Technical, Managerial and Financial
WAPA	Western Area Power Association
WDCWA	Woodland-Davis Clean Water Agency

DAVIS-WOODLAND WATER SUPPLY PROJECT SCOPE OF WORK FOR CONSULTANT SERVICES

TASK ORDER NO. 8

This document defines the services that the West Yost Associates Consultant Team (West Yost) will provide the Woodland-Davis Clean Water Agency (WDCWA) in support of the Davis Woodland Water Supply Project (DWWSP). Following the description of the work tasks, a cost table is presented that identifies the cost estimated for each work task. This work will be completed in accordance with the overall project schedule. This task order coincides with Fiscal Years (FY) 2014-2015 and 2015-2016 (July 1, 2014 through June 30, 2016).

To maintain the currently scheduled project start-up in June 2016, the following major action items must be completed by West Yost within the next two years:

- Program Management – conduct of regular staff and project team meetings; regular attendance at WDCWA Board meetings; and assistance in guiding the project through critical decision-making through the design-build project phase, maintenance of project document sharing SharePoint site, decision-log tracking, and continued management of the consultant team.
- Public Outreach – continue to support the implementation of a proactive public outreach program with a focus on providing public updates on the project construction progress.
- Facilities Design and Construction – continue to ensure contract compliance during the Design-Build phase of the project, facilitate the permitting process, and provide engineering services during construction of the joint intake.

For this work scope, it has been assumed that:

- All land acquisition is complete by the end of FY 2013-2014 with the exception of the Lillard easement and the two Willow Slough Bypass easements which are expected to be complete by August 2014.
- Intermediate level design drawings and specifications will be prepared and submitted to the WDCWA by CH2M Hill in FY 2013-2014, with final drawings and specifications submitted in FY 2014-2015.
- All environmental permits are obtained by the end of FY 2013-2014.
- All landowner rights-of-entry will be complete by the end of FY 2013-2014.
- The CALTRANS parent permit will be complete in FY 2013-2014.
- Safe Drinking Water State Revolving Fund (SRF) Loan applications for both WDCWA and the City of Woodland will be complete in FY 2013-2014.
- Clean Water SRF loan application for WDCWA and the City of Davis will be complete during the first half of FY 2014-2015.

- After the WDCWA successfully secures a water right modification to allow for the Aquifer Storage and Recovery (ASR) program, further ASR program activities will be coordinated and funded through the individual cities.
- CH2M Hill maintains the current design-build schedule. Specifically, it is assumed that CH2M Hill completes construction, including testing and closeout, in June 2016.

Work to be completed in this work scope is summarized below for each of the major project elements and described in detail in the following text in this work scope:

- Agency Administration – West Yost will support the WDCWA implementation of a proactive public outreach program through technical assistance to the WDCWA and Kim Floyd Communications (Kim Floyd) in community/stakeholder outreach efforts.
- Program Management – West Yost will continue to provide program management for the DWWSP as well as on-call technical services to the WDCWA and each city, as needed. Jim Yost will continue his role representing the WDCWA on the joint intake management committee. West Yost will assist the WDCWA in continuing to pursue outside funding support for the project, and provide all information needed to facilitate continued work on city budgeting and rate analyses/planning, and WDCWA budget monitoring and reporting. Support/assistance to the WDCWA and cities will also be provided in pursuit and implementation of federal loan funding through both the Clean Water and Drinking Water SRF programs. This support will include processing SRF reimbursement requests.
- Water Rights Permits – West Yost will assist the WDCWA project team in modifying the WDCWA water right permits to accommodate an ASR program.
- Environmental and Permitting – West Yost will provide technical support to WDCWA in its mitigation and monitoring related to environmental permits. West Yost will also assist and provide oversight in the design and construction permitting process to CH2M Hill and will be involved in all discussions with California Department of Public Health (CDPH) regarding the New Domestic Water Supply Permit and other permitting agencies.
- Supplemental Water Supply – West Yost will identify potential sellers, assess possible water transfer contract terms, and rank supplemental supply alternatives.
- Land/Right-of-Way Acquisition – West Yost will provide continued support to WDCWA for acquiring the final easements required for construction.
- Construction – West Yost will continue to review the CH2M Hill prepared designs and coordinate the review by subconsultants. During construction, West Yost will provide design contract compliance services, review of submittals and requests for information pertaining to major pieces of equipment, and coordination with and technical services to Psomas, the construction quality assurance firm.

A five (5) percent contingency has been included to account for out-of-scope items that may arise during the course of the FY. The contingency budget will not be used without the authorization of the WDCWA General Manager.

Although not part of this work scope, it is also critical that planning and construction of local facilities improvements in Woodland and Davis continue on-schedule. It will be important to maintain clear communication and sharing of information between the work effort directed toward completion of this local facilities work and the ongoing regional project work.

The following tasks are organized and numbered in coordination with the WDCWA FY 2014-2015 budget shown in Table 1 for reference. Table 2 shows the costs associated with work being performed by West Yost for each task described below.

AGENCY ADMINISTRATION

This category of Agency Administration is generally reserved for Agency Administrative staff time and other administration-related items. However, public outreach is included in this category and West Yost will have a role in the WDCWA public outreach program.

Task 10: Engineering Technical Support

West Yost will continue to support the WDCWA's implementation of a proactive public outreach program with a focus on providing the public updates on the construction progress.

To achieve outreach objectives and to keep DWWSP implementation efforts as transparent as possible, West Yost will assist the WDCWA in community/stakeholder outreach efforts. Kim Floyd, who will be working under separate contract to the WDCWA, is leading the overall public outreach program. In some cases, this role includes coordination on the development of work products by West Yost and/or staffs of Woodland and Davis. The West Yost public outreach scope will include the work tasks described below.

Material Review and Preparation

West Yost will provide the WDCWA and Kim Floyd technical review of public outreach materials as requested by the WDCWA General Manager. West Yost will also provide graphic design services as needed to support Kim Floyd's preparation of project public outreach materials. Outreach materials may include quarterly newsletters, monthly progress updates, periodic brochures, and press releases.

Meetings/Event Booths

West Yost staff, including WDCWA Project Engineer Jim Yost, will attend and participate in public meetings, workshops, and events as requested by the WDCWA General Manager. As needed, West Yost staff will be available to present at Speakers' Bureau events to share and explain project information to the general public, businesses, civic, and quasi-governmental organizations. The budget allows for attendance by two West Yost team members at up to four (4) events.

Publications Repository

West Yost has established an electronic library on the project internal SharePoint site for all articles, press releases, and other publications related to the project. West Yost will continue to update and organize the library, and notify the project team, as new materials are published.

PROGRAM MANAGEMENT

The surface water project is a very large capital project with many activities proceeding simultaneously. This work provides for members of the project team to conduct regular project team meetings; perform scheduling activities; represent the WDCWA at bi-weekly Joint Intake Management meetings; assist the WDCWA with budgeting and grant and loan funding activities; prepare materials for and participate in the WDCWA Board meetings; maintain project document sharing SharePoint site; assist in guiding the project through critical decisions related to the design and construction process; and continue management of the consultant team.

Task 14: Project Program Management

West Yost will continue to participate in monthly Project Status meetings for the WDCWA project team which will include West Yost staff; WDCWA consultants: CH2M Hill, Psomas, Kim Floyd, and Bartkiewicz, Kronick & Shanahan (BKS); and WDCWA and city staff.

Jim Yost, the WDCWA Project Engineer, and Lindsay Smith will attend the Board meetings and provide project updates to the Board, as requested by the WDCWA General Manager. West Yost will prepare brief meeting note summaries of each Board meeting and email the project team within a week of each meeting. The budget allows for attendance at, and notes from, Board meetings or workshops with the assumption that a Board meeting will occur every other month.

West Yost will maintain the internal project SharePoint site. Activities will include adding and removing members to and from the site, providing site users with tutorials and instructions as needed, updating the project meeting calendar, and removing old draft documents.

West Yost will continue to host and participate in regular managers' meetings, and participate in other similar activities as may be requested by the WDCWA General Manager. The budget allows for two, two-hour meetings per month.

West Yost will continue oversight and management of the West Yost Consultant Team, which will include roughly a dozen subconsultants. West Yost will also prepare monthly Project Status reports for the WDCWA General Manager which will include budget and work progress updates for West Yost; CH2M Hill; Psomas; Montgomery, Watson, Harza (MWH); Balfour Beatty; Kim Floyd; Environmental Science Associate (ESA); and other WDCWA consultants.

Task 15: Technical Services to Agency

West Yost will continue to provide on-call technical support to the WDCWA, as requested by the WDCWA General Manager.

Task 16: Technical Services to Davis

West Yost will continue to provide on-call technical support to the City of Davis, as requested by the WDCWA General Manager and City of Davis staff. Additionally, West Yost will complete the State Revolving Fund (SRF) application review process and assist the City with matters related to both the WDCWA's Clean Water (CW) SRF application for Davis' portion of the DWWSP and the City's Clean Water State Revolving Fund (CWSRF) loan for local facilities water quality improvement projects related to the DWWSP. There are four distinct water quality improvement projects identified in the SRF application to be implemented by September 2016. These projects may be implemented separately and each will require on-going coordination with CWSRF staff including the following: project plan and specification approval, bid document review, coordination of disadvantaged business enterprise (DBE) and American Iron and Steel (AIS) requirements, design and planning reimbursement claims, and construction claims.

Task 17: Technical Services to Woodland

West Yost will continue to provide on-call technical support to the City of Woodland, as requested by the WDCWA General Manager and City of Woodland staff. Additionally, West Yost will assist the City with matters related to the WDCWA's Safe Drinking Water (SDW) SRF loan for Woodland's portion of the DWWSP and the City's Safe Drinking Water State Revolving Fund (SDWSRF) loan for local facilities water quality improvement projects related to the DWWSP. There are five distinct water quality improvement projects in the City's local facilities loan. Two of these projects have been completed or are near completion: Well 28 and the First Ground Level Water Tank. West Yost will assist the City in securing reimbursement for these project costs. The remaining local facilities projects will need to be implemented by September 2016. These projects will be implemented separately and each will require on-going coordination with SDWSRF staff including the following: project plan and specification approval, bid document review, coordination of DBE and AIS requirements, design and planning reimbursement claims, and construction claims.

Task 18: Joint Intake Overall Management

This task will include Jim Yost's participation in the joint intake management committee. The budget for this task allows for Jim to attend approximately two management committee meetings per month.

Task 20: Program Budgeting and Scheduling

West Yost will continue to provide project budget updates and cash flow schedules as requested. West Yost will continue to support the financial planners and City financial staff by preparing cash flow projections. The budget for this subtask also includes attendance at meetings to discuss and modify cash flow projections and to assist in maintaining regular communications between the City finance departments and the project team.

West Yost will also continue to prepare updates to the project basic schedule summary throughout the contract period and monitor progress on all team activities related to this schedule.

Task 21: Grant and Loan Funding Assistance & Administration

Securing outside funding/financing is a major priority to minimize customer rate impacts.

The WDCWA General Manager will lead the pursuit of outside funding. West Yost will assist in finalizing CWSRF financing for the DWWSP, other funding/financing opportunities (grants, loans and/or special appropriations) and preparing materials and applications for project financing pursuits. This assistance will include research, gathering data from the cities and preparation of materials for key meetings with funding agencies (such as the CDPH and State Water Resources Control Board (SWRCB) –SRF), and local/regional officials who may be influential in helping to secure such funding/financing. Additionally West Yost will assist the WDCWA regarding administration, cost reimbursement claims and construction claims related to funding agreements.

WATER QUALITY SAMPLING PROGRAM

Task 36: Surface Water Quality Sampling Program

In August 2009, West Yost began a water quality sampling program – collecting Sacramento River water samples from the Reclamation District 2035 (RD 2035) diversion point. This sampling program will continue through construction and will include water quality laboratory tests for general parameters, many Title 22 constituents, hexavalent chromium, pharmaceuticals and personal care products, pesticides and herbicides as recommended by subconsultant Trussell Technologies. As the end of the contract period approaches, the sampling program will be reassessed and it will be determined what the future water quality sampling program should include. Water quality data collection will continue to be guided by input from CDPH regarding permit needs.

The ongoing sampling program which will continue through project construction will include monthly, quarterly, and two different annual sampling suites as follows.

- Monthly sampling will include sampling for UV-254, turbidity, total suspended solids, total organic carbon, bromide, total and dissolved manganese, thiobencarb (April-July), and molinate (April-July).
- Quarterly sampling will include all Monthly parameters, additional general parameters, strontium, surfactants, additional metals, anions/cations, and hexavalent chromium.
- Annual Spring sampling will include all Quarterly parameters, additional metals, trihalomethanes, haloacetic acids, asbestos, radionuclides, semivolatile organics, volatile organics, other assorted synthetic and non-synthetic organics, aldicarbs, carbamates, assorted pesticides, and assorted herbicides, as recommended by Trussell Technologies.
- Annual Fall sampling will include all Quarterly parameters as well as pharmaceuticals and personal care products.

WATER RIGHT PERMITS

Under this work task, the West Yost Consultant Team will assist WDCWA staff and legal counsel in pursuing those water right activities needed to formulate and finalize a long-term water supply plan that meets the WDCWA needs through the life of the DWWSP and satisfies the requirements defined by the SWRCB for final permit approval.

Task 41: WDCWA Water Right Permit – ASR Program Related to Agency SEIR

This task addresses technical studies supporting implementation of ASR as a supplemental water supply for the DWWSP. The technical studies conducted under this task support aquifer characterization, feasibility analysis, infrastructure planning, environmental analysis, and permitting efforts necessary for implementation of ASR in the City of Woodland, and maintenance of the option to implement ASR in the City of Davis in the future.

After completing an evaluation of potential alternative water supplies needed to supplement the WDCWA's water rights, a decision was made in October 2011 to actively pursue ASR in the City of Woodland and to address program-level ASR needs for the WDCWA and both cities. The key aspects of this decision were that the WDCWA's efforts will support ASR infrastructure planning for the City of Woodland, where ASR will be implemented concurrent with the initiation of water treatment plant operations as an integral part of Woodland's water supply; and provide program-level analyses addressing aquifer characterization, feasibility analysis, infrastructure planning, environmental analysis, and permitting requirements for both cities. The City of Davis is not currently planning to use ASR but is maintaining the option of developing ASR in the future. The WDCWA's efforts support the City of Woodland's ongoing implementation of ASR and maintain the City of Davis's option for developing ASR in the future.

ASR was not evaluated in the WDCWA's certified 2007 Environmental Impact Report (EIR) for the DWWSP. The WDCWA will need to complete a Supplemental Environmental Impact Report (SEIR) for the ASR program, building on the 2007 EIR. The SEIR will address the specific ASR project planned for the City of Woodland and provide program-level California Environmental Quality Act (CEQA) coverage for the WDCWA and both cities. The SEIR must address changes brought about solely by the ASR project and by cumulative effects of the ASR project and other past, current or probable future groundwater-related projects. The SEIR will be prepared by ESA under separate contract.

The WDCWA holds the rights to the water that will be stored underground and recovered using ASR. Currently, these rights allow no more than 30 days of storage of the water diverted under the rights. An important goal of the WDCWA's efforts is modification of the water rights to allow more than 30 days of storage, because typical ASR storage and recovery cycles will exceed 30 days. The water rights will need to be modified before June 2016 to enable the City of Woodland to begin storing water underground when the surface water treatment plant is brought on line. The SWRCB will require proof of CEQA compliance prior to considering the WDCWA's petition to change the storage provisions of the water rights. The SEIR is scheduled to be complete before filing of the petition to change the water rights and with sufficient time to allow modification of the water rights before June 2016.

Although completing the technical analysis needed to support the SEIR and achieving timely modification of the water rights are the primary goals under this task, the ASR evaluation efforts conducted to-date and proposed here are also critical for successful use of ASR as part of the DWWSP. To achieve all of these goals, the WDCWA completed a work plan defining the scope and schedule for its ASR efforts in early 2012. Much of the WDCWA's ASR-related work has been completed. This work consisted of the following activities.

Source Water Availability and Infrastructure Capacity Evaluations. The WDCWA's water rights are subject to curtailments depending on hydrologic and water use conditions in the Sacramento River watershed and the Delta. The WDCWA performed comprehensive evaluations of the availability of water held under its surface water rights for a wide range of conditions and compared the source water availability to the projected water demands of the WDCWA members. This information was used to estimate the potential storage capacity of an ASR program and ensure that ASR capacity was matched to the optimized capacity of the water treatment plant.

Aquifer Characterization, Monitoring and Testing. Adequate aquifer system characterization has been shown to be crucial to the success of ASR implementation in other ASR programs. The WDCWA has compiled an extensive body of information collected by the cities, and other local, state and federal agencies in an advanced Geographical Information System and geodatabase system. This information is being used to support development of the WDCWA's integrated water resources model and the SEIR for the ASR program. Aquifer characterization, groundwater monitoring, geochemical assessment, and pilot testing supporting the WDCWA's ASR efforts have been completed, although the Cities of Davis and Woodland have ongoing data collection and monitoring programs that can be used to further their own ASR efforts.

Integrated Water Flow Model Development. The WDCWA has developed the Yolo County Integrated Water Flow Model (IWFM) with support from UC Davis and the California Department of Water Resources Modeling Support Branch, and input from the Cities of Woodland and Davis and other local agencies such as the Yolo County Flood Control & Water Conservation District. IWFM is a numerical model that simulates groundwater, surface water, stream-groundwater interaction, land use and other components of the hydrologic system. The capabilities of the model meet all of the requirements for assessing the hydrological effects of the ASR project and other groundwater-related projects. The model is also a powerful tool for planning future ASR infrastructure. The model development is complete through calibration and preparation of input time series representing future groundwater pumping, river diversions and ASR injection and recovery.

Proposed Work Under the FY 2014-2016 Task Order.

The work proposed during FY 2014-2015 consists of running the IWFM scenarios needed to support the SEIR, and preparing the WDCWA's final report documenting its ASR efforts conducted between approximately 2010 and completion of the IWFM modeling effort.

The following IWFM scenarios will be run, analyzed and documented in the ASR report. The details of these scenarios will be finalized with the WDCWA staff, and both cities, and then analyzed using the model.

Scenario 1 - Existing Conditions without ASR. Includes the DWWSP, supplemental surface water purchase by the City of Woodland and the use of deep aquifer wells by the City of Davis.

Scenario 2 - Existing Conditions with ASR. Includes the DWWSP, reduced use of deep aquifer wells in the City of Davis, ASR in the Cities of Davis and Woodland, and limited purchases of supplemental water when ASR storage is insufficient (e.g., in the event that surface water diversions are curtailed early in the project before significant ASR storage has occurred, or prolonged drought leads to depletion of stored ASR water).

Scenario 3 - Cumulative Conditions without ASR. Similar to Scenario 1, but includes probable future groundwater-related projects (e.g., increased groundwater pumping for irrigation, Yolo County Flood Control & Water Conservation District Cache Creek Recharge Project, changes in groundwater pumping or river diversions resulting from urban development exclusive of the Cities of Woodland and Davis).

Scenario 4 - Cumulative Conditions with ASR. Similar to Scenario 2, but includes probable future groundwater-related projects (e.g., increased groundwater pumping for irrigation, Yolo County Flood Control & Water Conservation District Cache Creek Recharge Project, changes in groundwater pumping or river diversions resulting from urban development exclusive of the Cities of Woodland and Davis).

The final report will document all of the ASR work conducted by the WDCWA through completion of the IWFM modeling. The report will provide documentation of the following:

- Source water availability and infrastructure capacity considerations
- Geologic setting
- Hydrogeologic characterization
- Baseline groundwater level and quality monitoring
- Equilibrium geochemical modeling
- Short-term injection testing
- IWFM development
- Description of ASR scenarios for the City of Davis and Woodland
- Evaluation of ASR scenarios

Previously prepared technical memoranda and reports (e.g., reports on geochemical evaluations and injection testing) will be summarized in the final report and provided as appendices.

The IWFM modeling and the draft version of the ASR report are scheduled for completion by fall 2014. The final version of the ASR report is scheduled to be complete by the end of 2014.

It is assumed that the SEIR will be completed in FY 2014-2015 and therefore, the budget does not provide for any ASR-related activities in FY 2015-2016. By FY 2015-2016 it is expected that ASR activities will be specific to each city and will be paid for by each city, under a separate contract, as needed.

Task 42: WDCWA Water Right Permit – Engineering Technical Support for WDCWA Permit Hearing

The ASR program will require storage of treated surface water in the aquifer for more than 30 days. The WDCWA water right permit and the reassigned Conaway Preservation Group (CPG) permits will either be amended, or new permits obtained to allow water diverted under the permits to be stored for more than 30 days. This effort will be led by BKS under a separate contract. West Yost's scope of work under this task will consist of providing technical support to BKS during the SWRCB permitting process. This support will consist of: preparing technical documentation supporting the applications; preparing for SWRCB water right hearings, and providing testimony at hearings and responding to comments submitted to the SWRCB in writing or during hearings as requested by BKS.

Task 46: WDCWA/CPG Water Right Permit Assignment and BuRec Contract Assignment – Engineering Technical Support

In 2010, the WDCWA negotiated a contract (Water Agreement) with CPG for purchase of the rights to divert up to 10,000 acre-feet/year from the Sacramento River. Under this negotiated agreement, WDCWA will receive a portion of the CPG diversion rights provided by two of their existing water right licenses, which are subject to a Settlement Contract with the U.S. Bureau of Reclamation (BoR). The SWRCB issued two new licenses to the WDCWA (904A and 5487A) on December 21, 2012. The WDCWA worked with BoR to complete the reassignment of the Settlement Contract. Through this task, West Yost will respond to an additional questions or requests for information from BoR related to the reassignment of the Settlement Contract.

ENVIRONMENTAL AND PERMITTING

Permitting activities in FY 2014-2015 and FY 2015-2016 include technical support to ESA in regards to the mitigation requirements for environmental permits as well as ongoing coordination with entities such as Pacific Gas & Electric (PG&E), Western Area Power Association (WAPA), Central Valley Flood Protection Board, the Central Valley Regional Water Quality Control Board, California Department of Public Health, and Yolo County as needed to secure project permits.

Task 54: Facilities Permitting

Task 54.01: Technical Support for Environmental Permitting and Mitigation Requirements

During the construction process, the WDCWA will be responsible for complying with the DWWSP final Environmental Impact Report (EIR) mitigation requirements for land purchases and site environmental surveys. ESA, under a separate contract with WDCWA, will lead the effort to address mitigation and monitoring requirements related to the environmental permits for

the DWWSP. West Yost will provide oversight of the environmental compliance process on behalf of the WDCWA.

West Yost will coordinate with ESA and others to provide technical support and services on an as needed basis on the following tasks:

- Assistance related to preparation of spoils map per CDFG Protest Agreement Appendix B Measure 3.4-7a; and
- Assistance related to preparation of the Mitigation and Monitoring Annual Status Report.

Task 54.02: Design and Construction Permitting

While CH2M Hill is primarily responsible for coordination with Governmental Agencies and securing permits, in addition to engineering services outlined below, West Yost will review permit applications and deliverables and assist the General Manager on an as-needed basis.

West Yost will conduct the following engineering services:

- Coordinate with CH2M Hill regarding compliance with impacted entities such as CPG/RD 2035, Pacific Coast Producers, Yolo County, Fire Marshal, Yolo County Farm Bureau, Cities, Landowners, and the Clean Path PVUSA Solar Farm;
- Coordinate with the Central Valley Flood Protection Board regarding levee crossings;
- Prepare and coordinate with CH2M Hill regarding Caltrans permits;
- Coordinate with CH2M Hill regarding obtaining PG&E and WAPA power;
- Coordinate with CH2M Hill regarding the Waste Discharge Requirements for the discharge to land for the solids drying beds;
- Coordinate with the Central Valley Regional Water Quality Control Board for the closure of the ponds at the solids drying beds site;
- Coordinate with the Yolo County Farm Bureau on implementation of the MOU with the Agency – which includes the Farm Bureau’s coordination with the farmers affected by the County Road 22 closure;
- Coordinate with CH2M Hill regarding obtaining SWRCB Stormwater Discharge permits;
- Coordinate with CH2M Hill regarding obtaining the construction water discharge permit, as needed; and
- Coordinate with CH2M Hill to obtain the Authority to Construct/Permit to Operate permit with the Yolo Solano Air Quality Management District.

Task 54.03: CDPH Coordination – Permit to Operate Technical, Managerial and Financial Documents

Under this task, West Yost and Trussell Technologies will provide assistance and documentation to CH2M Hill regarding obtaining the CDPH Permit to Operate and completing the required Technical, Managerial and Financial (TMF) documents. West Yost and Trussell Technologies services will include preparation for and documentation of results of four meetings with CH2M Hill and CDPH.

CDPH required TMF documents are listed in the RFP Background Documents on the *CDPH Drinking Water Permit Checklist*. The West Yost Consultant Team will provide engineering services on the following TMF items:

- Consolidation feasibility
- System descriptions
- Source capacity
- Ownership documentation (JPA formation papers, Deeds and other ownership documentation, Easements, leases)
- Budget control
- Financial information
- Source water information, documentation of water rights (including emergency supply and groundwater), 10 year growth and consumption projections
- Source water quality updates
- Treatment design information
- Distribution system information
- CEQA/NEPA amendments and updates

SUPPLEMENTAL WATER SUPPLY

The large majority of supplemental water supply will be in the form of ASR. However, the purchase of supplemental water may also need to be considered.

Task 61: Water Purchase

If supplemental water supply is needed for the initial operational period prior to maturation of the ASR program, West Yost will assist with identifying and contacting potential willing sellers of supplemental surface water in the Sacramento River watershed or North Delta Water Agency service area and assessing options for securing supplemental water on an as-needed basis over the long term. Any work performed by West Yost under this work task will only be completed in response to a specific request from the Agency General Manager.

The need for the occasional purchase of supplemental surface water was identified during the course of conducting the source water availability and infrastructure capacity evaluations discussed under Task 41. Supplemental surface water purchases may be necessary or desirable early in the DWWSP, if the WDCWA's water rights are curtailed before ASR storage is sufficient to meet demands. Later in the project, supplemental surface water purchases may be needed if ASR storage is depleted during prolonged droughts.

This task will consist of contacting potential sellers, assessing possible water transfer contract terms, and assisting the WDCWA in strategy development and purchase decisions regarding supplemental supply alternatives.

LAND/RW ACQUISITIONS

The large majority of land acquisition has already been completed. There are, however, a few remaining easement pursuits that may continue into FY 2014-2015.

Task 70: Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions

There are three remaining easements to secure, all of which are needed for the construction of the Davis treated water pipeline. The Lillard easement is approximately 10 acres of land that terminates at the northern Davis city limit line. The other two easements are parallel 25 feet wide by 200 feet wide that run through the Willow Slough Bypass between County Road 28H and County Road 29. It is estimated that the negotiations and final processing for these easements will be complete within two months. West Yost is negotiating directly with the owners of the property underlying the Willow Slough Bypass. If negotiations are unsuccessful, subconsultant Bender Rosenthal, Inc. will be retained to appraise and acquire these easements. West Yost and subconsultant Bender Rosenthal, Inc. will assist WDCWA with the final stages of acquiring the Lillard easement. The budget for this task allows for Bender Rosenthal to complete the escrow process and file closeout for the Lillard easement.

ENERGY PROGRAM

West Yost will coordinate with the Agency's energy consultant, WAPA, and PG&E as needed during the next two fiscal years.

Task 95: Coordination with Energy Consultant

The WDCWA has contracted with TerraVerde for energy efficiency and sustainability consulting services. West Yost will participate in meetings between CH2M Hill and TerraVerde, and will work with WDCWA and CH2M Hill to determine what comments, if any, should be incorporated into CH2M Hill's design.

Task 105: WAPA Power Application & Investigation – Technical Support

West Yost will continue providing coordination and technical services related to securing WAPA power for the WDCWA at the joint intake facility. These services will include continued

coordination with the WDCWA, WAPA, RD 2035, and PG&E staff and up to two (2) three-hour coordination meetings.

CONSTRUCTION-RELATED SERVICES

Construction of regional project facilities during the contract period includes the regional Project facilities to be constructed by CH2M Hill and the joint intake to be constructed by Balfour Beatty. This category includes all construction-related activities such as review of the design, review of major equipment submittals and requests for information (RFI), design contract compliance, and coordination with the construction quality assurance firm.

Task 136: DBO Design Review Conformance

West Yost will coordinate the review of CH2M Hill's design for conformance with the Service Contract. Design review checklists will continue to be maintained for each design discipline (e.g., civil, structural, mechanical, electrical, etc.) to facilitate a systematic review of all of CH2M Hill's submittals against design criteria and performance requirements specified in the Service Contract. Review checklists are organized to ensure consistent reviews by designated individuals.

Following the review of CH2M Hill's design submittals, West Yost will prepare and submit written summaries of review comments for WDCWA and City review. West Yost will also organize and conduct internal design review summary meetings with appropriate WDCWA and City staff. Up to three (3) half-day internal design meetings are planned. West Yost will then organize and conduct up to three (3) half-day design review meetings with CH2M Hill, the WDCWA and the cities. Subconsultants will attend design review meetings as appropriate. It is assumed that the majority of this task will be completed during FY 2014-2015 as CH2M Hill's final design should be complete early in FY 2014-2015.

There are five deliverables scheduled to be submitted in FY 2015-2016 that will need to be checked for conformance with the Service Contract. These deliverables include the Operating Protocol, Maintenance Repair and Replacement Plan, Risk Management Prevention Program, Security Plan, and Personnel Training Program.

West Yost will use the following subconsultants for review of CH2M Hill's design submittals: Trussell Technologies (process design); Jacobs Associates (geotechnical design); Frisch Engineering (electrical and instrumentation design); Lionakis (architectural design); Stanton Engineering (HVAC design); Bennett Trenchless (trenchless pipeline design) and V&A Consultants (corrosion protection design).

Task 137: Construction Compliance with Approved Design

Throughout the design-build portion of the DBO contract West Yost will monitor CH2M Hill's compliance with the Contract as it relates to design issues. The Service Contract includes design-build work requirements, Design and Construction Requirements, and Secondary Technical Criteria that will be monitored for compliance by West Yost on behalf of the Agency. West Yost

anticipates meetings and/or conference calls with CH2M Hill to work through any contract compliance issues that may arise.

Contract compliance related to construction will be the responsibility of Psomas, the construction quality assurance firm, who will perform this work under a separate contract with the Agency.

Task 138: Equipment Submittal and RFI Review

West Yost will review CH2M Hill's major equipment submittals and RFIs, and corresponding design team submittal and RFI responses for compliance with the approved design submittals and Service Contract. West Yost will target a 10 working day response time on submittal reviews and a three working day response time on RFI reviews. We anticipate 200 submittals per fiscal year and 100 RFIs per fiscal year (FY 2014-2015 and 2015-2016). In addition, periodic site visits and as-needed meeting attendance are included.

Task 139: Design/Construction Coordination and As Needed Technical Services

West Yost will coordinate with the construction quality assurance firm, Psomas, on a regular basis on design- and construction-related issues. West Yost will be available to provide technical assistance to Psomas, as needed.

Task 140: Acceptance Test Plan, Testing and Closeout

West Yost will provide technical support and review on behalf of the Agency during the testing and closeout phase of construction for each of the regional facilities. It is assumed that the bulk of this task will occur in FY 2015-2016 when the majority of the regional facilities are scheduled for construction completion.

CH2M Hill's baseline schedule indicates that the following activities will occur in FY 2015-2016: Certification of Substantial Completion (March 2016), Draft/Final Punch List (February-March 2016), Certificate of Proper Installation (March 2016), and Acceptance Test Plan (Draft Review in August 2015-December 2015, Final Review in March 2016).

This scope does not include any tasks that occur during FY 2016-2017, such as tasks related to final completion. CH2M Hill is expecting to reach Final Completion in December 2016 and to have Contract Final Completion in March 2017.

Task 166: Joint Intake Agency Construction Oversight

Construction on the joint intake project commenced in FY 2013-2014 and will be in full swing over the next two fiscal years. West Yost will provide project oversight on behalf of the WDCWA and engineering services during construction for the WDCWA portions of the joint intake. West Yost will attend every other weekly construction meeting to represent the WDCWA and keep up-to-date on construction progress. West Yost will review submittals related to the WDCWA facilities including:

- Vertical turbine pumps
- Tilting disc check valves

- Butterfly valves and operators
- Pipe fabrication/lay sheets
- Instrumentation (flow meters, pressure transmitters, level sensors)
- Controllers
- Power distribution equipment

West Yost will coordinate with MWH, RD 2035, and Balfour Beatty and the contract operator, CH2M Hill, as needed on the construction of the WDCWA's joint intake facilities.

Task 184: Engineering Contingency

The engineering contingency is five percent of the West Yost total budget. This contingency will be used to fund unanticipated out-of-scope engineering work on an as-needed basis. The scope and budget for these out-of-scope items will be defined in Budget Modification Requests that will be sent to the WDCWA General Manager, and appropriate City staff for approval.

WDCWA - FY 14/15 Budget Quarterly Breakdown
Davis-Woodland Water Supply Project with Joint Intake⁽¹⁾⁽²⁾
 All Project Partners (Nominal Dollars)⁽⁶⁾

Item No.	ACTION OR COST CATEGORY	Total Annual Budget	FY 14/15			
			Q1	Q2	Q3	Q4
1	Agency Administration					
2	Agency Administrative Staff	\$298,000	\$74,500	\$74,500	\$74,500	\$74,500
3	Agency Treasurer and Accounting Services	\$70,000	\$17,500	\$17,500	\$17,500	\$17,500
4	Agency Legal Counsel	\$75,000	\$18,750	\$18,750	\$18,750	\$18,750
5	Agency Lobbyists	\$30,000	\$15,000	\$15,000	\$0	\$0
6	Organizational Membership Costs	\$10,000	\$10,000	\$0	\$0	\$0
7	Incidental Costs(4)	\$46,000	\$11,500	\$11,500	\$11,500	\$11,500
8	Public Outreach Consultant	\$70,000	\$17,500	\$17,500	\$17,500	\$17,500
9	Environmental Technical Support	\$0	\$0	\$0	\$0	\$0
10	Engineering Technical Support	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
11	Administrative Contingency(7) (Item numbers 2 - 10)	\$62,900	\$15,725	\$15,725	\$15,725	\$15,725
12	Subtotal Agency Administration	\$691,900	\$187,975	\$177,975	\$162,975	\$162,975
13	Program Management					
14	Project Program Management	\$300,000	\$75,000	\$75,000	\$75,000	\$75,000
15	Technical Services to Agency	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000
16	Technical Services to Davis	\$97,000	\$24,250	\$24,250	\$24,250	\$24,250
17	Technical Services to Woodland	\$46,000	\$11,500	\$11,500	\$11,500	\$11,500
18	Joint Intake Overall Management	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
19	Construction Quality Assurance Contract Procurement	\$0	\$0	\$0	\$0	\$0
20	Program Budgeting & Scheduling	\$80,000	\$20,000	\$20,000	\$20,000	\$20,000
21	Grant and Loan Funding Assistance & Administration	\$50,000	\$12,500	\$12,500	\$12,500	\$12,500
22	FPC/Contract Procurement - Technical Assistance	\$0	\$0	\$0	\$0	\$0
23	FPC/Contract Procurement - Legal Assistance	\$0	\$0	\$0	\$0	\$0
24	Subtotal Program Management	\$643,000	\$160,750	\$160,750	\$160,750	\$160,750
25	Regional Facilities Design Criteria					
26	Chlorine/Chloramine Mixing Study	\$0	\$0	\$0	\$0	\$0
27	Aerosol Study	\$0	\$0	\$0	\$0	\$0
28	Water Supply Availability Analysis	\$0	\$0	\$0	\$0	\$0
29	Dewatering Technical Assistance/Coordination	\$0	\$0	\$0	\$0	\$0
30	Telecommunications Coordination	\$0	\$0	\$0	\$0	\$0
31	Energy Consultant	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500
32	RWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
33	RWTF Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
34	Davis TWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
35	Woodland TWP Geotechnical Testing/Investigation	\$0	\$0	\$0	\$0	\$0
36	Surface Water Quality Sampling Program	\$95,000	\$23,750	\$23,750	\$23,750	\$23,750
37	Subtotal Regional Facilities Planning and Pre-Design	\$105,000	\$26,250	\$26,250	\$26,250	\$26,250
38	Water Right Permits					
39	<u>WDCWA Permit</u>					
40	Environmental (Supplement to the EIR for ASR)	\$95,000	\$23,750	\$23,750	\$23,750	\$23,750
41	ASR Program Related to Agency SEIR	\$134,000	\$33,500	\$33,500	\$33,500	\$33,500
42	Engineering Technical Support for WDCWA Permit Hearing	\$30,000	\$7,500	\$7,500	\$7,500	\$7,500
43	Legal	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
44	<u>WDCWA/CPG Water Right Permit Assignment and BuRec Contract Assignment</u>					
45	Environmental	\$0	\$0	\$0	\$0	\$0
46	Engineering	\$10,000	\$2,500	\$2,500	\$2,500	\$2,500
47	Legal	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000
48	Subtotal Water Right Permits	\$329,000	\$82,250	\$82,250	\$82,250	\$82,250
49	Environmental & Permitting					
50	<u>Facilities Permitting</u>					
51	Environmental - DWWSP	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
52	Environmental - RWTF	\$0	\$0	\$0	\$0	\$0
53	Environmental - Heidrick/McGinnis & Lillard	\$0	\$0	\$0	\$0	\$0
54	Engineering	\$135,000	\$33,750	\$33,750	\$33,750	\$33,750
55	Legal	\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
56	<u>Plan B</u>					
57	Environmental (SEIR)	\$0	\$0	\$0	\$0	\$0
58	Subtotal Environmental & Permitting	\$175,000	\$43,750	\$43,750	\$43,750	\$43,750
59	Supplemental Water Supply					
60	Yolo Flood	\$0	\$0	\$0	\$0	\$0
61	Water Purchase	\$15,000	\$3,750	\$3,750	\$3,750	\$3,750
62	Legal	\$0	\$0	\$0	\$0	\$0
63	Subtotal Supplemental Water Supply	\$15,000	\$3,750	\$3,750	\$3,750	\$3,750
64	Land/RW Acquisitions					
65	Legal Services	\$5,000	\$1,250	\$1,250	\$1,250	\$1,250
66	Railroad Easement Negotiations & Legal Documents	\$0	\$0	\$0	\$0	\$0
67	Intake Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
68	Raw Water Pipeline Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
69	RWTF Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
70	Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions	\$19,000	\$4,750	\$4,750	\$4,750	\$4,750
71	Heidrick/McGinnis & Lillard Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
72	Woodland Treated Water Pipelines Land/Easement Surveys & Legal Descriptions	\$0	\$0	\$0	\$0	\$0
73	Eminent Domain Assistance (technical)	\$0	\$0	\$0	\$0	\$0
74	Eminent Domain Services (legal)	\$0	\$0	\$0	\$0	\$0
75	<u>Property/Easement Purchase</u>					
76	Regional Water Treatment Facility Site/Agency Purchase	\$0	\$0	\$0	\$0	\$0
77	Not Used	\$0	\$0	\$0	\$0	\$0
78	Raw Water Pipeline Easements Appraisal Fee Reimbursement	\$0	\$0	\$0	\$0	\$0
79	RWTF Site Appraisal Fee & Phase I ESA	\$0	\$0	\$0	\$0	\$0
80	Davis Treated Water Pipeline Easements Appraisal Fee Reimbursement	\$0	\$0	\$0	\$0	\$0
81	Woodland Treated Water Pipelines Easements Appraisal Fee Reimbursement	\$1	\$0	\$0	\$0	\$0
82	Joint Intake Easement Purchase	\$0	\$0	\$0	\$0	\$0
83	Raw Water Pipeline Easements Purchase	\$0	\$0	\$0	\$0	\$0
84	Davis Treated Water Pipeline Easements Purchase	\$0	\$0	\$0	\$0	\$0
85	Woodland Treated Water Pipelines Easements Purchase	\$0	\$0	\$0	\$0	\$0
86	Subtotal Land/RW Acquisitions	\$24,000	\$6,000	\$6,000	\$6,000	\$6,000

**West Yost Associates DWWSWP Cost Estimate Summary
Task Order No. 8**

TABLE 2

West Yost Task No.	Task Name	FY 14/15 Budget	FY 15/16 Budget	Total Costs ^(a)
Agency Administration				
10.01	Engineering Technical Support for Public Outreach	\$30,000	\$30,000	\$60,000
Program Management				
14.01	Project Program Management	\$300,000	\$300,000	\$600,000
15.01	Technical Services to Agency	\$40,000	\$35,000	\$75,000
16.01	Technical Services to Davis	\$97,000	\$36,000	\$133,000
17.01	Technical Services to Woodland	\$46,000	\$36,000	\$82,000
18.01	Joint Intake Overall Management	\$30,000	\$30,000	\$60,000
20.01	Program Budgeting & Scheduling	\$80,000	\$80,000	\$160,000
21.01	Grant and Loan Funding Assistance & Administration	\$50,000	\$50,000	\$100,000
Water Quality Sampling Program				
36	Surface Water Quality Sampling Program			
36.01	WY Surface Water Quality Sampling Program	\$44,000	\$42,000	\$86,000
36.11	Sub 1 - Trussell Tech	\$38,000	\$40,000	\$78,000
36.12	Sub 2 - Eurofins Eaton Analytical	\$13,000	\$13,000	\$26,000
Water Right Permits				
41.01	WDCWA Permit - ASR Program Related to Agency SEIR	\$134,000	\$0	\$134,000
42.01	WDCWA Permit - Engineering Technical Support for WDCWA Permit Hearing	\$30,000	\$21,000	\$51,000
46.01	WDCWA/CPG Water Right Permit Assignment and BuRec Contract Assignment - Engineering	\$10,000	\$0	\$10,000
Environmental and Permitting				
54	Facilities Permitting			
54.01	WY Technical Support for Environmental Permitting and Mitigation Requirments	\$10,000	\$6,000	\$16,000
54.02	WY Design and Construction Permitting	\$63,000	\$40,000	\$103,000
54.03	WY CDPH Coordination - Permit to Operate	\$23,000	\$20,000	\$43,000
54.11	Sub 1 - Trussell Tech - CDPH Coordination - Permit to Operate	\$39,000	\$41,000	\$80,000
Supplemental Water Supply				
61.01	Water Purchase	\$15,000	\$15,000	\$30,000
Land/RW Acquisitions				
70	Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions			
70.01	WY Davis Treated Water Pipeline Land/Easement Surveys & Legal Descriptions	\$11,000	\$0	\$11,000
70.11	Sub 9 - Bender Rosenthal	\$8,000	\$0	\$8,000
Energy Program				
95.01	Coordination with Energy Consultant	\$5,000	\$0	\$5,000
105.01	WAPA Power Application & Investigation - Technical Support	\$10,000	\$0	\$10,000
Construction-Related Services				
136	DBO Design Review Conformance			
136.01	WY DBO Design Review Conformance	\$395,000	\$86,000	\$481,000
136.11	Sub 1 - Trussell Tech	\$92,000	\$0	\$92,000
136.12	Sub 3 - Frisch Engineering	\$26,000	\$7,000	\$33,000
136.13	Sub 4 - Lionakis	\$4,000	\$4,000	\$8,000
136.14	Sub 5 - V&A Consultants	\$10,000	\$3,000	\$13,000
136.15	Sub 6 - Jacobs Associates	\$28,000	\$6,000	\$34,000
136.16	Sub 7 - Bennett Trenchless Engineers	\$20,000	\$0	\$20,000
136.17	Sub 8 - Stanton Engineering	\$8,000	\$3,000	\$11,000
137.01	Construction Compliance with Approved Design	\$44,000	\$44,000	\$88,000
138	Equipment Submittal and RFI Review			
138.01	WY Equipment Submittal and RFI Review	\$364,000	\$243,000	\$607,000
138.11	Sub 1 - Trussell Tech	\$58,000	\$56,000	\$114,000
138.12	Sub 3 - Frisch Engineering	\$25,000	\$25,000	\$50,000
138.13	Sub 4 - Lionakis	\$15,000	\$15,000	\$30,000
138.14	Sub 5 - V&A	\$9,000	\$3,000	\$12,000
138.15	Sub 6 - Jacobs Associates	\$14,000	\$11,000	\$25,000
138.16	Sub 7 - Bennett Trenchless Engineers	\$12,000	\$4,000	\$16,000
138.17	Sub 8 - Stanton Engineering	\$3,000	\$3,000	\$6,000
139.01	Design/Construction Coordination and As-Needed Technical Services	\$50,000	\$50,000	\$100,000
140	Acceptance Test Plan, Testing and Closeout			
140.01	WY Testing and Closeout	\$16,000	\$180,000	\$196,000
140.11	Sub 1 - Trussell Tech	\$9,000	\$49,000	\$58,000
140.12	Sub 3 - Frisch Engineering	\$0	\$53,000	\$53,000
140.13	Sub 4 - Lionakis	\$0	\$13,000	\$13,000
140.14	Sub 5 - V&A	\$0	\$8,000	\$8,000
166	Joint Intake Agency Construction Oversight			
166.01	WY Joint Intake Agency Construction Oversight	\$50,000	\$50,000	\$100,000
166.11	Sub 3 - Frisch Engineering	\$27,000	\$27,000	\$54,000
184.01	Engineering Contingency	\$120,000	\$89,000	\$209,000
	TOTAL	\$2,525,000	\$1,867,000	\$4,392,000

(a) includes costs for all subconsultants. Subconsultants include Trussell Technologies, Eurofins Eaton Analytical, Jacobs Associates, Frisch Electric, Lionakis, V&A Consultants, Bennett Trenchless Engineers, Stanton Engineering, and Bender Rosenthal.

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Consideration of Task Order No. 4 to Agreement for Professional Services with Kim Floyd Communications, Inc. for 2014-16 Public Outreach Services

RECOMMENDATION

Move to approve Task Order No. 4 to the Agreement for Professional Services with Kim Floyd Communications, Inc. to extend the contract term and scope of work for the 2014-15 and 2015-16 fiscal years.

BACKGROUND AND DISCUSSION

On July 1, 2010, the Agency approved an Agreement for Professional Services with Kim Floyd Communications, Inc. for public outreach and related services. The services are set to expire on June 30, 2014.

Agency staff desires to continue the Kim Floyd Communications work and services through the water supply project construction period. We have worked with Ms. Floyd on the preparation of the attached Task Order No. 4 for consideration by the Board. Under this proposal, Kim Floyd Communications would provide the Agency with continued public outreach and related services for the next two fiscal years and through the expected completion of construction of the project. The services would be coordinated with the project team and would include maintenance of the Agency website, legislative and grant funding support, stakeholder outreach, media relations, preparation of outreach materials, and participating in planning and project meetings. The full scope is described in the Task Order. The Task Order provides for a \$140,000 not-to-exceed contract amount for the two year period.

FISCAL IMPACT

Approval of the Task Order would authorize \$140,000 of public outreach and related services in fiscal years 2014-15 and 2015-16. This expenditure has been included in the 2014-15 Agency budget and planned 2015-16 budget.

TASK ORDER NO. 4

**WOODLAND-DAVIS CLEAN WATER AGENCY
CONSULTANT SERVICES AGREEMENT
FOR
PUBLIC OUTREACH SERVICES**

In accordance with the Woodland-Davis Clean Water Agency Services Agreement for Professional Services with Kim Floyd Communications (“Consultant”) dated July 1, 2010 (the “Agreement”), Consultant is authorized to complete the additional work approved in this Task Order No. 4 according to the work scope, budget, compensation and schedule described below.

WORK SCOPE

Consultant will perform all services and tasks described in the attached WDCWA – Public Outreach FYs14-15/15-16 Scope and Budget.

BUDGET

The cost for Consultant’s additional services under this Task Order shall not exceed \$140,000.

COMPENSATION

Compensation shall be paid in accordance with the fee and payment provisions of the Agreement and the budget in the Public Outreach Scope and Budget.

SCHEDULE

All tasks will be completed consistent with the master project schedule. This Task Order shall expire on June 30, 2016.

KIM FLOYD COMMUNICATIONS, INC.

WOODLAND-DAVIS CLEAN WATER AGENCY, a
joint powers authority

Signature

Signature

Printed Name

Printed Name

Title

Title

Date

Date

WDCWA – Public Outreach FY15 & 16 Scope
Kim Floyd Communications

Web Site

Maintain and update the Agency’s website to feature up-to-date news, events, and project documents. Will include updates for new pages. The task also covers the annual costs for the domain name and hosting. Maintain WDCWA Facebook page with news specific to the project.

Legislative Relations/Support for Grants and Financing

Provide assistance with the development of white papers, fact sheets, letters and other materials in support of Agency’s efforts to secure state and federal funding for the project. Assistance will also be provided in the development of content for grant and low-interest loan applications, again with the goal of securing state and federal funding.

Stakeholder Outreach

Continue to share project information through community meetings, small-group meetings, community events, and presentations to business, civic, and quasi-governmental organizations. Specific topic areas may include DBO, ASR wells, preconstruction activities, project optimization and the general progress toward meeting key project milestones. Special focus will be given to communications and outreach to property owners near the intake facility site as design and pre-construction activities move forward.

Events

Coordinate a ribbon cutting ceremony for the Regional Water Treatment Facility and provide assistance to RD2035 on a ribbon cutting for the Joint Intake. Direct costs for this task will be covered by outside sources.

Media Relations

Work products for this task will include media releases, media alerts, and opinion pieces on various project milestones and issues.

Outreach Materials

Outreach materials will be developed to support Stakeholder Outreach activities and communicate progress toward project milestones, and may include newsletters, fact sheets, fliers, presentation aides and other information materials. This task includes costs for graphic design and printing, and also mailing costs for one project newsletter. It also includes costs for graphic design and printing for five additional newsletters.

Team Meetings

Participation in ongoing meetings for planning and project implementation best ensures that public outreach strategies support and are aligned with project activities.

Proposed Budget for 7/1/14 to 6/30/16

Task	Hours	Fees	Direct Costs	Totals
Events	60	\$7,500		\$7,500
Legislative Relations/Finance	20	\$2,500		\$2,500
Media Relations	80	\$10,000		\$10,000
Outreach Materials	240	\$30,000	\$31,375	\$61,375
Stakeholder Outreach	120	\$15,000		\$15,000
Team/Board Meetings	180	\$22,500		\$22,500
Website	75	\$9,375	\$2,500	\$11,875
Project Management/Incidentals	50	\$6,250	\$3,000	\$9,250
Totals	825	\$103,125	\$36,875	\$140,000

KFC Rates

Principal - \$125

Project Assistant - \$75

Graphic Design - \$80

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Richard P. Shanahan, General Counsel

SUBJECT: Consider approval of amended General Manager and Secretarial Services Agreement

PROPOSED MOTION

Move to approve the amended General Manager and Secretarial Services Agreement in the form as presented at this meeting and authorize the Chair to sign the agreement.

BACKGROUND AND DISCUSSION

On October 4, 2011, the Agency Board approved the General Manager Services Agreement with Diemer Engineering, Inc., which provided for its employee, Dennis Diemer, to provide General Manager services. In April 2012, the agreement was amended in order to increase the annual not-to-exceed limit. In June 2012, with Lynanne Mehlhaff's retirement from the City of Davis, the agreement was amended to add secretarial and administrative support services. Mr. Diemer's hourly rate has not changed since 2011 and Ms. Mehlhaff's hourly rate has not changed since 2012.

Diemer Engineering proposes to amend the agreement in order to increase the billing rates with Mr. Diemer's rate changing from \$200 to \$210 per hour and Ms. Mehlhaff's changing from \$39 to \$45 per hour, and with the rates subject to change in subsequent fiscal years. Instead of fixing an annual not-to-exceed amount through the agreement, the amended agreement would provide that the annual expenditure under the agreement would be controlled through the Agency budget process. If the budget limit were to be exceeded by the consultant because of extraordinary circumstances or additional or unanticipated work, the agreement would require the consultant to report the exceedance to the Agency Board. The agreement would remain terminable by either party by giving 30-day notice to the other party. Instead of preparing a third amendment to the agreement, an amended agreement has been prepared incorporating the past and the proposed changes. The proposed agreement is attached. It would supersede the 2011 agreement.

I approve the agreement as to form. Whether or not to approve it is a business decision for the Board.

FISCAL IMPACT

The hourly rates for Diemer Engineering services would change as described above. These fees are covered by the 2014-15 Agency budget and planned future budgets.

**WOODLAND-DAVIS CLEAN WATER AGENCY
GENERAL MANAGER AND SECRETARIAL SERVICES AGREEMENT**

THIS AGREEMENT is entered into this July 1, 2014, by and between the Woodland-Davis Clean Water Agency, a joint powers authority (“Agency”) and Diemer Engineering, Inc., a California corporation (“Consultant”), who agree as follows:

1. Scope of Work. Consultant shall provide Dennis M. Diemer and, subject to the approval of the Agency, such other secretarial/administrative personnel to perform the work and render the services described in the attached Exhibit A (the “Work”). Consultant shall provide all labor, services, equipment, material and supplies required or necessary to properly, competently and completely perform the Work (except for the Agency office space and equipment support described in section 2). Consultant shall determine the method, details and means of doing the Work.

2. Services to be Provided by Agency. The Agency will provide Consultant’s personnel with reasonable office space and facilities, including the use of a secure office space, phones, high speed internet connection, computer, fax machine and other equipment, within the Agency’s office in Davis (or such changed office location in Davis or Woodland as may be approved by the Agency) for the entire term of this Agreement at no charge to the Consultant.

3. Payment.

a. In exchange for the Work, Agency shall pay to Consultant a fee based on Consultant’s actual time and expenses necessarily and actually expended on the Work in accordance with Consultant’s fee and expense reimbursement schedule, attached as Exhibit B. The Agency annually will prepare a budget, which will include a cost allocation for Consultant’s Work. Except for extraordinary circumstances or additional or unanticipated Work assigned to Consultant, Consultant shall work and bill within, and the fees and costs will not exceed, the approved Agency budget allocation for the Work. If Consultant finds that its fees and costs will exceed the budget, then it shall notify the Agency Board of Directors about the reasons for and anticipated amount of the budget exceedance.

b. At the end of each month, Consultant shall submit to Agency an invoice for the Work performed and reimbursable expenses, if any, incurred during the preceding month. The invoice shall include a brief description of the Work performed, the dates of Work, number of hours worked and by whom, payment due, and an itemization of any reimbursable expenditures. If the Work is satisfactorily completed and the invoice is accurately computed, Agency shall pay the invoice within 30 days of its receipt. The Agency will provide a written explanation of any disputed invoice to Consultant within 15 days after its receipt of the disputed invoice.

4. Term.

a. This Agreement shall take effect on the above date and continue in effect until terminated as provided below. This Agreement supersedes and terminates the General

Manager Services Agreement dated October 4, 2011, as amended. Time is of the essence in this Agreement. Consultant shall perform the Work diligently and as expeditiously as possible, consistent with the professional skill and care appropriate for the orderly progress of the Work.

b. This Agreement may be terminated at any time by either party upon 30 days advance written notice to the other party. In the event of such termination, Consultant shall be compensated for all work performed to the date of termination as calculated by Agency based on the above fee and payment provisions. Compensation under this subsection shall not include any cancellation or demobilization charges or lost profit associated with the expected completion of the Work or other such similar payments relating to Consultant's claimed benefit of the bargain.

5. Professional Ability of Consultant. Consultant represents that Mr. Diemer and other personnel performing the Work possess the skill, ability, knowledge and experience to competently perform the Work provided by this Agreement. Agency has relied upon the foregoing representation by Consultant as a material inducement to enter into this Agreement. All Work performed by Consultant shall meet the standard of care and quality ordinarily to be expected of competent professionals in Consultant's field.

6. Consultant Records.

a. Consultant shall keep and maintain all ledgers, books of account, invoices, vouchers, canceled checks, and other records and documents evidencing or relating to the Work and invoice preparation and support for a minimum period of three years (or for any longer period required by law) from the date of final payment to Consultant under this Agreement. With prior reasonable notice and at reasonable times during regular business hours, Agency may inspect and audit such books and records, including source documents, to verify all charges, payments and reimbursable costs under this Agreement.

b. In accordance with California Government Code section 8546.7, the parties acknowledge that this Agreement, and performance and payments under it, are subject to examination and audit by the State Auditor General for three years following final payment under the Agreement.

7. Ownership of Documents. Every report, study, spreadsheet, worksheet, plan, blueprint, specification, drawing, map, photograph, computer model, computer disk, magnetic tape, CAD data file, computer software and any other document or thing prepared by Consultant under this Agreement and provided to Agency ("Work Product") shall be the property of Agency upon the receipt by Consultant of all payments due Consultant for the period up to and including the period when such Work Product was provided to Agency, and Agency shall have the right to use, reuse, reproduce, publish, display, broadcast and distribute the Work Product and to prepare derivative and additional documents or works based on the Work Product without further compensation to Consultant or any other party. Consultant may retain a copy of any Work Product and use, reproduce, publish, display, broadcast and distribute any Work Product and prepare derivative and additional documents or works based on any Work Product; provided, however, that Consultant shall not provide any Work Product to any third party without Agency's prior written approval, unless compelled to do so by legal process. If any Work Product is copyrightable, Consultant

may copyright the same, except that, as to any Work Product that is copyrighted by Consultant, Agency reserves a royalty-free, nonexclusive and irrevocable license to use, reuse, reproduce, publish, display, broadcast and distribute the Work Product and to prepare derivative and additional documents or works based on the Work Product. If Agency modifies any Work Product or reuses any Work Product for a use or purpose other than that intended by the scope of work under this Agreement, then Agency shall indemnify and hold Consultant harmless against all claims, damages, losses and expenses arising from such modification or reuse. For Work Product provided to Agency in paper format, upon request by Agency, Consultant agrees to provide the Work Product to Agency in an appropriate and usable and editable electronic format (e.g., Word document, Excel spreadsheet, AutoCAD file).

8. Compliance with Laws. Consultant shall perform the Work in compliance with all applicable federal, state and local laws and regulations.

9. Indemnification. Consultant shall indemnify, defend, protect and hold harmless Agency, and its officers, employees and agents from and against any and all liability, losses, claims, damages, expenses, demands, and costs (including, but not limited to, attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of Consultant's or its employee's, agent's or subcontractor's gross negligence, recklessness or willful misconduct, except where caused by the sole negligence or willful misconduct of Agency or as otherwise provided or limited by law. If it is finally adjudicated that the liability, loss, claim, damage, expense, demand or cost was caused partially by the comparative negligence of Agency, or its officer, employee or agent, then Consultant's indemnification and defense obligation shall be reduced in proportion to the adjudicated comparative negligence of the Agency. Consultant's obligations under this provision shall survive the termination of, or completion of Work under, this Agreement.

With respect to the professional services provided by Consultant, neither party to this Agreement shall be liable to the other party or any third party claiming through the other respective party, for any special, incidental, indirect, punitive, liquidated, delay or consequential damages of any kind including but not limited to lost profits or use of property, facilities or resources, that may result from this Agreement, or out of any services furnished hereunder.

10. Insurance. Consultant at its sole cost and expense shall procure and maintain for the duration of this Agreement the following types and limits of insurance:

<i>Type</i>	<i>Limits</i>	<i>Scope</i>
Commercial general liability	\$1,000,000 per occurrence & \$2,000,000 aggregate	at least as broad as ISO CG 0001
Automobile liability	\$1,000,000 per accident	at least as broad as ISO CA 0001, code 1 (any auto)
Workers' compensation	statutory limits	As may be required for any non-officer employees of Consultant

11. Entire Agreement; Amendment. This Agreement and any attached exhibits represent the sole, final, complete, exclusive and integrated expression and statement of

the terms of this contract between the parties concerning the Work, and supersede all prior oral and/or written negotiations, representations or contracts. This Agreement may be amended only by a subsequent written contract approved and executed by both parties. Amendment by the Agency requires approval by its Board of Directors at a noticed Board meeting.

12. Independent Contractor. Consultant's relationship to Agency is that of an independent contractor. All persons hired by Consultant and performing the Work shall be Consultant's employees or agents. Consultant and its officers, employees and agents are not Agency employees, and they are not entitled to Agency employment salary, wages or benefits. Consultant shall pay, and Agency shall not be responsible in any way for, the salary, wages, workers' compensation, unemployment insurance, disability insurance, tax withholding, and benefits to and on behalf of Consultant's employees. Consultant shall, to the fullest extent permitted by law, indemnify Agency, and its officers, employees, volunteers and agents from and against any and all liability, penalties, expenses and costs resulting from any adverse determination by the federal Internal Revenue Service, California Franchise Tax Board or other federal or state Agency arising from Consultant's failure to pay its taxes as an independent contractor under this Agreement.

13. Successors and Assignment. This Agreement shall bind and inure to the benefit of the heirs, successors and assigns of the parties; however, Consultant shall not subcontract, assign or transfer this Agreement or any part of it without the prior written consent of Agency.

14. No Waiver of Rights. Any waiver at any time by either party of its rights as to a breach or default of this Agreement shall not be deemed to be a waiver as to any other breach or default. No payment by Agency to Consultant shall be considered or construed to be an approval or acceptance of any Work or a waiver of any breach or default.

15. Severability. If any part of this Agreement is held to be void, invalid, illegal or unenforceable, then the remaining parts will continue in full force and effect and be fully binding, provided that each party still receives the benefits of this Agreement.

16. Governing Law and Venue. This Agreement will be governed by and construed in accordance with the laws of the State of California. The county and federal district court where Agency's office is located shall be venue for any state and federal court litigation concerning the enforcement or construction of this Agreement.

17. Notice. Any notice, invoice or other communication that is required or permitted to be given under this Agreement shall be in writing and either served personally or sent by prepaid, first class U.S. mail addressed as follows:

Agency: Board of Directors Woodland-Davis Clean Water Agency 1717 Fifth Street Davis, CA 95616	Consultant: Dennis M. Diemer Diemer Engineering, Inc. P.O. Box 715 Lafayette, CA 94549
---	--

Notice shall be deemed effective upon receipt if delivered personally or upon deposit with the U.S. Postal Service, if sent by mail. Any party may change its address by notifying the other party of the change in the manner provided above.

WOODLAND-DAVIS CLEAN
WATER AGENCY

DIEMER ENGINEERING, INC.

By: _____
Joseph Krovoza, Chair

By: _____
Dennis M. Diemer

EXHIBIT A – SCOPE OF WORK/JOB DESCRIPTION



WOODLAND - DAVIS
Clean Water Agency

Job Description

General Manager

AGENCY:

The Woodland-Davis Clean Water Agency (Agency or WDCWA) is a regional Joint Powers Authority formed to obtain, treat and deliver sustainable, reliable and high-quality water supplies for participating member customers and stakeholders.

POSITION DISTINGUISHING CHARACTERISTICS:

The General Manager serves in the role of Chief Administrative Officer for the Agency and has overall responsibility for the efficient and effective operation of office functions, administrative affairs, and the timely and cost-effective execution and management of actions associated with the Davis-Woodland Water Supply Project (Project). The incumbent is accountable for accomplishing and furthering Agency goals and objectives within general policy guidelines; and, under administrative direction of the Board of Directors, is granted considerable leeway for expertise and the exercise of independent judgment and initiative.

SUPERVISION RECEIVED AND EXERCISED:

The General Manager reports to and receives direction from the Agency Board of Directors. Responsibilities may include direct or indirect management, administrative oversight, or supervision of managerial, professional, technical, administrative or clerical personnel employed by or contracted to the Agency; or indirect management, administrative oversight, or temporary supervision of member organization managerial, professional, technical, administrative or clerical staff assigned to the Agency or Project.

EXAMPLES OF ESSENTIAL DUTIES AND FUNCTIONS:

May include, but are not limited to, the following:

- Represent Board policies, programs and interests in Board meetings, with state and local government regulators, and in media and public relations interactions with Agency member employees, community representatives, and the general public
- Perform a variety of highly complex administrative and managerial duties required to oversee and coordinate operations and special projects to ensure they are in concert with the policies and goals of the Agency and Agency Board of Directors
- Prepare and distribute monthly Board agendas; ensure timely preparation and posting of meeting notices and minutes
- Formulate and implement policies, standards and procedures; ensure compliance with applicable laws and regulations
- Accomplish and submit special studies and reports to the Board of Directors with recommendations for policy decisions
- Keep informed and keep the Board informed of national, state or regional issues with Agency or Project impact potential
- Ensure formal and informal, internal and external communication guarantees effectiveness and avoids conflict or confusion
- Develop and administer Agency operating and capital budgets; plan and schedule for revenues and program expenditures
- Present an annual budget for Board adoption; monitor expenditures to ensure the efficient and effective use of resources
- Research grant and supplemental funding source availability; prepare and administer grant applications and reimbursements
- Manage Agency assets and resources; Review budget requests and make recommendations on final expenditure levels
- Develop organizational, staffing or technology modifications necessary to optimize effectiveness and minimize costs
- Recommend changes to administrative practices to increase the efficiency and economy of Agency operations and services
- Prepare, negotiate and administer contracts and agreements; oversee existing Agency leases and contracts with others
- Maintain positive working relationships and customer service principles in responding to complaints and information requests

MARGINAL FUNCTIONS:

Perform other related duties as assigned

TYPICAL QUALIFICATIONS:

Knowledge of:

- Municipal processes, functions and procedures for water distribution, production, treatment, storage, and transmission
- California water resource laws and issues affecting municipal facilities for water distribution and use, and water rights
- Principles and practices of public administration, including fiscal planning and control and policy and program development
- Principles of business management, budget development and expenditure control, including capital improvement budgets
- Principles of leadership and project management, and principles of motivation, team building and conflict resolution
- Principles and practices of municipal financing, debt administration and regulatory requirements and compliance
- Computer software applications for word processing, spreadsheets, reporting, presentation and financial analysis
- Organization, operations, and problems of joint-powers agencies or special public service authorities
- Research and evaluation methodologies and cost estimating and contract administration
- Principles and practices of supervision, training and performance evaluation
- Principles of public and press relations and community relations

Skills to:

- Plan, organize, direct, coordinate, and manage the functions and operations of a water treatment and delivery system
- Oversee the development and improvement of water facilities and services to achieve efficient operations and service goals
- Provide advice and consultation to the Board of Directors on the development of regulations, policies and programs
- Coordinate the preparation of Board agendas; oversee and administer the Agency budgeting and fiscal control process
- Formulate, effectively articulate, and implement goals and objectives, strategies, programs, policies, procedures
- Prepare and deliver clear, concise, and well-organized professional presentations to the Board of Directors, City management, employees, agencies, the media, and the public; communicate effectively during public presentations
- Effectively interface with external governmental and regulatory agencies, high-level officials, and the general public
- Effectively organize and carry out public relations; ensure prompt and proper responses to public concerns and complaints
- Exercise leadership and authority; manage tactfully and effectively; maintain cooperative working relationships
- Effectively negotiate with interested private stakeholders and non-government agencies and organizations
- Collect and analyze data on a variety of technical, analytical, and administrative topics
- Prepare comprehensive technical reports and recommendations

Ability to:

- Establish and maintain effective working relationships with groups and individuals contacted in the course of work
- Prepare clear and effective technical and narrative reports, correspondence, policies, procedures and other written material
- Analyze and interpret documents and communicate complicated or abstract policy to different groups of staff and citizens
- Lead by example through calculated risk taking resulting in greater efficiency, productivity and service to the customer
- Communicate clearly and concisely, both orally and in writing; appropriately handle sensitive and confidential information
- Effectively manage Board meetings; meet critical time deadlines; develop creative and innovative solutions to problems
- Analyze and interpret Federal, State and local laws, regulations and codes as they may apply to the Agency
- Select, train, supervise, evaluate and direct staff; observe performance and problem solve related issues
- Operate a personal computer using program applications appropriate to assigned duties
- Support and cooperate with other Agencies and divisions and departments

Experience:

A typical way to obtain the required knowledge, skills and abilities would include: Broad, extensive and increasingly responsible work experience in a management or administrative position in a private or public agency responsible for municipal water treatment and delivery system management; at a minimum, background to include, 15 years of management and administrative experience in a position responsible for the formulation and implementation of programs, budgets, and administrative

operations; Ten years increasingly responsible relevant experience in water system management administration and policy affairs, extensive experience in managing technical consultants and consulting contracts; Track record of stakeholder-based negotiations, staff and organizational development and success as a spokesperson and primary point of contact for print and electronic media.

Education and Training:

Equivalent to a Bachelor's degree from an accredited college or university in Water Resources or a management related field including, but not limited to: Water Resource Management, Civil Engineering, Hydrology, Environmental Science, Business or Public Administration, or Biological Science or a related field. An advanced degree in business administration, engineering or public administration is a plus, as well as any relevant water industry related certification(s).

SUPPLEMENTAL INFORMATION:

Physical/Sensory Requirements

Mobility to typically work in a standard office environment with some travel from site to site, use standard office equipment and attend off-site meetings. On an intermittent basis, sit at a desk for prolonged periods of time; intermittently walk, stand, stoop, bend, kneel, crouch, squat, twist and reach while performing office duties; Lift, carry, push, and/or pull light to moderate amounts of weight. Use repetitive hand movement and fine coordination including using a computer keyboard. Manual dexterity to use standard office equipment and supplies and to manipulate both single sheets of paper and large document holders (binders, manuals, etc.); vision to read handwritten and printed materials and a computer screen; hearing and speech to communicate in person and by telephone. Work in an outdoor field environment Work primarily in a standard office setting. Work in an outdoor field environment and work and/or walk on various types of surfaces including slippery or uneven surfaces and rough terrain. Work extended hours including evenings and weekends. Verbally communicate to exchange information

Revision Date: February 19, 2010

Agency Secretarial and Administrative Services – Scope of Work

In addition to the General Manager services, Consultant shall provide administrative support and secretarial services to and on behalf of the Agency, including the following: manage, prepare, post and distribute the Agency Board of Directors meeting agendas and supporting documents; prepare other notices under the Brown Act; attend Board meetings and prepare Board meeting minutes; keep and maintain the Agency resolutions, agreements, records and files; attest and certify Agency resolutions and other documents; prepare Agency related correspondence as directed; respond to Public Records Act requests; maintain and update the Agency website; serve as Conflict of Interest Code filing officer and request and file conflict of interest disclosure forms; coordinate with the General Manager and Treasurer/Auditor on the processing and payment of bills and invoices; and, perform such other services and tasks as may be assigned by the Agency Board of Directors or General Manager.

**EXHIBIT B
FEE SCHEDULE**

Consultant fees have broken down into two categories, direct labor and reimbursable expenses:

Direct Labor Billing Rates

General Manager	\$210 per hour
Secretary	\$45 per hour

These rates shall apply through the end of the Agency's fiscal year 2014-15. Annually, by notice to Agency, the rates are subject to adjustment based on reasonable increases in the cost of living and cost of business expenses. The rates include overhead and profit and all other associated costs (except those listed below). Any other Consultant personnel assigned to the Work (subject to prior approval by the Agency) will be billed at Consultant's standard billing rates for such personnel.

Reimbursable Expenses

Consultant may bill the Agency for, and Agency shall reimburse, the following types of necessary, actual and reasonable expenses incurred by Consultant in connection with the Work:

- Mileage in personal vehicle for Agency business at the current IRS rate with itemized detail.
- Parking and toll fees.
- Lodging for travel over 100 miles one way from home (subject to prior approval by the Agency).
- Air travel (subject to prior approval by the Agency).
- Meal costs where meeting to conduct Agency business (consistent with Agency expense reimbursement policy), including tips up to 15 percent, with itemized receipt.
- Other necessary, actual and reasonable expenses as approved by the Agency.

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Consider resolution approving CEQA Addendum No. 7 to the 2007 Davis-Woodland Water Supply Project Final Environmental Impact Report, approving the updated alignment for the City of Davis treated water pipeline, making changes to the construction work hours, and making related findings

RECOMMENDATION

Adopt the attached proposed resolution approving CEQA Addendum No. 7 to the Project Final EIR, approving the updated alignment for the City of Davis treated water pipeline alignment, making changes to the construction work hours, and making related findings.

BACKGROUND AND DISCUSSION

On October 16, 2007, the City of Davis, acting as California Environmental Quality Act ("CEQA") lead agency (prior to the formation of the Agency), certified the Final Environmental Impact Report ("Final EIR") for the Davis-Woodland Water Supply Project (Project), made CEQA findings and approved the Project. After its formation, the Agency assumed the CEQA lead agency role.

On April 21, 2011, the Agency, acting as the CEQA lead agency, approved Addendum #1 to the EIR for the DWWSP to provide an assessment of changes to Delta water and aquatic resources since certification of the 2007 DWWSP EIR as well as making minor refinements to an element of the DWWSP involving the proposed water transfer from the Conway Preservation Group (CPG) to the DWWSP. On June 21, 2012, the Agency approved Addendum #2 which provided an assessment of changes to the location of the proposed RWTF. On October 18, 2012, the Agency approved Addendum #3 related to revisions the project raw water and Woodland finished water pipeline alignments. On December 20, 2012, the Agency approved Addendum #4 related to revisions the Davis finished water pipeline alignment. On October 10, 2013, the Agency approved Addendum #5 related to updated air quality emissions modeling. On January 16, 2014, the Agency approved Addendum #6 related to the need for additional solids drying facilities to support operations at the RWTF and the preparation of an updated floodplain modeling assessment.

Since certification of the Final DWWSP EIR in 2007, and approval of Addenda #1 through #6, design refinements have been made to the southern portion of the City of Davis treated water pipeline alignment. In addition, changes related to the construction

work hours for the project have been made. As a result the Agency has prepared Addendum #7 to the 2007 DWWSP EIR.

Addendum No.7 concludes that these changes will not result in any new or more severe impacts than those discussed in the Final EIR and that none of the conditions requiring the preparation of a subsequent or supplemental EIR is present. For these reasons, staff recommends that the Board of Directors adopt the attached proposed resolution, which approves the addendum and the update to the air quality emissions modeling.

FISCAL IMPACT

No fiscal impact.

RESOLUTION NO. 2014-08

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE WOODLAND-DAVIS CLEAN WATER AGENCY
APPROVING CEQA ADDENDUM NO. 7 TO PROJECT FINAL EIR
CONCERNING CHANGES TO CONSTRUCTION WORK HOURS AND
DAVIS TREATED WATER PIPELINE ALIGNMENT, AND
MAKING RELATED FINDINGS**

WHEREAS, in 2007, prior to formation of the Woodland-Davis Clean Water Agency (“Agency”), the City of Davis certified the Davis-Woodland Water Supply Project Final Environmental Impact Report (“Final EIR”) pursuant to the California Environmental Quality Act and CEQA Guidelines (“CEQA”) and the Cities of Davis and Woodland approved the Davis-Woodland Water Supply Project (“Project”) for CEQA purposes;

WHEREAS, the Cities of Davis and Woodland approved a Joint Powers Agreement forming the Agency in 2009, in order for the Agency to pursue the development of the Project and, pursuant to the Joint Powers Agreement, the Agency has assumed the CEQA lead agency role for the Project;

WHEREAS, since 2007, as the Agency has further refined and designed the Project, there have been some Project modifications and other Project-related changes that the Agency has previously evaluated under CEQA in Final EIR Addenda Nos. 1 through 6;

WHEREAS, since 2007, the Agency staff and engineers have continued to evaluate the most appropriate location for the Project water pipelines and the preferred Davis treated water pipeline alignment has changed from the 2007 project description;

WHEREAS, the Agency construction contractor recently requested a modification of the permitted hours of construction work under the design-build-operate Service Contract;

WHEREAS, in light of these proposed Project-related changes, the Agency staff and its environmental consultant have prepared Final EIR Addendum No. 7 to evaluate whether the pipeline alignment and construction work hour changes result in new significant impacts beyond those already identified and mitigated in the Final EIR or result in substantially more severe impacts than disclosed in the Final EIR; and,

WHEREAS, Addendum No. 7 concludes that the pipeline alignment and construction work hour changes will not result in any new or more severe impacts than those discussed in the Final EIR and that none of the conditions or circumstances that would require preparation of a subsequent or supplemental EIR pursuant to Public Resources Code Section 21166 and CEQA Guidelines section 15162 exists for the proposed Project;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Woodland-Davis Clean Water Agency as follows:

1. The Board approves Addendum No. 7 in the form presented at this meeting.

2. The Board has reviewed and considered Addendum No. 7 in light of the Final EIR. In accordance with Public Resources Code section 21166 and CEQA Guidelines section 15162, and based on the Final EIR and Addendum No. 7, the Board finds and determines as follows:

a. The potential environmental effects of the Project have been analyzed, considered and mitigated through the Final EIR.

b. In Addendum No. 7, the Agency has evaluated and considered the pipeline alignment and construction work hour changes (as described in the addendum) and analyzed the changes. Addendum No. 7 concludes that the changes do not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

c. The Board is not aware of any other new information of substantial importance that discloses that the Project will have other or more severe significant environmental effects not previously discussed or that previously rejected or other mitigation measures or alternatives are now feasible and effective.

d. Therefore, the Final EIR remains adequate and no subsequent EIR or further CEQA environmental analysis is required for the Project with the pipeline alignment and construction work hour changes.

4. The Board modifies the description of the Project by revising the location of the Davis treated water pipeline as shown and described in Addendum No. 7.

5. The Board revises Final EIR Mitigation Measure 3.9-1a in the form as set forth in Addendum No. 7. Regarding the proposed change of the construction work hours, the Board acknowledges that Agency Resolution No. 2013-13 authorizes the General Manager to approve a change order amending the hours of work limitations in the Service Contract.

6. The Board authorizes and directs the General Manager to prepare and file a CEQA Notice of Determination reflecting this determination.

PASSED AND ADOPTED by the Board of Directors of the Woodland-Davis Clean Water Agency on this 19th day of June 2014 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

By: _____
Joseph Krovoza, Chair

Attest:

Lynanne Mehlhaff, Secretary

DAVIS-WOODLAND WATER SUPPLY PROJECT

Environmental Impact Report Addendum No. 7
State Clearinghouse No. 2006042175

Prepared for
Woodland-Davis Clean Water Agency

June 2014



DAVIS-WOODLAND WATER SUPPLY PROJECT

Environmental Impact Report Addendum No. 7
State Clearinghouse No. 2006042175

Prepared for
Woodland-Davis Clean Water Agency

June 2014



2600 Capitol Avenue
Suite 200
Sacramento, CA 95816
916.564.4500
www.esassoc.com

Los Angeles

Oakland

Orlando

Palm Springs

Petaluma

Portland

San Diego

San Francisco

Santa Cruz

Seattle

Tampa

Woodland Hills

210876

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

TABLE OF CONTENTS

Davis Woodland Water Supply Project EIR Addendum #7

	<u>Page</u>
1. Background and Purpose of this Addendum	1-1
1.1 Background	1-1
1.2 Purpose of the EIR Addendum	1-2
2. Description of Project Changes	2-1
2.1 Project Overview	2-1
2.2 Revised Project Description	2-1
2.2.1 Davis Finished Water Transmission Main Pipeline	2-1
2.2.2 Change in Construction Hours	2-2
3. Analysis of Potential Environmental Effects	3-1
3.1 Introduction	3-1
3.2 Effects Related to Changes in the Proposed Project	3-2
3.2.1 Groundwater Hydrology and Quality	3-2
3.2.2 Drainage and Floodplains	3-2
3.2.3 Land Use and Agriculture	3-3
3.2.4 Terrestrial Biological Resources	3-4
3.2.5 Geology, Soils, and Seismicity	3-4
3.2.6 Air Quality	3-5
3.2.7 Noise	3-5
3.2.8 Hazards and Hazardous Materials	3-7
3.2.9 Transportation and Traffic	3-8
3.2.10 Public Services and Utilities	3-8
3.2.11 Cultural Resources	3-9
3.2.12 Recreation	3-9
3.2.13 Aesthetics	3-10
3.2.14 Cumulative and Growth Inducing Effects	3-10
3.3 Conclusion	3-10
3.4 References	3-10

List of Figures

1. 2007 DWWSP Final EIR Figure 1-3 - Preferred Project	2-4
2. DWWSP Addendum #4 Figure 2 - Revised Davis Finished Water Transmission Main Pipeline Alignment	2-5
3. Revised Davis Finished Water Transmission Main Pipeline Alignment	2-6
4. Metering and Sampling Building Site Plan	2-7
5. Metering and Sampling Building Elevation	2-8

SECTION 1

Background and Purpose of this Addendum

1.1 Background

The Cities of Davis, Woodland, and the University of California, Davis (UC Davis) (Project Partners) propose to implement the Davis Woodland Water Supply Project (DWWSP or proposed project). The proposed project involves development of a new surface water supply for the Project Partners and consists of: an intake/diversion structure on the Sacramento River, a raw water conveyance pipeline between the intake/diversion structure to a new regional water treatment facility (RWTF), with distribution pipelines conveying treated surface water from the water treatment plant to each of the three Project Partners. Other local improvements such as local distribution pipelines and storage facilities will be constructed independently by each Project Partner. The project also includes the acquisition of a new water right permit for the diversion and use of surface water from the Sacramento River, and the purchase from the Conaway Preservation Group and transfer of a portion of existing water right permits and contractual entitlements, and possibly one or more other water transfers, that will allow the DWWSP to divert water during periods when surface water diversions from the Sacramento River under the DWWSP's water right permit will be constrained.

With the City of Davis as the lead agency, the Project Partners prepared an Environmental Impact Report (EIR) on the DWWSP (State Clearinghouse (SCH) # 2006042175) in accordance with the requirements of the California Environmental Quality Act (CEQA). The Notice of Preparation (NOP) for the EIR was published on April 28, 2006 and circulated to the public, local, state and federal agencies, and other interested parties. In addition to the 45-day public and agency comment period, public scoping sessions were held on May 18, 2006 in Woodland and May 22, 2006 in Davis. The Draft EIR was published on April 9, 2007 and circulated for public and agency review for a 76-day public review period ending June 25, 2007. Two public meetings on the Draft EIR were held by City of Davis on April 23 and May 2, 2007 and one public meeting was held by the City of Woodland on May 16, 2007. On October 16, 2007, the City of Davis, as acting CEQA lead agency, adopted Resolution No. 07-168, Series 2007, which certified the final EIR, adopted CEQA findings, a statement of overriding considerations and a mitigation monitoring and reporting program, and approved the DWWSP. On November 6, 2007, the City of Woodland, acting as a CEQA responsible agency, adopted Resolution No. 4878, which adopted CEQA findings and the mitigation monitoring and reporting program and approved the DWWSP.

Since the certification of the EIR, the Cities of Woodland and Davis have formed the Woodland Davis Clean Water Agency (WDCWA), a joint powers authority (JPA), to implement the DWWSP. WDCWA has proceeded with implementation of the DWWSP, including additional project planning in support of the engineering design and project construction phases, financial planning, property

acquisition, and acquisition of project permits and approvals. On April 21, 2011, the WDCWA, acting as CEQA lead agency, approved an addendum (addendum #1) to the EIR for the DWWSP that the City of Davis (then acting as CEQA lead agency) certified on October 16, 2007. Addendum #1 provided an assessment of changes to Delta water and aquatic resources since the 2007 DWWSP EIR as well as minor refinements to an element of the DWWSP involving the proposed water transfer from the Conway Preservation Group (CPG) to the DWWSP. In its Resolution No. 2011-03, WDCWA approved addendum #1 and found and determined that no subsequent EIR or further CEQA review was required. On June 21, 2012, WDCWA approved addendum #2 with Resolution No. 2012-01, which provided an assessment of changes to the location of the proposed RWTF. On October 18, 2012, WDCWA approved Addendum #3 with Resolution No. 2012-03, related to minor revisions to the project raw water and Woodland finished water pipeline alignments. On December 20, 2012, WDCWA approved Addendum #4 with Resolution No. 2012-04, related to minor revisions to the Davis finished water pipeline alignment. On October 10, 2013, WDCWA approved Addendum #5 with Resolution No. 2013-12, related to updated air quality emissions modeling. On January 16, 2014, WDCWA approved Addendum #6 with Resolution No. 2014-05, related to the need for additional solids drying facilities to support operations at the RWTF and the preparation of an updated floodplain modeling assessment.

Since certification of the Final DWWSP EIR in 2007, and approval of Addenda #1 through #6, design refinements have been proposed for the southern portion of the City of Davis treated water pipeline alignment. In addition, changes related to the construction work hours for the project have been proposed. As a result the WDCWA has prepared this addendum #7 to the 2007 DWWSP EIR.

1.2 Purpose of the EIR Addendum

According to Section 15164(a) of the CEQA Guidelines, the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 requiring preparation of a subsequent EIR have occurred. Section 15162 of the Guidelines lists the conditions that would require the preparation of a subsequent EIR rather than an addendum. These include the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

- c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

This Addendum documents that the proposed project changes do not trigger any of the Section 15162 conditions described above, and that the preparation of an addendum therefore is appropriate.

SECTION 2

Description of Project Changes

2.1 Project Overview

The DWWSP involves development of a new surface water supply for the Project Partners and consists of: an intake/diversion structure on the Sacramento River, a raw water conveyance pipeline between the intake/diversion structure and a new RWTF with distribution pipelines conveying treated surface water from the water treatment plant to each of the three Project Partners. Other local improvements such as local distribution pipelines and storage facilities within each of the Project Partners service area will be required by each Project Partner.

2.2 Revised Project Description

2.2.1 Davis Finished Water Transmission Main Pipeline

Figure 1 shows the layout of the proposed project as analyzed in the 2007 DWWSP EIR. The approved project is described in Chapter 2 of the 2007 DWWSP EIR. Figure 2-9 of the 2007 DWWSP EIR shows the proposed Davis finished water transmission main pipeline heading east from the proposed RWTF and south along an existing farm road to the intersection of County Road 25 and County Road 103, then south along the edge of County Road 103 to just north of County Road 28H. The finished water transmission main would then run west along County Road 28H and then immediately south along County Road 102/Pole Line Road until the terminus of the transmission main on property owned by the City of Davis (**Figure 1**). This alignment was further revised in 2007 DWWSP EIR Addendum #4 and illustrated in **Figure 2** below. As shown in Figure 2, the modified transmission main alignment continues south through the Willow Slough Bypass and agricultural (grazing) land, and west along the south side of an existing farm road through agricultural lands until connecting with the original proposed alignment adjacent to County Road 102/Pole Line Road north of the City of Davis urban area.

New modifications to the Davis finished water transmission main pipeline are proposed to minimize the impact on traffic on County Road 102. Specifically, the Davis finished water transmission main pipeline is proposed to be located just east of County Road 102 heading south to the termination point in County Road 102 right-of-way at the northern limits of the City of Davis (**Figure 3**). All construction adjacent to County Road 102 will be by open cut construction method within an easement currently being acquired by the WDCWA. The easement that the Agency will be acquiring is a 50-foot wide permanent easement and a 20-foot wide temporary construction easement. There is additional permanent easement for the approximately 120 square foot masonry

metering and sampling building that will house the sampling equipment, instrument panel and SCADA equipment (**Figure 4** and **Figure 5**). There may be a small diameter pipeline crossing County Road 102 (either open cut or trenchless based on County requirements) to tie a drain line from the masonry building into the City of Davis sewer pipeline manhole located on the west side of County Road 102.

2.2.2 Change in Construction Hours

The hours of construction activities for the DWWSP are limited by the Mitigation Measures stipulated in the EIR. Specifically, Mitigation Measure 3.9-1a limits the hours of construction within the unincorporated areas of Yolo County to 7:00 a.m. and 7:00 p.m. Monday through Friday, and only interior construction is allowed between 7:00 a.m. and 7:00 p.m. on Saturday. Construction hours within the jurisdiction of the City of Woodland are limited to 7:00 a.m. to 6:00 p.m. Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday.

The WDCWA proposes to change these stipulated hours for construction activities in both the City of Woodland and within the unincorporated County of Yolo to between 5:00 a.m. to 6:00 p.m. Monday through Saturday and 8:00 a.m. to 6:00 p.m. on Sunday with the exception of the following construction activities:

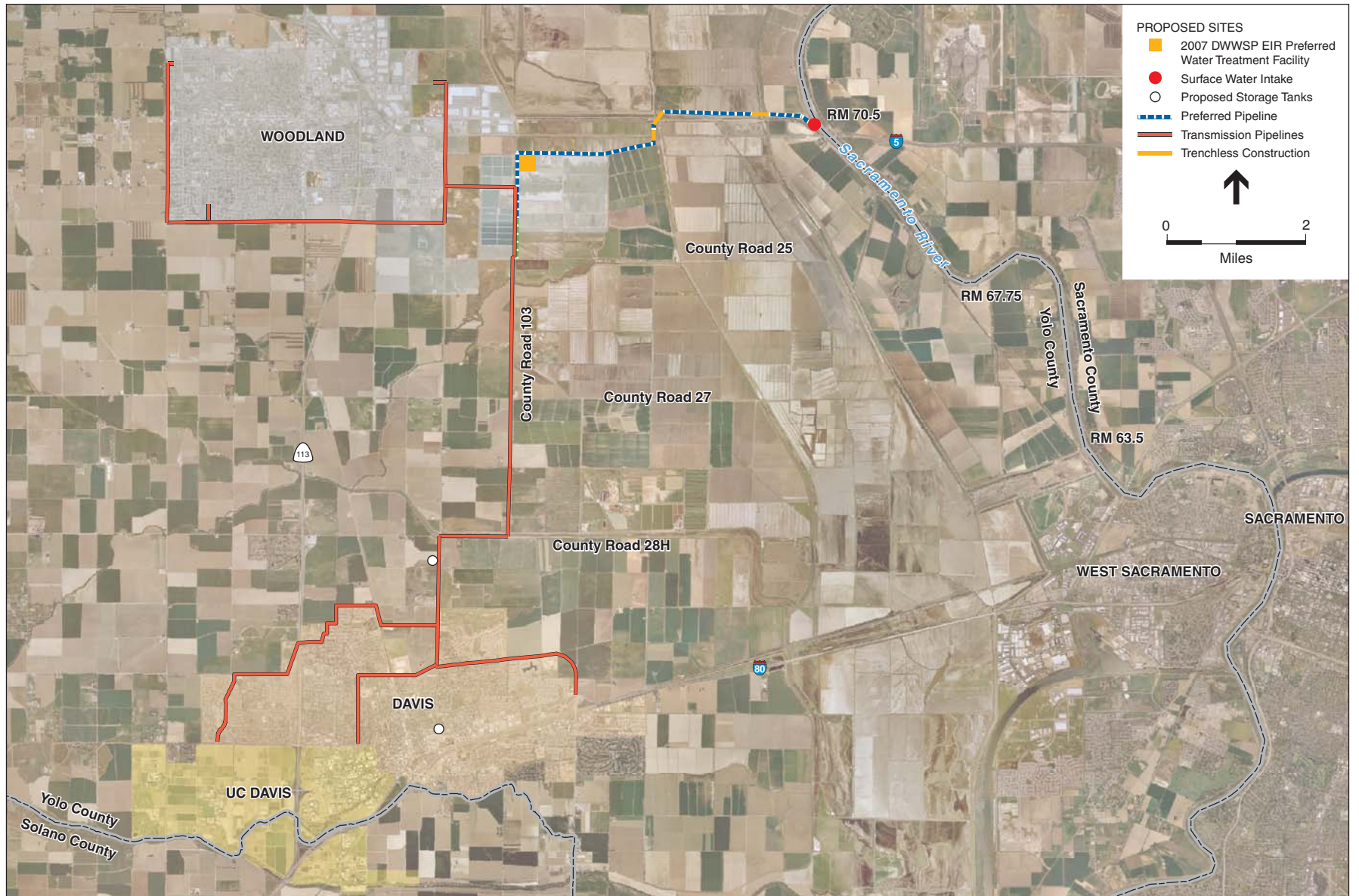
- Construction activities along County Road 22 though the Yolo Bypass may occur on a 24 hour basis 7 days a week to ensure that all work can be completed within the planned 60 day closure.
- County Road 28H in the vicinity of the Willow Slough Bypass may be closed for up to 14 calendar days. Construction activities at this location are proposed to occur on a 24 hour basis 7 days a week to ensure that all work can be completed within the planned 14 day closure.
- Construction activities associated with the two trenchless crossings at the Yolo Bypass using Horizontal Directional Drilling, the two trenchless crossings under Interstate 5 using Jack & Bore methods and the Conaway/High Line Canal crossing at County Road 25 may occur on a 24 hour basis 7 days a week to mitigate issues with stopping and starting at all 5 of these trenchless crossings.

The proposed change in construction hours provides WDCWA and its contractors with the flexibility to accommodate changes in regional weather conditions and daylight work hours. Allowing work to start earlier during the summer months will help mitigate health and safety issues of construction workers, inspectors and supervisory personnel as temperatures increase throughout the work day. Performing work in lower temperatures will not only result in a health and safety benefit but it will also aid in improving worker efficiency and the resultant quality of work. In addition, the proposed changes would minimize the length of necessary road closures.

Construction will occur on a typical 5 day work week (Monday through Friday) with an 8 hour work shift from 6:00 a.m. to 2:30 p.m. during the summer months with concrete crews coming in and commencing pours as early as 5:00 a.m. During the winter months when daylight occurs later

in the morning the contractor will change the start of the shift. Except for work within the Yolo Bypass, County Road 28H and miscellaneous work at the RWTF, work on Saturday and Sunday will be limited.

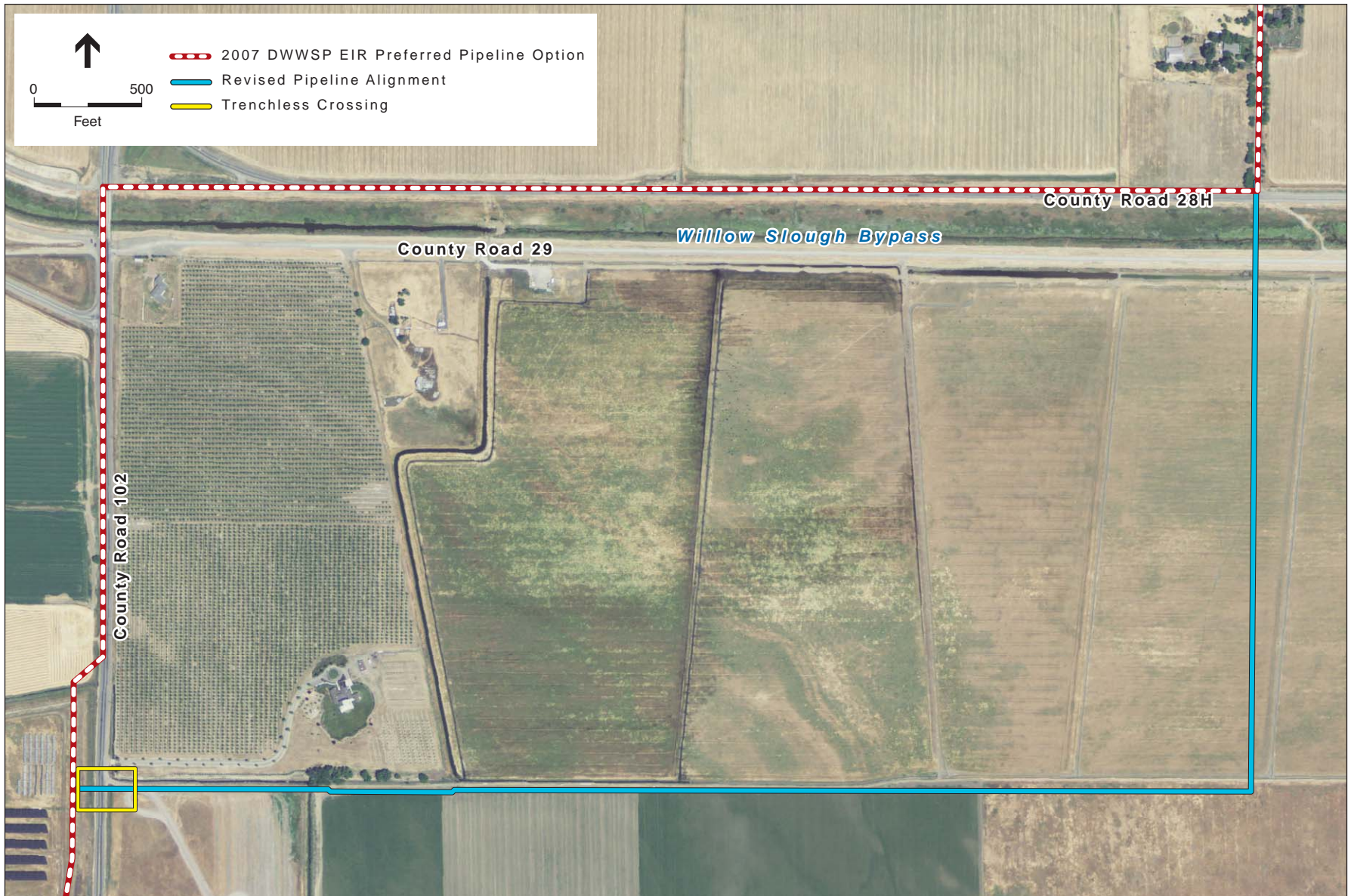
All work can be completed within these revised work hours but there could be some events where large concrete pours could extend beyond 6:00 p.m. on Monday through Friday and in those isolated cases appropriate notice will be given.



SOURCE: GlobeXplorer, 2006; West Yost & Associates, 2006; and ESA, 2012

Davis-Woodland Water Supply Project EIR Addendum No. 7 . 210676

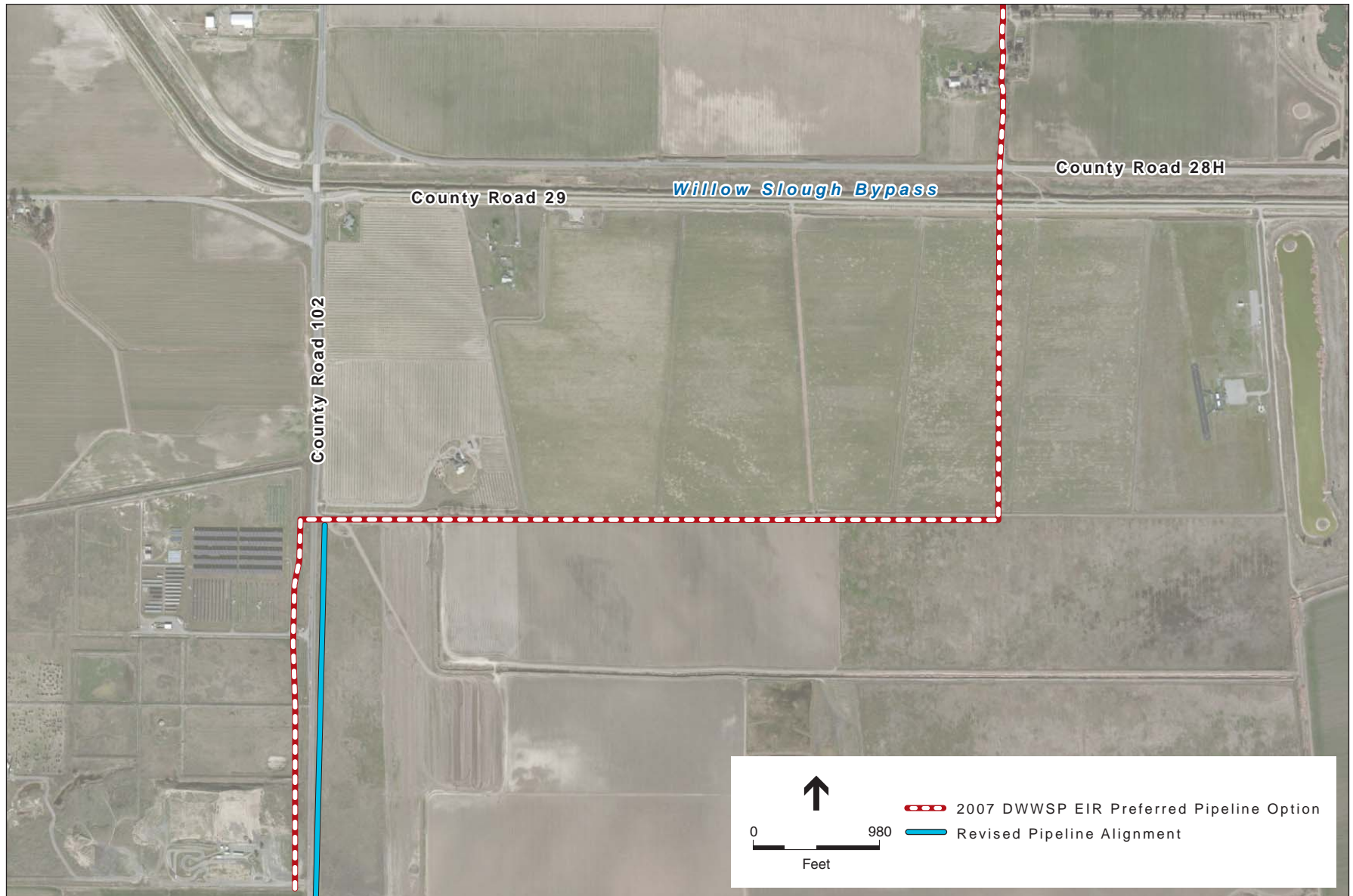
Figure 1
2007 DWWSP Final EIR Figure 1-3 - Preferred Project



SOURCE: USDA, 2012; West Yost & Associates, 2012; and ESA, 2012

Davis-Woodland Water Supply Project EIR Addendum No. 7 . 210676

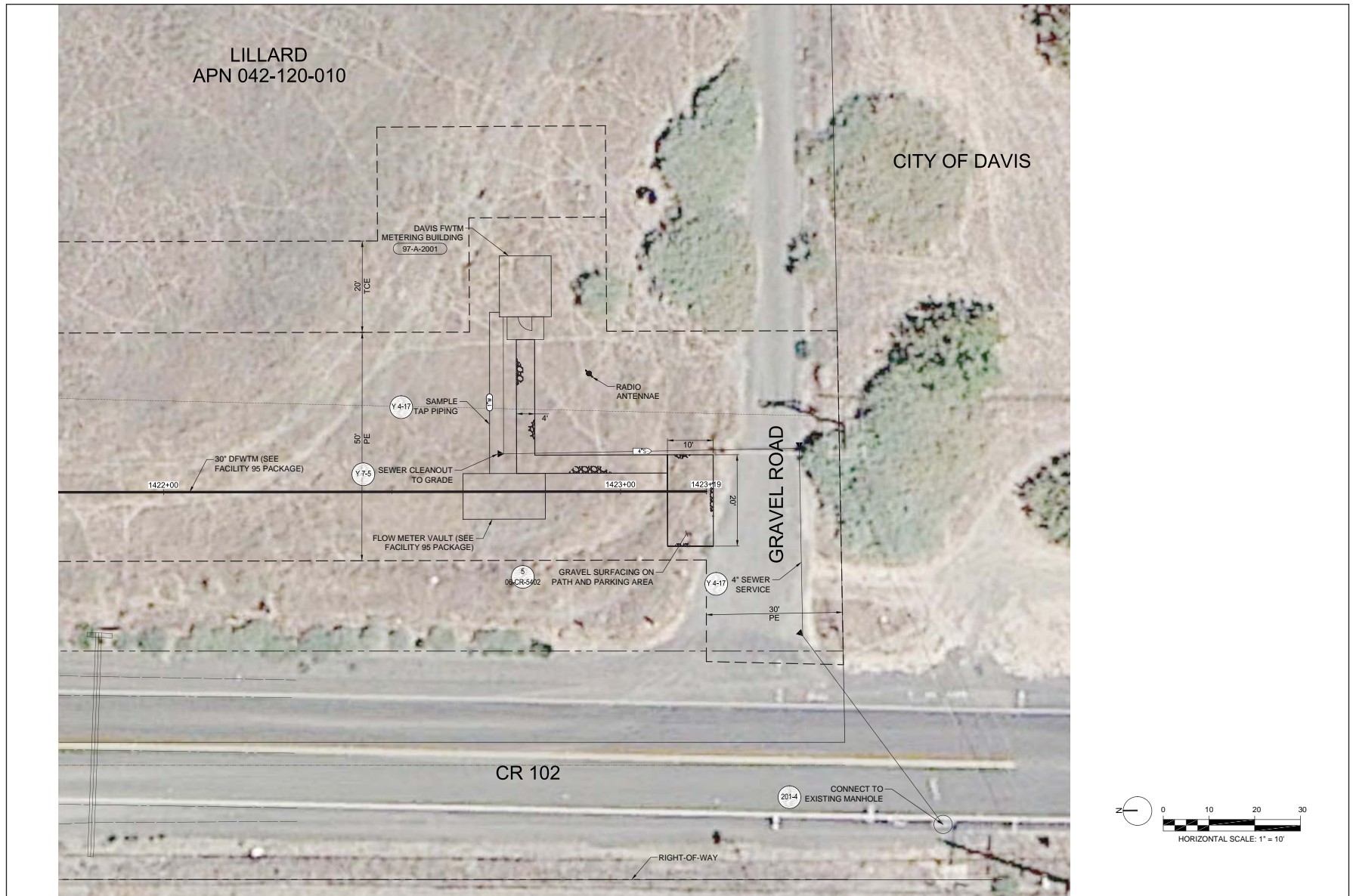
Figure 2
 DWWSR Addendum #4 Figure 2 -
 Revised Davis Finished Water Transmission Main Pipeline Alignment



SOURCE: USDA, 2012; West Yost & Associates, 2012; ESA, 2014

Davis-Woodland Water Supply Project EIR Addendum No. 7 . 210676

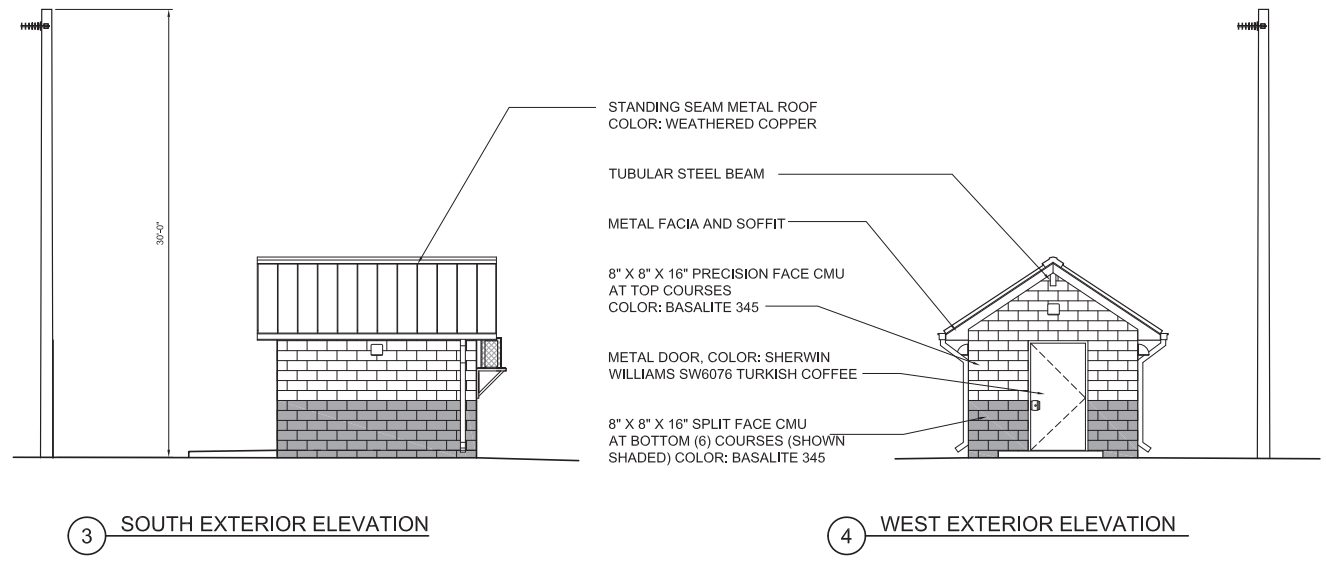
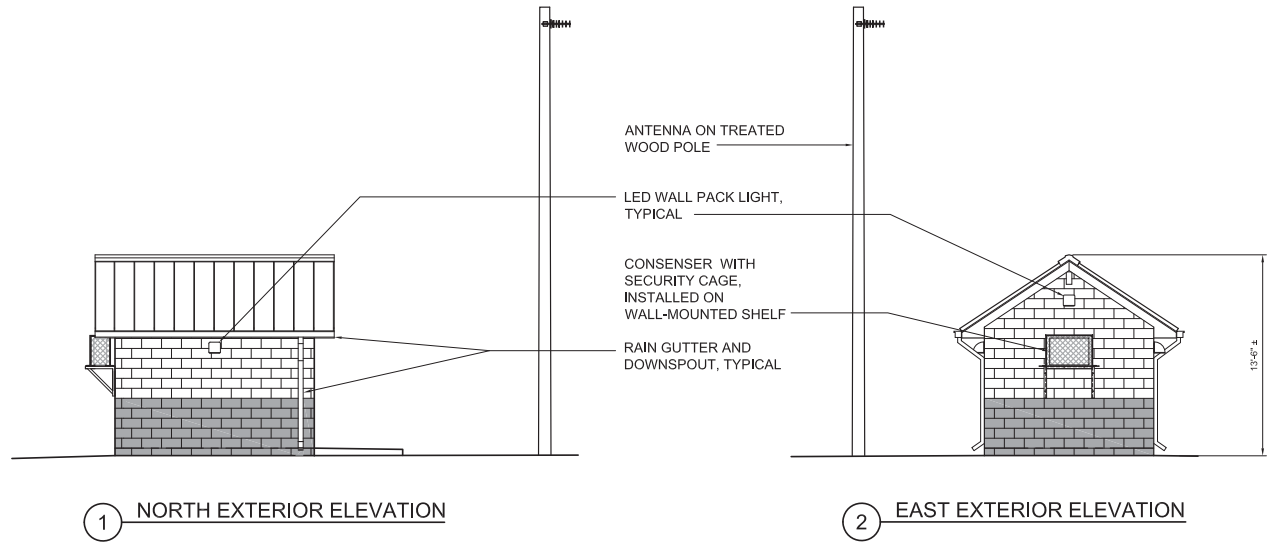
Figure 3
Revised Davis Finished Water Transmission Main Pipeline Alignment



SOURCE: CH2M Hill, 2014

Davis-Woodland Water Supply Project EIR Addendum No. 7 . 210676

Figure 4
Metering and Sampling Building Site Plan



SECTION 3

Analysis of Potential Environmental Effects

3.1 Introduction

The 2007 DWWSP EIR evaluated the following environmental issues: surface and groundwater resources, hydrology and water quality, land use and agriculture, geology, soils, and seismicity, air quality, noise, hazards and hazardous materials, public health, transportation, public services and utilities, cultural resources, recreation, aesthetics, growth inducing effects, and cumulative effects. These issues are re-evaluated in this addendum in light of the proposed changes to the project description. This evaluation determines whether, with these changes, implementation of the proposed project will result in any new significant impacts or substantially more severe impacts than identified in the 2007 DWWSP EIR. The 2007 DWWSP EIR (Section 3.0, Environmental Analysis) describes the criteria that were used to determine the significance of environmental impacts. All mitigation measures identified in the 2007 DWWSP were subsequently adopted by the DWWSP Partners as conditions of project approval. All applicable measures also will apply to the project changes described in this addendum.

The analysis contained in this addendum is focused only on the proposed changes to the Davis treated water transmission pipeline and proposed changes in the hours of construction. Because the primary changes to the proposed project are limited to the physical location of the pipelines, operation of the proposed project would remain unchanged from the analysis contained within the 2007 DWWSP EIR. Specifically, impacts associated with construction of other project facilities, including the proposed intake and RWTF would not be affected by the proposed minor changes in location of project pipelines. Impacts related to Public Health, specifically related to substituting existing groundwater supplies with Sacramento River water, would also not be affected by the proposed change in location of project pipelines. The analysis related to the proposed change in construction hours will focus solely on noise impacts. Therefore, the changes associated with the revised pipeline alignment and change in construction hours are limited to the site specific construction impact issue areas addressed in the 2007 DWWSP EIR. For this reason, all other DWWSP facilities, including the joint intake and associated discussion of surface water, fisheries biological resources, public health, the proposed RWTF, storage tanks and other ancillary facilities, remain unchanged from the 2007 DWWSP EIR and therefore are not discussed further in this addendum.

3.2 Effects Related to Changes in the Proposed Project

There were no unmitigated significant impacts identified in the 2007 DWWSP EIR for any of the CEQA resource topics with the exception of construction related air quality emissions. However, each CEQA resource topic is re-evaluated below to determine whether the proposed modifications to the proposed project pipelines will result in any new significant impacts or substantially more severe impacts than those described in the 2007 DWWSP EIR.

3.2.1 Groundwater Hydrology and Quality

Section 3.3 of the 2007 DWWSP EIR concluded that construction of the Davis finished water transmission main pipeline could potentially require dewatering of shallow groundwater during excavations. Groundwater withdrawn from the construction areas would also be subsequently discharged to local waterways or drainage ditches, or via land application. These discharges may contain sediments, dissolved solids, salts, and other water quality constituents found in the shallow groundwater, which could degrade the quality of receiving waters. These potentially significant impacts would be mitigated to less than significant with the implementation of Mitigation Measure 3.3-1a through 3.3-1d, which would require groundwater quality monitoring in addition to applying for, and obtaining, a National Pollutant Discharge Elimination System (NPDES) Permit and the preparation of a Storm Water Pollution Prevention Plan (SWPPP). All other construction and operational impacts related to groundwater hydrology and quality, including reduction in local groundwater infiltration and recharge or impacts to existing groundwater levels, were determined to be less than significant because the proposed project would reduce groundwater pumping by the Project Partners.

The proposed modifications to the Davis finished water transmission main pipeline could result in similar less than significant impacts to groundwater hydrology and quality, as described in the 2007 DWWSP EIR. Because construction of the proposed pipelines would comply with Mitigation Measure 3.3-1a through 3.3-1d, potentially significant groundwater impacts associated with construction phase dewatering would be mitigated to less than significant. As a result, there are no changes in the environmental setting or project characteristics that would raise important new groundwater hydrology and quality impacts. Therefore, proposed project changes would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified groundwater hydrology and quality impacts.

3.2.2 Drainage and Floodplains

Section 3.4 of the 2007 DWWSP EIR concluded that potentially significant drainage and floodplains impacts related to the Davis finished water transmission main pipeline would be limited to construction phase soils erosion, potentially contaminated run-off associated with construction, and potential impacts associated with the siting of project facilities in the 100-year flood zone. These impacts would be mitigated to less than significant with the incorporation of

2007 DWWSP Mitigation Measure 3.3-1a and 3.3-1b, which includes compliance with a SWPPP and related best management practices, Mitigation Measure 3.4-2 which requires preparation of a drainage plan to reduce operational impacts associated with flooding and stormwater flows, Mitigation Measure 3.4-5b and 3.4-8 which requires that levee integrity be maintained and consultation with local Reclamation Districts prior to construction in areas with existing levees, and Mitigation Measure 3.4-6 and 3.5-7 which include measures to reduce water quality impacts during construction phase trenching, tunneling, and dewatering activities.

The proposed modifications to the Davis finished water transmission main pipeline alignment could result in similar impacts to drainage and floodplains as those described in the 2007 DWWSP EIR. Specifically, construction related soils erosion and potentially contaminated runoff associated with construction activities would be mitigated to less than significant with the incorporation of Mitigation Measure 3.3-1a, 3.3-1b 3.4-6, and 3.5-7. Post construction impacts associated with drainage, flooding, and impacts to existing levees would be mitigated to less than significant with the incorporation of Mitigation Measure 3.4-2, 3.4-5b and 3.4-8. As a result, there are no changes in the environmental setting or project characteristics that would raise important new drainage and flood plain impacts. Therefore, proposed project changes would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified drainage and flood plain impacts.

3.2.3 Land Use and Agriculture

Section 3.5 of the 2007 DWWSP EIR noted that, in general, land use and agricultural impacts associated with project pipelines would be limited to temporary construction impacts, primarily limited to public roadways and agricultural areas. After pipeline construction has been completed, roads and agricultural lands would be returned to pre-project conditions. Potentially significant impacts to land use and agricultural resources would be mitigated to less than significant with the incorporation of Mitigation Measure 3.5-4a and 3.5-4b, which include minimum depth requirements for the installation of pipelines in agricultural areas and the establishment of an agricultural conservation easement for permanent displacement of agricultural lands. Other mitigation measures related to impacts to traffic and roadways are described in Section 3.2.9 below. All other land use and agricultural impacts were found to be less than significant.

The proposed changes to the project pipeline alignment could result in similar impacts to land use and agriculture as described in the 2007 DWWSP EIR and would require the incorporation of Mitigation Measure 3.5-4a and 3.5-4b to address land use conflicts with existing agricultural uses and permanent impacts to agricultural lands. All new impacts to agricultural resources associated with the construction of the modified Davis finished water transmission main pipeline alignment would be temporary and be limited to the construction phase. As a result, there are no changes in the environmental setting or project characteristics that would raise important new land use and agricultural issues. Therefore, proposed project changes would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified land use and agricultural impacts.

3.2.4 Terrestrial Biological Resources

Section 3.6 of the 2007 DWWSP EIR concluded that construction of project pipelines had the potential to result in direct impacts to several special-status plant species including alkali milk-vetch, brittle-scale, San Joaquin saltbush, palmate-bracted bird's-beak, Heckard's pepper-grass, Ferris's milk-vetch, and heartscale. In addition, drainages and wetlands within the proposed Project area have potential to support rose-mallow, Sanford's arrowhead, and Brazilian watermeal. Construction impacts to other special status species and habitat were also identified including conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, western spadefoot, valley elderberry longhorn beetle, giant garter snake, western pond turtle, Swainson's hawk, Cooper's hawk, white-tailed kite, yellow-billed cuckoo, yellow warbler, loggerhead shrike, northern harrier, short-eared owl, burrowing owl, Tricolored blackbird, White-faced ibis, western snowy plover, mountain plover, and bank swallow. These impacts were determined to be less than significant with the incorporation of 2007 DWWSP EIR Mitigation Measures 3.6-a through 3.6-x, which generally requires consultation with state and federal wildlife agencies, acquisition of regulatory permits for impacts to wildlife and habitat, and implementation of specific measures for species and habitat that could be affected during construction, such as pre-construction surveys and construction monitoring.

The proposed modifications to the Davis finished water transmission main pipeline alignment could result in similar construction related impacts to species and habitat identified within the 2007 DWWSP EIR. Implementation of the applicable 2007 DWWSP EIR Mitigation Measures 3.6-a through 3.6-x, which include measures for all phases of project construction to address impacts sensitive habitats and species and consultation with state and federal wildlife agencies, as necessary, would still be implemented by the Project Partners. As a result, there are no changes in the environmental setting or project characteristics that would raise important new biological resources issues. Therefore, proposed project changes would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified biological resources impacts.

3.2.5 Geology, Soils, and Seismicity

Section 3.7 of the 2007 DWWSP EIR concluded that potentially significant geology, soils, and seismicity impacts related to installation of project pipelines would be limited to seismic hazards and seismic related ground failure and construction related soils erosion. These impacts would be mitigated to less than significant with the incorporation of 2007 DWWSP EIR Mitigation Measures 3.7-1a through 3.7-1c which includes detailed geotechnical studies of construction areas and consultation with federal, state, and local agencies, as appropriate; and Mitigation Measures 3.7-2a through 3.7-2b which includes implementation of stormwater and erosion control measures during construction. All other construction and operational impacts related to geology, soils, and seismicity were determined to be less than significant.

The proposed revisions to the Davis finished water transmission main pipeline alignment would be located within the vicinity of the pipelines identified in the 2007 DWWSP EIR and would

encounter similar regional geologic conditions during construction. Implementation of Mitigation Measures 3.7-1a through 3.7-1c and Mitigation Measures 3.7-2a through 3.7-2b would reduce impacts associated with seismic hazards and construction related soils erosion to less than significant. As a result, the conclusions and proposed mitigation measures of the existing geology, seismicity, and soils analysis within the 2007 DWWSP EIR remain unchanged and are applicable to the proposed changes described in this addendum. There are no changes in the environmental setting or project characteristics that would raise important new geology, seismicity, and soils issues. Therefore, proposed project changes would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified geology, soils, and seismicity impacts.

3.2.6 Air Quality

Section 3.8 of the 2007 DWWSP EIR concluded that project construction activities would result in potentially significant unavoidable construction-related air emissions consisting of exhaust emissions from vehicles and other equipment, and fugitive dust emissions associated with trenching, excavation, and grading. Air quality emissions associated with construction activities would be reduced, but not to less than significant, with the incorporation of 2007 DWWSP EIR Mitigation Measure 3.8-1a through 3.8-1d which includes measures to reduce construction related exhaust and particulate emissions consistent with the Yolo-Solano Air Quality Management District. Impacts related to odor were determined to be less than significant given that water supply facilities are not a typical odor generating use.

The proposed modifications to the Davis finished water transmission main pipeline alignment would result in similar potentially significant and unavoidable construction air quality impacts as those described in the 2007 DWWSP EIR. Construction emissions would consist of exhaust emissions from vehicles and equipment, and fugitive dust associated with the excavation and grading activities associated with project construction. Because the amount of pipeline required to be installed would be less than previously proposed, these emissions are expected to be similar to, or less than, those described in the 2007 DWWSP EIR. Implementation of 2007 DWWSP EIR Mitigation Measure 3.8-1a through 3.8-1d would be implemented to reduce potential construction emissions impacts. As a result, there are no changes in the environmental setting or project characteristics that would raise important new air quality issues. Therefore, changes to the proposed project would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified air quality impacts.

3.2.7 Noise

Section 3.9 of the 2007 DWWSP EIR concluded that potentially significant impacts would be limited to nighttime noise impacts during construction of project facilities that may exceed local noise ordinance standards and existing ambient noise levels. However, construction noise would be mitigated to less than significant with the incorporation of Mitigation Measure 3.9-1a, Mitigation Measure 3.9-1b, and Mitigation Measure 3.9-1e, which include measures to address potential

nuisance noise impacts associated with the construction phase of the proposed project. All other construction noise related impacts were determined to be less than significant.

Generally, the proposed modifications to the Davis finished water transmission main pipeline alignment would result in similar construction noise impacts and require the implementation of Mitigation Measure 3.9-1a, Mitigation Measure 3.9-1b, and Mitigation Measure 3.9-1e to reduce temporary significant construction noise impacts to less than significant. However, overall construction activities under the modified project could fall outside the construction hours as prescribed in Mitigation Measure 3.9-1a and outside the hours prescribed by the City of Woodland Noise Ordinance for construction activities. Construction activities within the City of Woodland would be limited to the construction of the RWTF and adjacent segments of the raw water and treated water pipelines to and from the RWTF. As a result, construction noise in the City of Woodland would be buffered by existing noise sources such as the commercial development to the west and I-5 to the north. In addition, the nearest sensitive receptors to construction activities within the City of Woodland are located approximately one half mile to the west. Given the distance to the nearest sensitive receptors and existing adjacent non-sensitive noise land uses, noise impacts associated with the modified construction schedule for construction activities within the City of Woodland would remain less than significant.

Construction activities within the unincorporated areas of Yolo County are not governed by a noise ordinance or construction noise standards. As a result 2007 DWWSP EIR Mitigation Measure 3.9-1a was implemented to reduce impacts to sensitive receptors potentially affected by temporary construction activities. Generally, construction activities associated with proposed project facilities would be located away from sensitive receptors within rural agricultural areas of unincorporated Yolo County. Approximately nine residential sensitive receptors are located within a quarter of a mile of construction activities along the pipeline alignment from the Joint Intake west to the RWTF and south from the RWTF to the City of Davis. However, the linear nature of pipeline construction would ensure that construction activities would pass through the construction zone adjacent to these receptors for a period of two weeks or less. Therefore, the WDCWA proposes to revise mitigation measure 3.9-1a to allow flexibility to accommodate changes in regional weather conditions and daylight work hours and help mitigate health and safety issues of construction workers.

Revised Mitigation Measure 3.9-1a: In order to avoid noise-sensitive hours of the day and night, construction contractors shall comply with the following:

- Construction activities within the City of Woodland jurisdiction, including the proposed RWTF site, and a portion of the treated water transmission pipeline, shall be limited to between 7 a.m. to 6 p.m. Monday through Saturday, and between the hours of 9 a.m. and 6 p.m. on Sunday. Work outside of these hours may be allowed by a variance from the City of Woodland.
- Construction activities within the City of Davis jurisdiction (i.e., a portion of the treated water transmission pipeline) shall be limited to between the hours of 7 a.m. and 7 p.m. Monday through Friday, and between the hours of 8 a.m. and 8 p.m. on Saturdays and Sundays.

- Construction activities in the County of Yolo jurisdiction, including the RWTF site, the intake facility, and water pipeline segments, shall be limited to the hours between ~~7:00 a.m. and 7:00 p.m.~~ 5:00 a.m. and 6:00 p.m. Monday through Saturday ~~Friday~~, and between the hours of 8:00 a.m. to 6:00 p.m. ~~only interior construction shall be allowed between the hours of 7:00 a.m. and 7:00 p.m. on Saturday~~ on Sunday to avoid noise-sensitive hours of the day¹. Work outside the stipulated construction window may be allowed along Road 22 though the Yolo Bypass for approximately 60 calendar days, along County Road 28H between County Road 102 and County Road 103 for 14 Calendar days and in the vicinity of all five trenchless crossings.
- Pile-driving shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday, with no pile-driving permitted between 12:30 p.m. and 1:30 p.m.

Because there is no construction noise standard for Yolo County and because construction noise would be temporary and for a short duration, the proposed modified construction hours would still result in less than significant construction noise impacts with the incorporation of revised Mitigation Measure 3.9-1a and the incorporation of Mitigation Measure 3.9-1b, Mitigation Measure 3.9-1e, and Mitigation Measure 3.9-1g. Therefore, the proposed modifications to the project and mitigation measures would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified noise impact conclusions.

3.2.8 Hazards and Hazardous Materials

Section 3.10 of the 2007 DWWSP EIR identified potentially significant hazards and hazardous materials impacts during construction of project pipelines including the transport of hazardous materials, potential for an accidental spill, potential exposure to hazardous materials and hazardous materials sites located adjacent to proposed project facilities, and the increased risk of wildland fire. All potentially significant hazards and hazardous materials impacts would be mitigated to less than significant with the incorporation of 2007 DWWSP EIR Mitigation Measures 3.10-1a through 3.10-1d, 3.10-2, 3.10-3, 3.10-5a through 3.10-5b, and 3.10-6a through 3.10-6b, which include measures related to the storage, transport and handling of construction and operational related hazardous materials and the preparation of a Hazardous Materials Management Plan.

Because the proposed changes in the proposed Davis finished water transmission main pipeline alignment would not result in a change to the general construction techniques, and construction activities would be located in close proximity to the areas described in the 2007 DWWSP EIR, construction of the revised pipeline alignment would also result in a less than significant impact in regards to the potential disturbance, use, and transport of existing hazardous materials and wild land fires with the incorporation of 2007 DWWSP EIR Mitigation Measures 3.10-1a through 3.10-1d, 3.10-2, 3.10-3, 3.10-5a through 3.10-5b, and 3.10-6a through 3.10-6b. As a result, there are no changes in the environmental setting or project characteristics that would raise important new hazards and hazardous materials issues. Therefore, changes to the proposed project would not

¹ Although the County of Yolo does not have established time limitations for construction activities, these specified hours are typically used during construction (Morrison, 2006).

alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified hazards and hazardous materials impacts.

3.2.9 Transportation and Traffic

Section 3.12 of the DWWSP EIR concluded that potentially significant traffic impacts associated with proposed project pipelines would be limited to the construction phase of the project. However, implementation of Mitigation Measures 3.12-1a through 3.12-1g and 3.12-4c, which includes preparation of a traffic control plan during the construction phase, utilization of trenchless construction techniques to limit road closures to the extent feasible, resurfacing of roads damaged during construction activities, utilization of equipment and worker staging and parking areas, and coordination with local transportation jurisdictions during periods of heavy construction, would reduce construction phase impact to less than significant.

Because the proposed changes to the Davis finished water transmission main pipeline alignment would not result in a change to the general construction techniques or assumptions for construction activities within existing roadways, construction of the revised pipeline alignment would also result in a less than significant impact to transportation and traffic with the incorporation of Mitigation Measures 3.12-1a through 3.12-1g and 3.12-4c. As a result, there are no changes in the environmental setting or project characteristics that would raise important new transportation and traffic issues. Therefore, changes to the proposed project would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified hazards and hazardous materials impacts.

3.2.10 Public Services and Utilities

Section 3.13 of the 2007 DWWSP EIR concluded that construction of proposed project pipelines could result in potentially significant impacts to underground public services and utilities. Implementation of Mitigation Measure 3.13-6, which includes the preparation of a utility avoidance plan, would reduce potential conflicts associated with trenching and excavation during pipeline installation to less than significant. Impacts related to the construction of new or expansion of existing public utilities, adequate landfill capacity during construction and operation, and violation of solid waste disposal regulations were determined to be less than significant.

Because the proposed changes to the Davis finished water transmission main pipeline alignment would not result in a change to the general construction techniques or assumptions for construction activities related to the presence of existing underground public utilities, the revised project would also result in a similar less than significant impact to public services and utilities with the incorporation of Mitigation Measures 3.13-6. Therefore, changes to the proposed project would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified public services and utilities impacts.

3.2.11 Cultural Resources

Section 3.10 of the 2007 DWWSP EIR concluded that construction of project pipelines have the potential to disturb or destroy undiscovered archaeological resources, Native American human remains, or paleontological resources. However, these impacts would be reduced to less than significant within the implementation of Mitigation Measure 3.14-1 which requires implementation of a construction monitoring and inadvertent discovery plan and measures to minimize or eliminate direct impacts to any found significant archaeological, Native American, or paleontological resources.

The proposed modifications to the Davis finished water transmission main pipeline alignment could have a similar potentially significant impact to undiscovered cultural resources. Unknown or undiscovered paleontological resources, sites, or geologic features, historic sites, human burial sites, and/or scattered remains related to historic and prehistoric occupation of the area could be inadvertently encountered anywhere within the project area during construction activities. Damage to these previously undisturbed resources would constitute a significant impact. However, this impact would be mitigated to less than significant with the incorporation of 2007 DWWSP EIR Mitigation Measure 3.14-1, which requires implementation of a construction monitoring and inadvertent discovery plan and measures to minimize or eliminate direct impacts to any found significant archaeological, Native American, or paleontological resources. As a result, there are no changes in the environmental setting or project characteristics that would raise important new cultural resources issues. Therefore, proposed project revisions would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified cultural resources impacts.

3.2.12 Recreation

Section 3.15 of the 2007 DWWSP EIR concluded that construction of proposed project pipelines would have no impact on recreational resources. The proposed pipelines would be located on private land or within existing roadways where no recreational facilities are present. Additionally, construction of the proposed pipelines would not interfere with or reduce access to recreational activities in the project area, nor would it directly increase demand for recreational facilities that would require the construction or expansion of existing recreational facilities.

The proposed modifications to the Davis finished water transmission main pipeline alignment would also not directly affect recreational resources as the proposed modifications are located on privately owned lands or within easements with no existing or planned recreational uses. As a result, there are no changes in the environmental setting or project characteristics that would raise important new recreation issues. Therefore, proposed project revisions would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified recreation impacts.

3.2.13 Aesthetics

Section 3.16 of the 2007 DWWSP EIR concluded that there would be no aesthetics impacts associated with the construction proposed project pipelines, as construction activities would be temporary and proposed facilities would be located underground.

The proposed modifications to the Davis finished water transmission main pipeline alignment would also not have a significant impact on the visual environment because of the temporary nature of construction activities and that the proposed facilities would be located underground with the exception of the 120 square foot masonry building to be used to house metering and sampling equipment. As shown in Figure 4, the proposed masonry building would be off-set from County Road 102 and would only be prominently visible to motorists approaching from the north. It should also be noted, the project area in the vicinity of the proposed building is urban in nature with other facilities such as power lines, gates, roads, a solar array facility, a golf course, and a cart racing track and does not represent a new and inconsistent feature with the surrounding area. Therefore, the changes to the proposed project would not change the character or quality of the project site or its surroundings, nor would they substantially affect the amount of light and glare generated, therefore the conclusions of the aesthetics analysis from the 2007 DWWSP EIR remain unchanged. There are no changes in the environmental setting or project characteristics that would raise important new visual or aesthetic issues. Therefore, changes to the proposed project would not alter the conclusions of the 2007 DWWSP EIR, result in any new significant impacts, or substantially increase the severity of the previously identified aesthetics impacts.

3.2.14 Cumulative and Growth Inducing Effects

The changes to the proposed project do not alter the underlying impact conclusions or growth assumptions of the 2007 DWWSP EIR. Therefore, there would be no change in the cumulative or growth inducing effects of the proposed project. None of the significance conclusions or findings in the Final EIR would be altered, no new significant impact would occur, and none of the previously identified significant impacts would be substantially worsened.

3.3 Conclusion

This addendum documents that the modifications to the Davis finished water transmission main pipeline alignment and changes to the proposed construction hours will not result in any new or more severe impacts than those discussed in the 2007 DWWSP EIR. None of the conditions or circumstances that would require preparation of a subsequent or supplemental EIR pursuant to Public Resources Code Section 21166 exists for the proposed project with these changes.

3.4 References

Environmental Science Associates (ESA). 2007a. Davis Woodland Water Supply Project Draft Environmental Impact Report. Prepared for the City of Davis, U.C. Davis and the City of Woodland, April 2007.

Environmental Science Associates (ESA). 2007b. Davis Woodland Water Supply Project Final Environmental Impact Report. Prepared for the City of Davis, U.C. Davis and the City of Woodland, October 2007.

Environmental Science Associates (ESA). 2012. Davis Woodland Water Supply Project Addendum #4. Prepared for the Woodland Davis Clean Water Agency, November 2012.

DATE: June 19, 2014

TO: Board of Directors, Woodland-Davis Clean Water Agency

FROM: Dennis M. Diemer, General Manager *DMD*

SUBJECT: Consider election of Board Chair and Vice-Chair for 2014-15

RECOMMENDATION

Pleasure of the Board.

BACKGROUND AND DISCUSSION

Joint Powers Agreement section 4.9 provides as follows: “Organization of the Board. The Board shall elect a Chair and a Vice-Chair to serve for a term of one year, unless sooner terminated at the pleasure of the Board. The first Chair and Vice-Chair appointed shall hold office from the date of appointment to June 30 of the ensuing year. The position of Chair and Vice-Chair shall alternate between representatives of each Party. The Board may, from time to time, determine the dates for the commencement and completion of the terms of the Chair and Vice-Chair.”

Pursuant to this provision, the Board should elect a Board Chair and Vice-Chair to serve from July 1, 2014 to June 30, 2015 (unless the Board fixes a different term). The current Chair and Vice-Chair are filled by Davis and Woodland representatives, respectively. Therefore, the new Chair must be a Woodland representative and the Vice-Chair must be a Davis representative.

FISCAL IMPACT

None.

**Long Range Calendar
Woodland-Davis Clean Water Agency
2014-2015 Board Meetings**

2014-2015											
FEB 2014	MAR 2014	APRIL 2014	MAY 2014	JUNE 2014	JULY 2014	AUGUST 2014	SEPT 2014	OCT 2014	NOV 2014	DEC 2014	JAN 2015
Woodland 2/20/14	Woodland 3/20/14	Davis 4/17/14	Woodland 5/15/14*	Davis 6/19/14	Woodland 7/17/14*	RECESS	Davis 9/18/14	Woodland 10/16/14	Davis 11/20/14	Woodland 12/18/14	Davis 01/15/15
*Consider approval of Change Order to CH2MHILL Agreement for additional Woodland storage *Consider approval of Amendment to Promissory Notes *Consider Composite Cost Allocation Percentages 2 nd Qtr Treasurer's Report Mid-year Budget Update Project Status Report Financing Update Energy Efficiency Update	*Board authorization of Joint Intake Project Construction contract Award *Consider approval of Contract with California Strategies & Advocacy, LLC for project related advocacy & legislative services *Consider approval of Agreement with ESA for construction-related environmental services Project Status Report Financing Update	*Consider approval of Mitigation Agreements for Regional Project Facilities Review of draft FY14-15 Budget Project Status Report Financing Update Energy Efficiency Update Project Cost Update	*Consider approval of SRF funding Agreements *Consider approval of Change Order No. 5 for costs of CH2MHILL services to comply with SRF loan docs/compliance Change Order Summary *Date conflict for one Director	*Consider approval of FY14-15 Budget *Consider approval of West Yost Task Order; Kim Floyd Communications Task Order *Consider approval of Diemer Eng. Amended Agreemt *Consider approval of EIR Addendum for construction hours change Selection of Chair & Vice-Chair Project Status Report Financing Update Energy Efficiency Update 3 rd Quarter Treasurer's Report Change Order Summary	Project Status Report Financing Update Energy Efficiency Update Change Order Summary *Date conflict for one Director	RECESS	4th Quarter Treasurer's Report Project Status Report Financing Update Energy Efficiency Update Change Order Summary	Project Status Report Financing Update Energy Efficiency Update Change Order Summary	1st Quarter Treasurer's Report Project Status Report Financing Update Energy Efficiency Update Change Order Summary	Project Status Report Financing Update Energy Efficiency Update Change Order Summary	Mid-year Budget Update Project Status Report Financing Update Energy Efficiency Update

*denotes Action Item
Updated 06/12/2014



United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

IN REPLY REFER TO:

MAY 14 2014

MP-100
WTR-4.00

John Laird, Secretary
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Subject: Funding for Reclamation District 2035 (RD 2035) and Woodland-Davis Clean Water Agency (WDCWA) Joint Intake/Fish Screen Facility

Dear Secretary Laird:

I am writing to you again to acknowledge your support for the Federal Anadromous Fish Screen Program (ASFP). Since the establishment of the AFSP in 1994, the United States Department of the Interior and the State of California have historically maintained a strong financial partnership for funding fish screening projects under AFSP that are designed to protect juvenile anadromous fish from entrainment in water diversions on the Sacramento and San Joaquin rivers, their tributaries, and the Delta. This durable partnership is underscored by the fact that for each of the dozens of fish screening projects completed to date under AFSP, the Department and the state have, along with some local contribution, funded these projects through cost-sharing arrangements.

The existing Reclamation District 2035 (RD 2035) water diversion facility has existed for over 90 years and is the largest single unscreened diversion on the Sacramento River. As you know, the declines of Chinook salmon and steelhead populations in the Sacramento River system have been caused by a number of factors. Unscreened diversions, in particular, have been detrimental to winter-run Chinook salmon.

As such, screening this facility has been identified as a top priority for the Bureau of Reclamation and the ASFP partner agencies within the Federal and state community. Toward that end, Reclamation has worked diligently over the last several years to ensure that sufficient Federal financial resources are available to complete the screening of this important project and other high priority fish screen projects in the Central Valley. Our continued efforts have resulted in Congress recently appropriating an additional \$4 million of fiscal year (FY) 14 funds for the fish screening projects in Reclamation the majority of which is coming to the Mid-Pacific Region, and most of that being targeted for the RD2035 project.

We were also pleased to learn that RD2035 has successfully completed a bidding process for construction of their priority fish screen project and has recently awarded a construction contract. In light of this milestone, coupled with the most recently appropriated funding from Congress, Reclamation anticipates adding additional funding by September 30 of this year to the cooperative agreement with RD2035 to bring the total federal obligation close to what we anticipate being the maximum allowable Federal contribution under the law of 50 percent of the eligible costs.

Because of your strong leadership, the state successfully secured \$10 million last year in its FY 14 and FY 15 budget towards the fish screen project. We were pleased with this action, as it enabled California to take a significant step towards dedicating the matching funds necessary to fully complement the Federal cost-share match. We are aware that RD2035 is seeking additional State assistance to satisfy the balance of the non-Federal cost-share, which we estimate to be around 11 million.

In closing, we again would like express our appreciation for your past support for these important fish screen projects and look forward to continuing to work with the State of California in reducing fish entrainment as provided in the Central Valley Project Improvement Act of 1992.

Sincerely,

A handwritten signature in black ink that reads "Pablo R. Arroyave". The signature is written in a cursive style with a large initial 'P'.

Pablo R. Arroyave
Deputy Regional Director



RON CHAPMAN, MD, MPH
Director & State Health Officer

State of California—Health and Human Services Agency
California Department of Public Health



EDMUND G. BROWN JR.
Governor

JUN - 4 2014

RECEIVED

Mr. Dennis Diemer
General Manager
Woodland-Davis Clean Water Agency
1717 Fifth Street
Davis, CA 95616

JUN 10 2014

WOODLAND DAVIS
CLEAN WATER AGENCY

Dear Mr. Diemer:

**SAFE DRINKING WATER STATE REVOLVING FUND (SDWSRF) FUNDING
AGREEMENT NO. SRF14CX107— WOODLAND-DAVIS CLEAN WATER AGENCY,
PROJECT NO. 5710012-008C**

Enclosed is an original executed SDWSRF grant funding agreement, No. SRF14CX107, between Woodland-Davis Clean Water Agency and the California Department of Public Health (CDPH). This funding is to assist your community in meeting safe drinking water standards for your domestic water supply.

You may have outstanding requirements which must be met prior to disbursement of funds. Please refer to Article A-3 Basic Conditions Precedent and Article C-2 Additional Requirements of your funding agreement for details. If you have any questions, please contact the Sacramento District Office at (916) 449-5668 or CDPH Headquarters at (916) 449-5600.

The State commends the Woodland-Davis Clean Water Agency for taking steps to correct the deficiencies that will be remedied by this project in order to provide safe drinking water to your consumers. CDPH wants to ensure your successful and timely completion of this project. Therefore, if at any time you encounter unexpected difficulties in meeting requirements of your funding agreement, please contact your CDPH District Office as soon as possible.

Sincerely,

David M. Mazzer, Ph.D.
Acting Chief
Division of Drinking Water and Environmental Management

**WOODLAND-DAVIS CLEAN WATER AGENCY
AND UNIVERSITY OF CALIFORNIA AGREEMENT
CONCERNING POTENTIAL WATER SUPPLY CONTRACT**

THIS AGREEMENT is entered into and effective this December 21, 2010, by and between the Woodland-Davis Clean Water Agency, a joint powers authority (“Agency”), and The Regents of the University of California, a public educational institution, on behalf of its Davis campus (“University”), who agree as follows:

1. Recitals. This Agreement is made with reference to the following background recitals.

1.1. University owns, operates and manages the University of California, Davis. University also owns, operates and maintains the public water system that serves the campus. University obtains its water supply from a variety of groundwater and surface water sources.

1.2. University has participated in activities regarding the Davis-Woodland Water Supply Project (“Project”) since the Project’s inception in 1994, when the application for a permit to appropriate Sacramento River surface water was filed with the State Water Resources Control Board (“SWRCB”). University has participated continuously in Project activities since then, and has supported efforts by the Cities of Woodland and Davis (collectively, “Cities”) to bring Sacramento River surface water to the region.

1.3. The Cities have approved the *Davis-Woodland Water Supply Project Authority Joint Powers Agreement* dated September 15, 2009 (the “Joint Powers Agreement”), which created the Agency. Agency was formed in order to pursue and implement the Project. Although not a party to the Joint Powers Agreement, University is described as a participating agency in the Joint Powers Agreement.

1.4. University is a joint applicant with the City of Davis on one of the two water-right permit applications for the Project pending before the SWRCB. The Joint Powers Agreement, sections 7.6 and 7.9, states that Cities will assign their interests in the water-right applications to Agency and that Cities would request University to also assign its interest in the water-right application to Agency. The Joint Powers Agreement, section 7.6, further states that Cities intend Agency to enter into a water supply contract with University under which University will receive a treated water supply and dedicated capacity in the Project.

1.5. The Joint Powers Agreement, section 7.6, states that if Agency and University did not execute a water supply contract by June 30, 2010, Agency would proceed with the Project without University’s participation. On June 17, 2010, at the request of University, the Agency Board of Directors extended the deadline for approval of the water supply contract to February 28, 2011, and authorized and directed Agency staff to negotiate an option-type agreement with a proposed water supply contract and a specified deadline by which University must make its final decision on whether or not to participate in the Project and approve the water supply contract.

1.6. In accordance with the June 17, 2010 direction, Agency and University have negotiated a proposed long-term water supply contract (attached as Exhibit A; the “Water Supply Contract”) and this Agreement, which, among other terms, gives University the right to approve the Water Supply Contract at any time prior to a specified date and provides for University to assign its interest in the water-right application to Agency.

1.7. The Cities have assigned to Agency all of their right, title and interest in the pending water-right permit applications (SWRCB Application No. 30358A and SWRCB Application No. 30358B).

2. Water Right Application Assignment. Upon execution of this Agreement, University agrees to assign all of its right, title and interest in the pending water-right permit application (SWRCB Application No. 30358A) to Agency. The assignment shall be in the form set forth in attached Exhibit B. Agency thereafter shall diligently prosecute the permit application for the benefit of University and Agency. If, prior to University's exercise of the option (see below), Agency abandons or otherwise finally determines not to proceed with the construction of the Project, then (a) University may terminate this Agreement by giving written notice of termination to Agency, and (b) upon receipt of such notice of termination, Agency shall request the SWRCB to split Application 30358A into two new applications, one of which would be for a maximum direct diversion of 1.8 million gallons per day ("mgd") and 2,000 acre-feet per year and the second of which would be for the remainder of Application 30358A. Agency shall request the SWRCB to assign the first new application to University and to assign the second new application to Agency. If, when Agency abandons or otherwise finally determines not to proceed with the construction of the Project, the SWRCB already has issued a permit on Application 30358A, then Agency shall request the SWRCB to split the permit and assign the new permits according to the same allocation set forth above. Agency shall diligently prosecute any such request to the SWRCB.

3. Participating Agency. University is hereby designated a Participating Agency in the Agency. As a Participating Agency, University and its representatives shall have all rights of a Participating Agency in the Joint Powers Agreement, including but not limited to the right to participate in open session Agency Board of Directors meetings. University shall have the right to have a representative on the Technical Committee, and any other committees of Agency, and, if a committee is a voting committee, the University representative shall have full voting rights on all such committees with the votes weighted according to the committee member's relative dedicated capacity in the Project. To the extent authorized under, and consistent with, the Ralph M. Brown Act, University also shall have the right to participate in any closed session of the Agency Board of Directors when the subject matter may affect the rights or obligations of University under this Agreement. Agency shall cooperate and consult from time to time with University regarding Project design, planning and implementation. Agency shall cooperate and coordinate with University regarding countywide and regional water planning, management and conjunctive use issues.

4. Agency Approval of Water Supply Contract. The Agency Board of Directors hereby approves the Water Supply Contract in substantially the form as set forth in Exhibit A. Agency authorizes and directs the Agency General Manager, in consultation with the Agency Board Chair and General Counsel, to finalize, make minor changes (also approved by University) to, approve and sign the Water Supply Contract for and on behalf of the Agency (and subject to approval by University as provided below). The Agency General Manager's authority to approve and sign the Water Supply Contract shall expire on the Expiration Date, as defined below.

5. University Option to Approve Water Supply Contract.

5.1. Option. University shall have the option and right to approve the Water Supply Contract in substantially the form as set forth in Exhibit A. The term of this option shall commence on the date of this Agreement and, if unexercised, shall expire at 5:00 p.m., California time, on a date that is ninety (90) days after the commencement of operation of the regional water treatment plant and delivery of treated water from the Project facilities or the date of any extension agreed to by the parties (the "Expiration Date"). The parties may extend the Expiration Date by mutual written agreement. Extension of the Expiration Date by Agency requires approval by its Board of Directors.

5.2. Exercise of Option. The option may be exercised by University at any time prior to the Expiration Date. University may exercise the option by giving written notice to the Agency unconditionally setting forth University's decision to exercise the option, participate in the Project, and approve and sign the Water Supply Contract. Upon delivery of such notice, University and the Agency General Manager forthwith shall finalize, approve and sign the Water Supply Contract.

5.3. Project Schedule. If the Agency develops, and Agency Board of Directors approves, a formal Project design and financing schedule ("Project Schedule"), prior to the exercise of University's option under this Agreement, and if Agency decides to finance the Project, the Project Schedule shall be provided to University and shall include the deadline by which University must notify Agency of its intent to have Agency finance University's share of the Capital Costs of the Project Facilities; provided, however, that such Project Schedule shall provide University with at least 180 days advance notice of such deadline. Agency shall provide a draft of the Project Schedule to University for comment before it is finalized.

5.4. Expiration of Option. If University does not timely exercise the option prior to the Expiration Date, then University's option and right to approve the Water Supply Contract shall expire on the Expiration Date and Agency thereafter shall proceed with the Project without University's participation. Nothing in this Agreement shall preclude or restrict the parties from thereafter negotiating and approving a contract for the supply of water to University. Expiration of the option shall not affect University's prior assignment of SWRCB Application No. 30358A to Agency.

6. University Share of Project Costs. The parties acknowledge and agree that University participated in and paid its fair share of all Project-related costs and expenditures until and through September 15, 2009 (the effective date of the creation of Agency). The parties further agree that until University exercises the option under section 4.2 and executes the Water Supply Contract, Agency shall bill and collect from the Cities their respective percentage shares of the Project costs that are specified in the Joint Powers Agreement to apply in the event University does not participate in the Project. If University exercises the option, the Water Supply Contract shall govern and control University's obligation, if any, to reimburse the Agency for University's share of the Project costs after September 15, 2009. If University does not exercise its option by the Expiration Date, then Agency will continue to bill the Cities for their respective percentages of Project costs and the Cities will receive the percentage of Project capacity that are specified in the Joint Powers Agreement to apply in the event University does not participate in the Project.

7. General Provisions.

7.1. Integration. This Agreement constitutes the sole, final, complete, exclusive and integrated expression and statement of the terms of this contract among the parties concerning the subject matter addressed herein, and supersedes all prior negotiations, representations or agreements, either oral or written, that may be related to the subject matter of this Agreement.

7.2. Construction and Interpretation. The parties agree that this Agreement has been arrived at through negotiation, and that each party has had a full and fair opportunity to revise the terms of this Agreement. Consequently, the normal rule of construction that any ambiguities are to be resolved against the drafting party shall not apply in construing or interpreting this Agreement.

7.3. Waiver. The failure of either party hereto to enforce any of the provisions of this agreement, or to enforce any right or option which is herein provided, shall in no way be construed to be a waiver of such provision(s) as to the future, nor in any way to affect the validity of this agreement or any part hereof, or the right of either party to thereafter enforce each and every such provision and to exercise any such right or option. No waiver of any breach of this agreement shall be held to be a waiver of any other or subsequent breach.

7.4. Severability. In the event that any of the provisions of this Agreement are held by a court or other tribunal of competent jurisdiction to be invalid or unenforceable, the remaining portions hereof shall remain in full force and effect and any invalid or unenforceable provisions shall be enforced to the maximum extent possible so as to effect the intent of the parties and shall be reformed to the extent necessary to make such provisions valid and enforceable.

7.5. Successors and Assigns. The rights and duties of the parties under this Agreement shall not be assigned or delegated without the prior written consent of the other party. Any attempt to assign or delegate such rights or duties in contravention of this Agreement shall be null and void.

7.6. No Third Party Beneficiaries. This Agreement shall not be construed to create any third party beneficiaries. This Agreement is for the sole benefit of the parties, and their permitted successors, transferees and assignees, and no other person or entity shall be entitled to rely upon or receive any benefit from this Agreement or any of its terms.

7.7. Amendment. This Agreement may be modified or amended only by a subsequent written agreement approved and executed by both parties. Amendment by the Agency requires approval by its Board of Directors.

7.8. Notice. Any notice, invoice or other communication that is required or permitted to be given under this Agreement shall be in writing and either served personally or sent by prepaid, first class U.S. mail addressed as follows:

<p>Agency:</p> <p>General Manager Woodland-Davis Clean Water Agency c/o Davis Public Works Department 1717 Fifth Street Davis, CA 95616</p>	<p>University:</p> <p>Assistant Vice Chancellor Environmental Stewardship and Sustainability University of California One Shields Avenue Davis, CA 95616</p>
---	--

Notice shall be deemed effective upon receipt if delivered personally or upon deposit with the U.S. Postal Service, if sent by mail. Any party may change its address by notifying the other party of the change in the manner provided above.

WOODLAND-DAVIS CLEAN
WATER AGENCY

REGENTS OF THE UNIVERSITY OF CALIFORNIA

By: _____
Eric Mische, General Manager

By: _____
Deborah Fraga-Decker
Associate Director, Contracting Services
Materiel Management

EXHIBIT A

WATER SUPPLY CONTRACT BETWEEN WOODLAND-DAVIS CLEAN WATER AGENCY AND UNIVERSITY OF CALIFORNIA

THIS CONTRACT is entered into and effective this _____, 20__ (“Contract Date”) by and between the Woodland-Davis Clean Water Agency, a joint powers authority (“Agency”), and The Regents of the University of California, a public educational institution, on behalf of its Davis campus (“University”), who agree as follows:

1. RECITALS. This Contract is made with reference to the following background recitals.

1.1. University owns, operates and manages the University of California at Davis campus. University also owns, operates and maintains the public water system that serves the campus. University obtains its water supply from a variety of groundwater and surface water sources.

1.2. University has participated in activities regarding the Davis-Woodland Water Supply Project (“Project”) since the Project’s inception in 1994, when the application for a permit to appropriate Sacramento River surface water was filed with the State Water Resources Control Board (“SWRCB”). University has participated continuously in Project activities since then, and has supported efforts by the Cities of Woodland and Davis (collectively, “Cities”) to bring Sacramento River surface water to the region.

1.3. The Cities have approved the *Davis-Woodland Water Supply Project Authority Joint Powers Agreement* dated September 15, 2009 (the “Joint Powers Agreement,” which is attached hereto as Exhibit A-1), which created the Agency. The Agency was formed in order to pursue and implement the Project. Although not a party to the Joint Powers Agreement, University is described as a participating agency in the Joint Powers Agreement.

1.4. University was a joint applicant with the City of Davis on one of the two water-right permit applications for the Project pending before the SWRCB. In accordance with the *Woodland-Davis Clean Water Agency and University of California Agreement Concerning Potential Water Supply Contract* dated December 21, 2010, University has assigned all of its right, title and interest in water-right permit application (SWRCB Application No. 30358A) to Agency, and Cities have assigned to Agency all their right, title and interest in water-right permit applications (SWRCB Application No. 30358A and SWRCB Application No. 30358B).

1.5. On October 16, 2007, the Davis City Council certified the *Davis-Woodland Water Supply Project Final Environmental Impact Report* for the Project (as described in the Final EIR). Water service to University pursuant to this Contract is part of the Project described and analyzed in the Final EIR.

1.6. By this Contract, the Agency agrees to provide a treated water supply and Dedicated Capacity to University, and University agrees to participate in the Project, on and subject to the terms set forth below.

2. APPLICABILITY OF JOINT POWERS AGREEMENT. The Joint Powers Agreement shall apply to the parties only as follows: (i) unless stated otherwise in this Contract, the defined terms herein shall have the meaning stated in the Joint Powers Agreement; (ii) Joint Powers Agreement, as defined and referred to in this

Contract, shall mean only the Joint Powers Agreement attached hereto as Exhibit A-1 and shall not include any amendments thereto; and (iii) only those provisions of the Joint Powers Agreement expressly incorporated by this Contract shall apply to the parties.

3. DESIGN AND CONSTRUCTION OF PROJECT.

3.1. Authorized Project Facilities. Subject to completion of any legally required Environmental Documentation and Permitting, and section 3.4 below, Agency agrees to diligently pursue and undertake all actions necessary to supply the treated water supply and Dedicated Capacity (as defined in section 5.1) provided for in this Contract, including but not limited to the acquisition of water rights and water supply contracts, design, final engineering, financing, property and rights-of-way acquisition, construction, operation, maintenance and management of the Project Facilities for and on behalf of University.

3.2. Schedule. Agency shall develop, and Agency Board of Directors shall approve, a formal Project design and financing schedule (“Project Schedule”), which shall be provided to University and, if Agency decides to finance the Project, shall include the deadline by which University must notify Agency of its intent to have Agency finance University’s share of the Capital Costs of the Project Facilities; provided, however, that such Project Schedule shall provide University with at least 180 days advance notice of such deadline. Agency shall provide a draft of the Project Schedule to University for comment before it is finalized.

3.3. Point of Delivery. The final Project design plans shall include a fixed point of delivery of water (the “Point of Delivery”) from the Agency-owned Project Facilities to either a University-owned, or shared University/City of Davis, water transmission line. At this time, University has not determined whether to receive Agency water through a dedicated University pipeline or through the City of Davis water distribution system, and Agency’s plan is to deliver the water to University at a Point of Delivery at the southern terminus of the Agency-owned Project Facilities, which would be at a point north of the City of Davis and not adjacent to University’s service area. Agency shall coordinate with University and the City of Davis concerning the final Point of Delivery and method of delivery of Agency water to University and otherwise take other actions necessary or appropriate to facilitate the construction of appropriate facilities to connect a University water transmission line to the Project Facilities; provided, however, that Agency shall not be financially responsible for the design, construction, operation or maintenance of any water transmission or delivery facilities beyond the planned Agency-owned Project Facilities.

3.4. Discretion Not to Construct. The Joint Powers Agreement authorizes Agency to proceed with and construct the Project, but it does not obligate the Agency to finally implement and construct the Project. Instead, Agency and its Board of Directors have the discretion to determine whether and how to proceed with the Project, subject to the limitations and requirements of the Joint Powers Agreement. Subject to the terms of this Contract, Agency reserves its discretion to determine whether and how to proceed with the Project in accordance with the Joint Powers Agreement. If Agency abandons or otherwise finally determines not to proceed with the construction or completion of the Project, then (a) University may terminate this Contract by giving written notice of termination to Agency, and (b) upon receipt of such notice of termination, Agency shall request the SWRCB to split the Agency water right permit or permits for the Project into two or more new permits, one of which would be for a maximum direct diversion of 1.8 million gallons per day (“mgd”) and 2,000 acre-feet per year and the second or others of which would be for the remainder of the water right. Agency shall request the SWRCB to assign the first permit to University and to assign the second or other permits to Agency. The Agency shall diligently prosecute any such request to the SWRCB.

3.4.1. In the event Agency determines not proceed with the Project in accordance with the Joint Powers Agreement, then University shall not receive a treated water supply or Dedicated Capacity under this Contract and section 5 shall not become operative.

3.4.2. In the event Agency determines to construct Project Facilities to serve the Cities, then the Project Facilities shall include the facilities to deliver water to University at the Point of Delivery, University shall receive a treated water supply and Dedicated Capacity under this Contract, and section 5 shall become operative.

3.5. Participating Agency. University is hereby designated a Participating Agency in the Agency. As a Participating Agency, University and its representatives shall have all rights of a Participating Agency in the Joint Powers Agreement, including but not limited to the right to participate in open session Agency Board of Directors meetings. University shall have the right to have a representative on the Technical Committee, and any other committees of Agency, and, if the committee is a voting committee, the University representative shall have full voting rights on all such committees with the votes weighted according to the committee member's relative dedicated capacity in the Project. To the extent authorized under, and consistent with, the Ralph M. Brown Act, University also shall have the right to participate in any closed session of the Agency Board of Directors when the subject matter may affect the rights or obligations of University under this Agreement. Agency shall cooperate and consult from time to time with University regarding Project design, planning and implementation. Agency shall cooperate and coordinate with University regarding countywide and regional water planning, management and conjunctive use issues.

4. ALLOCATION OF COSTS, FINANCE AND ACCOUNTING.

4.1. Pre-Contract Date Cost Sharing. The parties acknowledge and agree that University participated in, and has previously paid its fair share of, all Project-related costs and expenditures until and through September 15, 2009 (the effective date of the Agency). Subject to this section 4 and section 5, and a possible adjustment of percentage shares thereunder, University shall pay the percentages (as shown on the first table in section 6.2.1 of the Joint Powers Agreement) of the Capital Costs of Project Facilities reasonably incurred by the Agency from September 15, 2009 through the Contract Date ("University Pre-Contract Date Costs"). University shall have the right, as set forth in section 4.4, to review and inspect all documents related to, and audit all costs incurred by the Agency.

4.1.1. University may pay the University Pre-Contract Date Costs by either of the following options: (i) a lump sum payment equal to the full amount of the University Pre-Contract Date Costs; or (ii) annual payments to Agency over 5 years, which payments shall include the University Pre-Contract Date Costs and interest thereon at a rate equal to the interest earned by funds on hand in the Agency during the applicable period until paid.

4.1.2. If Agency has issued bonds covering University Pre-Contract Date Costs, University shall have the following additional options for payment of the University Pre-Contract Date Costs: (i) a lump sum payment equal to the debt service paid on the University Pre-Contract Date Costs as of the Contract Date; or (ii) annual payments to Agency over 5 years, which payments shall include the debt service paid on University Pre-Contract Date Costs as of the Contract Date and interest on the unpaid amount at a rate equal to the interest earned by funds on hand in the Agency during the applicable period until paid. If Agency has issued bonds covering only a portion of the University Pre-Contract Date Costs, then the portion not included in the bonds shall be payable by University pursuant to section 4.1.1.

4.1.3. Within 30 days from the effective date of this Contract, University shall inform the Agency in writing of its election under sections 4.1.1 and/or 4.1.2. If Agency elects to pay under the lump sum option, then the lump sum shall be paid to Agency within 90 days of the Contract Date.

4.2. Post-Contract Date Cost Sharing.

4.2.1. Subject to this section 4 and section 5, the post-Contract Date Project-related costs incurred by Agency shall be allocated among University and the Cities in accordance with sections 6.2 and 6.3 of the Joint Powers Agreement, except as follows: (i) University's percentage share shall only be applied to costs, whether Capital Costs or Fixed or Variable Operating Costs, which facilitate or relate to the construction, operation, maintenance, management, repair, replacement, modification, expansion and/or improvement of Project Facilities and services collectively to Cities and University; (ii) University's percentage share increase of Project capacity, if any, shall be governed by this Contract; (iii) Agency shall have no right to modify University's percentage share of cost responsibility, or the method for calculating that share, without University's prior written approval; (iv) if University elects to not use Agency or City financing for University's share of the Capital Costs of Project Facilities, the annual costs assessed to University shall not include Capital Costs or financing costs associated therewith; and (v) in the event of a conflict between the provisions of this Contract and the Joint Powers Agreement, this Contract shall control.

4.2.2. If University transmission facilities necessary to use the Dedicated Capacity are not operational on the Contract Date, University shall have up to 24 months from the Contract Date to complete such facilities. In such event, University shall be obligated immediately, as provided in this Contract, to fund University's share of Capital Costs, but University shall not be obligated to pay Fixed or Variable Operating Costs until 24 months after the Contract Date or the date of operation of University transmission facilities necessary to use the Dedicated Capacity, whichever is earlier.

4.2.3. University agrees to pay its share of all post-Contract Date Project-related costs of the Agency in accordance with a payment schedule adopted by the Agency Board of Directors, consistent with the cost allocation methodology set forth in sections 6.2 and 6.3 of the Joint Powers Agreement. These costs shall be determined by the Agency, billed to University, paid and collected in accordance with sections 6.5 to 6.9 of the Joint Powers Agreement and in the same manner as the other Project Participants. University agrees to pay Agency in accordance with those sections of the Joint Powers Agreement and this Contract. Upon completion of construction of the Project, and subject to section 5.2, University agrees to this payment obligation whether or not the Project Facilities are operating, damaged or destroyed, whether or not its Dedicated Capacity is actually available to or utilized by University, whether or not water is available for diversion to the Project, and regardless of the occurrence of any Force Majeure event. If (a) the Contract Date precedes the completion of construction of the Project, (b) Agency abandons or otherwise finally determines not to proceed with the construction or completion of the Project, and (c) University terminates this Contract pursuant to section 3.4, then Agency shall reimburse to University its post-Contract Date Project-related costs paid by University pursuant to this section. Agency may make this reimbursement by (a) a lump sum payment within six months of University's notice of termination, or (b) annual payments to University spread over five years, which payments shall include interest on the unpaid amount at a rate equal to the interest earned by funds on hand in University during the applicable period until paid.

4.3. Financing University Share of Capital Costs.

4.3.1. University shall have a choice to finance its share of the Capital Costs of the Project Facilities or to allow for Agency or the Cities (subject to section 4.3.1.2) to finance University's share of the Capital Costs of the Project Facilities.

4.3.1.1. If University decides that it will finance its share of the Capital Costs of the Project Facilities, then it must so notify Agency in writing by the deadline set forth in the Project Schedule; provided, however, that such Project Schedule shall provide University with at least 180 days advance notice of such deadline. University then must (i) complete its financing or otherwise acquire Capital Costs funds in an

amount sufficient to pay its share of the estimated Capital Costs of the Project Facilities (plus a contingency) as determined by Agency's Project Engineer, and (ii) deposit such funds with Agency by the funds-deposit deadline or deadlines in the Project schedule; provided, however, that such Project Schedule shall provide University with at least 180 days' advance notice of such deadline. Upon completion of construction of the Project Facilities, Agency shall undertake an accounting of the final Capital Costs and determine University's share of those costs. If University's share is less than the amount deposited by University, then Agency shall refund the balance to University. If University's share exceeds the amount deposited by University, then University shall pay the difference to Agency.

4.3.1.2. If University does not timely notify Agency that it will finance its share of the Capital Costs of the Project Facilities, then University may request the Agency to finance its share of the Capital Costs. If Agency determines to issue bonds or other debt for Project Capital Costs, then Agency agrees that its Project financing shall include funding for University's share of the Capital Costs of the Project Facilities and University agrees that its share of Project financing debt service shall be paid by it in accordance with section 4.2. If Agency determines that the Project Capital Costs will be funded by bonds or other debt issued by the Cities, then the parties shall consult with the Cities or one of the Cities regarding inclusion of the University share of the Capital Costs in a City financing. If the Cities are unable or unwilling to include the University share, then the University shall pay its share of the Capital Costs pursuant to section 4.3.1.1.

4.4. Accounting Procedures. The Agency shall keep and maintain an accounting of all funds, receipts and expenses, and shall keep and maintain appropriate records and accounts of all funds, receipts and expenses under this Contract in accordance with generally accepted accounting bookkeeping practices. University and its employees, accountants, attorneys and agents may review, inspect, copy and audit any such records and accounts, including source documents. In accordance with California Government Code section 8546.7, the parties acknowledge that this Agreement, and performance and payments under it, are subject to examination and audit by the State Auditor General for three years following final payment under the Agreement.

4.5. Revenue Deficit. If insufficient revenue is collected by the Agency to satisfy all of its annual costs (other than by reason of a failure of University or a City to pay its share of costs), then such deficiency will be assessed by the Agency against the University and Cities in the same manner as costs were allocated to each Project Participant for the fiscal year in which such deficit was incurred.

5. UNIVERSITY WATER SUPPLY AND DEDICATED CAPACITY.

5.1. Dedicated Capacity. Upon completion of construction of the Project Facilities, University shall be entitled to exclusive use of dedicated capacity of 1.8 mgd of treated water from the Project Facilities ("Dedicated Capacity"). Agency shall deliver the Dedicated Capacity to University at its Point of Delivery pursuant to a delivery schedule developed in accordance with section 5.1.4 of this Contract, subject to the requirements, limitations and restrictions of this Contract. The Agency may temporarily discontinue or reduce the delivery of water to University for the purposes of necessary investigation, inspection, maintenance, repair, or replacement of any of the Project Facilities. The Agency shall notify University as far in advance as possible of any such discontinuance or reduction, except in cases of emergency, in which case notice need not be given. The University's Dedicated Capacity is subject to an annual limit of 2,000 af/yr; this annual limit will be applied by the Agency on a calendar year accounting period unless a different water-year accounting period is specified in the water-right permits or licenses for the Project.

5.1.1. The parties may agree in writing to transfer Dedicated Capacity between University and the Cities, with a corresponding pro rata transfer of responsibility for Project-related costs.

5.1.2. If Agency later expands the Project water treatment plant beyond its initial capacity, then University shall have the right to increase its Dedicated Capacity on at least a proportional basis and, if University exercises that right, University's Dedicated Capacity (the daily limits in mgd and the annual limits in af/yr.) shall proportionately be increased by written amendment to this Contract and the University's cost obligations under section 4.2 shall be adjusted to correspond to University's percentage share of total Project capacity. In the event University elects not to increase its Dedicated Capacity as a result of a Project expansion, then its Dedicated Capacity and annual limit will remain fixed and University shall have no responsibility for capital or operating costs associated with such expansion, and University's responsibility for future Capital Costs relating to Project repair and replacement, Fixed Operating Costs and Variable Operating Costs shall be reduced accordingly.

5.1.3. The Dedicated Capacity shall be delivered to the Point of Delivery. The Agency shall deliver treated water that meets all state and federal drinking water quality standards applicable to the Project at the time of the delivery and shall use its best efforts to maintain design water pressures at the Point of Delivery. The Agency shall consult with University on a regular basis to determine specific schedules of deliveries, and, consistent with the terms of this Contract, Agency shall use its best efforts to meet the requirements of University. If University does not desire or take its full entitlement of Dedicated Capacity, then the amount of water not delivered to University may be made available and delivered to the Cities. The Agency shall keep and maintain a monthly schedule of the actual quantities of water delivered to University and Cities.

5.2. Reduction in Capacity of Project Facilities. If, after completion of construction of the Project, for any reason (including, but not limited to, water supply availability, drought, restrictions on diversion, regulatory requirements, damage, or maintenance), the daily water delivery capacity of the Project Facilities is less than the Project design capacity, and such reduction is not due to an act or omission of any Project Participant, then the available capacity shall be allocated among the Project Participants based on their percentage shares set forth in section 7.3 of the Joint Powers Agreement, or such other percentage shares agreed to by the parties. If, for any reason, the annual water delivery capacity of the Project Facilities is less than 46,137 af/yr, and such reduction is not due to an act or omission of any Project Participant, then the annual amounts of available water shall be allocated among the Project Participants based on the percentage shares set forth in section 7.3 of the Joint Powers Agreement, or such other percentage shares agreed to by the parties. If reductions in both the daily water delivery capacity and the annual limit occur, then available daily water delivery capacity shall be allocated first, and the available annual limit then shall be allocated in a manner that is consistent with the allocated daily water delivery capacity. If the reduction is due to an act or omission of a Project Participant, then that Project Participant shall be responsible for absorbing the amount of the reduction attributable to its act or omission from its share of daily water delivery capacity or annual limit.

5.3. Project Service Area. The overall Project service area and anticipated water right place of use are shown on Exhibit C of the Joint Powers Agreement. The Project service area shall expand concurrent with the expansion by University of the University campus boundaries; provided, however, that the Project service area shall not exceed the authorized water right place of use under the Agency SWRCB-approved water right permit or license; provided, further, that if requested by University, Agency will petition the SWRCB to change the place of use specified in the water right permit or license to include additional lands as designated by University. In such event, University shall reimburse Agency for all reasonable costs associated with securing SWRCB approval of such change including, without limitation, the cost of environmental review. Upon approval of a change in place of use by the SWRCB, this Contract shall be amended by writing executed by the parties depicting the revised University service area.

5.4. Use of Project Water. Upon completion of Construction, Agency shall operate the Project and use its best efforts to ensure that the Dedicated Capacity is, at all times, fully available for use by University

within its service area, which service area is shown on Exhibit C of the Joint Powers Agreement or hereafter amended in accordance with section 5.3. University shall not sell, convey, transfer or make its Dedicated Capacity available to a third-party without the prior written approval of the Agency, which shall not be unreasonably withheld, conditioned, or delayed. This restriction shall not apply to a University water service agreement to provide treated water within its service area, as shown on Exhibit C of the Joint Powers Agreement or hereafter amended in accordance with section 5.3. University shall not use, convey or transfer Project water for use outside the authorized place of use under the Agency's water right permit or license.

5.5. University as Retail Service Provider. This Contract provides for a wholesale treated water supply and Dedicated Capacity in the Project. The Agency shall be responsible for the operation and maintenance of Project Facilities up to the Point of Delivery to University. University shall be responsible for the operation and maintenance of its water distribution facilities below the Point of Delivery.

6. INDEMNIFICATION.

6.1. By Agency. Agency shall indemnify, defend, protect and hold harmless University, and its officers, employees, agents and volunteers, from and against any and all liability, losses, claims, damages, expenses, and costs (including reasonable attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of or in connection with the Agency's performance under this Contract or failure to perform under this Contract. However, University acknowledges that the Agency's insurance and indemnity-related costs would be costs of Agency operations for which University would be liable under section 4.2.

6.2. By University. University shall indemnify, defend, protect and hold harmless the Agency, and its officers, employees, agents and volunteers, from and against any and all liability, losses, claims, damages, expenses, and costs (including reasonable attorney, expert witness and consultant fees, and litigation costs) of every nature arising out of or in connection with University's performance under this Contract or failure to perform under this Contract.

6.3. Agency Not liable for Operation Beyond Point of Delivery. Agency and its officers, agents, contractors, employees or volunteers shall not be liable for the control, carriage, handling, use, disposal, or distribution of Project water supplied to University after such water has passed the Point of Delivery to University, nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond that Point of Delivery; and University shall indemnify and hold harmless Agency pursuant to section 6.2 from any such damages, claims or liability.

6.4. University Not Liable for Operation Before Point of Delivery. University and its officers, agents, contractors, employees or volunteers shall not be liable for the control, carriage, handling, use, disposal, or distribution of Project water before such water has passed the Point of Delivery to University; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such water before it has passed that Point of Delivery; and the Agency shall indemnify and hold harmless University pursuant to section 6.1 from any such damages, claims or liability.

6.5. Survival. These indemnification obligations shall survive and continue in full force and effect after termination of this Contract for any reason with respect to any actions or omissions that occurred before the date of termination.

6.6. The indemnification and hold harmless provisions of this Contract shall apply in lieu of any rights pursuant to Government Code sections 895 et seq., or any other provision of law.

7. TERM AND TERMINATION.

7.1. Term. This Contract shall take effect on the date first set forth above and continue in effect in perpetuity, unless terminated in accordance with the terms of this section 7.

7.2. Termination by Mutual Consent. This Contract may be terminated by mutual written consent of Agency and University.

7.3. Termination by University. Prior to the final approval (whether by Agency or the City of Davis or Woodland) of the issuance of any bonded indebtedness or certificates of participation for Project Capital Costs financing, University may terminate this Contract upon giving Agency 30 days' prior written notice of termination. University also may terminate this Contract in accordance with section 3.4. Any termination by University must be made effective at the end of a calendar month.

7.4. Dissolution of Agency Prior to Issuance of Bonds. If the Joint Powers Agreement is terminated under the terms of the Joint Powers Agreement prior to the final approval (whether by Agency or the City of Davis or Woodland) of the issuance of any bonded indebtedness or certificates of participation for Project Capital Costs financing, and prior to the completion of any Project facilities, then this Contract shall terminate concurrent with the termination of the Joint Powers Agreement; provided, however, that, unless otherwise agreed to by University in writing prior to the termination of the Joint Powers Agreement, upon University's request, Agency shall request the SWRCB to split the Agency water right permit or permits for the Project into two or more new permits, one of which would be for a maximum direct diversion of 1.8 mgd and 2,000 acre-feet per year and the second or others of which would be for the remainder of the water right. The Agency shall request the SWRCB to assign the first permit to University and to assign the second or other permits to one of the Cities or a successor entity. The Agency shall diligently prosecute any such request to the SWRCB.

7.5. Termination by University After Issuance of Bonds. After the final approval (whether by Agency or the City of Davis or Woodland) of the issuance of any bonded indebtedness or certificates of participation for Project Capital Costs financing, or after the completion of any Project Facilities, this Contract may be terminated by University only pursuant to section 7.2 or in connection with the termination of the Joint Powers Agreement pursuant to section 7.6.

7.6. Dissolution of Agency After Issuance of Bonds. The parties acknowledge that the Joint Powers Agreement cannot be terminated, and the Agency cannot be dissolved, except pursuant to a dissolution agreement approved pursuant to sections 9.3 and 9.4 of the Joint Powers Agreement. If the Joint Powers Agreement is terminated under the terms of the Joint Powers Agreement after the final approval (whether by Agency or the City of Davis or Woodland) of the issuance of any bonded indebtedness or certificates of participation for Project Capital Costs financing, or after the completion of any Project facility, then the dissolution agreement must provide for the assignment of this Contract to one of the Cities, or a responsible successor entity, who shall assume the rights, liabilities and obligations to continue the operation and maintenance of the Project facilities for the benefit of the University under this Contract.

7.7. Liability for Costs up to Termination. For any termination of the Contract under this section 7, University shall remain obligated for its share of costs as set forth in section 4 prior to the effective date of the termination.

8. GENERAL PROVISIONS.

8.1. Integration. This Contract constitutes the sole, final, complete, exclusive and integrated expression and statement of the terms of this contract among the parties concerning the subject matter addressed herein,

and supersedes all prior negotiations, representations or agreements, either oral or written, that may be related to the subject matter of this Contract.

8.2. Construction and Interpretation. The parties agree that this Contract has been arrived at through negotiation, and that each party has had a full and fair opportunity to revise the terms of this Contract. Consequently, the normal rule of construction that any ambiguities are to be resolved against the drafting party shall not apply in construing or interpreting this contract.

8.3. Waiver. The failure of either party hereto to enforce any of the provisions of this agreement, or to enforce any right or option which is herein provided, shall in no way be construed to be a waiver of such provision(s) as to the future, nor in any way to affect the validity of this agreement or any part hereof, or the right of either party to thereafter enforce each and every such provision and to exercise any such right or option. No waiver of any breach of this agreement shall be held to be a waiver of any other or subsequent breach.

8.4. Severability. In the event that any of the provisions of this Agreement are held by a court or other tribunal of competent jurisdiction to be invalid or unenforceable, the remaining portions hereof shall remain in full force and effect and any invalid or unenforceable provisions shall be enforced to the maximum extent possible so as to effect the intent of the parties and shall be reformed to the extent necessary to make such provisions valid and enforceable.

8.5. Successors and Assigns. The rights and duties of the parties under this Contract shall not be transferred or assigned without the prior written consent of the other party. Any attempt to assign or delegate such rights or duties in contravention of this Contract shall be null and void.

8.6. No Third Party Beneficiaries. This Contract shall not be construed to create any third party beneficiaries. This Contract is for the sole benefit of the parties, and their permitted successors, transferees and assignees, and no other person or entity shall be entitled to rely upon or receive any benefit from this Contract or any of its terms.

8.7. Amendment. This Contract may be modified or amended only by a subsequent written agreement approved and executed by both parties. Amendment by the Agency requires approval by its Board of Directors.

8.8. Notice. Any notice, invoice or other communication that is required or permitted to be given under this Contract shall be in writing and either served personally or sent by prepaid, first class U.S. mail addressed as follows:

Agency: General Manager Woodland-Davis Clean Water Agency c/o Davis Public Works Department 1717 Fifth Street Davis, CA 95616	University: Assistant Vice Chancellor Environmental Stewardship and Sustainability University of California One Shields Avenue Davis, CA 95616
--	---

Notice shall be deemed effective upon receipt if delivered personally or upon deposit with the U.S. Postal Service, if sent by mail. Any party may change its address by notifying the other party of the change in the manner provided above.

WOODLAND-DAVIS CLEAN
WATER AGENCY

REGENTS OF THE UNIVERSITY OF CALIFORNIA

By: _____
Eric Mische, General Manager

By: _____
Deborah Fraga-Decker
Associate Director, Contracting Services
Materiel Management

**EXHIBIT A-1 to Water Supply Contract
(September 15, 2009 Joint Powers Agreement)**

[On file with Agency]

EXHIBIT B
Form of Water-Right Permit Application Assignment

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: <http://www.waterrights.ca.gov>

NOTICE OF ASSIGNMENT

State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

Gentlemen:

I have assigned all my right, title, and interest in

Application 30358A, Permit n/a, License n/a

on file with the State Water Resources Control Board to:

Woodland-Davis Clean Water Agency, a joint powers authority

whose address is:

1717 Fifth Street

(Address)

Davis

(City)

CA

(State)

95616

(Zip code)

Telephone No. (530) 757-5577

Deborah Fraga-Decker, Associate Director, Contracing Services Materiel Management, for and on behalf of
(Name) University of California, Davis

(Signature)

Telephone No. () _____

Dated: _____

Accepted by Woodland-Davis Clean Water Agency: _____
-ASGN (1-00) Eric Mische, General Manager _____, 2010

