
















ILLUMINATION

-  Maintain and protect existing wood pole
-  Maintain and protect existing luminaire arm
-  Maintain and protect existing LED luminaire
-  Install acorn style luminaire and decorative pole No. (N) on new foundation. See sheet IL13 for details.
-  Install acorn style luminaire and decorative pole on raised stone foundation No. (N) on new foundation. See sheet IL13 for details.
-  Install bollard No. (N) on new foundation. See sheet IL13 for details.
-  Power source.




CABINETS

-  Install base mounted service cabinet, 120/240 volt metered. See wiring diagram on sheet IL9 for additional details.
-  Install base mounted service cabinet, 120/240 volt metered. See wiring diagram on sheet IL10 for additional details.




JUNCTION BOXES

-  Maintain and protect existing junction box
-  Install 17"x10"x12" (Min. dimension) precast concrete junction box
-  Install 22"x12"x12" (Min. dimension) precast concrete junction box
-  Install 17"x10"x12" (Min. dimension) precast concrete junction box with concrete apron
-  Install 22"x12"x12" (Min. dimension) precast concrete junction box with concrete apron
-  Install GFI receptacle No. (N). See Junction box and GFI receptacle detail on sheet IL12.

CONDUITS

-  Install (S) inch non-metallic conduit
-  Install 2 inch conduit stub for future use, cap ends
-  Install conduit and wire as required by power company

WIRES

-  Install polyethylene pull line
-  Install (N=Number) No. (G=AWG wire size) XHHW wires
- L#N(X)** Roadway illumination circuit No. (N) from service cabinet (X)
- G(S)** Install one No. (S) copper ground wire
-  Install one No. 16 AWG TFFN stranded copper wire with orange base and blue tracer.

LIGHTING NOTES

1. Decorative style light poles shall be:

<u>MANUFACTURER:</u>	<u>CATALOG NUMBER</u>
VISCO	V1-S13-F/16'-1 (BLACK)
VISCO	V1-S13-F/14'-1 (BLACK)
VISCO	V1-S13-F/10'-1 (BLACK)

2. Acorn style luminaire shall be:

<u>MANUFACTURER:</u>	<u>CATALOG NUMBER</u>
VISCO	1200M-98-40-T3-NL-PEC-9005
VISCO	1200M-49-40-T3-NL-PEC-9005

3. Bollard shall be:

<u>MANUFACTURER:</u>	<u>CATALOG NUMBER</u>
HOLOPHANE	HLBOLED-CA-P30-30K-MVOLT-GL3-AWS-BK-A0

ILLUMINATION LEGEND

GENERAL NOTES

1. See sheet IL11 for Illumination Pole Schedule and Lighting Values Table.
2. Accompanied by ODOT Standard Drawings TM471, TM472, TM482, and TM485.
3. All electrical equipment shall conform to the current standards of the National Electrical Manufacturers Association (NEMA) and the Underwriters Laboratories, inc. (U.L.) wherever applicable. In addition to the requirements of the plans, standard specifications, and the special provisions, all materials and workmanship shall conform to the current requirements of the National Electrical Code (NEC) the National Electrical Safety Code, standards of the American National Standards Institute (ANSI), and any local ordinances which may apply.
4. Location of illumination conduits and junction boxes are approximate. Coordinate with other utilities to ensure proper installation.
5. Equipment submittals and pole drawings shall be provided to the City of St. Helens by the contractor after an initial review has been completed by the project engineer. City of St. Helens approval of these submittals must be obtained prior to construction.



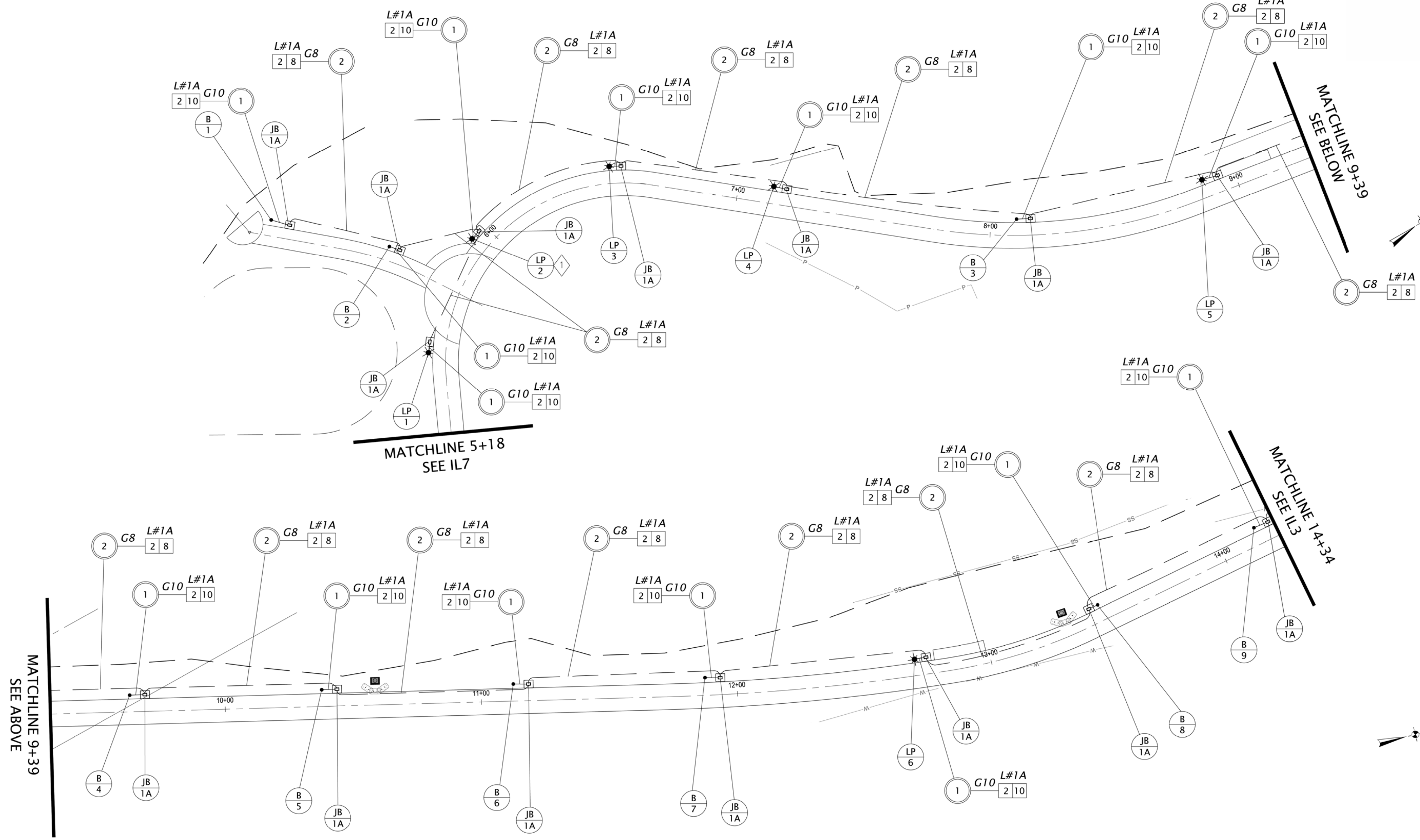
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ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
ILLUMINATION LEGEND

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#	DESCRIPTION

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IL1
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ILLUMINATION PLAN



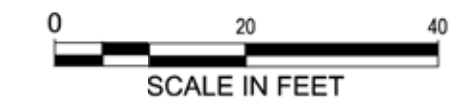
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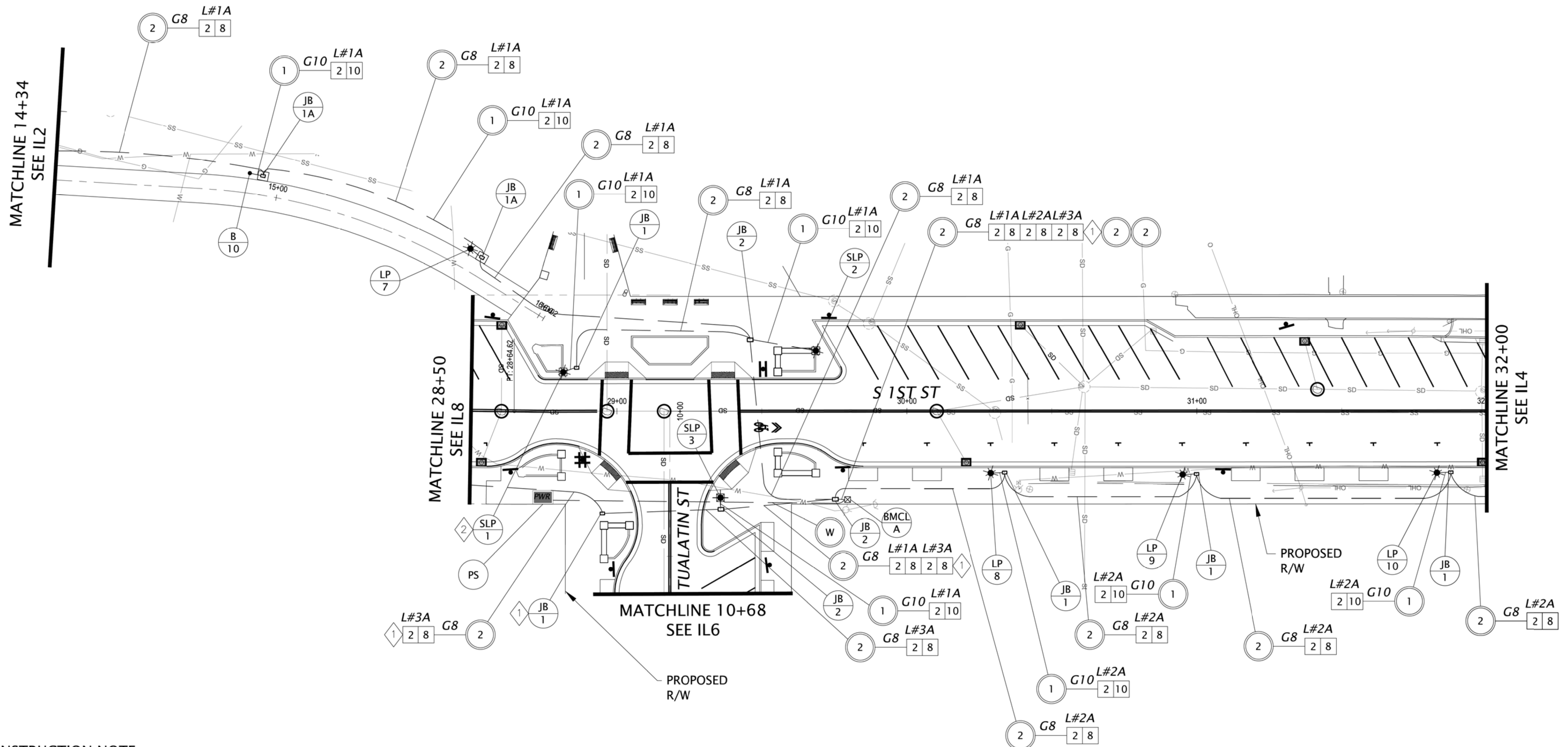
IL2
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CONSTRUCTION NOTE:
 1 See Landscape Plans for wayfinding signage to be installed on luminaire pole.



BASE

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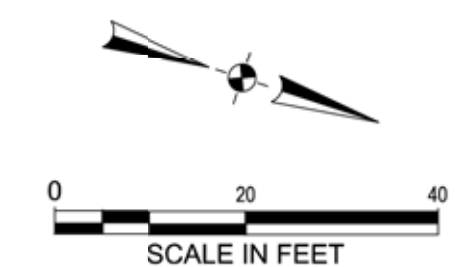


CONSTRUCTION NOTE:

- ① Circuit 3 wiring and conduits to be install in a future project (SEE IL7-IL8 for information purposes). Install 2 inch conduit stub in junction box for future use.
- ② See Landscape Plans for wayfinding signage to be installed on luminaire pole.

NOTE:
See IL2 for additional Illumination installations for multiuse path

BASE



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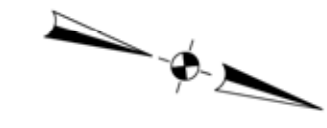
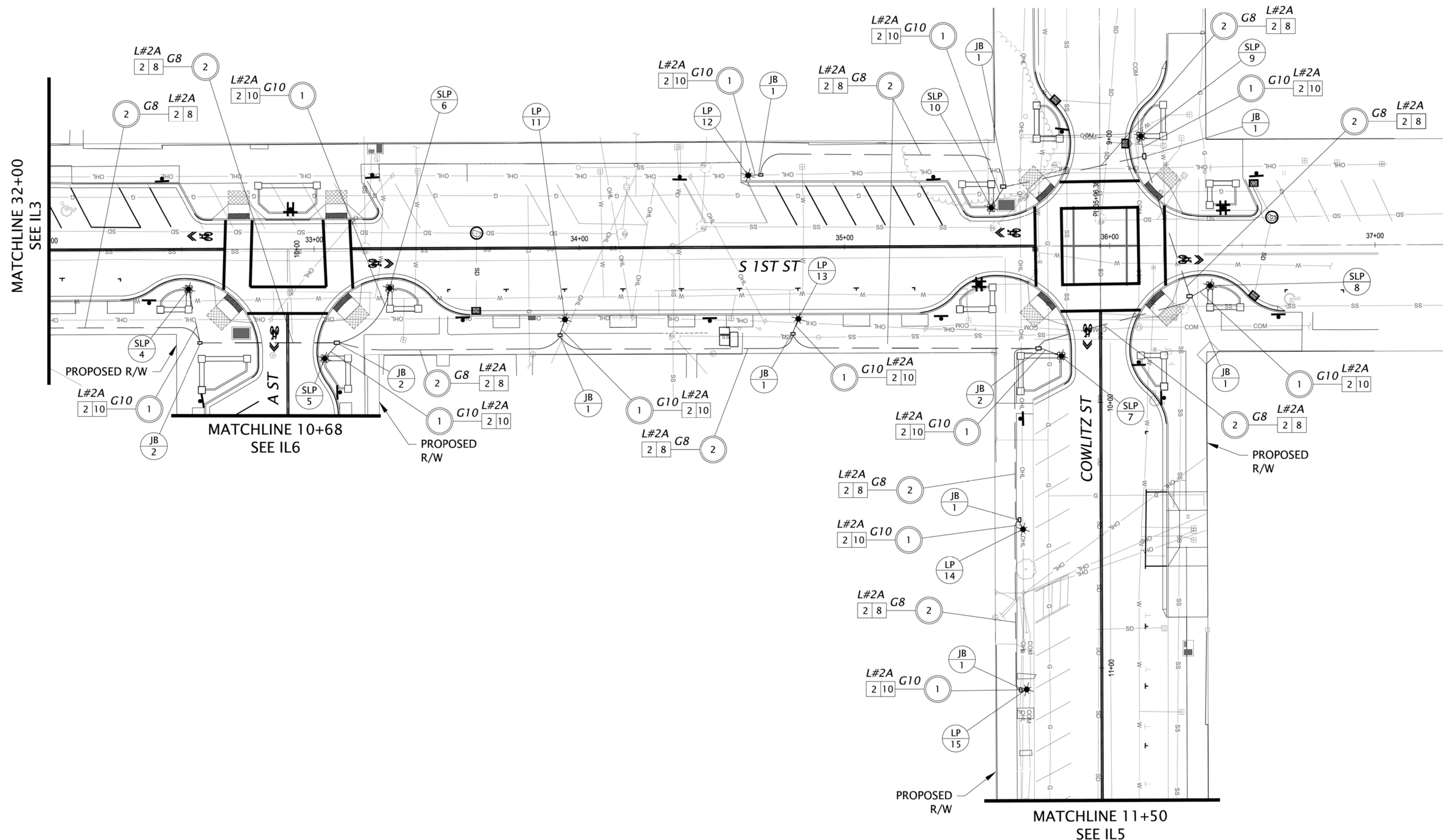
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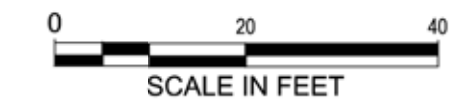


MATCHLINE 32+00
SEE IL3

MATCHLINE 10+68
SEE IL6

MATCHLINE 11+50
SEE IL5

BASE



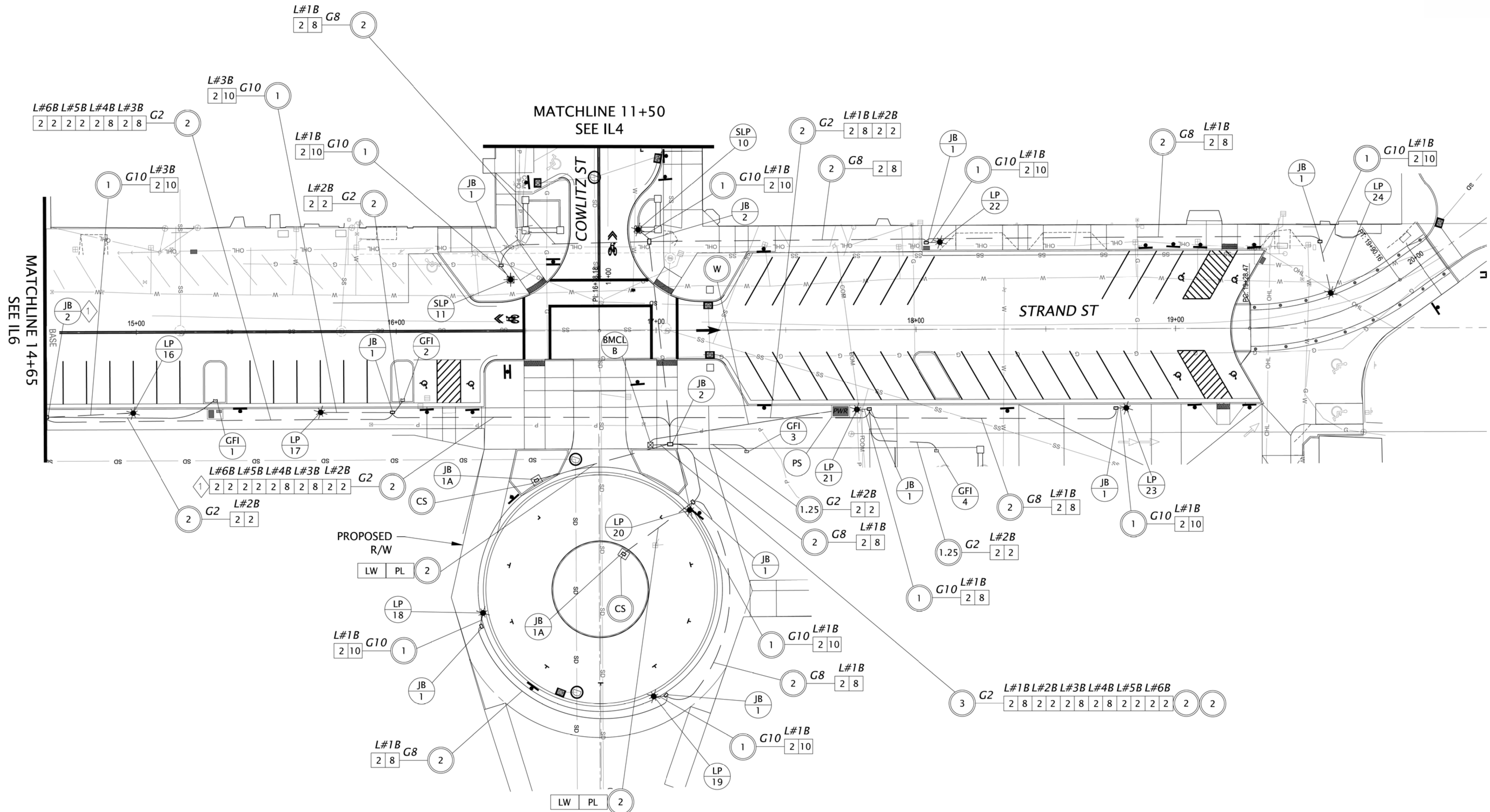
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ILLUMINATION PLAN

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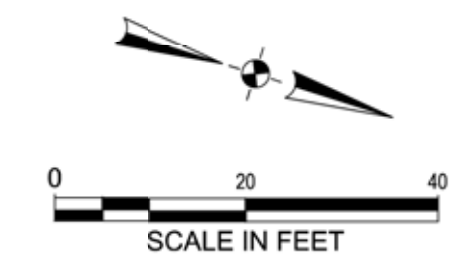
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CONSTRUCTION NOTE:

- 1 Circuits 3, 4, 5, 6 and conduits to continue and be installed in future ADD 1 stage (See IL6). Install 2 inch conduit stub in junction box for future extension.

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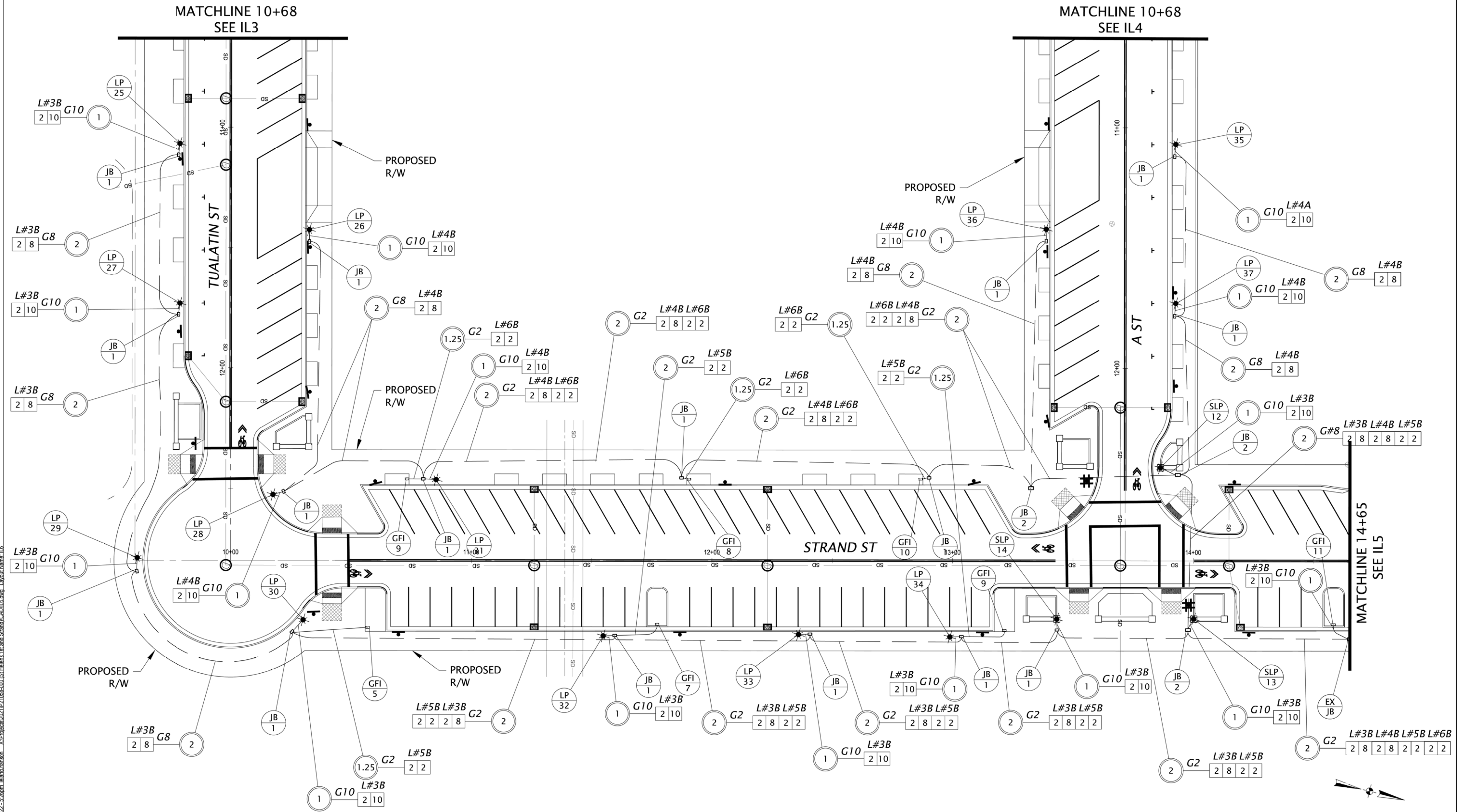
IL5



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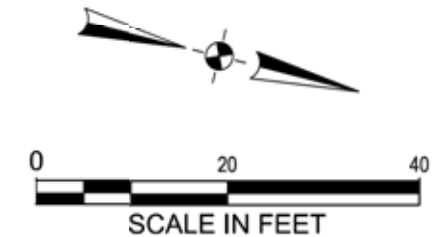


MATCHLINE 10+68
SEE IL3

MATCHLINE 10+68
SEE IL4

MATCHLINE 14+65
SEE IL5

ADD 1



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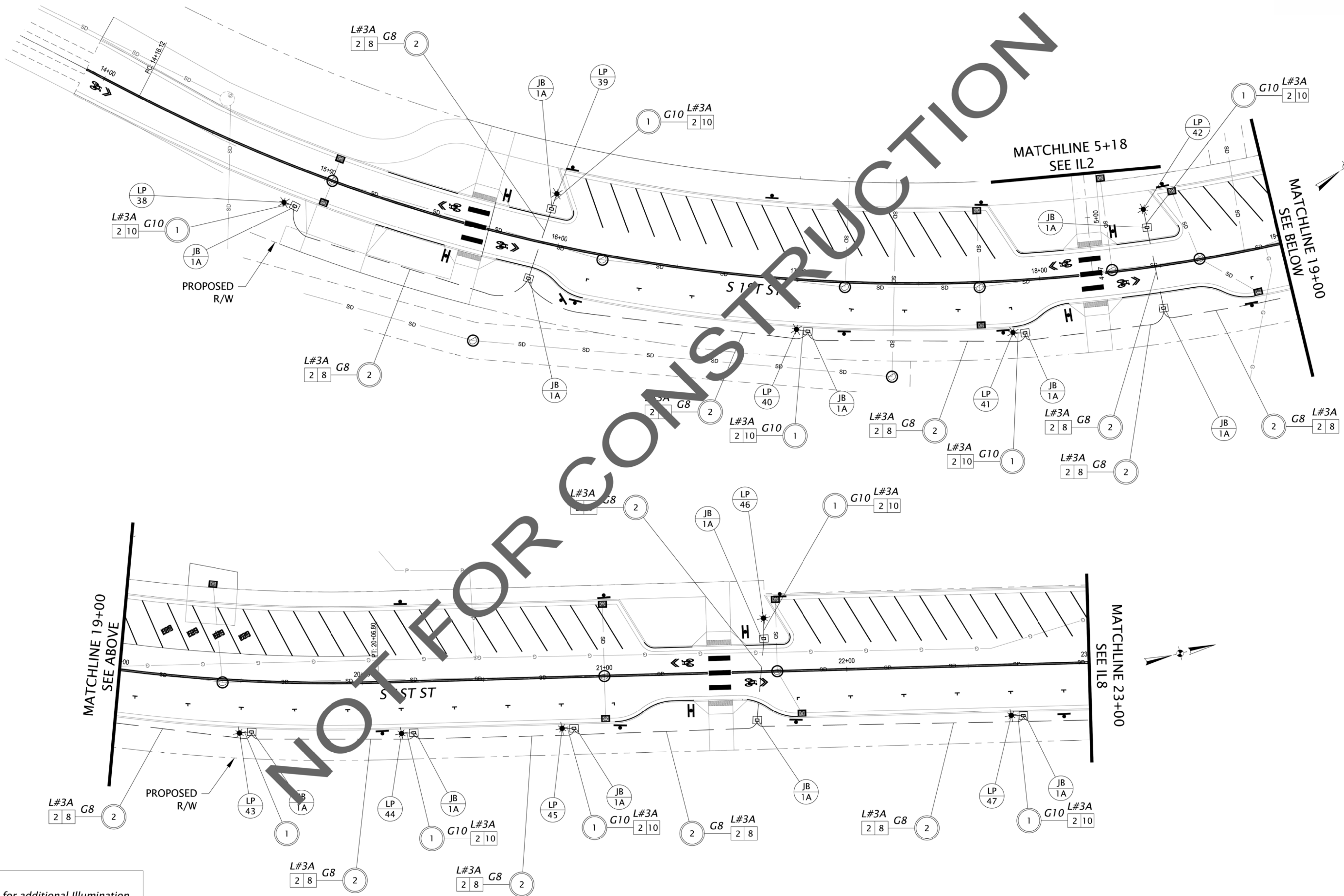
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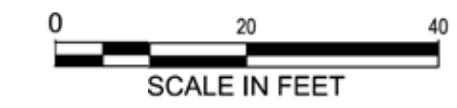
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ILLUMINATION PLAN



NOTE:
See IL2-IL3 for additional Illumination installations for multiuse path



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IL7

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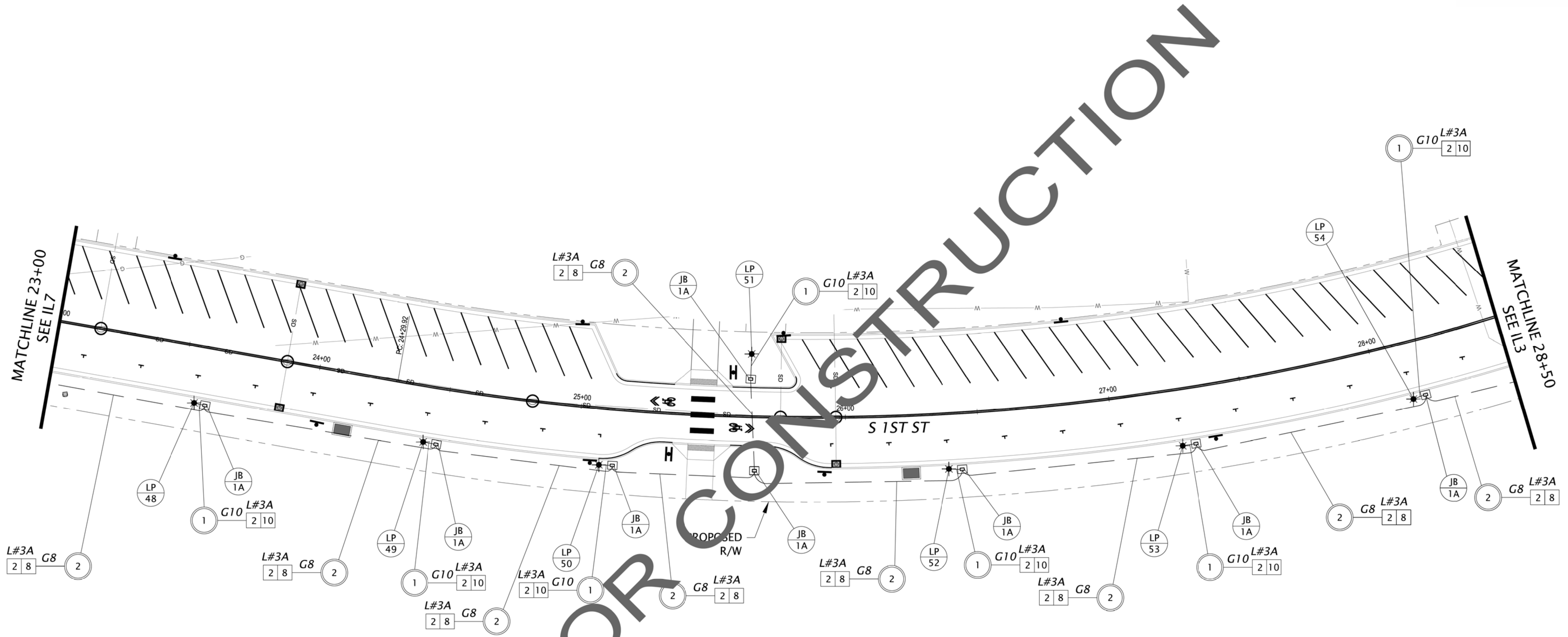
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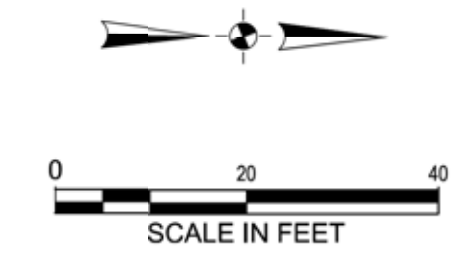
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ILLUMINATION PLAN



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NOTE:
See IL2-IL3 for additional Illumination installations for multiuse path



#	DATE	DESCRIPTION

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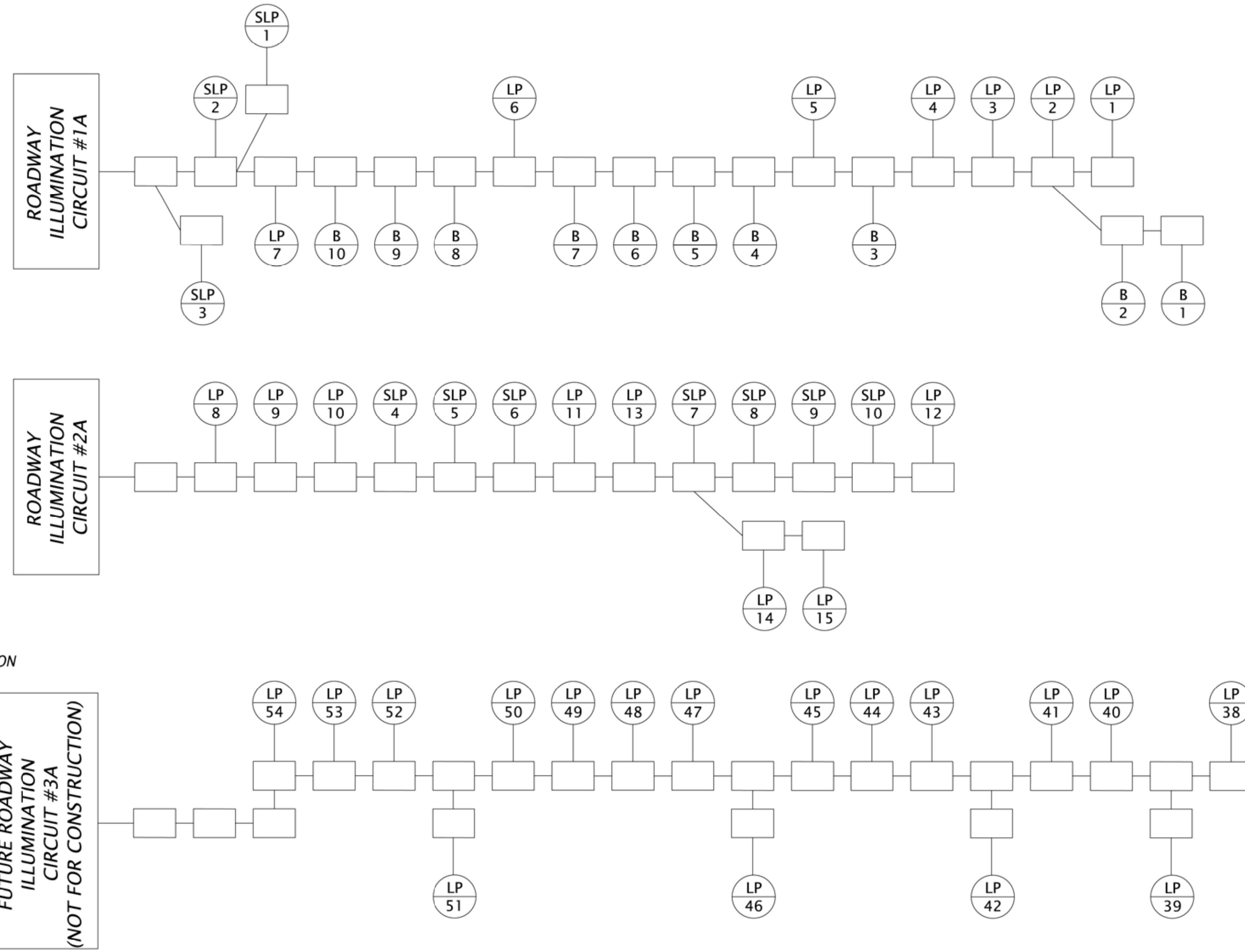
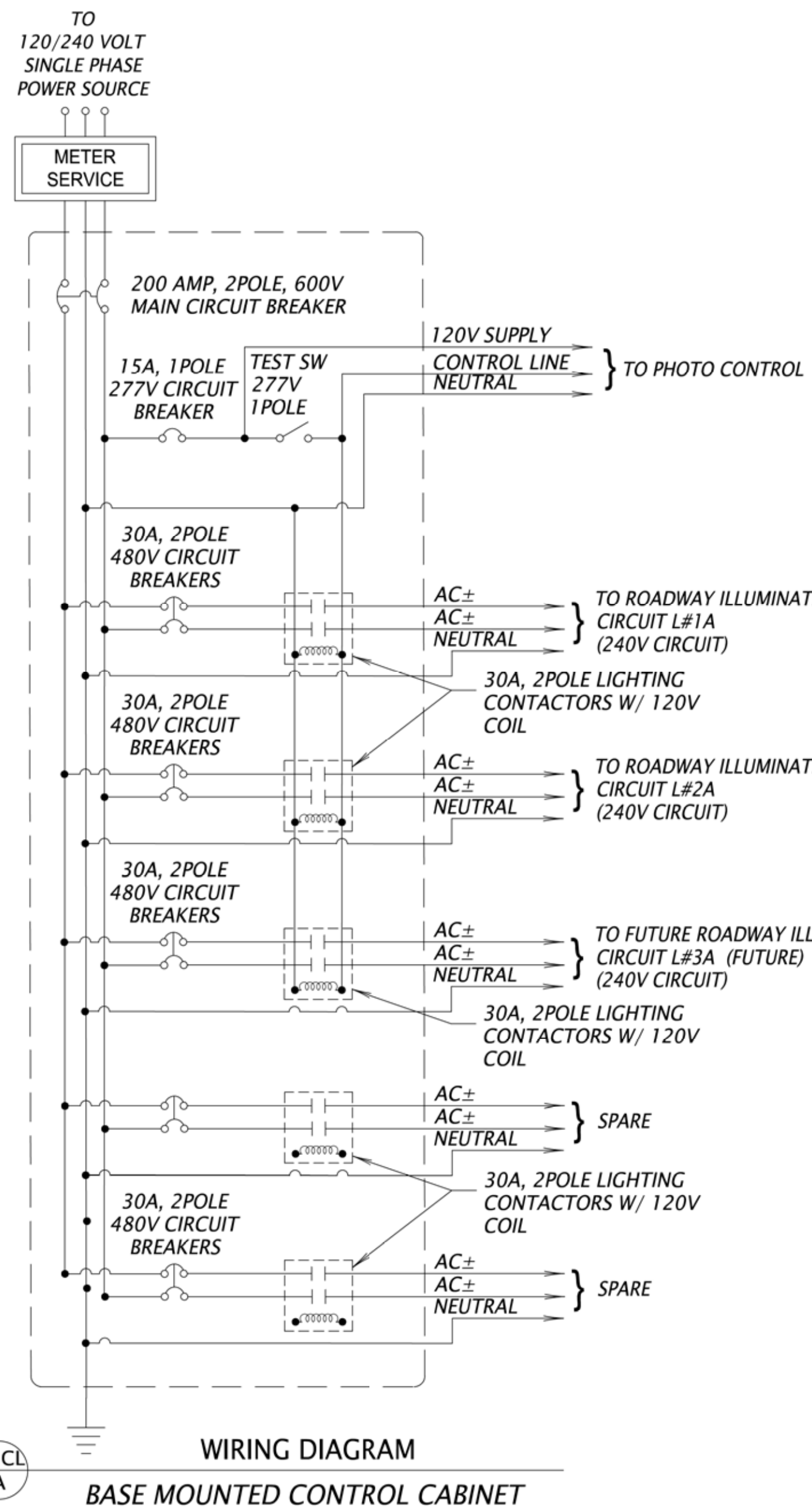
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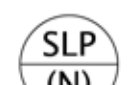
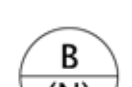
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ILLUMINATION DETAILS



LEGEND

-  Junction box
-  Proposed luminaire pole No. (N)
-  Proposed luminaire pole on proposed raised stone foundation No. (N)
-  Proposed bollard No. (N)



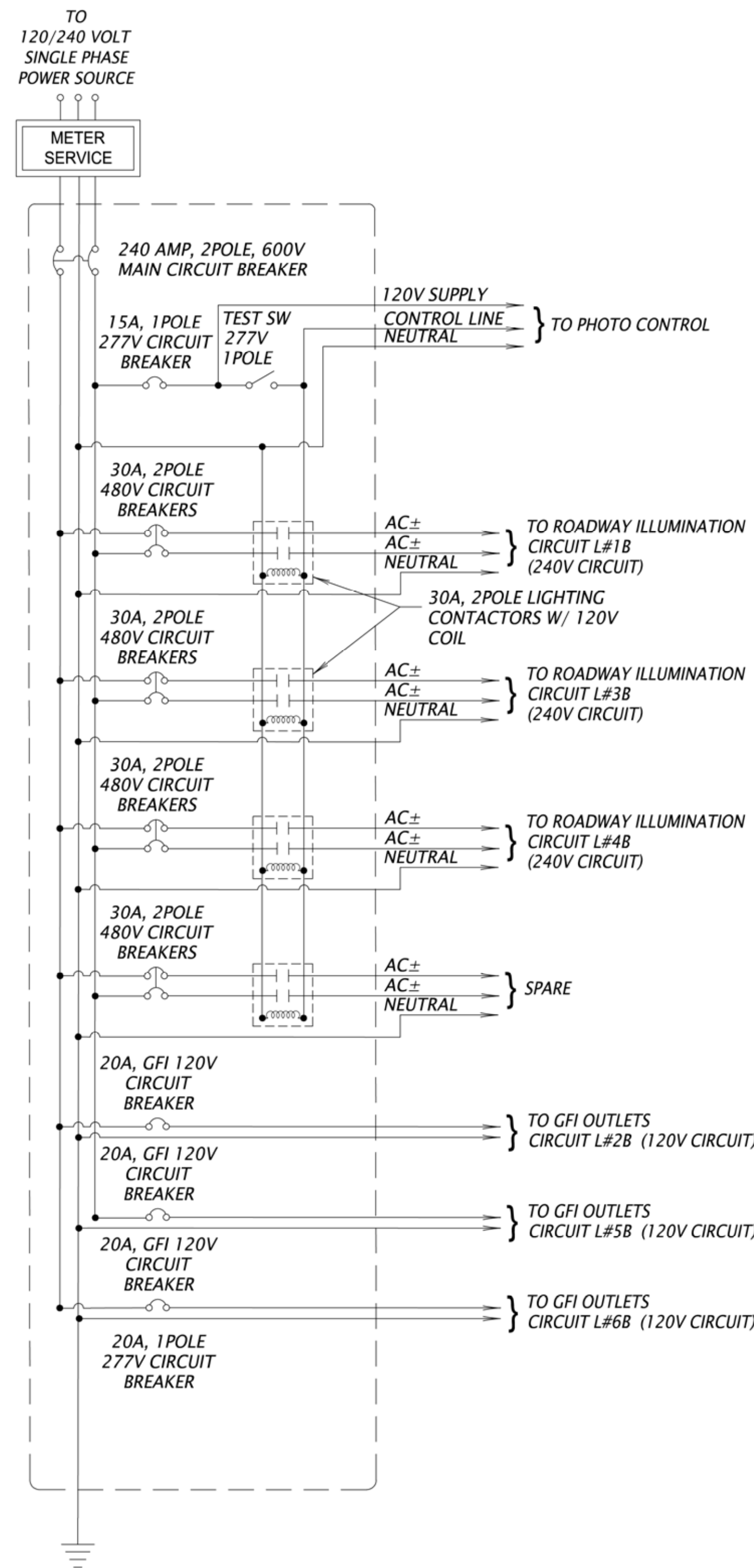
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ILLUMINATION DETAILS

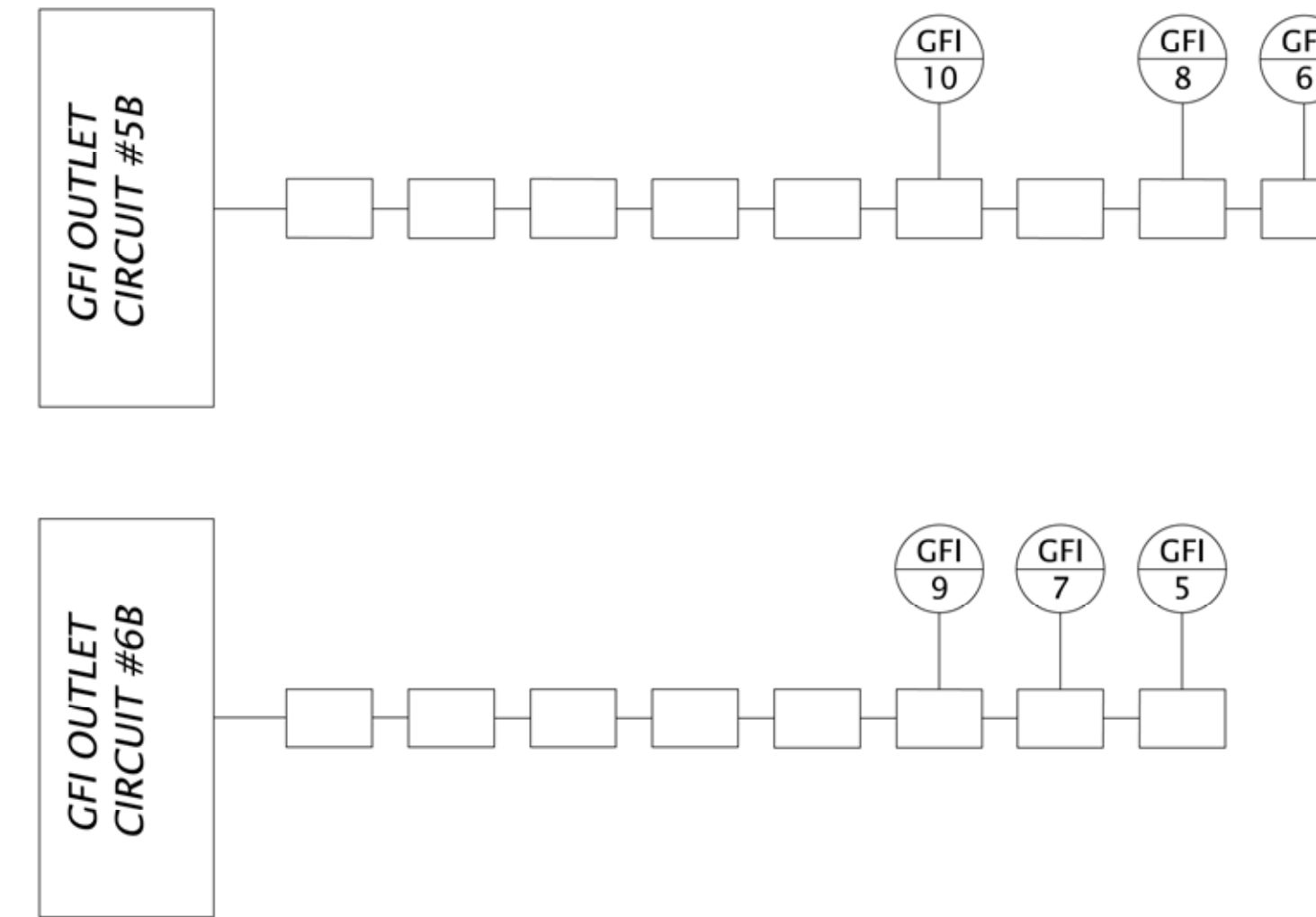
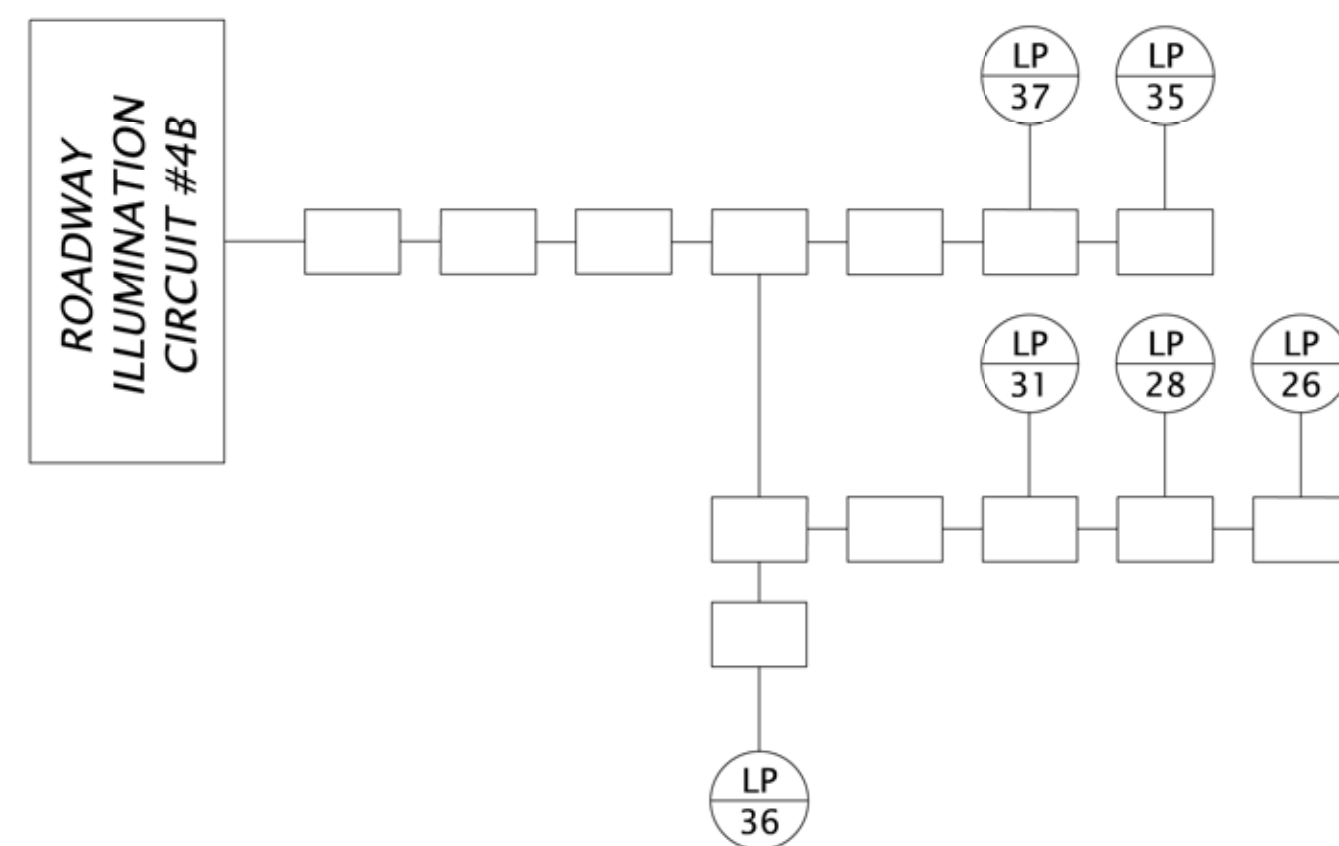
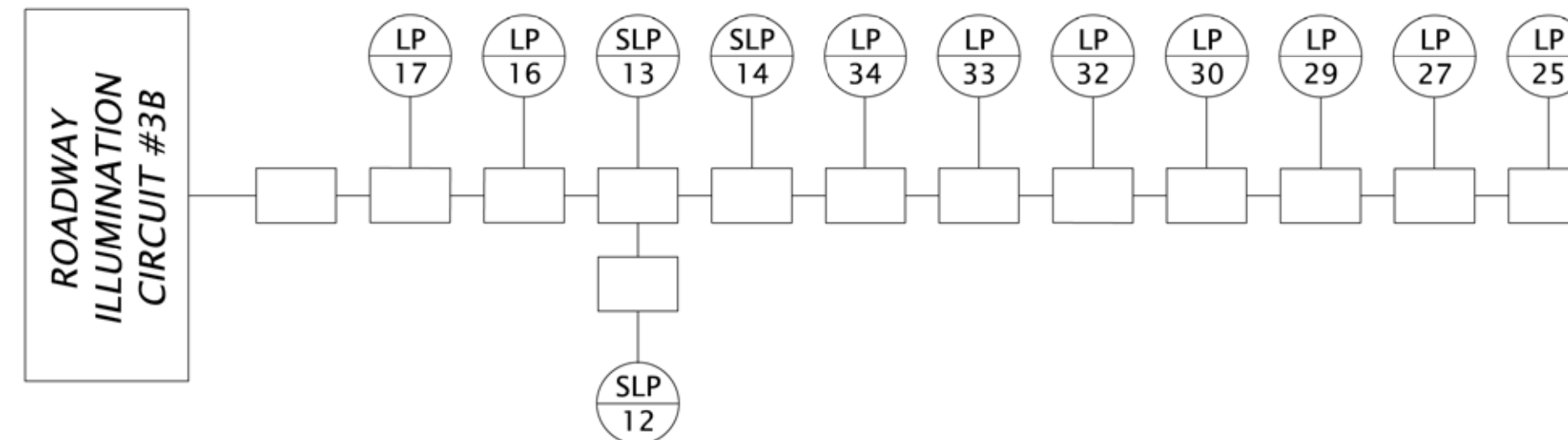
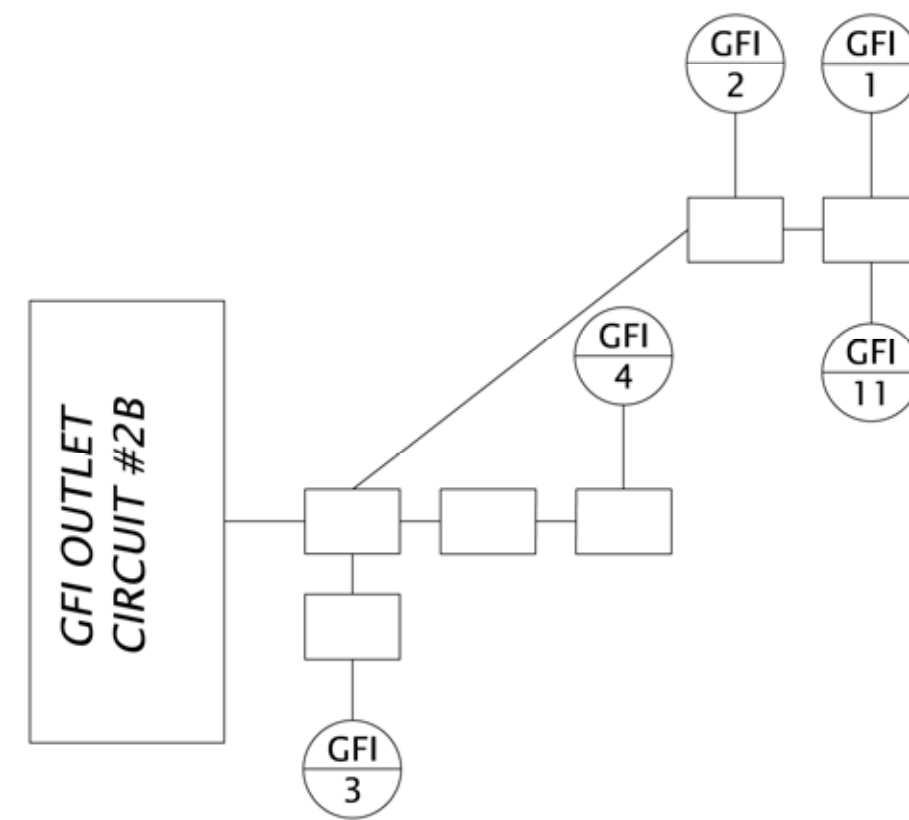
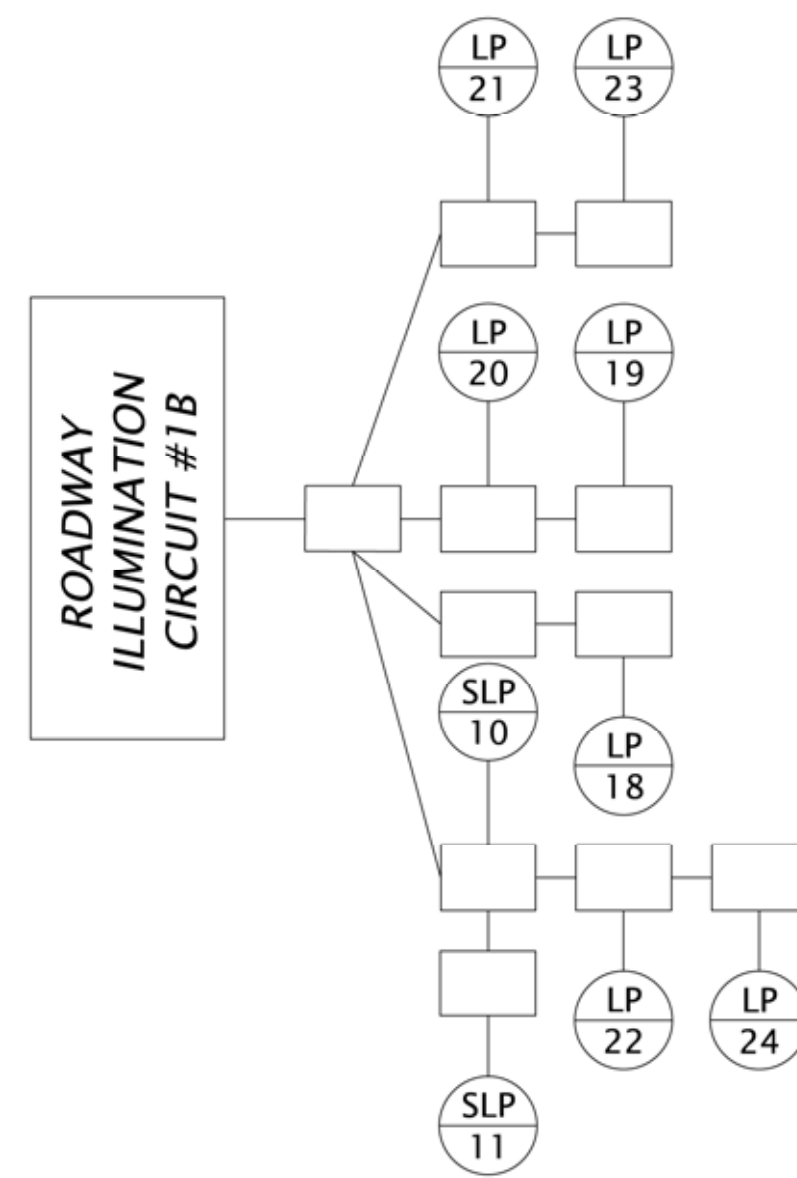
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IL9	
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ILLUMINATION DETAILS



WIRING DIAGRAM
BASE MOUNTED CONTROL CABINET



LEGEND

- Junction box
- GFI Receptacles No. (N)
- Proposed luminaire pole No. (N)
- Proposed luminaire pole on proposed raised stone foundation No. (N)



S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS ST. HELENS, OREGON

ILLUMINATION DETAILS

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ILLUMINATION POLE SCHEDULE

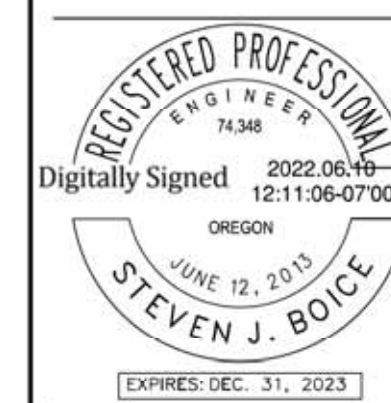
POLE NO.	STREET	STATIONING	OFFSET*	POLE HEIGHT (ft)	POLE PART NUMBER	LUMINAIRE					Remarks
						PART NUMBER	MANUFACTURER	LIGHT SOURCE	WATTAGE	TYPE	
Intersection Lighting (Luminaire Poles on Raised Stone Foundation)											
1	S 1st St @ Tualatin St	**	**	14'	V1-S13-F/14'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
2	S 1st St @ Tualatin St	**	**	14'	V1-S13-F/14'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
3	S 1st St @ Tualatin St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
4	S 1st St @ "A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
5	S 1st St @ "A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
6	S 1st St @ "A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
7	S 1st St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
8	S 1st St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
9	S 1st St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
10	S 1st St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
11	Strand St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
12	Strand St @ Cowlitz St	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
13	Strand St @ 'A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
14	Strand St @ 'A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
15	Strand St @ 'A St"	**	**	14'	V1-S13-F/14'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
Multi-use Path Lighting (Luminaire Pole)											
1	Bluff Path	5+50	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
2	Bluff Path	5+95	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
3	Bluff Path	6+50	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
4	Bluff Path	7+14	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
5	Bluff Path	8+88	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
6	Bluff Path	12+70	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
7	Bluff Path	15+63	3.0' L	10'	V1-S13-F/12'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
Roadway Lighting											
8	S 1st St	30+28	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
9	S 1st St	30+95	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
10	S 1st St	31+82	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
11	S 1st St	33+94	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
12	S 1st St	34+64	3.0' L	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
13	S 1st St	34+82	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
14	Cowlitz	10+48	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
15	Cowlitz	11+08	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
16	Strand St	14+99	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
17	Strand St	15+70	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
18	Cowlitz (Cul-de-sac)	N/A	3.0' R	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
19	Cowlitz (Cul-de-sac)	N/A	3.0' R	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
20	Cowlitz (Cul-de-sac)	N/A	3.0' R	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Base
21	Strand St	17+77	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
22	Strand St	18+09	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
23	Strand St	18+81	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
24	Strand St	19+58	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Base
25	Tualatin St	11+06	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
26	Tualatin St	11+43	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
27	Tualatin St	11+74	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
28	Tualatin St	12+53	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
29	Tualatin St	12+78	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
30	Strand St	10+30	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
31	Strand St	10+87	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
32	Strand St	11+55	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
33	Strand St	12+36	3.0' R	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Add 1
34	Strand St	12+98	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
35	"A St"	11+07	3.0' L	16'	V1-S13-F/16'	1200M-49-40-T3-NL-PEC-9005	VISCO	LED	49	III	Add 1
36	"A St"	11+42	3.0' R	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
37	"A St"	11+73	3.0' L	16'	V1-S13-F/16'	1200M-98-40-T3-NL-PEC-9005	VISCO	LED	98	III	Add 1
Multi-use Path Lighting (Bollard)											
1	Bluff Path (Extension)	0+07	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
2	Bluff Path (Extension)	0+54	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
3	Bluff Path	8+10	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
4	Bluff Path	9+62	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
5	Bluff Path	10+38	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
6	Bluff Path	11+12	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
7	Bluff Path	11+88	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
8	Bluff Path	13+48	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
9	Bluff Path	14+15	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base
10	Bluff Path	14+90	2.5' L	3'	HLBOLED-CA-P30-30K-MVOLT-GL3	N/A	HOLOPHANE	LED	25	III	Base

* OFFSETS MEASURED FROM EDGE OF CURB OR EDGE OF ASPHALT TO CENTER OF POLE.
 ** LUMINAIRE POLE TO BE INSTALLED ON RAISED FOUNDATION. SEE LANDSCAPE PLANS FOR EXACT LOCATIONS.

ILLUMINATION DETAILS

LIGHTING VALUES TABLE					
LOCATION	CLASSIFICATION	TARGETED AVERAGE ILLUMINANCE (fc)	ACHIEVED AVERAGE ILLUMINANCE (fc)	TARGETED UNIFORMITY (Avg/Min)	ACHIEVED UNIFORMITY (Avg/Min)
INTERSECTIONS					
S 1st St and Cowlitz St	Collector /Local	≥2.0	2.4	≤4:1	1.8
S 1st St and "A" St	Collector /Local	≥2.0	2.2	≤4:1	2.0
S 1st St and Tualatin St	Collector /Local	≥2.0	2.0	≤4:1	3.3
Strand St and Cowlitz St	Local/Local	≥1.7	2.0	≤6:1	3.5
Strand St and "A" St	Local/Local	≥1.7	2.0	≤6:1	3.0
ROADWAY SEGMENTS - S 1st St					
Cowlitz to "A" St	Collector	≥1.2	1.8	≤4:1	3.7
"A" St to Tualatin St	Collector	≥1.2	1.6	≤4:1	3.9
ROADWAY SEGMENTS - Cowlitz St					
S 1st St to Strand St	Local	≥0.9	1.4	≤6:1	4.7
Cul-de-sac (NEW)	Local	≥0.9	0.9	≤6:1	4.4
ROADWAY SEGMENTS - Strand St					
Plaza Square to Cowlitz St	Local	≥0.9	0.9	≤6:1	3.0
Cowlitz St to "A" Street	Local	≥0.9	1.0	≤6:1	4.9
"A" St to S 1st St	Local	≥0.9	1.2	≤6:1	3.9
ROADWAY SEGMENTS - A Street					
Strand St to S 1st St	Local	≥0.9	1.5	≤6:1	2.2
PEDESTRIAN AREAS					
Bluff Multiuse Path	High	≥0.9	1.0	N/A	N/A

NOTE: VERTICAL ILLUMINANCE AT ALL UNCONTROLLED CROSSWALKS AND MIDBLOCK CROSSWALKS MEETS OR EXCEEDS THE AVERAGE ILLUMINANCE FOR EACH DRIVING DIRECTION AT A STOPPING SIGHT DISTANCE PER EIS DG 19-08 AND RP-8-18



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 ILLUMINATION DETAILS

TITLE	#	DATE	DESCRIPTION

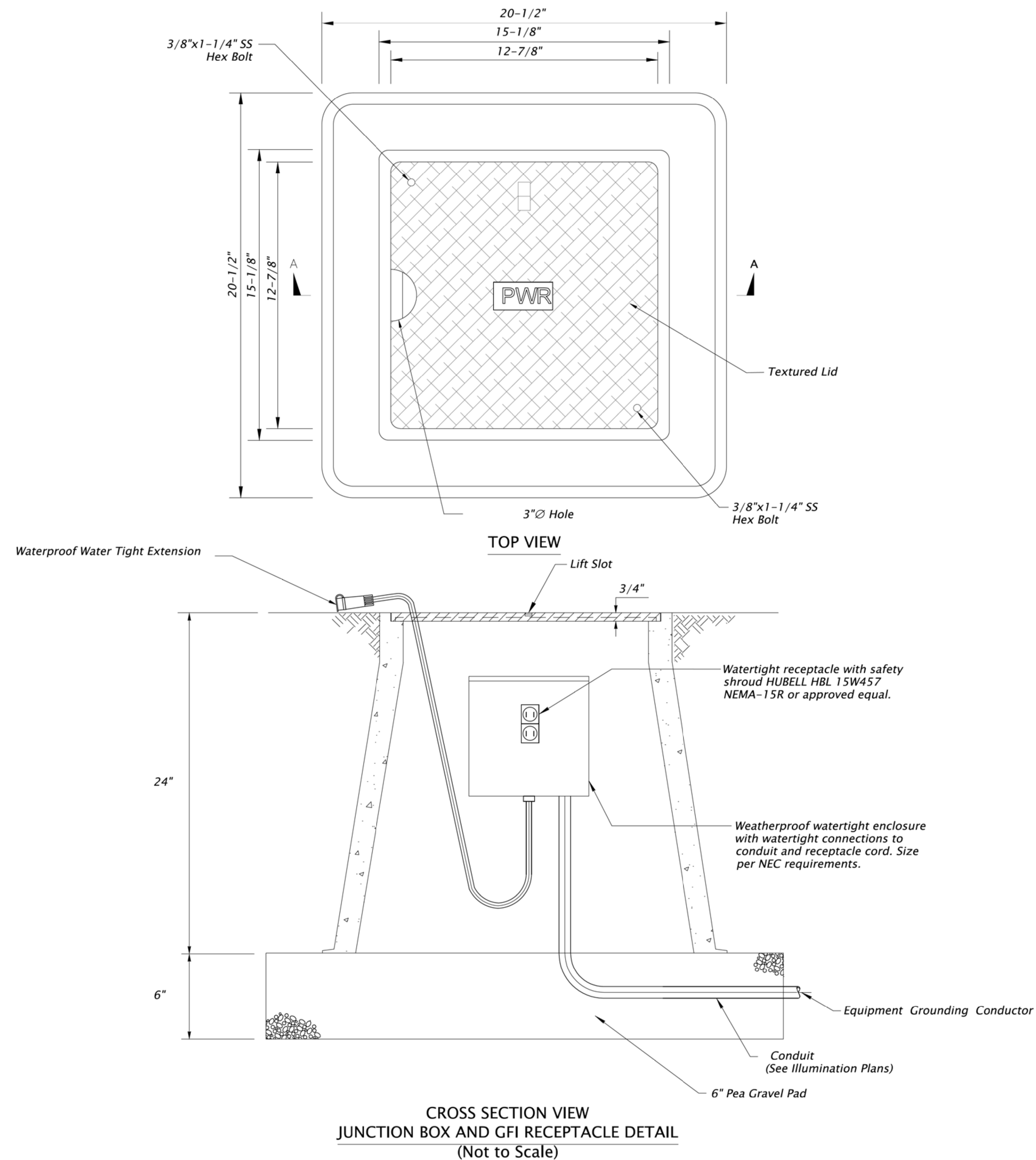
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ILLUMINATION DETAILS



CROSS SECTION VIEW
JUNCTION BOX AND GFI RECEPTACLE DETAIL
(Not to Scale)

NOTES

1. Box dimensions are approximate. exact configurations vary among manufacturers.
2. Lid thicknesses are minimum.
3. Bolts and nuts shall be liberally coated with anti-seize compound.
4. Splice proposed wiring shown in plans into two #10 awg conductors inside proposed enclosure.
5. For junction boxes to be installed in tree well area, coordinate installation of junction box and conduit with installation of tree.
6. Enclosure to be secured to side of junction box.



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ILLUMINATION DETAILS

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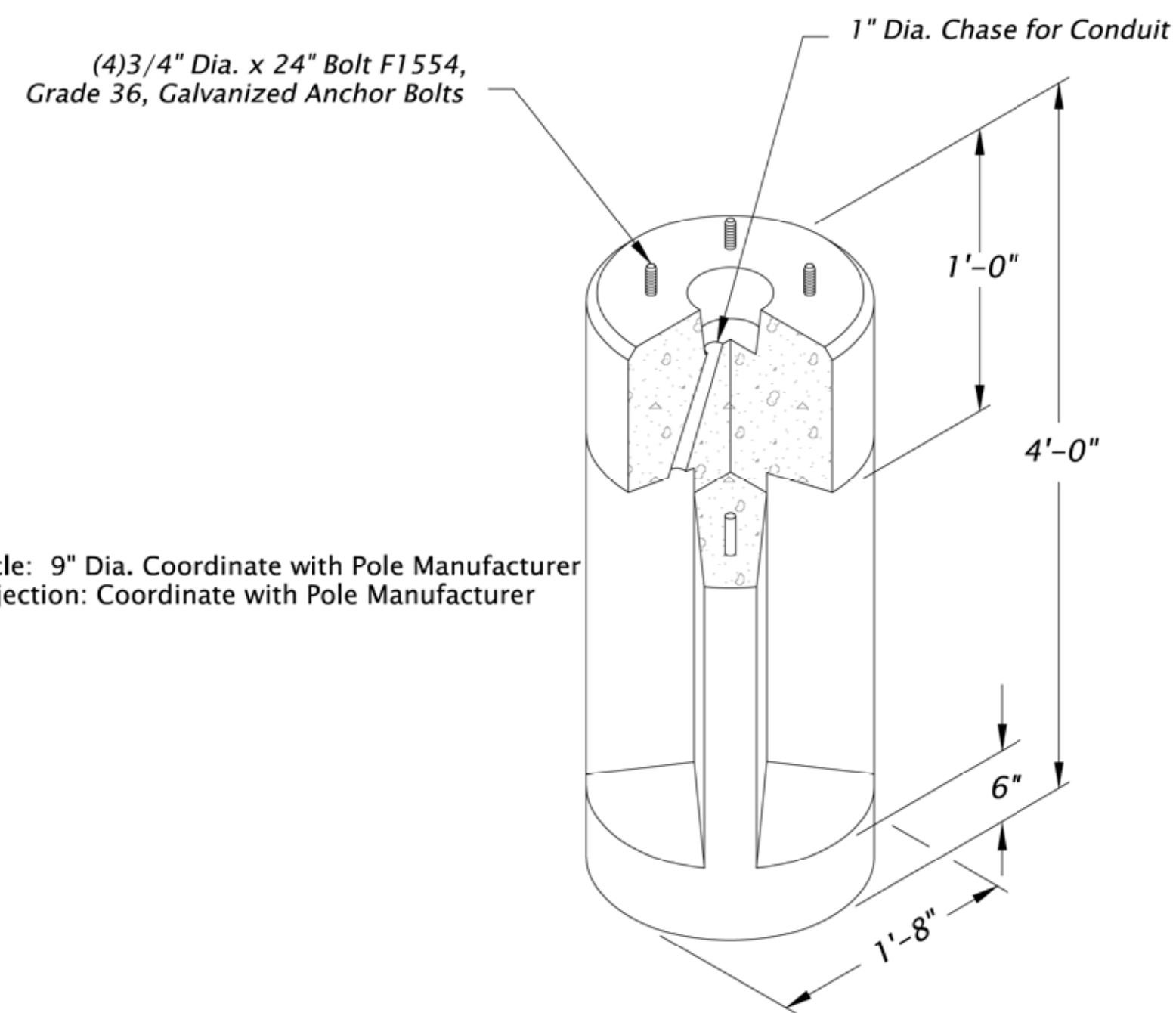
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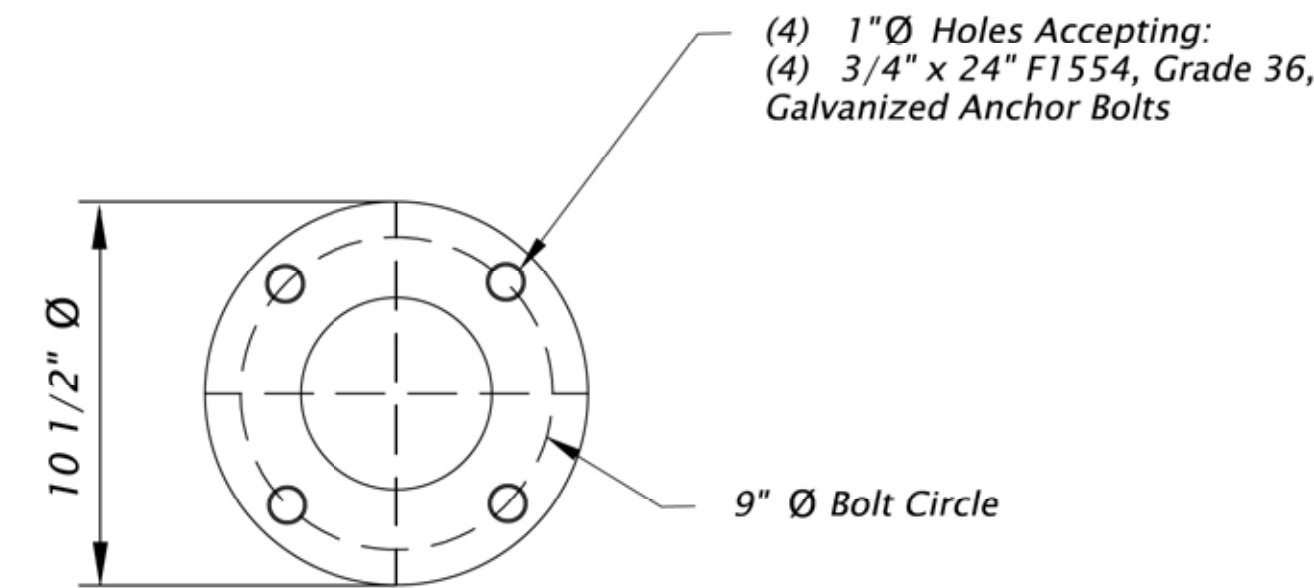
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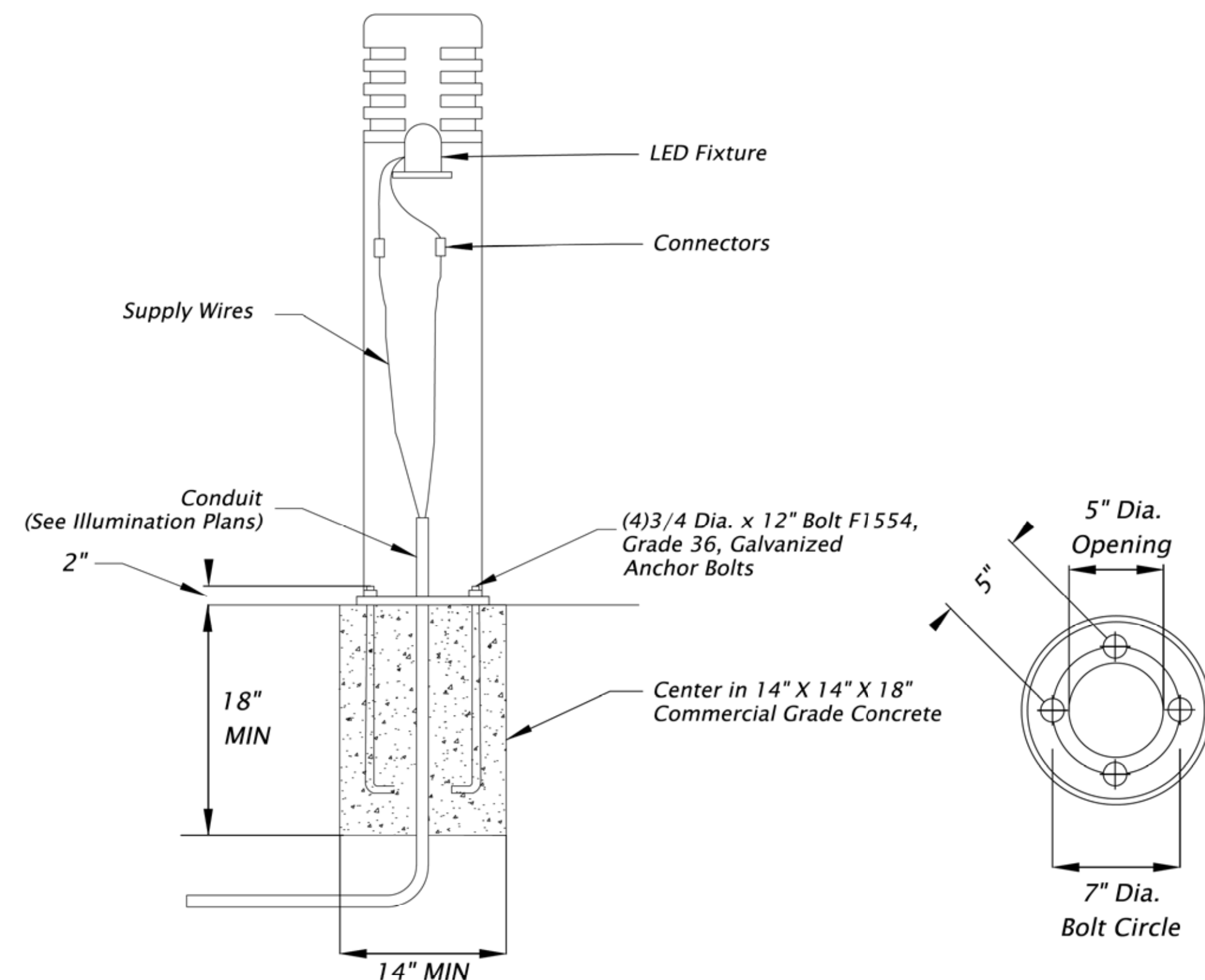
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Luminaire Pole Precast Footing Detail
(Not to Scale)

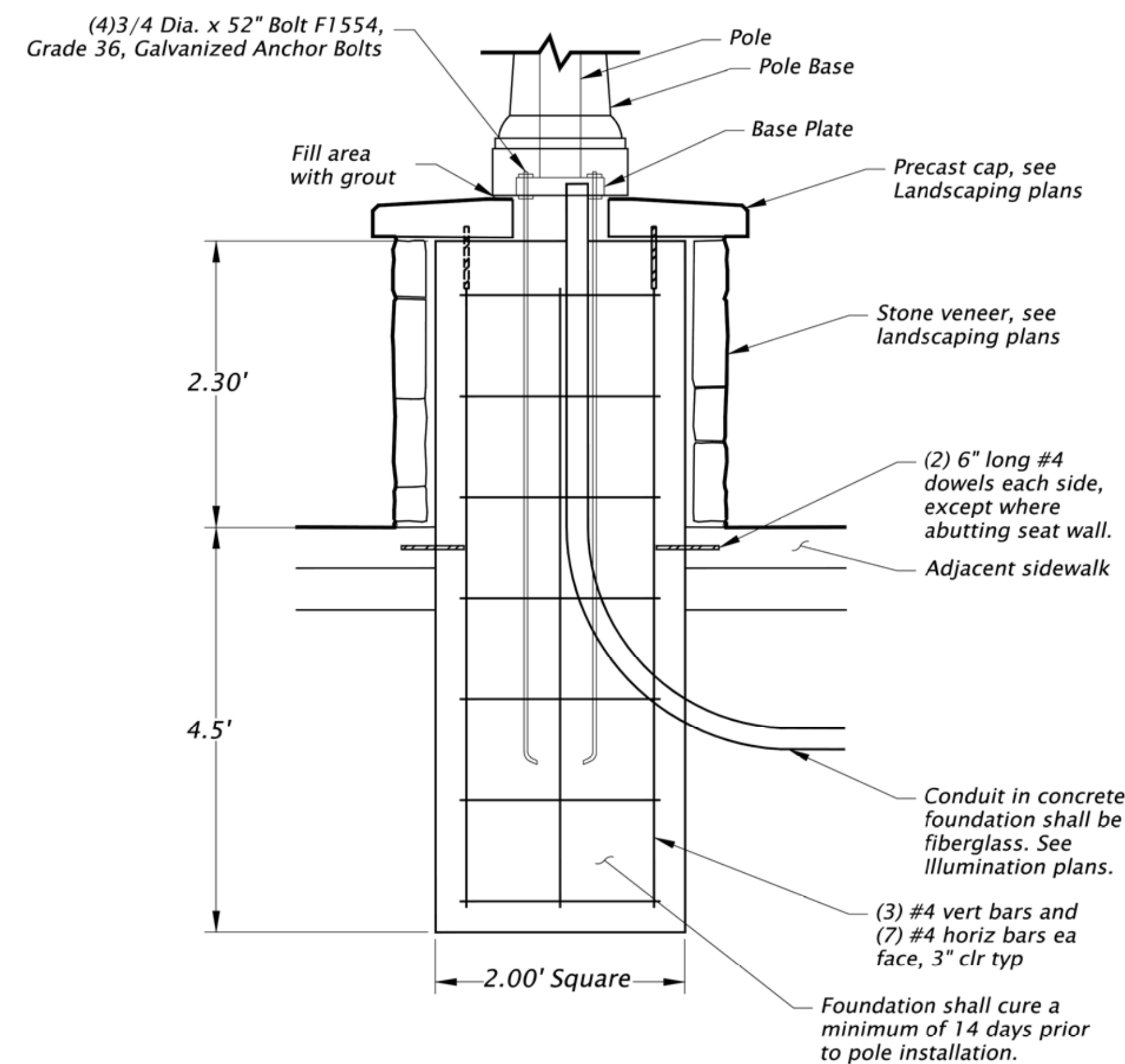


Luminaire Pole Base Plate Detail
(Not to Scale)



Bollard Footing Detail
(Not to Scale)

Bollard Base Plate Detail
(Not to Scale)



Raised Stone Foundation Detail
(Not to Scale)

POLE FOUNDATION NOTES

- Standard foundation design is based on the following soil parameter, which are characteristic of the predominantly silty soils located throughout the greater portland area: soil internal friction angle: 26 degrees soil effective weight = 110 pcf.
- Project bids for foundations shall be based on standard design depth as shown on this drawing. Additional foundation depth, if required for conditions as outlined below in notes 3-6, will be paid for by a contract change order.
- Shafts that encounter up to 3 feet of fill soil require the total foundation depth be increased by an amount equal to the thickness of the fill.
- Shafts that encounter more than 3 feet of fill soil require a site observation and special foundation design provided by the City. Contractor to contact the City's Project Engineer to coordinate.
- Shafts that encounter groundwater level in lower half of shaft require a 2 foot increase in total foundation depth.
- Shafts that encounter groundwater level in upper half of shaft require a total foundation depth of 1.5 times the standard depth.

**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON

ILLUMINATION DETAILS

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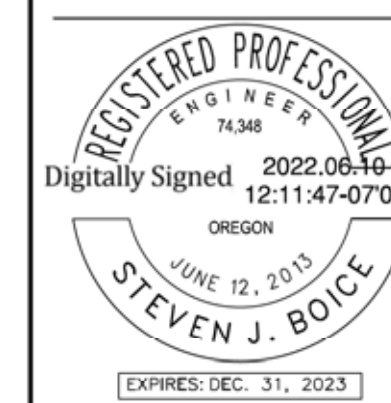
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IL13

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ILLUMINATION DETAILS



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Type Of Conduit	Roadway & Shoulders	Other Areas
Metallic	24"	18"
Non-Metallic	30"	18"

MINIMUM COVER FROM FINISHED SURFACE

CONDUIT ENDS AND BUSHINGS

CONDUIT ELBOWS

CONDUIT COUPLINGS

UNSURFACED AREAS
(new roadway prior to paving, shoulders, under sidewalk, landscaped areas, etc.)

CONDUIT OPEN TRENCH EXCAVATION & BACKFILL

CONDUIT INSTALLATION IN FOUNDATIONS
(Applicable for Pole, Pedestal, Post, Service Cabinet and Controller Cabinet Foundations)

CONDUIT INSTALLATION IN JUNCTION BOXES

CONDUIT INSTALLATION IN UNSURFACED AREA

TANDEM JB/3A JUNCTION BOX DETAILS

CONDUIT INSTALLATION IN JUNCTION BOXES

Junction Box Type	Max. Sum Of Conduit Diameters
JB1	12"
JB2	18"
JB3	34"

OREGON STANDARD DRAWINGS
TRENCHING & CONDUIT INSTALLATION

Effective Date: June 1, 2022 - November 30, 2022

DELINEATION OF JUNCTION BOX & HAND HOLE IN UNSURFACED AREA

JUNCTION BOX INSTALLATION IN PCC SIDEWALK

JUNCTION BOX COVER DETAILS

JUNCTION BOX INSTALLATION IN UNSURFACED AREA

TANDEM JB/3A JUNCTION BOX DETAILS

GENERAL NOTES:

1. Install Top of Junction Box and Hand Hole Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb. For Hand Holes Installed In The Roadway Or Shoulder, Leave The Top Of The Hand Hole 1/2" Below The Pavement Surface.
2. Install Junction Boxes And Hand Holes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart For Junction Boxes And No More Than 1000 Feet Apart For Hand Holes.
3. More Junction Boxes And Hand Holes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor.
4. Use Materials According To 00640.10 and 00640.16. Use Compaction Equipment Suitable For Area And Compact Each Six Inch Layer With Sufficient Coverages To Produce A Firm Unyielding Surface. Do Not Install Conductors Until Surface Has Been Constructed.

FIBER OPTIC CABLE HAND HOLE INSTALLATION

TRAFFIC SIGNAL JUNCTION BOXES/ HAND HOLES

OREGON STANDARD DRAWINGS

CONDUIT OPEN TRENCH EXCAVATION & BACKFILL

Effective Date: June 1, 2022 - November 30, 2022

BASE MOUNTED SERVICE CABINET FOUNDATION

DETAIL "A" RISER FRAME CONNECTION

CONDUIT FOUNDATION LOCATIONS

CONROLLER CABINET FOUNDATION DETAILS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

CONDUIT FOUNDATION LOCATIONS

SERVICE CABINET WIRING FOR 120/240 VOLT SIGNAL SERVICE (BMC)

SERVICE CABINET WIRING WITH 240 VOLT ILLUMINATION (BMCL)

SERVICE CABINET WIRING WITH FLASHER (BMCF)

SERVICE CABINET WIRING FOR SIGNAL, FLASHER & 240 VOLT ILLUMINATION (BMCLF)

UTILITY PROVIDER DETAILS

SERVICE CABINET WIRING FOR 120/240 VOLT SIGNAL SERVICE (BMC)

SERVICE CABINET WIRING WITH 240 VOLT ILLUMINATION (BMCL)

SERVICE CABINET WIRING WITH FLASHER (BMCF)

SERVICE CABINET WIRING FOR SIGNAL, FLASHER & 240 VOLT ILLUMINATION (BMCLF)

UTILITY PROVIDER DETAILS

S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON

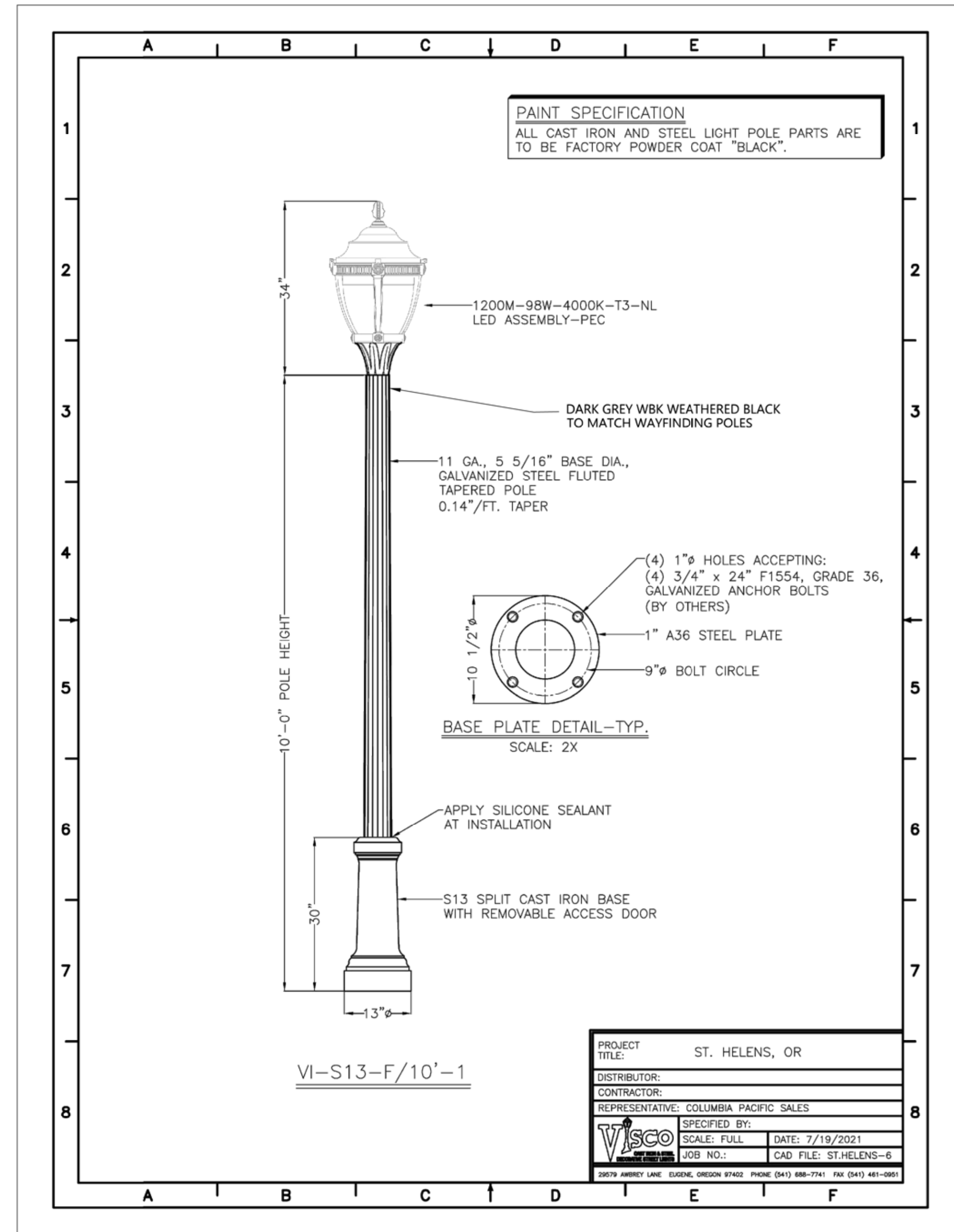
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ROAD AND UTILITY EXTENSIONS**
ST. HELENS, OREGON

ILLUMINATION DETAILS

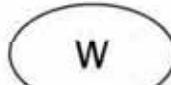


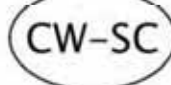
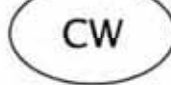
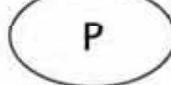
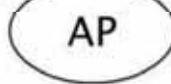
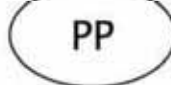

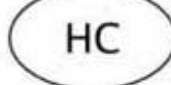



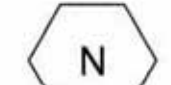
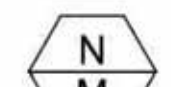


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LEGEND

-  Install 4" white line. See sheet SS8 for details.
-  Install 4" yellow line. See sheet SS8 for details.
-  Install double no-pass 4" yellow lines. See sheet SS8 for details.
-  Install staggered continental crosswalk. See sheet SS8 for details.
-  Install standard crosswalk. See sheet SS8 for details.
-  Install on-street parking markings (white). See sheet SS8 for details.
-  Install angled parking markings (white). See sheet SS8 for details.
-  Install perpendicular parking markings (white). See sheet SS8 for details.
-  Install shared lane marking (white). See sheet SS8 for details.
-  Install disabled parking space. See sheet SS8 for details.
-  Install yellow paint on top and face of curb. See sheet SS8 for details.
-  Install reserved parking stencil for city employees. See sheet SS8 for details.
-  Install straight arrow (white). See sheet SS8 for details.
-  Install new sign (N)
-  Install new sign (N) on new (M) sign support
-  Remove existing sign (N)
-  Remove existing sign (N) and (M) sign support

N = Sign number
M = Material:
P = Round pipe support with V-Lock. See sheet SS10 for details
ST = Perforated steel square tube sign support
SSC = Stainless steel clamp

GENERAL NOTES

1. Remove existing striping that conflicts with these Plans by method approved by the Engineer.
2. All permanent longitudinal striping shall be type "AB" thermoplastic, extruded or sprayed, surface, non-profiled installed per ODOT Standard Specifications Section 00865 (latest edition).
3. All parking lines shall be paint.
4. All Legends and bars shall be type "B-HS" performed, fused thermoplastic high-skid film, installed per ODOT Standard Specifications Section 00867 (latest edition).
5. See sheet SS9 for sign details and sheets SS10-SS14 for sign and post data table.
6. Accompanied by City of St. Helens Standard Drawing 221 and ODOT Standard Drawings, TM200, TM201, TM500, TM503, TM530, TM560, TM561, TM676, and TM677.
7. Existing signs not shown are to remain in place unless otherwise directed by the Engineer.
8. The locations of sign installations are approx. with exact locations to be determined in the field by the Engineer.

SIGNING/STRIPING LEGEND



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ST. HELENS, OREGON
SIGNING AND STRIPING PLANS
SIGNING AND STRIPING LEGEND**

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SS1

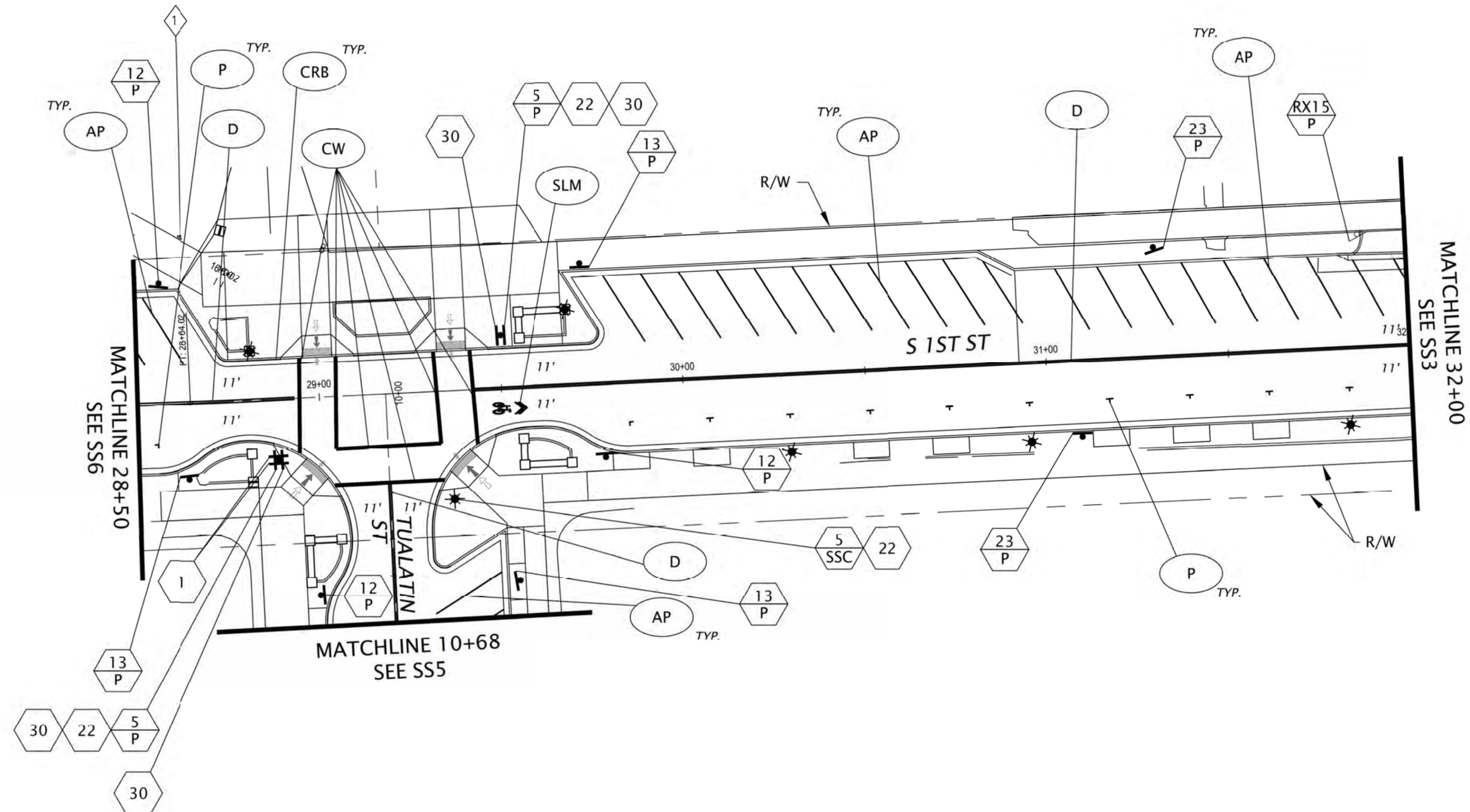
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GENERAL NOTE

1. Striping south of Tualatin Street is only required if the Add 2 Alternative improvements are included with the project.

CONSTRUCTION NOTE:

1. Install pipe post for Pet Waste Bag Dispenser. See Site Materials Plan Sheets L1.02 and L1.40.



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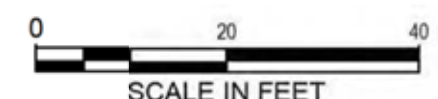
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SS2

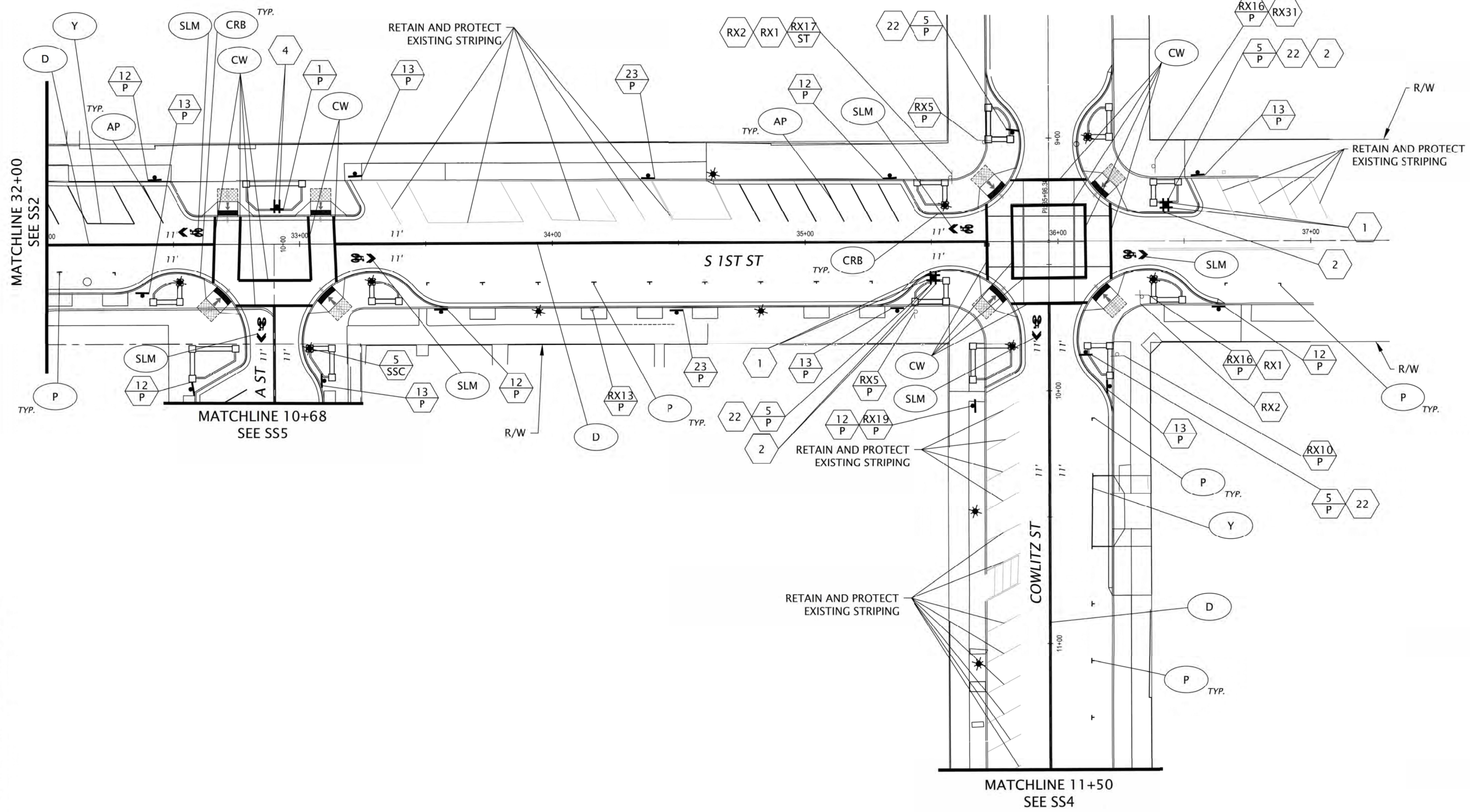
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 ST. HELENS, OREGON
 SIGNING AND STRIPING PLANS**

SIGNING AND STRIPING PLAN

#	DATE	DESCRIPTION

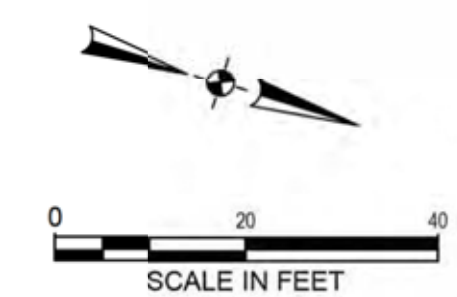
REVISIONS

DATUM
 LEH SJB
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 STATUS
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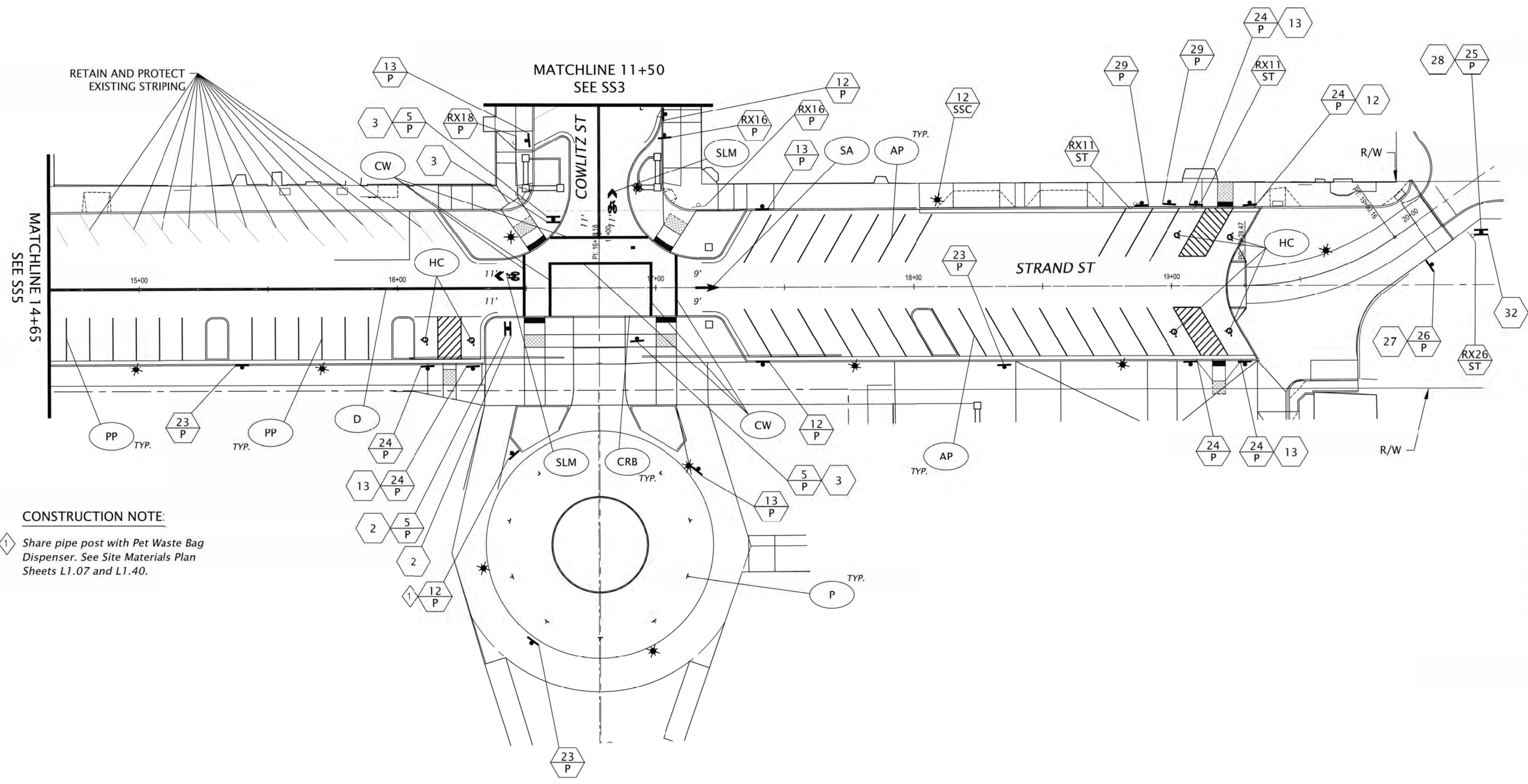
19823/ P-525
 PROJECT NUMBER

SS3
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SIGNING/STRIPING PLAN



CONSTRUCTION NOTE:

- 1 Share pipe post with Pet Waste Bag Dispenser. See Site Materials Plan Sheets L1.07 and L1.40.



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 ST. HELENS, OREGON
 SIGNING AND STRIPING PLANS
SIGNING AND STRIPING PLAN

#	DATE	DESCRIPTION

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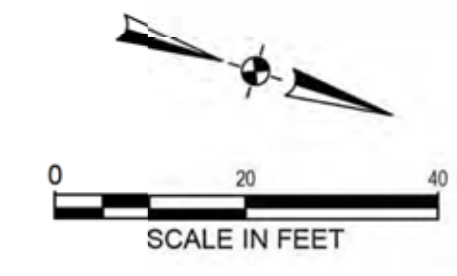
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SS4
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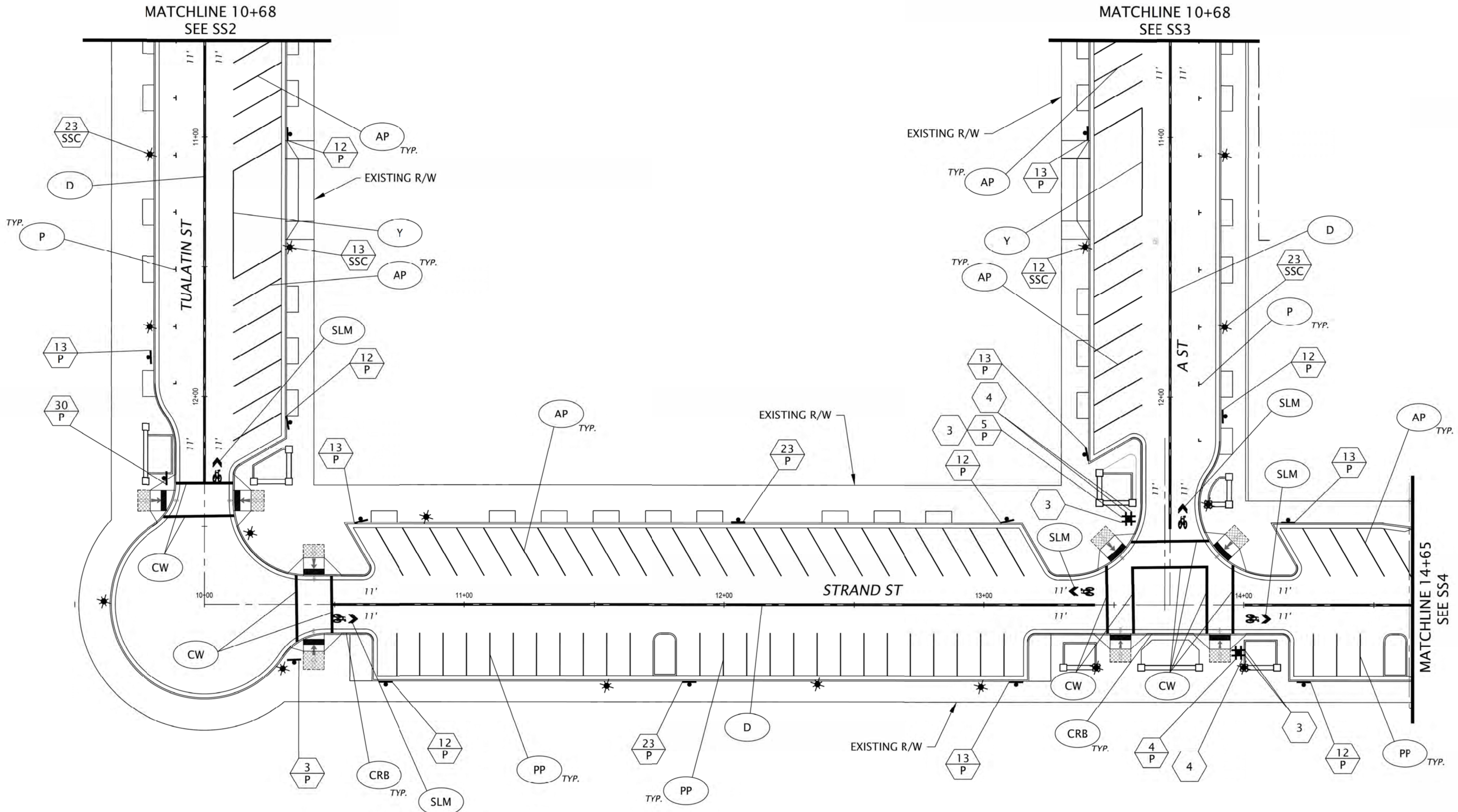
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SS5
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#	DATE	DESCRIPTION

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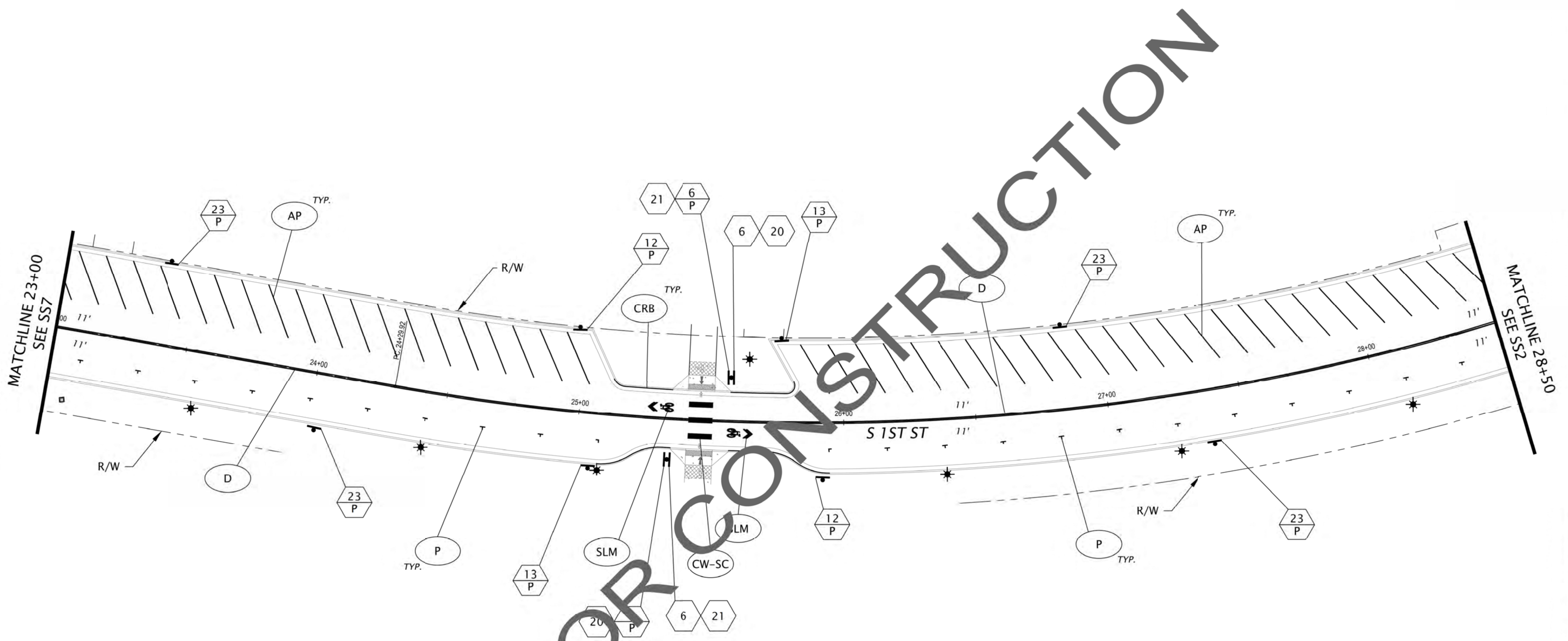
Final Plans
STATUS
JUNE 10, 2022
DATE

19823/ P-526
PROJECT NUMBER

SS6

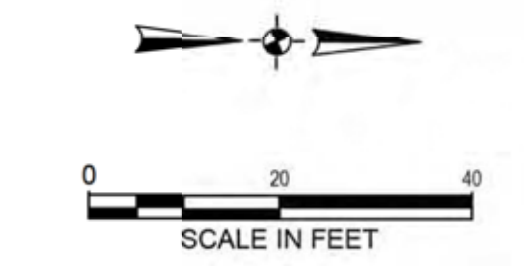
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NOT FOR CONSTRUCTION

NOTE:
See IL7-IL8 for additional Illumination installations for multiuse path

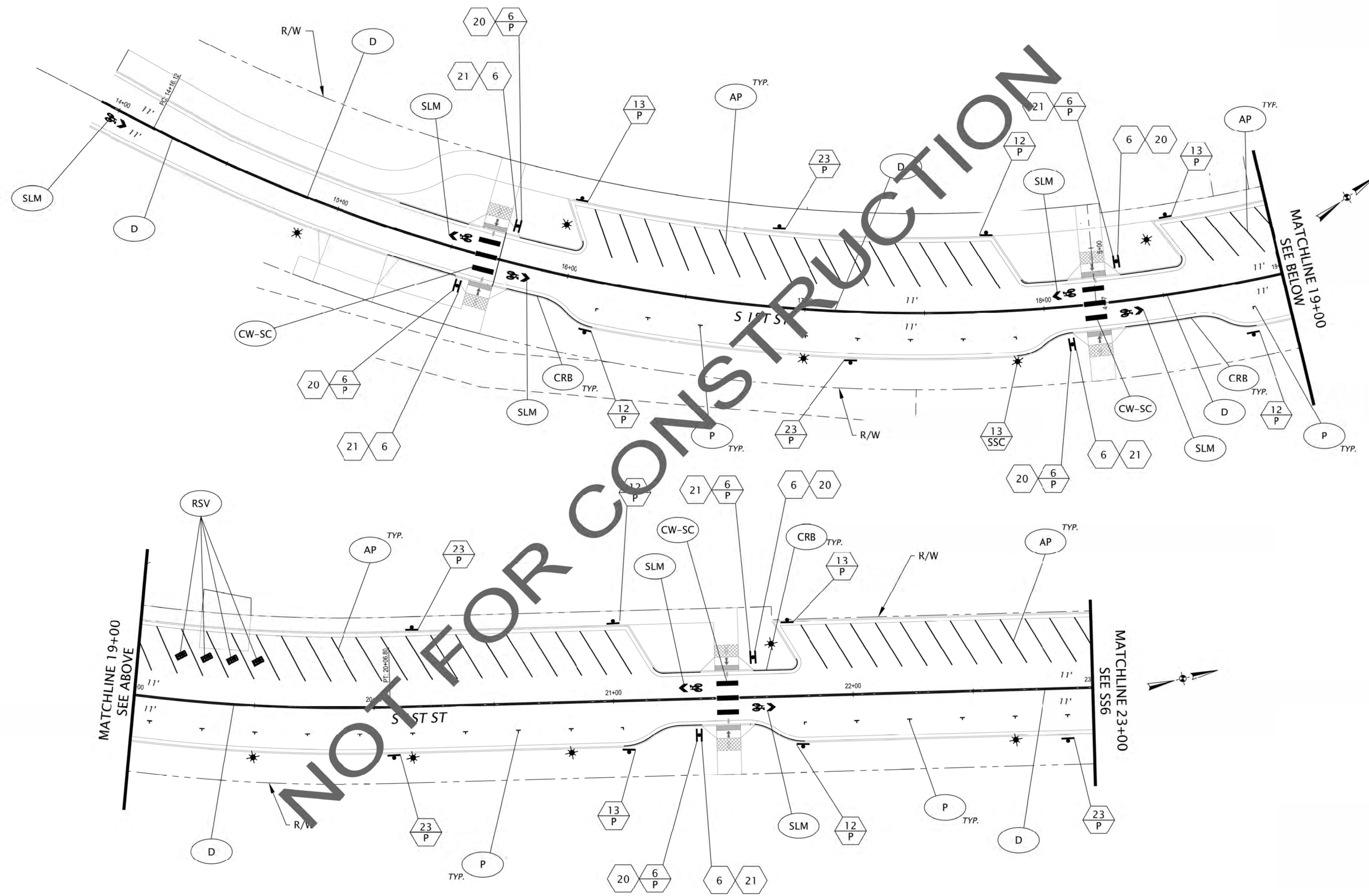


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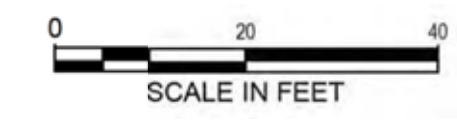
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MATCHLINE 19+00
SEE ABOVE

MATCHLINE 23+00
SEE SS6



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SS7
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STRIPING DETAILS



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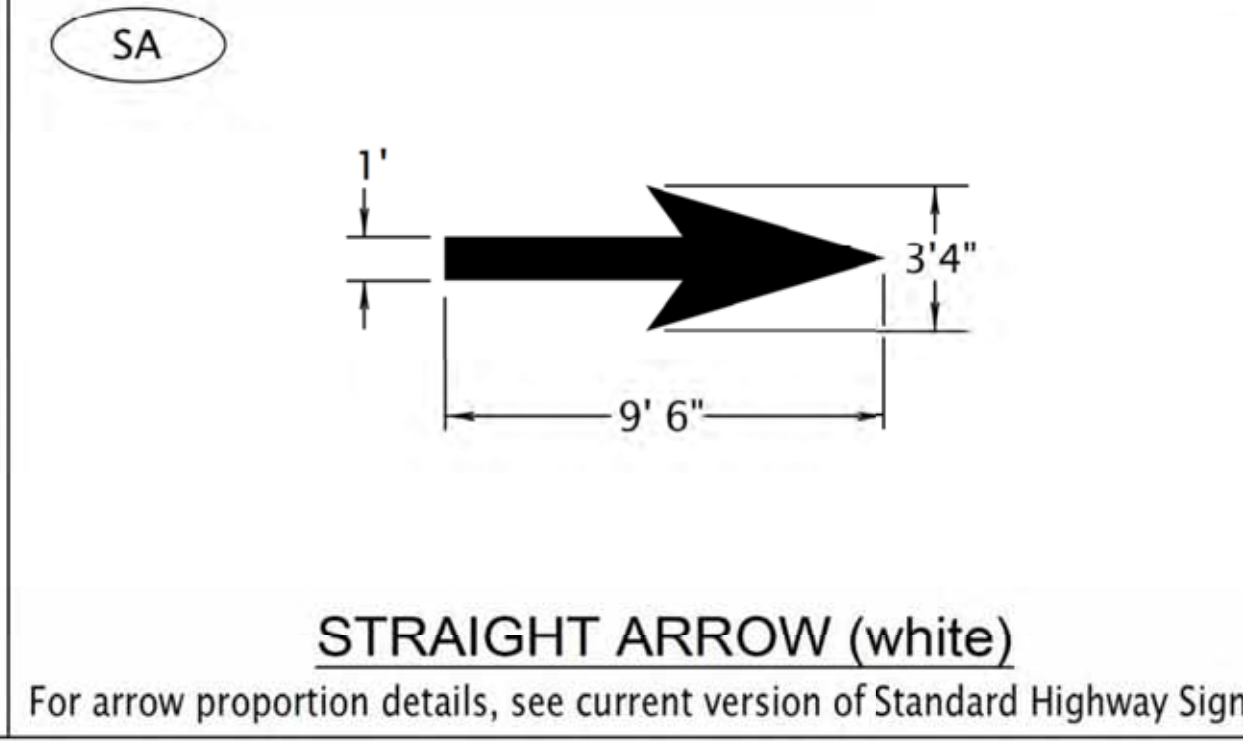
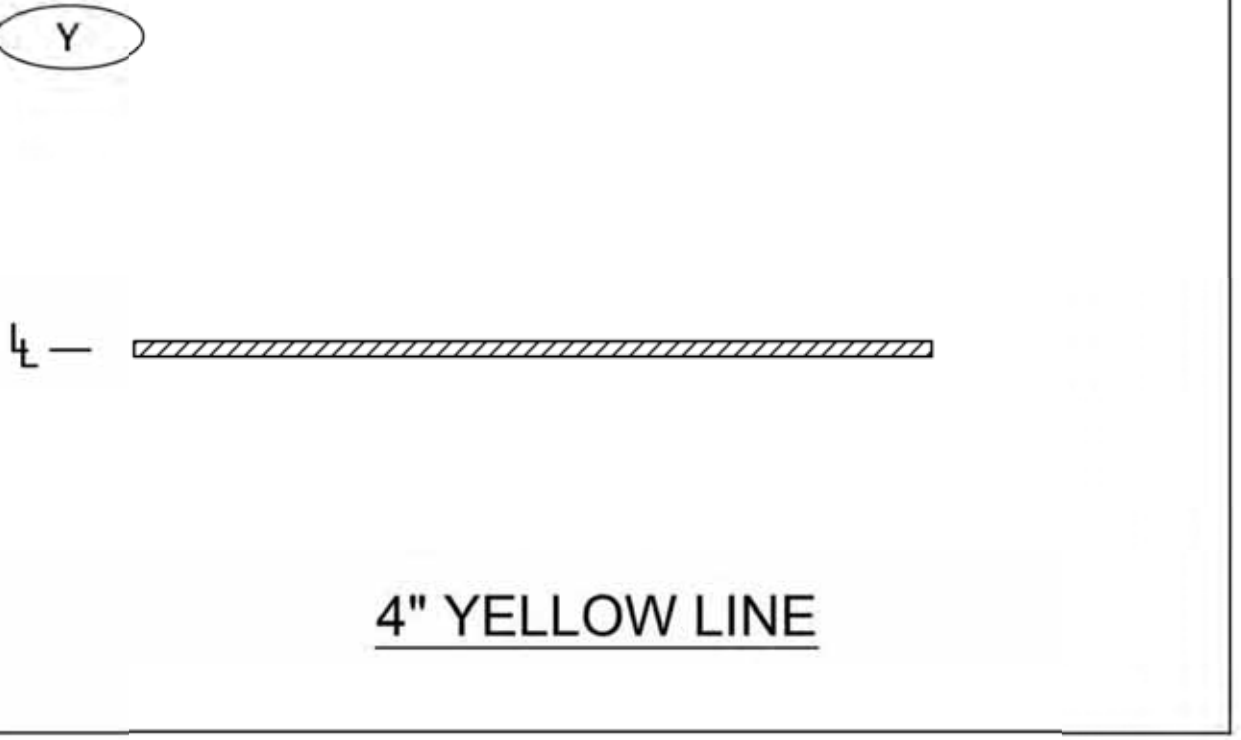
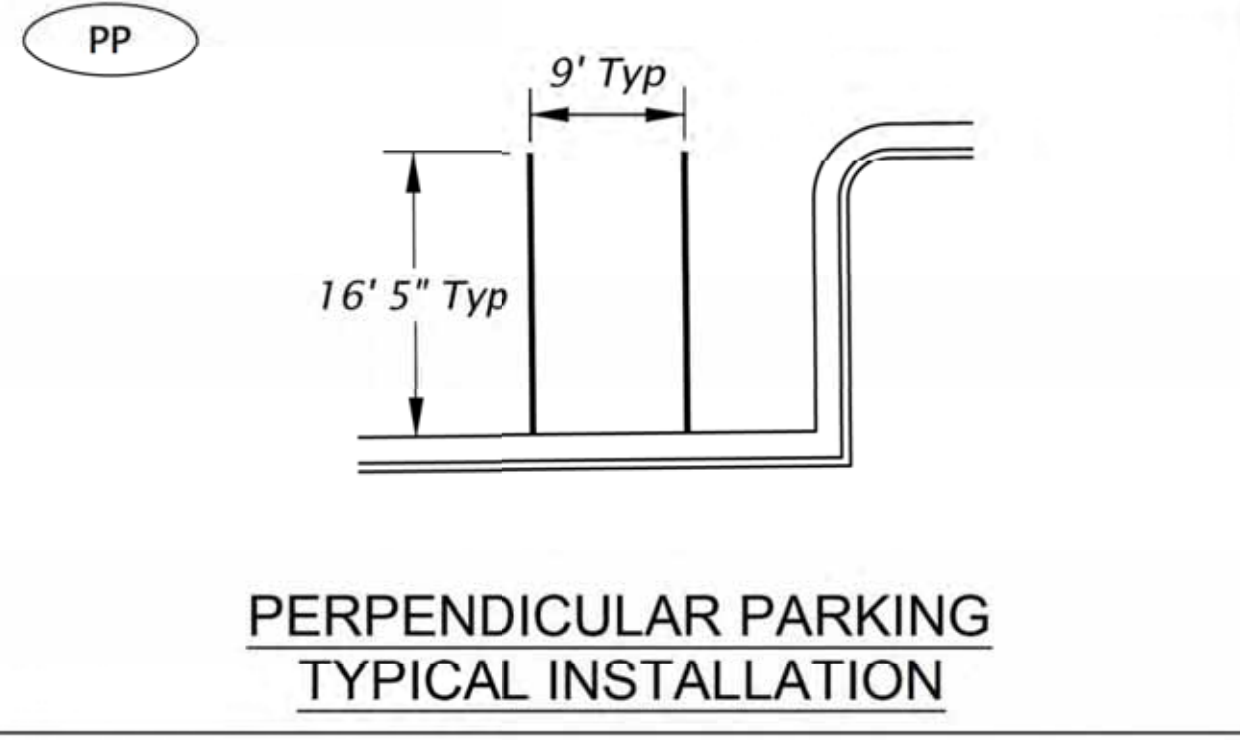
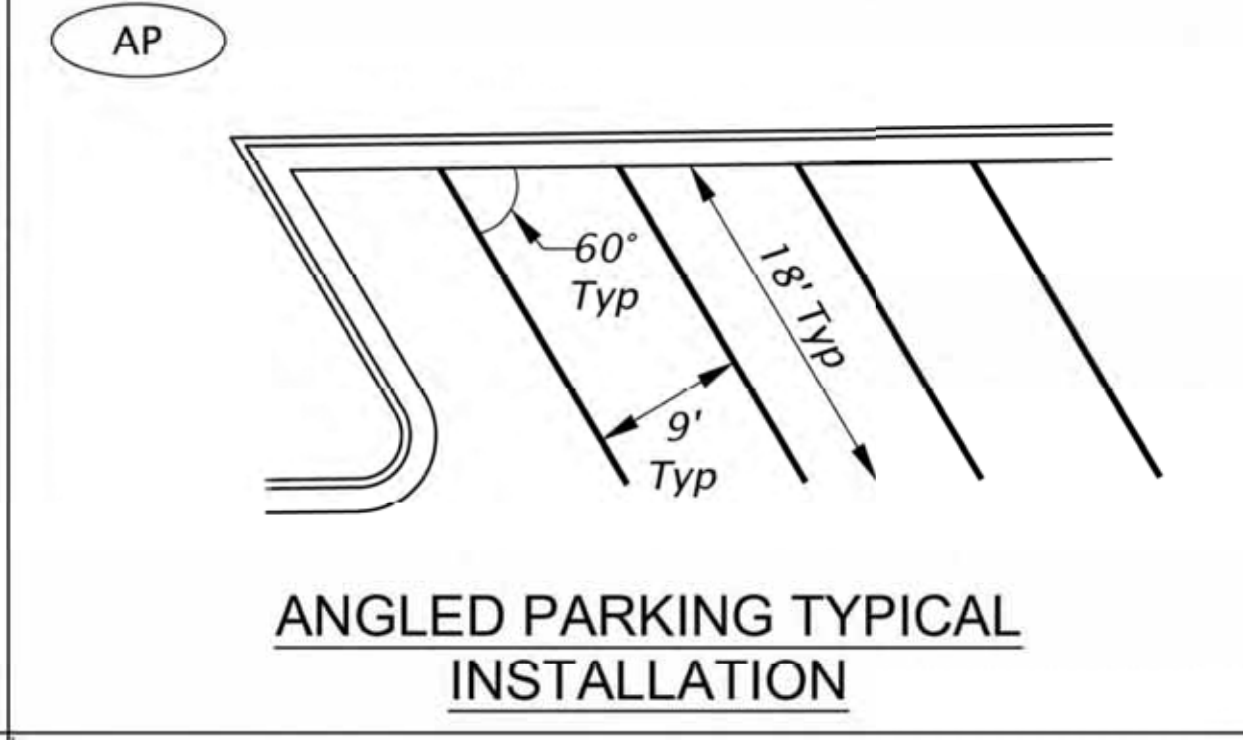
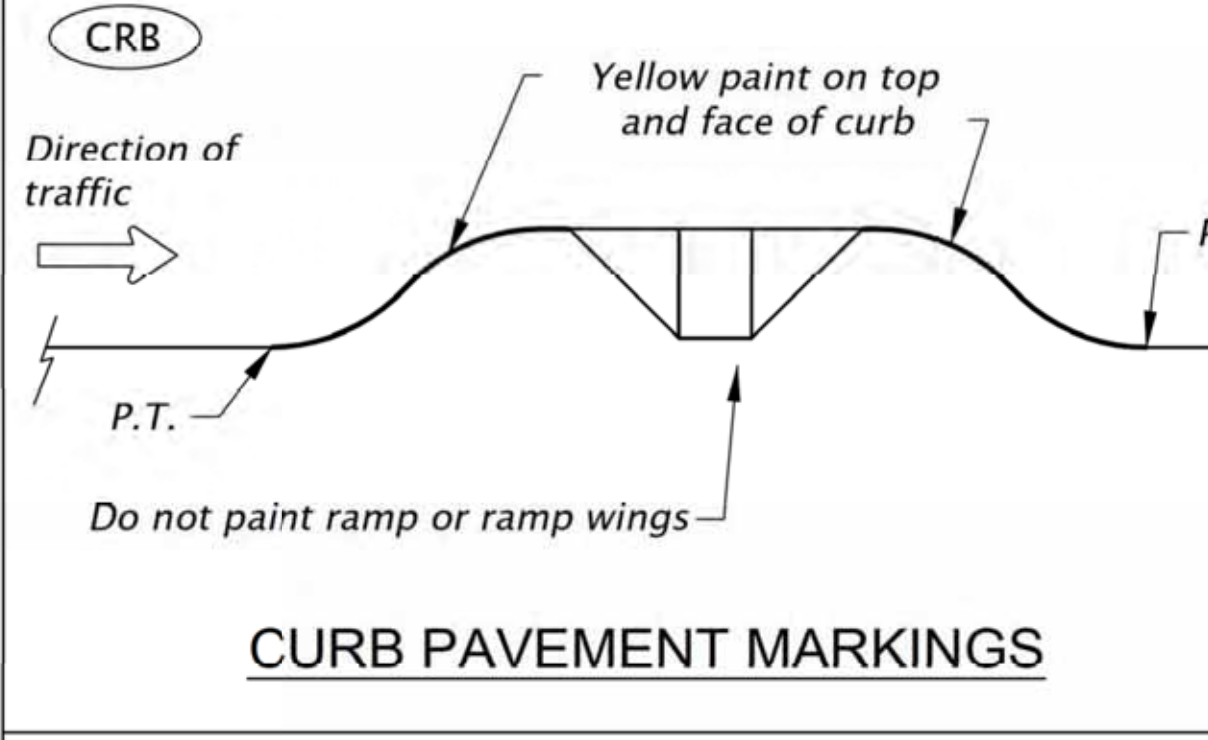
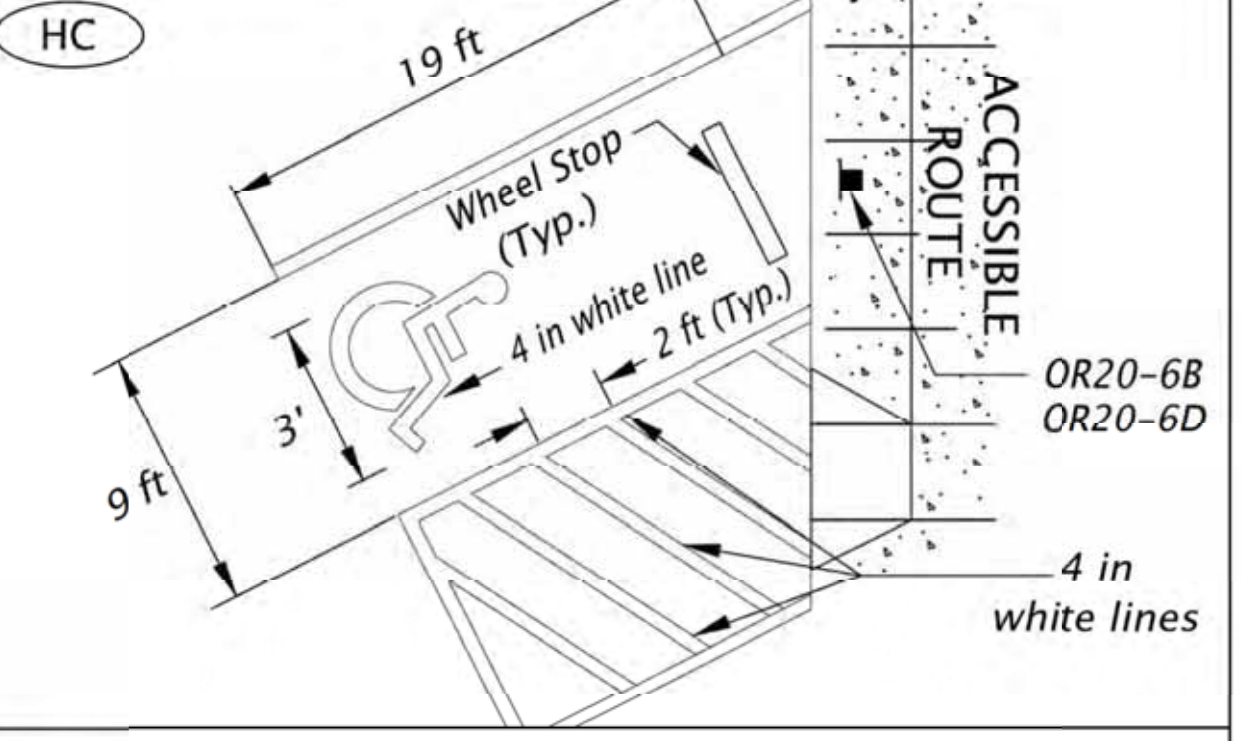
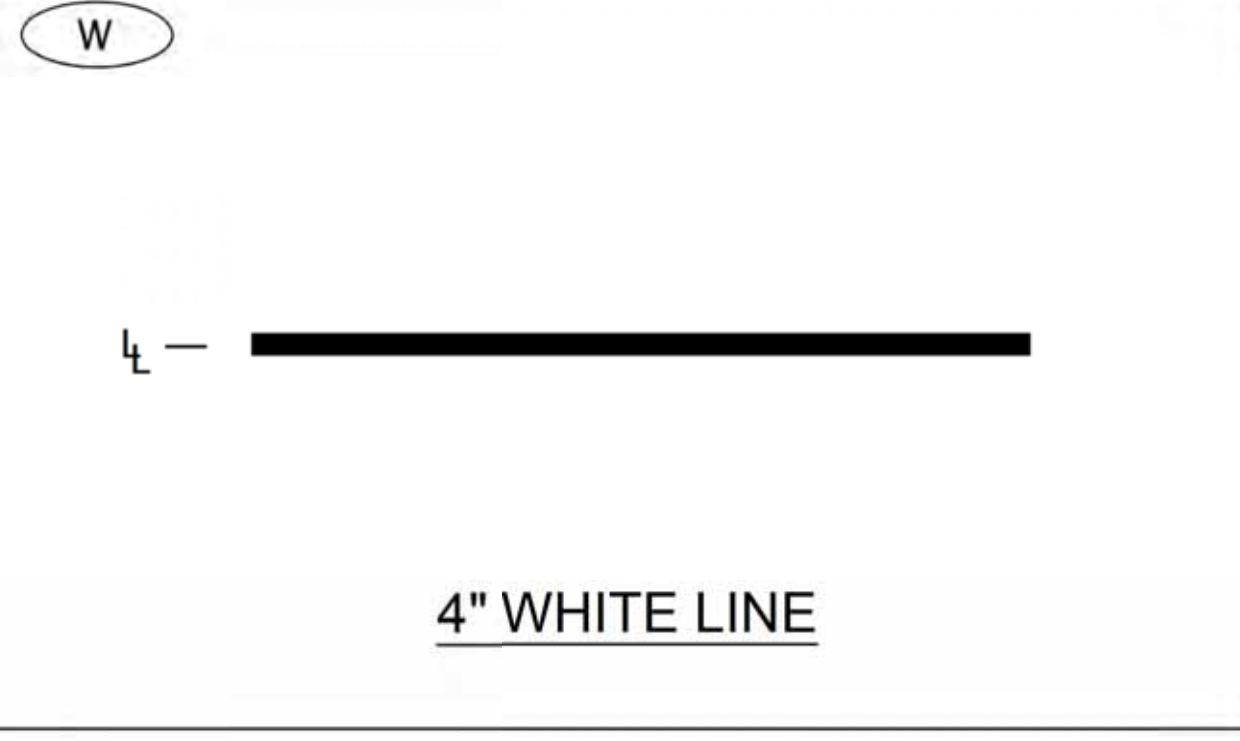
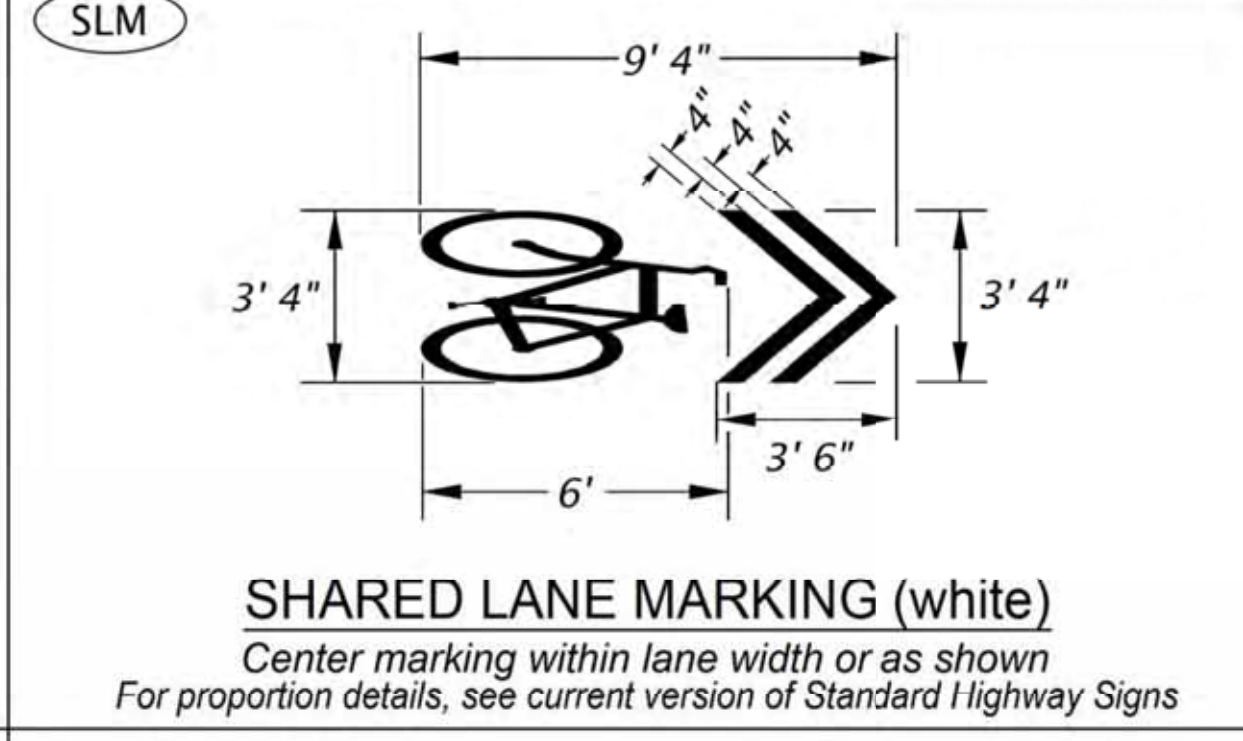
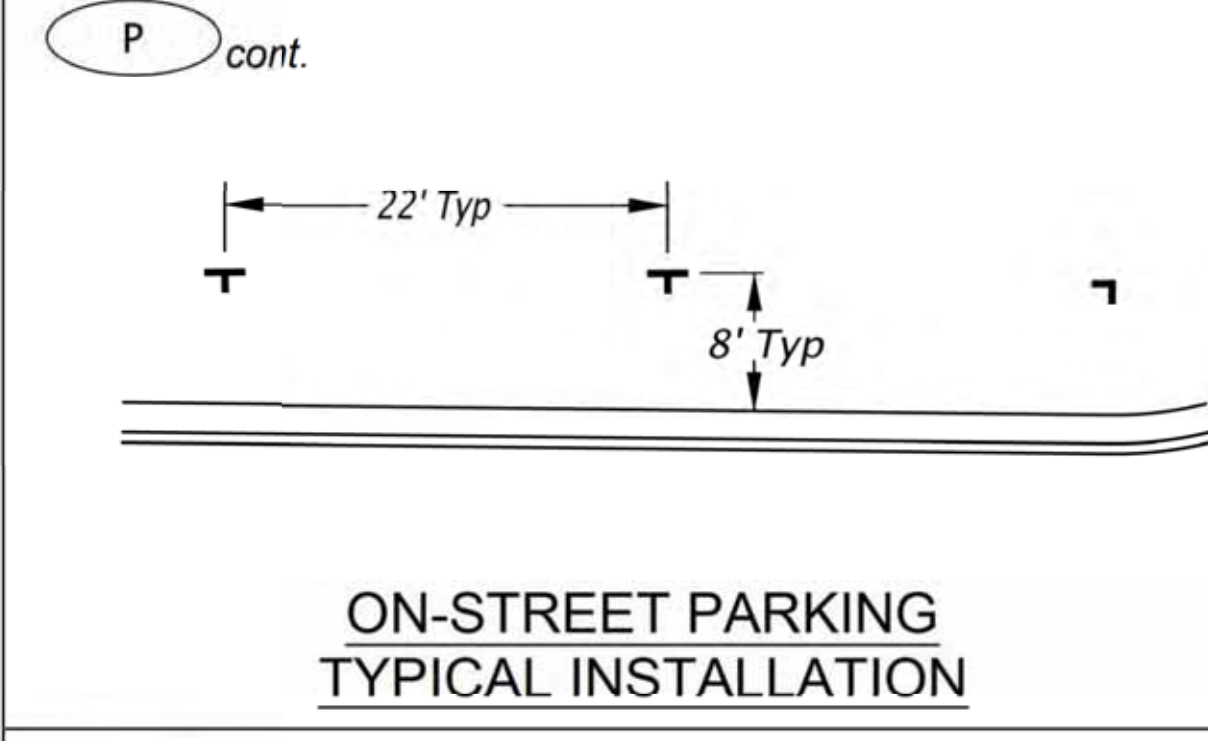
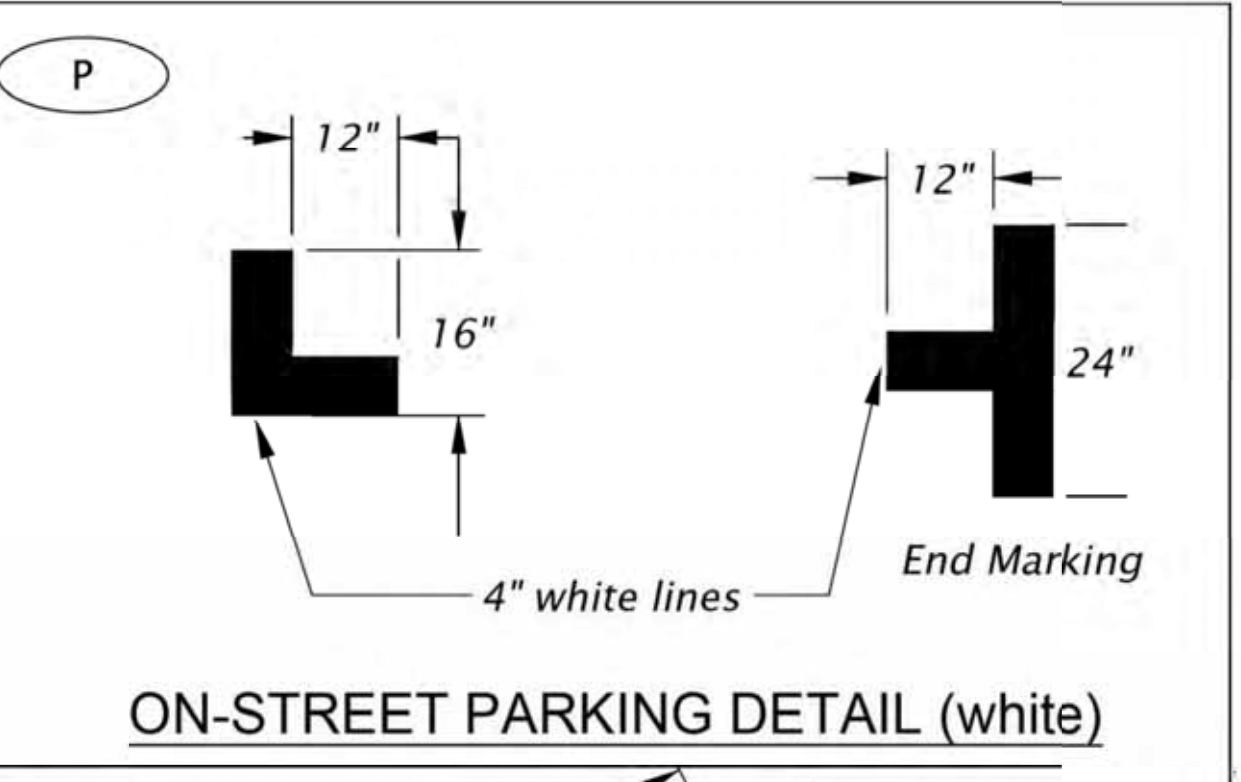
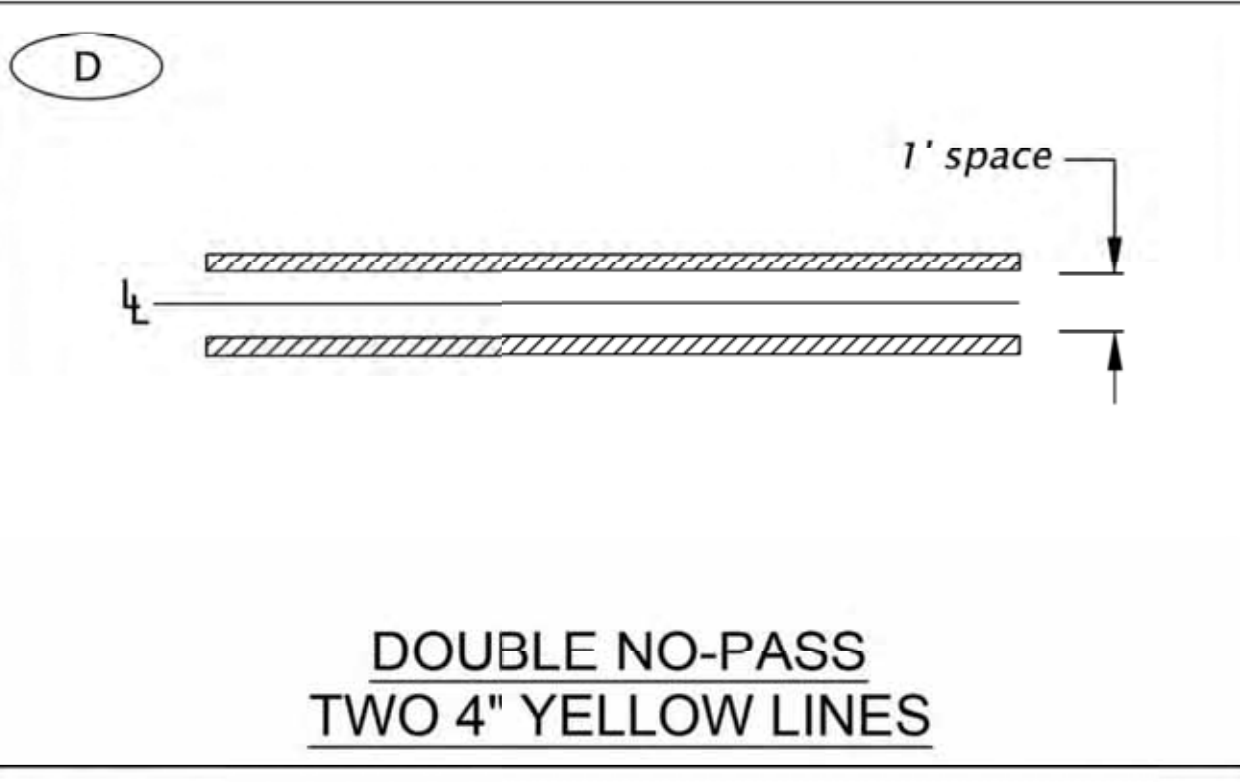
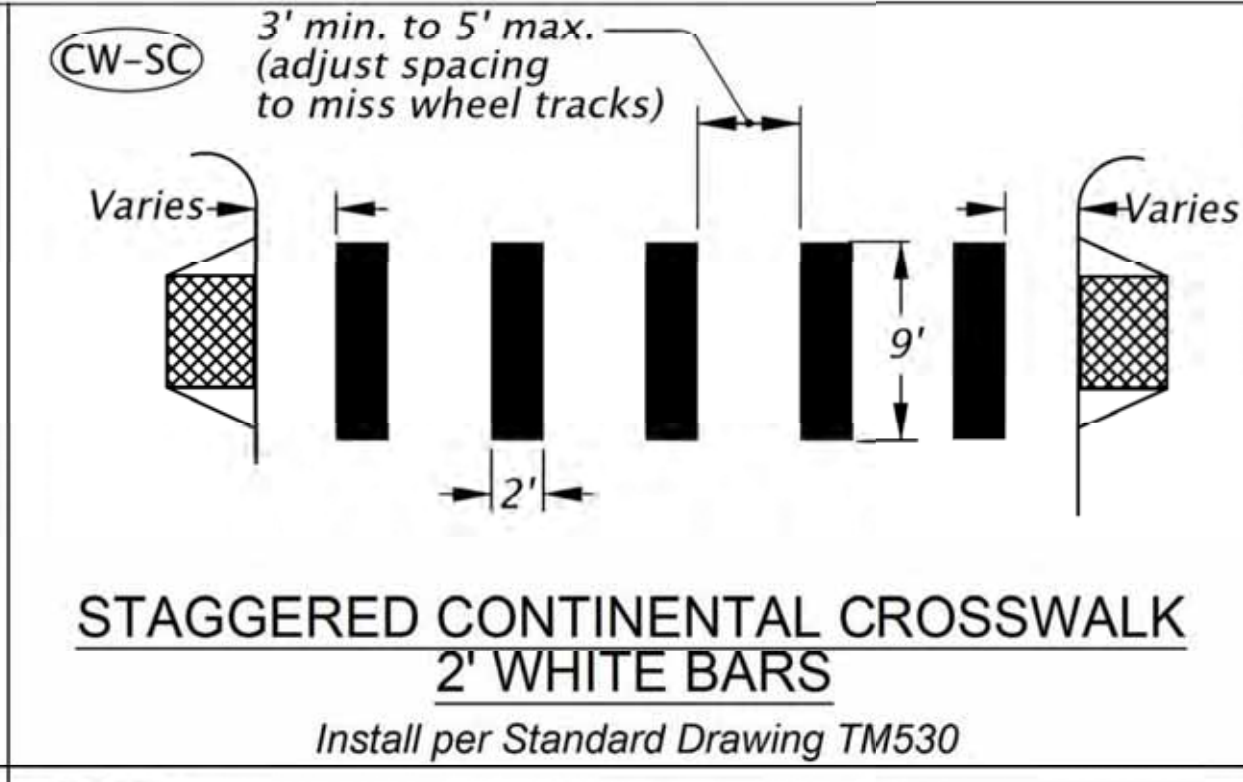
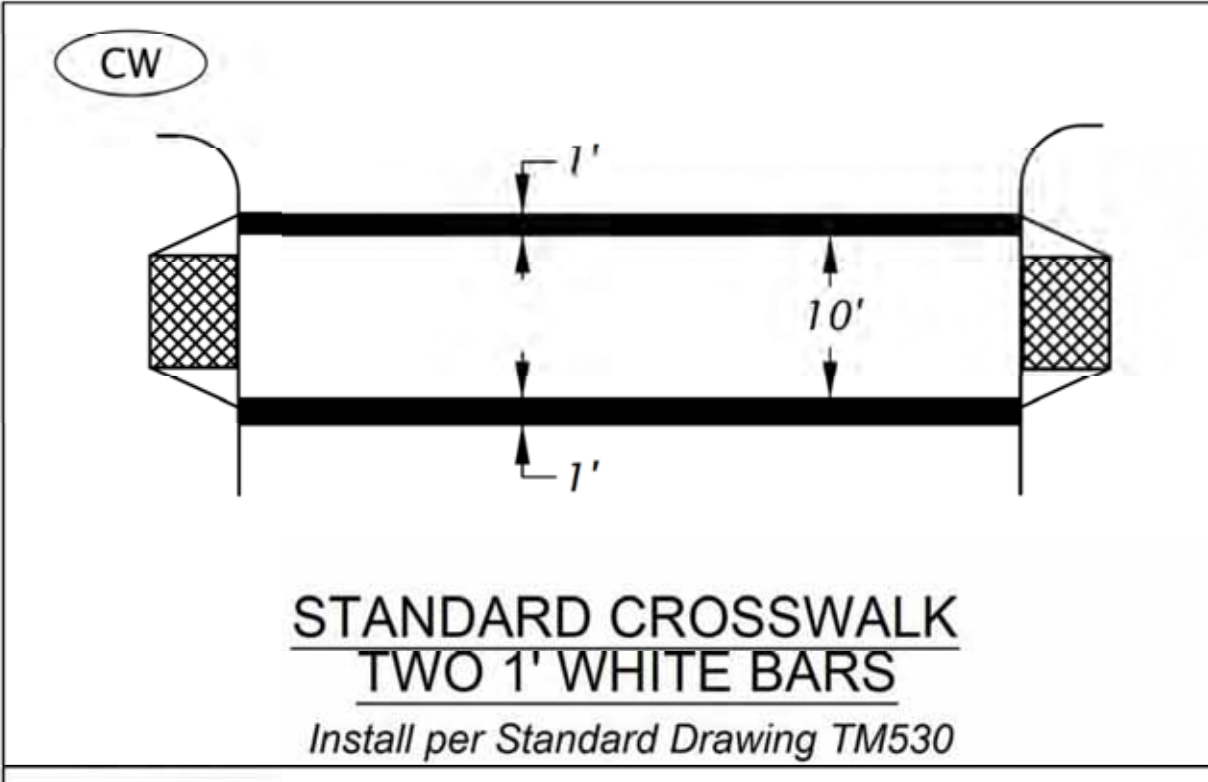
**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
SIGNING AND STRIPING PLANS
STRIPING DETAILS**

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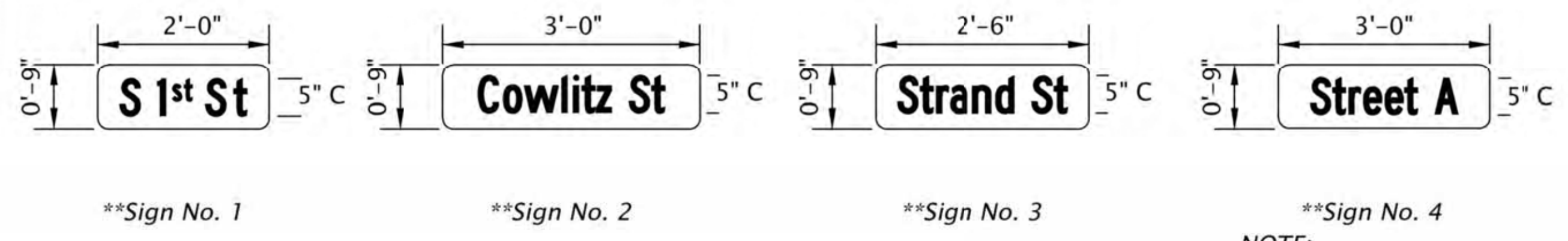
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PROJECT NUMBER

SS8
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SIGNING DETAILS



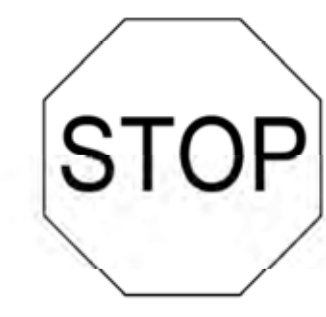
**Sign No. 1

**Sign No. 2

**Sign No. 3

**Sign No. 4

NOTE:
Actual street name sign pending. Contact City of St Helens before Procuring.



R1-1
Sign No. 5



W11-2
Sign No. 6

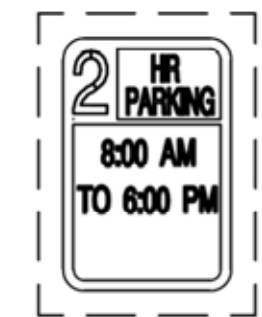
Sign No. 7
(Not Used)

Sign No. 8
(Not Used)

Sign No. 9
(Not Used)



Sign No. 10



Sign No. 11



R7-108
Sign No. 12



R7-108
Sign No. 13



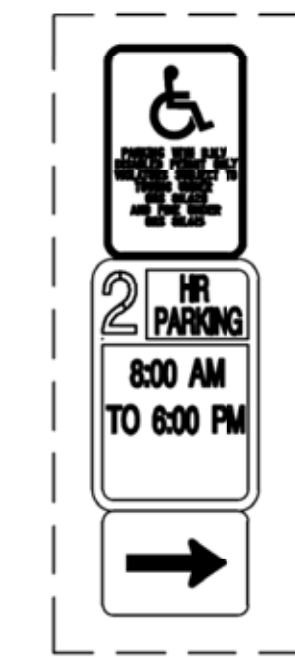
Sign No. 14
(Not Used)



Sign No. 16



W14-2
Sign No. 17



Sign No. 18



Sign No. 19



W16-7PL
Sign No. 20



W16-7PR
Sign No. 21



R1-3P
Sign No. 22



R7-108
Sign No. 23



R7-8
Sign No. 24



R5-1
Sign No. 25



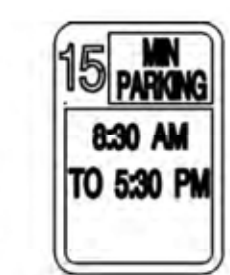
R1-2
Sign No. 26



OR3-5R
Sign No. 27



R6-1L
Sign No. 28



R7-108
Sign No. 29



**Sign No. 30



Sign No. 31



R6-1LR
Sign No. 32

** = Double-sided sign

NOTE:
Signs shown with broken borders are existing signs.



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SIGNING DETAILS

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DATUM
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DATE

19823/ P-525
PROJECT NUMBER

SS9

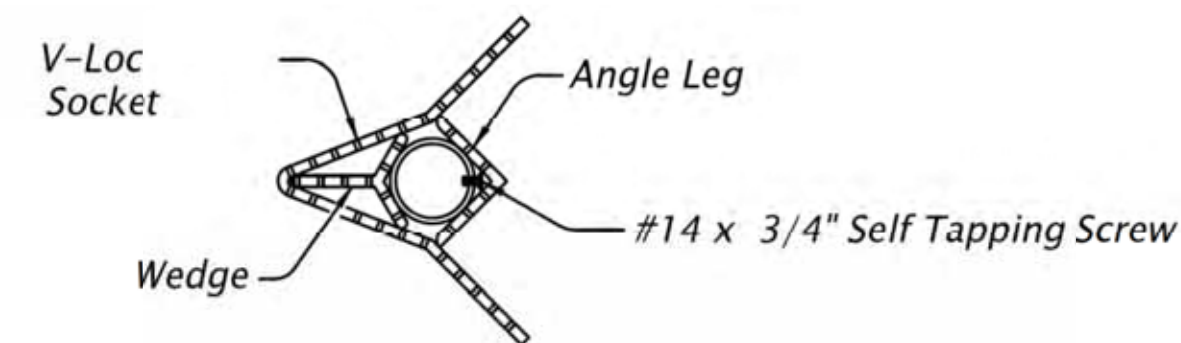
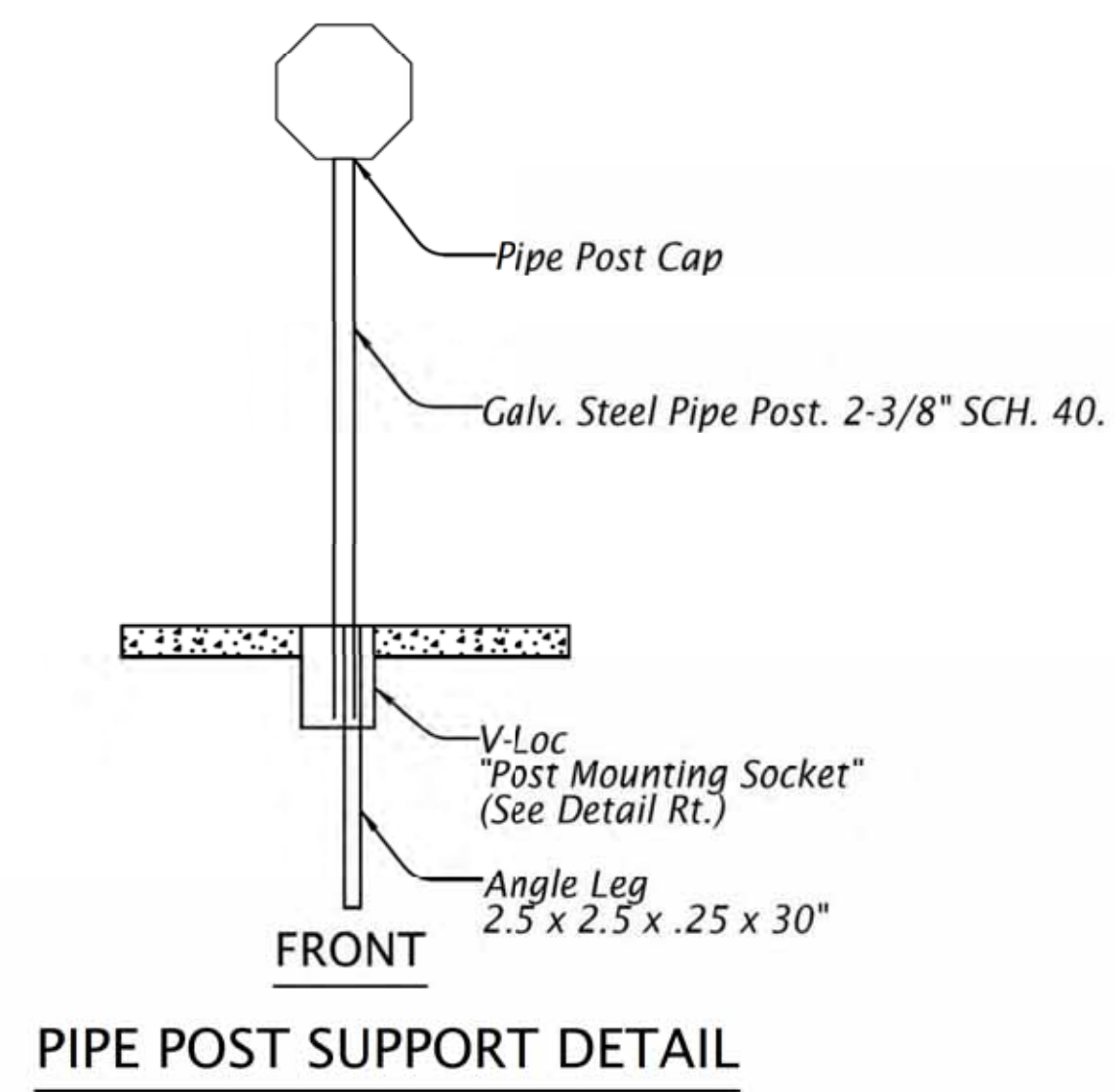
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NOTE:
 Care Shall Be Taken That No Concrete Is Placed Within Mounting Socket.

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 SIGNING DETAILS

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 PROJECT NUMBER

SS10

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SIGNING DETAILS

SIGN NO.	SIGN LOCATION	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					LEGEND TYPE	SIGN NO. 2/	TYPE OF SUPPORT														POST		REMARKS						
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUMINUM	BACK- GROUND		LEGEND					WOOD POST (CDOT TM670-671, TM676)	SINGLE PIPE POST (SCH 40)	PERF. STEEL SQUARE TUBE (CDOT TM671, TM676, TM681, TM687-689)	TRIANGULAR BASE BREAKAWAY (CDOT TM602)	MULTI-POST BREAKAWAY (CDOT TM220, TM600-601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (CDOT TM680)	CROSSWALK CLOSURE BARRICADE (CDOT TM240)	VERTICAL SIGN MOUNT ON EXISTING STRUCTURE	EXISTING PIPE POST	MILEPOST MARKER POST	ADJUSTABLE SIGN MOUNT	MASTARMS MOUNT	C 4 X 5.4	C 4 X 7.25	LENGT H (FT.)		SIZE (BASED ON ESTIMATED LENGTH)	LENGTH (MUST BE FIELD VERIFIED)				
							ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE																						PERMANENT	DEMOUNTABLE		
1	"1st Street" 28+88 RT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 28+88 RT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 32+91 RT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 35+50 RT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 35+50 RT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 36+43 LT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
1	"1st Street" 36+43 LT	24"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 1 BASE
2	"1st Street" 35+50 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
2	"1st Street" 35+50 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
2	"1st Street" 36+43 LT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
2	"1st Street" 36+43 LT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
2	"Strand Street" 16+43 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
2	"Strand Street" 16+43 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 2 BASE
3	"1st Street" 32+91 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"1st Street" 32+91 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Cowitz St" 11+94 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Cowitz St" 11+94 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Cowitz St" 12+41 LT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Cowitz St" 12+41 LT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Strand Street" 10+34 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 BASE
3	"Strand Street" 13+95 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 ADD 1
3	"Strand Street" 13+95 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 ADD 1
3	"Street A" 12+46 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 ADD 1
3	"Street A" 12+46 RT	30"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 3 ADD 1
4	"1st Street" 32+91 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 BASE
4	"1st Street" 32+91 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 BASE
4	"Strand Street" 13+95 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 ADD 1
4	"Strand Street" 13+95 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 ADD 1
4	"Street A" 12+46 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 ADD 1
4	"Street A" 12+46 RT	36"	9"	✓			G		SW																											MOUNT BACK TO BACK WITH SIGN 4 ADD 1
5	"1st Street" 28+88 RT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"1st Street" 29+50 LT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"1st Street" 35+50 RT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"1st Street" 36+43 LT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 & 31 BASE
5	"Cowitz St" 11+94 RT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"Cowitz St" 12+41 LT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"Cowitz St" 8+98 RT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"Cowitz St" 9+85 LT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"Strand Street" 16+43 RT	30"	30"	✓			R		SW																											MOUNT WITH SIGN 22 BASE
5	"Street A" 10+39 LT	30"	30"	✓			R		SW																											MOUNT ON LIGHT POLE BASE
5	"Street A" 12+46 RT	30"	30"	✓			R		SW																											MOUNT ON LIGHT POLE BASE
5	"Tualatin St" 10+32 LT	30"	30"	✓			R		SW																											MOUNT ON LIGHT POLE BASE

1/ BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
P=PURPLE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
L = LEFT POST
C = CENTER POST
R = RIGHT POST

3/ DISTANCE FROM EDGE OF PAVEMENT, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM600, TM602, AND TM635

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER

5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.



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ST. HELENS, OREGON
SIGNING AND STRIPING PLANS
SIGNING DETAILS

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Final Plans STATUS
JUNE 10, 2022 DATE
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SS11
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SIGNING DETAILS

SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					LEGEND TYPE	SIGN NO. 2/	TYPE OF SUPPORT														POST		REMARKS					
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUMINUM	BACK-GROUND		LEGEND					PERMANENT	DEMOUNTABLE	WOOD POST (ODOT TM670-671, TM676)	SINGLE PIPE POST (SCH 40)	PERF. STEEL SQUARE TUBE (ODOT TM671, TM676, TM681, TM687-689)	TRIANGULAR BASE BREAKAWAY (ODOT TM602)	MULTI-POST BREAKAWAY (ODOT TM220, TM600-601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (ODOT TM680)	CROSSWALK CLOSURE BARRICADE (ODOT TM240)	VERTICAL SIGN MOUNT ON EXISTING STRUCTURE	EXISTING PIPE POST	MILEPOST MARKER POST	ADJUSTABLE SIGN MOUNT	MAST ARMS MOUNT	C 4 X 5.4		C 4 X 7.25	LENGT H (FT.)	SIZE	LENGTH	
							ASTM TYPE III OR TYPE IV	ASTM TYPE X	ASTM TYPE II OR TYPE IV	ASTM TYPE X	NON-REFLECTIVE																						(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)	
13	"1st Street" 29+73 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"1st Street" 32+38 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"1st Street" 33+22 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"1st Street" 35+37 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"1st Street" 36+54 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Cowitz St" 9+98 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Cowitz St" 11+64 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Cowitz St" 12+91 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Strand Street" 10+60 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
13	"Strand Street" 13+12 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
13	"Strand Street" 14+17 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
13	"Strand Street" 16+30 RT	12"	18"		✓		SW	G			✓		13	✓																					MOUNT WITH SIGN 24 BASE
13	"Strand Street" 17+42 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Strand Street" 19+09 LT	12"	18"		✓		SW	G			✓		13	✓																					MOUNT WITH SIGN 24 BASE
13	"Strand Street" 19+28 RT	12"	18"		✓		SW	G			✓		13	✓																					MOUNT WITH SIGN 24 BASE
13	"Street A" 10+54 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Street A" 10+98 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Street A" 12+22 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
13	"Tualatin St" 10+54 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	BASE
13	"Tualatin St" 11+57 LT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
13	"Tualatin St" 11+85 RT	12"	18"		✓		SW	G			✓		13	✓																			2-3/8"	10.5'	ADD 1
22	"1st Street" 18+88 RT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGNS 5 BASE
22	"1st Street" 29+50 LT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGNS 5 BASE
22	"1st Street" 35+50 RT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGN 5 BASE
22	"1st Street" 36+43 LT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGN 5 & 31 BASE
22	"Cowitz St" 8+98 RT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGN 5 BASE
22	"Cowitz St" 9+85 LT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGN 5 & 31 BASE
22	"Tualatin St" 10+32 LT	18"	6"		✓		R	SW			✓		22																						MOUNT WITH SIGN 5 BASE

1/
BK=BLACK
BL=BLUE
BR=BROWN
FY=FLUORESCENT YELLOW
G=GREEN
O=ORANGE
P=PURPLE
R=RED
RB=RED-BLUE
SW=SILVER-WHITE
W=WHITE
Y=YELLOW

2/
NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.

L = LEFT POST
C = CENTER POST
R = RIGHT POST

3/
DISTANCE FROM EDGE OF PAVEMENT, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM600, TM602, AND TM635

4/
NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER

5/
MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.



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S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
SIGNING AND STRIPING PLANS
SIGNING DETAILS

TITLE	#	DATE	DESCRIPTION

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DATE

19823 P-525
PROJECT NUMBER

SS13

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**S. 1ST AND STRAND STREETS
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 ST. HELENS, OREGON
 SIGNING AND STRIPING PLANS
 SIGNING DETAILS**

SIGN NO.	SIGN LOCATION 4/	SIGN DIMENSIONS		SUB-STRATE			COLOR 1/					SIGN NO. 2/	TYPE OF SUPPORT															POST		REMARKS										
		WIDTH	HEIGHT	PLYWOOD	SHEET ALUMINUM	EXTRUDED ALUMINUM	BACK- GROUND		LEGEND				PERMANENT	DEMOUNTABLE	WOOD POST (ODOT TM670-671, TM676)	SINGLE PIPE POST (SCH 40)	PERF. STEEL SQUARE TUBE (ODOT TM671, TM676, TM681, TM687-889)	TRIANGULAR BASE BREAKAWAY (ODOT TM602)	MULTI-POST BREAKAWAY (ODOT TM220, TM600-601)	STAINLESS STEEL CLAMP (SSC) (TM677)	SIGNAL POLE MOUNT (ODOT TM680)	CROSSWALK CLOSURE BARRICADE (ODOT TM240)	VERTICAL SIGN MOUNT ON EXISTING STRUCTURE	EXISTING PIPE POST	MILEPOST MARKER POST	ADJUSTABLE SIGN MOUNT	MAST ARM SNS MOUNT	C 4 X 5.4	C 4 X 7.25		LENGT (FT.)	SIZE	LENGTH							
							ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX	NON-REFLECTIVE																					(BASED ON ESTIMATED LENGTH)	(MUST BE FIELD VERIFIED)							
23	"1st Street" 30+09 RT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"1st Street" 30+30 LT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"1st Street" 34+37 LT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"1st Street" 34+50 RT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"Cowlitz St" 13+58 LT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"Strand Street" 11+87 RT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	ADD 1				
23	"Strand Street" 12+05 LT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	ADD 1				
23	"Strand Street" 16+40 RT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"Strand Street" 18+35 RT	12"	18"		✓		SW		G		✓	23		✓																				2-3/8"	10.5'	BASE				
23	"Street A" 11+70 LT	12"	18"		✓		SW		G		✓	23							✓																	MOUNT ON LIGHT POLE	BASE			
23	"Tualatin St" 11+21 RT	12"	18"		✓		SW		G		✓	23							✓																	MOUNT ON LIGHT POLE	ADD 1			
24	"Strand Street" 16+12 RT	12"	18"		✓		SW		G/B		✓	24		✓																				2-3/8"	10.5'	BASE				
24	"Strand Street" 16+30 RT	12"	18"		✓		SW		G/B		✓	24		✓																					2-3/8"	15'	BASE			
24	"Strand Street" 19+07 RT	12"	18"		✓		SW		G/B		✓	24		✓																					2-3/8"	12'	BASE			
24	"Strand Street" 19+09 LT	12"	18"		✓		SW		G/B		✓	24		✓																					2-3/8"	10.5'	BASE			
24	"Strand Street" 19+28 RT	12"	18"		✓		SW		G/B		✓	24		✓																					2-3/8"	12'	BASE			
24	"Strand Street" 19+30 LT	12"	18"		✓		SW		G/B		✓	24		✓																					2-3/8"	12'	BASE			
25	"Strand Street" 20+19 RT	30"	30"		✓		R		SW		✓	25		✓																				2-3/8"	12.5'	BASE				
26	"Strand Street" 19+96 RT	30"	30"		✓		R		SW		✓	26		✓																					2-3/8"	12'	BASE			
27	"Strand Street" 19+96 RT	30"	36"		✓		SW		BK		✓	27																									MOUNT WITH SIGN 26	BASE		
28	"Strand Street" 20+19 RT	36"	12"		✓		SW		BK		✓	28																										MOUNT WITH SIGN 25	BASE	
29	"Strand Street" 18+88 LT	12"	18"		✓		SW		G		✓	29		✓																					2-3/8"	10.5'	BASE			
29	"Strand Street" 18+98 LT	12"	18"		✓		SW		G		✓	29		✓																					2-3/8"	10.5'	BASE			
30	"1st Street" 28+88 RT	36"	9"		✓		SW		G		✓	30																										MOUNT BACK TO BACK WITH SIGN 30	BASE	
30	"1st Street" 28+88 RT	36"	9"		✓		SW		G		✓	30																											MOUNT BACK TO BACK WITH SIGN 30	BASE
30	"1st Street" 29+50 LT	36"	9"		✓		SW		G		✓	30																											MOUNT BACK TO BACK WITH SIGN 30	BASE
30	"1st Street" 29+50 LT	36"	9"		✓		SW		G		✓	30																											MOUNT BACK TO BACK WITH SIGN 30	BASE
30	"Tualatin St" 12+31 RT	36"	9"		✓		SW		G		✓	30		✓																					2-3/8"	12'	ADD 1			
32	"Strand Street" 20+19 RT	36"	12"		✓		SW		BK		✓	32																										BASE		

1/
 BK=BLACK
 BL=BLUE
 BR=BROWN
 FY=FLUORESCENT YELLOW
 G=GREEN
 O=ORANGE
 P=PURPLE
 R=RED
 RB=RED-BLUE
 SW=SILVER-WHITE
 W=WHITE
 Y=YELLOW

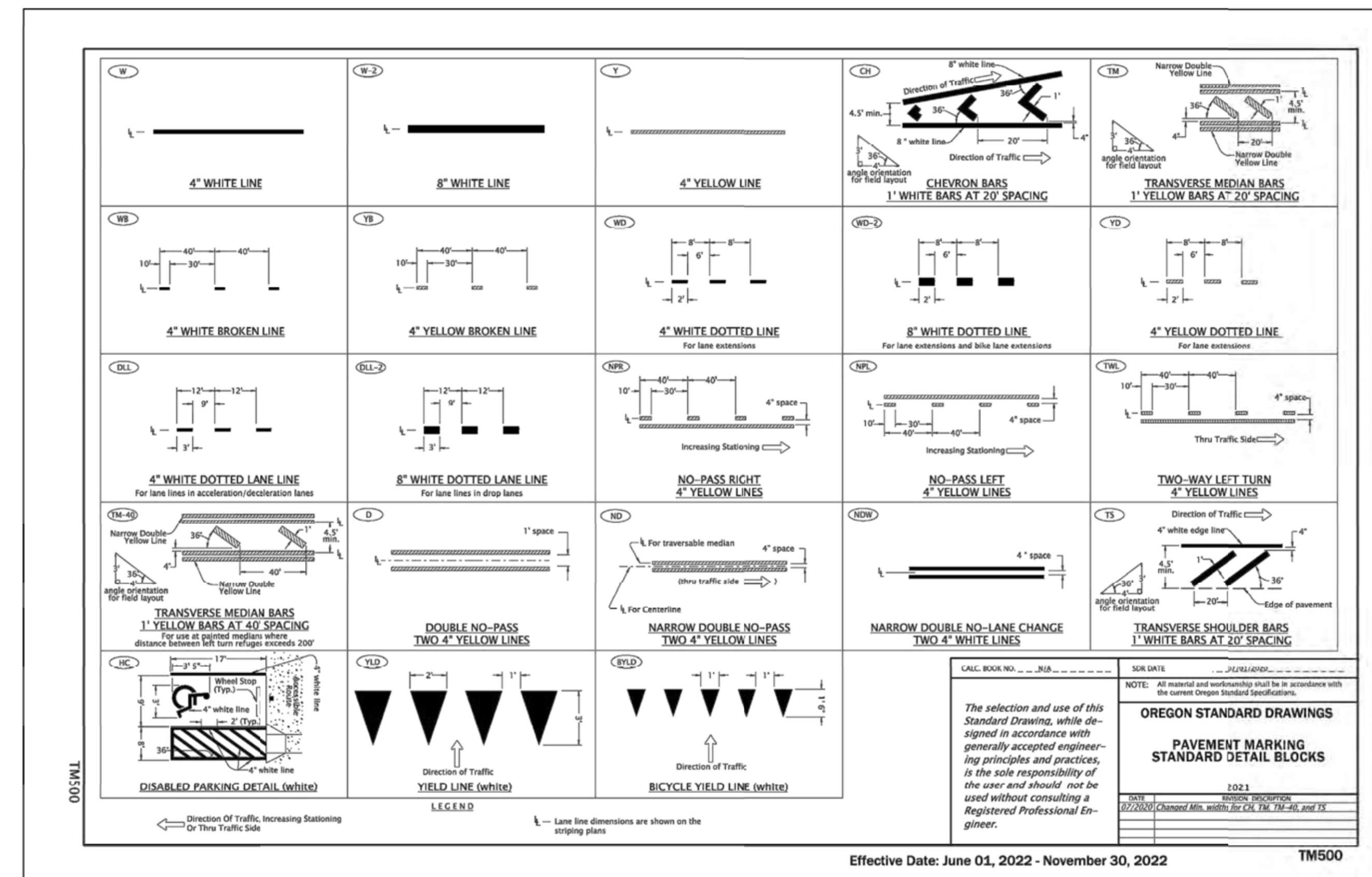
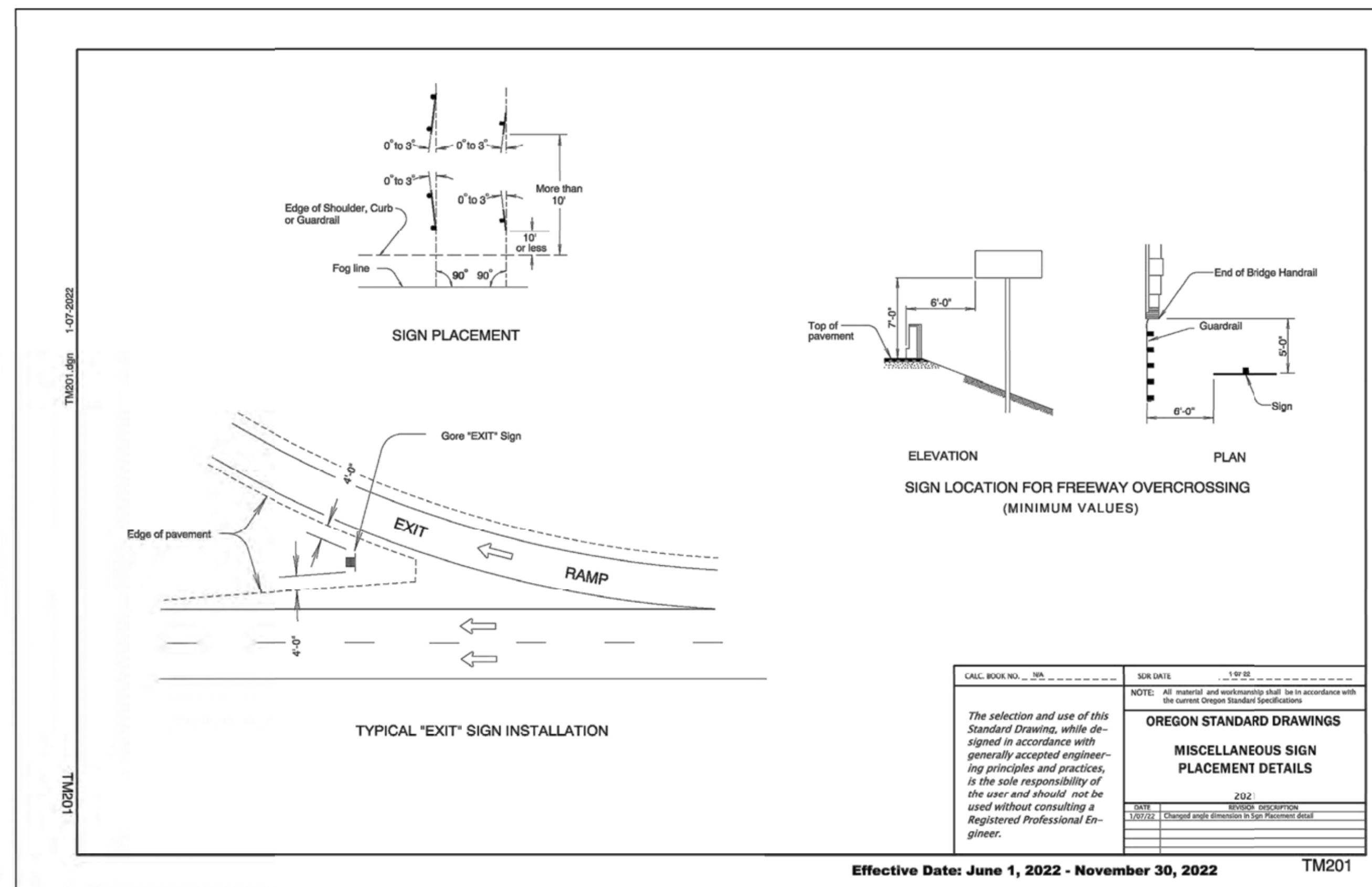
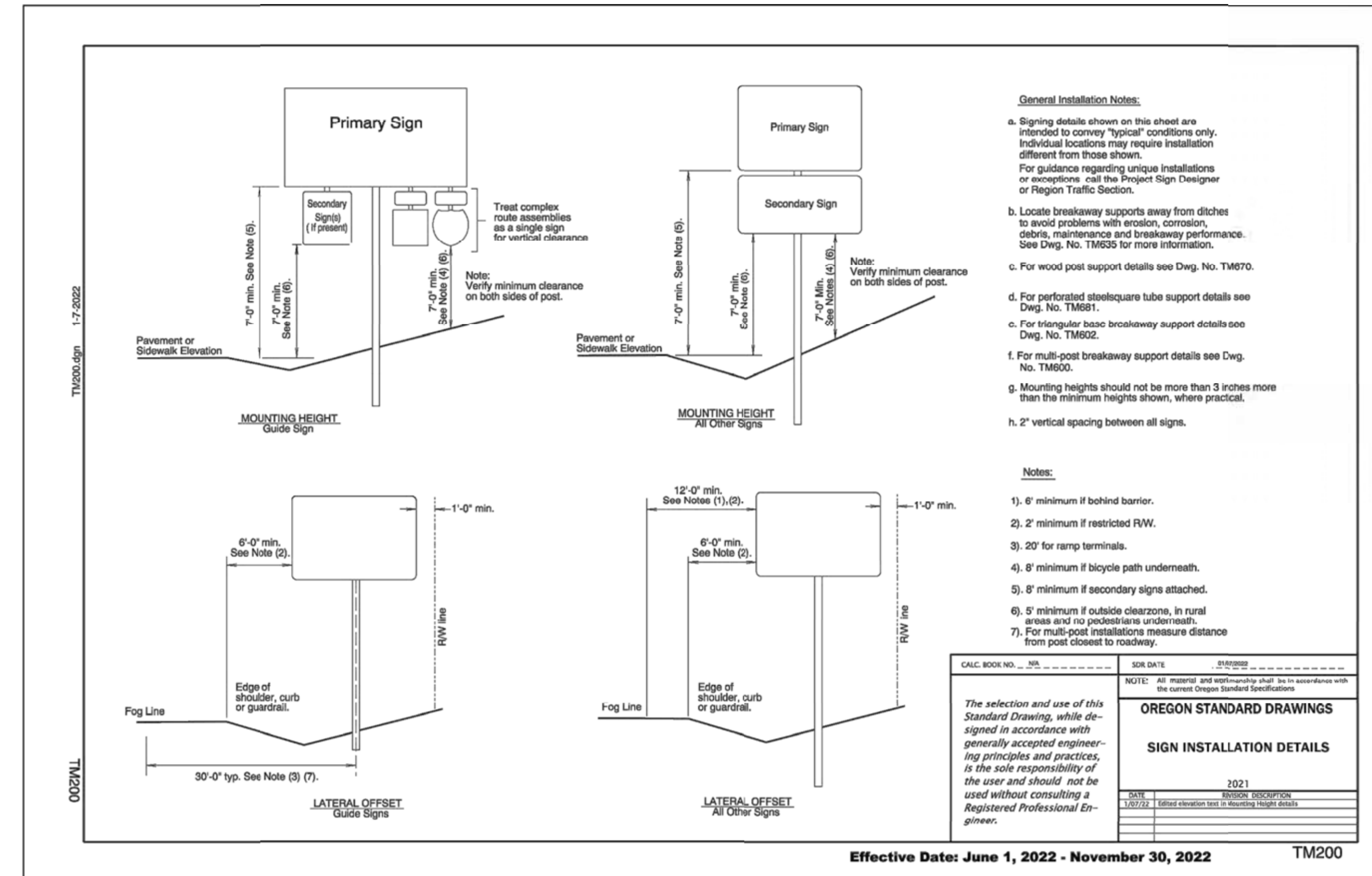
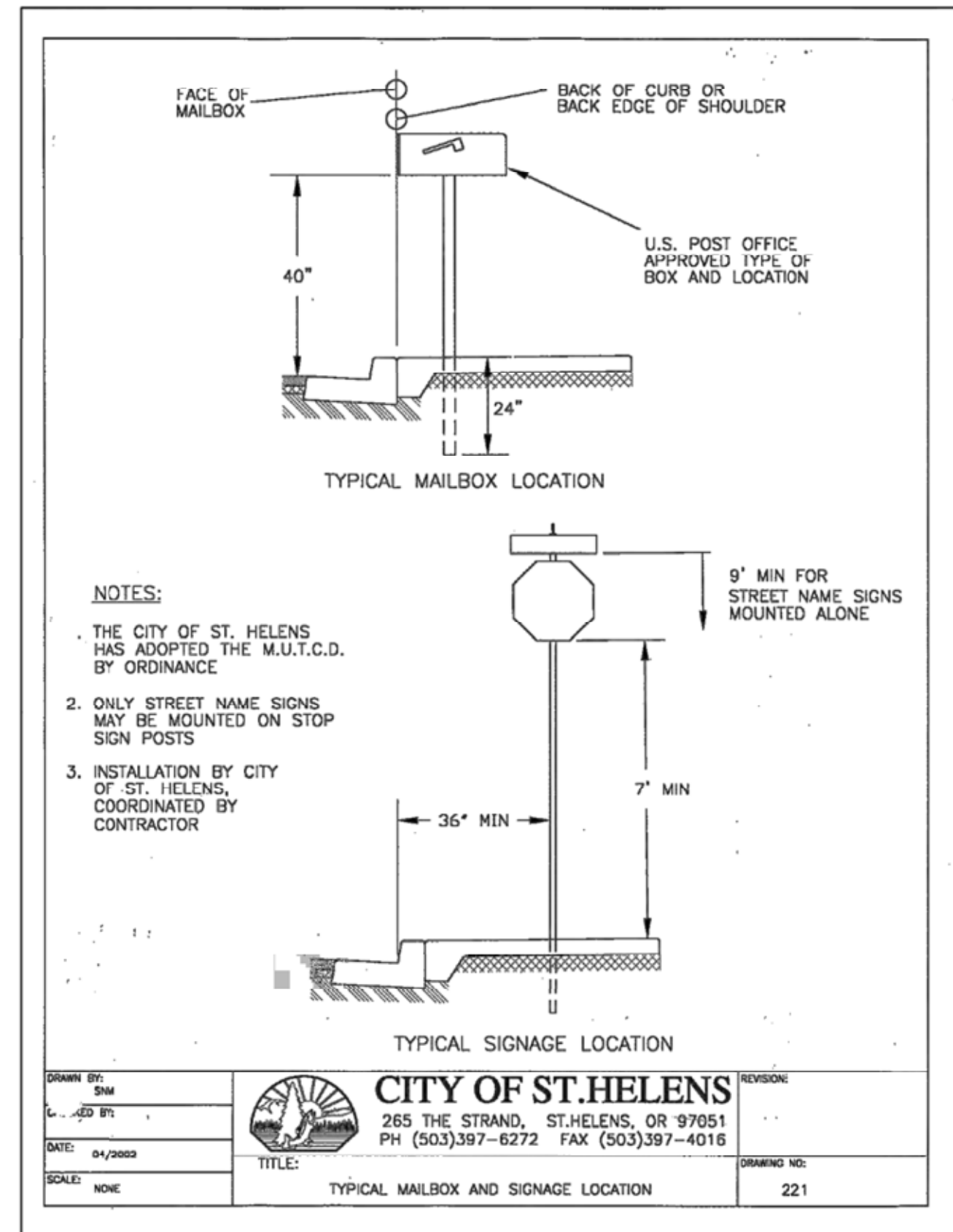
2/
 NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.
 L = LEFT POST
 C = CENTER POST
 R = RIGHT POST
 3/
 DISTANCE FROM EDGE OF PAVEMENT,
 FACE OF CURB, GUARDRAIL, OR BARRIER
 TO THE CENTERLINE OF FOOTING. FOR
 ADDITIONAL INFORMATION SEE STANDARD
 DRAWINGS TM600, TM602, AND TM635

4/
 NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE
 EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT
 MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS
 ARE TO BE DETERMINED BY THE ENGINEER
 5/
 MINIMUM DEPTH OF FOOTING FOR TRIANGULAR
 BASE BREAKAWAY AND MULTI-POST BREAKAWAY
 INSTALLATIONS IS FOR A 2' DIAMETER FOOTING.
 FOR ADDITIONAL INFORMATION SEE STANDARD
 DRAWINGS TM601 AND TM602.

TITLE		#	DATE	DESCRIPTION
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19823/ P-525 PROJECT NUMBER				

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S. 1ST AND STRAND STREETS ROAD AND UTILITY EXTENSIONS ST. HELENS, OREGON SIGNING AND STRIPING PLANS

TITLE

#	DATE	DESCRIPTION

REVISIONS

DATUM

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DATE

198231 P-525
PROJECT NUMBER

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SIGNING DETAILS

STANDARD CROSSWALK (Two 1' white bars)
Install per Standard Drawing TM530

STAGGERED CONTINENTAL CROSSWALK (Two white bars)
Install per Standard Drawing TM530

STOP BAR (1' white bar)
Install per Standard Drawing TM530

STOP BAR - LARGE (2' white bar)
Install per Standard Drawing TM530

RAMP METER STOP BAR (1' & 8" white bars)
For multi-lane ramp meter applications

BIKE RIGHT TURN STENCIL (white)
Center marking within lane width

BIKE LANE STANDARD STENCIL (white)
Center marking within lane width

BIKE LEFT TURN STENCIL (white)
Center marking within lane width

BIKE RIGHT TURN STRAIGHT STENCIL (white)
Center marking within lane width

BIKE LEFT TURN STRAIGHT STENCIL (white)
Center marking within lane width

SHARED LANE MARKING (white)
Center marking within lane width or as shown

BIKE STENCIL (white)
Used for Intersection Bicycle Box applications

BICYCLE DETECTOR MARKING (white)
Place inside Detector Footprint leading to upstream before where bicycle actuates the traffic signal

GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE) (green)
Color full width of lane

GREEN SUPPLEMENTAL BICYCLE LANE (DOTTED LINE EXTENSION) (green)
Color full width of lane between dotted lines

BUS (white)
Center marking within lane width

ONLY (white)
Center marking within lane width

SCHOOL (white)
Center marking within lane width

SCHOOL - LARGE (white)
Center marking within width of two lanes

CROSSING - LARGE (white)
Center marking within width of two lanes

X-ING (white)
Center marking within lane width

ON-STREET PARKING DETAIL (white)
End Marking

LEGEND
← Direction of Travel

General Note:
1. Arrow, letter, and bike symbol dimensions nominal.

NOTE: The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS
PAVEMENT MARKING STANDARD DETAIL BLOCKS

DATE: 2021
REVISION DESCRIPTION:

Effective Date: June 01, 2022 - November 30, 2022

PAVEMENT MARKINGS FOR TYPICAL INTERSECTION
* Stop bar shall be placed as near as possible to the intersecting traveled way. Locate stop bar 4' min. to 30' max. in advance of the extended log line, edge of pavement, or curb face. Minimum stop bar distance may need to be increased, depending on location of pedestrian ramps (see Detail "A") and/or vehicle turn radii (see Detail "B"). Field verify sight distance and truck turning movements.

STOP BAR PLACEMENT WITH RESPECT TO PEDESTRIAN RAMPS
Detail "A"

STOP BAR PLACEMENT WITH RESPECT TO TURN RADI
Detail "B"

INSTALLATION OF BIKE LANE STENCILS FOR BIKE LANE SEPARATED BY RIGHT TURN LANE

INSTALLATION OF BIKE LANE STENCILS FOLLOWING INTERSECTIONS

STAGGERED CONTINENTAL LAYOUT

STANDARD CROSSWALK BARS AT INTERSECTION

LEGEND
← Direction of Travel
L - Lane line dimensions are shown on the striping plans

General Note:
1. Install crosswalk bars such that the throat of the ADA ramp is entirely within crosswalk markings, or 5' back of extended log line, edge of pavement, or curb face.

General Note:
Install bike lane stencil to avoid right turning vehicle wheel tracks.

NOTE: The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS
INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)

DATE: 2021
REVISION DESCRIPTION:

Effective Date: June 1, 2022 - November 30, 2022

CONTROL POINT

CONTROL POINT LAYOUT - TANGENT SECTIONS

CONTROL POINT LAYOUT - CURVE SECTIONS

LEGEND
L - Lane line dimensions are shown on the striping plans.

General note:
1.) Use control points to make continuous narrow guideline as specified.
* Control points are placed along the lane line for all longitudinal lines except the following:
[NID] For center lines only
A control point layout 4' offset from the lane line is required for a NID when used as a center line.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS
ALIGNMENT LAYOUT: GENERAL

DATE: 2021
REVISION DESCRIPTION:

Effective Date: June 01, 2022 - November 30, 2022



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**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
SIGNING AND STRIPING PLANS**

SIGNING DETAILS

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P:\0616_05_2022_6_53am_sara.dra... X:\Projects\2021\121656-0001\StHelens\14 and Strand\CAD\SS16.dwg LayoutName: SS16
 TM500.dgn 7/21/2020
 TM560

SIGNING DETAILS



City of St. Helens
FOUNDED 1850

REGISTERED PROFESSIONAL ENGINEER
74348
Digitally Signed 2022.06.10 12:18:44-0700
OREGON
JUNE 12, 2015
STEVEN J. BOICE
EXPIRES: DEC. 31, 2023

DKS

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#	DATE	DESCRIPTION

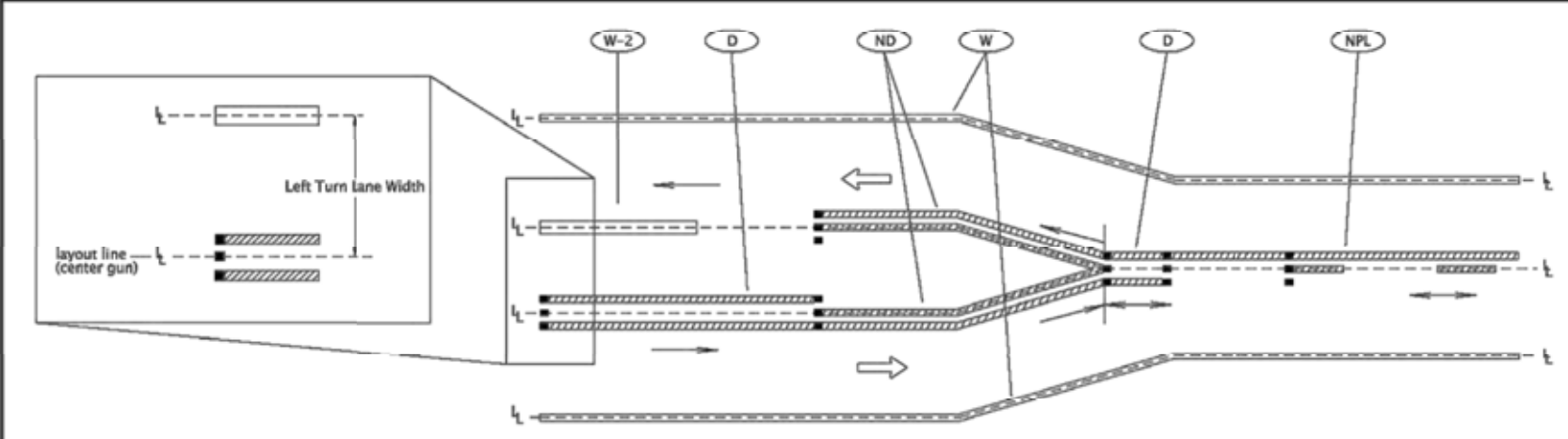
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PROJECT NUMBER

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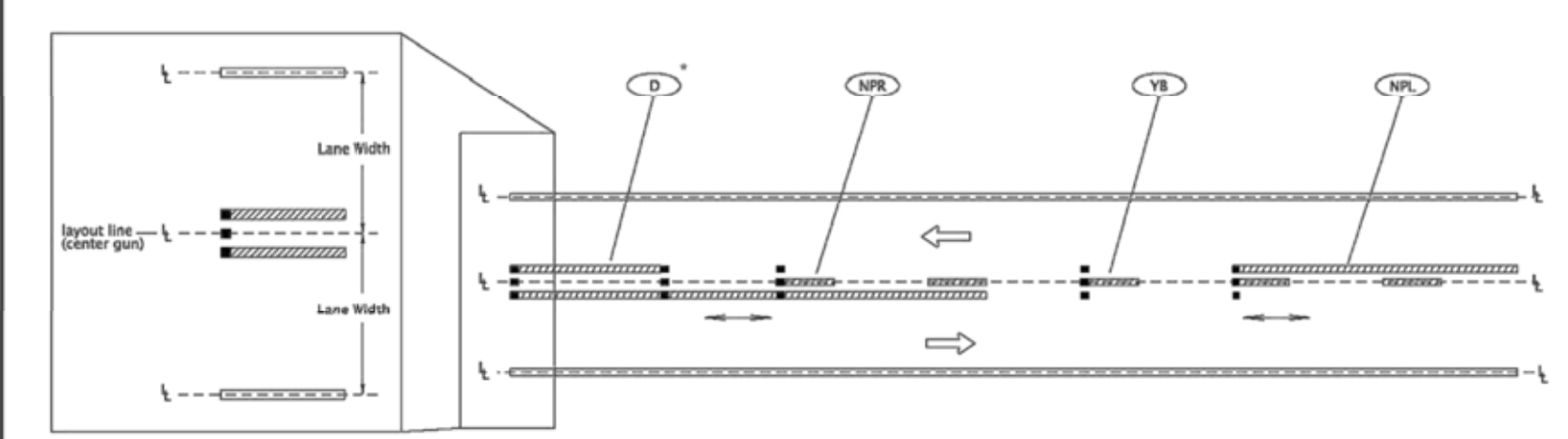
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LEFT TURN LANE ALIGNMENT LAYOUT

General note:
1) Install control points for pavement marking alignment before laying out center gun location.
2) Increasing stationing from left to right

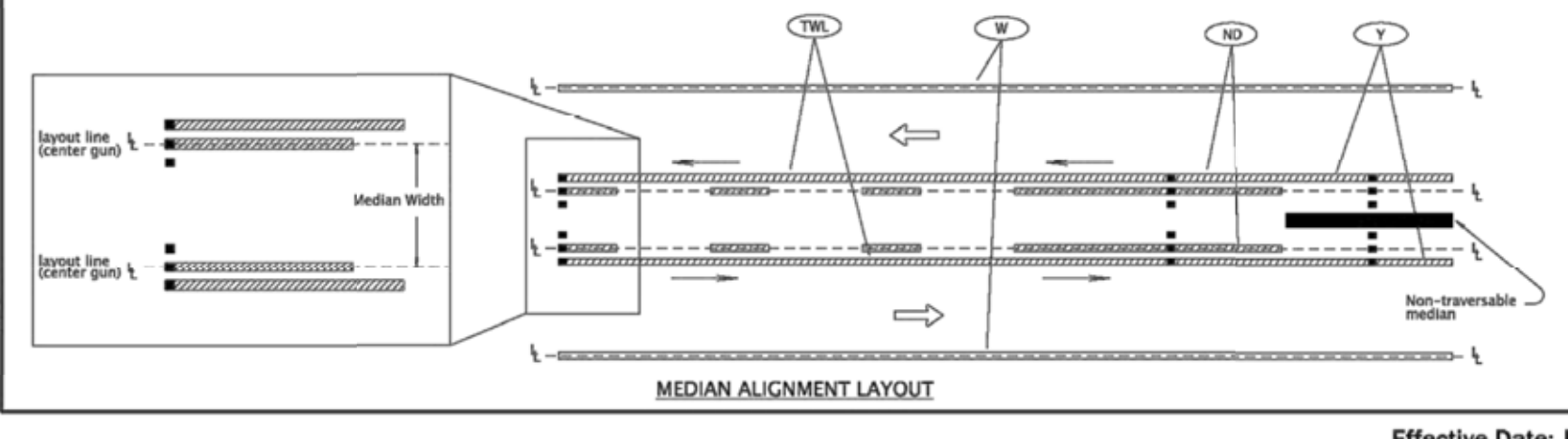
LEGEND
← Direction of travel and thru traffic side.
--- Lane line dimensions are shown on the striping plans.
→ Direction of striping truck (may go either direction)
→ Direction of striping truck (may go one direction only)
• Three gun installation system (center dot represents center gun)



CENTERLINE ALIGNMENT LAYOUT

*When ND is used as centerline markings, a control point layout 4' offset from the lane line is required.

4' Offset of Lane Line and Center Gun



MEDIAN ALIGNMENT LAYOUT

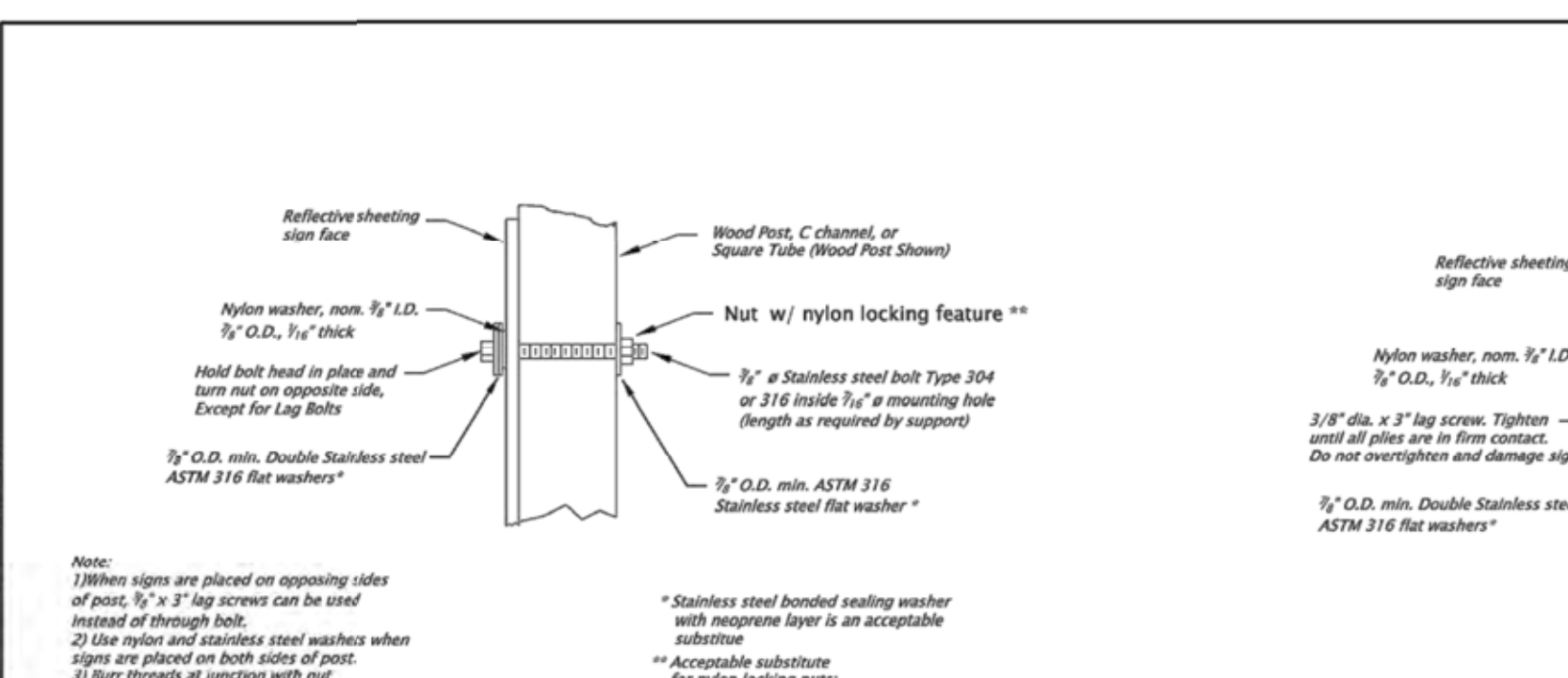
To be accompanied by Standard Drawg. Nos. TM500 thru TM504

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS
**ALIGNMENT LAYOUT:
LEFT TURN LANE,
CENTERLINE & MEDIANS**

DATE: 2021
REVISED DESCRIPTION: 07/2020 Extender accompanied by direction to include TM504

Effective Date: June 01, 2022 - November 30, 2022 **TM561**

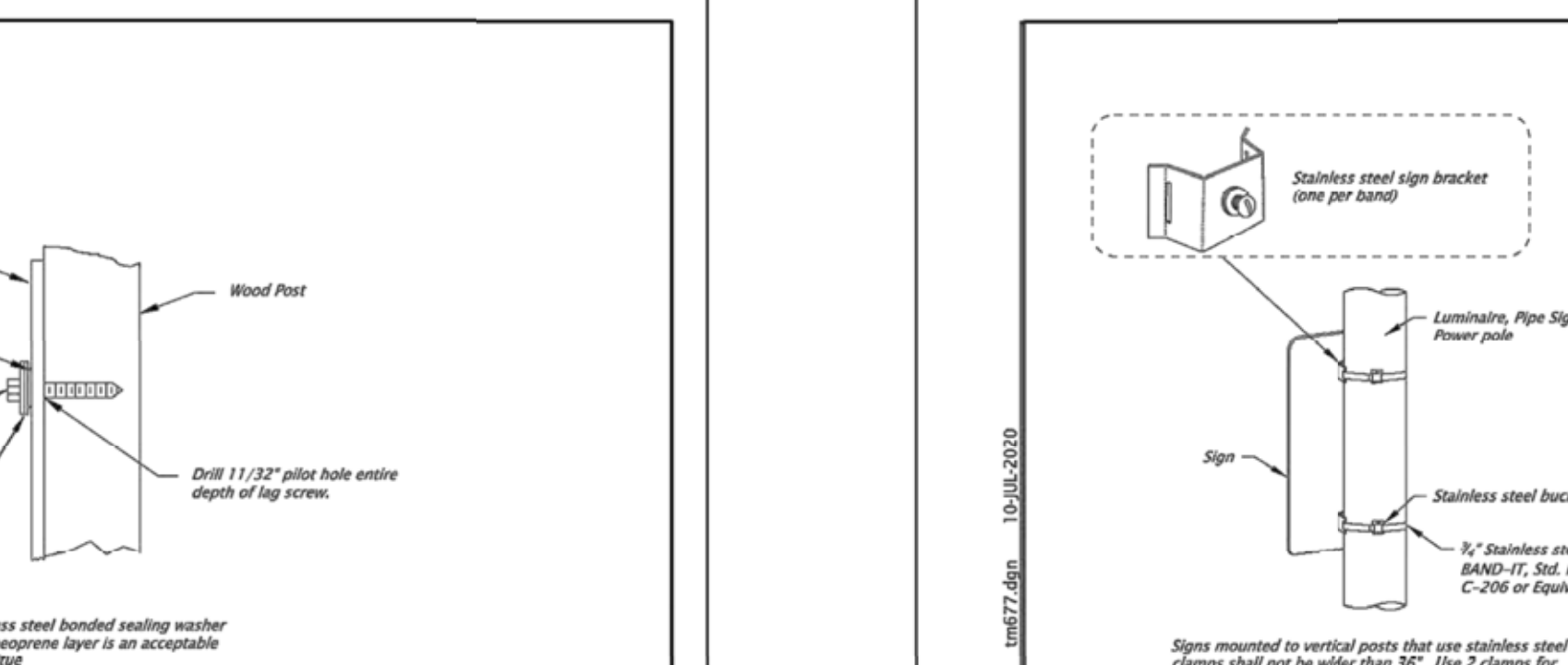


SIGN ATTACHMENT DETAIL

Reflective sheeting sign face
Wood Post, C channel, or Square Tube (Wood Post Shown)
Nylon washer, nom. 3/8" I.D., 1/2" O.D., 1/8" thick
Hold bolt head in place and turn nut on opposite side. Except for Lag Bolts
3/8" O.D. min. Double Stainless steel ASTM 316 flat washers*

Nut w/ nylon locking feature**
1/2" stainless steel bolt Type 304 or 316 inside 1/2" mounting hole (length as required by support)
3/8" O.D. min. ASTM 316 Stainless steel flat washer**

* Stainless steel bonded sealing washer with neoprene layer is an acceptable substitute
** Acceptable substitute for nylon locking nuts: ANCO PIN-LOC TRI-LOC® Top Lock Nut



OPTIONAL WOOD POST LAG SCREW DETAIL

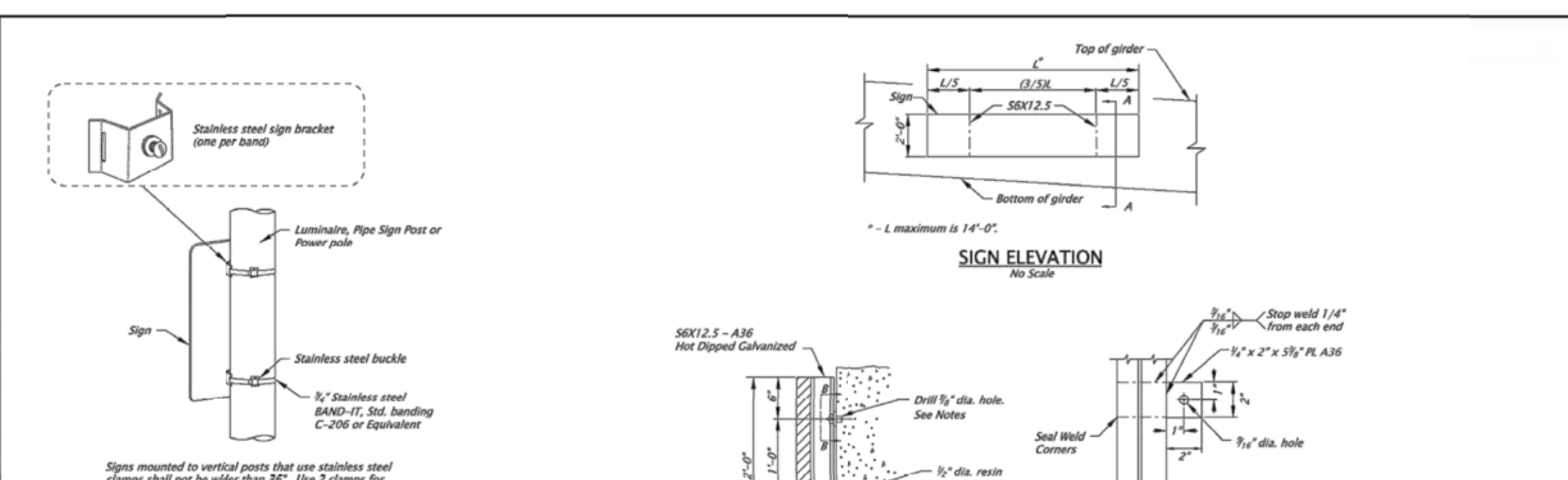
Reflective sheeting sign face
Wood Post
Nylon washer, nom. 3/8" I.D., 1/2" O.D., 1/8" thick
3/8" dia. x 3" lag screw. Tighten until all piles are in firm contact. Do not overtighten and damage sign.
1/2" O.D. min. Double Stainless steel ASTM 316 flat washers*

* Stainless steel bonded sealing washer with neoprene layer is an acceptable substitute

Note: This optional detail is to be used only when specified on a project.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

Effective Date: June 1, 2022 - November 30, 2022 **TM676**



ROAD NAME SIGN STRUCTURE MOUNT DETAIL

Stainless steel sign bracket (one per band)
Luminaria, Pipe Sign Post or Power pole
Sign
Stainless steel buckle
1/2" stainless steel BAND-IT, Std. banding C-206 or Equivalent
SEK12.5 - A36 Hot Dipped Galvanized
Drill 1/2" dia. hole. See Notes
1/2" dia. resin bonded anchor. See Notes
Seal Weld Corners
1/2" dia. hole
1/2" dia. hole
Step weld 1/4" x 1/2" from each end
1/2" x 2" x 5/16" PL A36

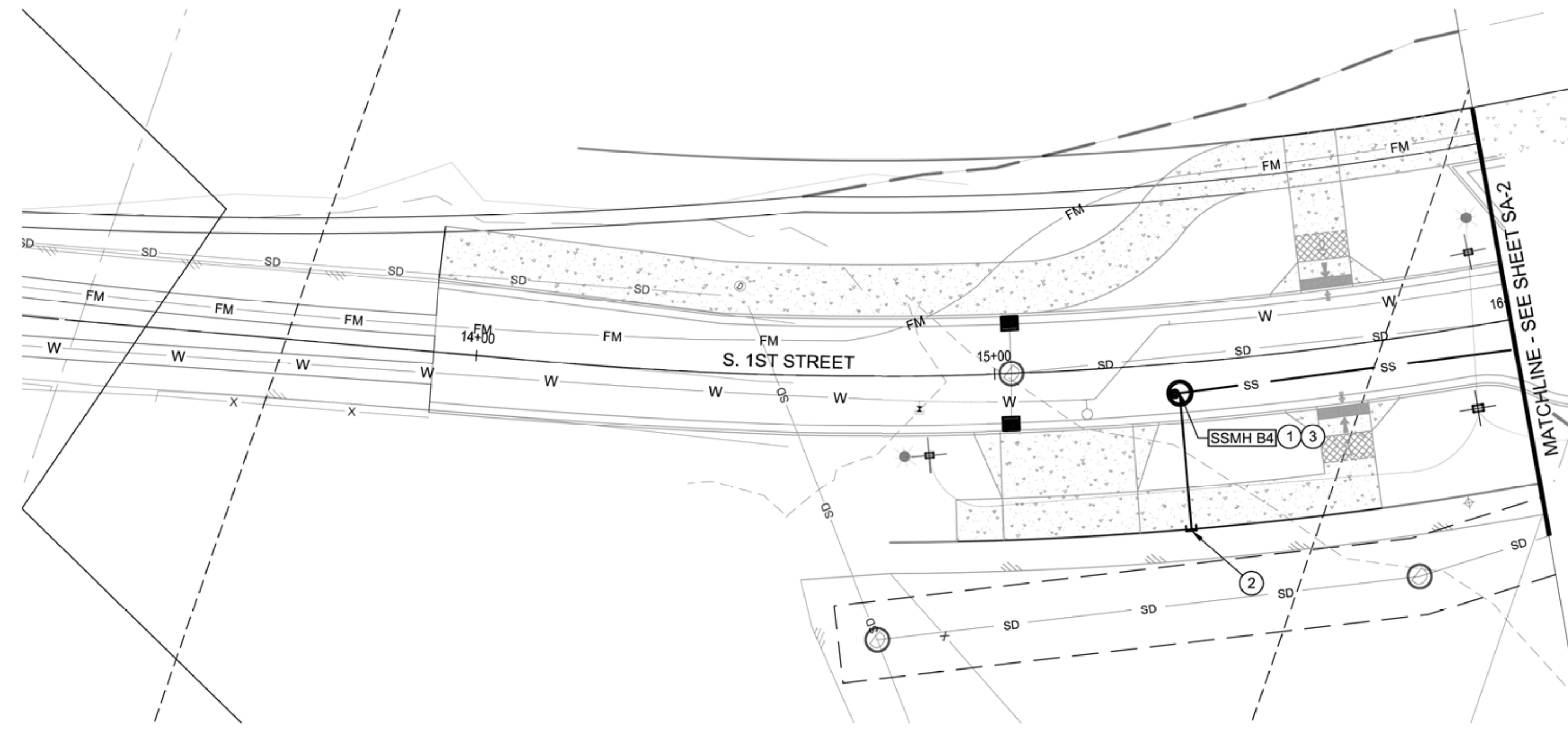
Signs mounted to vertical posts that use stainless steel clamps shall not be wider than 36". Use 2 clamps for all signs less than 48" in height and 3 clamps for signs 48" to 60" in height.

Signs mounted over travel lanes shall use the SIGN SUPPORT BRACKET DETAIL shown on TM618

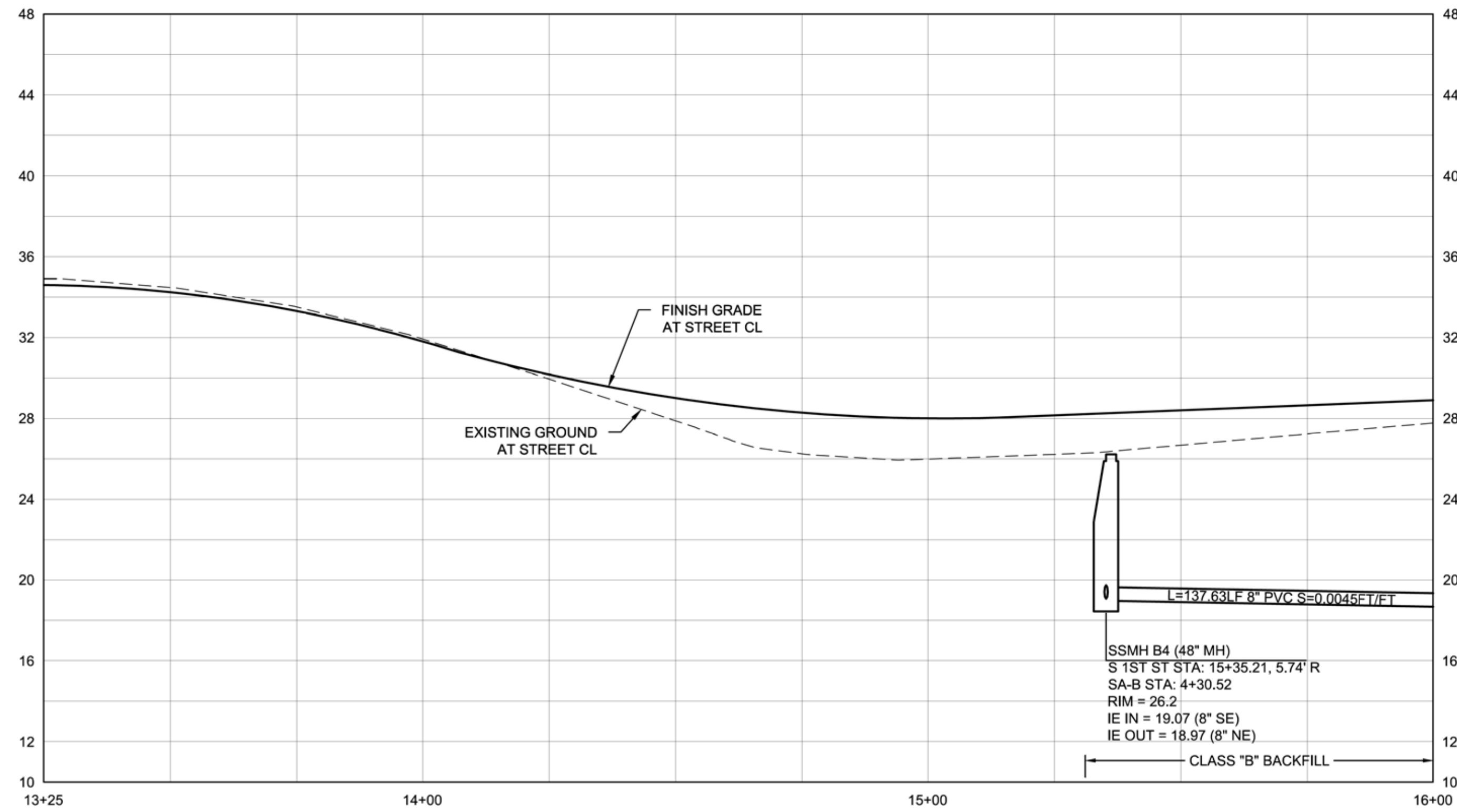
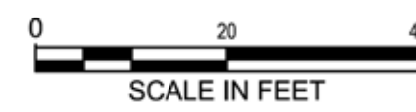
Notes:
1. Install resin bonded anchors according to Section 0553.5.
2. Resin bonded anchors shall conform to ASTM A307.
3. The hole depths shall develop the pullout strength specified in Table 0553.5-1.
4. Tighten 1/2" dia. anchors using 16 ft-lb of torque for maxed galvanized and 40 ft-lb of torque for galvanized only connections.

GENERAL NOTES
1. For Secondary Sign Mounts See TM676.

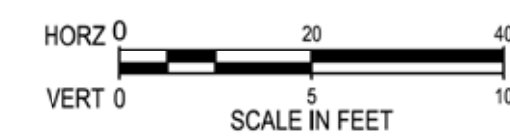
Effective Date: June 1, 2022 - November 30, 2022 **TM677**



S. 1ST STREET STA 13+25 TO 16+00



S. 1ST STREET STA 13+25 TO 16+00



SEWER CONSTRUCTION KEY NOTES

- ① CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- ② CONSTRUCT NEW 8-INCH SERVICE LATERAL TO PROPERTY LINE WITH TEMPORARY PLUG.
- ③ MAJOR MANHOLE ADJUSTMENT WITH 1ST STREET CONSTRUCTION TO BRING THE RIM TO THE PROPOSED GRADE

MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
B4	587369.52	603664.38

NEW LATERAL TABLE

MAIN STA. OF TEE	APPROX. LENGTH	SLOPE	INV. ELEV. @END
15+35	38'	2.00%	19.93



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 13+25 TO 16+00

TITLE	
#	DESCRIPTION

REVISIONS

DATUM
 GRAYLING CAD RKL
 DRAWN BY CHECKED BY

FINAL PLANS
 STATUS

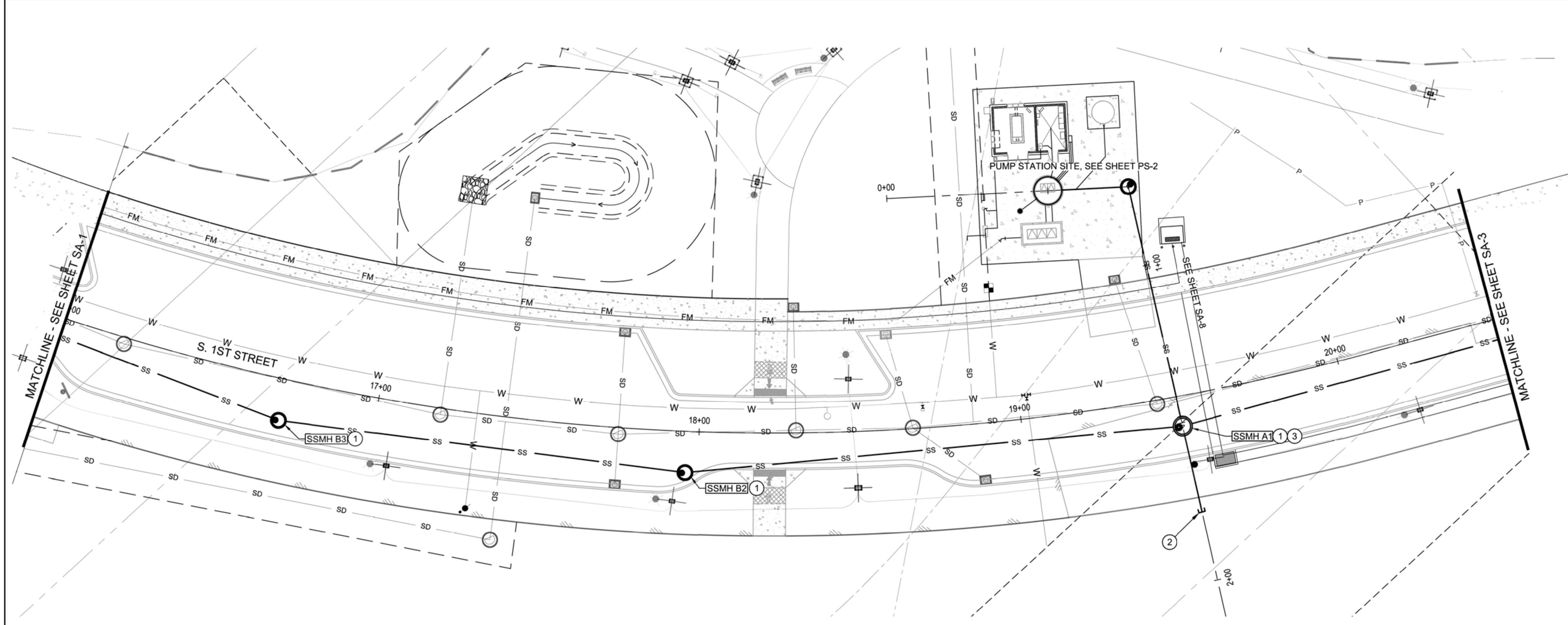
JUNE 3, 2022
 DATE
 19823 / P-525
 PROJECT NUMBER

SA-1

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P:\0401 - 2022 - 5455m - Nathan - G:\Shared\dwg\Grading\Projects\2105A - 1st and Strand\1101N - Improvements\500 CAD\501 - Plan Sheets\2105A - SS PAP SHEETS.dwg - Layout Name: SA-1 - S. 1ST STREET STA 13+25 TO 16+00

P:\0401 - 2022 - 5455m - Nathan - G:\Shared\Drawings\Projects\21054 - 1st and Strand\11111 - Improvements\500 CAD\01 - Plan Sheets\21054 - S1P - SHEETS.dwg - Layout Name: SA-2 - S. 1ST STREET STA. 16+00 TO 20+50



S. 1ST STREET STA 16+00 TO 20+50

0 20 40
SCALE IN FEET

- SEWER CONSTRUCTION KEY NOTES**
- 1 CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
 - 2 CONSTRUCT NEW SEWER MAIN TO EDGE OF RIGHT-OF-WAY WITH TEMPORARY PLUG.
 - 3 MAJOR MANHOLE ADJUSTMENT WITH 1ST STREET CONSTRUCTION TO BRING THE RIM TO THE PROPOSED GRADE.

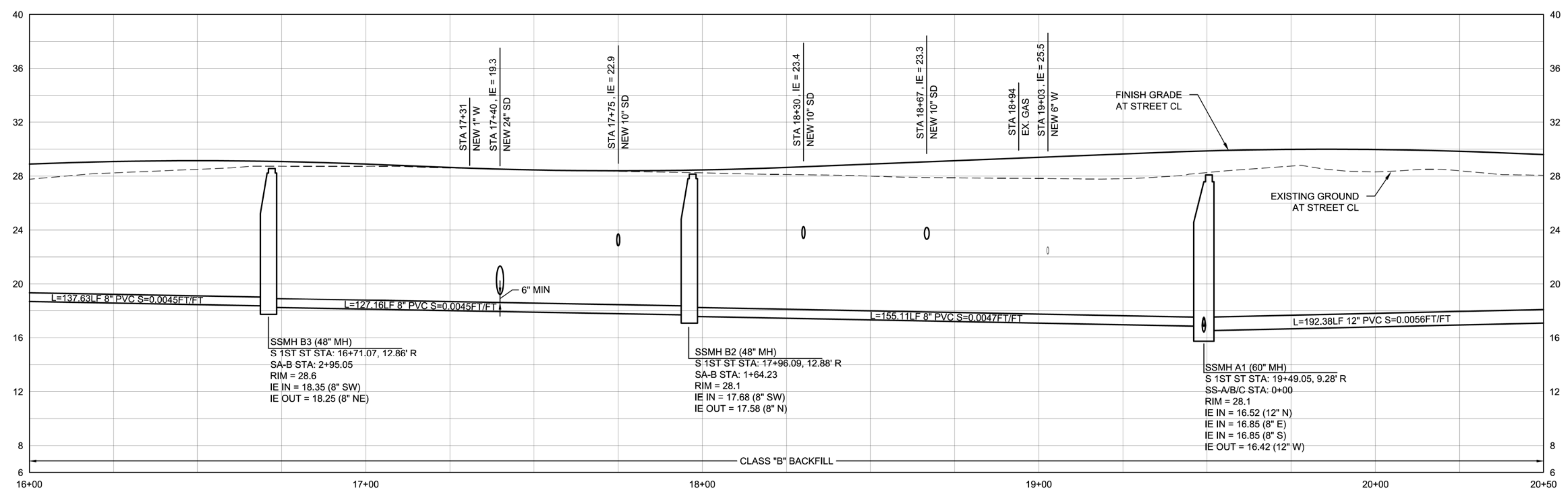


MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
B3	587464.17	603764.30
B2	587570.90	603833.42
A1	587716.45	603887.04

NEW LATERAL TABLE

MAIN STA, OF TEE	APPROX, LENGTH	SLOPE	INV, ELEV, @END
19+49	27'	2.00%	17.40



S. 1ST STREET STA 16+00 TO 20+50

HORIZ 0 20 40
VERT 0 10
SCALE IN FEET

**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 16+00 TO 20+50

TITLE

#	DATE	DESCRIPTION

REVISIONS

DATUM
GRAYLING CAD RKL
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FINAL PLANS
STATUS
JUNE 3, 2022
DATE
19823 / P-525
PROJECT NUMBER

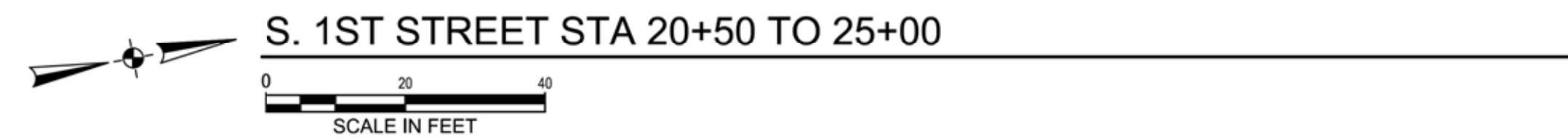
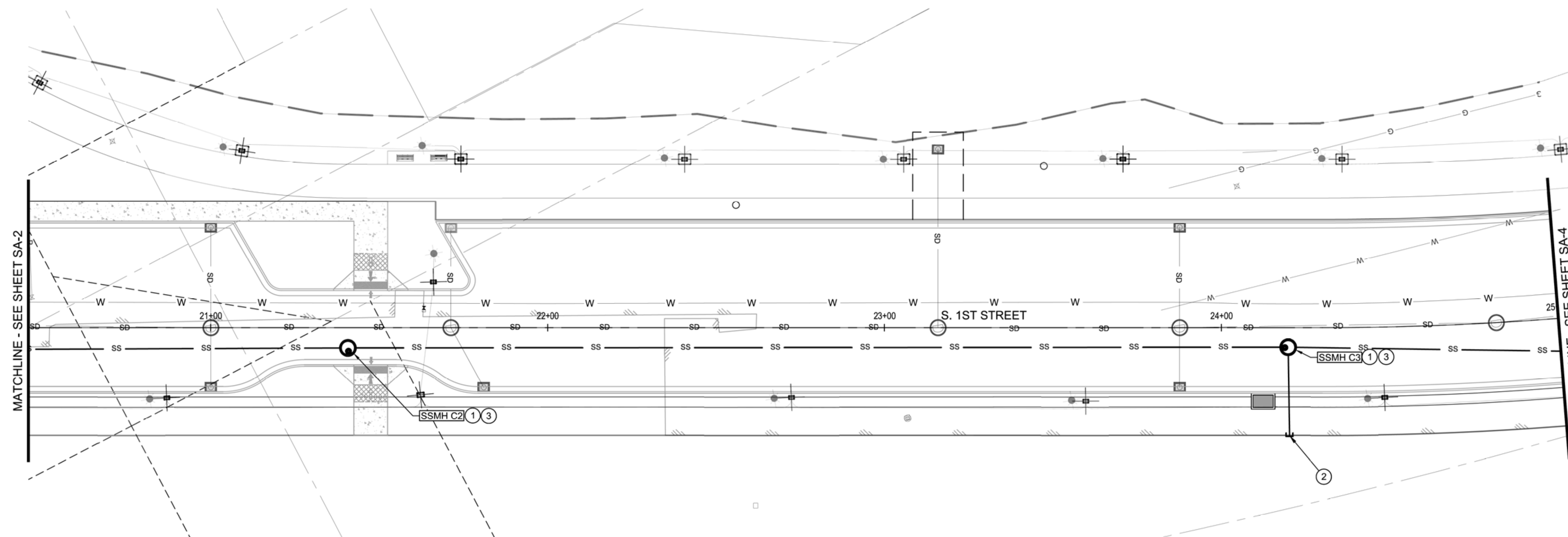
SA-2

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SEWER CONSTRUCTION KEY NOTES

- ① CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- ② CONSTRUCT NEW SEWER MAIN TO EDGE OF RIGHT-OF-WAY WITH TEMPORARY PLUG.
- ③ MAJOR MANHOLE ADJUSTMENT WITH 1ST STREET CONSTRUCTION TO BRING THE RIM TO THE PROPOSED GRADE.

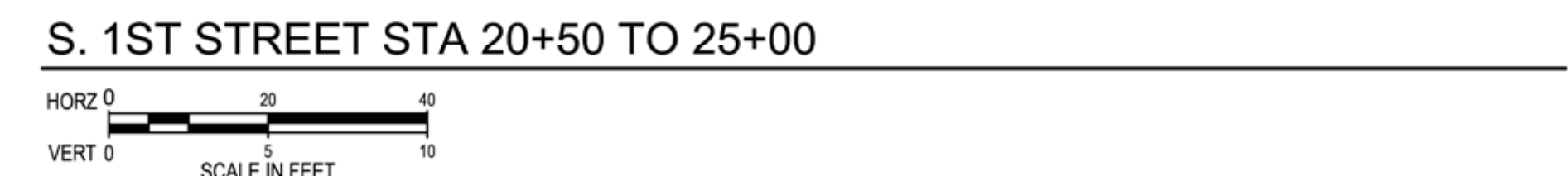
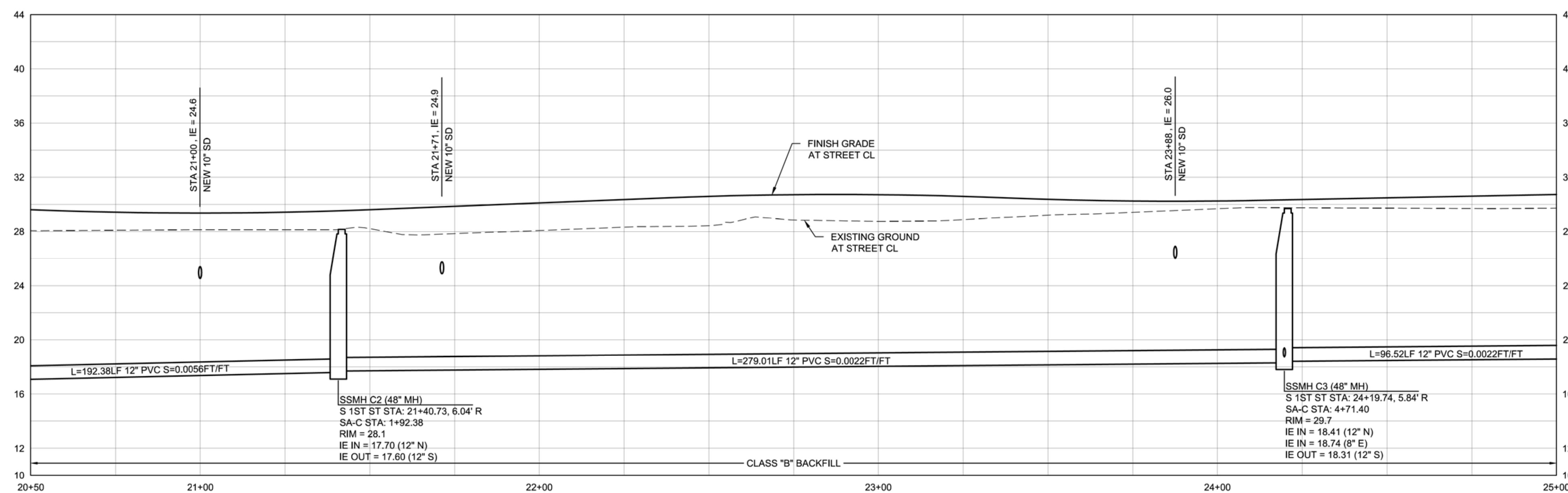


MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
C2	587905.72	603921.48
C3	588180.05	603972.40

NEW LATERAL TABLE

MAIN STA. OF TEE	APPROX. LENGTH	SLOPE	INV. ELEV. @END
24+20	24'	2.00%	19.27



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 20+50 TO 25+00

TITLE	#	DATE	DESCRIPTION

REVISIONS	
DATUM	
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STATUS	
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DATE	
19823 / P-525	
PROJECT NUMBER	

SA-3

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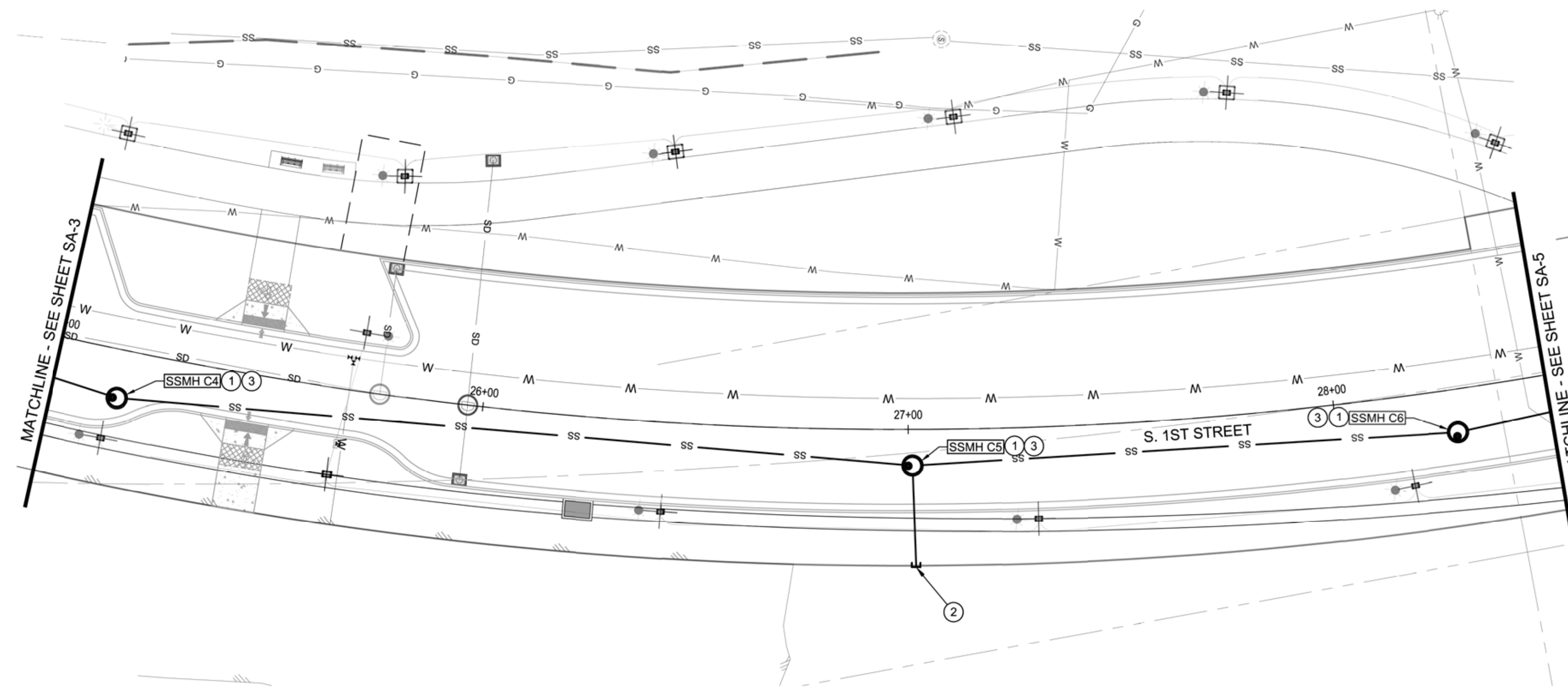
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SEWER CONSTRUCTION KEY NOTES

- ① CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- ② CONSTRUCT NEW SEWER MAIN TO EDGE OF RIGHT-OF-WAY WITH TEMPORARY PLUG.
- ③ MAJOR MANHOLE ADJUSTMENT WITH 1ST STREET CONSTRUCTION TO BRING THE RIM TO THE PROPOSED GRADE



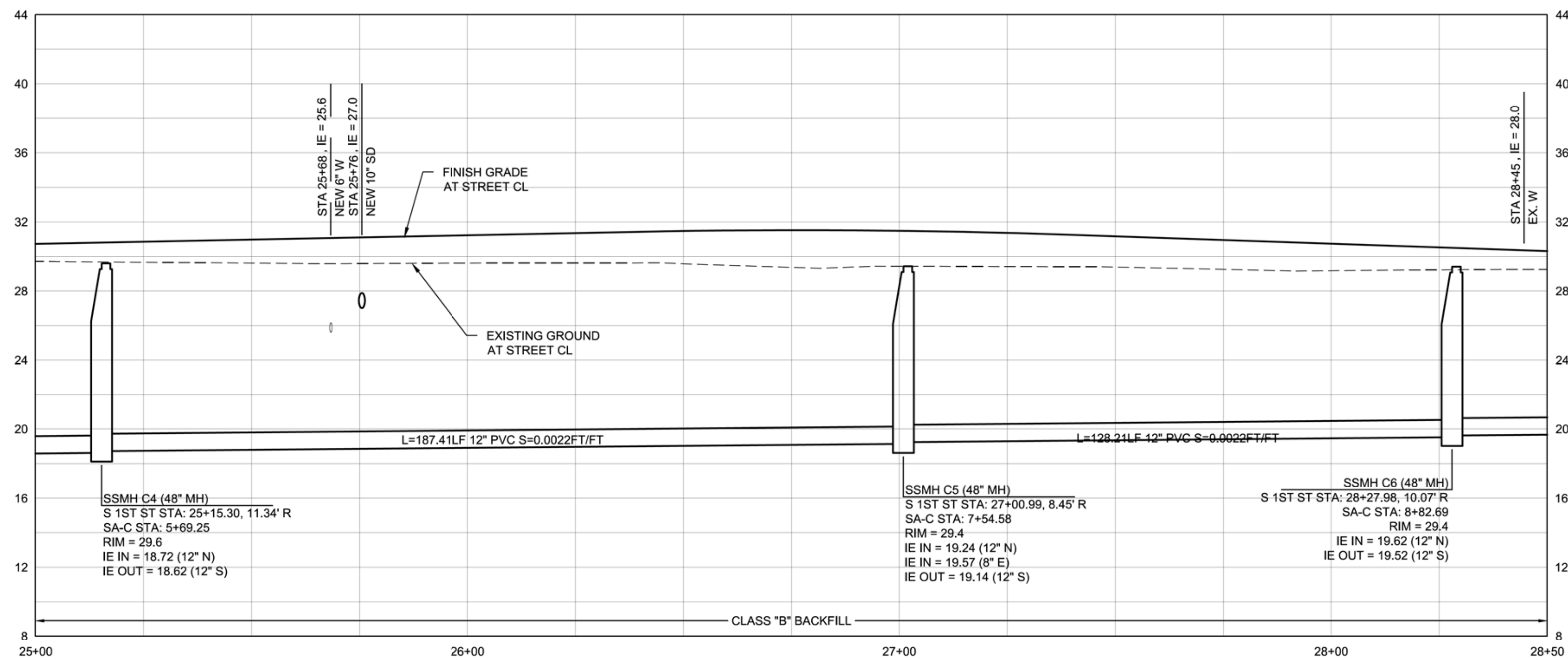
S. 1ST STREET STA 25+00 TO 28+50

MANHOLE COORDINATES TABLE

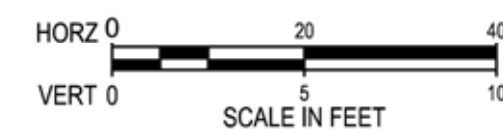
SSMH ID	NORTHING	EASTING
C4	588274.66	603991.47
C5	588461.99	603986.01
C6	588588.25	603963.72

NEW LATERAL TABLE

MAIN STA, OF TEE	APPROX, LENGTH	SLOPE	INV, ELEV, @END
27+01	21'	2.00%	20.05



S. 1ST STREET STA 25+00 TO 28+50



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 25+00 TO 28+50

TITLE	
#	DESCRIPTION

REVISIONS

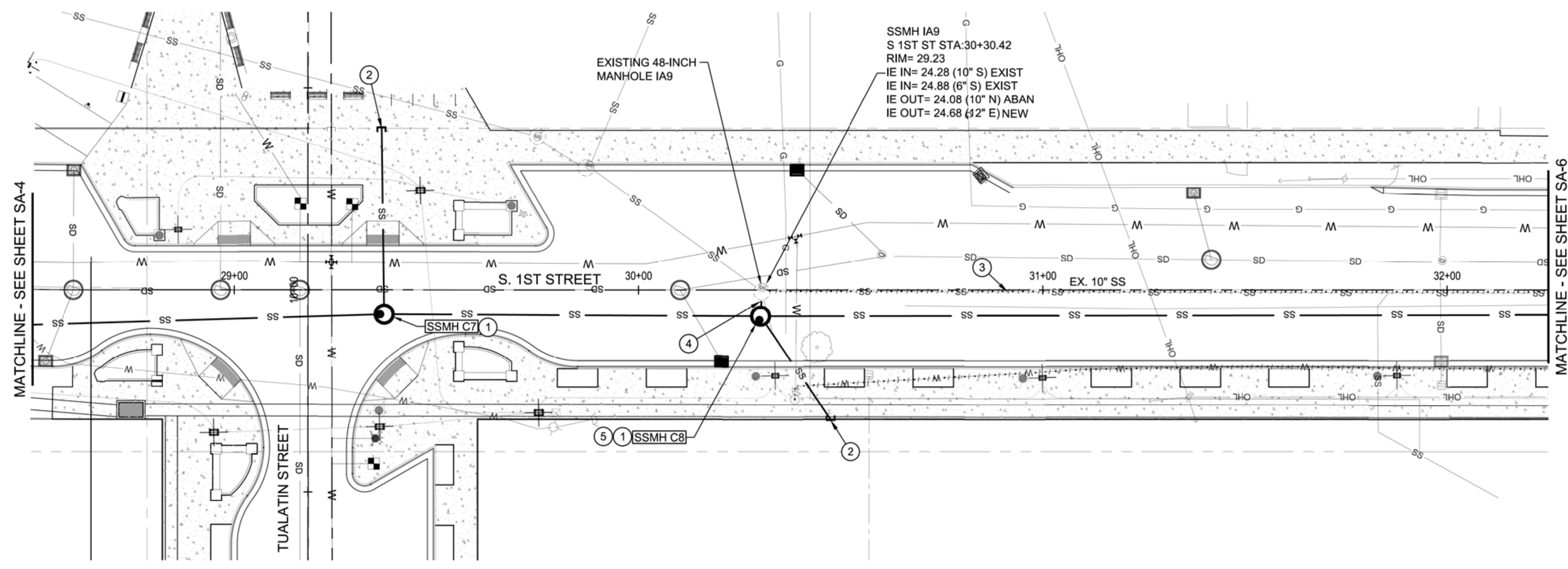
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FINAL PLANS
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 JUNE 3, 2022
 DATE

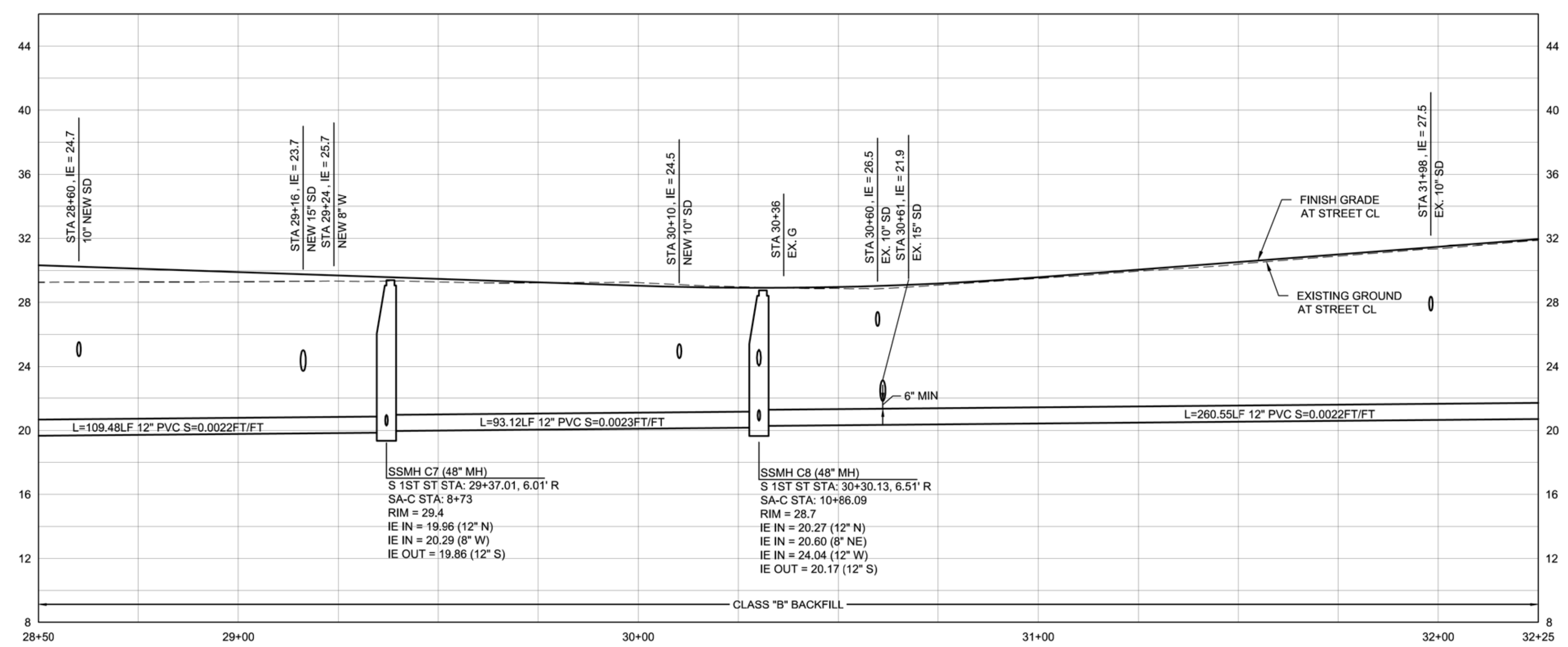
19823 / P-525
 PROJECT NUMBER

SA-4

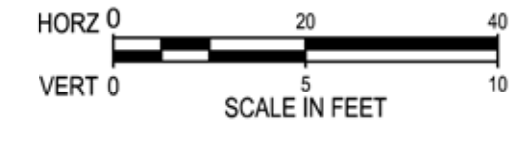
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S. 1ST STREET STA 28+50 TO 32+25



S. 1ST STREET STA 28+50 TO 32+25



SEWER CONSTRUCTION KEY NOTES

- 1 CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- 2 CONSTRUCT NEW SEWER MAIN TO EDGE OF RIGHT-OF-WAY WITH TEMPORARY PLUG.
- 3 ABANDON PIPE PER SECTION 00490 OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION. ANYTHING LARGER THAN 6" MUST BE REMOVED OR FILLED W/ CLSM.
- 4 CONSTRUCT 12" PVC SEWER TO CONNECT THE EXISTING MANHOLE TO THE PROPOSED MANHOLE WITH CLASS "B" BACKFILL
- 5 CONSTRUCT 8" INSIDE DROP PER CITY OF ST. HELENS STD DETAIL 354

MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
C7	588691.86	603928.35
C8	588780.99	603901.42

NEW LATERAL TABLE

MAIN STA. OF TEE	APPROX. LENGTH	SLOPE	INV. ELEV. @END
29+37	44'	2.00%	21.22
30+30	29'	2.00%	21.22



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 28+50 TO 32+25

TITLE	
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REVISIONS	
DATE	DESCRIPTION

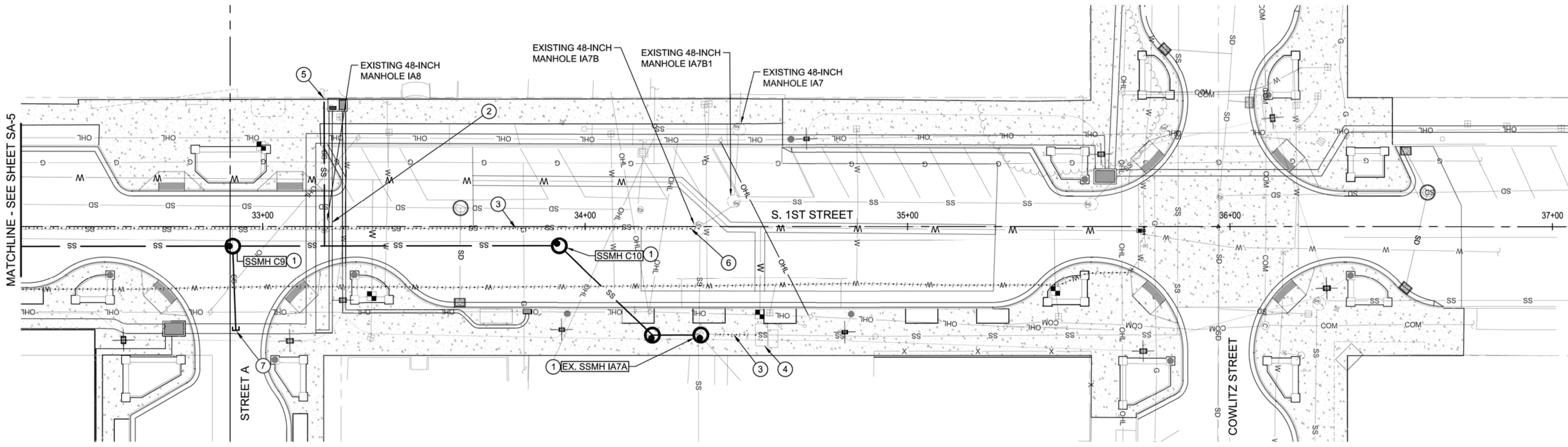
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FINAL PLANS	STATUS
JUNE 3, 2022	DATE
19823 / P-525	PROJECT NUMBER

SA-5

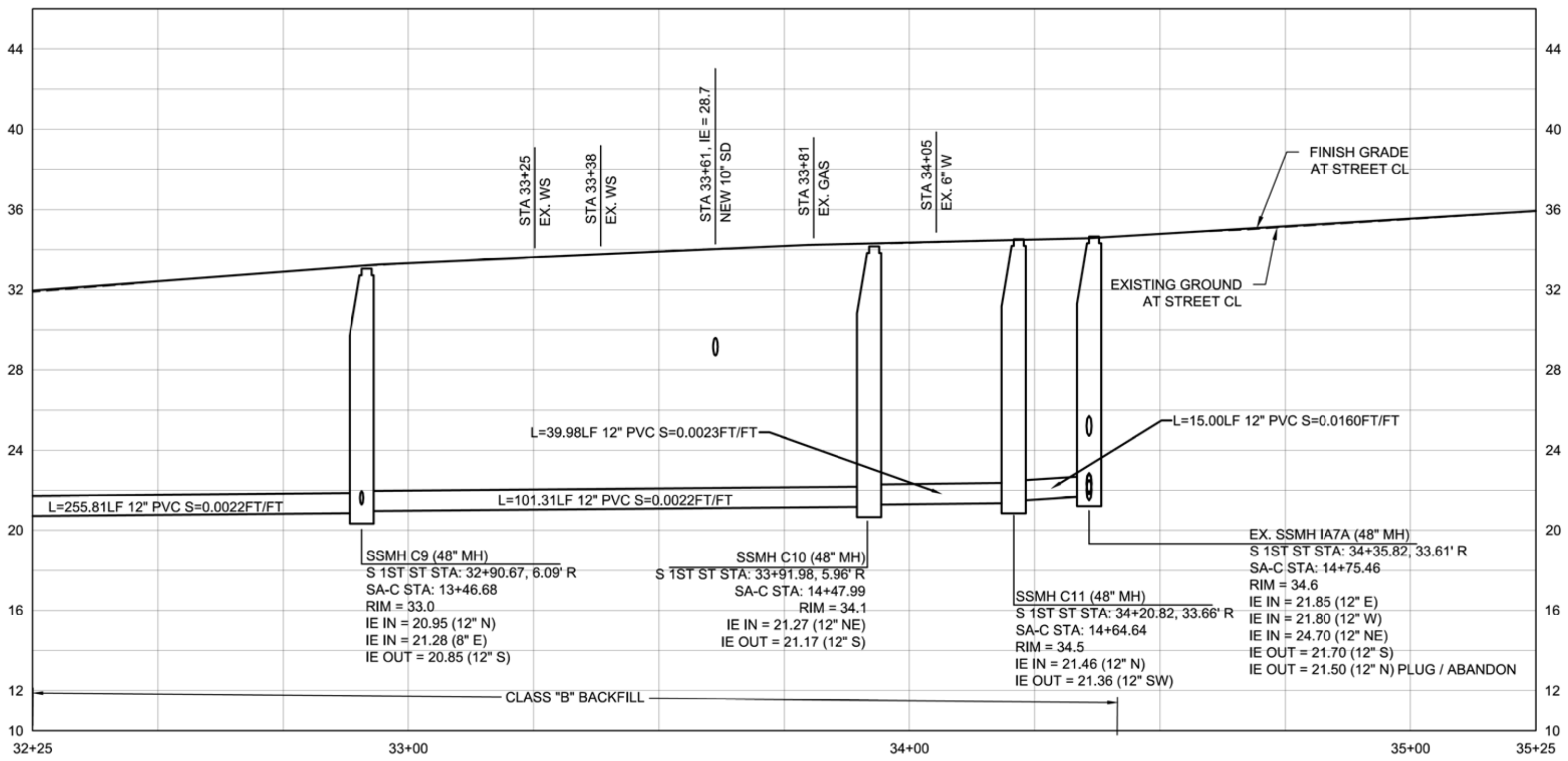
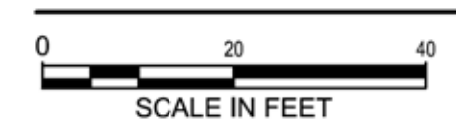
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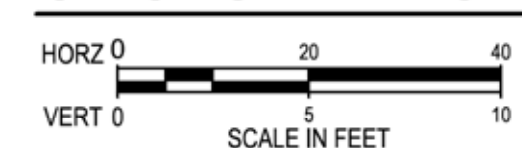
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S. 1ST STREET STA 32+25 TO 35+25



S. 1ST STREET STA 32+25 TO 35+25



SEWER CONSTRUCTION KEY NOTES

- 1 CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- 2 REMOVE EXISTING MANHOLE PER SECTION 00490 OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION
- 3 ABANDON EXISTING 10" PIPE
- 4 DECOMMISSION EXISTING PUMP STATION, SEE DETAIL SHEET SA-9
- 5 CONSTRUCT NEW SERVICE LATERAL TO CONNECT TO THE EXISTING SERVICE LATERAL
- 6 CONSTRUCT CONCRETE PLUG
- 7 CONSTRUCT NEW SEWER MAIN TO EDGE OF INTERSECTION AND INSTALL MECHANICAL PLUG FOR FUTURE CONNECTION

MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
C9	589029.88	603824.35
C10	589126.67	603794.41
C11	589162.37	603812.39

NEW LATERAL TABLE

MAIN STA, OF TEE	APPROX, LENGTH	SLOPE	INV, ELEV, @END
32+90	45'	2.00%	21.95



S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
S. 1ST STREET STA 32+50 TO 35+25

TITLE		
#	DATE	DESCRIPTION

REVISIONS	

DATUM	
GRAYLING CAD	RKL
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FINAL PLANS STATUS	
JUNE 3, 2022	DATE
19823 / P-525	PROJECT NUMBER

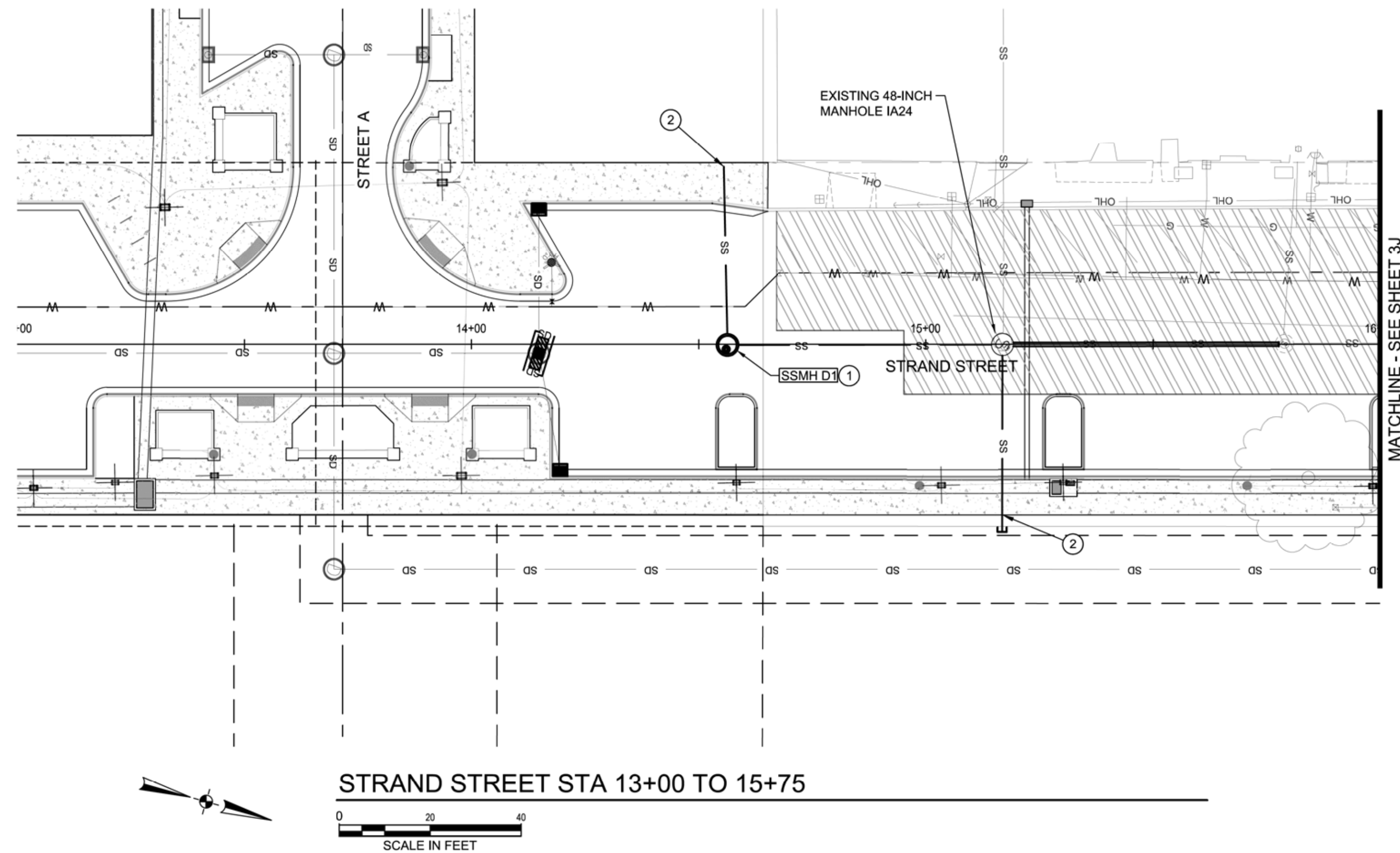
SA-6

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SEWER CONSTRUCTION KEY NOTES

- ① CONSTRUCT FLAT-TOP MANHOLE PER CITY OF ST HELENS STD DETAIL 351, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- ② CONSTRUCT NEW SERVICE LATERAL TO PROPERTY LINE WITH TEMPORARY PLUG

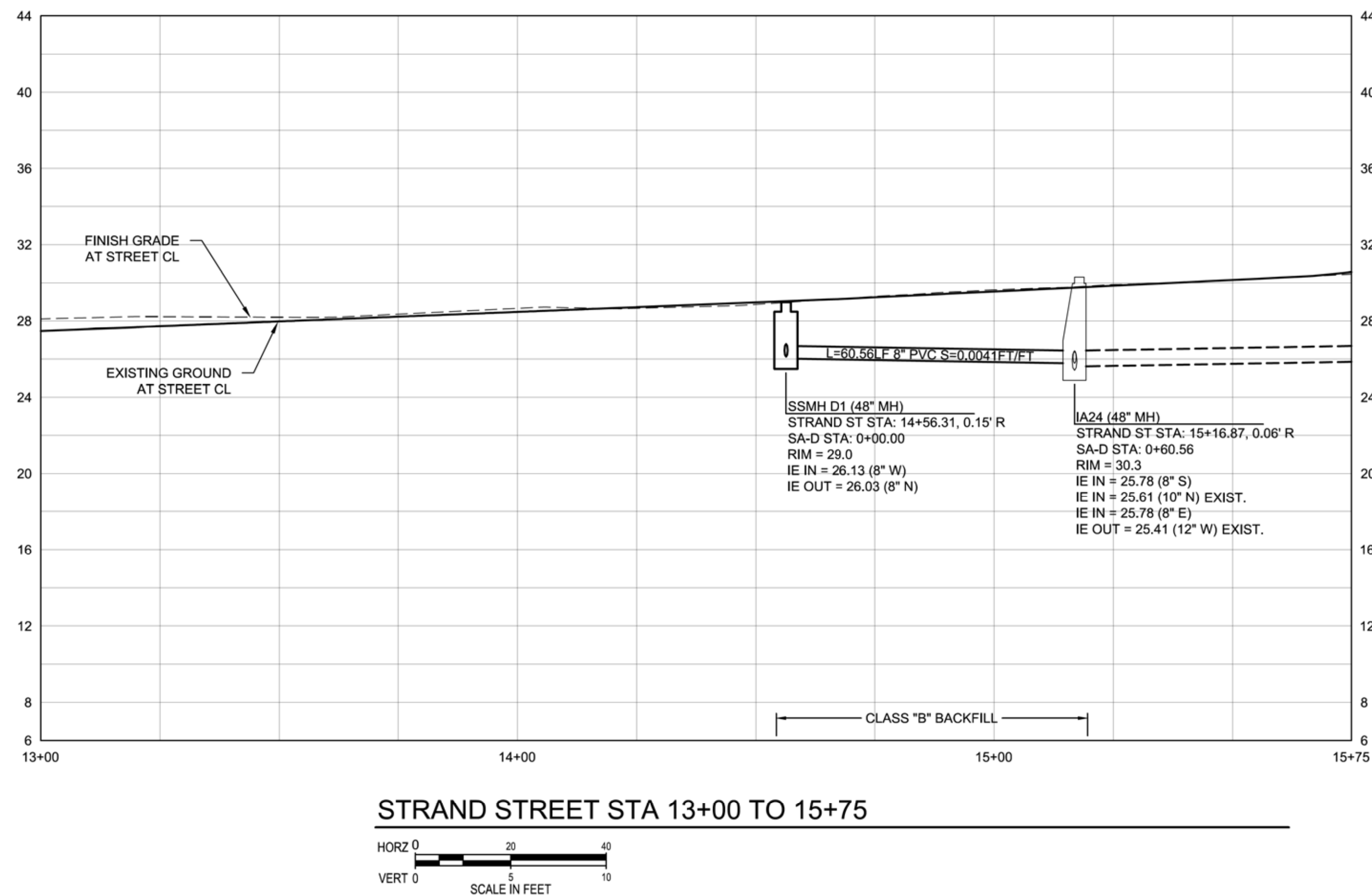


MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
D1	589190.64	604061.56

NEW LATERAL TABLE

MAIN STA. OF MH	APPROX. LENGTH	SLOPE	INV. ELEV. @END
14+56	40'	2.00%	26.92
15+17	41'	2.00%	26.61



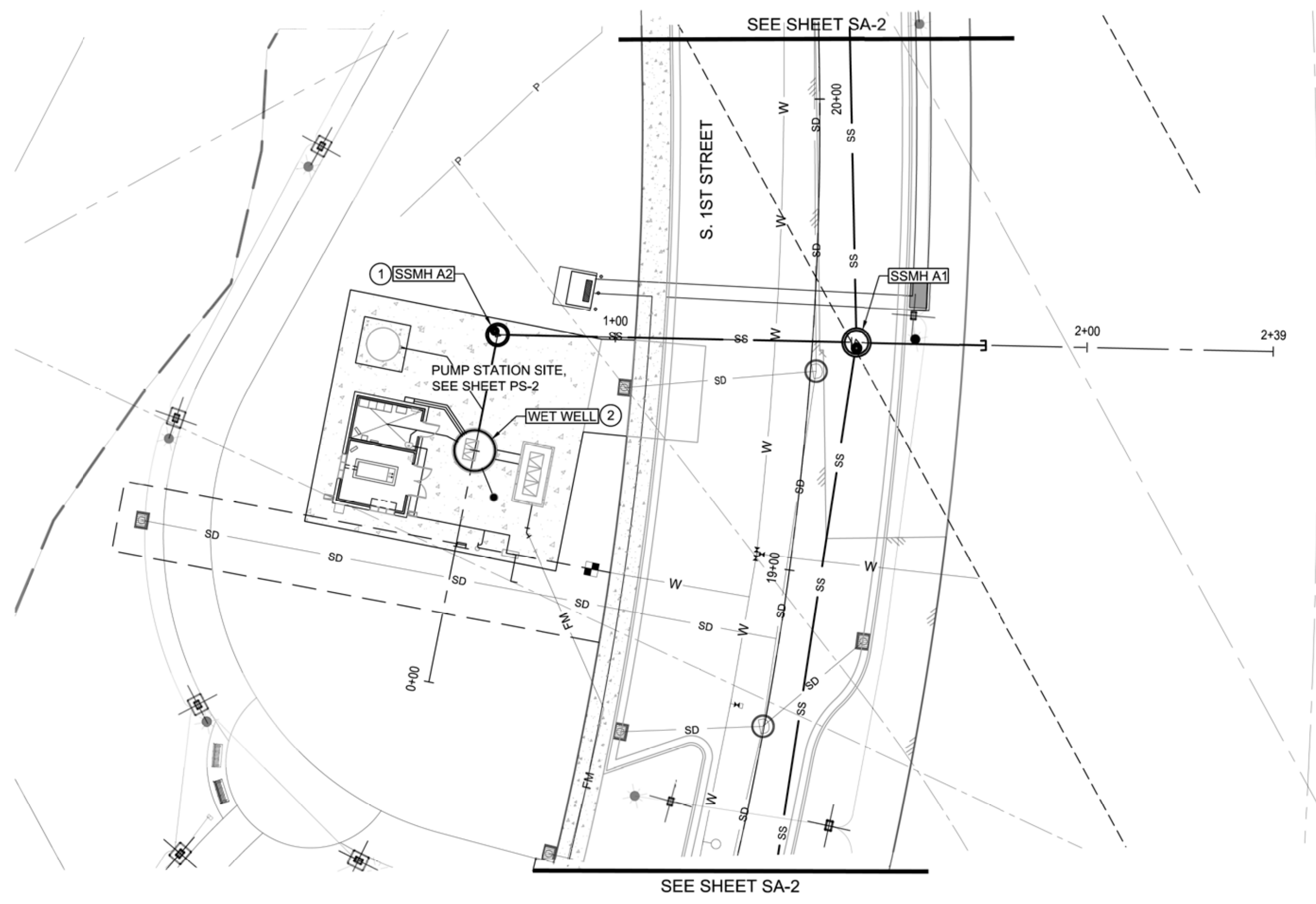
**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
 STRAND ST STA 13+00 TO 15+75

#	DATE	DESCRIPTION

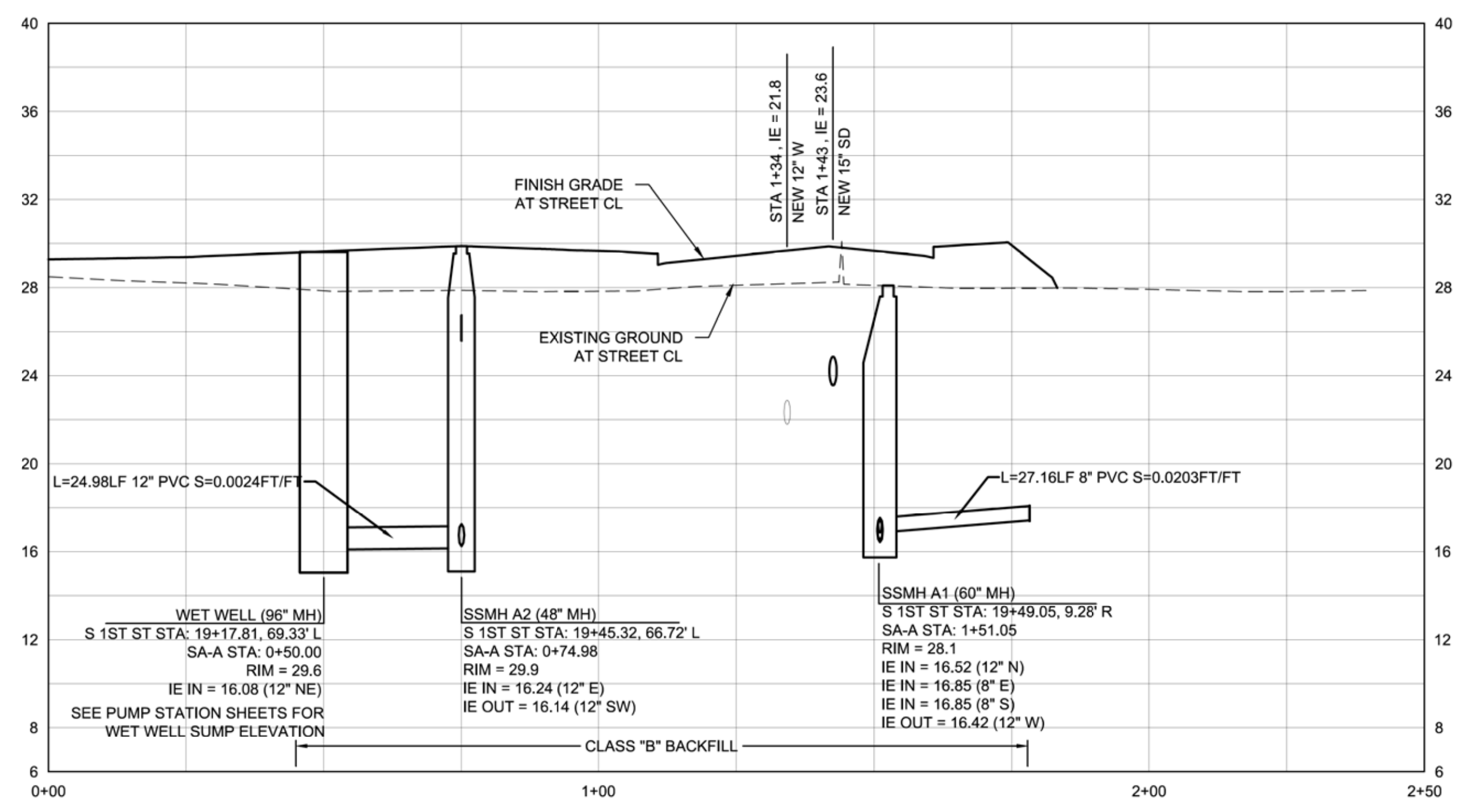
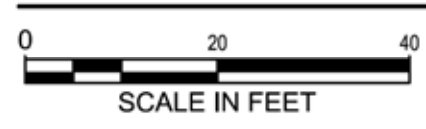
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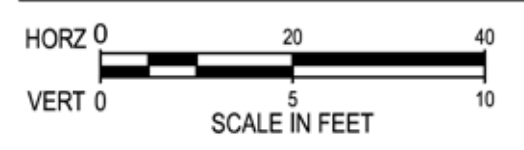
SA-7



SA-A ALIGNMENT 0+00 TO 2+50



SA-A ALIGNMENT 0+00 TO 2+50

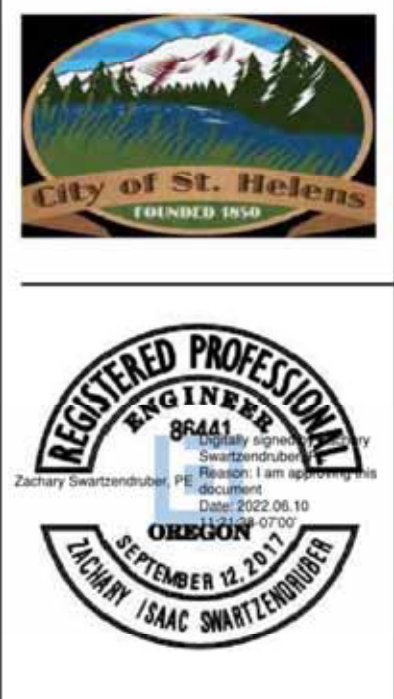


SEWER CONSTRUCTION KEY NOTES

- ① CONSTRUCT MANHOLE PER CITY OF ST. HELENS STD DETAIL 350, SHEET 2B-3. SEE PROFILE FOR SIZE, RIM, AND INVERT INFORMATION.
- ② CONSTRUCT WET WELL, SEE SHEET PS-3

MANHOLE COORDINATES TABLE

SSMH ID	NORTHING	EASTING
A2	587741.84	603816.44



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 SANITARY SEWER PLAN & PROFILE
SA-A ALIGNMENT 0+00 TO 2+50

TITLE	
#	DESCRIPTION

REVISIONS	

DATUM	
GRAYLING CAD	RKL
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FINAL PLANS	STATUS
JUNE 3, 2022	DATE
19823 / P-525	PROJECT NUMBER

SA-8

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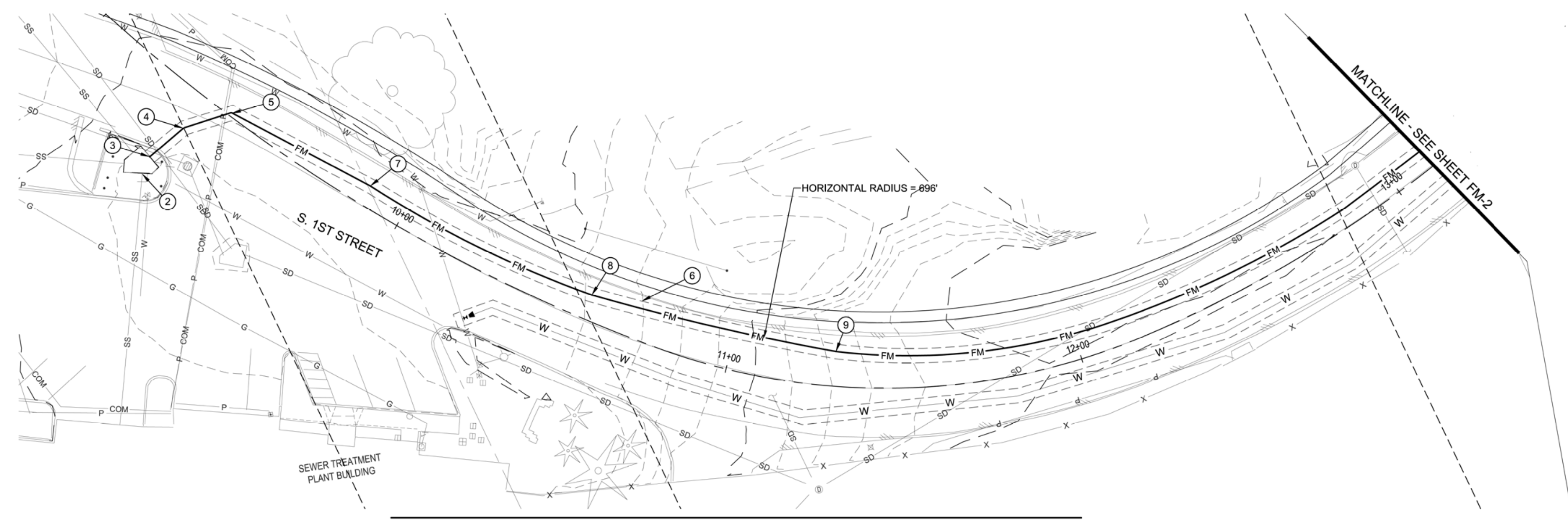


FORCE MAIN CONSTRUCTION KEY NOTES

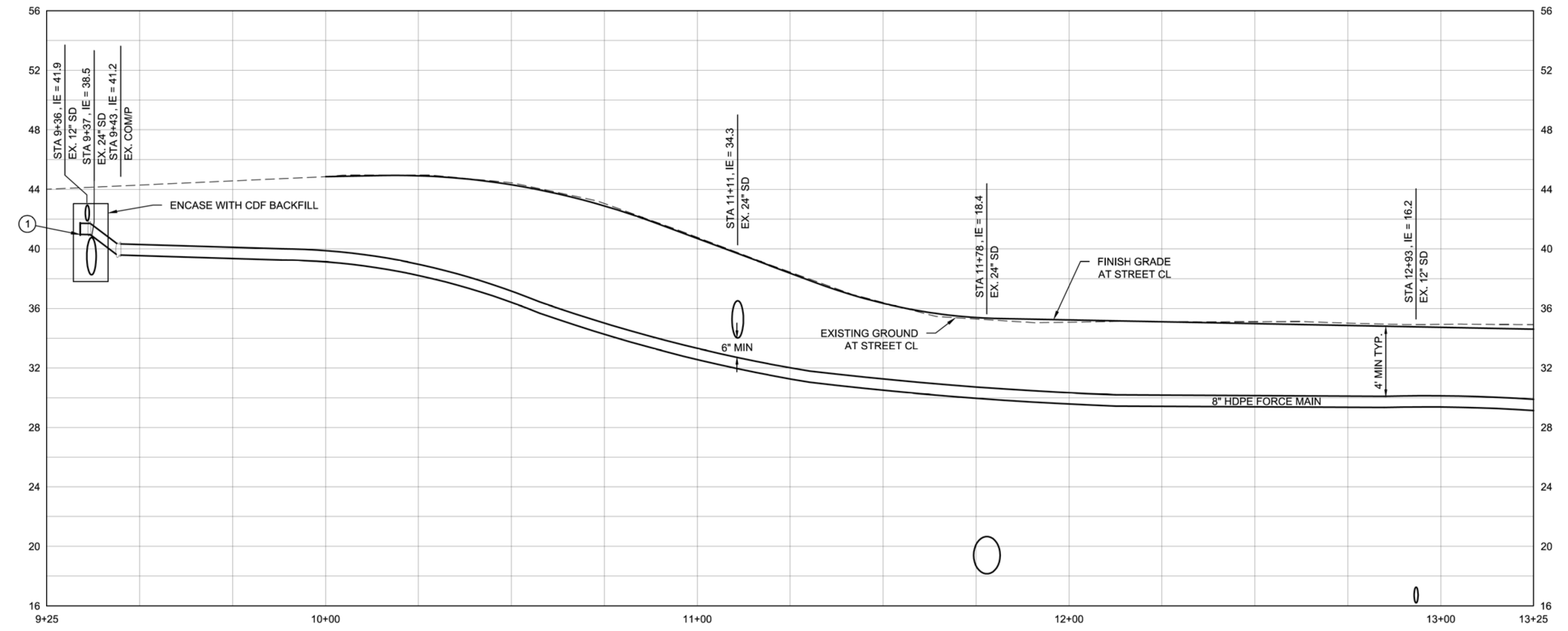
- ① START FORCEMAIN AT STA 9+36. PROVIDE HDPE FLANGE ADAPTER WITH BACKER RING AND WOOD/PLYWOOD BLIND FLANGE. BRING TONER WIRE TO AGREED UPON LOCATION OFF OF PAVED STREET.
- ② REMOVE WASTEWATER TREATMENT PLANT JUNCTION BOX SLIDE GATE.
- ③ CONNECT TO WASTEWATER TREATMENT PLANT JUNCTION STRUCTURE, SEE DETAIL 1, SHEET FM-4
- ④ STA 9+37, 10.4' RT
8" DR 17 HDPE 22.5° BEND
- ⑤ STA 9+44, 0.9' LT
8" DR 17 HDPE 45° BEND
- ⑥ TRENCH REPAIR PER CITY STANDARD DETAIL 300
- ⑦ STA 9+88, 5.7' LT
8" DR 17 HDPE TRANSITION TO CONCAVE
- ⑧ STA 10+58, 7.0' LT
8" DR 17 HDPE TRANSITION TO CONVEX
- ⑨ STA 11+30, 9.7' LT
8" DR 17 HDPE TRANSITION TO STRAIGHT

GENERAL NOTES

1. NOT ALL WATER SERVICE AND SANITARY SERVICE LATERALS ARE SHOWN.
2. FORCE MAIN TO BE CONSTRUCTED WITH 8" (O.D.) IPS, DR-17 HDPE PIPE.
3. UNLESS SPECIFICALLY CALLED OUT, ALL PIPE BENDS ARE TO BE MADE BY GRADUAL/SMOOTH BENDING OF HDPE PIPE. BENDING SHALL NOT EXCEED 50% OF THE MANUFACTURER'S ALLOWED BENDING RADII.



S. 1ST STREET STA 9+25 TO 13+25



S. 1ST STREET STA 9+25 TO 13+25



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 FORCE MAIN PLAN & PROFILE
S. 1ST STREET STA 9+25 TO 13+25

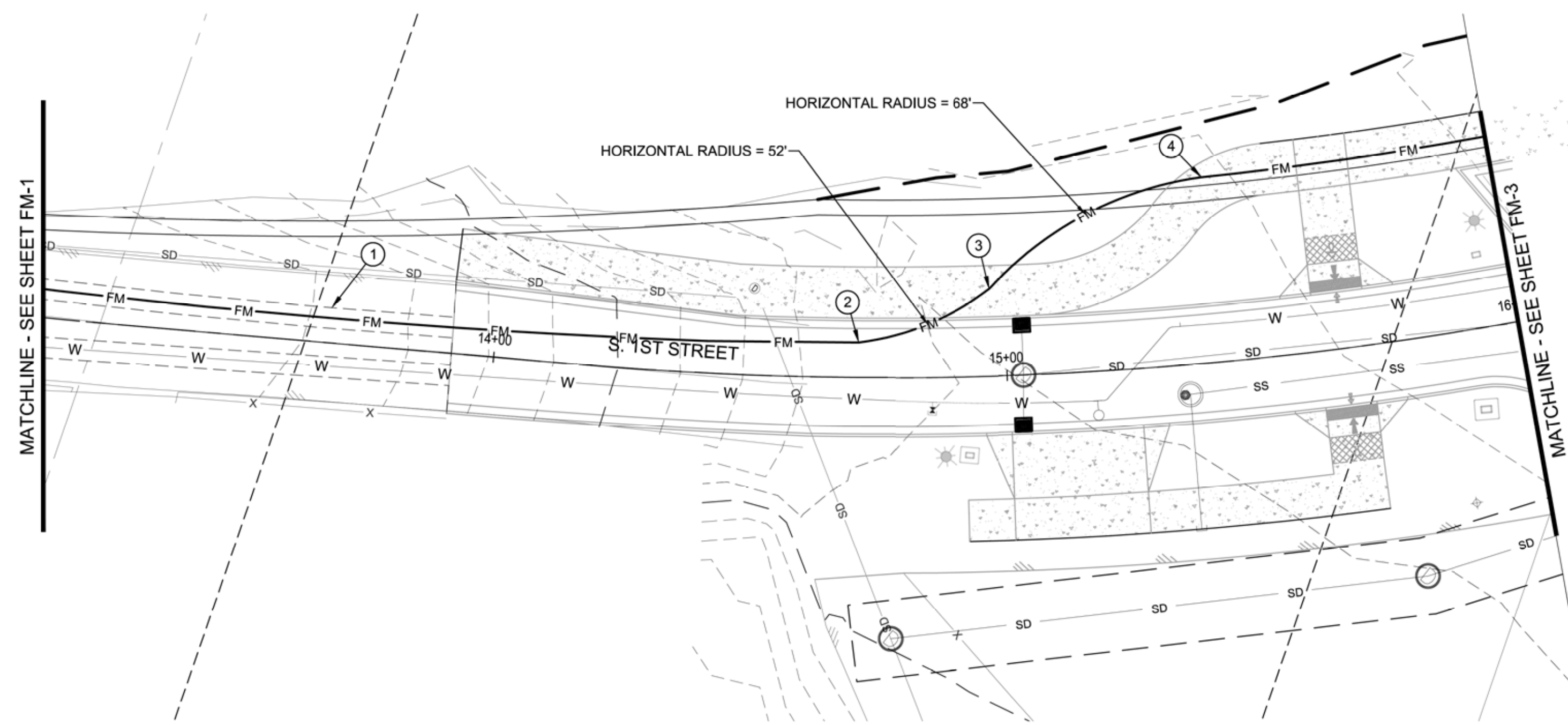
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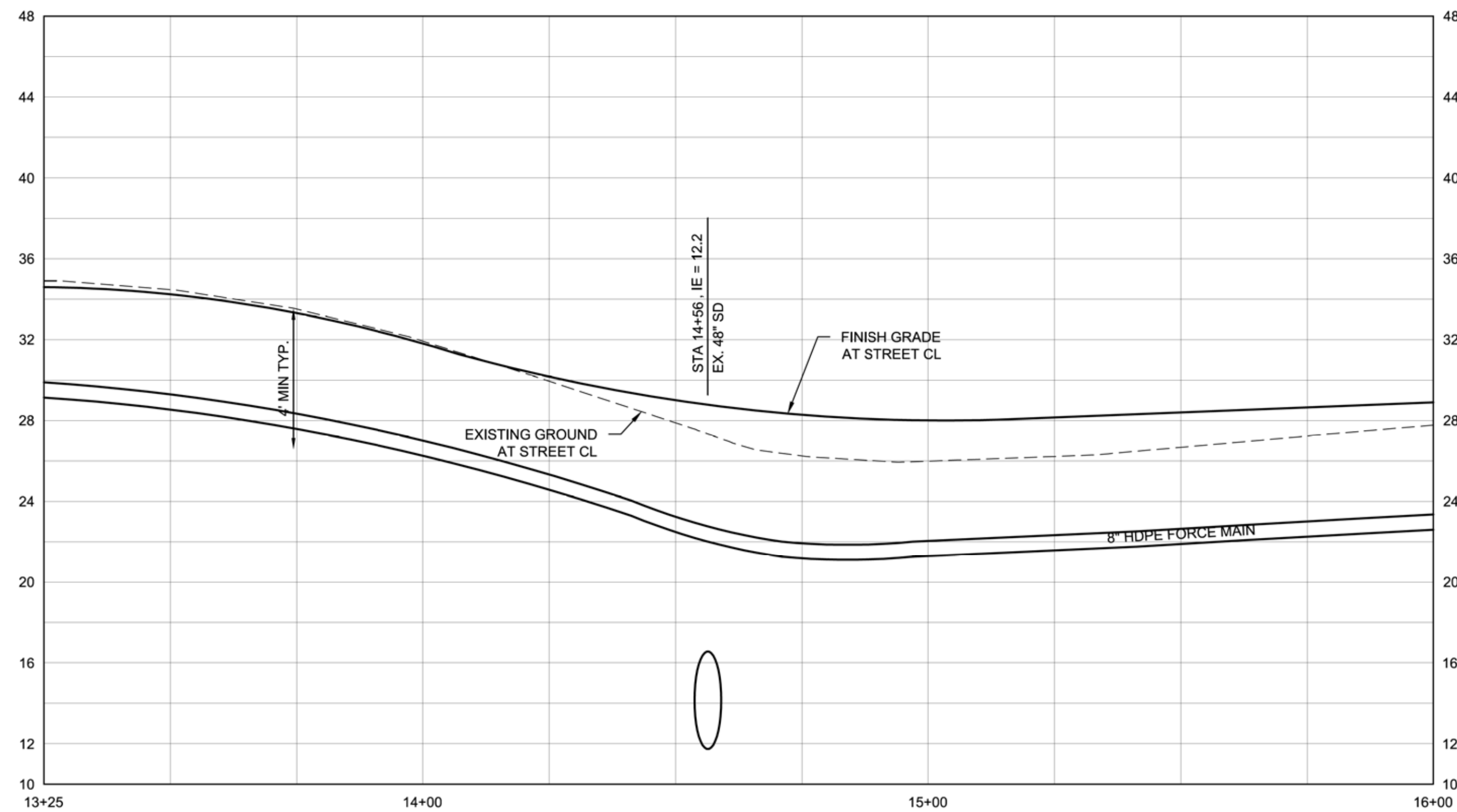
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JUNE 10, 2022	
DATE	
19823 / P-525	
PROJECT NUMBER	

FM-1

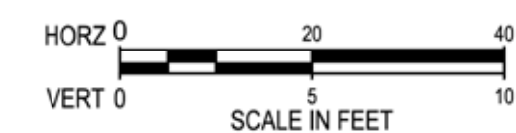
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S. 1ST STREET STA 13+25 TO 16+00



S. 1ST STREET STA 13+25 TO 16+00



FORCE MAIN CONSTRUCTION KEY NOTES

- ① TRENCH REPAIR PER CITY STANDARD DETAIL 300
- ② STA 14+80, 6.8' LT
8" DR 17 HDPE TRANSITION TO CONCAVE
- ③ STA 14+97, 17.0' LT
8" DR 17 TRANSITION TO CONVEX
- ④ STA 15+41, 36.1' LT
8" DR 17 TRANSITION TO STRAIGHT

GENERAL NOTES

1. NOT ALL WATER SERVICE AND SANITARY SERVICE LATERALS ARE SHOWN.
2. FORCE MAIN TO BE CONSTRUCTED WITH 8" (O.D.) IPS, DR-17 HDPE PIPE.
3. UNLESS SPECIFICALLY CALLED OUT, ALL PIPE BENDS ARE TO BE MADE BY GRADUAL/SMOOTH BENDING OF HDPE PIPE. BENDING SHALL NOT EXCEED 50% OF THE MANUFACTURER'S ALLOWED BENDING RADII.



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**

ST. HELENS, OREGON
FORCE MAIN PLAN & PROFILE

S. 1ST STREET STA 13+25 TO 16+00

#	DATE	DESCRIPTION

REVISIONS

DATUM
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19823 / P-525
PROJECT NUMBER

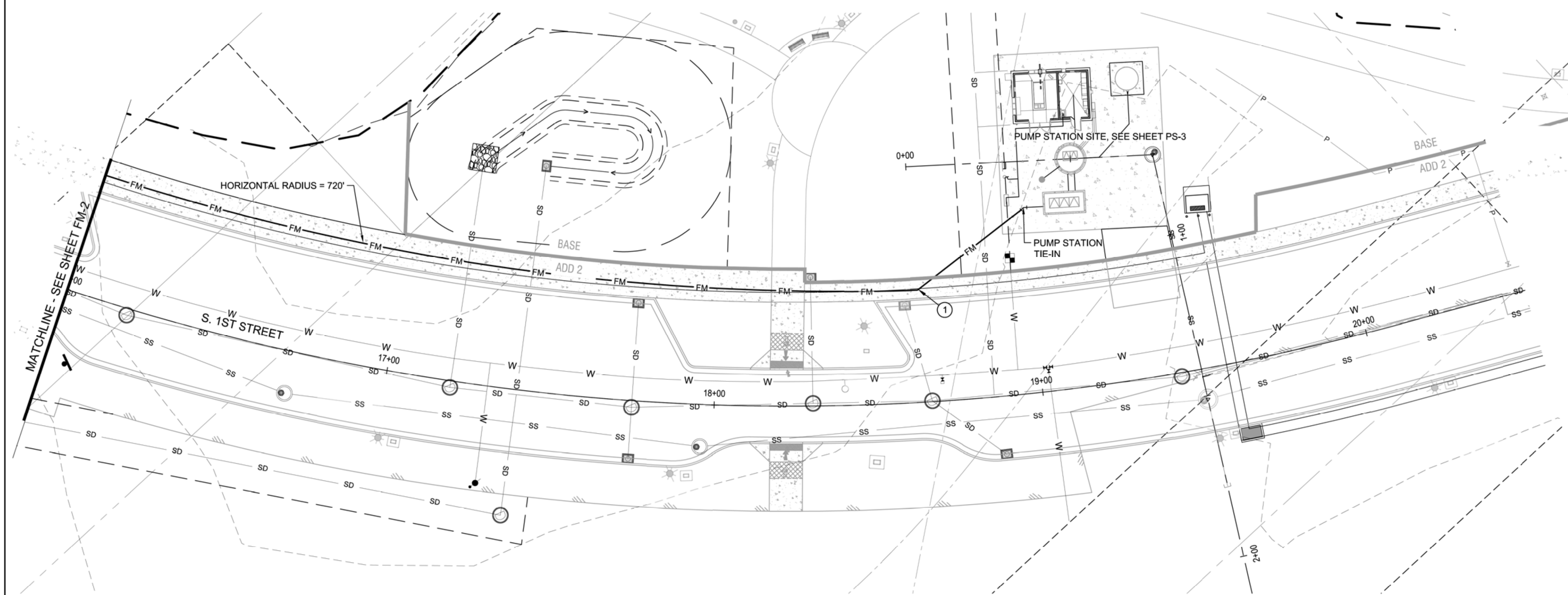
FM-2

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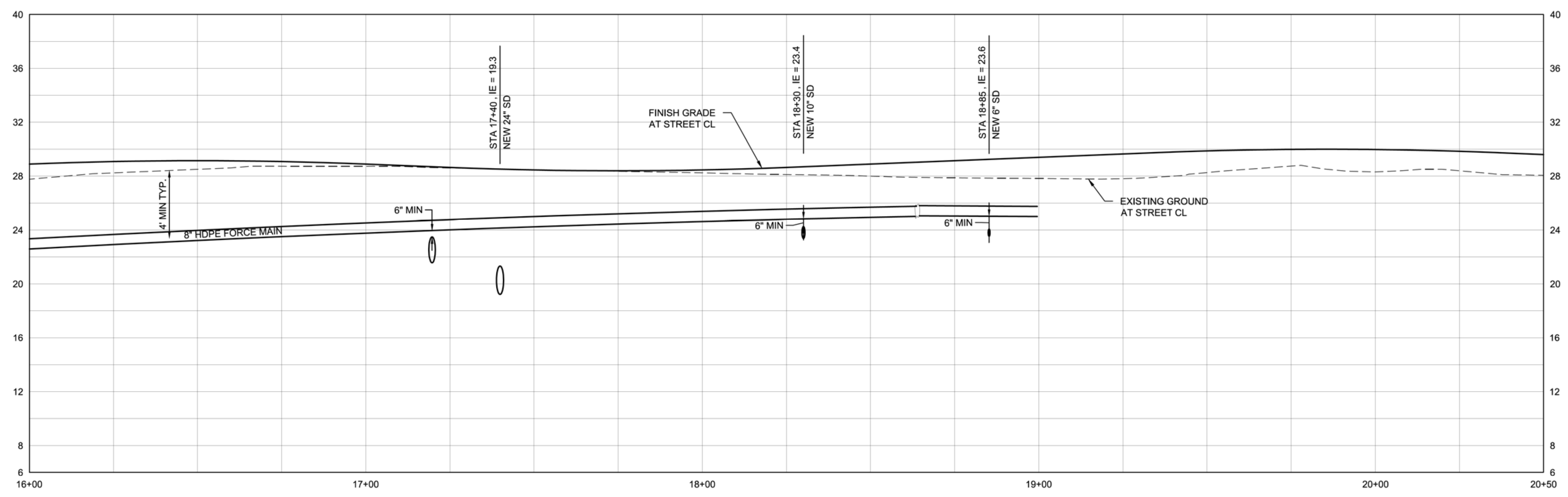
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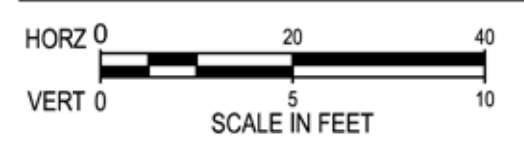
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S. 1ST STREET STA 16+00 TO 20+50



S. 1ST STREET STA 16+00 TO 20+50



FORCE MAIN CONSTRUCTION KEY NOTES

- ① STA 18+65, 34.1' LT
8" DR 17 HDPE 45° BEND

GENERAL NOTES

1. NOT ALL WATER SERVICE AND SANITARY SERVICE LATERALS ARE SHOWN.
2. FORCE MAIN TO BE CONSTRUCTED WITH 8" (O.D.) IPS, DR-17 HDPE PIPE.
3. UNLESS SPECIFICALLY CALLED OUT, ALL PIPE BENDS ARE TO BE MADE BY GRADUAL/SMOOTH BENDING OF HDPE PIPE.



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 FORCE MAIN PLAN & PROFILE

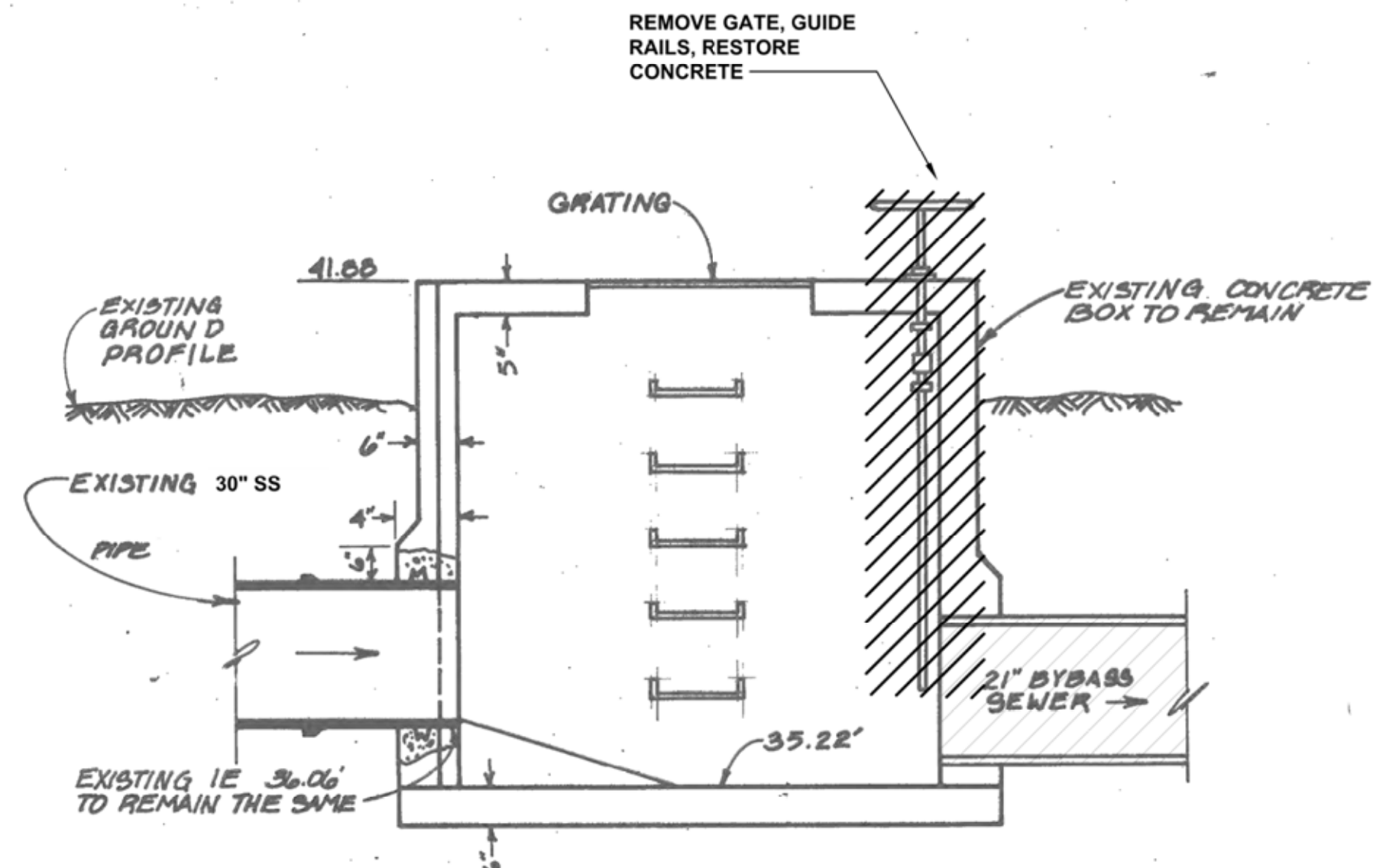
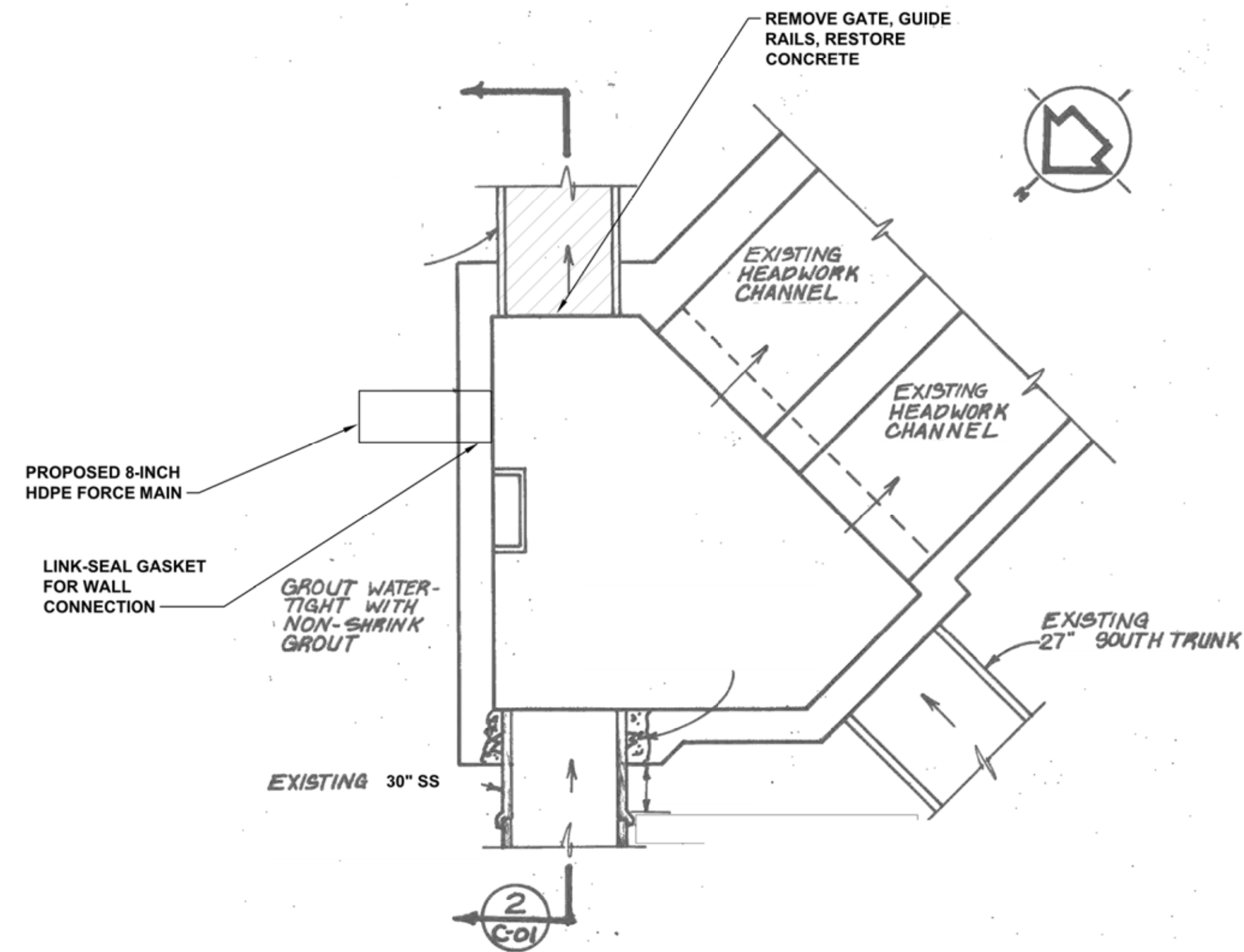
S. 1ST STREET STA 16+00 TO 20+50

TITLE	
#	DESCRIPTION

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DATUM	
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STATUS	
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DATE	
19823 / P-525	
PROJECT NUMBER	

FM-3

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2
 C-01
DIVERSION BOX SECTION
 SCALE: 1/2" = 1'

1
 FM-1
DIVERSION BOX MODIFICATIONS
 SCALE: NTS



**S. 1ST AND STRAND STREETS
 ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 FORCE MAIN DETAILS
DIVERSION BOX MODIFICATIONS

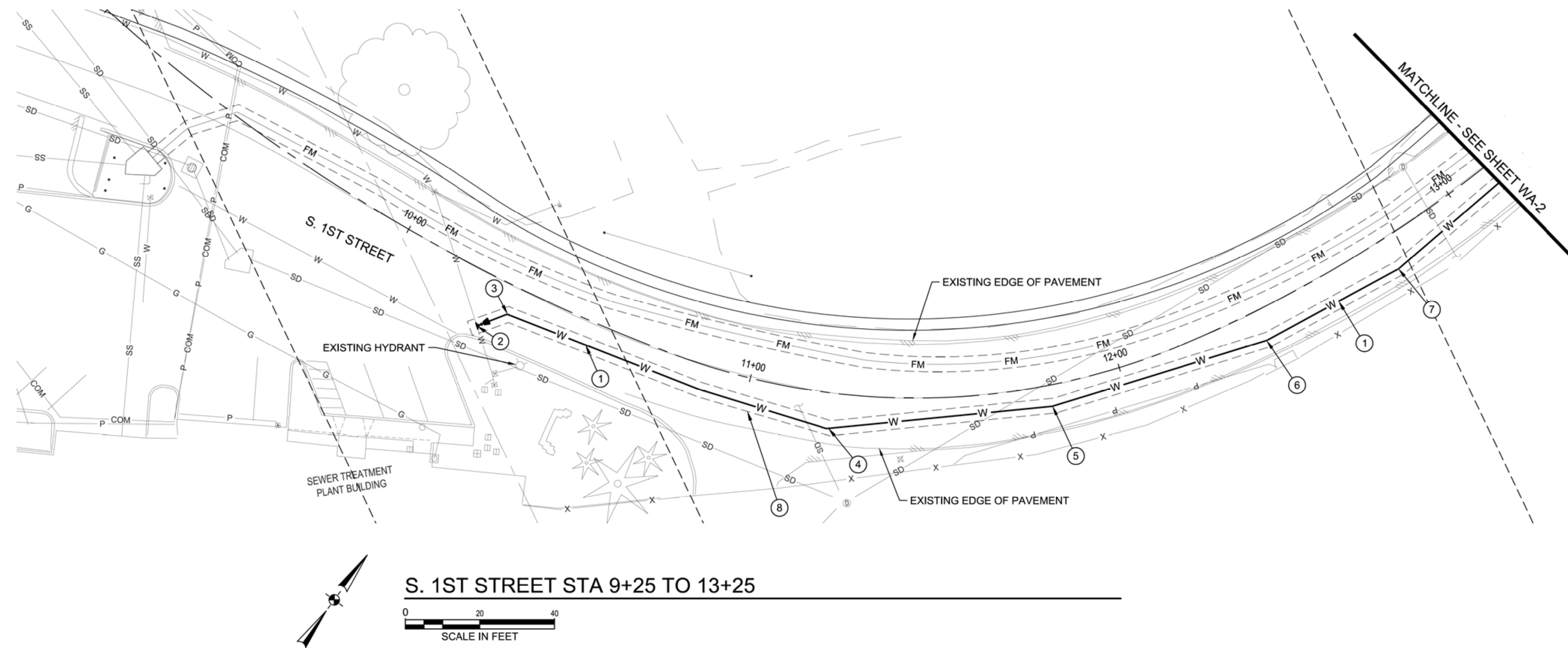
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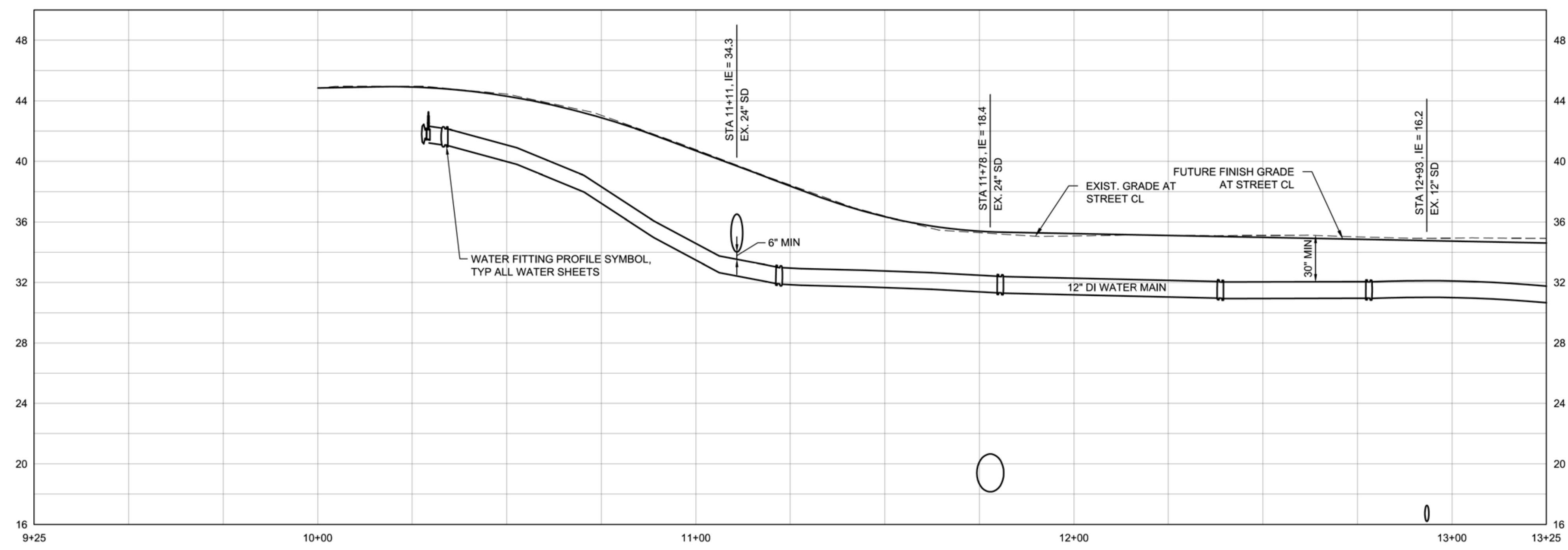
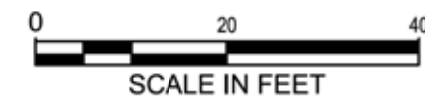
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FM-4
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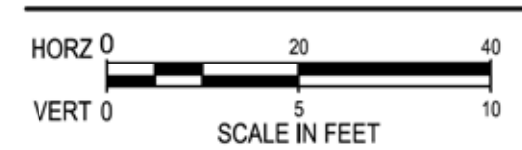
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S. 1ST STREET STA 9+25 TO 13+25



S. 1ST STREET STA 9+25 TO 13+25



WATER CONSTRUCTION KEY NOTES

- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② STA 10+30, 14.8' RT VALVE ASSY, HOT TAP EXISTING MAIN
1 ~ 6" HOT TAP SLEEVE
1 ~ 6" GTV, FLG x MJ
1 ~ 12" x 6" RDCR MJ
- ③ STA 10+35, 7.7' RT INSTL 12" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ④ STA 11+23, 9.5' RT INSTL 12" 22.5° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑤ STA 11+90, 5.7' RT INSTL 12" 11.25° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑥ STA 12+38', 8.1' RT INSTL 12" 11.25° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑦ STA 12+77', 9.1' RT INSTL 12" 11.25° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑧ TRENCH REPAIR PER CITY STANDARD DETAIL 300.



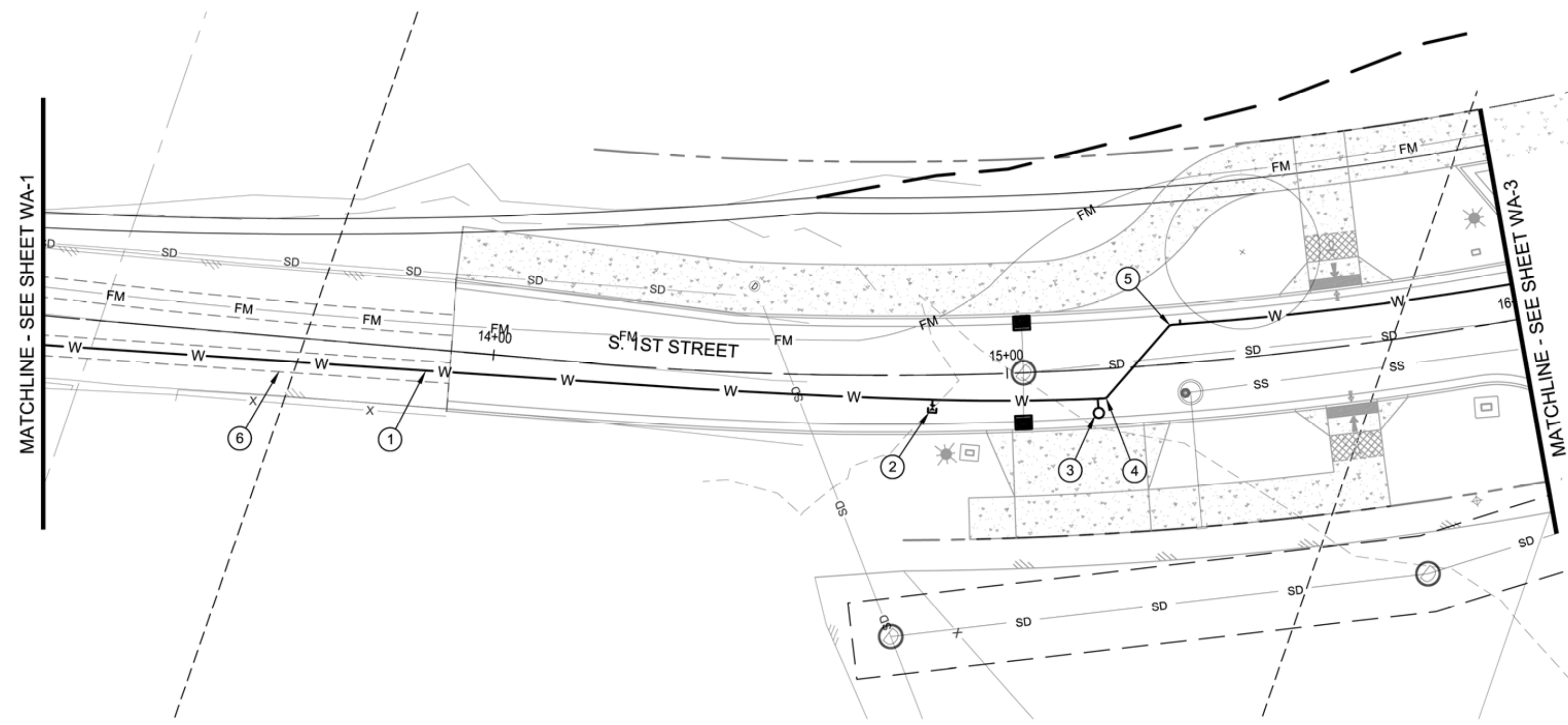
**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
 ST. HELENS, OREGON
 WATER PLAN & PROFILE
S. 1ST STREET STA 9+25 TO 13+25

TITLE	
DATE	DESCRIPTION

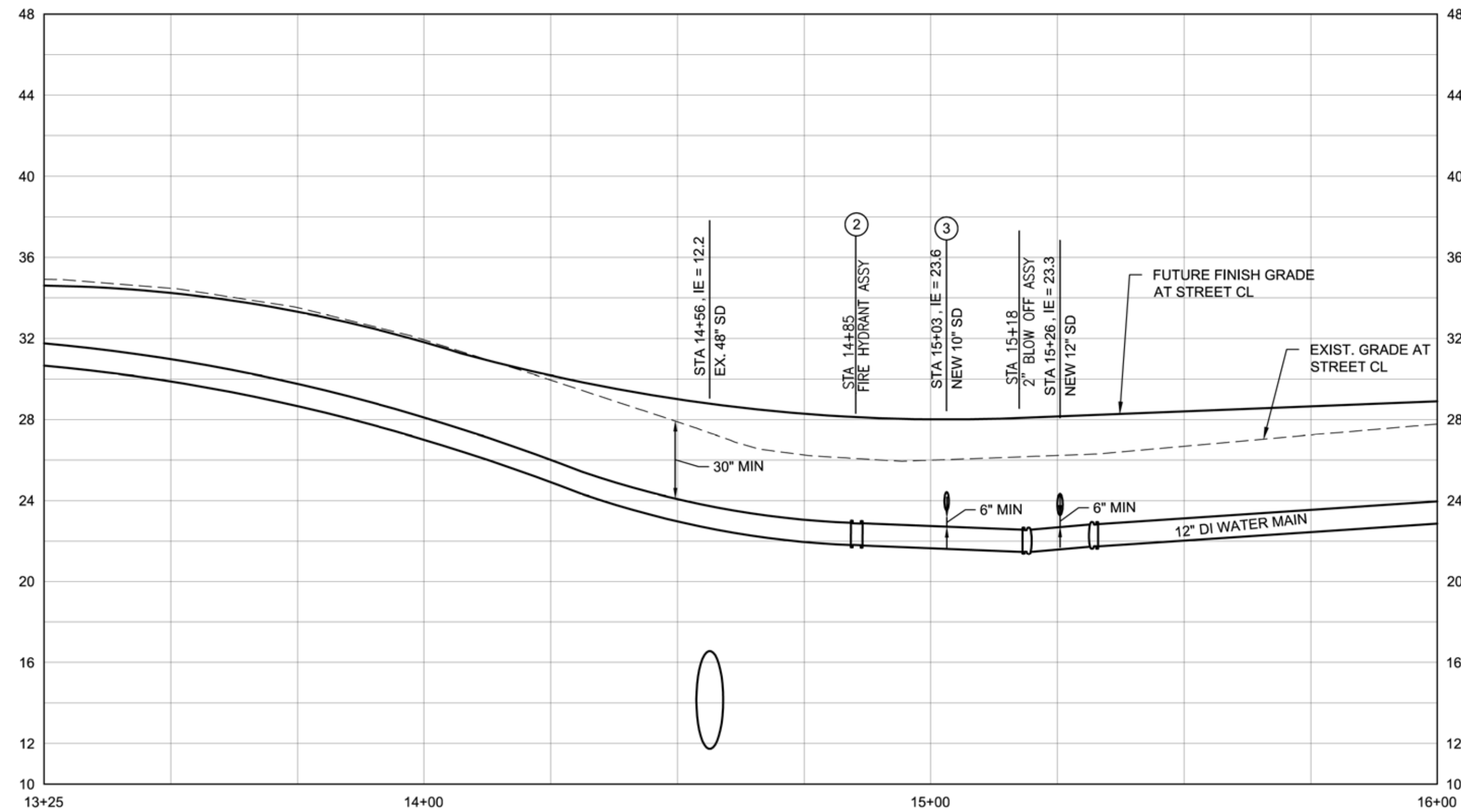
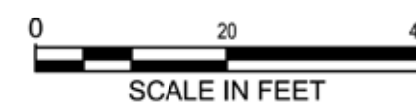
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19823 / P-525	
PROJECT NUMBER	

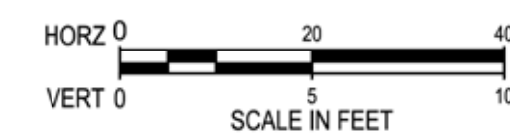
WA-1



S. 1ST STREET STA 13+25 TO 16+00



S. 1ST STREET STA 13+25 TO 16+00



WATER CONSTRUCTION KEY NOTES

- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② STA 14+90, 6' RT
1 - 12" x 6" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
CONSTRUCT MECHANICAL CAP ON THE BACK SIDE OF THE 6" GTV.
FH HYDRANT ASSY NIC TO BE CONSTRUCTED WITH ADD-2
- ③ STA 15+18, 5.6' RT
INSTL PERMANENT 2" BLOW OFF ASSY PER STD DWG 420
- ④ STA 15+19, 5.6' RT
INSTL 12" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑤ STA 15+33, 7.6' LT
INSTL 12" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑥ TRENCH REPAIR PER CITY STANDARD DETAIL 300



S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
 ST. HELENS, OREGON
 WATER PLAN & PROFILE
S. 1ST STREET STA 13+25 TO 16+00

TITLE	
#	DESCRIPTION

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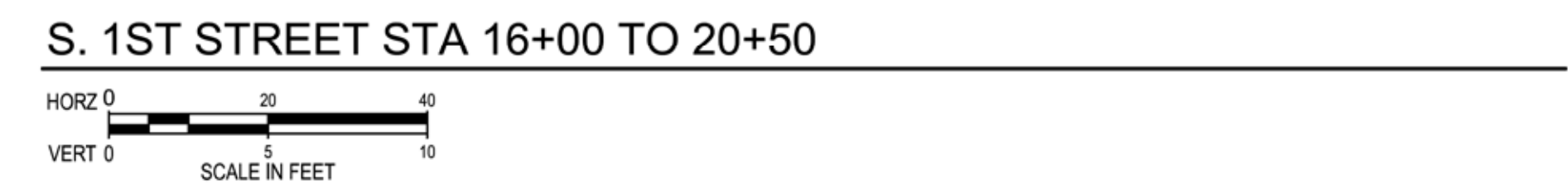
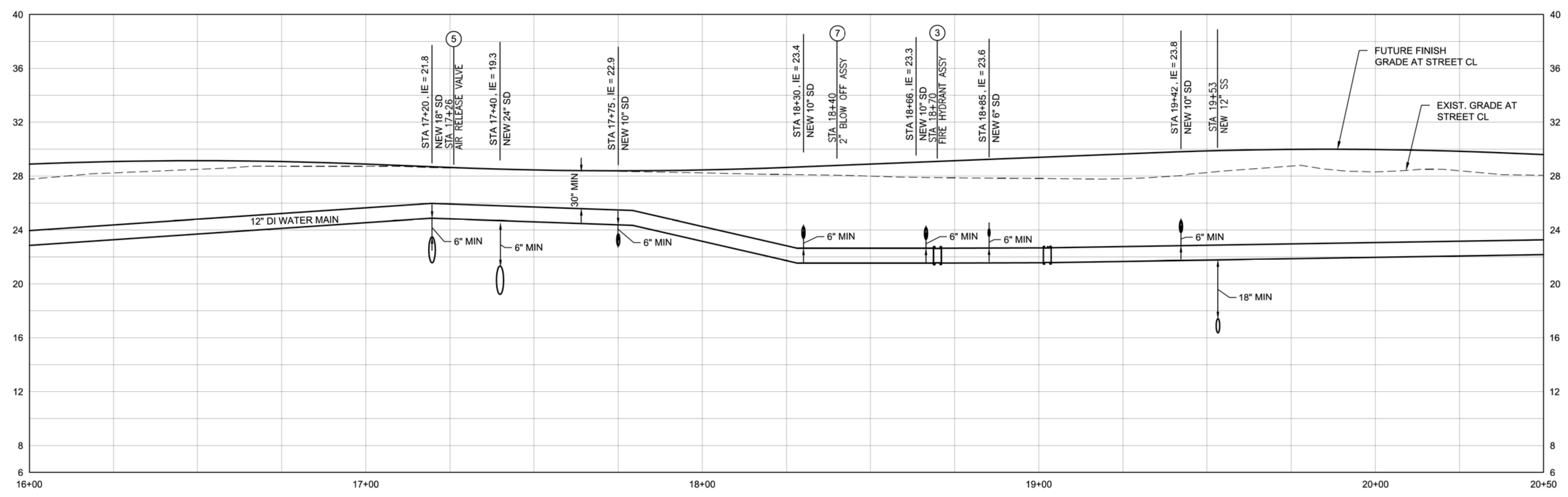
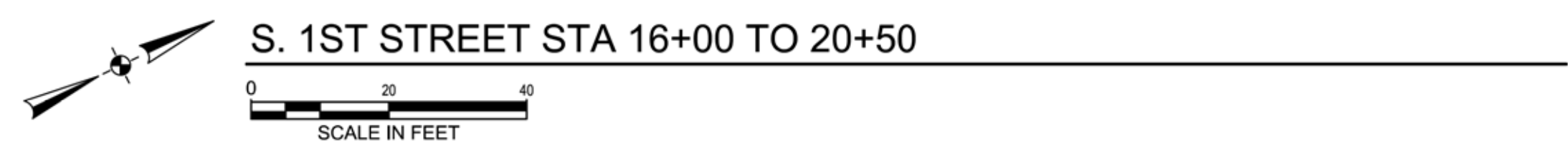
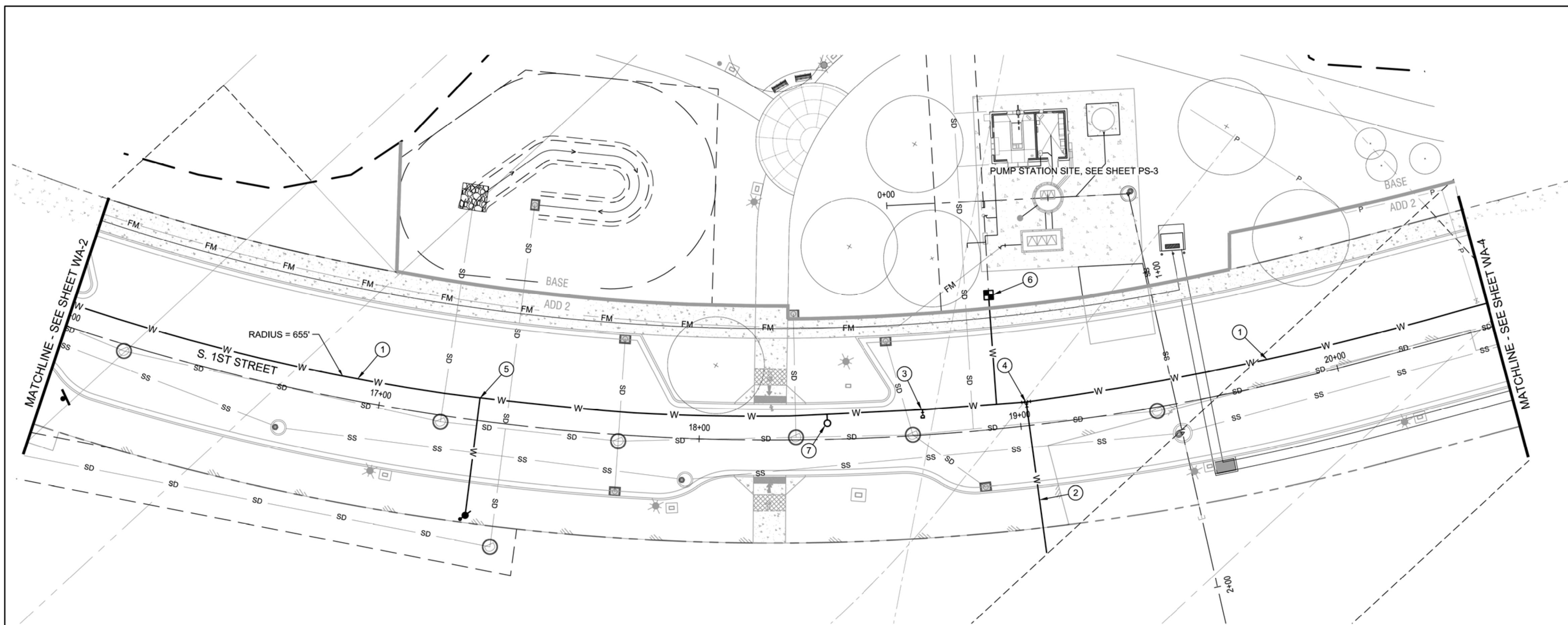
WA-2

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WATER CONSTRUCTION KEY NOTES

- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② INSTL NEW 6" DI PIPE
- ③ STA 18+68, 7' RT
1 - 12" x 6" TEE, FLG
1 - 6" GTV, FLG x MJ
CONSTRUCT MECHANICAL CAP ON BACK SIDE OF THE 6" GTV. FH HYDRANT ASSY NIC TO BE CONSTRUCTED WITH ADD-2
- ④ STA 19+03, 7.0' LT
1 - 12" x 6" TEE, FLG
1 - 6" GTV, FLG x MJ
2 - 12" GTV, FLG x MJ
6" DI WATER LINE - 46.8'
- ⑤ STA 17+30, 6.6' LT
INSTL AIR RELEASE VALVE PER STD DWG 415
- ⑥ STA 18+75, 35' LT
INSTL STD 1" WS, NEW WM BOX, APPROX 35 FT LENGTH, SEE STD DWG 405 SINGLE WATER SERVICE INSTALLATION
- ⑦ STA 18+25, 7.5' LT
INSTL PERMANENT 2" BLOW OFF ASSY PER STD DWG 420



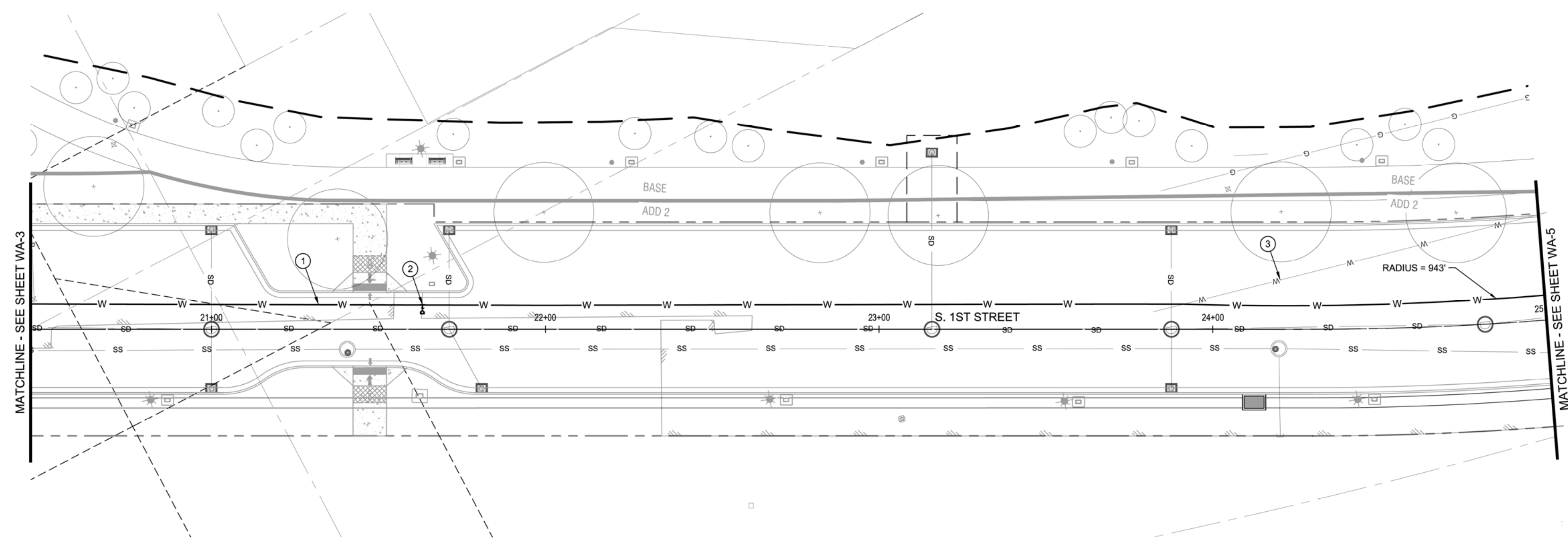
S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
 ST. HELENS, OREGON
 WATER PLAN & PROFILE
S. 1ST STREET STA 16+00 TO 20+50

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19823 / P-525		
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WA-3		
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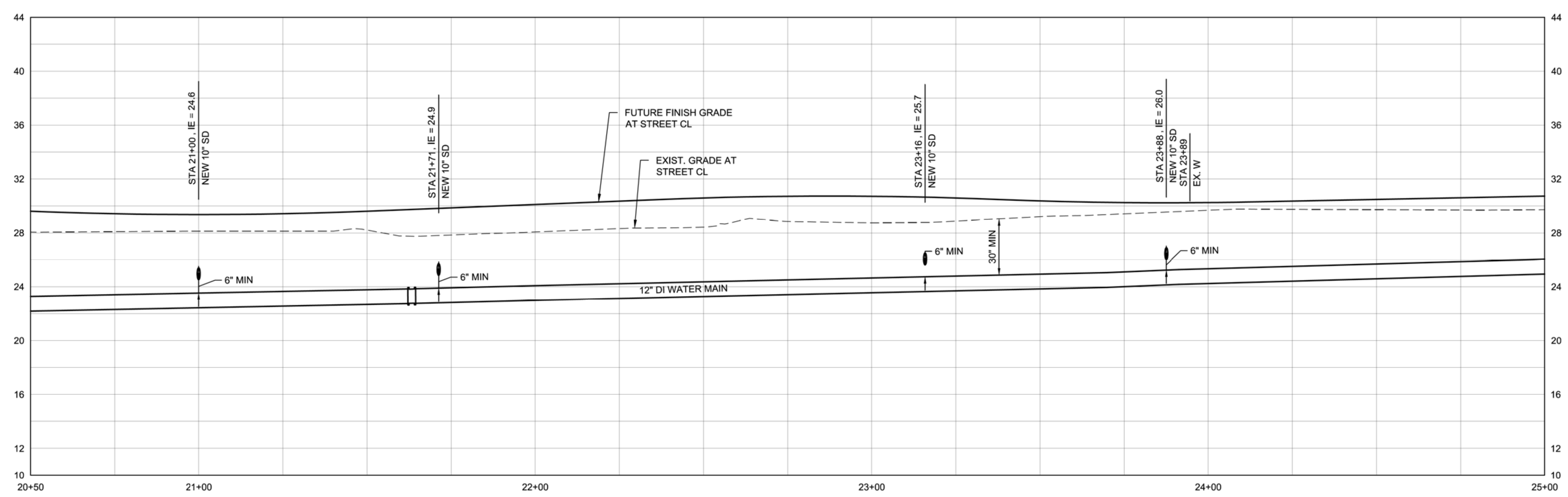


WATER CONSTRUCTION KEY NOTES

- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② STA 21+64, 19.0' RT
1 - 12" x 6" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
CONSTRUCT MECHANICAL CAP ON THE BACK SIDE OF THE 6" GTV. FH HYDRANT ASSY NIC TO BE CONSTRUCTED WITH ADD-2
- ③ ABANDON EXISTING PIPE PER SECTION 00490 OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION WITH WATERTIGHT CAP OR PLUG



S. 1ST STREET STA 20+50 TO 25+00
SCALE IN FEET



S. 1ST STREET STA 20+50 TO 25+00
SCALE IN FEET

**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
ST. HELENS, OREGON
WATER PLAN & PROFILE

#	DATE	DESCRIPTION

REVISIONS

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STATUS

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DATE

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PROJECT NUMBER

WA-4

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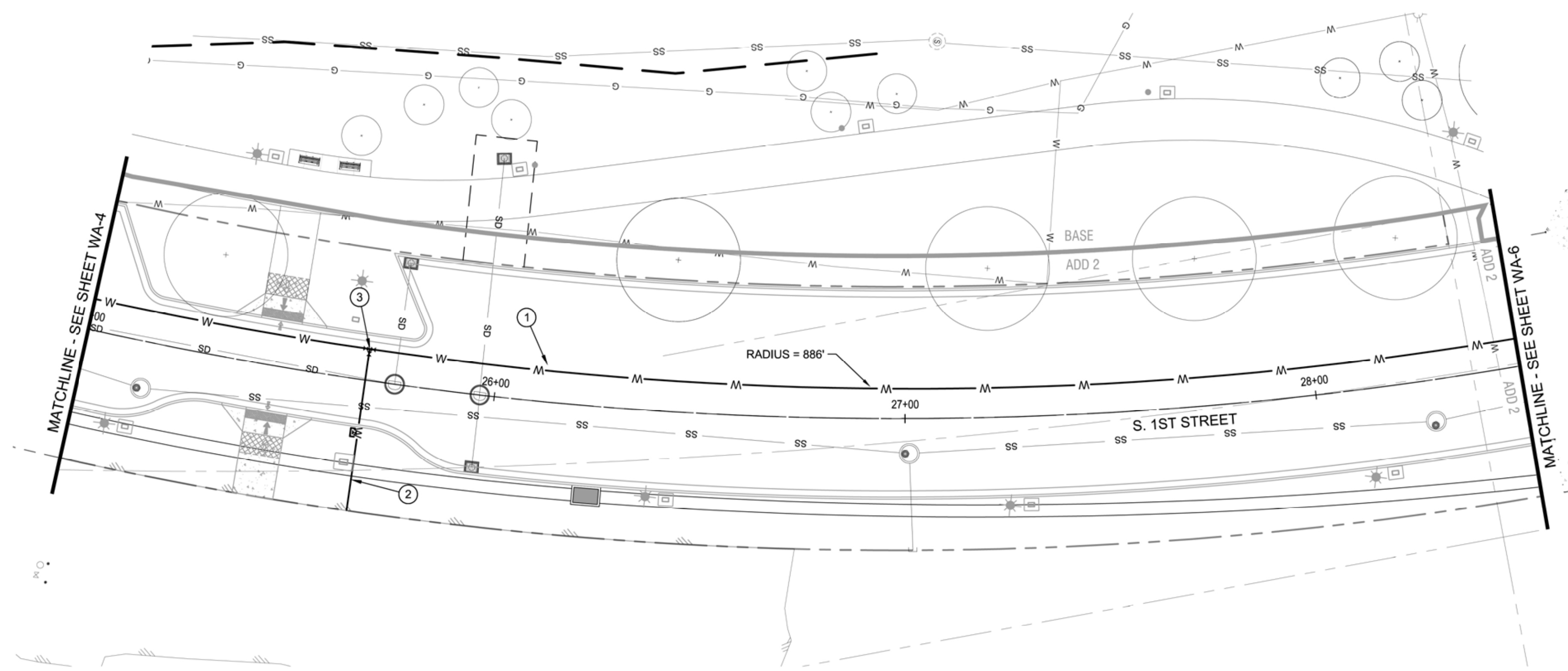
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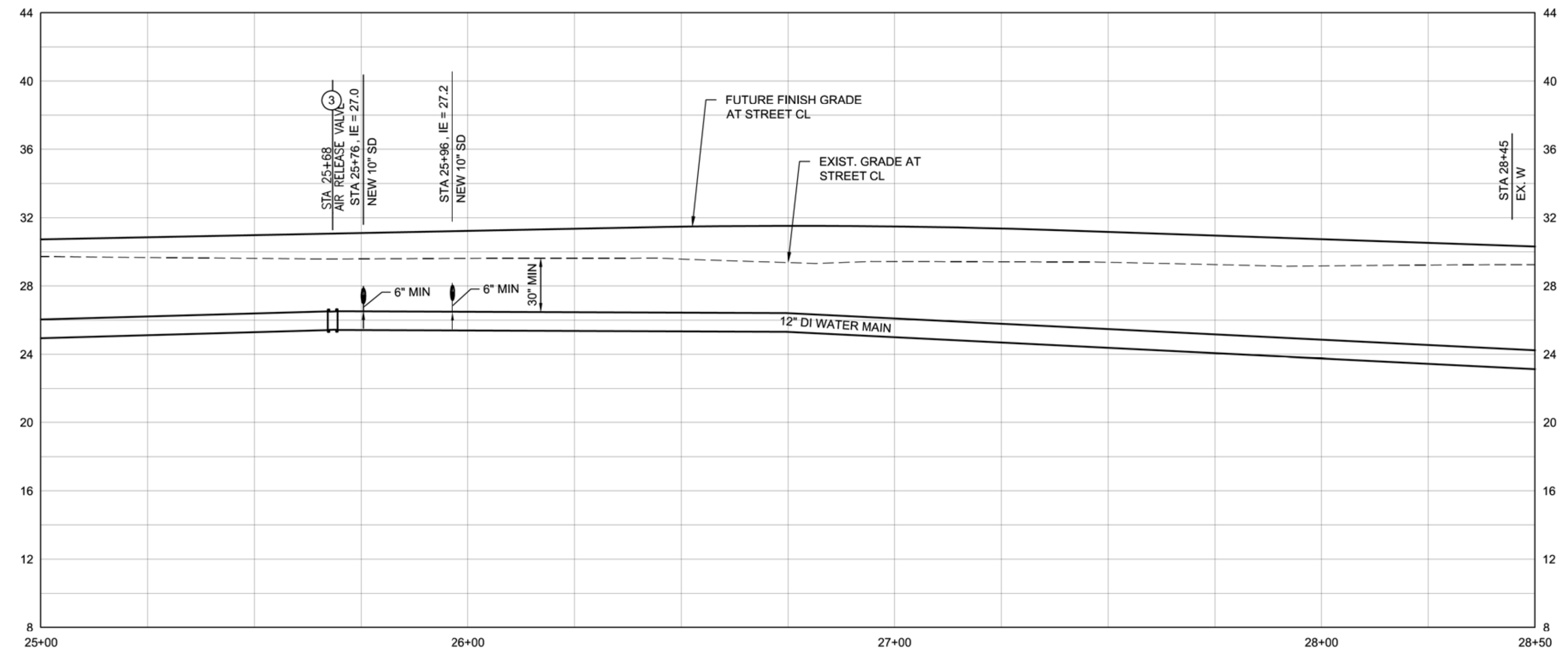


WATER CONSTRUCTION KEY NOTES

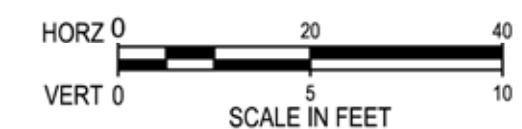
- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② INSTL NEW 6" DI
- ③ STA 25+68, 7.5' LT
1 - 12" x 6" TEE, FLG
2 - 12" GTV, FLG x MJ
1 - 6" GTV, FLG x MJ
INSTL AIR RELEASE VALVE PER STD DWG 415
CONSTRUCT MECHANICAL CAP ON THE BACK SIDE OF THE 6" GTV
FH HYDRANT ASSY TO BE CONSTRUCTED WITH ADD-2



S. 1ST STREET STA 25+00 TO 28+50



S. 1ST STREET STA 25+00 TO 28+50



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**

ST. HELENS, OREGON

WATER PLAN & PROFILE

S. 1ST STREET STA 25+00 TO 28+50

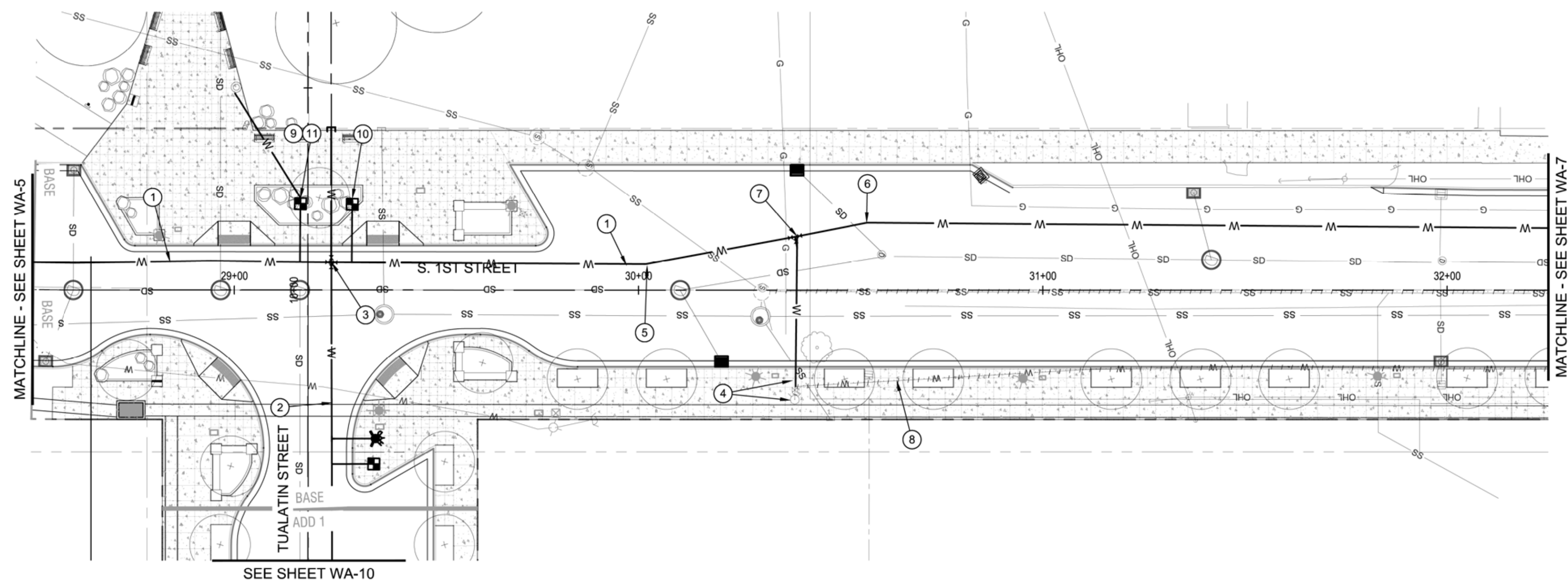
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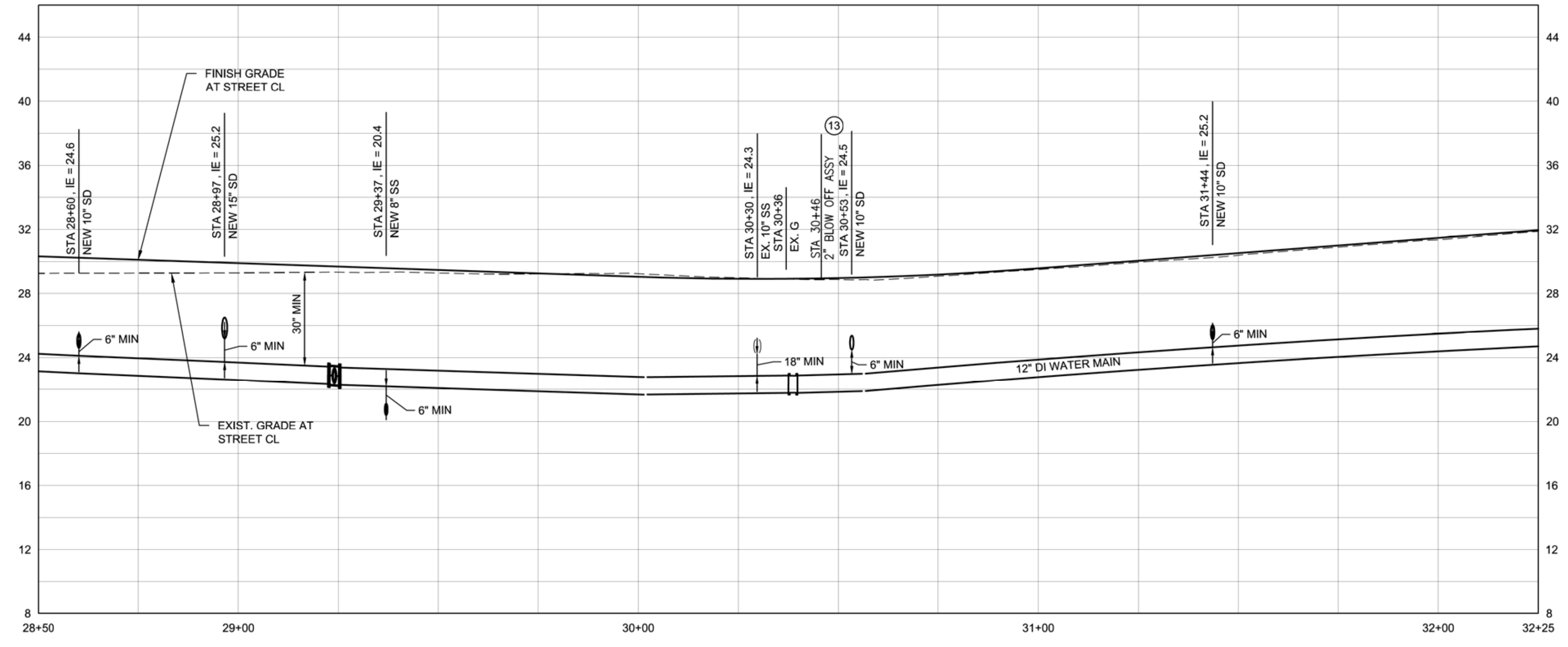
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S. 1ST STREET STA 28+50 TO 32+25

SCALE IN FEET



S. 1ST STREET STA 28+50 TO 32+25

HORZ 0 20 40
VERT 0 5 10
SCALE IN FEET

WATER CONSTRUCTION KEY NOTES

- ① INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② INSTL NEW 8" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ③ STA 29+24, 6.8 LT
1 - 8" x 12" CROSS, FLG
2 - 8" GTV, FLG x MJ
2 - 12" GTV, FLG x MJ
- ④ RELOCATE EXISTING FIRE HYDRANT TO 3' FROM FOC, CONSTRUCT 5' X 5' CONCRETE PAD WITH HYDRANT CENTERED ON PAD
- ⑤ STA 30+02, 6.1' LT
INSTL 12" 22.5" BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑥ STA 30+57, 16.8' LT
INSTL 12" 22.5" BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑦ STA 30+37, 13.3LT
1 - 12" x 6" TEE, MJ x FLG
1 - 6" 11.25 BEND, FLG x MJ
6" DI WATER LINE - 38'
CONNECT TO EXISTING 6" GTV
- ⑧ ABANDON EXISTING PIPE
- ⑨ STA 29+13, 6.8'
INSTL STD 1" WS, NEW WM BOX, APPROX 12 FT LENGTH, SEE STD DWG 405 SINGLE WATER SERVICE INSTALLATION
- ⑩ STA 33+00, 6.8'
INSTL STD 1" WS, NEW WM BOX, APPROX 12 FT LENGTH, SEE STD DWG 405 SINGLE WATER SERVICE INSTALLATION
- ⑪ STA 29+13, 6.8'
INSTL STD 1" WS FROM NEW WM BOX TO CONNECT TO THE NEW WATER FOUNTAIN, APPROX 30 FT LENGTH



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
ST. HELENS, OREGON
WATER PLAN & PROFILE

#	DATE	DESCRIPTION

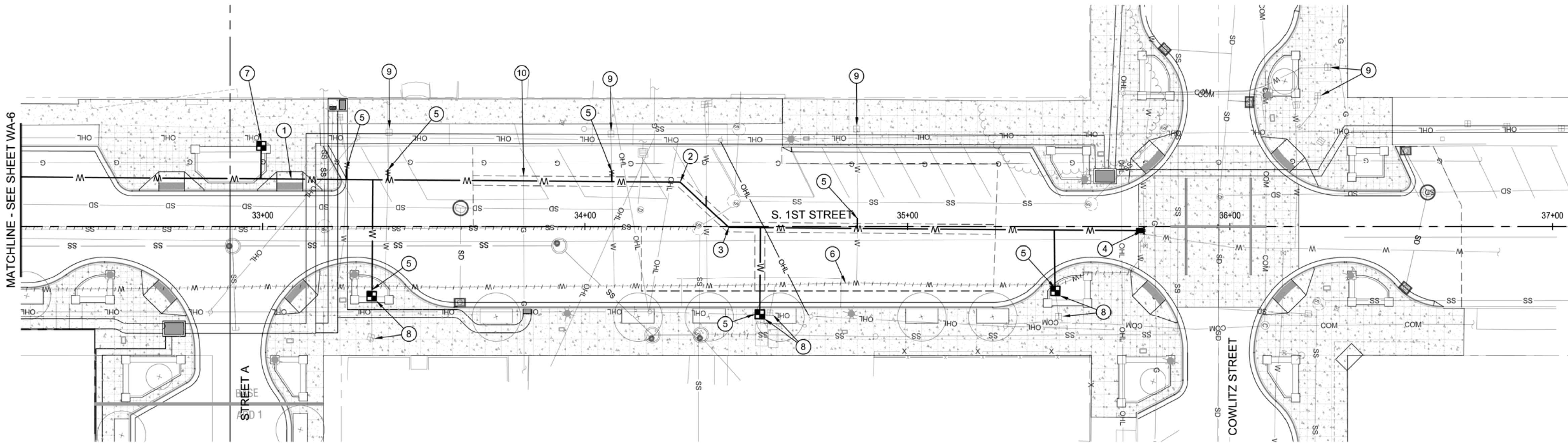
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DATE	
19823 / P-525	
PROJECT NUMBER	

WA-6

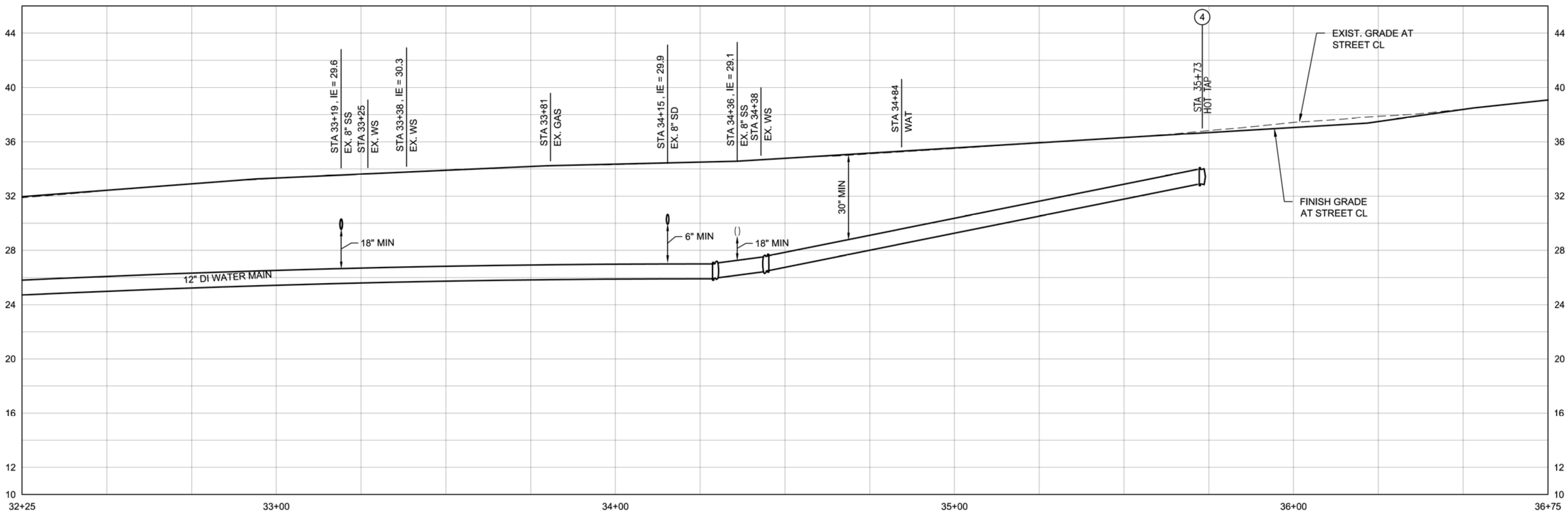
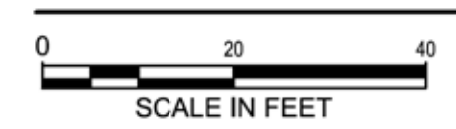
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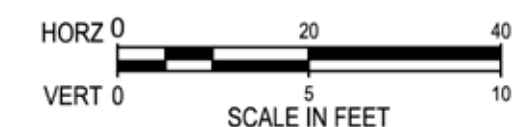
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S. 1ST STREET STA 32+25 TO 37+00



S. 1ST STREET STA 32+25 TO 37+00



WATER CONSTRUCTION KEY NOTES

- 1 INSTL NEW 12" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- 2 STA 34+29, 13.9' LT
INSTL 12" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- 3 STA 34+45
INSTL 12" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- 4 STA 35+73, 1.3' RT
VALVE ASSY, HOT TAP INTO EXISTING WATER MAIN
1 - 12" x 12" HOT TAP SLEEVE
1 - 12" GV, FLG x MJ
- 5 INSTL STD 1" WS TO CONNECT TO EXISTING WATER SERVICE.
APPROX SERV LENGTH PER SERV SCH.
- 6 ABANDON EXISTING PIPE
- 7 STA 33+00, 13.9'
INSTL STD 1" WS, NEW WM BOX, APPROX SERV LENGTH PER SERV
SCH, SEE STD DWG 405 SINGLE WATER SERVICE INSTALLATION
- 8 RELOCATE EXISTING WM BOX
- 9 MINOR ADJUSTMENT OF WM BOX
- 10 CONTRACTOR TO POTHOLE TO VERIFY DEPTH OF GAS AT THIS
CROSSING

WATER SERVICE SCHEDULE

STA	SERVICE DIA (IN)	APPROX LENGTH (FT)
33+00	1	10
33+38	1	33
33+43	1	5
34+13	1	5
34+59	1	20
34+85	1	5
35+46	1	17



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**

ST. HELENS, OREGON
WATER PLAN & PROFILE

S. 1ST STREET STA 32+25 TO 36+75

TITLE	
#	DESCRIPTION

REVISIONS	

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DATE	
19823 / P-525	
PROJECT NUMBER	

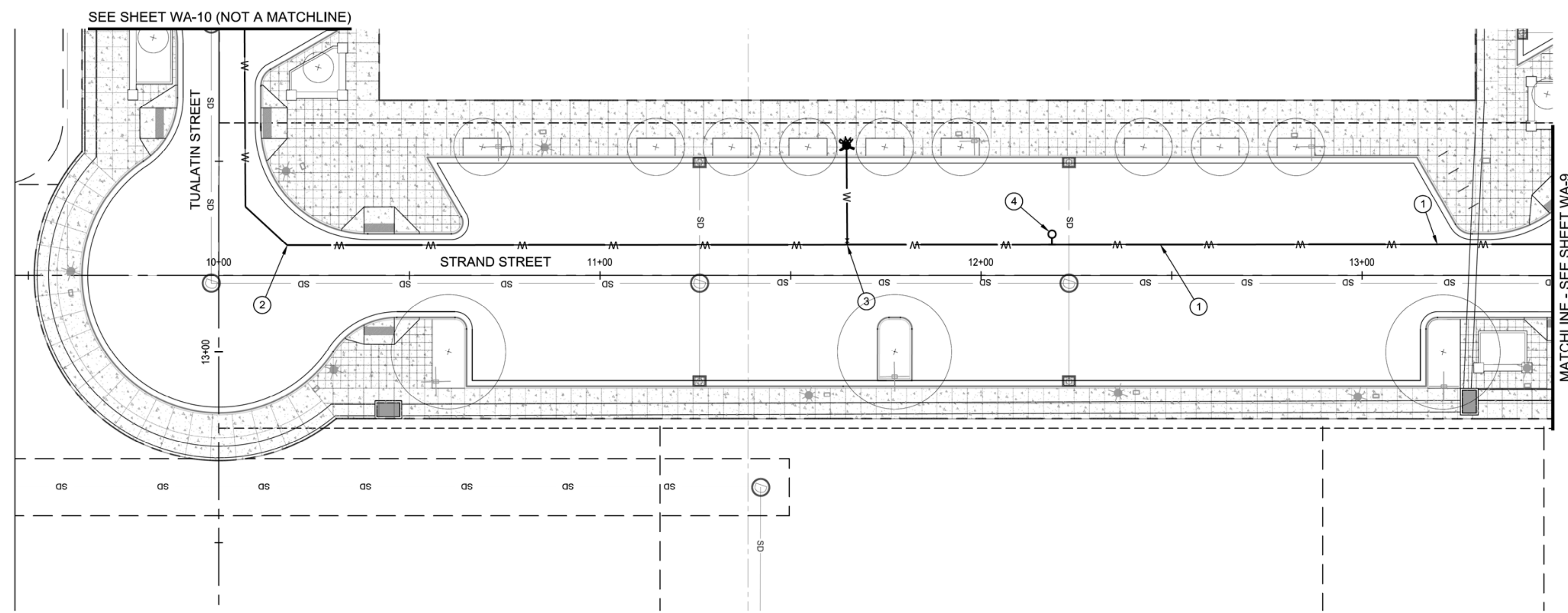
WA-7

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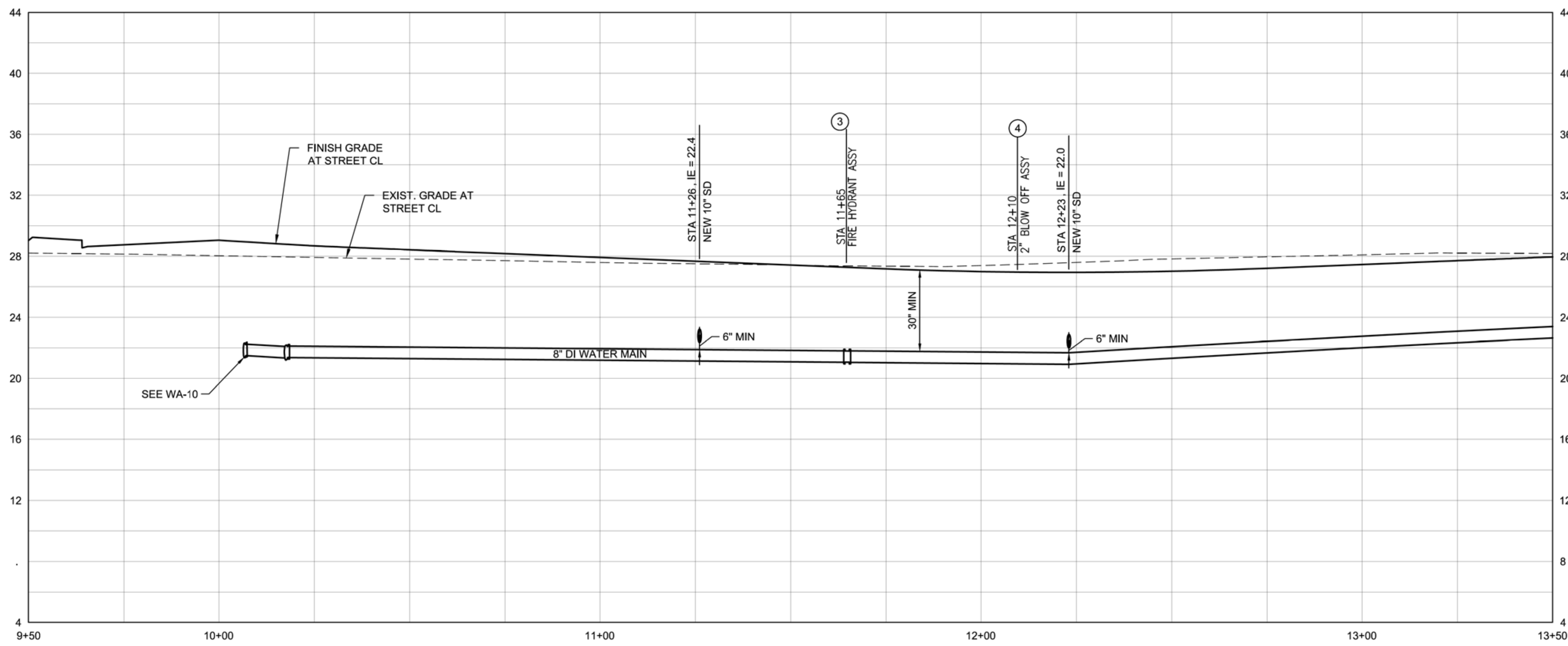
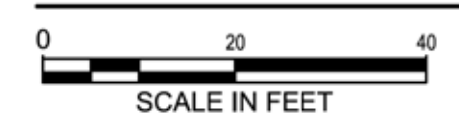


**WATER CONSTRUCTION KEY NOTES
TO BE CONSTRUCTED WITH ADD-1**

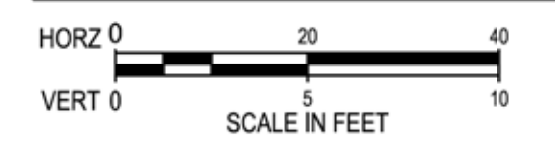
- ① INSTL NEW 8" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② STA 10+20, 8.0' LT
INSTL 8" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ③ STA 11+64, 8.1' LT
INSTL FH ASSY, SEE STD DWG 400
1 - 6" x 8" TEE, MJX x FLG
1 - 6" GTV, FLG x MJJ
6" DI WATER LINE - 27.9'
SET HYDRANTS A MIN OF 2' FROM FOC OR EP, CONSTRUCT 5' X 5' CONCRETE PAD WITH HYDRANT CENTERED ON PAD
- ④ STA 12+10, 8.1' LT
INSTL PERMANENT 2" BLOW OFF ASSY PER STD DWG 420



STRAND STREET STA 9+50 TO 13+50



STRAND STREET STA 9+50 TO 13+50



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS**
ST. HELENS, OREGON
WATER PLAN & PROFILE
STRAND STREET STA 9+50 TO 13+50

#	DATE	DESCRIPTION

REVISIONS	
DATUM	
GRAYLING CAD	RKL
DRAWN BY	CHECKED BY
FINAL PLANS	
STATUS	
JUNE 10, 2022	
DATE	
19823 / P-525	
PROJECT NUMBER	

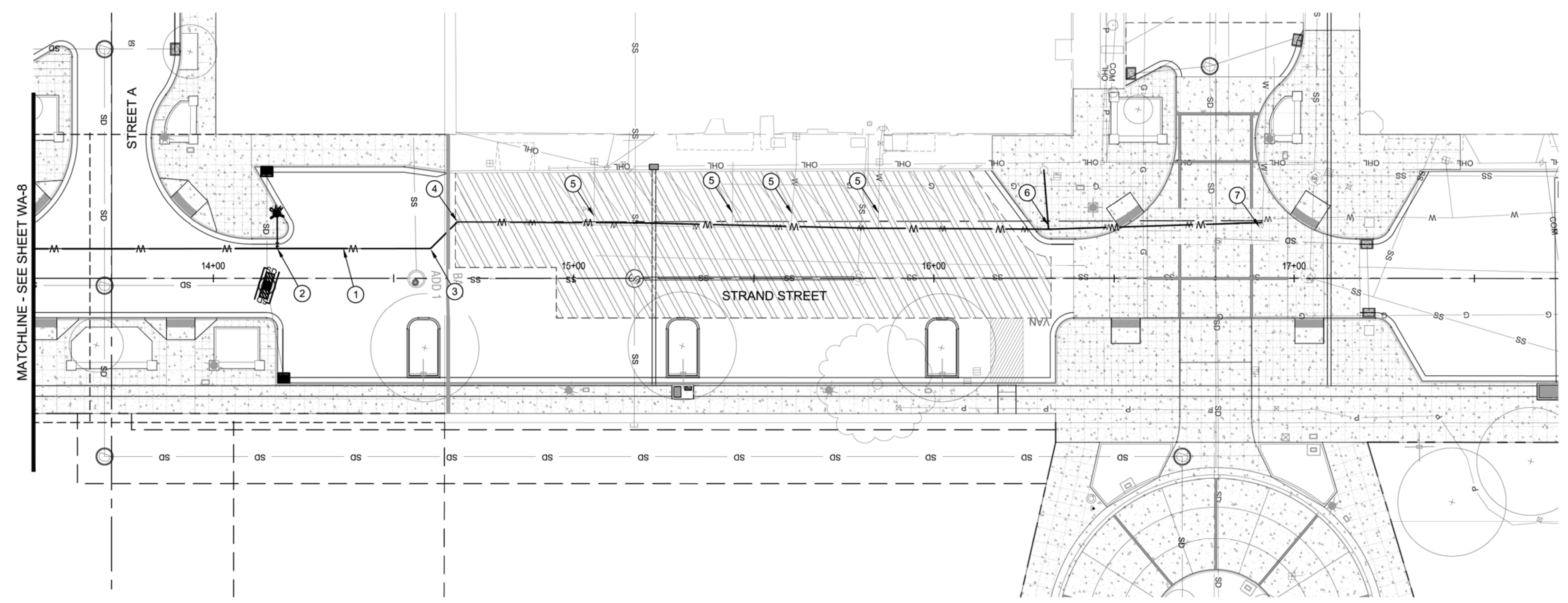
WA-8

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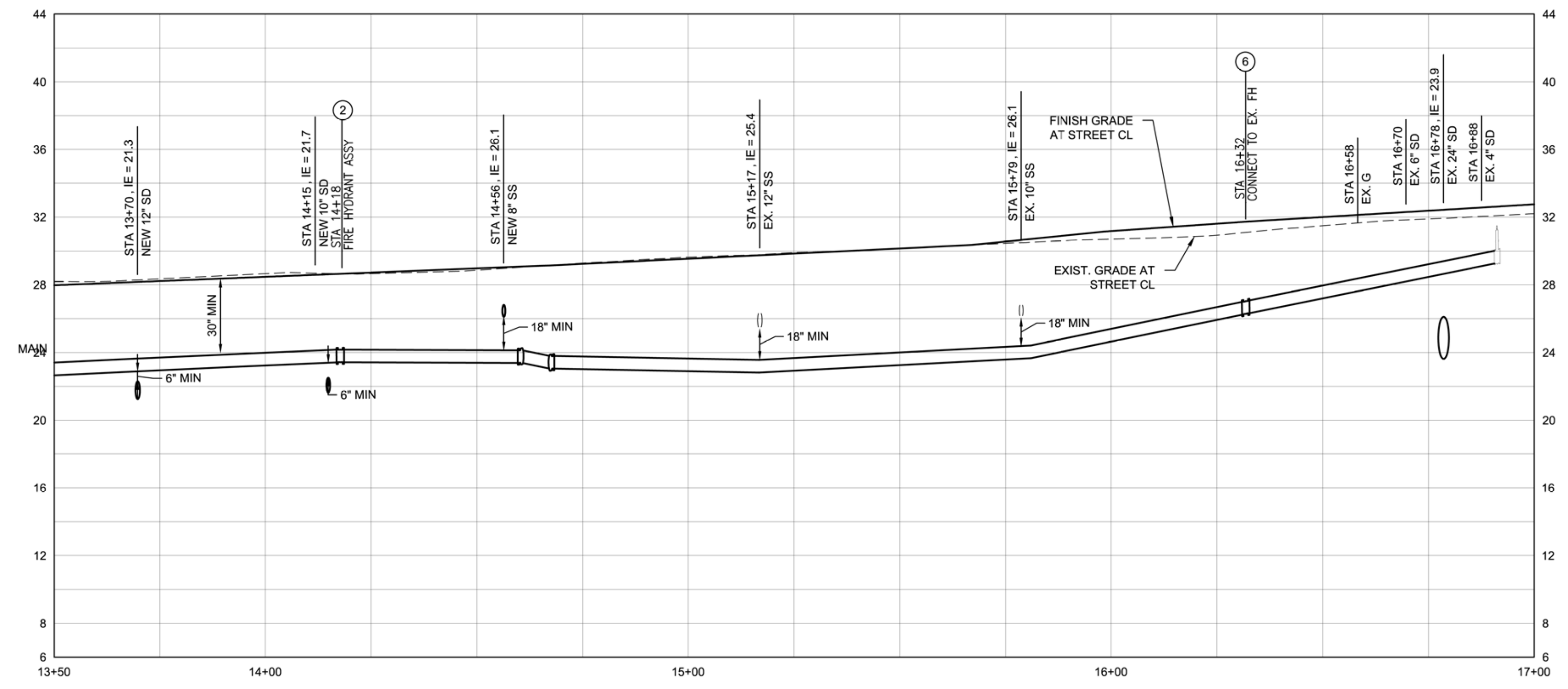
**WATER CONSTRUCTION KEY NOTES
TO BE CONSTRUCTED WITH ADD-1**

- ① INSTL NEW 8" DI CL-52. ALL JOINTS TO BE MECHANICALLY RESTRAINED
- ② STA 14+18, 8.2' LT
INSTL FH ASSY, PER STD DWG 400
INSTL AIR RELEASE VALVE PER STD DWG 415
1 - 8" x 6" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
6" DI WATER LINE -6.0'
SET HYDRANTS A MIN OF 2' FROM FOC OR EP, CONSTRUCT 5'x5' CONCRETE PAD WITH HYDRANT CENTERED ON PAD. TO BE CONSTRUCTED WITH ADD-1
- ③ STA 14+60, 8.6' LT
INSTL 8" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ④ STA 14+68, 15.7' LT
INSTL 8" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION
- ⑤ INSTL STD 1" WS TO CONNECT TO EXISTING WATER SERVICE
- ⑥ STA 16+32, 13.6' LT
1 - 8" x 6" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
6" DI WATER LINE -17'
CONNECT TO EXISTING FH
- ⑦ STA 16+92, 15.5' LT
CONNECT TO EXISTING 8" GTV



STRAND STREET STA 13+50 TO 17+00

0 20 40
SCALE IN FEET



STRAND STREET STA 13+50 TO 17+00

HORZ 0 20 40
VERT 0 5 10
SCALE IN FEET

**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
WATER PLAN & PROFILE**

STRAND STREET STA 13+50 TO 17+00

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PROJECT NUMBER

WA-9

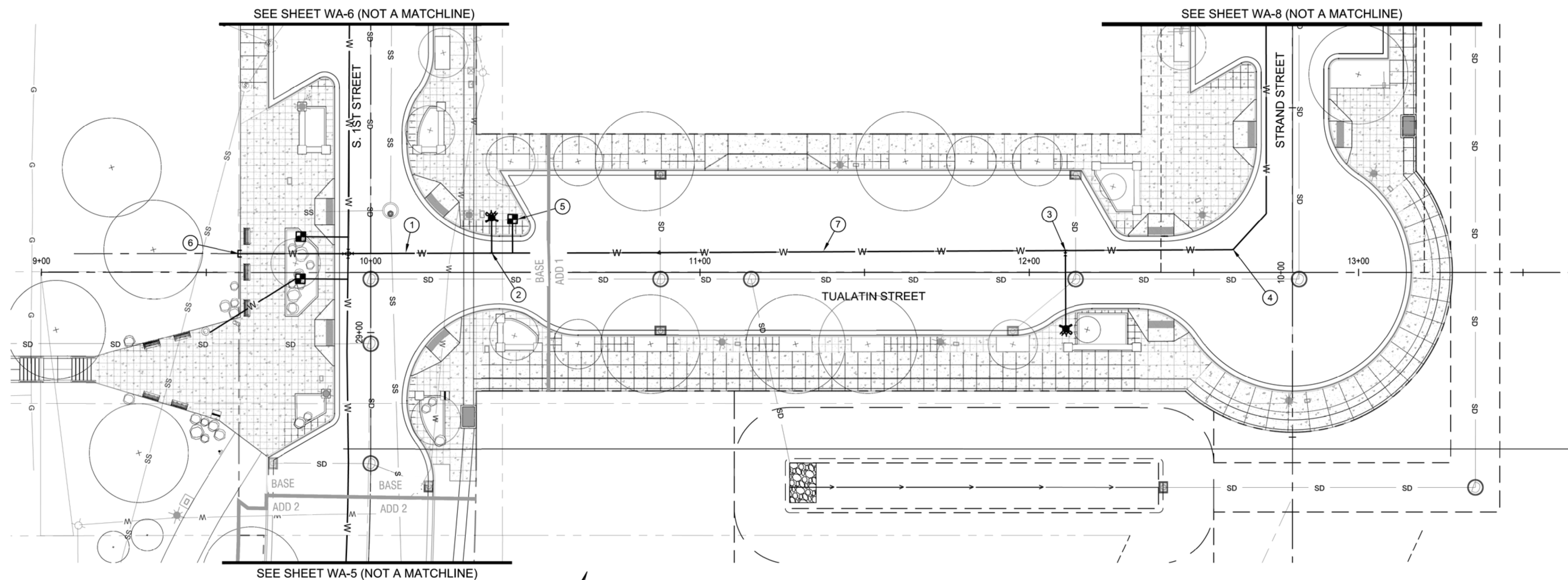
© 2021 OTAK, INC.
If this drawing is not 22" x 34", it has been reduced/enlarged. Scale accordingly.

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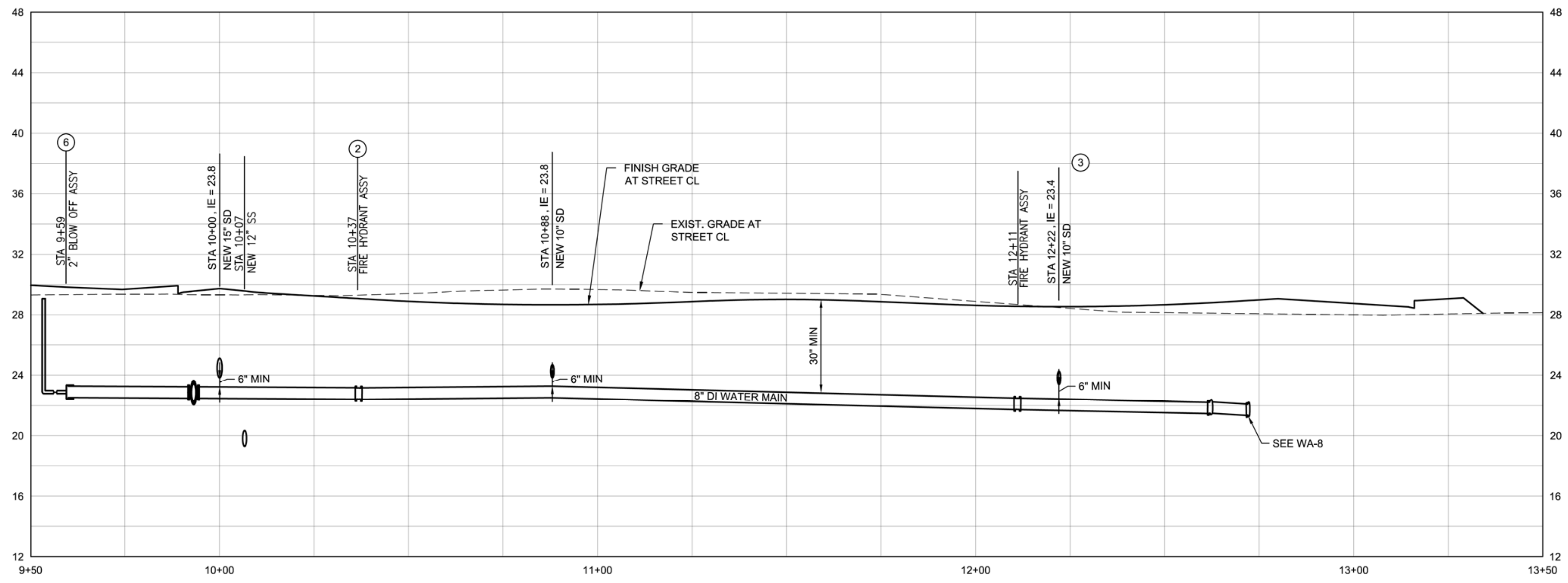
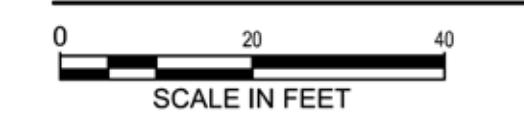


WATER CONSTRUCTION KEY NOTES

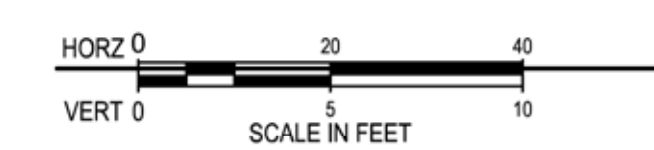
- 1 STA 9+59 TO 10+50
INSTL NEW 8" DI CL-52, ALL JOINTS TO BE MECHANICALLY RESTRAINED
- 2 STA 9+93, 7.0' LT
INSTL FH ASSY PER STD DWG 400
1 - 6" x 8" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
6" DI WATER LINE - 10.7'
SET HYDRANTS A MIN OF 2' FROM FOC OR EP, CONSTRUCT 5' X 5' CONCRETE PAD WITH HYDRANT CENTERED ON PAD
- 3 STA 12+28, 6.8' LT
INSTL FH ASSY, PER STD DWG 400
1 - 6" x 6" TEE, MJ x FLG
1 - 6" GTV, FLG x MJ
6" DI WATER LINE - 20.1'
SET HYDRANTS A MIN OF 2' FROM FOC OR EP, CONSTRUCT 5' X 5' CONCRETE PAD WITH HYDRANT CENTERED ON PAD, TO BE CONSTRUCTED WITH ADD-1
- 4 STA 12+72, 12.0' LT
INSTL 8" 45° BEND, ROTATE AS NEEDED FOR VERT DEFLECTION TO BE CONSTRUCTED WITH ADD-1
- 5 STA 10+43, 5.8'
INSTL STD 1" WS, NEW WM BOX, APPROX 8 FT LENGTH, SEE STD DWG 405 SINGLE WATER SERVICE INSTALLATION
- 6 STA 12+40, 8.1' LT
INSTL TEMPORARY 2" BLOW OFF ASSY PER STD DWG 422
- 7 STA 10+50 TO 12+80
INSTL NEW 8" DI CL-52, ALL JOINTS MECHANICALLY RESTRAINED, TO BE CONSTRUCTED WITH ADD-1



TUALATIN ST STA 10+00 TO 12+80



TUALATIN ST STA 10+00 TO 12+80



**S. 1ST AND STRAND STREETS
ROAD AND UTILITY EXTENSIONS
ST. HELENS, OREGON
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19823 / P-525
PROJECT NUMBER

WA-10

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