

MINN. PROJ. NO. \_\_\_\_\_  
 MINN. PROJ. NO. \_\_\_\_\_

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

### CONSTRUCTION PLAN FOR STORM SEWER, GRADING, BASE & BITUMINOUS PAVING, BRIDGE CONSTRUCTION

LOCATED ON CR. 116 RUM RIVER CROSSING BETWEEN T.H. # 47 AND C.S.A.H. # 7 (Geographic Description)

COUNTY PROJECT NO. 85-05-116 FROM TO (Legal Description)  
 COUNTY PROJECT NO. 88-09-116

STATE AID PROJ. NO. STATE AID PROJ. NO.

GROSS LENGTH	5277.000	FEET	0.999	MILES	GROSS LENGTH	FEET	MILES
BRIDGES-LENGTH	724.990	FEET	0.137	MILES	BRIDGES-LENGTH	FEET	MILES
EXCEPTIONS-LENGTH	724.990	FEET	0.137	MILES	EXCEPTIONS-LENGTH	FEET	MILES
NET LENGTH	4522.010	FEET	0.862	MILES	NET LENGTH	FEET	MILES

#### GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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" 22-32	CROSS SECTION SHEETS
C.P. 85-05-116	" IA-46A BRIDGE NO. 02545
C.P. 88-09-116	" IB-36B BRIDGE NO. 02546
	" IC-10C BRIDGE NO. 96834

THIS PLAN CONTAINS 124 SHEETS

#### DESIGN DESIGNATION

ΣN18 201  
 R Value \_\_\_\_\_  
 ADT ( ) = \_\_\_\_\_  
 Proj. ADT (2010) = 19,150  
 Proj. HCADT (2010) = 1100 +  
 Soil Factor A3 50%  
 9 Ton Design  
 Shoulder Width 10'

Design Speed 40 MPH  
 Based on STOPPING Sight Distance  
 Height of eye 3.5' Height of object 0.5'  
 Design Speed not achieved at:  
 STA. TO STA. MPH  
 STA. TO STA. MPH  
 STA. TO STA. MPH

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 9/29/89 REG. NO. 6549 ENGR. *Lawrence K. Lund*  
 COUNTY Anoka

Recommended for Approval \_\_\_\_\_ 19 \_\_\_\_\_  
 DISTRICT STATE AID ENGINEER  
 Recommended for Approval \_\_\_\_\_ 19 \_\_\_\_\_  
 STATE AID PLANS AND SPECS ENGINEER  
 Approved \_\_\_\_\_ 19 \_\_\_\_\_  
 STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 APPROVED \_\_\_\_\_  
 DIVISION ADMINISTRATOR DATE

#### PLANS SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT-OF-WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT-OF-WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Except Land Lines)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD RIGHT-OF-WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TILE
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- HEDGE
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- MEANDER CORNER
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- MURSERY
- CATCH BASIN
- FIRE HYDRANT
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F - FRAME
- S - STONE
- B - BRICK
- C - CONCRETE
- T - TILE
- ST - STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

#### UTILITIES SYMBOLS

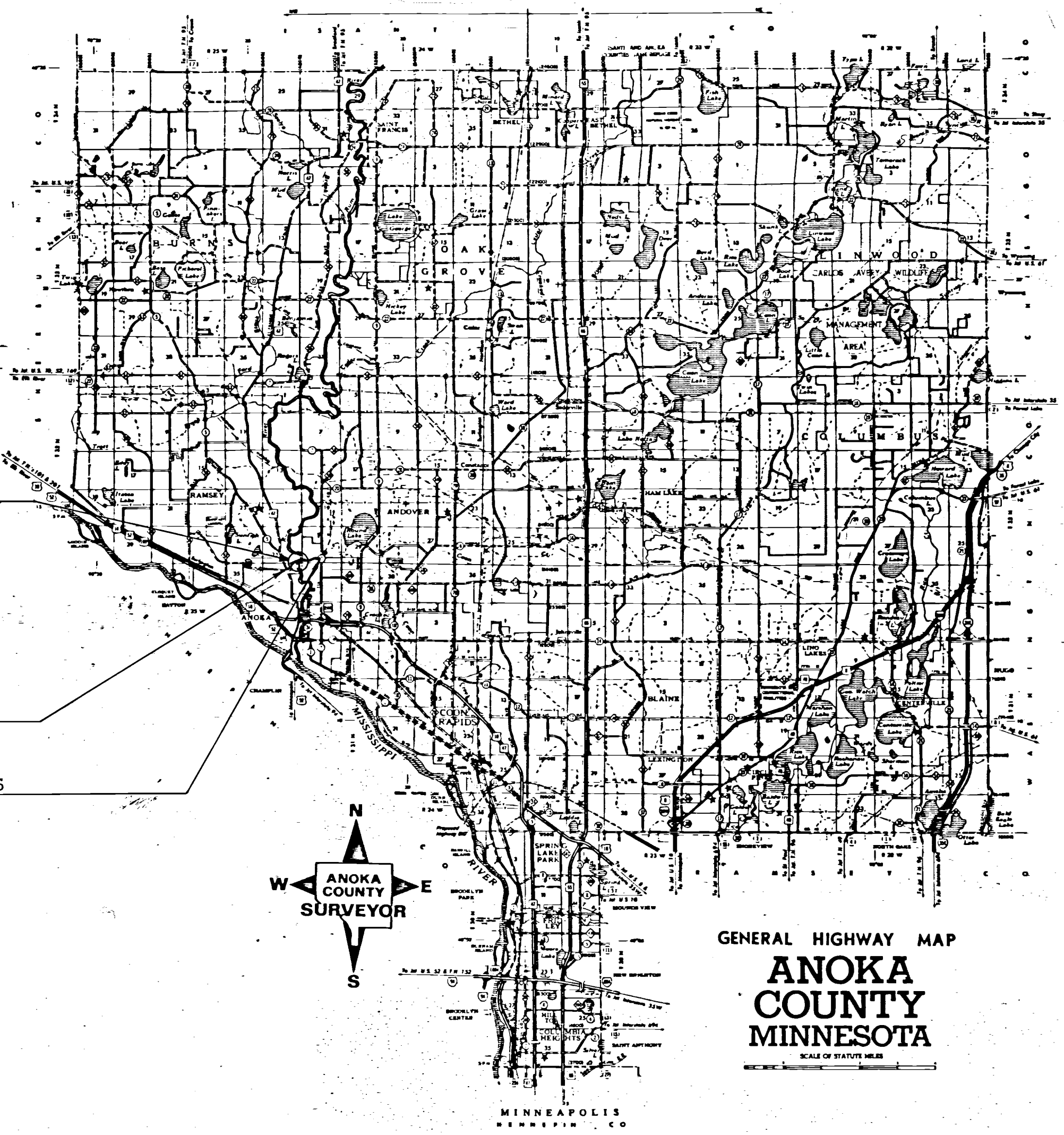
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)
- GAS MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER (SANITARY OR STORM)
- SEWER MANHOLE

#### SCALES

PLAN 50'  
 PROFILE 10'  
 INDEX MAP 2.56 MI  
 CROSS-SECTION 10'

PROJECT LOCATION - C.P. 88-09-116  
 BRIDGE NO. - 02545  
 BRIDGE NO. - 02546  
 BRIDGE NO. - 96834

BEGIN PROJECT C.P. 85-05-116  
 STA. 99+37  
 END PROJECT C.P. 85-05-116  
 STA. 152+14



GENERAL HIGHWAY MAP  
**ANOKA COUNTY**  
 MINNESOTA  
 SCALE OF STATUTE MILES

TITLE SHEET w/map blueprint Order Form # 432 REV. 2-88

STATE AID PROJ. NO. \_\_\_\_\_  
 STATE PROJ. NO. C.P. 85-05-116, C.P. 88-09-116 SHEET NO. 1 OF 32 SHEETS

**STATEMENT OF ESTIMATED QUANTITIES**

ITEM NO	ITEM	UNIT	EST. QTY.
2021.501	MOBILIZATION	LUMP SUM	1
2031.501	FIELD OFFICE, TYPE 'D'	EACH	1
2101.501	CLEARING	ACRE	3.1
2101.502	CLEARING	TREE	7
2101.506	GRUBBING	ACRE	3.1
2101.507	GRUBBING	TREE	7
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	302
2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	292
2104.521	SALVAGE BARRICADES	LIN. FT.	80
2105.501	COMMON EXCAVATION (P)	CU. YD.	114262
2105.505	MUCK EXCAVATION	CU. YD.	1217
2105.521	GRANULAR BORROW (EV) FROM STOCKPILE	CU. YD.	6500
2105.521	GRANULAR BORROW (EV)	CU. YD.	2000
① 2130.501	WATER	M GAL	100
2211.503	AGGREGATE BASE PLACED, CLASS 5A (P)	CU. YD.	5194
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	598
2331.510	BINDER COURSE MIXTURE	TON	3789
2331.514	BASE COURSE MIXTURE	TON	7498
⑦ 2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	182
⑥ 2341.508	WEARING COURSE MIXTURE	TON	3151
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	5072
2501.515	12' RC PIPE APRON	EACH	1
2501.515	15' RC PIPE APRON	EACH	2
2501.515	18' RC PIPE APRON	EACH	1
2501.515	30' RC PIPE APRON	EACH	1
2501.525	36' SPAN RC PIPE ARCH APRON	EACH	2
2501.565	36' SPAN RC PIPE ARCH CULVERT DES. 3006F	LIN. FT.	16
2503.541	12' RC PIPE SEWER, DESIGN 3006F CL-3	LIN. FT.	852
2503.541	15' RC PIPE SEWER, DESIGN 3006F CL-3	LIN. FT.	1143
2503.541	18' RC PIPE SEWER, DESIGN 3006F CL-3	LIN. FT.	794
2503.541	21' RC PIPE SEWER, DESIGN 3006F	LIN. FT.	447
2503.541	24' RC PIPE SEWER, DESIGN 3006F	LIN. FT.	629
2503.541	27' RC PIPE SEWER, DESIGN 3006F	LIN. FT.	127
2503.541	30' RC PIPE SEWER, DESIGN 3006F CL-4	LIN. FT.	861
2506.506	CONSTRUCT MANHOLES, DESIGN C OR G	LIN. FT.	5.5
2506.507	CONSTRUCT CATCH BASINS, DESIGN A OR F	LIN. FT.	79
2506.507	CONSTRUCT CATCH BASINS, DESIGN C OR G	LIN. FT.	167.8
2506.509	CONSTRUCT CATCH BASINS, DESIGN 4016 4-4	EACH	1
2506.516	CASTING ASSEMBLIES	EACH	43
2511.507	GRADED RIPRAP	CU. YD.	18
2511.511	GRANULAR FILTER	CU. YD.	9
② 2521.501	4' CONCRETE WALK	SQ. FT.	13329
② 2531.501	CONCRETE CURB AND GUTTER, DESIGN B-612	LIN. FT.	3035
③ 2531.501	CONCRETE CURB AND GUTTER, DESIGN B-618	LIN. FT.	8209
2531.503	CONCRETE MEDIAN	SQ. YD.	68
0531.602	CONCRETE MEDIAN NOSE, SPECIAL	EACH	2
④ 2545.521	3' RIGID STEEL CONDUIT	LIN. FT.	355
④ 2545.553	PULL BOXES	EACH	11
2554.501	TRAFFIC BARRIER, DESIGN B 8307	LIN. FT.	650
2554.521	ANCHORAGE ASSEMBLIES, DESIGN 8318C	EACH	8
2554.523	TWISTED END TREATMENT	EACH	8
0571.610	FURNISH & PLANT LANDSCAPING	LUMP SUM.	1
2573.501	BALE CHECK	EACH	90
2573.502	SILT FENCE, HEAVY DUTY	LIN. FT.	1310
2575.501	SEEDING (P)	ACRE	7.2
2575.502	SEED, MIXTURE 500	POUND	360
2575.505	SODDING, (TYPE EROSION CONTROL) (P)	SQ. YD.	11882
2575.511	MULCH MATERIAL, TYPE 1	TON	14.0
2575.511	MULCH MATERIAL, TYPE 4 (TYPE 1)	TON	0.30
2575.511	MULCH MATERIAL, TYPE 4 (TYPE 5)	TON	0.05
2575.519	DISC ANCHORING	ACRE	7.0
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	TON	2.40
2580.501	TEMPORARY LANE MARKING	RD. STA.	612

**STATEMENT OF EST. QUAN. - WATERMAIN CONST.**

ITEM NO	ITEM	UNIT	EST. QTY.
0504.602	16' BUTTERFLY VALVE	EACH	5
0504.602	6" GATE VALVE	EACH	4
0504.602	HYDRANT	EACH	4
0504.602	CONNECT TO EXISTING WATERMAIN	EACH	2
0504.603	16' D.I.P. WATERMAIN	LIN. FT.	3740
0504.603	16' D.I.P. PREINSULATED WATERMAIN	LIN. FT.	690
0504.603	8' D.I.P. WATERMAIN	LIN. FT.	255
0504.603	6' D.I.P. WATERMAIN	LIN. FT.	55
0504.603	24" STEEL CASING (JACKED)	LIN. FT.	200
0504.603	POLYETHYLENE ENCASEMENT	LIN. FT.	500
0504.620	FITTINGS	POUND	6780
2104.523	SALVAGE 16' PLUGS	EACH	2

SEE SHEET NO. 11 FOR MITIGATION POND ESTIMATED QUANTITIES  
 SEE SHEET NO. 1A FOR BRIDGE NO. 02545 ESTIMATED QUANTITIES  
 SEE SHEET NO. 1B FOR BRIDGE NO. 02546 ESTIMATED QUANTITIES  
 SEE SHEET NO. 1C FOR BRIDGE NO. 96834 ESTIMATED QUANTITIES

- ① FOR DUST CONTROL AS DIRECTED BY THE ENGINEER
- ② FOR MEDIAN CONSTRUCTION-INCLUDES 168 S.F. FOR ADDITIONAL DEPTH (8') AT MEDIAN SIGN LOCATIONS.
- ③ FOR MEDIAN CONSTRUCTION 99+75 TO 101+25
- ④ FOR FUTURE SIGNALS AT C.S.A.H. #7
- ⑤ FOR MULCHING SLOPES STEEPER THAN 3:1
- ⑥ INCLUDES 147 TONS FOR 2" THICK PAVING ON PARK ROAD STA. 114+46.
- ⑦ INCLUDES 8 TONS FOR PARK ROAD PAVING.

**SPECIAL DETAILS**

THE CONTRACTOR SHALL REMOVE SUFFICIENT TOPSOIL MATERIAL WITHIN THE EXCAVATION AREAS AND AREAS ON WHICH EMBANKMENT WILL BE PLACED, STOCKPILE IF NECESSARY, AND USE IT FOR TOPSOIL COVERING ON NEW SLOPES AND BOULEVARDS TO PROVIDE A MINIMUM COVER OF THREE INCHES. SALVAGING AND REPLACING TOPSOIL SHALL BE CONSIDERED AS INCIDENTAL TO COMMON EXCAVATION.

MUCK MATERIAL STOCKPILED ADJACENT TO EXCAVATION AREAS SHALL BE REMOVED PRIOR TO COMPLETION OF GRADING OPERATIONS AND AREAS RESTORED TO APPROXIMATELY THE ORIGINAL ELEVATIONS.

EXCAVATED MUCK MATERIAL SHALL BE USED AS TOPSOIL COVERING AND SPREAD UNIFORMLY ON NEW SLOPES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO MUCK EXCAVATION.

STOCKPILED MATERIAL LOCATED WEST OF T.H. #47 SHALL BE USED FOR EMBANKMENT CONSTRUCTION OR FOR CONSTRUCTING HAUL ROADS TO THE BRIDGE CONSTRUCTION SITES. PAYMENT FOR USING STOCKPILED MATERIAL SHALL BE COMPENSATED FOR BY THE CUBIC YARD UNDER ITEM 2105.521 GRANULAR BORROW (EV). HAUL ROADS CONSTRUCTED SHALL BE REMOVED BY CONTRACTOR AS INCIDENTAL TO EMBANKMENT CONSTRUCTION AND NO DIRECT COMPENSATION SHALL BE MADE THEREFOR.

**BASIS OF PLANNED QUANTITIES**

2331	PLANT MIXED BASE AND BINDER COURSE BITUMINOUS MIXTURE 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WEIGHT
2341	PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 110 LBS./SQ. YD. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.8% BY WEIGHT
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GALLON PER. SQ. YD.
2575	MULCH MATERIAL, TYPE-1 2 TON PER ACRE
2575	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 500 LBS./ACRE ON ALL SEED AND SOD AREAS
2575	ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT PLUS 10% SEED MIXTURE NO. 500, @ 50 LBS. PER ACRE.

**STANDARD PLATES**

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 K	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3133 B	RIPRAP AT R.C. OUTLETS
3145 E	CONCRETE PIPE TIES
4000 I	MANHOLE OR CATCH BASIN
4002 E	MANHOLE OR CATCH BASIN
4005 K	MANHOLE OR CATCH BASIN
4006 K	MANHOLE OR CATCH BASIN
4010 G	CONCRETE SHORT CONE AND ADJUSTING RING
4011 D	PRECAST CONCRETE BASE
4016 C	CURB OPENING CATCH BASIN
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 D	COVER CASTING FOR MANHOLE
4126 E	CATCH BASIN FRAME CASTING
4149 C	GRATE CASTING FOR CATCH BASIN
4161 F	CURB BOX CASTING FOR CATCH BASIN
4180 H	MANHOLE OR CATCH BASIN STEP
7036 C	PEDESTRIAN CURB RAMP
7100 F	CONCRETE CURB AND GUTTERS
7110 E	CURB AND GUTTER CONSTRUCTION AT CATCH BASINS
7111 G	INSTALLATION AND REINFORCEMENT OF CATCH BASIN CASTINGS
8000 I	STANDARD BARRICADES
8117 F	PRECAST CONCRETE HANDHOLE OR PULLBOX
8307 N	STEEL PLATE BEAM GUARDRAIL
8317 D	GUARDRAIL ANCHORAGE ASSEMBLY FOR BRIDGES
8319 G	TWISTED END TREATMENT
9102 C	SODDING AT PIPE CULVERT ENDS

SEE BRIDGE PLANS FOR ADDITIONAL STANDARD PLATES

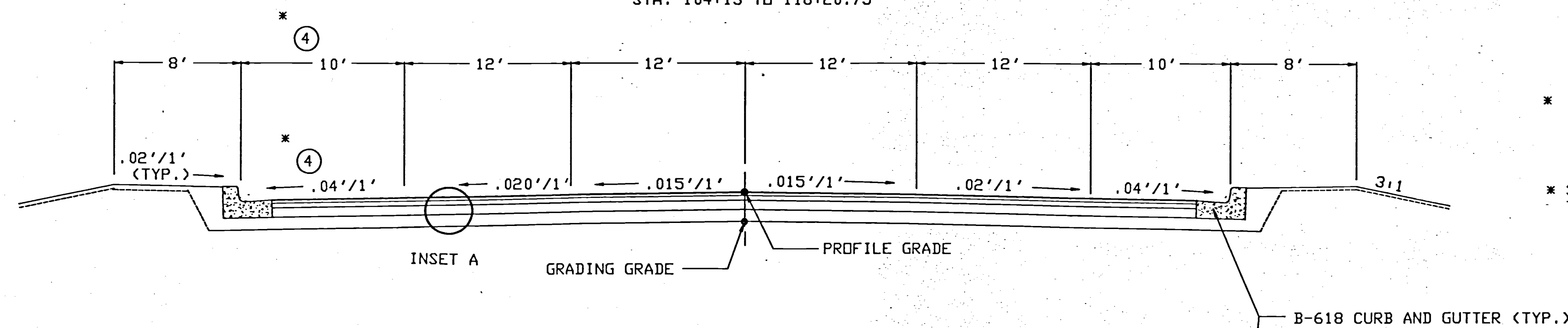
REVISIONS			
DATE	BY	DATE	BY
1-23-90	ASC		

S.A.P. \_\_\_\_\_ S.P. \_\_\_\_\_ C.P. 85-05-116

Sheet No. 2 of 32 Sheets

**TYPICAL SECTIONS**

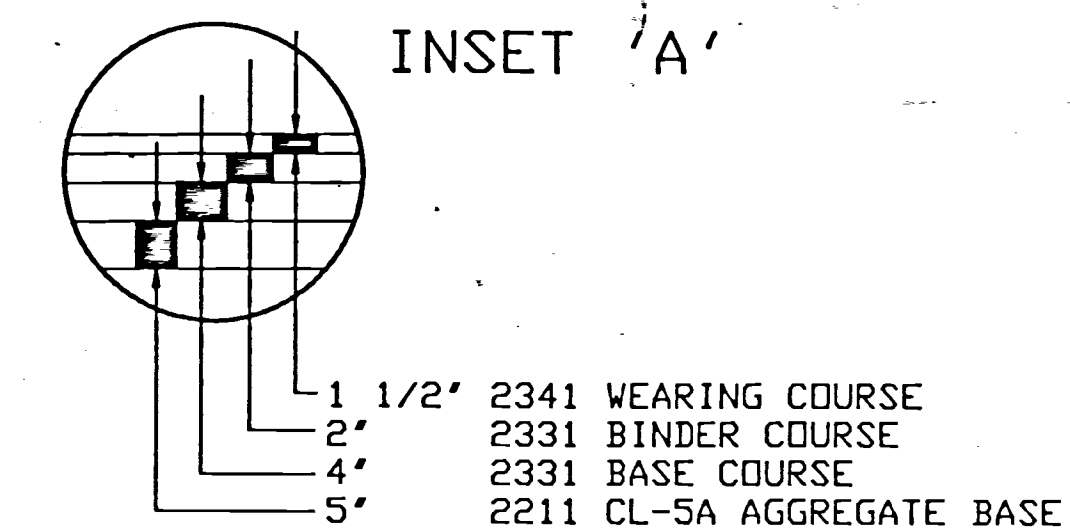
STA. 101+15 TO 102+67  
STA. 104+13 TO 116+20.75



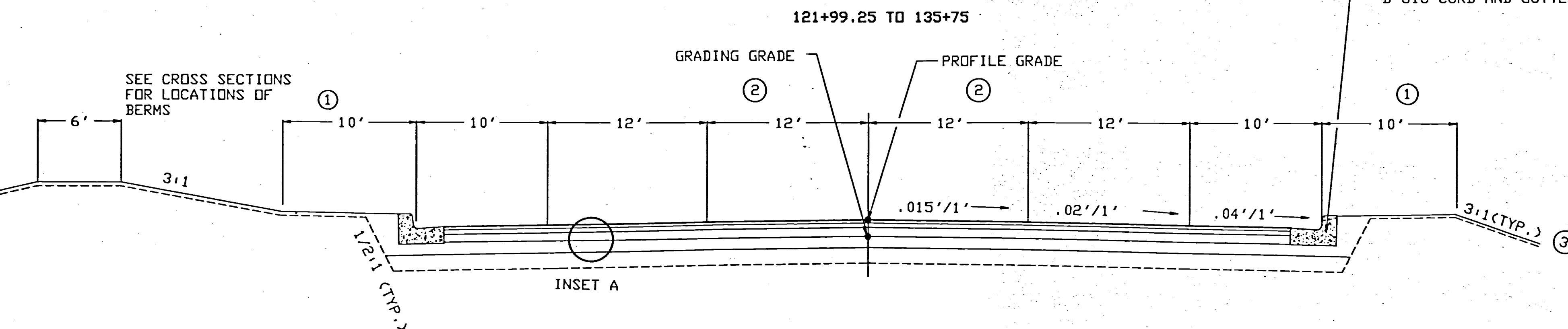
**NOTE: EXCEPTIONS FOR BRIDGES**

- ① 12' IN GUARDRAIL APPROACHES (SEE CROSS SECTIONS)  
15' RIGHT SIDE ONLY STA. 125+00 TO STA. 144+00
- ② VARIABLE WIDTH STA. 132+44 TO STA. 135+75
- ③ 2:1 SLOPES AT BRIDGE APPROACH STA. 122+00 TO STA. 123+00
- \* ④ 10' TO 14' IN RIGHT TURN LANES @ .025'/1'
- ⑤ PROFILE GRADE CARRIED AT 12' IN ALL LEFT TURN LANES  
EBL OR WBL. STA. 135+75 TO 152+14

\* SEE PLAN SHEET FOR  
TURN LANE LOCATION

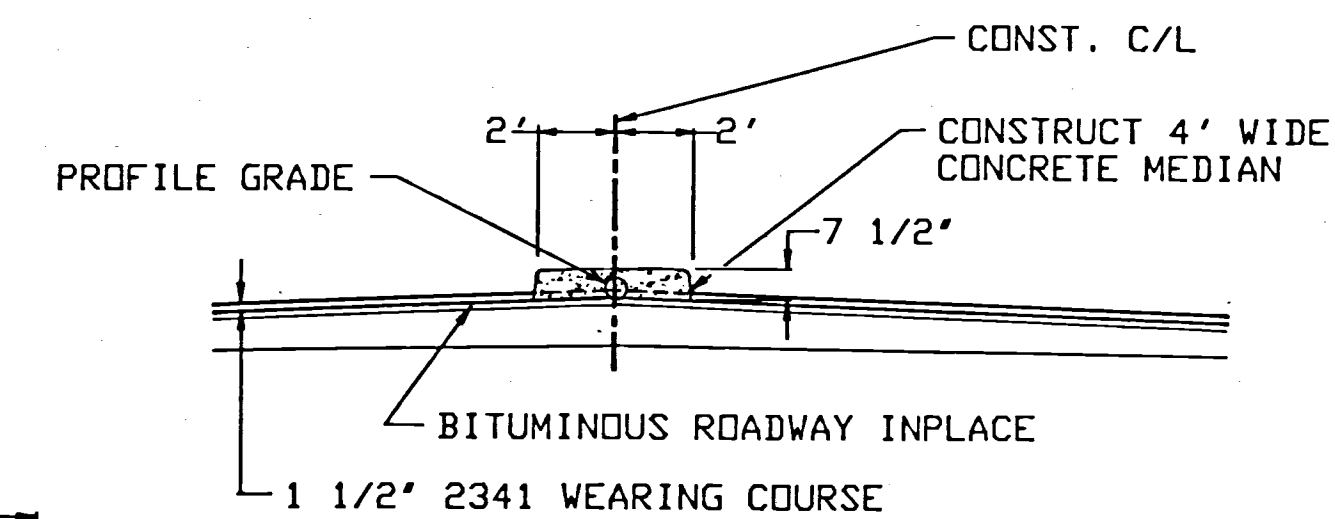


SEE CROSS SECTIONS  
FOR LOCATIONS OF  
BERMS

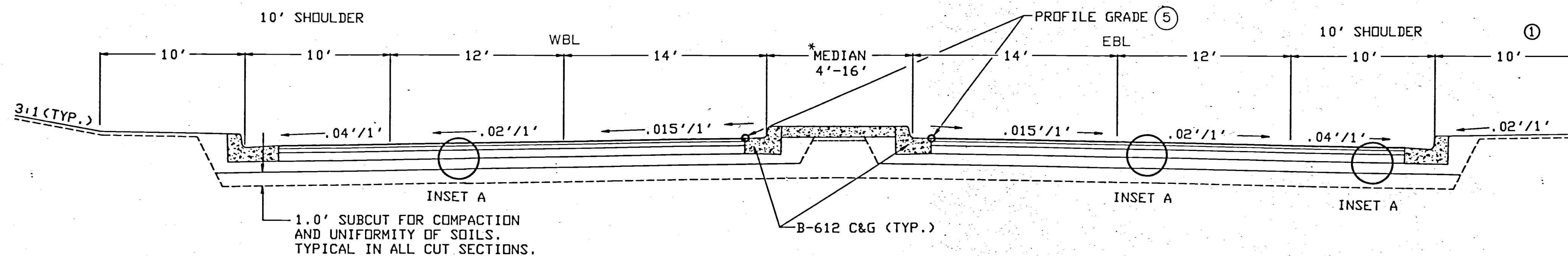


**CONCRETE MEDIAN DETAIL**

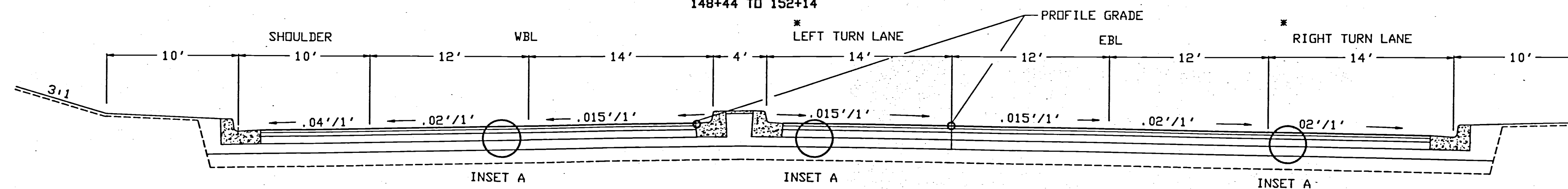
99+75 TO 101+25



135+75 TO 148+44



148+44 TO 152+14

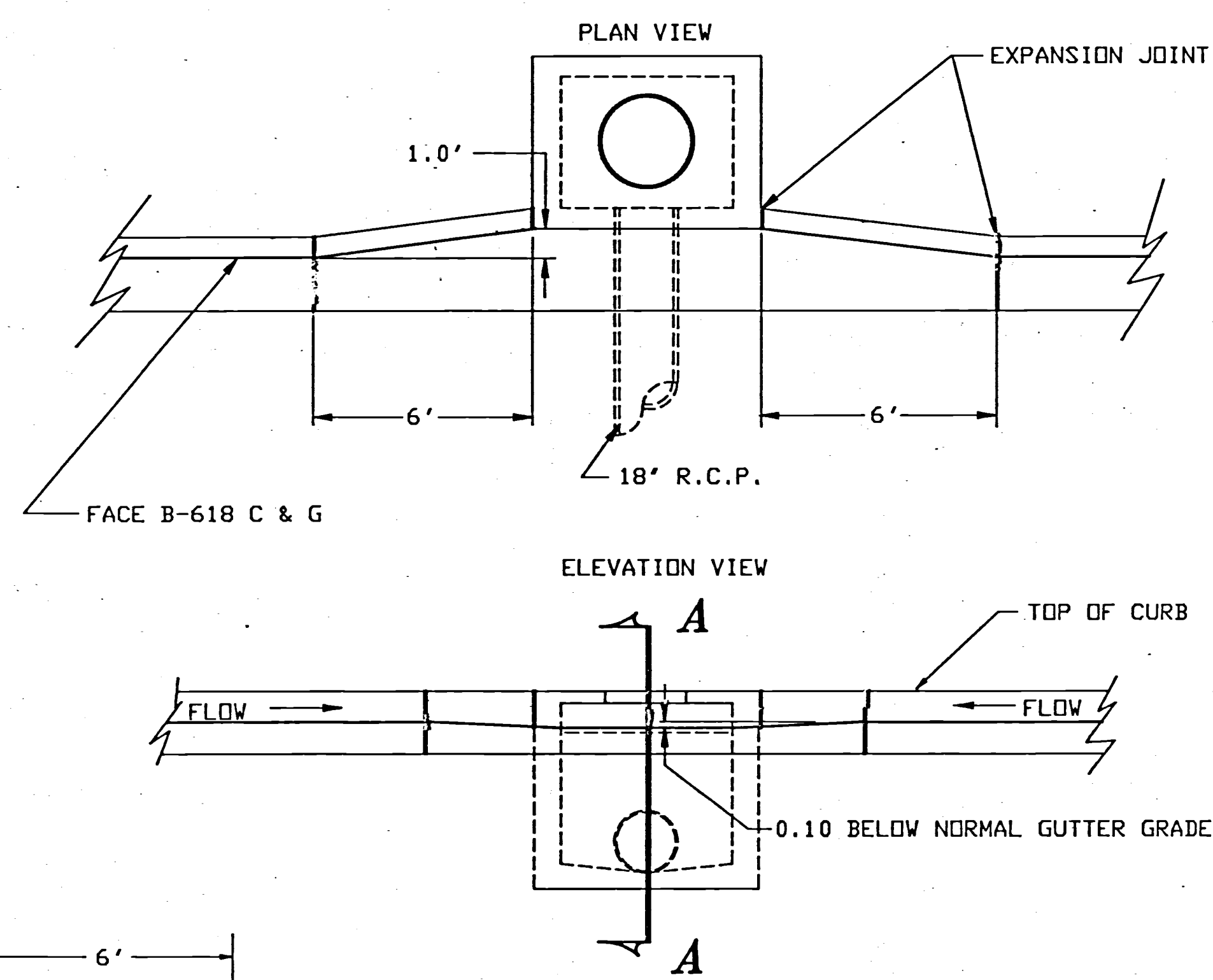


REVISIONS			
DATE	BY	DATE	BY

S.A.P. S.P. C.P. 85-05-116

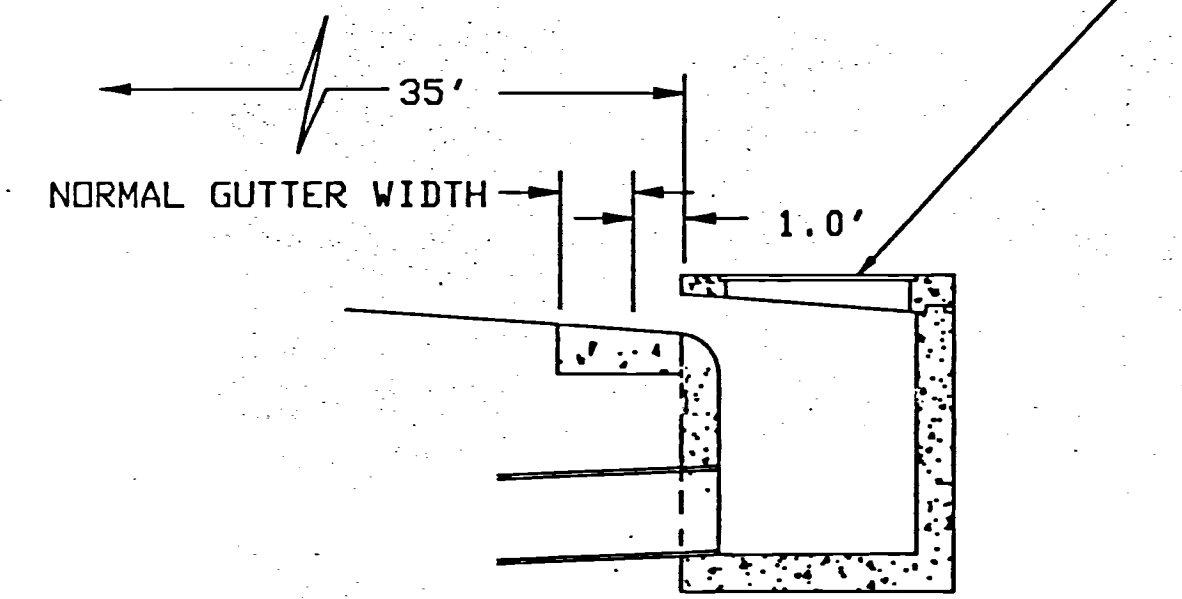
**INSTALLATION DETAIL**

CURB OPENING CATCH BASIN  
DESIGN LP 4016 4-4



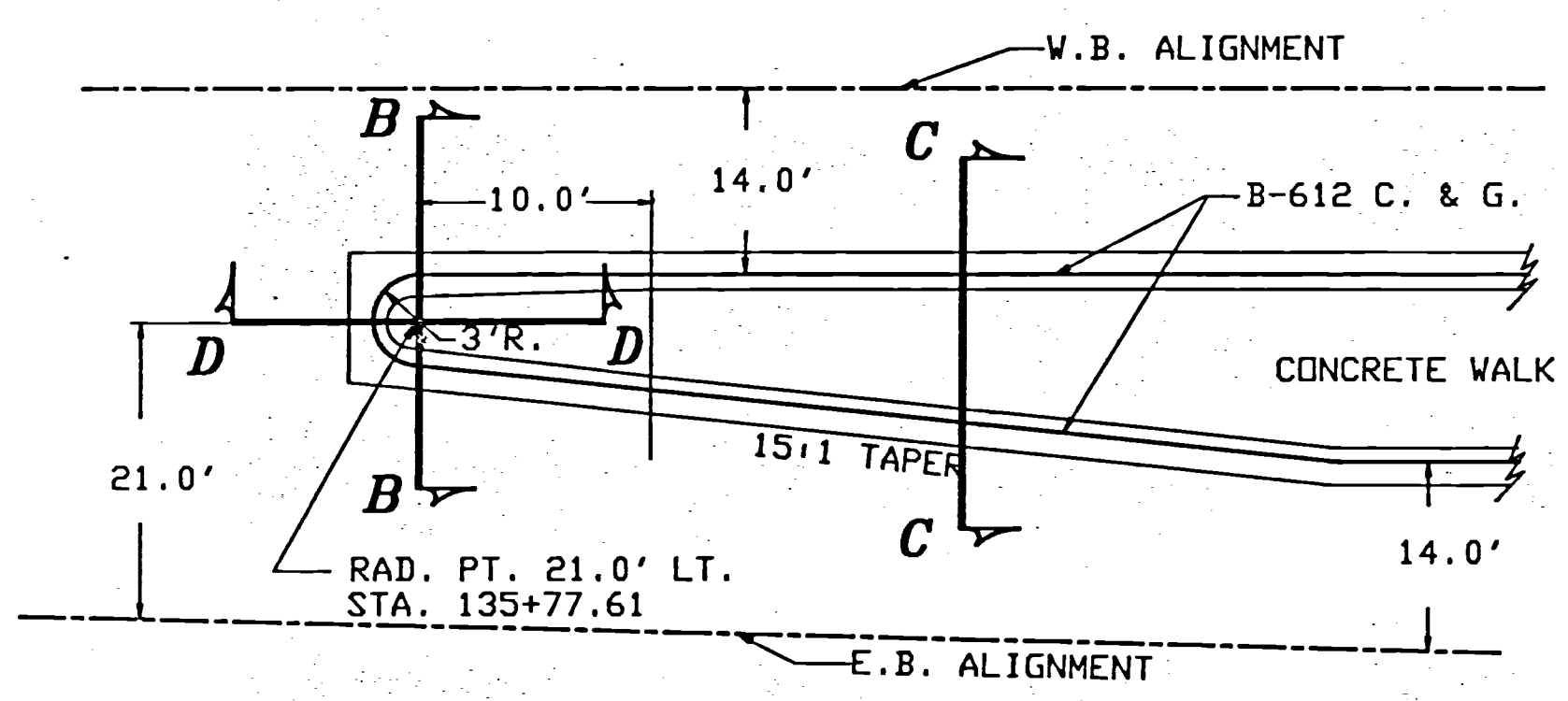
NOTE: CATCH BASIN DESIGN LP 4-4  
SEE MN. DOT STD. PLT. # 4016-C

NOTE: TOP OF CATCH BASIN SAME  
ELEV. AS TOP OF CURB.

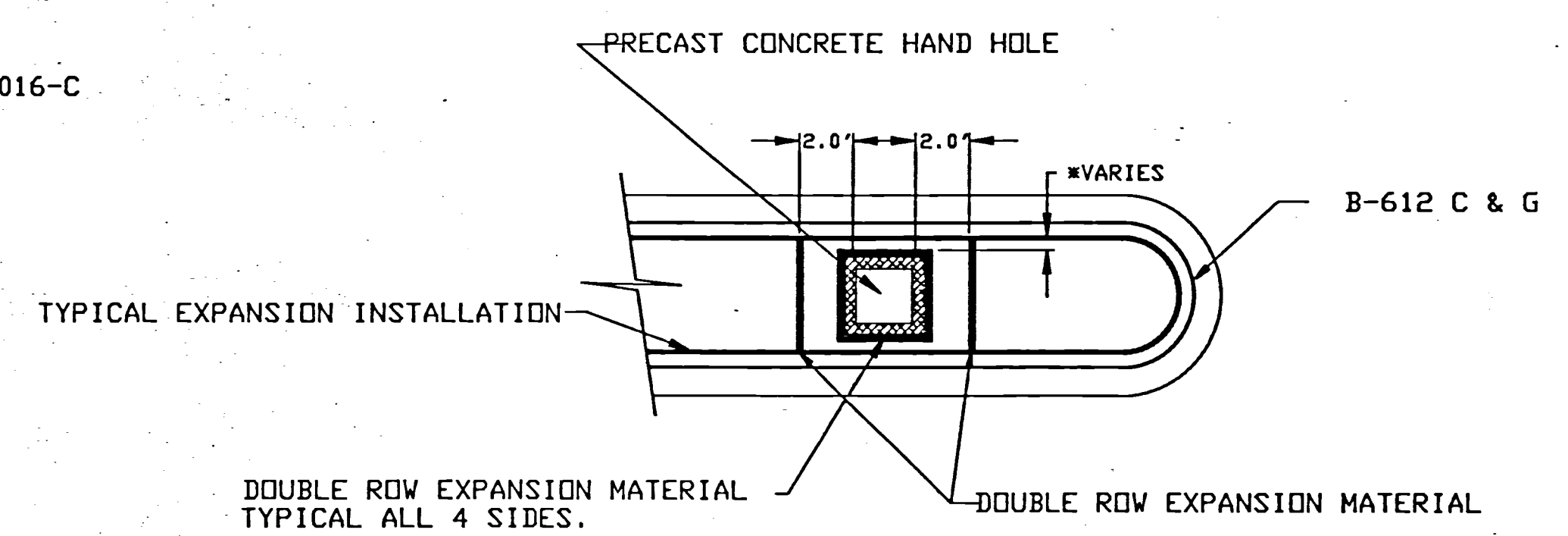


SECTION A-A

**MEDIAN NOSE DETAIL**



**EXPANSION MATERIAL PLACEMENT  
FOR PRECAST HANDHOLES**

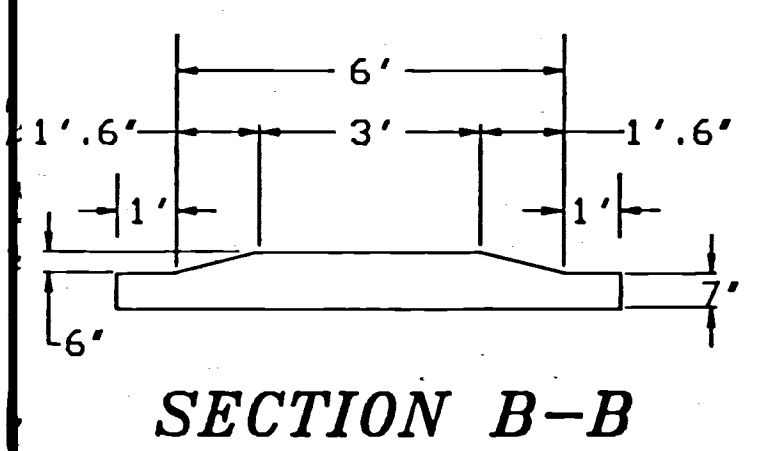


\* DIMENSION VARIES DEPENDING ON ISLAND WIDTH  
OR PLACEMENT OF HANDHOLE OTHER THAN IN AN ISLAND.

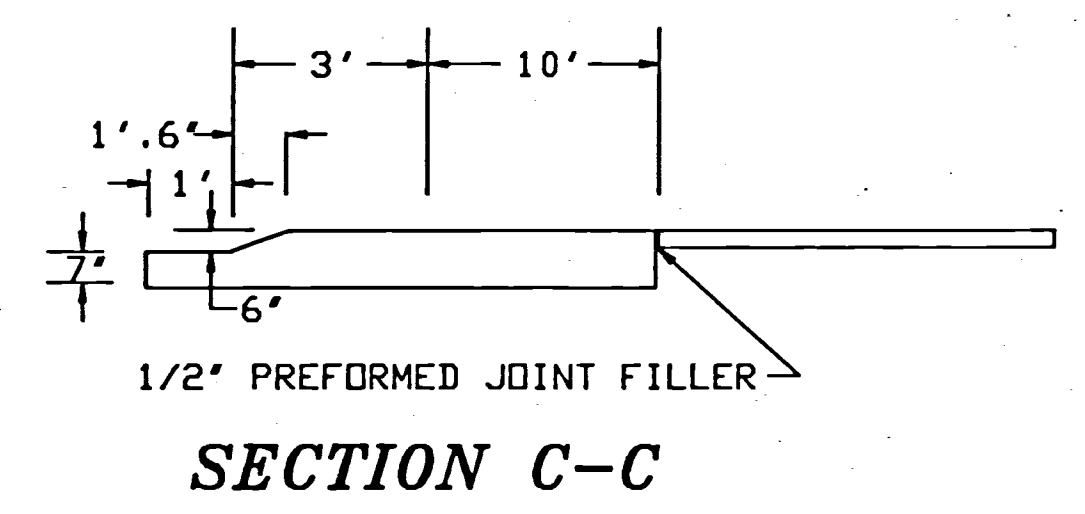
SAWING BITUMINOUS PAVEMENT		
STATION	LOC.	LIN. FT.
101+15	C/L XING	80
152+14	C/L XING	212
TOTAL		292

CASTING ASSEMBLIES			
ASSEMBLY	ITEM	CASTING NO.	QUANTITY
A	FRAME	700-7	1
	COVER	712	
B	FRAME	801	41
	GRATE	810	
	CURB BOX	821-B	
C	FRAME	700-7	1
	GRATE	721	

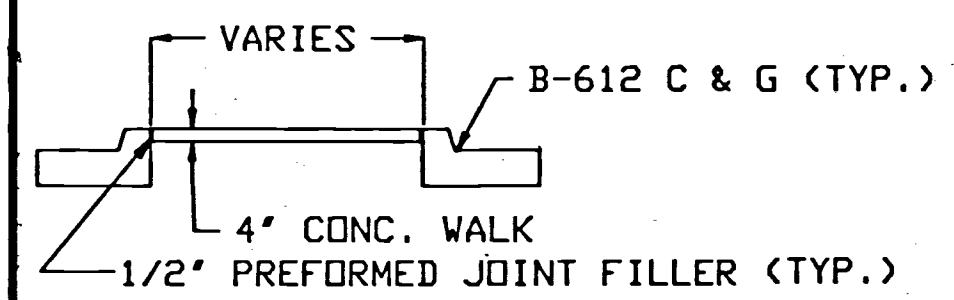
EROSION CONTROL			
STATION TO STATION	LOC.	HAY/STRAW BALES EACH	SILT FENCE LIN. FT.
102+35 TO 103+30	LT.		170
102+00 TO 103+05	RT.		160
103+40 TO 104+75	RT.		245
104+75 TO 105+45	RT.	22	
103+75 TO 105+30	LT.		190
105+30 TO 106+00	LT.	23	
115+25 TO 116+10	RT.	28	
116+10 TO 116+75	RT.		110
116+00 TO 116+50	LT.	17	
116+50 TO 116+85	LT.		115
121+25 TO 122+30	RT.		185
121+40 TO 122+35	LT.		135
TOTAL		90	1310



SECTION B-B



SECTION C-C



SECTION D-D

REMOVE BITUMINOUS PAVEMENT		
STATION	LOCATION	SQ. YD.
101+15 TO 101+25	LT. & RT.	89
152+04 TO 152+14	LT. & RT.	212
TOTAL		302

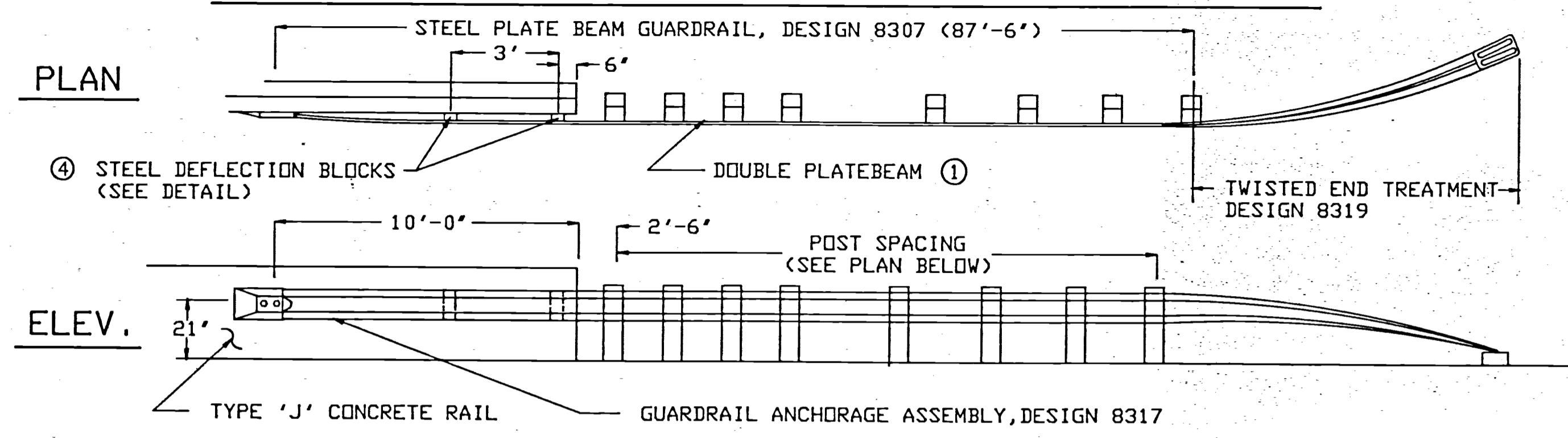
SODDING			
STATION TO STATION	LOC.	SQ. YDS	REMARKS
101+45 TO 102+67	RT.	849	BLVD., SLOPES & DITCH
100+90 TO 102+67	LT.	624	BLVD., SLOPES & DITCH
104+13 TO 116+21	LT/RT	2684	BLVD.
121+99 TO 152+00	LT/RT	7725	BLVD.
TOTAL		11882	

CURB AND GUTTER, WALKS, MEDIANS						
STATION TO STATION	LOC.	4\"/>	B-612 C&G LIN. FT.	B-618 C&G LIN. FT.	CONC. MEDIAN SQ. YD.	CONC. MEDIAN NOSE, SPL. EACH
99+75 TO 101+25	C/L				68	
100+70 TO 102+67	RT.			197		
101+15 TO 102+67	LT.			152		
104+13 TO 116+21	LT. & RT.			1945		
121+99 TO 151+50	LT. & RT.			5915		
135+74 TO 135+88	MEDIAN					1
EB 135+00 TO 151+77	MEDIAN		850			
EB 144+48 TO 151+77	MEDIAN		659			
VB 135+88 TO 144+55	MEDIAN		867			
VB 144+48 TO 151+77	MEDIAN		659			
EB 135+88 TO 136+38	MEDIAN	378				
EB 136+38 TO 137+49	MEDIAN	1380				
EB 137+49 TO 147+00	MEDIAN	9444				1
147+00 TO 148+44	MEDIAN	1247				
148+44 TO 151+75	MEDIAN	880				
TOTALS		13329	3035	8209	68	

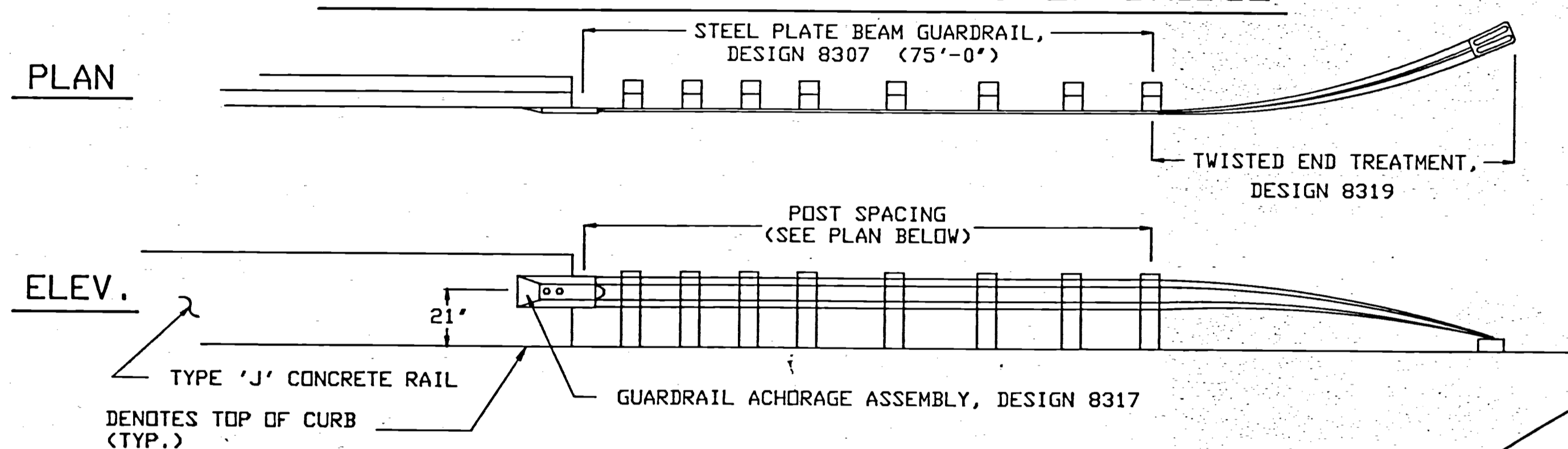
CLEAR AND GRUBBING					
STATION TO STATION	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
101+89 TO 102+70	LT. & RT.		0.40		0.40
104+40 TO 105+77	LT. & RT.		0.60		0.60
114+59	13' LT.	1		1	
114+60	19' LT.	1		1	
114+91	12' LT.	1		1	
114+94	39' LT.	1		1	
114+95	C/L	1		1	
115+00	66' RT.	1		1	
115+02	31' RT.	1		1	
115+75 TO 117+60	LT. & RT.		0.85		0.85
121+00 TO 122+80	LT. & RT.		1.00		1.00
129+00 TO 129+45	LT. & RT.		0.25		0.25
TOTAL		7	3.10	7	3.10

REVISIONS			
DATE	BY	DATE	BY

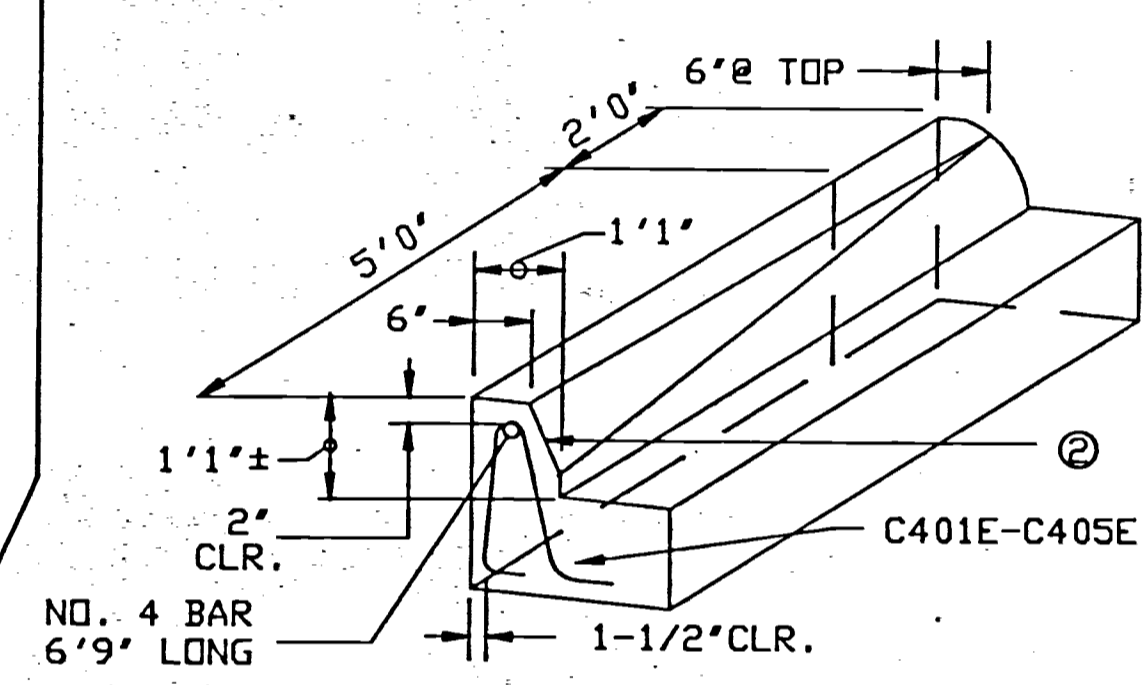
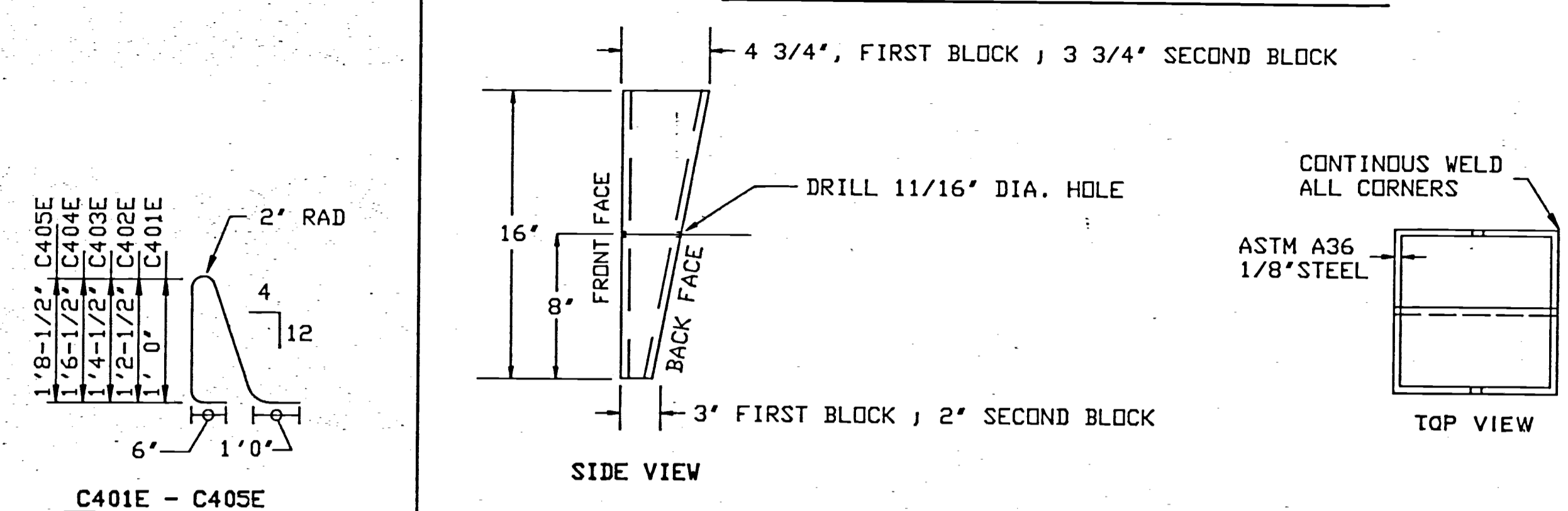
**GUARDRAIL DETAILS - APPROACH END OF BRIDGE**



**GUARDRAIL DETAILS - OFF END OF BRIDGE**



**DEFLECTION BLOCK DETAIL**

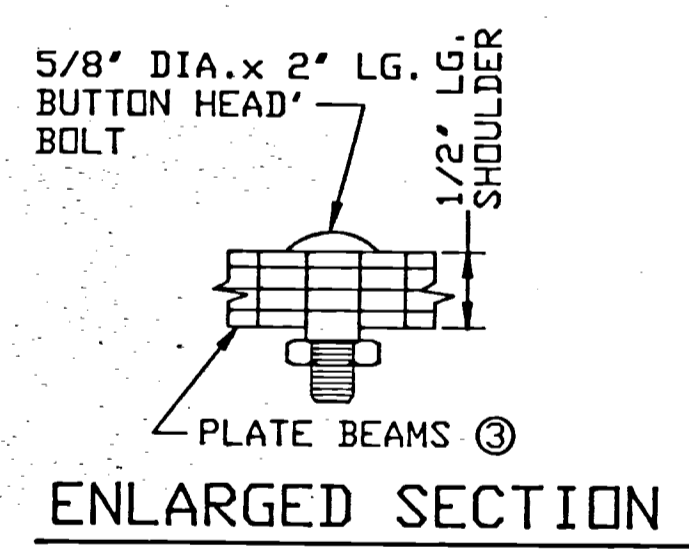
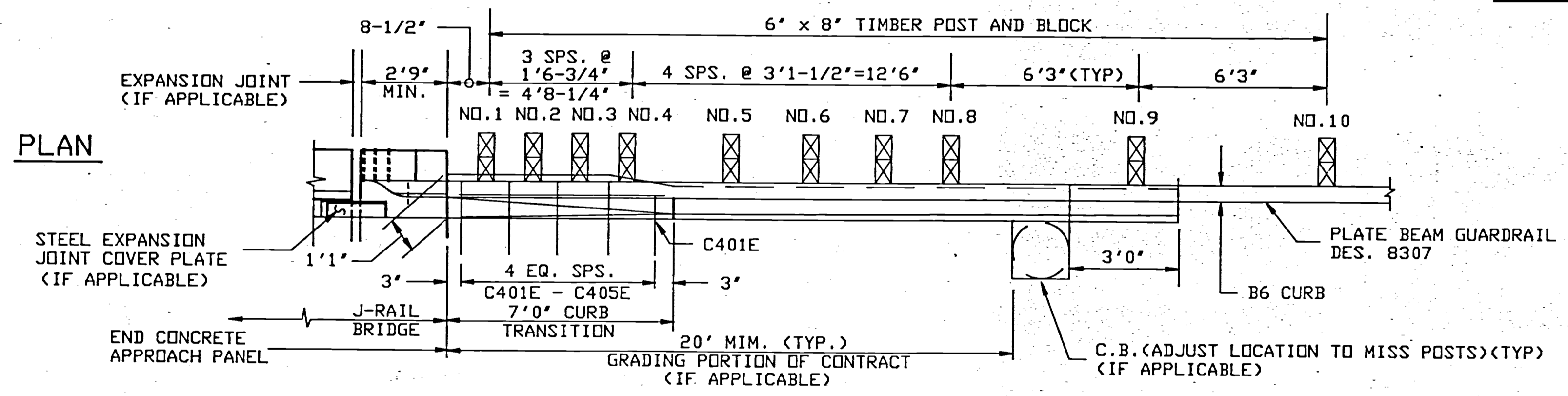


**CURB TRANSITION DETAIL**

**LOCATION FOR PLATE BEAM GUARDRAIL**

STATION	LOC.	REMARKS	LIN. FT.
102+12 TO 102+87	LT.	OFF END OF BRIDGE	75'
101+62 TO 102+50	RT.	APPROACH END OF BRIDGE	87.5'
104+33 TO 105+21	LT.	APPROACH END OF BRIDGE	87.5'
103+93 TO 104+68	RT.	OFF END OF BRIDGE	75'
112+97 TO 113+85	RT.	APPROACH END OF BRIDGE	87.5'
113+10 TO 113+85	LT.	OFF END OF BRIDGE	75'
121+87 TO 122+62	RT.	OFF END OF BRIDGE	75'
122+11 TO 123+99	LT.	APPROACH END OF BRIDGE	87.5'
<b>TOTAL</b>			<b>650.0'</b>

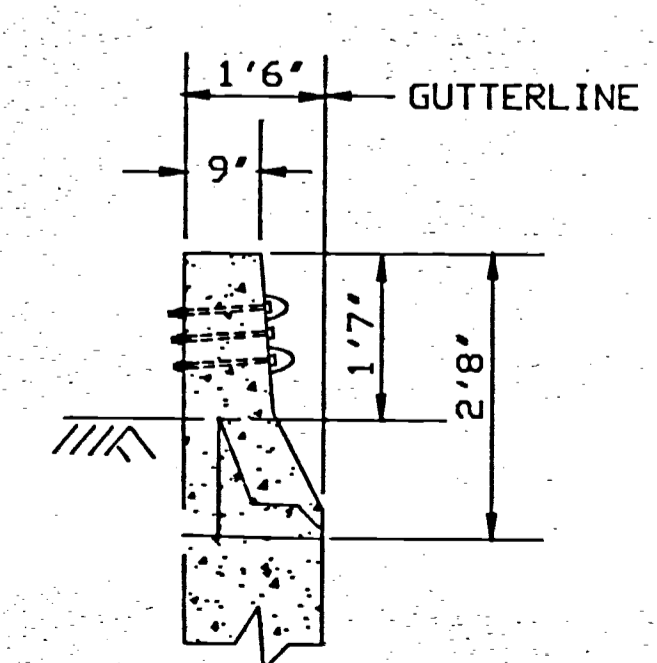
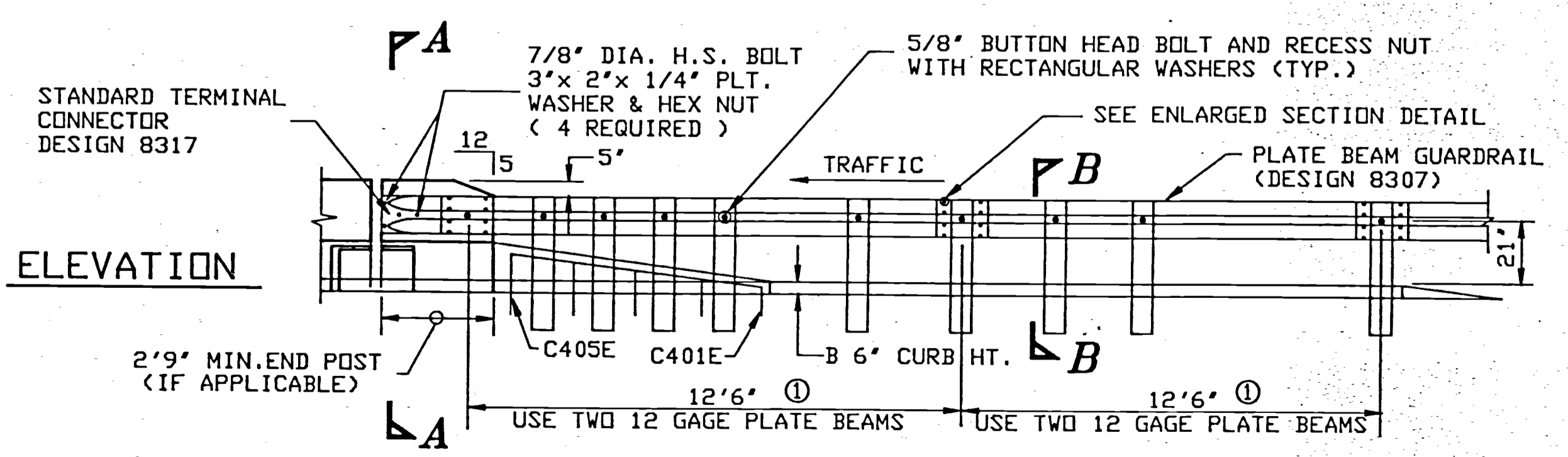
NOTE: F. & I. 25' TWISTED END TREATMENT AT EACH LOCATION.



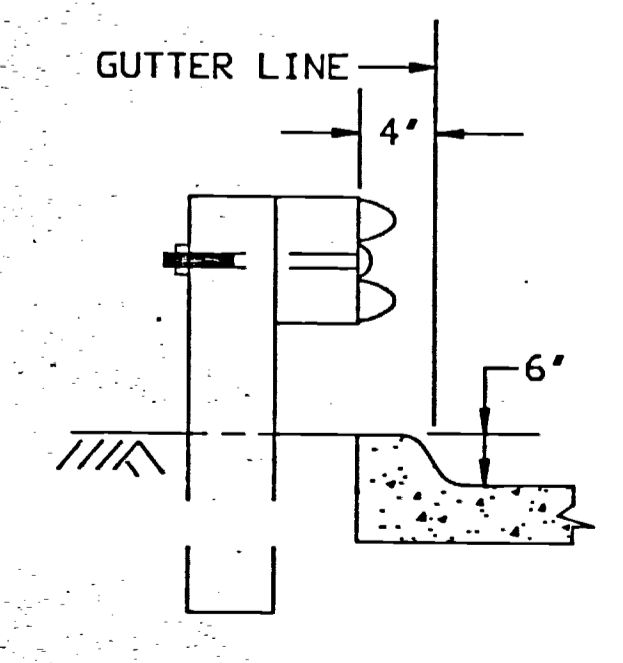
**ENLARGED SECTION**

**CONSTRUCTION NOTES**

- DOUBLE PLATE BEAM GUARDRAIL IS TO BE USED FOR THE FIRST 37.5' ON THE APPROACH END OF THE BRIDGE. THE SEGMENT OF DOUBLE PLATE BEAM GUARDRAIL WILL BE INCLUDED WITH AND PAID FOR AS 37.5 LIN. FT., OF TRAFFIC BARRIER, DESIGN 8307, AND NO ADDITIONAL COMPENSATION SHALL BE MADE.
- END OF TRANSITION TO MATCH BRIDGE RAIL SURFACE.
- USE AT SPliced LOCATIONS, WHEN TWO OR MORE ARE LAPPED TOGETHER.
- THE TWO STEEL DEFLECTION BLOCKS, AS SHOWN IN THE PLANS, 3" AND 2" RESPECTIVELY, SHALL BE CONSTRUCTED OF ASTM 1/8" A36 OR BETTER GRADE STEEL AND FASTENED TO THE GUARDRAIL USING 5/8" BUTT HEAD BOLTS. THE TWO BLOCKS SHALL BE FABRICATED (TAPERED) SO THAT THE PLATE BEAM IS VERTICAL WHEN IT IS FASTENED TO THE 'J' TYPE CONCRETE RAIL (SEE DETAIL). THE CONTRACTOR MAY ALTER THE SHAPE OF THE DEFLECTION BLOCKS, UPON APPROVAL OF THE ENGINEER. THE COST OF FURNISHING AND INSTALLING THE DEFLECTION BLOCKS AS SHOWN ON THE PLAN SHALL BE INCLUDED IN THE BID PRICE FOR TRAFFIC BARRIER, LINEAR FOOT, AND NO ADDITIONAL COMPENSATION SHALL BE MADE.



**SECTION A - A**  
(TYPE 'J' CONCRETE RAIL)

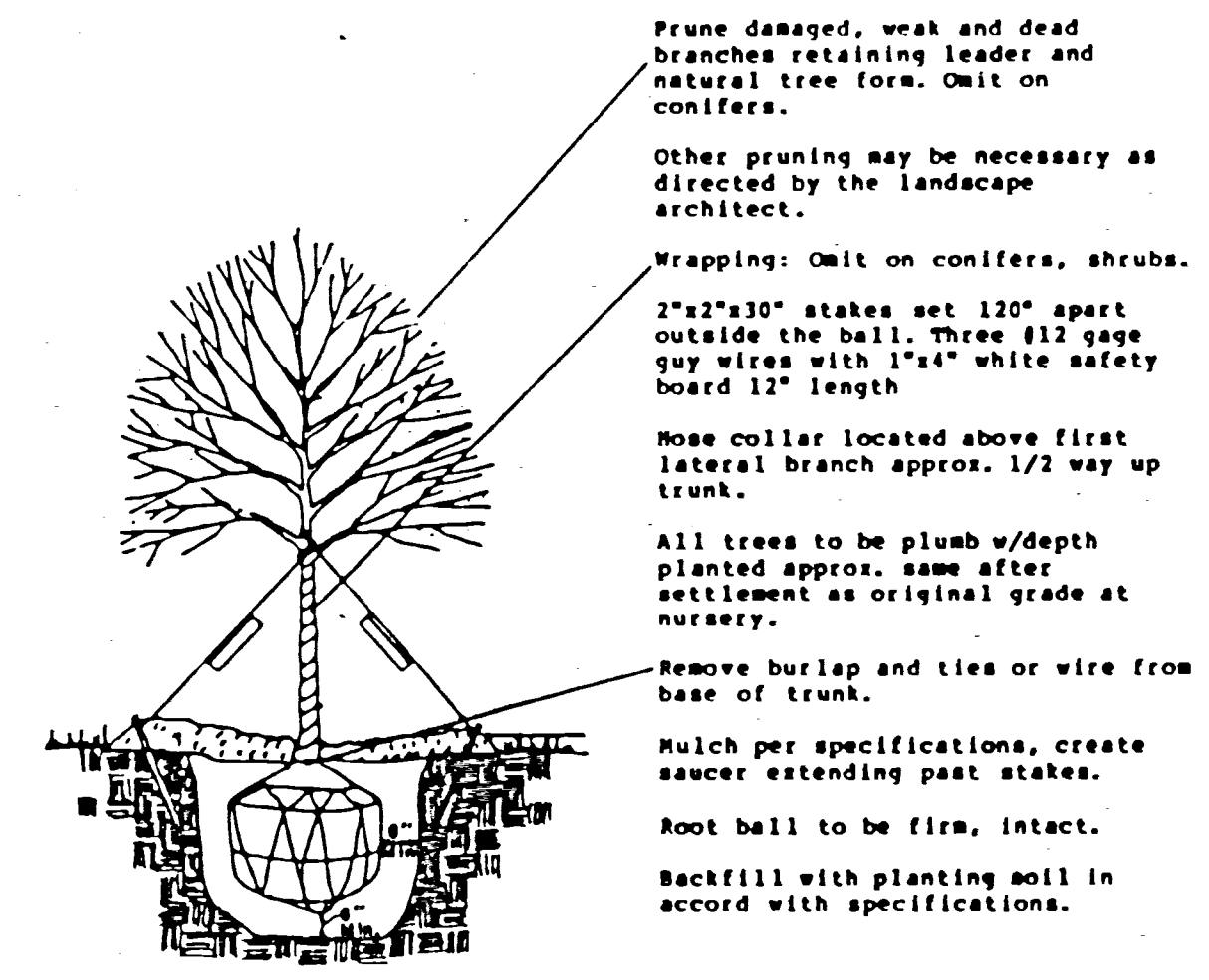
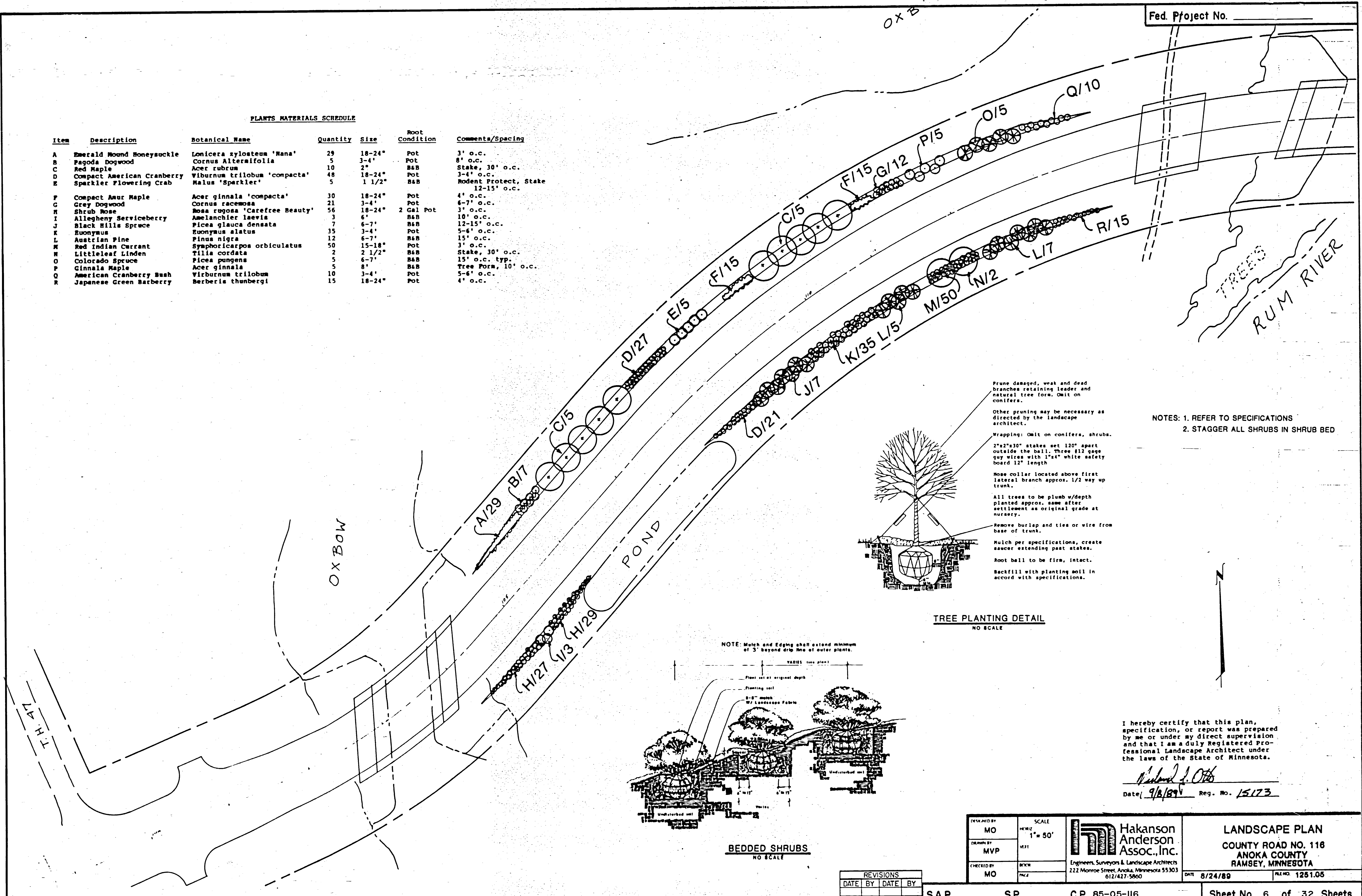


**SECTION B - B**

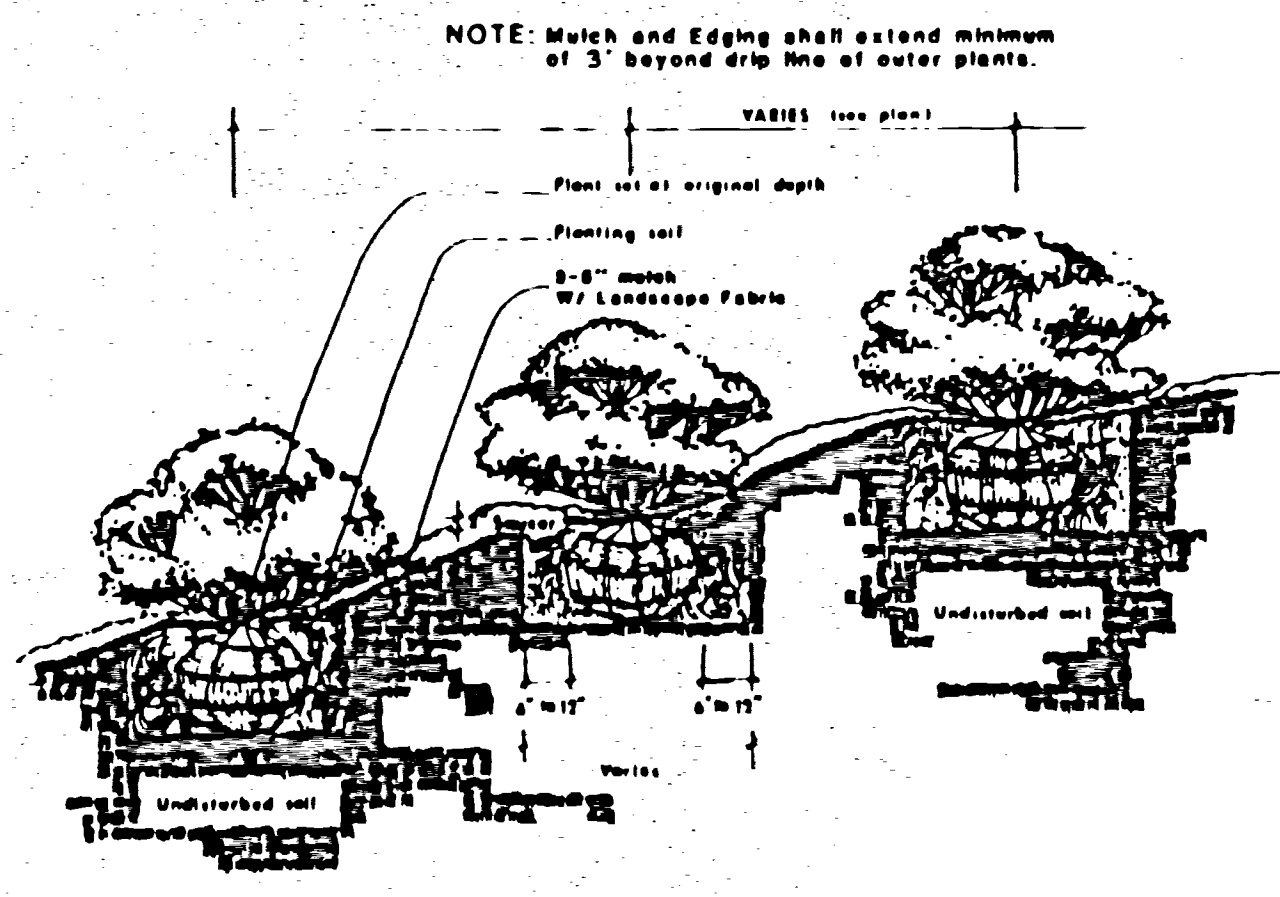
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DATE	BY	DATE	BY

**PLANTS MATERIALS SCHEDULE**

Item	Description	Botanical Name	Quantity	Size	Root Condition	Comments/Spacing
A	Emerald Mound Honeysuckle	Lonicera xylosteum 'Nana'	29	18-24"	Pot	3' o.c.
B	Pagoda Dogwood	Cornus Alternifolia	5	3-4'	Pot	8' o.c.
C	Red Maple	Acer rubrum	10	2"	B&B	Stake, 30' o.c.
D	Compact American Cranberry	Viburnum trilobum 'compacta'	48	18-24"	Pot	3-4' o.c.
E	Sparkler Flowering Crab	Malus 'Sparkler'	5	1 1/2"	B&B	Rodent Protect, Stake 12-15' o.c.
F	Compact Amur Maple	Acer ginnala 'compacta'	30	18-24"	Pot	4' o.c.
G	Grey Dogwood	Cornus racemosa	21	3-4'	Pot	6-7' o.c.
H	Shrub Rose	Rosa rugosa 'Carefree Beauty'	56	18-24"	2 Gal Pot	3' o.c.
I	Allegheny Serviceberry	Amelanchier laevis	3	6'	B&B	10' o.c.
J	Black Hills Spruce	Picea glauca densata	7	6-7'	B&B	12-15' o.c.
K	Buonymus	Euonymus alatus	35	3-4'	Pot	5-6' o.c.
L	Austrian Pine	Pinus nigra	12	6-7'	B&B	15' o.c.
M	Red Indian Currant	Symphoricarpos orbiculatus	50	15-18"	Pot	3' o.c.
N	Littleleaf Linden	Tilia cordata	2	2 1/2"	B&B	Stake, 30' o.c.
O	Colorado Spruce	Picea pungens	5	6-7'	B&B	15' o.c. typ.
P	Ginnala Maple	Acer ginnala	5	8'	B&B	Tree Form, 10' o.c.
Q	American Cranberry Bush	Viburnum trilobum	10	3-4'	Pot	5-6' o.c.
R	Japanese Green Barberry	Berberis thunbergii	15	18-24"	Pot	4' o.c.



NOTES: 1. REFER TO SPECIFICATIONS  
2. STAGGER ALL SHRUBS IN SHRUB BED



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Landscape Architect under the laws of the State of Minnesota.

*Richard J. Otto*  
Date: 9/8/89 Reg. No. 15173

DESIGNED BY MO	SCALE 1" = 50'	<p><b>Hakanson Anderson Assoc., Inc.</b> Engineers, Surveyors &amp; Landscape Architects 222 Monroe Street, Anoka, Minnesota 55303 612/427-5800</p>
DRAWN BY MVP	DATE	
CHECKED BY MO	DATE	
DATE	DATE	

**LANDSCAPE PLAN**  
COUNTY ROAD NO. 116  
ANOKA COUNTY  
RAMSEY, MINNESOTA

DATE 8/24/89 FILE NO. 1251.05

REVISIONS			
DATE	BY	DATE	BY

S.A.P. \_\_\_\_\_ S.P. \_\_\_\_\_ C.P. 85-05-116

DRAINAGE CHART

FURNISH AND INSTALL

STRUCT. NO.	STA.	LOC.	REMARKS	MH OR CB	DESIGN	PAY HT. LIN. FT.	GROUTED RIPRAP 15' DEEP	GRANULAR FILTER 7.5' DEEP	TOP CASTING	OUTLET	DRAINS TO	F & I CAST. ASSEM.	12' RCP CL III	15' RCP CL III	18' RCP CL III	21' RCP CL II	24' RCP CL II	27' RCP CL II	30' RCP CL IV	36' SPAN RCP-A	STRUCT. NO.	
1	101+20	3.1' RT.	F. & I. 12' R.C.P. APRON	CB	C OR G	4.0			860.32	856.15	DITCH	B	74'								1	
2	122+72	32.9' RT.	F. & I. 30' R.C.P. APRON	CB	F	21.9	8.3 CY	4.1 CY	867.11	845.00	POND	B								84'	2	
3	122+72	32.9' LT.		CB	C OR G	4.9			867.11	862.00	CB 2	B	66'									3
4	126+51	32.9' RT.		CB	A OR F	12.4			866.89	854.33	CB 2	B									379'	4
5	126+51	32.9' LT.		CB	C OR G	4.8			865.21	860.20	CB 4	B	66'									5
6	128+54	32.9' RT.		CB	A OR F	10.3			865.57	855.14	CB 4	B									203'	6
7	128+54	32.9' LT.		CB	C OR G	5.0			863.89	858.70	CB 6	B	66'									7
8	130+49	32.9' RT.		CB	A OR F	8.3			864.31	855.84	CB 6	B									195'	8
9	130+49	32.9' LT.		CB	C OR G	4.8			862.63	857.70	CB 8	B	66'									9
10	131+81	32.9' RT.		CB	A OR F	6.6			863.48	856.73	CB 8	B										10
11	131+81	35.0' LT.	(TO FRONT OF STRUCTURE) (1) GUTTER INLET ELEV.	CB	LP 4-4				861.59	857.67	CB 10	B									127'	11
12	133+51	20.9' RT. EBL		CB	C OR G	5.1			863.41	858.14	CB 10	B								175'		12
13	133+51	20.9' RT. WBL		CB	C OR G	4.8			864.63	859.70	CB 12	B	70'									13
14	135+94	20.9' RT. EBL		CB	C OR G	5.4			865.11	859.55	CB 12	B										14
15	135+94	20.9' RT. WBL		CB	C OR G	5.3			866.12	860.70	CB 14	B		10'							243'	15
16	135+94	20.9' LT. WBL		CB	C OR G	4.5			865.93	861.21	CB 15	B	34'									16
17	138+05	20.9' LT. EBL		CB	C OR G	5.4			866.22	860.60	CB 14	B									211'	17
18	138+07	12.9' RT. WBL		CB	C OR G	5.2			867.75	862.39	CB 17	B		52'								18
19	138+07	20.9' LT. WBL		CB	C OR G	5.1			868.29	862.98	CB 18	B	34'									19
20	140+17	20.9' LT. EBL		CB	C OR G	5.1			867.61	862.29	CB 17	B										20
21	140+22	12.9' RT. WBL		CB	C OR G	5.3			869.23	863.77	CB 20	B		52'							212'	21
22	140+22	20.9' LT. WBL		CB	C OR G	5.2			869.77	864.36	CB 21	B	34'									22
23	142+52	21.0' RT. EBL		MH	C OR G	5.5			868.99	863.61	CB 20	A										23
24	143+67	20.9' RT. EBL		CB	C OR G	4.9			869.58	864.55	MH 23	B									115'	24
24A	145+15	20.9' RT. EBL	TURN LN. STRUCT. - SET NORMAL SUPER SLOPE	CB	C OR G	4.5			870.93	866.06	CB 24	B		139'								24A
24B	145+15	24.9' RT. WBL		CB	C OR G	4.7			871.52	866.71	CB 24A	B		6'								24B
25	142+83	12.9' RT. WBL		CB	C OR G	5.5			870.97	865.32	CB 24	B		52'								25
26	143+83	20.9' LT. WBL		CB	C OR G	5.4			871.51	865.91	CB 25	B	34'									26
27	146+11	20.9' LT. EBL		CB	C OR G	4.6			871.65	866.92	CB 24A	B		96'								27
28	146+11	20.9' LT. WBL		CB	C OR G	4.2			871.95	867.60	CB 27	B	50'									28
29	148+78	24.9' RT. EBL		CB	C OR G	5.0			873.24	868.09	CB 27	B		267'								29
30	148+78	20.9' LT. WBL		CB	C OR G	4.2			873.13	868.79	CB 29	B	43'									30
31	104+54	32.9' LT.		CB	C OR G	4.7			857.75	852.87	CB 32	B		166'								31
32	106+20	32.9' LT.		CB	A OR F	6.1			858.35	852.12	CB 33	B		66'								32
33	106+20	32.9' RT.	F & I 15' R.C.P. APRON	CB	A OR F	6.9	2.9 CY	1.4 CY	858.44	851.38	POND	B		26'								33
34	106+00	70.0' RT.	F & I 15' R.C.P. APRON	CB	C OR G	5.1	2.9 CY	1.4 CY	851.00	846.00	PD. OUT.	C		130'								34
35	108+20	32.9' RT.	F & I 18' R.C.P. APRON	CB	A OR F	6.5	3.6 CY	1.8 CY	858.23	851.60	POND	B										35
36	108+20	32.9' LT.		CB	C OR G	5.0			860.63	855.50	CB 35	B	66'								24'	36
37	110+15	32.9' RT.		CB	C OR G	5.1			859.32	854.09	CB 35	B										37
38	112+10	32.9' RT.		CB	C OR G	4.9			860.42	855.38	CB 37	B									195'	38
39	112+10	32.9' LT.		CB	C OR G	4.8			862.82	857.86	CB 38	B	66'								195'	39
40	114+05	32.9' RT.		CB	C OR G	5.0			861.51	856.35	CB 38	B										40
41	114+15	32.9' RT.		CB	C OR G	4.8			861.57	856.65	CB 40	B		10'								41
	120+60	100' RT.	OUTLET FROM PONDING AREA TO RIVER. F & I 2 - 36' R.C.P.-A. APRONS																			16'
			TOTAL			246.8	17.7	8.7					852'	1143'	794'	447'	629'	127'	861'	16'		
14A	135+94	16.2' LT. EBL		CB	C OR G	5.2			865.92	860.57	CB 14	B		37'								14A
23A	142+52	24.9' LT. EBL		CB	C OR G	4.6			870.11	865.36	CB 23	B	50'									23A
24C	145+15	12.9' LT. EBL		CB	C OR G	5.1			871.92	866.65	CB 24 A	B		34'								24C
29A	148+78	23.17' LT. EBL		CB	C OR G	5.0			873.74	868.58	CB 29	B	47'									29A
I A	101+67	60' LT.	F & I. 1-30" RCP APRON	MH	A OR F	12.8			859.50	846.75	OXBOW	A									150'	I A
27A	146+11			CB	C OR G	4.9			872.37	867.37	CB 27	B	40									27A
			REV. TOTAL			284.4	17.7	8.7					906'	1143'	794'	447'	629'	127'	1011'	16'		

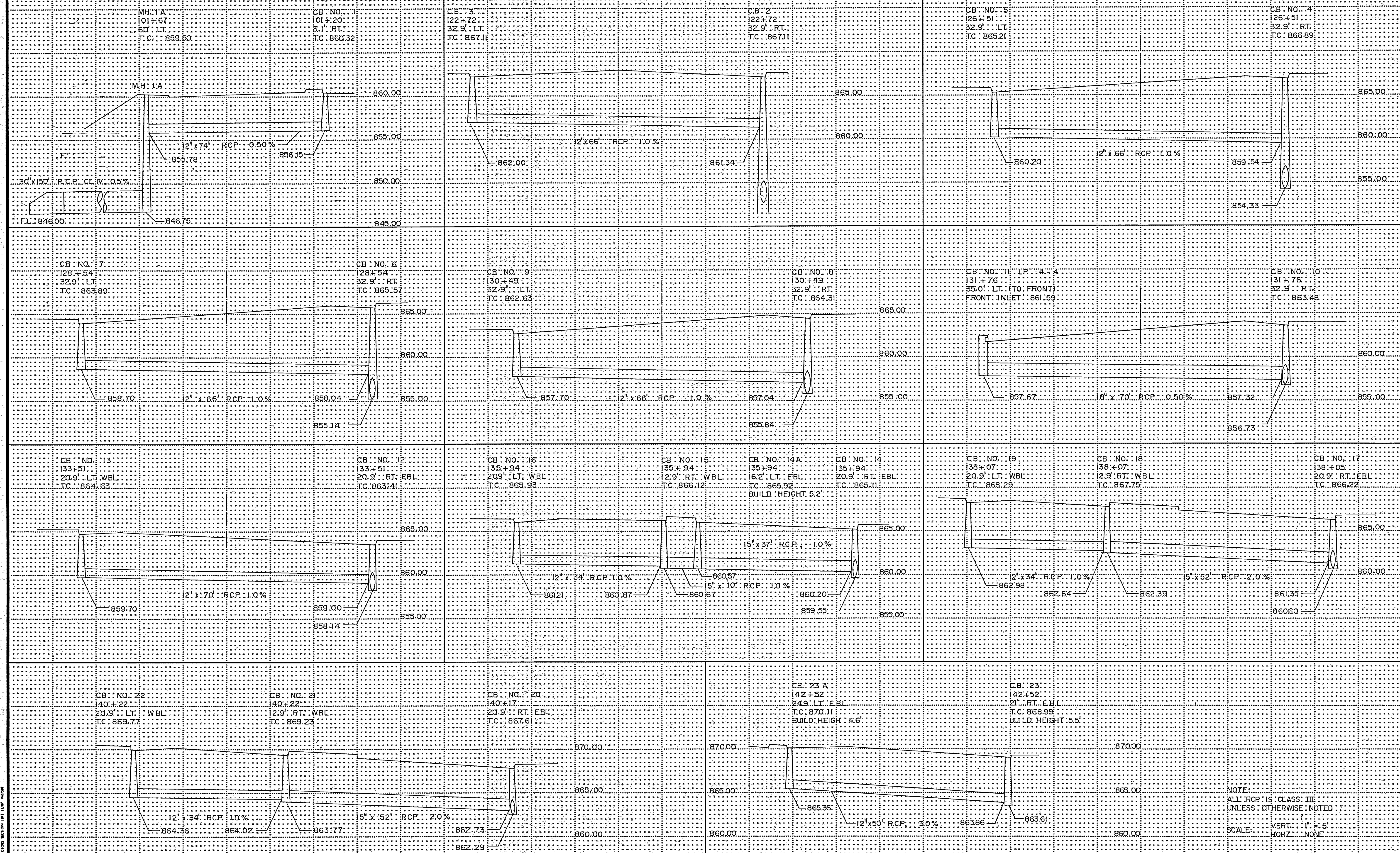
REV. 4-19-90 BY.....

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DATE	BY	DATE	BY
1-29-90	AKR		

S.A.P. \_\_\_\_\_ S.P. \_\_\_\_\_ C.P. 85-05-116

Sheet No. 7 of 32 Sheets

# STORM SEWER



NOTE:  
 ALL RCP IS CLASS III  
 UNLESS OTHERWISE NOTED  
 SCALE: VERT. 1" = 5'  
 HORZ. NONE

M



# STORM SEWER

CB NO. 26  
143+83  
20.9' LT. WBL  
TC: 871.51

CB NO. 25  
143+83  
12.9' RT. WBL  
TC: 870.97

CB NO. 24  
143+67  
20.9' RT. EBL  
TC: 869.58

CB NO. 28  
146+11  
24.9' LT. WBL  
TC: 871.95

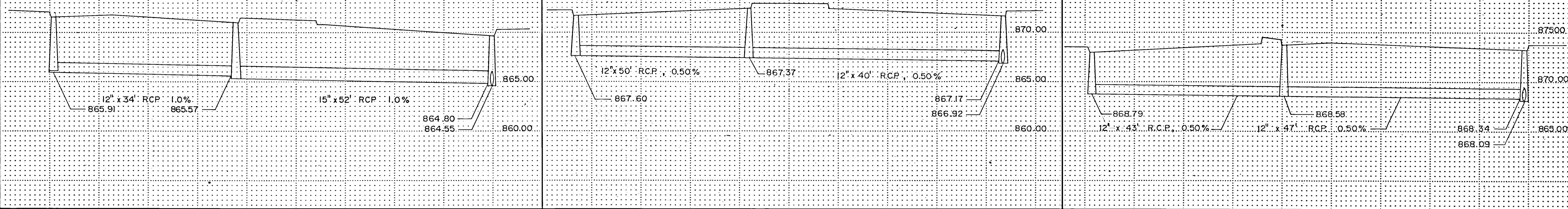
CB NO. 27A  
146+11  
24.9' RT. WBL  
TC: 872.37

CB NO. 27  
146+11  
20.9' RT. EBL  
TC: 871.65

CB NO. 30  
148+78  
20.9' LT. WBL  
TC: 873.13

CB NO. 29A  
148+78  
23.17' LT. EBL  
TC: 873.74

CB NO. 29  
148+78  
24.9' RT. EBL  
TC: 873.24

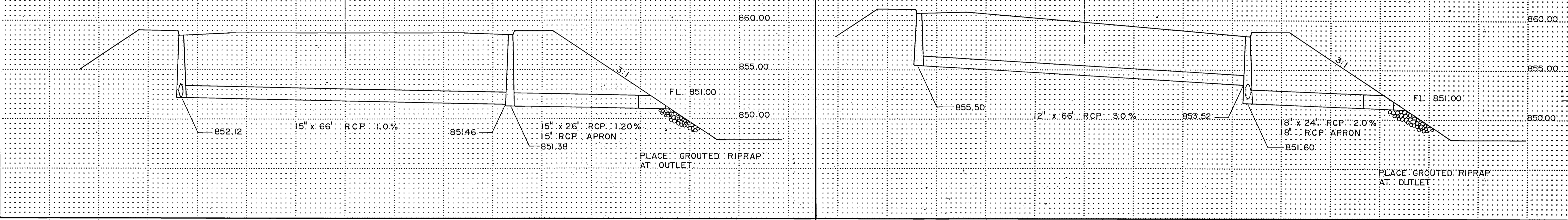


CB NO. 32  
106+20  
32.9' LT.  
TC: 858.35

CB NO. 33  
106+20  
32.9' RT.  
TC: 858.44

CB NO. 36  
108+20  
32.9' LT.  
TC: 860.63

CB NO. 35  
108+20  
32.9' RT.  
TC: 858.23



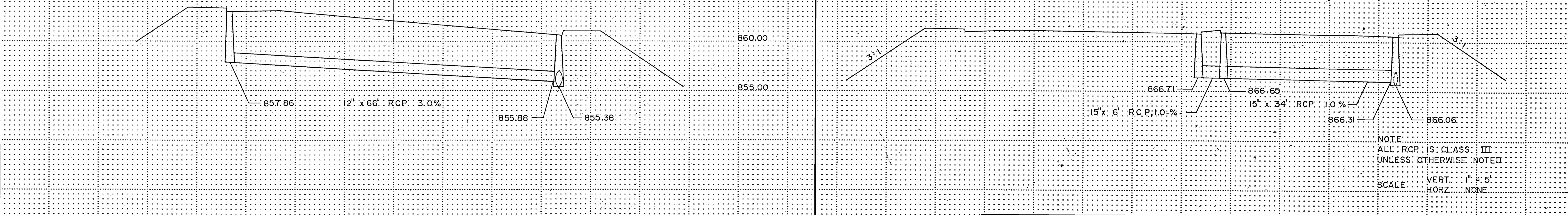
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112+10  
32.9' LT.  
TC: 862.82

CB NO. 38  
112+10  
32.9' RT.  
TC: 860.42

CB NO. 24B  
145+15  
24.9' RT. WBL  
TC: 871.52

CB NO. 24C  
145+15  
12.9' LT. EBL  
TC: 871.92

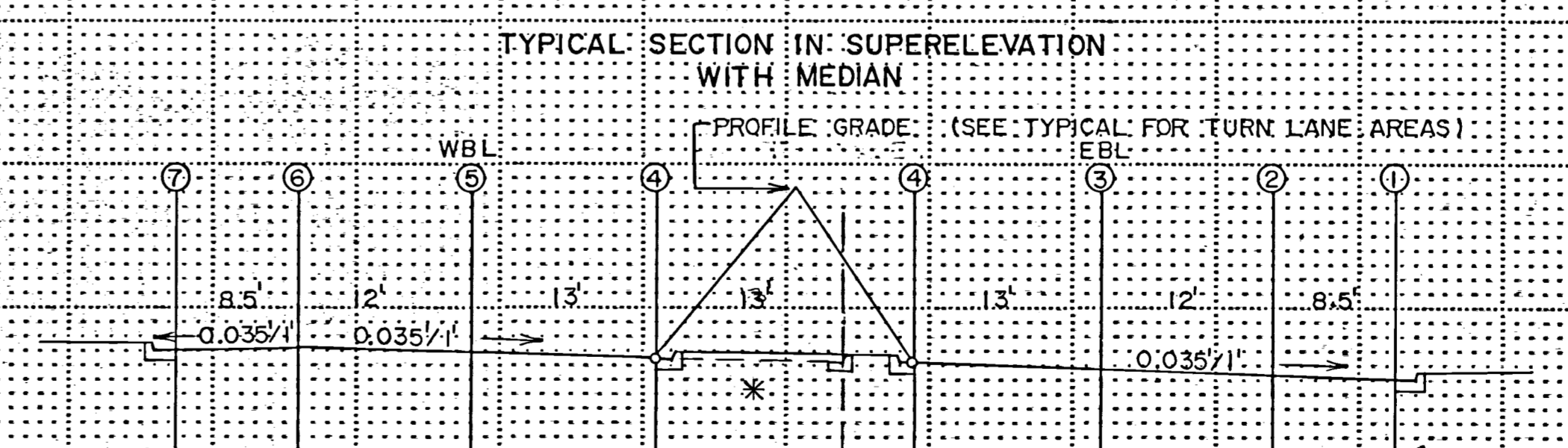
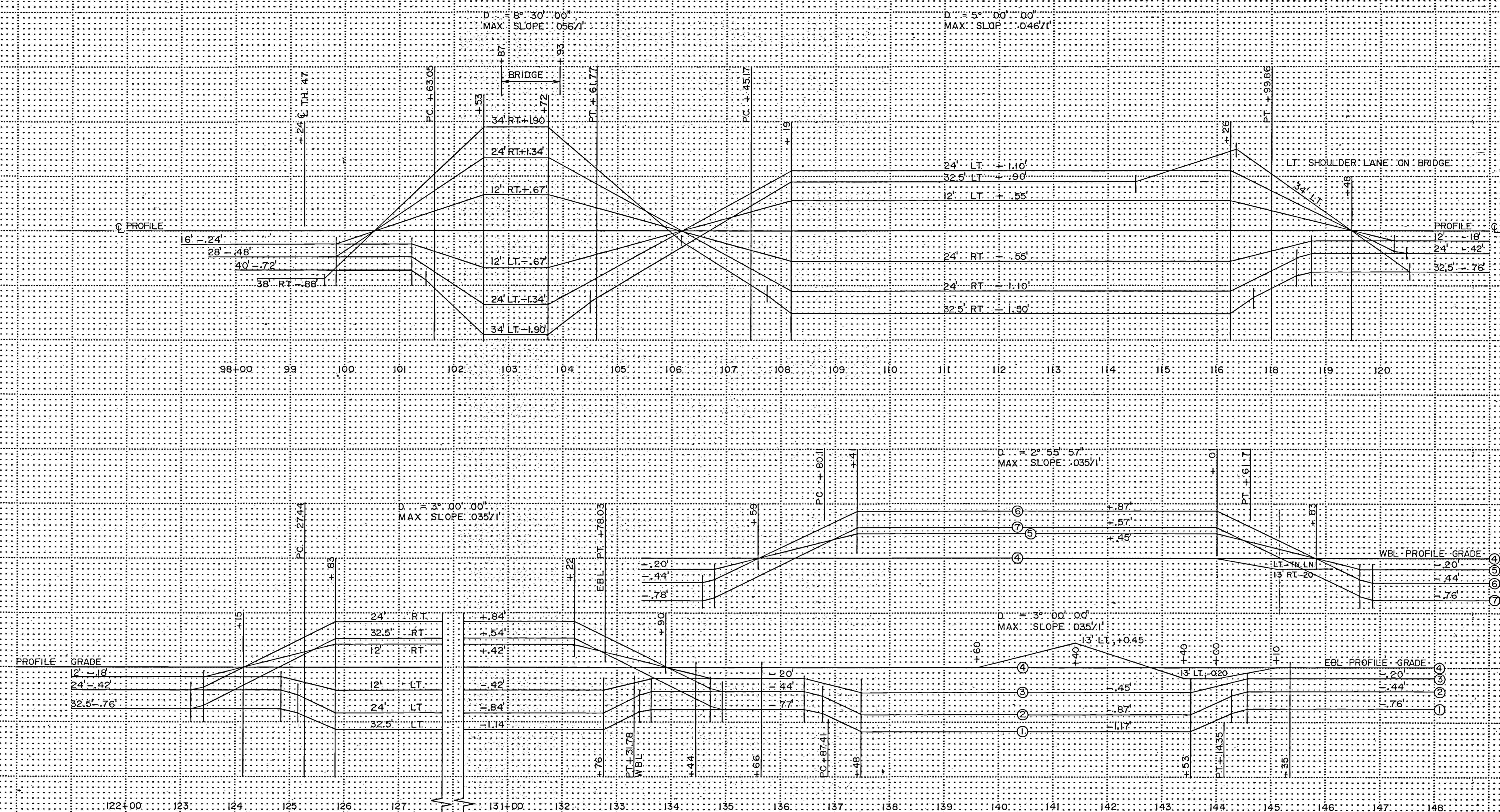
CB NO. 24A  
145+15  
20.9' RT. EBL  
TC: 870.93



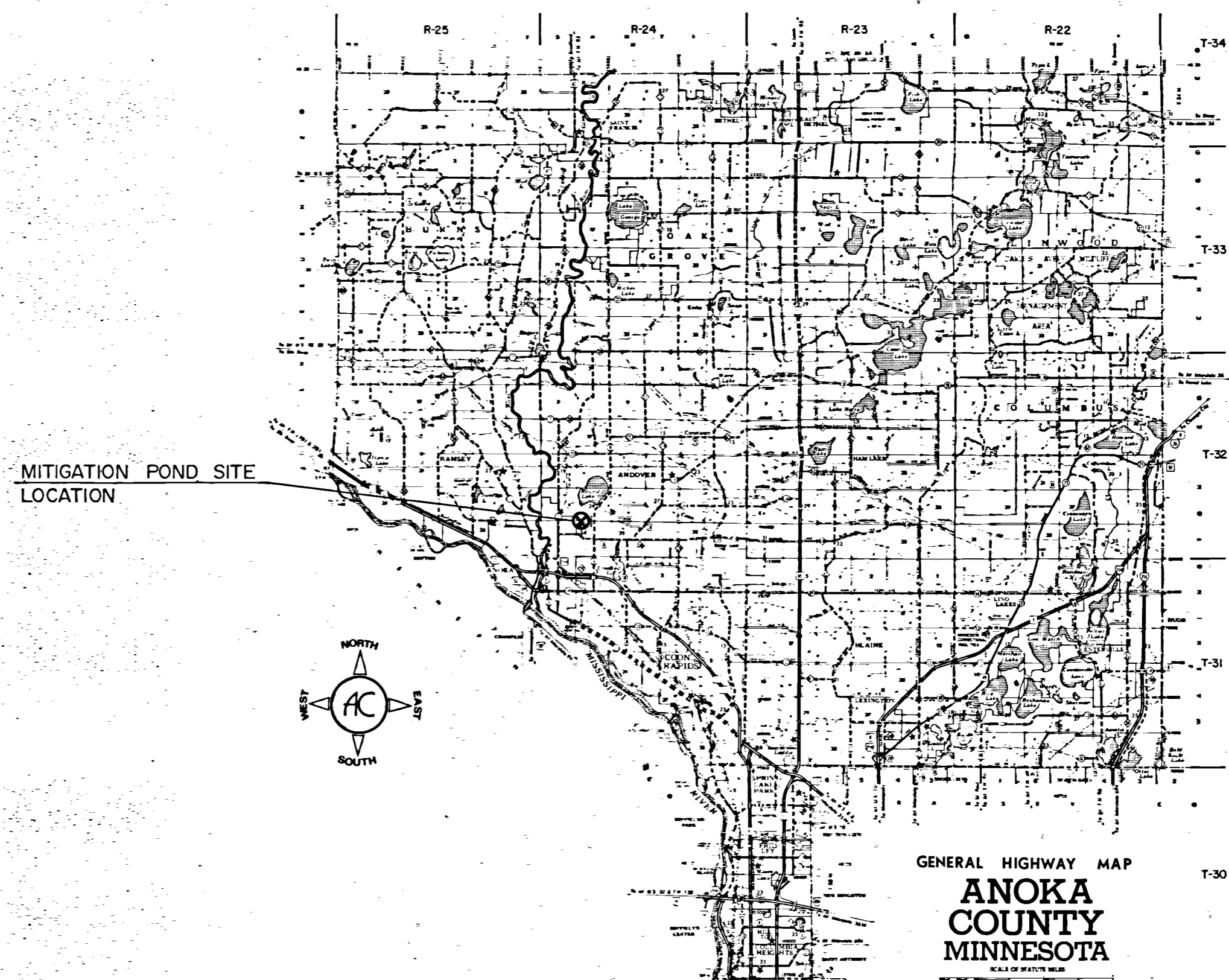
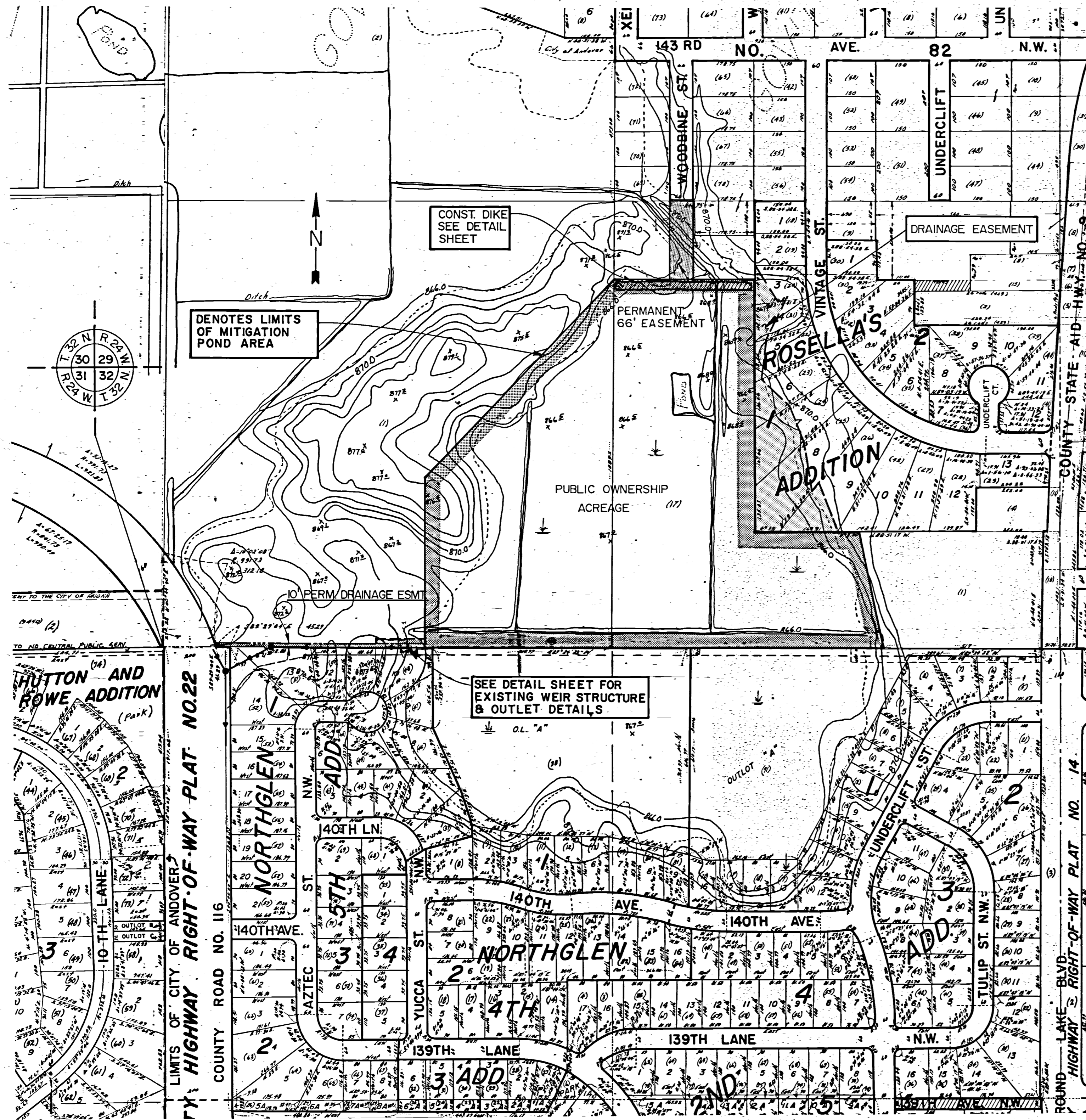
NOTE  
ALL RCP IS CLASS III  
UNLESS OTHERWISE NOTED  
SCALE: VERT. 1" = 5'  
HORIZ. NONE

REVISIONS

# SUPERELEVATION (40 MPH DESIGN SPEED)



\* APPLY NORMAL SUPER SLOPE IN TURN LANE CONSTRUCTION

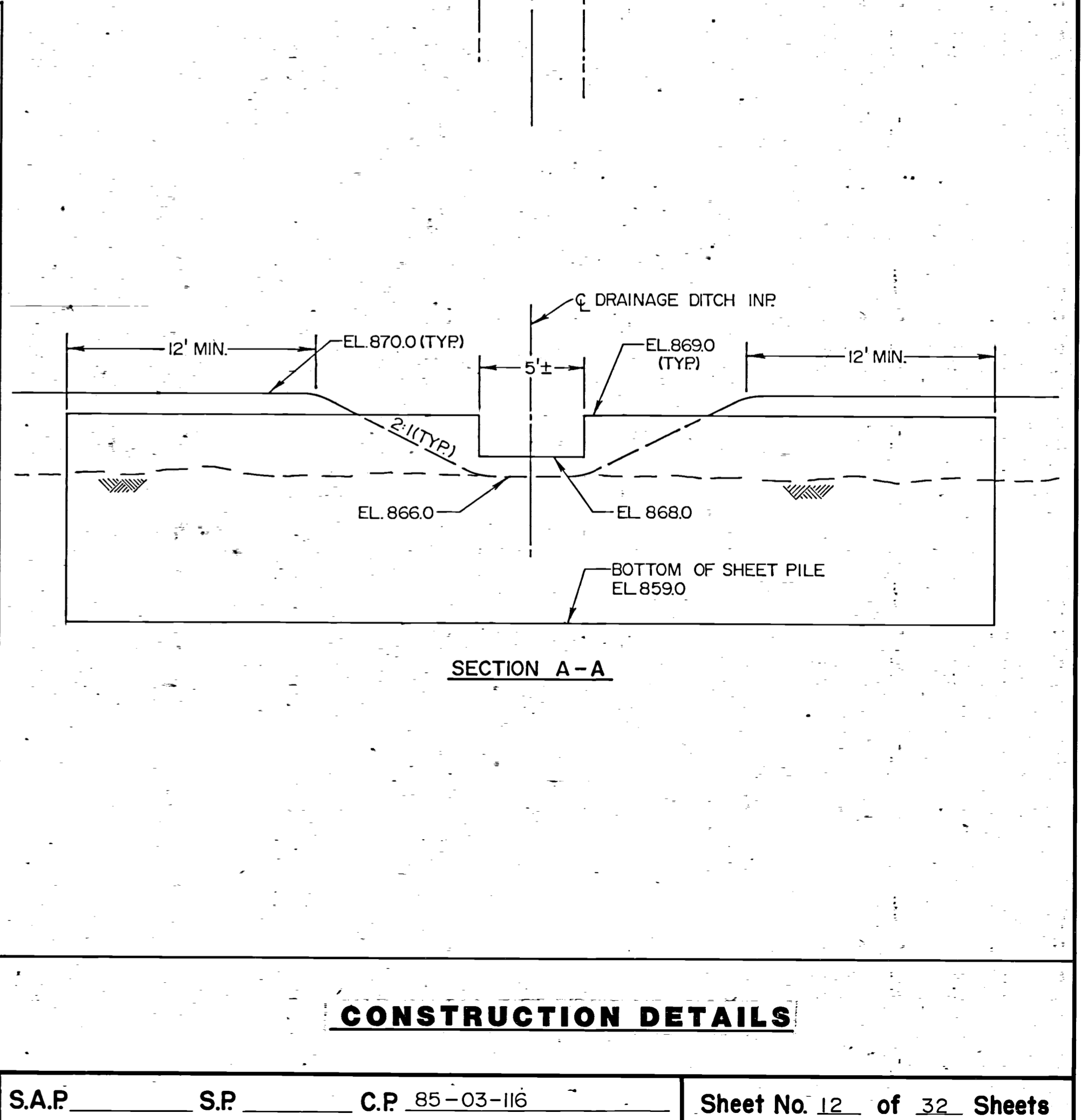
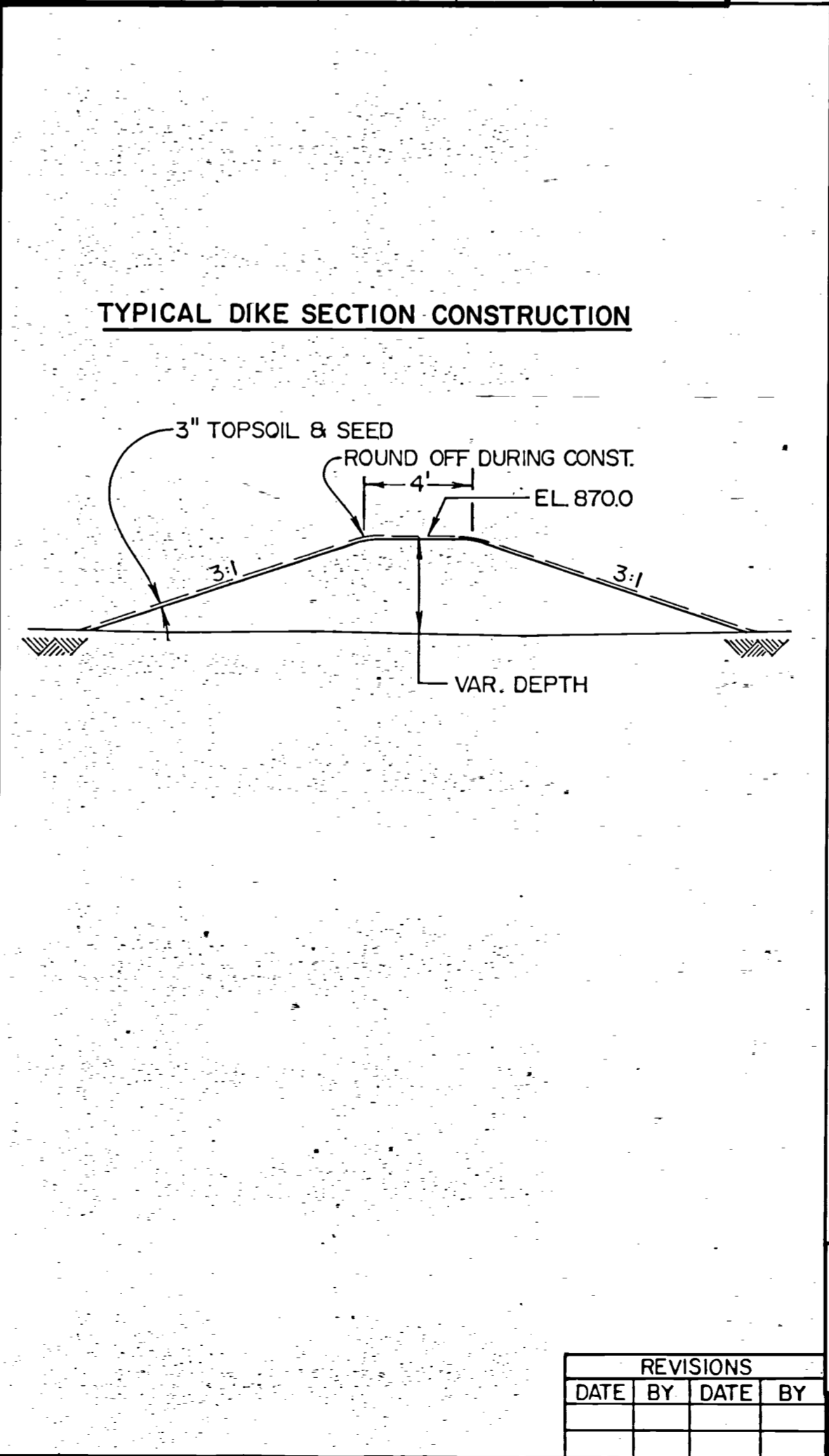
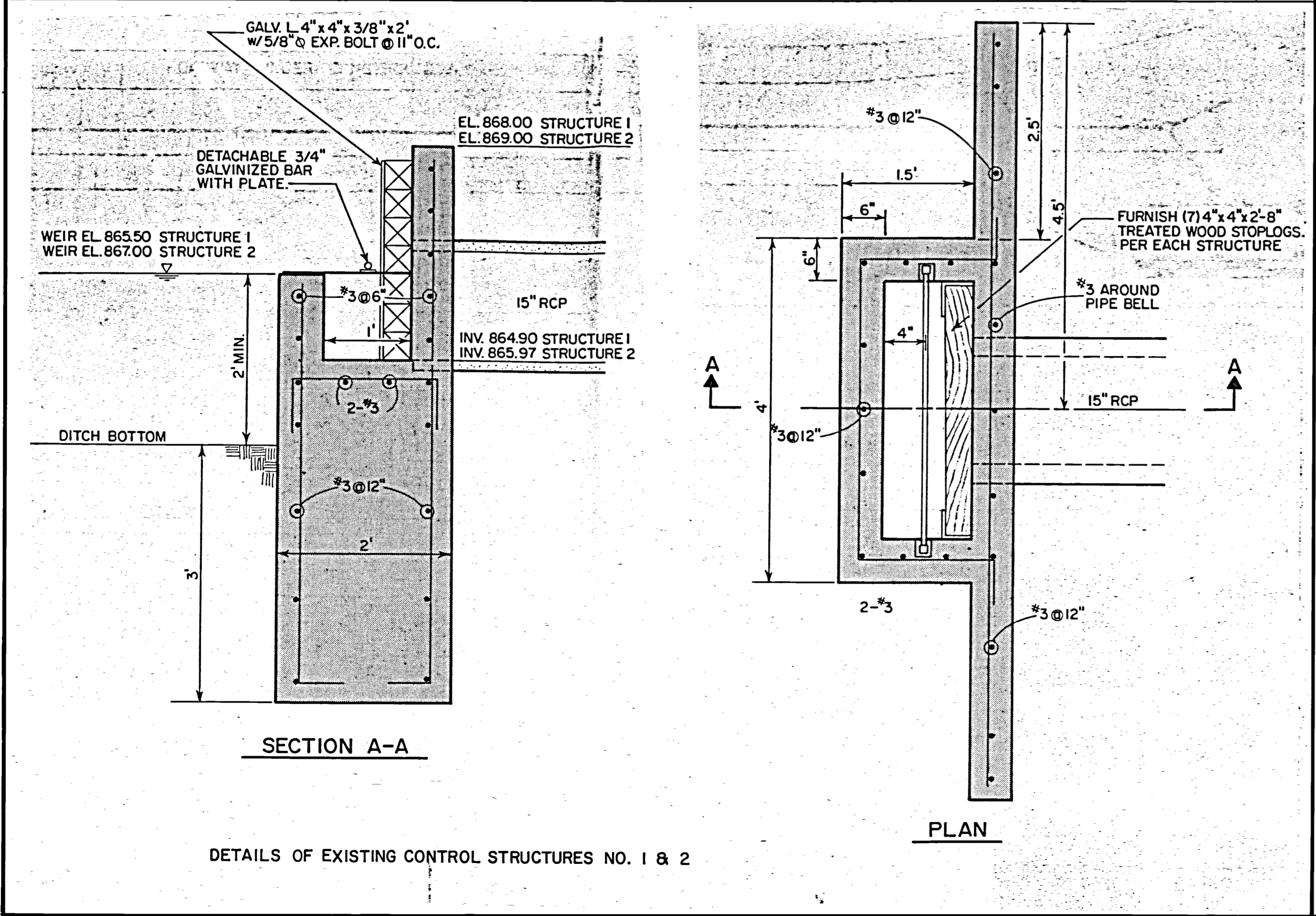
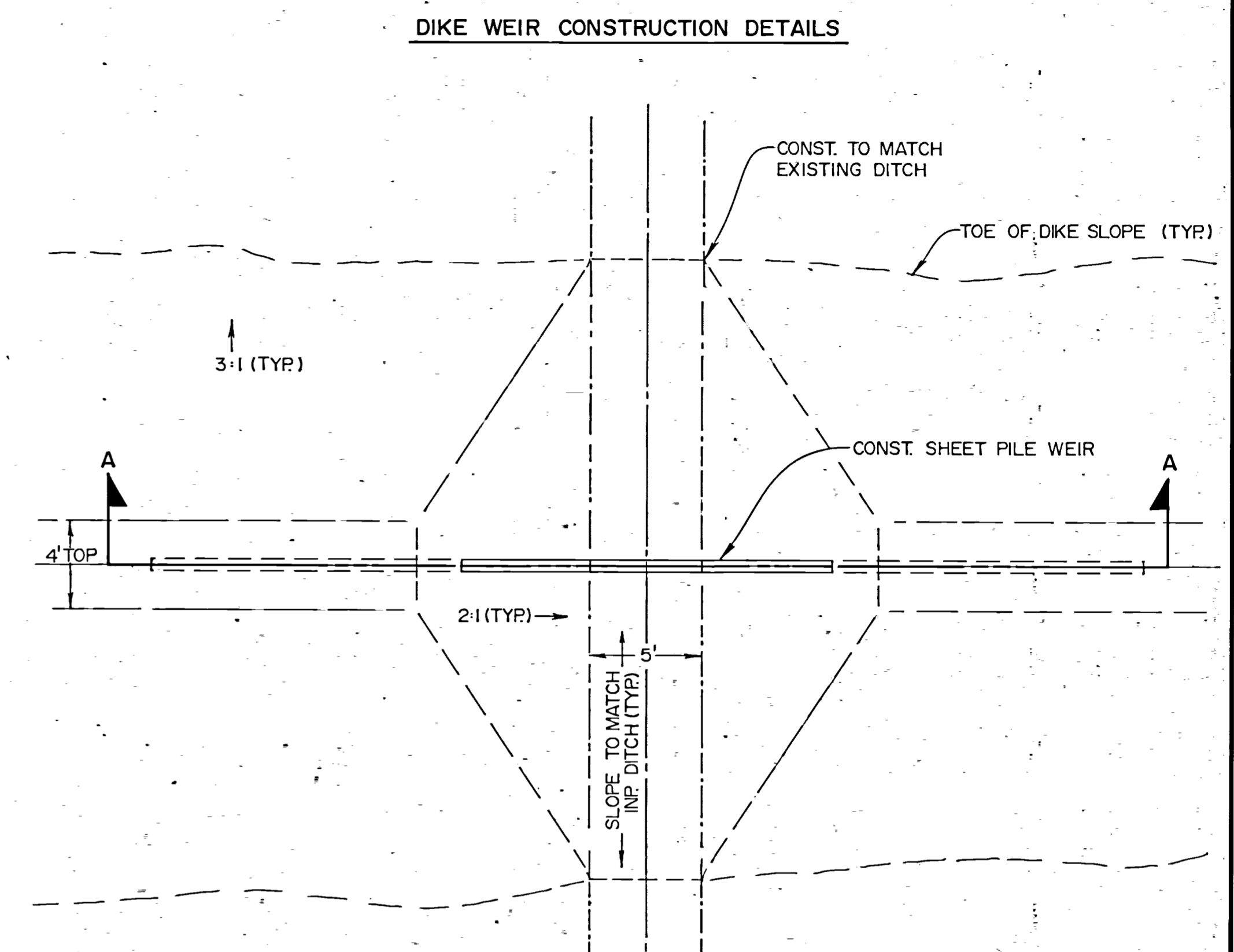
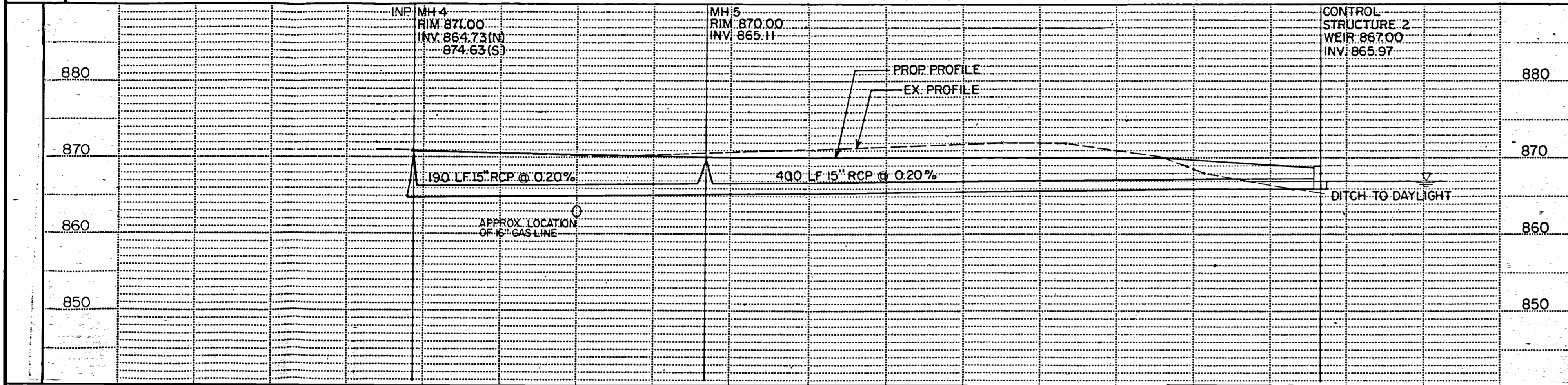
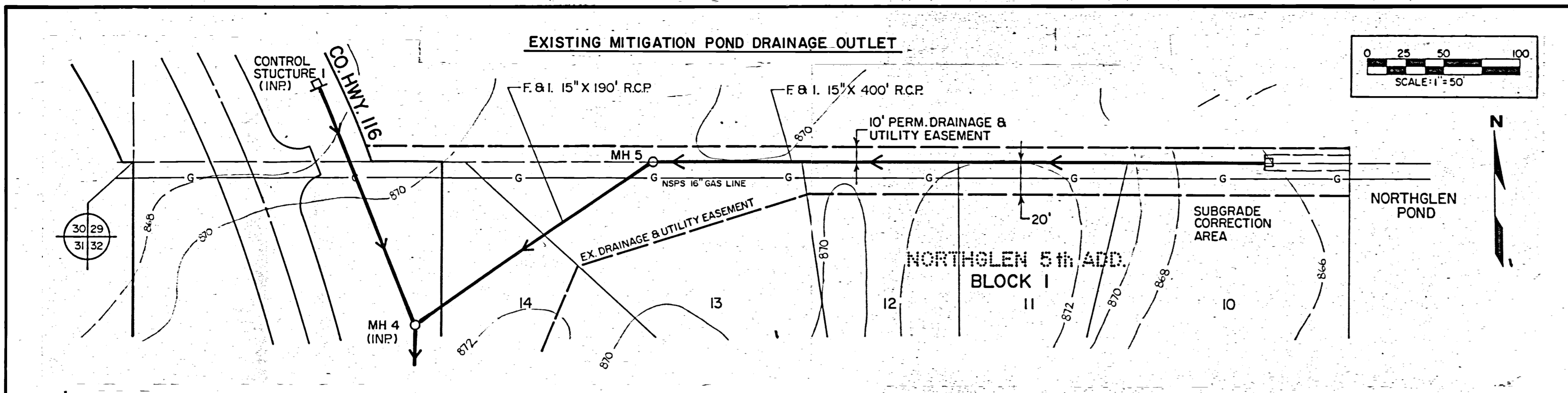


**STATEMENT OF ESTIMATED QUANTITIES MITIGATION POND**

ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITY
0506.601	CONTROL STRUCTURE	LUMP SUM	1	
2105.523	COMMON BORROW (L.V.)	CU. YD.	1300	
2501.511	36" C.M. PIPE CULVERT	LIN. FT.	40	
2501.515	36" C.M. PIPE APRON	EACH	2	
2575.555	TURF ESTABLISHMENT	LUMP SUM	1	

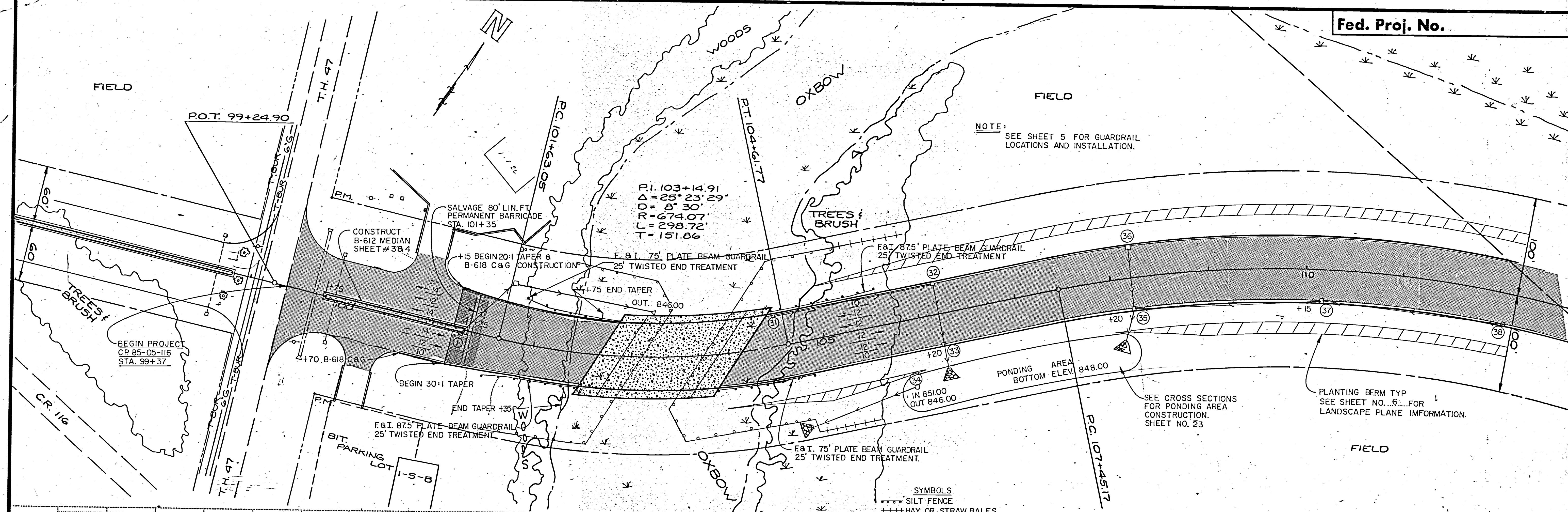
**MITIGATION POND  
SITE LOCATION**

REVISIONS			
DATE	BY	DATE	BY



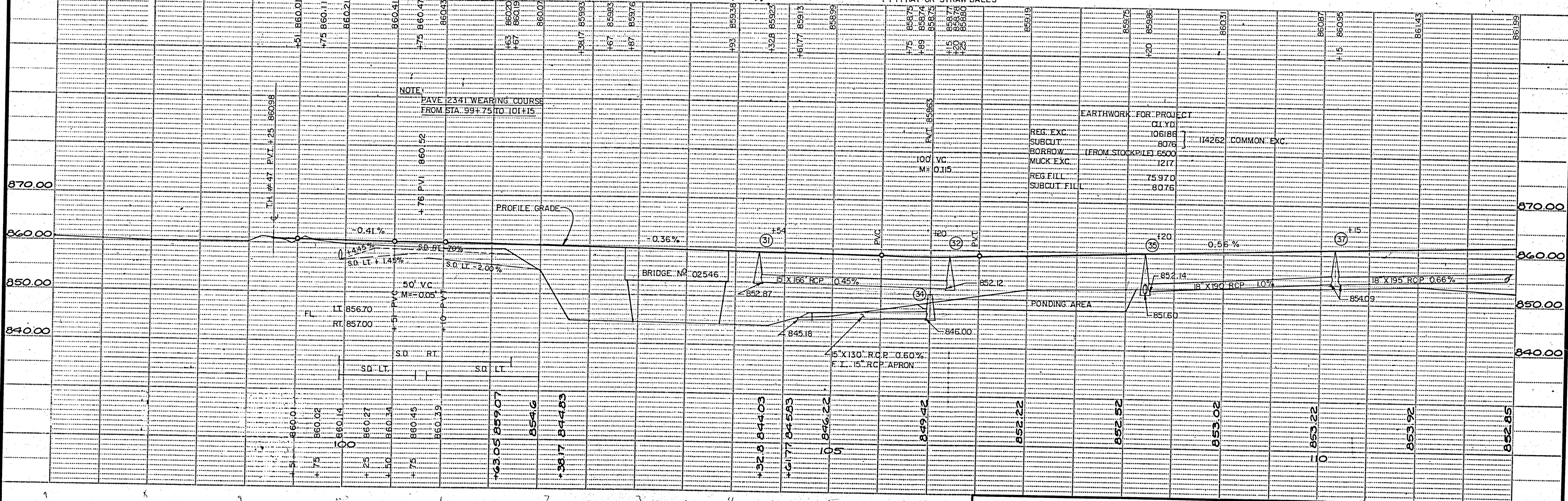
**CONSTRUCTION DETAILS**

REVISIONS		
DATE	BY	DATE



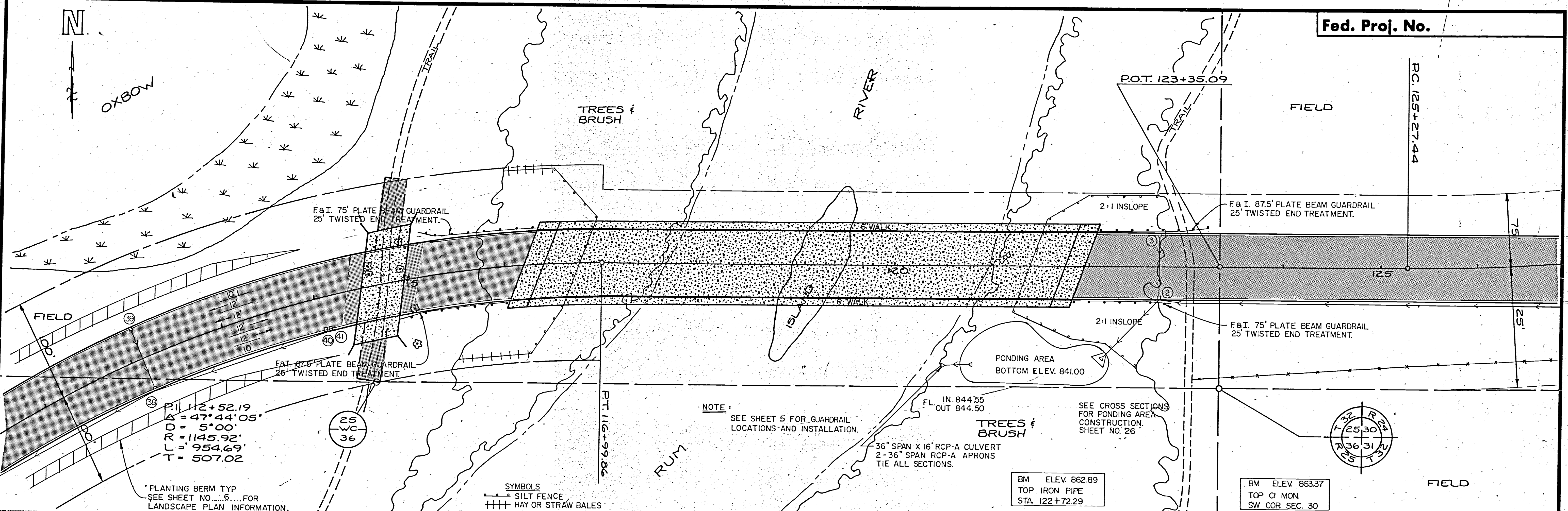
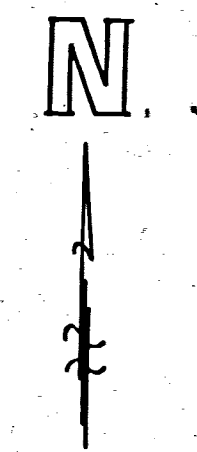
NOTE: SEE SHEET 5 FOR GUARDRAIL LOCATIONS AND INSTALLATION.

SYMBOLS  
 --- SILT FENCE  
 +++ HAY OR STRAW BALES



Copy Equipment Form #1 8/15

PC 125+27.44



P.I. 112+52.19  
 $\Delta = 47^\circ 44' 05''$   
 $D = 5^\circ 00'$   
 $R = 1145.92'$   
 $L = 954.69'$   
 $T = 507.02'$

\*PLANTING BERM TYP  
 SEE SHEET NO. 6 FOR  
 LANDSCAPE PLAN INFORMATION.

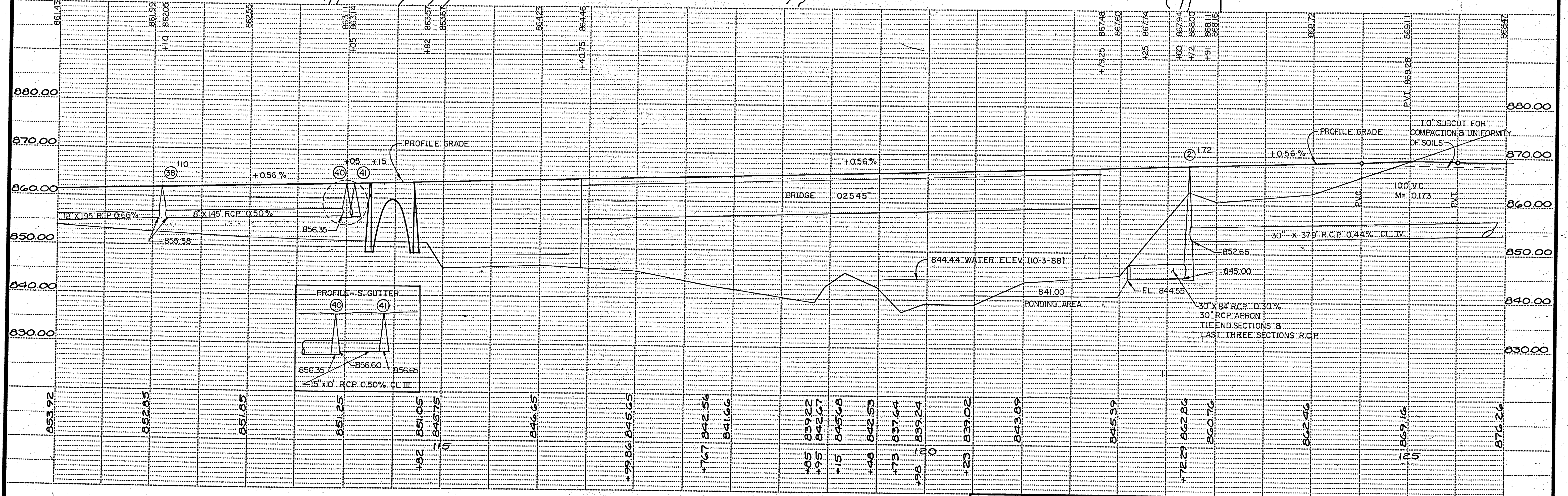
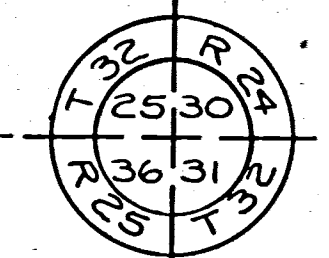
SYMBOLS  
 SILT FENCE  
 HAY OR STRAW BALES

NOTE:  
 SEE SHEET 5 FOR GUARDRAIL  
 LOCATIONS AND INSTALLATION.

SEE CROSS SECTIONS  
 FOR PONDING AREA  
 CONSTRUCTION.  
 SHEET NO. 26

BM ELEV. 862.89  
 TOP IRON PIPE  
 STA. 122+72.29

BM ELEV. 863.37  
 TOP CI MON.  
 SW COR. SEC. 30



City Equipment Form #1 8113

FIELD

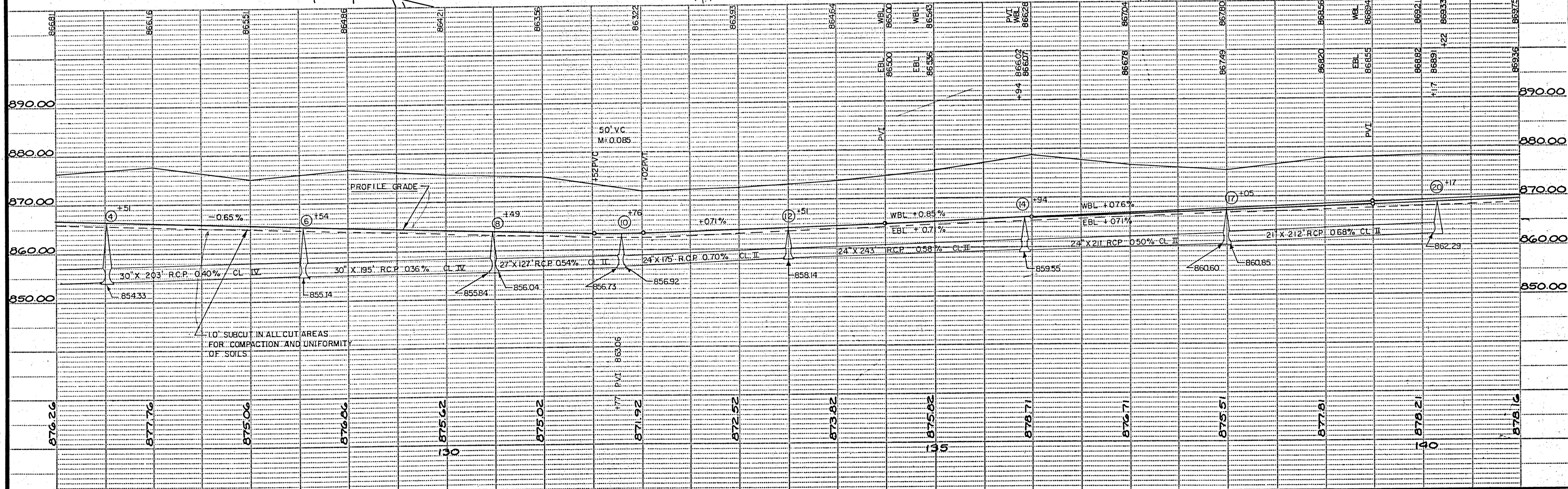
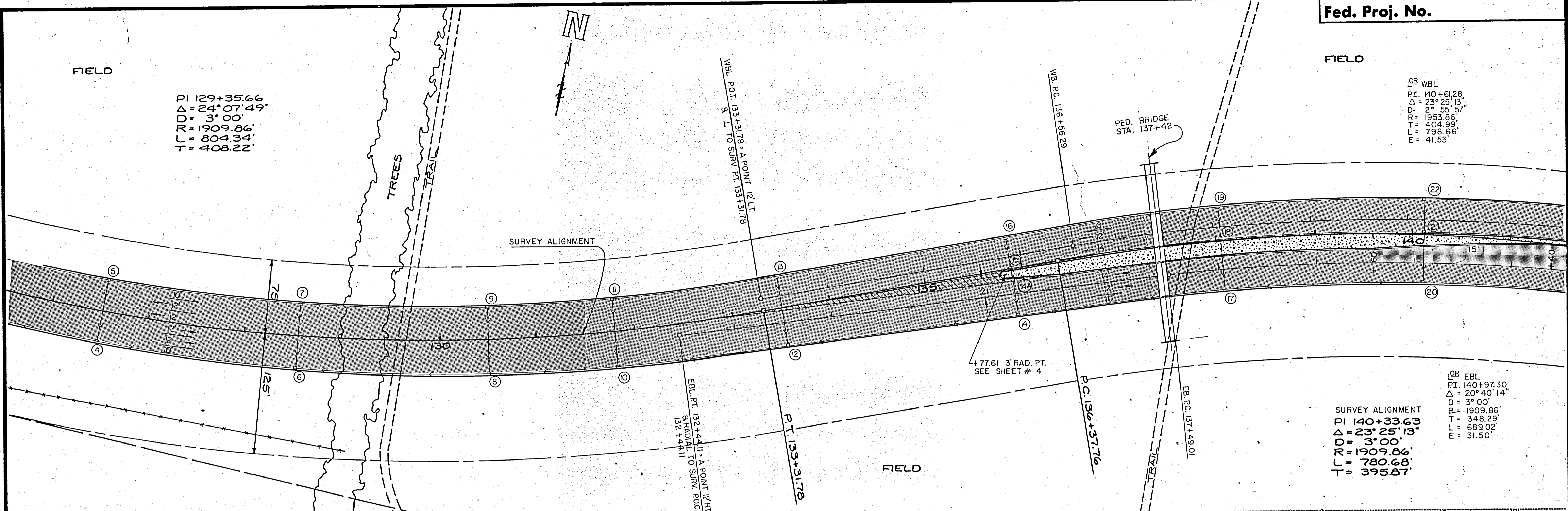
FIELD

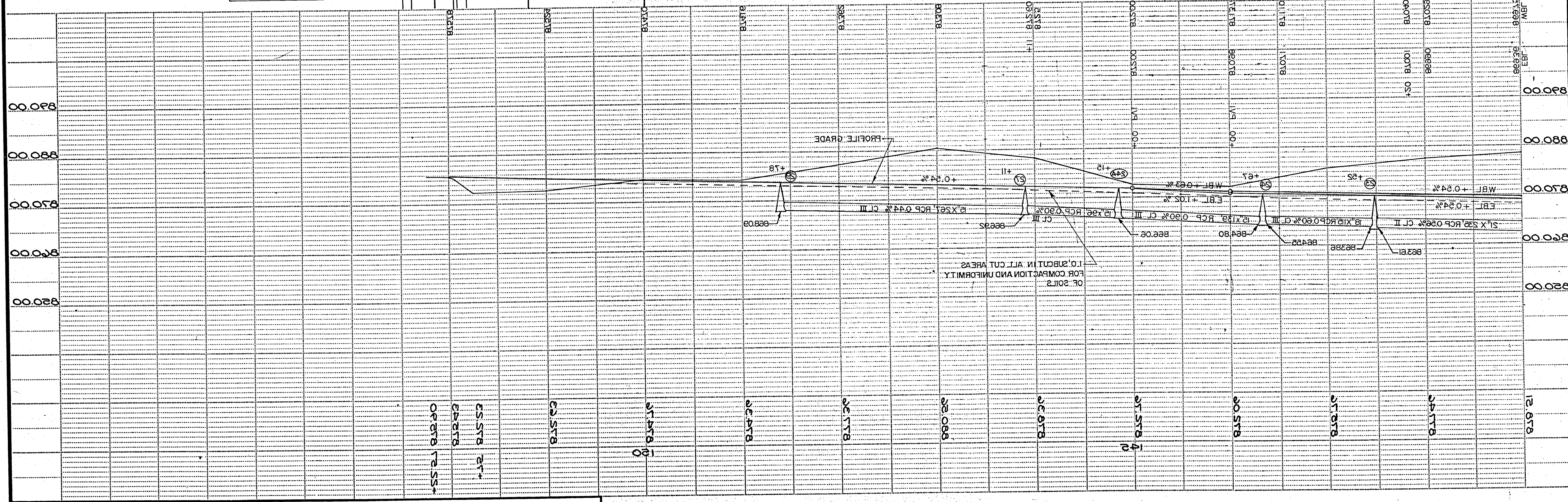
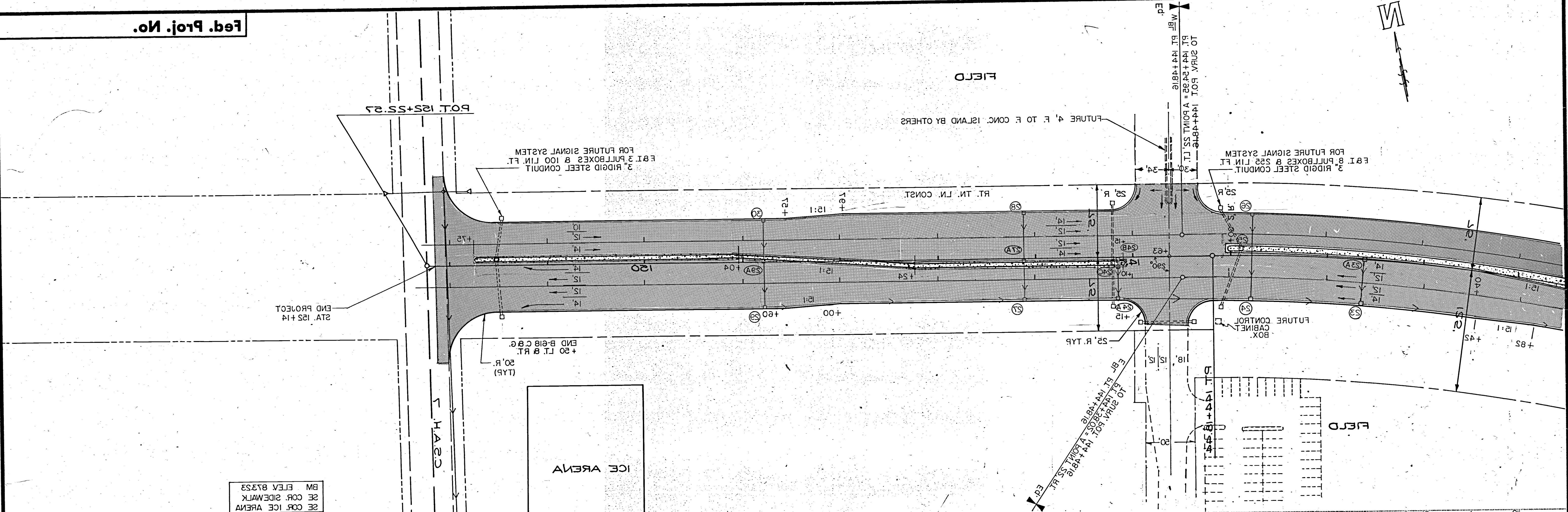
PI 129+35.66  
 $\Delta = 24^\circ 07' 49''$   
 $D = 3^\circ 00'$   
 $R = 1909.86'$   
 $L = 804.34'$   
 $T = 408.22'$

OR WBL  
 PI 140+61.28  
 $\Delta = 23^\circ 25' 13''$   
 $D = 2^\circ 55' 57''$   
 $R = 1953.86'$   
 $L = 404.99'$   
 $T = 798.66'$   
 $E = 41.53'$

OR EBL  
 PI 140+97.30  
 $\Delta = 20^\circ 40' 14''$   
 $D = 3^\circ 00'$   
 $R = 1909.86'$   
 $L = 348.29'$   
 $T = 689.02'$   
 $E = 31.50'$

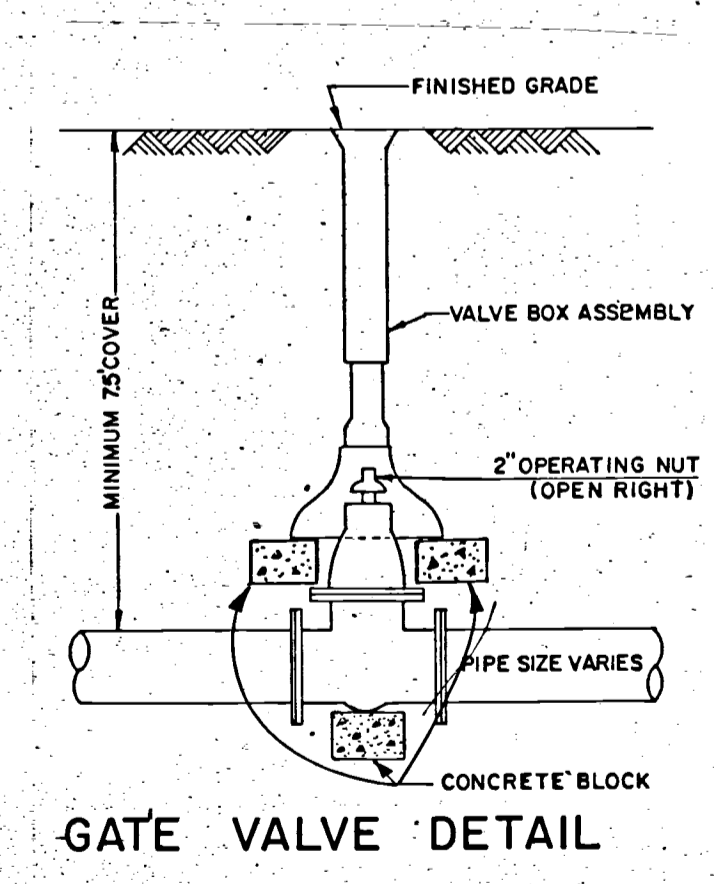
SURVEY ALIGNMENT  
 PI 140+33.63  
 $\Delta = 23^\circ 25' 13''$   
 $D = 3^\circ 00'$   
 $R = 1909.86'$   
 $L = 780.68'$   
 $T = 395.87'$



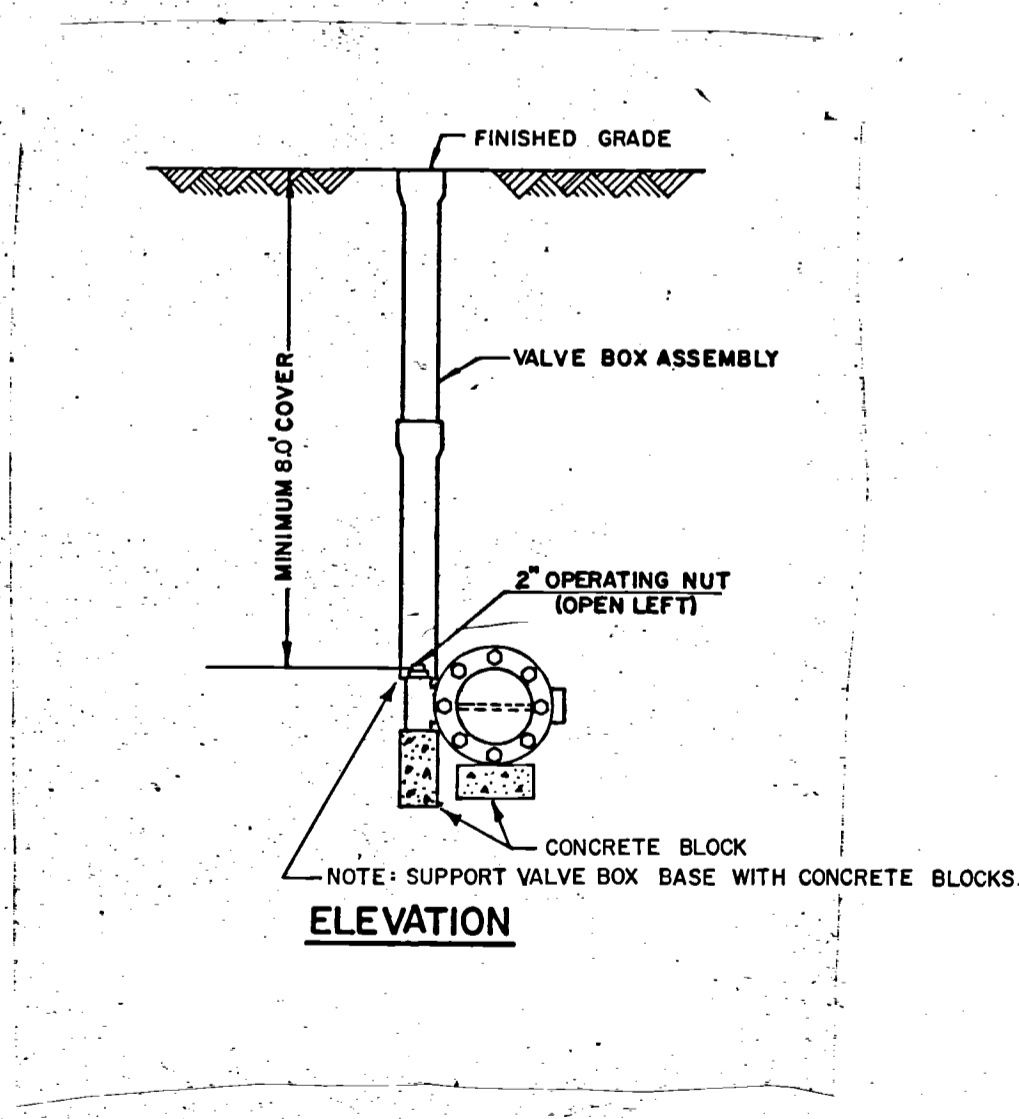


Copyright 1988 by the State of Michigan

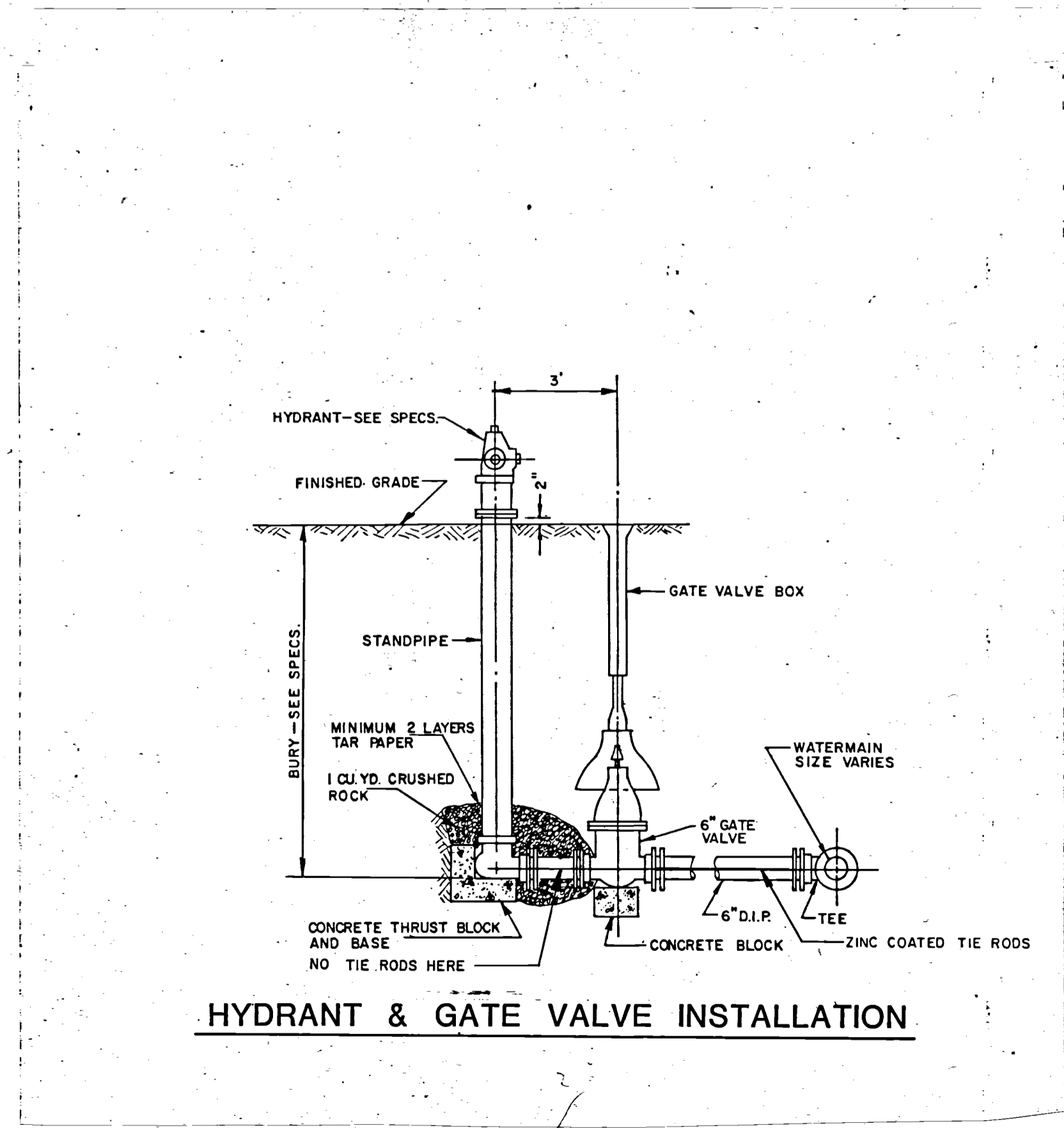




GATE VALVE DETAIL



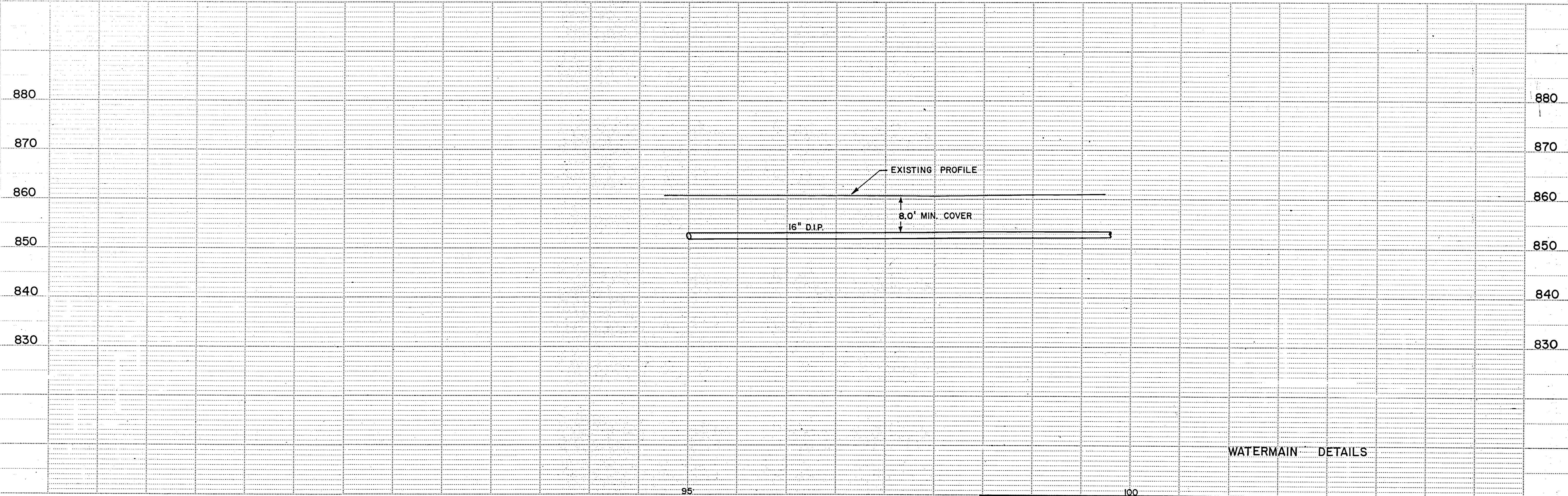
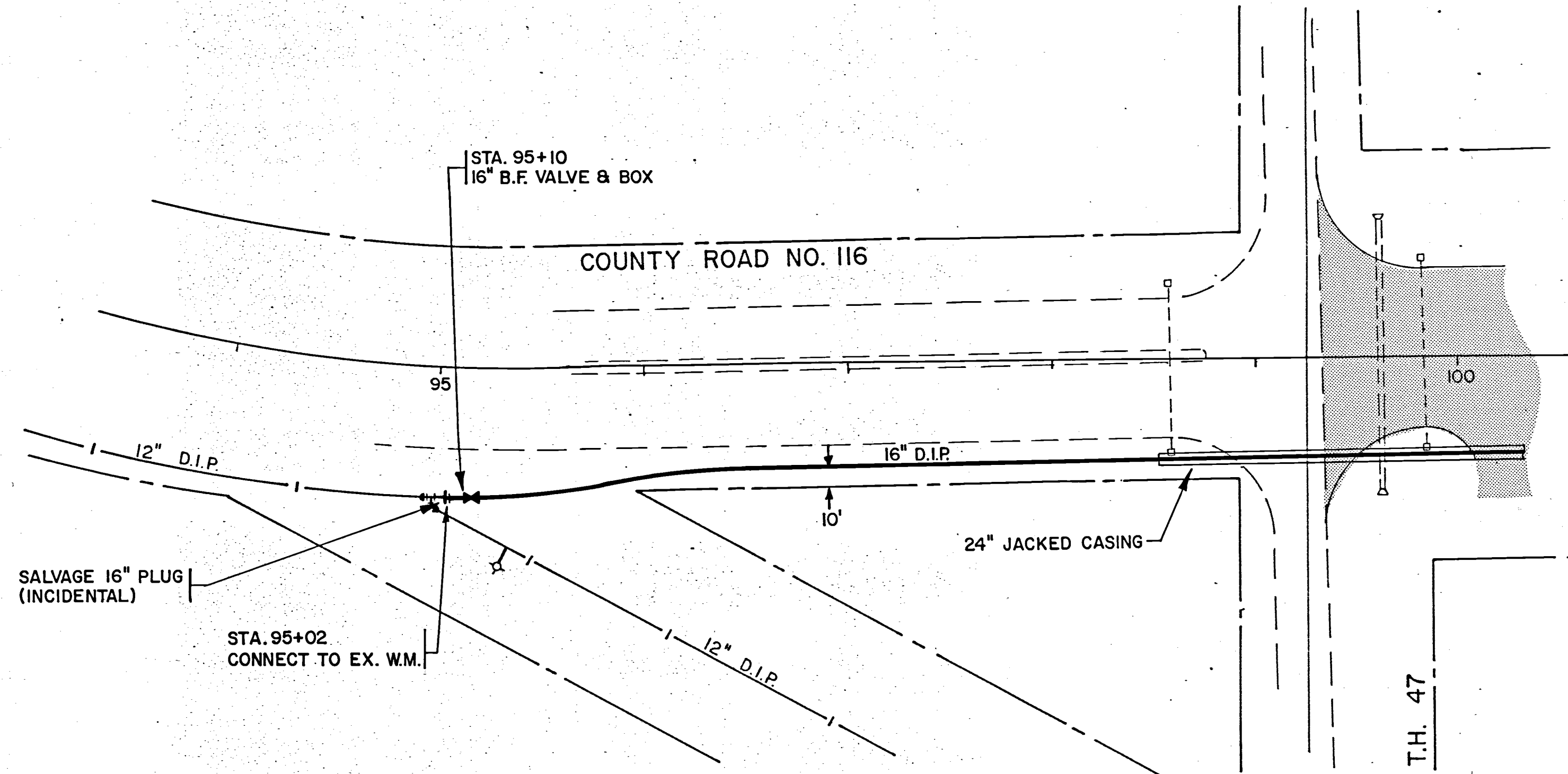
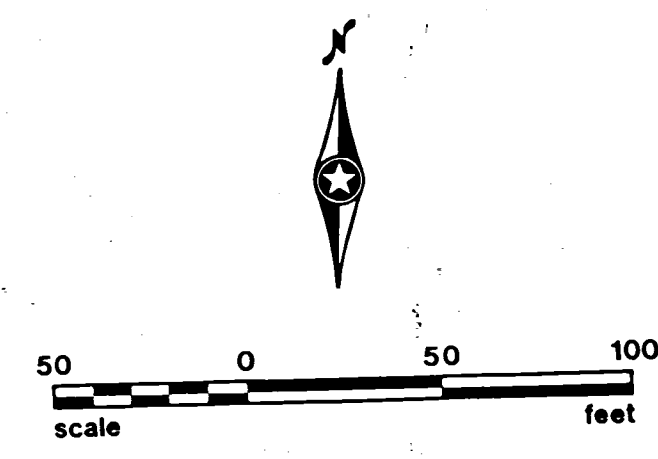
TYPICAL BUTTERFLY VALVE & BOX INSTALLATION ELEVATION



HYDRANT & GATE VALVE INSTALLATION

WATERMAIN DETAILS

ILLUSTRATION 10 - 10 - 3 B - 10274



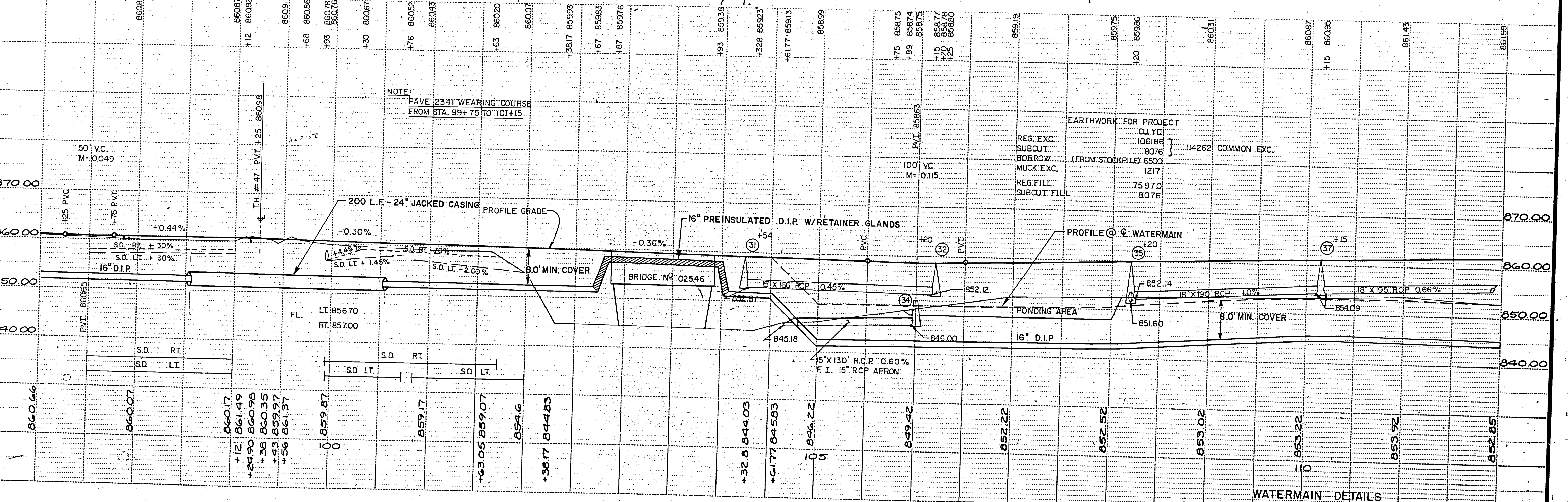
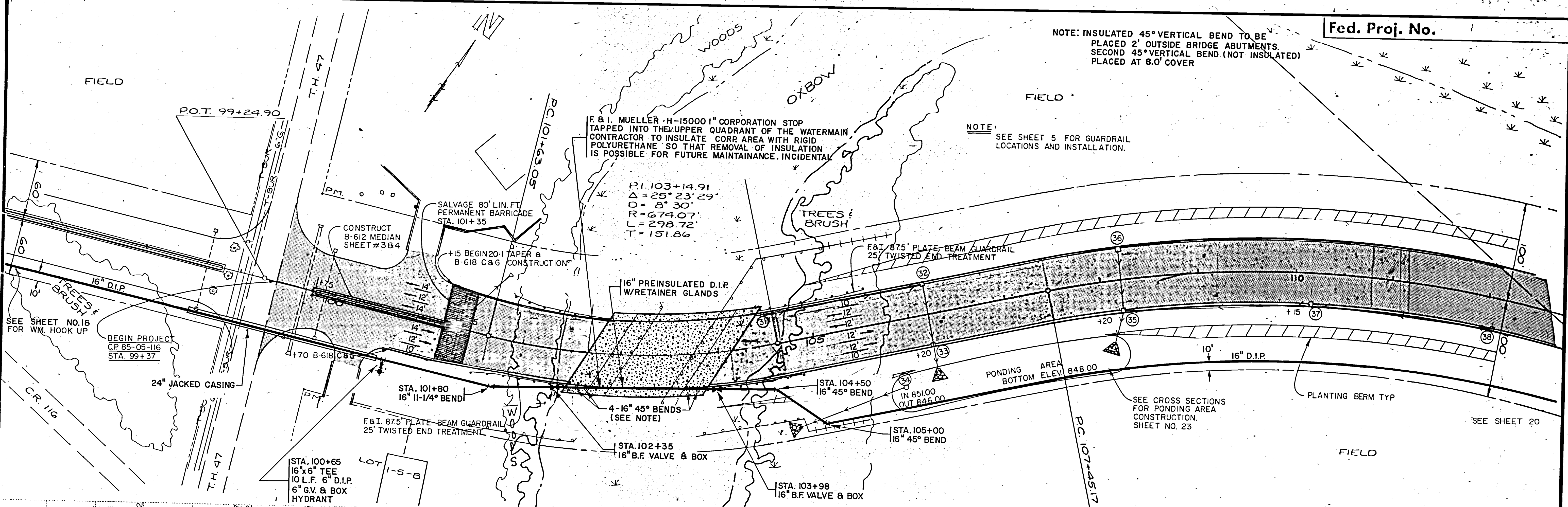
WATERMAIN DETAILS

FEDERAL PROJECT - 85 - 05 - 116 - SHEET 18

NOTE: INSULATED 45° VERTICAL BEND TO BE PLACED 2' OUTSIDE BRIDGE ABUTMENTS. SECOND 45° VERTICAL BEND (NOT INSULATED) PLACED AT 8.0' COVER

NOTE: SEE SHEET 5 FOR GUARDRAIL LOCATIONS AND INSTALLATION.

F. & I. MUELLER - H-15000 1" CORPORATION STOP TAPPED INTO THE UPPER QUADRANT OF THE WATERMAIN CONTRACTOR TO INSULATE CORNER AREA WITH RIGID POLYURETHANE SO THAT REMOVAL OF INSULATION IS POSSIBLE FOR FUTURE MAINTAINANCE. INCIDENTAL



Copy Information Form 87 5815

PC 125+27.44

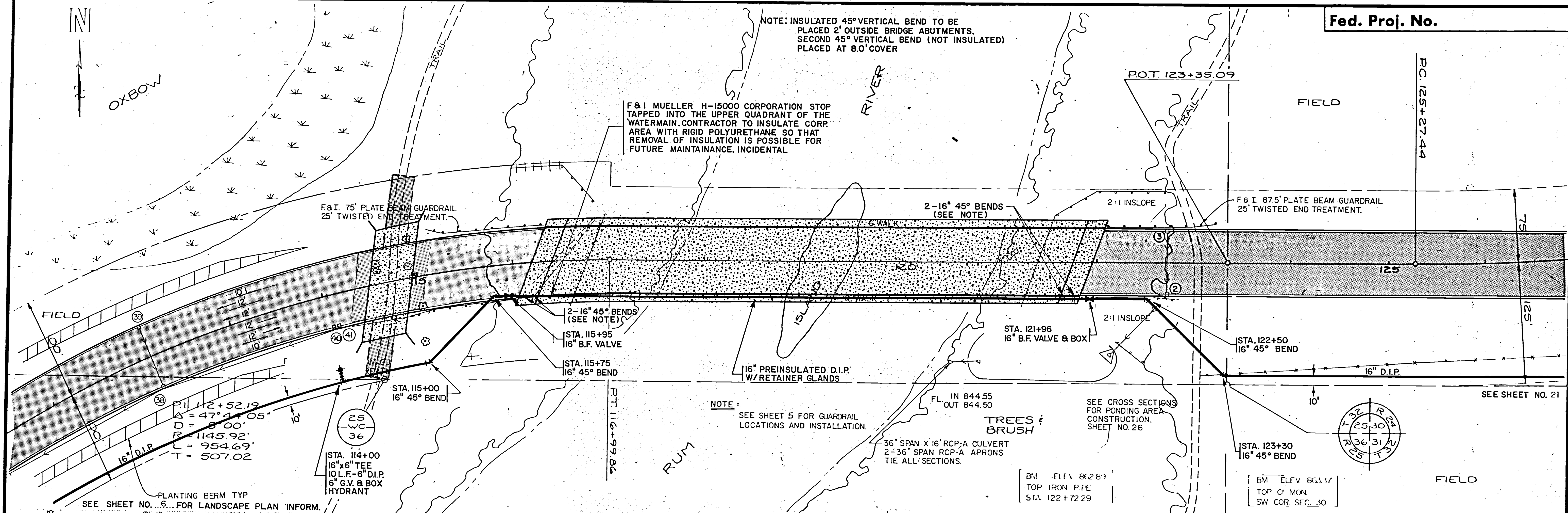
NOTE: INSULATED 45° VERTICAL BEND TO BE PLACED 2' OUTSIDE BRIDGE ABUTMENTS. SECOND 45° VERTICAL BEND (NOT INSULATED) PLACED AT 8.0' COVER

F & I MUELLER H-15000 CORPORATION STOP TAPPED INTO THE UPPER QUADRANT OF THE WATERMAIN. CONTRACTOR TO INSULATE CORR AREA WITH RIGID POLYURETHANE SO THAT REMOVAL OF INSULATION IS POSSIBLE FOR FUTURE MAINTAINANCE. INCIDENTAL

F & I 75' PLATE BEAM GUARDRAIL 25' TWISTED END TREATMENT.

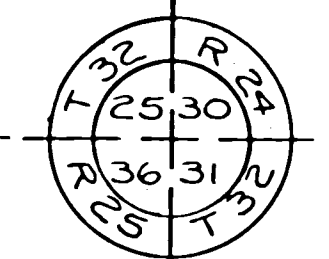
2-16" 45° BENDS (SEE NOTE)

F & I 87.5' PLATE BEAM GUARDRAIL 25' TWISTED END TREATMENT.

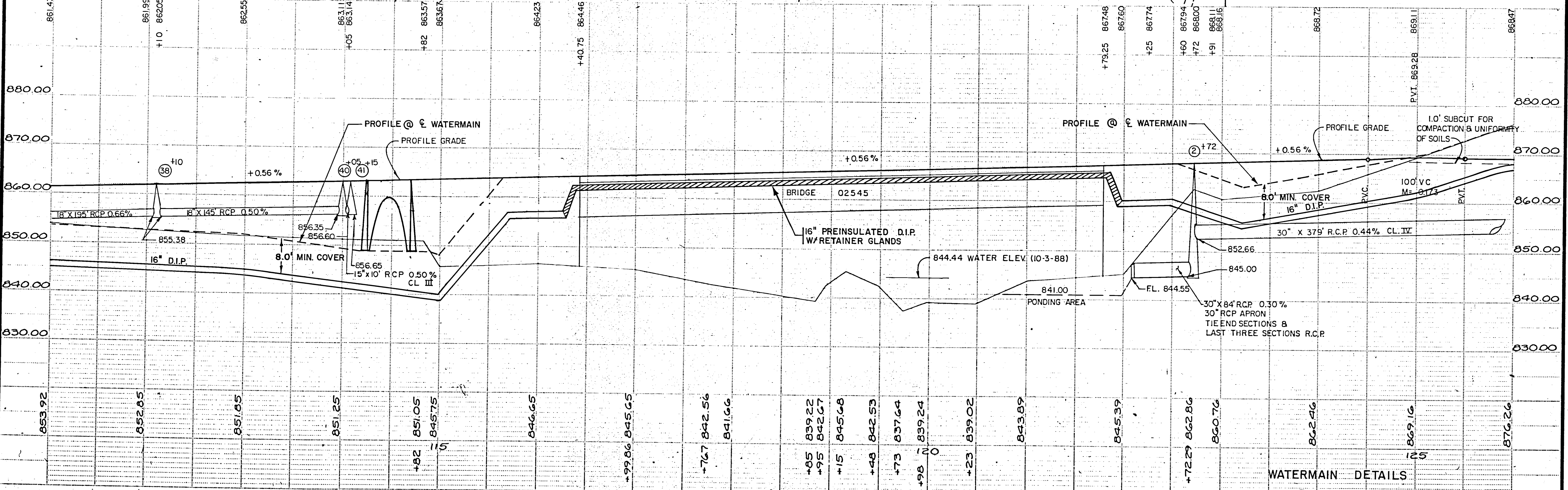


NOTE: SEE SHEET 5 FOR GUARDRAIL LOCATIONS AND INSTALLATION.

SEE CROSS SECTIONS FOR PONDING AREA CONSTRUCTION. SHEET NO. 26



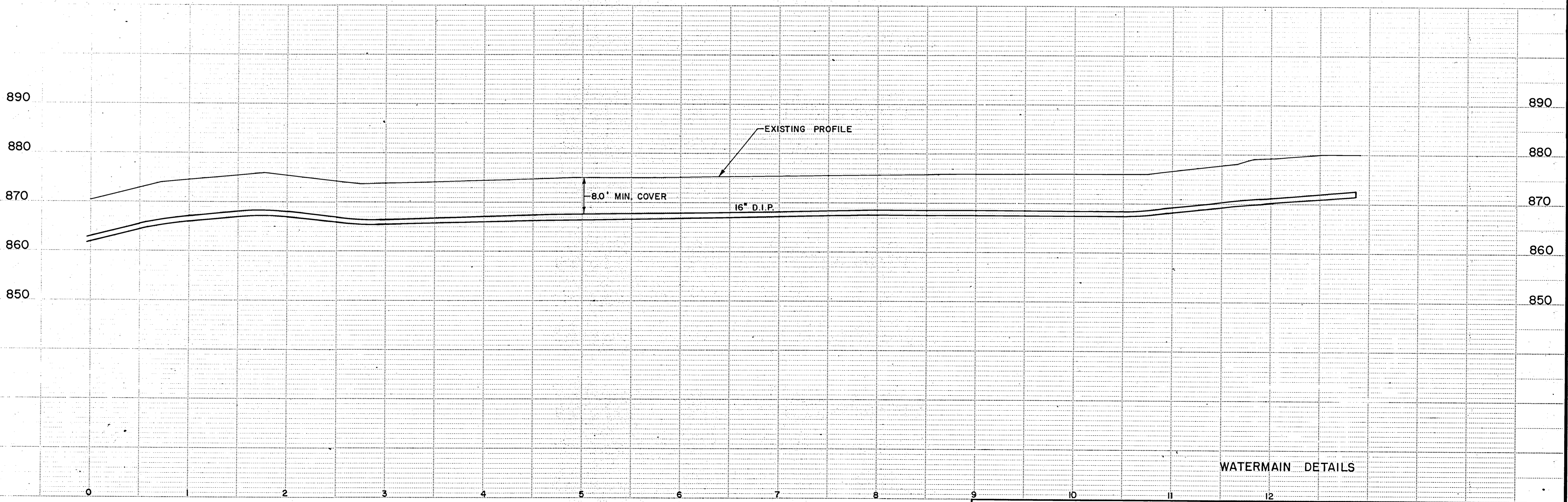
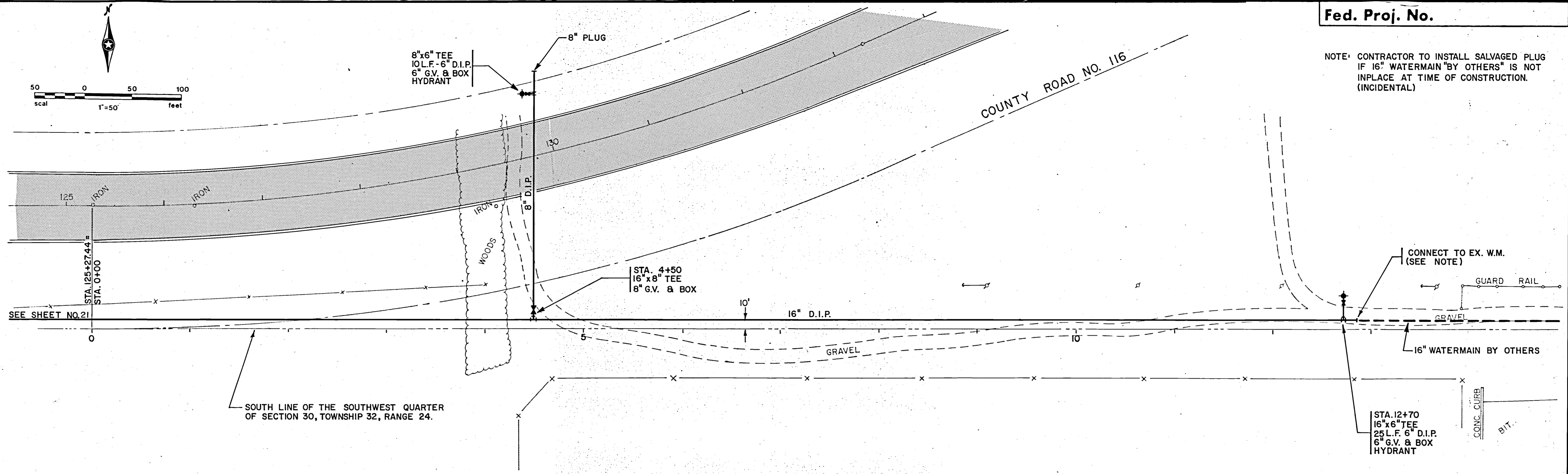
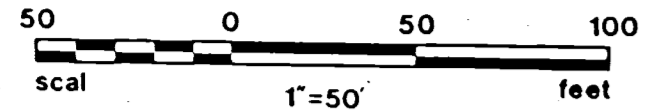
PLANTING BERM TYP SEE SHEET NO. 5 FOR LANDSCAPE PLAN INFORM.



WATERMAIN DETAILS

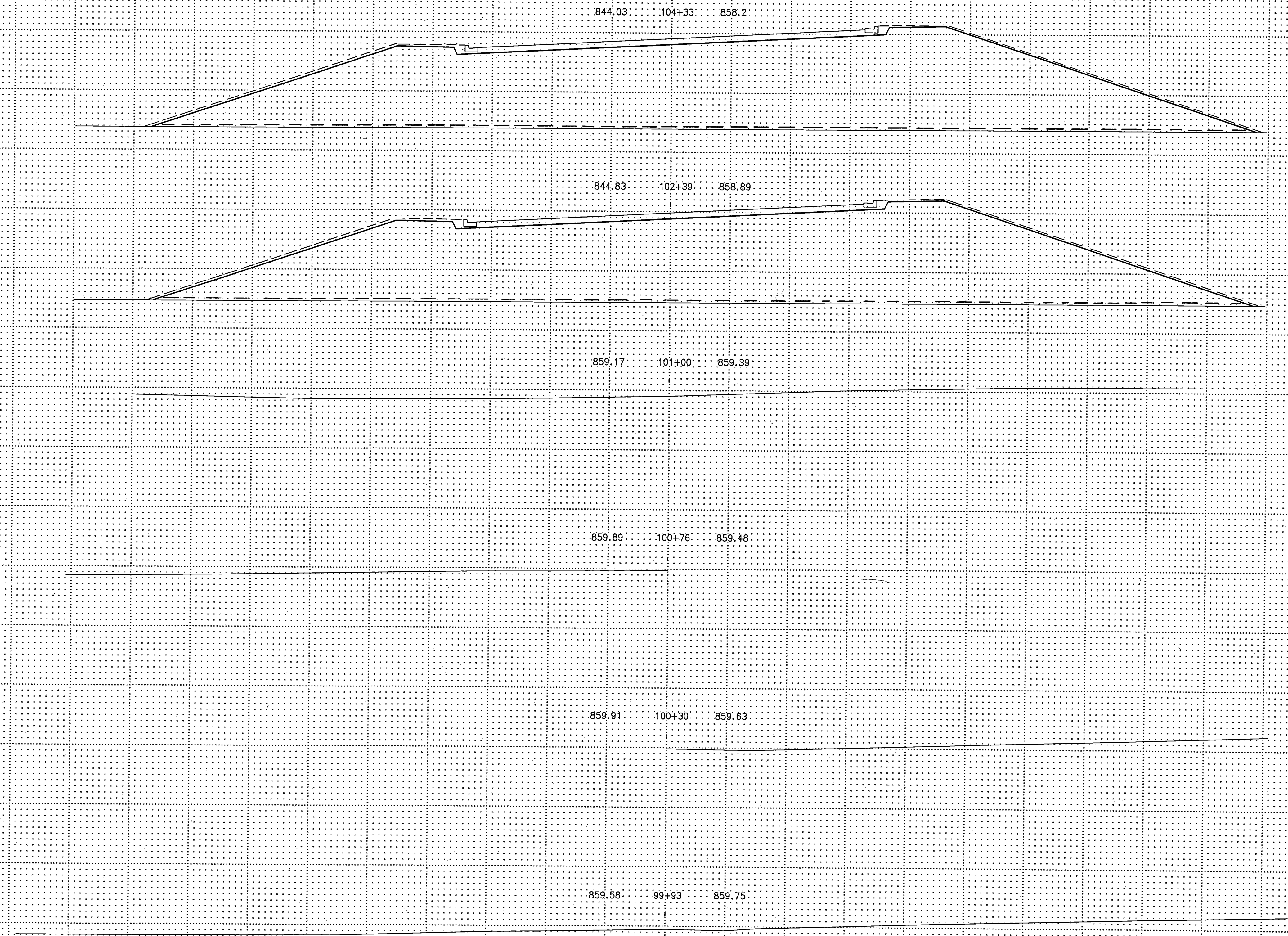
Copy Equipment Form #1 10115

NOTE: CONTRACTOR TO INSTALL SALVAGED PLUG IF 16" WATERMAIN "BY OTHERS" IS NOT INPLACE AT TIME OF CONSTRUCTION. (INCIDENTAL)



**EXCAVATION    EMBANKMENT**

SUB-TOTALS    CU.YDS.    CU.YDS.    SUB-TOTALS



103+93 END BRIDGE

748    2136

102+87 BEGIN BRIDGE

82    3717

54    129

5    6

13    22

51    85

STA: 99+93 TO STA: 104+33

TELEPHONE POST CROSS SECTION UNIT (8'x8'x12")

State Proj. No.

C.P. 85-05-116

Sheet No. 22 of 32 Sheets

**EXCAVATION    EMBANKMENT**

SUB-TOTALS - CU.YDS.    CU.YDS.    SUB-TOTALS

PLANTING AREA FOR  
SPRUCE, ASH, LOCUST  
(SEE PLAN SHEET  
NO. 6 OF 32 SHEETS)

PLANTING AREAS FOR  
LOW SHRUBS (TYPICAL)

852.52    108+00    858.72

852.22    107+00    858.16

849.42    106+00    857.71

846.22    105+00    857.95

845.82    104+62    858.09

PLANTING AREA FOR  
SPRUCE, ASH, LOCUST  
(SEE PLAN SHEET  
NO. 6 OF 32 SHEETS)

594    3170

653    3567

392    5117

62    2492

48    2129

STA 104+62 TO STA 108+00

REVISED 5-5-89

GRAPHIC CONTROLS - CROSS SECTION 80004

EXCAVATION		EMBANKMENT	
SUB-TOTALS	CU.YDS.	CU.YDS.	SUB-TOTALS

PLANTING AREA FOR  
SPRUCE, ASH, LOCUST  
(SEE PLAN SHEET  
NO. 6 OF 32 SHEETS)

PLANTING AREAS FOR  
LOW SCRUBS (TYPICAL)

851.85 113+00 861.52

852.85 112+00 860.96

853.92 111+00 860.4

853.22 110+00 859.84

853.02 109+00 859.28

PLANTING AREA FOR  
SPRUCE, ASH, LOCUST  
(SEE PLAN SHEET  
NO. 6 OF 32 SHEETS)

145	4116
-----	------

145	3632
-----	------

142	3203
-----	------

143	3250
-----	------

325	3266
-----	------

STA: 109+00 TO STA: 113+00

REVISED 5-5-89



EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

BEGIN BRIDGE (116+4)

846.65 116+00 863.2

189 9459

845.75 115+00 862.64

30 1338

851.0501 114+82 862.53

115 4146

851.25 114+00 862.08

128 4288

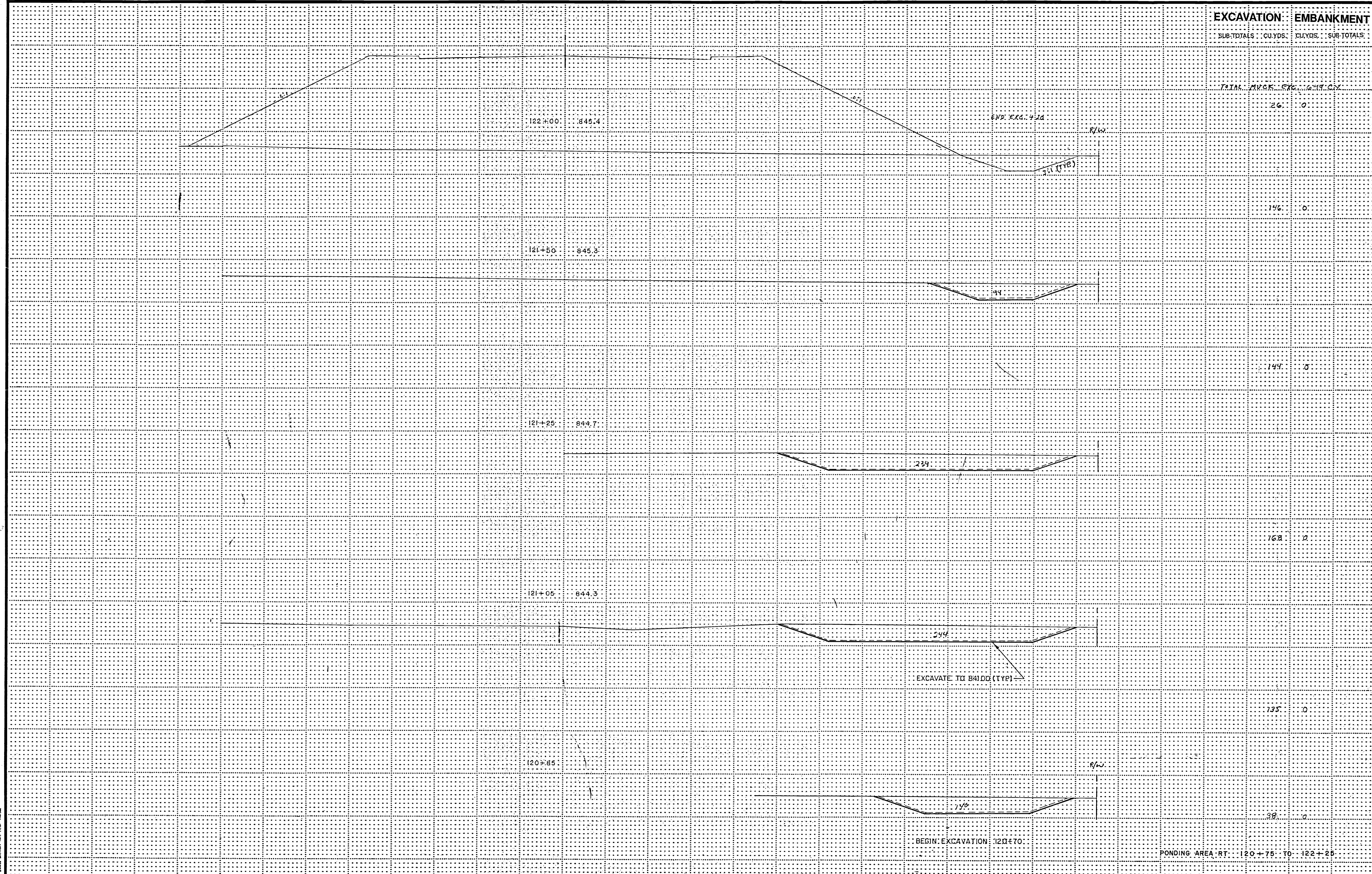
STA 114+00 TO STA 116+00

TELEPHONE POST CROSS SECTION, BIT, 1/8" 12/20/97

**EXCAVATION    EMBANKMENT**

SUB-TOTALS : CU.YDS.    CU.YDS.    SUB-TOTALS

TOTAL MVCK EXC. 617.07



TELEPHONE ROUTE CROSS SECTION, DIST. 11.57 MILES

**EXCAVATION    EMBANKMENT**

SUB-TOTALS . . CU.YDS.    CU.YDS.    SUB-TOTALS

869.16    125+00    866.42

862.46    124+00    867.07

860.76    123+00    867.12

862.86    122+73    866.96

845.35    122+00    866.56

507    1061

126    2354

32    594

188    4593

81    2154

END MUCK EXCAVATION : 122+15  
 MUCK EXCAVATION : 573 C.Y.

BEGIN MUCK EXCAVATION : 121+65

STA. 122+00 TO STA. 125+00

ILLINOIS ROAD CROSS SECTION, SET 1, BY 12/24/84

**EXCAVATION      EMBANKMENT**

SUB-TOTALS    CU.YDS.    CU.YDS.    SUB-TOTALS

875.02    131+00    862.52

875.62    130+00    863.17

876.86    129+00    863.82

875.06    128+00    864.47

877.76    127+00    865.12

876.26    126+00    865.77

5661    15

5715    50

5115    144

5630    94

4944    0

2656    20

STA. 126+00 TO STA. 131+00

ILLUSTRATION NOT TO SCALE

EXCAVATION    EMBANKMENT

SUB-TOTALS    CU.YDS.    CU.YDS.    SUB-TOTALS

878.71    136+00    865.23

6250    0

WBL

EBL

875.82    135+00    864.38

4854    20

873.82    134+00    863.6

4154    135

872.52    133+00    862.89

4039    126

871.92    132+00    862.18

4863    26

STA 132+00 TO STA 136+00

ILLINOIS ROAD CROSS SECTION, 1917, 1918

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

878.0266 141+00 868.7

WBL

EBL

878.24 140+00 868.16

877.85 139+00 867.51

875.52 138+00 866.75

876.71 137+00 865.99

WBL

EBL

5094 00

5856 00

4820 78

4680 78

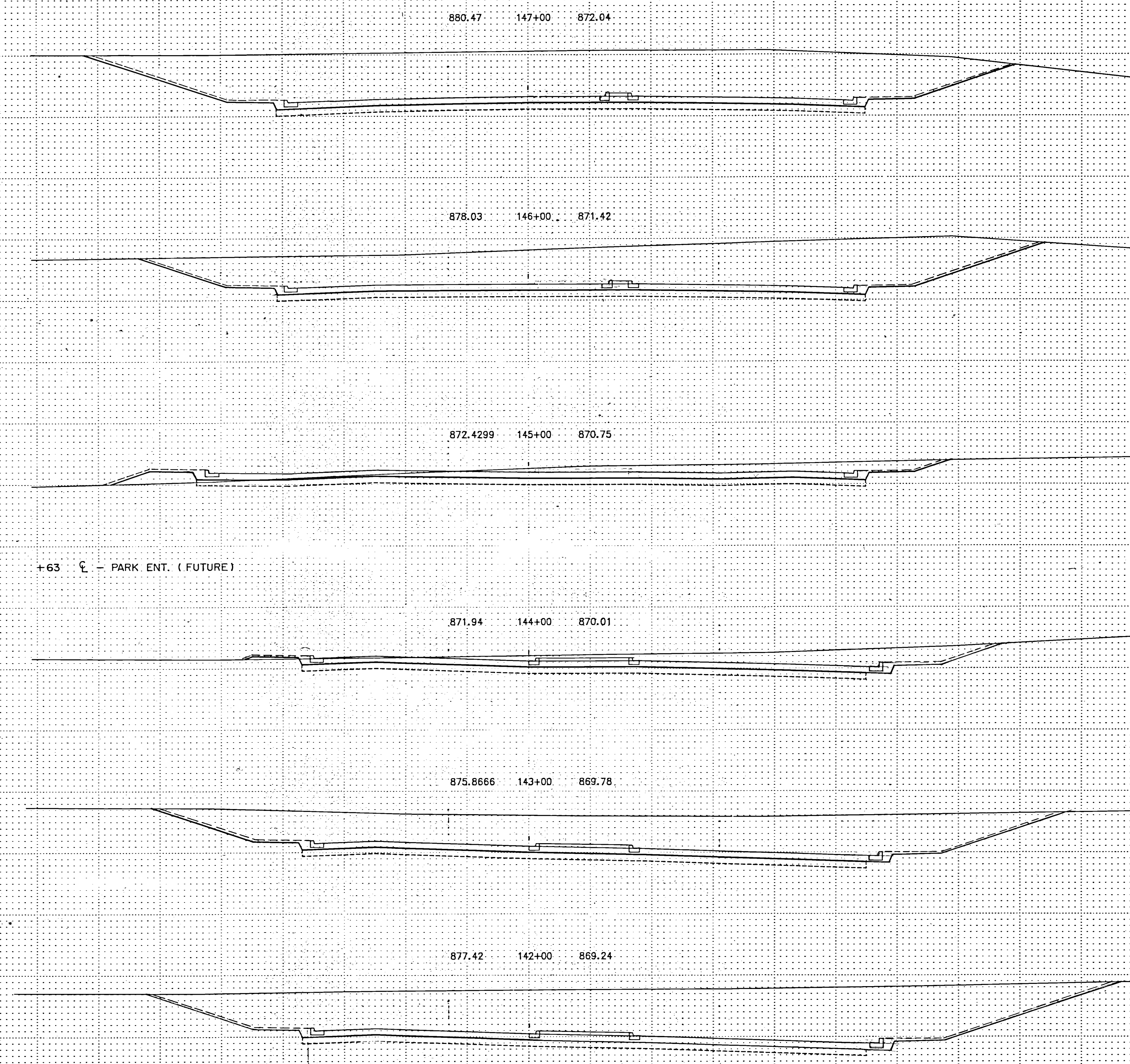
6244 00

STA. 137+00 TO STA. 141+00

TELEPHONE BOOTH CROSS SECTION, 1/8" = 1'-0" 12/29/85

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



+63  $\xi$  - PARK ENT. (FUTURE)

3589 0

1957 30

828 41

1970 9

3604 0

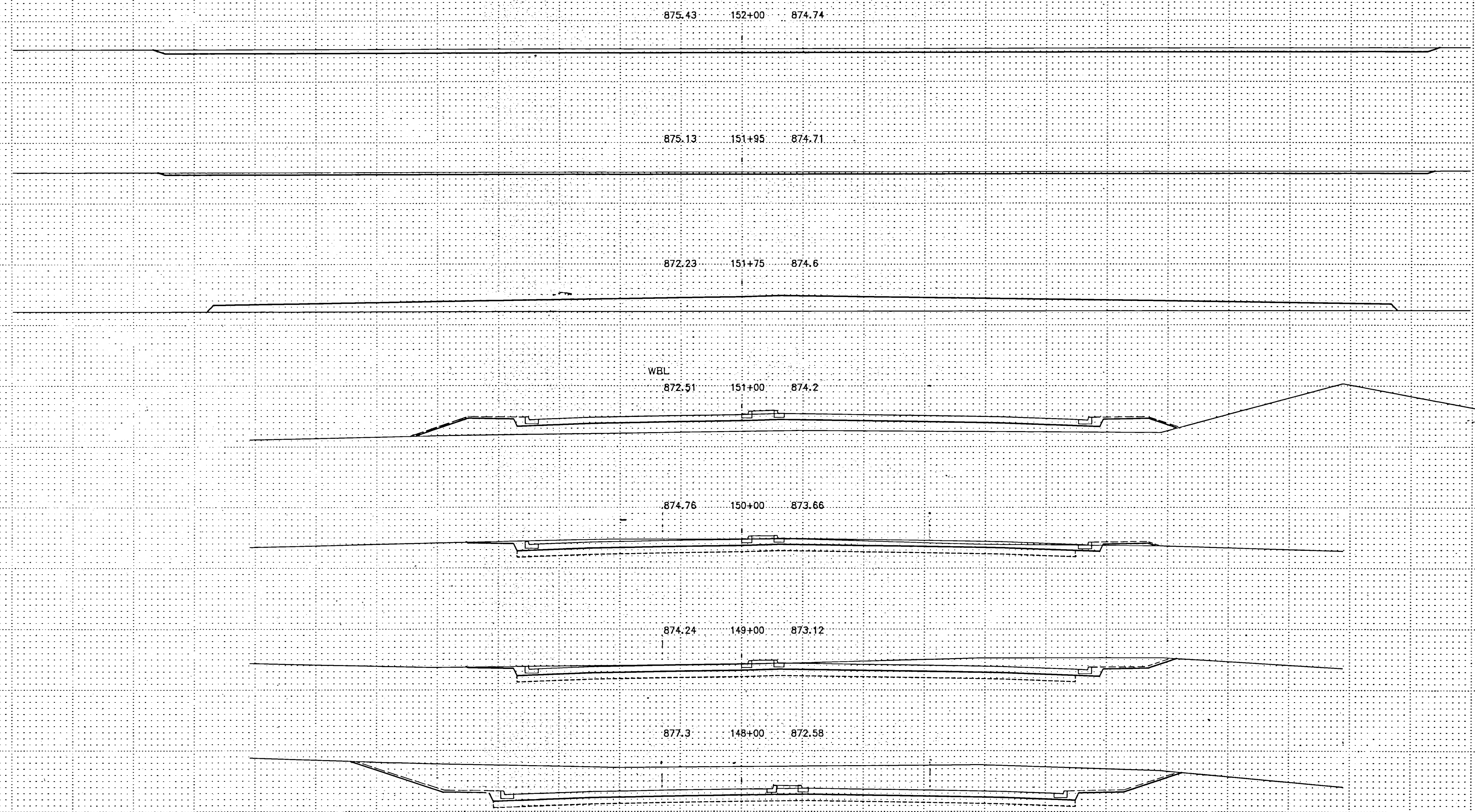
4500 0

STA: 142+00 TO STA: 147+00

TULLAH COUNTY, MISSISSIPPI

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS CU.YDS.



22 0

51 146

111 869

248 435

530 7

1422 0

3044 0

STA. 148+00 TO STA. 152+00

TERRAIN POST CROSS SECTION 1/8" = 1'-0"