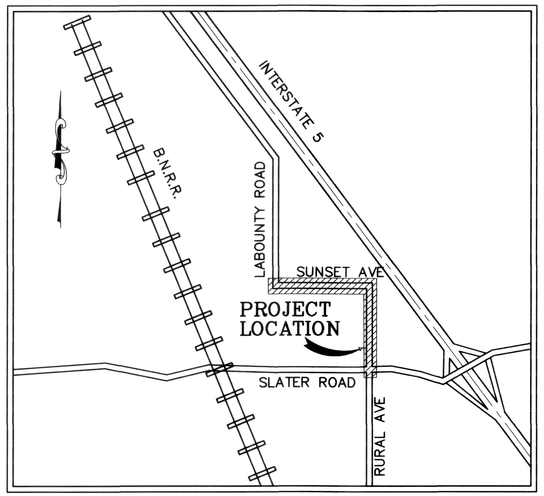
RURAL & SUNSET AVENUES STREET IMPROVEMENTS

CITY OF FERNDALE

VICINITY MAP



NTS

SHEET INDEX

LEGEND

- = FND ALUMINUM CAP MON
- = EXIST SD CATCH BASIN
- = EXIST SANITARY SEWER MANHOLE
- = EXIST FIRE HYDRANT
- = EXIST WATER METER
- = EXIST WATER VALVE
- = EXIST POWER/AND OR UTILITY POLE
- = EXIST TELEPHONE PEDESTAL
- = EXIST MAIL BOX
- = EXIST SIGN
- = EXIST LANDSCAPING
- = EXIST GUY WIRE
- = EXIST SANITARY SEWER
- SD = EXIST STORM DRAIN
- = EXIST WATER MAIN
- = EXIST FENCE
- = EXIST DITCH CL
- = EXIST CULVERT
- = EXIST EDGE OF PAVEMENT
- = EXIST TOP OF BANK
- = EXIST POWER LINE
- = EXIST TOE OF BANK
- = PROP SAWCUT
- = PROP ROCKWALL
- = PROP STORM DRAIN CATCH BASIN
- SD = PROP STORM DRAIN
- SS = PROP SANITARY SEWER
- = PROP SEWER MANHOLE
- W = PROP WATERMAIN
- = PROP HYDRANT
- = PROP WATER METER
- = PROP WATER VALVE
- = PROP REPAIR COUPLER

"I HEREBY CERTIFY THAT THE IMPROVEMENTS IN RURAL & SUNSET AVENUES STREET IMPROVEMENTS PROJECT HAVE BEEN INSPECTED BY REICHHARDT & EBE ENGINEERING, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS"

Dale L. Buss — STATE OF WASHINGTON — 38304 — REGISTERED PROFESSIONAL ENGINEER — 8/1/05

EXPIRES 2/16/07

DATE: 7-29-05 **AS-BUILT**

FA NO. REV-8041(001)

DESIGNED BY	DLB
DRAWN BY	LMC
CHECKED BY	GDE

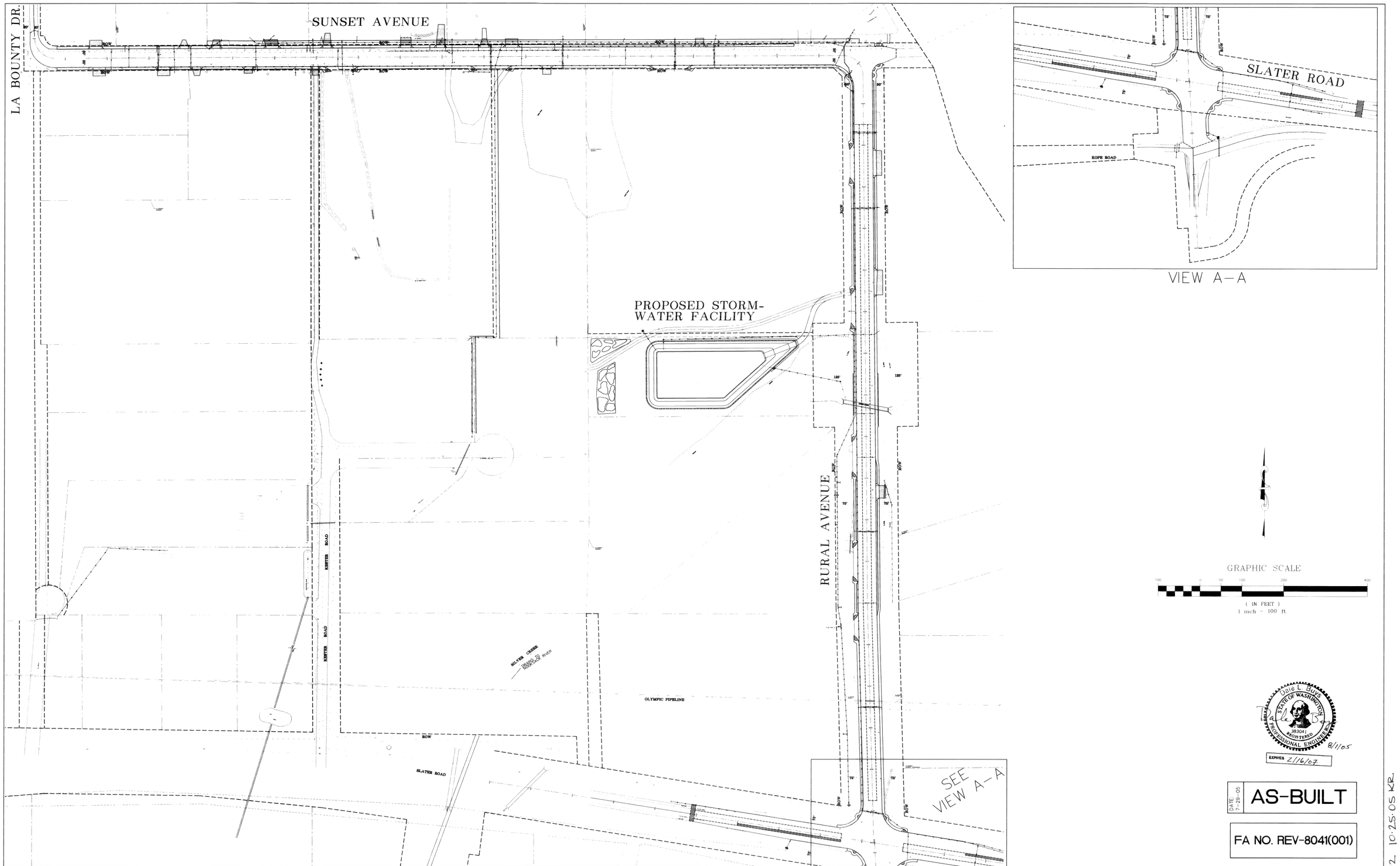
R&E REICHHARDT & EBE ENGINEERING, INC.
CONSULTING ENGINEERS
PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264
Ph (360) 354-3687 Fax (360) 354-0407

NO.	DATE	REVISION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WASHINGTON 98248

RURAL AND SUNSET
STREET IMPROVEMENTS
COVER SHEET

JOB# / DWG		DATE
00010	SP1.AB	6-3-03
SCALE H: n/a	V: n/a	SHEET C1



STATE OF WASHINGTON
DALE L. GUYS
38304
REGISTERED
PROFESSIONAL ENGINEER
8/11/05
EXPIRES 2/16/07

DATE: 7-29-05

AS-BUILT

FA NO. REV-8041(001)

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	RURAL AND SUNSET SITE PLAN	JOB# / DWG 00010 SP1.AB SCALE H:1"=100' V:N/A	DATE 6-3-03 SHEET S1

00182.002 10-25-05 KR

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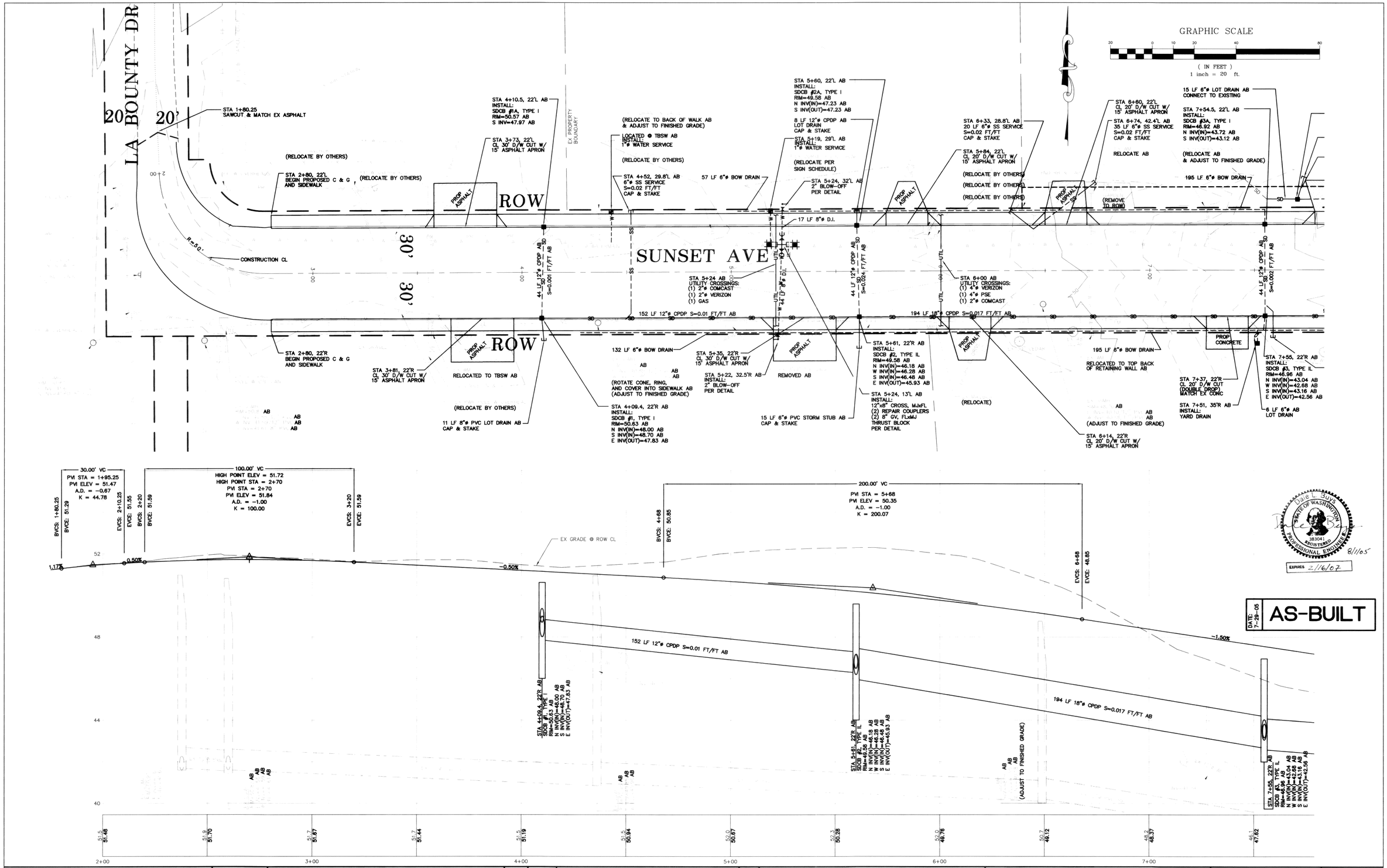

FA NO. REV-8041(001)	DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248

RURAL AND SUNSET STREET IMPROVEMENTS STA 2+00 TO 7+75	JOB# / DWG 00010 SP1.AB	DATE 6-3-03
	SCALE H:1"=20' V:1"=2'	SHEET P1

00182.003 10-25-05 KR

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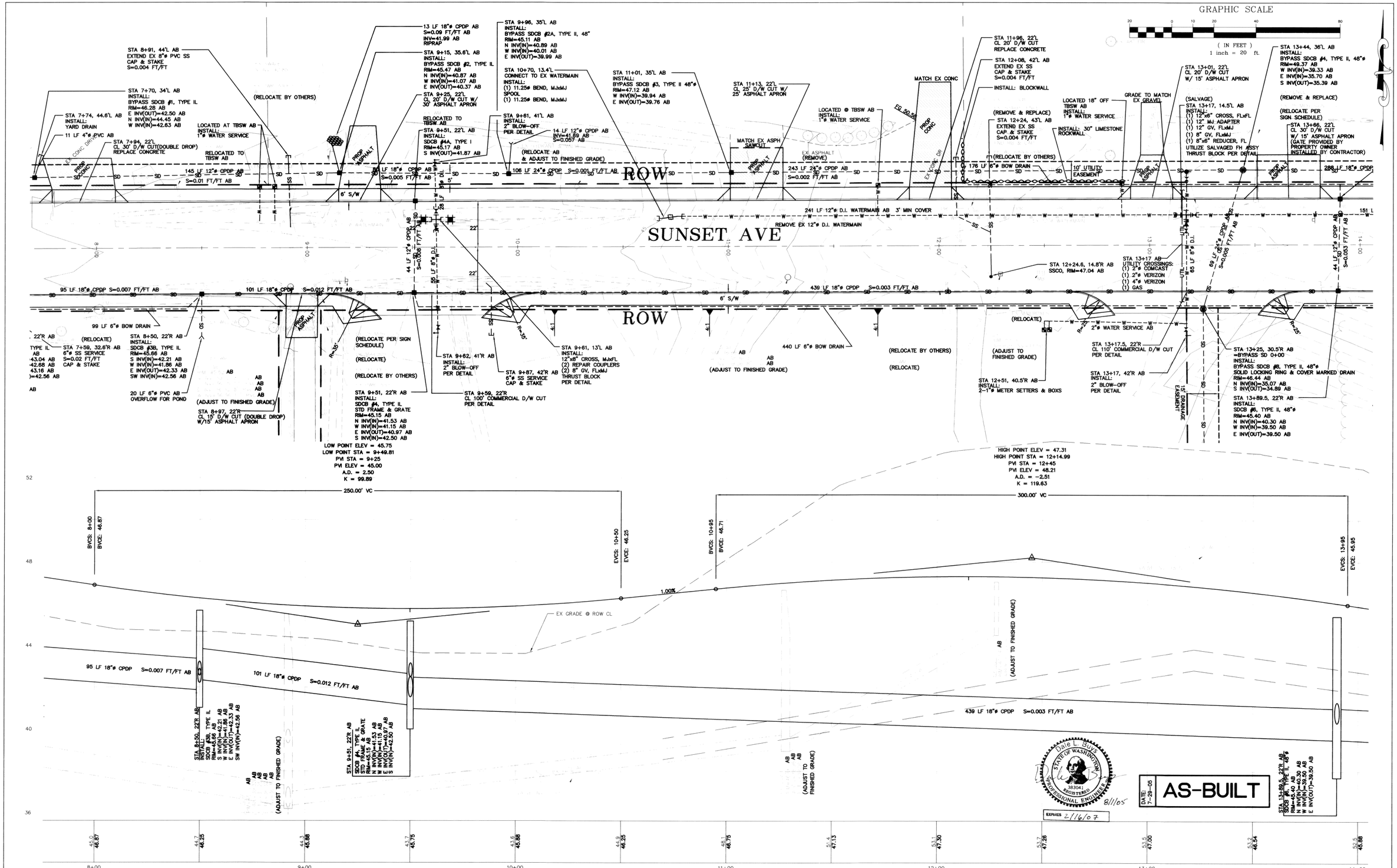

DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E	REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	1 5	3/16/04 4/29/04	SERVICE REVISIONS PER LOUWS ENGINEER SERVICE REVISIONS PER LOUWS ENGINEER	DLB DLB	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248
			NO.	DATE	REVISION	BY	

RURAL AND SUNSET
STREET IMPROVEMENTS
STA 7+75 TO 14+00

JOB# / DWG		DATE
00010	SP1.AB	6-3-03
SCALE H: 1"=20' V: 1"=2'		SHEET P2

00182.004 10-25-05 KR

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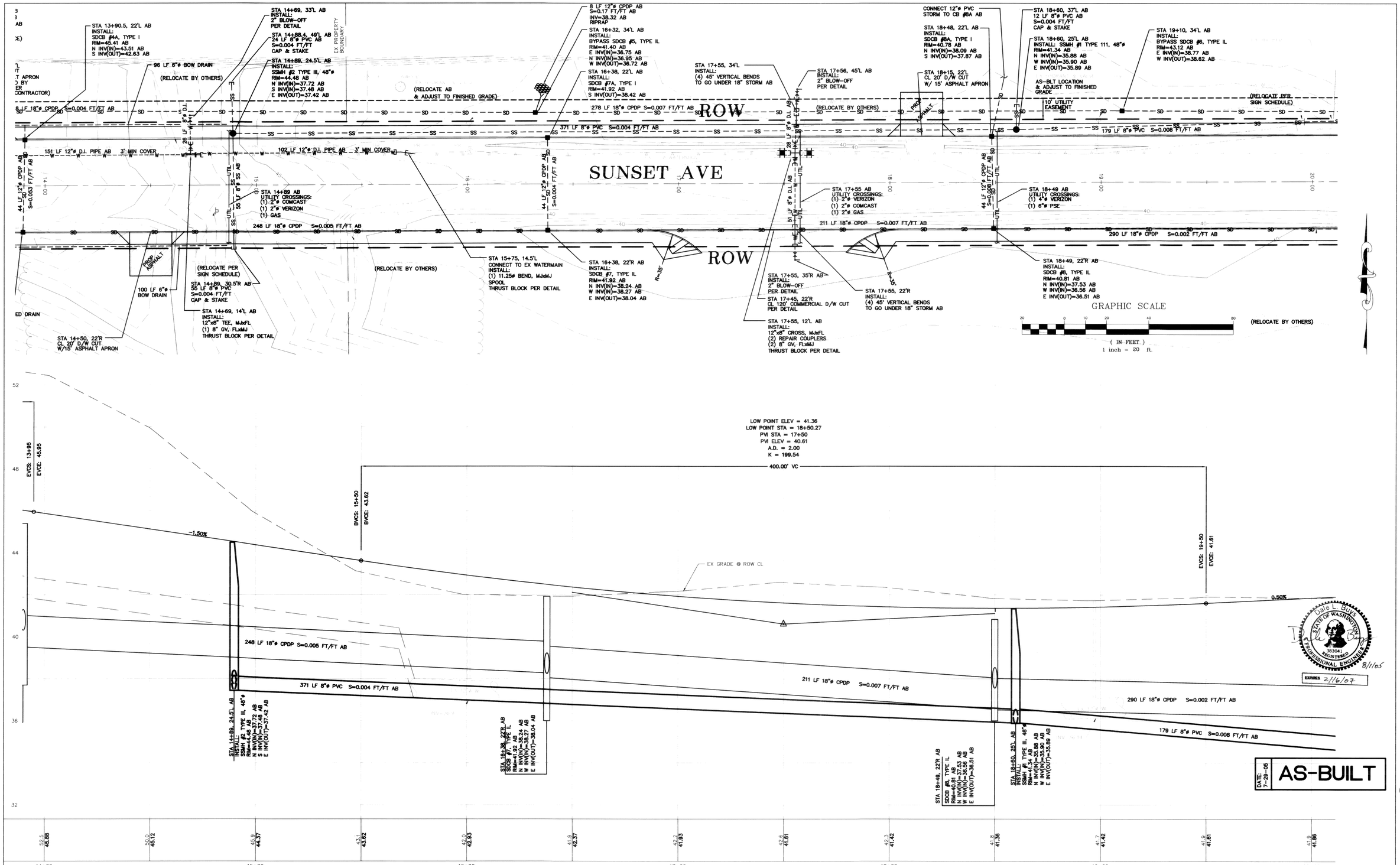

FA NO. REV-8041(001)	DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO. 2	DATE 3/23/04	REVISION: SANITARY SEWER TO GET AWAY FROM UTILITY POLES	BY DLB	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	RURAL AND SUNSET STREET IMPROVEMENTS STA 14+00 TO 20+00	JOB# / DWG 00010 SP1.AB SCALE H: 1"=20' V: 1"=2'	DATE 6-3-03 SHEET P3

00182.005 10-25-05 KR

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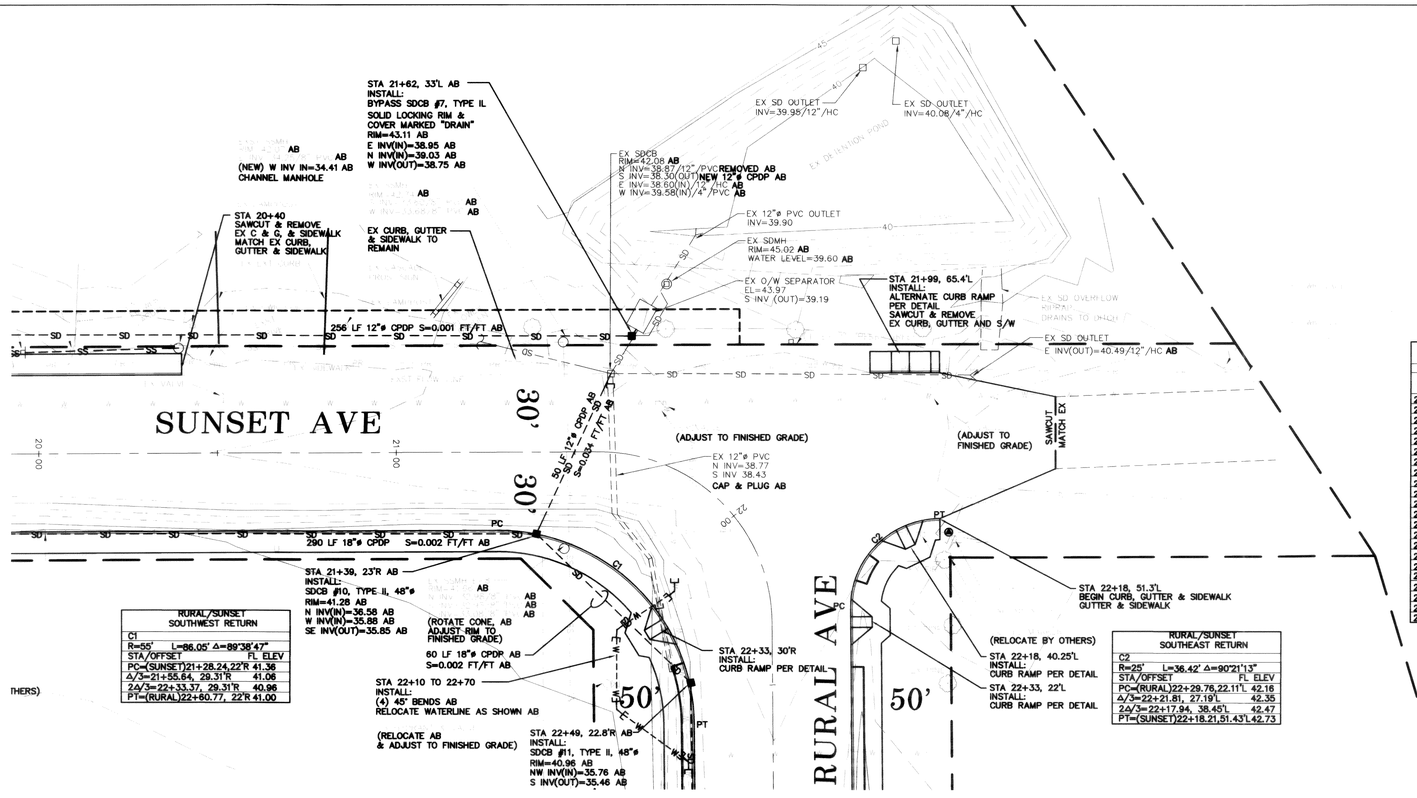


RURAL/SUNSET SOUTHWEST RETURN	
C1	
R=55' L=86.05' Δ=89°38'47"	
STA/OFFSET	FL ELEV
PC=(SUNSET)21+28.24,22'R	41.36
Δ/3=21+55.64, 29.31'R	41.06
2Δ/3=22+33.37, 29.31'R	40.96
PT=(RURAL)22+60.77, 22'R	41.00

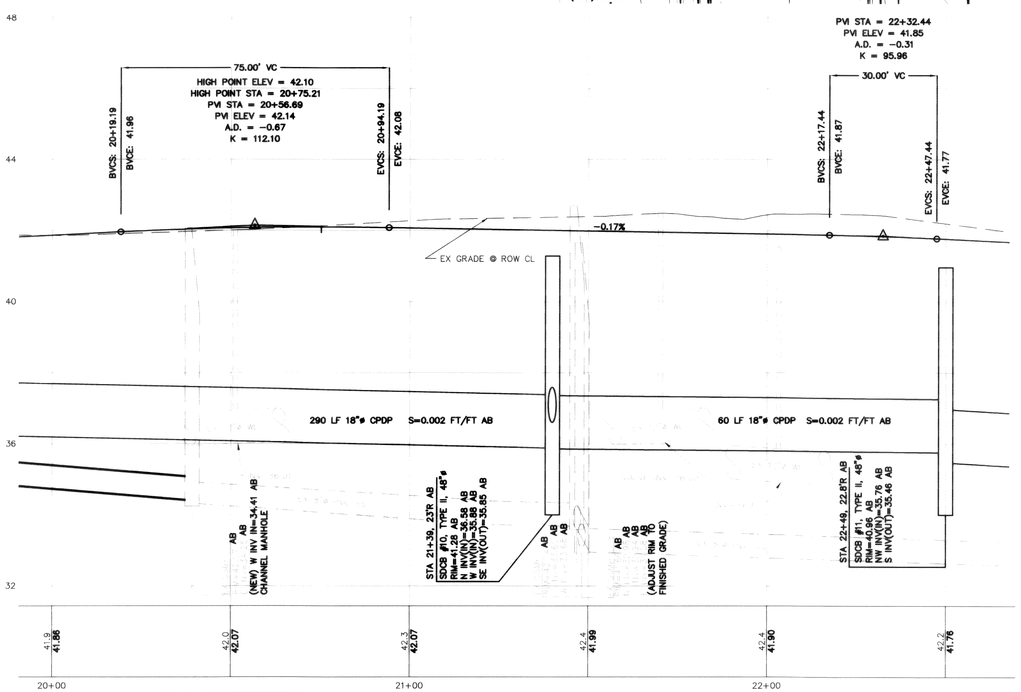
RURAL/SUNSET SOUTHEAST RETURN	
C2	
R=25' L=36.42' Δ=90°21'13"	
STA/OFFSET	FL ELEV
PC=(RURAL)22+29.76,22.11'L	42.16
Δ/3=22+21.81, 27.19'L	42.35
2Δ/3=22+17.94, 38.45'L	42.47
PT=(SUNSET)22+18.21,51.43'L	42.73

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

SUPERELEVATION TABLE FOR RURAL & SUNSET INTERSECTION					
CL CURVE R=48.5' L=75.88' Δ=89°38'47"					
CL STA	DESCRIPTION	CL ELEV	20.5' R EOP ELEV	20.5' L EOP ELEV	NOTE
20+19.06	BVC CL & R EOP	41.96	41.55	41.55	SUBTRACT 0.12' TO GET FL ELEV
20+25		41.98	41.57	41.58	
20+50		42.07	41.65	41.70	
20+63.18	HIGH PT CL & R EOP		41.66		
20+75		42.10	41.65	41.83	
20+94.06	EVC R EOP	42.08	41.60	41.92	
21+00		42.07	41.58	41.95	
21+25		42.03	41.49	42.08	21+28.24 R EOP REFLECTED BY CURB RETURN
21+56.56	PT OF CURVE	41.98	41.38	42.23	LEFT EOP BEGINS SEPARATION FROM CURVE
21+75.53	1/4 Δ	41.94	41.36	42.37	
21+83.52	BVC L EOP			42.42	
21+94.50	MID PT OF CURVE	41.91	41.34	42.48	
21+99.58	HIGH PT L EOP			42.48	
22+13.47	3/4 Δ	41.88	41.31	42.44	
22+32.44	PT OF CURVE	41.85	41.29	42.24	LEFT EOP BACK TO CURB
22+42.83	EVC L EOP			42.12	
22+50		41.76	41.23	42.04	22+60.77 R EOP END CURB RETURN
22+75		41.64	41.14	41.72	
23+02.12	BVC CL & R EOP	41.51	41.05	41.38	
23+25		41.37	40.93	41.10	
23+50		41.16	40.74	40.79	
23+77.12	EVC CL & R EOP	40.86	40.45	40.45	



Dale L. Buss
STATE OF WASHINGTON
38304
REGISTERED
PROFESSIONAL ENGINEER
8/11/05
EXPIRES 2/16/07

DATE: 7-29-05 **AS-BUILT**

FA NO. REV-8041(001)	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	RURAL AND SUNSET STREET IMPROVEMENTS STA 20+00 TO 22+50	JOB# / DWG 00010 SP1.AB	DATE 6-3-03	SCALE H: 1"=20' V: 1"=2'	SHEET P4

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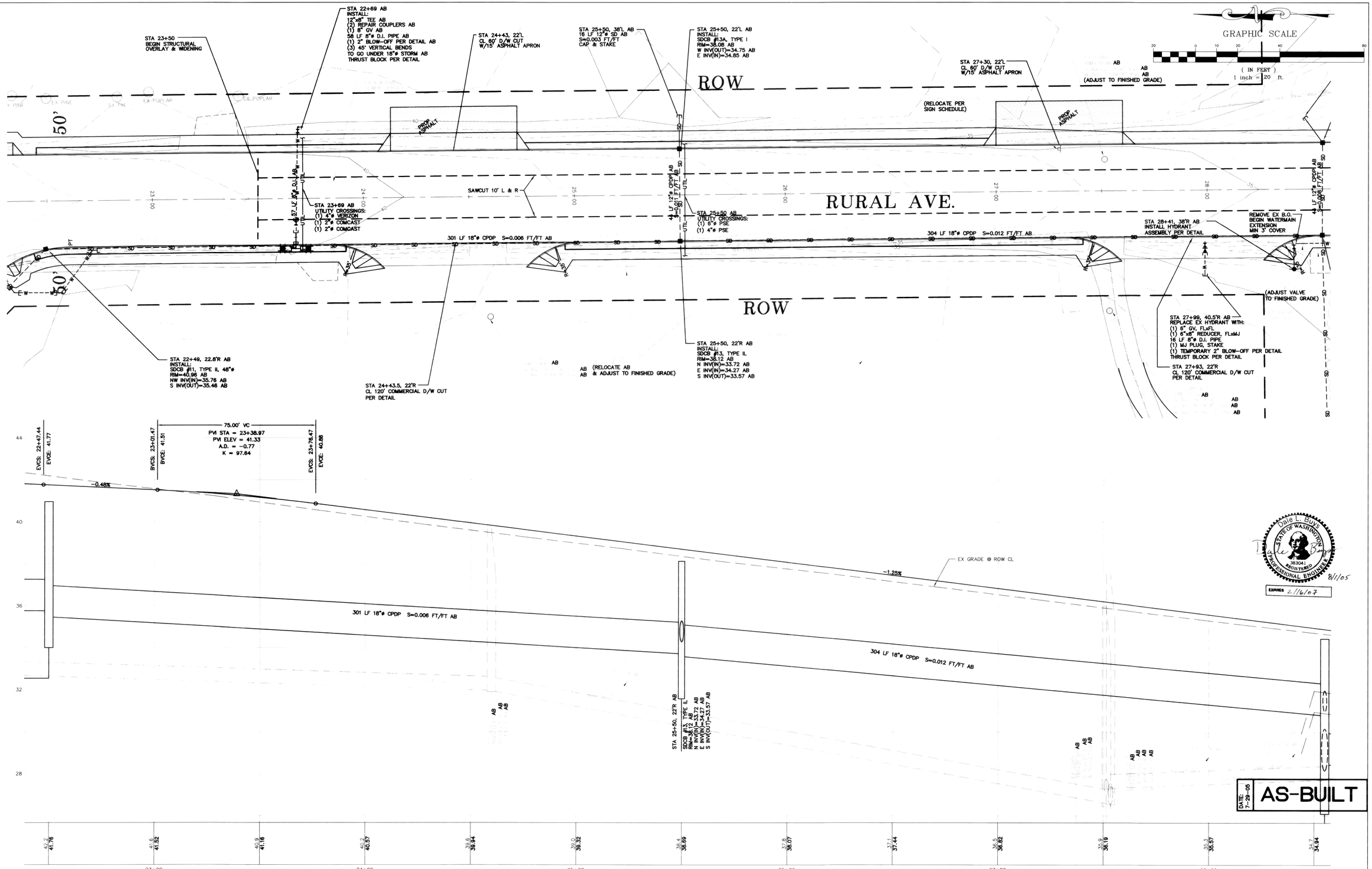

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00182.007 10-25-05 KR

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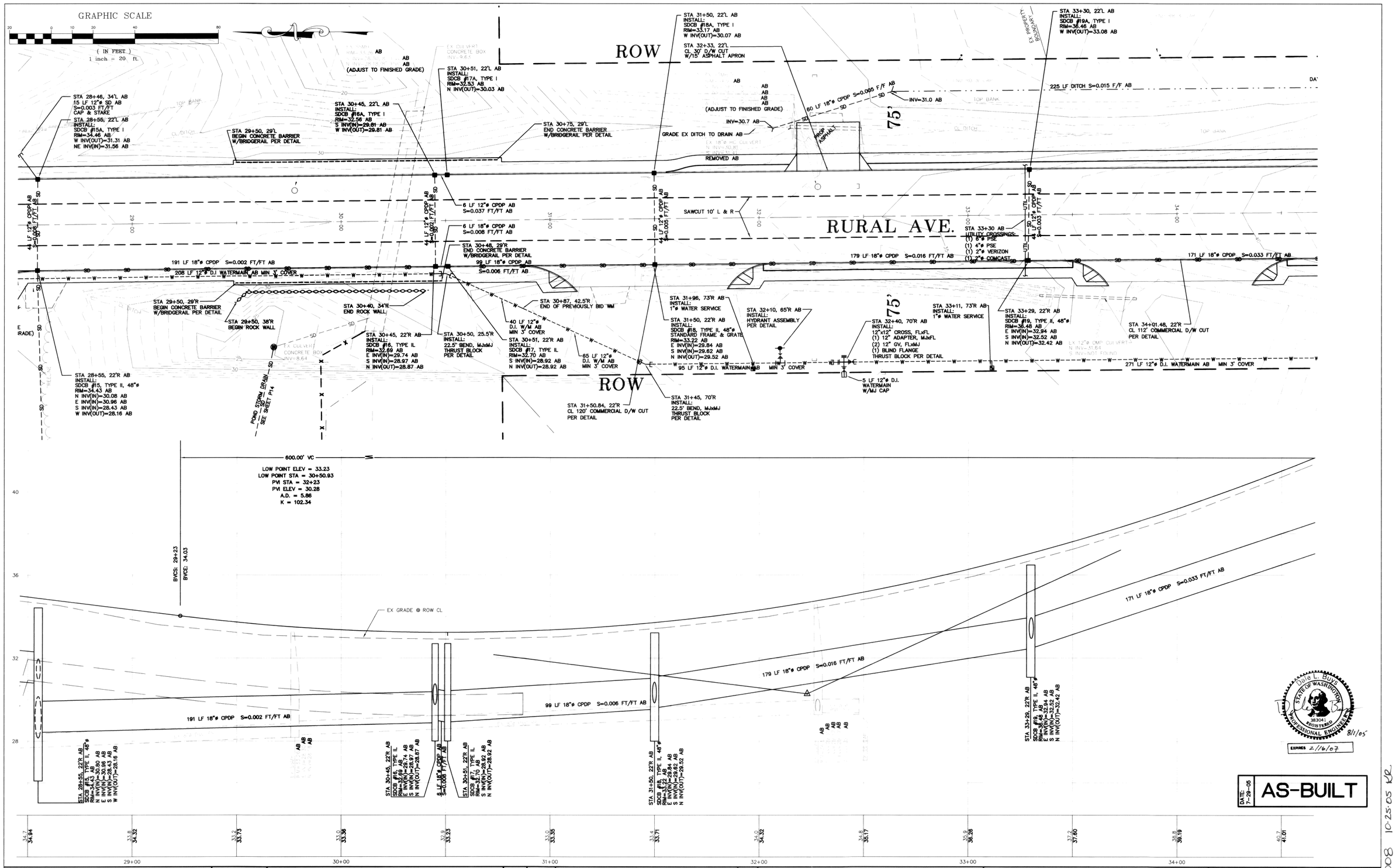

FA NO. REV-8041(001)	DESIGNED BY DLB DRAWN BY LMC CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO. 1, 4	DATE 9-22-03, 4-12-04	REVISION: ADD WM IN FOR CHANGE ORDER PROPOSAL; ADD CALLEN DRIVEWAY CUTS	BY DLB, DLB	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	RURAL AND SUNSET STREET IMPROVEMENTS STA 28+50 TO 34+50	JOB# / DWG 00010 SP1.AB SCALE H: 1"=20' V: 1'=2'	DATE 6-3-03 SHEET P6

00182.008 10-25-05 KR

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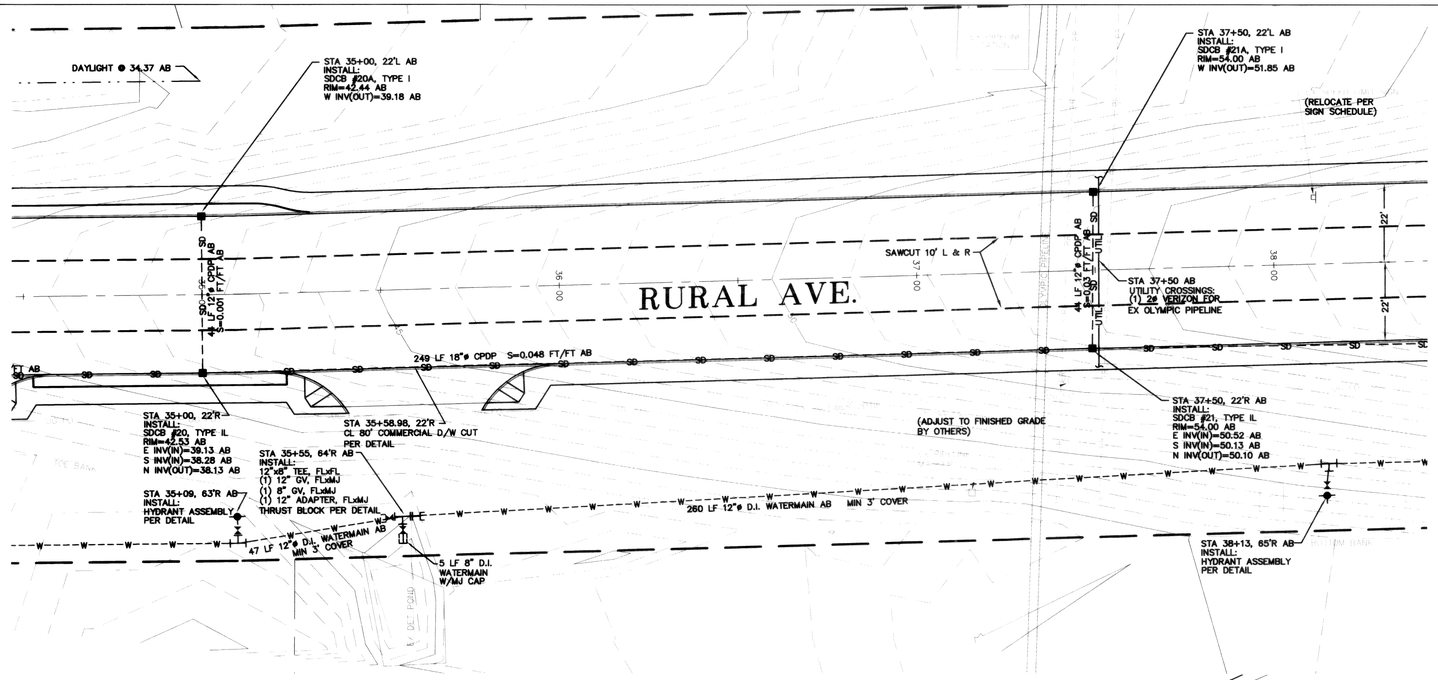

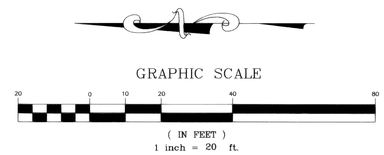

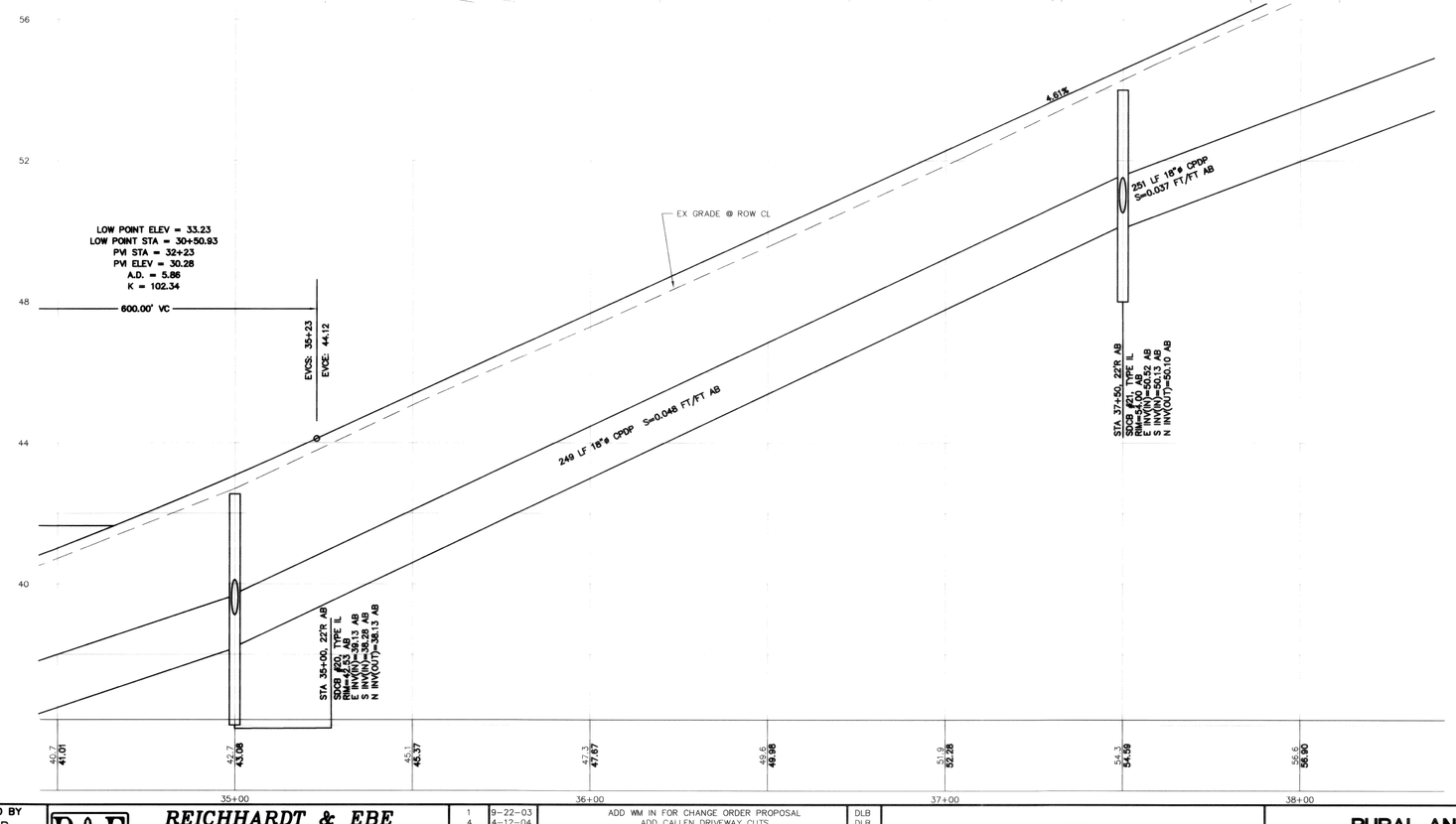

Dale L. Buys
STATE OF WASHINGTON
38304
REGISTERED
PROFESSIONAL ENGINEER
8/1/05
EXPIRES 2/16/07

DATE: 7-29-05 **AS-BUILT**

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00182.009 10-23-05 KR

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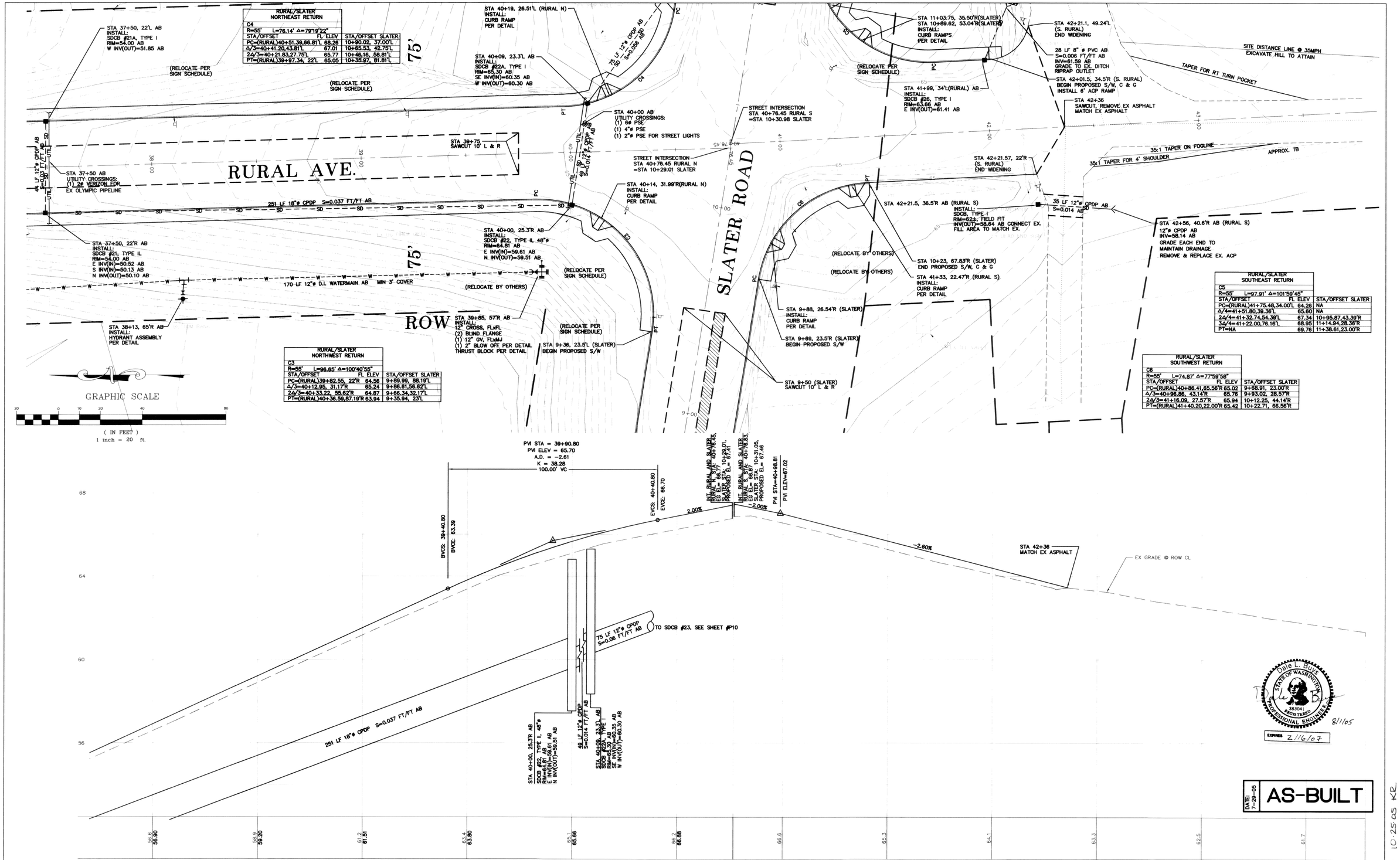

RURAL/SLATER NORTHEAST RETURN		
C4		
R=55' L=76.14' Δ=79°19'22"		
STA/OFFSET	FL ELEV	STA/OFFSET SLATER
PC=(RURAL)40+51.39,66.81'L	68.26	10+90.02, 37.00'L
Δ/3=40+41.20,43.81'L	67.01	10+65.53, 42.75'L
2Δ/3=40+21.83,27.75'L	65.77	10+46.16, 58.81'L
PT=(RURAL)39+97.34, 22'L	65.05	10+35.97, 81.81'L

RURAL/SLATER NORTHWEST RETURN		
C3		
R=55' L=96.65' Δ=100°40'55"		
STA/OFFSET	FL ELEV	STA/OFFSET SLATER
PC=(RURAL)39+82.55, 22'R	64.56	9+89.99, 88.19'L
Δ/3=40+12.95, 31.17'R	65.24	9+86.61,56.62'L
2Δ/3=40+33.22, 55.62'R	64.87	9+66.34,32.17'L
PT=(RURAL)40+36.59,87.19'R	63.94	9+35.94, 23'L

RURAL/SLATER SOUTHEAST RETURN		
C5		
R=55' L=97.91' Δ=101°59'45"		
STA/OFFSET	FL ELEV	STA/OFFSET SLATER
PC=(RURAL)41+75.48,34.00'L	64.26	NA
Δ/4=41+51.80,39.36'L	65.60	NA
2Δ/4=41+32.74,54.39'L	67.34	10+95.87,43.39'R
3Δ/4=41+22.00,76.16'L	68.95	11+14.94,28.36'R
PT=NA	69.76	11+38.61,23.00'R

RURAL/SLATER SOUTHWEST RETURN		
C6		
R=55' L=74.87' Δ=77°59'58"		
STA/OFFSET	FL ELEV	STA/OFFSET SLATER
PC=(RURAL)40+86.41,65.56'R	65.02	9+68.91, 23.00'R
Δ/3=40+96.86, 43.14'R	65.76	9+93.02, 28.57'R
2Δ/3=41+16.09, 27.57'R	65.94	10+12.25, 44.14'R
PT=(RURAL)41+40.20,22.00'R	65.42	10+22.71, 66.56'R

FA NO. REV-8041(001)	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. 1	DATE 9-22-03	REVISION: ADD WM IN FOR CHANGE ORDER PROPOSAL	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	RURAL AND SUNSET STREET IMPROVEMENTS STA 38+00 TO 43+50	JOB# / DWG 00010 SP1.AB SCALE H:1"=20' V:1'=2'	DATE 6-3-03 SHEET P8

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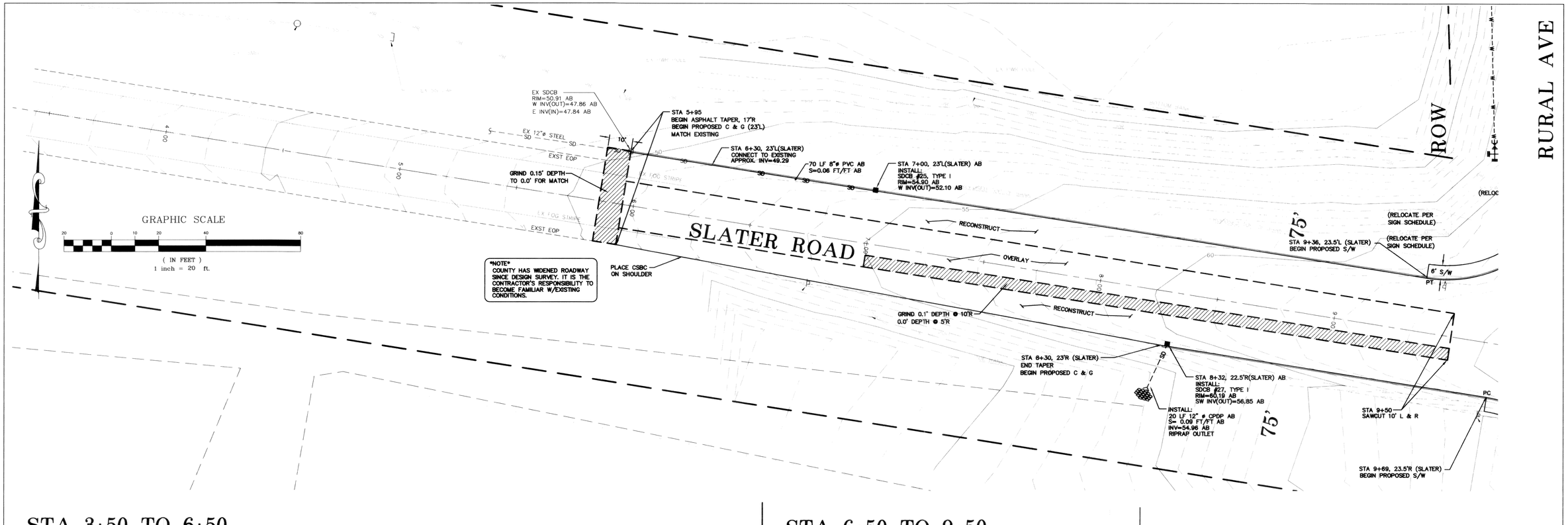
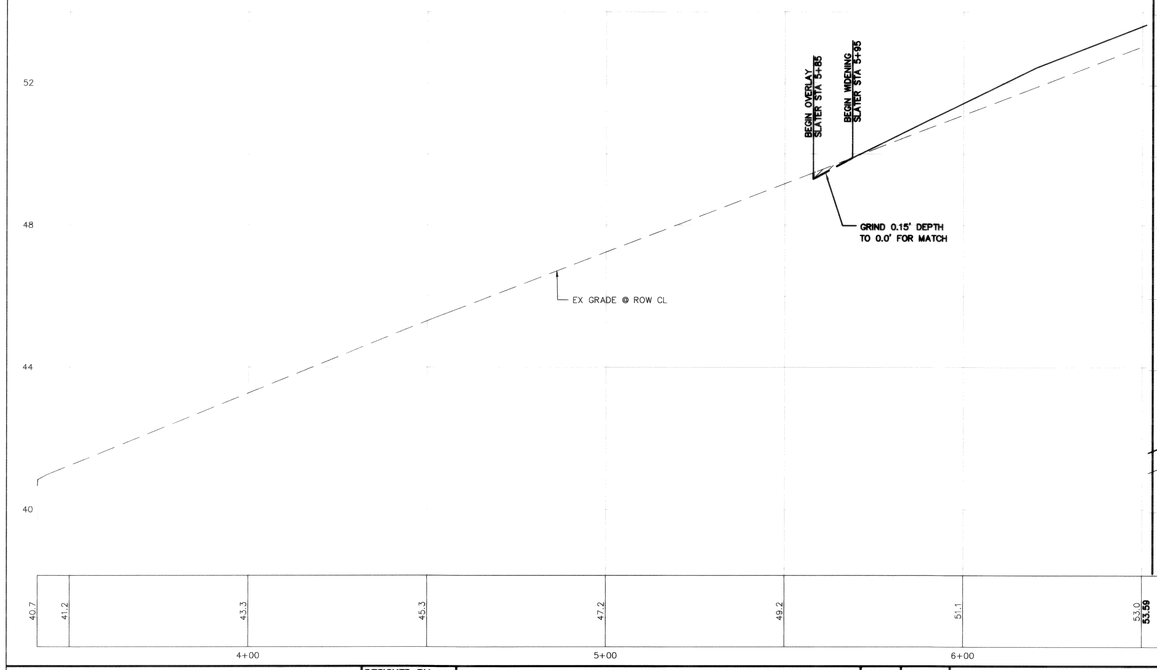
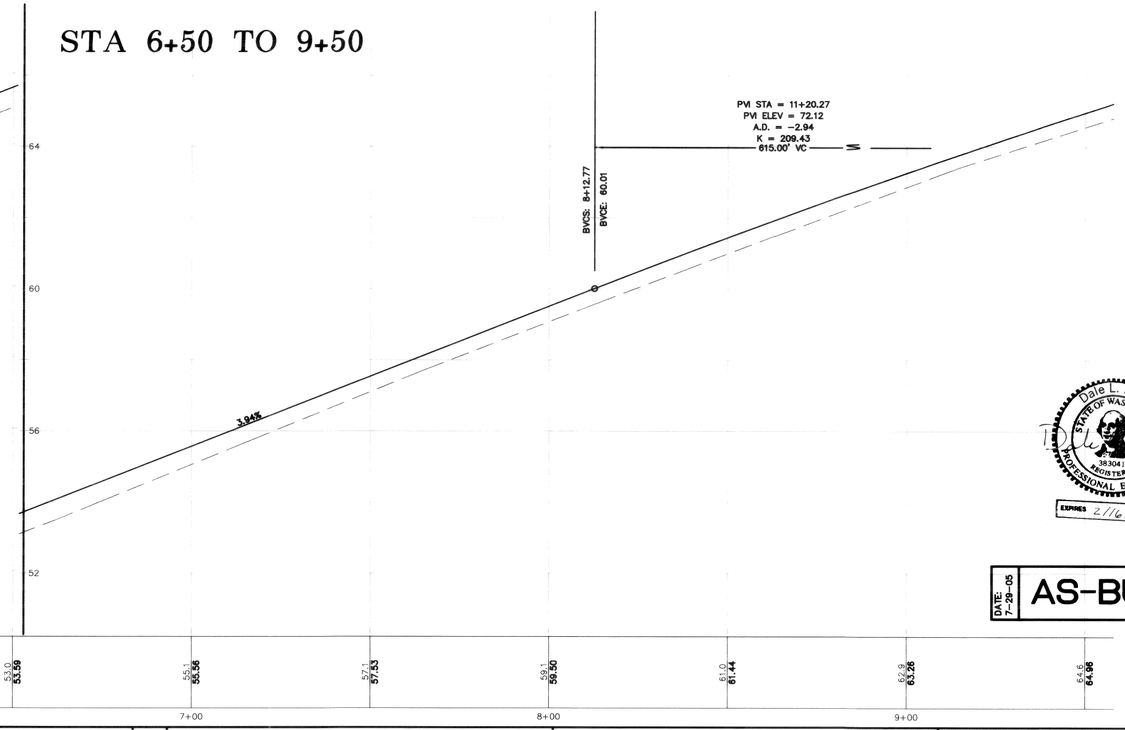


STA 3+50 TO 6+50



STA 6+50 TO 9+50



Dale L. Buys
STATE OF WASHINGTON
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AS-BUILT

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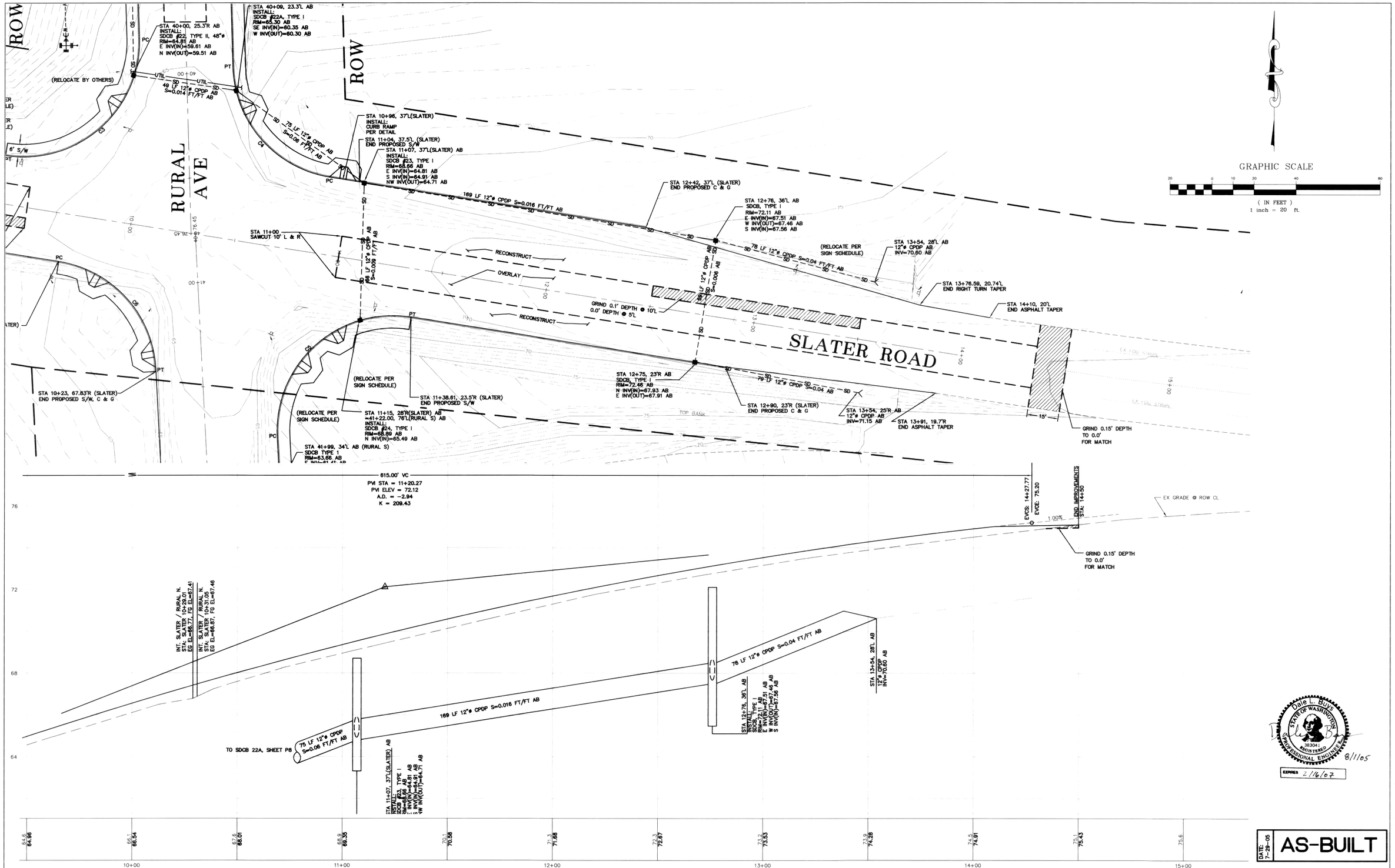

DATE: 7-29-05

AS-BUILT

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JOB# / DWG		DATE
00010	SP1.AB	6-3-03
SCALE H:1"=20' V:1"=2'		SHEET P10

00162.012 10.25.05 KR

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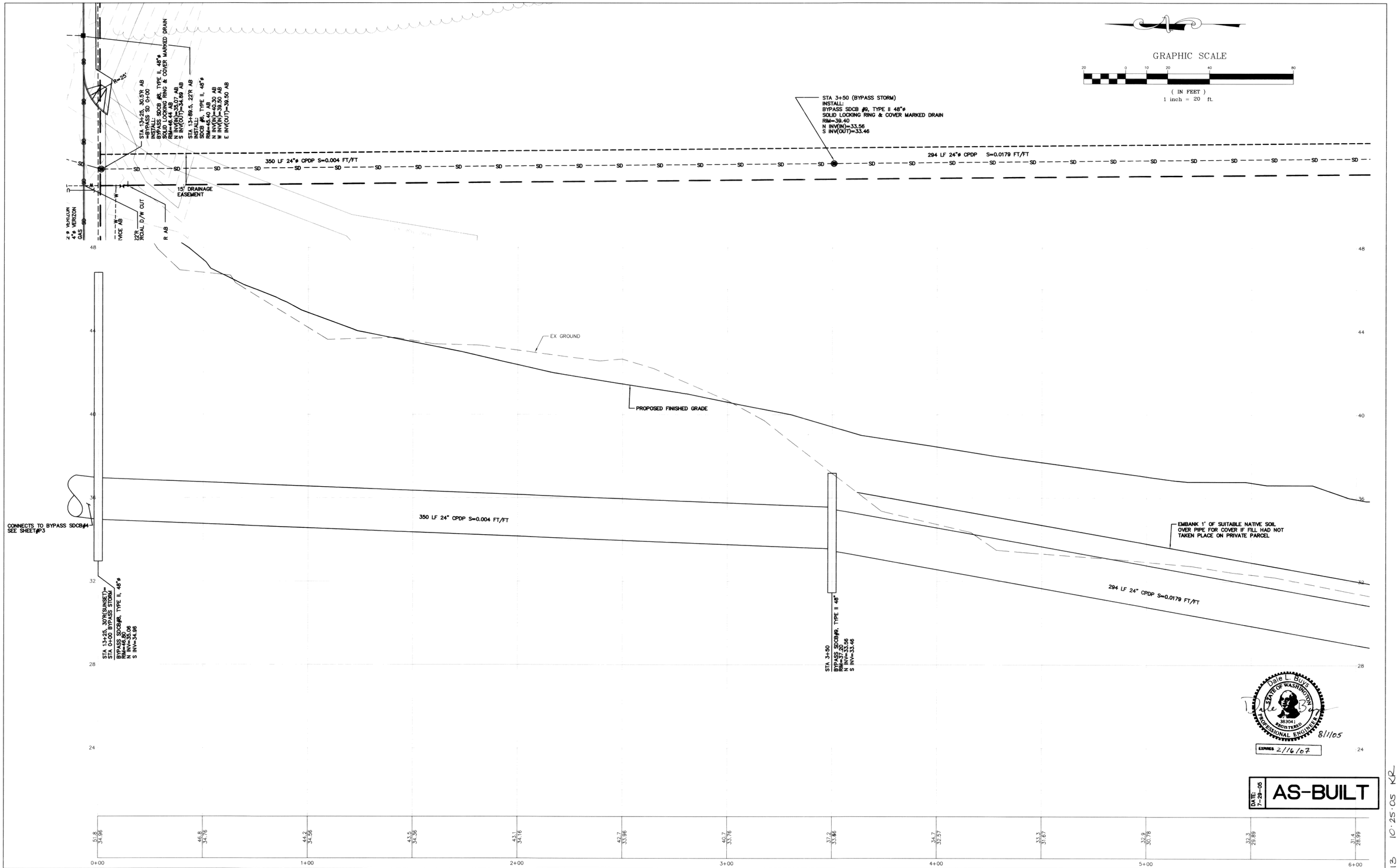

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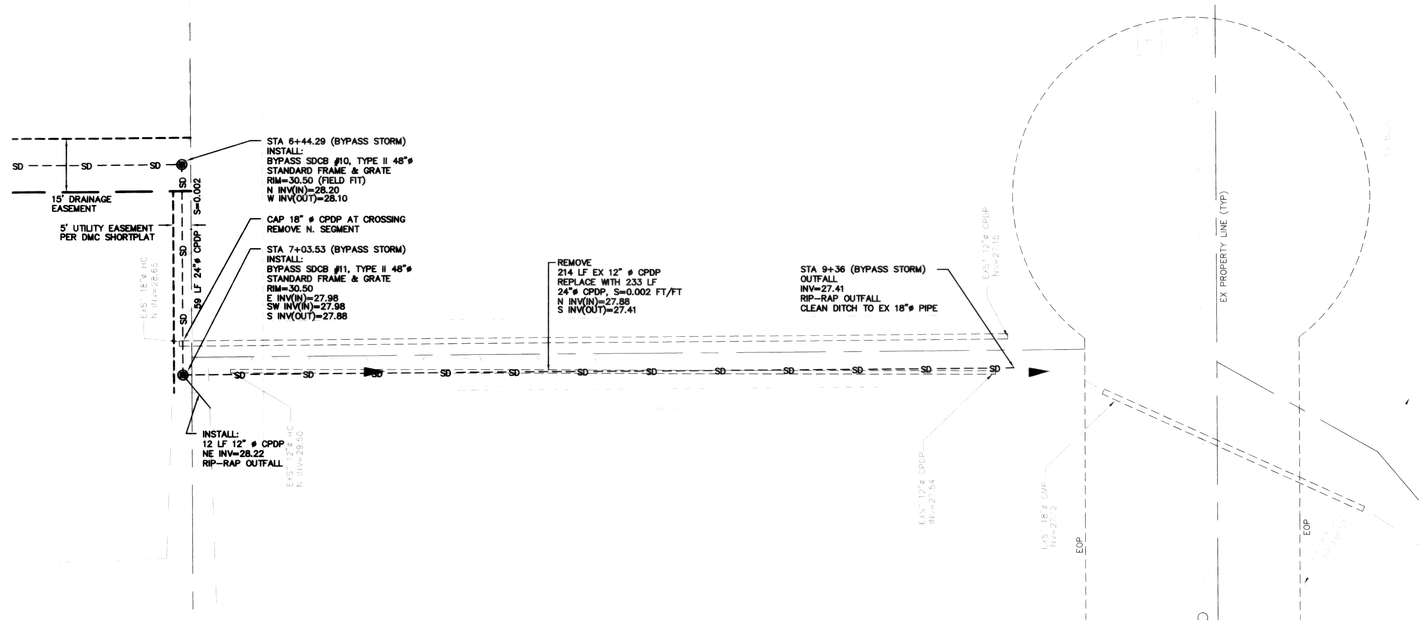

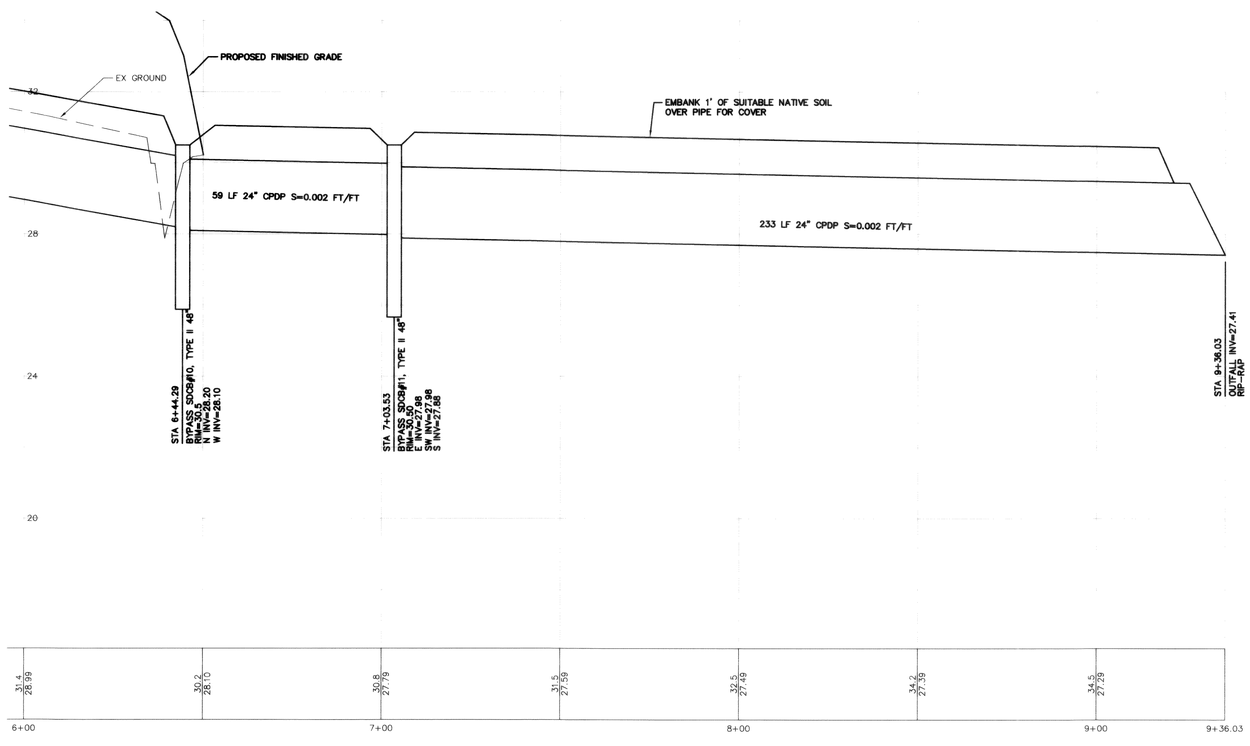

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

Dale L. Buss
STATE OF WASHINGTON
38304
REGISTERED
PROFESSIONAL ENGINEER
8/1/05
EXPIRES 2/16/07

DATE: 7-29-05 **AS-BUILT**

10-25-05 KR

00182.014

FA NO. REV-8041(001)	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. 1	DATE 9-4-03	REVISION: REVISE BYPASS STORM	BY DLB	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	RURAL AND SUNSET BYPASS STORM STA 6+00 TO 9+50

JOB# / DWG		DATE
00010	SP1.AB	6-3-03
SCALE H: 1"=20'	V: 1"=2'	SHEET P12

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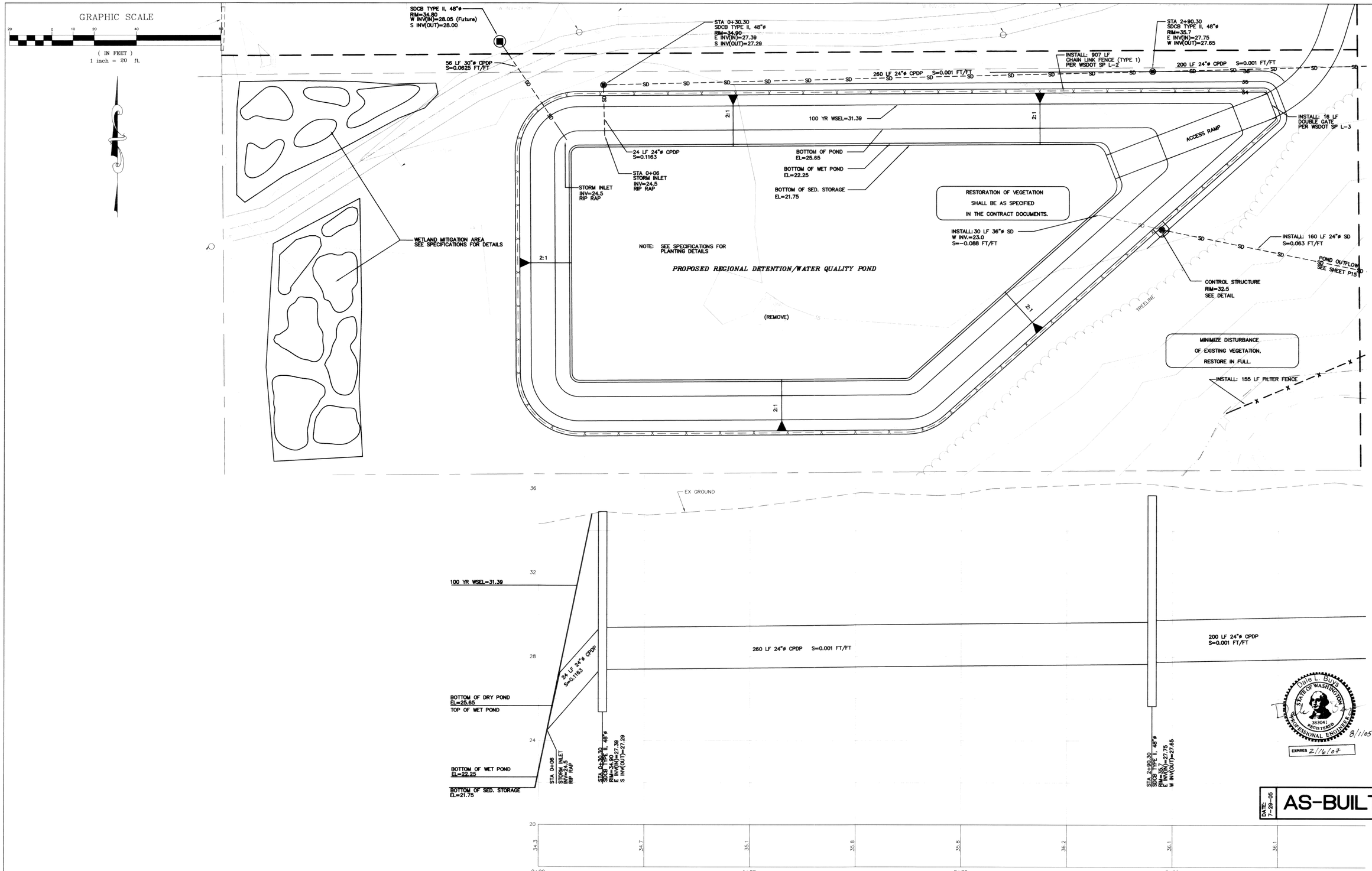

FA NO. REV-8041(001)	DESIGNED BY DLB	DRAWN BY LMC	CHECKED BY GDE	R&E REICHHARDT & EBE ENGINEERING, INC. CONSULTING ENGINEERS PO Box 978 423 Front St., Ste 201 Lynden, Washington 98264 Ph (360) 354-3687 Fax (360) 354-0407	NO.	DATE	REVISION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WASHINGTON 98248	RURAL AND SUNSET STREET IMPROVEMENTS DETENTION POND-INFLOW	JOB# / DWG 00010 SP1.AB	DATE 6-3-03	SCALE H: 1"=20' V: 1"=2'	SHEET P13

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00182.015 10-25-05 KR

GRAPHIC SCALE

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(IN FEET)
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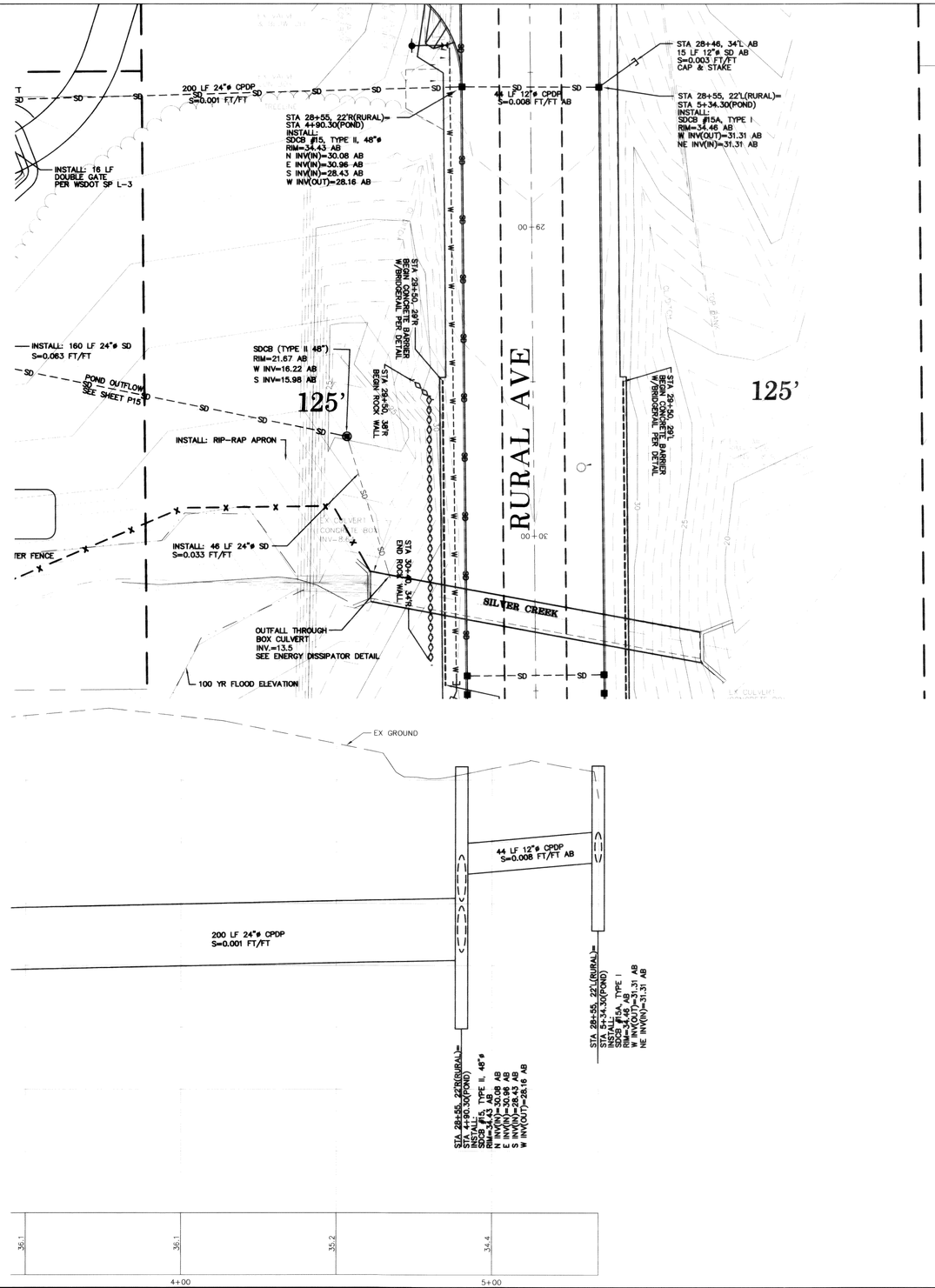

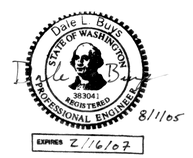

DATE: 7-29-05 **AS-BUILT**

FA NO. REV-8041(001)	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	RURAL AND SUNSET STREET IMPROVEMENTS DETENTION POND-INFLOW	JOB# / DWG 00010 SP1.AB SCALE H:1"=20' V:1"=2' DATE 6-3-03 SHEET P14

C0182.016 10-25-05 KR

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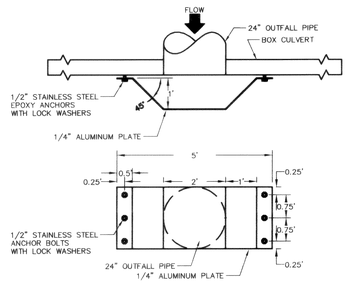
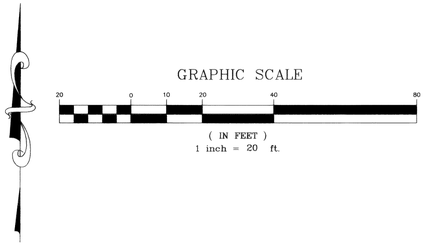
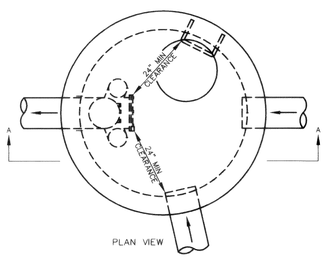
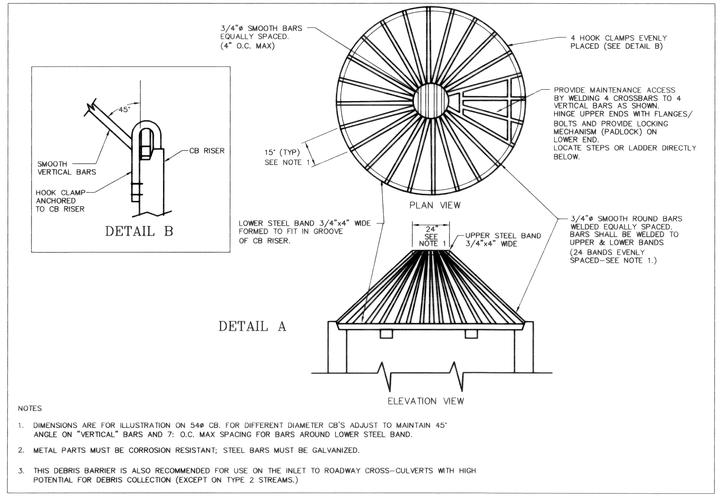


ENERGY DISSIPATOR

NTS

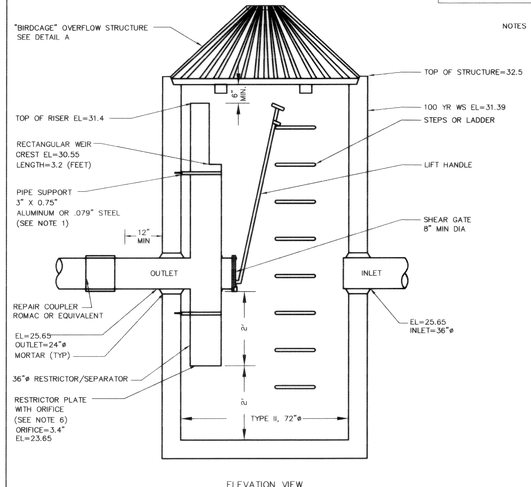






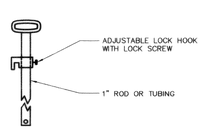
NOTES

1. DIMENSIONS ARE FOR ILLUSTRATION ON 54ø CB. FOR DIFFERENT DIAMETER CB'S ADJUST TO MAINTAIN 45° ANGLE ON "VERTICAL" BARS AND 7" O.C. MAX SPACING FOR BARS AROUND LOWER STEEL BAND.
2. METAL PARTS MUST BE CORROSION RESISTANT; STEEL BARS MUST BE GALVANIZED.
3. THIS DEBRIS BARRIER IS ALSO RECOMMENDED FOR USE ON THE INLET TO ROADWAY CROSS-CULVERTS WITH HIGH POTENTIAL FOR DEBRIS COLLECTION (EXCEPT ON TYPE 2 STREAMS.)

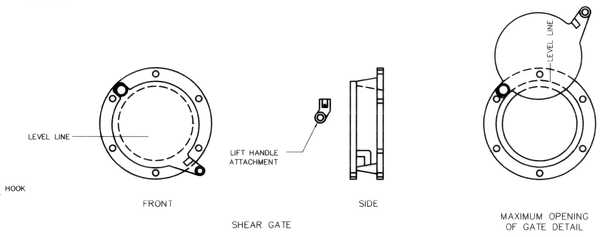


NOTES

1. PIPE SUPPORTS AND RESTRICTOR/SEPARATOR SHALL BE CONSTRUCTED OF THE SAME MATERIAL AND BE ANCHORED AT A MAXIMUM SPACING OF 36". ATTACH PIPE SUPPORTS TO MANHOLE WITH 5/8" STAINLESS STEEL EXPANSION BOLTS OR EMBED SUPPORTS INTO MANHOLE WALL 2".
2. THE FLOW RESTRICTOR/SEPARATOR SHALL BE FABRICATED FROM ONE OF THE FOLLOWING MATERIALS:
   0.60" CORRUGATED ALUMINUM ALLOY DRAIN PIPE
   0.64" CORRUGATED GALVANIZED OR ALUMINIZED STEEL DRAIN PIPE
   0.60" ALUMINUM ALLOY FLAT SHEET, IN ACCORDANCE WITH ASTM B 209M, 5052 H32 OR EPS GALVANIZED STEEL SHALL HAVE TREATMENT 1.
3. FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT: SHEAR GATE IS VISIBLE FROM THE TOP; CLIMB-DOWN SPACE IS CLEAR OF RISER AND GATE; FRAME IS CLEAR OF CURB.
4. MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN OR ALL ON ONE SIDE OF RISER TO ASSURE LADDER CLEARANCE. SIZE OF ELBOWS AND PLACEMENT TO BE SPECIFIED IN THE CONTRACT.
5. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT. OMIT PLATE IF FOR OIL POLLUTION CONTROL ONLY. OPENING IS TO BE CUT ROUND AND SMOOTH.
6. SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION ZG32A OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. LIFT HANDLE MAY BE SOLID ROD OR HOLLOW TUBING WITH ADJUSTABLE HOOK AS REQUIRED. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY SHALL BE MACHINED FOR PROPER FIT. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIAMETER STAINLESS STEEL.
7. SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, STOP TAB OR SOME OTHER DEVICE.
8. ALTERNATE SHEAR GATE DESIGNS ARE ACCEPTABLE, IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.



LIFT HANDLE DETAIL



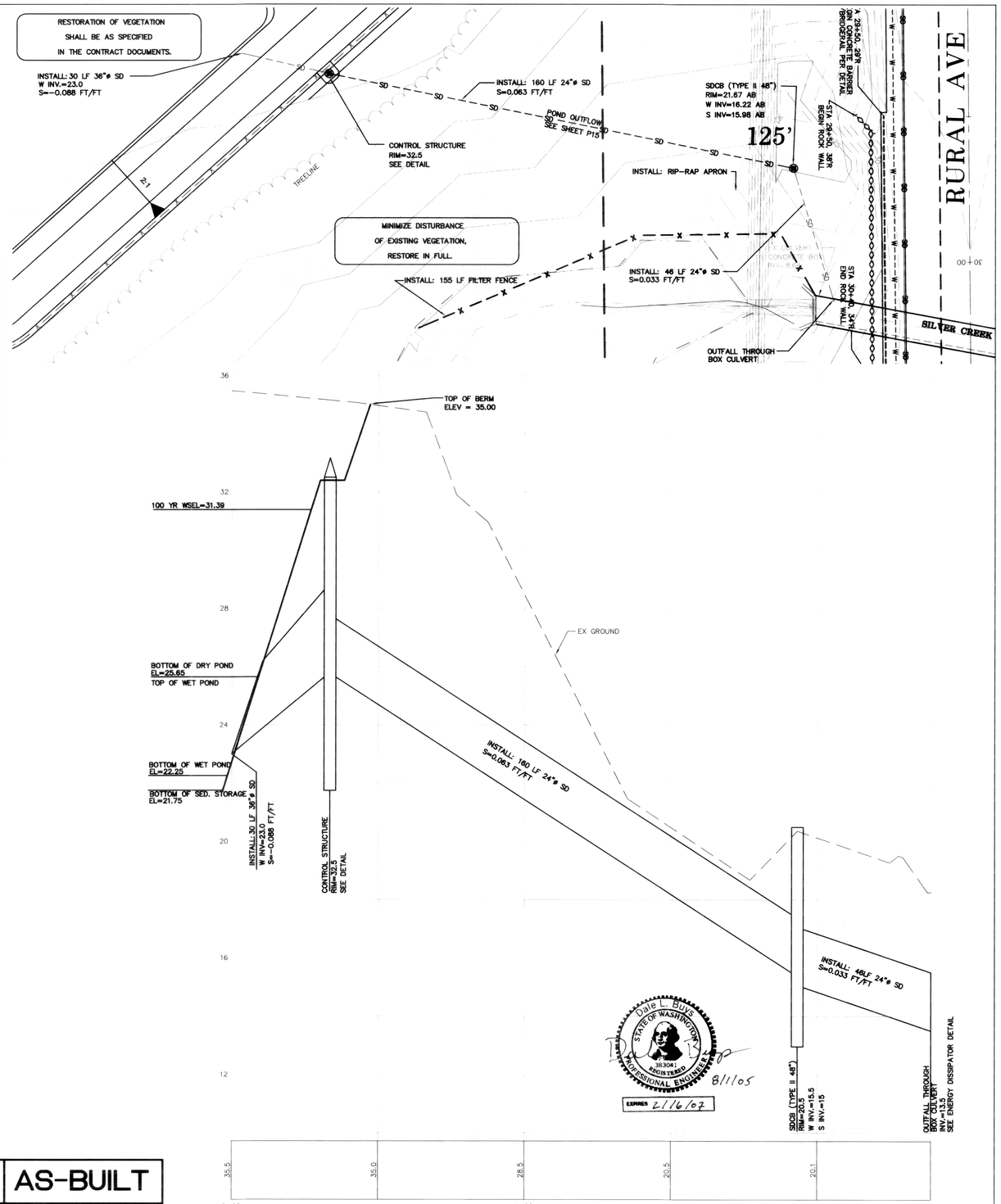
SHEAR GATE

CONTROL STRUCTURE

NTS

(WSDOT STANDARD PLAN B-3)
(REVISED BY REICHHARDT & EBE)

DATE: 7-29-05 **AS-BUILT**



Dale L. Bays STATE OF WASHINGTON 25304 REGISTERED PROFESSIONAL ENGINEER 8/1/05 EXPIRES 2/16/07

FA NO. REV-8041(001)	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	RURAL AND SUNSET STREET IMPROVEMENTS DETENTION POND-OUTFLOW

JOB# / DWG		DATE
00010	SP1.AB	6-3-03
SCALE H:1"=20' V:1"=2'		SHEET P15

00182.017 10-25-05 KR

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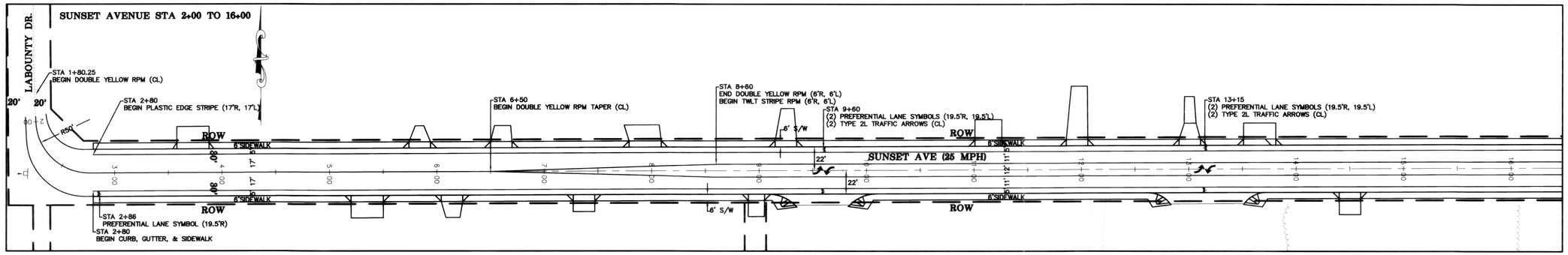

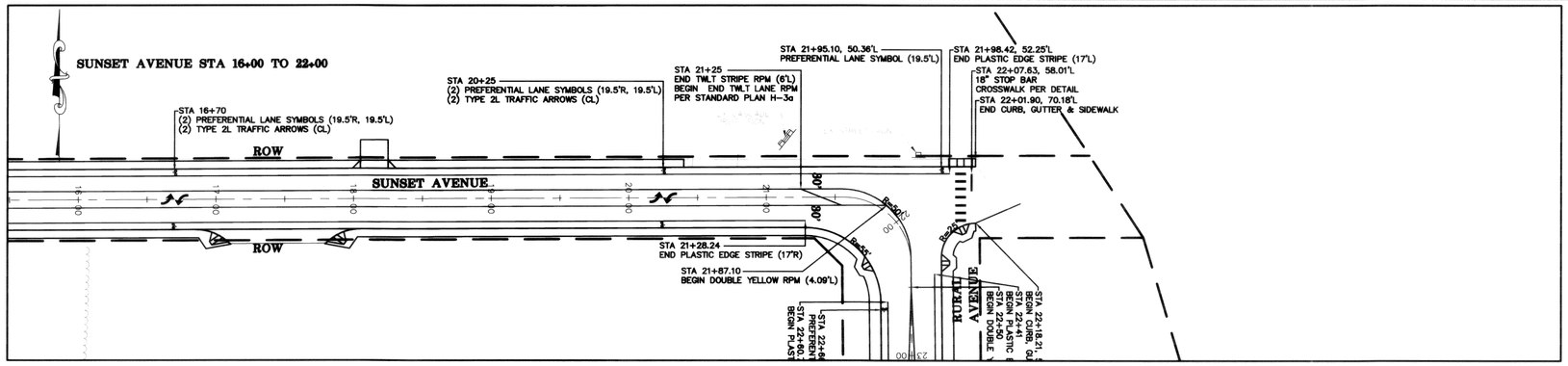

GRAPHIC SCALE

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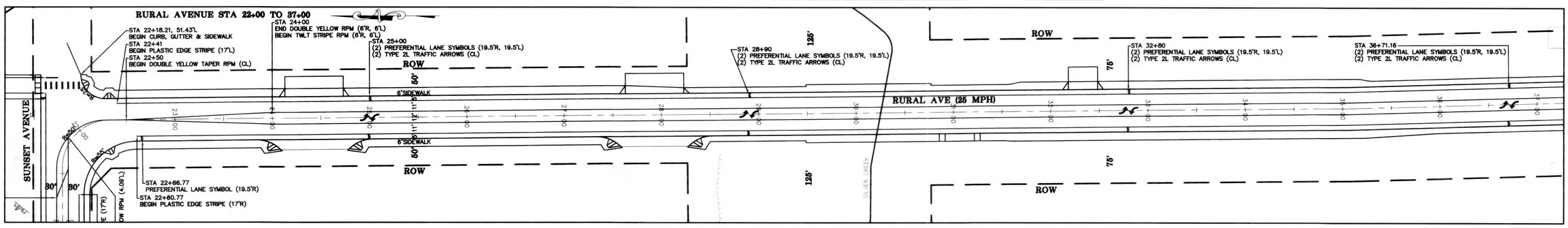
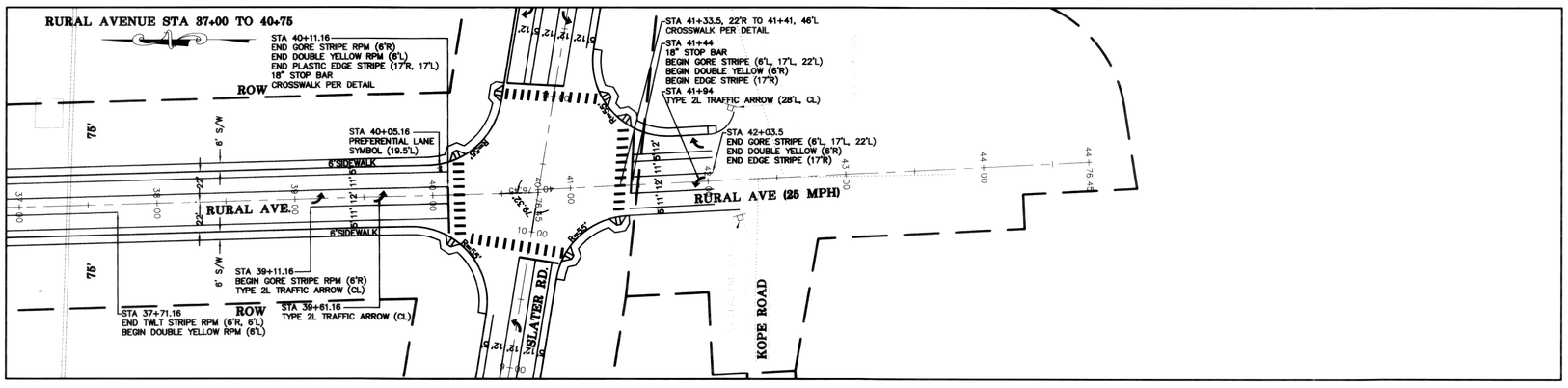
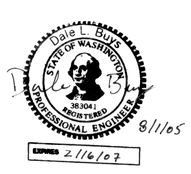
(IN FEET)
1 inch = 50 ft.







DESIGN VEHICLE: WB-40
DESIGN SPEED: 35 MPH

DATE: 7-29-05 **AS-BUILT**

FA NO. REV-8041(001)

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	RURAL AND SUNSET CHANNELIZATION PLAN RURAL AND SUNSET AVENUES

JOB# / DWG		DATE
00010	10CHAN	6-3-03
SCALE		SHEET
H: 1"=50'	V: N/A	CH1

00182.018 10.25.05 KR

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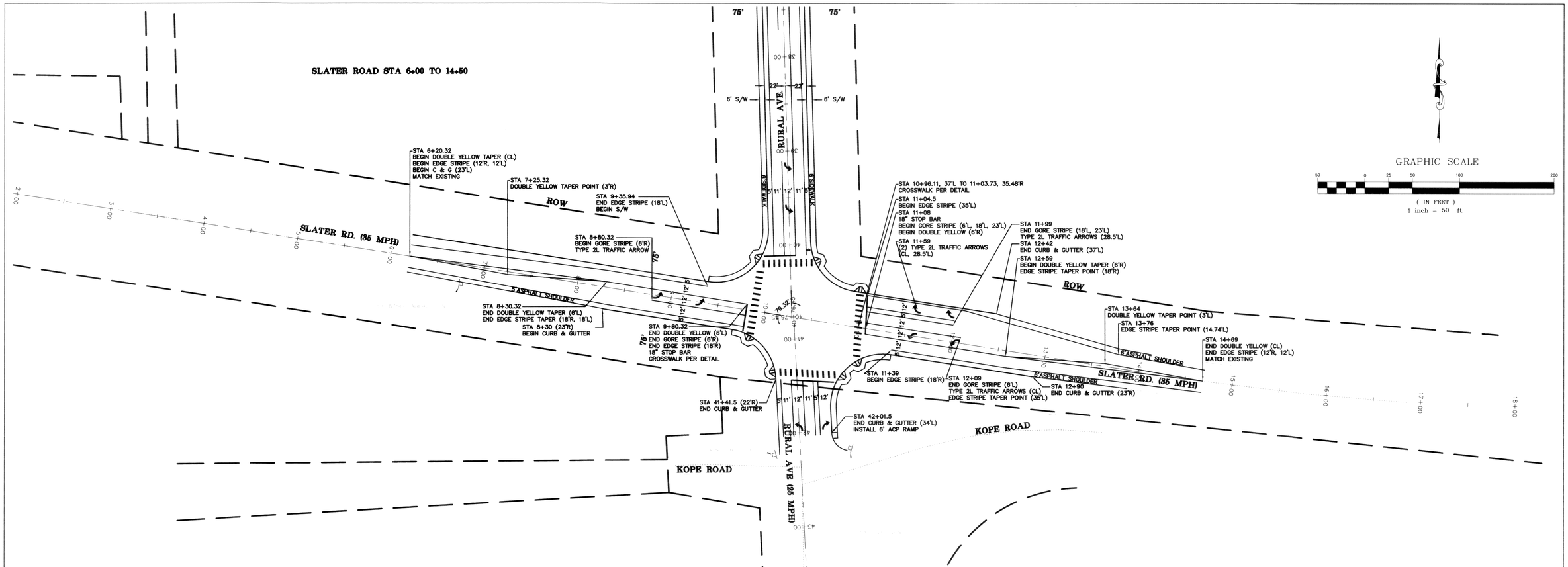
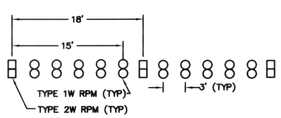
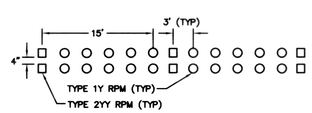
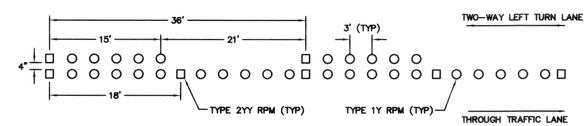




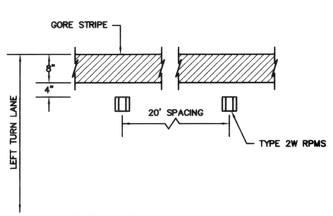
GORE STRIPE DETAIL
NTS
RAISED PAVEMENT MARKER SUBSTITUTION PER CITY OF FERNDALE



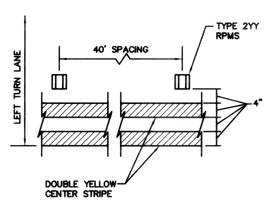
DOUBLE YELLOW STRIPE DETAIL
NTS
RAISED PAVEMENT MARKER SUBSTITUTION PER CITY OF FERNDALE



TWO-WAY LEFT TURN STRIPE DETAIL
NTS
RAISED PAVEMENT MARKER SUBSTITUTION PER CITY OF FERNDALE



GORE STRIPE DETAIL
NTS



DOUBLE YELLOW STRIPE DETAIL
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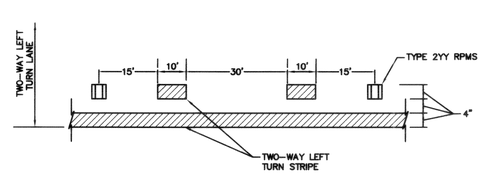

TWO-WAY LEFT TURN STRIPE DETAIL
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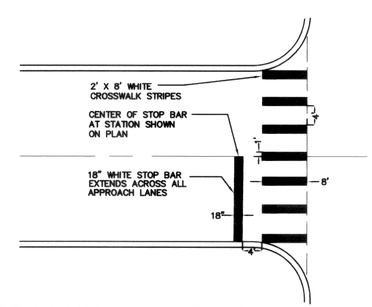

CROSSWALK AND STOP BAR DETAIL
NTS

Dale L. Buys
STATE OF WASHINGTON
38304
REGISTERED
PROFESSIONAL ENGINEER
8/1/05
EXPIRES 2/16/07

NOTES:

1. ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH MARKINGS SHOWN ON THESE PLANS SHALL BE REMOVED.
2. RAISED PAVEMENT MARKERS SHALL BE PLACED PER DETATILS SHOWN ON THIS PLAN.

DATE: 7-29-05

AS-BUILT

FA NO. REV-8041(001)

DESIGNED BY	DRAWN BY	CHECKED BY
DLB	LMC	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

RURAL AND SUNSET
CHANNELIZATION PLAN
SLATER ROAD

JOB# / DWG		DATE
00010	10CHAN	6-3-03
SCALE		SHEET
H: 1"=50'	V: N/A	CH2

C0182.019 10-25-05 KR

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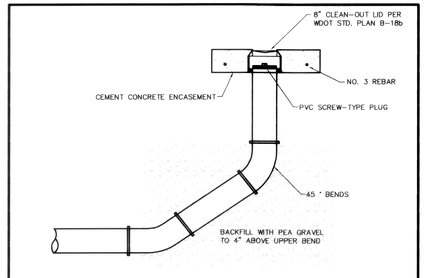
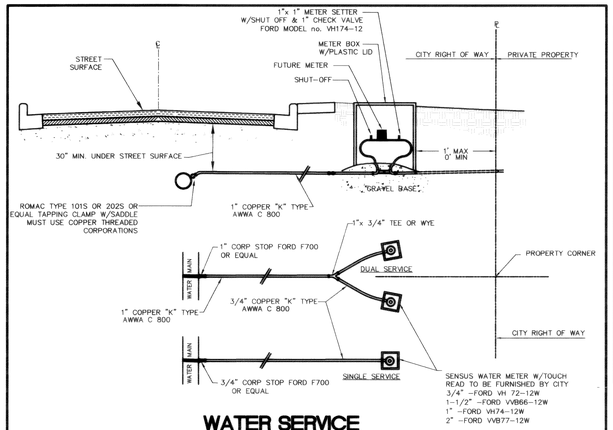


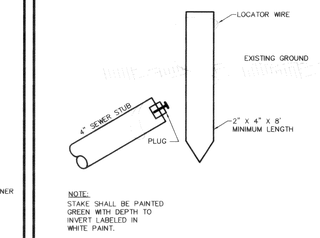
8" SANITARY SEWER CLEAN-OUT DETAIL

NTS



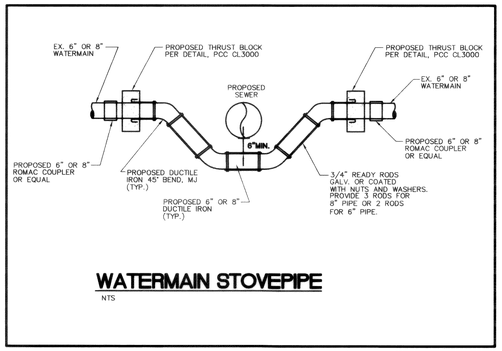
WATER SERVICE CONNECTION DETAIL

NTS



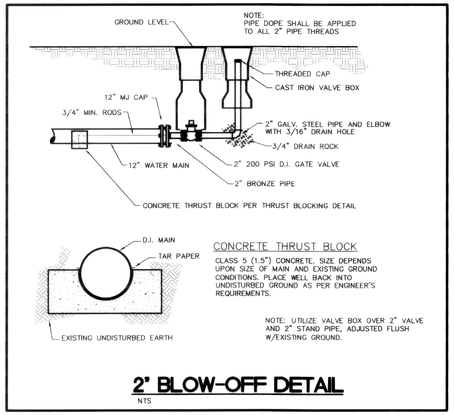
SEWER SERVICE STAKE

NTS



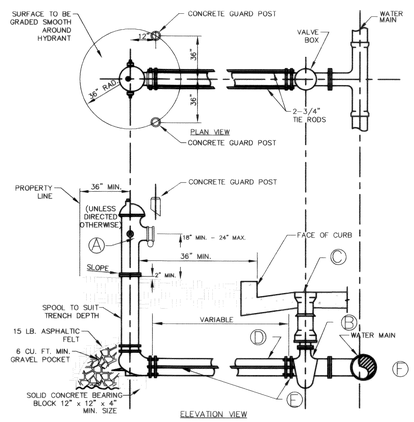
WATERMAIN STOVEPIPE

NTS



2" BLOW-OFF DETAIL

NTS



LEGEND:

A. MAIN VALVE OPENING OF THE HYDRANT SHALL BE A MINIMUM OF (5-1/4") FIVE AND ONE-QUARTER INCH DIAMETER. ONE (4- 1/2") FOUR AND ONE-HALF INCH PUMPER PORT:

MAIN PORT SHALL INCLUDE ONE FIVE INCH STORZ METALFACE ADAPTER AND ONE FIVE INCH STORZ ALUMINUM CAP.
ADAPTER REQUIREMENTS ARE AS FOLLOWS:
1. OVERALL DIAMETER NOT TO EXCEED 7-3/8".
2. OVERALL LENGTH NOT TO EXCEED 4-1/4".
3. TO BE SUPPLIED WITH (2) 14-20 HOLES DRILLED AND TAPPED, 180° APART THRU FEMALE THREAD, TO LOCK ADAPTER TO HYDRANT.
4. 1/8" VINYL AIRCRAFT CABLE, 18" MINIMUM LENGTH TO BE ATTACHED TO CAP AND ADAPTER.

TWO (2) TWO AND ONE-HALF INCH (2-1/2") HOSE PORTS WILL BE PROVIDED. ALL SHALL BE N.S.T. THREADS.

B. 1 6", OR 8", GATE VALVE, AWWA C-500, RESILIENT SEAT, WEDGE GATE VALVE "O" RING STEM SEAL, MJ X FL WITH LUGS, DEPENDENT UPON NOTE "D" SPEC'S.

C. 1 TWO PIECE CAST IRON VALVE BOX SIMILAR TO RICH MANUFACTURING TYPE 940 OR 5" C.I. SOILS PIPE WITH BOX EXTENSION

D. 6" DUCTILE IRON PIPE, CLASS 52, UNDER 50' IN LENGTH. 8" DUCTILE IRON PIPE, CLASS 52, OVER 50' IN LENGTH.

E. 2- 3/4" STEEL SHACKLE RODS, (COATED WITH COLD TAR EPOXY AFTER INSTALLATION) OR PACIFIC WATER WORKS HOLDING SPOOL, OR MEGA LUGS.

F. FULL BODY TAPPING SLEEVE, C.I. OR D.I., OR HYDRANT TEE (FL X MJ)

G. HYDRANT COLOR SHALL FOLLOW THE NATIONAL FIRE CODE CLASSIFICATION RATING:

CLASS AA - LIGHT BLUE	1500 GPM OR GREATER
CLASS A - GREEN	1000-1499 GPM
CLASS B - ORANGE	500-999 GPM
CLASS C - RED	500 GPM OR LESS

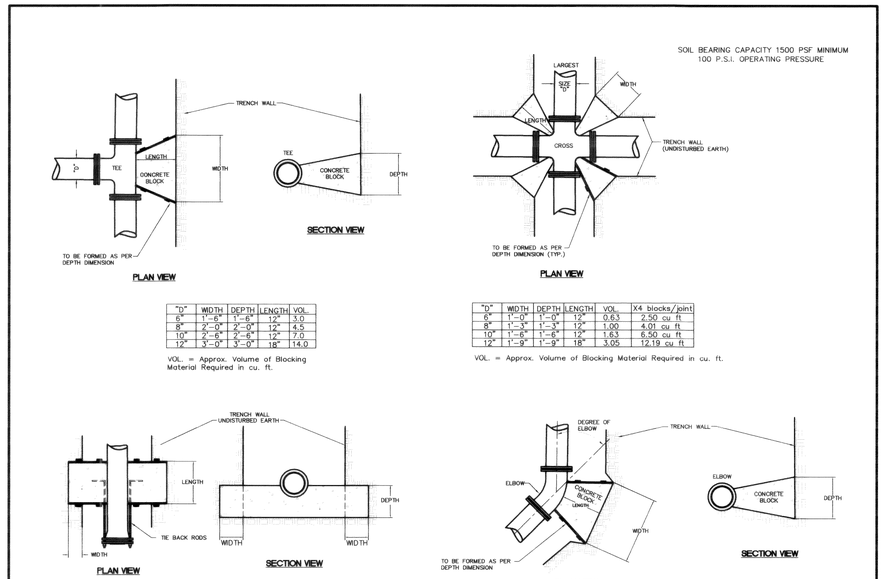
EACH HYDRANT SHALL HAVE A WHITE BARREL. THE CAPS AND TOP WILL BE PAINTED ACCORDING TO NFC CODE.

NOTES:

1. TOP GUARD POST TO BE LEVEL WITH TOP OF HYDRANT.
2. GUARD POST INSTALLED ONLY WHEN DIRECTED.
3. FIRE HYDRANTS
   - Conform to AWWA C502 except as herein modified.
   - Standard barrel of the hydrants shall be a minimum of (7-1/4") seven and one-quarter inches minimum.
   - Provide pentagon operating nuts.
   - Open by turning counterclockwise.
   - Nozzles and operating nuts shall be identical with the owner's existing equipment or as elsewhere provided.
   - Depth of clear cover over the pipe shall be three feet (3) unless larger depth or cover is required where the hydrant is installed.
   - Provide a sidewalk flange and safety stem coupling which will allow hydrant barrel to separate with minimum damage.
   - Hydrant barrel extension standard of manufacturer of hydrant provided.
   - Hydrant shall be as:
     - Iowa or M.H.9291
   - Hydrant to remain tagged or bagged until accepted by City.
4. BLUE REFLECTOR OFFSET 6" FROM CENTERLINE OF STREET TO HYDRANT SIDE.
5. IF HYDRANT RISES THROUGH CONCRETE USE EXPANSION STRIP AROUND HYDRANT BARREL.

FIRE HYDRANT ASSEMBLY

NTS



"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.

"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.

"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"

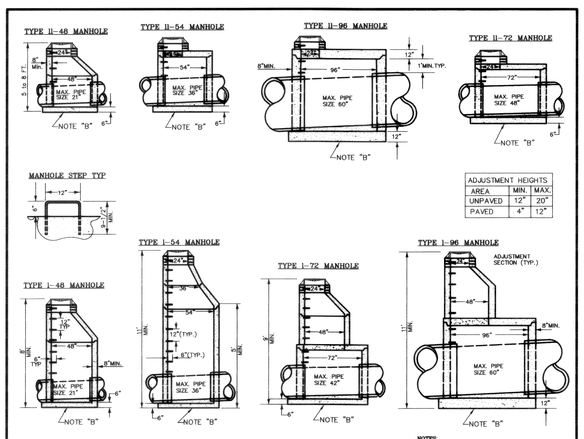
*VOL. = Approx. Volume of Blocking Material Required in cu. ft.
RODS: A36 STEEL MINIMUM

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'-6"	1'-6"	1.25	2'-3"	1'-6"	1.88
8"	12"	1'-3"	1'-3"	1.00	1'-3"	1'-3"	1.00	1'-9"	1'-9"	1.75	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



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

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

Dale L. Buns
STATE OF WASHINGTON
38304
REGISTERED PROFESSIONAL ENGINEER
8/11/05
EXPIRES 2/16/07

DATE: 7-28-05 **AS-BUILT**

FA NO. REV-8041(001)

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

RURAL AND SUNSET
DETAIL SHEET

JOB# / DWG		DATE
00010	010DT1	6-3-03
SCALE		SHEET
H: N/A	V: N/A	DT1

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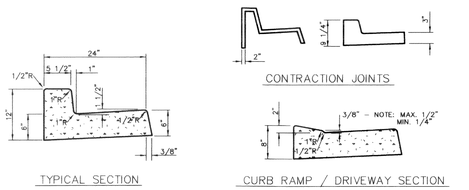
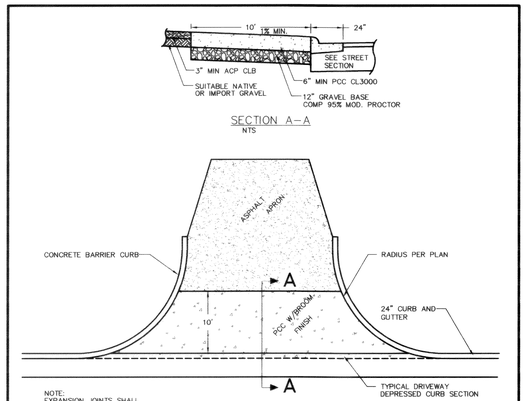


NOTES:
CONTRACTION JOINTS OF ONE OF THE TYPES SHOWN ABOVE TO BE PLACED 10' C/C. JOINTS COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MIN. 3/16" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED

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.

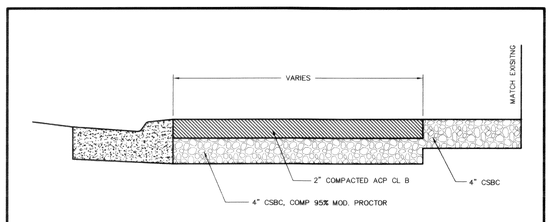
TYPE A MODIFIED CURB AND GUTTER

NTS



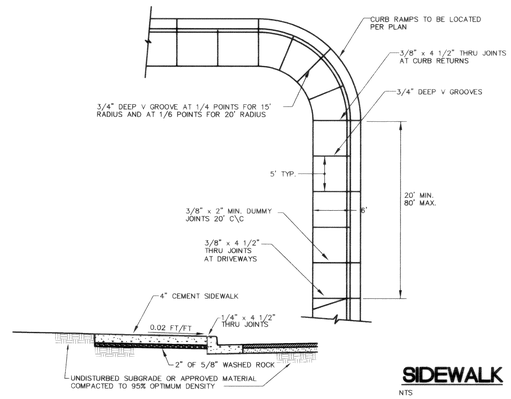
TYPICAL COMMERCIAL DRIVEWAY

NTS



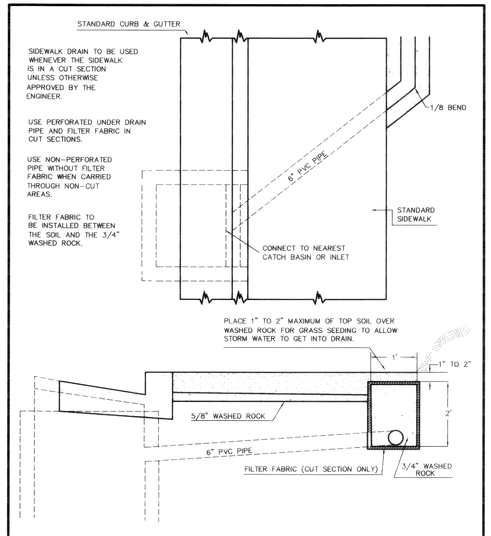
PROPOSED DRIVEWAY SECTION

NTS



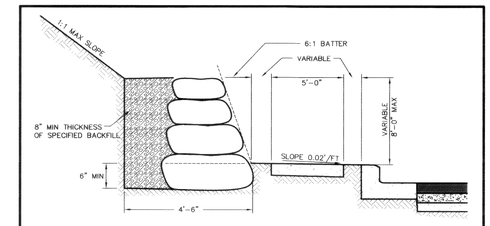
SIDEWALK

NTS



BACK OF WALK DRAIN

NTS



ROCK RETAINING WALL CUT SECTION

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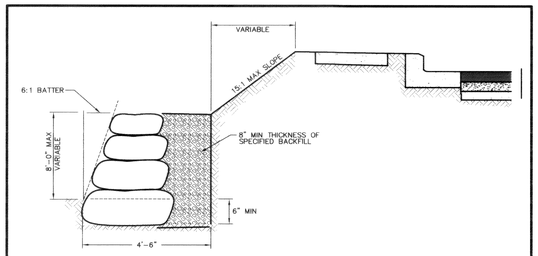
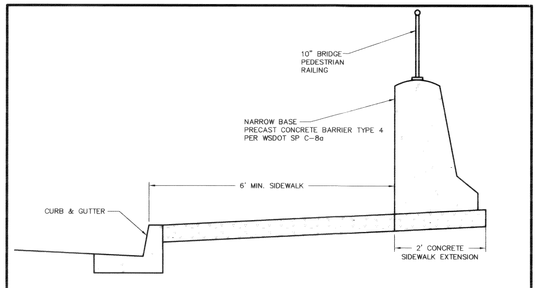


ROCK RETAINING WALL FILL SECTION

NTS



CONCRETE BARRIER WITH BRIDGE RAIL

NTS

DATE: 7-29-05 **AS-BUILT**

FA NO. REV-8041(001)

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

RURAL AND SUNSET DETAIL SHEET	JOB# / DWG 00010 010DT1	DATE 6–3–03
	SCALE H: N/A V: N/A	SHEET DT2

00182.021 10-25-05 KE

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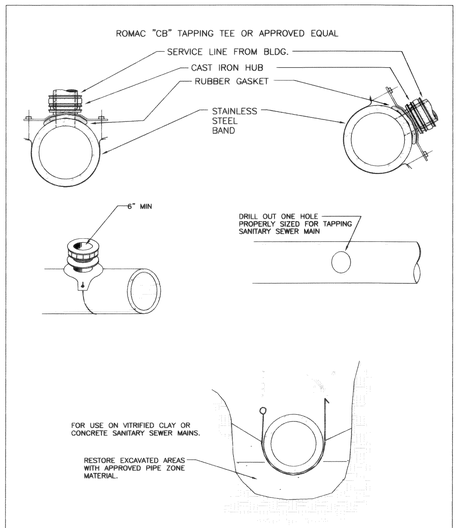
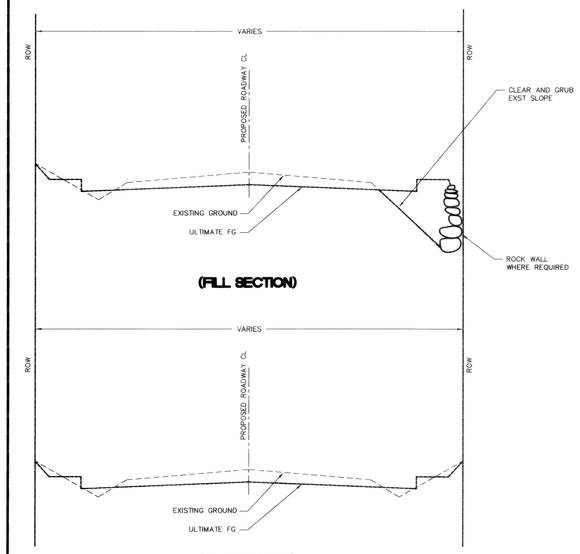


NOT TO SCALE

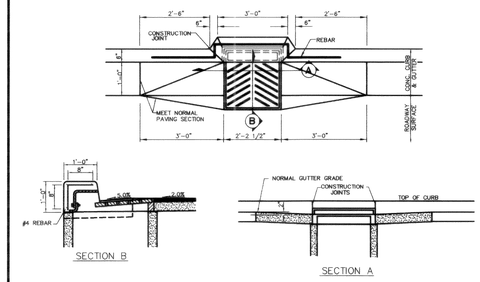
APPROVED	CITY OF FERNDALE SANITARY SEWER BANDED TAPPING TEE	DRAWING SS-12
Public Works Director Date		

JULY 2001



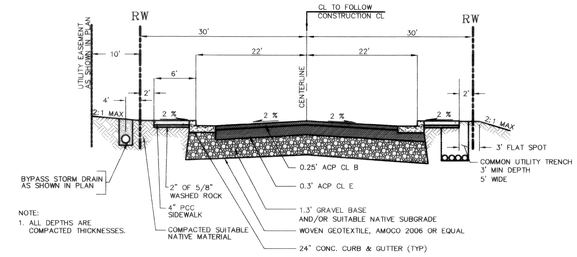
TYPICAL ROADWAY SECTION UTILITY RELOCATION PHASE

NTS



THRU-CURB INLET FRAME AND GRATE WITH VERTICAL CURB INSTALLATION

NTS



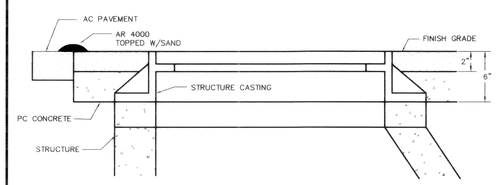
TYPICAL ROAD SECTION: SUNSET AVENUE STA 11+80 TO 22+50

NTS

NOTES:

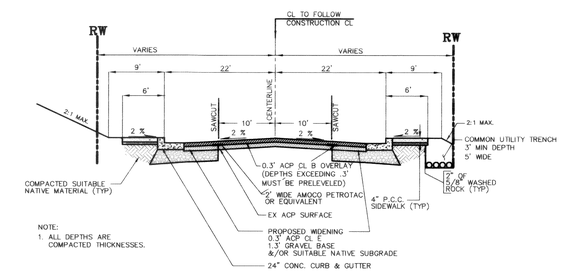
ALL FRAMES, COVERS AND VALVE BOXES SHALL BE RAISED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:

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.



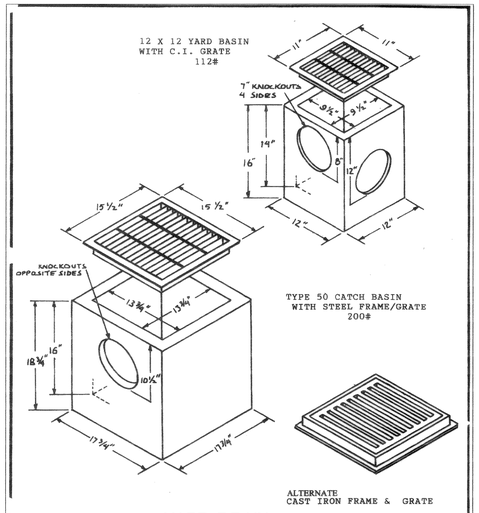
ADJUSTING CASTINGS TO FINISHED GRADE

NTS



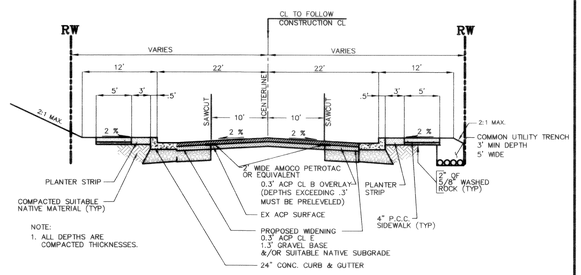
TYPICAL ROAD SECTION: RURAL AVENUE STA 27+50 TO 31+50, AND STA 35+00 TO 40+00

NTS



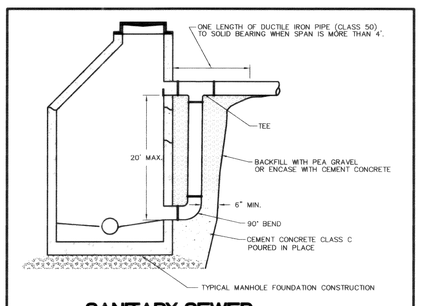
YARD DRAIN

NTS



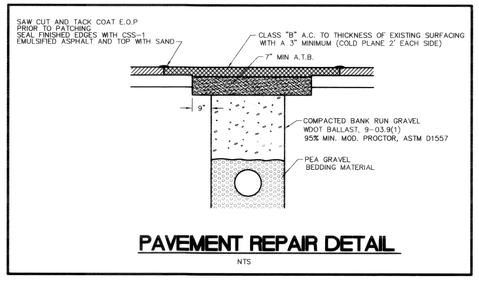
TYPICAL ROAD SECTION W/PLANTER STRIP: RURAL AVENUE STA 22+50 TO 27+50, AND STA 31+50 TO 35+00

NTS



SANITARY SEWER DROP CONNECTION DETAIL

NTS



PAVEMENT REPAIR DETAIL

NTS

Dale Boys STATE OF WASHINGTON 18304 REGISTERED PROFESSIONAL ENGINEER

8/1/05

EXPIRES 7/16/07

DATE: 7-29-05 | AS-BUILT | FA NO. REV-8041(001)

DESIGNED BY DLB	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	RURAL AND SUNSET DETAIL SHEET	JOB# / DWG 00010 010DT1	DATE 6-3-03
DRAWN BY LMC								SCALE H:N/A V:N/A	SHEET DT3
CHECKED BY GDE									

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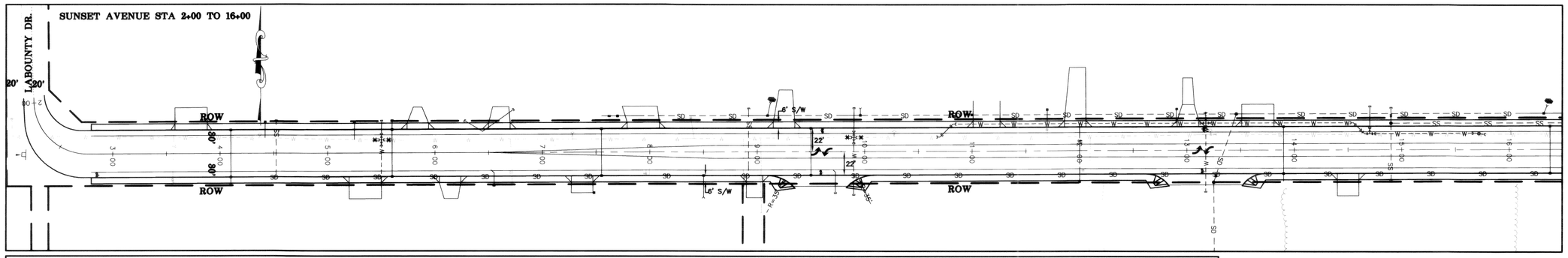
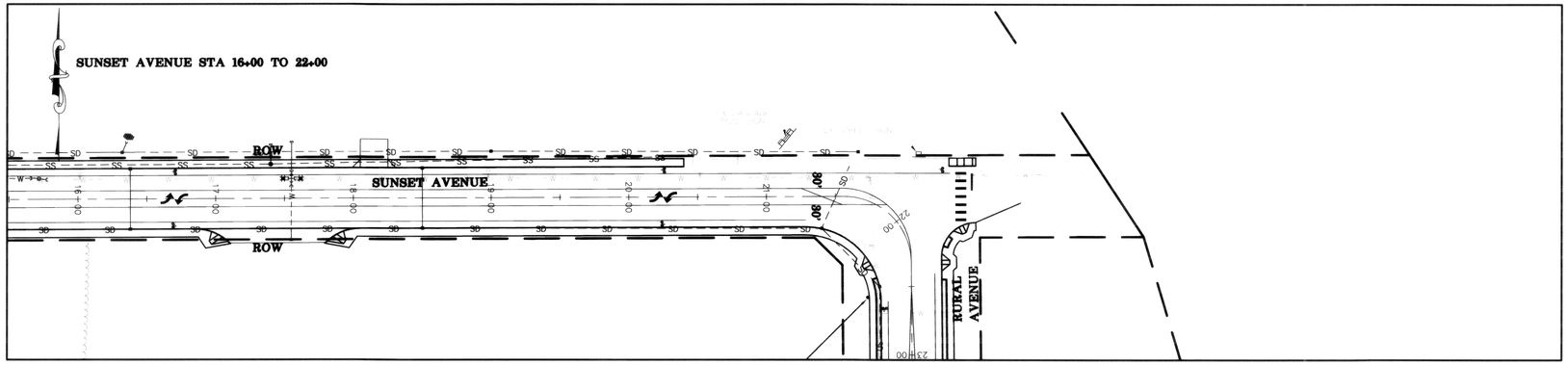
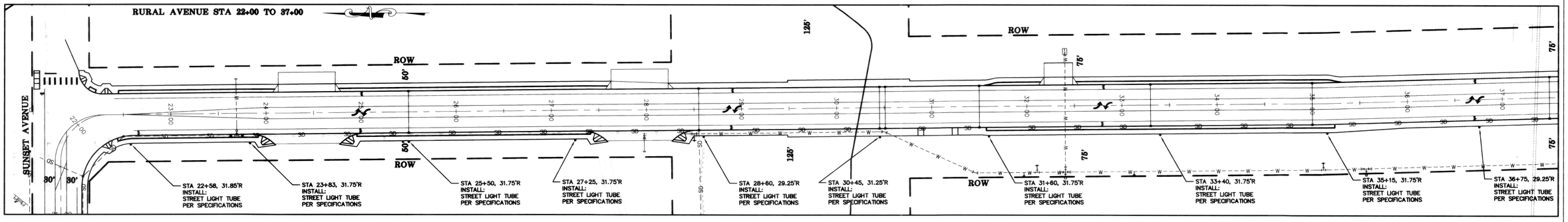


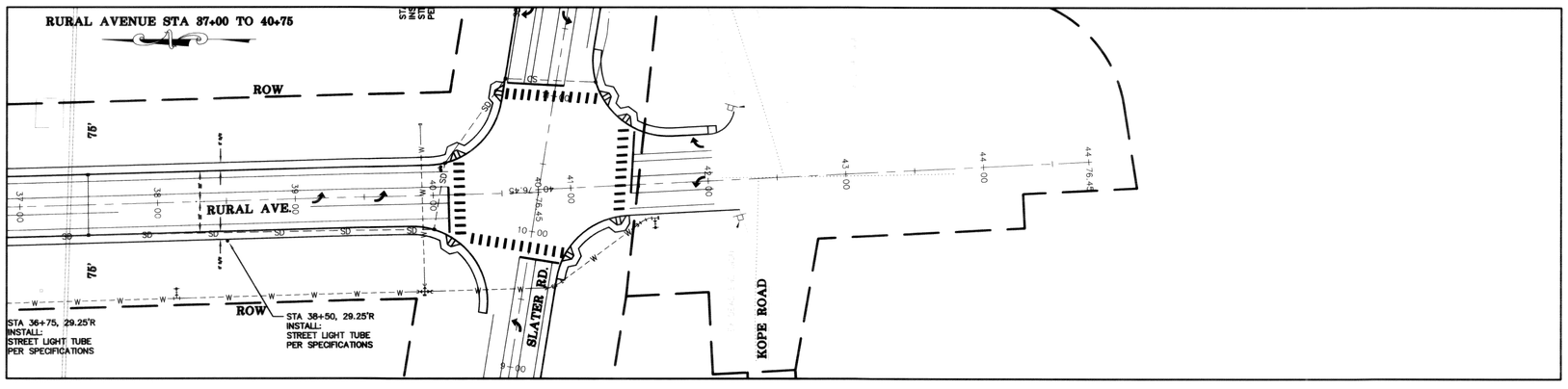


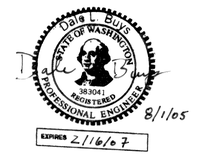
GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.







DATE: 7-29-05

AS-BUILT

FA NO. REV-8041(001)

DESIGNED BY	DRAWN BY	CHECKED BY
DLB	LMC	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

RURAL AND SUNSET
STREET LIGHT TUBE PLAN
RURAL AND SUNSET AVENUES

JOB# / DWG		DATE
00010	10SL	6-3-03
SCALE		SHEET
H: 1"=50'	V: N/A	SL1

C0182.023 10-25-05 KL

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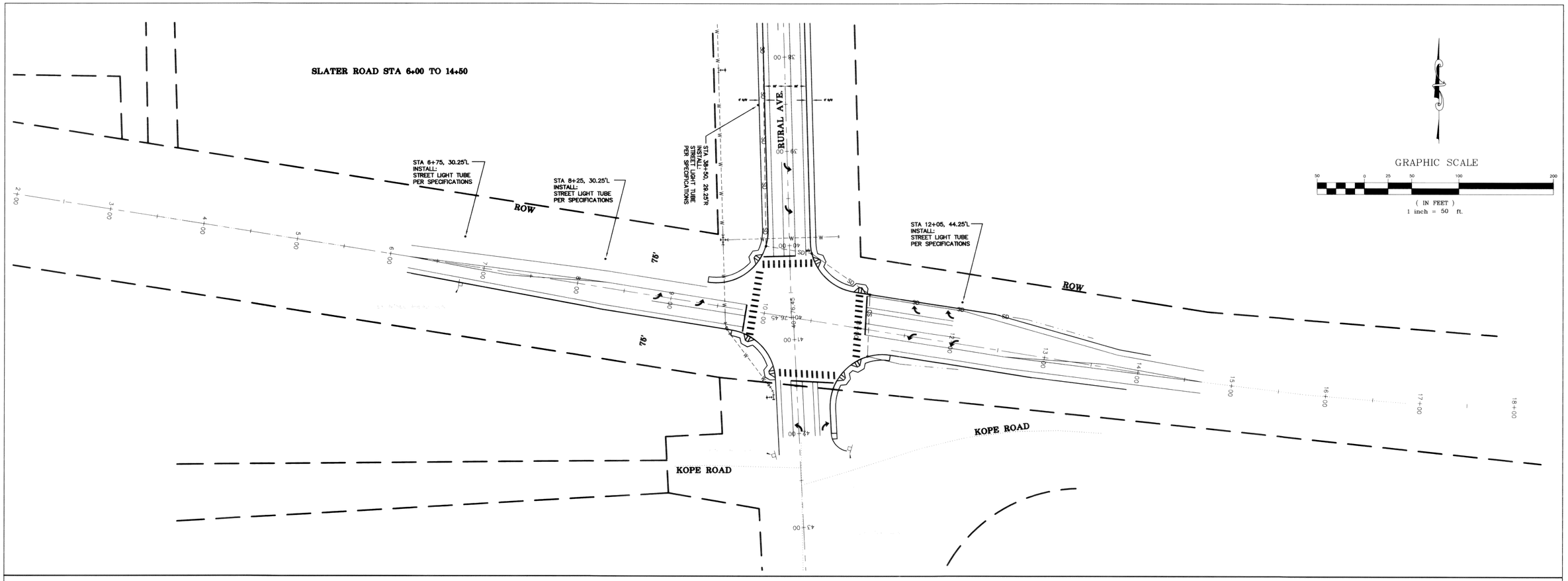
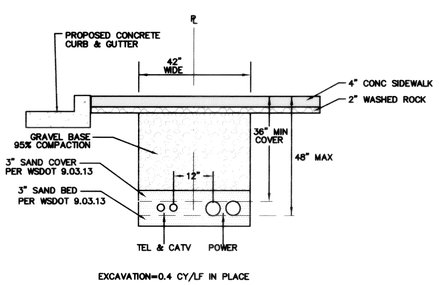
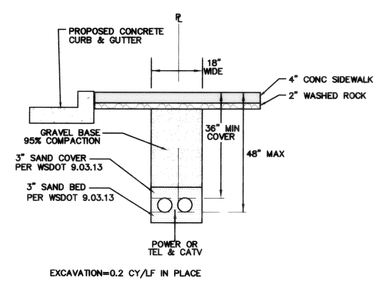
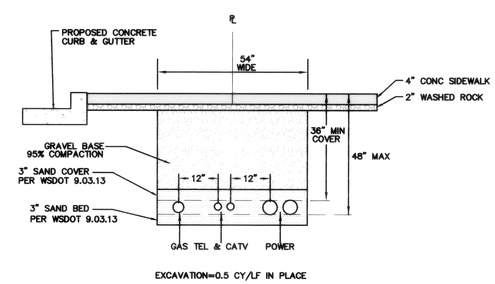




COMMON UTILITY TRENCH
PHONE, TV AND PRIMARY POWER
NTS



COMMON UTILITY TRENCH
PHONE AND TV OR PRIMARY POWER
NTS



COMMON UTILITY TRENCH
GAS, PHONE, TV AND PRIMARY POWER
NTS

STATE OF WASHINGTON
DALE L. BUTTS
38304
REGISTERED
PROFESSIONAL ENGINEER
8/11/05
EXPIRES 2/16/07

DATE: 7-29-05
AS-BUILT

FA NO. REV-8041(001)

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

RURAL AND SUNSET
STREET LIGHT TUBE PLAN
SLATER ROAD

JOB# / DWG		DATE
00010	10SL	6-3-03
SCALE		SHEET
H: 1"=50'	V: N/A	SL2

00182.024 10-25-05 KR

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NOTE: EXISTING POWER POLE IS APPROXIMATELY 300 FT. WEST OF THE INTERSECTION. CONFIRM EXACT LOCATION AT TIME OF CONSTRUCTION.

Rural Avenue

Slater Road

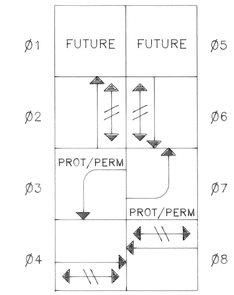
• SIGNAL STANDARD SHIFTED WEST
• SIDEWALK WIDENED

• SIDEWALK WIDENED

D3-301 D3-301 R10-1201 R10-12 R10-12 D3-301 R10-1201 D3-301

SIGNAL PHASING

CIRCUIT	PHASE
A	2
B	4&7
C	6
D	3&8

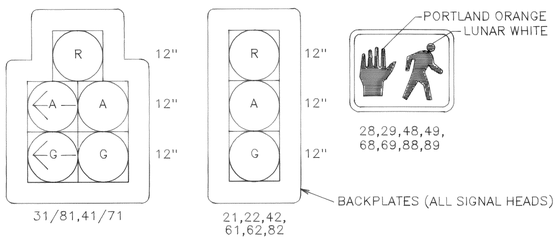


GENERAL NOTES

1. UTILITY LOCATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE ONLY. SOME UTILITIES MAY NOT BE SHOWN. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO EXCAVATION. (CALL 1-800-424-5555 FOR UTILITY LOCATION SERVICES).
2. POLE FOUNDATION LOCATIONS MAY BE SLIGHTLY ADJUSTED AS REQUIRED TO AVOID UTILITY CONFLICTS. FINAL FOUNDATION LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION.
3. CONDUIT RUNS AND JUNCTION BOX LOCATIONS ARE SHOWN IN APPROXIMATE LOCATIONS. FINAL LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS AND FOR EASE OF CONSTRUCTION. FINAL LOCATIONS FOR CONDUITS AND JUNCTION BOXES SHALL BE APPROVED BY THE ENGINEER PRIOR TO EXCAVATION.
4. SEE SHEET TS-2 FOR CONSTRUCTION NOTES, WIRE NOTES, AND LOOP LOCATIONS.
5. SEE SPECIFICATIONS FOR SIGN NOTES.

0' 20' 40'

SIGNAL DISPLAY



NOTES:
1. ALL VEHICLE SIGNAL HEADS SHALL BE CONVENTIONAL TYPE WITH DIALIGHT LED DISPLAYS (ALL SECTIONS).
2. ALL VEHICLE SIGNAL HEADS SHALL HAVE TYPE "M" MOUNTINGS.
3. ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE DIALIGHT LED DISPLAYS.
4. PEDESTRIAN SIGNAL HEADS MOUNTED ON MAST-ARM SIGNAL POLES SHALL HAVE TYPE "E" MOUNTINGS. PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE "PS" PEDESTALS SHALL HAVE TYPE "D" MOUNTINGS.

CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555

LEGEND

⊠	CONTROLLER CABINET	◩	TYPE 2 JUNCTION BOX
⊠	SERVICE/ILLUMINATION CABINET	⊘	TYPE 3 JUNCTION BOX (MODIFIED)
	STEEL MAST-ARM SIGNAL POLE	--------	CONDUIT
	VEHICLE SIGNAL HEAD	○	6 FT. DIAMETER INDUCTION LOOP DETECTOR
	PEDESTRIAN SIGNAL HEAD	⬡	CONSTRUCTION NOTE
	OPTICAL DETECTOR	⬡	CONSTRUCTION NOTE/POLE NUMBER
	LUMINAIRE	△	WIRE NOTE
⊠	TYPE 1 JUNCTION BOX	⬭	SIGN INSTALLATION NOTE (SEE SPECIFICATIONS)

FILE NAME RURSLSP	David I. Hamlin & Associates 1319 Dexter Avenue North Suite 270 Seattle, Washington 98109 (206) 285-9035	DAVID I. HAMLIN STATE OF WASHINGTON 18013 REGISTERED PROFESSIONAL ENGINEER EXPIRES: APRIL 24, 2003	AGENCY APPROVAL	PROJECT TITLE	REVISIONS				SHEET TITLE	SHEET NO.
PLOT DATE			FOR	RURAL AND SUNSET AVENUES IMPROVEMENTS PROJECT	NO.	DATE	BY	DESCRIPTION	Signal Plan	TS-1
DESIGN DATE 9/01			BY		1	7/29/03	RMH	RECORD DRAWING		
DESIGNED D. HAMLIN			DATE							OF SHEETS
DRAWN DesignCAD			BY							UNITS CATEGORY
CHECKED			DATE							

10.25.05 KR

00182.025

CONSTRUCTION NOTES

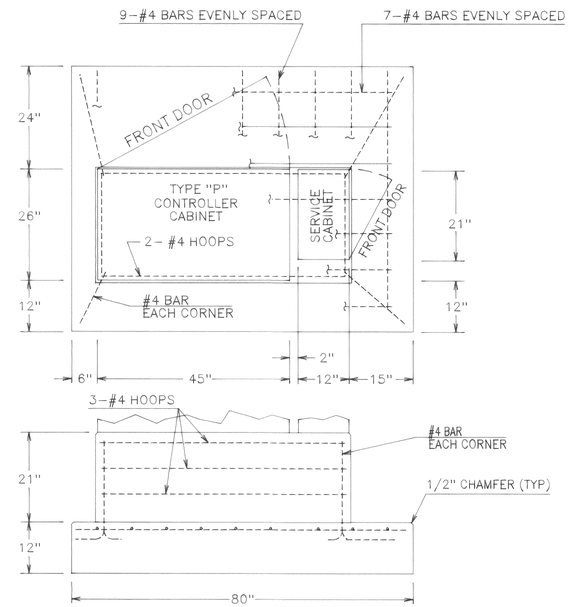
1. CONSTRUCT SIGNAL POLE FOUNDATION (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE III SIGNAL POLE WITH 49 FT. MAST–ARM. INSTALL VEHICLE AND PEDESTRIAN SIGNAL DISPLAYS, 2 PEDESTRIAN PUSH–BUTTONS, 1 3M MODEL 711 OPTICAL DETECTOR, 1 250 WATT HPS LUMINAIRE WITH PEC, 1 TRAFFIC CONTROL SIGN, AND 1 STREET–NAME SIGN.
2. CONSTRUCT SIGNAL POLE FOUNDATION (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE III SIGNAL POLE WITH 36 FT. MAST–ARM. INSTALL VEHICLE AND PEDESTRIAN SIGNAL DISPLAYS, 1 PEDESTRIAN PUSH–BUTTON, 1 3M MODEL 711 OPTICAL DETECTOR, 1 250 WATT HPS LUMINAIRE, 1 TRAFFIC CONTROL SIGN, AND 1 STREET–NAME SIGN.
3. CONSTRUCT FOUNDATION FOR TYPE "PS" PEDESTRIAN PEDESTAL (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE "PS" PEDESTAL WITH 1 PEDESTRIAN SIGNAL HEAD AND 1 PEDESTRIAN PUSH–BUTTON.
4. CONSTRUCT SIGNAL POLE FOUNDATION (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE III SIGNAL POLE WITH 45 FT. MAST–ARM. INSTALL VEHICLE AND PEDESTRIAN SIGNAL DISPLAYS, 1 PEDESTRIAN PUSH–BUTTON, 1 3M MODEL 711 OPTICAL DETECTOR, 1 250 WATT HPS LUMINAIRE, 1 TRAFFIC CONTROL SIGN, AND 1 STREET–NAME SIGN.
5. CONSTRUCT SIGNAL POLE FOUNDATION (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE III SIGNAL POLE WITH 33 FT. MAST–ARM. INSTALL VEHICLE AND PEDESTRIAN SIGNAL DISPLAYS, 1 PEDESTRIAN PUSH–BUTTON, 1 3M MODEL 711 OPTICAL DETECTOR, 1 250 WATT HPS LUMINAIRE, 1 TRAFFIC CONTROL SIGN, AND 1 STREET–NAME SIGN.
6. CONSTRUCT FOUNDATION FOR TYPE "PS" PEDESTRIAN PEDESTAL (SEE POLE DETAIL SHEET FOR LOCATION AND SIZE). INSTALL TYPE "PS" PEDESTAL WITH 1 PEDESTRIAN SIGNAL HEAD AND 1 PEDESTRIAN PUSH–BUTTON.
7. CONSTRUCT COMBINATION FOUNDATION FOR TYPE "P" CONTROLLER CABINET AND SERVICE/ ILLUMINATION CABINET (SEE DETAIL THIS SHEET). INSTALL CABINETS AND CONNECT FIELD AND SERVICE CONDUCTORS IN ACCORDANCE WITH THE WIRING DIAGRAM.
8. INSTALL TYPE 1 JUNCTION BOX (SEE STD. PLAN J–11a).
9. INSTALL TYPE 2 JUNCTION BOX (SEE STD. PLAN J–11a).
10. INSTALL TYPE 3 MODIFIED JUNCTION BOX (SEE DETAIL 6.02E IN SPECIFICATIONS).
11. CONSTRUCT 6 FT. DIA INDUCTION LOOP DETECTOR (SEE DETAIL IN SPECIFICATIONS). TYPICAL 30 PLACES.
12. PROVIDE SERVICE CONNECTION IN ACCORDANCE WITH PSE REQUIREMENTS.

SIGNAL POLES 1,2,4 & 5 FABRICATED WITH RECESSED TERMINAL COMPARTMENTS PER CITY OF BELLINGHAM STANDARD DRAWING TR-6 MOUNTED 4' ABOVE THE BOTTOM OF THE POLE AT THE ATTACHMENT ANGLE NOTED ON SHEET TS 4. 1

LOOP LOCATIONS

LOOP NUMBER	TYPE	SIZE	STATION SLATER ROAD	STATION RURAL AVENUE
11A	2	6' DIA.		40+06
11B	2	6' DIA.		39+92
11C	2	6' DIA.		39+78
21A	2	6' DIA.		41+50
21B	2	6' DIA.		41+64
22	2	6' DIA.		42+45
23A	2	6' DIA.		41+52
23B	2	6' DIA.		41+66
24	2	6' DIA.		41+80
31A	2	6' DIA.	11+13	
31B	2	6' DIA.	11+27	
31C	2	6' DIA.	11+41	
41A	2	6' DIA.	9+75	
41B	2	6' DIA.	9+61	
42	2	6' DIA.	8+50	
51A	2	6' DIA.		41+49
51B	2	6' DIA.		41+63
51C	2	6' DIA.		41+77
61A	2	6' DIA.		40+06
61B	2	6' DIA.		39+92
62	2	6' DIA.		39+11
71A	2	6' DIA.	9+75	
71B	2	6' DIA.	9+61	
71C	2	6' DIA.	9+47	
81A	2	6' DIA.	11+12	
81B	2	6' DIA.	11+26	
82	2	6' DIA.	12+51	
83A	2	6' DIA.	11+11	
83B	2	6' DIA.	11+25	
84	2	6' DIA.	11+39	

NOTES: LOOP DETECTOR STATIONING IS REFERENCED TO CENTER OF LOOP.
LOOPS SHALL BE CENTERED IN THEIR RESPECTIVE LANES.



CONTROLLER/SERVICE CABINET FOUNDATION DETAIL

WIRE NOTES

RUN NO.	1PRSH (DETECTOR LEAD–IN)	2PRSH (DETECTOR LEAD–IN)	3PRSH (DETECTOR LEAD–IN)	3CSH (OPTICOM LEAD–IN)	5C NO. 14 (MSA 20–1)	20C NO. 14 ~~(MSA 20–1)~~ COB STANDARD	TWISTED PAIR NO. 14	NO. 2 (SERVICE CONDUCTORS)	NO. 6 CONTROLLER CAB. PWR)	NO. 8 (ILLUMINATION) ~~NO. 14 (PHOTO CELL)~~	NO. 8 W/ GREEN INSULATION (GROUND)	CONDUIT SIZE (IN)	CONDUIT MATERIAL	CONDUIT FILL (SQ. IN.)	ALLOW. CONDUIT FILL @ 26% (SQ. IN.)	COMMENTS	RUN NO.	NO. OF RUNS
1							3					2"	PVC	0.40"	0.87"	SERVICE CONDUCTORS.	1	1
2								3				1"	PVC	0.16"	0.23"	POWER TO CONTROLLER CABINET.	2	1
3									6	~~3~~	1	2"	PVC	0.48"	0.87"	ILLUMINATION & PEC.	3	1
4									2	~~3~~	1	1–1/4"	PVC	0.24"	0.87"	ILLUMINATION & PEC.	4	1
5									2		1	1–1/4"	PVC	0.18"	0.39"	ILLUMINATION.	5	6
6												2"	PVC	–	1.92"	SPARE CONDUIT FOR FUTURE USE.	6	2
7	4	4	6									3"	PVC	1.78"	1.92"	LOOP LEAD–INS.	7	1
8				4								2"	PVC	0.28"	0.87"	OPTICOM LEAD–INS.	8	1
9					2						1	3"	PVC	0.94"	1.92"	SIGNAL CONDUCTORS.	9	3
10				1								1–1/4"	PVC	0.07"	0.39"	OPTICOM LEAD–IN.	10	4
11					1						1	~~2"~~ 3"	PVC	0.50"	0.87"	SIGNAL CONDUCTORS.	11	4
12	2	2	3	2								3"	PVC	1.00"	1.92"	LOOP & OPTICOM LEAD–INS.	12	1
13	1	1	2	1								2"	PVC	0.59"	0.87"	LOOP & OPTICOM LEAD–INS.	13	1
14					1						1	1"	PVC	0.20"	0.23"	SIGNAL CONDUCTORS.	14	2
15					1	1					1	~~2"~~ 3"	PVC	0.64"	0.89"	SIGNAL CONDUCTORS.	15	2
16	1											1–1/4"	PVC	0.09"	0.39"	LOOP LEAD–IN.	16	4
17	1	1	1									2"	PVC	0.37"	0.39"	LOOP LEAD–INS.	17	2
18	1	1	2									2"	PVC	0.52"	0.87"	LOOP LEAD–INS.	18	1
19						1						1"	PVC			CONDUIT SIZE PER STD. PLAN J–8a.	19	4
20						5						1–1/2"	PVC			CONDUIT SIZE PER STD. PLAN J–8a.	20	2
21						8						2"	PVC			CONDUIT SIZE PER STD. PLAN J–8a.	21	2

1

BREAKER SCHEDULE

MAIN BREAKER	BRANCH BREAKERS CONTROL	RECEPT.	ILLUM. CIRCUIT A	CONTACTOR
100A 2P	15A 1P	20A 1P	30A 2P	30A

CALL 48 HOURS BEFORE YOU DIG
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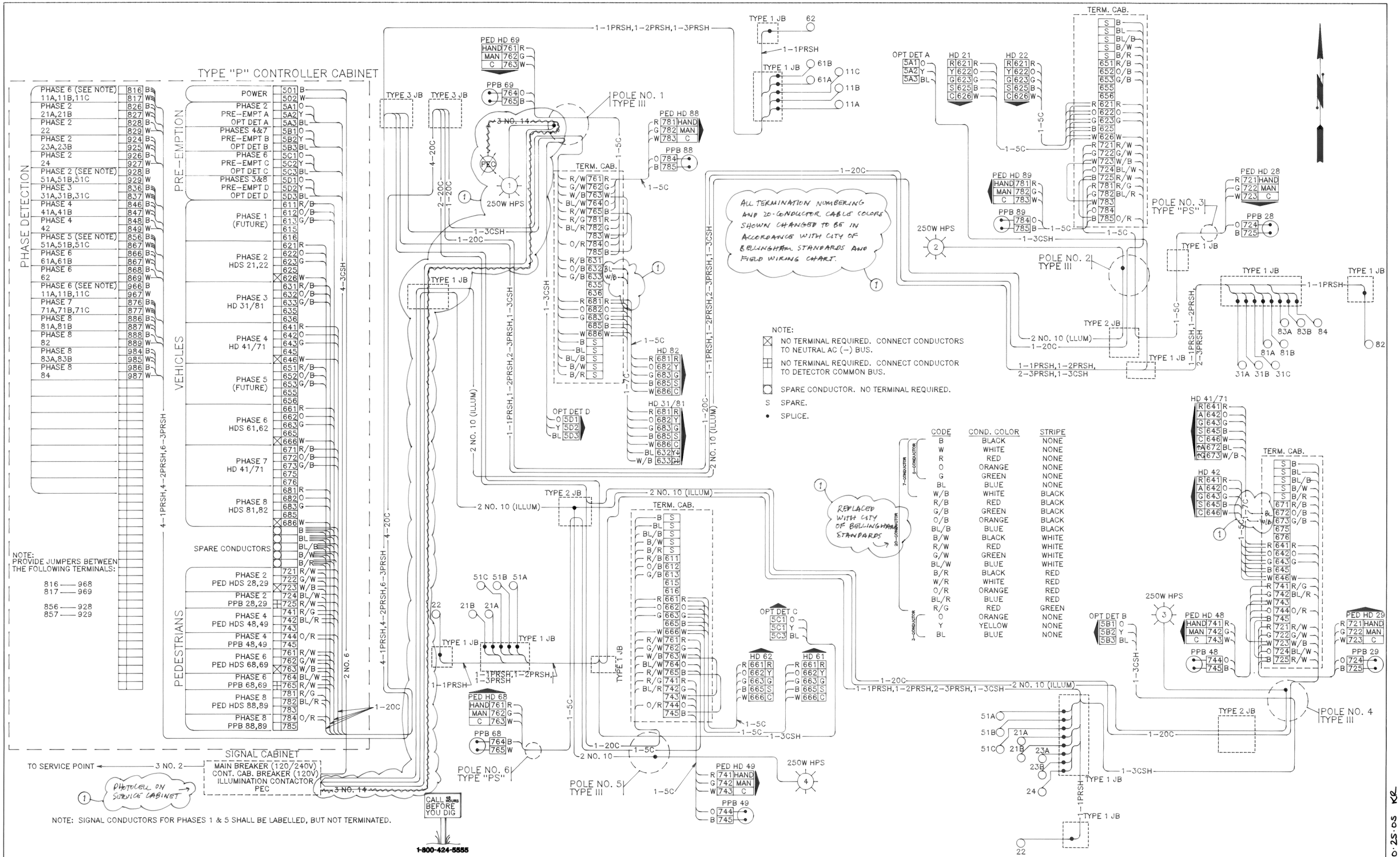
10-25-05 KR

FILE NAME RURSLN0	David I. Hamlin & Associates 1319 Dexter Avenue North Suite 270 Seattle, Washington 98109 (206) 285-9035	DAVID I. HAMLIN STATE OF WASHINGTON 18512 REGISTERED PROFESSIONAL ENGINEER EXPIRES: APRIL 26, 2002	AGENCY APPROVAL FOR BY DATE BY DATE	PROJECT TITLE RURAL AND SUNSET AVENUES IMPROVEMENTS PROJECT	SHEET TITLE Signal Notes
PLOT DATE				REVISIONS NO. DATE BY DESCRIPTION 1 7/28/05 RMH RECORD DRAWING	SHEET NO. TS-2
DESIGN DATE 9/01					OF SHEETS
DESIGNED D. HAMLIN					
DRAWN DesignCAD					
CHECKED					

0010 02 0226



CODE	COND. COLOR	STRIPE
B	BLACK	NONE
W	WHITE	NONE
R	RED	NONE
O	ORANGE	NONE
G	GREEN	NONE
BL	BLUE	NONE
W/B	WHITE	BLACK
R/B	RED	BLACK
G/B	GREEN	BLACK
O/B	ORANGE	BLACK
BL/B	BLUE	BLACK
B/W	BLACK	WHITE
R/W	RED	WHITE
G/W	GREEN	WHITE
BL/W	BLUE	WHITE
B/R	BLACK	RED
W/R	WHITE	RED
O/R	ORANGE	RED
BL/R	BLUE	RED
R/G	RED	GREEN
O	ORANGE	NONE
Y	YELLOW	NONE
BL	BLUE	NONE

7-CONDUCTOR
5-CONDUCTOR
20-CONDUCTOR
3-CONDUCTOR

FILE NAME	RURSLWD
PLOT DATE	
DESIGN DATE	9/01
DESIGNED	D. HAMLIN
DRAWN	DesignCAD
CHECKED	

David I. Hamin & Associates
1319 Dexter Avenue North Suite 270
Seattle, Washington 98109
(206) 285-9035

DAVID I. HAMLIN — STATE OF WASHINGTON — 16013 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES: APRIL 24, 2003

AGENCY APPROVAL	
FOR	
BY	
DATE	
BY	
DATE	

PROJECT TITLE: RURAL AND SUNSET AVENUES IMPROVEMENTS PROJECT

REVISIONS

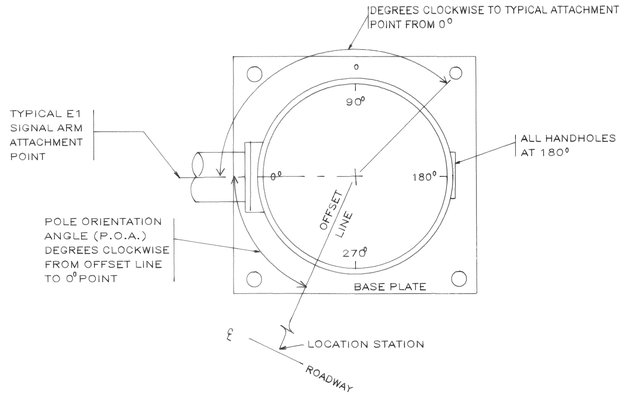
NO.	DATE	BY	DESCRIPTION
1	7/28/05	RMH	RECORD DRAWING

SHEET TITLE: Wiring Diagram

SHEET NO. TS-3

OF SHEETS IN THIS CATEGORY

00162.027 10-25-05 KR



POLE ORIENTATION AND ATTACHMENT POINT DETAIL

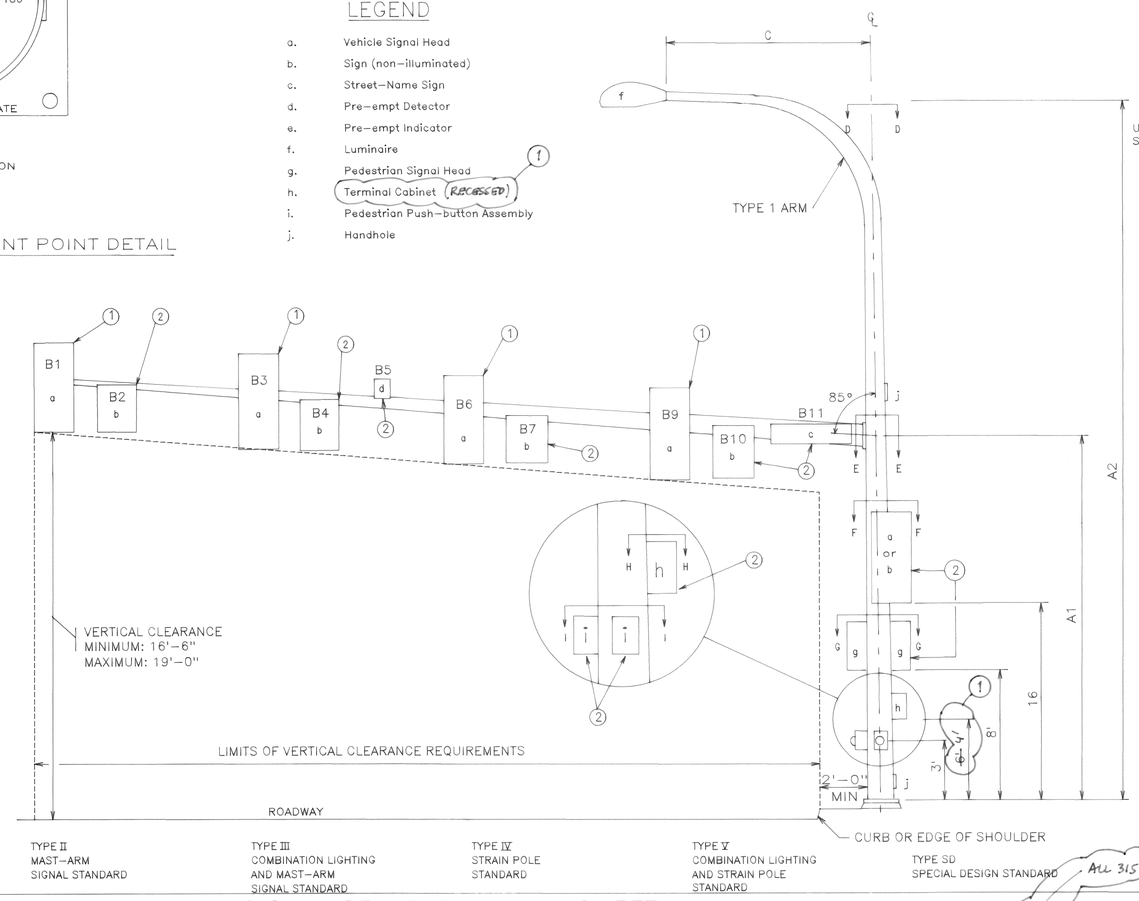
PLAN VIEW

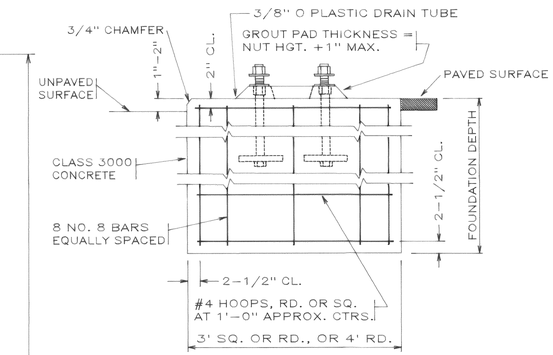
NOTES

1. Mounting tenons to be installed by fabricator at offset distances indicated in chart.
2. Field installed.
3. Foundation depths measured from existing ground line.

LEGEND

a. Vehicle Signal Head
b. Sign (non-illuminated)
c. Street-Name Sign
d. Pre-empt Detector
e. Pre-empt Indicator
f. Luminaire
g. Pedestrian Signal Head
h. Terminal Cabinet (RECESSED) (f)
i. Pedestrian Push-button Assembly
j. Handhole





FOUNDATION DETAIL

FOUNDATION DEPTH TABLE

ALLOWABLE LATERAL BEARING PRESSURE (PSF)	FOUNDATION TYPE	XYZ (CUBIC FEET) TYPE II, III, AND SD MAST-ARM STANDARDS					
		600	900	1,200	1,500	1,900	2,300
1,000	3' ROUND	10'	10'	11'	11'	13'	15'
	3' SQUARE	8'	8'	9'	9'	10'	11'
	4' ROUND	8'	8'	9'	9'	10'	11'
1,500	3' ROUND	8'	8'	9'	11'	13'	15'
	3' SQUARE	7'	7'	7'	8'	8'	9'
	4' ROUND	7'	7'	7'	8'	8'	9'
2,500	3' ROUND	6'	6'	7'	11'	13'	15'
	3' SQUARE	6'	6'	6'	6'	7'	7'
	4' ROUND	6'	6'	6'	6'	7'	7'

THIS TABLE IS BASED ON A PHI VALUE OF 26 DEGREES. FOR DOUBLE MAST-ARM STANDARDS, USE THE LARGER XYZ VALUE FOR FOUNDATION DEPTH SELECTION.

SIGNAL STANDARD DETAIL SHEET

STD. NO.	FIELD LOCATION STATION (1)	OFFSET	LT	RT	P.O.A.	STRAIN POLE CLASS	POLE TYPE	MOUNTING HEIGHT A1	MOUNTING HEIGHT A2	MAST-ARM LENGTH	OFFSET DISTANCES (Z) (POLE ℄ TO ATTACHMENT POINTS) B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	WINDLOAD AREAS (SQ. FT.) (X)(Y) B1	B2	B3	B4	B6	B7	B9	B10	B11	(X)(Y)(Z) (CU. FT.)	LUMINAIRE ARM (FT.) C	POLE ATTACHMENT POINT ANGLES (DEGREES) D	E1	E2	F	G1	G2	H	I1	I2	FOUNDATION DEPTHS (3) 3'RD.	3'SQ.	4'RD.	COMMENT
a	3+~~79~~ 68.5 (1)	51	X		0	N/A	III	18.5	35	49	49(2)	47.5	45		39	41(2)			31		10	9.2	5			9.2		9.2		10	1215	16	0	0			180	270	~~135~~	0	270	11	6	6	WINDLOAD BASED ON FUTURE CONDITION WITH 3 SIGNAL HEADS.
b	10+54 (1)	67	X		78°	N/A	III	18.5	35	36	36(2)	34.5	28		24	20					10	9.2	6	9.2		9.2				10	875	16	0	0			90	–	~~135~~	0	–	6	6	6	WINDLOAD BASED ON FUTURE CONDITION WITH 3 SIGNAL HEADS.
c	10+96 (1)	48	X		N/A	N/A	PS																																								SEE STD. PLAN J-7a FOR FOUNDATION DETAIL.
d	11+01 (1)	48		X	0	N/A	III	18.5	35	45	45(2)	43.5	41		35	37(2)			27		10	9.2	6	9.2		9.2		9.2		10	1105	16	0	0			90	180	~~135~~	0	270	7	6	6	WINDLOAD BASED ON FUTURE CONDITION WITH 3 SIGNAL HEADS.
e	10+08 (1)	60		X	78°	N/A	III	18.5	35	33	33(2)	31.5	27		23	19					10	9.2	6	9.2		9.2				10	830	16	0	0			90	–	~~135~~	0	–	6	6	6	WINDLOAD BASED ON FUTURE CONDITION WITH 3 SIGNAL HEADS.
f	3+85 (1)	39		X	N/A	N/A	PS																																								SEE STD. PLAN J-7a FOR FOUNDATION DETAIL.

(1) ALL 315°

NOTE: ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

(1) STATIONING ON SLATER ROAD.
(2) FUTURE HEAD LOCATION. INSTALL WEATHERPROOF CAP.

CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555

FILE NAME	RURSLPD
PLOT DATE	
DESIGN DATE	9/01
DESIGNED	D. HAMLIN
DRAWN	DesignCAD
CHECKED	

David I. Hamlin & Associates
1319 Dexter Avenue North Suite 270
Seattle, Washington 98109
(206) 285-9035

DAVID I. HAMLIN STATE OF WASHINGTON 16013 REGISTERED PROFESSIONAL ENGINEER
2/27/02
EXPIRES: APRIL 24, 2003

AGENCY APPROVAL	
FOR	
BY	
DATE	
BY	
DATE	

PROJECT TITLE: RURAL AND SUNSET AVENUES IMPROVEMENTS PROJECT

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	7/28/05	RMH	RECORD DRAWING

SHEET TITLE: Pole Details

SHEET NO. TS-4

OF SHEETS IN THIS CATEGORY

00182.028 10.25.05 KR