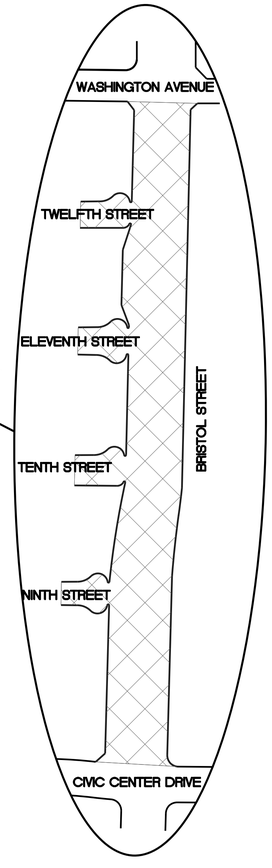
CITY OF SANTA ANA

PUBLIC WORKS AGENCY

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE
FEDERAL PROJECT NO.: DEMO6L-5063(146), CML-5063(210)

PROJECT NO. 15-6445 BRISTOL(PH. 3) STREET WATER MAIN IMPROVEMENTS

VICINITY MAP
(NOT TO SCALE)



LOCATION MAP
(NOT TO SCALE)

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AS WRITTEN AND PROMULGATED BY THE 2018 EDITION OF SOUTHERN CALIFORNIA CHAPTER OF THE A.P.W.A. A.G.C.C. JOINT COOPERATIVE COMMITTEE HEREIN REFERRED TO AS THE STANDARD SPECIFICATIONS AND THE CITY OF SANTA ANA STANDARD PLANS & SPECIFICATIONS (UNLESS SPECIFICALLY NOTED OTHERWISE OR IN THE SPECIAL PROVISIONS FOR THIS PROJECT).

2. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY OR STRUCTURE SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. NO CERTIFICATION IS MADE AS TO ACCURACY OR THOROUGHNESS OF THESE RECORDS. APPROVAL OF THIS PLAN BY THE CITY OF SANTA ANA DOES NOT CONSTITUTE AN EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITY OR SUBSTRUCTURE WITHIN THE LIMITS OF THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES (BY POTHOLING OR OTHER MEANS). THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (811) 48 HOURS BEFORE ANY EXCAVATION.

3. THESE CONSTRUCTION DOCUMENTS WERE CREATED FROM DIGITIZED BASE INFORMATION PROVIDED BY THE CITY OF SANTA ANA. EXACT LAYOUTS OF ALL HARDSCAPE ELEMENTS MAY NEED TO BE MODIFIED AND SOME FIELD ADJUSTMENTS MAY BE NECESSARY. THE CONTRACTOR SHALL INCLUDE AS PART OF THE BID, TIME AND LABOR FOR ANY MODIFICATIONS NECESSARY TO IMPLEMENT THE INTENT OF THE DRAWINGS.

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ST-07014

SHT-A101-10115-R00.DGN

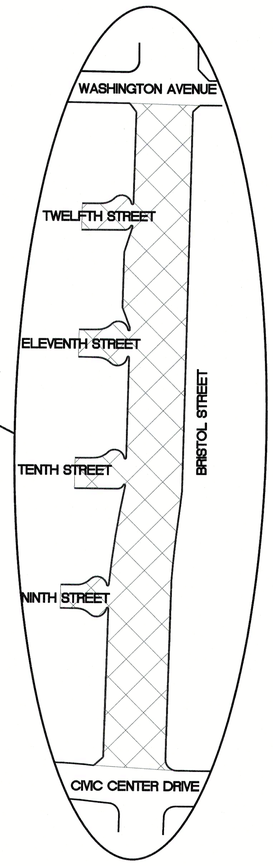
PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEMO6L-5063(146)

CITY OF SANTA ANA

PUBLIC WORKS AGENCY

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE
FEDERAL PROJECT NO.: DEMO6L-5063(146), CML-5063(210)

VICINITY MAP
(NOT TO SCALE)



LOCATION MAP
(NOT TO SCALE)

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3. THESE CONSTRUCTION DOCUMENTS WERE CREATED FROM DIGITIZED BASE INFORMATION PROVIDED BY THE CITY OF SANTA ANA. EXACT LAYOUTS OF ALL HARDSCAPE ELEMENTS MAY NEED TO BE MODIFIED AND SOME FIELD ADJUSTMENTS MAY BE NECESSARY. THE CONTRACTOR SHALL INCLUDE AS PART OF THE BID, TIME AND LABOR FOR ANY MODIFICATIONS NECESSARY TO IMPLEMENT THE INTENT OF THE DRAWINGS.

ST-07014

SHT-AT01-10115-R00.DGN

STREET IMPROVEMENT CONSTRUCTION NOTES:

1. COLDMILL 2" AC & REPLACE WITH 2" ARHM.
2. PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.
3. PLACE 2" ARHM OVER 4" AC DEEP LIFT ON COMPACTED SUBGRADE
4. CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4'LANDSCAPED BUFFER
4A. CONSTRUCT 6" PCC PROTECTED BIKE LANE WITH BUS LOADING PER DETAIL "F" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS
5. CONSTRUCT 1' WIDE BY 1' DEEP AC ON COMPACTED SUBGRADE.
6. JOIN & FEATHER AS DIRECTED BY THE ENGINEER.
7. CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.
7A. CONSTRUCT TYPE A-2-6 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.
7B. NOT USED
8. CONSTRUCT CURB RAMP PER C.S.A. STD. PLAN NO. 1122 AND AS SHOWN ON PLAN.
9. CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.
10. CONSTRUCT PCC CURB PER C.S.A. STD. PLAN NO. 1101 TYPE B-1.
11. CONSTRUCT MEDIAN TURN POCKET PER C.S.A. STD. PLAN NO. 1118 AND/OR AS SHOWN ON PLAN. CONSTRUCT 4" THICK, 4' X 1' CONCRETE CAP AT MEDIAN NOSE FLUSH WITH TOP OF CURBS OVER 4" THICK COMPACTED SAND BED
11A. CONSTRUCT 4" ROLLED MEDIAN CURB FOR OCFD TRUCK ACCESS AS SHOWN ON PLANS PER APWA STD. PLAN NO. 121-3, B1-150(6) AND COLORED CONCRETE PER DETAIL ON SHEET LA-02
12. CONSTRUCT 8" PCC DRIVE APPROACH PER C.S.A. STD. PLAN NO. 1112. "W" & "A" PER PLAN.
12A. CONSTRUCT 6" PCC DRIVE APPROACH PER C.S.A STD. PLAN NO.1112 . "W" & "A" PER PLAN.
13. CONSTRUCT 12" PCC BUS PAD INCLUDING MONOLITHIC CURB PER OCTA STD. TYPICAL MID-BLOCK TURNOUT DESIGN(TYPE 1A) AND AS SHOWN ON PLAN.
14. NOT USED.
15. CONSTRUCT 18" RCP, (1750-D) PER CITY STD.1150. CONSTRUCT 18" REINFORCED CONCRETE COLLAR PER CITY STANDARD PLAN NO. 320. AND JOIN EXISTING 18" PIPE.
16. CONSTRUCT CATCH BASIN TYPE "B" PER CITY STANDARD PLAN NO. 302 (WIDTH PER PLAN). MODIFIED WITH 2" LOCAL DEPRESSION PER STD PLAN NO. 305. AS SHOWN ON DETAIL C ON SHEET DS01.
17. ADJUST MANHOLE FRAME AND COVER AND RAISE RING AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A.STD. PLAN NO. 1201
17A. ADJUST MANHOLE FRAME AND COVER AND REPLACE RING, COVER, AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A STD. PLAN NO. 1201 AND 1211.
18. REMOVE EXISTING WATER VALVE FRAME AND COVER. FURNISH AND INSTALL NEW WATER VALVE AND COVER TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410
19. FURNISH AND INSTALL SURVEY MONUMENT TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1117. LOCATION TO BE VERIFIED BY C.S.A. SURVEY SUPERVISOR BEFORE AND AFTER CONSTRUCTION.
20. INSTALL STREET LIGHT AND 1½" CONDUIT AS SHOWN ON PLANS AND STREET LIGHT PLANS.
21. NOT USED
22. CONSTRUCT CULVERT PER C.S.A STD. PLAN NO. 318 AND TIE INTO EXISTING CULVERT.
23. INSTALL HANDRAIL PER HANDRAIL DETAIL ON SHEET DS01.
24. ADJUST SEWER CLEANOUT FRAME AND COVER TO FINISHED GRADE PER C.S.A STD. PLAN NO. 1204 AND 1204A.
25. INSTALL BUS SHELTER.
26. COLORED CONCRETE (BRICK RED) WITH DAYTON SUPERIOR TOPCAST #50 EXPOSED AGGREGATE FINISH (T=4")
27. FURNISH AND INSTALL BIOFILTRATION STRUCTURE (MODULAR WETLANDS MWS-L-8-12-C BY CONTECH OR APPROVED EQUAL). CORE OUTLET PIPE INTO CATCH BASIN AND CONNECT TO IRRIGATION LINE
28. NOT USED
29. FURNISH AND INSTALL 8"Ø SDR35 PVC PIPE PER CSA STD. PLAN 1150. SLOPE AT 2.0% MIN
30. SAWCUT, REMOVE, AND CONSTRUCT 7" PCC, DOWEL 24" O.C. #4 DOWEL 18"LONG AROUND PERIMETER PER TYPICAL SECTION WITH SCORE JOINTS DIRECTED BY INSPECTOR/ENGINEER.

CONTRACTOR SHALL POTHOLE AND VERIFY ALL EXISTING UTILITY CROSSINGS AHEAD OF CONSTRUCTION OPERATIONS AND NOTIFY CITY'S CONSTRUCTION REPRESENTATIVE IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND COMPARED TO THESE PLANS.

ABBREVIATIONS:

AC	ASPHALT CONCRETE
ANG.	ANGLE
ARHM	ASPHALT RUBBER HOT MIX
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
B/W	BACK OF WALK
C.S.A.	CITY OF SANTA ANA
C&G	CURB & GUTTER
CF	CURB FACE
CG	CROSS GUTTER
CL	CENTERLINE
CONST.	CONSTRUCTION
CP	CONCRETE PAVEMENT
DWY	DRIVEWAY APPROACH
E'LY	EASTERLY
EC	END CURVE
ECR	END CURB RETURN
ERC	END REVERSE CURVE
EX./ EXIST.	EXISTING
FL	FLOWLINE
FH	FIRE HYDRANT
FS	FINISHED SURFACE
GB	GRADE BREAK
IV	IRRIGATION VALVE
LT	LEFT
MH	MANHOLE
MON	SURVEY MONUMENT
MWD	METROPOLITAN WATER DISTRICT
N'LY	NORTHERLY
NO.	NUMBER
N.T.S.	NOT TO SCALE
OCTA	ORANGE COUNTY TRANSPORTATION AUTHORITY
PB	PULLBOX
PCC	PORTLAND CEMENT CONCRETE
POC	POINT OF CONNECTION
POCC	POINT OF COMPOUND CURVE
PPB	PEDESTRIAN PUSH BUTTON
PRC	POINT OF REVERSE CURVE
PROP.	PROPOSED
PT	POINT
PL	PROPERTY LINE
RCP	REINFORCED CONCRETE PIPE
R/W	PUBLIC RIGHT-OF-WAY/STREET
RT	RIGHT
S'LY	SOUTHERLY
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SF	SQUARE FOOTAGE
ST	STREET LIGHT
STA.	STATION
STD.	STANDARD
TCE	TEMPORARY CONSTRUCTION EASEMENT
TSP	TRAFFIC SIGNAL POLE
TSC	TRAFFIC SIGNAL CABINET
U.P.R.R.	UNION PACIFIC RAILROAD
VAR.	VARIES
W'LY	WESTERLY
WM	WATER METER
WV	WATER VALVE

DISPOSITION NOTES:

- A PROTECT IN PLACE (TYPE PER PLAN).
- B REMOVE (TYPE PER PLAN).
- C RELOCATE BY OTHERS (TYPE AND OWNER PER PLAN)
- D DISPOSITION PER STREET IMPROVEMENT PLAN (TYPE PER PLAN).
- E DISPOSITION PER TRAFFIC SIGNAL IMPROVEMENT PLAN (TYPE PER PLAN).
- F DISPOSITION PER CHANNELIZATION PLAN (TYPE PER PLAN).
- G DISPOSITION PER WATER IMPROVEMENT PLAN (TYPE PER PLAN).
- H INSTALL NEW UTILITY BY OTHERS (TYPE AND OWNER PER PLAN).
- I ADJUST TO GRADE BY OTHERS (TYPE AND OWNER PER PLAN).
- J RELOCATE (TYPE PER PLAN).
- K RELOCATE PER EDISON UNDERGROUNDING PLAN.
- M RELOCATE PER STREET LIGHTING PLAN (TYPE PER PLAN).
- N DISPOSITION PER STREET LIGHTING PLAN (TYPE PER PLAN).

NOTES:

- L CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.
- M INSTALL SOUNDWALL PLAN SHEET SW01-SW03.

SOUNDWALL CONSTRUCTION NOTES

1. CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "B" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.
2. CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "A" ON SHEET SW-07.
3. CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "C" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.
4. CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "D" ON SHEET SW-07.
5. CONSTRUCT ORNAMENTAL WALL PILASTER PER STRUCTURAL DETAILS ON SHEET SW-08.
6. CONSTRUCT ORNAMENTAL WALL PER STRUCTURAL DETAILS ON SHEET SW-08.

GENERAL NOTES:

1. THIS PLAN IS ACCURATE FOR DISPOSITION ONLY, ALL OTHER ITEMS ARE COVERED UNDER SEPARATE PLANS.
2. FOR DISPOSITION OF TRAFFIC SIGNAL CONDUITS AND EQUIPMENT, SEE TRAFFIC SIGNAL MODIFICATION PLANS (SHEETS TS01-TS03).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL UTILITY WORK WITH THE UTILITY COMPANIES
4. CONTRACTOR SHALL COORDINATE WITH SOUTHERN CALIFORNIA EDISON'S CONSTRUCTION SCHEDULE.

SHEET INDEX

SHEET NUMBER	DESCRIPTION	SHEET NAME
1	TITLE SHEET	AT01
2	TYPICAL SECTIONS/DETAILS	DS01
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7 - 13	STREET IMPROVEMENT PLAN	DE01 - DE07
14 - 21	SOUNDWALL PLAN	SW01 - SW08
22 - 24	TRAFFIC SIGNAL IMPROVEMENT PLAN	XA01 - XA03
25 - 27	IRRIGATION PLAN	IR01 - IR03
28 - 31	IRRIGATION DETAILS	ID01 - ID04
32 - 34	LANDSCAPE PLAN	LA01 - LA03
35	LANDSCAPE DETAILS	LD01
36	CHANNELIZATION	TA01
37-38	LIGHTING PLAN	BA01 - BA02

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KEVIN.NASSAR@VERIZONWIRELESS.COM

SO CAL EDISON:
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(949)315-0392
TODD.TATE@SCE.COM

SANDEEP TALLURI
(657)212-0095
SANDEEP.K.TALLURI@SCE.COM

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APPROVALS:

Nabil B. Saba 6/20/2024
NABIL SABA, P.E. DATE
EXECUTIVE DIRECTOR
PUBLIC WORKS AGENCY

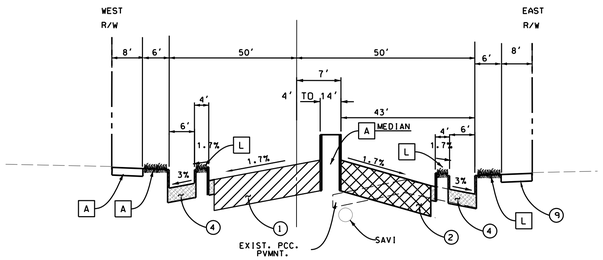
6/20/24
RODOLFO ROSAS, P.E. DATE
DEPUTY PUBLIC WORKS DIRECTOR/CITY ENGINEER

PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

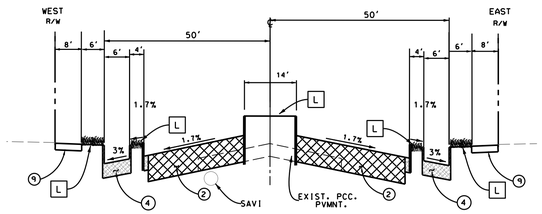
6/20/24
JASON GABRIEL, P.E. R.C.E. NO.: 62968 DATE
PRINCIPAL CIVIL ENGINEER

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEMO6L-5063(146)



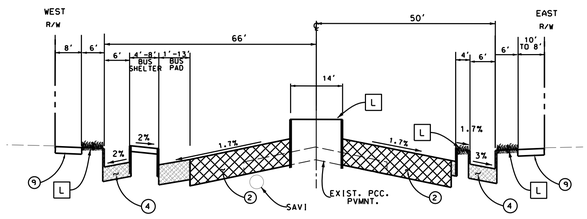
BRISTOL STREET WIDENING TYPICAL SECTION
STA. 74+40 TO STA. 79+20

N.T.S.



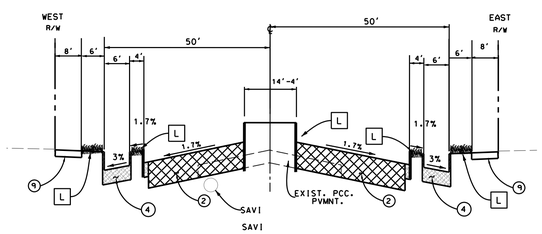
BRISTOL STREET WIDENING TYPICAL SECTION
STA. 79+20 TO STA. 82+12.60

N.T.S.



BRISTOL STREET WIDENING TYPICAL SECTION
STA. 82+12.60 TO STA, 84+70

N.T.S.



BRISTOL STREET WIDENING TYPICAL SECTION
STA. 84+70 TO WASHINGTON AVE.

N.T.S.

GENERAL NOTE:
ENGINEER'S DISCRETION TO REPLACE NOTE (2) WITH LEVEL COURSE AND OVERLAY ONCE LOCATION IS DETERMINED

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT. PCC PAVEMENT. AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB. CURB. GUTTER. CROSS GUTTER. AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- COLDMILL 2" EXISITING AC PAVEMENT AND REPLACE 2" ARHM.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT. PCC PAVEMENT. AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

NOTES

[L] CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

DISPOSITION NOTES:

[A] PROTECT IN PLACE (TYPE PER PLAN).

STREET IMPROVEMENT CONSTRUCTION NOTES:

(1) COLDMILL 2" AC & REPLACE WITH 2" ARHM.

(2) PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.

(4) CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4' LANDSCAPED BUFFER

(4A) CONSTRUCT 6" PCC PROTECTED BIKE LANE AT BUS ISLAND PER DETAIL "F" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS

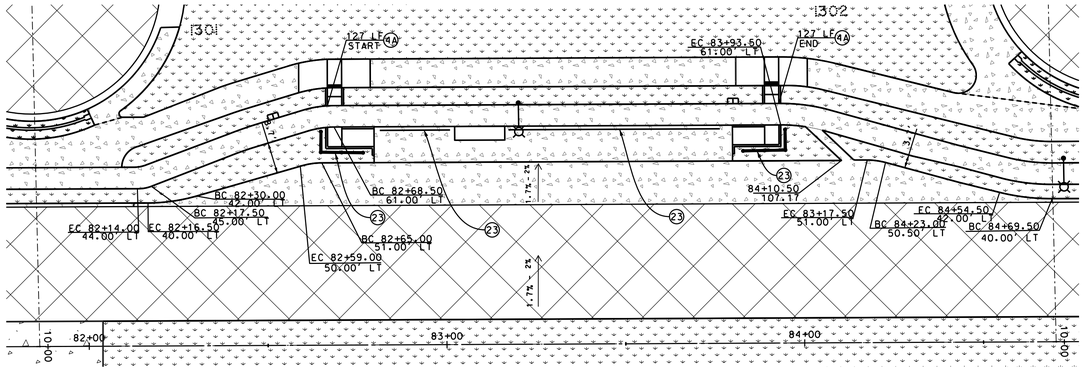
(7A) CONSTRUCT TYPE A-2-6 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(7B) CONSTRUCT SWALE CURB INLET AS SHOWN ON PLAN AND DETAIL "A" ON SHEET DS-01.

(9) CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.

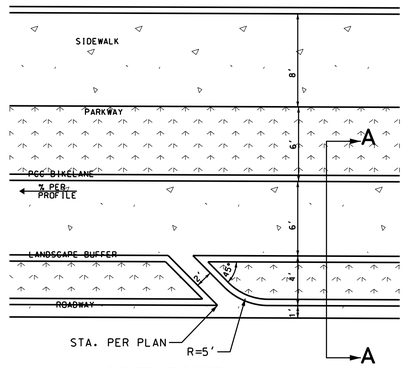
(13) CONSTRUCT 12" PCC BUS PAD INCLUDING MONOLITHIC CURB PER OCTA STD. TYPICAL MID-BLOCK TURNOUT DESIGN(TYPE 1A) AND AS SHOWN ON PLAN.

(23) INSTALL HANDRAIL PER HANDRAIL DETAIL ON SHEET DS01.

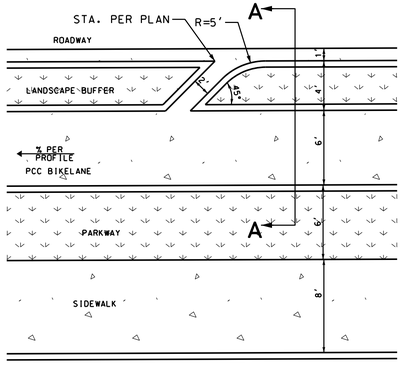


G BUS PAD DETAIL

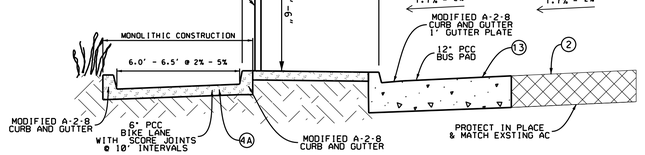
N.T.S



SOUTH BOUND
(WEST OF CENTERLINE)



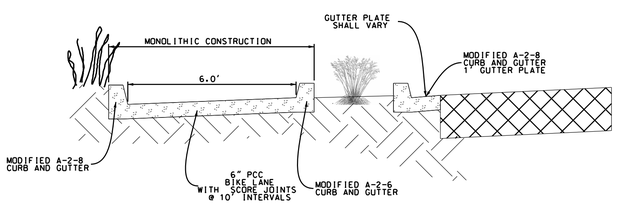
NORTH BOUND
(EAST OF CENTERLINE)



F PCC PROTECTED BIKE LANE DETAIL AT BUS ISLAND

N.T.S

SEE STREET TYPICAL SECTIONS FOR MORE DETAILS



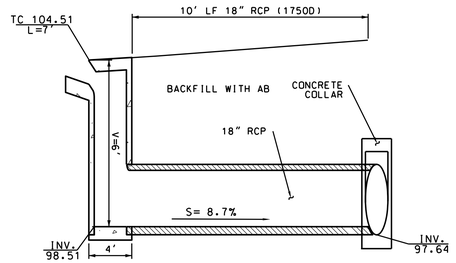
SECTION A-A

(N.T.S)

B PCC PROTECTED BIKE LANE DETAIL WITH 4' LANDSCAPED BUFFER

N.T.S

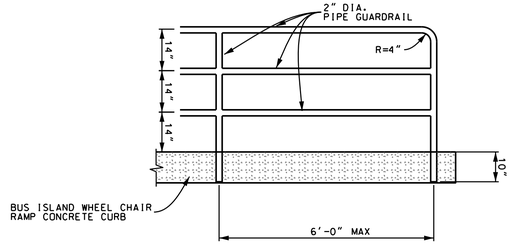
SEE STREET TYPICAL SECTIONS FOR MORE DETAILS.
ALL PCC PORTIONS OF LANDSCAPED BUFFER INCLUDED IN THIS ITEM.



C CATCH BASIN 'A' TYPE B

N.T.S

STA. 73+15.74



D HAND RAIL DETAIL

N.T.S.

NOTE:
PIPE TO BE SANDBLASTED HOT -DIPPED GALVANIZED. PRIMERED & POWDER-COATED.

SUBMIT FINISHED & POWDER-COATED SAMPLE TO CITY PRIOR TO FABRICATION.

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NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 4216 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS A DIG ALERT TICKET NUMBER. CALL 811 AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNNN-ROO.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

TYPICAL SECTIONS/DETAILS

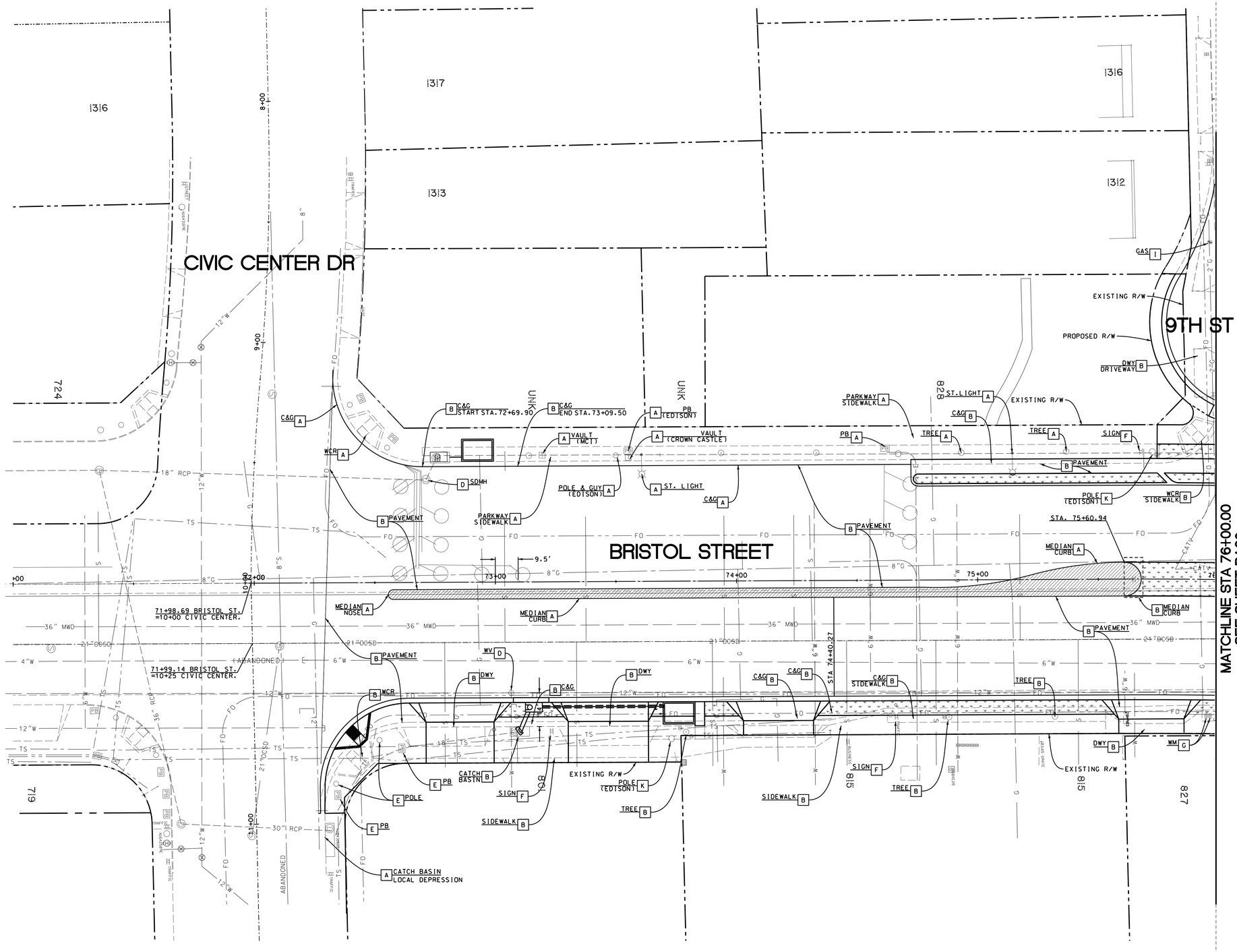
DS01

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 02 OF 38



DISPOSITION NOTES:

- A PROTECT IN PLACE (TYPE PER PLAN).
- B REMOVE (TYPE PER PLAN).
- D DISPOSITION PER STREET IMPROVEMENT PLAN (TYPE PER PLAN).
- E DISPOSITION PER TRAFFIC SIGNAL IMPROVEMENT PLAN (TYPE PER PLAN).
- F DISPOSITION PER CHANNELIZATION PLAN (TYPE PER PLAN).
- G DISPOSITION PER WATER IMPROVEMENT PLAN (TYPE PER PLAN).
- I ADJUST TO GRADE BY OTHERS (TYPE AND OWNER PER PLAN).
- K RELOCATE PER EDISON UNDERGROUNDING PROJECT.

GENERAL NOTES:

1. THIS PLAN IS ACCURATE FOR DISPOSITION ONLY. ALL OTHER ITEMS ARE COVERED UNDER SEPARATE PLANS.
2. FOR DISPOSITION OF TRAFFIC SIGNAL CONDUITS AND EQUIPMENT, SEE TRAFFIC SIGNAL MODIFICATION PLANS (SHEETS TS01-TS03).
3. THE CONTRACTOR SHALL BE RESPOSIBLE FOR COORDINATING ALL UTILITY WORK WITH THE UTILITY COMPANIES
4. "FULL TAKE" RIGHT-OF-WAY AQUISITION LOTS WILL GENERALY BE CLEARED OF ALL EXISTING IMPROVEMENT UP TO THE BACK OF EXISTING SIDEWALK.
5. AT ALL T.C.E. RIGHT-OF-WAY LOCATIONS, THE CONTRACTOR MUST REMOVE INTERFERING PORTIONS OF ALL LANDSCAPE, HARDSCAPE, AND IRRIGATION IMPROVEMENTS AND CONSTRUCT NEW PCC TO JOIN EXISTING; ADJUST/MODIFY EXISTING LANDSCAPING AND IRRIGATION TO INSURE100% COVERAGE WITHOUT OVERSPRAYING TO SATISFACTION OF ENGINEER.

LEGEND:

- PROTECT IN PLACE EXISTING MEDIAN LANDSCAPING AND IRRIGATION
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

(SCALE : 1" = 20')

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RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

RA01

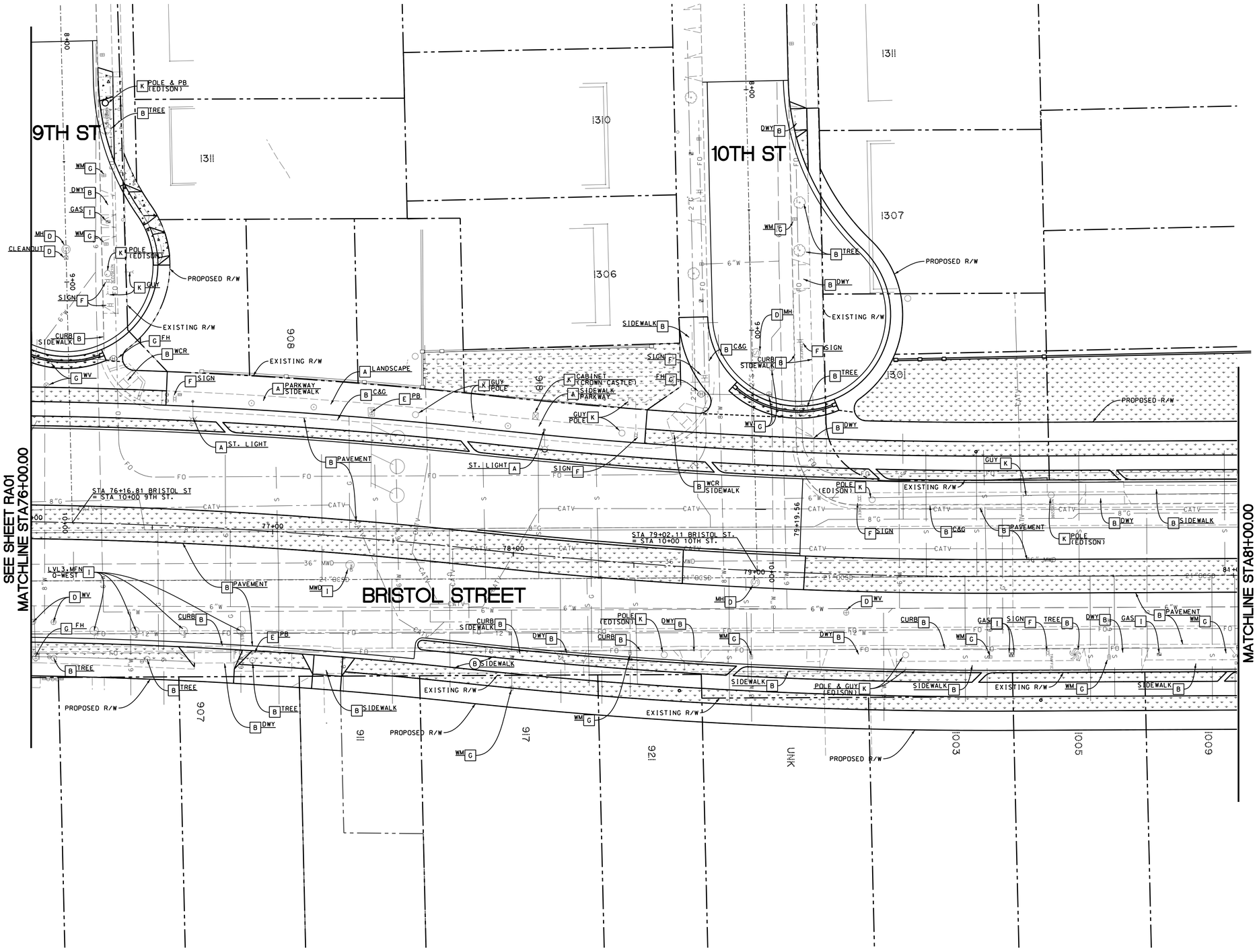
DISPOSITION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 03 OF 38



DISPOSITION NOTES:

- [A] PROTECT IN PLACE (TYPE PER PLAN).
- [B] REMOVE (TYPE PER PLAN).
- [D] DISPOSITION PER STREET IMPROVEMENT PLAN (TYPE PER PLAN).
- [E] DISPOSITION PER TRAFFIC SIGNAL IMPROVEMENT PLAN (TYPE PER PLAN).
- [F] DISPOSITION PER CHANNELIZATION PLAN (TYPE PER PLAN).
- [G] DISPOSITION PER WATER IMPROVEMENT PLAN (TYPE PER PLAN).
- [I] ADJUST TO GRADE BY OTHERS (TYPE AND OWNER PER PLAN).
- [K] RELOCATE PER EDISON UNDERGROUNDING PROJECT.

GENERAL NOTES:

1. THIS PLAN IS ACCURATE FOR DISPOSITION ONLY. ALL OTHER ITEMS ARE COVERED UNDER SEPARATE PLANS.
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3. THE CONTRACTOR SHALL BE RESPOSIBLE FOR COORDINATING ALL UTILITY WORK WITH THE UTILITY COMPANIES
4. "FULL TAKE" RIGHT-OF-WAY AQUISITION LOTS WILL GENERALY BE CLEARED OF ALL EXISTING IMPROVEMENT UP TO THE BACK OF EXISTING SIDEWALK.
5. AT ALL T.C.E. RIGHT-OF-WAY LOCATIONS, THE CONTRACTOR MUST REMOVE INTERFERING PORTIONS OF ALL LANDSCAPE, HARDSCAPE, AND IRRIGATION IMPROVEMENTS AND CONSTRUCT NEW PCC TO JOIN EXISTING. ADJUST/MODIFY EXISTING LANDSCAPING AND IRRIGATION TO INSURE100% COVERAGE WITHOUT OVERSPRAYING TO SATISFACTION OF ENGINEER.

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

(SCALE : 1" = 20')

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEMO6L-5063(146)

SHT-XXNN-NNNNN-ROD.DGN

FILE NO.: ST-07014

REVISIONS

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REFERENCES

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CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

DISPOSITION PLAN — RA02

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 04 OF 38

DISPOSITION NOTES:

- A PROTECT IN PLACE (TYPE PER PLAN).
- B REMOVE (TYPE PER PLAN).
- C RELOCATE BY OTHERS (TYPE AND OWNER PER PLAN).
- D DISPOSITION PER STREET IMPROVEMENT PLAN (TYPE PER PLAN).
- E DISPOSITION PER TRAFFIC SIGNAL IMPROVEMENT PLAN (TYPE PER PLAN).
- F DISPOSITION PER CHANNELIZATION PLAN (TYPE PER PLAN).
- G DISPOSITION PER WATER IMPROVEMENT PLAN (TYPE PER PLAN).
- I ADJUST TO GRADE BY OTHERS (TYPE AND OWNER PER PLAN).
- K RELOCATE PER EDISON UNDERGROUNDING PLAN.
- M RELOCATE PER STREET LIGHTING PLAN (TYPE PER PLAN).
- N DISPOSITION PER STREET LIGHTING PLAN (TYPE PER PLAN).

GENERAL NOTES:

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4. "FULL TAKE" RIGHT-OF-WAY AQUISITION LOTS WILL GENERALY BE CLEARED OF ALL EXISTING IMPROVEMENT UP TO THE BACK OF EXISTING SIDEWALK.
5. AT ALL "PARTIAL TAKE" RIGHT-OF-WAY LOCATIONS, THE CONTRACTOR MUST REMOVE INTERFERING PORTIONS OF ALL LANDSCAPE, HARDSCAPE, AND IRRIGATION IMPROVEMENTS AND CONSTRUCT NEW PCC TO JOIN EXISTING. ADJUST/MODIFY EXISTING LANDSCAPING AND IRRIGATION TO INSURE100% COVERAGE WITHOUT OVERSPRAYING TO SATISFACTION OF ENGINEER.

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

MATCHLINE STA81+00.00
SEE SHEET RA02

MATCHLINE STA86+00.00
SEE SHEET RA04

(SCALE : 1" = 20')

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

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SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	06/2024
JASON GABRIEL			

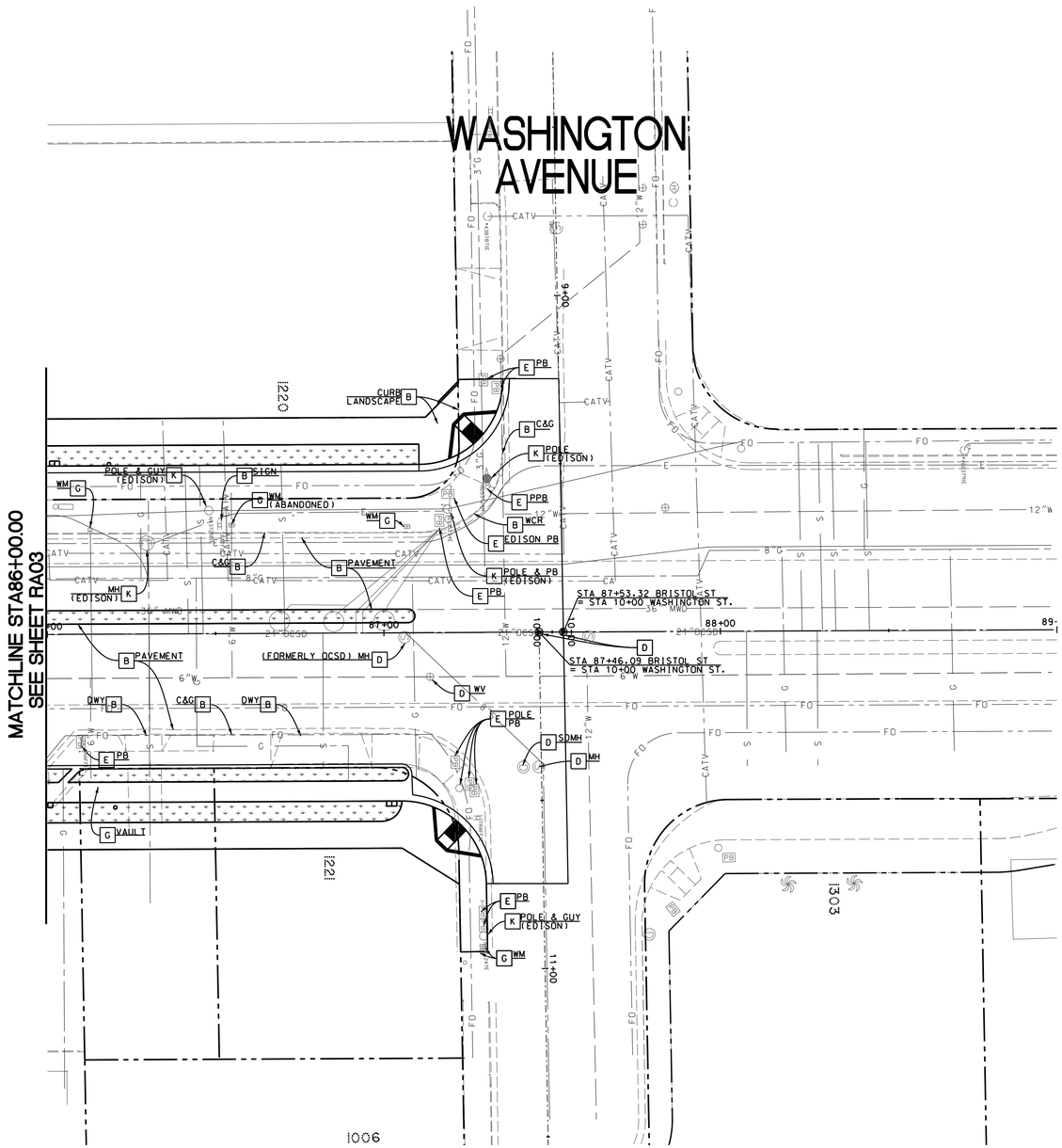
RA03

DISPOSITION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA



DISPOSITION NOTES:

- [B] REMOVE (TYPE PER PLAN).
- [C] RELOCATE BY OTHERS (TYPE AND OWNER PER PLAN).
- [D] DISPOSITION PER STREET IMPROVEMENT PLAN (TYPE PER PLAN).
- [E] DISPOSITION PER TRAFFIC SIGNAL IMPROVEMENT PLAN (TYPE PER PLAN).
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LEGEND:

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REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

RA04

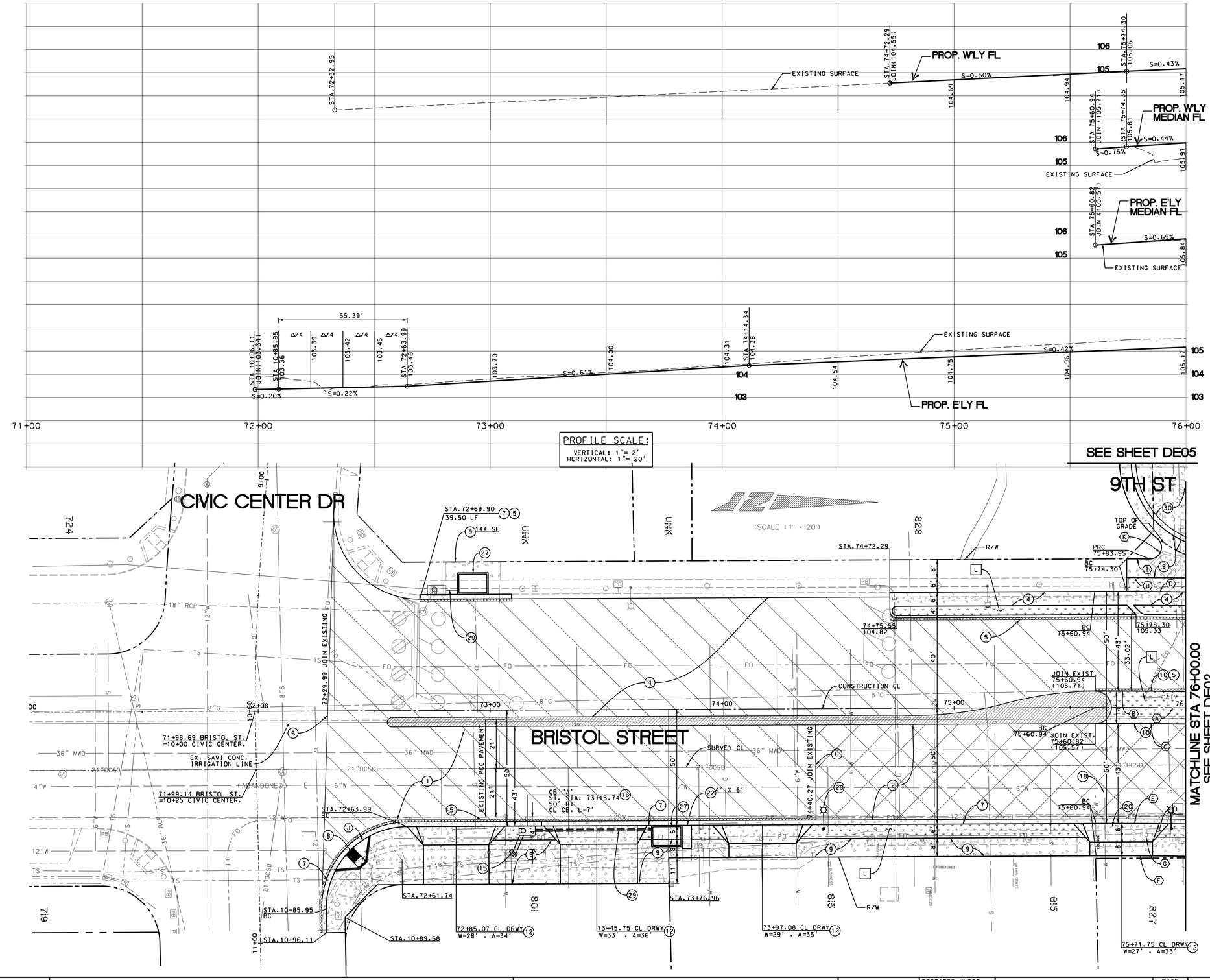
DISPOSITION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 06 OF 38



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

STREET IMPROVEMENT CONSTRUCTION NOTES:

1. COLDMILL 2" AC & REPLACE WITH 2" ARHM.
2. PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.
4. CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4'LANDSCAPED BUFFER
5. CONSTRUCT 1' WIDE BY 1' DEEP AC ON COMPACTED SUBGRADE.
6. JOIN & FEATHER AS DIRECTED BY THE ENGINEER.
7. CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.
8. CONSTRUCT CURB RAMP PER C.S.A. STD. PLAN NO. 1122 AND AS SHOWN ON PLAN.
9. CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.
10. CONSTRUCT PCC CURB PER C.S.A. STD. PLAN NO. 1101 TYPE B-1.
12. CONSTRUCT 8" PCC DRIVE APPROACH PER C.S.A. STD. PLAN NO. 1112. "W" & "A" PER PLAN.
15. CONSTRUCT 18" RCP, (1750-D) PER CITY STD.1150. CONSTRUCT 18" REINFORCED CONCRETE COLLAR PERT CITY STANDARD PLAN NO. 320. AND JOIN EXISTING 18" PIPE.
16. CONSTRUCT CATCH BASIN TYPE "B" PER CITY STANDARD PLAN NO. 302 (WIDTH PER PLAN). MODIFIED WITH 2" LOCAL DEPRESSION PER STD PLAN NO. 305. AS SHOWN ON DETAIL C ON SHEET DS01.
18. FURNISH AND INSTALL NEW WATER VALVE BOX FRAME AND COVER AND ADJUST TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410.
20. INSTALL STREET LIGHT AND 1½" CONDUIT AS SHOWN ON PLANS AND STREET LIGHT PLANS.
22. CONSTRUCT CULVERT PER C.S.A STD. PLAN NO. 318 AND TIE INTO EXISTING CULVERT.
27. FURNISH AND INSTALL BIOFILTRATION STRUCTURE (MODULAR WETLANDS MWS-L-8-12-C BY CONTECH OR APPROVED EQUAL). CORE OUTLET PIPE INTO CATCH BASIN AND CONNECT TO IRRIGATION LINE
29. FURNISH AND INSTALL 8"Ø SDR35 PVC PIPE PER CSA STD. PLAN 1150. SLOPE AT 2.0% MIN
30. SAWCUT, REMOVE, AND CONSTRUCT 7" PCC, DOWEL 24" O.C. #4 DOWEL 18" LONG AROUND PERIMETER PER TYPICAL SECTION WITH SCORE JOINTS DIRECTED BY INSPECTOR/ENGINEER.

NOTES:

L. CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

CURVE DATA				
	Δ	R	L	T
A	6°24'23"	2000.00'	223.63'	111.93'
B	6°24'23"	2007.00'	224.41'	112.32'
C	6°24'23"	1993.00'	222.84'	111.54'
D	2°16'18"	2050.00'	81.28'	40.65'
E	6°24'23"	1950.00'	218.04'	109.13'
F	6°24'23"	1936.00'	216.47'	108.35
G	1°14'31"	1944.00'	42.14'	21.07'
H	2°16'18"	2056.00'	81.52'	40.76'
I	0°16'34"	2064.00'	9.95'	4.97'
J	90°40'30"	35.00'	55.39'	34.41'
K	141°49'58"	5.00'	12.38'	14.46'

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB, CURB, GUTTER, CROSS GUTTER, AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- PROTECT IN PLACE EXISTING MEDIAN LANDSCAPING AND IRRIGATION.
- COLDMILL 2" EXISITING AC PAVEMENT AND REPLACE 2" ARHM.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

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SHT-XXNN-NNNN-RO0.DGN

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PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
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REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

DE01

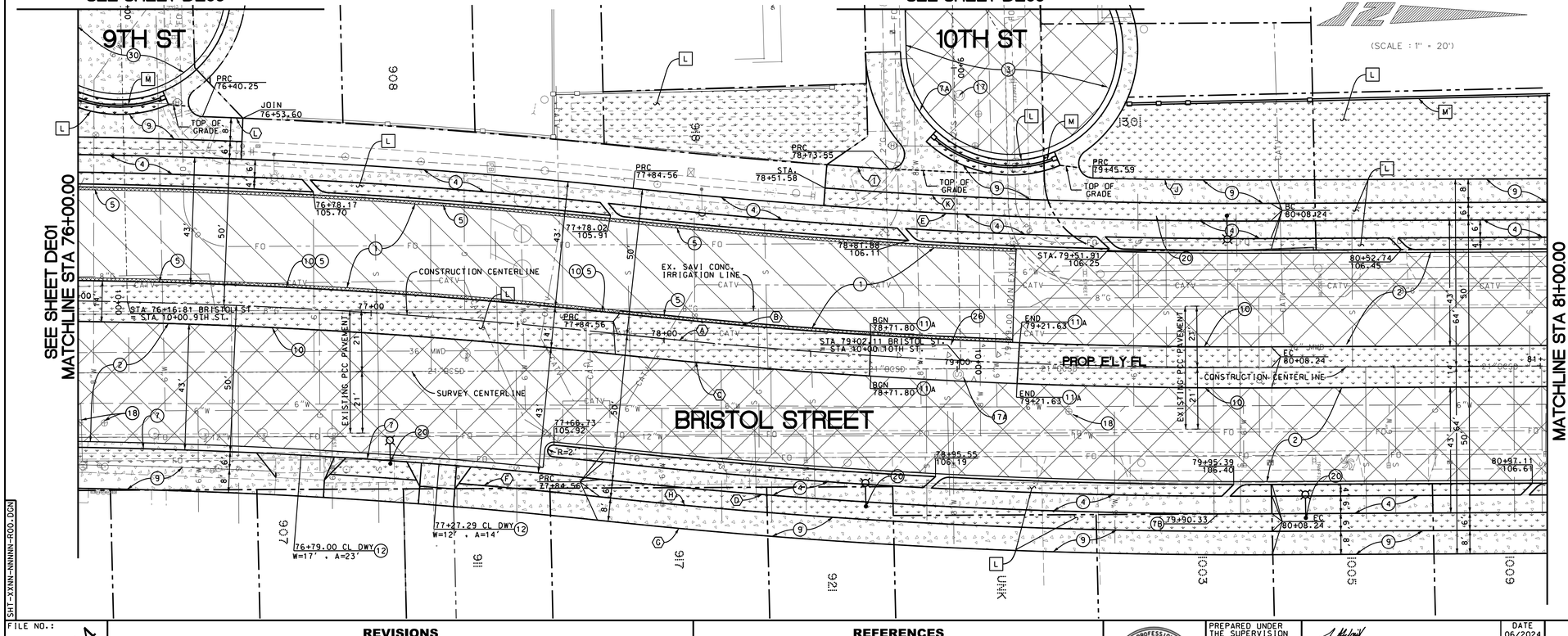
STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'



STREET IMPROVEMENT CONSTRUCTION NOTES:

1. COLDMILL 2" AC & REPLACE WITH 2" ARHM.
2. PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.
3. PLACE 2" ARHM OVER 4" AC DEEP LIFT ON COMPACTED SUBGRADE
4. CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4'LANDSCAPED BUFFER
5. CONSTRUCT 1' WIDE BY 1' DEEP AC ON COMPACTED SUBGRADE.
7. CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.
7A. CONSTRUCT TYPE A-2-6 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.
9. CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.
10. CONSTRUCT PCC CURB PER C.S.A. STD. PLAN NO. 1101 TYPE B-1.
11A. CONSTRUCT 4" ROLLED MEDIAN CURB FOR OCFD TRUCK ACCESS AS SHOWN ON PLANS PER APWA STD. PLAN NO. 121-3, B1-150(6) AND COLORED CONCRETE PER DETAIL ON SHEET ON SHEET LA-02
12. CONSTRUCT 8" PCC DRIVE APPROACH PER C.S.A. STD. PLAN NO. 1112. "W" & "A" PER PLAN.
17. ADJUST MANHOLE FRAME AND COVER AND RAISE RING AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A.STD. PLAN NO. 1201
17A. ADJUST MANHOLE FRAME AND COVER AND REPLACE RING, COVER, AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A STD. PLAN NO. 1201 AND 1211.
18. REMOVE EXISTING WATER VALVE FRAME AND COVER. FURNISH AND INSTALL NEW WATER VALVE AND COVER TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410
20. INSTALL STREET LIGHT AND 1½" CONDUIT AS SHOWN ON PLANS AND STREET LIGHT PLANS.
26. COLORED CONCRETE (BRICK RED) WITH DAYTON SUPERIOR TOPCAST #50 EXPOSED AGGREGATE FINISH (T=4")
30. SAWCUT, REMOVE, AND CONSTRUCT 7" PCC, DOWEL 24" O.C. #4 DOWEL 18" LONG AROUND PERIMETER PER TYPICAL SECTION WITH SCORE JOINTS DIRECTED BY INSPECTOR/ENGINEER.

NOTES:

L. CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.
M. INSTALL SOUNDWALL PLAN SHEET SW01-SW03.

CURVE DATA				
	Δ	R	L	T
A	6°24'29"	2000.00'	223.68'	111.96'
B	6°24'29"	1993.00'	222.90'	111.57'
C	6°24'29"	2007.00'	224.46'	112.35'
D	6°24'29"	2050.00'	229.27'	114.76'
E	6°24'29"	1950.00'	218.09'	109.16'
F	1°25'36"	1944.00'	48.40'	24.20'
G	6°24'29"	2064.00'	230.84'	115.54'
H	6°24'29"	2056.00'	229.94'	115.09'
I	0°43'02"	1698.16'	21.25'	10.63'
J	1°47'41"	1936.00'	60.64'	30.32'
K	4°29'18"	1944.00'	152.28'	76.18'
L	0°22'56"	2064.00'	13.77'	6.89'

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB, CURB, GUTTER, CROSS GUTTER, AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- COLDMILL 2" EXISITING AC PAVEMENT AND REPLACE 2" ARHM.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

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NOTICE TO CONTRACTOR

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROD.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

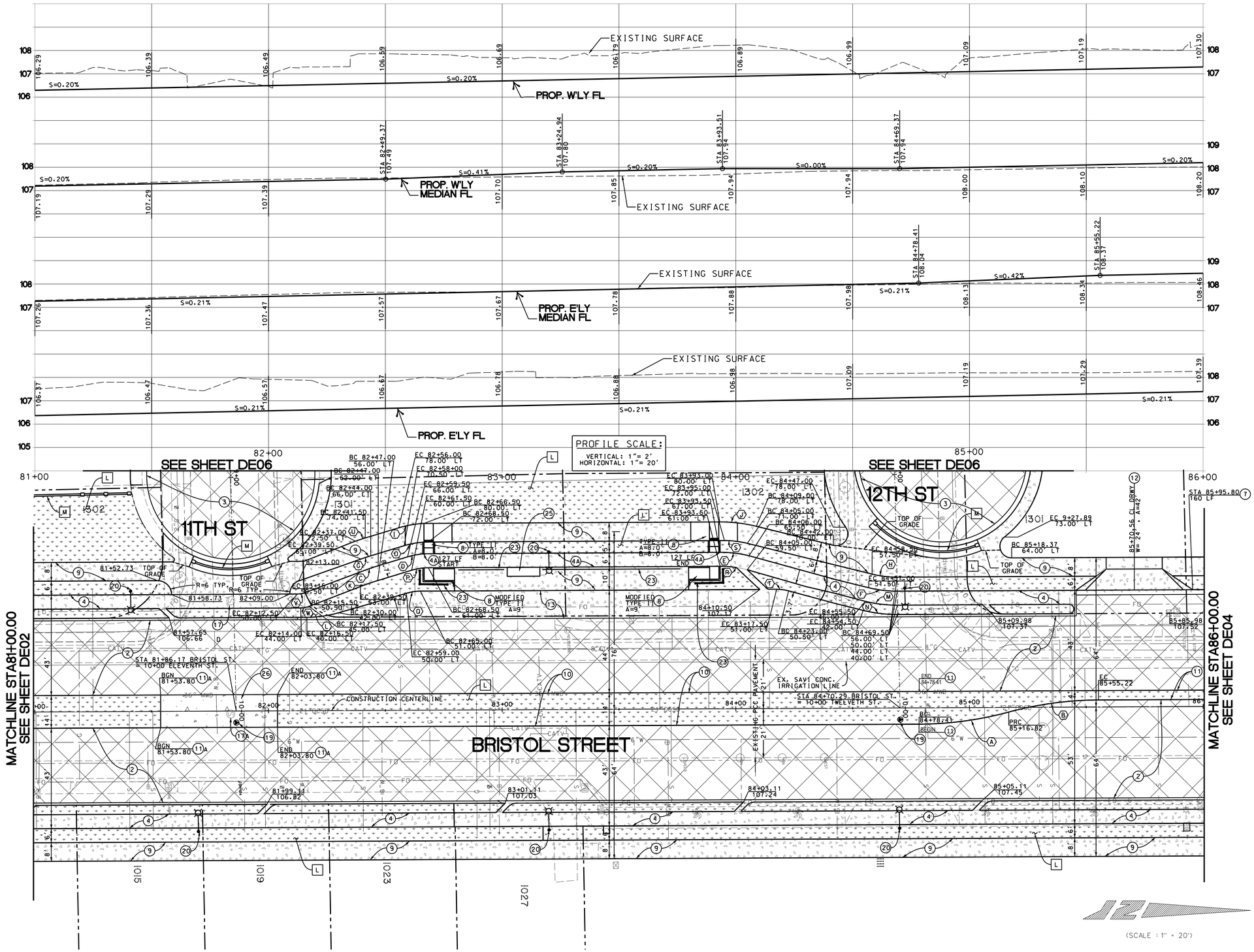
DE02

STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA



STREET IMPROVEMENT CONSTRUCTION NOTES:

(2) PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.

(3) PLACE 2" ARHM OVER 4" AC DEEP LIFT ON COMPACTED SUBGRADE

(4) CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4'LANDSCAPED BUFFER

(4A) CONSTRUCT 6" PCC PROTECTED BIKE LANE AT BUS ISLAND PER DETAIL "F" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS

(7) CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(8) CONSTRUCT CURB RAMP PER C.S.A. STD. PLAN NO. 1122 AND AS SHOWN ON PLAN.

(9) CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.

(10) CONSTRUCT PCC CURB PER C.S.A. STD. PLAN NO. 1101 TYPE B-1.

(11) CONSTRUCT MEDIAN TURN POCKET PER C.S.A. STD. PLAN NO. 1118 AND/OR AS SHOWN ON PLAN. CONSTRUCT 4" THICK, 4' X 1' CONCRETE CAP AT MEDIAN NOSE FLUSH WITH TOP OF CURBS OVER 4" THICK COMPACTED SAND BED

(11A) CONSTRUCT 4" MEDIAN CURB FOR OCFD TRUCK ACCESS AS SHOWN ON PLANS PER APWA STD. PLAN NO. 121-3, B1-150(6) AND COLORED CONCRETE PER DETAIL ON SHEET LA-02

(12) CONSTRUCT 8" PCC DRIVE APPROACH PER C.S.A. STD. PLAN NO. 1112, "W" & "A" PER PLAN.

(13) CONSTRUCT 12" PCC BUS PAD INCLUDING MONOLITHIC CURB PER OCTA STD. PLAN NO. 1120 MID-BLOCK AND AS SHOWN ON PLAN.

(17) ADJUST MANHOLE FRAME AND COVER AND RAISE RING AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A.STD. PLAN NO. 1201

(17A) ADJUST MANHOLE FRAME AND COVER AND REPLACE RING, COVER, AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A STD. PLAN NO. 1201 AND 1211.

(18) REMOVE EXISTING WATER VALVE FRAME AND COVER. FURNISH AND INSTALL NEW WATER VALVE AND COVER TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410

(19) FURNISH AND INSTALL SURVEY MONUMENT TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1117.

(20) INSTALL STREET LIGHT AND 1½" CONDUIT AS SHOWN ON PLANS AND STREET LIGHT PLANS.

(23) INSTALL HANDRAIL PER HANDRAIL DETAIL ON SHEET DS01.

(25) FURNISH AND INSTALL TOLAR BUS SHELTER TYPE 12' AD SUNSET SHELTER.

(26) COLORED CONCRETE (BRICK RED) WITH DAYTON SUPERIOR TOPCAST #50 EXPOSED AGGREGATE FINISH (T=4")

NOTES:

[L] CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

[M] INSTALL SOUNDWALL PLAN SHEET SW01-SW03.

CURVE DATA

	Δ	R	L	T		Δ	R	L	T
(A)	14°50'6"	150.00'	38.84'	19.53'	(L)	15°44'53"	50.00'	13.74'	6.92'
(B)	14°50'6"	150.00'	38.84'	19.53'	(M)	14°9'13"	56.00'	13.83'	6.95'
(C)	4°40'7"	100.00'	8.20'	4.10'	(N)	14°9'13"	60.00'	14.82'	7.45'
(D)	16°37'2"	31.00'	9.00'	4.50'	(O)	16°37'2"	36.00'	10.44'	5.26'
(E)	14°9'13"	51.00'	12.60'	6.33'	(P)	16°37'2"	25.00'	7.25'	3.65'
(F)	14°9'13"	50.00'	12.35'	6.21	(Q)	17°23'55"	20.00'	6.10'	3.06'
(G)	2°34'31"	100.00'	4.50'	2.25'	(R)	15°1'37"	45.00'	11.80'	5.94'
(H)	14°9'13"	44.00'	10.87'	5.46'	(S)	14°9'13"	40.00'	9.88'	4.97'
(I)	14°15'42"	44.00'	10.95'	5.50'	(T)	14°49'7"	20.00'	5.20'	2.60'
(J)	14°9'13"	64.00'	15.81'	7.95'	(U)	2°34'31"	108.00'	4.85'	2.43'
(K)	4°15'23"	100.00'	7.42'	3.72'	(V)	18°6'1"	10.00'	3.16'	1.60'
					(W)	20°52'53"	10.00'	3.64'	1.84'

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB, CURB, GUTTER, CROSS GUTTER, AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. INSTALL LANDSCAPE PER LANDSCAPE PLANS

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NOTICE TO CONTRACTOR

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER	06/2024
JASON GABRIEL	RCE NO.: 62968	

DE03

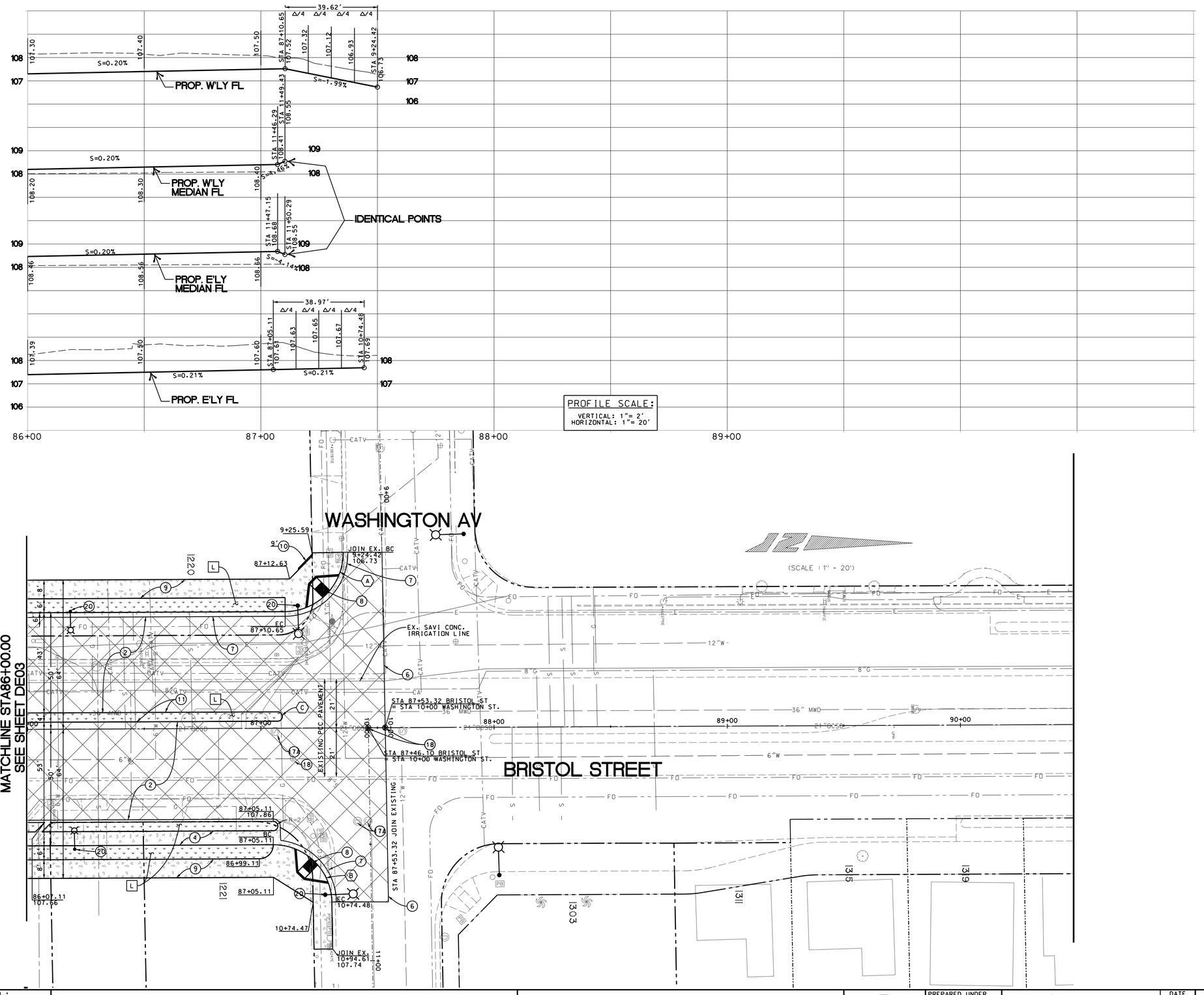
STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 09 OF 38



STREET IMPROVEMENT CONSTRUCTION NOTES:

(2) PLACE 2" ARHM OVER 12" AC DEEP LIFT ON COMPACTED SUBGRADE.

(4) CONSTRUCT 6" PCC PROTECTED BIKE LANE PER DETAIL "B" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS AND 4'LANDSCAPED BUFFER

(6) JOIN & FEATHER AS DIRECTED BY THE ENGINEER.

(7) CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(8) CONSTRUCT CURB RAMP PER C.S.A. STD. PLAN NO. 1122 AND AS SHOWN ON PLAN.

(9) CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.

(10) CONSTRUCT PCC CURB PER C.S.A. STD. PLAN NO. 1101 TYPE B-1.

(11) CONSTRUCT MEDIAN TURN POCKET PER C.S.A. STD. PLAN NO. 1118 AND/OR AS SHOWN ON PLAN. CONSTRUCT 4' X 1' CONCRETE CAP AT MEDIAN NOSE FLUSH WITH TOP OF CURBS OVER 4" THICK COMPACTED SAND BED.

(17A) ADJUST MANHOLE FRAME AND COVER AND REPLACE RING, COVER, AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A STD. PLAN NO. 1201 AND 1211.

(18) REMOVE EXISTING WATER VALVE FRAME AND COVER, FURNISH AND INSTALL NEW WATER VALVE AND COVER TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410

(20) INSTALL STREET LIGHT AND 1½" CONDUIT AS SHOWN ON PLANS AND STREET LIGHT PLANS.

(28) CONSTRUCT 8" PCC PROTECTED BIKE LANE PER DETAIL "E" ON SHEET DS-01 WITH SCORE JOINTS AT 10' INTERVALS

NOTES:

[L] CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

CURVE DATA				
	Δ	R	L	T
(A)	90°47'34"	25.00'	39.62'	25.35'
(B)	89°18'4"	25.00'	38.96'	24.70'
(C)	180°0'0"	2.00'	6.28'	0

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB, CURB, GUTTER, CROSS GUTTER, AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. ADD GRASS.

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

FILE NO.: ST-07014

REVISIONS						REFERENCES	
NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED	BENCHMARK NO.: SA-318-84	ELEV.: 108.285 NAVD88
						CONSTRUCTION COMPLETED:	

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP	CHECKED:GC 06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

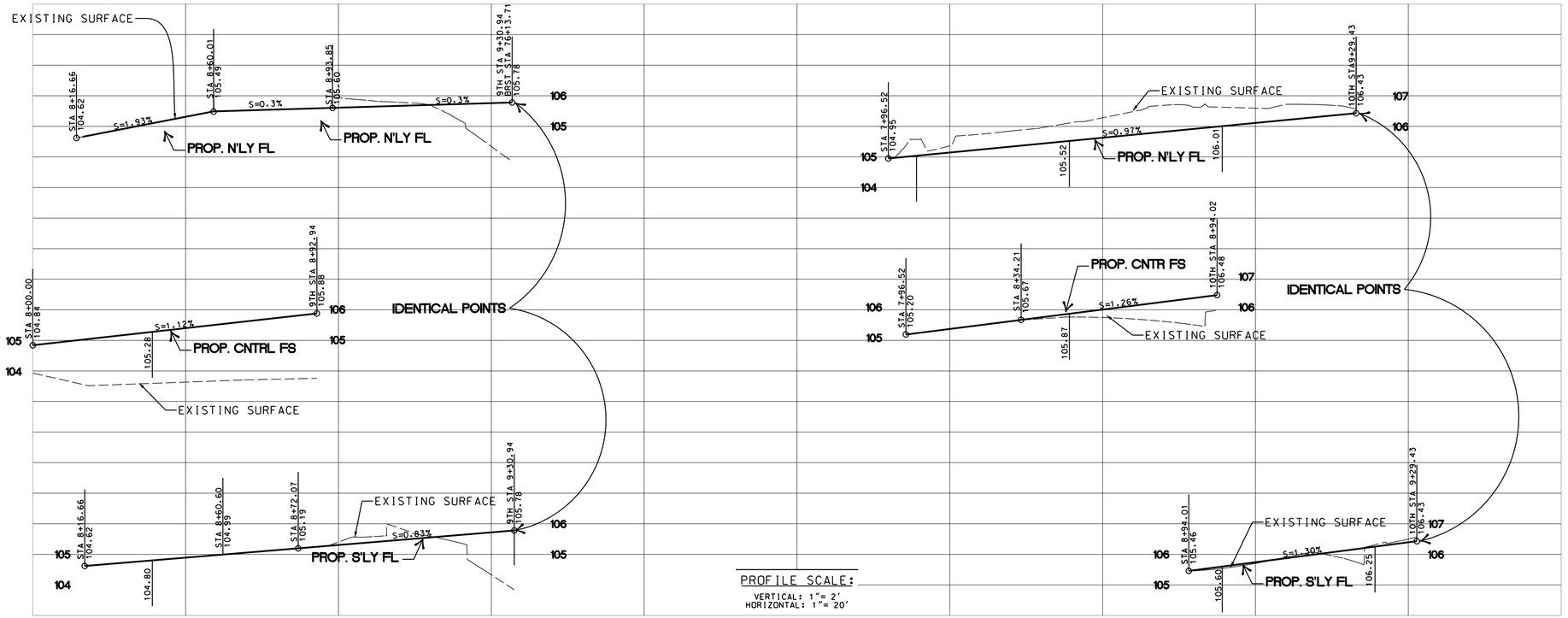
CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

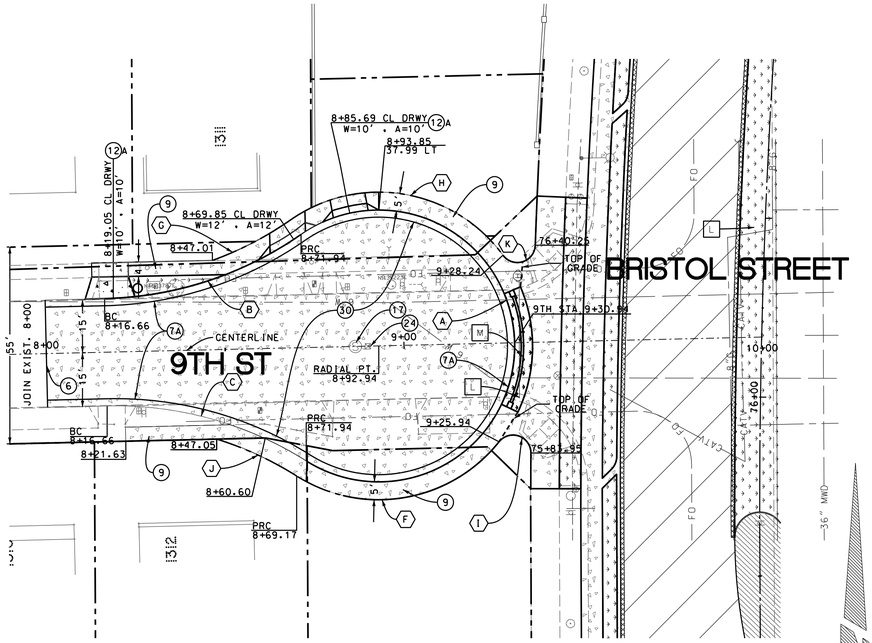
DE04

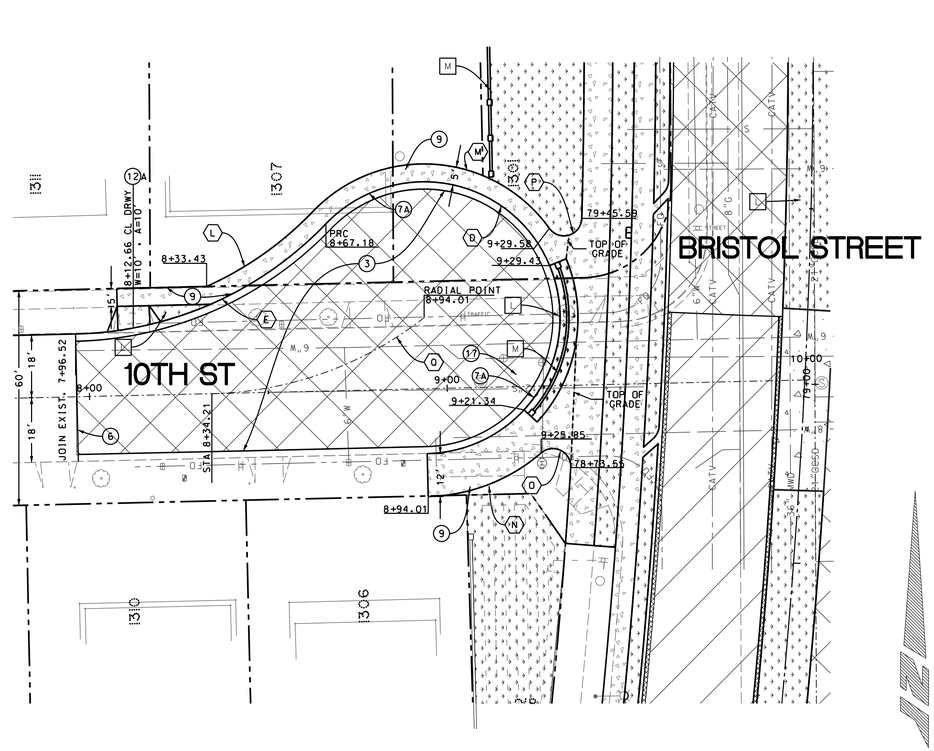
SHEET 10 OF 38

SHT-XXNN-NNNNN-ROO.DGN



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'





STREET IMPROVEMENT CONSTRUCTION NOTES:

(3) PLACE 2" ARHM OVER 4" AC DEEP LIFT ON COMPACTED SUBGRADE.

(6) JOIN & FEATHER AS DIRECTED BY THE ENGINEER.

(7) CONSTRUCT TYPE A-2-8 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(7A) CONSTRUCT TYPE A-2-6 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(9) CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.

(12A) CONSTRUCT 6" PCC DRIVE APPROACH PER C.S.A STD. PLAN NO.1112 . "W" & "A" PER PLAN.

(17) ADJUST MANHOLE FRAME AND COVER AND RAISE RING AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A.STD. PLAN NO. 1201

(18) REMOVE EXISTING WATER VALVE FRAME AND COVER, FURNISH AND INSTALL NEW WATER VALVE AND TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410

(24) ADJUST SEWER CLEANOUT FRAME AND COVER TO FNISHED GRADE PER C.S.A. STD. PLAN NO. 1204 AND 1204A

(30) SAWCUT, REMOVE, AND CONSTRUCT 7" PCC, DOWEL 24" O.C. #4 DOWEL 18" LONG AROUND PERIMETER PER TYPICAL SECTION WITH SCORE JOINTS DIRECTED BY INSPECTOR/ENGINEER.

NOTES:

[L] CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

[M] INSTALL SOUNDWALL PLAN SHEET SW01-SW03.

CURVE DATA				
	Δ	R	L	T
(A)	247° 5' 18.4"	38.00'	164.00'	-57.32'
(B)	33°33'26"	100.00'	58.57'	30.15'
(C)	33°33'26"	100.00'	58.57'	30.15'
(D)	112°27'60"	38.00'	74.59'	56.84'
(E)	44°57'3"	100.00'	78.45'	41.37'
(F)	83°40'57"	43.00'	62.80'	38.50'
(G)	14°55'28"	95.00'	24.75'	12.44'
(H)	88°43'25"	43.00'	66.59'	42.05'
(I)	141°50'21"	5.00'	12.38'	14.46'
(J)	14°54'5"	95.00'	24.71'	12.42'
(K)	141°50'21"	5.00'	12.38'	14.46'
(L)	22°5'24"	95.00'	36.63'	18.54'
(M)	100°44'21"	43.00'	75.60'	51.92'
(N)	39°32'38"	50.00'	34.51'	17.97'
(O)	134°27'37"	5.00'	11.73'	11.91'
(P)	142°57'33"	5.00'	12.48	14.93'
(Q)	36°43'35"	100.00'	64.10'	33.19'

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN
- SAWCUT AND REMOVE EXISTING PCC SLAB, CURB, GUTTER, CROSS GUTTER, AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT, PCC PAVEMENT, AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. ADD GRASS.

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS					
NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES	
BENCHMARK NO.: SA-318-84	ELEV.: 108.285 NAVD88
CONSTRUCTION COMPLETED:	

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

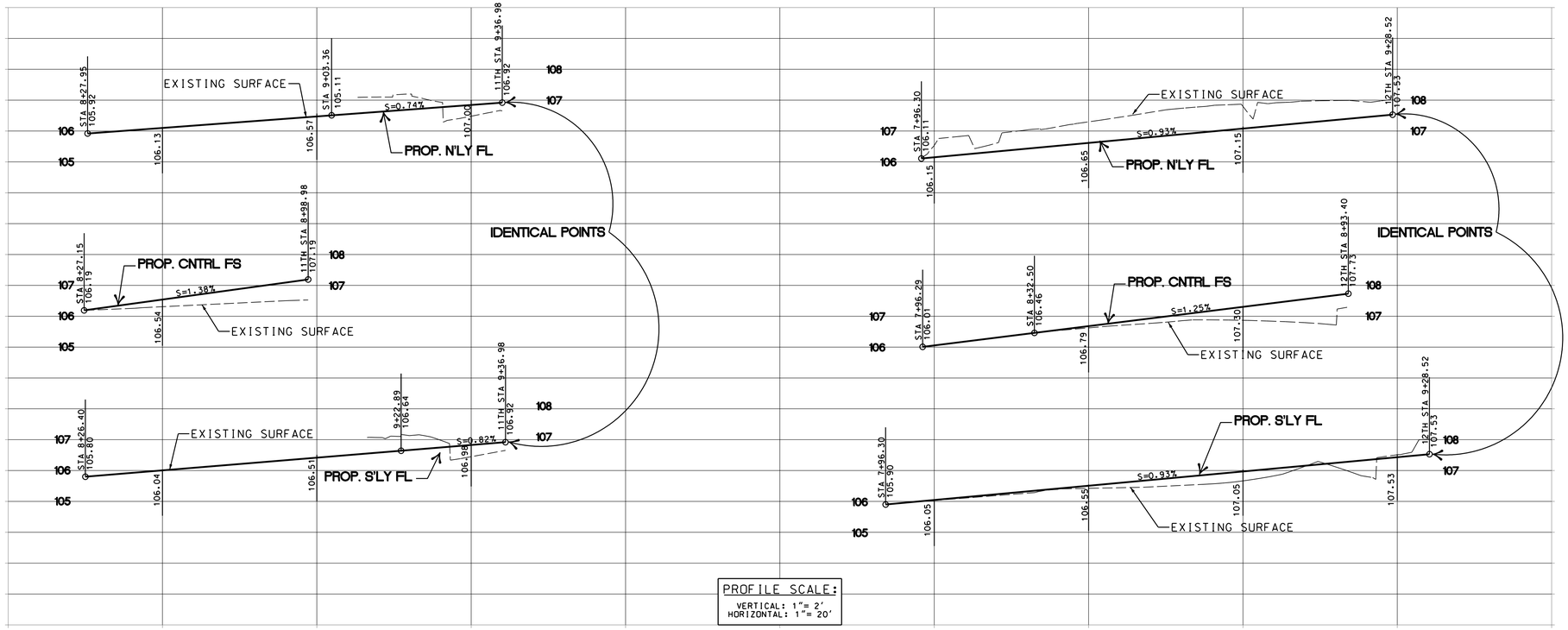
DE05

STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

9TH + 10TH STREET CUL-DE-SAC

PUBLIC WORKS AGENCY
CITY OF SANTA ANA



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

STREET IMPROVEMENT CONSTRUCTION NOTES:

(3) PLACE 2" AHRM OVER 4" AC DEEP LIFT ON COMPACTED SUBGRADE.

(6) JOIN & FEATHER AS DIRECTED BY THE ENGINEER.

(7A) CONSTRUCT TYPE A-2-6 CURB AND GUTTER PER C.S.A. STD. PLAN NO. 1101 AND/OR MATCH EXISTING.

(9) CONSTRUCT PCC SIDEWALK PER C.S.A. STD. PLAN NO. 1104.

(12A) CONSTRUCT 6" PCC DRIVE APPROACH PER C.S.A STD. PLAN NO.1112 . "W" & "A" PER PLAN.

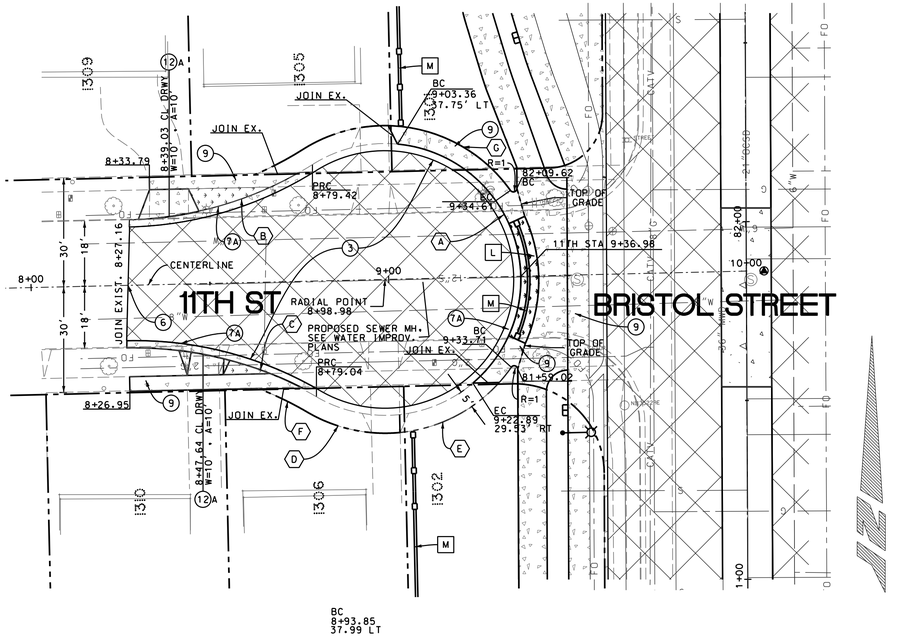
(17) ADJUST MANHOLE FRAME AND COVER AND RAISE RING AND CLEAN OUT IF NECESSARY TO FINISHED GRADE PER C.S.A.STD. PLAN NO. 1201

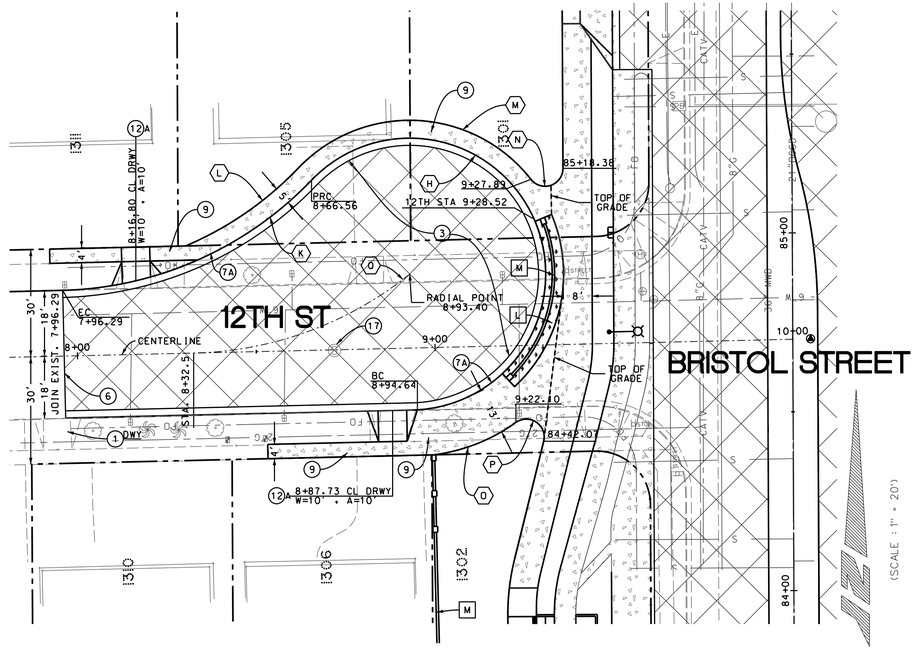
(18) REMOVE EXISTING WATER VALVE FRAME AND COVER. FURNISH AND INSTALL NEW WATER VALVE AND COVER TO FINISHED GRADE PER C.S.A. STD. PLAN NO. 1410

NOTES:

[L] CONSTRUCT PER LANDSCAPING AND IRRIGATION PLANS SHEET LA01-LA03.

[M] INSTALL SOUNDWALL PLAN SHEET SW01-SW03.





CURVE DATA				
	Δ	R	L	T
(A)	134° 15' 14"	38.00'	89.11'	90.08'
(B)	30°58'48"	100.00'	54.07'	27.71'
(C)	31°44'43"	100.00'	55.41'	28.43'
(D)	35°56'33"	42.00'	26.35'	13.62'
(E)	49°40'45"	43.00'	37.28'	19.90'
(F)	7°57'7"	96.00'	13.32'	6.67'
(G)	52°17'30"	43.00'	39.24'	21.11'
(H)	224°55'35"	38.00'	149.18'	-91.91'
(I)	34°43'47"	42.00'	25.46'	13.13'
(J)	7°9'2"	96.00'	11.98'	6.00'
(K)	44°43'33"	100.00'	78.06'	41.14'
(L)	23°18'9"	95.10'	38.68'	19.61'
(M)	98°15'16"	43.00'	73.74'	49.69'
(N)	142°16'12"	5.00'	12.42'	14.63'
(O)	27°50'20"	51.00'	24.78'	12.64'
(P)	139°27'10"	5.00'	12.17'	13.54'
(Q)	37°30'59"	100.00'	65.48'	33.96'

LEGEND:

- SAWCUT AND REMOVE EXISTING AC PAVEMENT. PCC PAVEMENT. AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING PCC SLAB. CURB. GUTTER. CROSS GUTTER. AND/OR SIDEWALK AND RECONSTRUCT AS SHOWN ON PLAN.
- SAWCUT AND REMOVE EXISTING AC PAVEMENT. PCC PAVEMENT. AND/OR AB AND RECONSTRUCT AS SHOWN ON PLAN. ADD GRASS.

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NOTICE TO CONTRACTOR

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROD.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

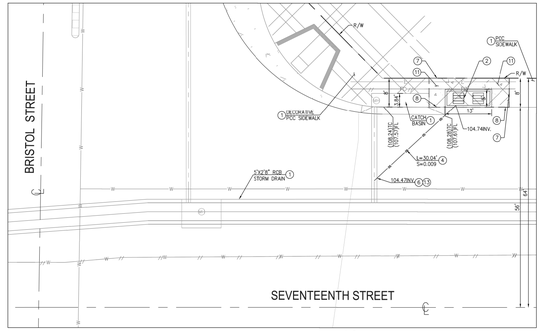
DE06

STREET IMPROVEMENT

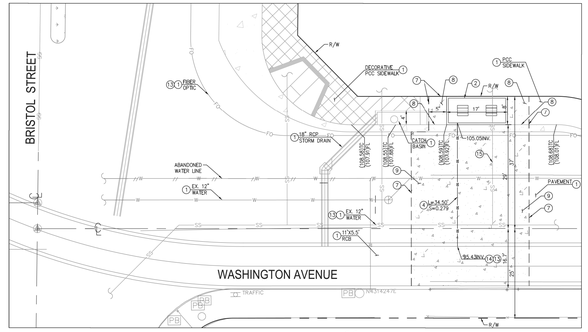
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

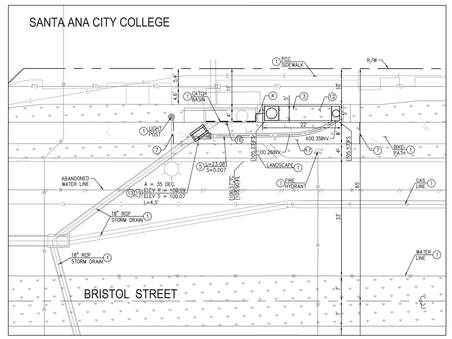
PUBLIC WORKS AGENCY
CITY OF SANTA ANA



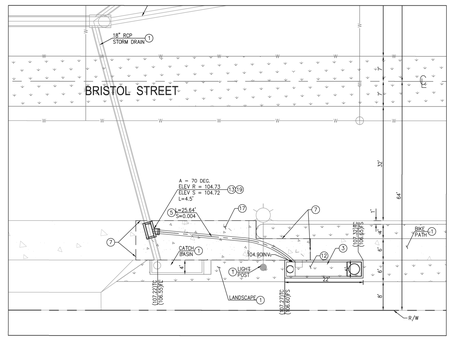
BMP 1 DETAIL
(SCALE 1" = 20')



BMP 2 DETAIL
(SCALE 1" = 20')



BMP 3 DETAIL
(SCALE 1" = 20')



BMP 4 DETAIL
(SCALE 1" = 20')

CONSTRUCTION NOTES

1. PROTECT IN PLACE.
2. INSTALL FILTERRA PER MANUFACTURER SPECIFICATIONS AND PER SPECIFICATIONS.
3. INSTALL MWS PER MANUFACTURER SPECIFICATIONS AND PER SPECIFICATIONS.
4. INSTALL 6-INCH PVC SDR-35 INCLUDING ALL BENDS, TEES, AND FITTINGS.
5. INSTALL 12-INCH RCP (2500-D) AND BEDDING PER CITY OF SANTA ANA STD DWG NO. 1150.
6. CONSTRUCT JUNCTION STRUCTURE PER SPPWC STD PLAN 331-3.
7. SAWCUT AND REMOVE EXISTING IMPROVEMENT. REMOVAL OFF PCC IMPROVEMENTS TO NEXT NEAREST JOINT.
8. CONSTRUCT 4" PCC SIDEWALK PER CITY OF SANTA ANA STD DRAWINGS NO. 1104.
9. CONSTRUCT PCC PAVEMENT. STRUCTURAL SECTION TO MATCH EXISTING.
10. REMOVE AND REPLACE AC PAVEMENT.
11. REMOVE AND REPLACE DECORATIVE PAVEMENT IN KIND TO MATCH EXISTING.
12. CONTRACTOR TO LOCATE EXISTING IRRIGATION LINE JOINT TO MWS UNITS AND MAINTAIN CONNECTIVITY.
13. CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH.
14. CONSTRUCT JUNCTION STRUCTURE PER SPPWC STD PLAN 333-2.
15. REMOVE AND ABANDON EXISTING SEWER LATERAL PER DISTRICT STANDARDS.
16. INSTALL BIO CLEAN DVERT PER SPECIFICATIONS.
17. CONSTRUCT 6" PCC BIKE LANE WITH SCORE JOINTS AT 10' INTERVALS.
18. CONSTRUCT 6" PCC CURB AND GUTTER PER CITY OF SANTA ANA STD DRAWING NO. 1101.
19. CONSTRUCT JUNCTION STRUCTURE PER SPPWC STD PLAN 340-2.

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

DE07

STREET IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

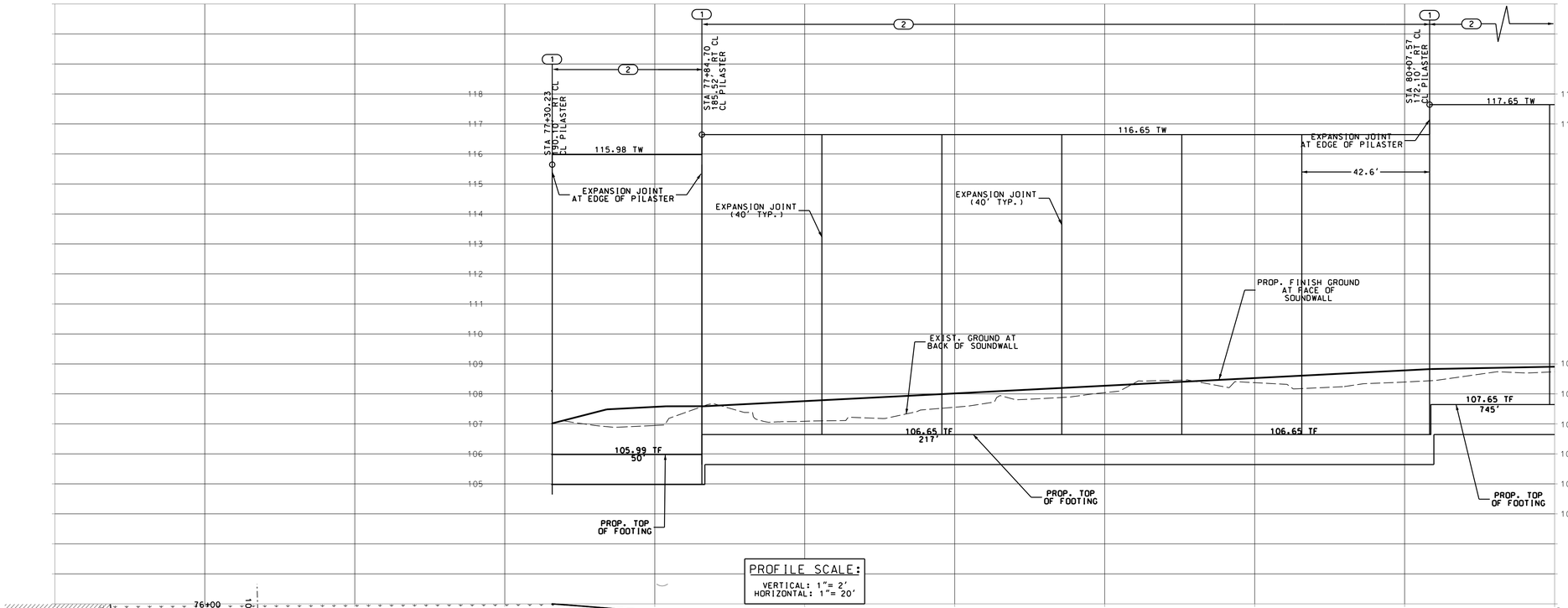
CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

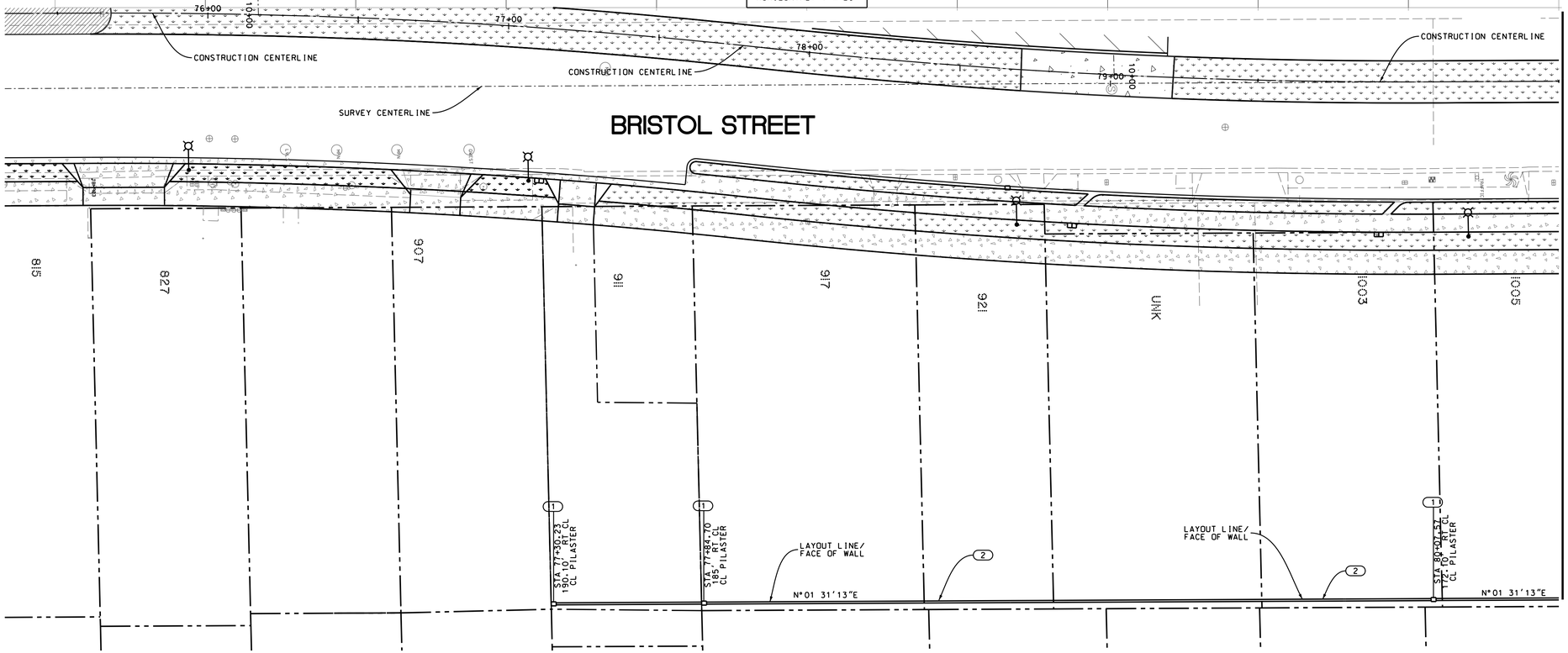
SOUNDWALL CONSTRUCTION NOTES

(1) CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "B" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.

(2) CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "A" ON SHEET SW-07. SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE.



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'



MATCHLINE, STA. 80+50.00
(SEE SHEET SW-02)

(SCALE : 1" = 20')

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

PLOT SHT-136792-SW01-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

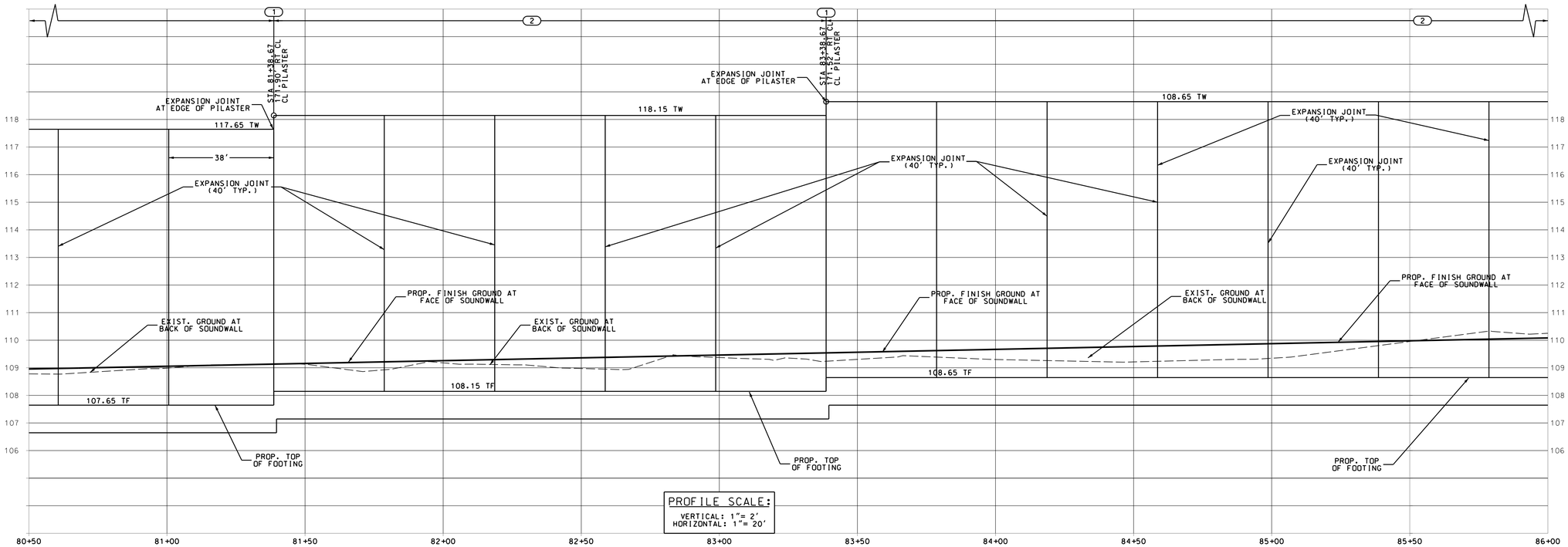
SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON STREET

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SW01

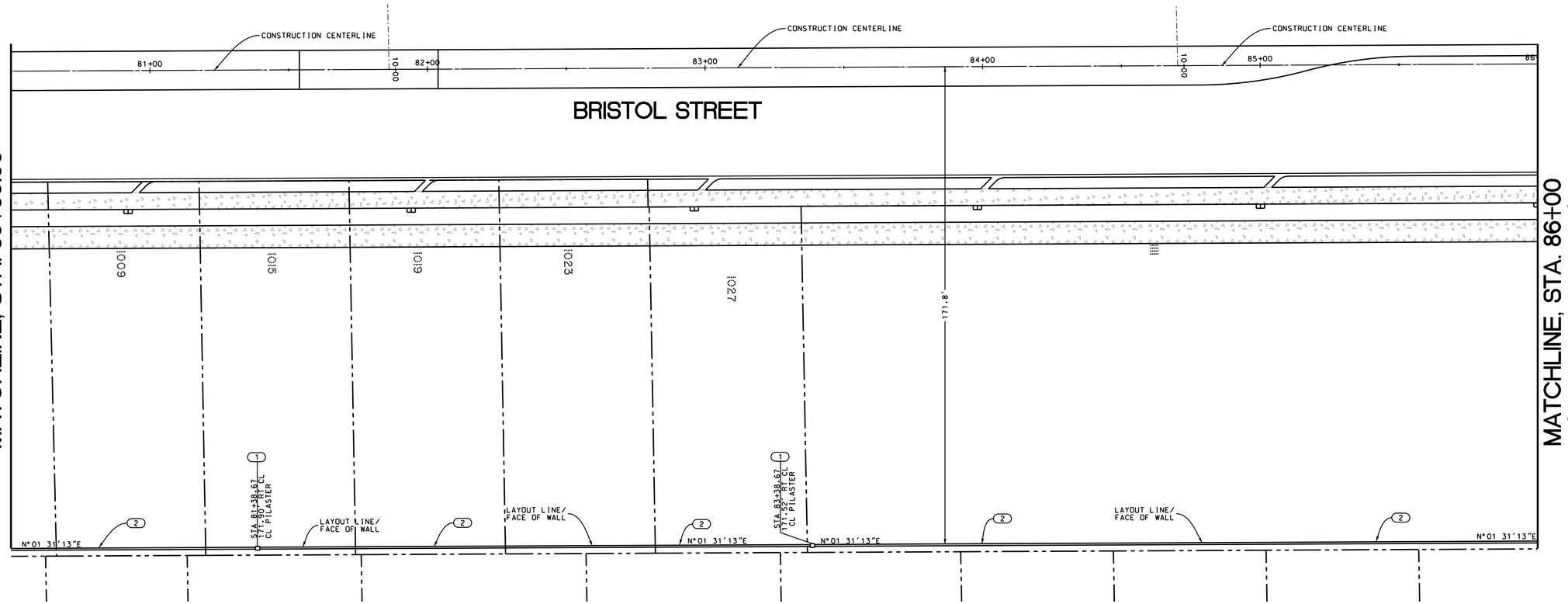


PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

SOUNDWALL CONSTRUCTION NOTES

(1) CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "B" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.

(2) CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "A" ON SHEET SW-07. SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE.



(SCALE : 1" = 20')

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FILE NO.: ST-07014

SOUNDWALL IMPROVEMENT — REVISIONS — SW01

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER — JASON GABRIEL — RCE NO. 62968 — EXP. 6/30/24 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

SOUNDWALL IMPROVEMENT — SW02

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON STREET

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 15 OF 38

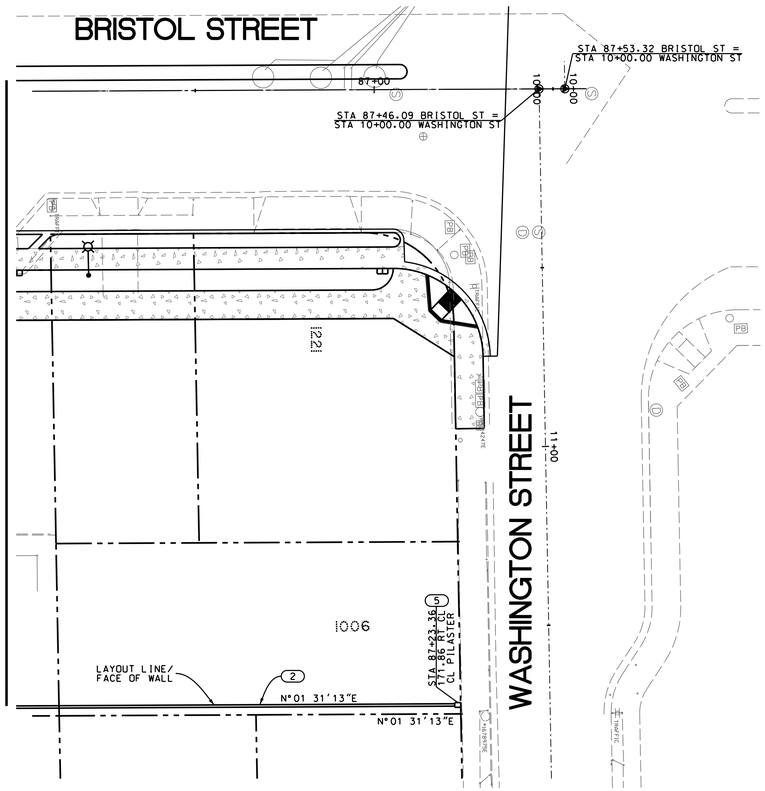
PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SOUNDWALL CONSTRUCTION NOTES

(1) CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "B" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.

(2) CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "A" ON SHEET SW-07. SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE.

(5) CONSTRUCT ORNAMENTAL WALL PILASTER PER STRUCTURAL DETAILS ON SHEET SW-08.



(SCALE : 1" = 20')

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FILE NO.: ST-07014

REVISIONS

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REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

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REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	06/2024
JASON GABRIEL			

SOUNDWALL IMPROVEMENT

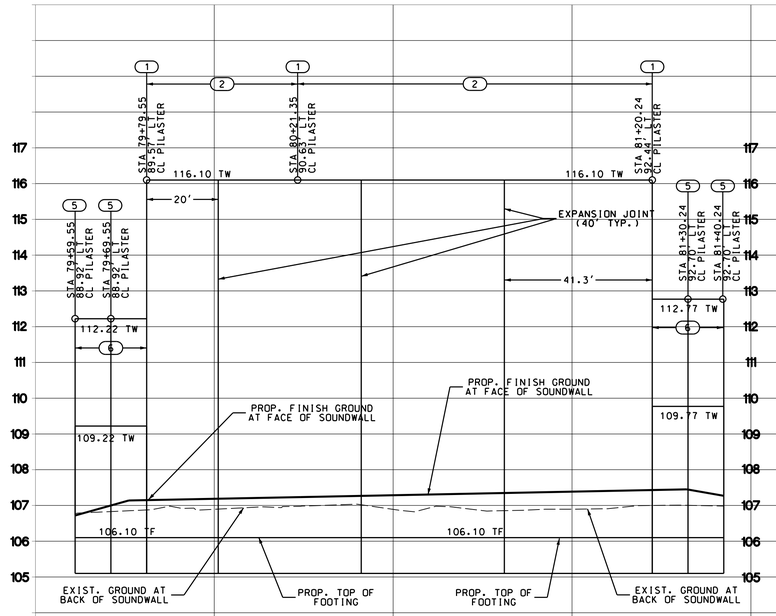
SW03

BRISTOL STREET IMPROVEMENTS

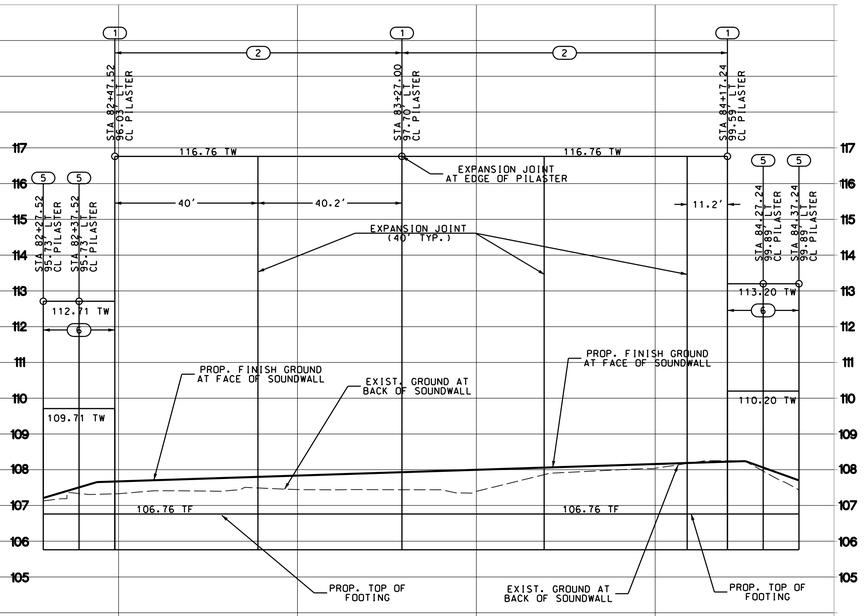
CIVIC CENTER DRIVE TO WASHINGTON STREET

PUBLIC WORKS AGENCY

CITY OF SANTA ANA



TENTH ST TO ELEVENTH ST WESTERLY

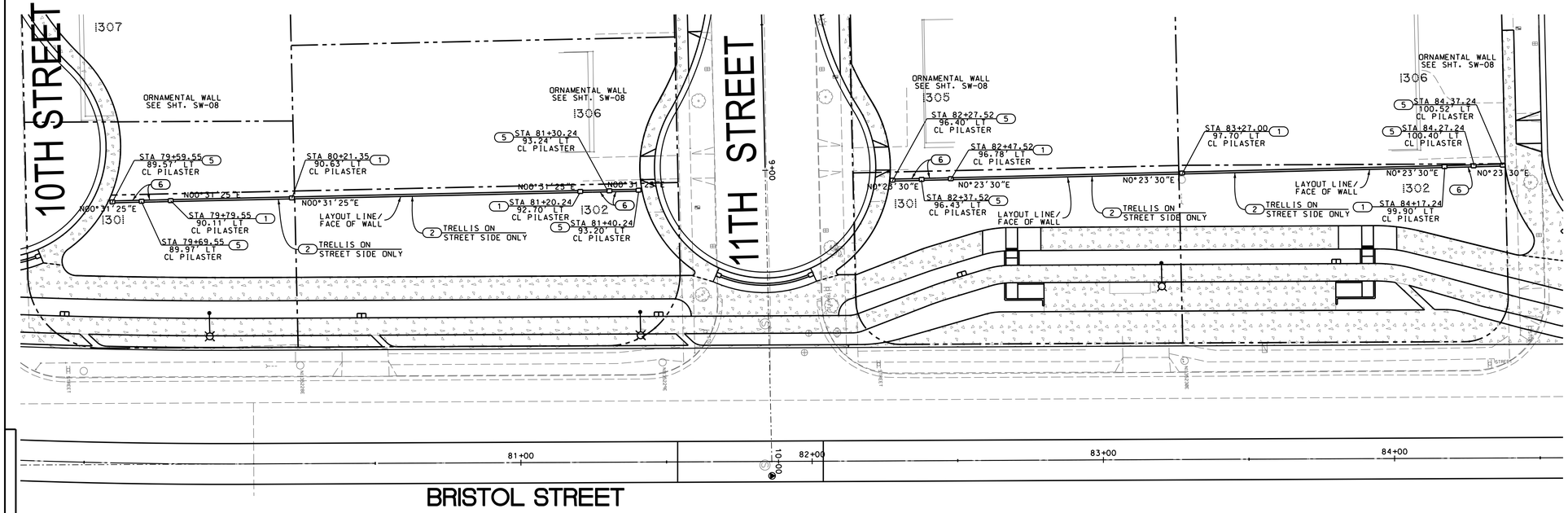


ELEVENTH ST TO TWELFTH ST WESTERLY

PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

SOUNDWALL CONSTRUCTION NOTES

1. CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "B" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.
2. CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "A" ON SHEET SW-07. SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE
5. CONSTRUCT ORNAMENTAL WALL PILASTER PER STRUCTURAL DETAILS ON SHEET SW-08.
6. CONSTRUCT ORNAMENTAL WALL PER STRUCTURAL DETAILS ON SHEET SW-08.



(SCALE : 1" = 20')

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NOTICE TO CONTRACTOR

FILE NO.: ST-07014

REVISIONS

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REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED: IG DRAWN: DP CHECKED: GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON STREET

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SW04

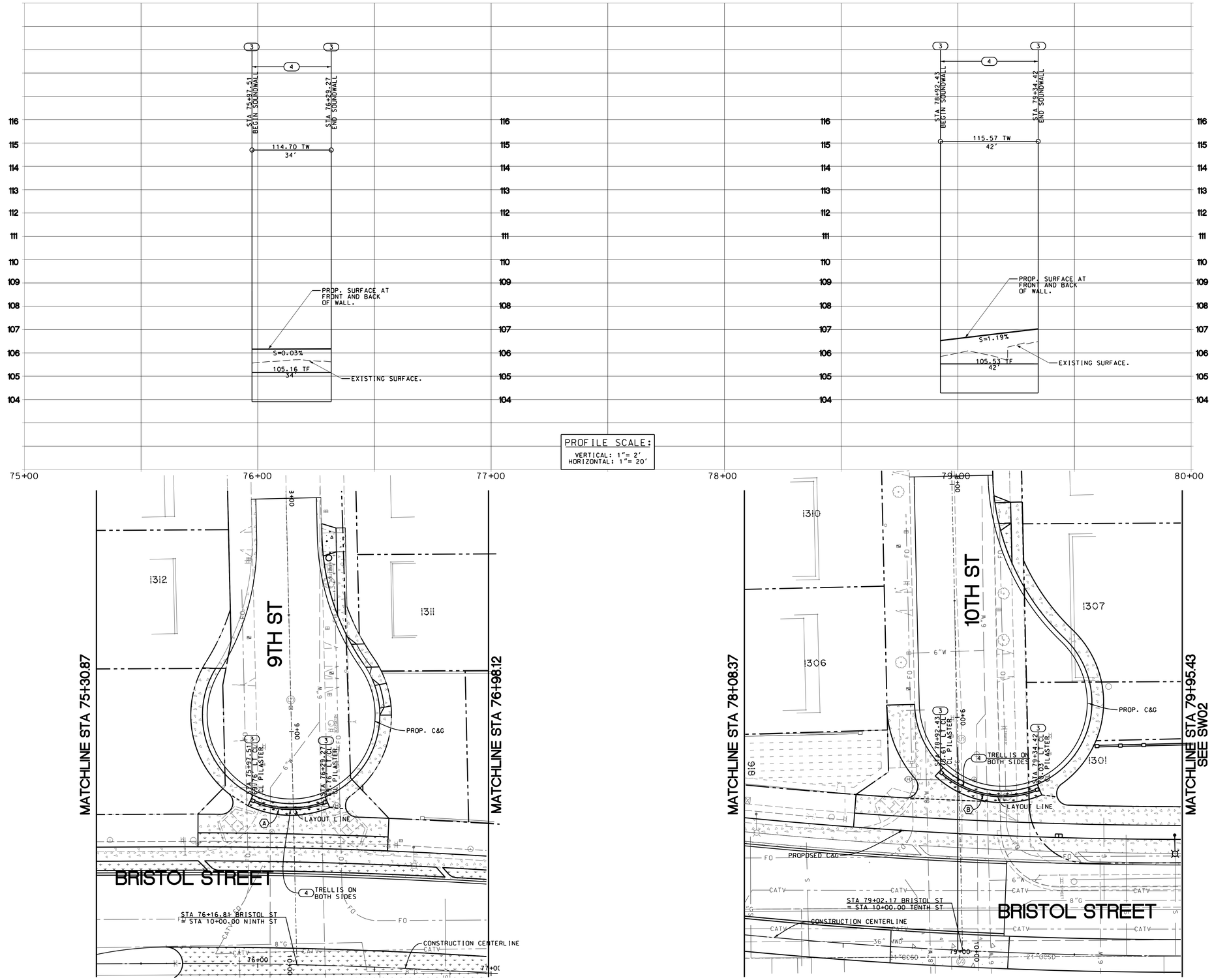
SHEET 17 OF 38

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SOUNDWALL CONSTRUCTION NOTES

(3) CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "C" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.

(4) CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "D" ON SHEET SW-07.SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE.



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

CURVE DATA				
	Δ	R	L	T
(A)	48°03'23"	40.50'	33.97'	18.06'
(B)	65°15'28"	40.50'	46.13'	25.93'

(SCALE : 1" = 20')

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-136792-SW01-R00.DGN

FILE NO.: ST-07014

REVISIONS

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REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024 06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON STREET

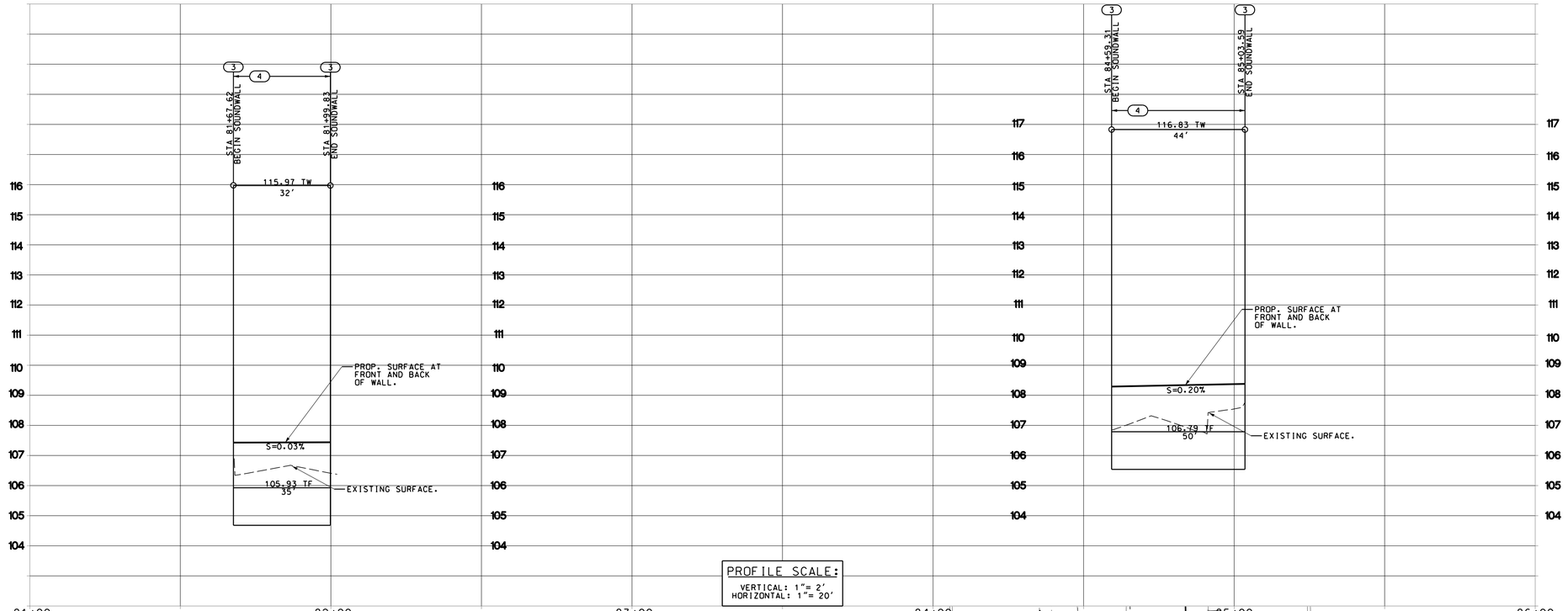
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SW05

SOUNDWALL CONSTRUCTION NOTES

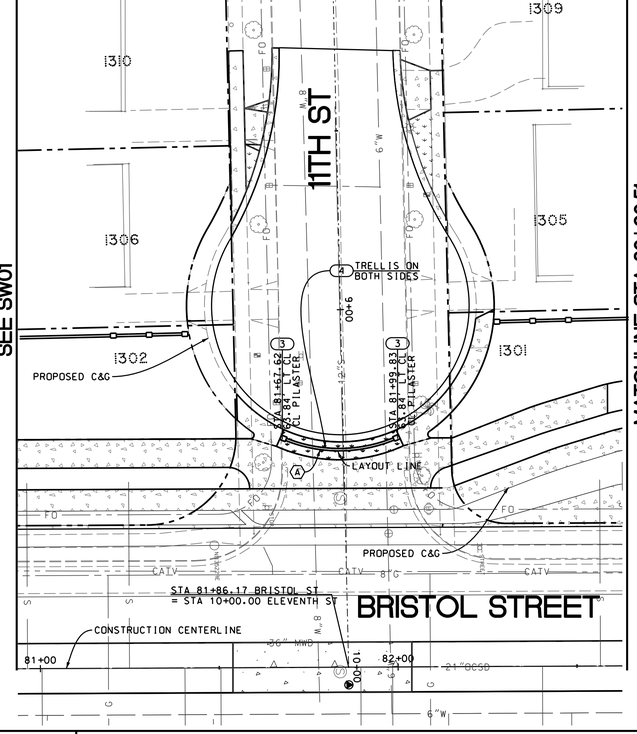
(3) CONSTRUCT SOUNDWALL PILASTER PER TYPICAL SECTION "C" ON SHEET SW-07. STATION AND OFF-SET AT CENTERLINE OF PILASTER AND LAYOUT LINE.

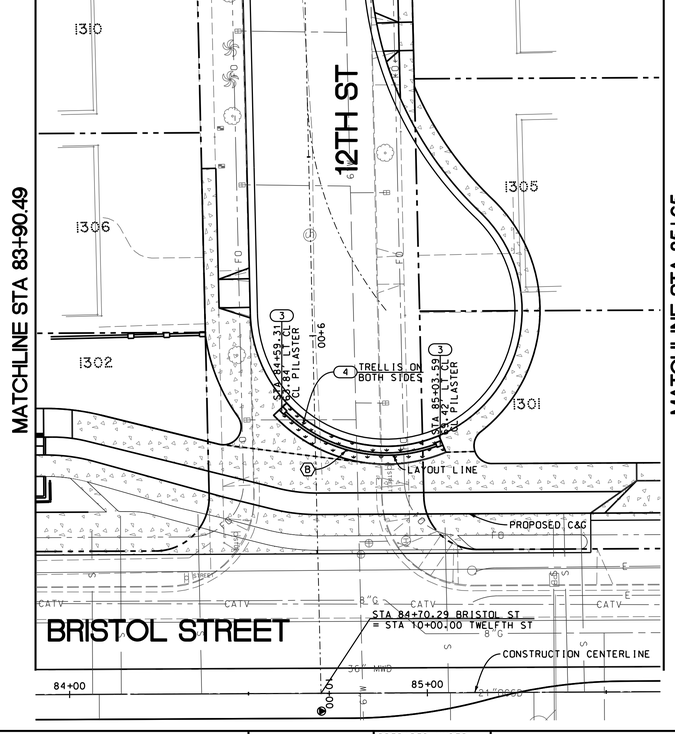
(4) CONSTRUCT SOUNDWALL PER STRUCTURAL DETAIL "1" AND TYPICAL SECTION "D" ON SHEET SW-07.SEE DETAIL "E" ON SHEET SW-08 FOR TRELLIS STRUCTURE DETAIL IF APPLICABLE.



PROFILE SCALE:
VERTICAL: 1"= 2'
HORIZONTAL: 1"= 20'

CURVE DATA				
	Δ	R	L	T
(A)	48°44'58"	40.50'	37.06'	18.35'
(B)	69°52'15"	40.50'	49.39'	28.29'





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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-13-6792-SW02-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024
JASON GABRIEL		

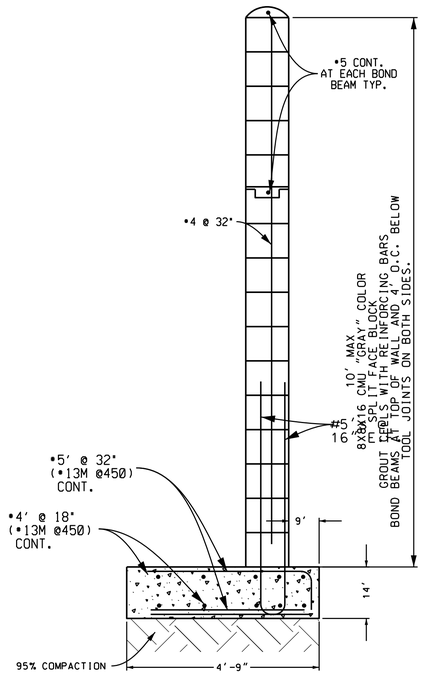
SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

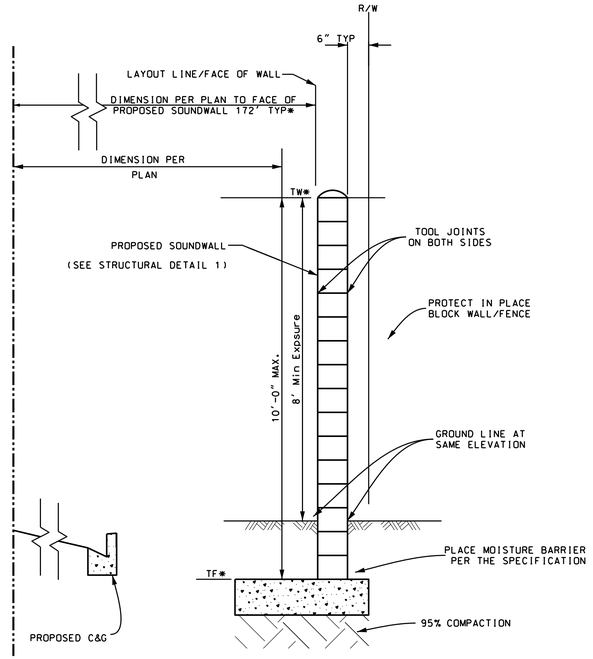
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SW06



STRUCTURAL DETAIL 1

SCALE: NTS



* UNLESS NOTED OTHERWISE ON PLAN

SOUNDWALL TYPICAL SECTION

SCALE: NTS

A

DESIGN CONDITIONS:

WALLS ARE TO BE USED FOR THE LOADING CONDITIONS SHOWN FOR EACH TYPE WALL. DESIGN H SHALL NOT BE EXCEEDED. FOOTING KEY IS REQUIRED EXCEPT AS SHOWN OTHERWISE.

DESIGN DATA:

REINFORCED CONCRETE:
Fc = 1200 PSI
Fs = 20,000 PSI
F'C = 3000 PSI
N = 10

REINFORCED MASONRY:
F'm = 600 PSI
Fs = 20,000 PSI
Fm = 200 PSI
n = 50

REINFORCEMENT:

INTERMEDIATE GRADE, HARD GRADE, OR RAIL STEEL DEFORMATION SHALL CONFORM TO ASTM A615, A616, A617. BARS SHALL LAP 40 DIAMETERS, WHERE SPLICED, UNLESS OTHERWISE SHOWN ON THE PLANS. BENDS SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE, A.C.I. BACKING FOR HOOKS IS FOUR DIAMETERS. ALL BAR EMBEDMENTS ARE CLEAR DISTANCES TO OUTSIDE OF BAR. SPACING FOR PARALLEL BARS IS CENTER TO CENTER OF BARS.

MASONRY:

ALL REINFORCED MASONRY RETAINING WALLS SHALL BE CONSTRUCTED OF REGULAR OR LIGHT WEIGHT STANDARD UNITS CONFORMING TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."

JOINTS:

VERTICAL EXPANSION JOINTS SHALL BE PLACED AT 40 FOOT INTERVALS MAXIMUM. JOINT SHALL BE DESIGNED TO RESIST SHEAR AND OTHER LATERAL FORCES WHILE PERMITTING LONGITUDAL MOVEMENT.

CONCRETE:

FOOTING CONCRETE SHALL BE S60-C-3250, USING B AGGREGATE WHEN PLACING CONDITIONS PERMIT.

BACKFILL:

NO BACKFILL MATERIAL SHALL BE PLACED AGAINST MASONRY RETAINING WALLS UNTIL GROUT HAS REACHED DESIGN STRENGTH OR UNTIL GROUT HAS CURED FOR A MINIMUM OF 28 DAYS. COMPACTION OF BACKFILL MATERIAL BY JETTING OR PONDING WITH WATER WILL NOT BE PERMITTED. EACH LAYER OF BACKFILL SHALL BE MOISTENED AS DIRECTED BY THE ENGINEER AND THOROUGHLY TAMPED, ROLLED OR OTHERWISE COMPACTED UNTIL THE RELATIVE COMPACTION IS NOT LESS THAN 90%.

FENCING:

SAFETY FENCING SHALL BE INSTALLED AT THE TOP OF THE WALL AS REQUIRED BY THE AGENCY.

INSPECTIONS:

CALL FOR INSPECTIONS AS FOLLOWS:

A. WHEN THE FOOTING HAS BEEN FORMED, WITH THE STEEL TIED SECURELY IN FINAL POSITION, AND IS READY FOR THE CONCRETE TO BE PLACED.

B. WHERE CLEANOUT HOLES ARE NOT PROVIDED:

(1) AFTER THE BLOCKS HAVE BEEN LAID UP TO A HEIGHT OF 4', OR FULL HEIGHT FOR WALLS UP TO 5', WITH STEEL IN PLACE BUT BEFORE THE GROUT IS POURED, AND

(2) AFTER THE FIRST LIFT IS PROPERLY GROUTED, THE BLOCKS HAVE BEEN LAID UP TO THE TOP OF THE WALL WITH THE STEEL TIED SECURELY IN PLACE BUT BEFORE THE UPPER LIFT IS GROUTED.

WHERE CLEANOUT HOLES ARE PROVIDED:

AFTER THE BLOCKS HAVE BEEN LAID UP TO THE TOP OF THE WALL, WITH THE STEEL TIED SECURELY IN PLACE, BUT BEFORE GROUTING.

C. AFTER GROUTING IS COMPLETE AND AFTER ROCK OR RUBBLE WALL DRAINS ARE IN PLACE BUT BEFORE EARTH BACKFILL IS PLACED.

D. FINAL INSPECTION WHEN ALL WORK HAS BEEN COMPLETED.

CONCRETE GROUT AND MORTAR MIXES:

CONCRETE GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI IN 28 DAYS AND MORTAR SHALL ATTAIN 1,800 PSI IN 28 DAYS. ALL CELLS SHALL BE FILLED WITH GROUT. ROD OR VIBRATE GROUT WITHIN 10 MINUTES OF POURING TO INSURE CONSOLIDATION. BRING GROUT TO A POINT 2" FROM THE TOP OF MASONRY UNITS WHEN GROUSING OF SECOND LIFT IS TO BE CONTINUED AT ANOTHER TIME.

MORTAR KEYS:

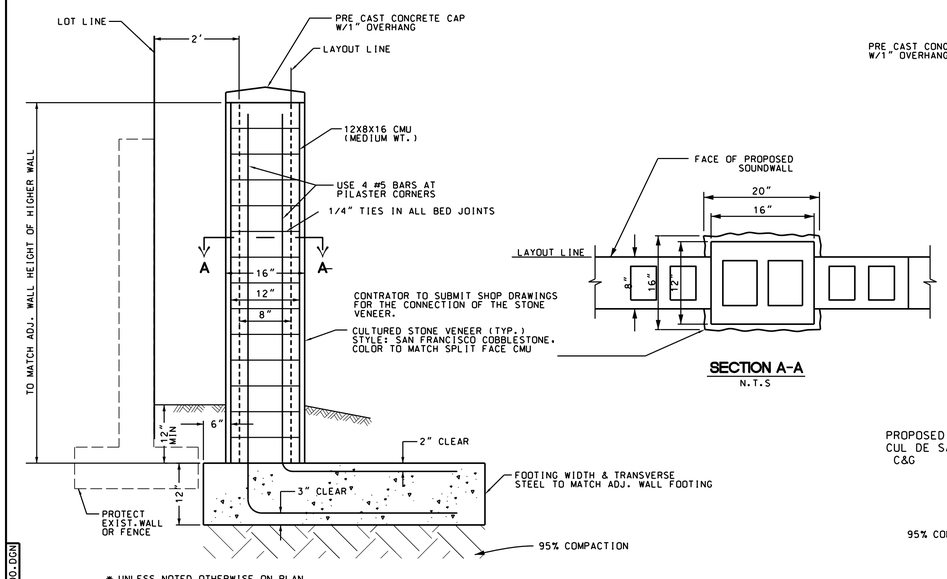
TO INSURE PROPER BONDING BETWEEN THE FOOTING AND THE FIRST COURSE OF BLOCK, A MORTAR KEY SHALL BE FORMED BY EMBEDDING A FLAT 2 X 4 FLUSH WITH AND AT THE TOP OF THE FRESHLY POURED FOOTING. THE 2 X 4 SHOULD BE REMOVED AFTER THE CONCRETE HAS STARTED TO HARDEN (APPROXIMATELY 1 HOUR). A MORTAR KEY MAY BE OMITTED IF THE FIRST COURSE OF BLOCK IS SET INTO THE FRESH CONCRETE WHEN THE FOOTING IS POURED AND A GOOD BOND IS OBTAINED.

SOIL:

ALL FOOTINGS SHALL EXTEND AT LEAST 12 INCHES INTO UNDISTURBED NATURAL SOIL OR APPROVED COMPACTED FILL. SOIL SHOULD BE DAMPENED PRIOR TO PLACING CONCRETE IN FOOTINGS.

SOUNDWALL TYPICAL SECTION NOTES

* SEE SOUNDWALL PROFILE SHEETS SW-01 FOR TOP OF WALL (TW), TOP OF FOOTING (TF), PROP. FINISHED GRADE AT BACK AND AT FACE OF SOUNDWALL.



* UNLESS NOTED OTHERWISE ON PLAN

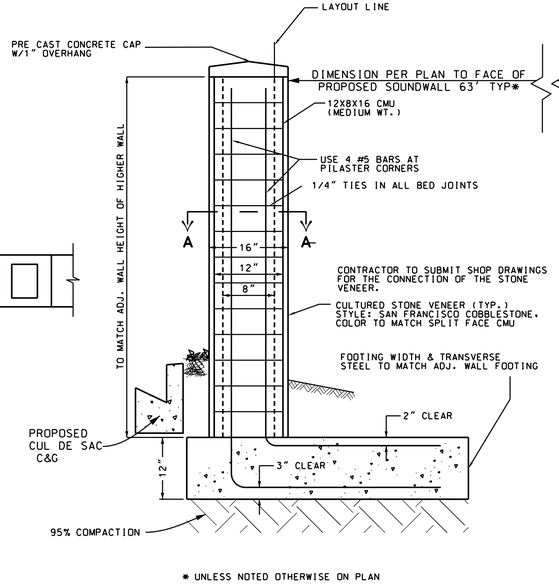
SOUNDWALL PILASTERS TYPICAL SECTION

N.T.S.

B

SECTION A-A

N.T.S



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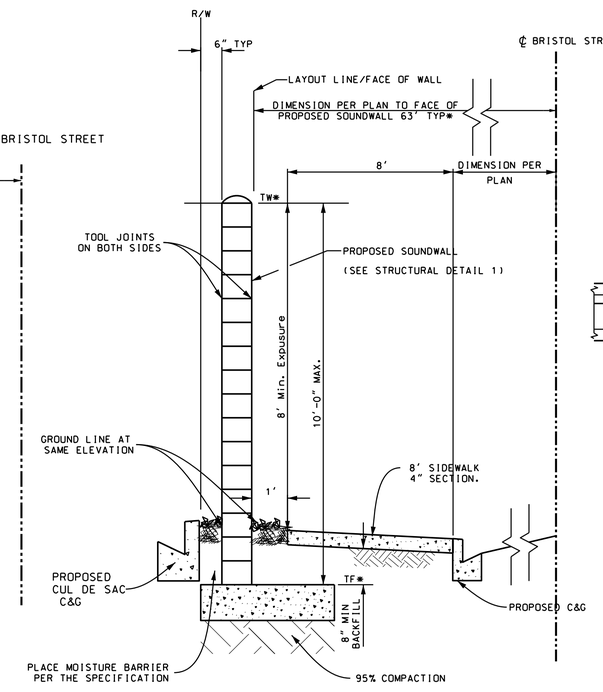
SOUNDWALL PILASTERS TYPICAL SECTION

N.T.S.

C



* UNLESS NOTED OTHERWISE ON PLAN

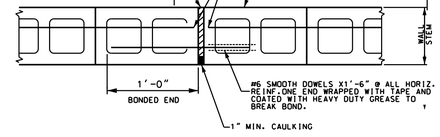
SOUNDWALL TYPICAL SECTION

SCALE: NTS

D

TYP. EXPANSION JOINT DETAIL

N.T.S



811 Underground Service Alert of Southern California
TWO WORKING DAYS BEFORE YOU DIG
Know what's below. Call before you dig.
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www.DigAlert.org

NOTICE TO CONTRACTOR

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PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROD.DGN

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RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

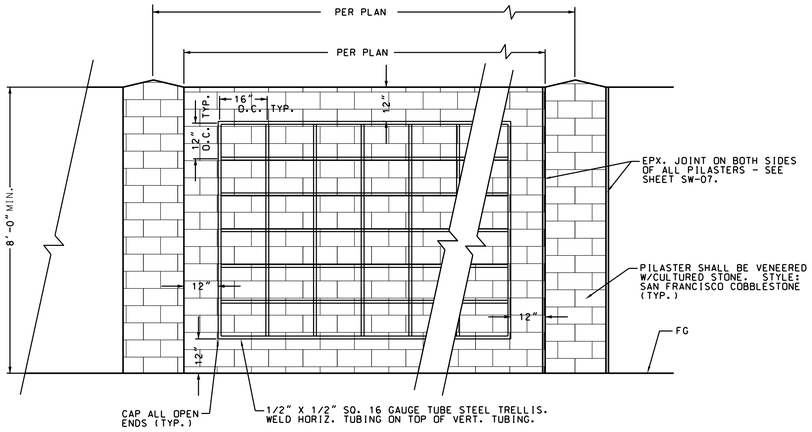
SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

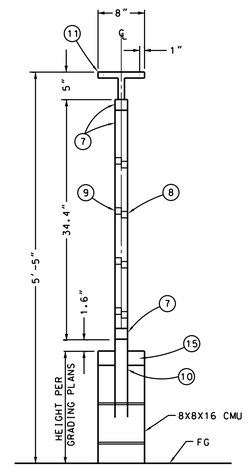
SW07



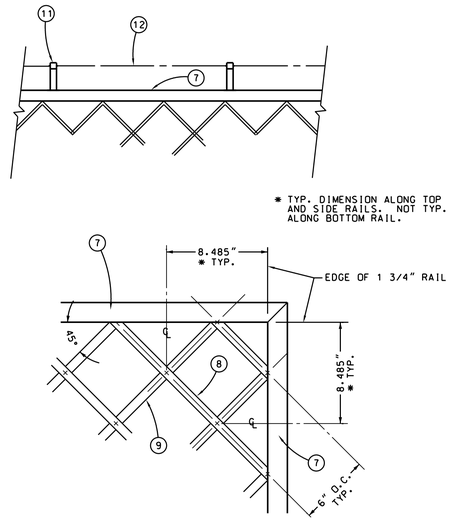
NOTE:

ALL STEEL SHALL BE HOT DIPPED GALVANIZED. PAINT ALL STEEL W/ONE COAT RUST INHIBITING PRIMER. TWO COATS "FOREST GREEN" (TYP.) RUST INHIBITING EPOXY ENAMEL. PROVIDE SHOP DRAWINGS FOR CONSTRUCTION AND INSTALLATION OF STEEL LATTICE STRUCTURE. ALL JOINTS TO BE CONTINUOUSLY WELDED. GRIND ALL WELDS SMOOTH.

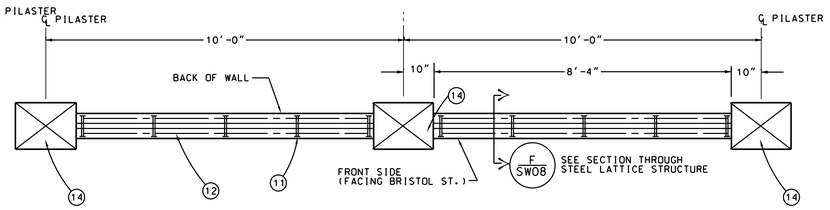
E STEEL TRELLIS STRUCTURE AT SOUNDWALL BETWEEN PILASTERS
SCALE: 1/2" = 1'



F STEEL LATTICE STRUCTURE SECTION A-A



G STEEL LATTICE ENLARGEMENT
SCALE: 1" = 1'



PLAN VIEW
SCALE: 1/2" = 1'

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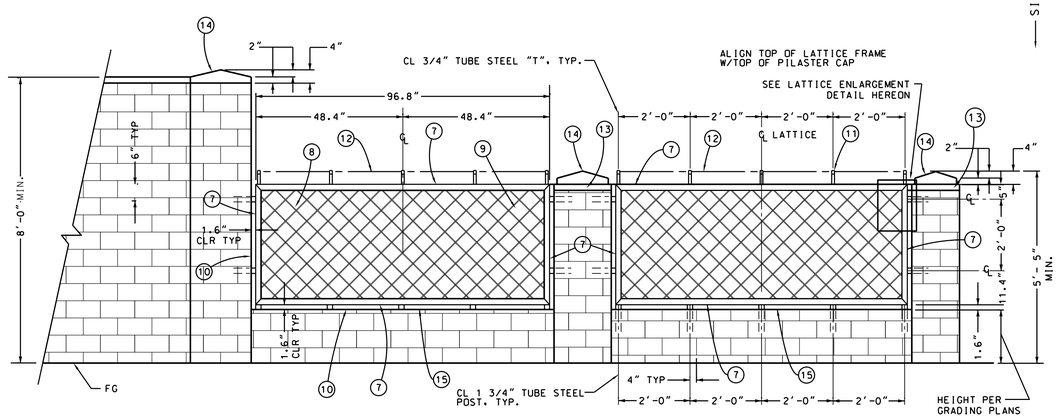
CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BY CITY'S AUTHORIZED REPRESENTATIVE. SHOP DRAWING SHALL INCLUDE DETAIL OF STEEL FENCE ATTACHMENT TO MASONRY WALL.



H ORNAMENTAL WALL FRONT ELEVATION
SCALE: 1/2" = 1'

HARDSCAPE CONSTRUCTION NOTES

(7) 1 3/4" X 1 3/4" SQ. 11 GAUGE TUBE STEEL FRAME. MITER CORNERS. ALL JOINTS TO BE CONTINUOUSLY WELDED.

(8) 3/4" X 3/4" SQ. 11 GAUGE TUBE STEEL. FRONT-SIDE PICKETS. 6" O.C. 45° TO FRAME WELD TO BACK-SIDE PICKETS AND FRAME.

(9) 3/4" X 3/4" SQ. 11 GAUGE TUBE STEEL. BACK-SIDE PICKETS. 6" O.C. 45° TO FRAME WELD TO FRONT-SIDE PICKETS AND FRAME.

(10) 1 3/4" X 1 3/4" SQ. 11 GAUGE TUBE STEEL VERTICAL POST OR HORIZONTAL SUPPORT. WELD TO STEEL FRAME.

(11) 3/4" X 3/4" SQ. 11 GAUGE TUBE STEEL "TEE" SEE SECTION FOR DIMENSIONS.

(12) GALVANIZED WIRE.

(13) 2" THICK 20" L. X 16" W. CONCRETE CAP. LIGHT SANDBLAST FINISH. COLOR TO MATCH SPLIT FACE CMU

(14) 2" THICK X 20" L. X 16" W. CONCRETE CAP W/PEAK. LIGHT SANDBLAST FINISH. COLOR TO MATCH SPLIT FACE CMU.

(15) CONCRETE WALL CAP 2" THICK X 16" L. X 8" W. LIGHT SANDBLAST FINISH. COLOR TO MATCH SPLIT FACE CMU.

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JASON GABRIEL			

SW08

SOUNDWALL IMPROVEMENT

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

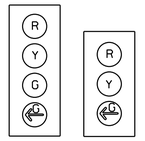
POLE SCHEDULE

NO.	STANDARD DESCRIPTION	SIG. MA	LUM. MA	*LED LUMINAIRE	R.S.N.S. LEGEND	SIGNAL MOUNTING VEHICLE		• PED	A.D.A. PPB TYPE	PHASE	QUAD	REMARKS
①	24-3-100	35'	15'	LED	(N) Bristol ST 1300N	MAS-4B	SV-I-T	SP-I-T	APS(N)	4	E	
②	TYPE 15	-	15'	LED	-	-	SV-I-T	-	-	-	-	
③	61-5-100	65'	15'	LED	(N) Washington AVE 1200W	3-MAS	SV-I-T	SP-I-T	-	-	-	
④	TYPE 1A	-	-	-	-	-	TV-I-T	SP-I-T	APS(N)	8	W	
⑤	19-3-100 (N)	25'(N)	15'(N)	LED (N)	(N) Bristol ST 1200N	MAS-4BN0	SV-I-T(N)	SP-I-T(N)	APS(N)	8	W	
⑥	TYPE 15TS (N)	-	15'(N)	LED (N)	-	-	SV-I-T(N)	SP-I-T(N)	APS(N)	2	N	
⑦	29-5-100 (N)	55'(N)	15'(N)	LED (N)	(N) Washington AVE 1300W	3-MAS(N)	SV-I-T(N)	SP-I-T(N)	APS(N)	2	N	F=20'
⑧	TYPE 1A (N)	-	-	-	-	-	TV-I-T(N)	SP-I-T(N)	APS(N)	4	E	

ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE. (N)=NEW, (RL)=RELOCATE

• PEDESTRIAN HEADS SHALL BE COUNDOWN TYPE.

* LED LUMINAIRES SHALL BE LEOTEK GREEN KING COBRA SERIES PER SPECIAL PROVISIONS.



DETAIL "A" (NO SCALE)

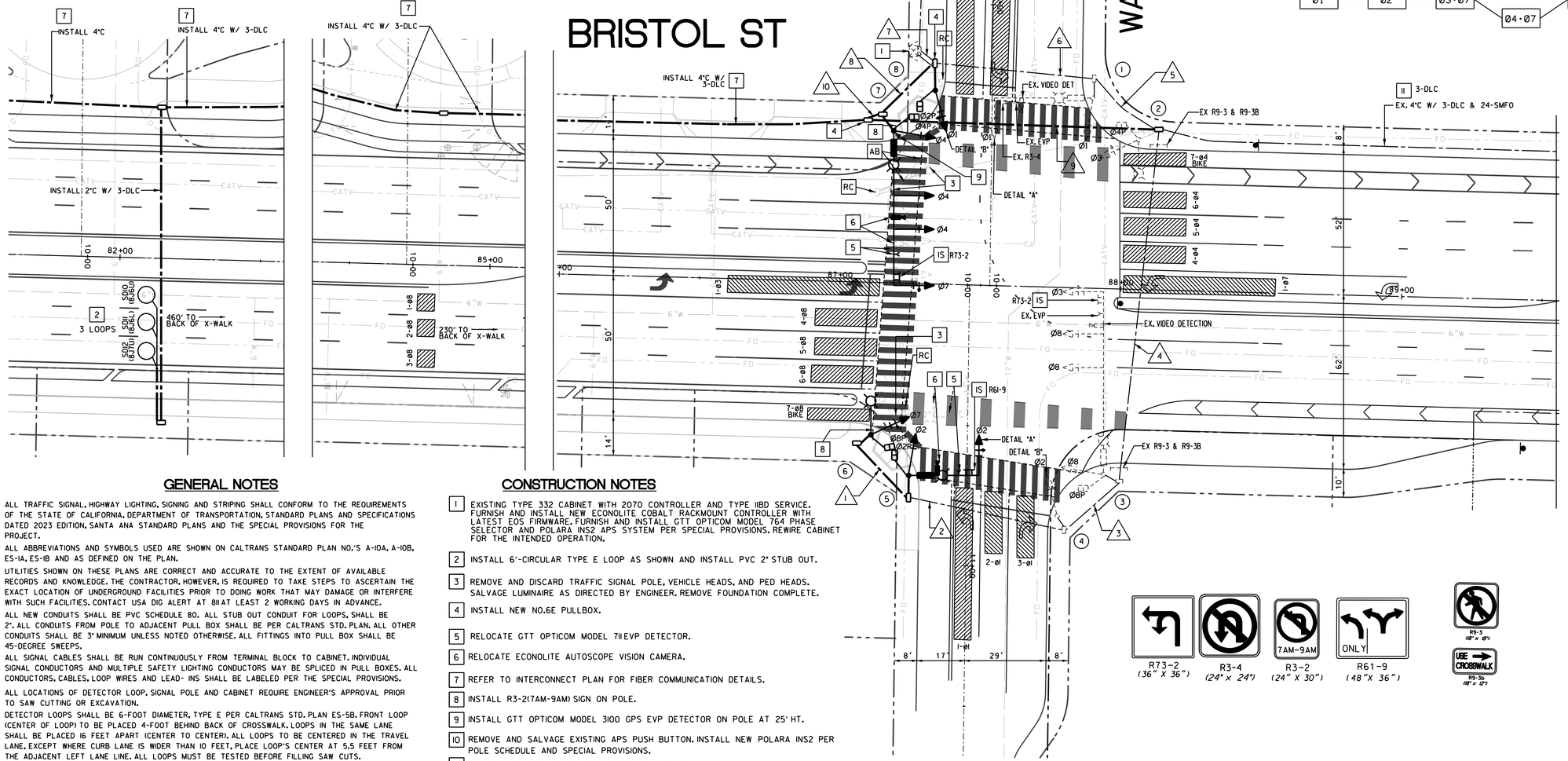
DETAIL "B" (NO SCALE)

PHASE DIAGRAM

	GROUP A		GROUP B	
RING 1	Ø1	Ø2	Ø3	Ø4
RING 2	UN-USED	UN-USED		
	Ø5	Ø6	Ø7	Ø8

GRAPHIC SCALE: 1"=20'

TYPICAL PHASE SEQUENCE



GENERAL NOTES

1. ALL TRAFFIC SIGNAL, HIGHWAY LIGHTING, SIGNING AND STRIPING SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS AND SPECIFICATIONS DATED 2023 EDITION, SANTA ANA STANDARD PLANS AND THE SPECIAL PROVISIONS FOR THE PROJECT.
2. ALL ABBREVIATIONS AND SYMBOLS USED ARE SHOWN ON CALTRANS STANDARD PLAN NO.'S A-10A, A-10B, ES-1A, ES-1B AND AS DEFINED ON THE PLAN.
3. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE OR INTERFERE WITH SUCH FACILITIES. CONTACT USA DIG ALERT AT 811 AT LEAST 2 WORKING DAYS IN ADVANCE.
4. ALL NEW CONDUITS SHALL BE PVC SCHEDULE 80. ALL STUB OUT CONDUIT FOR LOOPS, SHALL BE 2". ALL CONDUITS FROM POLE TO ADJACENT PULL BOX SHALL BE PER CALTRANS STD. PLAN. ALL OTHER CONDUITS SHALL BE 3" MINIMUM UNLESS NOTED OTHERWISE. ALL FITTINGS INTO PULL BOX SHALL BE 45-DEGREE SWEEPS.
5. ALL SIGNAL CABLES SHALL BE RUN CONTINUOUSLY FROM TERMINAL BLOCK TO CABINET. INDIVIDUAL SIGNAL CONDUCTORS AND MULTIPLE SAFETY LIGHTING CONDUCTORS MAY BE SPLICED IN PULL BOXES. ALL CONDUCTORS, CABLES, LOOP WIRES AND LEAD- INS SHALL BE LABELED PER THE SPECIAL PROVISIONS.
6. ALL LOCATIONS OF DETECTOR LOOP, SIGNAL POLE AND CABINET REQUIRE ENGINEER'S APPROVAL PRIOR TO SAW CUTTING OR EXCAVATION.
7. DETECTOR LOOPS SHALL BE 6-FOOT DIAMETER, TYPE E PER CALTRANS STD. PLAN ES-5B. FRONT LOOP (CENTER OF LOOP) TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET APART (CENTER TO CENTER). ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET, PLACE LOOP'S CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE LINE. ALL LOOPS MUST BE TESTED BEFORE FILLING SAW CUTS.
8. ALL PULL BOXES SHALL BE CONCRETE AND PLASTIC LINED, LID SHALL BE LIGHT WEIGHT AND LABELED PER CITY OF SANTA ANA STD. PLAN NO. 1501. PULL BOX SHALL BE NUMBER 6, UNLESS NOTED OTHERWISE.
9. ALL NEW VEHICLE AND PEDESTRIAN HEADS SHALL BE OF LIGHT EMITTING DIODE (LED) TYPE PER THE SPECIAL PROVISIONS. ALL NEW VEHICLE HEADS SHALL BE 12" WITH BACKPLATE. MOUNT ALL VEHICLE AND PEDESTRIAN HEADS AWAY FROM THE TRAFFIC SIDE OF THE POLE WHERE POSSIBLE.
10. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS AND CABLES REQUIRED FOR THE INTENDED OPERATION.
11. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT REQUIRED.
12. TEMPORARY OVERHEAD WIRING, INCLUDING SIGNAL INTERCONNECT IS REQUIRED TO MAINTAIN SIGNAL OPERATION DURING MODIFICATION OF EXISTING TRAFFIC SIGNAL SYSTEM PER THE SPECIAL PROVISIONS.
13. REMOVE SIGN AND POST, SANDBLAST LEGENDS AND CONFLICTING STRIPING AS SHOWN ON THE CHANNELIZATION PLAN AND SIGNAL PLAN MUST BE COORDINATED.

CONSTRUCTION NOTES

1. EXISTING TYPE 332 CABINET WITH 2070 CONTROLLER AND TYPE IIBD SERVICE. FURNISH AND INSTALL NEW ECONOLITE COBALT RACKMOUNT CONTROLLER WITH LATEST EOS FIRMWARE. FURNISH AND INSTALL GTT OPTICOM MODEL 764 PHASE SELECTOR AND POLARA INS2 APS SYSTEM PER SPECIAL PROVISIONS. REWIRE CABINET FOR THE INTENDED OPERATION.
2. INSTALL 6'-CIRCULAR TYPE E LOOP AS SHOWN AND INSTALL PVC 2" STUB OUT.
3. REMOVE AND DISCARD TRAFFIC SIGNAL POLE, VEHICLE HEADS, AND PED HEADS. SALVAGE LUMINAIRE AS DIRECTED BY ENGINEER. REMOVE FOUNDATION COMPLETE.
4. INSTALL NEW NO.6E PULLBOX.
5. RELOCATE GTT OPTICOM MODEL 711 EVP DETECTOR.
6. RELOCATE ECONOLITE AUTOSCOPE VISION CAMERA.
7. REFER TO INTERCONNECT PLAN FOR FIBER COMMUNICATION DETAILS.
8. INSTALL R3-2(7AM-9AM) SIGN ON POLE.
9. INSTALL GTT OPTICOM MODEL 3100 GPS EVP DETECTOR ON POLE AT 25' HT.
10. REMOVE AND SALVAGE EXISTING APS PUSH BUTTON. INSTALL NEW POLARA INS2 PER POLE SCHEDULE AND SPECIAL PROVISIONS.
11. REMOVE EXISTING DLC AND INSTALL NEW DLC AS NOTED.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

IS INSTALL SIGN(S) ON MAST ARM.

CONDUCTOR SCHEDULE

AWG	CIRCUIT/CONDUCTORS/CABLE	RUN NO. 1	2	3	4	5	6	7	8	9	10
POLE 1	CSC 3	-	-	-	-	-	1	1	-	-	-
	CSC 12	-	-	-	-	-	1	1	-	-	-
POLE 2	CSC 3	-	-	-	-	-	-	-	-	-	-
	CSC 12	-	-	-	-	1	1	1	-	-	-
POLE 3	CSC 3	-	-	-	-	-	-	-	-	-	-
	CSC 12	-	-	-	1	1	1	1	-	-	-
POLE 4	CSC 3	-	-	1	1	1	1	1	-	-	-
	CSC 12	-	-	1	1	1	1	1	-	-	-
POLE 5	CSC 3	-	1	1	1	1	1	1	-	-	-
	CSC 12	-	1	1	1	1	1	1	-	-	-
POLE 6	CSC 3	1	1	1	1	1	1	1	-	-	-
	CSC 12	1	1	1	1	1	1	1	-	-	-
POLE 7	CSC 3	-	-	-	-	-	-	1	1	-	-
	CSC 12	-	-	-	-	-	-	1	1	-	-
POLE 8	CSC 3	-	-	-	-	-	-	1	-	-	-
	CSC 12	-	-	-	-	-	-	1	-	-	-
*10	LUMINAIRE	2	2	2	2	2	2	4	2	-	-
DLC	Ø1 DETECTOR	-	-	-	-	-	-	-	-	-	-
	Ø2 DET SD1,SD2	-	-	-	-	-	-	-	-	-	-
	Ø3 DETECTOR	-	-	-	-	-	-	-	-	-	-
	Ø4 DET SD4,SD5,SD6	-	-	-	-	3	3	3	-	-	-
	Ø5 DETECTOR	-	-	-	-	-	-	-	-	-	-
	Ø6 DET SD7,SD8	-	-	-	-	-	-	-	-	-	-
	Ø7 DETECTOR	-	-	-	-	-	-	-	-	-	-
	Ø8 DET SD10,SD11,SD12	-	-	-	-	-	-	3	3	-	-
	TOTAL	-	-	-	-	3	3	6	3	-	-
24 STRAND SMFO		-	-	-	-	I(RR)	I(RR)	I(RR)	-	I(RR)	-
12 STRAND SMFO (DROP)		-	-	-	-	-	-	1	1	-	1
GTT EVP CABLE		-	1	1	2	2	3	5	2	-	-
VIDEO DETECTION CABLE		-	1	1	2	2	3	4	1	-	-
PULLTAPE		1	1	1	1	1	1	2	1	1	1
CONDUIT		4"	4"(E)	4"(E)	4"(E)	4"(E)	4"(E)	2-4"(E)	4"	4"	4"

ALL CONDUIT AND CONDUCTORS SHALL BE NEW UNLESS NOTED OTHERWISE.
(E)=EXISITNG, (RR)= RE-ROUTE

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www.DigAlert.org

NOTICE TO CONTRACTOR

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SHT-XA01-13-6792-R00.DGN

FILE NO.: TF-07015

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: ELEV.:

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER CESAR D. RODRIGUEZ RCE NO. 75662 Exp. 6/30/26 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	SENIOR CIVIL ENGINEER RCE NO.: 75662	DATE 4/2024
	DESIGNED: CR DRAWN: CR CHECKED: CR	4/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.: 66219	4/2024

XA01

TRAFFIC SIGNAL MODIFICATION

BRISTOL STREET AT WASHINGTON AVE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 22 OF 37

PROJECT NO. 136792: BRISTOL ST WIDENING FROM CIVIC CENTER DR TO WASHINGTON AVE

POLE SCHEDULE

NO.	STANDARD DESCRIPTION	SIG. MA	LUM. MA	LED LUMINAIRE	R.S.N.S. LEGEND	SIGNAL MOUNTING VEHICLE		SIGNAL MOUNTING PED	A.D.A. PPB TYPE	PHASE	QUAD	REMARKS
①	6I-5-100	65'	15'	LED	Civic Center DR 1300W	3-MAS	SV-I-T	SP-I-T	APS(N)	2	N	F=20'
②	IA	-	-	-	-	-	SV-I-T	SP-I-T	APS(N)	4	E	
③	26-4-100	40'	15'	LED	Bristol ST 800N	MAS-5A MAS	SV-I-T	SP-I-T	APS(N)	4	E	
④	TYPE 15	-	15'	LED	-	-	SV-I-T	SP-I-T	APS(N)	6	S	POLE HEIGHT= 25'
⑤	6I-5-100	65'	15'	LED	Civic Center DR 1200W	3-MAS	SV-I-T	SP-I-T	B (R)	-	-	F=20'
5A	PPB POST (N)	-	-	-	-	-	-	-	APS(N)	6	S	
⑥	IA (RL)	-	-	-	-	-	SV-I-T(RL)	SP-I-T(RL)	APS(N)	8	W	
⑦	26-4-100	40'	15'	LED	Bristol ST 700N	MAS-5A MAS	SV-I-T	SP-I-T	APS(N)	8	W	
⑧	TYPE 15	-	15'	LED	-	-	SV-I-T	SP-I-T	APS(N)	2	N	

ALL EQUIPMENT IS EXISTING UNLESS NOTED OTHERWISE.
(R)= REMOVE, (RL)= RELOCATE

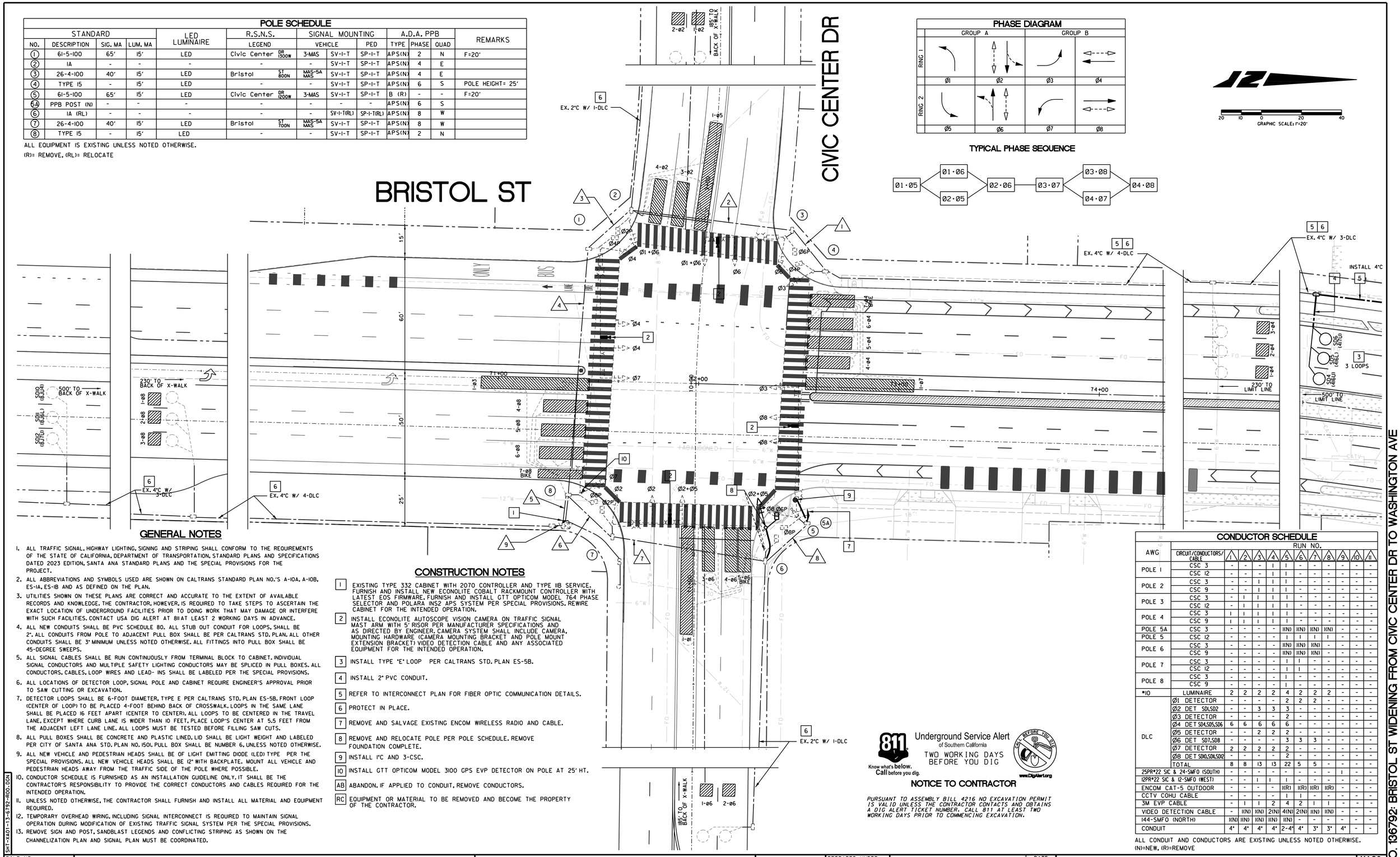
PHASE DIAGRAM

	GROUP A		GROUP B	
RING 1	Ø1	Ø2	Ø3	Ø4
RING 2	Ø5	Ø6	Ø7	Ø8

TYPICAL PHASE SEQUENCE

Ø1·Ø5 → (Ø1·Ø6 / Ø2·Ø5) → Ø2·Ø6 → Ø3·Ø7 → (Ø3·Ø8 / Ø4·Ø7) → Ø4·Ø8

GRAPHIC SCALE: 1"=20'



GENERAL NOTES

1. ALL TRAFFIC SIGNAL, HIGHWAY LIGHTING, SIGNING AND STRIPING SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS AND SPECIFICATIONS DATED 2023 EDITION, SANTA ANA STANDARD PLANS AND THE SPECIAL PROVISIONS FOR THE PROJECT.
2. ALL ABBREVIATIONS AND SYMBOLS USED ARE SHOWN ON CALTRANS STANDARD PLAN NO.'S A-10A, A-10B, ES-1A, ES-1B AND AS DEFINED ON THE PLAN.
3. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE OR INTERFERE WITH SUCH FACILITIES. CONTACT USA DIG ALERT AT 811AT LEAST 2 WORKING DAYS IN ADVANCE.
4. ALL NEW CONDUITS SHALL BE PVC SCHEDULE 80. ALL STUB OUT CONDUIT FOR LOOPS, SHALL BE 2". ALL CONDUITS FROM POLE TO ADJACENT PULL BOX SHALL BE PER CALTRANS STD. PLAN. ALL OTHER CONDUITS SHALL BE 3" MINIMUM UNLESS NOTED OTHERWISE. ALL FITTINGS INTO PULL BOX SHALL BE 45-DEGREE SWEEPS.
5. ALL SIGNAL CABLES SHALL BE RUN CONTINUOUSLY FROM TERMINAL BLOCK TO CABINET. INDIVIDUAL SIGNAL CONDUCTORS AND MULTIPLE SAFETY LIGHTING CONDUCTORS MAY BE SPLICED IN PULL BOXES. ALL CONDUCTORS, CABLES, LOOP WIRES AND LEAD- INS SHALL BE LABELED PER THE SPECIAL PROVISIONS.
6. ALL LOCATIONS OF DETECTOR LOOP, SIGNAL POLE AND CABINET REQUIRE ENGINEER'S APPROVAL PRIOR TO SAW CUTTING OR EXCAVATION.
7. DETECTOR LOOPS SHALL BE 6-FOOT DIAMETER, TYPE E PER CALTRANS STD. PLAN ES-5B. FRONT LOOP (CENTER OF LOOP) TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET APART (CENTER TO CENTER). ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET, PLACE LOOP'S CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE LINE. ALL LOOPS MUST BE TESTED BEFORE FILLING SAW CUTS.
8. ALL PULL BOXES SHALL BE CONCRETE AND PLASTIC LINED, LID SHALL BE LIGHT WEIGHT AND LABELED PER CITY OF SANTA ANA STD. PLAN NO. 1501. PULL BOX SHALL BE NUMBER 6, UNLESS NOTED OTHERWISE.
9. ALL NEW VEHICLE AND PEDESTRIAN HEADS SHALL BE OF LIGHT EMITTING DIODE (LED) TYPE PER THE SPECIAL PROVISIONS. ALL NEW VEHICLE HEADS SHALL BE 12" WITH BACKPLATE. MOUNT ALL VEHICLE AND PEDESTRIAN HEADS AWAY FROM THE TRAFFIC SIDE OF THE POLE WHERE POSSIBLE.
10. CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS AND CABLES REQUIRED FOR THE INTENDED OPERATION.
11. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT REQUIRED.
12. TEMPORARY OVERHEAD WIRING, INCLUDING SIGNAL INTERCONNECT IS REQUIRED TO MAINTAIN SIGNAL OPERATION DURING MODIFICATION OF EXISTING TRAFFIC SIGNAL SYSTEM PER THE SPECIAL PROVISIONS.
13. REMOVE SIGN AND POST, SANDBLAST LEGENDS AND CONFLICTING STRIPING AS SHOWN ON THE CHANNELIZATION PLAN AND SIGNAL PLAN MUST BE COORDINATED.

CONSTRUCTION NOTES

1. EXISTING TYPE 332 CABINET WITH 2070 CONTROLLER AND TYPE IIB SERVICE. FURNISH AND INSTALL NEW ECONOLITE COBALT RACKMOUNT CONTROLLER WITH LATEST EOS FIRMWARE. FURNISH AND INSTALL GTT OPTICOM MODEL 764 PHASE SELECTOR AND POLARA INS2 APS SYSTEM PER SPECIAL PROVISIONS. REWIRE CABINET FOR THE INTENDED OPERATION.
2. INSTALL ECONOLITE AUTOSCOPE VISION CAMERA ON TRAFFIC SIGNAL MAST ARM WITH 5' RISOR PER MANUFACTURER SPECIFICATIONS AND AS DIRECTED BY ENGINEER. CAMERA SYSTEM SHALL INCLUDE CAMERA, MOUNTING HARDWARE (CAMERA MOUNTING BRACKET AND POLE MOUNT EXTENSION BRACKET) VIDEO DETECTION CABLE AND ANY ASSOCIATED EQUIPMENT FOR THE INTENDED OPERATION.
3. INSTALL TYPE "E" LOOP PER CALTRANS STD. PLAN ES-5B.
4. INSTALL 2" PVC CONDUIT.
5. REFER TO INTERCONNECT PLAN FOR FIBER OPTIC COMMUNICATION DETAILS.
6. PROTECT IN PLACE.
7. REMOVE AND SALVAGE EXISTING ENCOM WIRELESS RADIO AND CABLE.
8. REMOVE AND RELOCATE POLE PER POLE SCHEDULE. REMOVE FOUNDATION COMPLETE.
9. INSTALL 1"C AND 3-CSC.
10. INSTALL GTT OPTICOM MODEL 3100 GPS EVP DETECTOR ON POLE AT 25' HT.
AB. ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
RC. EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

CONDUCTOR SCHEDULE

AWG	CIRCUIT/CONDUCTORS/CABLE	RUN NO. 1	2	3	4	5	6	7	8	9	10	11
POLE 1	CSC 3	-	-	-	1	-	-	-	-	-	-	-
	CSC 12	-	-	-	1	1	-	-	-	-	-	-
POLE 2	CSC 3	-	-	1	1	1	-	-	-	-	-	-
	CSC 9	-	-	1	1	1	-	-	-	-	-	-
POLE 3	CSC 3	-	1	1	1	1	-	-	-	-	-	-
	CSC 12	-	1	1	1	1	-	-	-	-	-	-
POLE 4	CSC 3	1	1	1	1	1	-	-	-	-	-	-
	CSC 9	1	1	1	1	1	-	-	-	-	-	-
POLE 5A	CSC 3	-	-	-	-	1(N)	1(N)	1(N)	1(N)	-	-	-
POLE 5	CSC 12	-	-	-	-	1	1	1	1	-	-	-
POLE 6	CSC 3	-	-	-	-	1(N)	1(N)	1(N)	-	-	-	-
	CSC 9	-	-	-	-	1(N)	1(N)	1(N)	-	-	-	-
POLE 7	CSC 3	-	-	-	-	1	1	-	-	-	-	-
	CSC 12	-	-	-	-	1	1	-	-	-	-	-
POLE 8	CSC 3	-	-	-	-	1	-	-	-	-	-	-
	CSC 9	-	-	-	-	1	-	-	-	-	-	-
*10	LUMINAIRE	2	2	2	2	4	2	2	2	-	-	-
DLC	Ø1 DETECTOR	-	-	-	-	2	2	2	-	-	-	-
	Ø2 DET 5DL,5D2	-	-	3	3	3	-	-	-	-	-	-
	Ø3 DETECTOR	-	-	-	-	2	-	-	-	-	-	-
	Ø4 DET 5D4,5D5,5D6	6	6	6	6	6	-	-	-	-	-	-
	Ø5 DETECTOR	-	-	2	2	2	-	-	-	-	-	-
	Ø6 DET 5D7,5D8	-	-	-	-	3	3	3	-	-	-	-
	Ø7 DETECTOR	2	2	2	2	2	-	-	-	-	-	-
	Ø8 DET 5D10,5DL,5D2	-	-	-	-	2	-	-	-	-	-	-
	TOTAL	8	8	13	13	22	5	5	-	-	-	-
25PR*22 SIC & 24-SMFO (SOUTH)		-	-	-	-	-	-	-	-	1	-	-
12PR*22 SIC & 12-SMFO (WEST)		-	-	1	1	-	-	-	-	-	-	-
ENCOM CAT-5 OUTDOOR		-	-	-	-	1(R)	1(R)	1(R)	1(R)	-	-	-
CCTV COHU CABLE		-	-	-	-	1	1	-	-	-	-	-
3M EVP CABLE		-	1	1	2	4	2	1	1	-	-	-
VIDEO DETECTION CABLE		-	1(N)	1(N)	2(N)	4(N)	2(N)	1(N)	1(N)	-	-	-
144-SMFO (NORTH)		1(N)	1(N)	1(N)	1(N)	1(N)	-	-	-	-	-	-
CONDUIT		4"	4"	4"	4"	2-4"	4"	3"	3"	4"	-	-

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS NOTED OTHERWISE.
(N)=NEW, (R)=REMOVE

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NOTICE TO CONTRACTOR

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SHT-XA01-13-6792-R00.DGN

FILE NO.: TF-07016

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

DESIGNED: KH

BENCHMARK NO.: ELEV.:

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER — CESAR D. RODRIGUEZ — RCE NO. 75662 Exp. 6/30/26 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	SENIOR CIVIL ENGINEER RCE NO.: 75662	DATE 4/2024
	DESIGNED: CR DRAWN: CR CHECKED: CR	4/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.: 66219	4/2024

XA02

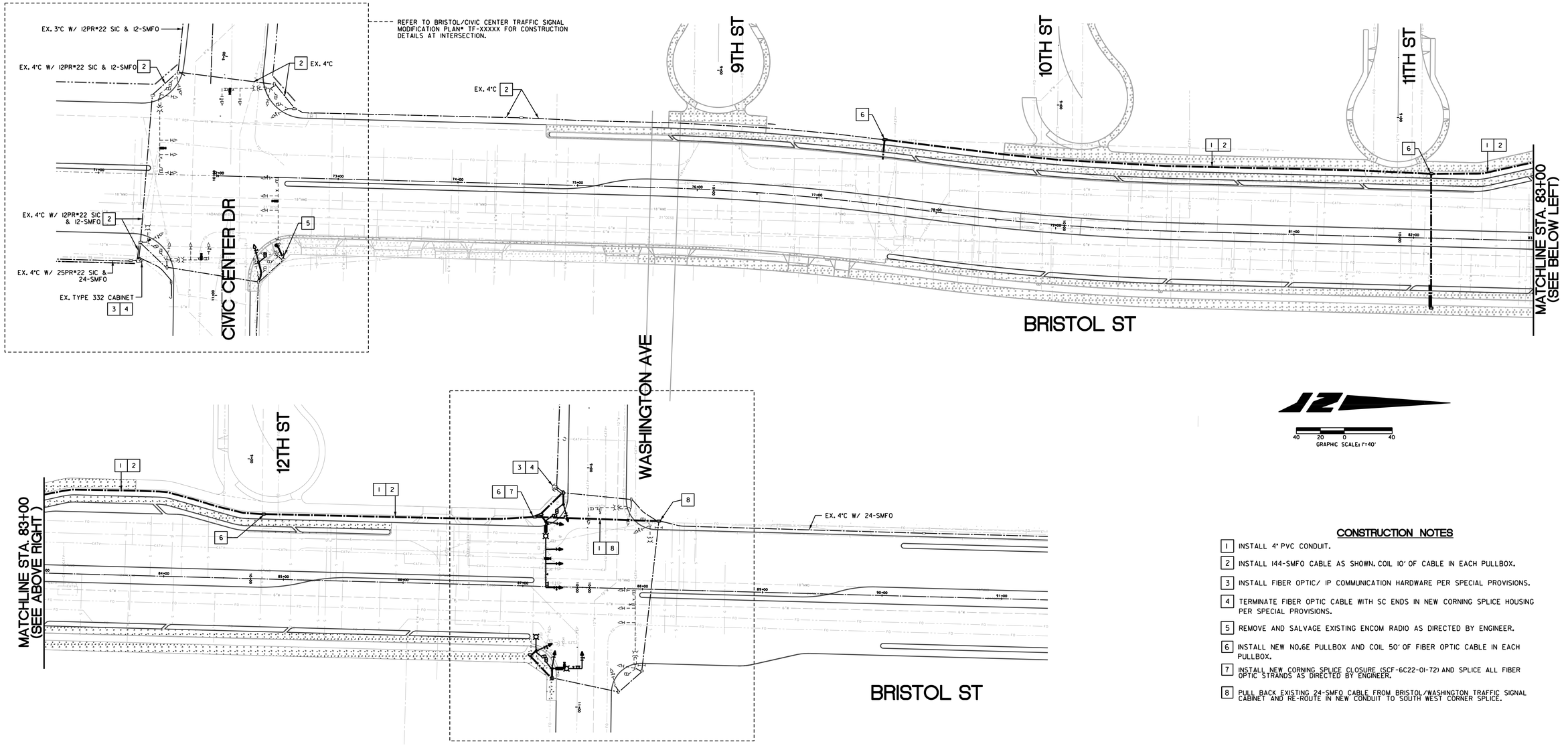
TRAFFIC SIGNAL MODIFICATION

BRISTOL STREET AT CIVIC CENTER DR

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 23 OF 37

PROJECT NO. 136792: BRISTOL ST WIDENING FROM CIVIC CENTER DR TO WASHINGTON AVE

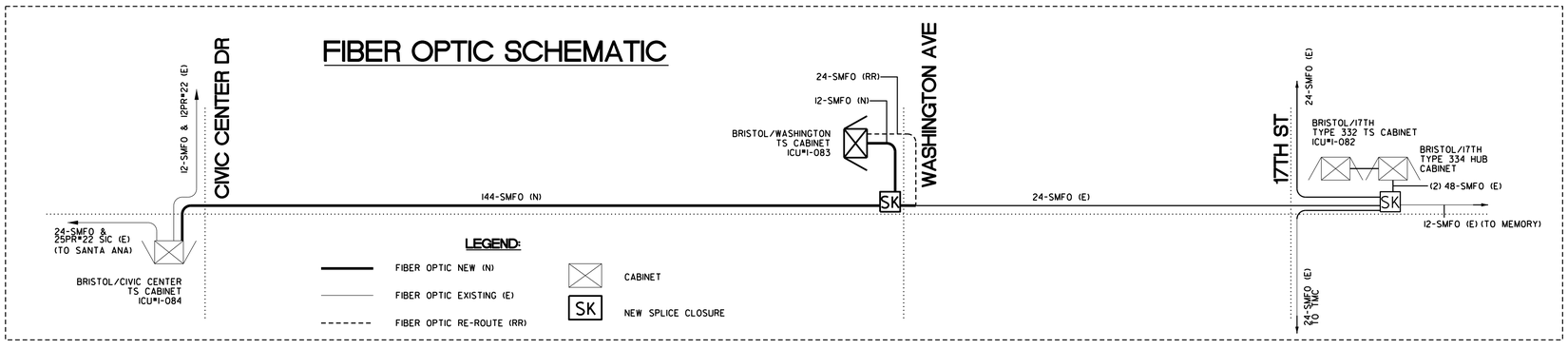


GRAPHIC SCALE: 1"=40'

CONSTRUCTION NOTES

1. INSTALL 4" PVC CONDUIT.
2. INSTALL 144-SMFO CABLE AS SHOWN. COIL 10' OF CABLE IN EACH PULLBOX.
3. INSTALL FIBER OPTIC/ IP COMMUNICATION HARDWARE PER SPECIAL PROVISIONS.
4. TERMINATE FIBER OPTIC CABLE WITH SC ENDS IN NEW CORNING SPLICE HOUSING PER SPECIAL PROVISIONS.
5. REMOVE AND SALVAGE EXISTING ENCOM RADIO AS DIRECTED BY ENGINEER.
6. INSTALL NEW NO.6E PULLBOX AND COIL 50' OF FIBER OPTIC CABLE IN EACH PULLBOX.
7. INSTALL NEW CORNING SPLICE CLOSURE (SCF-6C22-01-72) AND SPLICE ALL FIBER OPTIC STRANDS AS DIRECTED BY ENGINEER.
8. PULL BACK EXISTING 24-SMFO CABLE FROM BRISTOL/WASHINGTON TRAFFIC SIGNAL CABINET AND RE-ROUTE IN NEW CONDUIT TO SOUTH WEST CORNER SPLICE.

FIBER OPTIC SCHEMATIC



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NOTICE TO CONTRACTOR

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SHT-XA01-13-6792-ROD.DGN

FILE NO.: TF-07017

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: DESCRIPTION ELEV.:

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER CESAR D. RODRIGUEZ RCE NO. 75662 Exp. 6/30/26 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	SENIOR CIVIL ENGINEER RCE NO.: 75662	DATE 4/2024
	DESIGNED: CR DRAWN: CR CHECKED: CR	4/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.: 66219	4/2024

XA03

TRAFFIC SIGNAL INTERCONNECT

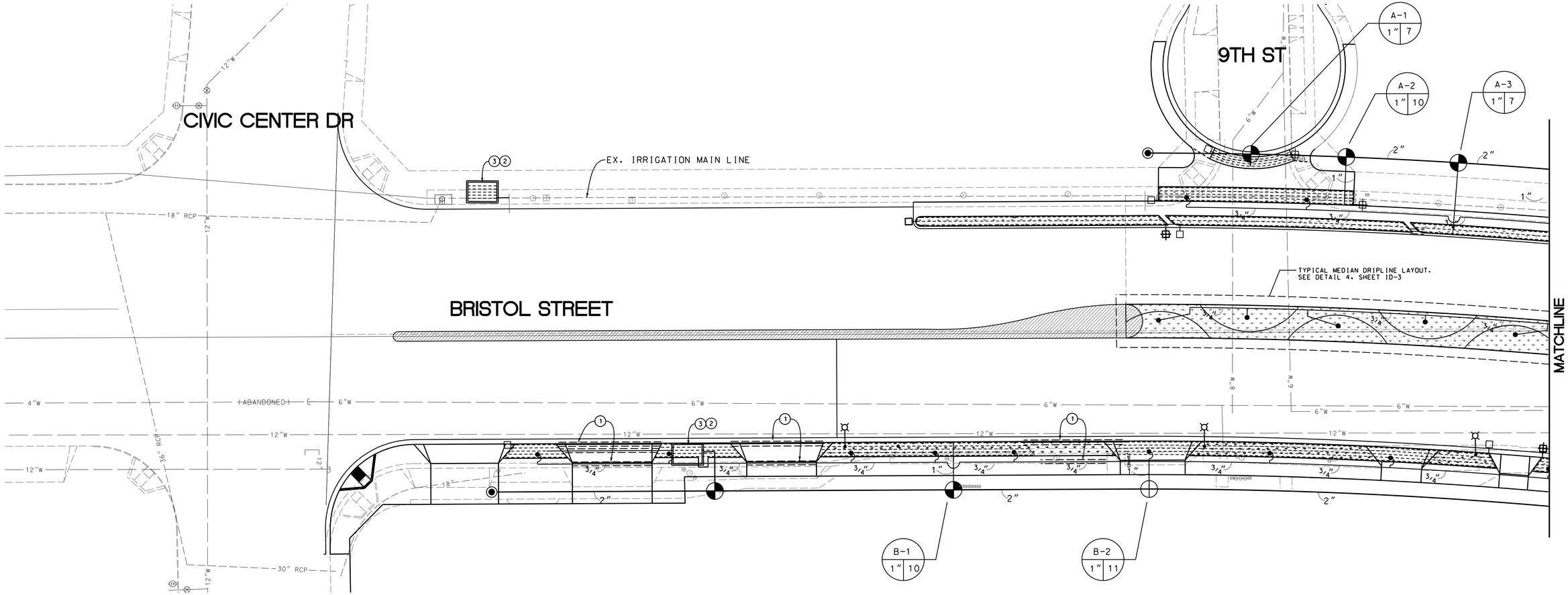
BRISTOL STREET

CIVIC CENTER DR TO WASHINGTON AVE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 24 OF 37

PROJECT NO. 136792: BRISTOL ST WIDENING FROM CIVIC CENTER DR TO WASHINGTON AVE



GENERAL NOTES:

1. IRRIGATION MAIN AND LATERAL LINES MAY BE SHOWN OUTSIDE FINAL LOCATIONS FOR CLARITY PURPOSES.
2. IRRIGATION PLANS ARE DIAGRAMMATIC. TO ENSURE PROPER COVERAGE, IRRIGATION HEADS SHALL BE INSTALLED AT EQUAL SPACING.
3. CITY OF SANTA ANA SHALL COORDINATE THE CONNECTION OF ELECTRICAL POWER, AND TELEPHONE LINES TO PROP. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF 2" CONDUIT W/ PULL ROPE FOR THESE UTILITIES TO THE ELECTRICAL POC.
4. CONTRACTOR TO REPLACE AND REPAIR TO ITS ORIGINAL CONDITION, ANY EXISTING LANDSCAPE, IRRIGATION SYSTEMS, UTILITIES, AND STRUCTURES WHICH HAS BEEN DAMAGED BY CONTRACTORS WORK. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE COST TO REPAIR AND REPLACE SAID DAMAGED ITEMS. MODIFICATIONS AS DIRECTED BY THE CITY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
5. CONTRACTOR SHALL GUARANTEE THE SURVIVAL OF ALL LANDSCAPE PLANT MATERIAL THIS INCLUDES ALL AREAS WHERE DAMAGE HAS OCCURRED DUE TO INSTALLATION OF NEW IRRIGATION SYSTEM AND ITS SURROUNDING AREAS. MODIFICATIONS AS DIRECTED BY THE CITY TO REPLACE DAMAGED PLANTING MATERAIL SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE COST TO REPLACE DAMAGED PLANT MATERIAL.

CONSTRUCTION NOTES:

(1) 4" SCHEDULE 40 PVC CONDUIT SLEEVE, BURY 36" MIN

(2) CONNECT TO IRRIGATION MAIN LINE AND INSTALL NEW DRIP SYSTEM

(3) FURNISH AND INSTALL BIOFILTRATION STRUCTURE (MODULAR WETLANDS MWS-L-8-12-C BY CONTECH OR APPROVED EQUAL). CORE OUTLET PIPE INTO CATCH BASIN AND CONNECT TO IRRIGATION LINE

DEEP WATERING SYSTEM:
FOR QUERCUS AGRIFOLIA TREE, INSTALL DEEP WATERING SYSTEM. CONTRACTOR TO SUBMIT FOR REVIEW AND APPROVAL BY CITY AUTHORIZED REPRESENTATIVE

(SCALE : 1" = 20')

Underground Service Alert of Southern California
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NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 4216 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS A DIG ALERT TICKET NUMBER. CALL 811 AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROD.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
JASON GABRIEL	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:		06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:		06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	

IR01

IRRIGATION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

CONTROLLER "A" AND "B" LOCATION-
35 STATION CONTROLLER
VERIFY EXACT LOCATION IN FIELD WITH CITY'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LABOR AND MATERIALS TO CONNECT CONTROLLER TO ELECTRICAL SERVICE. CONTRACTOR TO MOUNT RAIN BIRD SENSOR TO CONTROLLER ASSEMBLY. LOCATE FREE FROM ANY OVERHEAD OBSTRUCTION.

ELECTRICAL CONNECTION-
ELECTRICAL CONNECTION TO BE COORDINATED BETWEEN THE CITY OF SANTA ANA AND SOUTHERN CALIFORNIA EDISON.(SEE EDISON PLANS. CONTRACTOR TO FURNISH AND INSTALL CONDUIT)

POINT OF CONNECTION-
PROVIDE NEW 2" DOMESTIC WATER SERVICE AND METER PER CITY OF SANTA ANA STANDARD PLANS 1402 AND 1150. IRRIGATION CONTRACTOR TO TIE INTO STREET WATER LINE AND INSTALL 2-GATE VALVES. BASKET STRAINER. BACKFLOW PREVENTER. MASTER VALVE AND FLOW SENSOR DOWNSTREAM OF WATER METER. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND MATERIALS FOR IRRIGATION WATER METER CONNECTIONS. VERIFY EXACT LOCATION IN FIELD WITH CITY'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.

SEE WATER IMPROVEMENT PLANS FOR LOCATION OF NEW LINE

PROPOSED SEWER MANHOLE PER WATER IMPROVEMENT PLANS

10TH ST

11TH ST

BRISTOL STREET

POC

TYPICAL MEDIAN DRIPLINE LAYOUT. SEE DETAIL 4, SHEET ID-3

MATCHLINE SEE SHEET IR01

MATCHLINE SEE SHEET IR03

GENERAL NOTES:

1. IRRIGATION MAIN AND LATERAL LINES MAY BE SHOWN OUTSIDE FINAL LOCATIONS FOR CLARITY PURPOSES.
2. IRRIGATION PLANS ARE DIAGRAMMATIC. TO ENSURE PROPER COVERAGE, IRRIGATION HEADS SHALL BE INSTALLED AT EQUAL SPACING.
3. CITY OF SANTA ANA SHALL COORDINATE THE CONNECTION OF ELECTRICAL POWER, AND TELEPHONE LINES TO PROP. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF 2" CONDUIT W/ PULL ROPE FOR THESE UTILITIES TO THE ELECTRICAL POC.
4. CONTRACTOR TO REPLACE AND REPAIR TO ITS ORIGINAL CONDITION. ANY EXISTING LANDSCAPE, IRRIGATION SYSTEMS, UTILITIES, AND STRUCTURES WHICH HAS BEEN DAMAGED BY CONTRACTORS WORK. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE COST TO REPAIR AND REPLACE SAID DAMAGED ITEMS. MODIFICATIONS AS DIRECTED BY THE CITY SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
5. CONTRACTOR SHALL GUARANTEE THE SURVIVAL OF ALL LANDSCAPE PLANT MATERIAL THIS INCLUDES ALL AREAS WHERE DAMAGE HAS OCCURRED DUE TO INSTALLATION OF NEW IRRIGATION SYSTEM AND ITS SURROUNDING AREAS. MODIFICATIONS AS DIRECTED BY THE CITY TO REPLACE DAMAGED PLANTING MATERAIL SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE COST TO REPLACE DAMAGED PLANT MATERIAL.

CONSTRUCTION NOTES

(1) 4" SCHEDULE 40 PVC CONDUIT SLEEVE, BURY 36" MIN

(2) REPAIR, INSTALL, AND RECONNECT IRRIGATION LINES TO MAINLINE

DEEP WATERING SYSTEM:
FOR QUERCUS AGRIFOLIA TREE. INSTALL DEEP WATERING SYSTEM. CONTRACTOR TO SUBMIT FOR REVIEW AND APPROVAL BY CITY AUTHORIZED REPRESENTATIVE

(SCALE : 1" = 20')

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NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 4216 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS A DIG ALERT TICKET NUMBER. CALL 811 AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

IR02

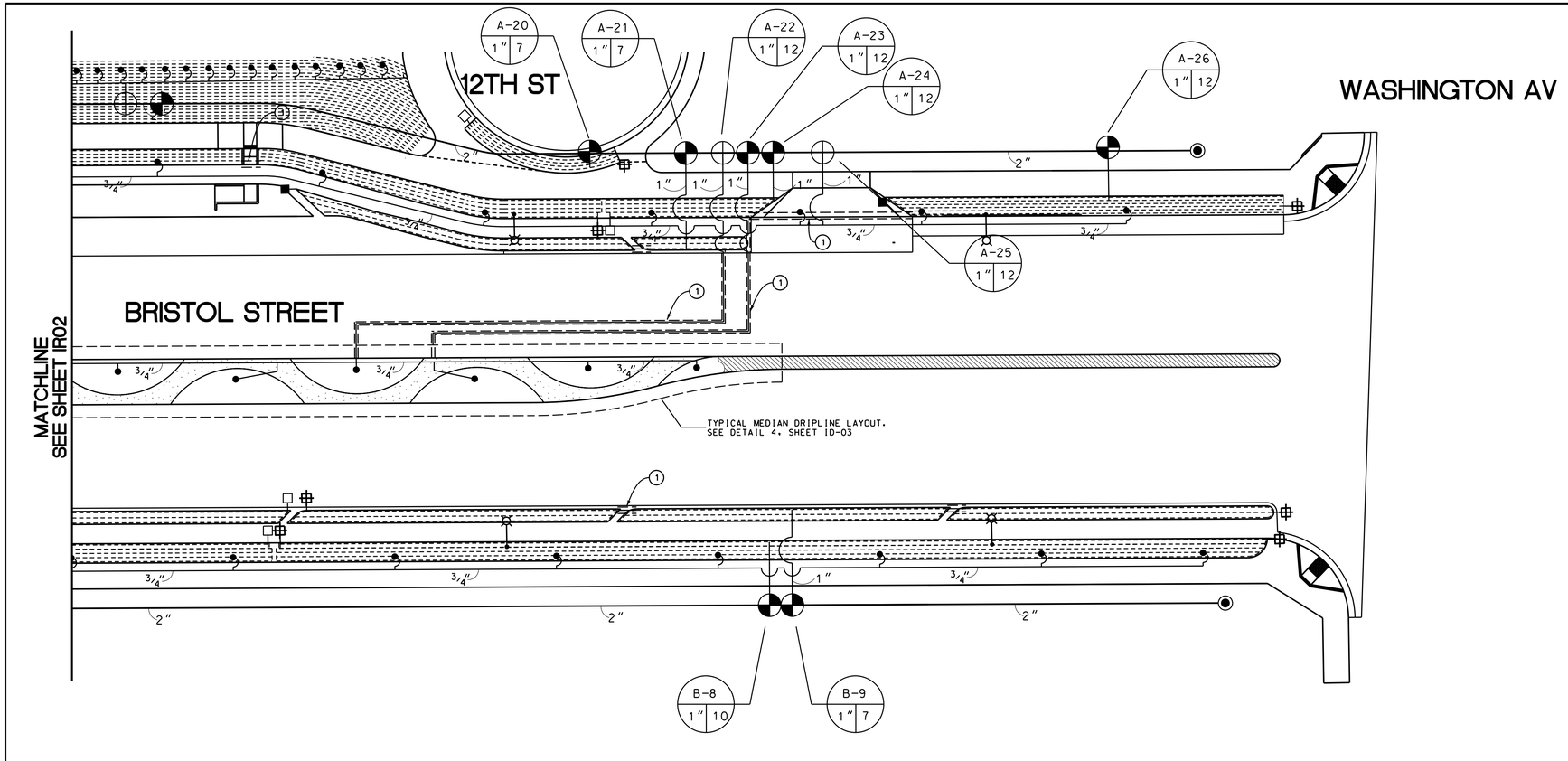
IRRIGATION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 26 OF 38



GENERAL NOTES:

1. IRRIGATION MAIN AND LATERAL LINES MAY BE SHOWN OUTSIDE FINAL LOCATIONS FOR CLARITY PURPOSES.
2. IRRIGATION PLANS ARE DIAGRAMMATIC. TO ENSURE PROPER COVERAGE, IRRIGATION HEADS SHALL BE INSTALLED AT EQUAL SPACING.
3. CITY OF SANTA ANA SHALL COORDINATE THE CONNECTION OF ELECTRICAL POWER, AND TELEPHONE LINES TO PROP. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF 2" CONDUIT W/ PULL ROPE FOR THESE UTILITIES TO THE ELECTRICAL POC.
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IRRIGATION PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

IR03

SHEET 27 OF 38

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEMO6L-5063(146)

GENERAL IRRIGATION NOTES

1. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THE WORK ARE HEREBY INCORPORATED INTO AND MAKE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. IRRIGATION INSTALLATION SHALL BE PER CITY AND COUNTY CODES, NORMAL APPROVED STANDARDS OF PROCEDURE AND MANUFACTURER'S SPECIFICATIONS.

2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.

3. THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL INCLUDE FURNISHING ALL LABOR, MATERIALS, TOOLS, MACHINERY, AND EQUIPMENT NECESSARY TO COMPLETE SPRINKLER SYSTEM AND ADJUSTMENT, INCLUDING TRENCHING, BACKFILLING, ETC.

4. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES, AND POINT OF CONNECTION, BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE CITY'S AUTHORIZED REPRESENTATIVE.

5. THE CONTRACTOR SHALL APPLY & PAY FOR ALL PERTINENT ENGINEERING AND ARCHITECTURAL PLANS BEFORE BEGINNING WORK.

6. COORDINATE THE INSTALLATION OF ALL SPRINKLER MATERIALS, INCLUDING PIPE, WITH ANY EXISTING LANDSCAPING TO AVOID INTERFERING WITH THE TREES, SHRUBS, OR OTHER PLANTING.

7. THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS SHALL BE FOR DESIGN CLARITY ONLY AND SHALL BE INSTALLED WITHIN PLANTING AREAS. THE CONTRACTOR SHALL LOCATE ALL VALVES IN SHRUB AREAS.

8. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR IN THE SPECIFICATIONS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

9. REFER TO SPECIFICATIONS FOR STANDARDS OF MATERIALS AND WORKMANSHIP.

10. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT SITE CONDITIONS AND ALL IRRIGATION MATERIALS THAT ARE TO REMAIN. SHOULD DAMAGE BE INCURRED, THE CONTRACTOR SHALL REPAIR DAMAGE TO THE ORIGINAL CONDITION OR FURNISH AND REPLACE EQUAL REPLACEMENTS.

11. THE CONTRACTOR SHALL NOT PROCEED WITH CONSTRUCTION AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES, OR DISCREPANCIES IN AREA DIMENSIONS OR AVAILABLE PRESSURE EXIST THAT HAVE NOT BEEN ACCOUNTED FOR ON THE PLANS OR SPECIFICATIONS. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE CITY'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AND SHALL PERFORM SUCH REVISIONS AT HIS OWN EXPENSE.

12. ALL EXISTING IRRIGATION SYSTEMS SHALL BE KEPT IN OPERATION AT ALL TIMES. IF THE EXISTING SYSTEM IS DAMAGED BY CONTRACTOR, CONTRACTOR SHALL BE RESPONSIBLE FOR IMMEDIATE REPAIR OF SUCH DAMAGE. AFTER EACH REPAIR, ALL HEADS OF THE REPAIRED SYSTEM SHALL BE REMOVED SO THAT THE LINES CAN BE CLEANED OF ALL DIRT AND FOREIGN MATERIALS. INTERIM IRRIGATION BY OTHER MEANS WILL ONLY BE ALLOWED IF ACCEPTABLE TO THE CITY'S AUTHORIZED REPRESENTATIVE AND APPROVED IN WRITING. WRITTEN APPROVAL MUST INCLUDE DURATION AND METHOD OF INTERIM IRRIGATION.

13. UPON COMPLETION OF THE WORK, REMOVE ALL EXCESS MATERIALS, EQUIPMENT AND WASTE.

14. ALL IRRIGATION HEADS ADJACENT TO WALKWAYS SHALL BE POP-UPS.

15. ALL PIPE UNDER PAVED AREAS SHALL BE INSTALLED IN A SCH. 40 SLEEVE TWICE THE DIAMETER OF THE PIPE CARRIED. ALL WIRE UNDER PAVED AREAS SHALL BE INSTALLED IN A SCH. 40 SLEEVE AT THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES SHALL BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN IN THE SLEEVE TRENCHING DETAIL. SLEEVES SHALL EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING. ALL SLEEVES SHALL BE AS SHOWN ON THE PLANS. SLEEVING INSTALLATION SHALL BE PRIOR TO PAVING INSTALLATION.

16. CONTRACTOR SHALL PROVIDE A WILKINS BACKFLOW PREVENTER PER CITY STANDARDS.

17. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE BY THE CITY'S AUTHORIZED REPRESENTATIVE TIME OF SAID REJECTION.

18. PROVIDE PVC SCHEDULE 40 CONDUIT FOR CONTROLLER WIRES WHEREVER CONNECTIONS BETWEEN ELECTRIC VALVES AND CONTROLLER PASS THROUGH OR UNDER MASONRY, PAVING, ETC.

19. ALL HEADS SHALL BE INSTALLED WITH NOZZLE, SCREEN, AND ARCS SHOWN ON THE PLANS. ALL HEADS SHALL BE ADJUSTED TO PREVENT OVERSPRAY ONTO WALLS, FENCES, AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREW, REPLACEMENT OF PRESSURE COMPENSATION SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.

20. GENERAL CONTRACTOR SHALL COORDINATE WITH IRRIGATION CONTRACTOR AS TO THE LOCATION AND IDENTIFICATION OF ALL CAPPED IRRIGATION MAINLINE AND REMOTE CONTROL ELECTRICAL WIRES. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS SHOWING THE LOCATIONS OF ALL CUT CAPPED AND DAMAGED IRRIGATION COMPONENTS.

21. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL EXISTING IRRIGATION MAINLINE IN THE FIELD PRIOR TO NEW IRRIGATION.

22. FOR AREAS TO RECEIVE NEW IRRIGATION, THE CONTRACTOR SHALL INSTALL IRRIGATION EQUIPMENT PER PLAN. PROVIDE NEW REMOTE CONTROL VALVES AND CONNECT TO EXISTING MAINLINE.

23. IRRIGATION SYSTEM DESIGNED FOR SINGLE RCV RUN TIME ONLY. DO NOT SCHEDULE CONTROLLER TO RUN MULTIPLE RCV'S SIMULTANEOUSLY.

24. ACTUAL LOCATION FOR THE INSTALLATION OF THE CONTROLLER SHALL BE VERIFIED IN THE FIELD AND IN COORDINATION WITH THE CITY OF SANTA ANA'S AUTHORIZED REPRESENTATIVE.

25. THE SPRINKLER INSTALLATION ADJUSTMENTS SHALL BE DEEMED INCOMPLETE UNTIL ALL DRIPLINE, SPRINKLER HEADS, VALVES, AND ALL RELATED IRRIGATION EQUIPMENT HAVE BEEN CHECKED AND ADJUSTED TO BEST CONFORM TO THE CONDITIONS AND REQUIREMENTS THAT WILL PREVAIL AT THE FINISHED SITE.

Underground Service Alert
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TWO WORKING DAYS
BEFORE YOU DIG

NOTICE TO CONTRACTOR

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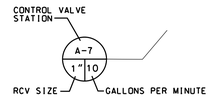
IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NUMBER	GPM	PSI	NOTES
	BUBBLER ON RISER FOR PALMS	RAINBIRD	1402-PA-80	0.50	30	PROVIDE 2 BUBBLERS PER PALM
	POP-UP BUBBLER	RAINBIRD	1804-1402 WITH PA-80	0.50	30	PROVIDE 2 BUBBLERS PER TREE
	DRIPLINE	RAINBIRD	XFS-06-18	.6 GPH	30	INSTALL PER DETAILS AND PER MANUFACTURER'S RECOMMENDATION. PROVIDE ALL NECESSARY FITTINGS, STAKES AND EQUIPMENT FOR COMPLETE DRIPLINE SYSTEM. 500' COIL LENGTH. LOCATE AT THE LOWEST POINT OF THE DRIPLINE ZONE. INSTALL INSIDE A ROUND VALVE BOX.
	FLUSH VALVE	NETAFIM	TLO50MFV-1			
	DRIP AIR RELIEF VALVE	RAINBIRD	ARV050			LOCATE AT THE HIGHEST POINT(S) OF THE DRIPLINE ZONE. INSTALL THE VALVE IN AN EXHAUST HEADER OR A LINE THAT RUNS PERPENDICULAR TO THE LATERAL ROWS TO ENSURE ALL ROWS OF THE DRIPLINE CAN TAKE ADVANTAGE OF THE AIR/VACUUM RELIEF VALVE. INSTALL INSIDE A ROUND VALVE BOX.
	ET GAUGE AND RAIN SENSOR	CALSENSE	ETG			CONTACT ERIN HAGEN AT CALSENSE FOR INSTALLATION REQUIREMENTS. (760)580-1835. ERINH@CALSENSE.COM. VERIFY EXACT LOCATION IN FIELD.
	REMOTE CONTROL VALVE	RAINBIRD	EFB-CP SERIES			SIZE PER PLAN
	DRIPLINE REMOTE CONTROL VALVE	RAINBIRD	XCZ-PRB-100-COM W/ 200 MESH STAINLESS STEEL SCREEN (OKCHK200M)			SIZE PER PLAN
WM	WATER METER	APPROVED	NEW 2" WATER METER. COORDINATE WITH CITY OF SANTA ANA'S AUTHORIZED REPRESENTATIVE FOR EXACT LOCATION. TIE INTO CITY WATER SERVICE AND INSTALL PER CITY STANDARD PLAN 1402.			
	BALL VALVE	NIBCO	T-585-70			LINE SIZE
BS	BASKET STRAINER	HAYWARD	72 SIMPLEX BASKET STRAINER BRONZE BODY (2")			200 MESH STAINLESS STEEL SCREEN
BF	BACKFLOW ASSEMBLY	WILKINS	2" 975L REDUCE PRESSURE BACKFLOW PREVENTER WITH LE MEUR VANDAL-PROOF EXPANDED MESH ENCLOSURE KIT			INSTALL PER MANUFACTURER'S RECOMMENDATION. VERIFY LOCATION WITH CITY OF SANTA ANA'S AUTHORIZED REPRESENTATIVE.
MV	MASTER VALVE	GRISWOLD	2000 SERIES			NORMALLY CLOSED. LINE SIZE
FS	FLOW SENSOR	CALSENSE	FM-1.25B SERIES			
	QUICK COUPLER VALVE	RAINBIRD	44 LRC (1")			
	CONTROLLER	RAINBIRD	ESP-ME3 CONTROLLER INSTALL IN A MYERS ENCLOSURE MEUG20-TS			VERIFY EXACT LOCATION IN FIELD.
	LATERAL LINE	PVC SCH. 40	SCH 40 PVC (NON-PRESSURIZED) LATERAL LINE. BURY 12" BELOW FINISH GRADE. SIZE AS NOTED ON PLAN.			SIZE PER PLAN
	MAIN LINE	PVC SCH. 40/CL 315	1 1/2" AND SMALLER TO BE SCH 40 PVC PIPE 2" AND LARGER TO BE CLASS 315 PVC PIPE			SIZE PER PLAN
	SCH 40 PVC CONDUIT SLEEVE. 1 1/2" DIA. MIN. FOR BUBBLERS. 2" DIA. MIN. FOR DRIPLINE. 4" DIA. MIN. FOR MAINLINE. INSTALL 36" DEEP PRIOR TO ROADWAY PAVING AND EXTEND 12" MIN. PAST EDGE OF PAVING (SIZE AS INDICATED ON PLAN).					
E	NEW ELECTRICAL METER COORDINATE WITH CITY OF SANTA ANA'S AUTHORIZED REPRESENTATIVE FOR EXACT LOCATION. CONTRACTOR TO COORDINATE WITH THE CITY'S REPRESENTATIVE AND MUST PROVIDE CONDUIT, WIRES, ETC... TO BE READY TO HAVE SERVICE CONNECTION BY THE CITY OF SANTA ANA. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OF THE ABOVE.					
WM	EXISTING WATER METER					
	EXISTING GATE VALVE					
BF	EXISTING BACKFLOW ASSEMBLY					
MV	EXISTING MASTER VALVE					
FS	EXISTING FLOW SENSOR					
	EXISTING CONTROLLER					
	EXISTING ET GAUGE AND RAIN SENSOR					

VALVE CALLOUT



BRANDING GUIDE

RCV	REMOTE CONTROL VALVE
A-1, A-2, ETC	
COMM	COMMUNICATION SPLICES
GR	GROUNDING ROD
MV	MASTER VALVE
FS	FLOW SENSOR
GV	GATE VALVE
BS	BASKET STRAINER
MS	MOISTURE SENSOR
SB	SPLICE BOX
QC	QUICK COUPLER
FV	FLUSH VALVE
AV	AIR RELIEF VALVE

26. THE INSTALLATION AND OPERATION OF THE SYSTEM MUST BE COMPLETE AND FULLY OPERATIONAL PRIOR TO TURNING OVER TO CITY OF SANTA ANA'S MAINTENANCE PERSONNEL.

27. THE IRRIGATION CONTRACTOR SHALL GUARANTEE THE ENTIRE SPRINKLER SYSTEM AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A MAINTENANCE PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY CITY OF SANTA ANA'S AUTHORIZED REPRESENTATIVE. SHOULD ANY REPAIRS BE NECESSARY DURING THE MAINTENANCE PERIOD DUE TO DEFECTIVE MATERIALS OR WORKMANSHIP, CONTRACTOR SHALL REPAIR AT HIS OWN EXPENSE.

28. THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE TO BE AS STATED ON THE SYSTEM REQUIREMENTS. SHOULD THE STATIC PRESSURE EXCEED 20% OF THE DESIGN PRESSURE. INSTALL A WILKINS 600 SERIES PRESSURE REGULATING VALVE (IN A SEPARATE VALVE BOX) DIRECTLY DOWNSTREAM OF THE IRRIGATION P.O.C. SET THE REGULATING VALVE AT 15% HIGHER THAN THE STATED SYSTEM REQUIREMENTS. SHOULD THE STATIC PRESSURE BE LESS THAN THE STATED PRESSURE, NOTIFY THE CITY'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO THE START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

29. CONTRACTOR SHALL COORDINATE AND PROVIDE ELECTRICAL POWER TO THE CONTROLLER. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO COORDINATE ELECTRICAL SERVICE WITH GENERAL CONTRACTOR AND TO MAKE THE FINAL CONNECTION FROM ELECTRICAL SERVICE TO THE FREE STANDING CONTROLLER.

30. ALL ONSITE VALVES, VALVE BOXES, VALVE MARKERS, HEADS, DRIPLINE, PIPING, AND POWER SUPPLIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF SANTA ANA WATER RULES AND REGULATIONS.

31. REFER TO THE CITY OF SANTA ANA WATER DISTRICT RULES AND REGULATIONS USE OF DOMESTIC WATER AND LOCAL BUILDING CODES.

32. ALL VALVES, COUPLER BOXES, AND LIDS ARE TO STANDARD GREEN. TAG EQUIPMENT PER THE CITY'S WATER DISTRICT STANDARDS.

33. INSTALL ALL VALVE BOXES, METERS, BACKFLOW PREVENTER BEHIND SIDEWALK, OUT OF VIEW.

34. CONTRACTOR TO RUN 2 EXTRA FIELD WIRES PLUS ONE COMMON WIRE FROM CONTROLLER TO LAST REMOTE CONTROL VALVES ON ALL MAINLINE. WIRES TO BE OF DIFFERENT COLOR AND COILED IN LAST REMOTE CONTROL VALVE BOX.

35. CONTROLLER CHART LABELED ON SITE BY INSTALLING LANDSCAPE CONTRACTOR TO LIST REMOTE CONTROL VALVE NUMBER AND DESCRIBES AREA PER VALVE.

SHT-XXNN-NNNN-ROO.DGN

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IRRIGATION DETAIL ID01

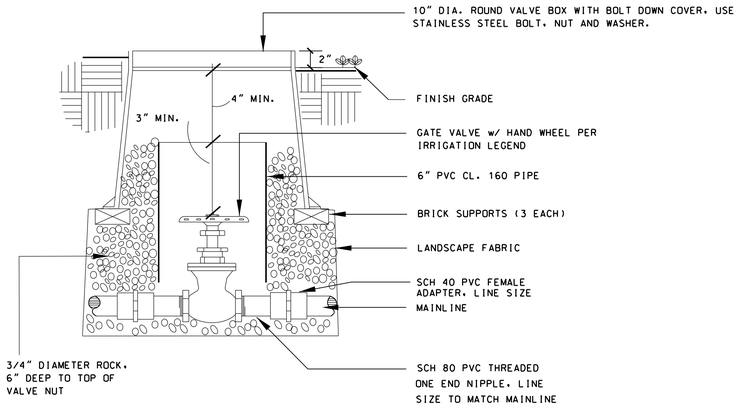
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

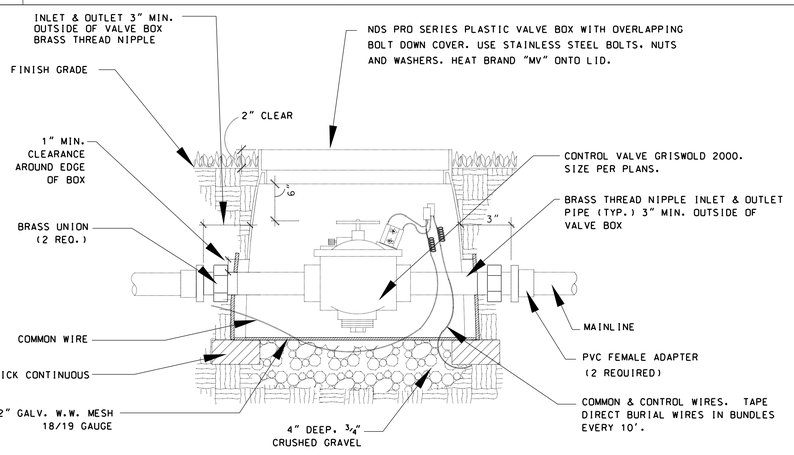
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 28 OF 38

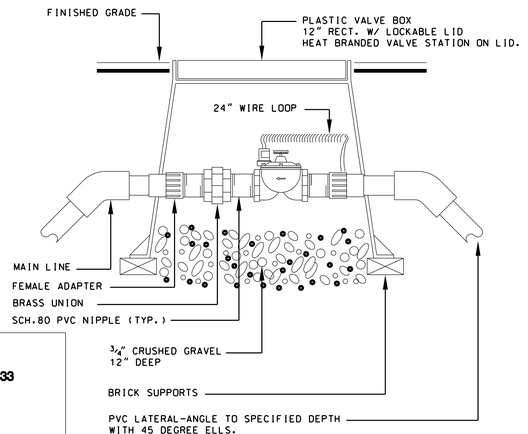
PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)



3 GATE VALVE NTS



6 MASTER VALVE NTS



9 REMOTE CONTROL VALVE NTS

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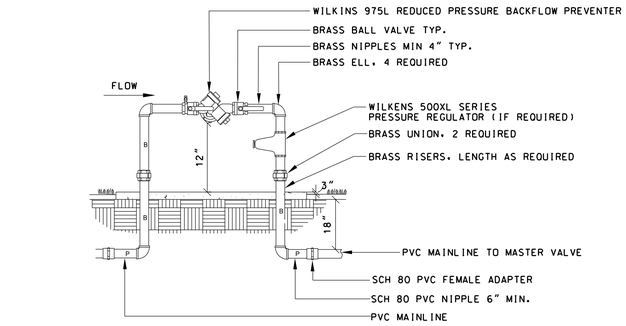
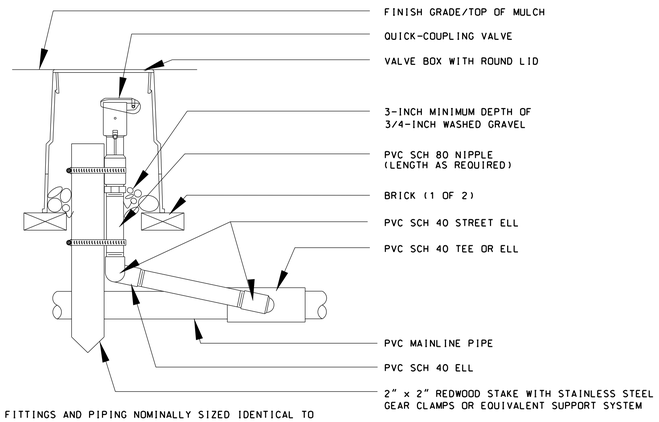


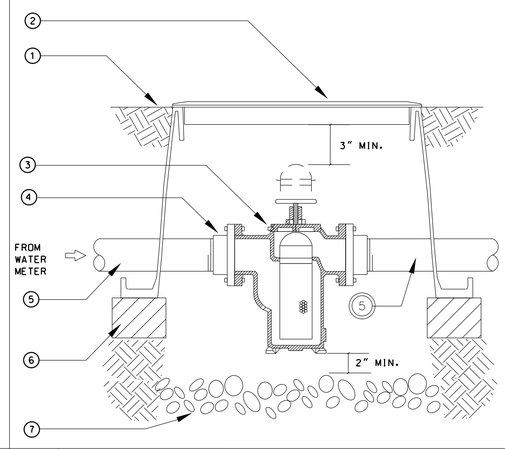
NOTE:
1. PLACE DEVICE IN PLANTER AREAS WHERE POSSIBLE

5 REDUCED PRESSURE BACKFLOW PREVENTER NTS



NOTE:
FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

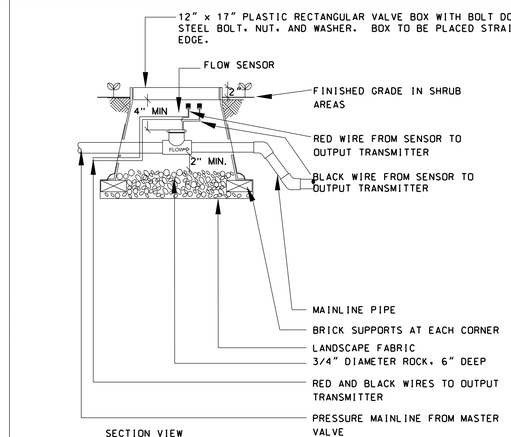
8 QUICK COUPLER NTS



1. FINISH GRADE
2. PLASTIC VALVE BOX WITH LID
3. BASKET STRAINER
4. FIPT x FLANGE ADAPTER
5. SCH. 40 PURPLE PIPE
6. BRICK SUPPORTS THREE (3) EACH
7. 3/4" CRUSHED GRAVEL SUMP
8. 200 MESH STRAINER

NOTES:
1. TOP OF VALVE BOX LID SHALL BE 2" ABOVE GRADE IN SHRUB AREAS.
2. LID SHALL BE BRANDED AS "BS".

4 BASKET STRAINER NTS



NOTES:
1. INSTALL FLOW SENSOR PURSUANT TO THE MANUFACTURER'S RECOMMENDATIONS AND CONNECT WIRE TRANSMITTER TO THE IRRIGATION CONTROLLER.
2. THE MAINLINE PIPE SHALL NOT CHANGE SIZE OR DIRECTION CLOSER TO 5 FEET UPSTREAM OR 3 FEET DOWNSTREAM OF THE FLOW SENSOR.
3. USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH ON THE DOWNSTREAM SIDE OF THE FLOW SENSOR.
4. FLOW SENSOR MANUFACTURER AND MODEL NUMBER PER IRRIGATION LEGEND.

7 FLOW SENSOR NTS

SHT-XXNN-NNNNN-ROO.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

IRRIGATION DETAIL ID02

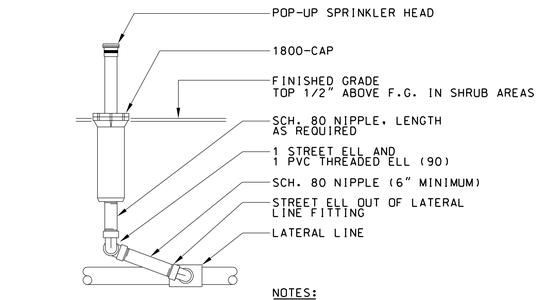
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 29 OF 38

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

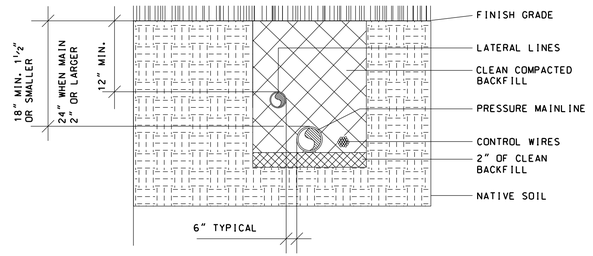


PROVIDE 2 BUBBLERS PER TREE

NOTES:

1. HEAD SHALL BE INSTALLED:
   2" FROM ALL CURBING
   4" FROM ALL WALKWAYS
2. SWING JOINT ASSEMBLY SHALL BE SIZED PER SPRINKLER INLET SIZE

3 POP-UP BUBBLER FOR TREES EXCEPT PALMS NTS

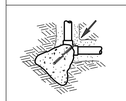
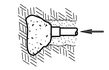
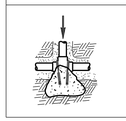


SECTION VIEW - N.T.S.

NOTE:

1. 36" MIN DEPTH FOR MAINLINE UNDER ROADWAY AND PAVING
2. ALL PLASTIC PIPING SHALL BE SNAKED WITHIN TRENCH.
3. BUNDLE WIRING AND WRAP WITH TAPE AT TEN FOOT INTERVALS.
4. BACKFILL SHALL BE 95% COMPACTED.
5. ALL MAINLINE PIPING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS AND CITY STANDARDS.

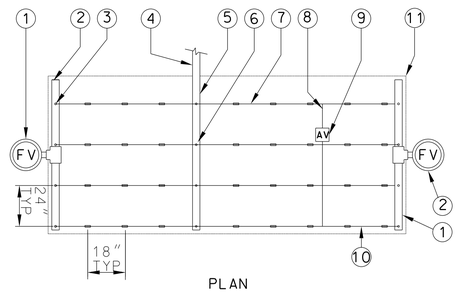
2 TRENCHING DETAIL NTS

INSTALLATION	TYPE FITTING	INSTALLATION	TYPE FITTING
	90° ELL		DEAD END
	45° BEND 22.5° 11.25°		GATE VALVE
	TEE		VERTICAL BEND (TYPE I) 45° 22.5° 11.25° OR VERTICAL BEND (TYPE II) 45° 22.5° 11.25°

NOTES:

1. MIN. 1 CF PCC FOR PIPE 2½" AND SMALLER.
2. MIN. 2 CF PCC FOR PIPE 3" AND LARGER.
3. USE #10 REINFORCING BAR WHERE SHOWN (⎍).

1 THRUST BLOCKS NTS

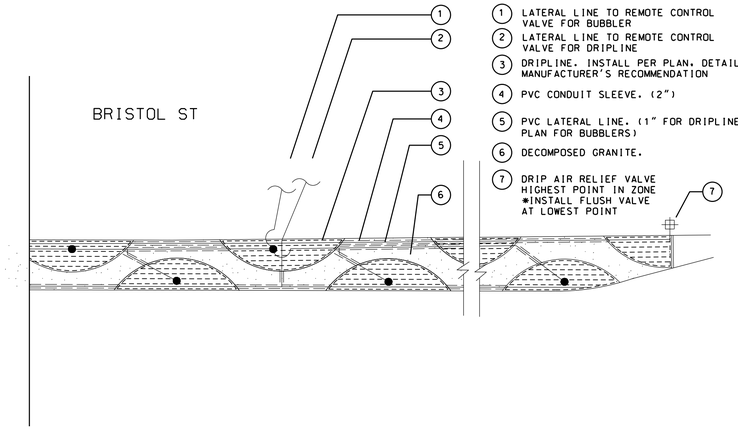


PLAN

NOTE:
THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH.

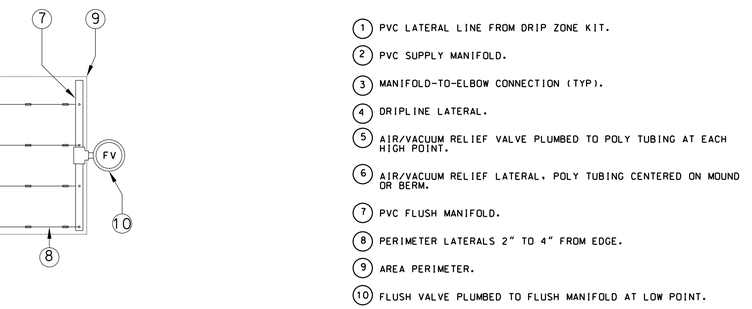
1. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT.
2. PVC FLUSH MANIFOLD.
3. MANIFOLD-TO-ELBOW CONNECTION (TYP).
4. PVC LATERAL LINE FROM DRIP ZONE KIT.
5. PVC SUPPLY MANIFOLD.
6. MANIFOLD-TO-TEE CONNECTION.
7. DRIPLINE LATERAL.
8. AIR/VACUUM RELIEF LATERAL. CENTERED ON MOUND OR BERM.
9. AIR/VACUUM RELIEF VALVE PLUMBED TO POLY TUBING AT EACH HIGH POINT.
10. PERIMETER LATERALS 2" TO 4" FROM EDGE.
11. AREA PERIMETER.

5 CENTER-FEED LAYOUT NTS



1. LATERAL LINE TO REMOTE CONTROL VALVE FOR BUBBLER
2. LATERAL LINE TO REMOTE CONTROL VALVE FOR DRIPLINE
3. DRIPLINE. INSTALL PER PLAN, DETAILS, AND MANUFACTURER'S RECOMMENDATION
4. PVC CONDUIT SLEEVE. (2")
5. PVC LATERAL LINE. (1" FOR DRIPLINE. SIZE PER PLAN FOR BUBBLERS)
6. DECOMPOSED GRANITE.
7. DRIP AIR RELIEF VALVE HIGHEST POINT IN ZONE *INSTALL FLUSH VALVE AT LOWEST POINT

4 TYPICAL MEDIAN DRIPLINE LAYOUT NTS

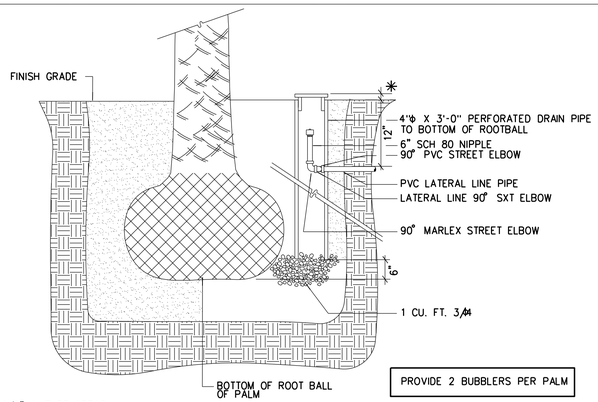


PLAN

1. PVC LATERAL LINE FROM DRIP ZONE KIT.
2. PVC SUPPLY MANIFOLD.
3. MANIFOLD-TO-ELBOW CONNECTION (TYP).
4. DRIPLINE LATERAL.
5. AIR/VACUUM RELIEF VALVE PLUMBED TO POLY TUBING AT EACH HIGH POINT.
6. AIR/VACUUM RELIEF LATERAL. POLY TUBING CENTERED ON MOUND OR BERM.
7. PVC FLUSH MANIFOLD.
8. PERIMETER LATERALS 2" TO 4" FROM EDGE.
9. AREA PERIMETER.
10. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT.

NOTE:
THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH.

7 END FEED LAYOUT NTS



PROVIDE 2 BUBBLERS PER PALM

* 1/2" IN TURF AREAS
  2" IN GROUNDCOVER AREAS
  SEE SHEET LD-01, DETAIL 3 FOR PALM TREE PLANTING

6 PALM TREE IRRIGATION NTS

Underground Service Alert of Southern California
CALL: TOLL FREE 1-800-422-4133
TWO WORKING DAYS BEFORE YOU DIG

NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 3019 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS AN INQUIRY I.D. NUMBER FROM "UNDERGROUND SERVICE ALERT" (1-800-422-4133) AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER DESIGNED:IG DRAWN:DP CHECKED:GC	DATE 06/2024 06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

IRRIGATION DETAIL ID03

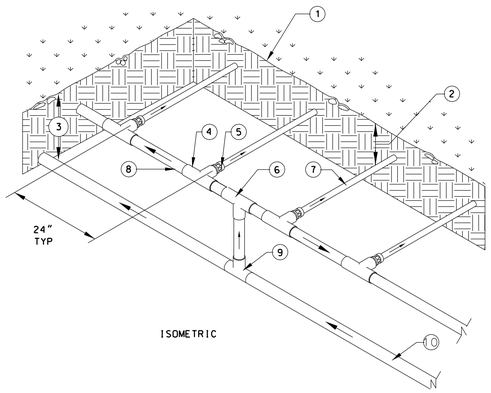
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 30 OF 38

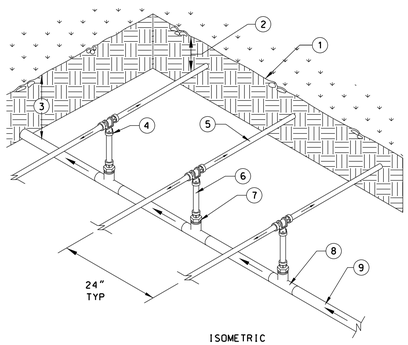
PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)



ISOMETRIC

1. FINISH GRADE.
2. DEPTH OF TUBING PER SPECIFICATIONS.
3. DEPTH OF PVC SUPPLY MANIFOLD PER SPECIFICATIONS.
4. PVC CROSS (SxSxT).
5. 1/2" MPT ADAPTER.
6. PVC TEE (SxSxS).
7. DRIPLINE LATERAL.
8. PVC SUB-MANIFOLD.
9. PVC TEE (SxSxS).
10. PVC SUPPLY MANIFOLD FROM DRIP ZONE KIT.

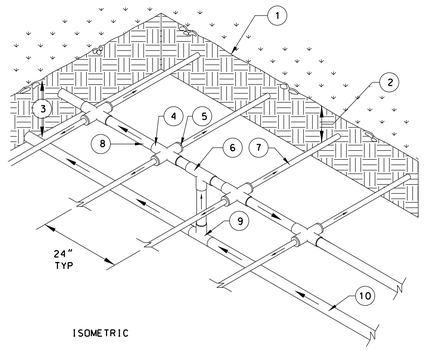
3 SUB-MANIFOLD END FEED NTS



ISOMETRIC

1. FINISH GRADE.
2. DEPTH OF TUBING PER SPECIFICATIONS.
3. DEPTH OF PVC SUPPLY MANIFOLD PER SPECIFICATIONS.
4. TEE.
5. DRIPLINE LATERAL.
6. POLY TUBING, LENGTH AS NECESSARY.
7. 1/2" MTP ADAPTER
8. PVC TEE (SxSxT) WITH 1/2" FPT OUTLET.
9. PVC SUPPLY MANIFOLD FROM DRIP ZONE KIT.

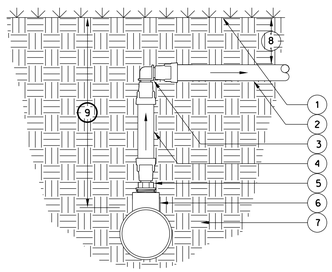
2 MANIFOLD CENTER FEED NTS



ISOMETRIC

1. FINISH GRADE.
2. DEPTH OF TUBING PER SPECIFICATIONS.
3. DEPTH OF PVC SUPPLY MANIFOLD PER SPECIFICATIONS.
4. PVC CROSS (SxSxSxS).
5. COMPRESSION ADAPTER.
6. PVC TEE (SxSxS).
7. DRIPLINE LATERAL.
8. PVC SUB MANIFOLD.
9. PVC TEE (SxSxS).
10. PVC SUPPLY MANIFOLD FROM DRIP ZONE KIT.

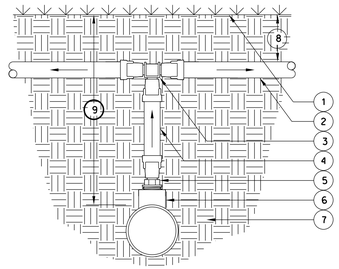
1 SUB-MANIFOLD CENTER FEED NTS



SECTION/ELEVATION

1. FINISH GRADE.
2. DRIPLINE LATERAL.
3. PVC TEE.
4. POLY TUBING.
5. 1/2" ADAPTER.
6. PVC TEE (SxSxT) WITH 1/2" FPT OUTLET.
7. NATIVE SOIL BACKFILL PER SPECIFICATIONS.
8. DEPTH OF TUBING PER SPECIFICATIONS.
9. DEPTH OF PVC SUPPLY LINE PER SPECIFICATIONS.

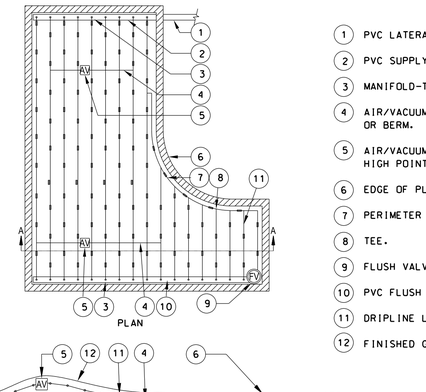
6 MANIFOLD-ELL CONNECTION NTS



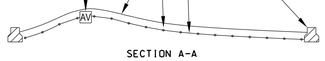
SECTION/ELEVATION

1. FINISH GRADE.
2. DRIPLINE LATERAL.
3. PVC TEE.
4. POLY TUBING.
5. 1/2" ADAPTER.
6. PVC TEE (SxSxT) WITH 1/2" FPT OUTLET.
7. NATIVE SOIL BACKFILL PER SPECIFICATIONS.
8. DEPTH OF TUBING PER SPECIFICATIONS.
9. DEPTH OF PVC SUPPLY LINE PER SPECIFICATIONS.

5 MANIFOLD-TEE CONNECTION NTS



PLAN

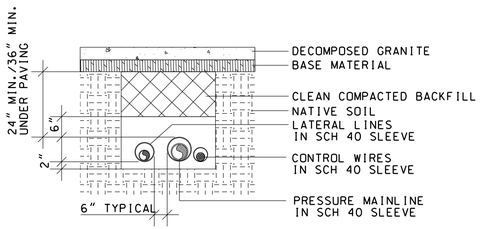


SECTION A-A

1. PVC LATERAL LINE FROM DRIP ZONE KIT.
2. PVC SUPPLY MANIFOLD.
3. MANIFOLD-TO-ELBOW CONNECTION (TYP).
4. AIR/VACUUM RELIEF LATERAL, POLY TUBING CENTERED ON MOUND OR BERM.
5. AIR/VACUUM RELIEF VALVE PLUMBED TO POLY TUBING AT EACH HIGH POINT.
6. EDGE OF PLANTER.
7. PERIMETER LATERALS 2" TO 4" FROM EDGE.
8. TEE.
9. FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT.
10. PVC FLUSH MANIFOLD.
11. DRIPLINE LATERAL.
12. FINISHED GRADE.

NOTE:
THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH.

4 IRREGULAR PLANTER LAYOUT NTS

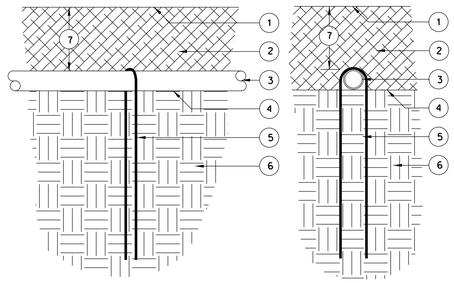


SECTION VIEW - N.T.S.

NOTE:

1. ALL MAINLINE, LATERAL LINES, AND CONTROL WIRES SHALL BE SLEEVED BELOW ALL HARDSCAPE ELEMENTS WITH SCH 40 PVC, 2 TIMES THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. BACKFILL SHALL BE 90% COMPACTION.
3. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION SPECIFICATIONS.

8 SLEEVING DETAIL



NOTE: LOCATE STAPLES ALONG TUBING AT 4'-6' ON CENTER AND AT ALL FITTINGS (TEES, ELLS, ETC.)

ELEVATION SECTION

1. FINISH GRADE OF MULCH LAYER.
2. MULCH TOP DRESSING PER SPECIFICATIONS.
3. DRIPLINE.
4. FINISH GRADE.
5. STEEL SOIL STAPLES.
6. NATIVE SOIL PER SPECIFICATIONS.
7. DEPTH OF MULCH PER SPECIFICATIONS AND PLANTING PLAN.

7 STEEL SOIL STAPLE NTS

Underground Service Alert
of Southern California
CALL: TOLL FREE 1-800-422-4133
TWO WORKING DAYS
BEFORE YOU DIG

NOTICE TO CONTRACTOR

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SHT-XXNN-NNNN-R00.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

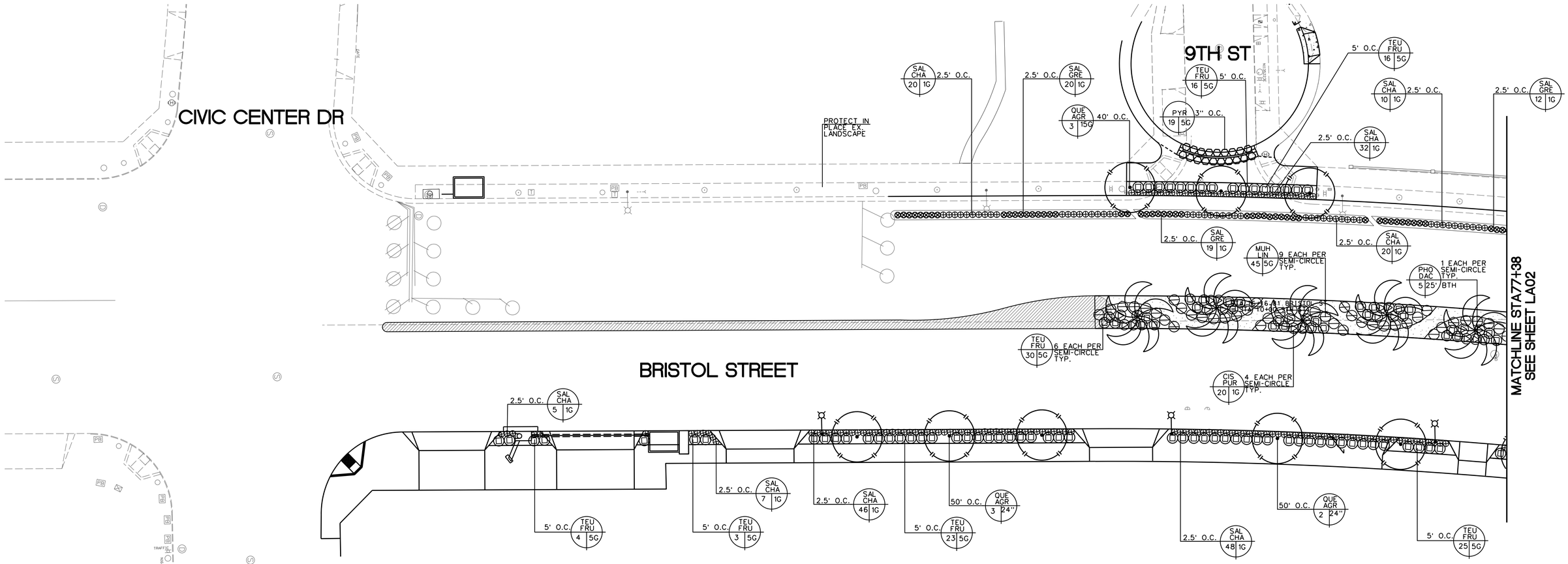
IRRIGATION DETAIL ID04

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)



PLANT LIST

SYM	LOCATION	ABV.	SIZE	BOTANICAL NAME	COMMON NAME	QTY.
	MEDIANS					
	MEDIAN	PHO DAC	25'TH	PHOENIX DACTYLIFERA	DATE PALM	22
	MEDIAN	TEU FRU	5 GAL	TEUCRIUM FRUTICANS 'AZUREUM'	AZURE BUSH GERMANDER	139
	MEDIAN	CIS PUR	5 GAL	CISTUS X PURPUREUS	PURPLE ROCK ROSE	92
	MEDIAN	MUH LIN	5 GAL	MUHLENBERGIA LINDHEIMERI 'LENI'	AUTUMN GLOW MUHLY	207
	MEDIAN "NOSES"	MYO PAR	5 GAL	MYOPORUM PARVIFOLIUM	CREEPING BOOBIALLA	2373 SF
	PARKWAY AND CYCLETRACK LANDSCAPING					
	PARKWAY	QUE AGR	24" BOX	QUERCUS AGRIFOLIA	COAST LIVE OAK	45
	CYCLETRACK	SAN GRE	5 GAL	SALVIA GREGGII 'ALBA'	WHITE AUTUMN SAGE	383
	PARKWAY/ CYCLETRACK	SAL CHA	1 GAL	SALVIA CHAMAEDRYOIDES	MEXICAN BLUE SAGE/ GERMANDER SAGE	1121
	PARKWAY	CUP	24" BOX	CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS	60
	PARKWAY	LAV	1 GAL	LAVADULA STOECHAS 'LEMON LEIGH'	LEMON LEIGH SPANISH LAVENDER	346
	PARKWAY	SAN	1 GAL	SANTOLINA CHAMAECYPARISSUS	LAVENDER COTTON	326
	PARKWAY	TEU FRU	5 GAL	TEUCRIUM FRUTICANS 'AZUREUM'	AZURE BUSH GERMANDER	443
	CDS/ SOUNDWALL	PYR	5 GAL	PYRACANTHA	FIRETHORN	92

LEGEND

SYM
SIZE
QTY

DG

MEDIAN NOSE PLANTING, PER PLANT LIST.

PLANTING NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.
2. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS SHOWN WHEN IT IS OBVIOUS THAT UNKNOWN CONDITIONS AND/OR OBJECTS EXIST THAT MAY NOT HAVE BEEN KNOWN DURING THE PREPARATION OF THIS PLAN. SUCH CONDITIONS OR OBJECTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
3. ALL EXISTING IMPROVEMENTS, MATERIALS, AND PLANT MATERIAL IS TO REMAIN IN THE CONSTRUCTION AREA, AND SHALL BE PROPERLY AND ADEQUATELY PROTECTED FROM DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY EXISTING ITEMS DAMAGED OR DISTURBED AS APPROVED BY THE CITY AT NO ADDITIONAL COST TO THE CITY.
4. CONTRACTOR SHALL VISIT SITE PRIOR TO BID. NO CHANGE IN CONTRACT PRICE WILL BE ALLOWED FOR ACTUAL OR CLAIMED DISCREPANCIES BETWEEN EXISTING SITE CONDITIONS, AND THOSE SHOWN ON PLANS.
5. PLANT QUANTITIES INDICATED IN PLANT LIST SHALL BE VERIFIED BY CONTRACTOR FROM PLAN PRIOR TO BID. CONTRACTOR TO PROVIDE AND INSTALL ALL PLANTS INDICATED ON PLANS.
6. ALL SOIL PREPARATION MATERIALS ARE TO BE STOCKPILED ON SITE AND APPROVED BY CITY FOR QUANTITY AND MATERIALS PRIOR TO INSTALLATION.
7. ALL TREES WITHIN 5 FT OF PAVING TO BE INSTALLED WITH APPROVED DEEP ROOT BARRIER.
8. FINISH GRADE FOR SHRUB AND GROUND COVER AREAS TO BE 2" BELOW ALL WALKS, CURBS AND PAVING.
9. CONTRACTOR TO GUARANTEE ALL TREES FOR A PERIOD OF 3 YEARS FROM DATE OF ACCEPTANCE BY THE CITY. CONTRACTOR TO ALSO GUARANTEE ALL OTHER PLANT MATERIAL FOR 1 YEAR FROM DATE OF ACCEPTANCE. BY THE CITY.
10. BACKFILL MIX, ALL TREES AND SHRUB PITS TO BE BACKFILLED WITH THE FOLLOWING BACKFILL MIX. 6 PART ROCK FREE FROM ON-SITE SOIL. 4 PARTS NITROLIZED WOOD SHAVINGS. 15LBS. GRO-POWER (5-3-1) COMMERCIAL FERTILIZER PER CUBIC YARD OF MIX. (FOR BIDDING PURPOSES ONLY).
11. SOIL PREPARATION. ALL PLANTING AREAS TO HAVE THE FOLLOWING SOIL AMENDMENTS UNIFORMLY TILLED INTO THE TOP 8" OF EXISTING SOIL. QUANTITIES ARE PER 1000 SQ. FT. 3 CUBIC YARDS OF NITROLIZED SHAVINGS. 200 LBS. OF GRO-POWER (5-3-1) COMMERCIAL FERTILIZER. (FOR BIDDING PURPOSES ONLY).
12. PLANT PITS TO BE TWICE AS DEEP AND WIDE AS THE PLANT ROOT BALL. BACKFILL WITH BACKFILL MIX AND COMPACT TO 80 % UNLESS OTHERWISE NOTED. PLACE RECOMMENDED TABLETS BETWEEN THE BOTTOM AND THE TOP OF THE ROOT BALL, BUT NO HIGHER THAN 1/3 OF THE WAY TO THE OF THE ROOT BALL.
13. ALL PROPOSED SHRUB AND GROUND COVER AREAS TO BE TREATED WITH A PRE-EMERGENT HERBICIDE (EPTAM/RONSTAR). APPLY PER MANUFACTURERS RECOMMENDATION, IMMEDIATELY AFTER PLANTING. A SECOND APPLICATION MAY BE APPLIED IF RECOMMENDED BY THE MANUFACTURERS SPECIFICATION.
14. ALL PLANTING AREAS TO RECEIVE GROUND COVER.
15. ALL PLANTING AREAS TO RECEIVE A 2" LAYER OF 3/4" TO 1-1/2" SHREDDED WALK ON BARK. COMPANY NAME IS AGROMIN. TELEPHONE NUMBER IS 1-800 AGROMIN.
16. CONTRACTOR SHALL ENSURE POSITIVE SLOPE AT CENTERLINE OF SWALES, BETWEEN INLET, OUTLET ELEVATIONS AS NOTED ON STREET IMPROVEMENT PLANS, & SHALL REVIEW IN FIELD WITH ENGINEER.
17. ALL PLANT MATERIAL SHALL BE INSTALLED WITH 6" OF EXPOSED WICK EMITTERS.

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROO.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL — PRINCIPAL CIVIL ENGINEER — DATE 06/2024

DESIGNED:IG DRAWN:DP CHECKED:GC 06/2024

REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS — PRINCIPAL CIVIL ENGINEER RCE NO.: 80470 — 06/2024

RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL — PRINCIPAL CIVIL ENGINEER RCE NO.: 62968 — 06/2024

LA01

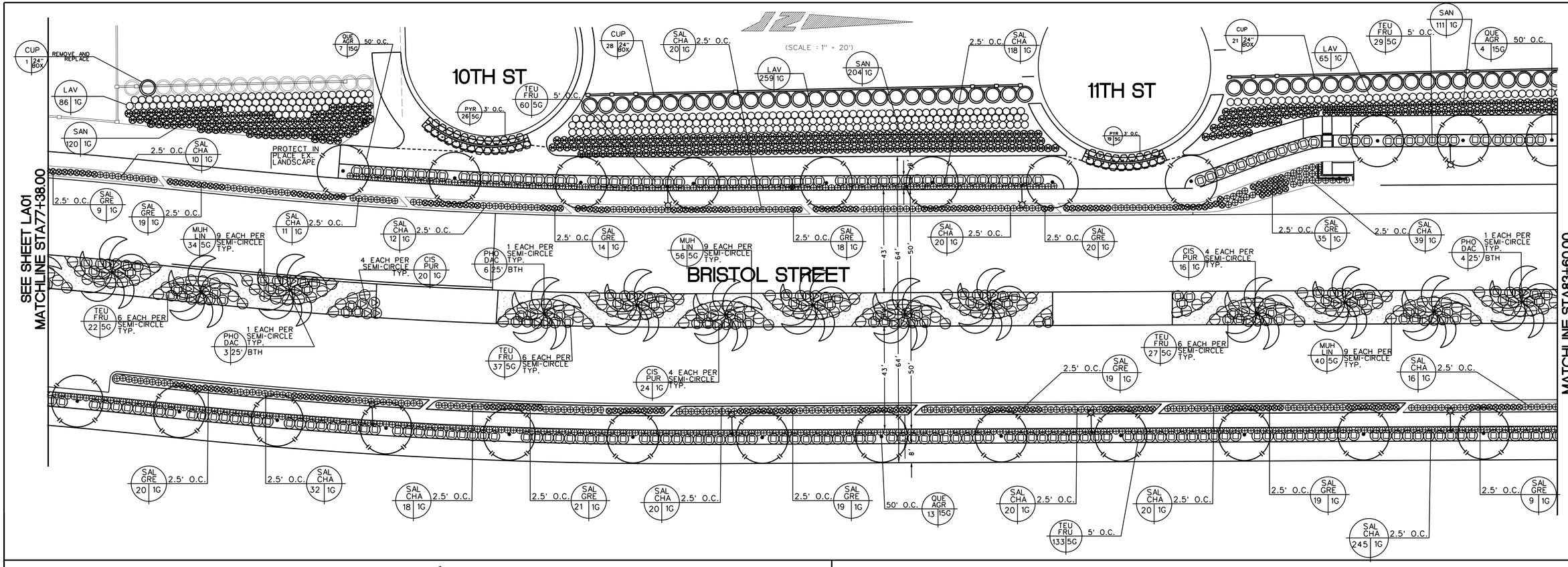
LANDSCAPE PLAN

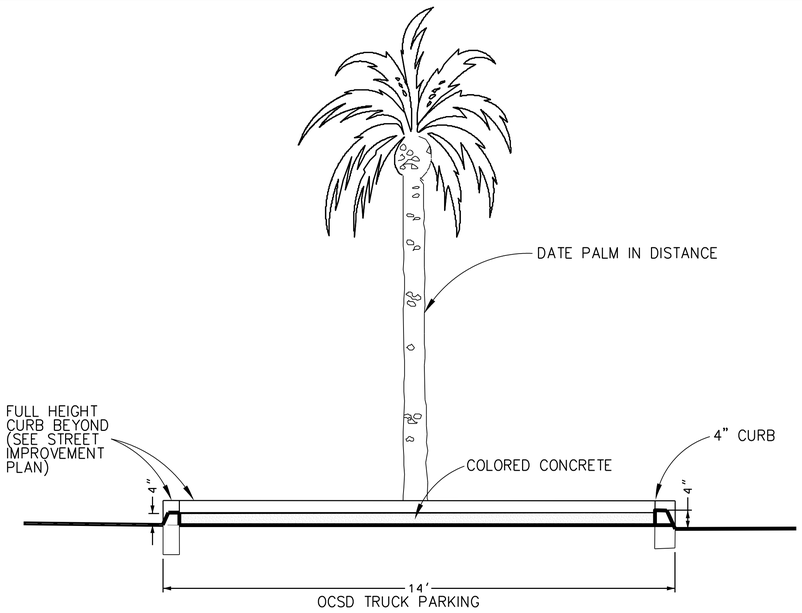
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY

CITY OF SANTA ANA

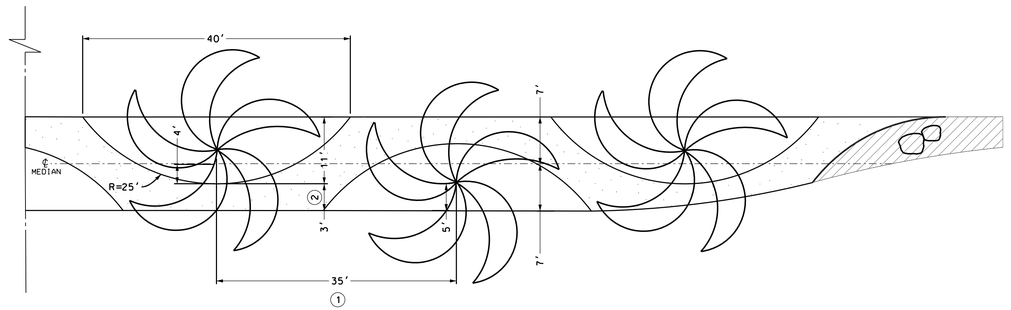




3 SECTION THRU MEDIAN @ OCFD MEDIAN BREAKE

NOTES:

1. PALMS ARE SPACED 35' OC. TYP.. IN NORTH/SOUTH DIRECTION.
2. PLANTING AREA IS BASED ON 25' RADIUS. TANGENT POINT OF CIRCLE IS 3' FROM EDGE OF CURB.



1 ENLARGED MEDIAN PLAN

SHT-XXNN-NNNN-ROO.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	DATE 06/2024
	DESIGNED:IG DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.: 80470	06/2024
RECOMMENDED FOR CONSTRUCTION: JASON GABRIEL	PRINCIPAL CIVIL ENGINEER RCE NO.: 62968	06/2024

LANDSCAPE PLAN

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

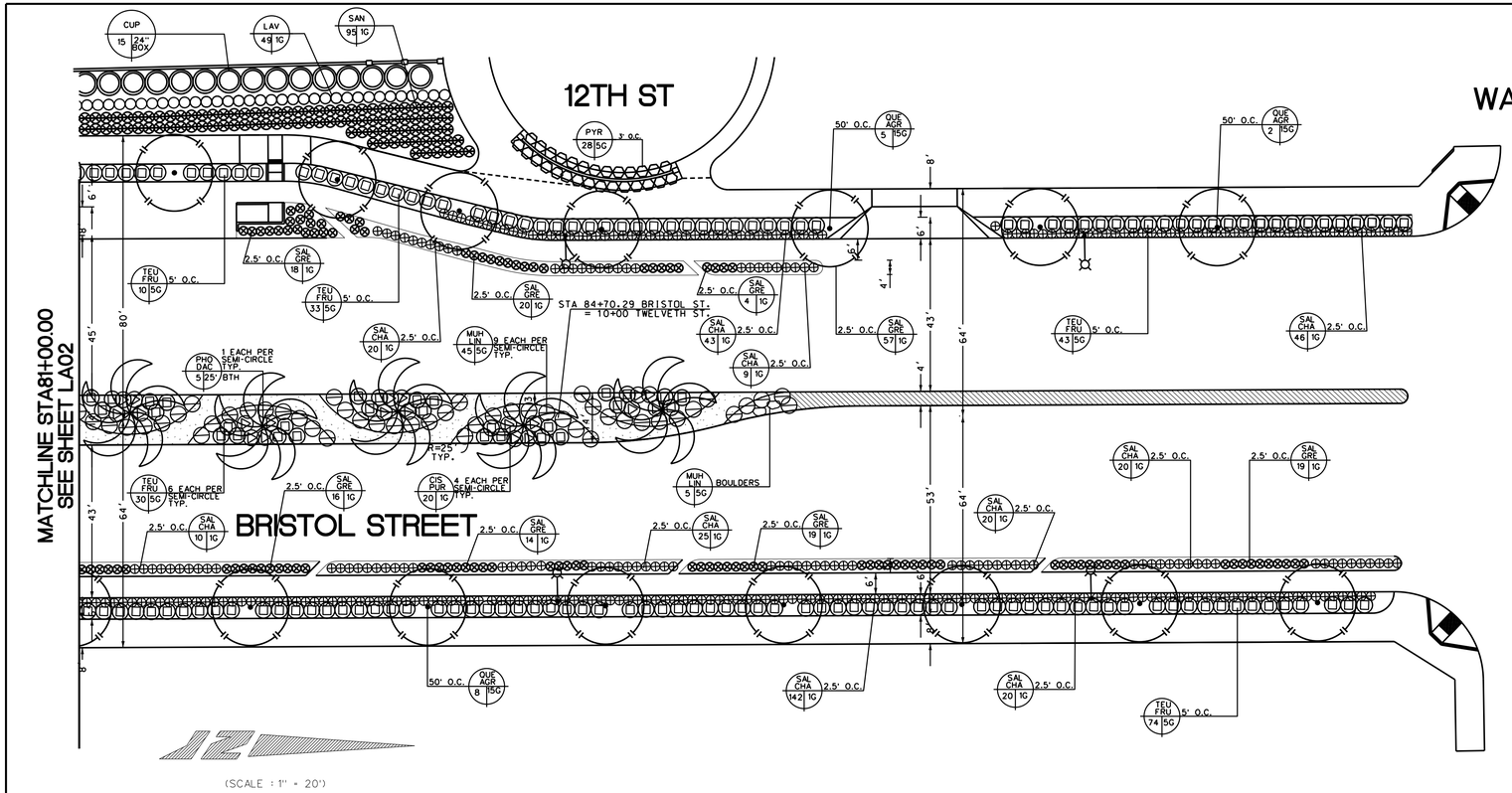
PUBLIC WORKS AGENCY

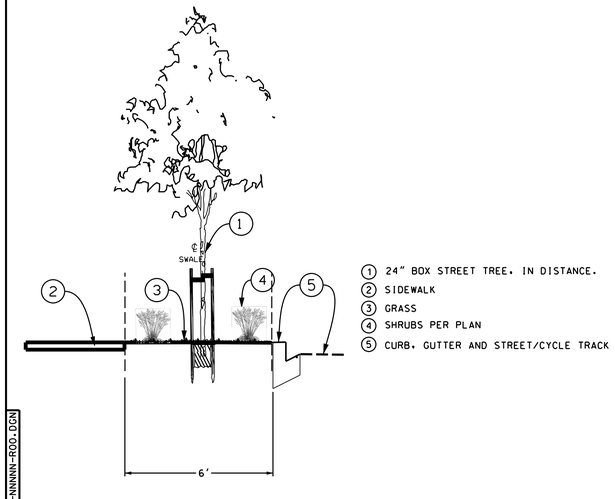
CITY OF SANTA ANA

LA02

SHEET 33 OF 38

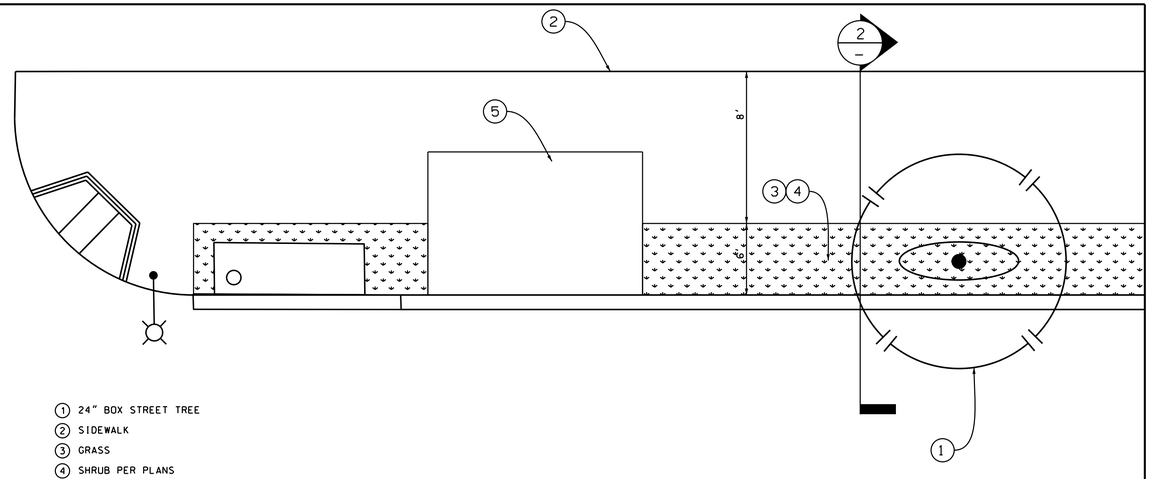
PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEMO6L-5063(146)





1. 24" BOX STREET TREE, IN DISTANCE.
2. SIDEWALK
3. GRASS
4. SHRUBS PER PLAN
5. CURB, GUTTER AND STREET/CYCLE TRACK

2 SECTION AT PARKWAY (TYP.)



1. 24" BOX STREET TREE
2. SIDEWALK
3. GRASS
4. SHRUB PER PLANS
5. MODULAR WETLAND SYSTEM

LEGEND:

- INSTALL LANDSCAPE PER LANDSCAPE PLANS

1 ENLARGED PARKWAY PLAN (TYP.)

SHT-XXNN-NNNNN-ROD.DGN

FILE NO.: ST-07014

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: SA-318-84 ELEV.: 108.285 NAVD88

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

			DATE
PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:			06/2024
JASON GABRIEL	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	

LA03

LANDSCAPE PLAN

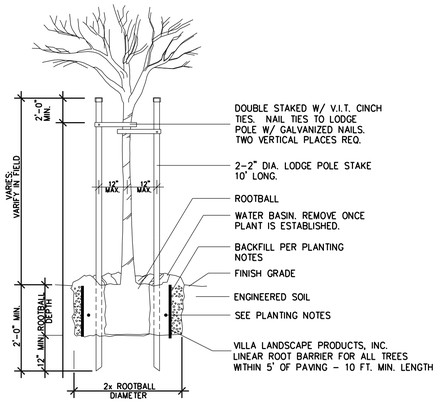
BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

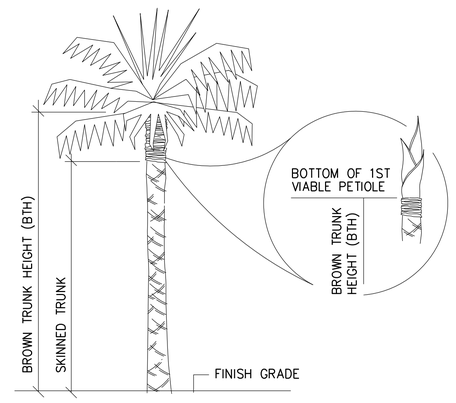
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 34 OF 38

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)



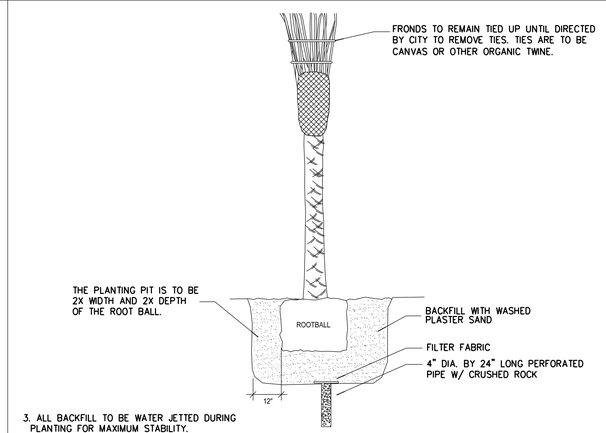
4 TREE STAKING/ ROOT BARRIER N.T.S



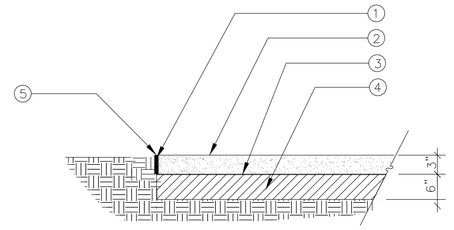
1 PALM TREE TRUNK HEIGHT N.T.S

N.T.S

5 SHRUB PLANTING N.T.S



2 PALM TREE PLANTING & DRAINAGE N.T.S



LEGEND

1. ALUMINUM EDGING BY "CURV-RITE" OR APPROVED EQUAL.
2. DECOMPOSED GRANITE. INSTALLATION PROCEDURES AND FINISH PER SPECIFICATIONS.
3. FILTER FABRIC PER SPECIFICATIONS. TURN UP 2" @ ALL EDGES.
4. 90% COMPACTED SUB-GRADE.
5. FINISH GRADE. FLUSH WITH DECOMPOSE GRANITE. TYP.

6 DECOMPOSE GRANITE W/ ALUMINUM EDGING N.T.S

PROJECT NO. 13-6792: BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE - FEDERAL PROJECT NO. DEM06L-5063(146)

SHT-XXNN-NNNN-ROO.DGN

FILE NO.: ST-07014

REVISIONS					
NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES	
BENCHMARK NO.: SA-318-84	ELEV.: 108.285 NAVD88
CONSTRUCTION COMPLETED:	

REGISTERED PROFESSIONAL ENGINEER JASON GABRIEL RCE NO. 62968 EXP. 6/30/24 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER		DATE 06/2024
JASON GABRIEL	DESIGNED:IG	DRAWN:DP CHECKED:GC	06/2024
REVIEWED FOR CONSTRUCTABILITY:			06/2024
SEAN THOMAS	PRINCIPAL CIVIL ENGINEER	RCE NO.: 80470	
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER	RCE NO.: 62968	06/2024
JASON GABRIEL			

LANDSCAPE DETAIL

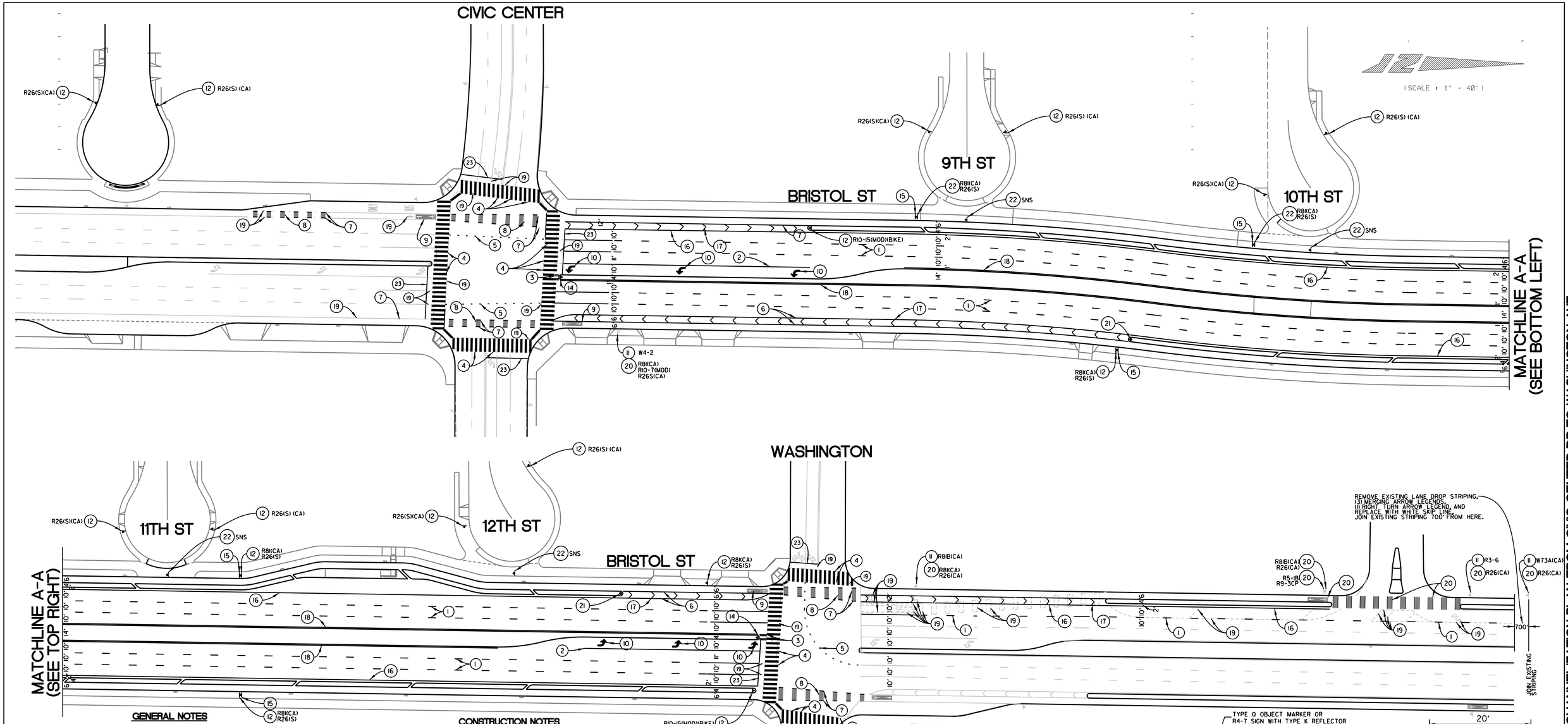
LD01

BRISTOL STREET IMPROVEMENTS

CIVIC CENTER DRIVE TO WASHINGTON AVENUE

PUBLIC WORKS AGENCY

CITY OF SANTA ANA



PROJECT NO. 136792: BRISTOL STREET PROPOSED CHANNELIZATION PLAN FROM CIVIC CENTER DR TO WASHINGTON AVE

SHT-TA01-136792-RNN.DGN

GENERAL NOTES

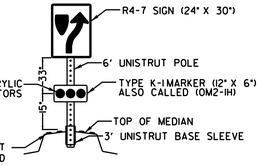
1. ALL STRIPING SHALL CONFORM TO THE CITY OF SANTA ANA STANDARD PLAN NO. 1125 (A THROUGH E). ALL ITEMS OR DETAILS NOT COVERED IN THE CITY STANDARD PLANS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE STATE OF CALIFORNIA STANDARD PLANS AND SPECIFICATIONS DATED 2010.
2. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE SPRAYABLE (THIN MIL) THERMOPLASTIC. ALL CURB MARKINGS AND MEDIAN NOSE MARKINGS SHALL BE PAINT UNLESS NOTED OTHERWISE.
3. ALL CROSSWALKS, LIMIT LINES, AND LEGENDS SHALL BE WHITE UNLESS NOTED OTHERWISE.
4. ALL NEW SIGNS MUST BE INSTALLED ON NEW 2"x2" PERFORATED AND GALVANIZED METAL POSTS UNLESS NOTED OTHERWISE. ALL SALVAGED SIGNS SHALL BE DELIVERED TO THE CITY CORPORATE YARD. CONTACT CITY MAINTENANCE AT (714) 647-3339 PRIOR TO DELIVERY.
5. UNLESS NOTED OTHERWISE, ALL LIMIT LINES SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE BACK OF ADJACENT BACK OF WALK BUT SHALL NOT ENCROACH INTO THE LANDING AREA OF THE WHEEL CHAIR RAMP.
6. ALL CONFLICTING STRIPING, PAVEMENT MARKINGS, AND RAISED PAVEMENT MARKERS SHALL BE REMOVED EVEN IF NOT SHOWN ON THE PLAN. REMOVAL OF STRIPING AND PAVEMENT MARKINGS SHALL BE DONE BY WET SAND BLASTING AND/OR GRINDING. ALL DAMAGED PAVEMENT DUE TO REMOVAL SHALL BE REPAIRED AS NECESSARY TO MAINTAIN A SMOOTH AND UNIFORM SURFACE.
7. ALL FIRE HYDRANT LOCATIONS SHALL BE MARKED WITH BLUE REFLECTIVE RPM PER SANTA ANA STD. PLAN NO. 1125A.
8. ALL NEW SCHOOL SIGNS SHALL BE OF THE TYPE WITH FLUORESCENT YELLOW-GREEN BACKGROUND AND BLACK LETTERING AND BORDERS.
9. FRONT LOOP SHALL BE BICYCLE LOOP PER SPECIAL PROVISIONS. ALL OTHER DETECTOR LOOPS SHALL BE 6-FOOT DIAMETER, TYPE E PER CALTRANS STD. PLAN ES-5B. FRONT LOOP (CENTER OF LOOP) TO BE PLACED 4-FOOT BEHIND BACK OF CROSSWALK. LOOPS IN THE SAME LANE SHALL BE PLACED 16 FEET APART (CENTER TO CENTER). ALL LOOPS TO BE CENTERED IN THE TRAVEL LANE, EXCEPT WHERE CURB LANE IS WIDER THAN 10 FEET, PLACE LOOP'S CENTER AT 5.5 FEET FROM THE ADJACENT LEFT LANE LINE. ALL LOOPS MUST BE TESTED BEFORE FILLING SAW CUTS. BIKE LOOPS IN BIKE LANE SHALL BE TYPE "D" MODIFIED PER CALTRANS STD. PLAN ES-5B. SEE DETAIL 'E'. INSTALL NEW DLC.

CONSTRUCTION NOTES

1. INSTALL WHITE LANE LINE PER CITY OF SA STD. NO. PLAN 1125B-1, DETAIL "1".
2. INSTALL TURN LANE LINE PER CITY OF SA STD. PLAN NO. 1125B-1, DETAIL "2".
3. INSTALL DOUBLE YELLOW PER CITY OF SA STD. PLAN NO. 1125B-1, DETAIL "4".
4. INSTALL CONTINENTAL CROSSWALK LINE, 12" WIDE @ 11' O.C., WHITE EXCEPT AS NOTED OTHERWISE.
5. INSTALL LANE LINE EXTENSION PER CITY OF SA STD PLAN 1125B-2, DETAIL "8."
6. INSTALL 6" BIKE LANE LINE PER CALTRANS STD. PLAN A20D, DETAIL "39".
7. INSTALL 6" BIKE LANE LINE PER CALTRANS STD. PLAN A20D, DETAIL "39A".
8. INSTALL MERGING AREA PER DETAIL "F" (GREEN METHYL METHACRYLATE RESIN (MMA)).
9. INSTALL BIKE LANE LEGEND PER DETAIL "A".
10. INSTALL OR REFRESH LEGEND AS SHOWN.
11. REMOVE EXISTING SIGN(S) ONLY.
12. INSTALL NEW SIGN(S) AND POST PER STD. PLAN NO. 1504.
13. INSTALL NEW SIGN(S) ONLY ON EXISTING POST OR STREET LIGHT. RESET SIGN(S) AND/OR REPLACE EXISTING POLE TO MEET 7' MIN. ADA REQUIREMENT, IF NECESSARY.
14. INSTALL RAISED MEDIAN ISLAND TREATMENT PER DETAIL "B".
15. INSTALL R5-1B AND R9-3CP SIGNS FACING OPPOSITE FLOW OF TRAFFIC BACK TO BACK ON EXISTING OR PROPOSED POST. MAINTAIN 7' MIN. ADA CLEARANCE REQUIREMENT, IF NECESSARY.
16. INSTALL 6" WHITE RIGHT EDGE LINE.
17. INSTALL 6" WHITE CHEVRON OR STRIPE @ 45 DEG. EVERY 20' O.C.
18. INSTALL 4" YELLOW LEFT EDGE LINE PER CALTRANS STD. PLAN A20B, DETAIL "24".
19. REMOVE CONFLICTING STRIPING AND/OR LEGEND(S) BY GRINDING OR SANDBLASTING.
20. PROTECT IN PLACE.
21. INSTALL WHITE OBJECT MARKER WITH 3 WHITE REFLECTIVE BANDS AND TYPE G CLEAR REFLECTIVE RAISED PAVEMENT MARKERS, PER OBJECT MARKER DETIAL "R".
22. RELOCATE EXISTING SIGN TO NEW LOCATION. REINSTALL POLE PER STD. PLAN NO. 1504.
23. INSTALL 12" WIDE WHITE LIMIT LINE/STOP BAR. IF AT A STOP LOCATION, INSTALL PER DETAIL "D".

R10-15 (MOD)(BIKE) 207389

DETAIL M

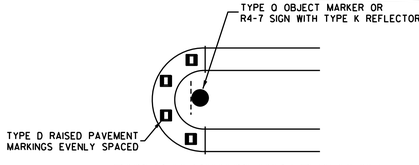


OBJECT MARKER DETAIL 'B'

NOT TO SCALE

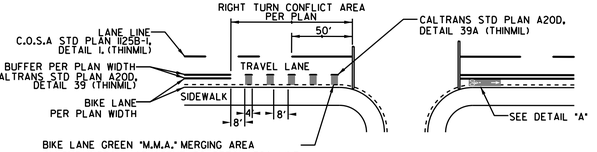
SIGN LEGEND

OMI-I	OBJECT MARKER (YELLOW)
OM2-IH	OBJECT MARKER - HORIZONTAL (6" X 12")
OM2-IV	OBJECT MARKER - VERTICAL (6" X 12")
R10-7(MOD)	DO NOT BLOCK DRIVEWAY
R26(S)(CA)	NO STOPPING ANYTIME (12" X 18")
R10-15(MOD)(BIKE)	TURNING VEHICLES YIELD TO BIKES - DETAIL M
R8I(CA)	BIKE LANE SYMBOL (18" X 12")
R8IA(CA)(MOD)	BEGIN PLATE (12" X 6")
R8IB(CA)(MOD)	END PLATE (12" X 6")
W4-2	LANE ENDS SYMBOL
R5-1B	BICYCLE WRONG WAY (12" X 18")
R9-3CP	RIDE WITH TRAFFIC (12" X 12")



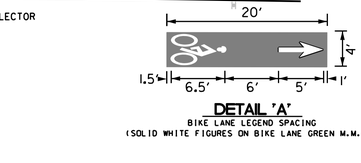
RAISED MEDIAN ISLAND TREATMENT

NOT TO SCALE



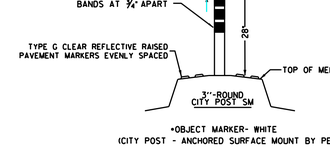
DETAIL 'F'

NO SCALE



DETAIL 'A'

BIKE LANE LEGEND SPACING
(SOLID WHITE FIGURES ON BIKE LANE GREEN M.M.A.)



OBJECT MARKER DETAIL 'R'

NOT TO SCALE

FILE NO.: TF-06648

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: XX-XXX-XX ELEV.: NNN.NN' NAVDYY

CONSTRUCTION COMPLETED:

REGISTERED PROFESSIONAL ENGINEER ZDENEK KEKULA No. C66219 Exp. 6-30-22 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:	ZdenecK KeKula	11/2021
	SENIOR CIVIL ENGINEER RCE NO.: 66219	
	DESIGNED: VMC DRAWN: VMC CHECKED: ZK	11/2021
REVIEWED FOR CONSTRUCTABILITY:		06/2024
	PRINCIPAL CIVIL ENGINEER RCE NO.:	
RECOMMENDED FOR CONSTRUCTION:	ZdenecK KeKula	11/2021
	PRINCIPAL CIVIL ENGINEER RCE NO.: 66219	

TA-01

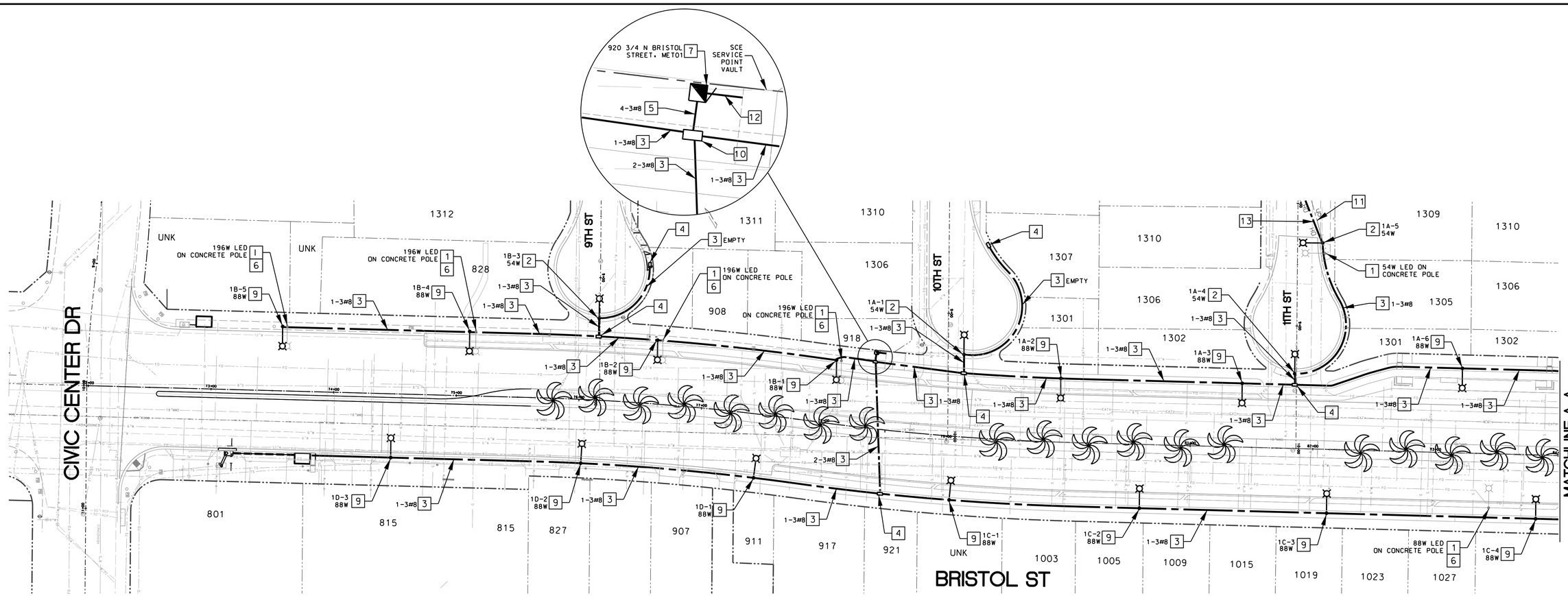
CHANNELIZATION PLAN

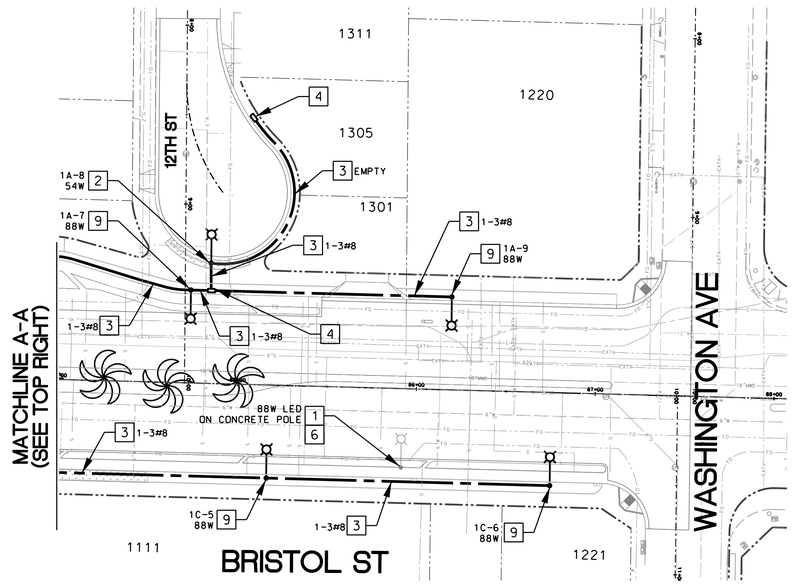
BRISTOL STREET

FROM CIVIC CENTER DR TO WASHINGTON AVE

PUBLIC WORKS AGENCY

CITY OF SANTA ANA





CONSTRUCTION NOTES

1. REMOVE EXISTING CITY OF SANTA ANA STREETLIGHT CONCRETE POLE AND FOUNDATION; COMPLETE. SALVAGE EXISTING STREET LIGHT POLE, MAST ARM, AND LUMINAIRE. COORDINATE WITH ROBERT FLORES AT (714) 673-2411 OR JUAN MORENO AT (657) 253-0287 FOR DELIVERY TO CITY CORPORATE YARD.
2. FURNISH AND INSTALL NEW STREETLIGHT POLE AND FOUNDATION PER CITY OF SANTA ANA STANDARD PLAN NO. 1126H-1 AND 1126H-2. FURNISH AND INSTALL LEOTEK GCJ SERIES 54W LED LUMINAIRE (GCJ2-20H-MV-NW-2R-GY-830-PCR7-WL) ON LUMINAIRE MAST ARM WITH PHILIPS CT NODE SMART SENSOR (LLC7812).
3. FURNISH AND INSTALL NEW 2" PVC SCHEDULE 80 CONDUIT WITH 3#8 AWG (BLACK, RED, GREEN-GROUND) CONDUCTOR WIRES. COUNT AS SHOWN.
4. INSTALL NEW STREETLIGHTING PULLBOX NO. 3-1/2 WITH BOLT DOWN LID. PULLBOXES IN PARKWAY SHALL BE BURIED 3" BELOW GRADE.
5. FURNISH AND INSTALL NEW 3" PVC SCHEDULE 80 CONDUIT WITH 3#8 AWG (BLACK, RED, GREEN-GROUND) CONDUCTOR WIRES. COUNT AS SHOWN.
6. COORDINATE WITH SCE TO DE-ENERGIZE EXISTING UNDERGROUND STREETLIGHTING CONDUCTOR CABLES AND MAINTAIN EXISTING CIRCUIT ACTIVE.
7. FURNISH AND INSTALL SERVICE PEDESTAL 120/240V WITH 200A, 1-PHASE, 3-WIRE COMPLETE WITH MAIN BREAKER, LOAD CENTER, LIGHTING CONTROLS, GFI DUPLEX RECEPTABLE, AND PADMOUNT BASE PER CITY OF SANTA ANA STANDARD PLAN NO. 1126M. MACHINE ENGRAVED PLACARD WITH SERVICE ADDRESS (920 3/4 N BRISTOL STREET, MET01) WITH 2" BLACK LETTERS/NUMBERS ON WHITE-COLORED MATERIAL TO BE MECHANICALLY ATTACHED UNDER METER WINDOW.
8. PROTECT IN PLACE EXISTING CITY OF SANTA ANA STREETLIGHT POLE AND/OR EQUIPMENT.
9. FURNISH AND INSTALL NEW STREETLIGHT POLE AND FOUNDATION PER CITY OF SANTA ANA STANDARD PLAN NO. 1126H-1 AND 1126H-2. FURNISH AND INSTALL LEOTEK GCM SERIES 88W LED LUMINAIRE (GCM2-40H-MV-NW-3R-GY-700-PCR7-WL) ON LUMINAIRE MAST ARM WITH PHILIPS CT NODE SMART SENSOR (LLC7812).
10. INSTALL NEW STREETLIGHTING PULLBOX NO. 5 WITH BOLT DOWN LID. PULLBOXES IN PARKWAY SHALL BE BURIED 3" BELOW GRADE.
11. DE-ENERGIZE AND REMOVE EXISTING OVERHEAD STREETLIGHT CONDUCTOR WIRES.
12. INSTALL 3" PVC CONDUIT AS REQUIRED BY SCE. SCE TO INSTALL CABLE. REFER TO SCE DESIGN PLAN FOR DETAILS.
13. FURNISH AND INSTALL NEW #6-6 SHEPHERD ALUMINUM DUPLEX OVERHEAD WIRES INCLUDING ALL NECESSARY HARDWARE TO RECONNECT TO ADJACENT STREETLIGHT.

GENERAL NOTES

1. ALL ROADWAY LIGHTING SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, STANDARD PLANS AND SPECIFICATIONS DATED 2018 EDITION, SANTA ANA STANDARD PLANS AND THE SPECIAL PROVISIONS FOR THE PROJECT.
2. ALL ABBREVIATIONS AND SYMBOLS USED ARE SHOWN ON CALTRANS STANDARD PLAN NO.'S A-10A, A-10B, ES-1A, ES-1B AND AS DEFINED ON THE PLAN.
3. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO TAKE STEPS TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY DAMAGE OR INTERFERE WITH SUCH FACILITIES. CONTACT USA DIG ALERT AT 811 AT LEAST 2 DAYS IN ADVANCE.
4. ALL NEW CONDUITS SHALL BE PVC SCHEDULE 80. ALL CONDUITS FROM SERVICE PEDESTAL TO ADJACENT PULL BOX SHALL BE MINIMUM 3". ALL OTHER CONDUITS SHALL BE 2" MINIMUM UNLESS NOTED OTHERWISE. ALL FITTINGS INTO PULL BOX SHALL BE 45-DEGREE SWEEPS. A BULL-LINE PULL TAPE OR EQUIVALENT WITH A MINIMUM TENSILE STRENGTH OF 500 POUNDS SHALL BE INSTALLED IN ALL CONDUITS.
5. ALL STREET LIGHTING CONDUCTORS SHALL BE RUN CONTINUOUSLY FROM LIGHT STANDARD TO FEED POINT. STREET LIGHTING CONDUCTORS MAY BE SPLICED IN PULL BOX AND POLE BASE ONLY.
6. ALL LOCATIONS OF STREET LIGHTING POLE AND CABINET REQUIRE ENGINEER'S APPROVAL PRIOR TO SAW CUTTING OR EXCAVATION.
7. ALL PULL BOXES SHALL BE CONCRETE AND PLASTIC LINED, LID SHALL BE LIGHT WEIGHT AND LABELED STREET LIGHTING PER CALTRANS STANDARD PLANS. PULL BOX SHALL BE NUMBER 3-1/2, UNLESS NOTED OTHERWISE.
8. ALL NEW LUMINAIRES SHALL BE OF LIGHT EMITTING DIODE (LED) TYPE PER THE SPECIAL PROVISIONS.
9. CIRCUIT DIAGRAM IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS AND CABLES REQUIRED FOR THE INTENDED OPERATION.
10. UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT REQUIRED.
11. TEMPORARY OVERHEAD WIRING IS REQUIRED TO MAINTAIN STREET LIGHTING OPERATION DURING MODIFICATION OF EXISTING STREET LIGHTING SYSTEM PER THE SPECIAL PROVISIONS.
12. ALL NEW STREET LIGHT POLE FOUNDATIONS SHALL HAVE DUAL STUB-OUT CONDUITS.

(SCALE : 1" = 40')

20 10 0 20 40

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NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 4216 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS A DIG ALERT TICKET NUMBER. CALL 811 AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

PROJECT NO. 13-6792: STREET LIGHTING INSTALLATION- BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DR TO WASHINGTON ST

FILE NO.: SL-06946

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: ELEV.:

CONSTRUCTION COMPLETED: TURN - ON:

REGISTERED PROFESSIONAL ENGINEER CESAR D. RODRIGUEZ RCE NO. 75662 Exp. 6/30/26 CIVIL STATE OF CALIFORNIA

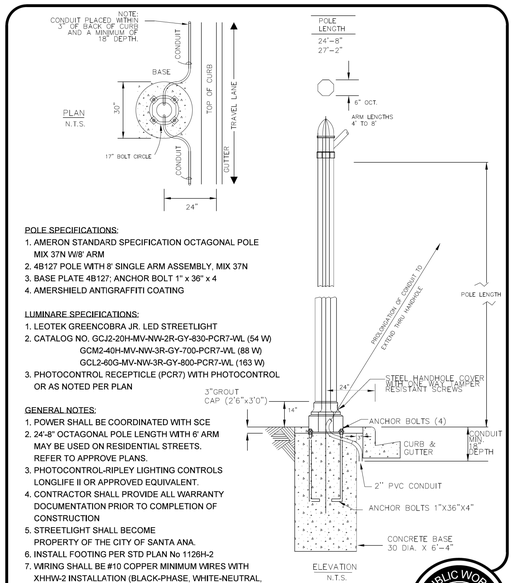
PREPARED UNDER THE SUPERVISION OF:	SENIOR CIVIL ENGINEER RCE NO.:75662	03/2024
	DESIGNED: SMP DRAWN: SMP CHECKED: CR	03/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.:80470	06/2024
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.:66219	03/2024

STREETLIGHTING INSTALLATION

BRISTOL STREET IMPROVEMENTS

FROM CIVIC CENTER DR TO WASHINGTON AVE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA



POLE SPECIFICATIONS:
1. AMERON STANDARD SPECIFICATION OCTAGONAL POLE MIX 37N W/8' ARM
2. 4B127 POLE WITH 8' SINGLE ARM ASSEMBLY, MIX 37N
3. BASE PLATE 4B127; ANCHOR BOLT 1" x 36" x 4
4. AMERSHIELD ANTIGRAFFITI COATING

LUMINARE SPECIFICATIONS:
1. LEOTEK GREENCOBRA JR. LED STREETLIGHT
2. CATALOG NO. GCJ2-20H-MV-NW-2R-GY-830-PCR7-WL (54 W)
   GCM2-40H-MV-NW-3R-GY-700-PCR7-WL (88 W)
   GCL2-60G-MV-NW-3R-GY-800-PCR7-WL (163 W)
3. PHOTOCONTROL RECEPTICLE (PCR7) WITH PHOTOCONTROL OR AS NOTED PER PLAN

GENERAL NOTES:
1. POWER SHALL BE COORDINATED WITH SCE
2. 24'-8" OCTAGONAL POLE LENGTH WITH 6' ARM MAY BE USED ON RESIDENTIAL STREETS. REFER TO APPROVE PLANS.
3. PHOTOCONTROL-RIPLEY LIGHTING CONTROLS LONGLIFE II OR APPROVED EQUIVALENT.
4. CONTRACTOR SHALL PROVIDE ALL WARRANTY DOCUMENTATION PRIOR TO COMPLETION OF CONSTRUCTION
5. STREETLIGHT SHALL BECOME PROPERTY OF THE CITY OF SANTA ANA.
6. INSTALL FOOTING PER STD PLAN No 1126H-2
7. WIRING SHALL BE #10 COPPER MINIMUM WIRES WITH XHHW-2 INSTALLATION (BLACK-PHASE, WHITE-NEUTRAL, GREEN-GROUND).

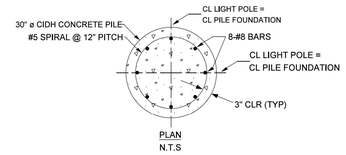
APPROVED: DATE:
CITY ENGINEER

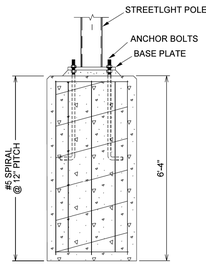
CITY OF SANTA ANA
PUBLIC WORKS AGENCY

DATE		REVISION

MODERN PRE-STRESSED CONCRETE STREETLIGHT STANDARD

STD. PLAN NUMBER 1126H-1





REINFORCED CONCRETE	
F ' c	3,600 PSI
F y	60,000 PSI

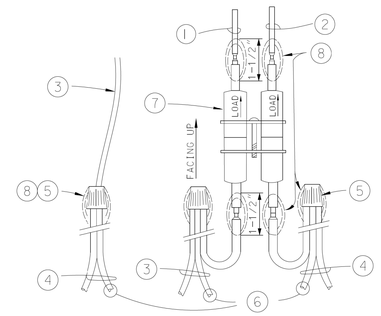
APPROVED: DATE:
CITY ENGINEER

CITY OF SANTA ANA
PUBLIC WORKS AGENCY

DATE		REVISION

MODERN PRE-STRESSED CONCRETE STREETLIGHT STANDARD

STD. PLAN NUMBER 1126H-2



1. CONDUCTOR (NO.10 BLACK) W/2' LOOP
2. CONDUCTOR (NO.10 RED) W/2' LOOP
3. CONDUCTOR (BLACK) W/2' LOOP
4. CONDUCTORS (RED) W/2' LOOP
5. SPLICE, TWIST CONNECTOR OR INSULATED CONNECTOR
6. TYPICAL AWG #8 OR AS DIRECTED
7. FUSEHOLDER 10 AMP FUSES OR AS DIRECTED
8. APPLY 3 LAYERS ELECTRICAL SPLICING TAPE NO. 23 AND NO. 88
9. INSTALLED IN BASE OF STREET LIGHT STANDARD OR AS SHOWN ON PLAN

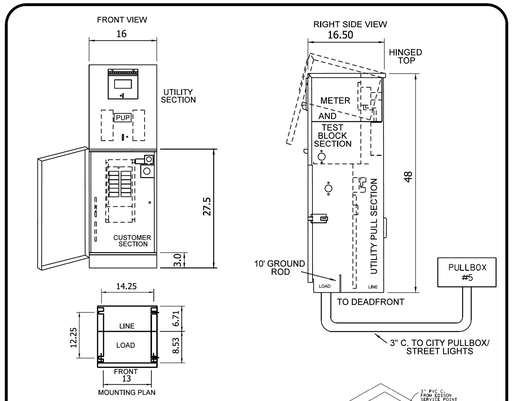
APPROVED: DATE:
CITY ENGINEER

CITY OF SANTA ANA
PUBLIC WORKS AGENCY

DATE		REVISION

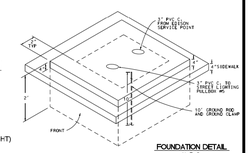
STREETLIGHT STANDARD IN-LINE FUSEHOLDER

STD. PLAN NUMBER 1126F-1



CALTRANS TYPE III - BF SINGLE METER SERVICE PEDESTAL:
100A, 120/240V, 1ø, 3W. COMPLETE WITH MAIN BREAKER, LOAD CENTER, LIGHTING CONTROLS, GFI DUPLEX RECEPTACLE, AND PADMOUNT BASE. VERIFY DIMENSIONS WITH MANUFACTURER'S SHOP DRAWINGS PRIOR TO INSTALLATION.

STANDARDS FOR CONDUIT, CONDUCTORS, AND PULL BOXES:
CONDUIT: 3"
CONDUCTORS: 2-#8 (RED AND BLACK) & 1-#8 (GREEN)
PULL BOX: #5 (MARKED BY CITY OF SANTA ANA STREET LIGHT)



GENERAL NOTES:
1. PROVIDE CLEARANCES PER SCE SERVICE GUIDE REQUIREMENTS.
2. SERVICE PEDESTAL SHALL BE MILLBANK, CATALOG # CP3B1111SA22ALSP5 WITH GFI DUPLEX RECEPTACLE AND LIGHTING CONTROLS: ANODIZED ALUMINUM FINISH. NO EQUALS ALLOWED. 18" PAD MOUNT BASE SHALL BE MILLBANK, CATALOG #CP-18PDMNT-CALT; ANODIZED ALUMINUM FINISH. NO EQUALS ALLOWED.
3. PHOTOCONTROL - RIPLEY LIGHTING CONTROLS LONGLIFE II OR APPROVED EQUIVALENT.

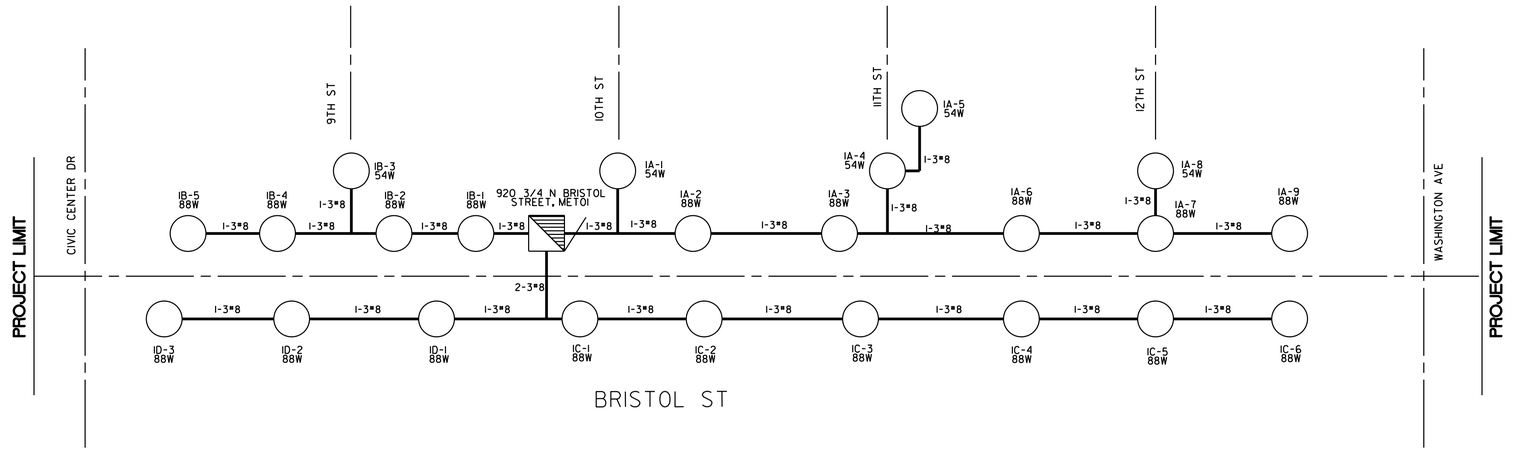
APPROVED: DATE:
CITY ENGINEER

CITY OF SANTA ANA
PUBLIC WORKS AGENCY

DATE		REVISION

STANDARD FOR STREETLIGHT PEDESTAL

STD. PLAN NUMBER 1126M



CIRCUIT DIAGRAM
(NOT TO SCALE)

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NOTICE TO CONTRACTOR

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FILE NO.: SL-06946

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTION	APPROVED	INSTALLED

REFERENCES

BENCHMARK NO.: ELEV.:

CONSTRUCTION COMPLETED: TURN - ON:

REGISTERED PROFESSIONAL ENGINEER CESAR D. RODRIGUEZ RCE NO. 75662 Exp. 6/30/26 CIVIL STATE OF CALIFORNIA

		DATE
PREPARED UNDER THE SUPERVISION OF:	PRINCIPAL CIVIL ENGINEER RCE NO.:66219 DESIGNED: SMP DRAWN: SMP CHECKED: CR	03/2024
REVIEWED FOR CONSTRUCTABILITY: SEAN THOMAS	PRINCIPAL CIVIL ENGINEER RCE NO.:80470	06/2024
RECOMMENDED FOR CONSTRUCTION:	PRINCIPAL CIVIL ENGINEER RCE NO.:66219	03/2024

STREET LIGHTING INSTALLATION

BRISTOL STREET IMPROVEMENTS

FROM CIVIC CENTER DR TO WASHINGTON AVE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

SHEET 38 OF 38

PROJECT NO. 13-6792: STREET LIGHTING INSTALLATION- BRISTOL STREET IMPROVEMENTS AND WIDENING FROM CIVIC CENTER DR TO WASHINGTON ST

PLOTTED BY: jalgarin PLOT DATE: 6/19/2024 LAST SAVED: 6/19/2024

CITY OF SANTA ANA

PUBLIC WORKS AGENCY

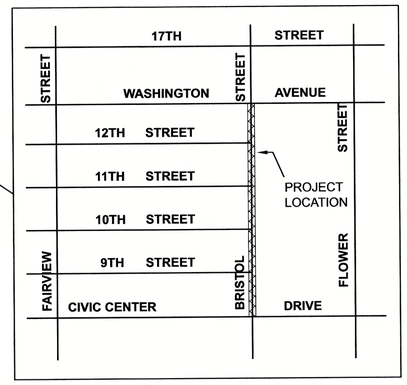
BRISTOL STREET (PHASE 3A) WATER MAIN IMPROVEMENTS: PROJECT NO. 15-6445

BRISTOL STREET: FROM CIVIC CENTER DRIVE TO WASHINGTON AVENUE

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

SHEET INDEX	
SHT	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES, CONSTRUCTION QUANTITIES AND CONSTRUCTION NOTES
3	BRISTOL STREET - CIVIC CENTER DRIVE TO STA 80+50
4	BRISTOL STREET - STA 80+50 TO WASHINGTON AVENUE
5	9TH STREET AND 10TH STREET
6	11TH STREET AND 12TH STREET
7	DETAILS SHEET

VICINITY MAP
(NOT TO SCALE)



PROJECT LOCATION MAP
(NOT TO SCALE)

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NOTICE TO CONTRACTOR

PURSUANT TO ASSEMBLY BILL 3019 NO EXCAVATION PERMIT IS VALID UNLESS THE CONTRACTOR CONTACTS AND OBTAINS AN INQUIRY I.D. NUMBER FROM "UNDERGROUND SERVICE ALERT" (1-800-422-4133) AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING EXCAVATION.

APPROVALS:

NABIL SABA, PE
EXECUTIVE DIRECTOR, PUBLIC WORKS AGENCY — DATE 6/20/2024

CESAR E. BARRERA, PE
DEPUTY PUBLIC WORKS DIRECTOR/
WATER RESOURCES MANAGER — DATE 6/19/2024

RODOLFO ROSAS, PE
DEPUTY PUBLIC WORKS DIRECTOR/
CITY ENGINEER — DATE 6/20/2024

REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

ROBERT AGUIRRE, PE
SENIOR CIVIL ENGINEER — R.C.E. NO. 79099 — DATE 6/19/2024

SHEET 1 OF 7

BAR MEASURES 1 INCH

PROJECT NO. 15-6445

W-426

FILE NAME: Y:\Projects_Active\15-6445 Bristol Street Phase 3A Water Main Improvements\CAD\15-6445_Sheet01-Title.dgn

PLOTTED BY: $USER$ PLOT DATE: $DATE$ LAST SAVED: $LASTSAVEDDATE$

GENERAL NOTES:

1. STATIONING IS ALONG STREET CENTERLINE.
2. ELEVATIONS SHOWN ARE IN FEET ABOVE U.S.C. & G.S. MEAN SEA LEVEL = O.C.S. DATUM.
3. UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER IS REQUIRED TO ASCERTAIN THE EXACT LOCATION OF ALL UNDERGROUND FACILITIES PRIOR TO DOING ANY WORK THAT MAY DAMAGE SUCH FACILITIES OR INTERFERE WITH THEIR SERVICE.
4. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL POTHOLE AND LOCATE ALL EXISTING UTILITY AND PIPELINE CROSSINGS AND CONNECTION POINTS, AND NOTIFY THE ENGINEER IN CASE OF INTERFERENCE OR CLOSE PROXIMITY TO PROPOSED IMPROVEMENTS.
5. PRIOR TO EXCAVATION, CALL UNDERGROUND SERVICE ALERT, (1-800-422-4133).
6. ALL WORK SHOWN OR INDICATED ON THESE PLANS OR CALLED FOR IN THE SPECIFICATIONS, BUT NOT INCLUDED AS PAY QUANTITY ITEMS, SHALL BE CONSIDERED INCIDENTAL WORK, THE COST OF WHICH SHALL BE CONSIDERED INCLUDED IN THE CONTRACTOR'S BID FOR PAY QUANTITY ITEMS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES, TRAFFIC SIGNALS, TRAFFIC LOOPS, RELATED EQUIPMENT, PAVEMENTS, CURBS, STRUCTURES, TREES, AND LANDSCAPING AS A RESULT OF HIS OPERATIONS AND WILL BE REQUIRED TO REPAIR OR REPLACE SAME TO THE SATISFACTION OF AND AS DIRECTED BY THE CITY ENGINEER OR UTILITY COMPANY.
8. THE CONTRACTOR SHALL IMMEDIATELY HAUL AWAY AND DISPOSE OF, OFF THE PROJECT SITE, ALL EXCESS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS. ALL DISPOSALS SHALL BE AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL ADJUST TO GRADE ALL CITY OWNED WATER VALVE POTS, SEWER MANHOLE FRAMES AND COVERS, STORM DRAIN MANHOLE FRAMES AND COVERS, AND STREET CENTERLINE AND SURVEY MONUMENTS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BARRICADES, SIGNING, AND FLASHERS REQUIRED FOR TRAFFIC CONTROL AND SAFETY.
11. ALL SALVAGEABLE MANHOLE RINGS AND COVERS SHALL BE DEPOSITED BY THE CONTRACTOR AT THE CITY YARD, (215 S. CENTER ST., SANTA ANA).
12. THE CONTRACTOR SHALL REPLACE ALL OBLITERATED STRIPING, LEGENDS, AND RAISED PAVEMENT MARKERS DAMAGED, LOST, OR DESTROYED DURING CONSTRUCTION PER STANDARDS 1125A TO 1125C AND PUBLIC WORKS AGENCY REQUIREMENTS.
13. THE CONTRACTOR SHALL USE A VACUUM TO REMOVE SEDIMENT FOR SAW-CUTTING OPERATIONS.

WATER GENERAL NOTES:

1. CONSTRUCTION AND INSTALLATION OF ALL WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY OF SANTA ANA STANDARD PLANS AND SPECIFICATIONS. WHERE THE STANDARD PLANS ARE SILENT, CONSTRUCTION AND INSTALLATION OF WATER MAINS AND APPURTENANCES SHALL CONFORM TO THE AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATIONS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2018 EDITION.
2. CONSTRUCTION OF WATER MAINS AND APPURTENANCES SHALL ONLY BE PERFORMED BY QUALIFIED CONTRACTORS WITH A VALID CALIFORNIA CONTRACTOR A OR C34 LICENSE.
3. NO PERSON, OTHER THAN CITY OF SANTA ANA WATER RESOURCES DIVISION STAFF CERTIFIED BY THE STATE OF CALIFORNIA AS A WATER DISTRIBUTION OPERATOR, SHALL BE ALLOWED TO OPERATE THE CITY'S WATER SYSTEM VALVES.
4. NO PERSON, OTHER THAN CITY OF SANTA ANA WATER RESOURCES DIVISION STAFF CERTIFIED BY THE STATE OF CALIFORNIA AS A WATER DISTRIBUTION OPERATOR, SHALL SHUT WATER SERVICE OFF TO ANY CUSTOMER.
5. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE CITY FOR REVIEW AND APPROVAL "DISINFECTION AND FLUSHING PLAN" PER THE CITY OF SANTA ANA DESIGN GUIDELINES AND STANDARD DRAWINGS.
6. ALL NEWLY CONSTRUCTED WATER MAINS AND APPURTENANCES SHALL BE DISINFECTED AND TESTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD CG00'S, PRIOR TO CONNECTING TO THE CITY'S WATER DISTRIBUTION SYSTEM. DISINFECTION TESTING RESULTS SHALL BE SUBMITTED TO THE WATER RESOURCES DIVISION FOR REVIEW AND APPROVAL PRIOR TO CONNECTING TO THE CITY'S WATER DISTRIBUTION SYSTEM.
7. WATER MAINS WILL BE HYDROSTATIC TESTED AT 200 PSI FOR 2 HOURS. NEW WATER MAINS CANNOT BE TESTED AGAINST AN EXISTING VALVE BUT CAN BE TESTED USING A TEST PLATE.
8. REQUESTS TO SHUT-DOWN THE WATER DISTRIBUTION SYSTEM FOR TIE-INS OR OTHER PURPOSES SHALL BE COORDINATED WITH THE WATER RESOURCES DIVISION STAFF AT LEAST 2 WEEKS IN ADVANCE THROUGH THE CITY INSPECTOR. ALL CUSTOMERS AFFECTED BY THE PROPOSED SHUT DOWN SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE BY THE CONTRACTOR.
9. THE CITY OF SANTA ANA WATER RESOURCES DIVISION CANNOT GUARANTEE A COMPLETE SHUTDOWN OF EXISTING MAINS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND ISOLATION OF CONSTRUCTION FOR TESTING OR ANY OTHER PURPOSES.
10. ALL FIRE HYDRANTS WHICH ARE OUT OF SERVICE OR NEW FIRE HYDRANTS WHICH HAVE NOT BEEN ACCEPTED FOR SERVICE SHALL BE COVERED WITH A SACK INDICATING THAT THE HYDRANTS ARE NOT IN SERVICE.
11. MAINTAINING WATER SERVICE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ANY SHUTDOWN LASTING LONGER THAN FOUR (4) HOURS. METHOD OF PROVIDING TEMPORARY SERVICE MUST BE APPROVED BY THE WATER RESOURCES DIVISION. THE WATER SHALL BE SAFE FOR DRINKING IN ACCORDANCE WITH STATE OF CALIFORNIA.
12. WATER METER WILL NOT BE INSTALLED NOR WATER TURNED ON UNTIL THE BACKFLOW DEVICES REQUIRED FOR THE BUILDING AND IRRIGATION SYSTEMS HAVE BEEN INSTALLED, TESTED, APPROVED, AND CERTIFIED, AND APPROVED AND SIGNED OFF BY THE CITY. CONTACT WATER RESOURCES DIVISION AT 714-647-3320.
13. ALL WATER MAINS SHALL BE AWWA C-900 PVC, DR14 PIPE OR AWWA C-151 DUCTILE IRON PIPE. ALL OTHER PIPE MATERIALS REQUIRE SPECIAL REVIEW AND APPROVAL FROM THE WATER RESOURCES DIVISION.
14. WATER MAINS SHALL HAVE 36" MINIMUM COVER TO FINISHED GRADE. ANY DEVIATION FROM THIS REQUIREMENT REQUIRES APPROVAL FROM THE WATER RESOURCES DIVISION.
15. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL UTILITIES AND POINTS OF CONNECTION PRIOR TO TRENCHING.
16. PRIVATE WATER APPURTENANCES SUCH AS BACKFLOW PREVENTERS, FIRE HYDRANTS AND STANDPIPES, AND VALVES SHALL BE PAINTED AS FOLLOWS:

    A. DOMESTIC WATER: BLUE
    B. POTABLE IRRIGATION: GREEN
    C. RECYCLED IRRIGATION: PURPLE
    D. FIRE PROTECTION: RED

17. DO NOT CUT OR SNAP CUT OR MILL ASBESTOS CEMENT PIPE. WHERE JOINING EXISTING ASBESTOS CEMENT PIPE, EXPOSE SIX FEET IN EACH DIRECTION, LOOKING FOR THE NEAREST JOINT AND JOIN TO NEW PIPE WITH A PROPERLY DIMENSIONED ADAPTER PER STANDARD PLAN NUMBER 1443.
18. DO NOT TAP EXISTING MAINS WITHOUT THE PRESENCE OF A CERTIFIED PUBLIC WORKS INSPECTOR. PRESSURE TEST TAPPING SLEEVE IN THE PRESENCE OF A CERTIFIED PUBLIC WORKS INSPECTOR BEFORE TAPPING EXISTING MAIN.
19. FINAL ACCEPTANCE WILL NOT OCCUR UNTIL ORIGINAL RECORD DRAWINGS ON MYLAR AND DIGITAL FILE ARE DELIVERED TO AND ACCEPTED BY THE CITY'S INSPECTOR. SHOW ALL FIELD CHANGES ON RECORD DRAWINGS.

WATER GENERAL NOTES (CONT):

20. TRENCH PLATES SHALL BE FLUSH WITH PAVEMENT AND SHALL BE NON-SKID.
21. WHEN PUBLIC WATER FACILITIES ARE LOCATED ON PRIVATE PROPERTY, EASEMENT DOCUMENTS ARE TO BE SUBMITTED TO CITY FOR APPROVAL PRIOR TO A PERMIT BEING ISSUED.
22. ALL RECYCLED WATER PROJECTS REQUIRE REVIEW AND APPROVAL BY THE WATER RESOURCES DIVISION.
23. REMOVE FROM THE FIELD UPPER AND LOWER FIRE HYDRANT DRY BARREL AND 24" X 36" IRON VAULT LID COVERS AND DELIVER UNDAMAGED TO THE CITY WATER RESOURCES DIVISION YARD LOCATED AT 215 S. CENTER STREET. PRIOR NOTIFICATION OF THE DELIVERY IS REQUIRED AT 714-647-3320.
24. WATER MAIN FITTINGS SHALL BE FLANGE OR MECHANICAL JOINTS ONLY, NO PUSH-ON JOINT FITTINGS ALLOWED.
25. CONTRACTOR SHALL NOT REMOVE OR DISPOSE EXISTING WATER METERS. CONTRACTOR SHALL APPLY FOR AN ABANDON WATER METER APPLICATION. CONTRACTOR SHALL CONTACT WATER RESOURCES DIVISION 714-647-3320 FOR EXISTING METER REMOVALS.
26. INSTALLATION OF NEW WATER METER SERVICE CURB STOP SHALL BE DONE AFTER INSTALLATION OF NEW CURB AND GUTTER OR AFTER CONTRACTOR HAS ESTABLISHED THE PROPOSED CURB GRADE BY STAKING OF THE PROPOSED CURB.

PROJECT QUANTITIES

Bid Items	Qty	Unit
8" PVC Class 305 (DR14) C900 Pipe	600	LF
12" PVC Class 305 (DR14) C900 Pipe	760	LF
1" Copper Water Service	5	EA
Fire Hydrant	7	EA
8" Resillient Wedge Gate Valve	4	EA
12" Resillient Wedge Gate Valve	1	EA
Steel Casing	50	LF
Sewer Manhole	1	EA
Abandon Existing Water Service	20	EA
Abandon Existing Fire Service	1	EA
Abandon Existing Sewer Lateral	50	EA
Abandon Existing Sewer Manhole	1	EA
CCTV Inspection of Existing Sewer Main	2500	LF
CCTV Inspection of ExistingSewer Laterals	50	EA
Vertical Offset Type 1(As-Needed)*	2	EA
Vertical Offset Type 2	3	EA
Additional Potholing (As Needed)*	4	EA

WATER CONSTRUCTION NOTES:

(2) CONSTRUCT 8" CLASS 305 (DR14), AWWA C900, PVC WATER MAIN PER TRENCH DETAIL ON SHEET 7.
(3) CONSTRUCT 12" CLASS 305 (DR14), AWWA C900, PVC WATER MAIN PER TRENCH DETAIL ON SHEET 7.
(4) CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401 FROM WATER MAIN TO PROPOSED WATER METER LOCATOIN. RESET WATER METER AND RECONNECT TO CUSTOMER LINE.
(5) CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN 1405.
(6) REMOVE AND SALVAGE EXISTING FIRE HYDRANT, SPOOL EXTENSION, AND BURY ASSEMBLY, TRANSPORT TO CITY YARD.
(7) CONSTRUCT 8" GATE VALVE (FLG. X MJ.)
(8) CONSTRUCT 12" GATE VALVE (FLG. X MJ.)
(9) CONSTRUCT 8" 45° BEND (MJ. X MJ.)
(10) CONSTRUCT 12" X 8" TEE (MJ. X MJ.)
(11) CONSTRUCT 8" X 6" REDUCER (FLG. X MJ.)
(12) CONSTRUCT STEEL CASING UNDER FUTURE SOUND WALL PER CITY STD. PLAN NO. 1429 AND DETAIL ON SHEET 7.
(13) CONSTRUCT THRUST BLOCK PER CITY STD. PLAN NO. 1412.
(14) REMOVE INTERFERING PORTION OF EXISTING MAIN AND THRUST BLOCK (WHEN NECESSARY) TIE-IN TO EXISTING WATER MAIN FOLLOWING SUCCESSFUL COMPLETION OF PRESSURE TEST AND BACTERIA TEST. PLUG END OF ABANDONED WATER WITH 6" THICK P.C.C. PER CITY STD. PLAN NO 1409.
(16) ABANDON EXISTING WATER SERVICE PER CITY STD. PLAN NO. 1430, REMOVE AND DISPOSE OF METER BOX AND COVER. BACKFILL WITH SAND AND COMPACT.
(19) ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND, COMPACT, AND REPAVE.
(21) CONSTRUCT 1" WATER SERVICE FROM NEW WATER MAIN TO NEW WATER METER LOCATION PER CITY STD. PLAN NO. 1401.
(22) RELOCATE WATER METER TO NEW LOCATION. RESET AND CONNECT TO CUSTOMER LINE.
(23) CONSTRUCT 8" 45° BEND (FLG. X MJ.)
(24) CONSTRUCT 8" 60° BEND (FLG. X MJ.)
(25) CONSTRUCT 8" 60° BEND (MJ. X MJ.)
(26) REMOVE AND DISPOSE EXISTING GATE VALVE
(27) REMOVE EXISTING WATER METER BOX. FURNISH AND INSTALL NEW WATER METER BOX AND LID PER CITY STD. PLAN NO. 1402.
(28) PROTECT IN PLACE.
(29) RELOCATE EXISTING WATER METER TO NEW LOCATION AND RESET.

SEWER CONSTRUCTION NOTES:

1 REMOVE EXISTING SEWER LATERAL AND CONSTRUCT SEWER LATERAL AND CLEANOUT FROM SEWER MAIN AND TIE INTO EXISTING SEWER LATERAL AT P.L. PER CITY STD. PLAN NO. 1204.
2 ABANDON EXISTING SEWER MANHOLE PER CITY STD. PLAN NO. 1209.
3 ABANDON EXISTING SEWER LATERAL AT THE WYE PER CITY STD. PLAN NO. 1212.
4 CONSTRUCT NEW MANHOLE PER CITY STD PLAN NO. 1201, FURNISH AND INSTALL MANHOLE WATER STOP RUBBER GASKET AT OUTER AND INNER WALL FOR EACH MANHOLE CONNECTION.
5 ABANDON EXISTING 6" VCP IN PLACE AND REMOVE INTERFERING PORTION AS NEEDED. ABANDONED SEWER SHALL BE PLUGGED WITH 6" THICK P.C.C

CONSTRUCTION NOTES:

(1) CONTRACTOR SHALL VERIFY EXISTING PRIVATE WATER CONNECTION DETAILS AND CONNECT NEW TO EXIST ON CUSTOMER SIDE
(2) PRIOR TO CONSTRUCTING THE WATER MAIN, INCLUDING ANY EXCAVATION WORK, THE CONTRACTOR SHALL REQUEST TO HAVE THE FUTURE SOUND WALL ALIGNMENT SURVEYED WITH CUT ELEVATIONS PROVIDED TO THE BOTTOM OF THE FOOTING TO VERIFY THE CLEARENCE BETWEEN THE WALL AND NEW WATER MAIN.

LEGEND:

(– – – – – – – – – – –)	-EXISTING SEWER ON PROFILE SHOWN WITH DASHED LINES
(═══════════)	-PROPOSED SEWER ON PROFILE SHOWN WITH SOLID LINES
(0.00)	-EXISTING ELEVATIONS AND STATIONS SHOWN IN PARENTHESIS
ASPH	-ASPHALT PAVEMENT
WM	-WATER MAIN
SM	-SEWER MAIN
FO	-FIBER OPTIC
	-EXISTING P.C.C. PAVEMENT

FILE NAME: $FILE$

FILE NO. WA-06514

REVISIONS

NUMBER	DATE	INITIALS	DESCRIPTIONS

REFERENCES

APPROVED	INSTALLED	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.
		WG-07, WG-08, G07, G08, F07, AND F08		

REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
ROBERT AGUIRRE — SENIOR CIVIL ENGINEER — DESIGNED: J.A., M.R. DRAWN: J.A., K.B. CHECKED: I.Y., R.A. — 6 / 2024
REVIEWED FOR CONSTRUCTABILITY:
SEAN THOMAS — PRINCIPAL CIVIL ENGINEER — RCE NO.: 66219 — 6 / 2024
RECOMMENDED FOR CONSTRUCTION:
ARMANDO FERNANDEZ — PRINCIPAL CIVIL ENGINEER — RCE NO.: 87111 — 6 / 2024

WATER MAIN IMROVEMENTS:

GENERAL NOTES, CONSTRUCTION QUANTITIES, AND CONSTRUCTIONS NOTES

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

W-426

PROJECT NO. 15-6445

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

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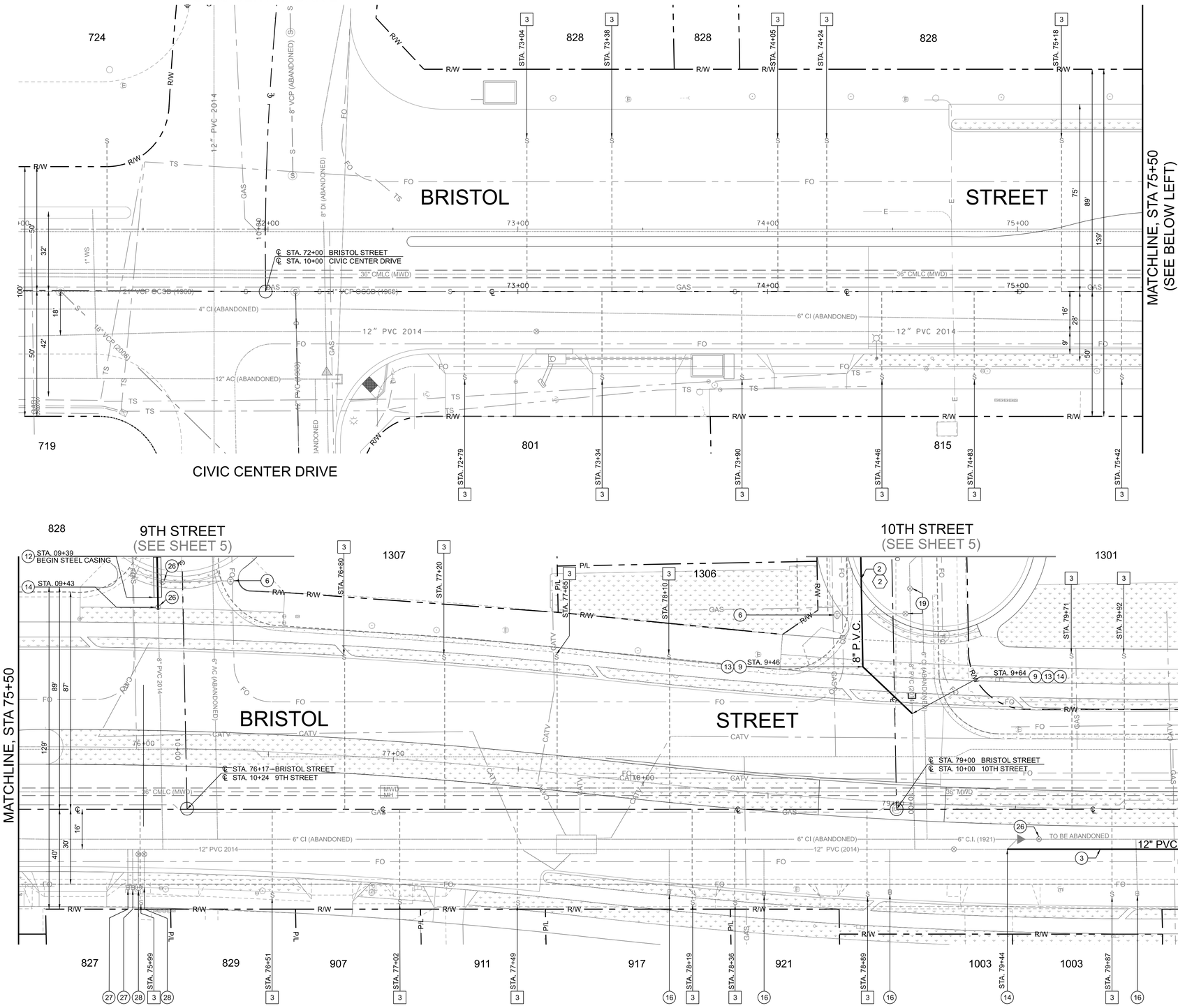

(SCALE : 1" = 20')

WATER CONSTRUCTION NOTES:

(2) CONSTRUCT 8" CLASS 305 (DR14), AWWA C900, PVC WATER MAIN PER TRENCH DETAIL ON SHEET 7.

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(26) REMOVE AND DISPOSE OF EXISTING GATE VALVE

(27) REMOVE EXISTING WATER METER BOX. FURNISH AND INSTALL NEW WATER METER BOX AND LID PER CITY STD. PLAN NO. 1402.

(28) PROTECT IN PLACE.

SEWER CONSTRUCTION NOTES:

(3) ABANDON EXISTING SEWER LATERAL AT THE WYE PER CITY STD. PLAN NO. 1212.

CONSTRUCTION NOTES:

(2) PRIOR TO CONSTRUCTING THE WATER MAIN, INCLUDING ANY EXCAVATION WORK, THE CONTRACTOR SHALL REQUEST TO HAVE THE FUTURE SOUND WALL ALIGNMENT SURVEYED WITH CUT ELEVATIONS PROVIDED TO THE BOTTOM OF THE FOOTING TO VERIFY THE CLEARENCE BETWEEN THE WALL AND NEW WATER MAIN.

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

PROJECT NO. 15-6445

FILE NO. WA-06514 ($FILE$)

REVISIONS				REFERENCES				
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REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
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SENIOR CIVIL ENGINEER
DESIGNED: J.A., M.R. DRAWN: J.A., K.B. CHECKED: I.Y., R.A. — 6 / 2024

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RECOMMENDED FOR CONSTRUCTION:
ARMANDO FERNANDEZ
PRINCIPAL CIVIL ENGINEER RCE NO.: 87111 — 6 / 2024

WATER MAIN IMROVEMENTS:

BRISTOL STREET

CIVIC CENTER DRIVE TO STA 80+50

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

W-426

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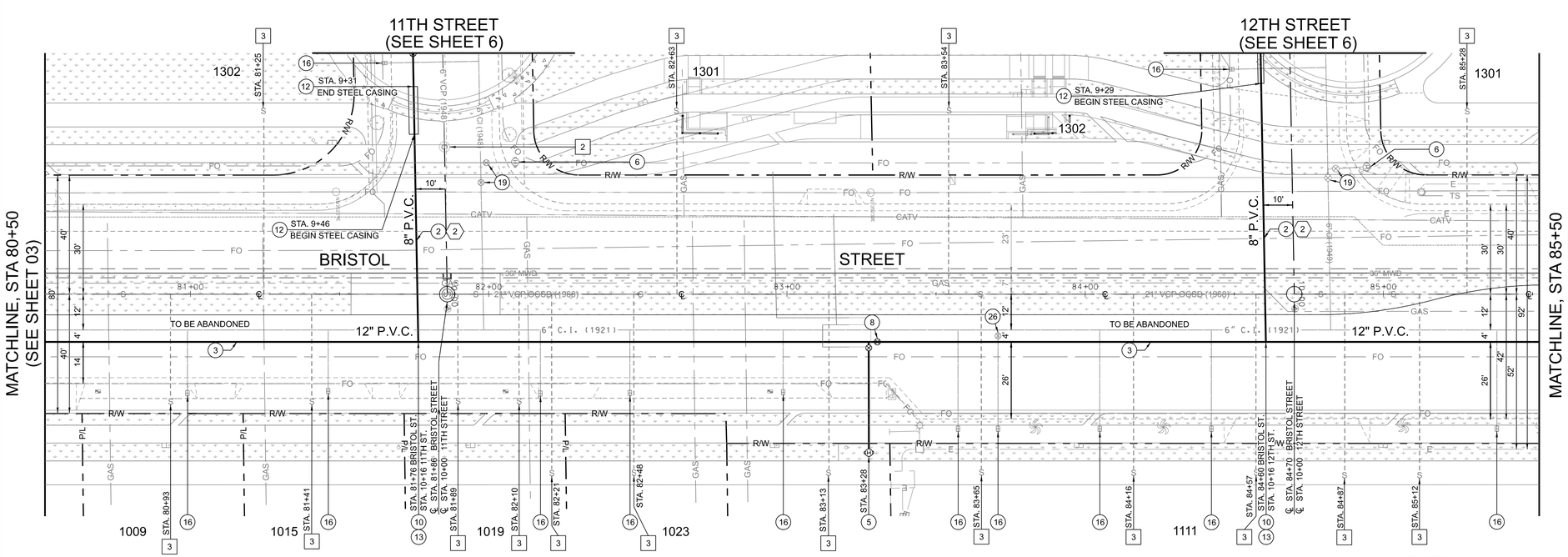

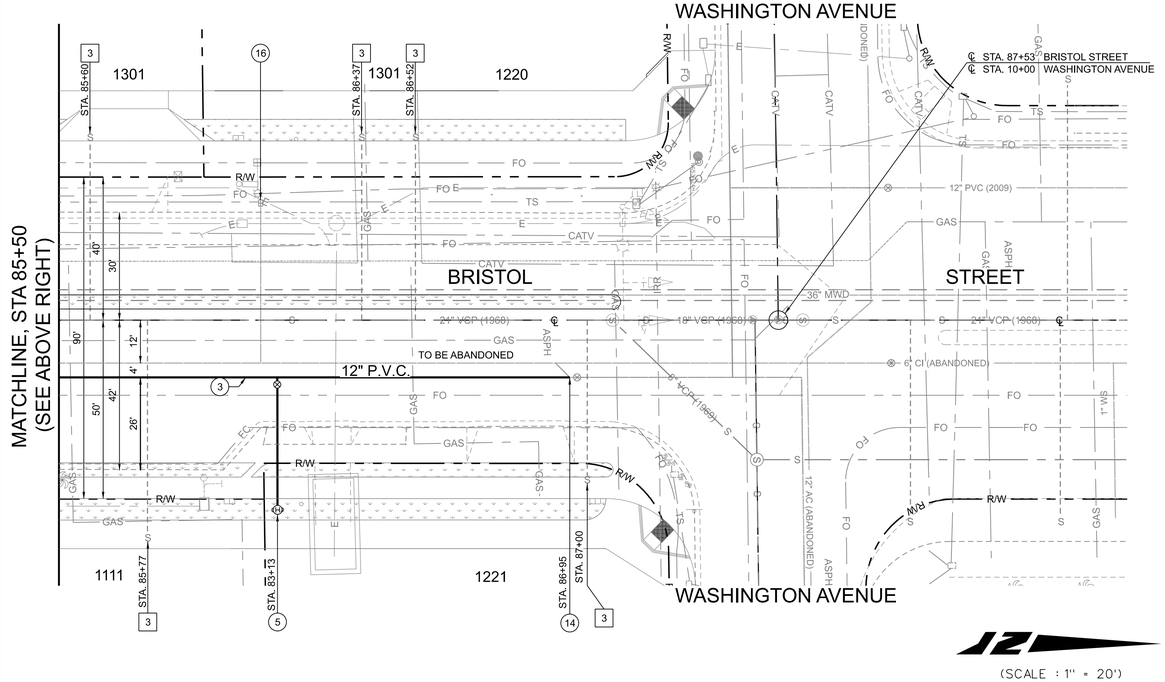

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(6) REMOVE AND SALVAGE EXISTING FIRE HYDRANT ASSEMBLY FROM BURY. TRANSPORT TO CITY YARD.

(8) CONSTRUCT 12" GATE VALVE (FLG. X MJ.)

(10) CONSTRUCT 12" X 8" TEE (MJ. X MJ.)

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(26) REMOVE AND DISPOSE OF EXISTING GATE VALVE

SEWER CONSTRUCTION NOTES:

(2) ABANDON EXISTING SEWER MANHOLE PER CITY STD. PLAN NO. 1209.

(3) ABANDON EXISTING SEWER LATERAL AT THE WYE PER CITY STD. PLAN NO. 1212.

NOTES:

(1) CONTRACTOR SHALL VERIFY EXISTING PRIVATE WATER CONNECTION AND RECONNECT EXISTING SERVICE BEYOND THE METER BOX

(2) PRIOR TO CONSTRUCTING THE WATER MAIN, INCLUDING ANY EXCAVATION WORK, THE CONTRACTOR SHALL REQUEST TO HAVE THE FUTURE SOUND WALL ALIGNMENT SURVEYED WITH CUT ELEVATIONS PROVIDED TO THE BOTTOM OF THE FOOTING TO VERIFY THE CLEARENCE BETWEEN THE WALL AND NEW WATER MAIN.

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

SHEET 4 OF 7

FILE NAME: $FILE$

FILE NO. WA-06514

REVISIONS				REFERENCES			
NUMBER	DATE	INITIALS	DESCRIPTIONS	APPROVED	INSTALLED	WATER ATLAS & SEWER ATLAS	BENCH MARK # ELEV.
						WG-07, WG-08, G07, G08, F07, AND F08	

REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
ROBERT AGUIRRE — SENIOR CIVIL ENGINEER — DESIGNED: J.A., M.R. DRAWN: J.A., K.B. CHECKED: I.Y., R.A. — DATE 6 / 2024

REVIEWED FOR CONSTRUCTABILITY:
SEAN THOMAS — PRINCIPAL CIVIL ENGINEER — RCE NO.: 66219 — DATE 6 / 2024

RECOMMENDED FOR CONSTRUCTION:
ARMANDO FERNANDEZ — PRINCIPAL CIVIL ENGINEER — RCE NO.: 87111 — DATE 6 / 2024

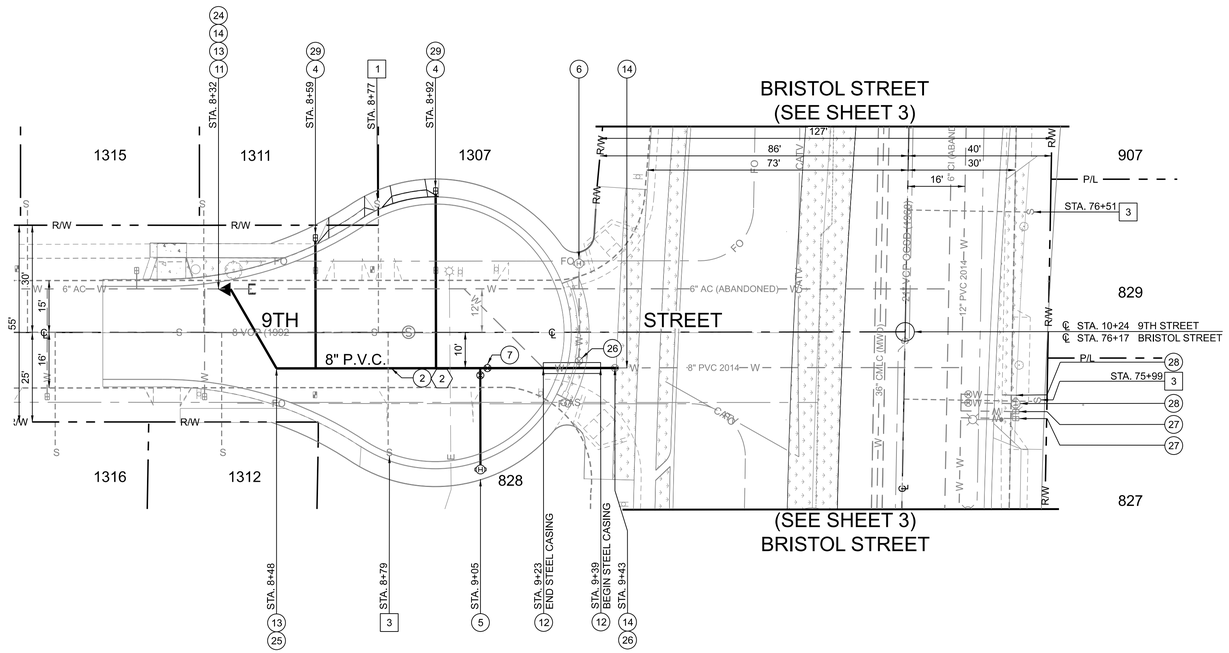
WATER MAIN IMPROVEMENTS:

BRISTOL ST
10TH ST TO WASHINGTON AVE

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

PROJECT NO. 15-6445

W-426



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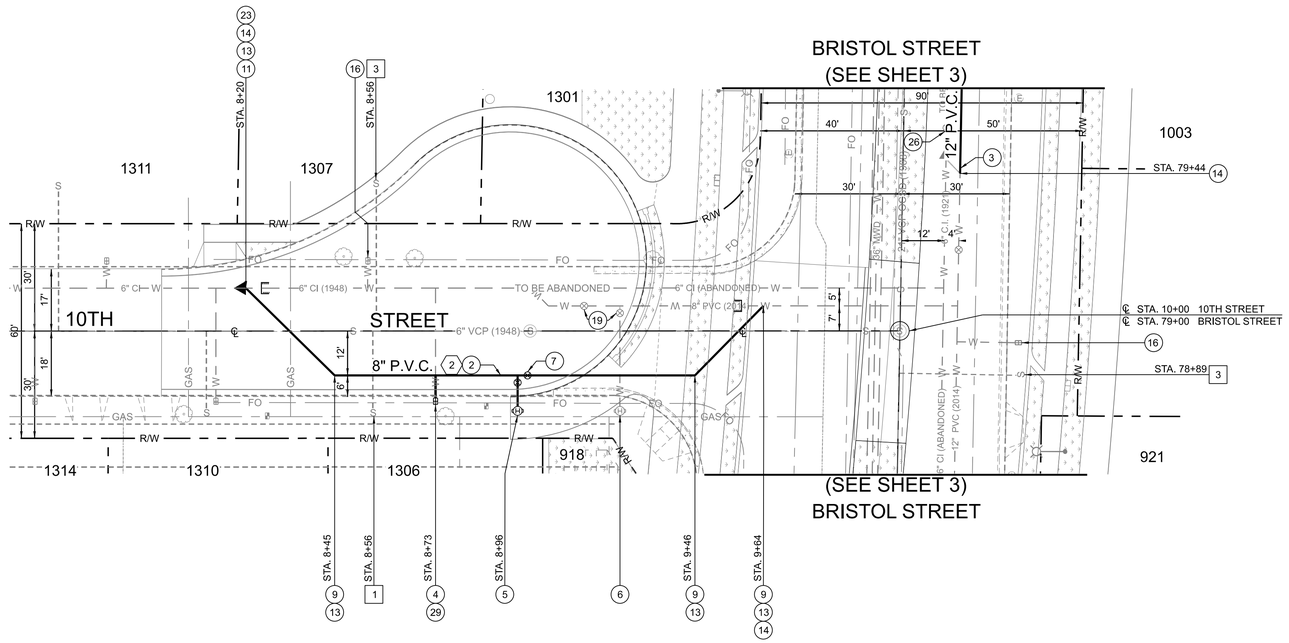

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(4) CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401 FROM NEW WATER MAIN TO PROPOSED WATER METER LOCATION. RESET WATER METER AND RECONNECT TO CUSTOMER LINE.

(5) CONSTRUCT NEW FIRE HYDRANT ASSEMBLY PER CITY STD. PLAN 1405.

(6) REMOVE AND SALVAGE EXISTING FIRE HYDRANT ASSEMBLY FROM BURY. TRANSPORT TO CITY YARD.

(7) CONSTRUCT 8" GATE VALVE (FLG. X MJ.)

(9) CONSTRUCT 8" 45° BEND (MJ. X MJ.)

(11) CONSTRUCT 8" X 6" REDUCER (FLG. X MJ.)

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(16) ABANDON EXISTING WATER SERVICE PER CITY STD. PLAN NO. 1430, REMOVE AND DISPOSE OF METER BOX AND COVER. BACKFILL WITH SAND AND COMPACT.

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(26) REMOVE AND DISPOSE EXISTING GATE VALVE

(27) REMOVE EXISTING WATER METER BOX. FURNISH AND INSTALL NEW WATER METER BOX AND LID PER CITY STD. PLAN NO. 1402.

(28) PROTECT IN PLACE.

(29) RELOCATE EXISTING WATER METER TO NEW LOCATION AND RESET.

SEWER CONSTRUCTION NOTES:

[1] REMOVE EXISTING SEWER LATERAL AND CONSTRUCT SEWER LATER AND CLEANOUT FROM SEWER MAIN AND TIE INTO EXISTING SEWER LATERAL AT P.L. PER CITY STD. PLAN NO. 1204.

[3] ABANDON EXISTING SEWER LATERAL AT THE WYE PER CITY STD. PLAN NO. 1212.

NOTES:

<1> CONTRACTOR SHALL VERIFY EXISTING PRIVATE WATER CONNECTION DETAILS AND CONNECT NEW TO EXISTING ON CUSTOMER SIDE

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SHEET 5 OF 7

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

PROJECT NO. 15-6445

W-426

PLOTTED BY: $USER$ PLOT DATE: $DATE$ LAST SAVED: $LASTSAVEDDATE$

FILE NAME: $FILE$

FILE NO.	REVISIONS				REFERENCES				
	NUMBER	DATE	INITIALS	DESCRIPTIONS	APPROVED	INSTALLED	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.
WA-06514							WG-07, WG-08, G07, G08, F07, AND F08		

REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
ROBERT AGUIRRE — SENIOR CIVIL ENGINEER — DATE

DESIGNED: J.A., M.R. DRAWN: J.A., K.B. CHECKED: I.Y., R.A. — 6 / 2024

REVIEWED FOR CONSTRUCTABILITY:
SEAN THOMAS — PRINCIPAL CIVIL ENGINEER — RCE NO.: 66219 — 6 / 2024

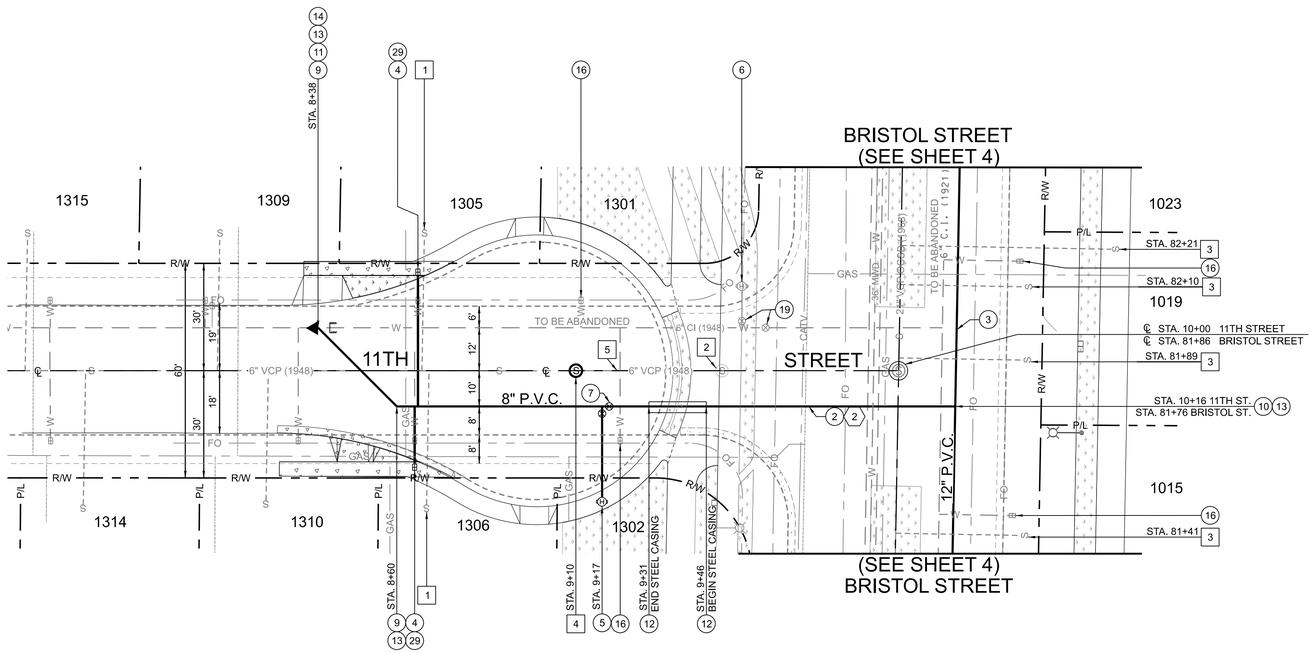
RECOMMENDED FOR CONSTRUCTION:
ARMANDO FERNANDEZ — PRINCIPAL CIVIL ENGINEER — RCE NO.: 87111 — 6 / 2024

WATER MAIN IMPROVEMENTS:

9TH ST / 10TH ST

STA 7+50 TO BRISTOL ST / STA 7+50 TO BRISTOL ST

PUBLIC WORKS AGENCY
CITY OF SANTA ANA



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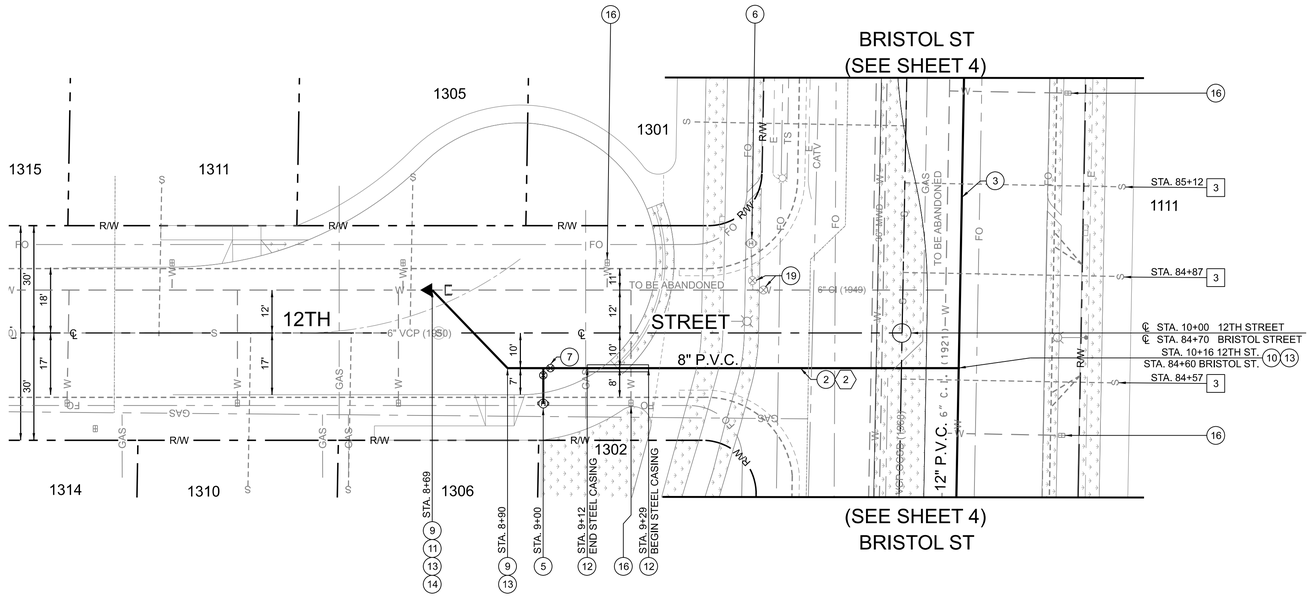

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(4) CONSTRUCT 1" WATER SERVICE PER CITY STD. PLAN NO. 1401 FROM NEW WATER MAIN TO PROPOSED WATER METER LOCATION. RESET WATER METER AND RECONNECT TO CUSTOMER LINE.

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(19) ABANDON EXISTING GATE VALVE. REMOVE VALVE BOX FRAME AND COVER. CUT OFF RISER 18" BELOW GRADE. BACKFILL WITH SAND, COMPACT, AND REPAVE.

(21) CONSTRUCT 1" WATER SERVICE FROM WATER MAIN TO NEW WATER METER LOCATION PER CITY STD. PLAN NO. 1401.

(22) RELOCATE WATER METER TO NEW LOCATION. RESET AND CONNECT TO CUSTOMER LINE.

(29) RELOCATE EXISTING WATER METER TO NEW LOCATION AND RESET.

SEWER CONSTRUCTION NOTES:

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BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

PROJECT NO. 15-6445

SHEET 6 OF 7

W-426

PLOTTED BY: $USER$ PLOT DATE: $DATE$ LAST SAVED: $LASTSAVEDDATE$

FILE NAME: $FILE$

FILE NO. WA-06514

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NUMBER	DATE	INITIALS	DESCRIPTIONS

REFERENCES				
APPROVED	INSTALLED	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.
		WG-07, WG-08, G07, G08, F07, AND F08		

REGISTERED PROFESSIONAL ENGINEER ROBERT AGUIRRE 79099 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
ROBERT AGUIRRE
SENIOR CIVIL ENGINEER — DATE
DESIGNED: J.A., M.R. DRAWN: J.A., K.B. CHECKED: I.Y., R.A. — 6 / 2024

REVIEWED FOR CONSTRUCTABILITY:
SEAN THOMAS
PRINCIPAL CIVIL ENGINEER RCE NO.: 66219 — 6 / 2024

RECOMMENDED FOR CONSTRUCTION:
ARMANDO FERNANDEZ
PRINCIPAL CIVIL ENGINEER RCE NO.: 87111 — 6 / 2024

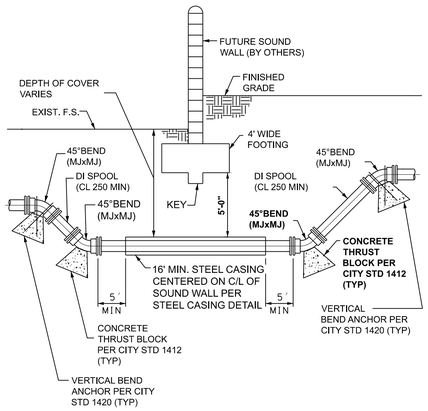
WATER MAIN IMPROVEMENTS:

11TH ST / 12TH ST

STA 7+50 TO BRISTOL ST / STA 7+50 TO BRISTOL ST

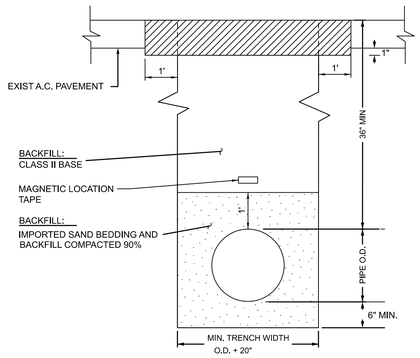
PUBLIC WORKS AGENCY
CITY OF SANTA ANA

PLOTTED BY: $USER$ PLOT DATE: $DATE$ LAST SAVED: $LASTSAVEDDATE$



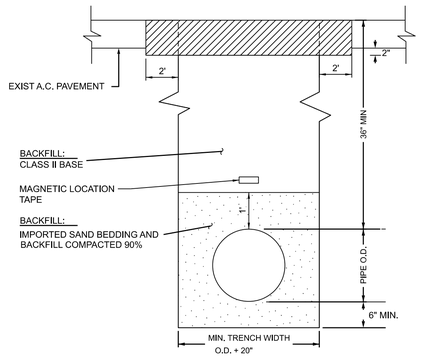
CASING UNDER SOUND WALLS

SCALE: NTS



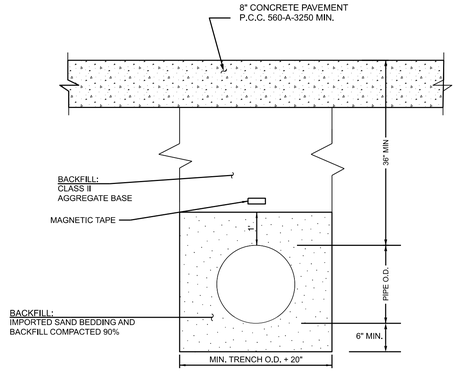
WATER
TRENCH AND PAVING DETAIL

SCALE: NTS
10TH STREET, 11TH STREET, 12TH STREET



WATER
TRENCH AND PAVING DETAIL

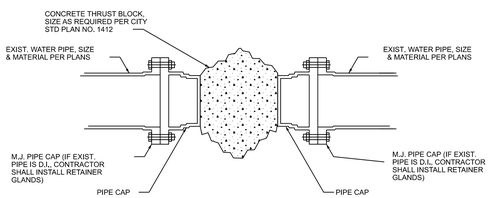
SCALE: NTS
BRISTOL STREET



WATER
TRENCH AND PAVING DETAIL

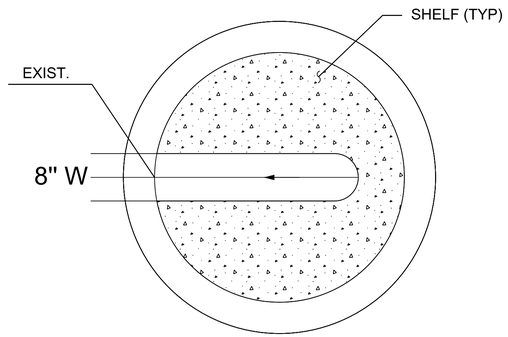
SCALE: NTS
9TH STREET

NOTE:
DRAIN WATERLINE COMPLETELY BEFORE PLUGGING. ALL WATER DRAINED FROM PIPELINE SHALL BE DISCHARGED INTO A SEWER SYSTEM.



TYPICAL CUT AND CAP

SCALE: NTS



MANHOLE DETAIL

SCALE: NTS
STA. 9+10 11TH ST

SHEET 7 OF 7

FILE NO. WA-06514

REVISIONS				REFERENCES				
NUMBER	DATE	INITIALS	DESCRIPTIONS	APPROVED	INSTALLED	WATER ATLAS & SEWER ATLAS	BENCH MARK #	ELEV.
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WATER MAIN IMPROVEMENTS:

DETAIL SHEET

PUBLIC WORKS AGENCY
CITY OF SANTA ANA

W-426

PROJECT NO. 15-6445

BRISTOL STREET PHASE 3A WATER MAIN IMPROVEMENTS

FILE NAME: $FILE$