ADDENDUM NO. 1
SLOVER AVENUE DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENTS
WORK ORDER: H14967 & H14970
AREA: Bloomington
ROAD NO.: 760800-050; 110650-020; 495900-020/030

BIDS OPEN 10:00 AM, THURSDAY, JUNE 10, 2021

By Email via ePro System

Information on ePro has been updated to match the project documents related to the pre-bid meeting and bid opening. The non-mandatory pre-bid meeting will be held onsite, with proper Covid-19 provisions. Attached is a map to the project site. All attendees of the pre-bid meeting should be prepared to leave a business card or similar identification in-lieu of a sign-in sheet. The bid opening will be publicly viewable via Zoom.com, details are available in the Notice to Bidders pages of the special provisions.

Amend the Project Drawings as follows:

1. **Delete: ~~Sheet 2 of 7, Sheet 5 of 7, Sheet 6 of 7, sheet 7 of 7~~**
   Replace with: attached Addendum No. 1 Sheet 2A of 7, Sheet 5A of 7, Sheet 6A of 7, Sheet 7A of 7

Amend the Special Provisions as follows:

2. **Section 10-2.00 SIGNALS AND LIGHTING (2018 CALTRANS REVISED STANDARD SPECIFICATIONS)**
   Delete entire Section and replace with the following:

10-2.00 SIGNALS AND LIGHTING (2018 CALTRANS REVISED STANDARD SPECIFICATIONS)

10-2.10 Description

The work to be done consists of furnishing electrical equipment and materials, and installing of electrical systems, include all traffic control and necessary appurtenant work for the installation of traffic signal and safety lighting at the following location(s):

1. Slover Avenue & Linden Avenue – Traffic Signal
2. Slover and Locust Avenue - Remove and Replace Traffic Signal Pull Boxes

Standard plans referred to on the temporary signal plans and in these Special Provisions for electrical work shall be in accordance with 2018 Caltrans Revised Standard.
The furnishing and installing of temporary traffic signals and highway lighting shall conform to Sections 86, "Electrical Work" and 87, "Electrical Systems," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

10-2.11 Contractor Supplied Materials

The Contractor shall provide all materials, including but not limited to: controller, controller cabinet, emergency vehicle preemption, uninterruptable power supply (ups), pull boxes, conduits, all wiring and conductors, vehicle video detection system, foundations, signal cables (3CSC), Type B push button assembly, pedestrian push button R10-3 (9"x12") sign, pedestrian push button post (4' – 10") and any other hardware necessary for the traffic signal and safety lighting installation.

The Contractor shall furnish and install any additional electronic equipment required to provide the desired signal operation as shown on plan.

10-2.11a County Supplied Materials

Attention is directed to Section 6 of these Specifications for a list of County supplied items associated with signals and lighting.

10-2.12 Regulations and Code

Electrical equipment must comply with the requirements listed in Section 86-1.01D (1), “General,” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.
Attention is specifically directed to the California Administrative Code, Title 8, Subchapter 5, "Electrical Safety Orders," Articles 85 and 86, in accordance with which all persons and equipment working up to six (6) feet of high voltage power lines must meet the exceptions specified in the above mentioned code. The six (6) feet dimension shall be increased if required by Southern California Edison regulations.

10-2.13 Submittals

Within 15 days after contract approval, the Contractor shall submit a list of electrical equipment and materials proposed to be installed. List of electrical equipment and material shall conform to the provision in Section 86-1.01C, “Submittals,” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

10-2.14 Foundations

Pole foundations shall conform to the provisions in Section 87-1.03E(3), “Concrete Pads, Foundations, and Pedestals” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

CAST-IN-DRILLED-HOLE CONCRETE PILING
Cast-in-drilled-hole concrete pile foundations shall conform to the provisions in Section 49-3, "Cast-In-Place Concrete Piling," of the Standard Specifications and these special provisions.
Concrete must contain not less than 590 pounds of cementitious material per cubic yard.
For standards and poles located in sidewalk areas, the pile foundation must be placed to final sidewalk grade before the sidewalk is placed. The top 4 inches must be square shaped.

10-2.15 Conduit

Conduit shall conform to the provisions in Sections 86 and 87, "Electrical Systems," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.
All conduit shall be 4” minimum, schedule 80 electrical grade PVC unless otherwise noted or approved by the Engineer. Galvanized rigid steel conduit SHALL NOT be allowed as the final, installed material.
Depth of all new conduit shall conform to the provisions of Section 87-1.03B(3), “Conduit Installation Underground”. The contractor shall verify depth of existing conduit(s) for conformance to Section 87-1.03B(3). In the event that existing conduit depth does not meet minimum requirements, the contractor shall relocate existing conduits and wiring as directed by the engineer.
Insulated bonding bushing will be required on all conduit.
Conduit runs shown on plans to be located behind curbs may be installed in the street, within three (3) feet of, and parallel to the face of the curb by the “Conduit Installation by the Trenching-In-Pavement Method” described in Section 87-1.03B(6). All pull boxes shall be located behind the curb or at the locations shown on the plans.

Conduit ends shall be sealed after installation to preclude water and dirt infiltration prior to pulling conductors.
After conductors have been installed, the ends of conduits terminating in pull boxes, service and controller cabinets shall be sealed with “a duct seal” type of sealing compound.
When a standard coupling cannot be used for coupling metal type conduit, a UL listed threaded union coupling, as specified in the third paragraph in Section 87-1.03B, "Conduit Installation," of the 2018 Caltrans Standard Specifications shall be used.
Only galvanized rigid steel conduit shall be used as a drilling or jacking rod, provided damaged or abraded sections are removed. Galvanized rigid steel conduit SHALL NOT be allowed as the final, installed material, only the drilling or jacking rod.
At locations where conduit is to be installed, by jacking or drilling as provided in Section 87-1.03B(5), "Conduit Installation by the Jacking and Drilling Method," of the 2018 Caltrans Revised Standard Specifications, and if delay to any vehicle will not exceed two minutes, conduit may be installed by the "Conduit Installation by the Trenching-In-Pavement Method" as specified in said Section 87-1.03B(6).
Spreading and finishing of portland cement concrete surfacing shall be performed by any method which will produce a portland cement concrete surfacing of uniform smoothness, and texture equal to the adjacent surface.

10-2.16 Pedestrian Push Buttons

Pedestrian push buttons shall conform to the provisions of Section 86-1.02T, “Accessible Pedestrian Signals,” Section 86-1.02U, “Push Button Assemblies,” of the 2018 Caltrans Standard Specifications and current revisions, the most current Americans with Disabilities Act (ADA) requirements, and these Special Provisions.
Pedestrian push button housing shall be the metal type. Pedestrian push button shall be Type “B” Assembly per Standard Plan ES-5C and conform to the most current American Disabilities Act (ADA) Specifications. Posts for pedestrian push buttons must comply with Section 56-3, “Overhead Sign Structures, Standards, and Poles.”

10-2.17 Pull Boxes

Pull boxes shall conform to the provisions in Section 86-1.02C, "Pull Boxes," and Section 87-1.03C, "Installation of Pull Boxes" of the 2018 Caltrans Standard Specifications and current revisions, and these special provisions.
The pull boxes shall be placed according to Caltrans Standard Plan RSP ES-1C and RSP ES-8A.
The pull boxes located in roadways or shoulder areas subject to traffic shall be equipped with steel traffic weight covers per Caltrans Standard Plan RSP ES-8B.
The pull boxes installed adjacent to the controller cabinet shall be 6 (E).
Grout shall be placed in the bottom of pull boxes.
Pull boxes shall not be located in or within 1 foot of a curb access ramp. Pull boxes shall be placed with their tops flush with surrounding finished grade, except as required by the Engineer.
Pull boxes shall be installed at the locations shown on the plans and shall be spaced at no more than 200-foot intervals. The Contractor may, at the Contractor’s expense, install additional pull boxes to facilitate the work.
Pull boxes covers shall be marked with “Traffic Signal.” The “Caltrans” cover marking is not allowed.

10-2.18 Conductors, Wiring and Cables

Conductors and cables shall conform to the provisions in Section 86-1.02F, "Conductors and Cables," Section 87-1.03F, "Conductors and Cable Installations,” Section 87-1.03H, "Conductors and Cables Splices," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

Conductors No. 10 AWG or larger, shall be spliced by the use of "C" shaped compression connectors as shown in the Standard Plans.
Splices shall be insulated by "Method B" as specified in Section 87-1.03H(2), “Splice Insulation Methods” of the 2018 Caltrans Standard Specifications.
Conductors shall be wrapped around projecting end of conduit in pull boxes. Cables shall be secured to the projecting end of conduit in pull boxes to prevent pulling of cables without removing the securing device.
The minimum insulation thickness, at any point, for Type USE, RHH, or RHW wire shall be 39 mils for conductor sizes No. 14 to No. 10, inclusive, and 51 mils for No. 8 to No. 2, inclusive. The minimum insulation thickness, at any point, for Type THW and TW wires shall be 27 mils for conductors sizes No. 14 to No. 10, inclusive, 40 mils for No. 8, and 54 mils for No. 6 to No. 2, inclusive.

10-2.19 Service

Electrical service shall conform to the provisions in Section 86-2.11, “Service,” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

Service at this location shall be Type III-BF 120/240-volt service equipment enclosure with test switch per Caltrans Standard Plan RSP ES-2E and as shown on the plans. The necessary conduit from the cabinet to the service point shall be installed by the CONTRACTOR as directed by the engineer and approved by Southern California Edison.

Service equipment shall be installed as soon as possible to enable the utility to schedule its work well in advance of the completion of the project.

10-2.20 Bonding and Grounding

Bonding and grounding shall conform to the provisions in Section 86-1.02F(1)(c)(ii) “Bonding Jumpers and Equipment Grounding Conductors,” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.
Bonding jumpers in standards with hand holes and traffic pull box lid cover shall be attached by a UL-listed lug using a 3/16-inch diameter or larger brass or bronze bolt and shall run to the conduit or bonding wire in the adjacent pull box. The grounding jumper must be visible after the standard is installed and the mortar pad and cap is placed on the foundation.
Equipment bonding and grounding conductors are required in all conduits, except when the conduits contain fiber optic cable. A No. 8 minimum bare copper wire shall run continuously in circuits, except for series lighting circuits, where No. 6 bare copper wire shall run continuously. The bonding wire size shall be increased to match the circuit breaker size in conformance with the Code, or shall be as shown on the plans. Conduits to be installed for future conductors, may omit the copper wire.
Ground metal conduit, service equipment, and grounded conductor at the service point as specified by NEC and service utility, except grounding electrode conductor must be No. 6 or larger.

10-2.21 Operational Testing

Operational test shall conform to the provisions in Section 87, “Electrical Systems,” of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.
The Contractor shall arrange to have a signal technician, qualified to work on the controller assembly present at the time the equipment is activated.
The Contractor shall test each loop circuit for continuity, circuit resistance, and insulation resistance at the controller cabinet location.
The County will have their signal contractor on site to answer questions and to inspect the signal construction.

The Contractor shall notify Resident Engineer to make arrangements to be tested by County subcontractor (St. Francis Electric, LLC).

10-2.22 SOLID-STATE TRAFFIC ACTUATED CONTROLLERS - Solid-state traffic actuated controller units, cabinets, and auxiliary equipment shall conform to the provisions in Section 86-3, "Controller Assemblies," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

The Contractor shall furnish and install Cobalt controller with touch screen option including NEMA TS2-1 Type R controller cabinet with 16-channel MMU, and all appurtenant equipment. Controller cabinet shall include LED internal cabinet lighting and slide out drawer.
The CONTRACTOR shall furnish and install any additional electronic equipment required to provide the desired signal operation as shown on the plans.
The CONTRACTOR shall make all field-wiring connections to the terminal blocks in the controller cabinet.
The foundation for the Type "R" cabinet shall be per Caltrans Standard Plan ES-3B. The foundation shall include furnishing and installing the anchor bolts.
The CONTRACTOR shall be responsible for all contacts with controller manufacturer required during the construction and functional testing portions of the contract.
Controller units equipped with a "guaranteed passage time feature" shall provide a method of omitting this feature without internal circuit modification.
The controller unit power supply shall be capable of supplying a minimum of 1/2 ampere to external circuits.
The convenience receptacle shall have ground-fault circuit interruption as defined by the code. Circuit interruption shall occur on a 5milliamperes of ground-fault current.
The manufacturer shall arrange to have a signal technician, qualified to work on the controller, present at the time the equipment is turned on.
A signal technician shall be able to change the lead/lag configuration of the controller assembly.
The CONTRACTOR must bid exactly to the specifications herein and the State Standard Specifications.

10-2.23 PEDESTRIAN SIGNAL FACES – Pedestrian signals shall conform to the provisions in Section 86-1.02S, "Pedestrian Signal Faces," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.
Pedestrian heads shall have light emitting diode (LED) pedestrian modules.
All pedestrian signals shall be the countdown type.

10-2.24 VEHICLE SIGNAL FACES – Vehicle signal faces, signal heads and auxiliary equipment, as shown on the plans, and the installation thereof, shall conform to the provisions in "Signal Heads" Section 87-1.02(R)1 through "Signal Faces" Section 87-1.02(R)4 of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

All vehicle indications shall be 12" and have light emitting diode (LED) signal modules.

All vehicle heads shall be equipped with back plates. Back plates shall be pre-manufactured metallic with louvers and shall be of one-piece construction. Hardware attaching back plate to signal head shall be equipped with washers. All vehicle heads shall be metallic. Signal head mounting hardware shall not be aluminum, including pipe and fittings.

10-2.25 VIDEO DETECTION SYSTEM – Video vehicle detection system shall conform to these Special Provisions. The CONTRACTOR shall furnish and install video detection system per the

manufacture's specifications. Video detection system shall be by Autoscope Vision or as approved by the County of San Bernardino - Traffic Division.
Video detection data processing shall be within the camera to maximize cabinet space.
The video and power cables to be used between the camera and the controller cabinet shall be per the manufacturer's specifications. The manufacturer's instructions must be followed to ensure proper connection.
The video cable shall be installed in a continuous run with no splices. This is to prevent moisture from seeping into connections made in conduit and to help ensure ground isolation.
The supplier of the video detection system shall supervise the installation and testing of the video detection system. A factory certified representative from the supplier shall be on-site during installation.

10-2.26 EMERGENCY VEHICLE PREEMPTION SYSTEM – Emergency vehicle preemption (EVP) system shall conform to these Special Provisions.
The CONTRACTOR shall furnish and install the emergency vehicle preemption system. The emergency vehicle preemption system shall be infrared type and shall provide emergency vehicle detection for all four directions at the intersection of **Slover Avenue and Linden Avenue** and shall be installed per the manufacturer's specifications. The provided EVP system must be fully compatible with Global Traffic Technologies (Opticom) installed on County emergency vehicles including Fire. The Contractor shall contact the fire captain of the project area to ensure provided EVP is fully compatible with County Fire and emergency vehicles.
10-2.27 UNINTERRUPTABLE POWER SUPPLY (UPS) – The uninterruptable power supply (UPS) shall conform to these Special Provisions. The CONTRACTOR shall furnish and install uninterruptable power supply system consisting of nickel-zinc batteries with 1000 watt minimum battery storage.
Mounting method for both the batteries and unit shall be shelf-mount. All necessary hardware for mounting shall be included in the bid price of the UPS.

10-2.28 LED LUMINAIRES - LED luminaires shall conform to the provisions in Section 86-1.01C(3), "LED Luminaires," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions. The LED luminaires shall be furnished by the CONTRACTOR, at the intersection with 200-watt lamps as shown on the plans.

10-2.29 PHOTOELECTRIC CONTROLS – The CONTRACTOR shall furnish and install Type V photoelectric control equipment for safety lighting. A lighting contactor shall be provided for the safety lights. A test switch shall be provided for the luminaire circuit.

Contactors shall be mechanical armature type.
The Contractor shall furnish and install in the service equipment enclosure a time delay photo cell for the luminaires.

10-2.30 MASTARM MOUNTED SIGNS AND RETROREFLECTIVE STREET NAME SIGNS - The CONTRACTOR shall furnish and install the mast arm mounted signs and mounting brackets per Caltrans Standard Plan ES-7N, Detail U.

The CONTRACTOR shall furnish and install retroreflective street name signs per Caltrans Standard Plan ES-7P and secure signs with a 1/8-inch galvanized steel cable as shown on the plan. The Contractor shall furnish mounting assembly (brackets) for mounting the retroreflective street names on the signal mast arm per Caltrans Standard Plan ES-7P.

10-2.31 SIGNAL "TURN-ON" - Functional Testing shall conform to the provisions in Section 86-2.14C, "Functional Testing," of the 2018 Caltrans Standard Specifications and current revisions, and these Special Provisions.

Perform functional test to show that each part of the system functions as specified.

The CONTRACTOR shall notify the County's Field Inspector, five (5) working days prior to the signal "Turn-On" and Functional Testing.

Turn-on of the traffic signal system shall not be made on Monday or Friday or the day preceding a legal holiday.

The CONTRACTOR shall arrange to have a qualified field technician qualified to work on the emergency preemption system and employed by the manufacturer or his representative, to be present at the time the equipment is activated.

The County will have their signal contractor on site to answer questions and to inspect the signal construction.

10-2.32 Payment

The contract lump sum price for **"Signals and Lighting"** shall include full compensation for furnishing all labor, materials, testing, tools, equipment and incidentals, and for doing all the work involved in constructing the traffic signals, complete in place, as shown on the plans, or as directed by the Engineer.

The contract unit price paid for **"Remove and Replace Traffic Signal Pull Box"** shall include full compensation for furnishing all labor, materials, testing, tools, equipment and incidentals, and for doing all the work involved in removing and replacing traffic signal pull boxes, complete in place, as shown on the plans, or as directed by the Engineer.

3. Standards and Special Drawings (Green Pages)

Delete the following:
SBCRD Standard 119 (Modified – with exp. jt.)
SBCDPW Special Drawing 100

Insert the following attached details:
SBCRD Standard 117 "Asphalt concrete Dike"
SBCRD Standard 119 (Modified – without exp. jt.)
SPPWC Std. Plan 308-2 "Monolithic Catch Basin Connection"
Caltrans RSP A88A (Modified) "Curb Ramp Details"
Revised SBCDPW Special Drawing 100

Amend Proposal as follows:

4. Proposal
Delete Proposal Pages: P-3 and P-4 and replace with attached revised Proposal Pages: Addendum No. 1, P-3 and P-4.

Provide Answers to the below list of bidder's questions.

Q1: Bid Item 20 is for 1 LS BMP Infiltration Drainage Inlet. Does this include the Two (2) Inlets shown on the plans? Does this item include the Local Depressions or are they included in the Minor Concrete item?

A1: Yes, Item No. 20 includes both Infiltration Drainage Inlet Structures shown on the plan. Yes, Item No. 20 includes the Local depressions shown on Special Drawing 100. Please see Addendum No. 1, P-3 and P-4.

Q2: Please clarify the areas included in Bid Item 18. The quantity of 165 SY (1.485 SF) would have to include not only the Driveways but also the AC Pavement widening on Alder. Please confirm.

A2: Item No 18 quantity is only intended to include Driveways and is revised to 20 SY. (Please see Addendum No. 1, P-3 and P-4).

Q3: There is 222' of Curb & Gutter to be removed on Linden. There is no Bid Item for this work.

A3: Pay Item No. 42 has been added to compensate for this work. (See Addendum No. 1, P-3 and P-4).

Q4: What is the thickness of the exixting AC Pavement on Slover Avenue at Locust? Given the quantity of Roadway excavation of only 75 cy, the existing AC would have to be at least 8" thick. At 6" thick, the Roadway Excavation would be closer to 175 cy.

A4: Quantity for Item No. 13 has been increased to 275 C.Y. (See Addendum No. 1, P-3 and P-4).

Q5: Bid Item 29 - Signal and Lighting is under bid schedule Drainage Improvements at Alder and Locust, but there is only one traffic signal plan sheet for Linden Ave/Slover Ave. Is another plan sheet going to be released for Alder and Locust? Or is this item for the pull box removals/replacements on plan sheet 4 of 7?

A5: Item 29 is to compensate for pull box removal & replacement per Note 15, on sheet 4 of 7 and has been revised for clarity. (Please see Addendum No. 1, P-3 and P-4).

Attachments:

Addendum No. 1 Sheet 2A; Addendum No. 1 Sheet 5A; Addendum No. 1 Sheet 6A; Addendum No. 1 Sheet 7A; SBCRD Standard 117 "Asphalt concrete Dike"; SBCRD Standard 119 (Modified – without exp. jt.); SPPWC Std. Plan 308-2 "Monolithic Catch Basin Connection"; Caltrans RSP A88A (Modified) "Curb Ramp Details"; Revised SBCDPW Special Drawing 100; Answers to bidder's questions

The addition of these requirements shall be considered in concert with existing documents in preparation of bids. **THE BIDDER'S CERTIFICATION FOR THIS ADDENDUM NO. 1 SHALL BE SIGNED BY THE SAME PERSON WHO SIGNS THE PROPOSAL AND SHALL BE SUBMITTED WITH THE PROPOSAL**. ***ANY proposal not accompanied by a signed BIDDER'S CERTIFICATION (below) acknowledging receipt of this Addendum No. 1 will NOT be accepted***.

BRENDON BIGGS, Interim Director
Department of Public Works

By:
Andy Silao, P.E., Chief
Contracts Division
AS:mb

BIDDER'S CERTIFICATION:
By my signature hereunder, I acknowledge receipt of Addendum No. 1 and I fully understand the intent and detail of Addendum No. 1, which I have considered in my preparation of the attached proposal.

_____ _____
Bidder's Signature **Date**

Note: The page containing the executed BIDDER'S CERTIFICATION (just this page), must be included with the proposal.

Bidder: _____

Project: ***SLOVER AVENUE DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENTS*** **W.O.#:** ***See Below***

Limits: ***Slover Avenue at Alder Avenue, Locust Avenue and Linden Avenue***

Item No.	Approx. Quant.	Meas. Unit	Item Description	Unit Price	Total
			ALL LOCATIONS		
1	35,000	F.A.	Supplemental Work At Force Account (Unforeseen Differing Site Conditions and Utility Conflicts)	**$ 1.00**	**$ 35,000.00**
2	1	L.S.	Water Pollution Control Program	$	$
3	1	L.S.	Develop Water Supply	$	$
4	1	L.S.	Mobilization	$	$
5	1	L.S.	Traffic Control System	$	$
6	1	L.S.	Finishing Roadway	$	$
7	3	EA.	Portable Changeable Message Sign	$	$
			Location Subtotal:		
			DRAINAGE IMPROVEMENTS AT ALDER AVENUE AND LOCUST AVENUE (WO H14970)		
8	2,160	S.Y.	Remove Asphalt Concrete Surfacing	$	$
9	100	L.F.	Remove Asphalt Concrete Dike	$	$
10	155	S.Y.	Cold Plane Asphalt Concrete Pavement	$	$
11	410	S.Y.	Remove Concrete (Cross Gutter, Sidewalk, Driveway and Spandrel)	$	$
12	385	L.F.	Remove Concrete (Curb, Curb and Gutter)	$	$
13	275	C.Y.	Roadway Excavation	$	$
14	4	EA.	Manhole Frame and Cover	$	$
15	245	C.Y.	Aggregate Base (Class 2)	$	$
16	650	TON	Asphalt Concrete (Type A)	$	$
17	85	L.F.	Place Asphalt Concrete Dike	$	$
18	20	S.Y.	Place Asphalt Concrete (Miscellaneous Area)	$	$
19	130	C.Y.	Minor Concrete (Curb, Spandrel, Curb and Gutter, Sidewalk, Driveway and Cross Gutter)	$	$
20	1	L.S.	BMP Infiltration Drainage Inlet Structures	$	$
21	12	S.F.	ADA Ramp Detectable Warning Surface	$	$
22	4	EA.	Roadside Sign	$	$
23	3	EA.	Object Marker (Type L-1) CA (OM2-2V)	$	$
24	561	L.F.	Paint 4" Traffic Stripe (2-Coat)	$	$
25	220	L.F.	Paint 8" Traffic Stripe (2-Coat)	$	$
26	495	L.F.	Paint 4" Double Yellow Traffic Stripe (2-Coat)	$	$
27	815	S.F.	Paint Pavement Marking (2-Coat)	$	$

Bidder: _____

Project: ***SLOVER AVENUE DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENTS*** **W.O.#:** ***See Below***

Limits: ***Slover Avenue at Alder Avenue, Locust Avenue and Linden Avenue***

Item No.	Approx. Quant.	Meas. Unit	Item Description	Unit Price	Total
28	62	EA.	Pavement Marker - Retroreflective Type D and G	$	$
29	3	EA.	Remove and Replace Traffic Signal Pull Box	$	$
			Location Subtotal:		
			TRAFFIC SIGNAL AT LINDEN AVENUE (WO H14967)		
30	65	S.Y.	Remove Asphalt Concrete Surfacing	$	$
31	365	S.Y.	Remove Concrete (ADA Ramp, Sidewalk and Spandrel)	$	$
32	72	S.Y.	Cold Plane Asphalt Concrete Pavement	$	$
33	35	TON	Asphalt Concrete (Type A)	$	$
34	78	C.Y.	Minor Concrete (Curb, Spandrel, Curb and Gutter and Sidewalk)	$	$
35	48	SF	ADA Ramp Detectable Warning Surface	$	$
36	7	EA.	Remove Roadside Sign	$	$
37	7	EA.	Roadside Sign	$	$
38	60	L.F.	Remove Traffic Stripe	$	$
39	534	S.F.	Remove Pavement Marking	$	$
40	820	S.F.	Paint Pavement Marking (2-Coat)	$	$
41	1	L.S.	(S) Signal and Lighting	$	$
42	222	L.F.	Remove Concrete (Curb, Curb and Gutter)	$	$
			Location Subtotal:		

PROJECT TOTAL: $

INDEX OF SHEETS

THE FOLLOWING SPECIAL DRAWINGS AND COUNTY STANDARDS ARE ATTACHED TO THE SPECIAL PROVISIONS:

109 (MODIFIED) 115 117 119 (MODIFIED)
205 206 B 303 303 (a) 303 (b)
SPEC DWG 100

TO BE SUPPLEMENTED BY THE FOLLOWING 2015 CALTRANS STANDARD PLANS:

A20A DETAIL 12 AND 22 A20B DETAIL 27B AND 32
A20D DETAIL 38 A24A A24C A24D
A24F P1 P10 P20 RSP A88A (MODIFIED) 1
RSP T9 RSP T10 T11 T13

TO BE SUPPLEMENTED BY THE FOLLOWING 2018 CALTRANS STANDARD PLANS:

RSP ES-1A RSP ES-1B RSP ES-1C ES-2C RSP ES-2E
RSP ES-3C RSP ES-4B ES-5C RSP ES-7A RSP ES-7B
ES-7N ES-7P ES-7R RSP ES-8A RSP ES-8B

TO BE SUPPLEMENTED BY THE FOLLOWING 2014 MUTCD STANDARD PLANS:

FIGURE 2A-2(CA) FIGURE 2C-13(CA)

THIS PROJECT REQUIRES A CONTRACTOR'S LICENSE CLASS "A"

GENERAL NOTES

U. THE FACT THAT ANY UTILITY FACILITY IS SHOWN OR NOT SHOWN UPON THE PLANS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY UNDER SECTION 5-1.36D "HIGHWAY FACILITIES" 1 OF THE CALTRANS STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY, PURSUANT THERETO, TO ASCERTAIN THE LOCATION OF ANY UTILITY FACILITY WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF THE CONTRACTOR'S OPERATIONS.

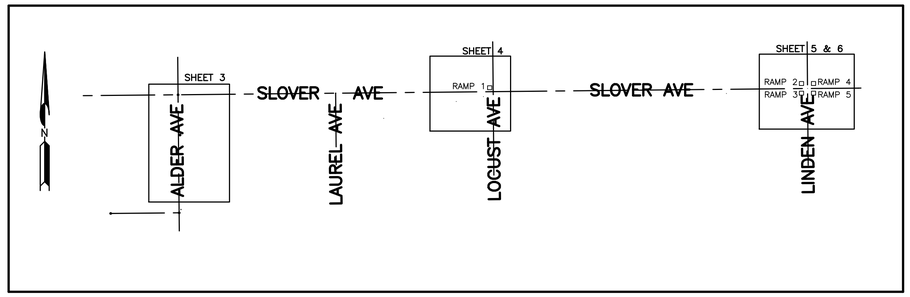
1. ALL STATIONING NOTES ON PLAN REFER TO THE CL SUR/IMP SLOVER AVENUE OR SIDE STREETS.
2. DIMENSIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE CALTRANS STANDARD SPECIFICATIONS.
3. ALL PAVEMENT WIDTH DIMENSIONS SHOWN ON THE PLANS ARE TO THE EDGE OF PAVEMENT OR TO THE TOP OF CURB, UNLESS OTHERWISE NOTED.
4. TRANSITIONS AND WARPING SHALL BE AS SHOWN AND AS DETERMINED BY THE ENGINEER.
5. ASPHALT CONCRETE OVERLAYS SHALL BE FEATHERED TO MEET EXISTING AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER.
6. ALL TREES & VEGETATION OUTSIDE THE LIMITS OF EXCAVATION AND EMBANKMENT SLOPE LINES, SHALL BE PROTECTED IN PLACE.

BASIS OF BEARING:

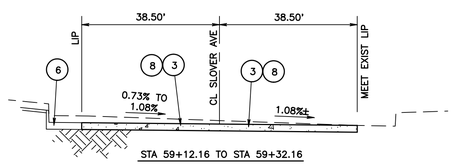
THE CENTERLINE OF SLOVER AVE BETWEEN PALMETTO AVE AND TAMARIND AVE PER TRACT 8393, MAP BOOK 114/46-57 BEING N89°28'45"E

BENCH MARK:

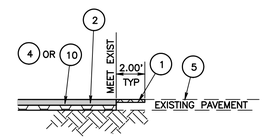
"TBM#5" – FOUND CHISLEL BOX AT THE ECR OF THE SOUTHEAST CURB RETURN – 57' EAST OF MAPLE AVE AND 40' SOUTH OF SLOVER AVE. PER CSFB 4016/1572. ELEVATION = 1076.07'



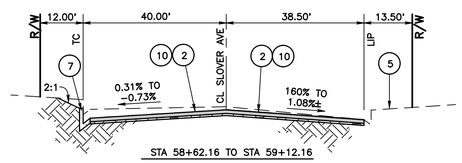
INDEX MAP



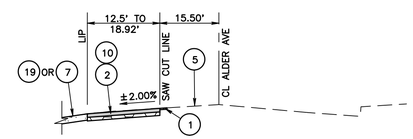
STA 59+12.16 TO STA 59+32.16



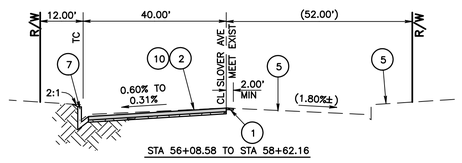
COLD PLANE DETAIL
NTS



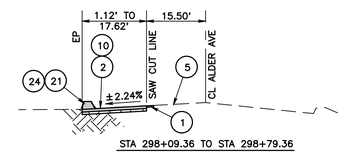
STA 58+62.16 TO STA 59+12.16



STA 298+79.36 TO STA 299+21.38



STA 56+08.58 TO STA 58+62.16



STA 298+09.36 TO STA 298+79.36

TYPICAL SECTION – SLOVER AVE
NTS

TYPICAL SECTION – ALDER AVE
NTS

CONSTRUCTION & UNDERGROUND UTILITY LEGEND

COLD PLANE
ASPHALT CONCRETE PAVEMENT
PORTLAND CEMENT CONCRETE PLAN
PORTLAND CEMENT CONCRETE SECTION
GRADED EARTH
REMOVE ASPHALT
REMOVE CONCRETE

—G— GAS LINE
—S— SEWER MAIN
—W— WATER LINE
—E— ELECTRIC LINE
—T— TELEPHONE LINE

ABBREVIATIONS LEGEND:

AB	=	AGGREGATE BASE	PCC	=	PORTLAND CEMENT CONCRETE
AC	=	ASPHALT CONCRETE	PI	=	POINT OF INTERSECTION
AVE	=	AVENUE	RT	=	RIGHT
BCR	=	BEGIN CURB RETURN	R/W	=	RIGHT OF WAY
BEG	=	BEGIN	SBC	=	SAN BERNARDINO COUNTY
CL	=	CENTER LINE	STA	=	STATION
C&G	=	CURB & GUTTER	ST	=	STREET
DWG	=	DRAWING	STD	=	STANDARD
ECR	=	END CURB RETURN	SUR	=	SURVEY
EG	=	EXISTING GROUND	SW	=	SIDEWALK
EP	=	EDGE OF PAVEMENT	TC	=	TOP OF CURB
EXIST	=	EXISTING	THK	=	THICK
FL	=	FLOW LINE	VC	=	VERTICAL CURVE
GB	=	GRADE BREAK	WPJ	=	WEAKENED PLANE JOINT
IMP	=	IMPROVEMENT			
L	=	LENGTH			
LT	=	LEFT			
NTS	=	NOT TO SCALE			
MAX	=	MAXIMUM			
MIN	=	MINIMUM			

CONSTRUCTION NOTES:

U	UTILITIES TO BE RELOCATED BY OTHERS
1	COLD PLANE (0.20' THK) EXISTING ASPHALT CONCRETE PAVEMENT AND PLACE (0.20' THK) ASPHALT CONCRETE OVERLAY
2	SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE SURFACING
3	SAW CUT AND REMOVE EXISTING CONCRETE SURFACING, CURB AND GUTTER
4	PLACE (0.50' THK) ASPHALT CONCRETE (TYPE A) PAVEMENT OVER COMPACTED SOIL
5	PROTECT IN PLACE
6	PLACE SPANDREL PER SBC STD DWG 119 (MODIFIED)
7	PLACE CURB AND GUTTER PER SBC STD 115
8	PLACE CROSS GUTTER PER SBC STD DWG 119 (MODIFIED) AND INSTALL DOWELS PER CALTRANS STD P1,P10 & P20 AS APPLICABLE
9	PLACE (3" THK) ASPHALT CONCRETE (TYPE A) OVER COMPACTED NATIVE SOIL
10	PLACE (0.40' THK) ASPHALT CONCRETE PAVEMENT (TYPE A, PG 70-10) OVER (0.35' THK) CLASS 2 AGGREGATE BASE
11	CONSTRUCT 4" THK CONCRETE DRIVEWAY APPROACH PER DETAIL ON SHEET 4
12	CONSTRUCT RAMP PER 2015 CALTRANS STANDARD RSP A88A
13	NOT USED
14	PLACE 4" THK CONCRETE SIDEWALK PER SBC STD DWG 109 (MODIFIED)
15	REMOVE AND REPLACE TRAFFIC SIGNAL PULL BOX
16	PLACE LOOSE ROCKS (BACKING NO.3 CLASS, METHOD B PLACEMENT)
17	PLACE CONCRETE DRAINAGE STRUCTURE PER SPECIAL DRAWING 100
18	REMOVE AND REPLACE ROCK LANDSCAPING, PLANTS AND IRRIGATION SYSTEM IN KIND
19	PLACE LOCAL DEPRESSION PER SPECIAL DRAWING 100
20	SAWCUT AND REMOVE ASPHALT CONCRETE DIKE
21	PLACE 8" ASPHALT CONCRETE DIKE PER SAN BERNARDINO COUNTY STD DWG 117
22	REMOVE AND RESET GAS PADDLE
23	PLACE DETECTABLE WARNING SURFACE PER 2015 CALTRANS STANDARD RSP A88A
24	TRAFFIC SIGNAL POLES, BOXES AND CONDUIT PER TRAFFIC SIGNAL PLAN SHEET 7
25	PLACE 6" RETAINING CURB PER 2015 CALTRANS STANDARD RSP A88A

ADDENDUM NO.1

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

REGISTERED PROFESSIONAL ENGINEER MERVAT NESSIM MIKHAIL No. 72136 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY: ESR/CBB DRAWN BY: CBB CHECKED BY: SB

RECOMMENDED BY: MERVAT N. MIKHAIL, P.E. DATE — TRANSPORTATION DESIGN DIVISION CHIEF

ELOY RUVALCABA, P.E. DATE — DESIGN ENGINEER

APPROVED BY: DAVID R. DOUBLET, M.S., P.E. DATE — ASSISTANT DIRECTOR

SLOVER AVENUE DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENT

NOTES, INDEX MAP, LEGENDS, INDEX OF SHEETS, TYP SECTIONS AND MISC DETAILS

BLOOMINGTON AREA

J.L. REF.	W.O. NO.	SCALE	SHT. NO.	TOT. SHT'S.
JL11543	H14967 H14970	AS SHOWN	1 2A	7

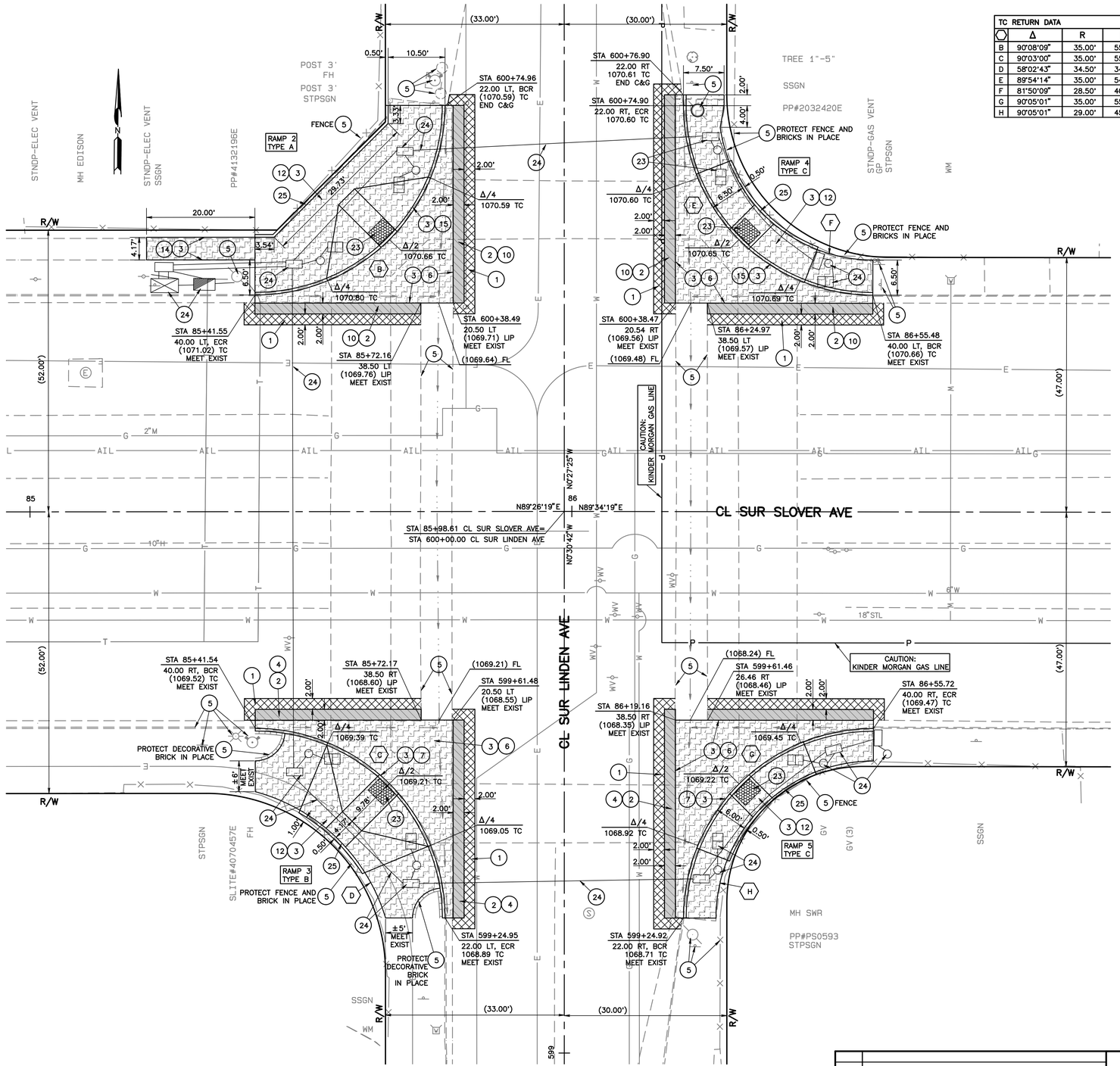
FILE NO. 760800-050, 110650-020, 500400-030, 495900-020/030

MARK	REVISIONS	APPR.	DATE

MARK	REVISIONS REVISED OR ADDED	APPR.	DATE
1		ER	5/3/21

FILE NO. 760800-050, 110650-020, 500400-030, 495900-020/030

N:\Design Team - PLDA\SR Alt Drainage Impr\14970 Exh - Check\1\Index\114967 & 114970 Slover Ave and Olive Construct-Addendum No 1.dwg - ADDRESS 4/13/2021 10:04:46AM



TC RETURN DATA				
⬡	Δ	R	L	T
B	90°08'09"	35.00'	55.06'	35.08'
C	90°03'00"	35.00'	55.01'	35.03'
D	58°02'43"	34.50'	34.95'	19.14'
E	89°54'14"	35.00'	54.92'	34.94'
F	81°50'09"	28.50'	40.71'	24.70'
G	90°05'01"	35.00'	55.03'	35.05'
H	90°05'01"	29.00'	45.60'	29.04'

○	CONSTRUCTION NOTES:
U	UTILITIES TO BE RELOCATED BY OTHERS
1	COLD PLANE (0.20' THK) EXISTING ASPHALT CONCRETE PAVEMENT AND PLACE (0.20' THK) ASPHALT CONCRETE OVERLAY
2	SAW CUT AND REMOVE EXISTING ASPHALT CONCRETE SURFACING
3	SAW CUT AND REMOVE EXISTING CONCRETE SURFACING, CURB AND GUTTER
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5	PROTECT IN PLACE
6	PLACE SPANDREL PER SBC STD DWG 119 (MODIFIED)
7	PLACE CURB AND GUTTER PER SBC STD 115
12	CONSTRUCT RAMP PER 2015 CALTRANS STANDARD RSP A88A
14	PLACE 4" THK CONCRETE SIDEWALK PER SBC STD DWG 109 (MODIFIED)
20	SAWCUT AND REMOVE ASPHALT CONCRETE DIKE
21	PLACE 8" ASPHALT CONCRETE DIKE PER SAN BERNARDINO COUNTY STD DWG 117
22	REMOVE AND RESET GAS PADDLE
23	PLACE DETECTABLE WARNING SURFACE PER 2015 CALTRANS STANDARD RSP A88A
24	TRAFFIC SIGNAL POLES, BOXES AND CONDUIT PER TRAFFIC SIGNAL PLAN SHEET 7
25	PLACE 6" RETAINING CURB PER 2015 CALTRANS STANDARD RSP A88A

ADDENDUM NO.1

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

REGISTERED PROFESSIONAL ENGINEER MERVAT NESSIM MIKHAIL No. 72136 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	RECOMMENDED BY:
ESR/CBB	CBB	SB	MERVAT N. MIKHAIL, P.E. — TRANSPORTATION DESIGN DIVISION CHIEF — DATE
			APPROVED BY:
ELOY RUVALCABA, P.E. — DESIGN ENGINEER — DATE			DAVID R. DOUBLET, P.E. — ASSISTANT DIRECTOR — DATE

SLOVER AVENUE DRAINAGE AND TRAFFIC SIGNAL IMPROVEMENT

SLOVER AVENUE AT LINDEN AVENUE
PLAN, PROFILE AND DETAILS

J.L. REF.	W.O. NO.	PLAN SCALE	SHT. NO.	TOT. SHT'S.
JL11543	H14970	AS SHOWN	5A	7

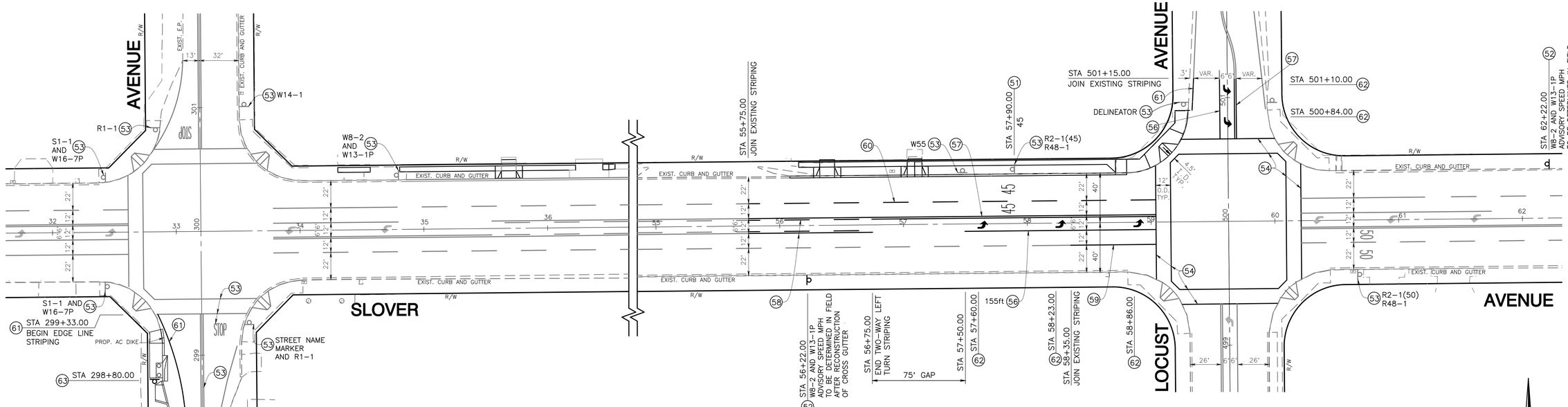
MARK	REVISIONS	APPR.	DATE

MARK	REVISIONS	APPR.	DATE
1	REVISED SCALE BAR	ER	5/3/21

FILE NO. 495900-020/030, 760800-050

FILE NO. 495900-020/030, 760800-050

W:\Design Team - B\SLOVER AVE Drainage impr H14970 Civil - Cloudy\Models\H14967 & H14970 Slover Ave and Others Combined-Addendum No 1.dgn - MODIFIED 1/12/2021 10:56:08AM



COUNTY OF SAN BERNARDINO TRAFFIC CONTROL GENERAL NOTES :

1– ALL SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THE CALIFORNIA MUTCD LATEST EDITION.

2– ALL STRIPING AND PAVEMENT MARKINGS SHALL BE PAINTED IN CONFORMANCE WITH THE CALTRANS 2015 STANDARD PLANS (DATED OCTOBER 30, 2015).

3– ALL STRIPING (LONG LINE) AND PAVEMENT MARKINGS SHALL BE RETRO–REFLECTIVE PAINT.

4– ALL SIGNS SHALL BE OF HIGH INTENSITY (FHWA TYPE III/IV) RETRO–REFLECTIVE SHEETING EXCEPT:

A. "STOP" SIGNS SHALL BE DIAMOND GRADE (FHWA TYPE VII IN RURAL SETTINGS AND TYPE IX IN URBAN SETTINGS) RETRO–REFLECTIVE SHEETING.

B. "NO PARKING " SIGNS SHALL BE OF SUPER ENGINEERING GRADE (FHWA TYPE II) RETRO–REFLECTIVE SHEETING.

C. SCHOOL SIGNS SHALL BE OF DIAMOND GRADE (FHWA TYPE IX) FLUORESCENT YELLOW–GREEN (FYG) RETRO–REFLECTIVE SHEETING.

D. STREET NAME MARKERS SHALL BE OF DIAMOND GRADE (FHWA TYPE IX) RETRO–REFLECTIVE SHEETING AND CONFORM TO COUNTY STANDARD 303.

E. CONSTRUCTION SIGNS SHALL BE OF DIAMOND GRADE (FHWA TYPE IX) FLUORESCENT ORANGE RETRO–REFLECTIVE SHEETING.

5– ALL DELINEATORS, CHANNELIZERS, AND OBJECT MARKERS SHALL BE OF (FHWA TYPE VII) RETRO–REFLECTIVE SHEETING.

6– SIGNS SHALL BE MOUNTED ON METAL POSTS SIMILAR TO COUNTY STANDARDS 303(a) AND 303(b).

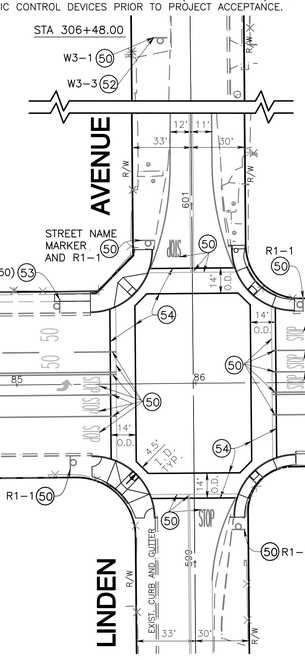
7– ALL CONFLICTING STRIPING AND PAVEMENT MARKINGS NOT SHOWN ON PLANS SHALL BE REMOVED BY THE CONTRACTOR. REMOVAL SHALL BE ACCOMPLISHED BY SANDBLASTING, GRINDING, OR AS DIRECTED BY COUNTY REPRESENTATIVE.

8– ALL CONFLICTING SIGNS SHALL BE REMOVED, RELOCATED, OR COVERED BY THE CONTRACTOR. RELOCATABLE SIGNS SHALL BE INSTALLED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY COUNTY REPRESENTATIVE.

9– ALL UNPROTECTED LOCATIONS RESULTING IN ISOLATED ABRUPT DEPRESSIONS OR ELEVATED OBJECTS (i.e. CATCH BASINS, HEADWALLS, POWER POLES, END TREATMENT OF ASPHALT DIKES AND CONCRETE CURBS) SHALL BE PROTECTED BY DELINEATORS OR BARRIERS PER THE CALIFORNIA MUTCD LATEST EDITION.

10– ALL EXISTING SIGNING, STRIPING AND PAVEMENT MARKINGS (i.e. CROSS STREET STOP, STOP LIMIT LINE, AND CROSSWALK PAVEMENT MARKINGS) NOT SHOWN ON PLANS, IF REMOVED/OBLITERATED, SHALL BE REPLACED/RESTORED OF SAME KIND, AND IN CONFORMANCE WITH THE CALIFORNIA MUTCD LATEST EDITION.

11– THE CONTRACTOR SHALL NOTIFY COUNTY REPRESENTATIVE TO SCHEDULE A FINAL REVIEW (WALK THROUGH) WITH TRAFFIC DIVISION PERSONNEL FOR APPROVAL OF TRAFFIC CONTROL DEVICES PRIOR TO PROJECT ACCEPTANCE.



TRAFFIC SIGNING AND STRIPING NOTES:

(50) REMOVE EXISTING CONFLICTING SIGN(S), STRIPING, DELINEATOR(S), OBJECT MARKER(S) OR PAVEMENT MARKING(S) AS REQUIRED.

(51) PAINT/REPAINT PAVEMENT MARKINGS PER THE CALTRANS 2015 STANDARD PLANS A24C OR A24D.

(52) INSTALL NEW SIGN(S) AS SHOWN ON PLAN AND PER THE CALIFORNIA MUTCD 2014 FIGURES 2A–2(CA) AND 2A–3.

(53) PROTECT IN PLACE EXISTING SIGN(S), STRIPING, DELINEATOR, OBJECT MARKER OR PAVEMENT MARKING(S).

(54) REPAINT 12–INCH SOLID WHITE CROSSWALK (BASIC) PER THE CALTRANS 2015 STANDARD PLAN A24F.

(55) NOT USED ON THIS SHEET.

(56) REPAINT 8–INCH WHITE CHANNELIZING LINE PER THE CALTRANS 2015 STANDARD PLAN A20D, DETAIL 38.

(57) REPAINT DOUBLE–YELLOW STRIPE PER THE CALTRANS 2015 STANDARD PLAN A20A, DETAIL 22.

(58) REPAINT TWO–WAY YELLOW LEFT TURN LANE STRIPE PER THE CALTRANS 2015 STANDARD PLAN A20B, DETAIL 32.

(59) REPAINT 4–INCH SOLID WHITE LANE LINE PER THE CALTRANS 2015 STANDARD PLAN A20A, DETAIL 12.

(60) REPAINT 4–INCH DASHED WHITE LANE LINE PER THE CALTRANS 2015 STANDARD PLAN A20A, DETAIL 12.

(61) REPAINT 4–INCH WHITE EDGE LINE PER THE CALTRANS 2015 STANDARD PLAN A20B, DETAIL 27B.

(62) REPAINT TYPE IV ARROW PAVEMENT MARKING PER THE CALTRANS 2015 STANDARD PLAN A24A.

(63) INSTALL TYPE L–1(CA) (OM2–2V) OBJECT MARKER AS SHOWN ON PLAN AND PER THE CALIFORNIA MUTCD 2014, FIGURE 2C–13(CA).

MARK	REVISIONS	APPR.	DATE

MARK	REVISIONS	APPR.	DATE

FILE NO. 760800 050

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

REGISTERED PROFESSIONAL ENGINEER GRANT C MANN C 64340 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

DESIGNED BY	DRAWN BY	CHECKED BY	RECOMMENDED BY:
J.H.C.	H.F.	J.J.	GRANT MANN, P.E. TRAFFIC DIVISION CHIEF — DATE

SUBMITTED BY: JEREMY JOHNSON, P.E. SUPERVISING ENGINEER — DATE

APPROVED BY: DAVID R. DOUBLET, M.S., P.E. ASSISTANT DIRECTOR — DATE

SUPERSEDES PREVIOUS SHEET 6 OF 7 (SIGNED 4/13/2021)

SLOVER AVENUE

AT ALDER AVENUE, LOCUST AVENUE AND LINDEN AVENUE

TRAFFIC SIGNING AND STRIPING PLAN

BLOOMINGTON AREA

J.L. REF.	W.O. NO.	SCALE	SHEET. NO.	TOTAL SHT'S.
JL11580	H14967	1" = 40'	6A	7

ADDENDUM #1

4/28/2021, T:\Design\TRAFFIC-TEMRAMODS-PROJECTS\SLOVER-OTHER ROADS-SIGNAL\H14967-H14970-ADDENDUM-FINAL.pm

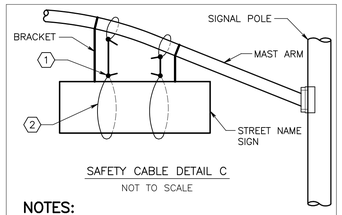
POLE AND EQUIPMENT SCHEDULE

POLE NO.	STANDARD TYPE	STANDARD HEIGHT	STANDARD SIGNAL MAST ARM	STANDARD "F" SPACING	STANDARD LUMINAIRE MAST ARM	POLE LOCATION "A"	POLE LOCATION "B"	VEHICLE SIGNAL MOUNTING MAST ARM	VEHICLE SIGNAL MOUNTING POLE	◆ PEDESTRIAN SIGNAL PHASE	◆ PEDESTRIAN SIGNAL MOUNTING	PEDESTRIAN PUSH BUTTON QUADRANT	PEDESTRIAN PUSH BUTTON ARROW	PEDESTRIAN PUSH BUTTON PHASE	L.E.D. LUMINAIRE	RETRO-REFLECTIVE STREET NAME SIGN
Ⓐ	26-4-100	30'	45'	17'	15' **	8.5'	4'	2-MAS	SV-1-T	Ø6	SP-1-T	EAST	←	Ø4P	200 WATT	DETAIL B
Ⓑ	1-A	10'	---	---	---	9'	4'	---	TV-2-T	Ø4	SP-1-T	SOUTH	→	Ø6P	---	---
Ⓒ	19-4-100	30'	25'	---	15' **	6.5'	5.25'	MAS	SV-1-T	Ø8	SP-1-T	SOUTH	←	Ø6P	200 WATT	DETAIL A
Ⓓ	1-A	10'	---	---	---	6.75'	4.5'	---	TV-2-T	Ø6	SP-1-T	WEST	→	Ø8P	---	---
Ⓔ	26-4-100	30'	45'	17'	15' **	-3'	5.04' 60.5"	2-MAS	SV-1-T	---	---	---	---	---	200 WATT	DETAIL B
Ⓕ	1-A	7'	---	---	---	6.75'	4.5'	---	---	Ø2	SP-1-T	WEST	←	Ø8P	---	---
Ⓖ	1-A	10'	---	---	---	6.75'	4.5'	---	TV-2-T	Ø8	SP-1-T	NORTH	→	Ø2P	---	---
Ⓗ	19-4-100	30'	25'	---	15' **	8.25'	4'	MAS	SV-1-T	Ø4	SP-1-T	NORTH	←	Ø2P	200 WATT	DETAIL A
Ⓘ	1-A	10'	---	---	---	9'	4'	---	TV-2-T	Ø2	SP-1-T	EAST	→	Ø4P	---	---

LEGEND:

◆ ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE WITH COUNTDOWN TIMER.

** USE STRAIGHT LUMINAIRE MAST ARM (NO TAPER).

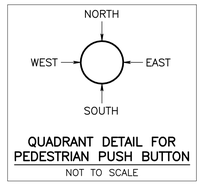


SAFETY CABLE DETAIL C

NOT TO SCALE

NOTES:

1. 1/8-INCH CRIMP FITTING. KEEP FITTING AS CLOSE TO MAST ARM / BRACKET AS POSSIBLE. PROVIDE 2-INCH OF SLACK BETWEEN CRIMP FITTINGS.
2. 1/8-INCH GALVANIZED STEEL CABLE.



QUADRANT DETAIL FOR PEDESTRIAN PUSH BUTTON

NOT TO SCALE

CONDUCTOR AND CONDUIT TABLE

	POLE	PHASE: VEHICLE AND PEDESTRIAN	PHASE: PED PUSH BUTTON	1 CABLE	1 TYPE	2 CABLE	2 TYPE	3 CABLE	3 TYPE	4 CABLE	4 TYPE	5 CABLE	5 TYPE	6 CABLE	6 TYPE	7 CABLE	7 TYPE	8 CABLE	8 TYPE	9 CABLE	9 TYPE	10 CABLE	10 TYPE	11 CABLE	11 TYPE	12 CABLE	12 TYPE
				12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC	12CSC	9CSC 5CSC 3CSC
SIGNAL CABLE	Ⓐ	1,6,6P	4P	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	1 – –	1	1 – –	1	– – –	–	– – –
	Ⓑ	8,4P	6P	1	– – 1	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	1	– – 1	–	– – –	–	– – –
	Ⓒ	8,8P	6P	1	– – 1	1	– – 1	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	1	– – 1	–	– – –	–	– – –
	Ⓓ	5,6,6P	8P	1	– – 1	1	– – 1	1	– – 1	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	1	– – 1	–	– – –	–	– – –
	Ⓔ	2,5	–	–	– – –	–	– – –	–	– – –	1	– – –	1	– – –	1	– – –	1	– – –	1	– – –	1	– – –	1	– – –	–	– – –	–	– – –
	Ⓕ	2P	8P	–	– – –	–	– – –	–	– – –	–	– – –	1	1 – –	1	1 – –	1	1 – –	1	1 – –	–	– – –	–	– – –	1	1 – –	1	1 – –
	Ⓖ	4,8P	2P	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	–	1 – –	1	1 – –	1	– – –	–	– – –	–	1 – –	1	1 – –
	Ⓗ	4,4P	2P	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	1	– – 1	–	– – –	–	– – –	1	– – 1	1	– – 1
	Ⓘ	1,2,2P	4P	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	–	– – –	1	– – 1	–	– – –	–	– – –	1	– – 1	1	– – 1
	TOTAL			3	– – 3	2	– – 2	1	– – 1	–	1 – –	–	1 1 1	–	2 1 2	–	3 1 3	1	3 1 4	4	1 – 4	4	1 – 4	1	2 1 4	1	2 1 4

AWG SIZE	CIRCUIT	CONDUIT RUN 1	2	3	4	5	6	7	8	9	10	11	12
#6	SERVICE	2	2	–	2	2	2	2	2	–	–	–	–
#10	LUMINAIRE	2	2	–	2	2	2	2	2	–	–	2	–
#8	SIGNAL COMMON WIRE BARE GROUNDING CONDUCTOR	1	1	1	1	1	1	1	1	1	1	1	1
VIDEO DETECTION	LEGEND ▷◻■ VIDEO CABLE	1	1	–	1	1	1	2	2	–	–	4	4
PREEMPTION CABLE	LEGEND ► EMERGENCY VEHICLE DETECTOR	1	1	–	1	1	1	2	2	–	–	4	4
** CONDUIT SIZE (INCHES)		4	4	4	4	4	4	4	4	4	4	4	4
% FILLED		14%	14%	7%	6%	4%	14%	14%	25%	26%	26%	25%	25%

** ALL NEW CONDUIT SHALL BE MINIMUM 4inch SCHEDULE 80 ELECTRICAL GRADE PVC AT A MINIMUM 36inch DEPTH INCLUDING A 12inch SAND ZONE COVERING

ALL CABLES AND CONDUCTORS SHALL BE NEW UNLESS SPECIFIED OTHERWISE

COUNTY OF SAN BERNARDINO TRAFFIC SIGNAL GENERAL NOTES :

1- TRAFFIC SIGNAL AND LIGHTING SHALL CONFORM TO THE STATE OF CALIFORNIA 2018 STANDARD SPECIFICATIONS (DATED 2018) SECTIONS 86(ELECTRICAL WORK) AND 87(ELECTRICAL SYSTEMS) INCLUDING LATEST 2018 REVISED STANDARD SPECIFICATIONS AND STANDARD PLANS DATED 2018.

2- ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12inch AND SHALL BE INSTALLED WITH "LED" SIGNAL MODULES.

3- ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE INSTALLED WITH "LED" PEDESTRIAN MODULES. PEDESTRIAN MODULES SHALL BE EQUIPPED WITH COUNTDOWN TIMERS PER THE CALTRANS 2018 STANDARD PLAN RSP ES-4B DETAIL B.

4- SIGNAL POLE LOCATIONS ARE APPROXIMATE.

5- ALL BACK PLATES SHALL BE LOUVERED.

6- ALL BACK PLATES AND VISORS SHALL BE METAL, NO PLASTIC PARTS WILL BE ALLOWED.

7- ALL PULL BOXES SHALL BE NUMBER 5 UNLESS OTHERWISE NOTED. THE TOP OF THE PULL BOXES SHALL BE FLUSH WITH FINISHED GRADE AS SHOWN ON THE CALTRANS 2018 STANDARD PLAN RSP ES-8A.

8- PULL BOXES SHALL BE INSTALLED PER THE CALTRANS 2018 STANDARD PLAN RSP ES-8A. AND SHALL NOT BE INSTALLED IN OR WITHIN A CURB ACCESS RAMP.

9- PULL BOXES LOCATED IN ROADWAYS OR SHOULDER AREAS SUBJECT TO TRAFFIC, SHALL BE TRAFFIC TYPE PER THE CALTRANS 2018 STANDARD PLAN RSP ES-8B.

10- SLEEVE NUTS SHALL BE USED FOR ALL TYPE (1-A) POLES PER THE CALTRANS 2018 STANDARD PLAN RSP ES-7B.

11- PEDESTRIAN PUSH BUTTON SHALL BE WITH PLACARD R10-3 SIZE (9inchx12inch) AND PER THE CALTRANS 2018 STANDARD PLANS RSP ES-7A AND ES-5C (TYPE B).

12- ALL SIGNAL AND LIGHTING STANDARD FOUNDATIONS SHALL BE ADJUSTED TO PROPOSED FINISHED GRADE.

13- ALL UNUSED TENONS SHALL BE CAPPED.

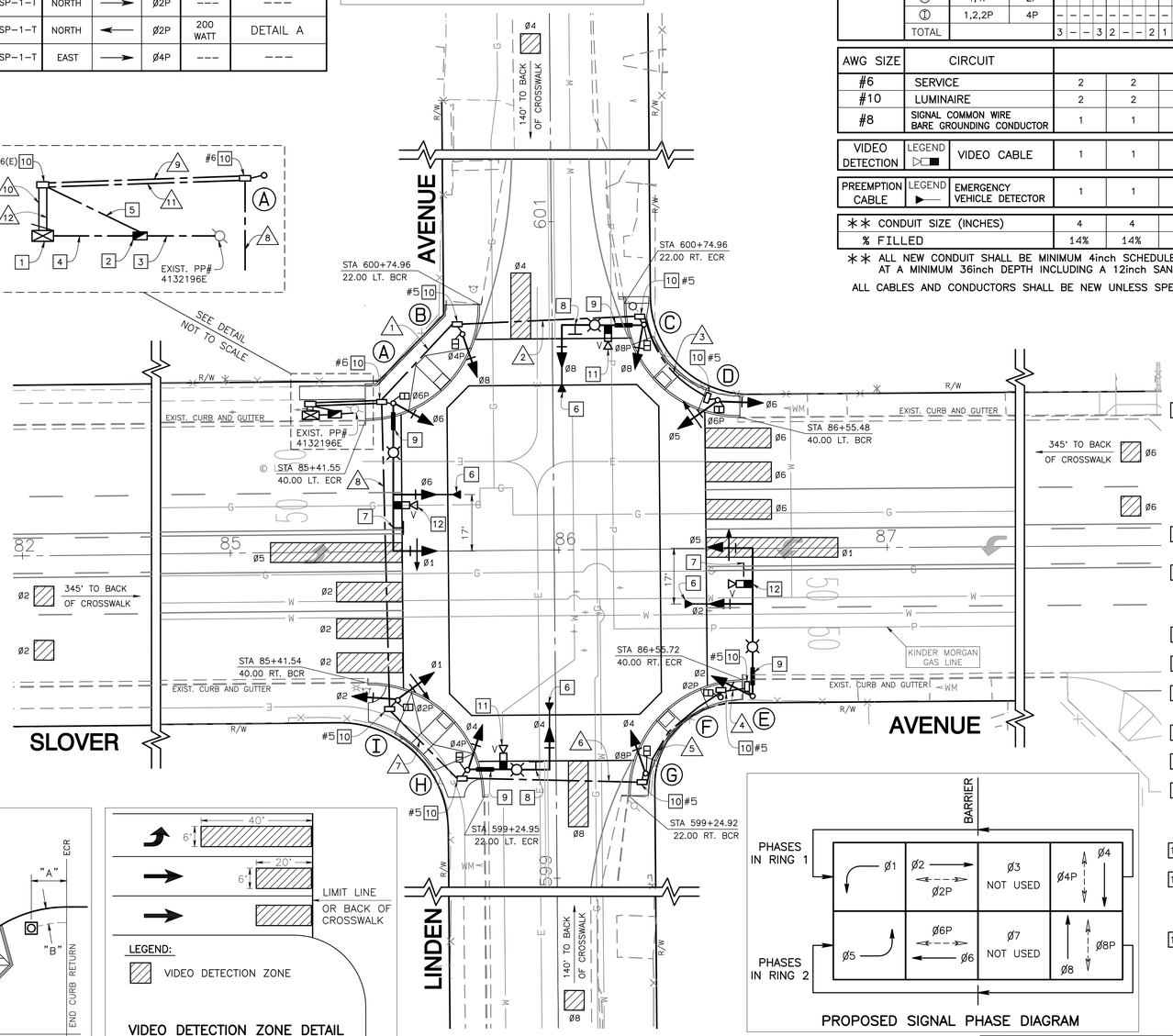
14- ALL WIRING AND CABLES SHALL BE NEW UNLESS OTHERWISE NOTED.

15- ALL NEW CONDUIT SHALL BE MINIMUM 4inch SCHEDULE 80 ELECTRICAL GRADE PVC AT A MINIMUM 36inch DEPTH INCLUDING A 12inch SAND ZONE COVERING.

16- LOCATION OF ALL UNDERGROUND FACILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL POTHOLE TO DETERMINE THE EXACT LOCATIONS AND VERIFY ALL CONDITIONS ON THE JOB SITE. HAND DIG FOUNDATIONS UNTIL CLEAR OF ANY OBSTRUCTIONS. PHONE THE UNDERGROUND SERVICE ALERT AT (800) 227-2600, TWO WORKING DAYS BEFORE DIGGING.

17- THE CONTRACTOR SHALL NOTIFY THE COUNTY REPRESENTATIVE TO SCHEDULE A FIELD REVIEW WITH TRAFFIC DIVISION TO VERIFY THE LOCATION OF SIGNAL POLES, CONTROLLER CABINET, AND SERVICE CABINET.

SEE DETAIL NOT TO SCALE



TRAFFIC SIGNAL CONSTRUCTION NOTES:

1 - FURNISH AND INSTALL TYPE NEMA TS2-1 ASSEMBLY INCLUDING COBALT CONTROLLER WITH TOUCH SCREEN OPTION, TYPE "R" CABINET WITH 16-CHANNEL MMU, UNINTERRUPTABLE POWER SUPPLY (UPS), NICKEL-ZINC BATTERIES, 1000 WATT MINIMUM BATTERY STORAGE, GPS RECEIVER FOR TIME REFERENCE AND APPURTENANT EQUIPMENT. THE INTERNAL CABINET SHALL INCLUDE SLIDE OUT DRAWER AND LIGHTING SHALL BE LED. FURNISH AND INSTALL EMERGENCY VEHICLE PRE-EMPTION SYSTEM PER SPECIAL PROVISIONS. THE CONTROLLER CABINET AND FOUNDATION SHALL BE INSTALLED PER CALTRANS 2018 STANDARD PLAN RSP ES-3B, DETAIL B. FURNISH AND INSTALL GROUND ROD (8ft MINIMUM) INTO EARTH EXCLUDING CONCRETE FOUNDATION. CONTRACTOR SHALL FURNISH AND INSTALL ANY ADDITIONAL ELECTRONIC EQUIPMENT REQUIRED TO PROVIDE THE DESIRED SIGNAL OPERATION AS SHOWN ON THE PLAN. REFER TO SPECIFICATIONS FOR ADDITIONAL EQUIPMENT CRITERIA AND DETAILS.

2 - FURNISH AND INSTALL 120/240V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE PER CALTRANS 2018 STANDARD PLANS ES-2C AND RSP ES-2E. FURNISH AND INSTALL TIME DELAY PHOTO CELL FOR LUMINAIRES. THE BOTTOM OF SERVICE CABINET SHALL FLUSH ABOVE THE SIDEWALK FINISH GRADE.

3 - FURNISH AND INSTALL SCHEDULE 80 ELECTRICAL GRADE PCV CONDUIT WITH PULL-ROPE FROM EXISTING UNDERGROUND SCE HAND HOLE TO THE SERVICE PEDESTAL PER SCE APPROVED DRAWINGS. AT LEAST 2 WEEKS ADVANCE NOTICE SHALL BE GIVEN TO THE SOUTHERN CALIFORNIA EDISON COMPANY BY CONTACTING THE CUSTOMER SERVICE PLANNER, HANNIBAL SHERMAN AT (760)668-6700. EXACT LOCATIONS SHALL BE DETERMINED BY SCE IN THE FIELD.

4 - FURNISH AND INSTALL 4inch SCHEDULE 80 ELECTRICAL GRADE PCV CONDUIT WITH 2#6 CONDUCTORS FOR THE SIGNAL SERVICE AND 1#8 BARE FOR GROUND.

5 - FURNISH AND INSTALL 4inch SCHEDULE 80 ELECTRICAL GRADE PCV CONDUIT WITH 2#10 CONDUCTORS FOR THE LUMINAIRES.

6 - FURNISH AND INSTALL EMERGENCY VEHICLE PREEMPTION DETECTOR WITH INFRARED DETECTION AT MINIMUM. THE DETECTOR SHALL BE INSTALLED PER THE MANUFACTURE'S SPECIFICATIONS AND CALTRANS 2018 STANDARD PLAN ES-4E.

7 - FURNISH AND INSTALL R73-3(CA) (36inchx36inch) SIGN ON SIGNAL MAST ARM PER CALTRANS 2018 STANDARD PLAN ES-7N, DETAIL U.

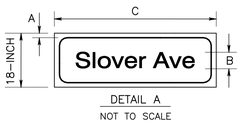
8 - FURNISH AND INSTALL R3-4 (36inchx36inch) SIGN ON SIGNAL MAST ARM PER CALTRANS 2018 STANDARD PLAN ES-7N, DETAIL U.

9 - FURNISH AND INSTALL DOUBLE SIDED RETRO-REFLECTIVE STREET NAME SIGN PER DETAILS A OR B SHOWN ON PLAN. THE SIGN PANEL SHALL BE ALUMINUM BASE METAL SURFACED WITH RETRO-REFLECTIVE SHEETING DIAMOND GRADE (VIP). THE STREET NAME SIGN SHALL BE INSTALLED ON THE SIGNAL MAST ARM PER CALTRANS 2018 STANDARD PLAN ES-7P WITH A SAFETY CABLE PER DETAIL C AS SHOWN ON PLAN. SEE PROJECT SPECIAL PROVISIONS.

10 - FURNISH AND INSTALL NEW PULL BOX AS SHOWN ON PLAN AND PER THE CALTRANS 2018 STANDARD PLAN RSP ES-8A.

11 - FURNISH AND INSTALL AUTOSCOPE VISION VIDEO VEHICLE DETECTION SYSTEM OR AS APPROVED BY THE TRAFFIC DIVISION. THE CAMERA SHALL BE INSTALLED ON THE LUMINAIRE MAST ARM AS SHOWN ON PLAN AND THE CALTRANS 2018 STANDARD PLAN ES-7R PER THE MANUFACTURER'S SPECIFICATIONS. SEE PROJECT SPECIAL PROVISIONS. THE VIDEO DETECTION DATA PROCESSING SHALL BE WITHIN THE CAMERA TO MAXIMIZE CABINET SPACE.

12 - FURNISH AND INSTALL AUTOSCOPE VISION VIDEO VEHICLE DETECTION SYSTEM OR AS APPROVED BY THE TRAFFIC DIVISION. THE CAMERA SHALL BE INSTALLED ON THE SIGNAL MAST ARM AS SHOWN ON PLAN AND THE CALTRANS 2018 STANDARD PLAN ES-7R ON 72-INCH PELCO OR SIMILAR RISER PER THE MANUFACTURER'S SPECIFICATIONS. SEE PROJECT SPECIAL PROVISIONS. THE VIDEO DETECTION DATA PROCESSING SHALL BE WITHIN THE CAMERA TO MAXIMIZE CABINET SPACE.



DETAIL A

NOT TO SCALE

DETAIL B

NOT TO SCALE

LEGEND:

A 1-INCH WHITE RETRO-REFLECTIVE BORDER

B 12-INCH UPPER CASE LETTERS AND 9-INCH LOWER CASE LETTERS

C SIGN LENGTH SHALL BE EITHER 6ft OR 8ft DEPENDING ON LEGEND

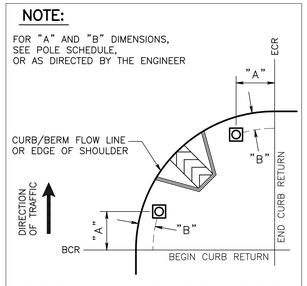
FOR DETAILS A AND B

BORDER AND LEGEND COLOR = RETRO-REFLECTIVE WHITE

BACKGROUND COLOR = RETRO-REFLECTIVE GREEN

NOTE:

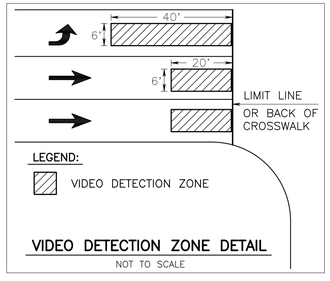
FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE, OR AS DIRECTED BY THE ENGINEER



TYPICAL SIGNAL POLE PLACEMENT

UNLESS OTHERWISE NOTED ON PLAN

NOT TO SCALE



VIDEO DETECTION ZONE DETAIL

NOT TO SCALE

PROPOSED SIGNAL PHASE DIAGRAM

GRAPHIC SCALE 1"=20'

0 20 40 60

Underground Service Alert

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A PERMIT TO EXCAVATE WILL BE VALID FOR YOUR DIG ALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT TOLL FREE 1-800-227-2600 TWO WORKING DAYS BEFORE YOU DIG

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

SERVICE ADDRESS: 18494 SLOVER AVENUE BLOOMINGTON CA 92316

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

REGISTERED PROFESSIONAL ENGINEER GRANT C MANN C 64340 CIVIL STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO

DEPARTMENT OF PUBLIC WORKS

DESIGNED BY	DRAWN BY	CHECKED BY	RECOMMENDED BY:
J.H.C.	H.F.	J.J.	GRANT MANN, P.E. TRAFFIC DIVISION CHIEF — DATE

SUBMITTED BY: JEREMY JOHNSON, P.E. SUPERVISING ENGINEER — DATE

APPROVED BY: DAVID R. DOUBLET, M.S., P.E. ASSISTANT DIRECTOR — DATE

SUPERSEDES PREVIOUS SHEET 7 OF 7 (SIGNED 4/13/2021)

SLOVER AVENUE AT LINDEN AVENUE

TRAFFIC SIGNAL AND LIGHTING PLAN

BLOOMINGTON AREA

J.L. REF.	W.O. NO.	SCALE	SHEET. NO.	TOTAL SHT'S.
JL11580	H14967	1" = 20'	7A	7

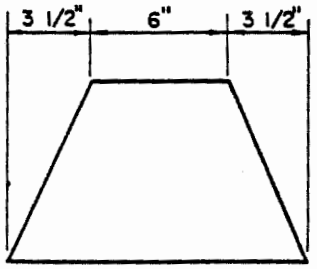
ADDENDUM #1

FILE NO. 760800 050

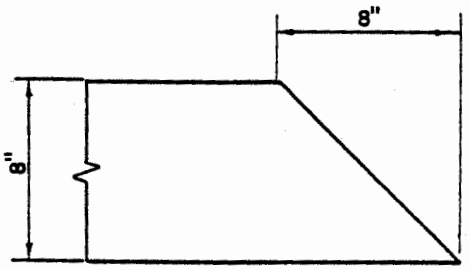
MARK	REVISIONS	APPR.	DATE

FILE NO. 760800 050

4/19/2021 - T:\Design\TRAFFIC-TERMADSEL-PROJECTS\SLOVER-OTHER ROADS-SIGNAL\H14967-H14970-ADDENDUM-FINAL.prp



SECTION



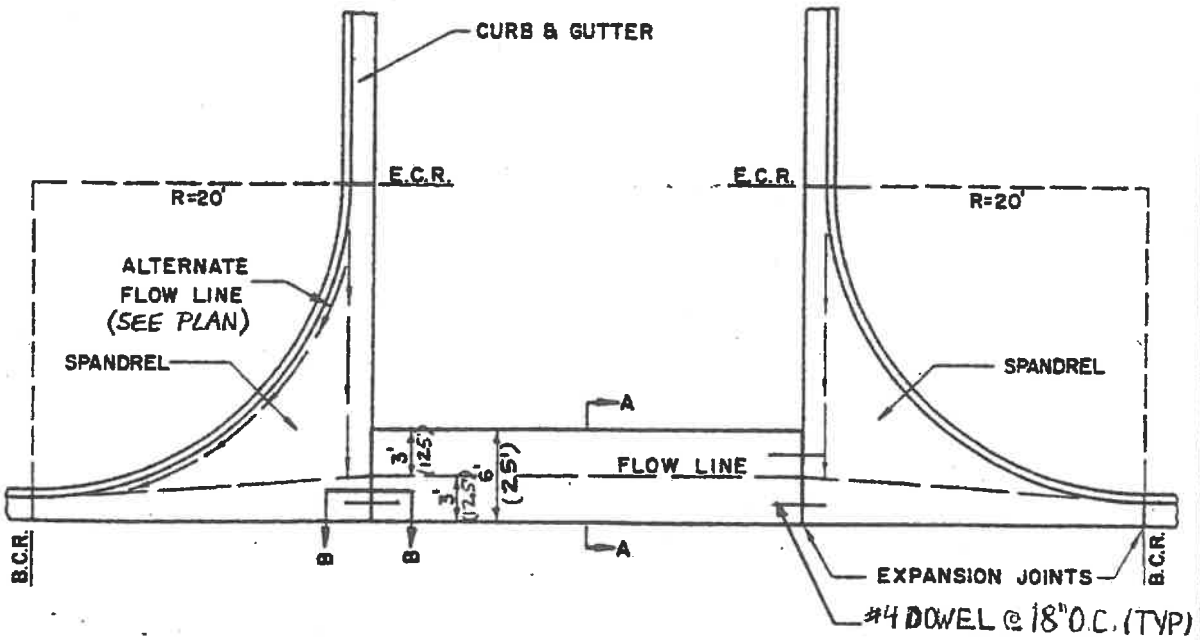
END CUTOFF

8" DIKE

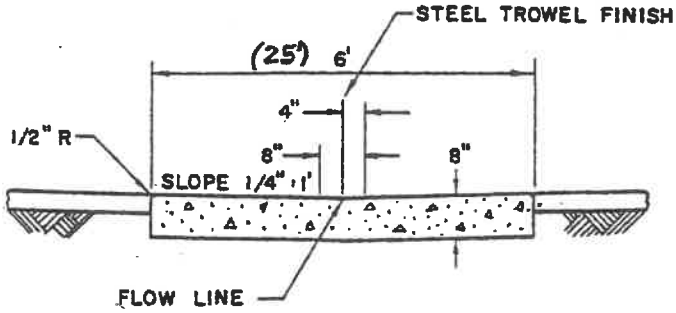
NOTES:

1. DIKE SHALL BE CONSTRUCTED OF TYPE B ASPHALT CONCRETE.
2. PAINT BINDER SHALL BE PLACED ON EXISTING ASPHALT CONCRETE PAVEMENT PRIOR TO THE INSTALLATION OF THE DIKE.

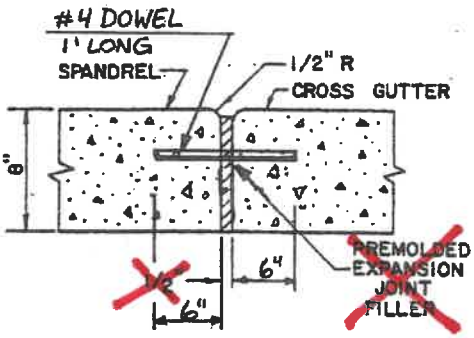
SAN BERNARDINO COUNTY ROAD DEPARTMENT		ASPHALT CONCRETE DIKE	117
DATE: F.V.C. 6-65	*M. A. Nicholas* COUNTY ENGINEER		



PLAN



SECTION A-A

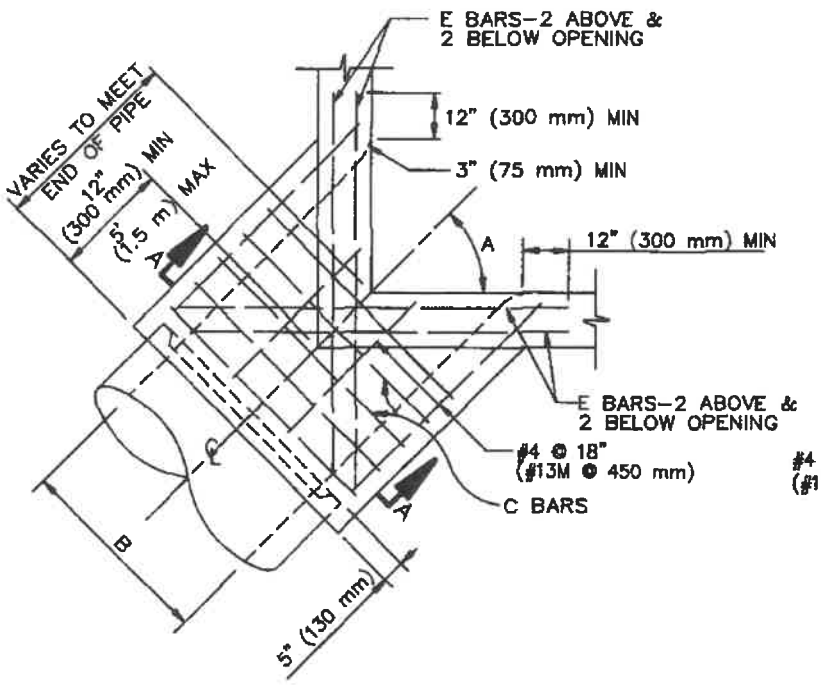


SECTION B-B

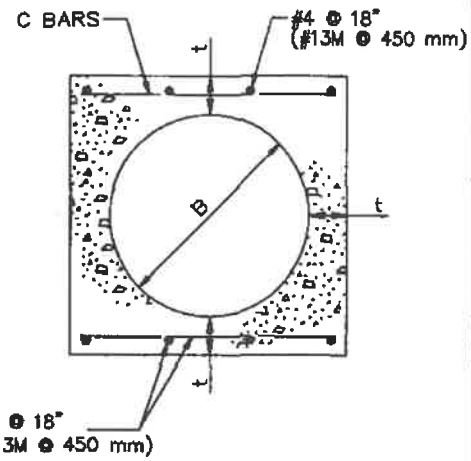
NOTES:

1. CROSS GUTTER SHALL BE CONSTRUCTED OF ~~CLASS "B"~~ MINOR CONCRETE.
2. THE STRAIGHT GRADE BETWEEN B.C.R.'S MAY BE ALTERED ON AN EXCESSIVE GRADE.
3. A 0.3' MINIMUM FALL IS REQUIRED BETWEEN MINOR E.C.R. AND CROSS GUTTER FLOWLINE.
4. SPANDREL SHALL BE 8" THICKNESS ~~CLASS "B"~~ CONCRETE.
5. VARIABLE CURB FACE ALLOWED FOR DRAINAGE PURPOSES.

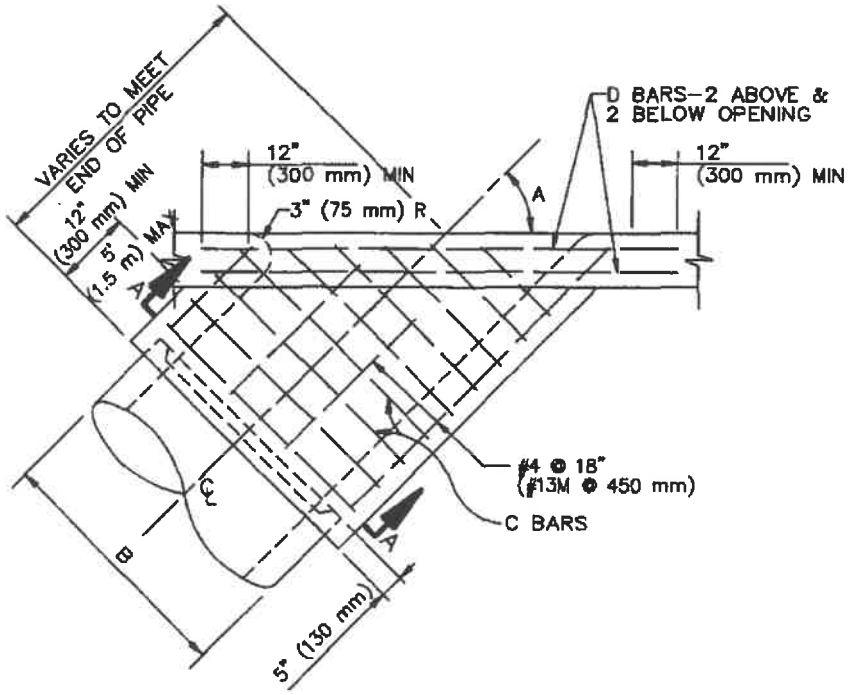
SAN BERNARDINO COUNTY ROAD DEPARTMENT DATE: P.V.C. 4-65	*M. A. Nicholas* COUNTY ENGINEER	CROSS GUTTER	119 (MODIFIED)



PLAN
CORNER CONNECTION



SECTION A–A



PLAN
SIDE CONNECTION

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS, INC.,
GREENBOOK COMMITTEE
1984
REV. 1996, 2009

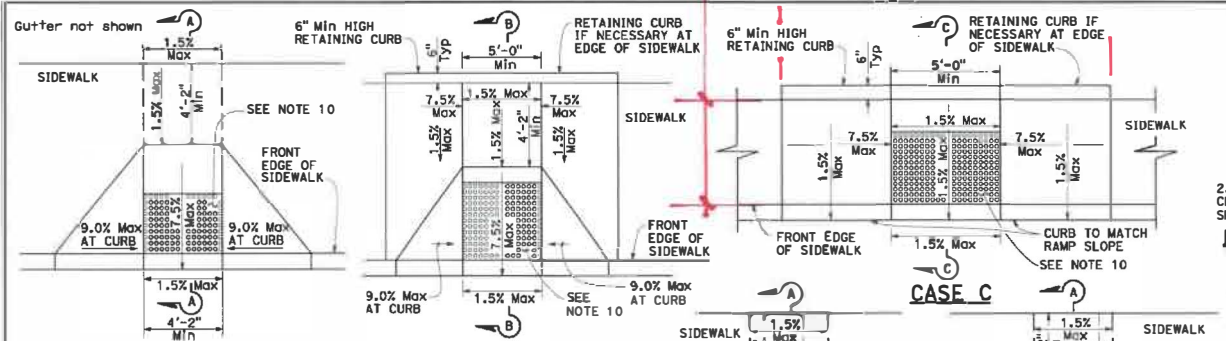
MONOLITHIC CATCH BASIN CONNECTION

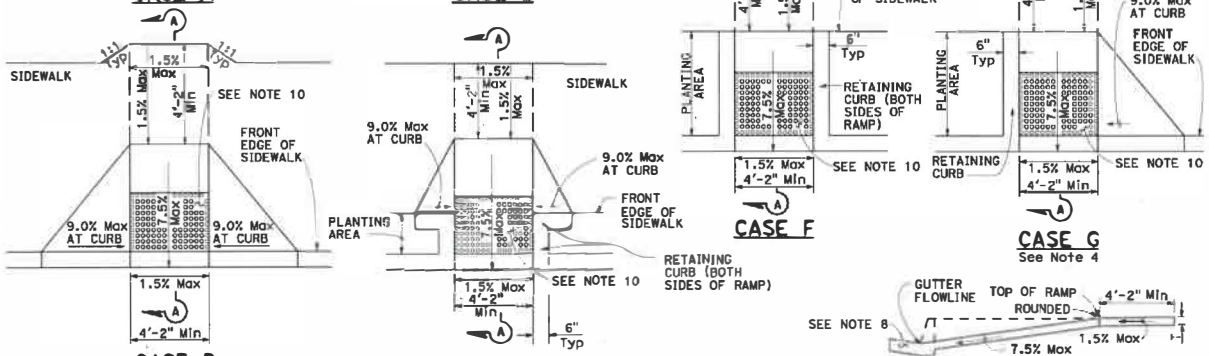
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

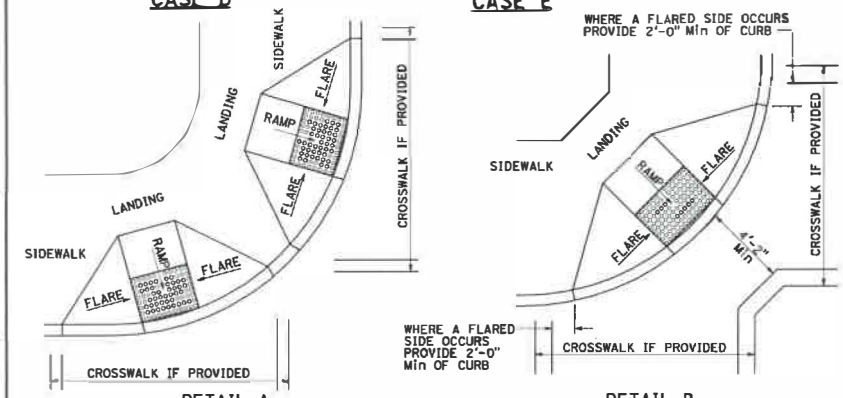
STANDARD PLAN
308–2
SHEET 1 OF 2

Radial or Non-radial | Concentric or Non-concentric | Radial or Non-radial

4'-2" min. ~~3' Var.~~

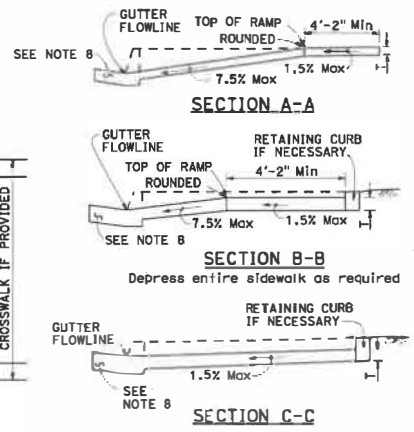


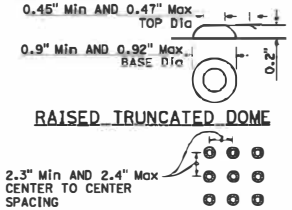




DETAIL A
TYPICAL TWO-RAMP CORNER INSTALLATION
See Note 1

DETAIL B
TYPICAL ONE-RAMP CORNER INSTALLATION
See Notes 1 and 3





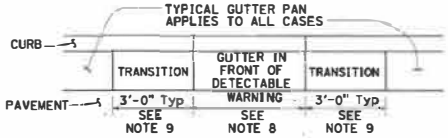
RAISED TRUNCATED DOME PATTERN (IN-LINE)
DETECTABLE WARNING SURFACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER
July 21, 2017
PLANS APPROVAL DATE
Hector David Cardova No. C41957 Exp. 3-31-18 CIVIL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
TO ACCOMPANY PLANS DATED _____

NOTES: See Note 10

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate. For specific site condition configuration, including the conform to existing sidewalk, see Project Plans.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be ~~at the~~ same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within ~~24~~ 48" inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
10. The detectable warning surface will be a rectangle as shown at back of curb, unless modified in the Project Plans. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
11. Sidewalk and ramp thickness, "T", shall be ~~2½" min~~ 4" Min.imum.
12. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
13. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.



GUTTER PAN TRANSITION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

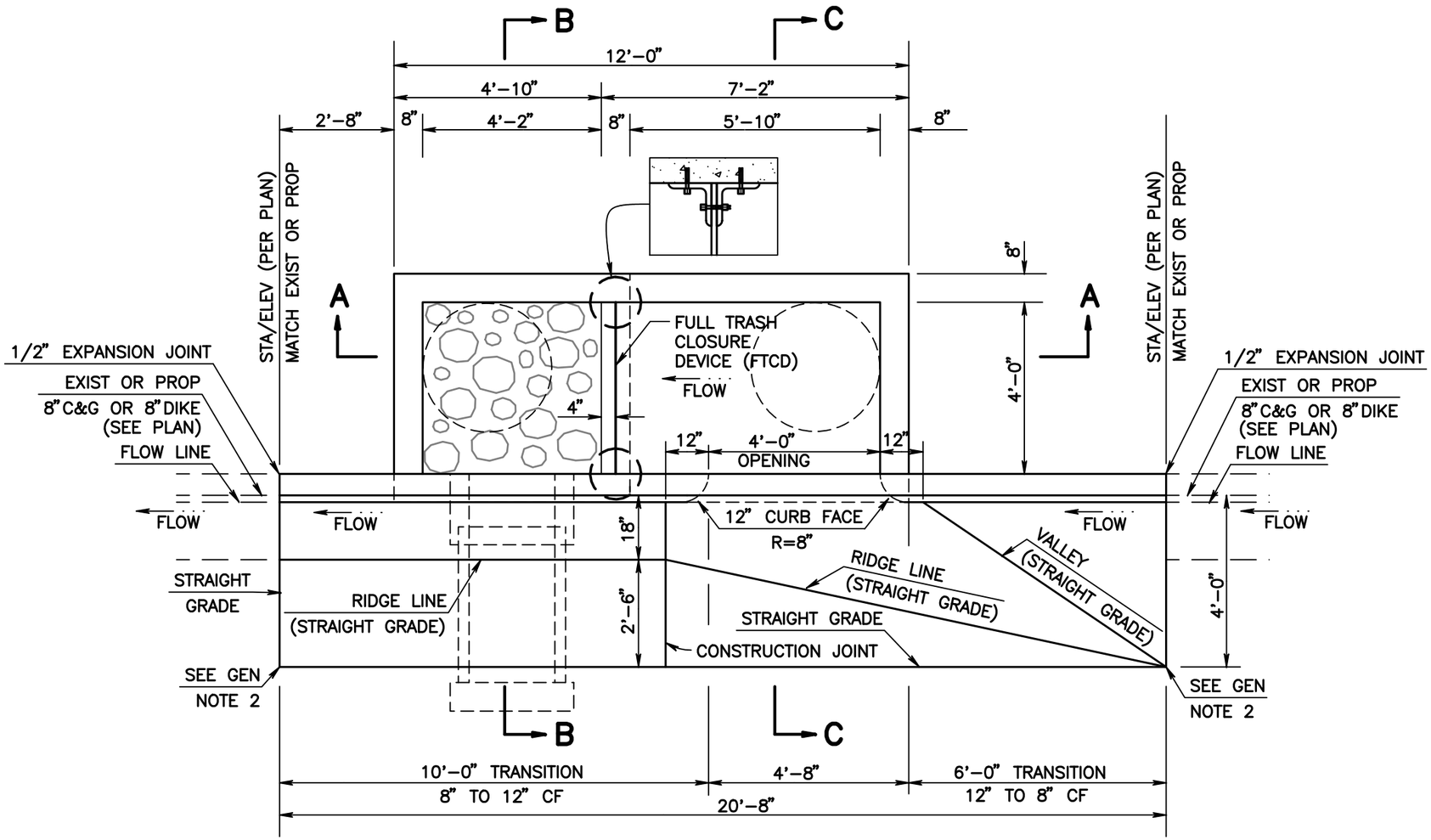
NO SCALE

RSP A88A DATED JULY 21, 2017 SUPERSEDES RSP A88A DATED JULY 15, 2016 AND STANDARD PLAN A88A DATED OCTOBER 30, 2015 - PAGE 127 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A88A

2015 REVISED STANDARD PLAN RSP A88A

(MODIFIED)



BMP INFILTRATION DRAINAGE INLET

(SHOWING LOCAL DEPRESSION WITH INLET)

NTS

INDEX OF SHEETS

TO BE SUPPLEMENTED BY THE FOLLOWING SAN BERNARDINO COUNTY STANDARD DRAWINGS OR SPECIAL DRAWINGS:

SB CO STD 206 TYPE A

SB CO STD 206 A

SB CO STD 206 B

SB CO STD 208

SPECIAL DWG 102

TO BE SUPPLEMENTED BY THE FOLLOWING SPPWC STANDARD DRAWINGS:

STD DWG 308–2

GENERAL NOTES:

1. LOCAL DEPRESSION AND STRUCTURAL INLETS SHALL BE CONSTRUCTED OF MINOR CONCRETE 8" THICK
2. ELEVATIONS SHALL BE AS SHOWN ON THE PLANS. OTHERWISE, THE OUTER EDGE OF THE LOCAL DEPRESSION SHALL CONFORM TO EXISTING FINISHED SURFACE OF THE ROAD
3. FOR 36" DIA MANHOLE FRAME AND COVER INSTALLATION AND OTHER DETAILS REFER TO SAN BERNARDINO COUNTY STANDARD 205
4. FOR PLACEMENT OF STEEL BARS AND STEPS AND OTHER DETAILS, REFER TO SAN BERNARDINO COUNTY STANDARD 206 & 206B OR 208 (OPTIONAL)
5. IF NOT SHOWN ON THE PLAN, USE 8" THICK ASPHALT CONCRETE (TYPE A) PAVEMENT OVER NATIVE SOIL OR AS DESIGNATED BY THE ENGINEER
6. FOR FTCD SPECIFICATIONS, CONSTRUCTION, STRIPING, UTILITY AND MAINTENANCE NOTES REFER TO SHEET 3

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

COUNTY OF SAN BERNARDINO

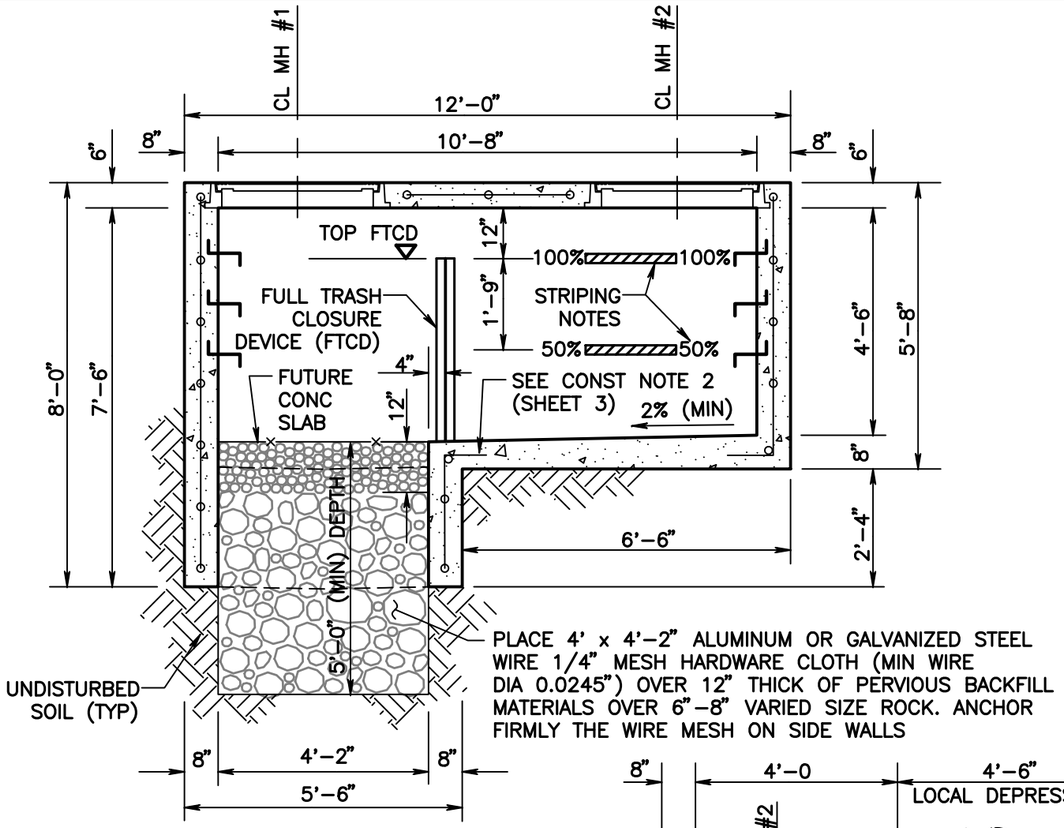
DEPARTMENT OF PUBLIC WORKS

BMP INFILTRATION DRAINAGE INLET

PLAN VIEW

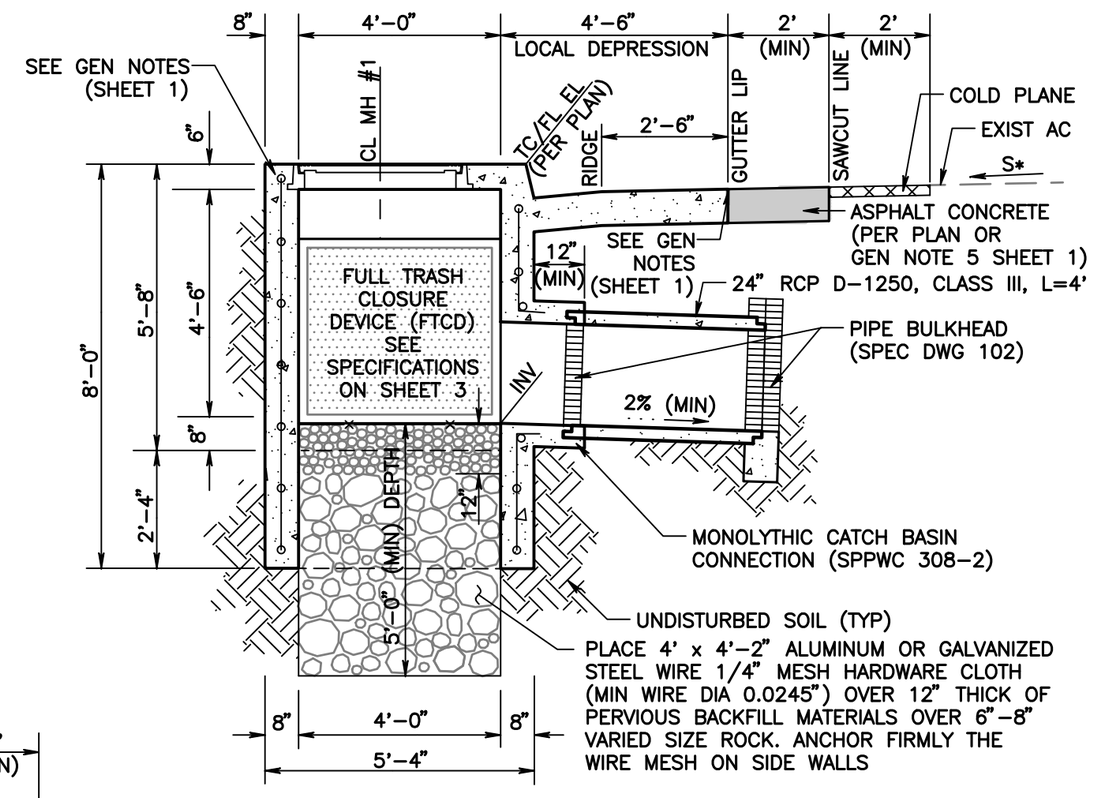
SPECIAL DRAWING 100

SHEET: 1 of 3



SECTION "A-A"

NTS



SECTION "B-B"

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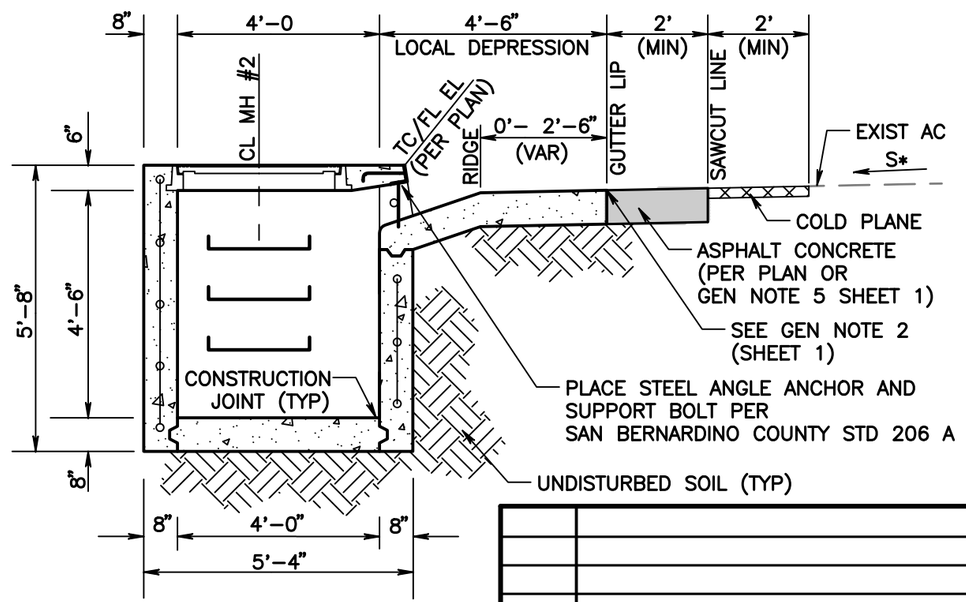


SECTION "C-C"

NTS

S* – EXISTING SLOPE

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

COUNTY OF SAN BERNARDINO

DEPARTMENT OF PUBLIC WORKS

BMP INFILTRATION DRAINAGE INLET

SECTIONS A-A, B-B AND C-C

SPECIAL DRAWING 100

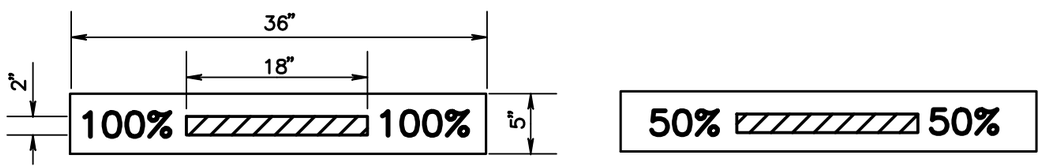
SHEET: 2 OF 3

CONSTRUCTION NOTES:

1. FULL TRASH CLOSURE DEVICE (FTCD) SHALL CONFORM WITH THE SPECIFICATIONS AS STIPULATED HEREIN AND PROPER INSTALLATION IN ACCORDANCE WITH THE PLAN AND AS DIRECTED BY THE ENGINEER
2. THE CATCH BASIN FLOOR WITH 2% (MIN) SLOPE, AS SHOWN ON THE PLAN, SHALL HAVE A SLIP–RESISTANT SURFACE IN ORDER TO AVOID WATER PONDING AND PROVIDE CONTINUOUS FLOW INTO THE PIT. THEREFORE, THE CONTRACTOR SHALL PROVIDE 1/4–INCH GROOVING AT 1–1/2" O.C. PARALLEL TEXTURE ON THE ENTIRE SLOPING AREA OF THE CATCH BASIN FLOOR. SEE GROOVING DETAIL BELOW
3. THE BMP INFILTRATION INLET SHALL INCLUDE MAINTENANCE GAUGE STENCELING ON THE INTERIOR WALL TO IDENTIFY THE ACCUMULATED DEBRIS ELEVATION AT 50% AND 100% OF THE FTCD HEIGHT. SEE SECTIONS A–A AND B–B (SHEET 2), STRIPING NOTES AND DIAGRAM HEREIN BELOW

STRIPING NOTES:

1. PAINT SHALL BE RED STRIPES AND NUMBERS ON WHITE BACKGROUND ON THE BACK WALL OF THE CATCH BASIN, LABELING 50% AND 100% SCREEN HEIGHT AS SHOWN BELOW. PAINT SHALL BE WATERBORNE AND REFLECTIVE
2. SURFACES SHALL BE CLEAN, DRY AND FREE FROM ALL CONTAMINANTS PRIOR TO PAINTING
3. STENCILING SHALL BE VISIBLE FROM THE STREET THROUGH THE INLET OPENING



100% STRIPE

50% STRIPE

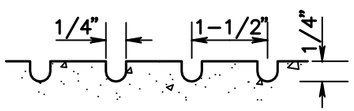
STRIPING DETAIL
NTS

UTILITY NOTES:

THE FACT THAT ANY UTILITY IS SHOWN OR NOT SHOWN UPON THE PLANS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY UNDER SECTION 5–1.36D "NON–HIGHWAY FACILITIES" OF THE CALTRANS STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY, PURSUANT THERETO, TO ASCERTAIN THE LOCATION OF ANY UTILITY FACILITY WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF CONTRACTOR'S OPERATIONS.

MAINTENANCE NOTES:

THIS BMP INFILTRATION DRAINAGE INLET FACILITY SHALL BE MAINTAINED PERIODICALLY AT LEAST ONCE EVERY 6 MONTHS IN COMPLIANCE WITH NPDES REQUIREMENTS



GROOVING DETAIL
NTS

SPECIFICATIONS:

1. FULL TRASH CAPTURE DEVICE (FTCD) SHALL BE A UNITED STORM WATER INCLUDING CONNECTOR RCB SCREEN (RCBS) OR APPROVED EQUIVALENT. EQUIVALENT SYSTEMS OR ALTERNATIVE DESIGNS SHALL BE ON THE STATE OF CALIFORNIA APPROVED TRASH CAPTURE DEVICE LIST AND REQUIRE APPROVAL OF THE ENGINEER.

2. FTCD SHALL HAVE A STRUCTURAL FRAME FOR STIFFNESS AND TO ENABLE BOLTING TO CATCH BASIN FLOOR AND WALL FRAME MEMBERS AND FTCD SCREENS SHALL BE FABRICATED FROM PERFORATED 14 GAUGE 304 STAINLESS STEEL HAVING 5 MM DIAMETER HOLES.

3. FTCD FRAME AND SCREEN SHALL HAVE SUFFICIENT STRUCTURAL INTEGRITY TO WITHSTAND THE FORCE OF STANDING WATER IN THE CATCH BASIN ASSUMING THE SCREEN IS 100% CLOSED.

4. FTCD SHALL BE FASTENED TO THE CATCH BASIN WALLS AND FLOOR WITH ANCHOR BOLTS. ANCHOR BOLTS SHALL BE SS–304 OR APPROVED EQUIVALENT 3/8" DIAMETER AND 3" LENGTH AND SHALL BE EPOXY SET INTO CATCH BASIN CONCRETE. IF REINFORCEMENT STEEL IS ENCOUNTERED DURING DURING INSTALLATION RELOCATE THE ANCHOR HOLE AND FILL VACANT HOLE WITH EPOXY. EPOXY SHALL BE ON THE CURRENT APPROVED LIST OF CHEMICAL ADHESIVES FOR USE IN CALTRANS CONTRACTS. ANCHOR BOLT SPACING TO BE 12" OC EXCEPT WHERE FRAME LENGTH WOULD RESULT IN LESS THAN 3 BOLTS PER FRAME MEMBER. IN THIS CASE FASTEN FRAME TO CATCH BASIN WALLS AND FLOOR USING 3 ANCHOR BOLTS.

5. THE SCREEN SHALL BE SECURED TO THE SUPPORT FRAME, BRACKETS AND SIDE PANEL USING #12 x 0.5" SELF TAPPING SS–304 TECH SCREWS OR APPROVED EQUIVALENT.

6. THE FTCD SHALL BE FABRICATED ON SITE TO BE FLUSH WITH THE INTERIOR SURFACES ON THE CATCH BASIN. THE MAXIMUM ALLOWABLE GAP BETWEEN THE FTCD AND THE CATCH BASIN SURFACES IS 5 MM (0.197 INCH)

7. SUPPORT FRAME ANGLES SHALL BE INSTALLED PER PLAN AND AS DIRECTED BY THE ENGINEER.

MARK	CHANGES		
	NO CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

COUNTY OF SAN BERNARDINO

DEPARTMENT OF PUBLIC WORKS

BMP INFILTRATION DRAINAGE INLET

SPECIFICATIONS AND NOTES

SPECIAL DRAWING 100

SHEET: 3 of 3