

CITY OF CARNATION

MCKINLEY AVENUE IMPROVEMENT PROJECT

NOVEMBER 2023

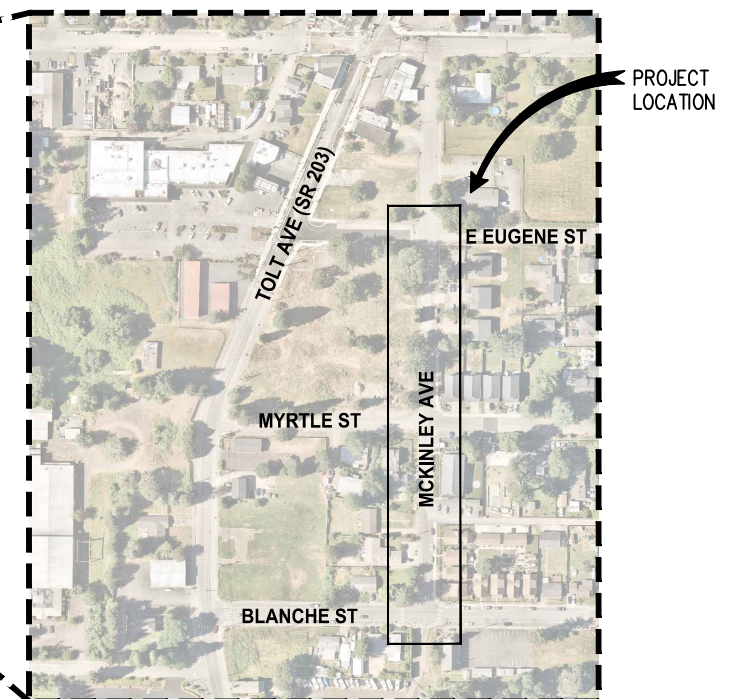
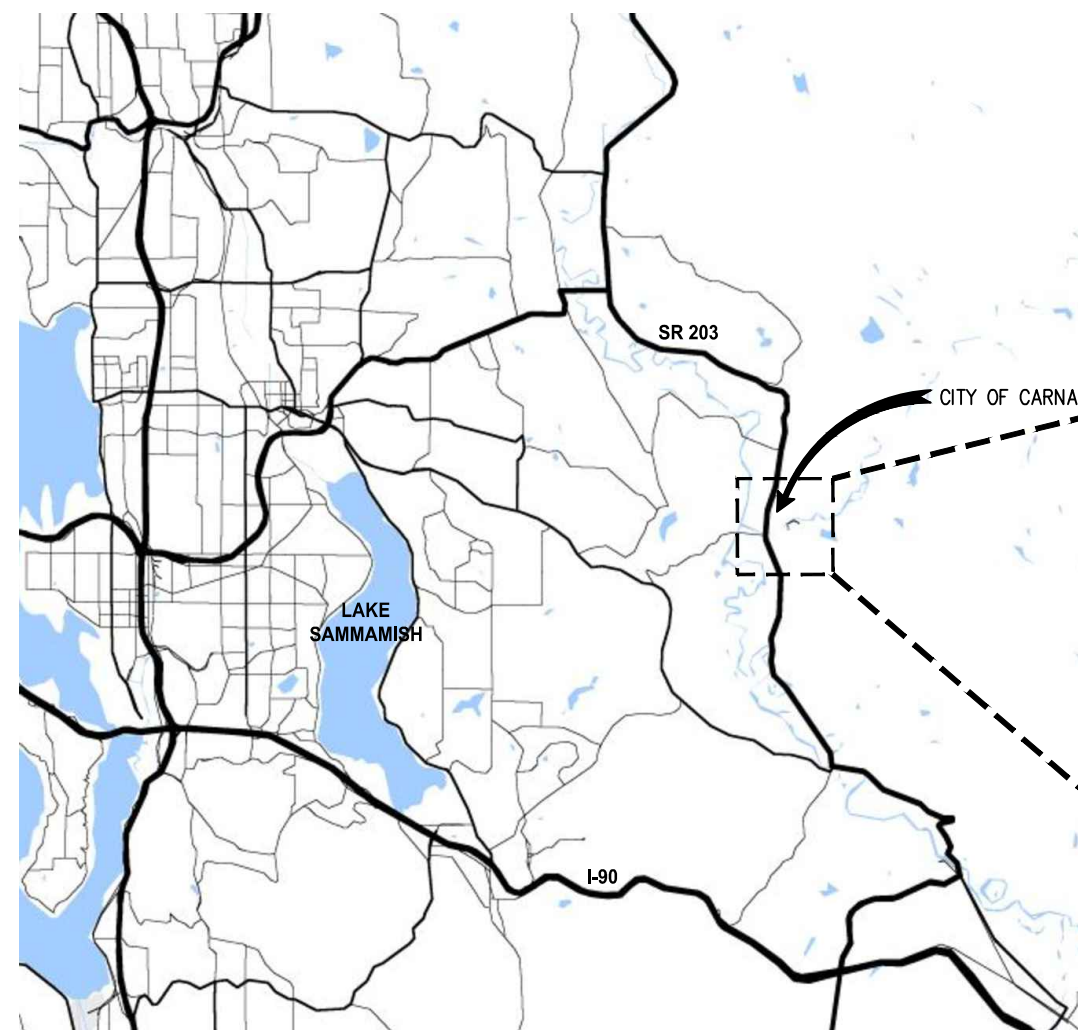
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MAYOR
JIM RIBAIL

COUNCIL MEMBERS
TIM HARRIS
ADAIR HAWKINS
RYAN BURRELL
DUSTIN GREEN

CITY MANAGER
ANA CORTEZ

SCHEDULE OF DRAWING	
SHEET NO.	TITLE
GENERAL	
1	COVER
2	INDEX, ALIGNMENT & SURVEY CONTROL PLAN
3	LEGEND & ABBREVIATIONS
TYPICAL SECTIONS	
4	TYPICAL SECTIONS
ROADWAY DETAILS	
5	ROADWAY DETAILS
SITE PREPARATION PLAN	
6	STA 9+50 TO STA 18+50
ROADWAY PLAN	
7	STA 9+50 TO STA 18+50
CURB RAMP DETAILS	
8	MCKINLEY AVE & BLANCHE ST
9	MCKINLEY AVE & MYRTLE ST
10	MCKINLEY AVE & E EUGENE ST
STORM DRAINAGE PLAN & PROFILE	
11	STA 9+50 TO STA 14+50
12	STA 14+50 TO STA 18+50
13	ADDITIONAL DRAINAGE PROFILES
STORM DRAINAGE DETAILS	
14 - 17	STORM DRAINAGE DETAILS



RECOMMENDED FOR APPROVAL:

Lora Wilmes

11/27/2023

PROJECT MANAGER

DATE



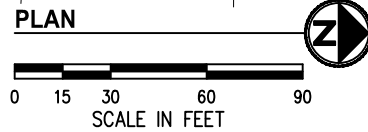
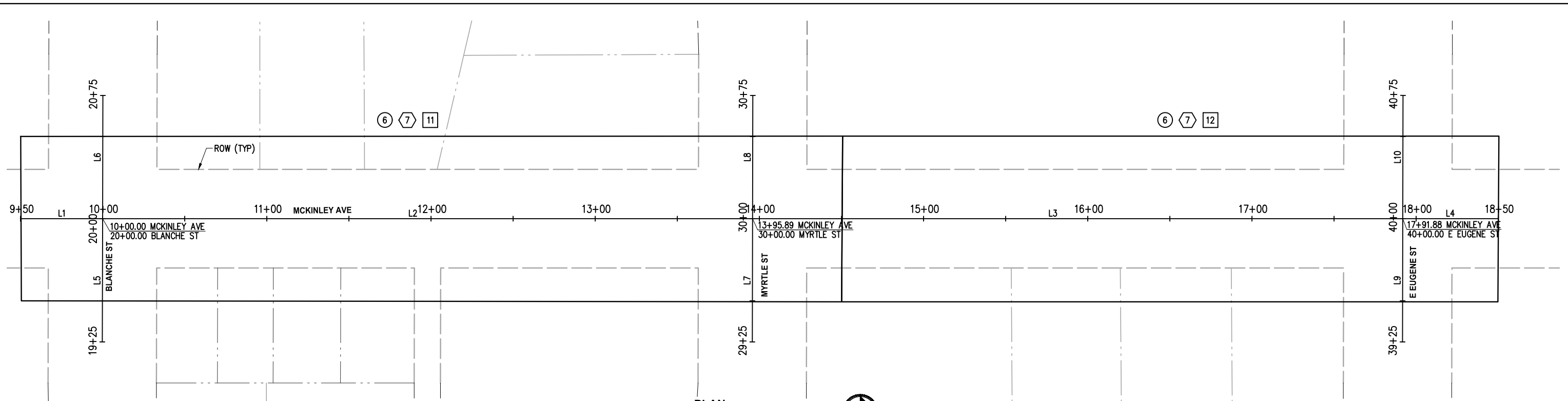
 VICINITY MAP

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SHEET LEGEND

- X SITE PREPARATION PLAN
- X ROADWAY PLAN
- X STORM DRAINAGE PLAN & PROFILE

E EUGENE ST					
NUMBER	START STA	NORTHING	EASTING	LENGTH	BRNG/DELTA
L9	39+25.00	237799.02	1374179.92	75.00'	N 89°18'22" W
L10	40+00.00	237799.93	1374104.93	75.00'	N 89°16'25" W

MYRTLE ST					
NUMBER	START STA	NORTHING	EASTING	LENGTH	BRNG/DELTA
L7	29+25.00	237403.02	1374175.86	75.00'	N 89°16'11" W
L8	30+00.00	237403.98	1374100.86	75.00'	N 89°18'42" W

MCKINLEY AVE					
NUMBER	START STA	NORTHING	EASTING	LENGTH	BRNG/DELTA
L1	9+50.00	236958.11	1374096.24	50.00'	N 0°35'40" E
L2	10+00.00	237008.11	1374096.76	395.89'	N 0°35'39" E
L3	13+95.89	237403.98	1374100.86	395.97'	N 0°35'18" E
L4	17+91.86	237799.93	1374104.93	58.14'	N 0°36'26" E

BLANCHE ST					
NUMBER	START STA	NORTHING	EASTING	LENGTH	BRNG/DELTA
L5	19+25.00	237007.17	1374171.75	75.00'	N 89°16'57" W
L6	20+00.00	237008.11	1374096.76	75.00'	N 89°16'53" W

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Approved By		9CAR010200INDEX.dwg
ENGINEERING MANAGER	DATE	FILENAME MKE 11/2023
PROJECT MANAGER	DATE	DESIGNED BY MKE 11/2023
PROJECT ENGINEER	DATE	DRAWN BY KDA 11/2023
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MCKINLEY AVENUE IMPROVEMENT PROJECT

GENERAL INDEX, ALIGNMENT & SURVEY CONTROL PLAN

KPG PROJ. No. 9CAR010200 SHT 2 OF 17

EXISTING LEGEND

MIC	MONUMENT IN CASE	T	TELEPHONE RISER
△	MAG NAIL/SPIKE	TV	TV RISER
RC	REBAR & CAP	⊗	WATER VALVE
□	CATCH BASIN	⊞	WATER METER
⊕	STORM DRAIN MANHOLE	⊙	FIRE HYDRANT
⊞	YARD DRAIN	⊥	SIGN
SD	STORM DRAIN CLEAN-OUT	⊞	MAILBOX (# OF BOXES)
^	CULVERT	○	SHRUB
○	SEWER MANHOLE	∇	PLANTED AREA
SS	SEWER CLEAN-OUT	⊙ ^{XX}	DECIDUOUS TREE, DIAMETER (# OF TRUNKS)
⊙	POWER POLE	⊙ ^{XX}	CONIFEROUS TREE, DIAMETER (# OF TRUNKS)
⊙	POWER POLE W/UNDERGROUND CONNECT		
⊙	POWER POLE WITH LUMINAIRE		
⊙	POWER POLE WITH LUMINAIRE AND UNDERGROUND CONNECT		
→	GUY ANCHOR		
⊞	JUNCTION BOX		
⊙	STREET LIGHT (LUMINAIRE)		

---	PARCEL LINE
---	ROW LINE
---	ROW CENTERLINE
---	PAINTED POWER
---	PAINTED TELEPHONE
---	PAINTED TV
---	PAINTED WATER
---	RECORD WATER
---	STORM
---	SEWER
---	FENCE
---	HEDGE (HEIGHT NOTED)
---	PAINTED STRIPE
---	PAINTED SKIP STRIPE
---	RAISED-BUTTON SKIP STRIPE
---	EDGE OF PAVEMENT
---	FLOWLINE
---	CONTOUR
---	BUILDING
---	CONCRETE
---	GRAVEL
---	GRASS
---	ASPHALT/CONCRETE
---	CHAINLINK
---	DRIVEWAY

PROPOSED LEGEND

---	STORM DRAIN PIPE
⊙	CATCH BASIN TYPE 2 PER WSDOT STD PLAN B-10.20
⊙	CATCH BASIN TYPE 1 PER WSDOT STD PLAN B-5.20
▶	DIRECTIONAL FLOW ARROW
⊞	MODULAR WETLAND TREATMENT VAULT
⊞	R-TANK INFILTRATION FACILITY
⊞	5'x10' DETENTION VAULT ACCESS HATCH
⊞	SIGN
⊞	DETECTABLE WARNING SURFACE
⊞	HMA CL 1/2" PG 58H-22 FOR NEW PAVEMENT
⊞	HMA CL 1/2" PG 58H-22 FOR OVERLAY
⊞	CEMENT CONCRETE
⊞	CSTC
⊞	CSBC
⊞	TOPSOIL AND SEED RESTORATION
⊞	GRIND LIMIT
⊞	SAWCUT LINE
⊞	INLET PROTECTION

ABBREVIATIONS

AC	ASPHALT CONCRETE	MIC	MONUMENT IN CASE
ACP	ASPHALT CONCRETE PAVEMENT	MJ	MECHANICAL JOINT
ADA	AMERICANS WITH DISABILITIES ACT	MON	MONUMENT
AP	ANGLE POINT	N	NORTH OR NORTHING
APPROX	APPROXIMATE	NAVD	NORTH AMERICAN VERTICAL DATUM
BLDG	BUILDING	NO	NUMBER
CB	CATCH BASIN	NTS	NOT TO SCALE
CCP	CEMENT CONCRETE PAVEMENT	OC	ON CENTER
CDF	CONTROLLED DENSITY FILL	OD	OUTSIDE DIAMETER
CHLK	CHAINLINK	PC	POINT OF CURVE
CL	CLASS	PCC	POINT OF COMPOUND CURVATURE
CO	CLEANOUT	PCCP	PERVIOUS CEMENT CONCRETE PAVEMENT
COC	CITY OF CARNATION	PI	POINT OF INTERSECTION
COL	COLUMN CONC CONCRETE	POB	POINT OF BEGINNING
CSBC	CRUSHED SURFACING BASE COURSE	POE	POINT OF ENDING
CSTC	CRUSHED SURFACING TOP COURSE	PRC	POINT OF REVERSE CURVATURE
DI	DUCTILE IRON	PT	POINT OF TANGENT
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE OR
DW	DRIVEWAY	PVT	POINT OF VERTICAL CURVATURE
E	EAST OR EASTING	R	POINT OF VERTICAL TANGENT
EA	EACH	PVI	POINT OF VERTICAL INTERSECTION
ELEV	ELEVATION	ROW	RADIUS
EOP	EDGE OF PAVEMENT	RT	RIGHT OF WAY
EW	EACH WAY EXIST EXISTING	S	RIGHT
FF	FINISHED FLOOR	SD	SLOPE OR SOUTH
FL	FLOW LINE	SD	STORM DRAIN
FO	FIBER OPTIC	SDMH	STORM DRAIN MANHOLE
FOC	FACE OF CURB	SE	SOUTHEAST
HMA	HOT MIX ASPHALT	SHT	SHEET
HORIZ	HORIZONTAL	SQ	SQUARE
HP	HIGH POINT	SS	SANITARY SEWER
ID	INSIDE DIAMETER	SSMH	SANITARY SEWER MANHOLE
IE	INVERT ELEVATION	ST	STREET
IN	INCH/INCHES	STA	STATION
JB	JUNCTION BOX	STD	STANDARD
L	LENGTH LT LEFT	STCR	STRUCTURE
LF	LINEAR FEET	SW	SOUTHWEST
LP	LOW POINT	TYP	TYPICAL
MAX	MAXIMUM	VERT	VERTICAL
MIN	MINIMUM	W	WEST
MH	MANHOLE	YD	YARD DRAIN

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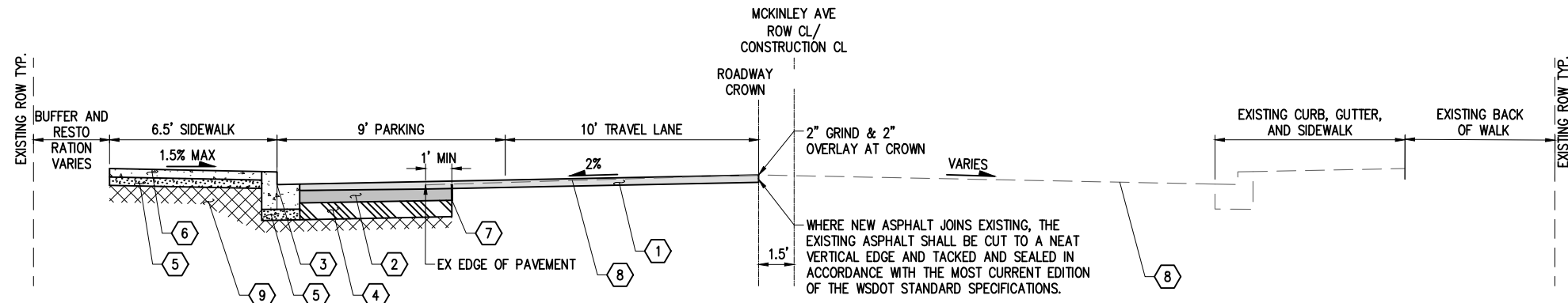
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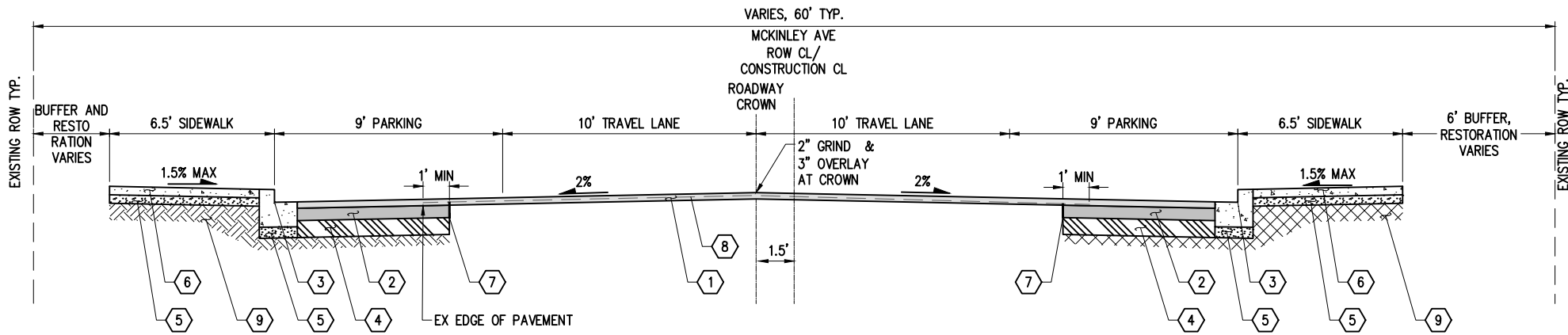
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GENERAL LEGEND & ABBREVIATIONS	
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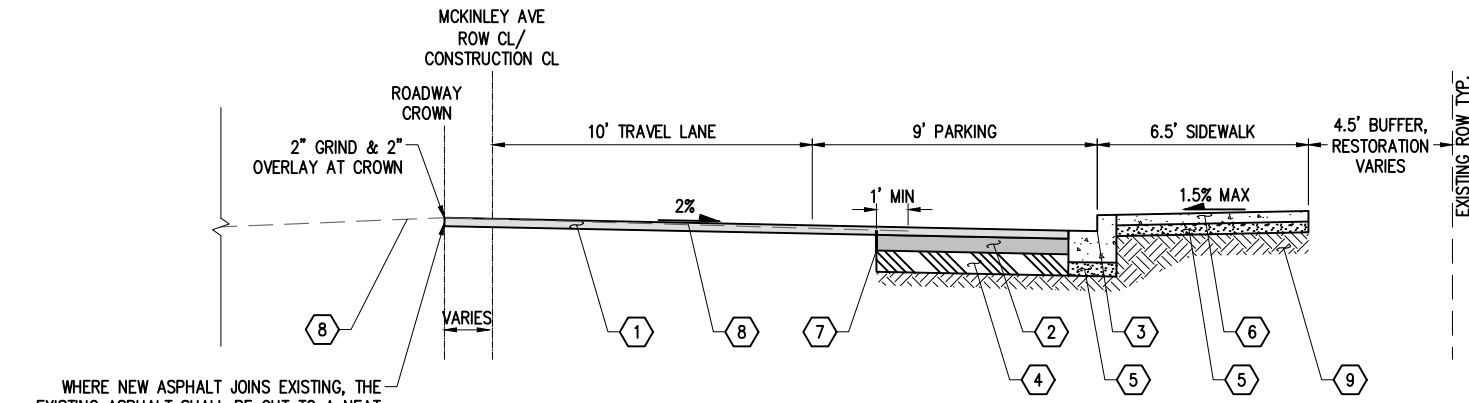


MCKINLEY AVE TYPICAL SECTION A
 APPROXIMATE STATION 10+75 TO 11+80
 NTS

MATERIAL CODE	
①	2"-3" HMA CL ½" PG 58H-22 WEARING COURSE
②	4" HMA CL ½" PG 58H-22
③	CEMENT CONC. TRAFFIC CURB & GUTTER PER WSDOT STD PLAN F-10.12.
④	6" CSBC
⑤	4" CSTC
⑥	4" CEMENT CONC. SIDEWALK PER WSDOT STD PLAN F-30.10.
⑦	FULL DEPTH SAWCUT LINE
⑧	EXIST ROADWAY
⑨	COMPACTED SUBGRADE



MCKINLEY AVE TYPICAL SECTION B
 APPROXIMATE STATION 11+80 TO 13+70
 NTS
 NOTE: TRANSITION FROM 2" TO 3" OVERLAY SHALL BE FROM STA 11+80 TO STA 12+20 AND FROM STA 13+60 TO STA 13+70

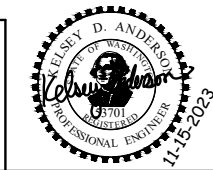


MCKINLEY AVE TYPICAL SECTION C
 APPROXIMATE STATION 14+65 TO 16+90
 NTS
 WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED AND SEALED IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE WSDOT STANDARD SPECIFICATIONS.

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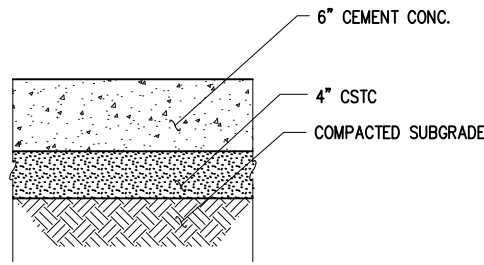


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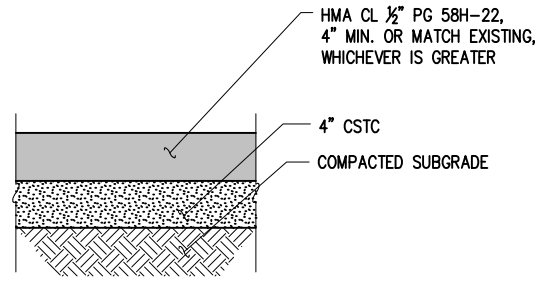


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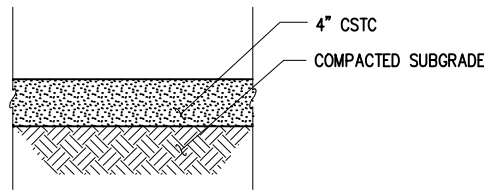
CEMENT CONC. DRIVEWAY SECTION

NTS



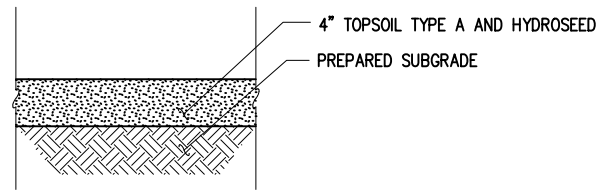
HMA DRIVEWAY SECTION

NTS



GRAVEL RESTORATION SECTION

NTS



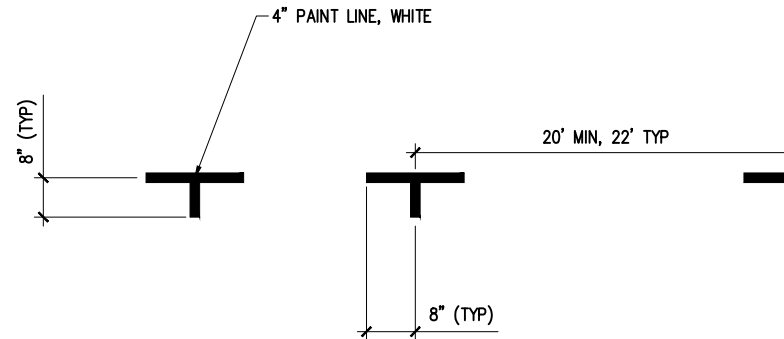
TOPSOIL AND SEED RESTORATION SECTION

NTS

DRIVEWAY SCHEDULE					
DWY #	CL STATION AT FLOWLINE	OFFSET	LEFT WING	RIGHT WING	DWY LENGTH, MATERIAL
1	17+29.47	30.0' RT	6.0'	6.0'	12.0', HMA
2	16+59.29	31.9' RT	6.0'	6.0'	6.4', HMA
3	15+94.16	30.0' RT	6.0'	6.0'	4.5', HMA
4	12+81.08	30.0' LT	6.0'	6.0'	3.0', CONC
5	11+98.08	30.0 RT	6.0'	6.0'	5.6', HMA
6	11+74.58	37.0' LT	6.0'	6.0'	10.0', HMA
7	11+01.78	30.0' LT	6.0'	6.0'	3.0', HMA

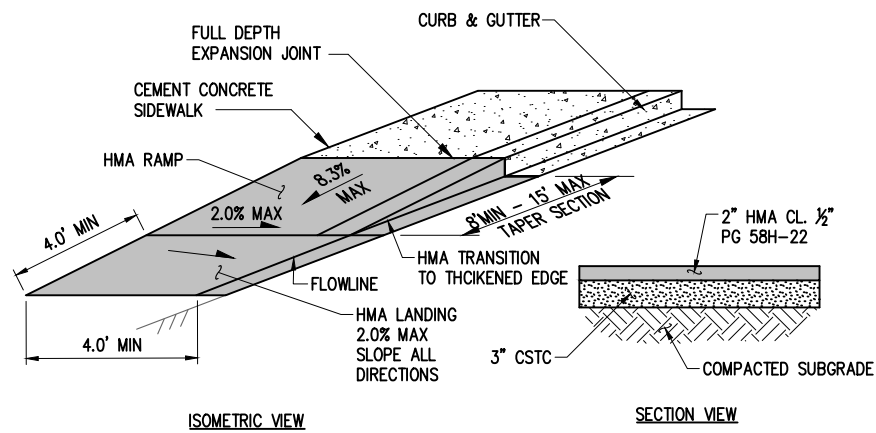
DRIVEWAY NOTES

- ALL JOINTS SHALL BE CLEANED AND EDGED.
- CEMENT CONCRETE DRIVEWAY ENTRANCES SHALL BE 6" THICK AIR ENTRAINED CLASS 4000.
- CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.
- 3/8" EXPANSION JOINTS SHALL BE PLACED AT BACK, SIDES, AND FRONT. MAXIMUM EXPANSION JOINT SPACING IS 10' CENTER TO CENTER.
- DRIVEWAY SURFACE SHALL RECEIVE A LIGHT BRUSH FINISH TRANSVERSE TO TRAFFIC FLOW.
- SEE DRIVEWAY SCHEDULE, THIS SHEET, FOR DIMENSIONS.



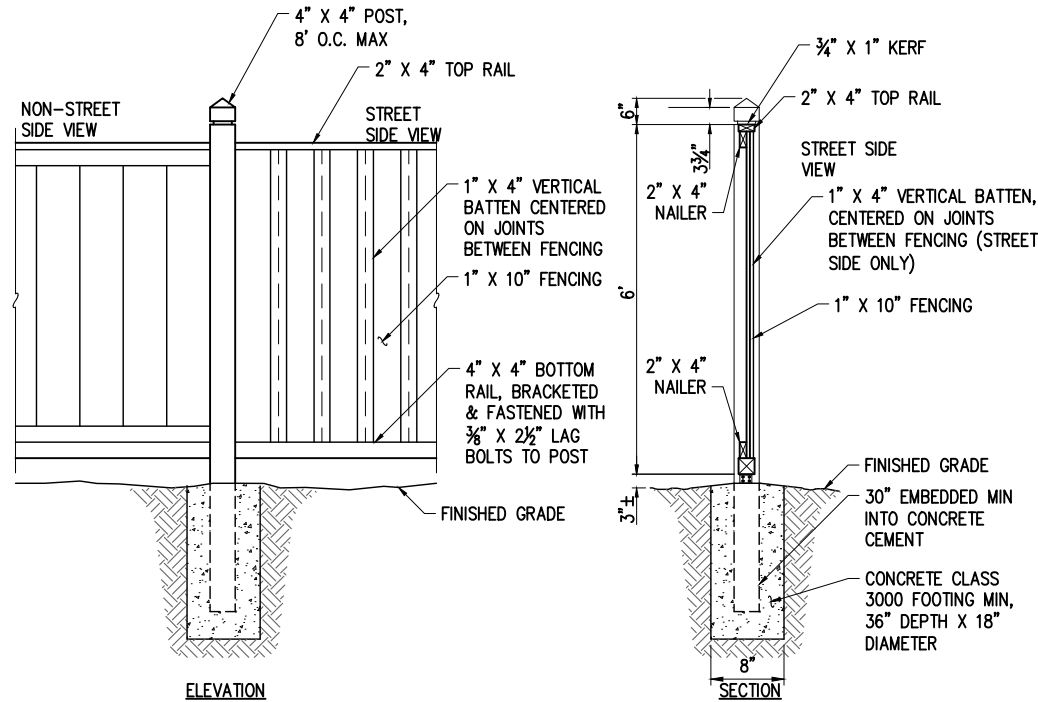
PAINT PARKING STALL CHANNELIZATION DETAIL

NTS



HMA TRANSITION RAMP DETAIL

NTS



CEDAR FENCE

NTS

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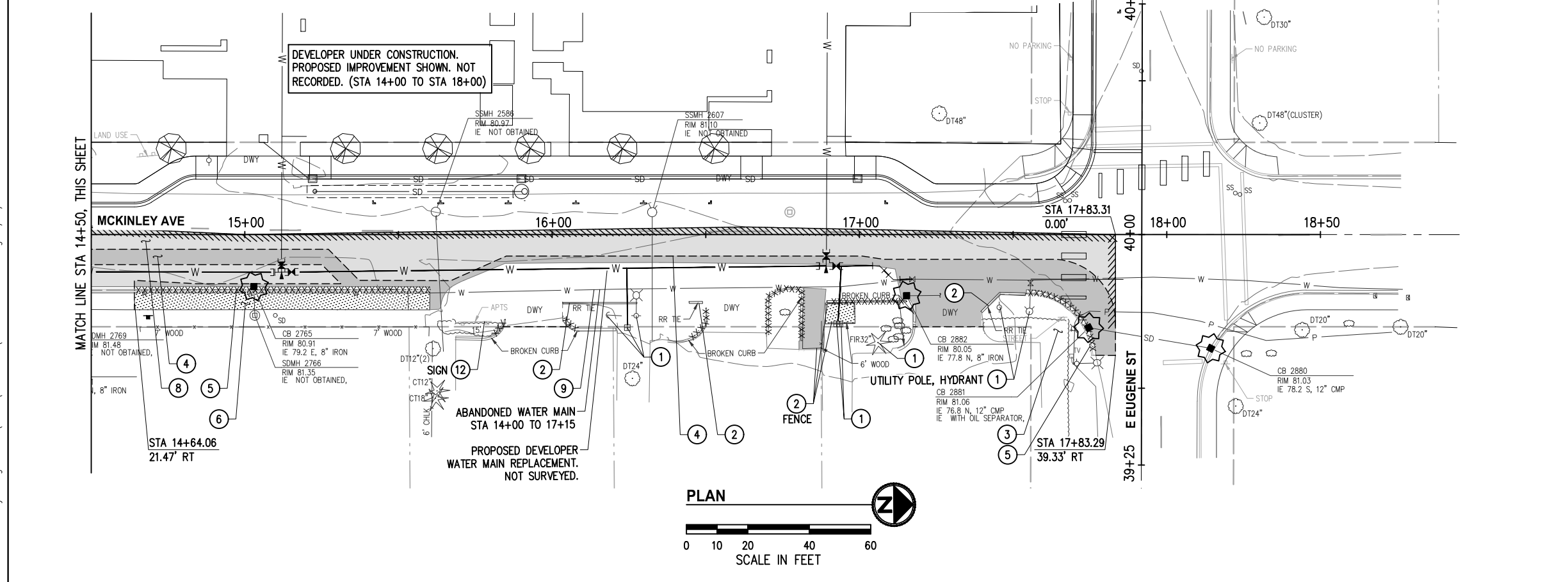
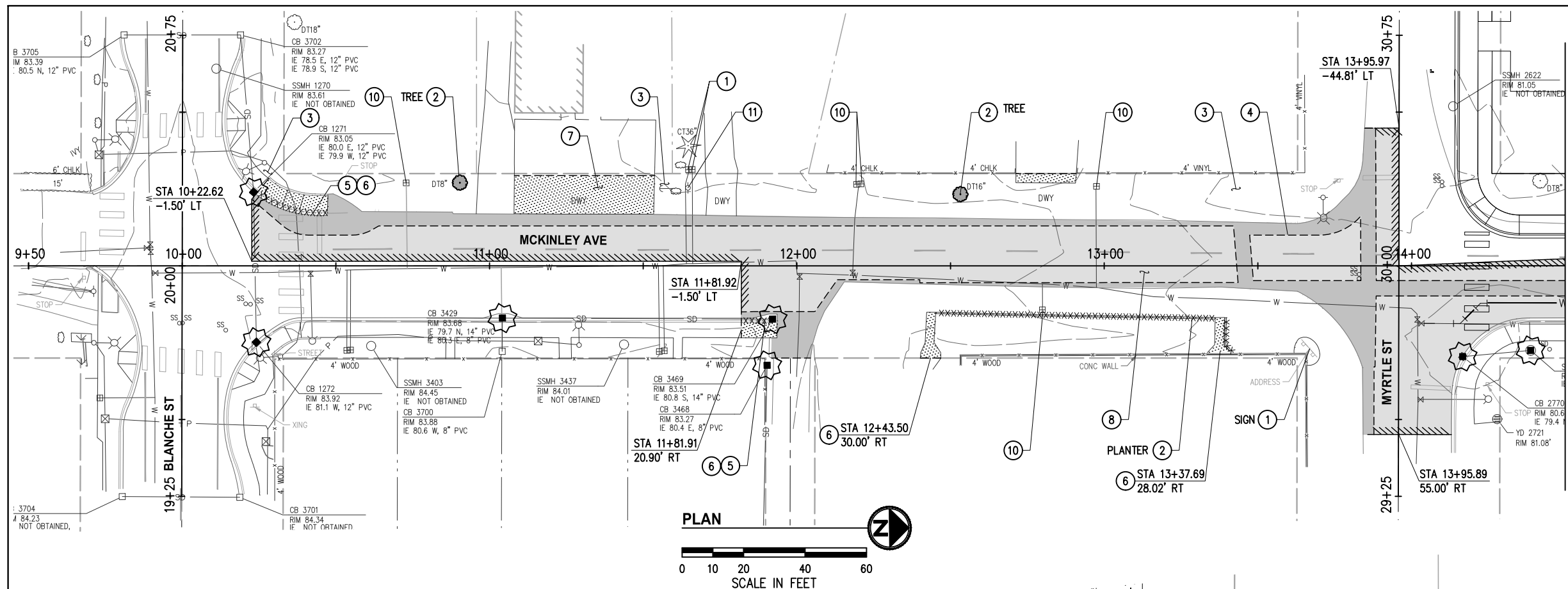
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ROADWAY DETAILS

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SITE PREPARATION NOTES

1. INLET PROTECTION SHALL BE PLACED IN ALL EXISTING CATCH BASINS AS SHOWN ON THE PLAN, AND IN NEW CATCH BASINS AT THE TIME OF INSTALLATION UNTIL PROJECT IS COMPLETE.
2. PRESERVE AND PROTECT ALL EXISTING UTILITIES TO REMAIN.
3. PRUNE EXISTING TREES TO REMAIN AS REQUIRED TO PROVIDE MIN. 7' CLEARANCE ABOVE SIDEWALKS. ALL PRUNING ACTIVITIES SHALL BE PERFORMED BY A LICENSED LANDSCAPE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO START OF WORK. FOR TREES ON PRIVATE PROPERTY, COORDINATE WITH ADJACENT PROPERTY OWNER.

SITE PREPARATION NOTES

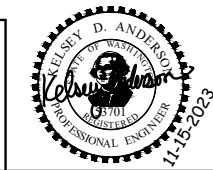
- 1 PROTECT.
- 2 REMOVE.
- 3 CLEAR AND GRUB EXISTING VEGETATION AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS.
- 4 SAWCUT AND REMOVE EXISTING ASPHALT PAVEMENT.
- 5 SAWCUT AND REMOVE CURB AND GUTTER.
- 6 SAWCUT AND REMOVE CEMENT CONCRETE SIDEWALK TO THE NEAREST JOINT.
- 7 SAWCUT AND REMOVE CEMENT CONCRETE PAVEMENT.
- 8 2" ASPHALT PAVEMENT GRIND.
- 9 REMOVE ABANDONED WATER MAIN TO INSTALL STORM IMPROVEMENTS.
- 10 RELOCATE EXISTING WATER METER SERVICE TO BACK OF PROPOSED SIDEWALK.
- 11 UTILITY POLE TO BE RELOCATED BY OTHERS.
- 12 REMOVE AND RESET.

LEGEND

- REMOVE CEMENT CONCRETE
- FULL DEPTH ASPHALT PAVEMENT REMOVAL
- ASPHALT PAVEMENT GRINDING
- PIPE REMOVAL
- CURB AND GUTTER REMOVAL
- INLET PROTECTION
- GRIND LIMITS
- SAWCUT LINE

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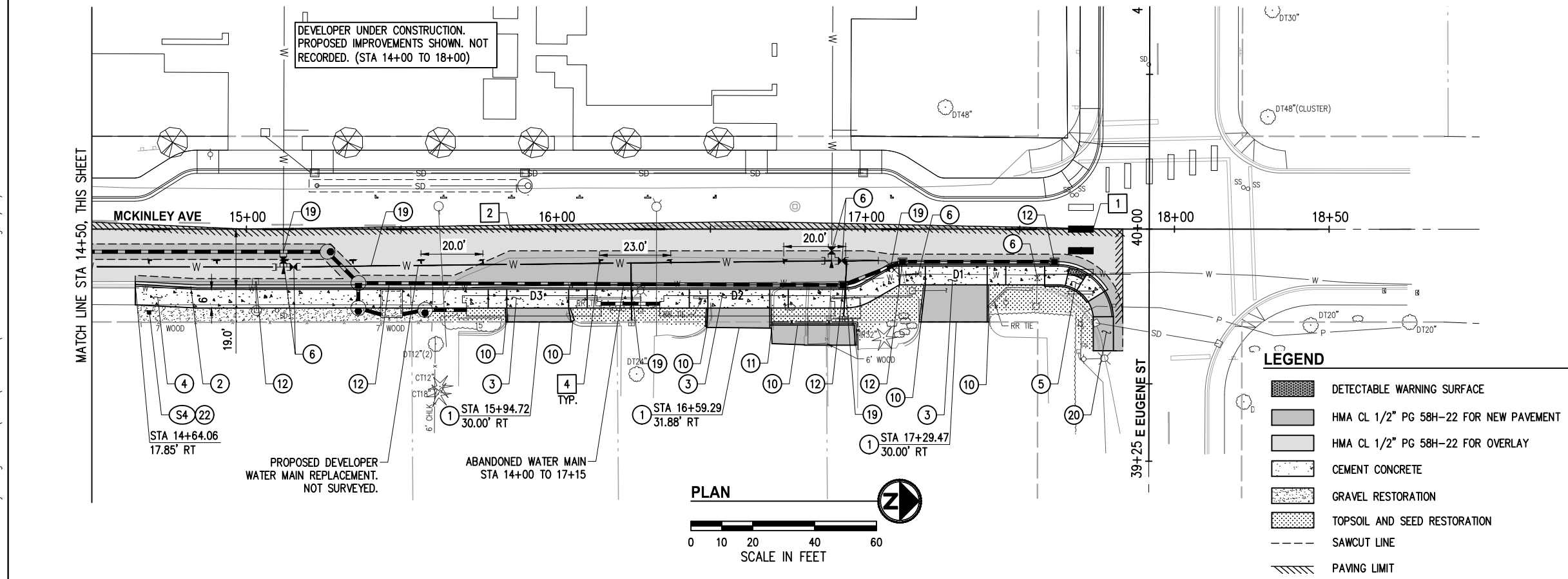
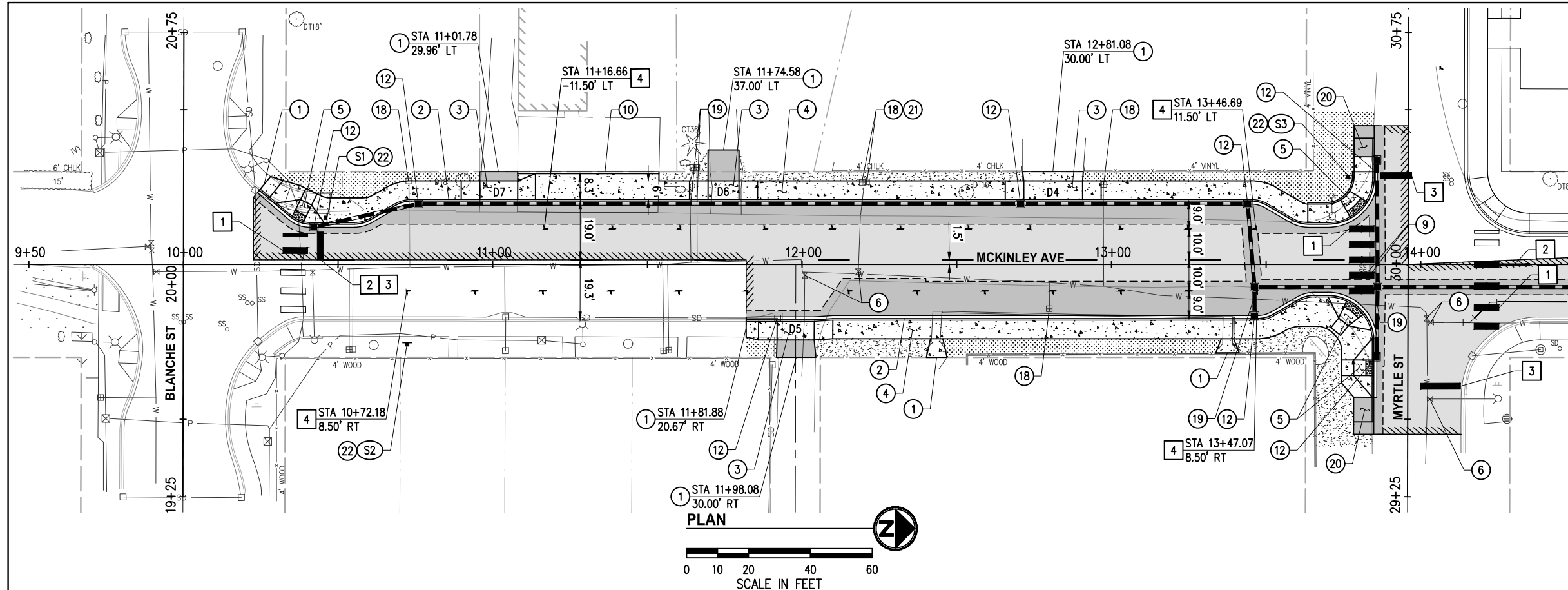
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GENERAL NOTES

- FOR STORMWATER IMPROVEMENTS, SEE SHEETS 11-12.
- EXISTING SIGNS NOT CALLED OUT FOR REMOVAL SHALL BE PROTECTED.
- CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED.
- ALL PAVEMENT MARKINGS SHALL BE LAID OUT WITH SPRAY PAINT AND APPROVED BY THE CITY ENGINEER BEFORE THEY ARE INSTALLED.
- CONTRACTOR SHALL PROTECT ALL EXISTING ITEMS WITHIN AND OUTSIDE OF PROJECT LIMIT.

CONSTRUCTION NOTES

- MATCH EXISTING.
- INSTALL CEMENT CONC. TRAFFIC CURB & GUTTER PER WSDOT STD PLAN F-10.12.
- INSTALL CEMENT CONC. DRIVEWAY ENTRANCE TYPE 1 PER WSDOT STD PLAN F-80.10 AND SCHEDULE, SHEET 5.
- INSTALL CEMENT CONC. SIDEWALK PER WSDOT STD PLAN F-30.10.
- INSTALL CEMENT CONC. CURB RAMP PER CURB RAMP DETAIL SHEETS 8-10.
- ADJUST WATER VALVE.
- ADJUST SANITARY SEWER AIR VAC VALVE.
- INSTALL EXTRUDED CURB TYPE 6 PER WSDOT STD PLAN F-10.42.
- INSTALL 6' WOOD FENCE PER DETAIL, SHEET 5.
- INSTALL CEMENT CONC. TRAFFIC CURB AND GUTTER PAN PER WSDOT STD PLAN F-10.16.
- RELOCATE EXISTING WATER METER SERVICE TO BACK OF SIDEWALK PER COC STANDARD DETAIL W-15.
- POTHOLE UTILITY.
- INSTALL HMA TRANSITION RAMP PER DETAIL, SHEET 5.
- RELOCATE EXISTING WATER METERS PER COC STANDARD PLAN DETAIL W-18.
- INSTALL TIMBER SIGN POST PER WSDOT STD PLAN G-22.10.

CHANNELIZATION NOTES

- PLASTIC CROSSWALK LINES PER WSDOT STD PLAN M-15.10.
- PAINT CENTERLINE PER WSDOT STD PLAN M-20.10.
- PLASTIC STOP BAR PER WSDOT STD PLAN M-15.10.
- PAINT LINE, 4" WHITE. PARKING SPACES AT 22' O.C. (TYP).

LEGEND

- DETECTABLE WARNING SURFACE
- HMA CL 1/2" PG 58H-22 FOR NEW PAVEMENT
- HMA CL 1/2" PG 58H-22 FOR OVERLAY
- CEMENT CONCRETE
- GRAVEL RESTORATION
- TOPSOIL AND SEED RESTORATION
- SAWCUT LINE
- PAVING LIMIT

SIGN SCHEDULE

S#	STATION	OFFSET	DESIGNATION	SIZE	REMARKS
S1	10+46.43	15.11' LT	R1-1, "STOP"	36"x36"	REMOVE AND REPLACE
S2	10+72.33	25.32' RT	R7-1, "NO PARKING (R)"	12"x18"	NEW
S3	13+76.44	28.83' LT	R1-1, "STOP"	36"x36"	REMOVE AND REPLACE
S4	14+68.59	26.40' RT	R7-1, "NO PARKING (R)"	12"x18"	NEW

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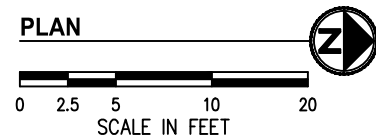
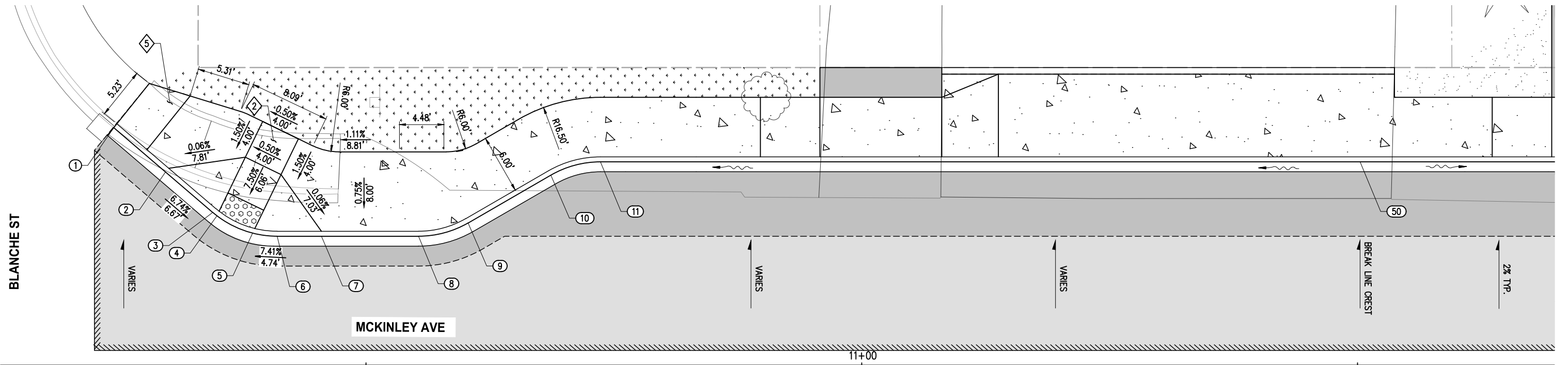
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MCKINLEY AVENUE IMPROVEMENT PROJECT

ROADWAY PLAN
 STA 9+50 TO STA 18+50

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INTERSECTION & CURB RAMP GENERAL NOTES

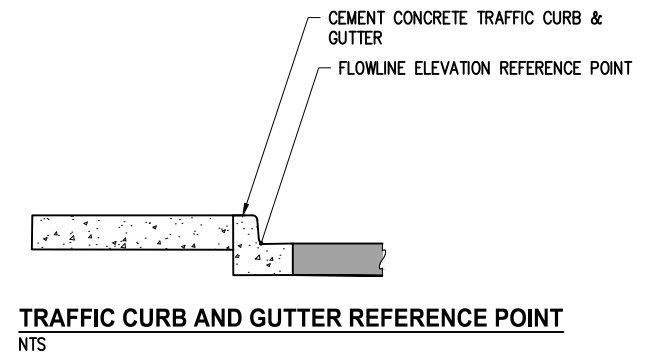
1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO CONSTRUCT THE RAMPS AND SIDEWALKS IN CONFORMANCE WITH THESE DETAILS AND THE APPLICABLE STANDARDS. CONTRACTOR SHALL CORRECT ALL NON-COMPLIANT WORK AT NO ADDITIONAL COST TO THE CONTRACTING AGENCY. WORK SHALL BE FORMALLY ACCEPTED BY THE CONTRACTING AGENCY DURING PROJECT CLOSEOUT AND AT NO OTHER TIME.
2. SLOPES AND DISTANCES SHOWN ARE FOR CEMENT CONC. SIDEWALK AND ADA RAMPS ALONG THE BACK OF CURB. THESE RAMP SLOPES ARE FOR REFERENCE ONLY. FIELD VERIFY, MODIFY, AND CONSTRUCT CURB RAMPS TO MEET ADA REQUIREMENTS.
3. THE CONTRACTOR SHALL PROVIDE THE ENGINEER A MINIMUM OF 24 HOURS NOTICE WHEN FORMS ARE SET FOR ADA RAMP WORK FOR INSPECTION AND ADJUSTMENTS.

INTERSECTION & CURB RAMP CONSTRUCTION NOTES

- ② INSTALL PERPENDICULAR TYPE A CURB RAMP PER WSDOT STD PLAN F-40.15.
- ⑤ 4' CEMENT CONC. SIDEWALK TRANSITION PANEL.

CURB LAYOUT POINTS

NUMBER	STATION	OFFSET	FL. ELEV	DESCRIPTION
1	10+24.57	23.94' LT	83.08	MATCH EXISTING
2	10+29.79	19.47' LT	83.11	WNG
3	10+34.55	15.40' LT	83.14	PC, R=10'
4	10+34.97	15.06' LT	83.15	RAMP
5	10+38.56	13.31' LT	83.17	RAMP
6	10+41.05	13.00' LT	83.18	PT
7	10+45.51	13.00' LT	83.20	WNG
8	10+55.30	13.00' LT	83.25	PC, R=10'
9	10+60.30	14.34' LT	83.28	PT
10	10+68.65	19.16' LT	83.56	PC,R=10'
11	10+73.65	20.50' LT	83.35	PT
50	11+50.26	20.50' LT	83.74	FLOW BREAKLINE



NO.	DATE	BY	APPR.	REVISIONS

Approved By		9CAR010200CURB01.dwg
ENGINEERING MANAGER	DATE	FILENAME MKE 11/2023
PROJECT MANAGER	DATE	DESIGNED BY MKE 11/2023
PROJECT ENGINEER	DATE	DRAWN BY KDA 11/2023
	DATE	CHECKED BY DATE



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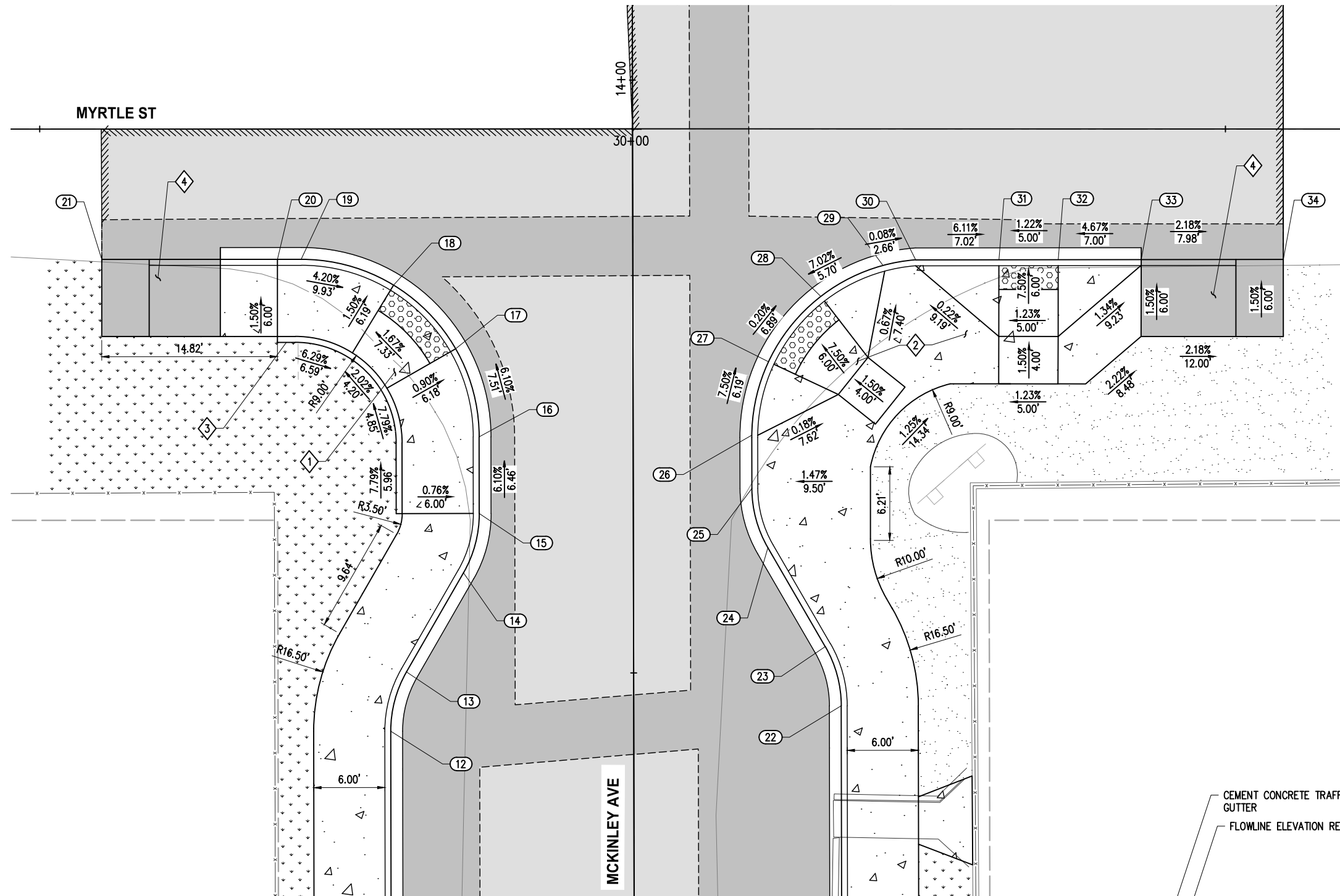
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MCKINLEY AVENUE IMPROVEMENT PROJECT

CURB RAMP DETAILS
MCKINLEY AVE & BLANCHE ST

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INTERSECTION & CURB RAMP GENERAL NOTES

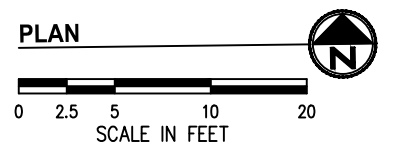
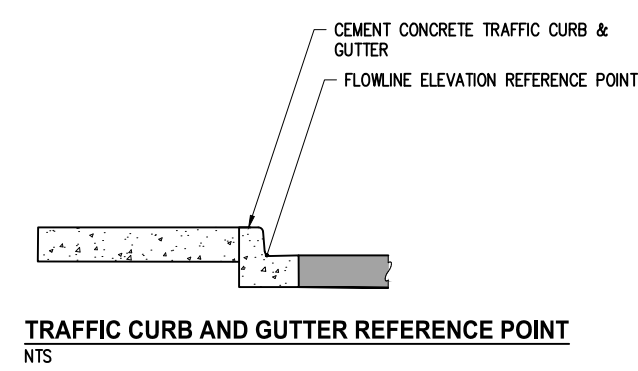
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INTERSECTION & CURB RAMP CONSTRUCTION NOTES

- 1. INSTALL PARALLEL TYPE A CURB RAMP PER WSDOT STD PLAN F-40.12.
- 2. INSTALL PERPENDICULAR TYPE A CURB RAMP PER WSDOT STD PLAN F-40.15.
- 3. INSTALL CEMENT CONC. PEDESTRIAN CURB PER WSDOT STD PLAN F-10.12.
- 4. INSTALL HMA TRANSITION RAMP PER DETAIL, SHEET 5.

CURB LAYOUT POINTS

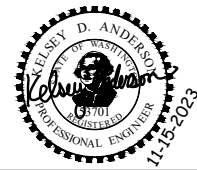
NUMBER	STATION	OFFSET	FL ELEV	DESCRIPTION
12	13+45.13	20.50' LT	81.48	PC, R=10'
13	13+50.13	19.16' LT	81.68	PT
14	13+58.48	14.34' LT	81.86	PC, R=10'
15	13+63.48	13.00' LT	81.28	WING; PC, R=10'
16	13+69.94	13.00' LT	81.12	PC, R=15'
17	13+77.36	14.97' LT	80.97	RAMP
18	13+82.74	20.19' LT	80.85	RAMP
19	13+84.94	27.98' LT	80.77	PT
20	13+84.94	29.98' LT	80.76	WING
21	13+84.96	44.79' LT	80.70	MATCH EXISTING
22	13+47.19	17.50' RT	81.45	PC, R=10'
23	13+52.19	16.16' RT	81.90	PT
24	13+60.54	11.34' RT	81.55	PC, R=10'
25	13+65.54	10.00' RT	81.29	PT
26	13+70.03	10.00' RT	81.26	PC, R=15', WING
27	13+76.22	11.43' RT	81.21	RAMP
28	13+81.72	15.85' RT	81.19	RAMP
29	13+84.32	21.11' RT	81.09	WING
30	13+84.79	23.86' RT	81.09	WING
31	13+84.82	30.88' RT	81.16	RAMP
32	13+84.80	35.88' RT	81.22	RAMP
33	13+84.79	42.88' RT	81.30	WING
34	13+84.76	54.86' RT	81.49	MATCH EXISTING



NO.	DATE	BY	APPR.	REVISIONS

Approved By

ENGINEERING MANAGER	DATE	9CAR010200CURB01.dwg
PROJECT MANAGER	DATE	FILENAME
PROJECT ENGINEER	DATE	MKE 11/2023
		DESIGNED BY DATE
		MKE 11/2023
		DRAWN BY DATE
		KDA 11/2023
		CHECKED BY DATE



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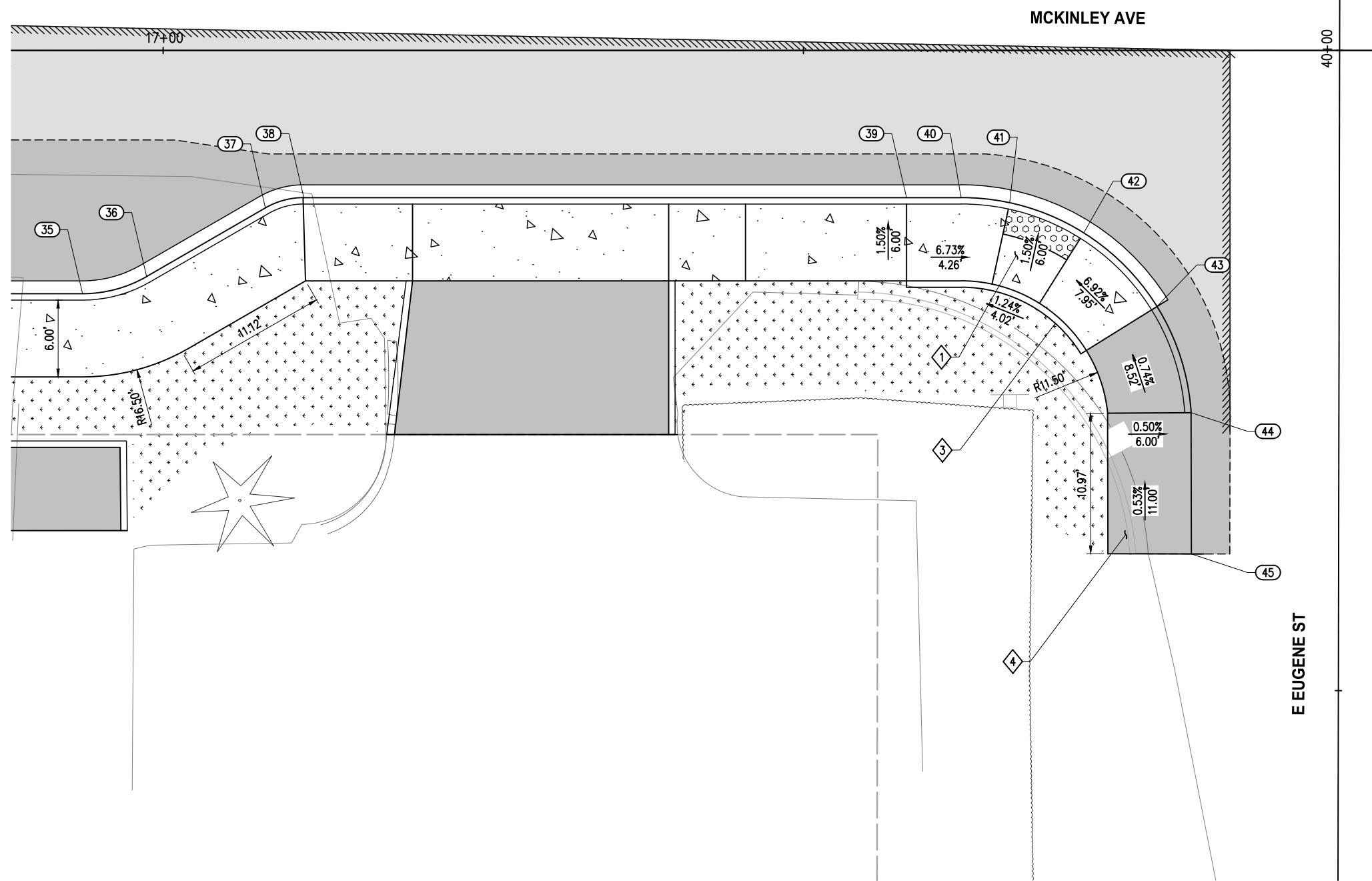


MCKINLEY AVENUE IMPROVEMENT PROJECT

CURB RAMP DETAILS
MCKINLEY AVE & MYRTLE ST

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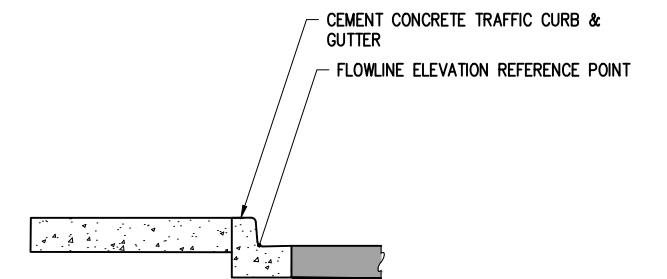
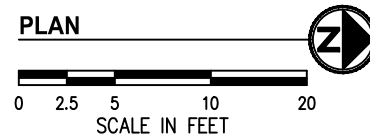
INTERSECTION & CURB RAMP GENERAL NOTES

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INTERSECTION & CURB RAMP CONSTRUCTION NOTES

- 1 INSTALL PARALLEL TYPE A CURB RAMP PER WSDOT STD PLAN F-40.12.
- 3 INSTALL CEMENT CONC. PEDESTRIAN CURB PER WSDOT STD PLAN F-10.12.
- 4 INSTALL HMA TRANSITION RAMP PER DETAIL, SHEET 5.

CURB LAYOUT POINTS				
NUMBER	STATION	OFFSET	FL ELEV	DESCRIPTION
35	16+93.71	19.00' RT	80.45	PC, R=10'
36	16+98.71	17.66' RT	80.48	Null Structure
37	17+07.99	12.30' RT	80.58	PC, R=5'
38	17+10.99	11.50' RT	80.63	PT
39	17+58.05	11.50' RT	81.03	WING
40	17+62.31	11.50' RT	81.06	PC, R=15'
41	17+66.10	11.90' RT	81.08	RAMP
42	17+71.88	14.26' RT	81.13	RAMP
43	17+77.60	20.01' RT	81.18	WING, 4" CURB
45	17+80.29	39.32' RT	81.30	MATCH EXISTING



TRAFFIC CURB AND GUTTER REFERENCE POINT
NTS

NO.	DATE	BY	APPR.	REVISIONS

Approved By		9CAR010200CURB01.dwg
ENGINEERING MANAGER	DATE	FILENAME
PROJECT MANAGER	DATE	MKE 11/2023
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		MKE 11/2023
		DRAWN BY
		KDA 11/2023
		CHECKED BY



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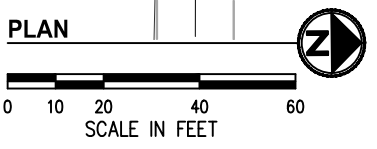
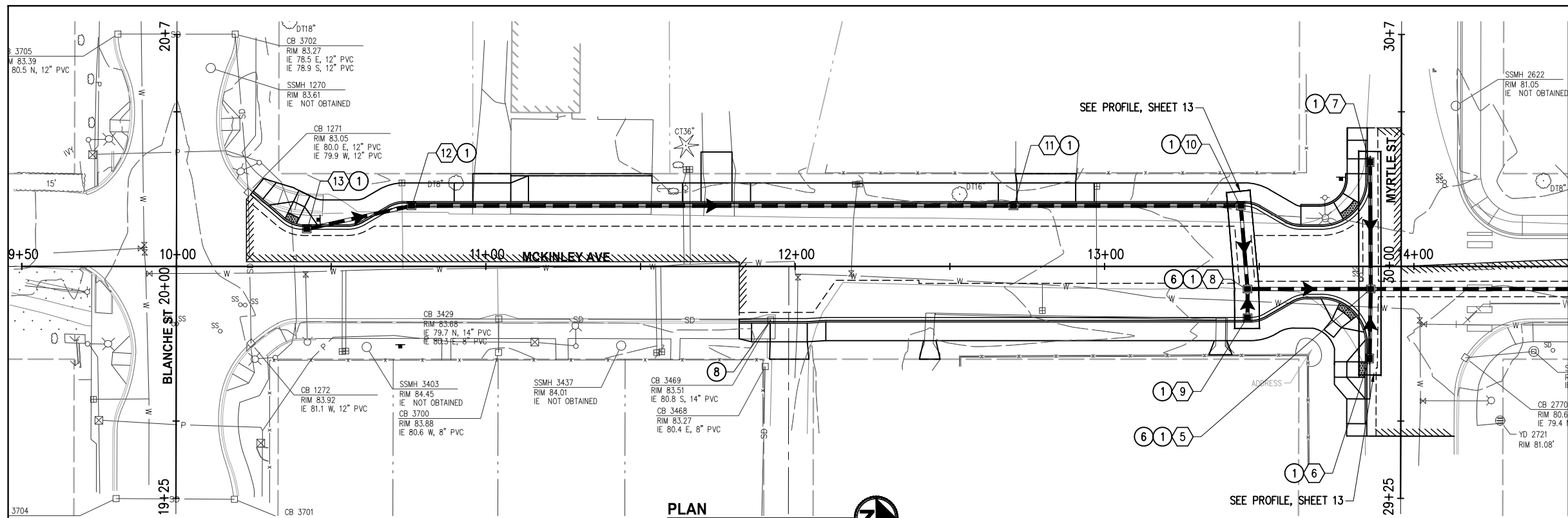
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MCKINLEY AVENUE IMPROVEMENT PROJECT

CURB RAMP DETAILS
MCKINLEY AVE & E EUGENE ST

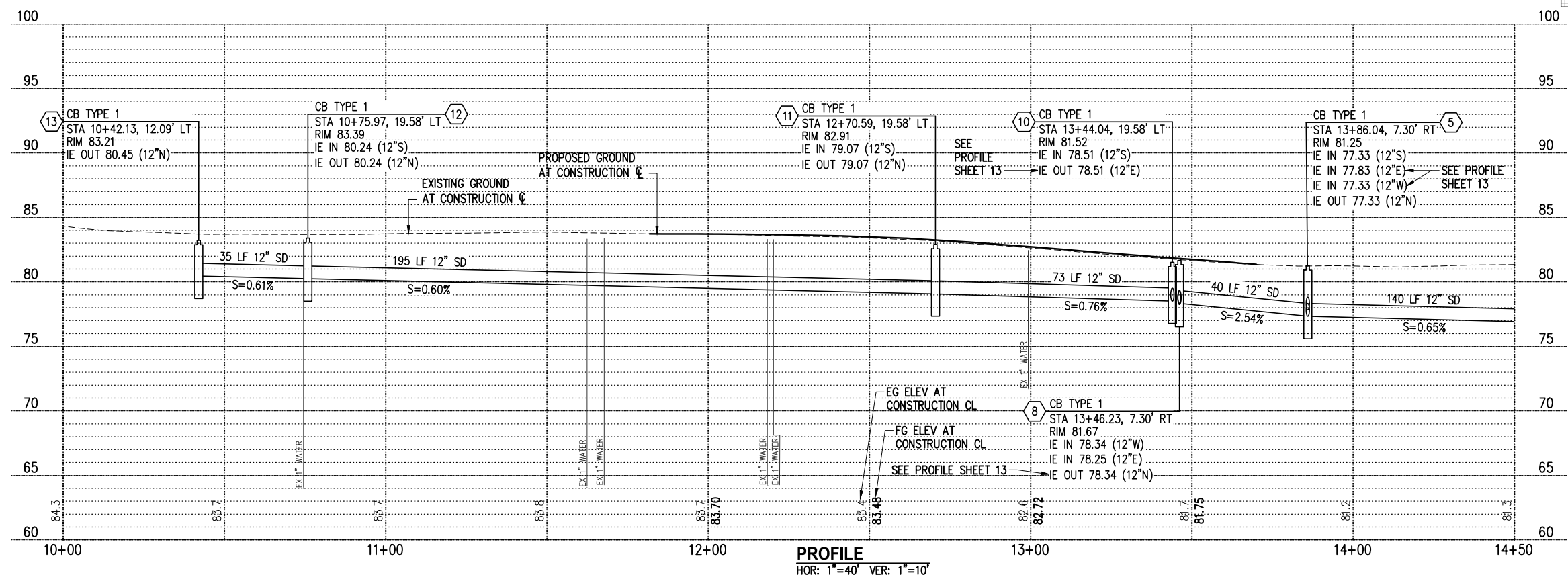
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- ### STORM DRAINAGE NOTES
- STORM PIPES SHALL BE MINIMUM 12" DIAMETER PVC (SDR-35) UNLESS OTHERWISE NOTED.
 - ALL PENETRATIONS SHALL BE ACCOMPLISHED BY CORING UNLESS THE STRUCTURE HAS KNOCKOUTS OR AN EXISTING CORE DRILLED PENETRATION AT THE CORRECT INVERT ELEVATIONS.
 - EXISTING UTILITY LOCATIONS AND DEPTHS ARE BASED ON AVAILABLE SURVEY DATA AND BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS AND DEPTHS AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
 - CATCH BASINS SHALL BE EQUIPPED WITH RECTANGULAR FRAME & VANED GRATE PER WSDOT STD PLANS B-30.10 & B-30.30 UNLESS OTHERWISE SPECIFIED.

- ### STORM DRAINAGE NOTES
- INSTALL CATCH BASIN TYPE 1 PER WSDOT STD PLAN B-5.20.
 - EQUIP CATCH BASIN WITH SOLID METAL COVER PER WSDOT STD PLAN B-30.20.

- ### LEGEND
- STORM DRAIN STRUCTURE ID NUMBER
 - STORM DRAIN PIPE
 - CATCH BASIN TYPE 2 PER WSDOT STD PLAN B-10.20
 - CATCH BASIN TYPE 1 PER WSDOT STD PLAN B-5.20
 - DIRECTIONAL FLOW ARROW
 - MODULAR WETLAND TREATMENT VAULT
 - R-TANK INFILTRATION FACILITY



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PROJECT ENGINEER	DATE	CHECKED BY	DATE



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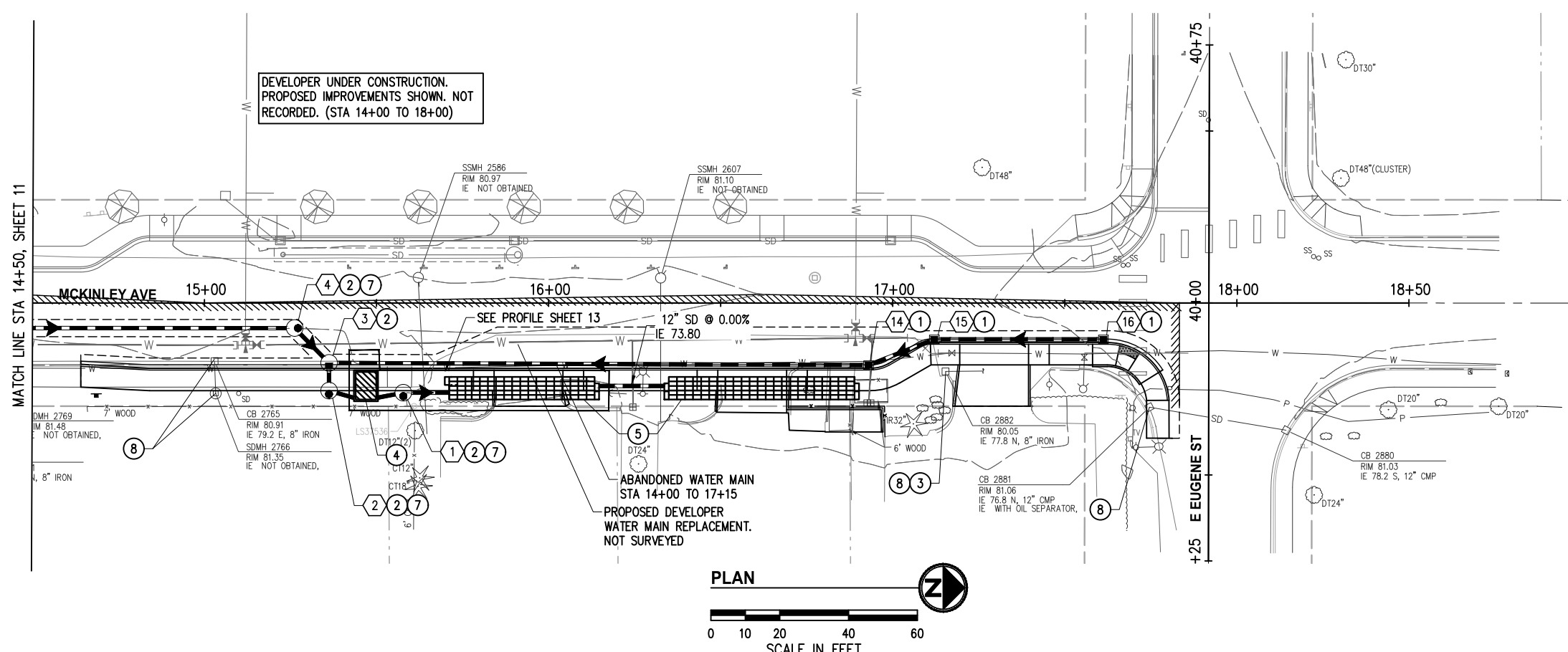


MCKINLEY AVENUE IMPROVEMENT PROJECT

STORM DRAINAGE PLAN & PROFILE
STA 9+50 TO STA 14+50

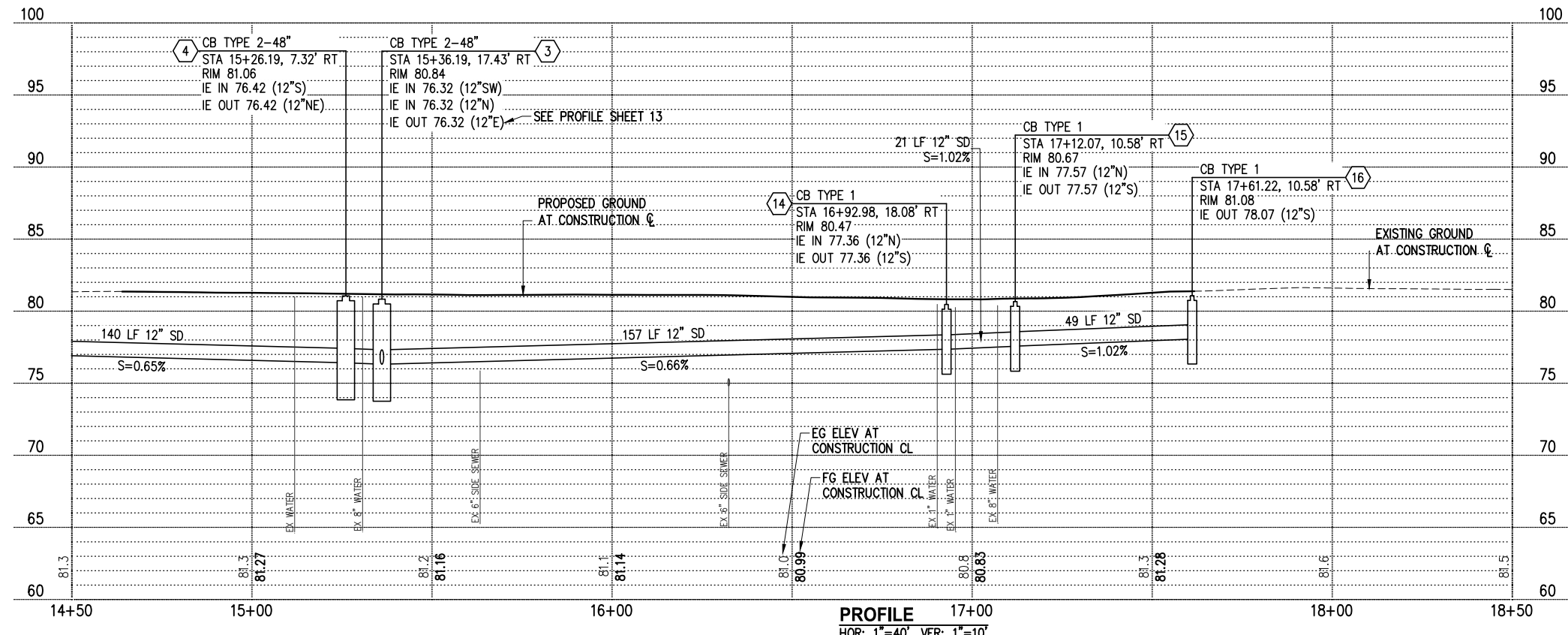
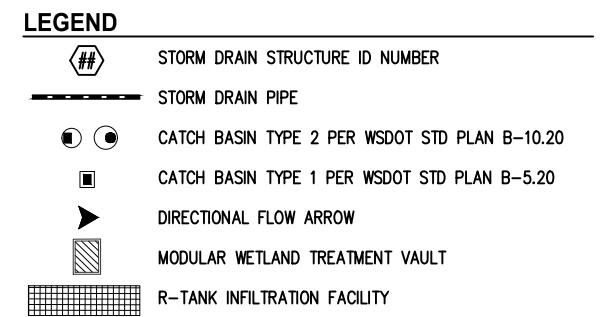
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- ### STORM DRAINAGE NOTES
1. STORM PIPES SHALL BE MINIMUM 12" DIAMETER PVC (SDR-35) UNLESS OTHERWISE NOTED.
 2. ALL PENETRATIONS SHALL BE ACCOMPLISHED BY CORING UNLESS THE STRUCTURE HAS KNOCKOUTS OR AN EXISTING CORE DRILLED PENETRATION AT THE CORRECT INVERT ELEVATIONS.
 3. EXISTING UTILITY LOCATIONS AND DEPTHS ARE BASED ON AVAILABLE SURVEY DATA AND BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY UTILITY LOCATIONS AND DEPTHS AT CROSSING LOCATIONS PRIOR TO CONSTRUCTION.
 4. CATCH BASINS SHALL BE EQUIPPED WITH RECTANGULAR FRAME & VANED GRATE PER WSDOT STD PLANS B-30.10 & B-30.30 UNLESS OTHERWISE SPECIFIED.
 5. CONTRACTOR SHALL POTHOLE AND VERIFY EXISTING SIDE SEWER ELEVATIONS PRIOR TO CONSTRUCTION.

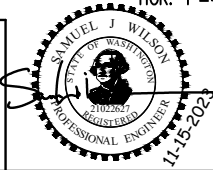
- ### STORM DRAINAGE NOTES
- 1 INSTALL CATCH BASIN TYPE 1 PER WSDOT STD PLAN B-5.20.
 - 2 INSTALL CATCH BASIN TYPE 2 48 IN. DIAM. PER WSDOT STD PLAN B-10.20.
 - 3 PERFORM PIPE JETTING TO THE NORTH OF EXISTING EX CB 2882.
 - 4 MODULAR WETLAND TREATMENT VAULT PER DETAIL, SHEET 14.
 - 5 R-TANK INFILTRATION FACILITY PER DETAILS, SHEETS 15-17.
 - 6 EQUIP CATCH BASIN WITH SOLID METAL COVER PER WSDOT STD PLAN B-30.20.
 - 7 EQUIP CATCH BASIN WITH CIRCULAR FRAME AND SOLID COVER PER WSDOT STD PLAN B-30.70. COVER SHALL READ "STORM".
 - 8 ADJUST TO GRADE.



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Approved By

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PROJECT ENGINEER	DATE	CHECKED BY	DATE



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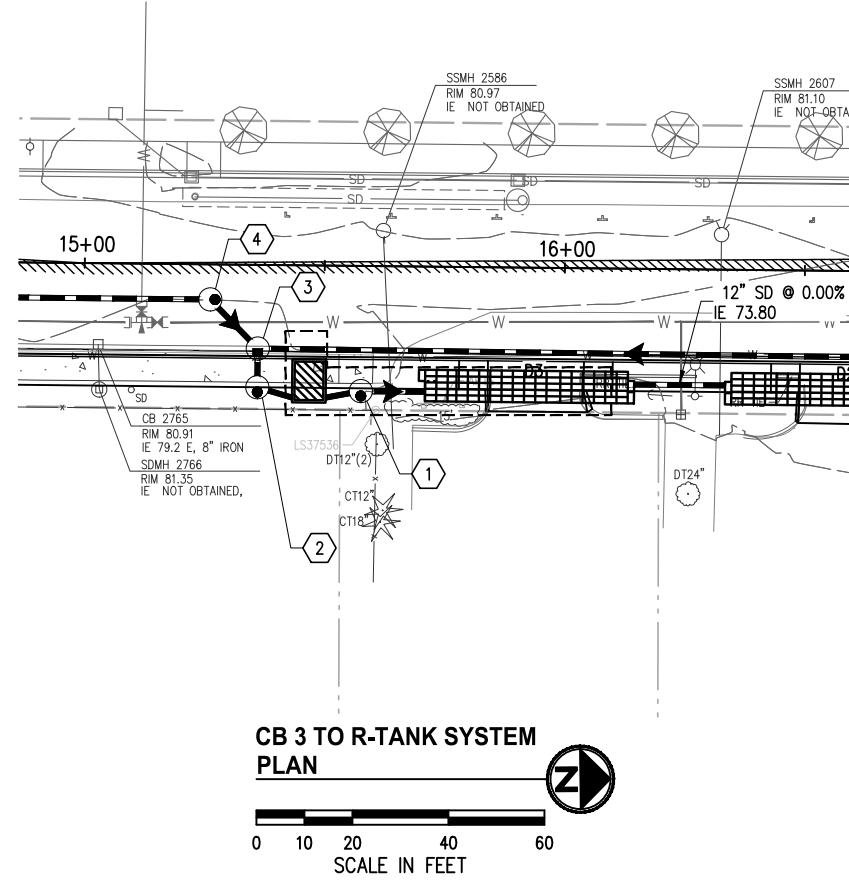
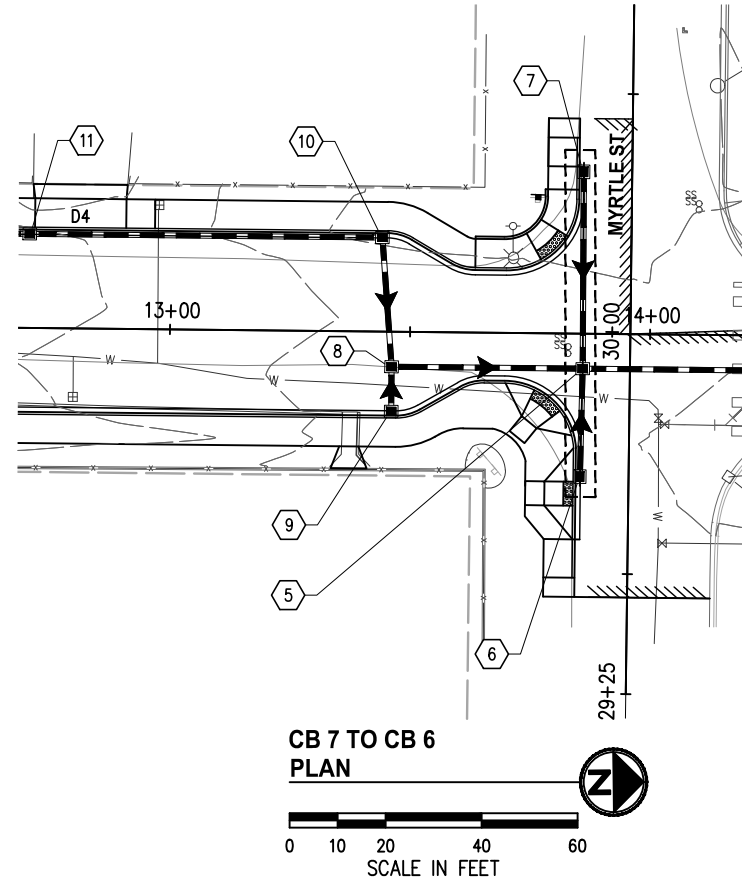
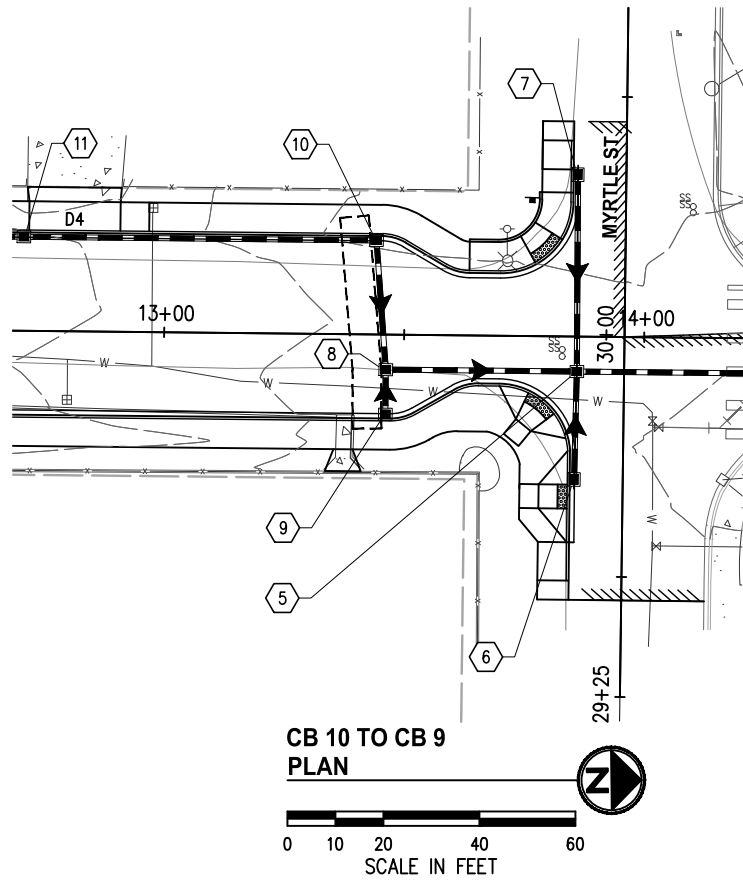
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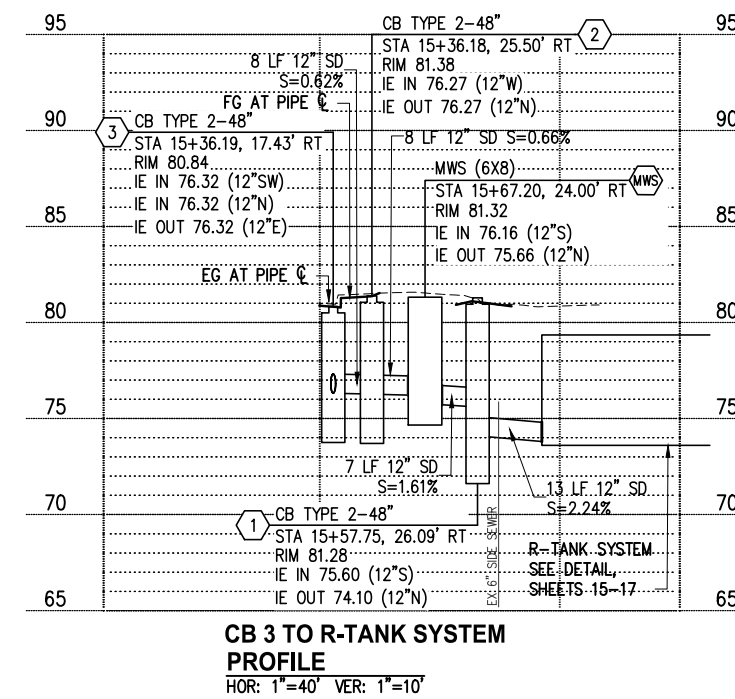
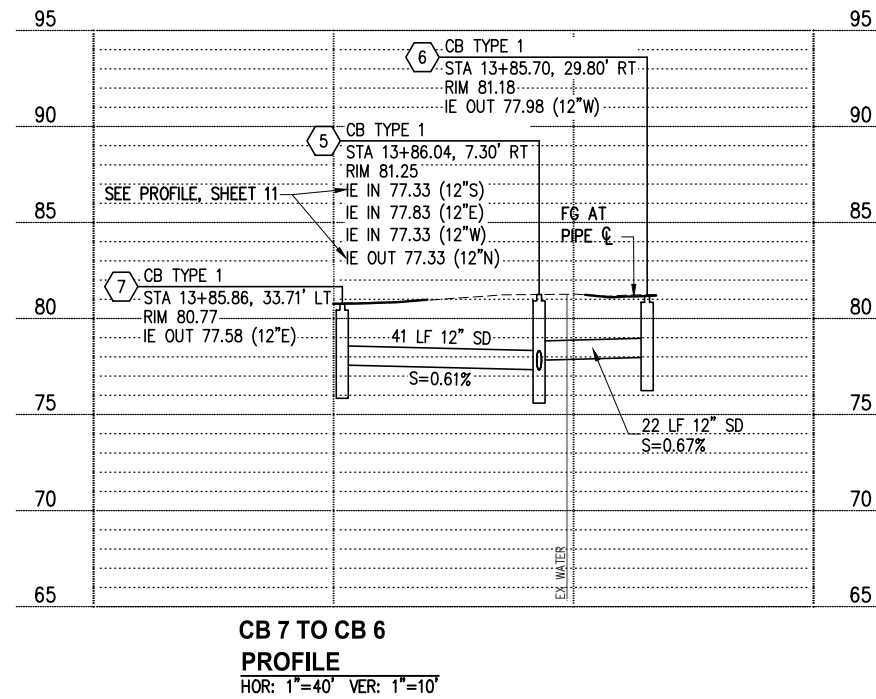
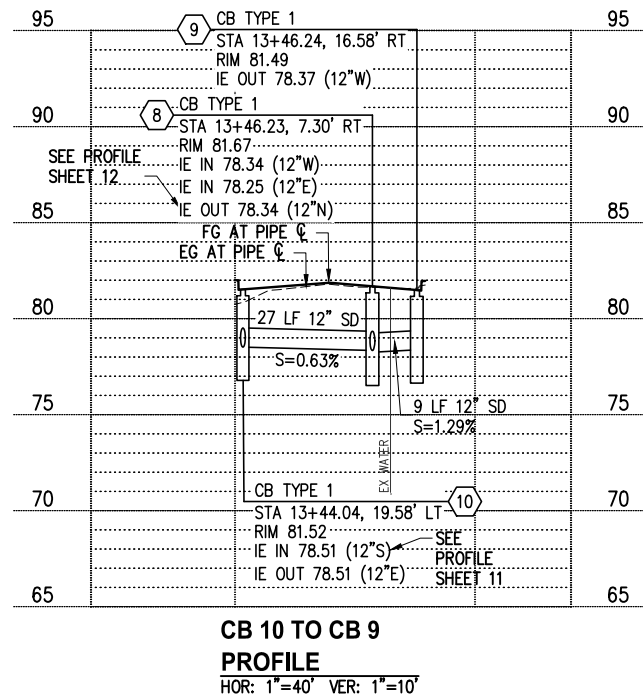
**MCKINLEY AVENUE
IMPROVEMENT PROJECT**

STORM DRAINAGE PLAN & PROFILE
STA 14+50 TO STA 18+50

KPG PROJ. No. 9CAR010200 SHT 12 OF 17



- STORM DRAINAGE NOTES**
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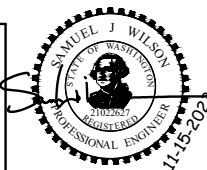


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PROJECT MANAGER	DATE	DRAWN BY	DATE
PROJECT ENGINEER	DATE	CHECKED BY	DATE



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MCKINLEY AVENUE IMPROVEMENT PROJECT

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SITE SPECIFIC DATA			
PROJECT NUMBER	9CAR010200		
PROJECT NAME	MCKINLEY AVE IMPROVEMENTS		
PROJECT LOCATION	CARNATION, WA		
STRUCTURE ID	MWS		
TREATMENT REQUIRED			
FLOW BASED (CFS)			
0.131			
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	0.647		
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	76.16	PVC	12"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	75.66	PVC	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	80.90		
SURFACE LOAD	INDIRECT TRAFFIC		
NOTES:			

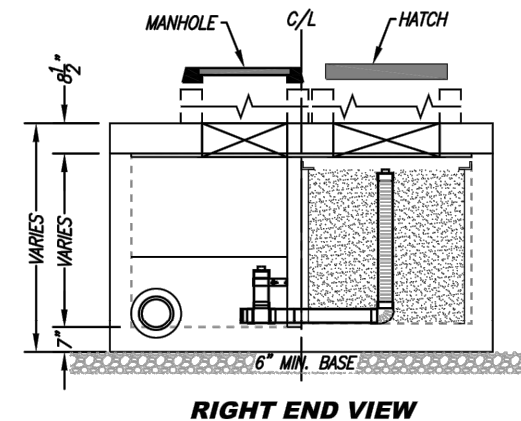
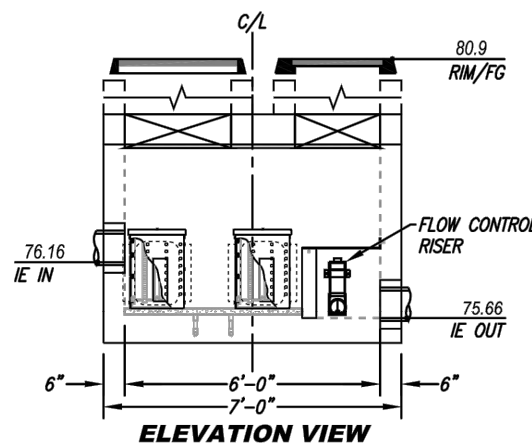
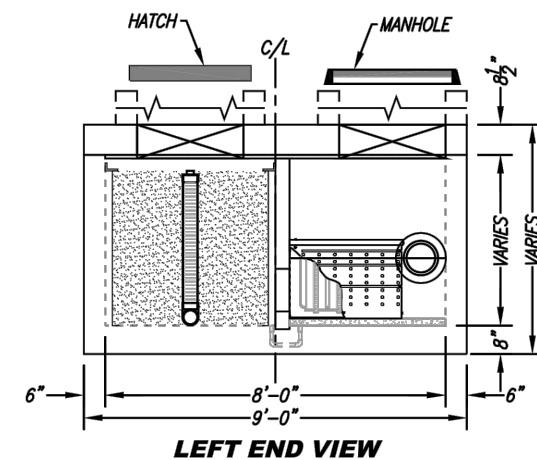
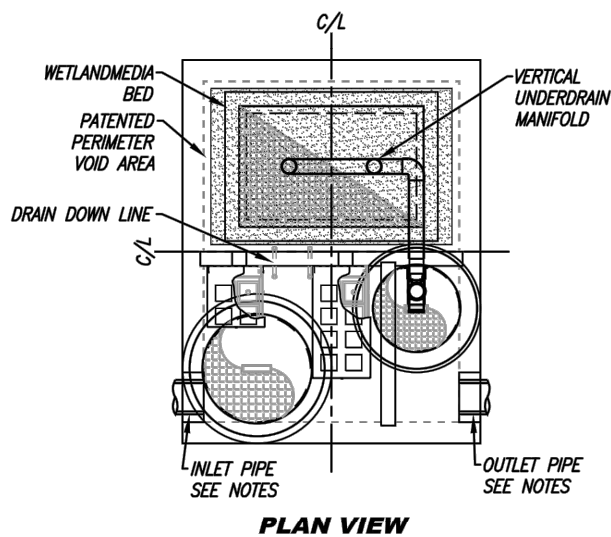
* PRELIMINARY NOT FOR CONSTRUCTION

INSTALLATION NOTES

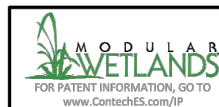
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATERTIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.



TREATMENT FLOW (CFS)	0.131
OPERATING HEAD (FT)	3.0
PRETREATMENT LOADING RATE (GPM/SF)	1.1
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

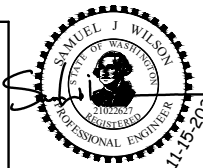


MWS-L-6-8-V-UG
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

MODULAR WETLAND TREATMENT VAULT DETAIL
NTS

NO.	DATE	BY	APPR.	REVISIONS

Approved By		9CAR010200DET-STRM01.dwg
ENGINEERING MANAGER	DATE	FILENAME
PROJECT MANAGER	DATE	SJW 11/2023
PROJECT ENGINEER	DATE	DESIGNED BY
		KTS 11/2023
		DRAWN BY
		SJW 11/2023
		CHECKED BY



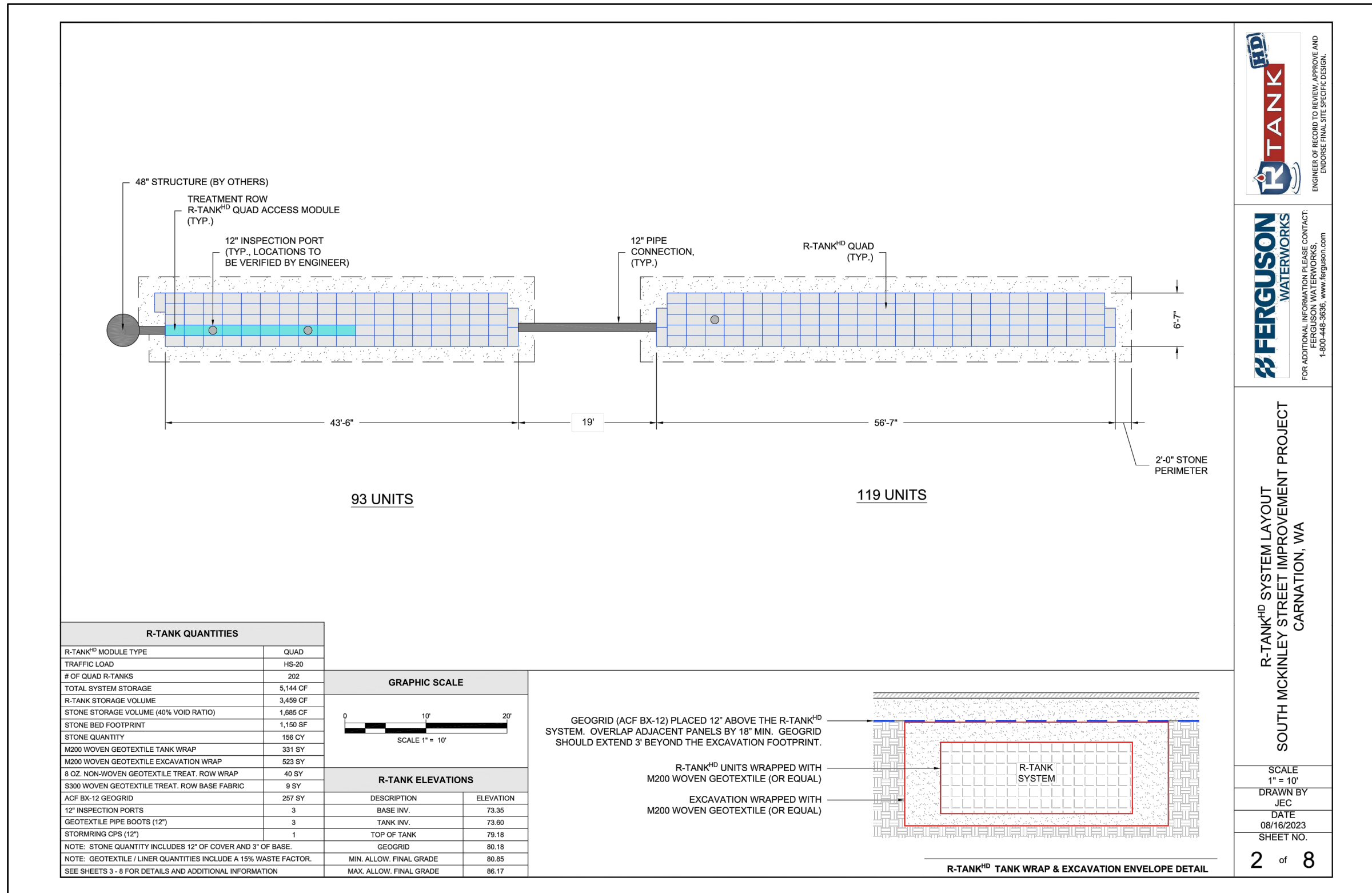
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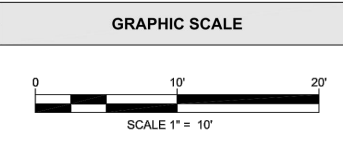
MCKINLEY AVENUE IMPROVEMENT PROJECT

STORM DRAINAGE DETAILS
KPG PROJ. No. 9CAR010200 SHT 14 OF 17

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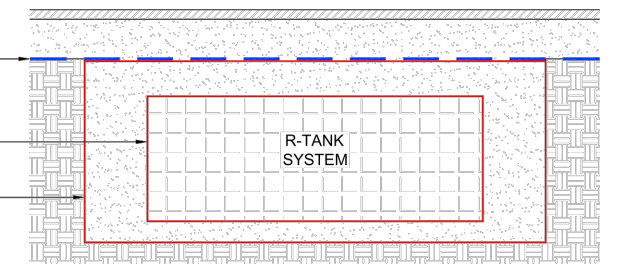
R-TANK QUANTITIES	
R-TANK ^{HD} MODULE TYPE	QUAD
TRAFFIC LOAD	HS-20
# OF QUAD R-TANKS	202
TOTAL SYSTEM STORAGE	5,144 CF
R-TANK STORAGE VOLUME	3,459 CF
STONE STORAGE VOLUME (40% VOID RATIO)	1,685 CF
STONE BED FOOTPRINT	1,150 SF
STONE QUANTITY	156 CY
M200 WOVEN GEOTEXTILE TANK WRAP	331 SY
M200 WOVEN GEOTEXTILE EXCAVATION WRAP	523 SY
8 OZ. NON-WOVEN GEOTEXTILE TREAT. ROW WRAP	40 SY
S300 WOVEN GEOTEXTILE TREAT. ROW BASE FABRIC	9 SY
ACF BX-12 GEOGRID	257 SY
12" INSPECTION PORTS	3
GEOTEXTILE PIPE BOOTS (12")	3
STORMRING CPS (12")	1
NOTE: STONE QUANTITY INCLUDES 12" OF COVER AND 3" OF BASE.	
NOTE: GEOTEXTILE / LINER QUANTITIES INCLUDE A 15% WASTE FACTOR.	
SEE SHEETS 3 - 8 FOR DETAILS AND ADDITIONAL INFORMATION	



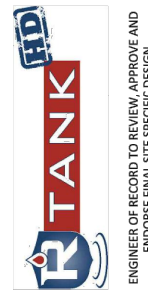
R-TANK ELEVATIONS	
DESCRIPTION	ELEVATION
BASE INV.	73.35
TANK INV.	73.60
TOP OF TANK	79.18
GEOGRID	80.18
MIN. ALLOW. FINAL GRADE	80.85
MAX. ALLOW. FINAL GRADE	86.17

GEOGRID (ACF BX-12) PLACED 12" ABOVE THE R-TANK^{HD} SYSTEM. OVERLAP ADJACENT PANELS BY 18" MIN. GEOGRID SHOULD EXTEND 3' BEYOND THE EXCAVATION FOOTPRINT.

R-TANK^{HD} UNITS WRAPPED WITH M200 WOVEN GEOTEXTILE (OR EQUAL)
EXCAVATION WRAPPED WITH M200 WOVEN GEOTEXTILE (OR EQUAL)



R-TANK^{HD} TANK WRAP & EXCAVATION ENVELOPE DETAIL



ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.



FOR ADDITIONAL INFORMATION PLEASE CONTACT:
FERGUSON WATERWORKS
1-800-448-3636, www.ferguson.com

R-TANK^{HD} SYSTEM LAYOUT
SOUTH MCKINLEY STREET IMPROVEMENT PROJECT
CARNATION, WA

SCALE
1" = 10'
DRAWN BY
JEC
DATE
08/16/2023
SHEET NO.
2 of 8

R-TANK INFILTRATION FACILITY DETAIL
NTS

NO.	DATE	BY	APPR.	REVISIONS

Approved By		FILENAME	DATE
ENGINEERING MANAGER	DATE	SJW	11/2023
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	DATE		



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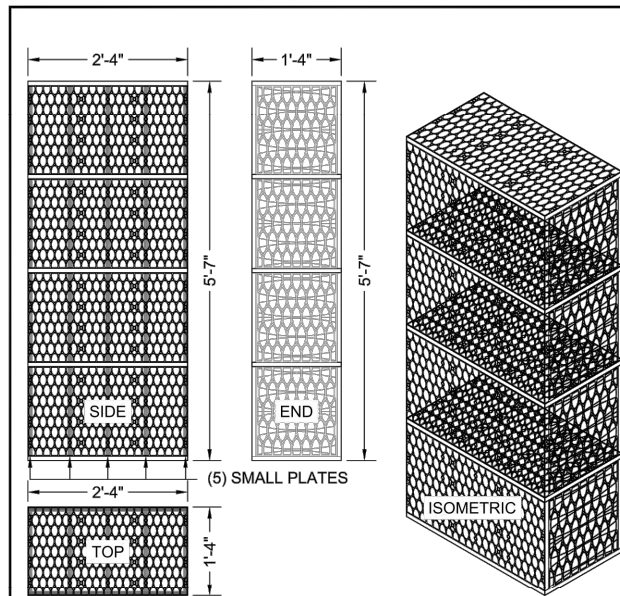
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MCKINLEY AVENUE IMPROVEMENT PROJECT

STORM DRAINAGE DETAILS
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MODULE DATA

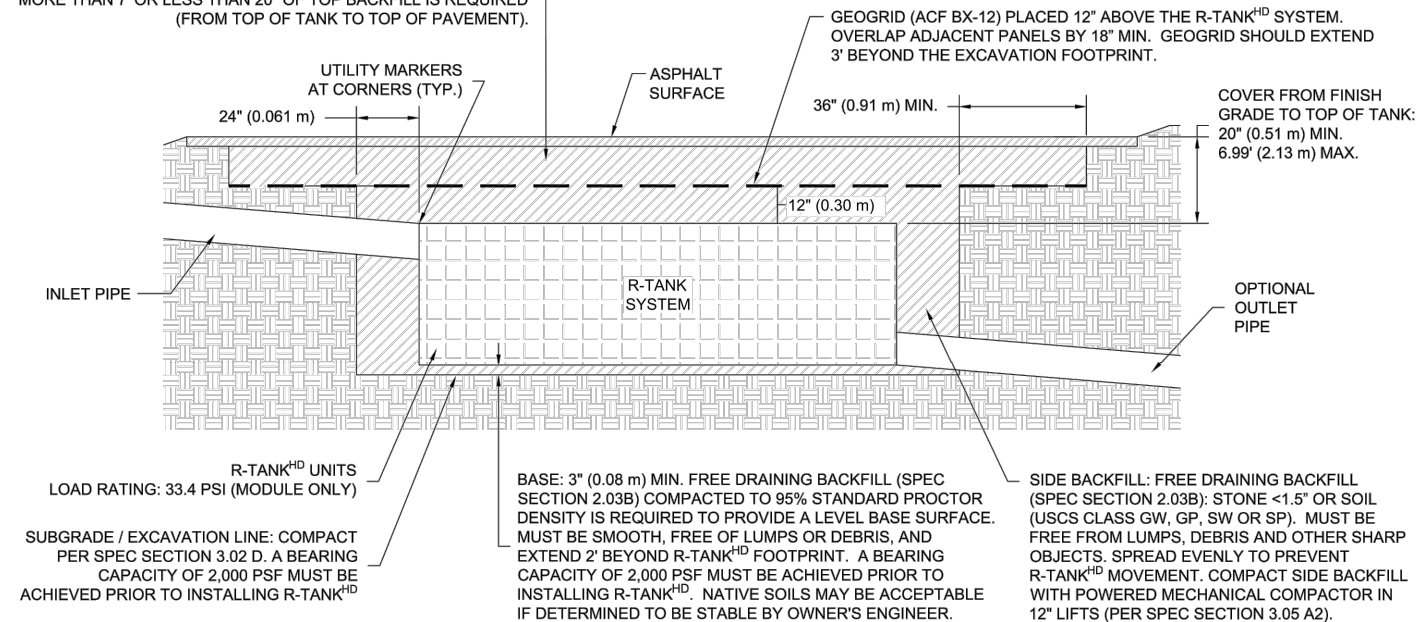
GEOMETRY: LENGTH = 28.15 IN. (715 MM) WIDTH = 15.75 IN. (400 MM) HEIGHT = 66.93 IN. (1700 MM) TANK VOLUME = 17.17 CF STORAGE VOLUME = 16.31 CF VOID INTERNAL VOLUME: 95% VOID SURFACE AREA: 90%	LOAD RATING: 33.4 PSI, (MODULE ONLY) HS20/HS25 - SEE SPEC FOR COVER REQUIREMENTS MATERIAL: 100% RECYCLED POLYPROPYLENE SMALL PLATES REQUIRED: 5/SEGMENT, 20/MODULE
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QUAD R-TANK^{HD} - MODULE DETAIL

TOTAL COVER: 20" MINIMUM AND 84" MAXIMUM. FIRST 12" MUST BE FREE DRAINING BACKFILL (SPEC SECTION 2.03B): STONE <1.5" OR SOIL (USCS CLASS GW, GP, SW OR SP). ADDITIONAL FILL MAY BE STRUCTURAL FILL (SPEC SECTION 2.03C): STONE OR SOIL (USCS CLASS SM, SP, SW, GM, GP OR GW) WITH MAX CLAY CONTENT <10%, MAX 25% PASSING NO. 200 SIEVE, AND MAX PLASTICITY INDEX OF 4. A MIN. 12" COVER MUST BE MAINTAINED BETWEEN BACKFILL EQUIPMENT AND THE TOP OF THE R-TANK™ SYSTEM AT ALL TIMES. TOTAL HEIGHT OF TOP BACKFILL SHOULD NOT EXCEED 7'. CONTACT FERGUSON WATERWORKS IF MORE THAN 7' OR LESS THAN 20" OF TOP BACKFILL IS REQUIRED (FROM TOP OF TANK TO TOP OF PAVEMENT).

NOTES:

1. FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK^{HD} MODULE SHEET .
2. INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
3. PRE-TREATMENT STRUCTURES NOT SHOWN.
4. FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4" MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2' BEYOND R-TANK^{HD} FOOTPRINT.

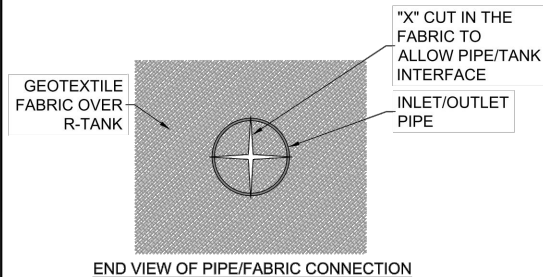


R-TANK^{HD} & HS-20 LOADS - SECTION VIEW

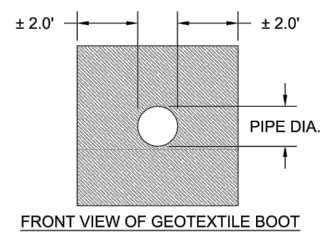
NOTE:

- PIPE BOOTS ARE AVAILABLE IN THE FOLLOWING STANDARD SIZES: 8" | 12" | 15" | 18" | 24".
- LARGER SPECIAL ORDER, CUSTOM SIZES ARE AVAILABLE.

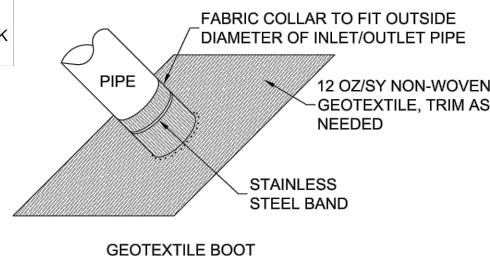
CUT AN "X" IN THE FABRIC ENVELOPE THAT IS SLIGHTLY LARGER THAN THE PIPE. PULL THE FABRIC FLAPS AROUND THE PIPE, AND SEAL WITH A STAINLESS STEEL BAND.



END VIEW OF PIPE/FABRIC CONNECTION

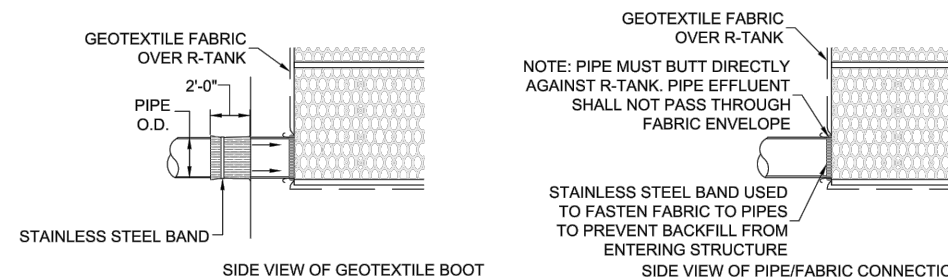


FRONT VIEW OF GEOTEXTILE BOOT



GEOTEXTILE BOOT

AFTER TANK WRAP IS SECURED TO PIPE, SLIDE BOOT AGAINST R-TANK AND SECURE WITH SECOND STAINLESS STEEL BAND, THEN ATTACH BOOT FLAP TO TANK ENVELOPE FABRIC WITH DUCT TAPE OR OTHER ADHESIVE.



SIDE VIEW OF GEOTEXTILE BOOT

SIDE VIEW OF PIPE/FABRIC CONNECTION

R-TANK TYPICAL TANK INLET/OUTLET W/ GEOTEXTILE PIPE BOOT DETAIL



ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.



FOR ADDITIONAL INFORMATION PLEASE CONTACT: FERGUSON WATERWORKS, 1-800-448-3636, www.ferguson.com

R-TANK^{HD} SYSTEM DETAILS
SOUTH MCKINLEY STREET IMPROVEMENT PROJECT
CARNATION, WA

SCALE	NTS
DRAWN BY	JEC
DATE	08/16/2023
SHEET NO.	

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R-TANK INFILTRATION FACILITY DETAIL
NTS

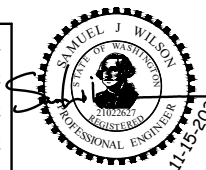
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FILENAME
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KTS 11/2023
SJW 11/2023



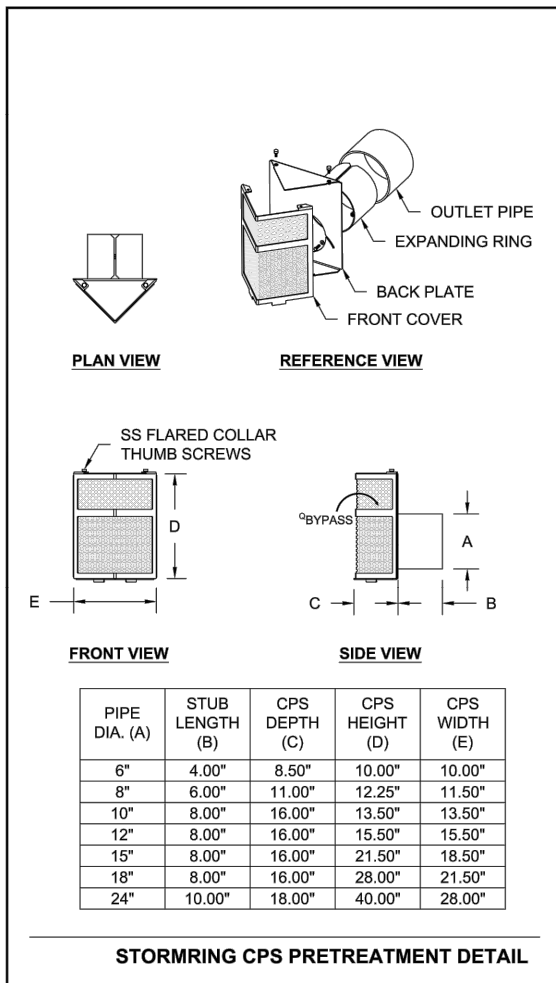
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MCKINLEY AVENUE IMPROVEMENT PROJECT

STORM DRAINAGE DETAILS

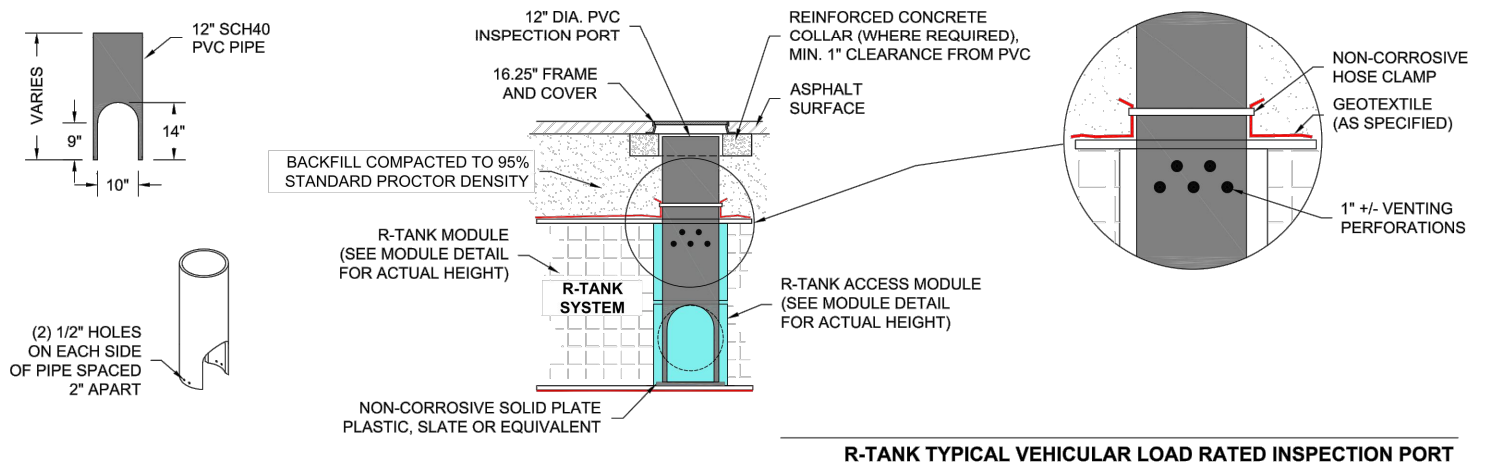
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STORMRING CPS PRETREATMENT DETAIL

NOTES

1. THE INSPECTION PORT IS USED IN THE ACCESS MODULE TO INSPECT THE LEVEL OF SEDIMENT ACCUMULATION.
2. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION DURING THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER. FLUSH AS NEEDED.
3. R-TANK^{HD}, R-TANK^{SD}, R-TANK^{JD} AND R-TANK^{KD} MAY BE USED IN TRAFFIC APPLICATIONS.
4. SEE TRAFFIC LOADING DETAIL FOR MINIMUM & MAXIMUM COVER REQUIREMENTS.
5. IF INSPECTION PORT IS LOCATED IN A NON-TRAFFIC AREA, A PLASTIC CAP CAN BE USED IN LIEU OF A FRAME AND COVER WITH CONCRETE COLLAR.



R-TANK INFILTRATION FACILITY DETAIL
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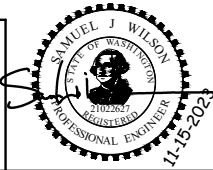
FERGUSON WATERWORKS
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R-TANK^{HD} SYSTEM DETAILS
SOUTH MCKINLEY STREET IMPROVEMENT PROJECT
CARNATION, WA

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