

AGENDA  
IRVINE RANCH WATER DISTRICT  
ENGINEERING AND OPERATIONS COMMITTEE MEETING  
TUESDAY, MARCH 19, 2024

This meeting will be held in-person at the District’s headquarters located at 15600 Sand Canyon Avenue, Irvine, California. The meeting will also be broadcasted via Webex for those wanting to observe the meeting virtually.

To observe this meeting virtually, please join online using the link and information below:

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=m12c2d09f23273d098775fe7f9f18c463>

Meeting Number (Access Code): 2490 411 5984

Meeting password: umNJx8abx23

PLEASE NOTE: Webex observers of the meeting will be placed into the Webex lobby when the Board enters closed session. Participants who remain in the “lobby” will automatically be returned to the open session of the Board once the closed session has concluded. Observers joining the meeting while the Board is in closed session will receive a notice that the meeting has been locked. They will be able to observe the meeting once the closed session has concluded.

CALL TO ORDER 1:30 p.m.

ATTENDANCE Committee Chair: Karen McLaughlin \_\_\_\_\_  
Committee Member: John Withers \_\_\_\_\_

ALSO PRESENT Paul Cook \_\_\_\_\_ Kevin Burton \_\_\_\_\_ Wendy Chambers \_\_\_\_\_  
Neveen Adly \_\_\_\_\_ Paul Weghorst \_\_\_\_\_ Steve Choi \_\_\_\_\_  
Jim Colston \_\_\_\_\_ Jason Manning \_\_\_\_\_ Jose Zepeda \_\_\_\_\_  
Rich Mori \_\_\_\_\_ Eric Akiyoshi \_\_\_\_\_ Malcolm Cortez \_\_\_\_\_  
Jacob Moeder \_\_\_\_\_ Harry Cho \_\_\_\_\_ Alex Murphy \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PUBLIC COMMENT NOTICE

If you wish to address the Committee on any item, please submit a request to speak via the “chat” feature available when joining the meeting virtually. Remarks are limited to three minutes per speaker on each subject. Public comments are limited to three minutes per speaker on each subject. You may also submit a public comment in advance of the meeting by emailing [comments@irwd.com](mailto:comments@irwd.com) before 9:00 a.m. on Tuesday, March 19, 2024.

---

## COMMUNICATIONS

---

1. Notes: Burton
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted and determine which items may be approved without discussion.

---

## INFORMATION

---

4. IRWD RESEARCH BUSINESS PLAN UPDATE – COLSTON / BURTON

Recommendation: Receive and file.

---

## ACTION

---

5. REHABILITATION OF IRWD WELL NOS. 76, 110R, 115R, AND DESTRUCTION OF WELL NOS. 72 AND 106 VARIANCE – SPANGENBERG / CORTEZ / BURTON

Recommendation: That the Board authorize the General Manager to execute Variance No. 1 in the amount of \$278,053 to Richard C. Slade and Associates, LLC to perform field monitoring services and prepare the summary of well rehabilitation and well destruction reports for the Rehabilitation of IRWD Well Nos. 76, 110R, 115R and the Destruction of Well Nos. 72 and 106, Projects 11137, 11846, 11847, and 12264.

6. MICHELSON WATER RECYCLING PLANT FUELING FACILITY CONTRACT CHANGE ORDER AND BUDGET INCREASE – OVCHARENKO / MORI / BURTON

Recommendation: That the Board approve Contract Change Order No. 4 in the amount of \$290,798.21 with Innovative Construction Solutions for work associated with the road widening and authorize budget increases in the amount of \$100,000, from \$4,176,000 to \$4,276,000 for Project 07881 and in the amount of \$200,000, from \$7,974,000 to \$8,174,000 for Project 07882.

---

**OTHER BUSINESS**

---

7. Directors' Comments

8. Adjournment

\*\*\*\*\*  
Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to [comments@irwd.com](mailto:comments@irwd.com). Requests made by mail must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.


(This page is intentionally blank)



March 19, 2024

Prepared by: J. Colston

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### IRWD RESEARCH BUSINESS PLAN UPDATE

#### SUMMARY:

Staff will provide an update on the research projects in which IRWD is currently involved.

#### BACKGROUND:

Periodically, IRWD receives requests to participate in various research projects pertaining to emerging technologies through either direct funding or dedication of in-kind staff resources. Guidelines were developed to assist staff with its evaluation and response to those requests. These guidelines were incorporated into the IRWD Research Business Plan, which also provides a tracking mechanism for the various requests and ongoing research projects and programs in which IRWD participates. The underlying purpose of the Research Business Plan is to ensure that IRWD's research resources are being prioritized and utilized effectively.

One of the components of the Research Business Plan is for staff to provide a status update on the research projects to the Engineering and Operations Committee on a quarterly basis. IRWD actively participates in the Technology Approval Group (TAG) sponsored by Isle Utilities. The TAG hosts numerous developing technology providers in order to match interested agencies with their technologies. A summary of the current research projects is attached as Exhibit "A".

The following is a summary of the changes since the previous quarterly report:

- Update: UCI Industry – University Research Center – Perfluorinated Compound Sources and Loading at Wastewater Treatment Plans – A Sewershed-Scale Analysis – Researchers are completing the final reports at this time, and they expect to complete the research by April 2024.
- Update: Biosolids Pellets Land Application Crop Study – The first manuscript from the research has been published, *A high-throughput analytical method for complex mixtures in biosolids*, (Environmental Pollution 345 (2024) 123517). The method was used to detect 44 different compounds in biosolids. The first published research focuses on the development of a new method to analyze biosolids. Researchers are currently reviewing the crop data while the studies continue. All the crop studies have been completed except for the trees, which require an extensive period of time. More biosolids pellets were requested to continue the tree growth studies. The crops that were grown and tested included radish, spinach, broccoli as well as peach, apple, and avocado trees. While not yet reported via manuscript, one significant finding from the research is that PFAS compounds were not found in the edible portions of the fruit and vegetables grown with biosolids pellets produced by IRWD.

- Update: Ammonia Monitoring at MWRP – On a recurring basis, IRWD operations staff will request discrete hourly monitoring for ammonia from the wastewater treatment process in order to optimize treatment. Water Quality, Regulatory Compliance, and Recycled Water Operations plan to test ammonia sensors to determine if more accurate and less time intensive monitoring may be completed via these sensors. Operations has completed physical installation of the test equipment at MWRP. During the initial calibration of the equipment, SCADA was receiving erroneous readings. Maintenance staff is working to get the equipment properly calibrated so that initial comparison studies may be completed.
- Update: UCI CDC Sponsored PFAS Epidemiological Study – UCI is conducting a Centers for Disease Control (CDC) sponsored study of health impacts from the public drinking potable water tainted with Per- and Poly-fluoroalkyl substances (PFAS). Due to localized PFAS contamination in some Orange County drinking water sources, the CDC is sponsoring research to determine potential public health effects. IRWD’s Irvine service area is seen as an ideal control population due to the lack of PFAS in IRWD’s served potable water. UCI has completed the study recruitment process. Although they did not achieve the targeted number of participants, the CDC has given them permission to proceed based on their current number of participants. Five of the six regional studies also did not achieve the targeted number of participants. All of the initial participant bloodwork and questionnaires have been completed, and the study has moved to the data analysis phase. There is currently a publication embargo on the data until approved by the CDC. Based on initial blood serum levels, the following recommendations to participants regarding medical care were made: 6% do not need further care; 89% are recommended to prioritize lipids, hypertensive disorders in pregnancy (HDP), and breast cancer screening; 5% need high-risk screening: lipids, thyroid function, kidney cancer, testicular cancer, and ulcerative colitis.
- Pending Approval: USEPA Program PFAS Update Study – The Water Research Foundation has requested support from IRWD for United States Environmental Protection Agency (USEPA) funded research on *Understanding PFAS Uptake and Bioaccumulation in Plant and Animals in Agricultural, Rural and Tribal Communities*. IRWD’s participation was specifically requested due to the use of recycled water for agricultural purposes in our service area. IRWD’s requested support is for participation in the Technical Advisory Committee and the planned Community Exchange and Listening Session. Response expected by April 2024.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit “A” – Research Projects Summary Table

(This page is intentionally blank)

## Exhibit "A"

### Research Projects Summary Table


No.	Project Title	Project Description	IRWD Contact	Organizations Involved	Type of Research	IRWD Participation Resource	Start Date	Projected Completion Date
1	UCI Industry-University Research Center-Perfluorinated Compound Sources and Loading at Wastewater Treatment Plants-A Sewershed-Scale Analysis	This project will develop and implement methodology for sewershed analysis to identify raw wastewater sources of PFAS.	Weghorst/ Colston	UCI Industry-University Research Center	Case study, data review, best practice analysis and technical report.	Staff time for review of reports, sharing information, and site analysis. Also providing automated sampling equipment.	Sep-20	Apr-24
2	Biosolids Pellets Land Application Crop Study	The primary goal is to determine if ~40-50 of the roughly 400 unregulated organic contaminants listed in the 'EPA contaminants in biosolids database' can be found in, or remain in, the edible portions of food and feed crops following land application at standard agronomic rates based on the nitrogen needs of the test crop.	Zepeda	UC Riverside/South Coast Research and Education Center in Irvine with funding by USEPA	Field study with laboratory analysis of biosolids and crops	Provide Class A biosolids pellets (approximately 1-2 tons of material)	Apr-22	Jul-24
3	Ammonia Monitoring at MWRP	Recycling Water Operations requires discrete hourly monitoring for ammonia from the wastewater treatment processes in order to optimize treatment. WQ&RC plans to test ammonia sensors to determine if more accurate and less time intensive monitoring may be completed via these	Colston	IRWD	Field demonstration of new equipment	Staff time to set-up, maintain and monitor the ammonia sensors.	Mar-23	Jun-24
4	UCI CDC Sponsored PFAS Epidemiological Study	UCI is conducting a Centers for Disease Control (CDC) sponsored study of health impacts from the public drinking potable water. Due to localized PFAS contamination in some Orange County drinking water sources, the CDC is sponsoring research to determine potential public health effects. IRWD's Irvine service area is seen as an ideal control population due to the lack of PFAS in IRWD's served potable water.	Colston	UCI, OCWD, IRWD, CDC	Epidemiological that seeks 1,000 adults and 300 children for blood serum level testing.	Assistance in determining historic sources of drinking water in IRWD's service area.	Jan-23	Aug-24

Note: This page is intentionally left blank.

March 19, 2024

Prepared by: C. Spangenberg / M. Cortez

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### REHABILITATION OF IRWD WELL NOS. 76, 110R, 115R AND DESTRUCTION OF WELL NOS. 72 AND 106 VARIANCE

#### SUMMARY:

IRWD Well Nos. 76, 110R, and 115R have experienced reduced groundwater production rates and specific capacity due to significant biological and inorganic fouling and need rehabilitation. Well Nos. 72 and 106 are old irrigation wells and have reached the end of their useful life. This project to complete the rehabilitation of the three wells and destruction of the two wells was advertised for construction bidding in February 2024; a recommendation for construction award will be presented to the Board on March 25, 2024. Hydrogeological engineering services are required for the contractor's activities, and staff is recommending that the Board authorize the General Manager to execute Variance No. 1 in the amount of \$278,053 with Richard C. Slade and Associates, LLC to perform field monitoring services and prepare the summary of well rehabilitation and well destruction reports for this project.

#### BACKGROUND:

IRWD Well Nos. 76, 110R, and 115R require rehabilitation to remove biological build-up and scale from the wells, which will improve their hydraulic performance. Well Nos. 76 and 110R are in Irvine, and Well No. 115R is in Tustin. Well Nos. 72 and 106 are very old; both wells will be taken out of the IRWD groundwater production system and destroyed per California State requirements. A location map for all five wells is provided as Exhibit "A". The following is a summary of each well and the work to be performed:

- *Well No. 76* was constructed in 2003. Its specific capacity has decreased from its original 2 gallons per minute per foot of drawdown (gpm/ft-dd) to the current specific capacity of 1.4 gpm/ft-dd. The decreased specific capacity can be attributed to heavy buildup of biological fouling and encrustation within the gravel pack and casing, as verified in a recent downhole video of the well. The original pumping rate was 500 gpm, and the latest recorded pumping rate was 300 gpm. Rehabilitation of this well will include brushing its stainless-steel casing, bailing, and extensive pumping development.
- *Well No. 110R* was constructed in 2003. Its specific capacity has dropped from 8 gpm/ft-dd to 6.4 gpm/ft-dd, with the production remaining at approximately 1,000 gpm. This well has also experienced similar biological fouling and encrustation buildup within the gravel pack and casing. Rehabilitation of this well includes brushing its stainless-steel casing, bailing, chemical, mechanical, and pumping development.
- *Well No. 115R* was constructed in 2013. Its specific capacity has decreased from its original 12 gpm/ft-dd to 7 gpm/ft-dd, due to heavy biological fouling and encrustation buildup within the gravel pack. The well is so severely fouled that pump water levels have dropped below the pump intake level, resulting in damage to the pump. The well is currently out of service pending the completion of the proposed rehabilitation efforts.

The well rehabilitation will include brushing its stainless-steel casing, chemical, mechanical, and pumping development to restore the capacity of the well.

- *Well No. 72* is 95 years old and has been offline since 2021. Its most recent production levels were less than 100 gpm, making it an unproductive well for IRWD to operate. IRWD's hydrogeologist Richard C. Slade and Associates recommends the destruction of this well, along with its associated above-grade facilities.
- *Well No. 106* is 57 years old. The well casing is in poor condition, resulting in damage to multiple pumps. In addition, the water produced has high color, odor, and temperature. IRWD's hydrogeologist Richard C. Slade and Associates recommends the destruction of this well, along with its associated above-grade facilities.

Variance No. 1 to Richard C. Slade and Associates:

Under its current professional services agreement, Richard C. Slade and Associates provided design services for the preparation of the bid documents and providing engineering support during the bid process. Variance No. 1 in the amount of \$278,053 is required for field monitoring and documentation of the rehabilitation work and preparation of the summary of rehabilitation and well destruction reports. Staff completed a review of the costs and find the level of effort and costs to be consistent with recent well rehabilitation projects. Variance No. 1 is provided as Exhibit "B".

FISCAL IMPACTS:

Rehabilitation of IRWD Well Nos. 76, 110R, 115R and destruction of Well Nos. 72 and 106, Projects 11137, 11846, 11847, and 12264 are included in the Fiscal Year 2023-24 Capital Budget. Sufficient funds exist to complete this phase of the work.

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act (CEQA) as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301, which provides an exemption for operation, repair, maintenance, permitting, leasing, licensing, or minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. A Notice of Exempt (NOE) will be filed with the Orange County Recorder.

RECOMMENDATION:

That the Board authorize the General Manager to execute Variance No. 1 in the amount of \$278,053 to Richard C. Slade and Associates, LLC to perform field monitoring services and prepare the summary of well rehabilitation and well destruction reports for the Rehabilitation of IRWD Well Nos. 76, 110R, 115R, and the Destruction of Well Nos. 72 and 106, Projects 11137, 11846, 11847, and 12264.



Engineering and Operations Committee: Rehabilitation of IRWD Well Nos. 76, 110R, and 115R  
and Destruction of Well Nos. 72 and 106 Variance

March 19, 2024

Page 3

LIST OF EXHIBITS:

Exhibit "A" – Project Location Map

Exhibit "B" – Variance No. 1 to Richard C. Slade Associates

(This page is intentionally blank)



EXHIBIT "A"



LEGEND

IRWD Well Location



FIGURE 1  
WELL LOCATION MAP  
IRWD WELL NOS.  
72, 76, 106, 110R, & 115R



Note: This page is intentionally left blank.

# IRVINE RANCH WATER DISTRICT PROFESSIONAL SERVICES VARIANCE

Project Title: Current Well Rehabilitation Project for Well Nos. 76, 110R, & 115R, and  
the Destruction of Well Nos. 72 & 106

Project No.: PR 11137, 11846, 11847, & 11264

Date: 2/20/2024

Purchase Order No.: 637033

Variance No.: 1

Originator:      IRWD      ENGINEER/CONSULTANT      Other (Explain) \_\_\_\_\_

Description of Variance (*attach any back-up material*):

Updated costs to perform field monitoring and reporting for the rehabilitation of Well Nos. 76, 110R, and 115R, and the destruction of Well Nos. 72 and 106.

Engineering & Management Cost Impact:

Classification	Personnel Hours	Billing Rate	Labor \$	Direct Costs	Subcon. \$	Total \$
President	43	\$318	\$13,674	\$0		\$13,674
Principal Groundwater Geologist	60	\$272	\$16,320	\$0		\$16,320
Senior Groundwater Geologist	0	\$234	\$0	\$0		\$0
Staff Groundwater Geologist	490	\$202	\$98,980	\$0		\$98,980
Field Groundwater Geologist	976	\$135	\$131,760	\$13,017		\$144,777
Clerical	18	\$104	\$1,872	\$2,430		\$4,302
					<b>Total \$ =</b>	<b>\$278,053</b>

Schedule Impact:


Task No.	Task Description	Original Schedule	Schedule Variance	New Schedule
3	Well Rehabilitation Field Monitoring	NA	18 months	September 30, 2025
4	Well Destruction Field Monitoring	NA	18 months	September 30, 2025
5	Rehabilitation Reporting	NA	18 months	September 30, 2025
6	Destruction Reporting	NA	18 months	September 30, 2025

Required Approval Determination:

Total Original Contract	\$25,500	<input type="checkbox"/> Director: Cumulative total of Variances less than or equal to \$75,000.
Previous Variances \$0		
This Variance	\$278,053	<input type="checkbox"/> Executive Director: Cumulative total of Variances less than or equal to \$125,000.
Total Sum of Variances	\$278,053	<input type="checkbox"/> General Manager: Cumulative total of Variances less than or equal to \$200,000.
New Contract Amount	\$303,553	<input checked="" type="checkbox"/> Board: Cumulative total of Variances greater than \$200,000.
Percentage of Total Variances to Original Contract	1,090%	

ENGINEER/CONSULTANT: RCS & Associates LLC  
Company Name

IRVINE RANCH WATER DISTRICT

  
Project Engineer/Manager     2/20/2024  
Date

  
Department Director     3/4/24  
Date

\_\_\_\_\_  
Engineer's/Consultant's Management     Date

\_\_\_\_\_  
General Manager/Board     Date

# IRVINE RANCH WATER DISTRICT

## PROFESSIONAL SERVICES VARIANCE REGISTER

Project Title: Current Well Rehabilitation Project for Well Nos. 76, 110R, & 115R, and  
the Destruction of Well Nos. 72 & 106

Project No.: 11137, 11846, 11847, & 11264

Project Manager: Carl Spangenberg

Variance No.	Description	Dates		Variance Amount
		Initiated	Approved	
1	Rehabilitation of Well Nos. 76, 110R, & 115R, and Destruction of Well Nos. 72 & 106	2/20/2024		\$278,053



February 20, 2024

Mr. Carl Spangenberg, PE  
Irvine Ranch Water District  
P.O. Box 57000  
Irvine, California 92619-2016  
Via email: spangen@IRWD.com

RE: Budget Variance Request (BVR) No. 1  
Current Well Rehabilitation Project for  
Well Nos. 76, 110R, & 115R, and  
The Destruction of Well Nos. 72 & 106  
Irvine Ranch Water District (IRWD)  
IRWD PR 11137, 11846, 11847, & 11264

RCS Job No. 382-OGE27

Dear Mr. Spangenberg:

This letter is our formal Budget Variance Request No. 1 (BVR-1) for additional funds to augment those already approved by IRWD with regard to the release of funds prior to the start of field monitoring and reporting services for the rehabilitation of IRWD Well Nos. 76, 110R, and 115R, and for the permanent destruction of IRWD Well Nos. 72 and 106. This work will consist of the following tasks:

- Well Rehabilitation activities at Well Nos. 76, 110R, and 115R will require hydrogeologic field and office time for field monitoring (Task 3) and subsequent reporting services (Task 5). See Tables 1 and 2 for a breakdown of the RCS personnel hours and expenses for field monitoring and reporting services for Well Nos. 76, 110R, and 115R.
- Well destruction activities at Well Nos. 72 and 106 will require hydrogeologic field and office time for field monitoring (Task 4) and subsequent reporting services (Task 6). See Tables 1 and 3 for a breakdown of the RCS personnel hours and expenses for field monitoring and reporting services for Well Nos. 72 and 106.

Thus, for this BVR-1, RCS is requesting additional funds for the costs associated with the above listed tasks for the rehabilitation of Well Nos. 76, 110R, and 115R, and for the permanent destruction of Well Nos. 72 and 106, as follows:



Well Nos. 76, 110R, & 115R –Well Rehabilitation Field Monitoring and Reporting, Tasks 3 and 5  
 (see also Tables 1 & 2):

Project Staff	Expended Hours	Per Hour Rate	Total Cost
President	32	\$318	\$10,176
Principal Groundwater Geologist	45	\$272	\$12,240
Staff Groundwater Geologist	390	\$202	\$78,780
Field Groundwater Geologist	824	\$135	\$111,240
Clerical	12	\$104	\$1,248
Estimated Expenses:			\$12,743
<b>TOTAL:</b>			<b>\$226,427</b>

Well Nos. 72 & 106 –Well Destruction Field Monitoring and Reporting, Tasks 4 and 6 (see also  
 Tables 1 & 3):

Project Staff	Estimated Hours	Per Hour Rate	Total Cost
President	11	\$318	\$3,498
Principal Groundwater Geologist	15	\$272	\$4,080
Staff Groundwater Geologist	100	\$202	\$20,200
Field Groundwater Geologist	152	\$135	\$20,520
Clerical	6	\$104	\$624
Estimated Expenses:			\$2,704
<b>TOTAL:</b>			<b>\$51,626</b>

The total RCS cost for each listed task above is **\$278,053**. Thus, based on the above-tabulated values, RCS is seeking to increase the prior budget of \$25,500 for the preparation of the Project Manual (Task 1) and Bid-Phase Support Services (Task 2) by the above amount to a new total of **\$303,553**. This new total represents the sum of the original budget and this budget variance for the rehabilitation of Well Nos. 76, 110R, and 115R, and for the permanent destruction of Well Nos. 72 and 106. Attached are the IRWD variance request forms documenting the requested variance increase. We look forward to receiving word from you on this matter. Should you have any questions regarding this variance letter, please call or contact us via e-mail. Thank you.

Respectfully Submitted,  
 RICHARD C. SLADE & ASSOCIATES LLC

Richard C. Slade, President and  
 Principal Groundwater Geologist

Attachments: IRWD Exhibit C, Professional Services Variance Form



**TABLE 1  
RCS PERSONNEL-HOUR AND COST ESTIMATE DETAIL  
FOR THE REHABILITATION OF IRWD WELL NOS. 76, 110R, & 115R, AND  
FOR THE DESTRUCTION OF IRWD WELL NOS. 72 & 106  
FEBRUARY 2024**

TASK LISTING	PRESIDENT		PRINCIPAL GROUNDWATER GEOLOGIST		SENIOR GROUNDWATER GEOLOGIST		STAFF GROUNDWATER GEOLOGIST		FIELD GROUNDWATER GEOLOGIST		CLERICAL PERSONNEL		SUBTOTAL RCS STAFF FEES	TOTAL PERSONNEL- HOURS	TOTAL EXPENSES	TOTAL TASK FEES
	BILLING RATES, HOURS AND FEES															
	\$318		\$272		\$234		\$202		\$135		\$104					
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST				
TASK 3 Field Monitoring of Well Rehabilitation Operations (Wells 76, 110R, & 115R)	20	\$6,360	33	\$8,976	0	\$0	150	\$30,300	824	\$111,240	0	\$0	\$156,876	994	\$11,022	\$167,898
TASK 4 Field Monitoring of Well Destruction Operations (Wells 72 & 106)	5	\$1,590	9	\$2,448	0	\$0	20	\$4,040	152	\$20,520	0	\$0	\$28,598	186	\$1,995	\$30,593
Task 5 Summary of Well Rehabilitation Operations Report (Wells 76, 110R, & 115R)	12	\$3,816	12	\$3,264	0	\$0	240	\$48,480	0	\$0	12	\$1,248	\$56,808	276	\$1,721	\$58,529
Task 6 Summary of Well Destruction Operations Report (Wells 72 & 106)	6	\$1,908	6	\$1,632	0	\$0	80	\$16,160	0	\$0	6	\$624	\$20,324	98	\$709	\$21,033
<b>TOTAL FEES FOR RCS SERVICES:</b>	<b>43</b>	<b>\$13,674</b>	<b>60</b>	<b>\$16,320</b>	<b>0</b>	<b>\$0</b>	<b>490</b>	<b>\$98,980</b>	<b>976</b>	<b>\$131,760</b>	<b>18</b>	<b>\$1,872</b>	<b>\$262,606</b>	<b>1,554</b>	<b>\$15,447</b>	<b>\$278,053</b>

IRWD Well Nos. 72, 76, 106, 110R, and 115R  
Rehabilitation/Destruction  
RCS Job No. 382-OGE27  
February 2024

**TABLE 2  
RCS PERSONNEL-HOUR AND COST ESTIMATE DETAIL - TASK 3 FIELD SERVICES ONLY  
FOR THE REHABILITATION OF IRWD WELL NOS. 76, 110R, & 115R  
FEBRUARY 2024**

TASK 3 SUBTASK LISTING	PRESIDENT		PRINCIPAL GROUNDWATER GEOLOGIST		SENIOR GROUNDWATER GEOLOGIST		STAFF GROUNDWATER GEOLOGIST		FIELD GROUNDWATER GEOLOGIST		CLERICAL PERSONNEL		TOTAL PERSONNEL-HOURS	TOTAL SUBTASK COST		
	BILLING RATES, HOURS AND COSTS															
	\$318		\$272		\$234		\$202		\$135		\$104					
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST				
<b>TASK 3</b>	<b>Field Monitoring of Well Rehabilitation Operations</b>															
Subtask 3.1	Downwell Video Surveys	6	\$1,908	9	\$2,448	0	\$0	18	\$3,636	72	\$9,720	0	\$0	105	\$17,712	
Subtask 3.2	Initial Chemical Injection, Brushing, & Bailing	0	\$0		\$0	0	\$0	20	\$4,040	120	\$16,200	0	\$0	140	\$20,240	
Subtask 3.3	"Air-Jetting" (Wells 110R & 115R only)	0	\$0	2	\$544	0	\$0	2	\$404	20	\$2,700	0	\$0	24	\$3,648	
Subtask 3.4	Chemical Treatment (Wells 110R & 115R only)	2	\$636	4	\$1,088	0	\$0	20	\$4,040	120	\$16,200	0.0	\$0	146	\$21,964	
Subtask 3.5	Mechanical Redevelopment (Wells 110R & 115R only)	2	\$636	4	\$1,088	0	\$0	30	\$6,060	300	\$40,500	0.0	\$0	336	\$48,284	
Subtask 3.6	Pumping Redevelopment	2	\$636	4	\$1,088	0	\$0	24	\$4,848	72	\$9,720	0.0	\$0	102	\$16,292	
Subtask 3.7	Pumping Tests	4	\$1,272	6	\$1,632	0	\$0	24	\$4,848	72	\$9,720	0.0	\$0	106	\$17,472	
Subtask 3.8	Final Video Survey, Static Spinner Survey & Well Disinfection	4	\$1,272	4	\$1,088	0	\$0	12	\$2,424	48	\$6,480	0.0	\$0	68	\$11,264	
<b>Task 3 Subtotals:</b>		<b>20</b>	<b>\$6,360</b>	<b>33</b>	<b>\$8,976</b>	<b>0</b>	<b>\$0</b>	<b>150</b>	<b>\$30,300</b>	<b>824</b>	<b>\$111,240</b>	<b>0</b>	<b>\$0</b>	<b>1,027</b>	<b>\$156,876</b>	
														<b>TOTAL EXPENSES&gt;</b>		<b>\$11,022</b>
														<b>ESTIMATED TOTAL COSTS, RCS STAFF ONLY SERVICES&gt;</b>		<b>\$167,898</b>

IRWD Well Nos. 72, 76, 106, 110R, and 115R  
Rehabilitation/Destruction  
RCS Job No. 382-OGE27  
February 2024

**TABLE 3  
RCS PERSONNEL-HOUR AND COST ESTIMATE DETAIL - TASK 4 FIELD SERVICES ONLY  
FOR THE DESTRUCTION OF IRWD WELLS 72 & 106  
FEBRUARY 2024**

TASK 3 SUBTASK LISTING	PRESIDENT		PRINCIPAL GROUNDWATER GEOLOGIST		SENIOR GROUNDWATER GEOLOGIST		STAFF GROUNDWATER GEOLOGIST		FIELD GROUNDWATER GEOLOGIST		CLERICAL PERSONNEL		TOTAL PERSONNEL-HOURS	TOTAL SUBTASK COST		
	BILLING RATES, HOURS AND COSTS															
	\$318		\$272		\$234		\$202		\$135		\$104					
	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST	HOURS	COST				
<b>TASK 4</b>	<b>Field Monitoring of Well Destruction Operations</b>															
Subtask 4.1	Initial Downwell Video	1	\$318	1	\$272	0	\$0	4	\$808	16	\$2,160	0	\$0	22	\$3,558	
Subtask 4.2	Brushing & Bailing	0	\$0	2	\$544	0	\$0	6	\$1,212	60	\$8,100	0	\$0	68	\$9,856	
Subtask 4.3	Shot Perforation of Existing Casing & Well Sealing	2	\$636	4	\$1,088	0	\$0	6	\$1,212	60	\$8,100	0	\$0	72	\$11,036	
Subtask 4.4	Installation of Mushroom Cap	2	\$636	2	\$544	0	\$0	4	\$808	16	\$2,160	0	\$0	24	\$4,148	
<b>Task 4 Subtotals:</b>		<b>5</b>	<b>\$1,590</b>	<b>9</b>	<b>\$2,448</b>	<b>0</b>	<b>\$0</b>	<b>20</b>	<b>\$4,040</b>	<b>152</b>	<b>\$20,520</b>	<b>0</b>	<b>\$0</b>	<b>186</b>	<b>\$28,598</b>	
														<b>TOTAL EXPENSES&gt;</b>		<b>\$1,995</b>
														<b>ESTIMATED TOTAL COSTS, RCS STAFF ONLY SERVICES&gt;</b>		<b>\$30,593</b>


IRWD Well Nos. 72, 76, 106, 110R, and 115R  
Rehabilitation/Destruction  
RCS Job No. 382-OGE27  
February 2024

Note: This page is intentionally left blank.

March 19, 2024

Prepared by: R. Ovcharenko / R. Mori

Submitted by: K. Burton

Approved by: Paul A. Cook 

## ENGINEERING AND OPERATIONS COMMITTEE

### MICHELSON WATER RECYCLING PLANT FUELING FACILITY CONTRACT CHANGE ORDER AND BUDGET INCREASE

#### SUMMARY:

Innovative Construction Solutions (ICS) is constructing the Michelson Water Recycling Plant (MWRP) Fueling Facility. As part of the project, ICS is replacing the perimeter roadway adjacent to the new fueling facility. After ICS installed the curb and gutter adjacent to the new fueling facility, staff identified the benefits of additional space between the fueling lanes and the adjacent driving lanes. ICS prepared a change order to widen the new road from 40 feet to 50 feet, and staff recommends that the Board:

- Approve Contract Change Order No. 4 in the amount of \$290,798.21 for work associated with the road widening, and
- Authorize budget increases in the amount of \$100,000 and \$200,000 for the MWRP Fueling Facility, Projects 07881 and 07882, respectively.

#### BACKGROUND:

The MWRP Fueling Facility project will construct a compressed natural gas fueling facility, replace the existing diesel and gasoline fueling systems at MWRP, and install an additional diesel storage tank to increase the storage capacity to provide for three days of emergency diesel fuel use. The project also includes constructing the MWRP perimeter road, which will provide access to IRWD's facilities – even when the flood protection boards are in place. ICS has completed a portion of the perimeter road as well as the emergency access road and is currently working on installing conduits at the new fueling facility. Construction completion is anticipated in May 2025. The project location map is provided as Exhibit "A".

#### Contract Change Order No. 4:

The project includes the construction of a roadway adjacent to the fueling facility. ICS installed the curb and gutter for the new roadway as well as the concrete fueling lane. The roadway was designed with a 12-foot wide fueling lane and two additional 12-foot wide driving lanes, resulting in a curb-to-curb road width of 40-feet. When fueling vehicles, staff will park in a designated fueling lane, directly adjacent to driving lanes.

To provide additional space between the fueling lane and the adjacent driving lanes, staff requested a change order from ICS to widen the road from 40 feet to 50 feet. The additional road width would provide additional buffer space between the fueling and driving lanes. The design engineer, AECOM, modified the roadway design to increase the width of the fuel lane from 12 feet to 18 feet and the two adjacent driving lanes from 12 feet to 14 feet resulting in a total roadway width of 50 feet.

ICS submitted a change order request for the widening of the roadway in the amount of \$290,798.21. The change order request includes the additional labor, materials, and equipment to widen about 450 feet of the roadway by an additional 10 feet. The cost also includes the demolition and replacement of the curb and gutter that was already placed and installation of additional traffic control.

Staff reviewed the change order, shown as Exhibit “B”, and recommends Board approval of Contract Change Order No. 4 in the amount of \$290,798.21. The construction change order summary for the project is provided as Exhibit “C”.

FISCAL IMPACTS:

Projects 07881 and 07882 for the MWRP Fueling Facility are included in the FY 2023-24 Capital Budget. Budget adjustments are required as shown in the following table to fund Contract Change Order No. 4.

Project No.	Current Budget	Addition <Reduction>	Total Budget
07881	\$4,176,000	\$100,000	\$4,276,000
07882	\$7,974,000	\$200,000	\$8,174,000
Total	\$12,150,000	\$300,000	\$12,450,000

ENVIRONMENTAL COMPLIANCE:

This project is exempt from the California Environmental Quality Act as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15301 and Section 15303. Section 15301 provides an exemption for minor alterations of existing public or private structures, facilities, mechanical equipment, or topographical features involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. Section 15303 provides exemption for the construction and location of new, small facilities or structures, and new small equipment within the small facilities or structures. A Notice of Exemption for the project was filed with the Orange County Clerk-Recorder on July 26, 2018.

RECOMMENDATION:

That the Board approve Contract Change Order No. 4 in the amount of \$290,798.21 with Innovative Construction Solutions for work associated with the road widening and authorize budget increases in the amount of \$100,000, from \$4,176,000 to \$4,276,000 for Project 07881 and in the amount of \$200,000, from \$7,974,000 to \$8,174,000 for Project 07882.

LIST OF EXHIBITS:

- Exhibit “A” – Location Map
- Exhibit “B” – Contract Change Order No. 4 with Innovative Construction Solutions
- Exhibit “C” – Construction Change Order Summary



# EXHIBIT A – PROJECT SITE PLAN

## MICHELSON WATER RECYCLING PLANT FUELING FACILITY



(This page is intentionally blank)



**EXHIBIT "B"**  
**CONTRACT CHANGE ORDER**



**Irvine Ranch Water District**

15600 Sand Canyon Avenue  
P.O. Box 57000  
Irvine, CA 92619-7000  
(949) 453-5300

C.O. No. 4

Final

Project No. 07881 & 07882

**Michelson Water Recycling Plant Fueling Facility**

Project Title

Date: 3/13/2024

THE FOLLOWING CHANGE TO CONTRACT, DRAWINGS AND SPECIFICATIONS IS PROPOSED.	\$ ADDITIONS	\$ DELETIONS	DAYS ±
1. Change Request No. 5 - Roadway Widening	\$ 290,798.21	\$ -	0
Contract Completion Date: May 2, 2024			
<b>TOTAL</b>	<b>\$ 290,798.21</b>	<b>\$ -</b>	<b>0</b>

DAYS ±

1. NET AMOUNT THIS CHANGE ORDER	= \$	290,798.21	0
2. ORIGINAL CONTRACT AMOUNT	= \$	9,547,000.00	520
3. TOTAL PREVIOUS CHANGE ORDER(S)	= \$	156,021.57	0
4. TOTAL BEFORE THIS CHANGE ORDER (2+3)	= \$	9,703,021.57	520
5. PROPOSED REVISED CONTRACT AMOUNT TO DATE (1+4)	= \$	9,993,819.78	520

We hereby agree to make the above change subject to the terms of this change order for the sum of: \_\_\_\_\_

Two Hundred Ninety Thousand Seven Hundred Ninety-Eight and 21/100 ----- Dollars

03/13/2024

Innovative Construction Solutions

*Samuel Veatch*

Date

Contractor

By:

SIGNATURE	DATE	APPROVAL LEVEL REQUIRED
<i>Rachael L. Ovcharenko</i>	<u>3/13/2024</u>	Department Director Approval Required <input type="checkbox"/> Executive Director Approval Required <input type="checkbox"/> General Manager Approval Required <input type="checkbox"/> Board Approval Required <input checked="" type="checkbox"/>
IRWD Engineer or Consulting Engineer	Date	
<i>R Mori</i>	<u>03/13/2024</u>	
Engineering Manager	Date	
<i>Kevin L Burton</i>	<u>3/13/24</u>	633726 Purchase Order No.
Executive Director of Technical Services	Date	
General Manager	Date	

NOTE: The documents supporting this Change Order, including any drawings and estimates of cost, if required are attached hereto and made a part hereof. This Change Order shall not be considered as such until it has been signed by the Owner and the Contractor. Upon final approval, distribution of copies will be made as required. The parties mutually agree the pricing set forth in this Change Order are complete and fair compensation for the entirety of the work authorized under this Change Order and that no additional compensation is warranted nor shall it be allowed.

CHANGES: All workmanship and materials called for by this Change Order shall be fully in accord with the original Contract Documents insofar as the same may be applied without conflict to the conditions set forth by this Change Order. The time for completing the contract will not be extended unless expressly provided for in this Change Order.

# Table of Contents

3	Construction Schedule
5	Change Order Pricing Breakdown
10	Material Pricing
17	Subcontractor Pricing
25	Revised Plan Sheets

# Construction Schedule



Item	Description	Responsibility	WEEK 1					WEEK 2					WEEK 3					WEEK 4					WEEK 5					NOTES		
			SU	M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU	M	T	W		TH	F
<b>IRWD Michelson Fueling Facility</b>																														
1	Set Up Traffic Control	ICS		W																										
2	Relocate Snow Fencing and Signage	ICS		W																										
3	Sawcut Asphalt	Graham Crackers		W																										
4	Demo Asphalt and Curb/Gutter and Haul offsite	Graham Crackers			W	W																								
5	Demobilize	Graham Crackers				W																								
6	Survey New Curb/Gutter Limits	Borchard					W																							Put new survey on existing asphalt south of roadway.
7	Excavate Trench for Pullbox Relocation	ICS			W	W																								
8	Bed/Install Conduit	ICS/HCI					W	W																						
9	Conduit Inspection	IRWD									I																			
10	Backfill Conduit and Install Boxes	ICS/HCI									W	W																		
11	Excavate Roadway to 27" Below FG and haul off soil	ICS					W				W	W	W	W																
12	Hand Dig around utilities (slower production)	ICS									W		W																	
13	Scarify and Recompact Subgrade	ICS											W	W																
14	Test Subgrade	NMG											W	W																
15	Import / Place / Compact New Base	Regan Paving														W	W	W												
16	Test Base	NMG														W	W	W												
17	Finegrade Base	Regan Paving																	W	W										
18	Form/Pour/Strip Curb and Gutter	Regan Paving																	W	W	P	W	P							
19	Asphalt Paving Plant Roadway and Widening	Regan Paving																						P	P	P				
20	Traffic on New Plant Roadway (during cross gutter rework)	IRWD																								W	W	W		
21	Demo Cross Gutter Closest to Gate 2	Graham Crackers																								W				
22	Form/Pour/Strip Cross Gutter Closest to Gate 2	Regan Paving																										P		
23	Pave back to new Cross Gutter Closest to Gate 2	Regan Paving																											P	
24	Remove Traffic Control	ICS																										W		

W = Work  
 WW = Double Shift  
 I = Inspection Required  
 NW = Night Work  
 P = Concrete Placement  
 S = Shutdown

# Change Order Pricing Breakdown

<u>CATEGORY</u>	<u>COST</u>	<u>MARKUP</u>	<u>TOTAL</u>
LABOR	\$ 66,137.49	15%	\$ 76,058.11
EQUIPMENT	\$ 37,265.58	15%	\$ 42,855.42
MATERIALS	\$ 3,815.47	15%	\$ 4,387.79
SUBCONTRACTORS	\$ 154,874.00	5%	\$ 162,617.70
STC Allowance (2% Yellow Highlighted Cells, Max \$2,000) - Reference GP 14.8	\$ 2,000.00	0%	\$ 2,000.00
SUBTOTAL			\$ 287,919.02
BOND (1% SUBTOTAL)			\$ 2,879.19
<b>TOTAL</b>			\$ 290,798.21

**IRWD Michelson WRP Fueling Facility - Roadway Widening Change Order**

	Item	Hours	Crew	Total Hrs	Rate	Cost	MU %	Cost w/ MU	Notes	
<b>LABOR</b>	<b>Electrical Pull Box Relocation (3 EA)</b>									
	1	Remove base for trench and spoil to side	3	2	6	\$ 101.53	\$ 609.15	15%	\$ 700.52	Composite Rate - 1 Laborer; 1 Operator
	2	Excavate trench for new conduits	6	2	12	\$ 101.53	\$ 1,218.30	15%	\$ 1,401.05	Composite Rate - 1 Laborer; 1 Operator
	3	Haul dirt to stockpile	3	1	3	\$ 114.36	\$ 343.08	15%	\$ 394.54	1 Operator
	4	Place and compact sand bedding	8	2	16	\$ 101.53	\$ 1,624.40	15%	\$ 1,868.06	Composite Rate - 1 Laborer; 1 Operator
	5	Backfill trench zone with sand	8	2	16	\$ 101.53	\$ 1,624.40	15%	\$ 1,868.06	Composite Rate - 1 Laborer; 1 Operator
	6	Replace and compact base	8	2	16	\$ 101.53	\$ 1,624.40	15%	\$ 1,868.06	Composite Rate - 1 Laborer; 1 Operator
	7	Foreman Supervision (1/4 time)	9	1	9	\$ 115.12	\$ 1,036.08	15%	\$ 1,191.49	
	<b>Snow Fencing Relocation and Traffic Control</b>									
	8	Remove existing snow fence, caution tape, and T Posts	4	2	8	\$ 88.69	\$ 709.52	15%	\$ 815.95	2 Laborers
	9	Install new delineators, snow fence, sand bags, and traffic control devices	6	2	12	\$ 88.69	\$ 1,064.28	15%	\$ 1,223.92	2 Laborers
	10	Relocate delineators, snow fence, and sand bags after paving. Remove traffic control devices.	6	2	12	\$ 88.69	\$ 1,064.28	15%	\$ 1,223.92	2 Laborers
	11	Foreman Supervision (1/4 time)	4	1	4	\$ 115.12	\$ 460.48	15%	\$ 529.55	
	<b>Subcontractor Support</b>									
	12	Gate Opener/Truck Supervisor for Trucks During Import/Export	72	1	72	\$ 88.69	\$ 6,385.68	15%	\$ 7,343.53	1 Laborer
	13	Water Truck During Demo, Base Placement, Asphalt Placement	72	1	72	\$ 88.69	\$ 6,385.68	15%	\$ 7,343.53	1 Laborer
	14	Street Sweeping During Demo, Base Haul, and Paving	44	2	88	\$ 88.69	\$ 7,804.72	15%	\$ 8,975.43	2 Laborer - 4 hours/day - 1 sweeper, 1 by hand
	15	Foreman Supervision (1/4 time)	24	1	24	\$ 115.12	\$ 2,762.88	15%	\$ 3,177.31	
	<b>Roadway Excavation</b>									
	16	Excavate Roadway 27" below FG	40	3	120	\$ 97.25	\$ 11,669.60	15%	\$ 13,420.04	Composite Rate - 2 Laborer; 1 Operator
	17	Hand Dig Around Utilities	16	2	32	\$ 88.69	\$ 2,838.08	15%	\$ 3,263.79	2 Laborers
18	Scarify and Recompact Subgrade	16	3	48	\$ 105.80	\$ 5,078.56	15%	\$ 5,840.34	Composite Rate - 1 Laborer; 2 Operator	
19	Water Truck During Excavation and Recompanction	48	1	48	\$ 88.69	\$ 4,257.12	15%	\$ 4,895.69	1 Laborer - half time during compaction	
20	Sweep Plant Roadway and Riparian	20	2	40	\$ 88.69	\$ 3,547.60	15%	\$ 4,079.74	2 Laborer - 4 hours/day - 1 sweeper, 1 by hand	
21	Foreman Supervision (1/4 time)	35	1	35	\$ 115.12	\$ 4,029.20	15%	\$ 4,633.58		

	Item	Hours	Qty	Total Hrs	Rate	Cost	MU %	Cost w/ MU	Notes	
<b>EQUIPMENT</b>	<b>Electrical Pull Box Relocation (3 EA)</b>									
	1	710 Backhoe	28	1	28	\$ 98.14	\$ 2,747.92	15%	\$ 3,160.11	
	2	Jumping Jack	16	1	16	\$ 5.21	\$ 83.36	15%	\$ 95.86	
	3	Compaction Wheel for Backhoe	8	1	8	\$ -	\$ -	15%	\$ -	No charge included here
	4	2000 Gallon Water Truck	18	1	18	\$ 57.71	\$ 1,038.78	15%	\$ 1,194.60	
	5	Foreman Truck	9	1	9	\$ 42.39	\$ 381.51	15%	\$ 438.74	
	6	Equipment Mobilization/Demobilization	2	1	2	\$ 250.00	\$ 500.00	15%	\$ 575.00	Compaction Wheel delivery/pickup
	<b>Snow Fencing Relocation</b>									
	7	Foreman Truck	4	1	4	\$ 42.39	\$ 169.56	15%	\$ 194.99	
	<b>Subcontractor Support</b>									
	8	2000 Gallon Water Truck	72	1	72	\$ 57.71	\$ 4,155.12	15%	\$ 4,778.39	
	9	Street Sweeper	44	1	44	\$ 128.65	\$ 5,660.60	15%	\$ 6,509.69	
	10	Foreman Truck	24	1	24	\$ 42.39	\$ 1,017.36	15%	\$ 1,169.96	
	<b>Roadway Excavation</b>									
	11	60k Excavator	48	1	48	\$ 191.06	\$ 9,170.88	15%	\$ 10,546.51	
	12	84" Sheepsfoot Roller	16	1	16	\$ 94.61	\$ 1,513.76	15%	\$ 1,740.82	
13	Equipment Mobilization/Demobilization	4	1	4	\$ 1,000.00	\$ 4,000.00	15%	\$ 4,600.00	Excavator and Roller delivery/pickup	
14	2000 Gallon Water Truck	48	1	48	\$ 57.71	\$ 2,770.08	15%	\$ 3,185.59		
15	Street Sweeper	20	1	20	\$ 128.65	\$ 2,573.00	15%	\$ 2,958.95		
16	Foreman Truck	35	1	35	\$ 42.39	\$ 1,483.65	15%	\$ 1,706.20		



	Item	QTY	Unit Price	Extended Price	Tax	Cost	MU %	Cost w/MU	Notes	
<b>MATERIALS</b>	<b>Electrical Pull Box Relocation (3 EA)</b>									
	1	Sand for Trench Zone (Tons)	25	\$ 39.67	\$ 991.75	\$ -	\$ 991.75	15%	\$ 1,140.51	25 ton minimum - Vulcan Materials - tax included on material rate only.
	<b>Snow Fencing Relocation</b>									
	2	Sand Bags	50	\$ 7.29	\$ 364.50	\$ 28.25	\$ 392.75	15%	\$ 451.66	2 per delineator
	3	Snow Fencing Roll (100LF)	5	\$ 108.99	\$ 544.95	\$ 42.23	\$ 587.18	15%	\$ 675.26	
	4	Delineator with base	10	\$ 32.99	\$ 329.90	\$ 25.57	\$ 355.47	15%	\$ 408.79	10 new in addition to 15 already on site
	<b>Subcontractor Support</b>									
	5	N/A			\$ -	\$ -	\$ -	15%	\$ -	
	<b>Roadway Excavation</b>									
6	Traffic Control Device Rental	1	\$ 1,488.32	\$ 1,488.32	\$ -	\$ 1,488.32	15%	\$ 1,711.57	5 Week Rental of Traffic Control Devices from California Barricade	

	Item	QTY	UM	Unit Price	Cost	MU %	Cost w/MU	Notes	
<b>SUBCONTRACTOR</b>	1	Graham Crackers Demolition	1	LS	\$ 46,899.00	\$ 46,899.00	5%	\$ 49,243.95	Sawcut, demolish, and dispose existing asphalt, curb and gutter, and cross gutter.
	2	Regan Paving	1	LS	\$ 95,435.00	\$ 95,435.00	5%	\$ 100,206.75	Install 250LF new rolled gutter, install new cross gutter at Gate 2, place and compact base and asphalt pave for an additional 3,710SF, and additional striping.
	3	Raymond Youash Trucking	22	LOADS	\$ 570.00	\$ 12,540.00	5%	\$ 13,167.00	Dirt haul off and disposal fees.

<b>Labor, Equipment, Material Cost</b>	<b>\$107,218.54</b>
<b>STC Allowance (2% NTE \$2,000)</b>	<b>\$2,000.00</b>
<b>SUBTOTAL</b>	<b>\$287,919.02</b>
<b>Insurance/Bond Premiums (1%)</b>	<b>\$2,879.19</b>
<b>TOTAL</b>	<b>\$290,798.21</b>

# Material Pricing

# Quotation



**Attn:** SAM VEATCH

**Quote Name:** MICHELSON WATER RECYCLING PLANT FUE

**Quote #:** 1146770

INNOVATIVE CONST SOLUTIONS  
2525 STANWELL DRIVE SUITE 200  
CONCORD, CA 94520

**202200775770 3512 MICHELSON DR / IRVINE**

IRVINE, CA 92612

**Acct#:** 365781

<b>Date:</b> Tuesday, May 16, 2023	<b>Sales Rep :</b> Armando Rodriguez
<b>Quote Created:</b> Thursday, April 13, 2023	16013 E Foothill Blvd
<b>Effective From:</b> Tuesday, May 16, 2023	AZUSA, CA 91702
<b>Quote Expiration:</b> Thursday, June 15, 2023	<b>Phone:</b> 213-549-1621
<b>Price Expiration:</b> Friday, June 30, 2023	<b>Fax :</b>
	<b>Email:</b> rodriguez@vmcmail.com

**Special Instructions:**

\*\*A fuel surcharge of 10% will be added to our tonnage haul rates when diesel fuel reaches \$5.00 per gallon. This rate will increase by 2% for each additional \$0.25 increase in the price per gallon. This rate will be charged or removed on a weekly basis. The U.S. Energy Information index will be used to determine the rate. This information can be found at [www.eia.gov/petroleum/gasdiesel/](http://www.eia.gov/petroleum/gasdiesel/)

**ASPHALT**

\*\*No specifications have been submitted; quoting conventional mix with RAP and 64-10 oil.

\*\*HMA price is based on 15% RAP.

\*\*Asphalt final expiration date June 30, 2023.

\*\*There is a 20 ton minimum for asphalt short loads.

**AGGREGATE**

\*\*Aggregate final expiration date June 30, 2023.

\*\*Effective July 1, 2023 all quoted aggregates will have a price increase of \$1.25 + tax per ton. Final expiration date December 31, 2023.

\*\*All aggregates are subject to availability.

\*\*Due to the natural effects of segregation and the effects of post-delivery handling, Vulcan Materials Company guarantees that its aggregate products will meet the specifications on our submittal AT THE POINT OF DELIVERY ONLY, prior to placement and when sampled in accordance with ASTM D75.

\*\*There is a 25 ton minimum for aggregate short loads.

<b>STONE</b>								Delivered
Plant	Product Name	Product #	Qty	U/M	FOB Plant	Estimated Tax	Haul Rate	Estimated Tax Included
CORONA STONE	ROCK DUST	31700	1 Tons		\$16.50	\$1.28	13.31	\$31.09
		Truck Type	STD	FRT RATE				
<b>SAND &amp; GRAVEL</b>								Delivered
Plant	Product Name	Product #	Qty	U/M	FOB Plant	Estimated Tax	Haul Rate	Estimated Tax Included
SAN BERNARDINO SAND & GRAVEL	XCS	31902	1 Tons		\$18.65	\$1.45	19.57	\$39.67
		Truck Type	STD	FRT RATE				



**ASPHALT**

<b>Plant</b>	<b>Product Name</b>	<b>Product #</b>	<b>Qty</b>	<b>U/M</b>	<b>FOB Plant</b>	<b>Estimated Tax</b>	<b>Haul Rate</b>	<b>Delivered Estimated Tax Included</b>
CORONA HMA	203 3B3 R15 PG64-10	200805	1	Tons	\$70.50	\$5.46	16.47	\$92.43
		<b>Truck Type</b>		STD FRT RATE				
CORONA HMA	203 3C3 R15 PG64-10	300807	1,425	Tons	\$70.50	\$5.46	16.47	\$92.43
		<b>Truck Type</b>		STD FRT RATE				
CORONA HMA	203 3D R15 PG64-10	400803	1	Tons	\$74.50	\$5.77	16.47	\$96.74
		<b>Truck Type</b>		STD FRT RATE				
CORONA HMA	SS-1 OIL - 5 GALLONS W/BUCKET	9E0200	1	Each	\$75.00	\$5.81	5.00	\$85.81
		<b>Truck Type</b>		STD FRT RATE				

**Other Charges**

Environmental Fee -Agg & Asphalt at \$10.00 / Load

The estimated state or local sales and use tax quoted above is subject to change based upon the tax rate in force at the time of delivery  
Prices quoted are for shipments during normal daytime working hours unless other shipping hours are mutually agreed upon in writing by both parties.

Prices are FOB your jobsite as stated above. Terms are Net 15 prox. Please note standard terms and conditions apply. (Subject to credit approval)

This quote is limited to acceptance within 30 days from the date of this quotation after which time quotation is subject to review/revision. Please contact Sales prior to placing the order.

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_

Sales Representative: \_\_\_\_\_ Date: \_\_\_\_\_

We appreciate the opportunity to provide you this quote and trust that Vulcan will have the pleasure of serving your needs for this and future projects.



## 30lb Poly Sand Bag

Mfg#: 115334 | SKU#: 262SBFS30

POLLUTION SOLUTION INC

**\$7.29** each

Quantity:

- 1 +

Check estimated delivery enter zip code

Tell us your zip code

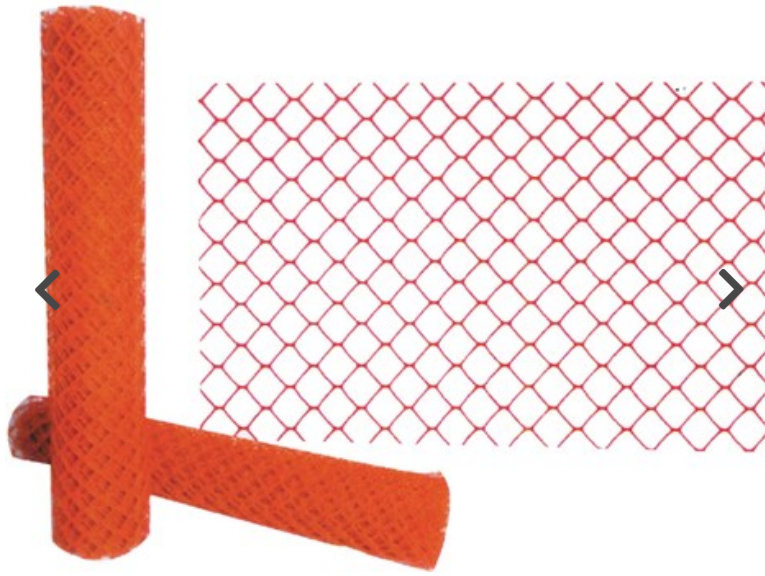
**ⓘ Hazardous material shipping restrictions apply. You may be contacted by Customer Service if an alternate shipping method is required.**

Pricing shown based on zip code entered; pricing may vary if ship to address is in a different zip code/location.

## PRODUCT DETAILS

Polypropylene sandbags, or poly sandbags are the most economical sandbags available for sale today. Polypropylene sand bags are UV protected to extend its durability in harsh weather conditions. It is designed to be filled with sand or gravel (not included) and used as a barrier against flooding. While the most common use of poly sandbags is for flood prevention, their low cost and small storage footprint have made poly sandbags widely used throughout commerce and industry.

- Woven from a synthetic fabric giving it twice the life of burlap bags
- For sediment control, use gravel-filled bags
- Made with quality for reliability



## Presco 4Ft x 100Ft Hd Diamond Orange Safety Barrier Fence

Mfg#: BFD4100GRE | SKU#: 104SFORG4100

Presco

**\$108.99** roll

Quantity:

Check estimated delivery enter zip code

Pricing shown based on zip code entered; pricing may vary if ship to address is in a different zip code/location.

## PRODUCT DETAILS

High visibility warning fence made of high density polyethylene

- Can be installed on wooden stakes, metal rods, traffic cones, or other support structures
- Diamond mesh ensure aesthetic appeal while the smooth top prevents the cutting and scraping of adjacent materials during installation
- Brightly colored for maximum visibility
- Weather and temperature resistant



## Cortina Safety Products 45 in. Ez Grab Delineator Post Kit - Orange Post With (2) 3 in. Hip Collars (1) Ten lb. Base

Mfg#: 03734RBCHD | SKU#: 17503734RBC

CORTINA SAFETY PRODUCTS

**\$32.99** each

Quantity:

Check estimated delivery enter zip code

Pricing shown based on zip code entered; pricing may vary if ship to address is in a different zip code/location.

## PRODUCT DETAILS

The EZ Grab Delineator kits consist of a delineator post and a recycled rubber base. The delineators are an excellent way to mark the edge of any roadway or path. Made with 100% impact resistant polyethylene and infused with UV inhibitors to prevent fading these are perfect for any permanent or temporary workzone. Each delineator has (2) 3" collars for added visibility.

- Made with 100% impact resistant Polyethylene
- Polyethylene is infused with UV inhibitors to resist fading
- Reflective sheeting for greater visibility
- Easy set-up and portability

[View more about this product](#) ▼



1550 E. Saint Gertrude Place  
 Santa Ana, CA 92705  
 Toll Free: (800) 327-8844  
 Phone: (714) 558-8474  
 Fax: (714) 558-3821

**Proposal - 3/11/2024**

Company: Innovative Construction Solutions  
 Name: Sam Veatch

Project Name: Michelson Water Recycling Plant  
 Job Address: 3512 Michelson Drive  
 City: Irvine, CA 92612  
 Public:  Yes  No

**Rental**

Qty	Description	Each Daily	Extended Daily	Each Weekly	Extended Weekly	Each Monthly	Extended Monthly
28	EG Aluminum Sign on Type I Barricade	\$1.50	\$42.00	\$6.00	\$168.00	\$18.00	\$504.00
40	28" 7lb. Reflective Traffic Cone	\$0.65	\$26.00	\$2.60	\$104.00	\$7.80	\$312.00
	<b>Total</b>		<b>\$68.00</b>		<b>\$272.00</b>		<b>\$816.00</b>

Rental 5 Weeks (1 Month + 1 Week) = \$272 + \$816 = \$1,088

Tax (7.75%) = \$84.32

Subtotal = \$1,172.32

**Service**

Qty	Description	Unit Price	Total
1	<b>Delivery</b> Monday - Friday 7:00AM - 4:00PM	\$150.00	\$150.00
1	<b>Pick-Up</b> Monday - Friday 7:00AM - 4:00PM	\$150.00	\$150.00
2	<b>Fuel Surcharge</b> \$0.67 per mile fuel surcharge applies per dispatch.	\$8.00	\$16.00
	<b>Total</b>		<b>\$316.00</b>

- This is a preliminary quote based on the details provided. This quote is subject to change if the scope of the work changes.
- Any lost or damaged rental equipment will be billed to the customer.
- Payment terms: Net 30
- \$0.67 per mile fuel surcharge applies.
- Equipment is subject to availability at the time of order.
- This proposal is valid until May 31, 2024.

**Projected Total (5 weeks):** ~~\$1,676.00~~  
**\$1,488.32**

Respectfully submitted by: Sitina Vaea • sitina@californiabarricade.com • (714) 558-8474



# Subcontractor Pricing



25125 Felswood Road  
Menifee, CA 92584

## PROPOSAL

Phone 951-244-2235  
Fax 888-885-9174

SUBMITTED: Innovative Construction Solutions	PROJECT: MICHELSON WRP FUELING FACILITY RIPARIAN VIEW & MICHELSON DR., IRVINE
EMAIL:	ATTN: Estimating

We propose to furnish materials, labor and equipment (the work) in accordance with the specifications, terms and conditions as set forth below for the sum of **\$SEE BELOW** Payment due within thirty (30) days upon substantial completion of the work. Payment for work completed the preceding month shall be received by the tenth (10th) of the following month and payment in full shall be made within thirty (30) days of completion. A charge of 1 1/2% per month (18% per year) will be charged on past due accounts. Payment in full shall be made if a break of continuity of work exceeds thirty-five (35) days. Proposal good for 30 days after date of submittal.

**GRAHAM CRACKERS-DEMO, INC. HEREBY PROPOSES THE FOLLOWING SCOPE OF WORK PER PLANS BY AECOM Dated SEPTEMBER 2022 and Plan Pages C-6**

### CHANGE ORDER

- Sawcut, demolish & dispose of 6" thick asphalt pavement (635 LF X 10')
- Sawcut, demolish & dispose of 6" CF pcc curb & gutter (250 LF)
- Sawcut, demolish & dispose of 6" thick cross gutter (70 LF X 6 LF)
- 2 Mobilizations

**\$46,899.00**

License #745828 C-21      Dir#1000016734      Bond Rate = 2.4%

Pricing is Union / Prevailing Wages  
Price Excludes Lead/Asbestos Abatement  
Only Piping Above Ground or Less than 36" Below Grade Included in Bid Above  
Tenant Improvement/Hand Demolition Excluded  
Price Excludes Fine Grading & Compaction  
Cut & Capping of Pipes By Others  
Electrical Demolition Excluded  
Shoring By Others

**PRICES GOOD THROUGH MARCH 31, 2024**

## ADDITIONAL TERMS

Debris to be removed to legal dump and /or recycling site.  
**CONDITIONS/EXCLUSIONS SHALL BECOME A PART OF THE SUBJECT CONTRACT AGREEMENT SHOULD WE BE AWARDED THIS JOB** **TWO MOVE IN'S INCLUDED, Extra Move In's \$2,000.00**, straight time work; no footings below 3 feet; unidentified/unusual below grade structural concrete; slab removal based on (N/A) or less, asphalt removal based on (6") or less, extra charges will apply for asphalt containing petromat. **EXCLUSIONS** Excludes all bonds, permits, specialized insurance's; demolition plan, engineer submittals, engineer monitoring/testing/inspection; survey; layouts; identification or location of underground utilities; dewatering, , excavation, backfill, grading or compaction; disconnect or capping of utilities; removal of underground utilities; removal of unforeseen material, erosion control, SWPPP's (storm water pollution prevention program), shoring or bracing; fencing; barricades, traffic control, dust control, protective covers or canopies; underpinning or falsework; protection of finished surfaces; removal of hazardous waste; concrete cutting or drilling for other trades; noise/vibration control; QA/QC Soils testing; contaminate testing or disposal, hydrocarbon impacted soils, asbestos or lead paint detection or removal, handling/disposal of hazardous or contaminated material by others: selective removals for other trades; Removal of grade beams, caissons or piles is excluded. **OUR CONDITIONS/EXCLUSIONS SHALL BECOME A PART OF THE SUBJECT CONTRACT AGREEMENT SHOULD WE BE AWARDED THIS JOB.**

Submitted By:

\_\_\_\_\_   
Amanda Cruz, Estimator

Approved By:

Signature: \_\_\_\_\_

Date of Submittal: December 5, 2023

Date of Acceptance: \_\_\_\_\_

- 1. OWNER/CONTRACTOR warrants and represents that it has provided Graham Crackers-Demo, Inc. ("GCD") with the most current, complete, correct and accurate sets of Contract Documents, project Schedules, expert reports, engineering, soils, geotechnical and related reports, engineering and architectural plans and project information. OWNER/CONTRACTOR's obligation hereunder is a continuing one.
- 2. It is understood that GCD is not an architect, engineer or design professional and has a right to rely upon the accuracy and correctness of the plans, specifications, reports, measurements, dimensions and marks provided to GCD; that this is not a Design Build Contract except to the extent to which GCD expressly agrees and GCD is not assuming any of the responsibilities of the design professionals for this Project or the Work.
- 3. GCD shall use its commercially reasonable efforts to cause all necessary governmental inspections and approvals of the Work to be performed on a timely basis. OWNER/CONTRACTOR acknowledges that due to COVID-19 there have been and may be substantial delays in obtaining inspections. In the event of such a delay, GCD will give notice to OWNER/CONTRACTOR thereof and the Contract Time and Contract Sum may be appropriately adjusted as a result of such delay.
- 4. GCD will submit Field Authorizations and Change Orders for any work not specified in the Scope of Work for written approval by OWNER/CONTRACTOR. OWNER/CONTRACTOR agrees GCD shall be authorized to provide verbal estimates for additional labor and materials. OWNER/CONTRACTOR (or its designated representative) or Architect may verbally approve any such estimate and GCD may, pursuant thereto, provide any such verbally estimated labor and materials. Once GCD commences work pursuant to any such verbal authorization, OWNER/CONTRACTOR may not object to any extra work or change order based upon its failure to be in writing. In any case, OWNER/CONTRACTOR shall be responsible to pay GCD for all work actually performed and for equitable increases in the Contract Time and Contract Sum pursuant to the verbal estimate.
- 5. Should OWNER/CONTRACTOR utilize other Contractors ("Separate Contractors"), OWNER/CONTRACTOR agrees to make adjustments to the Contract Sum and Contract Time to fully compensate GCD for all costs, expenses and delays incurred by the GCD because of delays, improperly timed activities, loss of productivity, damage to the Work, or defective construction by a Separate Contractor.
- 6. OWNER/CONTRACTOR acknowledges that OWNER/CONTRACTOR's obligation to make all payments hereunder when due is "of the essence" and is a material obligation of OWNER/CONTRACTOR hereunder. Owner Responsible. OWNER/CONTRACTOR acknowledges and agrees that it is responsible for the entire Contract Sum and all Payment(s) required hereunder regardless of any contribution by any third-party lender or other party.

## ADDITIONAL TERMS

- 7. Right to Stop Work. GCD may stop work if any payment specified herein is not paid when due. If any payment is not made within ten (10) days after its respective due date, GCD may abandon the work and pursue all rights and remedies available to it, including, but not limited to, suing OWNER/CONTRACTOR for the reasonable value of GCD's work theretofore performed and/or for damages for breach of contract, including GCD's lost profits, lost opportunities and lost overhead as well as interest on all sums due GCD at a rate of 18% annum from the date(s) each respective payment was due and for attorneys' fees thereon. Any delay or failure by GCD to exercise any right hereunder shall not constitute a waiver by GCD of its right to exercise such right(s) or of its right to exercise any future rights hereunder.
- 8. Attorneys' Fees and Costs. In any action arising from or related to this Agreement, the prevailing party shall be entitled its actual attorneys' fees and Costs. "Costs" means all actual fees and costs incurred, including experts' fees and other costs.
- 9. Non-Disparagement. The Parties acknowledge that any disparaging comments by them against each other are likely to substantially depreciate the business reputation of the Parties and their respective businesses. The Parties agree to act in good faith so as not to harm the business reputations of the other Parties in any way. The Parties further agree that they will not directly, indirectly or anonymously defame, disparage, or publicly criticize the services, business, integrity, ethics, veracity or reputation of the Parties, their owners, officers, directors, or employees, to any governmental or private entity or individuals, in any forum, social media sites like Facebook, Twitter, or LinkedIn, Yelp or on blogs, by text or e-mail or other electronic means or application or through any medium of communication. The Parties further agree that they will not, directly or indirectly, through their respective officers, employees or agents, defame, disparage, or publicly criticize the integrity, veracity or reputation of the Parties or their respective businesses. Nothing in this Agreement will preclude the Parties from supplying truthful information to any governmental authority or in response to any lawful subpoena or other legal process or in a legal action against the other.



22941 Temescal Canyon Road  
 Corona, CA 92883  
 Phone: 951-735-8100 | Fax: 951-735-8008

# Proposal/Contract

**Innovative Construction Solutions**  
**575 Anton Boulevard, Suite 850**  
**Costa Mesa CA 92626**

DATE	Proposal #
1/17/2024	41300

## PROJECT

MICHELSON WRP FUELING FACILITY

DESCRIPTION	TOTAL
ROADWAY REDESIGN	
ASPHALT PAVING	
*NOTE: PROPOSAL BASED ON 1 MOBILIZATION. EACH ADDITIONAL MOBILIZATION @ \$4,500	
ADDITIONAL ASPHALT PAVING	50,085.00
1. INSTALL 21" OF CMB TO APPROX. 3,710 SF, FINE GRADE, ROLL AND COMPACT	
2. PAVE AN ADDITIONAL 3,710 SF WITH 6" OF HOT MIX ASPHALT, ROLL AND COMPACT	
CONCRETE	
*NOTE: PROPOSAL BASED ON 1 MOBILIZATION FOR COMPLETION OF ALL CONCRETE WORK. EACH ADDITIONAL MOBILIZATION @ \$3,500	3,500.00
ROLLED CURB & GUTTER	19,350.00
1. SET, FORM AND POUR APPROX. 251 LF OF NEW ROLLED CURB AND GUTTER PER DETAIL 4/C-15	
CROSS GUTTER	17,500.00
1. SET, FORM AND POUR (1) EACH 6' WIDE CROSS GUTTER PER SPPWC STD PLAN 122-2	
4' WIDE LONGITUDINAL GUTTER - REWORK	1,250.00
1. SET, FORM AND POUR PORTION OF 4' WIDE LONGITUDINAL GUTTER	
STRIPING	
<b>TOTAL</b>	

Signature: _____ Customer	Date: _____
Signature: _____ Project Manager-Regan Paving License #538134 DIR #1000002950	Date: _____



22941 Temescal Canyon Road  
 Corona, CA 92883  
 Phone: 951-735-8100 | Fax: 951-735-8008

## Proposal/Contract

**Innovative Construction Solutions**  
**575 Anton Boulevard, Suite 850**  
**Costa Mesa CA 92626**

DATE	Proposal #
1/17/2024	41300

### PROJECT

MICHELSON WRP FUELING FACILITY

DESCRIPTION	TOTAL
ADDITIONAL STRIPING / PAVEMENT MARKINGS 1. INSTALL ADDITIONAL STRIPING / PAVEMENT MARKINGS AS FOLLOWS: - 8 EACH DIRECTIONAL ARROWS - ADDITIONAL DIAGONAL LINE STRIPING AT PREVIOUS PARKING AREA - ADDITIONAL HORIZONTAL PARKING STALL STRIPING	2,500.00
SEALCOAT 1. CLEAN LOOSE DEBRIS AND APPLY (1) COAT OF GUARD-TOP TO AN ADDITIONAL 3,710 SF	1,250.00
GENERAL NOTES PERMITS, TESTING AND INSPECTIONS BY OTHERS. WATER METER OR SOURCE TO BE PROVIDED BY OTHERS. ROUGH / FINE GRADING, SCARIFYING AND COMPACTION OF SUBGRADE BY OTHERS. BID DOES NOT INCLUDE ANY UTILITY TRENCH REPAIRS, DEMO, REMOVAL, SAWCUTTING, HAUL-OFF, WEED KILL, FOG SEAL, PRIME COAT, TYPE I OR TYPE II ROAD SLURRY. BID BASED ON PREVAILING WAGES, NORMAL BUSINESS HOURS (MONDAY-FRIDAY) & 1 MOBILIZATION.	
	<b>95,435</b>
<b>TOTAL</b>	<del>91,935.00</del>
<b>ACCEPTANCE OF PROPOSAL</b>	
<p>The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above, at completion of project. It is also agreed to pay to Regan Paving any and all attorney fees and court costs if suit is instituted to enforce any of the terms of this agreement. This proposal is subject to the Terms and Conditions as outlined on the back page of this document. This proposal expires in 30 days of the date above.</p>	
Signature: _____ Customer	Date: _____
Signature: _____ Project Manager-Regan Paving License #538134 DIR #1000002950	Date: _____

Raymond Youash Trucking  
 12087 Lopez Canyon Rd suite 115  
 Sylmar, CA 91342 US  
 raymondyouash@gmail.com



# INVOICE

**BILL TO**  
 INNOVATIVE  
 CONSTRUCTION  
 SOLUTIONS  
 575 ANTON BOULEVARD,  
 SUITE 850  
 COSTA MESA, CA 92626

**INVOICE #** 3150  
**DATE** 05/25/2023  
**DUE DATE** 06/24/2023

**JOB ADDRESS**  
 3512 MICHELSON DR

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
05/25/2023	DIRT	LOADS OF DIRT - A8735886	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A8735486	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A9199785	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A8379525	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A9955127	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A9955534	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A9491773	3	570.00	1,710.00
05/25/2023	DIRT	LOADS OF DIRT - A7545899	2	570.00	1,140.00
05/25/2023	DIRT	LOADS OF DIRT - A9491449	2	570.00	1,140.00

DATE	ACTIVITY	DESCRIPTION	QTY	RATE	AMOUNT
05/25/2023	DIRT	LOADS OF DIRT - A9706176	3	570.00	1,710.00
				BALANCE DUE	<b>\$15,960.00</b>



# Revised Plan Sheets

## Sam Veatch

---

**From:** Willie James <jamesw@irwd.com>  
**Sent:** Wednesday, November 22, 2023 1:20 PM  
**To:** Sam Veatch  
**Cc:** Alex Murphy; Casey Hansen; Austin Moore  
**Subject:** Fuel Station - Road Widening Plans  
**Attachments:** MWRP\_Fueling\_Revised Drawings.pdf

Hello Sam,

Attached are the revised drawing sheets that show the widened road at the fueling station. Missing from this set is Sheet C-16, which is the striping and signage plan. We are going to make a modification with that with AECOM. It will not impact the overall design. I will send that sheet over once completed.

Thanks,

**Willie James, P.E.**  
**Engineer**



[jamesw@IRWD.com](mailto:jamesw@IRWD.com)

949-453-5441 (Office)

909-935-5675 (Cell)

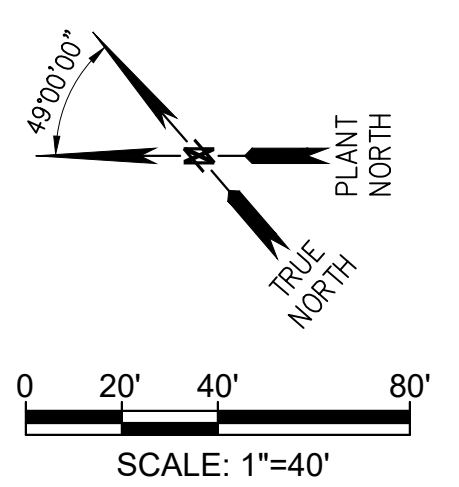
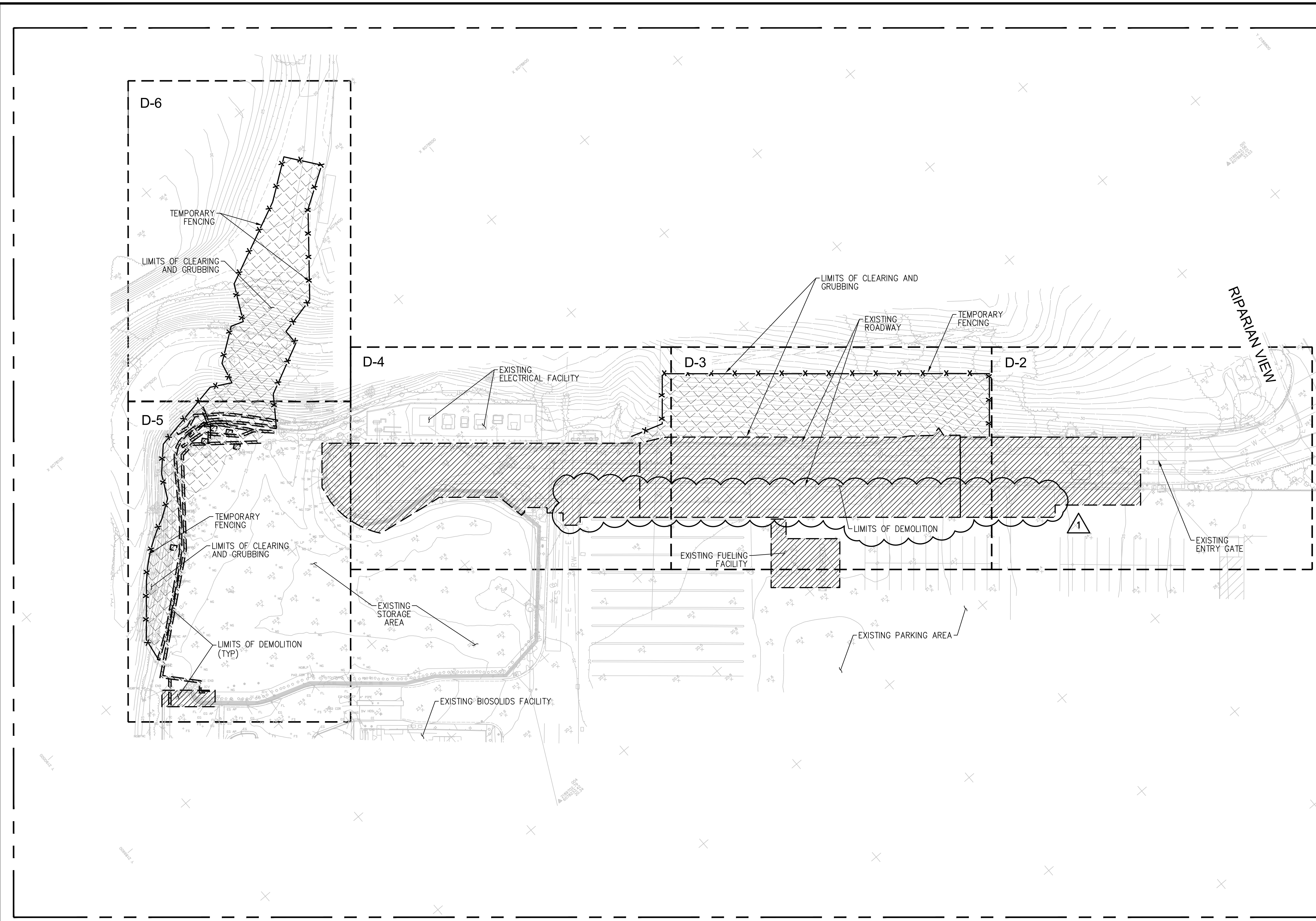
3512 Michelson Drive

Irvine, CA 92612

[IRWD.com](http://IRWD.com)

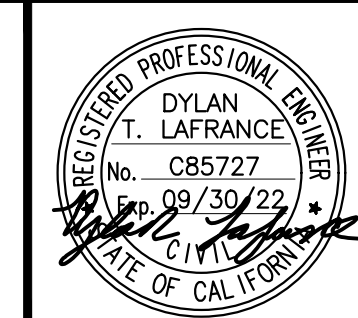
**GENERAL NOTES**

1. ITEMS NOT SHOWN TO BE REMOVED SHALL BE PROTECTED IN PLACE.
2. ALL TRASH AND DEBRIS SHALL BE REMOVED FROM THE SITE IN ACCORDANCE WITH ALL LOCAL AND REGIONAL CODES, ORDINANCES AND REGULATIONS AS REQUIRED BY THE ENGINEER.
3. THE CONTRACTOR SHALL PROPERLY NOTIFY ALL APPLICABLE UTILITY PROVIDERS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION WORK.
4. THIS PLAN MAY NOT SHOW ALL EXISTING ON-SITE UTILITIES AND/OR EXISTING SUBSTRUCTURES. CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS TO DETERMINE LOCATION OF ON-SITE UTILITIES.
5. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS OF SURROUNDING PROPERTIES PRIOR TO COMMENCEMENT OF DEMOLITION WORK.
6. CONTRACTOR SHALL DEMOLISH THE ENTIRE AREA WITHIN THE PROJECT SITE LIMITS TO FACILITATE THE CONSTRUCTION OF THE PROPOSED FACILITY. REMOVE ALL ITEMS SPECIFICALLY NOTED HEREIN WHICH ARE REQUIRED FOR CONSTRUCTION ACTIVITIES TO PROCEED.
7. ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE DONE IN ACCORDANCE WITH APPLICABLE REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL PROVIDE HEALTH & SAFETY PROTECTION MEASURES AS REQUIRED BY APPLICABLE REGULATIONS, ORDINANCES AND CODES. PROTECTION SHALL INCLUDE NEIGHBORING PROPERTIES, OCCUPANTS, VISITORS AND PASSERSBY FROM DAMAGE AND/OR DISCOMFORT.
8. UPON COMPLETION OF DEMOLITION WORK, THE SITE SHALL BE CLEANED WITH NO TRACE OF DEBRIS PRIOR TO PROCEEDING WITH EARTHWORK.
9. MATERIALS RESULTING FROM DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR. DEBRIS FOR THE SITE SHALL NOT BE ALLOWED TO ACCUMULATE.
10. THE CONTRACTOR SHALL PROVIDE SOIL EROSION PREVENTION MEASURES AS REQUIRED BY THE PROJECT MANUAL AND REGULATIONS.
11. THE CONTRACTOR SHALL CONDUCT A PRE DEMOLITION VIDEO/PHOTO DOCUMENTATION OF THE EXISTING CONDITIONS OF THE SITE. DOCUMENTATION SHALL BE SUBMITTED TO THE DISTRICT.
12. ALL EXISTING UTILITY BOXES TO REMAIN SHALL BE ADJUSTED TO GRADE AS NEEDED.
13. ALL EXISTING UTILITY BOXES IDENTIFIED TO BE REPLACED AND RELOCATED SHALL BE REPLACED IN-KIND AND PER IRWD STD PLANS AND SPECIFICATIONS.
14. THE FINAL LOCATION OF ALL UTILITY RELOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD AND APPROVED BY THE DISTRICT.
15. THE CONTRACTOR SHALL CUT AND CAP IRRIGATION LINES IN THE LIMITS OF CLEARING AND GRUBBING AND DEMOLITION.
16. ALL EXISTING PLANT MATERIAL, TREES AND SHRUBS SHALL BE REMOVED, INCLUDING BUT NOT LIMITED TO, ABOVE GROUND PORTIONS AND ROOT SYSTEMS SHALL BE CONSIDERED AS PART OF THIS DEMOLITION PLAN. ALL HOLES & VOIDS CAUSED BY PLANT REMOVAL SHALL BE BACKFILLED AS REQUIRED BY THE ENGINEER.



NO.	DATE	REVISIONS	APPROVED
1	11/1/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



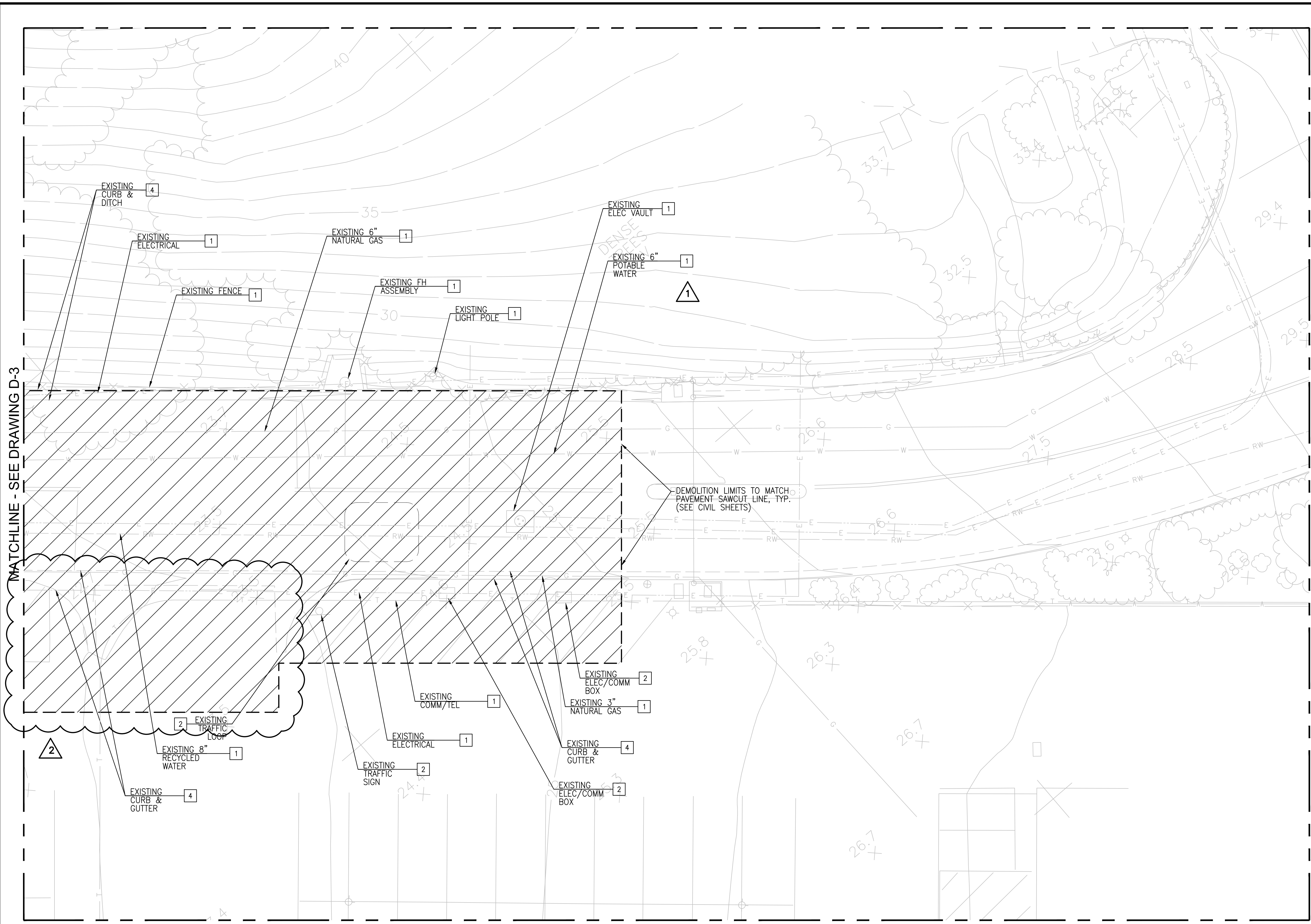
**MICHELSON  
 WATER RECYCLING PLANT  
 FUELING FACILITY**  
 PROJECT NO. 07881, 07882

**OVERALL DEMOLITION PLAN**

SHEET  
**D-1**  
 04 OF 80  
 SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

SEPTEMBER 2022



**DEMOLITION NOTES**

- 1 PROTECT-IN-PLACE
- 2 REPLACE AND RELOCATE
- 3 ADJUST TO GRADE
- 4 REMOVE IN ITS ENTIRETY
- 5 REMOVE INTERFERING PORTIONS

**LEGEND**

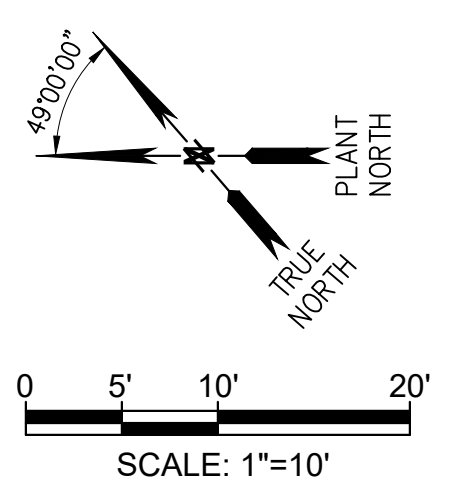


**GENERAL NOTES**

- 1. SEE DWG D-1 FOR GENERAL DEMOLITIONS NOTES
- 2. LIMITS OF DEMOLITION SHALL MATCH PROPOSED LIMITS OF NEW ROADWAY PAVING, UNLESS OTHERWISE SHOWN

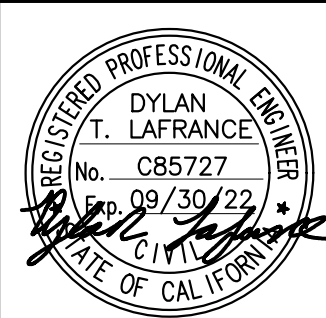
MATCHLINE - SEE DRAWING D-3

DEMOLITION LIMITS TO MATCH PAVEMENT SAWCUT LINE, TYP. (SEE CIVIL SHEETS)



NO.	DATE	REVISIONS	APPROVED
1	5/3/23	ACCESS ROAD ADJUSTMENT	SPG
2	11/1/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



**MICHELSON WATER RECYCLING PLANT FUELING FACILITY**  
 PROJECT NO. 07881, 07882

PARTIAL DEMOLITION PLAN -1

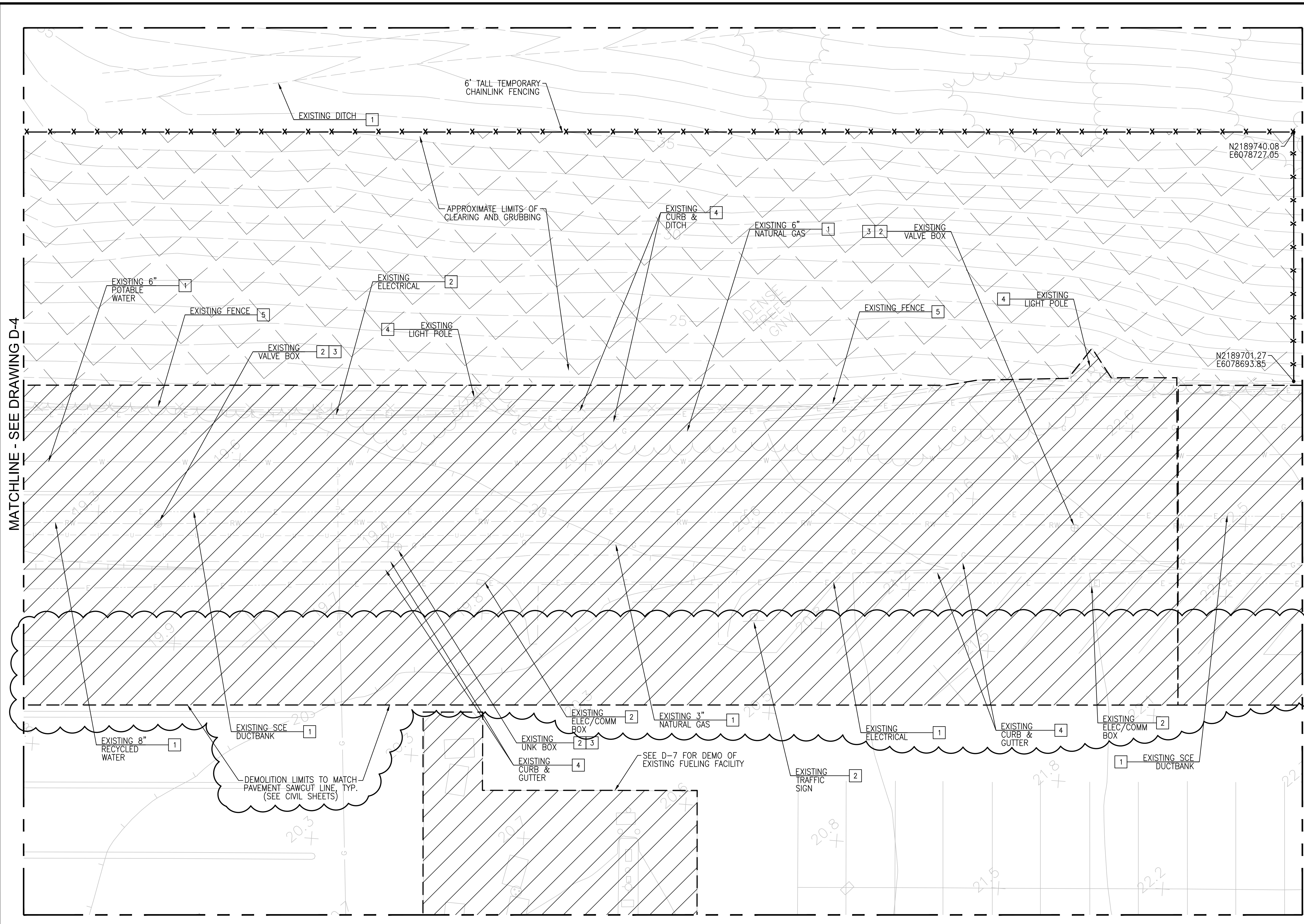
SHEET **D-2**  
 05 OF 80 SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

CODE 7706

SEPTEMBER 2022

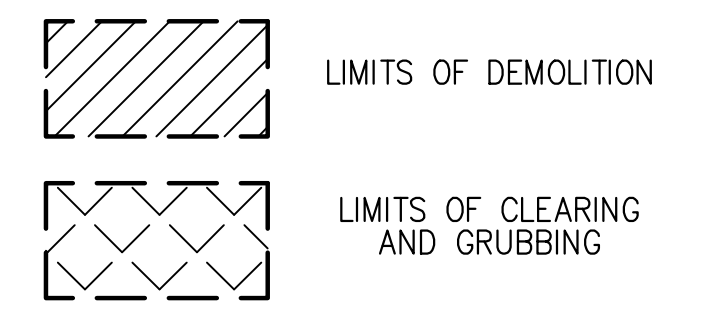




**DEMOLITION NOTES**

- 1 PROTECT-IN-PLACE
- 2 REPLACE AND RELOCATE
- 3 ADJUST TO GRADE
- 4 REMOVE IN ITS ENTIRETY
- 5 REMOVE INTERFERING PORTIONS

**LEGEND**

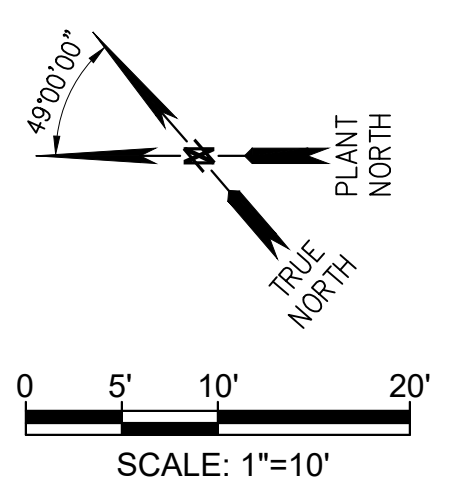


**GENERAL NOTES**

- 1. SEE DWG D-1 FOR GENERAL DEMOLITIONS NOTES
- 2. LIMITS OF DEMOLITION SHALL MATCH PROPOSED LIMITS OF NEW ROADWAY PAVING, UNLESS OTHERWISE SHOWN

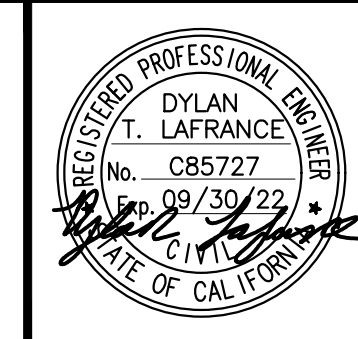
MATCHLINE - SEE DRAWING D-4

MATCHLINE - SEE DRAWING D-2



NO.	DATE	REVISIONS	APPROVED
1	11/1/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



**MICHELSON WATER RECYCLING PLANT FUELING FACILITY**  
 PROJECT NO. 07881, 07882

**PARTIAL DEMOLITION PLAN - 2**

SHEET **D-3**  
 06 OF 80 SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

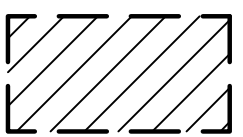
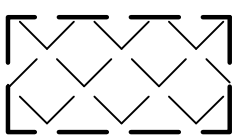
CODE 7706

SEPTEMBER 2022

**DEMOLITION NOTES**

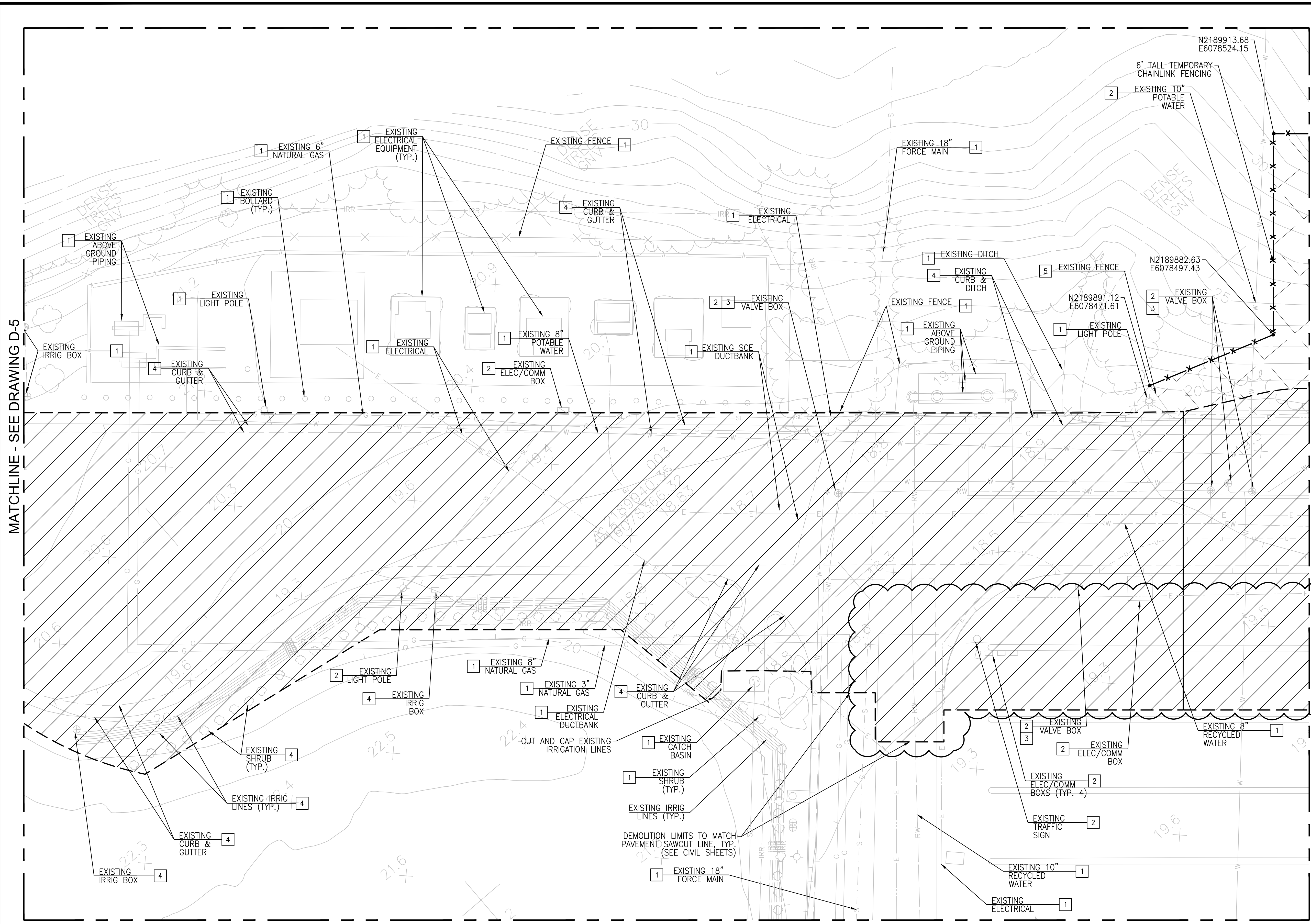
- 1 PROTECT-IN-PLACE
- 2 REPLACE AND RELOCATE
- 3 ADJUST TO GRADE
- 4 REMOVE IN ITS ENTIRETY
- 5 REMOVE INTERFERING PORTIONS

**LEGEND**

-  LIMITS OF DEMOLITION
-  LIMITS OF CLEARING AND GRUBBING

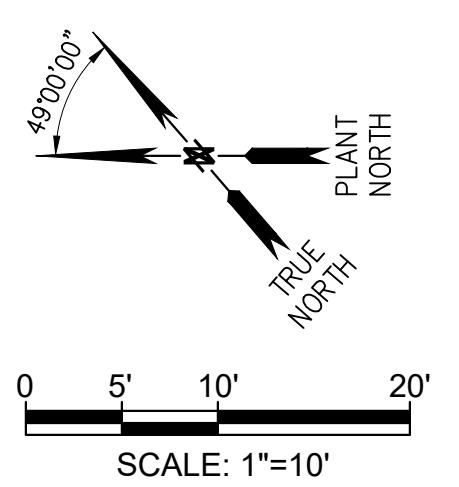
**GENERAL NOTES**

- 1. SEE DWG D-1 FOR GENERAL DEMOLITIONS NOTES
- 2. LIMITS OF DEMOLITION SHALL MATCH PROPOSED LIMITS OF NEW ROADWAY PAVING, UNLESS OTHERWISE SHOWN



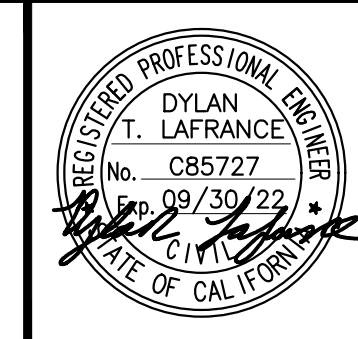
MATCHLINE - SEE DRAWING D-5

MATCHLINE - SEE DRAWING D-3



NO.	DATE	REVISIONS	APPROVED
1	11/1/23	ACCESS ROAD WIDENING	

DESIGN:  
DL  
DRAWN:  
FX  
CHECK:  
BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



**MICHELSON  
WATER RECYCLING PLANT  
FUELING FACILITY**  
PROJECT NO. 07881, 07882

**PARTIAL DEMOLITION PLAN - 3**

SHEET  
**D-4**  
07 OF 80  
SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

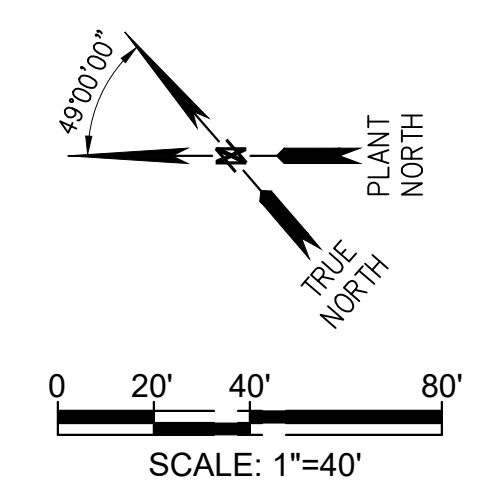
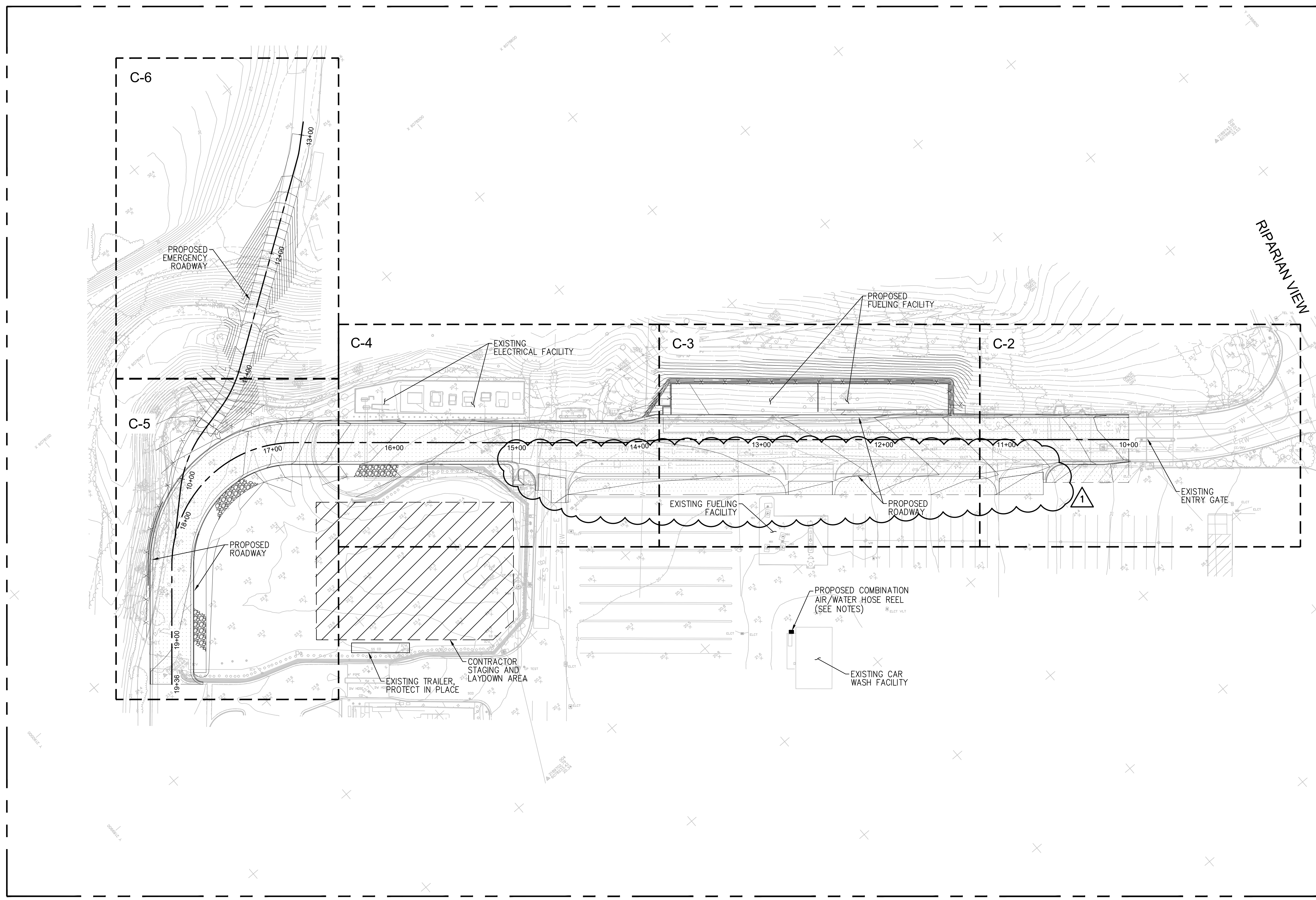
CODE 7706

SEPTEMBER 2022



**GENERAL NOTES**

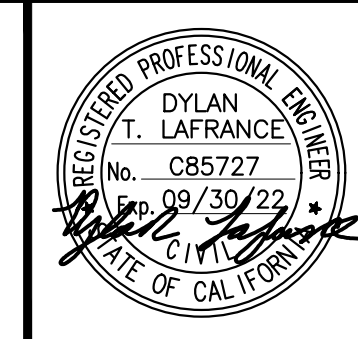
1. CONTRACTOR TO REPLACE AND RELOCATE EXISTING COMBINATION AIR/WATER HOSE REEL AT THE EXISTING FUELING FACILITY.
2. PROPOSED COMBINATION AIR/WATER HOSE REEL ASSEMBLY SHALL BE UNISTRUT STANCHION MOUNTED, DURO 1714-L OR EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
3. FINAL LOCATION OF COMBINATION AIR/WATER HOSE REEL SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE DISTRICT.
4. WATER AND COMPRESSED AIR PIPING SHALL BE ROUTED ABOVE-GROUND AND CONNECT TO THE EXISTING COMPRESSED AIR AND WATER PIPING LOCATED ALONG THE NORTH SIDE OF THE EXISTING CAR WASH FACILITY.
5. CONTRACTOR SHALL PROVIDE ALL NECESSARY PIPE SUPPORTS, FITTINGS, VALVES, AND OTHER APPURTENANCES AS REQUIRED TO FURNISH A COMPLETE AND WORKING SYSTEM.
6. SEE DEMOLITION SHEETS FOR REQUIRED LIMITS OF TEMPORARY FENCING.



NO.	DATE	REVISIONS	APPROVED
1	11/10/23	ACCESS ROAD WIDENING	

DESIGN:  
DL  
DRAWN:  
FX  
CHECK:  
BP

**AECOM**  
999 TOWN & COUNTRY ROAD  
ORANGE, CA 92868  
TEL (714) 567-2400



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36226	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



**MICHELSON  
WATER RECYCLING PLANT  
FUELING FACILITY**  
PROJECT NO. 07881, 07882

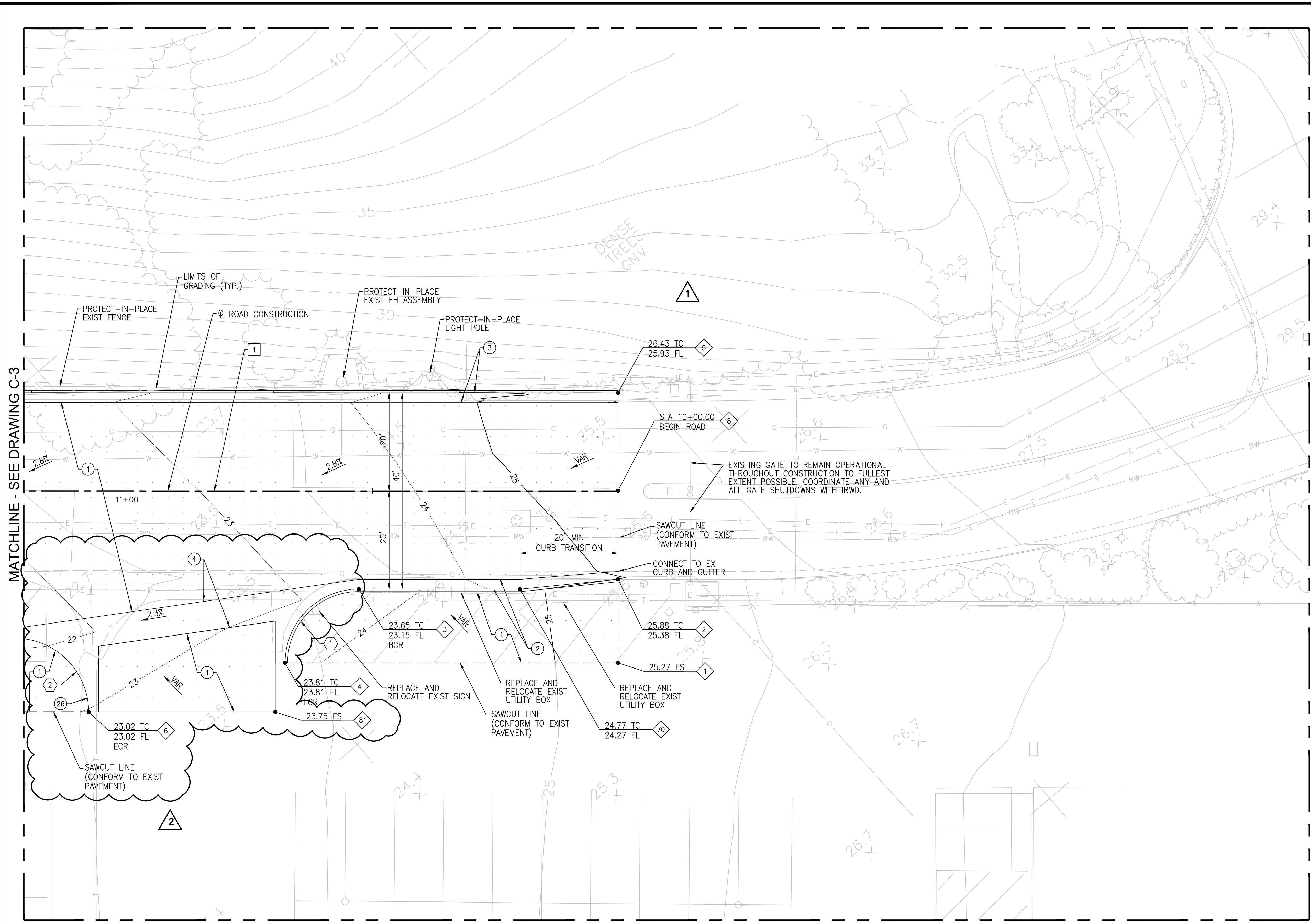
**OVERALL SITE PLAN**

SHEET  
**C-1**  
12 OF 80  
SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

CODE 7706

SEPTEMBER 2022



**CONSTRUCTION NOTES**

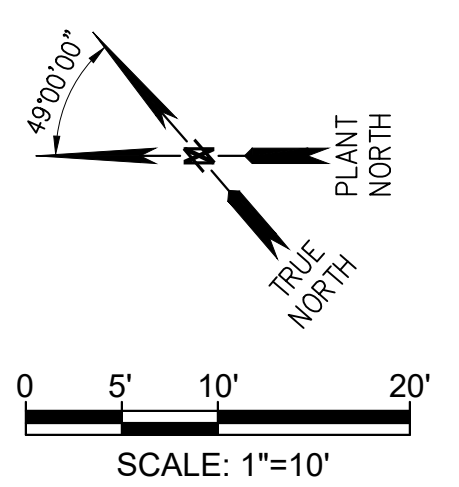
- ① CONSTRUCT 6" AC PAVEMENT OVER 21" CLASS 2 AB PER DETAIL 1, DWG C-14
- ② CONSTRUCT MOUNTABLE CURB AND GUTTER PER SPPWC STD PLAN 121-2, TYPE B2-6, W=2', OVER 21" CLASS 2 AB
- ③ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, TYPE A2-6, W=2', OVER 21" CLASS 2 AB
- ④ CONSTRUCT 6' WIDE CROSS GUTTER PER SPPWC STD PLAN 122-2 OVER 19" CLASS 2 AB
- ②⑥ CONSTRUCT 5' CURB TRANSITION PER DETAIL 5 ON DWG C-15

**GENERAL NOTES**

- 1. SEE DWG C-18 FOR LINE AND CURVE DATA TABLES
- 2. SEE DWG C-18 FOR COORDINATE DATA TABLES
- 3. SEE DWG C-16 AND C-17 FOR STRIPING AND SIGNAGE PLAN

MATCHLINE - SEE DRAWING C-3

②



NO.	DATE	REVISIONS	APPROVED
①	5/3/23	ACCESS ROAD ADJUSTMENT	SPG
②	11/10/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP

**AECOM**  
 999 TOWN & COUNTRY ROAD  
 ORANGE, CA 92868  
 TEL (714) 567-2400

REGISTERED PROFESSIONAL ENGINEER  
 DYLAN T. LAFRANCE  
 No. CB5727  
 Exp. 09/30/22  
 STATE OF CALIFORNIA

SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36226	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE

**Irvine Ranch WATER DISTRICT**

**MICHELSON WATER RECYCLING PLANT FUELING FACILITY**  
 PROJECT NO. 07881, 07882

PARTIAL SITE PLAN - 1

SHEET C-2  
 13 OF 80 SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

CODE 7706

SEPTEMBER 2022

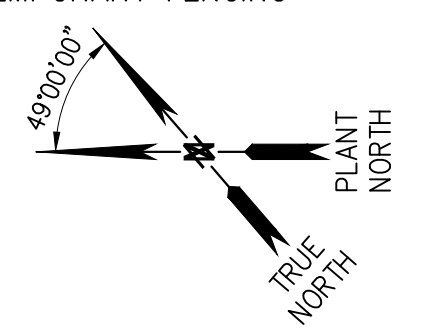


**CONSTRUCTION NOTES**

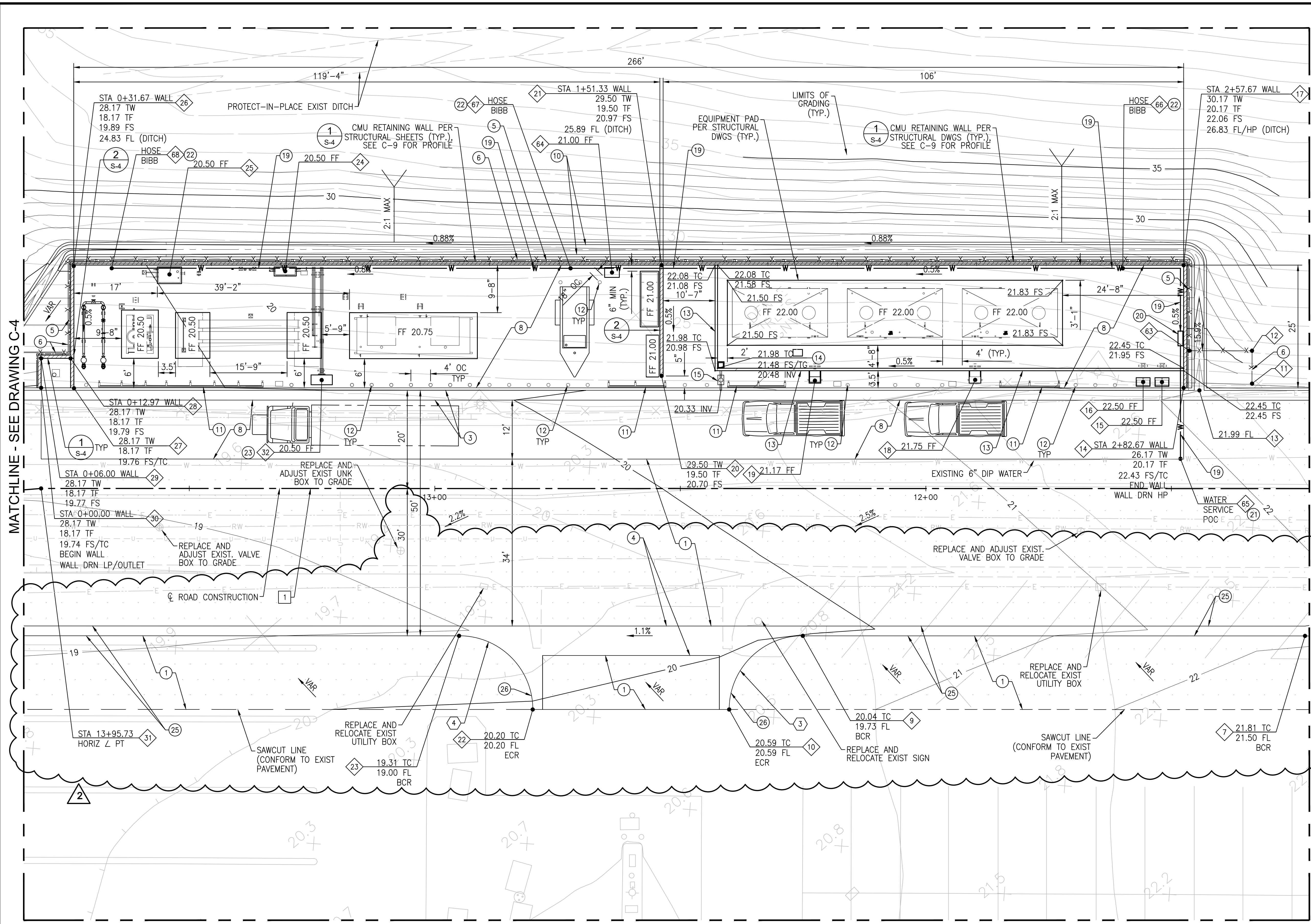
- ① CONSTRUCT 6" AC PAVEMENT OVER 21" CLASS 2 AB PER DETAIL 1, DWG C-14
- ② CONSTRUCT MOUNTABLE CURB AND GUTTER PER SPPWC STD PLAN 121-2, TYPE B2-6, W=2', OVER 21" CLASS 2 AB
- ③ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, TYPE A2-6, W=2', OVER 21" CLASS 2 AB
- ④ CONSTRUCT 6' WIDE CROSS GUTTER PER SPPWC STD PLAN 122-2 OVER 19" CLASS 2 AB
- ⑤ 4" SCH. 40 PERFORATED PVC DRAIN PIPE, 2 ROWS AT 120" PARALLEL TO PIPE AXIS, 1/2" HOLES AT 5" O.C., SLOPE MIN 0.5% TO DRAIN, TERMINATE AT CURB FACE
- ⑥ CONSTRUCT 6' TALL CHAIN-LINK FENCE PER DETAIL 7 DWG C-14
- ⑦ NOT USED
- ⑧ CONSTRUCT 6" PCC PAVING OVER 21" CLASS 2 AB PER DETAIL 2, DWG C-14
- ⑩ CONSTRUCT 2' WIDE CONCRETE V-DITCH PER DETAIL 4, DWG C-14
- ⑪ CONSTRUCT METAL BEAM GUARD RAIL PER CALTRANS STD PLAN A77L2
- ⑫ CONSTRUCT REMOVABLE GUARD POST PER IRWD STD DWG G-1
- ⑬ CONCRETE CURB, HEIGHT VARIES PER PLAN, DOWEL INTO CONCRETE PAVING, SEE DETAIL 5, DWG C-14
- ⑭ CONSTRUCT 12" SQUARE X 12" DEEP BROOKS PRODUCT CATCH BASIN OR AGENCY APPROVED EQUAL, OVER 6" CLASS 2 AB
- ⑮ INSTALL 4" SCH. 80 PVC DRAIN PIPE, SLOPE TO DRAIN, WITH CPVC FLG GATE VALVE, SPEARS 2023-040C WITH TN-040 2" OPERATOR NUT OR DISTRICT APPROVED EQUAL, PROVIDE 12" SQ X 6" DEEP PRECAST CONCRETE VAULT PER IRWD STD SPEC, SEE DETAIL 1 ON DWG C-15
- ⑰ 1" TYPE K COPPER WATER PIPE, INSTALL BELOW-GRADE PER IRWD STD DWG W-17 IN ROADWAY, INSTALL ABOVE-GRADE WITHIN FUELING FACILITY, MOUNT TO PROPOSED CMU WALL AS REQUIRED, ROUTE AS REQUIRED
- ⑳ 1" RPPBA PER IRWD STD DWG W-7
- ㉑ 1" SERVICE SADDLE AND CORP STOP PER IRWD STD DWG W-3
- ㉒ 3/4" HOSE BIBB ASSEMBLY PER DETAIL 6 DWG C-14
- ㉓ CNG DISPENSER CONCRETE PIT PER DETAIL 2 ON DWG C-15
- ㉔ CONSTRUCT ROLLED CURB AND GUTTER PER DETAIL 4 ON DWG C-15
- ㉕ CONSTRUCT 5' CURB TRANSITION PER DETAIL 5 ON DWG C-15

**GENERAL NOTES**

1. SEE DWG C-18 FOR LINE AND CURVE DATA TABLES
2. SEE DWG C-18 FOR COORDINATE DATA TABLES
3. SEE DWG C-16 AND C-17 FOR STRIPING AND SIGNAGE PLAN
4. SEE DEMOLITION SHEETS FOR EXTENTS OF REQUIRED TEMPORARY FENCING

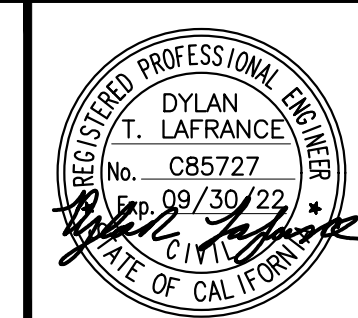


0 5' 10' 20'  
SCALE: 1"=10'



NO.	DATE	REVISIONS	APPROVED
A	4/6/21	ISSUED FOR REVIEW	SG
Δ	11/10/23	ACCESS ROAD WIDENING	

DESIGN: DL  
DRAWN: FX  
CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



**MICHELSON WATER RECYCLING PLANT FUELING FACILITY**  
PROJECT NO. 07881, 07882

PARTIAL SITE PLAN - 2  
SHEET C-3  
14 OF 80 SHEETS

SEPTEMBER 2022

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

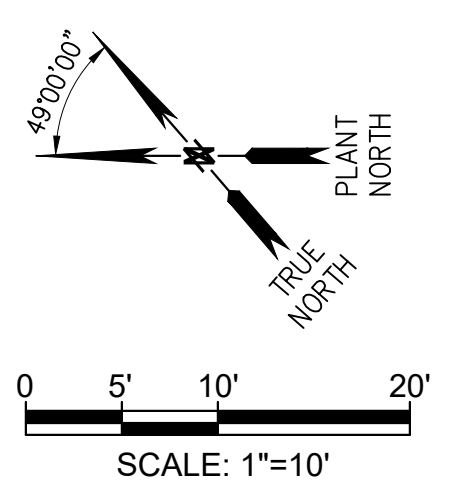
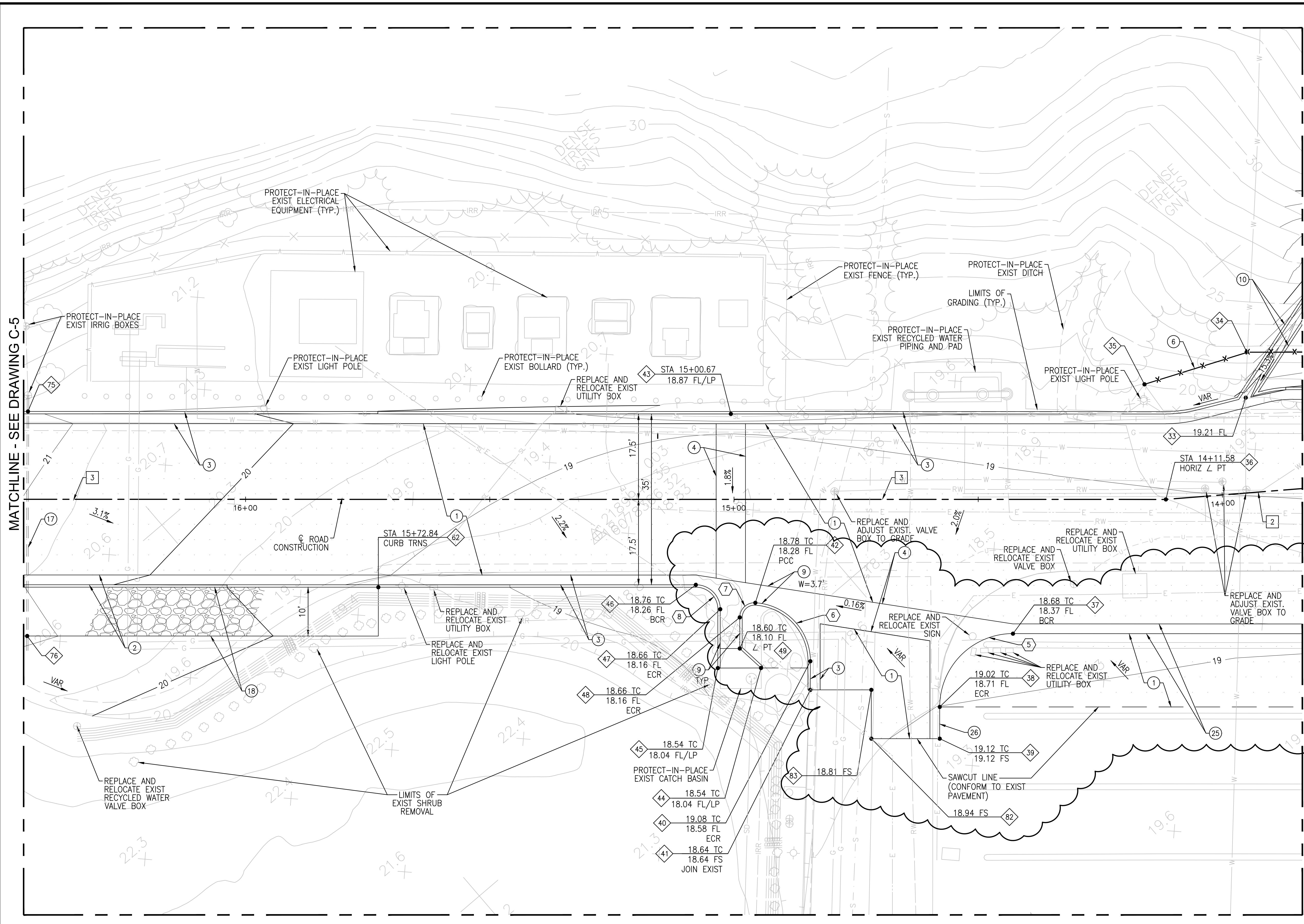
CODE 7706

**CONSTRUCTION NOTES**

- ① CONSTRUCT 6" AC PAVEMENT OVER 21" CLASS 2 AB PER DETAIL 1, DWG C-14
- ② CONSTRUCT MOUNTABLE CURB AND GUTTER PER SPPWC STD PLAN 121-2, TYPE B2-6, W=2', OVER 21" CLASS 2 AB
- ③ CONSTRUCT CURB AND GUTTER PER SPPWC STD PLAN 120-2, TYPE A2-6, W=2', OVER 21" CLASS 2 AB
- ④ CONSTRUCT 6' WIDE CROSS GUTTER PER SPPWC STD PLAN 122-2 OVER 19" CLASS 2 AB
- ⑥ CONSTRUCT 6' TALL CHAIN-LINK FENCE PER DETAIL 7 DWG C-14
- ⑨ CONSTRUCT 4' WIDE LONGITUDINAL GUTTER PER SPPWC STD PLAN 122-2 OVER 19" CLASS 2 AB, ADJACENT TO CONCRETE CURB PER SPPWC STD PLAN 120-2, TYPE A1-6, OVER 21" CLASS 2 AB
- ⑩ CONSTRUCT 2' WIDE CONCRETE V-DITCH PER DETAIL 4, DWG C-14
- ⑰ CONSTRUCT TWO 4" SCH. 40 PURPLE PVC PIPE SLEEVES UNDER ASPHALT PAVEMENT
- ⑱ CONSTRUCT 6" CMB OVER COMPACTED SUBGRADE PER DETAIL 3, DWG C-14
- ⑳ CONSTRUCT ROLLED CURB AND GUTTER PER DETAIL 4 ON DWG C-15
- ㉑ CONSTRUCT 5' CURB TRANSITION PER DETAIL 5 ON DWG C-15

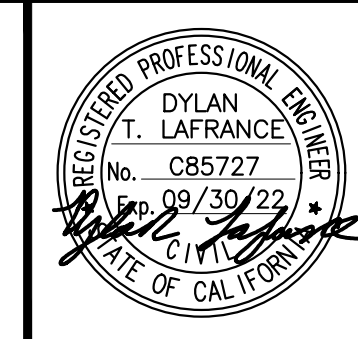
**GENERAL NOTES**

1. SEE DWG C-18 FOR LINE AND CURVE DATA TABLES
2. SEE DWG C-18 FOR COORDINATE DATA TABLES
3. SEE DWG C-16 AND C-17 FOR STRIPING AND SIGNAGE PLAN



NO.	DATE	REVISIONS	APPROVED
1	11/10/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36226	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE

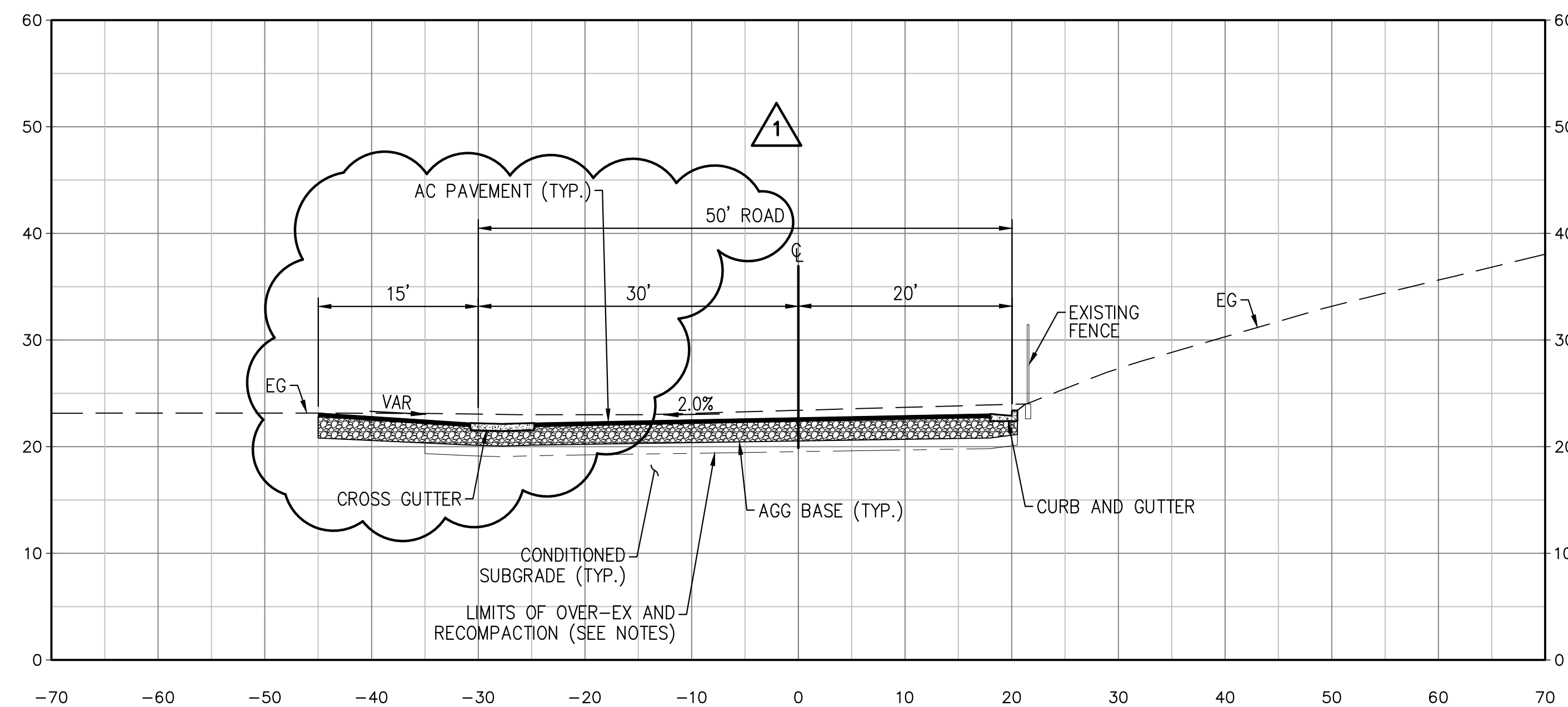


**MICHELSON WATER RECYCLING PLANT FUELING FACILITY**  
 PROJECT NO. 07881, 07882

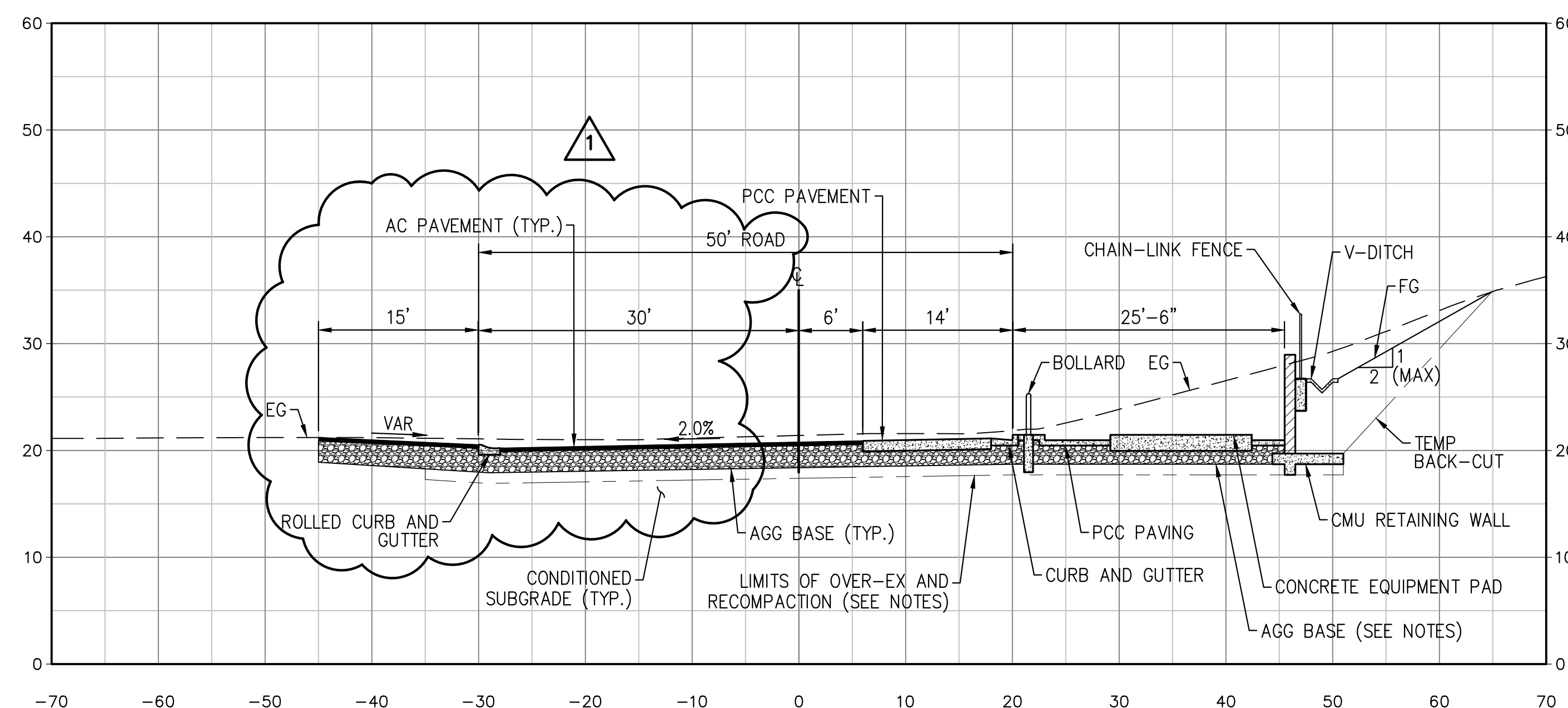
PARTIAL SITE PLAN - 3  
 SHEET C-4  
 15 OF 80 SHEETS

CODE 7706  
 SEPTEMBER 2022

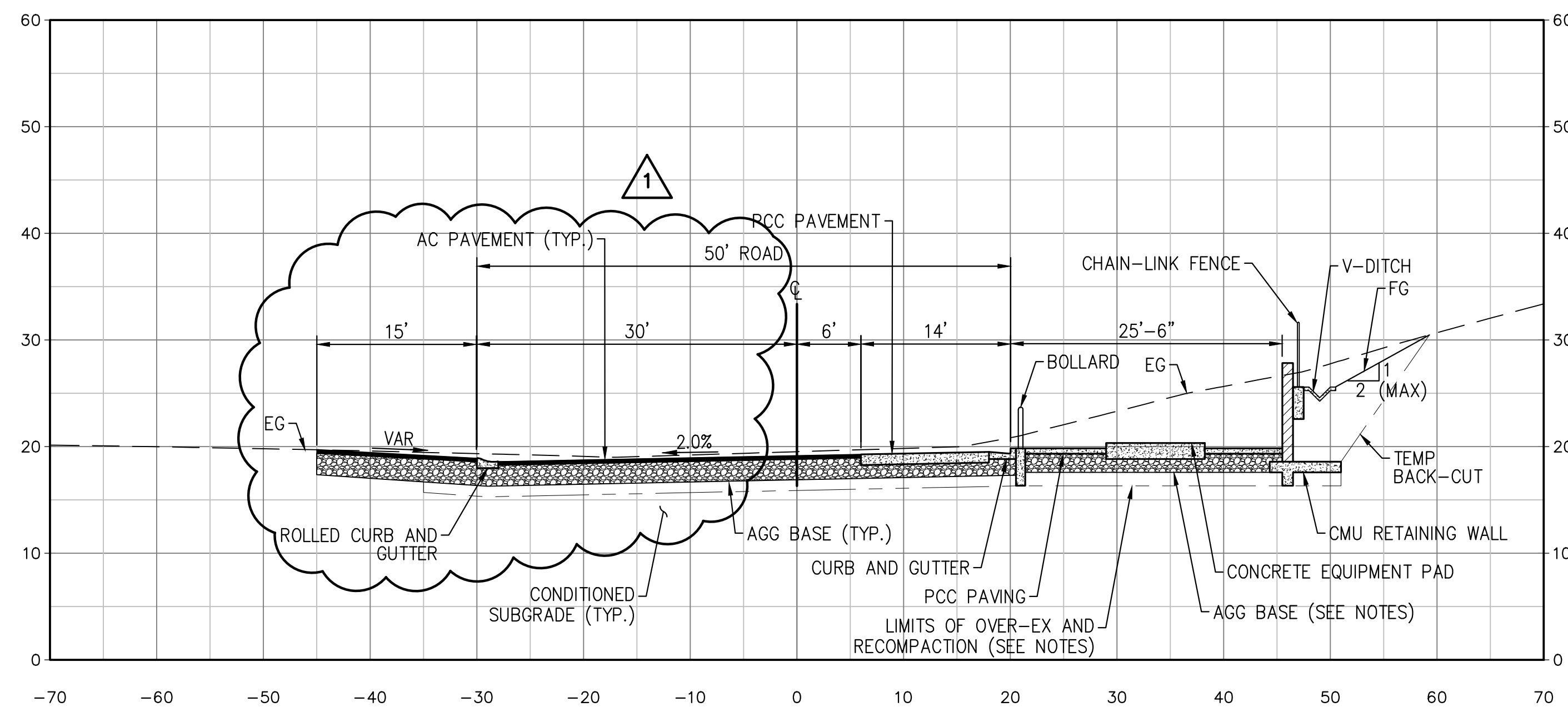




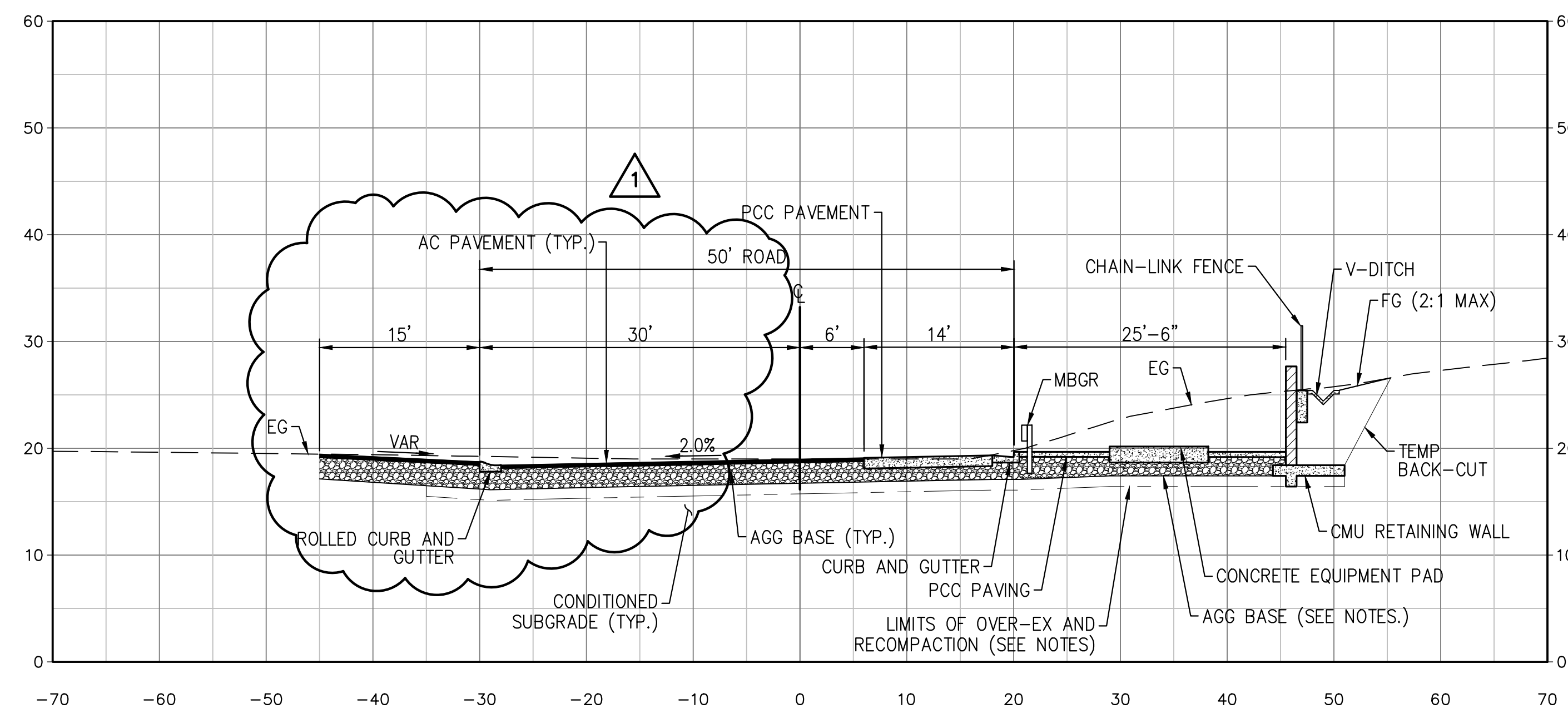
STA 11+00  
SCALE: 1" = 10'



STA 12+00  
SCALE: 1" = 10'



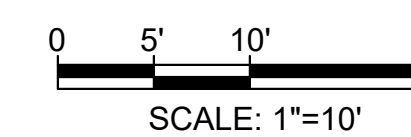
STA 13+00  
SCALE: 1" = 10'



STA 13+50  
SCALE: 1" = 10'

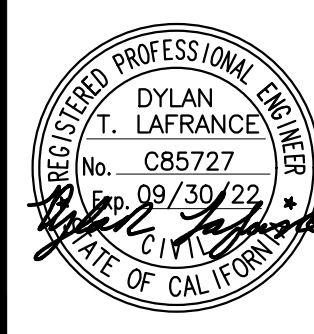
**NOTES**

1. OVER-EXCAVATE A MINIMUM 3' BELOW FINISHED GRADE WITHIN PROPOSED FUELING FACILITY AND ROADWAY LIMITS AS SHOWN, MOISTURE CONDITION, AND RE-COMPACT WITH PROCESSED FILL TO 95% RELATIVE COMPACTION PER SPECIFICATIONS.
2. SCARIFY SUB-GRADE A MINIMUM 6" BELOW OVER-EXCAVATION.
3. CONTRACTOR SHALL TEMPORARILY SUPPORT ALL EXISTING UTILITIES DURING OVER-EXCAVATION WORK. TEMPORARY SUPPORT BEAMS OR WALLS SHALL BE USED WHERE REQUIRED OR DETERMINED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION.
4. PROVIDE MINIMUM 12" OF CLASS 2 AGGREGATE BASE MATERIAL BELOW ALL CONCRETE EQUIPMENT PADS.

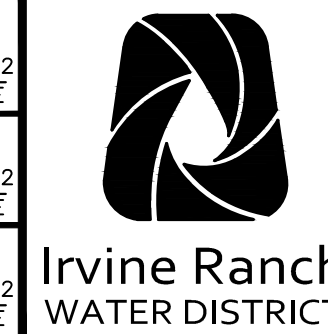


NO.	DATE	REVISIONS	APPROVED
1	1/10/23	ACCESS ROAD WIDENING	

DESIGN:  
DL  
DRAWN:  
FX  
CHECK:  
BP



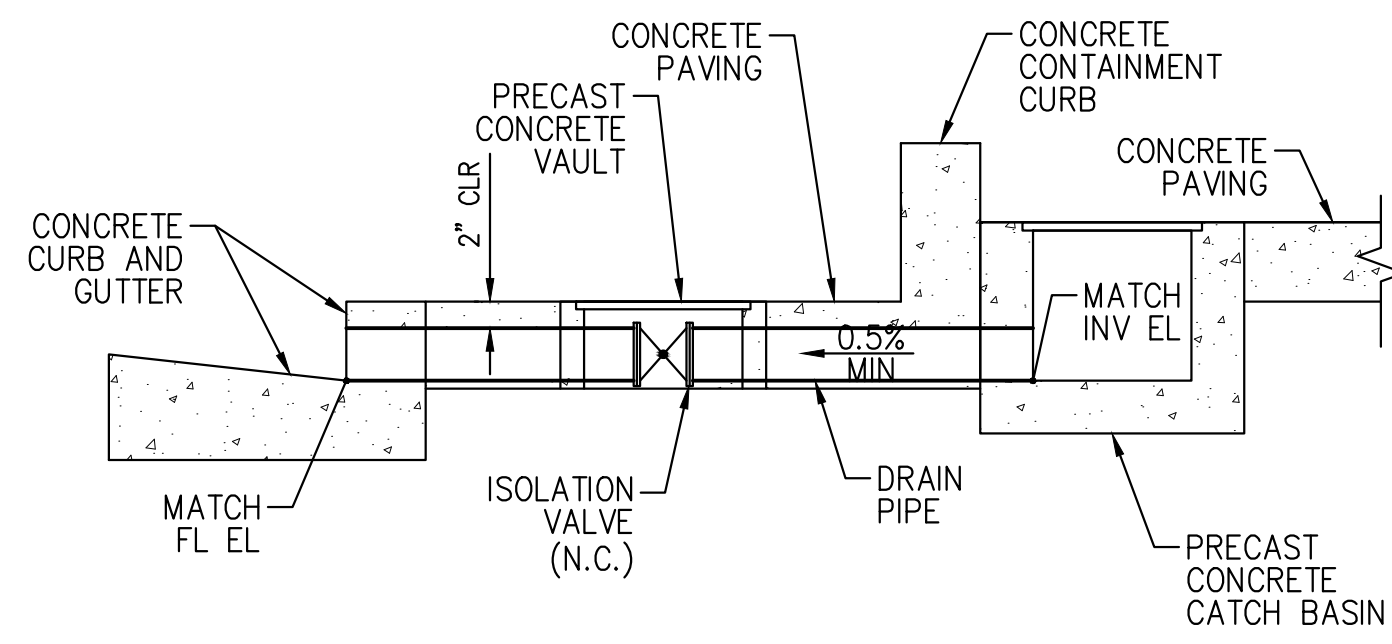
SEAN P. GOLDSMITH	AECOM PROJECT MANAGER	8/31/22
RACHAEL L. BURK	IRWD PROJECT MANAGER	8/31/22
MALCOLM A. CORTEZ	IRWD ENGINEERING MANAGER	8/31/22



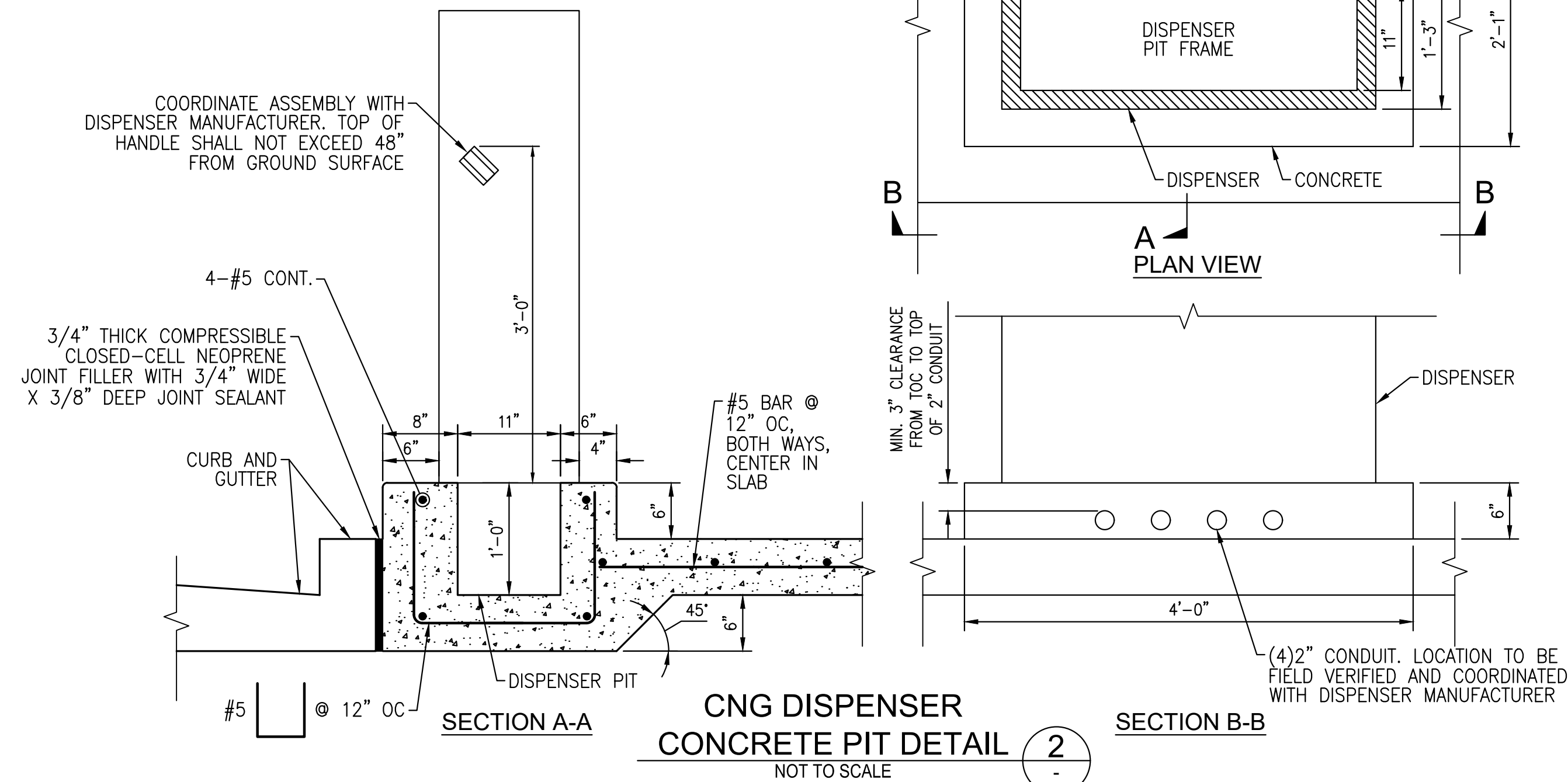
MICHELSON  
WATER RECYCLING PLANT  
FUELING FACILITY  
PROJECT NO. 07881, 07882

ROADWAY SECTIONS - 1

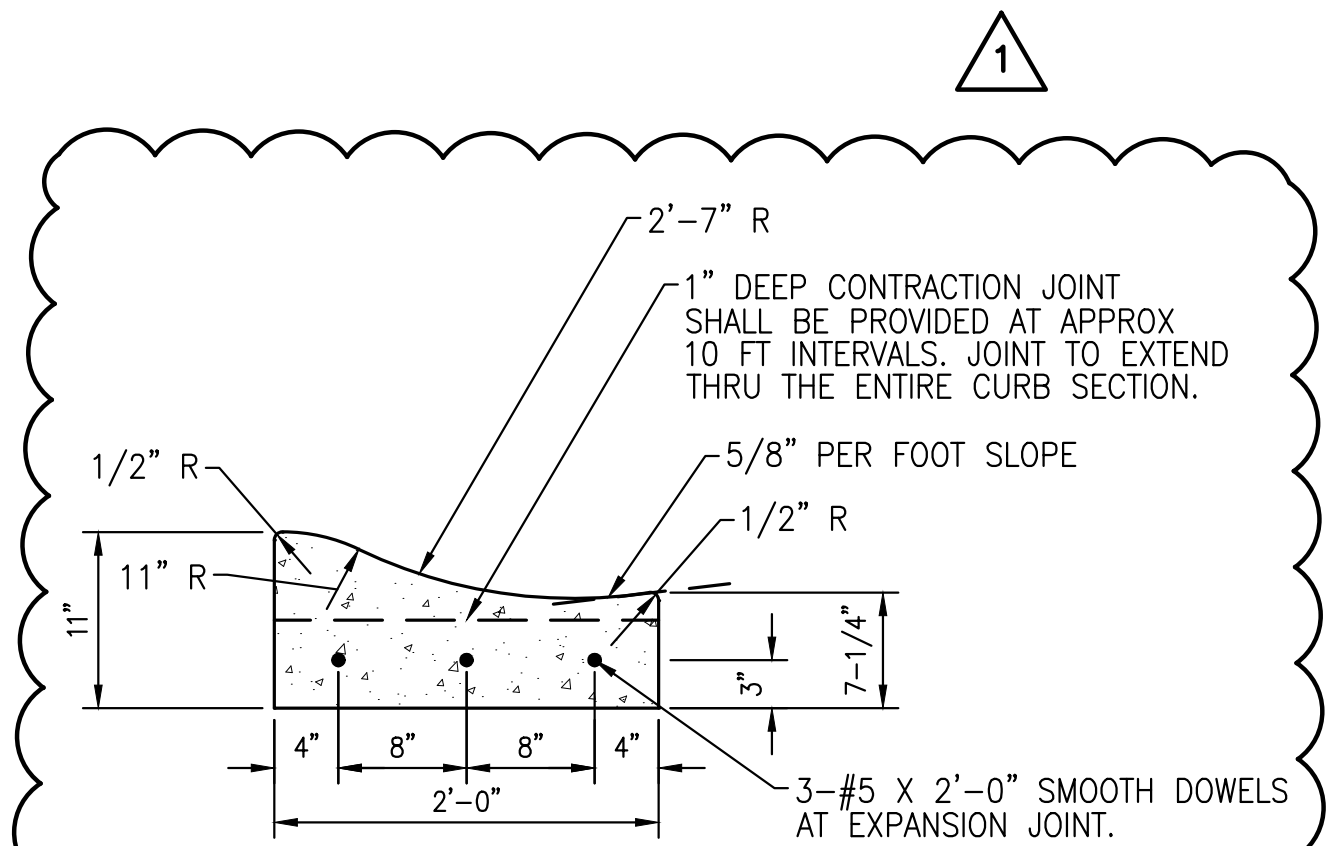
SHEET  
C-11  
22 OF 80  
SHEETS



**SUMP AND DRAIN** 1  
NOT TO SCALE

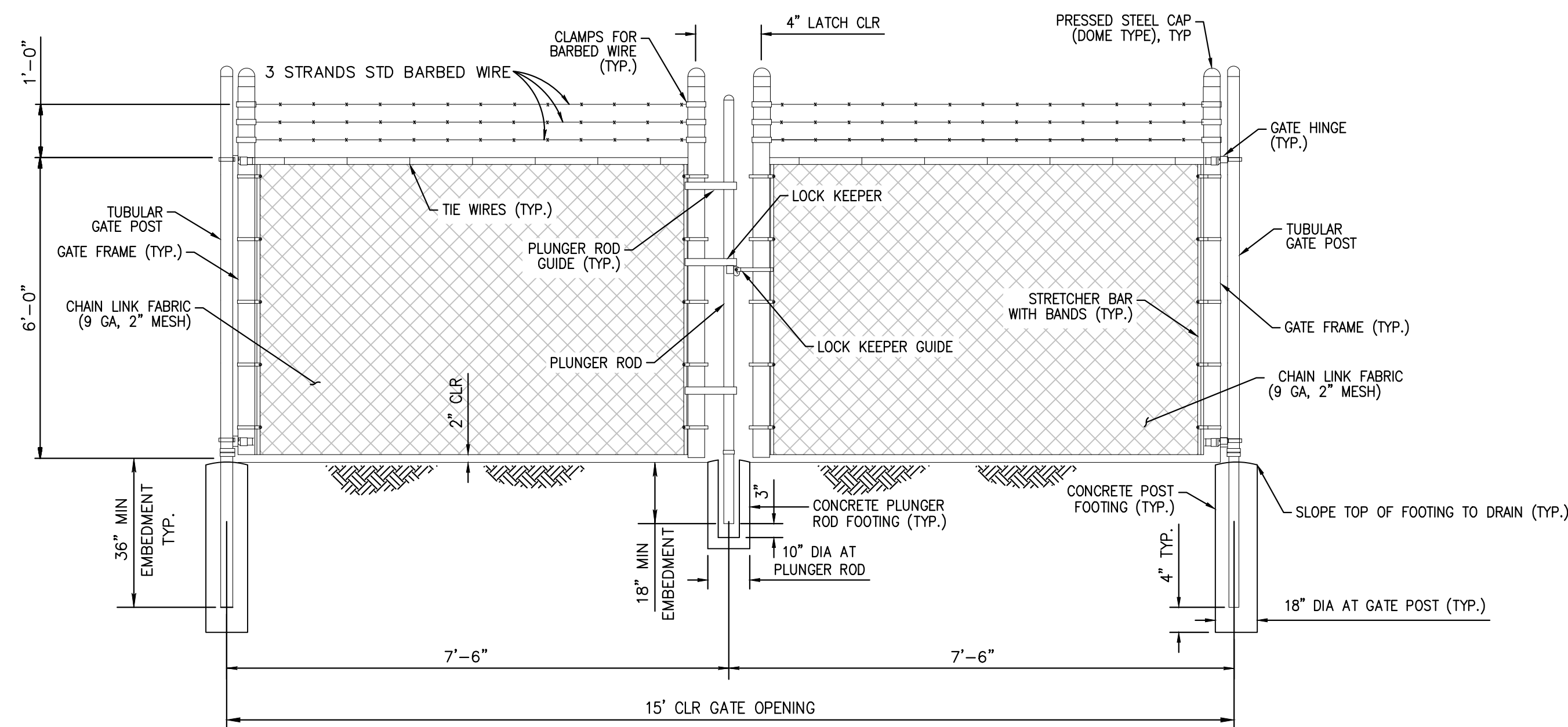


**CNG DISPENSER CONCRETE PIT DETAIL** 2  
NOT TO SCALE

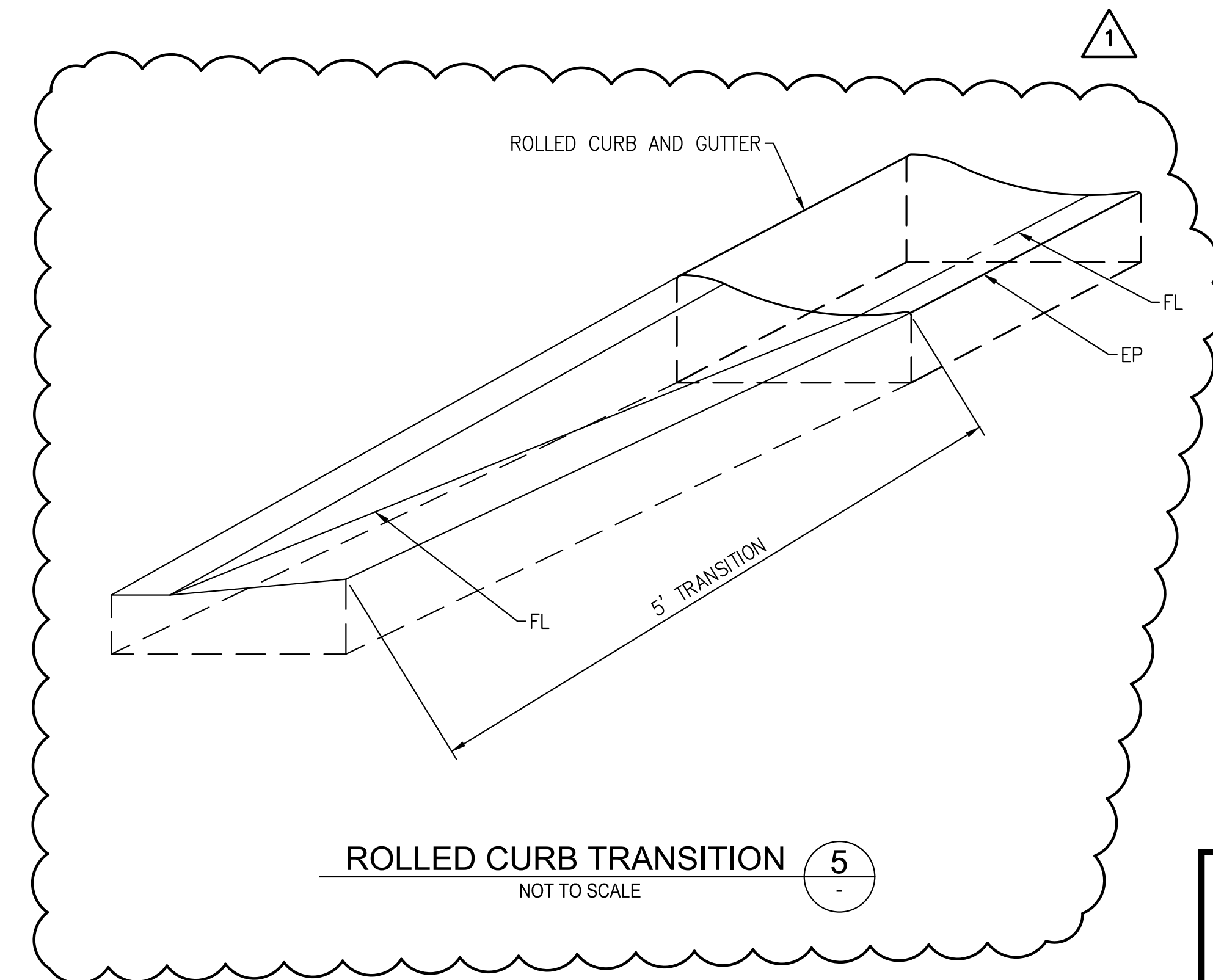


- NOTES:
- EXPANSION JOINTS SHALL BE PLACED AT END OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, BOTH SIDES OF DRIVEWAYS AND WALKWAYS CURB RETURNS, STRUCTURES AND AT MAXIMUM DISTANCE SPECIFIED IN THE SPECIFICATIONS. EXPANSION JOINTS SHALL BE AS SHOWN ON THE CONCRETE DETAIL DRAWINGS.
  - REINFORCING STEEL SHALL NOT PASS THROUGH EXPANSION JOINTS. THE REINFORCEMENT SHALL STOP PRIOR TO EXPANSION JOINT TO ALLOW PLACEMENT OF DOWELS.
  - CURB SHALL BE DEPRESSED FOR DRIVEWAYS, ROADWAYS, AND WHERE SHOWN ON THE DRAWINGS.

**ROLLED CURB AND GUTTER** 4  
NOT TO SCALE



**DOUBLE SWING GATE** 3  
NOT TO SCALE

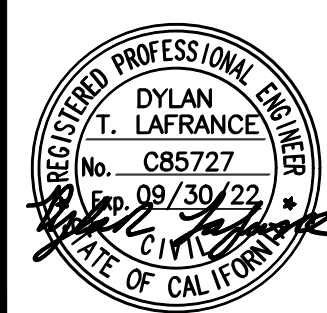


**ROLLED CURB TRANSITION** 5  
NOT TO SCALE

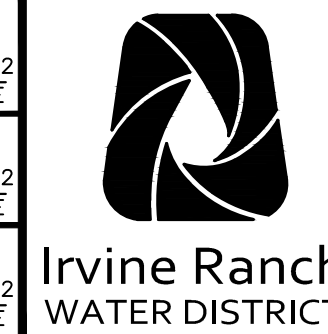
NO.	DATE	REVISIONS	APPROVED
1	11/1/23	ACCESS ROAD WIDENING	

DESIGN: DL  
DRAWN: FX  
CHECK: BP

**AECOM**  
999 TOWN & COUNTRY ROAD  
ORANGE, CA 92868  
TEL (714) 567-2400



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36226	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



MICHELSON  
WATER RECYCLING PLANT  
FUELING FACILITY  
PROJECT NO. 07881, 07882

CIVIL DETAILS - 2

SHEET  
C-15  
26 OF 80  
SHEETS

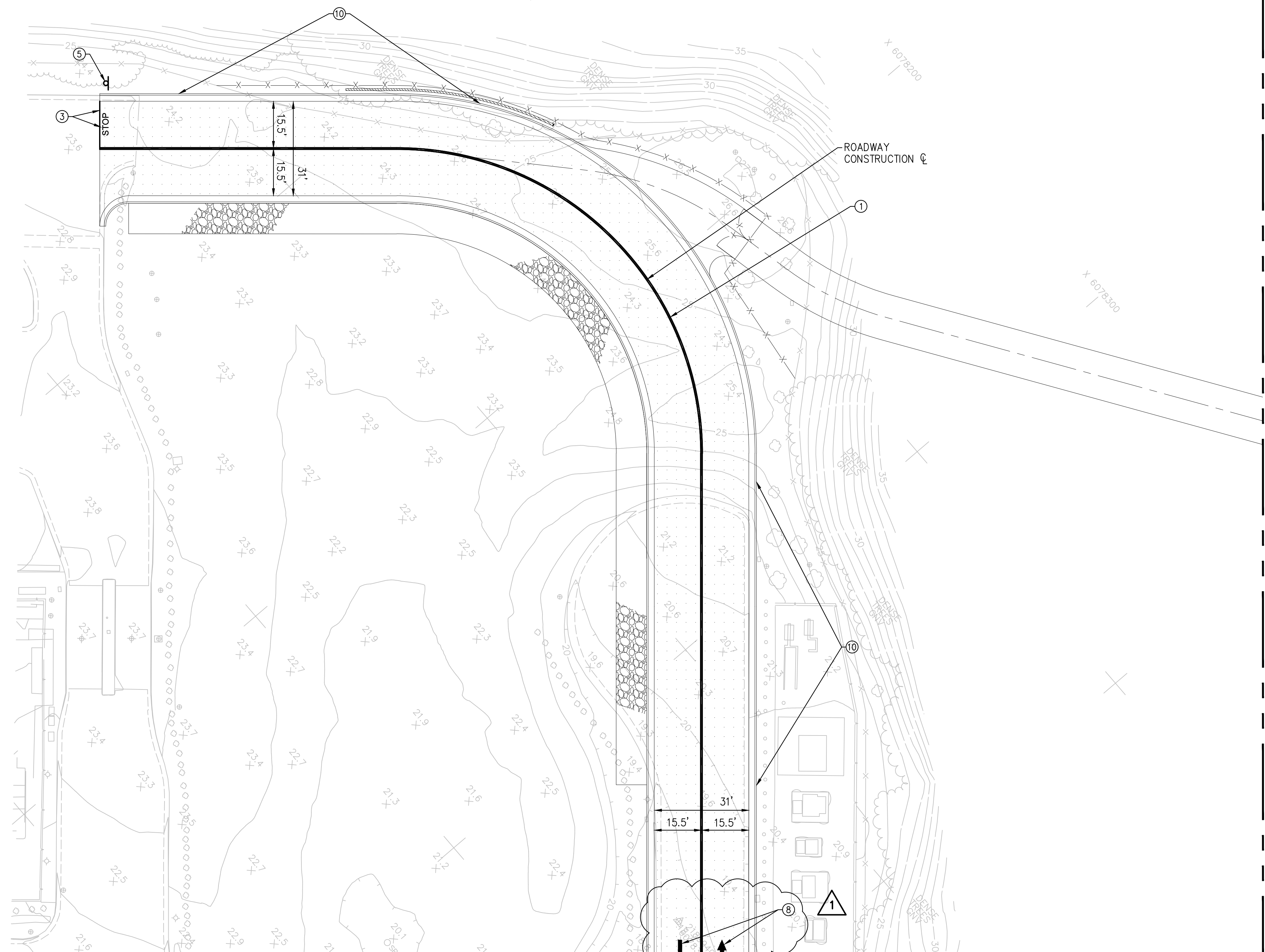


**CONSTRUCTION NOTES**

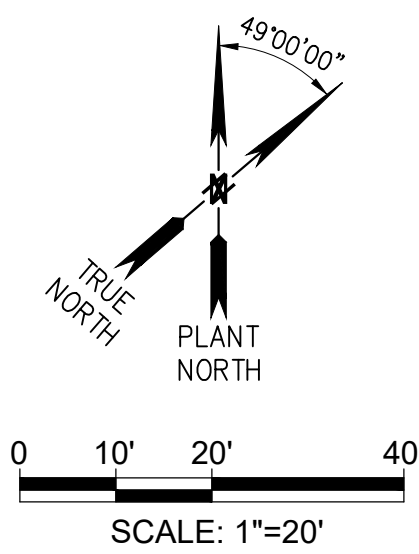
- ① INSTALL NO PASSING ZONE STRIPING PER CALTRANS STD PLAN A20, DETAIL 21
- ③ INSTALL "STOP" MARKER AND LIMIT LINE PER CALTRANS STD PLAN A24
- ⑤ INSTALL R1-1 STOP SIGN AND SIGN POST WITH PERFORATED STEEL TUBE AND BREAK-AWAY BASE PER OCPW STD PLAN 1417
- ⑧ **INSTALL PAVEMENT MARKING ARROWS, TYP I AND TYP VII (L) PER CALTRANS STD PLAN A24 AND AS SHOWN**
- ⑩ MARK TOP AND VERTICAL FACE OF CURB CONTINUOUSLY WITH RED TRAFFIC PAINT, THE WORDS "FIRE LANE NO PARKING" SHALL BE PROVIDED IN 4" WHITE LETTERING ON THE VERTICAL FACE OF THE CURB AT 25' INTERVALS

**GENERAL NOTES**

- 1. STRIPING DIMENSIONS ARE TO/FROM THE CENTERLINE OF THE STRIPE.
- 2. FOR TRAFFIC STRIPING DETAILS, SEE CALTRANS STANDARD PLAN NOS. A20A THRU A20D AND A24A THRU A24E.
- 3. SIGNS ARE PER CALTRANS CALIFORNIA SIGN CHART, UNLESS NOTED OTHERWISE.
- 4. PAINT CURBS, WHERE APPLICABLE, TO MATCH PRE-DEMOLITION CONDITIONS.

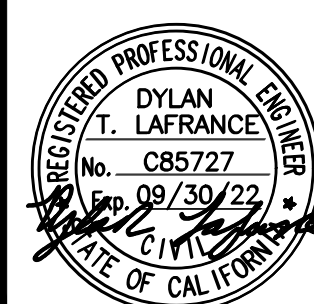


MATCHLINE - SEE DRAWING C-16



NO.	DATE	REVISIONS	APPROVED
1	11/1/23	ACCESS ROAD WIDENING	

DESIGN: DL  
 DRAWN: FX  
 CHECK: BP



SEAN P. GOLDSMITH AECOM PROJECT MANAGER R.M.E. 36228	8/31/22 DATE
RACHAEL L. BURK IRWD PROJECT MANAGER R.C.E. 86587	8/31/22 DATE
MALCOLM A. CORTEZ IRWD ENGINEERING MANAGER R.C.E. 53962	8/31/22 DATE



MICHELSON  
 WATER RECYCLING PLANT  
 FUELING FACILITY  
 PROJECT NO. 07881, 07882

PARTIAL STRIPING AND  
 SIGNAGE PLAN - 2

SHEET  
**C-17**  
 28 OF 80  
 SHEETS

MICHELSON WATER RECYCLING PLANT FUELING FACILITY

CODE 7706

SEPTEMBER 2022

POINT TABLE		
POINT #	NORTHING	EASTING
1	2189578.15	6078751.14
2	2189590.78	6078761.94
3	2189623.86	6078720.78
4	2189622.21	6078699.63
5	2189619.94	6078786.89
6	2189640.62	6078662.74
7	2189661.77	6078661.09
8	2189604.74	6078773.89
9	2189728.25	6078583.39
10	2189726.61	6078562.24
11	2189708.13	6078686.55
12	2189712.92	6078690.65
13	2189713.71	6078677.23
14	2189716.21	6078675.14
15	2189719.99	6078672.56
16	2189722.49	6078669.65
17	2189735.20	6078691.39
18	2189745.05	6078643.95
19	2189766.15	6078619.04
20	2189787.18	6078595.95
21	2189804.31	6078610.63
22	2189752.61	6078531.84
23	2189773.68	6078530.30
24	2189853.21	6078551.57
25	2189868.02	6078533.23
26	2189882.13	6078519.67
27	2189863.14	6078503.42
28	2189868.13	6078506.81
29	2189872.03	6078502.26
30	2189867.58	6078498.45
31	2189851.89	6078485.03
32	2189831.53	6078542.80
33	2189875.56	6078485.59
34	2189882.56	6078491.82
35	2189891.12	6078471.62
36	2189870.35	6078459.61
37	2189869.81	6078417.94
38	2189868.16	6078396.79
39	2189863.22	6078392.56
40	2189892.48	6078382.75
41	2189888.02	6078378.94

POINT TABLE		
POINT #	NORTHING	EASTING
42	2189908.90	6078381.97
43	2189941.56	6078403.31
44	2189897.88	6078374.22
45	2189903.41	6078367.82
46	2189919.62	6078375.11
47	2189912.57	6078375.66
48	2189908.70	6078377.61
49	2189903.85	6078373.46
50	2190085.54	6078212.94
51	2190080.75	6078148.95
52	2190085.31	6078152.23
53	2190078.66	6078141.12
54	2190048.36	6078097.74
55	2190034.92	6078113.45
56	2190003.61	6078059.55
57	2189972.31	6078036.85
58	2189960.94	6078050.15
59	2189945.47	6078070.47
60	2189956.75	6078069.59
61	2190034.60	6078088.17
62	2189961.50	6078325.39
63	2189721.21	6078680.95
64	2189809.75	6078601.96
65	2189705.67	6078665.27
66	2189743.26	6078681.98
67	2189816.37	6078596.53
68	2189877.12	6078525.53
69	2190045.87	6078254.47
70	2189602.51	6078745.73
71	2190112.87	6078209.19
72	2190090.03	6078214.42
73	2190085.16	6078255.73
75	2190035.49	6078294.29
76	2190000.63	6078264.27
77	2189954.52	6078088.97
78	2189993.05	6078044.14
79	2190132.50	6078309.55
80	2190167.70	6078282.63
81	2189615.92	6078691.61
82	2189872.31	6078381.93
83	2189879.91	6078388.43

CURVE TABLE				
CURVE #	LENGTH	RADIUS	DELTA	TANGENT
1	23.56	15.00	90° 00' 00"	15.00
2	23.56	15.00	90° 00' 00"	15.00
3	23.56	15.00	90° 00' 00"	15.00
4	23.56	15.00	90° 00' 00"	15.00
5	23.57	15.00	90° 01' 00"	15.00
6	18.11	12.00	86° 28' 42"	11.28
7	4.90	3.00	93° 30' 18"	3.19
8	7.85	5.00	90° 00' 00"	5.00
9	15.71	10.00	90° 00' 00"	10.00
10	157.11	100.00	90° 01' 08"	100.03

LINE TABLE		
LINE #	LENGTH	DISTANCE
1	406.06	N49° 26' 58.66"W
2	26.17	N54° 55' 56.73"W
3	249.36	N49° 26' 58.66"W
4	97.37	S40° 33' 01.34"W

1

1

1

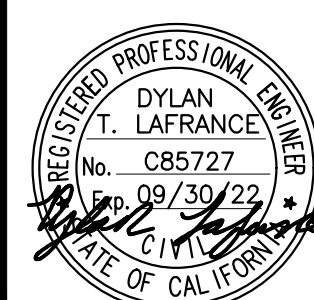
1

1

1

NO.	DATE	REVISIONS	APPROVED
1	11/10/23	ACCESS ROAD WIDENING	

DESIGN:	DL
DRAWN:	FX
CHECK:	BP



<i>Sean P. Goldsmith</i>	AECOM PROJECT MANAGER	8/31/22
	R.M.E. 36228	DATE
<i>Rachael L. Burk</i>	IRWD PROJECT MANAGER	8/31/22
	R.C.E. 86587	DATE
<i>Malcolm A. Cortez</i>	IRWD ENGINEERING MANAGER	8/31/22
	R.C.E. 53962	DATE



MICHELSON  
WATER RECYCLING PLANT  
FUELING FACILITY  
PROJECT NO. 07881, 07882

POINT, LINE, AND  
CURVE DATA TABLES

SHEET  
C-18  
29 OF 80  
SHEETS

# Exhibit C

**Michaelson Water Recycling Plant Fueling Facility  
PR 07881 & 07882  
Construction Change Order Summary**

Contractor: Innovative Construction Solutions  
Design Engineer: AECOM  
Award Date: 11/29/2022

			Contract Amount						Contract Days				Original Completion Date:
			Original Contract Amount: \$9,547,000.00						Original Days: 520				5/2/2024
Change Order	Description	Category	Change Order Line Item Amount	Change Order Amount	Previous Change Orders	Cumulative Total of Change Orders	% of Original Contract Amount	Revised Contract Amount	Change Order Days	Previous Change Orders	Cum. Change Order Days	Revised Total Contract Days	Revised Completion Date
1	Approved by Executive Director Approved on March 30, 2023 CR No. 3 - Additional Over-Excavation for Roadway Sta 16+50 to 19+36 and Emergency Access Road	B	\$ 123,473.42	\$123,473.42	\$0.00	\$123,473.42	1.29%	\$9,670,473.42	0	0	0	520	5/2/2024
2	Approved by Executive Director Approved on April 12, 2023 CR No. 3 - Emergency Access Road Grading Modifications	A	\$ 30,082.85	\$30,082.85	\$123,473.42	\$153,556.27	1.61%	\$9,700,556.27	0	0	0	520	5/2/2024
3	Approved by Executive Director Approved on May 25, 2023 CR No. 4 - Upsize PLC Cabinet and Power Supply	D	\$ 2,465.30	\$2,465.30	\$153,556.27	\$156,021.57	1.63%	\$9,703,021.57	0	0	0	520	5/2/2024
4	Approved by Board of Directors Approved on CR No. 5 - Roadway Widening	A	\$ 290,798.21	\$290,798.21	\$156,021.57	\$446,819.78	4.68%	\$9,993,819.78	0	0	0	520	5/2/2024

Category	Total Amount	% of Original Contract
A - Owner Directed Change	\$ 320,881.06	3.36%
B - Differing/Unknown Condition	\$ 123,473.42	1.29%
C - External Agency, Regulatory, and/or Permit Required Change		0.00%
D - Design Oversight	\$ 2,465.30	0.03%
<b>Total Change Order Amount (A + B + C + D)</b>	<b>\$ 446,819.78</b>	<b>4.68%</b>

(This page is intentionally blank)