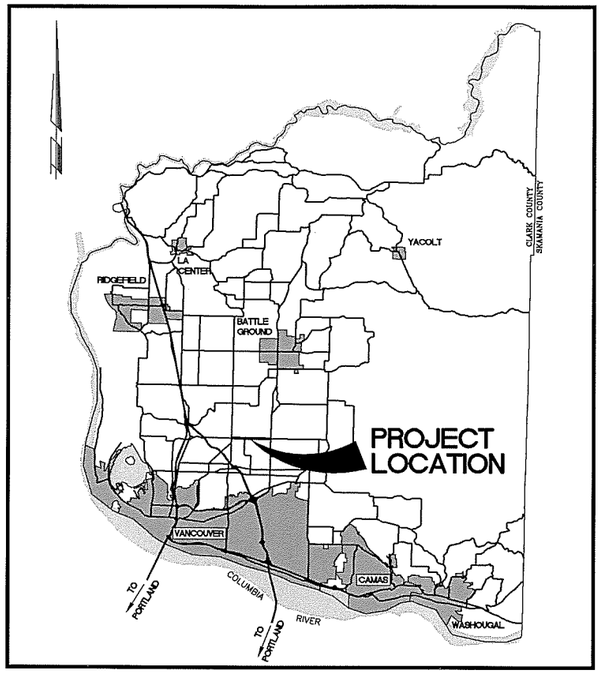
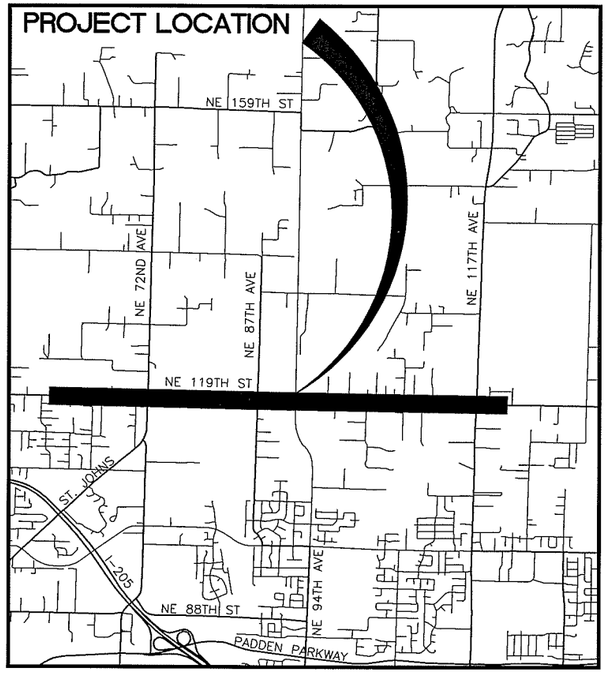
CAPITAL IMPROVEMENTS PROGRAM
COUNTY ROAD PROJECT #340722

NE 119TH STREET

VICINITY WEST OF NE 72ND AVE TO NE 117TH AVE (SR-503)

PLANS FOR THE CONSTRUCTION OF
ROADWAYS AND STORM DRAINAGE





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PRELIMINARY

30% REVIEW SET

ENG #

COMMISSIONERS:

BETTY SUE MORRIS, Chair
MARC BOLDT, Commissioner
STEVEN J. STUART, Commissioner

proud past, promising future
CLARK COUNTY
WASHINGTON

DEPARTMENT OF
PUBLIC WORKS

ENGINEERING PROGRAM - DESIGN SECTION

TROY M. PIERCE
STATE OF WASHINGTON
41411
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

JOHN M. MILNE
STATE OF WASHINGTON
31148
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES: JULY 7, 2007

Quality Assurance	Project Manager	Public Works Director/ County Engineer
Tom Grange, P.E. DATE:	Linda Small DATE:	Peter Capell, P.E. DATE:

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CLARK COUNTY
WASHINGTON

Recommended for Approval

Grading _____ Erosion _____

Storm Water Plan _____

Development Review Manager _____ Date

SUMMARY OF QUANTITIES

ItemNum	BID ITEM	UNIT	QUANTITY
109.07	MOBILIZATION	L.S.	1
109.10	MINOR CHANGE	CALC.	1
109.13	REPLACEMENT STAKING SERVICES	HOUR	10
109.14	SPCC PLAN	L.S.	1
	TRAFFIC CONTROL		
110.00	FLAGGERS AND SPOTTERS	HOUR	5000
110.11	TRAFFIC CONTROL SUPERVISOR	L.S.	1
110.30	OTHER TEMPORARY TRAFFIC CONTROL	L.S.	1
110.40	CONSTRUCTION SIGNS CLASS A	S.F.	600
	PREPARATION		
201.01	CLEARING AND GRUBBING	ACRE	2
201.20	ROADSIDE CLEANUP	EST.	1
202.00	REMOVAL OF STRUCTURES AND OBSTRUCTION	L.S.	1
	GRADING		
203.10	ROADWAY EXCAVATION INCL. HAUL	C.Y.	54052
203.15	STORMWATER FACILITY EXCAVATION INCL. HAUL	C.Y.	38388
203.20	EMBANKMENT COMPACTION	C.Y.	77692
207.00	WATER	MGAL	1000
	SURFACING		
404.50	CRUSHED SURFACING BASE COURSE	TON	88402
404.52	CRUSHED SURFACING TOP COURSE	TON	3343
	ASPHALT CONCRETE PAVEMENT		
504.32	HMA CL 1/2" PG 64-22	TON	14698
504.33	HMA CL 1/2" PG 64-22	TON	22048
504.11	SAWCUT EXISTING ASPHALT PAVEMENT	L.F.	170
504.21	HMA FOR APPROACH CL. 1/2" PG 64-22	S.Y.	1820
	STRUCTURES		
612.30	NOISE BARRIER/RETAINING WALL DESIGN	L.S.	0
612.32	NOISE BARRIER/RETAINING WALL	S.F.	0
613.41	GEOGRID SOIL REINFORCEMENT FABRIC	S.Y.	0
613.51	MODULAR/SEGMENTAL BLOCK RET. WALL (Incl. Cap Unit)	S.F.	0
	DRAINAGE STRUCTURES, STORM SEWER, UTILITIES		
701.5??	PERFORATED INFILTRATION PIPE 30 IN DIAM.	L.F.	300
704.10	STORM SEWER PIPE, 10 IN. DIAM.	L.F.	3449
704.12	STORM SEWER PIPE, 12 IN. DIAM.	L.F.	1200
704.18	STORM SEWER PIPE, 18 IN. DIAM.	L.F.	9669
704.24	STORM SEWER PIPE, 24 IN. DIAM.	L.F.	3939
704.36	STORM SEWER PIPE, 36 IN. DIAM.	L.F.	5546
704.??	STORM SEWER PIPE, 36 IN. DIAM. (CL V; DEEP)	L.F.	0
602.??	REINFORCED CONCRETE BOX CULVERT 8FT X 8FT	L.F.	197
705.01	MANHOLE 48 IN. DIAM. TYPE 1	EACH	65
705.14	MANHOLE 60 IN. DIAM. TYPE 1	EACH	0
705.3?	MANHOLE 72 IN. DIAM. TYPE 2	EACH	20
705.35	CATCH BASIN TYPE 1	EACH	10
705.60	PRECAST CONCRETE DRYWELL	EACH	2
705.63	CONCRETE COMBINATION CURB INLET	EACH	96
705.64	CONCRETE DITCH INLET	EACH	0
706.00?	STANDARD PRECAST STORMFILTER UNIT	EACH	1
	EROSION CONTROL AND PLANTING		
	EROSION CONTROL AND LANDSCAPING	L.S.	1
801.20	ESC LEAD	DAY	120
801.40	STABILIZED CONSTRUCTION ENTRANCE	EACH	3
801.50	INLET PROTECTION	EACH	104
801.51	SILT FENCE	L.F.	18377
	WETLAND PLANTING (SWFs)	ACRE	8.50
	WETLAND ENHANCEMENT (OFFSITE; PLANTING ONLY)	ACRE	20.20
	OTHER		
804.00	CEMENT CONC. TRAFFIC CURB	L.F.	25650
804.01	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	35000
806.00	CEMENT CONCRETE APPROACH, 3-DAY	S.Y.	1819
814.01	CEMENT CONCRETE SIDEWALK	S.Y.	18800
812.13	CHAIN LINK FENCE TYPE 6	L.F.	3334
812.30	WIRE FENCE TYPE 1	L.F.	3344
812.53	FENCE REMOVAL	L.F.	7400
812.85	CONSTRUCT 6 FOOT CEDAR FENCE	L.F.	721
814.05	DETECTABLE WARNING PATTERN	EACH	32
818.00	MAILBOX SUPPORT TYPE 1	EACH	51
820.30	TRAFFIC SIGNAL SYSTEM (NE 119TH ST / NE 72ND AVE)	L.S.	1
820.30	TRAFFIC SIGNAL SYSTEM (NE 119TH ST / NE 87TH AVE)	L.S.	1
820.30	TRAFFIC SIGNAL SYSTEM (NE 119TH ST / NE 117TH AVE)	L.S.	1
820.30	RAILROAD CROSSING (INCL TRACK AND SIGNAL WORK)	L.S.	1
	UTILITY RELOCATION	L.S.	1
N.A.	STORMWATER BANKING VOLUME	AC-FT	2

PRELIMINARY

GENERAL NOTES

1. SURVEY DATUM PER CLARK COUNTY.

2. EXISTING UTILITIES SHOWN ON THE PLANS ARE PER SURFACE LOCATIONS, RECORD DRAWINGS, AND LIMITED POTHOLE DATA. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. IF CONFLICT EXISTS, NOTIFY THE ENGINEER AND UTILITY COMPANY. PROCEED ONLY AS DIRECTED AND PER STANDARD POLICY AND REGULATIONS (INCIDENTAL TO STORM SEWER PIPE).

3. ALL NECESSARY CONSTRUCTION SURVEY SHALL BE PROVIDED AT NO COST TO THE CONTRACTOR. HOWEVER, THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING NEEDED SURVEY STAKES DESTROYED THROUGH NORMAL OPERATIONS, NEGLIGENCE, OR INATTENTION.

4. AT THE END OF EACH DAY, THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.

5. IF EXISTING CONCRETE CURBS AND SIDEWALKS DESIGNATED TO REMAIN ARE DAMAGED, THEY WILL BE REMOVED AND REPLACED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

6. CONTRACTOR TO NOTIFY THE C-TRAN OPERATION CHIEF 72 HOURS PRIOR TO CONSTRUCTION NEAR ANY C-TRAN FACILITY.

7. CONTRACTOR TO COORDINATE UTILITY RELOCATIONS WITH CLARK PUBLIC UTILITIES FOR POWER AND WATER, QWEST FOR TELEPHONE, NW NATURAL FOR GAS, COMCAST FOR CABLE TV, AND HAZEL DELL SEWER DISTRICT FOR SANITARY SEWER.

8. CONTRACTOR SHALL PROTECT EXISTING WATER SERVICE LINES. ALL DISTURBED WATER SERVICE LINES SHALL BE REPAIRED AS DIRECTED. ALL RELOCATED METERS WILL BE RESET IN ACCORD WITH CLARK PUBLIC UTILITIES STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF EXISTING WATER SERVICE LINES DESTROYED THROUGH NEGLIGENCE AND/OR INATTENTION.

9. CONTRACTOR TO MAINTAIN INGRESS AND EGRESS FROM ALL PRIVATE PROPERTY DRIVEWAYS DURING CONSTRUCTION.

LEGEND

ROW LINE
NEW EDGE OF PAVEMENT
NEW CURB LINE
NEW CENTER LINE
NEW FENCE LINE
NEW STORM DRAIN OR CULVERT
NEW FILL LIMITS
NEW CUT LIMITS
SAWCUT LINE
PERMANENT SLOPE EASEMENT
NEW SILT FENCE
EXISTING EDGE OF PAVEMENT
EXISTING CURB LINE
EXISTING CENTER LINE
EXISTING FENCE LINE
EXISTING TELEPHONE LINE
EXISTING WATER LINE
EXISTING UNDERGROUND ELECTRIC
EXISTING SANITARY SEWER LINE
EXISTING STORM DRAINAGE
EXISTING GAS LINE
EXISTING CULVERT
EXISTING DITCH CENTER LINE
EXISTING GUARDRAIL

SYMBOLS

NEW CATCH BASIN (CB)
NEW MANHOLE (MH)
NEW CURB INLET (CI)
NEW COMBINATION CURB INLET (CCI)
NEW MAIL BOX
NEW HANDICAP RAMP
CURVE TABLE
EXISTING TRANSFORMER
EXISTING ELEC TOWER
EXISTING SANITARY SEWER MH
EXISTING FIRE HYDRANT
EXISTING CLEAN OUT
EXISTING GAS VALVE
EXISTING WATER METER
EXISTING WATER VALVE
EXISTING SIGNAL POLE
EXISTING TELEPHONE VAULT
EXISTING TELEVISION BOX
EXISTING WELL
EXISTING BRUSH LINE
EXISTING HEDGE
EXISTING CURB INLET (CI)
EXISTING CATCH BASIN (CB)
EXISTING STORM MH
EXISTING MISC MH
EXISTING SHRUB
EXISTING CONIFEROUS TREE
EXISTING DECIDUOUS TREE
EXISTING SIGN
EXISTING DECIDUOUS TREE
EXISTING J BOX
EXISTING TELEPHONE MANHOLE
EXISTING TELEPHONE POLE
EXISTING LIGHT
EXISTING GUY ANCHOR
EXISTING POWER POLE
EXISTING MAIL BOX
EXISTING TELEPHONE PEDESTAL
EXISTING SPRINKLER HEAD
TRAVERSE POINT
TEST HOLE

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	SQ1
SHEET	2 OF X

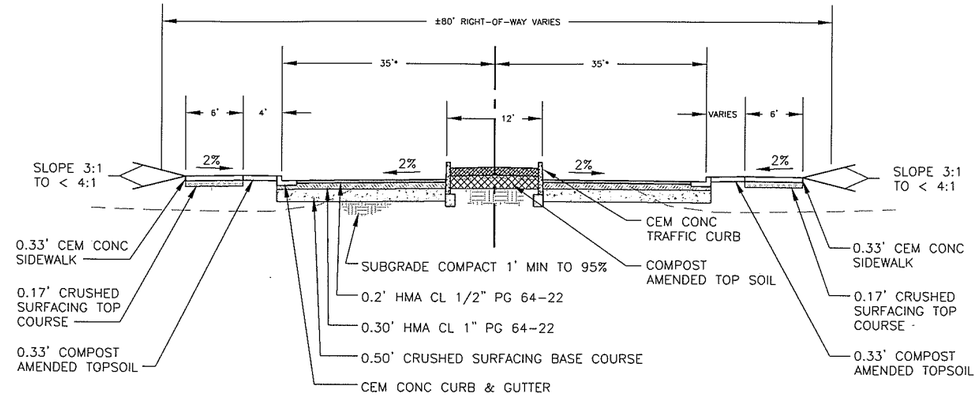
CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

JOHN M. PIERCE STATE OF WASHINGTON 14411 PROFESSIONAL ENGINEER
EXPIRES JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
SUMMARY OF QUANTITIES AND LEGEND

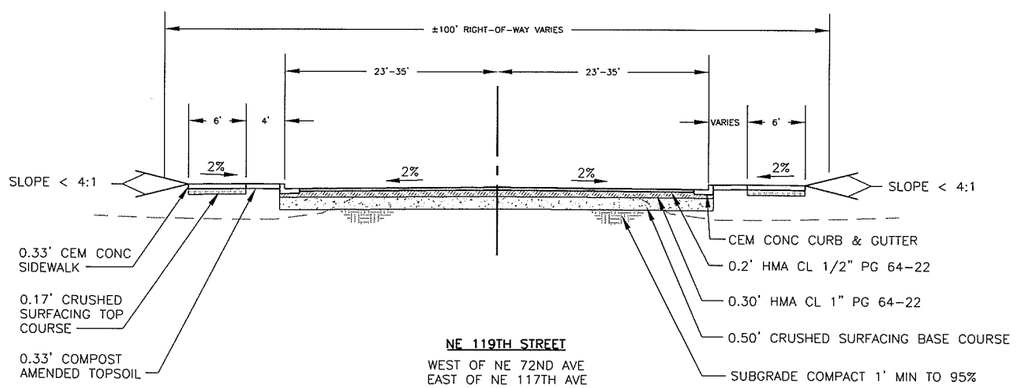
proud past, promising future
CLARK COUNTY
WASHINGTON



NE 119TH STREET

NE 72ND AVE TO NE 117TH AVE

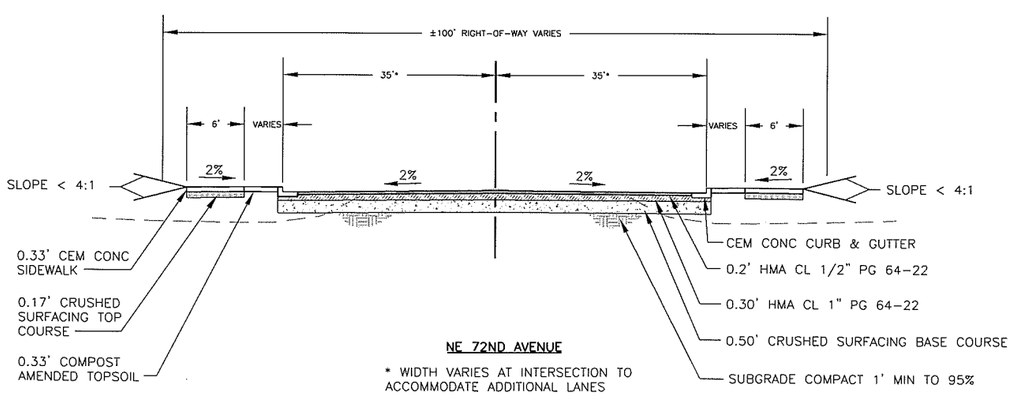
* WIDTH VARIES AT INTERSECTION TO ACCOMMODATE ADDITIONAL LANES



NE 119TH STREET

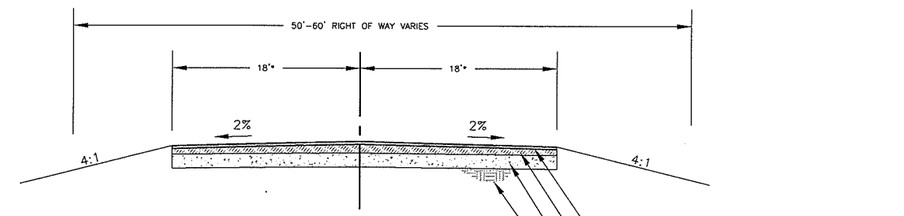
WEST OF NE 72ND AVE
EAST OF NE 117TH AVE

* WIDTH VARIES AT INTERSECTION TO ACCOMMODATE ADDITIONAL LANES



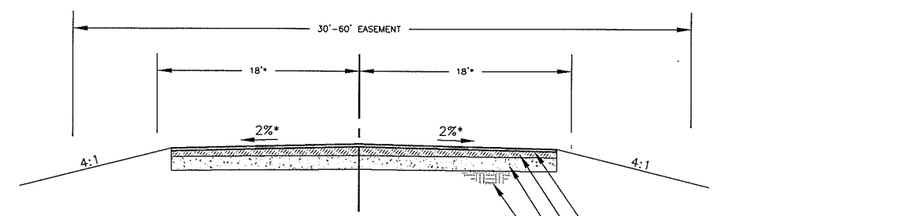
NE 72ND AVENUE

* WIDTH VARIES AT INTERSECTION TO ACCOMMODATE ADDITIONAL LANES



NE 72ND AVENUE
NE 87TH AVENUE
NE 102ND AVENUE
NE 107TH AVENUE

* WIDTH AND SLOPE VARIES, FROM 18' AND 2% RESPECTIVELY, TO MATCH EXISTING ROADWAYS.



GLENWOOD CHURCH DRIVEWWAY
NE 96TH AVENUE (P)
NE 98TH AVENUE (P)
NE 102ND AVENUE (P)
NE 103RD AVENUE (P)
NE 107TH AVEVUE (P)
NE 108TH AVENUE (P)
NE 111TH AVENUE (P)

* WIDTH AND SLOPE VARIES, FROM 18' AND 2% RESPECTIVELY, TO MATCH EXISTING ROADWAYS.

PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	TS1
SHEET	3 OF X

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NORTHWEST UTILITIES NOTIFICATION CENTER

TROY M. PIERCE
STATE OF WASHINGTON
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
TYPICAL SECTIONS

proud past, promising future
CLARK COUNTY
WASHINGTON

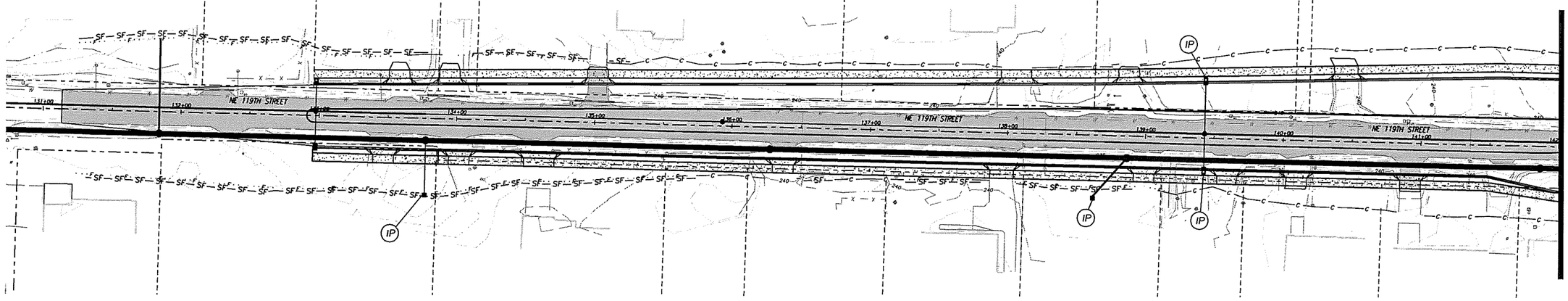
SCALE IN FEET

40 0 40 80

LEGEND

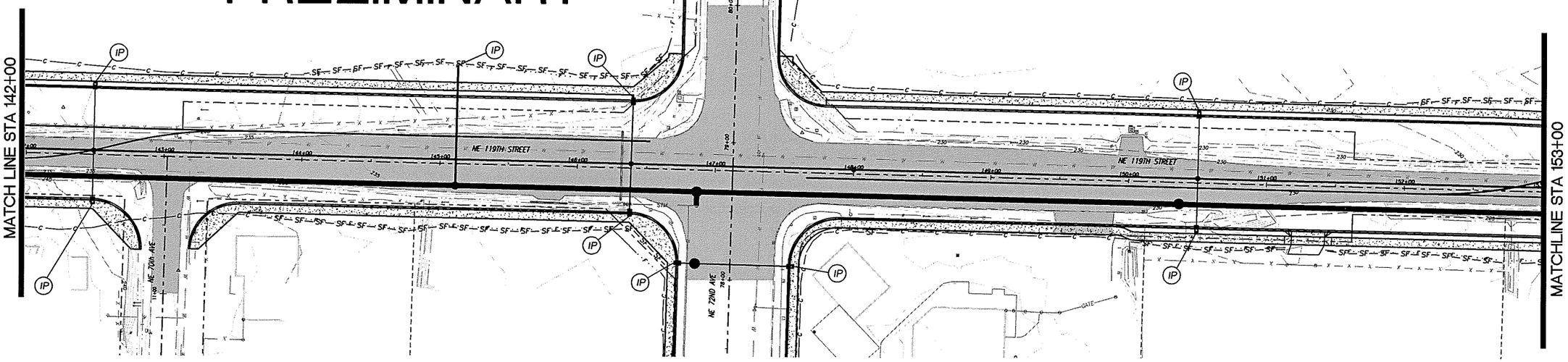
-SF—SF- SILT FENCE

(IP) INLET PROTECTION

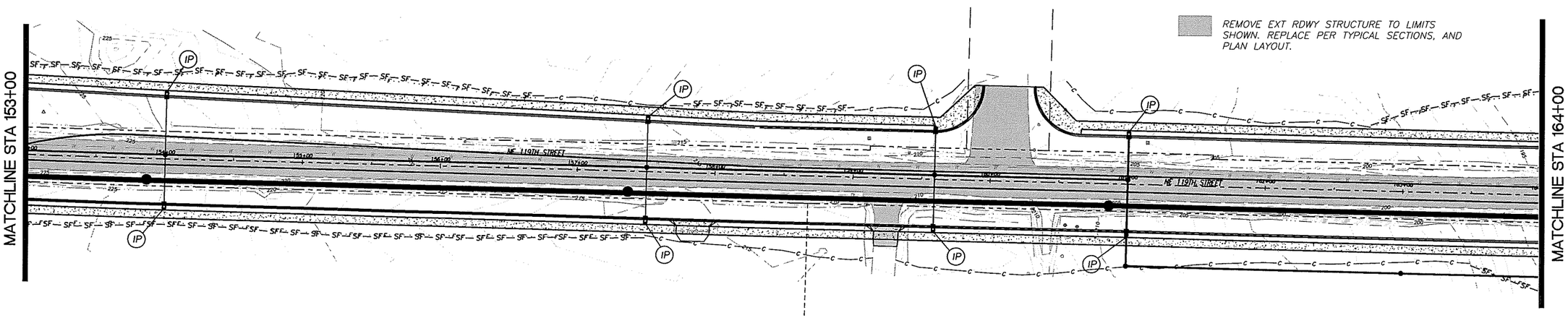


PRELIMINARY

NOTE:
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.



REMOVE EXT RDWY STRUCTURE TO LIMITS SHOWN. REPLACE PER TYPICAL SECTIONS, AND PLAN LAYOUT.



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	EC1
SHEET	6 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law"

NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON TROY A. CLARKE 41411 REGISTERED PROFESSIONAL ENGINEER

EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

EROSION CONTROL PLAN AND PAVEMENT REMOVAL

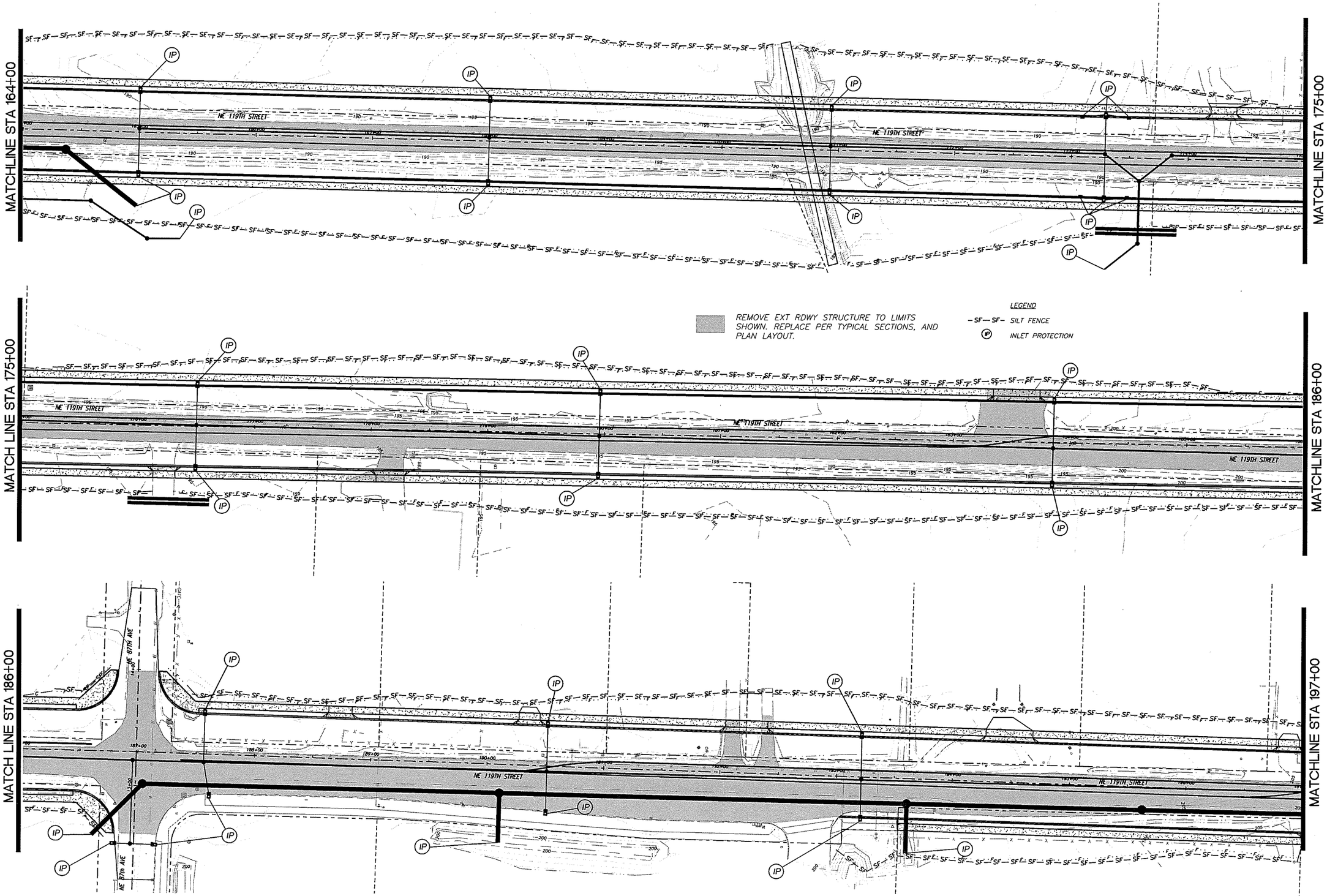
proud past, promising future

CLARK COUNTY
WASHINGTON

NOTE:
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

PRELIMINARY

SCALE IN FEET
40 0 40 80



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ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
EROSION CONTROL PLAN AND PAVEMENT REMOVAL

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PRELIMINARY

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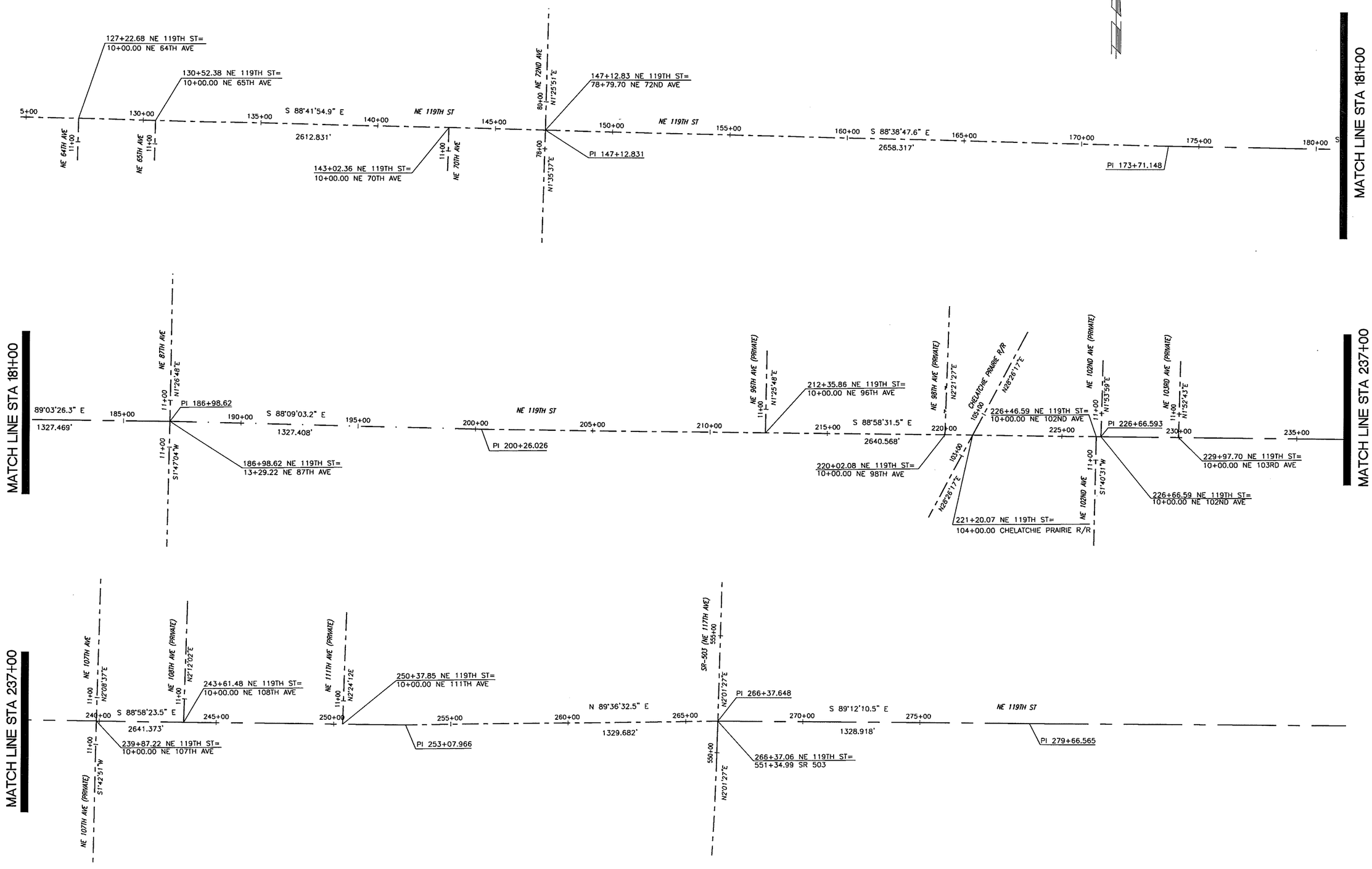

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ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
HORIZONTAL AND VERTICAL CONTROL

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PRELIMINARY

LEGEND

-SF-SF- SILT FENCE

(IP) INLET PROTECTION

NOTE:
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

REMOVE EXT RDWY STRUCTURE TO LIMITS SHOWN. REPLACE PER TYPICAL SECTIONS, AND PLAN LAYOUT.

SCALE IN FEET
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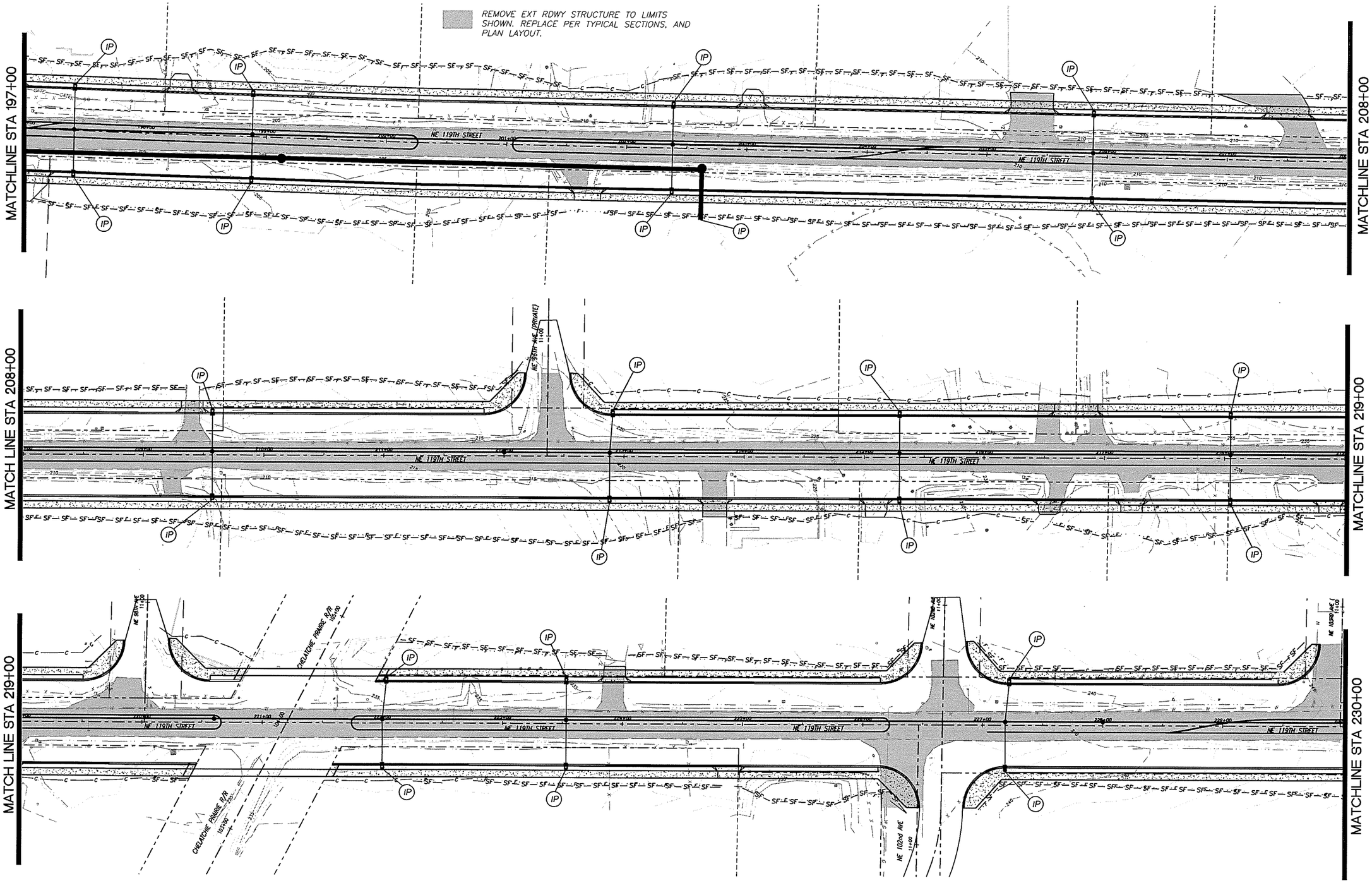

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ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

EROSION CONTROL PLAN AND PAVEMENT REMOVAL

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LEGEND

-SF-SF- SILT FENCE

(IP) INLET PROTECTION

NOTE:
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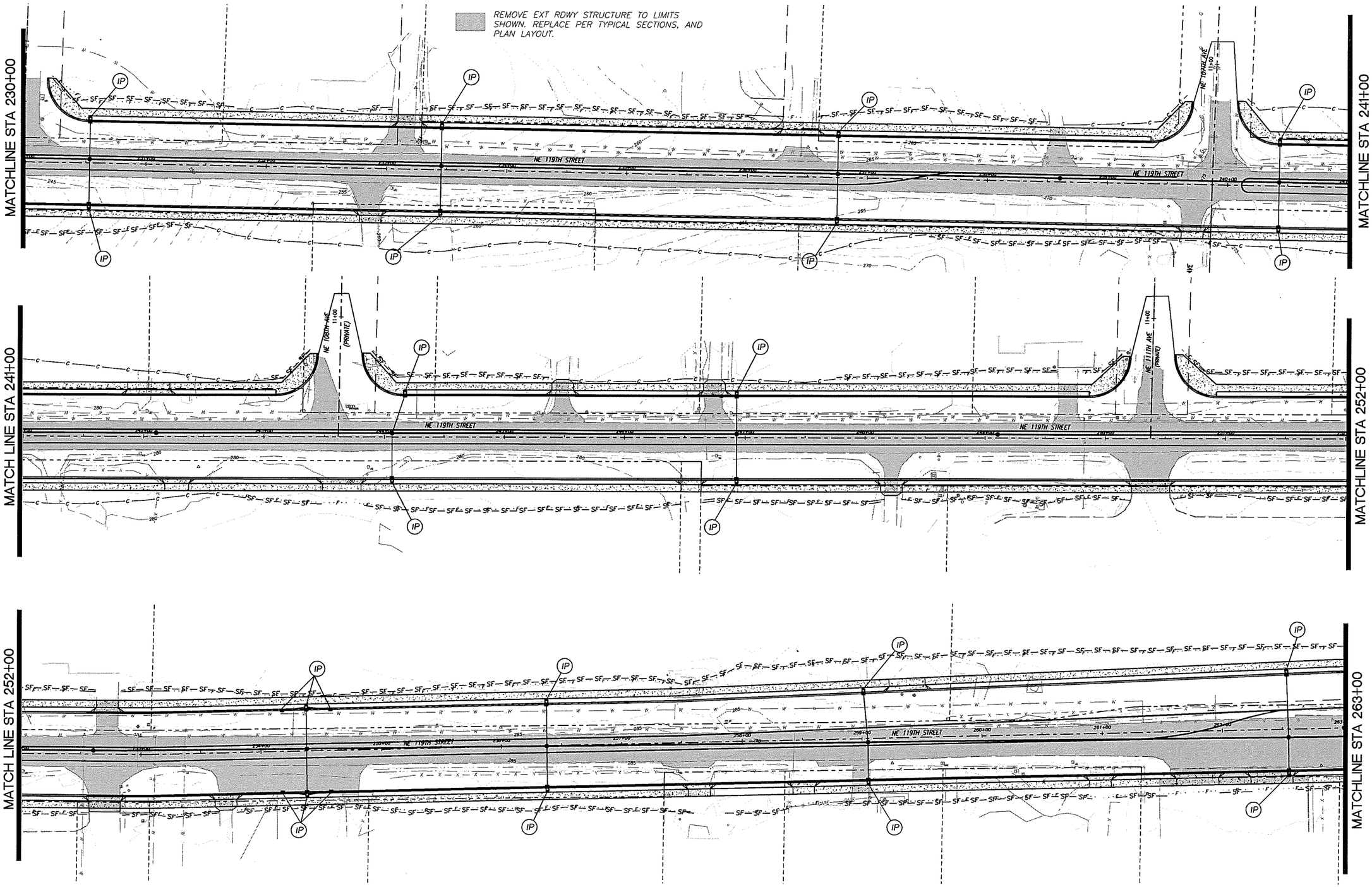
REMOVE EXT RDWY STRUCTURE TO LIMITS SHOWN. REPLACE PER TYPICAL SECTIONS, AND PLAN LAYOUT.



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ENGINEERING PROGRAM
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NE 119TH STREET EAST

EROSION CONTROL PLAN AND PAVEMENT REMOVAL

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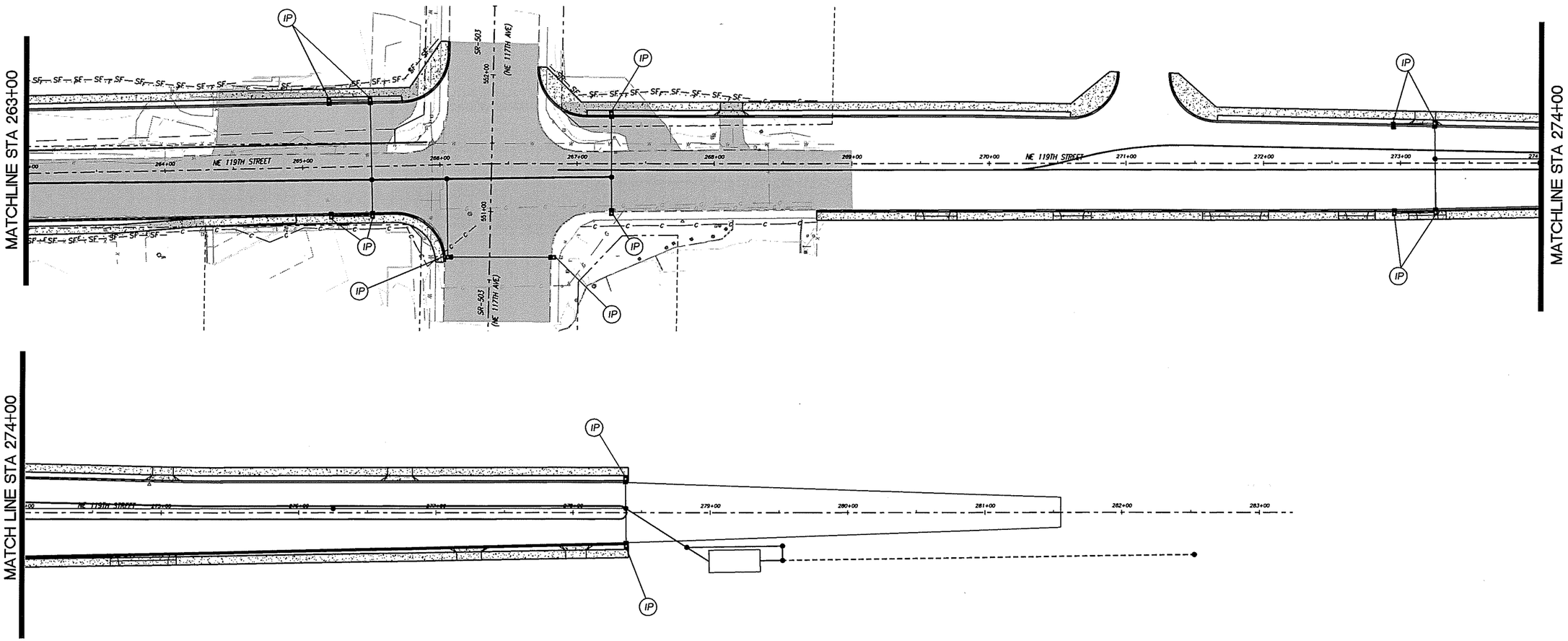

LEGEND

-SF—SF- SILT FENCE

IP INLET PROTECTION

NOTE:
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EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
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NE 119TH STREET EAST
EROSION CONTROL PLAN AND PAVEMENT REMOVAL

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PRELIMINARY

SCALE IN FEET
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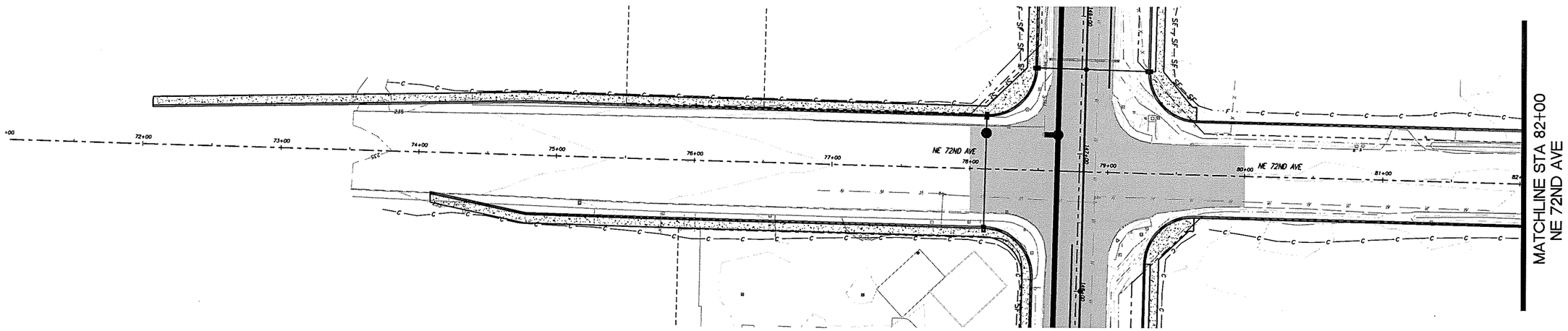

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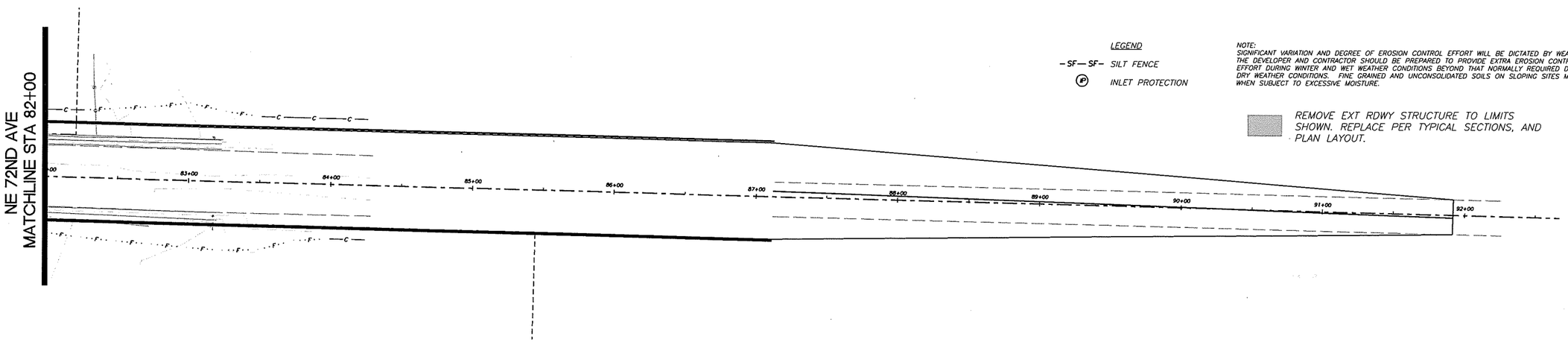

LEGEND

-SF-SF- SILT FENCE

(IP) INLET PROTECTION

NOTE:
SIGNIFICANT VARIATION AND DEGREE OF EROSION CONTROL EFFORT WILL BE DICTATED BY WEATHER CONDITIONS. THE DEVELOPER AND CONTRACTOR SHOULD BE PREPARED TO PROVIDE EXTRA EROSION CONTROL PROVISIONS AND EFFORT DURING WINTER AND WET WEATHER CONDITIONS BEYOND THAT NORMALLY REQUIRED DURING SUMMER AND DRY WEATHER CONDITIONS. FINE GRAINED AND UNCONSOLIDATED SOILS ON SLOPING SITES MAY BECOME UNSTABLE WHEN SUBJECT TO EXCESSIVE MOISTURE.

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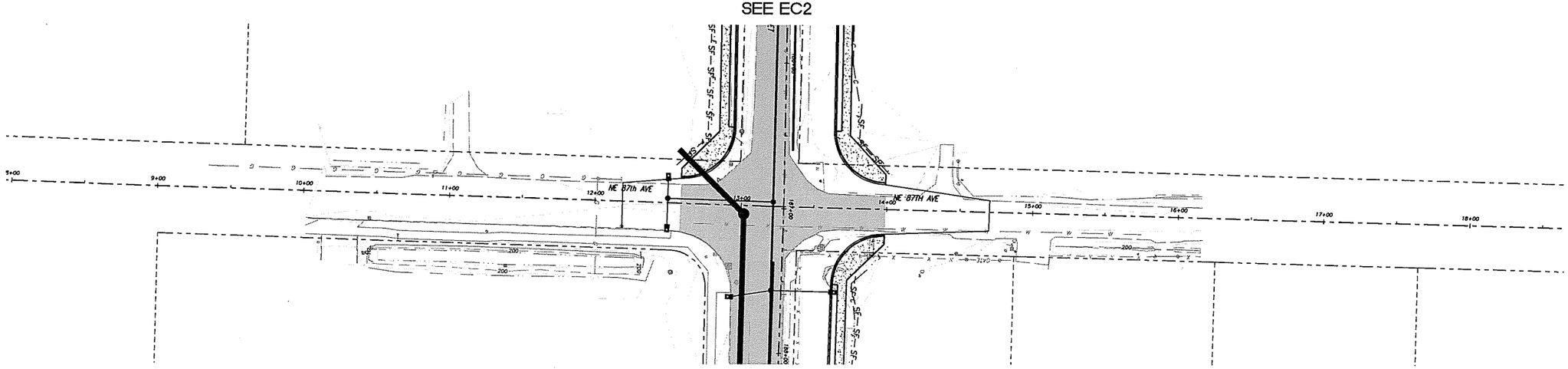
SEE EC2



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VERT.	SEE SHEET
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SHEET	11 OF X

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STATE OF WASHINGTON
MICHAEL P. HERRON
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EXPIRES: JAN. 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
EROSION CONTROL PLAN AND PAVEMENT REMOVAL

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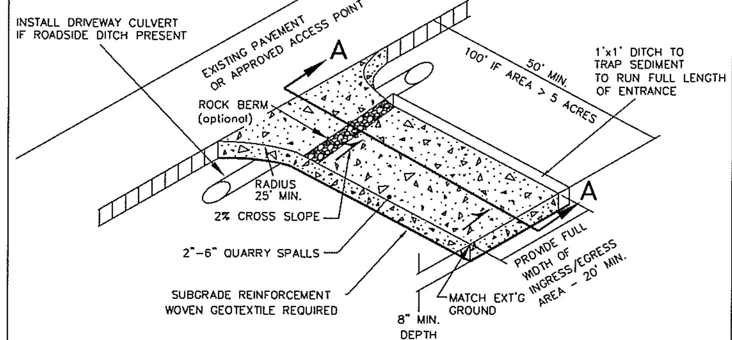

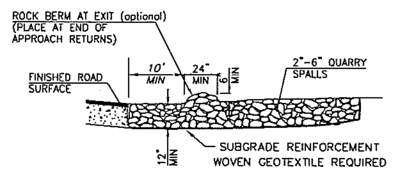

SECTION A-A

1. EXCAVATE MINIMUM OF 12" OF EXISTING SOILS.
2. PLACE MINIMUM OF 12" OF 2"-6" QUARRY SPALLS
3. CONSTRUCT ROCK BERM ALONG TRANSITION POINT TO FINISH ROAD SURFACES, DIVERT RUNOFF TO ONSITE AREA (OPTIONAL).

NOTES:

1. FOR DEVELOPMENT PROJECTS REVIEWED BY ENGINEERING SERVICES. NOT FOR USE WITH SINGLE FAMILY OR DUPLEX RESIDENTIAL BUILDING PERMITS. SEE BUILDING DEPT. FOR GRAVEL CONSTRUCTION ENTRANCE PLAN.
2. INSTALL WOVEN GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.
3. VEHICLE WASHDOWN AREA, IF REQUIRED, IS TO BE INSTALLED AND USED TO REMOVE SEDIMENT FROM VEHICLES THAT ARE ABOUT TO ENTER AN ESTABLISHED ROAD.
4. WASHDOWN AREA TO BE MADE UP OF CLEAN 2"- 6" QUARRY SPALLS, 1" DEEP (MIN) OVER WOVEN GEOTEXTILE FABRIC. WASHDOWN AREA TO BE FULL WIDTH OF ENTRANCE AND 50' (MIN.), AND 100' IF EXPOSED SOIL IS OVER 5 ACRES.
5. AT TIME OF PRECONSTRUCTION MEETING, THE COUNTY INSPECTOR MAY REQUIRE THE ENTRANCE TO BE PAVED TO THE EDGE OF THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF A WASHDOWN ENTRANCE TO AVOID DAMAGE TO THE EXISTING ROADWAY.
6. THE RESPONSIBLE EROSION CONTROL INDIVIDUAL IS TO ENSURE THAT ALL VEHICLES USE THIS ENTRANCE AND ARE TO BE INSPECTED AND CLEANED OF SOILS BEFORE LEAVING PROJECT, AND THAT THE ENTRANCE IS TO BE KEPT CLEAN AT ALL TIMES.

NO.	REVISIONS	DATE	BY

DWG: E-1.DWG

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CLARK COUNTY WASHINGTON
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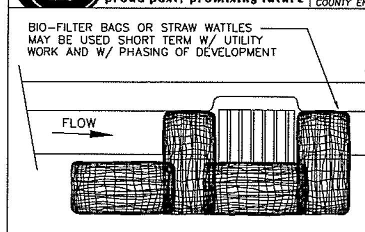
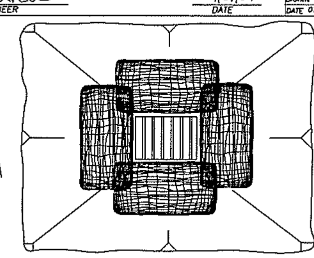
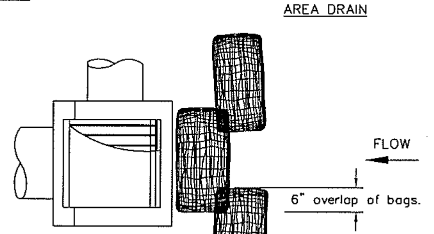
STANDARD CONSTRUCTION ENTRANCE — STANDARD E-1
APPROVED 01/01/04 — COUNTY ENGINEER — DATE



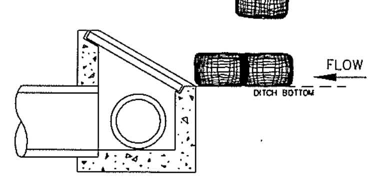
CATCH BASIN



AREA DRAIN



PLAN VIEW



DITCH INLET

NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. STRAW WATTLES MUST BE STABILIZED BY ATTACHING WIRE CLIPS TO THE CATCH BASIN PER MANUFACTURES SPECIFICATIONS.
4. INLET PROTECTION MUST BE REGULARLY INSPECTED BY THE EROSION CONTROL INDIVIDUAL TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.
5. SEE INLET PROTECTION NOTES STD. PLAN E-3

NO.	REVISIONS	DATE	BY

DWG: E-3c.DWG

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CLARK COUNTY WASHINGTON
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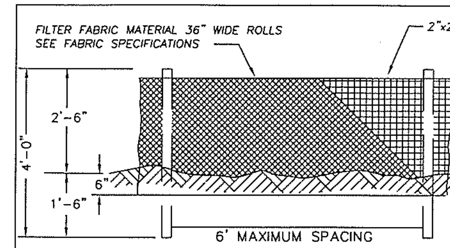
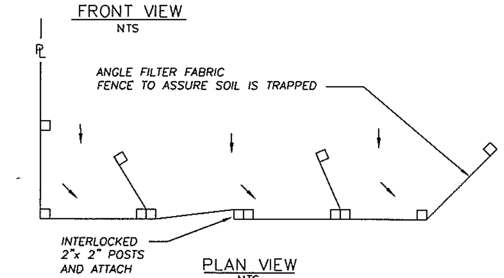
INLET PROTECTION TYPE 4 BIOFILTER BAGS — STANDARD E-3c
APPROVED 01/01/04 — COUNTY ENGINEER — DATE



FRONT VIEW
NTS

SEDIMENT FENCE FABRIC SPECIFICATIONS (Woven Polyproylene sediment fence fabric)

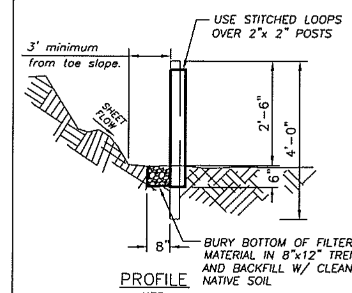
PROPERTY	TEST PROCEDURE	MIN. FABRIC VALUE
Grab Tensile Strength	ASTM D-4632	180 lbs.
Grab elongation	ASTM D-4632	15%
trapezoid Tear	ASTM D-4533	70 lbs.
Mullen Burst	ASTM D-3786	300 psi.
Puncture	ASTM D-4833	80 lbs.
Permitivity	ASTM D-4491	0.07 sec-1
Permeability	ASTM D-4491	.005 cm/sec
A.O.S.	ASTM D-4751	50 U.S. Sieve
UV Resistance(500 hrs)	ASTM D-4355	90%



PLAN VIEW
NTS

NOTES

1. THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS, IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED. (SEE FABRIC SPECIFICATIONS ABOVE)
2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
3. POST ARE TO BE 2"x2" FIR, PINE OR STEEL FENCE POSTS.
4. POST TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
5. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
6. SEDIMENT FENCE TO BE SPACED ON SLOPES PER TABLE BELOW.



PROFILE
NTS

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	SLOPE	MAX. SPACING ON SLOPE
10% FLATTER	10:1 OR FLATTER	300 ft.
10>%<15	10:1>x<7.5:1	150 ft.
15>%<20	7.5:1>x<5:1	100 ft.
20>%<30	5:1>x<3.5:1	50 ft.
30>%<50	3.5:1>x<2:1	25 ft.

NO.	REVISIONS	DATE	BY

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CLARK COUNTY WASHINGTON
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STANDARD SEDIMENT FENCE — STANDARD E-4
APPROVED 01/01/04 — COUNTY ENGINEER — DATE

PRELIMINARY

STANDARD NOTES FOR EROSION CONTROL PLAN

1. The Contractor shall install and maintain BMP's as shown and perform all actions necessary to prevent erosion, and control sediment from leaving the construction site. Site Contractor shall comply with Clark County Code Chapter 40.380.050.

2. All erosion control measures shall be in-place and in working condition prior to disturbing and exposing any soil surfaces (i.e. silt fence, construction entrance, sedimentation barriers, sedimentation traps).

3. All erosion prevention and control BMP's shall be maintained and repaired as needed to insure continued performance of their intended function. Needed repairs shall be made as soon as practicable. They are to remain in place and operational during all phases of construction. Construction activities shall not continue or resume until repairs to erosion control facilities are made and the facilities are functional. Any sediment leaving the site or discharging to a sensitive area shall be stopped and controlled immediately. Contaminated areas shall be cleaned and restored.

4. Clearing limits and work area limits shall be delineated and marked. Do not disturb more area than needed for construction requirements.

5. All sensitive or critical areas (wetlands, steep slopes, natural waterways), and buffers shall all be clearly delineated and clearly marked, and protected from sediment deposition.
6. Sediment laden runoff shall be prevented from entering all existing storm water catch basins and inlets affected by construction.

7. No exposed, bare soils shall remain unstabilized for more than two days during the period October 1 thru April 30 or for more than seven days during the period of May 1 through September 30. All disturbed soil surfaces shall be stabilized by a suitable application of "Best Management Practices".

8. Where feasible, no more than 500 feet of trench shall be open at one time. Excavated material shall be placed on the up-hill side of trenches provided it does not conflict with safety requirements.

9. Dewatering devices shall discharge into a sediment trap or sediment pond. No discharge shall be made to a paved street or stormwater collection system without first removing sediment.

10. Cut and fill slopes shall be constructed in a manner that will minimize erosion. Erosion shall be controlled and prevented by such measures as roughening the surface, installation of interceptor ditches, terracing, covering with matting, mulch or plastic sheeting. Runoff shall be prevented from entering a slope and from undercutting the base of slopes.

11. Any soil or debris transported onto roadways and sidewalks shall be removed. Deposits shall be completely removed by shoveling and/or sweeping. Washing shall not be utilized unless specifically approved in writing by the County.

12. All permanent infiltration systems shall be isolated and protected from sediment laden runoff entering to avoid risk of reducing the ability of the systems to infiltrate. Isolation and protection shall not be removed until the drainage area tributary to the system is completely stabilized.

CONTINUED ON SHEET 2

NO.	REVISIONS	DATE	BY

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STANDARD NOTES FOR EROSION CONTOL PLAN — STANDARD ECN1
APPROVED 01/01/04 — COUNTY ENGINEER — DATE

STANDARD NOTES FOR EROSION CONTROL PLAN (CONTINUED)

13. All conveyance channels, both temporary and permanent shall be stabilized to prevent erosion of the channel. Stabilization shall extend to areas at outlets and downstream reaches vulnerable to erosion resulting from flow discharging from the channel.

14. If BMP's shown are utilized but are insufficient to prevent sediment from reaching water bodies, adjacent properties, or public rights-of-way; additional BMP's shall be implemented immediately to prevent further encroachment of sediment.

15. Stabilized areas shall be provided for employee parking and storage of construction materials. Erodeable stockpiles of earthen materials, such as topsoil, silty and clayey soils; and landscape materials, shall be covered when not being incorporated in the work. Erosion control BMP's shall be utilized as necessary to prevent sediment laden runoff from leaving or sediment being transported from these areas from vehicle activity.

16. All pollutants other than sediment that occur during construction shall be handled and disposed of in a manner that does not cause contamination of storm water.

17. The Contractor shall keep an inspection log of the condition of the erosion control facilities. Erosion control facilities shall be inspected at least weekly and after each rainfall. The inspection log shall be kept at the project site at a designated location and shall be available for review by the County. An individual that has successfully completed the County's Erosion Control Certification course shall perform inspections and maintain the log.

18. All temporary BMP's shall be removed within 30 days after final site stabilization is achieved. Trapped sediment shall be deposited and stabilized on site. Areas disturbed resulting from removal shall be permanently stabilized.

19. Construction shall not be considered complete and acceptable until all disturbed soil surfaces have been protected from erosion with permanent landscaping, covering with impervious surfaces, restored to original undisturbed condition or permanently stabilized.

20. Vegetated stabilization and landscaping shall be fertilized, watered and maintained to insure that growth of vegetation is established and sustained.

21. During dry weather construction periods the contractor shall provide project-specific dust control measures that may include: Seeding, Mulching, Matting, Water, Tackifier, or Chemical Soil Stabilizers. The contractor shall maintain the dust control measures through dry weather periods until all disturbed areas have been stabilized. Immediately re-stabilize areas disturbed by contractor's operations or other activities (wind, water, vandalism, etc.).

22. Entry onto the construction site shall be restricted to a single approved entrance as shown on the plan.

23. Maintenance and repair of heavy equipment and vehicles which involve potential contaminants (oil,solvents,hydraulic fluid, etc.) must be conducted in a manner which prevents contamination of soils, surface water and ground water. Tarps, drip pans, or other appropriate measures shall be used as necessary.

24. Stripping, topsoil, and unsuitable material stockpiles shall be hydroseeded with "regreen wheat x wheat grass hybrid" by Hobbs and Hopkins (or approved equal). Maintenance of stockpile areas and reapplication of hydroseed covering shall be required if bare soil is present. During winter and wet weather conditions, stockpiles shall be covered with plastic sheeting per detail E-16.

SHEET 2 OF 2

NO.	REVISIONS	DATE	BY

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STANDARD NOTES (CONTINUED) FOR EROSION CONTOL PLAN — STANDARD ECN2
APPROVED 01/01/04 — COUNTY ENGINEER — DATE

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TROY M. PIERCE — STATE OF WASHINGTON — 41411 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
EROSION CONTROL DETAILS

CLARK COUNTY WASHINGTON
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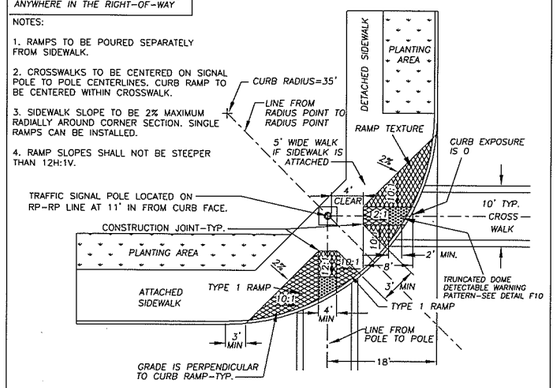
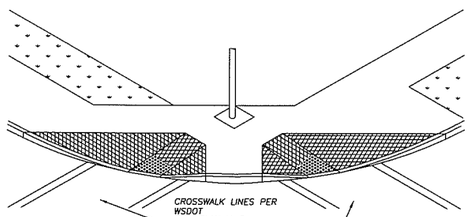
NEW CONSTRUCTION
FOR USE WITH SIDEWALKS LOCATED ANYWHERE IN THE RIGHT-OF-WAY

NOTES:

1. RAMPS TO BE POURED SEPARATELY FROM SIDEWALK.
2. CROSSWALKS TO BE CENTERED ON SIGNAL POLE TO POLE CENTERLINES. CURB RAMP TO BE CENTERED WITHIN CROSSWALK.
3. SIDEWALK SLOPE TO BE 2% MAXIMUM RADIALLY AROUND CORNER SECTION. SINGLE RAMPS CAN BE INSTALLED.
4. RAMP SLOPES SHALL NOT BE STEEPER THAN 12H:1V.





NO.	REVISIONS	DATE	BY
1	TRUNCATED DOMES	6/14/03	SCH

DWG: F2.dwg

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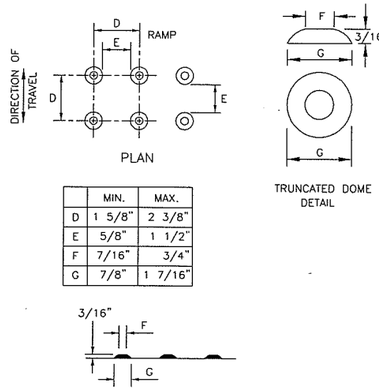
TYPE 2 RAMP — F2
APPROVED — Peter Capen, COUNTY ENGINEER — 8/22/00 DATE
DESIGNED DB · DRAWN KB · DATE 7/24/00



	MIN.	MAX.
D	1 5/8"	2 3/8"
E	5/8"	1 1/2"
F	7/16"	3/4"
G	7/8"	1 7/16"

TRUNCATED DOMES (SEE NOTE 2)
DETECTABLE WARNING
PATTERN DETAIL

NOTES

1. AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREA.
2. THE DETECTABLE WARNING PATTERNS CAN BE CREATED BY ACCEPTABLE MEANS THAT WILL ACHIEVE THE TRUNCATED DOME DIMENSIONS AND SPACING SHOWN.
3. PLACE TRUNCATED DOME DETECTABLE WARNING TEXTURE IN THE LOWER 24" OF THE THROAT OF THE RAMP ONLY. ARRANGE DOMES USING IN-LINE PATTERN ONLY AS SHOWN. COLOR OF TEXTURE (COATING) SHALL BE SAFETY YELLOW IN COMPLIANCE WITH WSDOT STD. SPEC. OR AS INSTRUCTED BY COUNTY INSPECTOR.
4. FOR CONSTRUCTION OF SIDEWALK RAMPS OUTSIDE OF PUBLIC RIGHT-OF-WAY, CHECK WITH STATE BUILDING CODES.

NO.	REVISIONS	DATE	BY

DWG: F10.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
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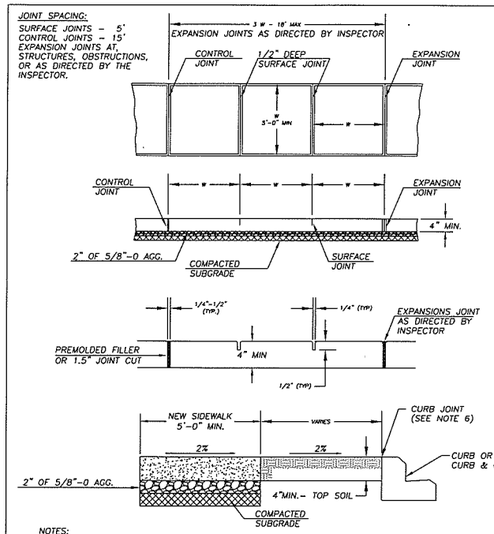
TRUNCATED DOME DETECTABLE WARNING PATTERN — F10
APPROVED — Peter Capen, COUNTY ENGINEER — 01/01/04 DATE
STANDARD · PLAN No. · DESIGNED SCH · DRAWN SCH · DATE 6/13/03

JOINT SPACING:
SURFACE JOINTS - 5'
CONTROL JOINTS - 15'
EXPANSION JOINTS AT, STRUCTURES, OBSTRUCTIONS, OR AS DIRECTED BY THE INSPECTOR.



NOTES:

1. CONCRETE SHALL BE 3,000 PSI MIN. (CLASS 3000), 3 1/2" SLUMP (± 1")
2. FINISH SHALL BE MEDIUM BROOM PERPENDICULAR TO PEDESTRIAN TRAFFIC UNLESS OTHERWISE DIRECTED.
3. ALL EXISTING EDGES SHALL BE SAWCUT.
4. NO FILLER REQUIRED FOR SURFACE JOINTS.
5. ALL JOINTS AND EDGES SHALL BE FINISHED WITH 1/4" RADIUS EDGER (3" SMOOTH EACH SIDE)
6. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS.

NO.	REVISIONS	DATE	BY
1	CHANGE SIDEWALK &	03/28/02	KB
2	W 2" (BASE AGG. & NOTES)	10/07/02	SCH

DWG: F12.dwg

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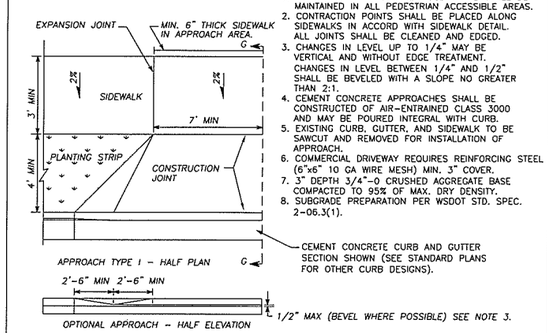
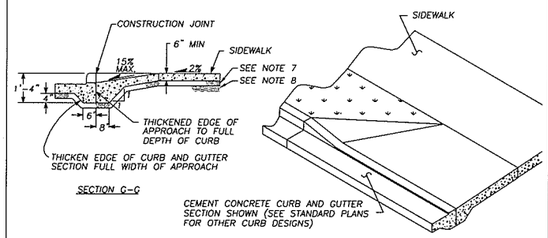
SIDEWALK DETAIL — F12
APPROVED — Peter Capen, COUNTY ENGINEER — 01/01/04 DATE
STANDARD · PLAN No. · DESIGNED SCH · DRAWN KB · DATE 10/08/02

NOTES:

1. A MINIMUM 3' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
2. CONTRACTION POINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
4. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
5. EXISTING CURB, GUTTER, AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
6. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (6"x6" 10 GA WIRE MESH) MIN. 3" COVER.
7. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
8. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).



NOTE: USE TYPE 1 APPROACH ONLY WHEN A SIDEWALK IS USED AT THE BACK OF THE APPROACH.



NO.	REVISIONS	DATE	BY
1	NOTE #6, 7, 8	10/09/02	SCH

DWG: F14.dwg

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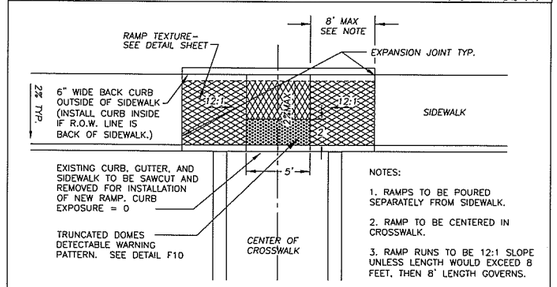
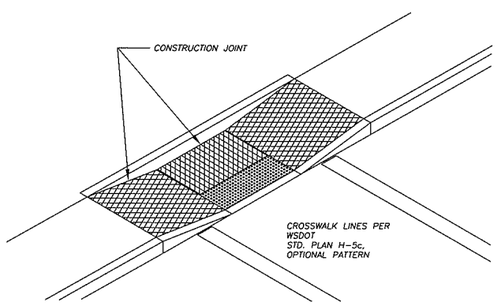
DETAIL - TYPE 1 CEMENT CONCRETE APPROACH — F14
APPROVED — Peter Capen, COUNTY ENGINEER — 8/22/00 DATE
DESIGNED DB · DRAWN KB · DATE 7/24/00



NOTES:

1. RAMPS TO BE POURED SEPARATELY FROM SIDEWALK.
2. RAMP TO BE CENTERED IN CROSSWALK.
3. RAMP RUNS TO BE 12:1 SLOPE UNLESS LENGTH WOULD EXCEED 8 FEET, THEN 8' LENGTH GOVERNS.
4. BACK CURB IS STANDARD BARRIER CURB.



NO.	REVISIONS	DATE	BY
1	TRUNCATED DOME PATTERN	6/13/03	SCH

DWG: F3.dwg

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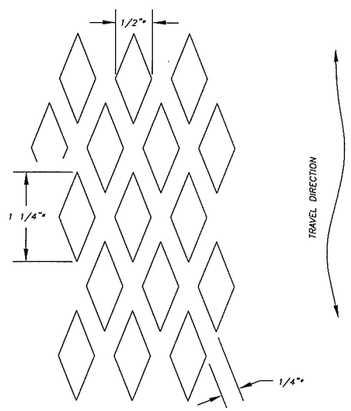
TYPE 3 RAMP — F3
APPROVED — Peter Capen, COUNTY ENGINEER — 8/22/00 DATE
DESIGNED DB · DRAWN KB · DATE 7/24/00



* NOMINAL DIMENSIONS

RAMP TEXTURE DETAIL

RAMP TEXTURE IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN AS SHOWN. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE IN THE DIRECTION OF TRAVEL. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE. ALTERNATIVE TEXTURE PATTERNS SHALL BE APPROVED BY REVIEWING AUTHORITY BEFORE USE.

NO.	REVISIONS	DATE	BY

DWG: F11.dwg

Department of Public Works
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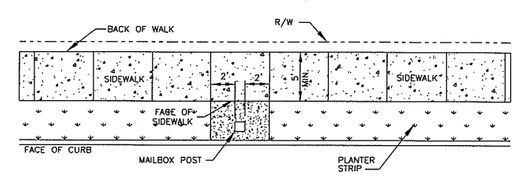
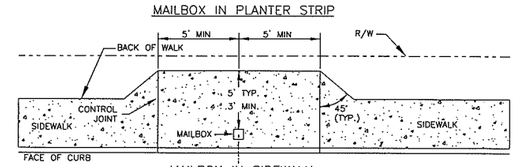
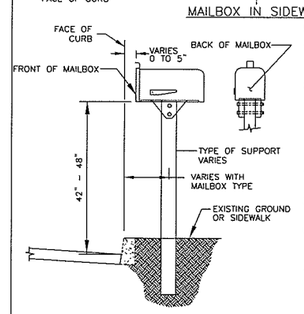
RAMP TEXTURE DETAIL — F11
APPROVED — Peter Capen, COUNTY ENGINEER — 8/22/00 DATE
DESIGNED DB · DRAWN KB · DATE 7/24/00



MAILBOX IN PLANTER STRIP



MAILBOX IN SIDEWALK



NOTES:

1. SEE CURRENT WSDOT STANDARD PLAN No. H-12 FOR MAILBOX, POST, BRACKET AND OTHER INSTALLATION DETAILS.
2. MAILBOXES MUST BE POSTMASTER APPROVED. CONTACT MIKE WENTZEL (MAINTENANCE MANAGER) AT 992-5052.
3. LOCATION OF MAILBOXES ARE SUBJECT TO APPROVAL BY COUNTY ENGINEERING FOR ACCESS AND SIGHT DISTANCE REQUIREMENTS. CONTACT ENGINEERING SERVICES AT 397-2375 ext. 4997
4. INSTALL EXPANSION JOINT MATERIAL AROUND MAILBOX POST WHEN SET IN SIDEWALK.
5. EXTEND SIDEWALK JOINTS THROUGH WIDENED SIDEWALK SECTION.
6. COLLECTION BOX UNITS (CBU) AND CONCRETE BASE ARE INSTALLED BY THE U.S. POSTAL SERVICE. SEE NOTE 2 FOR CONTACT.
7. A MAILBOX TURNOUT CONFORMING TO DETAIL F13b IS REQUIRED FOR ALL STREETS EXCEPT ACCESS AND SUBCOLLECTOR STREETS WHERE THE POSTED SPEED LIMIT IS 25 MPH OR LESS.

WSDOT STD. PLANS WEB SITE ADDRESS:
http://www.wsdot.wa.gov/eesc/design/designstandards/HTM/TOC.pdf

NO.	REVISIONS	DATE	BY

DWG: F13.DWG

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CLARK COUNTY WASHINGTON
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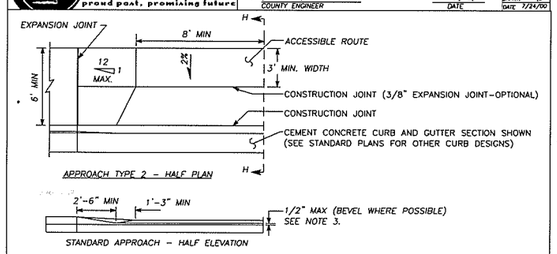
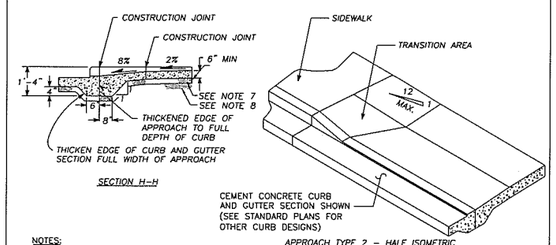
SIDEWALK MAILBOX PLACEMENT — F13
APPROVED — Peter Capen, COUNTY ENGINEER — 01/01/04 DATE
STANDARD · PLAN No. · DESIGNED SCH · DRAWN SCH · DATE 07/31/02

NOTES:

1. A MINIMUM 3' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
2. CONTRACTION JOINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
4. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CONCRETE CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
5. EXISTING CURB, GUTTER AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
6. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (6"x6" 10 GA WIRE MESH) MIN. 3" COVER
7. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
8. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).





NO.	REVISIONS	DATE	BY
1	NOTES #6, 7, 8	10/09/02	SCH

DWG: F15.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
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CEMENT CONCRETE APPROACH DETAIL - TYPE 2 — F15
APPROVED — Peter Capen, COUNTY ENGINEER — 8/22/00 DATE
DESIGNED DB · DRAWN KB · DATE 7/24/00

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	RD1
SHEET	X OF X

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STATE OF WASHINGTON · M. PIERCE · 41441 · REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION
NE 119TH STREET EAST
ROADWAY DETAILS

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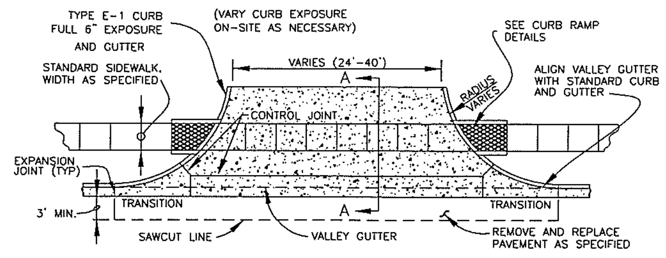
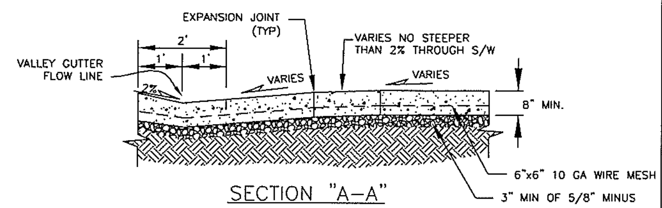
CLARK COUNTY WASHINGTON



PLAN VIEW
COMMERCIAL DRIVEWAY ENTRANCE



SECTION "A-A"

NOTES:

1. CONCRETE SHALL BE 3300 PSI (MIN. BREAKING STRENGTH @ 28 DAYS) WITH 3" SLUMP (±1"). TOTAL AIR CONTENT (% BY VOLUME OF CONCRETE) SHALL NOT BE LESS THAN 4% OR MORE THAN 7%. MEDIUM BROOM FINISH PARALLEL TO DRIVEWAY CENTERLINE.
2. ALL JOINTS SHALL BE FINISHED WITH 1/4" RADIUS EDGE UNLESS OTHERWISE NOTED.
3. DRIVEWAYS EXCEEDING 15' IN TOTAL WIDTH SHALL HAVE ADDITIONAL LONGITUDINAL JOINTS AS DIRECTED. CONTROL JOINT SPACING SHALL NOT EXCEED 15'.
4. DRIVEWAY SHALL BE CONSTRUCTED WITH REINFORCING STEEL (6x6 10 GA WIRE MESH), MIN. 3" COVER.
5. ALL EXISTING EDGES SHALL BE SAW CUT.
6. 3" DEPTH 5/8"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
7. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).
8. EXISTING CURB SHALL BE REMOVED TO EXISTING JOINT OR SAWCUT SUCH THAT 3' MIN. OF NEW STREET SECTION IS CONSTRUCTED ADJACENT TO NEW DRIVEWAY.
9. MAXIMUM 2% CROSS SLOPE ACROSS PEDESTRIAN CROSSING.
10. CURB RADIUS PER TABLES 40.350.030-2 THRU 6, OR AS APPROVED BY COUNTY ENGINEER.

NO.	REVISIONS	DATE	BY

DWG: F17.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
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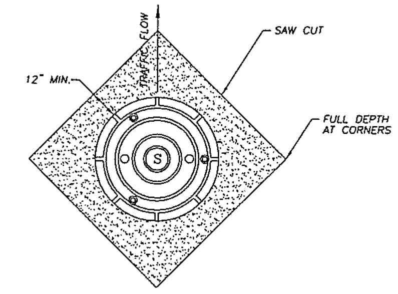
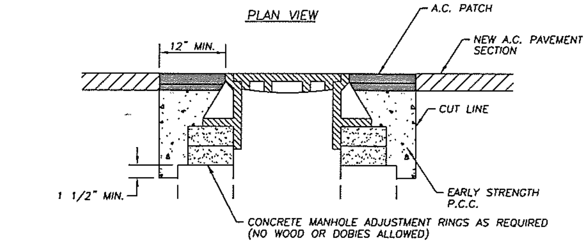
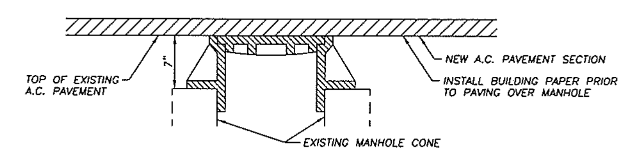
MAJOR COMMERCIAL CONCRETE APPROACH — F17
APPROVED — COUNTY ENGINEER — DATE 01/01/04
DESIGNED SCH — DATE 07/18/03



PLAN VIEW



STEPS 2,3, & 4



STEP 1

STEP 1 COVER EXSITING MANHOLE WITH BUILDING PAPER AND CONSTRUCT A.C. PAVEMENT OVER TOP OF MANHOLE.
STEP 2 SAW CUT AND REMOVE PAVEMENT AROUND MANHOLE 12" MIN. FROM MANHOLE FRAME.
STEP 3 RAISE MANHOLE FRAME AND COVER USING CONCRETE RINGS AND MECHANICAL ADJUSTMENT DEVICES TO FINISH GRADE MATCHING PROFILE AND CROSS SLOPE.
STEP 4 BACKFILL WITH EARLY STRENGTH P.C.C. AND A.C. TO DEPTHS AS DIRECTED.

NO.	REVISIONS	DATE	BY

DWG:

Department of Public Works
CLARK COUNTY WASHINGTON
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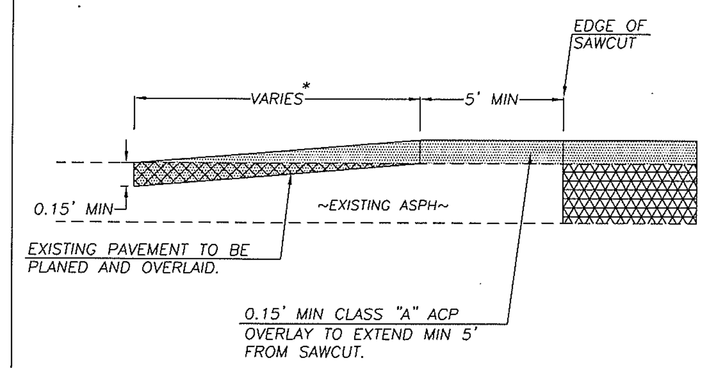
F27
APPROVED — COUNTY ENGINEER — DATE 9/12/00



* LENGTH VARIES TO MAKE SMOOTH TRANSITION TO EXISTING ROAD GRADE. (MINIMUM 15 FEET)

TO BE USED AS AN ALTERNATIVE IN LIEU OF FULL LANE REMOVAL AND REPLACEMENT WHEN APPROVED BY CLARK COUNTY.

NO.	REVISIONS	DATE	BY
1	NOTE	03/09/01	RK
2	FIG 1	05/07/01	DS
3	CHANGED ACP CLASS	03/28/02	KB

DWG: U7.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
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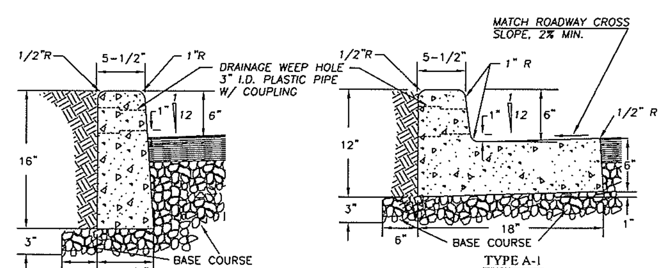
BUTT JOINT PLANING AND OVERLAY DETAIL — STANDARD PLAN No. U7
APPROVED — COUNTY ENGINEER — DATE 9/30/02



TYPE E-1 CURB
SEE WDOT STANDARD PLAN No. F-1

TYPE A-1 CURB & GUTTER
SEE WDOT STANDARD PLAN No. F-1

NOTES

1. CONCRETE SHALL BE 3000 PSI MIN. (CLASS 3000) 3 1/2" SLUMP (MAX.)
2. CURBS ADJACENT TO PAVEMENT OR SIDEWALK TO HAVE EXPANSION AND/OR CONTRACTION JOINTS TO MATCH EXISTING PATTERNS.
3. 3/8" EXPANSION JOINTS TO BE PROVIDED AT EACH POINT OF TANGENCY OF THE CURB, COLD JOINTS, EACH SIDE OF INLET STRUCTURES AND DRIVEWAYS. MATERIAL TO BE PRE-MOLDED, ASPHALT IMPREGNATED AND NON EXTRUDING.
4. CONTRACTION JOINT SPACING NOT TO EXCEED 15 FEET. THE DEPTH OF THE JOINT SHALL BE AT LEAST 1-1/2 INCHES. WEEP HOLES TO BE CENTERED WITH CONTRACTION JOINTS.
5. BASE COURSE SHALL BE TO SUBGRADE OF STREET SECTION OR 3 INCHES, WHICHEVER IS GREATER, AND SHALL EXTEND 6" BEHIND THE CURB.
6. DRAINAGE WEEP HOLES TO BE 3" I.D. PLASTIC PIPE WITH COUPLING. FINISH PIPE END FLUSH WITH FACE OF CURB.
7. GROUT ANY VOIDS IN CONCRETE SURROUNDING PIPE.
8. DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE CORE DRILLED.
9. CURB TO BE BRUSH FINISHED. ALL EXISTING EDGES SHALL BE SAWCUT.
10. ALL MATERIALS AND WORKMANSHIP FOR TYPE E-1 & A-1 SHALL BE IN ACCORDANCE WITH WDOT STANDARD PLAN No. F-1, APPROVED 7/18/97 OR MOST CURRENT REVISION.

NO.	REVISIONS	DATE	BY

DWG: F18.DWG

Department of Public Works
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CONCRETE CURBS — STANDARD PLAN No. F18
APPROVED — COUNTY ENGINEER — DATE 01/01/04

OPEN CUT UTILITY TRENCH BACKFILL DETAIL (COLLECTOR OR ARTERIAL)

SURFACING:

1. All A.C.P. shall be saw cut to provide a straight, clean edge prior to paving.
2. The cut line shall be one continuous straight line from the outer excavation limits of manhole, valve box, etc. to manhole, valve box, etc.
3. Pave with an 0.5 ft. minimum compacted depth A.C.P., or match existing or design section, whichever is greater.
4. Lifts for A.C.P. (Class A) shall be 0.15 ft. minimum and 0.35 ft. maximum for non-surface lifts (0.25' maximum for surface lift); the temperature shall be 250 degree minimum, 350 degree maximum, compacted to 92% of the theoretical maximum.
5. All joints shall be tacked, sealed and sanded.
6. Trench shall be plated until paved.
7. For longitudinal installation, full lane width including turn lanes restoration shall be required or as directed by Clark County. For transverse installation refer to surfacing restoration of detail U6. See Section 12.20A.120.C.

BASE COURSE:

1. 0.80 ft. minimum depth (1-1/4" minus) C.S.B.C. (W.S.D.O.T. approved material).
2. Compacted to 95% of maximum density. See trench zone.
3. Equivalent depth of A.T.B. may be substituted.
4. For transverse or diagonal trenches in existing roadway pavement, CDF will be used from the bottom of full pavement section to a maximum CDF section of 3 feet or to 6" above the top of the pipe, which ever is less. See note 13 of Std. Plan UGN of this Manual.

TRENCH ZONE:

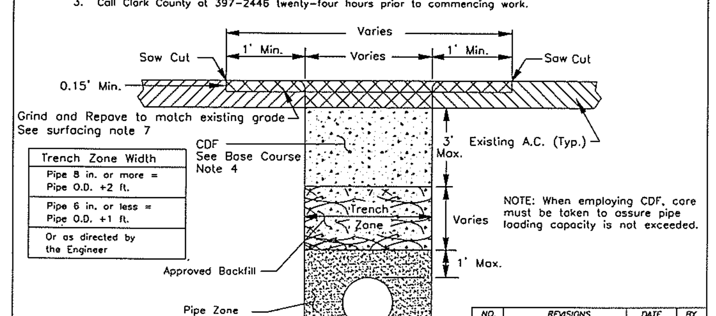
1. Granular backfill as approved by local agency or W.S.D.O.T. specifications for granular backfill. Compacted to 95% of maximum density in the trench zone using Method C compaction as per Section 2-03.3(14)C.
2. Native material may be used if approved prior to construction by Clark County.
3. Trench zone width -- see below.

PIPE ZONE:

1. Pipe zone material as specified by utility owner, and shall conform to section 9-03.12(3) WSDOT Specs.
2. 1.0 ft. max. from top of the pipe. 6" from top of pipe when CDF backfill used.

CONDITIONS:

1. A copy of the permit and requirements shall be on the job site at all times.
2. The permit holder shall be responsible for all restoration and maintenance of ditches, shoulders, driveways, landscaping, etc.
3. Call Clark County at 397-2446 twenty-four hours prior to commencing work.



Trench Zone Width
Pipe 8 in. or more = Pipe O.D. +2 ft.
Pipe 6 in. or less = Pipe O.D. +1 ft.
Or as directed by the Engineer

NOTE: When employing CDF, care must be taken to assure pipe loading capacity is not exceeded.

NO.	REVISIONS	DATE	BY
2	ILLUSTRATIVE CHANGE	07/10/01	BN
3	Notes: 6 Del., Rev. 7	12/02/02	SCH

DWG: U1.DWG

Department of Public Works
CLARK COUNTY WASHINGTON
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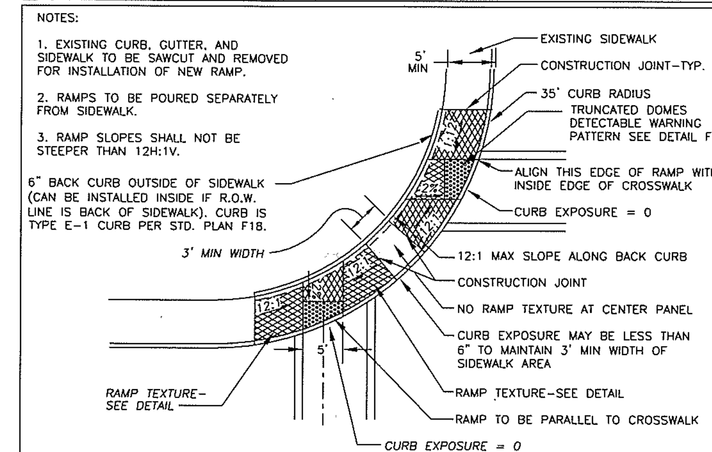
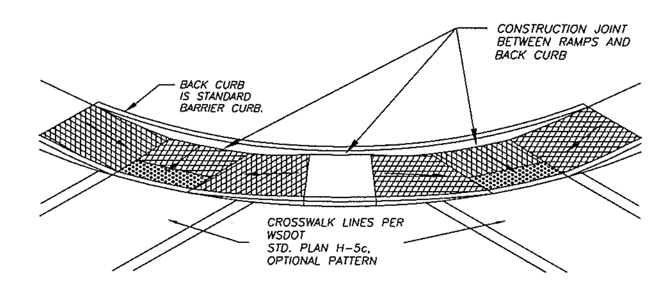
OPEN CUT UTILITY TRENCH BACKFILL DETAIL COLLECTOR OR ARTERIAL ROADWAY — STANDARD PLAN No. U1
APPROVED — COUNTY ENGINEER — DATE 7/20/01

NOTES:

1. EXISTING CURB, GUTTER, AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF NEW RAMP.
2. RAMPS TO BE POURED SEPARATELY FROM SIDEWALK.
3. RAMP SLOPES SHALL NOT BE STEEPER THAN 12H:1V.





THIS TYPE OF RAMP IS ONLY TO BE USED IN EXISTING RESTRICTED RIGHT-OF-WAY AREAS, DOUBLE RAMP SHOWN-SINGLE RAMP MAY BE USED AT SOME INSTALLATIONS.

NO.	REVISIONS	DATE	BY
1	TRUNCATED DOMES	6/14/03	SCH

DWG: E-17c

Department of Public Works
CLARK COUNTY WASHINGTON
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TYPE 2 ALTERNATE RAMP - DOUBLE — F2b
APPROVED — COUNTY ENGINEER — DATE 8/22/00
DESIGNED DB — DRAWN KB — DATE 07/24/00

ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST ROADWAY DETAILS

CLARK COUNTY WASHINGTON
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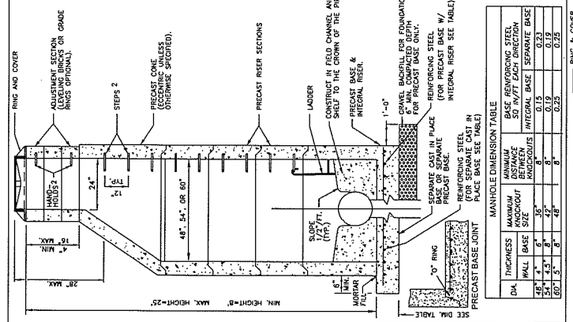
TROY M. PIERCE, STATE OF WASHINGTON, 41411, REGISTERED PROFESSIONAL ENGINEER — EXPIRES JAN 1, 2006

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	RD2
SHEET	14 OF X

NOTES:

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN MANHOLE SHALL HAVE 6" MIN. CLEARANCE. SEE PLAN NO. D1.5, "MANHOLE DETAILS."
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000. ALL PRECAST CONCRETE SHALL BE CLASS 4000, NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY PROVIDED KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS MANHOLE WALL THICKNESS. SEE MANHOLE DIMENSION TABLE BELOW.
6. MANHOLE RINGS AND COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-I-558B. MANTING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. ALL BASE REINFORCING STEEL SHALL HAVE A MIN. YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MIN. CLEARANCE.
8. FOR HEIGHTS OF 12' OR LESS, MIN. SOIL BEARING VALUE OVER 12' MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
9. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE PLAN NO. D1.5, "MANHOLE DETAILS."
10. INSIDE DROP MAXIMUM TO BE 4' VERTICAL DISTANCE I.E. TO I.E.
11. KNOCKOUTS TO BE USED WHEN STUB OUT PIPE IS 3' OR LESS.
12. MINIMUM 0.20' FALL BETWEEN INLET AND OUTLET. ANY REDUCTION IN THIS DESIGN REQUIREMENT MUST BE APPROVED BY REVIEWING AUTHORITY.
13. SEE THE WSDOT/APWA STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.



MANHOLE DIMENSION TABLE

DIA	THICKNESS WALL	THICKNESS BASE	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL 50 IN/FT EACH DIRECTION INTEGRAL BASE	SEPARATE BASE
48"	4"	6"	36"	8"	0.15	0.23
54"	4.5"	8"	42"	8"	0.19	0.29
60"	5"	8"	48"	8"	0.23	0.35
66"	5.5"	8"	60"	12"	0.28	0.42
96"	8"	12"	84"	12"	0.39	0.59

NO.	REVISIONS	DATE	BY

DWG: D1-1.DWG

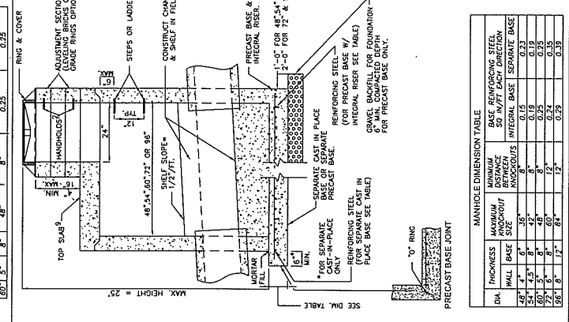
Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

STANDARD MANHOLE TYPE 1
48", 54", & 60"
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D1.1
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 01/07/03

NOTES:

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN MANHOLE SHALL HAVE 6" MIN. CLEARANCE. SEE PLAN NO. D1.5, "MANHOLE DETAILS."
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000. ALL PRECAST CONCRETE SHALL BE CLASS 4000, NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY PROVIDED KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS MANHOLE WALL THICKNESS. SEE MANHOLE DIMENSION TABLE BELOW.
6. MANHOLE RINGS AND COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-I-558B. MANTING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. ALL BASE REINFORCING STEEL SHALL HAVE A MIN. YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MIN. CLEARANCE.
8. FOR HEIGHTS OF 12' OR LESS, MIN. SOIL BEARING VALUE OVER 12' MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
9. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE PLAN NO. D1.5, "MANHOLE DETAILS."
10. INSIDE DROP MAXIMUM TO BE 4' VERTICAL DISTANCE I.E. TO I.E.
11. KNOCKOUTS TO BE USED WHEN STUB OUT PIPE IS 3' OR LESS.
12. MINIMUM 0.20' FALL BETWEEN INLET AND OUTLET. ANY REDUCTION IN THIS DESIGN REQUIREMENT MUST BE APPROVED BY REVIEWING AUTHORITY.
13. SEE THE WSDOT/APWA STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.



MANHOLE DIMENSION TABLE

DIA	THICKNESS WALL	THICKNESS BASE	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL 50 IN/FT EACH DIRECTION INTEGRAL BASE	SEPARATE BASE
48"	4"	6"	36"	8"	0.15	0.23
54"	4.5"	8"	42"	8"	0.19	0.29
60"	5"	8"	48"	8"	0.23	0.35
72"	5.5"	8"	60"	12"	0.28	0.42
96"	8"	12"	84"	12"	0.39	0.59

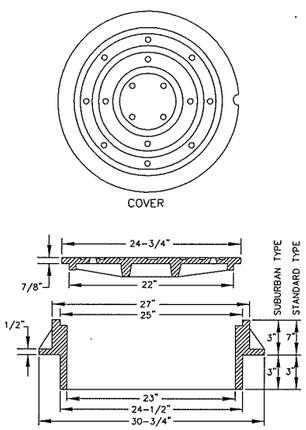
NO.	REVISIONS	DATE	BY

DWG: D1-3.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

MANHOLE TYPE 3
48", 54", 60", 72", & 96"
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D1.3
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 01/07/03



NOTES:

1. USE SUBURBAN TYPE ONLY IN NON-TRAFFIC AREAS, AND ONLY WITH APPROVAL BY COUNTY.
2. COVER MATERIAL TO BE DUCTILE IRON ASTM A536 GRADE 80-55-06
3. FRAME MATERIAL TO BE GRAY CAST IRON ASTM A-48 CLASS 30.
4. SEE WSDOT STANDARD SPECIFICATIONS SEC. 7.05
5. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
6. NOTCH LID FOR LIFTING HOOK.

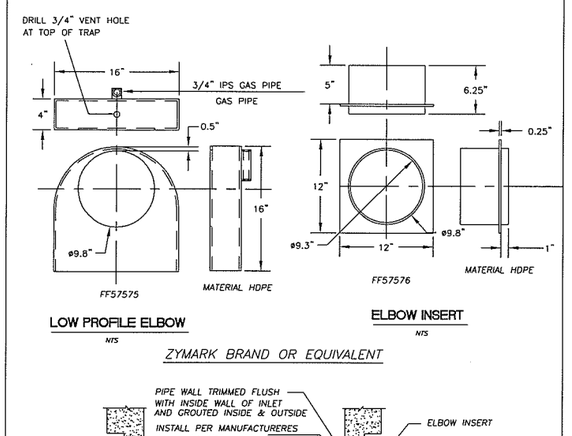
NO.	REVISIONS	DATE	BY

DWG: D1-6.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

STANDARD MANHOLE FRAME AND COVER
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D1.6
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 09/04/02



NO.	REVISIONS	DATE	BY

DWG: D2-1.DWG

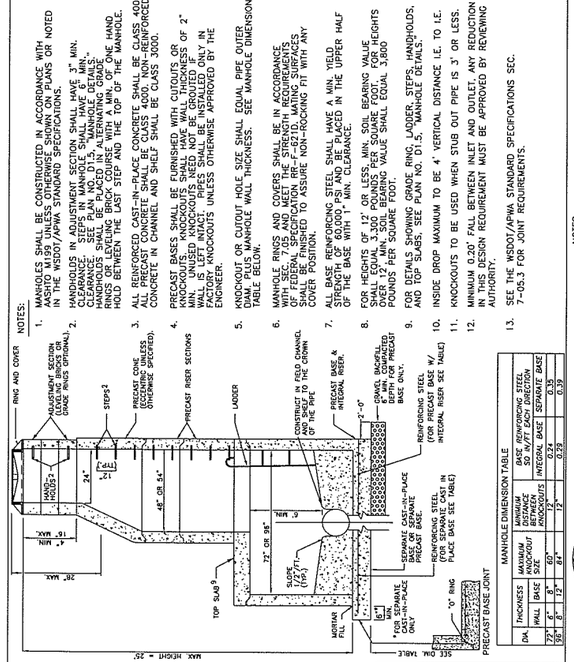
Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

CATCH BASIN
OUTLET PIPE TRAP
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D2.1
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 09/23/02

NOTES:

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN MANHOLE SHALL HAVE 6" MIN. CLEARANCE. SEE PLAN NO. D1.5, "MANHOLE DETAILS."
3. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000. ALL PRECAST CONCRETE SHALL BE CLASS 4000, NON-REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY PROVIDED KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS MANHOLE WALL THICKNESS. SEE MANHOLE DIMENSION TABLE BELOW.
6. MANHOLE RINGS AND COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-I-558B. MANTING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. ALL BASE REINFORCING STEEL SHALL HAVE A MIN. YIELD STRENGTH OF 60,000 PSI AND BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MIN. CLEARANCE.
8. FOR HEIGHTS OF 12' OR LESS, MIN. SOIL BEARING VALUE OVER 12' MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
9. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE PLAN NO. D1.5, "MANHOLE DETAILS."
10. INSIDE DROP MAXIMUM TO BE 4' VERTICAL DISTANCE I.E. TO I.E.
11. KNOCKOUTS TO BE USED WHEN STUB OUT PIPE IS 3' OR LESS.
12. MINIMUM 0.20' FALL BETWEEN INLET AND OUTLET. ANY REDUCTION IN THIS DESIGN REQUIREMENT MUST BE APPROVED BY REVIEWING AUTHORITY.
13. SEE THE WSDOT/APWA STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.



MANHOLE DIMENSION TABLE

DIA	THICKNESS WALL	THICKNESS BASE	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL 50 IN/FT EACH DIRECTION INTEGRAL BASE	SEPARATE BASE
72"	5.5"	8"	60"	12"	0.28	0.42
96"	8"	12"	84"	12"	0.39	0.59

NO.	REVISIONS	DATE	BY

DWG: D1-2.DWG

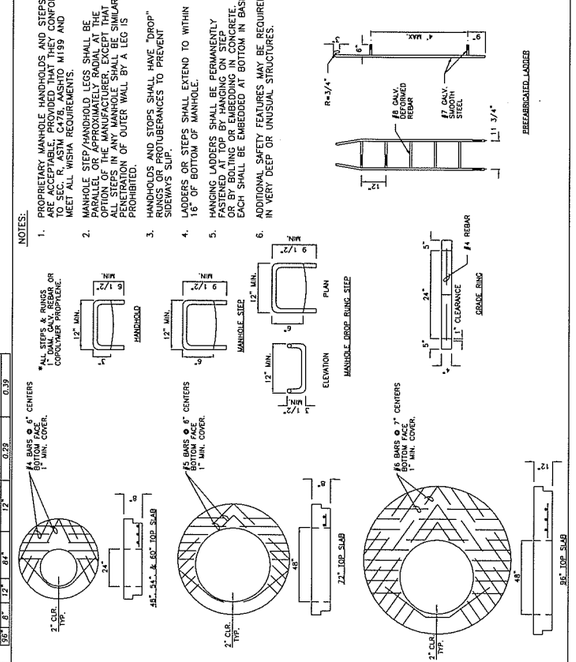
Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

MANHOLE TYPE 2
72" & 96"
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D1.2
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 01/07/03

NOTES:

1. PROPRIETARY MANHOLE HANDHOLDS AND STEPS MAY BE USED IF SUCH DEVICES MEET THE INTENT OF SEC. R, ASTM C478, AASHTO M199 AND MEET ALL WSHA REQUIREMENTS.
2. MANHOLE STEP/HANDHOLD LEGS SHALL BE PARALLEL OR APPROXIMATELY RADIAL AT THE PENETRATION OF THE OUTER WALL SO THAT ALL STEPS IN ANY MANHOLE SHALL BE SIMILAR. PENETRATION OF OUTER WALL BY A LEG IS PROHIBITED.
3. HANDHOLDS AND STEPS SHALL HAVE "DROP" RINGS OR PROTUBERANCES TO PREVENT SIDEWAYS SLIP.
4. LADDERS OR STEPS SHALL EXTEND TO WITHIN 18" OF BOTTOM OF MANHOLE.
5. HANGING LADDERS SHALL BE PERMANENTLY FASTENED AT TOP BY HANGING ON STEP BRACKETS AND AT BOTTOM BY EMBEDDING IN CONCRETE. EACH SHALL BE EMBEDDED AT BOTTOM IN BASE.
6. ADDITIONAL SAFETY FEATURES MAY BE REQUIRED IN VERY DEEP OR UNUSUAL STRUCTURES.



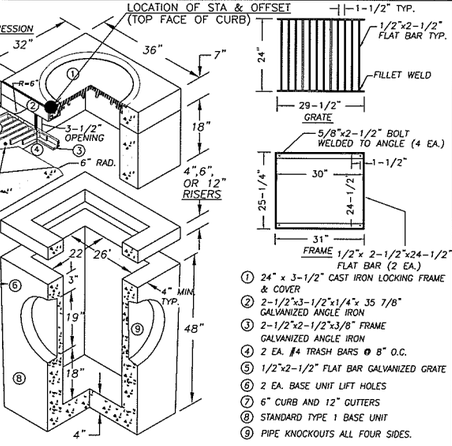
NO.	REVISIONS	DATE	BY

DWG: D1-5.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

MANHOLE DETAILS
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D1.5
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 09/05/02



1. 24" x 3-1/2" CAST IRON LOCKING FRAME & COVER
2. 2-1/2"x3-1/2"x1/4"x 35 7/8" GALVANIZED ANGLE IRON
3. 2-1/2"x2-1/2"x3/8" FRAME GALVANIZED ANGLE IRON
4. 2 EA. #4 TRASH BARS @ 8" O.C.
5. 1/2"x2-1/2" FLAT BAR GALVANIZED GRATE
6. 2 EA. BASE UNIT LIFT HOLES
7. 6" CURB AND 12" GUTTERS
8. STANDARD TYPE 1 BASE UNIT
9. PIPE KNOCKOUTS ALL FOUR SIDES.

NOTES

1. COMBINATION CURB INLET TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN STANDARD SPECIFICATIONS.
2. REINFORCING FOR INLET UNIT, 3 EA. #4 HORZONTAL BARS; REINFORCING FOR TOP UNIT, 2 EA. #3 HORZONTAL BARS; REINFORCING FOR INLET SLOPED BASE, 4x4 MESH.
3. ALL REBAR TO MEET ASTM A615 GRADE 60.
4. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQAURE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497. WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
5. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4,000.
6 PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
7. KNOCKOUTS OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS INLET WALL THICKNESS.
8. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAX. DIAM. OF 17".
9. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
10. ANY PROTUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
11. GRATE TO HAVE 1" DEPRESSION AT GUTTER INLET WITH GUTTER TO BE TAPERED DOWN TO INLET.
12. INSTALL REMOVABLE APWA TYPE 60A TRAP OR EQUAL, SEE STD. PLAN D2.1.
13. CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING PRECAST OR CAST-IN-PLACE INLET STRUCTURES. UNLESS SPECIFIED.
14. SEE STD. PLAN 4.1 FOR BASIN GUTTER PAN DETAIL.

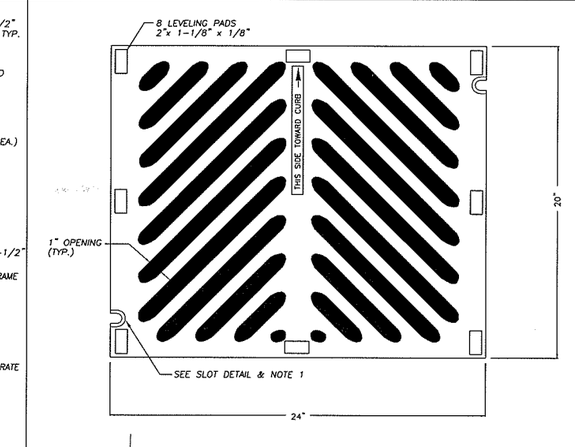
NO.	REVISIONS	DATE	BY

DWG: D3-0.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

STANDARD TYPE 1
COMBINATION CURB INLET
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D3.0
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 09/05/02



NOTES

1. WELDING NOT PERMITTED
2. USE VANED GRATE PER STD. PLAN D4.4 WHERE LONGITUDINAL SLOPE EXCEEDS 4%.
3. WHEN BOLT DOWN GRATES ARE SPECIFIED, PROVIDE TWO SLOTS IN THE GRATE THAT ARE VERTICALLY ALIGNED WITH THE HOLES IN THE FRAME. LOCATION OF BOLT DOWN SLOTS VARIES AMONG DIFFERENT MANUFACTURERS.
4. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.
5. FOR FRAME DETAIL, SEE STD. PLAN D4.2
6. THE THICKNESS OF THE GRATE SHALL NOT EXCEED 1-5/8".

NO.	REVISIONS	DATE	BY

DWG: D4-3.dwg

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

HERRINGBONE GRATE
FOR CATCH BASIN
APPROVED
Peter Capen
COUNTY ENGINEER
01/01/04
DATE

STANDARD D4.3
PLAN No.
DESIGNED SCH
DRAWN SCH
DATE 01/07/03

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

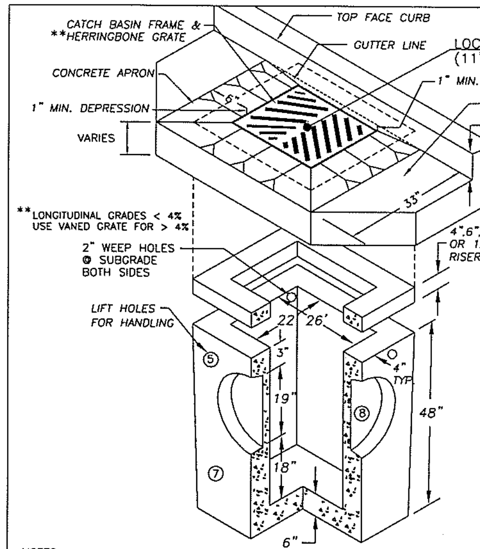
STATE OF WASHINGTON
PETER CAPEN
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	D01
SHEET	15 OF X

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
DRAINAGE DETAILS

CLARK COUNTY
WASHINGTON
proud past, promising future



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

*CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES:

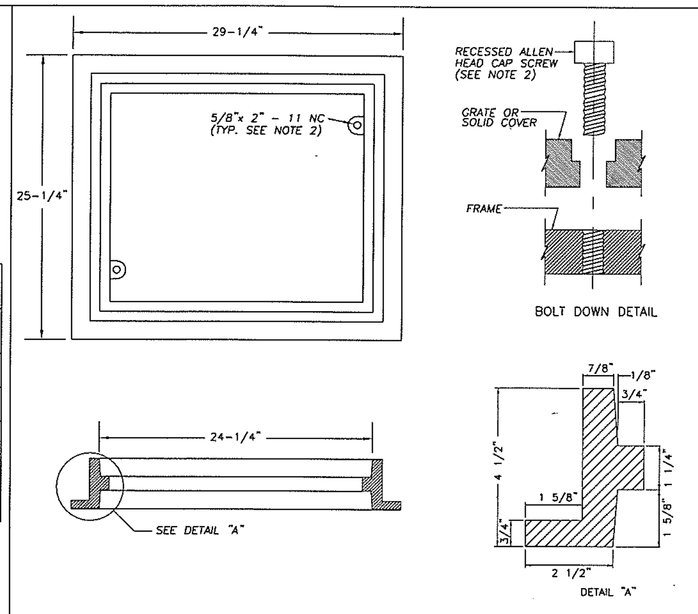
1. CURB INLET TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO) M 199) & C890 UNLESS SHOWN ON PLANS OR NOTED IN STANDARD SPECIFICATIONS.
2. REINFORCING FOR INLET UNIT, 3 EA. #4 HORIZONTAL BARS.
3. REINFORCING FOR TOP UNIT, 2 EA. #3 HORIZONTAL BARS.
4. ALL REBAR TO MEET ASTM A615 GRADE 60.
5. AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497. WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
6. ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4,000.
7. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT.
8. KNOCKOUTS OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS INLET WALL THICKNESS.
9. ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAX. DIAM. OF 20".
10. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
11. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
12. CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH WDOT STANDARD SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
13. FRAME MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
14 INSTALL REMOVABLE APWA TYPE 60A TRAP OR EQUAL, SEE STD. PLAN D2.1.
15. CONTRACTOR SHALL HAVE THE OPTION OF FURNISHING PRECAST OR CAST-IN-PLACE INLET STRUCTURES. UNLESS SPECIFIED.

NO.	REVISIONS	DATE	BY

DWG: D4-0.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

STANDARD CATCH BASIN TYPE 1
APPROVED
COUNTY ENGINEER 01/01/04 DATE
STANDARD D4.0 PLAN No.



NOTES

1. THIS FRAME IS DESIGNED TO ACCOMODATE 20"x 24" GRATES OR COVERS AS SHOWN ON STD. PLANS D4.3 AND D4.4.

2. WHEN BOLT DOWN GRATES OR COVERS ARE SPECIFIED, PROVIDE TWO HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE OR COVER SLOTS. TAP EACH HOLE TO ACCEPT A 5/8"x 2" - 11 NC ALLEN HEAD CAP SCREW. LOCATION OF BOLT DOWN HOLES VARIES AMONG DIFFERENT MANUFACTURERS.

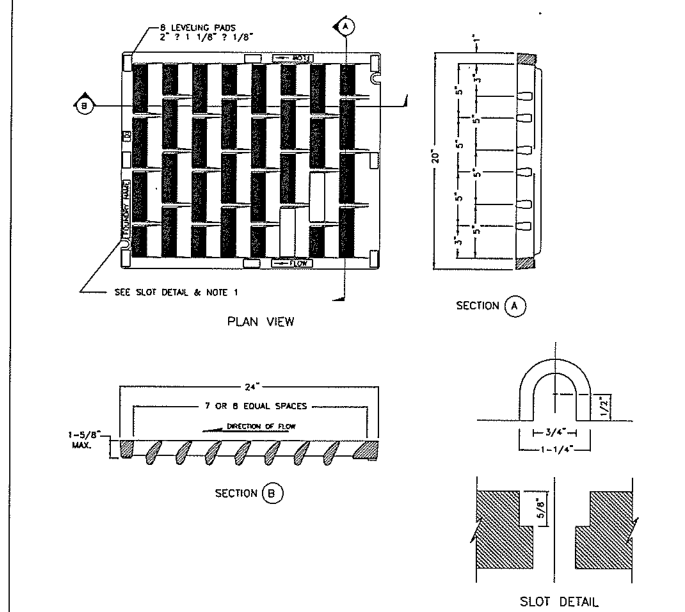
3. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.

4. SEE WSDOT STD. SPEC. SECTION 7.05.

DWG: D4-2.dwg

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

REVERSIBLE FRAME FOR CATCH BASIN
APPROVED
COUNTY ENGINEER 01/01/04 DATE
STANDARD D4.2 PLAN No.



NOTES

1. WELDING NOT PERMITTED

2. USE HERRINGBONE GRATE PER STD. PLAN D4.3 WHERE LONGITUDINAL SLOPE IS LESS THAN 4%.

3. WHEN BOLT DOWN GRATES ARE SPECIFIED, PROVIDE TWO SLOTS IN THE GRATE THAT ARE VERTICALLY ALIGNED WITH THE HOLES IN THE FRAME. LOCATION OF BOLT DOWN SLOTS VARIES AMONG DIFFERENT MANUFACTURERS.

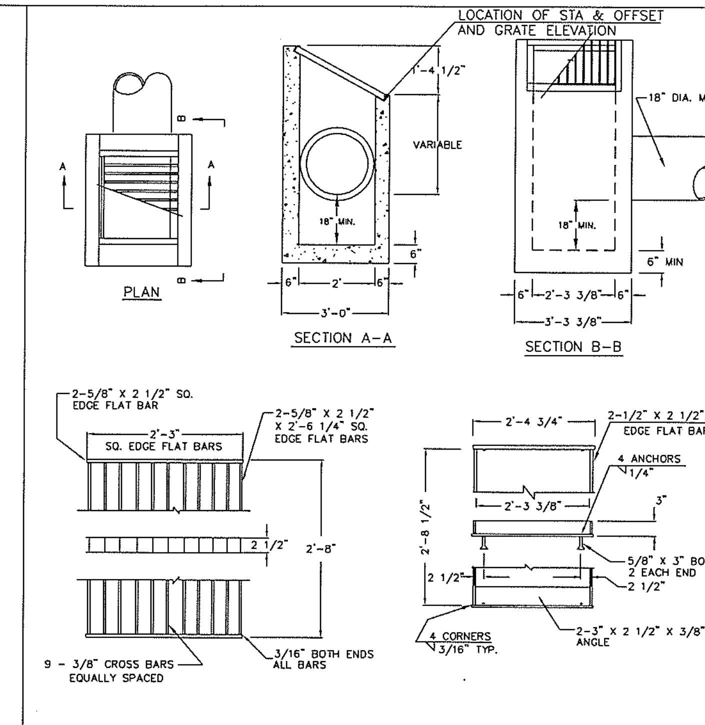
4. REFER TO WSDOT STANDARD SPECIFICATION 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.

5. FOR FRAME DETAIL, SEE STD. PLAN D4.2

DWG: D4-4.dwg

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

VANE GRATE FOR CATCH BASIN
APPROVED
COUNTY ENGINEER 01/01/04 DATE
STANDARD D4.4 PLAN No.



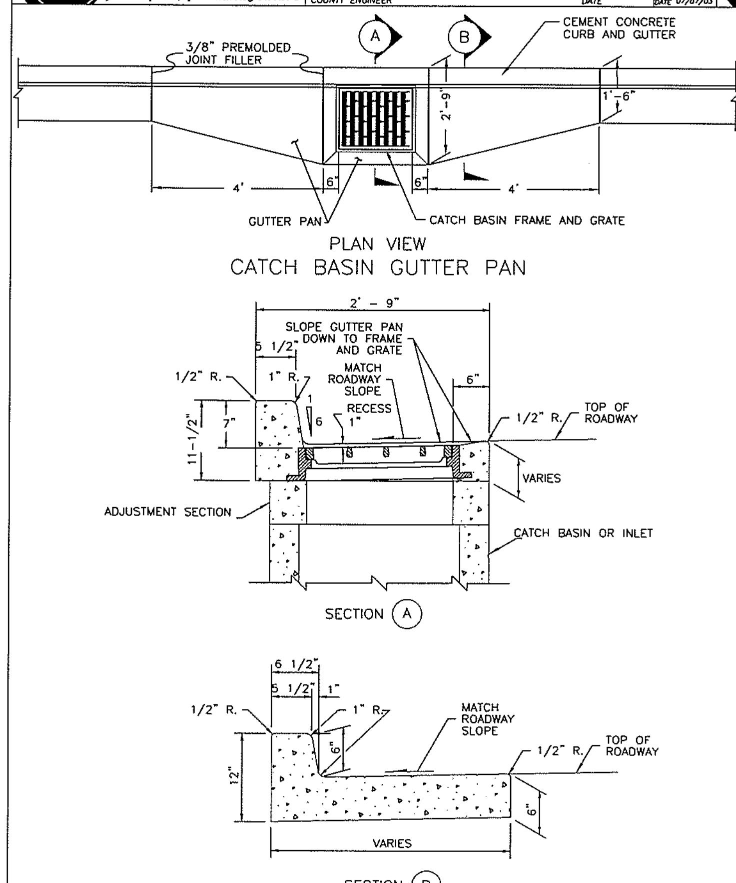
NOTES:

1. DITCH INLET CONSTRUCTION IN ACCORDANCE WITH ASTM C-478
2. CATCH BASIN, FRAME, AND GRATES SHALL BE FLAT BAR STEEL OR APPROVED EQUAL.
3. INSIDE FRAME DIMENSIONS: 2'-3 3/8"x 2'-8 1/2".
4. 3/8" CROSS BARS SHALL BE FLUSH WITH THE GRATE SURFACE AND MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.

DWG: D6.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
proud past, promising future

DITCH INLET
APPROVED
COUNTY ENGINEER 01/01/04 DATE
STANDARD D6 PLAN No.



NO.	REVISIONS	DATE	BY

DWG: D4-1.DWG

Department of Public Works
CLARK COUNTY
WASHINGTON
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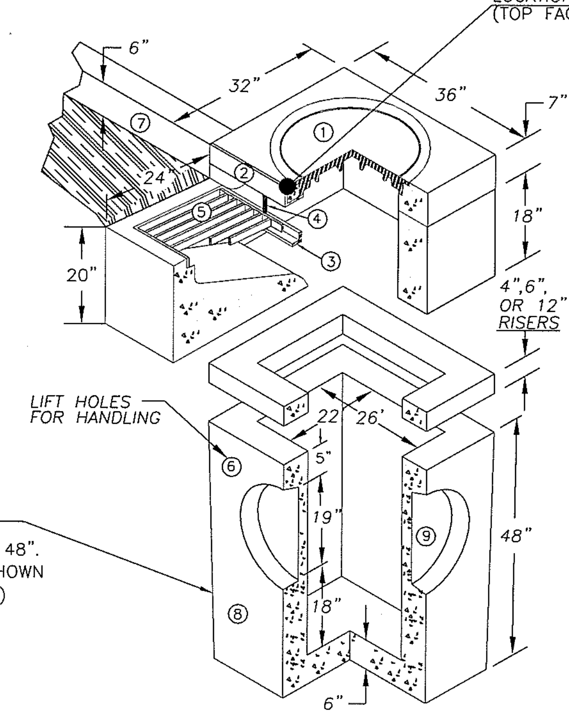
CATCH BASIN GUTTER PAN
APPROVED
COUNTY ENGINEER 01/01/04 DATE
STANDARD D4.1 PLAN No.

LOCATION OF STA & OFFSET
(TOP FACE OF CURB)



#	
1	24"ALUMINUM LOCKING FRAME & COVER
2	2 1/2"x3 1/2"x1/4"x 35 7/8" GALVANIZED ANGLE IRON
3	2"x2 1/2"x1/4"x33" GALVANIZED ANGLE IRON
4	2 EA. #4 TRASH BARS @12" O.C.
5	24 3/4"x 28 1/2" GALVANIZED GRATE
6	2 EA. BASE UNIT LIFT HOLES
7	6" CURB AND 18" GUTTERS
8	STANDARD TYPE 1 BASE UNIT
9	PIPE KNOCKOUTS ALL FOUR SIDES.

WEIGHT:

TOP WEIGHT 420 LB.

RISER WITH GRATE WEIGHT 1920 LB.

BASE WEIGHT 2200 LB.

NOTES:

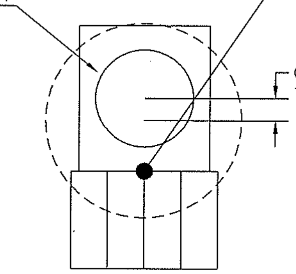
1 REINFORCING FOR INLET UNIT 3 EA. #4 HORIZONTAL BARS.
2 REINFORCING FOR TOP UNIT 2 EA. #3 HORIZONTAL BARS
3 REINFORCING FOR INLET SLOPED BASE, 4x4 MESH
4 GUTTER IS TAPERED DOWN TO GRATE INLET
5 ALL CONCRETE IS 4,000 PSI MIN.
6 ALL REBAR MEETS ASTM A615 GRADE 60.

TYPE 1 BASE SHOWN
(FOR TYPE 2 BASE, SEE STD. PLAN B-1e; DIA. = 48". ALIGN INLET FRAME AS SHOWN ON PLAN VIEW, THIS SHT.)

ISOMETRIC VIEW

ALIGN COVER OPENING WITH WITH MANHOLE OPENING

LOCATION OF STA & OFFSET (TOP FACE OF CURB)



OFFSET MANHOLE BASE TOWARDS STREET

PLAN VIEW AND PLACEMENT DETAIL

TYPE 2 COMBINATION CURB INLET

NTS

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	DD2
SHEET	16 OF X

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EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
DRAINAGE DETAILS

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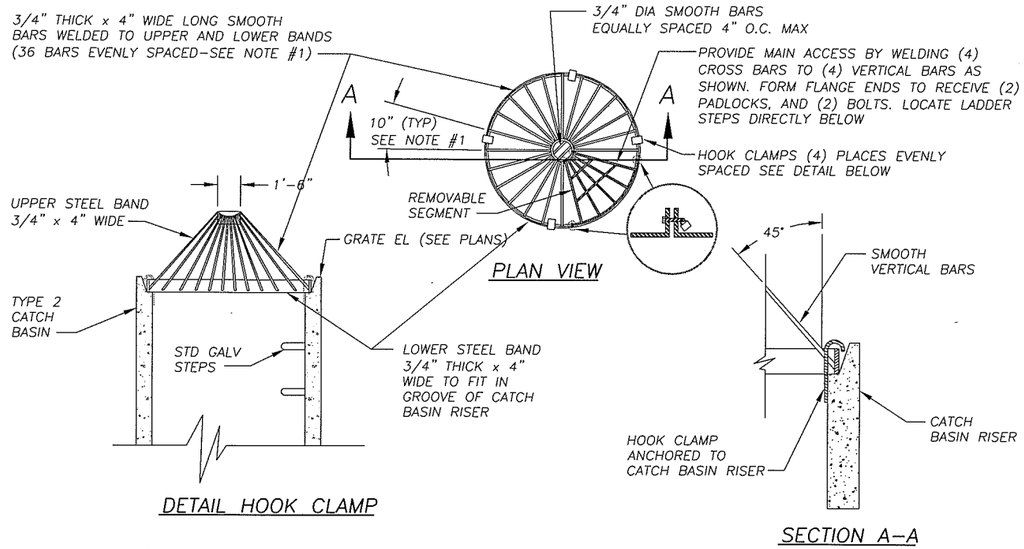
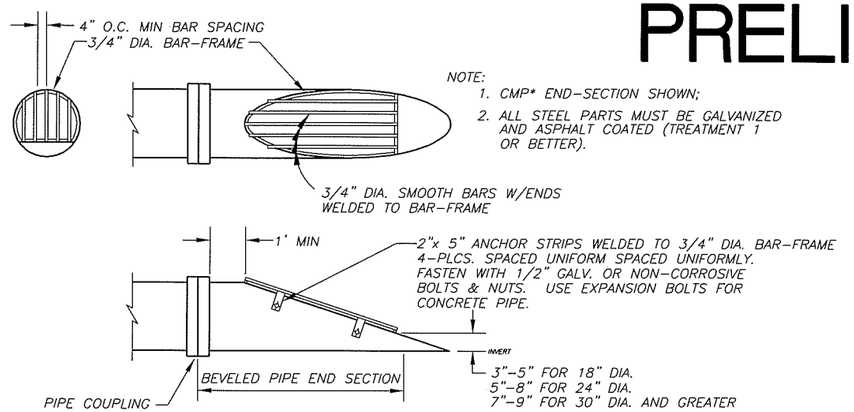
WASHINGTON



DROP INLET TRASH RACK

NTS

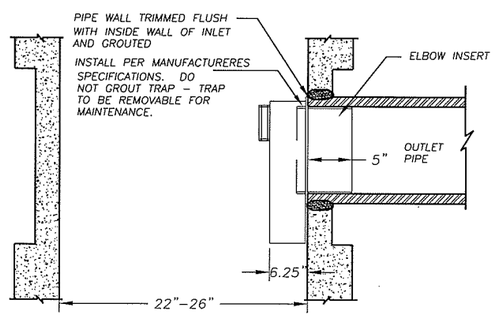


NOTE:
1. CMP* END-SECTION SHOWN;
2. ALL STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).

DEBRIS RACK

NTS

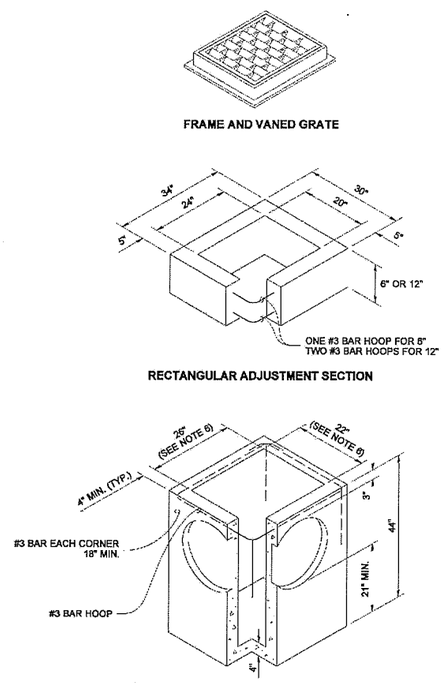
NOTE: FOR 12" DIP TRAP USE 12" * 90 DEG. DIP ELBOW



CATCH BASIN OUTLET PIPE TRAP

NTS

PRELIMINARY



NOTES

1. AS AN ACCEPTABLE ALTERNATE TO REBAR, WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WIRE MESH SHALL NOT BE PLACED IN KNOCKOUTS.
2. THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION 9-04.3.
3. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT SHALL BE 5'.
4. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO ADJUSTMENT SECTION.
5. THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
6. OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

MATTHEW J. WITHROW, STATE OF WASHINGTON, 13598, REGISTERED PROFESSIONAL ENGINEER
EXPIRES JULY 1, 2005

CATCH BASIN TYPE 1

STANDARD PLAN B-1

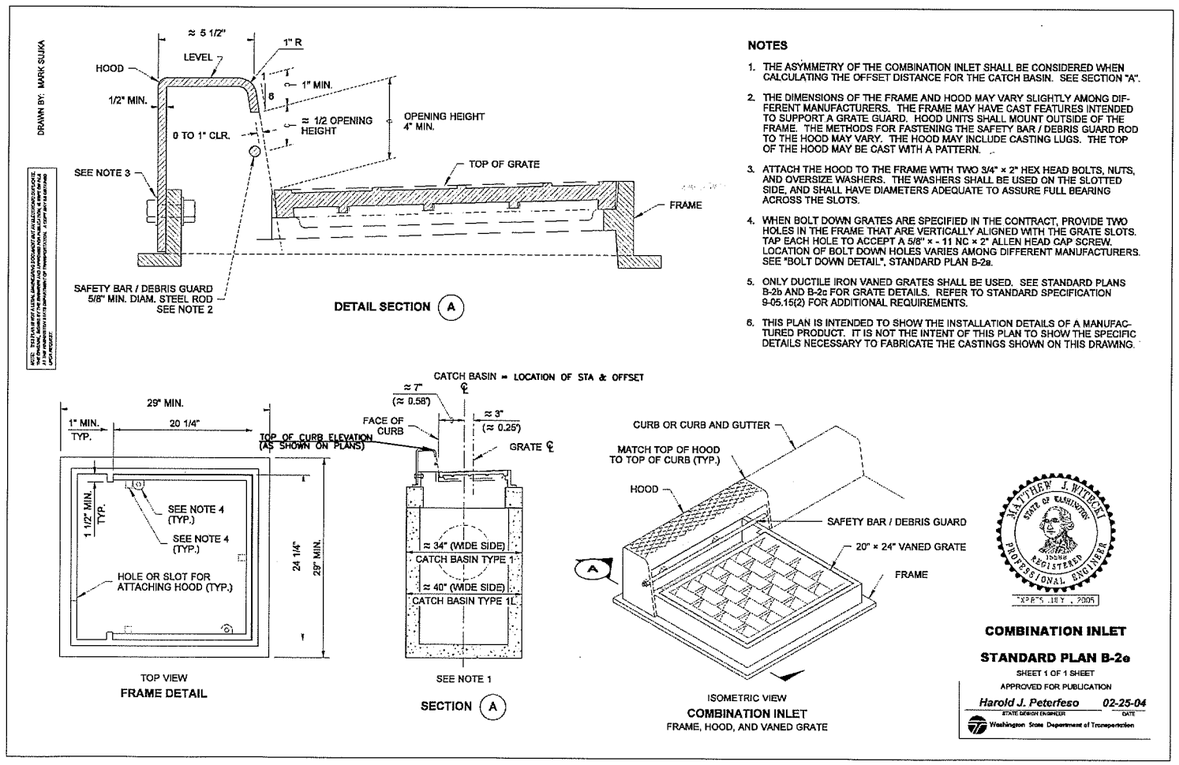
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso 07-21-03

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation



NOTES

1. THE ASYMMETRY OF THE COMBINATION INLET SHALL BE CONSIDERED WHEN CALCULATING THE OFFSET DISTANCE FOR THE CATCH BASIN. SEE SECTION "A".
2. THE DIMENSIONS OF THE FRAME AND HOOD MAY VARY SLIGHTLY AMONG DIFFERENT MANUFACTURERS. THE FRAME MAY HAVE CAST FEATURES INTENDED TO SUPPORT A GRATE GUARD. HOOD UNITS SHALL MOUNT OUTSIDE OF THE FRAME. THE METHODS FOR FASTENING THE SAFETY BAR / DEBRIS GUARD ROD TO THE HOOD MAY VARY. THE HOOD MAY INCLUDE CASTING LUGS. THE TOP OF THE HOOD MAY BE CAST WITH A PATTERN.
3. ATTACH THE HOOD TO THE FRAME WITH TWO 3/4" x 2" HEX HEAD BOLTS, NUTS, AND OVERSIZE WASHERS. THE WASHERS SHALL BE USED ON THE SLOTTED SIDE, AND SHALL HAVE DIAMETERS ADEQUATE TO ASSURE FULL BEARING ACROSS THE SLOTS.
4. WHEN BOLT DOWN GRATES ARE SPECIFIED IN THE CONTRACT, PROVIDE TWO HOLES IN THE FRAME THAT ARE VERTICALLY ALIGNED WITH THE GRATE SLOTS. TAP EACH HOLE TO ACCEPT A 5/8" x - 11 NC x 2" ALLEN HEAD CAP SCREW. LOCATION OF BOLT DOWN HOLES VARIES AMONG DIFFERENT MANUFACTURERS. SEE "BOLT DOWN DETAIL", STANDARD PLAN B-2a.
5. ONLY DUCTILE IRON VANED GRATES SHALL BE USED. SEE STANDARD PLANS B-2b AND B-2c FOR GRATE DETAILS. REFER TO STANDARD SPECIFICATION 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.
6. THIS PLAN IS INTENDED TO SHOW THE INSTALLATION DETAILS OF A MANUFACTURED PRODUCT. IT IS NOT THE INTENT OF THIS PLAN TO SHOW THE SPECIFIC DETAILS NECESSARY TO FABRICATE THE CASTINGS SHOWN ON THIS DRAWING.

MATTHEW J. WITHROW, STATE OF WASHINGTON, 13598, REGISTERED PROFESSIONAL ENGINEER
EXPIRES JULY 1, 2005

COMBINATION INLET

STANDARD PLAN B-2a

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Harold J. Peterfeso 02-25-04

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	DD3
SHEET	17 OF X

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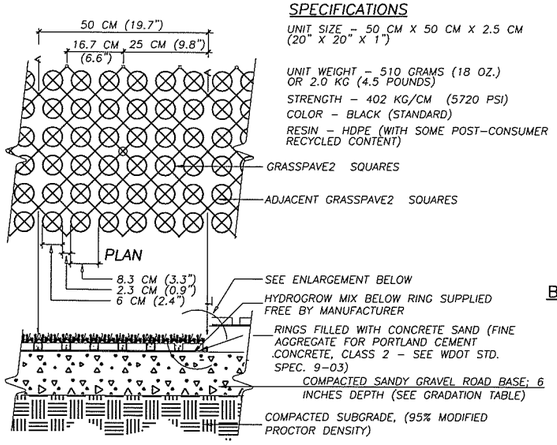
MATTHEW J. WITHROW, STATE OF WASHINGTON, 13598, REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2005

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
DRAINAGE DETAILS

proud past, promising future

CLARK COUNTY WASHINGTON



SPECIFICATIONS

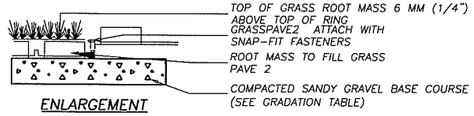
UNIT SIZE – 50 CM X 50 CM X 2.5 CM (20" X 20" X 1")

UNIT WEIGHT – 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)

STRENGTH – 402 KG/CM (5720 PSI)

COLOR – BLACK (STANDARD)

RESIN – HDPE (WITH SOME POST-CONSUMER RECYCLED CONTENT)



BASE COURSE GRADATION

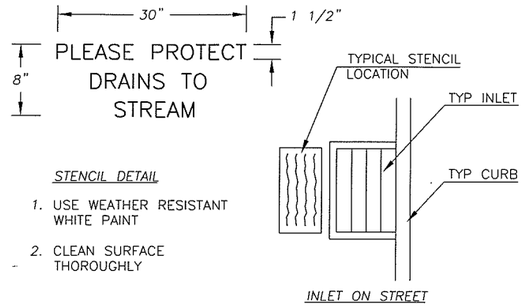
SEIVE SIZE	% PASSING
3/4"	72"
3/8"	24"
#4 SCREEN	24"
#40 SCREEN	256.07
#200 SCREEN	258.07

NOTES

1. POROUS PAVERS SHALL BE "GRASSPAVE 2" OR APPROVED EQUAL ("GRASSPAVE" SHOWN)
2. INSTALL PER MANUFACTURERS INSTRUCTIONS AND AS DIRECTED BY ENGINEER.
3. GRASS MIX AS FOR STORMWATER FACILITY
4. PROVISION & INSTALLATION OF ALL MATERIALS INCLUDING BASE COURSE INCLUDED IN COST FOR POROUS PAVER BID ITMES.

POROUS PAVER DETAIL

NOT TO SCALE

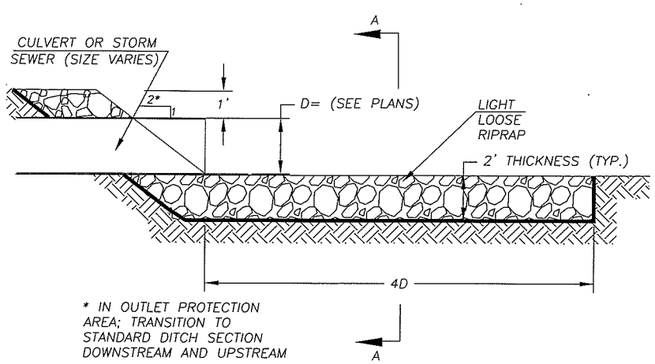


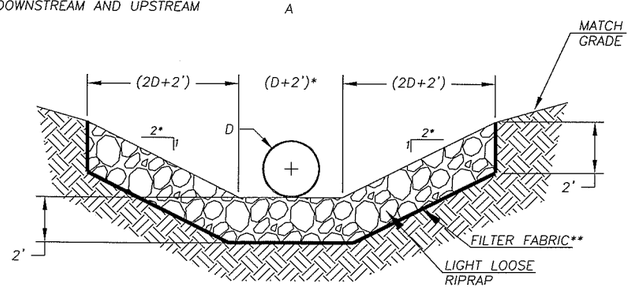
STENCIL DETAIL

1. USE WEATHER RESISTANT WHITE PAINT
2. CLEAN SURFACE THOROUGHLY

INLET STENCIL DETAIL

NTS





SECTION A-A

** CONSTRUCTION GEOTEXTILE FOR SEPARATION OR SOIL STABILIZATION (WSDOT 9-33, TABLE 3)

OUTFALL DISCHARGE PROTECTION

N.T.S.

PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/kB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	DD4
SHEET	18 OF X

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STATE OF WASHINGTON 41411 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
DRAINAGE DETAILS

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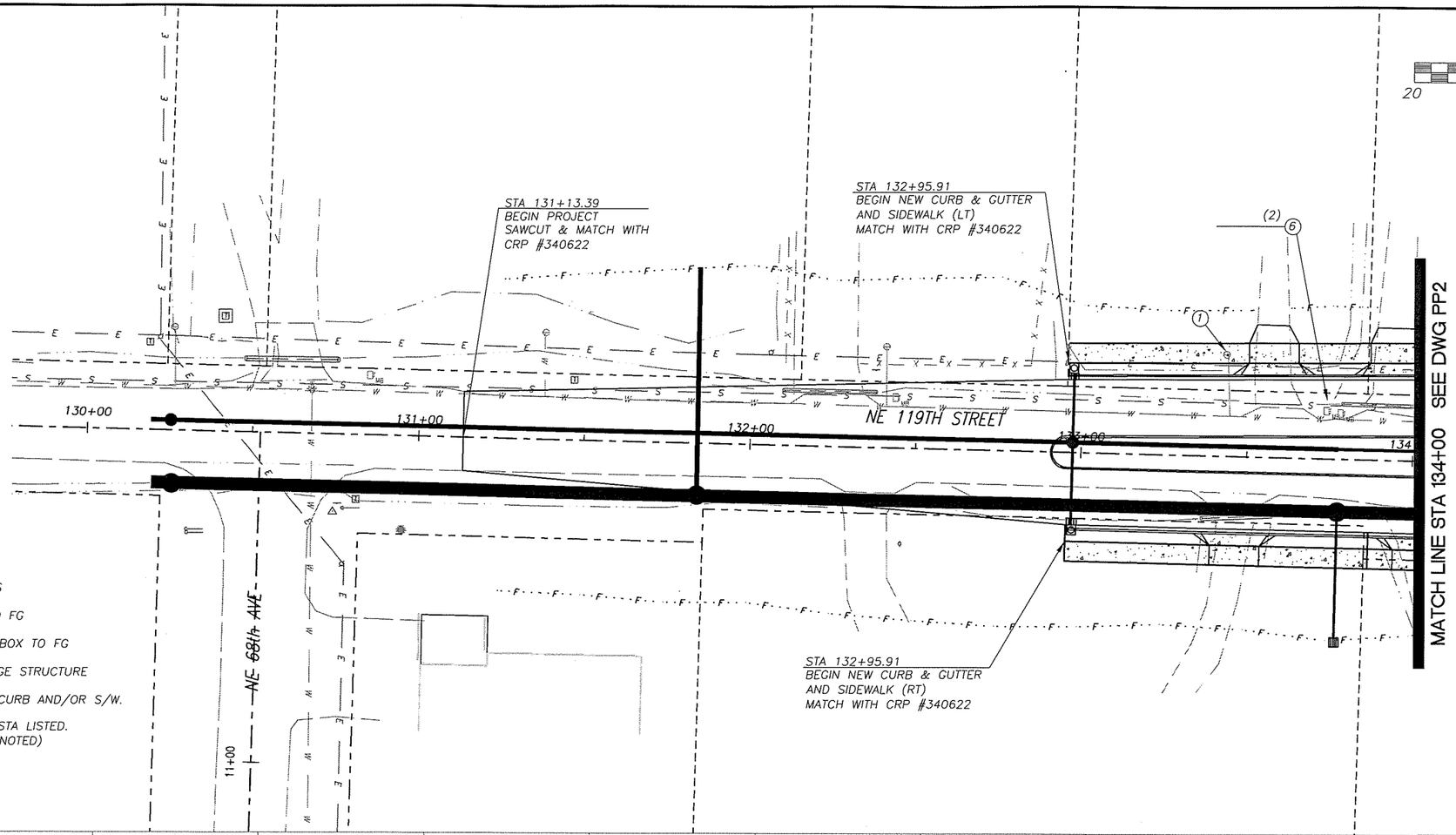
CLARK COUNTY WASHINGTON



(1) RELOCATE/REMOVE BY OTHERS

(2) ADJUST MH RIM/CB GRATE TO FG

(3) ADJUST VALVE COVER/METER BOX TO FG

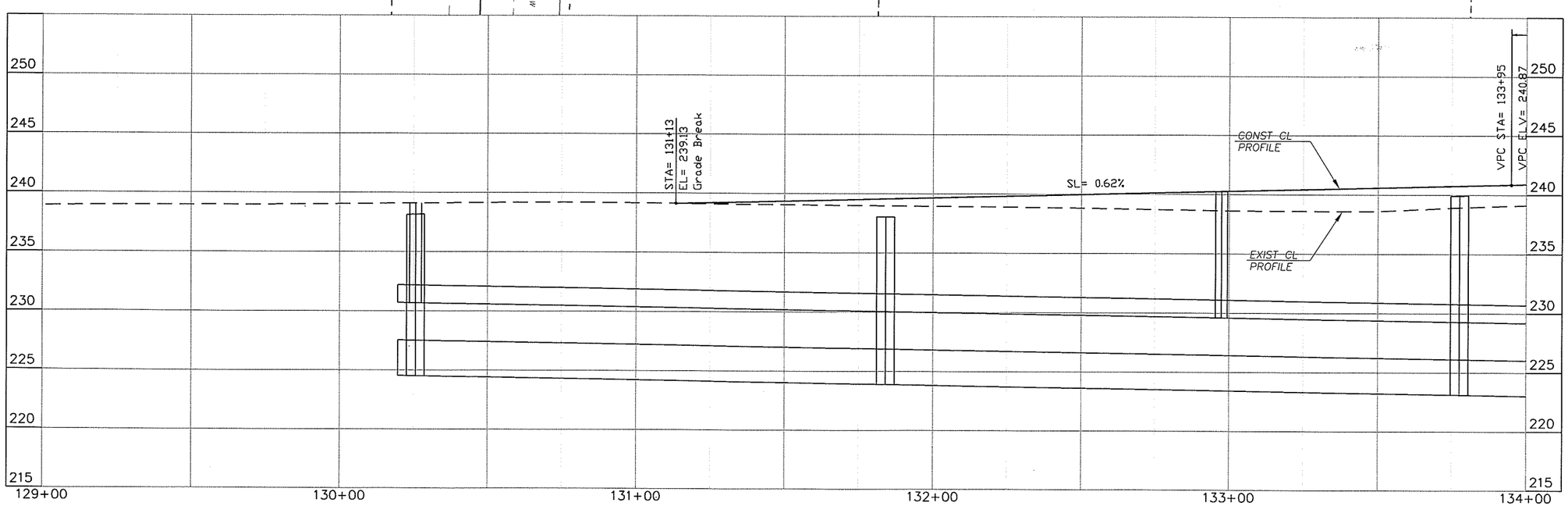
(4) REMOVE EXT CULVERT/DRAINAGE STRUCTURE

(5) SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.

(6) RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP1
SHEET	19 OF X

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ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (B.O.P. TO STA 134+00)

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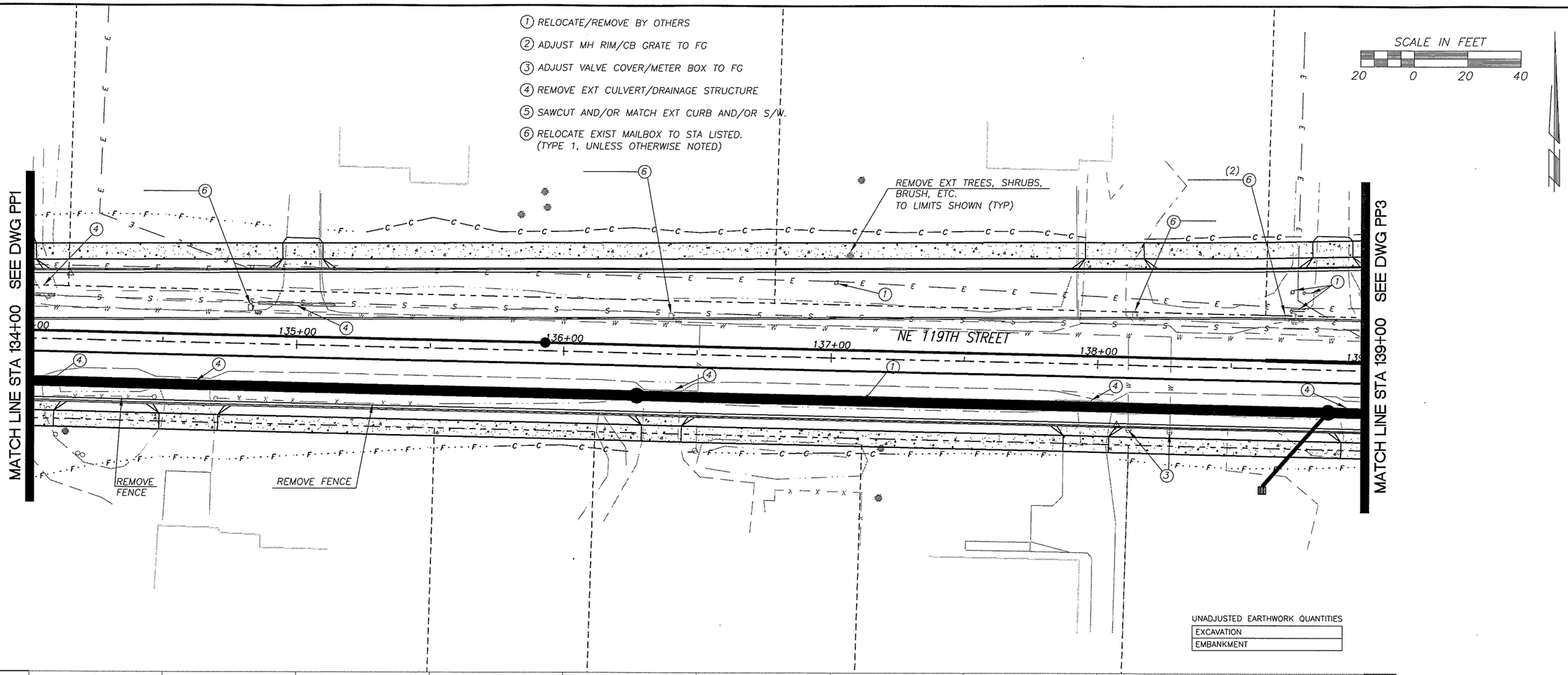
CLARK COUNTY
WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
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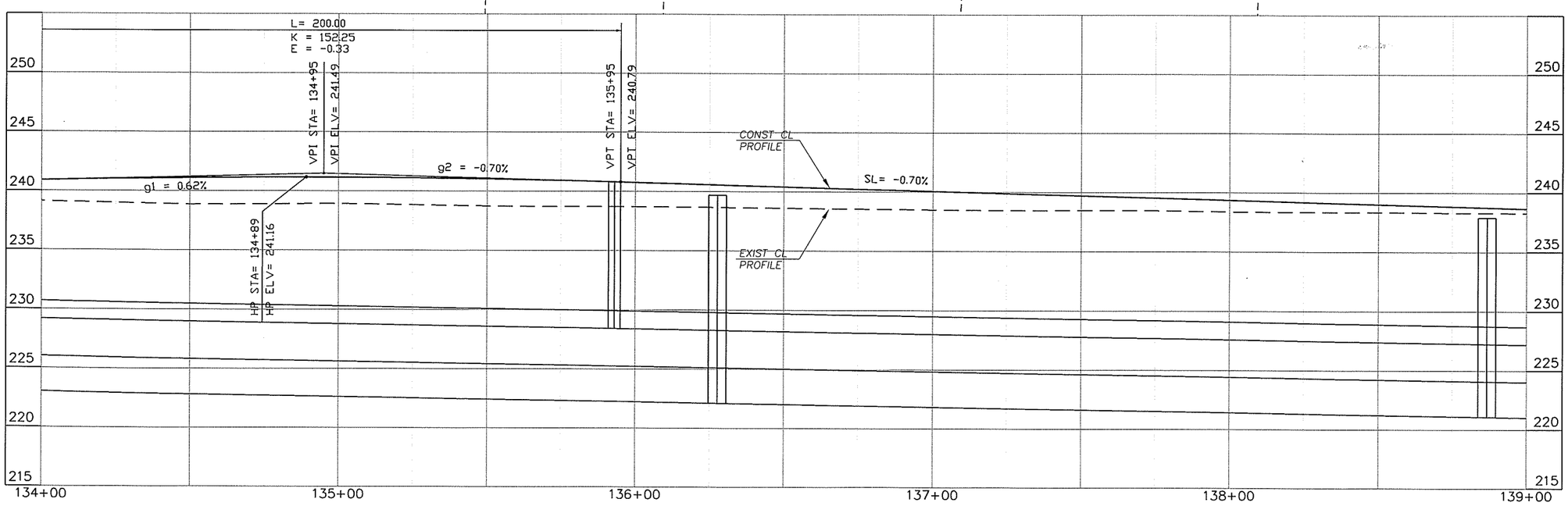

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP2
SHEET	20 OF X

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JEFF M. PIERCE
STATE OF WASHINGTON
21441
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 134+00 TO STA 139+00)

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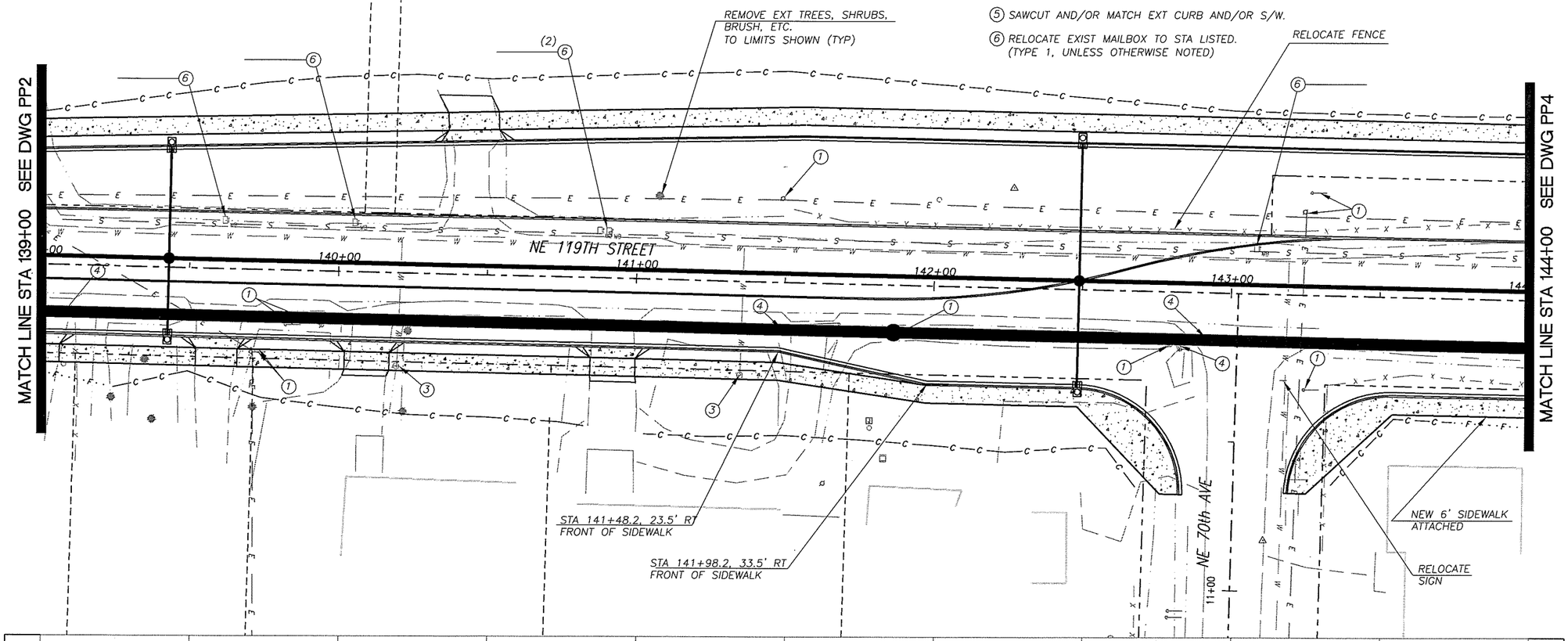
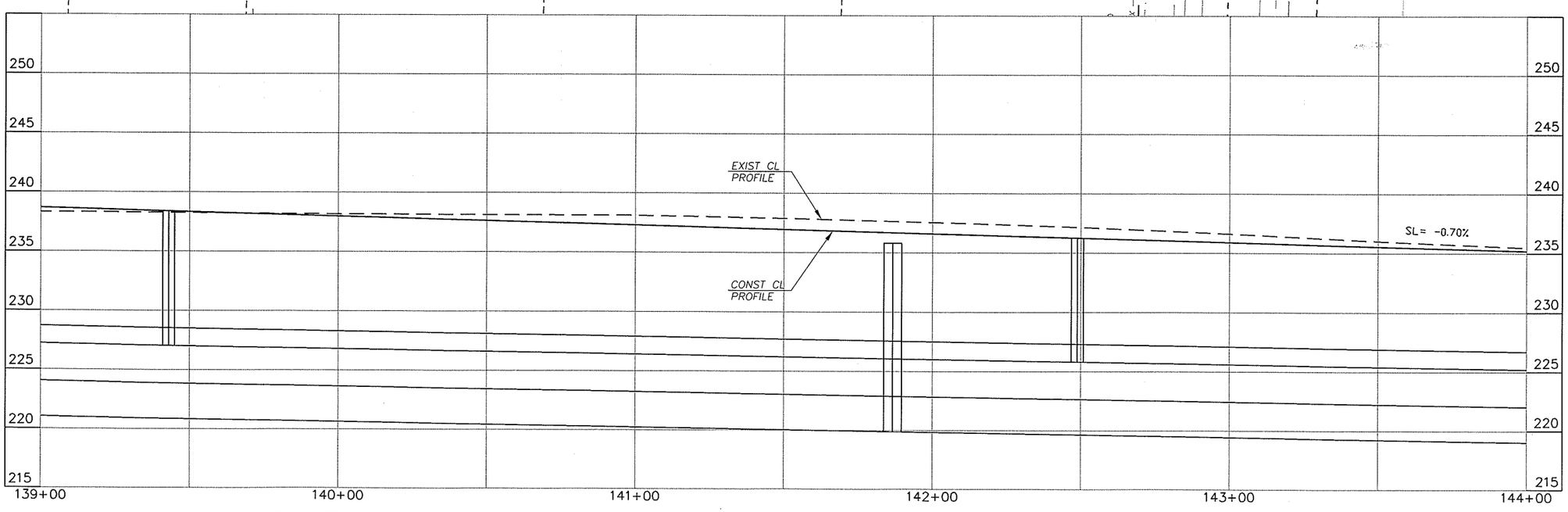
CLARK COUNTY
WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40





UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

DESIGNED	TP/JM
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VERT.	SEE SHEET
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STATE OF WASHINGTON JAMES C. WATERCE 41441 PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 139+00 TO STA 144+00)

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SEE DWG PP33

SCALE IN FEET

20 0 20 40

MATCH LINE STA 144+00 SEE DWG PP3

MATCH LINE STA 149+00 SEE DWG PP5

RELOCATE FENCE

RELOCATE FENCE

NEW 6' SIDEWALK ATTACHED

NE 119TH STREET

145+00

146+00

147+00

148+00

79+00

78+00

NE 72ND AVE

RELOCATE SIGN

RELOCATE SIGN

NEW 6' SIDEWALK ATTACHED

REMOVE EXIST CURB, GUTTER, AND SIDEWALK

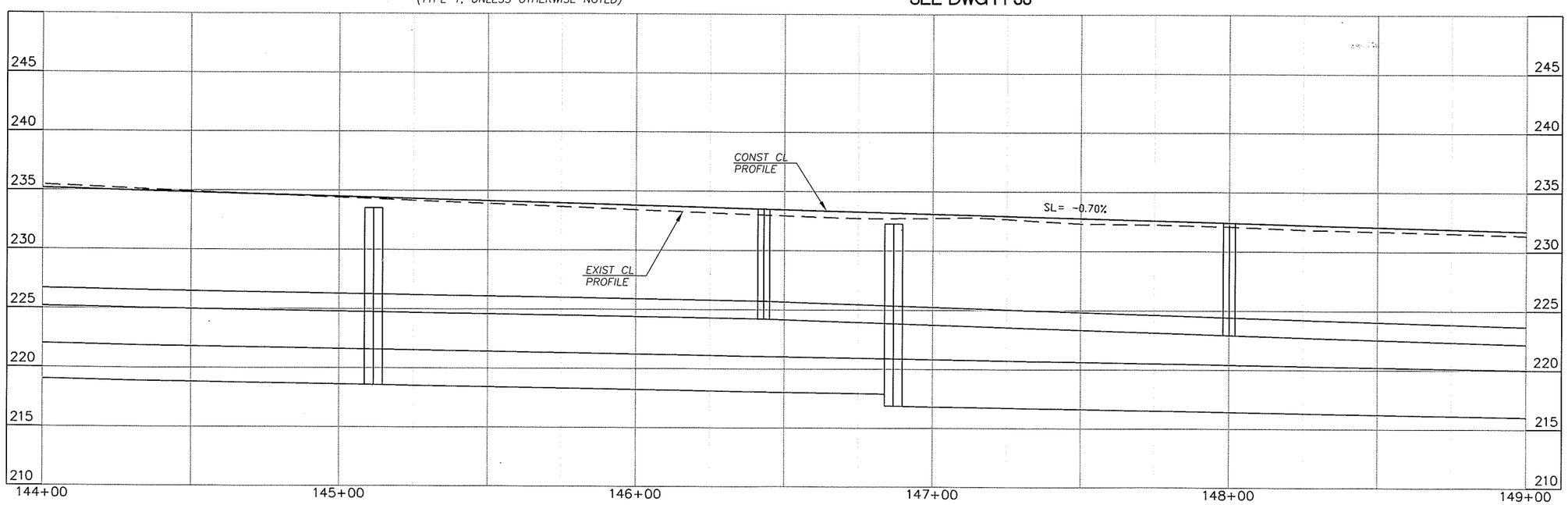
AN ALTERNATIVE ALIGNMENT MAY BE PREFERRED BUT WILL HAVE SIGNIFICANT IMPACTS TO CHEVRON. (SEE DESIGN REPORT FOR ADDITIONAL INFORMATION.)

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SEE DWG PP33

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP4
SHEET	22 OF X

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STATE OF WASHINGTON PIERCE 41441 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 144+00 TO STA 149+00)

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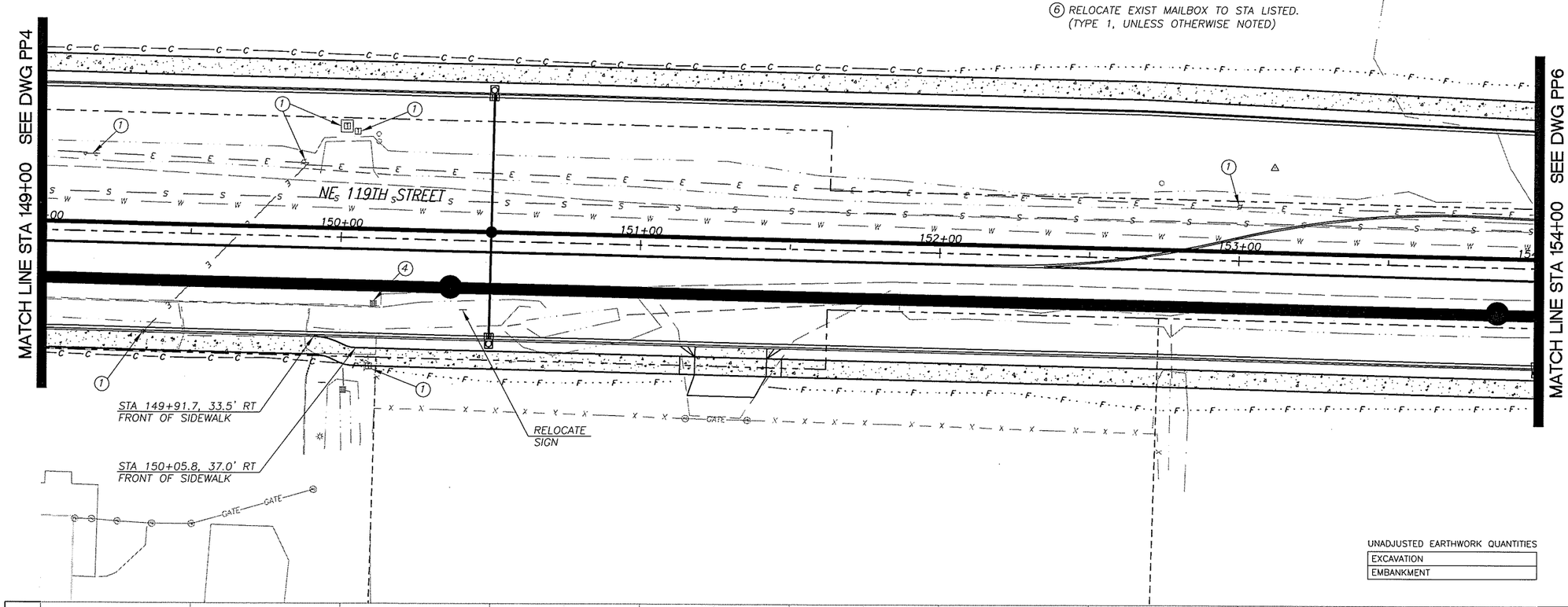
CLARK COUNTY WASHINGTON

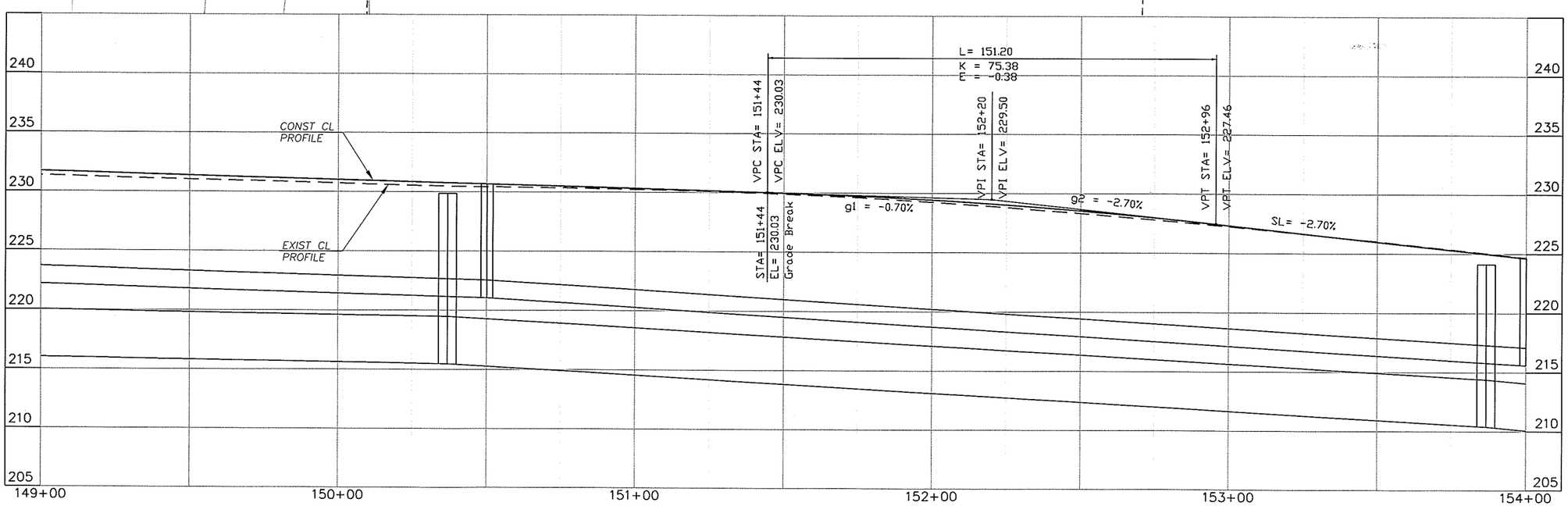
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
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VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP5
SHEET	23 OF X

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STATE OF WASHINGTON
M. PIERCE HALL
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 149+00 TO STA 154+00)

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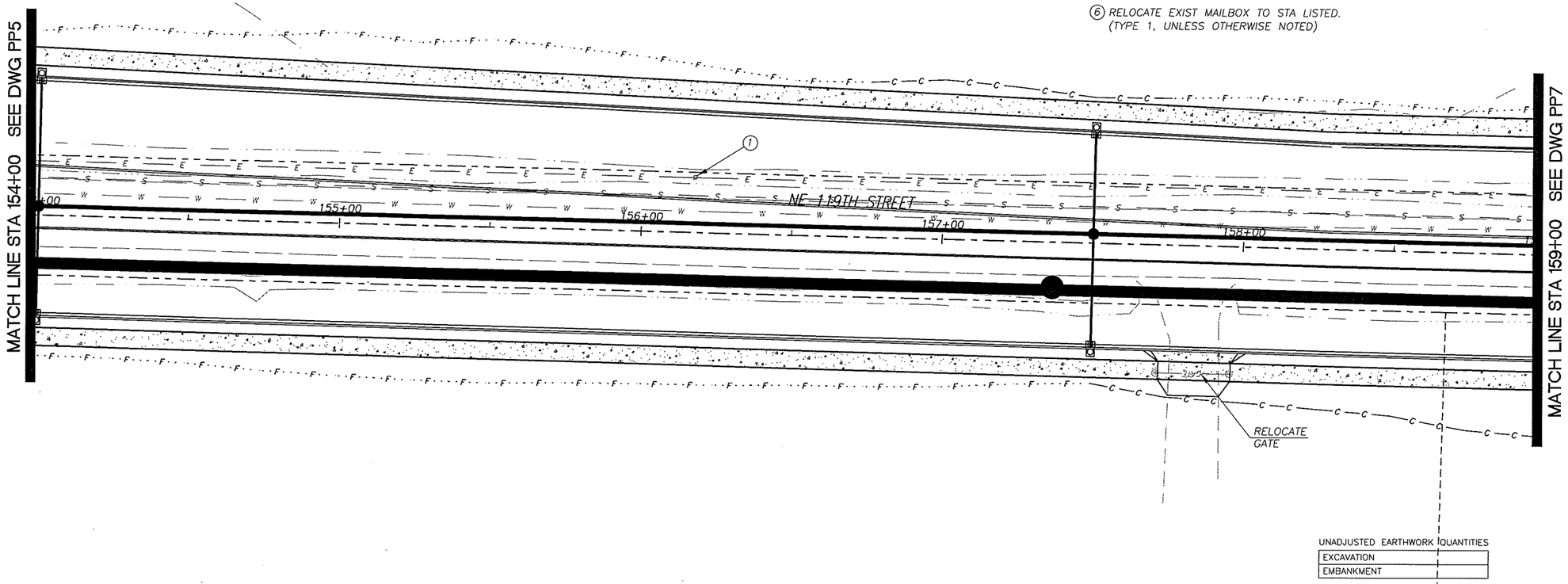
WASHINGTON

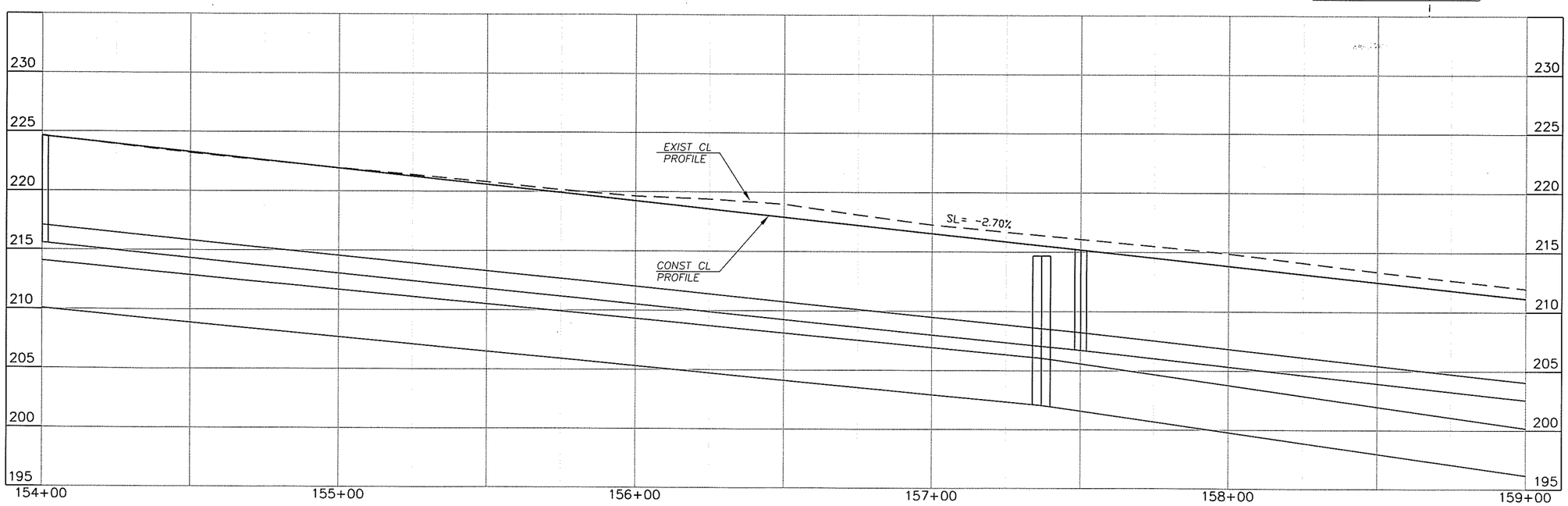
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP6
SHEET	24 OF X

CALL 48 HOURS BEFORE YOU DIG
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"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
JAMES R. LEVENCE
41411
PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

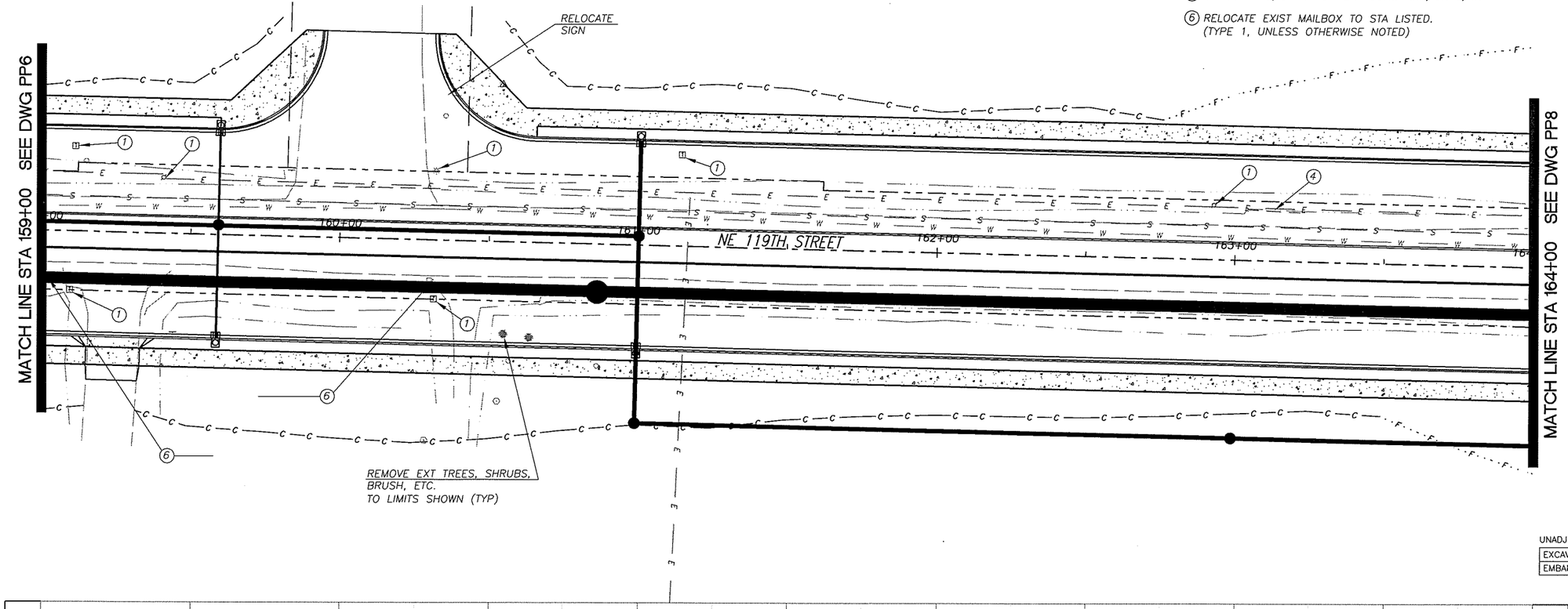
NE 119TH STREET EAST

PLAN & PROFILE (STA 154+00 TO STA 159+00)

proud past, promising future
CLARK COUNTY
WASHINGTON

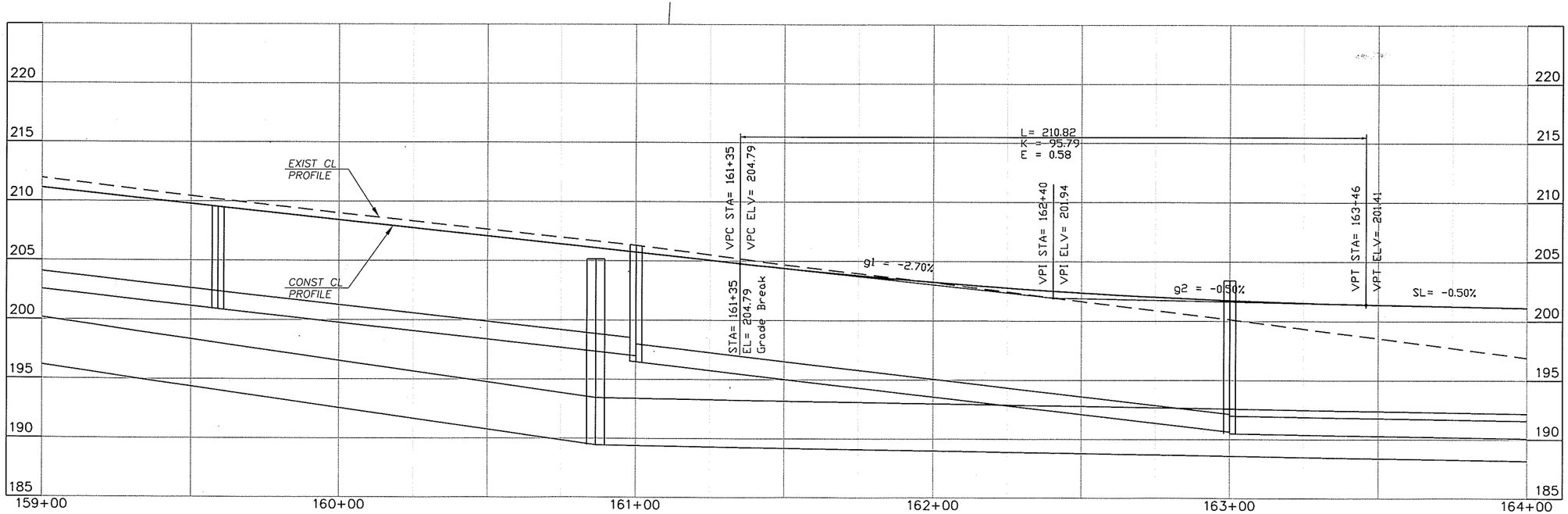
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP7
SHEET	25 OF X

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STATE OF WASHINGTON TROY A. FIERCE 41411 PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

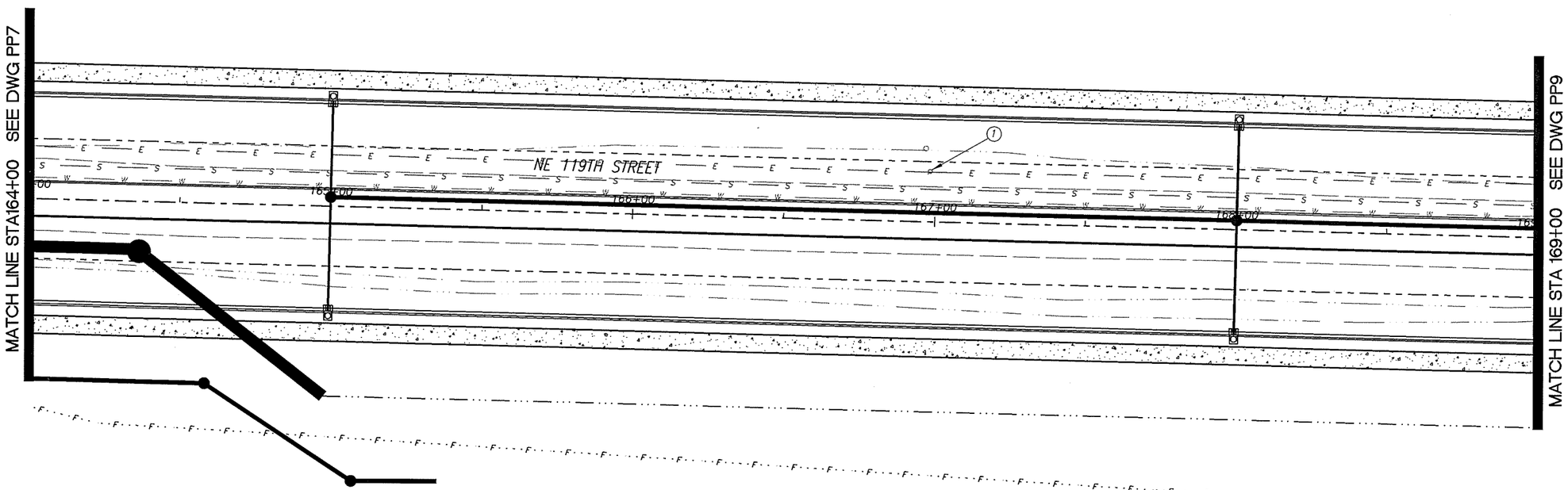
PLAN & PROFILE (STA 159+00 TO STA 164+00)

proud past, promising future

CLARK COUNTY WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO F)
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

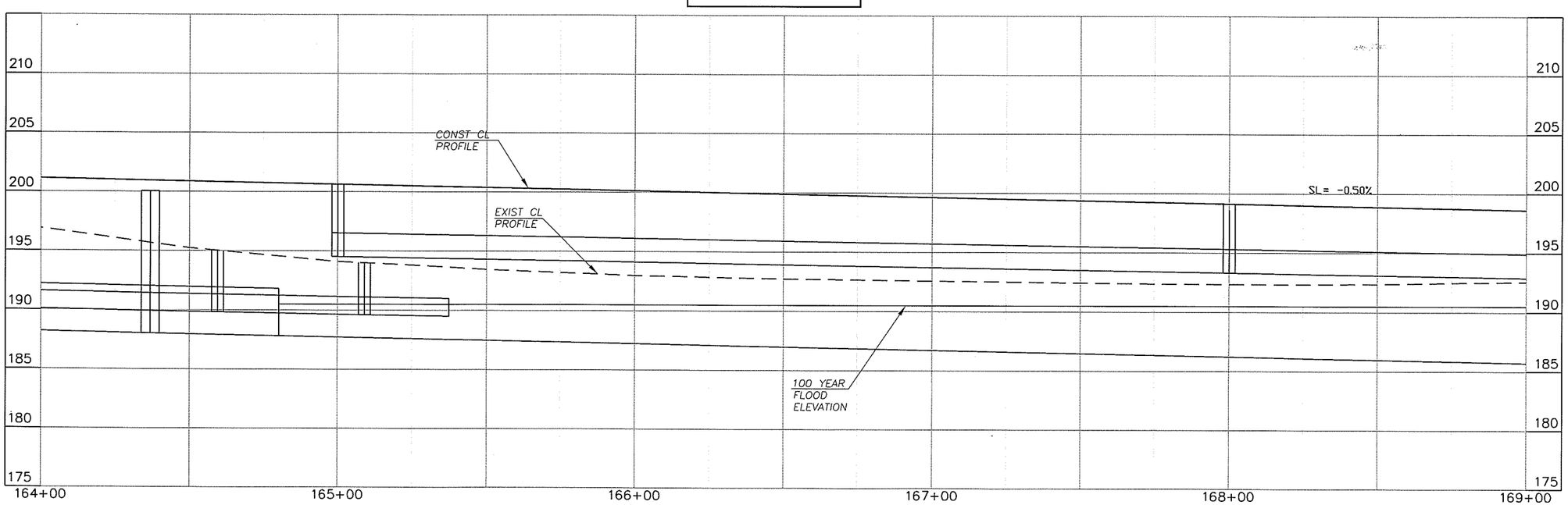
SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

PROPOSED STORMWATER CONTROL FACILITY LOCATION



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SHEET 26 OF X

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TROY N. PIERCE STATE OF WASHINGTON 41481 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 164+00 TO STA 169+00)

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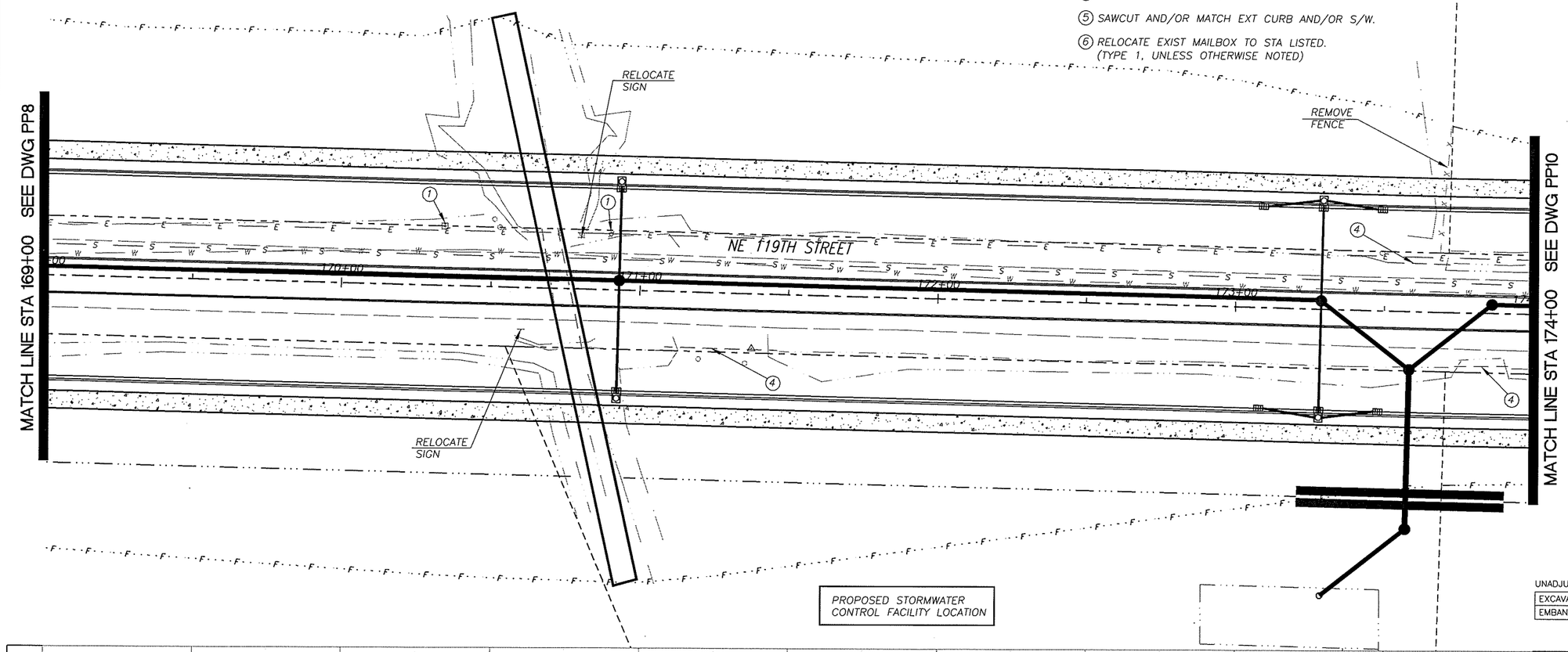
CLARK COUNTY WASHINGTON

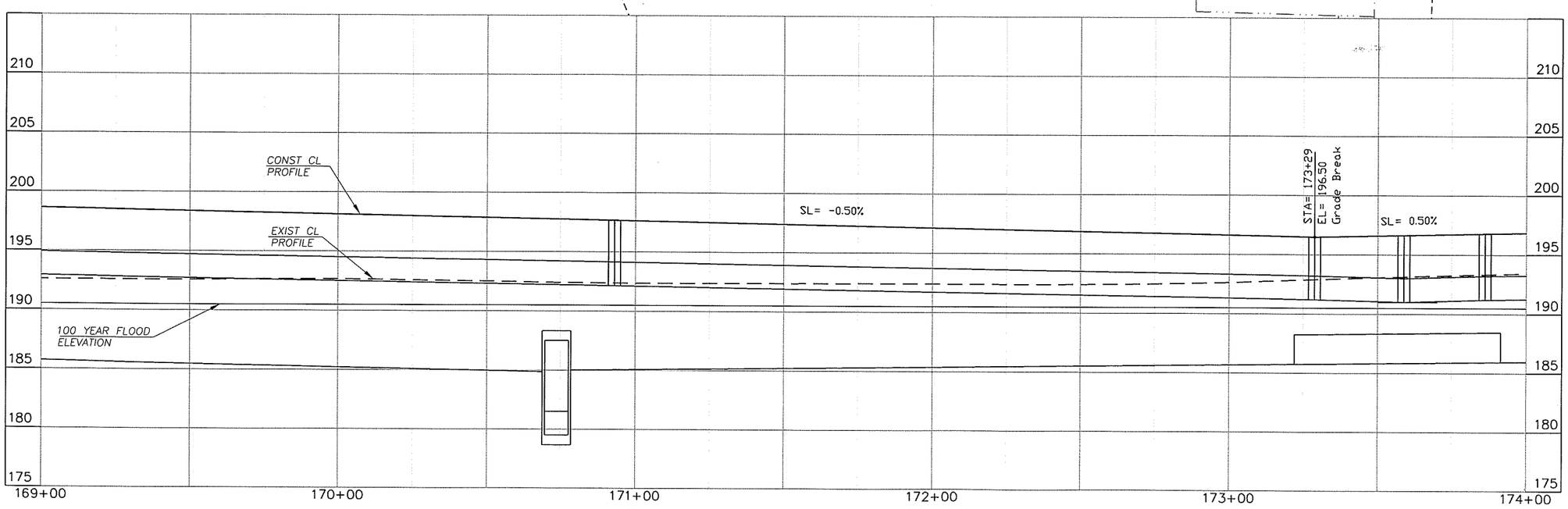
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



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CRP 340722
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DWG: PP9
SHEET 27 OF X

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STEVEN N. PIERCE STATE OF WASHINGTON 37141 REGISTERED PROFESSIONAL ENGINEER
EXPIRES JAN 1, 2006

ENGINEERING PROGRAM DESIGN SECTION

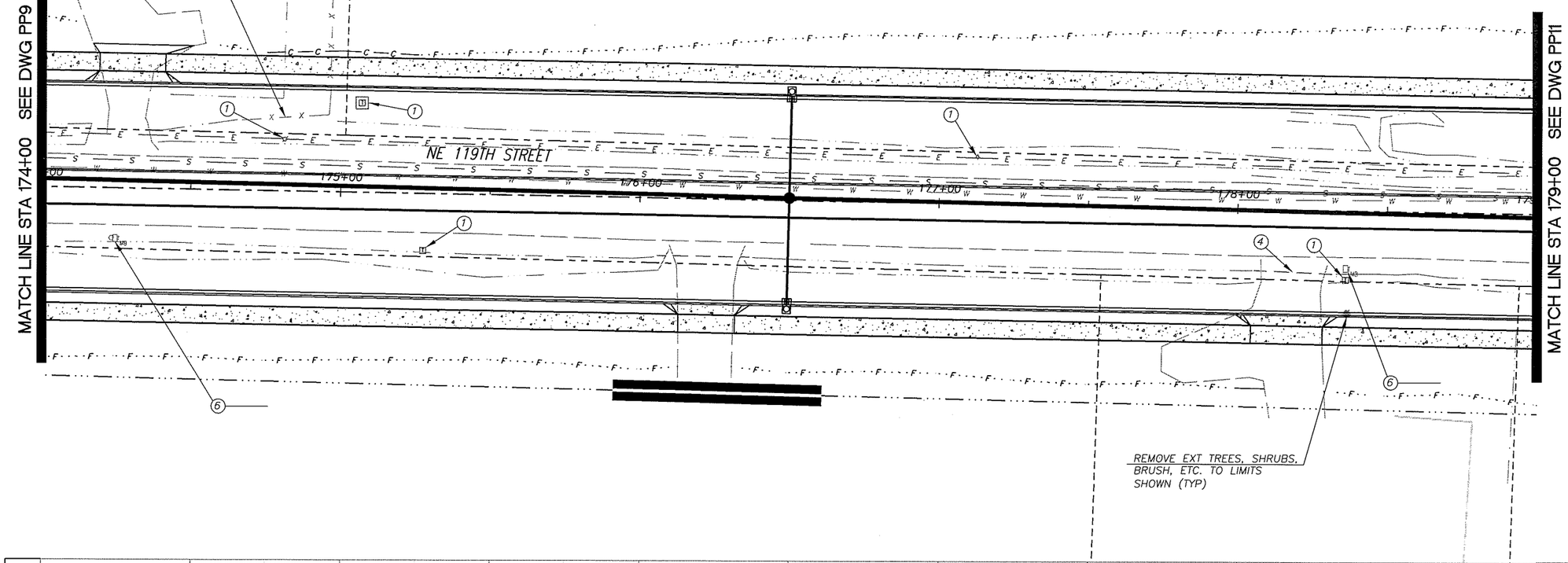
NE 119TH STREET EAST

PLAN & PROFILE (STA 169+00 TO STA 174+00)

proud past, promising future
CLARK COUNTY WASHINGTON

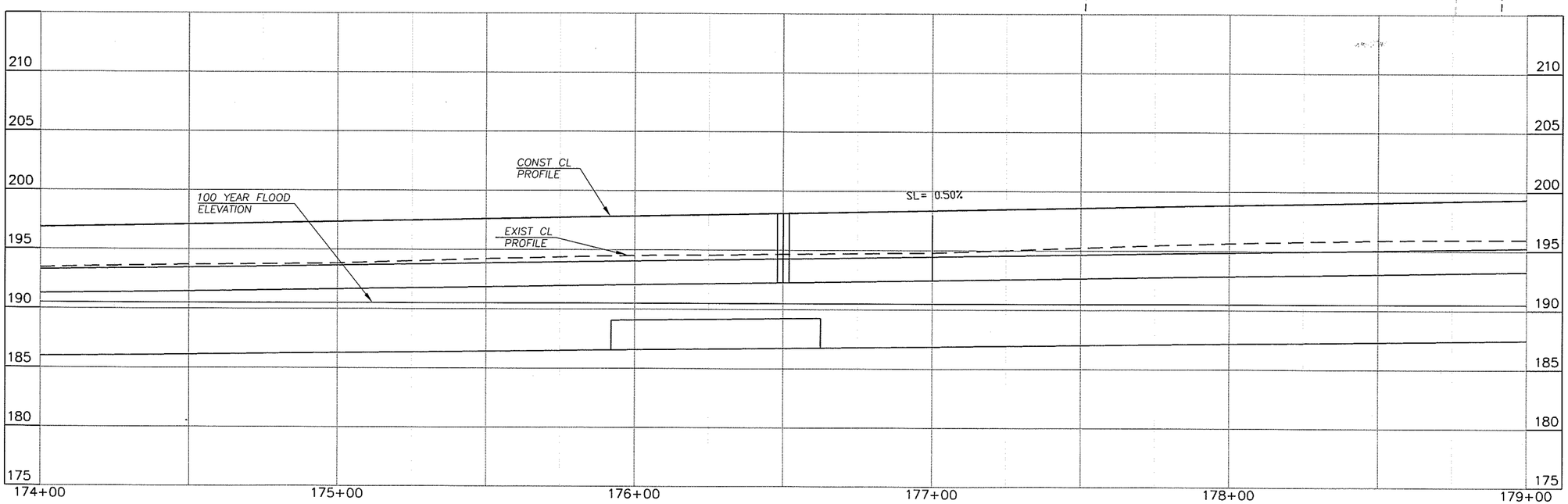
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
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VERT. SEE SHEET
DATE 11/29/05
DWG: PP10
SHEET 28 OF X

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STATE OF WASHINGTON
TIMOTHY J. MERCER
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 174+00 TO STA 179+00)

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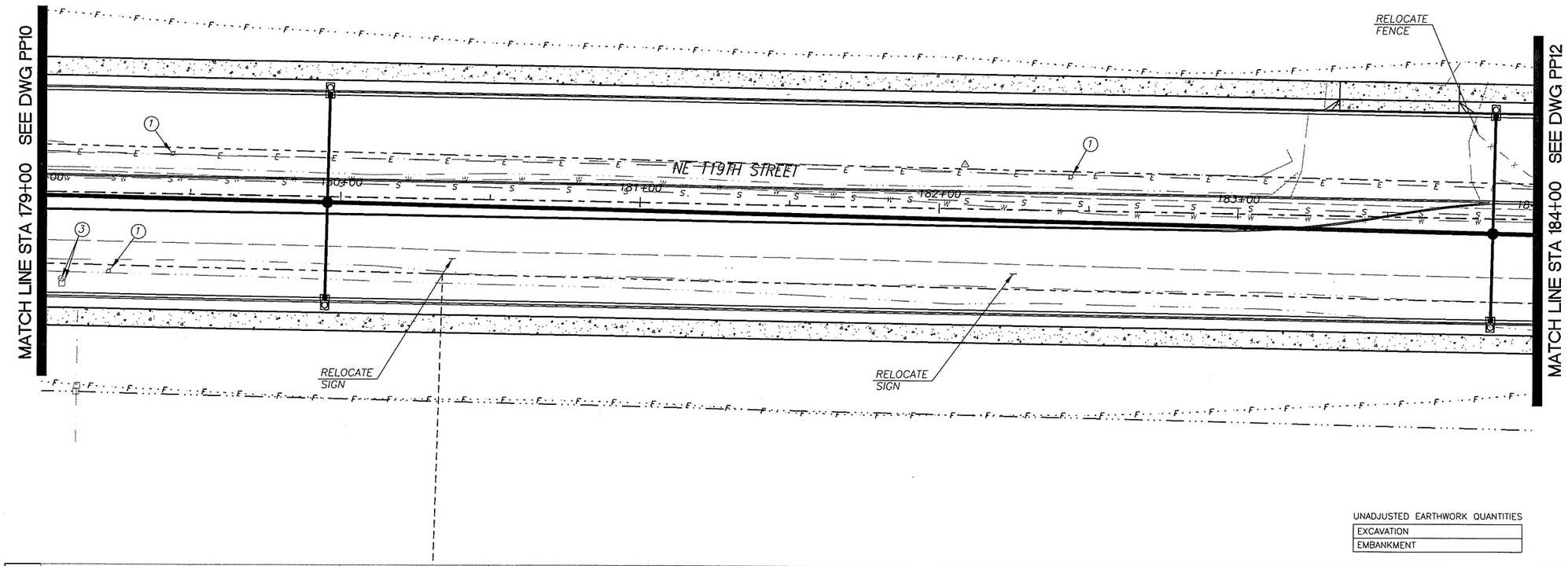
CLARK COUNTY
WASHINGTON

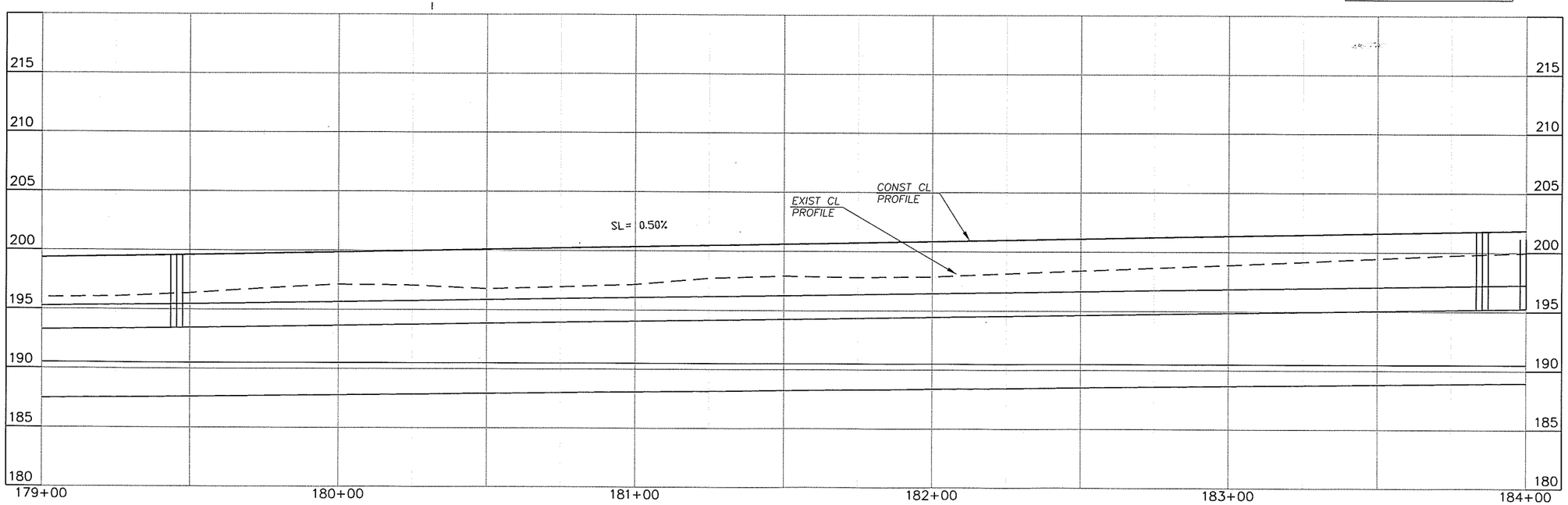
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP11
SHEET 29 OF X

CALL 48 HOURS BEFORE YOU DIG
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STATE OF WASHINGTON
PIERCE
41441
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

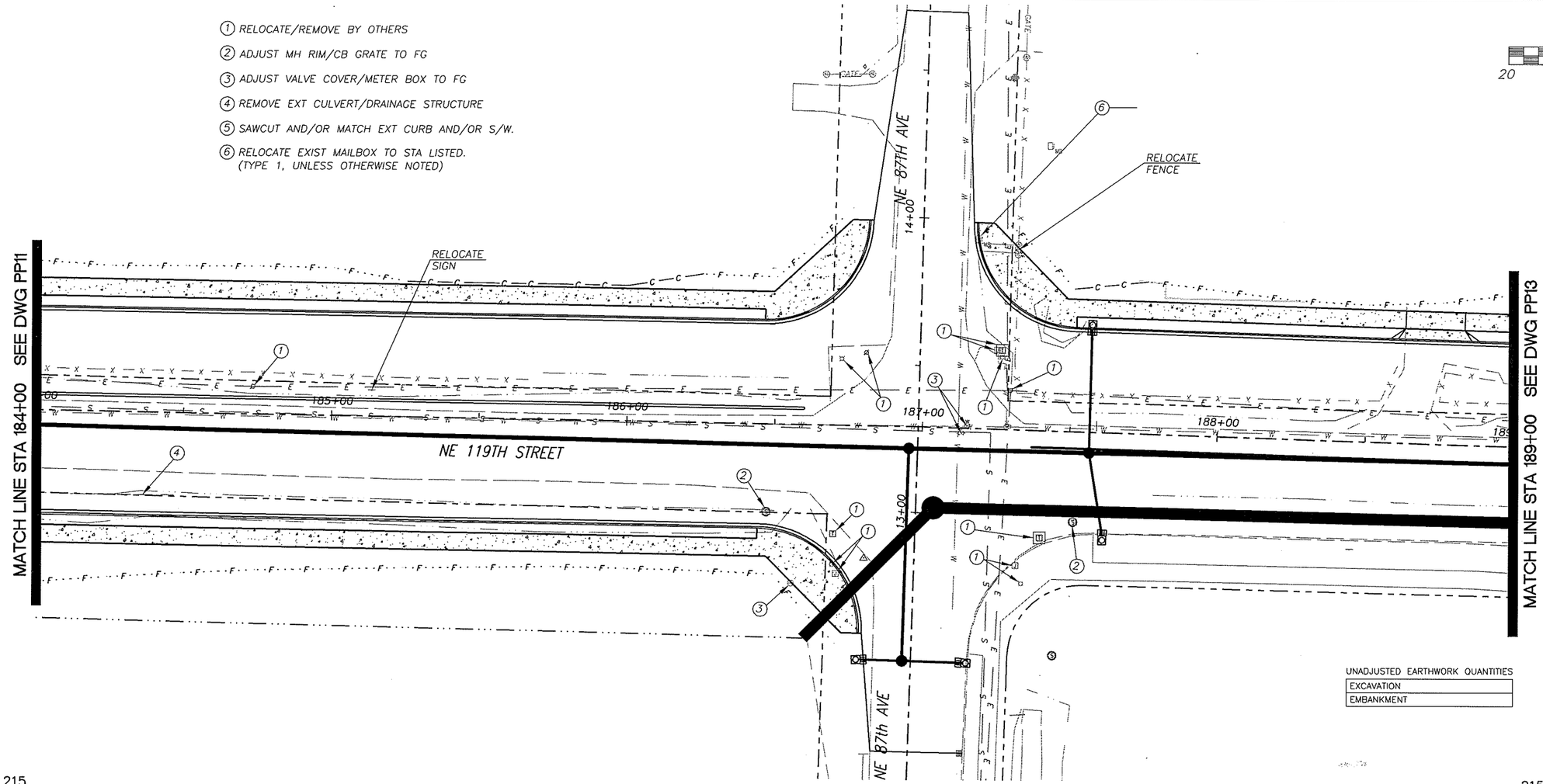
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 179+00 TO STA 184+00)

proud past, promising future
CLARK COUNTY
WASHINGTON

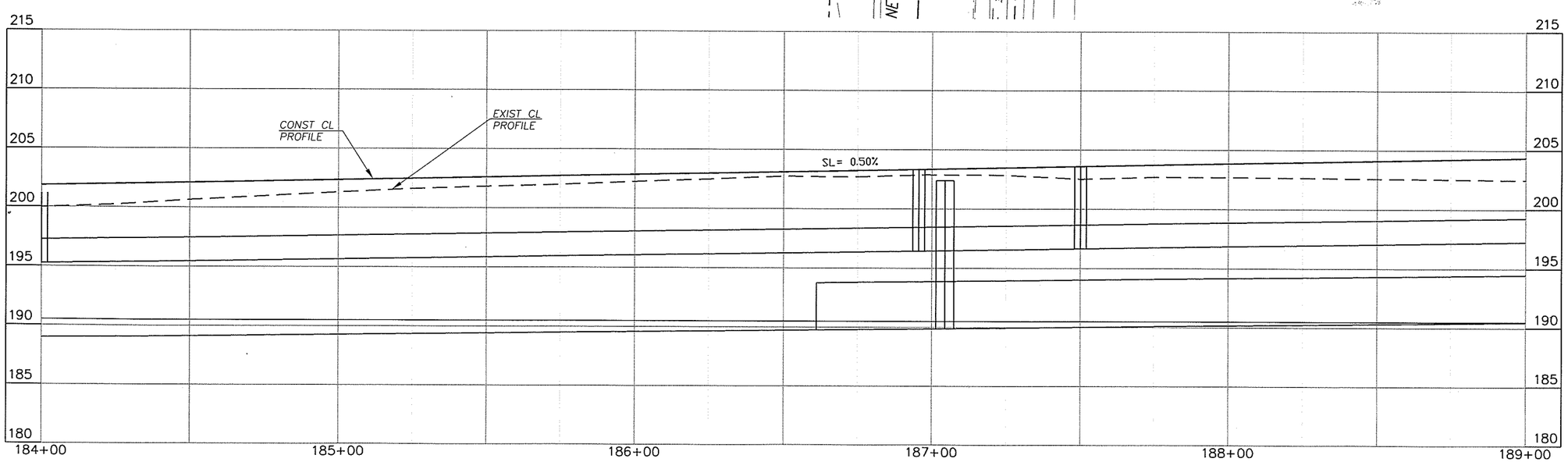
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED	TP/JM
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CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP12
SHEET	30 OF X

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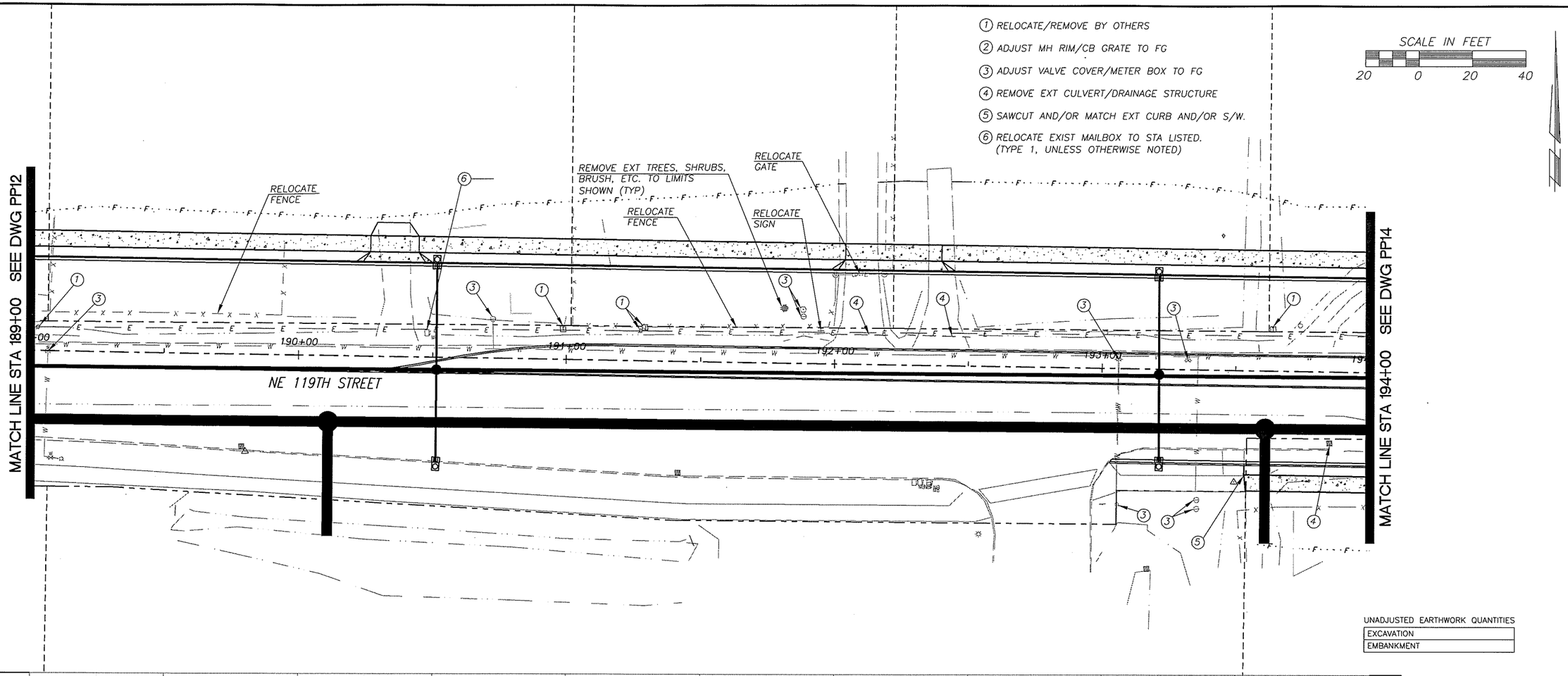
STATE OF WASHINGTON M. PIERCE 40481 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

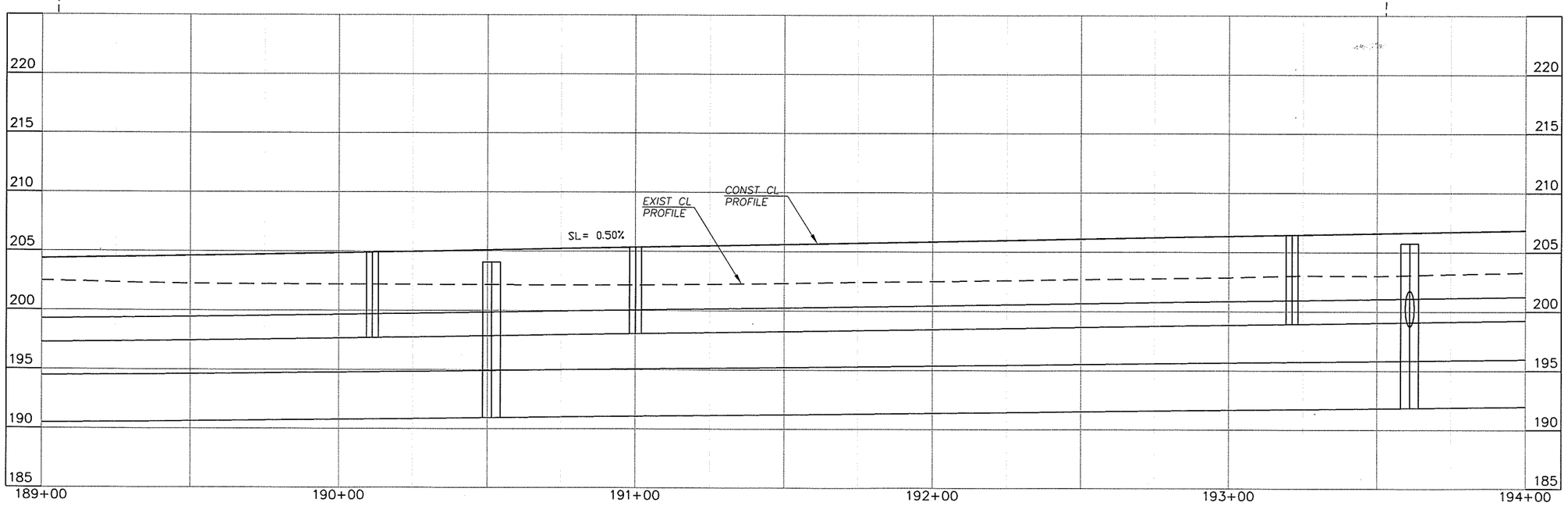
NE 119TH STREET EAST
PLAN & PROFILE (STA 184+00 TO STA 189+00)

proud past, promising future
CLARK COUNTY WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



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DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP13
SHEET 31 OF X

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STEVEN M. PIERCE
STATE OF WASHINGTON
41441
PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

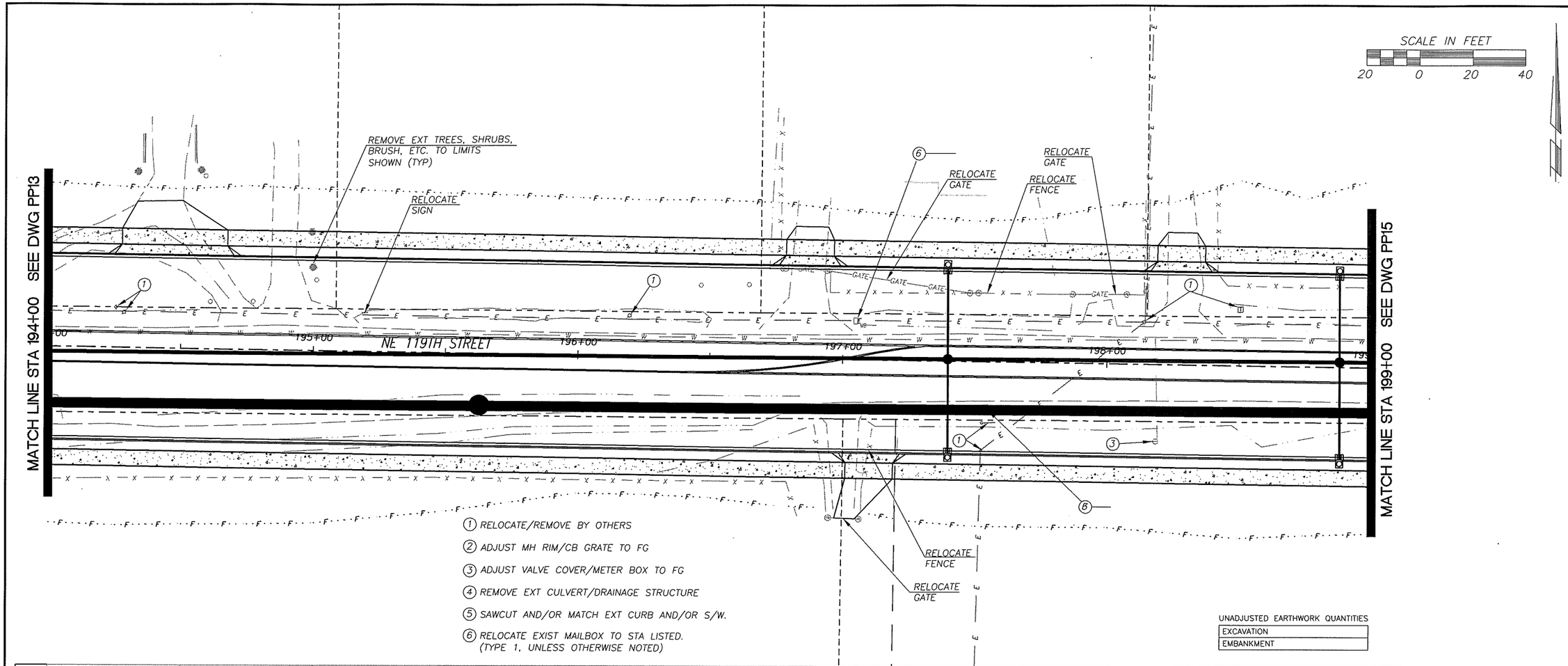
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 189+00 TO STA 194+00)

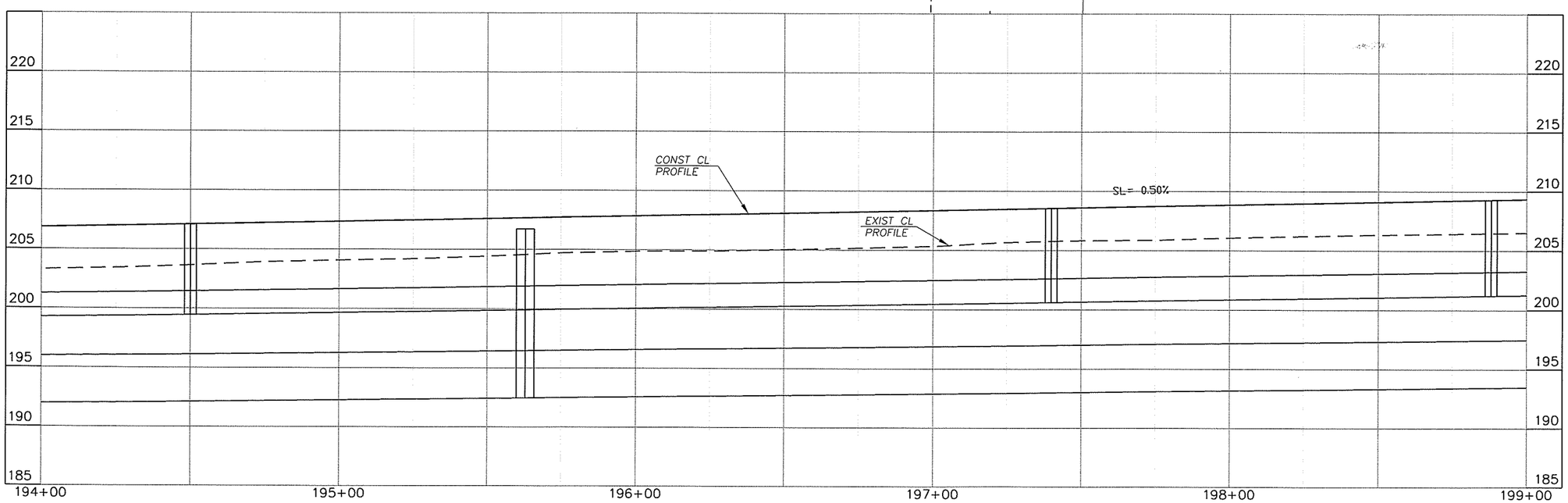
proud past, promising future

CLARK COUNTY
WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



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CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP14
SHEET 32 OF X

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TROY M. PIERCE
STATE OF WASHINGTON
31411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN. 1, 2006

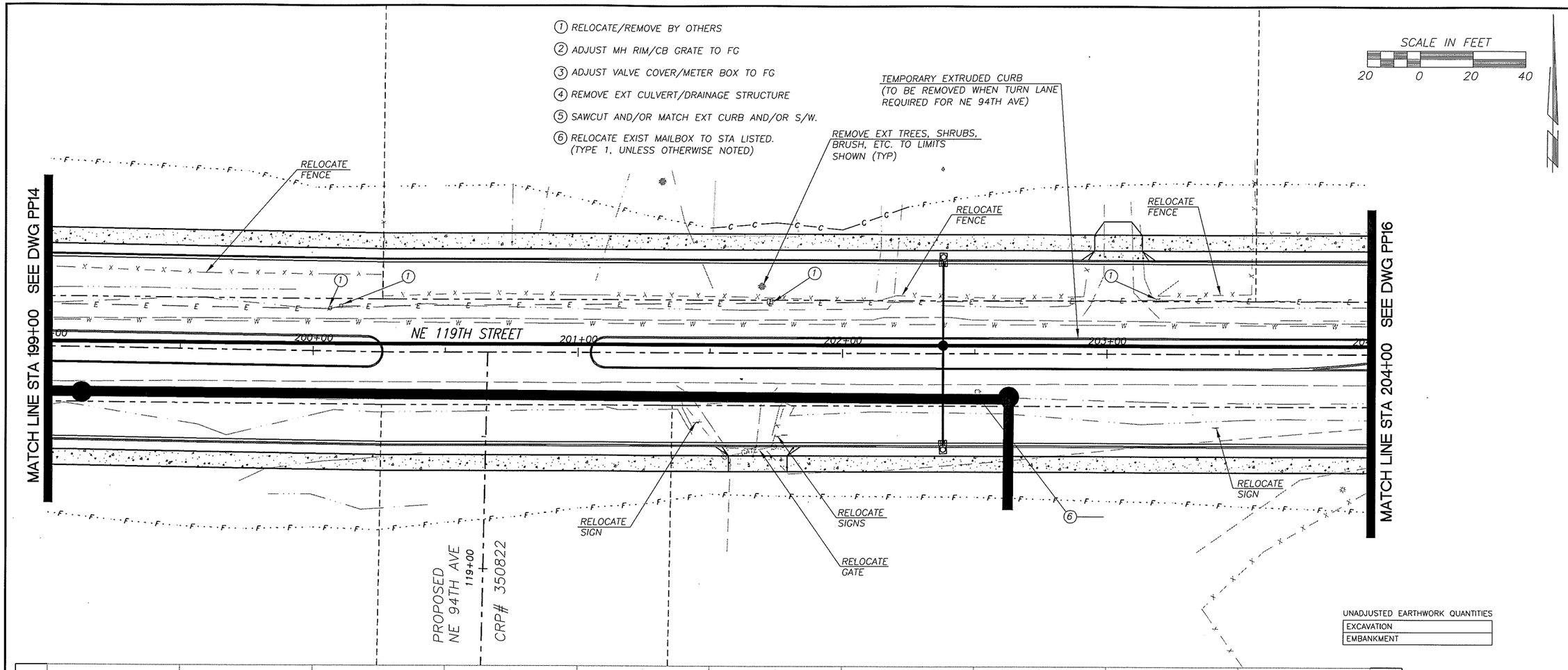
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 194+00 TO STA 199+00)

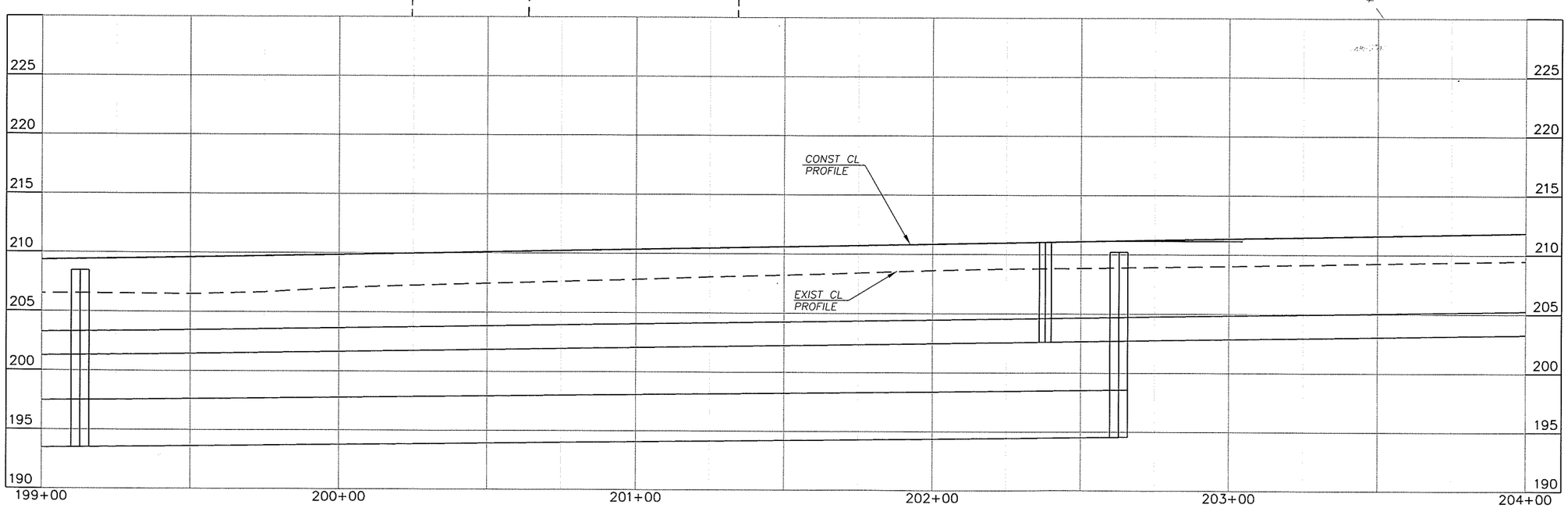
proud past, promising future
CLARK COUNTY
WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
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CRP	340722
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VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP15
SHEET	33 OF X

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STEVEN W. PIERCE STATE OF WASHINGTON 41461 REGISTERED PROFESSIONAL ENGINEER
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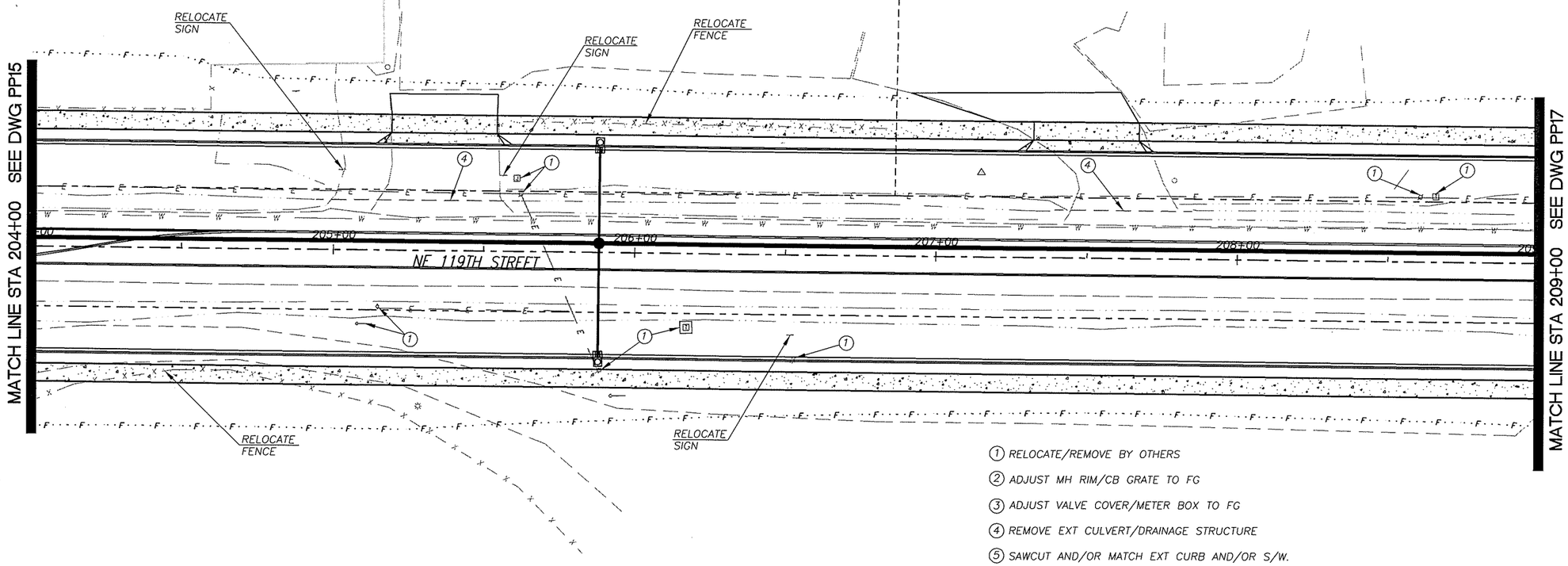
ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 199+00 TO STA 204+00)

proud past, promising future

CLARK COUNTY WASHINGTON



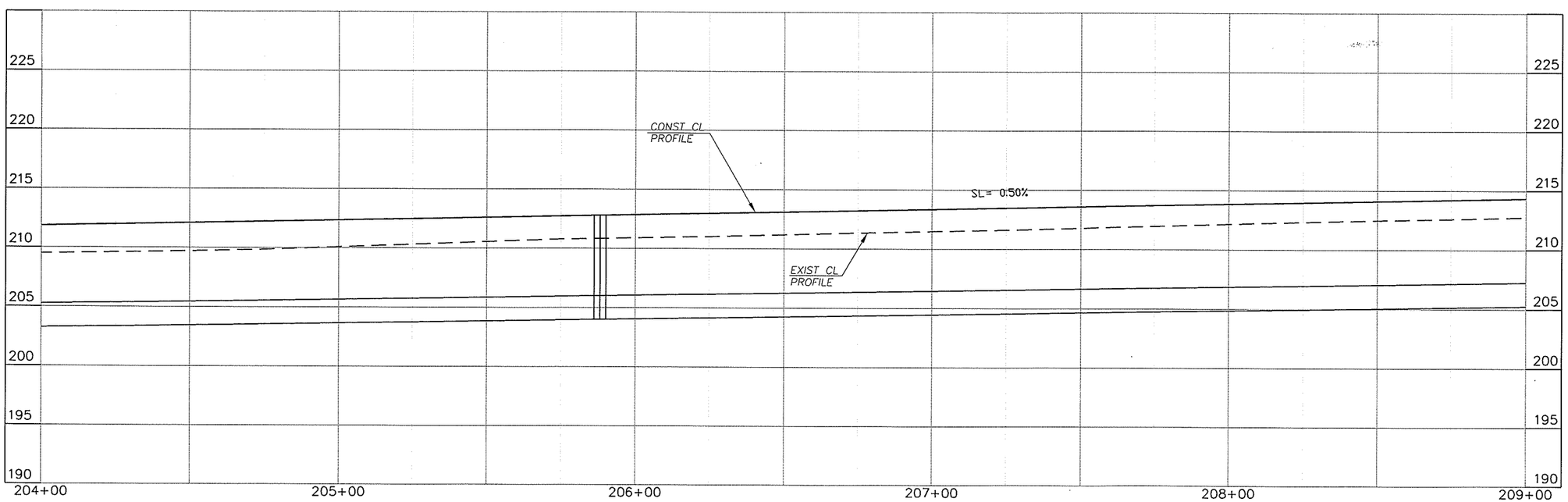
SCALE IN FEET

20 0 20 40

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



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DRAWN RK/KB
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DWG: PP16
SHEET 34 OF X

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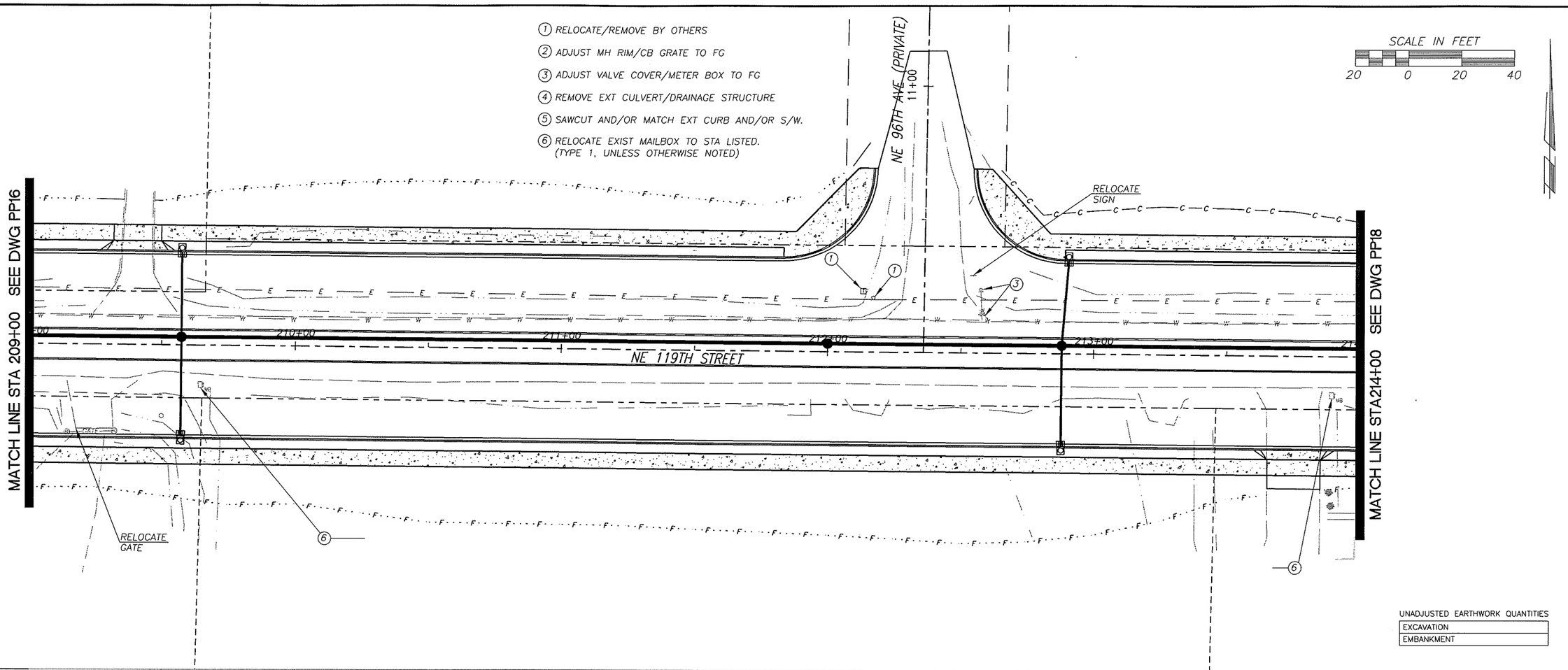
TROY M. PIERCE STATE OF WASHINGTON 40317 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

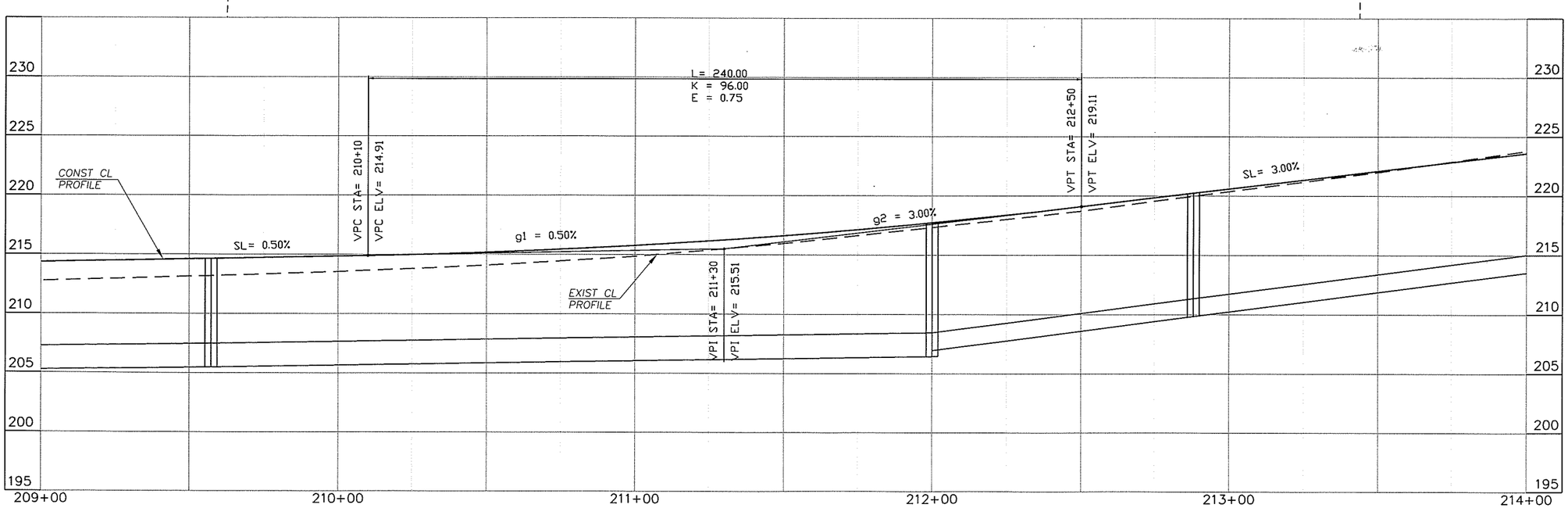
NE 119TH STREET EAST
PLAN & PROFILE (STA 204+00 TO STA 209+00)

proud past, promising future
CLARK COUNTY WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



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CRP 340722
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DWG: PP17
SHEET 35 OF X

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STATE OF WASHINGTON
M. PIERCE
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

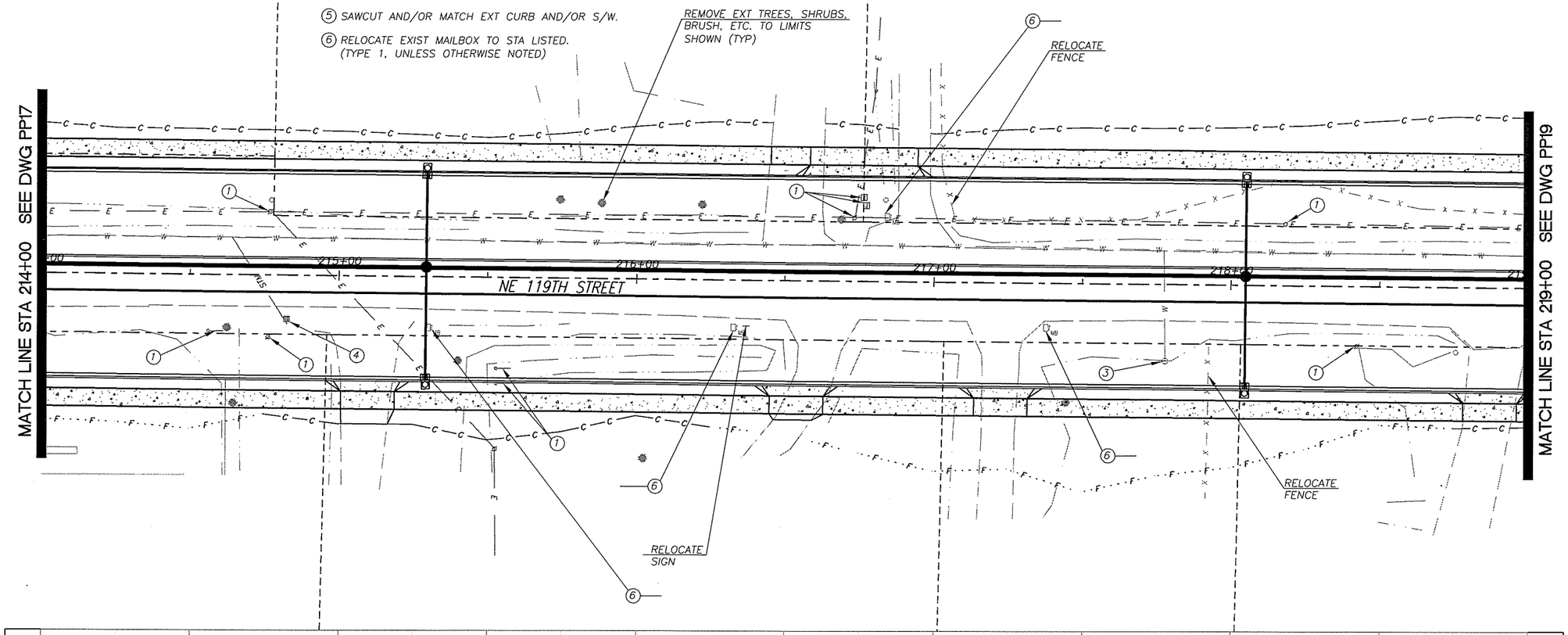
PLAN & PROFILE (STA 209+00 TO STA 214+00)

proud past, promising future

CLARK COUNTY
WASHINGTON

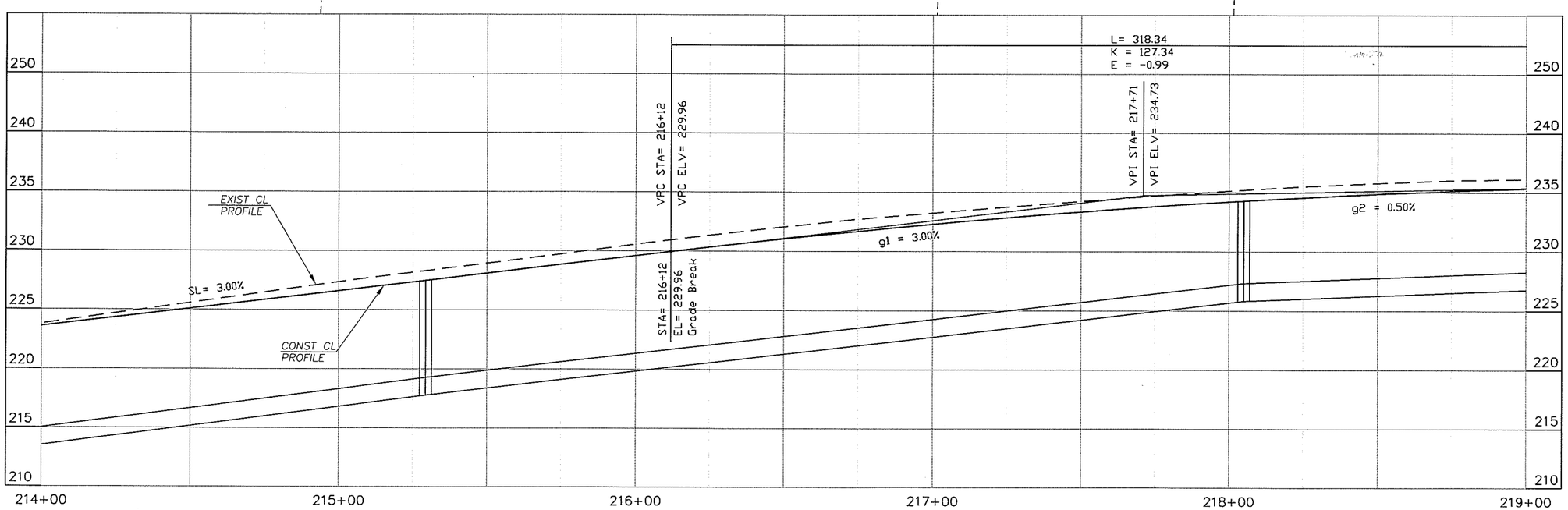
1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET
20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



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VERT. SEE SHEET
DATE 11/29/05
DWG: PP18
SHEET 36 OF X

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STEVEN A. PIERCE STATE OF WASHINGTON 31411 PROFESSIONAL ENGINEER EXPIRES JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 214+00 TO STA 219+00)

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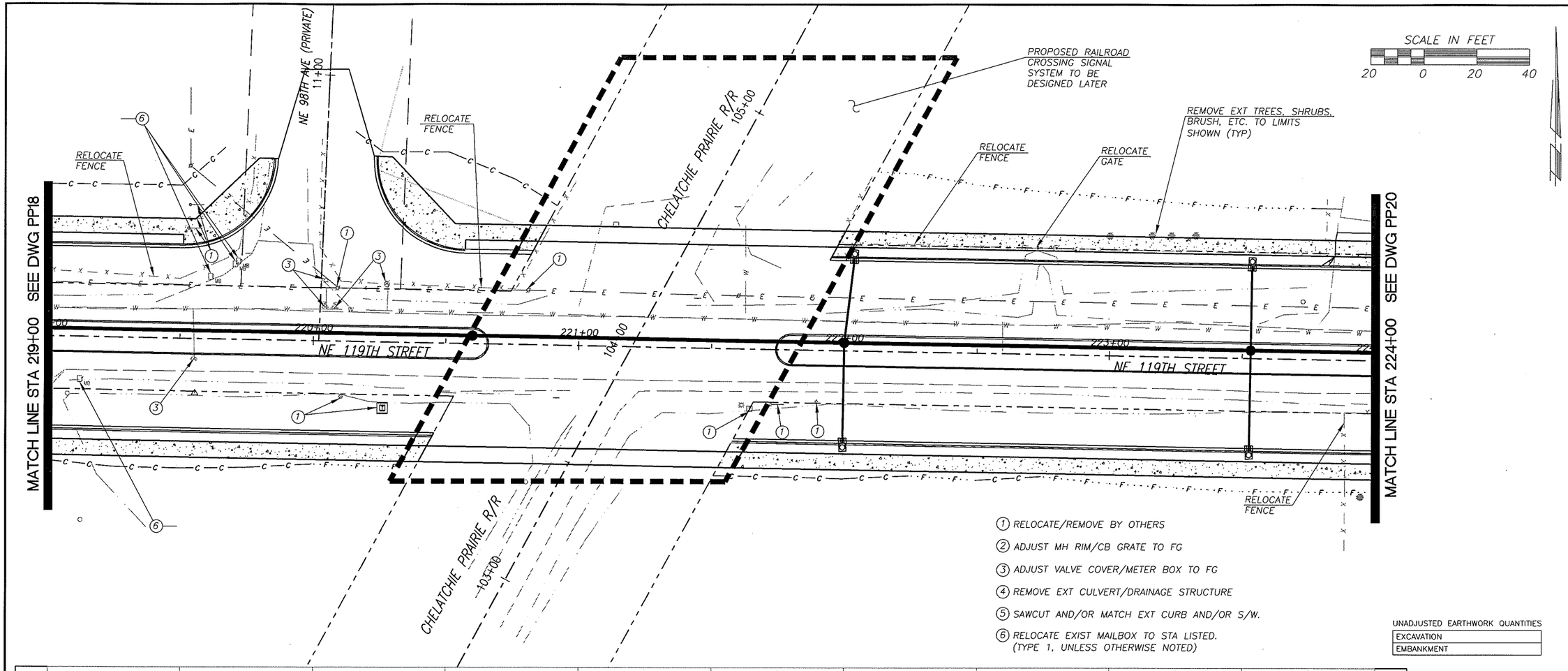
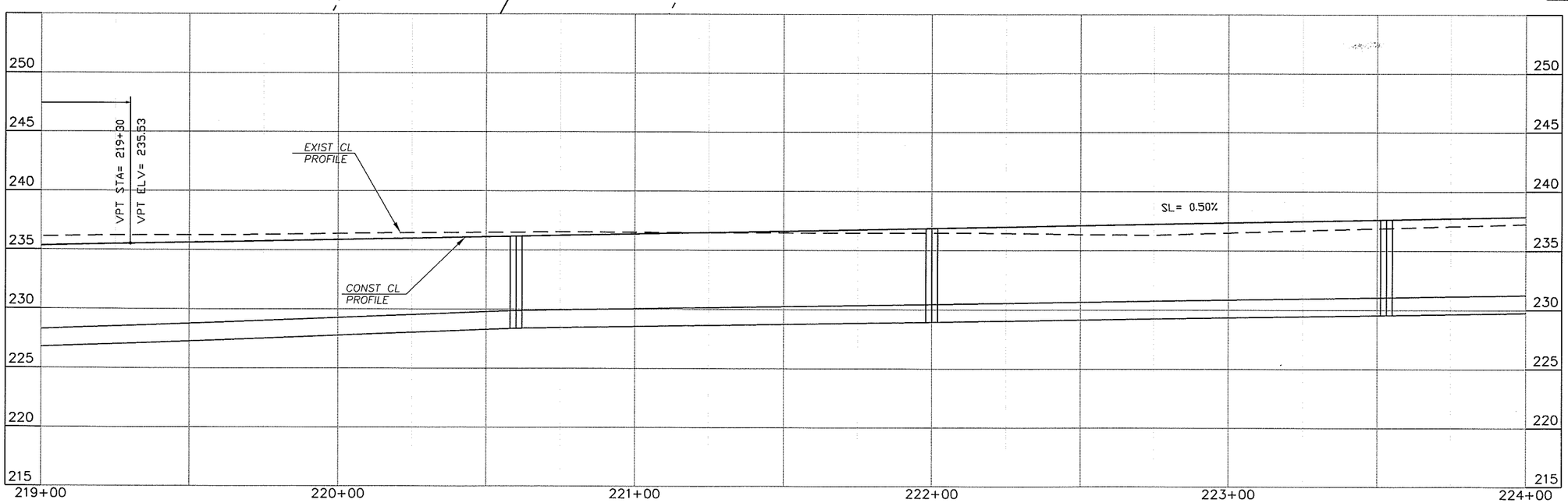
CLARK COUNTY WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP19
SHEET	37 OF X

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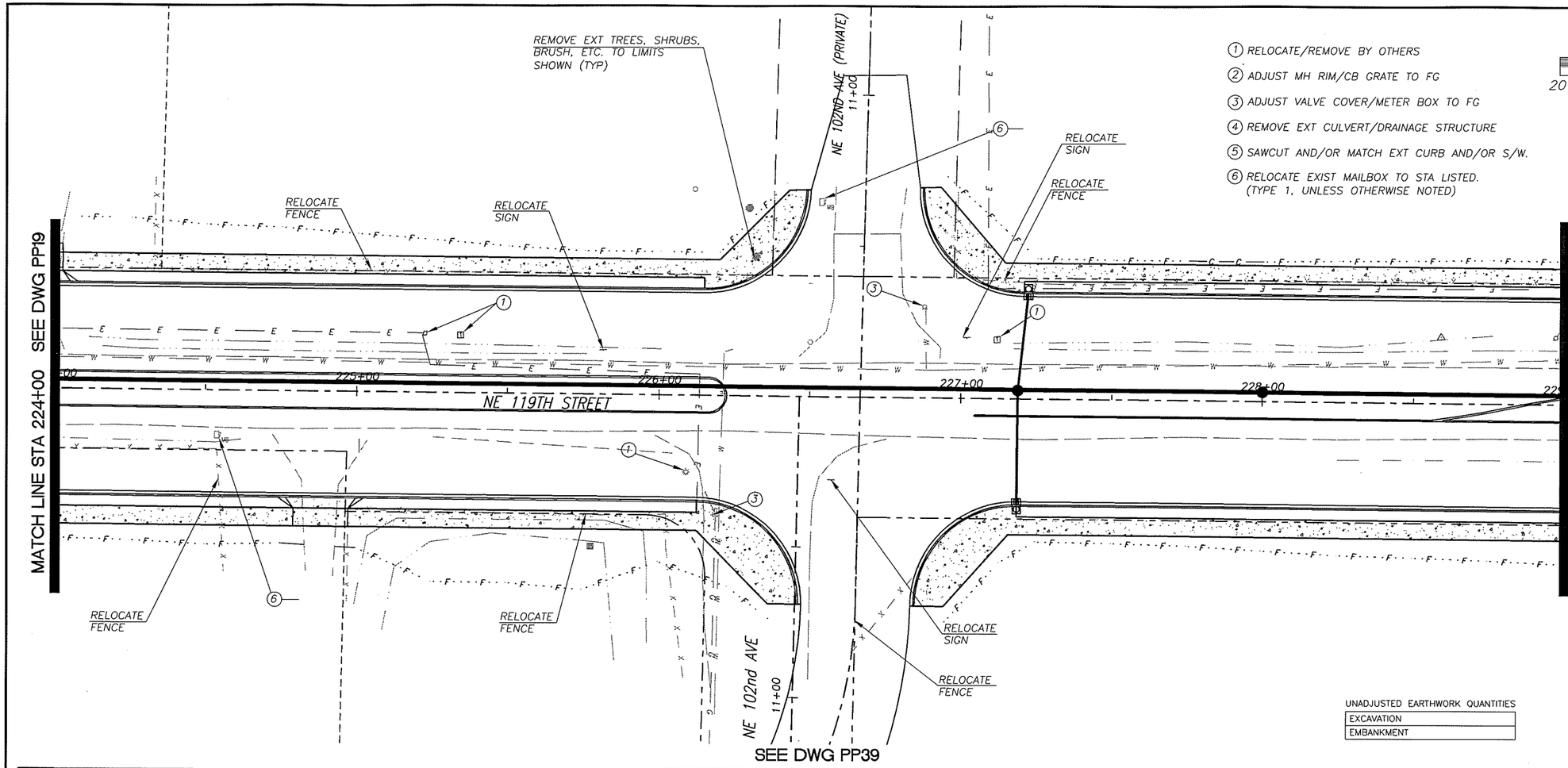
STATE OF WASHINGTON 41411 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 219+00 TO STA 224+00)

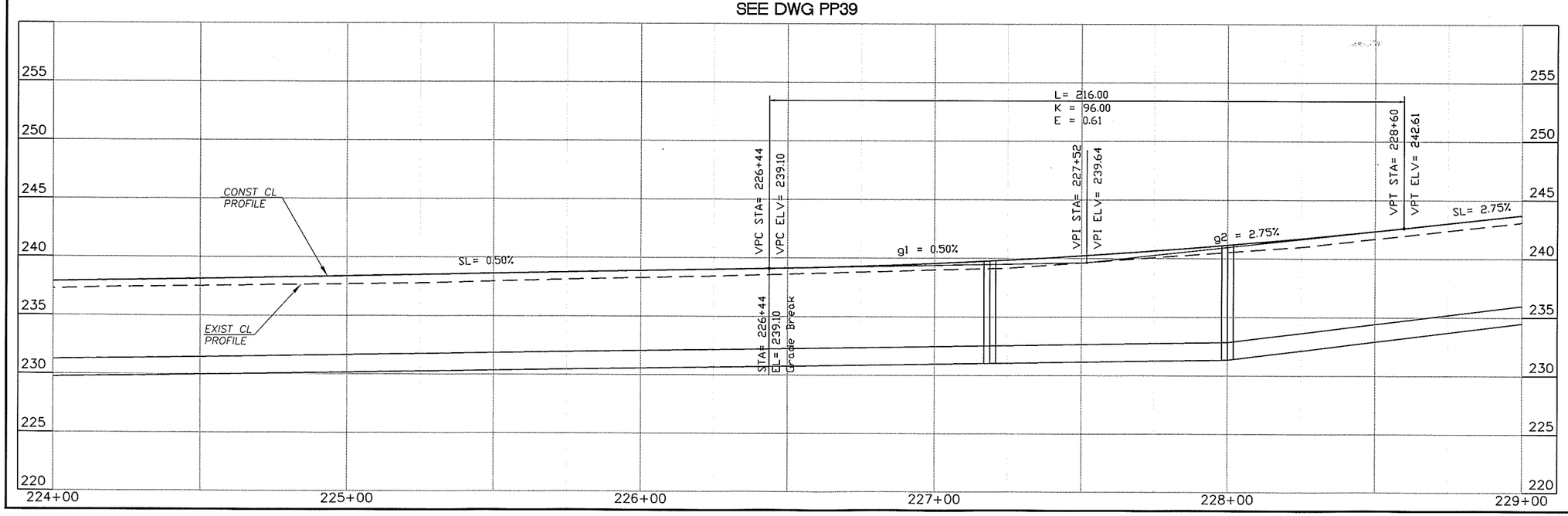
proud past, promising future
CLARK COUNTY WASHINGTON



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP20
SHEET	38 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

TROY A. PIERCE STATE OF WASHINGTON 41441 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

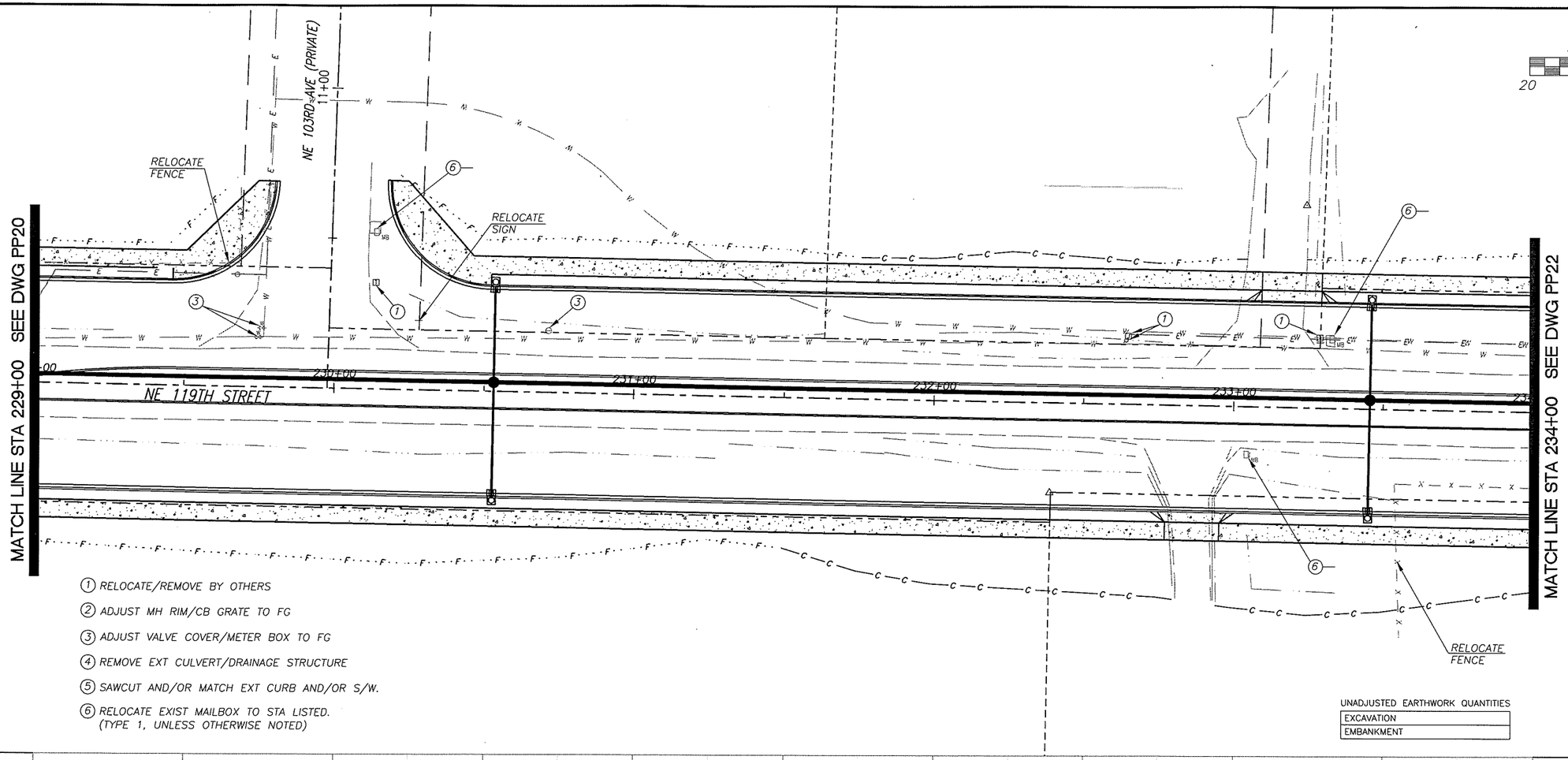
ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 224+00 TO STA 229+00)

proud past, promising future

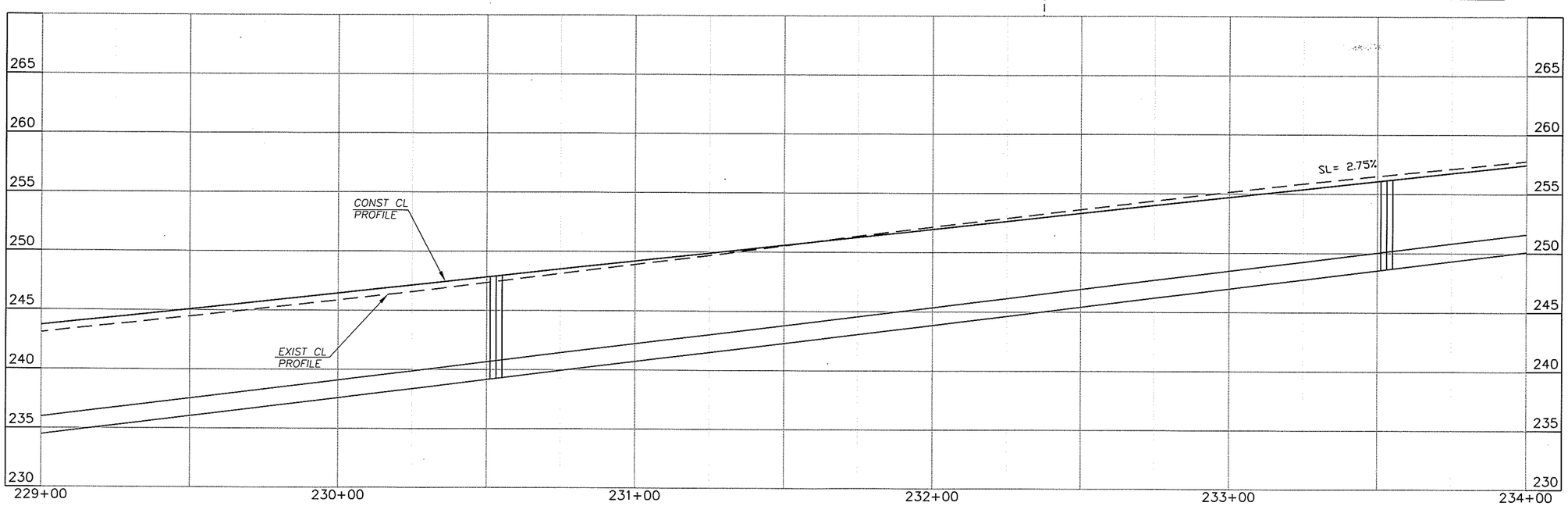
CLARK COUNTY WASHINGTON



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP21
SHEET 39 OF X

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

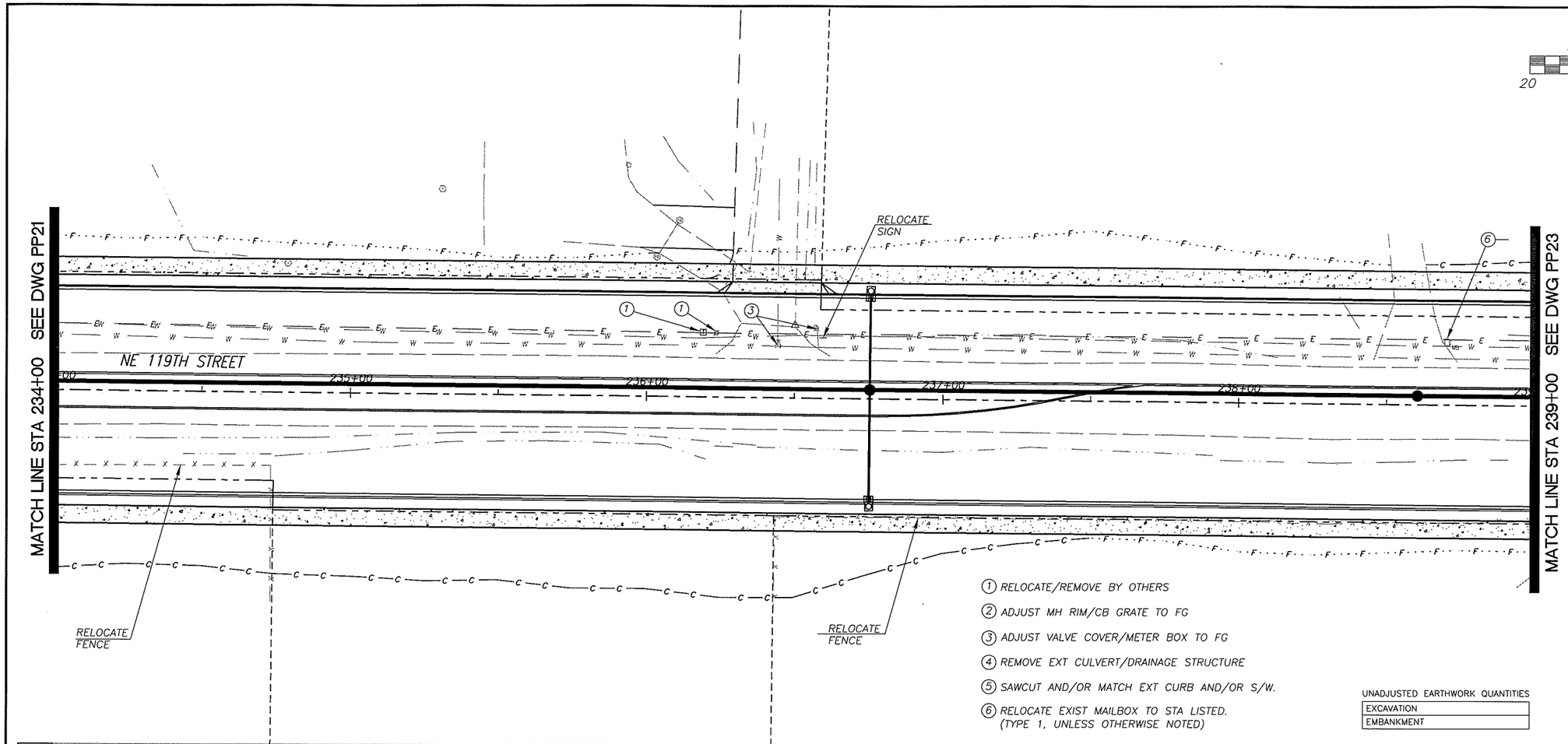
TROY A. FIERCE
STATE OF WASHINGTON
41441
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 229+00 TO STA 234+00)

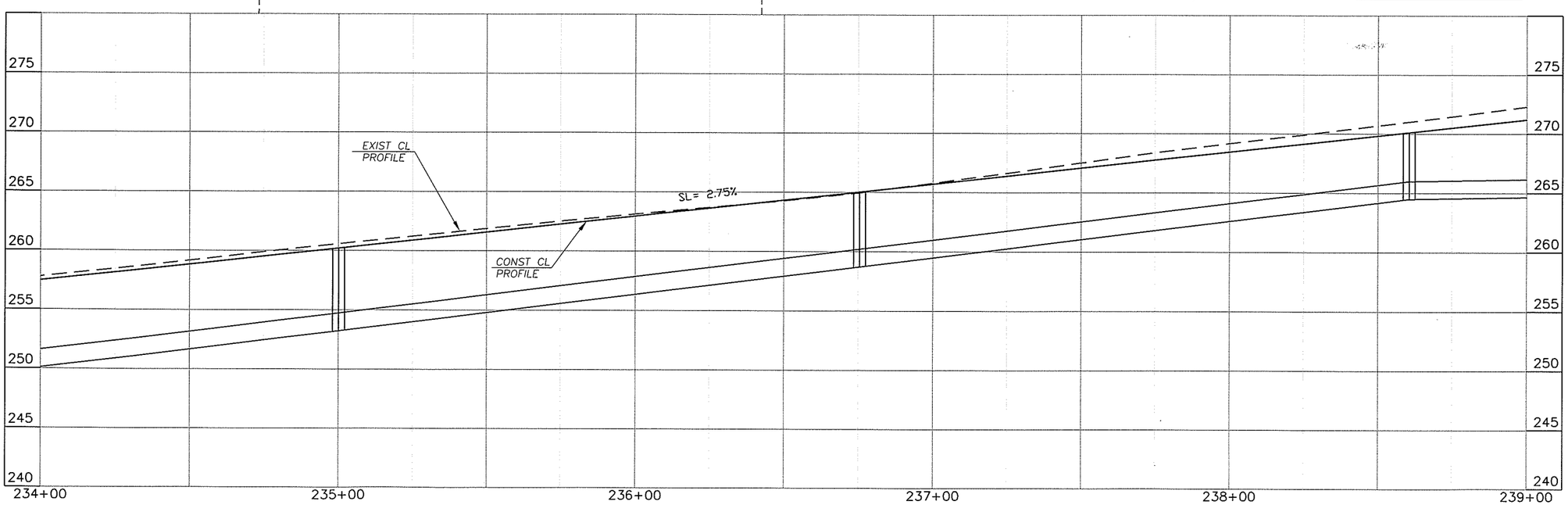
proud past, promising future
CLARK COUNTY
WASHINGTON



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP22
SHEET 40 OF X

CALL 48 HOURS BEFORE YOU DIG
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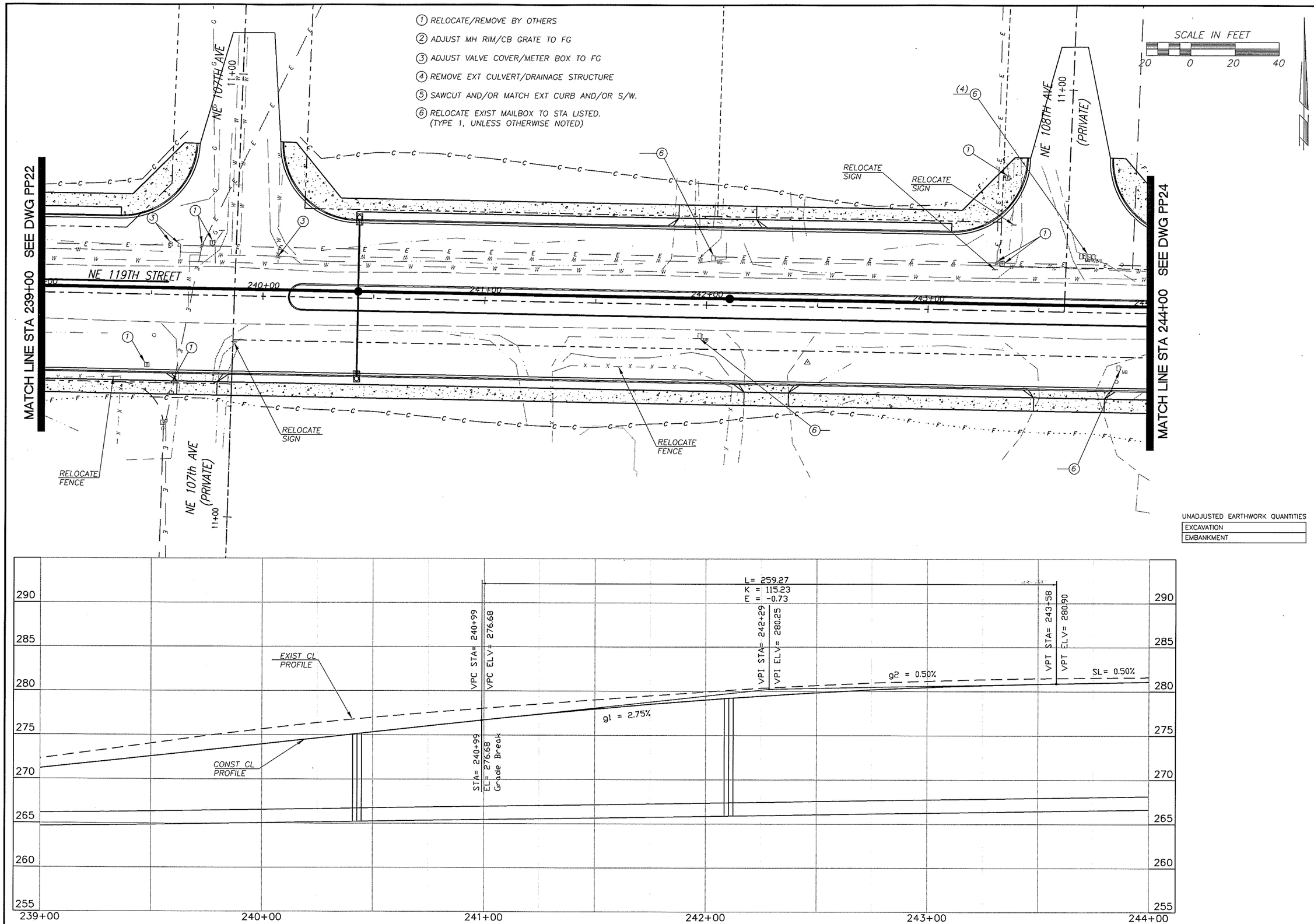
NORTHWEST UTILITIES NOTIFICATION CENTER

TODD M. PIERCE
STATE OF WASHINGTON
41411
PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 234+00 TO STA 239+00)

proud past, promising future
CLARK COUNTY
WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

DESIGNED	TPJM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP23
SHEET	41 OF X

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

TODD M. PIERCE
STATE OF WASHINGTON
34411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

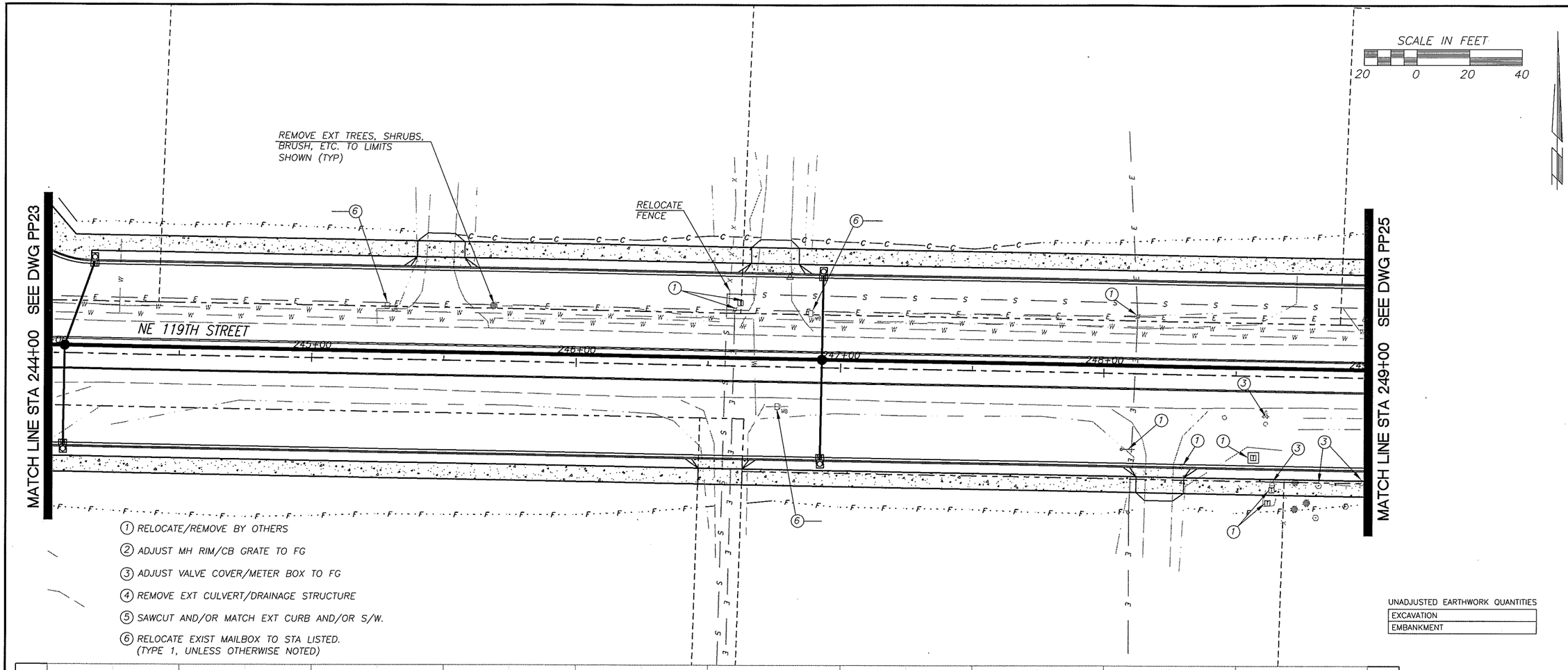
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 239+00 TO STA 244+00)

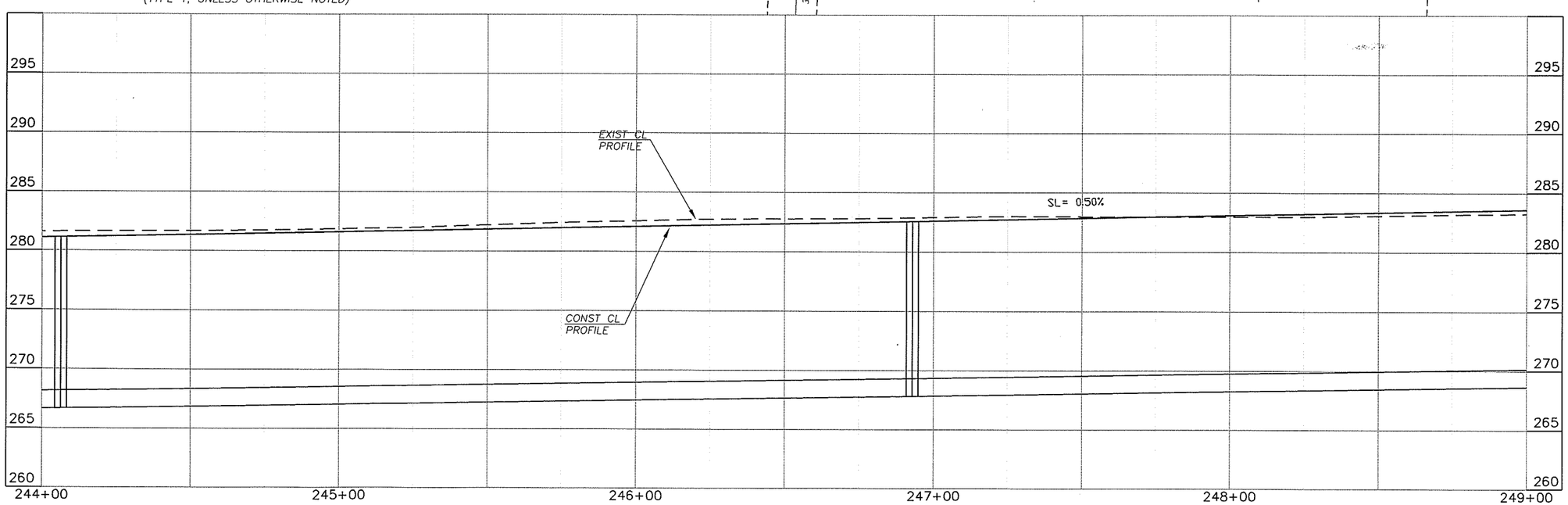
proud past, promising future

CLARK COUNTY
WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP24
SHEET	42 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

JOHN M. PIERCE STATE OF WASHINGTON 21461 REGISTERED PROFESSIONAL ENGINEER EXPIRES JAN 1, 2006

ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 244+00 TO STA 249+00)

proud past, promising future

CLARK COUNTY WASHINGTON

REMOVE EXT TREES, SHRUBS, BRUSH, ETC. TO LIMITS SHOWN (TYP)

RELOCATE SIGN

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET

20 0 20 40

NE 111TH AVE (PRIVATE) 11+00

NE 119TH STREET

MATCH LINE STA 249+00 SEE DWG PP24

MATCH LINE STA 254+00 SEE DWG PP26

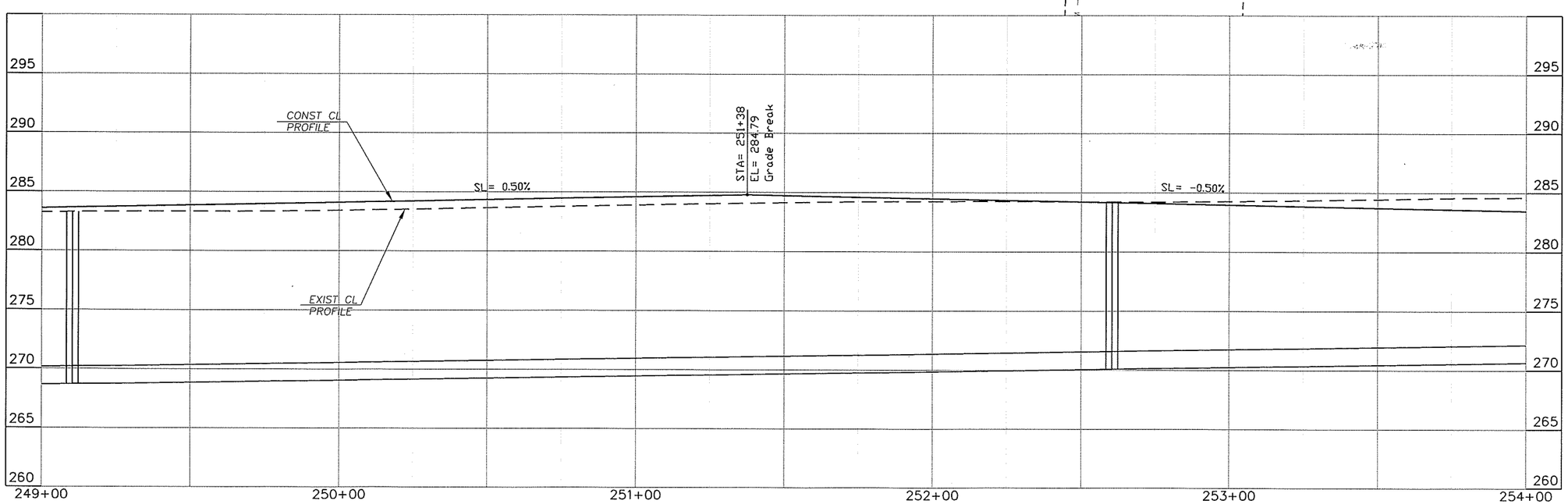
250+00 251+00 252+00 253+00

RELOCATE SIGN

RELOCATE SIGN

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP25
SHEET 43 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

JOHN M. PIERCE STATE OF WASHINGTON 41411 PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

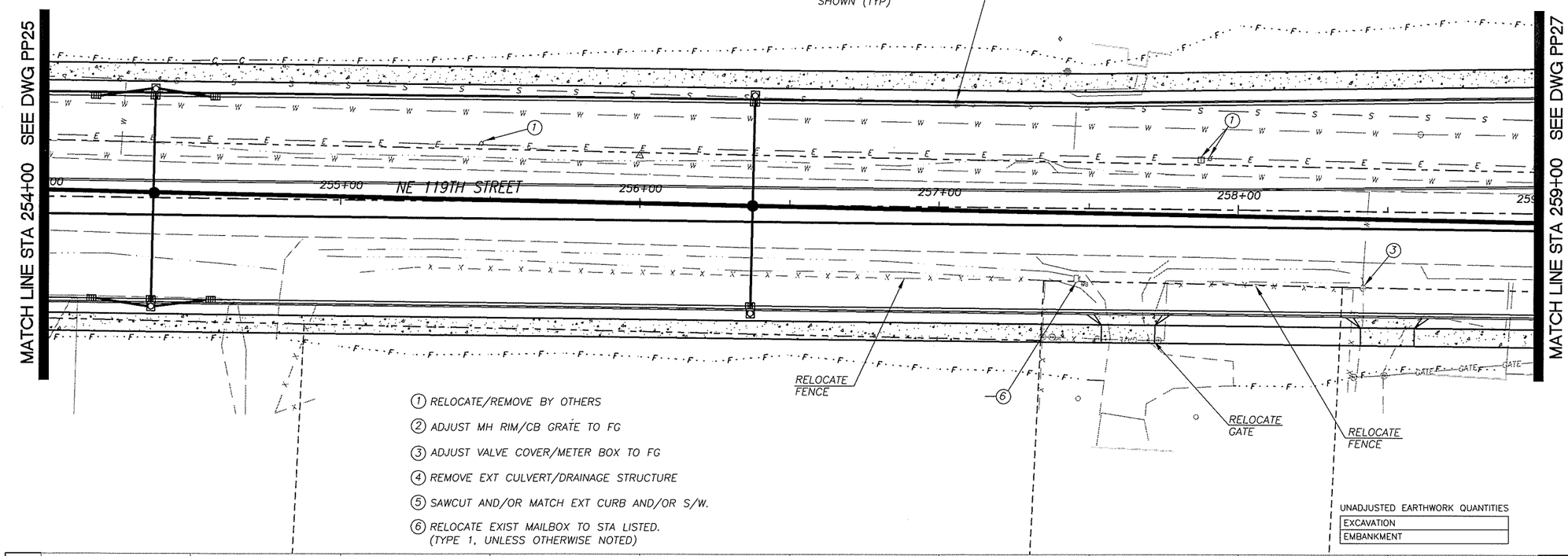
PLAN & PROFILE (STA 249+00 TO STA 254+00)

proud past, promising future

CLARK COUNTY WASHINGTON

SCALE IN FEET

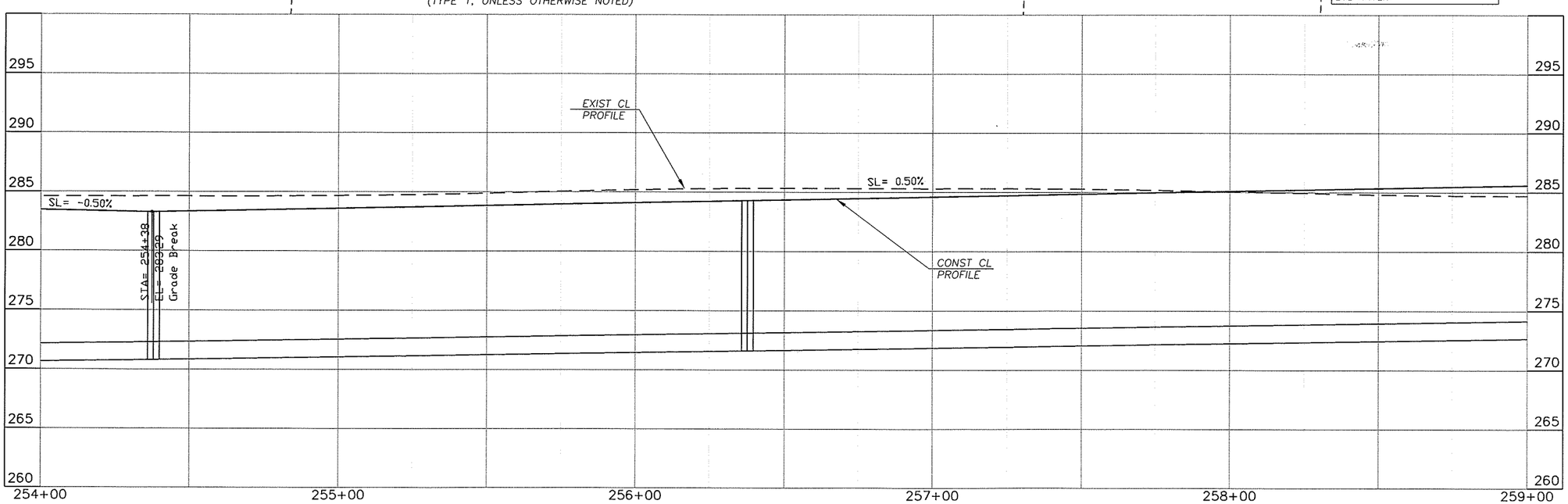
20 0 20 40



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP26
SHEET 44 OF X

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

M. PIERCE STATE OF WASHINGTON 41411 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

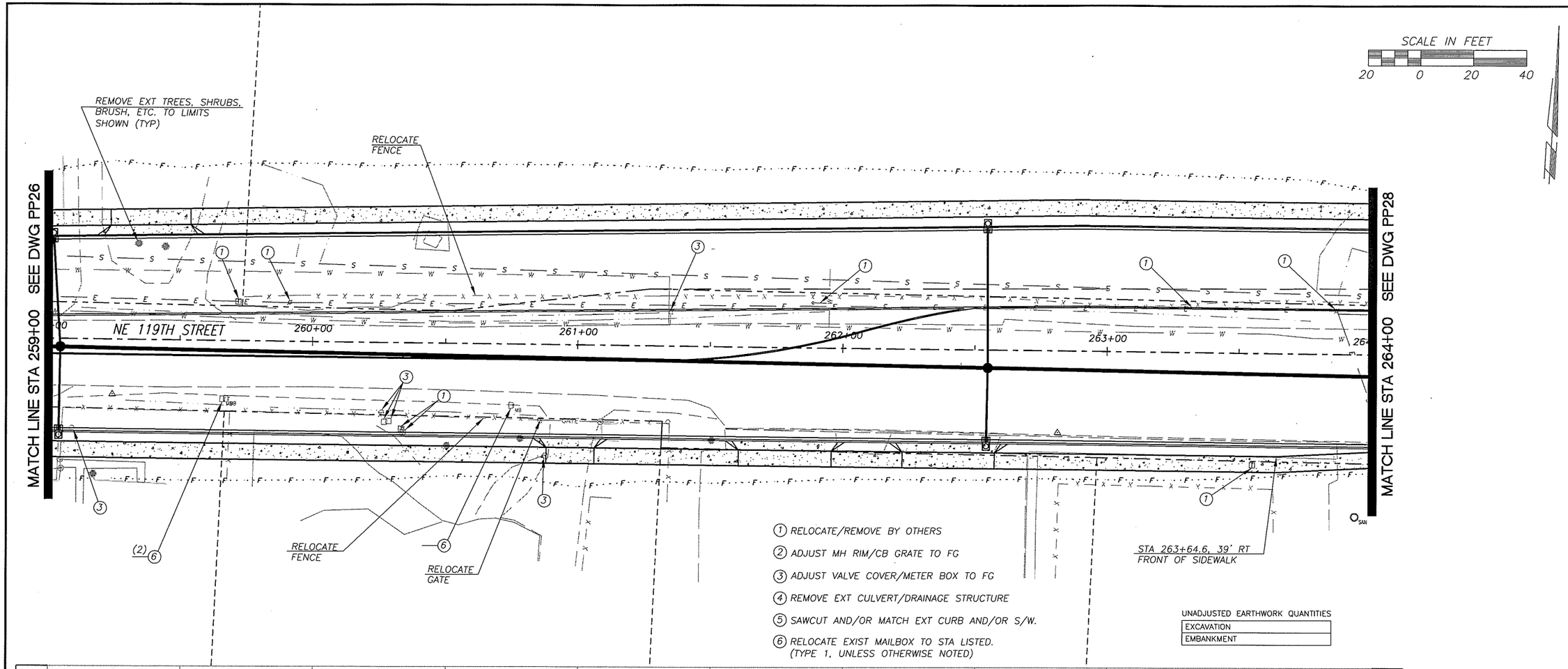
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 254+00 TO STA 259+00)

proud past, promising future

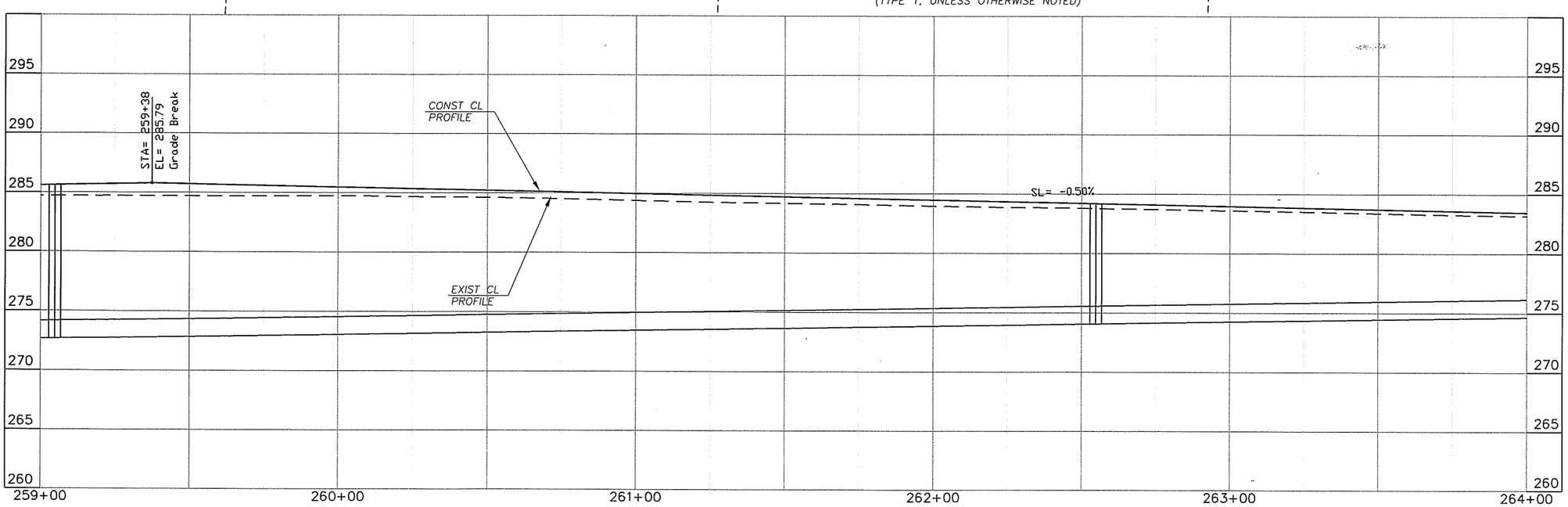
CLARK COUNTY WASHINGTON



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP27
SHEET	45 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

JOHN M. PIERCE STATE OF WASHINGTON 21411 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

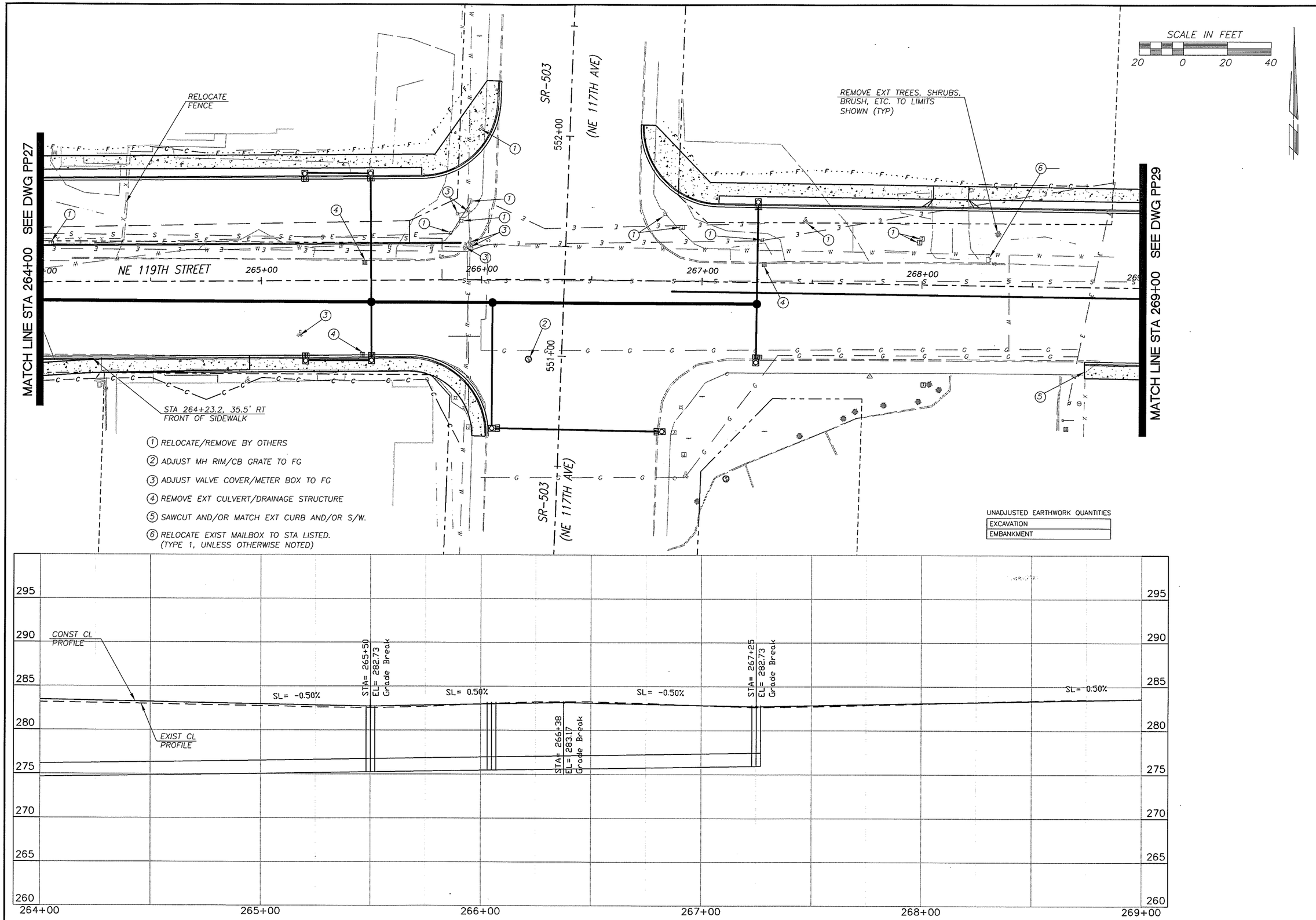
ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 259+00 TO STA 264+00)

proud past, promising future

CLARK COUNTY WASHINGTON



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP28
SHEET 46 OF X

CALL 48 HOURS BEFORE YOU DIG
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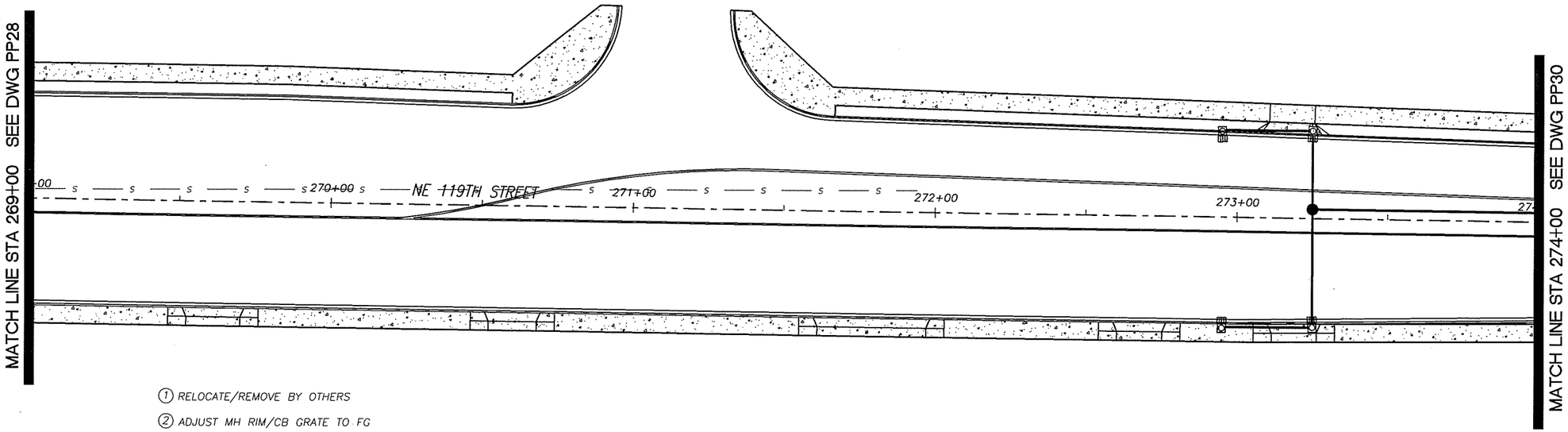
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
TROY A. PIERCE
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 264+00 TO STA 269+00)

proud past, promising future
CLARK COUNTY
WASHINGTON



SCALE IN FEET

20 0 20 40

(1) RELOCATE/REMOVE BY OTHERS

(2) ADJUST MH RIM/CB GRATE TO FG

(3) ADJUST VALVE COVER/METER BOX TO FG

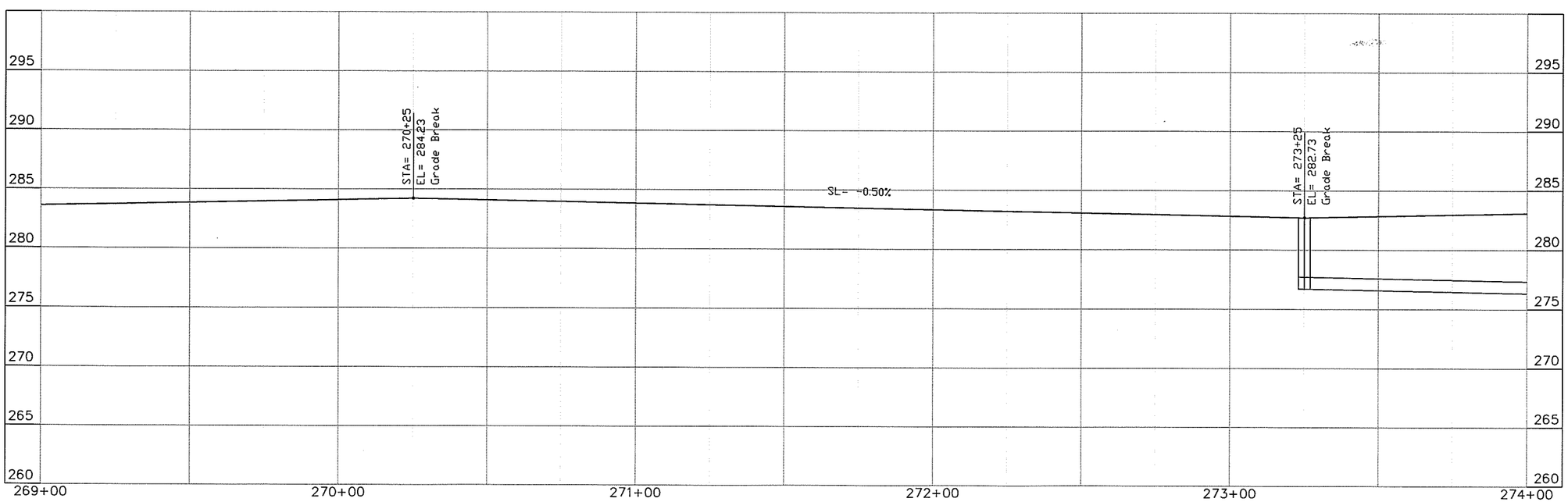
(4) REMOVE EXT CULVERT/DRAINAGE STRUCTURE

(5) SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.

(6) RELOCATE EXIST MAILBOX TO STA LISTED.
(TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP29
SHEET	47 OF X

CALL 48 HOURS BEFORE YOU DIG
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"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

TROY A. McCLERCLE STATE OF WASHINGTON 41411 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

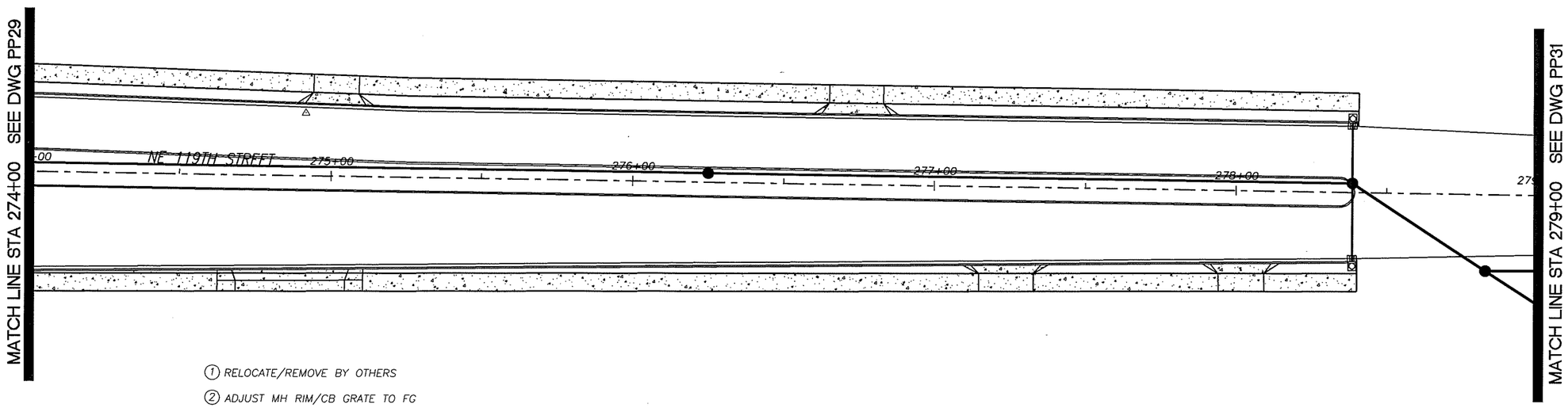
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE (STA 269+00 TO STA 274+00)

proud past, promising future

CLARK COUNTY
WASHINGTON



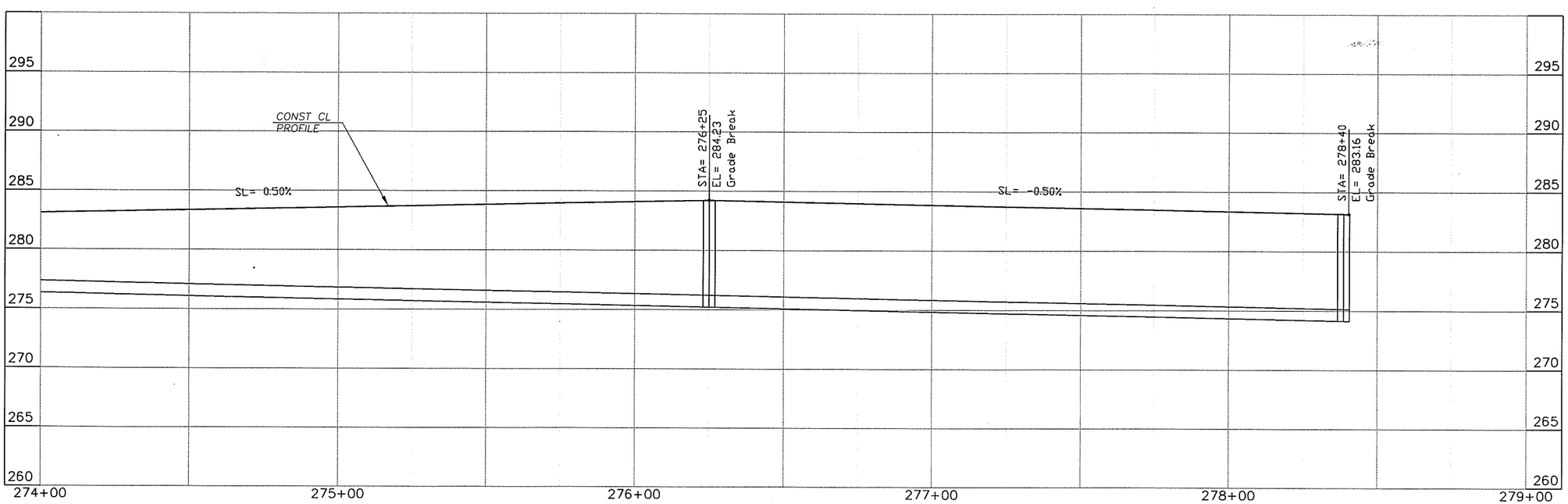
SCALE IN FEET

20 0 20 40

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP30
SHEET 48 OF X

CALL 48 HOURS BEFORE YOU DIG
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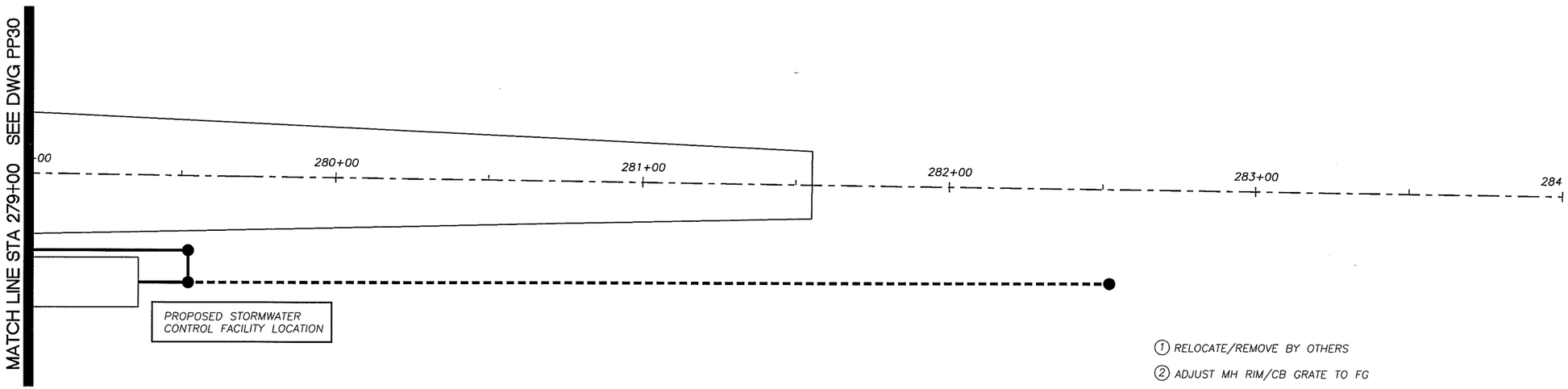
"It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE (STA 274+00 TO STA 279+00)

proud past, promising future
CLARK COUNTY
WASHINGTON



SCALE IN FEET

20 0 20 40

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

15											15
10											10
5											5
0											0
−5											−5
−10											−10
−15											−15
−20											−20
279+00		280+00		281+00		282+00		283+00		284+00	

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP31
SHEET	49 OF X

CALL 48 HOURS BEFORE YOU DIG
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STATE OF WASHINGTON
JOHN N. PARKER
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

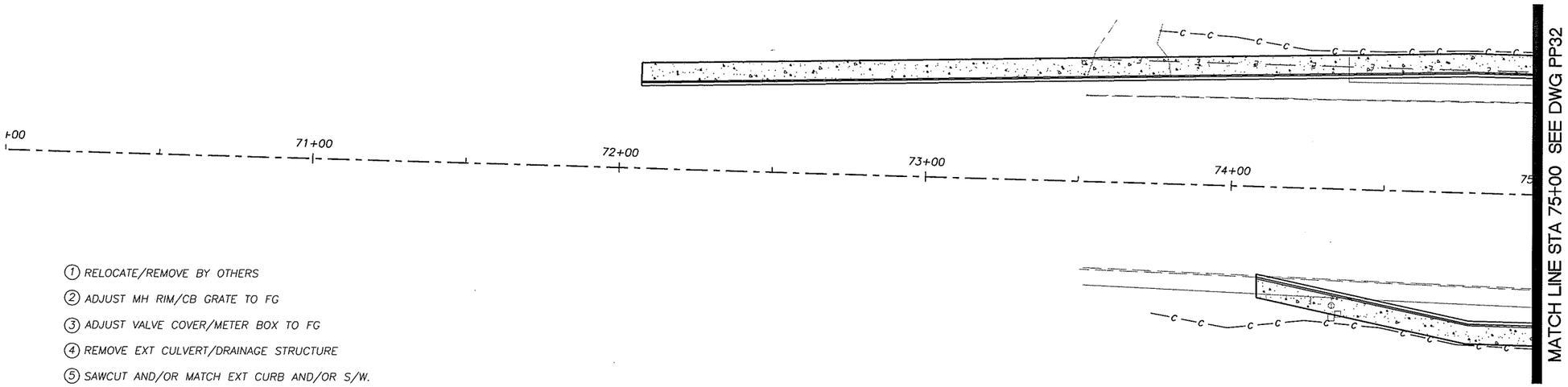
NE 119TH STREET EAST

PLAN & PROFILE (STA 279+00 TO E.O.P.)

proud past, promising future
CLARK COUNTY
WASHINGTON

SCALE IN FEET

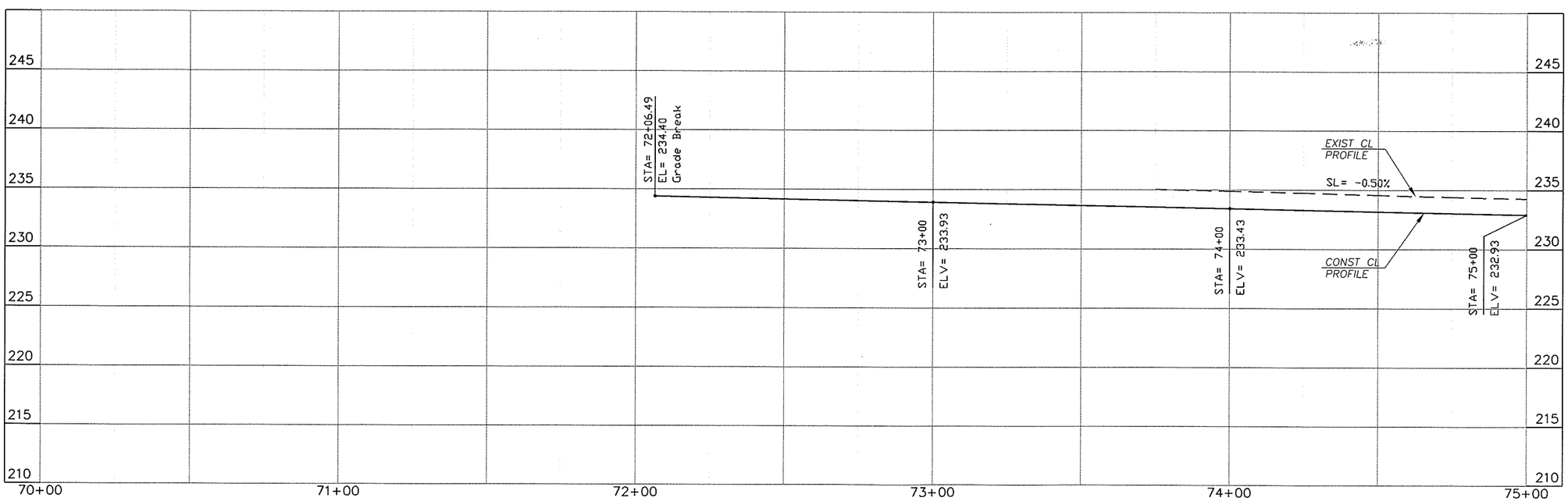
20 0 20 40



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP32
SHEET 50 OF X

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
RICHARD A. GROSS
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

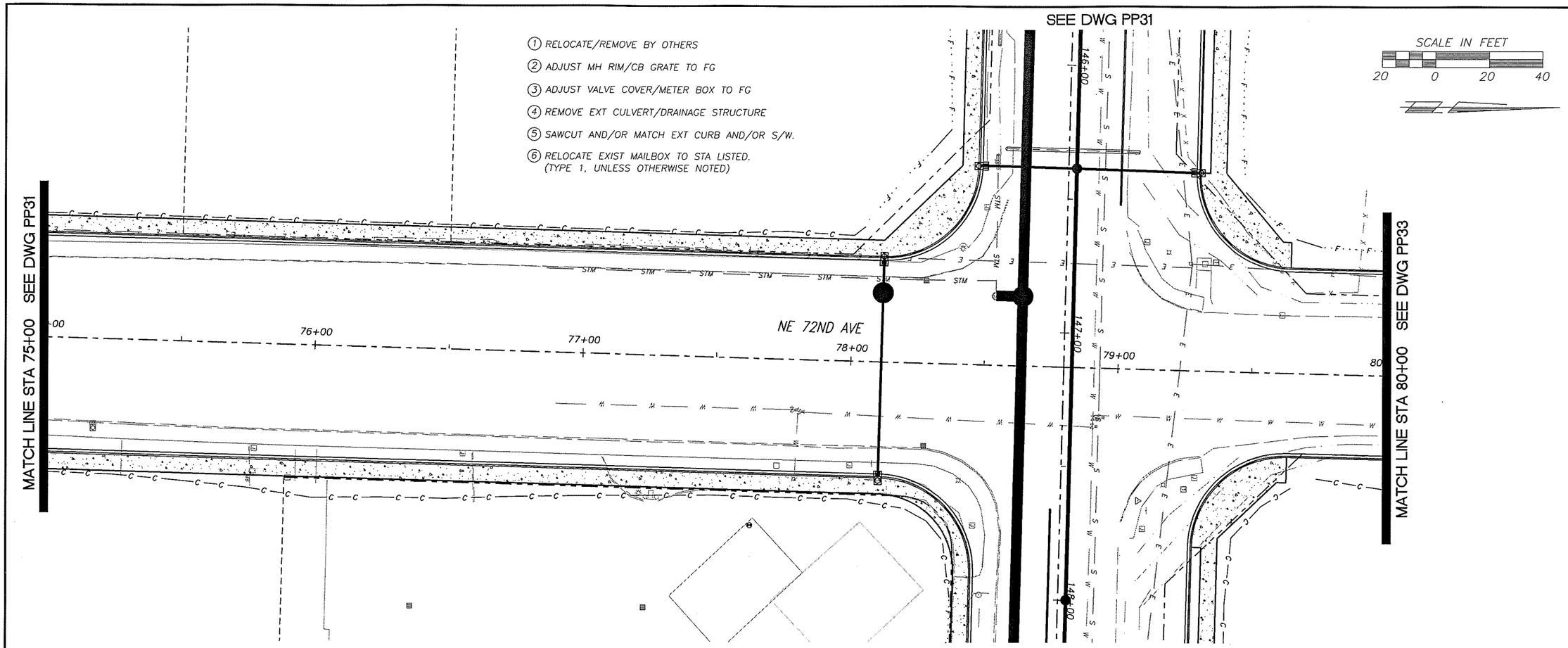
NE 119TH STREET EAST

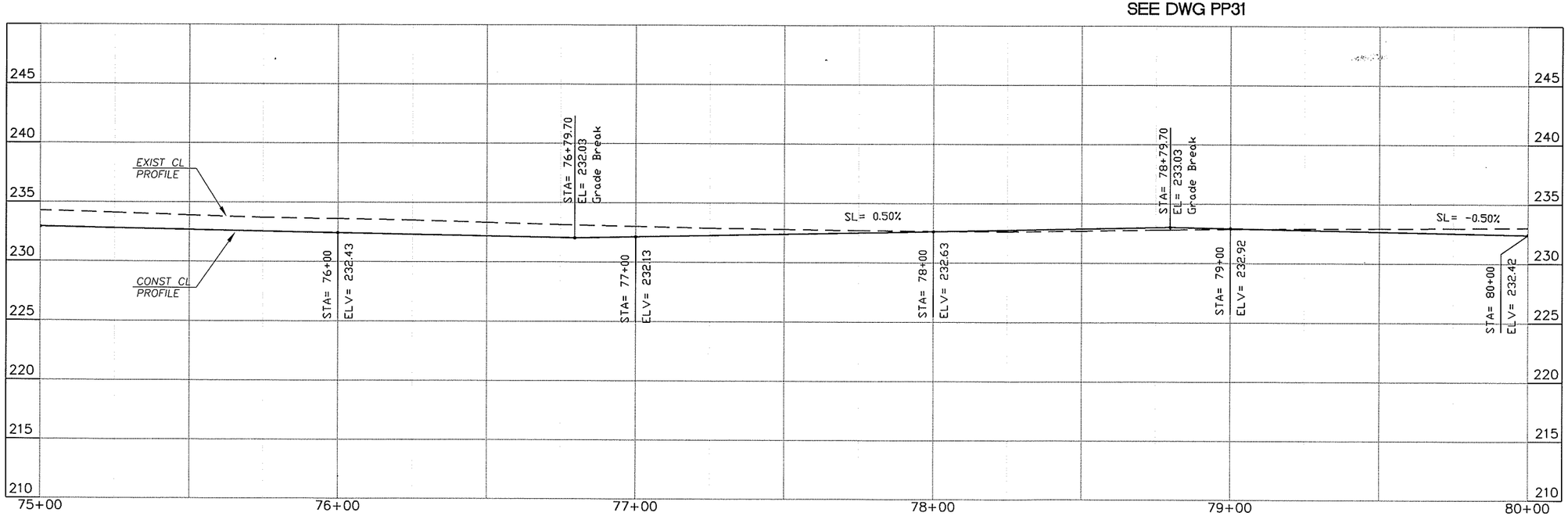
PLAN & PROFILE; 72ND AVE (B.O.P. TO STA 75+00)

proud past, promising future

CLARK COUNTY
WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)





UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	PP33
SHEET	51 OF X

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344 "It's the Law"
NORTHWEST UTILITIES NOTIFICATION CENTER

STATE OF WASHINGTON
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

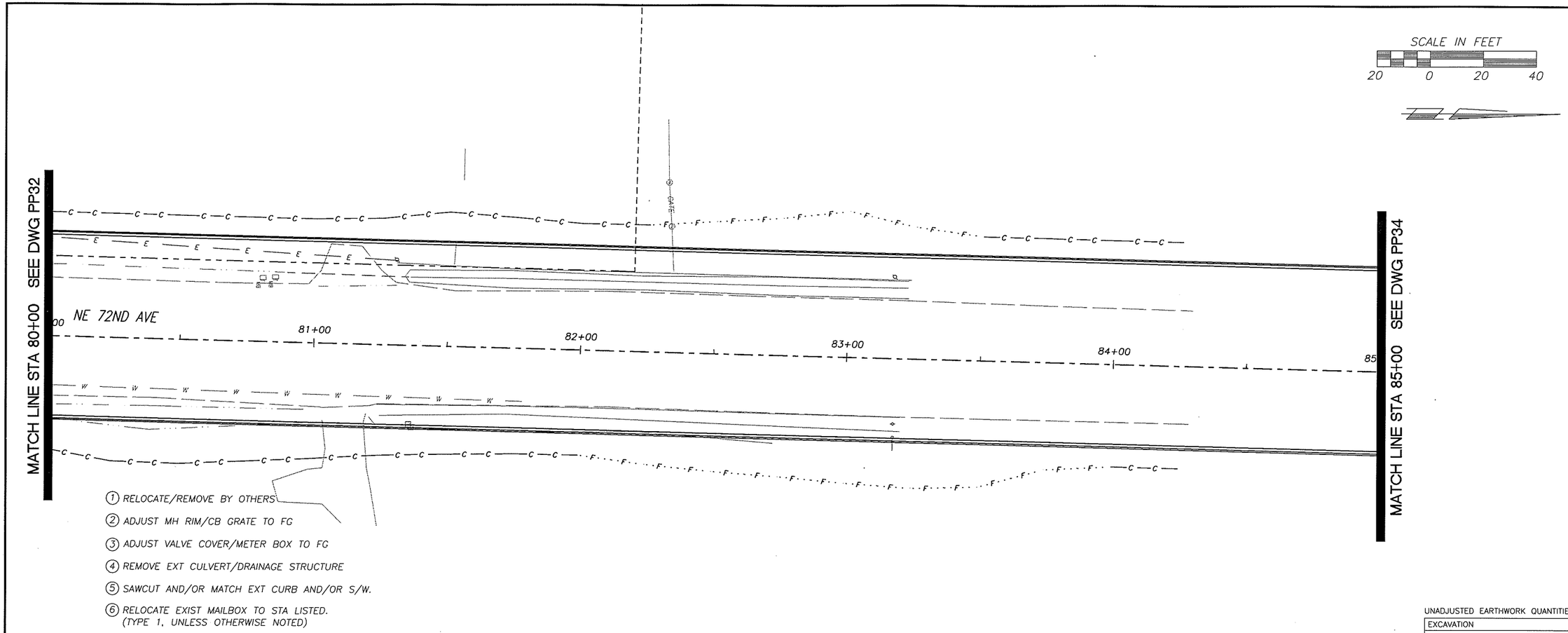
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE; 72ND AVE (STA 75+00 TO 80+00)

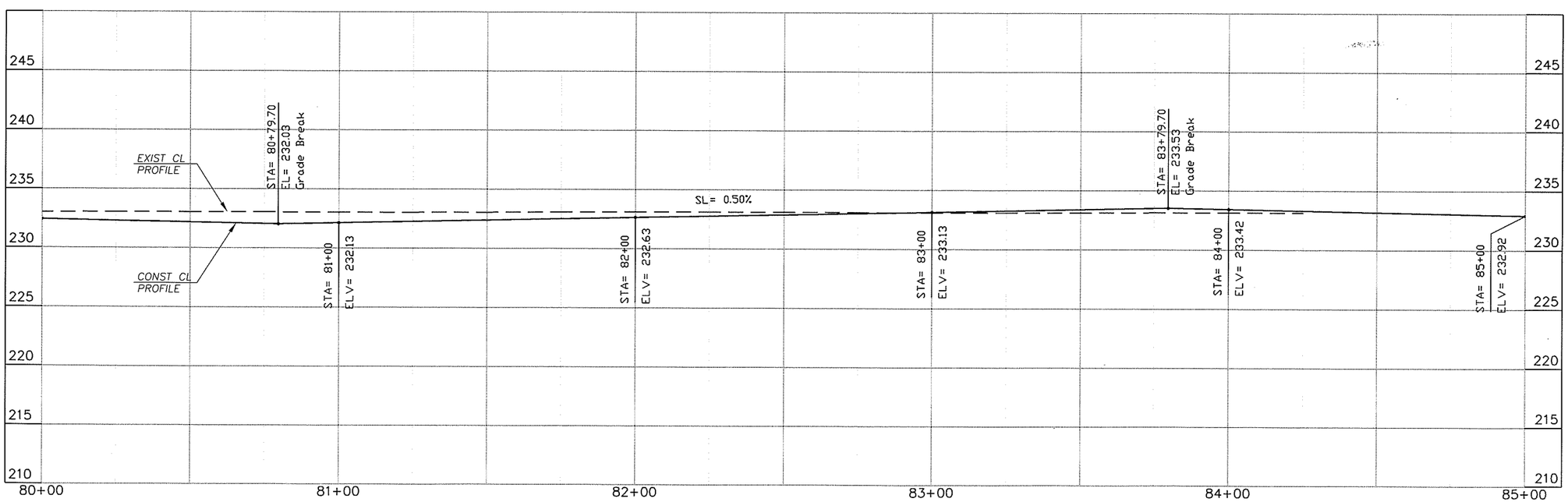
proud past, promising future

CLARK COUNTY
WASHINGTON



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION	
EMBANKMENT	



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP34
SHEET 52 OF X

CALL 48 HOURS BEFORE YOU DIG
1-800-553-4344
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NORTHWEST UTILITIES NOTIFICATION CENTER

STEVEN M. PEROCO
STATE OF WASHINGTON
41411
PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM DESIGN SECTION

NE 119TH STREET EAST

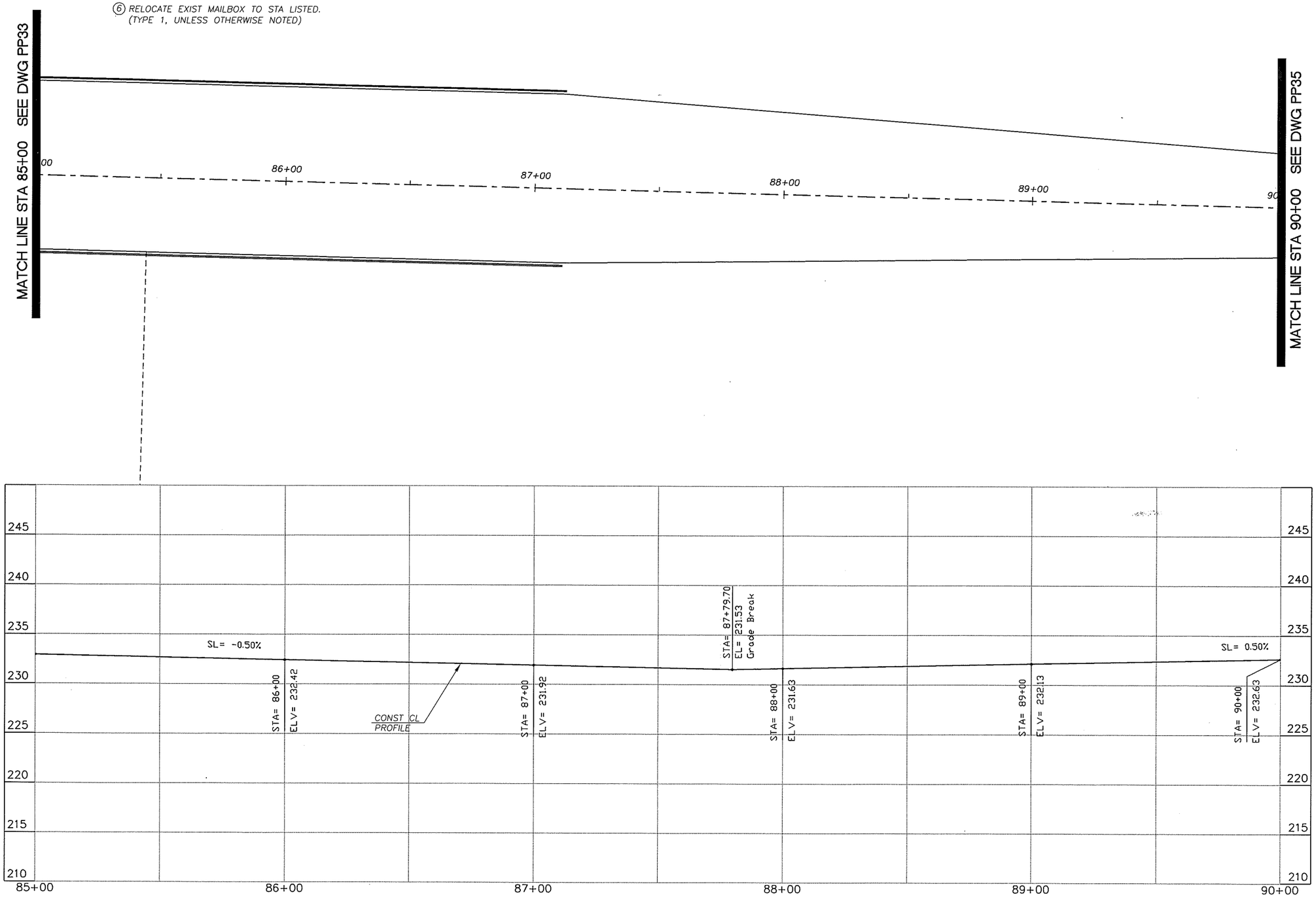
PLAN & PROFILE; 72ND AVE (STA 80+00 TO 85+00)

proud past, promising future
CLARK COUNTY
WASHINGTON

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

SCALE IN FEET

20 0 20 40



UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT

DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP35
SHEET 53 OF X

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NORTHWEST UTILITIES NOTIFICATION CENTER

TROY A. MCCIERCE
STATE OF WASHINGTON
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

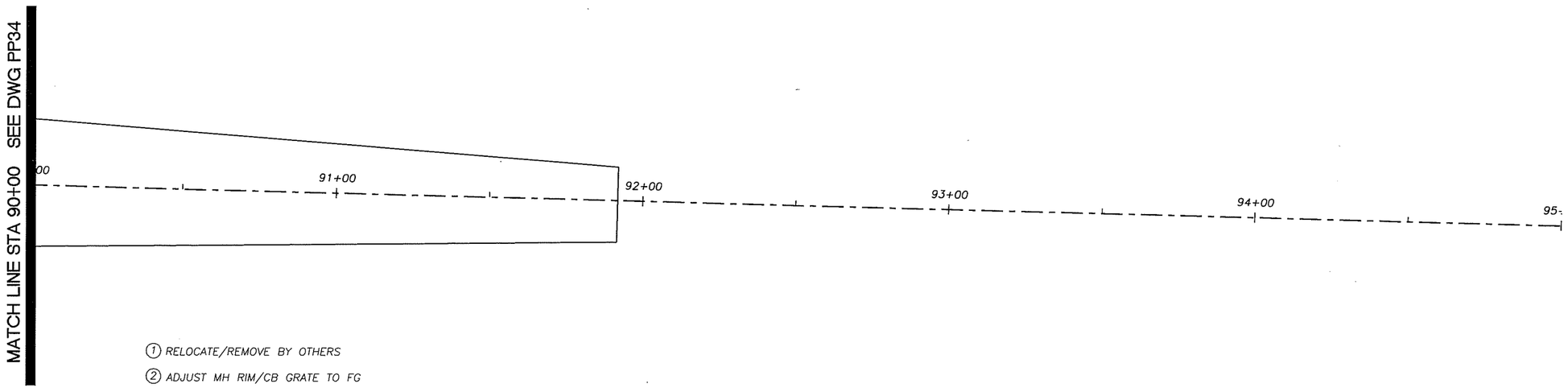
ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE; 72ND AVE (STA 85+00 TO 90+00)

proud past, promising future

CLARK COUNTY
WASHINGTON



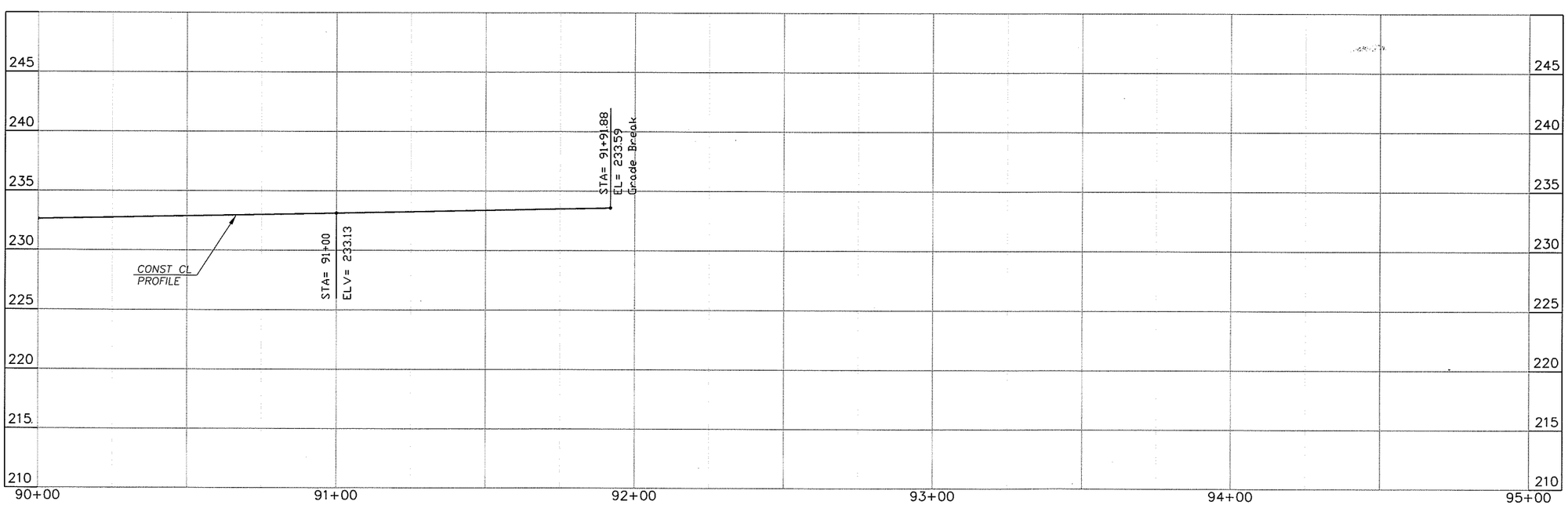
SCALE IN FEET

20 0 20 40

1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP36
SHEET 54 OF X

CALL 48 HOURS BEFORE YOU DIG
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NORTHWEST UTILITIES NOTIFICATION CENTER

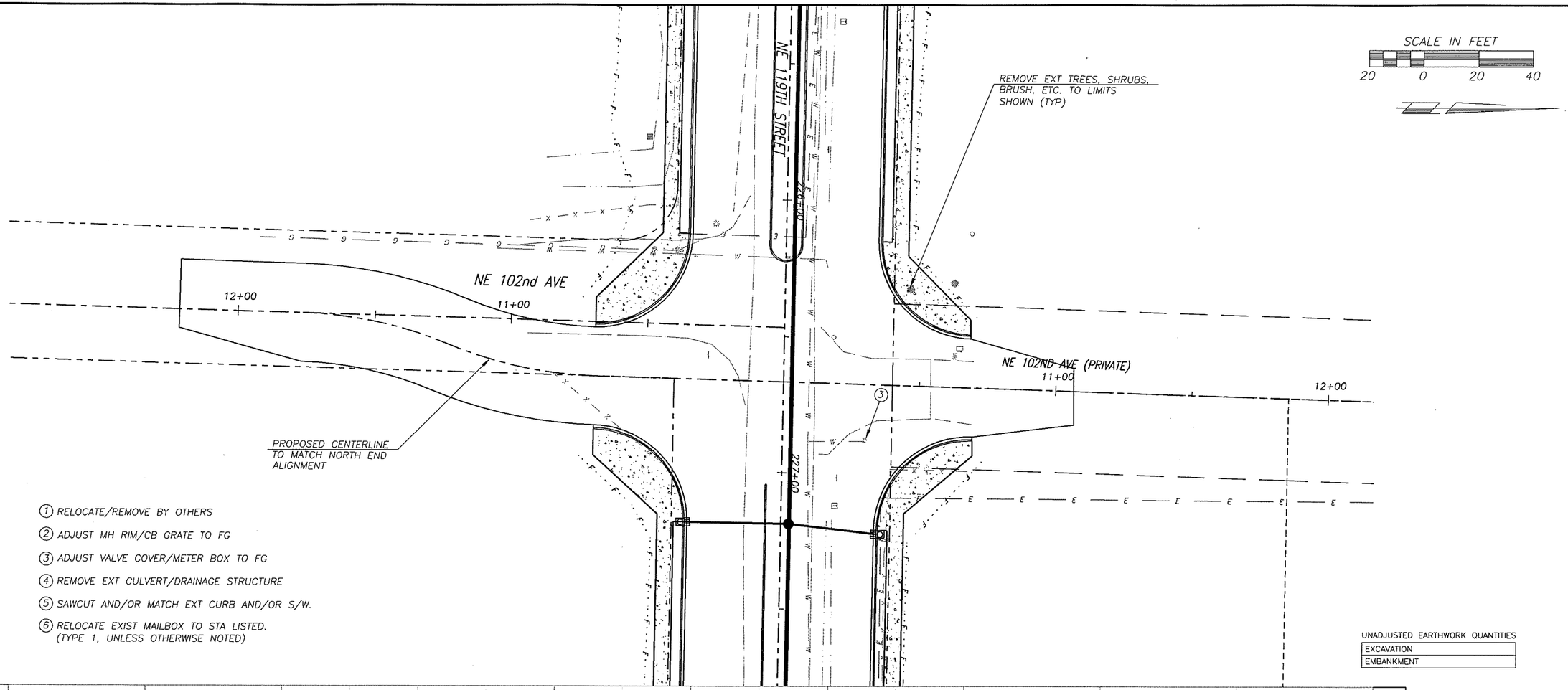
STATE OF WASHINGTON
MICHAEL P. PIERCE
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST

PLAN & PROFILE; 72ND AVE (STA 90+00 TO E.O.P.)

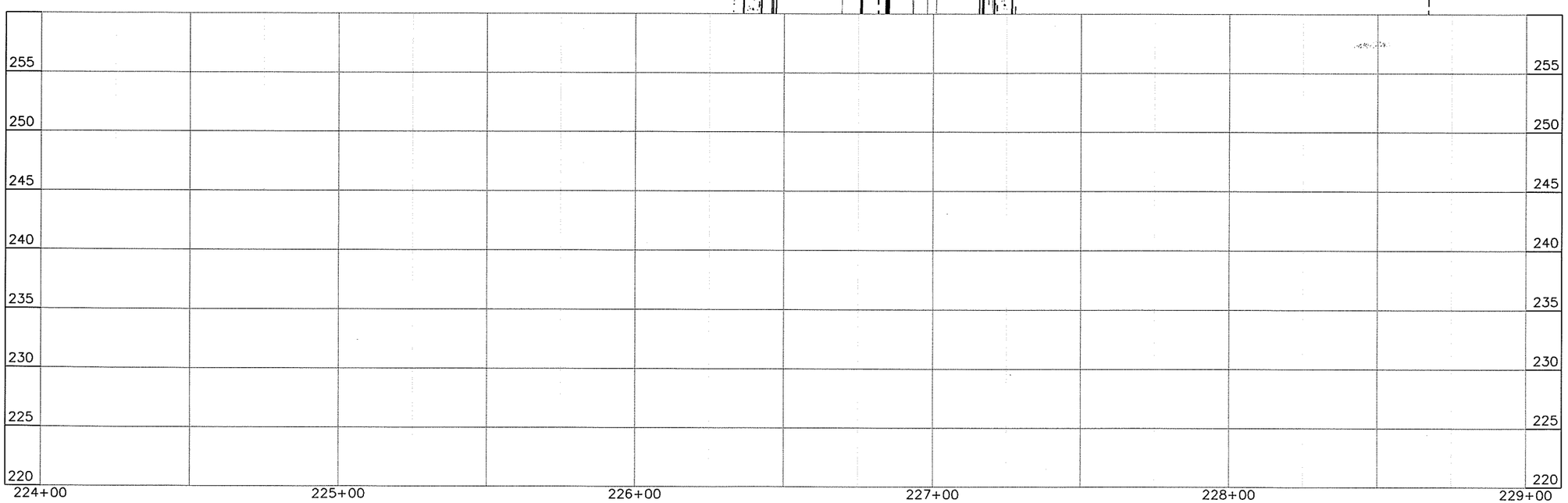
proud past, promising future
CLARK COUNTY
WASHINGTON



1. RELOCATE/REMOVE BY OTHERS
2. ADJUST MH RIM/CB GRATE TO FG
3. ADJUST VALVE COVER/METER BOX TO FG
4. REMOVE EXT CULVERT/DRAINAGE STRUCTURE
5. SAWCUT AND/OR MATCH EXT CURB AND/OR S/W.
6. RELOCATE EXIST MAILBOX TO STA LISTED. (TYPE 1, UNLESS OTHERWISE NOTED)

UNADJUSTED EARTHWORK QUANTITIES

EXCAVATION
EMBANKMENT



DESIGNED TP/JM
DRAWN RK/KB
CRP 340722
HOR. SEE SHEET
VERT. SEE SHEET
DATE 11/29/05
DWG: PP40
SHEET 58 OF X

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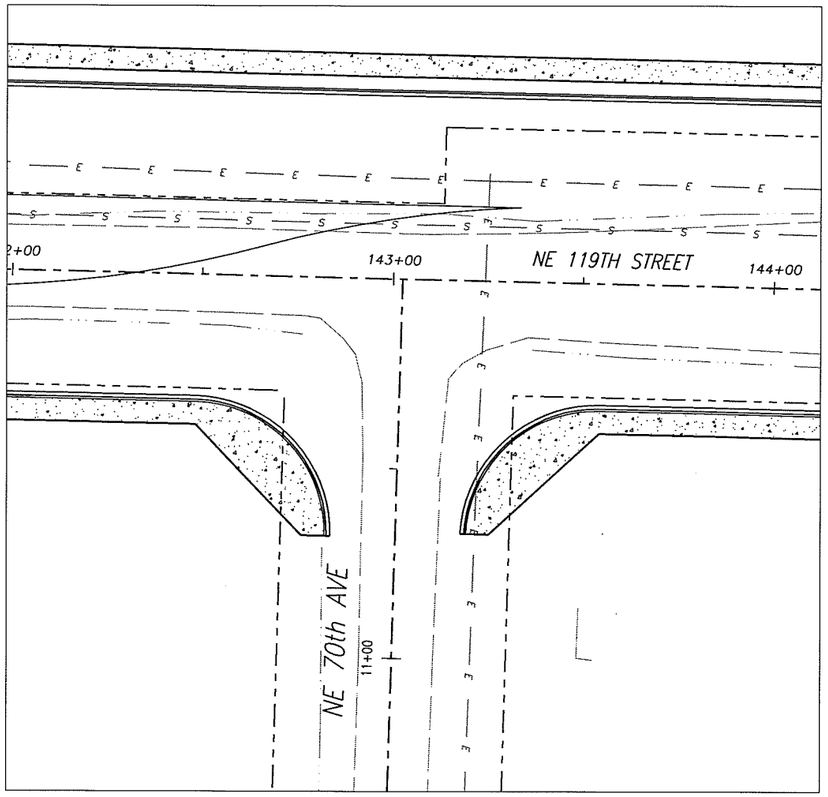
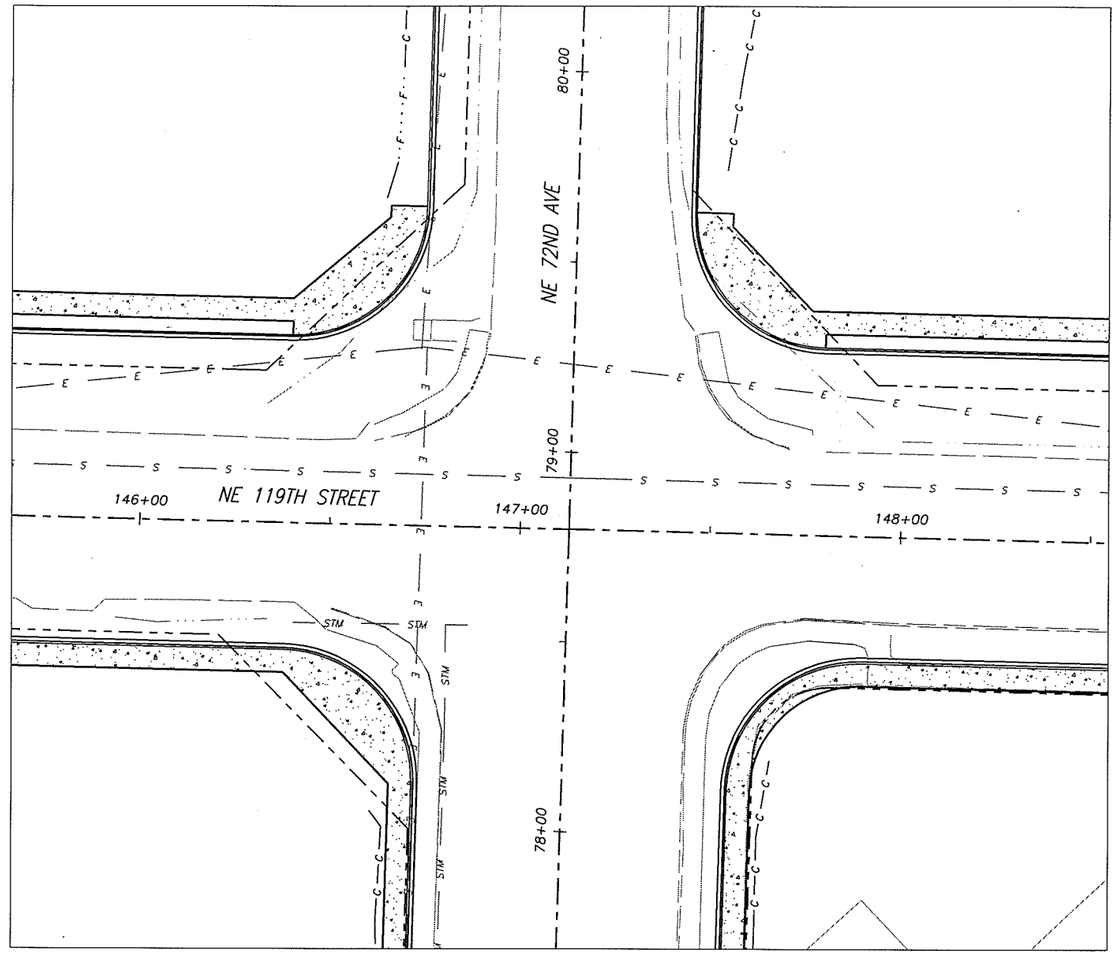
M. PIERCE STATE OF WASHINGTON 21411 REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
PLAN & PROFILE; NE 102ND AVE

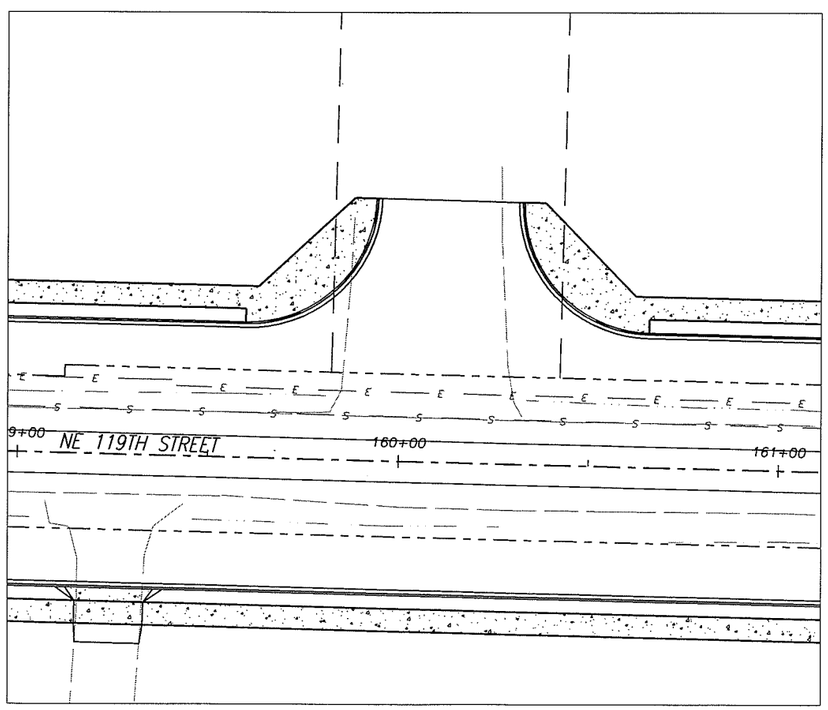
proud past, promising future
CLARK COUNTY WASHINGTON





SCALE IN FEET

20 0 20 40



CL OF RAMPS @ FACE			
#	STATION	OFFSET	TYPE
R1	XX+XX.X	XX.X' RT	TYPE X
R2	XX+XX.X	XX.X' RT	TYPE X
R3	XX+XX.X	XX.X' RT	TYPE X
R4	XX+XX.X	XX.X' RT	TYPE X
R5	XX+XX.X	XX.X' RT	TYPE X
R6	XX+XX.X	XX.X' LT	TYPE X
R7	XX+XX.X	XX.X' RT	TYPE X
R8	XX+XX.X	XX.X' RT	TYPE X
R9	XX+XX.X	XX.X' RT	TYPE X
R10	XX+XX.X	XX.X' RT	TYPE X
R11	XX+XX.X	XX.X' RT	TYPE X
R12	XX+XX.X	XX.X' RT	TYPE X
R13	XX+XX.X	XX.X' RT	TYPE X
R14	XX+XX.X	XX.X' RT	TYPE X
R15	XX+XX.X	XX.X' RT	TYPE X
R16	XX+XX.X	XX.X' RT	TYPE X

PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	101
SHEET	95 OF X

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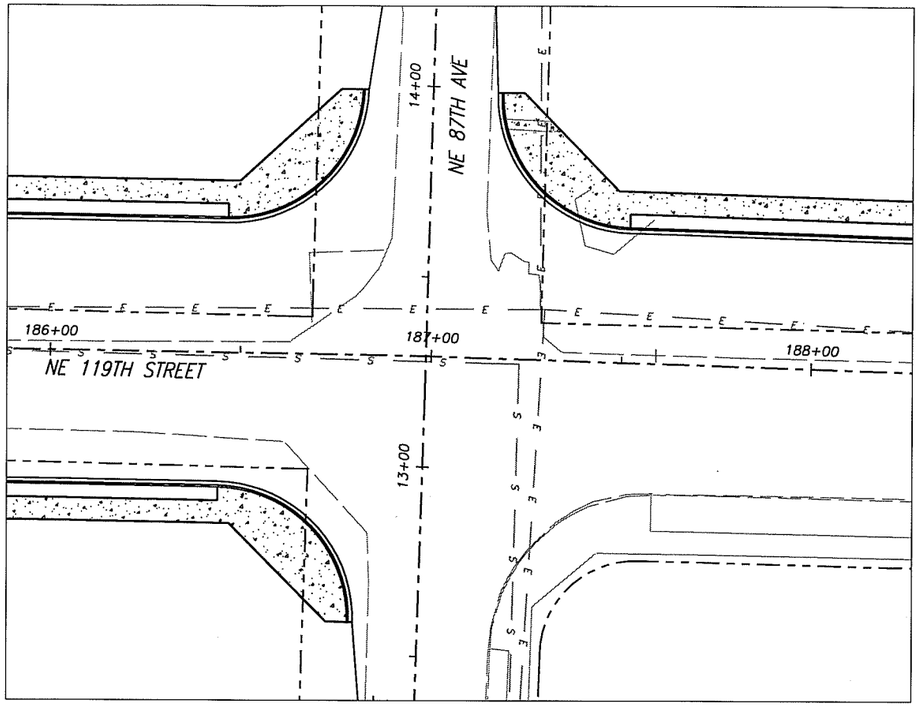
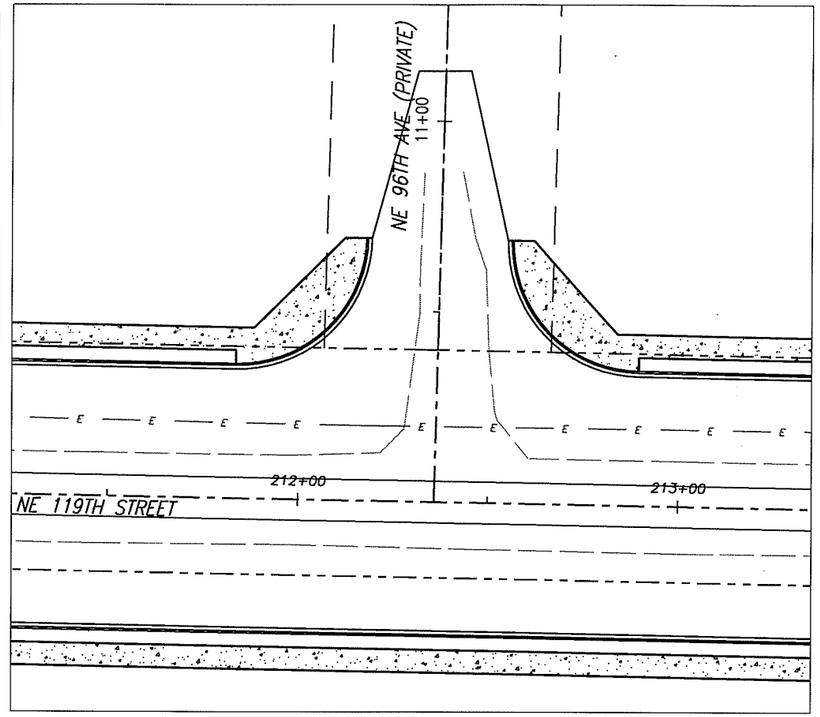
LICENSED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
41411
TROY A. SCHOLZ
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
INTERSECTION PLAN

proud past, promising future
CLARK COUNTY
WASHINGTON

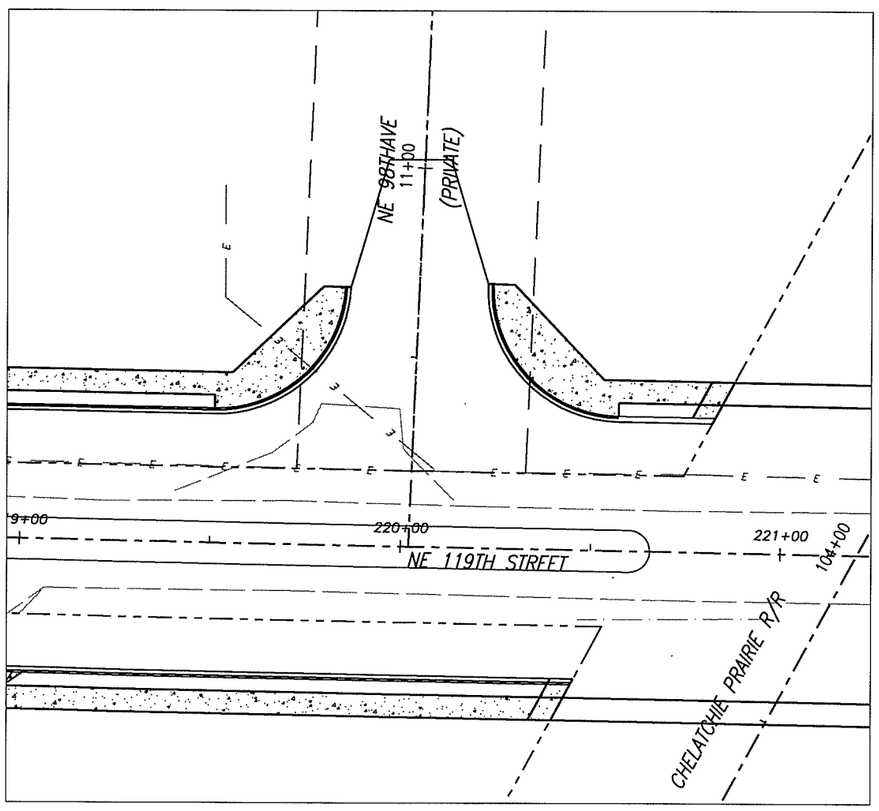


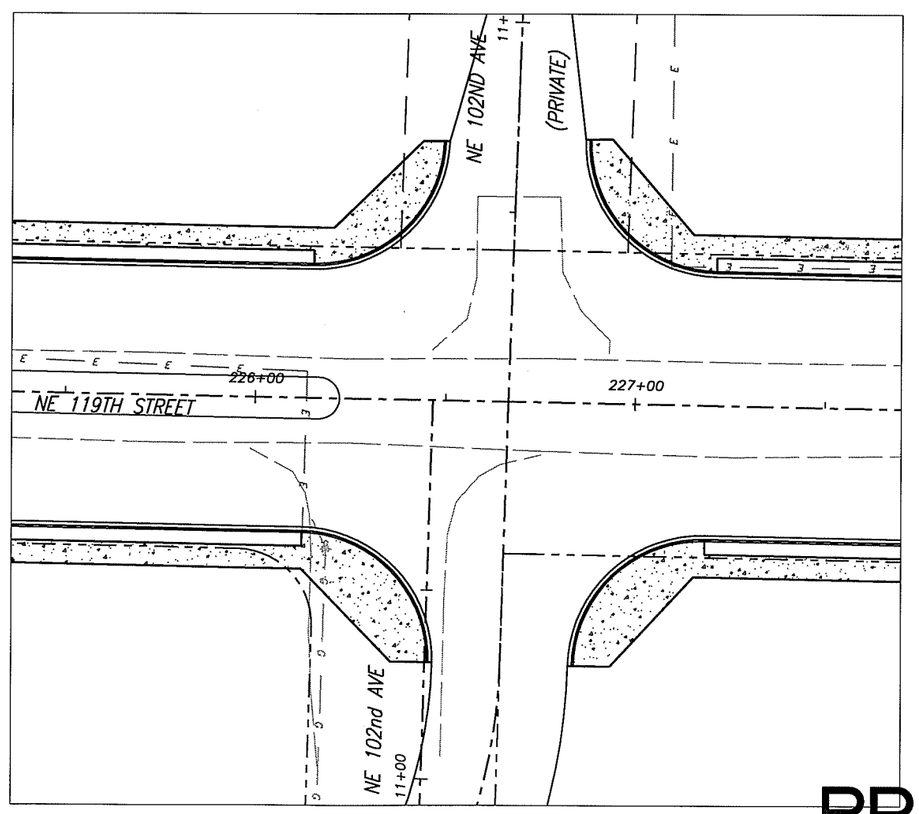


SCALE IN FEET

20 0 20 40

CL OF RAMPS @ FACE			
#	STATION	OFFSET	TYPE
R1	XX+XX.X	XX.X' RT	TYPE X
R2	XX+XX.X	XX.X' RT	TYPE X
R3	XX+XX.X	XX.X' RT	TYPE X
R4	XX+XX.X	XX.X' RT	TYPE X
R5	XX+XX.X	XX.X' RT	TYPE X
R6	XX+XX.X	XX.X' LT	TYPE X
R7	XX+XX.X	XX.X' RT	TYPE X
R8	XX+XX.X	XX.X' RT	TYPE X
R9	XX+XX.X	XX.X' RT	TYPE X
R10	XX+XX.X	XX.X' RT	TYPE X
R11	XX+XX.X	XX.X' RT	TYPE X
R12	XX+XX.X	XX.X' RT	TYPE X
R13	XX+XX.X	XX.X' RT	TYPE X
R14	XX+XX.X	XX.X' RT	TYPE X
R15	XX+XX.X	XX.X' RT	TYPE X
R16	XX+XX.X	XX.X' RT	TYPE X





PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	102
SHEET	96 OF X

CALL 48 HOURS BEFORE YOU DIG 1-800-553-4344 "It's the Law" NORTHWEST UTILITIES NOTIFICATION CENTER

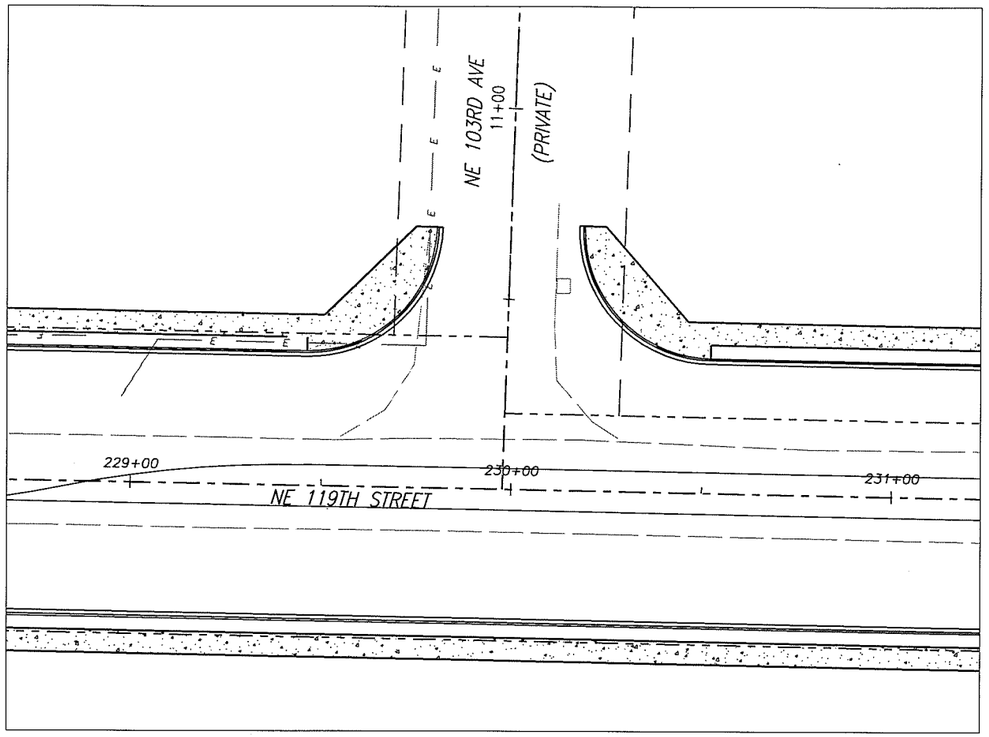
STATE OF WASHINGTON TROY A. LEIERCE 41411 REGISTERED PROFESSIONAL ENGINEER EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
INTERSECTION PLAN

proud past, promising future

CLARK COUNTY WASHINGTON



SCALE IN FEET

20 0 20 40

CL OF RAMPS @ FACE			
#	STATION	OFFSET	TYPE
R1	XX+XX.X	XX.X' RT	TYPE X
R2	XX+XX.X	XX.X' RT	TYPE X
R3	XX+XX.X	XX.X' RT	TYPE X
R4	XX+XX.X	XX.X' RT	TYPE X
R5	XX+XX.X	XX.X' RT	TYPE X
R6	XX+XX.X	XX.X' LT	TYPE X
R7	XX+XX.X	XX.X' RT	TYPE X
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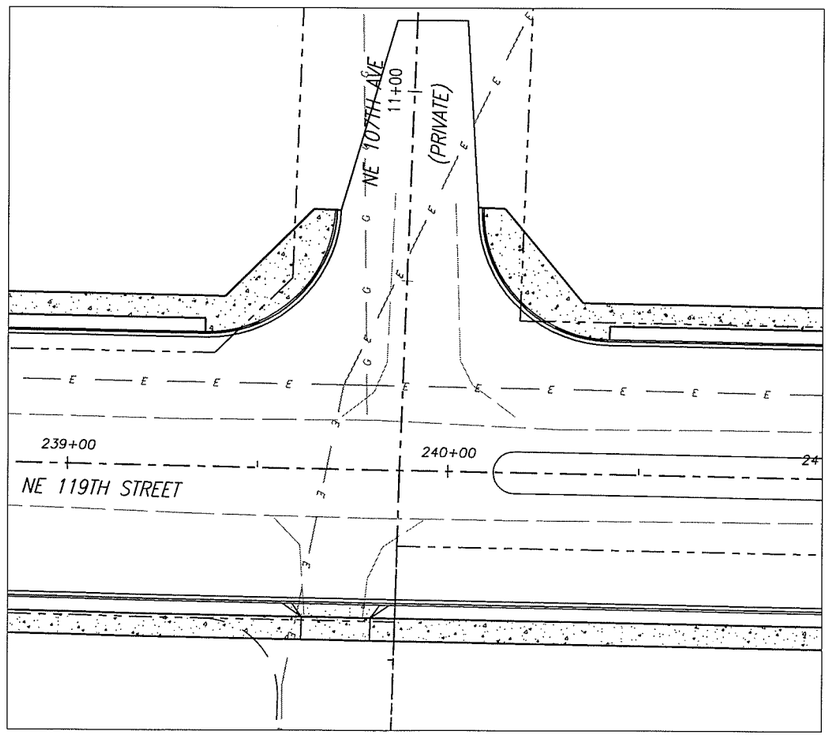
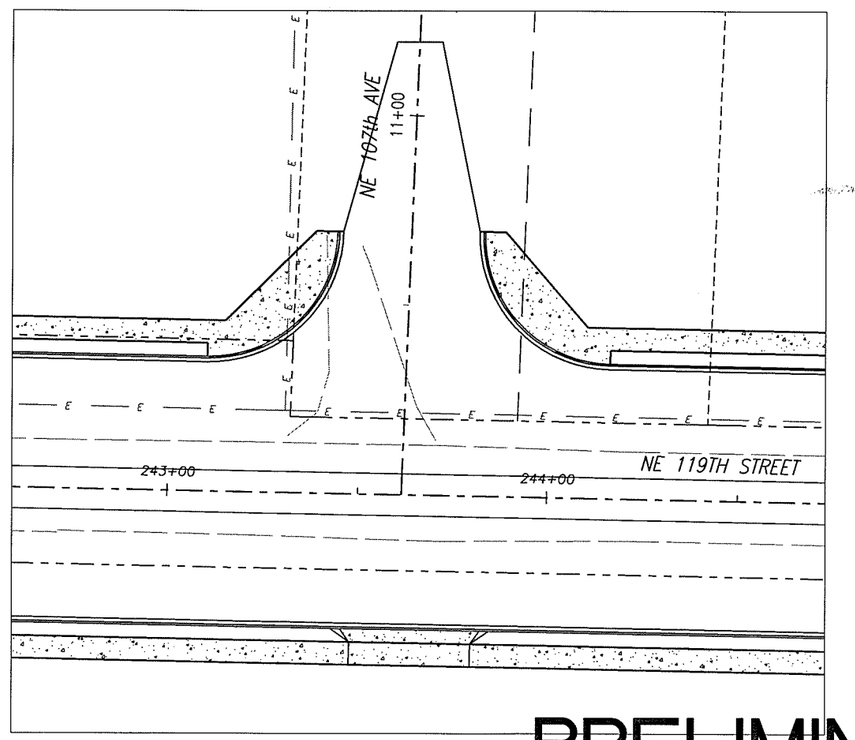
R11	XX+XX.X	XX.X' RT	TYPE X
R12	XX+XX.X	XX.X' RT	TYPE X
R13	XX+XX.X	XX.X' RT	TYPE X
R14	XX+XX.X	XX.X' RT	TYPE X
R15	XX+XX.X	XX.X' RT	TYPE X
R16	XX+XX.X	XX.X' RT	TYPE X





PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	103
SHEET	97 OF X

CALL 48 HOURS BEFORE YOU DIG
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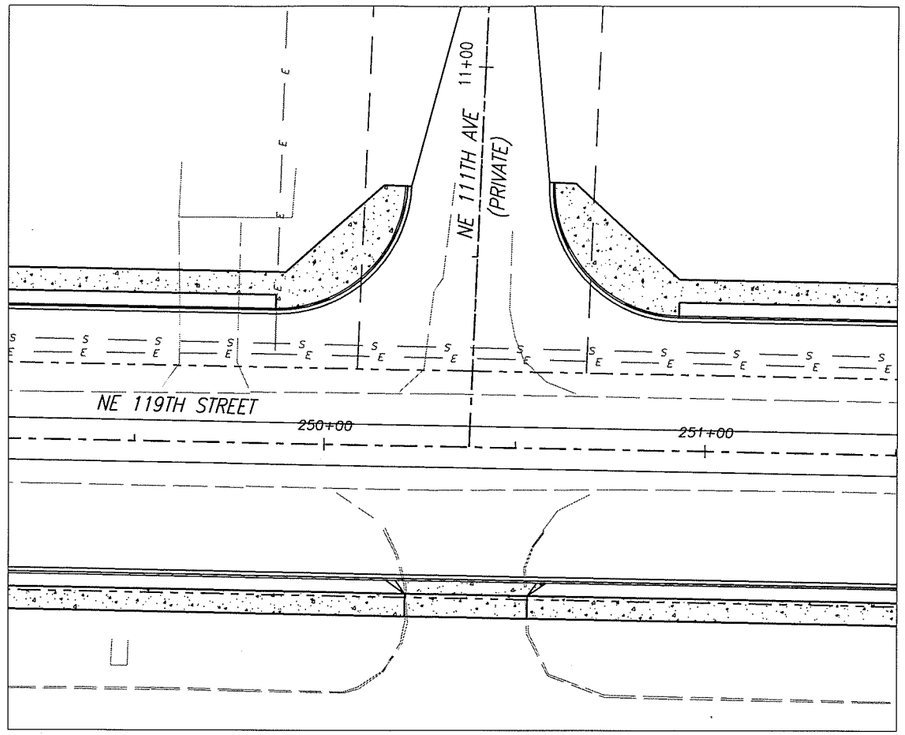
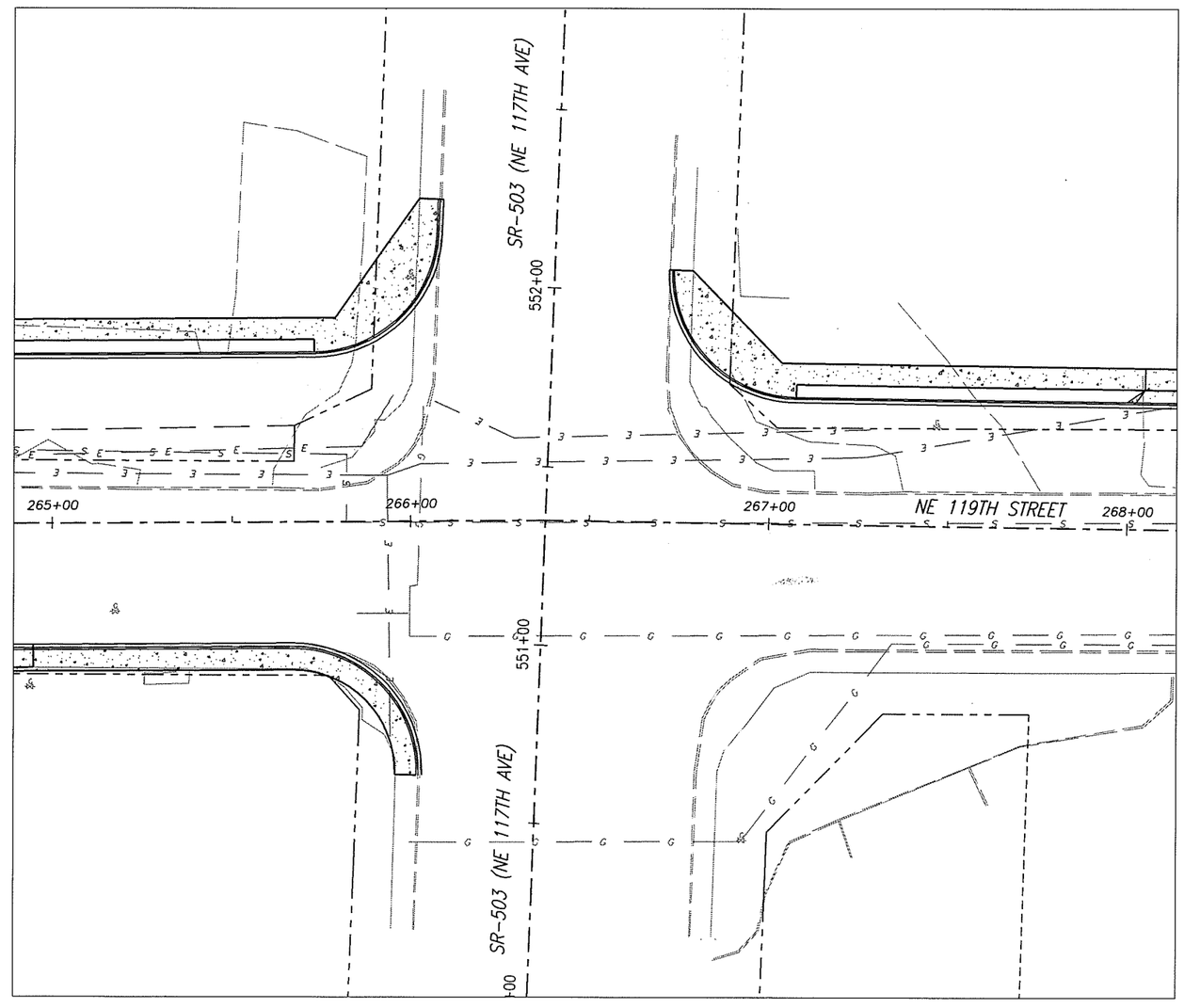
M. PIERCE
STATE OF WASHINGTON
41411
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

NE 119TH STREET EAST
INTERSECTION PLAN

proud past, promising future
CLARK COUNTY
WASHINGTON





SCALE IN FEET

20 0 20 40

CL OF RAMPS @ FACE			
#	STATION	OFFSET	TYPE
R1	XX+XX.X	XX.X' RT	TYPE X
R2	XX+XX.X	XX.X' RT	TYPE X
R3	XX+XX.X	XX.X' RT	TYPE X
R4	XX+XX.X	XX.X' RT	TYPE X
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R14	XX+XX.X	XX.X' RT	TYPE X
R15	XX+XX.X	XX.X' RT	TYPE X
R16	XX+XX.X	XX.X' RT	TYPE X

PRELIMINARY

DESIGNED	TP/JM
DRAWN	RK/KB
CRP	340722
HOR.	SEE SHEET
VERT.	SEE SHEET
DATE	11/29/05
DWG:	104
SHEET	98 OF X

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PROFESSIONAL ENGINEER
STATE OF WASHINGTON
41411
JAMES PIERCE
EXPIRES: JAN 1, 2006

ENGINEERING PROGRAM
DESIGN SECTION

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