

CHERRY STREET, FIRST TO THIRD AVENUE SIDEWALK PROJECT FERNDALE, WASHINGTON

CITY OF FERNDALE - PROJECT NO. ST2015-09 (SCHEDULE A AND SCHEDULE B)
TIB PROJECT NO. 3-W-985(001)-1

VICINITY MAP

PROJECT LOCATED IN SECTION 29, TOWNSHIP 39N, RANGE 2E, W.M.



SHEET SERIES INDEX

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PROJECT LOCATION



SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC/LMH
CHECKED BY
LP

R&E Reichhardt & Ebe
ENGINEERING INC

P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
COVER

DWG 17009 COVER.DWG

DATE 12/17/2018

JOB# 17009

SCALE H: N/A

V: N/A

SHEET 1
of 17



LEGEND

EXISTING		
-----TB-----TB-----	=	EXISTING TOP OF BANK
-----BB-----BB-----	=	EXISTING BOTTOM OF BANK
-----DITCH CL-----	=	EXISTING DITCH CL
-----GRADE BREAK-----	=	EXISTING GRADE BREAK
-----95-----	=	EXISTING MAJOR CONTOUR
-----95-----	=	EXISTING MINOR CONTOUR
-----GUARDRAIL-----	=	EXISTING GUARDRAIL
-----FENCE-----	=	EXISTING FENCE
-----GRAVEL-----	=	EXISTING GRAVEL
-----WALL-----	=	EXISTING WALL
-----BUILDING-----	=	EXISTING BUILDING
-----PROPERTY BOUNDARY-----	=	EXISTING PROPERTY BOUNDARY
-----RIGHT OF WAY-----	=	EXISTING RIGHT OF WAY
-----RIGHT OF WAY CL-----	=	EXISTING RIGHT OF WAY CL
-----EASEMENT-----	=	EXISTING EASEMENT
-----ROAD CL-----	=	EXISTING ROAD CL
-----WETLANDS BOUNDARY-----	=	EXISTING WETLANDS BOUNDARY
-----TRAFFIC STRIPING-----	=	EXISTING TRAFFIC STRIPING
-----EDGE OF PAVEMENT-----	=	EXISTING EDGE OF PAVEMENT
-----FLOWLINE-----	=	EXISTING FLOWLINE
-----TOP BACK OF CURB-----	=	EXISTING TOP BACK OF CURB
-----SIDEWALK-----	=	EXISTING SIDEWALK
-----UGP-----UGP-----	=	EXISTING POWER BURIED
-----OHP-----OHP-----	=	EXISTING OVERHEAD POWER
-----UGC-----UGC-----	=	EXISTING COMMUNICATIONS BURIED
-----OHC-----OHC-----	=	EXISTING OVERHEAD COMMUNICATIONS
-----FO-----FO-----	=	EXISTING FIBER OPTICS BURIED
-----TV-----TV-----	=	EXISTING TV BURIED
-----T-----T-----T-----	=	EXISTING TELEPHONE BURIED
-----C-----C-----C-----	=	EXISTING CONDUIT
-----G-----G-----G-----	=	EXISTING GAS MAIN
-----W-----W-----W-----	=	EXISTING WATER MAIN
-----IRR-----IRR-----	=	EXISTING IRRIGATION LINE
-----FM-----FM-----	=	EXISTING SANITARY SEWER FORCE MAIN
-----SS-----SS-----	=	EXISTING SANITARY SEWER
-----SD-----SD-----	=	EXISTING STORM DRAIN
-----OHW-----OHW-----	=	EXISTING ORDINARY HIGH WATER
-----CULVERT-----	=	EXISTING CULVERT
-----TREE LINE-----	=	EXISTING TREE LINE
-----CONCRETE-----	=	EXISTING CONCRETE
-----RR TRACKS-----	=	EXISTING RR TRACKS

PROPOSED		
-----TB-----TB-----	=	PROPOSED TOP OF BANK
-----BB-----BB-----	=	PROPOSED TOE OF BANK
-----DITCH CL-----	=	PROPOSED DITCH CL
-----GRADE BREAK-----	=	PROPOSED GRADE BREAK
-----95-----	=	PROPOSED MAJOR CONTOUR
-----95-----	=	PROPOSED MINOR CONTOUR
-----GUARDRAIL-----	=	PROPOSED GUARDRAIL
-----FENCE-----	=	PROPOSED FENCE
-----GRAVEL-----	=	PROPOSED GRAVEL
-----WALL-----	=	PROPOSED WALL
-----BUILDING-----	=	PROPOSED BUILDING
-----PAVEMENT VALLEY-----	=	PROPOSED PAVEMENT VALLEY
-----RIGHT OF WAY-----	=	PROPOSED RIGHT OF WAY
-----AUTOTURN-----	=	PROPOSED AUTOTURN
-----CONSTRUCTION EASEMENT-----	=	PROPOSED CONSTRUCTION EASEMENT
-----ROAD CL-----	=	PROPOSED ROAD CL
-----SAWCUT-----	=	PROPOSED SAWCUT
-----TRAFFIC STRIPE-----	=	PROPOSED TRAFFIC STRIPE
-----ROAD EDGE OF PAVEMENT-----	=	PROPOSED ROAD EDGE OF PAVEMENT
-----CURB AND GUTTER-----	=	PROPOSED CURB AND GUTTER
-----PATH-----	=	PROPOSED PATH
-----SIDEWALK-----	=	PROPOSED SIDEWALK
-----POWER LINE-----	=	PROPOSED POWER LINE
-----ROCK WALL-----	=	PROPOSED ROCK WALL
-----PARKING STRIPE-----	=	PROPOSED PARKING STRIPE
-----TRAFFIC SIGNAL CONDUCTOR-----	=	PROPOSED TRAFFIC SIGNAL CONDUCTOR
-----FIBER OPTICS-----	=	PROPOSED FIBER OPTICS
-----SILT FENCE-----	=	PROPOSED SILT FENCE
-----CONDUIT-----	=	PROPOSED CONDUIT
-----HANDRAIL-----	=	PROPOSED HANDRAIL
-----IRRIGATION LINE-----	=	PROPOSED IRRIGATION LINE
-----WATER MAIN-----	=	PROPOSED WATER MAIN
-----SANITARY SEWER FORCE MAIN-----	=	PROPOSED SANITARY SEWER FORCE MAIN
-----SANITARY SEWER-----	=	PROPOSED SANITARY SEWER
-----STORM DRAIN-----	=	PROPOSED STORM DRAIN
-----CULVERT-----	=	PROPOSED CULVERT
-----TREE LINE-----	=	PROPOSED TREE LINE
-----CONC. SIDEWALK/DRIVEWAY-----	=	PROPOSED CONC. SIDEWALK/DRIVEWAY
-----INFILTRATION TRENCH-----	=	PROPOSED INFILTRATION TRENCH
-----INFILTRATION FILTER MEDIA-----	=	PROPOSED INFILTRATION FILTER MEDIA
-----GRIND-----	=	PROPOSED GRIND
-----DEMOLITION AREA-----	=	PROPOSED DEMOLITION AREA
-----ASPHALT-----	=	PROPOSED ASPHALT
-----RIGHT OF WAY TAKE-----	=	PROPOSED RIGHT OF WAY TAKE
-----GRASS-----	=	PROPOSED GRASS
-----GRAVEL-----	=	PROPOSED GRAVEL

EXISTING	
	= EXISTING SIGNAL POLE
	= EXISTING SIGNAL POLE W/ LUMINAIRE
	= EXISTING STREET LIGHT ASSEMBLY
	= EXISTING YARD LIGHT
	= EXISTING GUY WIRE
	= EXISTING GAS METER
	= EXISTING GAS VALVE
	= EXISTING TRANSFORMER PAD
	= EXISTING POWER VAULT
	= EXISTING JBOX
	= EXISTING SOIL BORING LOCATION
	= EXISTING MAIL BOX
	= EXISTING WATER SPIGOT
	= EXISTING WATER BLOW OFF
	= EXISTING WATER METER
	= EXISTING WATER VALVE
	= EXISTING FIRE HYDRANT
	= EXISTING TRAFFIC SIGNAL VAULT
	= EXISTING SEWER MANHOLE
	= EXISTING STORM DRAIN CATCH BASIN TYPE I
	= EXISTING STORM DRAIN CATCH BASIN TYPE II
	= EXISTING UTILITY POLE
	= EXISTING MONITORING WELL
	= EXISTING STORM CLEANOUT
	= EXISTING SEWER CLEANOUT
	= EXISTING SIGN
	= EXISTING TELEPHONE PEDESTAL
	= EXISTING COMMUNICATIONS VAULT
	= EXISTING BENCH MARK
	= EXISTING NAIL AND SHINER
	= EXISTING IRON PIPE
	= EXISTING MONUMENT (IN CASE)
	= EXISTING MONUMENT (SURFACE)
	= EXISTING ANGLE POINT
	= EXISTING TREE STUMP
	= EXISTING TREE
	= EXISTING VEGETATION

PROPOSED	
	= PROPOSED STORM DRAIN INLET
	= PROPOSED COUPLER
	= PROPOSED WATER METER
	= PROPOSED WATER VALVE
	= PROPOSED STORM DRAIN CATCH BASIN TYPE II
	= PROPOSED SANITARY SEWER MANHOLE
	= PROPOSED STORM DRAIN CATCH BASIN TYPE I
	= PROPOSED HYDRANT
	= PROPOSED UTILITY POLE
	= PROPOSED JBOX (TYPE I, II, III)
	= PROPOSED MONITORING WELL
	= PROP STORM CLEANOUT
	= PROPOSED SANITARY SEWER CLEAN OUT
	= PROPOSED SIGN
	= FLOW ARROW
	= PROPOSED TREE
	= SECTION MARK

ABBREVIATIONS

Ø = DIAMETER	EVCE = END VERTICAL CURVE ELEVATION	MIN = MINIMUM	RT = RIGHT
AC = ASBESTOS CEMENT	EVCS = END VERTICAL CURVE STATION	MOD = MODIFIED	S = SOUTH
AD = ALGEBRAIC DIFFERENCE	EX, EXIST = EXISTING	MON = MONUMENT	SCH = SCHEDULE
ASPH = ASPHALT	IR = EXISTING IRRIGATION	MPOC = MID-POINT ON CURVE	SD = STORM DRAIN
BLDG = BUILDING	F&C = FRAME AND COVER	MTR = METER	SDCB = STORM DRAIN CATCH BASIN
BVCE = BEGIN VERTICAL CURVE ELEVATION	F&G = FRAME AND GRATE	MW = MONITORING WELL	SDMH = STORM DRAIN MANHOLE
BVCS = BEGIN VERTICAL CURVE STATION	FF = FINISHED FLOOR	N = NORTH	SE = SOUTHEAST
C&G = CURB & GUTTER	FG = FINISHED GRADE	NE = NORTHEAST	SN = EXISTING SIGN
CATV = CABLE TELEVISION	FL = FLOW LINE	NW = NORTHWEST	SP = STANDARD PLAN
CDI = CONTROLLED DENSITY FILL	FT = FEET	OC = ON CENTER	SSMH = SANITARY SEWER MANHOLE
CL = CLASS, CENTERLINE	FT/FT = FEET PER FOOT	PVMNT = PAVEMENT	STA = STATION
CMP = CORRUGATED METAL PIPE	FTR = FRONTIER	PC = POINT OF CURVATURE	STD = STANDARD
CMU = CONCRETE MASONRY UNIT	GALV = GALVANIZED	PCC = POINT OF COMPOUND CURVATURE,	SW = SOUTHWEST
CNG = CASCADE NATURAL GAS	GRVL = GRAVEL	PORTLAND CEMENT CONCRETE	TEL = TELEPHONE
COMP = COMPACTED	GV = GATE VALVE	PED = PEDESTAL	TL = TRAFFIC LOOP
CON = CONIFER	HDPE = HIGH DENSITY POLYETHYLENE	POC = POINT ON CURVE	TYP = TYPICAL
CONC = CONCRETE	HMA = HOT MIX ASPHALT	POSS = POSSIBLE	UP = UTILITY POLE
CONT = CONTOUR	HP = HIGH POINT	PRC = POINT OF REVERSE CURVE	UTIL = UTILITY
CPSSP = CORRUGATED POLYETHYLENE	HYD = HYDRANT	PROP = PROPOSED	VC = VERTICAL CURVE
CPSP = STORM SEWER PIPE	IE, INV = INVERT ELEVATION	PSE = PUGENT SOUND ENERGY	VLT = VAULT
CULV = CULVERT	IW = INJECTION WELL	PT = POINT OF TANGENCY	VPC = VERTICAL POINT OF CURVATURE
D/W = DRIVEWAY	L = LENGTH	PVC = POLYVINYL CHLORIDE	VPI = VERTICAL POINT OF INTERSECTION
DB = DIRECT BURY	LDGS = LANDSCAPING	PVI = POINT OF VERTICAL INTERSECTION	VPT = VERTICAL POINT OF TANGENCY
DEC = DECIDUOUS	LF = LINEAR FEET	PWR = POWER	W = WEST
DI = DUCTILE IRON	LOC = LOCATION	R = RADIUS	WM = WATER METER
E = EAST	LP = LOW POINT	R&C = RING AND COVER	WSDOT = WASHINGTON STATE DEPARTMENT
EP, EP = EDGE OF PAVEMENT	LT = LEFT	RET = RETAINING	OF TRANSPORTATION
EQUIV = EQUIVALENT	MAX = MAXIMUM	ROW = RIGHT OF WAY	XEOA = EXISTING EDGE OF ASPHALT

SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC/LMH
CHECKED BY
LP



Reichhardt & Ebe
ENGINEERING INC

P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY	

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
LEGEND AND ABBREVIATIONS

DWG 17009 COVER.DWG

DATE 12/17/2018

JOB#

17009

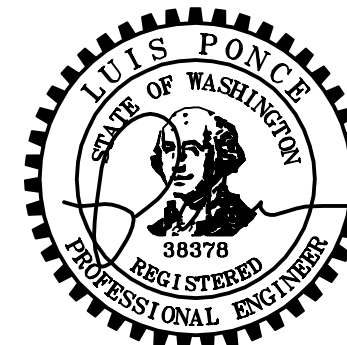
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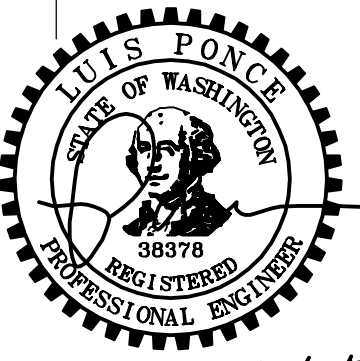
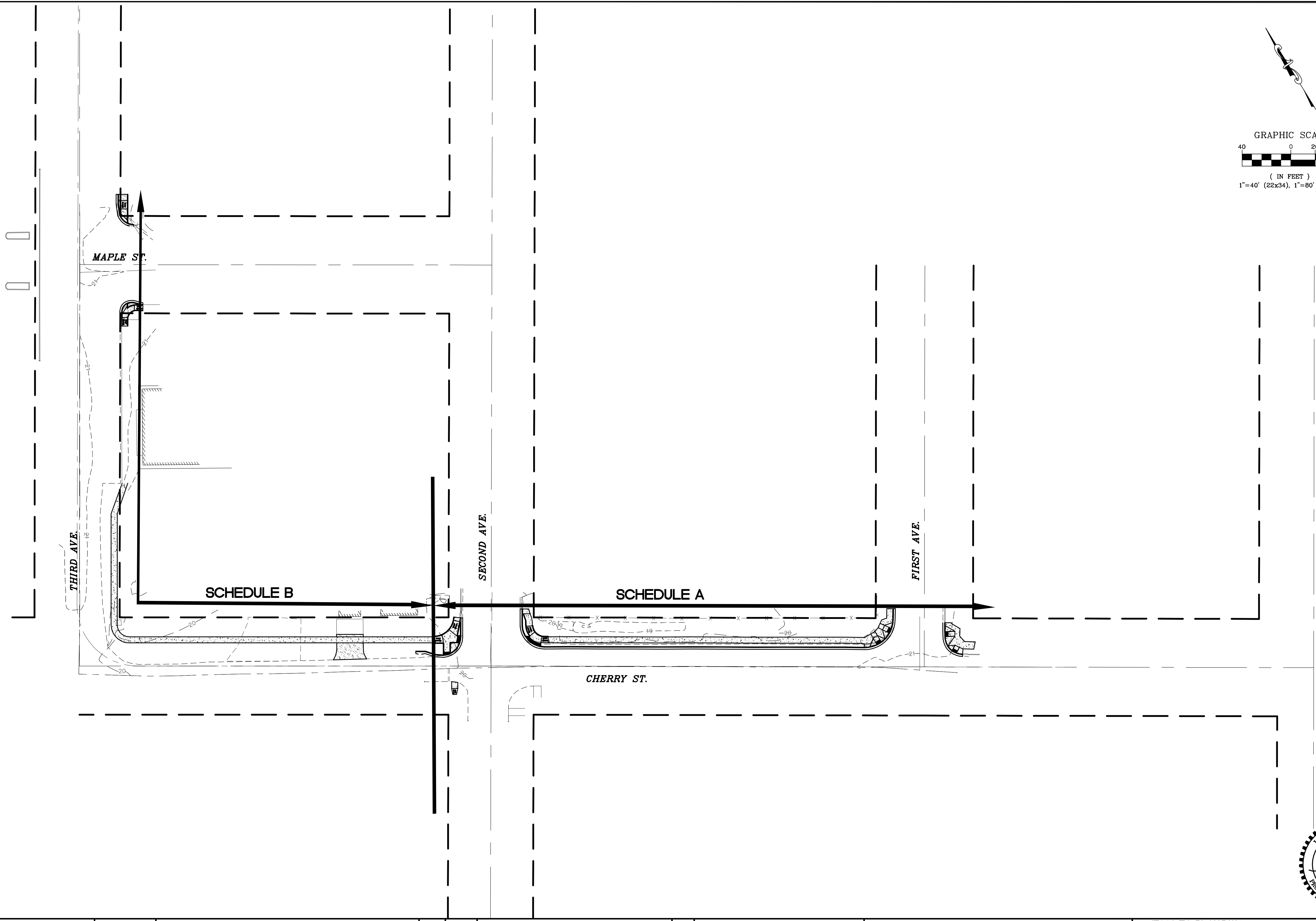
V: N/A

SHEET

2
of 17



12/17/18



SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC/LMH
CHECKED BY
LP

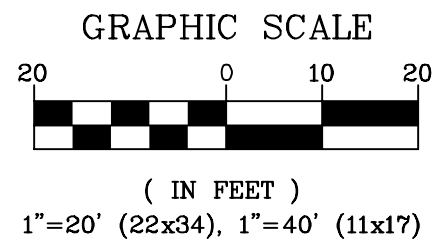
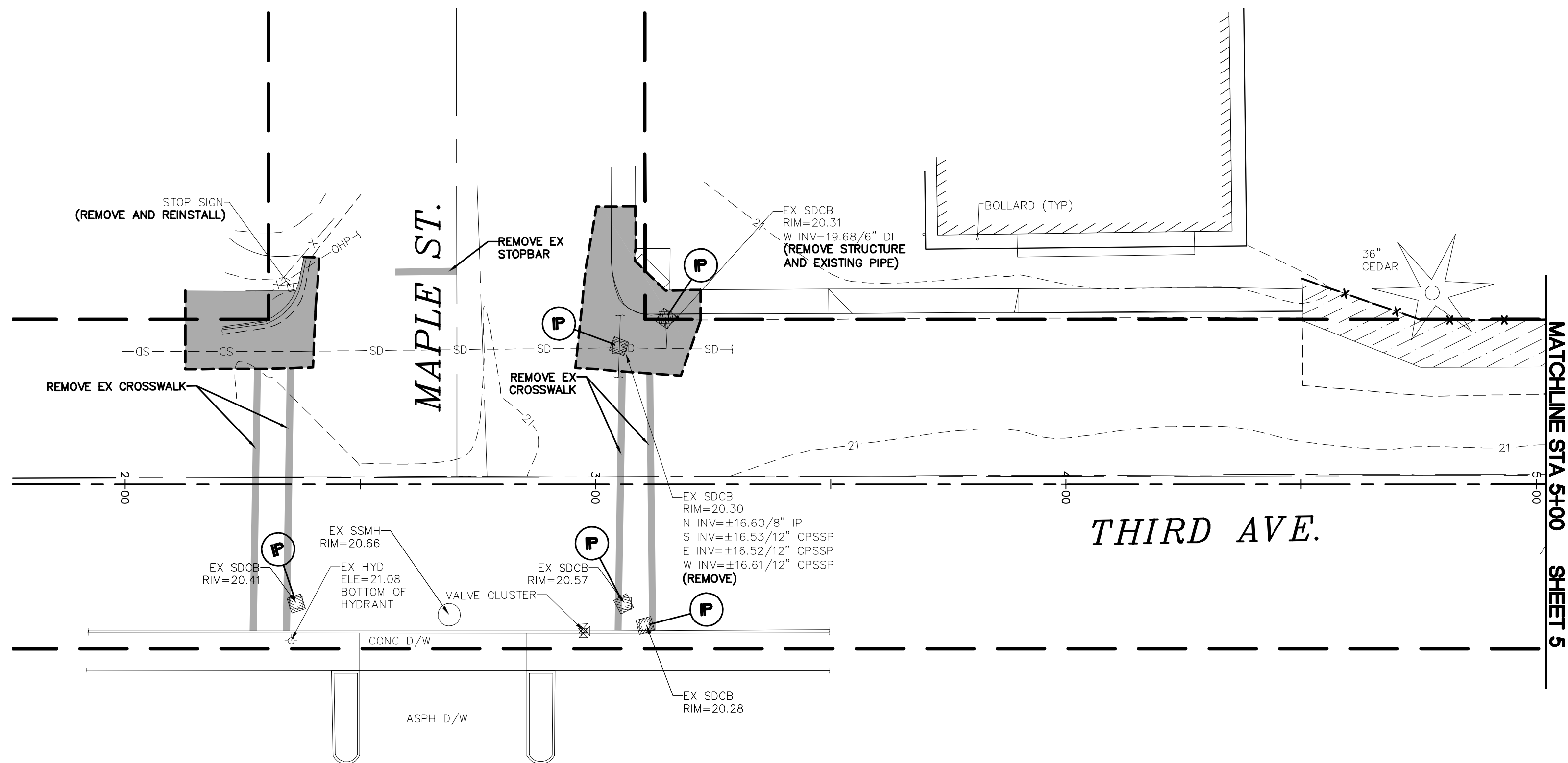
**R&E Reichhardt & Ebe
ENGINEERING INC**
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NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
PROJECT SCHEDULES

DWG	17009 TC PLANDWG	DATE	12/17/2018
JOB#	17009	SCALE	H: 1"=40' V: N/A
SHEET	3	of 17	



EROSION CONTROL LEGEND

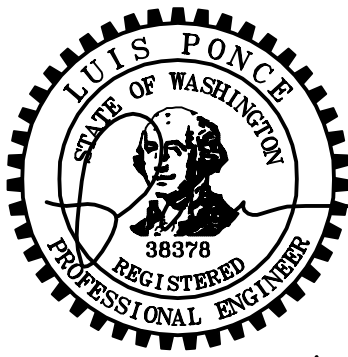
WASHINGTON STATE DEPT. OF ECOLOGY
BEST MANAGEMENT PRACTICES (BMP)
REF.: STORMWATER MANAGEMENT MANUAL
FOR WESTERN WASHINGTON, 2012

- NOTES:
1. SEE TESC DETAILS AND TESC GENERAL NOTES, SHEET 13
2. GENERALLY THE SILT FENCE AND CLEARING LIMITS FOLLOW THE RIGHT OF WAY OR CONSTRUCTION EASEMENTS UNLESS OTHERWISE DRAWN ON THE PLANS. THERE ARE AREAS WHERE THE HIGH VISIBILITY SILT FENCE IS DELINEATING THE MAXIMUM EXTENT OF WETLAND IMPACTS.

— X — X — X — X — = BMP C103 AND C233: CLEARING LIMITS AND SILT FENCE — SEE DETAIL SHEET 13
[Symbol] = BMP C220: INLET PROTECTION — CB INSERT — SEE DETAIL SHEET 13

DEMOLITION LEGEND

[Symbol] = PROPOSED SAWCUT
[Symbol] = PROPOSED DEMOLITION AREA
[Symbol] = PROPOSED CLEARING AND GRUBBING LIMITS



12/17/18
AS-BUILT

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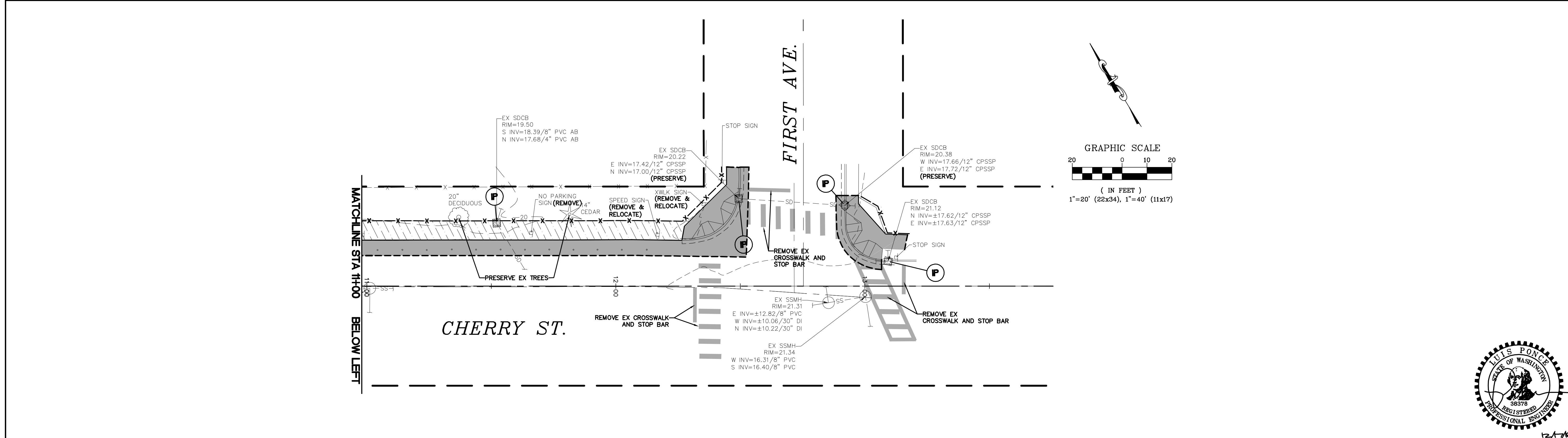
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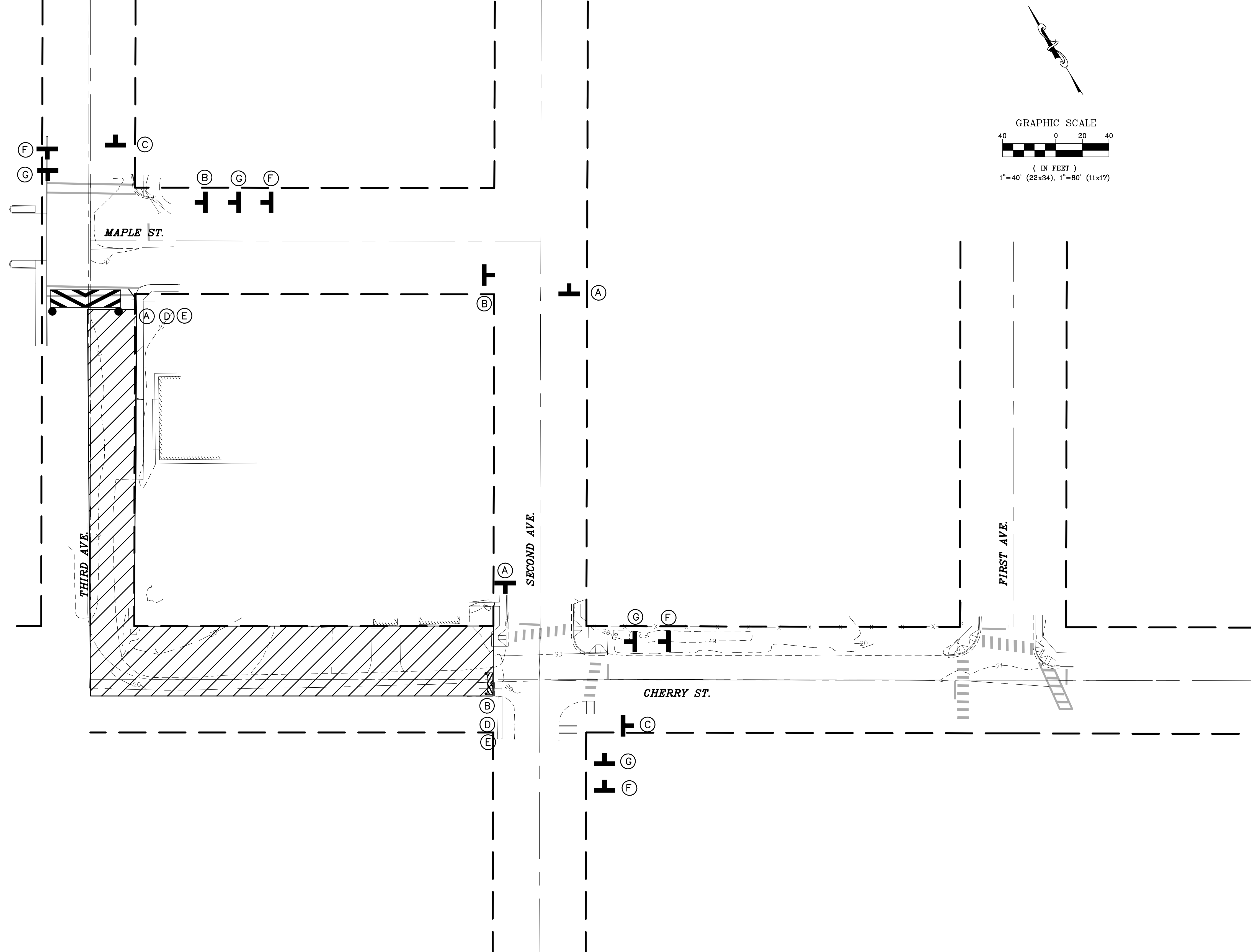
CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
EX COND, DEMO, TESC - 3RD AVE






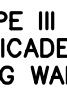


DWG 17009 EX COND DEMO TESC.DWG
JOB# 17009
SCALE H: 1"=20' V: NA

DATE 12/17/2018
SHEET 4 of 17





LEGEND

-  = PROPOSED WORK AREA
- (A)  M4-10L
- (B)  M4-10R
- (C)  M4-8A
- (D)  R 11-4
- (E)  TWO TYPE III R AND TYPE III L BARRICADE WITH 2 TYPE A FLASHING WARNING LIGHTS
- (F)  W 20-3
- (G)  W20-2

SIGN SPACING = X (1)		
RURAL ROADS	45/55 MPH	500'±
URBAN ARTERIALS & RURAL ROADS	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE BLACK ON ORANGE UNLESS DESIGNATED OTHERWISE		

- (1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE AT-GRADE INTERSECTIONS AND DRIVEWAYS.
- (2) THIS SIGN SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.



12/1/18

SUBMITTED WITH
DESIGN PLAN

DESIGNED BY	OAM
DRAWN BY	PJC/LMH
CHECKED BY	IP

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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
TRAFFIC CONTROL PLAN

DWG 17009 TC PLAN.DWG

JOB#	
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SCALE
H: 1"=40'

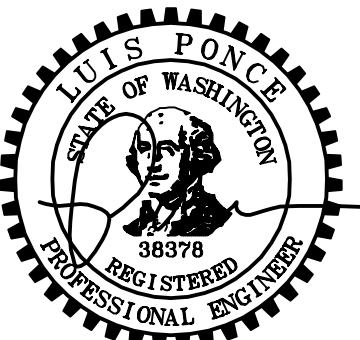
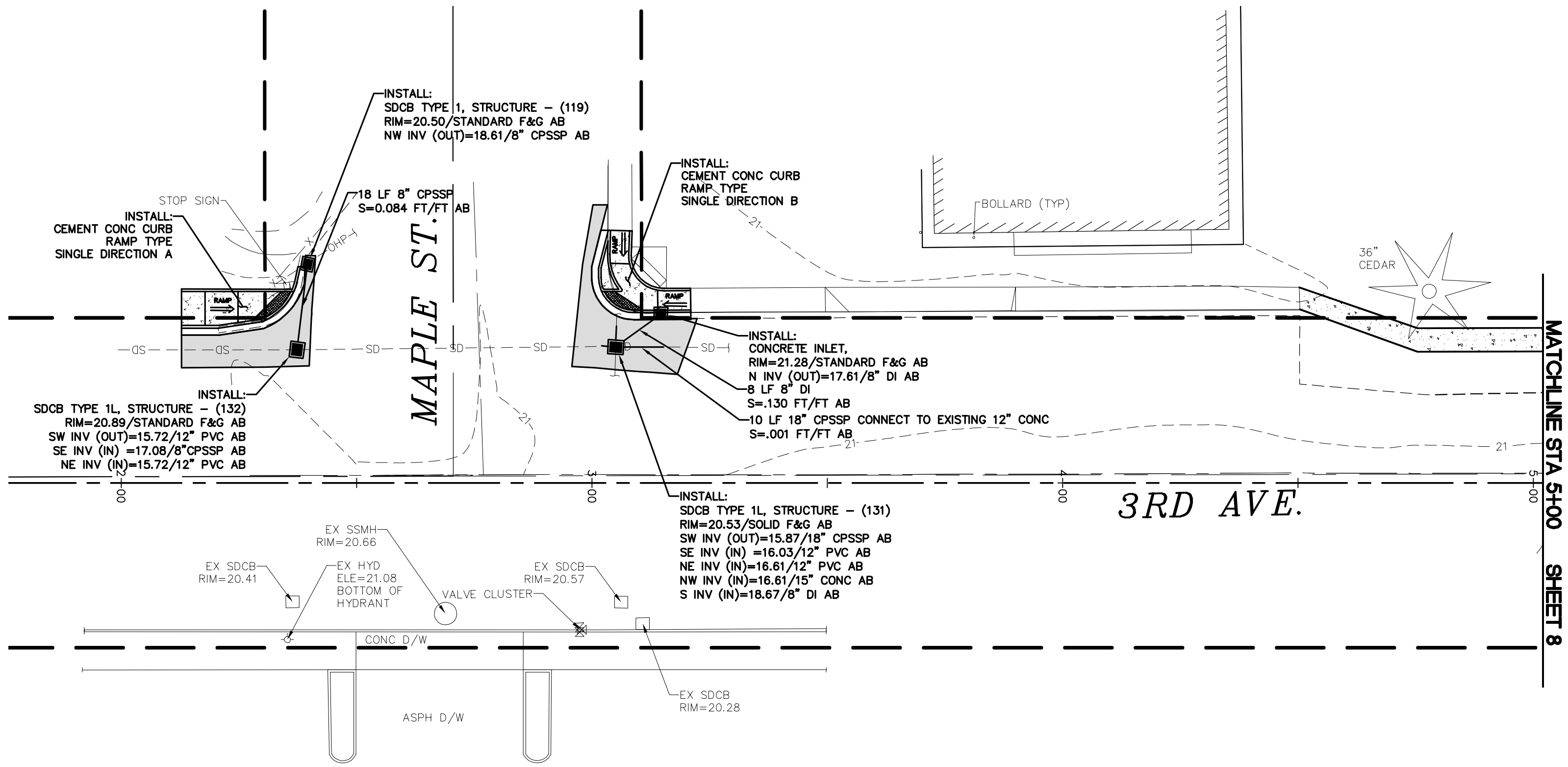
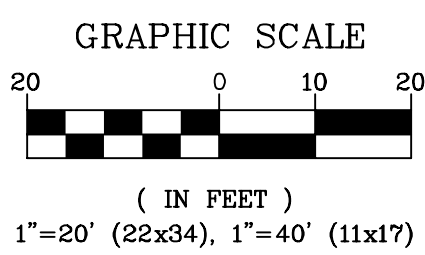
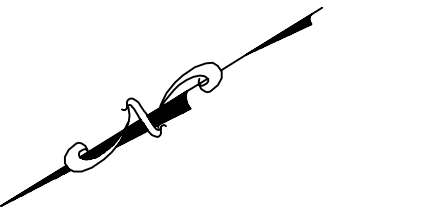
v: N/A

DATE 12/17/2018

SHEET 6
of 17

00656.007 12/27/18 KB

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12/17/18
AS-BUILT

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OAM
DRAWN BY
PJC/LMH
CHECKED BY
LP

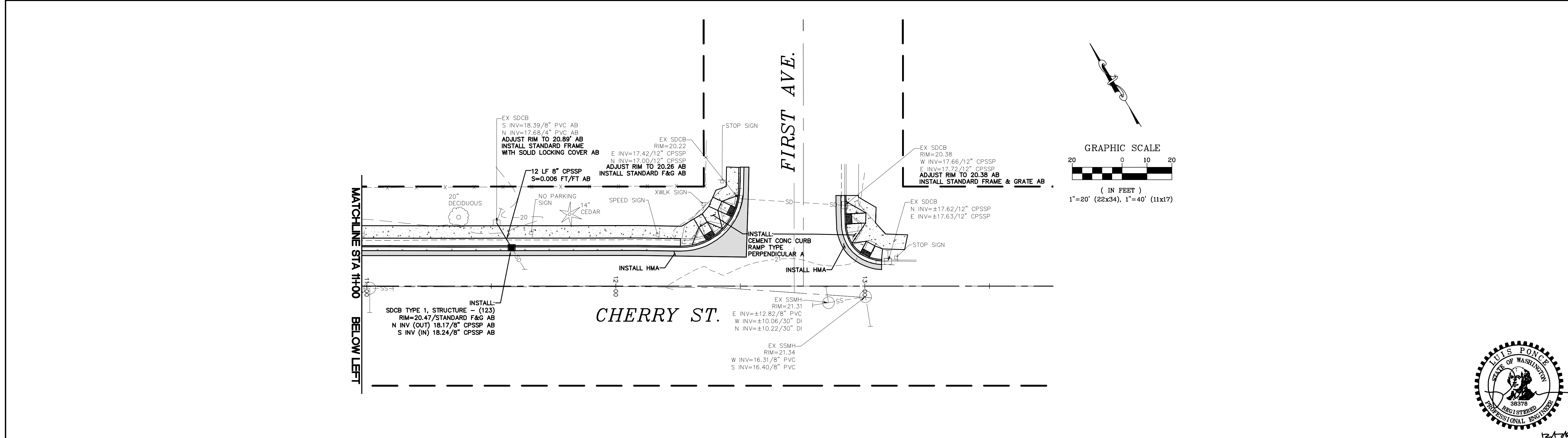
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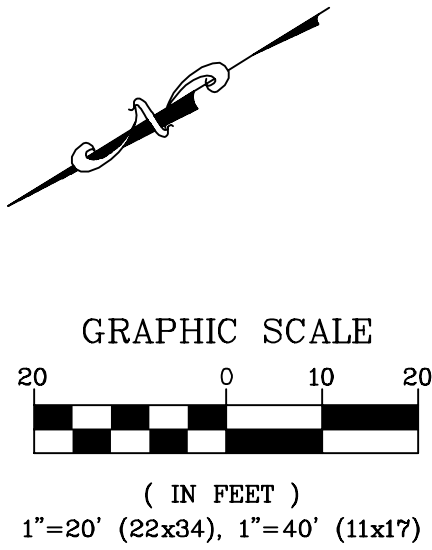
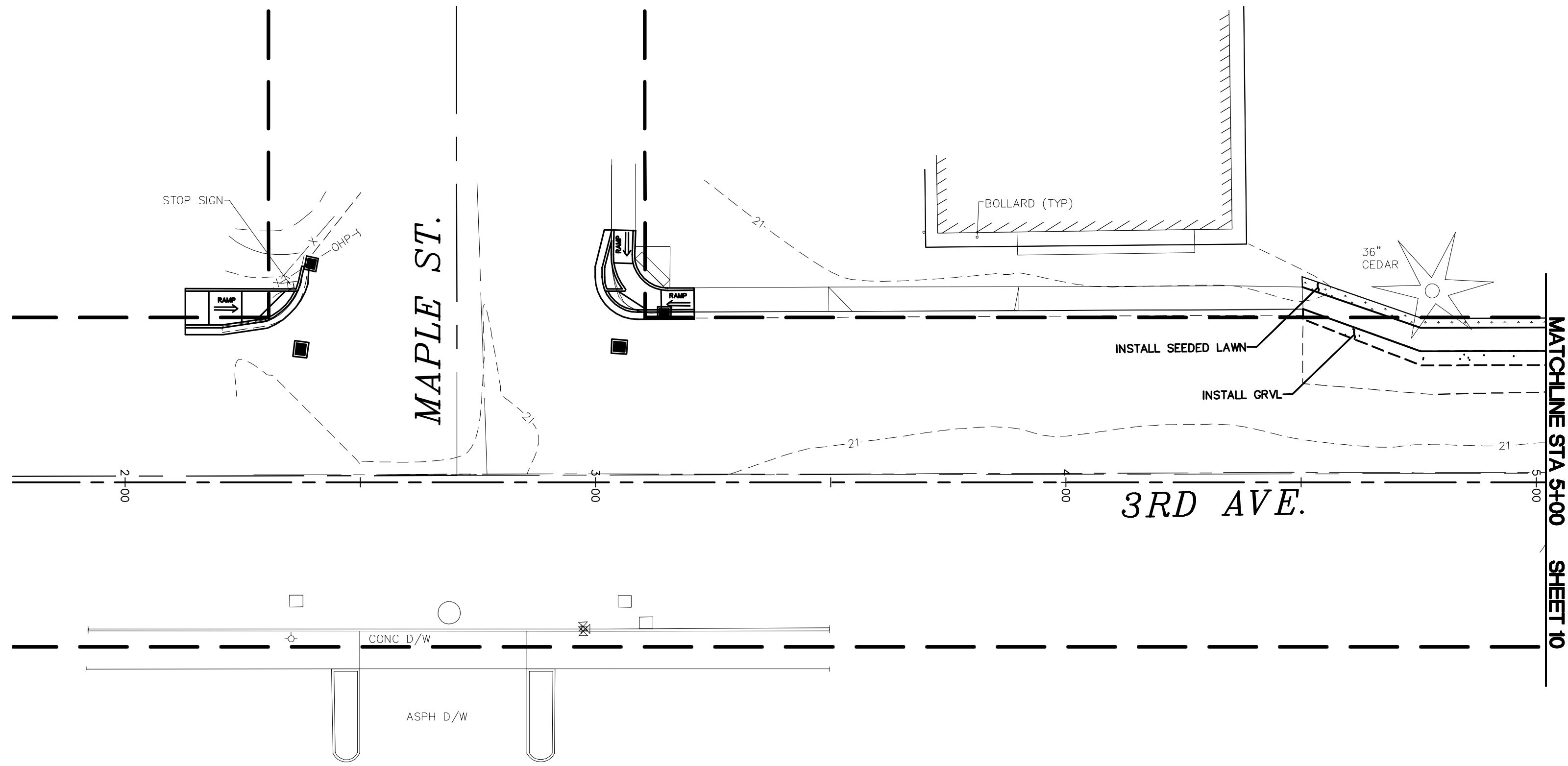
NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

**CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B**
PLAN 3RD AVE

DWG 17009 PLAN AND PROFILE.DWG	DATE 12/17/2018
JOB# 17009	SCALE H: 1"=20' V: NA
SHEET 7 of 17	





12/17/18
AS-BUILT

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FERNDALE, WA 98248

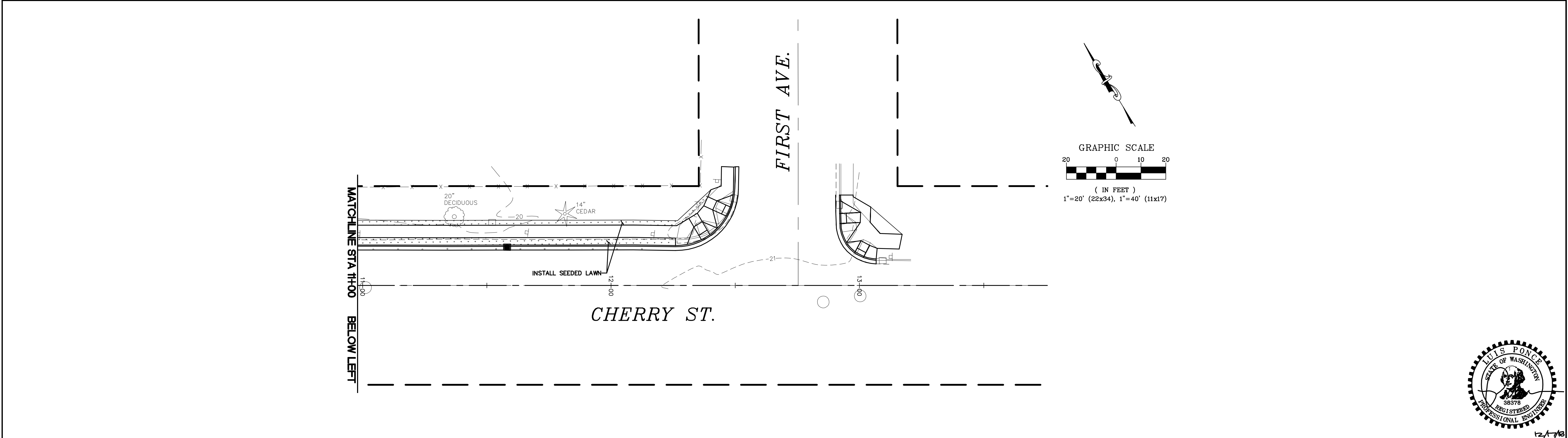
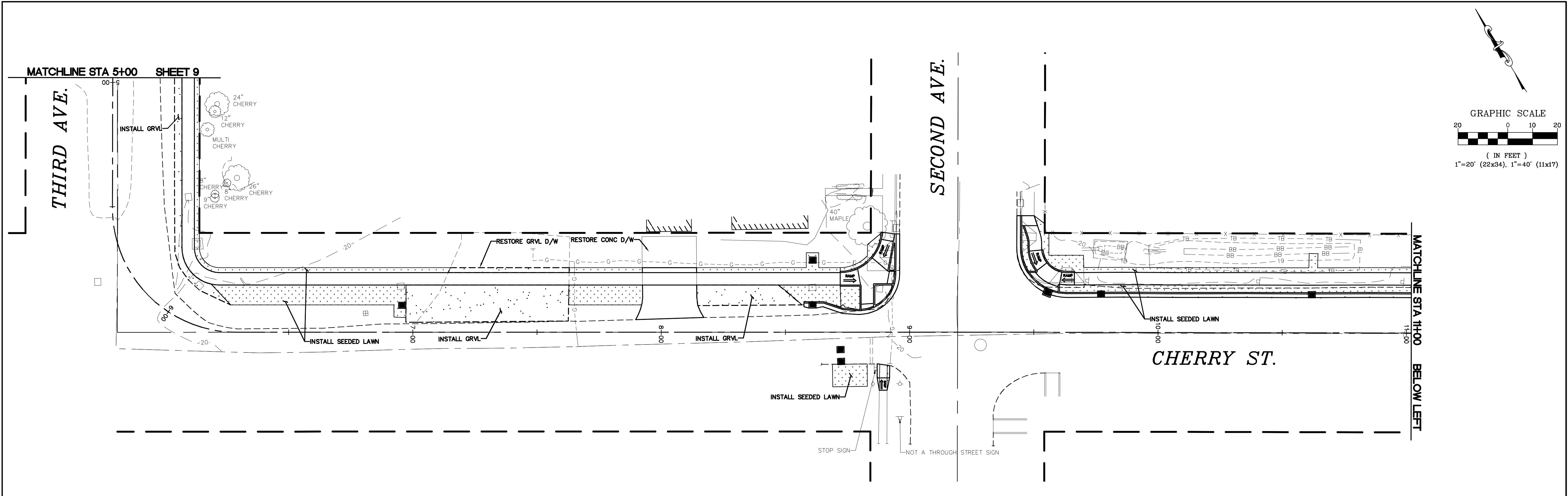
**CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B**
RESTORATION PLAN 3RD AVE

DWG 17009 PLAN AND PROFILE.DWG

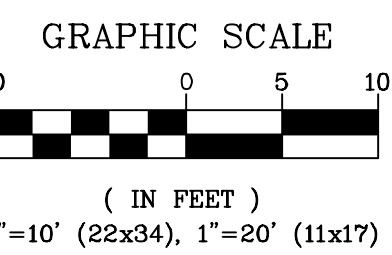
JOB#
17009

SCALE
H: 1"=20' V: NA

DATE
12/17/2018
SHEET
9
of 17



12/17/18	AS-BUILT	DESIGNED BY OAM DRAWN BY PJC/LMH CHECKED BY LP	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 423 Front Street, Lynden, WA 98264 (360) 354-3687 813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713	NO.	DATE	DESCRIPTION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WA 98248	CHERRY STREET FIRST TO THIRD AVENUE SIDEWALK PROJECT SCHEDULE A AND B RESTORATION PLAN CHERRY STREET	DWG 17009 PLAN AND PROFILE.DWG	DATE 12/17/2018	JOB# 17009		SCALE H: 1"=20' V: NA	SHEET 10 of 17



12/17/18

DATE 12/17/2018

DWG 17009 GRADING.DWG

JOB# 17009

SCALE H: 1"=10' V: NA

SHEET 11 of 17

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
GRADING + CHANNELIZATION PLAN STA 1+50 TO 4+00

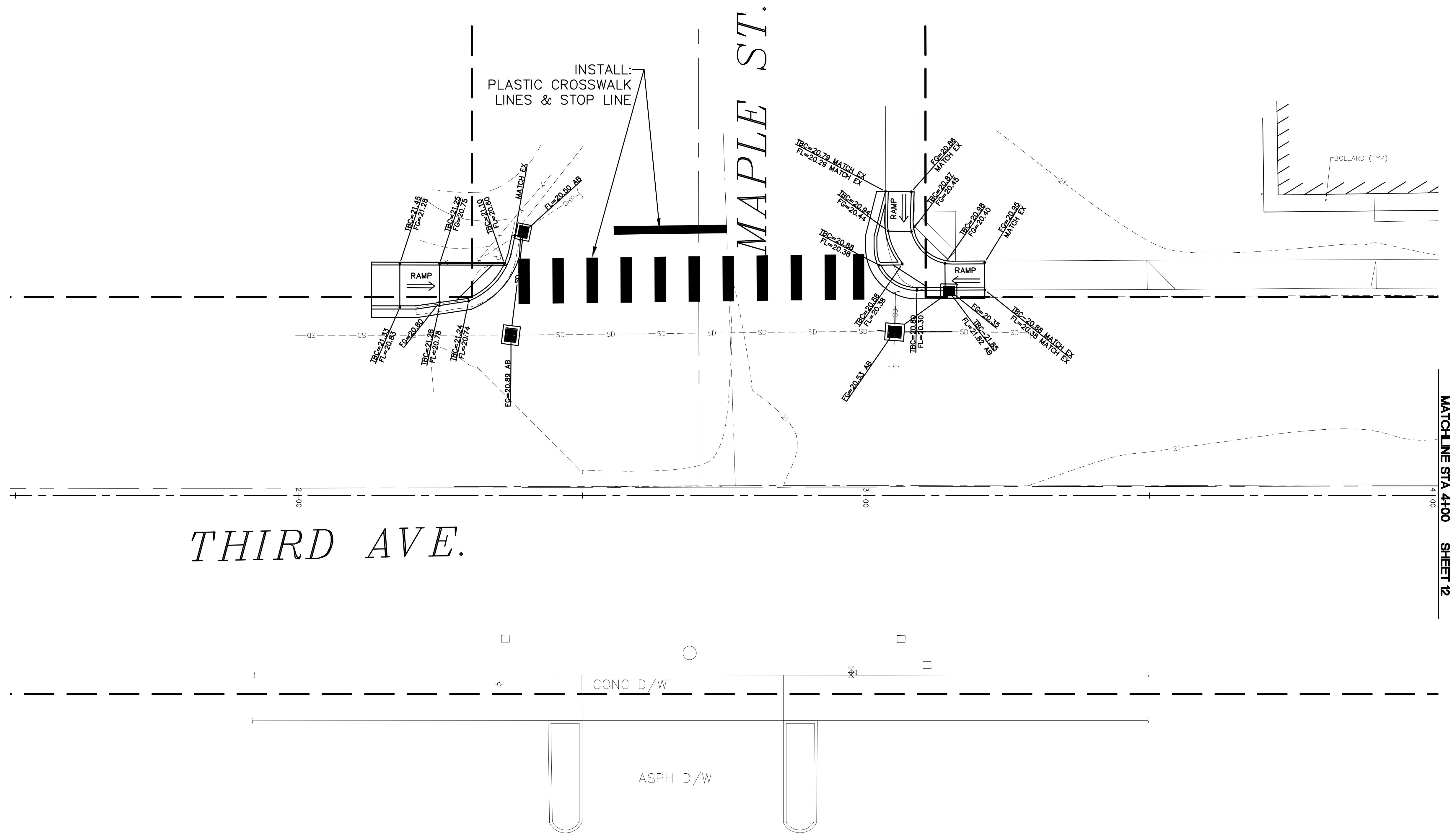
CITY OF FERNDAL
2095 MAIN STREET
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NO.	DATE	DESCRIPTION	BY

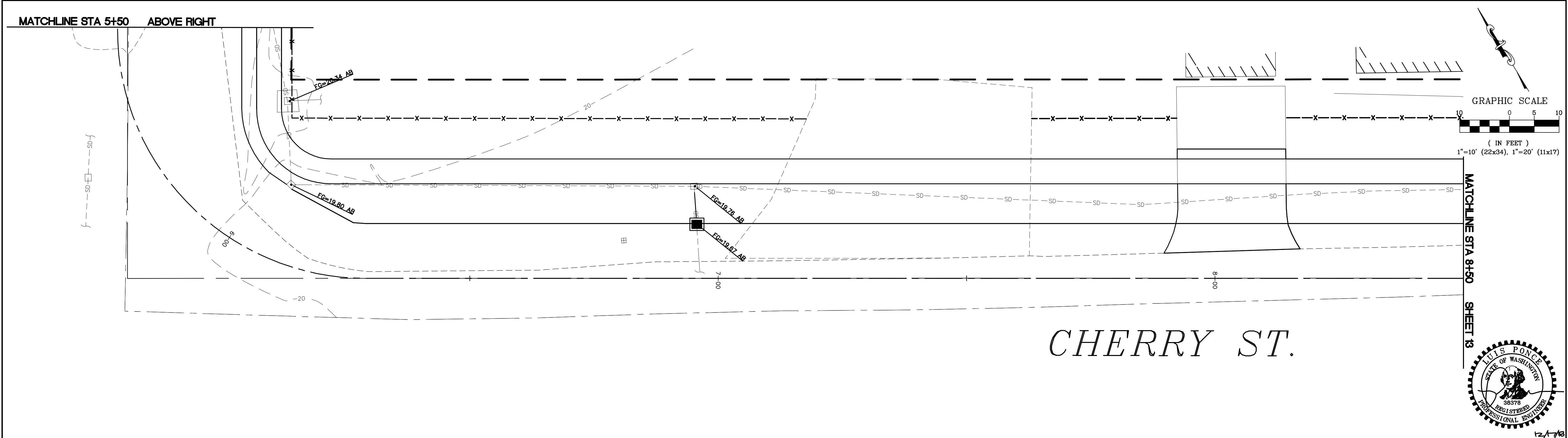
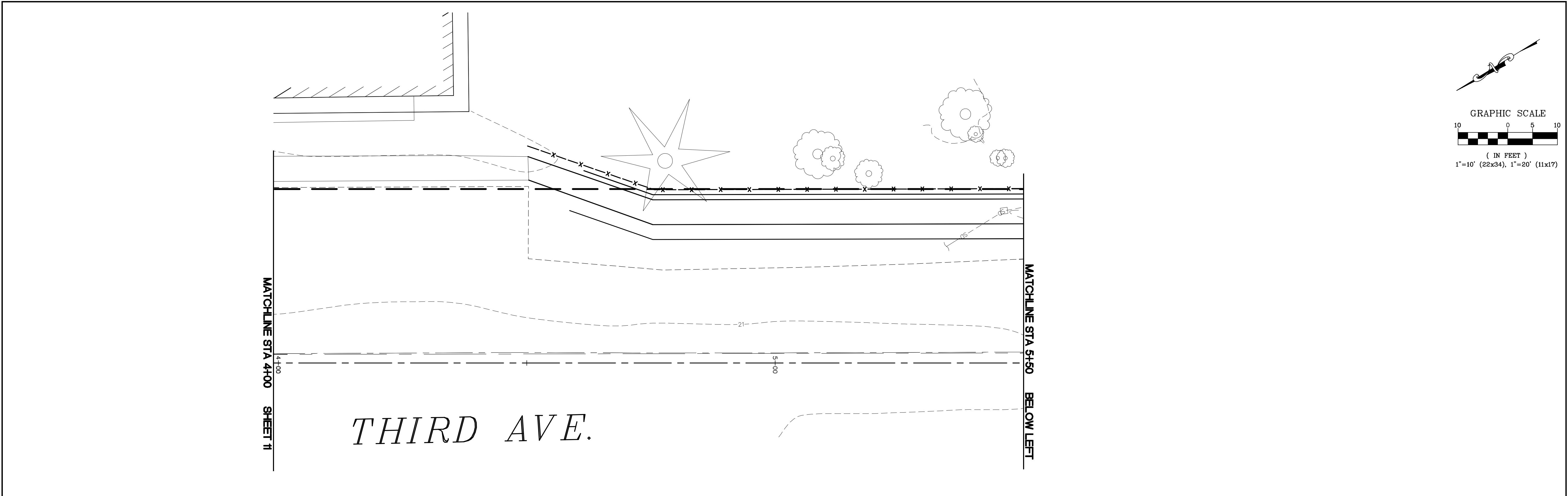
R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

DESIGNED BY OAM
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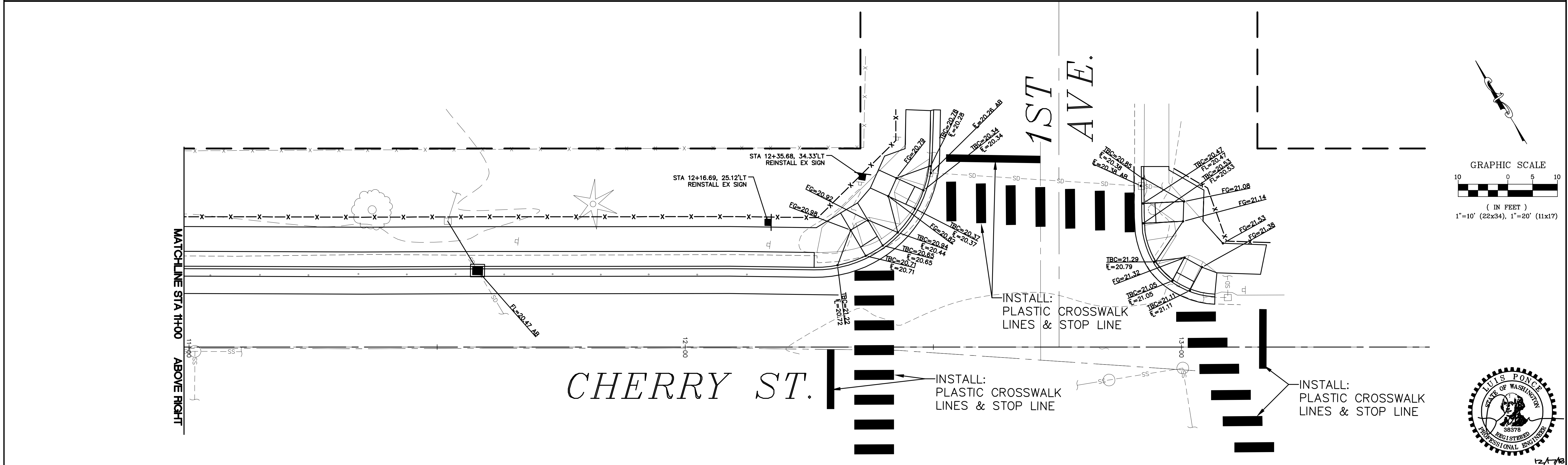
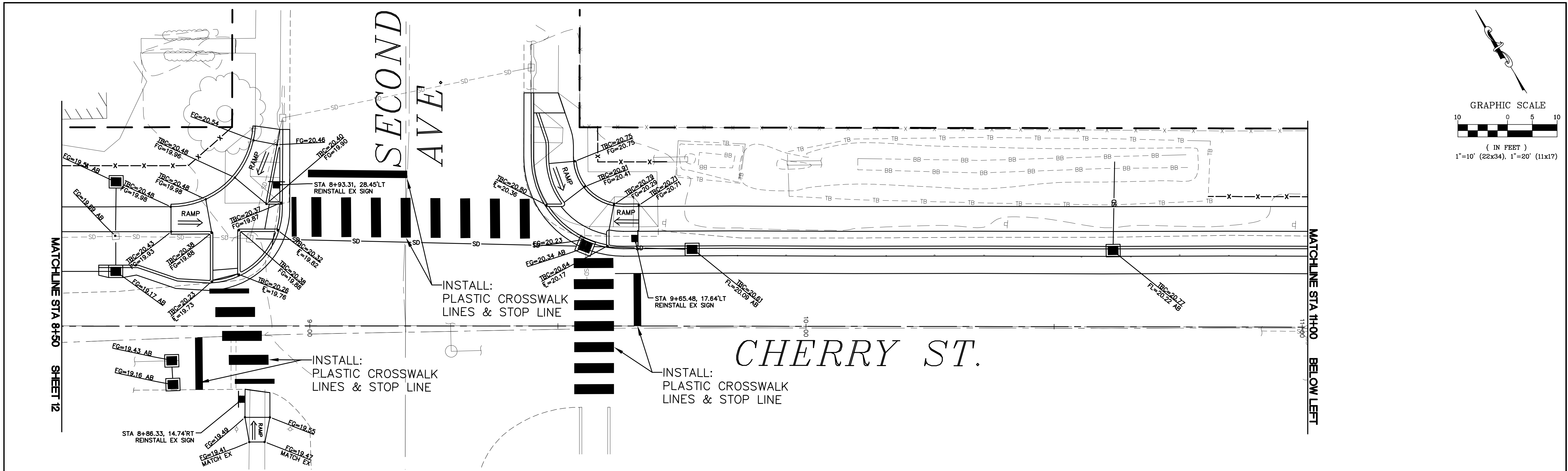
12/17/18 AS-BUILT



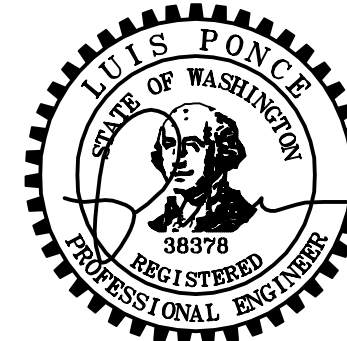
MATCHLINE STA 4+00 SHEET 12



12/17/18	AS-BUILT	DESIGNED BY OAM DRAWN BY PJC/LMH CHECKED BY LP	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 423 Front Street, Lynden, WA 98264 (360) 354-3687 813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713	NO.	DATE	DESCRIPTION	BY	CITY OF FERNDAL 2095 MAIN STREET FERNDAL, WA 98248	CHERRY STREET FIRST TO THIRD AVENUE SIDEWALK PROJECT SCHEDULE A AND B GRADING + CHANNELIZATION PLAN STA 4+00 TO 8+50	DWG 17009 GRADING.DWG JOB# 17009	SCALE H: 1"=10' V: NA	DATE 12/17/2018 SHEET 12 of 17



<div>12/17/18</div> <div>AS-BUILT</div>	DESIGNED BY OAM	<div><div>R&E</div><div>Reichhardt & Ebe</div><div>ENGINEERING INC</div></div> <div>P.O. Box 978 423 Front Street, Lynden, WA 98264 (360) 354-3687</div> <div>813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713</div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</
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CONSTRUCTION SWPPP ELEMENTS

THIS PLAN PROVIDES THE MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL ADAPT THE PLAN IN ORDER TO PREVENT SEDIMENT LADEN STORM WATER FROM LEAVING THE SITE. THE CONTRACTOR'S CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) SHALL UTILIZE THE WASHINGTON STATE DEPARTMENT OF ECOLOGY 2014 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (SWMWW) FOR SELECTING, INSTALLING AND MAINTAINING THE CORRECT BMP'S BASED OF METHOD OF CONSTRUCTION UTILIZED BY THE CONTRACTOR. ALL ITEM'S SHALL BE OVERSEEN BY A CESCL AND BE SUBJECT TO INSPECTION BY THE ENGINEER.

ELEMENT 1: PRESERVE VEGETATION/MARK CLEARING LIMITS

- BEFORE BEGINNING LAND DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRADING, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA.
- RETAIN THE DUFF LAYER, NATIVE TOP SOIL, AND NATURAL VEGETATION IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.
- **BMP C101: PRESERVING NATURAL VEGETATION**
- **BMP C102: BUFFER ZONES**
- **BMP C103/C233: HIGH VISIBILITY SILT FENCE**

ELEMENT 2: ESTABLISH CONSTRUCTION ACCESS

- LIMIT CONSTRUCTION VEHICLE ACCESS AND EXIT TO ONE ROUTE, IF POSSIBLE.
- STABILIZE ACCESS POINTS WITH A PAD OF QUARRY SPALLS, CRUSHED ROCK, OR OTHER EQUIVALENT BMPS, TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC ROADS.
- LOCATE WHEEL WASH OR TIRE BATHS ON SITE, IF THE STABILIZED CONSTRUCTION ENTRANCE IS NOT EFFECTIVE IN PREVENTING TRACKING SEDIMENT ONTO ROADS.
- IF SEDIMENT IS TRACKED OFF SITE, CLEAN THE AFFECTED ROADWAY THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY AS NECESSARY (FOR EXAMPLE, DURING WET WEATHER). REMOVE SEDIMENT FROM ROADS BY SHOVELING, SWEEPING, OR PICK UP AND TRANSPORT THE SEDIMENT TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- CONDUCT STREET WASHING ONLY AFTER SEDIMENT HAS BEEN REMOVED IN ACCORDANCE WITH THE ABOVE BULLET.
- CONTROL STREET WASH WASTEWATER BY PUMPING BACK ON-SITE, OR OTHERWISE PREVENT IT FROM DISCHARGING INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.
- **BMP C105: STABILIZED CONSTRUCTION ENTRANCE/EXIT**
- **BMP C107: CONSTRUCTION ROAD/PARKING AREA STABILIZATION**

ELEMENT 3: CONTROL FLOW RATES

- PROTECT PROPERTIES AND WATERWAYS DOWNSTREAM OF DEVELOPMENT SITES FROM EROSION AND THE ASSOCIATED DISCHARGE OF TURBID WATERS DUE TO INCREASES IN THE VELOCITY AND PEAK VOLUMETRIC FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.
- WHERE NECESSARY TO COMPLY WITH THE BULLET ABOVE, CONSTRUCT STORMWATER RETENTION OR DETENTION FACILITIES AS ONE OF THE FIRST STEPS IN GRADING. ASSURE THAT DETENTION FACILITIES FUNCTION PROPERLY BEFORE CONSTRUCTING SITE IMPROVEMENTS (E.G. IMPERVIOUS SURFACES).
- IF PERMANENT INFILTRATION PONDS ARE USED FOR FLOW CONTROL DURING CONSTRUCTION, PROTECT THESE FACILITIES FROM SILTATION DURING THE CONSTRUCTION PHASE.
- **BMP C208: TRIANGULAR SILT DIKE (GEOTEXTILE-ENCASED CHECK DAM)**

ELEMENT 4: INSTALL SEDIMENT CONTROLS

- DESIGN, INSTALL, AND MAINTAIN EFFECTIVE EROSION CONTROLS AND SEDIMENT CONTROLS TO MINIMIZE THE DISCHARGE OF POLLUTANTS.
- CONSTRUCT SEDIMENT CONTROL BMPS (SEDIMENT PONDS, TRAPS, FILTERS, ETC.) AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPS SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.
- MINIMIZE SEDIMENT DISCHARGES FROM THE SITE. THE DESIGN, INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL STRUCTURES MUST ADDRESS FACTORS SUCH AS THE AMOUNT, FREQUENCY, INTENSITY AND DURATION OF PRECIPITATION, THE NATURE OF RESULTING STORMWATER RUNOFF, AND SOIL CHARACTERISTICS, INCLUDING THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT ON THE SITE.
- DIRECT STORMWATER RUNOFF FROM DISTURBED AREAS THROUGH A SEDIMENT POND OR OTHER APPROPRIATE SEDIMENT REMOVAL BMP, BEFORE THE RUNOFF LEAVES A CONSTRUCTION SITE OR BEFORE DISCHARGE TO AN INFILTRATION FACILITY. RUNOFF FROM FULLY STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP, BUT MUST MEET THE FLOW CONTROL PERFORMANCE STANDARD IN ELEMENT #3, BULLET #1.
- LOCATE BMPS INTENDED TO TRAP SEDIMENT ON-SITE IN A MANNER TO AVOID INTERFERENCE WITH THE MOVEMENT OF JUVENILE SALMONIDS TO ENTER OFF-CHANNEL AREAS OR DRAINAGES.
- WHERE FEASIBLE, DESIGN OUTLET STRUCTURES THAT WITHDRAW IMPOUNDED STORMWATER FROM THE SURFACE TO AVOID DISCHARGING SEDIMENT THAT IS STILL SUSPENDED LOWER IN THE WATER COLUMN.
- **BMP C208: TRIANGULAR SILT DIKE (GEOTEXTILE-ENCASED CHECK DAM)**
- **BMP C233: SILT FENCE**

ELEMENT 5: STABILIZE SOILS

- STABILIZE EXPOSED AND UNWORKED SOILS BY APPLICATION OF EFFECTIVE BMPS THAT PREVENT EROSION. APPLICABLE BMPS INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, SOIL APPLICATION OF POLYACRYLAMIDE (PAM), THE EARLY APPLICATION OF GRAVEL BASE EARLY ON AREAS TO BE PAVED, AND DUST CONTROL.
- CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION.
- CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND TO MINIMIZE DOWNSTREAM CHANNEL AND STREAM BANK EROSION.
- SOILS MUST NOT REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW TO PREVENT EROSION:
 - DURING THE DRY SEASON (MAY 1 – SEPT. 30): 7 DAYS
 - DURING THE WET SEASON (OCTOBER 1 – APRIL 30): 2 DAYS
- STABILIZE SOILS AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.
- STABILIZE SOIL STOCKPILES FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS AND DRAINAGE CHANNELS.
- MINIMIZE THE AMOUNT OF SOIL EXPOSED DURING CONSTRUCTION ACTIVITY.
- MINIMIZE THE DISTURBANCE OF STEEP SLOPES.
- MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
- **BMP C120: TEMPORARY AND PERMANENT SEEDING**
- **BMP C123: PLASTIC COVERING (AS NEEDED)**
- **BMP C130: SURFACE ROUGHENING**
- **BMP C140: DUST CONTROL**

ELEMENT 6: PROTECT SLOPES

- DESIGN AND CONSTRUCT CUT-AND-FILL SLOPES IN A MANNER TO MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO: REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS, REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (FOR EXAMPLE, TRACK WALKING).
- DIVERT OFF-SITE STORMWATER (RUN-ON) OR GROUND WATER AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES AND/OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.
- AT THE TOP OF SLOPES, COLLECT DRAINAGE IN PIPE SLOPE DRAINS OR PROTECTED CHANNELS TO PREVENT EROSION.
- TEMPORARY PIPE SLOPE DRAINS MUST HANDLE THE PEAK VOLUMETRIC FLOW RATE CALCULATED USING A 10-MINUTE TIME STEP FROM A TYPE 1A, 10-YEAR, 24-HOUR FREQUENCY STORM FOR THE DEVELOPED CONDITION. ALTERNATIVELY, THE 10-YEAR AND 1-HOUR FLOW RATE PREDICTED BY AN APPROVED CONTINUOUS RUNOFF MODEL, INCREASED BY A FACTOR OF 1.6, MAY BE USED. THE HYDROLOGIC ANALYSIS MUST USE THE EXISTING LAND COVER CONDITION FOR PREDICTING FLOW RATES FROM TRIBUTARY AREAS OUTSIDE THE PROJECT LIMITS. FOR TRIBUTARY AREAS ON THE PROJECT SITE, THE ANALYSIS MUST USE THE TEMPORARY OR PERMANENT PROJECT LAND COVER CONDITION, WHICHEVER WILL PRODUCE THE HIGHEST FLOW RATES. IF USING THE WESTERN WASHINGTON HYDROLOGY MODEL (WWHM) TO PREDICT FLOWS, BARE SOIL AREAS SHOULD BE MODELED AS "LANDSCAPED" AREA.
- PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.
- PLACE CHECK DAMS AT REGULAR INTERVALS WITHIN CONSTRUCTED CHANNELS THAT ARE CUT DOWN A SLOPE.
- **BMP C120: TEMPORARY AND PERMANENT SEEDING**
- **BMP C130: SURFACE ROUGHENING**

ELEMENT 7: PROTECT DRAIN INLETS

- PROTECT ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT.
- CLEAN OR REMOVE AND REPLACE INLET PROTECTION DEVICES WHEN SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE (UNLESS A DIFFERENT STANDARD IS SPECIFIED BY THE PRODUCT MANUFACTURER).
- **BMP C220: STORM DRAIN INLET PROTECTION**

ELEMENT 8: STABILIZE CHANNELS AND OUTLETS

- DESIGN, CONSTRUCT, AND STABILIZE ALL ON-SITE CONVEYANCE CHANNELS TO PREVENT EROSION FROM THE FOLLOWING EXPECTED PEAK FLOWS:
 - CHANNELS MUST HANDLE THE PEAK VOLUMETRIC FLOW RATE CALCULATED USING A 10-MINUTE STEP FROM A TYPE 1A, 10-YEAR, 24-HOUR FREQUENCY STORM FOR THE DEVELOPED CONDITION. ALTERNATIVELY, THE 10-YEAR, 1-HOUR FLOW RATE INDICATED BY AN APPROVED CONTINUOUS RUNOFF MODEL, INCREASED BY A FACTOR OF 1.6, MAY BE USED. THE HYDROLOGIC ANALYSIS MUST USE THE EXISTING LAND COVER CONDITION FOR PREDICTING FLOW RATES FROM TRIBUTARY AREAS OUTSIDE THE PROJECT LIMITS. FOR TRIBUTARY AREAS ON THE PROJECT SITE, THE ANALYSIS MUST USE THE TEMPORARY OR PERMANENT PROJECT LAND COVER CONDITION, WHICHEVER WILL PRODUCE THE HIGHEST FLOW RATES. IF USING THE WESTERN WASHINGTON HYDROLOGY MODEL (WWHM) TO PREDICT FLOWS, BARE SOIL AREAS SHOULD BE MODELED AS "LANDSCAPED" AREA.
- PROVIDE STABILIZATION, INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAM BANKS, SLOPES AND DOWNSTREAM REACHES AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.
- **BMP C209: OUTLET PROTECTION**

ELEMENT 9: CONTROL POLLUTANTS

- DESIGN, INSTALL, IMPLEMENT AND MAINTAIN EFFECTIVE POLLUTION PREVENTION MEASURES TO MINIMIZE THE DISCHARGE OF POLLUTANTS.
- HANDLE AND DISPOSE OF ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON-SITE IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.
- PROVIDE COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS MUST INCLUDE SECONDARY CONTAINMENT. SECONDARY CONTAINMENT MEANS PLACING TANKS OR CONTAINERS WITHIN AN IMPERVIOUS STRUCTURE CAPABLE OF CONTAINING 110% OF THE VOLUME CONTAINED IN THE LARGEST TANK WITHIN THE CONTAINMENT STRUCTURE. DOUBLE-WALLED TANKS DO NOT REQUIRE ADDITIONAL SECONDARY CONTAINMENT.
- CONDUCT MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES USING SPILL PREVENTION AND CONTROL MEASURES. CLEAN CONTAMINATED SURFACES IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.
- DISCHARGE WHEEL WASH OR TIRE BATH WASTEWATER TO A SEPARATE ON-SITE TREATMENT SYSTEM THAT PREVENTS DISCHARGE TO SURFACE WATER, SUCH AS CLOSED-LOOP RECIRCULATION OR UPLAND APPLICATION, OR TO THE SANITARY SEWER, WITH LOCAL SEWER DISTRICT APPROVAL.
- APPLY FERTILIZERS AND PESTICIDES IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO STORMWATER RUNOFF. FOLLOW MANUFACTURERS' LABEL REQUIREMENTS FOR APPLICATION RATES AND PROCEDURES.
- USE BMPS TO PREVENT CONTAMINATION OF STORMWATER RUNOFF BY PH MODIFYING SOURCES. THE SOURCES FOR THIS CONTAMINATION INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, DEWATERING CONCRETE VAULTS, CONCRETE PUMPING AND MIXER WASHOUT WATERS.
- ADJUST THE PH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.
- ASSURE THAT WASHOUT OF CONCRETE TRUCKS IS PERFORMED OFF-SITE OR IN DESIGNATED CONCRETE WASHOUT AREAS ONLY. DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS. DO NOT DUMP EXCESS CONCRETE ON-SITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS. CONCRETE SPILLAGE OR CONCRETE DISCHARGE TO SURFACE WATERS OF THE STATE IS PROHIBITED.
- OBTAIN WRITTEN APPROVAL FROM ECOLOGY BEFORE USING CHEMICAL TREATMENT OTHER THAN CO2 OR DRY ICE TO ADJUST PH.
- **BMP C151: CONCRETE HANDLING**
- **BMP C154: CONCRETE WASHOUT**

ELEMENT 10: CONTROL DE-WATERING

- DISCHARGE FOUNDATION, VAULT, AND TRENCH DE-WATERING WATER, WHICH HAS SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, INTO A CONTROLLED CONVEYANCE SYSTEM BEFORE DISCHARGE TO A SEDIMENT TRAP OR SEDIMENT POND.
- DISCHARGE CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE, AS SPECIFIED IN ELEMENT #8, PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. DO NOT ROUTE CLEAN DEWATERING WATER THROUGH STORMWATER SEDIMENT PONDS. NOTE THAT SURFACE WATERS OF THE STATE MAY EXIST ON A CONSTRUCTION SITE AS WELL AS OFF-SITE, FOR EXAMPLE, A CREEK RUNNING THROUGH A SITE.
- HANDLE HIGHLY TURBID OR OTHERWISE CONTAMINATED DEWATERING WATER SEPARATELY FROM STORMWATER.
- OTHER TREATMENT OR DISPOSAL OPTIONS MAY INCLUDE:
 - 1. INFILTRATION.
 - 2. TRANSFER OFF-SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
 - 3. ECOLOGY-APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
 - 4. SANITARY OR COMBINED SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
 - 5. USE OF A SEDIMENTATION BAG THAT DISCHARGES TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.
- **CONTRACTOR TO UTILIZE APPROPRIATE BMPS FROM THE 2012 SWMMWW IF DE-WATERING IS NEEDED**

ELEMENT 11: MAINTAIN BMPS

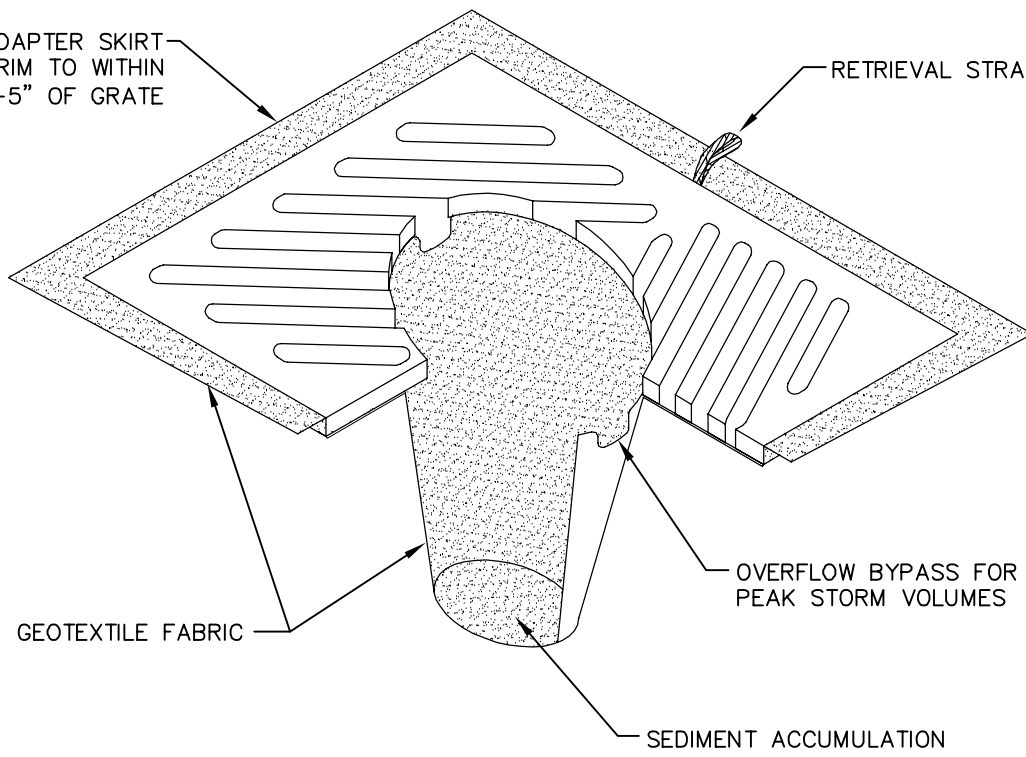
- MAINTAIN AND REPAIR ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION IN ACCORDANCE WITH BMP SPECIFICATIONS.
- REMOVE ALL TEMPORARY AND SEDIMENT CONTROL BMPS WITHIN 30 DAYS AFTER ACHIEVING FINAL SITE STABILIZATION OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED.
- **BMP C160: CERTIFIED EROSION AND SEDIMENT CONTROL LEAD**

ELEMENT 12: MANAGE THE PROJECT

- PHASE DEVELOPMENT PROJECTS TO THE MAXIMUM DEGREE PRACTICABLE AND TAKE INTO ACCOUNT SEASONAL WORK LIMITATIONS.
- INSPECTION AND MONITORING – INSPECT, MAINTAIN AND REPAIR ALL BMPS AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. PROJECTS REGULATED UNDER THE CONSTRUCTION STORMWATER GENERAL PERMIT MUST CONDUCT SITE INSPECTIONS AND MONITORING IN ACCORDANCE WITH SPECIAL CONDITION S4 OF THE CONSTRUCTION STORMWATER GENERAL PERMIT.
- MAINTAINING AN UPDATED CONSTRUCTION SWPPP – MAINTAIN, UPDATE, AND IMPLEMENT THE SWPPP.
- PROJECTS THAT DISTURB ONE OR MORE ACRES MUST HAVE SITE INSPECTIONS CONDUCTED BY A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL). PROJECT SITES DISTURBING LESS THAN ONE ACRE MAY HAVE A CESCL OR A PERSON WITHOUT CESCL CERTIFICATION CONDUCT INSPECTIONS. BY THE INITIATION OF CONSTRUCTION, THE SWPPP MUST IDENTIFY THE CESCL OR INSPECTOR, WHO MUST BE PRESENT ON-SITE OR ON-CALL AT ALL TIMES.
- THE CESCL OR INSPECTOR (PROJECT SITES LESS THAN ONE ACRE) MUST HAVE THE SKILLS TO ASSESS THE:
 - SITE CONDITIONS AND CONSTRUCTION ACTIVITIES THAT COULD IMPACT THE QUALITY OF STORMWATER.
 - EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES USED TO CONTROL THE QUALITY OF STORMWATER DISCHARGES.
- THE CESCL OR INSPECTOR MUST EXAMINE STORMWATER VISUALLY FOR THE PRESENCE OF SUSPENDED SEDIMENT, TURBIDITY, DISCOLORATION, AND OIL SHEEN. THEY MUST EVALUATE THE EFFECTIVENESS OF BMPS AND DETERMINE IF IT IS NECESSARY TO INSTALL, MAINTAIN, OR REPAIR BMPS TO IMPROVE THE QUALITY OF STORMWATER DISCHARGES. BASED ON THE RESULTS OF THE INSPECTION, CONSTRUCTION SITE OPERATORS MUST CORRECT THE PROBLEMS IDENTIFIED BY:
 - REVIEWING THE SWPPP FOR COMPLIANCE WITH THE 13 CONSTRUCTION SWPPP ELEMENTS AND MAKING APPROPRIATE REVISIONS WITHIN 7 DAYS OF THE INSPECTION.
 - IMMEDIATELY BEGINNING THE PROCESS OF FULLY IMPLEMENTING AND MAINTAINING APPROPRIATE SOURCE CONTROL AND/OR TREATMENT BMPS AS SOON AS POSSIBLE, ADDRESSING THE PROBLEMS NOT LATER THAN WITHIN 10 DAYS OF THE INSPECTION. IF INSTALLATION OF NECESSARY TREATMENT BMPS IS NOT FEASIBLE WITHIN 10 DAYS, THE CONSTRUCTION SITE OPERATOR MAY REQUEST AN EXTENSION WITHIN THE INITIAL 10-DAY RESPONSE PERIOD.
 - DOCUMENTING BMP IMPLEMENTATION AND MAINTENANCE IN THE SITE LOG BOOK (SITES LARGER THAN 1 ACRE).
- THE CESCL OR INSPECTOR MUST INSPECT ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, ALL BMPS, AND ALL STORMWATER DISCHARGE POINTS AT LEAST ONCE EVERY CALENDAR WEEK AND WITHIN 24 HOURS OF ANY DISCHARGE FROM THE SITE. (FOR PURPOSES OF THIS CONDITION, INDIVIDUAL DISCHARGE EVENTS THAT LAST MORE THAN ONE DAY DO NOT REQUIRE DAILY INSPECTIONS. FOR EXAMPLE, IF A STORMWATER POND DISCHARGES CONTINUOUSLY OVER THE COURSE OF A WEEK, ONLY ONE INSPECTION IS REQUIRED THAT WEEK.) THE CESCL OR INSPECTOR MAY REDUCE THE INSPECTION FREQUENCY FOR TEMPORARY STABILIZED, INACTIVE SITES TO ONCE EVERY CALENDAR MONTH.
- **BMP C160: CERTIFIED EROSION AND SEDIMENT CONTROL LEAD**

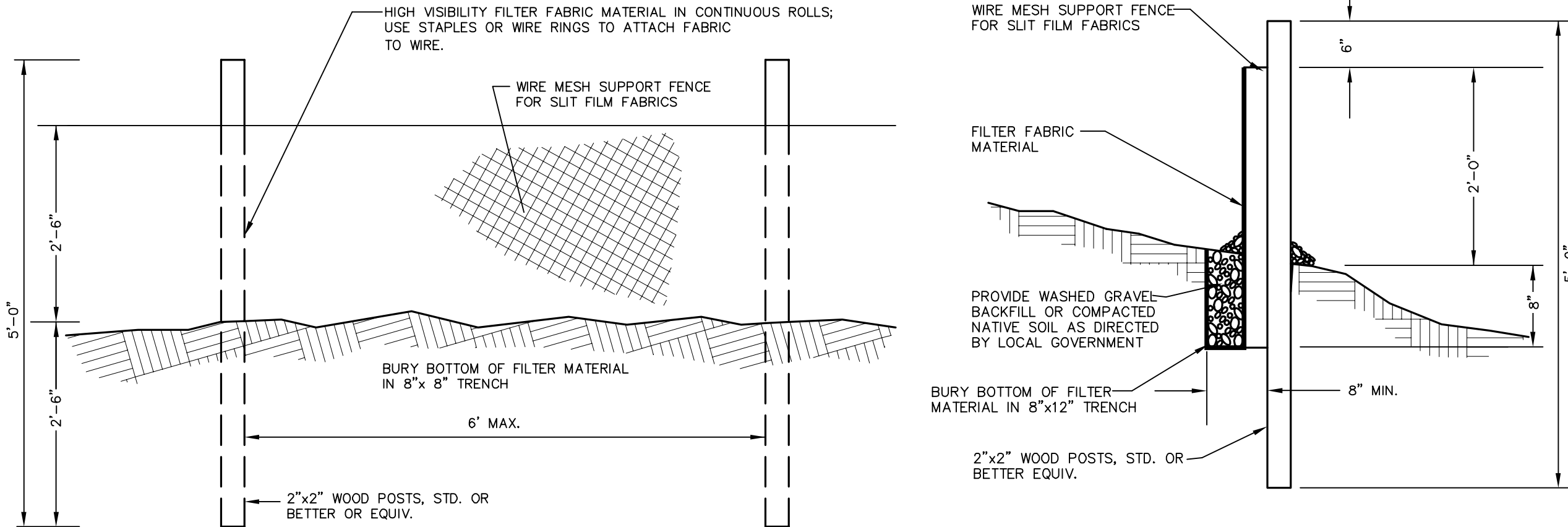
ELEMENT 13: PROTECT LOW IMPACT DEVELOPMENT BMPS

- PROTECT ALL BIORETENTION AND RAIN GARDEN BMPS FROM SEDIMENTATION THROUGH INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPS ON PORTIONS OF THE SITE THAT DRAIN INTO THE BIORETENTION AND/OR RAIN GARDEN BMPS. RESTORE THE BMPS TO THEIR FULLY FUNCTIONING CONDITION IF THEY ACCUMULATE SEDIMENT DURING CONSTRUCTION. RESTORING THE BMP MUST INCLUDE REMOVAL OF SEDIMENT AND ANY SEDIMENT-LADEN BIORETENTION/RAIN GARDEN SOILS, AND REPLACING THE REMOVED SOILS MEETING THE DESIGN SPECIFICATIONS.
- PREVENT COMPACTING BIORETENTION AND RAIN GARDEN BMPS BY EXCLUDING CONSTRUCTION EQUIPMENT AND FOOT TRAFFIC. PROTECT COMPLETED LAWN AND LANDSCAPED AREAS FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT.
- CONTROL EROSION AND AVOID INTRODUCING SEDIMENT FROM SURROUNDING LAND USES ONTO PERMEABLE PAVEMENTS. DO NOT ALLOW MUDDY CONSTRUCTION EQUIPMENT ON THE BASE MATERIAL OR PAVEMENT. DO NOT ALLOW SEDIMENT-LADEN RUNOFF ONTO PERMEABLE PAVEMENTS OR BASE MATERIALS.
- PAVEMENT SOILED WITH SEDIMENTS OR NO LONGER PASSING AN INITIAL INFILTRATION TEST MUST BE CLEANED USING PROCEDURES IN ACCORDANCE WITH THIS MANUAL OR THE MANUFACTURER'S PROCEDURES.
- KEEP ALL HEAVY EQUIPMENT OFF EXISTING SOILS UNDER LID FACILITIES THAT HAVE BEEN EXCAVATED TO FINAL GRADE TO RETAIN THE INFILTRATION RATE OF THE SOILS.



INLET PROTECTION
NTS

- NOTES:
1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING & GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
 2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
 3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, & RE-INSERTING IT INTO THE CATCH BASIN.



SILT FENCE DETAIL
NTS

SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC
CHECKED BY
LP



**Reichhardt & Ebe
ENGINEERING INC**
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO. DATE DESCRIPTION BY

CITY OF FERNDAL
2095 MAIN STREET
FERNDAL, WA 98248

**CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
DETAILS TESC**

DWG 17009 DETAILS.DWG

JOB#

17009

SCALE

H: NA

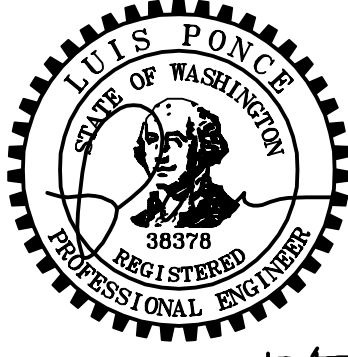
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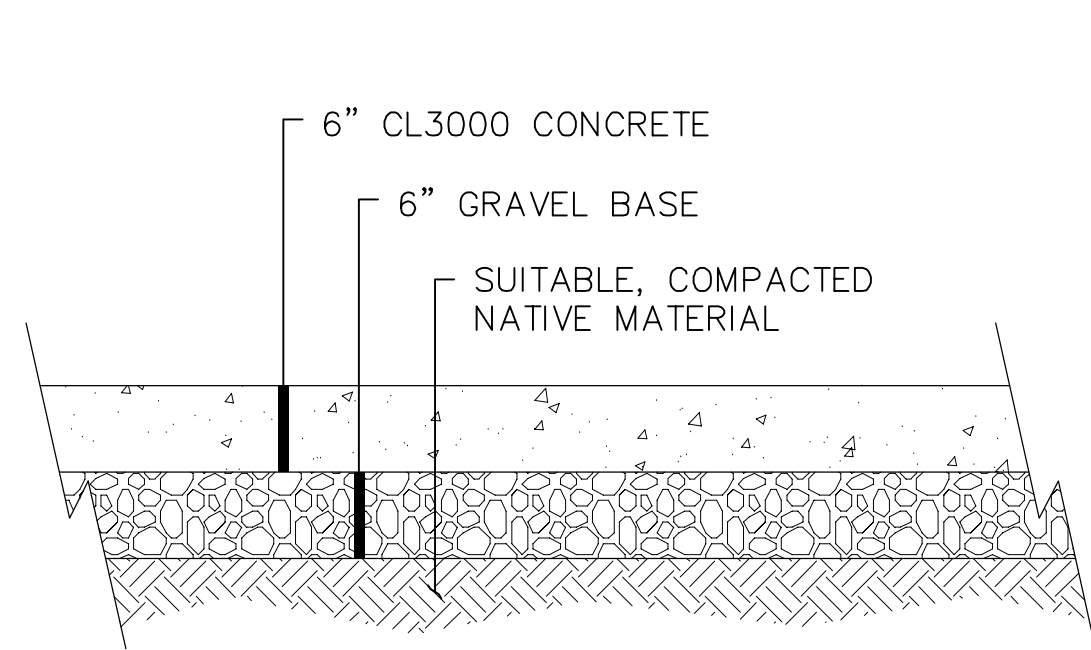
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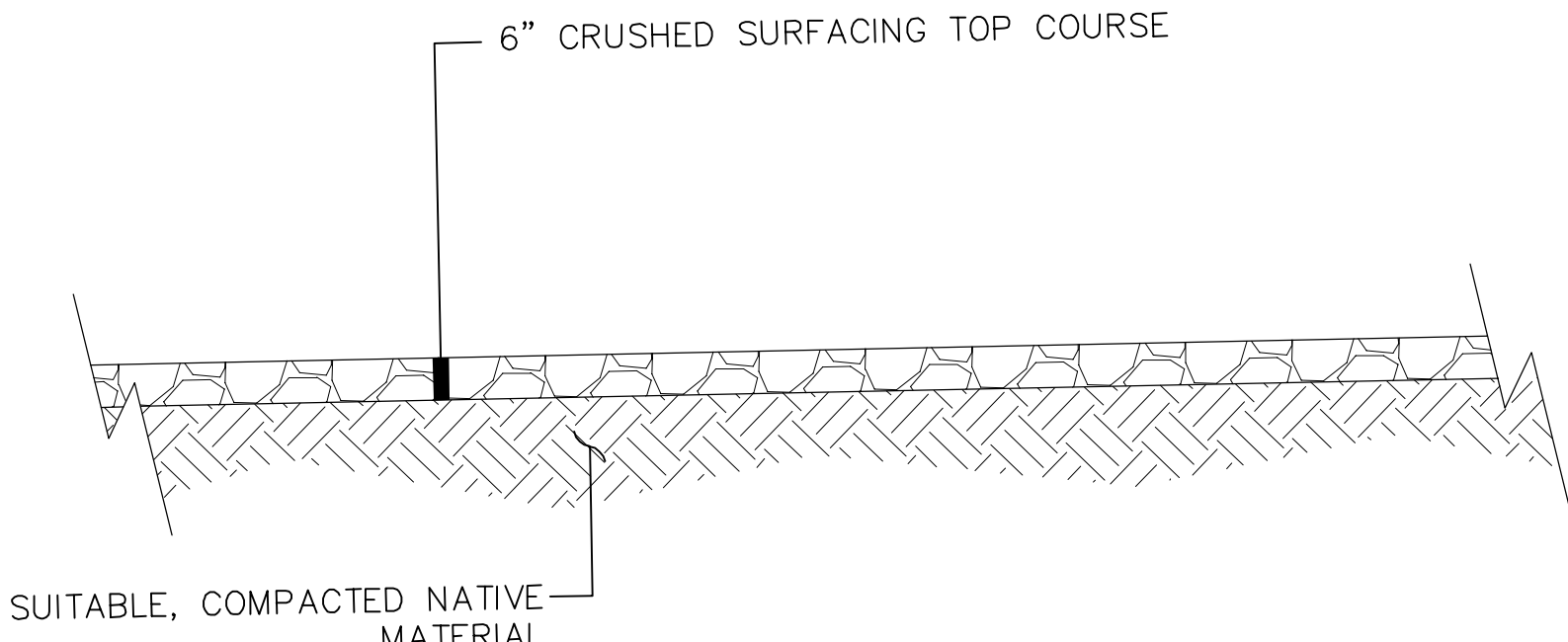
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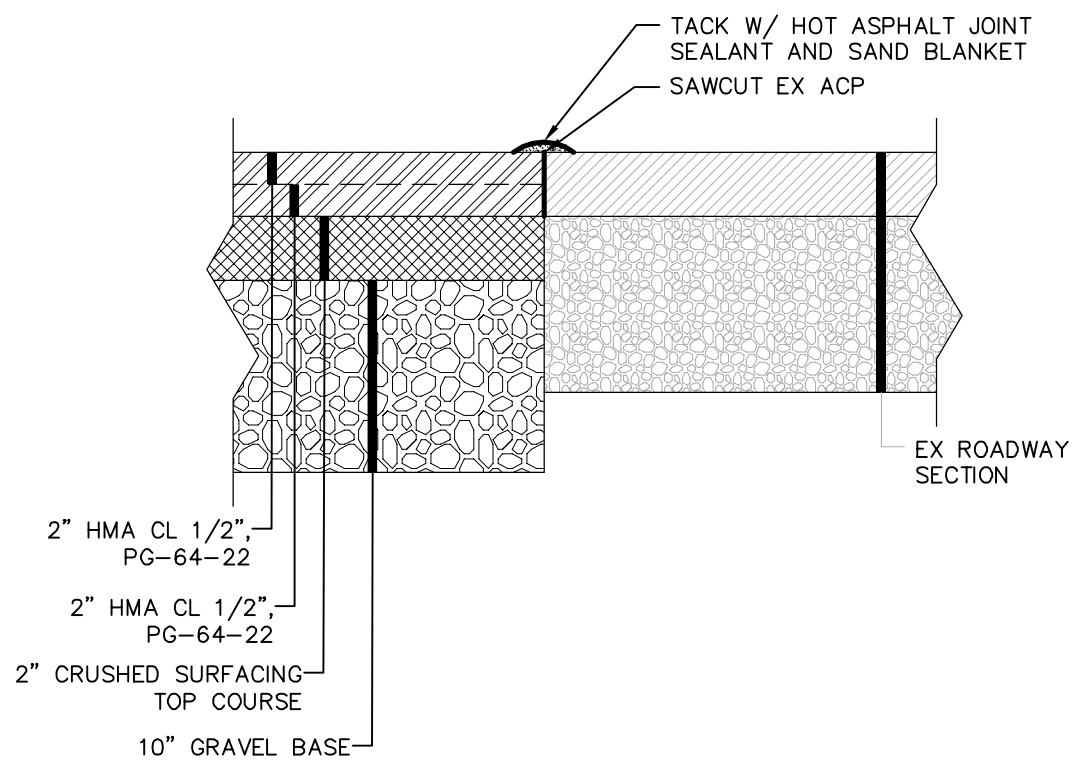
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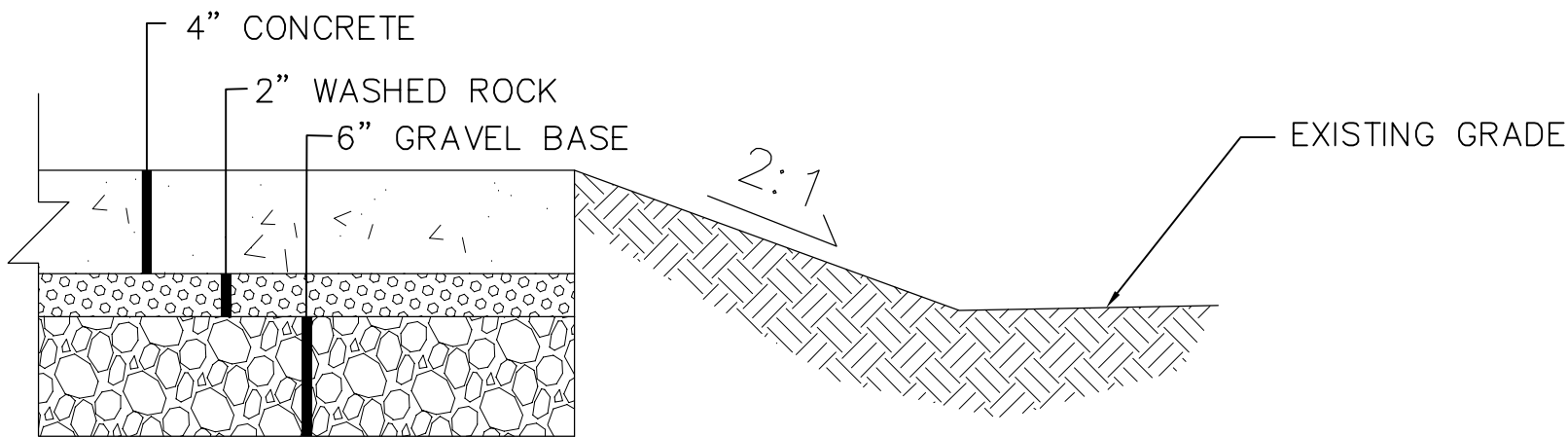
TYPICAL CONCRETE
DRIVEWAY SECTION
NTS



TYPICAL GRAVEL
DRIVEWAY SECTION
NTS



ROADWAY PAVEMENT
MATCH SECTION
NTS



TYPICAL SIDEWALK
SECTION DETAIL
NTS

3/8" - NOTE:
MAX. 1/2"

AT CURB RAMP,
MATCH ROADWAY SLOPE,
COUNTER SLOPE 5% MAX

1"R

2"

1/2" R

8"

2"

2"

FLUSH WITH GUTTER
PAN AT CURB RAMP
ENTRANCE

CURB RAMP/DRIVEWAY SECTION

1/2" R

24"

5-1/2"

1"

1-1/2"

1"R

1"R

12"

6"

1/2" R

6"

3/8"

TYPICAL SECTION

2"

CONTRACT JOINTS

9-1/4"

3"

1. CONTRACTION JOINTS OF ONE OF THE TYPES SHOWN ABOVE TO BE PLACED 10'C/C. JOINTS MUST COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MINIMUM 3/16" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED.

2. 2" WEEP HOLES TO BE PLACED ON EACH SIDE OF DRIVEWAY SECTION & A MAXIMUM 60' C/C IN CUT SECTIONS WHERE SIDEWALK DRAIN NOT REQUIRED BY PUBLIC WORKS DIRECTOR.

3. 3/8" EXPANSION JOINTS TO BE PLACED AT DRIVEWAY SECTIONS, CURB RETURNS, CURB RAMPS, & COLD JOINTS OR A MAXIMUM OF 80' C/C. EXPANSION JOINTS SHALL PROTRUDE 1" BELOW THE BOTTOM OF GUTTER.

4. CONCRETE SHALL BE CEMENT CONCRETE "CLASS 3000".

5. FINISHED WORK SHALL NOT VARY MORE THAN 1/8" IN GRADE AND 1/4" IN ALIGNMENT WHEN CHECKED WITH A 10" STRAIGHT EDGE.

6. EXPOSED SURFACES SHALL BE BRUSHED WITH A FIBER HAIR BRUSH.

7. WHITE PIGMENTED OR TRANSPARENT CURING COMPOUND SHALL BE APPLIED AS OUTLINED IN THE STANDARD SPECIFICATIONS.

8. FURTHER REQUIREMENTS SHALL BE AS SPECIFIED IN THE STANDARD SPECIFICATIONS.

NOVEMBER 25, 2016

CITY OF FERNDALE
WASHINGTON

APPROVED

Public Works Director

Date

CURB AND GUTTER
INSTALLATION

STANDARD DETAIL R-9

NOT TO SCALE

SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC
CHECKED BY
LP

Reichhardt & Ebe
ENGINEERING INC

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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

CHERRY STREET
FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B
DETAILS ROAD

DWG 17009 DETAILS.DWG

JOB#

SCALE

H: NA

V: NA

DATE 12/17/2018

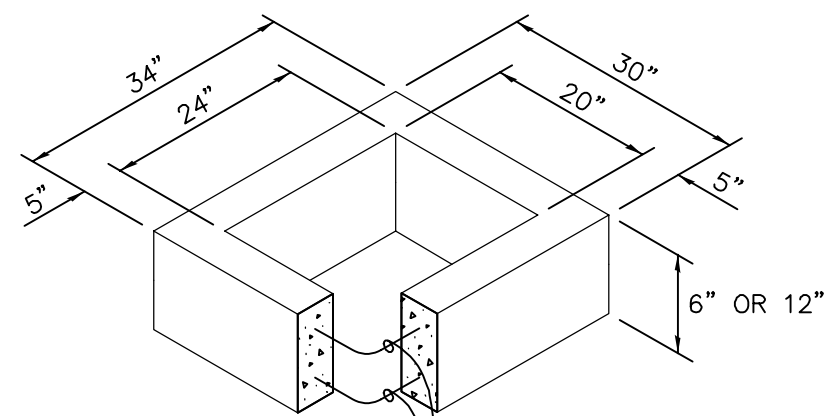
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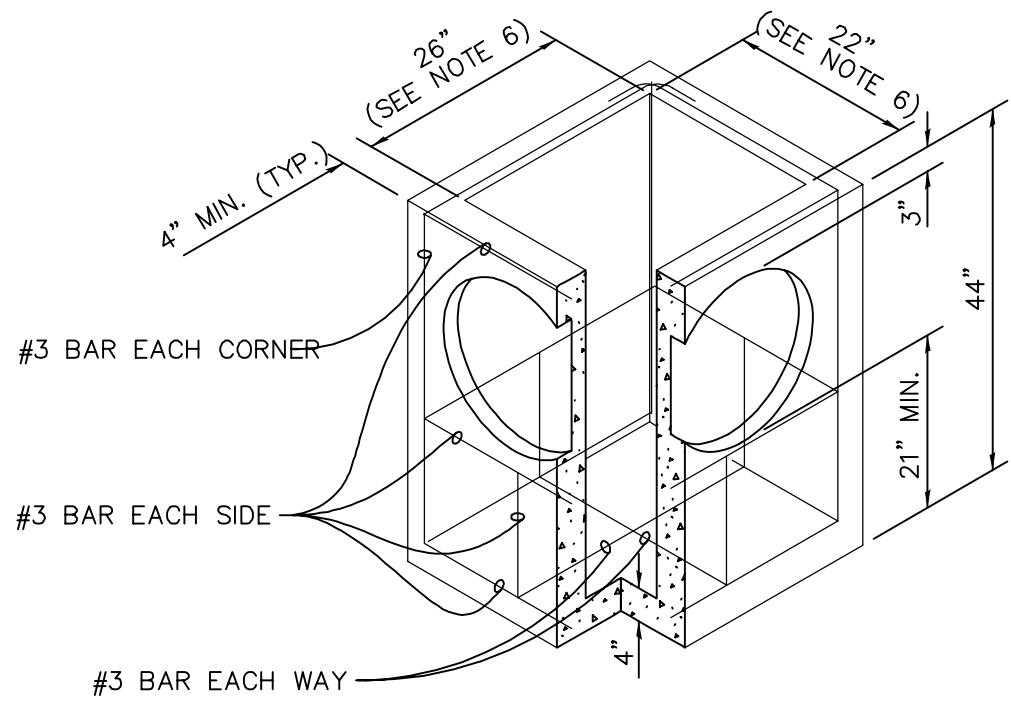
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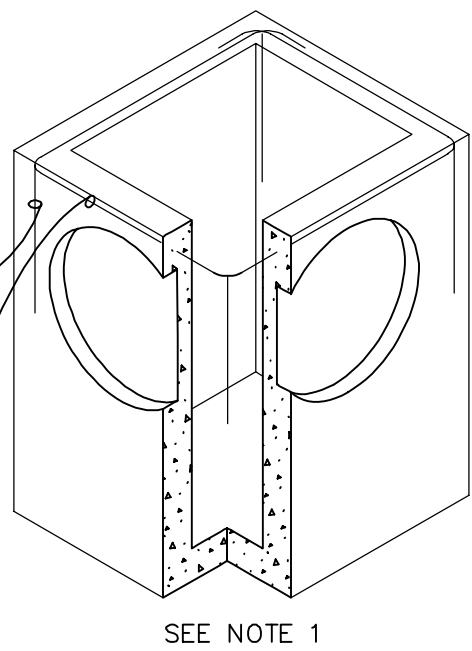


ONE #3 BAR HOOP FOR 6" HEIGHT
TWO #3 BAR M HOOPS FOR 12"
HEIGHT



#3 BAR EACH CORNER
18" MIN.

#3 BAR HOOP



SEE NOTE 1

CATCH BASIN TYPE 1

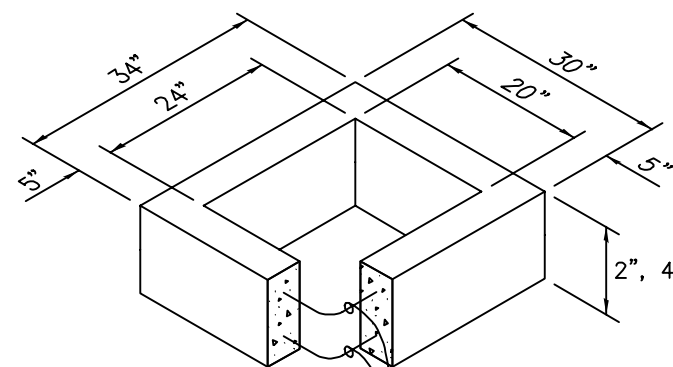
NTS

NOTES

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5".
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE UP OR DOWN. THE FRAME MAY BE CAST INTO THE ADJUSTMENT SECTION.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

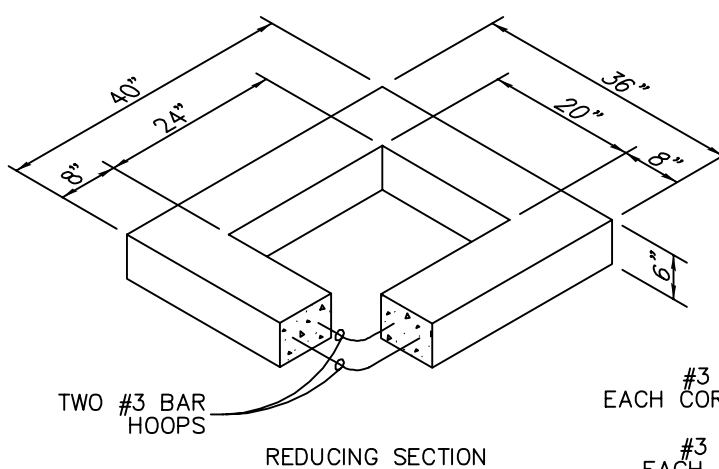
PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	18"
ALL METAL PIPE	21"
CPSSP * (STD. SPEC. 9-05.20)	18"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	21"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	21"

* CORRUGATED POLYETHYLENE
STORM SEWER PIPE



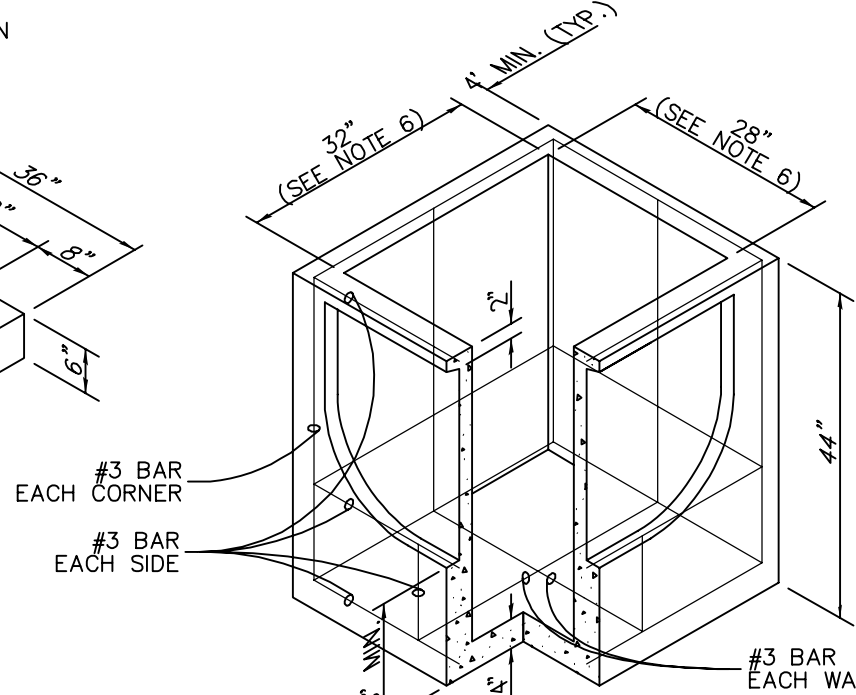
ONE #3 BAR FOR EACH 6" HEIGHT
INCREMENT, SPACED EQUALLY

RECTANGULAR ADJUSTMENT SECTION

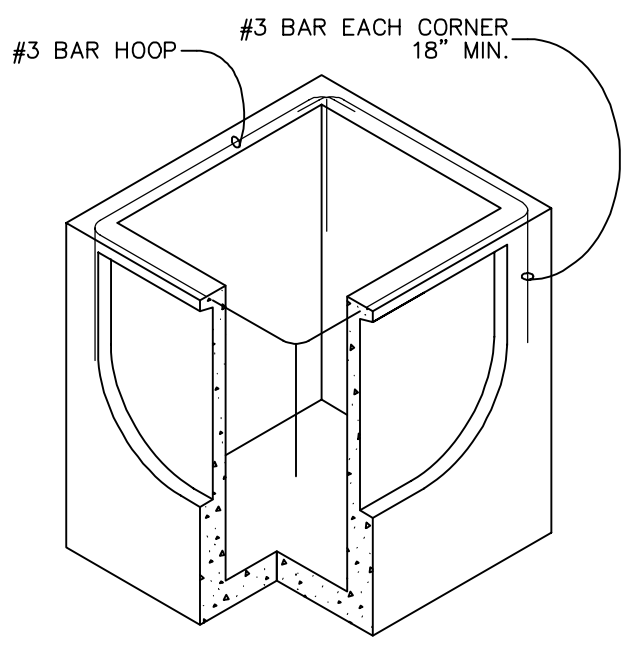


TWO #3 BAR
HOOPS

REDUCING SECTION



PRECAST BASE SECTION



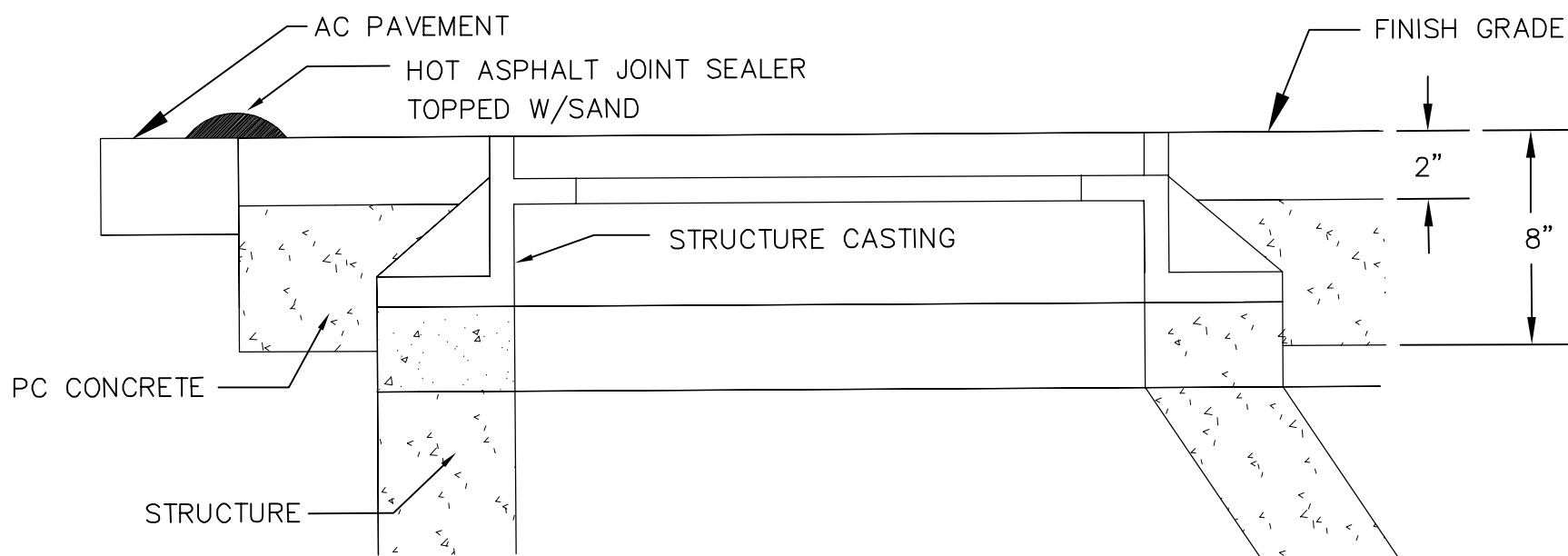
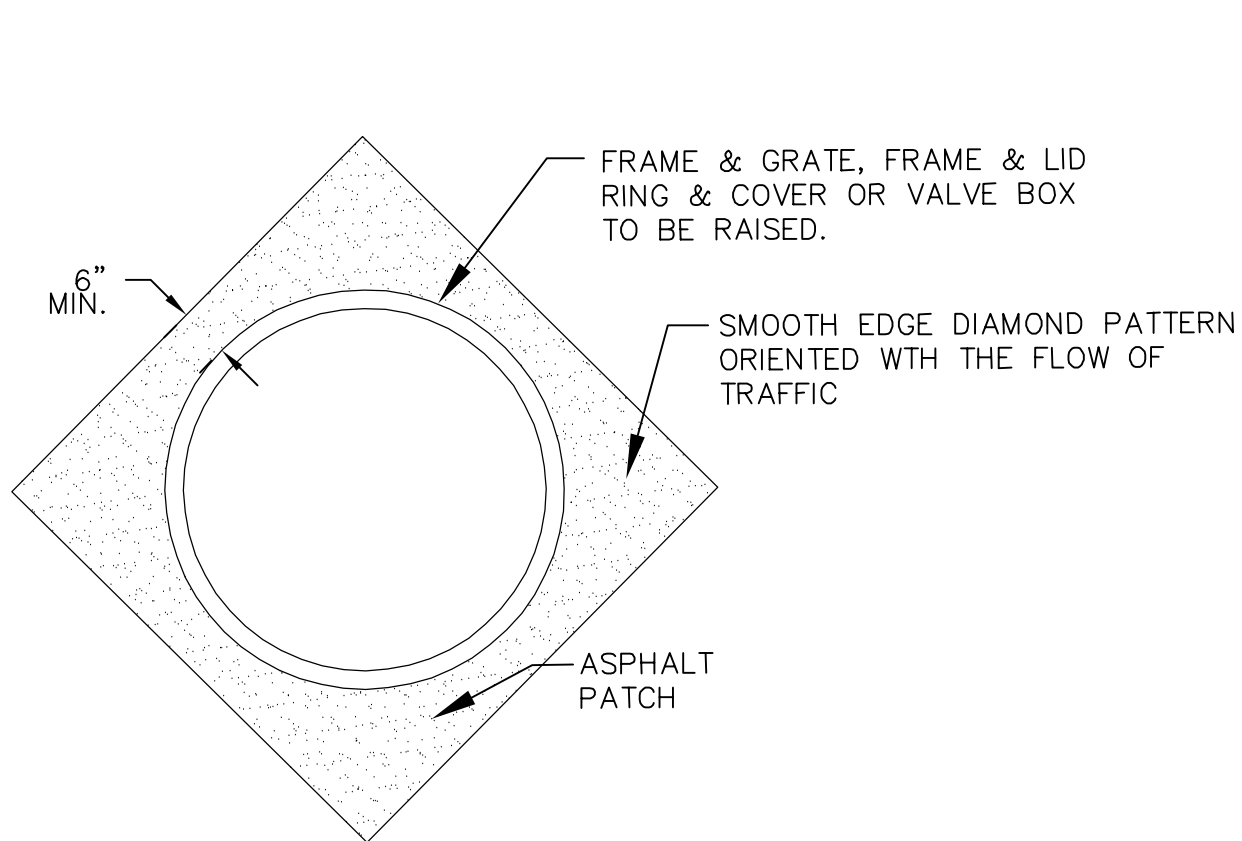
(SEE NOTE 1)
ALTERNATIVE PRECAST BASE SECTION

CATCH BASIN TYPE 1L

NTS

NOTES

- AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT, SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
- THE KNOCKOUT SHALL NOT BE GREATER THAN 26", IN ANY DIRECTION. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION 9-04.3.
- THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5".
- THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
- THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
- THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
- ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.



ADJUSTING CASTINGS TO FINISHED GRADE

NTS

NOTES:

- ALL FRAMES, COVERS AND VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:
- CUT THE ASPHALT IN A DIAMOND AROUND THE STRUCTURE CASTING TO BE ADJUSTED.
 - REMOVE THE FILL MATERIAL WITHIN THE CUT PAVEMENT AREA TO 8 INCHES MIN. BELOW FINISH GRADE.
 - PLACE THE CASTING AT FINISH GRADE.
 - PLACE PORTLAND CEMENT CONCRETE TO WITHIN THE TOP 2 INCHES OF FINISH GRADE.
 - APPLY TACK TO THE STRUCTURE CASTING, CUT PAVEMENT, AND PC CONCRETE.
 - PLACE AND COMPACT 2 INCHES OF COMMERCIAL HMA TO FINISH GRADE.
 - SEAL PAVEMENT JOINTS WITH HOT ASPHALT JOINT SEALER AND TOP WITH SAND.



SUBMITTED WITH
DESIGN PLAN

DESIGNED BY
OAM
DRAWN BY
PJC
CHECKED BY
LP



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FIRST TO THIRD AVENUE SIDEWALK PROJECT
SCHEDULE A AND B**
DETAILS STORM 2

DWG 17009 DETAILS.DWG

JOB#

17009

SCALE

H: NA

V: NA

DATE 12/17/2018

SHEET

17

of 17