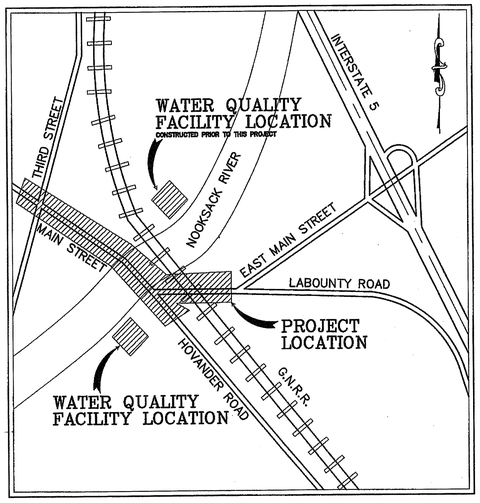
MAIN STREET BRIDGE
STREET IMPROVEMENTS

CITY OF FERNDALE

00378.001 5-4-09 KR

VICINITY MAP



NTS

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LEGEND

- = SIXTEENTH CORNER
- = EXIST SD CATCH BASIN
- = EXIST SANITARY SEWER MANHOLE
- = EXIST FIRE HYDRANT
- = EXIST WATER METER
- = EXIST WATER VALVE
- = EXIST UTILITY POLE
- = EXIST TELEPHONE PEDESTAL
- MB = EXIST MAIL BOX
- = EXIST SIGN
- = EXIST LANDSCAPING
- = EXIST GUY WIRE
- SS = EXIST SANITARY SEWER
- SD = EXIST STORM DRAIN
- W = EXIST WATER MAIN
- X = EXIST FENCE
- = EXIST DITCH
- = EXIST CULVERT
- = EXIST EDGE OF PAVEMENT
- PR = EXIST POWER LINE
- PH = EXIST PHONE LINE
- = SIGNAL CONDUIT
- TV = COMCAST CONDUIT
- G = EXIST GAS MAIN
- = PROP STORM DRAIN CATCH BASIN
- SD = PROP STORM DRAIN
- = PROP WATER VALVE
- = PROP HYDRANT
- W = PROP WATERMAIN
- = PROP STREET LIGHT
- = PROP FLAG SLEEVE

FEDERAL AID PROJECT #BHM–8030(002)
TIB AIP PROJECT #8–02–985(004)–1

DATE: 12-5-08 **AS-BUILT**

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354–3687 Fax (360) 354–0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET BRIDGE STREET IMPROVEMENTS COVER SHEET

JOB# / DWG		DATE
00006	006SP3.AB	3-24-03
SCALE H: n/a V: n/a		SHEET 1 of 30

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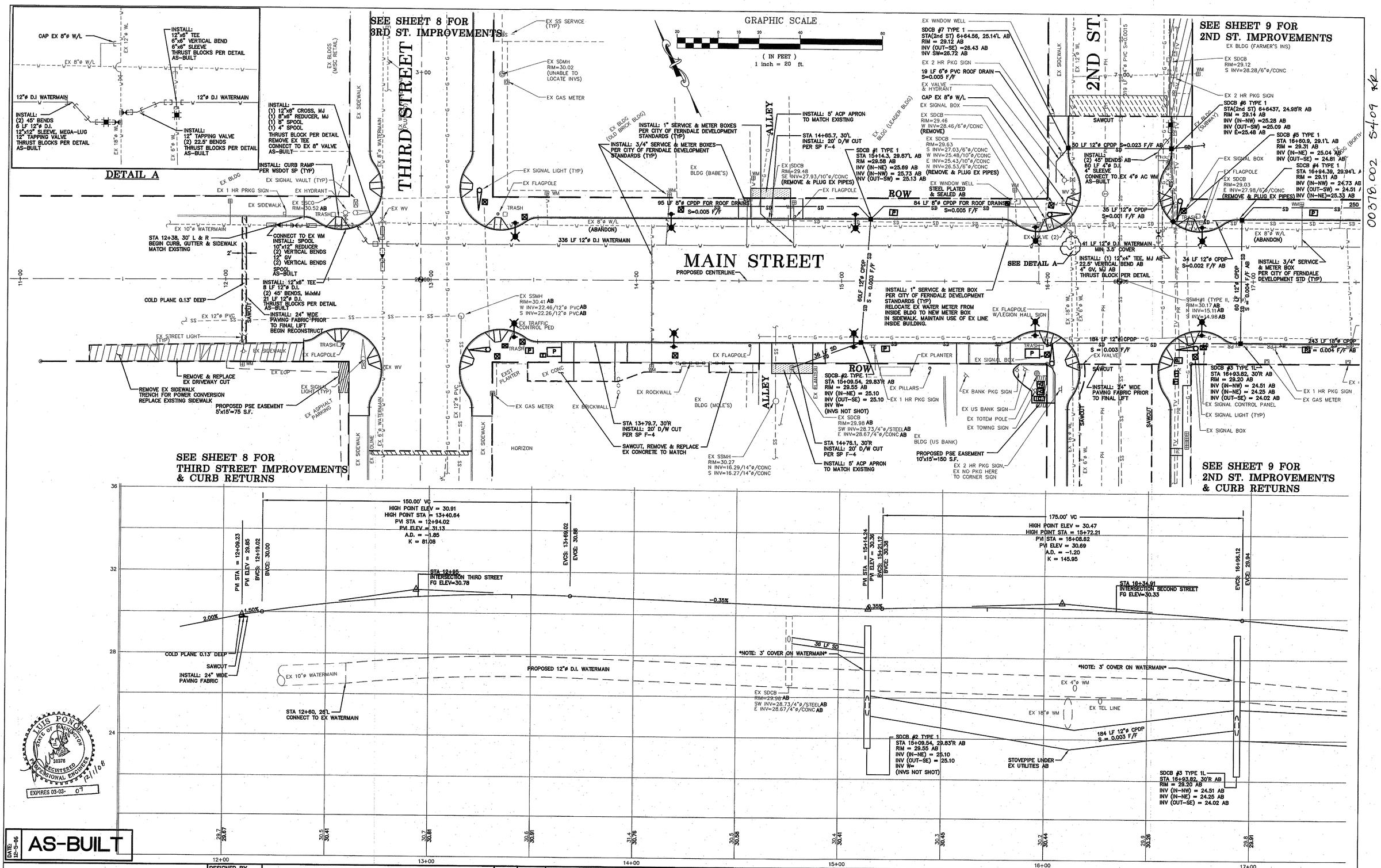

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER 12/1/08
EXPIRES 03-03-09

AS-BUILT
DATE: 12-5-08

00376.002 S4.09 KP

DESIGNED BY DLB	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248
DRAWN BY LMC							MAIN STREET BRIDGE STREET IMPROVEMENTS STA 11+00 TO 17+25
CHECKED BY GDE							JOB# / DWG 00006 006SP3.AB · DATE 3-24-03 · SCALE H:1"=20' V:1"=2' · SHEET 2 of 30

AM 12/1/2008 10:00:00 P:\00376.002\Dgn\figures\fig-horizontal.dgn

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

SEE SHEET 11 FOR 1ST ST. IMPROVEMENTS

SEE SHEET 10 FOR 1ST ST. IMPROVEMENTS & CURB RETURNS

MAIN STREET

FIRST ST.

FRONT STREET

ALLEY

ROW

SAWCUT

EX BLDG (HAWLEYS AUTO)

EX BLDG (TRUE VALUE)

EX BLDG (CAR WASH)

EX BLDG (BORTHWICK'S)

EX SIDEWALK

EX EOP

EX ROAD CROWN

GRADE BREAK

EX CONC ABUTMENT

EX CONC PIER (TYP)

EX VACUUM STANDS

EX WATER VAULT

EX WATER MANHOLE

EX FLAGPOLE

EX FLAGPOLE W/PKG SIGN

EX 1 HR PKG SIGN

EX NO PKG SIGN

EX GAS METER

EX VALVE

EX JBOX

EX SIGNAL CNTRL PANEL

EX SIGNAL BOX

EX SIGNAL LIGHT (TYP)

EX FENCE

EX CONC PAD

EX FIBER OPTICS

GASLINE MARKER

EX UTILITY MH

EX 6"ø ROAD DRAIN RIM=29.49

EX 6"ø ROAD DRAIN RIM=28.58

EX SDCB RIM=34.20

EX SSMH RIM=28.64 N & S INV=20.54/8"ø/CONC

EX SDCB RIM=28.50 N INV=27.70/6"ø/CONC

EX SDCB RIM=28.23 E INV=27.22/6"ø/CONC (REMOVE & PLUG EX PIPES)

EX SDCB RIM=27.59 N INV=26.79/6"ø/PVC (REMOVE & PLUG EX PIPES)

EX SDCB RIM=27.91 N INV=22.86/6"ø/PVC N INV=26.50/4"ø/PVC E INV=22.11/12"ø/CONC W INV=22.33/12"ø/CONC (REMOVE & PLUG EX PIPES)

EX SDCB RIM=27.13 W INV=25.03/8"ø/PVC (REMOVE & PLUG EX PIPES)

EX SDCB RIM=27.55 W INV=26.48/6"ø/STEEL (REMOVE & PLUG EX PIPES)

EX SDCB RIM=28.54

EX SDCB RIM=28.20 NW INV=20.9 UNKNOWN SIZE SE INV=21.9 6" PVC (REMOVE) REPLACE W/SDCB TYPE II-48" STANDARD FRAME & GRATE RIM = 28.20 INV (IN-NW) = 21.90(NEW 12"ø) INV (OUT-SE) = 21.90(EX 6"ø PVC) REPAIR EX PAVEMENT

EX SDCB RIM=27.55 NE INV=25.82/4"ø/PVC

EX SDCB RIM=28.24 NE INV=28.14/4"ø/PVC

SW INV=24.42/4"ø/PVC NE INV=24.07/6"ø/PVC

EX 14" POLE

EX 18"ø PVC SLEEVE OVER 12"ø CONC. INV=19.09 (DIRECTION ASSUMED)

MATCH EX SIDEWALK

SDCB #10 TYPE 1 STA 19+88.74, 27.9'L AB RIM = 27.40 AB INV (IN-W) = 23.88 AB INV (OUT-E) = 23.95 AB INV IN=24.01 AB

INSTALL: 3/4" SERVICE & METER BOX PER CITY OF FERNDALE DEVELOPMENT STD (TYP)

INSTALL: 12' ACP APRON TO MATCH EXISTING

STA 18+09.4, 30'L INSTALL: 18' D/W CUT PER SP F-4

RELOCATE METER TO BACK OF WALK OUTSIDE DRIVEWAY CUT AB LOCATION

250 LF 8"ø CPDP FOR ROOF DRAINS S=0.002 F/F

318 LF 12"ø D.I. WATERMAIN 3.5' MIN COVER

EX 8"ø W/L (ABANDON)

33 LF 12"ø CPDP S=0.025 F/F AB

47 LF 12"ø CPDP S = 0.014 F/F AB

SDCB #9 TYPE 1 STA 19+36.21, 29.83'L AB RIM = 27.33 AB INV (OUT-E) = 24.69 AB INV (IN)=24.76 AB

33 LF 12"ø CPDP S = 0.006 F/F AB

114 LF 12"ø CPDP S=0.0053 F/F AB

175 LF 12"ø D.I. WATERMAIN 3.5' MIN COVER

INSTALL: (1) 12"x6" TEE MJ 45° VERTICAL BEND 6" SPOOL THRUST BLOCK PER DETAIL AS-BUILT

65 LF 18"ø CPDP S=0.005 F/F AB

115 LF 18"ø CPDP S= 0.006 F/F AB

243 LF 18"ø CPDP S = 0.004 F/F AB

SDCB #8 TYPE 1L STA 19+37.25, 29.94'R AB RIM = 27.35 AB INV (IN-NW) = 23.03 AB INV (OUT-SE) = 22.86 AB

STA 18+10.4, 30'R INSTALL: 20' D/W CUT PER SP F-4

INSTALL: 45° ACP APRON TO MATCH EXISTING

SDCB #11 TYPE II-48" STA 20+52.23, 30.00R RIM = 27.65 AB INV (IN-NW) = 22.32 AB INV (IN-SE) = 24.64 NOT SHOT INV (OUT-N) = 22.32 AB

145 LF 12"ø CPDP S = 0.003 F/F

SDCB #12 FLOW SPLITTER, SEE DETAIL STA 20+15.75, 28.59'L AB RIM = 27.13 AB INV (IN-S) = 22.15 AB INV (IN-W) = 23.31 AB INV (OUT-NE) = 22.12 AB INV (OUT-E) = 22.10 AB

2"ø STEEL BOLLARDS

STA 21+08.73, 36.91'L AB INSTALL: HYDRANT ASSY

INSTALL: 3/4" SERVICE & METER BOX PER CITY OF FERNDALE DEVELOPMENT STD (TYP)

STA 21+34.4, 21.3'L INSTALL: 24' D/W CUT PER DETAIL

STA 21+24.69, 37.66'L AB INSTALL: SDCB #14 RIM=28.32 AB INV = 25.93 AB

STA 21+56.67, 37.33'L AB INSTALL: SDCB #3A RIM=28.39 AB INV = 25.79 AB

REMOVE EX ACP GRADE & PAVE

54 LF 8"ø CPDP S=0.004 F/F AB

CONNECT TO EX W/L @ EX HYDRANT TEE REMOVE EX HYDRANT AB THRUST BLOCK PER DETAIL INSTALL: 12" SPOOL (2) 45° BENDS, MJxMJ 8 LF 12"ø D.I. 12" SPOOL THRUST BLOCK PER DETAIL AS-BUILT

STA 21+75.7, 20.3'L INSTALL: 25' D/W CUT PER DETAIL

STA 21+98.02, #3A INSTALL: SDCB RIM=28.20 AB INV=25.56 AB INV E=25.46

MATCH SAW CUT LINE FROM BACK OF NEW SIDEWALK

MATCH AT OLD BACK OF SIDEWALK

54 LF 8"ø CPDP S=0.004 F/F AB

18 LF 8"ø CPDP S = 0.003 F/F AB

79 LF 8"ø CPDP SS=-0.052 F/F AB

52 LF 18"ø CPDP S = 0.02 F/F MIN. INVERT = 18.09

2"ø STEEL BOLLARDS

STA 22+75 66'L MATCH EX

SDCB #16 TYPE II-48" STA 22+82.66, 48.19'L AB RIM = 27.98 AB INV (IN-NW) =21.32 AB INV (OUT) =21.26 AB INSTALL FLOOD VALVE WATERMAIN AF-41 OR EQUIV. ON NW INLET

SD CONNECT NEW WATERMAIN TO EX UNDERGROUND SEE BRIDGE PLAN FOR LOCATION

SDCB #15 TYPE 1 STA 23+00, 16.87'L AB RIM = 32.87 AB INV (OUT SW) = 29.11 AB

6"ø ELECT PIPE

EX PHONE PED

STA 23+10.67 END CONC APPROACH SLAB

STA 22+85.67 BEGIN CONC APPROACH SLAB PER WSDOT SP A-2 (SEE DETAIL)

INSTALL: RETAINING WALL PER DETAIL CONTINUE RAILING FROM BRIDGE OVER RETAINING WALLS SEE SHEETS 25 & 26 FOR STATIONING

98 LF 12"ø CPDP S = 0.049 F/F AB

16"ø FIBER OPTICS (GOES UG) CONNECT NEW SS TO EXISTING SEE BRIDGE PLAN FOR LOCATION

SDCB #13 TYPE 1 STA 21+99, 19.8'R AB RIM = 28.98 AB INV IN-SE = 24.22 AB INV OUT-NW = 24.10 AB

EX SPEED LIMIT SIGN

REMOVE & REPLACE 105 LF CHAIN LINK FENCE

STA 21+73.4, 20.5'R INSTALL: 18' D/W CUT PER SP F-4

INSTALL: 11' ACP APRON TO MATCH EXISTING

SDCB #14 TYPE 1 STA 23+00, 17.27'R AB RIM = 33.07 AB INV (IN-NE) = 28.97 AB INV (OUT NW) = 29.00 AB

EX 6"ø ROAD DRAIN RIM=29.49

EX 6"ø ROAD DRAIN RIM=28.58

EX SDCB RIM=34.20

EX EOP

EX GRADE BREAK

TB RIVER

BB LEVEE

RIP-RAP

150.00' VC
PVI STA = 23+19.01
PVI ELEV = 34.23
A.D. = -3.50
K = 42.86

90.00' VC
PVI STA = 21+94.10
PVI ELEV = 28.92
A.D. = 3.60
K = 23.08

125.00' VC
LOW POINT ELEV = 28.14
LOW POINT STA = 19+52.38
PVI STA = 19+26.37
PVI ELEV = 27.99
A.D. = 1.20
K = 104.25

BVCS: 18+63.87 BVCE: 28.52

EVCS: 19+88.87 EVCE: 28.21

BVCS: 21+49.10 BVCE: 28.77

EVCS: 22+39.10 EVCE: 30.84

BVCS: 22+44.01 BVCE: 31.05

-0.85%

0.35%

4.25%

STA 19+90.23 INTERSECTION FIRST STREET FG ELEV=28.21

NOTE: 3' COVER ON WATERMAIN

PROPOSED 12"ø D.I. WATERMAIN

243 LF 18"ø CPDP S = 0.004 F/F AB

115 LF 18"ø CPDP S = 0.006 F/F AB

65 LF 18"ø CPDP S = 0.003 F/F AB

146 LF 12"ø CPDP S = 0.0035 F/F

EX WATERMAIN

STA 21+43, 22.7'L CONNECT TO EX WATERMAIN AT HYDRANT TEE

275 LF 18"ø CPDP S = 0.003 F/F AB

98 LF 12"ø CPDP S = 0.049 F/F AB

53 LF 18"ø CPDP S = 0.046 F/F

INV=19.09

SDCB #8 TYPE 1L STA 19+37.25, 29.94'R AB RIM = 27.35 AB INV (IN-NW) = 23.03 AB INV (OUT-SE) = 22.86 AB

SDCB #12 FLOW SPLITTER, SEE DETAIL STA 20+15.75, 28.59'L AB RIM = 27.13 AB INV (IN-S) = 22.15 AB INV (IN-W) = 23.31 AB INV (OUT-NE) = 22.12 AB INV (OUT-E) = 22.10 AB

SDCB #11 TYPE II-48" STA 20+52.23, 30.00R RIM = 27.65 AB INV (IN-NW) = 22.32 AB INV (IN-SE) = 24.64 NOT SHOT INV (OUT-N) = 22.32 AB

SDCB #13 TYPE 1 STA 21+99, 19.8'R AB RIM = 28.98 AB INV IN-SE = 24.22 AB INV OUT-NW = 24.10 AB

SDCB #16 TYPE II-48" STA 22+82.66, 48.19'L AB RIM = 27.98 AB INV (IN-NW) =21.32 AB INV (OUT) =21.26 AB

SDCB #14 TYPE 1 STA 23+00, 17.27'R AB RIM = 33.07 AB INV (IN-NE) = 28.97 AB INV (OUT NW) = 29.00 AB

29.6 28.49 | 29.3 28.08 | 29.0 28.64 | 29.7 28.27 | 29.5 28.14 | 29.4 28.25 | 28.5 28.42 | 28.5 28.60 | 28.6 28.77 | 28.5 28.51 | 31.3 31.30 | 33.0 33.06 | 34.3 34.24

18+00 19+00 20+00 21+00 22+00 23+00

32 28 24 20

LUIS PONCE
STATE OF WASHINGTON
33378
REGISTERED PROFESSIONAL ENGINEER
12/10/08
EXPIRES 03-03-09

DATE: 12-5-06
AS-BUILT

00378.003 S4.09 42

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	1	7-17-03	REVISE HAWLEY'S DRIVEWAY	DLB	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248
			NO.	DATE	REVISION	BY	

MAIN STREET BRIDGE
STREET IMPROVEMENTS
STA 17+25 TO 23+50

JOB# / DWG 00006 006SP3.AB
DATE 3-24-03
SCALE H:1"=20' V:1"=2'
SHEET 3 of 30

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GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NOOKSACK RIVER

SEE BRIDGE PLANS FOR DETAILS OF IMPROVEMENTS

MAIN STREET

RR ROW

WATERMAIN LOCATIONS ACCORDING TO FERNDALE P.W. VAC TRUCK ON-SITE LOCATE

SANITARY SERVICE LOCATION ACCORDING TO FERNDALE P.W. VAC TRUCK ON-SITE LOCATE

SEE SPECIFICATIONS FOR UTILITY REQUIREMENTS

(3)-EX 3"ø PVC CONDUIT

EX 14"ø WATERMAIN

EX 14" I-BEAM

EX 16"ø INSUL PIPE
CONNECT NEW WATERMAIN TO EX UNDERGROUND SEE BRIDGE PLAN FOR LOCATION

EX 16"ø INSUL PIPE
CONNECT NEW SS TO EXISTING UNDERGROUND SEE BRIDGE PLAN FOR LOCATION

EX 6"ø ELECT PIPE

3"ø PVC ELECT CONDUIT

EX CONC PIER (TYP)

EX CONC WALL

EX PWR VAULT (1.5'x2.5')

EX 6"ø PIPE RIM=24.60

EX 24"ø SDMH TO TANK RIM=24.80

EX SDCB RIM=34.10

EX SDCB RIM=34.68

EX SDCB RIM=34.99

EX SDCB RIM=35.56

EX SDCB RIM=34.65

EX SDCB RIM=35.04

EX SDCB RIM=35.55

EX 8"x10" DRAIN RIM=35.87

EX 8"x10" DRAIN RIM=35.59

EX 8"x10" DRAIN RIM=34.90

EX 8"x10" DRAIN RIM=33.62

EX 8"x10" DRAIN RIM=32.40

EX 8"x10" DRAIN RIM=35.95

TO PUMP HOUSE SS

EX SSMH RIM=25.80 AB
E INV=15.09/24"ø/CONC AB
W INV=14.79/24"ø/CONC AB

CONC ABUTMENT

BB ROCK LEVEE

TB LEVEE

BB LEVEE

TB RIVER

BB ROCK BERM

TB ROCK BERM

EX BLDG

GAS MET

EX GRAVEL

EX PWR SERVICE POLE

EX WATERMAIN N & S
4"ø STEEL PIPE

EX 4"ø & 6"ø ELECT PIPE

EX UG PHONE MARKER

EX HASTINGS PARK SIGN IN LANDSCAPING

EX PHONE PED

EX TEL MH

EX TEL PED

EX VALVE

EX RR TIES

TOP BANK

BOTTOM BANK

EX GRAVEL BOTTOM BANK

GASLINE MARKER

CONC ABUTMENT

TB

TOP BANK @ RR

BOTTOM BANK @ RR

UG CABLE MARKER

CONNECT EX TO NEW

CALC RR ROW CL

EX RR BRIDGE

50'

EX 2' CONC RETAINING WALL

EX SDCB
RIM=23.21
S INV=18.53/12"ø/CONC
E INV=18.52/12"ø/CONC
(REMOVE & PLUG PIPES)

EX SSMH
RIM=24.82 AB
SE INV=16.05/24"ø/CONC AB
SW INV=16.73/6"ø/CONC AB
NW INV=15.65/24"ø/CONC AB

EX SSMH
RIM=24.39 AB
E INV=16.06/24"ø/CONC AB
NW INV=16.05/24"ø/CONC AB
SE INV=17.21/8"ø/CONC AB

EX SDCB
RIM=27.32
NE INV=25.79/3"ø/PVC

EX BLDG (DAYCARE)

EX CONC WALK

EX WOOD STAIRS

REMOVE & REPLACE EX HANDRAIL

CONTINUE PEDESTRIAN BRIDGE RAIL PER DETAIL

SDCB #2E TYPE 1
STA 27+50, 17'L AB
RIM = 31.56 AB
INV (S) = 28.02 AB
INV (E) = 28.01 AB

SDCB #3E TYPE 1
STA 28+96, 18'L AB
STANDARD FRAME & GRATE
RIM = 26.36 AB
INV (W) = 23.16 AB
INV (E) = 22.91 AB

SDCB #1E TYPE 1
STA 27+50, 17'R AB
RIM = 33.61 AB
INV (OUT) = 30.21 AB

STA 28+99, 18.8'L
INSTALL: 46' D/W CUT
PER SP F-4

INSTALL: ACP APRON TO MATCH EXISTING

INSTALL: RETAINING WALL PER DETAIL
REMOVE EX WALL & CONNECT TO REMAINING EX WALL

140 LF 12"ø CPDP AB
S = 0.035 F/F AB

90 LF 12"ø CPDP AB
S = 0.034 F/F AB

END PEDESTRIAN BRIDGE RAIL

REMOVE EX ACP RECONSTRUCT

STA 27+69.71
END CONC APPROACH SLAB

SAWCUT
BEGIN GRIND & OVERLAY
INSTALL 2" PAVING FABRIC PRIOR TO FINAL LIFT

STA 27+41.38
BEGIN CONC APPROACH SLAB PER WSDOT SP A-2 (SEE DETAIL)
REMOVE EX ACP

2"ø PVC (GOES TO TOP BANK)

STA 28+68.3, 20.3'R
INSTALL: 50' D/W CUT
PER SP F-4

INSTALL: 15' ACP APRON TO MATCH EXISTING

RELOCATE

STA 29+00
BEGIN 0.13' GRIND OVERLAY

STA 27+50=
OFFSET LEFT & RIGHT @
PROPOSED FLOW LINE
SEE PROFILES FOR GRADING

150.00' VC
HIGH POINT ELEV = 36.14
HIGH POINT STA = 25+86.82
PVI STA = 26+34.05
PVI ELEV = 36.60
A.D. = -4.05
K = 37.04

100.00' VC
PVI STA = 28+16.85
PVI ELEV = 30.56
A.D. = -0.95
K = 105.26

125.00' VC

0.75%

-3.30%

-4.25%

EVCS: 23+94.01 EVCE: 34.80
BVCS: 25+59.05 BVCE: 36.03
EVCS: 27+09.05 EVCE: 34.12
EVCS: 27+66.85 BVCS: 32.21
EVCS: 28+66.85 EVCE: 28.44
BVCS: 29+09.94 BVCE: 28.61

34.3 34.24
34.8 34.84
35.2 35.22
35.6 35.59
35.9 35.97
36.1 36.11
35.6 35.60
34.4 34.41
32.8 32.77
31.1 31.07
29.1 29.14
27.0 27.03
25.2 25.16

24+00 25+00 26+00 27+00 28+00 29+00

36 32 28 24

LUIS PONCE
STATE OF WASHINGTON
21378
REGISTERED PROFESSIONAL ENGINEER
12/11/06
EXPIRES 03-03-07

DATE: 12-5-06
AS-BUILT

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
STA 23+50 TO 29+50

JOB# / DWG 00006 006SP3.AB
SCALE H:1"=20' V:1"=2'
DATE 3-24-03
SHEET 4 of 30

00878.004 5.4.09 KE

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SEE SHEET 12 FOR OXFORD IMPROVEMENTS

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

MAIN STREET

HOVANDER RD

EX RR ROW

EX RR BRIDGE

EX ROW

EX ROW

PROP SIDEWALK

PROP SIDEWALK 6'

EX SIDEWALK

EX ROAD CROWN

EX FLOWLINE

EX TBC

EX TOP BANK

EX OVERHEAD DOORWAY

EX DRIVEWAY

EX EOP

EX 2' CONC RETAINING WALL

EX CONC BARRIER

EX WOOD STAIRS

EX FIBER OPTIC X3

EX PWR VLT & TRANSFORMER

EX UG PWR

EX SIGN

EX PWR METER

EX VALVES

EX VALVE

EX 16" PILLARS (3)

EX HYDRANT & VALVES (2)

EX TEL VLT

GASLINE MARKER

SAMUEL'S BUILDING

CARNATION BUILDING

EX SDCB
RIM=28.72 AB (INVS NOT SHOT)
SE INV=22.10
NE INV=22.13/24"ø/CONC CULV(BROKEN OUT)
SW INV=24.37/8"ø/CMP

EX 6"ø PVC PIPE
RIM=28.19

CONNECT EXISTING SERVICE TO NEW 8"ø WATERMAIN

SDCB (USED EXISTING) AB
STA 30+38, 23'L AB
RIM = 22.85 AB
INV (IN-E) = 16.05 AB
INV (IN-W) = 16.54 AB
INV (OUT-N) = 15.88 AB (EX 24"ø CONC)

SDCB #4E TYPE 1L
STA 29+91, 23.5'L AB
RIM = 23.35 AB
INV (S) = 19.56 AB
INV (W) = 19.87 AB
INV (E) = 19.65 AB

EX SDCB
RIM=23.21
S INV=19.13/12"ø/CONC
W INV=19.33/8"ø/CONC
(REMOVE & PLUG PIPES)

FACE OF CONC BRACE

SWITCH BOX

EX HYDRANT & VALVE

50 LF 30"ø HDPE MIN I.D. =18"

47 LF 18"ø CPDP AB
S = 0.066 F/F AB

SDCB #6E TYPE 1
STA 30+52, 21'R AB
RIM = 22.99 AB
INV (OUT) = 19.16 AB

47 LF 24"ø CPDP AB
S = 0.019 F/F AB

WATER VALVE AB

STA: 30+82.9, 0.65'L
BEGIN TYPE C CURB PER WSDOT SP F-2

70 LF 12"ø CPDP AB
S = 0.005 F/F AB

SAWCUT & REMOVE EX CURB PER DETAIL

80 LF 24"ø HDPE MIN I.D. =18"

INSTALL: 24" WIDE PAVING FABRIC PRIOR TO FINAL LIFT

TIP GUTTER PAN OUT ON ARC

Fl=24.05
Fl=24.29
Fl=23.58
Fl=24.16
Fl=24.73
Fl=25.31

SDCB TYPE 1
STA 1+06, 20.5'L AB
RIM = 24.29 AB
INV (N) = 19.61 AB EX CONC
INV (S) = 19.89 AB EX CONC
INV (SE) = 20.07 AB

STA 0+46, 21'R
INSTALL: ALT CURB RAMP PER WSDOT SP F-3 (TYP)

EX SDCB
RIM=23.08
N INV=18.20/12"ø/CONC
W INV=21.85/4"ø/PVC
REMOVE & PLUG PIPES

EX SDCB
RIM=22.78
E INV=16.11/24"ø/CONC
W INV=17.44/12"ø/CONC
N INV=16.20/24"ø/CONC
(REMOVE STRUCTURE & REUSE 24"ø CONC OUTLET)

EX SDCB
RIM=28.31 AB (INVS NOT SHOT)

REPLACE 6" D.I. WATERMAIN WITH 50 LF 8"ø D.I. WATERMAIN
8" GV, CAP & STAKE
RECONNECT HYDRANT ASSEMBLY

RECONNECT EX 2" WM AB

STA 30+93, 33'L AB
EX SSCO
RIM=23.37 AB

SDCB #7E TYPE II-48"
STA 30+85, 23'L AB
STANDARD FRAME & GRATE
RIM = 22.75 AB
INV (W) = 16.92 AB
INV (E) = 16.95 AB
INV (S) = 17.97 AB

PROP S/W 6'

255 LF 24"ø CPDP AB
S = 0.018 F/F AB

4" SSCO AB

6" PVC SS AB
CONNECT TO EX SS

STA: 30+50.3, 0.65'L
TYPE C CURB ANGLE POINT

STA: 31+50.3, 6'L
END TYPE C CURB

INSTALL: (2) QUADGUARD IMPACT ATTENUATORS 3-BAY MODEL PER DETAILS IN SPECIFICATIONS MODIFY OR REMOVE EX BARRIERS AS NEEDED FOR INSTALLATION (TYP)

EX SS ABANDONED AB

EX SDCB
RIM=22.52
SW INV=19.10/18"ø/CONC
SW INV=19.24/15"ø/CONC
(REMOVE & PLUG PIPES)

EX SSMH
RIM=23.31 AB
E INV=16.22/24"ø/CONC AB
W INV=16.29/24"ø/CONC AB

BEGIN REMOVAL OF EX RETAINING WALL & CONSTRUCT NEW PER DETAIL DRAWINGS

SDCB #8E TYPE 1L
STA 30+80, 35'R AB
RIM = 22.33 AB
INV (N) = 18.35 AB
INV (S) = 18.37 AB (EX CONC)
INV (W) = 18.52 AB

STA 30+65.2, 23.4'L
INSTALL: 30' D/W CUT PER SP F-4

INSTALL: 10' ACP APRON TO MATCH EXISTING

EX SDCB
RIM=22.71
E INV=16.23/24"ø/CONC
W INV=16.21/24"ø/CONC
S INV=17.97/18"ø/CONC
N INV=21.07/4"ø/PVC
(REMOVE & PLUG PIPES)

REMOVE EX RETAINING WALL & CONSTRUCT NEW PER DETAIL DRAWINGS IN SPECIFICATIONS
INSTALL 2" WASHED ROCK & 4" CONC BETWEEN WALL & EX BLDG
SLOPE CONC @ 2% TOWARD STREET

EX SDCB
RIM=24.16
E INV=18.39/18"ø/CONC
W INV=17.68/24"ø/CONC
SE INV=18.89/18"ø/CONC
(REMOVE & PLUG PIPES)

STA 31.81, 25'L AB
6" SSCO
RIM=24.92 AB

STA 32+54.8, 26.17'L
INSTALL: 34' D/W CUT PER SP F-4

RELOCATED EX WATER SERVICE AB

6" SSCO AB

GAS (NOT EX)

6" PVC SS AB

6" PVC SS AB
CONNECT TO EX SS

STA 32+24, 26.5'L AB
6" SSCO
RIM=26.21 AB

SDCB #11E TYPE II-48"
STA 31+83, 28'R AB
RIM = 24.26 AB
INV (SW) = 21.10 AB
INV (SW) = 21.06 AB
INV (N) = 20.91 AB

STA 32+59.3, 28.5'R AB
INSTALL: 30' D/W CUT PER SP F-4
INSTALL 8' ACP APRON MATCH EXISTING

EX SDCB
RIM=27.03 AB
S INV=24.23/12"ø/PVC AB
N INV=24.82/6"ø/PVC AB
NW INV=24.64/8"ø/PVC AB

13 LF 12"ø CPDP
CONNECT TO EX SDCB
SADDLE TEE TO NEW 24"ø CPDP

EX SDCB
RIM=26.91
E INV=22.76/18"ø/CONC
W INV=22.36/18"ø/CONC
NE INV=23.12/8"ø/PVC
(REMOVE & PLUG PIPES)

EX SDCB
RIM=27.01
SW INV=24.96/8"ø/PVC
NW INV=24.96/6"ø/PVC
(REMOVE & PLUG PIPES)

GRADE EX SLOPE TO MATCH @ BACK OF S/W

SDCB #12E TYPE II-48"
STA 33+40, 28.5'L AB
RIM = 28.19 AB
INV (E) = 22.74 AB
INV (S) = 25.46 AB
INV (W) = 22.79 AB

RELOCATE EX WM TO BEHIND SIDEWALK AB

STA 33+72, 37'L AB
STORM STUB
RIM=32.81 AB

EX SDCB
RIM=29.24
N INV=25.83/6"ø/CPDP (CONNECT TO 24")
E INV=23.28/18"ø/CONC
W INV=23.13/18"ø/CONC
(REMOVE & PLUG PIPES)

EX SDCB
RIM=29.32
S INV=27.46/8"ø/PVC
(REMOVE & PLUG PIPES)

EX FIBER OPTIC X3

EX PWR VLT & TRANSFORMER

STA 34+91.7, 28.5'L
INSTALL: 30' D/W CUT PER SP F-4

INSTALL: 10' ACP APRON TO MATCH EXISTING

SDCB #14E TYPE II-48"
STA 35+40, 28'L AB
RIM = 29.80 AB
INV (IN-E) = 23.54 AB
INV (IN-S) = 23.88 AB
INV (OUT-W) = 23.18 AB

EX SDCB
RIM=30.06
N INV=27.22/8"ø/PLUGGED, NOT USED
E INV=24.68/18"ø/HOLE IN PIPE
W INV=24.68/18"ø/HOLE IN PIPE
(REMOVE & PLUG PIPES)

12 LF 6"ø PVC
CONNECT TO EX
SADDLE TEE TO NEW 24"ø CPDP

200 LF 24"ø CPDP AB
S = 0.0022 F/F AB

STA 33+10, 39'R AB
SS STUB
ELEV=31.83 AB

STA 33+39, 38.5'R AB
INSTALL: 10 LF 12"ø CPDP
S=0.003 F/F
CAP & STAKE

SDCB #13E TYPE 1
STA 33+40, 28.5'R AB
RIM = 28.10 AB
INV (S) = 25.39 AB
INV (N) = 25.43 AB

INSTALL: HYDRANT AB

SDCB TYPE 1
STA 34+18, 73'R AB
RIM = 29.87 AB
INV NOT SHOT

STA 43+58
6"ø D.I. STUB PER WALGREN'S AB

46 LF 12"ø CPDP AB
S = 0.005 F/F AB

EX SDCB
RIM=29.27
S INV=26.66/4"ø/METAL
W INV=26.38/12"ø/CONC
E INV=26.34/12"ø/CONC
(REMOVE & PLUG PIPES)

SDCB TYPE 1
STA 34+93, 30'R AB
RIM = 28.55 AB
INV (OUT-E) = 27.02 AB

SDCB #15E TYPE 1
STA 35+40, 29'R AB
RIM = 29.60 AB
INV (IN-N) = 28.47 AB
INV (OUT-S) = 26.30 AB
INV (IN-W) = 26.78 AB

EX SSMH
RIM=30.27 AB
W INV=16.46/24"ø/CONC NOT SHOT
E INV=16.42/24"ø/CONC NOT SHOT
NEW S INV, DROP CONNECTION AB

EX SDCB
RIM=29.57
E INV=26.30/12"ø/CONC
W INV=26.25/12"ø/CONC
(REMOVE & PLUG PIPES)

INSTALL: B6 LF 6"ø PVC S=0.005 F/F

STA 35+47
SS STUB PER WALGREN'S AB

58 LF 12"ø CPDP AB
S = 0.045 F/F AB

125.00' VC
PVI STA = 29+72.44
PVI ELEV = 23.95
A.D. = 3.90
K = 32.05

80.00' VC
LOW POINT ELEV = 23.58
LOW POINT STA = 30+84.24
PVI STA = 31+15.06
PVI ELEV = 23.45
A.D. = 3.05
K = 26.23

200.00' VC
PVI STA = 33+60.81
PVI ELEV = 30.09
A.D. = -2.35
K = 85.20

PVI STA = 35+78.45
PVI ELEV = 30.85

EVCS: 30+34.94
EVCE: 23.73

BVCS: 30+75.06
BVCE: 23.59

EVCS: 31+55.06
EVCE: 24.53

STA 31+70
END 0.13' GRIND FOR OVERLAY
GRIND AS NEEDED TO MAINTAIN CROSS SLOPE FROM THIS POINT FORWARD

BVCS: 32+60.81
BVCE: 27.39

EVCS: 34+60.81
EVCE: 30.44

-0.35%
2.70%
0.35%

47 LF 18"ø CPDP AB
S = 0.066 F/F AB

47 LF 24"ø CPDP AB
S = 0.019 F/F AB

255 LF 24"ø CPDP
S = 0.018 F/F AB

200 LF 24"ø CPDP AB
S = 0.0022 F/F AB

SDCB #4E TYPE 1L
STA 29+91, 23.5'L AB
RIM = 23.35 AB
INV (S) = 19.56 AB
INV (W) = 19.87 AB
INV (E) = 19.65 AB

SDCB (USED EXISTING) AB
STA 30+38, 23'L AB
RIM = 22.85 AB
INV (E) = 16.05 AB
INV (W) = 16.54 AB
INV (N) = 15.88 AB (EX 24"ø CONC)

SDCB #7E TYPE II-48"
STA 30+85, 23'L AB
STANDARD FRAME & GRATE
RIM = 22.75 AB
INV (W) = 16.92 AB
INV (E) = 16.95 AB
INV (S) = 17.97 AB

STA 31+83.62, 23.49L
INSTALL: 24"x12" TEE

SDCB #12E TYPE II-48"
STA 33+40, 28.5'L AB
RIM = 28.19 AB
INV (E) = 22.74 AB
INV (S) = 25.46 AB
INV (W) = 22.79 AB

SDCB #14E TYPE II-48"
STA 35+40, 28'L AB
RIM = 29.80 AB
INV (E) = 23.54 AB
INV (S) = 23.86 AB
INV (W) = 23.18 AB

25.2 25.16 | 24.0 24.04 | 23.7 23.68 | 23.7 23.62 | 24.3 24.40 | 25.5 25.75 | 26.9 27.10 | 28.2 28.36 | 29.1 29.33 | 29.8 30.01 | 30.2 30.39 | 30.4 30.58 | 30.5 30.75

30+00 | 31+00 | 32+00 | 33+00 | 34+00 | 35+00

LOUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 03-03-09

AS-BUILT
DATE: 12-5-06

00378.005 S.4.09 KR

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
STA 29+50 TO 35+75

JOB# / DWG	DATE
00006 006SP3.AB	3-24-03
SCALE H:1"=20' V:1"=2'	SHEET 5 of 30

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00378.006 S:4.09 KE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

EX VALVE
GLACIERVIEW VET FF=30
EX TBC
EX LAWN
DUMPSTER PAD
PROPOSED ASPHALT PAVEMENT
10 STALLS
3 STALLS
EX FLOWLINE
EX SIDEWALK
EX LANDSCAPE (REMOVE & MOVE FOR IMPROVEMENT)
EX ROW
EXXON
MOUNT'S
GRANT'S
MARTIN'S RADIATOR
GREAT WALL RESTAURANT
EX WOODEN FENCE
EX TOP OF DITCH
EX EOP
EX TEL MH
EX PWR PED
EX PWR VLT
EX PHONE PED
EX BUS STOP SIGN ON TELESPAR
EX MARTIN'S SIGN
EX GTE MH
EX VALVES
EX UG PWR
EX UG CABLE TV
EX TEL VLT
EX HYDRANT
PROP. SIDEWALK
LANDSCAPE AREA
MATCH EX CURB & GUTTER
PROPOSED PSE EASEMENT 10'x10'=100 S.F.
SAWCUT
PAVING LIMIT
MAIN STREET
COLD PLANE 0.13' DEEP
REMOVE EX ISLANDS PLACE 0.4' CL E ACP PRIOR TO OVERLAY
REMOVE & REPLACE EX C.G. & S/W FOR POWER CONVERSION
SAWCUT, TRENCH & RESTORE FOR POWER CONVERSION
SAWCUT & REMOVE EX ACP
MATCH EX C, G, & S/W
REMOVE EX FRAME & GRAIN INSTALL LOCKDOWN RING & COVER MARKED "DRAIN"
GRIND 0.2' @ GUTTER TO 0.0' @ 12' FROM FOG
INSTALL: 24" WIDE PAVING FABRIC PRIOR TO FINAL LIFT
REINSTALL 165 LF 12"ø PVC AB
RELOCATE HB TO STA 38+16.14, 29.5'L AB
RELOCATE 1' BEHIND S/W AB
RELOCATE BY OTHERS
NEW W INV=12"ø PVC AB
NEW SS AB CONNECT TO EXISTING
INSTALL 6" SS SERVICE & CLEAN OUT DISCONNECT FROM OLD SERVICE CONNECT TO EXISTING BUILDING STUB AB
STA 37+97.5, 28.5'L INSTALL: 24' D/W CUT PER SP F-4
STA 38+32, 28.5'L REMOVE & REPLACE EX D/W CUT W/18' D/W CUT PER SP F-4 MATCH EX ACP MATCH EX C, G, & S/W PER DETAIL
STA 39+19, 26.5'R INSTALL: 36' D/W CUT PER SP F-4 10' ACP APRON TO MATCH EXISTING
STA 40+56.8, 33'R INSTALL: 20' D/W CUT PER SP F-4 10' ACP APRON TO MATCH EXISTING
STA 40+70.83
STA 42+28.7, 62.8' L MATCH EX S/W
STA 42+34.5, 49.6' L MATCH EX C & G
PC 42+41.55, 45.4' FL=30.7
EX SDCB RIM=30.18 N INV=27.31/6"ø/CPDP (CONNECT 6" TO NEW 18" CPDP WITH SADDLE TEE) E INV=25.20/18"ø/HOLE IN PIPE W INV=25.20/18"ø/HOLE IN PIPE (REMOVE & PLUG PIPES)
EX SDCB RIM=29.76 AB N INV=26.66/12"ø/CPDP AB
EX SDCB RIM=29.38 S INV=28.71/4"ø/PVC (REMOVE)
SDCB #16E TYPE II-48" STA 37+39, 28.5'L AB RIM = 29.47 AB INV (IN-NE) = 25.22 AB INV (IN-E) = 24.57 AB INV (IN-S) = 25.07 AB INV (OUT-W) = 24.37 AB
EX SDCB RIM=30.08 N INV=28.26/24"ø/PVC S INV=26.56/12"ø/CONC W INV=24.96/18"ø/HOLE IN PIPE E INV=24.96/18"ø/HOLE IN PIPE (REMOVE & PLUG PIPES)
EX SDCB (REMOVE) RIM=30.44 N INV=27.22/12"ø/CPDP S INV=26.40/18"ø/CONC E INV=26.87/18"ø/CPDP W INV=25.56/18"ø/CONC (PLUG)
SDCB #19E TYPE II-48" STA 38+37, 17'L AB RIM = 30.44 AB SOLID LOCKING RING & COVER MARKED "DRAIN" INV (IN-E) EX 18" CPDP = 25.19 AB INV (IN-S) = 25.79 AB INV (OUT-N) = 25.34 AB
EX SDCB RIM=30.50 AB GRATED TO SAME CB W/30.39 RIM
EX SDCB RIM=30.64 AB E INV=25.85/40"ø/CPDP AB W INV=25.80/18"ø/CPDP AB REMOVE EX FRAME & GRATE INSTALL LOCKDOWN RING & COVER MARKED "DRAIN"
EX SDCB RIM=30.21 N INV=28.33/8"ø/CONC S INV=28.16/18"ø/CPDP E INV=28.30/12"ø/CONC
EX SDCB RIM=28.41/8"ø/CONC S INV=28.41/8"ø/CONC
EX SDMH RIM=30.74 N INV=27.72/12"ø/PVC E INV=25.96/40"ø/CPDP W INV=25.84/40"ø/CPDP
EX SDMH RIM=32.46 W INV=26.21/36"ø/CPDP S INV=26.26/36"ø/CPDP
EX SDCB RIM=31.00 GRATED TO SAME CB W/30.74 RIM
EX SDCB RIM=31.87 SE INV=28.72/12"ø/PVC
EX SDCB RIM=29.26 E INV=27.16/12"ø/CONC S INV=26.41/4"ø/PVC
EX SDCB RIM=32.20 NW INV=28.79/12"ø/PVC E INV=28.76/12"ø/PVC
EX SDMH RIM=32.59 N INV=26.46/36"ø/CPDP S INV=26.48/36"ø/CPDP E INV=28.81/12"ø/PVC W INV=28.81/12"ø/PVC
EX SSMH RIM=34.03 W INV=17.39/24"ø/CONC E INV=17.59/24"ø/CONC S INV=18.05/8"ø/PVC
EX SDCB RIM=32.70 W INV=28.96/12"ø/PVC
199 LF 18"ø CPDP AB S = 0.004 F/F AB
98 LF 18"ø CPDP AB S = 0.008 F/F AB
12 LF 18"ø CPDP AB S = 0.008 F/F MIN AB
SDCB STA 36+89, 21'L AB RIM = 29.50 AB INV (NE) = 27.40 AB
57 LF 12"ø CPDP AB S = 0.024 F/F AB
46 LF 12"ø CPDP AB S = 0.029 F/F AB
STA 37+00 8"ø D.I. STUB PER WALGREN'S AB
34 LF 8"ø CPDP AB S=0.008 F/F AB
SDCB TYPE 1 STA 37+11, 46'R AB RIM = 29.53 AB INV (NE) = 26.98 AB INV (W) = 27.25 AB
SDCB #17E TYPE 1 STA 37+39, 28'R AB RIM = 29.89 AB INV (N) = 26.43 AB INV (W) = 26.89 AB INV (SW) = 26.71 AB
INSTALL: 10 LF 8"ø CPDP CONNECT TO EX
EX SDCB RIM=29.48 E INV=26.66/18"ø/CONC W INV=26.56/12"ø/CONC SE INV=27.30/6"ø/CONC (REMOVE & PLUG PIPES)
EX SDCB RIM=29.37 W INV=27.07/18"ø/CONC E INV=27.09/12"ø/CONC S INV=26.93/8"ø/CONC (REMOVE & PLUG PIPES)
EX SDCB RIM=29.54 N INV=27.12/18"ø/CONC S INV=27.00/12"ø/CMP E INV=26.93/12"ø/CMP W INV=26.98/12"ø/CONC (REMOVE & PLUG PIPES)
EX 14"ø CMP CULVERT INV=26.90 (REMOVE)
EX SSMH RIM=30.76 AB W INV=16.89/24"ø/CONC 16.88 AB E INV=16.78/24"ø/CONC 16.98 AB
STA 38+38, 44'R AB RIM=29.47 AB INVS NOT SHOT
STA 38+44.6, 53'R AB SDCB RIM=29.48 AB INVS NOT SHOT
SDCB #20E TYPE 1 STA 38+37.5, 28'R AB RIM = 30.39 AB INV (IN-E) = 26.79 AB INV (IN-S) = 26.72 AB INV (OUT-N) = 27.13 AB 10' ACP APRON TO MATCH EXISTING
STA 38+32
STA 37+39
STA 37+11
STA 36+89
STA 37+00
STA 37+97.5
STA 38+37.5
STA 38+44.6
STA 38+38
STA 39+19
STA 40+56.8
STA 40+70.83
STA 42+28.7
STA 42+34.5
PC 42+41.55

32
28
24
0.10%
0.64%
100.00' VC
PVI STA = 39+40
PVI ELEV = 31.22
A.D. = 0.54
K = 185.19
BVCS: 39+90
BVCE: 31.17
EVCS: 39+90
EVCE: 31.54
PVI STA = 41+25.35
PVI ELEV = 32.47
199 LF 18"ø CPDP AB S = 0.004 F/F AB
98 LF 18"ø CPDP AB S = 0.008 F/F AB
EX 18"ø CPDP
SDCB #16E TYPE II-48" STA 37+39, 28.5'L AB RIM = 29.47 AB INV (NE) = 25.22 AB INV (E) = 24.57 AB INV (S) = 25.07 AB INV (W) = 24.37 AB
SDCB #19E TYPE II-48" STA 38+37.5, 29'L AB RIM = 29.83 AB INV (N) = 25.53 AB INV (S) = 25.43 AB INV (W) = 25.38 AB
SDCB #19E TYPE II-48" STA 38+37, 17'L AB RIM = 30.44 AB SOLID LOCKING RING & COVER MARKED "DRAIN" INV (IN-E) EX 18" CPDP = 25.19 AB INV (IN-S) = 25.79 AB INV (OUT-N) = 25.34 AB
12 LF 18"ø CPDP AB S = 0.008 F/F MIN AB
EX SDMH RIM=30.30
30.6 30.68 | 30.7 30.93 | 30.8 30.98 | 30.8 31.03 | 30.9 31.08 | 30.8 31.13 | 30.9 31.18 | 31.1 31.32 | 31.4 31.60 | 31.7 31.92 | 32.0 32.24 | 32.3 32.54 | 32.5 32.79
36+00 37+00 38+00 39+00 40+00 41+00 42+00

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 03-03-09

AS-BUILT
DATE: 12-5-06

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
STA 35+75 TO 42+00

JOB# / DWG		DATE
00006	006SP3.AB	3-24-03
SCALE		SHEET
H:1"=20' V:1"=2'		6 of 30

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GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

RIVER ROAD

MAIN STREET

LABOUNTY DR.

EX ROW

EX PAINTED CL

CLOVERLEAF REALTY

EX LANDSCAPE (REMOVE ENOUGH FOR IMPROVEMENTS)

STA 42+25.7, 52.8' L
MATCH EX S/W

STA 42+34.5, 49.6' L
MATCH EX C & G

SAWCUT, REMOVE & REPLACE EX ACP MATCH EXIST.

STA 42+98.3, 28.5'L
INSTALL: 20' D/W CUT
PER SP F-4

PROP ASPHALT APRON

PROP 8' SIDEWALK

SAWCUT & REMOVE EX ACP
REPLACE W/WIDENING PAVEMENT SECTION,

REMOVE EX C, G & S/W

EX TRAFFIC LOOPS
RESTORE AFTER POWER CROSSING
AB LOCATION

EX TRAFFIC SIGNALS (TYP)

EX SSMH
RIM=32.44
NE INV=13.09/8"ø/PVC
S INV=19.35/8"ø,PVC

EX SSCO
RIM=32.31

EX SDCB 1
RIM = 29.44
NE INV SS 27.81 (8")

EX SDMH 1
RIM=31.68
IND S/W

EX SDMH 2
RIM=32.37
IND C & S/W

EX SDMH 3
RIM=32.31

EX SDMH 4
RIM=32.31

EX SDMH 5
RIM=32.31

EX SDMH 6
RIM=32.31

EX SDMH 7
RIM=32.31

EX SDMH 8
RIM=32.31

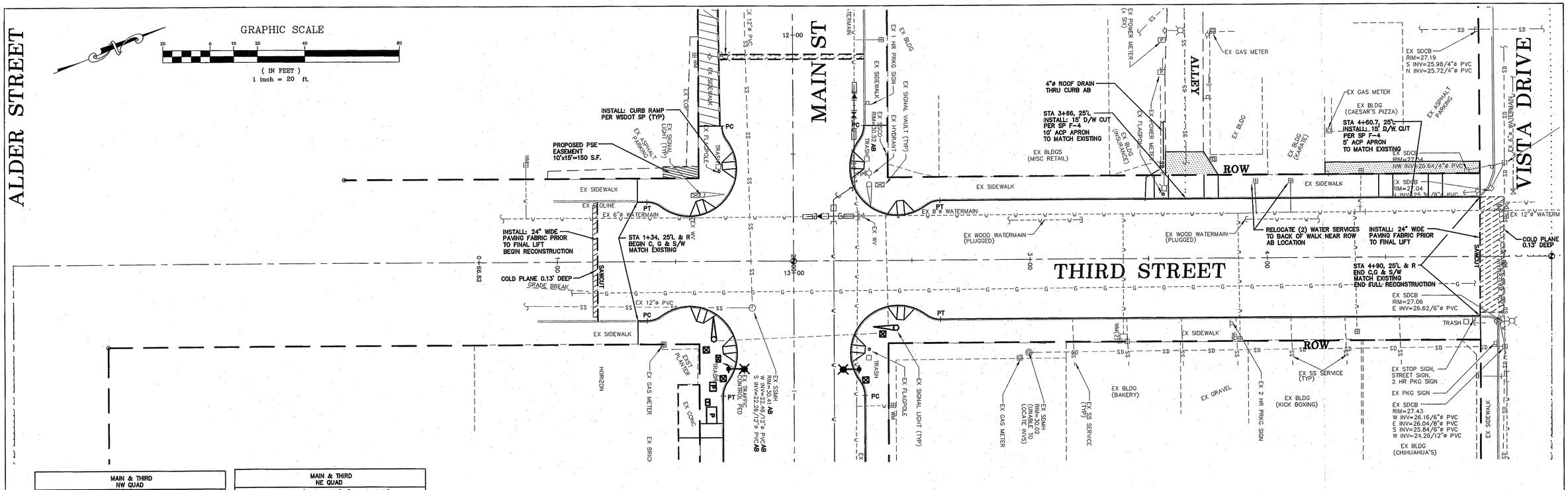
EX SDMH 9
RIM=32.31

EX SDMH 10
RIM=32.31

EX SDMH 11
RIM=32.31

EX SDMH 12
RIM=32.31

EX SDMH

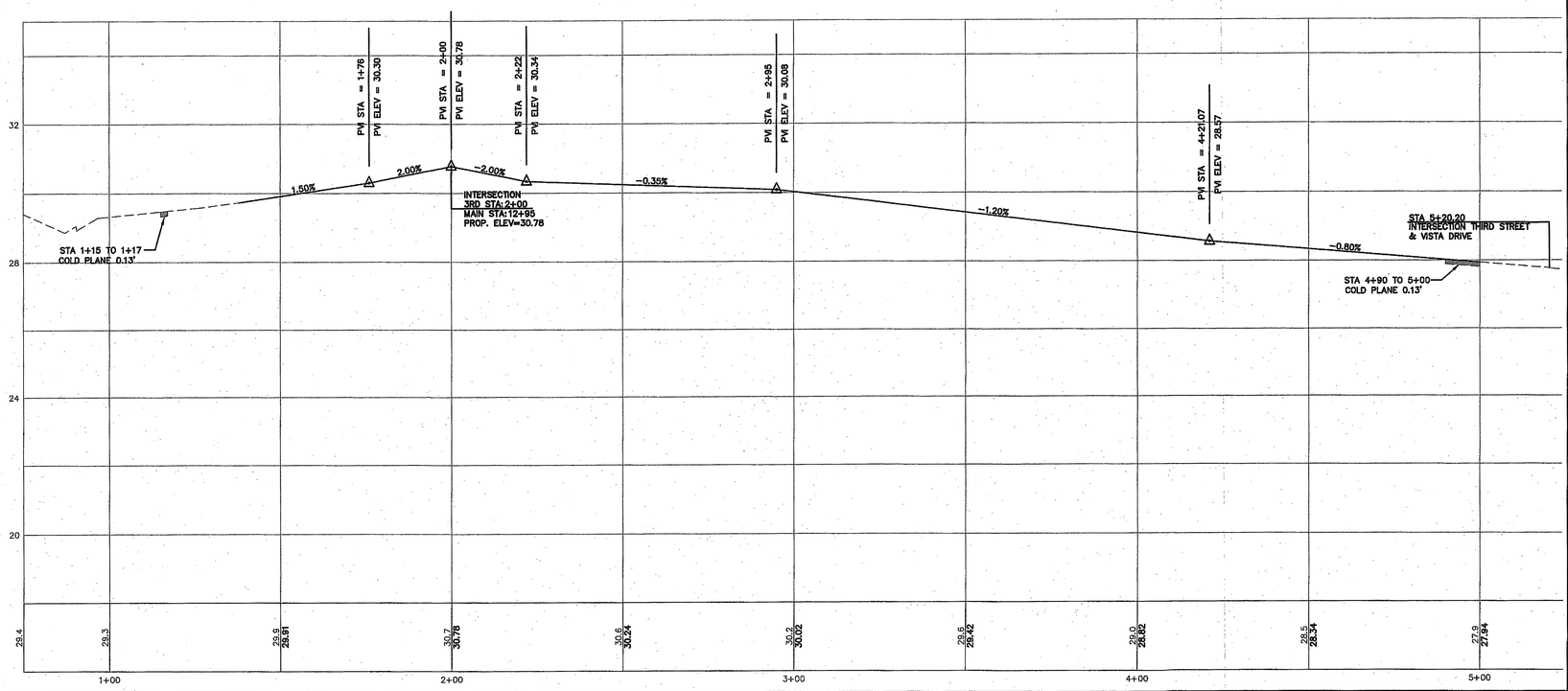


MAIN & THIRD NW QUAD			
R=10' Δ=36°52'13" L=6.44'			
R=20' Δ=163°41'45" L=57.16'			
R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA THIRD	FG @ FL
PC	12+38.03, 30'L		29.57
PRC	12+44.03, 28'L		29.69
1/4	12+57.45, 24.05'L		29.92
1/2	12+70.17, 29.85'L	2+29.83, 24.85'R	29.86
3/4	12+75.98, 42.57'L	2+42.55, 19.05'R	29.76
PRC		2+55.97, 23'R	29.65
PT		2+61.97, 25'R	29.61

MAIN & THIRD NE QUAD			
R=10' Δ=36°52'12" L=6.44'			
R=20' Δ=163°44'50" L=57.16'			
R=10' Δ=36°52'13" L=6.44'			
	STA MAIN	STA THIRD	FG @ FL
PC	13+52.01, 30'L		30.22
PRC	13+46.01, 28'L		30.26
1/4	13+32.59, 24.05'L		30.30
1/2	13+19.86, 29.86'L	2+29.86, 24.86'L	30.00
3/4	13+14.06, 42.58'L	2+42.59, 19.25'L	29.78
PRC		2+56.00, 23'L	29.65
PT		2+62.00, 25'L	29.61

MAIN & THIRD SW QUAD			
R=10' Δ=36°52'12" L=6.44'			
R=20' Δ=163°42'51" L=57.15'			
R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA THIRD	FG @ FL
PC	12+38.02, 30'R		29.57
PRC	12+44.02, 28'R		29.68
1/4	12+57.44, 24.05'R		29.90
1/2	12+70.16, 29.85'R	1+70.16, 24.85'L	29.75
3/4	12+75.97, 42.58'R	1+57.43, 19.05'L	29.50
PRC		1+44.02, 23'L	29.25
PT		1+38.02, 25'L	29.14

MAIN & THIRD SE QUAD			
R=10' Δ=36°52'13" L=6.44'			
R=20' Δ=163°48'07" L=57.18'			
R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA THIRD	FG @ FL
PC		1+37.96, 25'R	29.14
PRC		1+43.96, 23'R	29.27
1/4	13+14.10, 42.60'R	1+57.38, 19.05'R	29.65
1/2	13+19.90, 29.87'R	1+70.11, 24.87'R	30.10
3/4	13+32.62, 24.05'R		30.30
PRC	13+46.05, 28'R		30.25
PT	13+52.05, 30'R		30.22



LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER

12/1/06

EXPIRES 03-03-09

DATE: 12-5-06

AS-BUILT

00378.006 5-4-09

DESIGNED BY DLB	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY
DRAWN BY LMC						
CHECKED BY GDE						

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
THIRD STREET IMPROVEMENTS
STA 0+75 TO 5+25

JOB# / DWG 00006 006SP3.AB
DATE 3-24-03
SCALE H: 1"=20' V: 1"=2'
SHEET **8 of 30**

00378.009 S.4.09 KE

ALDER STREET

MAIN ST

SECOND STREET

VISTA DRIVE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

EX PHONE POLE
NEW SDCB TYPE IL AB
RIM=20.84 AB
N INV=16.63/12"ø/CPDP AB
S INV=18.15/6"ø/CONC AB
SE INV=15.59/12"ø/CONC AB
E INV=15.60/12"ø/CONC AB
STA 3+02, 63'L
BEGIN C, G & S/W
MATCH EXISTING
EX BLDG (DENTAL)
EX FLOLINE
EX TOWING SIGN
EX ROCKWALL
EX SIDEWALK
TRASH
STA 4+45, 25'L
INSTALL: 30' D/W CUT
10' ACP APRON
PER SP F-4
MATCH EXISTING
PROPOSED PSE EASEMENT
10'x15'=150 S.F.
EX 2 HR PKG SIGN
EX NO PKG HERE
TO CORNER SIGN
EX PLANTER
EX SIGNAL BOX
EX US BANK SIGN
EX BANK PKG SIGN
EX TOTEM POLE
EX FLAGPOLE W/LEGION HALL SIGN
EX WINDOW WELL
EX SDCB
RIM=27.84
S INV=25.03/6"ø/CONC
W INV=25.46/10"ø/CONC
N INV=25.43/10"ø/CONC
E INV=25.39/6"ø/CONC
EX VALVE & HYDRANT
EX SIGNAL BOX
EX 2 HR PKG SIGN
EX WINDOW WELL
EX NO PKG SIGN
EX SDCB
RIM=27.77
W INV=26.95/6"ø/CONC
EX STOP SIGN
TRASH
EX SIDEWALK
EX 12"ø WL
EX 18"ø WL
EX 6"ø WL
32 LF 12"ø CPDP
S=0.022 F/T AB
INSTALL: CURB RAMP
PER WSDOT SP (TYP)
INSTALL: SDCB TYPE I
STA 3+27.77, 24.93'L AB
RIM=20.97 AB
INV OUT(S)=17.33 AB
INSTALL: 24" WIDE
PAVING FABRIC PRIOR
TO FINAL LIFT
REMOVE & RECONSTRUCT
SAWCUT
COLD PLANE 0.13' DEEP
316.5 LF 24"ø PVC S=0.004
SEE DETAIL FOR
SECOND STREET PROPOSED SECTION
INSTALL: 40 LF 6"ø PVC
S=0.0035 F/F
CAP & STAKE
REMOVE & REPLACE
EX S/W
MATCH EXISTING
REMOVE & REPLACE
EX CONCRETE S/W
MATCH EX DOORWAYS
INSTALL: (2) 2"ø ROOF DRAINS AB
EX SSMH
RIM=21.47 AB
W INV=15.02/14"ø/PVC AB
N INV=14.34/30"ø/CONC AB
S INV=14.24/30"ø/CONC AB
EX PHONE POLE
W/UG SERVICE
EX PWR POLE
& GUY
EX BLDG
EX SDCB
RIM=20.94 AB
E INV=14.97/12"ø/CONC AB
W INV=14.79/12"ø/CONC AB
S INV=17.64/12"ø/CONC AB
NE INV=17.54/6"ø/CONC AB
INSTALL: SDCB TYPE I
STA 3+02.19, 65.31'R AB
RIM=20.72 AB
INV OUT(SW)=17.59 AB
7 LF 12"ø CPDP
CONNECT TO EX 18"ø CONC
W/APPROVED CONNECTION
STA 3+02, 69'R
BEGIN C, G & S/W
MATCH EXISTING
EX BLDG (US BANK)
EX BLDG (CEDARS)
EX SIGNAL LIGHT (TYP)
EX SIGNAL CONTROL PANEL
EX SIGNAL BOX
EX FLAGPOLE
EX BLDG (SUBWAY)
EX SDCB
RIM=20.51
S INV=15.11 AB
E INV=15.98 AB
EX SDCB
RIM=20.71
S INV=15.21 AB
EX SDCB
RIM=20.71
S INV=15.21 AB
EX SDCB
RIM=20.71
S INV=15.21

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

ALDER ST

FIRST STREET

MAIN ST

BRIDGE ST

EX SSCO RIM=24.29

EX SIGNAL CNTRL PANEL

EX SIGNAL LIGHT (TYP)

EX SIGNAL BOX

EX BLDG

EX SDCB RIM=27.91 N INV=22.86/6"ø/PVC N INV=22.11/12"ø/CONC E INV=22.11/12"ø/CONC W INV=23.33/12"ø/CONC

EX SDCB RIM=27.58 N INV=26.79/6"ø/PVC

EX BLDG (TRUE VALUE)

MATCH EX SIDEWALK

EX SDCB RIM=26.90 S INV=24.15/8"ø/CONC E-W INV=24.90/24"ø/CONC

EX SIDEWALK

EX SSSCO RIM=27.52 E-W INV=20.72/8"ø/TILE

EX EOP

EX 8"ø W/L

EX VALVE

STA 2+24, 32'L & R
BEGIN C, G & S/W
MATCH EXISTING
BEGIN FULL RECONSTRUCTION

COLD PLANE 0.13' DEEP

INSTALL: CURB RAMP PER WSDOT SP F-3 (TYP)

EX SDCB RIM=22.38 S INV=21.18/8"ø/PVC

EX JBOX

SDCB #12
FLOW SPLITTER, SEE DETAIL
STA 20+15.75, 28.59'L (MAIN ST) AB
RIM = 27.13 AB
INV (IN-S) = 22.15 AB
INV (IN-W) = 23.31 AB
INV (OUT-NE) = 22.12 AB
INV (OUT-E) = 22.10 AB

EX SDCB RIM=27.55 W INV=26.46/6"ø/STEEL

EX SSCO RIM=28.54

EX FLAGPOLE W/PKG SIGN

EX UG TANK PLUGGED & ABANDONED

EX BLDG (HANELTS AUTO)

RECONSTRUCT EX ASPHALT AREA

PROP FL

SAWCUT

PAVEMENT REPAIR PER DETAIL

33 LF 12"ø CPDP S = 0.005 F/F AB

114 LF 12"ø CPDP S=0.008 FT/FT AB

SDCB #17 TYPE II, 48"ø AB
STA 3+81, 24.5'R (1ST ST) AB
RIM = 27.57 AB
INV (IN-SW) = 22.33 AB
INV (OUT-NE) = 22.30 AB

42 LF 12"ø CPDP CONNECT TO EX

ROAD ENDS AT BNSF R-O-W

BNSF MP 105.92

EX OPTIC CABLE MARKER

CONTRACTOR TO NOTIFY FIBER OPTIC OWNER PRIOR TO EXCAVATION IN VICINITY

23 LF 12"ø CPDP S=0.075 FT/FT W INV=24.00

SEE SHEET 11 FOR STORM DRAIN CONTINUATION

ROAD ENDS AT BNSF R-O-W

PAVEMENT REPAIR PER DETAIL EX EOP TO EX CL

95 LF 18"ø CPDP S=0.006 FT/FT AB

109 LF 18"ø CPDP S=0.008 FT/FT AB

W/90 LF 24" STEEL CASING A36

SDCB #18 TYPE II-48"
STA 4+74.64, 25.78'R AB
RIM = 27.33 AB
INV (IN-SW) = 21.45 AB
INV (IN-SE) = 21.42 NOT SHOT
INV (IN-NW) = 21.94 AB
INV (OUT-NE) = 21.26 AB

SDCB #19 TYPE II-48"
STA 5+83.22, 23.82'R AB
RIM = 25.69 AB
INV (IN-SW) = 20.38 (VALVE AB)
INV (IN-W) = 22.26 AB
INV (OUT-NE) = 20.25 AB
INSTALL FLOOD GATE
WATERMAN AF-41 OR EQUIV.
ON SW INLET

FILL BOUNDARIES

BOTTOM LINE OF DITCH

RESTORE 12' WIDE STRIP FROM EX PAVEMENT TO FIRST STREET W/6" GRAVEL BASE, 4" CSBC & 3" ACP CLB AB

RR ROW

APPROX. 15.5'

FEDERAL FIBER OPTICS

PROPOSED FINISHED GROUND (TYP)

3' MIN. COVER

1.5

90 LF 24" STEEL CASING

STA 5+81 END STEEL CASING

STA 4+91 BEGIN STEEL CASING

MAIN & FIRST NW QUAD			
R=20' Δ=126°53'44" L=44.29' R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA FIRST	FG @ FL
PC		3+60.99, 23.44'L	
1/4		3+48.12, 14.43'L	27.59
1/2	19+72.72, 32.71'L	3+32.72, 17.49'L	27.40
3/4	19+59.47, 27.27'L		27.49
PRC	19+44.21, 28'L		27.45
PT	19+38.21, 30'L		27.43

MAIN & FIRST NE QUAD			
R=10' Δ=36°52'13" L=6.44' R=20' Δ=126°51'02" L=44.28'			
	STA MAIN	STA FIRST	FG @ FL
PC	20+47.21, 30'L		27.72
PRC	20+41.21, 28'L		27.70
1/4	20+27.79, 24.05'L		27.63
1/2	20+15.07, 29.86'L	3+29.84, 24.86'R	27.40
3/4	20+09.26, 42.58'L	3+42.57, 19.05'R	27.45
PRC		3+55.98, 23'R	27.50
PT		3+60.99, 24.95'R	

MAIN & FIRST SW QUAD			
R=20' Δ=126°51'53" L=44.28' R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA FIRST	FG @ FL
PC		2+56.00, 13'L	26.82
1/4	19+74.24, 33.48'R	2+66.51, 15.99'L	27.30
1/2	19+86.17, 26.11'R		27.55
3/4	19+55.43, 24.08'R		27.57
PRC	19+45.23, 28'R		27.50
PT	19+39.23, 30'R		27.46

MAIN & FIRST SE QUAD			
R=10' Δ=42°50'00" L=7.48' R=20' Δ=169°42'09" L=59.24' R=10' Δ=36°52'12" L=6.44'			
	STA MAIN	STA FIRST	FG @ FL
PC		2+35.60, 32'R	25.43
PRC		2+42.40, 29.33'R	25.88
1/4	20+14.23, 44.14'R	2+55.85, 24'R	26.78
1/2	20+19.37, 30.61'R	2+69.38, 29.14'R	27.53
3/4	20+32.29, 24.09'R		27.79
PRC	20+46.23, 28'R		27.73
PT	20+52.23, 30'R		27.70

PVI STA = 2+49.39
PVI ELEV = 27.20
A.D. = -4.85
K = 10.31
50.00' VC
EVCS: 2+74.39
EVCE: 27.70
PVI STA = 3+00
PVI ELEV = 28.21
PVI STA = 3+24
PVI ELEV = 27.73
BVCS: 2+24.39
BVCE: 25.49
2.00%
-2.00%
1.00%
6.89%
INTERSECTION
1ST STA:3+00
MAIN STA:19+80.23
PROP. ELEV=28.21
STA 1+24 TO 2+24
COLD PLANE 0.13'
TO SDCB #12
33 LF 12"ø CPDP
S=0.006 F/F AB
114 LF 12"ø CPDP
S=0.008 FT/FT AB
109 LF 18"ø CPDP
S=0.008 FT/FT AB
W/90 LF 24" STEEL CASING A36
95 LF 18"ø CPDP
S=0.006 FT/FT AB
SDCB #17 TYPE II, 48"
STA 3+61, 24.5'R (1ST ST) AB
RIM = 27.57 AB
INV (IN-SW) = 22.33 AB
INV (OUT-NE) = 22.30 AB
SDCB #18 TYPE II-48"
STA 4+74.64, 25.78'R AB
RIM = 27.33 AB
INV (IN-SW) = 21.45 AB
INV (IN-SE) = 21.42 NOT SHOT
INV (IN-NW) = 21.94 AB
INV (OUT-NE) = 21.26 AB
SDCB #19 TYPE II-48"
STA 5+83.22, 23.82'R AB
RIM = 25.69 AB
INV (IN-SW) = 20.38 (VALVE AB)
INV (IN-W) = 22.26 AB
INV (OUT-NE) = 20.25 AB
INSTALL FLOOD GATE
WATERMAN AF-41 OR EQUIV.
ON SW INLET
36
32
28
24
20
22.6
22.8
24.1
27.2 26.92
28.4 28.21
28.5 27.89
28.5 28.49
27.9
31.7
33.2
27.1
27.2
2+00
3+00
4+00
5+00
6+00

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/1/06
EXPIRES 03-03-09

DATE: 12-27-06
AS-BUILT

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

R&E
REICHHARDT & EBE
ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
FIRST STREET IMPROVEMENTS
STA 1+40 TO 6+50

JOB# / DWG	00006 006SP3.AB	DATE	3-24-03
SCALE	H:1"=20' V:1"=2'	SHEET	10 of 30

00378.010 S4.09 kde

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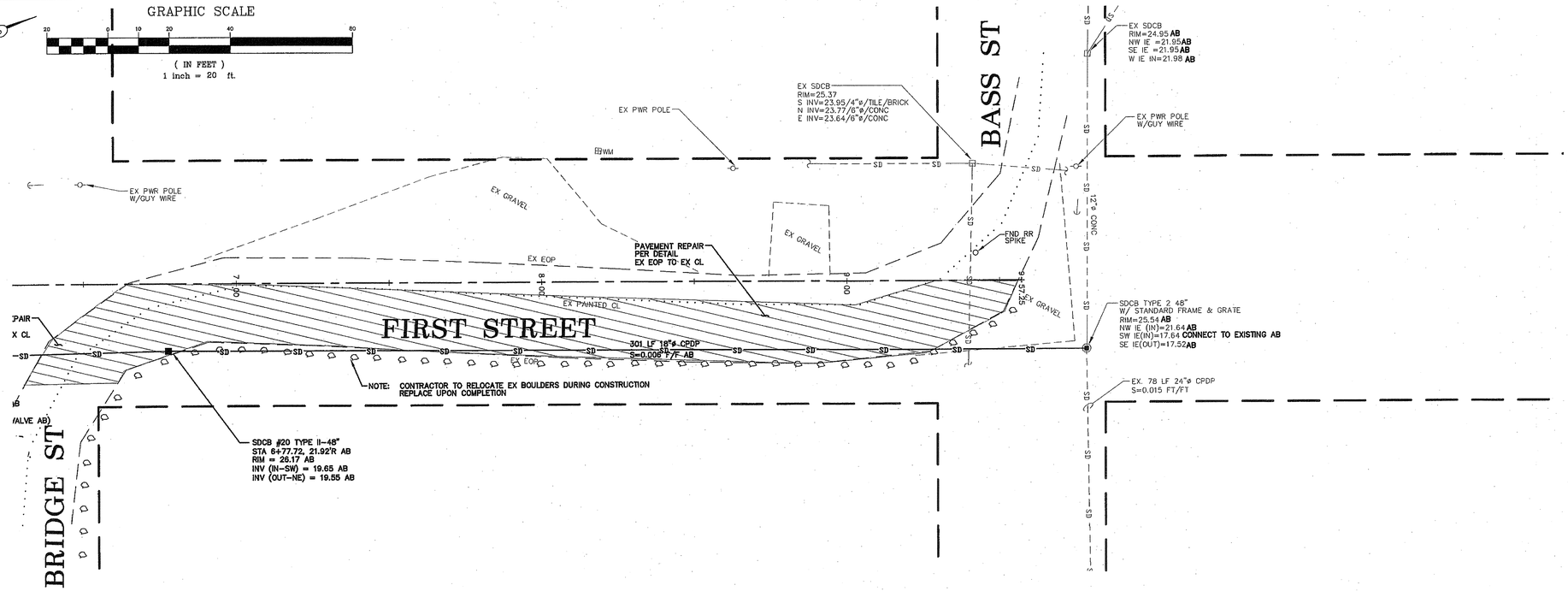
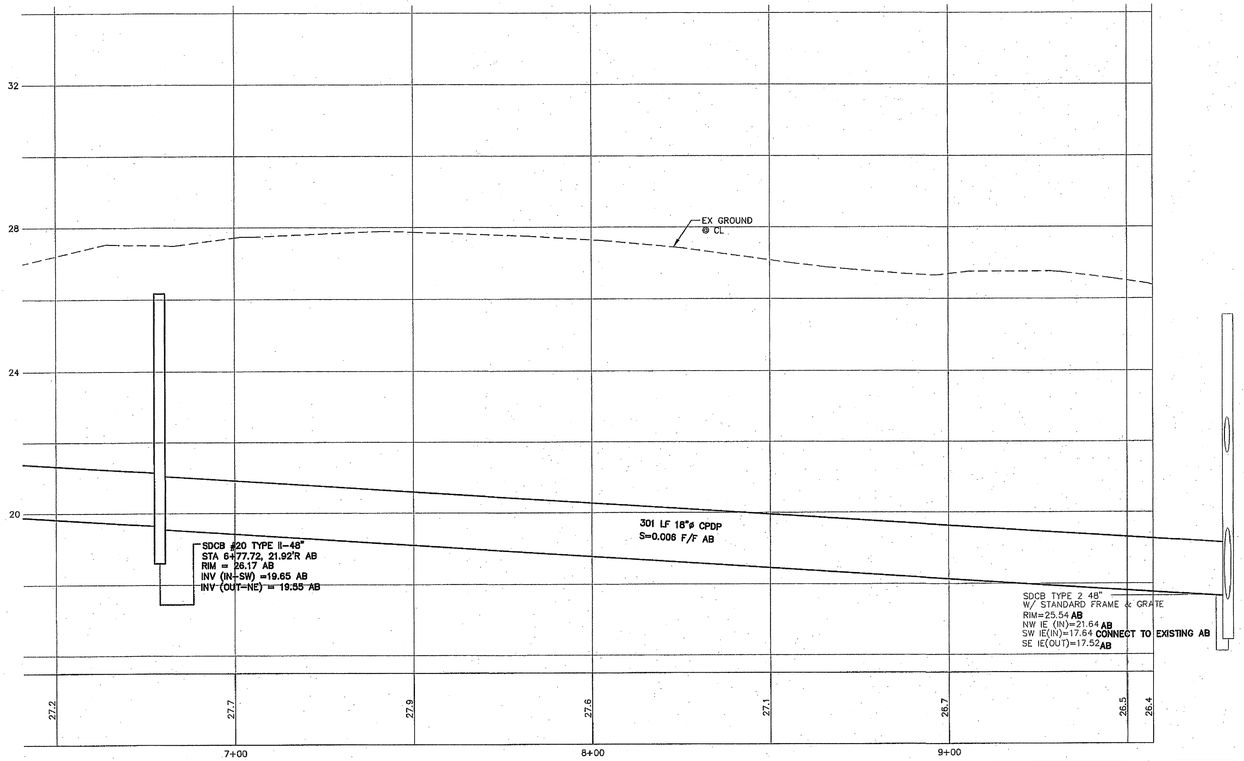
GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.





LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/11/08
EXPIRES 03-03-09

DATE: 12-27-06
AS-BUILT

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
FIRST STREET IMPROVEMENTS
STA 6+50 TO 9+60

JOB# / DWG	DATE
00006 006SP3.AB	3-24-03
SCALE H:1"=20' V:1"=2'	SHEET 11 of 30

R 40+S 110+800

acts\00006\dwg\006SP3.AB.dwg, P&P, 6/2/2008 11:24:28 AM

00378.02 5.4.09 MK

GRAPHIC SCALE

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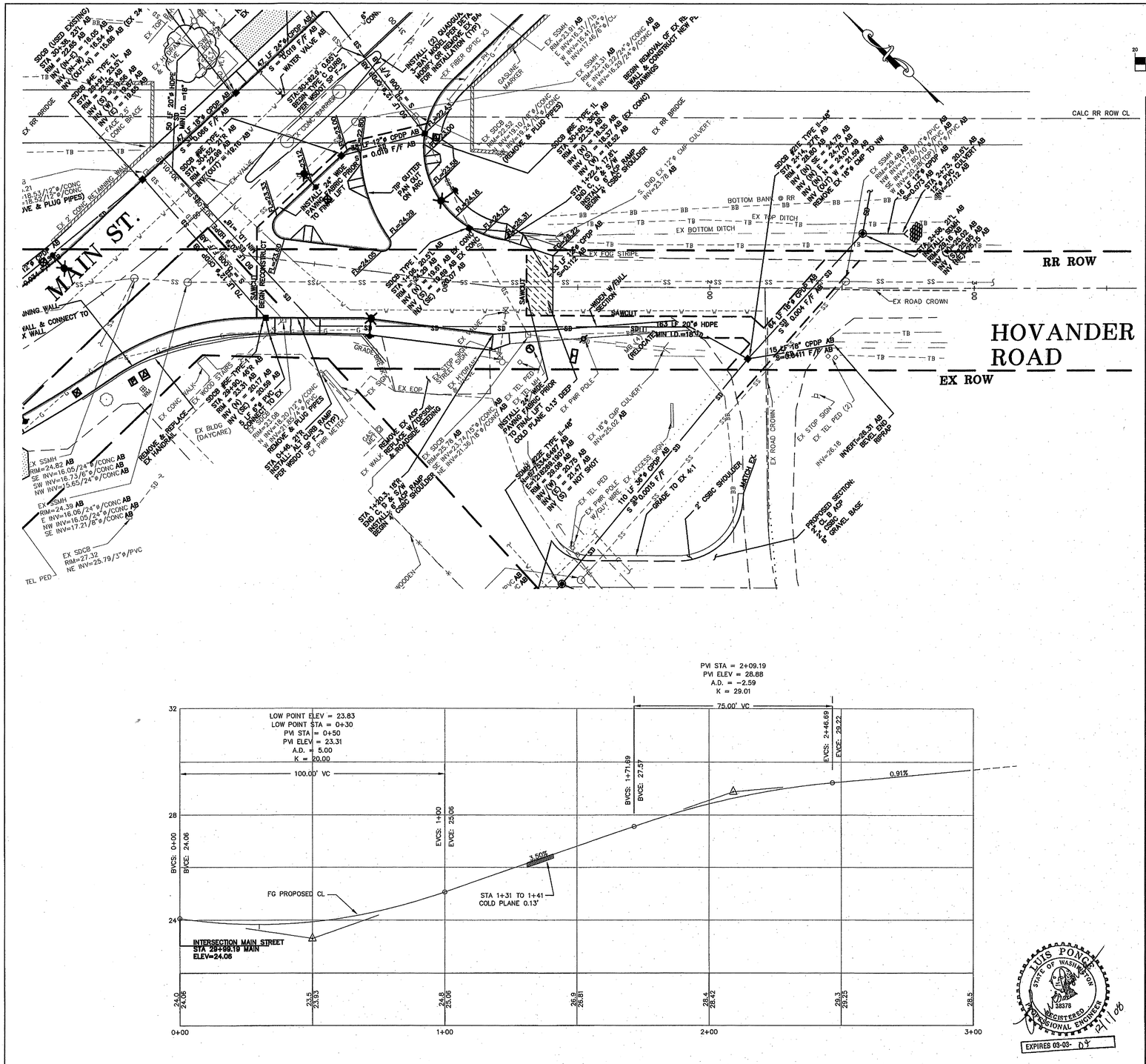
(IN FEET)
1 inch = 20 ft.


MAIN ST.
HOVANDER ROAD
EX ROW
RR ROW
CALC RR ROW CL
EX RR BRIDGE
EX CONC RETAINING WALL
EX FOG STRIPE
EX ROAD CROWN
EX BOTTOM DITCH
EX TOP DITCH
EX BLDG (DAYCARE)
EX SSMH RIM=24.82 AB SW INV=16.05/24"ø/CONC AB NW INV=15.65/24"ø/CONC AB
EX SSMH RIM=24.39 AB E INV=16.06/24"ø/CONC AB NW INV=16.05/24"ø/CONC AB SE INV=17.21/8"ø/CONC AB
EX SDCB RIM=27.32 NE INV=25.79/3"ø/PVC
TEL PED
SDCB (USED EXISTING) STA 30+38.3 RT RIM = 22.58 AB INV (N-W) = 16.05 AB INV (OUT-N) = 15.88 AB (EX 24" ø)
SDCB #6E TYPE 1L STA 30+38.3 RT RIM = 22.58 AB INV (S) = 16.67 AB INV (E) = 16.67 AB
SDCB #6E TYPE 1L STA 30+38.3 LT RIM = 22.58 AB INV (OUT) = 16.16 AB
47 LF 24"ø CPDP AB S = 0.0066 F/F AB
47 LF 18"ø CPDP AB S = 0.0066 F/F AB
STA:30+52.9 / 0.65' RT BEGIN CURB & GUTTER PER WSDOT SP F-2
STA:30+52.9 / 0.65' LT BEGIN CURB & GUTTER PER WSDOT SP F-2
WATER VALVE AB
EX HYDRANT & VALVE AB
EX POWER POLE
EX FIBER OPTIC VAULT
GASLINE MARKER
EX SSMH RIM=23.91 AB E INV=16.31/24"ø N INV=16.37/6"ø/CONC AB W INV=16.29/24"ø/CONC AB
BEGIN REMOVAL OF EX RR WALL & CONSTRUCT NEW PER DRAWINGS
INSTALL: (2) QUADLOCK 3-BAY MODEL PER DETAIL OR REMOVE (1) TYP) MODIFY FOR INSTALLATION
EX SDCB RIM=22.80 NW INV=19.02/24"ø/CONC AB (REMOVE & PLUG PIPES)
EX RR BRIDGE
EX 2' CONC RETAINING WALL
EX CONC BRACE
EX CONC ENDWALL
EX 900 LF 20"ø HDPE
EX 12"ø CMP
EX 18"ø CMP
EX 24"ø CMP

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

HOVANDER ROAD

EX CONC PAD

29' ROW

EX GRAVEL DRIVE

EX CONC SLAB

SDCB #23E TYPE II-54"
N=677542.5258 AB
E=1218023.2968 AB
RIM = 25.63 AB
INV (IN) = 20.43 AB
INV (OUT) = 20.18 AB
INSTALL FLOOD GATE
WATERMAN AF-41 OR EQUIV.
ON INLET

EX 4x4 POST IN CONC

EX 4"ø YARD DRAIN
RIM=27.30

EX PWR POLE W/GUY WIRE

246 LF 36"ø CPDP AB
S = 0.0013 F/F AB

20' ROW

EX GARAGE

EX CONC DRIVE

EX WOODEN FENCE

EX SSMH
RIM=28.99 AB
S INV=21.14/8"ø/PVC AB
E INV=21.07/8"ø/PVC AB

REPAIR ROAD SECTION W/6" GRAVEL BASE & 4" CSBC

EX SSCO
RIM=28.92

EX HOUSE

EX TREE

EX SHED

EX CHERRY

EX SSCO
RIM=28.80

EX HOUSE

EX SHRUBLINE

EX TEL PED

GRADEBREAK

EX SSCO
RIM=28.91

EX TEL SERVICE

EX TEL SERVINE

EX UG TEL

82 LF 36"ø CPDP AB
S = 0.0765 F/F AB

N=677481.6171 AB
E=1217968.7698 AB
INV=13.91 AB
BEVEL END

PROPOSED WATER QUALITY FACILITY
6 MONTH STORM VOLUME=172,050 CF
6 MONTH WSEL=20
BOTTOM OF DEAD STORAGE=12.5
BOTTOM OF SEDIMENT STORAGE=11.5

N=677388.3157 AB
E=1217823.4088 AB
INV=14.00 AB
BEVEL END

SDCB #23E TYPE II-54"
POND OUTFALL STRUCTURE
SEE DETAIL FOR WEIR
N=677346.3084 AB
E=1217767.5095 AB
RIM = 23.46 AB
INV (IN) = 18.03 AB
INV (OUT) = 17.68 AB

69 LF 36"ø CPDP AB
S=0.0584 F/F AB

SMALL TREE

FRUIT TREE

NOTES:
ROOFYARD DRAINS MAY BE ENCOUNTERED IN FILL AREA. THE CONTRACTOR SHALL EXTEND THESE TO THE POND SLOPE.

THE CONTRACTOR SHALL PLACE A 4" NOMINAL DEPTH OF TOPSOIL TYPE A ON ALL DISTURBED AREAS AND SEED PER 8-01 OF THE SPECIAL PROVISIONS.

THE PROPERTY OWNER HAS REMOVED A LARGE PORTION OF THE EXISTING FENCE ON THIS PROPERTY.

INSTALL: 24" WIDE PAVING FABRIC PRIOR TO FINAL LIFT COLD PLANE 0.13' DEEP

EX PWR POLE

MB (4) (RELOCATE)

SDMH #22E TYPE II-48"
N=677534.6497 AB
E=1218269.1907 AB
RIM = 29.08 AB
INV (W) = 20.75 AB
INV (E) = 21.47 AB
INV (S) = NOT SHOT

EX 18"ø CMP CULVERT
INV=25.02 AB

EX TEL PED

EX PWR POLE W/GUY WIRE

EX ACCESS SIGN

110 LF 36"ø CPDP AB
S = 0.0015 F/F

GRADE TO EX 4:1

2' CSBC SHOULDER

MATCH EX.

EX ROAD CROWN

PROPOSED SECTION:
2" CL B ACP
2" CSBC
8" GRAVEL BASE

46 LF 12"ø CPDP AB
S = 0.003 F/F

INSTALL: SDCB
N=677492.1287 AB
E=1218285.7323 AB
RIM=27.83 AB
INV N =26.12 AB

GRADE TO EX 4:1

2' CSBC SHOULDER

EX GRAVEL DRIVE

EX SSCO
RIM=28.69 AB
INV=21.73 NOT SHOT

BAKER STREET

30' ROW

LUIS PONCE
STATE OF WASHINGTON
36378
REGISTERED PROFESSIONAL ENGINEER
12/10/08

EXPIRES 03-03-09

AS-BUILT
DATE: 12-5-08

C0376.010 S4.09 KE

	DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET BRIDGE WATER QUALITY FACILITY	JOB# / DWG 00006 006SP3.AB SCALE H:1"=20' V:1"=2' DATE 3-24-03 SHEET 13 of 30

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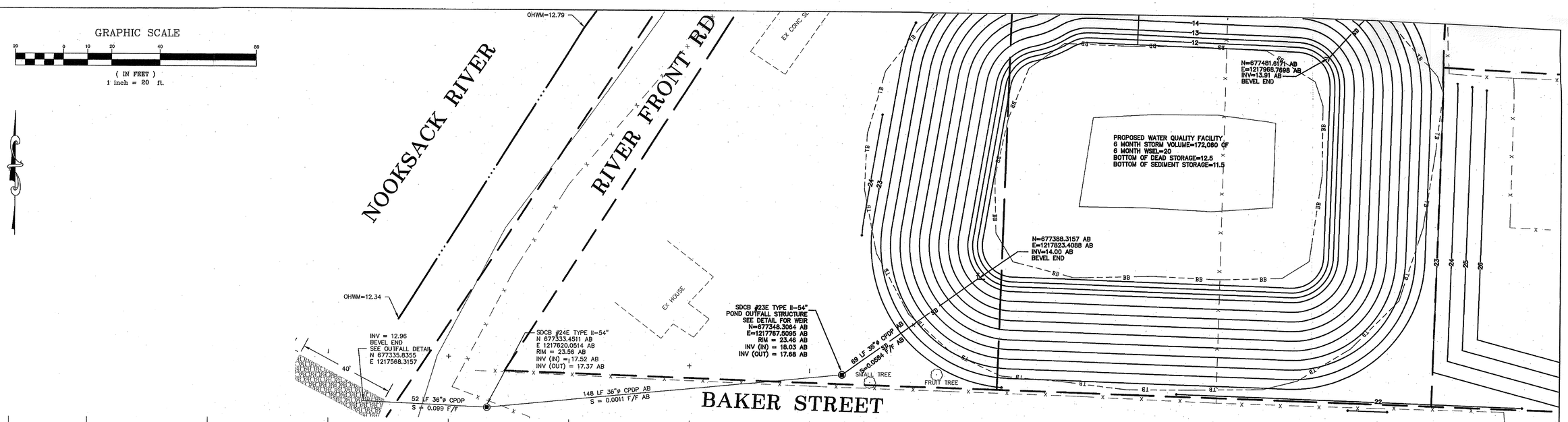
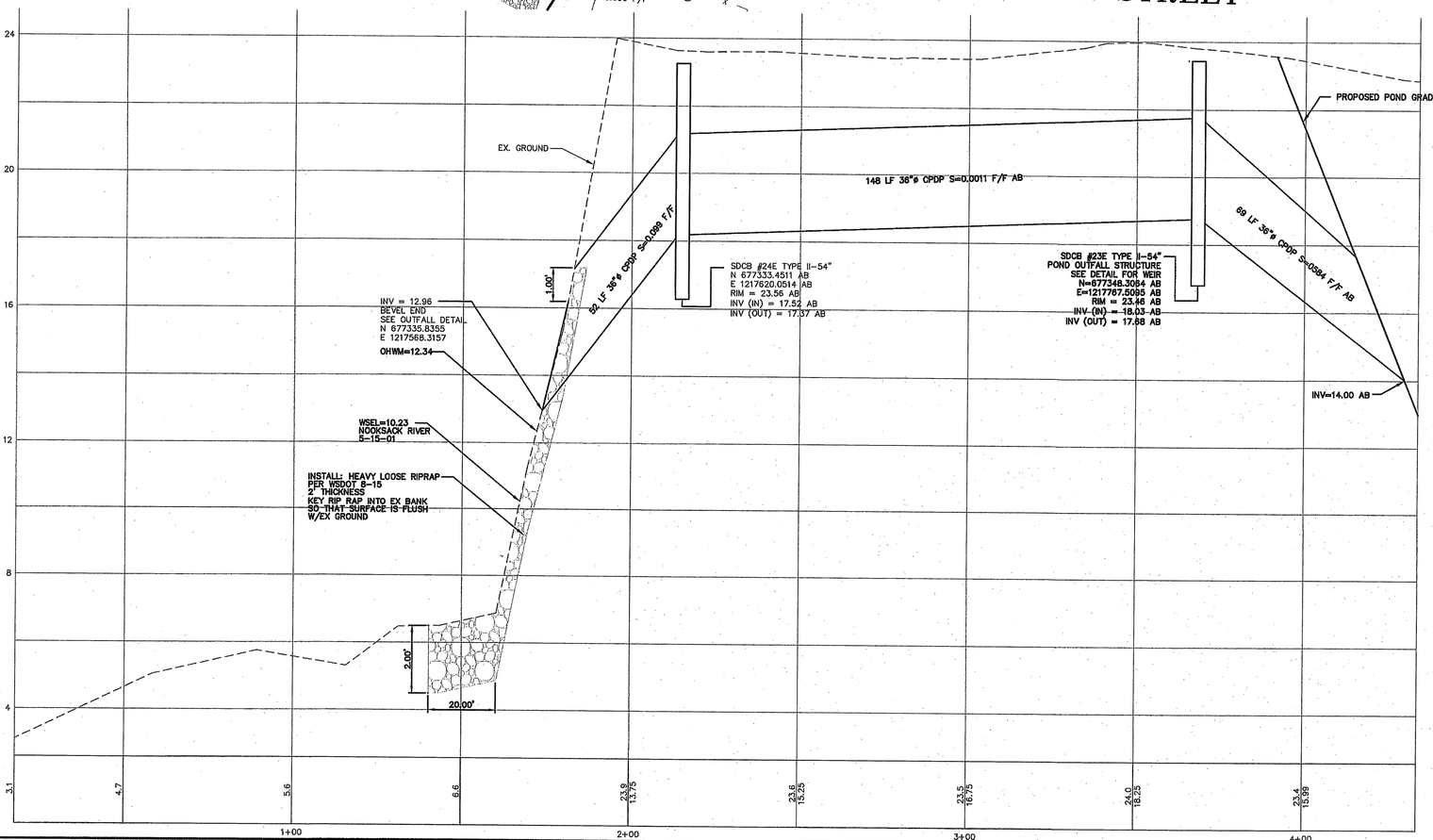
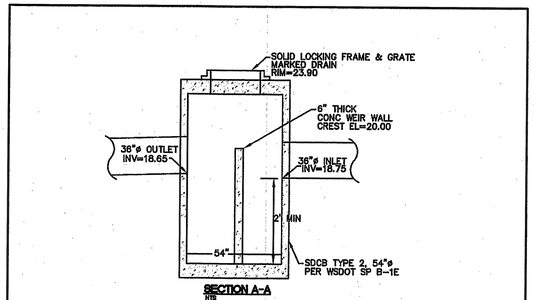
GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.







POND OUTFALL STRUCTURE DETAIL

NTS (PROVIDE SHOP DRAWINGS FOR APROVAL)

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED PROFESSIONAL ENGINEER
12/11/08
EXPIRES 03-03-09

DATE: 12-5-06 **AS-BUILT**

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
WATER QUALITY FACILITY
OUTFALL

JOB# / DWG		DATE
00006	006SP3.AB	3-24-03
SCALE		SHEET
H: 1"=20'	V: 1"=2'	14 of 30

#4 604.S 410.8L00

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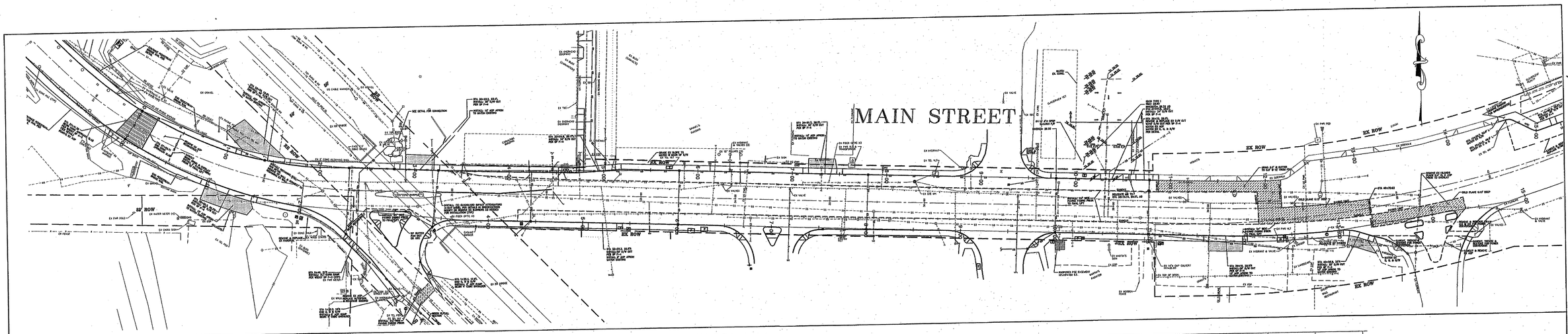

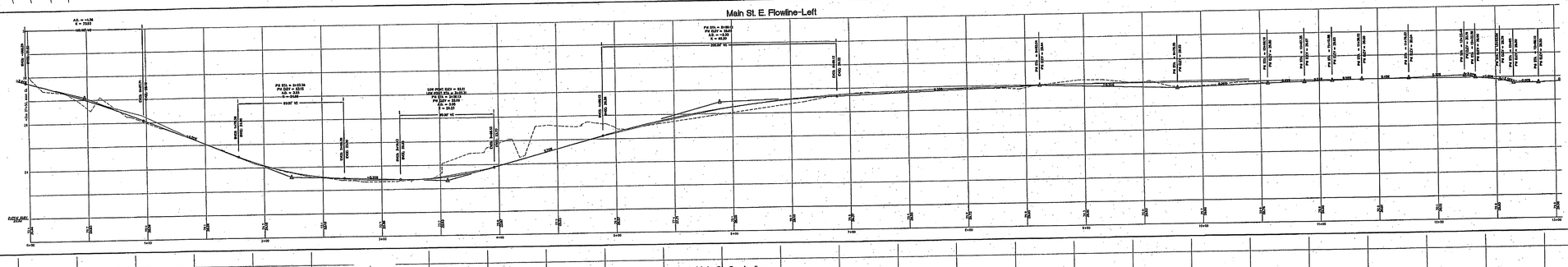

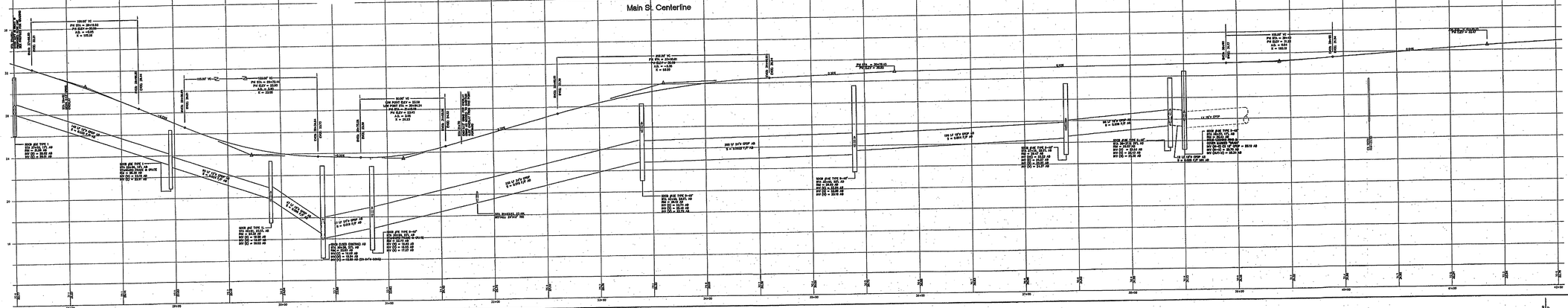

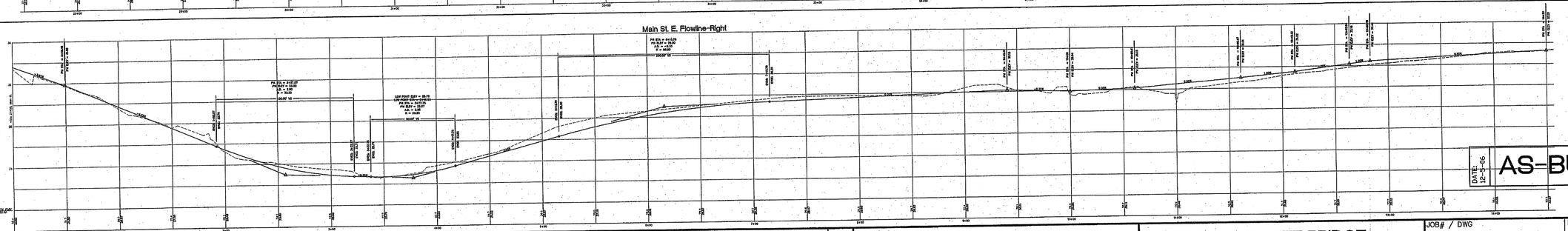

LUIS POMCE
STATE OF WASHINGTON
35378
REGISTERED
PROFESSIONAL ENGINEER
12/11/08
EXPIRES 03-03-09

DATE: 12-3-08

AS-BUILT

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

R&E
REICHHARDT & EBE
ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
LEFT AND RIGHT FLOWLINE PROFILES
STA 27+50 TO 42+00 (CENTERLINE)

JOB# / DWG	DATE
00006 006SP3.AB	3-24-03
SCALE	SHEET
H: 1"=50' V: 1"=5'	15 of 30

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00378.016 S.4.09 HE

THIRD ST.

SECOND ST.

FIRST ST.

FRONT ST.

MAIN STREET

NOOKSACK RIVER

HOVANDER RD

PROPOSED FLAG SLEEVE

ALLEY

ROW

EX ROW

11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00

LEVELING NUTS AND BASE PLATE (PROVIDED BY OTHERS)

CEMENT CONCRETE SIDEWALK

3"

5"

GRADE

24"

24"

17"

42"

(4) ¾"x18"x4" ANCHOR BOLTS A-307 GALV PROJECT 4¼"

CONDUIT

30" DIA. BASE

DECORATIVE LUMINAIRE CONCRETE BASE DETAIL

NTS

30"

42" DIA. BASE

NOTE: USE WHERE LUMINAIRE BASE CONFLICTS WITH STORM SEWER

MODIFIED LUMINAIRE CONCRETE BASE DETAIL

NTS

4" CEMENT SIDEWALK

2" OF WASHED ROCK

6" GRAVEL BASE

4"

8"

SUITABLE NATIVE MATERIAL

1-1/4" I.D. SCHD 40 PVC COUPLING

1-1/4" I.D. SCHD 40 PVC PIPE

1-1/4" SCHD 40 PVC CAP W/1/4" DRAIN HOLE

NOTES:
1. PVC SLEEVES PROVIDED TO CONTRACTOR BY OTHERS.
2. CONTRACTOR TO INSTALL SLEEVES AS PART OF CONTRACT.
3. SLEEVE SHALL BE FLUSH TO SIDEWALK SURFACE AND PLUMB.
4. SEE FLAG SLEEVE PLACEMENT SCHEDULE IN SPECIFICATIONS FOR LOCATIONS.

FLAG SLEEVE DETAIL TOTAL FLAG SLEEVES=171

NTS

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/1/08
EXPIRES 03-03-09

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
ILLUMINATION AND FLAG SLEEVE PLAN

JOB# / DWG 00006 006SP3.ILLUM
DATE 3-24-03
SCALE H:1"=50' V:N/A
SHEET 16 of 30

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THIRD ST.

STA 10+00
BEGIN DOUBLE YELLOW CENTER RPM (CL)
MATCH EXISTING

STA 10+56.5
BEGIN DOUBLE YELLOW TAPER RPM (CL)
BEGIN PLASTIC EDGE STRIPE, 22' & 17'L, 22' & 17'R

STA 12+43.5, 19.5'L
PREFERENTIAL LANE SYMBOL

STA 10+60, 19.5'R
PREFERENTIAL LANE SYMBOL

STA 11+08.5, 3'R
DOUBLE YELLOW RPM TAPER POINT

STA 11+46.5, 6'L
END DOUBLE YELLOW TAPER

STA 11+86.5
BEGIN GORE RPM (6'R)
TYPE 2L TRAFFIC ARROW (CL)

STA 12+13.5, CL
TYPE 2L TRAFFIC ARROW

STA 12+46.5
END GORE RPM (6'R)
END DOUBLE YELLOW RPM (6'L)
END PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 13+40
BEGIN GORE RPM (6'L)
BEGIN DOUBLE YELLOW RPM (6'R)
BEGIN PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 13+43, 19.5'R
PREFERENTIAL LANE SYMBOL

STA 13+73, CL
TYPE 2L TRAFFIC ARROW

STA 14+00
END GORE RPM (6'L)
TYPE 2L TRAFFIC ARROW (CL)

STA 15+94
END GORE RPM (6'R)
END DOUBLE YELLOW RPM (6'L)
END PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 15+61, CL
TYPE 2L TRAFFIC ARROW

STA 15+34
BEGIN GORE RPM (6'R)
TYPE 2L TRAFFIC ARROW (CL)

STA 14+94, 6'L
DOUBLE YELLOW RPM TAPER POINT

STA 14+40, 6'R
DOUBLE YELLOW RPM TAPER POINT

STA 15+97, 19.5'L
PREFERENTIAL LANE SYMBOL

SECOND ST.

STA 16+76
BEGIN GORE RPM (6'L)
BEGIN DOUBLE YELLOW RPM (6'R)
BEGIN PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 16+79, 19.5'R
PREFERENTIAL LANE SYMBOL

STA 17+09, CL
TYPE 2L TRAFFIC ARROW

STA 17+36
END GORE RPM (6'L)
TYPE 2L TRAFFIC ARROW (CL)

STA 17+76, 6'R
DOUBLE YELLOW RPM TAPER POINT

STA 19+49
END GORE RPM (6'R)
END DOUBLE YELLOW RPM (6'L)
END PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 19+46, 19.5'L
PREFERENTIAL LANE SYMBOL

STA 18+89
BEGIN GORE RPM (6'R)
TYPE 2L TRAFFIC ARROW (CL)

STA 19+16, CL
TYPE 2L TRAFFIC ARROW

STA 18+49, 6'L
DOUBLE YELLOW RPM TAPER POINT

STA 2+59 (1ST ST)
END GORE RPM (11'R)
END DOUBLE YELLOW RPM (CL)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 2+29(1ST ST)
TYPE 3L TRAFFIC ARROW, 5.5'R
TYPE 2R TRAFFIC ARROW, 16'R

STA 1+99 (1ST ST)
BEGIN GORE RPM (11'R)
BEGIN DOUBLE YELLOW RPM (CL)
MATCH EXISTING
TYPE 3L TRAFFIC ARROW, 5.5'R
TYPE 2R TRAFFIC ARROW, 16'R

FIRST ST.

STA 4+03 (1ST ST)
END DOUBLE YELLOW RPM (CL)

STA 4+45 (1ST ST)
BEGIN DOUBLE YELLOW RPM (CL)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 20+35
BEGIN GORE RPM (6'L)
BEGIN DOUBLE YELLOW RPM (6'R)
BEGIN PLASTIC EDGE STRIPE
(22' & 17'L, 22' & 17'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 20+38, 19.5'R
PREFERENTIAL LANE SYMBOL

STA 20+68, CL
TYPE 2L TRAFFIC ARROW

STA 20+95
END GORE RPM (6'L)
TYPE 2L TRAFFIC ARROW (CL)

STA 21+11, 22'L
END PLASTIC EDGE STRIPE

STA 21+14, 2.6'L
BEGIN DOUBLE YELLOW
TAPER RPM POINT

STA 21+41, 5'R
BEGIN DOUBLE YELLOW TAPER RPM

STA 21+48, 21'R
END PLASTIC EDGE STRIPE

FRONT STREET

NOOKSACK RIVER

STA 22+91, CL
END DOUBLE YELLOW TAPER RPM

MAIN STREET

STA 23+75, 14.5'R & L
(2) PREFERENTIAL LANE SYMBOLS

STA 29+77.6, 10.5'L
BEGIN GORE RPM

STA 30+72, 5.5'L
TYPE 2L TRAFFIC ARROW

STA 31+00
END GORE RPM (11'L)
TYPE 2L TRAFFIC ARROW (5.5'L)

STA 31+52, 21'L
BEGIN PLASTIC EDGE STRIPE

STA 32+35, 22'L
END PLASTIC
EDGE STRIPE

SEE NEUTRAL AREAS
MARKING DETAIL

176 LF DOUBLE YELLOW CENTER STRIPE

STA 32+45
BEGIN TWLT RPM (5.5' L & R)
BEGIN LANE RPM (16.5' L & R)

STA 33+25, 22.5'L
TYPE 2R TRAFFIC ARROW

STA 32+75, 22.5'L
(2) TYPE 2L TRAFFIC ARROWS (CL)
TYPE 2R TRAFFIC ARROW (22.5'L)

STA 37+15, CL
(2) TYPE 2L TRAFFIC ARROWS

STA 40+53, CL
(2) TYPE 2L TRAFFIC ARROWS

STA 39+84.3, 28.5'L
BEGIN PLASTIC EDGE STRIPE

STA 42+68.5, 28.5'L
END PLASTIC EDGE STRIPE

STA 27+30
BEGIN DOUBLE YELLOW RPM TAPER (CL)
END PLASTIC EDGE STRIPE
W/CHEVRON MARKINGS (12'L)

STA 27+00, 14.5'R & L
(2) PREFERENTIAL LANE
SYMBOLS

STA 29+54.8, 5.4'R
END DOUBLE YELLOW RPM TAPER
END PLASTIC EDGE STRIPE
W/CHEVRON MARKINGS

STA 29+84, 22.8'R
END PLASTIC EDGE STRIPE

STA 30+07, 17'R
BEGIN LANE RPM

STA 0+54 (HOVANDER)
BEGIN GORE RPM (6'L)
BEGIN DOUBLE YELLOW RPM (6'R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 0+64, CL (HOVANDER)
TYPE 2L TRAFFIC ARROW

STA 0+94 (HOVANDER)
END GORE RPM, (6'L)
TYPE 2L TRAFFIC ARROW, (CL)
TYPE 2R TRAFFIC ARROW, (16.5'L)

STA 1+14, 6'R (HOVANDER)
DOUBLE YELLOW RPM TAPER POINT

HOVANDER RD

STA 31+16, 0.2'L
END DOUBLE YELLOW RPM

STA 30+83, 8.5'R
BEGIN DOUBLE YELLOW RPM

STA 0+75.6, 38.5'L (HOVANDER)
PLASTIC CROSSWALK PER DETAIL

STA 1+82 (CL) (HOVANDER)
END DOUBLE YELLOW RPM
MATCH EXISTING

STA 32+49
END GORE RPM, (5.5'R)
END DOUBLE YELLOW RPM (5.5'L)
TYPE 2L TRAFFIC ARROW (0.8'R)
END LANE RPM (16.5'R)

STA 32+05
BEGIN GORE RPM, (5.5'R)
BEGIN DOUBLE YELLOW RPM (5.5'L)
TYPE 2L TRAFFIC ARROW (0.1'R)

STA 41+02, 46'R &
STA 41+60, 45'R
PLASTIC CROSSWALK
PER DETAIL

STA 43+00
BEGIN GORE RPM
TYPE 2L TRAFFIC

STA 43+48
TYPE 2L TRAF

STA 41+60, 5.5'R
END TWLT RPM (5.5'R)
BEGIN DOUBLE YELLOW RPM (5.5'L)

STA 44+13, 56'L
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

STA 42+58.5, 28.5'L
END PLASTIC EDGE STRIPE

MAIN STREET

STA 43+00
BEGIN GORE RPM (5.5'R)
TYPE 2L TRAFFIC ARROW (CL)

STA 43+48
TYPE 2L TRAFFIC ARROW (CL)

STA 43+98
END DOUBLE YELLOW RPM (5.5'L)
END GORE RPM (5.5'R)
END LANE RPM (16.5' L & R)
18" PLASTIC STOP BAR
PLASTIC CROSSWALK PER DETAIL

LABOUNTY DRIVE

LUIS PORRAS
STATE OF WASHINGTON
16378
REGISTERED
PROFESSIONAL ENGINEER
2/11/08
EXPIRES 03-03-09

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Ph (360) 354-3687 Lynden, Washington 98264 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET IMPROVEMENTS
CHANNELIZATION PLAN

JOB# / DWG	DATE
00006 WORKCHAN	3-24-03
SCALE H:1"=50' V:N/A	SHEET 17 of 30

PRELIMINARY NOT FOR CONSTRUCTION

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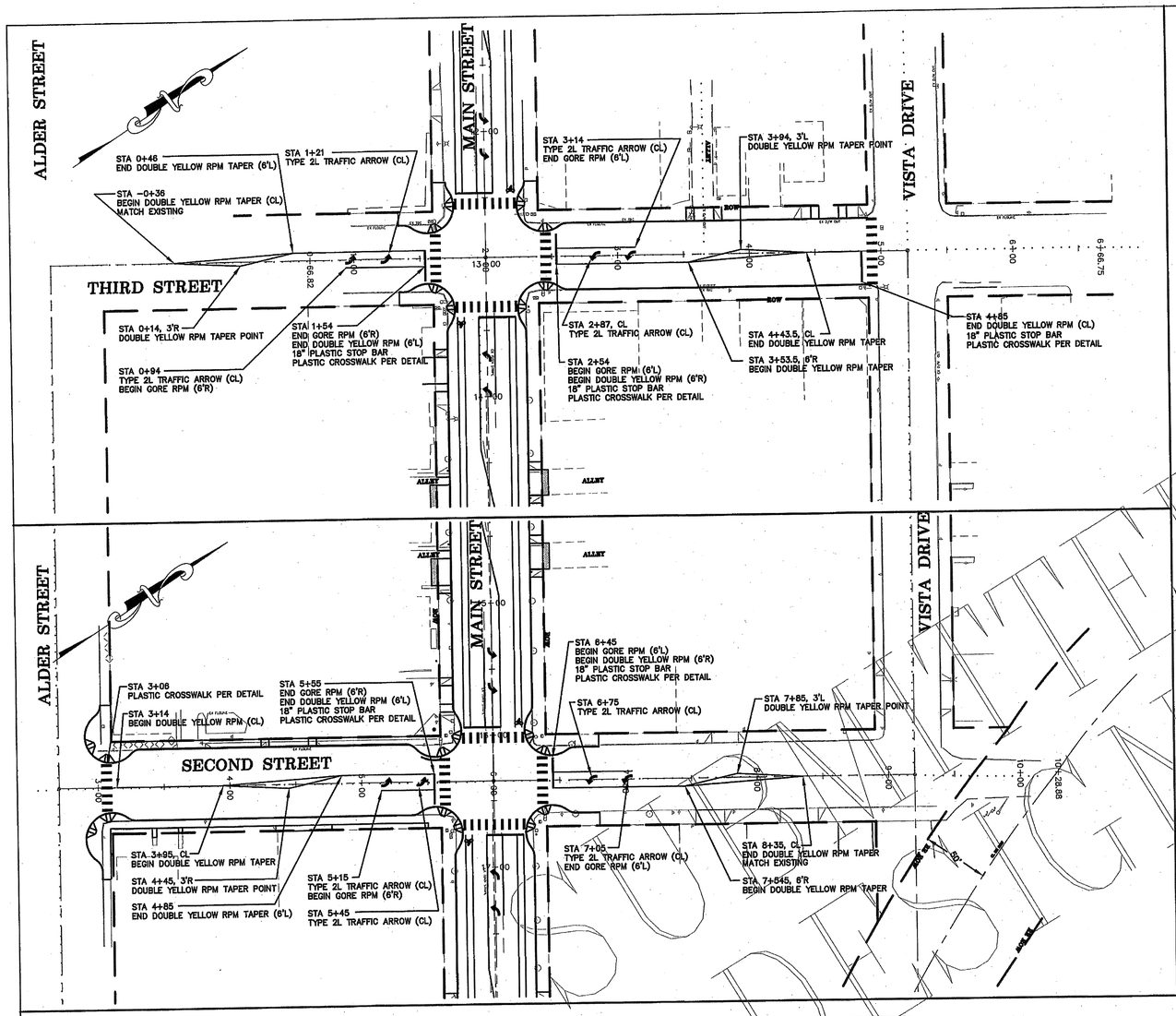
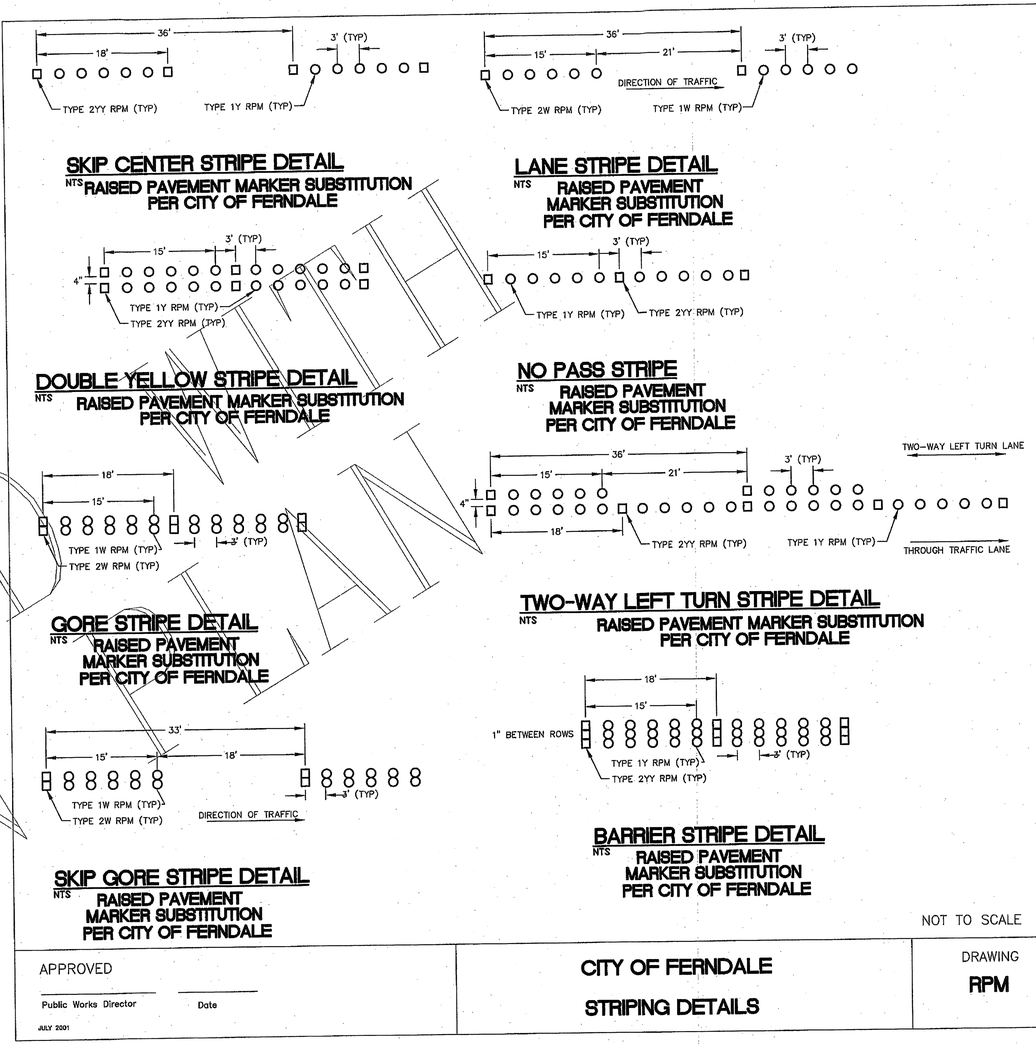
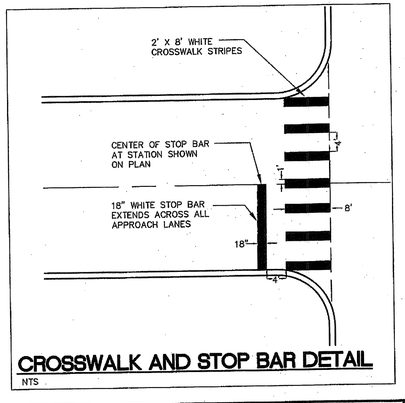


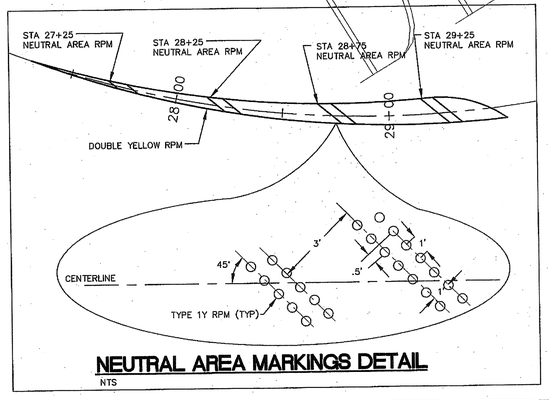


NOT TO SCALE

APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director ____ Date ____	STRIPING DETAILS	RPM
JULY 2001		



CROSSWALK AND STOP BAR DETAIL
NTS



NEUTRAL AREA MARKINGS DETAIL
NTS

NOTE:
THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING CHANNELIZATION WHICH INTERFERES W/THE PROPOSED CHANNELIZATION.

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/11/08
EXPIRES 03-03-09

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

R&E
REICHHARDT & EBE
ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201
Lynden, Washington 98264
Ph (360) 354-3687
Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET IMPROVEMENTS
CHANNELIZATION PLAN

JOB# / DWG	00006 WORKCHAN	DATE	3-24-03
SCALE	H:1"=50' V:N/A	SHEET	18 of 30

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00318.019 S4.09 #2

STA 12+00 TO 27+50

3RD ST

2ND ST

1ST ST

MAIN STREET

FRONT ST

NOOKSACK RIVER

SAWCUT

ROADWAY EXCAVATION

BRIDGE CONTAINMENT SYSTEM
PER 2002 WSDOT STD SPECIFICATIONS
SECTION 6-07 AND CONTRACT DOCUMENTS.

STA 27+50 TO 39+50

ASPHALT CONCRETE PAVEMENT OVERLAY

HOVANDER RD

MAIN STREET

ASPHALT CONCRETE PAVEMENT OVERLAY AT INTERSECTION

ASPHALT CONCRETE PAVEMENT OVERLAY

STA 39+50 TO 44+50

MAIN STREET

ASPHALT CONCRETE PAVEMENT OVERLAY

SAWCUT

NOOKSACK RIVER

DETENTION POND MAY BE USED AS TEMPORARY SEDIMENTATION POND.

HOVANDER RD

SAWCUT

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

LUIS PONCE
STATE OF WASHINGTON
18378
REGISTERED
PROFESSIONAL ENGINEER
7/11/08

EXPIRES 03-03-09

UNITED PLAN RESUB

DESIGNED BY	LP		
DRAWN BY	LMC		
CHECKED BY	GDE		

R&E

REICHHARDT & EBE
ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN

JOB# / DWG		DATE
00006	06EC	3-24-03
SCALE		SHEET
H:1"=50'	V: N/A	19 of 30

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LEGEND

SYMBOL	WASHINGTON STATE DEPT. OF ECOLOGY BEST MANAGEMENT PRACTICES (BMP) REF.: STORMWATER MANAGEMENT MANUAL FOR THE PUGET SOUND BASIN, AUG., 2001
FF	= SILT FENCE BMP C233
CE	= STABILIZED CONSTRUCTION ENTRANCE BMP C105
IP	= STORM DRAIN INLET PROTECTION FOR EXISTING AND PROPOSED INLETS BMP C220
DC	= DUST CONTROL BMP C140
SS	= STREET SWEEPING
NB	= NETS AND BLANKETS SLOPE INSTALLATION BMP C122

GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. 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.
3. 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.
4. 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. ALL COSTS INVOLVED IN THIS WATERING WILL BE INCIDENTAL TO THE BID ITEM "WATER".
5. THE CONTRACTOR WILL CONSTRUCT A CONSTRUCTION ENTRANCE AS SHOWN IN THE CONSTRUCTION ENTRANCE DETAIL ON THIS SHEET AT EACH ENTRANCE FROM A STAGING OR WORK AREA ONTO A PUBLIC ROAD OR NON-STAGING OR NON-WORKING AREA.
6. ALL DISTURBED AREAS SHALL BE HYDROSEEDED. GRASS SEEDING SHALL BE BROADCAST IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SEDIMENTATION AND EROSION CONTROL MEASURES AS SHOWN.
8. THE CONSTRUCTED EROSION CONTROL AND SEDIMENTATION PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO PERFORMING ANY SITE GRADING OR CLEARING.
9. 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.
10. ANY VEGETATION NOT IN THE CONSTRUCTION AREA SHALL BE LEFT UNDISTURBED.
11. ALL CLEARING LIMITS SHALL BE VISIBLY MARKED PRIOR TO CLEARING.
12. ALL STORM DRAIN FACILITIES WITHIN THE PROJECT BOUNDARY ARE TO BE CLEARED OF SEDIMENT AND DEBRIS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
13. THIS PLAN REPRESENTS THE MINIMUM REQUIREMENTS FOR THIS PROJECT. ADDITIONAL EROSION CONTROLS MAY BE REQUIRED BY THE ENGINEER AS ARE FOUND NECESSARY.
14. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO ALL OTHER SITE CONSTRUCTION.
15. SEE FEBRUARY 20, 2003, LAND DISTURBANCE PERMIT CONDITIONS OF APPROVAL LETTER FOR ADDITIONAL REQUIREMENTS TO THIS PLAN.

NOTES:

1.) SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT FOR PROPER SOIL CONTACT.

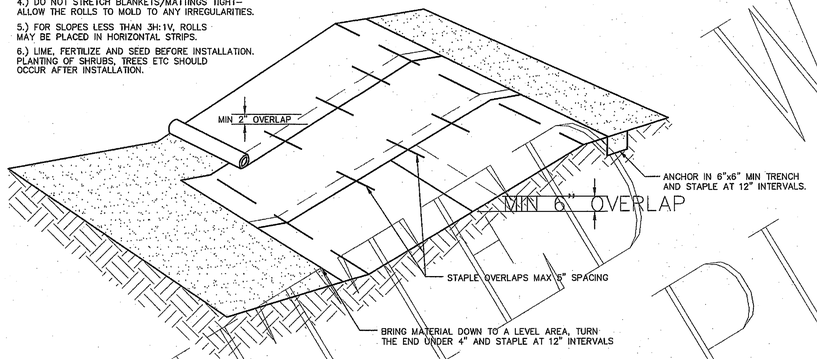
2.) IF THERE IS A BERM AT THE TOP OF THE SLOPE, ANCHOR UPSLOPE OF THE BERM.

3.) STAPLING PATTERN AS PER MANUFACTURER'S RECOMMENDATIONS.

4.) DO NOT STRETCH BLANKETS/MATTINGS TIGHT-- ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES.

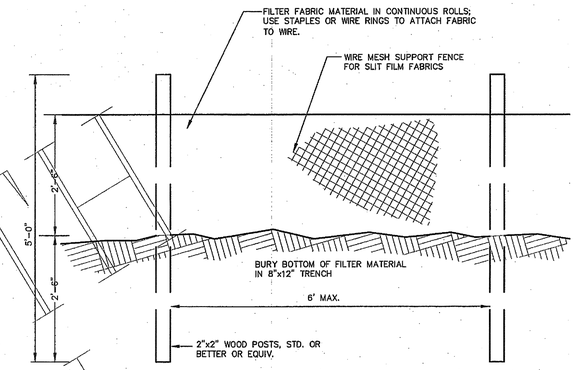
5.) FOR SLOPES LESS THAN 3H:1V, ROLLS MAY BE PLACED IN HORIZONTAL STRIPS.

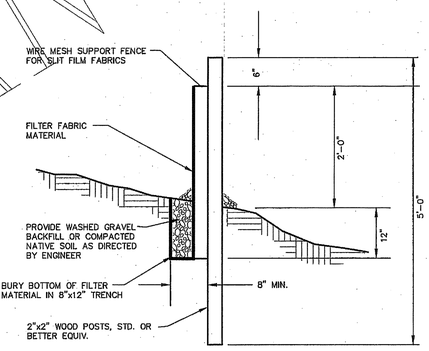
6.) LIME, FERTILIZE AND SEED BEFORE INSTALLATION. PLANTING OF SHRUBS, TREES ETC SHOULD OCCUR AFTER INSTALLATION.



NETS AND BLANKETS SLOPE INSTALLATION

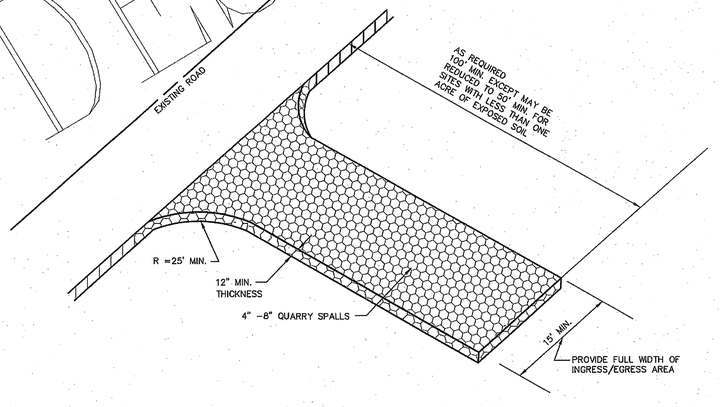
NTS





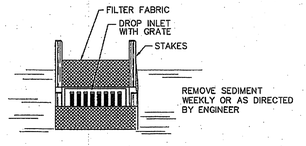
SILT FENCE DETAIL

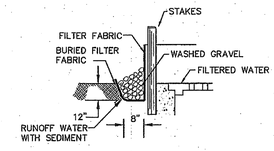
NTS



STABILIZED CONSTRUCTION ENTRANCE

NTS





INLET PROTECTION DETAIL

NTS

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 4/1/08

EXPIRES 03-03-09

SUBMITTAL FOR DESIGN REVIEW

FINAL PLANS

DESIGNED BY LP / DRAWN BY LMC / CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET BRIDGE TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN DETAIL SHEET	JOB# / DWG 00006 06EC; SCALE H:N/A V:N/A	DATE 3-24-03; SHEET 20 of 30

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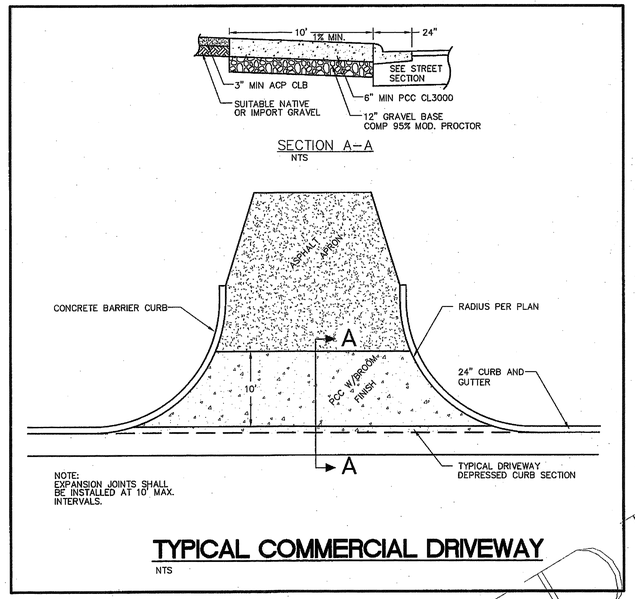
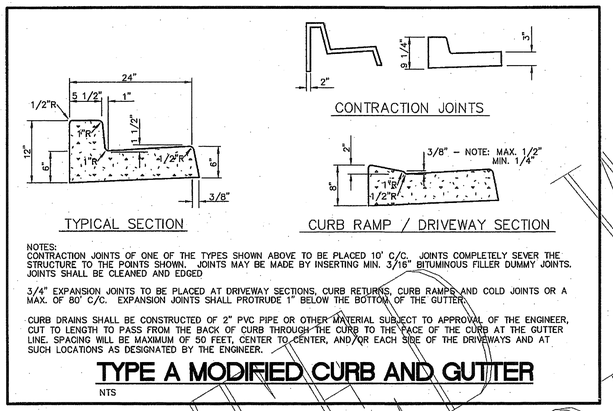


TYPICAL COMMERCIAL DRIVEWAY

NTS



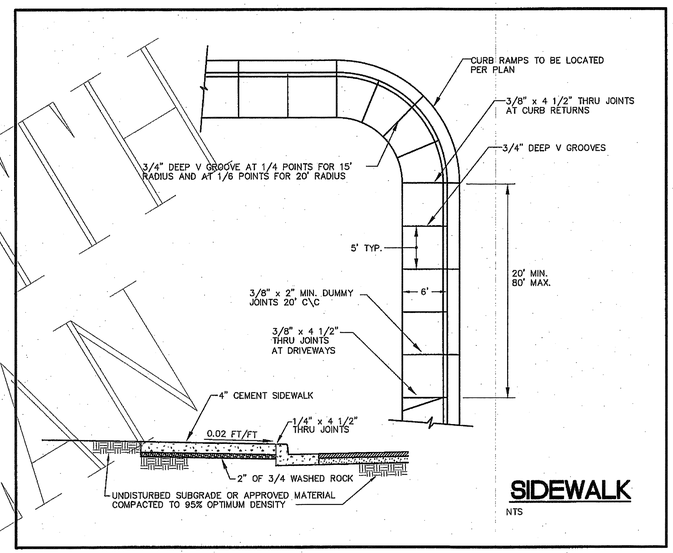
NOTES:
CONTRACTION JOINTS OF ONE OF THE TYPES SHOWN ABOVE TO BE PLACED 10' C/C. JOINTS COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MIN. 3/16" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED

3/4" EXPANSION JOINTS TO BE PLACED AT DRIVEWAY SECTIONS, CURB RETURNS, CURB RAMPS AND COLD JOINTS OR A MAX. OF 80' C/C. EXPANSION JOINTS SHALL PROTRUDE 1" BELOW THE BOTTOM OF THE GUTTER.

CURB DRAINS SHALL BE CONSTRUCTED OF 2" PVC PIPE OR OTHER MATERIAL SUBJECT TO APPROVAL OF THE ENGINEER, CUT TO LENGTH TO PASS FROM THE BACK OF CURB THROUGH THE CURB TO THE FACE OF THE CURB AT THE GUTTER LINE. SPACING WILL BE MAXIMUM OF 50 FEET, CENTER TO CENTER, AND/OR EACH SIDE OF THE DRIVEWAYS AND AT SUCH LOCATIONS AS DESIGNATED BY THE ENGINEER.

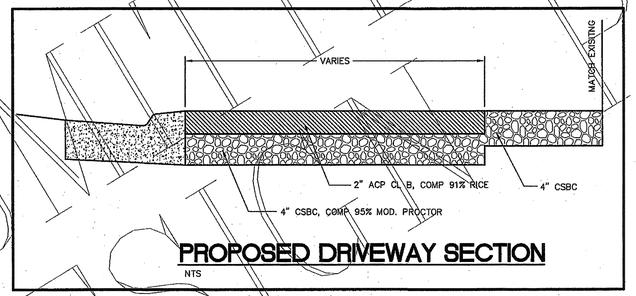
TYPE A MODIFIED CURB AND GUTTER

NTS



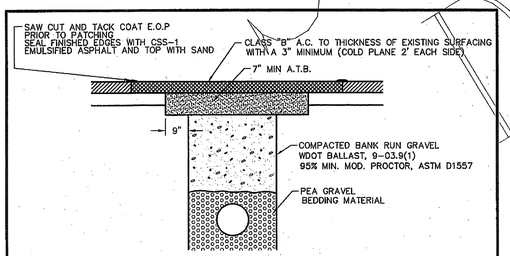
SIDEWALK

NTS



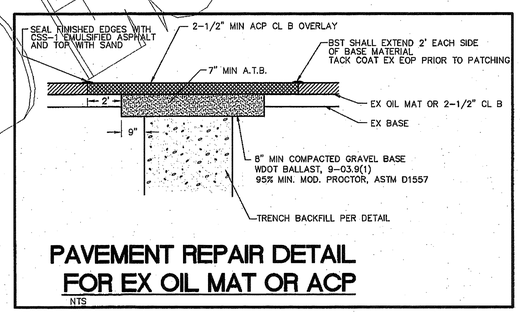
PROPOSED DRIVEWAY SECTION

NTS



PAVEMENT REPAIR DETAIL FOR EX AC/ATB

NTS



PAVEMENT REPAIR DETAIL FOR EX OIL MAT OR ACP

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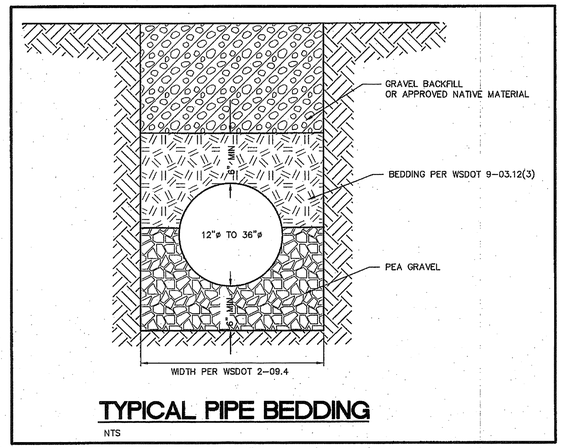

TYPICAL PIPE BEDDING

NTS

SUBMITTAL

LUIS PONCE — STATE OF WASHINGTON — 20378 — REGISTERED PROFESSIONAL ENGINEER — 12/1/08

EXPIRES 03-03-09

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET BRIDGE STREET IMPROVEMENTS DETAIL SHEET

JOB# / DWG		DATE
00006	DET	3-24-03
SCALE		SHEET
H: N/A	V: N/A	21 of 30

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BEDDING SPECIFICATIONS FOR PVC PIPE

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION:

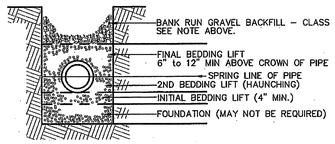
BEDDING FOR SEWERS, DRAINS AND CULVERTS FOR PVC PIPE–

BEDDING MATERIAL FOR PVC PIPE SHALL BE PEA GRAVEL CONFORMING TO THE FOLLOWING SPECIFICATIONS.

PEA GRAVEL – PEA GRAVEL BEDDING SHALL BE A CLEAN MIXTURE FREE FROM ORGANIC MATTER AND CONFORMING TO THE FOLLOWING GRADATION WHEN TESTED IN ACCORDANCE WITH ASTM D422:

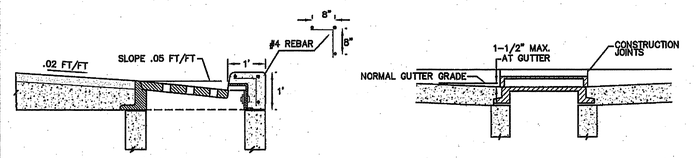
U.S. STANDARD SIEVE SIZE	PERCENT PASSING, BY WT.
3/4"	100
3/8"	95–100
#8	0–10
#200	0–3

BACKFILL – WHEREVER A TRENCH IS EXCAVATED IN THE EXISTING OR PROPOSED ROADWAY, SIDEWALK OR OTHER AREAS WHERE SETTLEMENT WOULD BE DETRIMENTAL, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% OF MAXIMUM DENSITY.

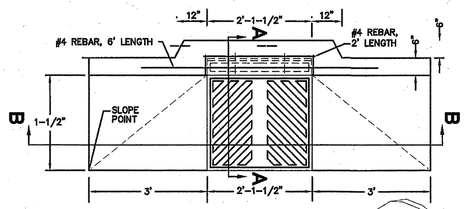


PVC PIPE BEDDING DETAIL

NTS



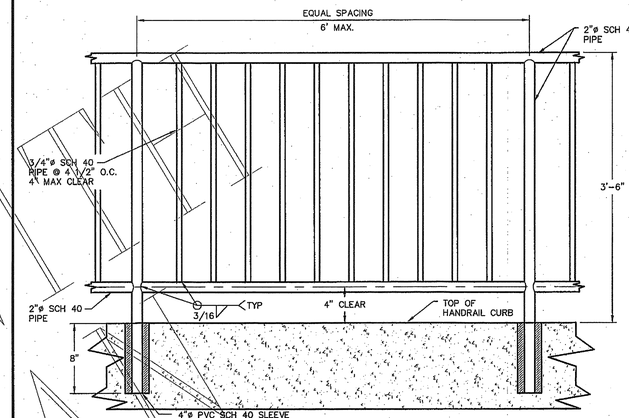
SECTION A-A SECTION B-B



THRU CURB INLET DETAIL

NTS

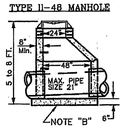
NOTES:
1. HANDRAIL SHALL BE HOT DIPPED GALVANIZED.
2. COLD GALVANIZED COMPOUND SHALL BE APPLIED TO ALL FIELD WELDS AND BLEMISHES.



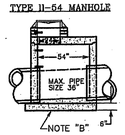
HANDRAIL DETAIL

NTS

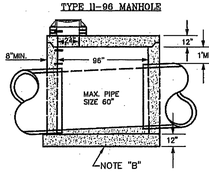
TYPE 11–48 MANHOLE



TYPE 11–54 MANHOLE

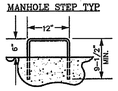


TYPE 11–96 MANHOLE



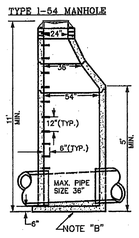
TYPE 11–72 MANHOLE

MANHOLE STEP TYP

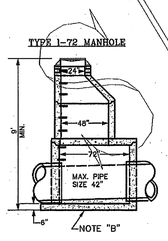


ADJUSTMENT HEIGHTS		
AREA	MIN.	MAX.
UNPAVED	12"	20"
PAVED	4"	12"

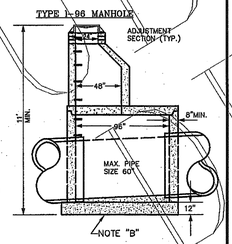
TYPE 1–54 MANHOLE



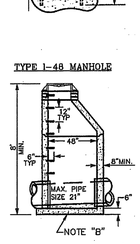
TYPE 1–72 MANHOLE



TYPE 1–96 MANHOLE



TYPE 1–48 MANHOLE

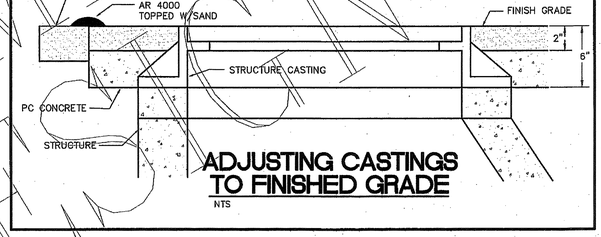


NOTES:
A.) Manhole step legs shall be parallel or approximately radial at the option of the manufacturer, except that all steps in any manhole shall be similar. Penetration of outer wall is prohibited.
B.) Cast in place base/pre-cast base.

MANHOLE STANDARD

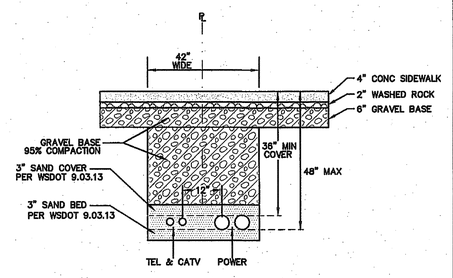
NTS

NOTES:
ALL FRAMES, COVERS AND VALVE BOXES SHALL BE RAISED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:
1. CUT THE ASPHALT IN AN EVEN CIRCLE AROUND THE STRUCTURE CASTING TO BE ADJUSTED.
2. REMOVE THE FILL MATERIAL WITHIN THE CUT PAVEMENT AREA TO 6 INCHES MIN. BELOW FINISH GRADE.
3. PLACE THE CASTING AT FINISH GRADE.
4. PLACE PORTLAND CEMENT CONCRETE TO WITHIN THE TOP 2 INCHES OF FINISH GRADE.
5. APPLY TACK TO THE STRUCTURE CASTING, CUT PAVEMENT, AND PC CONCRETE.
6. PLACE AND COMPACT 2 INCHES OF ASPHALT CONCRETE CLASS B TO FINISH GRADE.
7. SEAL PAVEMENT JOINTS WITH HOT AR4000 AND TOP WITH SAND.



ADJUSTING CASTINGS TO FINISHED GRADE

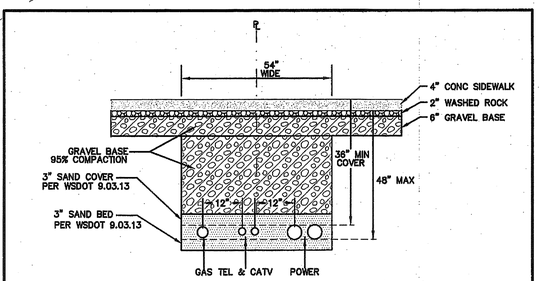
NTS



EXCAVATION=0.4 CY/LF IN PLACE

COMMON UTILITY TRENCH PHONE, TV AND PRIMARY POWER

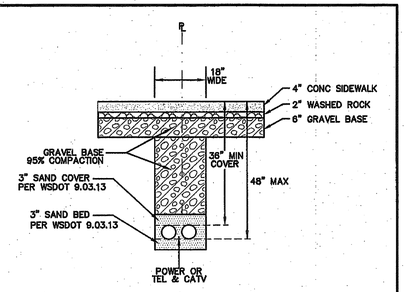
NTS



EXCAVATION=0.5 CY/LF IN PLACE

COMMON UTILITY TRENCH GAS, PHONE, TV AND PRIMARY POWER

NTS



EXCAVATION=0.2 CY/LF IN PLACE

COMMON UTILITY TRENCH PHONE AND TV OR PRIMARY POWER

NTS

LUIS PONCE — STATE OF WASHINGTON — 18378 — REGISTERED PROFESSIONAL ENGINEER — 12/11/08

EXPIRES 03-03-09

DESIGNED BY DLB / DRAWN BY LMC / CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
DETAIL SHEET

JOB# / DWG		DATE
00006	DET	3-24-03
SCALE		SHEET
H:N/A	V:N/A	22 of 30

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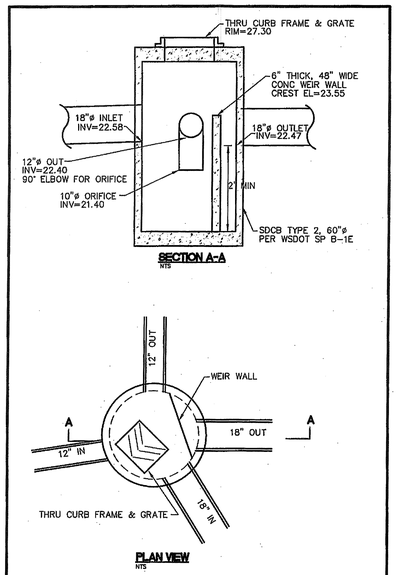
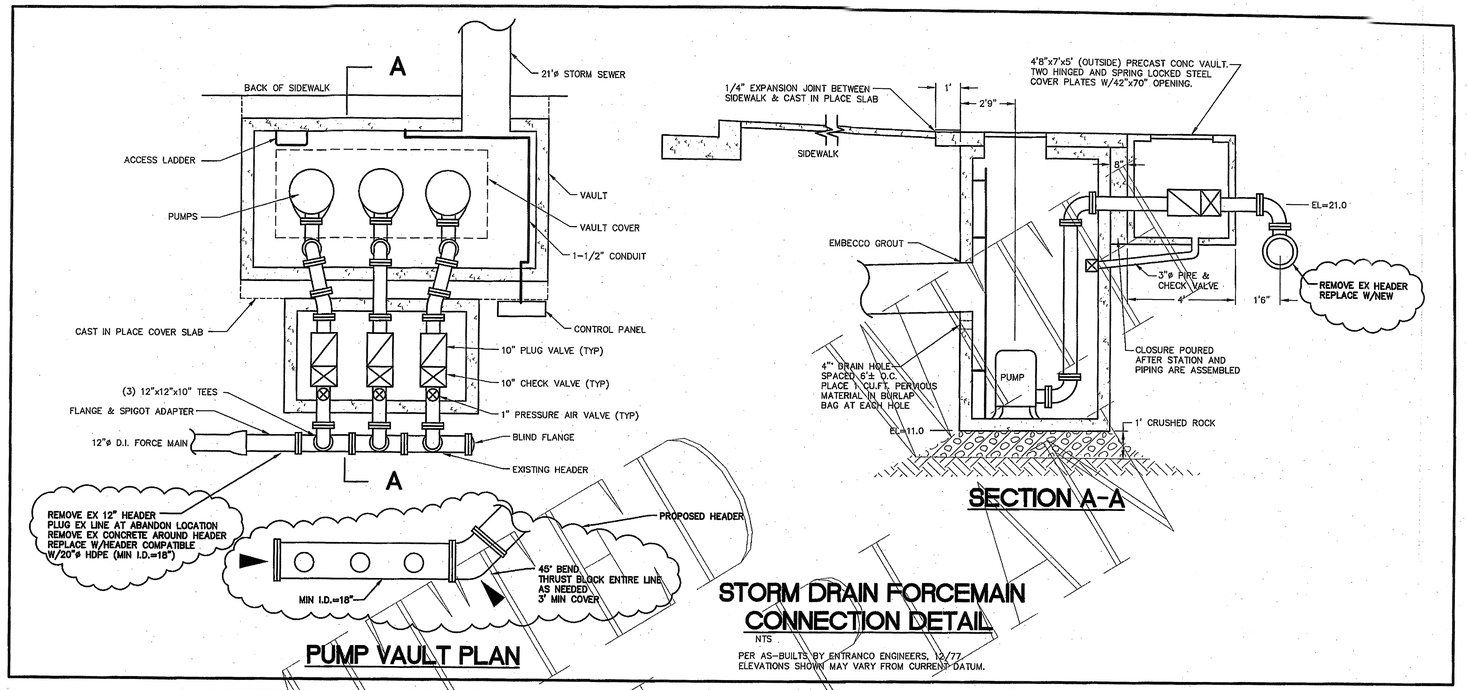


FLOW SPLITTER DETAIL

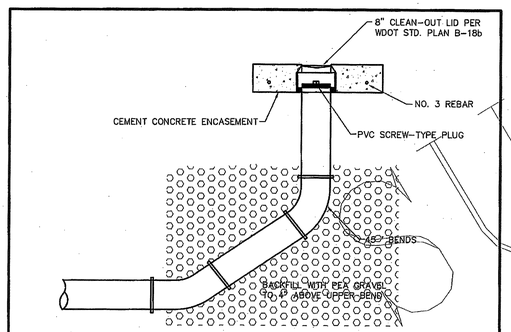
NTS (PROVIDE SHOP DRAWINGS FOR APROVAL)



STORM DRAIN FORCEMAIN CONNECTION DETAIL

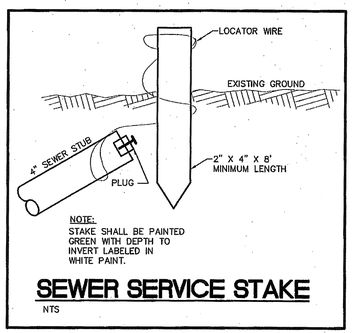
NTS

PER AS-BUILTS BY ENTRANCO ENGINEERS, 12/77.
ELEVATIONS SHOWN MAY VARY FROM CURRENT DATUM.



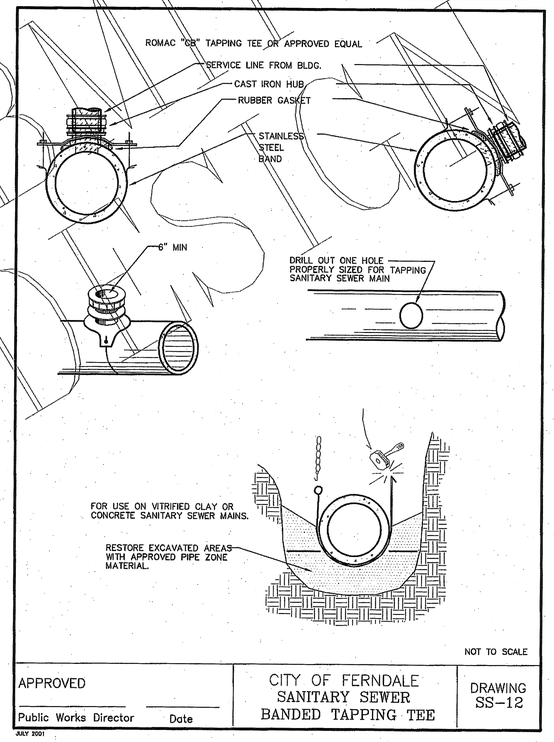
8" SANITARY SEWER CLEAN-OUT DETAIL

NTS



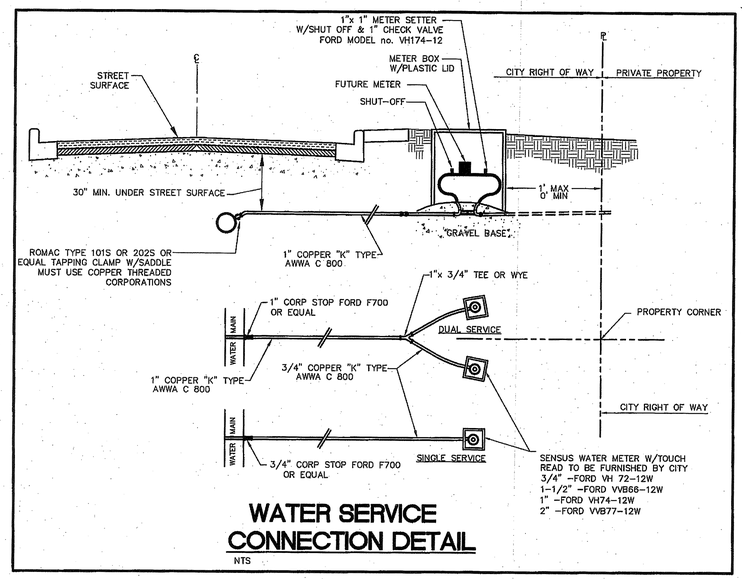
SEWER SERVICE STAKE

NTS



APPROVED	CITY OF FERNDALE SANITARY SEWER BANDED TAPPING TEE	DRAWING SS-12
Public Works Director Date		

JULY 2001



WATER SERVICE CONNECTION DETAIL

NTS

LOUIS POMA
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
12/1/08
EXPIRES 03-03-09

00378.023 5.4.09 KK

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

REICHHARDT & EBE
ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
DETAIL SHEET

JOB# / DWG	00006 DET	DATE	3-24-03
SCALE	H: N/A V: N/A	SHEET	23 of 30

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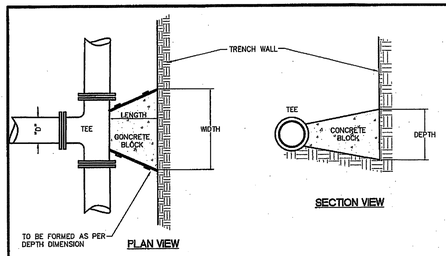
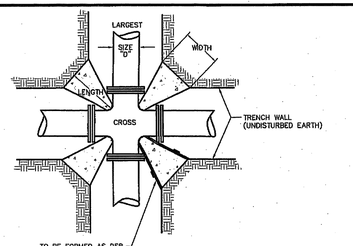


PLAN VIEW

SECTION VIEW

"D"	WIDTH	DEPTH	LENGTH	VOL.
6"	1'-6"	1'-6"	12"	3.0
8"	2'-0"	2'-0"	12"	4.5
10"	2'-6"	2'-6"	12"	7.0
12"	3'-0"	3'-0"	18"	14.0

VOL. = Approx. Volume of Blocking Material Required in cu. ft.

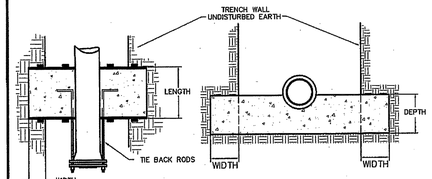


PLAN VIEW

"D"	WIDTH	DEPTH	LENGTH	VOL.	X4 blocks/joint
6"	1'-0"	1'-0"	12"	0.63	2.50 cu ft
8"	1'-3"	1'-3"	12"	1.00	4.01 cu ft
10"	1'-6"	1'-6"	12"	1.63	6.50 cu ft
12"	1'-9"	1'-9"	18"	3.05	12.19 cu ft

VOL. = Approx. Volume of Blocking Material Required in cu. ft.

SOIL BEARING CAPACITY 1500 PSF MINIMUM
100 P.S.I. OPERATING PRESSURE

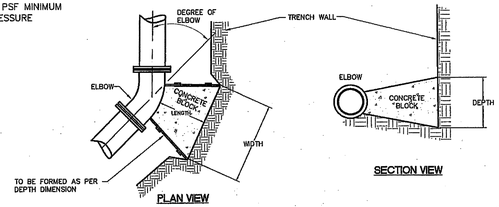


PLAN VIEW

SECTION VIEW

"D"	WIDTH	DEPTH	LENGTH	*VOL.	# OF RODS	ROD DIA.
6"	1'-6"	1'-6"	12"	7.5	2	1/2"
8"	2'-0"	2'-0"	18"	20.0	2	5/8"
10"	2'-6"	2'-6"	24"	37.5	2	3/4"
12"	2'-9"	2'-9"	24"	44.0	4	3/4"

*VOL. = Approx. Volume of Blocking Material Required in cu. ft.
RODS: A36 STEEL MINIMUM



PLAN VIEW

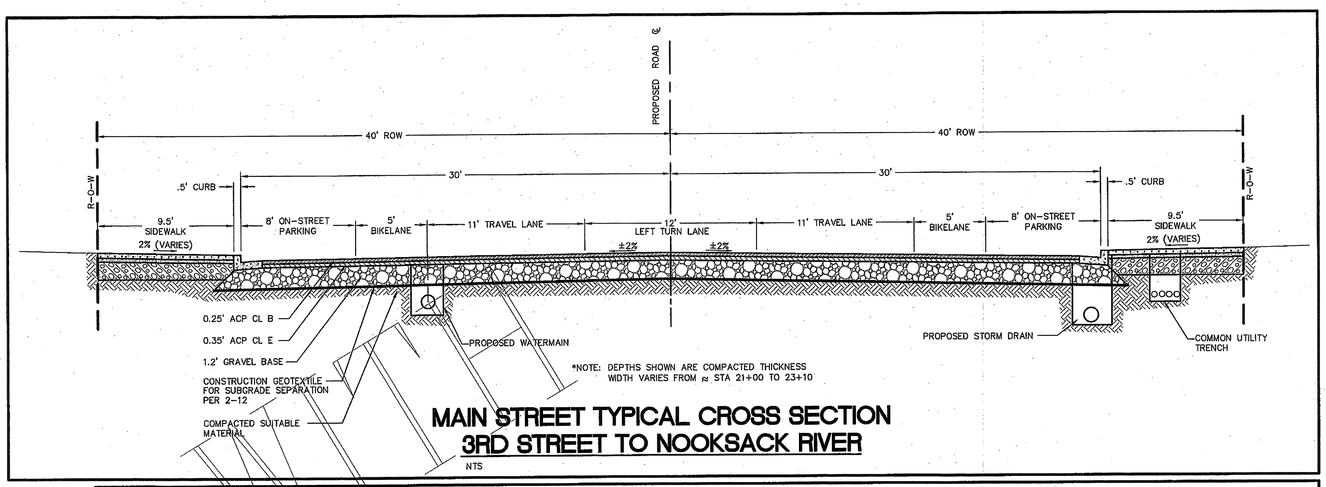
SECTION VIEW

SIZE	LENGTH	11 1/4°			22 1/2°			45°			90°		
		WIDTH	DEPTH	VOL.	WIDTH	DEPTH	VOL.	WIDTH	DEPTH	VOL.	WIDTH	DEPTH	VOL.
6"	12"	1'-0"	1'-0"	0.63	1'-0"	1'-0"	0.63	1'-0"	1'-0"	1.25	2'-3"	1'-6"	1.88
8"	12"	1'-3"	1'-3"	1.00	1'-3"	1'-3"	1.00	1'-3"	1'-3"	1.72	3'-0"	2'-0"	3.33
10"	12"	1'-9"	1'-6"	1.72	1'-9"	1'-6"	1.72	2'-3"	2'-3"	2.88	3'-6"	2'-6"	4.861
12"	18"	2'-0"	1'-9"	3.48	2'-0"	1'-9"	3.48	2'-9"	2'-6"	5.98	4'-0"	3'-0"	10.00

VOL. = Approx. Volume of Blocking Material Required in cu. ft.

THRUST BLOCKING

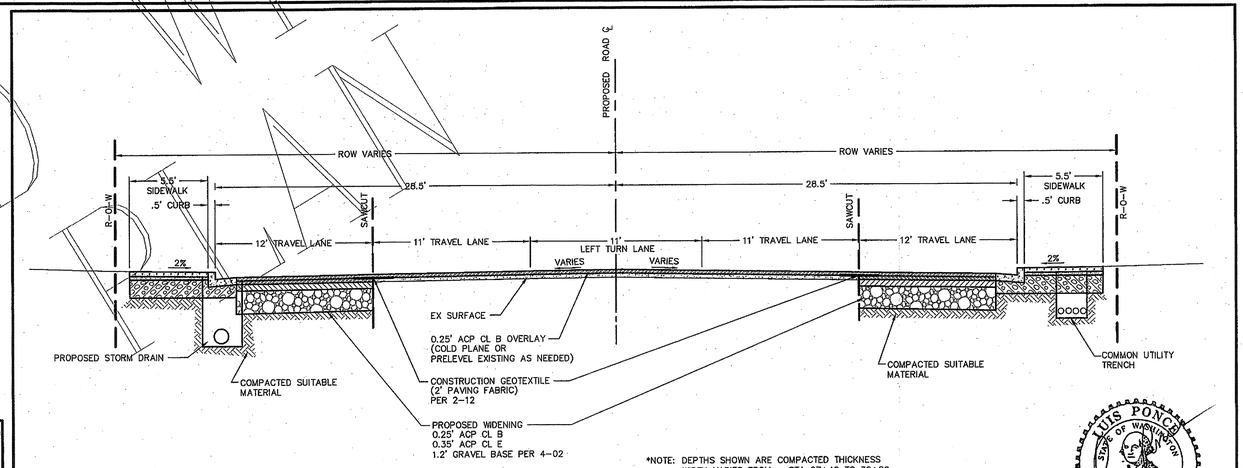
NTS



*NOTE: DEPTHS SHOWN ARE COMPACTED THICKNESS WIDTH VARIES FROM ≈ STA 21+00 TO 23+10

MAIN STREET TYPICAL CROSS SECTION
3RD STREET TO NOOKSACK RIVER

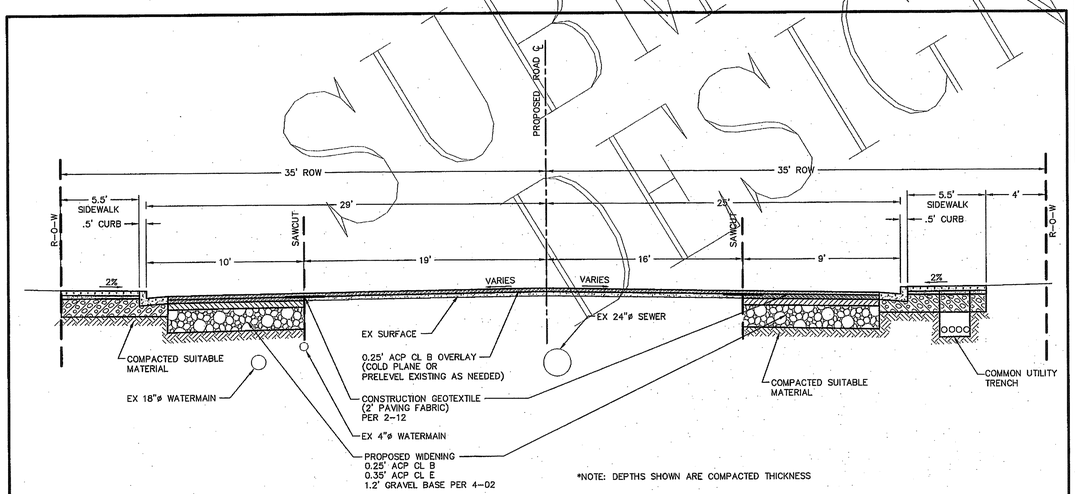
NTS



*NOTE: DEPTHS SHOWN ARE COMPACTED THICKNESS WIDTH VARIES FROM ≈ STA 27+40 TO 32+80

MAIN STREET TYPICAL CROSS SECTION
NOOKSACK RIVER TO LABOUNTY

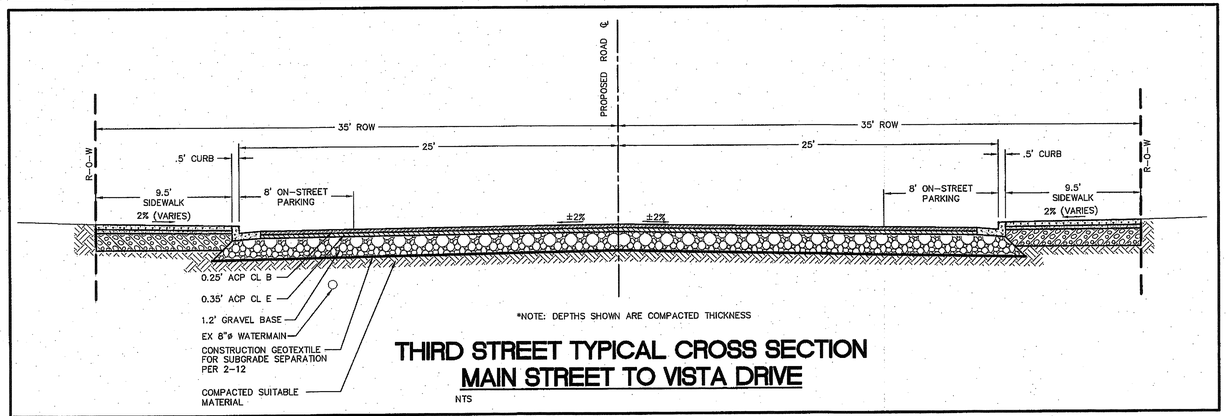
NTS



*NOTE: DEPTHS SHOWN ARE COMPACTED THICKNESS

SECOND STREET TYPICAL CROSS SECTION
ALDER STREET TO MAIN STREET

NTS



*NOTE: DEPTHS SHOWN ARE COMPACTED THICKNESS

THIRD STREET TYPICAL CROSS SECTION
MAIN STREET TO VISTA DRIVE

NTS

SUBMITTAL DESIGN

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 7/1/08
EXPIRES 03-03-09

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

R&E
REICHHARDT & EBE
ENGINEERING, INC.
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PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

MAIN STREET BRIDGE
STREET IMPROVEMENTS
DETAIL SHEET

JOB# / DWG		DATE
00006	DET	3-24-03
SCALE		SHEET
H:N/A	V:N/A	24 of 30

00378.024 5.4.09 KR

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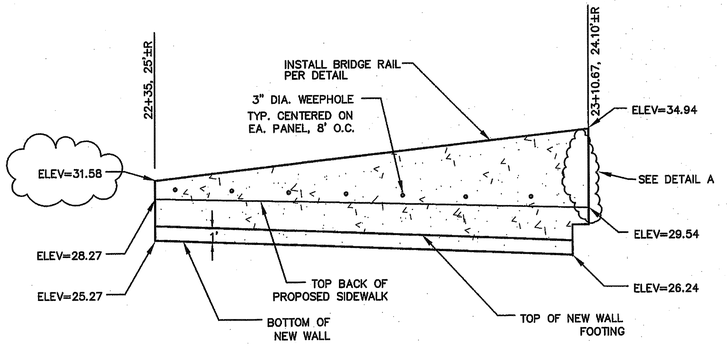
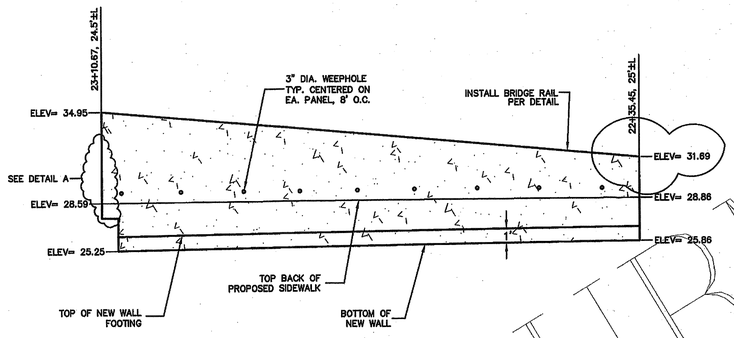


RETAINING WALL STA 22+35 TO 23+19 RIGHT

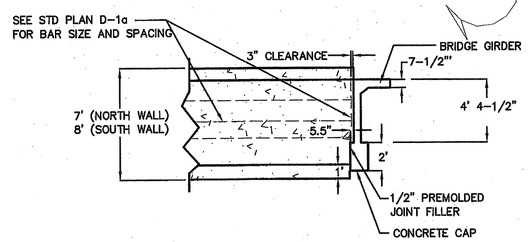
1"=10' H, 1"=5' V (LOOKING NORTH)

REVISION 8



RETAINING WALL STA 22+35.45 TO 23+10.67 LEFT

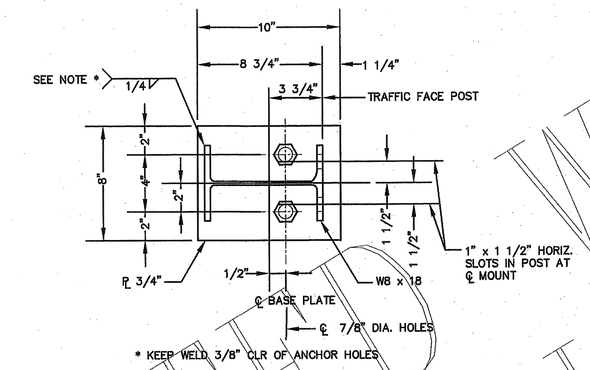
1"=10' H, 1"=5' V (LOOKING SOUTH)



WALL @ STA 22+50 TO 23+00 RIGHT (NORTH)
WALL @ STA 22+35.45 TO 23+00 LEFT (SOUTH)

1"=10' H, 1"=5' V

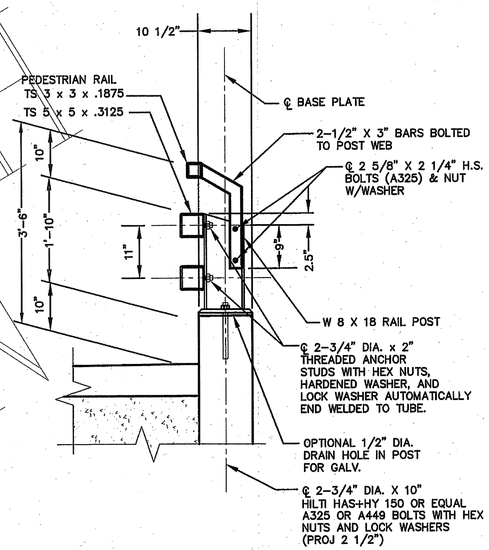
DETAIL A



* KEEP WELD 3/8" CLR OF ANCHOR HOLES

RETAINING WALL AT BRIDGE APPROACH
PLAN VIEW POST DETAIL

NTS



RETAINING WALL AT BRIDGE APPROACH
SECTION VIEW RAIL

NTS

DETAIL D

REBAR MODIFICATIONS FOR RETAINING WALL BETWEEN STA 22+35.45 TO STA 23+00 LEFT

DIMENSIONS (ft)				FOOTING REINFORCEMENT SEE WSDOT STD PLAN D-1a FOR ADDITIONAL REINFORCING									STEM REINFORCEMENT
				Bar E		Bar F			Bar K				Bar G (size #4)
H (ft)	B	C_v	D		h	SIZE	SPAC.	LENGTH	SIZE	SPAC.	LENGTH	h	b	LENGTH
5	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	7' 8"	4' 7"	3' 6"	3' 10"
6	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	8' 8"	5' 7"	3' 6"	4' 10"
7	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	9' 7"	6' 7"	3' 6"	5' 10"
8	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	10' 8"	7' 7"	3' 6"	6' 10"

REBAR MODIFICATIONS FOR RETAINING WALL BETWEEN STA 22+50 TO STA 23+00 RIGHT

DIMENSIONS (ft)				FOOTING REINFORCEMENT SEE WSDOT STD PLAN D-1a FOR ADDITIONAL REINFORCING									STEM REINFORCEMENT
				Bar E		Bar F			Bar K				Bar G (size #4)
H (ft)	B	C_v	D		h	SIZE	SPAC.	LENGTH	SIZE	SPAC.	LENGTH	h	b	LENGTH
4	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	6' 7"	3' 7"	3' 6"	2' 10"
5	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	7' 8"	4' 7"	3' 6"	3' 10"
6	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	8' 8"	5' 7"	3' 6"	4' 10"
7	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	9' 7"	6' 7"	3' 6"	5' 10"

LOUIS PONCE — STATE OF WASHINGTON — 18378 — REGISTERED PROFESSIONAL ENGINEER — 04/08 — EXPIRES 03-03-09

SUBMITTED WITH DESIGN PLANS

00378.025 S-4.09 KR

DESIGNED BY LP DRAWN BY LMC CHECKED BY LP	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

MAIN STREET IMPROVEMENTS
RETAINING WALL DETAILS
FERNDALE, WASHINGTON

JOB# / DWG 00006 WALL
DATE 3-24-03
SCALE H:n/a V:n/a
SHEET 25 of 30

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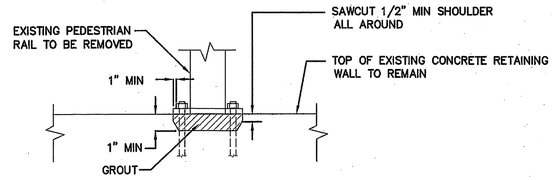
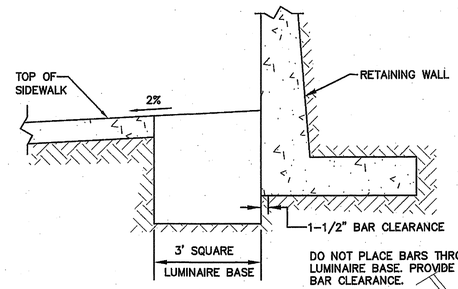


NOTES:
1. CHIP AND REMOVE CONCRETE AND PEDESTRIAN RAIL AS SHOWN.
2. ROUGHEN EXPOSED CONCRETE.

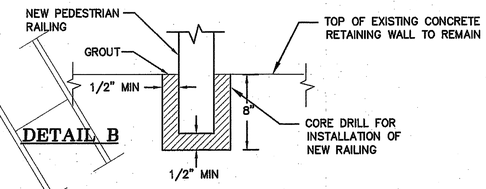
REMOVAL AND REPAIR OF EXISTING PEDESTRIAN RAIL DETAIL

NTS



DETAIL F

NTS

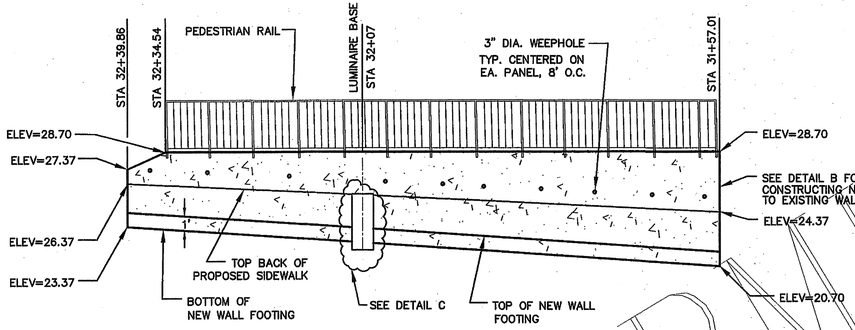


DETAIL B

INSTALLATION OF NEW RAIL TO EXISTING RETAINING WALL DETAIL

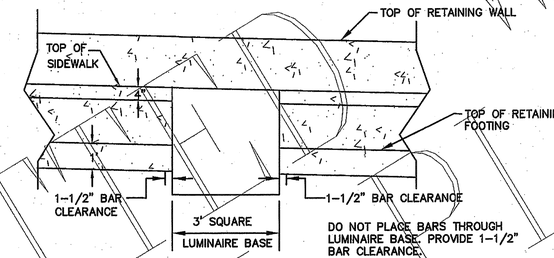
NTS

DETAIL B



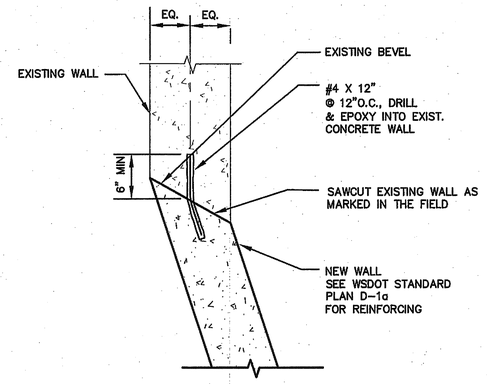
RETAINING WALL STA 31+57.01 TO 32+39.86 RIGHT

1"=10' H, 1"=5' V (LOOKING SOUTH)



RETAINING WALL FOOTING MODIFICATION DETAILS

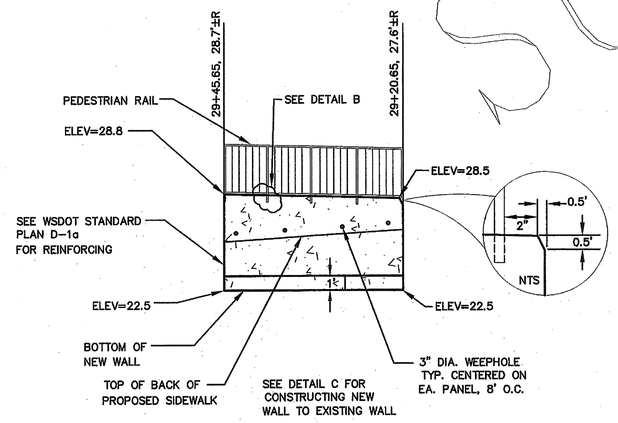
NTS



STA 29+45.65 RIGHT NEW WALL TO EXISTING WALL DETAIL

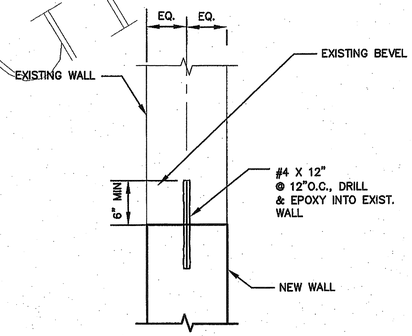
NTS

DETAIL C



STA 29+20 TO 29+50 RIGHT ELEVATION LOOKING SOUTH

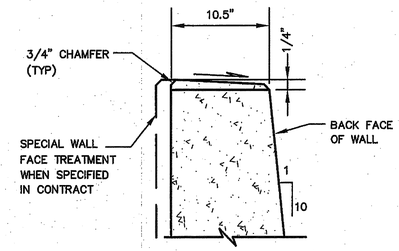
1"=10' H, 1"=5' V



NEW WALL TO EXISTING WALL DETAIL

NTS

DETAIL E



WALL TOP DETAIL

NTS

REBAR MODIFICATIONS FOR RETAINING WALL BETWEEN STA 31+57.01 TO STA 32+39.86 RIGHT

DIMENSIONS (ft)				FOOTING REINFORCEMENT SEE WSDOT STD PLAN D-1a FOR ADDITIONAL REINFORCING										STEM REINFORCEMENT
				Bar E		Bar F			Bar K					Bar G (size #4)
H (ft)	B	C_v	D		h	SIZE	SPAC.	LENGTH	SIZE	SPAC.	LENGTH	h	b	LENGTH
5	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	7' 8"	4' 7"	3' 6"	3' 10"
6	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	8' 8"	5' 7"	3' 6"	4' 10"
7	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	9' 7"	6' 7"	3' 6"	5' 10"
8	5' 9"	2' 3"	1'	3' 4"	2' 9"	#4	9"	3' 4"	#5	9"	10' 8"	7' 7"	3' 6"	6' 10"

LUIS PONCE — STATE OF WASHINGTON — 19878 — REGISTERED PROFESSIONAL ENGINEER — 7/11/08 — EXPIRES 03-03-09

SUBMITTAL DESIGN

DESIGNED BY LP / DRAWN BY LMC / CHECKED BY LP	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (380) 354-3687 Fax (380) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET IMPROVEMENTS RETAINING WALL DETAILS FERNDALE, WASHINGTON

JOB# / DWG		DATE
00006	WALL	3-24-03
SCALE		SHEET
H: n/a	V: n/a	26 of 30

00006 WALL 3-24-03

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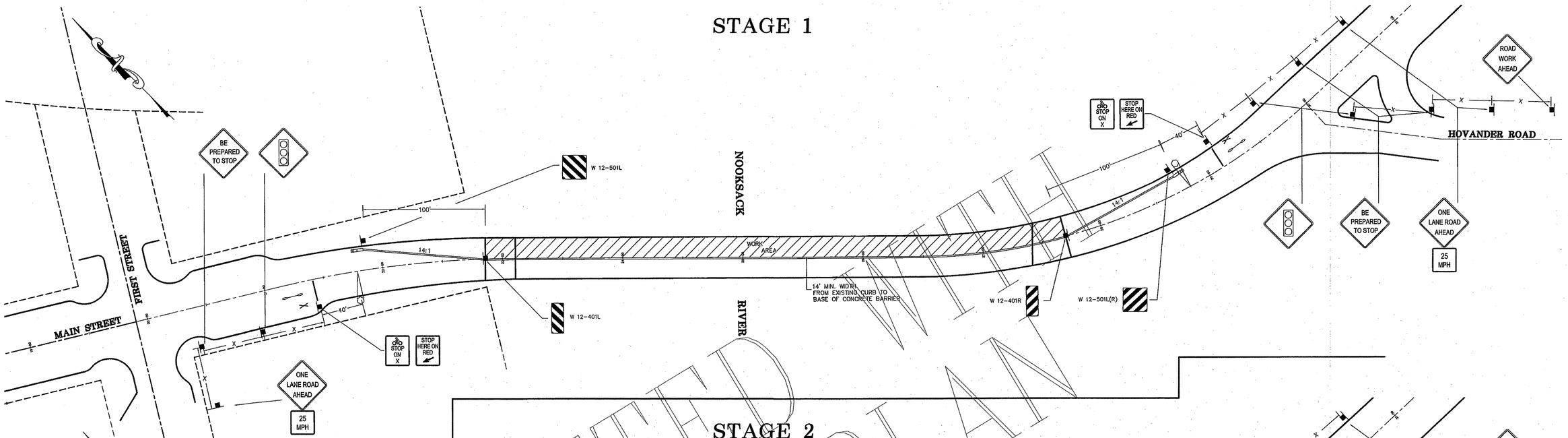
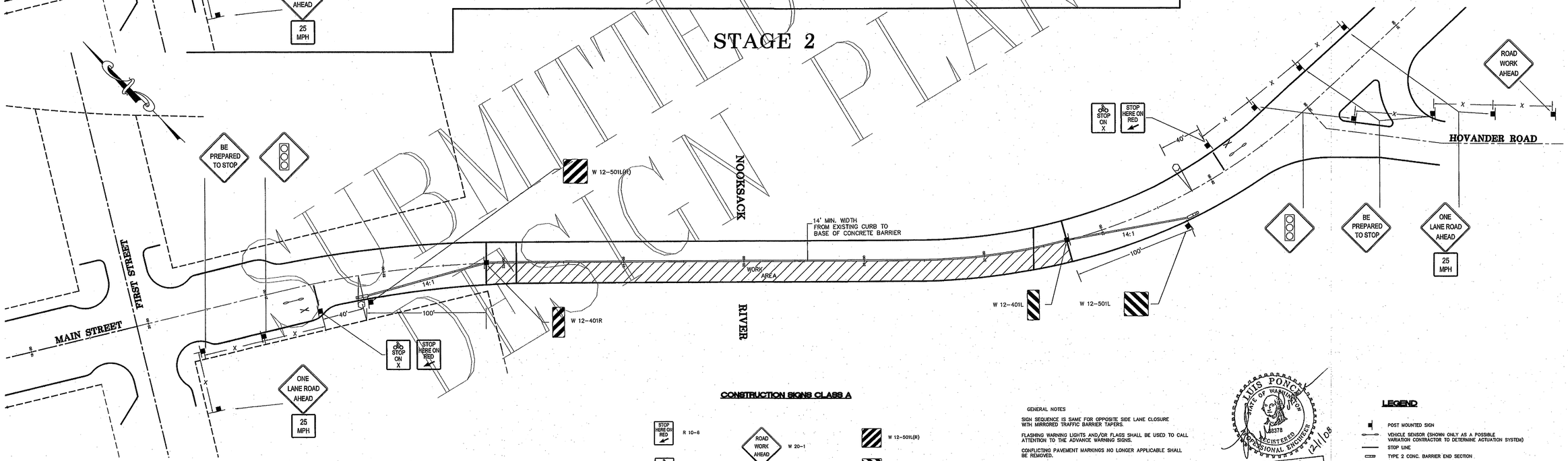
STAGE 1



STAGE 2



SUBMITTED FOR PLAN REVIEW

CONSTRUCTION SIGNS CLASS A

- STOP HERE ON RED — R 10-6
- STOP ON X — R 9
- 25 MPH — W 13-1
- ONE LANE ROAD AHEAD — W 20-4
- ROAD WORK AHEAD — W 20-1
- BE PREPARED TO STOP — W 20-7B
- W 3-3
- W 12-501L(R)
- W 12-501L
- W 12-401R
- W 12-401L

GENERAL NOTES

SIGN SEQUENCE IS SAME FOR OPPOSITE SIDE LANE CLOSURE WITH MIRRORED TRAFFIC BARRIER TAPERS.

FLASHING WARNING LIGHTS AND/OR FLAGS SHALL BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.

CONFLICTING PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED.

REFLECTIVE DELINEATION DEVICES ARE USED ON BYPASS WHERE NEEDED.

STEADY BURNING WARNING LIGHTS (TYPE C, MUTCD) SHALL BE USED AT NIGHT (DOES NOT APPLY TO TUBULAR MARKERS).

ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.

ALL DIMENSIONS IN FEET UNLESS OTHERWISE DESIGNATED.

ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH PART IV OF THE MUTCD.

SIGNING SHOWN IS THE MINIMUM REQUIRED, ADDITIONAL SIGNS MAY BE REQUIRED TO MEET FIELD CONDITIONS.

REFLECTIVE SHEETING SHALL BE TYPE II RETROREFLECTIVE ASSEMBLIES SHALL BE TYPE II.

LUIS PONCE — STATE OF WASHINGTON — 18378 — REGISTERED PROFESSIONAL ENGINEER — 12/1/08
EXPIRES 03-03-09

LEGEND

- POST MOUNTED SIGN
- VEHICLE SENSOR (SHOWN ONLY AS A POSSIBLE VARIATION CONTRACTOR TO DETERMINE ACTUATION SYSTEM)
- STOP LINE
- TYPE 2 CONC. BARRIER END SECTION
- TRAFFIC CONTROL SIGNAL & ILLUMINATION
- TEMP. TRAFFIC BARRIER
- BICYCLE STOP MARK

SIGN SPACING

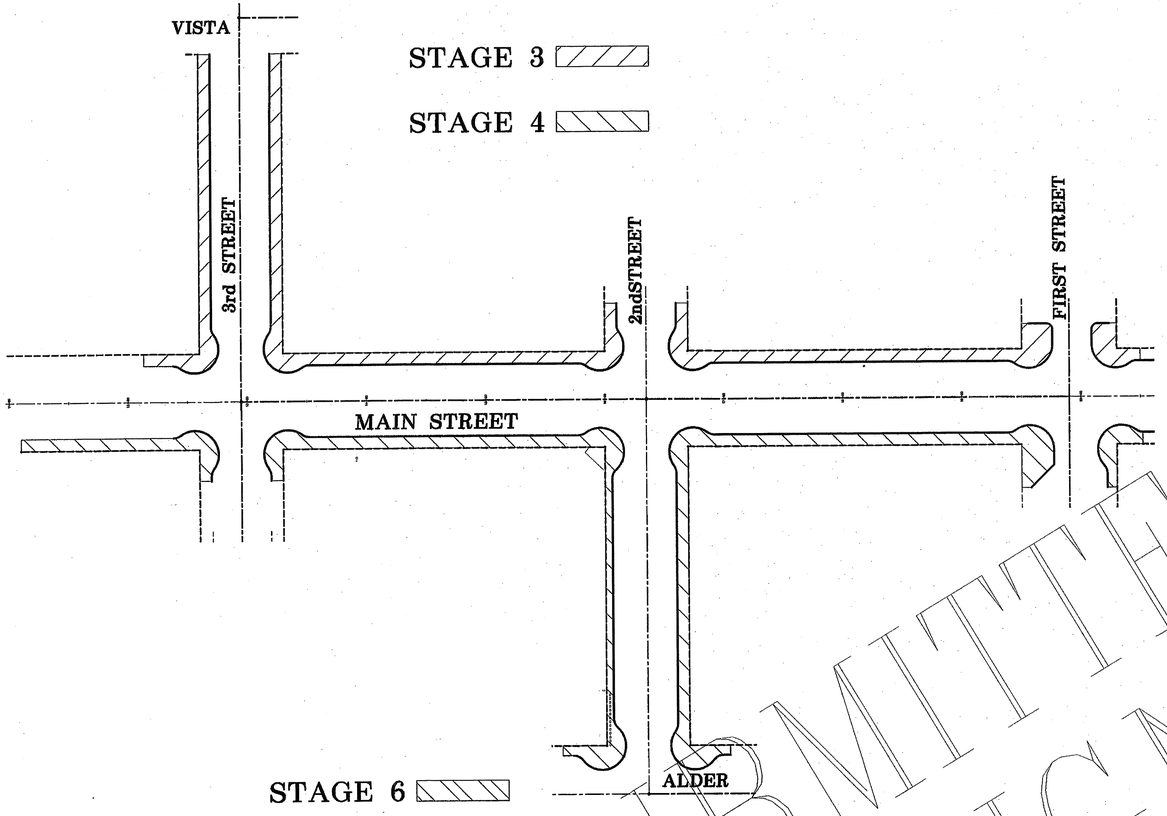
		X
URBAN STREETS RESIDENTIAL & BUSINESS DISTRICTS	25-30 MPH	100'±

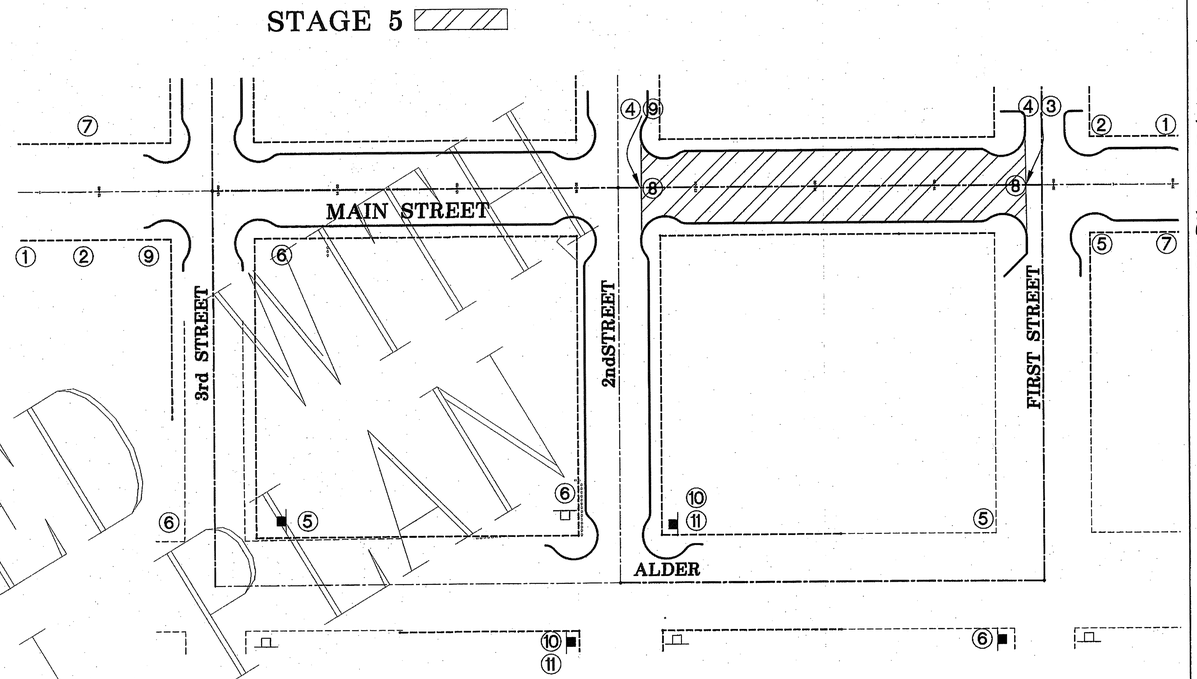
DESIGNED BY LP DRAWN BY JBF CHECKED BY	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

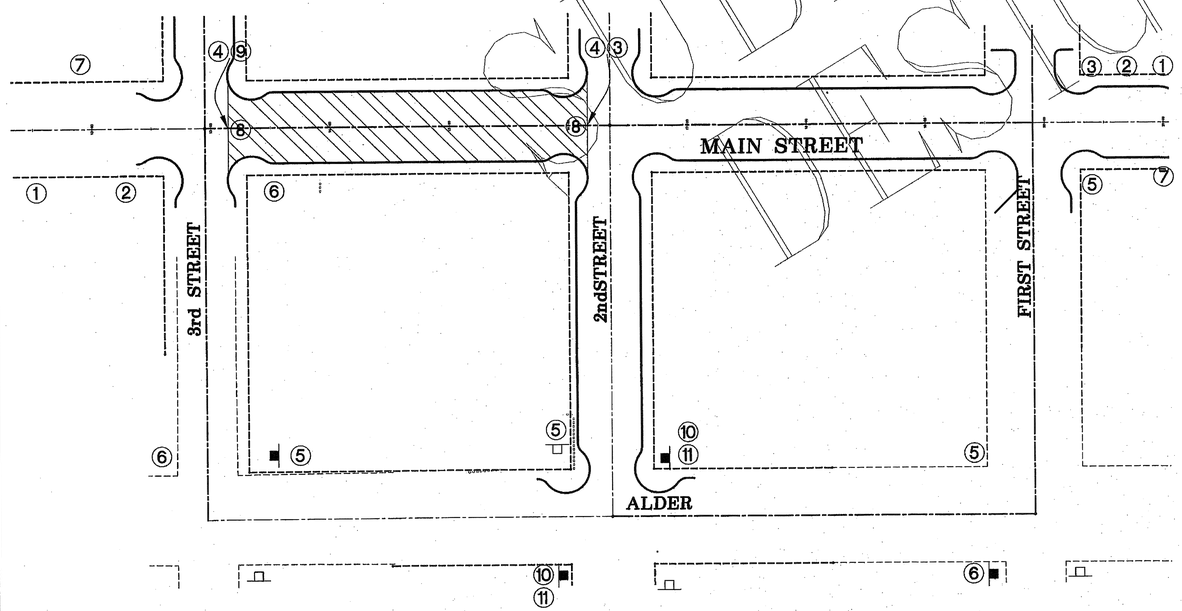
Main St. Improvement Project TRAFFIC CONTROL PLAN BRIDGE DECK	JOB# / DWG 00006 006traffic SCALE H:1"=50' V: n/a	DATE 3-25-03 SHEET 27 of 30

00378.027 5.4.09 KR

jtc:\00006\dwg\006traffic_control.dwg, TC BRIDGE, 6/2/2008 11:38:46 AM







NTS

LEGEND

* SIGNS TO BE INSTALLED ON SAME POST.

①	STREET CLOSED AHEAD	W 20-3	⑥	DETOUR MAIN ST — M 4-9 L* ± 100' FROM INTERSECTION; D 3-101 *
②	DETOUR AHEAD	W 20-2	⑦	END DETOUR — M 4-8 A
③	DETOUR	M 4-10 L	⑧	TYPE III BARRICADE (10' WIDE) WITH 2 TYPE A FLASHING WARNING LIGHTS– INSTALL ONE BARRICADE IN EACH LANE OF MAIN STREET.
④	ROAD CLOSED	R 11-2	⑨	DETOUR — M 4-10 R
⑤	DETOUR MAIN ST	M 4-9 R* ± 100' FROM INTERSECTION; D 3-101 *	⑩	M 6-3 *
			⑪	DETOUR — M 4-8 *

■ EXISTING STOP SIGN TO BE RELOCATED

⊓ RELOCATED STOP SIGN

LOUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 2/11/08

EXPIRES 03-03-09

SUBMITTED FOR DESIGN REVIEW

DESIGNED BY LP DRAWN BY JBF CHECKED BY	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	Main St. Improvement Project TRAFFIC CONTROL STREET CLOSURE	JOB# / DWG 00006 006TRAFFIC SCALE H:1"=40' V:n/a	DATE 3-25-03 SHEET 28 of 30

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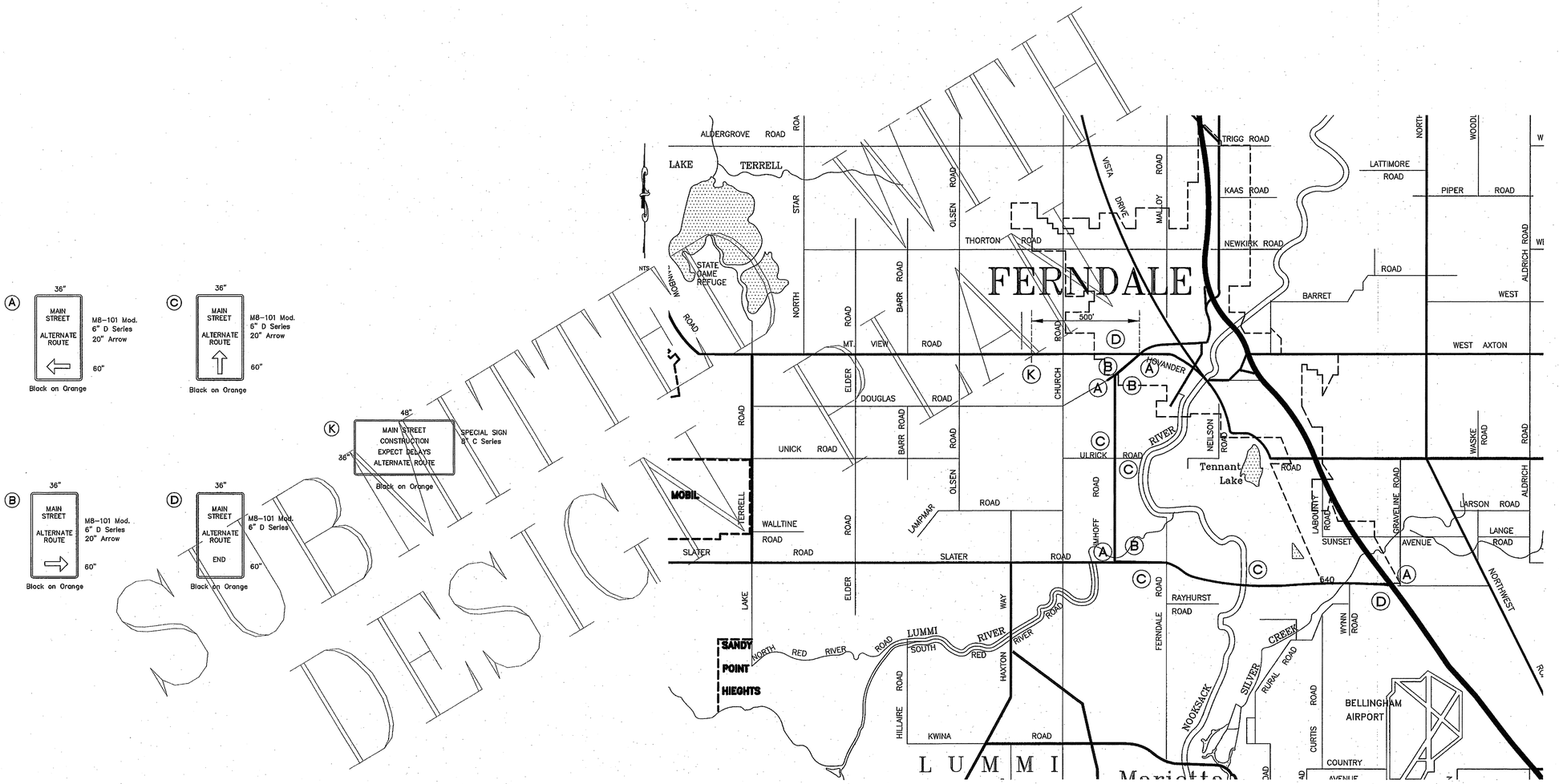

LUIS POMPA
STATE OF WASHINGTON
18579
REGISTERED PROFESSIONAL ENGINEER
12/11/08
EXPIRES 03-03-09

DESIGNED BY LP DRAWN BY JBF CHECKED BY LP	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	Main St. Improvement Project ALTERNATE ROUTE

JOB# / DWG		DATE
00006	ROUTE.dwg	3/24/03
SCALE		SHEET
H:NTS	V:n/a	29 of 30

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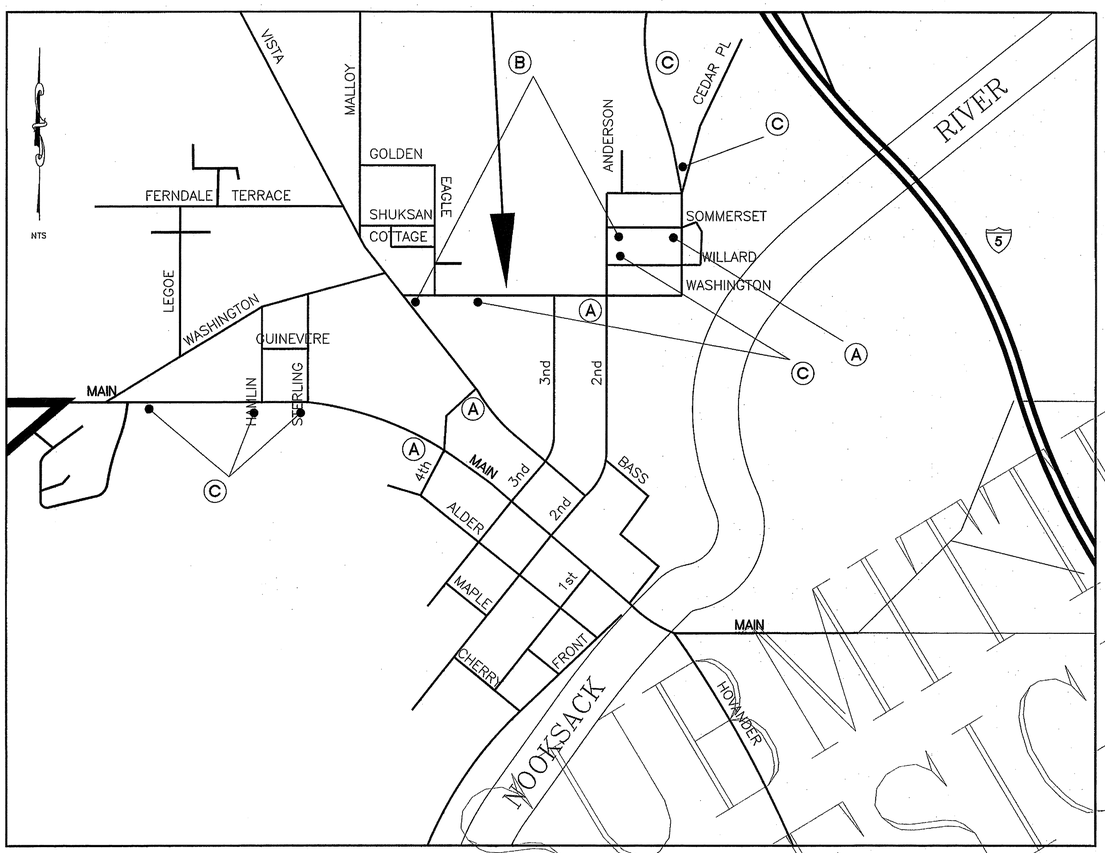
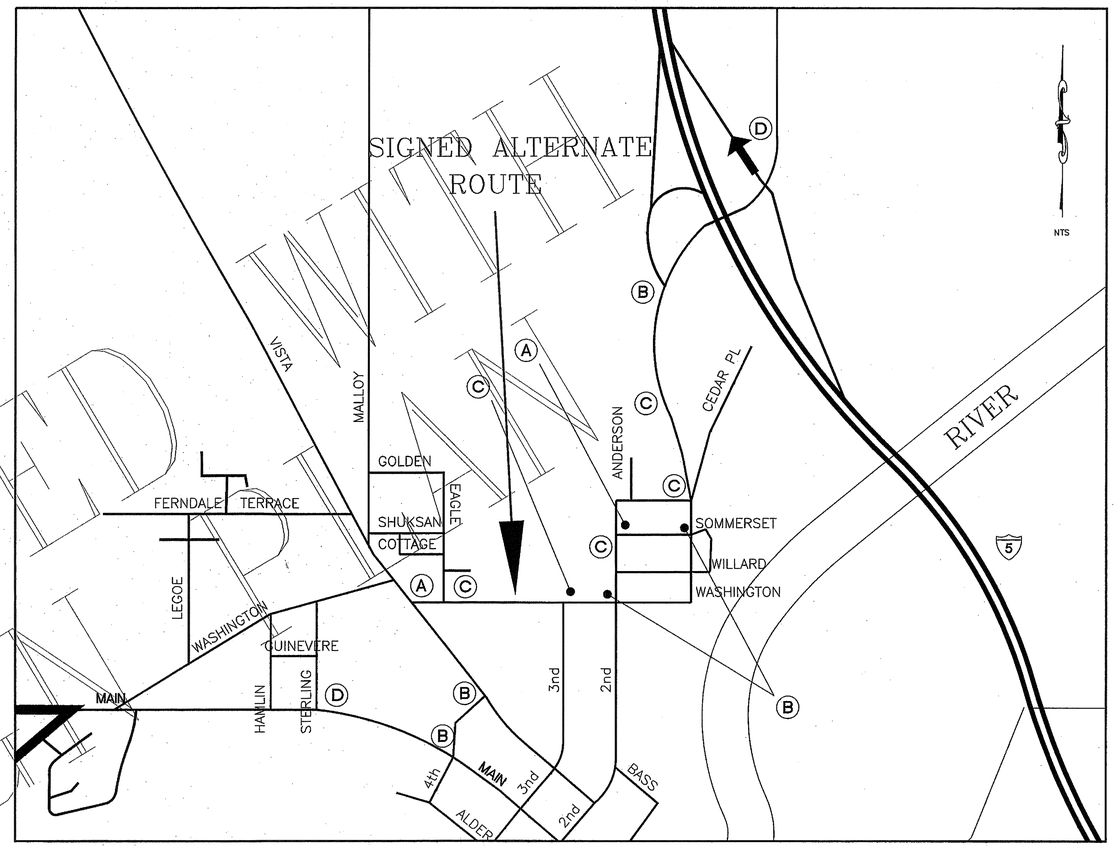




UNSIGNED
SUBMITTED
DESIGN

Ⓐ 36" — MAIN STREET / ALTERNATE ROUTE — 60" — M8-101 Mod. 6" D Series 20" Arrow — Black on Orange

Ⓑ 36" — MAIN STREET / ALTERNATE ROUTE — 60" — M8-101 Mod. 6" D Series 20" Arrow — Black on Orange

Ⓒ 36" — MAIN STREET / ALTERNATE ROUTE — 60" — M8-101 Mod. 6" D Series 20" Arrow — Black on Orange

Ⓓ 36" — MAIN STREET / ALTERNATE ROUTE / END — 60" — M8-101 Mod. 6" D Series — Black on Orange

LUIS PONCE — STATE OF WASHINGTON — 16578 — REGISTERED PROFESSIONAL ENGINEER — 12/11/08

EXPIRES 03-03-09

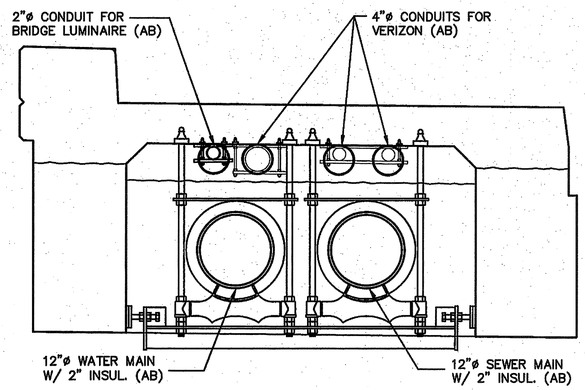
DESIGNED BY LP / DRAWN BY JBF / CHECKED BY LP	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS — PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 — Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

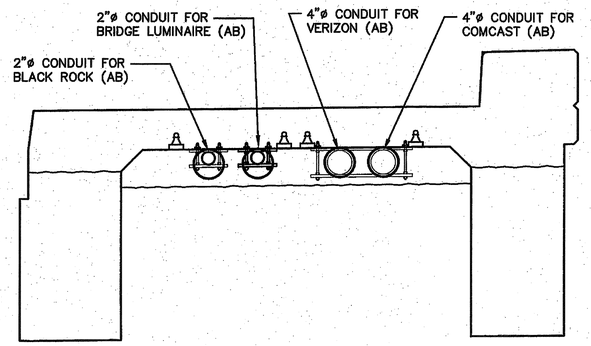
Main St. Improvement Project
ALTERNATE ROUTE

JOB# / DWG		DATE
00006	ROUTE.dwg	3/24/03
SCALE		SHEET
H:NTS	V:n/a	30 of 30

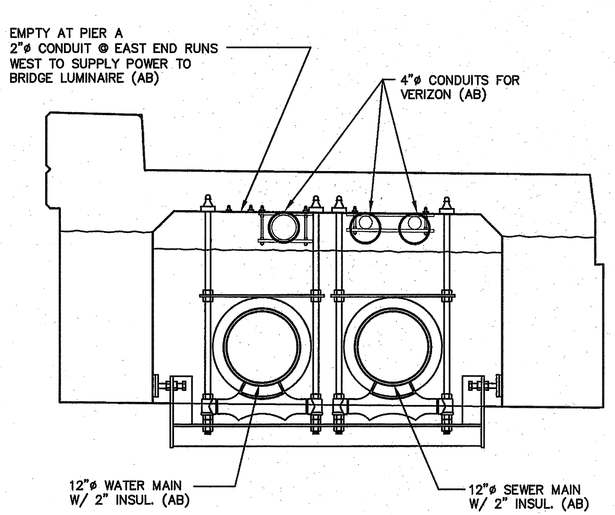
Jobs\00006\dwg\ROUTE.dwg, Layout2, 6/2/2008 11:42:39 AM

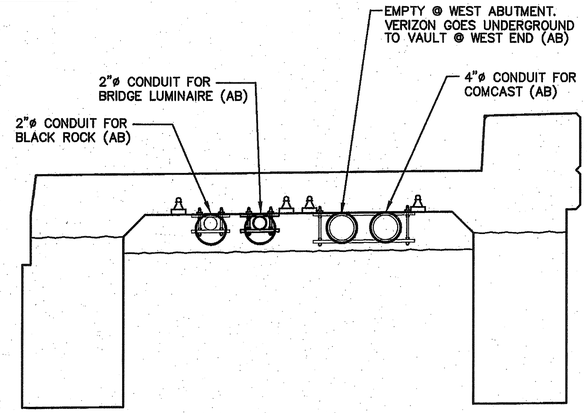
COST 60.4.S 1801700





EAST SIDE OF BRIDGE





WEST SIDE OF BRIDGE

DATE: 12-5-06

AS-BUILT

DESIGNED BY DRAWN BY CHECKED BY	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	MAIN STREET BRIDGE STREET IMPROVEMENTS BRIDGE AS-BUILTS	JOB# / DWG 00006 UTIL.1.AB SCALE H: n/a V: n/a DATE 12-5-06 SHEET of

GENERAL NOTES

PRE-CONSTRUCTION

REVIEW PERMITTING REQUIREMENTS IN APPLICABLE COUNTY.

PRIOR TO CONSTRUCTION NOTIFY APPROPRIATE CITY, COUNTY, OR D.O.T. AUTHORITIES
48 TO 72 HOURS IN ADVANCE AS REQUIRED BY PERMITTING AGENCY.
*COPIES OF ALL REQUIRED PERMITS SHALL BE ON SITE AT ALL TIMES.

ALL SYSTEM SWITCHING SHALL BE APPROVED BY SYSTEM OPERATIONS
A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION.

NOTIFY AFFECTED CUSTOMERS OF ALL OUTAGES 48 HOURS IN ADVANCE.

*ALL WORK IS TO BE COMPLETED PER PSE STANDARDS &
WORK PRACTICES.

*COPIES OF ALL PSE STANDARDS ARE AVAILABLE UPON REQUEST.

WORK SITES SHALL BE KEPT CLEAR OF DEBRIS.

ALL CONSTRUCTION MATERIALS, EQUIPMENT, AND PACKING SHALL
BE REMOVED DAILY.

RETURN ALL UNUSED AND REMOVED POLES, TRANSFORMERS
AND HARDWARE TO PSE STOREROOM.

ALL COPPER SHALL BE COILED AND RETURNED THE DAY IT IS
REMOVED FROM THE POLES.

REMOVE ALL PINS AND INSULATIORS FROM RETIRED POLES.

REFER TO EROSION CONTROL STANDARD 0150.3200

WORK DRAWINGS & DOCUMENTS

ALL FIELD DESIGN CHANGES SHALL BE APPROVED BY PSE PROJECT MANAGER OR ENGINEER.
ALL FIELD CHANGES MUST HAVE APPROVED CHANGE ORDER PRIOR TO COMMENCEMENT OF
WORK TO BE PERFORMED.
COPIES OF REQUIRED PERMITS SHALL BE ON SITE AT ALL TIMES.

MARK ALL FIELD CHANGES IN RED INK ON FOREMANS COPY
[ESPECIALLY CABLE PHASING CHANGES/ADDITIONS]

FOREMAN TO RECORD ALL ACTUAL CABLE LENGTHS IN RED INK.

RECORD ALL TRANSFORMER ID NUMBERS ON FOREMANS COPY, BOTH NEW AND EXISITNG.
IF TRF ID NUMBER IS NOT AVAILABE RECORD SERIAL NUMBER.

UPON COMPLETION OF CONSTRUCTON RETURN THE FOREMANS COPY TO THE PSE PROJECT MANAGER.

SAFETY

ALL PSE, FEDERAL, STATE, AND COUNTY REGULATIONS SHALL BE ADHERED TO

PSE STANDARD	STANDARD NUMBER	LOCATION
SYSTEM GROUNDING	6275.3000 & 6275.6000	T & D LINE WORK PRACTICES MANUAL
PERSONAL PROTECTION	6275.9050	T & D LINE WORK PRACTICES MANUAL
VEHICLE PROTECTION	6275.9150	T & D LINE WORK PRACTICES MANUAL
SWITCHING	0201.1011	CONTACT SYSTEM OPERATER & STANDARDS DEPT

PROVIDE SIGN, BARRICADES, AND TRAFFIC CONTROL IN
CONFORMANCE WITH PERMIT REGULATIONS.

UTILIZE FLAGGING AND OTHER VEHICLE TRAFFIC CONTROL AS
NECESSARY AND IN CONFORMANCE WITH LOCAL TRAFFIC REGULATIONS.

MAINTAIN TRAFFIC CONTROL AS REQUIRED BY PERMITTING AGENCY.

JOINT FACILITIES

CONTRACTORS SHALL COORDINATE WITH JOINT FACILITIES FOR EQUIPTMENT TRANSFERS.

CONSTRUCTION CREW SHALL COORDINATE JOINT FACILITY TRANSFERS DURING CONSTRUCTION..

PSE CONSTRUCTION SYMBOLS

PLANT ITEM	EXISTING	NEW	REMOVE
POLES	○	●	X
OVERHEAD CONDUCTOR	— – – – ⫻	– – – – – – –	
UNDERGROUND CABLE	— – – – ⫻	– – – – – – –	
VAULTS	□ □ J J ⬡	△ ▣ J J ⬡	

GENERAL NOTES CONTINUED

OH CONSTRUCTION

POLES & STRUCTURES

POLES ARE TO BE INSTALLED OR RELOCATED AS STAKED OR AS INDICATED ON SKETCH.
ALL POLE LOCATION MEASUREMENTS ARE FROM FACE OF POLE.
STRAIGHTEN EXISTING POLES AS NECESSARY.
TREAT FIELD DRILLED POLES WITH COPPER NAPTHENATE.
REMOVE RETIRED POLES AFTER JOINT FACILILTIES HAVE REMOVED THEIR EQUIPTMENT.
RETURN RETIRED POLES TO PSE STOREROOM.
FILL POLE HOLES & PROVIDE LANDSCAPE RESTORATION

CONDUCTORS & EQUIPMENT

INSTALL, TRANSFER, OR REMOVE EQUIPTMENT PER PSE STANDARDS.

TRANSFER TRANSFORMERS TO NEW POLE LOCATIONS UNLESS OTHERWISE
INDICATED ON SKETCH.

USE STIRRUPS TO CONNECT OVERHEAD AND UNDERGROUND PRIMARY TAPS AND
USE STIRRUPS ON TRANSFORMERS WITH A KVA GREATER THAN 25.

USE 397AAC AND AMPACT CONNECTORS FOR ALL FEEDER JUMPER AND
600 AMP SWITCH JUMPERS.

APPLY GRIT INHIBITOR ON ALL AMPACT, STIRRUP, AND DEADEND CONNECTIONS.

ALL NEUTRAL CONNECTIONS TO BE MADE WITH SOLID COMPRESSION CONNECTORS.

CONNECT ALL POLE GROUNDS TO COMMON NEUTRAL.

USE LOAD INTERRUPTOR CUTOUTS WITH ARC SHIELDS ON ALL PRIMARY TAPS WITH
FUSED PROTECTION ABOVE 40T.

INSTALL WILDLIFE PROTECTORS ON ALL TRANSFORMERS.

UG CONSTRUCTION

TRENCHING

ALL TRENCH EXCAVATION, BACKFILL, RESTORATION AND FACILITY PLACEMENT
SHALL BE COMPLETED IN ACCORDANCE WITH ALL
LOCAL GOVERNMENT REQUIREMENTS AND PUGET SOUND ENERGY SPECIFICATIONS.

REFER TO STANDARD 6790 IN THE PSE DISTRIBUTION DESIGN MANUAL FOR
PSE TRENCHING REQUIREMENTS.

REFER TO EROSION CONTROL STANDARD 0150.3200

CONDUCTORS & CONDUIT

PRIMARY CONDUCTORS SHALL BE BURIED NO LESS THAN 36 INCHES DEEP
AND NO MORE THAN 48 INCHES DEEP.
EXCEPTIONS ARE NOTED IN STANDARD 6800.4050.

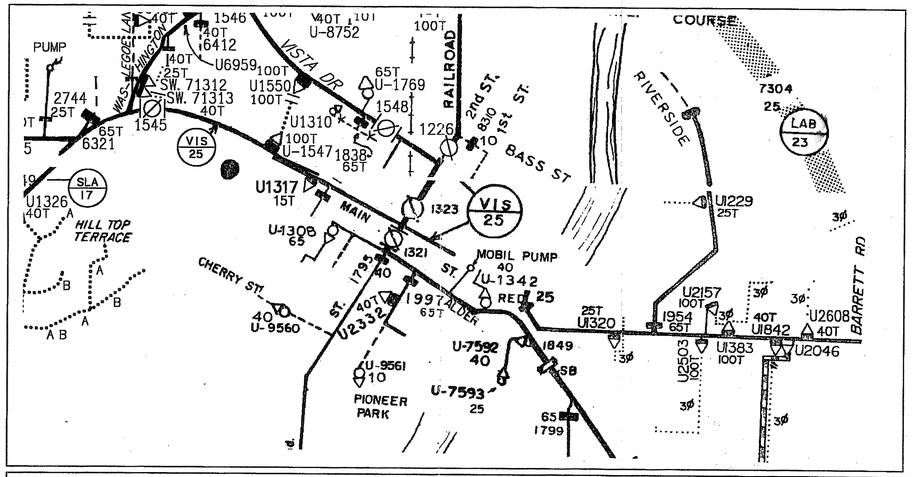
CONDUIT RISERS TO BE PLUMBED TO ROADCROSSINGS UNLESS
OTHERWISE NOTED.

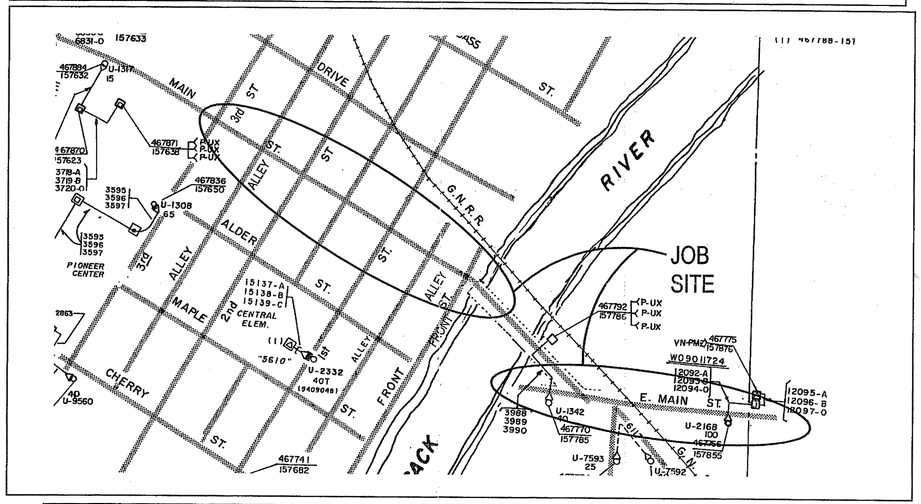
SPARE CONDUITS SHALL BE CAPPED AT BOTH ENDS.

SCHEDULE 80 CONDUIT REQUIRED FOR ROAD CROSSINGS.

ALL PRIMARY CABLES SHALL BE NUMBERED.

ALL UNUSED PRIMARY BUSHINGS WILL HAVE DUST CAPS INSTALLED.





SCOPE OF WORK

Convert existing PSE owned overhead distribution system along Main St, beginning at Sta 11+00 and continuing east to Sta 45+00, approximately 3400 feet.
The Town Of Ferndale is responsible for all trenching and restoration.
PSE will provide all material and installation and termination of conductor.

PROJECT INDEX

1. COVER SHEET
2. VAULT DETAILS
3. POLE RETIREMENTS & ST. LIGHTS, CONDUCTOR NOTES
4. PLAN VIEW STA 11+00 - 24+00
5. PLAN VIEW STA 27+00 - 45+00
6. PLAN VIEW STA 11+00 - 15+00
7. PLAN VIEW STA 15+00 - 19+00
8. PLAN VIEW STA 19+00 - 24+00
9. PLAN VIEW STA 27+00 - 32+00
10. PLAN VIEW STA 32+00 - 37+00
11. PLAN VIEW STA 37+00 - 42+00
12. PLAN VIEW STA 42+00 - 45+00

PRELIMINARY

N

PRELIMINARY

REVISED DATE : 3/21/03

GENERAL NOTES:

- ☒ YES ☐ NO FLAGGING REQ'D
- ☐ YES ☒ NO LOCATES REQ'D
- ☐ YES ☒ NO PSE BACKHOE & FILL REQ'D
- ☐ YES ☒ NO PERMIT REQ'D # _____
- ☐ YES ☒ NO NOTIFY CITY, COUNTY OR STATE 24 HRS PRIOR TO CONSTRUCTION
- ☒ YES ☐ NO SCHEDULE OUTAGE 48 HRS IN ADVANCE
- ☐ YES ☒ NO CUSTOMER PAYMENT REQ'D
- ☒ YES ☐ NO TRENCHING ☐ PSE ☒ CUSTOMER

CREW SIZE 3 CREW HOURS 200

CONTACT PERSON Bob Kutzer

PHONE # 360-661-3299

FOREMAN (Check Box if Complete)

- PSE equipment Locked/Secured & work area left in Clean/Safe condition ☐
- Grid,Cable and Switch numbers Installed & Verified ☐
- Field changes Red-Lined on as built ☐
- Material verified and Changes noted on paperwork ☐
- Total Primary cable noted on as-built ☐
- Company ID #'s Recorded in correct location on as-built ☐
- Indicate correct Fuse-Size on as-built & verify proper Phase ☐

Foreman's Signature _____
Company _____ Employee ID# _____

CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

SUPERIOR : 101011545			REAL ESTATE/EASEMENT		PERMIT
EXIST UG TRANSFERRING: 594016400			N/A		N/A
TRANSFERRING CONDUCTORS: 593025438			FUNCTION	CONTACT	PHONE NO / DATE / REV
TRANSFER/REARRANGE: 583007597			PROJECT MGR	C.ROETHLE	(360)661-1799 / 10-14-02 / 3/21/03
REMOVAL: 106011730			ENGR - POWER	B.KUTZER	(360)661-3299 / 10-14-02 / 3/21/03
ST LIGHTS: 105021372			ENGR - GAS		
COUNTY WHATCOM	Emer Sect	Gas Wk Ctr	POWER WK CTR QWHME	DRAWN BY	(360)707-7535 / 10-14-02 / 3/21/03
1/4 SEC	OP MAP		PLAT MAP	CHECKED BY	3/21/03
U-MAP NO (PO/VER) 3902E114 & 3902E116	CIR MAP NO 3902E128 & 3902E080		CIRCUIT NO VIS-25	APPROVED BY	3/21/03
				FOREMAN #1	
				FOREMAN #2	
				MAPPING	

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
COVER SHEET
OH TO UG CONVERSION

INCIDENT | MAOP

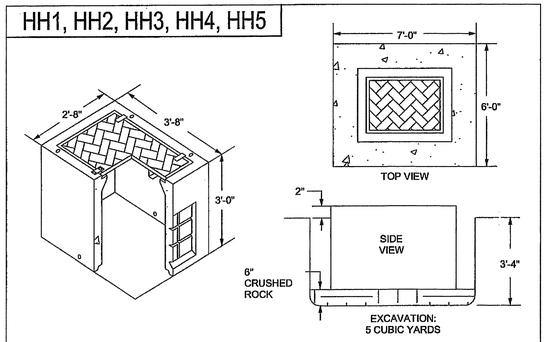
W.O. # 101011545

SCALE: NTS | PAGE 1 of 14

00378.082 S-4.09 KR

USER @TIME Plotted: DATE

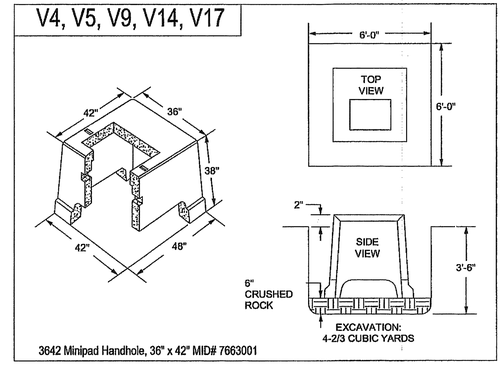
HH1, HH2, HH3, HH4, HH5



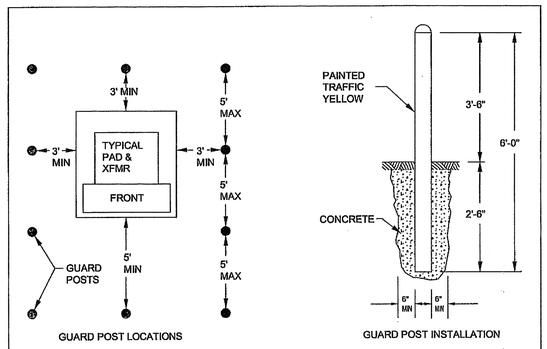
HAND HOLE TO BE SET TO NEW SIDEWALK GRADE

233 Commercial Secondary Handhole MID# 7664910

V4, V5, V9, V14, V17

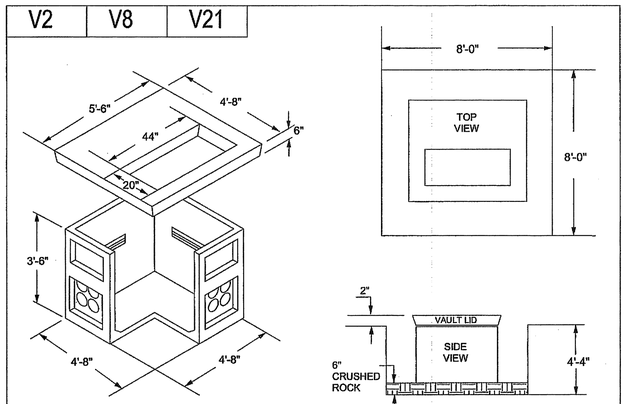


3642 Minipad Handhole, 36" x 42" MID# 7663001

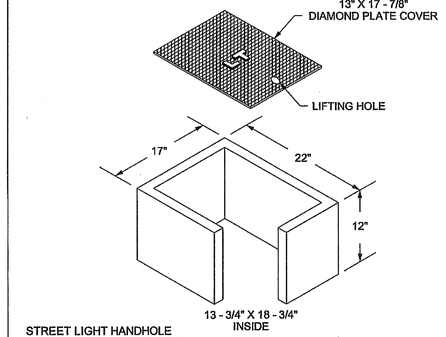


GUARD POST INSTALLATION
NOT TO SCALE

V2 | V8 | V21



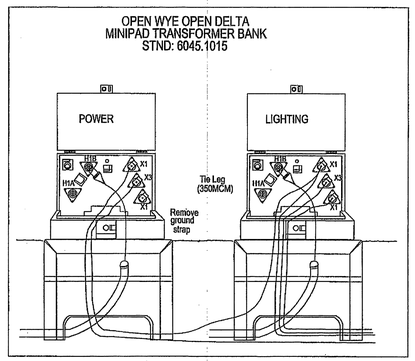
WADOT J11 STREET LIGHT HANDHOLE



STREET LIGHT HANDHOLE
TO BE INSTALLED AS NOTED
ON SKETCH SCHH1 THRIOUGH SLHH38

9995732

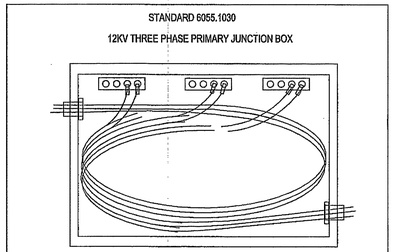
OPEN WYE OPEN DELTA
MINIPAD TRANSFORMER BANK
STND: 6045.1015



DELTA BANK DETAIL

STANDARD 6055.1030

12KV THREE PHASE PRIMARY JUNCTION BOX



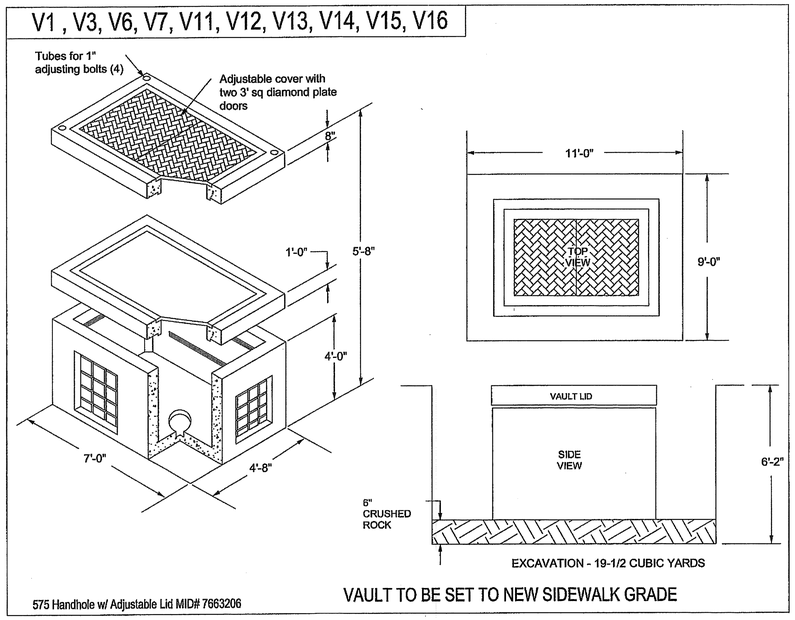
*CABLES SHOULD ENTER VAULT SO THAT ALL OF THE CABLES WILL LAY IN THE SAME DIRECTION

CABLE IN VAULT

PRELIMINARY

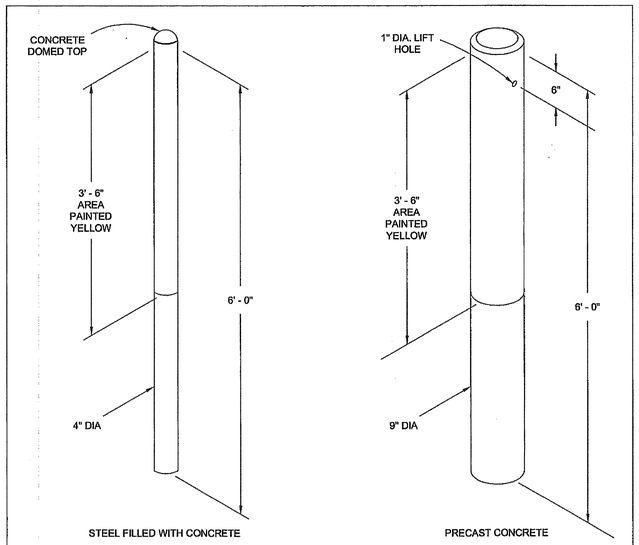
REVISED DATE: 3/21/03

V1 , V3, V6, V7, V11, V12, V13, V14, V15, V16



575 Handhole w/ Adjustable Lid MID# 7663206

VAULT TO BE SET TO NEW SIDEWALK GRADE



APPROVED GUARD POSTS
NOT TO SCALE

CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH IS NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

SUPERIOR : 101011545				REAL ESTATE/EASEMENT	PERMIT	
EXIST UG TRANSFERRING: 594016400				N/A	N/A	
TRANSFERRING CONDUCTORS: 593025438				FUNCTION / CONTACT / PHONE NO / DATE / REV		
TRANSFER/REARRANGE: 593007597				PROJECT MGR: C.ROETHLE (360)661-1799 10-14-02 3/21/03		
REMOVAL: 108011730				ENGR - POWER: B.KUTZER (360)661-3299 10-14-02 3/21/03		
ST LIGHTS: 105021372				ENGR - GAS:		
COUNTY: WHATCOM	Emer Sect	Gas Wk Ctr	POWER WK CTR: QWHME	DRAWN BY: A.NELSON (360)707-7535 10-14-02 3/21/03		
				CHECKED BY: GR 5/21/03		
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY: RD 5/21/03		
				FOREMAN #1:		
U-MAP NO (POWER): 3902E114 & 3902E116	CIR MAP NO: 3902E128 & 3902E080		CIRCUIT NO: VIS-25	FOREMAN #2:		
				MAPPING:		

JOINT FACILITIES ARRANGEMENTS

UTILITIES				
CONTACT				
PHONE#				

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
VAULT DETAILS
OH TO UG CONVERSION

INCIDENT | MAOP

W.O.# 101011545

SCALE: NTS | PAGE 2 of 14

00378.033 S-4.09 KR

USER @TIME Plotted: DATE

STREET LIGHT NOTES

SITE	STATION OFFSET	POLE			HEAD	
		GRID	TYPE	MTG. HT.	WATTS	STYLE
SL1		467852 / 157685				
SLHH1		467864 / 157665				
SL2		467842 / 157701				
SLHH2		467860 / 157673				
SL3		467836 / 157712				
SLHH3		467853 / 157683				
SL4		467841 / 157715				
SLHH4		467846 / 157695				
SL5		467858 / 157689				
SLHH5		467834 / 157714				
SL6		467767 / 157801				
SLHH6		467828 / 157724				
SLHH7		467823 / 157731				
SLHH8		467818 / 157740				
SLHH10		467816 / 157743				
SLHH13		467822 / 157746				
SLHH15		467824 / 157744				
SLHH16		467829 / 157735				
SLHH17		467834 / 157728				
SLHH18		467840 / 157718				
SLHH19		467848 / 157705				
SLHH20		467851 / 157699				
SLHH21		467859 / 157687				
SLHH22		467866 / 157676				
SLHH23		467870 / 157669				
SLHH24		467776 / 157788				
SLHH25		467770 / 157797				
SLHH27		467764 / 157807				
SLHH28		467766 / 157809				
SLHH29		467764 / 157811				
SLHH30		467764 / 157827				
SLHH31		467764 / 157835				
SLHH32		467762 / 157856				
SLHH33		467764 / 157869				
SLHH35		467763 / 157887				
SLHH36		467760 / 157903				
SLHH38		467770 / 157822				
SLHH39		467772 / 157805				

PRI & SECONDARY O.H. CONDUCTOR REMOVAL TABLE

LOCATION		PRIMARY CONDUCTOR				SECONDARY CONDUCTOR			REMOVAL COMMENTS
FROM	TO	SIZE	SPANS	LENGTHS	ACTUALS	SIZE	SPANS	LENGTHS	
P-2	R-11	3-336	10	1327'					
R-2	R-11					4/0	8	1100'	O.W. SECONDARY
R-5A	P-8					1/0 TPX	2	140'	
R-5A	P-8	3-336 4/0	3	240'					
R-8	R-8A					#2 TPX	1	100'	
R-9	R-10					1/0	1	65'	
R-10	P-12	#6 CU	1	60'					
R-11	R-12					1/0 QUAD	1	100'	
P-9	P-10	4 #2 ACSR	2	240'					
P-10	P-10A					1/0	1	60'	O.W. SECONDARY
R-21A	R-21	3-336	1	350'					
R-21	R-21B	1 #2 ACSR	1	60'					
R-13	P-15	3-336	1	266'					
R-13	R-21	3-336 4/0	1	70'					
R-15	P-16	3 #2 ACSR	2	160'					
R-15	P-16					#2	2	200'	
R-15	P-17	3-336	6	1210'					
R-19	P-19A					#2 TPX	1	80'	
R-20	P-20A					1/0	1	90'	
R-17	P-18	4 #2 ACSR	1	175'					
P-17	P-18					#2 TPX	1	175'	
R-16	R-17					#2 TPX	1	85'	
P-15	P-15A	1/0 AL	1	80'					
R-22	P-18	#2 ACSR	2	365'		#2 TPX	1	365'	

STREET LIGHT CABLE & CONDUIT TABLE

LOCATION		CABLE				CONDUIT				VOLTAGE DROP (VOLTS)
FROM	TO	SIZE	QTY	LENGTH (ft)	CABLE SIZE	LENGTH (ft)	BENDS 90	BENDS 45	BENDS 22	
SLHH1	SLHH2	2	1	80	1/0 AC 3/C 600V	80				
SLHH2	SLHH3	2	1	76	1/0 AC 3/C 600V	76				
SLHH3	HH1A	2	1	104	1/0 AC 3/C 600V	104				
HH1A	SL1	2	1	13	#6 AL 3/C 600V	13				
HH1A	SLHH4	2	1	73	1/0 AC 3/C 600V	73				
HH2	SL2	2	1	20	#6 AL 3/C 600V	20				
HH3A	SLHH5	2	1	104	1/0 AC 3/C 600V	104				
SLHH5	SLHH6	2	1	93	1/0 AC 3/C 600V	93				
SLHH7	SLHH8	2	1	97	#6 AL 3/C 600V	97				
SLHH8	SLHH9	2	1	23	#6 AL 3/C 600V	23				
SLHH9	SLHH10	2	1	95	#6 AL 3/C 600V	95				
SLHH10	SLHH11	2	1	50	#6 AL 3/C 600V	50				
SLHH13	SLHH14	2	1	85	#6 AL 3/C 600V	85				
SLHH14	V9	2	1	10	#6 AL 3/C 600V	10				
SLHH14	SLHH9	2	1	70	#6 AL 3/C 600V	70				
SLHH14	SLHH15	2	1	30	#6 AL 3/C 600V	30				
SLHH15	SLHH16	2	1	91	#6 AL 3/C 600V	91				
SLHH17	SLHH18	2	1	93	#6 AL 3/C 600V	93				
SLHH18	HH3	2	1	110	#6 AL 3/C 600V	110				
HH3	SLHH19	2	1	73	#6 AL 3/C 600V	73				
HH3	SL4	2	1	15	#6 AL 3/C 600V	15				
SLHH20	HH1	2	1	74	#6 AL 3/C 600V	74				
HH1	SL5	2	1	13	#6 AL 3/C 600V	13				
HH1	SLHH21	2	1	107	#6 AL 3/C 600V	107				
SLHH21	SLHH22	2	1	80	#6 AL 3/C 600V	80				
SLHH22	SLHH23	2	1	80	#6 AL 3/C 600V	80				
RIVER										
SLHH24	SLHH25	2	1	91	#6 AL 3/C 600V	91				
SLHH25	SLHH26	2	1	95	#6 AL 3/C 600V	95				
SLHH26	SL6	2	1	30	#6 AL 3/C 600V	30				
SLHH26	SLHH27	2	1	51	#6 AL 3/C 600V	51				
SLHH26	V19	2	1	15	1/0 AC 3/C 600V	15				

LOCATION		CABLE				CONDUIT				VOLTAGE DROP (VOLTS)
FROM	TO	SIZE	QTY	LENGTH (ft)	CABLE SIZE	LENGTH (ft)	BENDS 90	BENDS 45	BENDS 22	
SLHH27	SLHH28	2	1	68	#6 AL 3/C 600V	68				
SLHH28	SLHH29	2	1	50	#6 AL 3/C 600V	50				
SLHH30	SLHH31	2	1	106	#6 AL 3/C 600V	106				
SLHH31	SLHH32	2	1	127	#6 AL 3/C 600V	127				
SLHH32	SLHH33	2	1	157	#6 AL 3/C 600V	157				
SLHH33	SLHH34	2	1	140	#6 AL 3/C 600V	140				
SLHH34	V13	2	1	5	#6 AL 3/C 600V	5				
SLHH34	SLHH35	2	1	50	#6 AL 3/C 600V	50				
SLHH35	SLHH36	2	1	154	#6 AL 3/C 600V	154				
P16	SLHH38	2	1	78	#6 AL 3/C 600V	78				

POLE RETIREMENT TABLE

SITE	GRID	POLE HGT (FT)	YEAR INST.	CONTACTS	RECORD TRF ID	STREET LIGHT	OWNER	REMARKS
R1	467866 / 157664	45	1978	AT&T		YES	PSE	NX
R2	467860 / 157674	45	1978	AT&T & CITY		YES	PSE	NX NX NX 120 / 240 V
R3	467857 / 157679	45	1960	AT&T & CITY		YES	PSE	
R4	467851 / 157688	45	1968	AT&T & CITY		YES	PSE	P-65-X L-2069-X
R5	467843 / 157701	45	1960	AT&T & CITY		YES	PSE	
R5A	467830 / 157693	50	1988	AT&T & CITY		NO	PSE	SW #1321
R5B	467848 / 157705	40	1988	AT&T & CITY		YES	PSE	
R6	467835 / 157714	45	1978	AT&T & CITY		YES	PSE	PX
R6A	467821 / 157704	40	1952	AT&T		YES	PSE	
R7	467828 / 157725	45	1988	AT&T & CITY		YES	PSE	
R8	467823 / 157732	45	1960	AT&T		YES	PSE	
R9	467824 / 157745	35	1995			NO	PSE	
R10	467818 / 157741	45	1960	AT&T & VERIZON		YES	PSE	
R11	467797 / 157767	40	1960			YES	PSE	LX LX LX
R12	467814 / 157762	40	1995			NO	PSE	
R13	467774 / 157805	50	1978				PSE	
R13A	467770 / 157785	45	1980			YES	PSE	
R14	467774 / 157821	55	1977				PSE	
R15	467765 / 157825	45	1980				PSE	
R16	467765 / 157839	45	1991			NO	PSE	
R17	467766 / 157855	50	1991					
R18	467765 / 157866	50	1991			NO	PSE	
R19	467764 / 157888	40	1968				PSE	
R20	467764 / 157915	40	1968				PSE	
R21	467769 / 157798	45	1977			NO	PSE	
R21B	467768 / 157804	50	1962			NO	PSE	LX
R22	467780 / 157948	45	1974			YES	PSE	LX
R23	467773 / 157954	40	1974			YES	PSE	NX NX NX 120 / 208 V

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PRELIMINARY

REVISED DATE : 3/21/03

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THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT		
EXIST UG TRANSFERRING: 594016400				N/A		N/A		
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)681-1799	10-14-02	3/21/03
REMOVAL: 108011730				ENGR - POWER	B.KUTZER	(360)681-3299	10-14-02	3/21/03
ST LIGHTS: 105021372				ENGR - GAS				
COUNTY	Emsr Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM			QWHMB	CHECKED BY				3/21/03
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY				
				FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING				
JOINT FACILITIES ARRANGEMENTS								
UTILITIES								
CONTACT								
PHONE#								

PUGET SOUND ENERGY

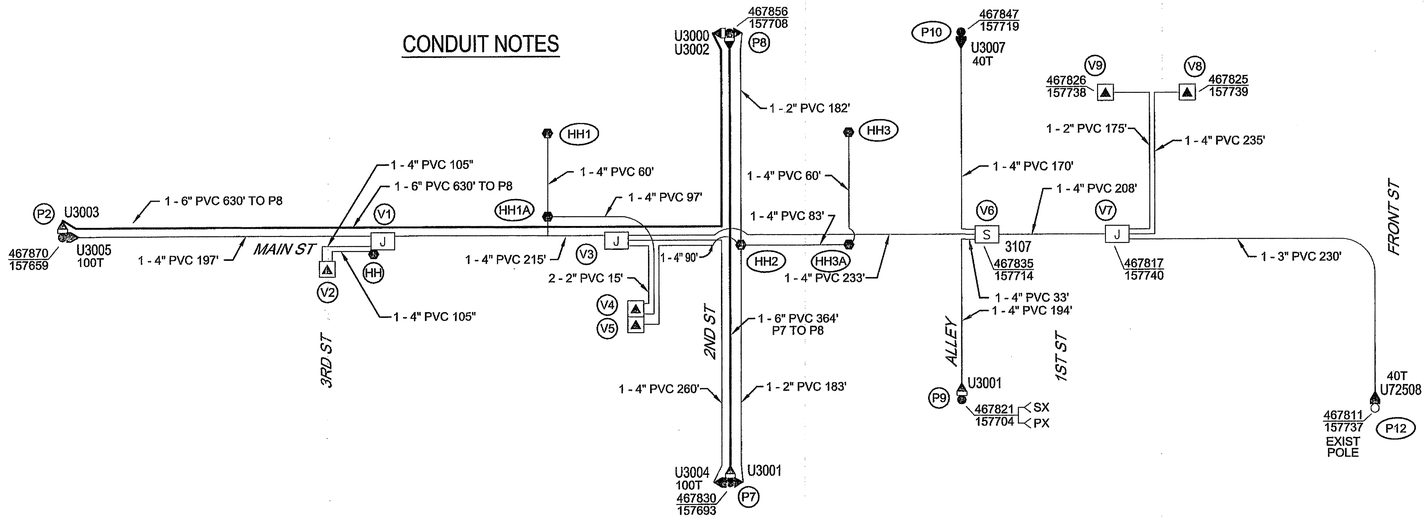
DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
VAULT DETAILS & POLE RETIREMENTS
OH TO UG CONVERSION

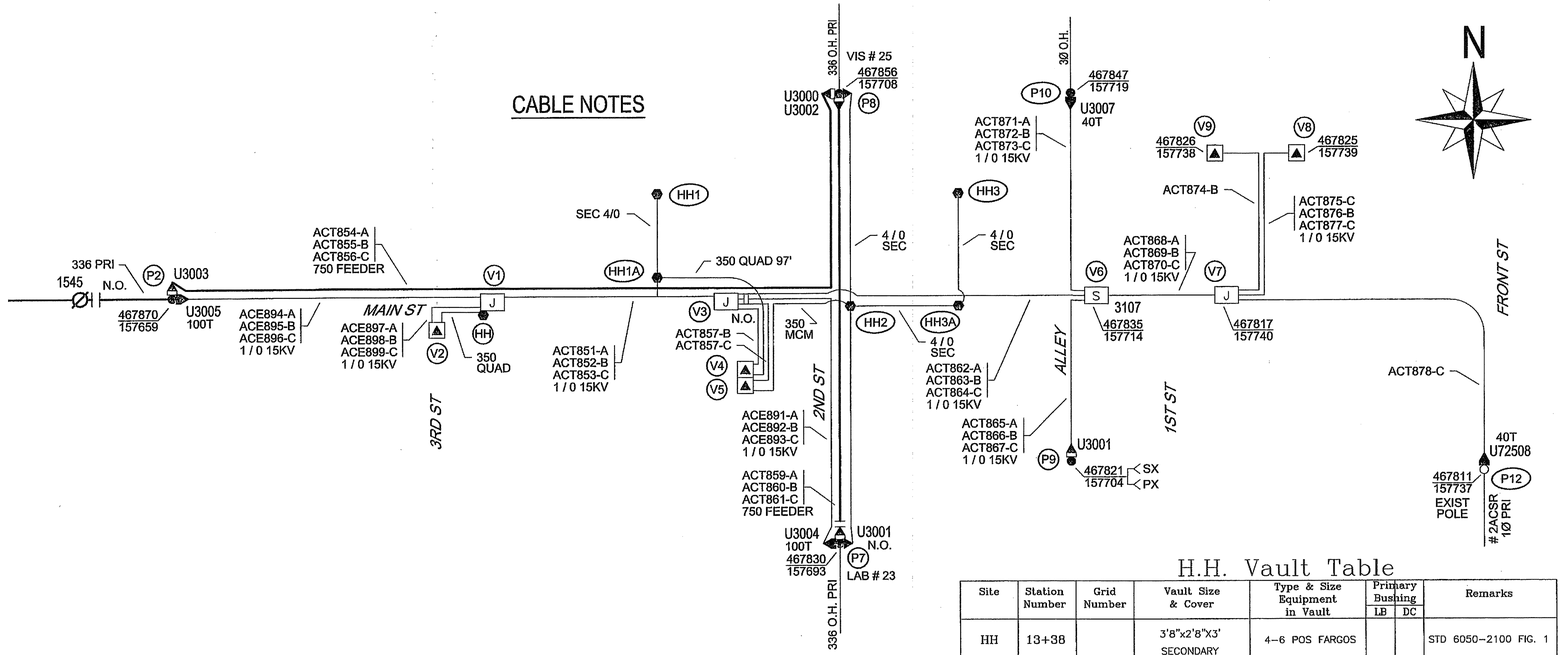
INCIDENT	MAOP
W.O. # 101011545	
SCALE: NTS	PAGE 3 OF 14

USER @TIME Plotted: DATE

CONDUIT NOTES



CABLE NOTES



Primary Cable & Conduit Table

LOCATION (pull direction)		SIZE (in)	QTY (in)	LENGTH (ft)	BENDS 90°	45°	22°	11°	CABLE SIZE	LENGTH (ft)	COMP.	CABLE NUMBERS A	B	C
P2	V1	4	1	197		2		2	1/0	230		ACE894	ACE895	ACE896
P2	P8	6	1	630	1	1	1	2	750	700		ACT854	ACT855	ACT856
V1	V2	4	1	105	1		2		1/0	105		ACE897	ACE898	ACE899
V1	V3	4	1	246				2	1/0	270		ACT851	ACT852	ACT853
V3	V4	2	1	12	1				1/0	20			ACT857	
V3	V5	2	1	15	1				1/0	30				ACT858
V3	P7	4	1	260	1				1/0	320		ACE891	ACE892	ACE893
P7	P8	6	1	364					750	500		ACT859	ACT860	ACT861
V3	V6	4	1	233				2	1/0	300		ACT862	ACT863	ACT864
V6	P9	4	1	194	1				1/0	260		ACT865	ACT866	ACT867
V6	P10	4	1	170	1			2	1/0	230		ACT871	ACT872	ACT873
V6	V7	4	1	208					1/0	238		ACT868	ACT869	ACT870
V7	V8	4	1	235	1				1/0	235		ACT875	ACT876	ACT877
V7	V9	2	1	195	1				1/0	195			ACT874	
V7	P12	3	1	230	1		2	2	1/0	250				ACT878

Secondary Cable & Conduit Table

LOCATION (pull direction)		SIZE (in)	QTY (in)	LENGTH (ft)	BENDS 90°	45°	22°	11°	CABLE SIZE	LENGTH (ft)	COMP.	CABLE NUMBERS A	B	C
V2	HH	4	1	105	1				350 QUAD	105				
V4&V5	HH1A	4	1	97	1				350 QUAD	100				
HH1A	HH1	4	1	60					4/0 AL 600V	60				
V4	HH2	4	1	90	1				4/0 AL 600V	91				
HH2	HH3A	4	1	83					4/0 AL 600V	84				
HH3A	HH3	4	1	60					4/0 AL 600V	60				

Vault Table

Site	Station Number	Grid Number	Vault Size & Cover	Type & Size Equipment in Vault	Primary Bushing LB	DC	Remarks
V1	13+39R	467861 157675	5' x 7 x 5' ADJ LID MATID: 7663206	3-4 POS J-BUS	9	3	STD 6055.1030
V2	12+60	467862 157665	4'8"x4'8" VAULT 5'6"X4'8" COVER	112 KVA 12470/7200 120-208 TRF PM	3		STD 6045.5000 FIG 2
V3	15+85R	467849 157691	5' x 7 x 5' ADJ LID MATID: 7663206	3-4 POS J-BUS	8	4	STD 6055.1030
V4	15+90R	467846 157693	36"x42"x38" MATID: 7663001	50 KVA TRF 7200V 120/240 1ø PM	1	1	STD 6045.1015 RADIAL CONSTRUCTION OPEN WY1 OPEN DELTA TRF BANK
V5	15+90R	467845 157693	36"x42"x38" MATID: 7663001	1-25 KVA 7200V 120/240 1ø PM	1	1	120/240V BANK STD 6045.1015
V6	18+33R	467835 157714	5' x 7 x 5' ADJ LID MATID: 7663206	3-4 POS J-BUS	12		STD 6055.1030
V7	20+70R	467817 157740	5' x 7 x 5' ADJ LID MATID: 7663206	3-4 POS J-BUS	8	4	STD 6055.1030
V8	21+48R	467825 157739	4'8"x4'8"x3'6"	45 KVA 7200V 120-208 TRF PM	3		STD 6045.5000 FIG 2
V9	21+55R	467826 157738	36"x42"x38" MATID: 7663001	1-25 KVA 7200V 120/240 1ø PM			STD 6045.1010

H.H. Vault Table

Site	Station Number	Grid Number	Vault Size & Cover	Type & Size Equipment in Vault	Primary Bushing LB	DC	Remarks
HH	13+38		3'8"x2'8"X3' SECONDARY	4-6 POS FARGOS			STD 6050-2100 FIG. 1
HH1	15+20L		3'8"x2'8"X3' SECONDARY	3-4 POS FARGOS			STD 6050-2000 FIG. 3
HH1A	15+20R		3'8"x2'8"X3' SECONDARY	4-6 POS FARGOS			STD 6050-2100 FIG. 1
HH2	16+61L		3'8"x2'8"X3' SECONDARY	3-6 POS FARGOS			STD 6050-2000 FIG. 3
HH3	17+50L		3'8"x2'8"X3' SECONDARY	3-4 POS FARGOS			STD 6050-2000 FIG. 3
HH3A	17+50R		3'8"x2'8"X3' SECONDARY	3-4 POS FARGOS			STD 6050-2000 FIG. 3

PRELIMINARY

REVISED DATE: 3/21/03

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SUPERIOR : 101011545			REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400			N/A		N/A	
TRANSFERRING CONDUCTORS: 593025438			FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 583007597			PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02	3/21/03
REMOVAL: 108011730			ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02	3/21/03
ST LIGHTS: 105021372			ENGR - GAS				
COUNTY	Emer Sect / Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM		QWHIME	CHECKED BY				
1/4 SEC	OP MAP	PLAT MAP	APPROVED BY				
			FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO	CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E080	VIS-25	MAPPING				

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
CONDUIT & CABLE DIA. STA 11+00 - 24+00
OH TO UG CONVERSION

INCIDENT	MAOP
W.O. # 101011545	
SCALE: NTS	PAGE 4 of 14

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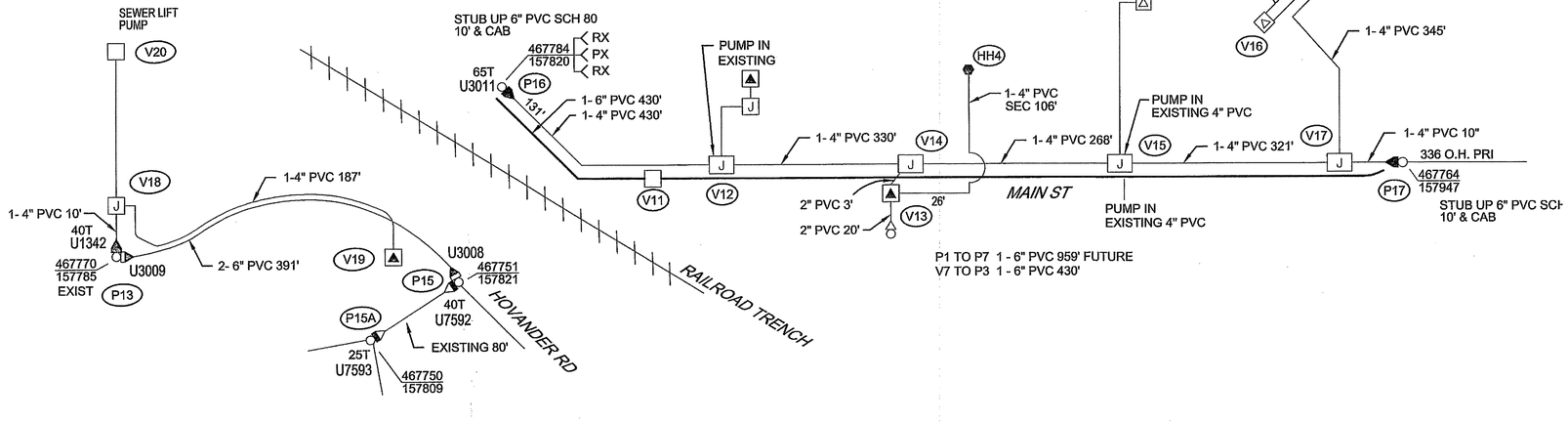
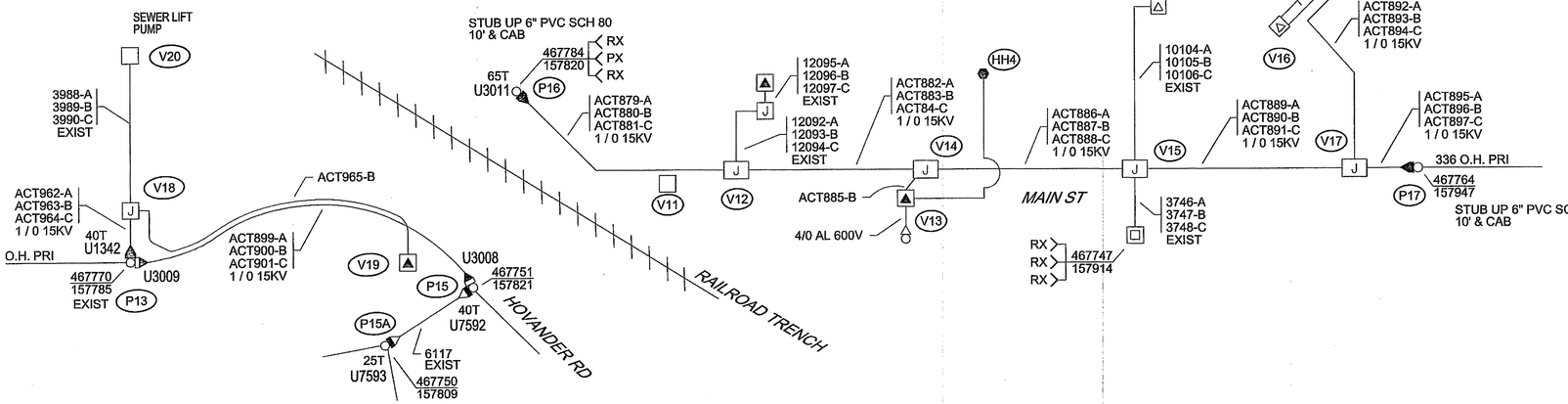
CONDUIT NOTES



P1 TO P7 1 - 6" PVC 959' FUTURE
V7 TO P3 1 - 6" PVC 430'

CABLE NOTES



Primary Cable & Conduit Table

LOCATION (pull direction)		SIZE (in)	QTY (in)	LENGTH (ft)	BENDS 90°	45°	22°	11°	CABLE SIZE	LENGTH (ft)	COMP.	CABLE NUMBERS A	B	C
P18	V21	4	1	322			1		1/0 15KV	350		ACT994	ACT995	ACT996
V21	V22	4	1	2						2		ACT991	ACT992	ACT993
V21	V16	4	1	165					1/0 15KV	165			ACT898	
V21	V17	4	1	345					1/0 15KV	345		ACT892	ACT893	ACT894
V17	V15	4	2	321					1/0 15KV	350		ACT889	ACT890	ACT891
P17	V11	6	1	959					FUTURE					
V15	V14	4	2	268			1	1	1/0 15KV	280		ACT886	ACT887	ACT888
V14	V13	2	1	5					1/0 15KV	10			ACT885	
V14	V12	4	2	330					1/0 15KV	355		ACT882	ACT883	ACT884
V11	P16	6	1	430			3	4	FUTURE					
V12	P16	4	2	430		2		2	1/0 15KV	450		ACT879	ACT880	ACT881
P15	P13	6	2	391		2	3	2	750 15KV	465		ACT899	ACT900	ACT901
P13	V18	4	1	10					1/0 15KV	50		ACT956	ACT957	ACT958
V18	V20								EXISTING			3988	3989	3990
V18	V19	2	1	182	1	1			1/0 15KV	198			ACT965	
V18	P13	4	1	10					1/0 15KV	20		ACT962	ACT963	ACT964
P15	P15A	2	1	80					1/0 15KV	140		ACT966		

Secondary Cable & Conduit Table

LOCATION (pull direction)		SIZE (in)	QTY (in)	LENGTH (ft)	BENDS 90°	45°	22°	11°	CABLE SIZE	LENGTH (ft)	COMP.	CABLE NUMBERS A	B	C
V13	HH4	4	1	106	1				350 AL 600V	115				
V16	HH5	4	1	165					350 AL 600V	165				

Vault Table

Site	Station Number	Grid Number	Vault Size & Cover	Type & Size Equipment in Vault	Primary Bushing LB	Primary Bushing DC	Transformer ID Numbers	Remarks
V20	27+62	467793 157783	EXISTING 3Ø VAULT					
V19	29+25	467768 157799	48"x42"x38" 1Ø PM VAULT	1 – 25 KVA 7200V 120/240 1Ø PM TRF	1	1		STD 6045.1010
V18	27+70	467770 157785	5' x 7' x 5' W ADJ COVER	3 – 4 POS J–BUS	7	5		STD 6045.1030
V17	43+56	467764 157945	5' x 7' x 5' W ADJ COVER	3 – 4 POS J–BUS	9	3		STD 6045.1030
V16	43+85	467780 157917	48"x42"x38" 1Ø PM VAULT	1 – 25 KVA 7200V 120/240 1Ø PM TRF	1	1		STD 6045.1010
V15	40+10	467764 157916	5' x 7' x 5' W ADJ COVER	3 – 4 POS J–BUS	12			STD 6045.1030
V14	37+33	467764 157874	5' x 7' x 5' W ADJ COVER	3 – 4 POS J – BUS	7	5		STD 6045.1030
V13	37+43	467763 157873	48"x42"x38" 1Ø PM VAULT	1 – 25 KVA 7200V 120/240 1Ø PM TRF	1	1		STD 6045.1010
V12	34+09	467764 157853	5' x 7' x 5' W ADJ COVER	3 – 4 POS J – BUS	9	3		STD 6045.1030
V11	33+98	467764 157852	5' x 7' x 5' W ADJ COVER	FUTURE SPLICE VAULT 750 VAULT				STD 6045.1030
V21		467774 157954	5' x 7' x 5' W ADJ COVER	3 – 4 POS J – BUS	10	2		STD 6045.1030
V22		467775 157954	4' 8" X 4'8" COVER 5'6" X 4'8"	112 KVA 12470 / 7200 V 120 / 208	3			STD 6045.5200
HH4			3'8" x 2'8" x 3' DEEP VAULT SECONDARY	3 – 6 POS				STD 6050.2000
HH5			3'8" x 2'8" x 3' DEEP VAULT SECONDARY	3 – 6 POS				STD 6050.2000

PRELIMINARY

REVISED DATE : 3/21/03

CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG
THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

SUPERIOR : 101011545				REAL ESTATE/EASEMENT	PERMIT
EXIST UG TRANSFERRING: 594016400				N/A	N/A
TRANSFERRING CONDUCTORS: 593025438				FUNCTION / CONTACT / PHONE NO / DATE / REV	
TRANSFER/REARRANGE: 583007597				PROJECT MGR / C.ROETHLE / (360)661-1799 / 10-14-02 / 3/21/03	
REMOVAL: 108011730				ENGR - POWER / B.KUTZER / (360)661-3299 / 10-14-02 / 3/21/03	
ST LIGHTS: 105021372				ENGR - GAS	
COUNTY: WHATCOM	Emer Sect	Gas Wk Ctr	POWER WK CTR: QWHtME	DRAWN BY: A.NELSON / (360)707-7535 / 10-14-02 / 3/21/03	
1/4 SEC	QP MAP		PLAT MAP	CHECKED BY	3/21
U-MAP NO (POWER): 3902E114 & 3902E116	CIR MAP NO: 3902E128 & 3902E080		CIRCUIT NO: VIS-25	APPROVED BY	3/21/03
				FOREMAN #1	
				FOREMAN #2	
				MAPPING	

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
CONDUIT & CABLE DIA. STA 27+00 - 45+00
OH TO UG CONVERSION

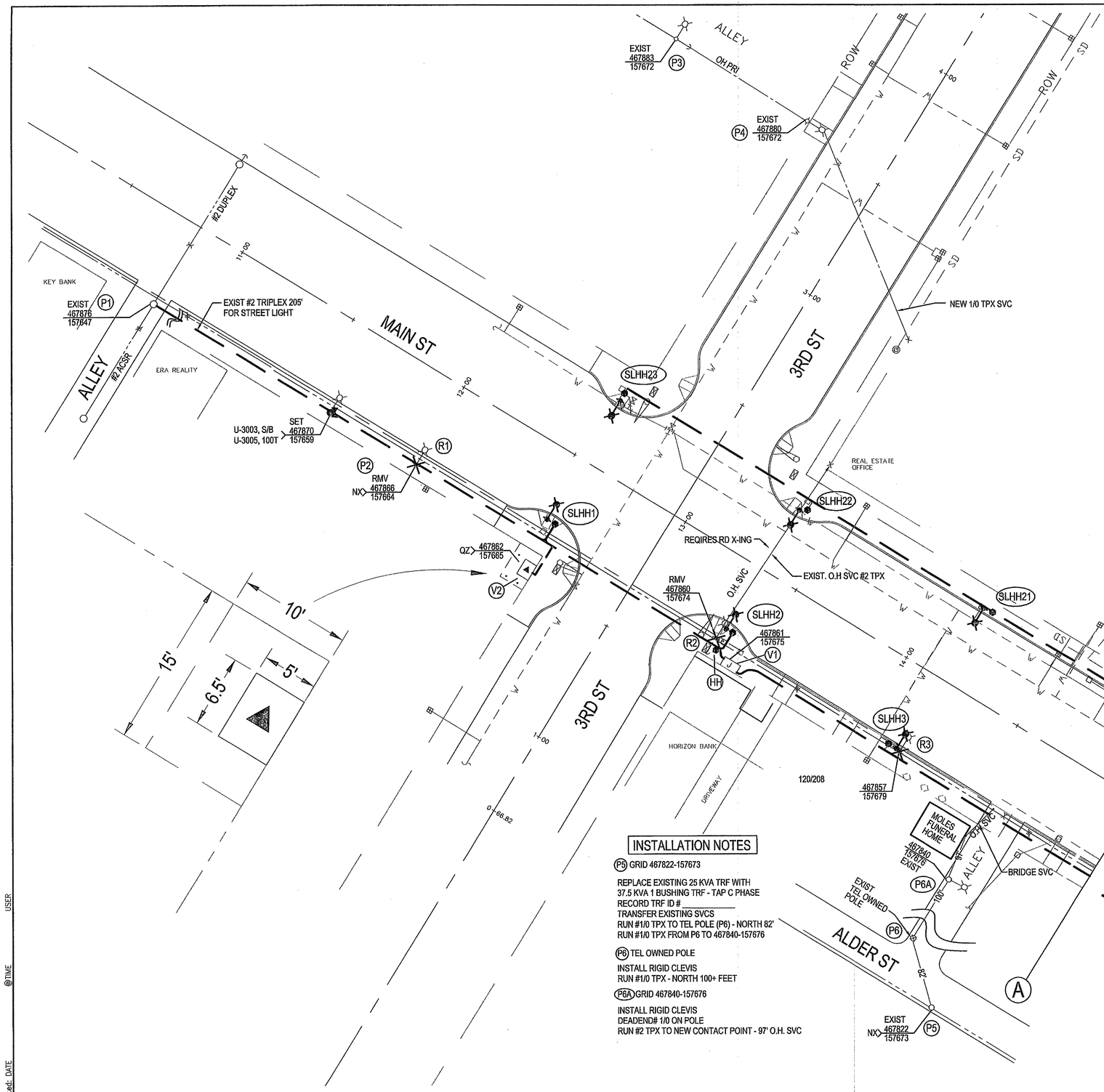
INCIDENT | MAOP

W.O. # 101011545

SCALE: NTS | PAGE 5 of 14

USER @TIME Plotted: DATE

RR 609 S. 9th, 98230



POLE NOTES

(P1) GRID 467876-157647
HANG 25 KVA 1 BUSHING TRF - TAP B PHASE
RECORD TRF ID # _____
CUT INTO EXISTING # 2 TPX SECONDARY

(P2) GRID 467870-157655
REPLACE W/ 45' CLASS H1 POLE - 65' NORTH, BACK OF WALK
INSTALL P8P9' HD DBL ARM
DEADEND 336 PRI & 4/0 C/N - NORTH
INSTALL 1-750 3 PHASE TERM
INSTALL SW BRD U-3003, FUSE S/B
INSTALL 1- 1/0 AL 3 PHASE TERM
INSTALL SW BRD U-3005, FUSE 100T
INSTALL 2-7/16" PRI & 1-3/8" C/N DWN GUY SOUTH, L=24'
INSTALL 10" SQ 1 ANC
TRANSFER STREET LIGHT & SECONDARY
INSTALL GRID # 467870-157655

(P3) GRID 467883-157883
HANG 25 KVA 1 BUSHING TRF
RECORD TRF ID # _____
RUN # 1/0 TPX TO SVC POLE &
FROM SVC POLE TO NEW WEATHER HEAD
AT HOLZER REALTY - 160'

(P4) 467880-157675
EXISTING 35' POLE
INSTALL RIGID CLEVIS
FOR 1/0 TRIPLEX SVC

INSTALLATION NOTES

(P5) GRID 467822-157673

REPLACE EXISTING 25 KVA TRF WITH
37.5 KVA 1 BUSHING TRF - TAP C PHASE
RECORD TRF ID # _____
TRANSFER EXISTING SVCS
RUN #1/0 TPX TO TEL POLE (P6) - NORTH 82'
RUN #1/0 TPX FROM P6 TO 467840-157676

(P6) TEL OWNED POLE

INSTALL RIGID CLEVIS
RUN #1/0 TPX - NORTH 100+ FEET

(P6A) GRID 467840-157676

INSTALL RIGID CLEVIS
DEADEND# 1/0 ON POLE
RUN #2 TPX TO NEW CONTACT POINT - 97' O.H. SVC

N

PRELIMINARY

REVISED DATE: 3/21/03

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SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400				N/A		N/A	
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE / REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02 / 3/21/03
REMOVAL: 108011730				ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02 / 3/21/03
ST LIGHTS: 105021372				ENGR - GAS			
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02 / 3/21/03
WHATCOM			QWHME	CHECKED BY			3/21/03
1/4 SEC	QP MAP		PLAT MAP	APPROVED BY	C.Roethle		3/24/03
				FOREMAN #1			
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2			
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING			

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

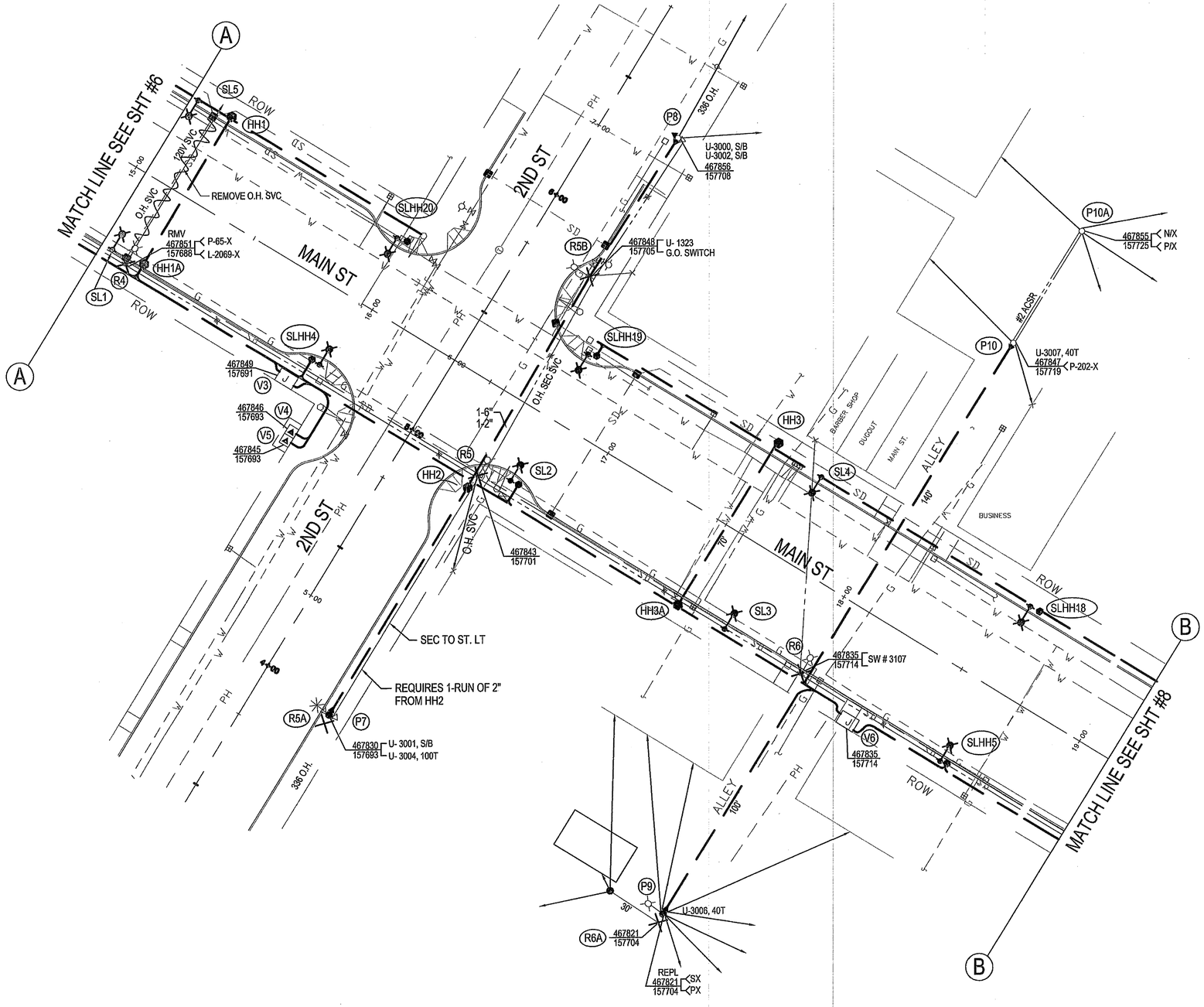
DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 11+00 - 15+00
OH TO UG CONVERSION

INCIDENT	MAOP
W.O. # 101011545	
SCALE: 1"=20'	PAGE 6 of 14

Plotted: DATE @TIME USER

0037K.037 S-4-09 KR



POLE NOTES

(P7) GRID 467830-157693
REPLACE W/ 45' CLASS H1 POLE AT BACK OF SIDEWALK
INSTALL P8P9' HD DBL ARM
DEADEND 336 PRI & 4/0 C/N EAST
INSTALL 1-750 3 PHASE TERM
INSTALL SW BRD U-3001, FUSE S/B.
INSTALL 1-1/0 AL 3 PHASE TERM
INSTALL SW BRD U-3004, FUSE AT 100T
INSTALL 2-7/16" PRI & 1-4/0 C/N DWN GUY TO
TRIPLE HELIX ANC LEAD - 25' N.E.
INSTALL 1-4" & 1-6" RISER
TRANSFER SECONDARY & STREET LIGHT
INSTALL GRID NUMBER

(P8) GRID 467856-157708
REPLACE W/ 45' CLASS H1 POLE - 2' BEHIND SIDEWALK
INSTALL P8P9' HD DBL ARM
DEADEND 336 PRI & 4/0 C/N N.W.
INSTALL 2-750 3 PHASE TERM
INSTALL SW BRD U-3000 & U-3002 S/B
INSTALL 2-7/16" PRI &1-3/8" NEUT SIDEWALK GUY TO
TRIPLE HELIX ANC. LEAD = 10' SOUTH
INSTALL 2-6" RISERS
TRANSFER SECONDARY & SERVICES

(P9) GRID 467821-167704
THIS FEED 2-O.H. TRANSFORMER
REPLACE W/ 45' CLASS 1 POLE
INSTALL 2-RIGID CLEVIS
INSTALL 1-1/0 AL 3 PHASE TERM TAP EXIST 2 PHASE
INSTALL SW BRD U-3006, FUSE 40T
INSTALL 1-75 KVA & 1-37.5 KVA TRF'S 2 BUSHING
ID# _____
ID# _____
120/240V DELTA BANK
INSTALL 1-4" RISER
TRANSFER 1-1/0 QUAD SVC &
7 O.H. 1 PHASE SVC'S
INSTALL UG FEED SIGN
INSTALL GRID NUMBER

(P10) GRID 467847-157719
DBL UP EXIST PRI ARM
DEADEND #2 ACSR NORTH
INSTALL 3 PHASE UG TERM
INSTALL 1-1/0 AL 3 PHASE TERM
INSTALL SW BRD U-3007, FUSE 40T
REPLACE EXISTING DWN GUY W/
3/8" PRI & 3/8" C/N TO EXISTING ANC
LEAD = 16' SOUTH
INSTALL 4" RISER
INSTALL UG FEED SIGN
INSTALL GRID NUMBER

(P10) TO (P10A)
REMOVE 1 SPAN SECONDARY HOT LEGS 50'

N

PRELIMINARY

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SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400				N/A		N/A	
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE / REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02 / 3/21/03
REMOVAL: 105011720				ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02 / 3/21/03
ST LIGHTS: 105021372				ENGR - GAS			
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02 / 3/21/03
WHATCOM			QWHME	CHECKED BY			3/21/03
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY	C.Roethle		3/21/03
				FOREMAN #1			
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2			
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING			

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 15+00 - 19+00
OH TO UG CONVERSION

INCIDENT | MAOP
W.O.# 101011545
SCALE: 1"=20' | PAGE 7 of 14

Plotted: DATE @TIME USER

0878.038 S.4.09 KR

00878.039 S-4-09 KE

POLE NOTES

(P11) GRID 467814-157725
REPLACE 30' SVC POLE W/ 45' CLASS 4 POLE
INSTALL #2 ACSR PRI D.E. SOUTH
HANG 15 KVA S/B TRF
TRF ID # _____
RUN #2 TRIPLEX NW 100' SERVICE
INSTALL 3/8" PRI & C/N DWN GUY
TO SQ1 10" ANC LEAD = 16' NORTH
TRANSFER STREET LIGHT
INSTALL GRID NUMBER

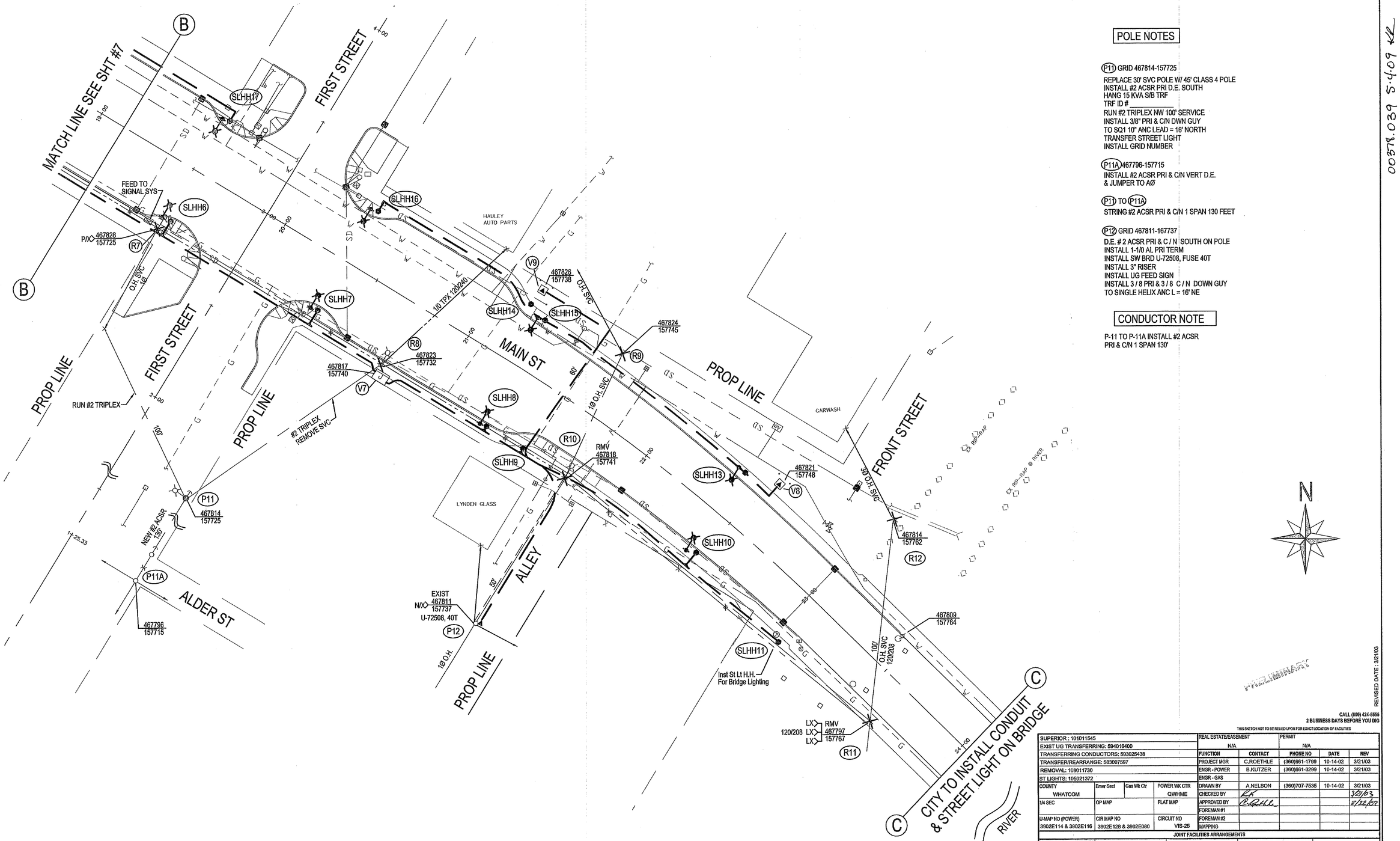
(P11A) 467796-157715
INSTALL #2 ACSR PRI & C/N VERT D.E.
& JUMPER TO AØ

(P11) TO (P11A)
STRING #2 ACSR PRI & C/N 1 SPAN 130 FEET

(P12) GRID 467811-167737
D.E. # 2 ACSR PRI & C / N SOUTH ON POLE
INSTALL 1-1/0 AL PRI TERM
INSTALL SW BRD U-72508, FUSE 40T
INSTALL 3" RISER
INSTALL UG FEED SIGN
INSTALL 3 / 8 PRI & 3 / 8 C / N DOWN GUY
TO SINGLE HELIX ANC L = 16' NE

CONDUCTOR NOTE

P-11 TO P-11A INSTALL #2 ACSR
PRI & C/N 1 SPAN 130'



REVISED DATE : 3/21/03

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SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594018400				N/A		N/A	
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE / REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02 / 3/21/03
REMOVAL: 108011730				ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02 / 3/21/03
ST LIGHTS: 105021372				ENGR - GAS			
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02 / 3/21/03
WHATCOM			CWHME	CHECKED BY			3/21/03
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY			5/22/03
				FOREMAN #1			
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2			
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING			

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 19+00 - 24+00
OH TO UG CONVERSION

INCIDENT | MAOP

W.O. # 101011545

SCALE 1"=20' | PAGE 8 of 14

Plotted: DATE @TIME USER

RIVER

SEE SHT #8

MAIN STREET

EAST MAIN STREET

HOVANDER ROAD

SWING PRI

EXIST 336Ø FEEDER

EX FENCE

GARDEN CENTER

FERNDALE CHIROPRACTIC

DAY CARE

EX RR BRIDGE

EX WOODEN FENCE

BEGINNING OF BRIDGE

1 - 2" PVC

SEWER PUMP

467793 157783 P557 L/X P558 L/X P559 L/X

467797 157767

467797 157767

REROUTE CABLES INTO V18 # 3988 # 3989 # 3990

U-3009, S/B 467770 157785 P13

467770 157785 R13A

U-1342, 40T

467769 157798 R21

REMOVE EXISTING GUY & ANC

N-129-X 467768 157804 R21B

467774 457805 R13

467774 157805 R13

SWING EXISTING #2 TRIPLEX SECONDARY

467792 157819

467810 157830 P/X P/X P/X

467808 157829 R/X R/X R/X

#2 ACSR

RASIER WOOD WORKS

1918

O.H. SVC

RR ROW

U-3011, 65T

467784 157820 N/X P/X N/X

RUN #4/0 QUAD

NEW O.H. SVC

467774 157821 R/X R/X R/X

EXIST. O.H. 3Ø SVC

O.H. SVC TO SIGN NEED TO BE CONVERTED

#2 TPX

467751 157821 P15

U3008

U7592 40T

467750 157809 P15A

U-7593 25T

REPL. EXIST 1Ø U.G. PRI CABLE

SLHH24 SLHH25 SLHH26 SLHH27 SLHH28 SLHH29 SLHH38 SLHH39

SL6

V18 V19 V20

R13 R14 R15 R21 R21B

P16

DETAIL 1

P3 DETAIL 1

#2 ACSR

3Ø BANK

NEUT

DWN GUY

DWN GUY

INST UG FEED SIGN

OK PER STD DEPT: MIKE JUDY

MATCH LINE SEE SHT #10

POLE NOTES

P13 GRID 467770-157785
SET 50' CLASS 1 POLE
INSTALL P8P9' HD DE ARMS
DEADEND 3-336 PRI & 1-4/0 C/N WEST
INSTALL 1-750 3 PHASE TERM
INST 1-1/0 AL 3 PHASE TERM
INSTALL 2- 7/16 PRI & 1- 3/8" C/N DWN GUY
TO TRIPLE HELIX ANC L=26'
INSTALL 1-4" RISER & 1-6" RISER
RUN SCH 80 UP POLE 10' & CAP FUTURE 6"

P15 GRID 467751-157821
REPLACE W/ 45' CLASS 1 POLE & GND
INSTALL P8P9' HD DE ARM
INSTALL 3-336 PRI & 1-4/0 C/N N.E.
INSTALL 1-750 3 PHASE TERM
INSTALL SW BRD U-7592, FUSE 40T
INSTALL 1-1/0 AL 1 PHASE TERM
INSTALL SW BRD U-3008, FUSE S/B
INSTALL 2-7/16" PRI & 1-3/8" C/N DWN GUY TO
TRIPLE HELIX ANC. LEAD = 26' N.E.
REPLACE EXIST 2" RISER
INSTALL 1-6" RISER
STUB 1-6" RISER 10' & CAP FUT

P15A GRID 467750 - 157809
INSTALL 1 PHASE PRI UG TERM
INSTALL SWITCH BOARD U7593 FUSE 25T
IN EXIST RISER

P16 GRID 467884-157820
SET 45' CLASS 3 POLE
INSTALL P8P9' DBL ARM
INSTALL 3- #2 ACSR D.E. N.E.
INSTALL 1-1/0 AL 3 PHASE UG TERM
INSTALL 1-37.5 & 2-25 KVA TRF'S 2 BUSHING
ID #_____ N/X
ID #_____ P/X
ID #_____ N/X
120/240 DELTA BANK
RUN #4/0 QUAD. 110' TO BLDG
RUN #2 TRIPLE N.E. 150' FOR SVC
INSTALL 1- 3/8" PRI & 3/8" C/N DWN GUY
TO SQ1 10" ANC L=18' S.W.
INSTALL 1-4" RISER

N

REVISED DATE: 3/21/03

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SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400				N/A		N/A	
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE / REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)961-1799	10-14-02 / 3/21/03
REMOVAL: 108011730				ENGR - POWER	B.KUTZER	(360)961-3299	10-14-02 / 3/21/03
ST LIGHTS: 105021372				ENGR - GAS			
COUNTY: WHATCOM	Emer Sect	Gas Wk Ctr	POWER WK CTR: QWHME	DRAWN BY	K.NELSON	(360)707-7535	10-14-02 / 3/21/03
1/4 SEC	QP MAP		PLAT MAP	CHECKED BY			3/21/03
U-MAP NO (POWER): 3902E114 & 3902E116	CIR MAP NO: 3902E128 & 3902E080		CIRCUIT NO: VIS-25	APPROVED BY			5/20/03
				FOREMAN #1			
				FOREMAN #2			
				MAPPING			

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 27+00 - 32+00
OH TO UG CONVERSION

INCIDENT | MACP

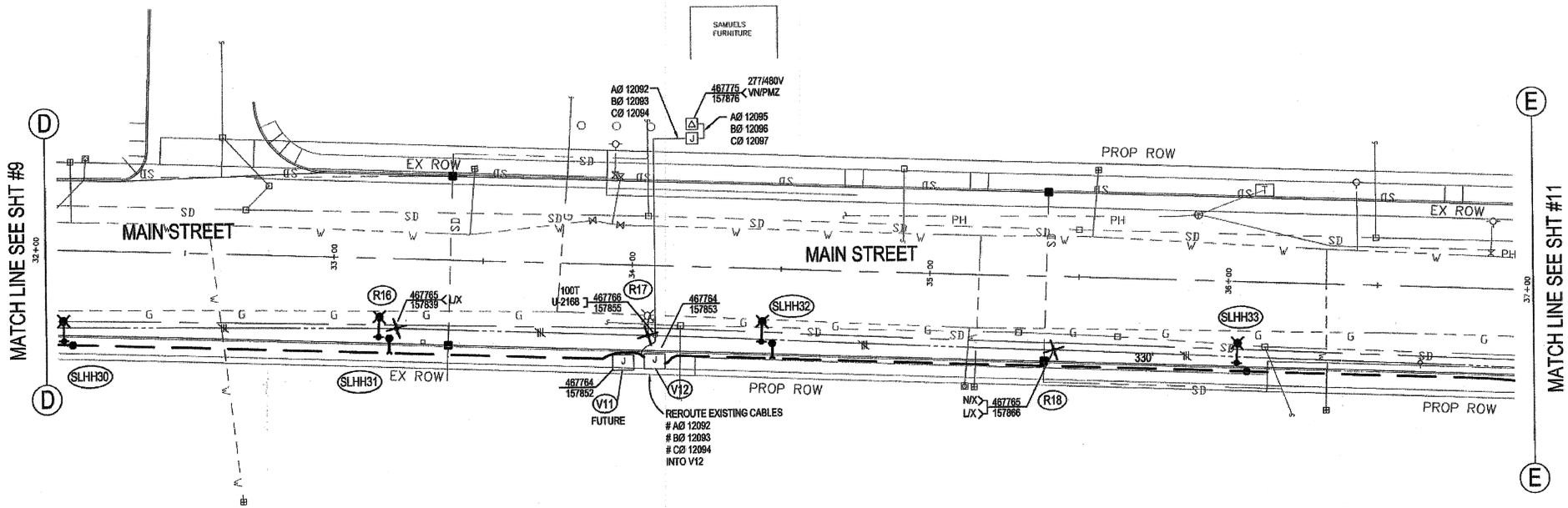
W.O. # 101011545

SCALE: 1"=20' | PAGE 9 of 14

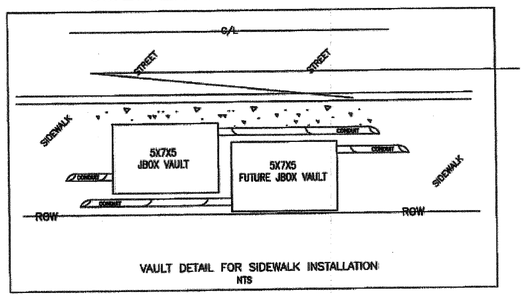
Plotted: DATE @TIME USER

003.N.040 S-4.09 KK

00378.041 S4.09 KR



SIDEWALK INSTALLATIN DETAIL



VAULT DETAIL FOR SIDEWALK INSTALLATION
NTS

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PRELIMINARY

REVISED DATE: 3/21/03

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SUPERIOR: 101011545				REAL ESTATE/EASEMENT		PERMIT		
EXIST UG TRANSFERRING: 594016400				N/A		N/A		
TRANSFERRING CONDUCTORS: 593025438				FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 593007597				PROJECT MGR	C.ROETHLE	(360)961-1799	10-14-02	3/21/03
REMOVAL: 108011730				ENGR - POWER	B.KUTZER	(360)961-3299	10-14-02	3/21/03
ST LIGHTS: 105921372				ENGR - GAS				
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM			CWHIME	CHECKED BY				
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY				
				FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E090		VIS-25	MAPPING				

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

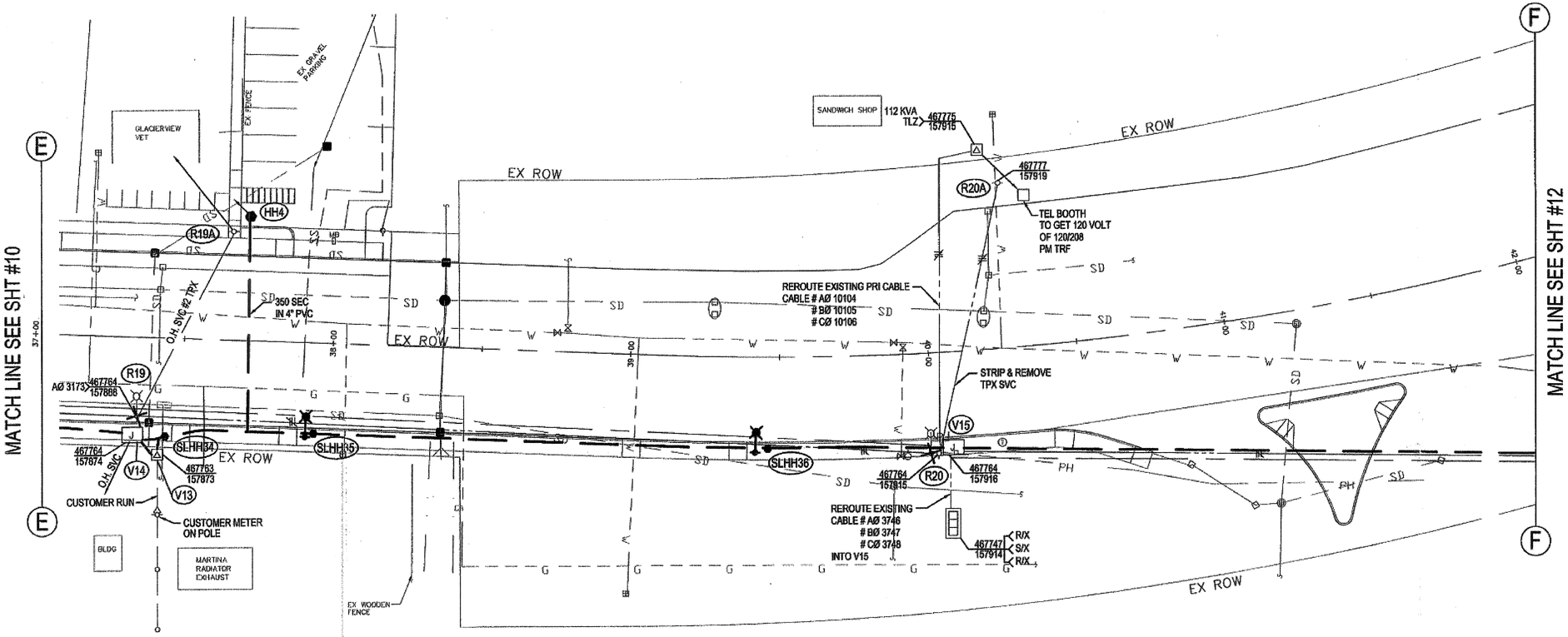
DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 32+00 - 37+00
OH TO UG CONVERSION

INCIDENT	MAOP
W.O.# 101011545	
SCALE: 1"=20'	PAGE 10 of 14

Plotted: DATE @TIME USER

00378.042 5-4-09 KL



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REVISED DATE : 3/21/03

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EXIST UG TRANSFERRING: 594016400				N/A		N/A		
TRANSFERRING CONDUCTORS: 593025439				FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02	3/21/03
REMOVAL: 106011730				ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02	3/21/03
ST LIGHTS: 105021372				ENGR - GAS				
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM			OWHMME	CHECKED BY				3/21
1/4 SEC	OP MAP		PLAT MAP	APPROVED BY				4/22/03
				FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING				
JOINT FACILITIES ARRANGEMENTS								
UTILITIES								
CONTACT								
PHONE#								

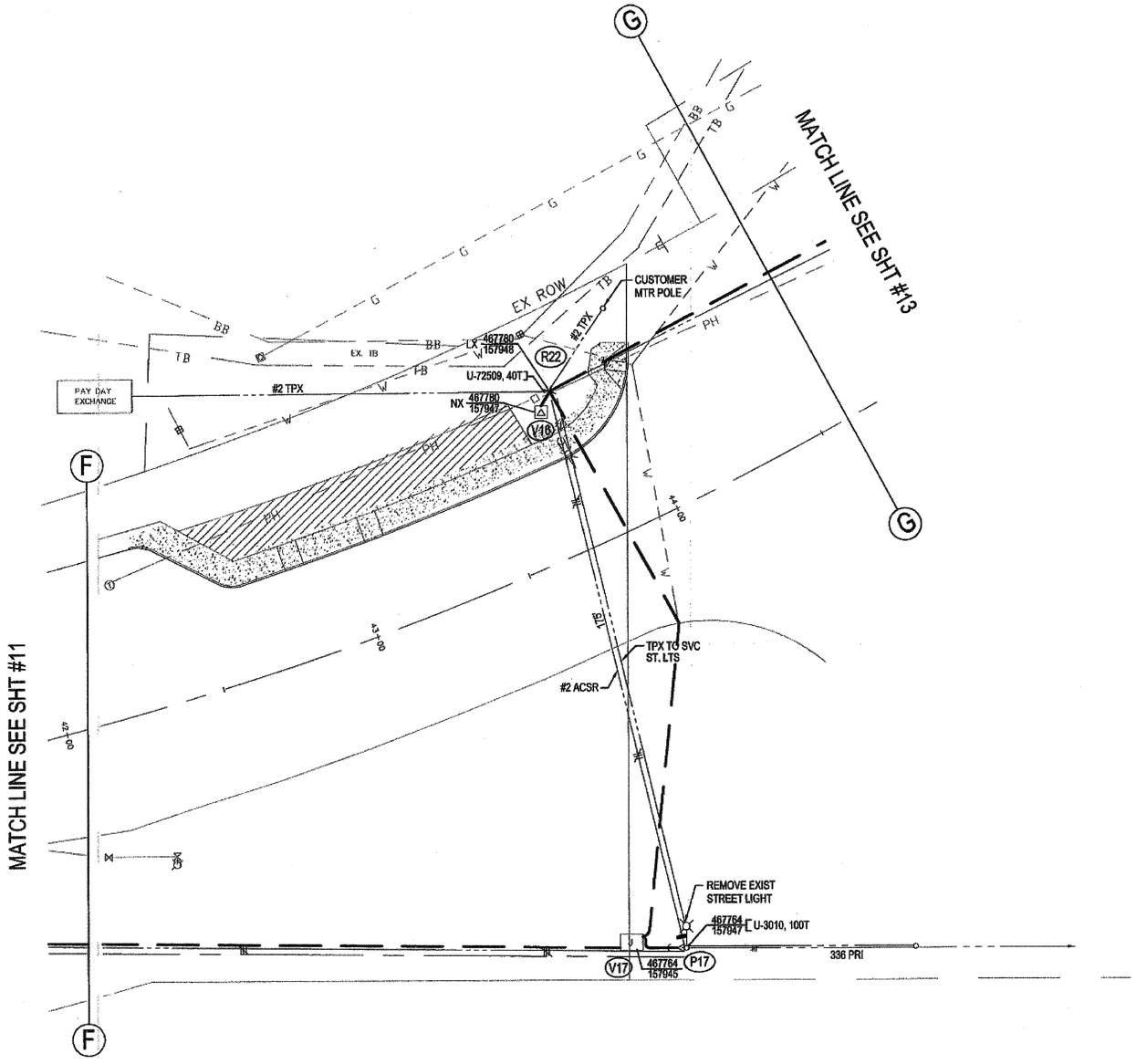
PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 37+00 - 42+00
OH TO UG CONVERSION

INCIDENT	MAOP
SCALE: 1"=20'	PAGE 11 of 14

Plotted: DATE @TIME USER



POLE NOTES

(P17) GRID 467764-157947
INSTALL 2-7/16" PRI DWN GUY WEST L=26'
INSTALL 1-3/8" C/N DWN GUY WEST L=26'
REMOVE 3-336 DEADENDS WEST
REMOVE 3-#4 ACSR DEADEND NORTH
REMOVE 3/8" DWN GUY SOUTH
INSTALL 1-1/0 AL 3 PHASE TERM
INSTALL SW BRD # U-3010, FUSE 100T
INSTALL 1-4" RISER
INSTALL 6" SCH 80 10' UP POLE & CAP

N

CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

REVISED DATE : 3/21/03

SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400				N/A		N/A	
TRANSFERRING CONDUCTORS: 593025436				FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 583007697				PROJECT MGR	C.ROETHLE	(360)661-1799	10-14-02	3/21/03
REMOVAL: 109011730				ENGR - POWER	B.KUTZER	(360)661-3299	10-14-02	3/21/03
ST LIGHTS: 105021372				ENGR - GAS				
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM			QWHIME	CHECKED BY				
M SEC	OP MAP		PLAT MAP	APPROVED BY				3/21/03
				FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING				
JOINT FACILITIES ARRANGEMENTS								
UTILITIES								
CONTACT								
PHONE#								

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 42+00 - 45+00
OH TO UG CONVERSION

INCIDENT | MAOP
W.O.# 101011545
SCALE: 1"=20' | PAGE 12 of 14

Plotted: DATE @TIME USER

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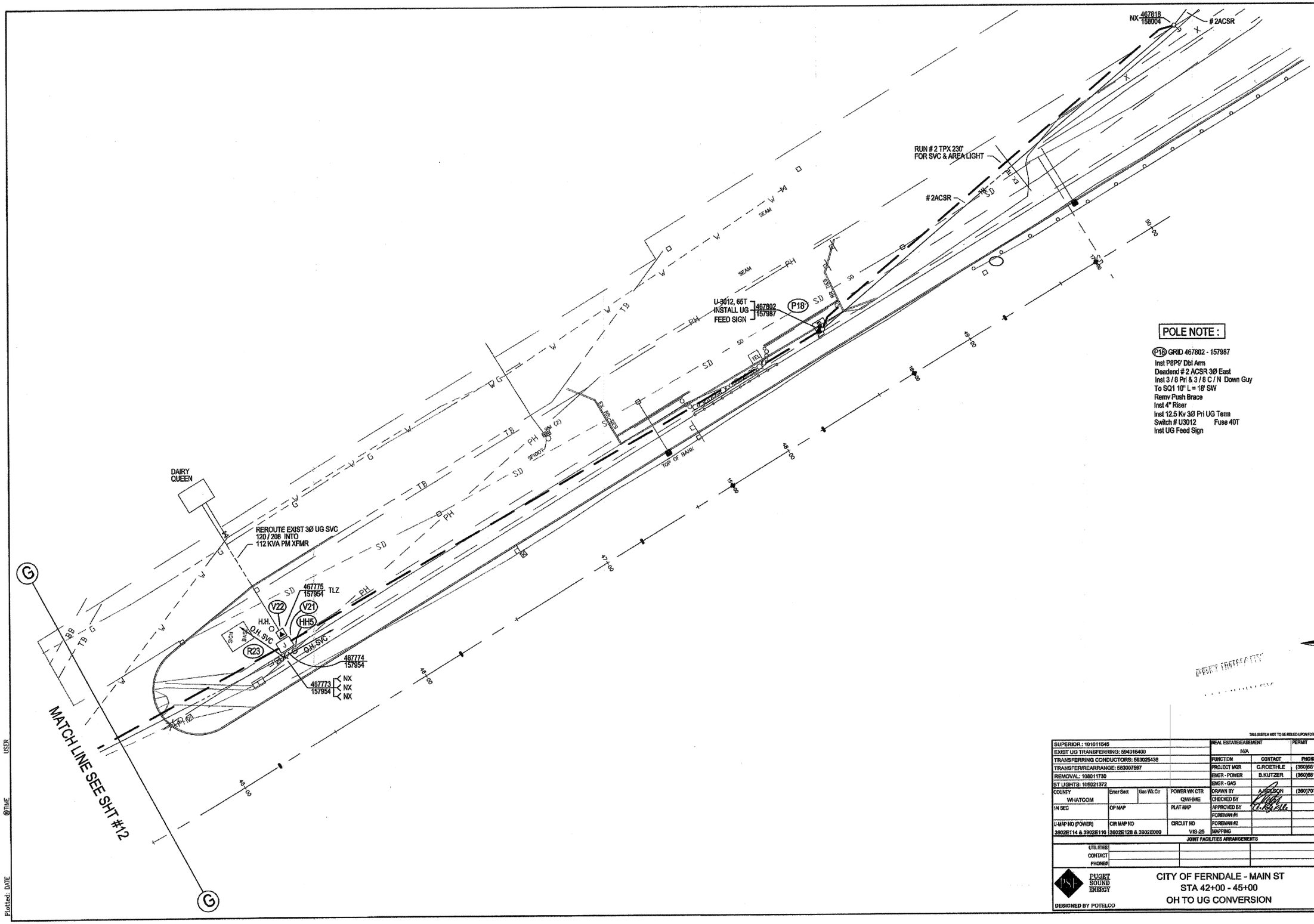


POLE NOTE :

P18 GRID 467802 - 157987
Inst P8P9' Dbl Arm
Deadend # 2 ACSR 3Ø East
Inst 3 / 8 Pri & 3 / 8 C / N Down Guy
To SQ1 10' L = 18' SW
Remv Push Brace
Inst 4" Riser
Inst 12.5 Kv 3Ø Pri UG Term
Switch # U3012 Fuse 40T
Inst UG Feed Sign

N

CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

REVISED DATE : 3/21/03

SUPERIOR : 101011545			REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400			N/A		N/A	
TRANSFERRING CONDUCTORS: 583025436			FUNCTION	CONTACT	PHONE NO	DATE / REV
TRANSFER/REARRANGE: 583097597			PROJECT MGR	C.ROETHLE	(360)681-1769	10-14-02 / 3/21/03
REMOVAL: 108011730			ENGR - POWER	B.KUTZER	(360)681-3299	10-14-02 / 3/21/03
ST LIGHTS: 105021372			ENGR - GAS			
COUNTY: WHATCOM	Emer Sect	Gas Wk Ctr	DRAWN BY	M.PERSON	(360)707-7535	10-14-02 / 3/21/03
		POWER WK CTR: CNWHME	CHECKED BY			
1/4 SEC	QP MAP	PLAT MAP	APPROVED BY			
			FOREMAN #1			
U-MAP NO (POWER): 3902E114 & 3902E116	CIR MAP NO: 3902E128 & 3902E080	CIRCUIT NO: VIS-25	FOREMAN #2			
			MAPPING			

JOINT FACILITIES ARRANGEMENTS

UTILITIES			
CONTACT			
PHONE#			

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STA 42+00 - 45+00
OH TO UG CONVERSION

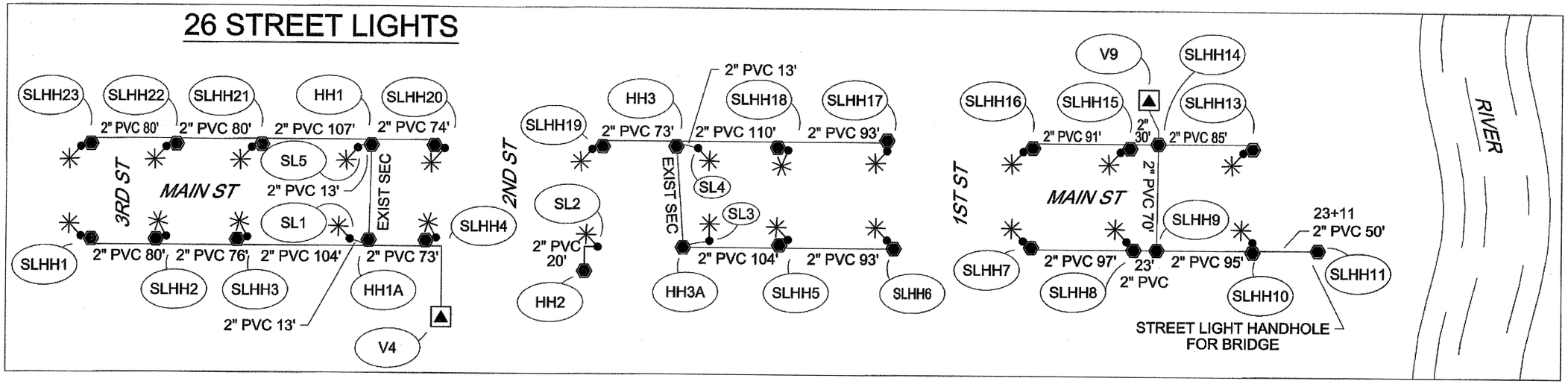
INCIDENT | MAP#
W.O.# 101011545
SCALE: 1"=20' | PAGE 13 of 14

Plotted: DATE @TIME USER

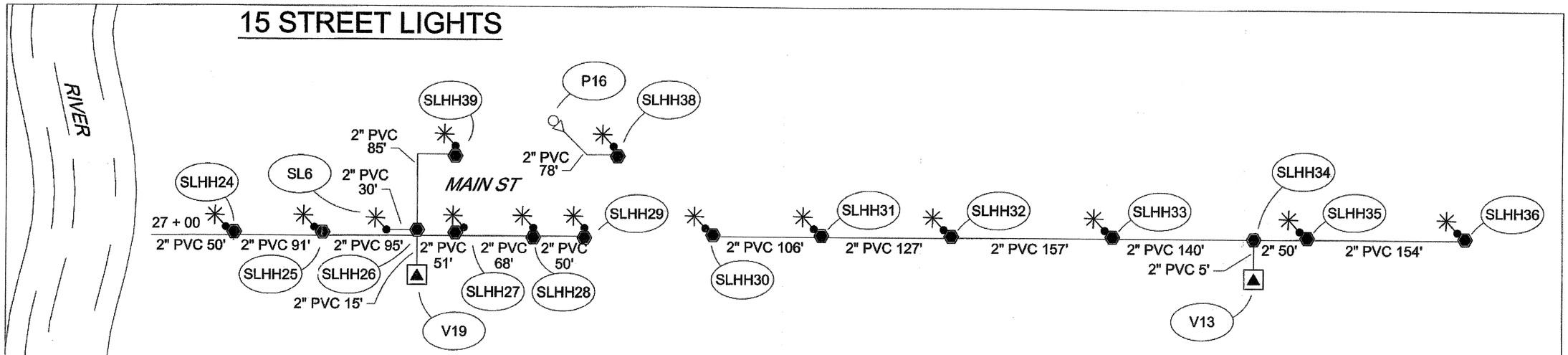
0078.044 S.Y.D. RP

N

26 STREET LIGHTS



15 STREET LIGHTS



CALL (800) 424-5555
2 BUSINESS DAYS BEFORE YOU DIG

THIS SKETCH NOT TO BE RELIED UPON FOR EXACT LOCATION OF FACILITIES

SUPERIOR : 101011545				REAL ESTATE/EASEMENT		PERMIT	
EXIST UG TRANSFERRING: 594016400				NR		NR	
TRANSFERRING CONDUCTORS: 593026438				FUNCTION	CONTACT	PHONE NO	DATE	REV
TRANSFER/REARRANGE: 583007597				PROJECT MGR	C.ROETHLE	(360)681-1799	10-14-02	3/21/03
REMOVAL: 106011730				ENGR - POWER	B.KUTZER	(360)681-3289	10-14-02	3/21/03
ST LIGHTS: 105021372				ENGR - GAS				
COUNTY	Emer Sect	Gas Wk Ctr	POWER WK CTR	DRAWN BY	A.NELSON	(360)707-7535	10-14-02	3/21/03
WHATCOM			QWHME	CHECKED BY				
M SEC	OP MAP		PLAT MAP	APPROVED BY				
				FOREMAN #1				
U-MAP NO (POWER)	CIR MAP NO		CIRCUIT NO	FOREMAN #2				
3902E114 & 3902E116	3902E128 & 3902E080		VIS-25	MAPPING				
JOINT FACILITIES ARRANGEMENTS								
UTILITIES								
CONTACT								
PHONE#								

PUGET SOUND ENERGY

DESIGNED BY POTELCO

CITY OF FERNDALE - MAIN ST
STREET LIGHT CIRCUIT DIAGRAM
OH TO UG CONVERSION

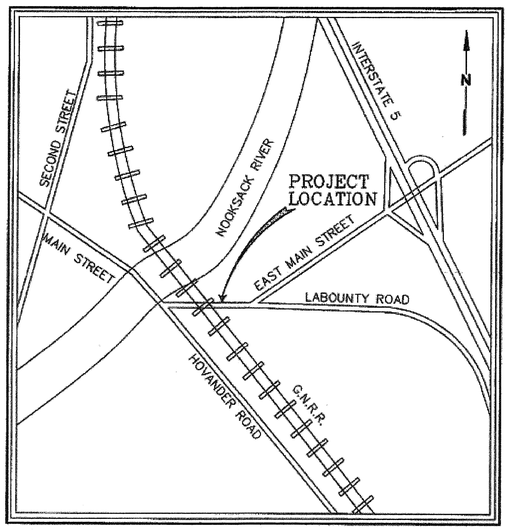
INCIDENT | MAP#
W.O.# 101011545
SCALE: NTS | PAGE 14 OF 14

REVISED DATE: 3/21/03

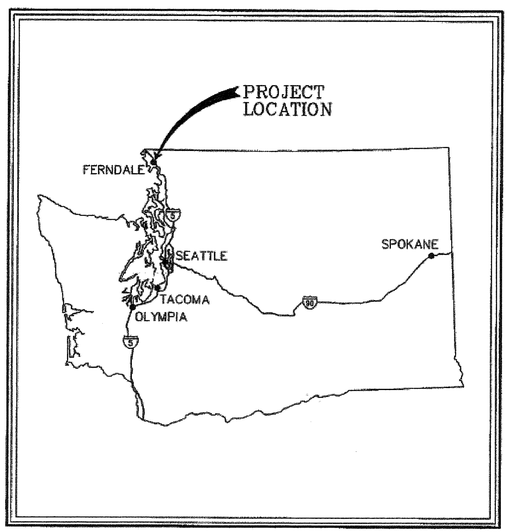
Plotted: DATE @TIME USER

NR 609 S.F.S. SHOP#200

MAIN STREET BRIDGE
STREET IMPROVEMENTS
FERNDALE, WASHINGTON



VICINITY MAP



LOCATION MAP

SHEET LIST

SHEET NO.	TITLE
SH-0	COVER SHEET
SH-1	GENERAL NOTES
SH-2	SITE PLAN
SH-3	WALL ELEVATION
SH-4	WALL DETAILS

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

REFERENCES	REVISIONS				REVISIONS			
TITLE	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION

WILLIAM J. BUCHAN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 08/27/03

DRAWING INFORMATION

		INIT.	DATE
DRAWING SCALE: AS SHOWN			
DESIGNED BY:	C. BUCHAN	CJB	11/25/02
DRAWN BY:	E. MUENCH	EM	11/26/02
CHECKED BY:	S. RAJAH	SR	11/26/02
APPROVED BY:	C. BUCHAN	CJB	11/25/02

FILE: ...\Retaining Wall\R01\33755205001R01.dwg

URS
1501 4th Avenue, Ste. 1400
Seattle, WA 98101-1616
Telephone (206) 438-2700

CITY OF FERNDALE
2095 MAIN STREET FERNDALE, WA. 98248
MAIN ST. BRIDGE STREET IMPROVEMENTS
FERNDALE, WASHINGTON

COVER SHEET

DATE: 11-25-02
JOB NO. 33755205
REVISION
DRAWING NO. SH-0

\\Sea2\cadd\ACAD\PROJECT\Ferndale\Retaining Wall\R01\33755205001r01.dwg Nov 25, 2002 - 4:29pm

0687.046 S.H.09 AK

GENERAL SHORING & WALL CONSTRUCTION NOTES

DEFINITIONS
1. CONTRACTOR IS DEFINED AS THE GENERAL SITE AND PROJECT SUBCONTRACTOR UNLESS OTHERWISE NOTED.
2. ENGINEER IS DEFINED AS URS CORPORATION.
3. OWNER IS DEFINED AS THE CITY OF FERNDALE.

DESCRIPTION OF WORK
PRESTRESSED SOIL NAIL (ANCHORED-SHOTCRETE) SHORING AND PERMANENT RETAINING WALL IS DESIGNED TO SUPPORT THE ADJACENT PROPERTY ONCE THE ANCHORS, REINFORCING, AND INITIAL STAGE OF SHOTCRETE IS INSTALLED IN ACCORDANCE WITH THESE DRAWINGS. THE ANCHORED SHOTCRETE IS TO BE CONSTRUCTED WITH A TEXTURED/DECORATIVE FINISH TO BE APPROVED BY THE OWNER PRIOR TO CONSTRUCTION.

SAFETY
CONTRACTOR IS RESPONSIBLE FOR THE PROJECT SITE, CONSTRUCTION PROCESS AND ALL ASPECTS OF WORKER SAFETY. CONTRACTOR SHALL PROVIDE PROTECTION OF PEDESTRIANS AND CONTROL OF VEHICULAR TRAFFIC WHEN CONSTRUCTION ACTIVITIES REQUIRE SUCH.

EXISTING SITE CONDITIONS
MAINTAINING THE STABILITY OF TEMPORARY SOIL CUTS IS THE RESPONSIBILITY OF THE CONTRACTOR.

UTILITIES AND OBSTRUCTIONS
LOCATIONS AND DIMENSIONS OF UTILITIES SHOWN ON SITE PLAN ARE IN ACCORDANCE WITH AVAILABLE INFORMATION OBTAINED WITHOUT UNCOVERING, MEASURING, OR OTHER VERIFICATION.

PUBLIC AND PRIVATE UTILITIES, OR THEIR CONTRACTORS, WILL FURNISH ALL WORK NECESSARY TO ADJUST, RELOCATE, REPLACE, OR CONSTRUCT THEIR FACILITIES UNLESS OTHERWISE PROVIDED FOR IN THE DRAWINGS. SUCH ADJUSTMENT, RELOCATION, REPLACEMENT OR CONSTRUCTION WILL BE DONE DURING THE PROSECUTION OF THE WORK FOR THIS PROJECT.

CONTRACTOR SHALL NOTIFY UTILITY PROVIDER TO ARRANGE FOR THE ADJUSTMENT, RELOCATION, REPLACEMENT OR CONSTRUCTION OF EXISTING UTILITIES AS NEEDED FOR THIS PROJECT.

CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ANY ABANDONED UTILITIES ENCOUNTERED AND OTHER SUBSURFACE OBSTRUCTIONS THAT INTERFERE WITH THE WALL CONSTRUCTION.

SITE DRAINAGE
CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING SITE DRAINAGE DURING CONSTRUCTION. CONTRACTOR SHALL REMOVE TEMPORARY DRAINAGE SYSTEMS AFTER CONSTRUCTION OF THE NEW RETAINING WALL.

CONTRACTOR SHALL NOTIFY ENGINEER OF EXISTING SUBSURFACE DRAINAGE FEATURES ENCOUNTERED DURING CONSTRUCTION.

APPLICABLE CODES
ICBO (1997), UNIFORM BUILDING CODE (UBC '97)
FHWA (1996), FHWA MANUAL FOR DESIGN AND CONSTRUCTION OF SOIL NAIL WALLS
WSDOT (2002) STANDARD SPECIFICATIONS FOR BRIDGE ROAD AND MUNICIPAL CONSTRUCTION

LOADS
ESTIMATED EXISTING BUILDING FOOTING BEARING PRESSURE = 2000 PSF

DESIGN SOIL PARAMETERS

SOIL	UNIT WEIGHT (P.C.F.)	PHI (DEGREES)	COHESION (P.S.F.)	ULTIMATE ANCHOR/ SOIL PULLOUT (K.L.F.)
SILTY SAND (SM)	125	38	100 (TEMPORARY) 0 (LONG TERM)	2
SANDY CLAY (CL)	120	0 (TEMPORARY) 28 (LONG TERM)	750 (TEMPORARY) 0 (LONG TERM)	2

GROUNDWATER
GROUNDWATER TABLE ASSUMED TO BE BELOW THE BASE OF EXCAVATION. MINOR SEEPAGE MAY BE ENCOUNTERED DURING EXCAVATION. DEWATERING FOR SEEPAGE SHALL BE INCIDENTAL AND INCLUDED IN THE UNIT PRICE FOR THE BID ITEM "SHOTCRETE RETAINING WALL".

MATERIALS
1. ANCHOR BARS: USE DYWIDAG-SYSTEMS INTERNATIONAL DSI-MAI HOLLOW CORE INJECTION ANCHORS, TYPE R25N, GALVANIZED, OR APPROVED EQUAL.
   ALL ANCHOR BAR ASSEMBLY PARTS, BARS, COUPLERS, AND NUTS SHALL BE GALVANIZED.
2. COUPLERS: USE MANUFACTURER APPROVED COUPLER.
3. BEARING PLATES: USE GALVANIZED ASTM A36 STEEL PLATE 12" X 12" X 1/2".
4. ANCHOR NUTS: USE MANUFACTURER APPROVED NUTS.
5. EPOXY SHALL BE HILTI HIT HY150 ADHESIVE CAPSULES INSERTED INTO CLEAN DRILL HOLE OF MINIMUM DIAMETER AND EMBEDMENT PER SUPPLIER'S REQUIREMENTS.
6. HEADED STUDS: USE ½" X 2-1/8" HEADED STUDS TO BE WELDED TO BEARING PLATES.
7. REINFORCING STEEL: USE GRADE 60 (ASTM A615) DEFORMED STEEL BARS
   WELDED WIRE MESH: USE ASTM A185 OR ASTM A497 WELDED WIRE MESH. USE MINIMUM TWO SQUARE OVERLAP.
8. PVC DRAINPIPES AND WEEPHOLES: USE ASTM 1785 SCHEDULE 40 PVC (UNLESS NOTED OTHERWISE ON DRAWINGS); FITTINGS PER ASTM D3034
9. SHOTCRETE: MINIMUM 3 DAY STRENGTH OF 3000 PSI AND MINIMUM 28 DAY STRENGTH OF 4000 PSI.
10. SHOTCRETE TO HAVE A BATCHED AIR ENTRAINMENT (IN ACCORDANCE WITH ASTM C260) OF 8 PERCENT PLUS OR MINUS 2 PERCENT AND AN AS BATCHED SLUMP OF 2 INCHES PLUS OR MINUS 0.8 INCHES. SILICA FUME (IN ACCORDANCE WITH ASTM C1240) AND FLY ASH (IN ACCORDANCE WITH ASTM C618) TO BE ADDED TO IMPROVE THE WORKABILITY, AND DURABILITY OF THE SHOTCRETE. THE CONTRACTOR SHALL SUPPLY SHOTCRETE MIX DESIGN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. THE SHOTCRETE SHALL BE DYED OR COLORING AGENTS USED TO MEET THE COLOR REQUIREMENTS OF THE PROJECT.
11. ANCHOR GROUT: MINIMUM 3 DAY STRENGTH OF 3000 PSI AND 28 DAY STRENGTH OF 4000 PSI.
12. EPOXY SHALL BE HILTI HIT HY150 ADHESIVE CAPSULES INSERTED INTO CLEAN DRILL HOLE OF MINIMUM DIAMETER AND EMBEDMENT PER SUPPLIER'S REQUIREMENTS.

GENERAL EXCAVATION & RETAINING WALL CONSTRUCTION SEQUENCE
1. CONTRACTOR SHALL REMOVE THE EXISTING STEPS LOCATED ON THE SOUTH SIDE OF THE EXISTING BUILDING AT 1920 MAIN STREET (EXISTING BUILDING).
2. SAWCUT AND REMOVE PERTINENT SEGMENT OF THE EXISTING RETAINING WALL AND RAILING USING THE SEQUENCE SHOWN ON THE DRAWINGS. PANEL SIZE OR CONSTRUCTION SEQUENCE SHOULD NOT BE CHANGED WITHOUT DOCUMENTED APPROVAL FROM THE ENGINEER.
3. EXCAVATE THE SOIL TO 1H:1V (HORIZONTAL:VERTICAL) IN THE WORKING PANEL.
4. INSTALL SCHEDULE 40 PVC SLEEVE OVER UNBONDED LENGTH (UBL) OF THE ANCHOR.
5. DRILL AND GROUT THE BONDED LENGTH (BL) OF THE ANCHOR THROUGH 1H:1V SOIL BERM. PROVIDE THE MINIMUM UNBONDED LENGTH (UBL) IN ACCORDANCE WITH THE DRAWINGS DURING INITIAL GROUTING.
6. EXCAVATE FACE TO VERTICAL CONFIGURATION AT THE POSITION SHOWN ON DRAWINGS. MAINTAIN VERTICAL EXCAVATION CONFIGURATION FOR THE TIME REQUIRED TO INSTALL THE REINFORCING STEEL AND THE INITIAL LAYER OF SHOTCRETE.
7. INSTALL GEOCOMPOSITE DRAIN BOARD, WELDED WIRE MESH, REINFORCING STEEL, AND SHOOT INITIAL LIFT OF SHOTCRETE. THE INITIAL STAGE OF SHOTCRETE SHALL BE PLACED WITHIN 24 HOURS OF CUTTING SOIL TO VERTICAL CONFIGURATION.
8. INSTALL 2-INCH DIAMETER SCHEDULE 40 PVC WEEPHOLES AT THE LOCATIONS SHOWN ON THE DRAWINGS PRIOR TO SHOOTING INITIAL LIFT OF SHOTCRETE. THE WEEPHOLE DRAINS SHALL BE INSTALLED TO PROVIDE HYDRAULIC CONNECTION FROM GEOCOMPOSITE DRAINBOARD TO FACE OF THE NEW WALL.
9. SEAT BEARING PLATE AGAINST THE SHOTCRETE AND HAND TIGHTEN NUT PRIOR TO SHOTCRETE HARDENING TO PROVIDE FULL CONTACT BETWEEN THE SHOTCRETE AND THE BEARING PLATE. TEST ANCHOR AT LEAST 24 HOURS AFTER GROUTING. LOCK OFF ANCHOR AT DESIGN LOAD (DL) AFTER TESTING INDICATES THAT THE ANCHOR MEETS THE PROJECT REQUIREMENTS. THE ENGINEER MAY DIRECT THE CONTRACTOR TO INSTALL LONGER ANCHORS OR ADDITIONAL ANCHORS, REQUIRED TO MEET THE PROJECT REQUIREMENTS.
10. SECOND STAGE GROUT OR FILL UBL WITH NON-STRUCTURAL FOAM AFTER ACCEPTANCE OF THE ANCHOR BY ENGINEER. LOCK-OFF ANCHOR AT DL BEFORE SECOND STAGE ANCHOR GROUT HARDENS.
11. PROCEED TO NEXT PANEL IN THE CONSTRUCTION SEQUENCE IN ACCORDANCE WITH THE DRAWINGS. CONTRACTOR SHALL NOT PROCEED TO DEMOLISH EXISTING RETAINING WALL IN NEXT PANEL UNTIL THE INITIAL STAGE OF SHOTCRETE HAS BEEN INSTALLED AND THE ANCHOR HAS BEEN TESTED AT THE PROOF LOAD (PL) AND LOCKED-OFF AT THE SPECIFIED DESIGN LOAD (DL).
12. CONTRACTOR SHALL PRESSURE WASH INITIAL SHOTCRETE LAYER PRIOR TO APPLYING SUBSEQUENT LAYER(S) TO ENHANCE BONDING BETWEEN SHOTCRETE LAYERS.
13. CONTRACTOR TO APPLY FINAL LAYER OF SHOTCRETE TO PROVIDE TEXTURED/DECORATIVE TO MEET THE AESTHETIC REQUIREMENTS OF THE PROJECT.
14. SHOTCRETE SHALL BE WATER CURED TO PREVENT SHRINKAGE CRACKING. CONTRACTOR MAY ALSO USE CONTRACTION JOINTS AS REQUIRED, TO PREVENT SHRINKAGE CRACKING.

ANCHOR PROOF TESTS
1. ALL ANCHORS ARE TO BE TESTED BY THE CONTRACTOR TO THE INDICATED PROOF LOAD (PL) IN THE PRESENCE OF THE ENGINEER USING A LOAD TESTING ASSEMBLY AND PROCEDURE APPROVED BY THE ENGINEER.
2. CONTRACTOR TO SUPPLY AND INSTALL ALL TESTING EQUIPMENT INCLUDING CALIBRATED JACKS, CRIBBING. TRIPODS, AND DIAL GAGES FOR THE TESTING. A RECENT CALIBRATION CHART SHALL BE PROVIDED TO THE ENGINEER FOR THE ACTUAL JACK AND DIAL GAGE ASSEMBLY USED FOR THE LOAD TESTING OF THE ANCHORS.
3. GAGES USED TO MEASURE THE ANCHOR DEFORMATION SHALL BE MOUNTED ON A TRIPOD OR OTHER APPROVED REFERENCE POINT INDEPENDENT OF THE REACTION BLOCK ASSEMBLY. THE ANCHORS SHALL BE TESTED USING DIAL GAGES CAPABLE OF MEASURING ANCHOR HEAD DEFORMATION TO THE NEAREST 0.001 INCHES
4. THE ANCHORS SHALL BE LOADED IN FOUR APPROXIMATELY EQUAL INCREMENTS TO THE PROOF LOAD (PL). MEASUREMENTS OF THE ANCHOR MOVEMENT SHALL BE TAKEN AT 0.5, 1, 2, 4, 6, AND 10 MINUTES. THE LOAD-DEFORMATION DATA SHALL BE PLOTTED BY THE ENGINEER TO DETERMINE THE ACCEPTANCE OF THE ANCHOR. AN ACCEPTABLE ANCHOR WILL HAVE A CONSTANT OR DECREASING CREEP, AND THE TOTAL ANCHOR EXTENSION WILL NOT EXCEED MORE THAN HALF OF THE THEORETICAL ELASTIC DEFORMATION OF THE UNBONDED LENGTH (UBL) PLUS ONE HALF OF THE BONDED LENGTH, AT THE PL. THE ENGINEER MAY REQUIRE ADDITIONAL ANCHOR TESTING IF INCONCLUSIVE OR ERRONEOUS DATA IS RECORDED DURING THE INITIAL PROOF TEST.
5. THE ENGINEER MAY REQUIRE LENGTHENED OR ADDITIONAL ANCHORS ON THE BASIS OF THE PROOF TEST RESULTS. ADDITIONAL ANCHOR INSTALLATIONS ARE TO BE PAID FOR BY THE CONTRACTOR IF IT IS DEEMED BY THE ENGINEER THAT POOR WORKMANSHIP WAS USED TO INSTALL THE ANCHOR THAT DOES NOT MEET THE PROOF TEST LOAD REQUIREMENTS.

MONITORING & TESTING
1. THE CONTRACTOR SHALL ESTABLISH AND SURVEY TEMPORARY MONITORING POINTS AT MAXIMUM 25-FOOT INTERVALS ALONG THE FACE OF THE SOUTH WALL OF THE EXISTING BUILDING PRIOR TO REMOVING THE EXISTING RETAINING WALL.
2. THE MONITORING POINTS SHALL BE SURVEYED AT LEAST ONCE PRIOR TO COMMENCING WITH THE REMOVAL OF THE EXISTING RETAINING WALL. THE POINTS WILL BE SURVEYED FOR HORIZONTAL AND VERTICAL MOVEMENT EVERY MONDAY AND THURSDAY UNTIL THE NEW RETAINING WALL HAS BEEN CONSTRUCTED. THE SURVEYING IS TO BE CONDUCTED BY AN INDEPENDENT LICENSED LAND SURVEYOR.
3. CONTRACTOR SHALL PROVIDE THE SURVEY DATA TO THE ENGINEER BEFORE 2:00 PM THE FOLLOWING WORKING DAY (URS CORPORATION, ATTENTION: CALUM BUCHAN PE, FAX: 206-438-2699, EMAIL: CALUM_BUCHAN@URSCORP.COM) AFTER EACH SURVEY. THE FREQUENCY OF THE SURVEY MAY BE CHANGED UPON RECEIVING DOCUMENTED APPROVAL FROM THE ENGINEER.
4. ENGINEER SHALL PROVIDE ON-SITE CONSTRUCTION MONITORING, AS REQUIRED, TO MEET THE PROJECT REQUIREMENTS. THE CONSTRUCTION MONITORING WILL INCLUDE OBSERVING AND DOCUMENTING ALL PROOF TESTING OF THE ANCHORS AND MEASUREMENTS TO CONFIRM THAT APPROPRIATE CONSTRUCTION PROCEDURES AND MATERIALS ARE BEING USED FOR THIS PROJECT.
5. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AT LEAST 24 HOURS NOTICE OF ANCHOR PROOF TESTING. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER OF CHANGES IN THE CONSTRUCTION SCHEDULE OR UNEXPECTED DIFFICULTIES ENCOUNTERED DURING CONSTRUCTION. CONTRACTOR SHALL PAY FOR ENGINEER SITE VISIT IF THE ENGINEER IS REQUESTED, BY THE CONTRACTOR, TO MEET AT THE SITE WHEN THE CONTRACTOR IS NOT PREPARED FOR THE REQUIRED CONSTRUCTION MONITORING ACTIVITY, OR THE CONTRACTOR SUPPLIED TESTING EQUIPMENT REQUIRED FOR THE ENGINEER SITE VISIT IS INOPERABLE.
6. CONTRACTOR SHALL FURNISH AT LEAST ONE UNREINFORCED SHOTCRETE TEST PANEL FOR EACH SHOTCRETE MIX USED FOR THE PROJECT. THE TEST PANEL SHALL BE A MINIMUM OF 18 X 18 X 6 INCHES IN ACCORDANCE WITH ACI 506.2-95. THE TEST PANEL SHALL BE PREPARED USING PRODUCTION SHOTCRETE AT TIME OF PLACEMENT.
7. AT LEAST NINE 3-INCH DIAMETER CORES WILL BE EXTRACTED FROM THE SHOTCRETE TEST PANEL BY A TESTING AGENCY DESIGNATED BY THE OWNER. THE CORES SHALL BE SOAKED IN ACCORDANCE WITH ACI 506.2 OR AASHTO T24. COMPRESSIVE STRENGTH TESTING WILL BE CONDUCTED ON THREE OF THE CORES AFTER 3 DAYS. COMPRESSIVE STRENGTH TESTING WILL BE CONDUCTED AGAIN ON THREE OTHER CORES AT 28 DAYS. THE 3 REMAINING TEST CORES WILL BE TESTED FOR ABSORPTION AT 7 DAYS IN ACCORDANCE WITH ASTM C642.

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ONE INCH
AT FULL SIZE. IF NOT ONE INCH SCALE ACCORDINGLY

REFERENCES	REVISIONS				REVISIONS			
TITLE	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION

CALUM J. BUCHAN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 06/27/03

DRAWING INFORMATION

		INIT.	DATE
DRAWING SCALE: AS SHOWN			
DESIGNED BY:	C. BUCHAN	CJB	11/25/02
DRAWN BY:	E. MUENCH	EM	11/25/02
CHECKED BY:	S. RAJAH		11/26/02
APPROVED BY:	C. BUCHAN	CJB	11/25/02

FILE: ...\Retaining Wall\R01\33755205005R01.dwg

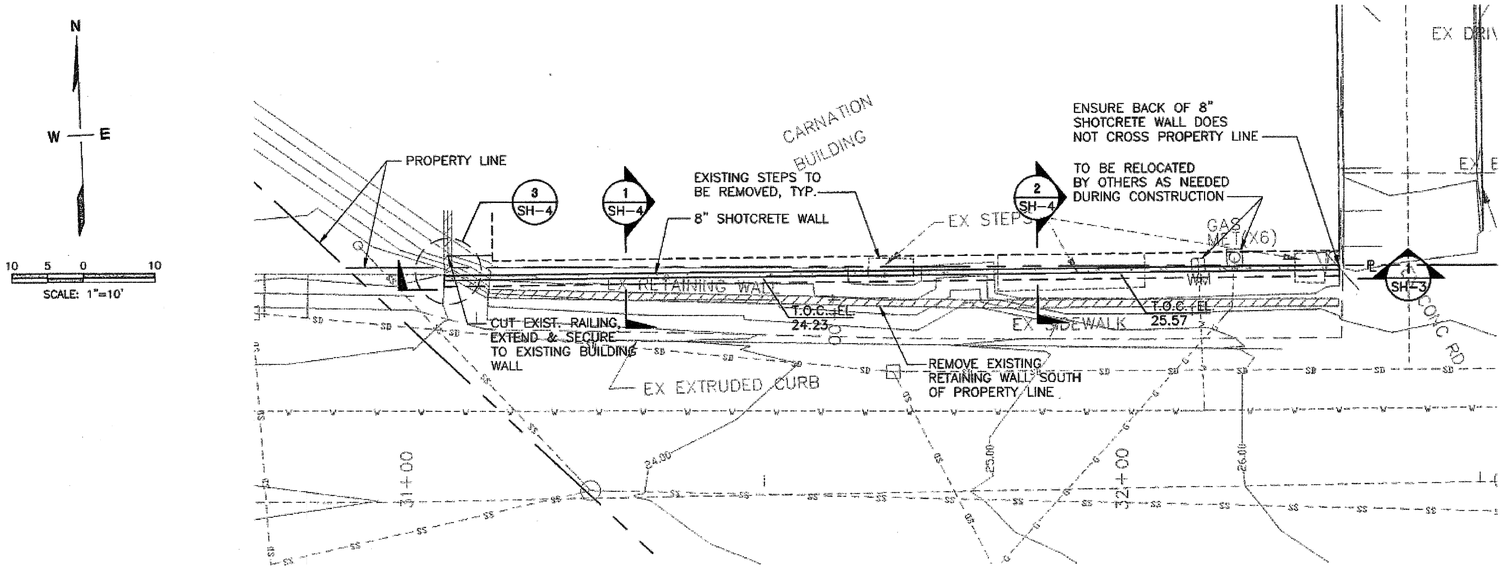
URS
1501 4th Avenue, Ste. 1400
Seattle, WA 98101-1616
Telephone (206) 438-2700

CITY OF FERNDALE
2095 MAIN STREET FERNDALE, WA. 98248
MAIN ST. BRIDGE STREET IMPROVEMENTS
FERNDALE, WASHINGTON

GENERAL NOTES

DATE: 11-25-02
JOB NO. 33755205
REVISION
DRAWING NO. SH-1

00378.048 S.4.09 KK



SITE PLAN

PLAN

SCALE: 1"=10'-0"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

REFERENCES	REVISIONS				REVISIONS			
TITLE	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION

CALVIN J. BUCHAN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 08/27/03

DRAWING INFORMATION			
DRAWING SCALE: AS SHOWN			
		INIT.	DATE
DESIGNED BY:	C. BUCHAN	CJB	11/25/02
DRAWN BY:	E. MUENCH	EM	11/26/02
CHECKED BY:	S. RAJAH	SR	11/26/02
APPROVED BY:	C. BUCHAN	CJB	11/25/02
FILE: ...\Retaining Wall\R01\33755205002R01.dwg			

URS
1501 4th Avenue, Ste. 1400
Seattle, WA 98101-1616
Telephone (206) 438-2700

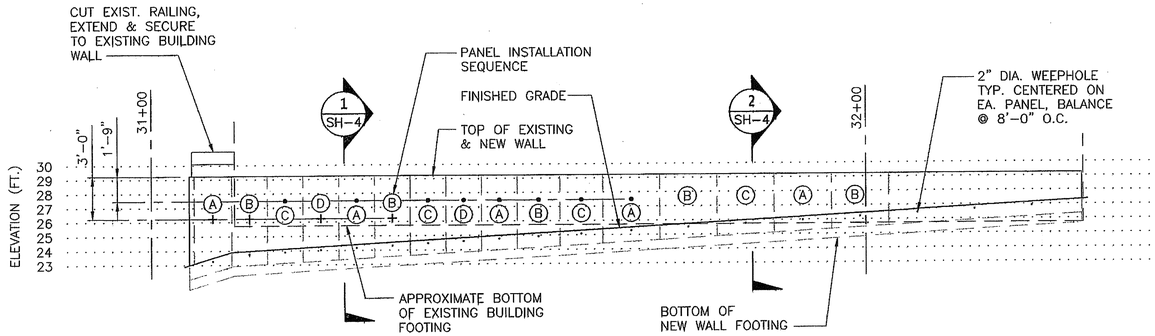
CITY OF FERNDALE
2095 MAIN STREET FERNDALE, WA. 98248

MAIN ST. BRIDGE STREET IMPROVEMENTS
FERNDALE, WASHINGTON

SITE PLAN

DATE: 11-25-02
JOB NO. 33755205
REVISION
DRAWING NO. SH-2

\\Sea2_cadd\CADD\PROJECT\Ferndale\Retaining Wall\R01\33755205002-01.dwg Nov 25, 2002 - 4:30pm



LOOKING NORTH

ELEVATION (1/SH-3)

SCALE: 1"=5' VERTICAL
1"=10' HORIZONTAL

LEGEND

- (A) STAGED CONSTRUCTION SEQUENCES
- • ANCHOR DRILLED AT 10° DECLINATION
- + ANCHOR DRILLED AT 20° DECLINATION

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

REFERENCES	REVISIONS				REVISIONS			
TITLE	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION

WILLIAM J. BUCHAN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 08/27/02

DRAWING INFORMATION

DRAWING SCALE: AS SHOWN

		INIT.	DATE
DESIGNED BY:	C. BUCHAN	CJB	11/25/02
DRAWN BY:	E. MUENCH		11/26/02
CHECKED BY:	S. RAJAH		11/24/02
APPROVED BY:	C. BUCHAN	CJB	11/25/02

FILE: ...\Retaining Wall\R01\33755205004R01.dwg

URS
1501 4th Avenue, Ste. 1400
Seattle, WA 98101-1616
Telephone (206) 438-2700

CITY OF FERNDALE
2095 MAIN STREET FERNDALE, WA. 98248

MAIN ST. BRIDGE STREET IMPROVEMENTS
FERNDALE, WASHINGTON

WALL ELEVATION

DATE: 11-25-02
JOB NO. 33755205
REVISION
DRAWING NO. SH-3

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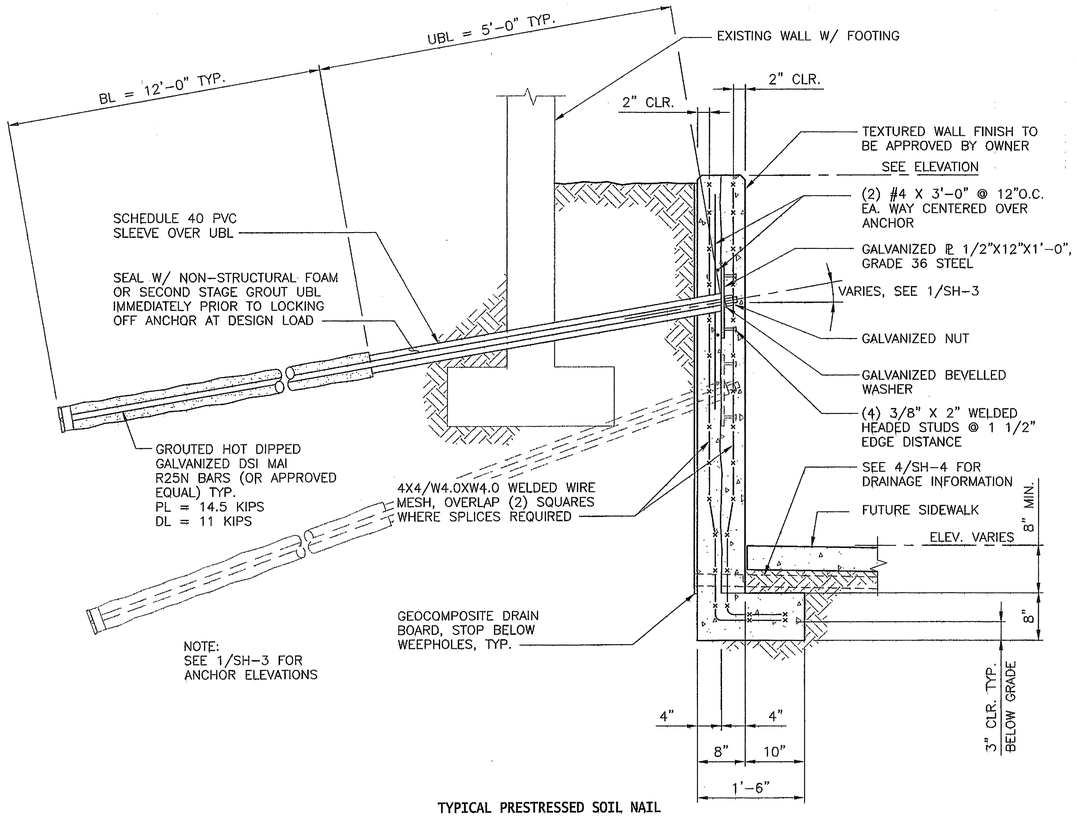
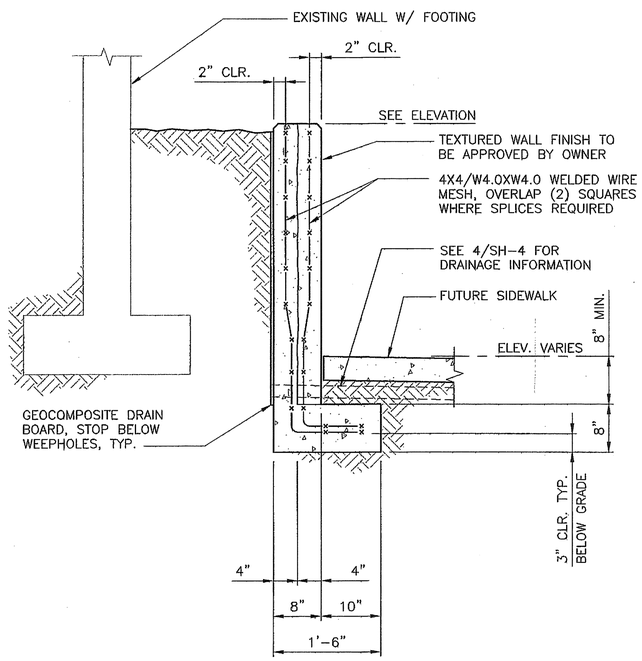
0038.44 6.4.5 KR



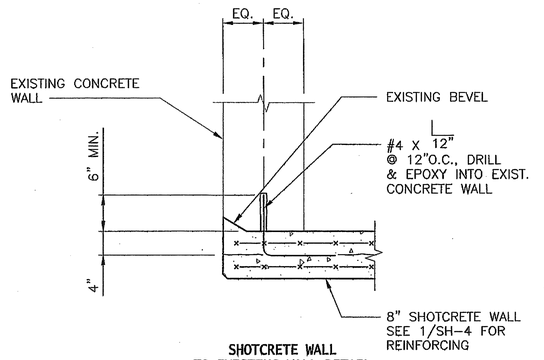
TYPICAL PRESTRESSED SOIL NAIL CONCRETE WALL SECTION

SECTION 1 SH-4
SCALE: 1"=1'-0"



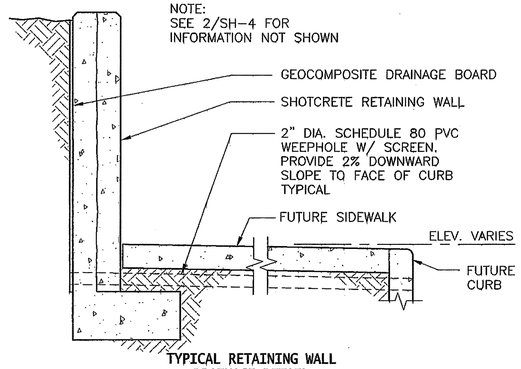
TYPICAL CONCRETE WALL SECTION

SECTION 2 SH-4
SCALE: 1"=1'-0"



SHOTCRETE WALL TO EXISTING WALL DETAIL

DETAIL 3 SH-4
SCALE: 1"=1'-0"



TYPICAL RETAINING WALL DRAINAGE DETAIL

SECTION 4 SH-4
SCALE: 1"=1'-0"

LEGEND

UBL	UNBONDED LENGTH
BL	BOND LENGTH
PL	PROOF LOAD
DL	DESIGN LOAD

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

REFERENCES				REVISIONS				REVISIONS			
TITLE	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION	NO.	BY.	DATE	DESCRIPTION

CLAIM J. BUCHAN — STATE OF WASHINGTON — 15749 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 08/27/03

DRAWING INFORMATION			
DRAWING SCALE: AS SHOWN			
		INIT.	DATE
DESIGNED BY:	C. BUCHAN	CJB	11/25/02
DRAWN BY:	E. MUENCH	EM	11/26/02
CHECKED BY:	S. RAJAH		11/26/02
APPROVED BY:	C. BUCHAN	CJB	11/25/02
FILE: ...\Retaining Wall\R01\337552O5003R01.dwg			

URS
1501 4th Avenue, Ste. 1400
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CITY OF FERNDALE
2095 MAIN STREET FERNDALE, WA. 98248
MAIN ST. BRIDGE STREET IMPROVEMENTS
FERNDALE, WASHINGTON
WALL DETAILS

DATE: 11-25-02
JOB NO. 33755205
REVISION
DRAWING NO. SH-4

60.P.S 050.X1200

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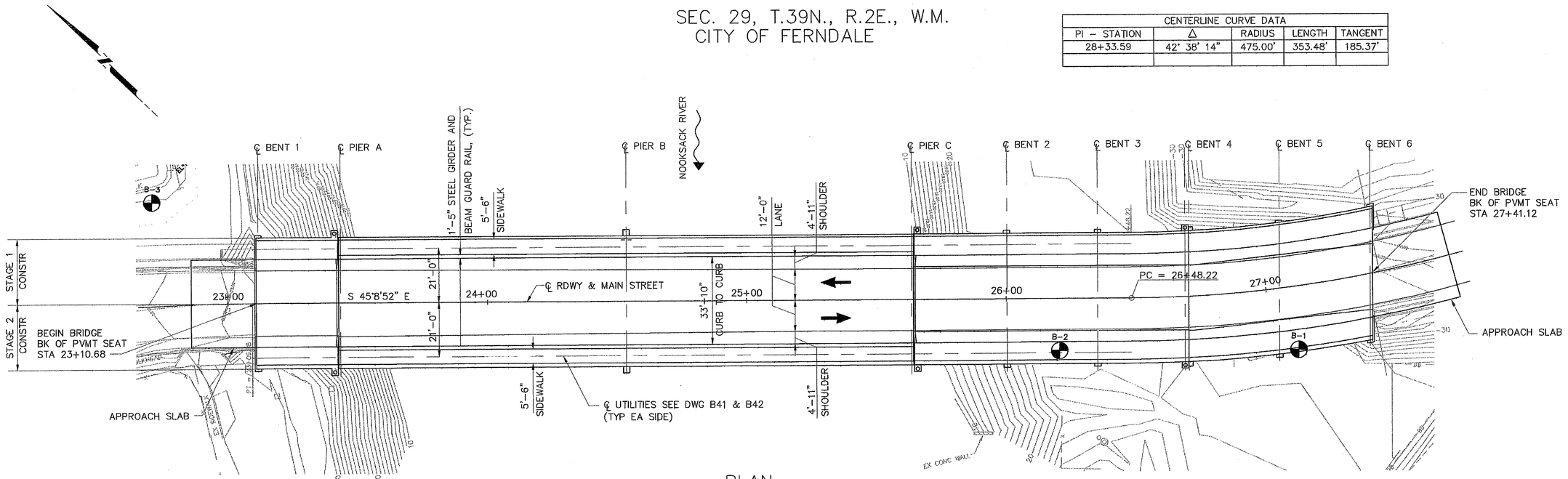
SEC. 29, T.39N., R.2E., W.M.
CITY OF FERNDALE

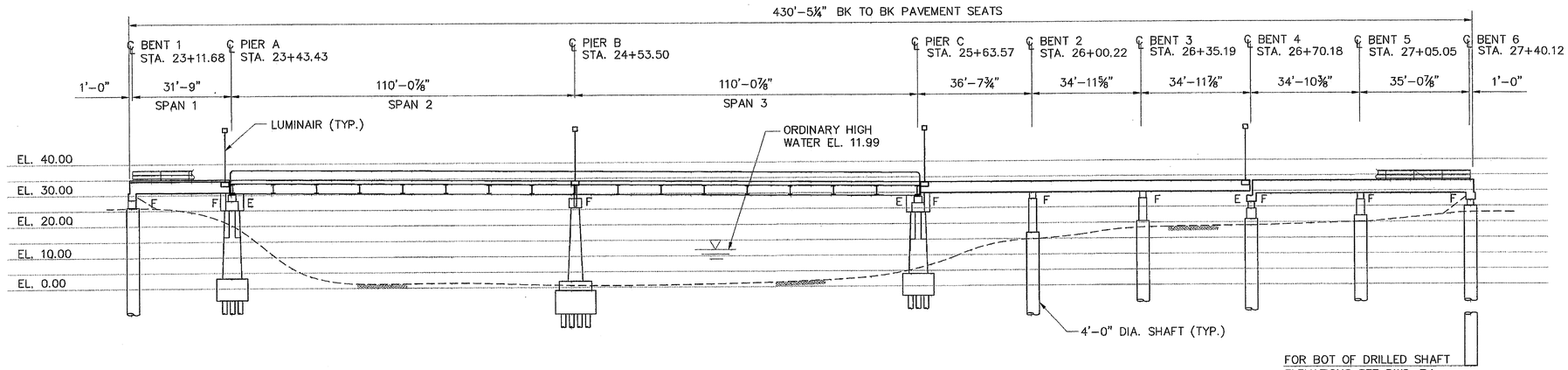
CENTERLINE CURVE DATA				
PI – STATION	Δ	RADIUS	LENGTH	TANGENT
28+33.59	42° 38' 14"	475.00'	353.48'	185.37'



PLAN
SCALE: 1"=20'

LEGEND

BORING DESIGNATION AND APPROXIMATE LOCATION SEE SPECIAL PROVISIONS



SOUTH ELEVATION
SCALE: 1"=20'

NOTES:

1. STEEL PORTIONS OF THE EXISTING BRIDGE TO BE CLEANED WITH PRESSURE WASHING AND BLAST ABRASIVE AND PAINTED INSIDE OF A CONTAINMENT SYSTEM THAT WILL BE SUPPORTED FROM THE BRIDGE BY CABLES.
2. THE CONTAINMENT SYSTEM SHALL CONSIST OF TARPS OR OTHER FLEXIBLE CONTAINMENT MATERIAL THAT WILL ENCLOSE THE BRIDGE AND IS CAPABLE OF COLLECTING THE BLASTING ABRASIVE PAINT DEBRIS FROM CLEANING AND OVER SPRAYING FROM PAINTING.
3. FOR APPPROACH DETAILS INCLUDING SOIL EXCAVATION, FILL AND SLOPE PROTECTION SEE CIVIL DRAWINGS.

DATUM

NIKZAD NIKJAH — STATE OF WASHINGTON — 38927 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
A MACTEC Company

BRIDGE NUMBER: FRNDALE2

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

LAYOUT
FERNDALE BRIDGE REHABILITATION

B1

SHEET OF

00378 OSI S.4.09

STRUCTURAL NOTES

CONSTRUCTION:

ALL MATERIALS AND WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF WASHINGTON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, DATED 2002, AMENDMENTS, AND SPECIAL PROVISIONS.

DESIGN:

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 1996 AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 16th EDITION WITH INTERIMS THRU 2000 AND STATE OF WASHIGTON DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL FOR THE FOLLOWING:
- IMPORTANCE CATEGORY – I
- SOIL PROFILE TYPE III
- SITE COEFFICIENT (S) – 1.5

DESIGN LOADS

DEAD LOAD:
WEIGHT OF REINFORCED CONCRETE:
160 PCF – SPANS 1, 4 THRU 8.
115 PCF – SPANS 2 & 3

LIVE LOAD:
HS20 FOR ALL THE NEW STRUCTURAL ELEMENTS.

SEISMIC ACCELERATION:
A=0.25g PURSUANT TO GEOTECHNICAL REPORT BY KLEINFELDER, INC.
DATE AUGUST 2002

THERMAL FORCES:
NORMAL TEMPERATURE 64° F

TEMPERATURE RANGE:
CONCRETE STRUCTURES, 30° F RISE, 40° F FALL
STEEL STRUCTURES, F TO 120° F

THE COEFFICIENT OF THERMAL EXPANSION:
CONCRETE STRUCTURES, 0.000006
STEEL STRUCTURES, 0.0000065

REINFORCEMENT:

GENERAL:
AASHTO M31, GRADE 60 — Fy = 60,000 PSI
WHERE WELDED REINFORCEMENT IS REQUIRED:
ASTM A706, GRADE 60 — Fy = 60,000 PSI

STRUCTURAL STEEL:
AASHTO M270 GR 50W — Fy = 50,000 PSI

FUTURE WEARING SURFACE: NO PROVISION HAS BEEN MADE FOR FUTURE OVERLAY

CONCRETE

CLASS 4000P:
DRILLED SHAFT

CLASS 4000D:
SDWK, RAILBASE AND DECK CLOSURE POUR – SPANS 1, 4 THRU 8

CLASS 4000DLT:
PRECAST SIDEWALK PANELS, DECK CLOSURE POUR AND CURB – SPANS 2 & 3.

CLASS 4000
ALL OTHER

FOUNDATIONS

MAX. DRILLED SHAFT LOAD (ULTIMATE): 465 TONS

GENERAL

PLAN DIMENSIONS:

1. VERTICALLY UNLESS OTHERWISE NOTED AND REFLECT THE ULTIMATE GEOMETRIC SHAPE AND LOCATION OF ALL ELEMENTS AT A MEAN TEMPERATURE OF 64° F.
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE SHOWN OR NOTED.
3. CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCEMENT BAR SHALL BE (EXCEPT AS SHOWN):
   - 3" – POURED AGAINST UNDISTURBED EARTH
   - 2" – TOP SIDEWALK DECK REINFORCING
   - 2 1/2" – TOP ROADWAY DECK REINFORCEMENT
   - 1" – BOTTOM DECK REINFORCEMENT
   - 1 1/2" – ALL OTHER LOCATIONS
4. DIMENSIONS OF EXISTING STRUCTURE SHOWN ARE BASED ON ORIGINAL CONSTRUCTION RECORDS TOGETHER WITH SURVEY DATA. THESE DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION.
5. ROADWAY ELEVATIONS AND DIMENSIONS SHOWN IN THIS PLAN SET ARE TOP OF BASE CONCRETE POUR EXCEPT AS NOTED.
6. EXISTING CONCRETE ROADWAY DECK SHALL BE SCARIFIED 1" IN DEPTH AND NEW ROADWAY DECK SHALL BE SCARIFIED 1/4" IN DEPTH PRIOR TO PLACING 1 1/2" LATEX MODIFIED CONCRETE OVERLAY OVER ENTIRE ROADWAY DECK SURFACE.
7. STATIONING AND BENT, PIER AND SPAN NUMBERING INCREASE FROM NORTHWEST TO SOUTHEAST. DESIGNATIONS ON PREVIOUS PLANS INCREASE IN OPPOSITE DIRECTION.
8. ALL UTILITY BLOCKOUTS SHALL BE PARALLEL TO ℄ PIPE OR CONDUIT.
9. FOR STAGE CONSTRUCTION REQUIREMENTS SEE CIVIL DWGS.
10. REHABILITATION OF PIERS A AND C SUBSTRUCTURES SHALL BE COMPLETE PRIOR TO ADDITION OF ANY PERMANANT OR TEMPORARY LOADING TO THESE PIERS.

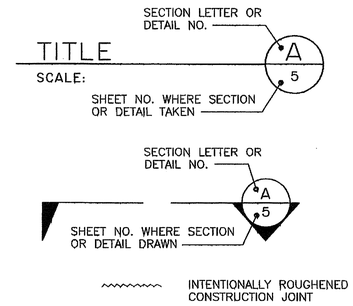
ABBREVIATIONS

ABT	ABOUT
ABUT	ABUTMENT
ACP	ASPHALT CONCRETE PAVEMENT
ALUM	ALUMINUM
A.P.	ANGLE POINT
BK	BACK
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
B.V.C.	BEGIN VERTICAL CURVE
C.G.S.	CENTER OF GRAVITY – STRANDS
CLR	CLEAR, CLEARANCE
CONC.	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
SSK HD	COUNTERSUNK HEAD
C.Y.	CUBIC YARD
DWG	DRAWING
DWL	DOWEL
DIAPH	DIAPHRAGM
EA	EACH
E.F.	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
EMBED	EMBEDMENT
EQ	EQUAL
EQUIV	EQUIVALENT
EVC	END VERTICAL CURVE
EXIST	EXISTING
E. EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FIN	FINISH
F.F.	FAR FACE
F	FIXED
GALV	GALVANIZED
GIR	GIRDER
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
HT	HEIGHT
INT	INTERIOR
JT	JOINT
LB	POUND
L.F.	LINEAL FEET
LONGIT	LOGITUDINAL
L.S.	LUMP SUM, LOW SHRINKAGE
LT	LEFT
MAX	MAXIMUM
MATL	MATERIAL
MIN	MINIMUM
N.F.	NEAR FACE
NO	NUMBER
N.T.S.	NOT TO SCALE
O.D.	OUTSIDE DIAMETER
PCF	POUNDS PER CUBIC FOOT
PS	PRESTRESSED
PT	POST-TENSION
PVMT	PAVEMENT
R	RADIUS
RDWY	ROADWAY
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT OF WAY
SCHED	SCHEDULE
SDWK	SIDEWALK
SH	SHOULDER
SHT	SHEET
SIM	SIM SIMILAR
SPA	SPACE
SPL	SPLICE
SQ	SQUARE
STA	STATION
STD	STANDARD
STIRR	STIRRUP
STL	STEEL
STR	STRAIGHT
SYMM	SYMMETRICAL
TEMP	TEMPORARY
THRD.	THREADED
TRANSV	TRANSVERSE
TYP	TYPICAL
V.C.	VERTICAL CURVE
VERT	VERTICAL
V.P.I.	VERTICAL POINT OF INTERSECTION
W/	WITH
YR	YEAR

DRAWING INDEX

B1 LAYOUT
B2 GENERAL NOTES
B3 STRUCTURE REMOVAL
B4 FOUNDATION PLAN AND DETAILS
B5 BENT 1
B6 PIERS A AND C – 1 OF 3
B7 PIERS A AND C – 2 OF 3
B8 PIERS A AND C – 3 OF 3
B9 RETROFIT DETAILS – PIERS A,B AND C 1 OF 3
B10 RETROFIT DETAILS – PIERS A,B AND C 2 OF 3
B11 RETROFIT DETAILS – PIERS A,B, AND C 3 OF 3
B12 BENTS 2 AND 3
B13 BENT 4 – 1 OF 3
B14 BENT 4 – 2 OF 3
B15 BENT 4 – 3 OF 3
B16 RETROFIT DETAILS – BENT 4
B17 BENT 5
B18 BENT 6
B19 FRAMING PLAN – SPANS 1, 4 THRU 8
B20 TYPICAL SECTION – SPANS 1, 4 THRU 8
B21 DECK PLAN AND GIRDERS – SPAN 1
B22 DECK PLAN – SPANS 4, 5 AND 6
B23 GIRDER ELEVATIONS – SPANS 4, 5 AND 6
B24 DECK PLAN – SPANS 7 AND 8
B25 GIRDER ELEVATIONS – SPANS 7 AND 8
B26 DECK SECTIONS – SPAN 4 THRU 8
B27 INTERMEDIATE DIAPHRAGMS – SPANS 7 AND 8
B28 TYPICAL SECTION – SPANS 2 AND 3
B29 FRAMING PLAN AND SECTIONS – SPANS 2 AND 3
B30 STEEL DETAILS – SPANS 2 AND 3
B31 DECK PLAN AND SECTIONS – SPANS 2 AND 3
B32 PRECAST SIDEWALK DETAILS
B33 CLOSURE POUR DETAILS –SPAN 2 AND 3
B34 EXPANSION JOINT DETAILS – PIERS A AND C
B35 EXPANSION JOINT DETAILS – BENT 4
B36 BRIDGE RAILING – SPANS 1, 4 THRU 8
B37 BRIDGE RAILING – SPANS 2 AND 3
B38 BEAM GUARDRAIL
B39 LONGITUDINAL RESTRAINER DETAILS
B40 LUMINAIRE POLE MOUNTING DETAILS
B41 UTILITY SUPPORT DETAILS 1 OF 2
B42 UTILITY SUPPORT DETAILS 2 OF 2
B43 BARLIST
B44 BARLIST
B45 BARLIST

LEGEND



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EXPIRES 5/18/09

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING\J. GAVIDIA
INSPECTOR

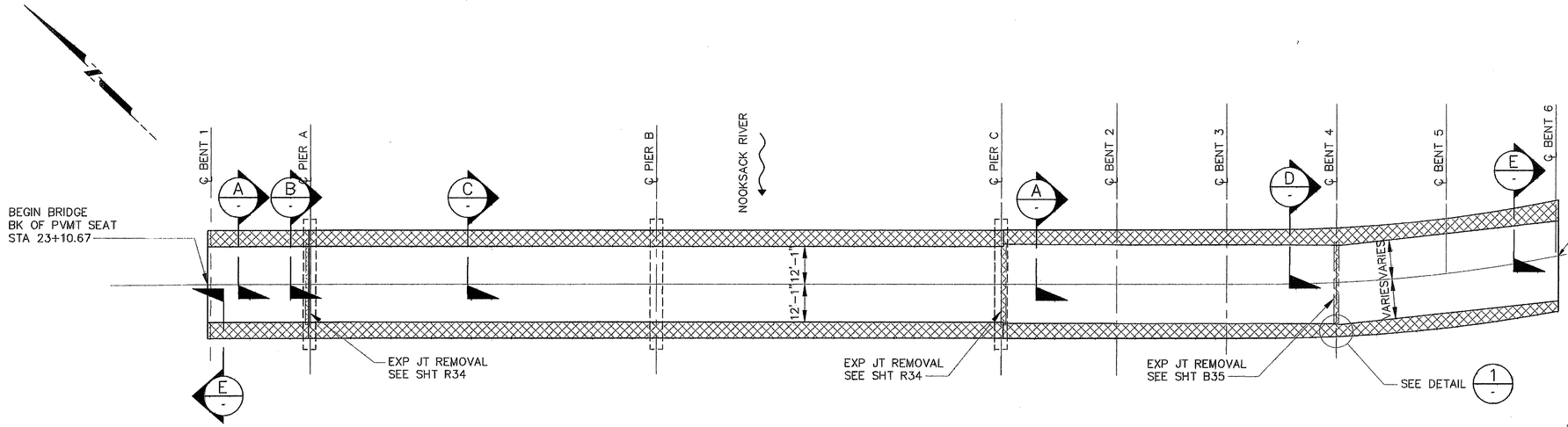
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

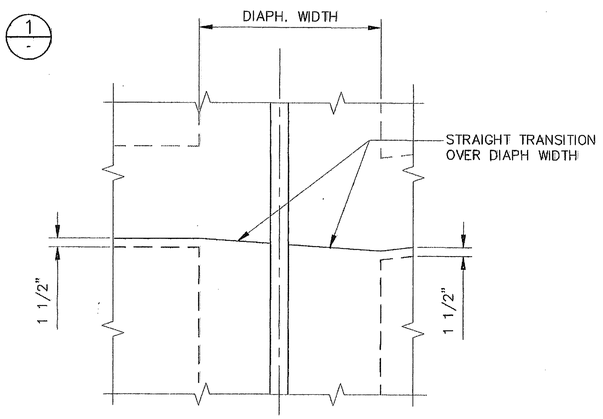
Job. No.
Date
Field Bk.

GENERAL NOTES
FERNDALE BRIDGE REHABILITATION

B2 | SHEET / OF



PLAN
SCALE: 1"=20'



DETAIL 1
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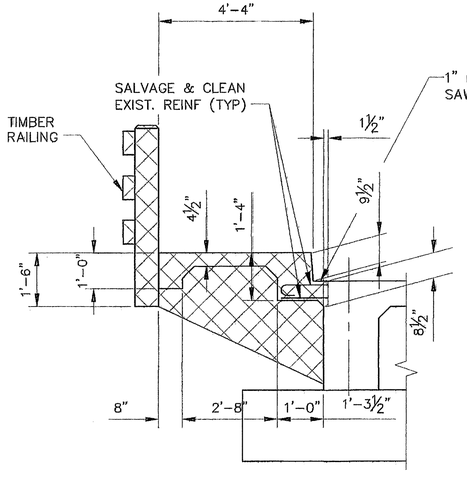
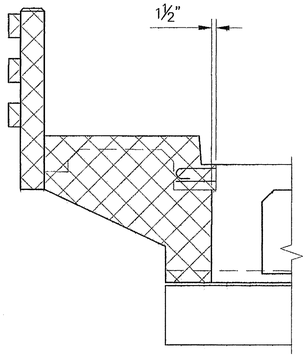


SECTION A
SCALE: 1/2" = 1'-0"



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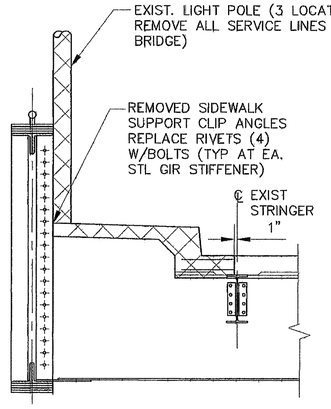
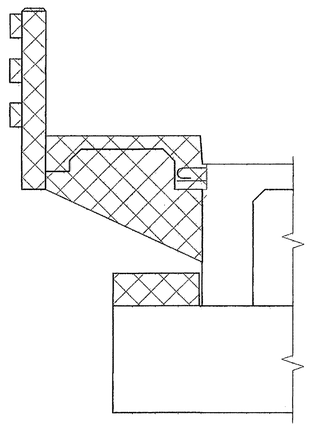
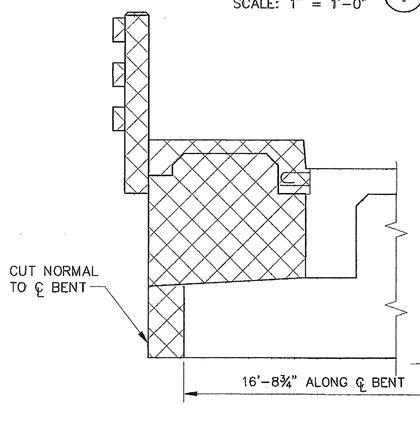


SECTION C
SCALE: 1/2" = 1'-0"



SECTION D
SCALE: 1/2" = 1'-0"



SECTION E
SCALE: 1/2" = 1'-0"

STATE OF WASHINGTON
36927
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/10/

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

STRUCTURE REMOVAL
FERNDALE BRIDGE REHABILITATION

B3

SHEET / OF

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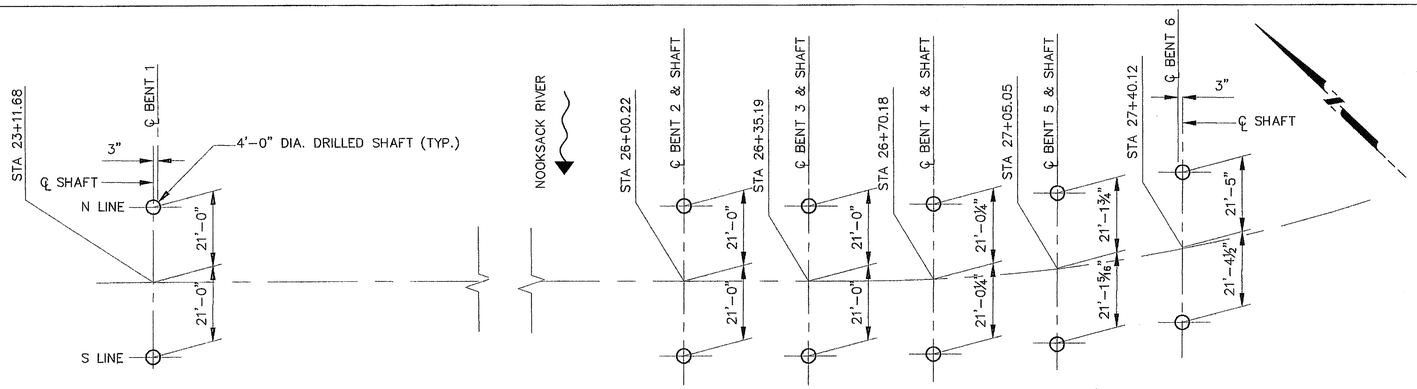


FOUNDATION PLAN

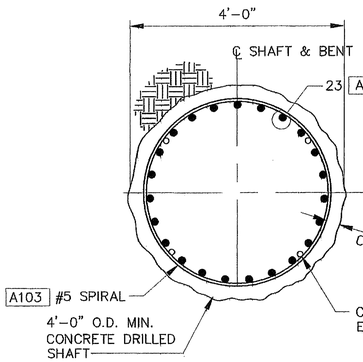
SCALE: 1"=20'

SHAFT AND COLUMN SCHEDULE

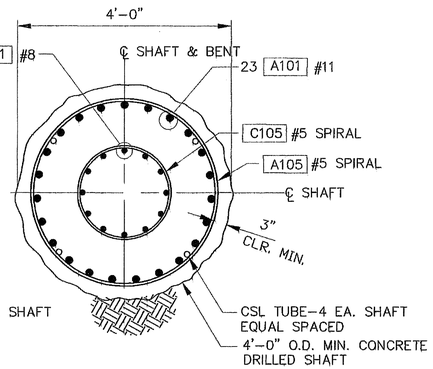
LOCATIONS	ELEVATIONS (FT)			REINFORCEMENT STEEL					
				SHAFT			COLUMN		
	℄ COLUMN TOP	TOP OF SHAFT	TIP OF SHAFT	LONGT. CONT.	LOWER SPIRAL	UPPER SPIRAL	LONGT. CONT.	SPIRAL UPPER	SPIRAL LOWER
1N	28.60	26.0	−49.0	23− A101 #11	1− A103 #5	1− A105 #5	12− C101 #8	1− C103 #5	1− C105 #5
1S	28.63	26.0	−49.0	23− A102 #11	1− A104 #5	1− A106 #5	12− C102 #8	1− C104 #5	1− C106 #5
2N	30.99	20.0	−55.0	23− A201 #11	1− A203 #5	1− A205 #5	12− C201 #8	1− C203 #5	1− C205 #5
2S	31.29	17.0	−58.0	23− A202 #11	1− A204 #5	1− A206 #5	12− C202 #8	1− C204 #5	1− C206 #5
3N	30.40	20.0	−55.0	23− A301 #11	1− A303 #5	1− A305 #5	12− C301 #8	1− C303 #5	1− C305 #5
3S	31.37	20.5	−54.5	23− A302 #11	1− A304 #5	1− A306 #5	12− C302 #8	1− C304 #5	1− C306 #5
4N	28.04	21.5	−53.5	23− A401 #11	1− A403 #5	1− A405 #5	12− C401 #8	1− C403 #5	1− C405 #5
4S	29.83	21.0	−54.0	23− A402 #11	1− A404 #5	1− A406 #5	12− C402 #8	1− C404 #5	1− C406 #5
5N	28.42	22.0	−53.0	23− A501 #11	1− A503 #5	1− A505 #5	12− C501 #8	1− C503 #5	1− C505 #5
5S	30.59	22.0	−53.0	23− A502 #11	1− A504 #5	1− A506 #5	12− C502 #8	1− C504 #5	1− C506 #5
6N	26.95	25.0	−50.0	23− A601 #11	1− A603 #5	1− A605 #5	12− C601 #8	1− C603 #5	1− C605 #5
6S	29.42	25.0	−50.0	23− A602 #11	1− A604 #5	1− A606 #5	12− C602 #8	1− C604 #5	1− C606 #5

NOTES:

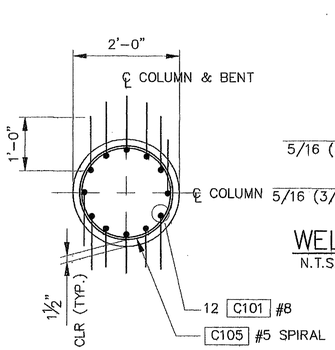
1. ONLY WELDED SPLICES SHALL BE USED FOR SPIRAL REINF.
2. PROVIDE 1 1/2 ADDITIONAL TURNS OF SPIRAL AT ENDS OF EACH SPIRAL SEGMENT. EXCEPT AS NOTED. WELD TAIL BACK TO SPIRAL PER WELD SPLICE DETAIL.
3. DO NOT WELD WITH SPIRAL IN CONTACT WITH VERTICAL REINFORCING. ISOLATE VERTICAL REINFORCING FROM HEAT AND SPLATTER.
4. SPIRAL MAY BE #5 DEFORMED STEEL BAR OR W31 COLD DRAWN WIRE
5. FOLLOWING THE SATISFACTORY CSL CHECKING OF THE SHAFT AND PRIOR TO THE COLUMN FORM ERECTION, FILL THE TUBE WITH GROUT AND CUT THE PROTRUDING 2 FT. TUBE.
6. THICKNESS & LIMITS OF TEMPORARY CASING, IF REQUIRED, SHALL BE DETERMINED BY CONTRACTOR.



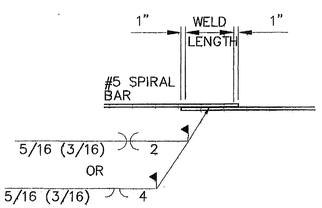
SECTION A
SCALE: ¾" = 1'-0"



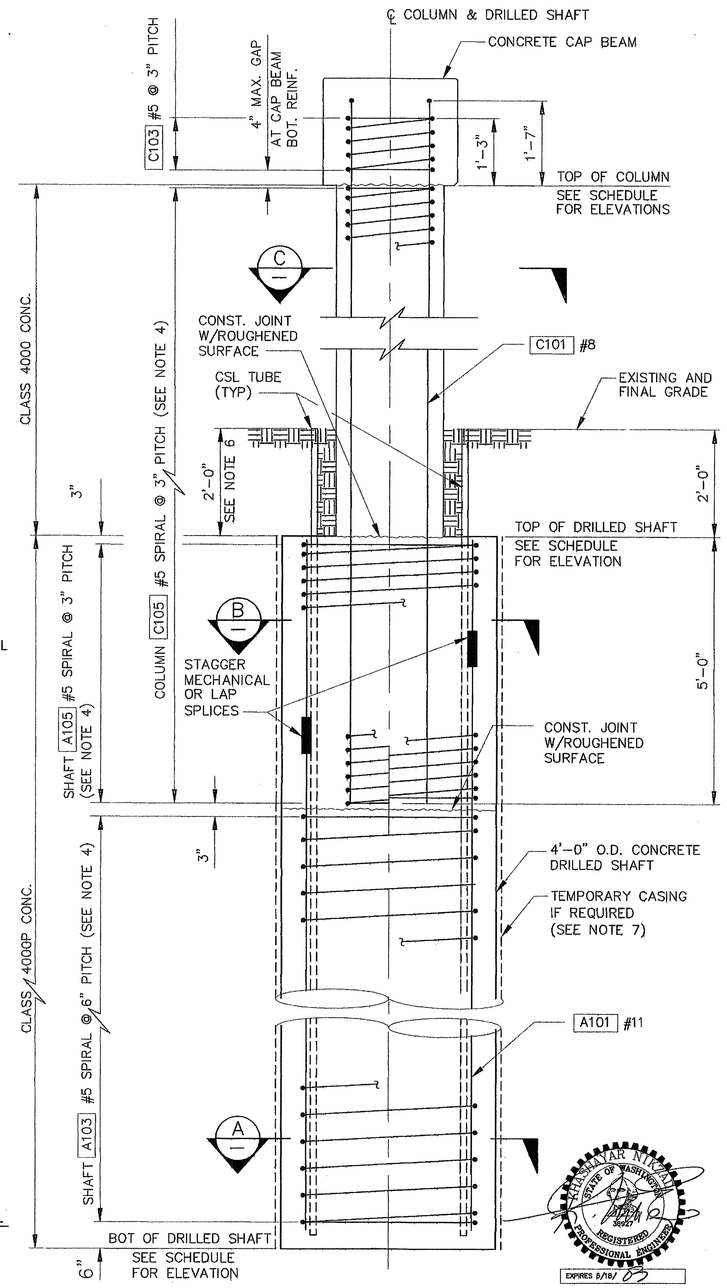
SECTION B
SCALE: ¾" = 1'-0"



SECTION C
SCALE: ¾" = 1'-0"



WELDED SPLICE DETAIL
N.T.S.



SHAFT AND COLUMN REINFORCEMENT ELEVATION

SCALE: ¾" = 1'-0" SHOWN FOR BENT 1N SIMILAR FOR OTHER LOCATIONS

Harding ESE
A MACTEC Company

No	Revision	By	Date
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

FOUNDATION PLAN AND DETAILS
FERNDALE BRIDGE REHABILITATION

B4 SHEET OF

00878.050 S.4.09

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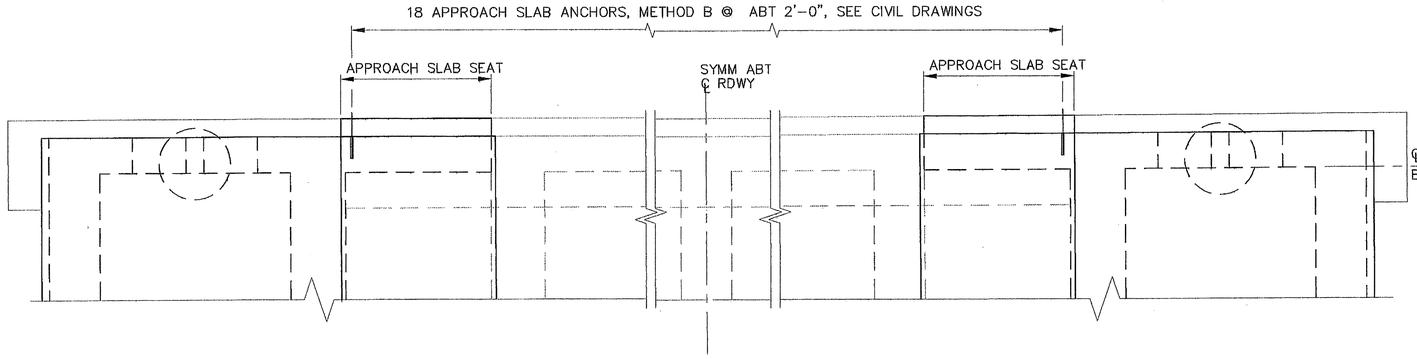
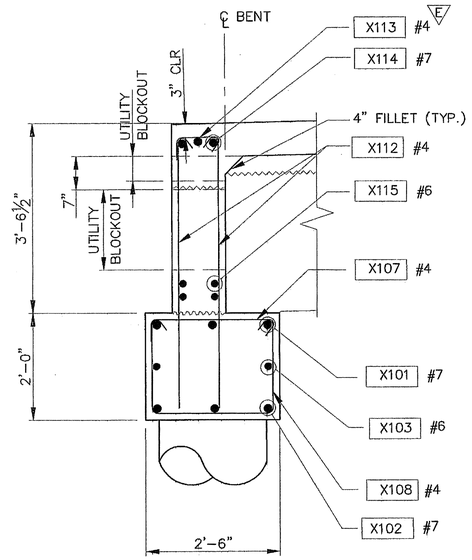
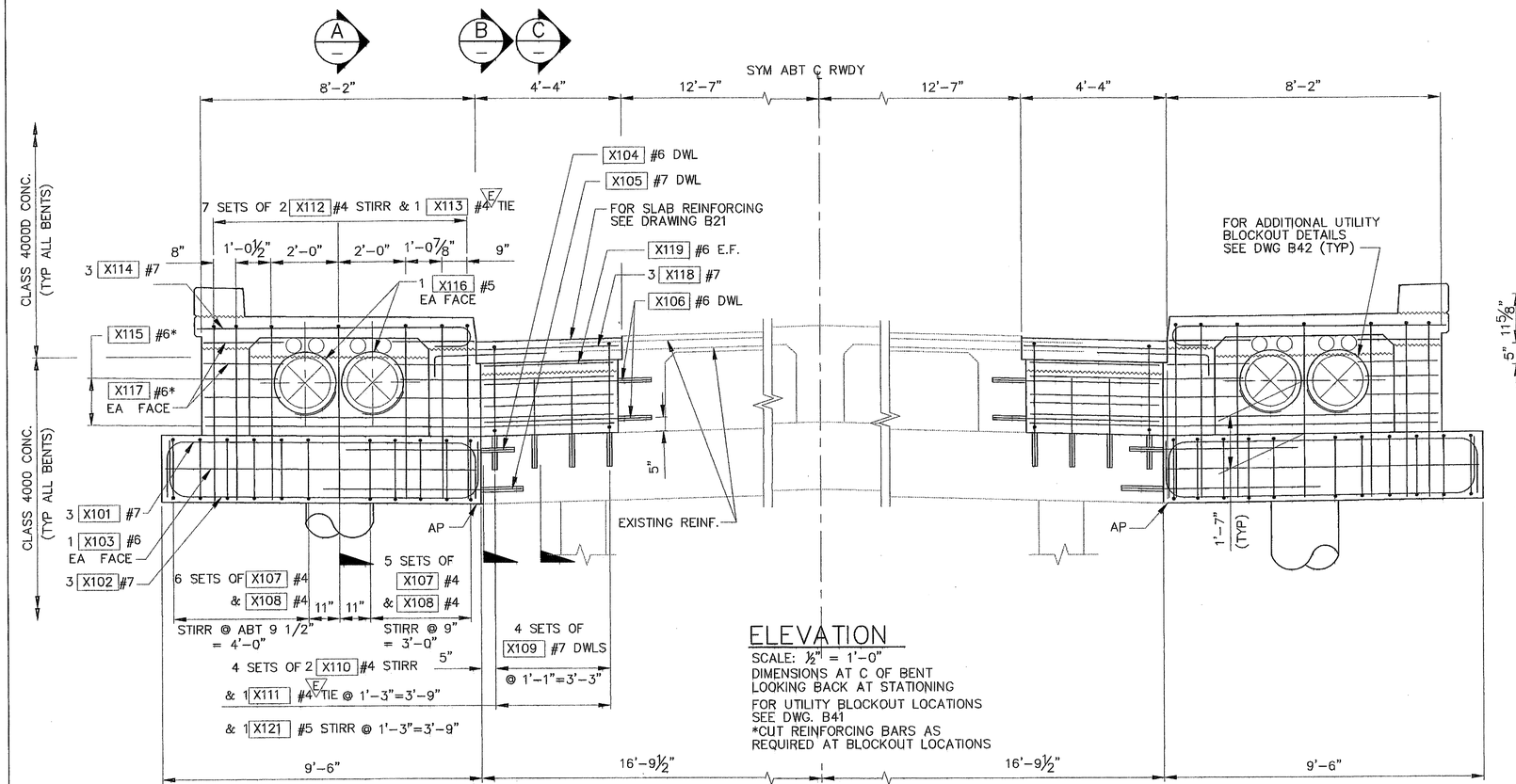


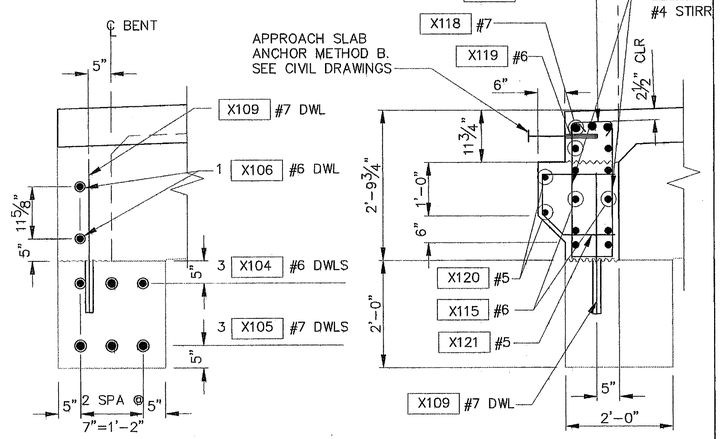
PLAN
SCALE: ½" = 1'-0"



SECTION
SCALE: ¾" = 1'-0"



ELEVATION
SCALE: ½" = 1'-0"
DIMENSIONS AT ℄ OF BENT
LOOKING BACK AT STATIONING
FOR UTILITY BLOCKOUT LOCATIONS SEE DWG. B41
*CUT REINFORCING BARS AS REQUIRED AT BLOCKOUT LOCATIONS



VIEW
B
SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT

SECTION
C
SCALE: ¾" = 1'-0"

EXPIRES 5/11/09

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

BENT 1
FERNDALE BRIDGE REHABILITATION

B5

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00378.055 5.4.09 KN

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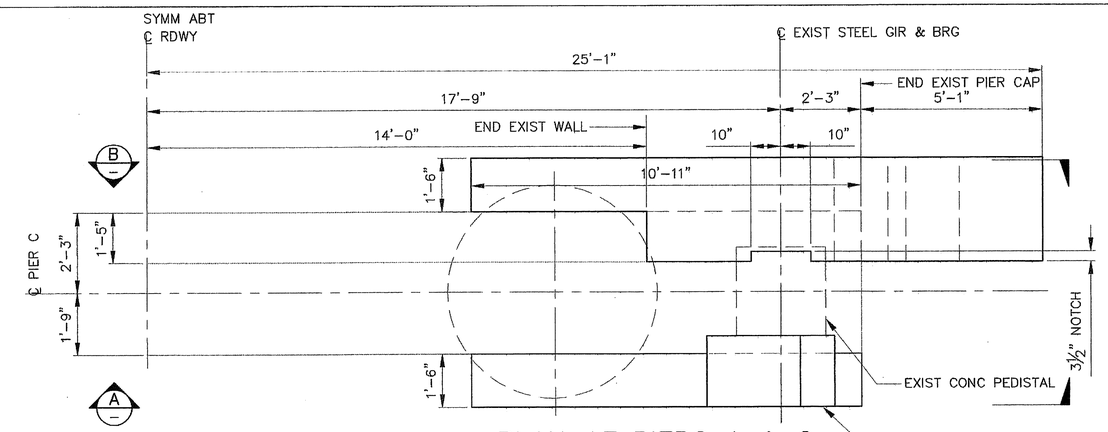
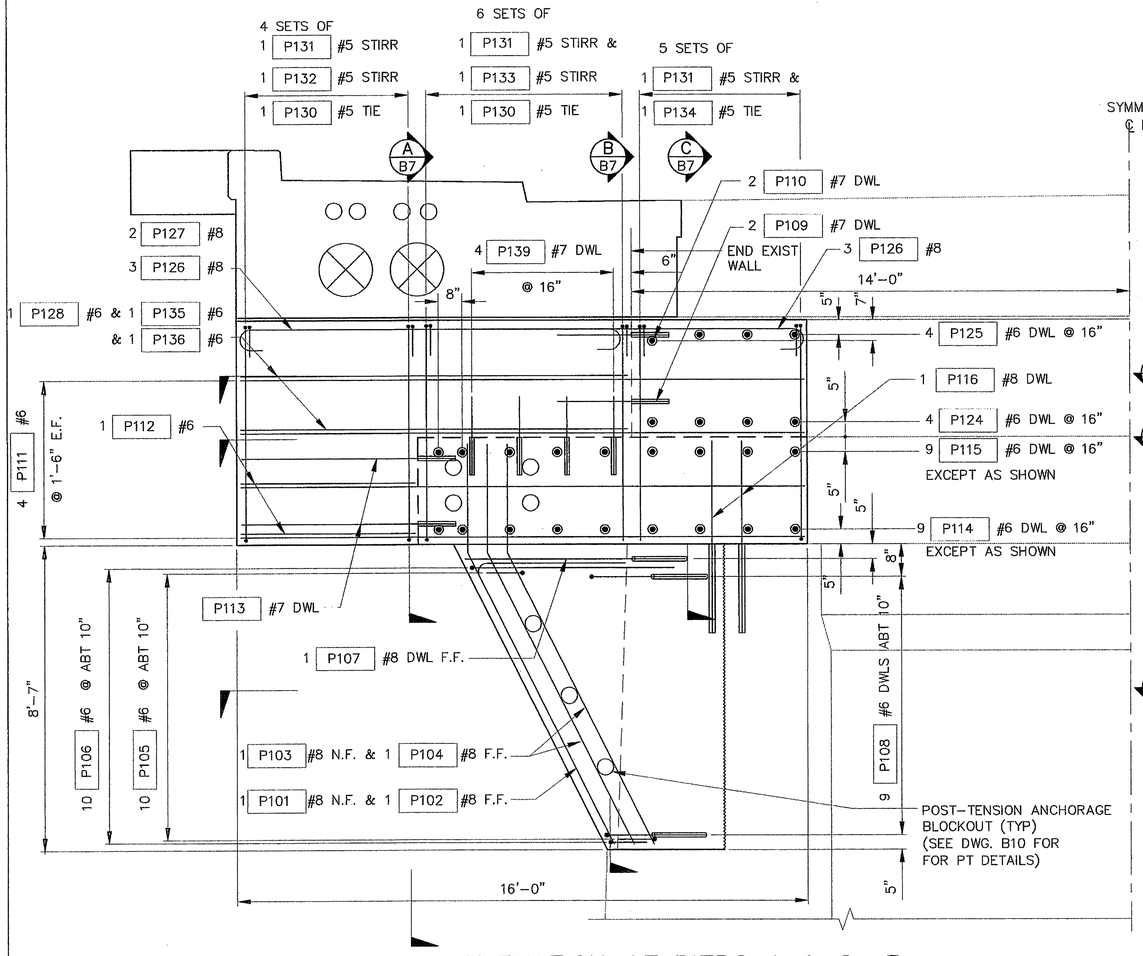
00378.056 5.4.09 KE



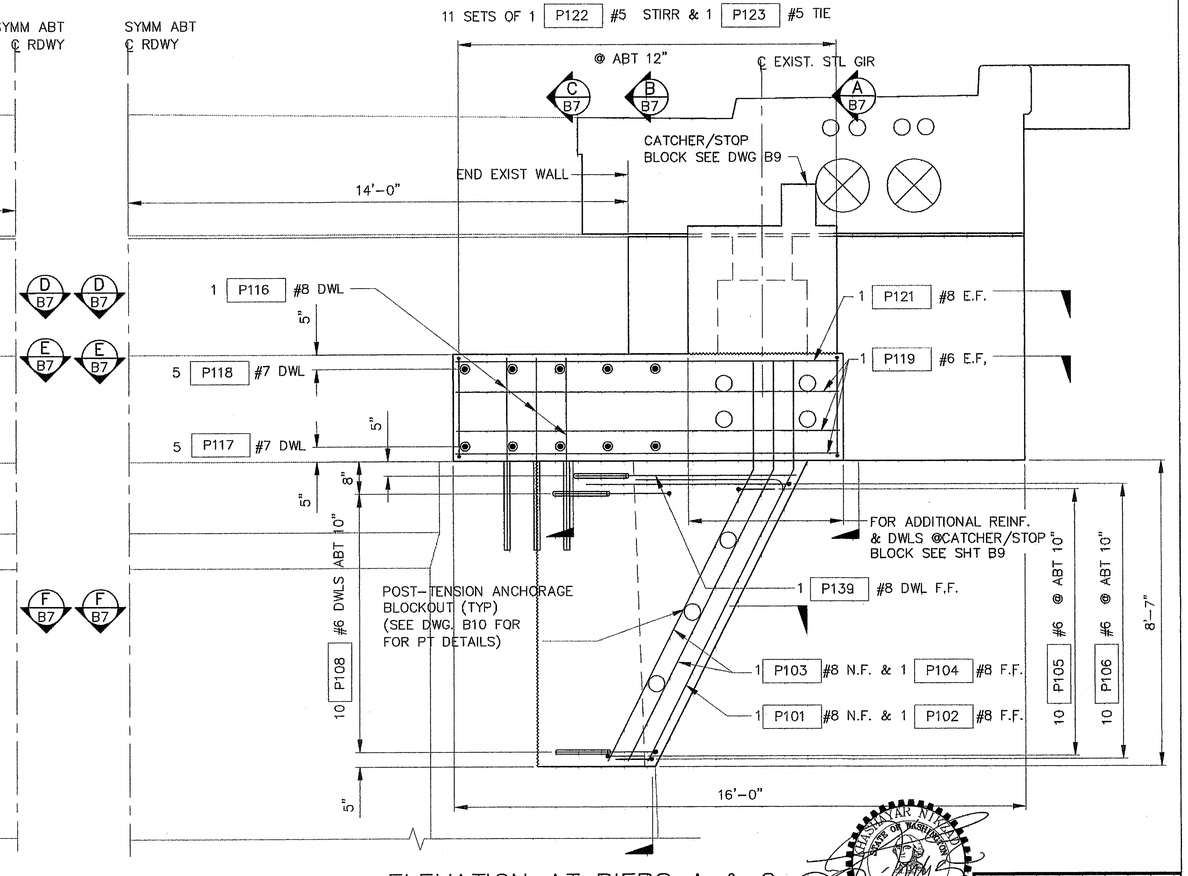
PLAN AT PIERS A & C

SCALE: ½" = 1'-0"



ELEVATION AT PIERS A & C (B)

SCALE: ½" = 1'-0"



ELEVATION AT PIERS A & C (A)

SCALE: ½" = 1'-0" BACK WALL REINF NOT SHOWN FOR CLARITY.

DARIN T. NIKZAD
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

PIERS A AND C – 1 OF 3
FERNDALE BRIDGE REHABILITATION

B6

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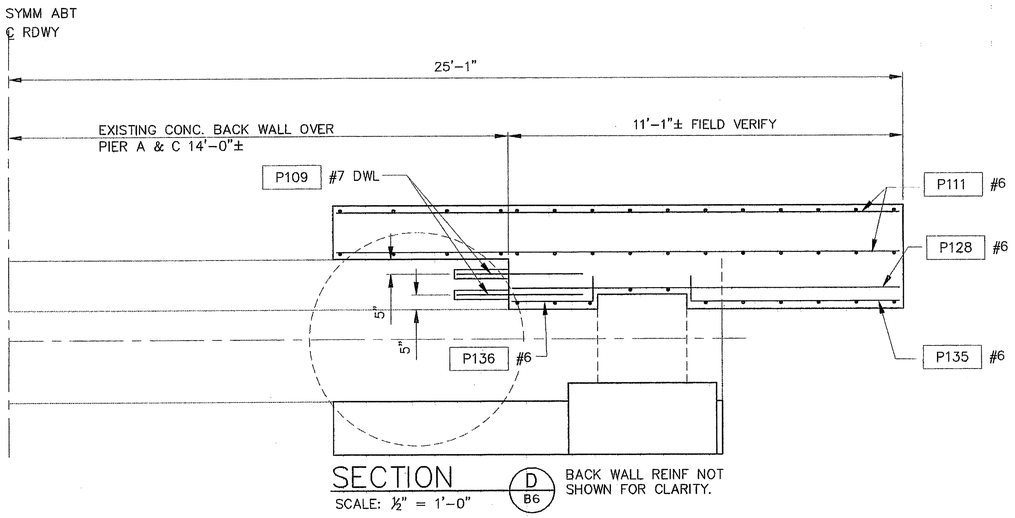
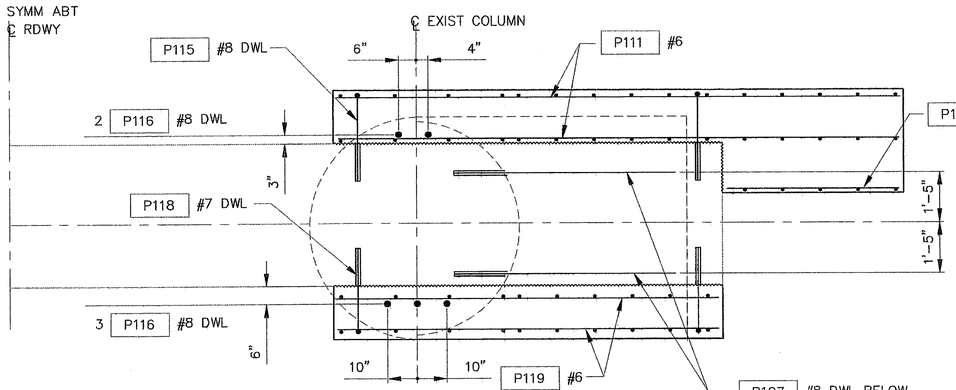
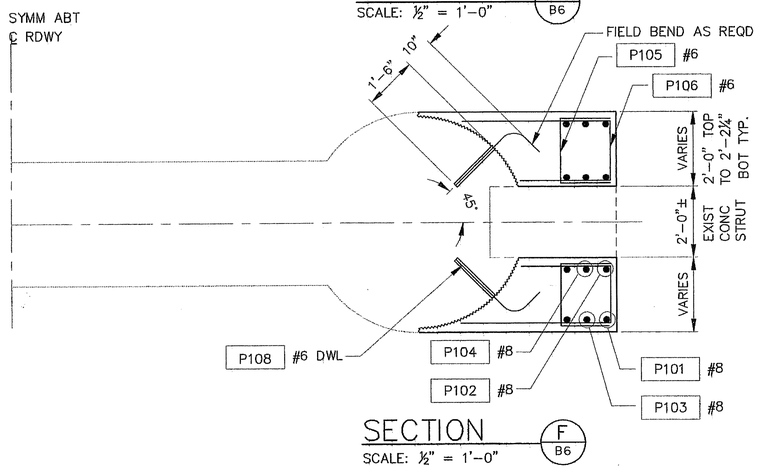


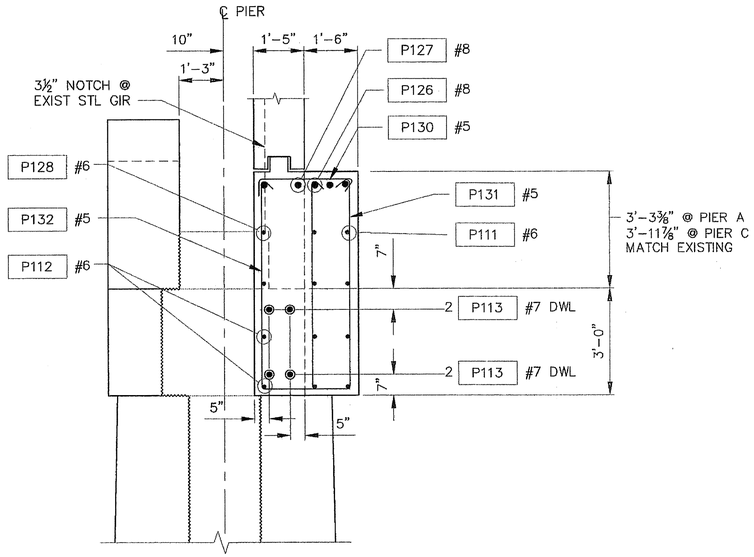
SECTION (D / B6)
SCALE: ½" = 1'-0"
BACK WALL REINF NOT SHOWN FOR CLARITY.



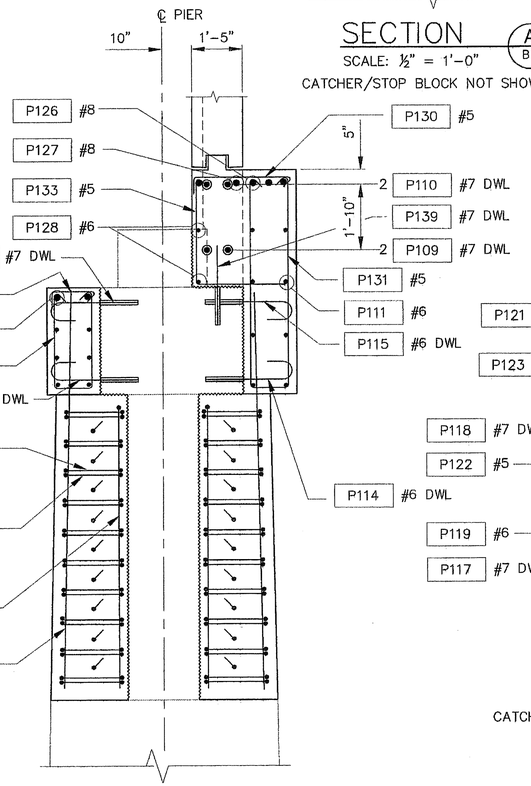
SECTION (E / B6)
SCALE: ½" = 1'-0"



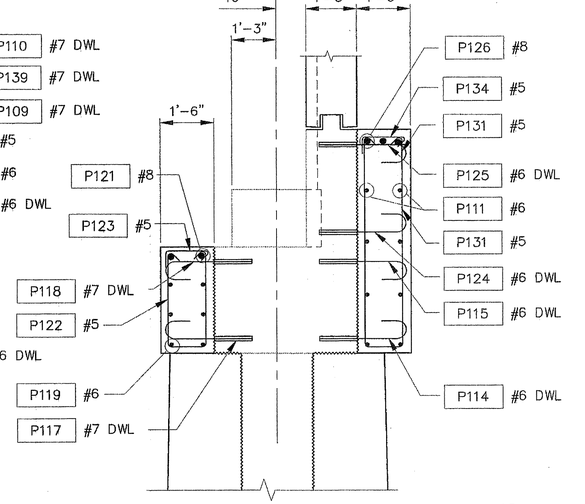
SECTION (F / B6)
SCALE: ½" = 1'-0"



SECTION (A / B6)
SCALE: ½" = 1'-0"
CATCHER/STOP BLOCK NOT SHOWN FOR CLARITY



SECTION (B / B6)
SCALE: ½" = 1'-0"
CATCHER/STOP BLOCK NOT SHOWN FOR CLARITY



SECTION (C / B6)
SCALE: ½" = 1'-0"
CATCHER/STOP BLOCK NOT SHOWN FOR CLARITY

NIKZAD NIKNAM
STATE OF WASHINGTON
24022
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

PIERS A AND C – 2 OF 3
FERNDALE BRIDGE REHABILITATION

B7

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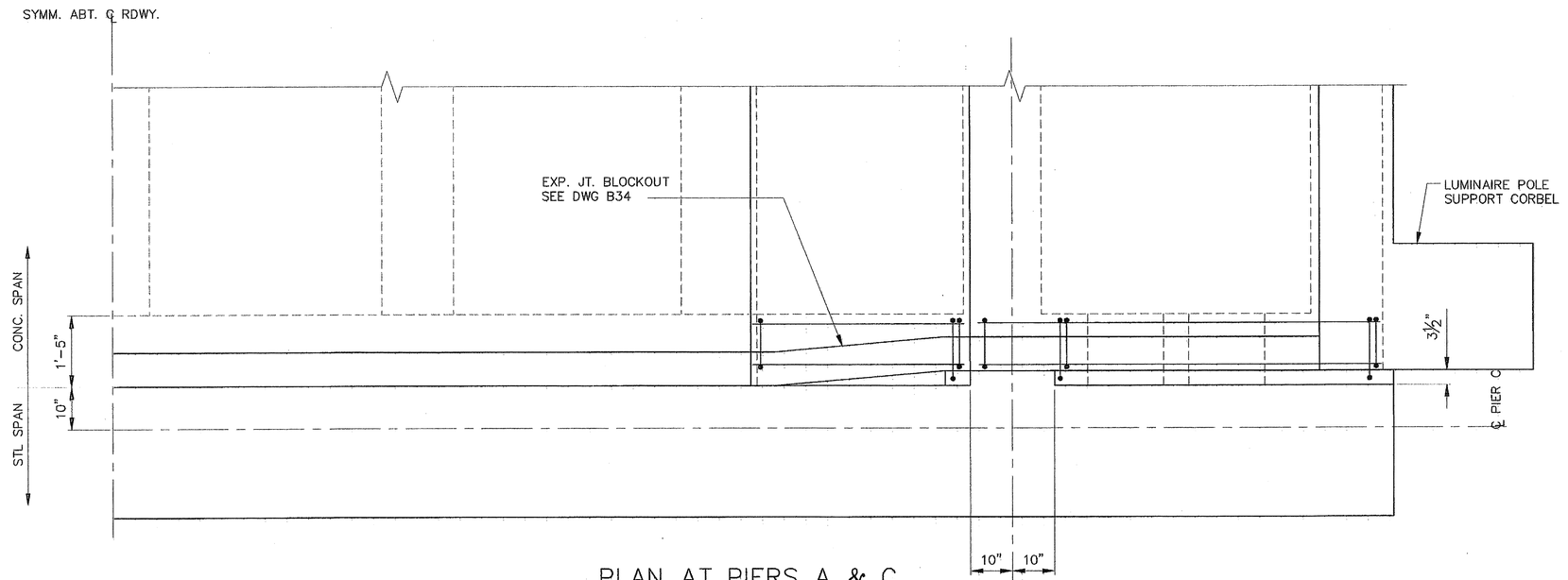
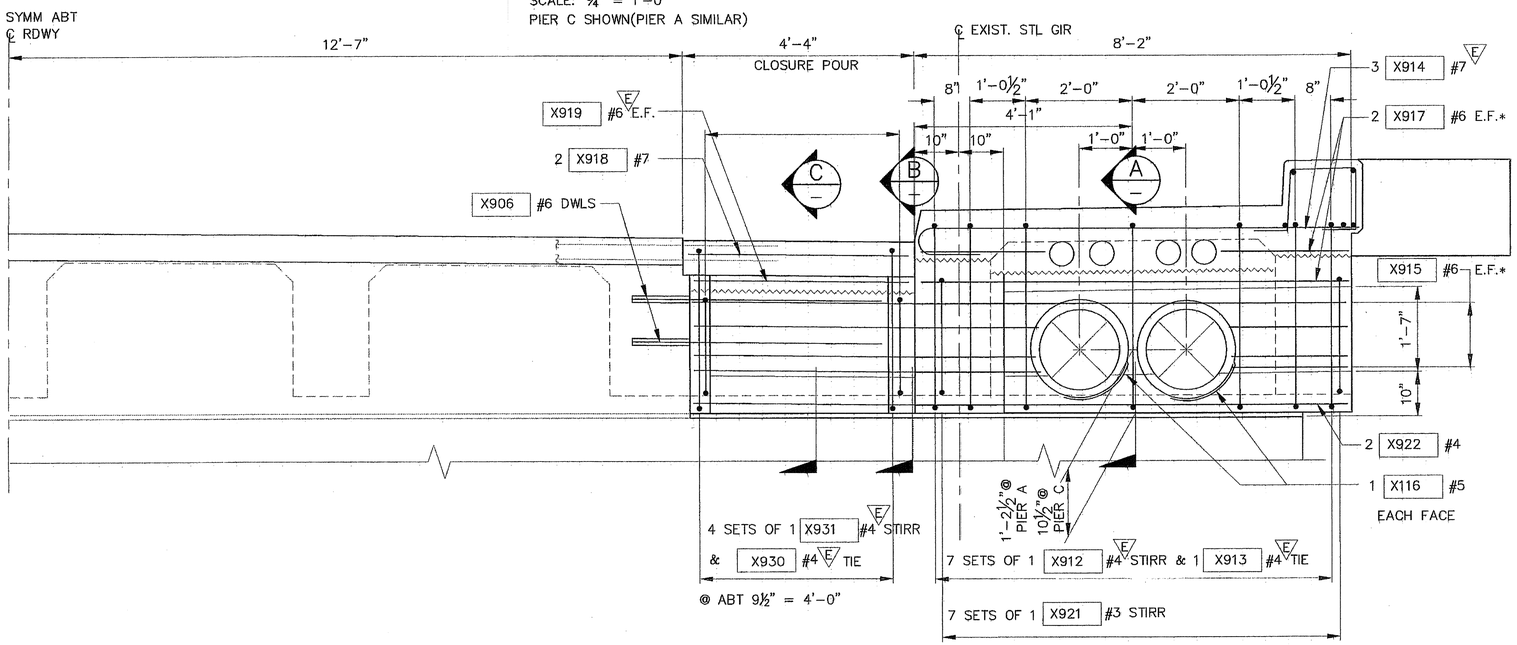
00278.058 5.4.09 KR



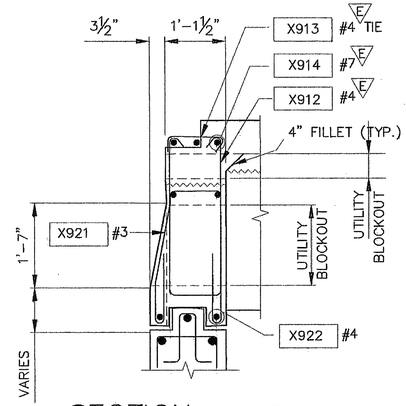
PLAN AT PIERS A & C

SCALE: ¾" = 1'-0"
PIER C SHOWN(PIER A SIMILAR)



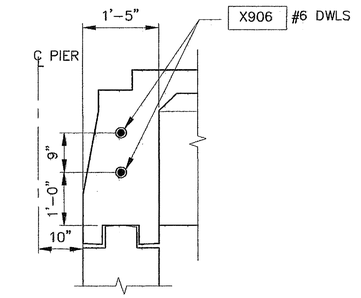
ELEVATION AT PIERS A & C

SCALE: ¾" = 1'-0"
FOR UTILITY BLOCKOUT LOCATIONS SEE DWG B41 & B42
*CUT REINFORCING BARS AS REQUIRED AT BLOCKOUT LOCATIONS



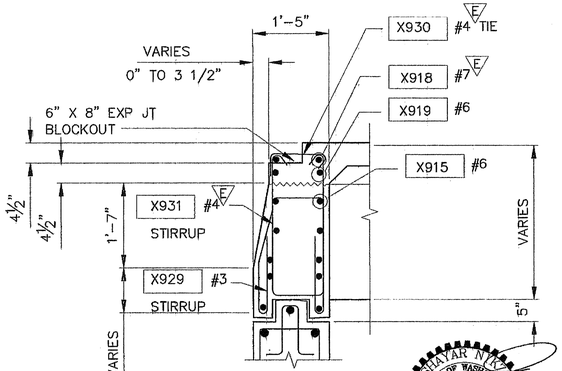
SECTION A

SCALE: ¾" = 1'-0"



VIEW B

SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT



SECTION C

SCALE: ¾" = 1'-0"

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

PIERS A AND C – 3 OF 3
FERNDALE BRIDGE REHABILITATION

B8

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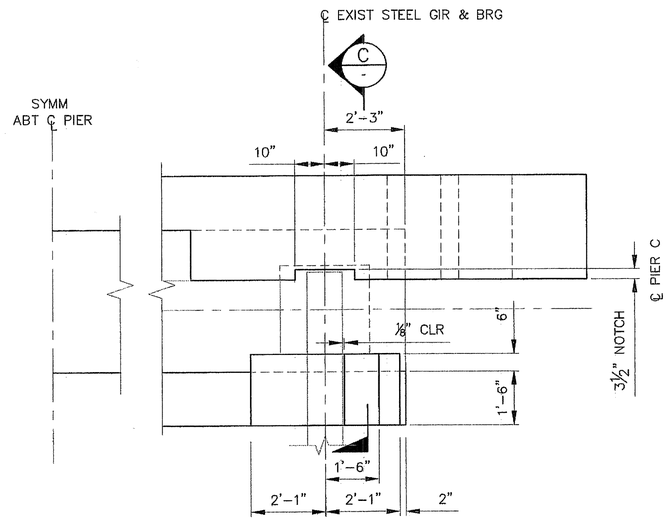
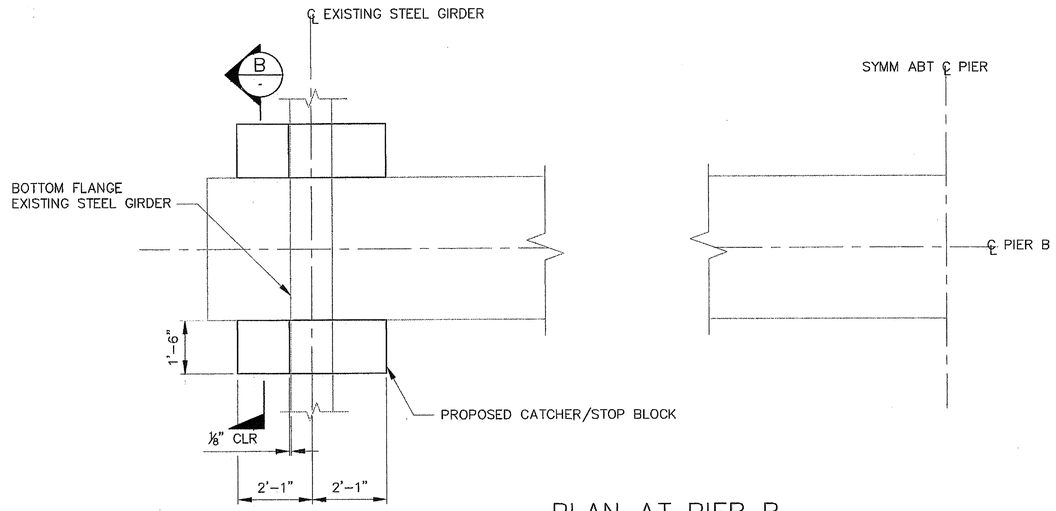
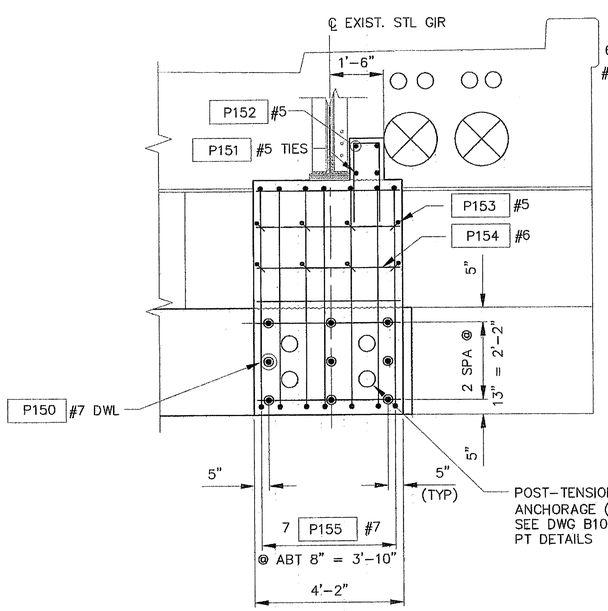


PLAN AT PIER C

SCALE: ½" = 1'-0"

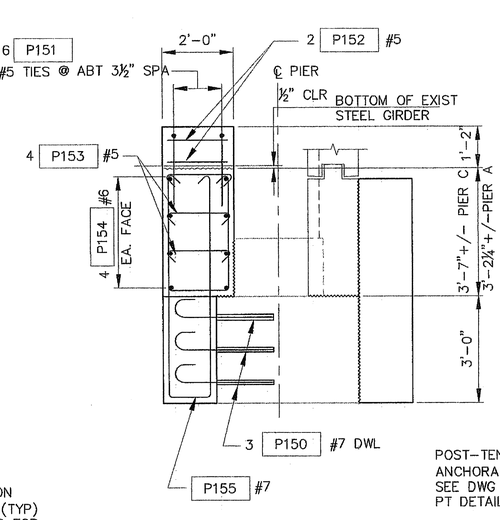


PLAN AT PIER B



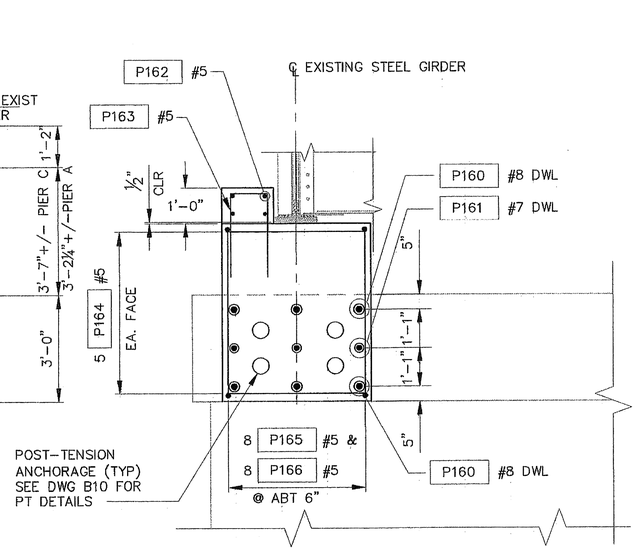
ELEVATION AT PIERS C

SCALE: ½" = 1'-0"



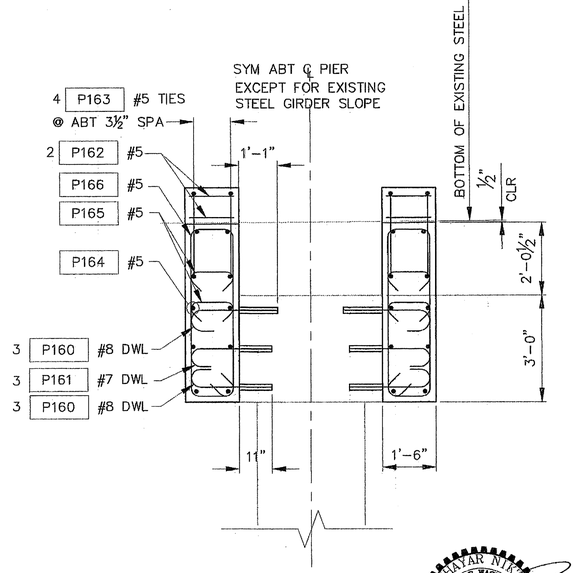
SECTION C

SCALE: ½" = 1'-0"



ELEVATION @ PIER B

NOTE:
SEE DWG B10 FOR
POST-TENSIONING DETAILS.



SECTION B

CATCHER/STOP BLOCK PIER C (PIER A SIMILAR)

SCALE: ½" = 1'-0"

CATCHER/STOP BLOCK PIER B

SCALE: ½" = 1'-0"

EXPIRES 5/18/09

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

RETROFIT DETAILS – PIER A,B & C-1 of 3
FERNDALE BRIDGE REHABILITATION

B9

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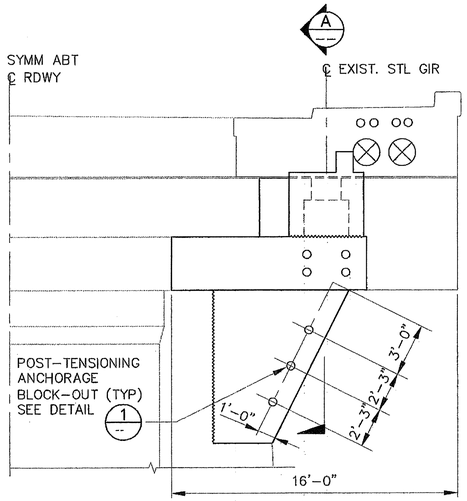
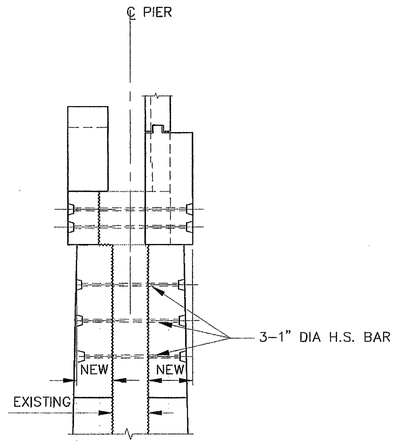


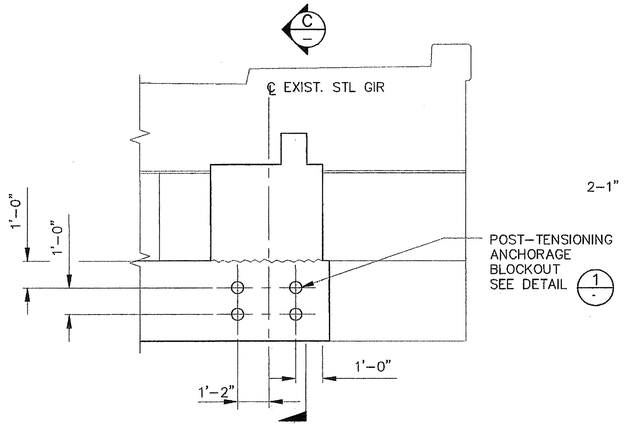
ELEVATION AT PIERS A & C

SCALE: ¼" = 1'–0"



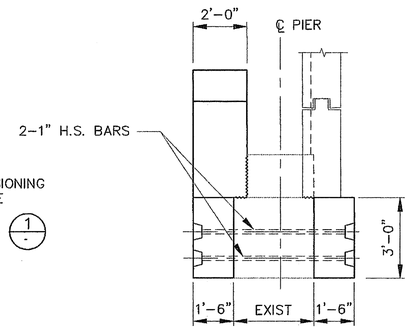
SECTION A

SCALE: ¼" = 1'–0"



ELEVATION AT PIERS A & C

SCALE: ⅜" = 1'–0"

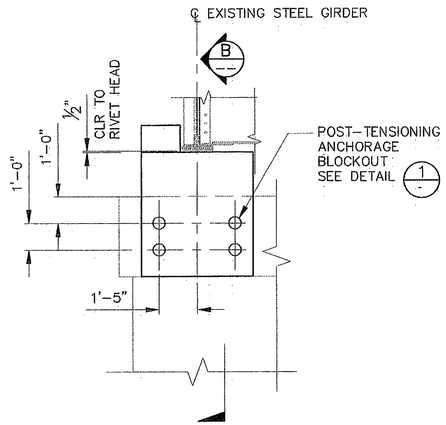


SECTION C

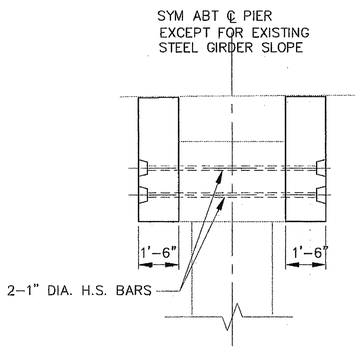
SCALE: ⅜" = 1'–0"

CATCHER/STOP BLOCK PIER A & C

SCALE: ⅜" = 1'–0"



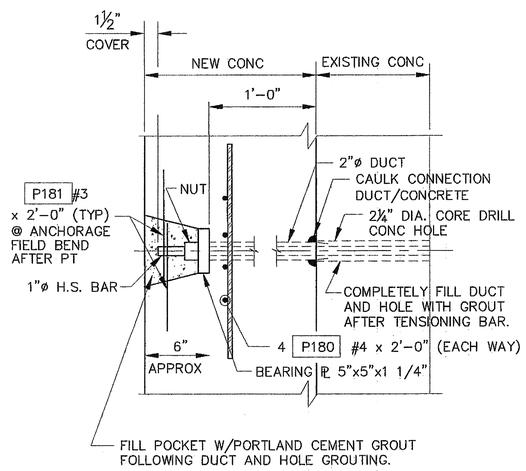
ELEVATION @ PIER B



SECTION B

CATCHER/STOP BLOCK PIER B

SCALE: ⅜" = 1'–0"



P.T. ANCHORAGE DETAIL 1

SCALE: 1 1/2" = 1'–0"

POST–TENSIONING NOTES:

1. PRIOR TO THE DRILLING OF HOLES IN THE EXISTING CONCRETE, THE INSTALLATION OF POST–TENSIONING DUCTS AND ANCHORAGES, AND REINFORCEMENT, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
2. PROPOSED DIMENSIONS OF THE P.T. ANCHORAGE TO BE INCLUDED IN THE SHOP DRAWINGS BY THE CONTRACTOR, INCLUDING A PROPOSED DIAMETER FOR THE CONCRETE HOLES SO THAT THE DUCTS CAN FIT TIGHTLY IN THE EXISTING CONCRETE. THE 2¼" DIA. HOLE IS SHOWN AS A PRELIMINARY ESTIMATE.
3. ALL POST–TENSIONING COMPONENTS SHALL BE MANUFACTURED BY DWYDAG INTERNATIONAL SYSTEMS (DIS) OR EQUIVALENT WSDOT–APPROVED MANUFACTURER.
4. ALL BARS SHALL BE HIGH STRENGTH ALL–THREAD BARS OF 1" DIA AND OF A MIN. ULTIMATE STRENGTH OF 150 KSI.
5. ALL BARS SHALL BE STRESSED TO 76.5 KIPS.
6. THE GROUT TO BE USED FOR FILLING HOLES, DUCTS AND POCKETS SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI AT 7 DAYS.
7. THE NEW CONCRETE SHALL HAVE A STRENGTH OF 4000 PSI AT 28 DAYS.
8. ALL POST–TENSIONING DUCTS SHALL BE 2" MIN. DIAMETER MANUFACTURED FROM GALVANIZED METAL SHEATING.

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

RETROFIT DETAILS – PIER A,B & C– 2 of 3
FERNDALE BRIDGE REHABILITATION

B10 | SHEET / OF

00378.060 5.4.09 KN

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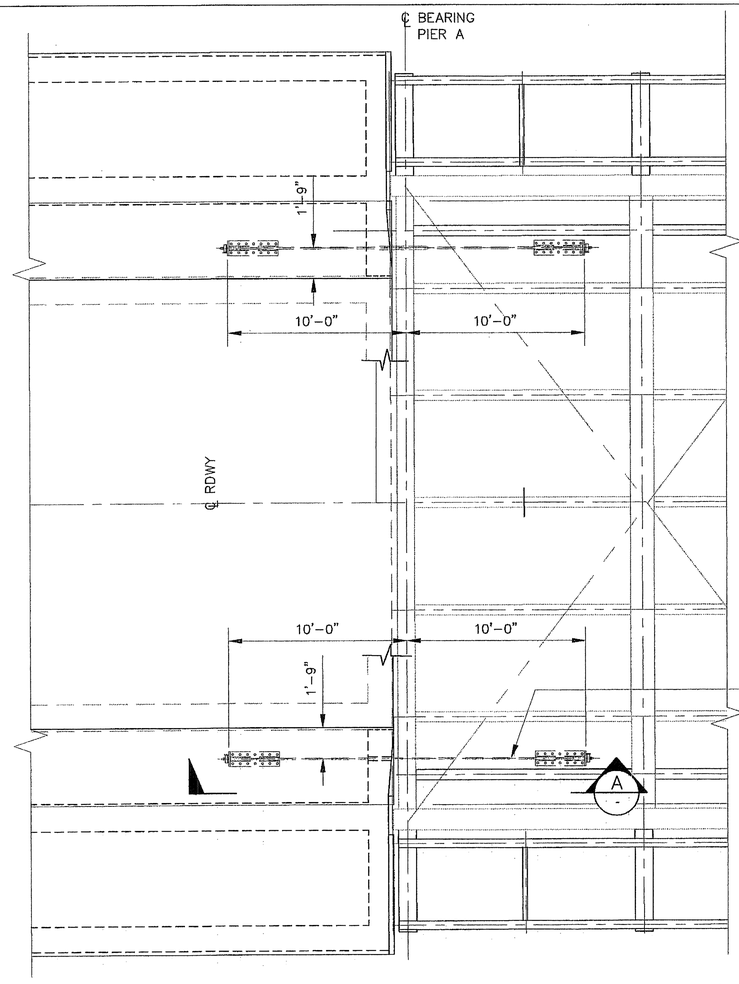
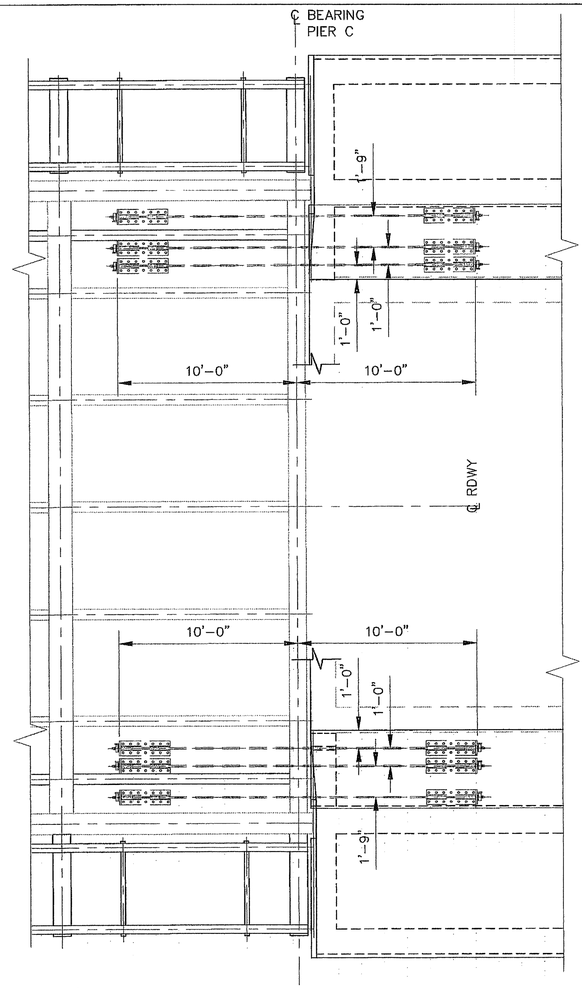


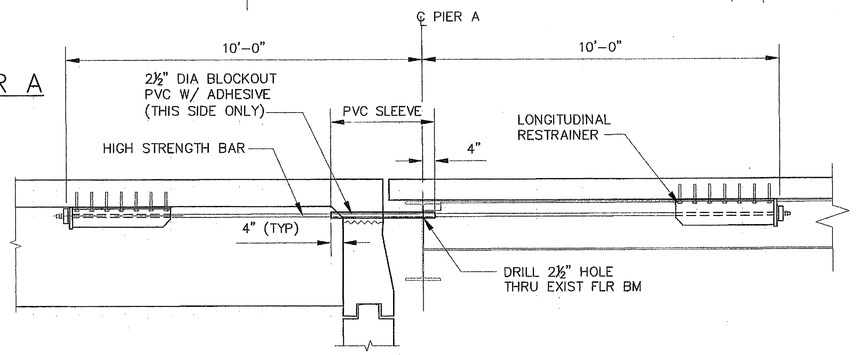
PLAN–PIER A

SCALE: ¼" = 1'-0"



PLAN–PIER C

SCALE: ¼" = 1'-0"



RETROFIT DETAIL (A / -)

PIER A (PIER C MIRROR IMAGE)

SCALE: ½" = 1'-0"

NIKZAD
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
A MACTEC Company

	4		PROJECT MANAGER K. NIKZAD	DIR. PUBLIC WORKS L. SPERRY	CITY OF FERNDALE			Job. No.	RETROFIT DETAILS–PIERS A,B, AND C–3 OF 3	B11	SHEET OF
	3		DESIGNED/DRAWN J. KING/J. GAVIDIA	CITY ENGINEER	PUBLIC WORKS DEPARTMENT			Date	FERNDALE BRIDGE REHABILITATION		
	2		INSPECTOR	OPER. ENGINEER				Field Bk.			
	1										
Date	No	Revision	By								

00278.001 5.4.09

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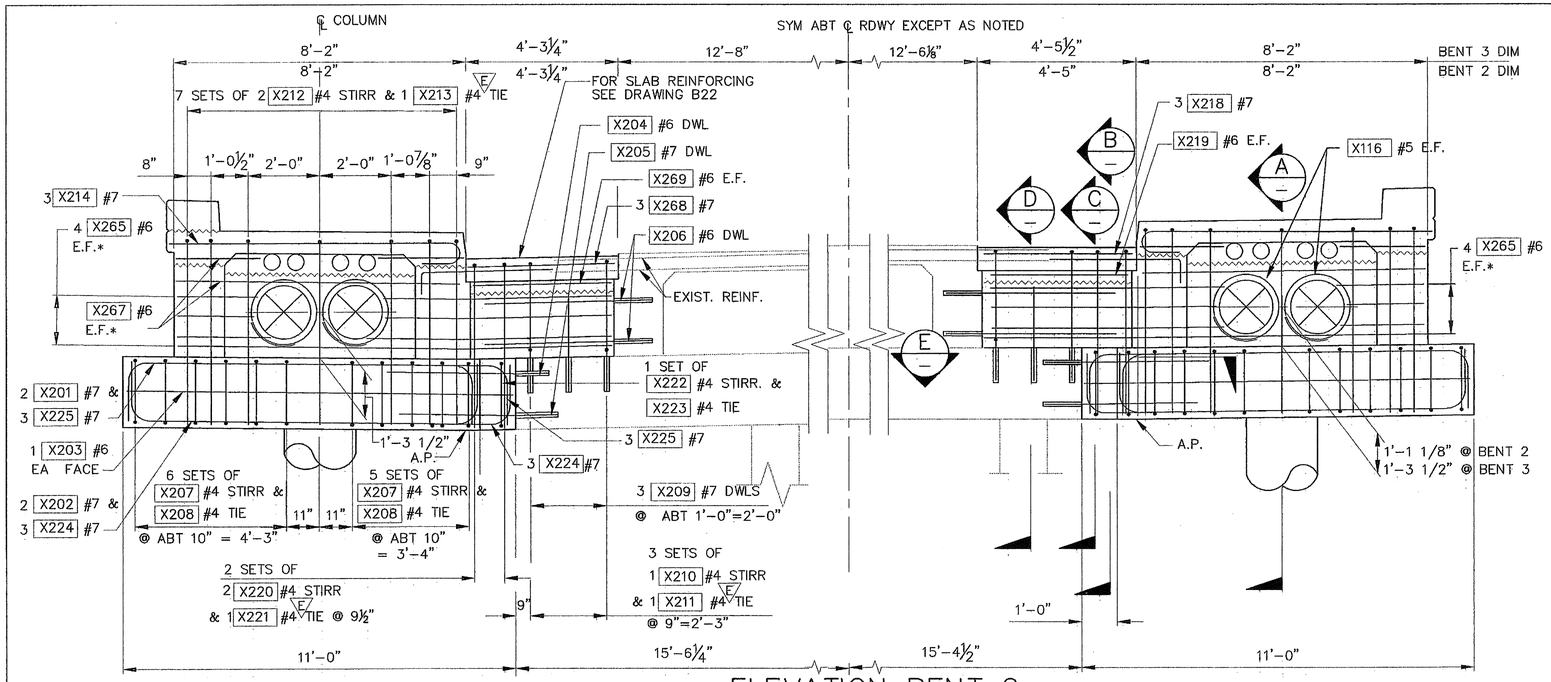
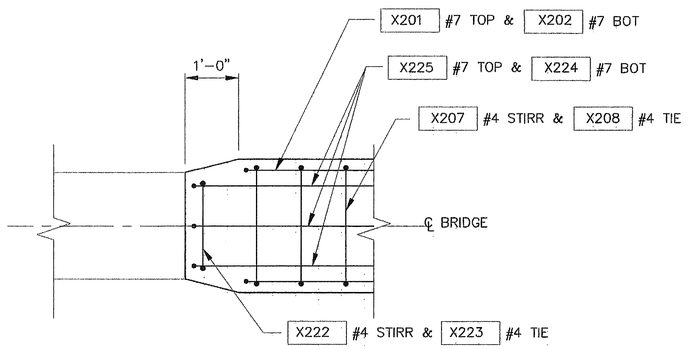


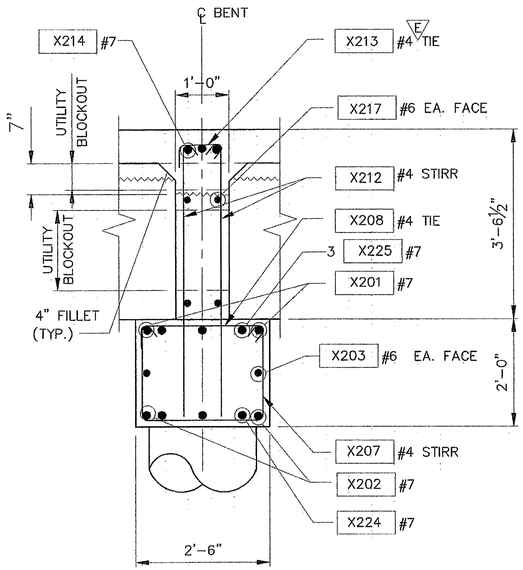
ELEVATION BENT 2

SCALE: ½" = 1'-0"
BENT 3 SIMILAR
FOR UTILITY BLOCKOUT LOCATIONS SEE DWG. B41.
*CUT REINFORCING BARS AS REQUIRED AT BLOCKOUT LOCATIONS



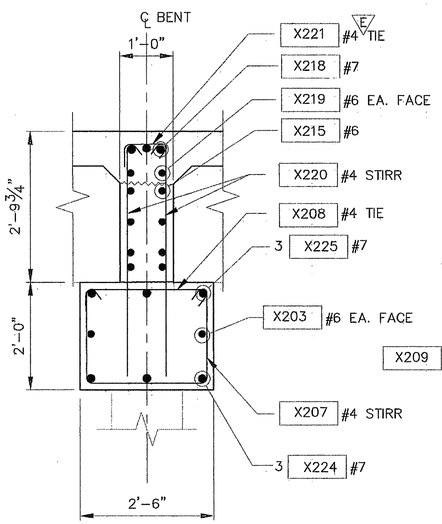
SECTION E

SCALE: ¾" = 1'-0"



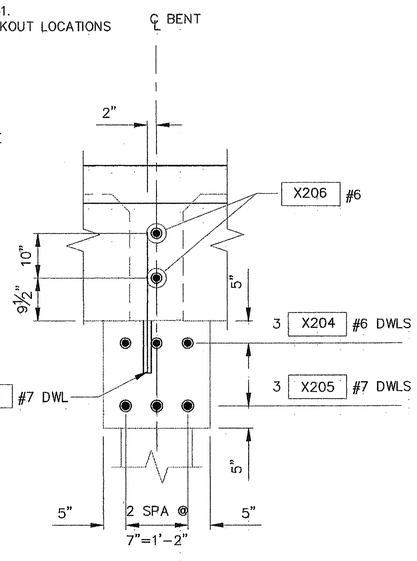
SECTION A

SCALE: ¾" = 1'-0"
VERTICAL DIMENSIONS ARE AT ℄ BENT



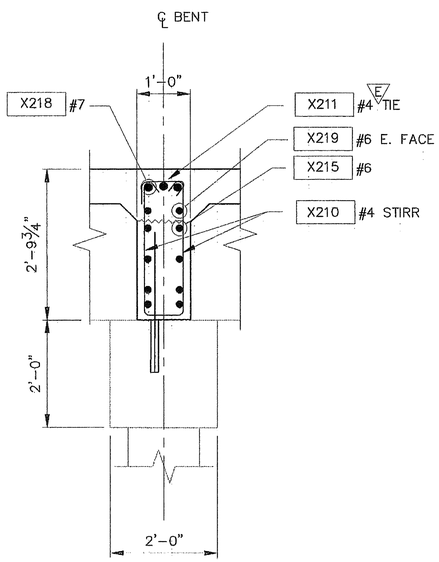
SECTION B

SCALE: ¾" = 1'-0"



VIEW C

SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT



SECTION D

SCALE: ¾" = 1'-0"

HESSAM AR NIKZAD
STATE OF WASHINGTON
21924
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE
MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

BENTS 2 AND 3
FERNDALE BRIDGE REHABILITATION

B12 SHEET OF

00878.002 s4.09 KR

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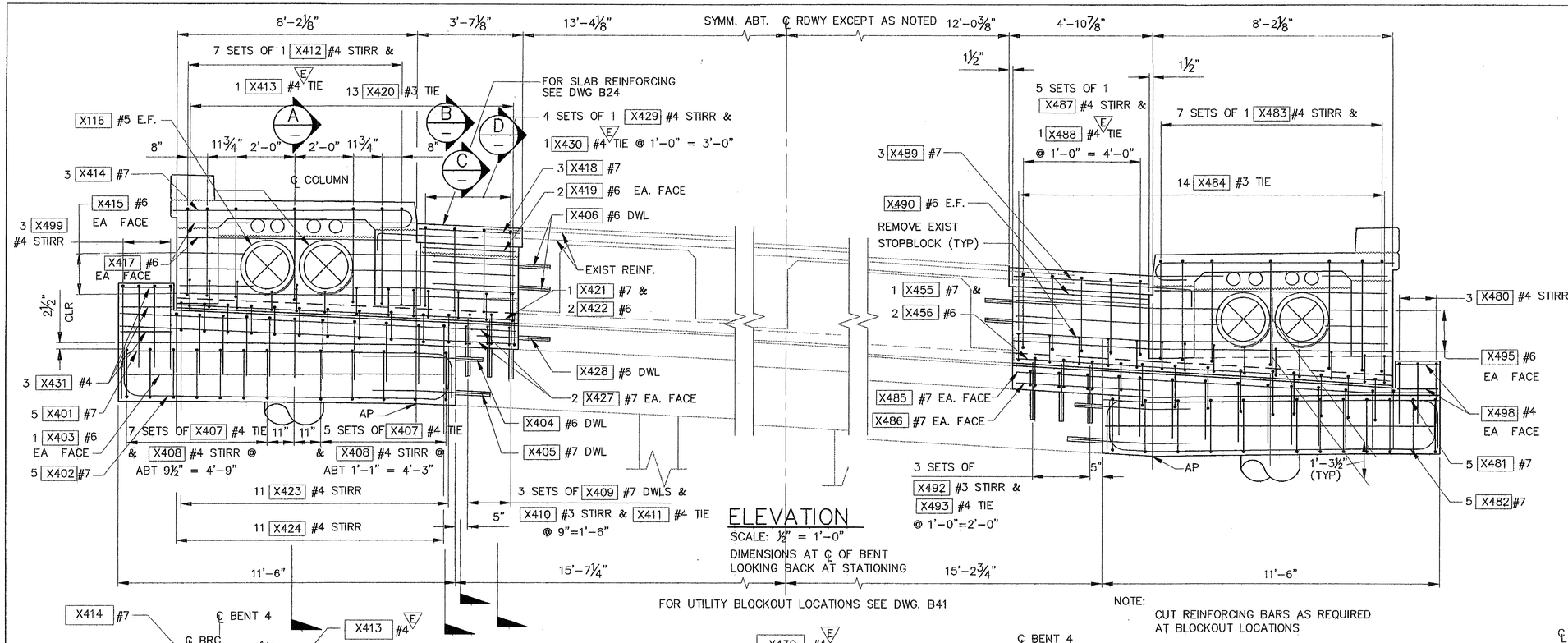
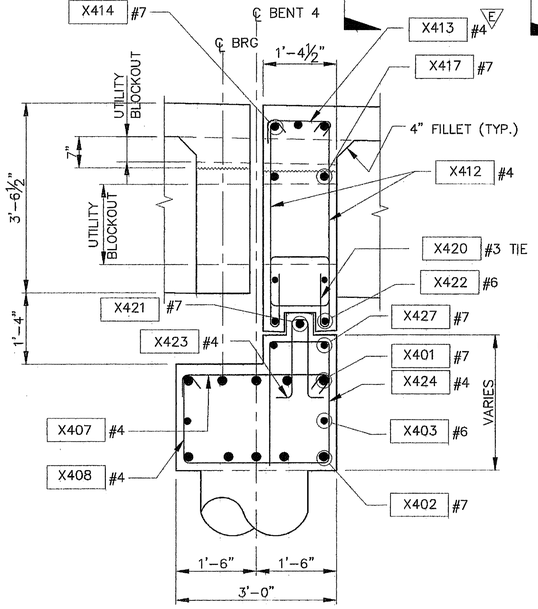
0078.003 S.4.09



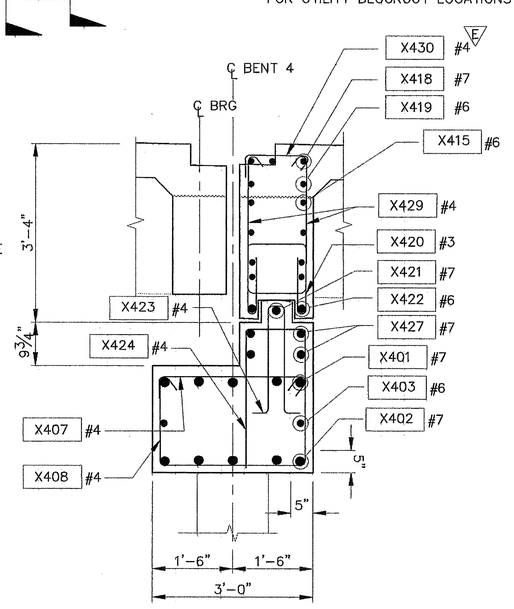
ELEVATION
SCALE: ½" = 1'-0"
DIMENSIONS AT ℄ OF BENT
LOOKING BACK AT STATIONING

FOR UTILITY BLOCKOUT LOCATIONS SEE DWG. B41

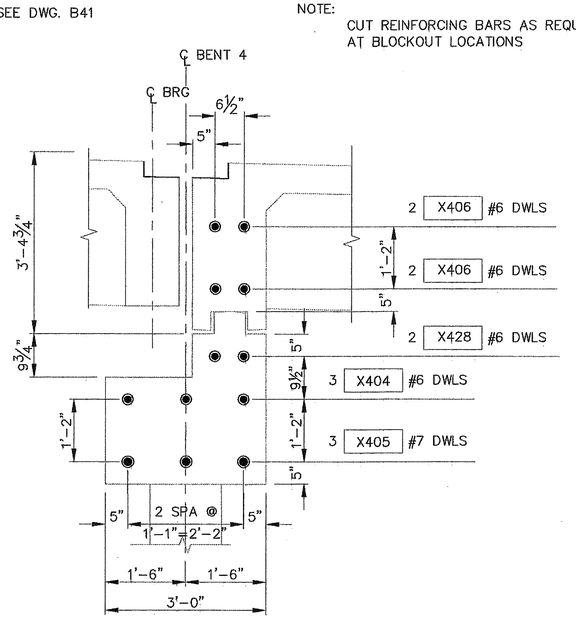
NOTE:
CUT REINFORCING BARS AS REQUIRED AT BLOCKOUT LOCATIONS



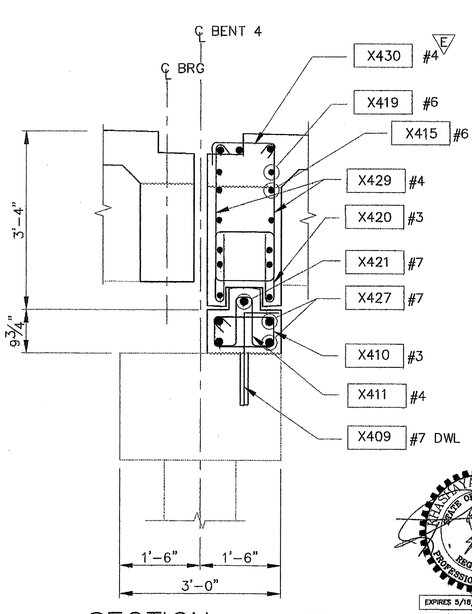
SECTION A
SCALE: ¾" = 1'-0"



SECTION B
SCALE: ¾" = 1'-0"



VIEW C
SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT



SECTION D
SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT

AKMAL NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

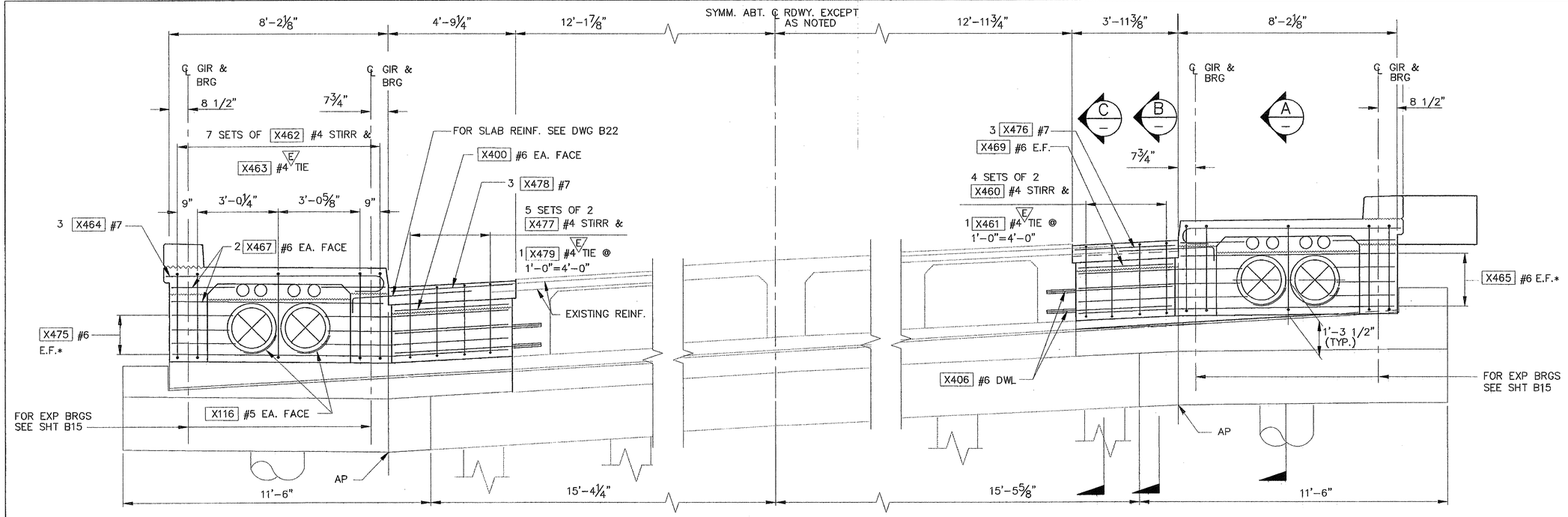
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

BENT 4 – 1 OF 3
FERNDALE BRIDGE REHABILITATION

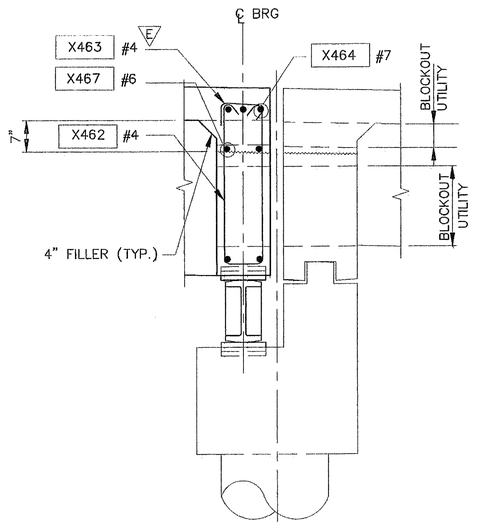
B13

SHEET OF

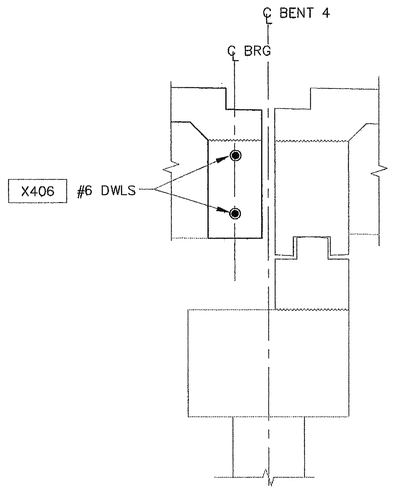


ELEVATION – END DIAPHRAGM AT BENT 4

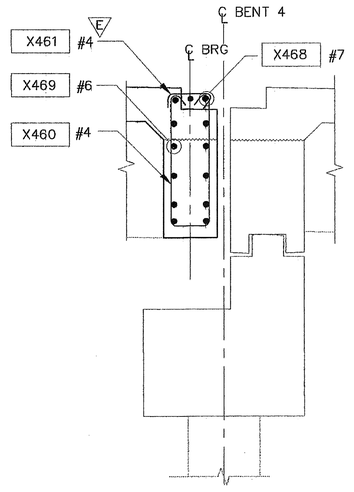
SCALE: ½" = 1'-0"
FOR UTILITY BLOCKOUT LOCATIONS SEE DWG. B41.
MEASURE DIMESIONS @ ℄ BENT



SECTION A
SCALE: ¾" = 1'-0"



VIEW B
SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT



SECTION C
SCALE: ¾" = 1'-0"

NIKZAD NIKZAD
STATE OF WASHINGTON
24227
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

BENT 4 – 2 OF 3
FERNDALE BRIDGE REHABILITATION

B14 SHEET OF

00378.004 5.4.07 KR

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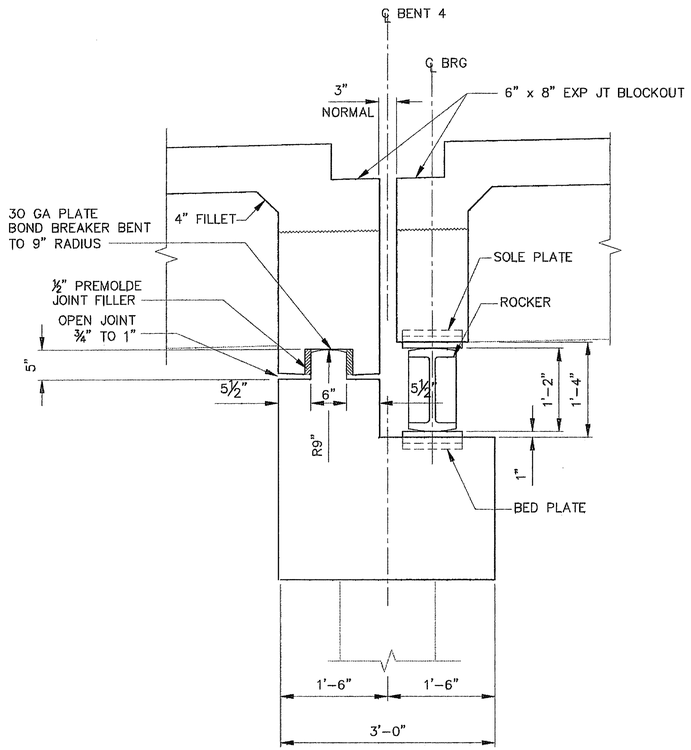
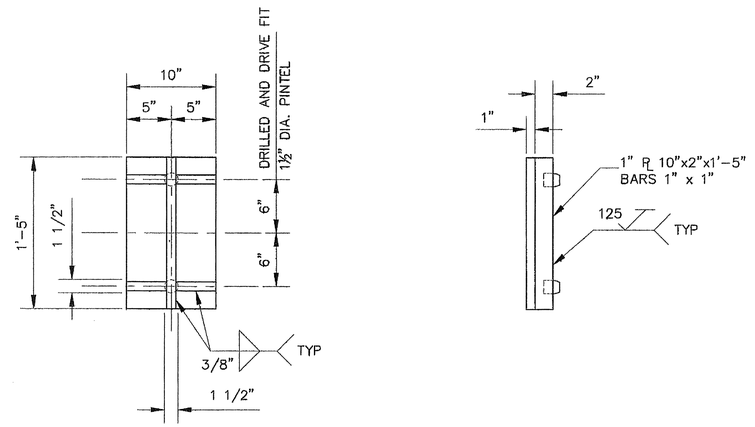
00378.065 5.4.09 KR



ASSEMBLY AT BENT 4

SCALE: 1" = 1'-0"

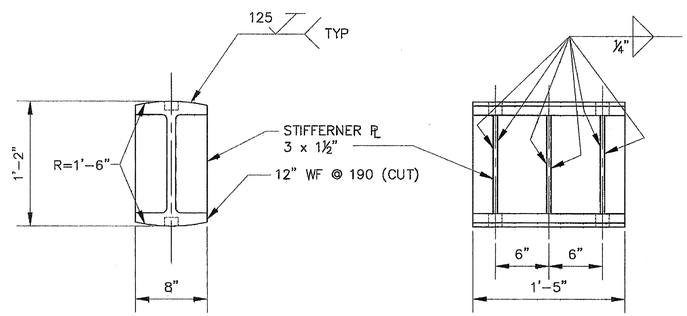


SOLE PLATE – BED PLATE

SCALE: 1½" = 1'-0" (8 REQUIRED)

PINTLE DETAIL

SCALE: 1" = 1'-0"



EXPANSION ROLLER

SCALE: 1½" = 1'-0"
4 REQ'D

KHALIL-YAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

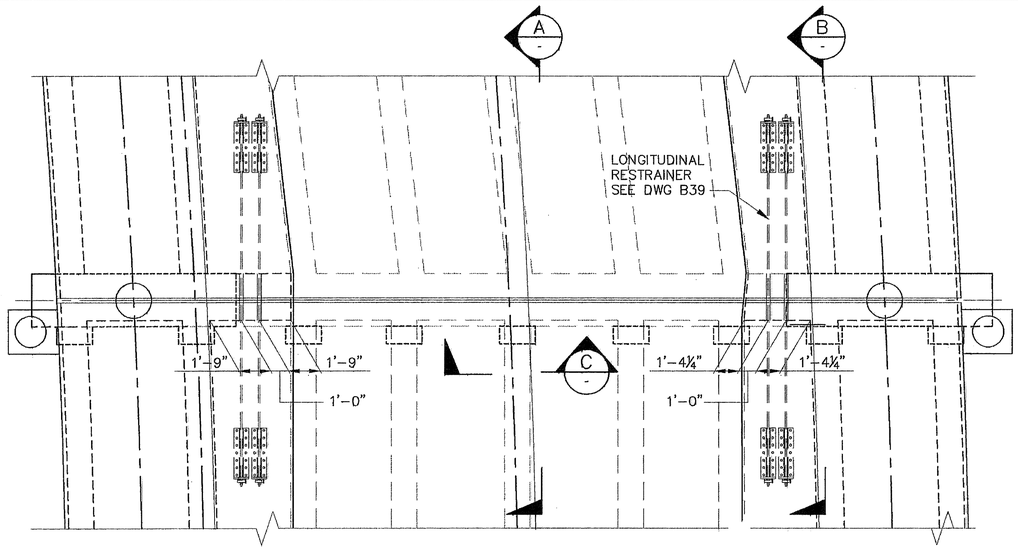
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

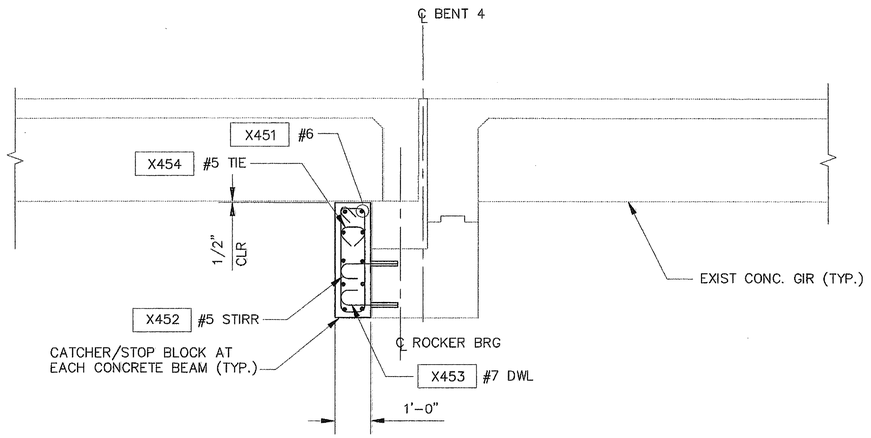
BENT 4 – 3 OF 3
FERNDALE BRIDGE REHABILITATION

B15

SHEET OF

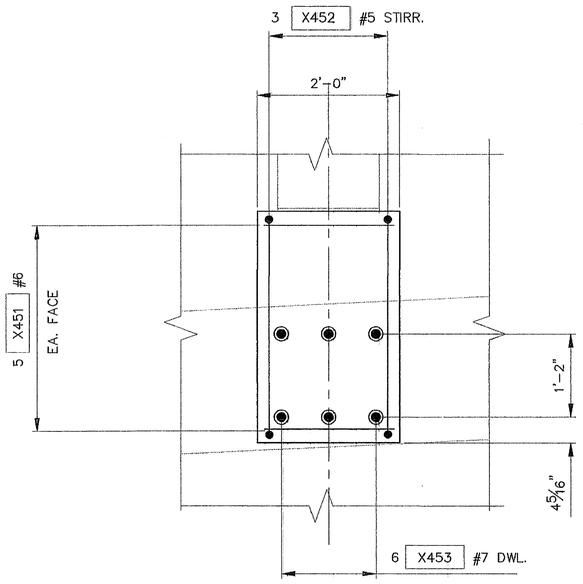


BENT 4
SCALE: ¼" = 1'-0"

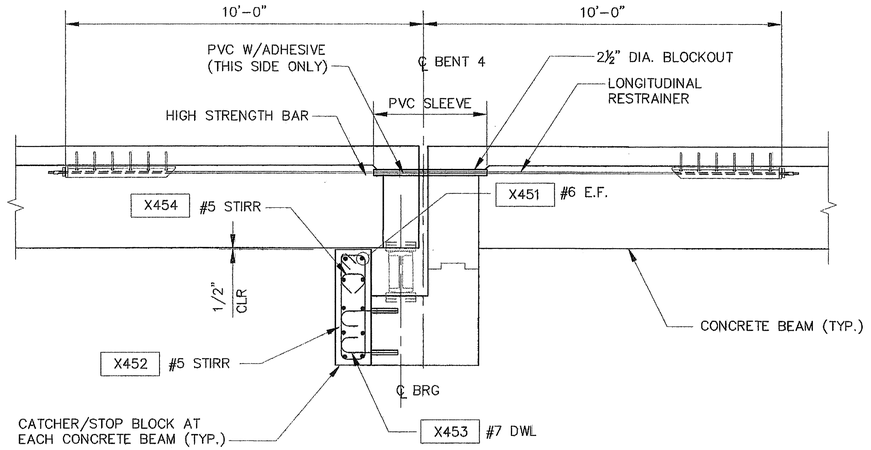


RETROFIT SECTION (A)

BENT 4
SCALE: ½" = 1'-0"



RETROFIT SECTION (C)
SCALE: 1" = 1'-0"



RETROFIT DETAIL (B)

BENT 4
SCALE: ½" = 1'-0"

00378.066 5.4.09 KR

ALEXANDAR NIKZAD
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

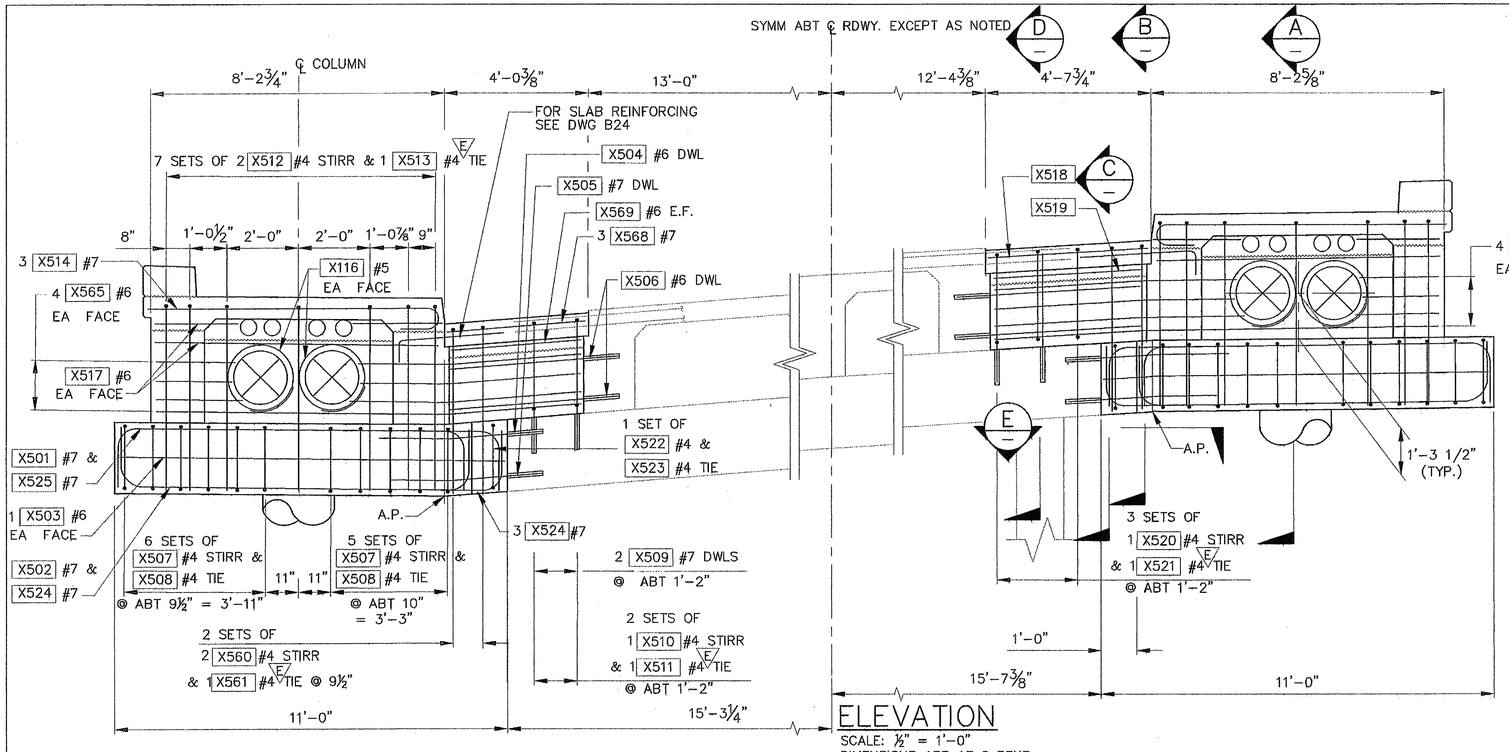
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

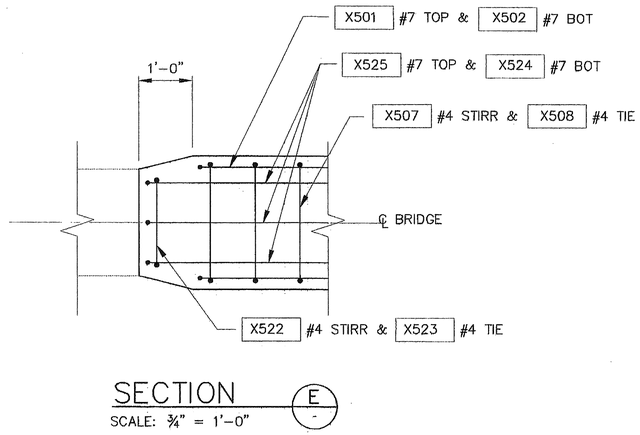
RETROFIT DETAILS–BENT 4
FERNDALE BRIDGE REHABILITATION

B16 SHEET OF



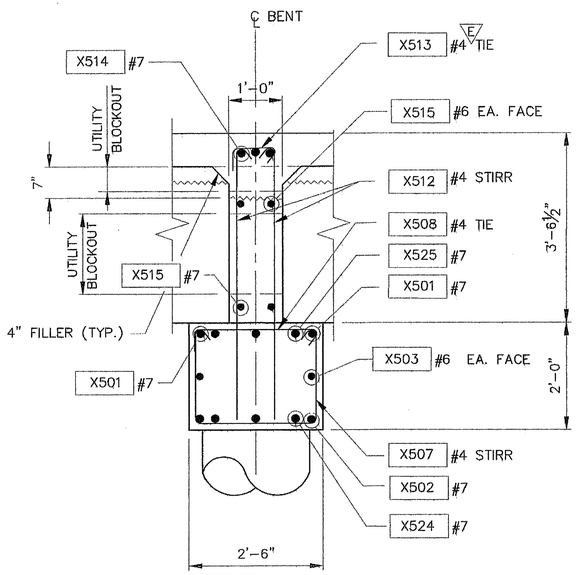
ELEVATION

SCALE: ½" = 1'-0"
DIMENSIONS ARE AT ℄ BENT
FOR UTILITY BLOCKOUT LOCATIONS SEE DWG. B41



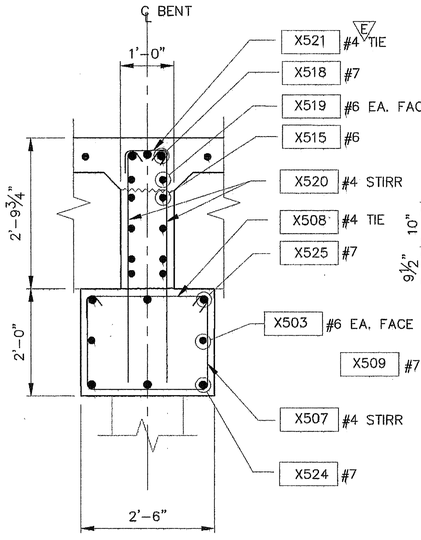
SECTION E

SCALE: ¾" = 1'-0"



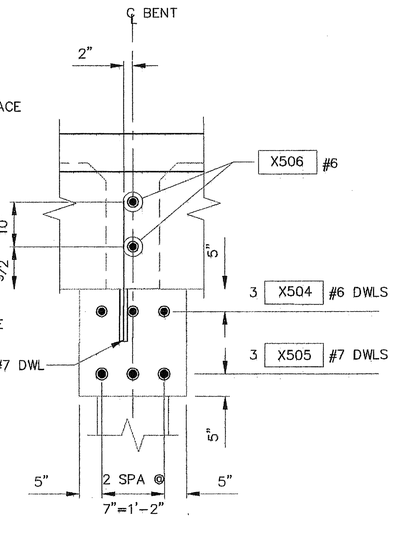
SECTION A

SCALE: ¾" = 1'-0"
VERTICAL DIMENSIONS ARE AT ℄ BENT



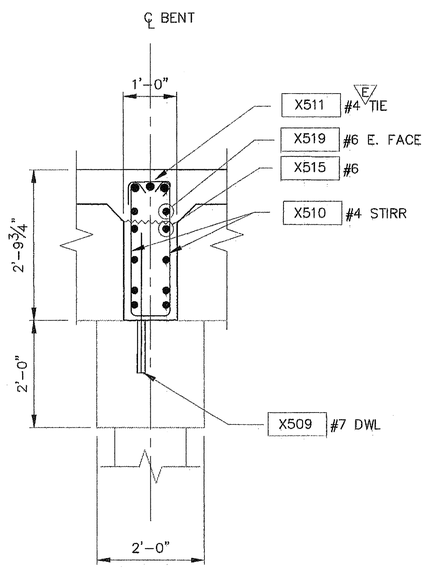
SECTION B

SCALE: ¾" = 1'-0"



VIEW C

SCALE: ¾" = 1'-0"
DOWEL LOCATION LAYOUT



SECTION D

SCALE: ¾" = 1'-0"

NAVAYAR NIKZAD
LICENSED TO PRACTICE IN WASHINGTON STATE
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

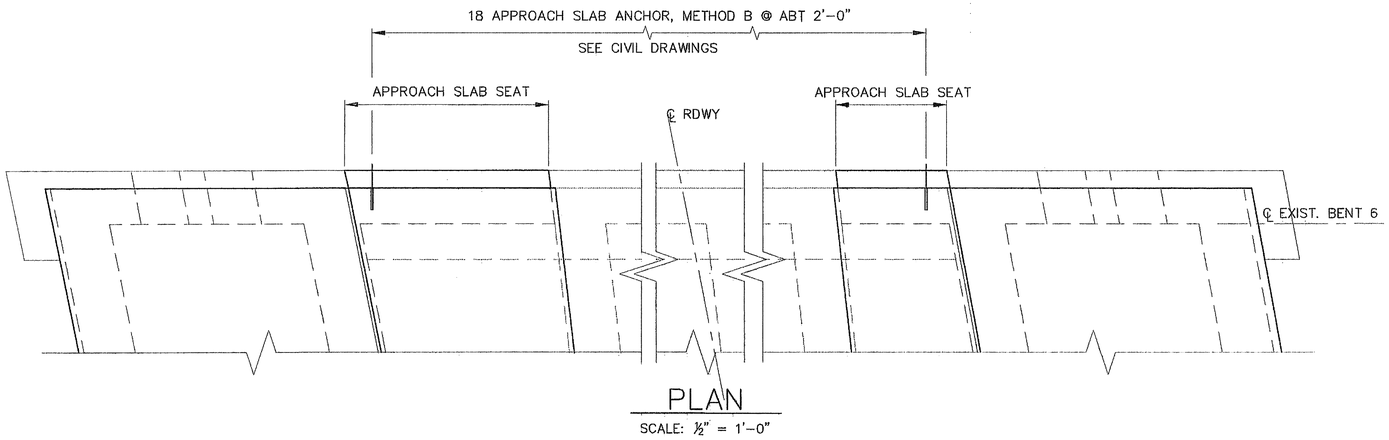
Job. No.
Date
Field Bk.

BENT 5
FERNDALE BRIDGE REHABILITATION

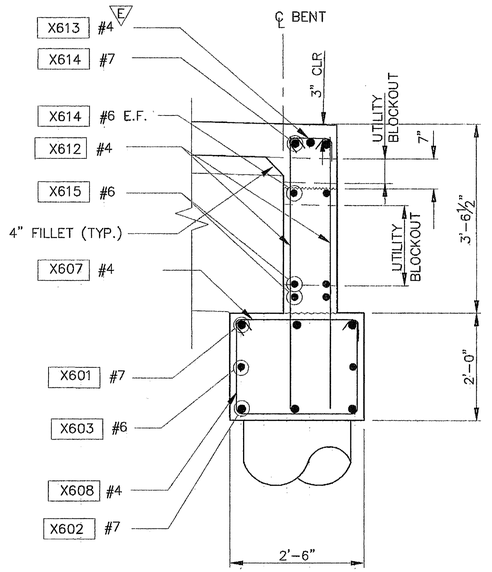
B17

SHEET OF

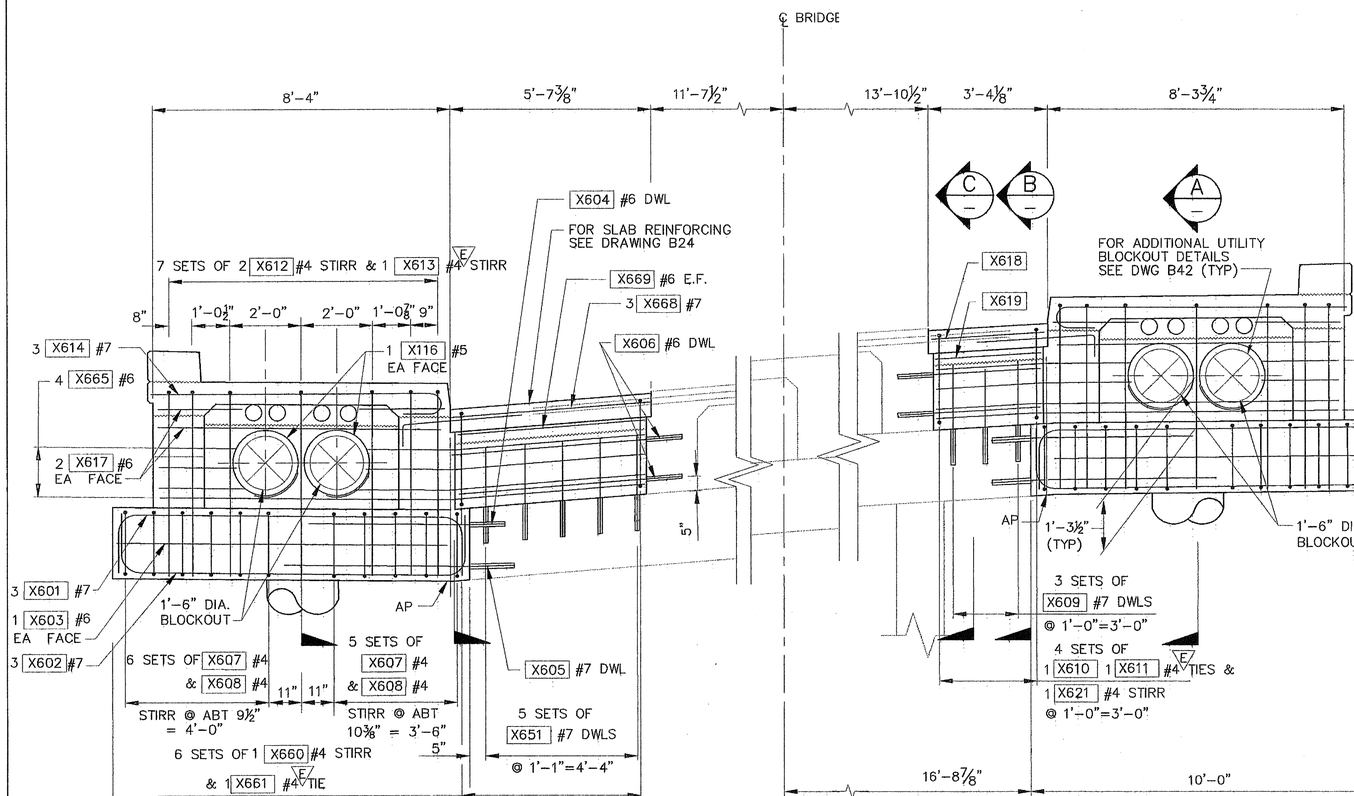
00378.067 5.4.09 KR



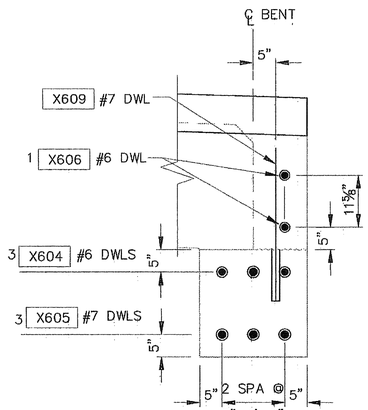
PLAN
SCALE: ½" = 1'-0"



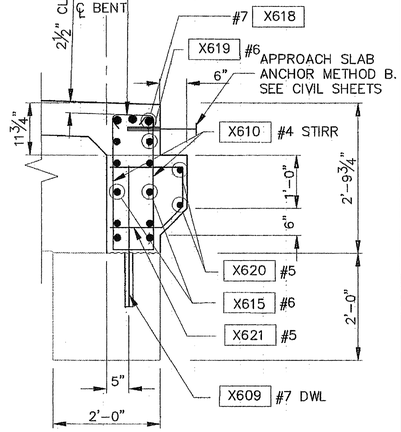
SECTION
SCALE: ¾" = 1'-0" (A)



ELEVATION
SCALE: ½" = 1'-0"
DIMENSIONS ARE AT ℄ BENT
FOR UTILITY BLOCKOUT LOACATIONS SEE DWG. B41.



VIEW
SCALE: ¾" = 1'-0" (B)
DOWEL LOCATION LAYOUT



SECTION
SCALE: ¾" = 1'-0" (C)

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

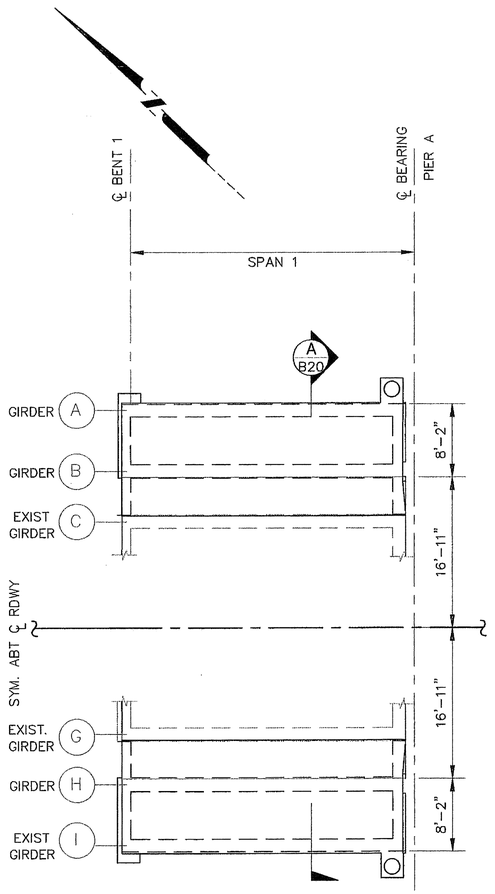
BENT 6
FERNDALE BRIDGE REHABILITATION

B18

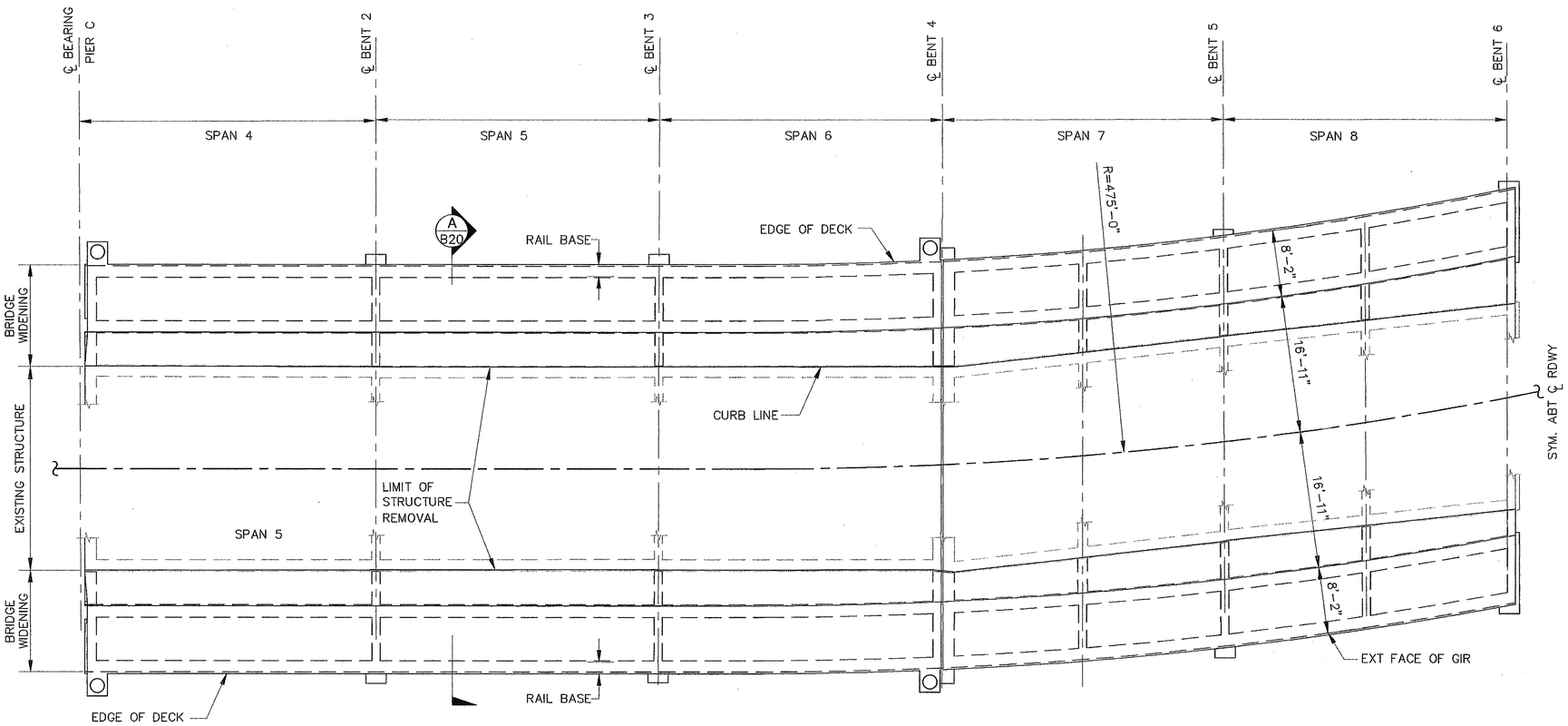
SHEET OF

60.4.S 860.8600

0278.009 S.4.09 KZ



FRAMING PLAN–SPAN 1
SCALE: 1/8" = 1'-0"



FRAMING PLAN–SPAN 4 THRU 8
SCALE: 1/8" = 1'-0"

JAMSHIDYAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K.NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

FRAMING PLAN – SPAN 1, 4 THRU 8
FERNDALE BRIDGE RAHABILITATION

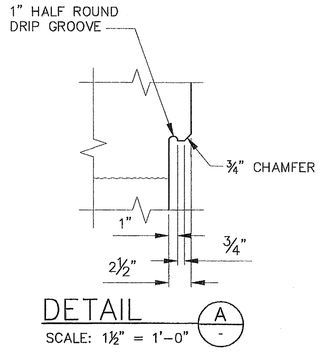
B19

SHEET OF

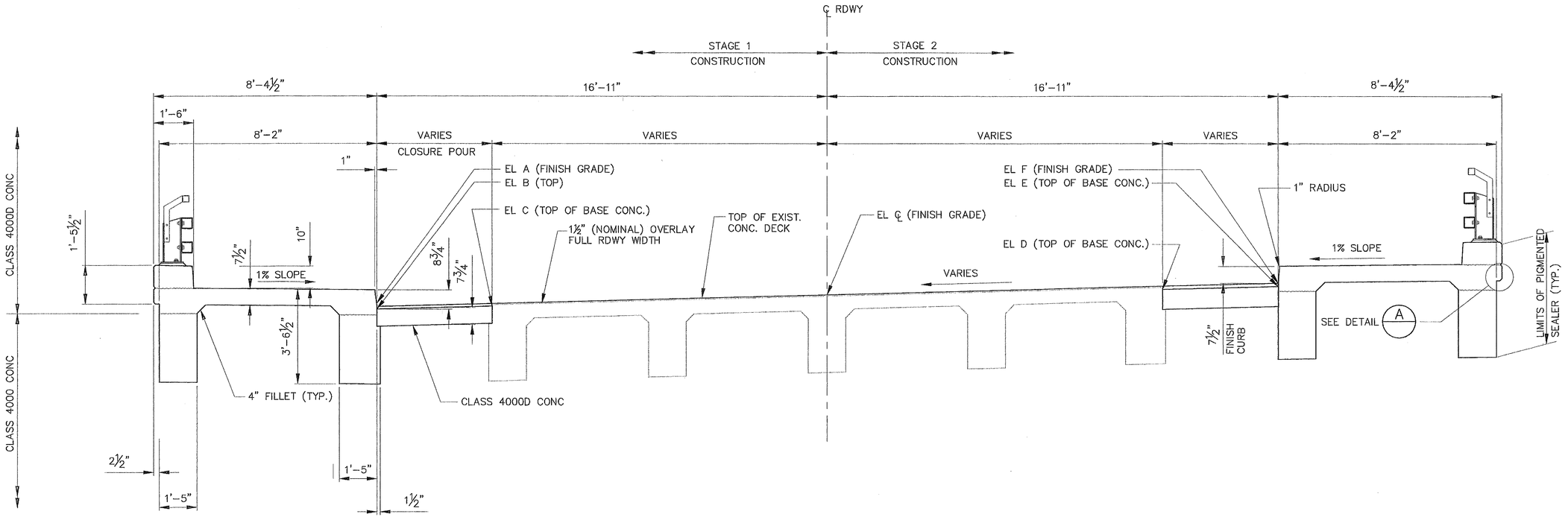
TABLE OF ROADWAY ELEVATIONS

STATION	EL CL	EL A	EL B	EL C	EL D	EL E	EL F
23 + 06.20	33.39	33.33	33.22	33.24	33.21	33.18	33.29
23 + 16.17	33.63	33.57	33.46	33.48	33.54	33.54	33.65
23 + 27.26	33.91	33.74	33.64	33.68	33.74	33.72	33.82
23 + 42.18	34.28	34.13	34.02	34.06	34.01	33.96	34.06
25 + 64.58	36.21	36.06	35.95	35.99	36.03	36.00	36.11
25 + 74.66	36.20	36.01	35.90	35.95	36.04	36.02	36.12
25 + 84.63	36.18	35.92	35.82	35.88	36.05	36.04	36.14
25 + 94.64	36.17	35.87	35.77	35.84	36.06	36.05	36.16
26 + 03.90	36.16	35.85	35.75	35.83	36.06	36.06	36.16
26 + 13.88	36.08	35.70	35.60	35.70	36.06	36.10	36.20
26 + 23.74	36.01	35.52	35.41	35.54	36.06	36.12	36.22
26 + 33.38	35.94	35.30	35.20	35.36	36.05	36.12	36.23

STATION	EL CL	EL A	EL B	EL C	EL D	EL E	EL F
26 + 39.07	35.84	35.19	35.09	35.25	36.03	36.13	36.23
26 + 49.31	35.64	34.95	34.85	35.02	35.94	36.08	36.19
26 + 59.91	35.43	34.66	34.56	34.76	35.83	35.99	36.10
26 + 70.78	35.23	34.27	34.17	34.44	35.74	35.91	36.01
26 + 80.22	35.01	33.94	33.84	34.12	35.55	35.75	35.86
26 + 90.16	34.75	33.59	33.49	33.77	35.35	35.60	35.70
26 + 99.81	34.53	33.25	33.15	33.45	35.17	35.44	35.55
27 + 09.63	34.22	32.92	32.82	33.13	34.85	35.13	35.23
27 + 19.33	33.89	32.61	32.51	32.83	34.52	34.78	34.88
27 + 30.26	33.51	32.26	32.16	32.51	34.20	34.42	34.53
27 + 41.26	33.16	31.86	31.76	32.18			



DETAIL A
SCALE: 1½" = 1'-0"



TYPICAL SECTION – SPANS 1, 4 THRU 8 (A / B19)
SCALE ½": = 1'-0"

NOTE:
SCARIFY CONC RDWY DECK TO THE FOLLOWING DEPTHS PRIOR TO POURING 1½" MIN. OVERLAY.
- BASE CONC. AT CLOSURE POUR –¼"
- EXIST CONC. DECK – 1"

MAHMAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

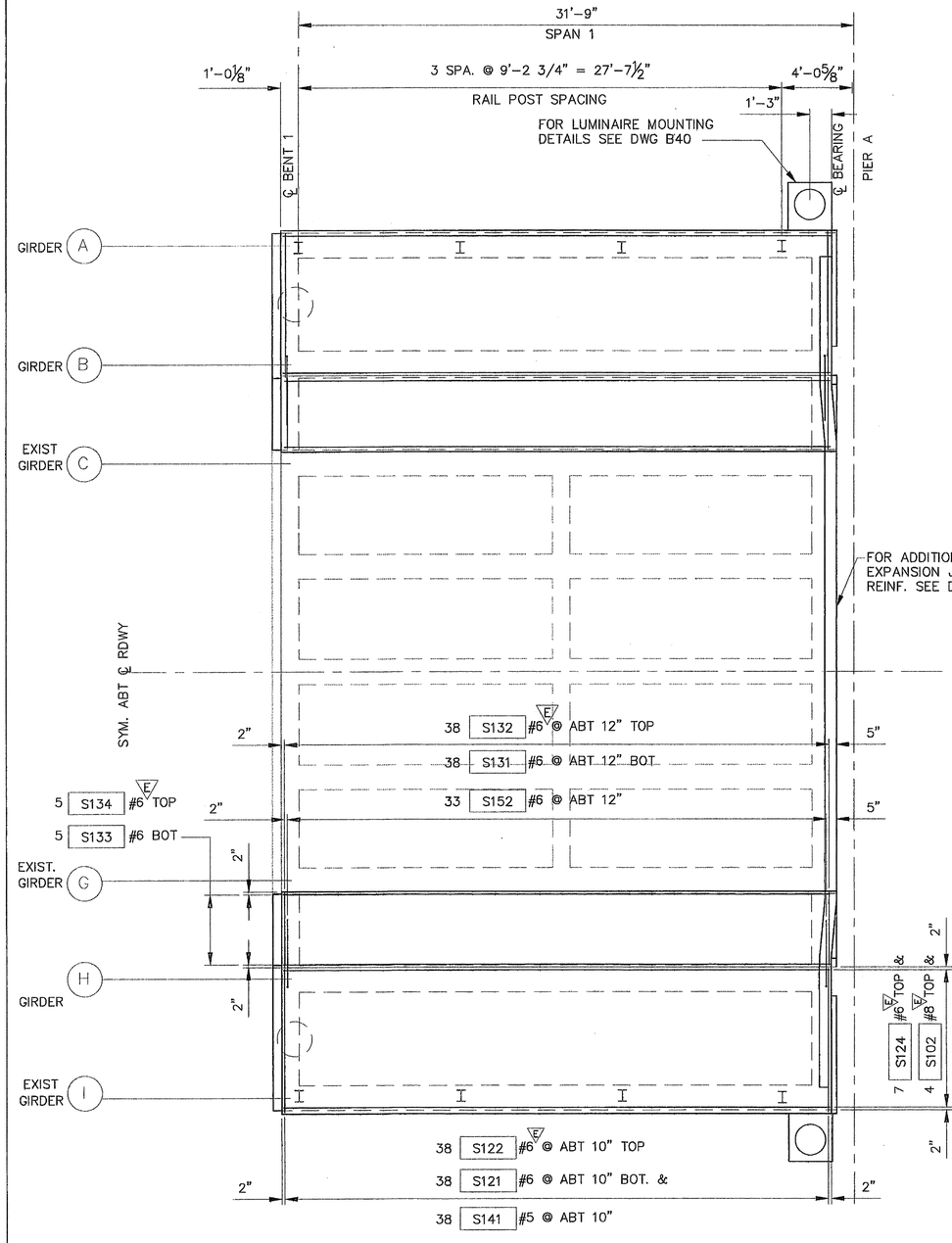
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

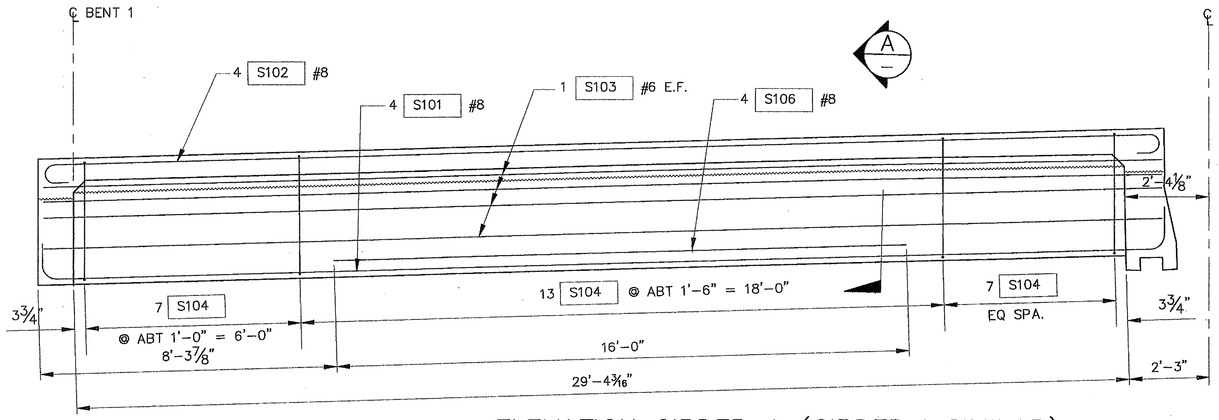
TYPICAL SECTION–SPANS 1,4 THRU 8
FERNDALE BRIDGE REHABILITATION

B20 SHEET OF

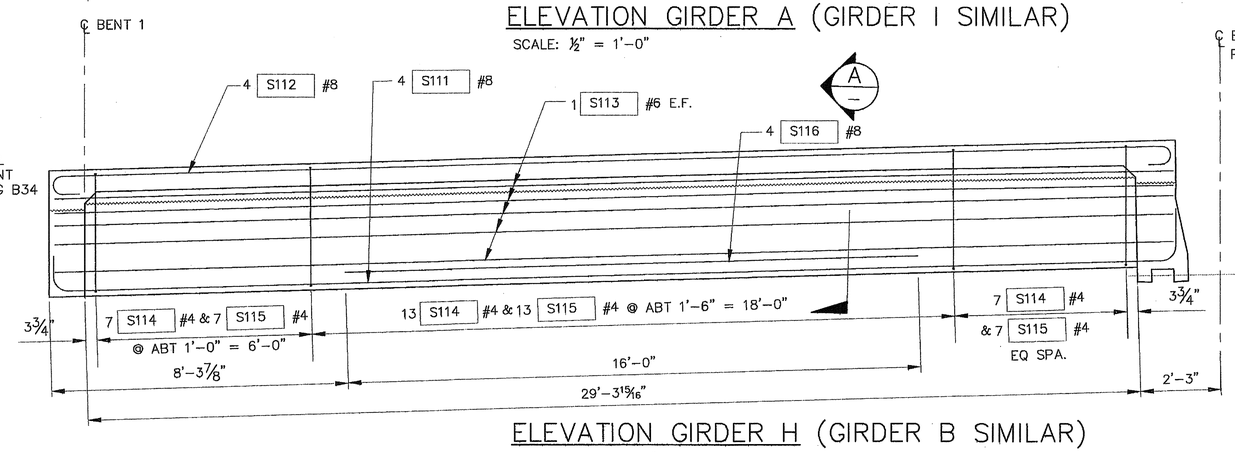
00378.010 S4.09 KN



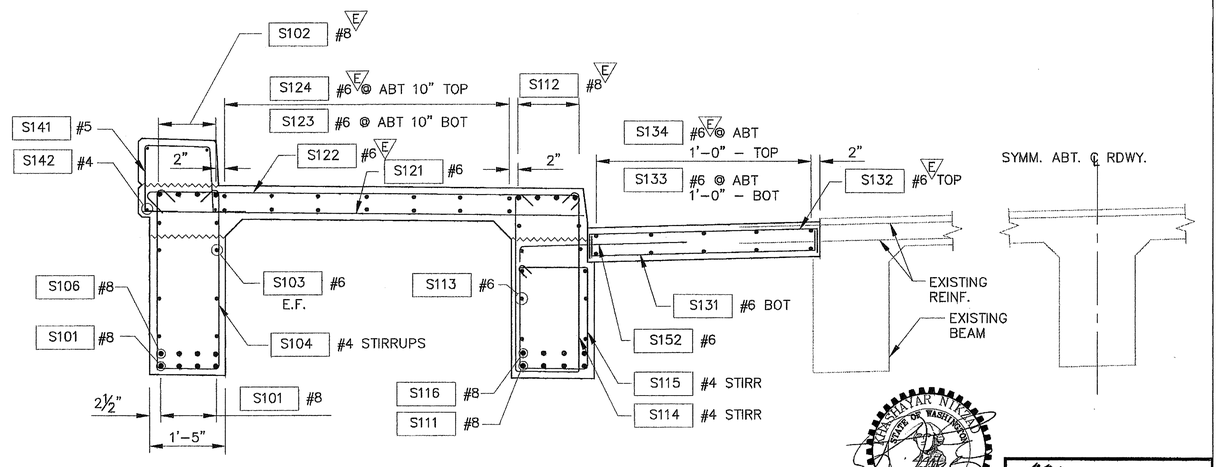
DECK PLAN–SPAN 1
SCALE: ¼" = 1'-0"



ELEVATION GIRDER A (GIRDER I SIMILAR)
SCALE: ½" = 1'-0"



ELEVATION GIRDER H (GIRDER B SIMILAR)
SCALE: ½" = 1'-0"



SECTION A
SCALE: ¾" = 1'-0"

VASHAVAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K.NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

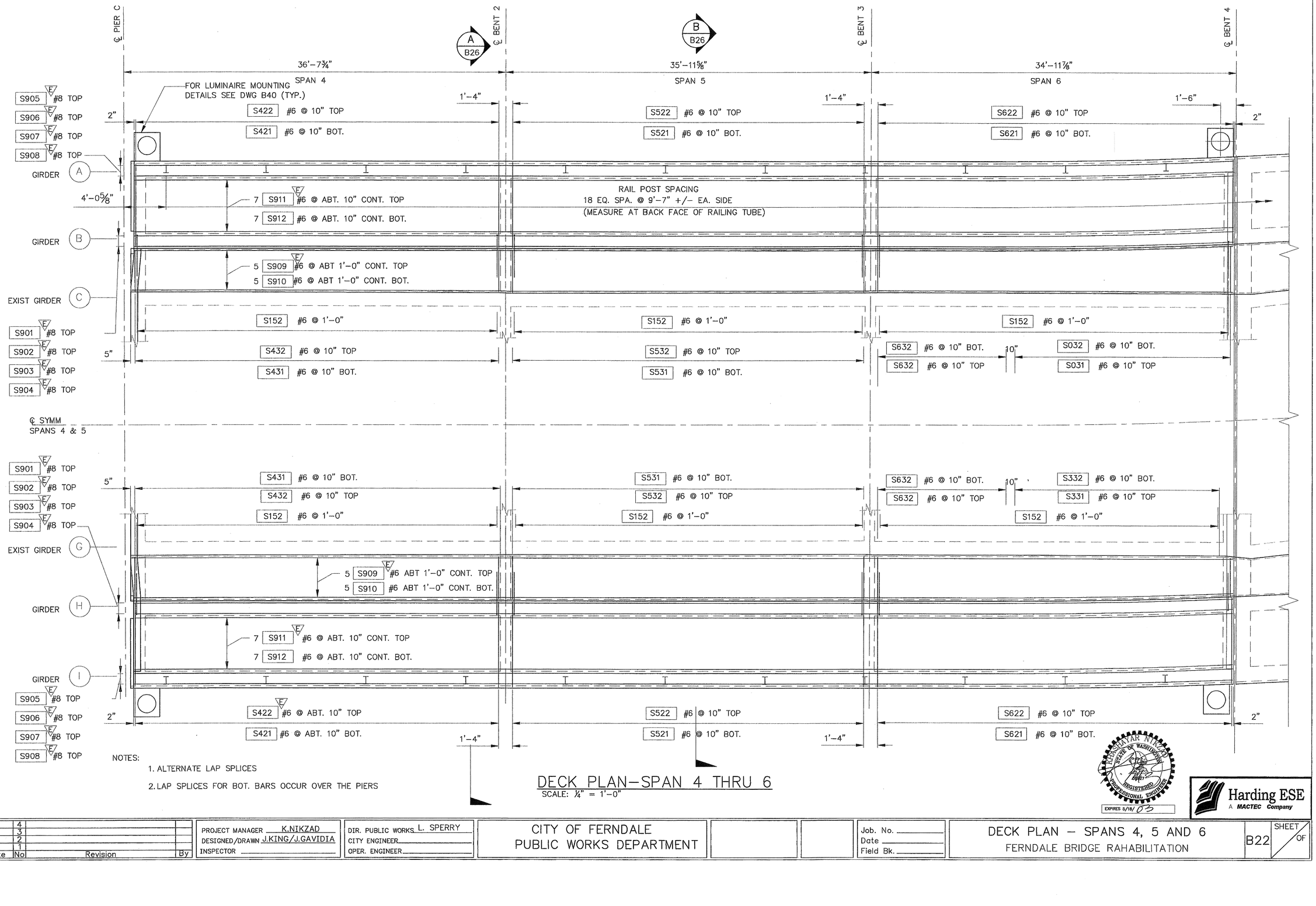
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

DECK PLAN AND GIRDERS – SPAN 1
FERNDALE BRIDGE RAHABILITATION

B21 SHEET OF

0278.071 5.4.09 RK



NOTES:

1. ALTERNATE LAP SPLICES
2. LAP SPLICES FOR BOT. BARS OCCUR OVER THE PIERS

DECK PLAN–SPAN 4 THRU 6

SCALE: ¼" = 1'–0"

00378.072 5.4.07 RE

MOSHTAR NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 5/18/03

Harding ESE — A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K.NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

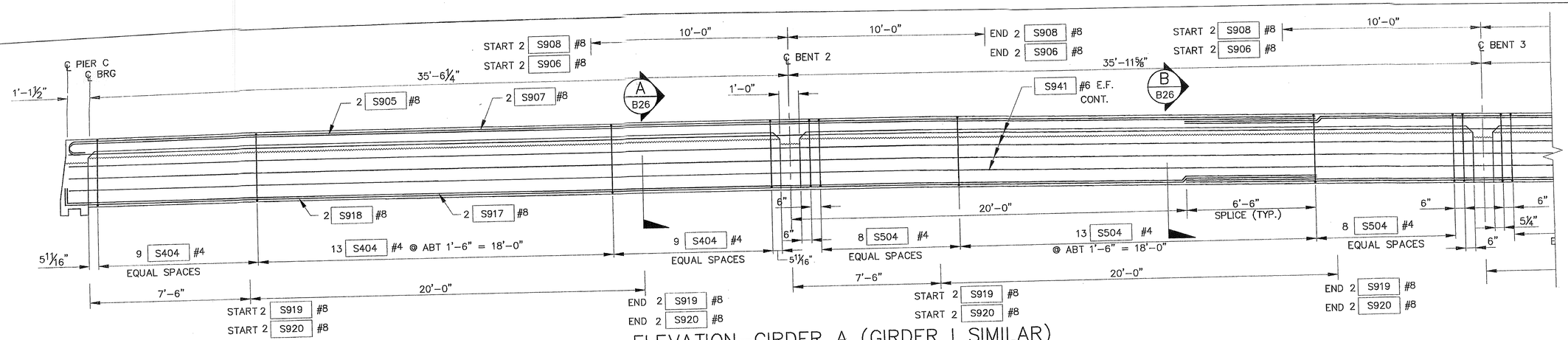
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

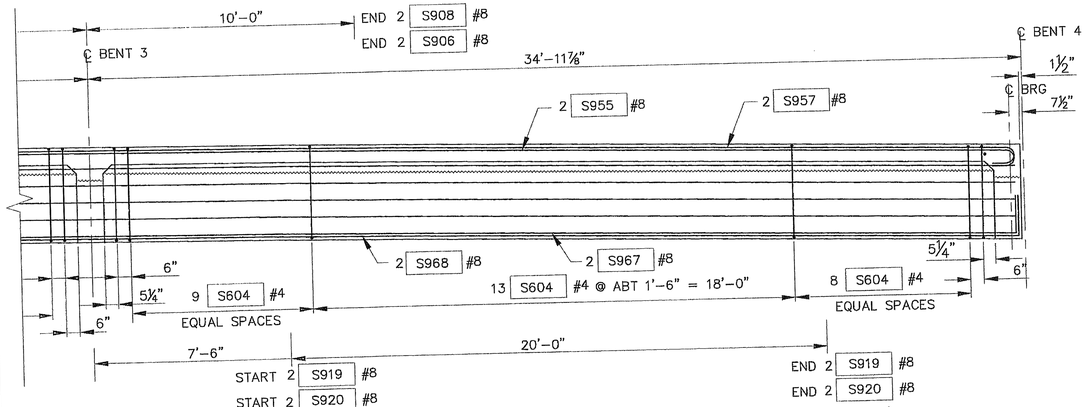
DECK PLAN – SPANS 4, 5 AND 6
FERNDALE BRIDGE RAHABILITATION

B22 SHEET OF



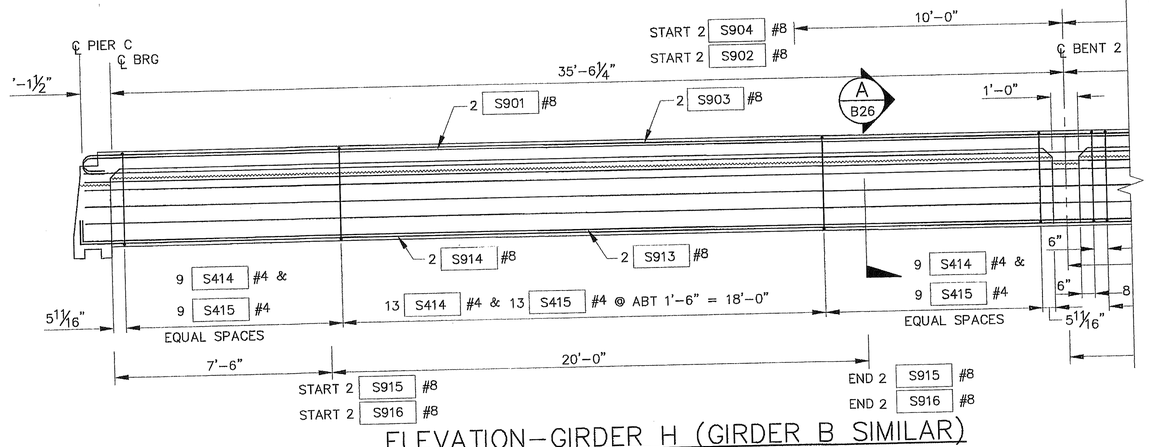
ELEVATION–GIRDER A (GIRDER I SIMILAR)

SCALE: ⅜" = 1'-0"



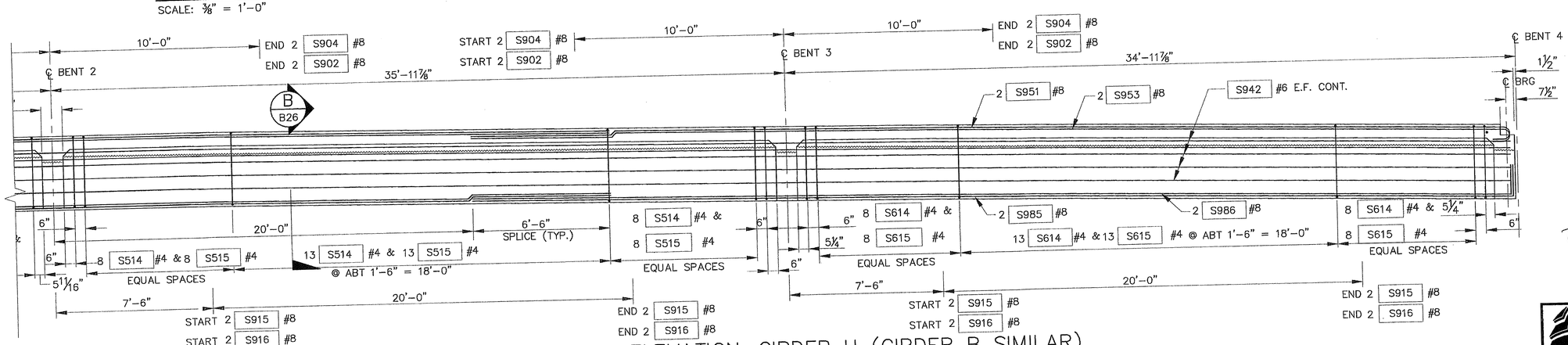
ELEVATION–GIRDER A (GIRDER I SIMILLAR)

SCALE: ⅜" = 1'-0"



ELEVATION–GIRDER H (GIRDER B SIMILAR)

SCALE: ⅜" = 1'-0"



ELEVATION–GIRDER H (GIRDER B SIMILAR)

SCALE: ⅜" = 1'-0"

00378.073 S4.09 KR

KAMYAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/18/07

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K.NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

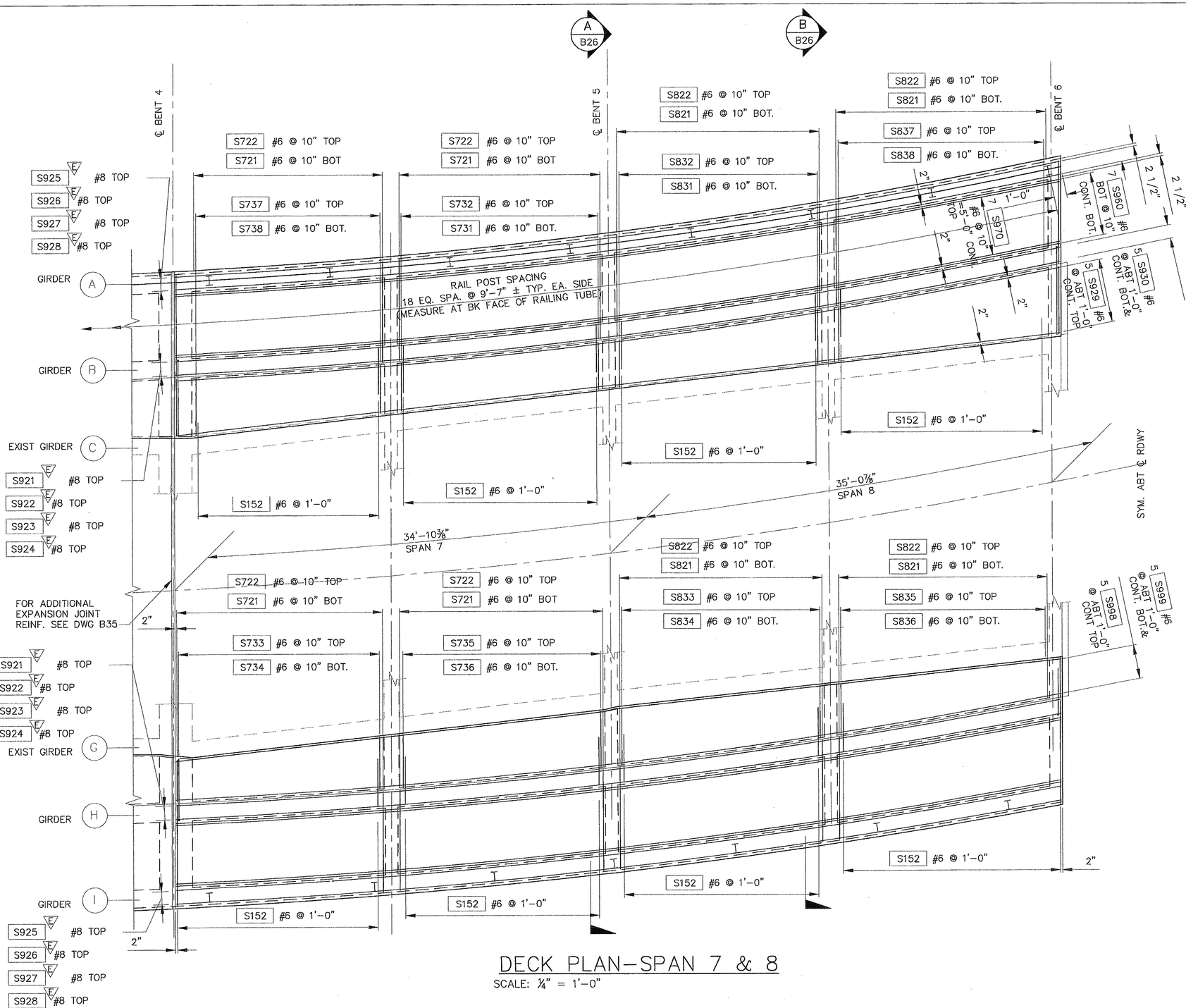
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

GIRDER ELEVATIONS – SPANS 4, 5 AND 6
FERNDALE BRIDGE RAHABILITATION

B23 SHEET OF



DECK PLAN–SPAN 7 & 8

SCALE: ¼" = 1'-0"

KIANOOSH NIKZAD — STATE OF WASHINGTON — 20649 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/23

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

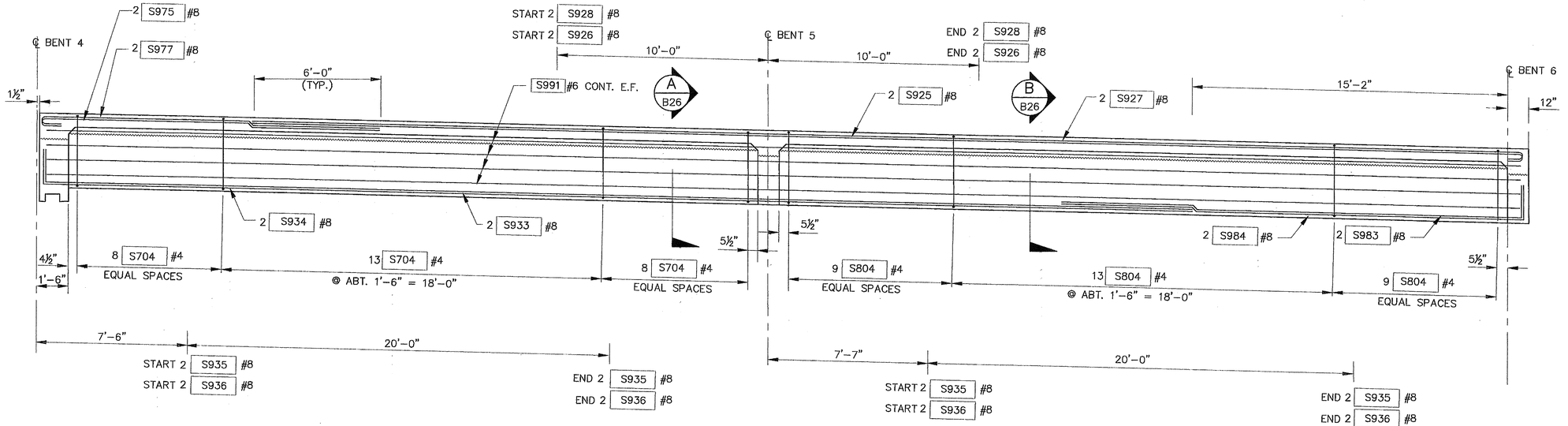
Job. No.
Date
Field Bk.

DECK PLAN – SPANS 7 AND 8
FERNDALE BRIDGE RAHABILITATION

B24

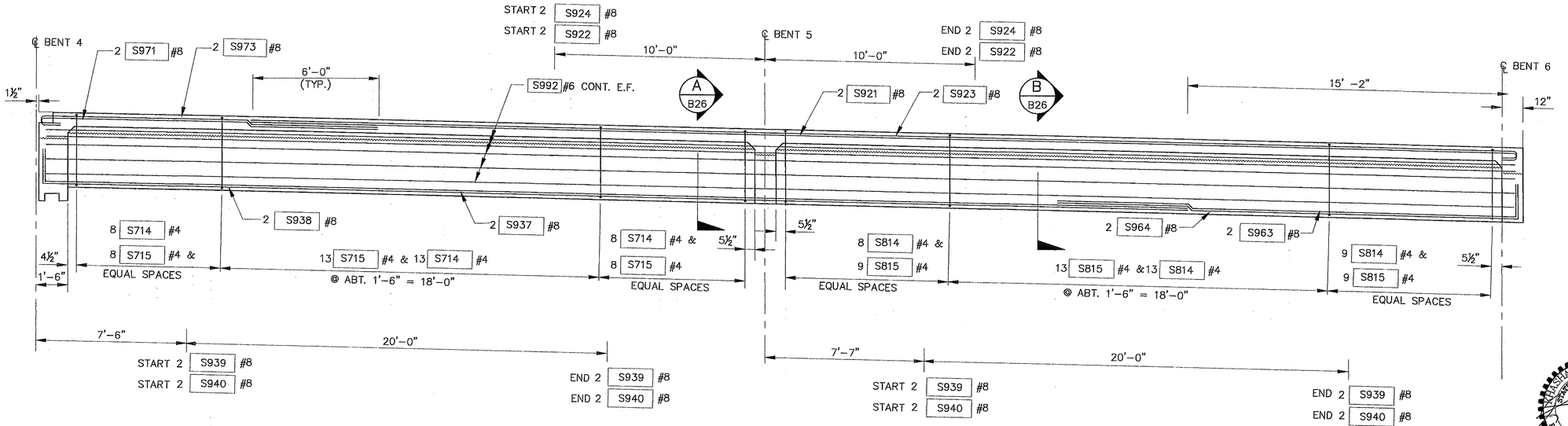
SHEET / OF

S.H.09 00878



EXPANDED ELEVATION A (GIRDER I SIMILAR)

SCALE: ⅜" = 1'-0"



EXPANDED ELEVATION H (GIRDER B SIMILAR)

SCALE: ⅜" = 1'-0"

KAMYAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

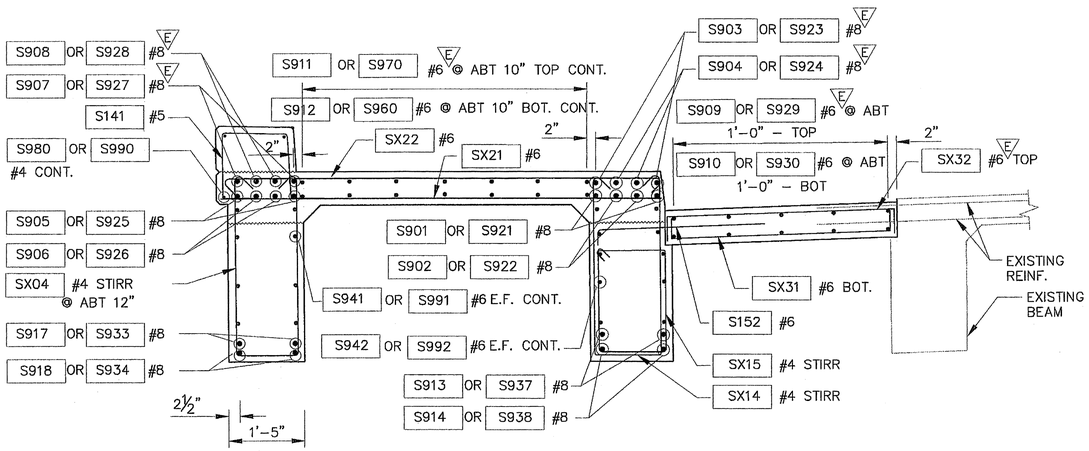
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

GIRDERS ELEVATIONS – SPANS 7 AND 8
FERNDALE BRIDGE RAHABILITATION

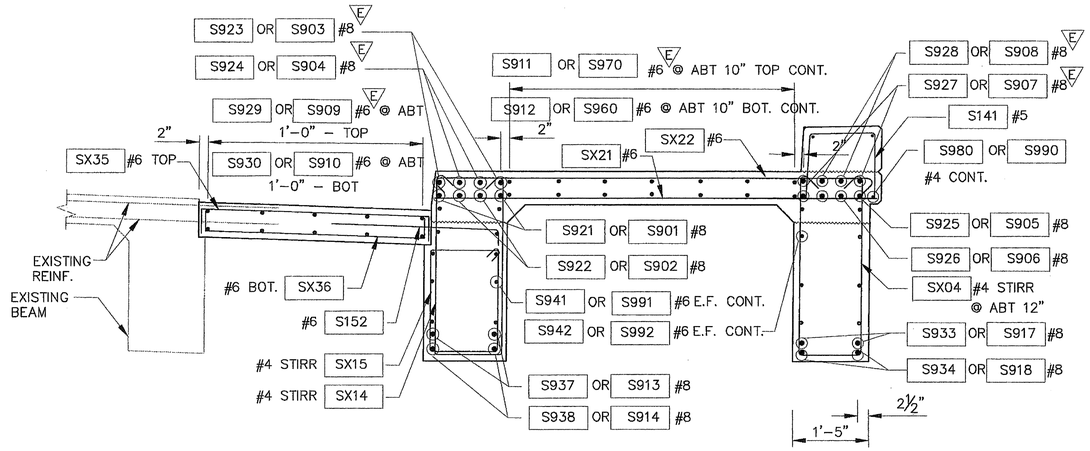
B25 SHEET OF

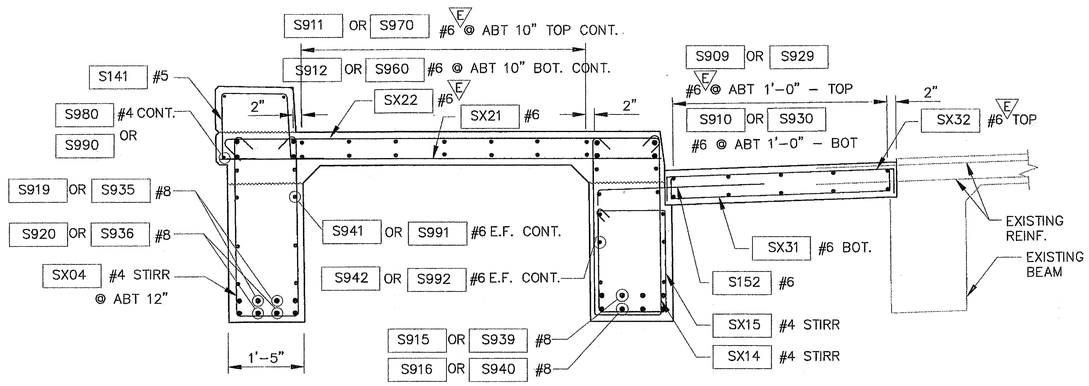
00378.07S S-4-09 KR



SECTION (A / -) B22,B24

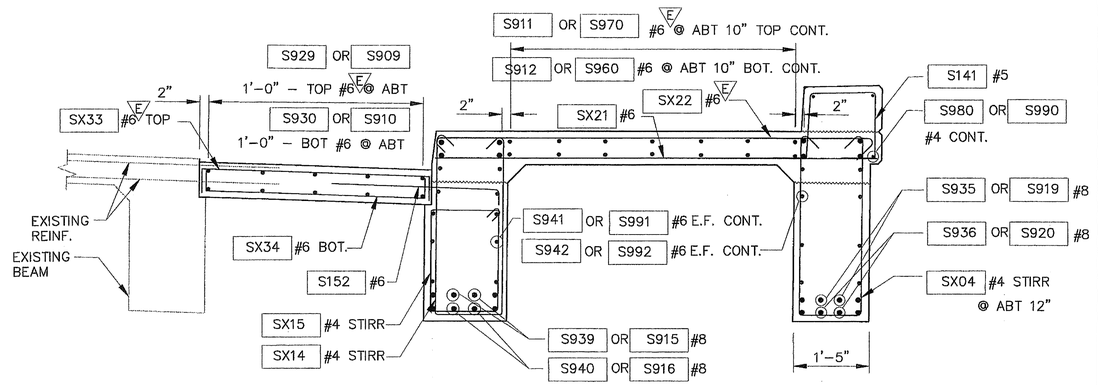
SCALE: ¾" = 1'-0"





SECTION (B / -) B22,B24

SCALE: ¾" = 1'-0"



KHASHAYAR NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/23

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K.NIKZAD
DESIGNED/DRAWN J.KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

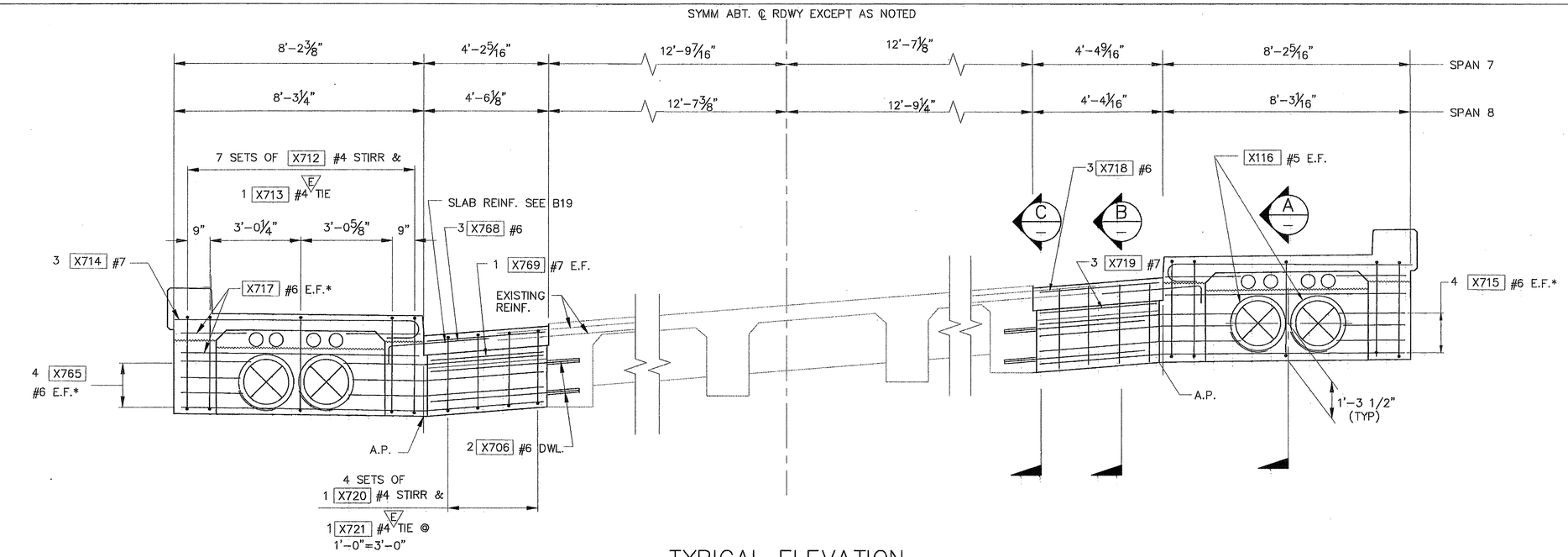
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

DECK SECTIONS – SPANS 4 THRU 8
FERNDALE BRIDGE RAHABILITATION

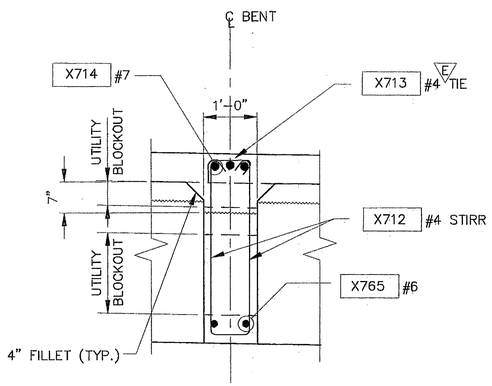
B26 SHEET OF

KK 09.4.09



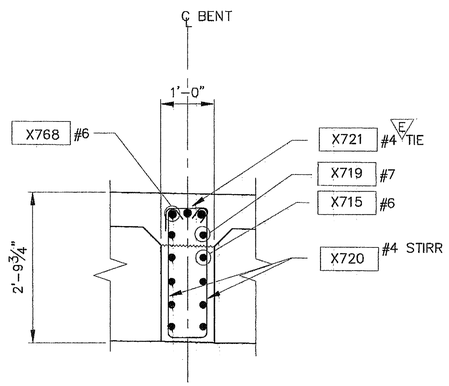
TYPICAL ELEVATION

SCALE: 1/2" = 1'-0"
SPANS 7 & 8 ONLY
DIMENSION AT ℄ BENT
FOR UTILITY BLOCKOUT DETAILS SEE DWG. B38.
*CUT REINFORCING BARS AS REQUIRED AT BLOCKOUT LOCATIONS



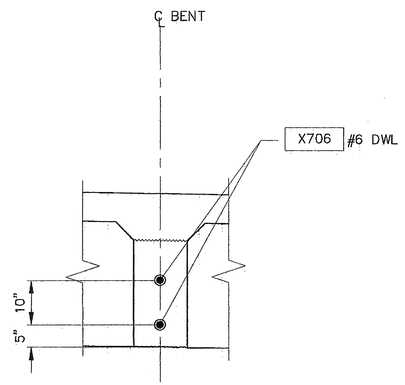
SECTION A

SCALE: 3/4" = 1'-0"
VERTICAL DIMENSIONS ARE AT ℄ BENT



SECTION B

SCALE: 3/4" = 1'-0"



SECTION C

SCALE: 3/4" = 1'-0"
DOWEL LOCATION LAYOUT

STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

INTERMEDIATE DIAPHRAGMS–SPANS 7 AND 8
FERNDALE BRIDGE REHABILITATION

B27

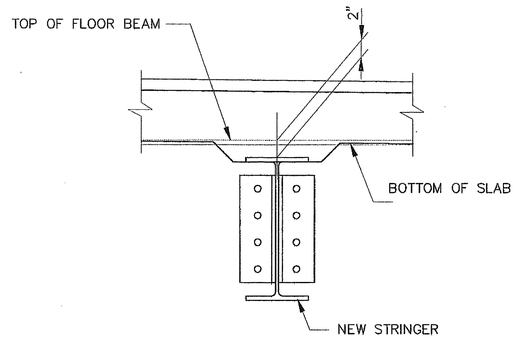
SHEET OF

00378.077 5.4.09 NR

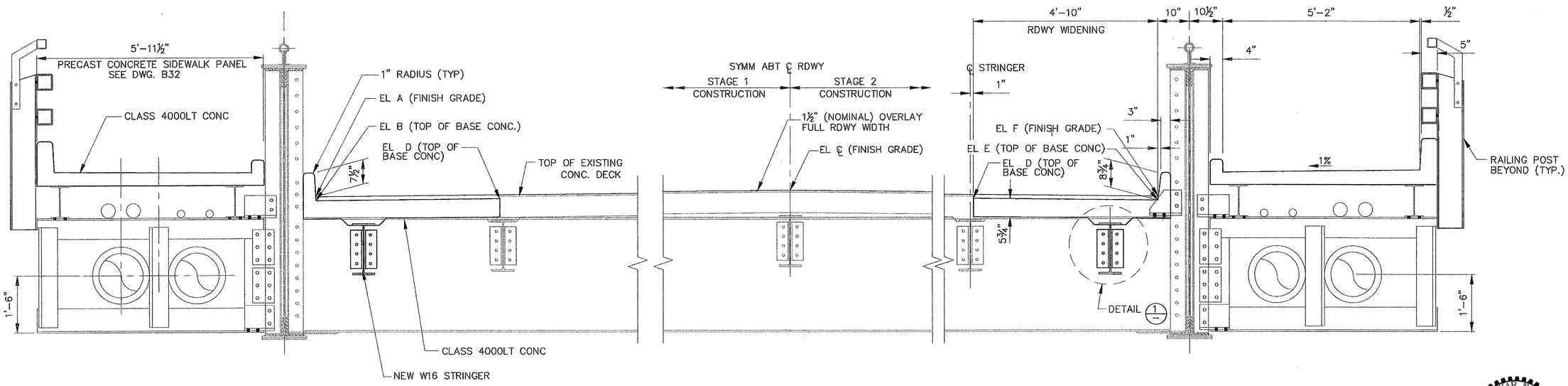
TABLE OF ROADWAY ELEVATIONS							
STATION	EL CL	EL A	EL B	EL C	EL D	EL E	EL F
23 + 42.18	34.28	34.13	34.02	34.06	34.01	33.96	34.06
23 + 61.95	34.55	34.49	34.38	34.40	34.39	34.37	34.47
23 + 82.19	34.81	34.71	34.60	34.63	34.64	34.62	34.72
24 + 03.19	34.95	35.03	34.93	34.91	34.75	34.72	34.82
24 + 23.93	35.11	35.05	34.94	34.96	34.95	34.93	35.03
24 + 45.02	35.28	35.14	35.03	35.07	35.09	35.06	35.16
24 + 64.97	35.43	35.29	35.18	35.22	35.25	35.22	35.33
24 + 86.27	35.59	35.44	35.33	35.37	35.41	35.38	35.49
25 + 04.23	35.72	35.62	35.51	35.54	35.54	35.51	35.62
25 + 24.51	35.87	35.77	35.66	35.69	35.70	35.68	35.78
25 + 46.02	36.06	35.96	35.85	35.88	35.84	35.80	35.91
25 + 64.58	36.21	36.06	35.95	35.99	36.03	36.00	36.11

STRUCTURAL STEEL NOTES

1. ALL STRUCTURAL STEEL SHALL BE STRUCTURAL LOW ALLOY STEEL AASHTO M270 GRADE 50W. EXCEPT AS NOTED
2. ALL FIELD AND SHOP BOLT CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS, WITH THE BOLT HEADS TOWARD THE OUTSIDE AND UNDERSIDE OF BRIDGE. HIGH STRENGTH BOLTS, INCLUDING NUTS AND HARDENED WASHERS, SHALL CONFORM TO AASHTO M164 UNLESS OTHERWISE NOTED. ALL CONNECTIONS SHOWN ARE FOR FIELD BOLTING. SHOP BOLTING MAY BE USED WHERE APPLICABLE, SUBJECT TO APPROVAL BY ENGINEER. ALL BOLTS SHALL BE 7/8" DIA. EXCEPT AS NOTED.
3. ALL WELDING SHALL BE DONE TO MINIMIZED DISTORTION. THE WELDING SEQUENCES AND PROCEDURES TO BE USED SHALL BE SUBMITTED WITH THE SHOP PLANS TO THE ENGINEER FOR APPROVAL.
4. ALL DIMENSIONS ARE HORIZONTAL AND VERTICAL UNLESS OTHERWISE SHOWN.
5. GALVANIZING SHALL BE IN ACCORDANCE WITH AASHTO M111 OR M232 AS APPLICABLE
6. ALL STRUCTURAL STEEL SHALL BE PAINTED PER SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED.
7. DIMENSIONS OF EXISTING STRUCTURE SHOWN ARE BASED ON ORIGINAL CONSTRUCTION RECORDS TOGETHER WITH SURVEY DATA. THESE DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO STARTING OF CONSTRUCTION.



DETAIL 1/–
SCALE: 1 1/2"=1'-0"



NOTE:
SCARIFY CONC. RDWY DECK TO THE FOLLOWING DEPTH PRIOR TO POURING 1½" MIN. OVERLAY:

- BASE CONC. AT RDWY WIDENING –¼"
- EXIST CONC. DECK – 1"

TYPICAL SECTION – SPAN 2 AND 3

SCALE: ¾" = 1'-0"

FOR UTILITY DETAILS SEE DWG. B42.

KASHAYAR NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
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	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

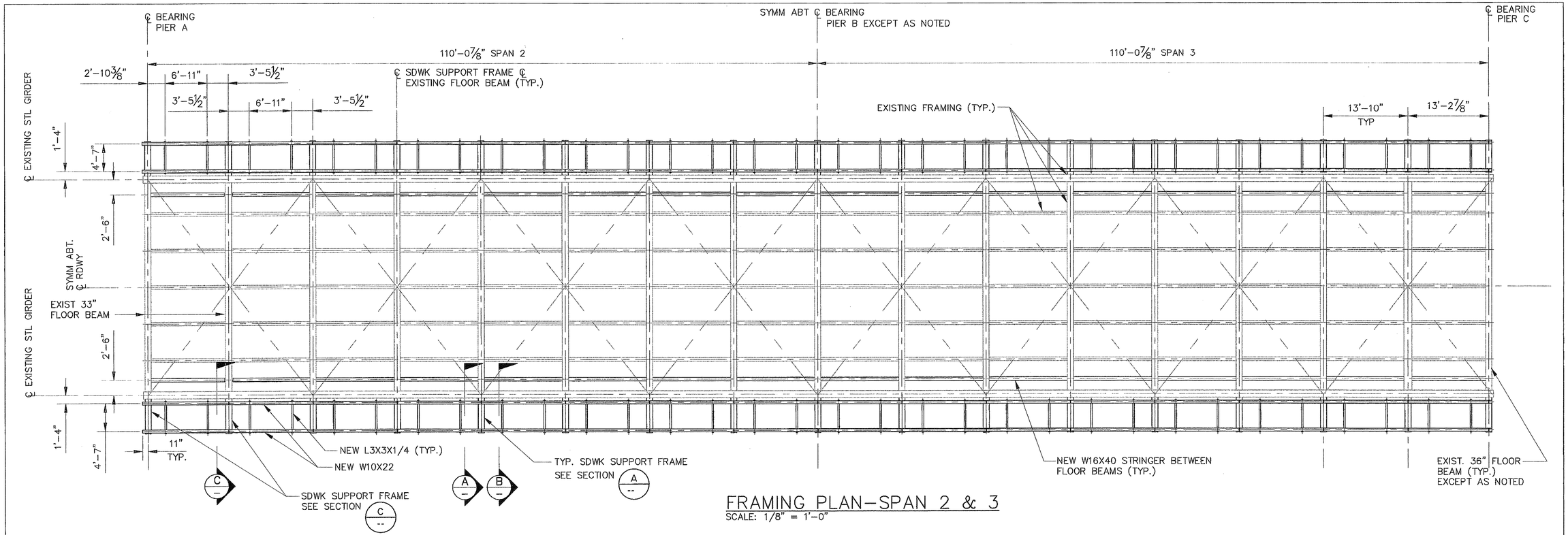
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

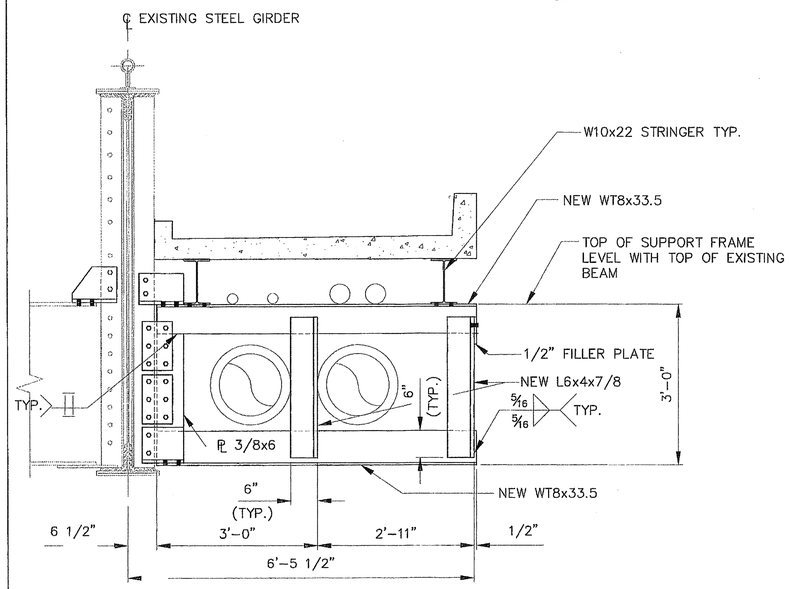
TYPICAL SECTION – SPAN 2 AND 3
FERNDALE BRIDGE REHABILITATION

B28 SHEET OF

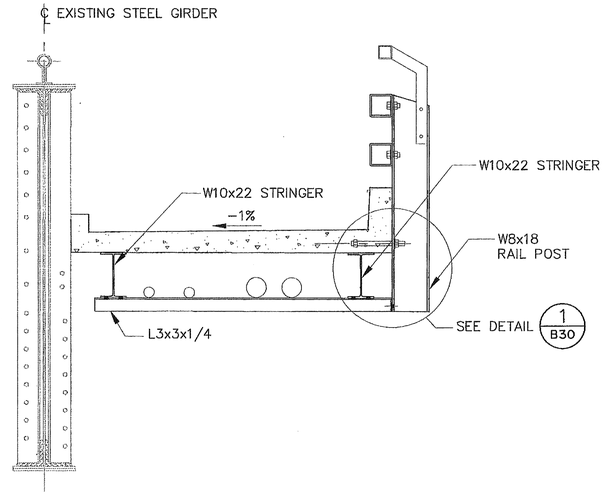
24 bdg's 8D.8300



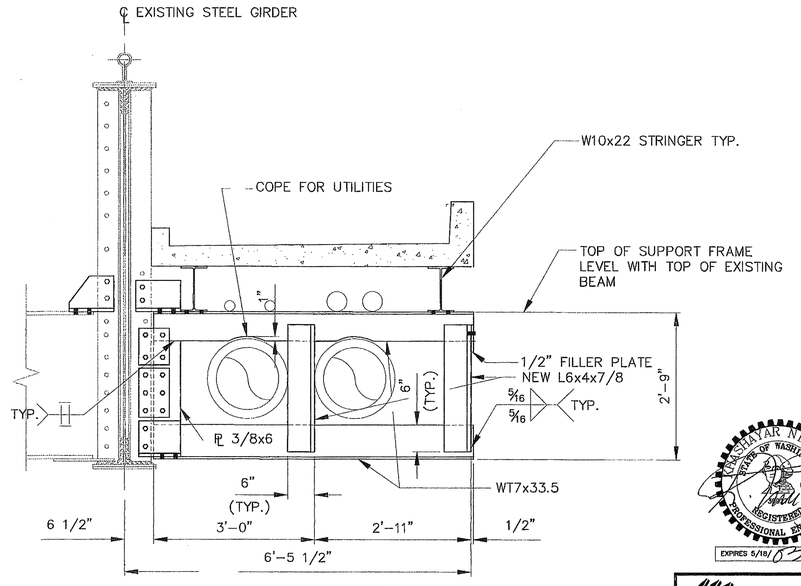
FRAMING PLAN–SPAN 2 & 3
SCALE: 1/8" = 1'-0"



SECTION A
SCALE: 3/4" = 1'-0"



SECTION B
TYPICAL BETWEEN FLOOR BEAMS
SCALE: 3/4" = 1'-0"



SECTION C
SCALE: 3/4" = 1'-0"

KASHYAR NIKZAD STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/16/09

Harding ESE
A MACTEC Company

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PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

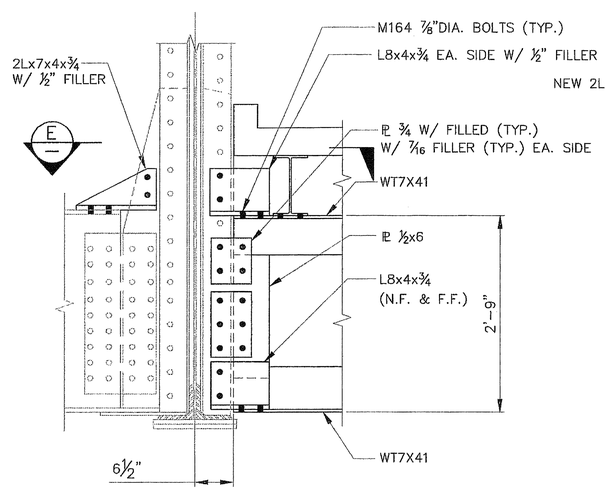
Job. No.
Date
Field Bk.

FRAMING PLAN AND SECTIONS–SPANS 2 AND 3
FERNDALE BRIDGE REHABILITATION

B29

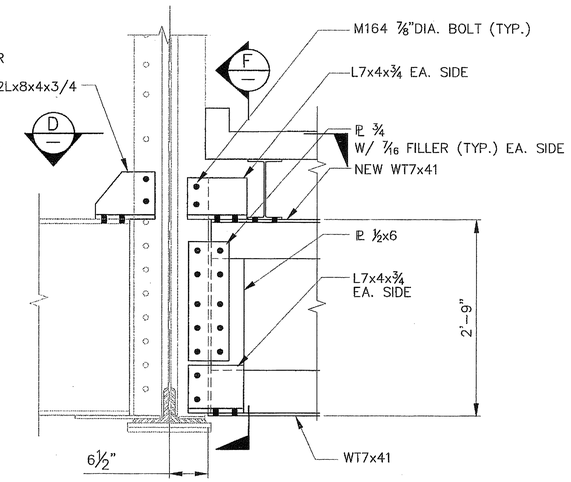
SHEET / OF

00378.079 S-4.09 KN



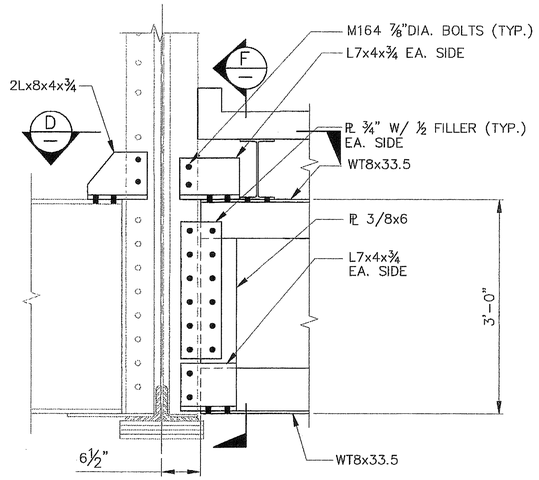
SIDEWALK SUPPORT FRAME CONNECTION DETAIL @ PIER A

SCALE: 1" = 1'-0"



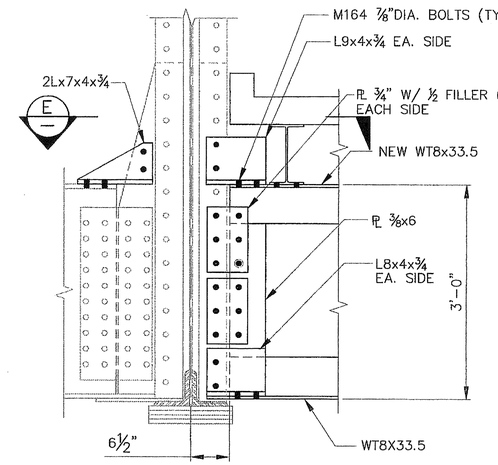
SIDEWALK SUPPORT FRAME CONNECTION DETAIL @ EXIST 33" FLOOR BEAM NEAR PIER A

SCALE: 1" = 1'-0"



SIDEWALK SUPPORT FRAME CONNECTION DETAIL @ EXIST 36" FLOOR BEAM – TYP.

SCALE: 1" = 1'-0"

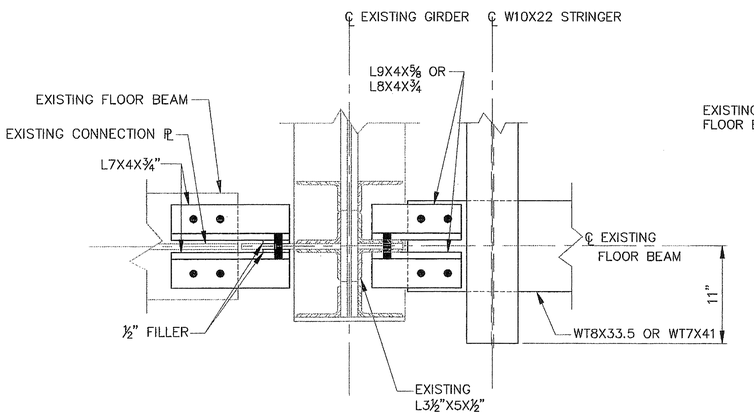


SIDEWALK SUPPORT FRAME CONNECTION DETAIL @ PIER B&C

SCALE: 1" = 1'-0"

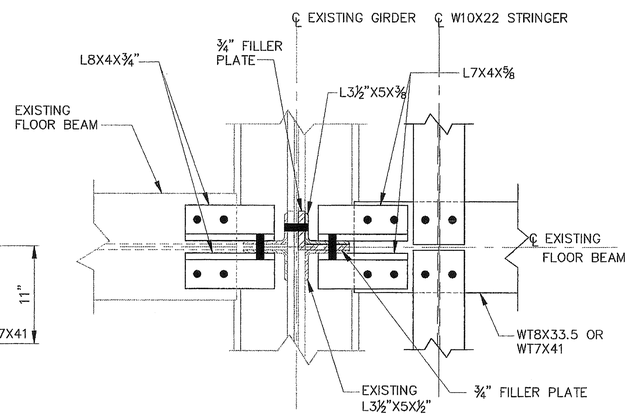
NOTES:

1. PRIOR TO STEEL FABRICATION, CONTRACTOR SHALL FIELD VERIFY THAT EXISTING CONDITIONS, INCLUDING RIVET LOCATIONS AND FIT, AT ALL CONNECTIONS TO EXISTING STRUCTURE ARE AS SHOWN ON THE PLANS.
2. NO MORE THAN THREE EXISTING RIVETS SHALL BE REMOVED AT ANY ONE TIME EXCEPT AS APPROVED BY THE ENGINEER.



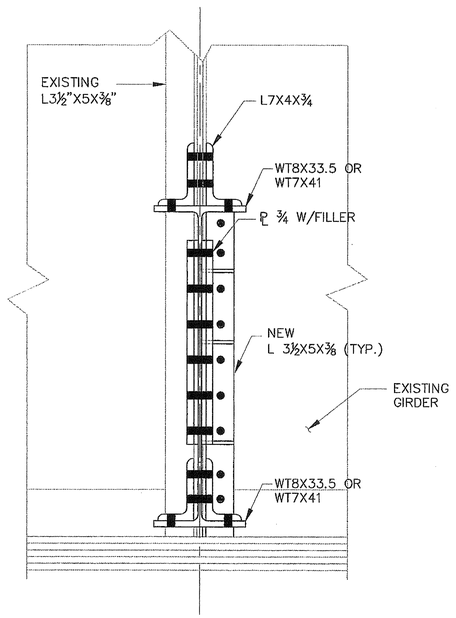
SECTION E

SCALE: 1½" = 1'-0"



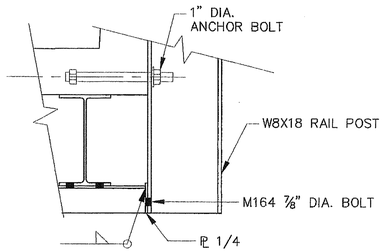
SECTION D

SCALE: 1½" = 1'-0"



SECTION F

SCALE: 1½" = 1'-0"



DETAIL 1

SCALE: 1½" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
EXPIRES 5/18/03

Harding ESE
A MACTEC Company

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PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

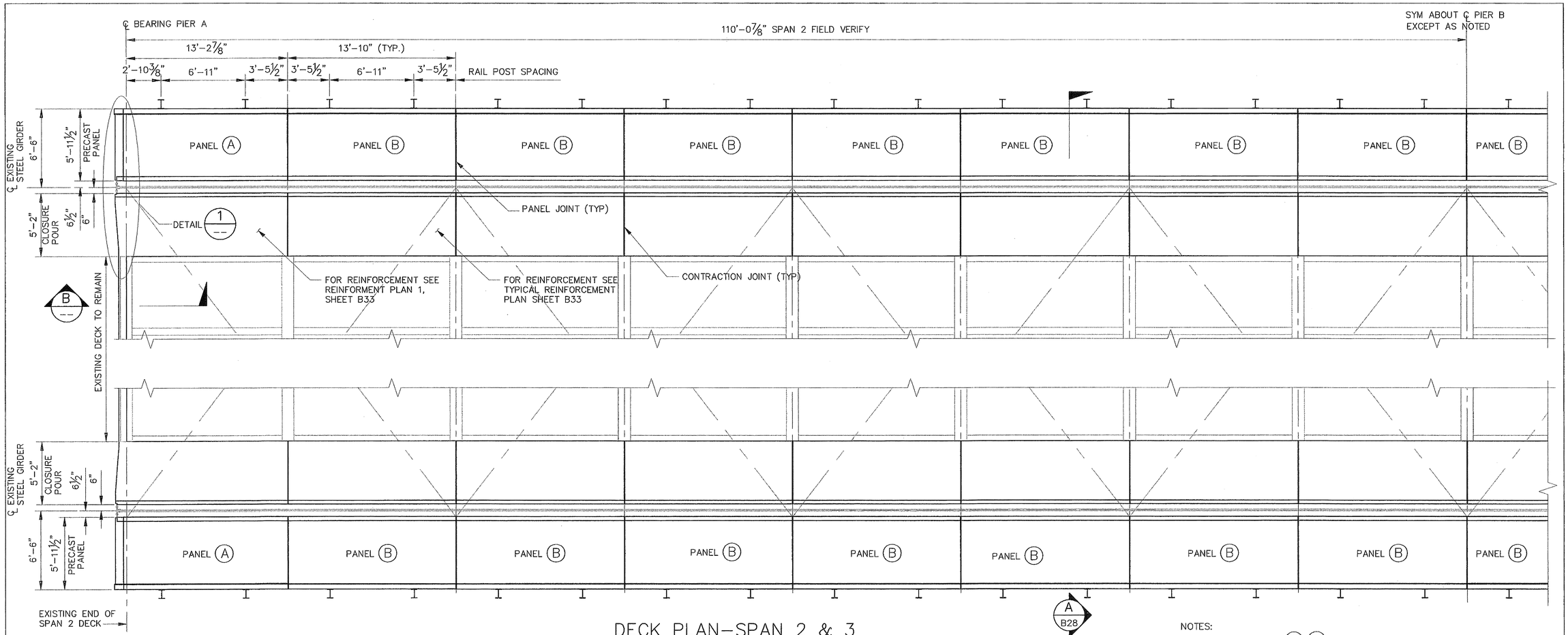
Job. No.
Date
Field Bk.

STEEL DETAILS SPANS 2 AND 3
FERNDALE BRIDGE DETAILS

B30

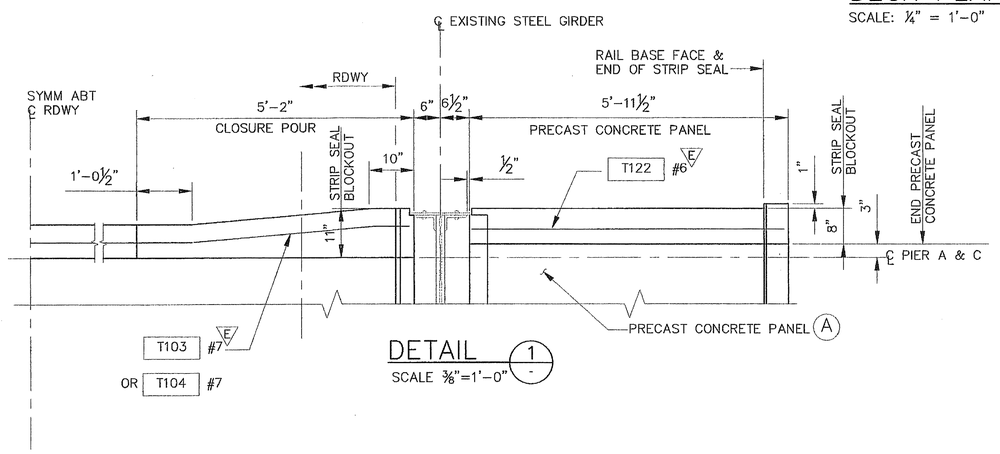
SHEET OF

00378.080 S4.09



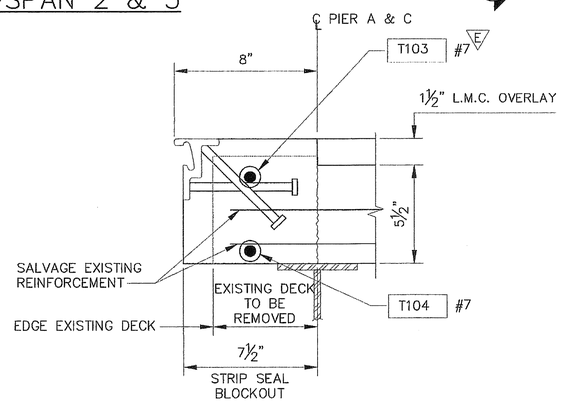
DECK PLAN–SPAN 2 & 3

SCALE: ¼" = 1'-0"



DETAIL 1

SCALE ⅜"=1'-0"



SECTION B

SCALE: 3" = 1'-0"

NOTES:

1. FOR PRECAST PANEL (A),(B) AND PANEL JOINT DETAILS SEE DWG B32.
2. FOR CLOSURE POUR AND CONTRACTOR JOINT DETAILS SEE DWG B33.
3. FOR EXPANSION JOINT DETAILS AT PIER A & C SEE DWG B34.

KAMYAR NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/03

Harding ESE — A MACTEC Company

Date	No	Revision	By
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PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

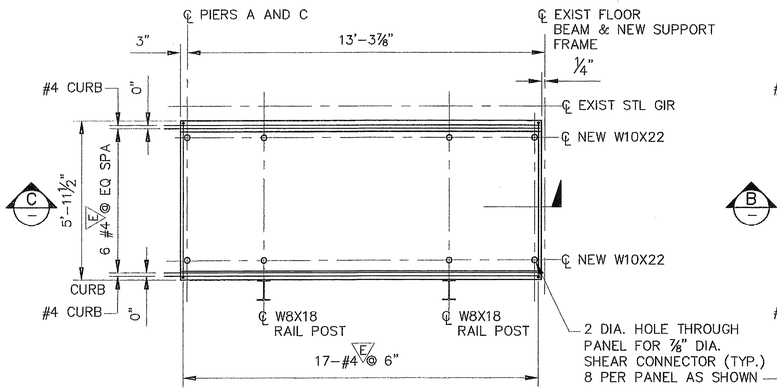
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

DECK PLAN AND SECTION – SPANS 2 AND 3
FERNDALE BRIDGE DETAILS

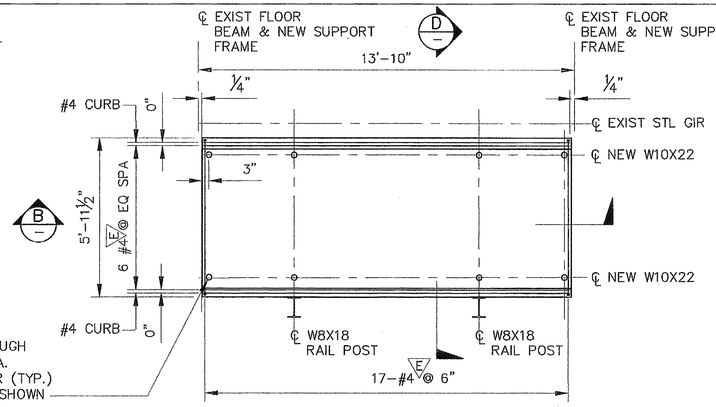
B31 SHEET OF

00878.00 S.Y.S. 6.4.09



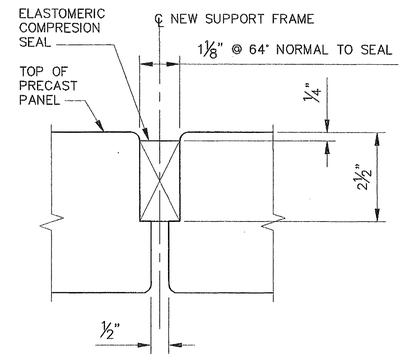
PRECAST CONCRETE PANEL Ⓐ DECK PLAN

SCALE ⅜"=1'-0" 4 REQUIRED



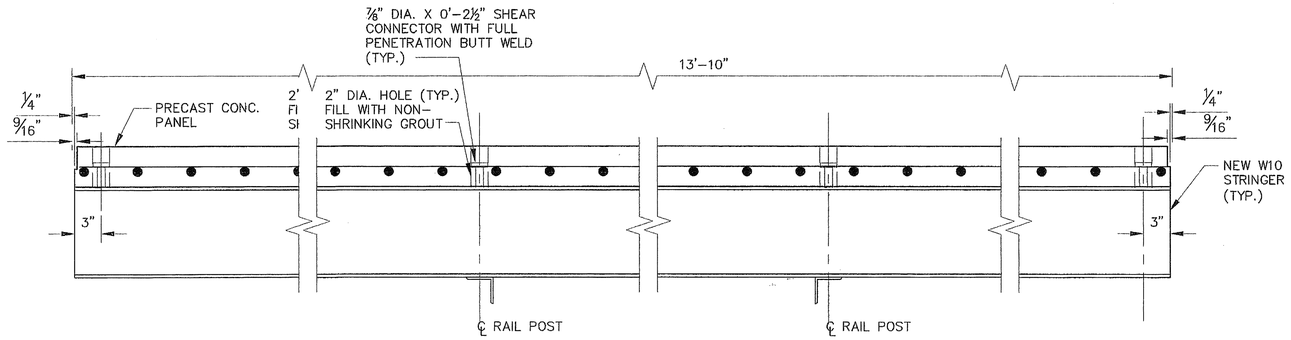
PRECAST CONCRETE PANEL Ⓑ DECK PLAN

SCALE ⅜"=1'-0" 28 REQUIRED



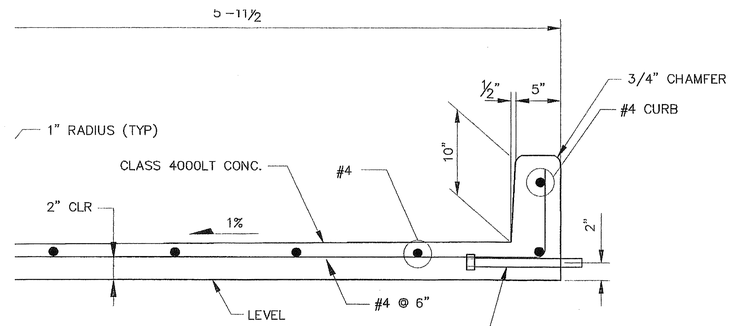
TYPICAL PANEL JOINT DETAILS BETWEEN PRECAST CONCRETE PANELS EXCEPT OVER PIER A & C

SCALE 6"=1'-0"



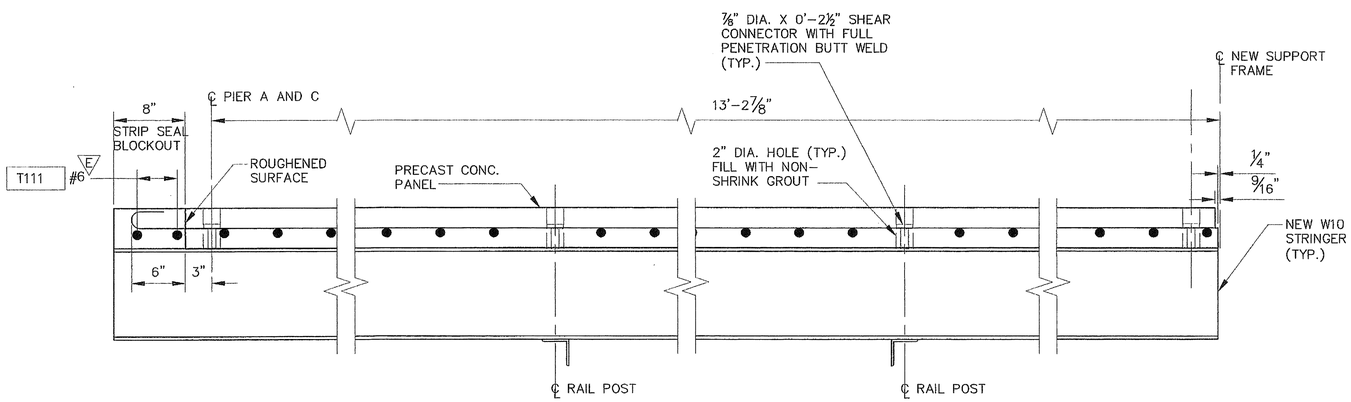
SECTION B

SCALE: 1½" = 1'-0"



SECTION D

SCALE: 1½" = 1'-0"



SECTION C

SCALE: 1½" = 1'-0"

EXPIRES 5/18/ 09

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A MACTEC Company

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PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

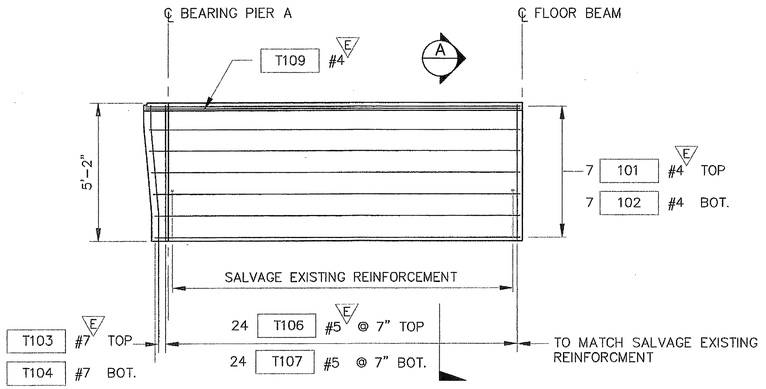
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

PRECAST SIDEWALK DETAILS
FERNDALE BRIDGE REHABILITATION

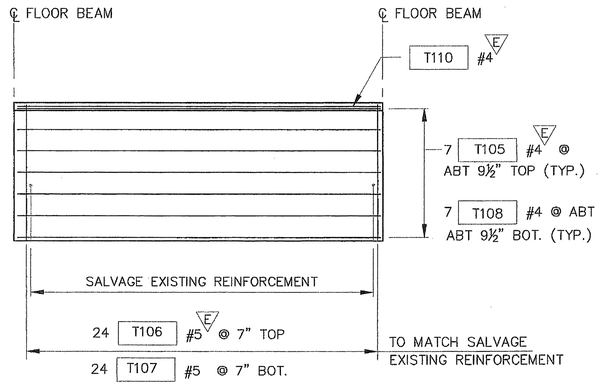
B32 SHEET OF

00378.082 5.4.09



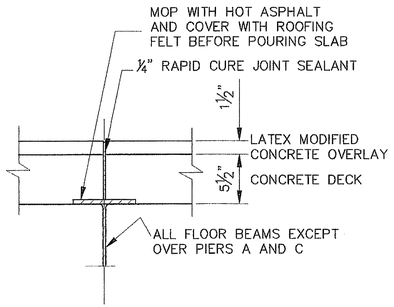
REINFORCEMENT PLAN 1

SCALE ⅜"=1'-0"



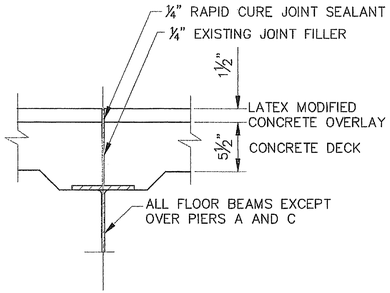
TYPICAL REINFORCEMENT PLAN

SCALE ⅜"=1'-0"



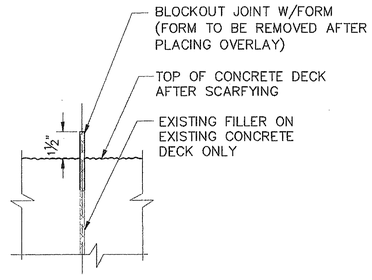
COTRACTION JOINT OVER FLOOR BEAMS @ CLOSURE POUR

SCALE: 1½" = 1'-0"



CONTRACTION JOINT OVER FLOOR BEAMS @ EXISTING CONCRETE DECK

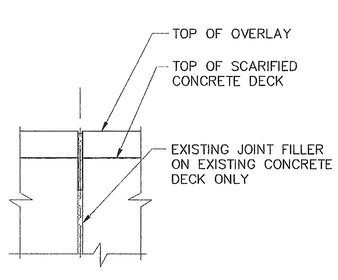
SCALE: 1½" = 1'-0"



CONSTRUCTION STEP 3 @ CLOSURE POUR

CONSTRUCTION STEP 5 @ EXISTING CONCRETE DECK

SCALE: 3" = 1'-0"



CONSTRUCTION STEP 4 @ CLOSURE POUR

CONSTRUCTION STEP 6 @ EXISTING CONCRETE DECK

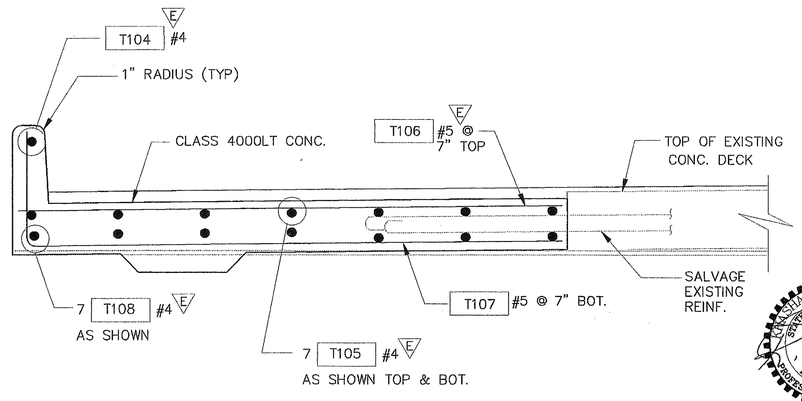
SCALE: 3" = 1'-0"

CONTRACTION JOINT CONSTRUCTION STEPS @ CLOSURE POUR

1. CONSTRUCT 5¾" DECK WITH ¼" OPEN JOINT
2. SCARIFY DECK ¼" IN DEPTH
3. PLACE REMOVABLE FORM IN JOINT OPENING TO A HEIGHT LEVEL OF FINISH GRADE
4. PLACE LATEX MODIFIED CONCRETE OVERLAY TO FINISH GRADE
5. REMOVE FORM FROM JOINT OPENING AND LIGHTLY SANDBLAST TO REMOVE ALL RESIDUE.
6. PLACE RAPID CURE SILICONE SEALANT IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS IN OPENING

CONTRACTION JOINT CONSTRUCTION STEPS @ EXISTING CONCRETE DECK

1. REMOVED EXISTING ASPHALT JOINT FILLER FROM EXISTING JOINT DOWN TO 2½" BELOW THE EXISTING CONCRETE DECK
2. SCARIFY EXISTING DECK 1" IN DEPTH
3. CLEAN SIDES OF JOINT OPENING TO CLEAN AND SOUND CONCRETE
4. BLOW JOINT OPENING WITH OIL-FREE COMPRESSED AND TO REMOVE LAITANCE AND DEBRIS FROM CLEANING OPERATIONS.
5. PLACE REMOVABLE FORM IN JOINT OPENING TO A HEIGHT LEVEL OF FINISH GRADE
6. PLACE LATEX MODIFIED CONCRETE OVERLAY TO FINISH GRADE
7. REMOVED FORM FROM JOINT OPENING AND LIGHTLY SANDBLAST TO REMOVE ALL RESIDUE.
8. PLACE RAPID CURE SILICONE SEALANT IN ACCORDANCE WITH MANUFACTURE'S DIRECTIONS IN OPENING.



SECTION A

SCALE: 1½" = 1'-0"

KRISHNAVAR NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/ 03

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A MACTEC Company

Date	No	Revision	By
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PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

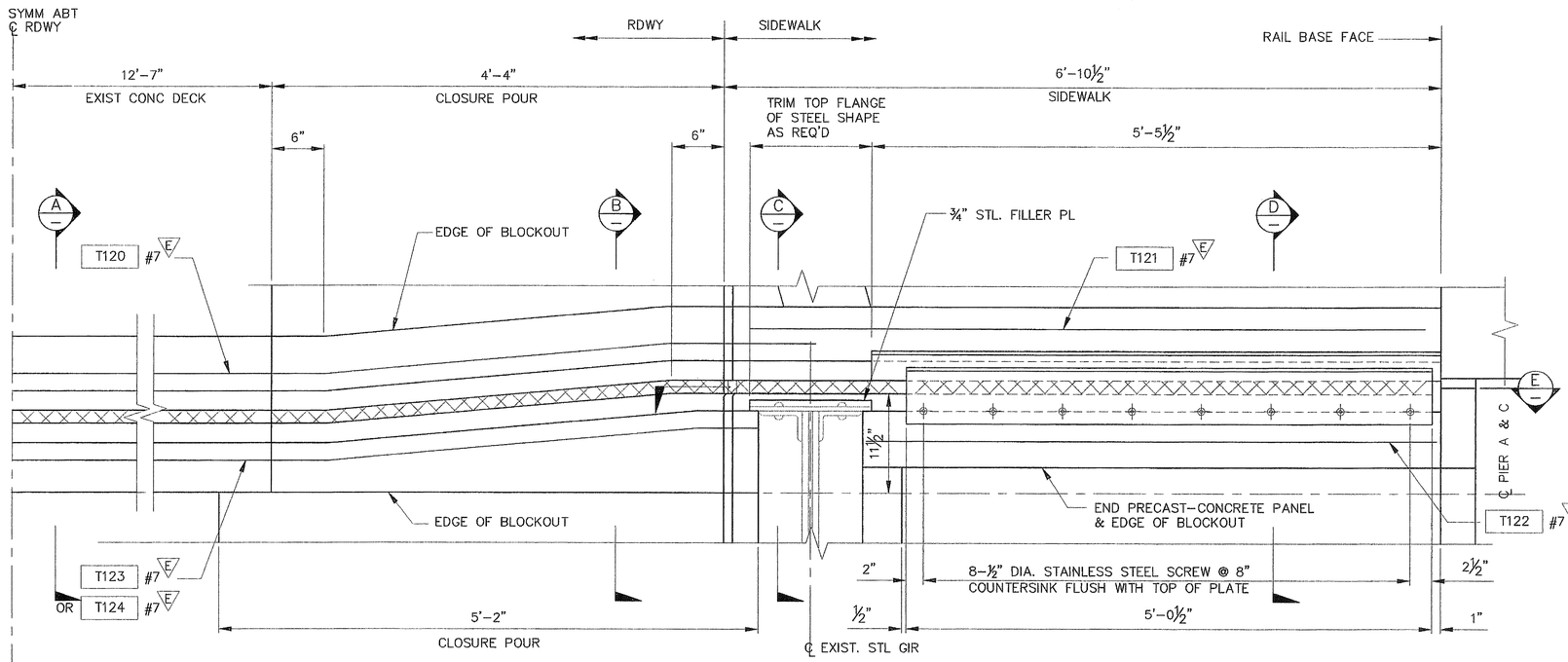
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

CLOSURE POUR DETAILS-SPANS 2 AND 3
FERNDALE BRIDGE DETAILS

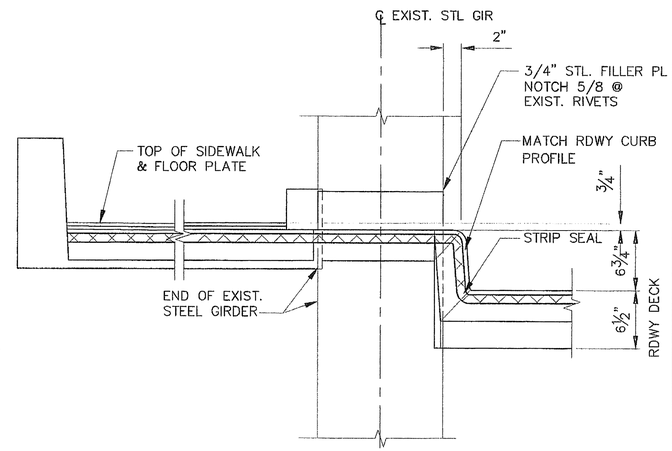
B33 | SHEET OF

00278.08 4.5.04 KN



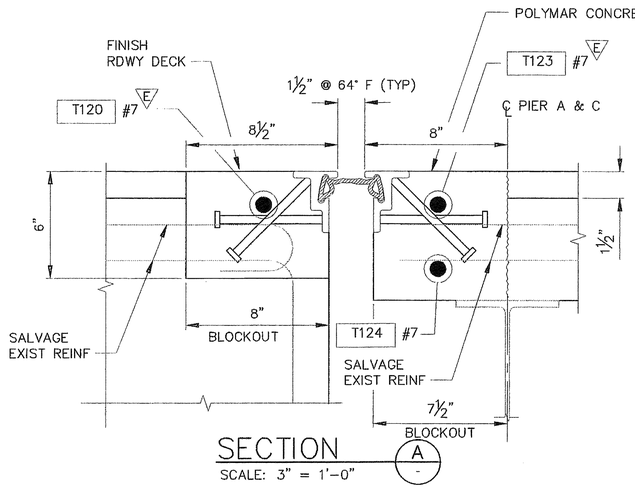
PLAN AT PIERS A & C

SCALE: 1 1/2" = 1'-0"



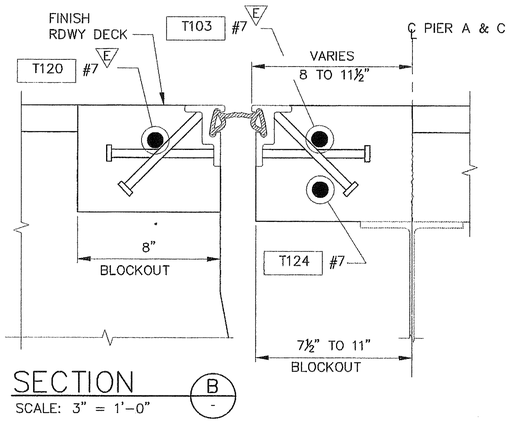
SECTION E

SCALE: 1 1/2" = 1'-0"



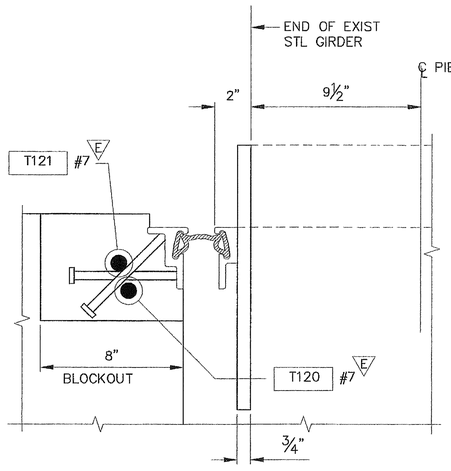
SECTION A

SCALE: 3" = 1'-0"



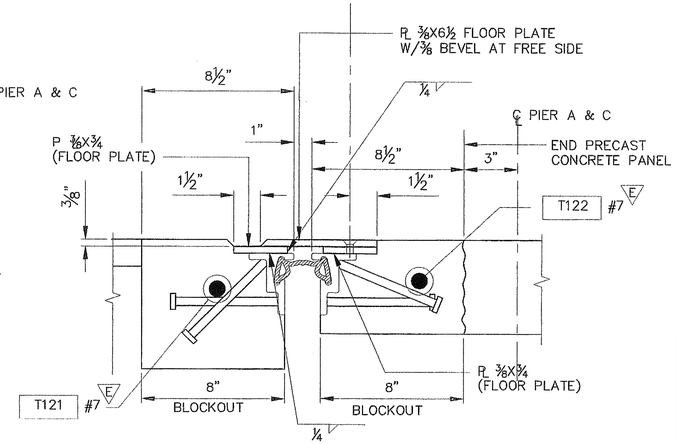
SECTION B

SCALE: 3" = 1'-0"



SECTION C

SCALE: 3" = 1'-0"



SECTION D

SCALE: 3" = 1'-0"

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

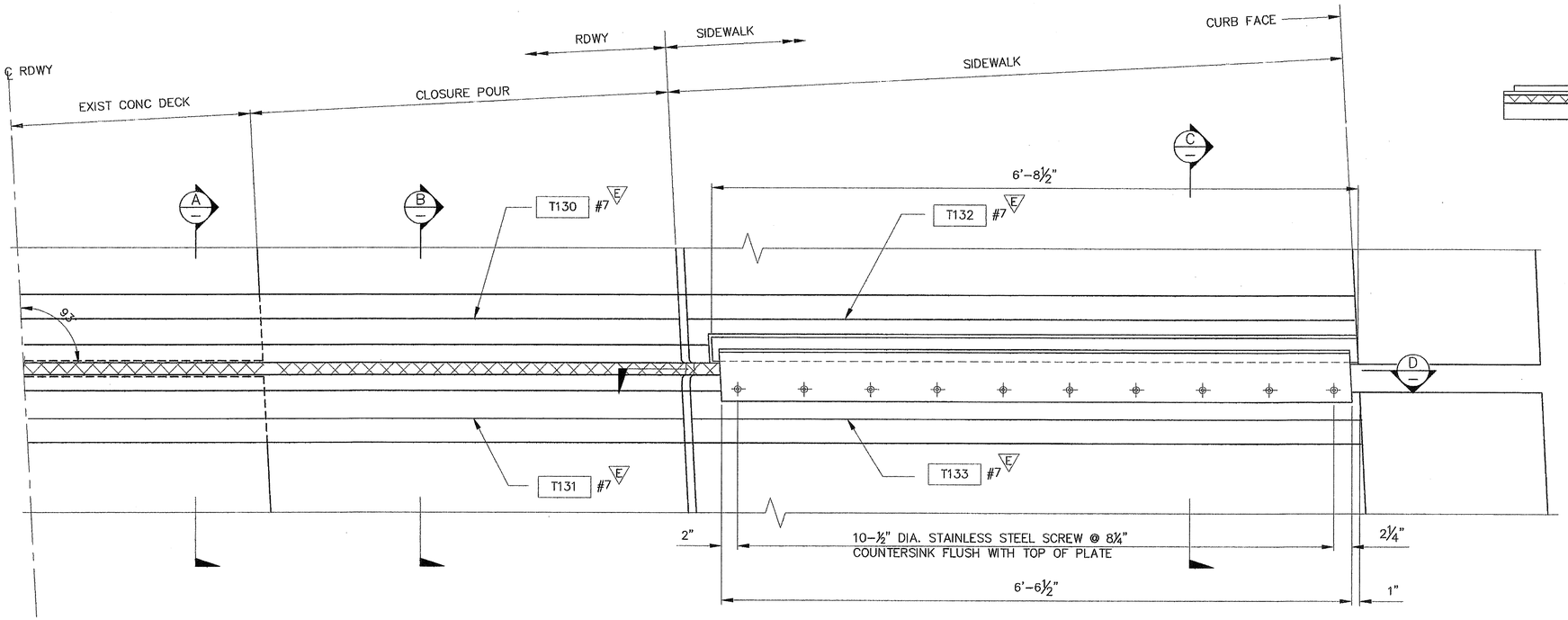
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

EXPANSION JOINT DETAILS – PIERS A AND C
FERNDALE BRIDGE REHABILITATION

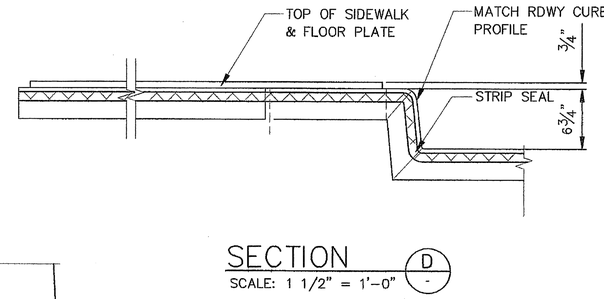
B34 | SHEET OF

S.H. 69, 084, 0230



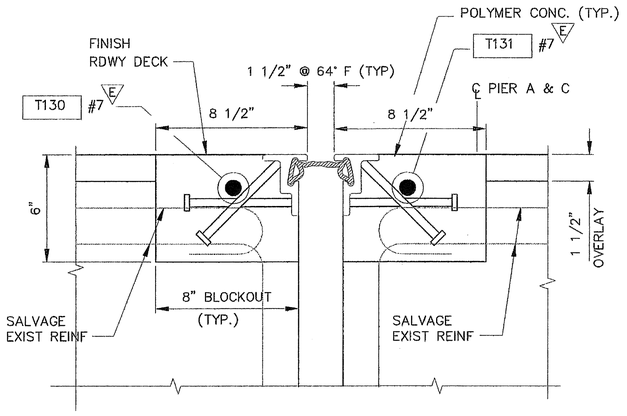
PLAN AT BENT 4

SCALE: 1 1/2" = 1'-0"



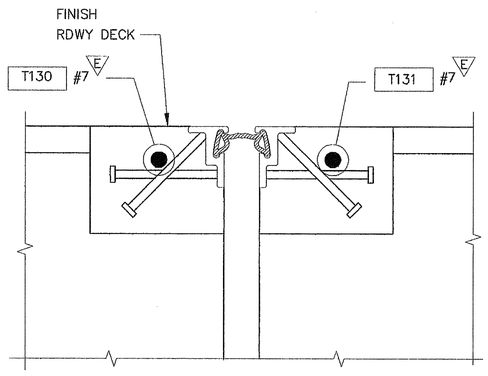
SECTION D

SCALE: 1 1/2" = 1'-0"



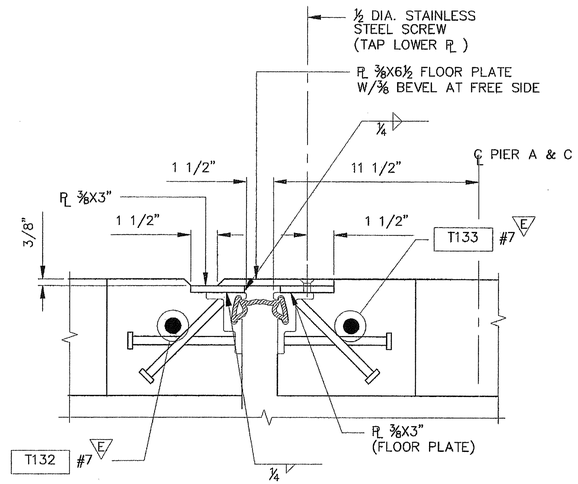
SECTION A

SCALE: 3" = 1'-0"



SECTION B

SCALE: 3" = 1'-0"



SECTION C

SCALE: 3" = 1'-0"

00378.085 S.4.09 NR

STATE OF WASHINGTON · REGISTERED · PROFESSIONAL ENGINEER

EXPIRES 5/18/ 07

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

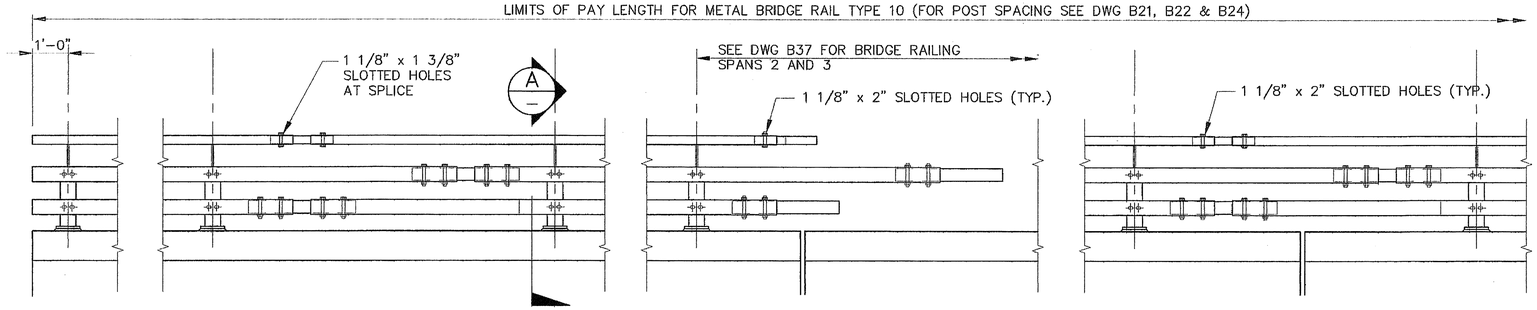
EXPANSION JOINT DETAILS–BENT 4
FERNDALE BRIDGE REHABILITATION

B35

SHEET / OF

00378.086 S.4.09 KB

LIMITS OF PAY LENGTH FOR METAL BRIDGE RAIL TYPE 10 (FOR POST SPACING SEE DWG B21, B22 & B24)



TYPICAL RAIL END

TYPICAL RAIL PANEL

EXPANSION PANEL @ PIER A AND PIER C

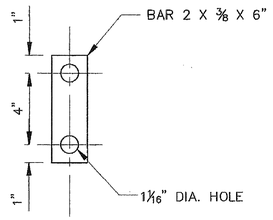
EXPANSION PANEL @ BENT 4

ELEVATION – BRIDGE RAIL

SCALE: 1/2" = 1'-0"

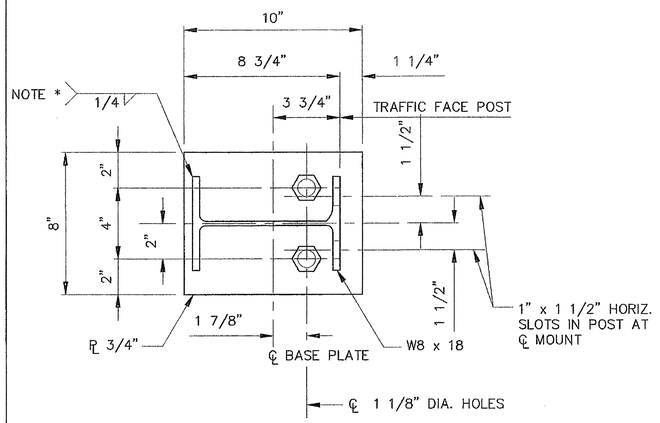
RAILING NOTES:

1. ALL TUBES SHALL BE FABRICATED FROM ASTM A-500 GRADE B STEEL. ALL POSTS AND PLATES SHALL BE FABRICATED FROM AASHTO M-270 GR. 50. THE ABOVE ITEMS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111
2. ALL ANCHOR BOLTS AND MISCELLANEOUS BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M164 AND SECTION 9-06 S(3) AND BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232
3. THE TUBES SHALL BE SHOP BENT OR FABRICATED TO FIT HORIZONTAL CURVE.
4. TUBES SHALL BE CONTINUOUS OVER NOT LESS THAN TWO POSTS. NO WELDED BUTT SPLICES WILL BE ALLOWED IN THE TUBE SECTION.
5. THE CENTERLINE OF THE POST SHALL BE 2'-0" MIN.. AND 3'-0" MAX. FROM THE CENTERLINE OF THE TUBE EXPANSION SPLICE, MEASURED ALONG THE CENTERLINE AF POSTS.
6. ALL BOLTS THAT HAVE LOCK WASHERS SHALL BE TIGHTENED TO SNUG ONLY.
7. POST SHALL BE PLUMB.
8. ONE OR MORE 10'-0" POST SPACING MAY BE DRILLED PUNCHED OR CLIPPED LEAVING SMOOTH SURFACES AND TRANSITIONS. NO FLAME CUTTING OR AIR CARBON ARE GOUGING IS ALLOWED.



ANCHOR DETAIL

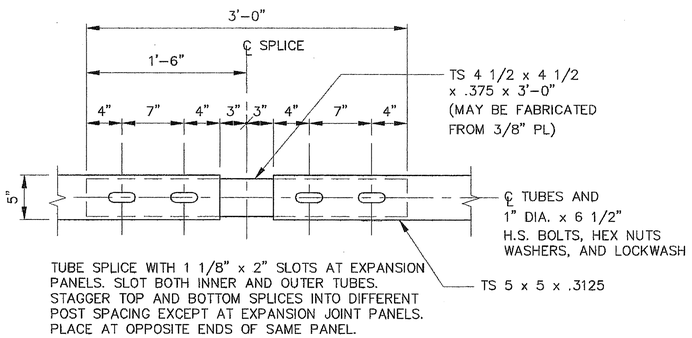
SCALE: 3" = 1'-0"



PLAN – POST DETAIL

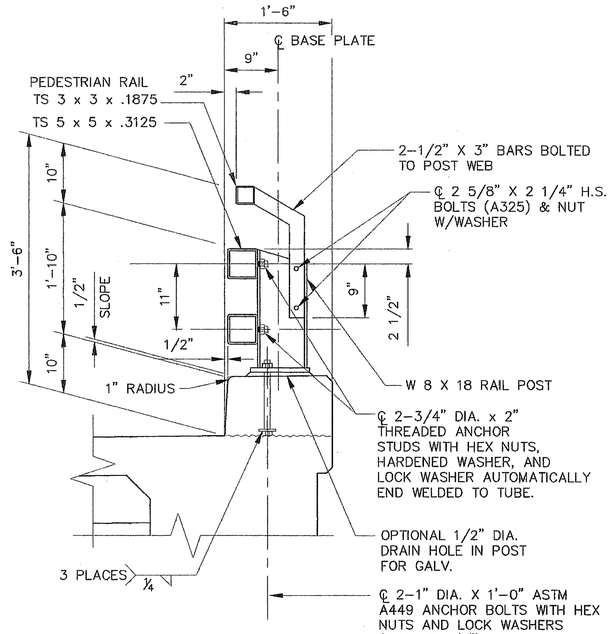
SCALE: 3" = 1'-0"

* KEEP WELD 3/8" CLR OF ANCHOR HOLES



PLAN – TUBE SPLICE

SCALE: 1 1/2" = 1'-0"



SECTION A

SCALE: 1" = 1'-0"

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

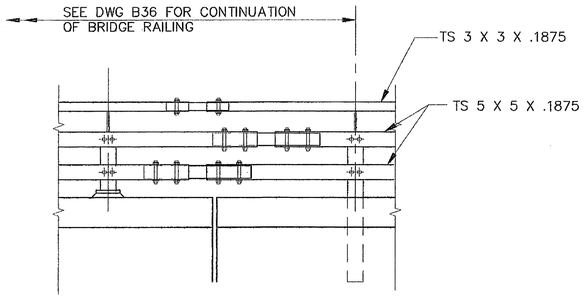
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

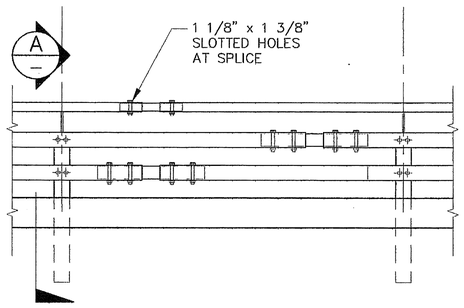
Job. No.
Date
Field Bk.

BRIDGE RAILING-SPANS 1,4 THRU 8
FERNDALE BRIDGE REHABILITATION

B36 | SHEET / OF



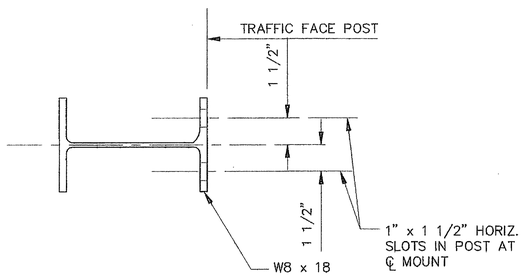
EXPANSION PANEL @
PIER A AND PIER C



TYPICAL PANEL

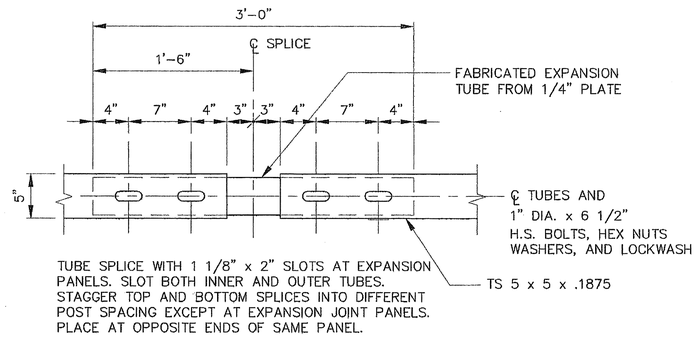
ELEVATION – BRIDGE RAIL

SCALE: ½" = 1'–0"



PLAN – POST DETAIL

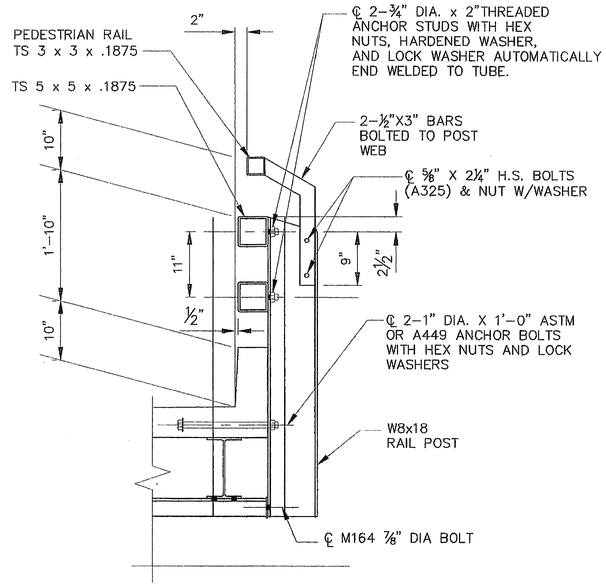
SCALE: 3" = 1'–0"



TUBE SPLICE WITH 1 1/8" x 2" SLOTS AT EXPANSION PANELS. SLOT BOTH INNER AND OUTER TUBES. STAGGER TOP AND BOTTOM SPLICES INTO DIFFERENT POST SPACING EXCEPT AT EXPANSION JOINT PANELS. PLACE AT OPPOSITE ENDS OF SAME PANEL.

PLAN – TUBE SPLICE

SCALE: 1 1/2" = 1'–0"



SECTION A

TYPICAL @ FLOOR BEAMS, U.N.O.
SCALE: 1" = 1'–0"

EXPIRES 5/18/ 09

Harding ESE
A MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

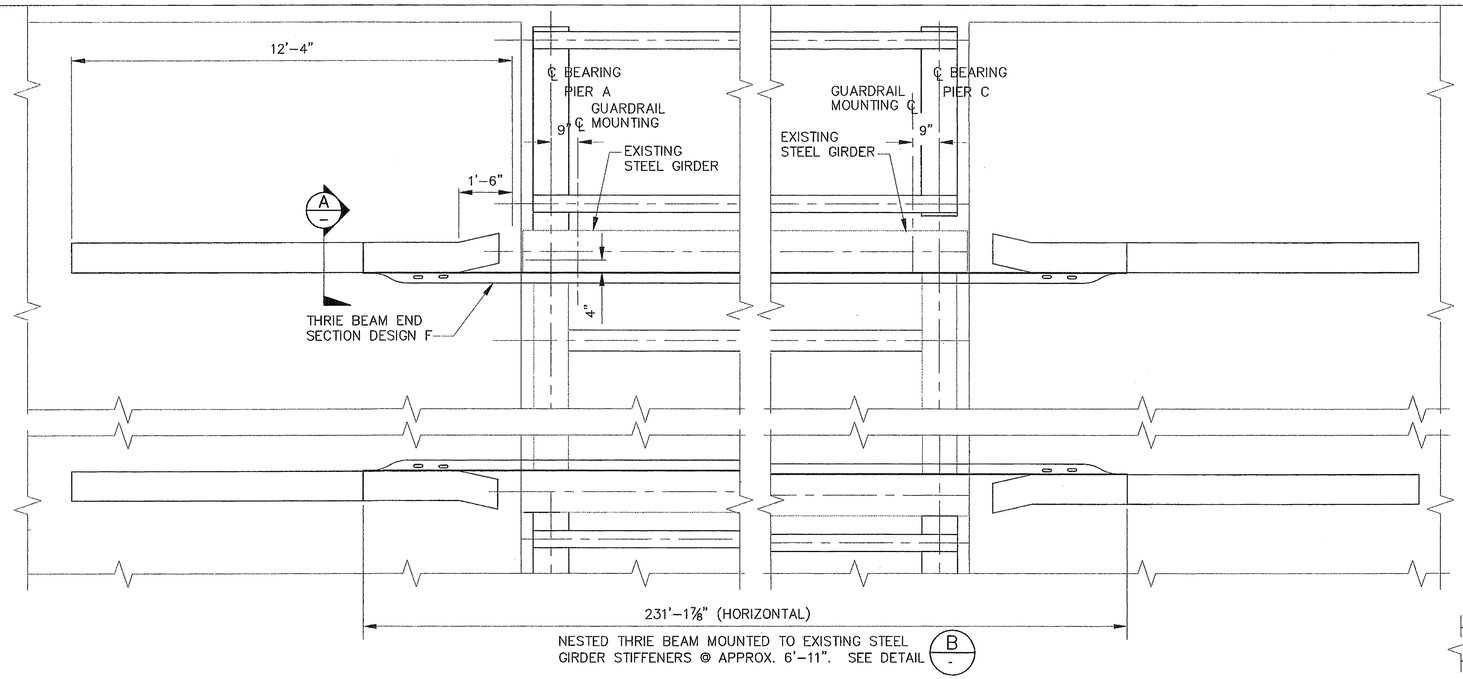
Job. No.
Date
Field Bk.

BRIDGE RAILING–SPANS 2 AND 3
FERNDALE BRIDGE REHABILITATION

B37

SHEET OF

0871.087 5.4.09 KK

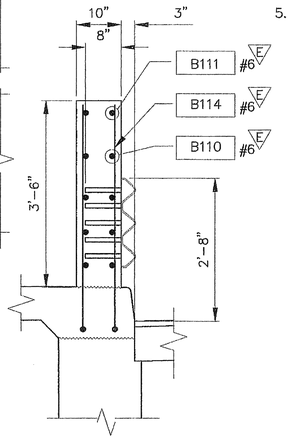


PLAN

SCALE: ½" = 1'-0"

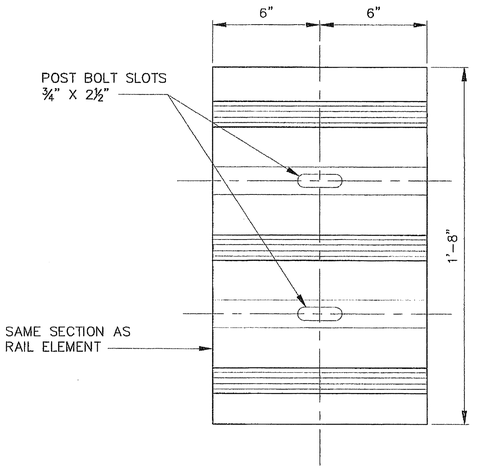
NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENT OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION ENGLISH DATE 2002, AND AMENDMENTS
2. MATERIAL SPECIFICATION:
   STEEL SHAPES AND PLATE — ASTM A36
   BOLTS, NUTS & WASHERS
   UNLESS OTHERWISE NOTED — ASTM A 307 AND STD. SPEC. SECT 9-16.3(4)
3. ALL PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION. BOLTS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
4. ALL BOLTS HOLES SHALL BE $\frac{1}{16}$" LARGER THAT THE BOLT DIAMETER, UNLESS OTHERWISE SPECIFIED. USE TEMPLATE TO LOCATE ANCHOR BOLTS IN CONCRETE, BOLTS LENGTHS NOT SHOWN SHALL BE SIZED TO PROVIDE A 1" MIN. OF THREAD EXPOSED BEYOND THE NUT.
5. THRIE BEAM SHALL BE SPLICED AT MOUNTINGS ONLY.



SECTION

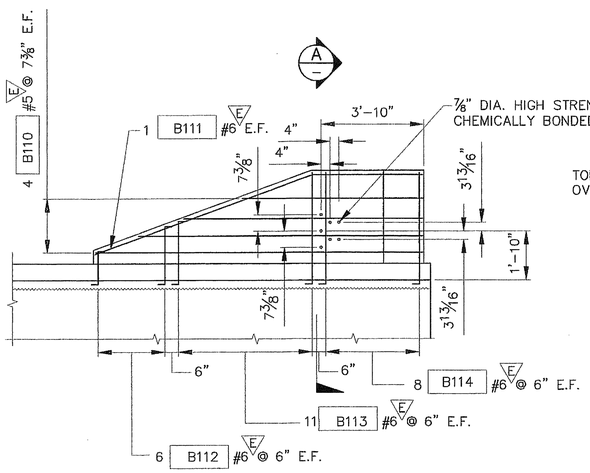
SCALE: ¾" = 1'-0" (A)



BACK-UP PLATE

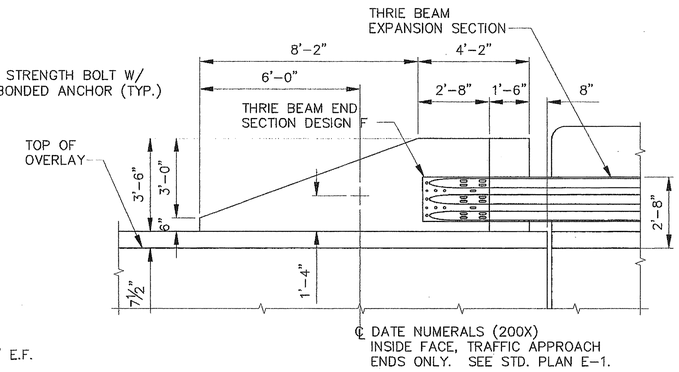
SCALE: 3" = 1'-0"

(PROVIDE BETWEEN GUARDRAIL AND STEEL BLOCK AT POST BETWEEN RAIL SPLICES)



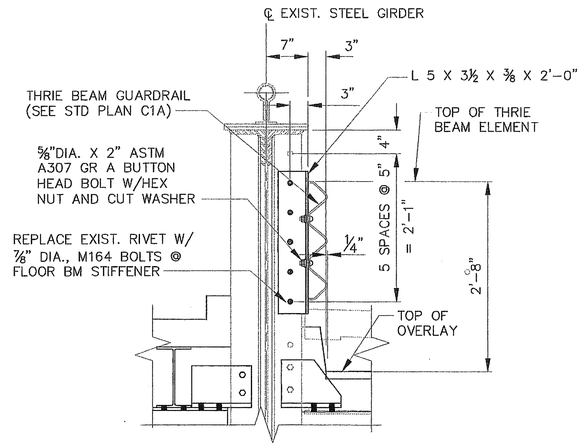
REINFORCEMENT- ELEVATION

SCALE: ⅜" = 1'-0"



GEOMETRY-ELEVATION

SCALE: ⅜" = 1'-0"



TYPICAL MOUNTING TO EXIST. STEEL GIRDER

DETAIL

SCALE: 1" = 1'-0" (B)

KASIAYAR NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
A MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

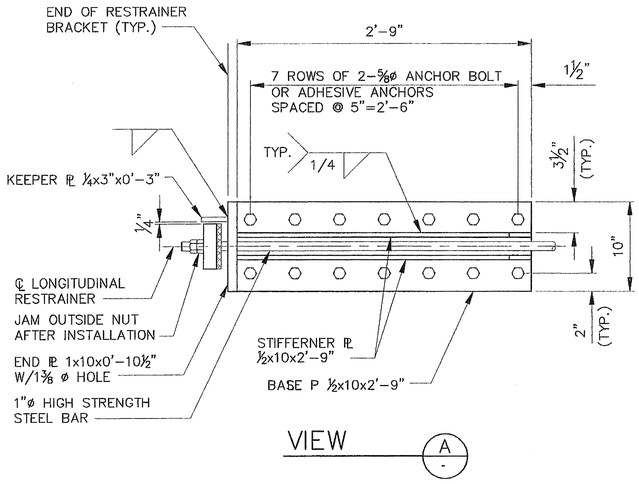
Job. No.
Date
Field Bk.

BEAM GUARD RAIL
FERNDALE BRIDGE REHABILITATION

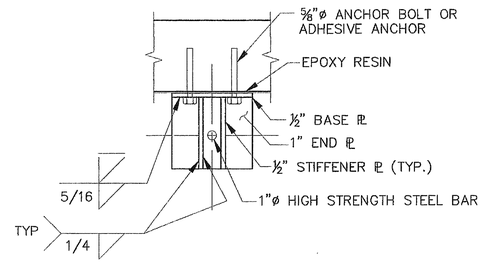
B38

SHEET / OF

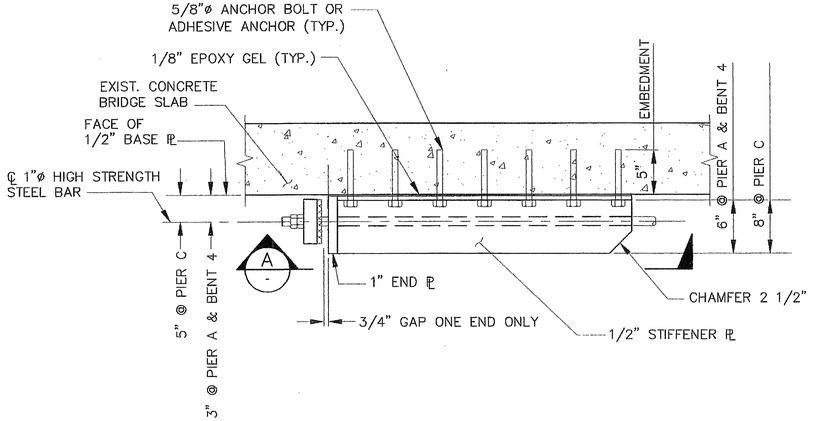
00 378.088 S.4.09 KE



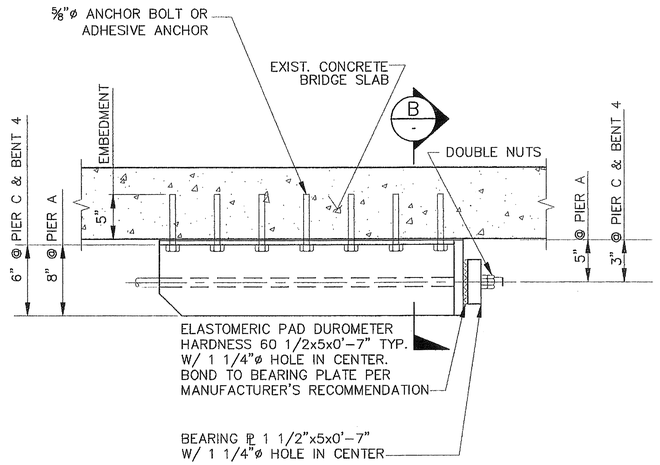
VIEW A



VIEW B



DOWN STATION END



UP STATION END

LONGITUDINAL RESTRAINER BRACKET

00378.089 5.4.09 KE

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

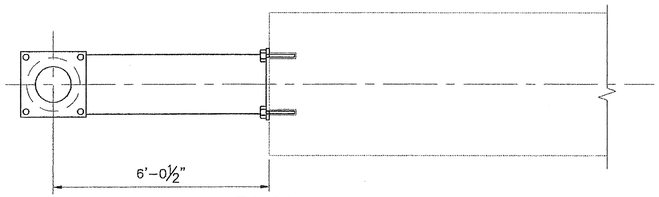
Job. No.
Date
Field Bk.

LONGITUDINAL RESTRAINER DETAIL
FERNDALE BRIDGE REHABILITATION

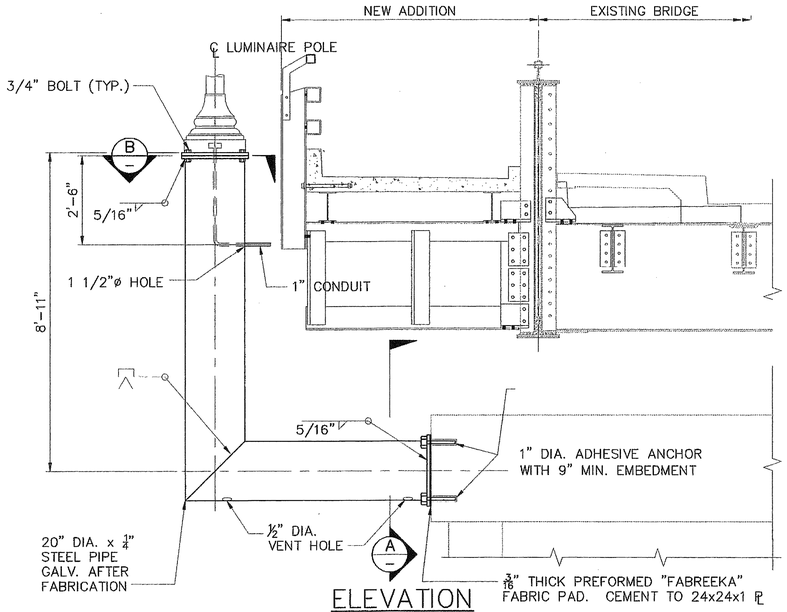
B39 SHEET OF

KASHYAP N. NIKZAD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/ 09

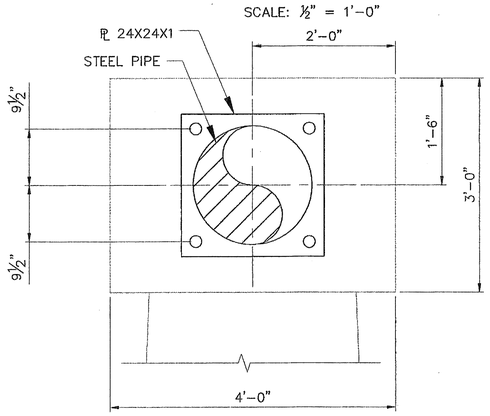
Harding ESE
A MACTEC Company



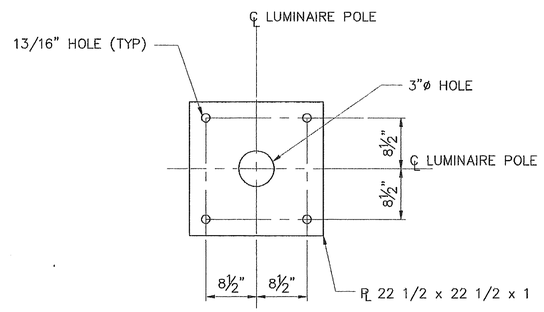
PLAN
SCALE: ½" = 1'-0"



ELEVATION
SCALE: ½" = 1'-0"

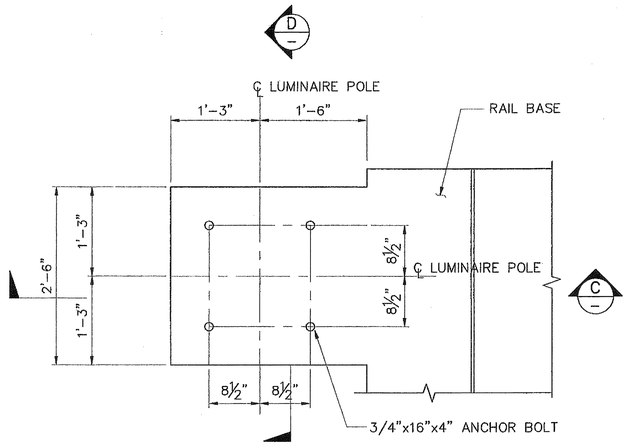


SECTION A
SCALE: 1" = 1'-0"

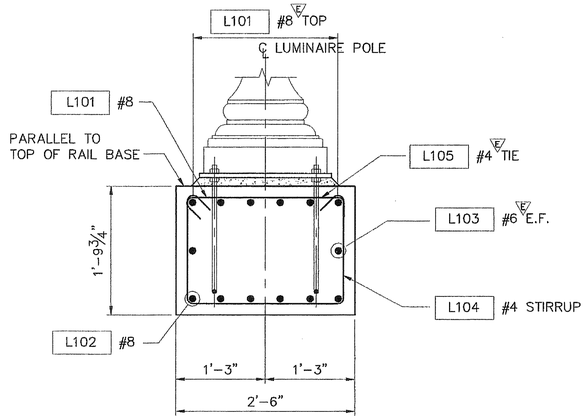


SECTION B
SCALE: 1" = 1'-0"

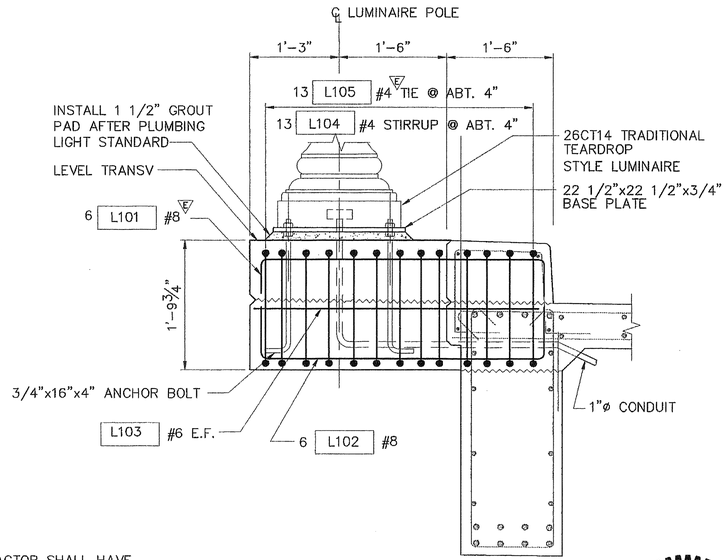
LUMINAIRE POLE SUPPORT BRACKET @ PIER B



PLAN
SCALE: 1" = 1'-0"



SECTION D
SCALE: 1" = 1'-0"



NOTE:
CONTRACTOR SHALL HAVE ENGINEER'S APPROVAL OF SHOP DRAWINGS PRIOR TO SHIPMENT OF LUMINATION ITEMS.

SECTION C
SCALE: 1" = 1'-0"

LUMINAIRE POLE SUPPORT CORBEL DETAIL
@ PIER A & C & BENT 4

Harding ESE
MACTEC Company

00378.090 S.4.09 RR

No	Revision	By	Date
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J. GAVIDIA
INSPECTOR

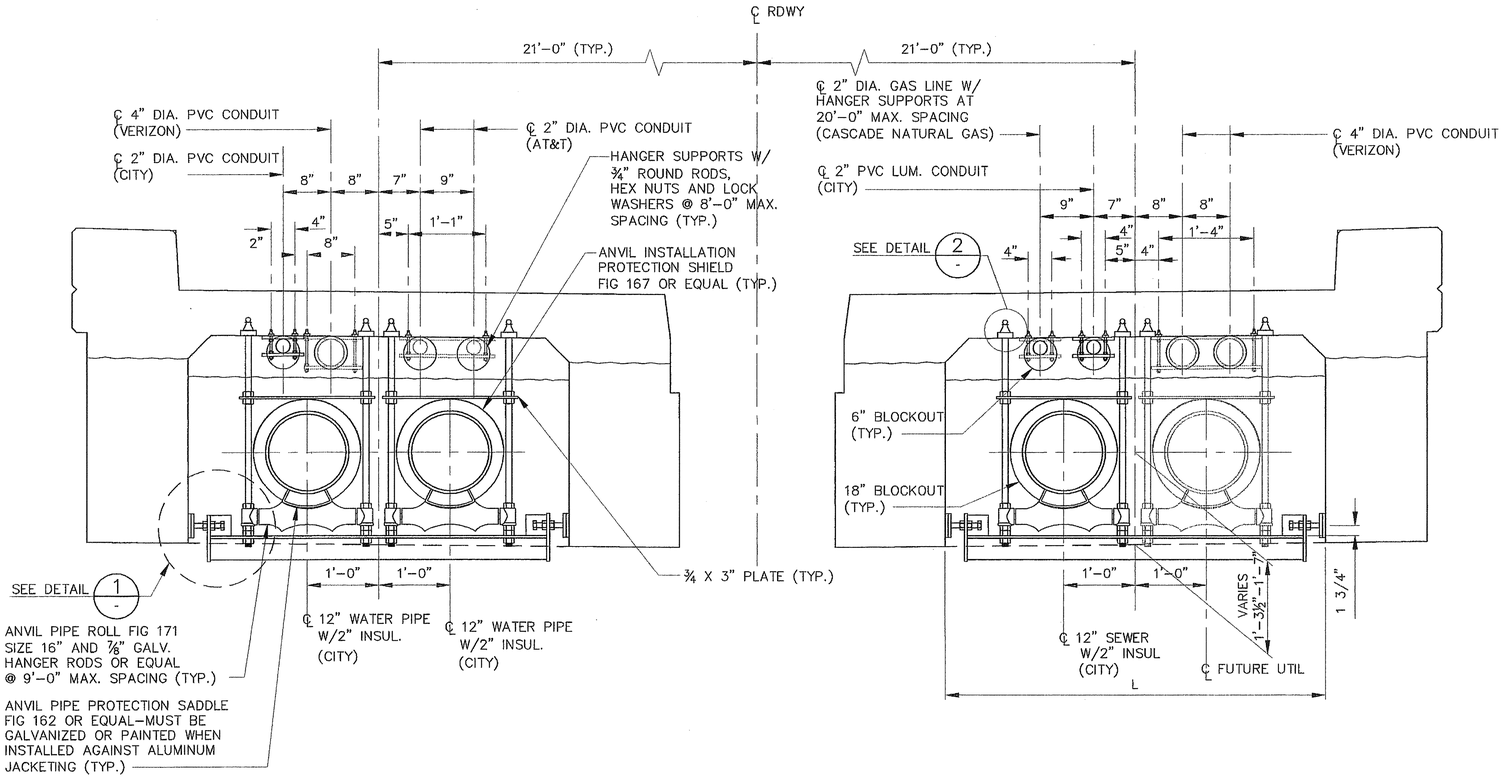
DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

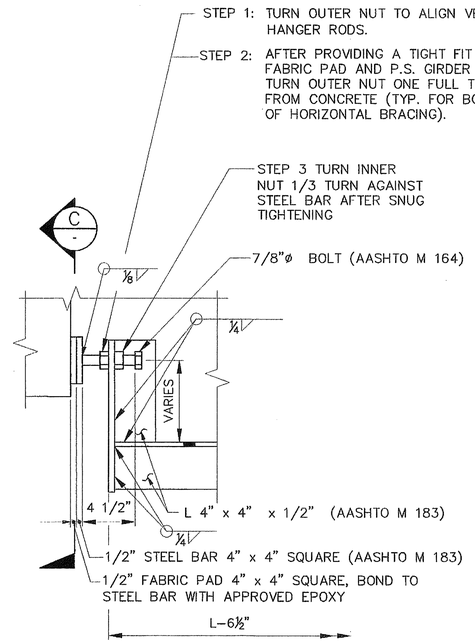
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

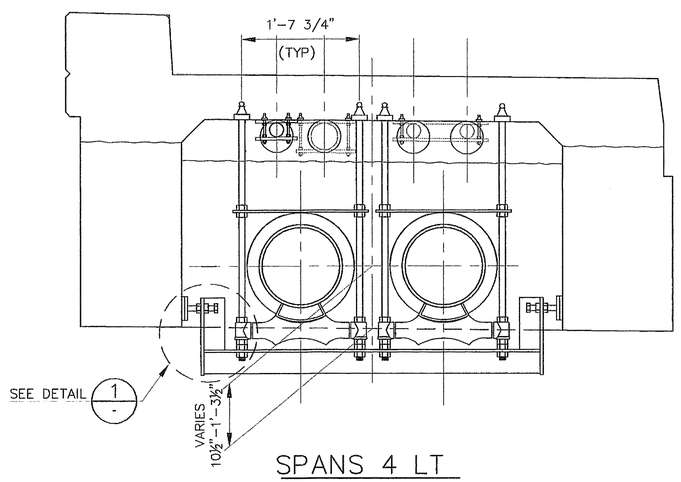
LUMINAIRE POLE MOUNTING DETAILS
FERNDALE BRIDGE REHABILITATION

B40 SHEET OF



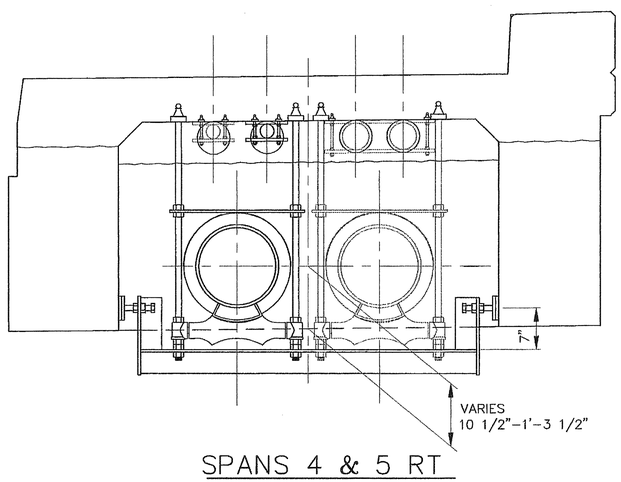


SPANS 1, 5 THRU 8 LT



SPANS 4 LT

SPANS 1, 6 THRU 8 RT

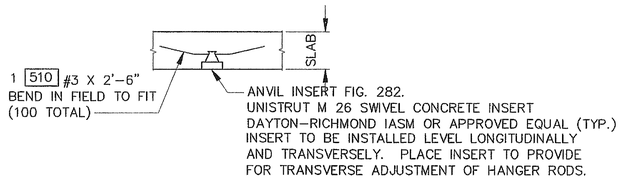


SPANS 4 & 5 RT

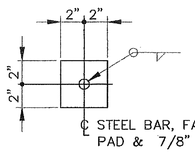
UTILITY SUPPORT LAYOUT–CONCRETE SPANS

SCALE 1" = 1'-0"

DETAIL 1 N.T.S.



DETAIL 2 N.T.S.



SECTION C N.T.S.

KASHYAP NIKZAD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 5/18/09

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

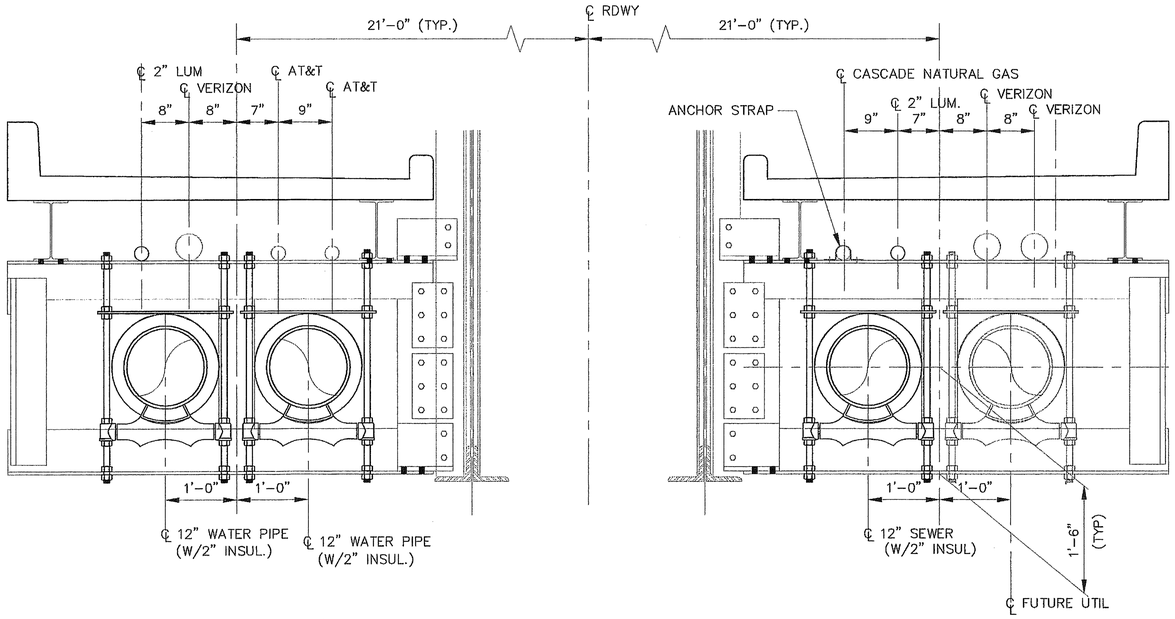
Job. No.
Date
Field Bk.

UTILITY SUPPORT DETAILS 1 OF 2
FERNDALE BRIDGE REHABILITATION

B41

SHEET OF

00878.09 S-4.09 NR

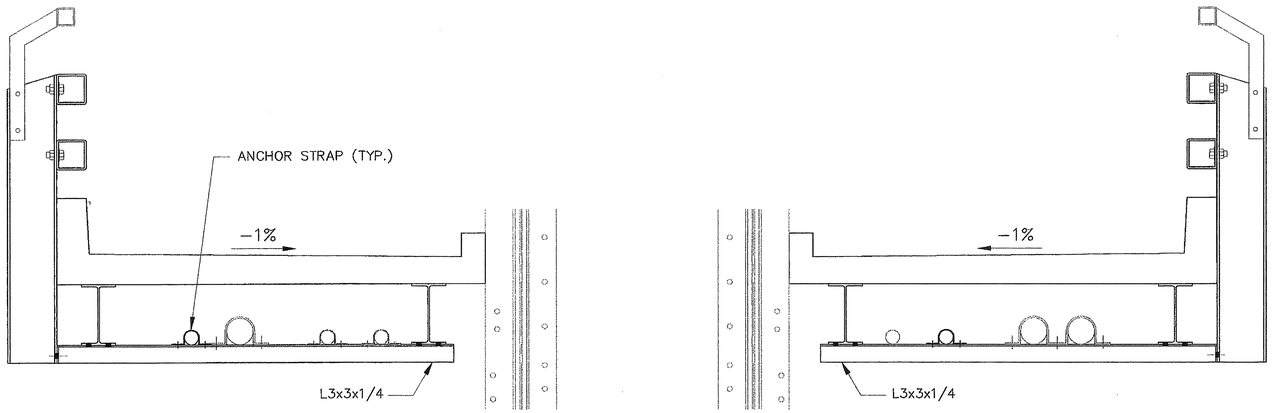


SPANS 2 AND 3 LT

SPANS 2 AND 3 RT

UTILITY SUPPORT @ SIDEWALK SUPPORT FRAMES

SCALE 1" = 1'-0"
SEE DWG B21 FOR UTILITY SUPPORT DETAILS



SPANS 2 AND 3 LT

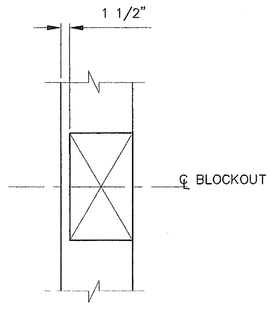
SPANS 2 AND 3 RT

UTILITY SUPPORT @ RAIL POST FRAMES

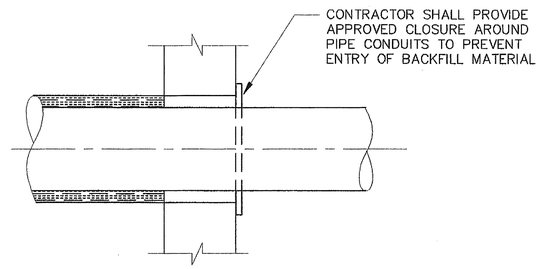
SCALE 1" = 1'-0"

UTILITY NOTES:

1. VERIZON, AT&T AND CASCADE NATURAL GAS WILL FURNISH AND INSTALL CONDUIT, PIPE AND HANGERS AND ATTACHMENTS. CONTRACTOR SHALL FURNISH AND INSTALL CONCRETE INSERTS ONLY AND SHALL PROVIDE ATTACHMENT BOLT HOLES IN STRUCTURAL STEEL MEMBERS AS REQUIRED.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PIPE, HANGERS, ATTACHMENTS AND INSERTS FOR UTILITIES DESIGNATED "(CITY)".
3. CONTRACTOR SHALL FURNISH AND INSTALL CONCRETE INSERTS ONLY AND SHALL PROVIDE ATTACHMENT BOLT HOLES IN STRUCTURAL STEEL MEMBERS AS SHOWN IN THE PLANS.



BLOCKOUT DETAIL FOR FUTURE PIPE OR CONDUIT @ BENT 1 & BENT 6



TYP. BLOCKOUT CLOSURE DETAIL @ BENT 1 & BENT 6

NIKSHAYAR NIKZAD
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/10/03

Harding ESE
MACTEC Company

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

UTILITY SUPPORT DETAILS 2 OF 2
FERNDALE BRIDGE REHABILITATION

B42

SHEET OF

0078.02 S.4.02

S=Bar Is Included In Substructure Quantities — T=Tie or Stirrup. — E=Bar is to be Epoxy Coated — V=Bar dimensions vary between dimensions shown on this line and following line.

Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str.	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight
	SHAFTS																	
A101	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A102	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A201	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A202	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A301	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A302	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A401	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A402	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A501	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A502	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A601	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A602	SHAFT LONGIT CONT.	11	23	89		S				74 3								
A103	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A104	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A203	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A204	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A303	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A304	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A403	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A404	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A503	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A504	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A603	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
A604	SHAFT SPIRAL	5	1	67		S				3 5.4	74 3	0 3						
	BENT 1																	
X101	CAP TOP LONG	7	6	56		S				9 3								
X102	CAP BOT. LONG	7	6	56		S				9 3								
X103	CAP SIDE LONG	6	4	50		S				9 3								
X104	DOWEL	6	6	50		S				3 6								
X105	DOWEL	7	6	50		S				3 5								
X106	DOWEL	6	4	50						3 6								
X107	STIRRUP CAP	4	22	58	T	S				2 3								
X108	STIRRUP	4	22	72	T	S				2 3	1 9	1 9						
X109	DOWEL	7	8	50		S				3 5								
X110	STIRRUP	4	10	72	T					0 9	2 5.8	2 5.8						
X111	STIRRUP CAP	4	10	58	T		E			0 9								
X112	STIRRUP	4	28	57	T					5 2								
X113	STIRRUP CAP	4	14	58	T		E			0 9								
X114	TOP SIDEWALK	7	6	51						8 1.5								
X115	SIDE DIAPH.	6	8	50						12 1.6								
X116	BLOCKOUT SPIRAL	5	88	66						1 10	1 6							
X117	SIDE DIAPH	6	8	50						7 11								
X118	SIDE SIDEWALK	7	6	50						4 1								
X119	SIDE DIAPH	6	4	50						3 10								
X120	SIDE DIAPH	5	2	50						4 4								
X121	STIRRUP	5	6	94	T		E			0 9.75	1 3	1 0	0 6.5					
	BENTS 2 & 3																	
X201	CAP TOP LONG	7	8	56		S				9 9								
X202	CAP BOT. LONG	7	8	56		S				9 9								
X203	CAP SIDE LONG	6	8	50		S				10 9								
X204	DOWEL	6	12	50		S				4 6								
X205	DOWEL	7	12	50		S				4 5								
X206	DOWEL	6	8	50						3 6								
X207	STIRRUP	4	44	72	T	S				2 3	1 9	1 9						
X208	STIRRUP CAP	4	44	58	T	S				2 3								
X209	DIAPH DOWEL	4	12	50		S				2 9								
X210	STIRRUP	4	12	72	T					0 9	2 5.8	2 5.8						
X211	STIRRUP CAP	4	12	58	T		E			0 9								
X212	STIRRUP	4	56	57	T					5 2.5								
X213	STIRRUP CAP	4	28	58	T		E			0 9								
X214	LONGIT SIDEWALK	7	12	51						7 11								
X215	DIAPH. SIDE BAR	6	16	50						12 2.3								
X217	SIDE SIDEWALK	7	16	51						7 11								
X218	SIDEWALK TOP LONG.	7	6	50						4 0								
X219	DIAPH SIDE LONG.	6	4	50						3 11								
X220	STIRRUP	4	16	57	T	S				4 5.8								
X221	STIRRUP CAP	4	8	58	T		E			0 9								
X222	STIRRUP	4	4	72	T					1 9	1 9	1 9						
X223	STIRRUP CAP	4	4	58	T					1 9								
X224	CAP BOT. LONG	7	8	56		S				10 9								
X225	CAP TOP LONG	7	8	56						10 9								
X265	DIAPH. SIDE BAR	6	16	50						12 0.5								
X268	SIDEWALK TOP LONG.	7	6	50						4 0								
X269	DIAPH SIDE LONG.	6	4	50						3 9								
	COLUMN																	
C101	LONGIT	8	12	50		S				10 3.2								
C102	LONGIT	8	12	50		S				10 3.6								
C201	LONGIT	8	12	50		S				18 7.9								
C202	LONGIT	8	12	50		S				21 11.5								
C301	LONGIT	8	12	50		S				18 0.8								
C302	LONGIT	8	12	50		S				18 6.5								
C401	LONGIT	8	12	50		S				14 2.5								
C402	LONGIT	8	12	50		S				16 6								
C501	LONGIT	8	12	50		S				14 1.1								
C502	LONGIT	8	12	50		S				16 3.1								
C601	LONGIT	8	12	50		S				9 7.4								
C602	LONGIT	8	12	50		S				12 1.1								
C105	LOWER SPIRAL	5	12	67		S				1 9	7 4.2	0 3						
C106	LOWER SPIRAL	5	12	67		S				1 9	7 4.6	0 3						
C205	LOWER SPIRAL	5	12	67		S				1 9	15 8.9	0 3						
C206	LOWER SPIRAL	5	12	67		S				1 9	19 0.5	0 3						
C305	LOWER SPIRAL	5	12	67		S				1 9	15 1.8	0 3						
C306	LOWER SPIRAL	5	12	67		S				1 9	15 7.4	0 3						
C405	LOWER SPIRAL	5	12	67		S				1 9	11 3.5	0 3						
C406	LOWER SPIRAL	5	12	67		S				1 9	13 7	0 3						
C505	LOWER SPIRAL	5	12	67		S				1 9	11 2	0 3						

S=Bar Is Included In Substructure Quantities — T=Tie or Stirrup. — E=Bar is to be Epoxy Coated — V=Bar dimensions vary between dimensions shown on this line and following line.

Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str.	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight

S=Bar Is Included In Substructure Quantities

T=Tie or Stirrup.

E=Bar is to be Epoxy Coated

V=Bar dimensions vary between dimensions shown on this line and following line.

Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight
X507	STIRRUP	4	22	72	T	S				2 3	1 9	1 9					6 4	93
X508	STIRRUP CAP	4	22	58	T	S	E			2 3							2 11	43
X509	DOWEL	7	4	50		S				3 5							3 5	28
X510	STIRRUP	4	2	72	T					0 9	2 5.8	2 5.8					6 3	8
X511	STIRRUP	4	2	58	T		E			0 9							1 5	2
X512	STIRRUP	4	28	57	T					5 2							5 6	104
X513	STIRRUP CAP	4	14	58	T		E			0 9							1 5	13
X514	TOP SIDEWALK	7	6	51						8 2.3							8 12	110
X565	SIDE DIAPH	6	8	50						11 9.1							11 9	141
X517	SIDE SIDEWALK	7	8	50						7 11.8							7 12	130
X568	SIDE SIDEWALK	7	3	50						3 9.6							3 10	23
X569	SIDE DIAPH	6	2	50						3 6.5							3 6	11
X560	STIRRUP	4	7	57	T					4 5.8							4 10	23
X561	TIE	4	4	58	T		E			0 9							1 5	4
X522	STIRRUP	4	2	72	T					1 9	1 9	1 9					5 10	8
X523	STIRRUP CAP	4	2	58	T		E			1 9							2 5	3
X524	CAP BOT. LONG	7	6	56		S				10 9.1							12 9	156
X525	CAP TOP LONG	7	6	56		S				10 9.1							12 9	156
X520	STIRRUP	4	3	72	T					0 9	2 5.8	2 5.8					6 3	13
X521	STIRRUP CAP	4	3	58	T		E			0 9							1 5	3
X515	SIDE DIAPH	6	8	50						12 6							12 6	150
X518	SIDE SIDEWALK	7	3	50						4 4.9							4 5	27
X519	SIDE DIAPH	6	2	50						4 1.9							4 2	12
	BENT 6																	
X601	CAP TOP LONG	7	6	56		S				10 9.1							12 9	156
X602	CAP BOT LONG	7	6	56		S				10 9.1							12 9	156
X603	CAP SIDE LONG	6	4	50		S				9 9							9 9	59
X604	DOWEL	6	6	50		S				3 6							3 6	32
X605	DOWEL	7	6	50		S				3 6							3 6	43
X606	DOWEL	6	4	50						3 6							3 6	21
X607	STIRRUP CAP	4	22	58	T	S	E			1 9							2 5	35
X608	STIRRUP	4	22	72	I	S				1 9	1 9	1 9					5 10	85
X651	DOWEL	7	5	50		S				3 5							3 5	35
X660	STIRRUP	4	6	72	T					0 9	2 5.8	2 5.8					6 3	25
X661	STIRRUP CAP	4	6	58	I		E			0 9							1 5	6
X612	STIRRUP	4	28	57	T					5 2							5 6	104
X613	STIRRUP CAP	4	14	58	T					0 9							1 5	13
X614	TOP SIDEWALK	7	6	51						8 3.5							9 1	112
X665	SIDE DIAPH	6	8	50						13 7.6							13 8	164
X617	SIDE DIAPH	6	8	50						8 1							8 1	97
X668	SIDE SIDEWALK	7	3	50						3 9.6							3 10	23
X669	SIDE DIAPH	6	2	50						5 1.6							5 2	15
X620	STIRRUP	5	2	57	T					13 7.6							14 1	29
X631	TIE	5	6	50	T		E			3 6.7							3 7	22
X621	STIRRUP	5	4	50	I		E			3 6.7							3 7	15
X618	SIDE SIDEWALK	7	3	50						3 1.2							3 1	19
X619	SIDE DIAPH	6	2	50						2 10.2							2 10	9
X615	SIDE DIAPH	6	8	50						11 3.4							11 3	136
X609	DOWEL	7	3	50		S				3 5							3 5	21
X610	STIRRUP	4	4	72	T					0 9	2 5.8	2 5.8					6 3	17
X611	STIRRUP CAP	4	4	58	T		E			0 9							1 5	4
	INTERMEDIATE DIAPH. SPAN 7&8																	
X706	DOWEL	6	8	50						3 6							3 6	42
X712	STIRRUP	4	14	72	T					0 9	3 3.5	3 3.5					7 11	74
X713	STIRRUP CAP	4	14	58	T		E			0 9							1 5	13
X714	LONGIT SIDEWALK	7	12	51						7 11							8 9	214
X715	DIAPH. SIDE	6	16	50						12 2.3							12 2	293
X717	SIDE SIDEWALK	7	16	51						7 11							8 9	285
X718	SIDEWALK TOP LONG.	7	6	50						4 0							4 0	49
X719	DIAPH SIDE LONG.	6	4	50						3 11							3 11	24
X720	STIRRUP	4	16	72	T					0 9	2 6.75	2 6.75					6 5	69
X721	STIRRUP CAP	4	8	58	I		E			0 9							1 5	8
X765	DIAPH. SIDE BAR	6	16	50						12 0.5							12 0	289
X768	SIDEWALK TOP LONG.	7	6	50						4 0							4 0	49
X769	DIAPH SIDE LONG.	6	4	50						3 9							3 9	23
	GIRDERS																	
S101	LONGIT BOT.	8	8	56						31 7.2							33 10	723
S102	LONGIT TOP	8	8	52						31 3							33 1	707
S103	LONGIT SIDE	8	16	50						31 3							31 3	1335
S104	STIRRUP	4	54	72	T					1 2	3 3.5	3 3.5					8 4	300
S114	STIRRUP	4	54	72	T					1 1.1	3 3.5	3 3.5					8 3	297
S115	STIRRUP	4	54	60	T					1 3.0	1 11	0 4.5					6 11	249
S106	LONGIT BOT.	8	8	50						20 0							20 0	427
S111	LONGIT BOT.	8	8	56						31 7.2							33 10	723
S112	LONGIT TOP	8	8	52						31 3							33 1	707
S113	LONGIT SIDE	8	20	50						31 3							31 3	1669
S116	LONGIT BOT.	8	8	50						20 0							20 0	427
S404	STIRRUP	4	62	72	T					1 2	3 3.5	3 3.5					8 4	344
S414	STIRRUP	4	62	60	T					1 3.5	1 11	0 4.5					6 11	286
S415	STIRRUP	4	62	72	I					1 1.1	3 3.5	3 3.5					8 3	341
S504	STIRRUP	4	58	72	T					1 2	3 3.5	3 3.5					8 4	322
S514	STIRRUP	4	58	60	T					1 3.5	1 11	0 4.5					6 11	267
S515	STIRRUP	4	58	72	I					1 1.1	3 3.5	3 3.5					8 3	319
S604	STIRRUP	4	60	72	T					1 2	3 3.5	3 3.5					8 4	333
S614	STIRRUP	4	60	60	T					1 3.5	1 11	0 4.5					6 11	276
S615	STIRRUP	4	60	72	I					1 1.1	3 3.5	3 3.5					8 3	330
S704	STIRRUP	4	58	72	T					1 2	3 3.5	3 3.5					8 4	322
S714	STIRRUP	4	58	60	T					1 3.5	1 11	0 4.5					6 11	267
S715	STIRRUP	4	58	72	T					1 1.1	3 3.5	3 3.5					8 3	319
S804	STIRRUP	4	62	72	I					1 2	3 3.5	3 3.5					8 4	344
S814	STIRRUP	4	62	60	T					1 3.5	1 11	0 4.5					6 11	286
S815	STIRRUP	4	62	72	T					1 1.1	3 3.5	3 3.5					8 3	341
S901	LONGIT TOP	8	4	51						59 1							59 12	641
S903	LONGIT TOP	8	4	51						59 1							59 12	641
S921	LONGIT TOP	8	4	51						59 1							59 12	641
S923	LONGIT TOP	8	4	51						59 1							59 12	641
S905	LONGIT TOP	8	4	51						59 1							59 12	641
S907	LONGIT TOP	8	4	51						59 1							59 12	641

S=Bar Is Included In Substructure Quantities

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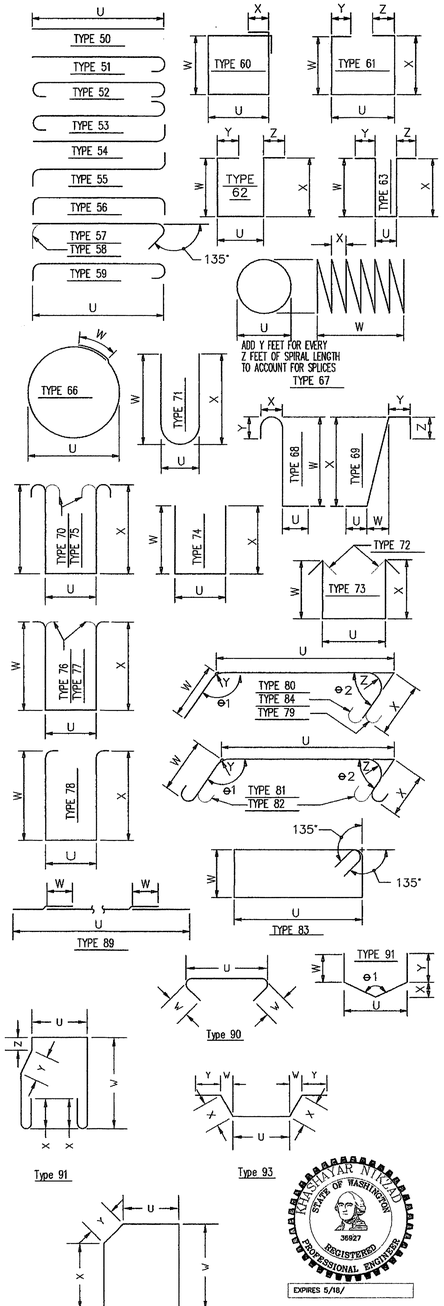
Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight
S951	LONGIT TOP	8	4	51						54 0							54 11	586
S953	LONGIT TOP	8	4	51						54 0							54 11	586
S902	LONGIT TOP	8	8	50						20 0							20 0	427
S904	LONGIT TOP	8	8	50						20 0							20 0	427
S906	LONGIT TOP	8	8	50						20 0							20 0	427
S908	LONGIT TOP	8	8	50						20 0							20 0	427
S928	LONGIT TOP	8	4	50						20 0							20 0	214
S926	LONGIT TOP	8	4	50						20 0							20 0	214
S924	LONGIT TOP	8	4	50						20 0							20 0	214
S922	LONGIT TOP	8	4	50						20 0							20 0	214
S935	LONGIT BOT	8	8	50						20 0							20 0	427
S936	LONGIT BOT	8	8	50						20 0							20 0	427
S939	LONGIT BOT	8	8	50						20 0							20 0	427
S940	LONGIT BOT	8	8	50						20 0							20 0	427
S915	LONGIT BOT	8	12	50						20 0							20 0	641
S916	LONGIT BOT	8	12	50						20 0							20 0	641
S919	LONGIT BOT	8	12	50						20 0							20 0	641
S920	LONGIT BOT	8	12	50						20 0							20 0	641
S957	LONGIT TOP	8	4	51						54 0							54 11	586
S955	LONGIT TOP	8	4	51						54 0							54 11	586
S971	LONGIT TOP	8	4	51						17 2							18 1	193
S973	LONGIT TOP	8	4	51						17 2							18 1	193
S975	LONGIT TOP	8	4	51						17 2							18 1	193
S977	LONGIT TOP	8	4	51						17 2							18 1	193
S918	LONGIT BOT	8	4	54						58 10.5							59 12	641
S917	LONGIT BOT	8	4	54						58 10.5							59 12	641
S914	LONGIT BOT	8	4	54						58 10.5							59 12	641
S913	LONGIT BOT	8	4	54						58 10.5							59 12	641
S934	LONGIT BOT	8	4	54						58 10.5							59 12	641
S933	LONGIT BOT	8	4	54						58 10.5							59 12	641
S937	LONGIT BOT	8	4	54						58 10.5							59 12	641
S938	LONGIT BOT	8	4	54						58 10.5							59 12	641
S925	LONGIT TOP	8	4	51						59 1							59 12	641
S927	LONGIT TOP	8	4	51						59 1							59 12	641
S941	LONGIT SIDE CONT.	6	16	89						98 5.2	2 0						100 5	2413
S942	LONGIT SIDE CONT.	6	20	89						98 5.2	2 0						100 5	3017
S963	LONGIT BOT	8	4	54						17 4.5							18 6	198
S964	LONGIT BOT	8	4	54						17 4.5							18 6	198
S967	LONGIT BOT	8	4	54						54 8.7							55 10	596
S968	LONGIT BOT	8	4	54						54 8.7							55 10	596
S985	LONGIT BOT	8	4	54						54 8.7							55 10	596
S986	LONGIT BOT	8	4	54						54 8.7							55 10	596
S983	LONGIT BOT	8	4	54						17 4.5							18 6	198
S984	LONGIT BOT	8	4	54						17 4.5							18 6	198
S991	LONGIT SIDE CONT.	6	16	89						70 3	2 0						72 3	1736
S992	LONGIT SIDE CONT.	6	20	89						70 3	2 0						72 3	2170
	DECK SPAN 1																	
S121	TRANSV BOT.	6	76	50						8 2.8							8 3	940
S122	TRANSV TOP.	6	76	57			E			7 10.7							8 6	974
S123	LONGIT BOT	6	14	50						31 2.8							31 3	657
S124	LONGIT TOP.	6	14	50						31 2.8							31 3	657
S131	TRANSV BOT.	6	76	50						4 1							4 1	466
S132	TRANSV TOP	6	76	56						4 1							5 9	659
S133	LONGIT BOT	6	10	50						31 2.8							31 3	469
S134	LONGIT TOP.	6	14	50						31 3.4							31 3	658
S141	RAIL BASE TRANSV.- ALL SPANS	5	490	62						1 2.5	1 2.5	1 2	0 6	0 6			4 2	2121
S142	LONGIT RAIL BASE	4	8	50						31 3							31 3	167
S152	CONNECTOR BAR-ALL SPANS	6	408	50						3 9							3 9	2298
	DECK SPAN 4,5,6																	
S031	TRANSV BOT.	6	26	56				V	1	4 0							5 8	
										4 6							6 2	232
S032	TRANSV TOP.	6	26	56			E	V	1	4 0							5 8	
										4 6							6 2	232
S331	TRANSV BOT.	6	26	56				V	1	4 0							5 8	
										3 8.4							5 5	216
S332	TRANSV TOP.	6	26	56			E	V	1	4 0							5 8	
										3 8.4							5 5	216
S421	TRANSV BOT.	6	86	50						8 2.8							8 3	1063
S422	TRANSV TOP.	6	86	57			E			7 10.7							8 6	1102
S521	TRANSV BOT.	6	84	50						8 2.8							8 3	1039
S522	TRANSV TOP.	6	84	57			E			7 10.7							8 6	1077
S621	TRANSV BOT.	6	84	50						8 2.8							8 3	1039
S622	TRANSV TOP.	6	84	57			E			7 10.7							8 6	1077
S431	TRANSV BOT.	6	86	56						4 0							5 8	735
S432	TRANSV TOP.	6	86	56			E			4 0							5 8	735
S531	TRANSV BOT.	6	84	56						4 0							5 8	718
S532	TRANSV TOP.	6	84	56			E			4 0							5 8	718
S631	TRANSV BOT.	6	33	56						4 0							5 8	282
S632	TRANSV TOP.	6	33	56			E			4 0							5 8	282
S909	LONGIT TOP	6	10	89			E			105 1.4	2 9						107 10	1620
S910	LONGIT TOP	6	10	89						105 1.4	2 9						107 10	1620
S911	LONGIT TOP	6	14	89			E			105 1.4	2 9						107 10	2268
S912	LONGIT TOP	6	14	89						105 1.4	2 9						107 10	2268
	DECK SPAN 7,8																	
S721	TRANSV BOT.	6	84	50						8 2.8							8 3	1039
S722	TRANSV TOP.	6	84	57			E			7 10.7							8 6	1077
S731	TRANSV BOT.	6	21	56				V	1	4 2.4							5 11	
										4 0.4							5 9	183
S732	TRANSV TOP	6	21	56			E	V	1	4 2.4							5 11	
										4 0.4							5 9	183
S733	TRANSV TOP	6	21	56			E	V	1	4 4.3							6 1	
										3 7.2							5 4	179
S734	TRANSV BOT.	6	21	56				V	1	4 4.3							6 1	
										3 7.2							5 4	179
S735	TRANSV TOP	6	21	56			E	V	1	4 2.4							5 11	
										4 0.4							5 9	183
S736	TRANSV BOT.	6	21	56				V	1	4 7.8							6 4	
										4 4.3							6 1	195

BENDING DIAGRAMS



MANIJAR NIKZAD
STATE OF WASHINGTON
36927
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
MACTEC Company

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

Job. No.
Date
Field Bk.

BAR LIST
FERNDALE BRIDGE REHABILITATION

B44 SHEET OF

0278.024 S.F.H.W.A.

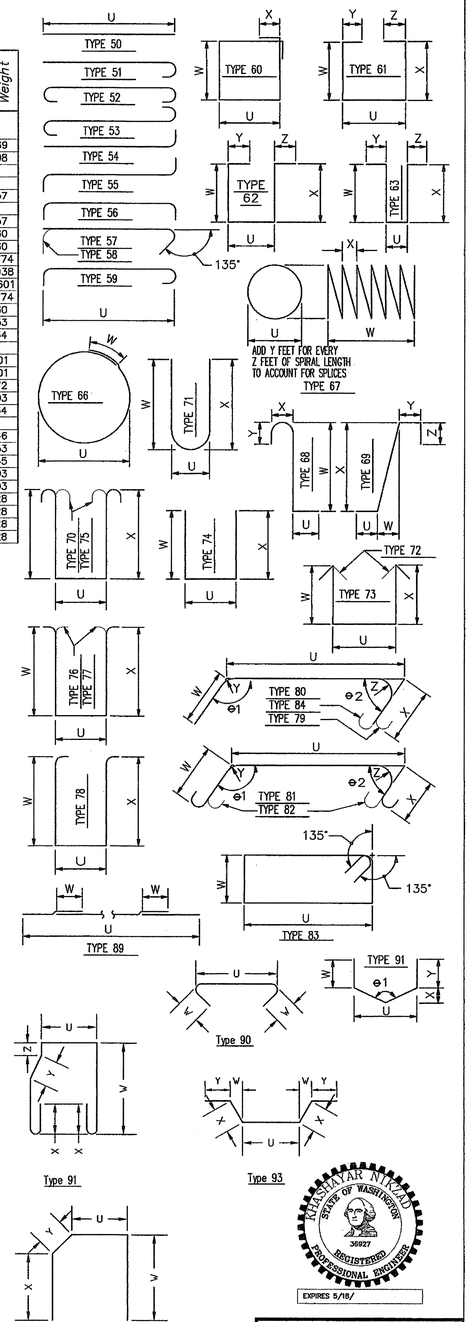
S=Bar Is Included In Substructure Quantities
T=Tie or Stirrup.
E=Bar is to be Epoxy Coated
V=Bar dimensions vary between dimensions shown on this line and following line.

Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str.	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight
S737	TRANSV TOP	6	21	56			E	V	1	4 10.8							6 7	
										4 2.4							5 11	197
S738	TRANSV BOT.	6	21	56				V	1	4 10.8							6 7	
										4 2.4							5 11	197
S821	TRANSV BOT.	6	84	50						8 2.8							8 3	1039
S822	TRANSV TOP.	6	84	57			E			7 10.7							8 6	1077
S832	TRANSV TOP	6	21	56			E	V	1	4 5.9							6 2	
										4 0.4							5 9	188
S837	TRANSV TOP	6	22	56			E	V	1	5 8.4							7 5	
										4 5.9							6 2	224
S831	TRANSV BOT.	6	21	56				V	1	4 5.9							6 2	
										4 0.4							5 9	188
S833	TRANSV TOP	6	21	56			E	V	1	4 9.2							6 6	
										4 4.3							6 1	197
S834	TRANSV BOT.	6	21	56				V	1	4 9.2							6 6	
										4 4.3							6 1	197
S835	TRANSV TOP	6	22	56			E	V	1	4 4.3							6 1	
										3 3.2							4 12	182
S836	TRANSV BOT.	6	22	56				V	1	4 4.3							6 1	
										3 3.2							4 12	182
S838	TRANSV BOT.	6	22	56				V	1	5 8.4							7 5	
										4 5.9							6 2	224
S929	LONGIT TOP	6	5	89			E	V	1	71 1.2	2	9					73 10	
										69 10.9	2	9					72 8	550
S930	LONGIT BOT	6	5	89				V	1	71 1.2	2	9					73 10	
										69 10.9	2	9					72 8	550
S960	LONGIT BOT	6	14	89						71 1.2	2	9					73 10	1553
S970	LONGIT TOP	6	14	89			E			71 1.2	2	9					73 10	1553
S998	LONGIT TOP	6	5	89			E	V	1	71 1	2	9					73 10	
										70 10.6	2	9					73 8	554
S999	LONGIT BOT	6	5	89				V	1	71 1	2	9					73 10	
										70 10.6	2	9					73 8	554
	PIERS A & C																	
P101	LONGITUDINAL N.F.	8	8	80	S					9 3	3	0				153	12 3	261
P102	LONGITUDINAL F.F.	8	8	80	S					9 0	3	6				63	12 0	256
P103	LONGITUDINAL N.F.	8	16	80	S					9 3	3	0				153	12 3	522
P104	LONGITUDINAL F.F.	8	16	50	S					9 3							9 3	395
P105	STIRRUP	6	80	74	S			V	2	1 9	0	4.8	0	4.8			2 3	
										1 11.5	ø	4.8	ø	4.8			2 5	281
P106	STIRRUP	6	80	74	S			V	2	1 9	0	4.8	2	6.6			4 5	
										1 11.5	4	0	6	6.6			13 6	1074
P107	DOWEL	6	8	50	S					5 4							5 4	64
P108	DOWEL	6	72	54	S					3 2							4 0	434
P109	DOWEL	7	8	50	S					3 0							3 0	49
P110	DOWEL	7	8	54	S					3 0							3 12	65
P111	DOWEL	6	16	50	S					15 9							15 9	378
P112	DOWEL	6	8	50	S					4 10							4 10	58
P113	DOWEL	6	8	50	S					5 9							5 9	69
P114	DOWEL	6	36	51	S					1 10.5							2 7	139
P115	DOWEL	6	36	50	S					1 10.5							1 10	101
P116	DOWEL	8	20	50	S					3 11.5							3 12	211
P117	DOWEL	7	20	51	S					1 10.5							2 8	109
P118	DOWEL	7	20	51	S					1 10.5							2 8	109
P119	LONGITUDINAL	6	24	50		S				10 8							10 8	384
P121	LONGITUDINAL	8	8	50		S				10 8							10 8	228
P122	STIRRUP	5	44	72	T	S				3 0	2	9	2	9			9 2	423
P123	STIRRUP	5	44	58	T	S				3 0							3 10	176
P124	DOWEL	6	16	51		S				1 10.5							2 7	82
P125	DOWEL	6	16	50		S				1 10.5							1 10	45
P126	LONGITUDINAL	8	12	52		S				15 9							17 7	563
P127	LONGITUDINAL	8	8	52		S				10 8							12 6	267
P128	LONGITUDINAL	6	1	50		S				10 8							10 8	16
P130	STIRRUP	5	40	58	T	S				2 8							3 6	146
P131	STIRRUP	5	60	72	T	S		V	30	1 3	6	0	6	0			13 12	
										1 3	6	8	6	8			15 4	915
P132	STIRRUP	5	16	72	T	S		V	8	2 8	6	0	6	0			15 4	
										2 8	6	8	6	8			16 8	268
P133	STIRRUP	5	24	72	T	S		V	12	2 8	3	0	3	0			9 4	
										2 8	3	8	3	8			10 8	251
P134	TIE	5	20	58	T	S				1 3							2 1	43
P135	LONG	6	8	54	T	S				6 3							7 1	85
P136	LONGITUDINAL	6	8	54		S				2 8							3 6	42
P139	DOWEL	7	16	50		S				3 0							3 0	98
P150	DOWEL	7	36	51		S				2 6							3 4	243
P151	STIRRUP	5	24	74	T	S				0 7.5	2	6	2	6			5 5	135
P152	TRANSVERSE	5	8	50	T	S				1 9							1 9	15
P153	TRANSVERSE	5	32	90	T	S					0	5.5	0	5.5			1 9	58
P154	LONGITUDINAL	6	32	50		S				4 0							4 0	192
P155	STIRRUP	5	28	74	T	S				1 3	6	0	6	0			13 0	381
P160	DOWEL	8	12	51		S				2 8							3 7	115
P161	DOWEL	7	6	51		S				2 6							3 4	40
P162	TRANSVERSE	5	8	50	T	S				1 3							1 3	10
P163	STIRRUP	5	16	74	T	S				1 2.4	2	0	2	0			4 12	83
P164	TRANSVERSE	5	10	50	T	S				3 11							3 11	41
P165	STIRRUP	5	32	90	T	S					0	5.5	1	3			1 6	51
P166	STIRRUP	5	16	83	T	S				1 3	4	9					12 7	210
X906	DOWEL BAR	6	8	50		S				4 6							4 6	54
X912	STIRRUP	4	28	72	T	S	E			0 10	3	3	3	3			7 11	148
X913	STIRRUP CAP	4	28	58	T	S	E			0 10							1 6	28
X921	STIRRUP	3	28	91	T	S					2	4	1	3	1	6 0 4.5	0 10	9
X914	LONGIT SIDEWALK	7	12	51		S	E			7 11							8 9	214
X915	DIAPH. SIDE BAR	6	32	50		S				12 3							12 3	589
X917	SIDE SIDEWALK	6	16	51		S				7 11							8 7	207
X918	SIDEWALK TOP LONG.	7	8	50		S	E			4 0							4 0	65
X919	DIAPH SIDE LONG.	6	8	50		S				4 0							4 0	48
X922	DIAPH. SIDE BAR	6	8	50		S				12 3							12 3	147
X929	STIRRUP	3	16	92	T	S					2	3	1	6	1	0 0 4.5	0 10	5
X930	STIRRUP CAP	4	16	58	T	S	E			0 10							1 6	16
X931	STIRRUP	4	16	72	T	S	E			2 7	0	10	0	10			4 10	51

S=Bar Is Included In Substructure Quantities
T=Tie or Stirrup.
E=Bar is to be Epoxy Coated
V=Bar dimensions vary between dimensions shown on this line and following line.

Mark No.	Location	Size	No. Req'd	Bend Type	Tie or Str.	Substr.	Epoxy Coat	Varies	No. Each	DIMENSIONS (OUT TO OUT) U	W	X	Y	Z	θ1	θ2	Length	Weight
P180	PT ANCHORAGE	4	576	50						2 0							2 0	769
P181	PT ANCHORAGE	3	144	50						2 0							2 0	108
	CLOSURE POUR SPAN 2,3																	
T101	TOP LONGITUDINAL	4	28	50			E	V	4	13 10.6							13 11	
										13 7.1							13 7	257
T102	BOT. LONGITUDINAL	4	28	50				V	4	13 10.6							13 11	
										13 7.1							13 7	257
T103	TOP LONGITUDINAL	7	8	50			E			34 3							34 3	560
T104	BOT. LONGITUDINAL	7	8	50						34 3							34 3	560
T105	TOP LONGITUDINAL	4	196	50			E			13 6.6							13 7	1774
T106	TOP TRANSVERSE	5	768	50			E			4 11							4 11	3938
T107	BOT TRANSVERSE	5	768	68						0 11.5	4	11					5 9	4601
T108	TOP LONGITUDINAL	4	196	50						13 6.6							13 7	1774
T109	TOP LONGITUDINAL	4	28	50			E			13 10.6							13 11	260
T110	TOP LONGITUDINAL	4	28	50			E			13 6.6							13 7	253
T111	TOP LONGITUDINAL	6	4	50			E			5 8							5 8	34
	LUMINAIRE MOUNTING																	
L101	LUMINAIRE BASE TOP	8	36	56			E			4 0							6 3	601
L102	LUMINAIRE BASE BOT.	8	36	56						4 0							6 3	601
L103	LUMINAIRE SIDE LONG	6	12	50						4 0							4 0	72
L104	STIRRUP	4	78	72	T					2 3	1	6 1	6				5 10	303
L105	STIRRUP CAP	7	78	58	T		E			2 3							3 12	634
	EXPANSION JOINT DETAILS																	
T120	EXP. JOINT PIER A&C	7	4	93			E			5 8	3	3.6	3	3.8	1	4.8	5 8	46
T121	EXP. JOINT PIER A&C	7	4	50			E			6 6							6 6	53
T122	EXP. JOINT PIER A&C	7	4	50			E			5 6							5 6	45
T123	EXP. JOINT PIER A&C	7	2	93			E			25 2	3	6.6	3	5.4	0	6	25 2	103
T124	EXP. JOINT PIER A&C	7	2	93			E			25 2	3	6.6	3	5.4	0	6	25 2	103
T130	EXP. JOINT BENT 4	7	1	50			E			13 7.8							13 8	28
T131	EXP. JOINT BENT 4	7	1	50			E			13 7							13 7	28
T132	EXP. JOINT BENT 4	7	2	50			E			6 11.2							6 11	28
T133	EXP. JOINT BENT 4	7	2	50			E			6 11.5							6 12	28

BENDING DIAGRAMS



KRISHAYAR NIKZAD
STATE OF WASHINGTON
30927
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 5/18/

Harding ESE
MACTEC Company

00378.095 5.4.09

No	Date	Revision	By
4			
3			
2			
1			

PROJECT MANAGER K. NIKZAD
DESIGNED/DRAWN J. KING/J.GAVIDIA
INSPECTOR

DIR. PUBLIC WORKS L. SPERRY
CITY ENGINEER
OPER. ENGINEER

CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

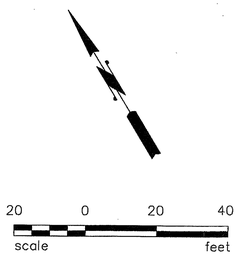
Job. No.
Date
Field Bk.

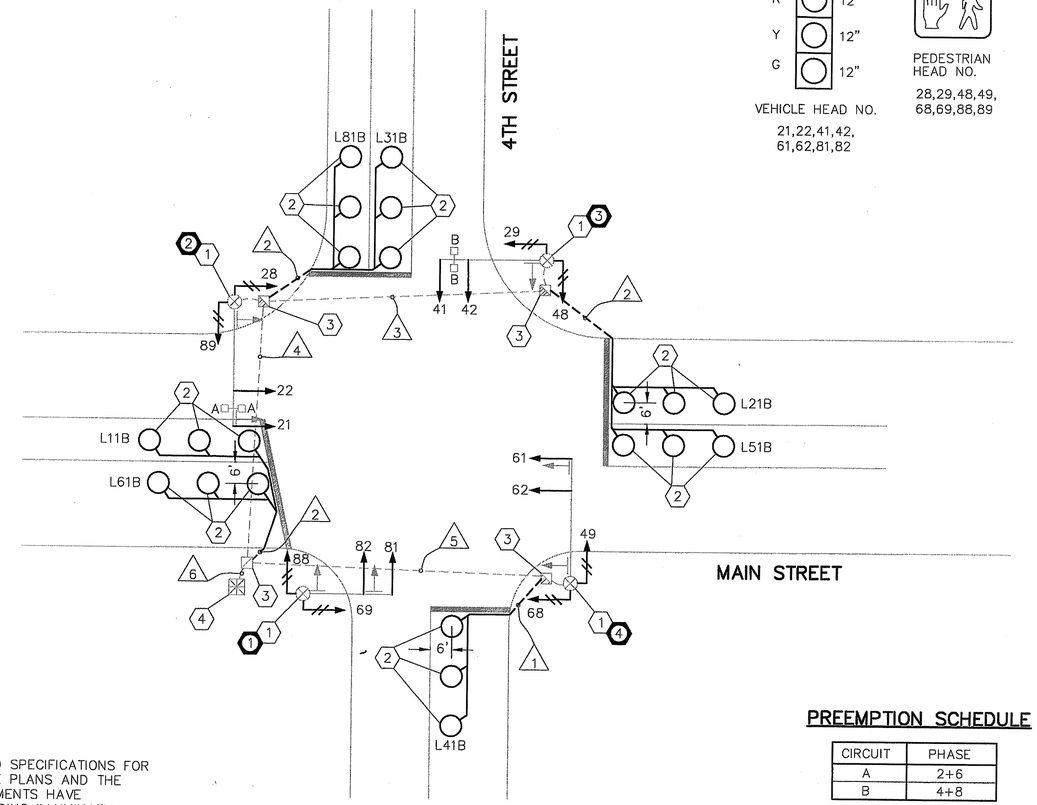
BAR LIST
FERNDALE BRIDGE REHABILITATION

B45 SHEET OF

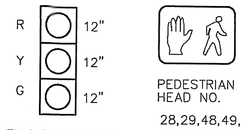
LEGEND

- VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGNAL STANDARD, TYPE II
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- TYPE 3 JUNCTION BOX
- PREEMPTION DETECTOR
- CONDUIT
- 6' ROUND TYPE 2 VEHICLE DETECTION LOOP
- CONTROLLER CABINET
- MAST ARM–MOUNTED TRAFFIC SIGN
- CONSTRUCTION NOTE
- SIGNAL STANDARD NO.
- WIRE NOTE





SIGNAL DISPLAY SCHEDULE



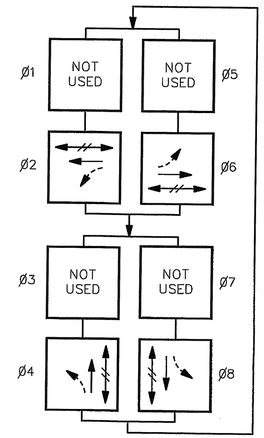
VEHICLE HEAD NO.
21,22,41,42,
61,62,81,82

PEDESTRIAN HEAD NO.
28,29,48,49,
68,69,88,89

DISPLAY NOTES:

1. ALL NEW VEHICLE SIGNAL HEADS SHALL BE CONVENTIONAL HEADS WITH RED AND GREEN LED INDICATIONS AND TUNNEL VISORS. ALL YELLOW INDICATIONS SHALL BE INCANDESCENT. MOUNT HEADS USING EXISTING TYPE M MOUNTS. USE STANDARD PLANS J–6f AND J–6g.
2. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL HAVE LED SYMBOLIC LEGENDS AND 'Z' CRATE VISORS. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL USE MOUNTING TYPE E AT EXISTING MOUNTING LOCATIONS. USE STANDARD PLAN J–6f.

SIGNAL PHASING DIAGRAM



PEDESTRIAN MOVEMENT
PROTECTED VEHICLE MOVEMENT
PERMISSIVE VEHICLE MOVEMENT

NOTE:
PHASES 2 AND 6 ARE HARDWIRED TOGETHER IN THE CONTROLLER CABINET. PHASES 4 AND 8 ARE ALSO HARDWIRED TOGETHER.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2002 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, ITS CURRENT AMENDMENTS, THESE PLANS AND THE SPECIAL PROVISIONS. THE CONTRACTOR IS ADVISED THAT THE CURRENT AMENDMENTS HAVE REPLACED SECTIONS 8–20 AND 9–29 OF THE STANDARD SPECIFICATIONS REGARDING ILLUMINATION, TRAFFIC SIGNAL SYSTEMS AND ELECTRICAL IN THEIR ENTIRETY.
2. THE INTERSECTION AND TRAFFIC SIGNAL EQUIPMENT SHOWN ON THIS PLAN SHEET (TS1) ARE NOT SURVEYED LOCATIONS AND ARE CONCEPTUAL IN NATURE. THE CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS IN THE FIELD AS NECESSARY.

CONSTRUCTION NOTES

(1) DISCONNECT AND REMOVE ALL EXISTING VEHICLE AND PEDESTRIAN SIGNAL HEADS FROM EXISTING SIGNAL STANDARD. INSTALL NEW SIGNAL HEADS USING EXISTING MOUNTINGS. INSTALL TWO PPB–M'S, PERPENDICULAR TO MAIN STREET AND 4TH STREET. USE SPARE CONDUCTORS IN EXISTING 5C CABLES AT EXISTING SIGNAL STANDARD FOR PPB–M CONNECTIONS. USE STANDARD PLAN J–5. DELIVER SALVAGED PEDESTRIAN SIGNAL HEADS TO CITY OF BELLINGHAM SIGNAL SHOPS.

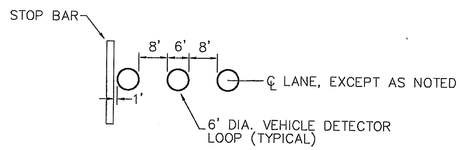
(2) INSTALL 6' ROUND TYPE 2 VEHICLE DETECTOR LOOP. USE LOOP LAYOUT DETAIL ON THIS SHEET.

(3) ROUTE NEW LOOP STUBOUT CONDUIT TO EXISTING JUNCTION BOX OR USE EXISTING SPARE CONDUIT IF IT CAN BE FOUND AND IS UNDAMAGED. EXISTING SPARE CONDUITS ON 4TH STREET ONLY.

(4) ROUTE NEW LOOP LEAD–IN CABLES INTO EXISTING CONTROLLER CABINET. TERMINATE CABLES FOR L31B, L41B AND L81B IN PARALLEL ON PHASE 4 OR 8. TERMINATE CABLES FOR L11B, L21B, L51B AND L61B IN PARALLEL ON PHASE 2 OR 6. INSTALL CANOGO C824 FOUR–CHANNEL DETECTOR AMPLIFIER IN EXISTING RACK. TERMINATE EXISTING SPARE CONDUCTORS FOR PPB CONNECTIONS. COORDINATE WITH STEVE HAUGEN, CITY OF BELLINGHAM, 360–676–6850 FOR CONTROLLER PROGRAMMING REVISIONS.

PREEMPTION SCHEDULE

CIRCUIT	PHASE
A	2+6
B	4+8



NOTE: THE THREE LOOPS IN EACH LANE SHALL BE SERIES CONNECTED IN THE JUNCTION BOX

LOOP LAYOUT DETAIL

WIRING SCHEDULE

CONDUIT RUN (1)	CONDUIT SIZE	NEW CONDUCTORS #2	NEW CONDUCTORS #12 TWISTED PAIRS	NEW CONDUCTORS 2CS	NEW CONDUCTORS 6PR	REMARKS
1	2"		3			NOTE 1
2	2"		6			NOTE 1
3	EX. 3"			2		NOTE 2
4	EX. 4"			4		NOTE 2
5	EX. 3"			1		NOTE 2
6	EX. 4"					NOTE 2
	EX. 4"					NOTE 2
	EX. 3"			7		NOTE 2

NOTES: 1. EXISTING SPARE CONDUIT(S) MAY BE USED IF LOCATED UNDAMAGED (4TH ST. ONLY).
2. EXISTING CONDUIT AND CONDUCTORS REMAIN.

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	11/20/02 RMH				
PROJ. ENGR.					
DRAWING FILE	TS1.DWG				
		DATE	REVISION	BY	APP'D

CITY OF FERNDALE
2095 Main Street
Ferndale, Washington 98248

ROBERT MARTIN FERMAN — STATE OF WASHINGTON — 30730 — REGISTERED PROFESSIONAL ENGINEER — 11-20-02 — EXPIRES 01/31/03

HTE HERMAN TRAFFIC ENGINEERING
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MAIN STREET IMPROVEMENTS
CITY OF FERNDALE

MAIN STREET / 4TH STREET
TRAFFIC SIGNAL MODIFICATION PLAN

TS1

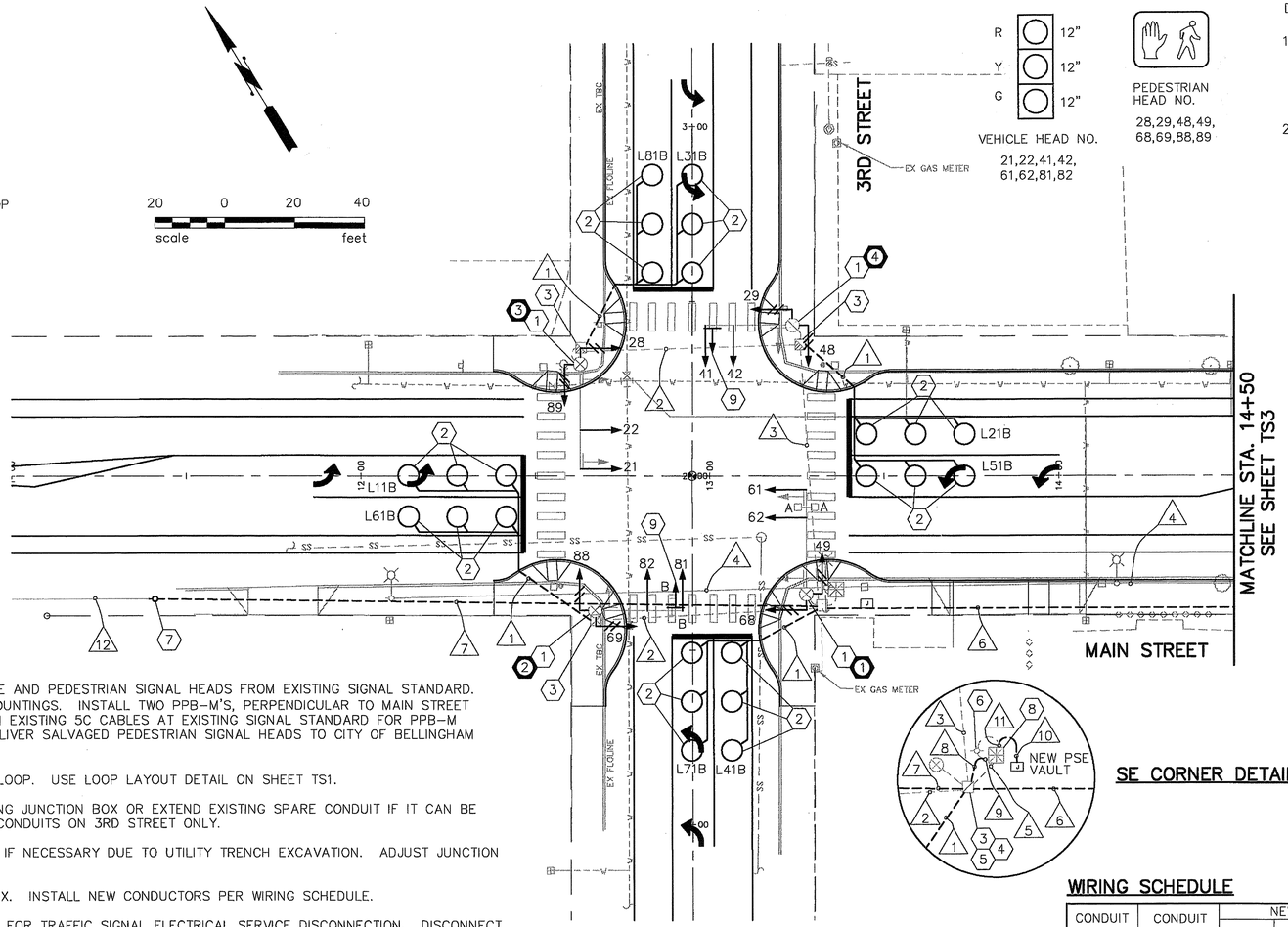
SHEET OF SHEETS

0037B.096 5-4.09 NB

00378.017 S.409 RW

LEGEND

- VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGNAL STANDARD, TYPE II
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- TYPE 3 JUNCTION BOX
- PREEMPTION DETECTOR
- CONDUIT
- 6' ROUND TYPE 2 VEHICLE DETECTION LOOP
- CONTROLLER CABINET
- MAST ARM–MOUNTED TRAFFIC SIGN
- CONSTRUCTION NOTE
- SIGNAL STANDARD NO.
- WIRE NOTE



SIGNAL DISPLAY SCHEDULE

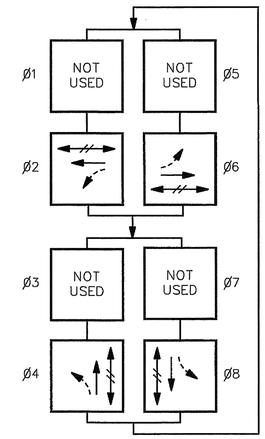
VEHICLE HEAD NO.
21,22,41,42,
61,62,81,82

PEDESTRIAN HEAD NO.
28,29,48,49,
68,69,88,89

DISPLAY NOTES:

1. ALL NEW VEHICLE SIGNAL HEADS SHALL BE CONVENTIONAL HEADS WITH RED AND GREEN LED INDICATIONS AND TUNNEL VISORS. ALL YELLOW INDICATIONS SHALL BE INCANDESCENT. MOUNT HEADS USING EXISTING TYPE M MOUNTS. USE STANDARD PLANS J–6f AND J–6g.
2. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL HAVE LED SYMBOLIC LEGENDS AND 'Z' CRATE VISORS. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL USE MOUNTING TYPE E AT EXISTING MOUNTING LOCATIONS. USE STANDARD PLAN J–6f.

SIGNAL PHASING DIAGRAM



PEDESTRIAN MOVEMENT
PROTECTED VEHICLE MOVEMENT
PERMISSIVE VEHICLE MOVEMENT

NOTE:
PHASES 2 AND 6 ARE HARDWIRED TOGETHER IN THE CONTROLLER CABINET. PHASES 4 AND 8 ARE ALSO HARDWIRED TOGETHER.

CONSTRUCTION NOTES

(1) DISCONNECT AND REMOVE ALL EXISTING VEHICLE AND PEDESTRIAN SIGNAL HEADS FROM EXISTING SIGNAL STANDARD. INSTALL NEW SIGNAL HEADS USING EXISTING MOUNTINGS. INSTALL TWO PPB–M'S, PERPENDICULAR TO MAIN STREET AND 3RD STREET. USE SPARE CONDUCTORS IN EXISTING 5C CABLES AT EXISTING SIGNAL STANDARD FOR PPB–M CONNECTIONS. USE STANDARD PLAN J–5. DELIVER SALVAGED PEDESTRIAN SIGNAL HEADS TO CITY OF BELLINGHAM SIGNAL SHOPS.

(2) INSTALL 6' ROUND TYPE 2 VEHICLE DETECTOR LOOP. USE LOOP LAYOUT DETAIL ON SHEET TS1.

(3) ROUTE NEW LOOP STUBOUT CONDUIT TO EXISTING JUNCTION BOX OR EXTEND EXISTING SPARE CONDUIT IF IT CAN BE FOUND AND IS UNDAMAGED. EXISTING SPARE CONDUITS ON 3RD STREET ONLY.

(4) REMOVE AND REPLACE EXISTING JUNCTION BOX IF NECESSARY DUE TO UTILITY TRENCH EXCAVATION. ADJUST JUNCTION BOX TO FINAL GRADE.

(5) ROUTE NEW CONDUIT TO EXISTING JUNCTION BOX. INSTALL NEW CONDUCTORS PER WIRING SCHEDULE.

(6) COORDINATE WITH PUGET SOUND ENERGY (PSE) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE DISCONNECTION. DISCONNECT AND REMOVE EXISTING POWER AND INTERCONNECT CONDUCTORS AND CONDUIT RISERS FROM EXISTING UTILITY POLE. SALVAGE ENTIRE LENGTH OF EXISTING INTERCONNECT CABLE TO THE WEST FOR PARTIAL REINSTALLATION IN CONDUIT. REMOVE MESSENGER CABLE FROM EXISTING FIGURE 8 CABLE BACK TO NEW PSE POLE LOCATION AT APPROX. STA. 11+41, RT. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. EXISTING UTILITY POLE TO BE REMOVED BY PSE.

(7) ROUTE NEW INTERCONNECT CONDUIT TO NEW PSE POLE. INSTALL 2" CONDUIT RISER ON STANDOFFS ON POLE TO A HEIGHT OF TEN FEET ABOVE GRADE. STRAP AN ADEQUATE LENGTH OF CONDUIT TO POLE FOR INSTALLATION OF REMAINING RISER HEIGHT BY PSE. INSTALL SALVAGED INTERCONNECT CABLE THROUGH RISER AND UNDERGROUND TO EXISTING CONTROLLER CABINET.

(8) REMOVE EXISTING SERVICE AND INTERCONNECT CONDUCTORS FROM EXISTING CONTROLLER CABINET. INTERCEPT EXISTING POWER CONDUIT FROM CONTROLLER CABINET FOUNDATION AND EXTEND TO NEW UNDERGROUND POINT OF SERVICE. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. INTERCEPT EXISTING INTERCONNECT CONDUIT FROM CONTROLLER CABINET FOUNDATION AND ROUTE TO EXISTING ADJACENT TYPE 3 JUNCTION BOX. INSTALL AND TERMINATE NEW SERVICE AND NEW/EXISTING INTERCONNECT CONDUCTORS. ROUTE NEW LOOP LEAD–IN CABLES INTO EXISTING CONTROLLER CABINET. TERMINATE CABLES FOR L31B, L41B, L71B AND L81B IN PARALLEL ON PHASE 4 OR 8. TERMINATE CABLES FOR L11B, L21B, L51B AND L61B IN PARALLEL ON PHASE 2 OR 6. INSTALL CANOGO C824 FOUR–CHANNEL DETECTOR AMPLIFIER IN EXISTING RACK. TERMINATE EXISTING SPARE CONDUCTORS FOR PPB CONNECTIONS. COORDINATE WITH STEVE HAUGEN, CITY OF BELLINGHAM, 360–676–6850 FOR CONTROLLER PROGRAMMING REVISIONS.

(9) INSTALL 24" X 30" R10–12 "LEFT TURN YIELD ON GREEN" SIGN ON EXISTING MAST ARM SUCH THAT APPROX. 6" OF CLEARANCE IS PROVIDED BETWEEN SIGN AND INSIDE VEHICLE SIGNAL HEAD.

PREEMPTION SCHEDULE

CIRCUIT	PHASE
A	2+6
B	4+8

SE CORNER DETAIL

WIRING SCHEDULE

CONDUIT RUN ⚠	CONDUIT SIZE	NEW CONDUCTORS #2	#12 TWISTED PAIRS	2CS	6PR	REMARKS
1	2"		6			NOTE 1
2	EX. 3"			2		NOTE 2
3	EX. 4"			4		NOTE 2
4	EX. AERIAL					REMOVE EX. INTERCONNECT CABLE
5	EX. 4"					NOTE 2
	EX. 4"					NOTE 2
	EX. 3"			8		NOTE 2
6	2"				1	INTERCONNECT
7	2"					INSTALL SALVAGED EX. INTERCONNECT CABLE
8	2"				1	INSTALL SALVAGED EX. INTERCONNECT CABLE
9	EX. 2"				1	REINSTALL SALVAGED EX. INTERCONNECT CABLE
10	1.5"	3				ELECTRICAL SERVICE
11	EX. 1.5"	3				ELECTRICAL SERVICE, NOTE 3
12	AERIAL					EXISTING INTERCONNECT REMAINS

NOTES: 1. EXISTING SPARE CONDUIT(S) MAY BE EXTENDED IF LOCATED UNDAMAGED (3RD ST. ONLY).
2. EXISTING CONDUIT AND CONDUCTORS REMAIN.
3. REMOVE EXISTING CONDUCTORS.

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	11/20/02 RMH				
PROJ. ENGR.					
DRAWING FILE	TS1.DWG	DATE	REVISION	BY	APP'D

CITY OF FERNDALE
2095 Main Street
Ferndale, Washington 98248

ROBERT MARTIN HERMAN — 30730 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 11-20-02 — EXPIRES 01/31/03

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MAIN STREET IMPROVEMENTS
CITY OF FERNDALE

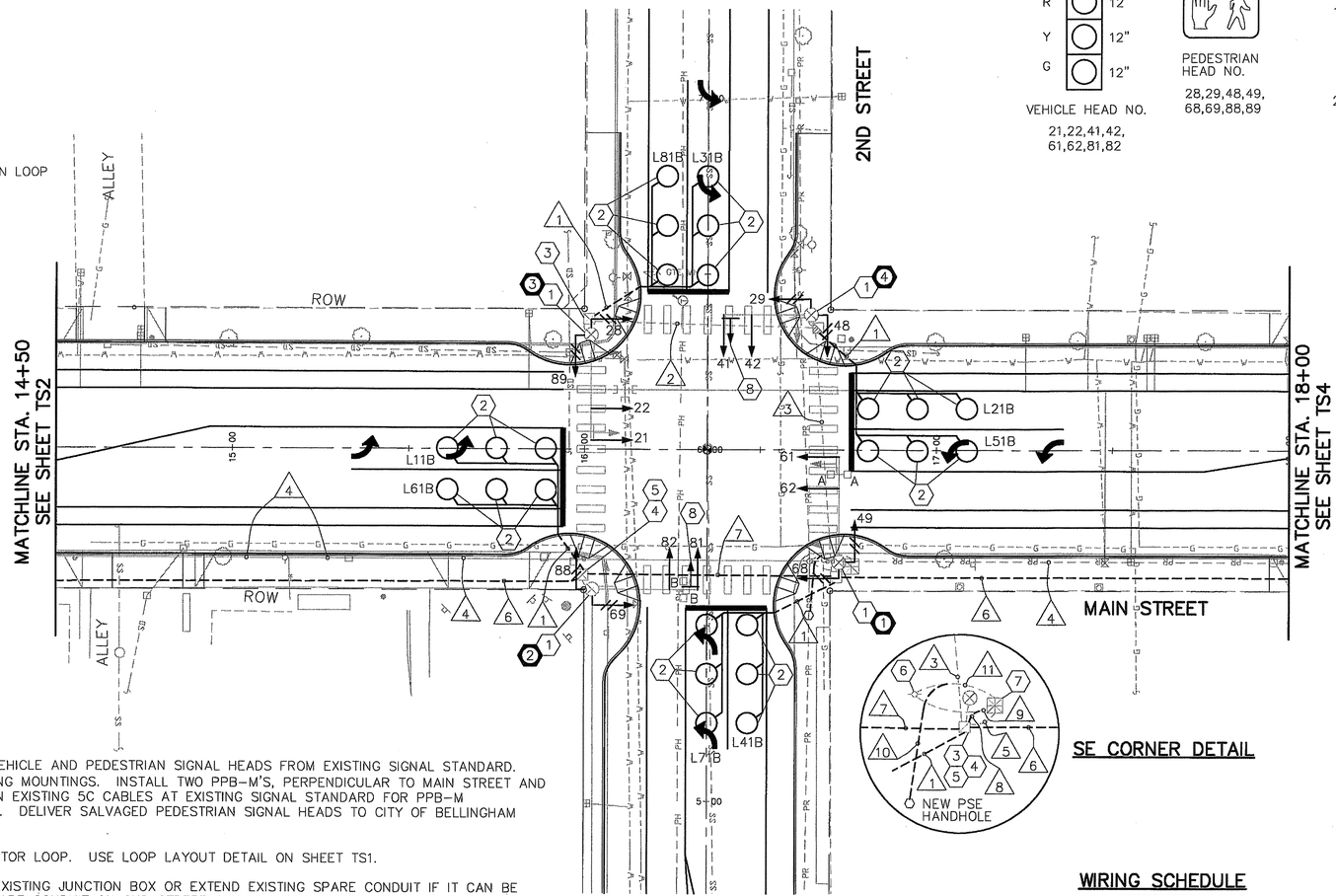
MAIN STREET / 3RD STREET
TRAFFIC SIGNAL MODIFICATION PLAN

TS2

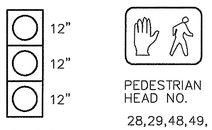
SHEET OF SHEETS

LEGEND

- VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGNAL STANDARD, TYPE II
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- TYPE 3 JUNCTION BOX
- PREEMPTION DETECTOR
- CONDUIT
- 6' ROUND TYPE 2 VEHICLE DETECTION LOOP
- CONTROLLER CABINET
- MAST ARM-MOUNTED TRAFFIC SIGN
- CONSTRUCTION NOTE
- SIGNAL STANDARD NO.
- WIRE NOTE



SIGNAL DISPLAY SCHEDULE



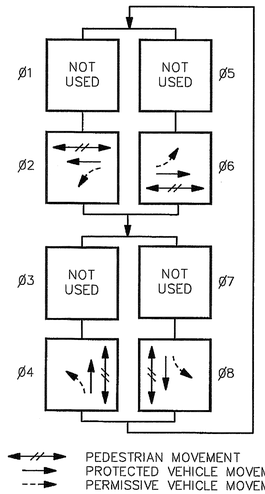
VEHICLE HEAD NO.
21,22,41,42,
61,62,81,82

PEDESTRIAN HEAD NO.
28,29,48,49,
68,69,88,89

DISPLAY NOTES:

1. ALL NEW VEHICLE SIGNAL HEADS SHALL BE CONVENTIONAL HEADS WITH RED AND GREEN LED INDICATIONS AND TUNNEL VISORS. ALL YELLOW INDICATIONS SHALL BE INCANDESCENT. MOUNT HEADS USING EXISTING TYPE M MOUNTS. USE STANDARD PLANS J-6f AND J-6g.
2. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL HAVE LED SYMBOLIC LEGENDS AND 'Z' CRATE VISORS. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL USE MOUNTING TYPE E AT EXISTING MOUNTING LOCATIONS. USE STANDARD PLAN J-6f.

SIGNAL PHASING DIAGRAM



- PEDESTRIAN MOVEMENT
- PROTECTED VEHICLE MOVEMENT
- PERMISSIVE VEHICLE MOVEMENT

NOTE:
PHASES 2 AND 6 ARE HARDWIRED TOGETHER IN THE CONTROLLER CABINET. PHASES 4 AND 8 ARE ALSO HARDWIRED TOGETHER.

SE CORNER DETAIL

CONSTRUCTION NOTES

1. DISCONNECT AND REMOVE ALL EXISTING VEHICLE AND PEDESTRIAN SIGNAL HEADS FROM EXISTING SIGNAL STANDARD. INSTALL NEW SIGNAL HEADS USING EXISTING MOUNTINGS. INSTALL TWO PPB-M'S, PERPENDICULAR TO MAIN STREET AND 2ND STREET. USE SPARE CONDUCTORS IN EXISTING 5C CABLES AT EXISTING SIGNAL STANDARD FOR PPB-M CONNECTIONS. USE STANDARD PLAN J-5. DELIVER SALVAGED PEDESTRIAN SIGNAL HEADS TO CITY OF BELLINGHAM SIGNAL SHOPS.
2. INSTALL 6' ROUND TYPE 2 VEHICLE DETECTOR LOOP. USE LOOP LAYOUT DETAIL ON SHEET TS1.
3. ROUTE NEW LOOP STUBOUT CONDUIT TO EXISTING JUNCTION BOX OR EXTEND EXISTING SPARE CONDUIT IF IT CAN BE FOUND AND IS UNDAMAGED. EXISTING SPARE CONDUIT ON 2ND STREET ONLY.
4. REMOVE AND REPLACE EXISTING JUNCTION BOX IF NECESSARY DUE TO UTILITY TRENCH EXCAVATION. ADJUST JUNCTION BOX TO FINAL GRADE.
5. ROUTE NEW CONDUIT TO EXISTING JUNCTION BOX. INSTALL NEW CONDUCTORS PER WIRING SCHEDULE.
6. COORDINATE WITH PUGET SOUND ENERGY (PSE) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE DISCONNECTION. DISCONNECT AND REMOVE EXISTING POWER AND INTERCONNECT CONDUCTORS AND CONDUIT RISERS FROM EXISTING UTILITY POLE. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. EXISTING UTILITY POLE TO BE REMOVED BY PSE.
7. REMOVE EXISTING SERVICE AND INTERCONNECT CONDUCTORS FROM EXISTING CONTROLLER CABINET. INTERCEPT EXISTING POWER CONDUIT FROM CONTROLLER CABINET FOUNDATION AND EXTEND TO NEW UNDERGROUND POINT OF SERVICE. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. INTERCEPT EXISTING INTERCONNECT CONDUIT FROM CONTROLLER CABINET FOUNDATION AND ROUTE TO EXISTING ADJACENT TYPE 3 JUNCTION BOX. INSTALL AND TERMINATE NEW SERVICE AND INTERCONNECT CONDUCTORS. ROUTE NEW LOOP LEAD-IN CABLES INTO EXISTING CONTROLLER CABINET. TERMINATE CABLES FOR L31B, L41B, L71B AND L81B IN PARALLEL ON PHASE 4 OR 8. TERMINATE CABLES FOR L11B, L21B, L51B AND L61B IN PARALLEL ON PHASE 2 OR 6. INSTALL CANOGO C824 FOUR-CHANNEL DETECTOR AMPLIFIER IN EXISTING RACK. TERMINATE EXISTING SPARE CONDUCTORS FOR PPB CONNECTIONS. COORDINATE WITH STEVE HAUGEN, CITY OF BELLINGHAM, 360-676-6850 FOR CONTROLLER PROGRAMMING REVISIONS.
8. INSTALL 24" X 30" R10-12 "LEFT TURN YIELD ON GREEN" SIGN ON EXISTING MAST ARM SUCH THAT APPROX. 6" OF CLEARANCE IS PROVIDED BETWEEN SIGN AND INSIDE VEHICLE SIGNAL HEAD.

PREEMPTION SCHEDULE

CIRCUIT	PHASE
A	2+6
B	4+8

WIRING SCHEDULE

CONDUIT RUN ⚠	CONDUIT SIZE	NEW CONDUCTORS				REMARKS
		#2	#12 TWISTED PAIRS	2CS	6PR	
1	2"		6			NOTE 1
2	EX. 3"			2		NOTE 2
3	EX. 4"			4		NOTE 2
4	EX. AERIAL					REMOVE EX. INTERCONNECT CABLE
5	EX. 4"					NOTE 2
	EX. 4"					NOTE 2
	EX. 3"			8		NOTE 2
6	2"				1	INTERCONNECT
7	2"			2	1	INTERCONNECT, NOTE 2
8	2"				2	INTERCONNECT
9	EX. 2"				2	INTERCONNECT, NOTE 3
10	1.5"	3				ELECTRICAL SERVICE
11	EX. 1.5"	3				ELECTRICAL SERVICE, NOTE 3

NOTES: 1. EXISTING SPARE CONDUIT(S) MAY BE EXTENDED IF LOCATED UNDAMAGED (2ND ST. ONLY).
2. EXISTING CONDUIT AND CONDUCTORS REMAIN.
3. REMOVE EXISTING CONDUCTORS.

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	11/20/02 RMH				
PROJ. ENGR.					
DRAWING FILE	TS1.DWG				
	DATE	REVISION	BY	APP'D	

City of Ferndale WASHINGTON

CITY OF FERNDALE
2095 Main Street
Ferndale, Washington 98248

ROBERT MARTIN HERMAN — STATE OF WASHINGTON — 20736 — REGISTERED PROFESSIONAL ENGINEER
11-20-02
EXPIRES 01/31/03

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MAIN STREET IMPROVEMENTS
CITY OF FERNDALE

MAIN STREET / 2ND STREET
TRAFFIC SIGNAL MODIFICATION PLAN

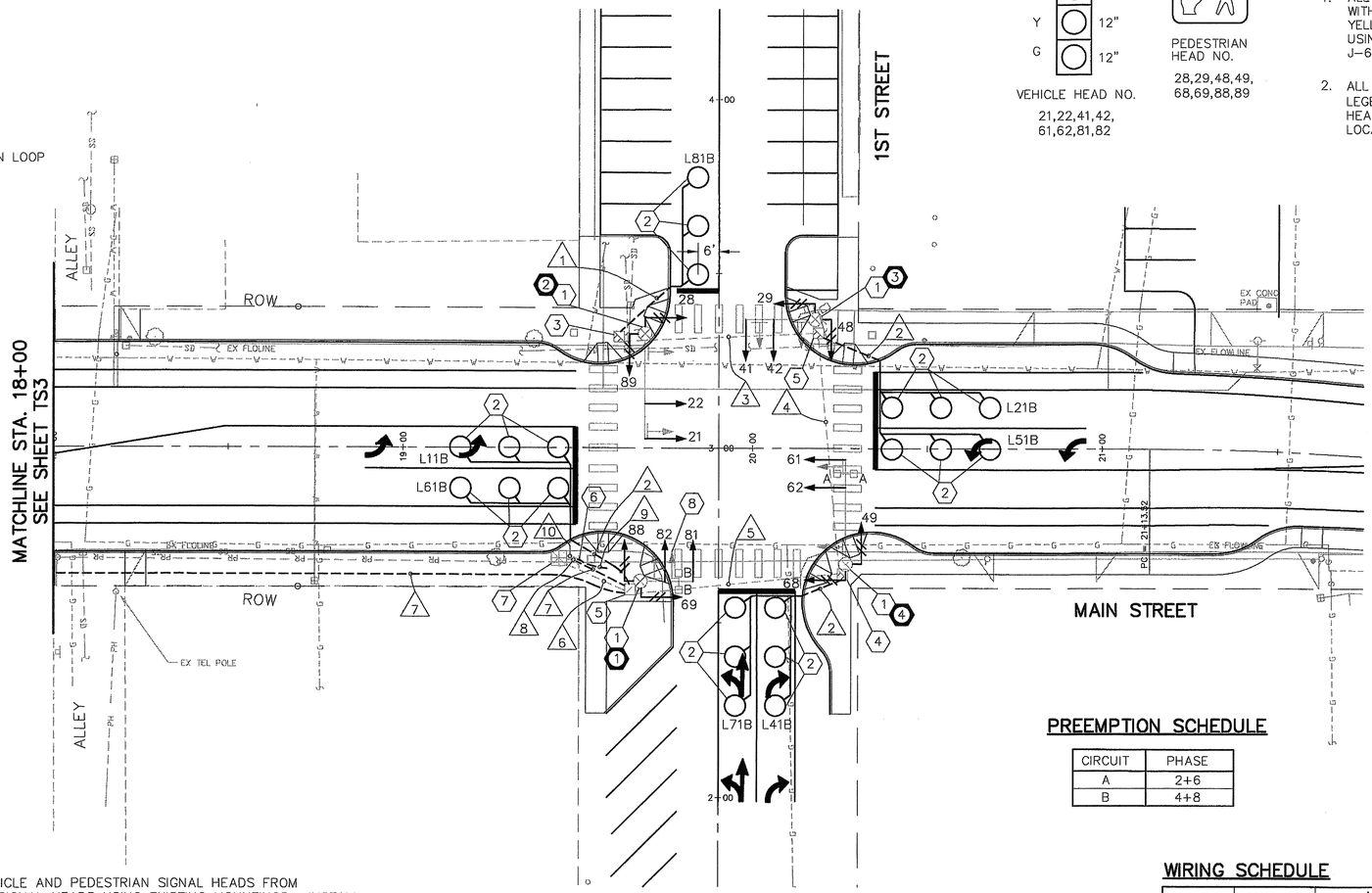
TS3

SHEET OF SHEETS

dr 6.4.5 0078.0040

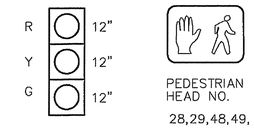
LEGEND

- VEHICLE SIGNAL HEAD
- PEDESTRIAN SIGNAL HEAD
- SIGNAL STANDARD, TYPE II
- TYPE 1 JUNCTION BOX
- TYPE 2 JUNCTION BOX
- TYPE 3 JUNCTION BOX
- PREEMPTION DETECTOR
- CONDUIT
- 6' ROUND TYPE 2 VEHICLE DETECTION LOOP
- CONTROLLER CABINET
- MAST ARM–MOUNTED TRAFFIC SIGN
- CONSTRUCTION NOTE
- SIGNAL STANDARD NO.
- WIRE NOTE



20 0 20 40
scale feet

SIGNAL DISPLAY SCHEDULE



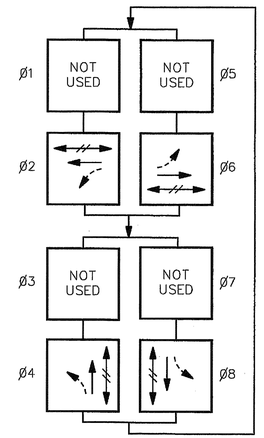
VEHICLE HEAD NO.
21,22,41,42,
61,62,81,82

PEDESTRIAN HEAD NO.
28,29,48,49,
68,69,88,89

DISPLAY NOTES:

1. ALL NEW VEHICLE SIGNAL HEADS SHALL BE CONVENTIONAL HEADS WITH RED AND GREEN LED INDICATIONS AND TUNNEL VISORS. ALL YELLOW INDICATIONS SHALL BE INCANDESCENT. MOUNT HEADS USING EXISTING TYPE M MOUNTS. USE STANDARD PLANS J–6f AND J–6g.
2. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL HAVE LED SYMBOLIC LEGENDS AND 'Z' CRATE VISORS. ALL NEW PEDESTRIAN SIGNAL HEADS SHALL USE MOUNTING TYPE E AT EXISTING MOUNTING LOCATIONS. USE STANDARD PLAN J–6f.

SIGNAL PHASING DIAGRAM



- PEDESTRIAN MOVEMENT
- PROTECTED VEHICLE MOVEMENT
- PERMISSIVE VEHICLE MOVEMENT

PREEMPTION SCHEDULE

CIRCUIT	PHASE
A	2+6
B	4+8

NOTE:
PHASES 2 AND 6 ARE HARDWIRED TOGETHER IN THE CONTROLLER CABINET. PHASES 4 AND 8 ARE ALSO HARDWIRED TOGETHER.

CONSTRUCTION NOTES

(1) DISCONNECT AND REMOVE ALL EXISTING VEHICLE AND PEDESTRIAN SIGNAL HEADS FROM EXISTING SIGNAL STANDARD. INSTALL NEW SIGNAL HEADS USING EXISTING MOUNTINGS. INSTALL PPB–M ON EXISTING SIGNAL STANDARD PERPENDICULAR TO 1ST STREET. USE SPARE CONDUCTORS IN EXISTING 5C CABLE AT EXISTING SIGNAL STANDARD TO MAKE PPB CONNECTIONS. USE STANDARD PLAN J–5. DELIVER SALVAGED PEDESTRIAN SIGNAL HEADS TO CITY OF BELLINGHAM SIGNAL SHOPS.

(2) INSTALL 6' ROUND TYPE 2 VEHICLE DETECTOR LOOP. USE LOOP LAYOUT DETAIL ON SHEET TS1.

(3) ROUTE NEW LOOP STUBOUT CONDUIT TO EXISTING JUNCTION BOX OR EXTEND EXISTING LOOP STUB OUT CONDUIT IF IT CAN BE FOUND AND IS UNDAMAGED. DISCONNECT EXISTING LOOP WIRES FROM EXISTING LOOP LEAD–IN CABLE INSIDE EXISTING JUNCTION BOX. REMOVE EXISTING LOOP WIRES. SPLICE NEW LOOP WIRES TO EXISTING LOOP LEAD–IN CABLE.

(4) REMOVE AND REPLACE EXISTING JUNCTION BOX IF NECESSARY DUE TO UTILITY TRENCH EXCAVATION. ROUTE NEW LOOP STUBOUT CONDUIT TO EXISTING JUNCTION BOX OR EXTEND EXISTING LOOP STUB OUT CONDUIT IF IT CAN BE FOUND AND IS UNDAMAGED. DISCONNECT EXISTING LOOP WIRES FROM EXISTING LOOP LEAD–IN CABLE INSIDE EXISTING JUNCTION BOX. REMOVE EXISTING LOOP WIRES. SPLICE NEW LOOP WIRES (L71B) TO EXISTING LOOP LEAD–IN CABLE. SPLICE NEW LOOP WIRES (L41B) TO NEW LOOP LEAD–IN CABLE. ADJUST JUNCTION BOX TO FINAL GRADE.

(5) ROUTE NEW CONDUIT TO EXISTING JUNCTION BOX. INSTALL NEW CONDUCTORS PER WIRING SCHEDULE. ADJUST JUNCTION BOX TO FINAL GRADE.

CONSTRUCTION NOTES (CONTINUED)

(6) COORDINATE WITH PUGET SOUND ENERGY (PSE) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE DISCONNECTION. DISCONNECT AND REMOVE EXISTING POWER AND INTERCONNECT CONDUCTORS AND CONDUIT RISERS FROM EXISTING UTILITY POLE. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. EXISTING UTILITY POLE TO BE REMOVED BY PSE.

(7) REMOVE EXISTING SERVICE AND INTERCONNECT CONDUCTORS FROM EXISTING CONTROLLER CABINET. INTERCEPT EXISTING POWER CONDUIT FROM CONTROLLER CABINET FOUNDATION AND EXTEND TO NEW UNDERGROUND POINT OF SERVICE. COORDINATE WITH PSE FOR NEW SERVICE CONNECTION. INTERCEPT EXISTING INTERCONNECT CONDUIT FROM CONTROLLER CABINET FOUNDATION AND ROUTE TO EXISTING ADJACENT TYPE 3 JUNCTION BOX. INSTALL AND TERMINATE NEW SERVICE AND INTERCONNECT CONDUCTORS. ROUTE NEW LOOP LEAD–IN CABLES INTO EXISTING CONTROLLER CABINET. TERMINATE CABLES FOR L41B, L71B AND L81B IN PARALLEL ON PHASE 4 OR 8. TERMINATE CABLES FOR L11B, L21B, L51 AND L61B IN PARALLEL ON PHASE 2 OR 6. COORDINATE WITH STEVE HAUGEN, CITY OF BELLINGHAM, 360–676–6850 FOR CONTROLLER PROGRAMMING REVISIONS.

(8) REMOVE EXISTING LANE USE CONTROL SIGN FROM SIGNAL MAST ARM.

WIRING SCHEDULE

CONDUIT RUN △	CONDUIT SIZE	NEW CONDUCTORS #2	NEW CONDUCTORS #12 TWISTED PAIRS	NEW CONDUCTORS 2CS	NEW CONDUCTORS 6PR	REMARKS
1	2"		3			NOTE 1
2	2"		6			NOTE 1
3	EX. 3"					NOTE 2
4	EX. 4"			2		NOTE 2
5	EX. 3"			3		NOTE 2
6	EX. 4"					NOTE 2
	EX. 4"					NOTE 2
	EX. 3"			5		NOTE 2
7	2"				1	INTERCONNECT
8	EX. 2"				1	INTERCONNECT, NOTE 3
9	1.5"	3				ELECTRICAL SERVICE
10	EX. 1.5"	3				ELECTRICAL SERVICE, NOTE 3

NOTES:
1. EXISTING LOOP STUB OUT CONDUIT(S) MAY BE EXTENDED IF LOCATED UNDAMAGED (1ST ST. ONLY).
2. EXISTING CONDUIT AND CONDUCTORS REMAIN.
3. REMOVE EXISTING CONDUCTORS.

DRAWN	RMH				
DESIGNED	RMH				
CHECKED	11/20/02 RMH				
PROJ. ENGR.					
DRAWING FILE	TS1.DWG				
		DATE	REVISION	BY	APP'D

CITY OF FERNDALE
2095 Main Street
Ferndale, Washington 98248

ROBERT MARTIN HERMAN — STATE OF WASHINGTON — 30730 — REGISTERED PROFESSIONAL ENGINEER — 11-20-02 — EXPIRES 01/31/03

HTE HERMAN TRAFFIC ENGINEERING
15324 Southeast 133rd Court, Renton, Washington 98059
425-277-1740 tel. 425-277-5718 fax hte@attbi.com

MAIN STREET IMPROVEMENTS
CITY OF FERNDALE

MAIN STREET / 1ST STREET
TRAFFIC SIGNAL MODIFICATION PLAN

TS4

SHEET OF SHEETS

00878.099 5.4.09 KB