

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING AND BRIDGE NO. 02536

LOCATED ON C.S.A.H. 9 AT CEDAR CREEK, APPROXIMATELY 5.3 MILES NORTH OF ANOKA (Geographic Description)

FROM A POINT 1,071.9' N. OF THE S.W. COR. OF SECTION 33, R 24 W, T 33 N. TO A POINT 1,696.9' N. OF THE S.W. COR. OF SECTION 33, R 24 W, T 33 N. (Legal Description)

STATE PROJ. NO. 02-609-04

STATE AID PROJ. NO. 02-609-06

MN PROJ. NO. BR STP0295(167)

GROSS LENGTH 69.16 FEET 0.013 MILES
 BRIDGES-LENGTH 69.16 FEET 0.013 MILES
 EXCEPTIONS-LENGTH FEET MILES
 NET LENGTH 69.16 FEET 0.013 MILES

GROSS LENGTH 625.00 FEET 0.118 MILES
 BRIDGES-LENGTH 0.00 FEET 0.00 MILES
 EXCEPTIONS-LENGTH 69.16 FEET 0.013 MILES
 NET LENGTH 555.84 FEET 0.105 MILES

PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- PRESENT RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- CAURD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- NURSERY

- CATTLE GAUPD

- OVERPASS (Highway Over)

- UNDERPASS (Highway Under)

- BRIDGE

- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO

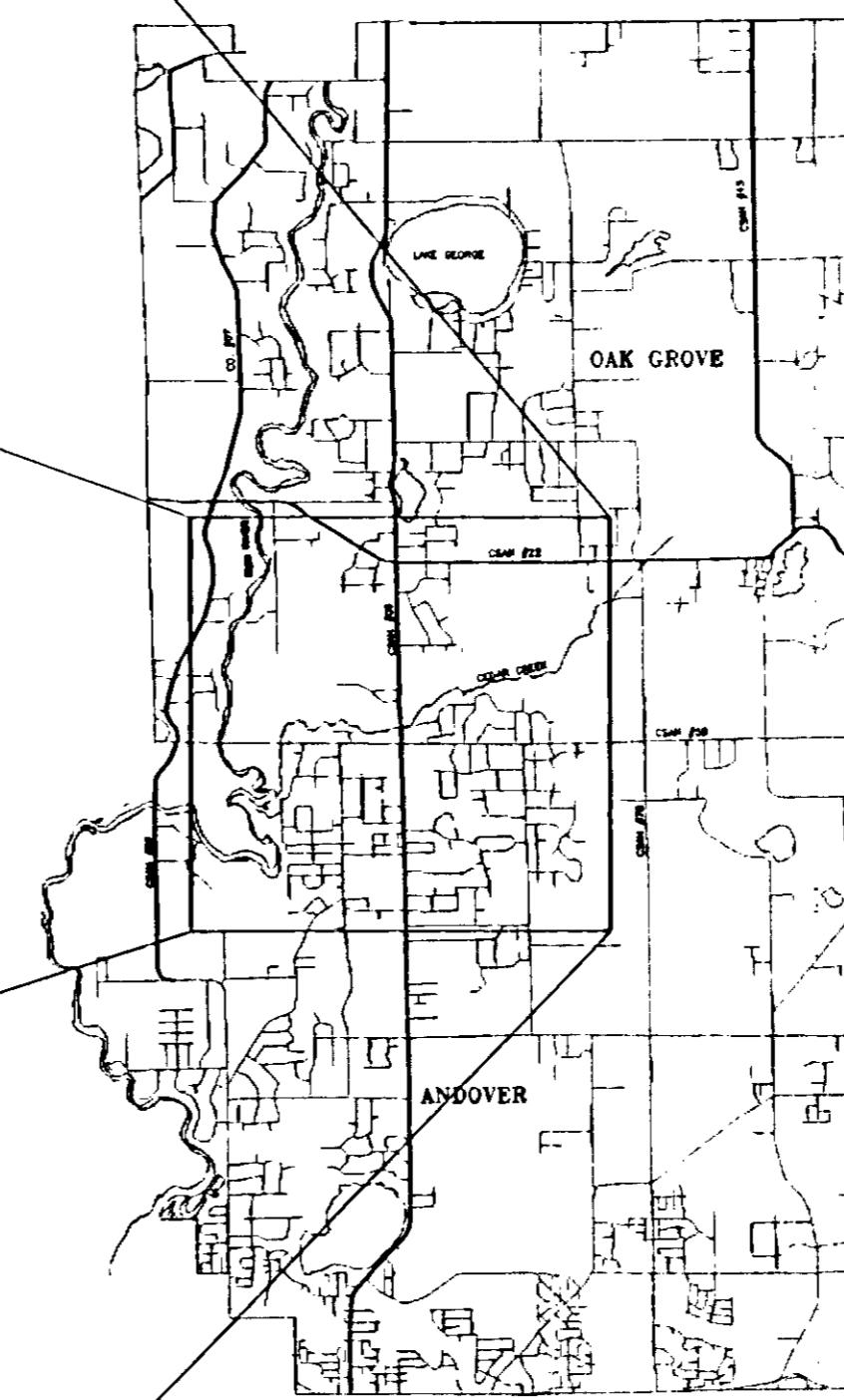
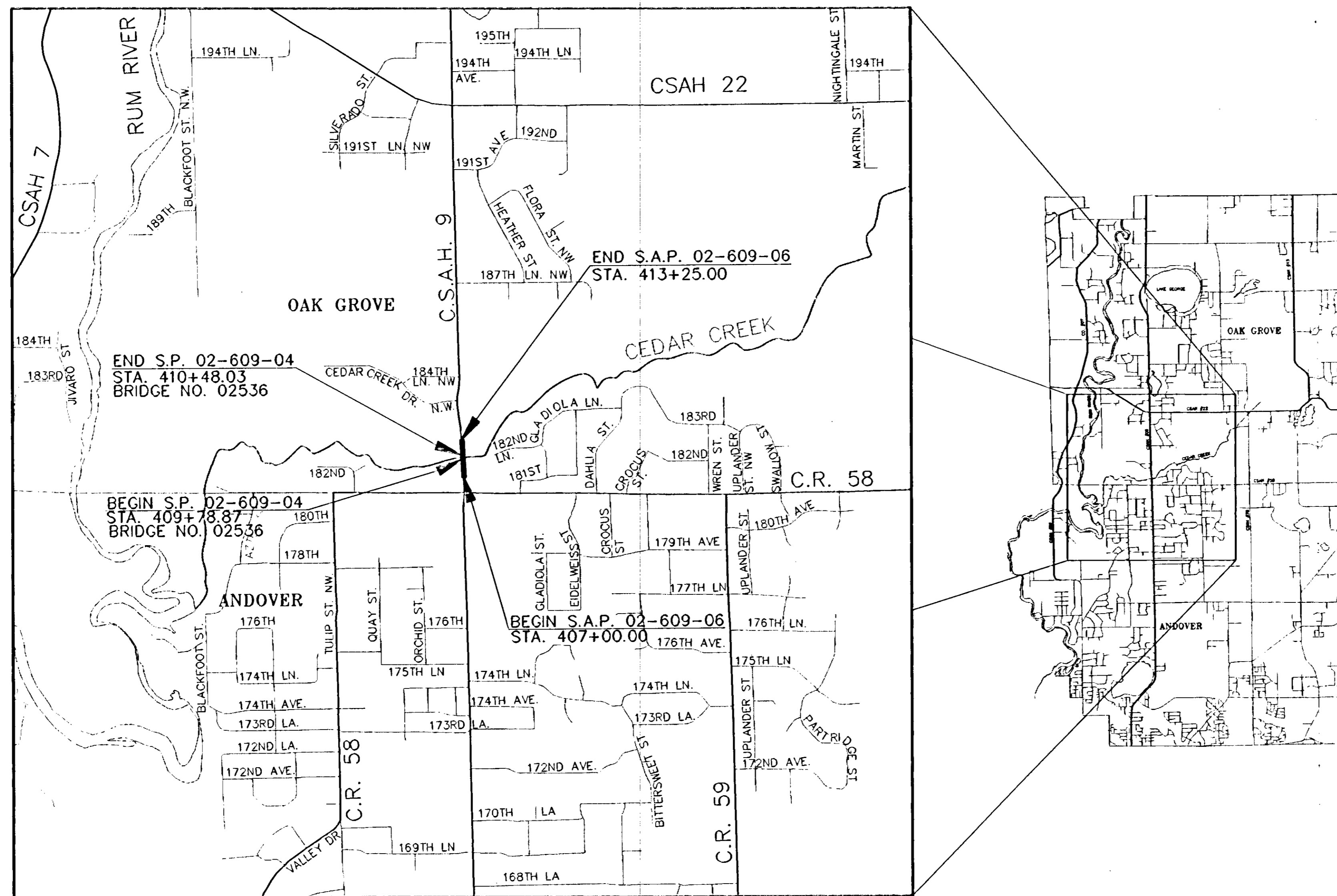
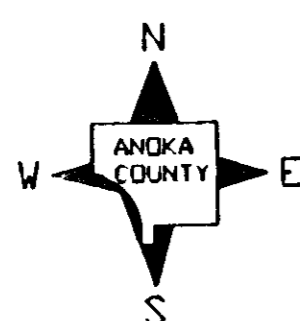
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminal)
- GAS MAIN
- WATER MAIN
- 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
- PROFILE HORIZONTAL
- PROFILE VERTICAL
- X-SECTIONS HORIZONTAL
- X-SECTIONS VERTICAL
- INDEX MAP



MINN. PROJ. NO. BR STP0295(167)
 THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE MAY 2, 1994 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

GOVERNING SPECIFICATIONS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES AND TABULATION CHARTS
3	TYPICAL SECTIONS & DETAILS
4	PLAN & PROFILE
5	STORM SEWER & EROSION CONTROL
6-8	EROSION CONTROL DETAILS
9	GUARDRAIL/CURB DETAILS
10-11	CROSS SECTIONS
12-13	DETOUR LAYOUT
1-20	BRIDGE NO. 02536 PLANS

THIS PLAN CONTAINS 33 SHEETS
 DESIGN DESIGNATION

ΣN1820 1,348,798
 R VALUE 70
 ADT (1995)= 6806
 Proj. ADT (2015)= 11,570
 Proj. HCADT (2015)= 868
 Soil Factor N/A
 10 TON DESIGN
 Shoulder Width 10 ft.

Functional Classification N/A (RURAL)
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 55 MPH
 Based on Stopping Sight Distance
 Height of eye 3.5 Height of object 0.5
 Design Speed not achieved at: NA

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 3/12/95 REG. NO. 20235 ENGR. *David M. Carlson* DESIGN ENGINEER

DESIGN SQUAD J. CARLSON

Recommended for Approval	<i>Michael R. Kelly</i>	3/12, 1995
Recommended for Approval	<i>John J. Carlson</i>	3/12, 1995
Recommended for Approval	<i>David M. Carlson</i>	3/12, 1995
Approved	<i>John J. Carlson</i>	3/12, 1995
Recommended for Approval	<i>David M. Carlson</i>	3/12, 1995
Recommended for Approval	<i>David M. Carlson</i>	5-18, 1995
Recommended for Approval	<i>David M. Carlson</i>	5/12, 1995
Approved	<i>David M. Carlson</i>	5-19, 1995

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
 DIVISION ADMINISTRATOR DATE

EXC EMB
TS MOB SEL
COM COM

ROW

ROW

TE

ROW

ROW

TE

869.5 408+30 869.74

29.57
40.217

870.9 407+68 870.65

0.0
5.10

871.3 407+56 870.99

0.0
3.40

873.1 407+00 872.33

1.0' SUBCUT

874.6 406+50 873.58

20'
(TYP)

867.4 409+78 869.63

16.198
0.76

867.7 409+48 869.46

18.266
0.175

868.1 409+00 869.37

5.138
0.339

868.3 408+91 869.36

21.110
0.158

EXISTING GRADE (TYP) 868.8 408+63 869.49 (GRADING GRADE (TYP))

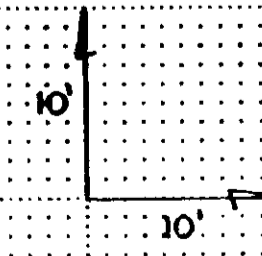
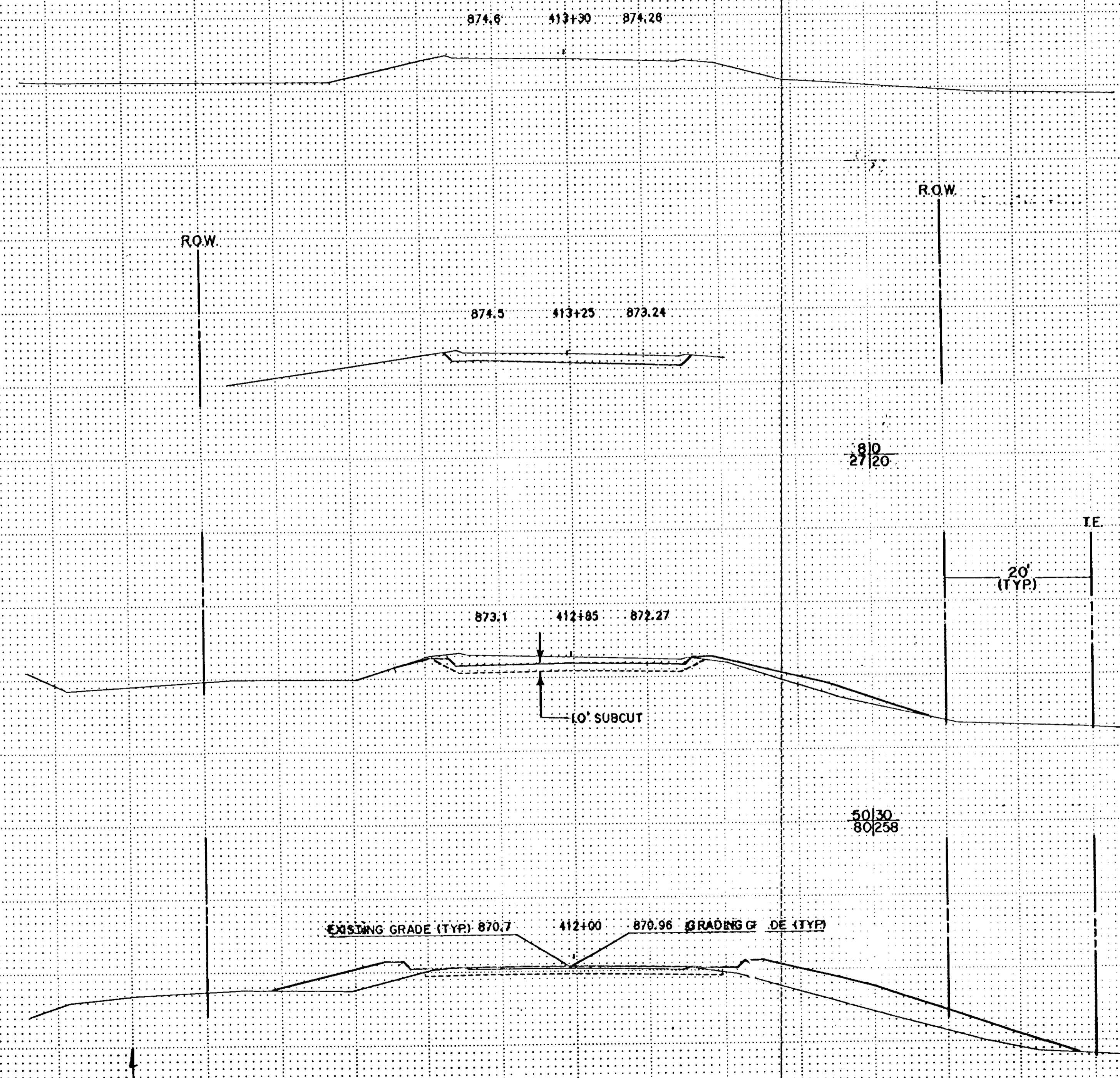
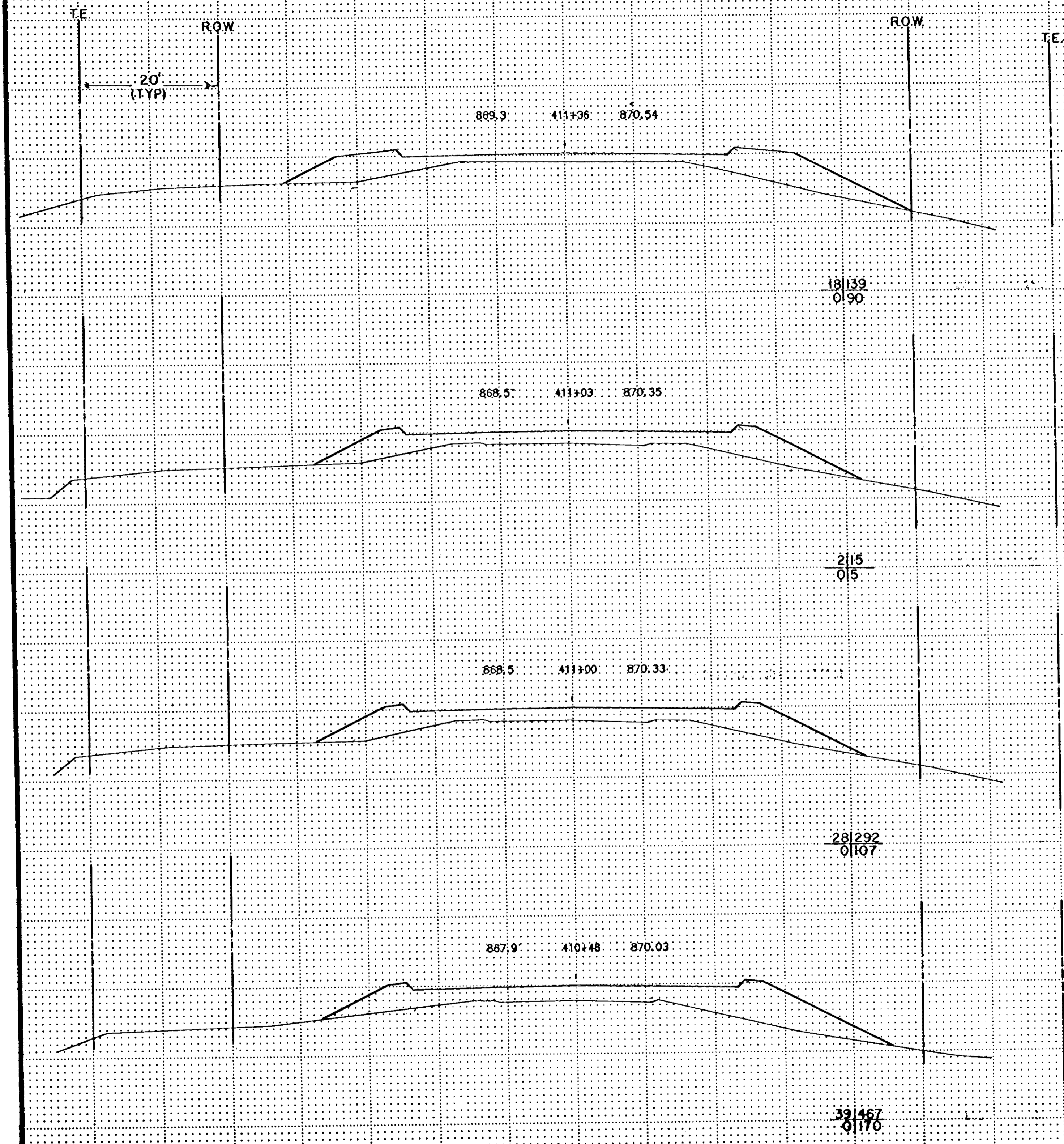
22.83
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10'

CROSS-SECTION
STA. 406+50 TO STA. 409+78

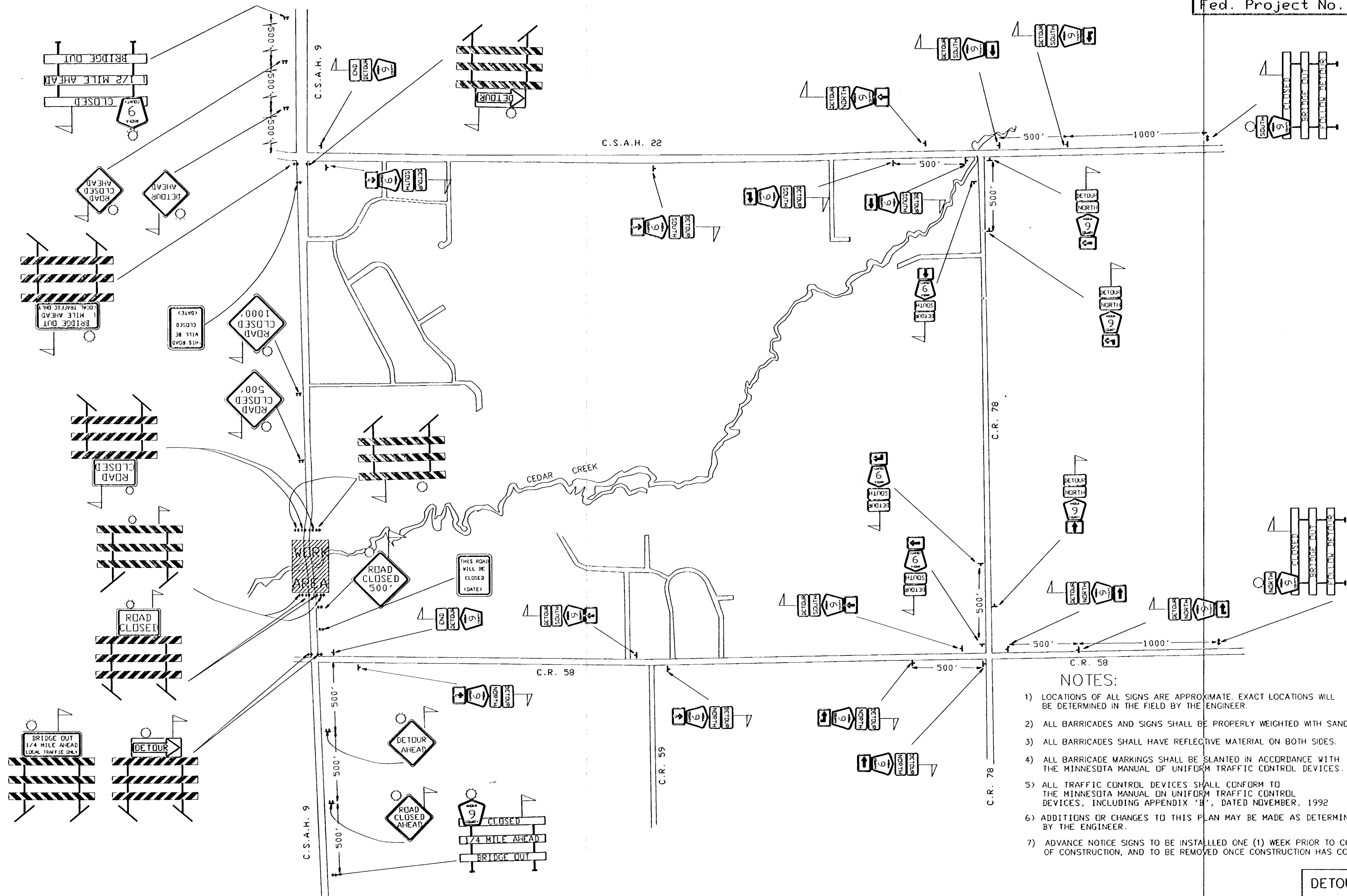
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EXC|EMB.
TS|MOD. SEL.
COM|COM.



CROSS-SECTION
STA: 410+48 TO STA: 413+30

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- NOTES:**
- 1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
 - 3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
 - 4) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 - 5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX 'B', DATED NOVEMBER, 1992
 - 6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.
 - 7) ADVANCE NOTICE SIGNS TO BE INSTALLED ONE (1) WEEK PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND TO BE REMOVED ONCE CONSTRUCTION HAS COMMENCED.



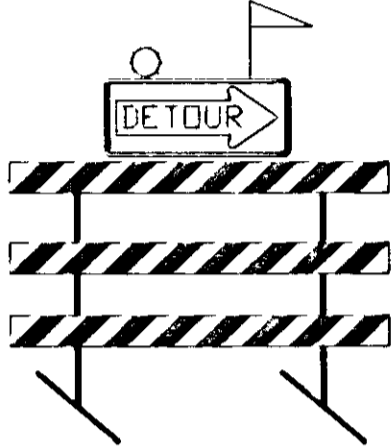
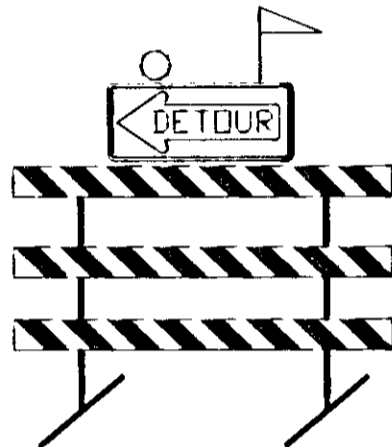
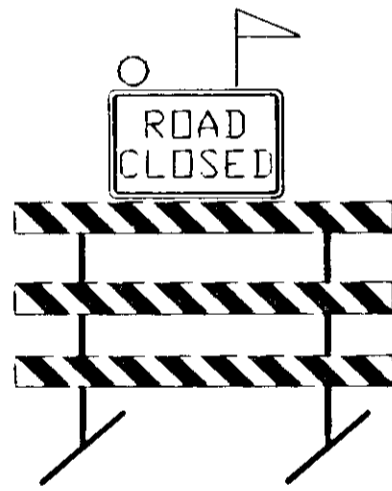
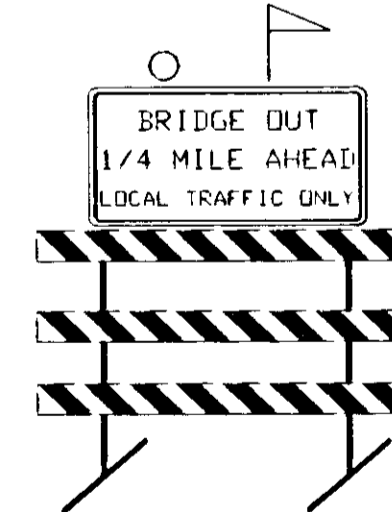
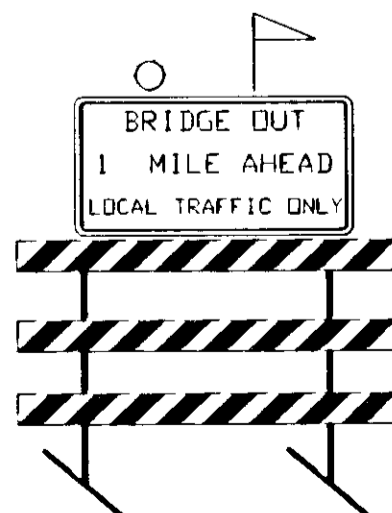
DETOUR LAYOUT

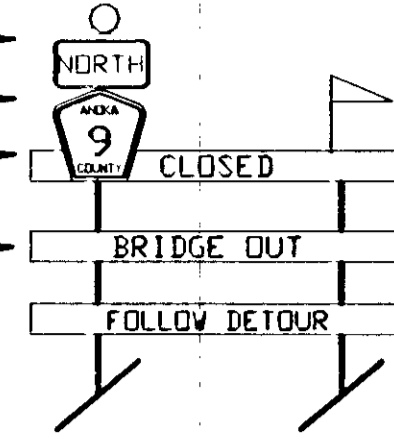
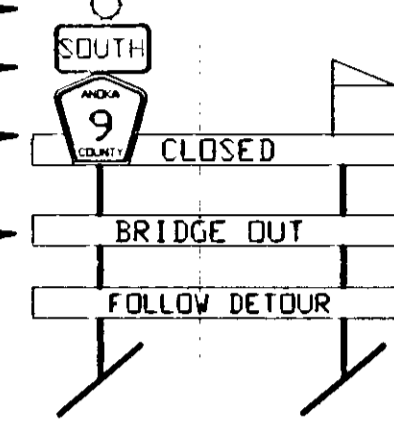
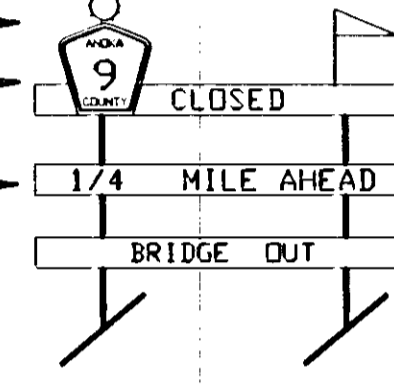
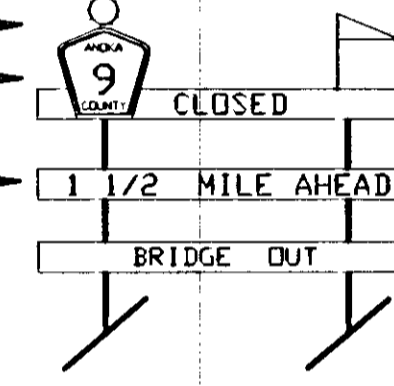
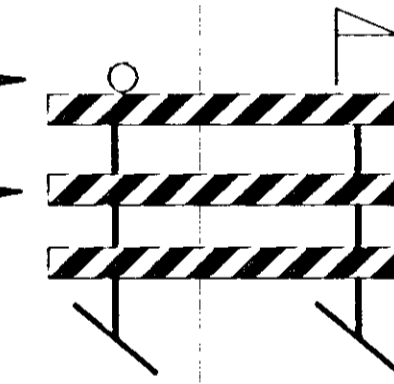
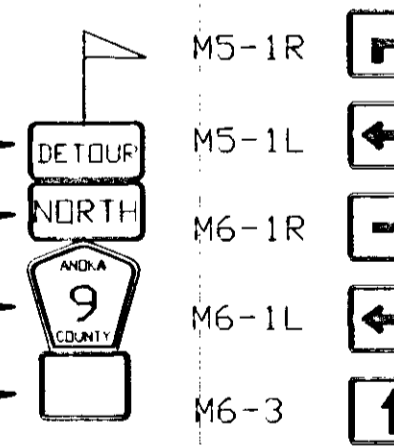
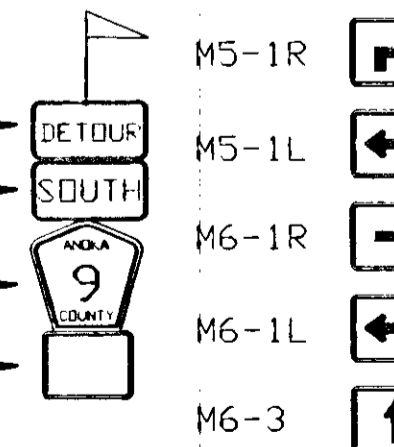
REVISIONS	DATE	BY

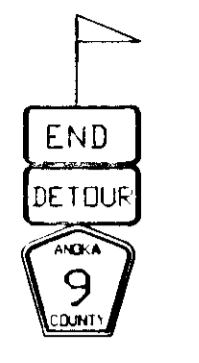

CERTIFIED BY *Roupe K. Kivela* P.E. REG NO. 20235 3/16 19 75

S.P. 02-609-04 S.A.P. 02-609-06 C.P.

Sheet No. 12 of 13 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
FLASHER W20-3	48"x48"	 AHEAD 500' 1000'	• 2 • 2 • 1
FLASHER W20-2	48"x48"		• 2
FLASHER M4-10 R TYPE III	48"x18" 8 FT.		• 1
FLASHER M4-10 L TYPE III	48"x18" 8 FT.		• 1
FLASHER R11-2 TYPE III	48x30 8 FT.		• 4
FLASHER R11-3A TYPE III	72x30 8 FT.		• 1
FLASHER R11-3A TYPE III	72x30 8 FT.		• 1

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
FLASHER M3-1 M1-6 TYPE III	24x12 24x24 8 FT.		• 1
FLASHER M3-3 M1-6 TYPE III	24x12 24x24 8 FT.		• 1
FLASHER M1-6 TYPE III	24x24 8 FT.		• 1
FLASHER M1-6 TYPE III	24x24 8 FT.		• 1
FLASHER TYPE III	8 FT.		• 4
M4-8 M3-1 M1-6	24x12 24x12 24x24 24x15		M5-1R • 1 M5-1L • 2 M6-1R • 1 M6-1L • 2 M6-3 • 4
M4-8 M4-8 M1-6	24x12 24x12 24x24 24x15		M5-1R • 2 M5-1L • 1 M6-1R • 2 M6-1L • 1 M6-3 • 5

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
M4-6 M3-3 M1-6	24x12 24x12 24x24		• 2
G20-X1	60"x48"		• 2

NOTES:

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REVISIONS	BY	DATE

STATEMENT OF ESTIMATED QUANTITIES

NOTE	CHART	ITEM NO.	ITEM	UNIT	SAP 02-609-06	
					ESTIMATED	FINAL
		0013.601	CELLULAR MOBILE TELEPHONE	LUMP SUM	1	
		0015.601	COMPUTER EQUIPMENT	LUMP SUM	1	
		2021.501	MOBILIZATION	LUMP SUM	0.33	
		2031.501	FIELD OFFICE TYPE D	EACH	1	
	A	2101.501	CLEARING	ACRE	0.15	
	A	2101.502	CLEARING	TREE	8	
	A	2101.506	GRUBBING	ACRE	0.15	
	A	2101.507	GRUBBING	TREE	8	
	D	2104.501	REMOVE CABLE GUARD RAIL	LIN FT	328	
①		2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	1958	
		2104.513	SAWING BITUMINOUS PAVEMENT	LIN FT	70	
	B	2104.521	SALVAGE FENCE	LIN FT	220	
		2105.501	COMMON EXCAVATION	CU YD	569 (P)	
		2105.522	SELECT GRANULAR BORROW MOD. 10% (LV)	CU YD	2230	
		2105.523	COMMON BORROW (LV)	CU YD	2148	
③		2130.501	WATER	M GAL	5	
		2211.503	AGGREGATE BASE (CV) CLASS 5A	CU YD	298	
④		2301.553	BRIDGE APPROACH PANELS	SQ YD	204	
⑤		0331.601	2" THICK BITUMINOUS WEARING COURSE	SQ YD	23	
⑥		2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	179	
		2340.510	TYPE 41 BINDER COURSE MIXTURE	TON	158	
		2340.514	TYPE 31 BASE COURSE MIXTURE	TON	164	
		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	143	
		2442.501	REMOVE OLD BRIDGE	LUMP SUM	1	
		2501.515	18" RC PIPE APRON	EACH	2	
		2503.541	18" RC PIPE SEWER DES. 3006	LIN FT	148	
		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	LIN FT	9.3	
		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	3.0	
		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN LP 4-9	EACH	1	
		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN LP 4-4	EACH	1	
	C	2506.516	CASTING ASSEMBLY	EACH	4	
		2511.501	RANDOM RIPRAP, CLASS 3	CU YD	12	
	D	2554.501	TRAFFIC BARRIER-DESIGN B8307	LIN FT	100	
		0554.602	ECCENTRIC LOADER BCT	EACH	4	
		0554.603	GUARD RAIL TRANSITION CONNECTION	LIN FT	100	
	B	0557.603	INSTALL FENCE	LIN FT	220	
		0563.601	DETOUR SIGNING	LUMP SUM	1	
⑦		2573.501	BALE CHECK	EACH	80	
		2573.503	SILT FENCE, PREASSEMBLED	LIN FT	1290	
		2573.505	FLOTATION SILT CURTAIN	LIN FT	25	
		2575.501	SEEDING	ACRE	0.61 (P)	
		2575.502	SEED MIXTURE 500	POUND	27	
		2575.523	WOOD FIBER BLANKET, TYPE REGULAR	SQ YD	2984	
		2575.532	COMMERCIAL FERTILIZER ANALYSIS 10-10-10	POUND	305	
		2580.501	TEMPORARY LANE MARKING	RD STA	40	

- ① INCLUDES 23 S.Y. FOR DRIVEWAY STA. 407+56 LT. & 21 S.Y. FOR BIT. FLUMES.
- ② INCLUDES ALL BIT. PAVEMENTS IRRESPECTIVE OF DEPTH. INPLACE PAVEMENT ASSUMED TO BE 6" IN DEPTH. CONTRACTOR SHALL INVESTIGATE AND MAKE OWN DETERMINATION OF ACTUAL DEPTH.
- ③ TO BE USED, AT THE DIRECTION OF THE ENGINEER, FOR DUST CONTROL.
- ④ PAY ITEM INCLUDES INTEGRAL CURB AND TRANSITION CURB.
- ⑤ PROVIDED FOR DRIVEWAY RESTORATION, PAYMENT BY THE S.Y. INCLUDES BITUMINOUS MATERIAL FOR MIXTURE & 3" THICK (COMPACTED THICKNESS) AGGREGATE BASE.
- ⑥ INCLUDES 7.4 TONS OF MATERIAL FOR INTEGRAL BITUMINOUS CURB.
- ⑦ MEASUREMENT AND PAYMENT SHALL BE MADE FOR EACH INDIVIDUAL BALE FURNISHED AND INSTALLED.

EARTHWORK SUMMARY	
EXCAVATION (CU.YD.)	569 C.Y. — TOPSOIL.....302 C.Y. SUBCUT.....267 C.Y.
EMBANKMENT CONST. (CV)	TOPSOIL.....242 C.Y. SUBCUT.....267 C.Y. SEL. GRAN.....1,832 C.Y. REGULAR.....1,790 C.Y.
BALANCE:	
TOPSOIL: T.S. DRESSING (CV) - [T.S. STRIPPING(EV) X S.F.] = 242 - (302 X 0.85) = -15 C.Y. (EXCESS)	
SEL. GRAN.: [SEL. FILL (CV) + (SUBCUT FILL - (SUBCUT EXC. X S.F.))] X S.F. = [1832 + (267 - (267 X 0.90))] X 1.2 = 2230 C.Y. BORROW (LV)	
COMMON MATL.: REG FILL (CV) X S.F. = 1790 X 1.2 = 2148 C.Y. COMMON BORROW (LV)	

SOIL FACTORS:
REGULAR GRADING (EV TO CV) : 85% SHRINKAGE
SUBCUT COMPACTION (EV TO CV) : 90% SHRINKAGE
BORROW MATERIAL (CV TO LV) : 120% SWELL

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 B	RIPRAP AT RCP OUTLET
3145 E	CONCRETE PIPE TIES
4005 K	MANHOLE OR CATCH BASIN (DESIGN F)
4006 K	MANHOLE OR CATCH BASIN (DESIGN G AND DESIGN H)
4021 D	PRECAST CURB OPENING CATCH BASIN
4108 F	ADJUSTING RINGS FOR MANHOLES AND CATCH BASINS
4110 E	COVER CASTING FOR MANHOLE
4126 F	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
7102 I	CONCRETE CURB AND GUTTER
8000 I	STANDARD BARRICADES
8307 P	STEEL PLATE BEAM GUARDRAIL
8318 C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES & BCT'S.
8329 F	ECCENTRIC LOADER BREAKAWAY CABLE TERMINAL
9000 B	APPROACHES AND ENTRANCES

BASIS OF PLANNED QUANTITIES

- 2340 TYPE 31 PLANT MIXED BASE & BINDER COURSE
BITUMINOUS MATERIAL 110 LBS./SQ. YD. / 1" THICK
- 2340 TYPE 41 PLANT MIXED WEARING COURSE
BITUMINOUS MIXTURE 110 LBS./SQ.YD. / 1" THICK
- 2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL./SQ.YD./LAYER APPLIED
- 2575 COMMERCIAL FERTILIZER ANALYSIS 10-10-10, 500 POUNDS/ACRE
ON ALL SEED AND SOD AREAS.
- 2575 SEED APPLICATION RATE OF 50 POUNDS/ACRE.
- 2575 SEEDING AREA BASED ON HORIZONTAL MEASUREMENT +10%

CLEARING AND GRUBBING (A)					
STA. - STA.	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
409+04	40' LT.	1		1	
409+14	40' LT.	1		1	
409+24	40' LT.	1		1	
409+35-409+90	60'-64' RT.		0.05		0.05
409+57	40' LT.	1		1	
409+87	25' LT.	2		2	
410+00	24' LT.	1		1	
410+49	22' LT.	1		1	
410+57-412+50	54'-65' RT.		0.10		0.10
TOTALS		8	0.15	8	0.15

FENCE CONSTRUCTION (B)				
STA.-STA.	LOC.	SALVAGE	INSTALL	REMARKS
408+50-409+90	RT.	140	140	BARBED WIRE
408+81-409+61	LT.	80	80	SPLIT RAIL
TOTAL (LIN. FT.)		220	220	

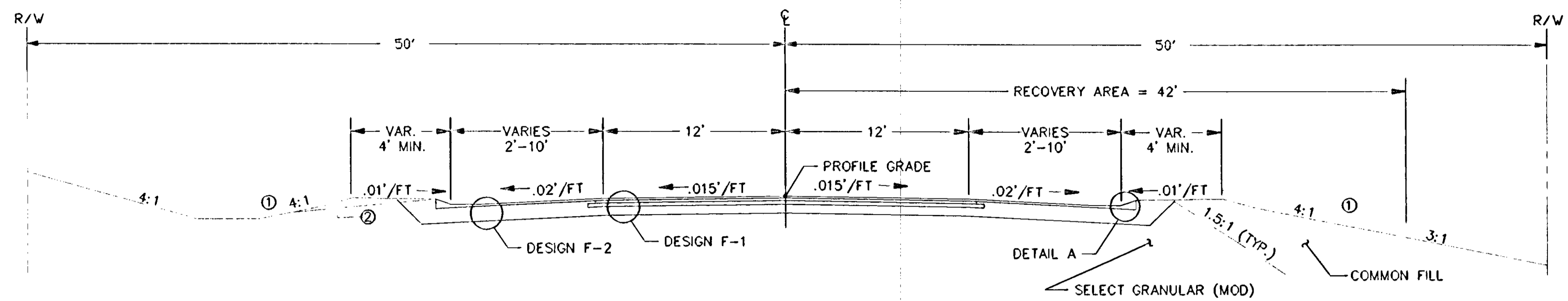
CASTINGS (C)					
NUMBER REQUIRED	FRAME CASTING	GRATE CASTING	CURB BOX CASTING	RING CASTING	COVER CASTING
2	801	810	821-D	790-2	712
2					

GUARD RAIL CONSTRUCTION (D)				
STA.-STA.	LOC.	REMOVE	F & I	REMARKS
409+12-410+00	LT	88		THREE CABLE
409+12-410+00	RT	88		THREE CABLE
410+52-411+28	LT	76		THREE CABLE
410+52-411+28	RT	76		THREE CABLE
409+28-409+78	LT		50	PLATE BEAM
409+28-409+78	RT		50	PLATE BEAM
410+48-410+98	LT		50	PLATE BEAM
410+48-410+98	RT		50	PLATE BEAM
TOTALS		328 L.F.	200 L.F.	
408+91-409+28	LT & RT	2		E.L.T.
410+98-411+35	LT & RT	2		E.L.T.
TOTALS			4 EA.	

STATEMENT OF ESTIMATED QUANTITIES TABULATION CHARTS

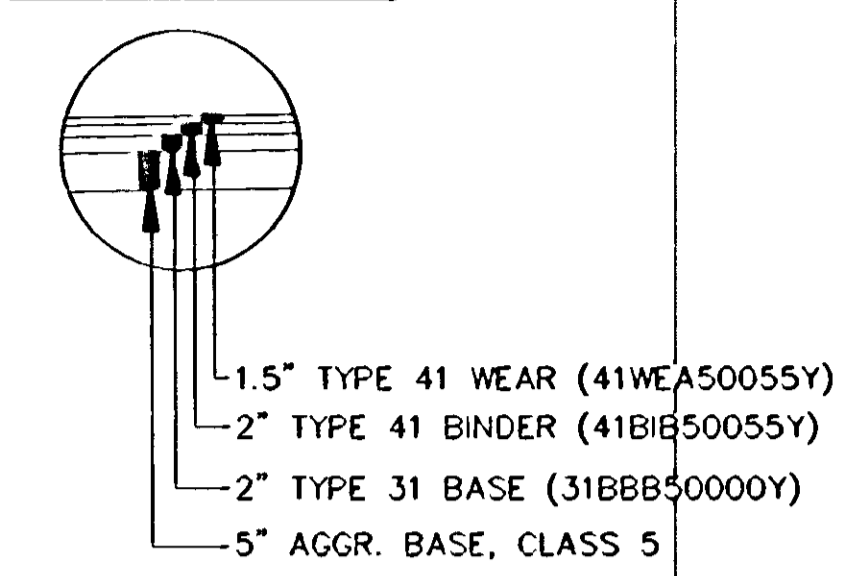
REVISIONS
 DATE BY DATE BY
 C:\AP\0260906\09QUANT
 1:39:41:21:401:304:575E+007

C.S.A.H. 9
STA. 407+00 TO STA. 413+25

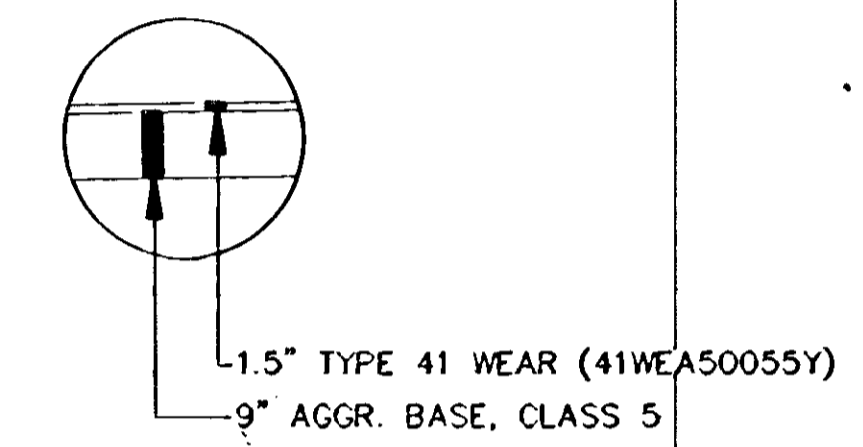


- ① 2:1 MAX. SLOPE BEHIND GUARD RAIL.
- ② 0.1'/FT SLOPE IN GUARD RAIL SECTION (TYP.)

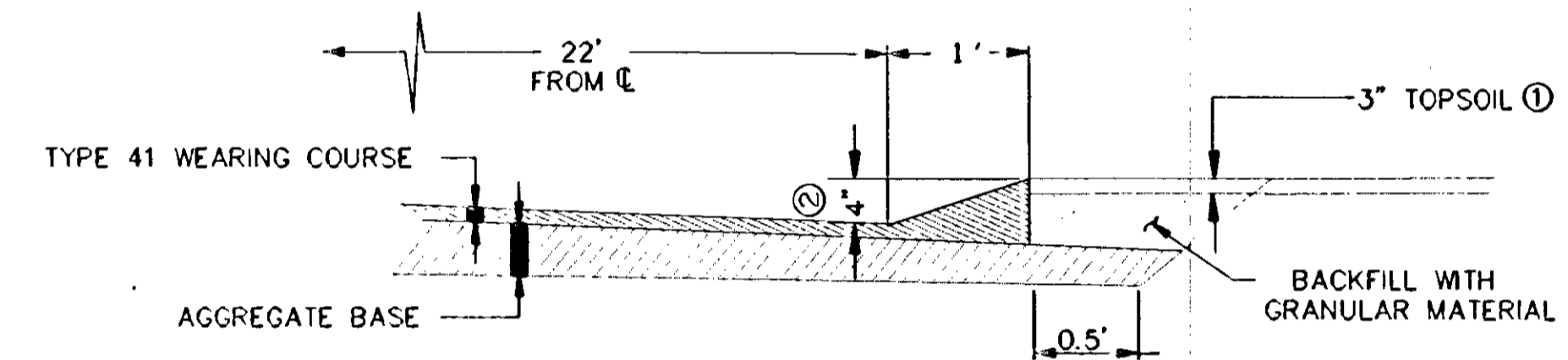
DESIGN F-1



DESIGN F-2

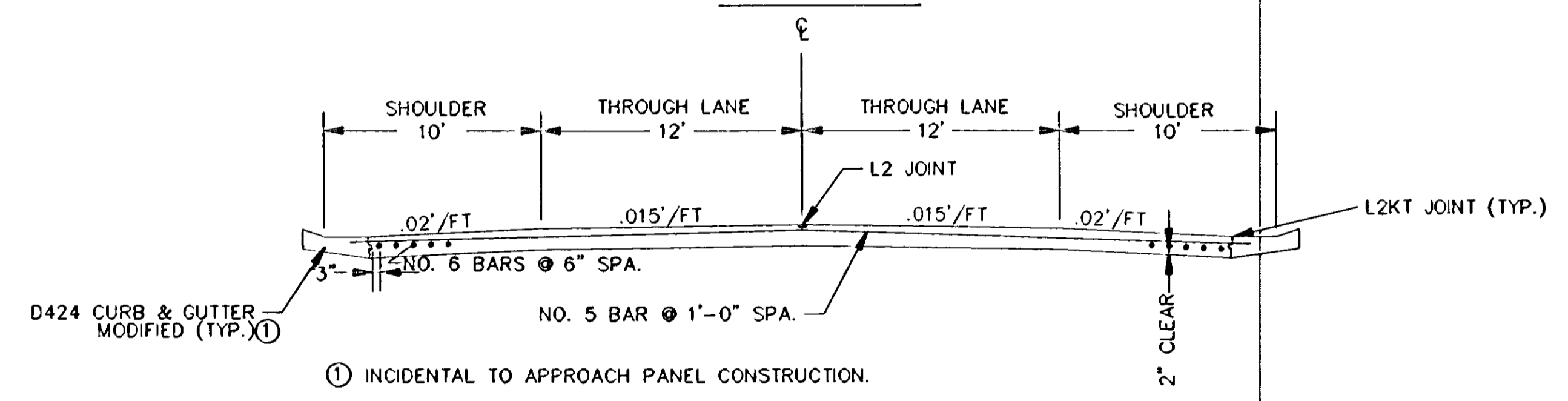


DETAIL A
INTEGRAL BITUMINOUS CURB DETAIL



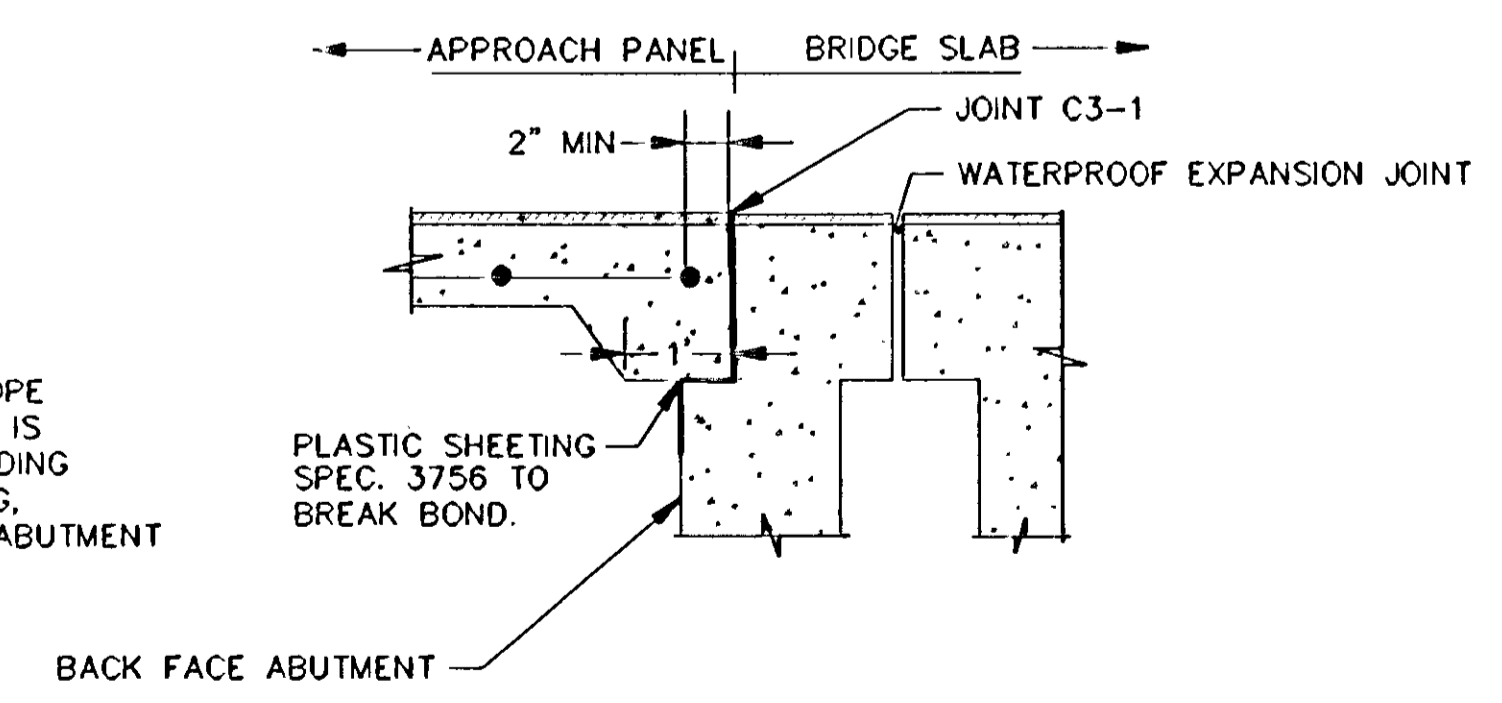
- ① TOPSOIL, FERTILIZE, SEED (TYPE 500) AND BLANKET ALL DISTURBED AREAS.
- ② TRANSITION 10' EACH SIDE OF DRAINAGE STRUCTURES TO MATCH.

SECTION A-A

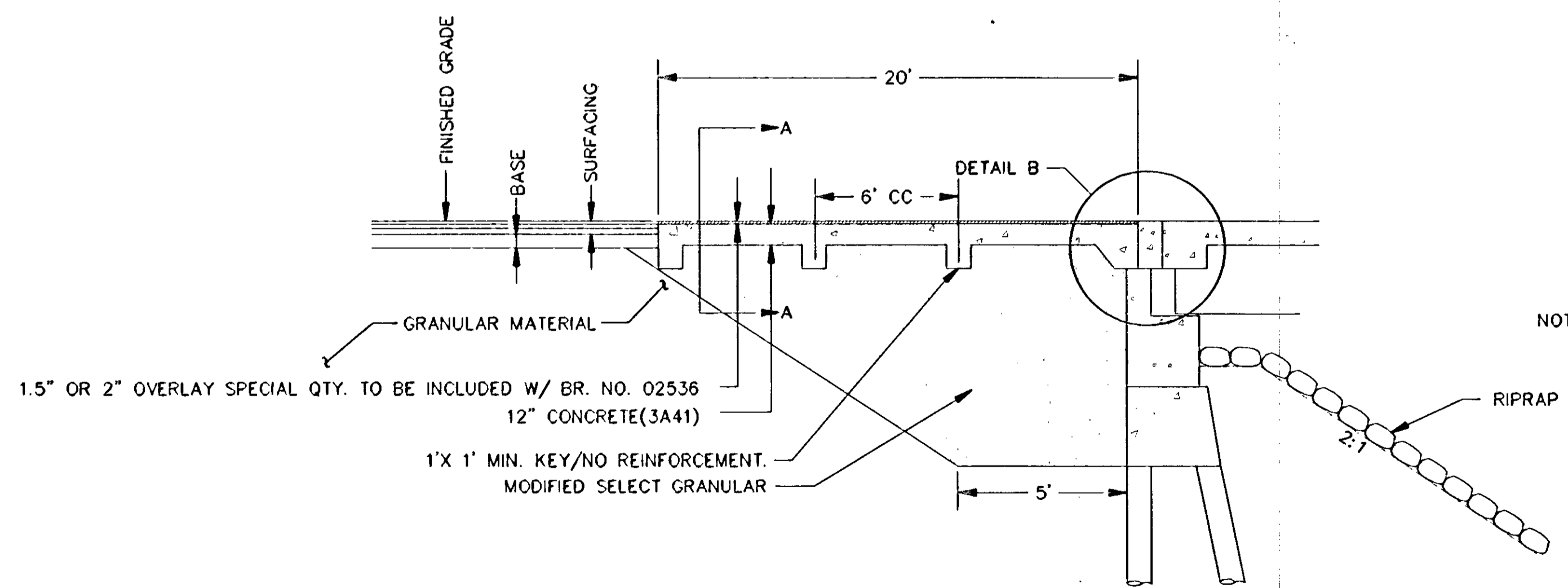


- ① INCIDENTAL TO APPROACH PANEL CONSTRUCTION.

DETAIL B

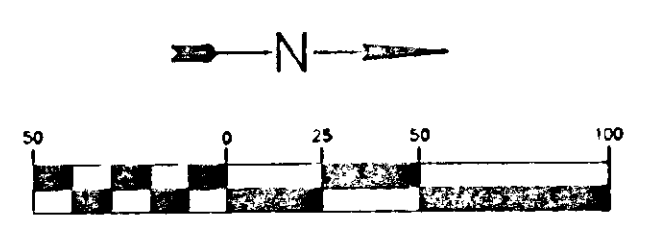
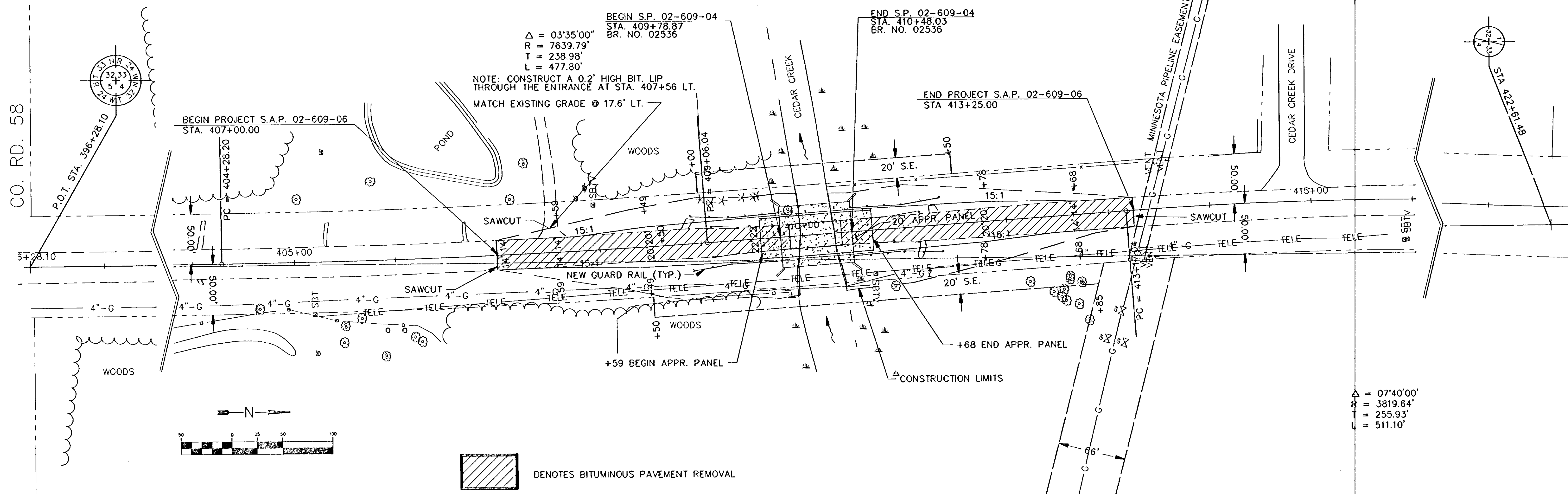


NOTE: ALL RIPRAP SHALL BE PLACED ON SLOPE BEFORE ANY WORK IS COMMENCED, INCLUDING APPROACH GRADING, PILE DRIVING AND ABUTMENT EXCAVATION.



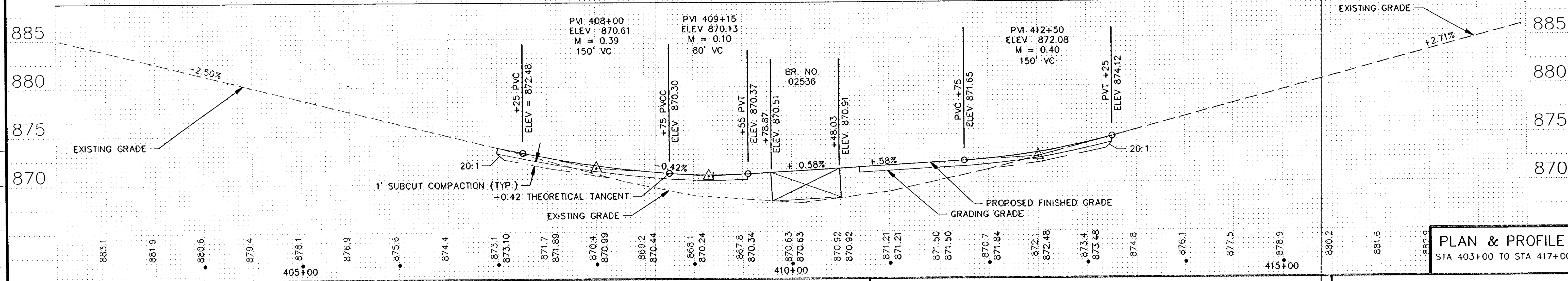
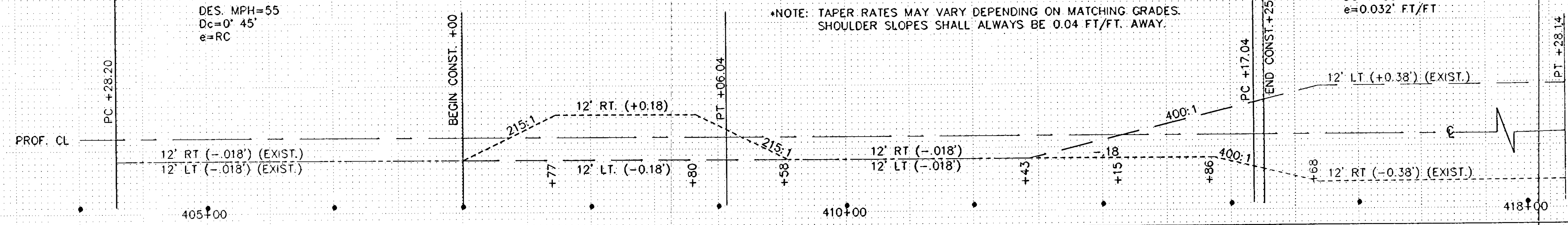
TYPICAL SECTIONS
APPROACH PANEL DETAILS

DATE BY DATE BY DATE BY

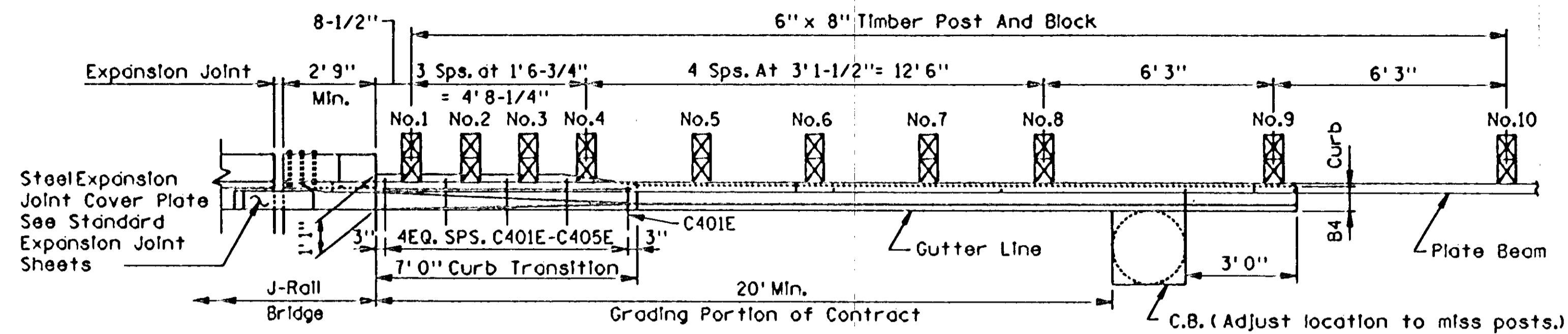


 DENOTES BITUMINOUS PAVEMENT REMOVAL

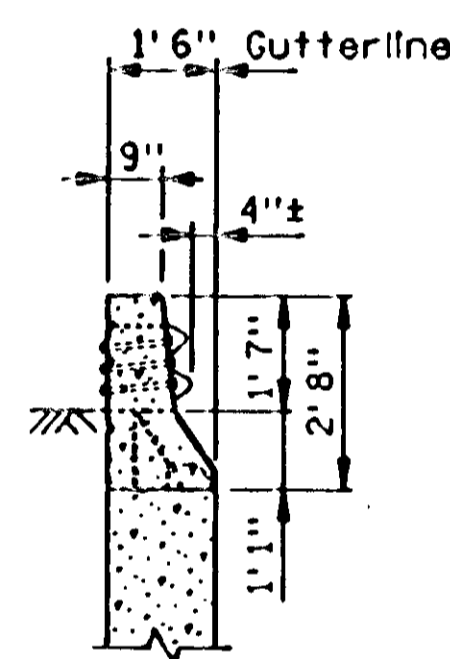
SUPERELEVATION CHART



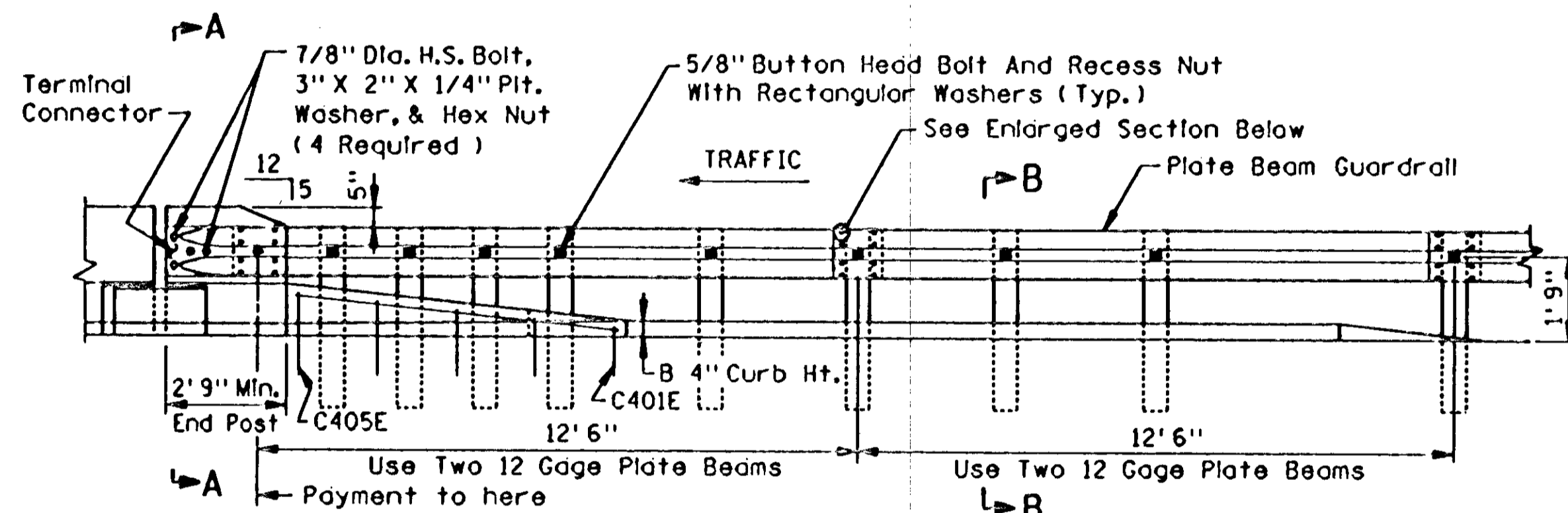
DATE	REVISIONS	BY



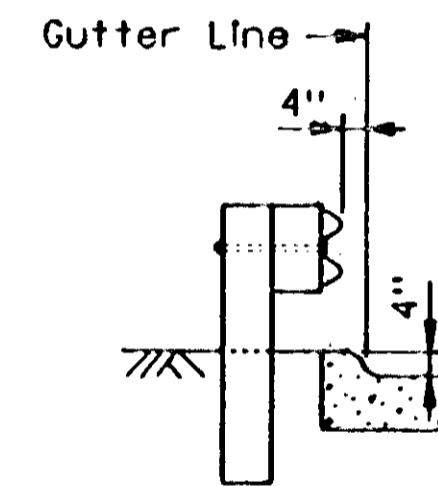
PLAN



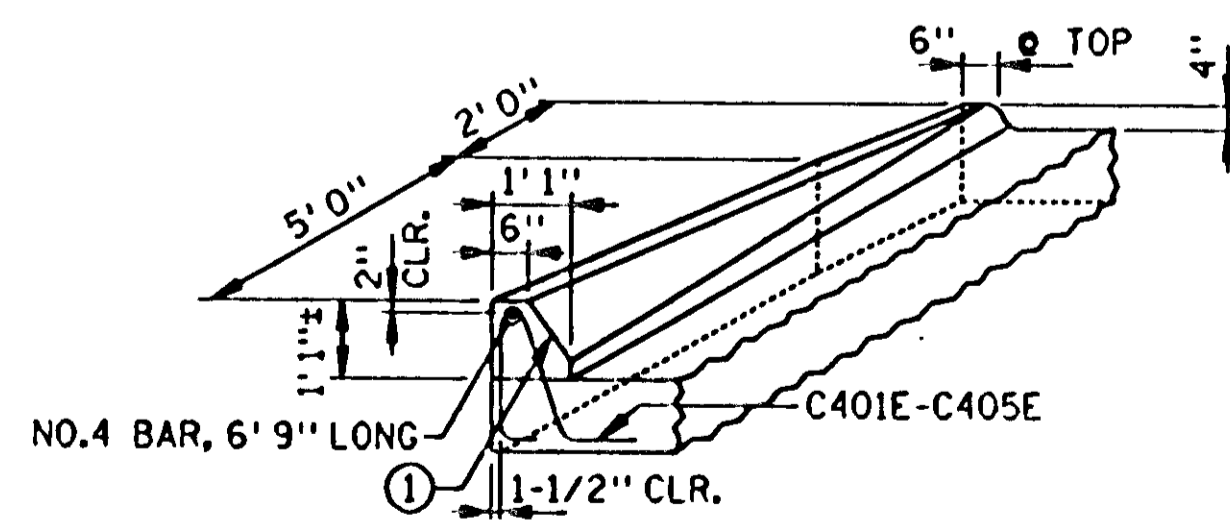
SECTION A-A
(WINGWALL)



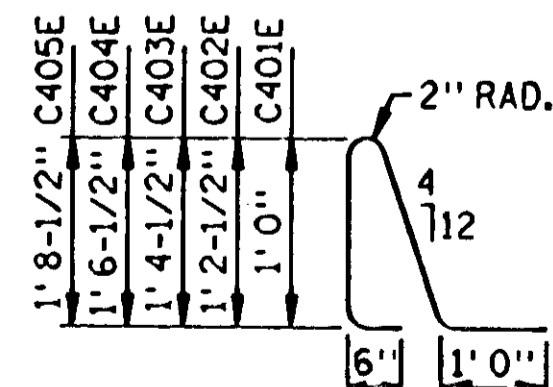
ELEVATION



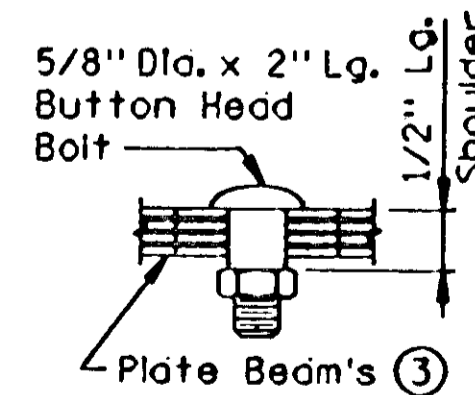
SECTION B-B



CURB TRANSITION DETAIL



C401E-C405E



ENLARGED SECTION

- ① End of transition to match Bridge Roll surface.
2. Pay length is 25 feet.
- ③ Use at splice locations when more than two plates are lapped together.

GUARDRAIL TRANSITION FOR NEW RAILING

CERTIFIED BY *Douglas M. Tischer*

PE.

REG. NO.

20235

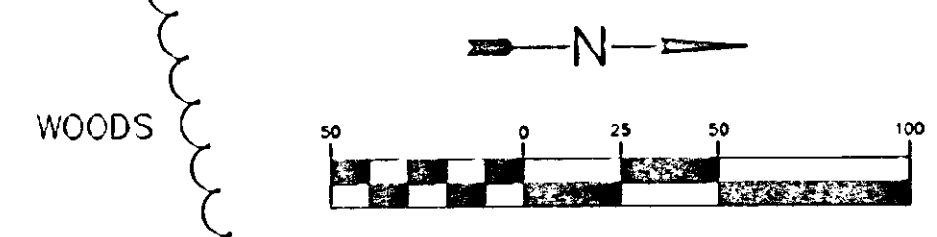
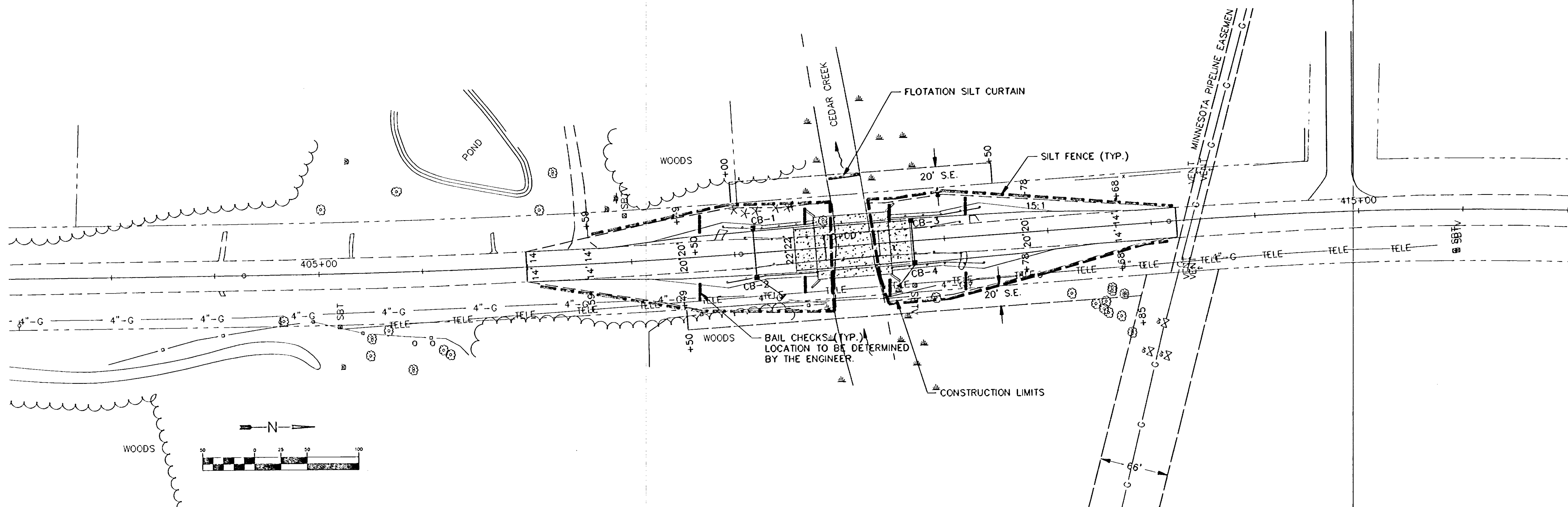
5/11/15

19

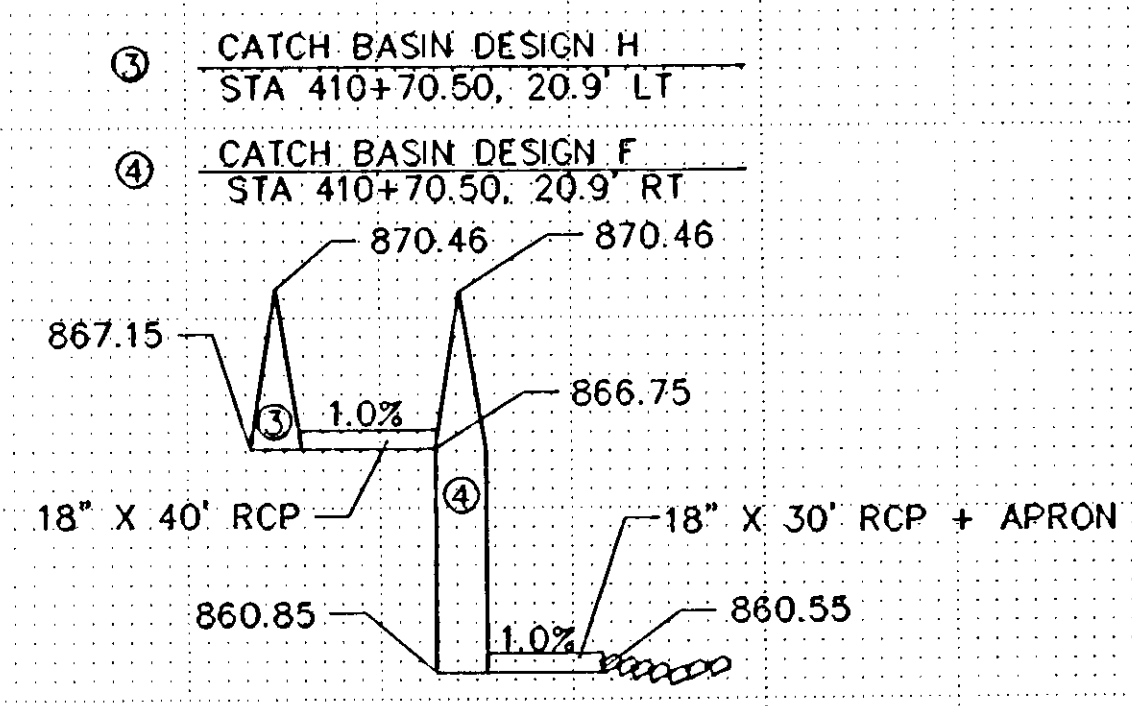
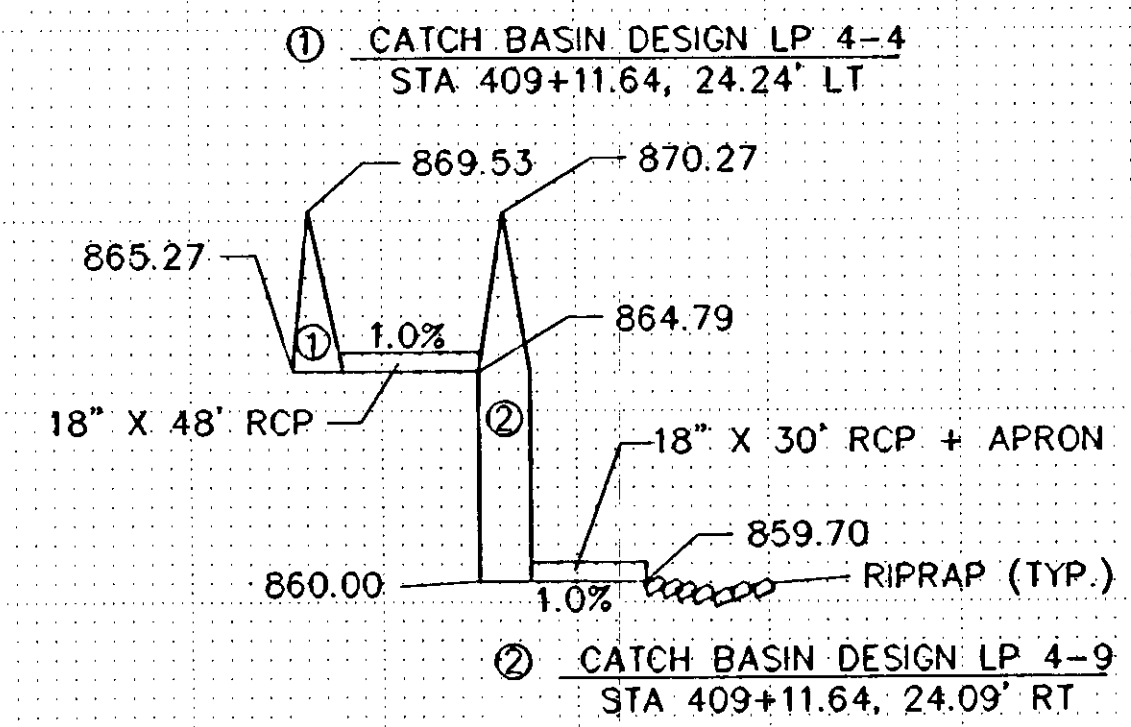
8-31-89

STATE PROJ NO 02-609-04 / S.A.P. 02-609-06

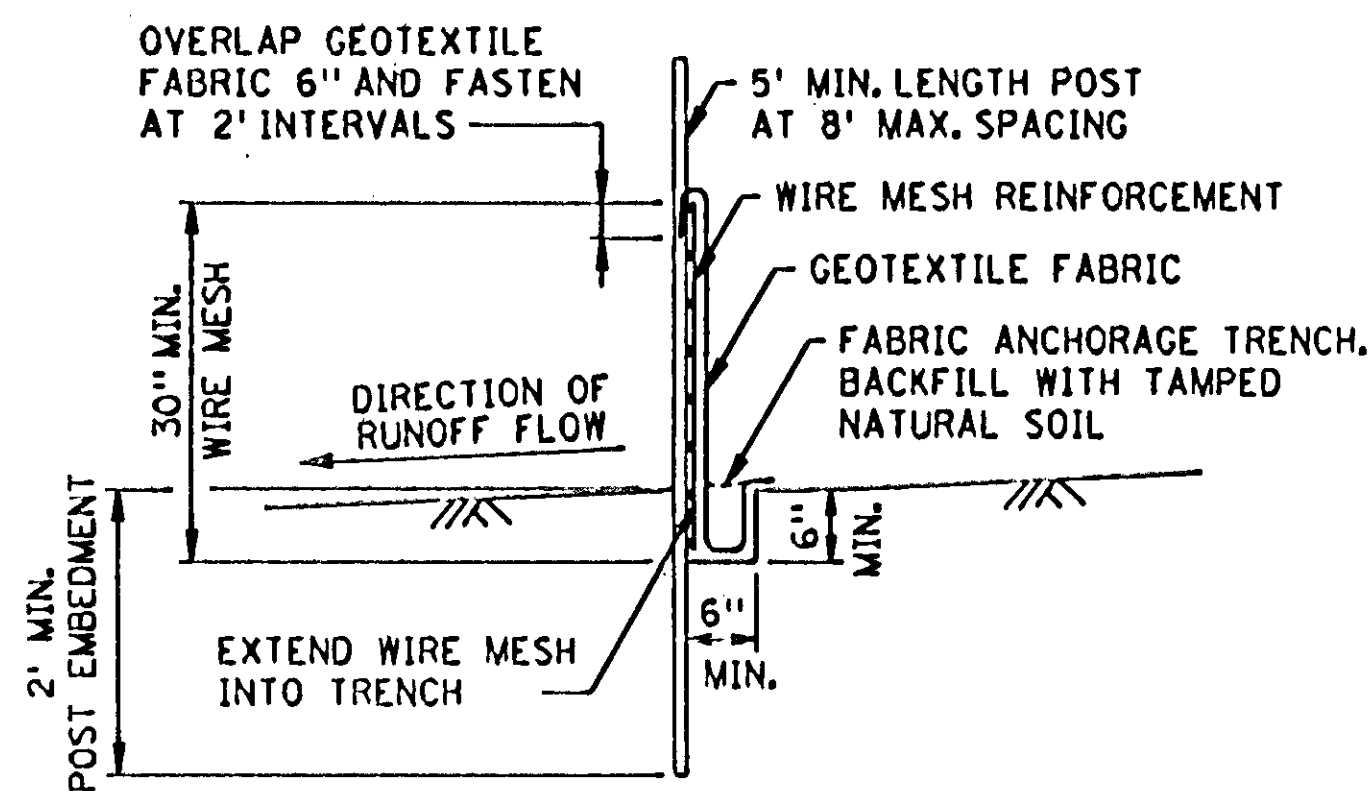
SHEET NO 9 OF 13 SHEETS



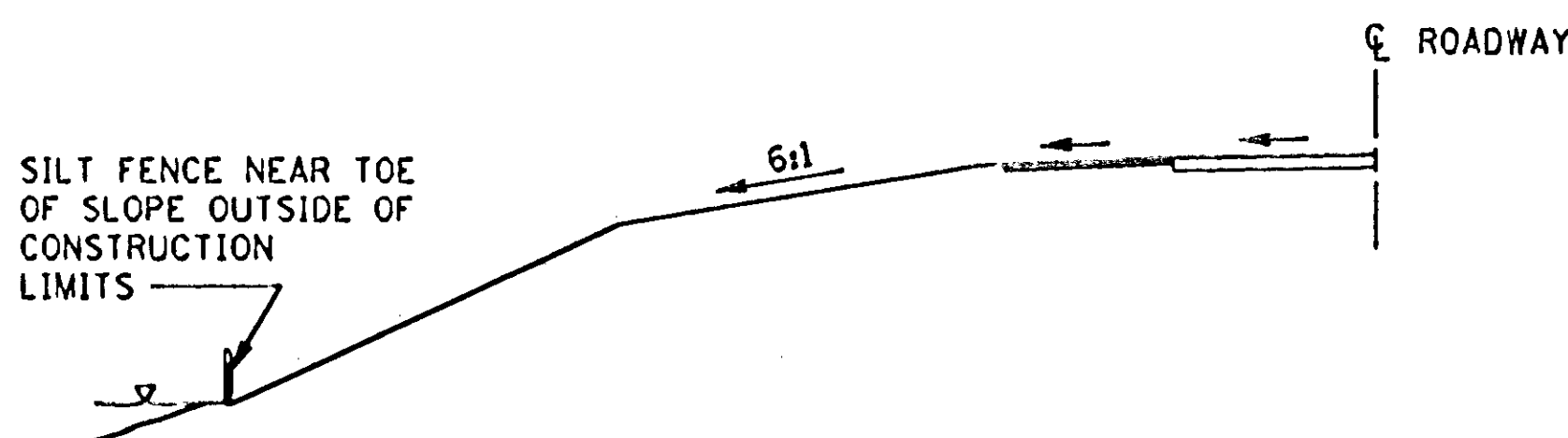
885		885
880		880
875		875
870		870
865		865
860		860



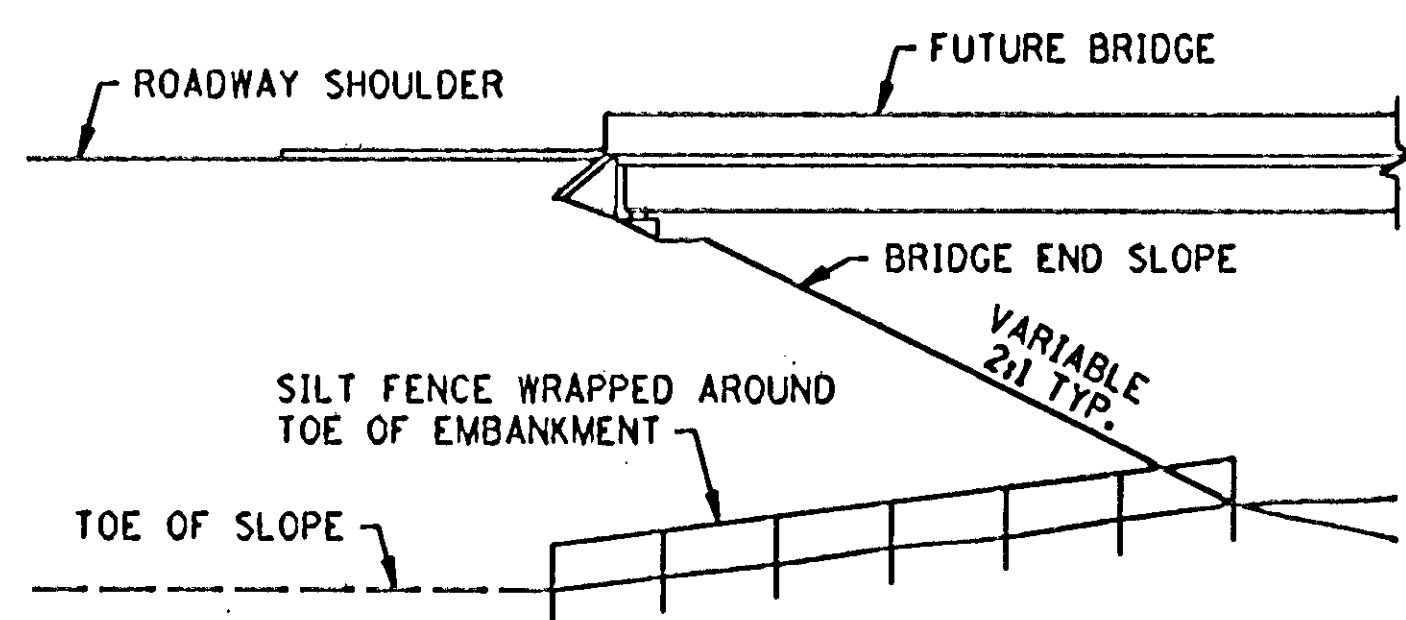
REVISIONS	DATE	BY



SILT FENCE DETAIL

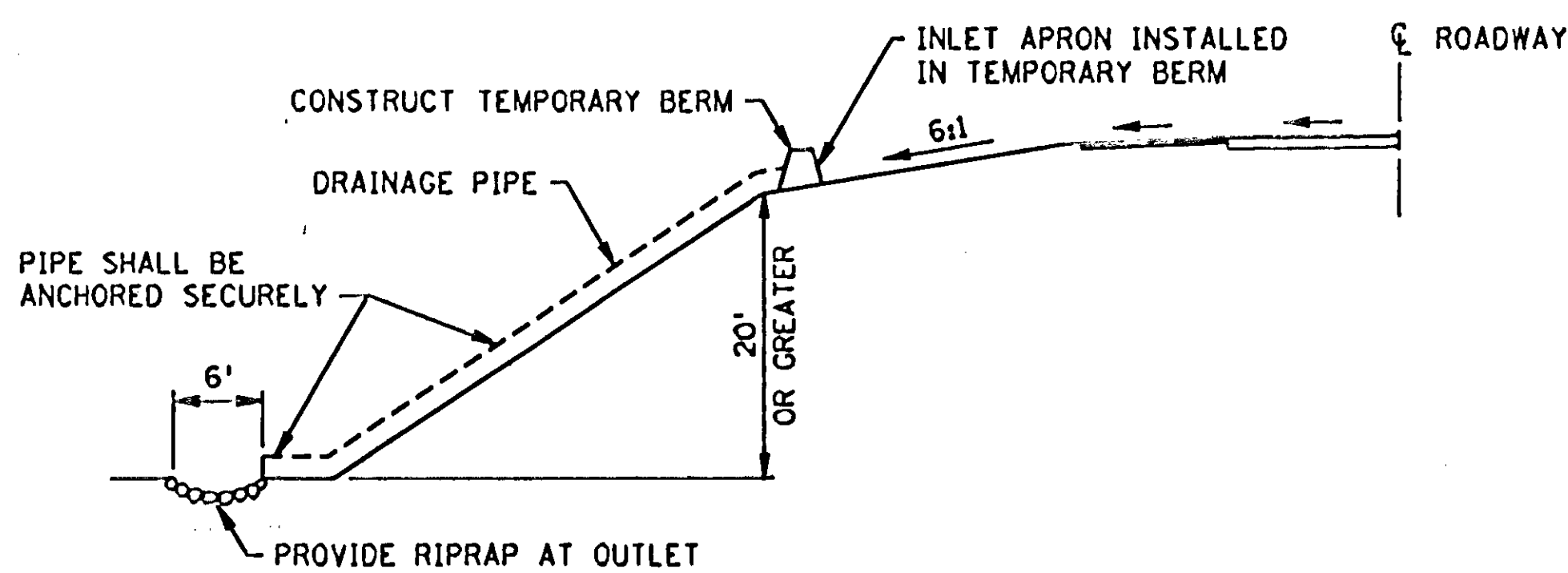


ROADWAY EMBANKMENT

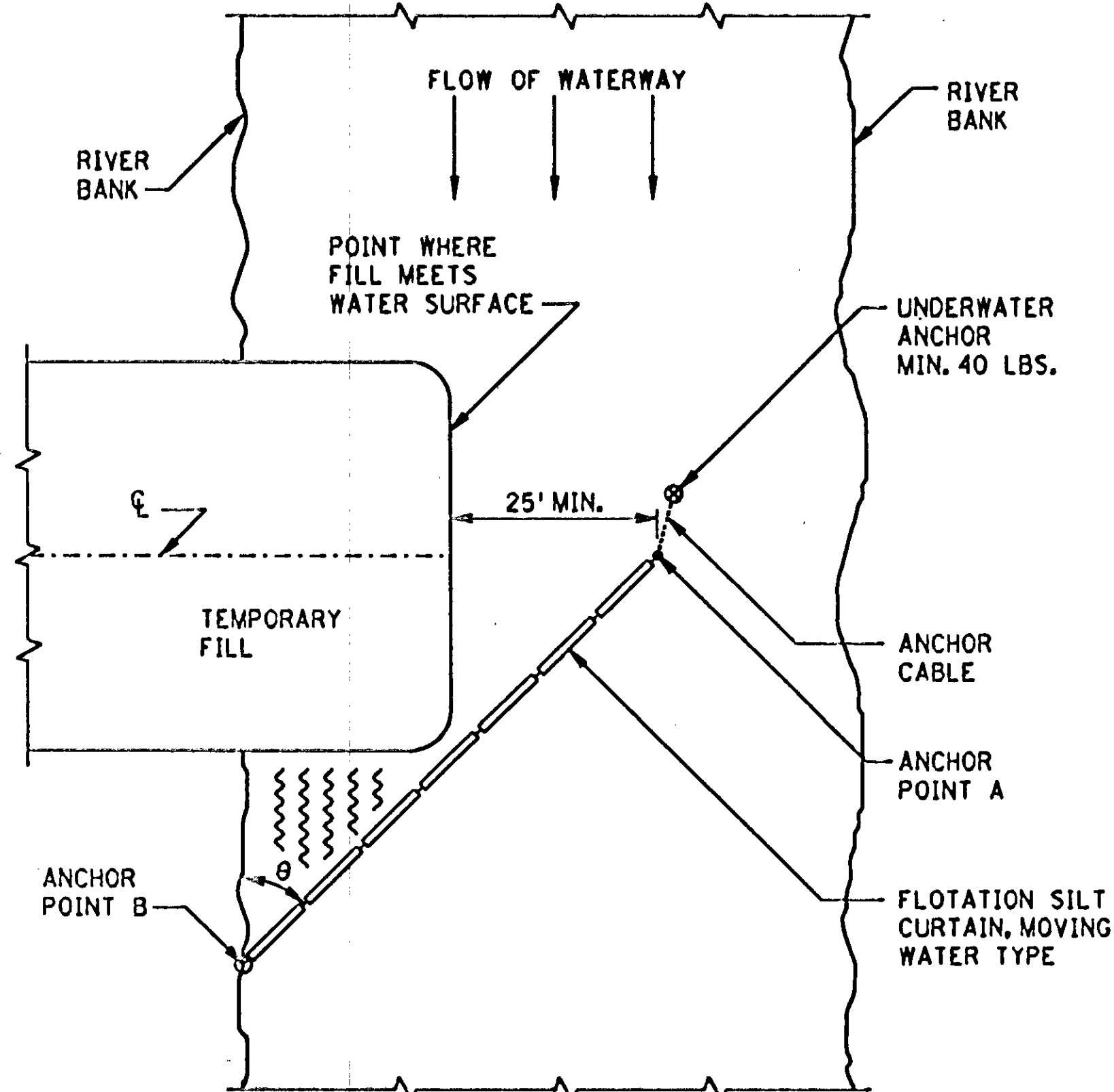


BRIDGE ABUTMENT

SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS

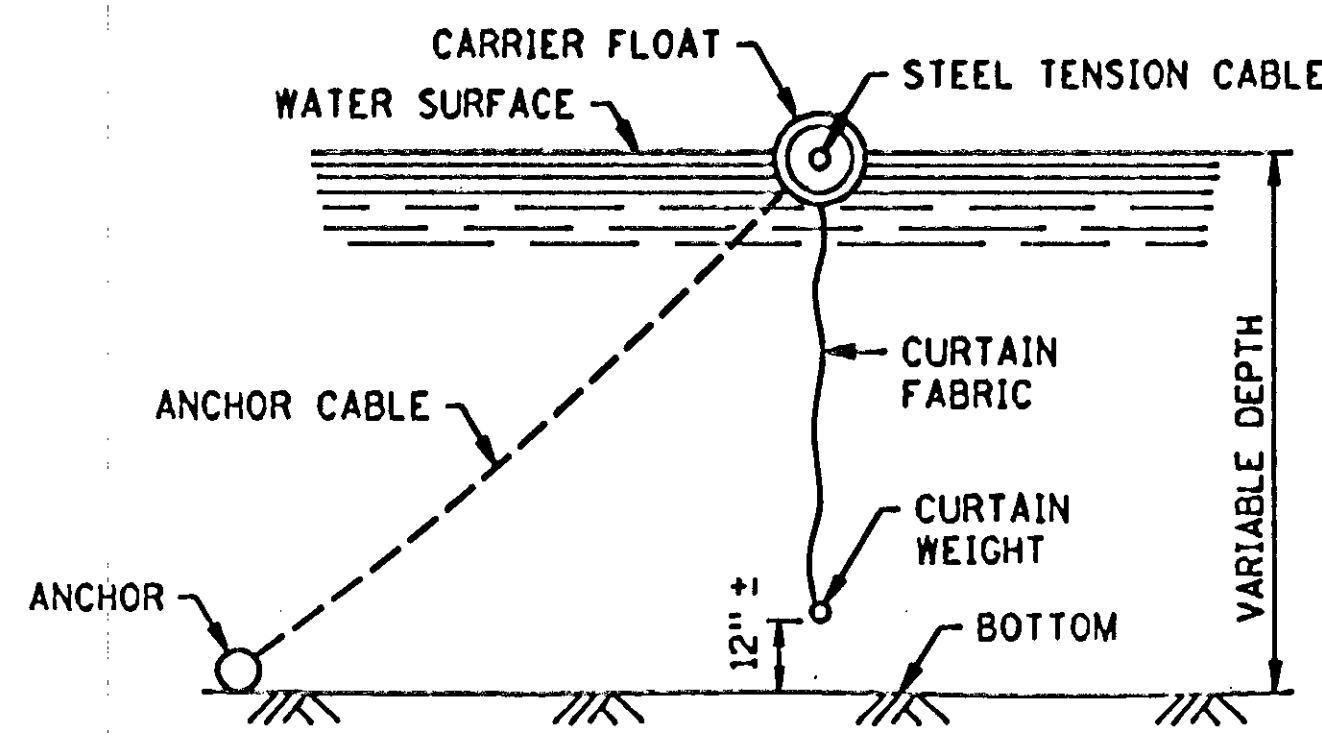


TEMPORARY DRAIN ON FILL SLOPE

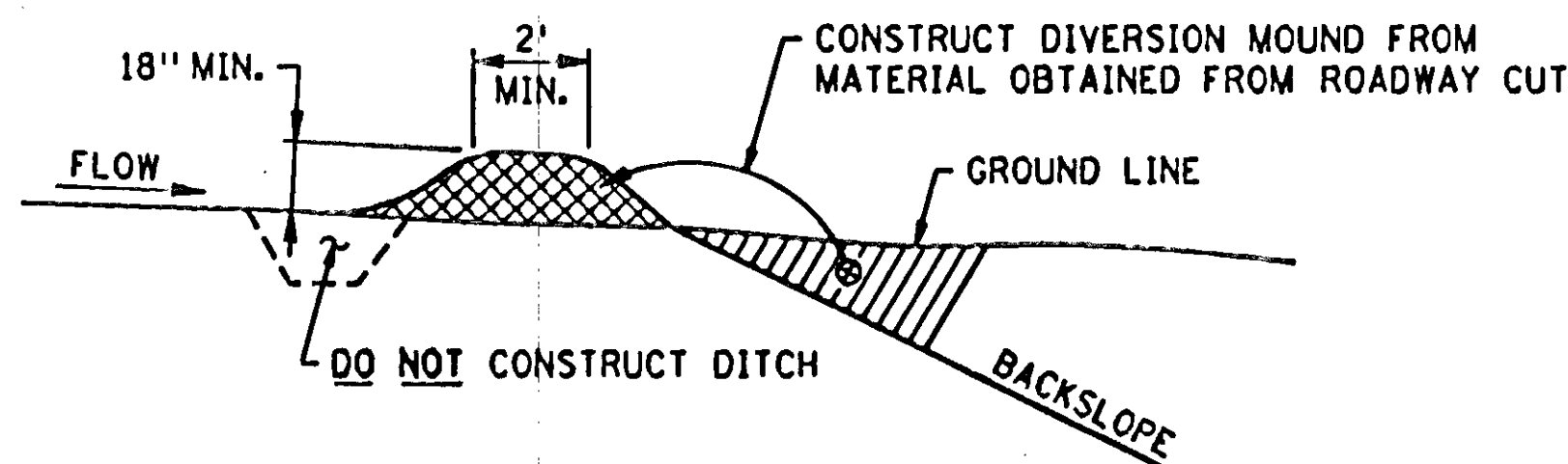


PLAN VIEW OF SILT CURTAIN - MOVING WATER

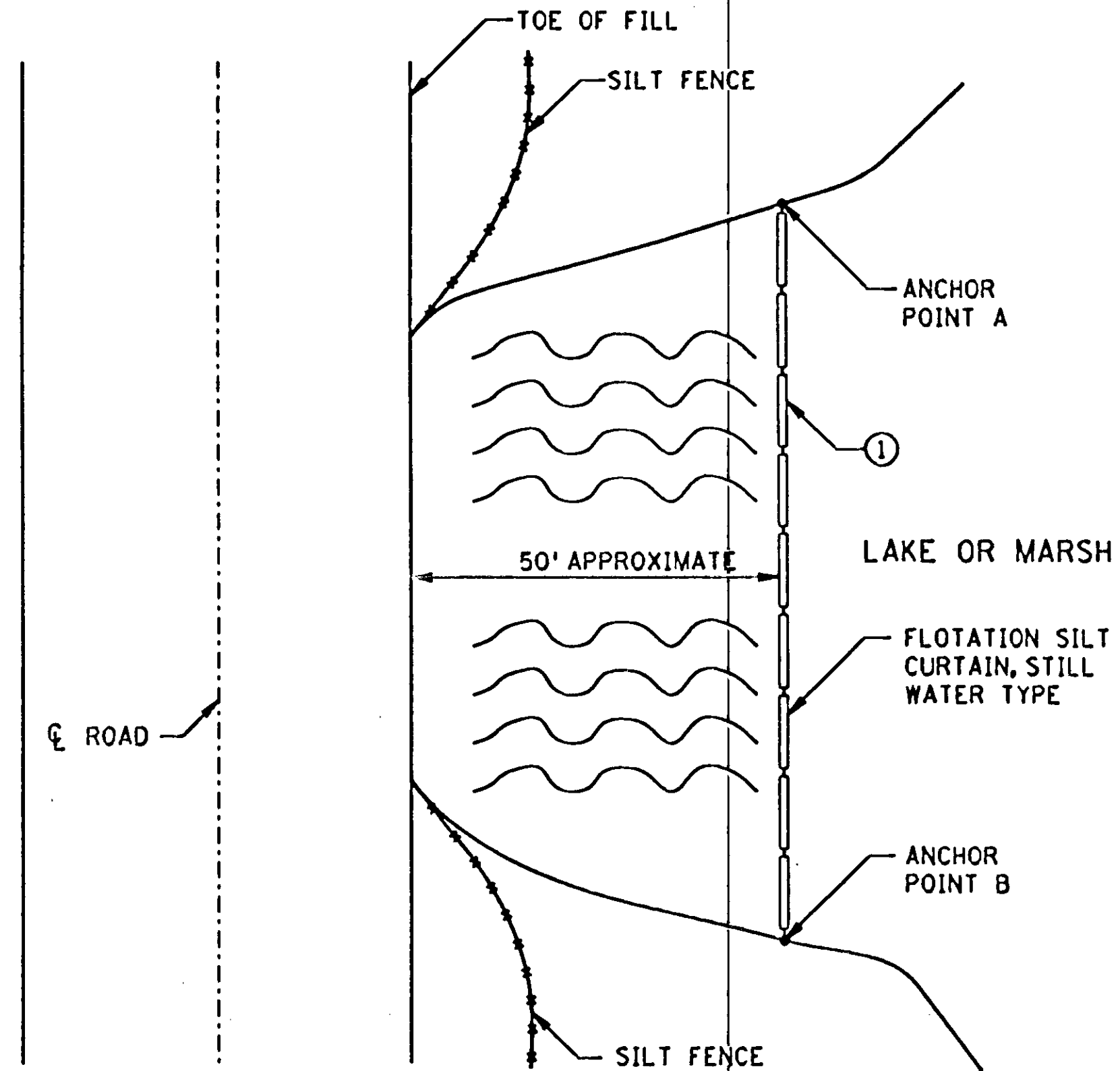
∠ θ	RIVER VELOCITY
45°	SLOW, LESS THAN 5 FT./SEC.
35°	MODERATE, 5 TO 7 FT./SEC.



FLOTATION SILT CURTAIN

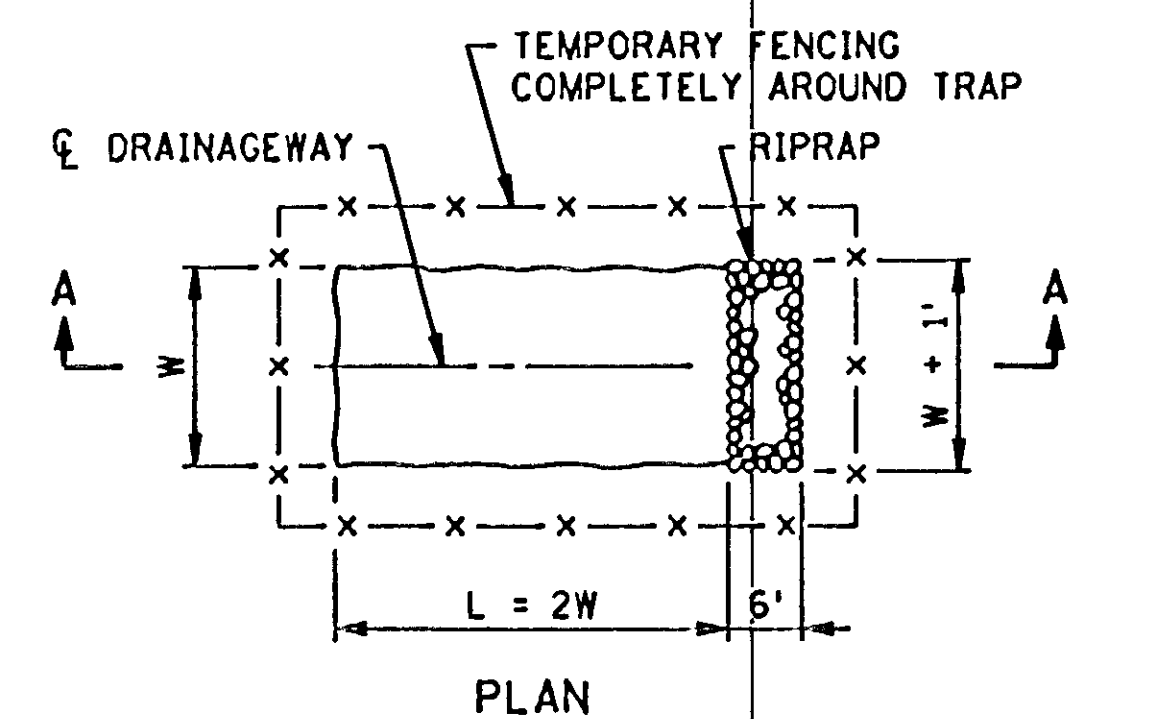


DIVERSION MOUND

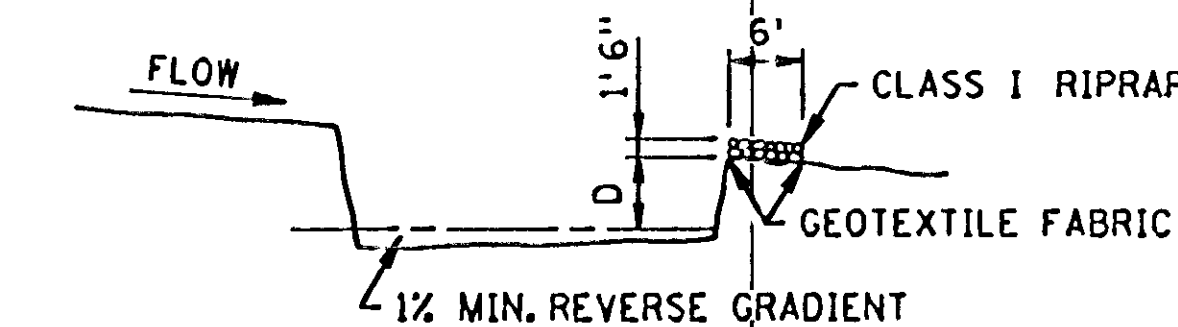


PLAN VIEW OF SILT CURTAIN - STILL WATER

① CURTAIN 1 FT. FROM BOTTOM



PLAN



NOTE:
D = 3' MIN., 6' MAX.
W = 10' MIN., 20' MAX.

SECTION A-A
TEMPORARY SEDIMENT TRAP

STANDARD SHEET NO. 5-297.405 (1 OF 2)
STANDARD APPROVED: AUGUST 2, 1993

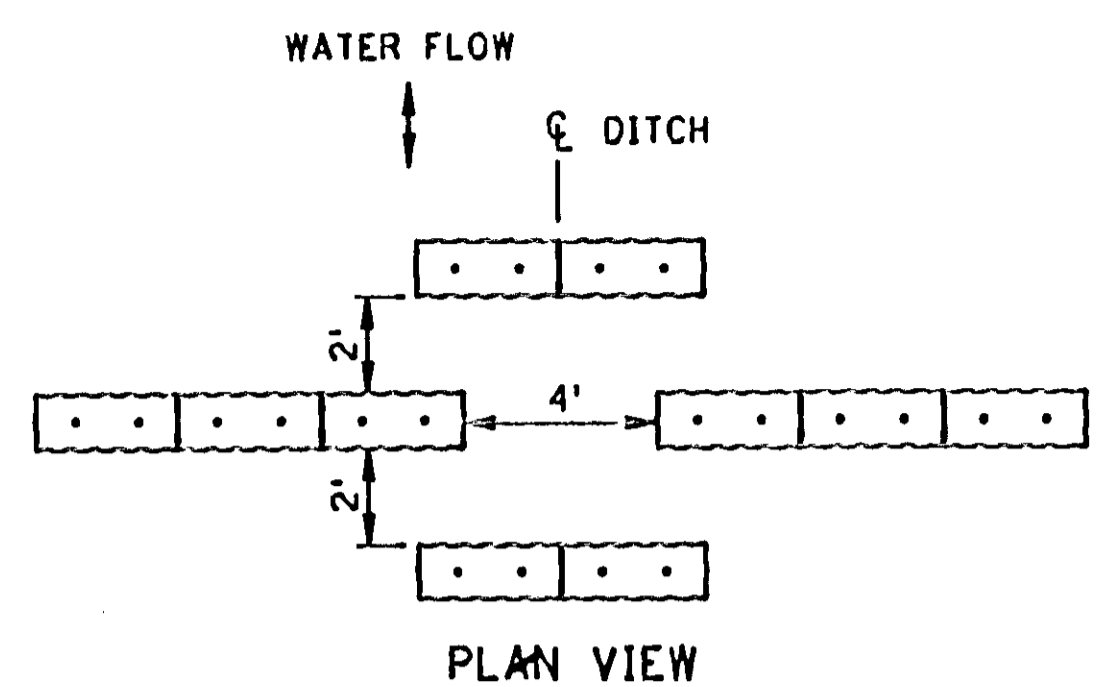
TITLE:

TEMPORARY EROSION CONTROL

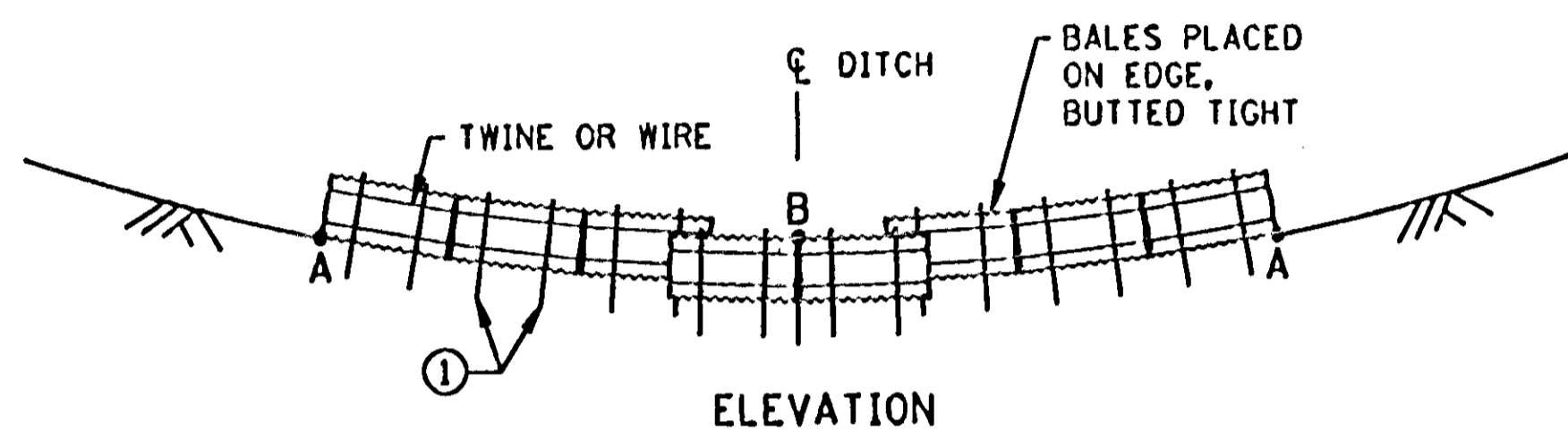
STATE PROJ. NO. 02-609-04/SAP 02-609-06 SHEET NO. 6 OF 13 SHEETS

SERVER CAG41:JUSR/STANDARDS FILE NAME S4051H93.SPN

SERVER C464511/USR/STANDARDS FILE NAME S4052R93.SPN

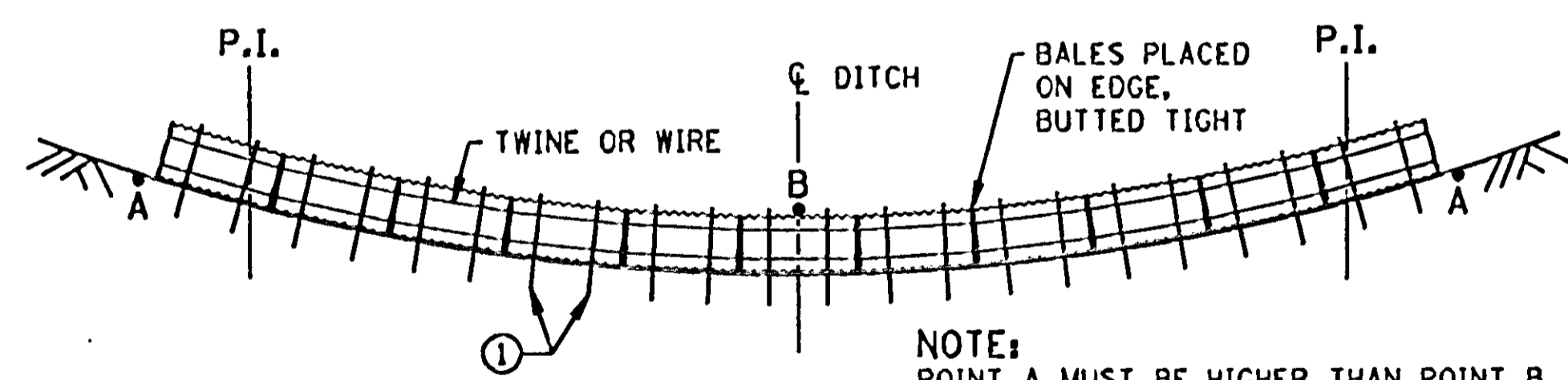


PLAN VIEW



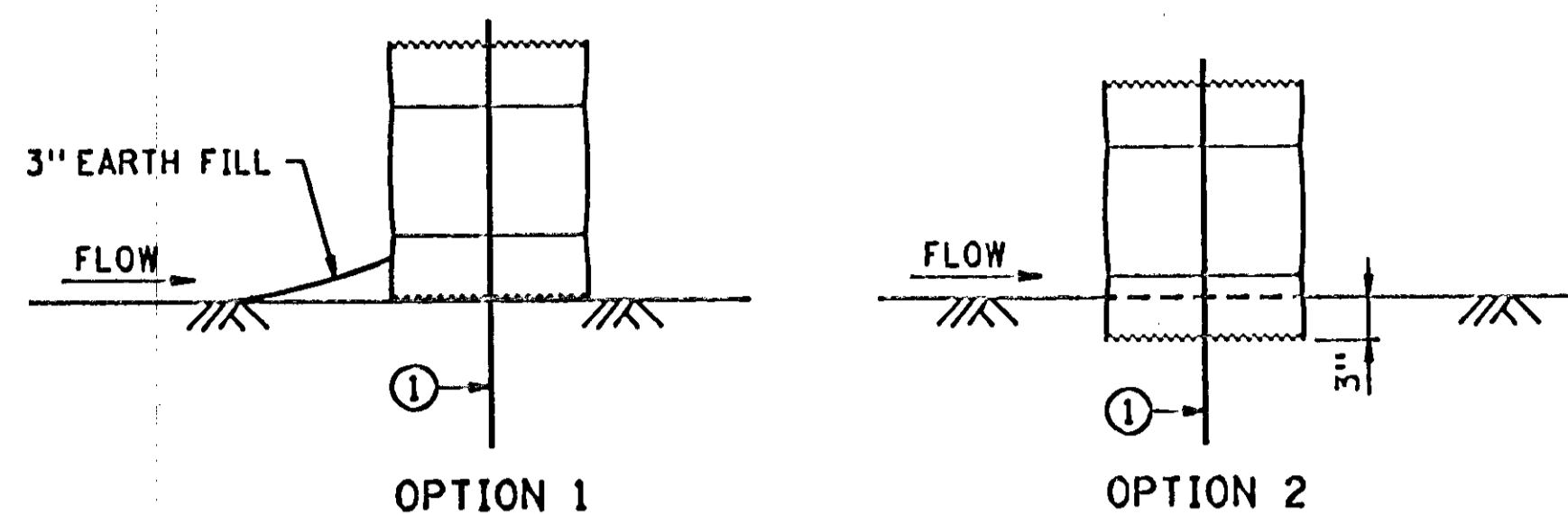
ELEVATION

NOTE:
POINT A MUST BE HIGHER THAN POINT B
BALE DITCH VELOCITY CHECKS
(WILL REQUIRE A MINIMUM OF 10 BALES PER SITE)

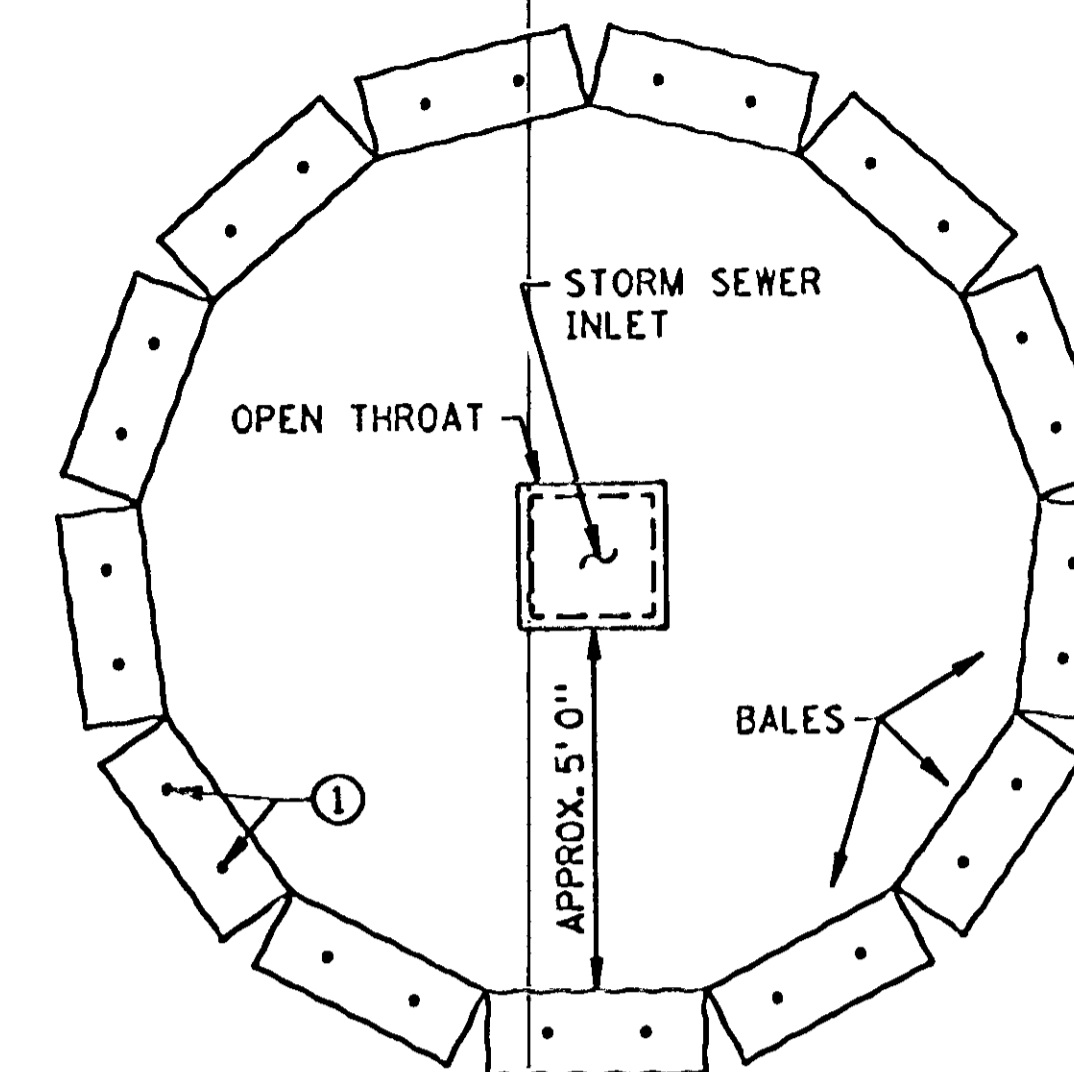


BALE DITCH SEDIMENT CHECK

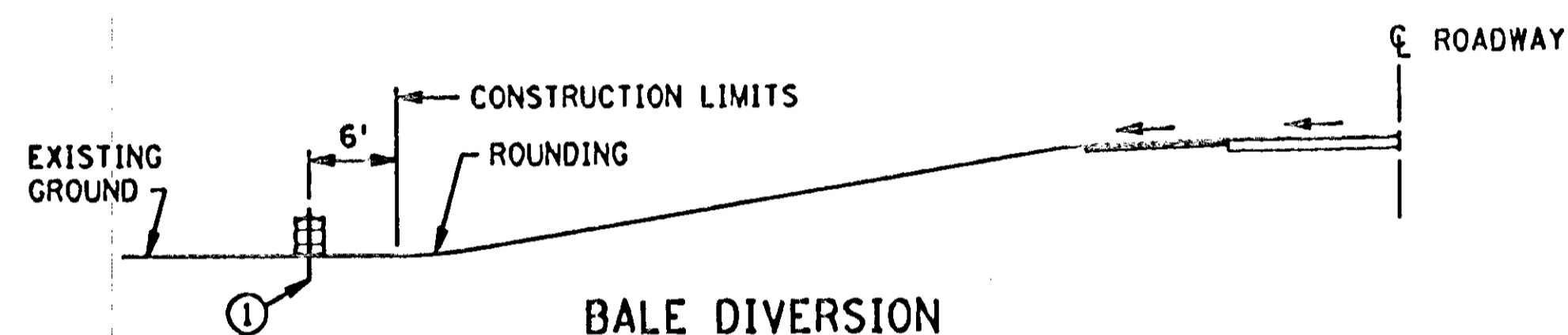
NOTE:
POINT A MUST BE HIGHER THAN POINT B



BALE CHECK DETAILS



BALE CHECK TO PROTECT STORM SEWER INLETS

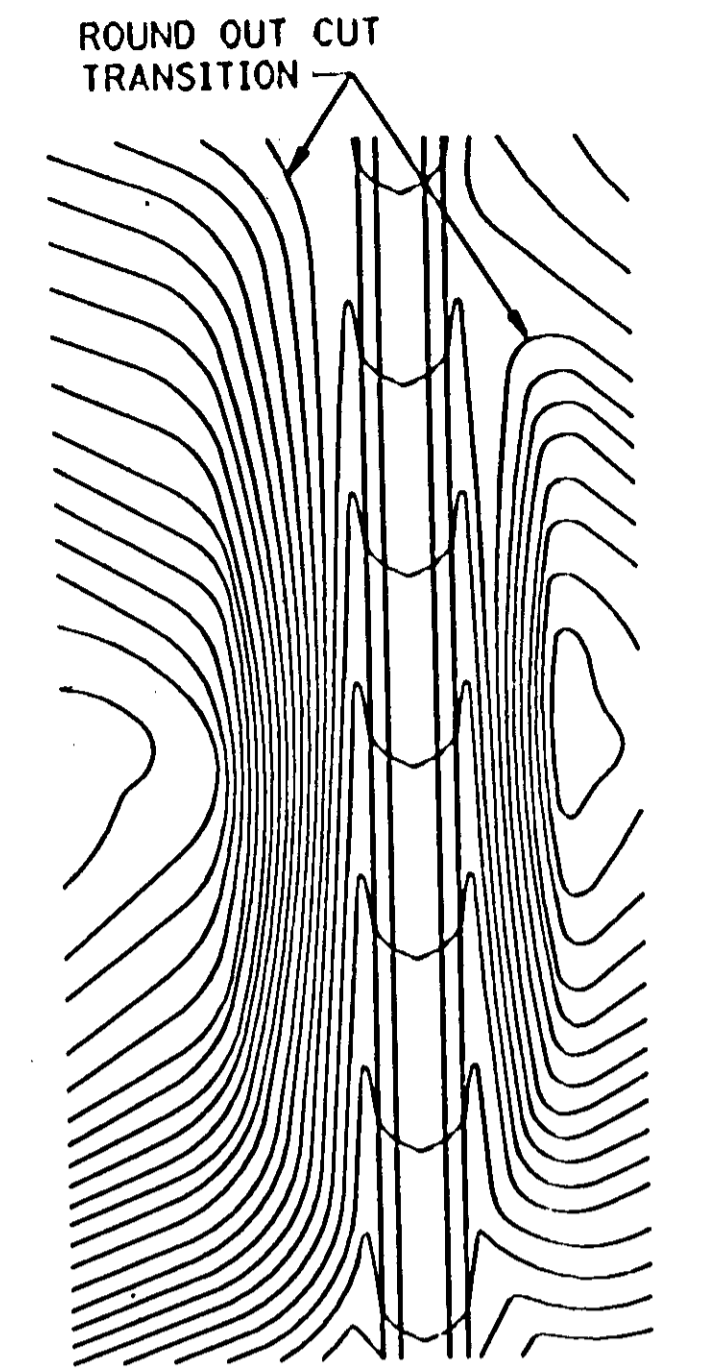


BALE DIVERSION

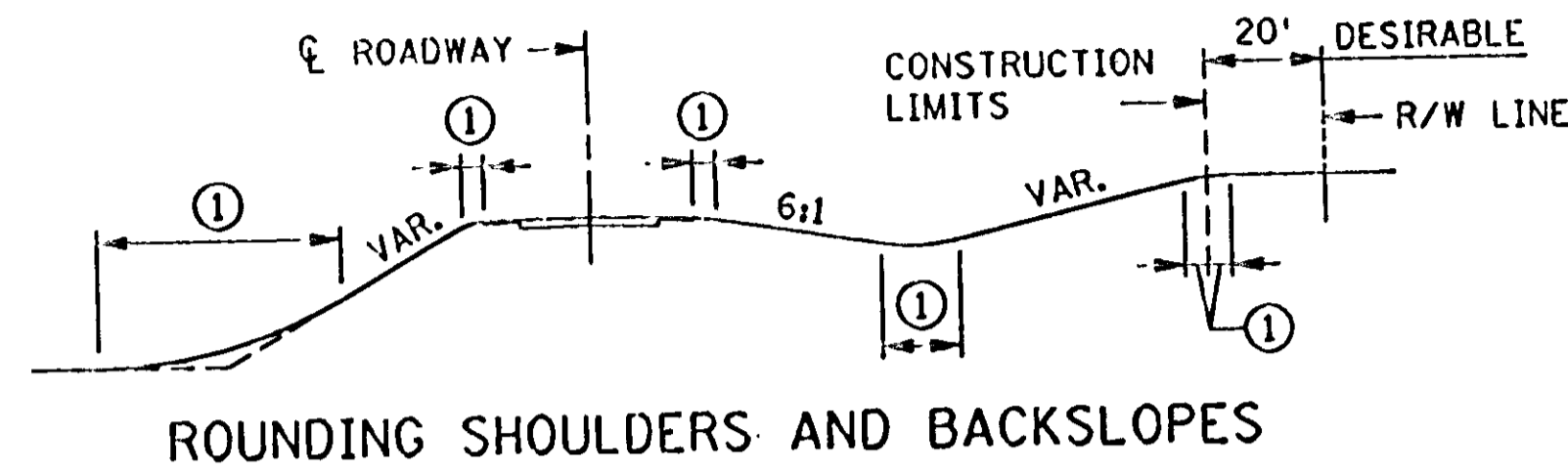
RECOMMENDED SPACING BETWEEN BALE DITCH CHECKS	
DITCH GRADE (%)	SPACING (FT.)
2	100
4	75
6	50
8	40
10	25

NOTE:
① TWO 2" X 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.

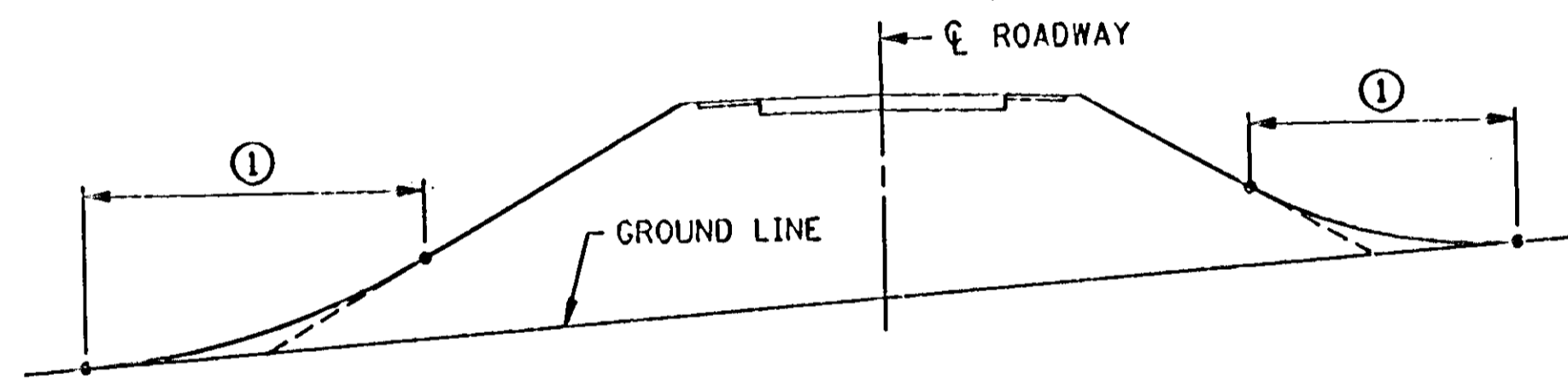
STANDARD SHEET NO. 5-297.405 (2 OF 2)	TITLE: TEMPORARY EROSION CONTROL
STANDARD APPROVED: AUGUST 2, 1993	
STATE PROJ. NO. 02-609-04/SAP 02-609-06	SHEET NO. 7 OF 13 SHEETS



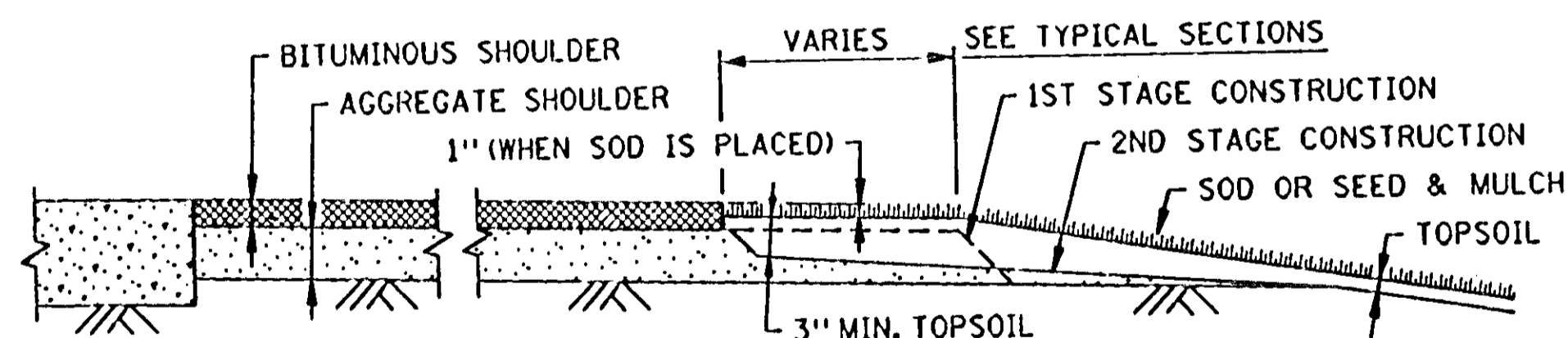
CONTOURING ROAD CUTS



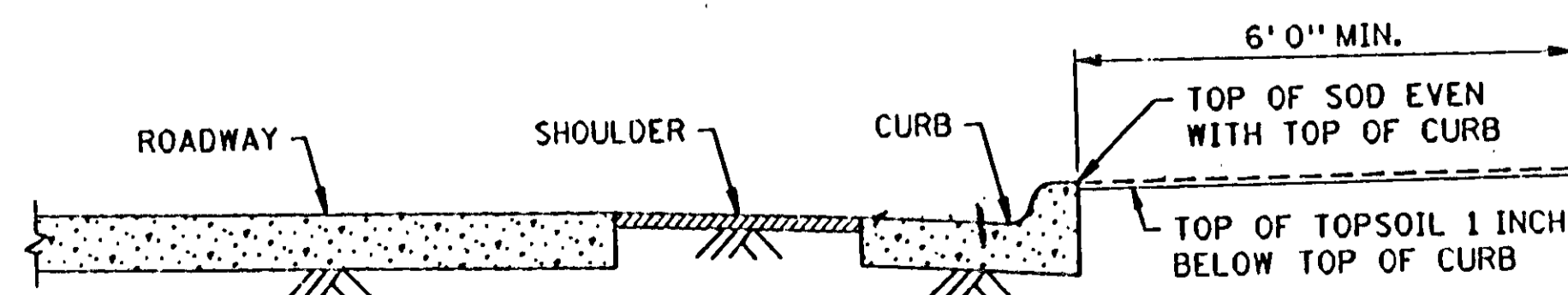
ROUNDING SHOULDERS AND BACKSLOPES



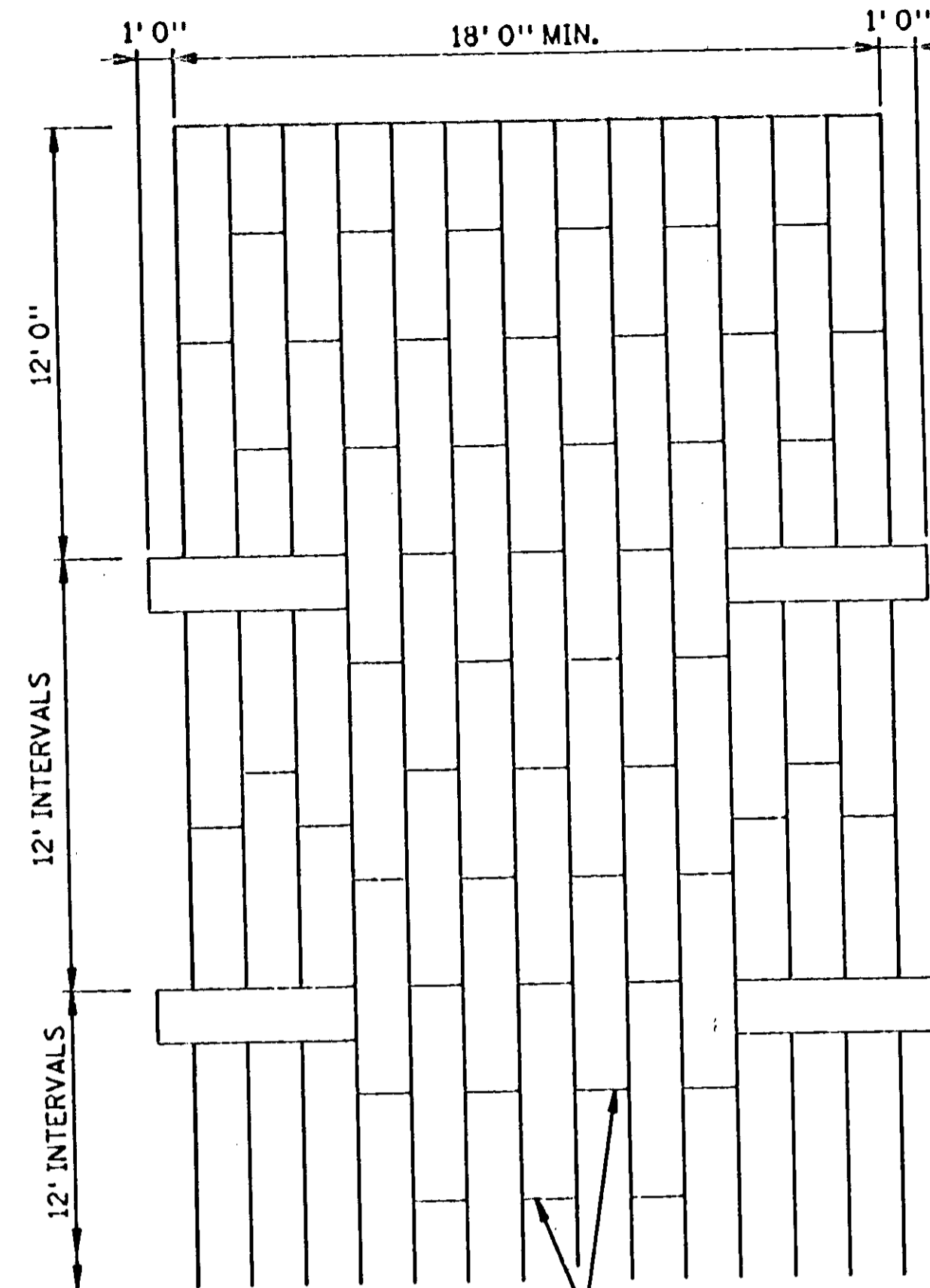
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



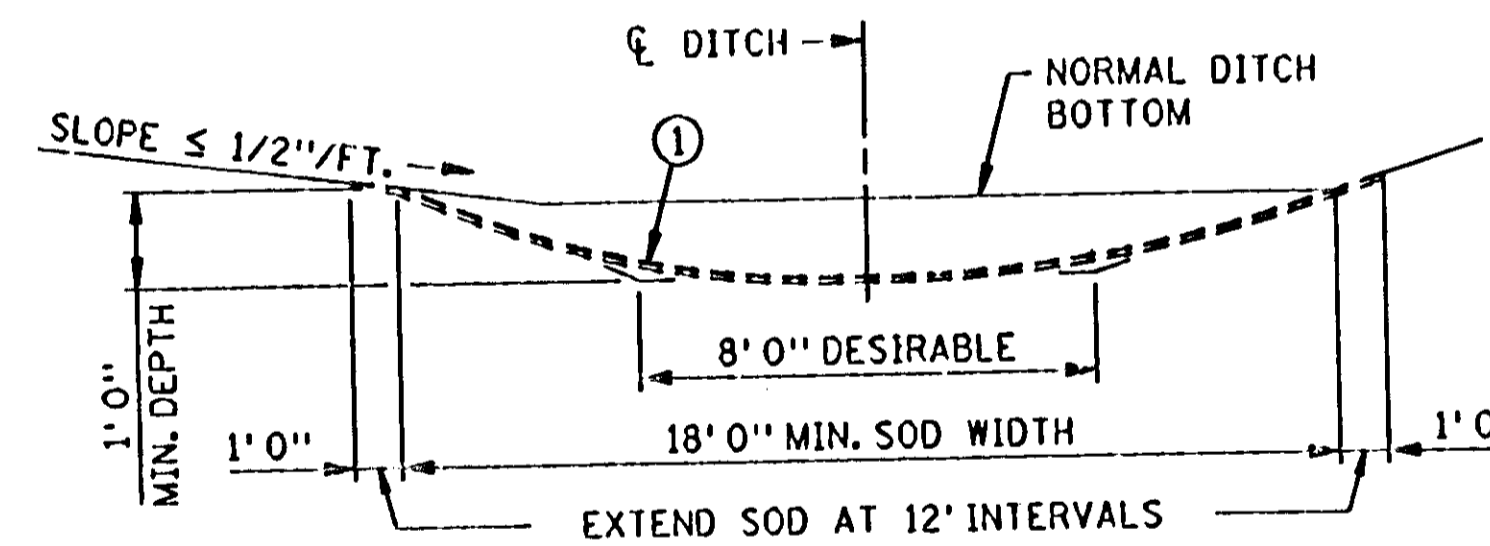
SHAPING AND TOPSOILING INSLOPES



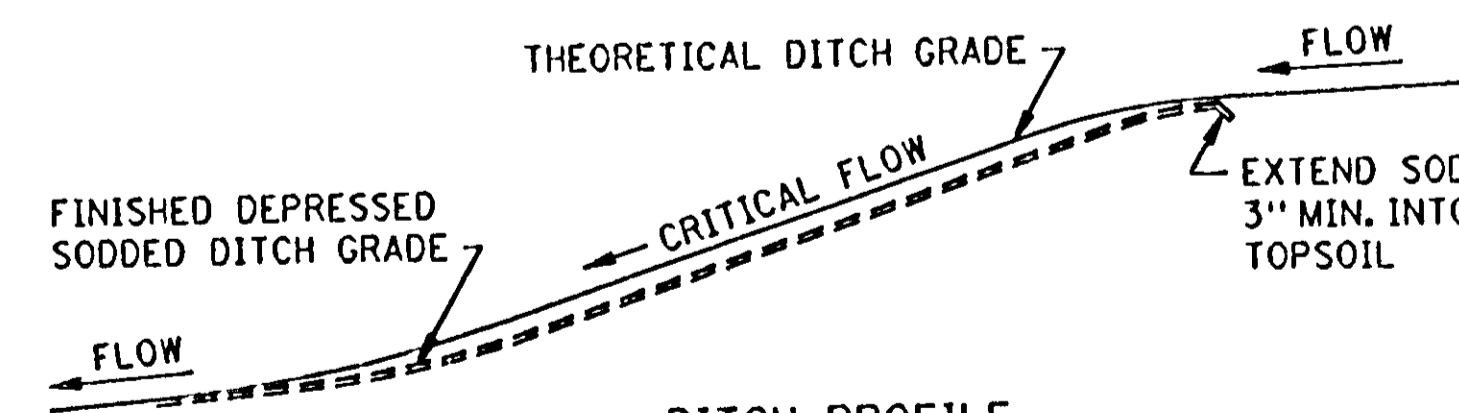
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



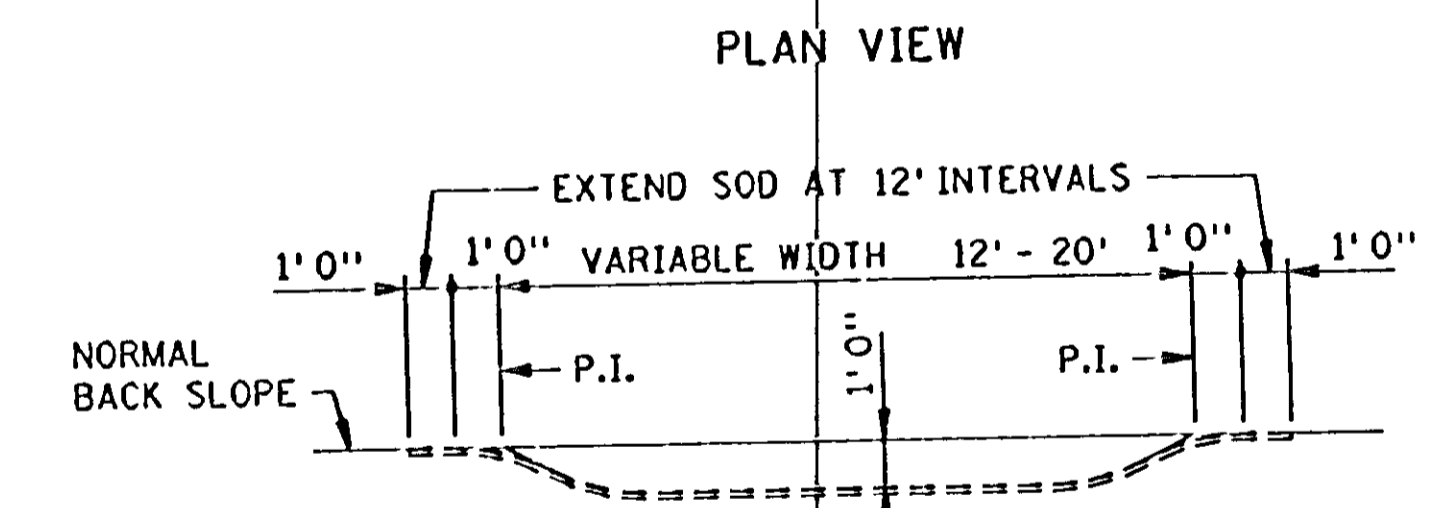
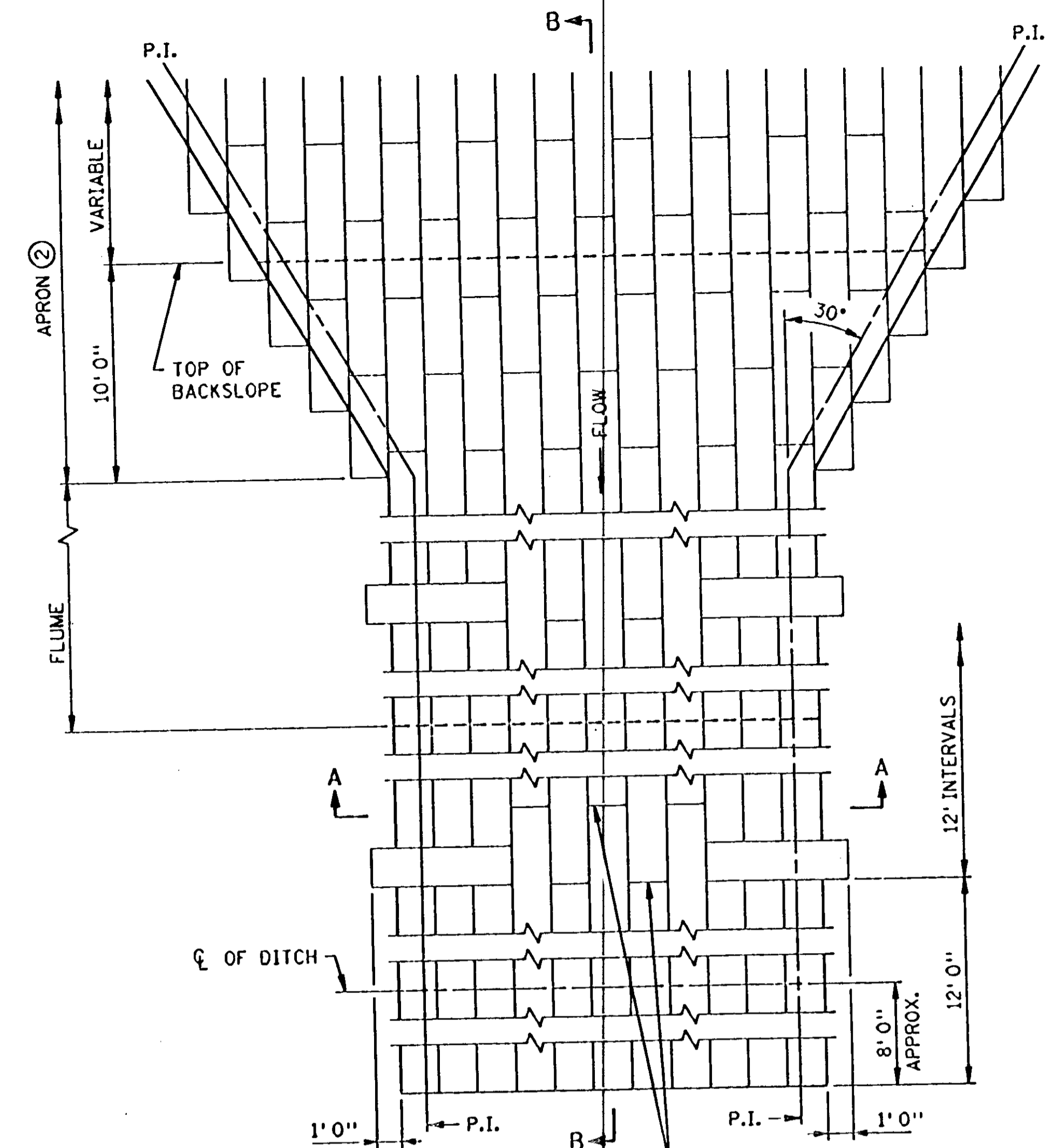
STAGGER JOINTS
PLAN VIEW



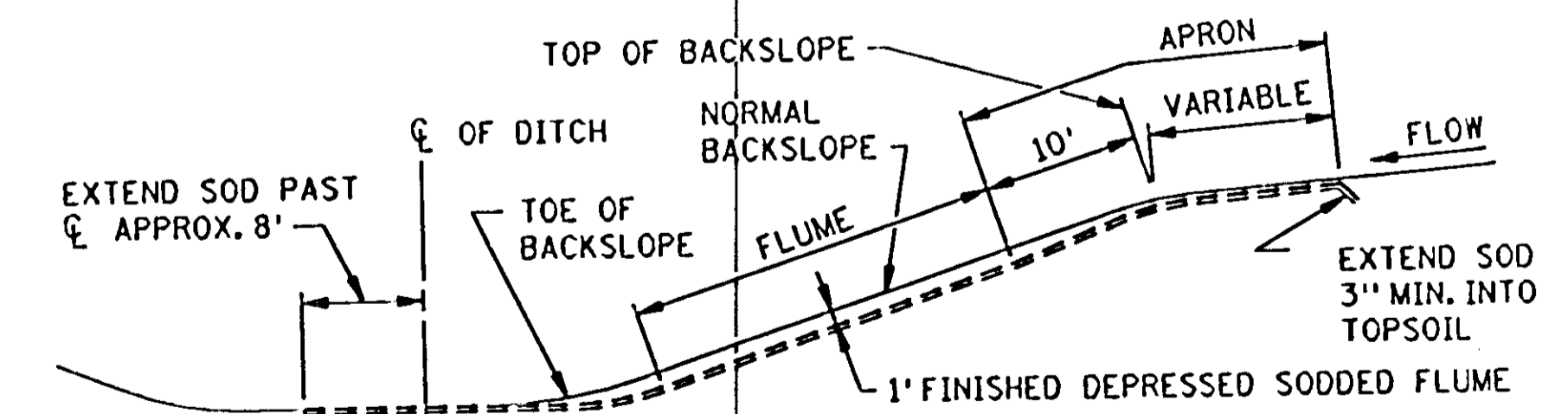
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2\"/>



DITCH PROFILE
SODDED DITCH DETAILS



SECTION A-A



SECTION B-B
SODDED FLUME DETAILS

- NOTES:**
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
 ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO. 02-609-04/SAP 02-609-06	
SHEET NO. 8 OF 13 SHEETS	