



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET, 16TH FLOOR
SAN FRANCISCO, CALIFORNIA 94103-1398

MAR - 8 2016

Regulatory Division

To: Cook

Subject: File Number 2015-00374N

Proj/NBWRP SVCSO Fifth Street East Recycled Water
Pipeline (Watmaugh Road to Sonoma Valley High School)
71-712-7 #3

Mr. David Cook
Sonoma County Water Agency
404 Aviation Boulevard
Santa Rosa, CA 95403

COPY
ORIGINAL DOCUMENT
SONOMA COUNTY WATER AGENCY

MAR 10 2016

Dear Mr. Cook:

This correspondence is in reference to your submittal of August 26, 2015 concerning Department of the Army (DA) authorization to install a 7,000-foot long, 10-inch wide pipeline that will provide for beneficial use of recycled water that has been treated at the Sonoma Valley Wastewater Treatment Plant. The project site comprises roadside ditches adjacent to Nathanson Creek and is located along Watmaugh Road, 5th Street East, Denmark Street, and Engler Street in the City of Sonoma, Sonoma County, California (38.268°N and 122.451°W).

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will consist of a pipeline installation to provide for beneficial use of recycled water and offset the use of potable water for irrigation. The pipeline will stretch east from the intersection of Watmaugh Road at Shainsky Road to 5th Street East, then north on 5th Street East to Denmark Street. Two small spurs will also extend from the transmission main to serve additional customers: approximately 1,300 linear feet along Denmark Street to the east side of the Sonoma Valley High School campus, and approximately 400 linear feet along Engler Street to Valley Oaks Park. The pipeline will be installed within the existing paved roadway right-of-way, including all construction activities such as equipment laydown, vehicular access, and excavation; the exception will be up to fifteen, 6-inch diameter pipe turnouts that will cross road shoulders and ditches to connect with adjacent landowners. Trenchless methods at the Nathanson Creek crossing will require equipment access and excavation of bore pits within the paved right-of-way. The overall work will require placement of 3.3 cubic yards of fill within 0.077 acre of waters adjacent to Nathanson Creek, including 0.006 acre of a wetland ditch and 0.071 acre of a creek. All work shall be completed in accordance with the plans and drawings in 22 sheets entitled "USACE File #2015-00374N, 5th Street East Recycled Water Pipeline Project, February 2, 2016" (enclosure 1).

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material, occurring below the plane of mean high water in tidal waters of the United

States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce. A Preliminary Jurisdictional Determination (JD) has been completed for your site. Preliminary JDs are written indications that there may be waters of the U.S. on a parcel or indications of the approximate location(s) of waters of the U.S. on a parcel. Preliminary JDs are advisory in nature and may not be appealed. While this preliminary jurisdictional determination was conducted pursuant to Regulatory Guidance Letter No. 08-02, *Jurisdictional Determinations*, it may be subject to future revision if new information or a change in field conditions becomes subsequently apparent. The basis for this preliminary jurisdictional determination is fully explained in the enclosed *Preliminary Jurisdictional Determination Form*. You are requested to sign and date this form and return it to this office within two weeks of receipt. Please see the enclosed Preliminary JD map in two sheets, entitled "Preliminary Jurisdiction for 5th Street East Recycled Water Pipeline, requested by Sonoma County Water Agency" and dated February 2, 2016 (enclosure 2).

Based on a review of the information in your submittal, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 12 for *Utility Line Activities*, 77 Fed. Reg. 10,184 (Feb. 21, 2012) (enclosure 3), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*). The project must be in compliance with the terms of the NWP, the general conditions of the Nationwide Permit Program, and the San Francisco District regional conditions cited in enclosure 4. You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2017, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5 (c) or (d). This verification will remain valid if, during the time period between now and March 18, 2017, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs

would be announced by Public Notice posted on our website (<http://www.spn.usace.army.mil/Missions/RegulatoryPublicNotices.aspx>). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 5, verifying that you have complied with the terms and conditions of the permit.

You shall comply with all terms and conditions set forth by the notice entitled "Notice of Applicability for Enrollment of the 5th Street East Recycled Water Pipeline Project under the Clean Water Act (CWA) Section 401 General Water Quality Certification for Nationwide Permit 12, Sonoma County," issued by the San Francisco Bay Regional Water Quality Control Board on November 16, 2015 (enclosure 6). You shall consider such conditions to be an integral part of the NWP authorization for your project.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion (BO) with incidental take provisions. As the principal federal lead agency for this project, the Corps initiated consultation with the United States Fish and Wildlife Service (USFWS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*). By an email of December 28, 2015, USFWS concurred with the Corps' determination that the proposed project may be covered under an existing BO (81420-2009-F-1272-1), cited in enclosure 7, with an incidental take statement for the California red-legged frog and a determination that the project may affect, but is not likely to adversely affect, the California freshwater shrimp, Burke's goldfields, or Sonoma sunshine.

General Condition 20 stipulates that any project affecting a historic property may not commence construction until the provisions of 33 C.F.R. pt. 325, Appendix C, have been satisfied. As the Federal lead agency for this project, the Corps initiated consultation with the State Historic Preservation Officer (SHPO). By letter of January 20, 2016 (enclosure 8), SHPO concurred with the Corps' determination that the proposed project would have no adverse effect on historic properties or cultural resources.

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

1. To remain exempt from the prohibitions of Section 9 of the Endangered Species Act, the non-discretionary Terms and Conditions for incidental take of the federally-listed California red-legged frog shall be fully implemented as stipulated in the Biological Opinion entitled "Biological Opinion on the Proposed North San Pablo Bay Restoration and Reuse Project in Marin, Sonoma, and Napa Counties, California" (pages 19-21), dated June 8, 2010 (enclosure 7). Project authorization under the NWP is conditional upon compliance with the mandatory terms and conditions associated

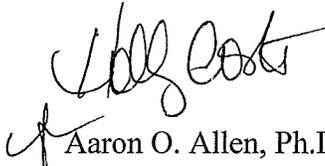
with incidental take. Failure to comply with the terms and conditions for incidental take, where a take of a federally-listed species occurs, would constitute an unauthorized take and non-compliance with the NWP authorization for your project. The USFWS is, however, the authoritative federal agency for determining compliance with the incidental take statement and for initiating appropriate enforcement actions or penalties under the Endangered Species Act.

2. The USFWS concurred with the determination that the project was not likely to adversely affect the California freshwater shrimp, Burke's goldfields, or Sonoma sunshine. This concurrence was premised, in part, on project work restrictions outlined in enclosure 7. These work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. All work occurring below the plane of ordinary high water shall be confined to the low-flow period, during summer months to avoid excessive sedimentation of creek waters.
5. All standard Best Management Practices shall be implemented to prevent the movement of sediment downstream. All necessary erosion and siltation controls will be in place during pipe-bursting activities. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the waterways. All side-cast materials will be placed in the adjacent uplands.
6. California native plants and/or seeds shall be used to revegetate all exposed areas throughout the project site upon project completion.
7. A post construction report shall be submitted 45 days after the conclusion of construction activities. The report shall document construction activities and contain as-built drawings (if different from drawings submitted with application) and include before and after photos.

You may refer any questions on this matter to Daniel Breen of my Regulatory staff by telephone at (415) 503-6769 or by e-mail at Daniel.B.Breen@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner, while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: <http://www.spn.usace.army.mil/Missions/Regulatory.aspx>

Sincerely,



Aaron O. Allen, Ph.D.
Acting Chief, Regulatory Division

Enclosures

Copy Furnished (w/ encls):

Mr. Grant Davis
Sonoma Valley County Sanitation District
404 Aviation Boulevard
Santa Rosa, CA 95403

Copy Furnished (w/ encl 1 only):

CA RWQCB, Oakland, CA (Attn: Ben Livsey)

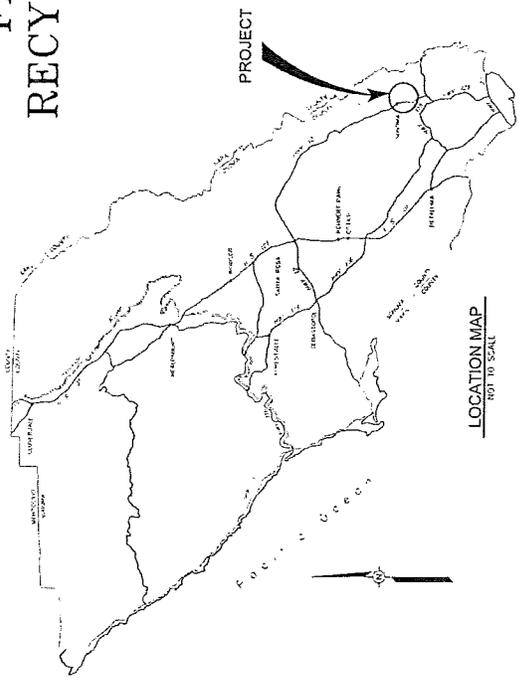
Copies Furnished (w/o encls):

U.S. FWS, Sacramento, CA (Attn: Leif Goude)
CA SHPO, Sacramento, CA (Attn: Anmarie Medin)
U.S. EPA, San Francisco, CA
CA SWRCB, Sacramento, CA

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 1 of 22



NORTH BAY WATER REUSE PROGRAM
SONOMA VALLEY COUNTY SANITATION DISTRICT
FIFTH STREET EAST
RECYCLED WATER PIPELINE



INDEX TO DRAWINGS

SHEET NUMBER	DRAWING NUMBER	SHEET DESCRIPTION
1	G-1	LOCATION MAPS, VICINITY MAPS, AND INDEX TO DRAWINGS
2	G-2	ABBREVIATIONS, SYMBOLS, NOTES
3	C-1	STA 1+00 TO STA 7+00
4	C-2	STA 7+00 TO STA 13+00
5	C-3	STA 13+00 TO STA 19+00
6	C-4	STA 19+00 TO STA 25+00
7	C-5	STA 25+00 TO STA 31+00
8	C-6	STA 31+00 TO STA 37+00
9	C-7	STA 37+00 TO STA 43+00
10	C-8	STA 43+00 TO STA 49+00
11	C-9	STA 49+00 TO STA 55+00
12	C-10	STA 55+00 TO STA 61+00
13	C-11	STA 61+00 TO STA 67+00
14	C-12	STA 67+00 TO STA 73+00
15	C-13	STA 73+00 TO STA 79+00
16	C-14	STA 79+00 TO STA 85+00
17	C-15	STA 85+00 TO STA 91+00
18	C-16	STA 91+00 TO STA 97+00
19	D-1	AIR VALVE ASSEMBLY VALUE DETAILS, AND BLOWOFF DETAIL
20	D-2	TYPICAL VALVE INSTALLATION
21	D-3	TRENCH DETAILS
22	D-4	FLOW METER



VICINITY MAP AND DRAWING KEY
 SCALE: 1" = 400'

90% SUBMITTAL

SONOMA VALLEY COUNTY
SANITATION DISTRICT

FIFTH STREET EAST RECYCLED WATER PIPELINE
LOCATION MAPS, VICINITY MAPS, AND
INDEX TO DRAWINGS

DATE: 1/19/2016
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 SCALE: 1" = 400'
 SHEET 1 OF 22

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 2 of 22



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

ABBREVIATIONS

AB	AGGREGATE BASE	JB	JUNCTION BOX
AC	ASPHALTIC CONCRETE	JP	JOINT POLE
AD	ASBESTOS CONCRETE PIPE	L	LENGTH
AD	AREA DRAIN	LF	LINEAR FEET
APPROX	APPROXIMATE	LT	LEFT
AV	AIR VALVE	MAX	MAXIMUM
BC	BEGINNING OF CURVE	MB	MAILBOX
BFV	BUTTERFLY VALVE	MIN	MINIMUM
BLD	BUILDING	N	NORTH/SOUTH
BO	BLOWOFF	NO	NUMBER
CAV	COMBINATION AIR VALVE	PH	POUNDS PER SQUARE INCH
CP	CAST-IN-PLACE	PVC	PUBLIC UTILITY FLEXIBLE
CI	CURB INLET	PV	POLYVINYL CHLORIDE
CDP	CONTROLLED DENSITY FILL	PVI	POINT VERTICAL INFLECTION
CMP	CORRUGATED METAL PIPE	RC	RELATIVE COMPACTION
CONC	CONCRETE	RCB	REINFORCED CONCRETE BOX
CP	CONCRETE PIPE	RCF	REINFORCED CONCRETE PIPE
CL	CLASS	RDWD	REDWOOD
CONST	CONSTRUCTION	RT	RIGHT
CU	CUBIC FOOT	RW	RECYCLED WATER PIPELINE
CU YD	CUBIC YARD	S	SLOPE/GRADE
DEFL	DEFLECTION	SCS	SAND CEMENT SLURRY
DI	DROP INLET	SD	STORM DRAIN
DIP	DIAPHRAGM	SEC	SECTION
DIA	DIAMETER	DSMH	DUCTILE IRON PIPE
DWY	DRIVEWAY	SS	SANITARY SEWER
DWGS	DRAWINGS	STD	STANDARD
E	EAST/EASTING	STA	STATION
EA	EACH	TEMP	TEMPORARY
EA WY	EACH WAY	TYP	TYPICAL
EC	END OF CURVE	TR	TRUNK SEWER
EUCS	EUCALYPTUS	VF	VERY IN FIELD
EX	EXISTING	W	WEST
EP	EDGE OF PAVEMENT	WI	WITH
FL	FLOWLINE		
HORIZ	HORIZONTAL		
INFL	INFLOW AND INFILTRATION		
INV	INVERT		

LEGEND

	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEANOUT
	STORM DRAIN MANHOLE
	WATER VALVE
	WATER METER
	SIGN
	MAIL BOX
	UTILITY POLE
	UTILITY VAULT
	AIR VALVE/COMBINATION AIR VALVE
	BLOW OFF
	PLUG/BUTTERFLY VALVE
	ANGLE
	PROPERTY LINE
	EDGE OF PAVEMENT
	SANITARY SEWER LINE
	INFLOW AND INFILTRATION SEWER LINE
	GAS LINE
	OVERHEAD LINES
	UNDERGROUND LINES
	WIRE FENCE
	CHAIN LINK FENCE
	WOODEN FENCE
	STREET RIGHT-OF-WAY/PROPERTY LINE
	UNDERGROUND TELEPHONE
	UNDERGROUND ELECTRIC
	TREE DRIPLINE
	SURVEY MONUMENT
	SURVEY CONTROL POINT
	STORM DRAIN CULVERT
	STORM DRAIN

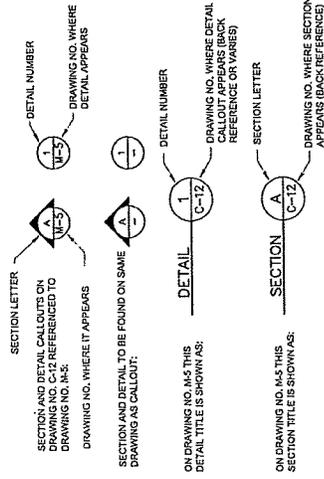
GENERAL NOTES

- HORIZONTAL DATUM: CALIFORNIA COORDINATE SYSTEM 1983 (CCS83), ZONE II (1911.35)
- PRIMARY HORIZONTAL CONTROL: NATIONAL GEODETIC SURVEY REFERENCE STATION: HFGN D CA 04 KP JTR618 PUBLISHED CCS83 VALUES (U.S. SURVEY FT.); NORTH: 1,851,473.83 EAST: 6,497,331. PUBLISHED ACCURACY: FIRST ORDER HORIZONTAL. THIS REFERENCE STATION IS ALSO PUBLISHED IN THE OFFICIAL RECORDS OF THE COUNTY OF SONOMA, CALIFORNIA.
- VERTICAL DATUM: BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)
- PRIMARY VERTICAL CONTROL: SONOMA COUNTY WATER AGENCY BENCHMARK SV-1: A-1/2" BRONZE DISC SET IN THE CONCRETE BASE OF THE FLAG POLE LOCATED AT THE SOUTHEAST CORNER OF THE SONOMA VALLEY TREATMENT PLANT OPERATORS BUILDING ELEVATION: 224.9
- STATIONING: ALL STATIONING REPRESENTS HORIZONTAL MEASUREMENT AT CENTERLINE OF CONSTRUCTION.
- ORIENTATION: RIGHT AND LEFT DIRECTIONS ARE FROM CENTERLINE LOOKING UPSTATION.
- LENGTH: LENGTHS INDICATED ARE MEASURED BETWEEN CENTERS OF MANHOLES
- STRIPING: PAVEMENT STRIPING IS NOT SHOWN ON PLANS.

HORIZONTAL AND VERTICAL CONTROL

POINT NO.	NORTH	EAST	ELEVATION	DESCRIPTION
501	1846810.804	6430838.987	35.37	5/8" Rebar with Pl. Cap. Stamped "SCWA CONTROL"
502	1846418.701	6431548.818	61.70	Checked X on Concrete Manhole Cover
503	1844175.203	6432067.224	61.61	Alloy Spike/Bress Washer Stamped "SCWA Control"
504	1843967.000	6432067.224	38.41	Concrete Monument
505	1843162.754	6432169.237	40.93	5/8" Rebar with Pl. Cap. Stamped "SCWA CONTROL"
506	1843162.754	6432169.237	40.93	5/8" Rebar with Pl. Cap. Stamped "SCWA CONTROL"
507	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
508	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA CONTROL"
509	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA CONTROL"
510	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
511	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
512	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
513	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
514	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
515	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
516	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
517	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
518	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
519	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"
520	1843162.754	6432169.237	40.93	Alloy Spike/Bress Washer Stamped "SCWA Control"

TYPICAL SECTION LETTERING AND DETAIL NUMBERING SYSTEM



90% SUBMITTAL

SONOMA VALLEY COUNTY
SANITATION DISTRICT

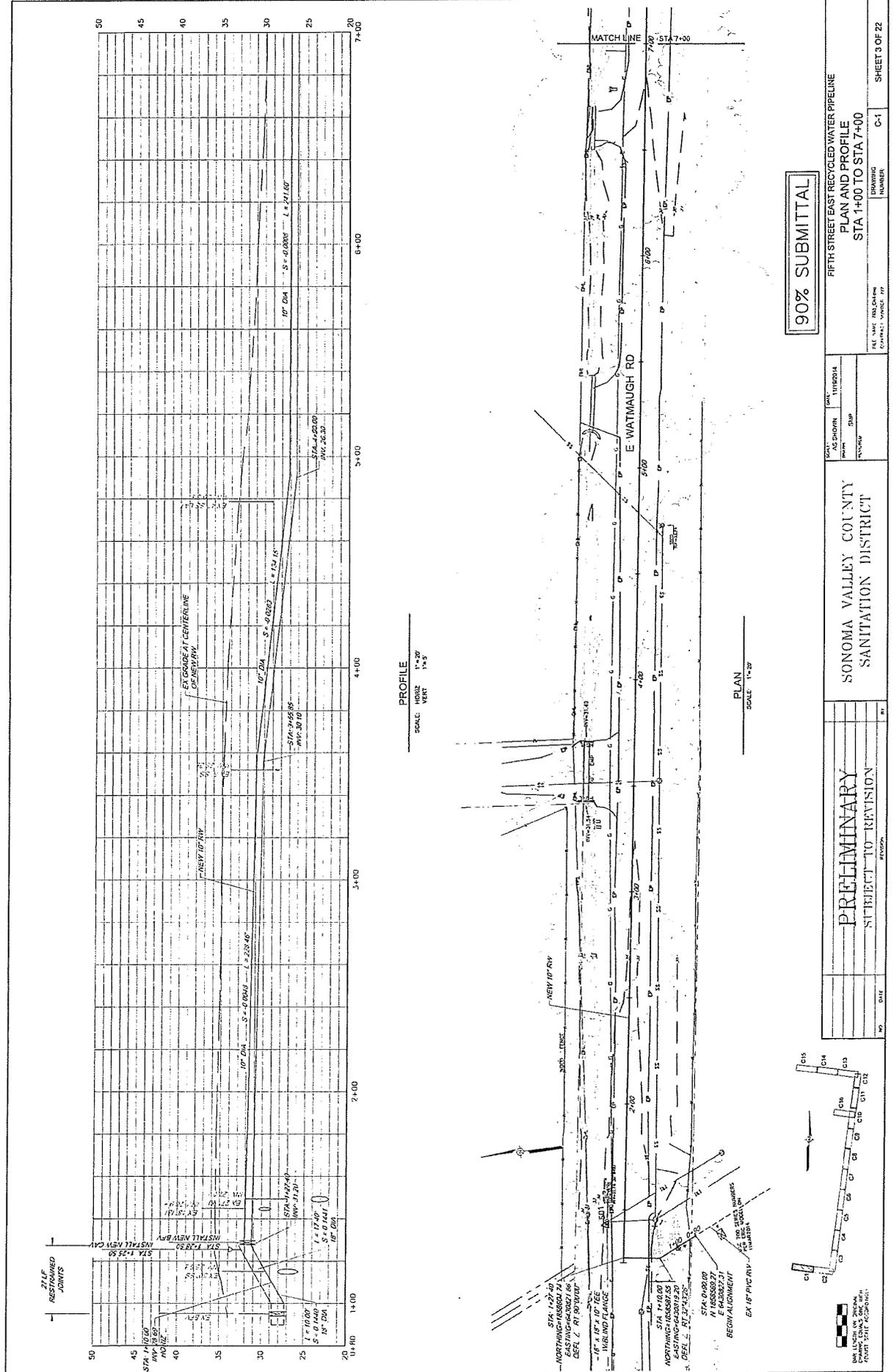
FIFTH STREET EAST RECYCLED WATER PIPELINE
ABBREVIATIONS, SYMBOLS, NOTES

DATE: 1/19/2016
TIME: 10:00 AM
PROJECT: 5th Street East Recycled Water Pipeline Project
DRAWING NO.: 15-00374N-01
SHEET NO.: 22 OF 22

FILE NAME: 15-00374N-01.dwg
DATE PLOTTED: 1/19/2016 10:00 AM
PLOTTER: HP DesignJet T1100

DATE: 1/19/2016
TIME: 10:00 AM
PROJECT: 5th Street East Recycled Water Pipeline Project
DRAWING NO.: 15-00374N-01
SHEET NO.: 22 OF 22

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 3 of 22



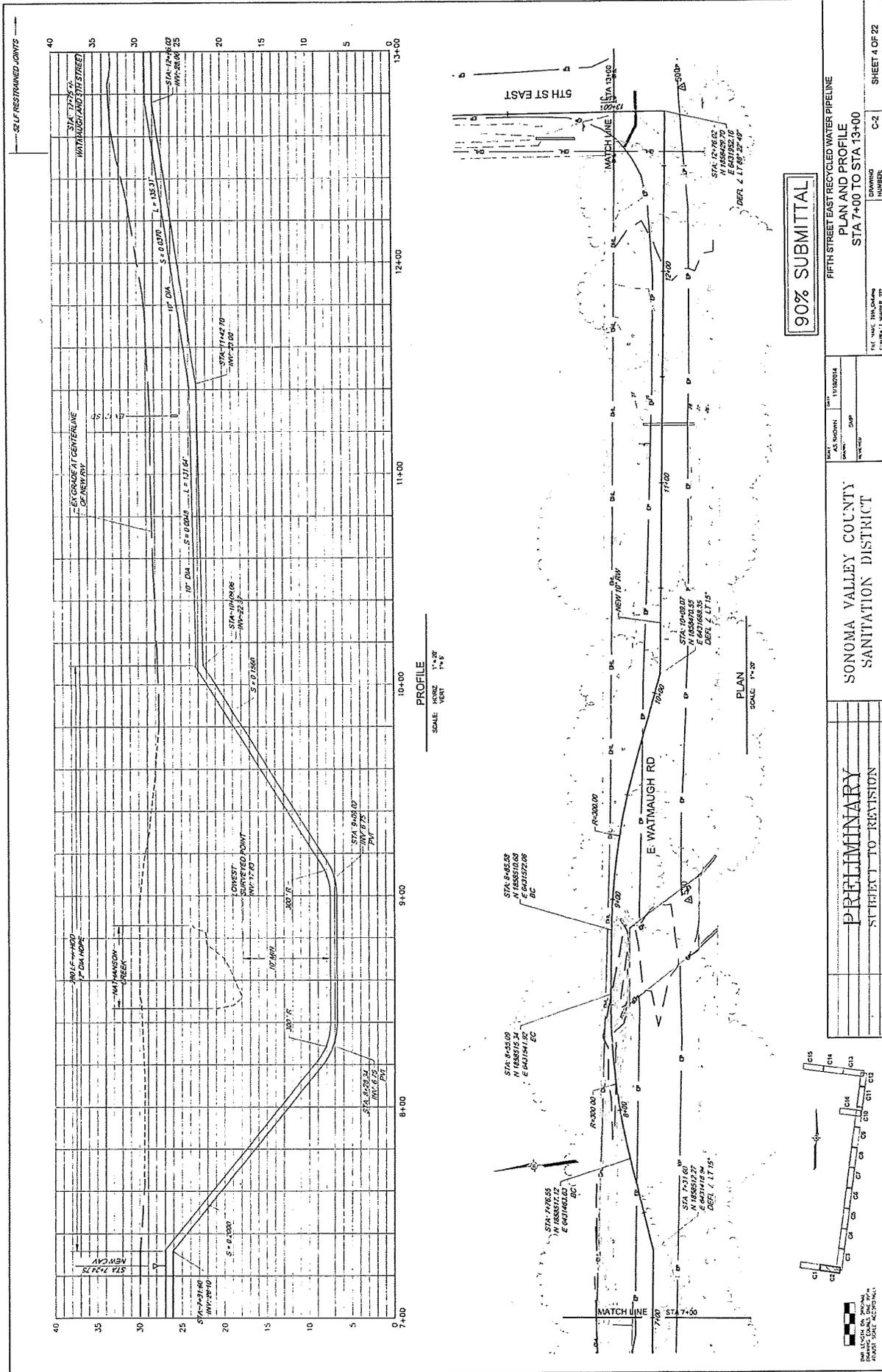
90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 1+00 TO STA 7+00		DRAWING NUMBER C-1	SHEET 3 OF 22
SONOMA VALLEY COUNTY SANITATION DISTRICT		PROJECT NUMBER 150304	CONTRACT NUMBER 150304
PRELIMINARY SUBJECT TO REVISION		DATE	BY

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 4 of 22



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

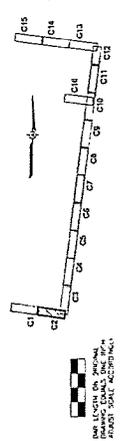


90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE
PLAN AND PROFILE
STA 7+00 TO STA 13+00
DRAWING NUMBER: C-2 SHEET 4 OF 22

SONOMA VALLEY COUNTY
SANITATION DISTRICT

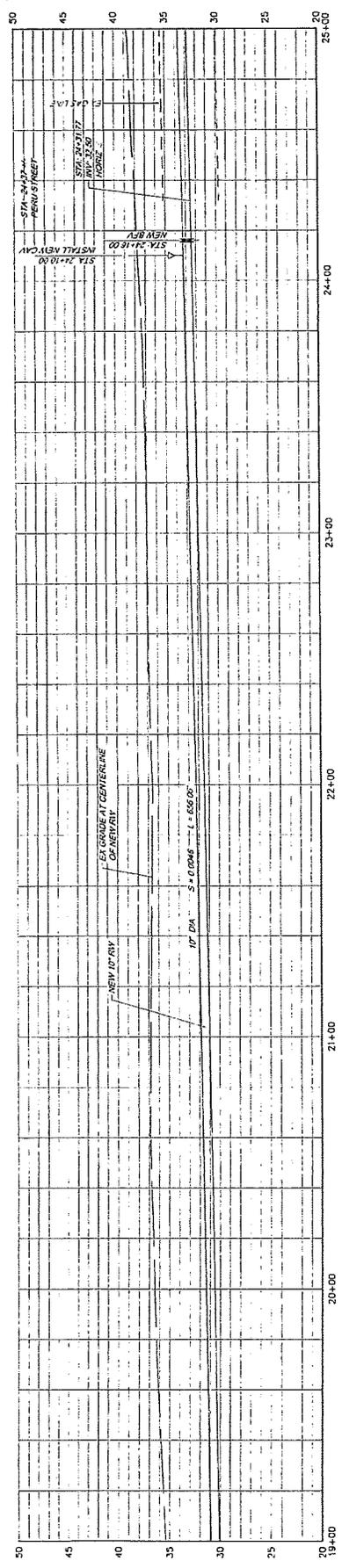
PRELIMINARY
SUBJECT TO REVISION



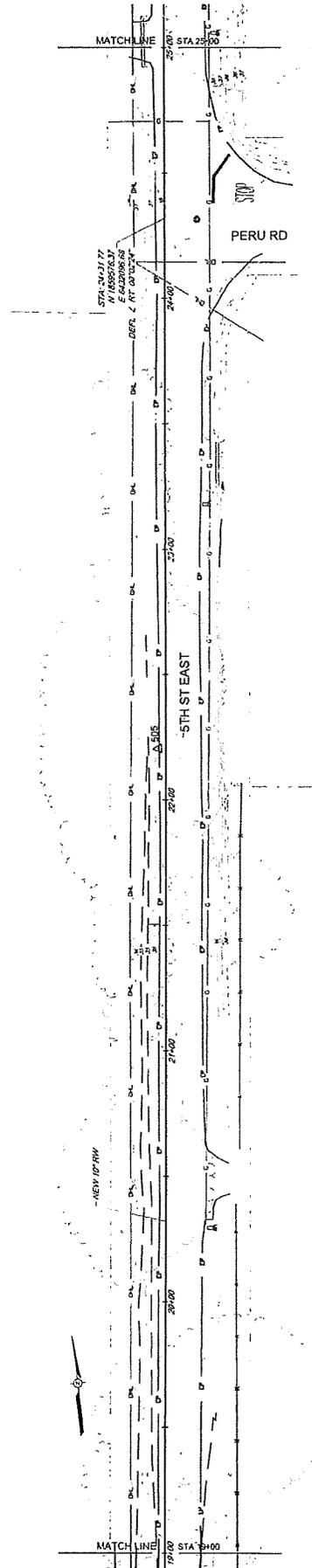
DATE: FEBRUARY 2, 2016
DRAWN BY: [Name]
CHECKED BY: [Name]

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 6 of 22

U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



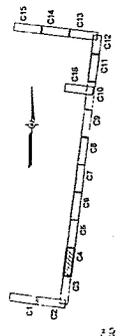
PROFILE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



PLAN
 SCALE: 1"=20'

90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 19+00 TO STA 25+00		FILE NAME: 150414.rvt CONTRACT NUMBER: 77	DRAWING NUMBER: C-4 SHEET 6 OF 22
SONOMA VALLEY COUNTY SANITATION DISTRICT		DATE: 11/20/14 DRAWN BY: SJP CHECKED BY: SJP	NO. DATE BY
PRELIMINARY SUBJECT TO REVISION		REVISIONS	NO. DATE BY

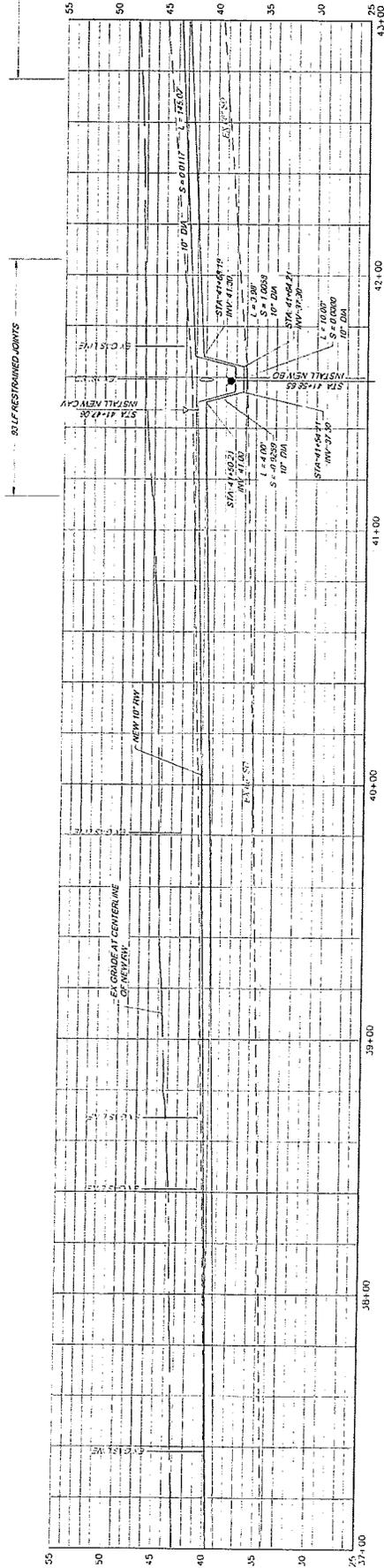


ALL LEGS ON ORIGINAL
 REVISIONS BY DATE

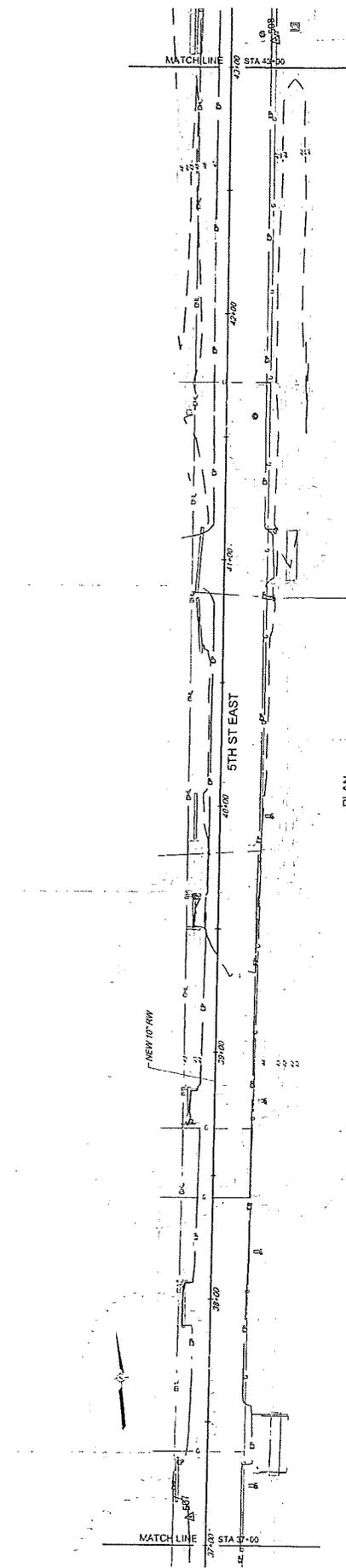


USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 9 of 22

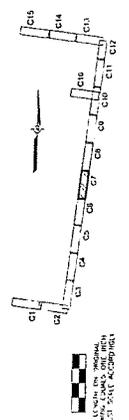
U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



PROFILE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



PLAN
 SCALE: 1"=20'



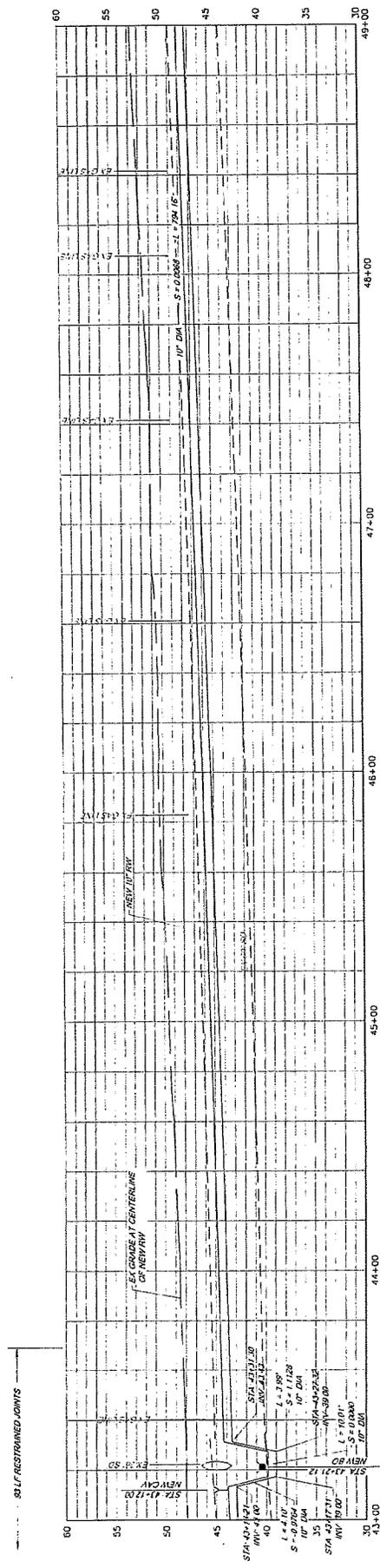
90% SUBMITTAL

PRELIMINARY SUBJECT TO REVISION		SONOMA VALLEY COUNTY SANITATION DISTRICT		FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 37+00 TO STA 43+00	
NO	DATE	BY	CHKD	DATE	NO.
PROJECT:		SHEET:		DRAWING NUMBER:	
CONTRACT NUMBER:		DATE:		SHEET 9 OF 22	

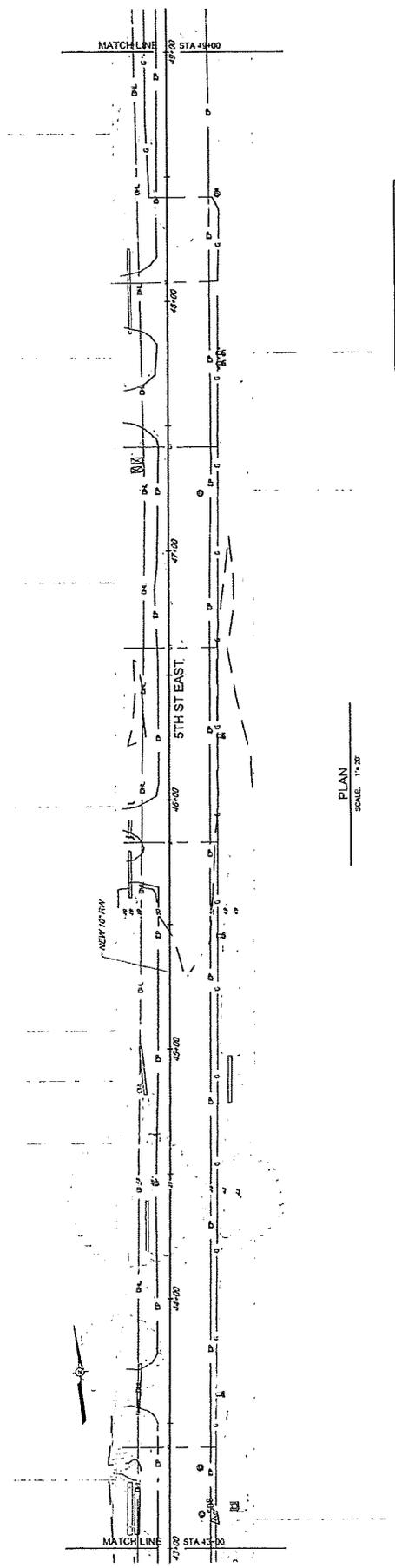
USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 10 of 22



U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



PROFILE
 SCALE: HORIZ. 1"=20'
 VERT. 1"=2'



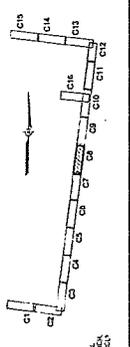
PLAN
 SCALE: 1"=20'

90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE
 PLAN AND PROFILE
 STA 43+00 TO STA 49+00

SONOMA VALLEY COUNTY
 SANITATION DISTRICT

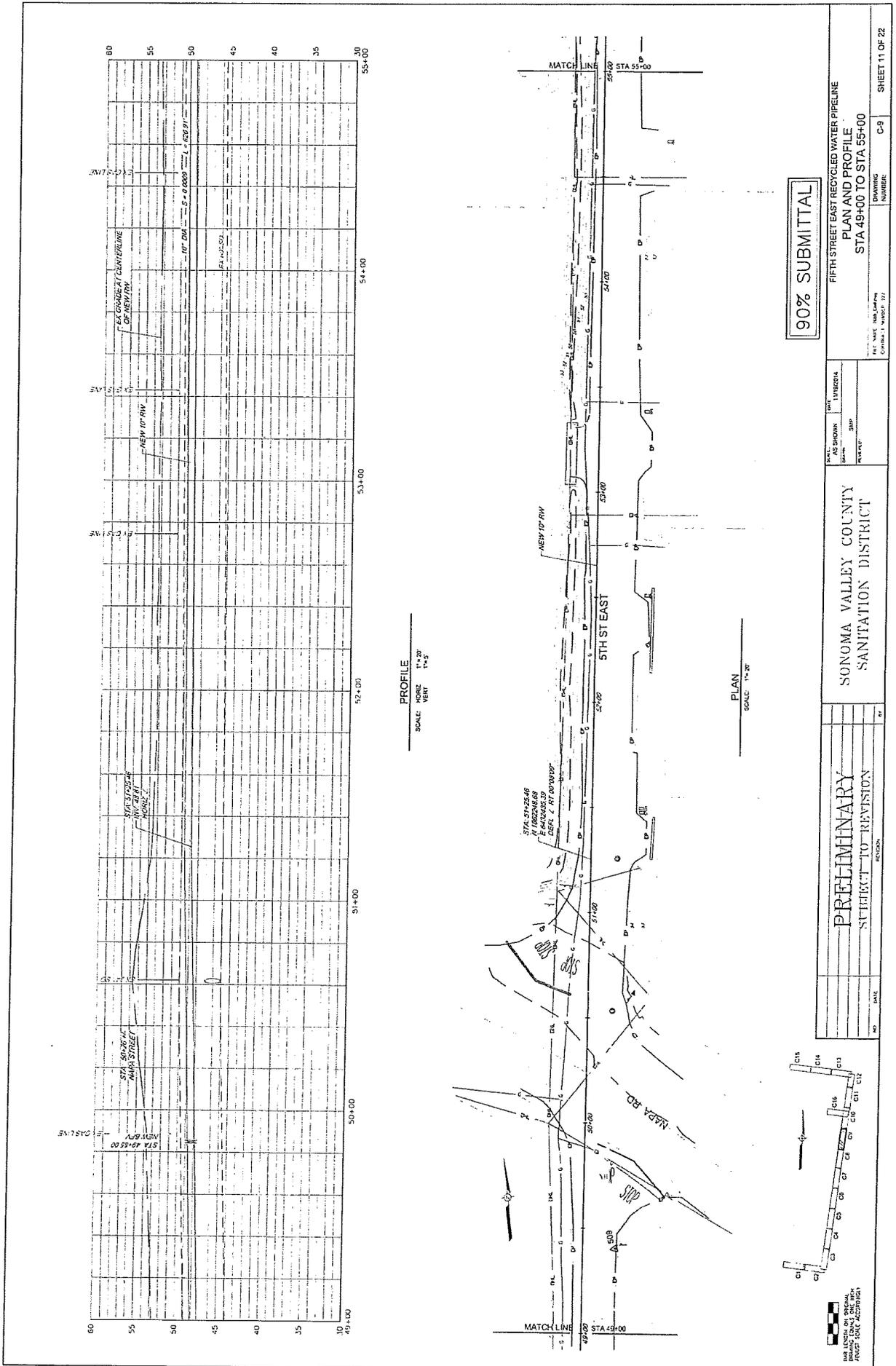
PRELIMINARY
 SUBJECT TO REVISION





USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 11 of 22

U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE
 PLAN AND PROFILE
 STA 49+00 TO STA 55+00

SONOMA VALLEY COUNTY
 SANITATION DISTRICT

PRELIMINARY
 SUBJECT TO REVISION

SHEET 11 OF 22

C-9

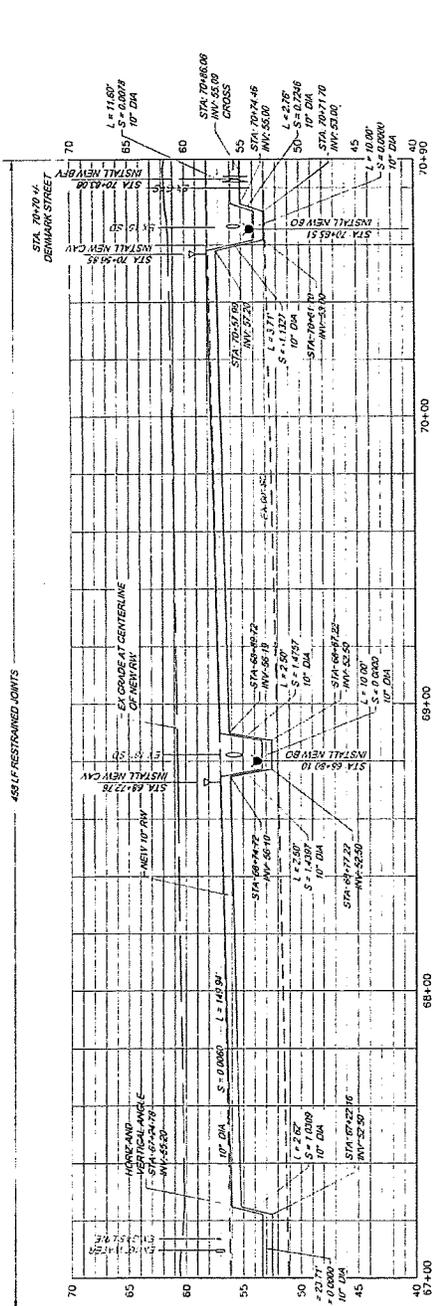
DRAWING NUMBER

DATE: 11/18/2014
 AS SHOWN
 SCALE: 1"=20'

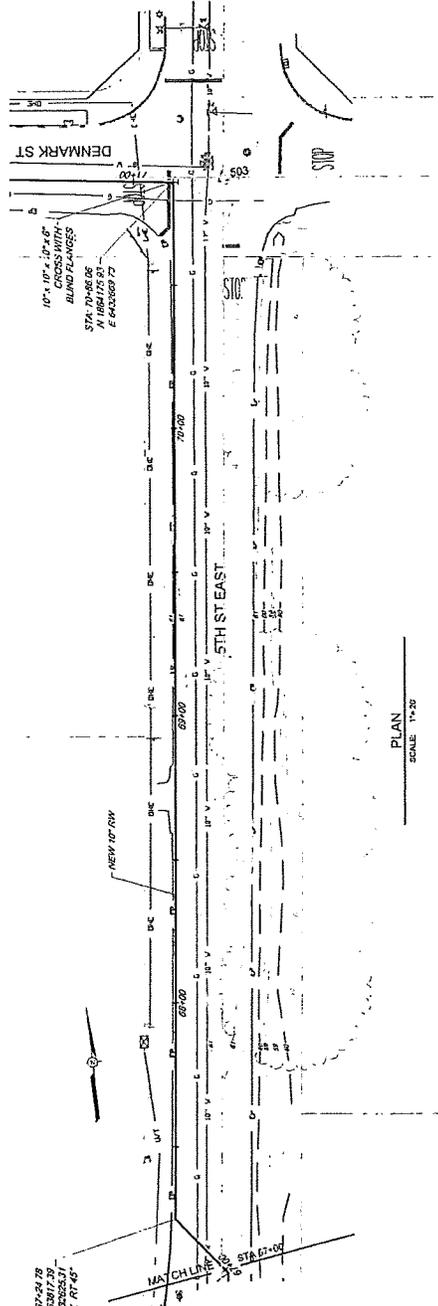


USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 14 of 22

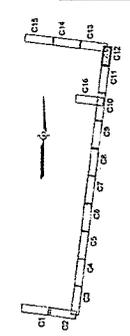
U.S. Army Corps of Engineers
 San Francisco District
 Regulatory Division



PROFILE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



PLAN
 SCALE: 1"=50'



QUALITY CONTROL BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]

90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE
 PLAN AND PROFILE
 STA 67+00 TO STA 71+00

SONOMA VALLEY COUNTY
 SANITATION DISTRICT

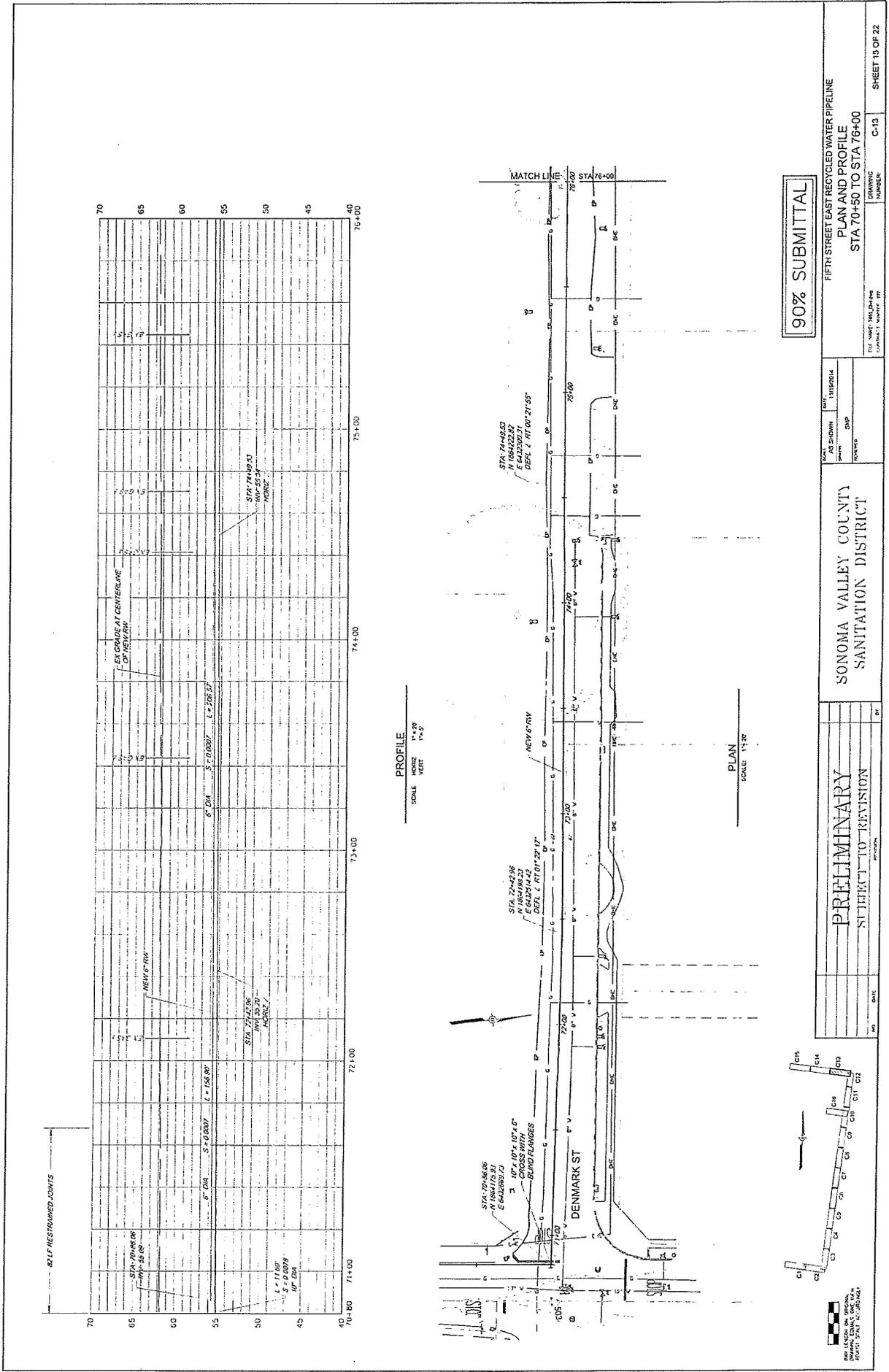
PRELIMINARY
 SUBJECT TO REVISION

DATE: 02/02/16
 DRAWING NUMBER: C-12
 SHEET 14 OF 22

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 15 of 22



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

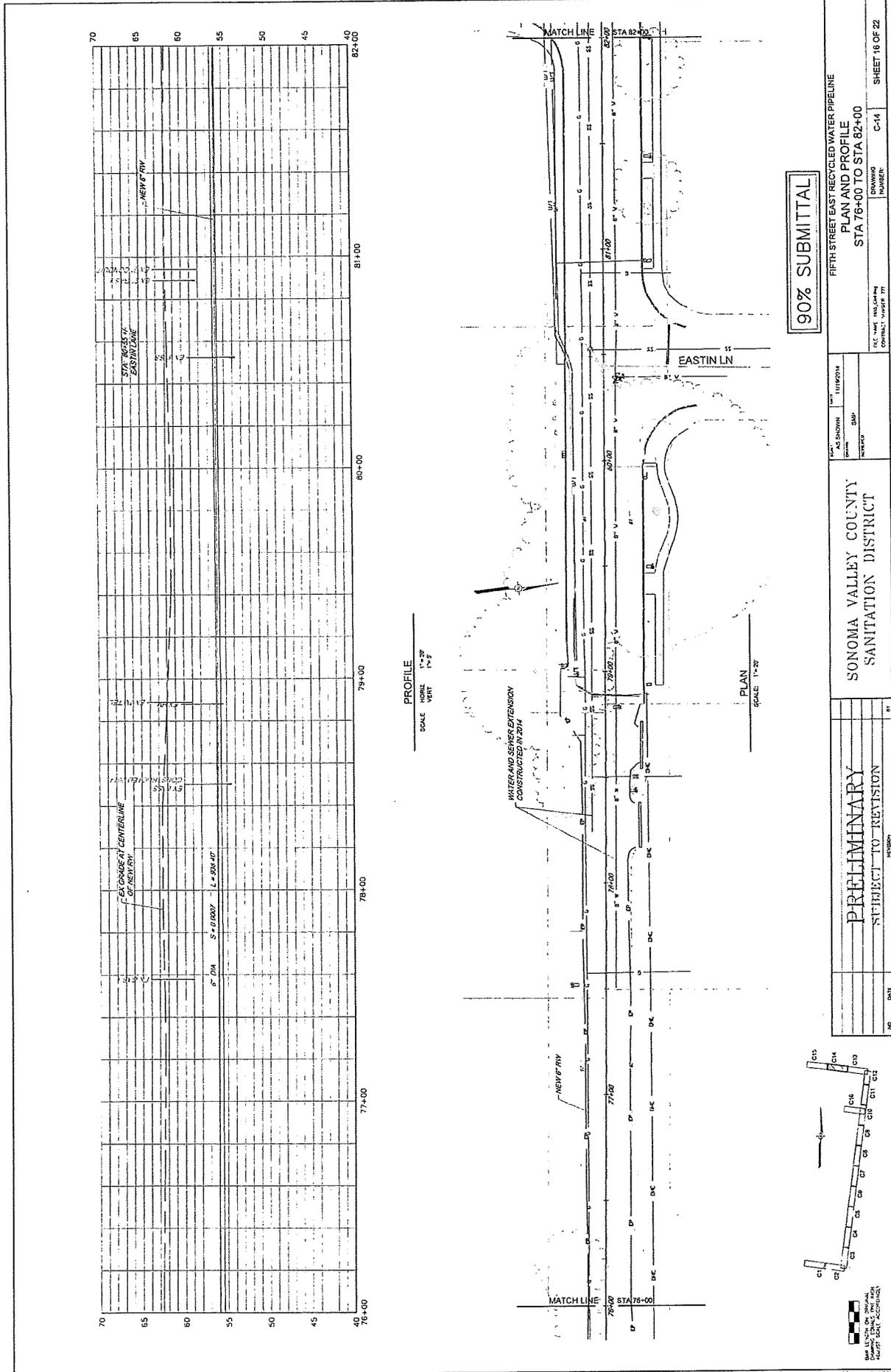


90% SUBMITTAL

DATE: _____ DRAWN BY: _____ CHECKED BY: _____ DESIGNED BY: _____ PROJECT NO.: _____ SHEET NO. OF 22		DATE: 11/19/2014 DRAWN BY: SUP CHECKED BY: _____ DESIGNED BY: _____ PROJECT NO.: _____ SHEET NO. OF 22	
PRELIMINARY SUBJECT TO REVISION			
SONOMA VALLEY COUNTY SANITATION DISTRICT			
FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 70+50 TO STA 76+00			

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 16 of 22

U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE
 PLAN AND PROFILE
 STA 76+00 TO STA 82+00

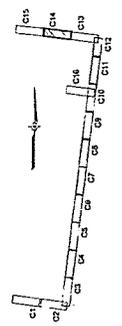
DWG. NO. H20-00-PM
 CONTRACT NUMBER 771

DATE: 11/10/14
 DRAWN BY: GMP
 CHECKED BY: [Signature]

SONOMA VALLEY COUNTY
 SANITATION DISTRICT

PRELIMINARY
 SUBJECT TO REVISION

NO. DATE BY

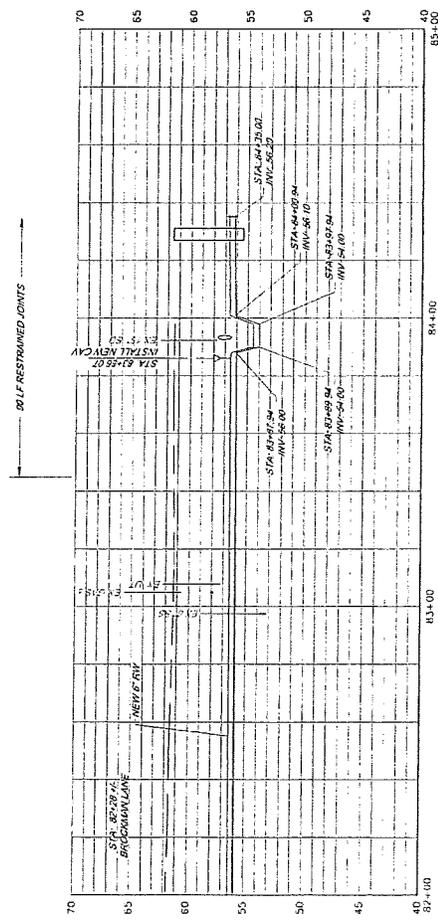


DATE: 02/02/16
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

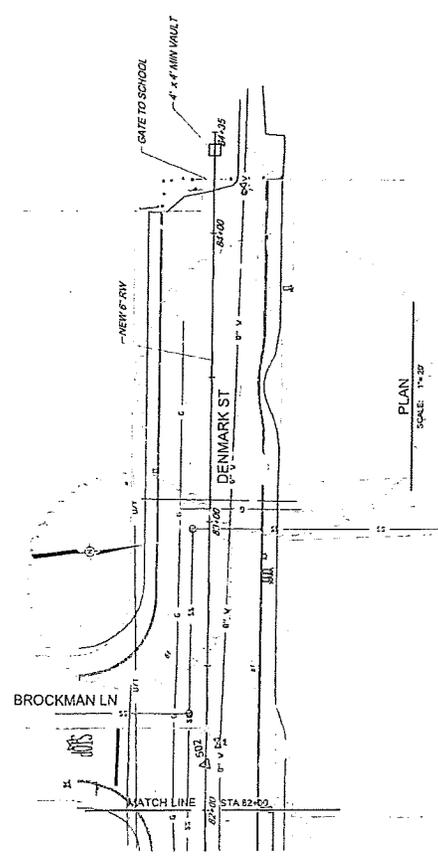


USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 17 of 22

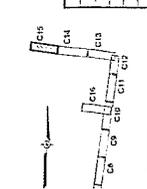
U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



PROFILE
 SCALE: HORIZ. 1"=20'
 VERT. 1"=2'



PLAN
 SCALE: 1"=20'



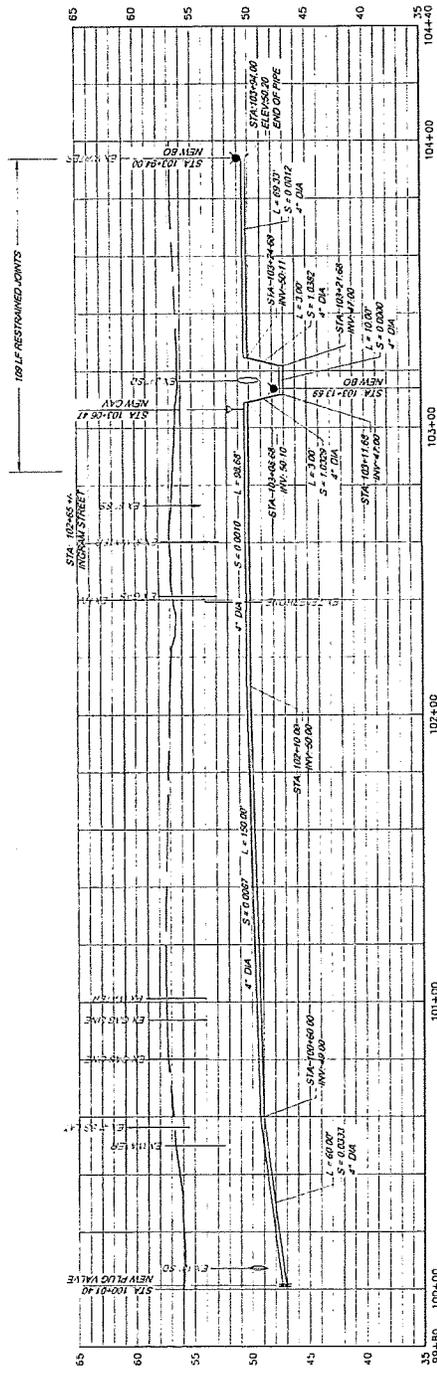
ALL LENGTHS IN THIS DRAWING ARE IN FEET UNLESS OTHERWISE NOTED.
 DRAWING NUMBER: C-15
 SHEET 17 OF 22

90% SUBMITTAL

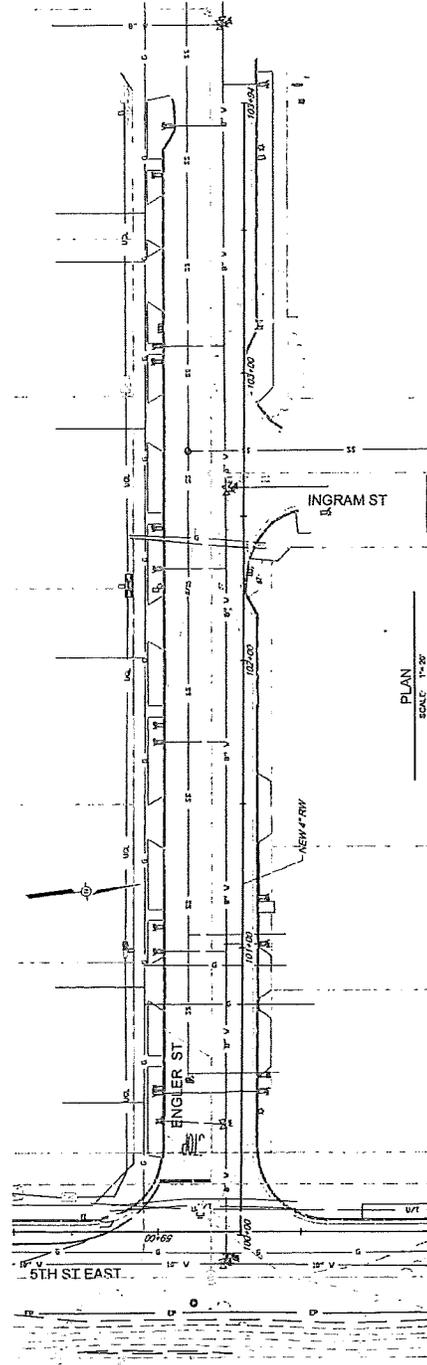
DATE: 1/19/2014 DRAWN BY: JAS SHOWN CHECKED BY: JWP REVIEWED BY:		PROJECT: 15182014 SHEET: 17 OF 22	
SONOMA VALLEY COUNTY SANITATION DISTRICT			
FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 82+00 TO STA 84+42			
DRAWING NUMBER: C-15		SHEET 17 OF 22	

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 18 of 22


U.S. Army Corps
of Engineers
 San Francisco District
 Regulatory Division



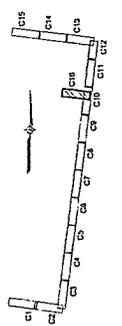
PROFILE
 SCALE: HORIZ 1"=20'
 VERT 1"=5'



PLAN
 SCALE: 1"=20'

90% SUBMITTAL

FIFTH STREET EAST RECYCLED WATER PIPELINE PLAN AND PROFILE STA 100+00 TO STA 104+00		SHEET 18 OF 22
PROJECT NUMBER: 2015-00374N	CONTRACT NUMBER: 2015-00374N	DATE:
SONOMA VALLEY COUNTY SANITATION DISTRICT		
PRELIMINARY SUBJECT TO REVISION		
DRAWN BY:	CHECKED BY:	DATE:

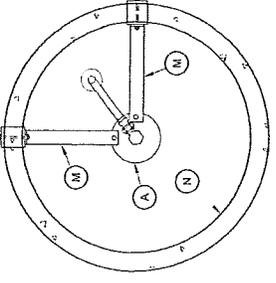


DATE PLOTTED: 02/02/16
 PLOT SCALE: 1"=20'



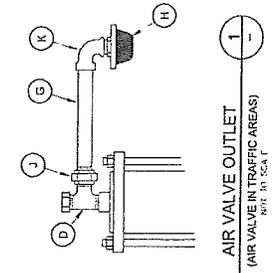
U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

LIST OF MATERIALS AIR VALVE ASSEMBLY	
A	2" AIR VALVE
B	2" BRASS NIPPLE OR THREADED BRASS PIPE
C	2" BRONZE BALL VALVE
D	2" 90° BRASS TEE W/ COP (MPT & MPT)
E	2" BRONZE CORPORATION STOP (MPT & FPT)
F	BLIND FLANGE WITH 2 1/2" NPT TAP
G	2" PVC PIPE
H	20 MESH STAINLESS STEEL SCREEN
J	2" PVC UNION (FPT & FPT)
K	2" PVC 90° ELBOW (SIP & FPT)
L	1/4" BALL VALVE (FPT & MPT)
M	ZINC GALVANIZED BRACKET (2 PER AIR VALVE)
N	3/4" I.D. JIMSHOLE WITH 3/4" I.D. (SEE NOTE 3)



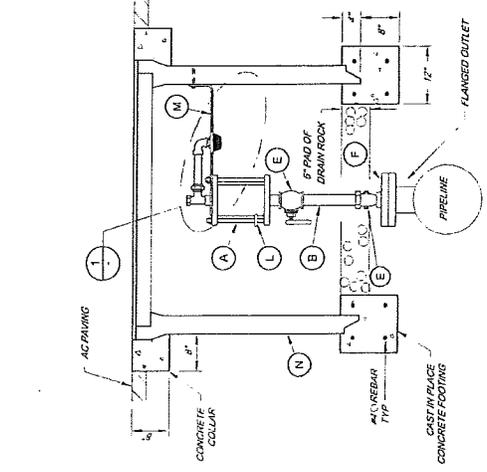
TOP VIEW W/O COVER

LIST OF MATERIALS BLOWOFF ASSEMBLY	
A	DRAIN ROCK
B	6" BLIND FLANGE DRILLED AND THREADED 2" NPT
C	2" CORPORATION STOP (MALE & FEMALE) NPT
D	BANDED SADDLE WITH 2" OUTLET, S&T BANDS
E	2" DIA PIPE, LENGTH AS NEEDED
F	SOLID CONC BEARING BLOCK, 4" x 8" x 16"
G	2" STEEL 90 DEG ELBOW
H	2" BALL VALVE
J	2" DIA & 6" LONG THREADED NIPPLE
K	2" DIA COUPLING
L	2" MALE CAMLOCK WITH DUST COVER
M	CONCRETE METER BOX WITH BOLT DOWN TRAFFIC COVER
N	CONCRETE SUPPORT BLOCK
O	CONCRETE COLUMN

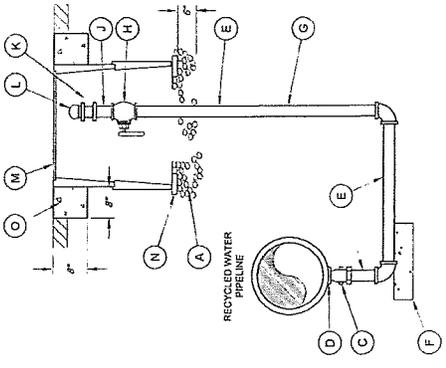


AIR VALVE OUTLET
(AIR VALVE IN TRAFFIC AREAS)
1/4" IN DIA (1)

- NOTES**
- PRESSURE RATINGS OF EQUIPMENT SHOWN SHALL BE NO LESS THAN 150 PSI
 - ALL 2" PIPING & FITTINGS SHALL BE BRASS OR BRONZE, UNLESS OTHERWISE NOTED.
 - MANHOLE AND LID SHALL BE H-20 TRAFFIC RATED, WELD 2" HIGH "SWISS AIR VALVE" ON METAL COVER. ID AIR VALVE SHALL BE 4-1/2" DIAMETER HOLES OR APPROVED ALTERNATIVE TO ALLOW AIR FLOW INTO THE MANHOLE.



2" AIR VALVE ASSEMBLY
1/4" TO 1/2" SCALE



2" BLOWOFF ASSEMBLY
1/4" TO 5/8" SCALE

90% SUBMITTAL

SONOMA VALLEY COUNTY
SANITATION DISTRICT

FIFTH STREET EAST RECYCLED WATER PIPELINE
AIR VALVE ASSEMBLY, VALVE DETAILS, AND
BLOWOFF DETAIL

DATE: 11/17/2014
DRAWING NUMBER: D-1
SHEET 19 OF 22

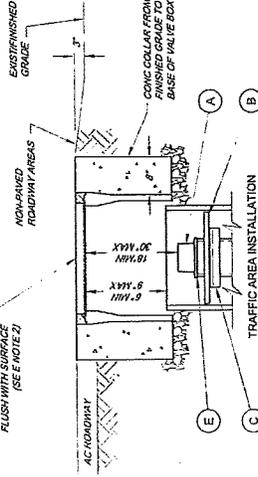


U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

NOTES (VALVE INSTALLATION)

- IF VALVE IS INSTALLED SO THAT THE TOP OF THE OPERATING NUT IS LESS THAN 30" BELOW FINISHED GRADE, THE VALVE STEM EXTENSION IS NOT REQUIRED.
- LIDS & COVERS SHALL BE LETTERED "305SD B1" FOR BUTTERFLY VALVES AND "305SD B2" FOR BALL VALVES. 12" HIGH LETTERS WELDED OR CAST INTO COVER.

PRECAST VALVE BOX SET
FLUSH WITH SURFACE
(SEE NOTE 2)

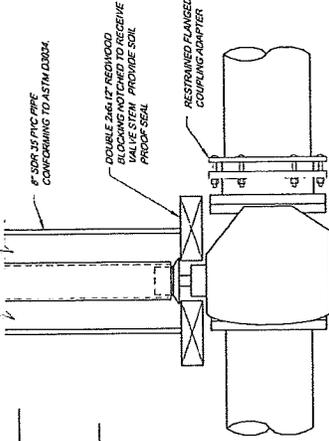


STEM EXTENSION FABRICATION NOTES

- ALL WELDS TO EXTENSION SHAFT SHALL BE FILLET WELD ALL AROUND.

VALVE STEM EXTENSION PARTS LIST

- VALVE OPERATING NUT OR 1.75" X 1.75" X 2" HIGH SOLID STEEL WELDED TO TOP PLATE.
- 3/16" THICK X 1.127" DIA FREE SPINNING GUIDE PLATE, WITH 3.58" DIA HOLE IN CENTER.
- TWO 3/16" X 1.12" X 1.12" X 2" STEEL ANGLE WELD TO TWO SIDES OF EXTENSION SHAFT.
- 2 1/2" X 3/16" SQUARE STEEL TUBING LENGTH AS REQUIRED. EDGE WELD TO TOP PLATE.
- 3" X 3" X 1/4" STEEL TOP PLATE. WELD TO EXTENSION SHAFT AFTER GUIDE PLATE IS IN PLACE.



TYPICAL VALVE INSTALLATION, VALVE STEM
EXTENSION AND TRAFFIC VALVE BOX RISER

NOT TO SCALE

90% SUBMITTAL

DATE: 11/19/2014		DATE: 11/19/2014	DATE: 11/19/2014
DESIGNED BY: JUMP	CHECKED BY: JUMP	DATE: 11/19/2014	DATE: 11/19/2014
PROJECT: FIFTH STREET EAST RECYCLED WATER PIPELINE		PROJECT: FIFTH STREET EAST RECYCLED WATER PIPELINE	
SHEET: TYPICAL VALVE INSTALLATION		SHEET: TYPICAL VALVE INSTALLATION	
DRAWING NUMBER: D-2		DRAWING NUMBER: D-2	
SHEET 20 OF 22		SHEET 20 OF 22	

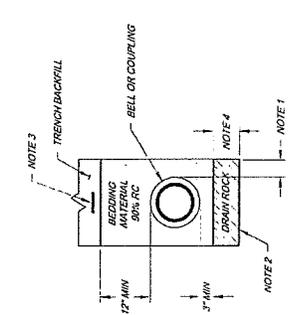
SONOMA VALLEY COUNTY
SANITATION DISTRICT



Scale: 1" = 10'-0"
North: 0° 00' 00"

USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 21 of 22

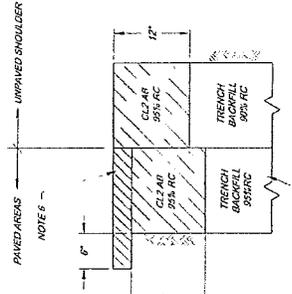
U.S. Army Corps of Engineers
 San Francisco District
 Regulatory Division



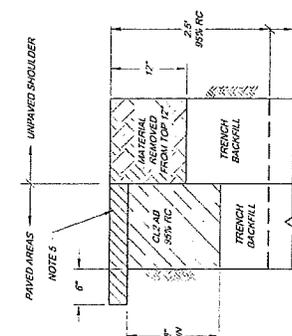
PIPE BEDDING

NOTES

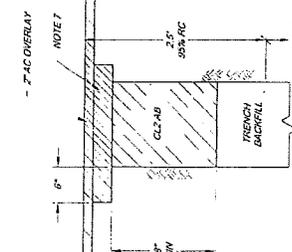
1. SMALL PIPE DIAMETER (18" OR LESS): 6" MIN., 9" MAX. PLUS ALLOWANCE FOR TRENCH SHORING.
2. AS DIRECTED BY OWNER, WRAP DRAIN ROCK WITH GEOTEXTILE FABRIC. PROVIDE 12" MIN. CLEARANCE AT ENDS OF FABRIC. CONTRACTOR HAS THE OPTION OF USING COARSE SAND OR FILL WITH GRANULARS FOR BEDDING AND STRUCTURAL BACKFILL.
3. INSTALL MAGNETIC DETECTABLE CONDUCTOR MARKING TAPE, BRIGHTLY COLORED PLASTIC COVERING, IMPRINTED WITH CAUTION BURIED, RECLAIMED WATER LINE BELOW" AS APPLICABLE IN LARGE LETTERS AFTER A DEPTH OF 12" BACKFILL HAS BEEN PLACED OVER.
4. IF SOFT MATERIALS ARE PRESENT IN TRENCH BOTTOM, PROVIDE DRAIN ROCK AS DIRECTED BY OWNER.
5. REMOVE EXISTING AC THE WIDTH REQUIRED BY THE SONOMA COUNTY PRMO ENCROACHMENT PERMIT. NEW AC PAVEMENT THICKNESS SHALL MATCH THE EXISTING PAVEMENT OR THE FOLLOWING (WHICHEVER IS GREATER):
 FIFTH ST EAST (AT PERU RD AND NORTH OF PERU RD) = 0.42
 FIFTH ST EAST (SOUTH OF PERU RD) = 0.35'
6. SAWCUT EXISTING PAVEMENT 6" MIN. BEYOND EACH SIDE OF TRENCH. PROVIDE 0.25" MIN AC OR MATCH EXISTING AC (WHICHEVER IS GREATER).
7. AC TRENCH SURFACE SHALL MATCH EXISTING ROAD THICKNESS.



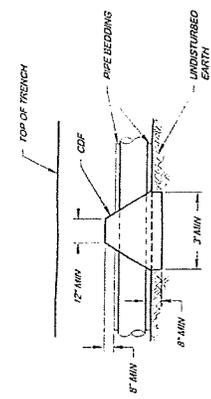
TRENCH SURFACE TYPE 3
(CITY ROADWAY)



TRENCH SURFACE TYPE 2
(COUNTY ROADWAY)



TRENCH SURFACE TYPE 1
(WATTAUGH RD)



TRENCH DAM DETAIL
10' TO 32' AC

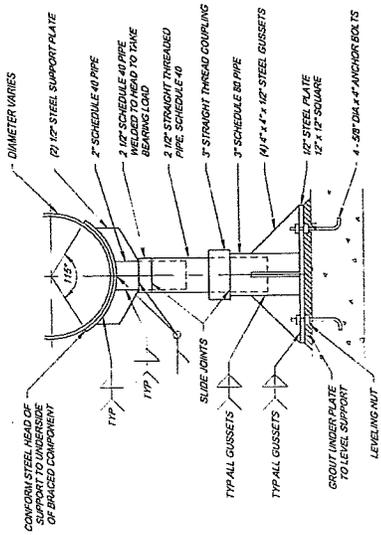
90% SUBMITTAL

DATE: 1/19/2016 DRAWN BY: [blank] CHECKED BY: [blank]		PROJECT: FIFTH STREET EAST RECYCLED WATER PIPELINE SHEET: TRENCH DETAILS	
SONOMA VALLEY COUNTY SANITATION DISTRICT		DRAWING NUMBER: D-3 SHEET 21 OF 22	
NO.	DATE	REVISION	BY

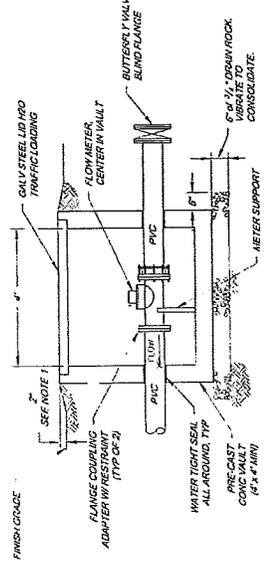


USACE File #2015-00374N
5th Street East Recycled Water
Pipeline Project
February 2, 2016
Sheet 22 of 22

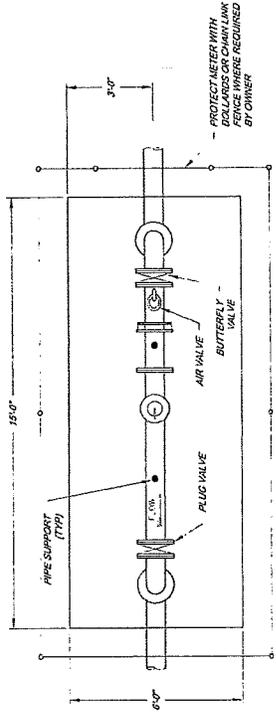
U.S. Army Corps of Engineers
 San Francisco District
 Regulatory Division



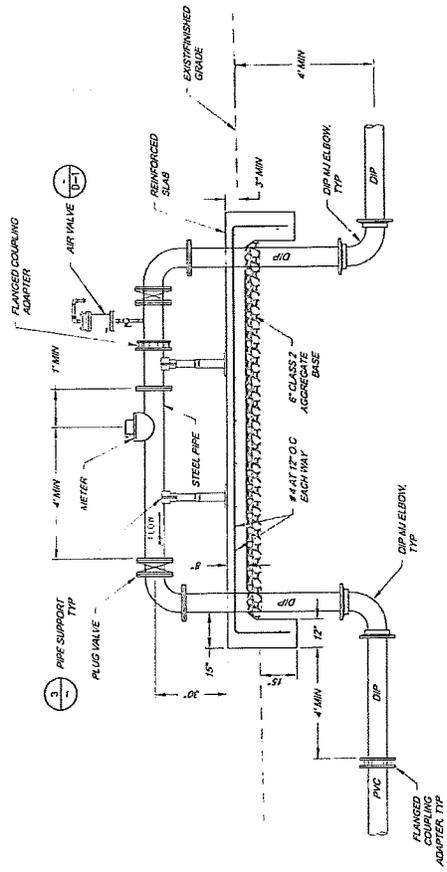
3
 PIPE SUPPORT DETAIL
 NOT TO SCALE



4
 METER VAULT
 NOT TO SCALE



2
 PLAN - FLOW METER INSTALLATION
 NOT TO SCALE



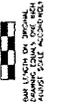
1
 PROFILE - FLOW METER INSTALLATION
 NOT TO SCALE

90% SUBMITTAL

SONOMA VALLEY COUNTY SANITATION DISTRICT

FIFTH STREET EAST RECYCLED WATER PIPELINE
FLOW METER

DATE: 11/17/2014	PROJECT: 5th Street East Recycled Water Pipeline	CONTRACT NUMBER: TYP	SHEET 22 OF 22
DESIGNER: [Signature]	CHECKER: [Signature]	DATE: 11/17/2014	SCALE: D-4





US Army Corps of Engineers, San Francisco District
MEMORANDUM FOR RECORD

File Number: 2015-00374N
Project: 5th Street East Recycled Water Pipeline Project
Date: February 2, 2016
Subject: **Department of the Army Memorandum Documenting Nationwide Permit #
12 Verification**

Applicant:

Mr. Grant Davis
Sonoma Valley County Sanitation District
404 Aviation Boulevard
Santa Rosa, CA 95403

POC:

Mr. David Cook
Sonoma County Water Agency
404 Aviation Boulevard
Santa Rosa, CA 95403

Project Location: wetland ditches along Watmaugh Road, 5th Street East, Denmark Street, and Engler Street in the City of Sonoma, Sonoma County, California (38.268°N and 122.451°W).

Date Application/Pre-construction Notification Received: August 26, 2015

Complete? No

If no, list what is missing: Delineation needed revising, impact acreage by site was missing, information on cultural resources was absent, and signature of applicant authorizing agent was missing.

Pre-construction Notification Required: Yes

Additional Information Requested: Yes (Pam Kostka requested the applicant's and agent's signatures, a certified engineer's statement as to whether the directional drilling would be within Corps' jurisdiction or below the scour depth of the creek, a table depicting the temporary impacts at each jurisdictional ditch crossing, and the cultural resources survey report)

Date: October 21, 2015

Date Application Determined Complete: October 30, 2015

Waiver required to begin work (i.e. does the project exceed size/volume limits?): No

Waters of the US: wetland ditches adjacent to Nathanson Creek

Jurisdictional Authority: Section 404

*see Jurisdictional Determination form(s) and/or Preliminary JD letter(s) dated: October 30, 2015

Applicant submitted wetland delineation forms for both ditch features. The delineation sheet for the unnamed ditch wrongly labeled *Quercus lobata* as FAC which lead to the erroneous conclusion the ditch was a wetland. Once corrected, the ditch did not meet all three parameters to be considered a wetland, but it does have OHWM indicators as evidenced in the submitted site

2 photograph. The unnamed wetland ditch delineation data sheet was correctly completed. The site appears to be within a ponding portion of the ditch, so obligate wetland species have developed on site as seen in the wetland datasheet and via Google Street View.

Site Visit: No site visit was conducted.

Permit Authorization: Section 404 of the Clean Water Act of 1972

Scope of Analysis: Analysis is confined to Corps jurisdiction, within jurisdictional waters of the U.S. The area of direct impact for the proposed project encompasses 0.077 acre and 7,000 linear feet of pipeline along Watmaugh Road, 5th Street East, Denmark Street, and Engler Street. The Corps' jurisdiction is limited to below the ordinary high water mark.

Project Description: Work within U.S. Army Corps of Engineers' jurisdiction would consist of the installation of a 7,000-foot long, 10-inch wide pipeline to provide for beneficial use of recycled water that has been treated at the Sonoma Valley Wastewater Treatment Plant. The pipeline would stretch east from the intersection of Watmaugh Road at Shainsky Road to 5th Street East, then north on 5th Street East to Denmark Street. Two small spurs will also extend from the transmission main to serve additional customers: approximately 1,300 linear feet along Denmark Street to the east side of the Sonoma Valley High School campus, and approximately 400 linear feet along Engler Street to Valley Oaks Park. The pipeline would be installed within the existing paved roadway right-of-way, including all construction activities such as equipment laydown, vehicular access, and excavation; the exception will be up to fifteen, 6-inch diameter pipe turnouts that would cross road shoulders and ditches to connect with adjacent landowners. Trenchless methods at the Nathanson Creek crossing could require equipment access and excavation of bore pits within the paved right-of-way. Work would require placement of 3.3 cubic yards of fill within 0.077 acre of waters adjacent to Nathanson Creek, including 0.006 acre of a wetland ditch and 0.071 acre of a creek.

Historic Properties/Cultural Resources: Known site present: No

Survey required/conducted: Yes

Effects determination: The project would have no effect on any historic/cultural resources.

Rationale: Cultural resources surveys in 2013 identified one location with prehistoric cultural resources in the vicinity of the APE known as P-49-004268, which consists entirely of a light concentration of lithic tools and fragments. This lone recorded archaeological sites situated a short distance outside of the APE shall be avoided during project construction, development, and operation. The locations shall not be impacted by any of the features of the proposed project. An archaeologist who has been approved by the California Historical Resources Information System to work in the area shall confirm the precise boundaries of the sites and the permanent fencing and other protective measures.

Date consultation complete (if necessary): February 1, 2016

Coordination with Agencies/Tribes Needed: Yes Date: November 30, 2015

Resolution: The Corps did not receive any response from the Federated Indians of the Graton Rancheria.

Threatened and Endangered Species: Name of species present: California red-legged frog (*Rana aurora draytonii*)

Biological Assessment submitted: Yes

Effects determination: The project may affect, and may adversely affect, the California red-legged frog. The project may affect, and is not likely to adversely affect, the California freshwater shrimp, Burke's goldfields, and Sonoma sunshine and CRLF critical habitat.

Basis for determination: The CNDDDB was queried and two sightings of California red-legged frog (CRLF) were recorded within 2 miles of the proposed project sites. Populations of Sonoma sunshine have also been documented by CNDDDB at approximately 0.5 mile northwest and 1.2 miles southwest of the project site, in addition to other populations scattered further throughout the general vicinity. Sonoma sunshine was not observed within the project site expected to be directly impacted, but there is suitable habitat for both this listed species as well as Burke's goldfields and suitable aquatic habitat for the California freshwater shrimp and the CRLF.

Date of Service(s) concurrence: On December 28, 2015, the USFWS concurred that this project may be covered under an existing programmatic BO entitled "Biological Opinion on the Proposed North San Pablo Bay Restoration and Reuse Project in Marin, Sonoma, and Napa Counties, California" (81420-2009-F-1272-1). The applicant had included a copy of this BO with the submittal, despite the BO having been written for another project with the Bureau of Reclamation as the lead federal agency.

Magnuson-Stevens Act (Essential Fish Habitat): Name of FMP/ESU:

Biological Assessment submitted: Yes

Effects determination: The project will have no effect on EFH.

Basis for determination: The roadside ditches within the project area are highly degraded with intermittent water features. They do not provide suitable fish habitat for listed salmonid species. A proposed trenchless installation at the Nathanson Creek crossing would limit direct impacts to EFH; furthermore, this trenchless installation involves drilling below the scour of the creek bed and is consequently outside of the jurisdiction of the Corps.

Date of Service(s) concurrence: N/A

Section 401 Water Quality Certification: Individual certification required: Yes

Status: Approved Date: November 16, 2015

Coastal Zone Management: The project is not in the San Francisco Bay or within the 100-foot shoreline band and is therefore not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC) or California Coastal Commission (CCC). Individual certification required: No

Wild and Scenic Rivers Act: Project located on designated or "study" river: No

Managing Agency:

Date written determination provided that the project will not adversely affect the Wild and Scenic River designation or study status:

Additional information (optional):

Commenting Agencies:

California Regional Water Quality Control Board

U.S. Fish and Wildlife Service

State Historic Preservation Office

Substantive Issues Raised and Corps Resolution (*Consideration of Comments*): The proposed project is less than 0.5 acre. As such, no comments were solicited with an agency PCN.

Compensatory Mitigation Determination: The applicant has avoided and minimized impacts to the maximum extent practicable.

- (1) Is compensatory mitigation required for unavoidable impacts to jurisdictional aquatic resources to reduce the individual and cumulative adverse environmental effects to a minimal level?
No. The project will result in no loss of waters of the U.S.; therefore, compensatory mitigation is not required.
- (2) Is the impact in the service area of an approved mitigation bank?
 - i. Does the mitigation bank have appropriate number and resource type of credits available?
- (3) Is the impact in the service area of an approved in-lieu fee program?
 - i. Does the in-lieu fee program have appropriate number and resource type of credits available?
- (4) Check the selected compensatory mitigation option(s):
 - mitigation bank credits
 - in-lieu fee program credits
 - permittee-responsible mitigation under a watershed approach
 - permittee-responsible mitigation, on-site and in-kind
 - permittee-responsible mitigation, off-site and out-of-kind
- (5) If a selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project):

Special Conditions Required: Yes

1. To remain exempt from the prohibitions of Section 9 of the Endangered Species Act, the non-discretionary Terms and Conditions for incidental take of the federally-listed California red-legged frog shall be fully implemented as stipulated in the Biological Opinion entitled "Biological Opinion on the Proposed North San Pablo Bay Restoration and Reuse Project in Marin, Sonoma, and Napa Counties, California" (pages 19-21), dated June 8, 2010 (enclosure 7). Project authorization under the NWP is conditional upon compliance with the mandatory terms and conditions associated with incidental take. Failure to comply with the terms and conditions for incidental take, where a take of a federally-listed species occurs, would constitute an unauthorized take and non-compliance with the NWP authorization for your project. The USFWS is, however, the authoritative federal agency for determining compliance with the incidental take statement and for initiating appropriate enforcement actions or penalties under the Endangered Species Act.

Rationale: This condition is necessary to ensure compliance with Section 7 of the Endangered Species Act for impacts to threatened and/or endangered species and Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act for adverse effects to essential fish habitat(16 USC 1531 et seq.; 16 USC 1801, et seq.; 50 CFR 402; 50 CFR 600; 33 CFR 320.4(j)(4); 33 CFR 325.2(b)(5); 33 CFR 325.4(a)(1)).

2. The USFWS concurred with the determination that the project was not likely to adversely affect California freshwater shrimp, Burke's goldfields, or Sonoma sunshine. This concurrence was premised, in part, on project work restrictions outlined in enclosure 7. These work restrictions are incorporated as special conditions to the NWP authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

Rationale: This condition is necessary to ensure compliance with Section 7 of the Endangered Species Act for impacts to threatened and/or endangered species and Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act for adverse effects to essential fish habitat(16 USC 1531 et seq.; 16 USC 1801, et seq.; 50 CFR 402; 50 CFR 600; 33 CFR 320.4(j)(4); 33 CFR 325.2(b)(5); 33 CFR 325.4(a)(1)).

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

Rationale: This condition is necessary to ensure compliance with Section 106 of the National Historic Preservation Act.

4. All work occurring below the plane of ordinary high water shall be confined to the low-flow period, during summer months to avoid excessive sedimentation of creek waters.

Rationale: This condition is necessary to minimize adverse impacts to water quality, from construction activities, to the maximum extent practicable (33 CFR pt. 320.3(a), 33 CFR pt. 320.4(d), 33 CFR pt. 325.4(a)(3)).

5. All standard Best Management Practices shall be implemented to prevent the movement of sediment downstream. All necessary erosion and siltation controls will be in place during pipe-bursting activities. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the waterways. All side-cast materials will be placed in the adjacent uplands.

Rationale: This condition is necessary to minimize adverse impacts to water quality, from construction activities, to the maximum extent practicable (33 CFR pt. 320.3(a), 33 CFR pt. 320.4(d), 33 CFR pt. 325.4(a)(3)).

6. California native plants and/or seeds shall be used to revegetate all exposed areas throughout the project site upon project completion.

Rationale: This condition is necessary to limit future erosion, degradation of water quality, and colonization by ruderal weeds in any areas left disturbed after project completion.

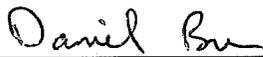
7. A post construction report shall be submitted 45 days after the conclusion of construction activities. The report shall document construction activities and contain as-built drawings (if different from drawings submitted with application) and include before and after photos.

Rationale: This condition is necessary to ensure compliance with the permit and applicable conditions and to ensure that the proposed work and final restoration work has been conducted in accordance with the permit and all applicable conditions. (33 USC 1344(a), 33 USC 401 et. seq., 33 CFR 320.4(r)(1), 33 CFR 325.4(a)(3); 33 CFR 326).

Determination (Reference General Condition 27(e)):

This project complies with all terms and conditions of NWP 12, including any applicable regional conditions. The project setting meets the definition of a utility line as any pipe or pipeline transporting a liquid or gaseous substance. There will be no net loss of waters of the U.S. NWP 12 allows material from trench excavation to be temporarily sidecast into waters of the U.S. for up to three months if it is not dispersed by other forces, and work is scheduled for when the waters will be dry. Proposed BMPs and trenchless installation at the Nathanson Creek crossing will reduce impacts to aquatic habitat, with the latter method also reducing the scope of Corps' jurisdiction. The proposed activity would result in no more than minimal individual and cumulative adverse environmental effects and would not be contrary to the public interest, provided the special conditions and/or modifications identified in the above are incorporated. The proposed project should be approved and an authorization letter issued.

PREPARED BY:



Daniel Breen
Regulatory Project Manager

3/1/16

Date

REVIEWED AND APPROVED BY:



Holly Costa
North Branch Chief,
Regulatory San Francisco District

3 Mar 2016

Date

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

San Francisco District

This Preliminary Jurisdictional Determination finds that there "may be" waters of the United States in the subject review area and identifies all such aquatic features, based on the following information:

Regulatory Division: North Branch

File Number: 2015-00374N

PJD Completion Date: 10-30-2015

Review Area Location

City/County: Sonoma/ Sonoma County State: California
Nearest Named Waterbody: Nathanson Creek
Approximate Center Coordinates of Review Area
Latitude (degree decimal format): 38.2675530°N
Longitude (degree decimal format): -122.4514402°W
Approximate Total Acreage of Review Area: 0.077 acre

File Name: 5th Street East Recycled Water Pipeline Pr

Applicant or Requestor Information

Name: Grant Davis
Company Name: Sonoma Valley County Sanitation District
Street/P.O. Box: 404 Aviation Blvd
City/State/Zip Code: Santa Rosa, California 95403

Estimated Total Amount of Waters in Review Area

Non-Wetland Waters: lineal feet feet wide and/or
0.071 acre(s) Flow Regime: Ephemeral

Wetlands: lineal feet feet wide and/or
0.006 acre(s) Cowardin Class: Palustrine- emergent

Name of Section 10 Waters Occurring in Review Area

Tidal:
Non-Tidal:

Office (Desk) Determination

Field Determination:

Date(s) of Site Visit(s): MM-DD-YYYY

SUPPORTING DATA: Data reviewed for Preliminary JD (check all that apply – checked items should be included in case file and, where checked and requested, appropriately reference sources below)

Maps, Plans, plots or plat submitted by or on behalf of applicant/requestor (specify): Figure 3, 5: 5th Street East Recycled Water Pipeline Project by Sonoma County Water Agency August 2015

Data sheets submitted by or on behalf of applicant/requestor (specify):

Corps concurs with data sheets/delineation report.

Corps does not concur with data sheets/delineation report.

Data sheets prepared by the Corps.

Corps navigable waters' study (specify):

U.S. Geological Survey Hydrologic Atlas:

USGS NHD data.

USGS HUC maps.

U.S. Geological Survey map(s) (cite quad name/scale):

USDA Natural Resources Conservation Service Soil Survey.

National wetlands inventory map(s) (specify):

State/Local wetland inventory map(s) (specify):

FEMA/FIRM maps.

100-year Floodplain Elevation (specify, if known):

Photographs: Aerial (specify name and date): Google Earth

Other (specify name and date): Applicant site photos dated August 2015; Google Earth Street View

Previous JD determination(s) (specify File No. and date of response letter):

Other information (specify):

IMPORTANT NOTE: If the information recorded on this form has not been verified by the Corps, the form should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

USACE 2015-00374

5th Street East Recycled Water Pipeline Project
October 30, 2015

Legend
OHWM

Pipeline Turn out
Location
0.0004 acre

Site A

Preliminary Jurisdictional Determination
for 5th Street East Recycled Water Pipeline,
requested by Sonoma County Water Agency
Lat. 38.268°N / Long. 122.451°W
San Francisco District Corps File No. 2015-00374N
Regulatory Division Date: 2 FEB 2016 Sheet 1 of 2

Wetlands - Area subject to Section 404
Clean Water Act (CWA): 0.006 acre
accurate as depicted on map

Other Waters - Area subject to Sect. 404 CWA
0.071 acre accurate as depicted on map

Study Area Boundary
DOB 2 Feb 2016



300 ft

Google earth

© 2015 Google

USACE 2015-00374

5th Street East Recycled Water Pipeline Project
October 30, 2015

Legend
Wetland

Site E

Pipeline Turnout
Location
0.0004 acre



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Division

Date: 2 FEB 2016

Sheet 2 of 2



Wetlands - Area subject to Section 404
Clean Water Act (CWA): 0.006 acre
accurate as depicted on map



Other Waters - Area subject to Sect. 404 CWA
0.071 acre accurate as depicted on map

Study Area Boundary

D BB 2 Feb 2016

Google earth

© 2015 Google



200 ft

Nationwide Permit 12 - Utility Line Activities

Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project. *Utility lines:* This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody. *Utility line substations:* This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities. *Foundations for overhead utility line towers, poles, and anchors:* This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible. *Access roads:* This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation. **Note 2:** Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills. **Note 3:** Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15). **Note 4:** For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

Federal Register /Vol. 77, No. 34 /Tuesday, February 21, 2012 /Notices **10269**

Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs. (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills

or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. (f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed. (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWRPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWRPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWRPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332. (1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment. (2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered. (3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWRPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWRPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. **Safety of Impoundment Structures.** To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. **Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. **Coastal Zone Management.** In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. **Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. **Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. **Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or (2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information: (1) Name, address and telephone numbers of the prospective permittee; (2) Location of the proposed project; (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans); (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate; (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan. (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level. (2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will

consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

San Francisco District Regional Conditions

A. General Regional Conditions that apply to all NWP's in the Sacramento, San Francisco, and Los Angeles Districts:

1. When pre-construction notification (PCN) is required, the permittee shall notify the U.S. Army Corps of Engineers, San Francisco District (Corps) in accordance with General Condition 31 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. In addition, the PCN shall include:
 - a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
 - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity, as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for activities located within the boundaries of the Los Angeles District shall comply with the September 15, 2010 Special Public Notice: *Map and Drawing Standards for the Los Angeles District Regulatory Division*, (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/regulatory/); and
 - c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the site, and all waters of the U.S. proposed to be avoided on and immediately adjacent to the activities site. The compass angle and position of each photograph shall be identified on the plan-view drawing(s) required in subpart b of this Regional Condition.
2. The permittee shall submit a PCN, in accordance with General Condition 31, For all activities located in areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007, 72 C.F.R. 11,092, in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: <http://www.swr.noaa.gov/efh.htm>.
3. For activities in which the Corps designates another Federal agency as the lead for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 as amended, 16 U.S.C. §§ 1531-1544, Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act (EFH), 16 U.S.C. § 1855(b)(4)(B) and/or Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, 16 U.S.C. §§ 470-470h, the lead Federal agency shall provide all relevant documentation to the appropriate Corps demonstrating any previous consultation efforts, as it pertains to the Corps Regulatory permit area (for Section 7 and EFH compliance) and the Corps Regulatory area of potential effect (APE) (for Section 106 compliance). For activities requiring a PCN, this information shall be submitted with the PCN. If the Corps does not designate another Federal agency as the lead for ESA, EFH and/or NHPA, the Corps will initiate consultation for compliance, as appropriate.

4. For all activities in waters of the U.S. that are suitable habitat for Federally-listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed unless determined to be impracticable by the Corps.
5. The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.
6. Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51 and 52, or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
 - a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characteristics observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the adjacent areas (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information;
 - b. An analysis of the proposed impacts to the waterbody, in accordance with General Condition 31;
 - c. Measures taken to avoid and minimize losses to waters of the U.S., including other methods of constructing the proposed activity(s); and
 - d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be offset, in accordance with 33 CFR 332.

B. General Regional Conditions that apply to all NWPs in the San Francisco District:

1. Notification to the Corps (in accordance with General Condition No. 31) is required for any activity permitted by NWP if it will take place in waters or wetlands of the U.S. that are within the **San Francisco Bay diked baylands** (see figure 1) (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map below the 5-foot contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)). The notification shall explain how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable (see General Condition 23).
2. Notification to the Corps (in accordance with General Condition No. 31) is required for any activity permitted by NWP if it will take place in waters or wetlands of the U.S. that are within the **Santa Rosa Plain** (see figure 2). The notification will explain how avoidance and minimization of losses of waters or wetlands are taken into consideration to the maximum extent practicable in accordance with General Condition No. 23.
3. Notification to the Corps (in accordance with General Condition No. 31), including a compensatory mitigation plan, habitat assessment, and extent of proposed-project impacts

to Eelgrass Beds are required for any activity permitted by NWP if it will take place within or adjacent to **Eelgrass Beds**.

C. Regional Conditions that apply to specific NWPs in the San Francisco District:

3. MAINTENANCE:

1. To the extent practicable, excavation equipment shall work from an upland site (e.g., from the top of the bank, the road bed of the bridge, or culverted road crossing) to minimize adding fill into waters of the U.S. If it is not practicable to work from an upland site, or if working from the upland site would cause more environmental damage than working in the stream channel, the excavation equipment can be located within the stream channel but it must minimize disturbance to the channel (other than the removal of accumulated sediments or debris). As part of the notification to the Corps (in accordance with General Condition No. 31), an explanation as to the need to place excavation equipment in waters of the U.S. is required, as well as a statement of any additional necessary fill (e.g., cofferdams, access road, fill below the OHW mark for a staging area, etc.).
2. If the activity is proposed in a special aquatic site, the notification to the Corps (in accordance with General Condition No. 31) shall include an explanation of why the special aquatic site cannot be avoided, and the measures to be taken to minimize impacts to the special aquatic site.

11. TEMPORARY RECREATIONAL STRUCTURES:

1. Notification to the Corps (in accordance with General Condition No. 31) is required if any temporary structures are proposed in wetlands or vegetated shallow water areas (e.g. in eelgrass beds). The notification shall include the type of habitat and areal extent affected by the structures.

12. UTILITY LINE ACTIVITIES:

1. Excess material removed from a trench, associated with utility line construction, shall be disposed of at an upland site away from any wetlands or other waters of the U.S. so as to prevent this material from being washed into aquatic areas.
2. This NWP permit does not authorize the construction of substation facilities. Utility line substations can usually be constructed in uplands.

13. BANK STABILIZATION:

1. Notification to the Corps (in accordance with General Condition No. 31) is required for all activities stabilizing greater than 300 linear feet of channel. Where the removal of wetland vegetation (including riparian wetland trees, shrubs and other plants) or submerged, rooted, aquatic plants over a cumulative area greater than 1/10 acre or 300 linear feet is proposed, the Corps shall be notified (in accordance with General Condition No. 31). The notification shall include the type of vegetation and extent (e.g., areal dimension or number of trees) of the proposed removal. The notification shall also address the effect of the bank stabilization on the stability of the opposite side of the streambank (if it is not part of the stabilization activity), and on adjacent property upstream and downstream of the activity.
2. This permit allows excavating a toe trench in waters of the U.S., and, if necessary, to use the material for backfill behind the stabilizing structure. Excess material is to be disposed of in a manner that will have only minimal impacts to the aquatic environment. The notification to the Corps (in accordance with General Condition No. 31) shall include location of the disposal site.
3. For man-made banks, roads, or levees damaged by storms or high flows, the one cubic yard per running foot limit is counted only for that additional fill which encroaches (extends) beyond the pre-flood or pre-storm shoreline condition of the waterway. It is not counted for

the fill that would be placed to reconstruct the original dimensions of the eroded, man-made shoreline.

4. For natural berms and banks, the one cubic yard per running foot limit applies to any added armoring.
5. To the maximum extent practicable, any new or additional bank stabilization must incorporate structures or modifications beneficial to fish and wildlife (e.g., soil bioengineering or biotechnical design, root wads, large woody debris, etc.). Where these structures or modifications are not used, the applicant shall demonstrate why they were not considered practicable.

14. LINEAR TRANSPORTATION PROJECTS:

1. Notification to the Corps (in accordance with General Condition No. 31) is required for all projects filling greater than 300 linear feet of channel. For projects involving greater than 300 linear feet of bank stabilization, the project proponent shall address the effect of the bank stabilization on the stability of the opposite side of the streambank (if it is not part of the stabilization activity), and on adjacent property upstream and downstream of the activity.
2. This permit does not authorize construction of new airport runways and taxiways.
3. If this NWP has been used to authorize previous project segments within the same linear transportation project, justification must be provided demonstrating that the cumulative impacts of the proposed and previously authorized project segments do not result in more than minimal impacts to the aquatic system.
4. To the maximum extent practicable, any new or additional bank stabilization required for the crossing must incorporate structures or modifications beneficial to fish and wildlife (e.g., soil bioengineering or biotechnical design, root wads, large woody debris, etc.). Where these structures or modifications are not used, the applicant shall demonstrate why they were not considered practicable. Bottomless and embedded culverts are encouraged over traditional culvert stream crossings.

23. APPROVED CATEGORICAL EXCLUSIONS:

1. Use of this NWP requires notification to the Corps (in accordance with General Condition No. 31). The notification shall include the following:
 - a. A copy of the Federal Categorical Exclusion (Cat/Ex) document signed by the appropriate federal agency. If the Cat/Ex is signed by a state or local agency representative instead of by a federal agency representative, then copies of all documentation authorizing alternative agency signature shall be provided.
 - b. Written description of Corps authority (e.g., Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act.);
 - c. a list of conditions described in the Cat/Ex and/or attachments outlining measures that must be taken prior to, during, or after project construction to minimize impacts to the aquatic environment;
 - d. a copy of the jurisdictional delineation performed by qualified specialists showing the project limits and the location (delineated boundaries) of Corps jurisdiction within the overall project limits;
 - e. map(s) showing the locations of potentially permanent and temporary project impacts to areas within Corps jurisdiction;

- f. a clear and concise description of all project impacts including, but not necessarily limited to:
 - 1. quantification and description of permanent project impacts to areas within Corps jurisdiction,
 - 2. quantification and description of temporary impacts to areas within Corps jurisdiction, and
 - 3. linear extent of Corps jurisdiction affected by the project;
 - g. a general description of activities covered by the Cat/Ex that do not require Corps authorization but are connected or related to the activities in Corps jurisdiction;
 - h. a complete description of any proposed mitigation and/or restoration including, but not necessarily limited to, locations of any proposed planting, short- and long-term maintenance, proposed monitoring, success criteria and contingency plans;
 - i. written justification of how the project complies with the Nationwide Permit Program including less than minimal impact to the aquatic environment and compliance with the General Conditions.
 - j. For Federal Highway Administration (FHWA) Cat/Ex projects, the notification should describe how activities described in the Cat/Ex meet the description of the Cat/Ex project published in the August 28, 1987 Federal Register part 771.117 (a)(b)(c) and (d) (Volume 52, No. 167) or any updated version published in the Federal Register.
2. Only activities specifically described in the Cat/Ex project description will be covered by the NWP 23 authorization. If other activities not described in the Cat/Ex project description will be performed (e.g., dewatering, slope protection, etc.), these activities must receive separate NWP authorizations.
 3. Notification to the Corps (in accordance with General Condition 31) must include a copy of the signed Cat/Ex document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act (ESA), Essential Fish Habitat (EFH) under the Magnusson-Stevens Act, and Section 106 of the National Historic Preservation Act.

27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities

1. Notification to the Corps (in accordance with General Condition 31) must include documentation of a review of project impacts to demonstrate that at the conclusion of the work that the project would result in a net increase in aquatic function. Additionally, the documentation must include a review of project impacts on adjacent properties or structures and must also discuss cumulative impacts associated with the project.

29. Residential Developments:

1. When discharge of fill results in the replacement of wetlands or waters of the U.S. with impervious surfaces, to ensure that the authorized activity does not result in more than minimal degradation of water quality (in accordance with General Condition 25), the residential development shall incorporate low impact development concepts (e.g. native landscaping, bioretention and infiltration techniques, and constructed green spaces) to the extent practicable. A description of the low impact development concepts proposed in the project shall be included with the permit application. More information including low impact development concepts and definitions is available at the following website: <http://www.epa.gov/owow/NPS/lid/>.
2. Use of this NWP is prohibited within the San Francisco Bay diked baylands (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map (see figure 1) below the 5-foot

contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)).

33. TEMPORARY CONSTRUCTION, ACCESS, AND DEWATERING:

1. Access roads shall be designed to be the minimum width necessary and shall be designed to minimize changes to the hydraulic flow characteristics of the stream and degradation of water quality (in accordance with General Conditions 9 and 25). The following Best Management Practices (BMPs) shall be followed to the maximum extent practicable to ensure that flow and circulation patterns of waters are not impaired and adverse effects on the aquatic environment will be kept to a minimum:
 - a. The road shall be properly stabilized and maintained during and following construction to prevent erosion.
 - b. Construction of the road fill shall occur in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within waters of the United States (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself.
2. Vegetative disturbance in the waters of the U.S. shall be kept to a minimum.
3. Borrow material shall be taken from upland sources whenever feasible.
4. Stream channelization is not authorized by this NWP.

35. MAINTENANCE DREDGING OF EXISTING BASINS:

1. Use of this NWP will require notification to the Corps (in accordance with General Condition No. 31). The notification information should be provided on the Consolidated Dredging-Dredged Material Reuse/Disposal Application. This application and instructions for its completion can be found on our web site at: <http://www.spn.usace.army.mil/conops/applications.html>. The information must include the location of the proposed upland disposal site. A jurisdictional delineation of the proposed upland disposal site prepared in accordance with the current method required by the Corps may also be required.
2. The U.S. Coast Guard will be notified by the permittee at least 14 days before dredging commences if the activity occurs in navigable waters of the U.S. (Section 10 waters).
3. The permittee will be required to provide the following information to the Corps:
 - a. Dredge Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: **Corps file number**, a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; proposed dredging start and completion dates; quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operational Plan shall also provide the following information: The controls being established to insure that dredging operations occur within the limits defined by the basin or channel dimensions and typical channel section.
 - b. Pre-Dredge Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and

estimated quantities for overdepth dredging. **All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps file number.**

- c. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during any dredging operation is retained and properly disposed in areas not under Corps jurisdiction. **At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps file number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved. (Please note that failure to provide all of the information requested in a, b, and c above may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.)**
- d. Post-Dredge Survey: Submit, **within 30 days of the last disposal activity** ("last" is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and provides the dredged depths. **Also, include the Corps file number, actual dates of dredging commencement and completion, actual quantities dredged for the project to the design depth, and actual quantities of overdepth.** The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Pre- and Post-Dredge Surveys and **explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance). All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy.** A copy of the post dredge survey should be sent to the National Ocean Service for chart updating:
NOAA/National Ocean Service,
Nautical Data Branch
N/CS26, SSMC3, Room 7230
1315 East-West Highway
Silver Spring, Maryland 20910-3282.
- e. **The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (a suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps file number.** Details for submitting these notifications will be provided in the verification letter (to whom and how).

39. Commercial and Institutional Developments:

1. When discharge of fill results in the replacement of wetlands or waters of the U.S. with impervious surfaces, to ensure that the authorized activity does not result in more than minimal degradation of water quality (in accordance with General Condition 25), the commercial and institutional development shall incorporate low impact development concepts (e.g. native landscaping, bioretention and infiltration techniques, and constructed green spaces) to the extent practicable. A description of the low impact development concepts proposed in the project shall be included with the permit application. More information including low impact development concepts and definitions is available at the following website: <http://www.epa.gov/owow/NPS/lid/>.
2. Use of this NWP is prohibited within the San Francisco Bay diked baylands (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map (see figure 1) below the 5-foot

contour line, National Geodetic Vertical Datum (NGVD) (see Nichols, D.R., and N. A. Wright. 1971. Preliminary map of historic margins of marshland, San Francisco Bay, California. U.S. Geological Survey Open File Map)).

40. AGRICULTURAL ACTIVITIES:

1. This NWP does not authorize discharge of fill into the channel of a perennial or intermittent watercourse that could impede high flows. This limitation does not apply to watercourses that flow only when there is an irregular, extraordinary flood event.

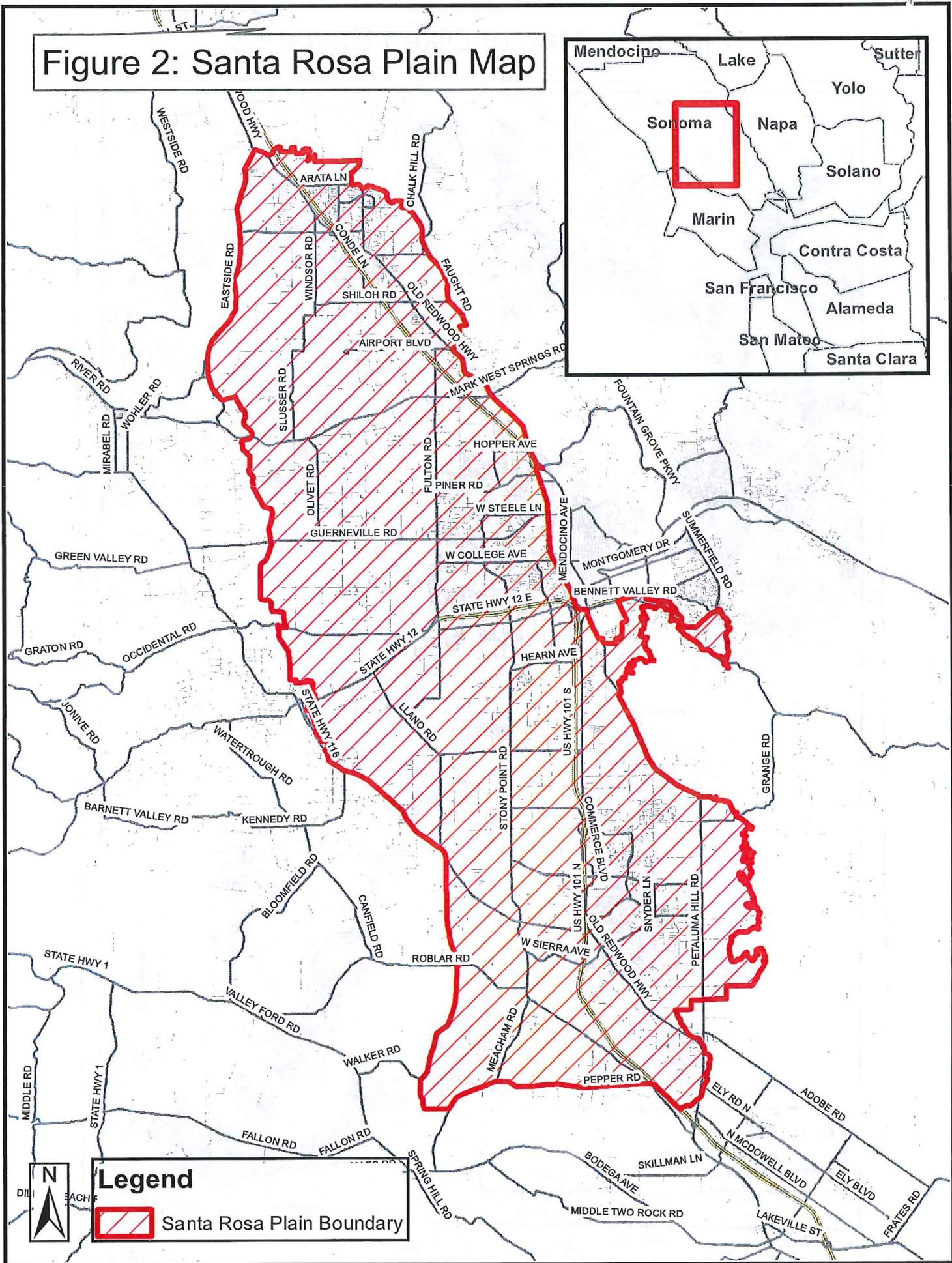
41. RESHAPING EXISTING DRAINAGE DITCHES:

1. Compensatory mitigation may be required if the Corps determines there will be a detrimental impact to aquatic habitat.
2. Notification to the Corps (in accordance with General Condition 31) is required if the applicant proposes to re-grade, discharge, install channel lining, or redeposit fill material.
3. The notification to the Corps (in accordance with General Condition 31) shall include an explanation of the project's benefit to water quality and a statement demonstrating the need for the project.

42. RECREATIONAL FACILITIES:

1. If buildings are proposed to be built in waters of the United States, including wetlands, the applicant must demonstrate that there is no on-site practicable alternative that is less environmentally damaging as defined by the Section 404(b)(1) guidelines.

Figure 2: Santa Rosa Plain Map



Enclosure 5

Permittee: Grant Davis, Sonoma County Water Agency

File Number: 2015-00374N

**Certification of Compliance
for
Nationwide Permit**

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Nationwide Permit authorization."

(Permittee)

(Date)

Return to:

Daniel Breen
U.S. Army, Corps of Engineers
San Francisco District
Regulatory Division, CESP-N-R-N
1455 Market Street
San Francisco, CA 94103-1398



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

Sent via electronic mail: No hard copy to follow

November 16, 2015
CIWQS Reg. Meas. 402610
CIWQS Place ID 817597

Sonoma Valley County Sanitation District
404 Aviation Blvd.
Santa Rosa, CA 95403
Attn.: David Cook
David.Cook@scwa.ca.gov

Subject: Notice of Applicability for Enrollment of the 5th Street East Recycled Water Pipeline Project under the Clean Water Act (CWA) Section 401 General Water Quality Certification for Nationwide Permit 12, Sonoma County

Dear Mr. Cook:

On August 25, 2015, you provided the Regional Water Board with a Notice of Intent to enroll the 5th Street East Recycled Water Pipeline Project (Project) for coverage under the State's CWA Section 401 General Water Quality Certification for Nationwide Permit 12 for Utility Line Activities (General Certification). The project qualifies for enrollment under the General Certification.

The Project consists of installing approximately 7,000 linear feet of 10-inch diameter pipeline extending east from the intersection of Watmaugh Road at Shainsky Road to 5th Street East, then north on 5th Street East to Denmark Street in the City of Sonoma. The pipeline would distribute recycled water for agricultural and urban uses thereby reducing reliance on local and imported surface and groundwater supplies and reducing the amount of treated wastewater effluent released to San Pablo Bay. The pipeline would serve Sonoma Valley High School Campus, Valley Oaks Park, and landowners adjacent to the pipeline. The pipeline would be installed within the existing paved roadway right-of-way, including all construction activities (e.g., equipment laydown, vehicular access, and excavation). The exception would be up to fifteen, 6-inch diameter pipe turnouts that would cross road shoulders and ditches to connect with adjacent landowners. The Project would utilize trenchless methods for pipeline installation at the Nathanson Creek crossing.

The Regional Water Board Executive Officer finds that the Project meets the eligibility criteria, and accordingly, is hereby conditionally authorized for coverage under the

DR. TERRY F. YOUNG, CHAIR | BRUCE H. WOLFE, EXECUTIVE OFFICER

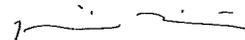
1515 Clay St., Suite 1400, Oakland, CA 94612 | www.waterboards.ca.gov/sanfranciscobay

General Certification. The following conditions are associated with this Notice of Applicability (NOA):

1. All drilling muds, slurries, oils, oil-contaminated water, and other waste materials removed from the bore hole or otherwise used during the Project shall be disposed of at an appropriate location and not discharged to waters of the State. The Applicant shall monitor drill mud pressure and volume at all times during drilling to ensure that hydrofracture or other loss of drill muds has not occurred. In the event of a sudden loss in pressure or volume, the Applicant shall take appropriate steps, including immediately halting the drilling operation, to ensure that drilling muds are not discharged to waters of the State.
2. In the event that any watercourse downcuts and exposes the recycled water pipeline, then within 60 days of discovering the condition, the Applicant shall investigate the cause of the problem and propose and implement corrective actions, including an implementation schedule, acceptable to the Executive Officer.
3. The Applicant is required to use the Riparian Repair and Maintenance Form (Short Form) to provide Project information within 14 days from the date of this NOA. An electronic copy of the Short Form can be downloaded from: www.waterboards.ca.gov/sanfranciscobay/certs.shtml. The completed Short Form and map showing the Project boundaries shall be submitted electronically to habitatdata@waterboards.ca.gov or shall be submitted as a hard copy to both: 1) The Water Board (see the address on the letterhead), to the attention of EcoAtlas; and 2) The San Francisco Estuary Institute, 4911 Central Avenue, Richmond, CA, 94804, to the attention of EcoAtlas.

If you have any questions, please contact Ben Livsey of my staff at (510) 622-2308 or by e-mail to Ben.Livsey@waterboards.ca.gov.

Sincerely,



for Bruce H. Wolfe
Executive Officer

Digitally signed by
Keith H. Lichten,
Chief
Date: 2015.11.16
10:37:17 -08'00'

Cc: SWRCB, DWQ, Stateboard401@waterboards.ca.gov
Water Board, Victor Aelion, victor.aelion@waterboards.ca.gov
U.S. EPA, Region IX, WTR-8, 401 Mailbox, R9-WTR8-Mailbox@epa.gov
Corps, Pam Kostka, Pamela.K.Kostka@usace.army.mil
CDFW, Lorie Hammerli, Lorie.Hammerli@wildlife.ca.gov
EcoAtlas, Habitat.data@waterboards.ca.gov



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2009-F-1272-1

JUN 08 2010

Memorandum

To: Regional Environmental Officer, Mid-Pacific Region, Bureau of Reclamation,
Sacramento, California (Attn: Doug Kleinsmith)

From: *Doug C. Mond*
Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Biological Opinion on the Proposed North San Pablo Bay Restoration and Reuse
Project in Marin, Sonoma, and Napa Counties, California

This is in response to the Bureau of Reclamation's (Reclamation) August 25, 2009, request for concurrence from the U.S. Fish and Wildlife Service (Service) that the proposed North San Pablo Bay Restoration and Reuse Project in Marin, Sonoma, and Napa Counties, California is not likely to adversely affect the endangered soft birds-beak (*Cordylanthus mollis mollis*) (bird's-beak), endangered showy Indian clover (*Trifolium ameonum*) (clover), endangered California freshwater shrimp (*Syncaris pacifica*) (shrimp), threatened California red-legged frog (*Rana aurora draytonii*) (red-legged frog), threatened western snowy plover (*Charadrius alexandrinus nivosus*) (plover), California black rail (*Laterallus jamaicensis coturniculus*) (black rail), endangered California clapper rail (*Rallus longirostris obsoletus*) (clapper rail), and endangered salt marsh harvest mouse (*Reithrodontomys raviventris*) (harvest mouse). Your request was received by the Service on August 28, 2009. In addition, we are concerned about the potential effects of the proposed action on the endangered California least tern (*Sternula antillarum browni*), endangered Contra Costa goldfields (*Lasthenia conjugens*) (goldfields), endangered Sonoma sunshine (*Blennosperma bakeri*), and endangered Sebastopol meadowfoam (*Limnanthes vincylans*) (meadowfoam). The black rail is not Federally listed as threatened or endangered, thus it will not be addressed further in this document. This document is issued under the authority of the Endangered Species Act, as amended (16 U.S.C. § 1531 *et seq.*) (Act).

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the plover. We also believe the proposed action may affect, but is not likely to adversely affect the least tern. This is based on the following factors:

TAKE PRIDE
IN AMERICA

1. Project activities will not degrade or remove any suitable habitat for these species.
2. During the plover nesting season (March 1 through September 15), no project related activities will be conducted within 500 feet sites known to be used by plovers for nesting.
3. During the least tern nesting season (April 15 through September 15), no project related activities will be conducted within 500 feet of sites known to be used by least terns for nesting.
4. Specifically, no project related activities will be conducted from March 1 through September 15 within 500 feet of the levee between ponds 7 and 7a.

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the shrimp. Our concurrence is based on the following factor:

1. Project related activities will not disturb any undercut stream banks, emergent vegetation, or overhanging vegetation that is suitable to the shrimp because all stream crossings will be accomplished using trenchless techniques.

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the bird's-beak and clover. We also believe the proposed action may affect, but is not likely to adversely affect the goldfields, Sonoma sunshine, and meadowfoam. This is based on the following factor:

1. Although potential vernal pool habitat and historical and extant occurrence of Sonoma sunshine, meadowfoam, and goldfield exist near the proposed pipeline route near Arnold Drive in Sonoma County and potential habitat for the bird's-beak and clover exist in near the pipeline route in the Napa-Sonoma Marsh restoration area, appropriately timed protocol level rare plant surveys will be completed for all areas subject to project related activities. If listed plants are found, no project related activities will occur that may affect them and Reclamation will reinitiate consultation with the Service.

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the clapper rail. Our concurrence is based on the following factors:

1. Project activities will not degrade or remove any suitable habitat for this species.
2. During the clapper rail nesting season (February 1 through September 1), no project related activities will be conducted within 500 feet of potential clapper rail habitat.

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the harvest mouse. Our concurrence is based on the following factors:

1. An isolated strip (2 feet wide) of pickleweed habitat (0.14 acre) will be temporarily disturbed as a result of project related activities near ponds 7 and 7a. This strip of

pickleweed habitat is unlikely to support the harvest mouse due to its narrow linear configuration and because it is surrounded by unvegetated habitat.

2. All vegetation within salt marsh habitat will be removed by hand.
3. Exclusion fencing will be erected between all project related activities and adjacent salt marsh habitat to prevent harvest mice from entering the project area.
4. Project related activities adjacent to salt marsh habitat will not occur during extreme high tide events to ensure upland refugial habitat for the harvest mouse is available during these times.

We do not concur with your determination that the proposed action may affect, but is not likely to adversely affect the red-legged frog. Suitable foraging, upland dispersal, and refugial habitat for this species are found within the action area and suitable breeding habitat, unobstructed by barriers, is located within the known dispersal distance of the species. This document represents the Service's biological opinion on the effects of the proposed action on the red-legged frog.

This biological opinion is based on: (1) the North San Pablo Bay Restoration and Reuse Project Biological Assessment (BA) dated August 2009; (2) a revised project description provided to the Service by ESA on January 22, 2010; (3) various telephone and email correspondence between the Service, ESA, and Reclamation; (4) a site visit attended by the Service, ESA, and the Sonoma County Water Agency (SCWA); and (5) other information available to the Service.

Consultation History

- August 28, 2009: The Service received the BA and the letter from Reclamation requesting our concurrence with their determinations.
- October 29, 2009: The Service attended a telephone call with ESA to discuss pipeline routes, the potential presence of listed species, and minimization and avoidance measures.
- December 16, 2009: The Service emailed ESA a list of discussion issues, and provided ESA information regarding tern nesting at the Napa Salt Marsh Restoration Area.
- December 22, 2009: The Service attended a telephone conference call with ESA, Reclamation, and SCWA to discuss the format of the biological opinion.
- December 22, 2009: The Service left a telephone message with ESA indicating that a specific pipeline routes would need to be chosen.
- January 8, 2010: The Service met with ESA to discuss minimization and avoidance measures, potential presence of listed species, and pipeline alignment alternatives.

- January 11, 2009: The Service provided ESA with additional information regarding tern and plover nesting on the levee between ponds 7 and 7a.
- January 12, 2010: The Service attended a site visit with ESA and SCWA.
- January 22, 2010: The Service received an updated project description from ESA.
- January 26, 2010: The Service discussed the conversion of 24 acres of vineyard to a storage pond with ESA.
- February 24, 2010: The Service raised concerns with ESA about indirect effects of land use conversion on listed species and a change in the project description that would ensure all future recycled water hookups would be compliant with the Act.
- March 19, 2010: The Service met with representative from Reclamation to discuss indirect effects of the proposed project and changing the project description.
- May 9, 2010: Reclamation sent an email to the Service agreeing with the project description.

BIOLOGICAL OPINION

Description of the Proposed Action

The purpose of the North Bay Water Recycling Program (NBWRP) is to provide recycled water for agricultural, urban, and environmental uses, which will reduce the need for local and imported surface and groundwater and reduce the amount of treated effluent water released into San Pablo Bay. The NBWRP was established under a Memorandum of Understanding in August 2005, between the Las Gallinas Valley Sanitary District (LGVSD), Novato Sanitary District (Novato SD), Sonoma Valley County Sanitation District (SVCS), Napa Sanitation District (Napa SD), and Sonoma County Water Agency (SCWA). Additional agencies supporting the NBWRP through contribution of funds and staff time include North Marin Water District (NMWD) and Napa County.

Title XVI of Public Law 102-575, as amended, provides a mechanism for Federal participation and cost-sharing in water reuse projects. Through PL 111-11, Congress authorized the NBWRP for construction as a Title XVI project and authorized the Secretary of the Interior, acting through the Bureau of Reclamation, to fund the planning, design, and construction of the NBWRP. Reclamation will fund the associated Federal cost share of the construction activities of the NBWRP beginning in Federal fiscal year 2010. The NBWRP consists of local projects to be implemented by each of the member agencies, as described below.

The NBWRP project area extends approximately 10 to 15 miles inland from San Pablo Bay within Marin, Sonoma, and Napa Counties, from Point San Pedro in Marin County to Milliken Canyon located 28 miles to the northeast in eastern Napa County, and encompasses about 318

square miles of land. Urban centers in the action area are San Rafael and Novato in Marin County, the City of Sonoma in Sonoma County, and the City of Napa in Napa County. The topography of the action area consists of gently sloping river valleys, separated by northwest trending mountain ranges with steep slopes and peaks exceeding elevations of 2,500 feet above mean sea level. Flat lying mudflats and marshlands border San Pablo Bay. The majority of the action area is within Napa, Sonoma, and Novato Valleys and the foothills bounding these valleys.

Napa SD: Milliken, Sarco, and Tulucay Creeks Service Area

Project actions within the Milliken, Sarco, and Tulucay Creeks (MST Creeks) Service Area would include expansion of the Napa SD Waste Water Treatment Plant's (WWTP) tertiary treatment capacity by 4.5 million gallons per day. This would include expansion of the filtration system by installing parallel filter cells adjacent to the existing filter building and the construction of a new booster pump station at the Napa SD Soscol WWTP; construction of four new booster pump stations constructed along existing roadways, and the construction of approximately 17.5 miles of new distribution pipeline in existing roadways. A looped system using existing roadways would be constructed, with one segment extending west along First Avenue and the second segment extending east along Third Avenue; both segments would then merge along Hagen Road north of the Napa Valley Country Club. Pump stations would be located on Imola Avenue, Wild Horse Valley Road, East 3rd Avenue, and 3rd Avenue. Pipeline installation would include the following roadways: Imola Avenue, 4th Avenue, Kreuzer Lane, Coombsville Road, Wild Horse Road, First Avenue, North 3rd Avenue, Second Avenue, Third Avenue, East 3rd Avenue, North Avenue, Olive Hill Lane, Loma Heights Road, Hagen Road. Pipelines would be installed within the roadway; based on field reconnaissance, approximately 0.1 mile of the pipeline routes would be located off-road, within the road shoulder. The potential disturbance of undeveloped areas and roadside vegetation was estimated based on a 25-foot construction easement, and assumed that construction would extend to the roadway right of way fence line. Based on field reconnaissance and aerial photos, potential disturbance of vegetation within potential red-legged frog habitat is estimated at 0.32 acres (Table 1).

SVCSO: Sonoma Valley Recycled Water Project (SVRWP) Service Area

Actions in the SVRWP Service Area would include the construction of additional 62 acre-feet of storage on a 24 acre site that currently supports vineyard adjacent to and north of the existing SVCSO WWTP, construction of a pump station within the WWTP fenceline, and installation of approximately 5.2 miles of new pipeline in western Sonoma Valley. The pipeline would originate from the SVCSO WWTP, extend southwest to Highway 12 along existing property lines and driveways, cross Highway 12, then extend west and northwest through vineyard and an open space area to Arnold Drive. The pipeline would continue north on Arnold Drive, and end just north of Leveroni Road. Secondary pipelines or segments would extend from the main pipeline on the following roadways: Highway 116, Watmaugh Road, and Leveroni Road. Pipelines would be installed within the roadway; based on field reconnaissance, approximately 3.7 miles of the pipeline routes would be located off-road within SVCSO's existing easement, which traverses private property, an includes both vineyard and undeveloped areas. The potential disturbance of undeveloped areas and roadside vegetation was estimated based on a 25-foot construction easement, and assumed that construction would extend to the roadway right of way

fence line. Based on field reconnaissance and aerial photos, potential disturbance of vegetation within potential red-legged frog habitat is estimated at 4.9 acres (Table 1).

SVCS D: Napa Salt Marsh Restoration Area

The California Coastal Conservancy, U.S. Army Corps of Engineers, and California Department of Fish and Game have proposed and are implementing a salinity reduction and habitat restoration project for the 9,460-acre Napa River Unit of the Napa-Sonoma Marshes Wildlife Area. The Napa River Unit is located at the northeast edge of San Pablo Bay, adjacent to the Napa River. Actions in the Napa Salt Marsh Restoration Area include the construction of a pipeline to provide recycled water to ponds 7 and 7a for habitat enhancement, construction of a new pipeline from the existing SVCS D WWTP to existing SVCS D storage reservoirs located near the intersection of the Northwestern Pacific Railroad Authority (Railroad) and Ramal Road. The recycled water would be used at ponds 7 and 7a to dilute the extremely salty water currently within these ponds prior to discharging the salt water into the Napa River. The conversion of ponds 7 and 7a to salt marsh habitat was covered by a previous biological opinion (Service file number 1-1-03-F-0044). Pumping would be provided by new pumps at the WWTP. The associated pipeline would include replacement of approximately 0.6 miles of aging pipe between the SVCS D WWTP and a junction structure along the Railroad line, and extending an 18-inch pipeline approximately 3.2 miles parallel to the existing 18-inch pipeline between the junction structure and the existing storage reservoirs.

From the existing storage reservoirs, a new pipeline would be constructed approximately 4.7 miles to the existing salt pond mixing chamber. This would include approximately 0.25 miles of pipeline installed north along an access road to Ramal Road. The alignment would then extend 1.75 miles east along Ramal Road. The pipeline would then extend south approximately 0.3 miles to access an existing reservoir. At this point it would transverse 0.4 miles east to Buchli Station Road. The pipeline would run south on Buchli Station Road for approximately 1.0 mile, until it reaches the Huichica Creek entrance of the Napa-Sonoma Marshes Wildlife Area (NSMWA) and extends 1.0 mile down the center of the access road for ponds 7 and 7a. The potential disturbance of undeveloped areas and roadside vegetation was estimated based on a 25-foot construction easement. Based on field reconnaissance and aerial photos, potential disturbance of vegetation with the potential to provide red-legged frog habitat is estimated at 10.2 acres. At the mixing chamber, a 400-square-foot outfall structure will be constructed at the mixing chamber southeast of salt pond 7a, with an overall construction disturbance area measuring roughly 2,500 square feet. There would be minimal disturbance to ruderal or grassland vegetation and all vegetation removal will be by hand.

Novato SD: North Marin Water District Urban Recycled Water Plan North/Central Area

The North Marin Water District (NMWD) Urban Recycled Water Plan (URWP) North/Central service area in Marin County would provide recycled water for urban landscaping in the City of Novato through incremental expansion of tertiary capacity at the existing Novato Recycled Water Treatment Facility, a new booster pump station within a developed area of Atherton Avenue, rehabilitation of the existing 0.5 million gallon Plum Street Tank, relocation of some existing treatment facilities to the Novato SD WWTP, and construction of approximately 9.8 miles of

new pipeline within the urban areas of Novato. The potential disturbance of undeveloped areas and roadside vegetation was estimated based on a 25-foot construction easement, and assumed that construction would extend to the roadway right of way fence line. Based on field reconnaissance and aerial photos, potential disturbance of vegetation with the potential to provide red-legged frog habitat is estimated at 1.7 acres.

LGVSD: North Marin Water District Urban Recycled Water Plan South Area

The LGVSD-NMWD URWP South Area would deliver recycled water to the Hamilton Field area. Facilities would include construction of a 0.7 million gallon per day tertiary treatment upgrade at the existing LGVSD WWTP, construction of a new booster pump station onsite, and construction by NMWD of a pipeline distribution system from the LGVSD WWTP north to serve the Hamilton Field area. This system would consist of a loop of 6-inch pipeline along South Oakwood Drive and Casa Grande Drive, a 12-inch pipe along Hangar Avenue to South Palm Drive, and a 10-inch pipe on Palm Drive. Recycled water storage would be provided by retrofitting the existing 0.5-million gallon Reservoir Hill Tank. All of these facilities would be constructed within existing roadways in urbanized environments. The overland portion of this distribution pipeline would extend north from LGVSD WWTP 2.5 miles through grazing land adjacent to the Northwest Pacific Railroad (NWPRR) right-of-way, or potentially within the railroad right of way itself, connecting to the Coast Guard Housing Loop at Palm Drive. The potential disturbance of undeveloped areas and roadside vegetation was estimated based on a 25-foot construction easement, and assumed that the alignment would be outside of the railroad right of way. Based on field reconnaissance and aerial photos, potential disturbance of vegetation with the potential to provide red-legged frog habitat is estimated at 1.7 acres.

All pipelines would be installed within public rights of way, and would be located within paved roadways to the degree feasible. Disturbance to vegetation from overland routes was estimated based on a 25-foot wide construction easement. Disturbance to roadside vegetation was estimated by assuming that construction would extend to the road right of way fence line. Estimated temporary vegetation disturbance is summarized by pipeline facility in Table 1. All disturbed areas would be restored to pre-existing conditions. Additionally, compensation would be provided at a 0.1:1 ratio for temporary effects to vegetation with potential to provide red-legged frog upland refugial habitat.

Table 1. Pipeline Length, Vegetation Disturbance, and Compensation.

Service Provider	Service Area	Pipeline Length (miles)	In-Pavement Disturbance (miles)	Off-Pavement Disturbance (miles)	Roadside Vegetation Disturbed (acres)	Compensation at 0.1:1 (acres)
Napa SD	MST Creeks	16.6	16.5	0.1	0.22	0.03
SCVSD	Napa Salt Marsh	8.9	5.5	3.4	6.8	1.02
	SVRWP	5.2	1.5	3.7	1.2	0.49
Novato SD	NMWD North/Central	10.8	9.9	0.9	0.6	0.17
LGVSD	NMWD South	6.3	4.5	1.8	3.6	0.54
Total		47.8	37.9	9.9	12.42	2.25

Table 2. Stream crossings, by service area.

Service Area	Creek
SVRWP	Sonoma
	Fowler
	Felder
	Champlin
	Carriger
	Rodgers
	Schell
	Unnamed tributaries (3)
	Unnamed tributaries (12)
MST Creeks	Murphy
	Tulucay
	Kreuse
	Unnamed tributaries (29)
NMWD North/Central	Novato
	Arroyo Avichl
	Unnamed tributaries (5)
NMWD South	Miller
	Unnamed tributaries (13)

Minimization and Avoidance Measures

The applicant proposes to implement the following measures to minimize and avoid adverse affects to the red-legged frog in areas determined to be red-legged frog habitat:

1. Construction activities will be confined to the dry season. No project related activities will occur within 48 hours of precipitation. No project related activities will occur from November 1 through April 31.
2. All streams will be crossed using trenchless techniques (Table 2).
3. A qualified biologist, approved by the Service (Service-approved biologist), will train all project staff regarding habitat sensitivity, identification of red-legged frogs, and these minimization and avoidance measures before the start of construction. All employees or contractors must complete this training prior to beginning any project-related work. A Service-approved biologist is defined as any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience with red-legged frogs. The training must include the minimization and avoidance measures that are being implemented to avoid and minimize adverse affects to listed species as they relate to the project, the penalties for non-compliance, and the boundaries of the project area.
4. Within 15 calendar days, prior to the onset of activities, the applicant shall submit the names and credentials of any biologists who would conduct activities specified in the following measures. No earthmoving or other project activities will begin until written approval from the Service has been received that the biologists are qualified to conduct the work.
5. Within 15 calendar days, prior to the onset of activities and the start of construction, a Service-approved biologist will conduct pre-construction surveys for red-legged frogs. If listed species are found, the Service will be contacted and the Service-approved biologist will be allowed sufficient time to move any animal(s) from the work site to a safe location before work activities begin. Only Service-approved biologists will participate in activities associated with the capture, handling, and monitoring of red-legged frogs. Any biologist involved with the surveying/handling will employ sterilization techniques appropriate to avoid the transmission of diseases to or from the site.
6. A Service-approved biologist will be present at the work site until all California red-legged frog removal, work instruction, and habitat disturbance has been completed. After this time, the applicant or contractor will designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist will ensure that this individual receives the training outlined in minimization and avoidance measure number three and in the identification of the red-legged frog. The Service-approved biologist and on-site monitor will have the authority to and shall halt any action that might result in effects that exceed the levels anticipated by the Service during review of

the proposed action. If work is stopped, the Service will be notified within one working day of the incident by the approved biologist or on-site biological monitor.

7. Vehicle speed will be limited to 10 miles per hour within the project footprint.
8. Vehicular traffic will be confined to existing roads, designated project staging areas, and the project footprint.
9. To prevent inadvertent entrapment of listed species, all excavated steep-walled holes or trenches will be sufficiently covered at the end of each workday with plywood or similar materials that prevent entrapment of red-legged frogs. All holes will be inspected for entrapped red-legged frogs daily, prior to any work activities, and before any such trenches or holes are filled.
10. Pipes measuring four (4) inches or greater in diameter that are stored at the site will be sealed at each end to prevent any listed species from becoming trapped in such pipes.
11. Before construction begins, the project engineer and a Service-approved biologist will identify locations for equipment, personnel access, and materials staging to minimize disturbance to red-legged frog habitat.
12. All construction equipment must be in good working condition, showing no signs of fuel or oil leaks.
13. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 65 feet from any riparian or aquatic habitat.
14. Machinery operators must have spill clean-up supplies on-site and be knowledgeable in their proper use and deployment.
15. In the event of a spill, operators must immediately cease work, start clean-up, and notify the appropriate authorities.
16. Erosion control fabric will consist of natural fibers that will biodegrade over time. No mesh erosion control fabric that contains mesh holes smaller than ¼ inch by 1½ inch will be installed. Only loosely woven jute, used to contain straw and prevent erosion, will be used.
17. Prior to the close of the work window, temporarily disturbed areas will be revegetated with native species specific to the project location.
18. No trash will be deposited on the site during construction activities. All trash will be placed in trash receptacles with secure lids or stored in vehicles, and removed at the end of each work day from the project site.
19. Following construction, all construction debris will be removed from work areas.

20. To compensate for the temporary disturbance of 22.32 acres of red-legged frog habitat, the applicant will purchase 2.25 acres of red-legged frog habitat credits from a Service-approved conservation bank, as outlined in Table 1. Credits will be purchased within 6 months of ground breaking activities.
21. Prior to initiating any ground breaking activities at the Sonoma Valley Recycled Water Project Service Area for the purpose of constructing the 24-acre water storage pond where a vineyard currently exists, red-legged frog protocol surveys will be conducted along 4,000 linear feet of Schell Creek, from 8th Street to San Louis Road. If evidence of red-legged frog frogs is found within this reach of Schell Creek, the applicant will compensate for the permanent loss of red-legged frog dispersal habitat by purchasing red-legged frog habitat credits from a Service-approved conservation bank at a ratio of 1:1.
22. The North Bay Water Reuse Authority will not provide recycled water hookups from the proposed project for any land that is undeveloped on the date of signature of this biological opinion, land that has not been converted to or planted with crops or other cultivated plants on the date of signature of this biological opinion, or for any property that would undergo land-use conversion as a result of the recycled water hookup, unless the development, land-use conversion, or proposed land use is in compliance with the Act. Compliance will be verified by one of the following: (1) authorization for incidental take issued by the Service via section 7 or section 10 of the Act; or (2) a letter from the Service indicating the development or land-use conversion is not likely to adversely affect any listed species.

Analytical Framework for the Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on three components: (1) the *Status of the Species* and *Environmental Baseline*, which evaluates the species' range-wide condition, the factors responsible for that condition, and the survival and recovery needs; and evaluates the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (2) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (3) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on it.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the species' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the listed species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the species, and the role of the action area in the survival and recovery of the species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the proposed action, the action area includes all areas directly disturbed by project related trenching activities, the area to be converted to a 25-acre water storage pond, and areas within 50 feet of project related activities that will be affected by vibration and noise.

Status of the Species and Environmental Baseline

California red-legged frog

The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Please refer to the final rule and the *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* (Service 2002) for additional information on this species.

The red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

California red-legged frogs have paired vocal sacs and vocalize in air (Hayes and Krempels 1986). They breed from November through March with earlier breeding records occurring in southern localities (Storer 1925). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on the surface of the water (Hayes and Miyamoto 1984). Individuals occurring in coastal drainages are active year-round (Jennings *et al.* 1992), whereas those found in interior sites are normally less active during the cold season.

Adult red-legged frogs typically use dense, shrubby, or emergent riparian vegetation closely associated with deep (2.3 feet), still, or slow-moving water (Hayes and Jennings 1988). However, frogs also have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. The largest densities of red-legged frogs currently are associated with deep pools with dense stands of overhanging willows and an intermixed fringe of cattails (*Typha latifolia*) (Jennings 1988). California red-legged frogs disperse upstream and downstream of their breeding habitat to forage and seek sheltering habitat. During other parts of the year, habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer (Fellers 2005). According to Fellers (2005), this can include vegetated areas with coyote bush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*) thickets, and root masses associated with willow and California bay trees (*Umbellularia californica*). Sometimes the non-breeding habitat used by red-legged frogs is extremely limited in size. For example, non-breeding red-legged frogs have been found in a 6-foot wide coyote bush thicket growing along a tiny intermittent creek surrounded by heavily grazed grassland (Fellers 2005). Sheltering habitat for red-legged frogs is potentially all aquatic, riparian, and upland areas within

the range of the species and includes any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

Adult red-legged frogs are often associated with permanent bodies of water. However, while many frogs remain at permanent breeding ponds year-round, Fellers and Kleeman (2007) found that nearly half of all females in certain populations disperse away from these areas into other suitable non-breeding locations. Once at these areas, individuals may remain there for the majority of the year, returning to breeding ponds for only several weeks at a time. While California red-legged frogs do not have a distinct breeding migration back to these breeding areas, the number of dispersing individuals appears to increase with rainfall (Fellers 2005; Fellers and Kleeman 2007). Dispersal distances to and from breeding habitat are typically less than 0.5 mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, however dispersal from breeding habitats to riparian areas often requires the species to traverse across less desirable habitats such as open fields where grazing, farming or other high intensity management activities may occur (Fellers and Kleeman 2007). Dispersing frogs in northern Santa Cruz County traveled distances from 0.25 miles to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003). Because of the ability of California red-legged frogs to move through a range of different habitats as well as the life history needs required by this species, equal protection of suitable breeding and non-breeding areas as well as the migration corridors that connect them is vital to the recovery and survival of the species (Fellers and Kleeman 2007).

Egg masses contain about 2,000 to 5,000 moderate sized (0.08 to 0.11 inches in diameter), dark reddish brown eggs and are typically attached to vertical emergent vegetation, such as bulrushes (*Scirpus* spp.) or cattails (Jennings *et al.* 1992). California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Eggs hatch in 6 to 14 days (Jennings 1988). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1994).

Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). Sexual maturity normally is reached at 3 to 4 years of age (Storer 1925; Jennings and Hayes 1985). California red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations of red-legged frogs fluctuate from year to year. When conditions are favorable red-legged frogs can experience extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, red-legged frogs may temporarily disappear from an area when conditions are stressful (e.g., drought). At these locations, the rare individuals that disperse over long distances via riparian and overland corridors become necessary to repopulate temporarily abandoned but still suitable regions (Fellers and Kleeman 2007).

The diet of the red-legged frog is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food items. According to their data, vertebrates, such as Pacific tree frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*), represent over half the prey mass eaten by larger frogs, although invertebrates were the most numerous food items (Service 2002). Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal. Adult red-legged frogs have often been observed spending daylight hours taking shelter in still pools and associated vegetation or thermoregulating in full sunlight on rocks or other highly exposed surfaces (Fellers and Kleeman 2007). Feeding activity probably occurs along the shoreline and on the surface of the water (Hayes and Tennant 1985). The diet of red-legged frog tadpoles is not well studied, but their diet is probably similar to other Ranid tadpoles that feed on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Jennings *et al.* 1992; Kupferberg 1996a, 1996b; Fellers 2005).

The historic range of the red-legged frog extended coastally from the vicinity of Point Reyes National Seashore, Marin County, California, and inland from the vicinity of Redding in Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Hayes and Krempels 1986). The red-legged frog was historically known from 46 counties but is currently only found in 22 of them (Service 2002). California Red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico. The most secure aggregations of red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Habitat loss and alteration, over-exploitation, and introduction of exotic predators were significant factors in the species' decline in the early to mid-1900s. Agriculture, urbanization, mining, overgrazing, recreation, timber harvest, nonnative plants, impoundments, water diversions, degraded water quality, and introduced predators have resulted in substantial degradation and loss of red-legged frog breeding ponds, upland habitat, and dispersal corridors. These factors have resulted in the isolation and fragmentation of habitats within many watersheds, often precluding dispersal between sub-populations and jeopardizing the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are able to "rescue" small populations and colonize available empty habitat patches).

The fragmentation of existing habitat and the continued colonization of existing habitats by nonnative species may represent the most significant current threats to red-legged frogs. However, red-legged frog populations are usually threatened by more than one factor. Pounds *et al.* (2006) discussed dramatic increases in fatalities of Ranid populations worldwide due to outbreaks associated with a chytrid fungus, *Batrachochytrium dendrobatidis* (Bd). These outbreaks are thought to be associated with rapid global climate change, which creates climatic conditions that are more favorable to the fungus (Pounds *et al.* 2006). Bd has been identified in the San Francisco Bay area and further research is currently underway to determine the extent and effects of these outbreaks. The increasing discrepancies in seasonal temperature and precipitation variations will produce deeper rivers with higher velocities in the spring and reduced aquatic habitat with higher eutrophication rates during the summer. The consequence of

these changes will likely be a decline in California red-legged frog breeding habitat throughout California.

Some current habitat loss has been compensated in developed areas through artificially created habitat such as golf course restoration ponds, and juvenile and adult red-legged frogs have been found in these human-created habitats. However, habitat created near urban areas where predators such as bullfrogs (*Rana catesbeiana*) and raccoons (*Procyon lotor*) are able to increase in population size may not be suitable for the long-term survival or successful reproduction of local frog populations (H.T. Harvey and Associates 1997). Other factors such as contaminants and lack of dispersal corridors connecting habitat patches may also prevent long-term survival of populations in created habitat patches (H.T. Harvey and Associates 1997).

Predation by introduced species is also a significant threat to the red-legged frog. Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs (*Rana aurora aurora*) once bullfrogs became established at the same sites (Jennings and Hayes 1990; Twedt 1993). This has been attributed to both predation and competition. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on subadult Northern red-legged frogs as well. In addition to predation, bullfrogs may have a competitive advantage over red-legged frogs, since bullfrogs are larger, possess more generalized food habits (Bury and Whelan 1984), have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977), and larvae are unpalatable to predatory fish (Kruse and Francis 1977). In addition to competition, bullfrogs interfere with red-legged frog reproduction. Both California and northern red-legged frogs have been observed in amplexus with (mounted on) both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993). Thus bullfrogs are able to prey upon and out-compete red-legged frogs, especially in sub-optimal habitat. Upon establishment within a given area, bullfrogs become difficult to eradicate. Historically, giggering methods or pellet guns were utilized by land managers to reduce populations. However, research suggests that these methods are only effective when applied in concert with biannual draining of perennial habitats and/or the flooding of riparian areas every five years (Doubledee *et al.* 2003). Red swamp crayfish (*Procambarus clarkii*), signal crayfish (*Pacifastacus leniusculus*), and several species of warm water fish including sunfish (*Lepomis* spp.), goldfish (*Carassius auratus*), common carp (*Cyprinus carpio*), and mosquitofish (*Gambusia affinis*) may similarly affect red-legged frogs through predation and competition (Lawler *et al.* 1999).

The urbanization of land within and adjacent to red-legged frog habitat has also affected this species. Declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks red-legged frog dispersal, and the introduction of predatory fishes and bullfrogs. The conversion and isolation of perennial pool habitats resulting from urbanization is also an ongoing adverse affect to red-legged frogs. Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, a pathogen that was also detected in sympatric three-spined sticklebacks (*Gasterosteus aculeatus*) in northwestern California.

The recovery plan for the red-legged frog identifies eight Recovery Units (Service 2002). The establishment of these Recovery Units is based on the Recovery Team's determination that

various regional areas of the species' range are essential to its survival and recovery. The status of the red-legged frog will be considered within the smaller scale of Recovery Units as opposed to the overall range. These Recovery Units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each Recovery Unit. Within each Recovery Unit, core areas have been delineated and represent contiguous areas of moderate to high red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of red-legged frogs.

Environmental Baseline: The MST Creeks Service Area is located in the eastern portion of the City of Napa, between the Lake Barryessa and the Jameson Canyon - Lower Napa River core areas for the red-legged frog (Service 2002). Occurrence records for the red-legged frog in Napa County are limited to 6 occurrences (CNDDDB 2010) that represent 3 known metapopulations. These 3 metapopulations are separated from each other by more than 15 miles, with one metapopulation located in the foothills of southern portion of the county, the second metapopulation located a few miles south of Lake Barryessa in the central portion of the County, and the third metapopulation located in northern portion of the county. Due to the large amount of private property in Napa County and a lack of surveys targeting amphibians, there is little information on the status and distribution of this species in the County. However, within the MST Service Area are suitable breeding, foraging, upland dispersal and refugial habitat for the red-legged frog and this area is between two areas known to be occupied by the red-legged frog. Many of the current threats to the red-legged frog within the MST Creeks Service Area are consistent with the threats that are responsible for reducing the habitat quality within the action area. These ongoing threats include predation by and competition with non-native invasive animal species such as bullfrogs and habitat loss and/or reduced habitat quality from vineyard development, urbanization, and infrastructure improvement projects.

The SVRWP Service Area and Napa Salt Marsh Restoration Area are contiguous with each other and are located just west of the Petaluma Creek - Sonoma Creek core area for the red-legged frog (Service 2002) in Sonoma and Napa Counties. There are 3 red-legged frog occurrences within 3 miles of the SVRWP Service Area (CNDDDB 2010). Two of these occurrences are within 1 mile of the proposed pipeline route. Within and adjacent to the action area are numerous ponds capable of supporting red-legged frog breeding, in addition to suitable foraging, dispersal, and refugial habitat. However, many of the ponds are located on private property and have not been surveyed. The proposed 24-acre storage pond site is currently an established vineyard, adjacent to the SVCSD WWTP and Schell Creek. Although vineyards are not typically thought of as providing suitable foraging habitat, if red-legged frogs do occur in Shell Creek, this area would provide suitable upland dispersal habitat for this species. The current threats to this species and the factors responsible for its current condition in the SVRWP Service Area and Napa Salt Marsh Restoration Area are identical to those described for the MST Creeks Service Area.

The Novato SD's North, Central and South Service Areas are contiguous with each other and are located between the Point Reyes Peninsula and the Petaluma Creek - Sonoma Creek core areas for the red-legged frog (Service 2002) in Marin County. Although much of these service areas are highly urbanized, areas with freshwater habitat, on the fringes of the urban areas, contain suitable breeding, foraging, dispersal, and refugial habitat for the red-legged frog. Numerous red-legged frog occurrences are located within 7 miles of the Novato SD's North, Central and South Service Areas; most of which are located to the east, north, and northwest. The factors responsible for the current state of the red-legged frog population within this portion of the action area include loss of habitat and/or reduced habitat quality due to urbanization, infrastructure improvement projects, and water impoundment projects and competition with non-native invasive species such as bullfrogs.

In general, much of the potential red-legged frog habitat that will be disturbed throughout the action area is located adjacent to gravel or paved roadways. These areas typically consist of ruderal vegetation within and adjacent to roadside drainage ditches. Although roadside drainages are unlikely to contain red-legged frog breeding habitat, drainage ditches do provide suitable dispersal and foraging habitat for red-legged frogs because they provide relatively moist conditions that reduce the likelihood of desiccation and potentially increase prey densities.

Effects of the Proposed Action

The proposed action will result in the temporary disturbance of 22.32 acres of red-legged frog habitat. Adult and juvenile red-legged frogs hiding in cracks, crevices, and small mammal burrows within the project footprint are most likely to be killed or injured by ground disturbing activities and from being crushed beneath heavy equipment, because preconstruction surveys would be unable to detect them. Red-legged frogs could also become injured or entrapped in trenches and pits if trench covers are not installed properly. In addition, the use of trenchless techniques will minimize direct mortality and injury as a result of project related activities.

Preconstruction surveys for red-legged frogs and relocation outside of the action area will reduce the likelihood of direct injury or mortality caused by ground disturbing activities. However, capturing and handling these animals to remove them from a work area may result in the harassment of these individuals. Stress, injury, and mortality may occur as a result of improper handling, containment, and transport of individuals. Proper handling techniques, implemented by a Service-approved biologist, should minimize the likelihood of harassment to the red-legged frog.

Habitat disturbance will be relatively temporary, with most areas experiencing disturbance for less than a few weeks. These areas will quickly return to pre-construction conditions within a few months. However, construction noise, vibration, and increased human activity may interfere with normal behaviors. Although the Service is not aware of any studies that have specifically addressed the effects of noise and vibration on red-legged frogs, Demmitt and Ruibal (1980) found that vibration from an electric motor consistently induced nearly 100 percent emergence of Couch's spadefoot toad (*Scaphiopus couchi*) from dormancy in deep as well as shallow burrows. Construction activities, such as operating heavy equipment near occupied refugial habitat may disturb these animals and cause them to seek refuge at alternative sites. Red-legged frogs and

that leave their upland refugial habitat to seek alternative sites would be highly susceptible to desiccation while in transit.

If red-legged frogs are found during protocol surveys on Schell Creek, adjacent to the proposed 24-acre water storage pond where a vineyard currently exists, the effects of constructing the storage pond to the red-legged frog would be the loss of dispersal habitat. Although vineyards are not typically considered valuable habitat for red-legged frogs, the vineyard could use the for dispersal and potential foraging. The construction of the storage pond would result in the permanent loss of this habitat for the frog and reduce the habitat quality within Schell Creek by reducing upland habitat. If found, the applicant will compensate for the permanent loss of 24 acres of upland dispersal habitat by purchasing credits from a Service-approved conservation bank at a ratio of 1:1.

To compensate for the temporary loss of 22.32 acres of habitat, the applicant will purchase credits from a Service-approved conservation bank at a ratio of 0.1 to 1. In some cases, purchasing credits from conservation bank may have an advantage over onsite compensation by consolidating small parcel losses to create larger, less fragmented, and more sustainable habitat patches. If red-legged frogs are found during protocol surveys in Schell Creek, the conversion of the vineyard to a 24-acre storage pond for reuse water (unsuitable to red-legged frog breeding, foraging, dispersal, or other essential behaviors), will result in the permanent loss of dispersal habitat. To compensate for this potential loss of dispersal habitat, the applicant will purchase credits from a Service-approved conservation bank at a ratio of 1 to 1.

Cumulative Effects

Cumulative effects are those impacts of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The global average temperature has risen by approximately 0.6 degrees Centigrade during the 20th Century (IPCC 2001, 2007; Adger *et al.* 2007). There is an international scientific consensus that most of the warming observed has been caused by human activities (IPCC 2001, 2007; Adger *et al.* 2007), and that it is "very likely" that it is largely due to man made emissions of carbon dioxide and other greenhouse gases (Adger *et al.* 2007). Ongoing climate change (Inkley *et al.* 2004; Adger *et al.* 2007; Kanter 2007) likely imperils the red-legged frog and the resources necessary for its survival, since climate change threatens to disrupt annual weather patterns, it may result in a loss of their habitats and/or prey, and/or increased numbers of their predators, parasites, and diseases. Where populations are isolated, a changing climate may result in local extinction, with range shifts precluded by lack of habitat.

Conclusion

After reviewing the current status of the species, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the proposed project is not likely to jeopardize the continued existence of the red-legged frog. The Service has come to this conclusion because habitat disturbance will be temporary and

return to pre-construction conditions within a relatively short period of time and the applicant proposes to compensate for adverse effects by purchasing credits from a Service-approved conservation bank.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. The Service defines harass as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the Act, provided such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by Reclamation so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. Reclamation has a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the red-legged frog will be difficult to detect or quantify for the following reasons: its elusive nature, small size, cryptic coloration, seasonal fluctuations in population numbers, and this species occurs in habitat that makes it difficult to detect. The Service is estimating that no more than one red-legged frog per service area will be subject to incidental take in the form of injury or death as a result of project related activities. All red-legged frogs within the 22.32 acres of temporarily disturbed habitat will be subject to incidental take in the form of harm, harassment, and capture. All red-legged frogs within 50 feet of the project footprint will be subject to incidental take in the form of harassment. If red-legged frogs are found within Schell Creek as a result of protocol surveys, all red-legged frogs within the area proposed to be 24-acre storage pond will be subject to incidental take in the form of harm, harassment, capture, injury, and death. Upon implementation of the reasonable and prudent measures, incidental take of the red-legged frog associated with the proposed North San Pablo Bay Restoration and Reuse Project Development project will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the red-legged frog.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the effects of take on the red-legged frog:

Adverse effects to the red-legged frog and its habitat shall be minimized to the maximum extent feasible.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, Reclamation shall ensure that the applicant complies with the following terms and conditions, which implement the *Reasonable and Prudent Measure* described above. This Term and Condition is non-discretionary.

The following Term and Condition implements the Reasonable and Prudent Measure:

Reclamation shall adhere to the *Description of the Proposed Action* through the NBWRP-specific funding agreement. As the funding agreement will require the recipient to remain compliant with all pertinent rules, regulations, and permits (including this biological opinion), awarding the funding agreement will ensure the NBWRP remains compliant with the avoidance and minimization measures of this biological opinion.

Reporting Requirements

The Service must be notified within 24 hours of the finding of any injured or dead red-legged frogs or any unanticipated damage to its habitat associated with the proposed action. Injured red-legged frogs shall be cared by a licensed veterinarian or other qualified person, such as the Service-approved biologist for the proposed action. Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. Dead animals should be sealed in a zip lock bag containing a piece of paper indicating the location, date and time when it was found, and the name of the person who found it; and the bag should be frozen in a freezer in a secure location. The Service contact persons are Chris Nagano, Division Chief, Endangered Species Program, at the Sacramento Fish and Wildlife Office at telephone (916) 414-6600 and Resident Agent-in-Charge Dan Crum of the Service's Law Enforcement Division at telephone (916) 414-6660.

The applicant shall submit a post-construction compliance report prepared by the on-site biologist to at the Sacramento Fish and Wildlife Office within sixty (60) calendar days of the date of the completion of construction activity. This report shall detail (i) dates that construction occurred; (ii) pertinent information concerning the success of the project in meeting the avoidance and minimization measures; (iii) an explanation of failure to meet such measures, if

any; (iv) known project effects on the red-legged frog, if any; (v) occurrences of incidental take of these listed species, if any; (vi) documentation of employee environmental education; and (vii) other pertinent information.

CONSERVATION RECOMMENDATIONS

Conservation recommendations are suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of new information. These measures may serve to further minimize or avoid the adverse effects of a proposed action on listed, proposed, or candidate species, or on designated critical habitat. They may also serve as suggestions on how action agencies can assist species conservation in furtherance of their responsibilities under section 7(a)(1) of the Act, or recommend studies improving an understanding of a species' biology or ecology. Wherever possible, conservation recommendations should be tied to tasks identified in recovery plans. The Service is providing you with the following conservation recommendation:

1. Reclamation should use American Recovery and Reinvestment Act funding to implement red-legged frog habitat restoration projects.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed and/or proposed species or their habitats, the Service requests notification of the implementation of these recommendations.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the proposed North San Pablo Bay Restoration and Reuse Project. As provided in 50 CFR § 402.16 and in the terms and conditions of this biological opinion, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have questions concerning this biological opinion on the proposed North San Pablo Bay Restoration and Reuse Project, please contact Ben Solvesky or Ryan Olah at the letterhead address, at telephone number (916) 414-6600, or email Ben_Solvesky@fws.gov or Ryan_Olah@fws.gov.

cc:

Scott Wilson, California Department of Fish and Game, Yountville, California

LITERATURE CITED

- Adger, N., P. Aggarwal, S. Agrawala, J. Alcamo, A. Allali, O. Anisimov, N. Arnell, M. Boko, O. Canziani, T. Carter, G. Casassa, U. Confalonieri, R. V. Cruz, E. de Alba Alcaraz, W. Easterling, C. Field, A. Fischlin, B. B. Fitzharris, C. G. Garcia, C. Hanson, H. Harasawa, K. Hennessy, S. Huq, R. Jones, L. K. Bogataj, D. Karoly, R. Klein, Z. Kundzewicz, M. Lal, R. Lasco, G. Love, X. Lu, G. Magrin, L. J. Mata, R. McLean, B. Menne, G. Midgley, N. M., M. Q. Mirza, J. Moreno, L. Mortsch, I. Niang-Diop, R. Nicholls, B. Nováky, L. Nurse, A. Nyong, M. Oppenheimer, J. Palutikof, M. Parry, A. Patwardhan, P. R. Lankao, C. Rosenzweig, S. Schneider, S. Semenov, J. Smith, J. Stone, J. van Ypersele, D. Vaughan, C. Vogel, T. Wilbanks, P. P. Wong, S. Wu, and G. Yohe. 2007. Working Group II Contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report. Climate Change 2007: Climate change impacts, adaptation, and vulnerability. Brussels, Belgium.
- Bulger, J. B., N. J. Scott Jr., and R. B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. *Biological Conservation* 110:85-95.
- Bury, R. B. and J. A. Whelan. 1984. Ecology and management of the bullfrog. U. S. Fish and Wildlife Service Resource Publication 155. 23 pp.
- California Natural Diversity Data Base (CNDDB). 2010. Natural Heritage Division. California Department of Fish and Game, Sacramento, California.
- Dimmitt, M.A. and R. Ruibal. 1980. Environmental correlates of emergence in spadefoot toads (*Scaphiopus*). *Journal of Herpetology* 14:21-29.
- Doubledee, R. A., E. B. Muller, and R. M. Nisbet. 2003. Bullfrogs, disturbance regimes, and the persistence of California red-legged frogs. *Journal of Wildlife Management* 67: 424-438.
- Emlen, S. T. 1977. "Double clutching" and its possible significance in the bullfrog. *Copeia* 1977:749-751.
- Fellers, G. M. 2005. *Rana draytonii* Baird and Girard 1852, California red-legged frog. In M Lannoo (ed.), *Amphibian declines: the conservation status of United States species*. Volume 2, pp. 552-554. University of California Press, Berkeley.
- Fellers, G. M., and P. M. Kleeman. 2007. California red-legged frog (*Rana draytonii*) movement and habitat use: implications for conservation. *Journal of Herpetology* 41:276-286.
- Hayes, M. P., and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylei*): implications for management. Pages 144-158 in R. Sarzo, K. E. Severson, and D. R.

- Patton (technical coordinators). Proceedings of the symposium on the management of amphibians, reptiles, and small mammals in North America. United States Department of Agriculture, Forest Service, Rocky Mountain Range and Experiment Station, Fort Collins, Colorado. General Technical Report (RM-166): 1-458.
- Hayes, M. P. and D. M. Krempels. 1986. Vocal sac variation among frogs of the genus *Rana* from western North America. *Copeia* 1986:927-936.
- Hayes, M. P. and M. M. Miyamoto. 1984. Biochemical, behavioral and body size differences between *Rana aurora aurora* and *R. a. draytonii*. *Copeia* 1984:1018-1022.
- Hayes, M. P., and M. R. Tennant. 1985. Diet and feeding behavior of the California red-legged frog, *Rana aurora draytonii* (Ranidae). *Southwestern Naturalist* 30: 601-605.
- H. T. Harvey & Associates. 1997. Santa Clara Valley Water District California Red-legged Frog Distribution and Status – 1997. Prepared for the Santa Clara Valley Water District. Project no. 1164-01.
- Inkley, D.B., M.G. Anderson, A.R. Blaustein, V.R. Burkett, B. Felzer, B. Griffin, J. Price, and T.L. Root. 2004. Global climate change and wildlife in North America. *Wildlife Society Technical Review* 04-2.
- IPPC. 2001. *Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change* (Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson [editors]). Cambridge University Press, Cambridge, United Kingdom and New York, New York. 881 pp. Available at <http://www.ipcc.ch/>.
- . 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Alley, R., T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, P. Friedlingstein, J. Gregory, G. Hegerl, M. Heimann, B. Hewitson, B. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, M. Manning, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, D. Qin, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, S. Solomon, R. Somerville, T.F. Stocker, P. Stott, R.F. Stouffer, P. Whetton, R.A. Wood, D. Wratt. 21 pp. Available at <http://www.ipcc.ch/>.
- Jennings, M. R. 1988. Natural history and decline of native ranids in California. Pages 61-72 in H. F. De Lisle, P. R. Brown, B. Kaufman, and B. McGurty (editors). *Proceedings of the Conference On California Herpetology*. Southwestern Herpetologists Society, Special Publication 4:1-143.
- Jennings, M. R., and M. P. Hayes. 1985. Pre-1900 overharvest of California red-legged frogs (*Rana aurora draytonii*): The inducement for bullfrog (*Rana catesbeiana*) introduction. *Herpetological Review* 31:94-103.

- _____. 1990. Final report of the status of the California red-legged frog (*Rana aurora draytonii*) in the Pescadero Marsh Natural Preserve. Final report prepared for the California Department of Parks and Recreation, Sacramento, California, through Agreement (4-823-9018). Department of Herpetology, California Academy of Sciences, Golden Gate Park, San Francisco, California. 30 pages.
- _____. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Rancho Cordova, California. 255 pp.
- Jennings, M. R., M. P. Hayes, and D. C. Holland. 1992. A petition to the U.S. Fish and Wildlife Service to place the California red-legged frog (*Rana aurora draytonii*) and the western pond turtle (*Clemmys marmorata*) on the list of endangered and threatened wildlife and plants. 21 pages.
- Kanter, J. 2007. Scientists detail climate changes, Poles to Tropics. New York Times. April 10, 2007.
- Kruse, K.C. and M.G. Francis. 1977. A predation deterrent in larvae of the bullfrog, *Rana catesbeiana*. Transactions of the American Fisheries Society 106:248-252.
- Kupferberg, S. J. 1996a. Hydrologic and geomorphic factors affecting conservation of a river-breeding frog (*Rana boylei*). Ecological Applications 6:1322-1344.
- _____. 1996b. The ecology of native tadpoles (*Rana boylei* and *Hyla regilla*) and the impacts of invading bullfrogs (*Rana catesbeiana*) in a northern California river. PhD dissertation. University of California, Berkeley, California.
- Lawler, S. P., D. Dritz, T. Strange, and M. Holyoak. 1999. Effects of introduced mosquitofish and bullfrogs on the threatened California red-legged frog. Conservation Biology 13: 613-622.
- Pounds, J. A., M. R. Bustamente, L. A. Coloma, J. A. Consuegra, and M. P. L. Fogden. 2006. Widespread amphibian extinctions from epidemic disease driven by global warming. Nature 439:161-167.
- _____. 2003. A field guide to western reptiles and amphibians. Houghton Mifflin Company, Boston, Massachusetts.
- Storer, T. I. 1925. A synopsis of the amphibia of California. University of California Publications in Zoology, 27:1-1-342.
- _____. 1933. Frogs and their commercial use. California Department of Fish and Game 19:203-213.
- Twedt, B. 1993. A comparative ecology of *Rana aurora* Baird and Girard and *Rana catesbeiana* Shaw at Freshwater Lagoon, Humboldt County, California. Unpublished.

Master of Science thesis. Humboldt State University, Arcata, California. 53 pages plus appendix.

U. S. Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; determination of threatened status for the California Red-Legged Frog. Federal Register 61:25813-25833.

_____. 2002. Recovery Plan for the Red-legged Frog (*Rana aurora draytonii*). Portland, Oregon. 173 pages.

Wright, A. H. and A. A. Wright. 1949. Handbook of frogs and toads of the United States and Canada. Comstock Publishing Company, Inc., Ithaca, New York. 640 pages.

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov



January 20, 2016

In reply refer to: COE_2015_1203_001

Tori White
Acting Chief, Regulatory Division
US Army Corps of Engineers, San Francisco District
1455 Market Street
San Francisco, CA 9413-1398

RE: Section 106 consultation for the Recycled Water Pipeline Installation Project at Sonoma Valley Wastewater Treatment Plant, Sonoma County (COE File Number 2015-0374-N)

Dear Ms. White:

Thank you for your letter received December 3, 2015 initiating consultation on the above referenced project to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulation at 36 CFR Part 800. The Army Corps of Engineers (COE) is seeking my comments on their finding of effect for the issuance of a Clean Water Act Section 404 permit to Sonoma Valley County Sanitation District (applicant). The proposed undertaking involves installing approximately 7,000 linear feet of pipeline within existing paved roadway, which will provide for beneficial use of treated recycled water.

The COE has defined the Area of Potential Effects (APE) as the permit area which is 0.077 acres and 7,000 linear feet of pipeline. The COE submitted by follow up email the following document:

- *North Bay Water Reuse Authority, North Bay Water Recycling Program, Marin, Sonoma, and Napa Counties, Addendum Cultural Resources Survey Report, SVCSA Service Area – Phase I Modifications (ESA August 2013).*

Efforts to identify historic properties included a records search at the North West Information Center (NWIC) that indicated no cultural resources had previously been identified with the project APE, as well as an archaeological pedestrian survey of the parcel conducted in August of 2013 that identified no cultural resources within the APE.

Native American consultation included contacting the Native American Heritage Commission (NAHC) for a search of the Sacred Lands File that failed to indicate the presence of Native American cultural resources within the immediate vicinity. The COE sent letters to the Native American contacts provided by the NAHC. In a follow up email, your staff explained that the COE has received no comments to date regarding the project.

The COE has determined that the project will have no adverse effect on historic properties or cultural resources and requested my comments. After reviewing the submitted materials, I have the following comments:

- Pursuant to 36 CFR 800.4(d)(2); it appears that there are no historic properties located within the project area for this undertaking and, therefore, I do not object to the COE making a finding of *no historic properties affected* for this undertaking.

Please be advised that if project plans change or there are post-review discoveries the COE has additional responsibilities for this undertaking under 36 CFR Part 800. If you have any questions or comments, please contact Anmarie Medin at Anmarie.Medin@parks.ca.gov or (916) 445-7023.

Sincerely,

A handwritten signature in black ink, appearing to be 'J Polanco', with a long horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer