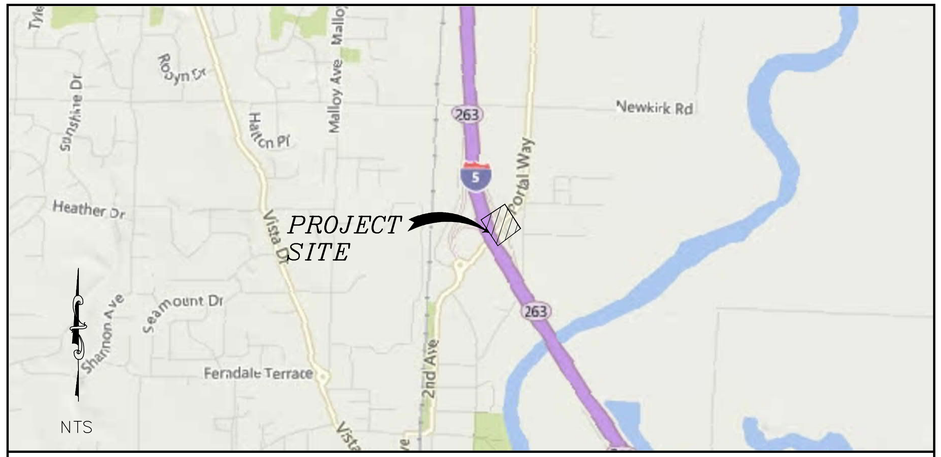
PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS

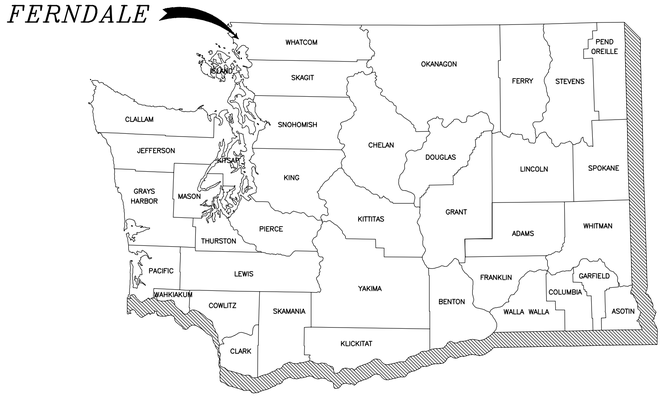
FERNDALE, WA

PROJECT No. ST2016-03

VICINITY MAP

PROJECT LOCATED IN SECTION 20, TOWNSHIP 39N, RANGE 2E, W.M.





SHEET SERIES INDEX

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY LP
DRAWN BY RWG
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 FERNDALE
2095 MAIN ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
COVER

DWG 16033 COVER
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 1 of 20

ABBREVIATIONS

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

NOTES

1. FIELD WORK PERFORMED BY LARRY STEELE AND ASSOCIATES, INC., BELLINGHAM, WA. TOPOGRAPHIC SURVEY PERFORMED IN JULY, 2016.
2. HORIZONTAL DATUM: BASIS OF BEARING IS NAD 83/11, WASHINGTON STATE PLANE NORTH ZONE, DERIVED FROM CONVENTIONAL SURVEY METHOD TIED TO WSDOT SURVEY CONTROL POINTS GP29020-55 AND W327, VERTICAL DATUM: NAVD 88 HOLDING THE PUBLISHED ELEVATION FROM WSDOT SURVEY CONTROL POINT GP29020-55

LEGEND

EXISTING

- = EXISTING TOP OF BANK
- = EXISTING BOTTOM OF BANK
- = EXISTING DITCH ℄
- = EXISTING GRADE BREAK
- = EXISTING MAJOR CONTOUR
- = EXISTING MINOR CONTOUR
- = EXISTING GUARDRAIL
- = EXISTING FENCE
- = EXISTING GRAVEL
- = EXISTING WALL
- = EXISTING BUILDING
- = EXISTING PROPERTY BOUNDARY
- = EXISTING RIGHT OF WAY
- = EXISTING RIGHT OF WAY ℄
- = EXISTING EASEMENT
- = EXISTING ROAD ℄
- = EXISTING WETLANDS BOUNDARY
- = EXISTING TRAFFIC STRIPING
- = EXISTING EDGE OF PAVEMENT
- = EXISTING FLOWLINE
- = EXISTING TOP BACK OF CURB
- = EXISTING SIDEWALK
- = EXISTING POWER BURIED
- = EXISTING OVERHEAD POWER
- = EXISTING COMMUNICATIONS BURIED
- = EXISTING OVERHEAD COMMUNICATIONS
- = EXISTING FIBER OPTICS BURIED
- = EXISTING TV BURIED
- = EXISTING TELEPHONE BURIED
- = EXISTING CONDUIT
- = EXISTING GAS MAIN
- = EXISTING WATER MAIN
- = EXISTING IRRIGATION LINE
- = EXISTING SANITARY SEWER FORCE MAIN
- = EXISTING SANITARY SEWER
- = EXISTING STORM DRAIN
- = EXISTING ORDINARY HIGH WATER
- = EXISTING CULVERT
- = EXISTING TREE LINE
- = EXISTING CONCRETE
- = EXISTING RR TRACKS
- = EXISTING SIGNAL POLE
- = EXISTING SIGNAL POLE W/ LUMINARE
- = 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 TOP OF BANK
- = PROPOSED TOE OF BANK
- = PROPOSED DITCH ℄
- = PROPOSED GRADE BREAK
- = PROPOSED MAJOR CONTOUR
- = PROPOSED MINOR CONTOUR
- = PROPOSED GUARDRAIL
- = PROPOSED FENCE
- = PROPOSED GRAVEL
- = PROPOSED WALL
- = PROPOSED BUILDING
- = PROPOSED PAVEMENT VALLEY
- = PROPOSED RIGHT OF WAY
- = PROPOSED AUTOTURN
- = PROPOSED CONSTRUCTION EASEMENT
- = PROPOSED ROAD ℄
- = PROPOSED SAWCUT
- = PROPOSED TRAFFIC STRIPE
- = PROPOSED ROAD EDGE OF PAVEMENT
- = PROPOSED CURB AND GUTTER
- = PROPOSED PATH
- = PROPOSED SIDEWALK
- = PROPOSED POWER LINE
- = PROPOSED ROCK WALL
- = PROPOSED PARKING STRIPE
- = PROPOSED TRAFFIC SIGNAL CONDUCTOR
- = PROPOSED FIBER OPTICS
- = PROPOSED SILT FENCE
- = PROPOSED CONDUIT
- = PROPOSED HANDRAIL
- = PROPOSED IRRIGATION LINE
- = PROPOSED WATER MAIN
- = PROPOSED SANITARY SEWER FORCE MAIN
- = PROPOSED SANITARY SEWER
- = PROPOSED STORM DRAIN
- = PROPOSED CULVERT
- = PROPOSED TREE LINE
- = PROPOSED CONC. SIDEWALK/DRIVEWAY
- = PROPOSED INFILTRATION TRENCH
- = PROPOSED INFILTRATION FILTER MEDIA
- = PROPOSED GRIND
- = PROPOSED DEMOLITION AREA
- = PROPOSED ASPHALT
- = PROPOSED RIGHT OF WAY TAKE
- = 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

DETAIL NUMBER / DET / SHT / SHEET NUMBER

= SECTION MARK

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP
DRAWN BY	RWG
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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
LEGEND AND ABBREVIATIONS

DWG 16033 COVER		DATE 12/17/2018
JOB# 16033	SCALE H: N/A V: N/A	SHEET 2 of 20

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SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

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

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	-	-	-	-	-	-
10'	40	60	90	90	-	-	-	-	-	-

USE A 3 DEVICES TAPER FOR SHOULDERS LESS THEN 8'

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/40	30	60
25/30	20	40

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

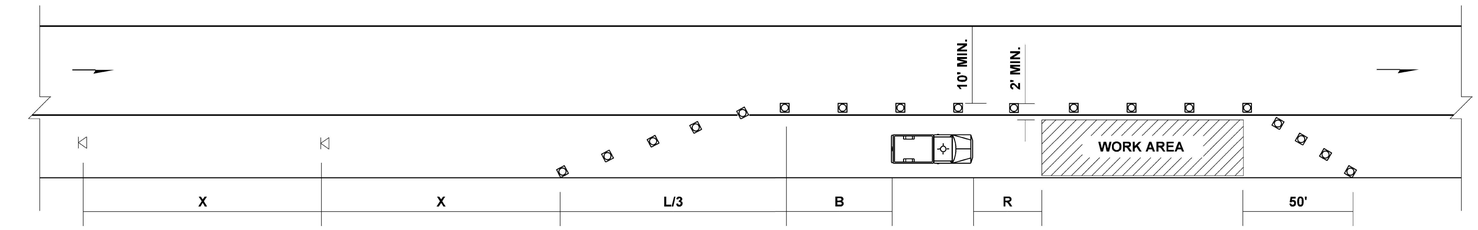
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

PROTECTIVE VEHICLE (WORK VEHICLE) = R

NO SPECIFIED DISTANCE REQUIRED

NOT TO SCALE



W20-1

W21-5

LEGEND

- SIGN LOCATION
- CHANNELIZING DEVICES – TRAFFIC SAFETY DRUMS. TYPE C STEADY BURN WARNING LIGHTS REQUIRED DURING HOURS OF DARKNESS.
- PROTECTIVE VEHICLE

PHASE 1
SHOULDER WIDENING
SHOULDER CLOSURE - LOW SPEED
(40 MPH OR LESS)

NOT TO SCALE

NOTES:

1. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
2. ALL SIGNS ARE BLACK ON ORANGE.

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

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DESIGNED BY
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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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
WSDOT TYPICAL SHOULDER CLOSURE

DWG 16033 TC PLAN
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 3 of 20

00655.003 12/28/18 KB

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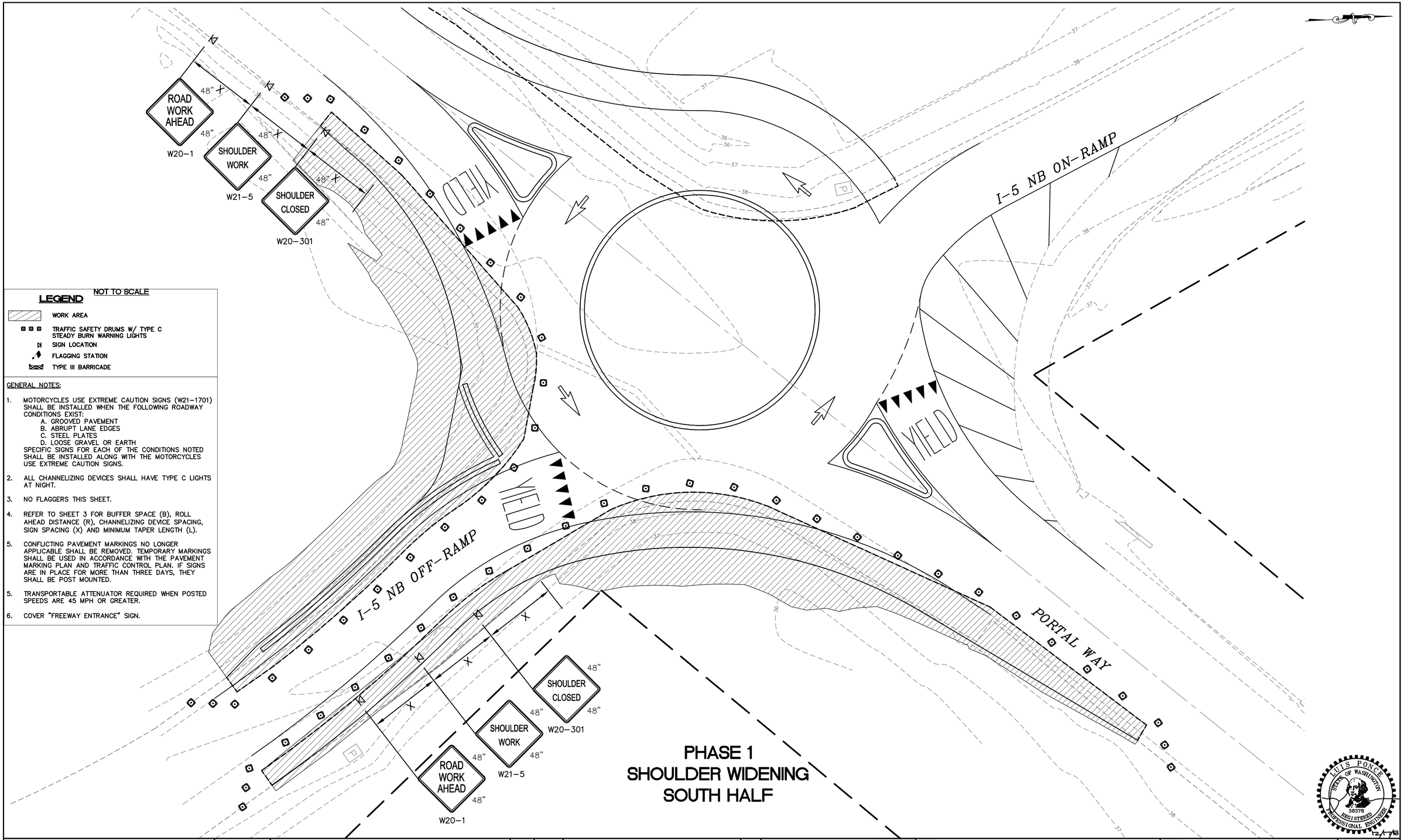

NOT TO SCALE

LEGEND

- WORK AREA
- TRAFFIC SAFETY DRUMS W/ TYPE C STEADY BURN WARNING LIGHTS
- SIGN LOCATION
- FLAGGING STATION
- TYPE III BARRICADE

GENERAL NOTES:

1. MOTORCYCLES USE EXTREME CAUTION SIGNS (W21-1701) SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
   - A. GROOVED PAVEMENT
   - B. ABRUPT LANE EDGES
   - C. STEEL PLATES
   - D. LOOSE GRAVEL OR EARTH

   SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED SHALL BE INSTALLED ALONG WITH THE MOTORCYCLES USE EXTREME CAUTION SIGNS.
2. ALL CHANNELIZING DEVICES SHALL HAVE TYPE C LIGHTS AT NIGHT.
3. NO FLAGGERS THIS SHEET.
4. REFER TO SHEET 3 FOR BUFFER SPACE (B), ROLL AHEAD DISTANCE (R), CHANNELIZING DEVICE SPACING, SIGN SPACING (X) AND MINIMUM TAPER LENGTH (L).
5. CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED. TEMPORARY MARKINGS SHALL BE USED IN ACCORDANCE WITH THE PAVEMENT MARKING PLAN AND TRAFFIC CONTROL PLAN. IF SIGNS ARE IN PLACE FOR MORE THAN THREE DAYS, THEY SHALL BE POST MOUNTED.
5. TRANSPORTABLE ATTENUATOR REQUIRED WHEN POSTED SPEEDS ARE 45 MPH OR GREATER.
6. COVER "FREEWAY ENTRANCE" SIGN.

PHASE 1
SHOULDER WIDENING
SOUTH HALF

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	DRAWN BY	CHECKED BY
	RWG	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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
I-5 EXIT 263 - NB RAMPS - S. SHOULDER CLOSURE

DWG	DATE
16033 TC PLAN	12/17/2018
JOB# 16033	SCALE H: N/A V: N/A
	SHEET 4 of 20

00655.004 12/28/18 KB

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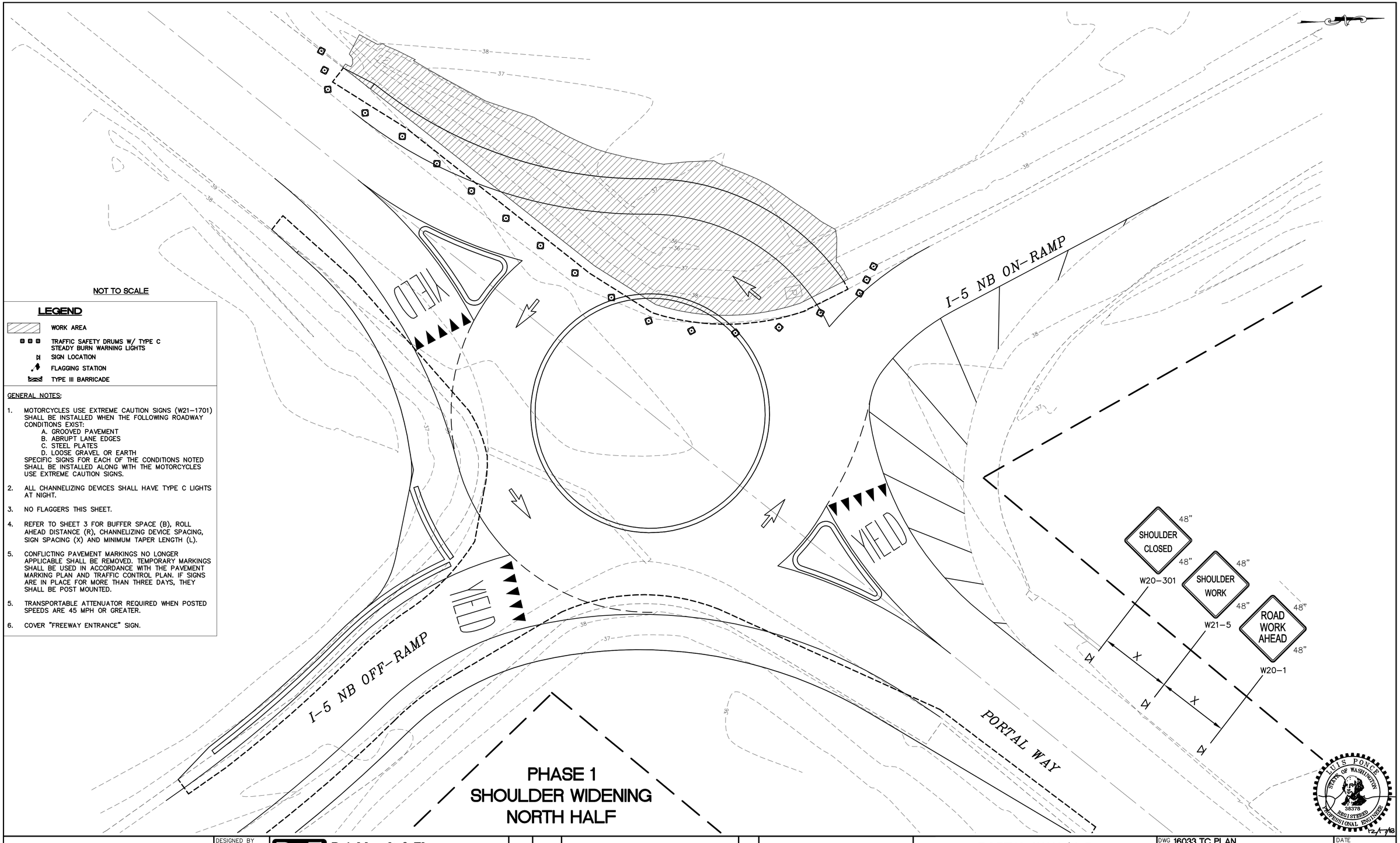
NOT TO SCALE

LEGEND

- WORK AREA
- TRAFFIC SAFETY DRUMS W/ TYPE C STEADY BURN WARNING LIGHTS
- SIGN LOCATION
- FLAGGING STATION
- TYPE III BARRICADE

GENERAL NOTES:

1. MOTORCYCLES USE EXTREME CAUTION SIGNS (W21-1701) SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
   A. GROOVED PAVEMENT
   B. ABRUPT LANE EDGES
   C. STEEL PLATES
   D. LOOSE GRAVEL OR EARTH
   SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED SHALL BE INSTALLED ALONG WITH THE MOTORCYCLES USE EXTREME CAUTION SIGNS.
2. ALL CHANNELIZING DEVICES SHALL HAVE TYPE C LIGHTS AT NIGHT.
3. NO FLAGGERS THIS SHEET.
4. REFER TO SHEET 3 FOR BUFFER SPACE (B), ROLL AHEAD DISTANCE (R), CHANNELIZING DEVICE SPACING, SIGN SPACING (X) AND MINIMUM TAPER LENGTH (L).
5. CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED. TEMPORARY MARKINGS SHALL BE USED IN ACCORDANCE WITH THE PAVEMENT MARKING PLAN AND TRAFFIC CONTROL PLAN. IF SIGNS ARE IN PLACE FOR MORE THAN THREE DAYS, THEY SHALL BE POST MOUNTED.
5. TRANSPORTABLE ATTENUATOR REQUIRED WHEN POSTED SPEEDS ARE 45 MPH OR GREATER.
6. COVER "FREEWAY ENTRANCE" SIGN.



PHASE 1
SHOULDER WIDENING
NORTH HALF

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY
DRAWN BY RWG
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 FERNDALE
2095 MAIN ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
I-5 EXIT 263 - NB RAMPS - N. SHOULDER CLOSURE

DWG 16033 TC PLAN
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 5 of 20

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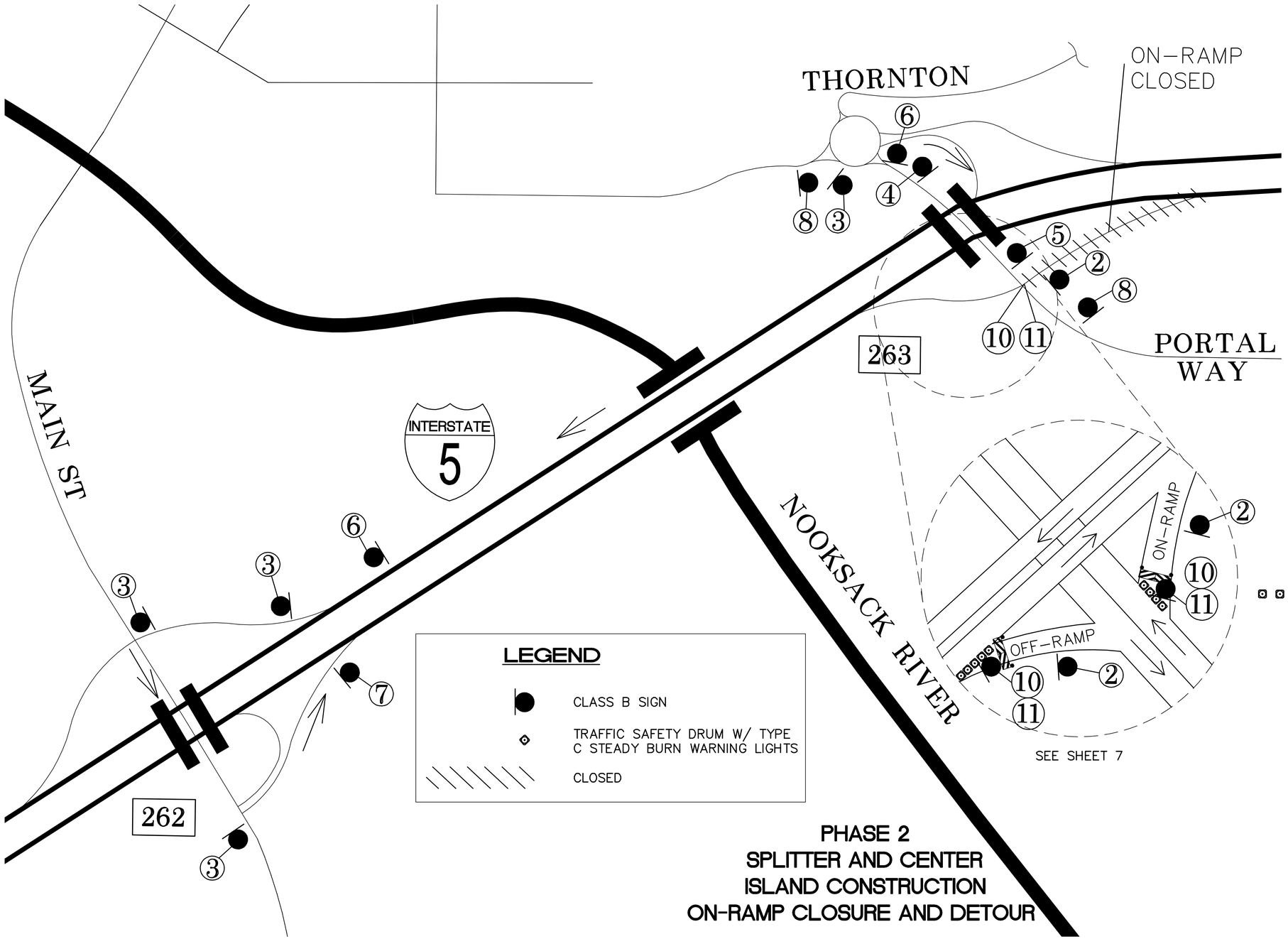
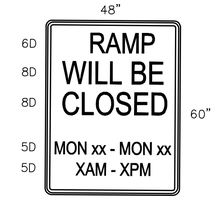


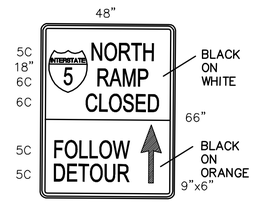
PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION
ON-RAMP CLOSURE AND DETOUR



ADVANCE NOTICE SIGN
R11–1501

INSTALL 5 DAYS MIN.
PRIOR TO CLOSURE

②



SPECIAL
BLACK ON ORANGE

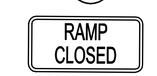
⑧

TRAFFIC SAFETY
DRUMS W/TYPE C
LIGHTS

⑨

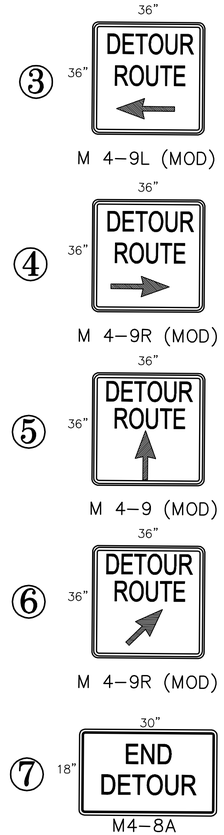
TYPE III
BARRICADE
W/R11–2 SIGN

⑩



R11–201
48"x30"
B/W

⑪



LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN	DESIGNED BY LP DRAWN BY RWG 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 ST FERNDALE, WA 98248	PORTAL WAY / I-5 ROUNDABOUT IMPROVEMENTS I-5 EXIT 263 - NB RAMPS - ON RAMP CLOSURE	DWG 16033 TC PLAN JOB# 16033 SCALE H: N/A V: N/A	DATE 12/17/2018 SHEET 6 of 20

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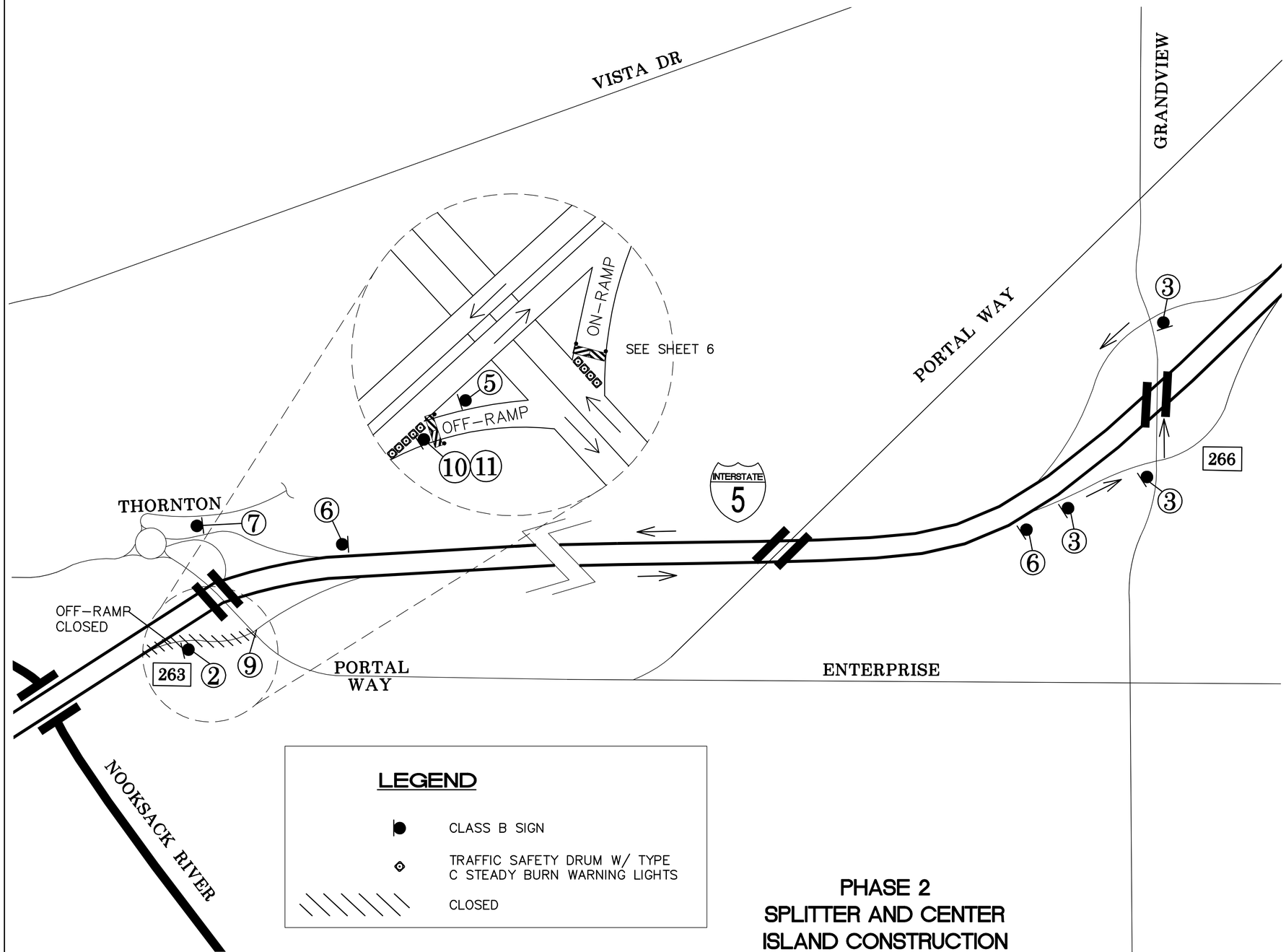


LEGEND

- CLASS B SIGN
- TRAFFIC SAFETY DRUM W/ TYPE C STEADY BURN WARNING LIGHTS
- CLOSED

PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION

TRAFFIC SAFETY DRUMS W/TYPE C LIGHTS

⑨

TYPE III BARRICADE W/R11-2 SIGN

⑩

RAMP CLOSED

R11-201
48"x30"
B/W

⑪

48"

6D
8D
8D
5D
5D

RAMP WILL BE CLOSED

MON xx - MON xx
XAM - XPM

60"

ADVANCE NOTICE SIGN
R11-1501

INSTALL 5 DAYS MIN. PRIOR TO CLOSURE

②

③ 36" x 36" DETOUR ROUTE ←

M 4-9L (MOD)

④ 36" x 36" DETOUR ROUTE →

M 4-9R (MOD)

⑤ 36" x 36" DETOUR ROUTE ↑

M 4-9 (MOD)

⑥ 36" x 36" DETOUR ROUTE ↗

M 4-9R (MOD)

⑦ 30" x 18" END DETOUR

M4-8A

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN	DESIGNED BY LP DRAWN BY RWG 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 ST FERNDALE, WA 98248	PORTAL WAY / I-5 ROUNDABOUT IMPROVEMENTS I-5 EXIT 263 - NB RAMPS - OFF RAMP CLOSURE	DWG 16033 TC PLAN JOB# 16033 SCALE H: N/A V: N/A DATE 12/17/2018 SHEET 7 of 20

00655.007 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2015\16033 TC PLAN.dwg, 7-1-5 EXIT 263 - NB RAMPS - OFF RAMP CLOSURE, 12/17/2018 12:28:22 PM, PDF-XChange Standard

LEGEND

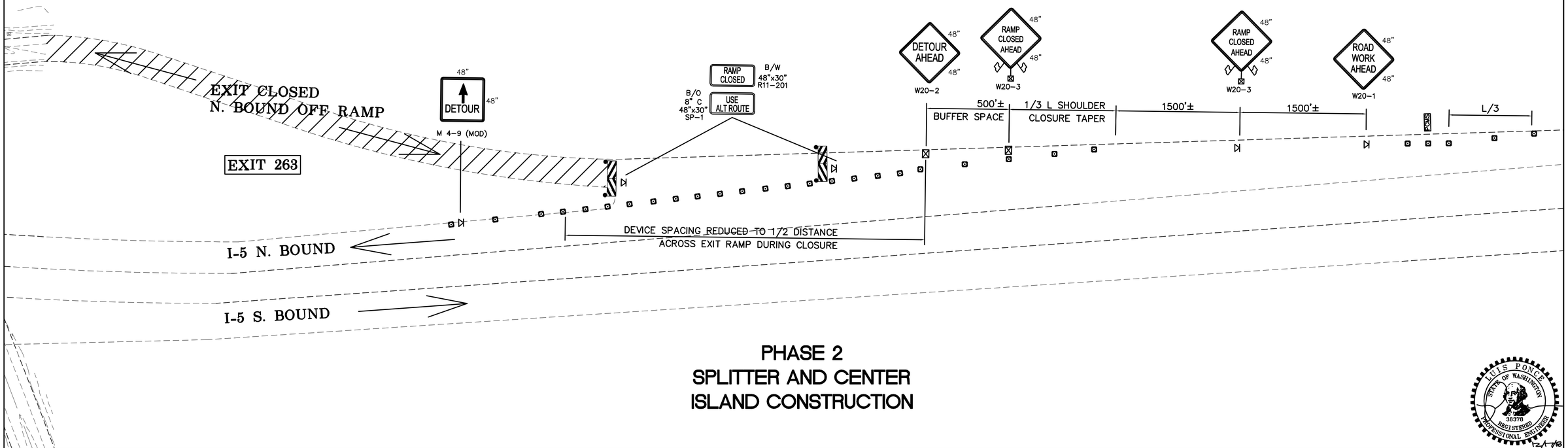
- SIGN LOCATION (CLASS B)
- SIGN LOCATION (CLASS A)
- SIGN LOCATION – TRIPOD MOUNTED
- FLAGGING STATION
- OR TRAFFIC SAFETY DRUMS WITH TYPE C LIGHTS
- TYPE III R AND TYPE III L, BARRICADE
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	40	80
35/45	30	60
25/30	20	40

PCMS	
1	2
EXIT XXX CLOSED	USE EXIT XXX
2 SEC	2 SEC
FIELD LOCATE 1 MILE ± PRIOR TO CLOSURE	

LANE WIDTH (FEET)	MINIMUM TAPER LENGTH IN FEET (L)									
	POSTED SPEED LIMIT (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	63	90	123	165	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	520	560
10	105	150	204	270	450	500	550	600	650	700
11	115	165	225	295	495	550	605	660	715	770
12	125	180	245	320	540	600	660	720	780	840
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

NO FLAGGERS OR SPOTTERS



PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN	DESIGNED BY LP DRAWN BY RWG 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 ST FERNDALE, WA 98248	PORTAL WAY / I-5 ROUNDABOUT IMPROVEMENTS I-5 EXIT 263 - NB RAMPS - OFF-RAMP SIGNAGE	DWG 16033 TC PLAN JOB# 16033 SCALE H: N/A V: N/A DATE 12/17/2018 SHEET 8 of 20

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

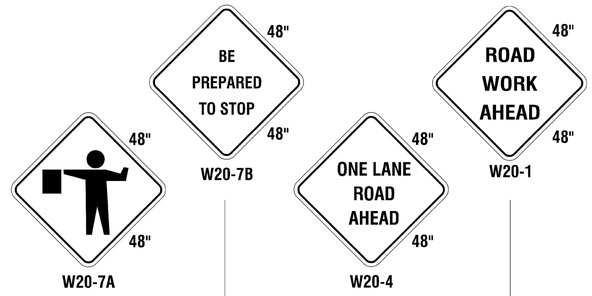
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

PROTECTIVE VEHICLE (WORK VEHICLE) = R
NO SPECIFIED DISTANCE REQUIRED

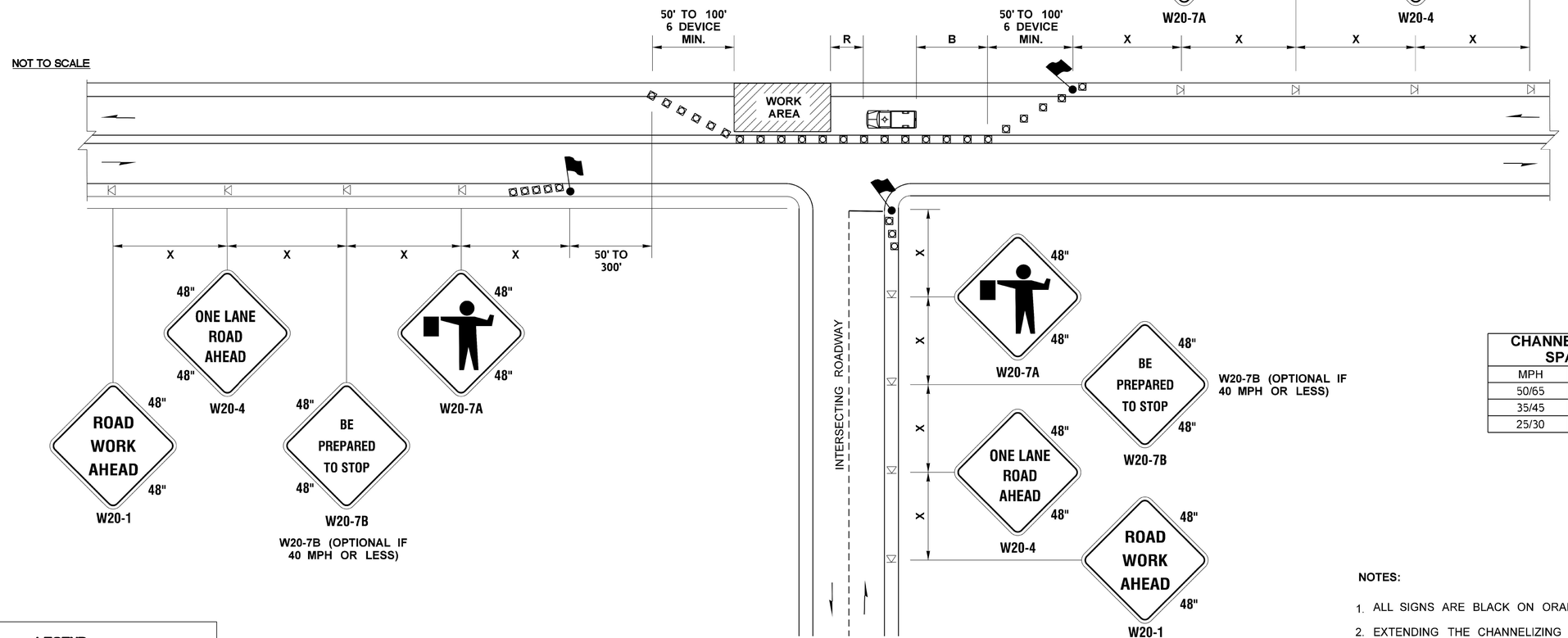
SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

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

W20-7B (OPTIONAL IF 40 MPH OR LESS)



NOT TO SCALE



CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

LEGEND

- SIGN LOCATION
- FLAGGING STATION
- TRAFFIC SAFETY DRUMS W/ STEADY BURN WARNING LIGHTS
- PROTECTIVE VEHICLE

NOTES:

1. ALL SIGNS ARE BLACK ON ORANGE.
2. EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
3. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/17/18

PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION

ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS

NOT TO SCALE

SUBMITTED WITH DESIGN PLAN

DESIGNED BY
DRAWN BY RWG
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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
WSDOT TYPICAL LANE CLOSURE

DWG 16033 TC PLAN
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 9 of 20

00055.009 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2015\16033 TC PLAN.dwg, 8 WSDOT TYPICAL LANE CLOSURE, 12/17/2018 12:28:33 PM, PDF-XChange Standard

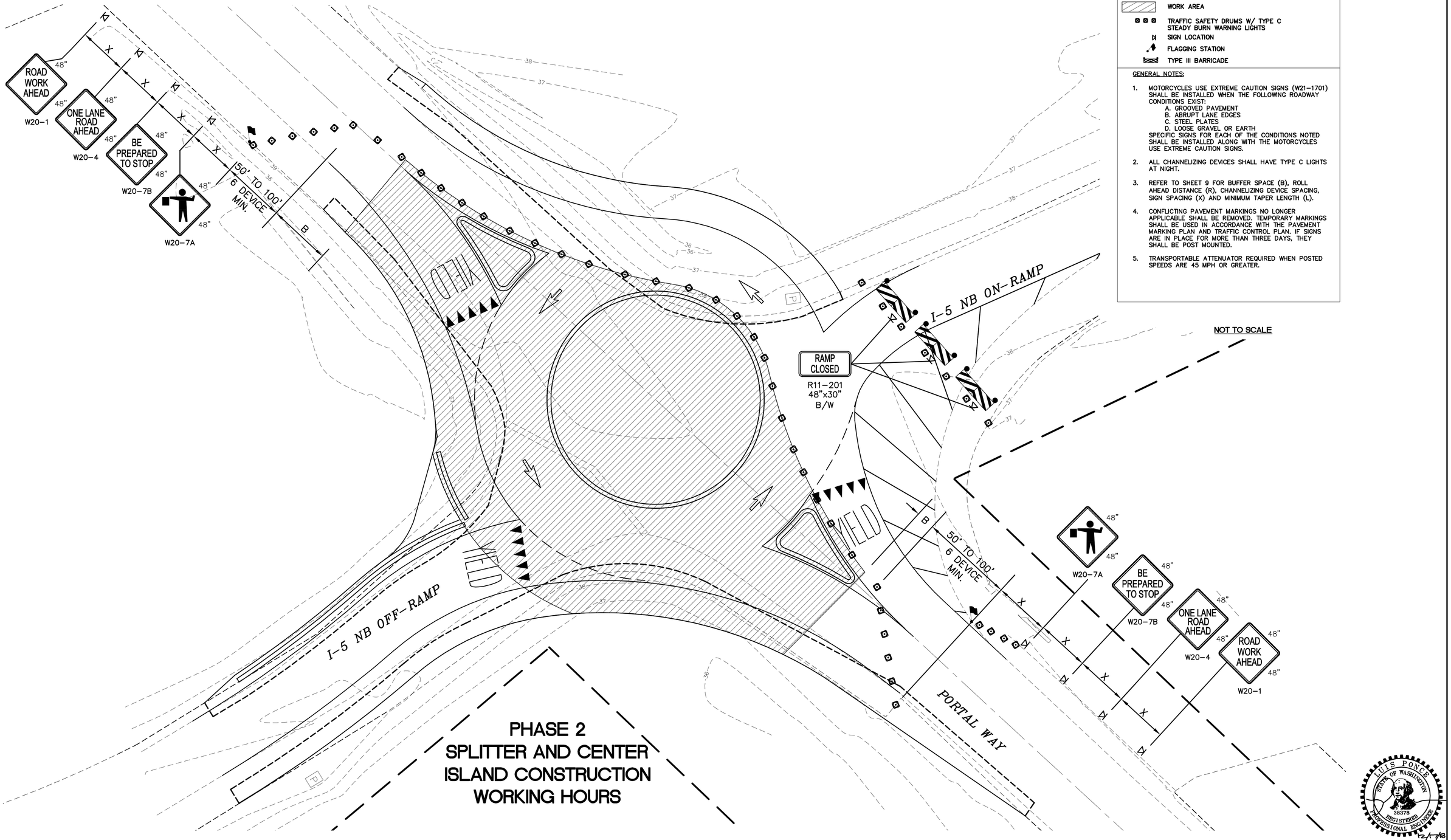
LEGEND

- WORK AREA
- TRAFFIC SAFETY DRUMS W/ TYPE C STEADY BURN WARNING LIGHTS
- SIGN LOCATION
- FLAGGING STATION
- TYPE III BARRICADE

GENERAL NOTES:

1. MOTORCYCLES USE EXTREME CAUTION SIGNS (W21-1701) SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
   A. GROOVED PAVEMENT
   B. ABRUPT LANE EDGES
   C. STEEL PLATES
   D. LOOSE GRAVEL OR EARTH
   SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED SHALL BE INSTALLED ALONG WITH THE MOTORCYCLES USE EXTREME CAUTION SIGNS.
2. ALL CHANNELIZING DEVICES SHALL HAVE TYPE C LIGHTS AT NIGHT.
3. REFER TO SHEET 9 FOR BUFFER SPACE (B), ROLL AHEAD DISTANCE (R), CHANNELIZING DEVICE SPACING, SIGN SPACING (X) AND MINIMUM TAPER LENGTH (L).
4. CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED. TEMPORARY MARKINGS SHALL BE USED IN ACCORDANCE WITH THE PAVEMENT MARKING PLAN AND TRAFFIC CONTROL PLAN. IF SIGNS ARE IN PLACE FOR MORE THAN THREE DAYS, THEY SHALL BE POST MOUNTED.
5. TRANSPORTABLE ATTENUATOR REQUIRED WHEN POSTED SPEEDS ARE 45 MPH OR GREATER.

NOT TO SCALE



PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION
WORKING HOURS

LUIS PONCE
STATE OF WASHINGTON
36378
REGISTERED PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	DRAWN BY	CHECKED BY
	RWG	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 FERNDALE
2095 MAIN ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
I-5 EXIT 263 - NB RAMPS - LANE CLOSURE SIGNAGE

DWG	16033 TC PLAN	DATE	12/17/2018
JOB#	16033	SCALE H: N/A V: N/A	SHEET 10 of 20

00655.010 12/28/18 KB

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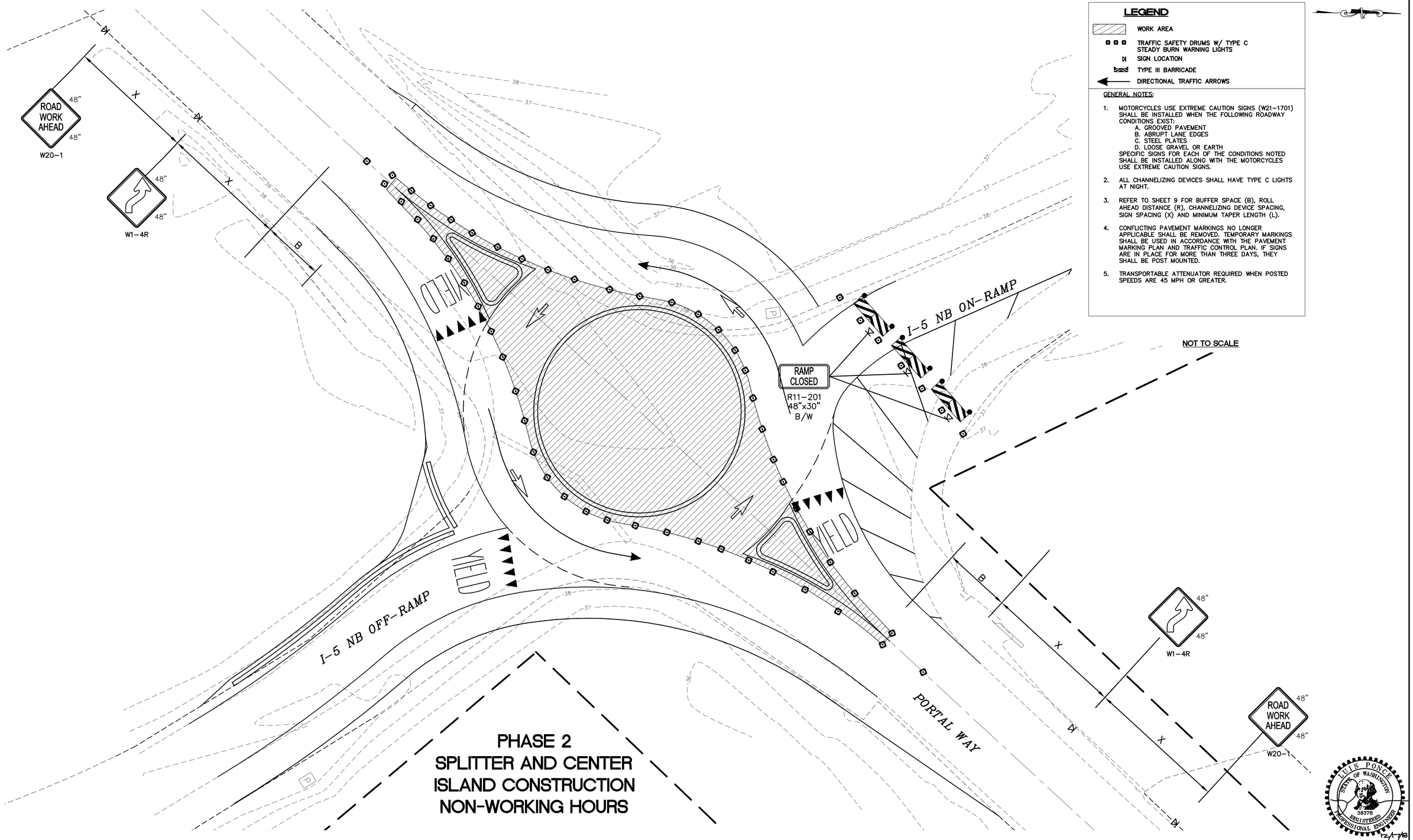
LEGEND

- WORK AREA
- TRAFFIC SAFETY DRUMS W/ TYPE C STEADY BURN WARNING LIGHTS
- SIGN LOCATION
- TYPE III BARRICADE
- DIRECTIONAL TRAFFIC ARROWS

GENERAL NOTES:

1. MOTORCYCLES USE EXTREME CAUTION SIGNS (W21-1701) SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
   A. GROOVED PAVEMENT
   B. ABRUPT LANE EDGES
   C. STEEL PLATES
   D. LOOSE GRAVEL OR EARTH
   SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED SHALL BE INSTALLED ALONG WITH THE MOTORCYCLES USE EXTREME CAUTION SIGNS.
2. ALL CHANNELIZING DEVICES SHALL HAVE TYPE C LIGHTS AT NIGHT.
3. REFER TO SHEET 9 FOR BUFFER SPACE (B), ROLL AHEAD DISTANCE (R), CHANNELIZING DEVICE SPACING, SIGN SPACING (X) AND MINIMUM TAPER LENGTH (L).
4. CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED. TEMPORARY MARKINGS SHALL BE USED IN ACCORDANCE WITH THE PAVEMENT MARKING PLAN AND TRAFFIC CONTROL PLAN. IF SIGNS ARE IN PLACE FOR MORE THAN THREE DAYS, THEY SHALL BE POST MOUNTED.
5. TRANSPORTABLE ATTENUATOR REQUIRED WHEN POSTED SPEEDS ARE 45 MPH OR GREATER.

NOT TO SCALE



PHASE 2
SPLITTER AND CENTER ISLAND CONSTRUCTION
NON-WORKING HOURS

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY
DRAWN BY RWG
CHECKED BY LP

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

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
I-5 EXIT 263 - NB RAMPS - NON-WORKING HOURS

DWG 16033 TC PLAN
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 11 of 20

00655.011 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2015\16033 TC PLAN.dwg, 11-1-5 EXIT 263 - NB RAMPS - NON-WORKING HOURS, 12/17/2018 12:26:52 PM, PDF-XChange Standard

GRAPHIC SCALE

20 0 10 20

(IN FEET)

1"=20' (22x34), 1"=40' (11x17)

PT = 22+65.01

FREEWAY ENTRANCE SIGN

PC = 22+30.62

INTERSTATE SIGN

EX SDCB RIM=37.41
SW INV=34.81/12" CONC
NE INV=34.77/12" CONC

EX 12" CONC SD

EX SDCB RIM=36.30

EX SDCB RIM=36.44

15" SD INV=33.54

EX SDCB RIM=36.99

12" CULV INV=35.14

12" SD INV=35.50

I-5 RAMP ALIGNMENT

PT = 22+04.29

12" SD INV=35.35

BRIDGE CLEARENCE SIGN

PC = 14+30.45

PORTAL WAY

PORTAL ALIGNMENT

PC = 21+51.05

PT = 21+39.38

SPEED LIMIT SIGN

EX 12" CONC SD

DO NOT ENTER SIGN

FREEWAY SIGN

12" SD CULV INV=36.35

12" SD INV=35.70

DO NOT ENTER SIGN

PC = 21+11.38

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP/OAM
DRAWN BY	OAM/LMH
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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
EXISTING CONDITIONS

DWG 16033 EXCOND,TESC,DEMO			DATE 12/17/2018
JOB# 16033	SCALE H: 1"=20' V: N/A		SHEET 12 of 20

00655.012 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2018\PLAN SHEETS\16033 EXCOND,TESC,DEMO.dwg, 12 EXISTING CONDITIONS, 12/17/2018 12:29:03 PM, PDF-XChange Standard

EROSION CONTROL LEGEND

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

NOTES:
1. BMP C120 (PERMANENT SEEDING, FERTILIZING AND MULCHING) SHOWN IN RESTORATION PLAN, SHEET 19.
2. SEE TESC DETAILS AND TESC GENERAL NOTES, SHEET 20
3. 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 HIGH VISIBILITY SILT FENCE – SEE DETAIL SHEET 20

(IP) = BMP C220: INLET PROTECTION – CB INSERT – SEE DETAIL SHEET 20

(SC) = BMP C105 AND C140: STREET CLEANING

(DC) = BMP C140: DUST CONTROL

DEMOLITION LEGEND

= PROPOSED SAWCUT

= PROPOSED DEMOLITION AREA

= PROPOSED CLEARING AND GRUBBING (LIMITS)

PHASE 1
DEMO AND TESC PLAN

LUIS PONCE, STATE OF WASHINGTON, 38378, REGISTERED PROFESSIONAL ENGINEER, 12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP/OAM
DRAWN BY	OAM/LMH
CHECKED BY	LP

R&E 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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
DEMO AND TESC PLAN - PHASE 1

DWG 16033 EXCOND,TESC,DEMO
DATE 12/17/2018
JOB# 16033
SCALE H: 1"=20' V: N/A
SHEET 13 of 20

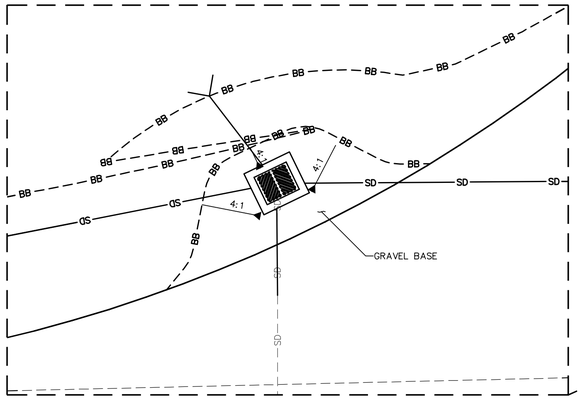
GRAPHIC SCALE

20 0 10 20

(IN FEET)

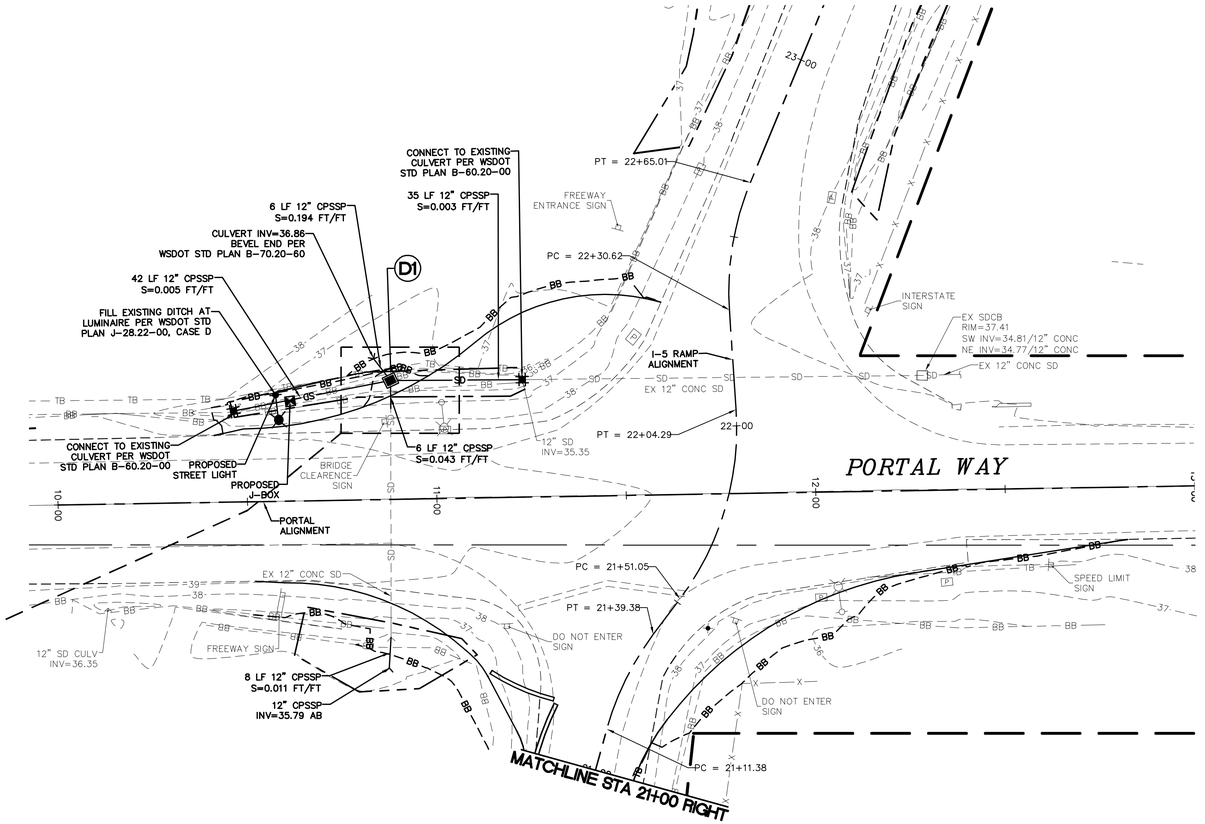
1"=20' H, 1"=2' V (22x34)

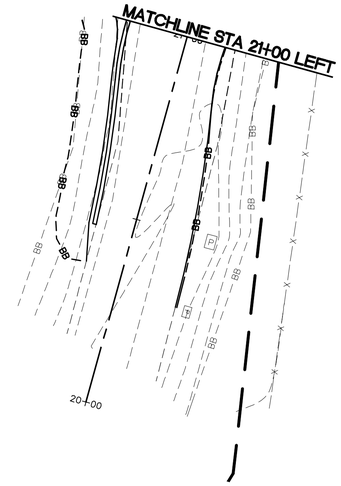
1"=40' H, 1"=4' V (11x17)

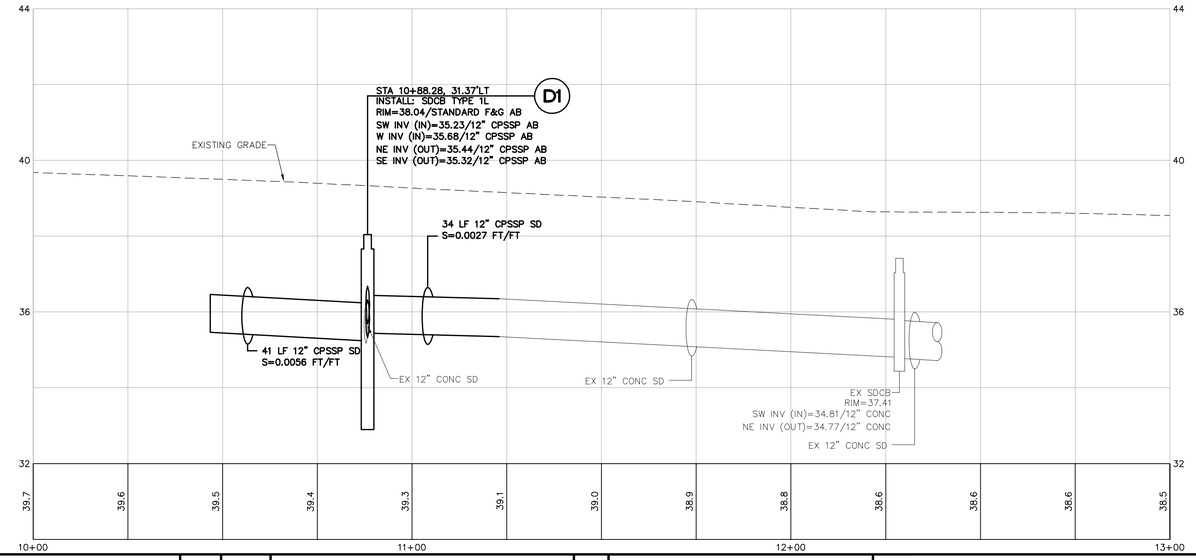


CATCH BASIN GRADING

NTS







PHASE 1
PLAN AND PROFILE

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER 12/17/18

12/17/18 AS-BUILT

DESIGNED BY LP
DRAWN BY RWG
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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
PLAN AND PROFILE - PORTAL WAY - PHASE 1

DWG 16033 PLAN AND PROFILE
DATE 12/17/2018
JOB# 16033
SCALE H: 1"=20' V: 1"=2'
SHEET 14 of 20

00055.014 12/28/18 KB

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GRAPHIC SCALE

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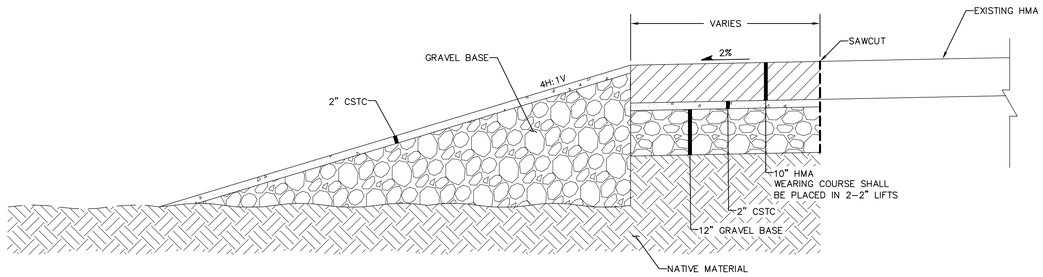
(IN FEET)

1"=20' (22x34), 1"=40' (11x17)



SECTION A-A (TYP.)

NTS

PT = 22+65.01

PC = 22+30.62

I-5 RAMP ALIGNMENT

PT = 22+04.29

22+00

PORTAL WAY

PC = 14+30.45

PORTAL ALIGNMENT

PC = 21+51.05

PT = 21+39.38

21+00

PC = 21+11.38

20+00

10+00 11+00 12+00 13+00 14+00 15+00 16+00

23+75 23+00

PHASE 1 GRADING PLAN

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP
DRAWN BY	RWG/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 FERNDALE
2095 MAIN ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
GRADING PLAN - PHASE 1

DWG 16033 GRADING			DATE 12/17/2018
JOB# 16033	SCALE H: 1"=20' V: N/A		SHEET 15 of 20

STATE OF WASHINGTON LUIS PONCE 38378 REGISTERED PROFESSIONAL ENGINEER

12/17/18

00055.015 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2018\PLAN SHEETS\16033 GRADING.dwg, 15 GRADING PLAN - PHASE 1, 12/17/2018 12:29:26 PM, RDP-ACharge Standard

GRAPHIC SCALE

20 0 10 20

(IN FEET)

1"=20' (22x34), 1"=40' (11x17)

PT = 22+65.01

FREEWAY ENTRANCE SIGN

PC = 22+30.62

I-5 RAMP ALIGNMENT

EX 12" CONC SD

PT = 22+04.29

12" SD INV=35.35

BRIDGE CLEARANCE SIGN

PORTAL ALIGNMENT

PORTAL WAY

PC = 21+51.05

PT = 21+39.38

EX 12" CONC SD

SPEED LIMIT SIGN

FREEWAY SIGN

12" SD CULV INV=36.35

DO NOT ENTER SIGN

DO NOT ENTER SIGN

PC = 21+11.38

INTERSTATE SIGN

EX SDCB RIM=37.41
SW INV=34.81/12" CONC
NE INV=34.77/12" CONC

EX 12" CONC SD

EX SDCB RIM=36.30

EX SDCB RIM=36.44

15" SD INV=33.54

EX SDCB RIM=36.99

PC = 14+30.45

EROSION CONTROL LEGEND

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

NOTES:

1. BMP C120 (PERMANENT SEEDING, FERTILIZING AND MULCHING) SHOWN IN RESTORATION PLAN, SHEET 19.
2. SEE TESC DETAILS AND TESC GENERAL NOTES, SHEET 20
3. 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 HIGH VISIBILITY SILT FENCE – SEE DETAIL SHEET 20

IP = BMP C220: INLET PROTECTION – CB INSERT – SEE DETAIL SHEET 20

SC = BMP C105 AND C140: STREET CLEANING

DEMOLITION LEGEND

= PROPOSED PLANNING BITUMINOUS PAVEMENT

= PHASE 1 HMA

PHASE 2
DEMO AND TESC PLAN

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP/OAM
DRAWN BY	OAM/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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
DEMO AND TESC PLAN - PHASE 2

DWG 16033 EXCOND,TESC,DEMO			DATE 12/17/2018
JOB# 16033	SCALE H: 1"=20' V: N/A		SHEET 16 of 20

00655.016 12/28/18 KB

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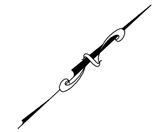
GRAPHIC SCALE
20 0 10 20
(IN FEET)
1"=20' (22x34), 1"=40' (11x17)
PAVEMENT LEGEND
= PROPOSED HMA PAVEMENT AREA
1 = PROPOSED EMBEDDED PRECAST SLOPED MOUNTABLE CURB, SEE DETAIL SHEET 18
2 = PROPOSED PRECAST SLOPED MOUNTABLE CURB, BROKEN PATTERN, SEE DETAIL THIS SHEET
SPLITTER ISLAND PAVING (TYP.)
SCALE: 1"=5'
1'
PORTAL WAY
PT = 22+65.01
PC = 22+30.62
PT = 22+04.29
PC = 21+51.05
PT = 21+39.38
PC = 21+11.38
PC = 14+30.45
I-5 RAMP ALIGNMENT
PORTAL ALIGNMENT
PROPOSED STREET LIGHT
PROPOSED J-BOX
FREEWAY ENTRANCE SIGN
INTERSTATE SIGN
BRIDGE CLEARENCE SIGN
SPEED LIMIT SIGN
DO NOT ENTER SIGN
FREEWAY SIGN
EX SDCB RIM=37.41 SW INV=34.81/12" CONC NE INV=34.77/12" CONC
EX 12" CONC SD
EX SDCB RIM=36.30
EX SDCB RIM=36.44
EX SDCB RIM=36.99
15" SD INV=33.54
12" SD INV=35.35
12" SD CULV INV=36.35
EX 12" CONC SD
SEE WSDOT STANDARD PLAN F-10.62-02
10' MAX (TYP)
6" (TYP)
PRECAST SLOPED MOUNTABLE CURB BROKEN PATTERN DETAIL (TOP VIEW)
PHASE 2 PAVING PLAN
LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER
12/17/18

12/17/18 AS-BUILT	DESIGNED BY LP/OAM DRAWN BY OAM/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 ST FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
PAVING PLAN - PHASE 2

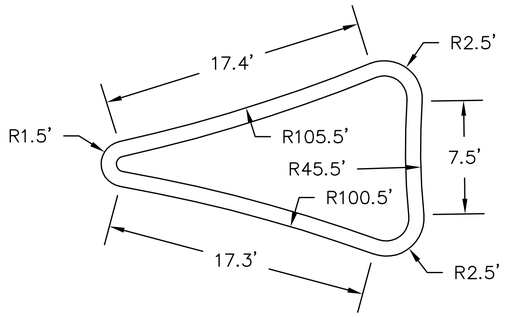
DWG 16033 EXCOND,TESC,DEMO			DATE 12/17/2018
JOB# 16033	SCALE H: 1"=20'	V: N/A	SHEET 17 of 20



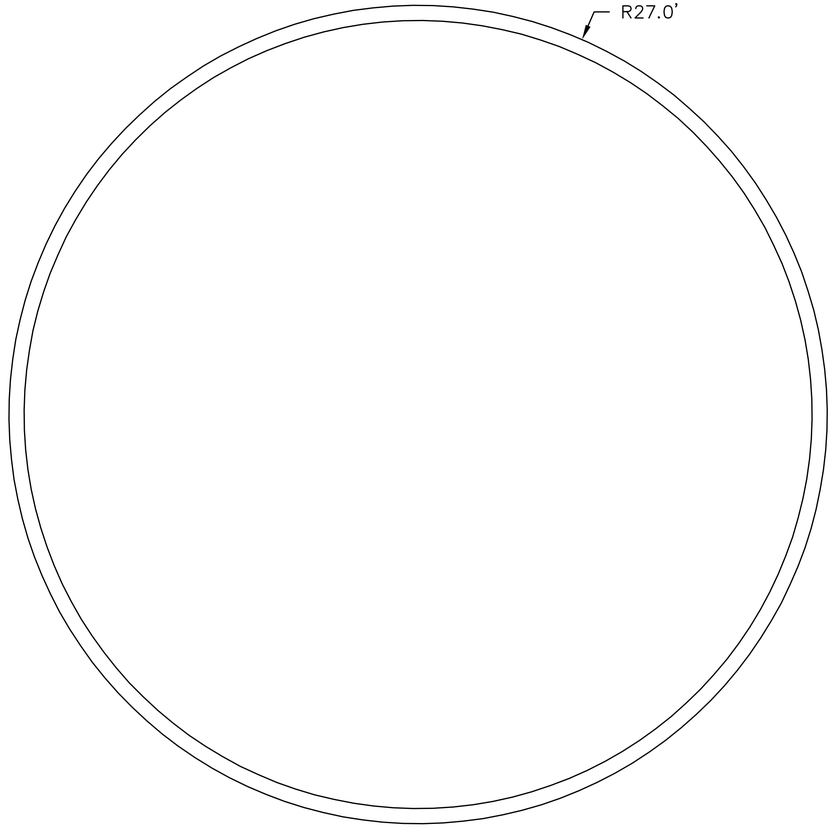
GRAPHIC SCALE

5 0 2.5 5

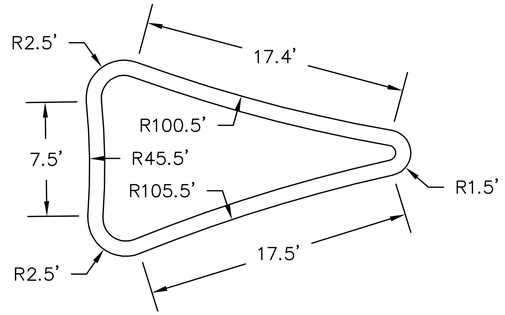
(IN FEET)
1"=5' (22x34), 1"=10' (11x17)



SPLITTER ISLAND DETAIL
WEST LEG
AREA=163.5 SQ. FT.



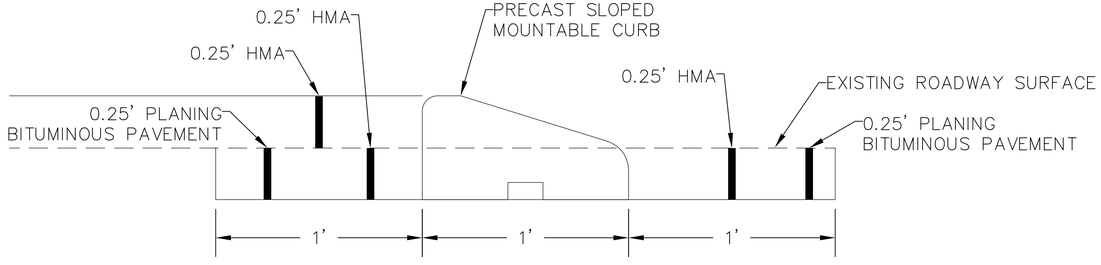
CENTER ISLAND DETAIL
AREA=2,290.2 SQ. FT.



SPLITTER ISLAND DETAIL
EAST LEG
AREA=164.7 SQ. FT.

GENERAL NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

2. HMA IN SPLITTER & CENTER ISLANDS TO BE PAINTED YELLOW.



EMBEDDED CURB DETAIL
NTS

PHASE 2
TRAFFIC ISLAND

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	LP/OAM
DRAWN BY	OAM/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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
TRAFFIC ISLAND CURB DETAIL - PHASE 2

DWG 16033 EXCOND,TESC,DEMO
DATE 12/17/2018
JOB# 16033
SCALE H: 1"=5' V: N/A
SHEET 18 of 20

00055.018 12/28/18 KB

P:\Projects\16033\16_Civil 3D 2018\PLAN SHEETS\16033 EXCOND,TESC,DEMO.dwg, 18 TRAFFIC ISLAND CURB DETAIL - PHASE 2, 12/17/2018 12:29:47 PM, PDF-XChange Standard

GRAPHIC SCALE

20 0 10 20

(IN FEET)

1"=20' (22x34), 1"=40' (11x17)

PT = 22+65.01

FREEWAY ENTRANCE SIGN

PC = 22+30.62

I-5 RAMP ALIGNMENT

PT = 22+04.29

12" SD INV=35.35

BRIDGE CLEARENCE SIGN

PORTAL ALIGNMENT

PORTAL WAY

PC = 21+51.05

PT = 21+39.38

EX 12" CONC SD

12" SD CULV INV=36.35

FREEWAY SIGN

DO NOT ENTER SIGN

SPEED LIMIT SIGN

DO NOT ENTER SIGN

PC = 21+11.38

INTERSTATE SIGN

EX SDCB RIM=37.41
SW INV=34.81/12" CONC
NE INV=34.77/12" CONC

EX 12" CONC SD

EX SDCB RIM=36.30

EX SDCB RIM=36.44

15" SD INV=33.54

EX SDCB RIM=36.99

PC = 14+30.45

RESTORATION LEGEND

= PROPOSED CSTC OR GRAVEL BASE ALONG SLOPE

PHASE 2 RESTORATION PLAN

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER 12/17/18

12/17/18 AS-BUILT

DESIGNED BY	LP/OAM
DRAWN BY	OAM/LMH
CHECKED BY	LP

R&E 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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
RESTORATION PLAN - PHASE 2

DWG 16033 EXCOND,TESC,DEMO		DATE 12/17/2018
JOB# 16033	SCALE H: 1"=20' V: N/A	SHEET 19 of 20

00655.019 12/28/18 KB

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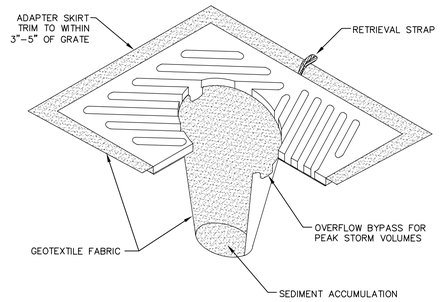
TESC GENERAL NOTES

1. THIS PLAN REPRESENTS THE MINIMUM REQUIREMENTS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE ENGINEER AS ARE FOUND NECESSARY.
2. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO ALL OTHER SITE CONSTRUCTION.
3. ALL CLEARING LIMITS SHALL BE VISIBLY MARKED PRIOR TO CLEARING.
4. ANY VEGETATION NOT IN THE CONSTRUCTION AREA SHALL BE LEFT UNDISTURBED.
5. CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE ENGINEER OF ANY PROPOSED CHANGES IN PLAN PRIOR TO CONSTRUCTION OF THAT CHANGE. CONTRACTOR SHALL KEEP RECORD OF DEVIATIONS AND FORWARD TO THE ENGINEER.
6. MAINTENANCE AND OPERATION OF THE EROSION CONTROL AND SEDIMENTATION SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SEDIMENTATION AND EROSION CONTROL MEASURES, AS SHOWN AND AS INSTALLED ON AN AS NEEDED BASIS.
7. THE CONSTRUCTED EROSION CONTROL AND SEDIMENTATION PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO PERFORMING ANY SITE GRADING OR CLEARING.
8. CONTRACTOR WILL HAVE A WATER TRUCK AVAILABLE ON SITE AT ALL TIMES. CONTRACTOR WILL WATER SURFACES OFTEN ENOUGH TO ABATE DUST AS APPROVED BY THE ENGINEER. WATERING WILL INCLUDE WEEKENDS AND HOLIDAYS.
9. THE CONTRACTOR SHALL PERFORM ALL STREET CLEANING BY HAND OR WITH A SELF-PROPELLED PICKUP STREET SWEEPER. A STANDARD SELF-PROPELLED STREET SWEEPER WILL NOT BE ALLOWED.
10. ALL DISTURBED AREAS SHALL BE HYDROSEEDED. GRASS SEEDING SHALL BE BROADCAST IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
11. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND FERTILIZED FOR EROSION CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR SLOPE EROSION UNTIL VEGETATION IS FIRMLY ESTABLISHED.
12. ALL STORM DRAIN FACILITIES WITHIN THE PROJECT BOUNDARY, OR WHICH ARE IMPACTED BY THE PROJECT ARE TO BE CLEARED OF SEDIMENT AND DEBRIS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
13. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

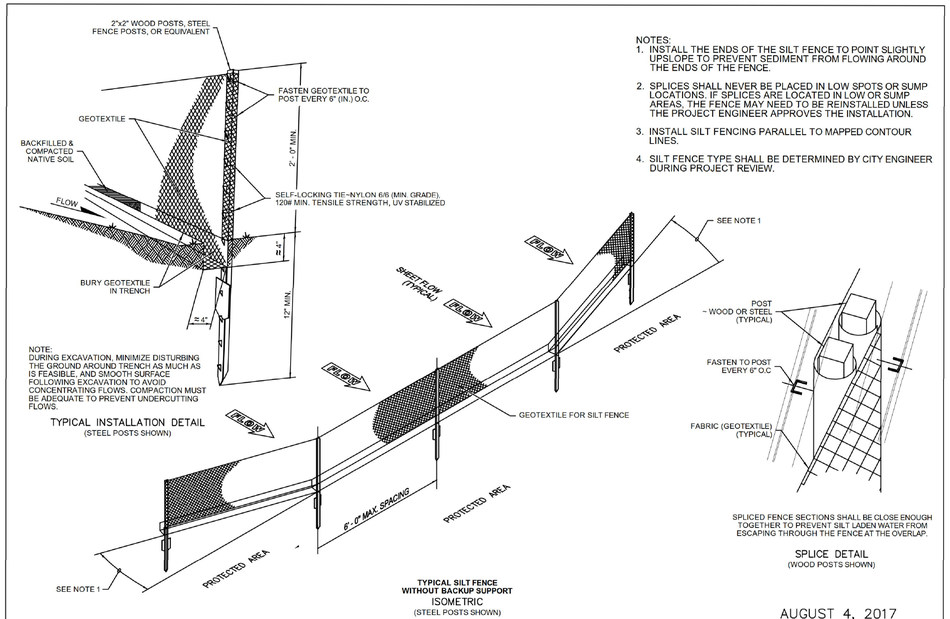
DUST CONTROL:
CONTRACTOR SHALL LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE EXCAVATION AND GRADING SHALL TAKE PLACE MAINTAINING THE ORIGINAL GROUND COVER AS LONG AS PRACTICAL DUST CONTROL METHODS SHALL BE PERFORMED BY METHODS LISTED IN NOTE NUMBER EIGHT OF THE TESC GENERAL NOTES. SURFACES SHALL BE SPRAYED WITH WATER AS NEEDED IN ORDER TO ABATE DUST AS APPROVED BY THE ENGINEER.

STREET CLEANING:
CONTRACTOR SHALL PERFORM ALL STREET CLEANING AT A MINIMUM OF AT LEAST ONCE AT THE END OF EVERY DAY WORKED AND ON AN AS NEEDED BASIS BASED ON VEHICLE TRACK OUT. STREET CLEANING SHALL BE PERFORMED BY THE METHODS LISTED IN NOTE NUMBER 10 OF THE TESC GENERAL NOTES AND SHALL NOT ALLOW SEDIMENT INTO STORMWATER CONVEYANCE DITCHES OR STRUCTURES. STREET CLEANING METHODS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE BEGINNING OF CONSTRUCTION.



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.

INLET PROTECTION
NTS



NOTES:
1. INSTALL THE ENDS OF THE SILT FENCE TO POINT SLIGHTLY UPSLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
2. SPLICES SHALL NEVER BE PLACED IN LOW SPOTS OR SUMP LOCATIONS. IF SPLICES ARE LOCATED IN LOW OR SUMP AREAS, THE FENCE MAY NEED TO BE REINSTALLED UNLESS THE PROJECT ENGINEER APPROVES THE INSTALLATION.
3. INSTALL SILT FENCING PARALLEL TO MAPPED CONTOUR LINES.
4. SILT FENCE TYPE SHALL BE DETERMINED BY CITY ENGINEER DURING PROJECT REVIEW.

SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
(WOOD POSTS SHOWN)

AUGUST 4, 2017

APPROVED

Public Works Director — 8/11/17 Date

SILT FENCE

STANDARD DETAIL ST-27
NOT TO SCALE

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 12/17/18

SUBMITTED WITH DESIGN PLAN

DESIGNED BY	DRAWN BY	CHECKED BY
LP	RWG/LMH	LP

R&E 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 ST
FERNDALE, WA 98248

PORTAL WAY / I-5
ROUNDABOUT IMPROVEMENTS
DETAILS

DWG 16033 DETAILS
DATE 12/17/2018
JOB# 16033
SCALE H: N/A V: N/A
SHEET 20 of 20

00055.020 12/28/18 KB

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SEC. 20, T. 39N. R. 2E., W.M.

CURVE DATA						
P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S	DESIGN SPEED
A 21+25.38	21°23'17"	75.00'	14.16'	28.00'	–	25 MPH
A 21+77.67	40°40'14"	75.00'	27.80'	53.24'	–	25 MPH
A 22+47.82	26°16'20"	75.00'	17.50'	34.39'	–	25 MPH
P 16+39.90	39°20'51"	610.00'	218.10'	418.91'	–	35 MPH

PAVEMENT MARKING CURVE RADII

CURVE	RADIUS
(1)	100.00'
(2)	120.00'
(3)	NOT USED
(4)	NOT USED
(5)	NOT USED
(6)	80.00'
(7)	NOT USED
(8)	300.00'
(9)	NOT USED
(10)	315.00'

CURVE	RADIUS
(11)	NOT USED
(12)	110.00'
(13)	NOT USED
(14)	105.00'
(15)	15.00'
(16)	50.00'
(17)	75.00'
(18)	45.00'
(19)	NOT USED
(20)	NOT USED

GENERAL NOTES

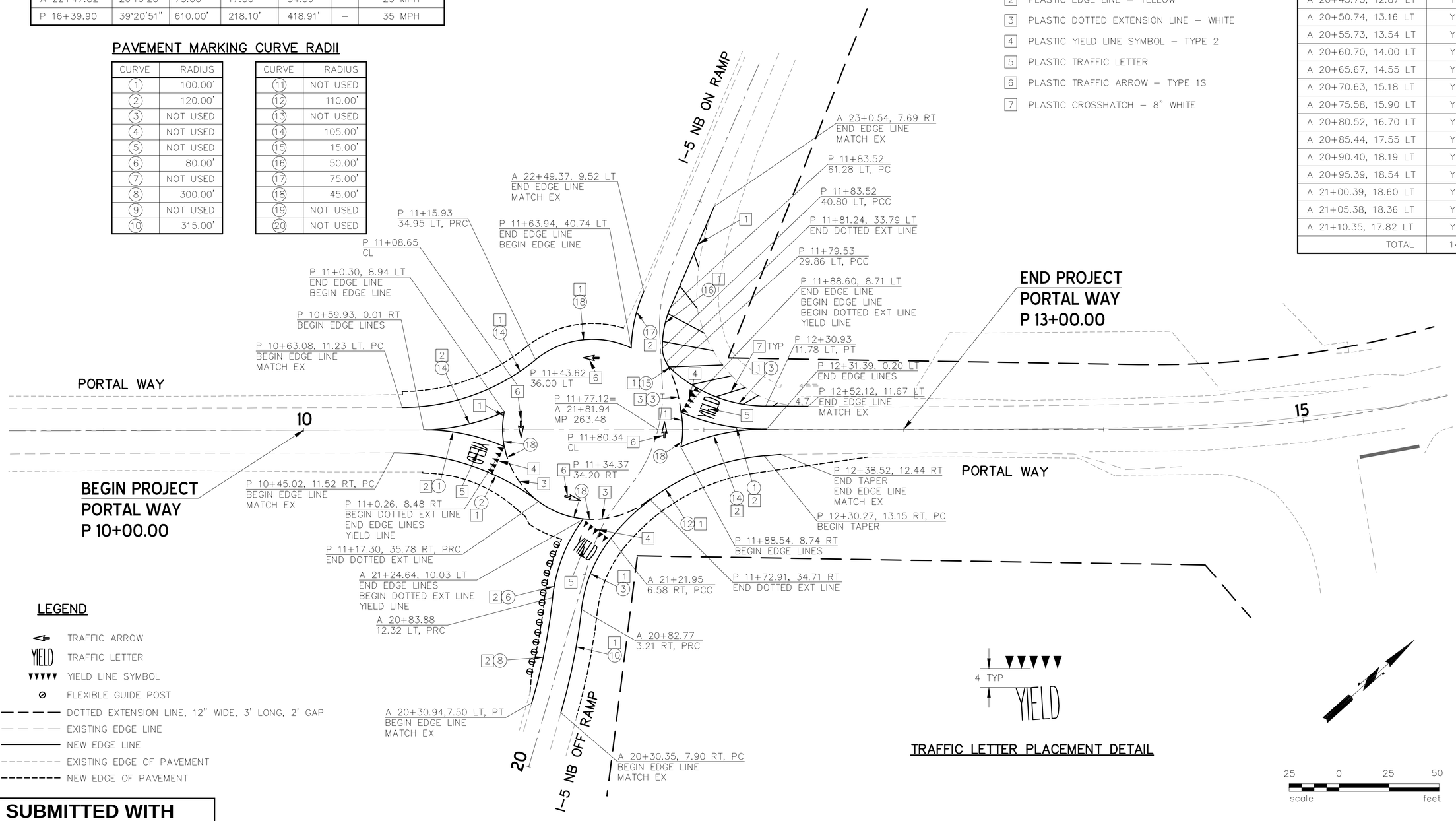
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
2. REMOVE EXISTING PLASTIC STOP LINE AND ALL CONFLICTING PAINTED EDGE LINES AND DOUBLE CENTERLINES.

PAVEMENT MARKING TYPE

1. PLASTIC EDGE LINE – WHITE
2. PLASTIC EDGE LINE – YELLOW
3. PLASTIC DOTTED EXTENSION LINE – WHITE
4. PLASTIC YIELD LINE SYMBOL – TYPE 2
5. PLASTIC TRAFFIC LETTER
6. PLASTIC TRAFFIC ARROW – TYPE 1S
7. PLASTIC CROSSHATCH – 8" WHITE

FLEXIBLE GUIDE POST

LOCATION	TYPE
A 20+45.75, 12.87 LT	Y
A 20+50.74, 13.16 LT	Y
A 20+55.73, 13.54 LT	Y
A 20+60.70, 14.00 LT	Y
A 20+65.67, 14.55 LT	Y
A 20+70.63, 15.18 LT	Y
A 20+75.58, 15.90 LT	Y
A 20+80.52, 16.70 LT	Y
A 20+85.44, 17.55 LT	Y
A 20+90.40, 18.19 LT	Y
A 20+95.39, 18.54 LT	Y
A 21+00.39, 18.60 LT	Y
A 21+05.38, 18.36 LT	Y
A 21+10.35, 17.82 LT	Y
TOTAL	14



LEGEND

- TRAFFIC ARROW
- YIELD TRAFFIC LETTER
- YIELD LINE SYMBOL
- FLEXIBLE GUIDE POST
- DOTTED EXTENSION LINE, 12" WIDE, 3' LONG, 2' GAP
- EXISTING EDGE LINE
- NEW EDGE LINE
- EXISTING EDGE OF PAVEMENT
- NEW EDGE OF PAVEMENT

TRAFFIC LETTER PLACEMENT DETAIL

25 0 25 50
scale feet

SUBMITTED WITH DESIGN PLAN

DRAWN	RMH
DESIGNED	RMH
CHECKED	3/29/18 RMH
PROJ. ENGR.	
DRAWING FILE	MK_rev2.DWG

DATE	REVISION	BY	APP'D

REICHHARDT & EBE ENGINEERING, INC.
P.O. Box 978
Lynden, Washington 98264

CITY OF FERNDALE
P.O. Box 936
Ferndale, Washington 98248

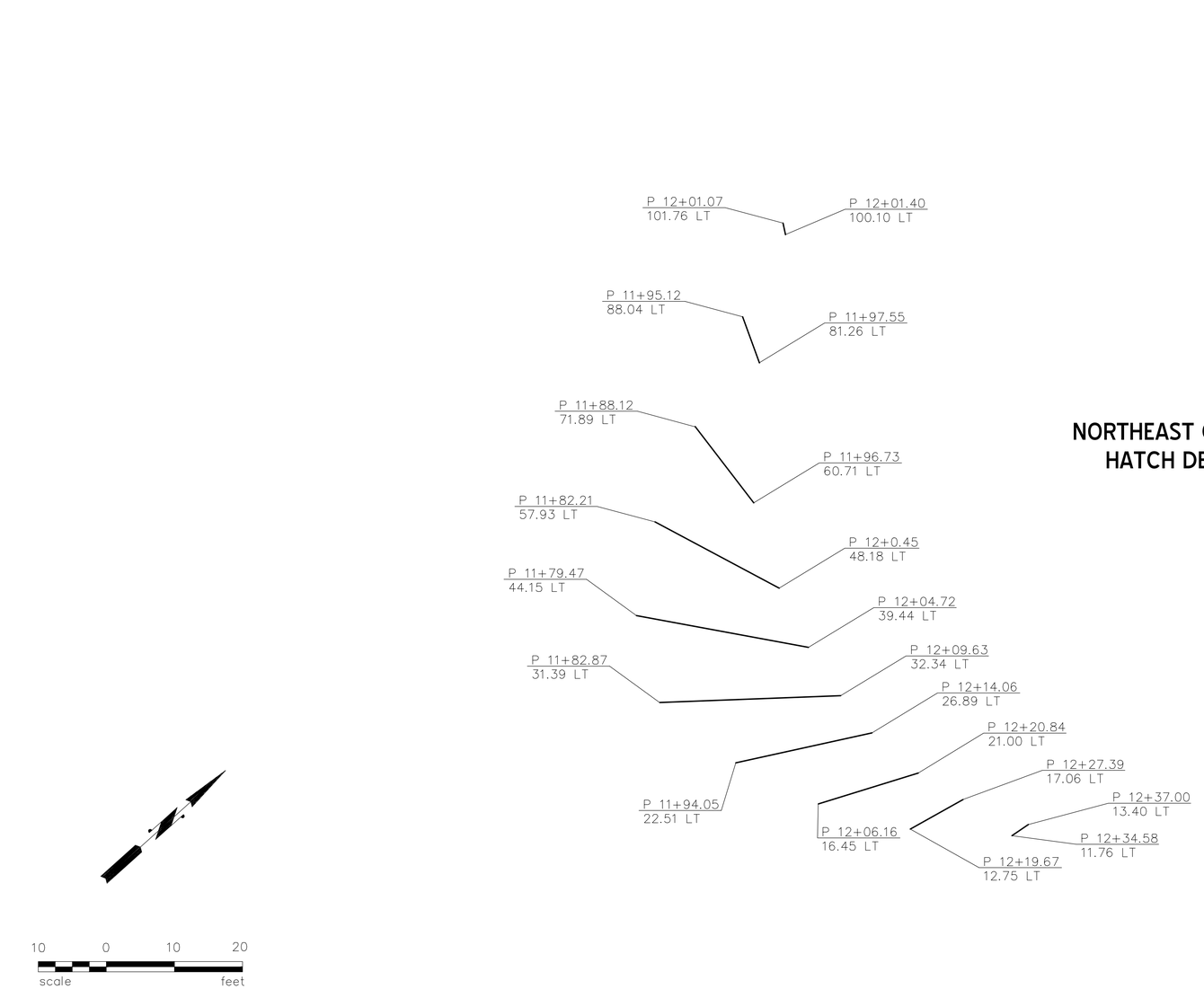
ROBERT MARTIN HERMAN — STATE OF WASHINGTON — 30730 — REGISTERED PROFESSIONAL ENGINEER — 3-29-18

HTE HERMAN TRAFFIC ENGINEERING
11215 Southeast 220th Place, Kent, Washington 98031
253-236-4941 tel. hte@comcast.net

I-5 MP 263.48
I-5 NB RAMPS/PORTAL WAY
FERNDALE, WHATCOM COUNTY MARCH, 2018
PAVEMENT MARKING PLAN

MK1
SHEET OF SHEETS

00655.021 12/28/18 KB



NORTHEAST CORNER HATCH DETAIL

GENERAL NOTES

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

SUBMITTED WITH DESIGN PLAN

DRAWN	RMH
DESIGNED	RMH
CHECKED	3/29/18 RMH
PROJ. ENGR.	
DRAWING FILE	MK_rev2.DWG

DATE	REVISION	BY	APP'D

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I-5 MP 263.48
I-5 NB RAMPS/PORTAL WAY
FERNDALE, WHATCOM COUNTY MARCH, 2018
PAVEMENT MARKING PLAN

MK2
SHEET OF SHEETS

GENERAL NOTES (GN):

A) **POST LENGTHS AND "W' VALUES SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO FABRICATION AND INSTALLATION.**
B) FOR STRUCTURE AND MOUNTING DETAILS SEE STANDARD PLAN SERIES "G".
C) FOR CODE REFERENCES AND STANDARD DETAILS SEE WASHINGTON STATE SIGN FABRICATION MANUAL.
D) ALL 2.5" PERFORATED SQUARE STEEL TUBE (PSST) POSTS SHALL BE 12 GAGE.
E) 2.5" SQ (SB) AND 2.5" SQ (5) PSST POSTS SHALL HAVE A 12 GAGE 2 1/4" PSST INSERT OF THE SAME LENGTH.
F) ALL WIDE FLANGE STEEL POSTS SHALL BE ASTM A36.
G) ALL ROUND STEEL POSTS ARE MEASURED TO OUTSIDE DIAMETER AND SHALL HAVE TYPE AP SIGN SUPPORTS.
H) ALL SIGNS 36" OR WIDER SHALL BE BRACED IN ACCORDANCE WITH STANDARD PLAN G-50.10.
I) 5", 6", 7" AND 8" SQUARE STEEL TUBE SIGN POSTS SHALL HAVE TYPE TP-B BASES. ASTM A36 W6x12 FOUNDATION SPECIFICATIONS SHALL BE USED UNLESS OTHERWISE NOTED IN THE PLANS .
J) NOT USED.
K) 3" SOLID SQUARE STEEL TUBE POSTS SHALL BE 7 GAGE AND SHALL HAVE A 10" TRIANGULAR SLIP BASE UNLESS OTHERWISE NOTED. SEE STANDARD PLAN G-24.40, TYPE SB-1 AND SB-3 SLIP BASE ASSEMBLY.
L) NOT USED.
M) NOT USED.
N) ALL OVERHEAD SIGN MOUNTING HARDWARE SHALL BE NEW UNLESS OTHERWISE SHOWN ON THE PLANS OR SIGN SPECIFICATION SHEETS.

UNLESS OTHERWISE NOTED IN THE SHEETING TYPE COLUMN, ALL *OVERHEAD* REFLECTIVE SHEETING TYPE SHALL BE AS FOLLOWS:

TYPE OF SIGN	SHEETING TYPE	
	BACKGROUND	LEGEND / BORDER
GUIDE - LIT	II*	III OR IV
GUIDE - UNLIT	III OR IV*	VIII OR IX
STREET NAME	III OR IV	IV
REGULATORY	IV	N/A
WARNING	*	N/A

* FOR YELLOW BACKGROUND USE TYPE VIII OR IX FLUORESCENT SHEETING.

ABBREVIATIONS LEGEND

AAH	ADOPT A HIGHWAY
AHD	AHEAD
BR MOUNT	BRIDGE MOUNTED SIGN BRACKET
BTWN	BETWEEN
CANT	CANTILEVER
CL	CENTER LINE
CN	CONSTRUCTION NOTE
CONT	CONTINUED
EX OR EXIST	EXISTING
HAR	HIGHWAY ADVISORY RADIO
I/C	INTERCHANGE
I/S	INTERSECTION
LT	LEFT
LT STD	LIGHT STANDARD
MOD	MODIFIED
MP	MILE POST
MTG HDWR	MOUNTING HARDWARE
N/A	NOT APPLICABLE
NO.	NUMBER
PED	PEDESTRIAN
PERP	PERPENDICULAR
PSST	PERFORATED SQUARE STEEL TUBE
R-	REMOVAL
RT	RIGHT
SIG POLE	SIGNAL POLE
SIGN BR	SIGN BRIDGE
SB	SLIP BASE
SQ	SQUARE
STA	STATION
TYP	TYPICAL
W/	WITH
XING OR X-ING	CROSSING

2 1/2" PERFORATED & 3" SQUARE STEEL TUBE SIGN POST SUPPORTS

POST SIZE (#)	CALL OUT IN THE POST SIZE COLUMN	SIGN SUPPORT TYPE	GENERAL NOTE
2 1/2"	2.5" SQ (1)	ST-1	D
2 1/2"	2.5" SQ (4)	ST-4	D
2 1/2"	2.5" SQ (SB)	SB-1, SB-2 OR SB-3	D, E
2 1/2"	2.5" SQ (5)	ST-4	E
3"	3" SQ (SB)	SEE NOTE K	K
3"	3" SQ (5)	ST-4	K

SEE STANDARD PLANS G-24.40 AND G-24.50

SUBMITTED WITH DESIGN PLAN

DRAWN	RMH
DESIGNED	RMH
CHECKED	3/29/18 RMH
PROJ. ENGR.	
DRAWING FILE	SN_rev2.DWG

DATE	REVISION	BY	APP'D

REICHHARDT & EBE ENGINEERING, INC.
P.O. Box 978
Lynden, Washington 98264

CITY OF FERNDALE
P.O. Box 936
Ferndale, Washington 98248

ROBERT MARTIN HERMAN — STATE OF WASHINGTON — 30730 REGISTERED PROFESSIONAL ENGINEER — 3-29-18

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I-5 MP 263.48
I-5 NB RAMPS/PORTAL WAY
FERNDALE, WHATCOM COUNTY MARCH, 2018
SIGN SPECIFICATIONS

SS1
SHEET OF SHEETS

SIGN SPECIFICATIONS

SIGN NO.	SIGN CODE	SIGN DESCRIPTION	LOCATION	SIGN SIZE X	SIGN SIZE Y	SHEETING TYPE	LETTER SIZE OR CODE	POST MATERIAL	POST SIZE	POST LENGTH H1	POST LENGTH H2	POST LENGTH H3	POST LENGTH H4	CLEARANCE V	CLEARANCE W	REMARKS
1A	W2-6P	ROUNDABOUT AHEAD	P 6+71, RT	36"	18"	III OR IV	STANDARD	STEEL	2.5" SQ (5)	15'				11.25'	14'	SEE CN 1
1B	W2-6	ROUNDABOUT SYMBOL		36"	36"	III OR IV	STANDARD							7'		MOUNT BELOW SIGN NO. 1A
1C	W13-1 (10)	10 MPH		24"	24"	III OR IV	STANDARD							5'		MOUNT BELOW SIGN NO. 1B
2	D1-901 MOD.	I-5 NORTH VANCOUVER B.C.	P 10+45, RT	9.5'	6.5'	II	SEE DETAIL	STEEL	3" SQ (SB)	14'	16'			7'	16'	SEE CN 2
		WITH LEFT FISHHOOK ARROW														
R-3		I-5 NORTH VANCOUVER B.C.	P 10+54, RT													REMOVE SIGN AND WOOD POSTS (2)
		WITH LEFT ARROW														
4		14'-0"	P 10+43, LT					STEEL	2.5" SQ (5)	14'				7'	13'	RELOCATE SIGN FROM P 10+87 LT, SEE CN 1
R-5		WOOD POST	P 10+87, LT													REMOVE WOOD POST
6		VISITOR INFORMATION	P 10+59, LT					LIGHT STANDARD						7'	15'	RELOCATE WITH LIGHT STANDARD
7A	R1-2	YIELD	P 10+88, RT	36"	36"	III OR IV	STANDARD	STEEL	2.5" SQ (5)	13'				7.5'	16'	SEE CN 1
7B	R6-5P	ROUNDABOUT DIRECTIONAL		30"	30"	III OR IV	SEE DETAIL							5'		MOUNT BELOW SIGN NO. 7A
R-8		STOP	P 11+16, RT													REMOVE SIGN AND WOOD POST
9		DO NOT ENTER	P 11+22, RT						3" SQ (SB)	14'				7'	10'	RELOCATE SIGN FROM P 11+16 RT, SEE CN3
10		ONE WAY>	P 11+22, RT											11'		RELOCATE SIGNS (2) FROM P 11+16 RT TO ABOVE
		<ONE WAY												11'		AND PERPENDICULAR TO SIGN NO. 9
R-11		STOP	P 11+70, RT													REMOVE SIGN AND WOOD POST
12		DO NOT ENTER	P 11+74, RT						3" SQ (SB)	14'				7'	16'	RELOCATE SIGN FROM P 11+70 RT, SEE CN 2
13		ONE WAY>	P 11+74, RT											11'		RELOCATE SIGNS (2) FROM P 11+70 RT TO ABOVE
		<ONE WAY												11'		AND PERPENDICULAR TO SIGN NO. 12
14A	R1-2	YIELD	P 11+66, RT	36"	36"	III OR IV	STANDARD	STEEL	2.5" SQ (SB)	13'				7.5'	16'	SEE CN 2
14B	R6-5P	ROUNDABOUT DIRECTIONAL		30"	30"	III OR IV	SEE DETAIL							5'		MOUNT BELOW SIGN NO. 14A
15A	R1-2	YIELD	P 12+08, LT	36"	36"	III OR IV	STANDARD	STEEL	2.5" SQ (5)	13'				7.5'	23'	SEE CN 2
15B	R6-5P	ROUNDABOUT DIRECTIONAL		30"	30"	III OR IV	SEE DETAIL							5'		MOUNT BELOW SIGN NO. 15A
16		I-5 SOUTH^ NORTH>	P 13+94, LT					STEEL	2.5" SQ (5)	15'				7'	17'	SEE CN 2
R-17		WOOD POST	P 12+15, LT													REMOVE WOOD POST
18A	W2-6P	ROUNDABOUT AHEAD	P 17+26, LT	36"	18"	III OR IV	STANDARD	STEEL	2.5" SQ (5)	15'				11.25'	14'	SEE CN 2
18B	W2-6	ROUNDABOUT SYMBOL		36"	36"	III OR IV	STANDARD							7'		MOUNT BELOW SIGN NO. 18A
18C	W13-1 (10)	10 MPH		24"	24"	III OR IV	STANDARD							5'		MOUNT BELOW SIGN NO. 18B
R-19		STOP AHEAD	SEE PLAN DIMENSION													REMOVE SIGN AND TRIM POST
20A	W2-6P	ROUNDABOUT AHEAD	SEE PLAN DIMENSION	36"	18"	III OR IV	STANDARD	STEEL	2.5" SQ (SB)	15'				11.25'	14'	SEE CN 2
20B	W2-6	ROUNDABOUT SYMBOL		36"	36"	III OR IV	STANDARD							7'		MOUNT BELOW SIGN NO. 20A
20C	W13-1 (10)	10 MPH		24"	24"	III OR IV	STANDARD							5'		MOUNT BELOW SIGN NO. 20B

CONSTRUCTION NOTES (CN):

1. EDGE OF SIGN SHALL BE MINIMUM 2' BEHIND BACK OF SIDEWALK.
2. EDGE OF SIGN SHALL BE MINIMUM 6' BEHIND EDGE OF PAVEMENT.
3. EDGE OF SIGN SHALL BE MINIMUM 2' BEHIND FACE OF CURB.

SUBMITTED WITH DESIGN PLAN

DRAWN	RMH
DESIGNED	RMH
CHECKED	3/29/18 RMH
PROJ. ENGR.	
DRAWING FILE	SN_rev2.DWG

DATE	REVISION	BY	APP'D

REICHHARDT & EBE ENGINEERING, INC.
P.O. Box 978
Lynden, Washington 98264

CITY OF FERNDALE
P.O. Box 936
Ferndale, Washington 98248

ROBERT MARTIN HERMAN — STATE OF WASHINGTON — 30730 — REGISTERED PROFESSIONAL ENGINEER — 3-29-18

HTE HERMAN TRAFFIC ENGINEERING
11215 Southeast 220th Place, Kent, Washington 98031
253-236-4941 tel. hte@comcast.net

I-5 MP 263.48
I-5 NB RAMPS/PORTAL WAY
FERNDALE, WHATCOM COUNTY MARCH, 2018
SIGN SPECIFICATIONS

SS2
SHEET OF SHEETS

SEC. 20, T. 39N. R. 2E., W.M.

00655.025 12/28/18 KB

PORTAL WAY

W2-6P 1A
W2-6 1B
W13-1 (10) 1C

D1-901 MOD. SEE DETAIL 2

R-3

R1-2 7A
R6-5P 7B
SEE DETAIL

R-8

ONE WAY>/ <ONE WAY 10

VISITOR INFORMATION 6

14'-0" CLEARANCE 4

R-5 WOOD POST

I-5 NB ON RAMP

YIELD

9 12

R-11

13 ONE WAY>/ <ONE WAY

14A R1-2
14B R6-5P
SEE DETAIL

R-17 WOOD POST

15A R1-2
15B R6-5P
SEE DETAIL

16 I-5 SOUTH^ NORTH>

MATCHLINE SEE SHEET SN2
PORTAL WAY P 13+50

7+00 8+00 9+00 10+00 11+00 13+00 22+00 21+00

N41°54'14"E

30"x30"
R6-5P
CODE A
SIGN NO. 7B, 14B, 15B

25 0 25 50
scale feet

LEGEND

- SIGN NOTE
- R- SIGN REMOVAL NOTE
- PROPOSED LOCATION
- SIGN RELOCATION NOTE
- EXISTING LOCATION
- EXISTING SIGN & POST
- NEW SIGN & POST(S)

INTERSTATE 5 NORTH
Vancouver B.C.

9.5'X6.5'
D1-901 MOD.
CODE A
SIGN NO. 2

I-5 NB OFF RAMP

20+00

190'

LEFT ARROW HORIZONTAL ALIGNMENT WARNING SIGN REMAINS

GAS/FOOD RIGHT SIGN REMAINS

CAMPING RIGHT SIGN REMAINS

MATCHLINE SEE SHEET SN2
I-5 NORTHBOUND OFF RAMP

SUBMITTED WITH DESIGN PLAN

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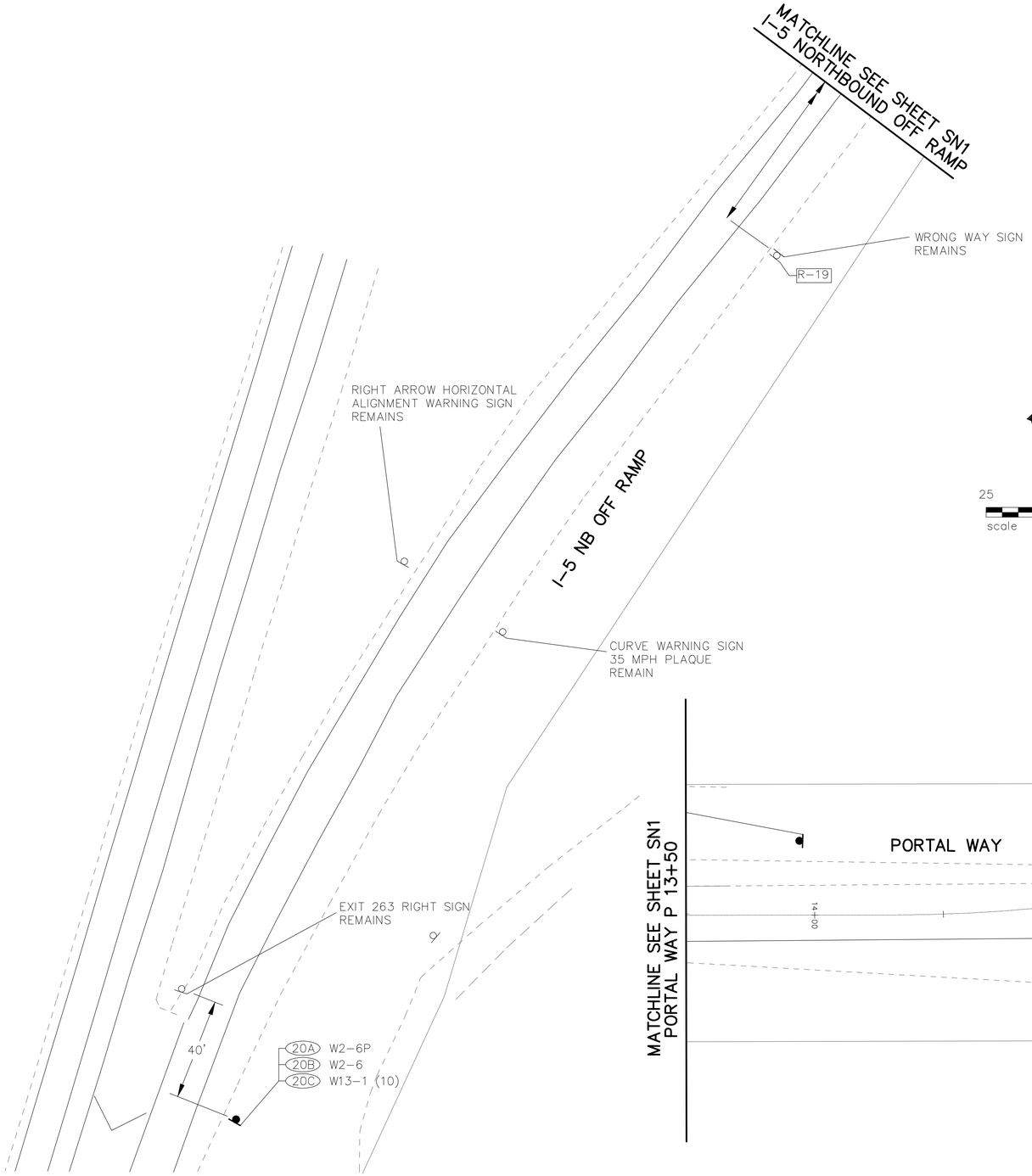
FERNDALE, WHATCOM COUNTY MARCH, 2018
SIGNING PLAN

SN1
SHEET OF SHEETS

SEC. 20, T. 39N. R. 2E., W.M.



25 0 25 50
scale feet

LEGEND

- SIGN NOTE
- R– SIGN REMOVAL NOTE
- PROPOSED LOCATION
- SIGN RELOCATION NOTE
- EXISTING LOCATION
- EXISTING SIGN & POST
- NEW SIGN & POST(S)

W2-6P 18A
W2-6 18B
W13-1 (10) 18C

SUBMITTED WITH DESIGN PLAN

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DESIGNED	RMH
CHECKED	3/29/18 RMH
PROJ. ENGR.	
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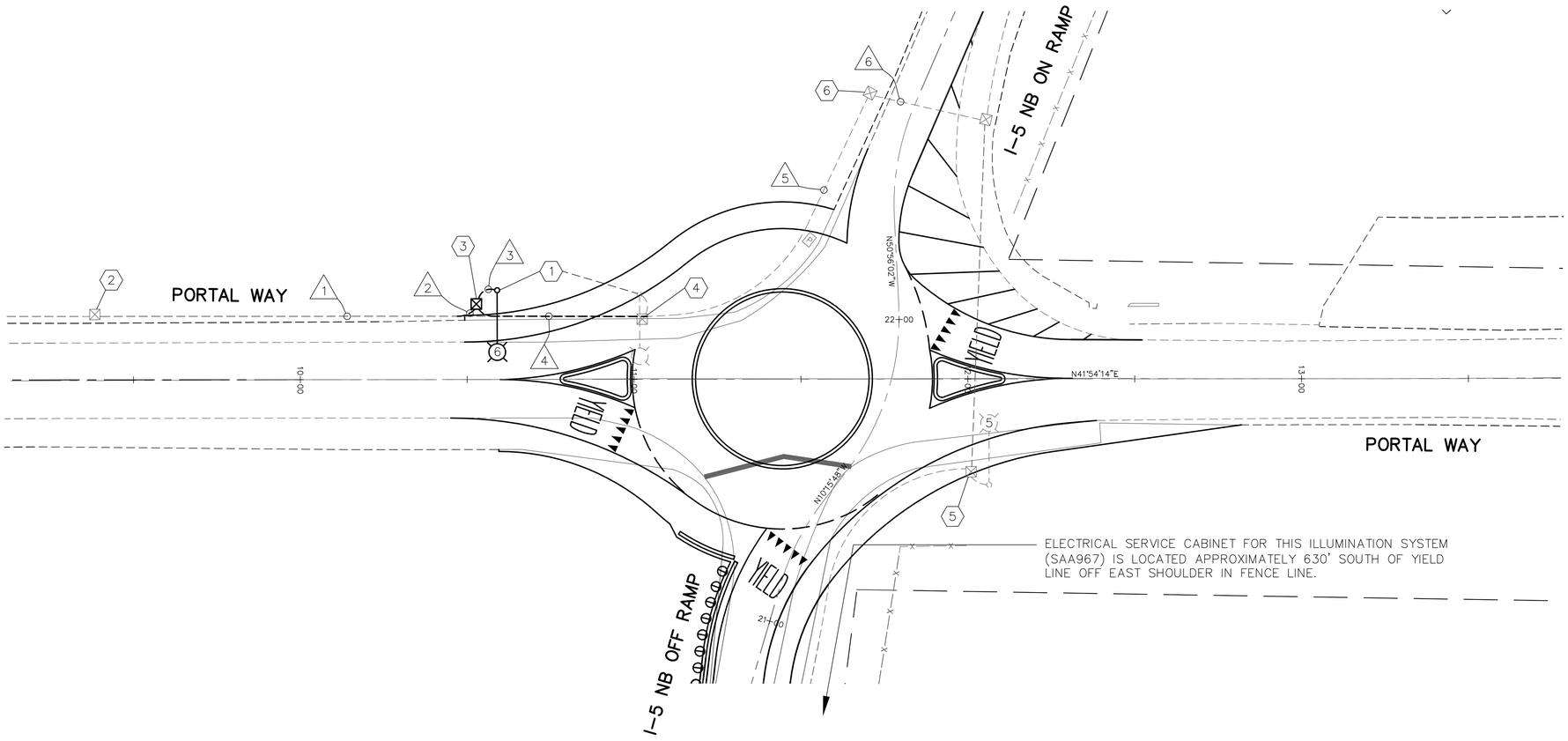
FERNDALE, WHATCOM COUNTY MARCH, 2018
SIGNING PLAN

SN2
SHEET OF SHEETS

SEC. 20, T. 39N. R. 2E., W.M.



20 0 20 40
scale feet

LEGEND

EXISTING	PROPOSED	
		LIGHT STANDARD AND LUMINAIRE
		TYPE 1 JUNCTION BOX
		CONDUIT
		CONSTRUCTION NOTE
		WIRE NOTE

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2016 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND ITS AMENDMENTS, SPECIAL PROVISIONS, WSDOT STANDARD PLANS AND NATIONAL ELECTRICAL CODE (ALL CURRENT VERSIONS).
2. WORK SHALL BE STAGED SO NO PORTION OF EXISTING STREET LIGHTING SYSTEM IS INOPERABLE DURING HOURS OF DARKNESS.
3. INSTALL A ONE FOOT WIDE AND ONE FOOT DEEP RECTANGULAR CONCRETE COLLAR AROUND THE PERIMETER OF EACH NEW TYPE 1 AND TYPE 2 JUNCTION BOX INSTALLED IN GRADE. THE EXPOSED PORTIONS SHALL BE FORMED TO HAVE A NEAT APPEARANCE. THE TOP EDGES SHALL HAVE A 3/4-INCH CHAMFER ON THE TOP EDGE OF THE FOUNDATION. THE CONCRETE MIX DESIGN SHALL BE COMMERCIAL CONCRETE PER STANDARD SPECIFICATION 6-02.3(2)B.

CONSTRUCTION NOTES

1. CONSTRUCT FOUNDATION AND RELOCATE EXISTING LIGHT STANDARD AND LUMINAIRE TO NEW FOUNDATION. REMOVE EXISTING FOUNDATION IN ITS ENTIRETY. SEE LUMINAIRE SCHEDULE. USE WSDOT STANDARD PLAN J-28.30-03.
2. DISCONNECT EXISTING CONDUCTORS AT JUNCTION BOX TO EAST AND PULL BACK TO JUNCTION BOX. REPULL EXISTING CONDUCTORS THROUGH NEW CONDUIT TO NEW JUNCTION BOX TO EAST.
3. INTERCEPT EXISTING CONDUIT AND SWEEP INTO NEW JUNCTION BOX (WEST RUN ONLY). INSTALL OTHER CONDUIT AND CONDUCTORS PER WIRING SCHEDULE.
4. REMOVE EXISTING JUNCTION BOX, CONDUIT SWEEPS AND CONDUCTORS. EXTEND EXISTING CONDUIT WEST TO JUNCTION BOX AT NEW LIGHT STANDARD LOCATION. ABANDON EXISTING CONDUIT TO WEST.
5. ADJUST EXISTING JUNCTION BOX TO GRADE.
6. SPLICE EXISTING CONDUCTORS TO NEW CONDUCTORS IN EXISTING JUNCTION BOX.

SUBMITTED WITH DESIGN PLAN

LUMINAIRE SCHEDULE

LUM. NO.	POLE LOCATION	CIRCUITS	TYPE-DISTRIBUTION-WATTAGE	MAST ARM LENGTH	H1	FOUNDATION TYPE	BASE TYPE
6	STA 10+59.00, 26.73' LT.	EX A	EX	EX	EX	B	EX

WIRING SCHEDULE

CONDUIT RUN △	CONDUIT SIZE	CONDUCTORS ILLUM #8	CONDUCTORS GROUND #8	CIRCUIT	REMARKS
1	EX 1.25"	EX 2	EX 1	B	REMOVE AND REPULL EX CONDUCTORS
2	1.25"	EX 2	EX 1	B	REROUTE EX CONDUCTORS THRU NEW CONDUIT
3	1"	2	1	A	
4	1.25"	4	1	A,B	EXTEND EX CONDUIT TO NEW JUNCTION BOX
5	EX 1.25"	4	1	A,B	REPLACE EX CONDUCTORS
6	EX 2"	EX 4	EX 1	A,B	EX CONDUIT AND CONDUCTORS REMAIN

NOTE: WHERE EXISTING CONDUITS WILL BE EXTENDED, CONTRACTOR SHALL VERIFY EXISTING CONDUIT TYPE AND SIZE PRIOR TO PROCURING MATERIALS.

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	3/29/18 RMH				
PROJ. ENGR.					
DRAWING FILE	IL_rev2.DWG				
	DATE	REVISION	BY	APP'D	

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I-5 MP 263.48
I-5 NB RAMPS/PORTAL WAY
FERNDALE, WHATCOM COUNTY MARCH, 2018
ILLUMINATION PLAN

IL1
SHEET OF SHEETS

00655.027 12/28/18 KB

SEC. 20, T. 39N. R. 2E., W.M.

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2016 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND ITS AMENDMENTS, SPECIAL PROVISIONS, WSDOT STANDARD PLANS AND NATIONAL ELECTRICAL CODE (ALL CURRENT VERSIONS).

2. A SINGLE CONTINUOUS SHUTDOWN OF THE WSDOT FIBER NETWORK SHALL ONLY BE ALLOWED FROM MONDAY NIGHT 9:00 PM TO FOLLOWING THURSDAY MORNING 6:00 AM. WEEKS WHEN SHUTDOWN WILL NOT BE ALLOWED ARE:

   - SEPTEMBER 1–11
   - OCTOBER 5–16
   - NOVEMBER 16–27
   - DECEMBER 21–JANUARY 8

   SHUTDOWN OF ITS DETECTOR LOOPS SHALL BE LIMITED TO FIVE DAYS.

CONSTRUCTION NOTES

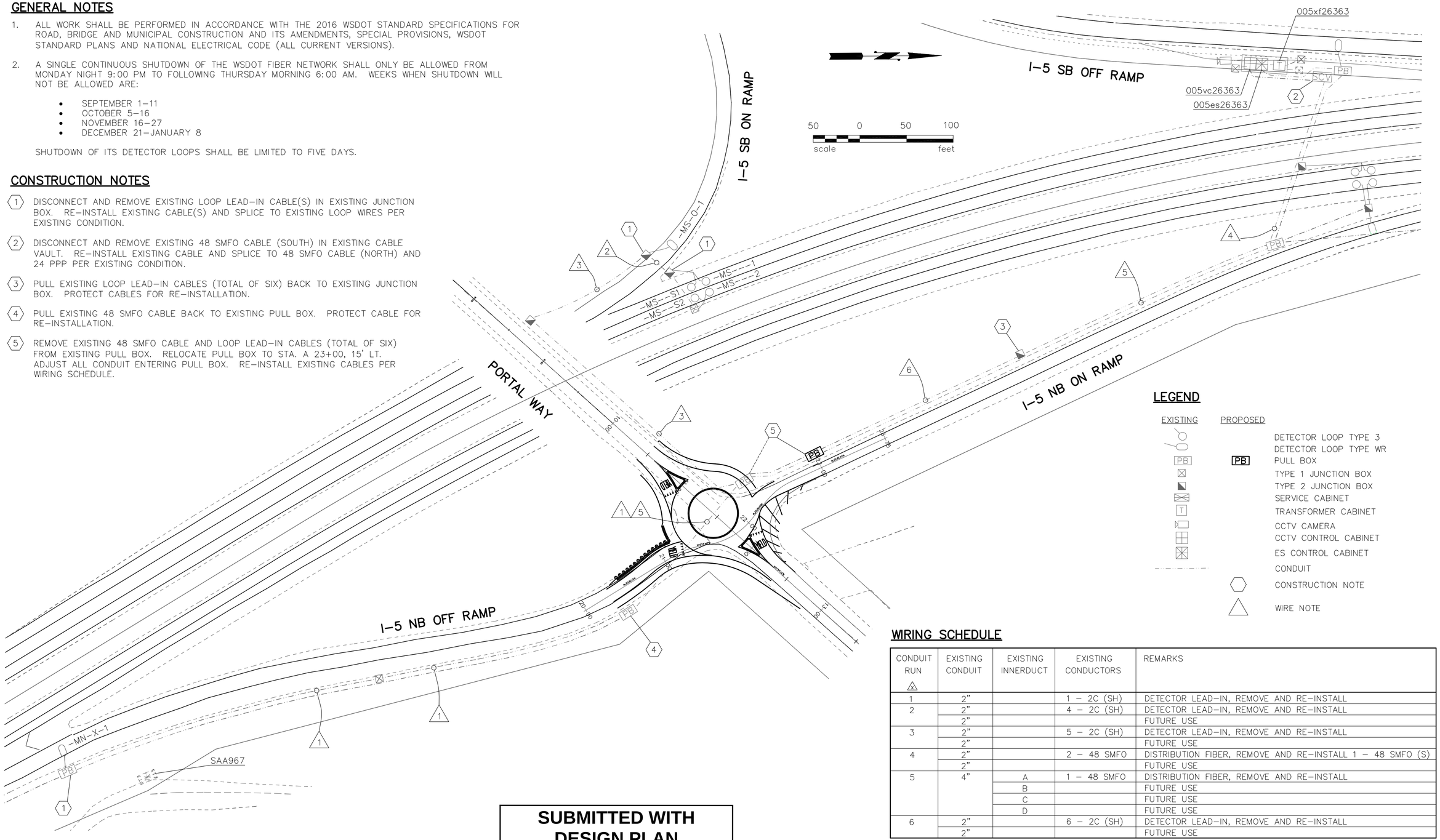
1. DISCONNECT AND REMOVE EXISTING LOOP LEAD–IN CABLE(S) IN EXISTING JUNCTION BOX. RE–INSTALL EXISTING CABLE(S) AND SPLICE TO EXISTING LOOP WIRES PER EXISTING CONDITION.

2. DISCONNECT AND REMOVE EXISTING 48 SMFO CABLE (SOUTH) IN EXISTING CABLE VAULT. RE–INSTALL EXISTING CABLE AND SPLICE TO 48 SMFO CABLE (NORTH) AND 24 PPP PER EXISTING CONDITION.

3. PULL EXISTING LOOP LEAD–IN CABLES (TOTAL OF SIX) BACK TO EXISTING JUNCTION BOX. PROTECT CABLES FOR RE–INSTALLATION.

4. PULL EXISTING 48 SMFO CABLE BACK TO EXISTING PULL BOX. PROTECT CABLE FOR RE–INSTALLATION.

5. REMOVE EXISTING 48 SMFO CABLE AND LOOP LEAD–IN CABLES (TOTAL OF SIX) FROM EXISTING PULL BOX. RELOCATE PULL BOX TO STA. A 23+00, 15' LT. ADJUST ALL CONDUIT ENTERING PULL BOX. RE–INSTALL EXISTING CABLES PER WIRING SCHEDULE.



LEGEND

EXISTING	PROPOSED	
		DETECTOR LOOP TYPE 3
		DETECTOR LOOP TYPE WR
PB	PB	PULL BOX
		TYPE 1 JUNCTION BOX
		TYPE 2 JUNCTION BOX
		SERVICE CABINET
		TRANSFORMER CABINET
		CCTV CAMERA
		CCTV CONTROL CABINET
		ES CONTROL CABINET
		CONDUIT
		CONSTRUCTION NOTE
		WIRE NOTE

WIRING SCHEDULE

CONDUIT RUN △	EXISTING CONDUIT	EXISTING INNERDUCT	EXISTING CONDUCTORS	REMARKS
1	2"		1 – 2C (SH)	DETECTOR LEAD–IN, REMOVE AND RE–INSTALL
2	2"		4 – 2C (SH)	DETECTOR LEAD–IN, REMOVE AND RE–INSTALL
	2"			FUTURE USE
3	2"		5 – 2C (SH)	DETECTOR LEAD–IN, REMOVE AND RE–INSTALL
	2"			FUTURE USE
4	2"		2 – 48 SMFO	DISTRIBUTION FIBER, REMOVE AND RE–INSTALL 1 – 48 SMFO (S)
	2"			FUTURE USE
5	4"	A	1 – 48 SMFO	DISTRIBUTION FIBER, REMOVE AND RE–INSTALL
		B		FUTURE USE
		C		FUTURE USE
		D		FUTURE USE
6	2"		6 – 2C (SH)	DETECTOR LEAD–IN, REMOVE AND RE–INSTALL
	2"			FUTURE USE

SUBMITTED WITH DESIGN PLAN

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	3/29/18 RMH				
PROJ. ENGR.					
DRAWING FILE	IT_rev2.DWG				
		DATE	REVISION	BY	APP'D

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I–5 MP 263.48

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FERNDALE, WHATCOM COUNTY MARCH, 2018

ITS RELOCATION PLAN

IT1

SHEET OF SHEETS

00655.028 12/28/18 KB