

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	1
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

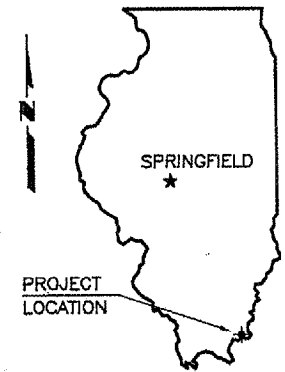


FULL SIZE PLANS WERE PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
FEDERAL-AID SECONDARY PROGRAM

FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934(108)
JOB NO. C-99-011-96



SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
△ LR631020*	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	14
MX406014*	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C", N70	M TON	4,170
M2010500	TREE REMOVAL, HECTARES	HA	0.18
M2011000	TEMPORARY FENCE	METER	310
M2020010	EARTH EXCAVATION	CU M	380
M2040100*	BORROW EXCAVATION	CU M	11,500
M2080150	TRENCH BACKFILL	CU M	23
M2500200*	SEEDING, CLASS 2	HA	4.35
M2500400	NITROGEN FERTILIZER NUTRIENT	KG	435
M2500500	PHOSPHORUS FERTILIZER NUTRIENT	KG	435
M2500600	POTASSIUM FERTILIZER NUTRIENT	KG	435
M2500700	AGRICULTURAL GROUND LIMESTONE	M TON	19.6
M2510115	MULCH, METHOD 2	HA	4.35
M2510630*	EROSION CONTROL BLANKET	SQ M	5,700
M2800250*	TEMPORARY EROSION CONTROL SEEDING	KG	480
M2800400*	PERIMETER EROSION BARRIER	METER	1,110
M2810807	STONE DUMPED RIPRAP, CLASS A4	M TON	10
M4021010*	AGGREGATE SURFACE COURSE, TYPE B	M TON	125
M4050300*	BITUMINOUS MIXTURE COMPLETE	M TON	10,820
M4060100*	BITUMINOUS MATERIALS (PRIME COAT)	LITER	9,800
M4060300	AGGREGATE (PRIME COAT)	M TON	14.7
M4429100*	PAVEMENT PATCHING (PARTIAL DEPTH)	SQ M	16
M5080105	REINFORCEMENT BARS	KG	9,190
M5080205	REINFORCEMENT BARS, EPOXY COATED	KG	160
M5403000	CONCRETE BOX CULVERTS	CU M	78.8
M5403250	EXPANSION BOLTS M20 X 225MM	EACH	160
M542H030*	PIPE CULVERTS, CLASS A, TYPE 1 450MM	METER	21.2
M542H040*	PIPE CULVERTS, CLASS A, TYPE 1 600MM	METER	2.4
M542H425*	PIPE CULVERTS, CLASS D, TYPE 1 375MM	METER	8.5
M542I030*	PIPE CULVERTS, CLASS A, TYPE 2 450MM	METER	20.7
M542R112*	REMOVE AND RELAY PIPE CULVERTS 300MM	METER	1.2
M542R116*	REMOVE AND RELAY PIPE CULVERTS 375MM	METER	1.2
M542R120*	REMOVE AND RELAY PIPE CULVERTS 450MM	METER	1.2
M542R136*	REMOVE AND RELAY PIPE CULVERTS 750MM	METER	3.6
M542R148*	REMOVE AND RELAY PIPE CULVERTS 1050MM	METER	2.4
M542R152*	REMOVE AND RELAY PIPE CULVERTS 1200MM	METER	2.4
△ M6300100	STEEL PLATE BEAM GUARD RAIL, TYPE A	METER	987
M7200100	SIGN PANEL - TYPE 1	SQ M	11.7
M7280100	TELESCOPING STEEL SIGN SUPPORT	METER	159.6
△ M7800205	PAINT PAVEMENT MARKING - LINE 100MM	METER	21,720
28000300*	TEMPORARY DITCH CHECKS	EACH	25
△ 63301990*	REMOVE AND RE-ERECT TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	4
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	76
67100100*	MOBILIZATION	L SUM	1

* SEE SPECIAL PROVISIONS
△ SPECIALTY ITEMS

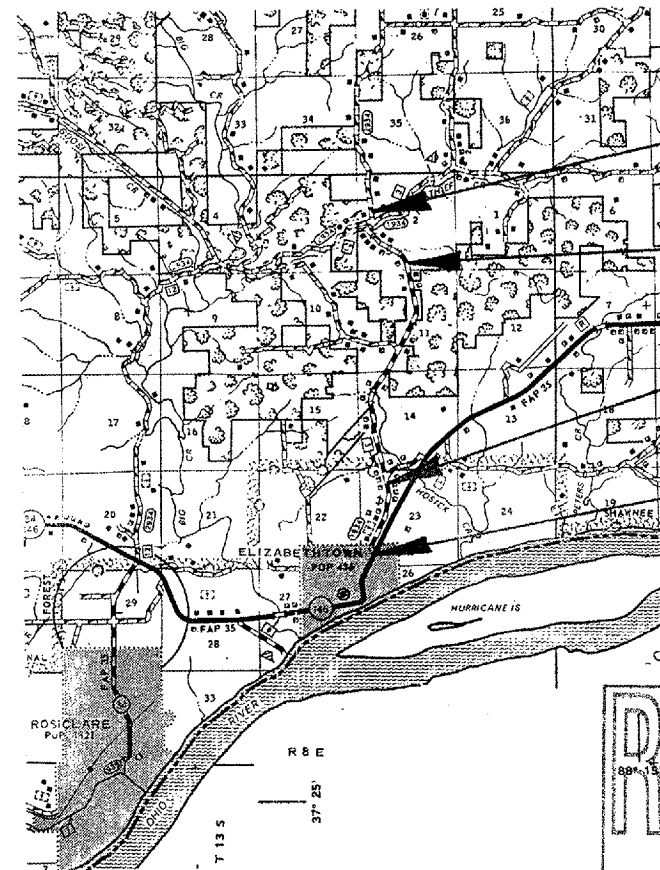
CONTRACT NO. 99171

E. MILLER ENGINEERING, INC.
CONSULTING ENGINEERS
HARRISBURG, ILLINOIS



Edward W. Miller
Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2007

HARDIN COUNTY



LOCATION MAP

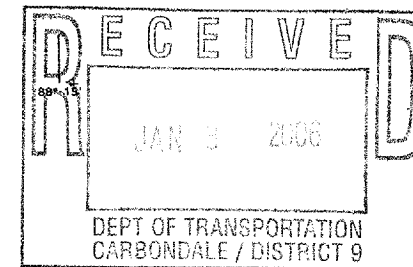
SCALE = 1:125,000

NET LENGTH OF IMPROVEMENT = 6,242.078 M = 6.242 KM

INDEX OF SHEETS

- COVER SHEET
- TYPICAL SECTIONS
- 11. PLAN & PROFILE / EROSION CONTROL PLAN
- TYPICAL SIDE ROAD & ENTRANCE DETAILS
- MISCELLANEOUS DETAILS
- BOX CULVERT EXTENSION - STA. 1+507.3 LT.
- BOX CULVERT EXTENSION - STA. 1+507.3 RT.
- 17. BOX CULVERT EXTENSION - STA. 4+236.3 LT.
- 19. BOX CULVERT EXTENSION - STA. 4+236.3 RT.
- CROSS SECTIONS
- STANDARDS 280001-02 EROSION CONTROL
- 630001-05 STEEL PLATE BEAM GUARD RAIL
- 666001 RIGHT OF WAY MARKERS
- 701001-01 TRAFFIC CONTROL
- 701006-02 TRAFFIC CONTROL
- 701011-01 TRAFFIC CONTROL
- 701201-02 TRAFFIC CONTROL
- 701301-02 TRAFFIC CONTROL
- 701306-01 TRAFFIC CONTROL
- 701311-02 TRAFFIC CONTROL
- 702001-05 TRAFFIC CONTROL
- 720001 SIGN PANEL MOUNTING DETAILS
- 720006 SIGN PANEL ERECTION DETAILS
- BLR-23-1 TRAFFIC BARRIER TERMINAL, TYPE 1
- BLR-24-1 MAILBOX TURNOUT

CLASSIFICATION : COLLECTOR
ADT : 630
DESIGN SPEED : 80 KM/H



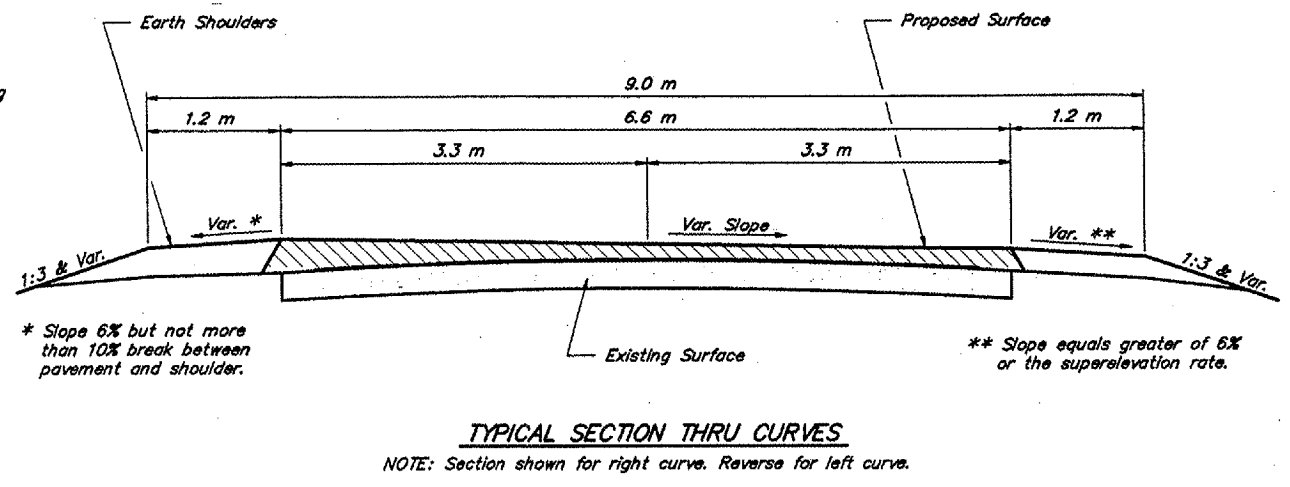
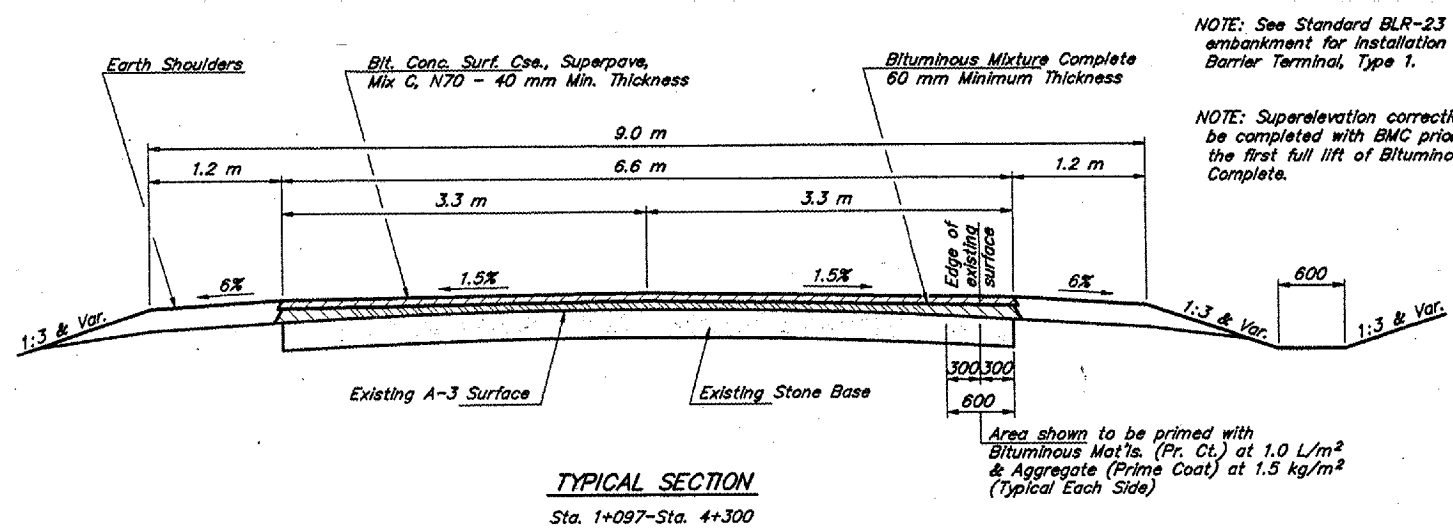
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 6/28/2005
Randy L. Loney
LOCAL AGENCY REPRESENTATIVE

PASSED 1/5/2006
Den W. Hill
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED 1/5/2006
Mary C. Ramo
DEPUTY DIRECTOR OF HIGHWAYS, REGION FIVE ENGINEER

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	2
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	



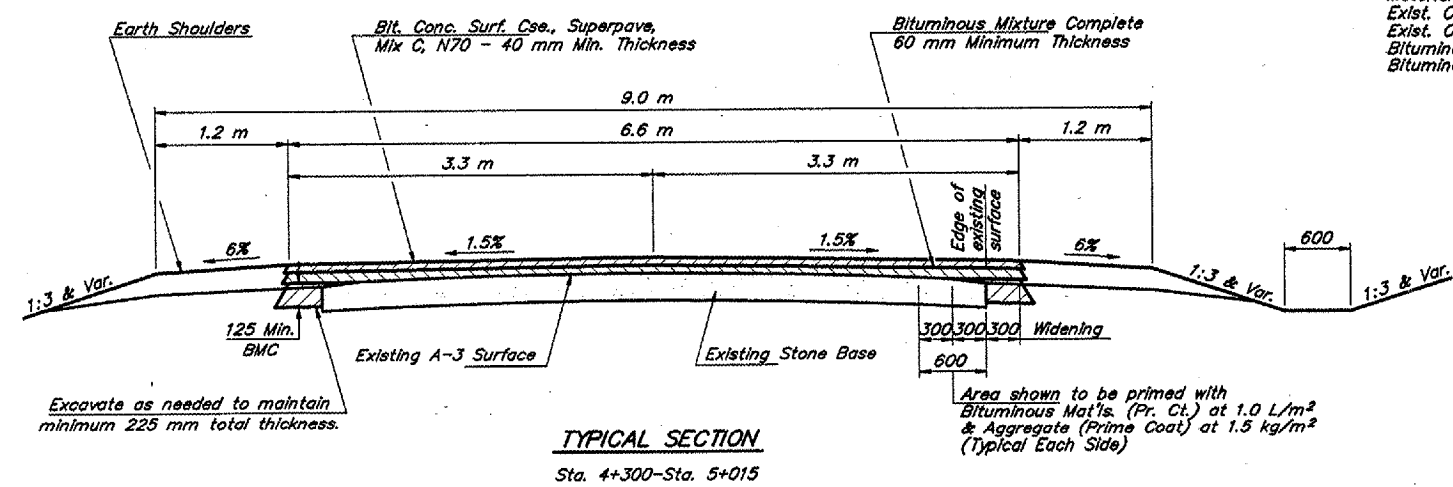
NOTE: See Standard BLR-23 for additional embankment for installation of Traffic Barrier Terminal, Type 1.

NOTE: Superelevation corrections shall be completed with BMC prior to placing the first full lift of Bituminous Mixture Complete.

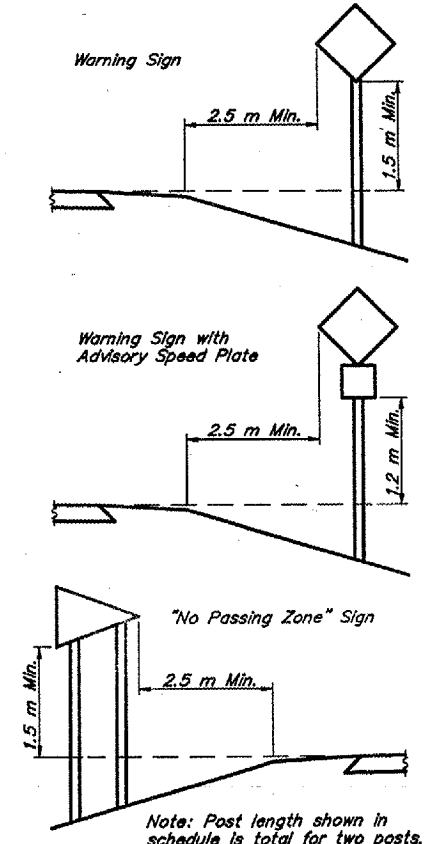
STRUCTURAL DESIGN DATA

Class IV Roadway
Design Period - 15 Years
PC 610 IBR 3.2
SU 10 TF 0.050
MU 10 DT 2.574

Material Coefficient
Exist. Cr. Stone Base (200 mm) - 0.13
Exist. Oil & Chip Surf. (25 mm) - 0.13
Bituminous Mixture Complete - 0.33
Bituminous Conc. Surface Cse. - 0.40



SCHEDULE OF SIGNS				
Location	Name	No. Signs	m ²	Post m
Sta. 1+270 Lt.	TURN	W1-1L	0.58	5.3
Sta. 1+720 Rt.	HILL	W7-1	0.58	5.3
Sta. 3+340 Rt.	HILL	W7-1	0.58	5.3
Sta. 3+800 Rt.	HILL	W7-1	0.58	5.3
Sta. 4+340 Rt.	CURVE	W1-2R	0.58	5.5
	ADVISORY SPEED	W13-1(45)	0.21	-
Sta. 4+585 Lt.	CURVE	W1-2L	0.58	5.5
	ADVISORY SPEED	W13-1(45)	0.21	-
Sta. 4+610 Rt.	REVERSE CURVE	W1-4R	0.58	5.5
	ADVISORY SPEED	W13-1(40)	0.21	-
Sta. 4+800 Rt.	CROSS ROAD	W2-1	0.58	5.3
Various (10)*	NO PASSING	W14-3	5.20	106.0
Side Road - Lt. Sta. 4+940.4				
Sta. 0+300 Lt.	STOP AHEAD	W3-1	0.58	5.3
Side Road - Rt. Sta. 4+940.4				
Sta. 0+050 Lt.	STOP AHEAD	W3-1	0.58	5.3
TOTALS			11.63	159.6



* See Schedule of "No Passing Zones" for sign locations. Quantities shown are totals for all "No Passing Zone" signs required.

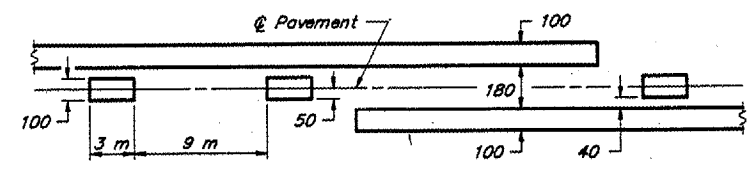
SIGN SCHEDULE & MOUNTING DETAIL

NOTE: All dimensions shown in millimeters unless otherwise noted.

TYPICAL SECTIONS
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934 (108)
HARDIN COUNTY

SCHEDULE OF "PAINT PAVEMENT MARKING - LINE 100MM"			
Location	Centerline (Yellow Dashed)	Edge Line (White Solid)	No Passing (Yellow Solid)
Sta. 1+096.4 to Sta. 5+015.0	792 m	12,334 m	8,594 m

Edge line to be placed 50 mm in from edge of pavement.
See schedule below for limits of "No Passing Zones".



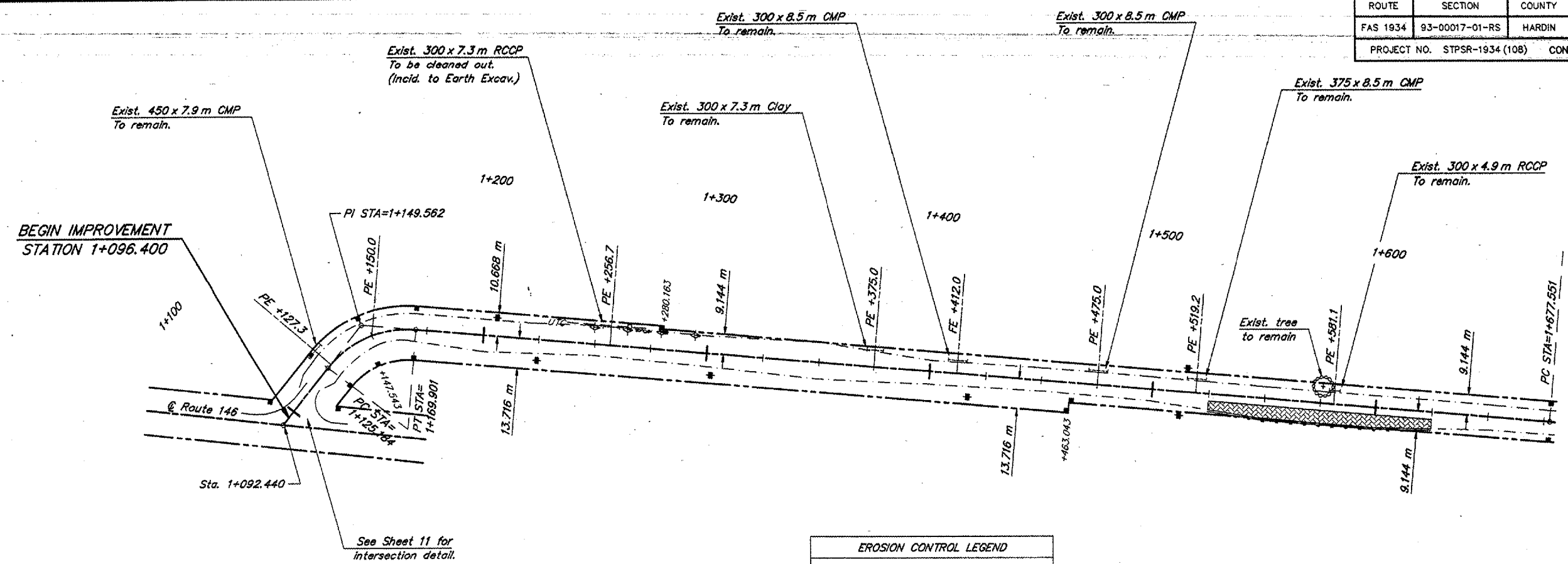
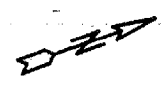
CENTERLINE PAVEMENT MARKINGS

SCHEDULE OF "NO PASSING ZONES"			
NORTH BOUND LANE		SOUTH BOUND LANE	
Location	Length	Location	Length
Sta. 1+097 to Sta. 1+170	73	Sta. 1+097 to Sta. 1+410 ¹	313
Sta. 1+510 ¹ to Sta. 0+110	924	Sta. 1+785 to Sta. 0+350 ¹	889
Sta. 0+620 ¹ to Sta. 1+560	940	Sta. 0+895 to Sta. 1+835 ¹	940
Sta. 2+330 ¹ to Sta. 2+500	170	Sta. 2+605 to Sta. 2+775 ¹	170
Sta. 2+740 ¹ to Sta. 3+520	780	Sta. 3+005 to Sta. 3+770 ¹	765
Sta. 3+685 ¹ to Sta. 5+015	1330	Sta. 3+960 to Sta. 5+260 ²	1300
TOTALS (m)			4377

^{1/} Denotes location of "No Passing Zone" signs to be erected in accordance with Sign Schedule & Mounting Detail. Each location will have one sign of 0.52 m² and two posts with a combined length of 10.6 m.

^{2/} "No Passing Zone" marking extends beyond end of improvement due to existing alignment.

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EROSION CONTROL LEGEND

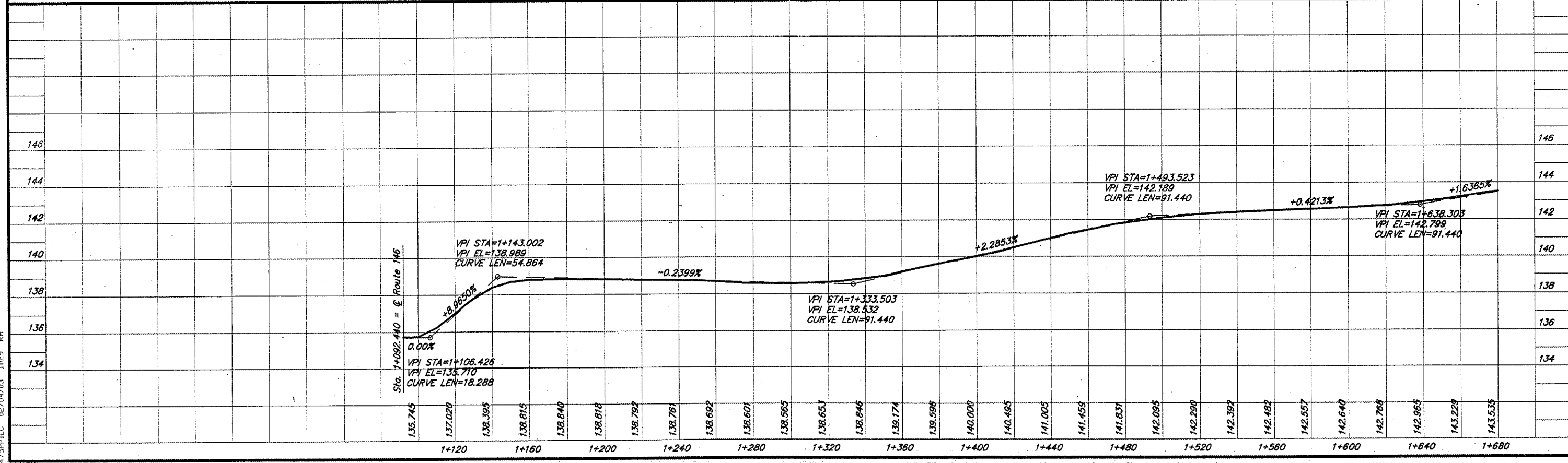
- Clearing & Grading Limits ———
- Perimeter Erosion Barrier ———
- Temporary Fence ———
- Temporary Ditch Check +
- Flow Indicator ~~~~~
- Erosion Control Blanket [hatched box]
- Inlet & Pipe Protection [cross-hatched box]

CURVE DATA
 $\Delta = 56^{\circ}39'36''$ $T = 24.378$ m
 $R = 45.219$ m $L = 44.717$ m
 $S.E. = 8.0\%$ $E = 6.153$ m
 Attain Sta. 1+096.4 - Sta. 1+139.2
 Remove Sta. 1+155.9 - Sta. 1+205.5

B.M.#1 - Dbl. Nails in PP
 8.1 m Rt. Sta. 1+174.0
 Elev. 138.125

B.M.#2 - RR Spike in PP
 11.0 m Lt. Sta. 1+608.8
 Elev. 142.130

SCALES:
 1:1000 HOR
 1:100 VER

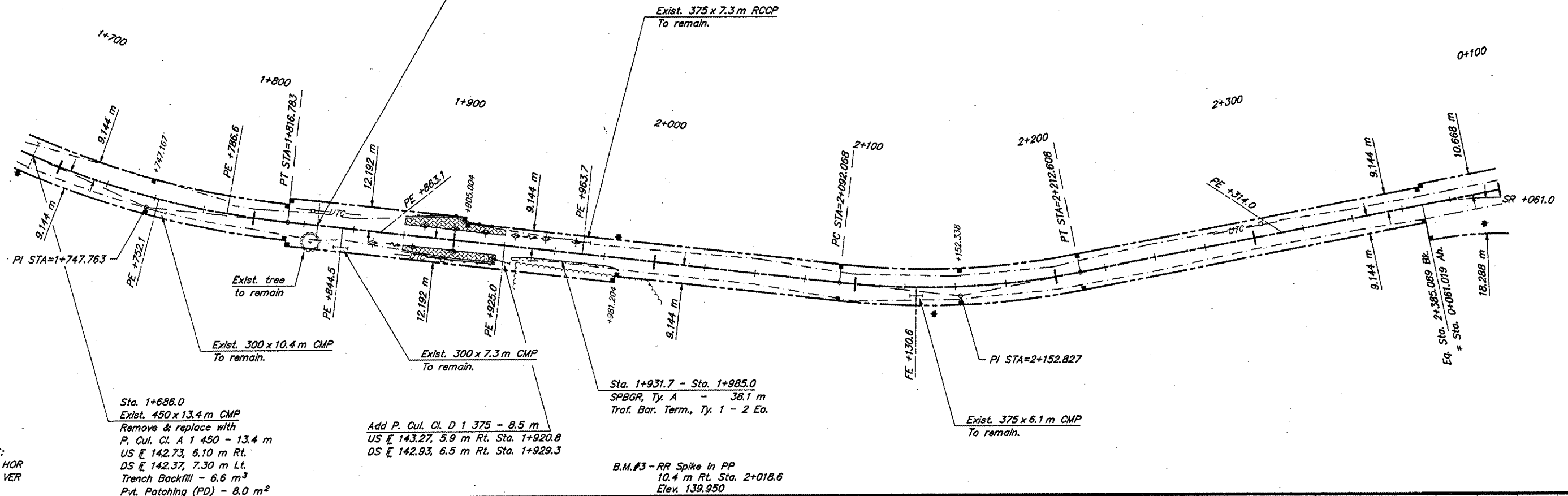


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ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	4
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

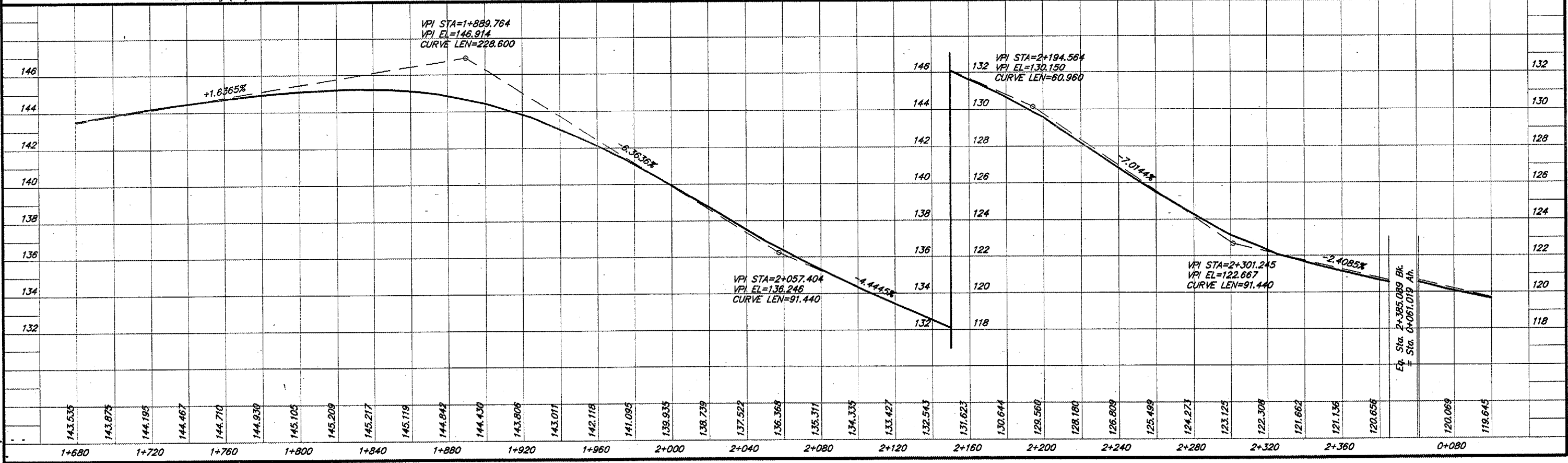
CURVE DATA
 $\Delta = 18^{\circ}15'59''$ $T = 70.211$ m
 $R = 436.724$ m $L = 139.231$ m
 $S.E. = 6.3\%$ $E = 5.608$ m
 Attain Sta. 1+636.1 - Sta. 1+692.9
 Remove Sta. 1+801.5 - Sta. 1+858.3

CURVE DATA
 $\Delta = 17^{\circ}47'30''$ $T = 60.759$ m
 $R = 388.184$ m $L = 120.540$ m
 $S.E. = 6.7\%$ $E = 4.726$ m
 Attain Sta. 2+048.9 - Sta. 2+108.3
 Remove Sta. 2+196.4 - Sta. 2+255.8



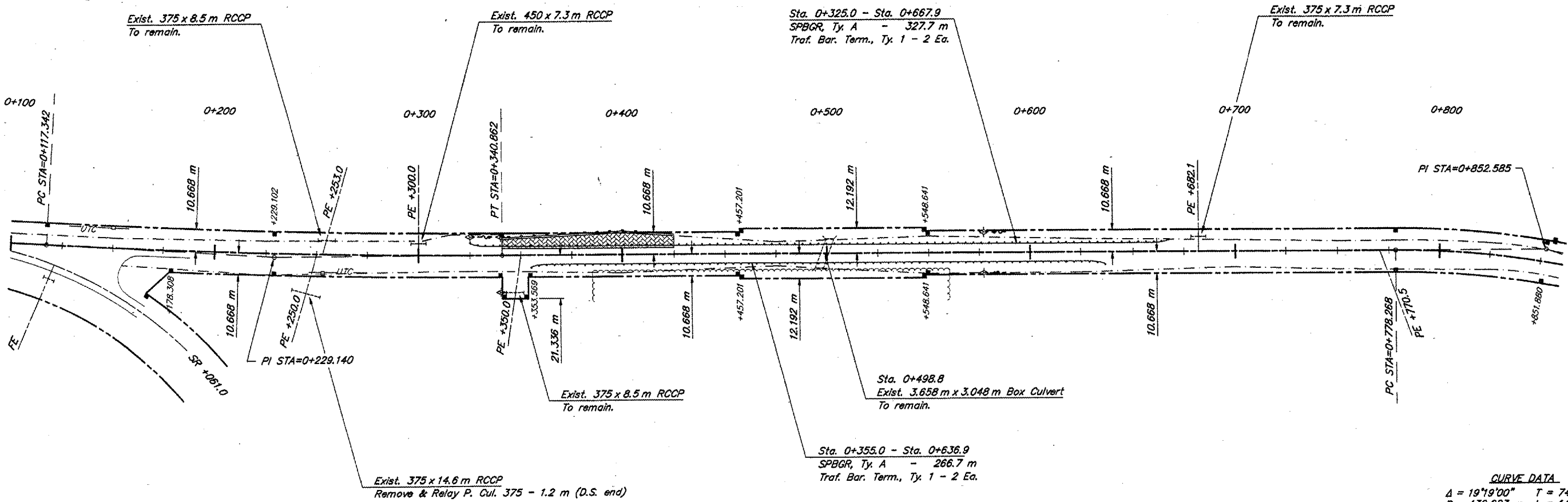
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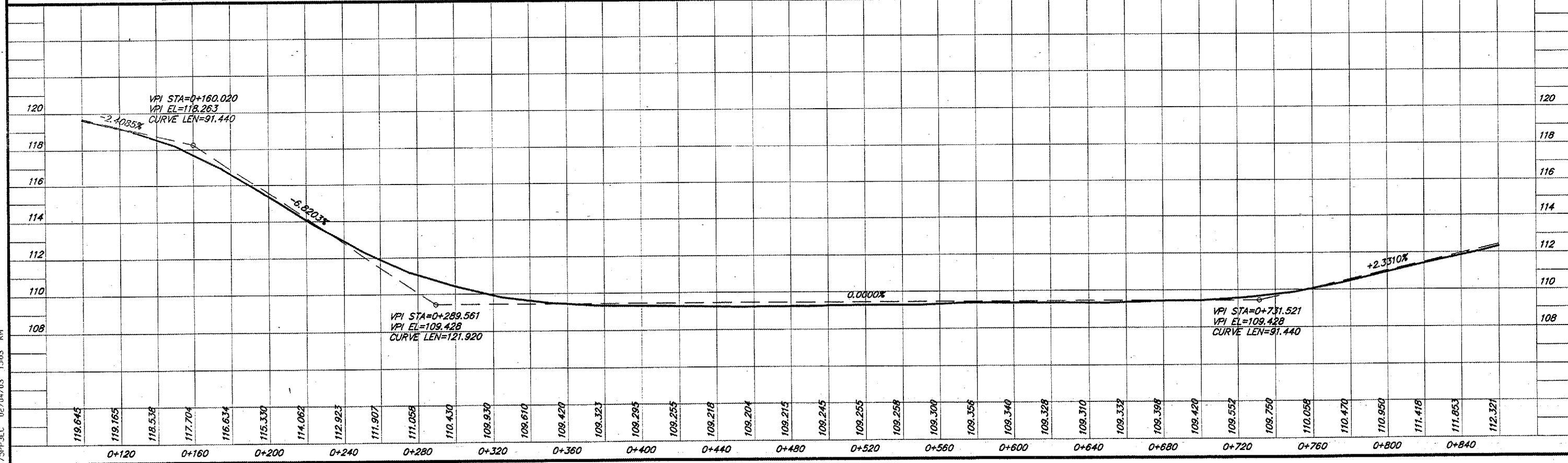
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	5
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

CURVE DATA
 $\Delta = 3^{\circ}40'00''$ $T = 111.798$ m
 $R = 3492.773$ m $L = 223.520$ m
 $S.E. = N.C.$ $E = 1.789$ m



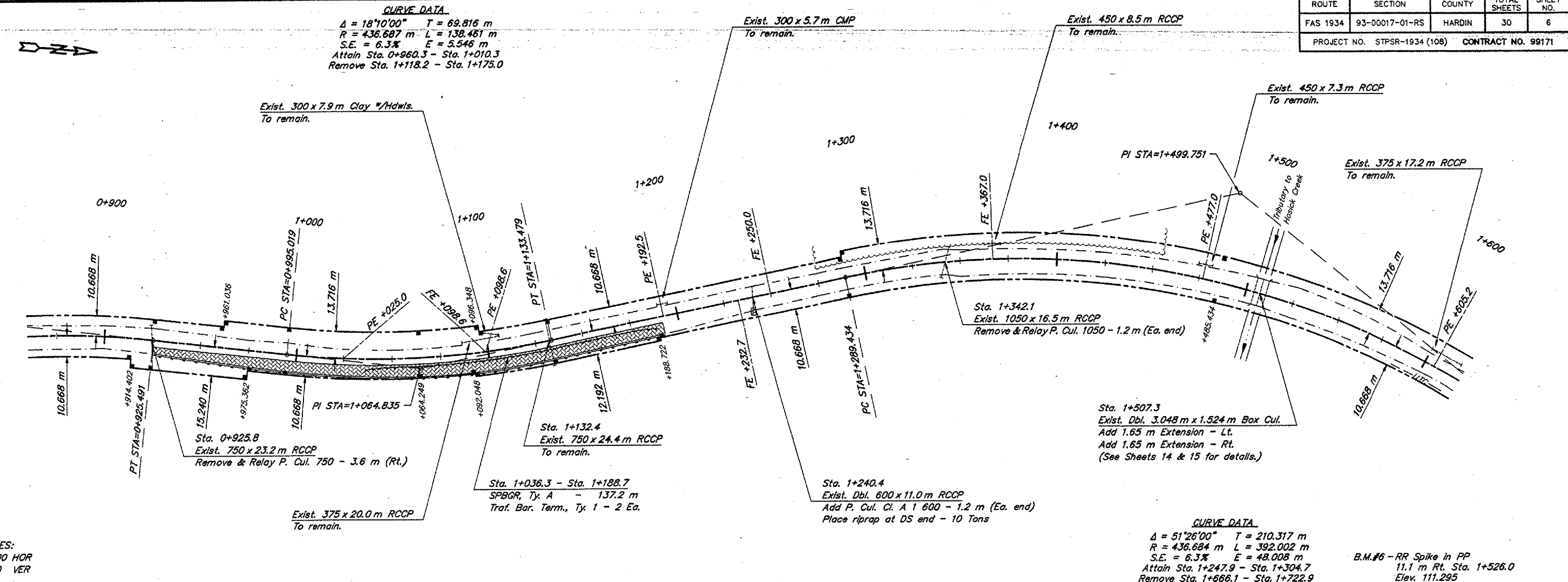
SCALES:
 1:1000 HOR
 1:100 VER
 B.M.#4 - RR Spike in PP
 17.0 m Rt. Sta. 0+161.0
 Elev. 117.615

CURVE DATA
 $\Delta = 19^{\circ}19'00''$ $T = 74.317$ m
 $R = 436.683$ m $L = 147.224$ m
 $S.E. = 6.3\%$ $E = 6.279$ m
 Attain Sta. 0+736.8 - Sta. 0+793.6
 Remove Sta. 0+910.2 - Sta. 0+960.2



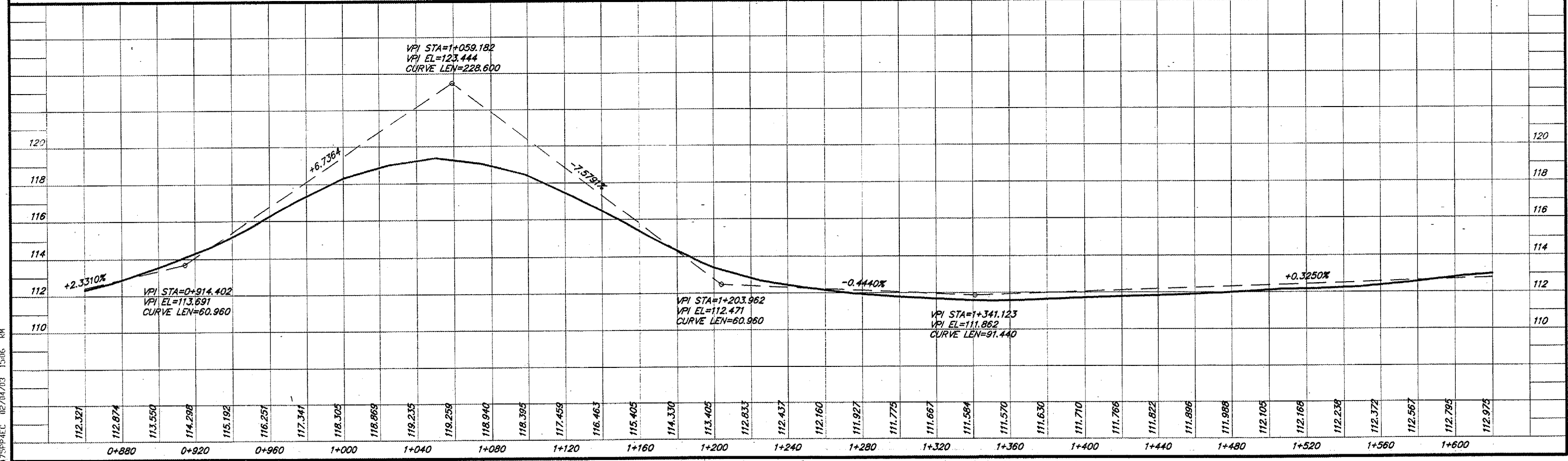
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	6
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

CURVE DATA
 $\Delta = 18^{\circ}10'00''$ $T = 69.816$ m
 $R = 436.687$ m $L = 138.461$ m
 $S.E. = 6.3\%$ $E = 5.546$ m
 Attain Sta. 0+960.3 - Sta. 1+010.3
 Remove Sta. 1+118.2 - Sta. 1+175.0



SCALES:
 1:1000 HOR
 1:100 VER

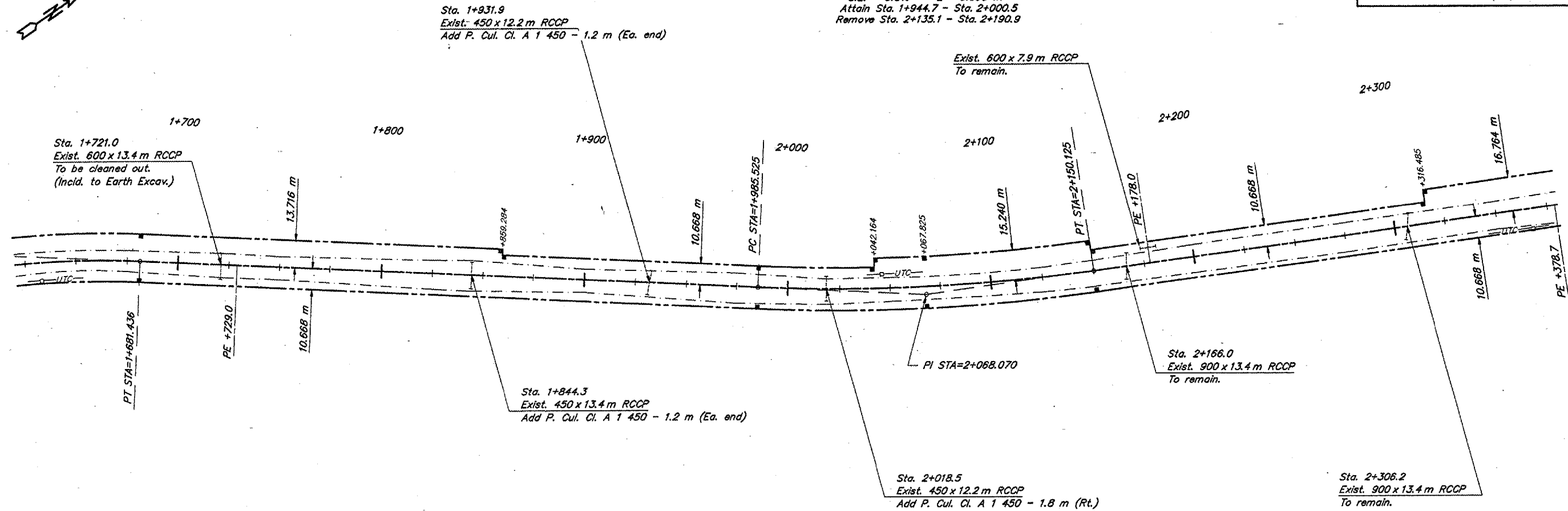
CURVE DATA
 $\Delta = 51^{\circ}26'00''$ $T = 210.317$ m
 $R = 436.684$ m $L = 392.002$ m
 $S.E. = 6.3\%$ $E = 48.008$ m
 Attain Sta. 1+247.9 - Sta. 1+304.7
 Remove Sta. 1+666.1 - Sta. 1+722.9



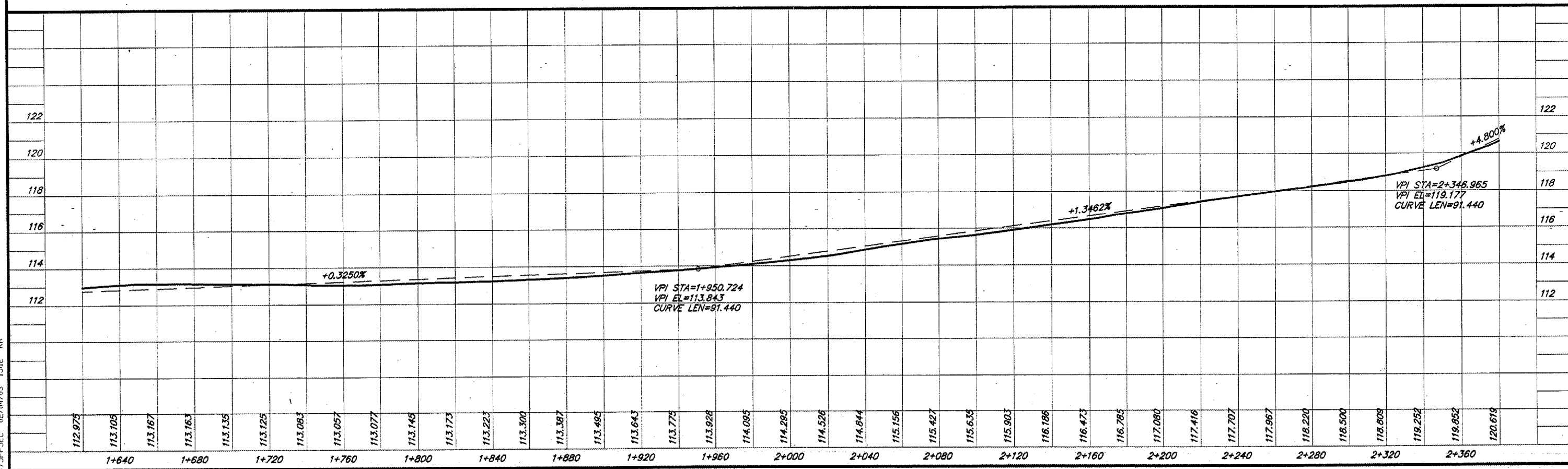
47SP24EC 02/04/03 1506 RM

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	7
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

CURVE DATA
 $\Delta = 10^{\circ}48'00''$ $T = 82.545$ m
 $R = 873.230$ m $L = 164.600$ m
 $S.E. = 3.8\%$ $E = 3.893$ m
 Attain Sta. 1+944.7 - Sta. 2+000.5
 Remove Sta. 2+135.1 - Sta. 2+190.9

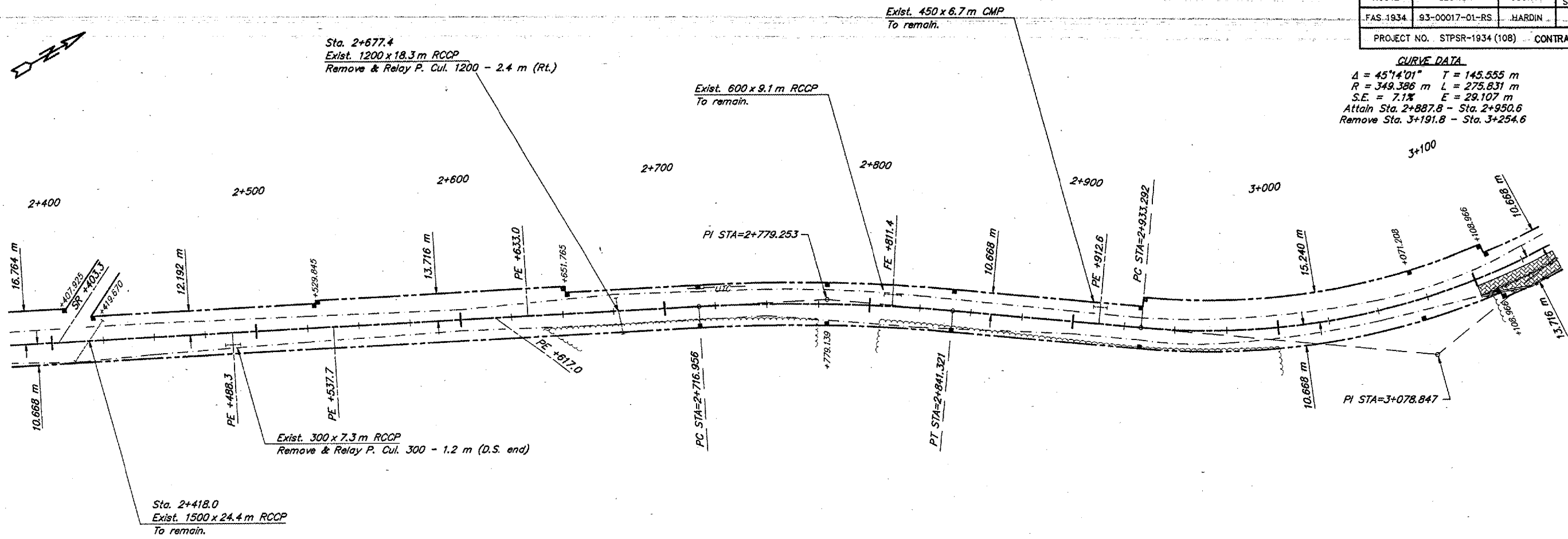


SCALES:
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ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS. 1934	93-00017-01-RS	HARDIN	30	8
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	

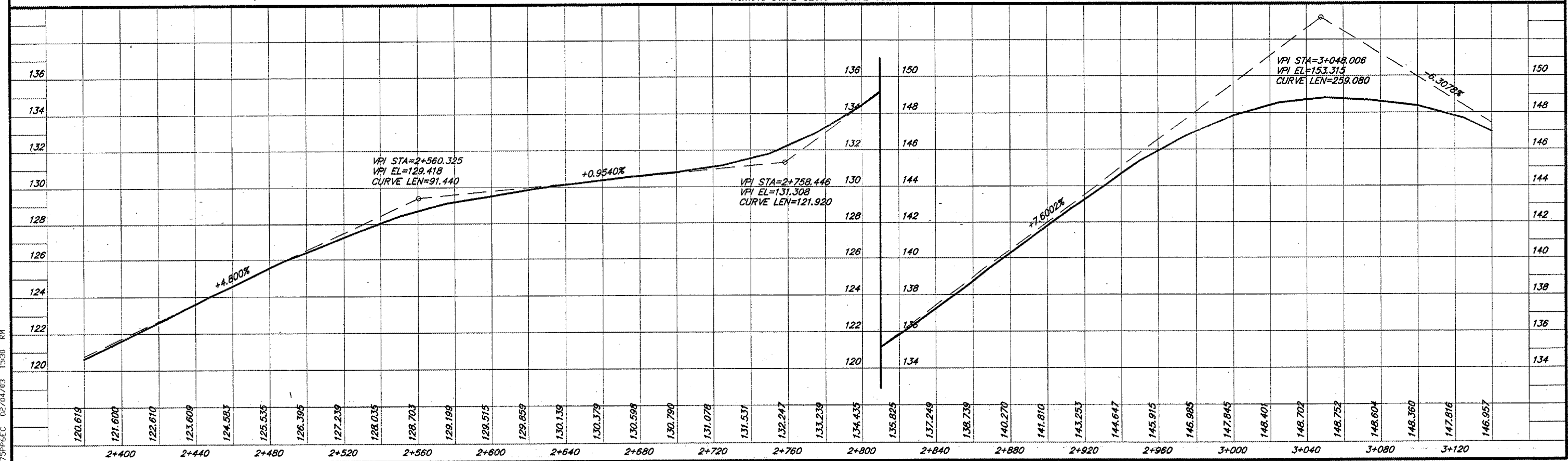
CURVE DATA
 $\Delta = 45^{\circ}14'01''$ $T = 145.555$ m
 $R = 349.386$ m $L = 275.831$ m
 $S.E. = 7.1\%$ $E = 29.107$ m
 Attain Sta. 2+887.8 - Sta. 2+950.6
 Remove Sta. 3+191.8 - Sta. 3+254.6



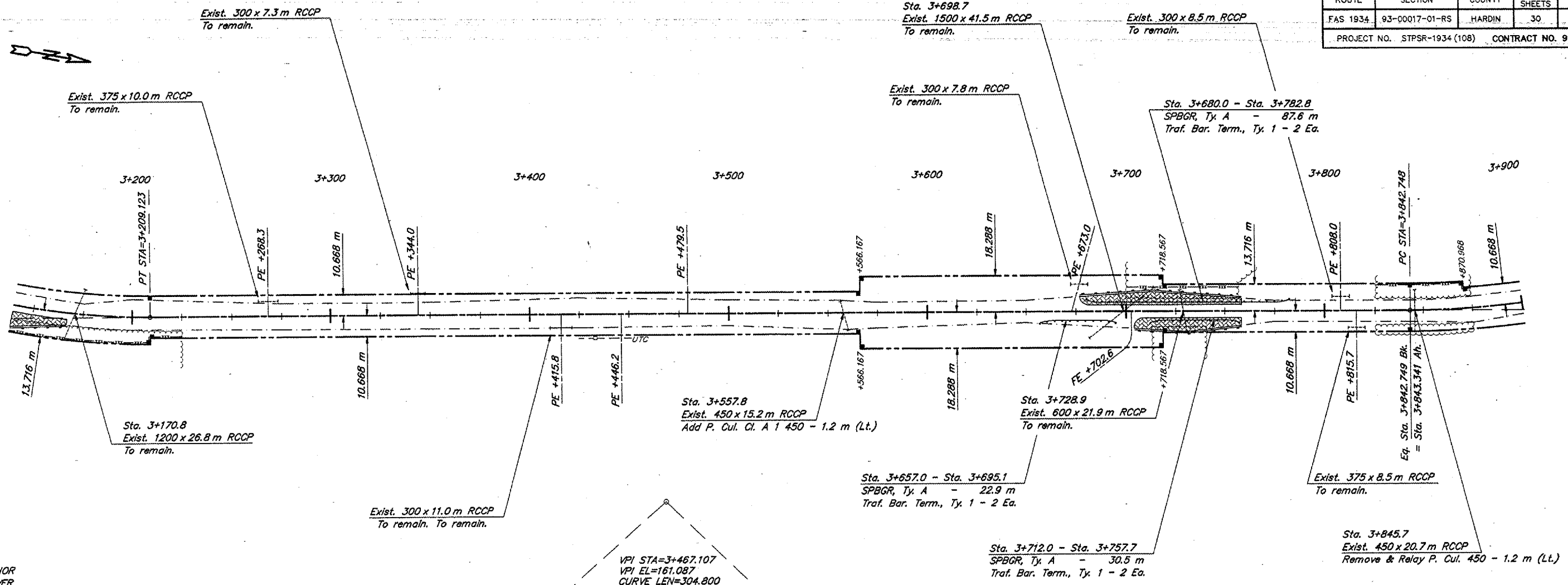
CURVE DATA
 $\Delta = 8^{\circ}30'00''$ $T = 62.297$ m
 $R = 838.305$ m $L = 124.365$ m
 $S.E. = 4.0\%$ $E = 2.312$ m
 Attain Sta. 2+676.2 - Sta. 2+732.0
 Remove Sta. 2+826.3 - Sta. 2+882.1

SCALES:
 1:1000 HOR
 1:100 VER

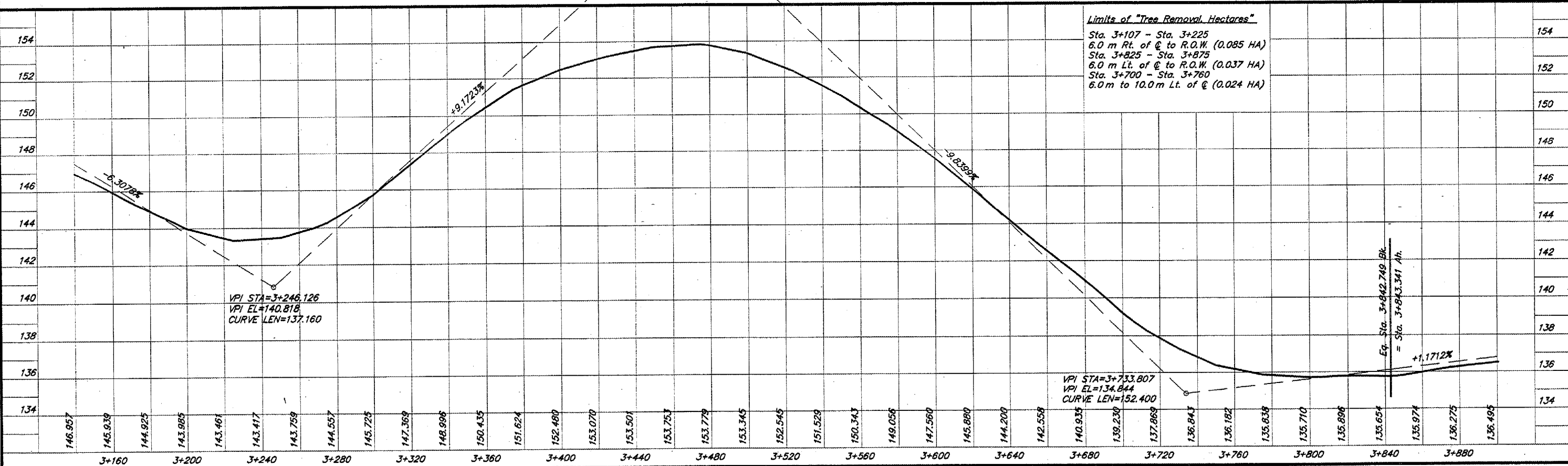
475P66C 02/04/03 15:30 RM



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	9
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1:1000 HOR
1:100 VER



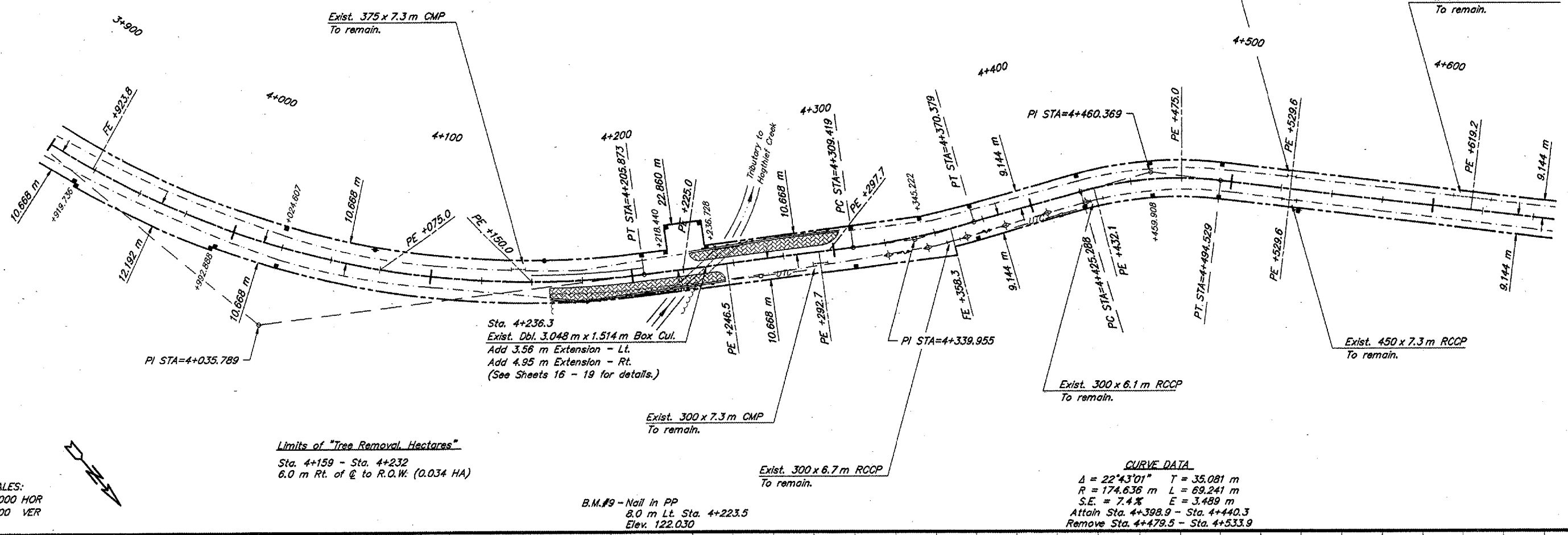
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	10
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CURVE DATA
 $\Delta = 47^{\circ}34'01''$ $T = 192.449$ m
 $R = 436.683$ m $L = 362.533$ m
 $S.E. = 6.3\%$ $E = 40.526$ m
 Attain Sta. 3+801.2 - Sta. 3+858.6
 Remove Sta. 4+190.6 - Sta. 4+247.4

CURVE DATA
 $\Delta = 8^{\circ}30'00''$ $T = 30.536$ m
 $R = 410.912$ m $L = 60.960$ m
 $S.E. = 6.5\%$ $E = 1.133$ m
 Attain Sta. 4+266.8 - Sta. 4+325.3
 Remove Sta. 4+354.5 - Sta. 4+398.9

Exist. 300 x 4.3 m RCCP
 To remain.

Exist. 300 x 18.9 m RCCP
 To remain.



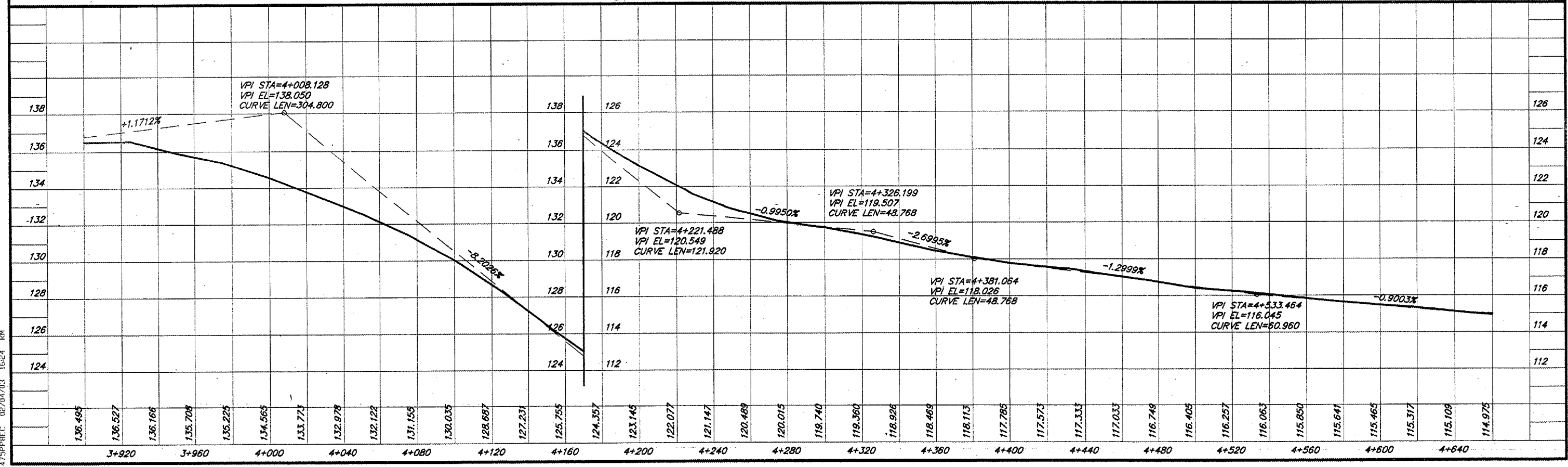
Limits of "Tree Removal Hectares"
 Sta. 4+159 - Sta. 4+232
 6.0 m Rt. of \mathcal{C} to R.O.W. (0.034 HA)

B.M.#9 - Nail in PP
 8.0 m Lt. Sta. 4+223.5
 Elev. 122.030

CURVE DATA
 $\Delta = 22^{\circ}43'01''$ $T = 35.081$ m
 $R = 174.636$ m $L = 69.241$ m
 $S.E. = 7.4\%$ $E = 3.489$ m
 Attain Sta. 4+398.9 - Sta. 4+440.3
 Remove Sta. 4+479.5 - Sta. 4+533.9

SCALES:
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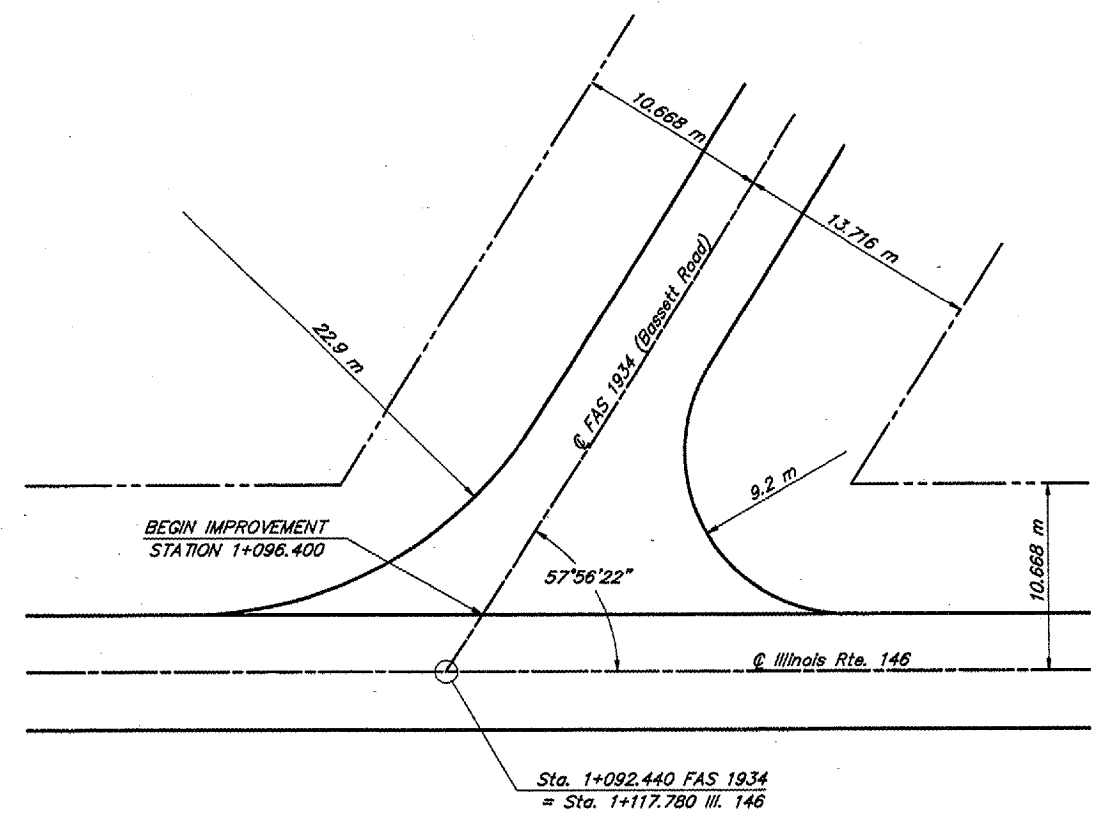
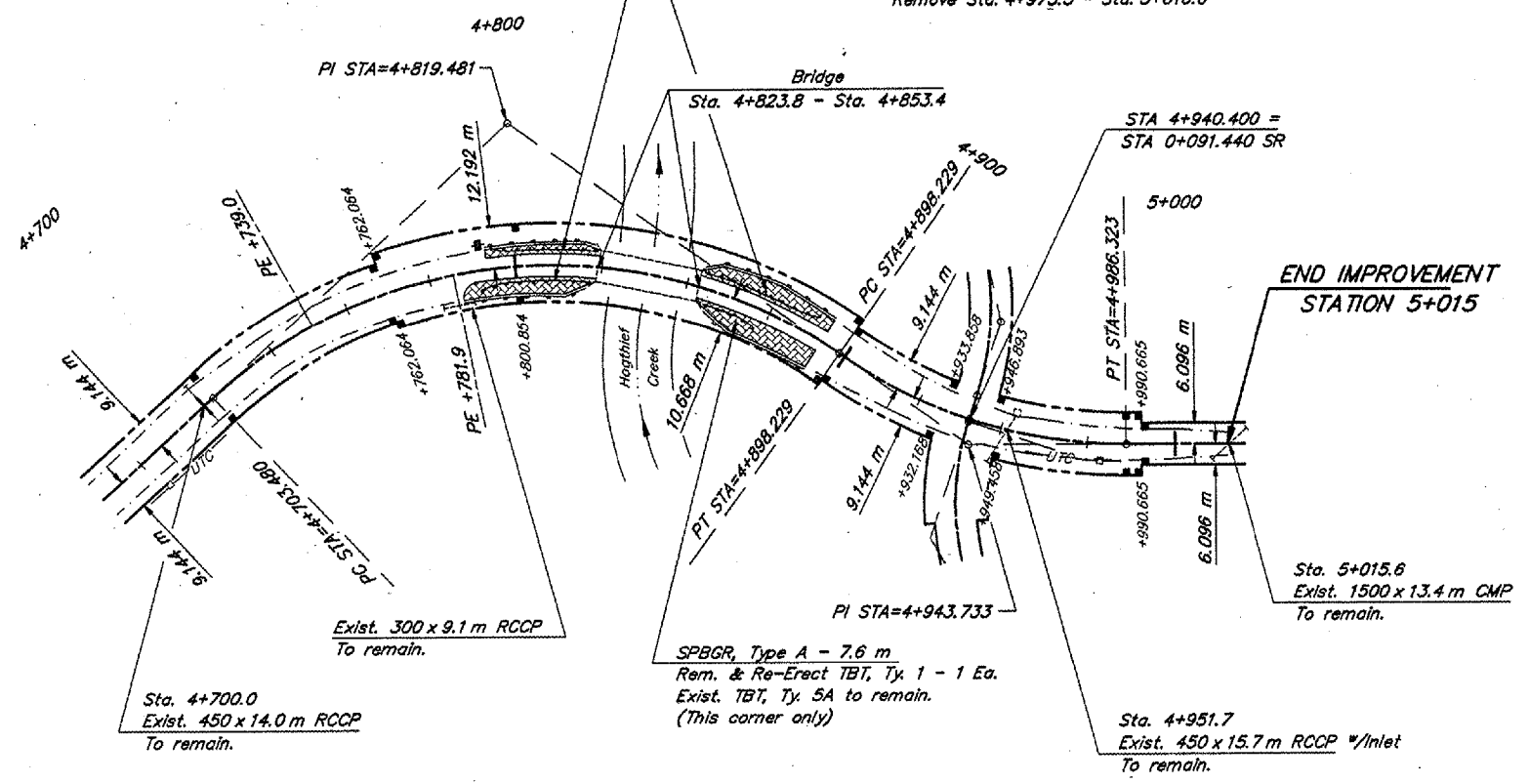
475PRREC 02/04/03 15:24 RM



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	83-00017-01-RS	HARDIN	30	11
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 09171	

CURVE DATA
 $\Delta = 35^{\circ}24'18''$ $T = 45.504$ m
 $R = 142.561$ m $L = 88.093$ m
 $S.E. = 5.0\%$ $E = 7.086$ m
 Attain Sta. 4+898.2 - Sta. 4+909.0
 Remove Sta. 4+975.5 - Sta. 5+016.6

SPBGR, Type A - 22.9 m
 Rem. & Re-Erect TBT, Ty. 1 - 1 Ea.
 Exist. TBT, Ty. 5A to remain.
 (Typical on 3 sides)

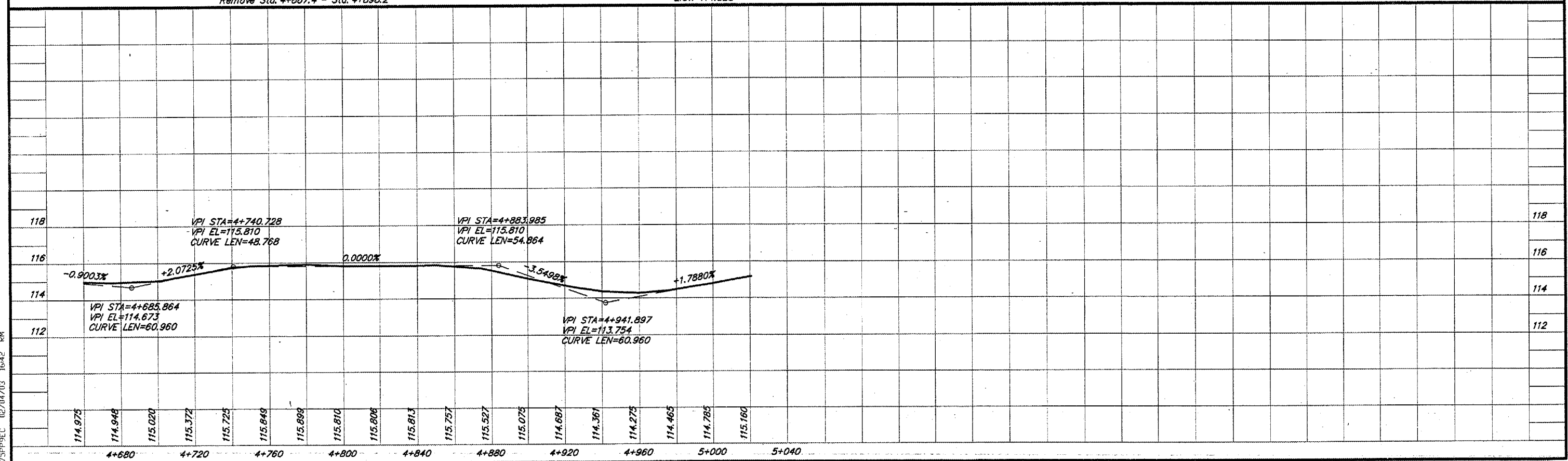


CURVE DATA
 $\Delta = 78^{\circ}16'13''$ $T = 116.001$ m
 $R = 142.561$ m $L = 194.748$ m
 $S.E. = 5.0\%$ $E = 41.232$ m
 Attain Sta. 4+673.2 - Sta. 4+714.3
 Remove Sta. 4+887.4 - Sta. 4+898.2

SCALES:
 1:1000 HOR
 1:100 VER

B.M.#10 - SE corner of headwall
 20.0 m Rt. Sta. 4+940
 Elev. 114.325

DETAIL OF INTERSECTION WITH ILL. RTE. 146



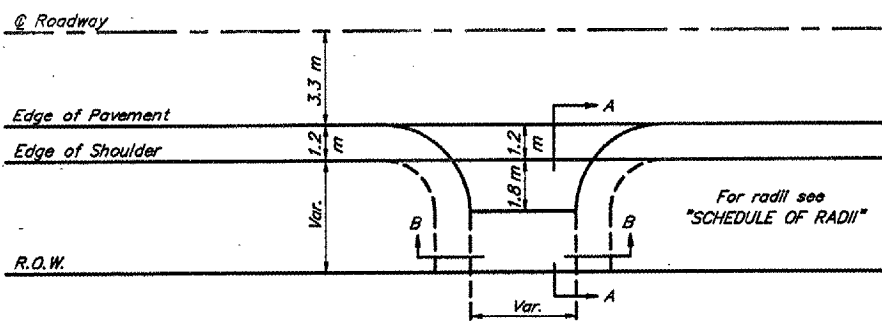
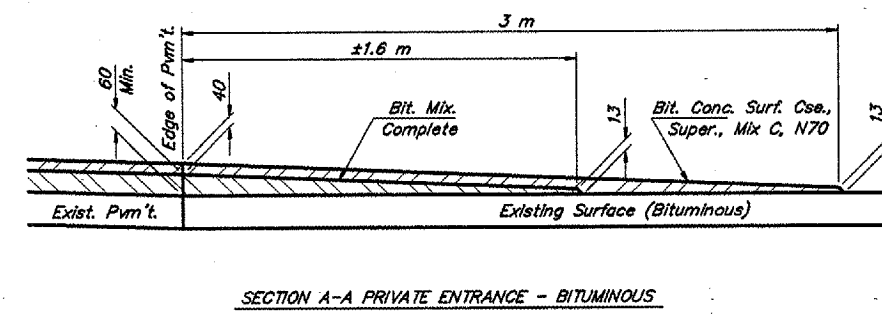
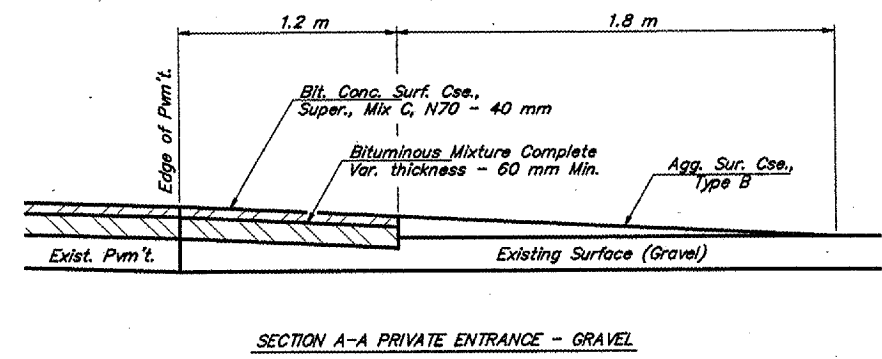
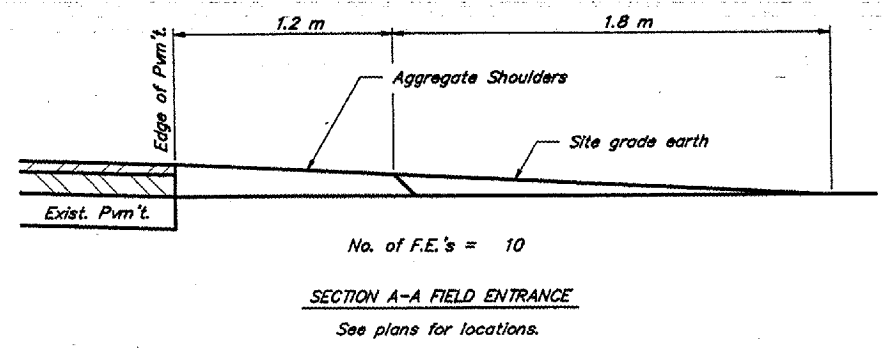
SCHEDULE OF PRIVATE ENTRANCES

Location	Width (m)	BMC Tons	Surface Tons	Agg. Tons
Sta. 1+127.3 Lt. G	3.0	3.4	0.9	2.1
Sta. 1+150.0 Lt. B	58.0	33.7	17.3	-
Sta. 1+256.7 Lt. B	3.6	1.0	1.8	-
Sta. 1+375.0 Lt. G	3.0	1.4	0.9	1.1
Sta. 1+475.0 Lt. G	3.0	1.4	0.9	1.1
Sta. 1+519.2 Lt. G	3.0	1.7	0.9	1.3
Sta. 1+581.1 Lt. G	3.6	1.5	1.0	1.2
Sta. 1+752.1 Rt. G	3.0	3.8	0.9	2.3
Sta. 1+786.6 Lt. G	22.0	4.7	3.1	5.3
Sta. 1+844.5 Rt. G	3.6	3.4	1.0	2.2
Sta. 1+863.1 Lt. G	3.0	1.9	1.3	1.6
Sta. 1+925.0 Rt. B	3.6	2.0	1.8	-
Sta. 1+963.7 Lt. G	4.3	1.6	1.1	1.4
Sta. 2+314.0 Lt. G	52.0	37.4	6.6	31.7
Sta. 0+250.0 Rt. B	3.0	2.9	1.8	-
Sta. 0+253.0 Lt. G	4.3	2.5	1.1	1.9
Sta. 0+300.00 Lt. G	3.6	1.5	1.0	1.2
Sta. 0+350.0 Rt. B	3.6	2.9	1.8	-
Sta. 0+682.1 Lt. G	3.0	2.7	0.9	1.7
Sta. 0+770.5 Rt. G	3.0	5.1	1.0	3.0
Sta. 1+025.0 Lt. G	3.0	1.6	1.1	1.4
Sta. 1+098.6 Lt. G	3.0	1.9	1.3	1.6
Sta. 1+192.5 Lt. G	3.0	1.4	0.9	1.1
Sta. 1+477.0 Lt. G	3.0	2.9	0.9	1.9
Sta. 1+605.2 Lt. G	4.0	5.4	1.0	3.3
Sta. 1+729.0 Rt. G	3.0	1.8	0.9	1.3
Sta. 2+178.0 Lt. G	3.0	1.4	0.9	1.1
Sta. 2+378.7 Rt. G	3.0	3.3	0.9	2.1
Sta. 2+488.3 Rt. G	3.0	2.7	0.9	1.7
Sta. 2+537.7 Rt. G	3.0	3.4	0.9	2.1
Sta. 2+617.0 Rt. G	3.0	5.9	1.8	3.8
Sta. 2+633.0 Lt. G	3.0	5.3	3.5	1.1
Sta. 2+912.6 Lt. G	3.0	1.4	0.9	1.1
Sta. 3+288.3 Lt. G	3.6	1.5	1.0	1.2
Sta. 3+344.0 Lt. G	3.6	1.8	1.0	1.4
Sta. 3+415.8 Rt. G	3.0	2.5	0.9	1.6
Sta. 3+446.2 Rt. G	3.0	1.4	0.9	1.1
Sta. 3+479.5 Lt. G	3.0	1.6	1.0	1.3
Sta. 3+675.0 Lt. G	3.0	1.6	1.0	1.3
Sta. 3+808.0 Lt. G	3.0	3.1	0.9	2.0
Sta. 3+815.7 Rt. G	3.0	2.5	0.9	1.7
Sta. 4+075.0 Lt. G	3.0	2.2	1.3	1.7
Sta. 4+150.0 Lt. G	3.0	1.9	1.3	1.6
Sta. 4+225.0 Lt. G	3.0	1.6	0.9	1.2
Sta. 4+246.5 Rt. G	3.0	2.0	0.9	1.4
Sta. 4+292.7 Rt. G	3.6	5.3	1.0	3.2
Sta. 4+297.7 Lt. G	3.0	1.9	1.3	1.6
Sta. 4+432.1 Rt. G	3.0	1.4	0.9	1.1
Sta. 4+475.0 Lt. B	3.0	5.1	1.7	-
Sta. 4+529.6 Lt. G	3.0	3.9	0.9	2.3
Sta. 4+529.6 Rt. B	3.0	0.9	1.7	-
Sta. 4+619.2 Lt. G	16.0	3.6	2.4	4.0
Sta. 4+739.0 Lt. B	3.0	0.9	1.7	-
Sta. 4+781.9 Rt. G	3.0	3.0	0.9	1.9
Totals		204.1	87.6	114.5

B = Bituminous Surface
G = Gravel Surface

NOTE: Where Bituminous Mixture Complete is to be placed, existing surface shall be primed with Bituminous Mat's (Pr. Ct.) at 1.0 L/m² and Aggregate (Pr. Ct.) at 1.5 kg/m²

* Bituminous surface on entrance at Sta. 2+633.0 shall extend to R.O.W. line.



* Reconstruct entrance with 1.2 m shoulders when new ditch culvert is constructed.

TYPICAL ENTRANCE DETAILS

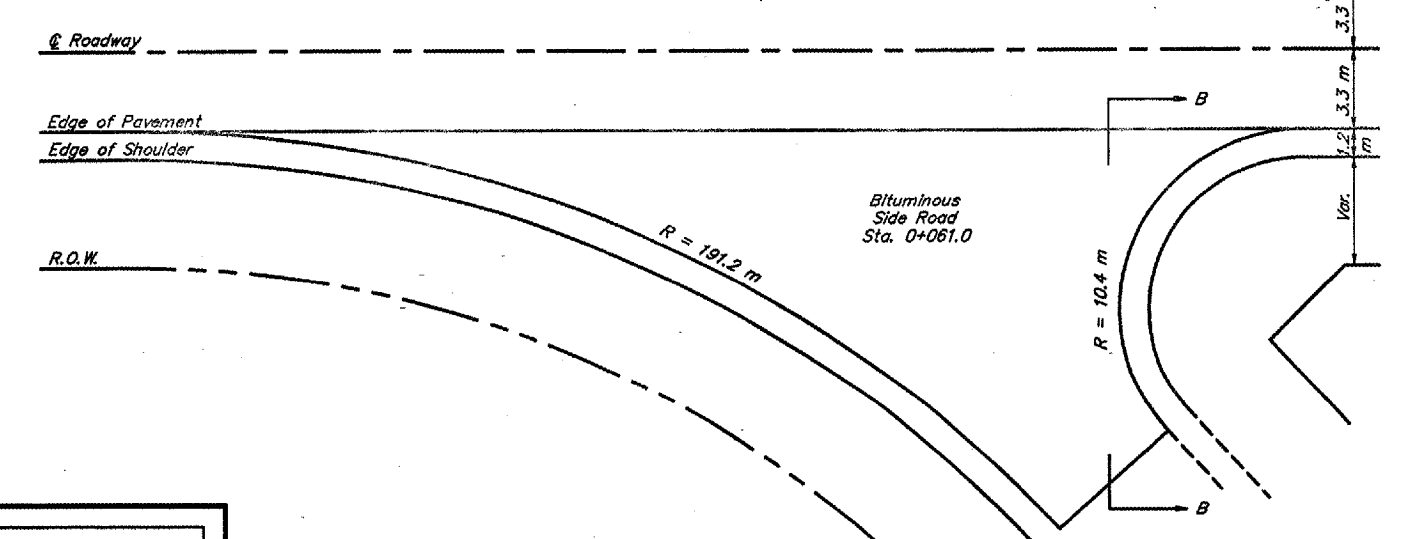
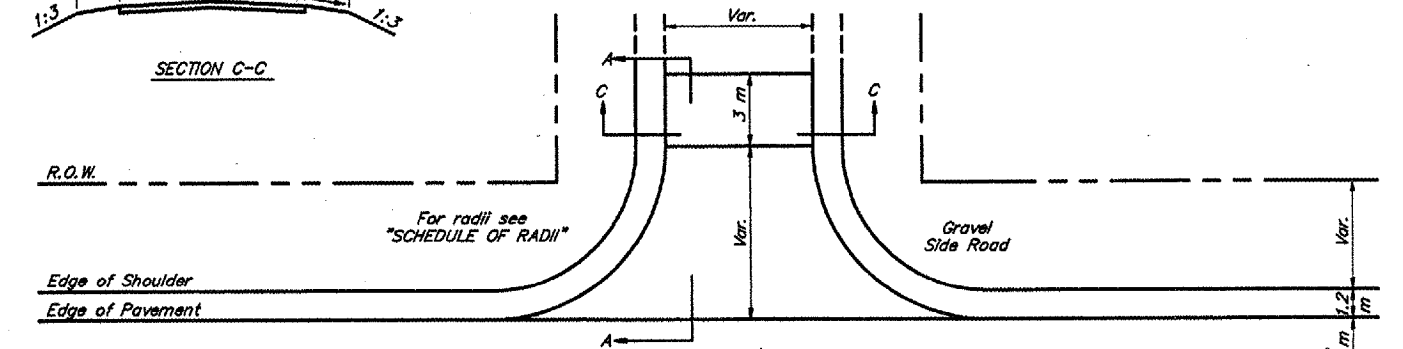
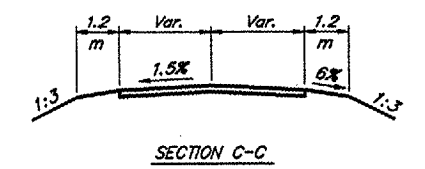
SCHEDULE OF SIDE ROADS

Location	Width (m)	BMC Tons	Surface Tons	Agg. Tons
Sta. 0+061.0 Rt. B	6.0	374.6	67.2	-
Sta. 2+403.3 Lt. G	4.9	38.0	13.8	2.2
Sta. 4+940.4 Lt. G	6.0	10.0	6.6	2.2
Sta. 4+940.4 Rt. G	6.0	22.1	6.6	2.2
Totals		444.7	94.2	6.6

B = Bituminous Surface
G = Gravel Surface

NOTE: Where Bituminous Mixture Complete is to be placed, existing surface shall be primed with Bituminous Mat's (Pr. Ct.) at 1.0 L/m² and Aggregate (Pr. Ct.) at 1.5 kg/m²

* Bituminous surface on side road at Sta. 2+403.3 shall extend to bottom of incline. (±19 m Lt. of @)



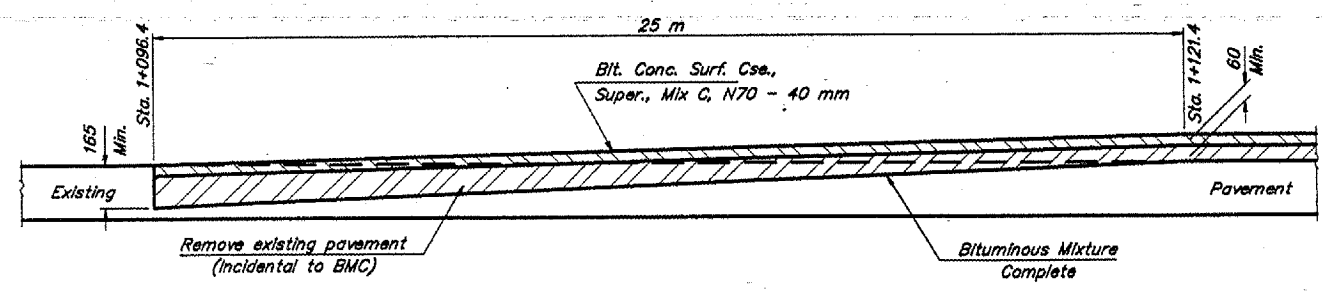
TYPICAL SIDE ROAD DETAILS

SCHEDULE OF RADII

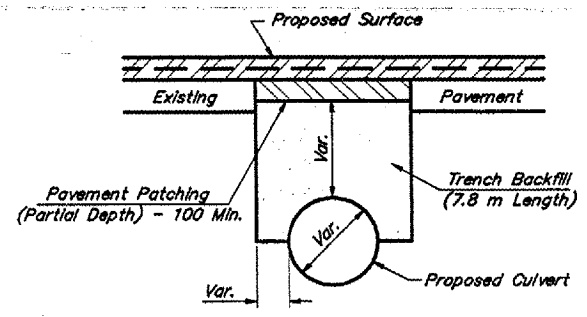
Angle of Intersection	Side Road		Private Entrance	
	Acute L.	Obtuse L.	Acute L.	Obtuse L.
90° - 90°	7.6 m	7.6 m	4.6 m	4.6 m
79° - 70°	7.6 m	12.2 m	4.6 m	7.6 m
69° - 60°	7.6 m	18.3 m	4.6 m	10.7 m
59° - 50°	6.1 m	22.9 m	3.0 m	12.2 m
49° - 40°	6.1 m	30.5 m	3.0 m	18.3 m
39° - 30°	4.6 m	45.7 m	3.0 m	30.5 m

TYPICAL SIDE ROAD AND ENTRANCE DETAILS
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934(108)
HARDIN COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	13
PROJECT NO. STPSR-1934 (108)			CONTRACT NO. 99171	



BEGINNING BUTT JOINT



**ACROSS ROAD CULVERT
INSTALLATION DETAIL**

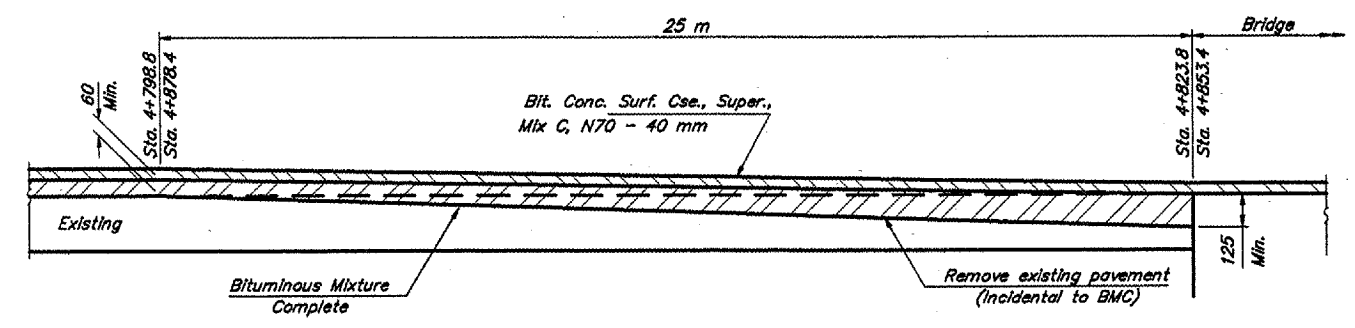
NOTE: See plans for locations, culvert sizes & quantities.

Sta. 1+125.184	10.668 m Lt.	Sta. 1+188.722	10.668 m Rt.
Sta. 1+125.184	13.716 m Rt.	Sta. 1+485.434	13.716 m Lt.
Sta. 1+147.543	10.668 m Lt.	Sta. 1+485.434	10.668 m Rt.
Sta. 1+147.543	13.716 m Rt.	Sta. 1+681.436	10.668 m Rt.
Sta. 1+169.901	10.668 m Lt.	Sta. 1+859.284	10.668 m Lt.
Sta. 1+169.901	13.716 m Rt.	Sta. 1+859.284	13.716 m Lt.
Sta. 1+463.043	9.144 m Rt.	Sta. 1+985.525	10.668 m Lt.
Sta. 1+463.043	13.716 m Rt.	Sta. 2+067.825	15.240 m Lt.
Sta. 1+677.551	9.144 m Lt.	Sta. 2+316.485	10.668 m Lt.
Sta. 1+677.551	9.144 m Rt.	Sta. 2+316.485	16.764 m Lt.
Sta. 1+747.167	9.144 m Lt.	Sta. 2+419.670	12.192 m Lt.
Sta. 1+747.167	9.144 m Rt.	Sta. 2+933.292	10.668 m Lt.
Sta. 1+816.783	9.144 m Lt.	Sta. 3+108.966	10.668 m Rt.
Sta. 1+816.783	12.192 m Lt.	Sta. 3+209.123	10.668 m Lt.
Sta. 1+816.783	9.144 m Rt.	Sta. 3+209.123	10.668 m Rt.
Sta. 1+905.004	9.144 m Lt.	Sta. 3+209.123	13.716 m Rt.
Sta. 1+905.004	12.192 m Lt.	Sta. 3+566.167	10.668 m Rt.
Sta. 1+981.204	9.144 m Rt.	Sta. 3+718.567	13.716 m Lt.
Sta. 1+981.204	12.192 m Rt.	Sta. 3+718.567	10.668 m Rt.
Sta. 2+092.068	9.144 m Rt.	Sta. 3+842.748	13.716 m Lt.
Sta. 2+212.608	9.144 m Lt.	Sta. 3+842.749	10.668 m Rt.
Sta. 2+212.608	9.144 m Rt.	Sta. 3+870.968	13.716 m Lt.
Sta. 2+385.089	9.144 m Lt.	Sta. 3+992.888	10.668 m Rt.
Sta. 2+385.089	9.144 m Rt.	Sta. 4+205.873	10.668 m Lt.
Sta. 2+385.089	18.288 m Rt.	Sta. 4+218.440	10.668 m Lt.
Sta. 0+178.308	10.668 m Rt.	Sta. 4+218.440	22.860 m Lt.
Sta. 0+229.102	10.668 m Lt.	Sta. 4+236.728	10.668 m Lt.
Sta. 0+229.102	10.668 m Rt.	Sta. 4+236.728	22.860 m Lt.
Sta. 0+457.201	10.668 m Lt.	Sta. 4+309.419	10.668 m Lt.
Sta. 0+457.201	12.192 m Lt.	Sta. 4+309.419	10.668 m Rt.
Sta. 0+457.201	10.668 m Rt.	Sta. 4+345.222	10.668 m Lt.
Sta. 0+548.641	10.668 m Lt.	Sta. 4+370.379	9.144 m Lt.
Sta. 0+548.641	12.192 m Lt.	Sta. 4+425.288	9.144 m Lt.
Sta. 0+548.641	10.668 m Rt.	Sta. 4+425.288	9.144 m Rt.
Sta. 0+925.491	10.668 m Lt.	Sta. 4+459.908	9.144 m Lt.
Sta. 0+995.019	13.716 m Lt.	Sta. 4+459.908	9.144 m Rt.
Sta. 1+064.249	13.716 m Lt.	Sta. 4+494.529	9.144 m Lt.
Sta. 1+133.479	10.668 m Lt.	Sta. 4+494.529	9.144 m Rt.

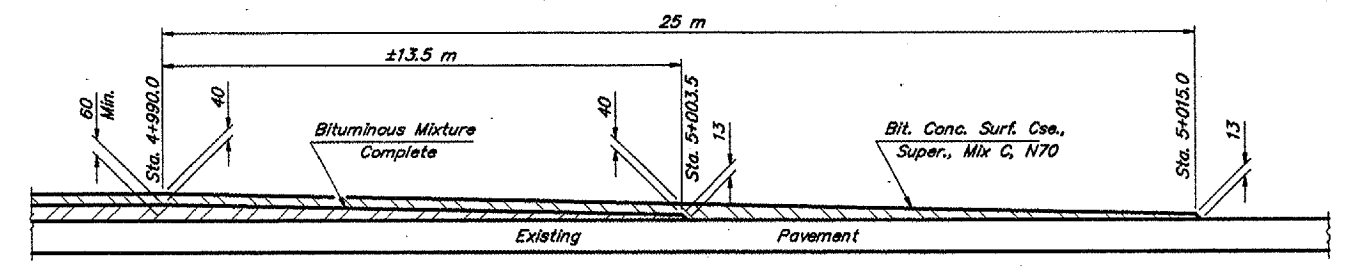
LOCATIONS FOR

"FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS"

NOTE: Some R.O.W. markers shown on the plans are existing.

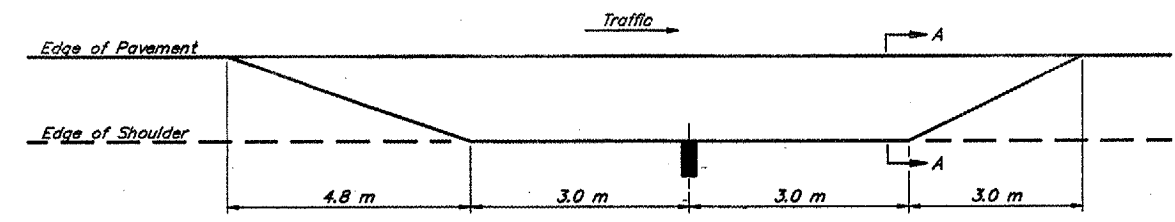


BRIDGE PAVING DETAILS



ENDING TAPER

NOTE: Existing surface shall be primed with Bit. Mat's (Pr. Ct.) @ 1.0 L/m² & Aggregate (Pr. Ct.) @ 1.5 kg/m²

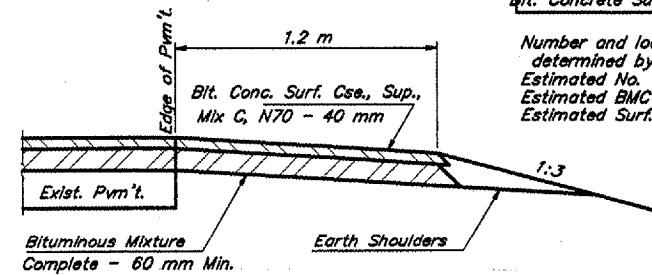


Bituminous Mixture Complete	1.68 Tons
Bit. Concrete Surface Course	1.12 Tons

Number and location of turnouts to be determined by the Engineer.
Estimated No. 23
Estimated BMC 38.6
Estimated Surf. 25.8

NOTES
Mailbox turnouts may be constructed with the bituminous aprons for entrances and lengths shown may include all or a portion of entrances. (See Standard BLR-24 for additional details)
Existing surface shall be primed with Bit. Mat's (Pr. Ct.) @ 1.0 L/m² & Aggregate (Pr. Ct.) @ 1.5 kg/m²

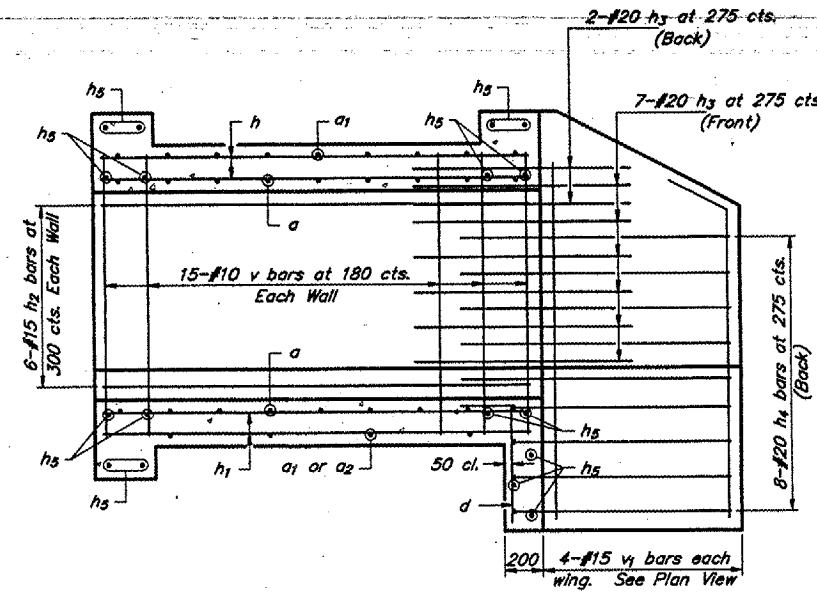
NOTE: All dimensions shown in millimeters unless otherwise noted.



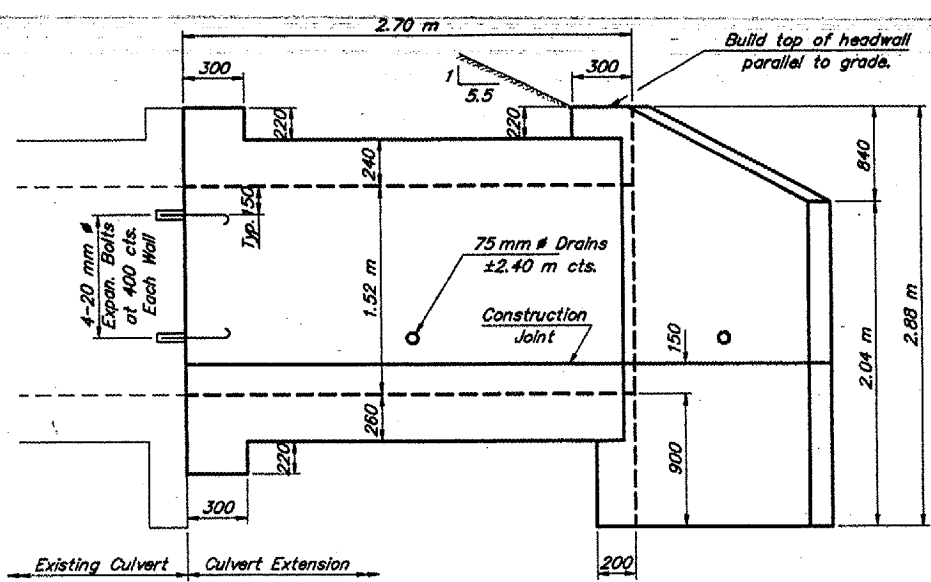
SECTION A-A

TYPICAL MAILBOX TURNOUT

MISCELLANEOUS DETAILS
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934 (108)
HARDIN COUNTY

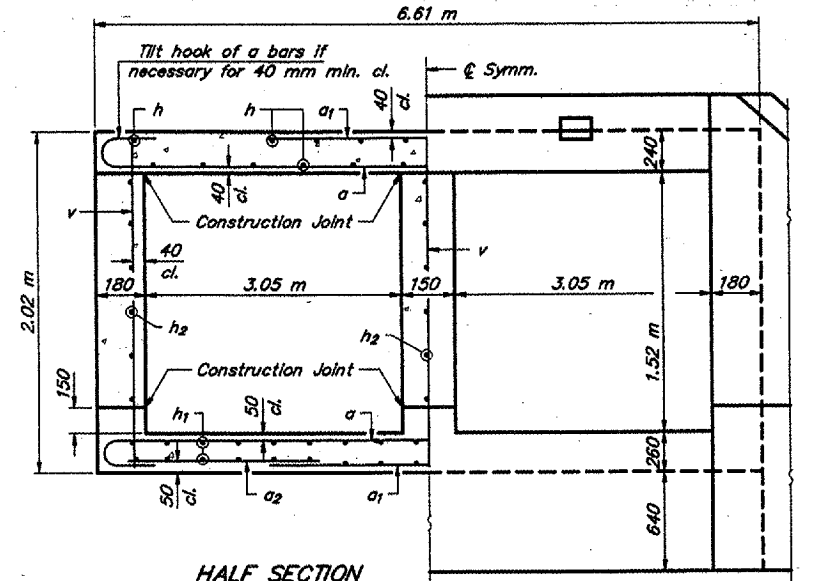


SHOWING REINFORCEMENT



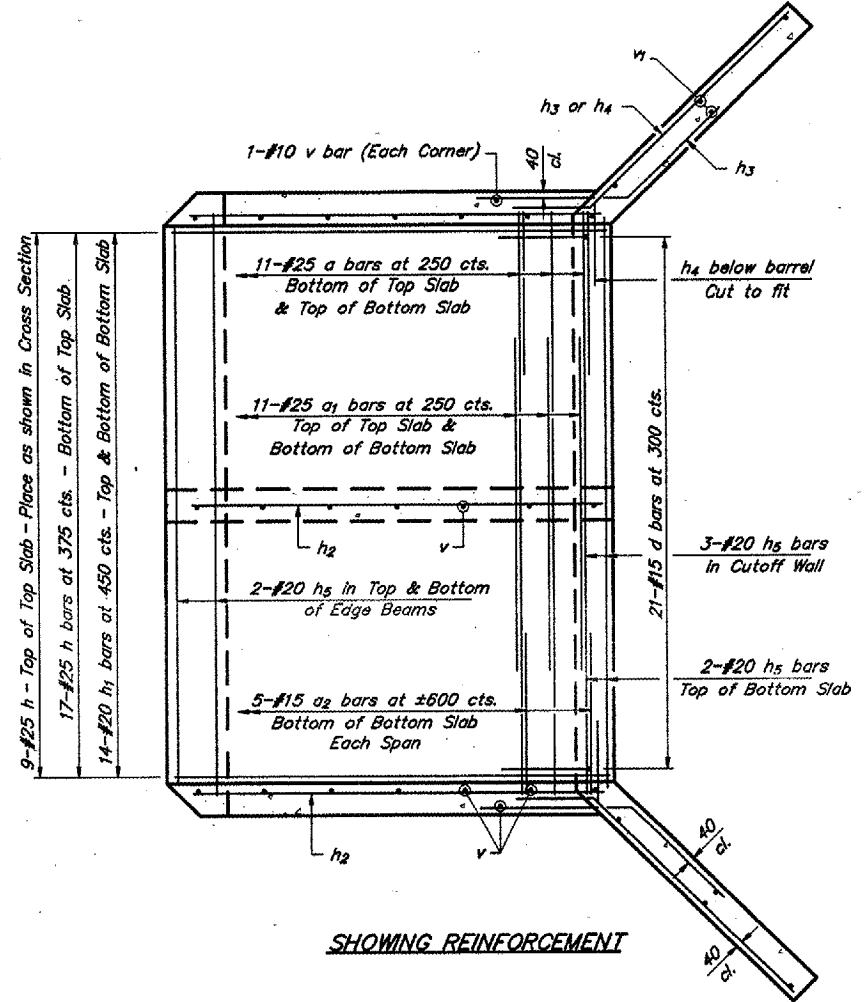
SHOWING OUTLINE

ELEVATION

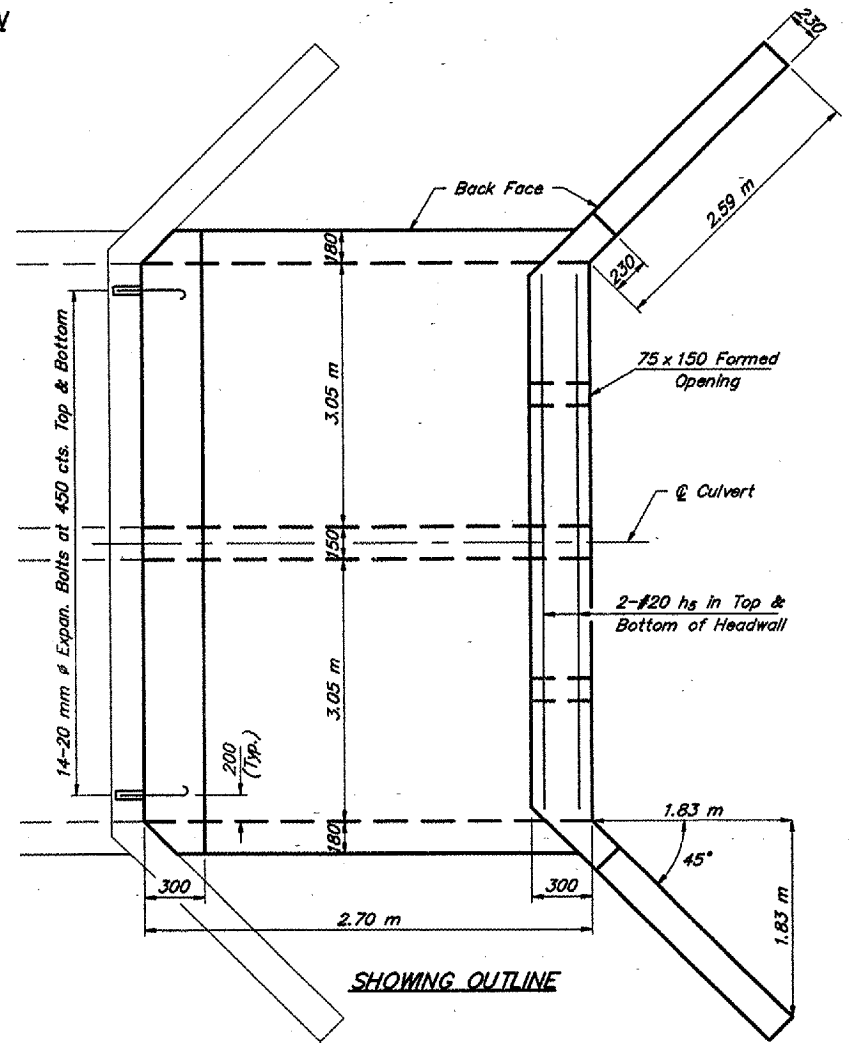


HALF SECTION THRU BARREL

HALF END ELEVATION

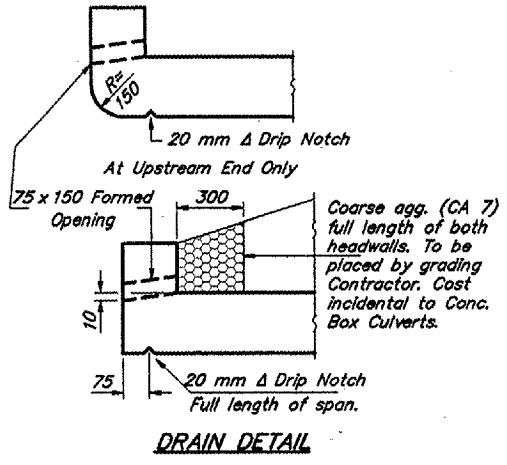


SHOWING REINFORCEMENT



SHOWING OUTLINE

PLAN



DRAIN DETAIL

BILL OF MATERIAL (One Extension)

Bar	No.	Size	Length
a	22	#25	7.06
a1	22	#25	2.66
a2	10	#15	2.50
d	21	#15	1.36
h	26	#25	2.60
h1	28	#20	2.60
h2	18	#15	2.60
h3	18	#20	2.40
h4	16	#20	3.49
h5	17	#20	6.40
v	47	#10	1.92
v1	8	#15	2.70
Conc. Box Culverts		m ³	15.5
Reinforcement Bars		kg	2030
Expansion Bolts		Each	40

NOTES

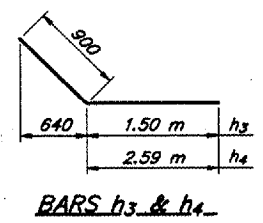
Barrel shall be poured monolithically with wingwalls. Exposed edges shall be beveled 20 mm. Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 400. Expansion bolts shall consist of self drilling expansion shields and 20 mm # hooked bolts. Bolts shall extend a minimum of 225 mm into new concrete. All dimensions are in millimeters (mm) except as noted.

DESIGN STRESSES

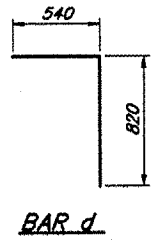
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 $f_c = 24 \text{ MPa}$

LOADING MS 1B & ALT.

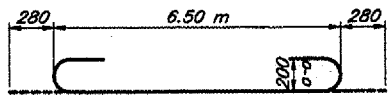
BOX CULVERT EXTENSION
STATION 1+507.3 RT.
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934 (10B)
HARDIN COUNTY



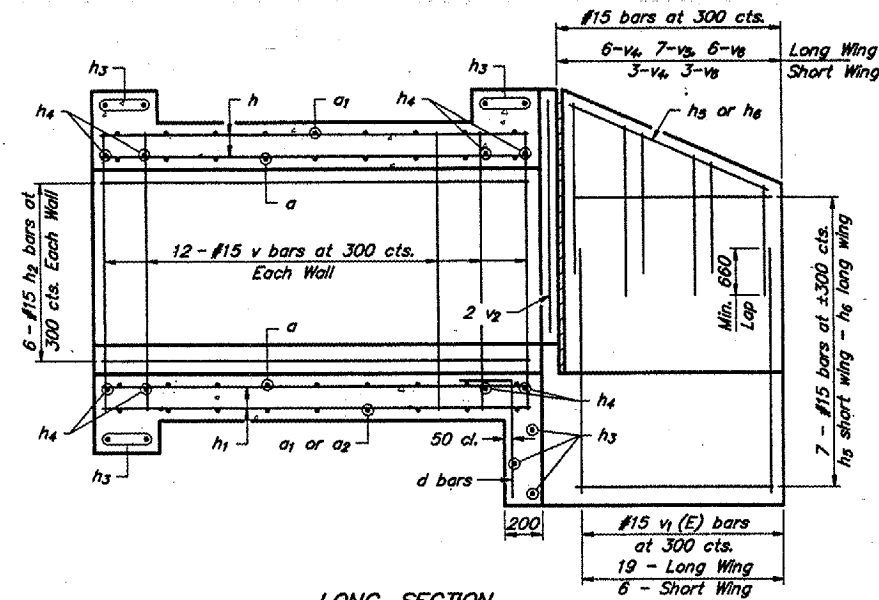
BARs h3 & h4



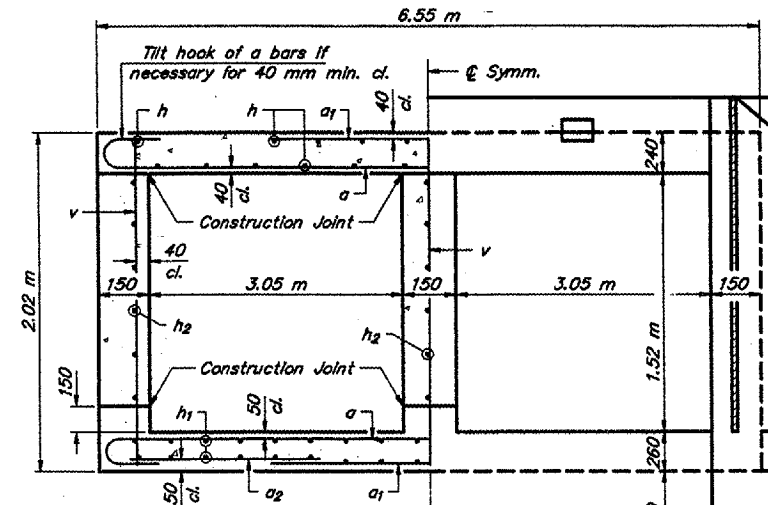
BAR d



BAR a



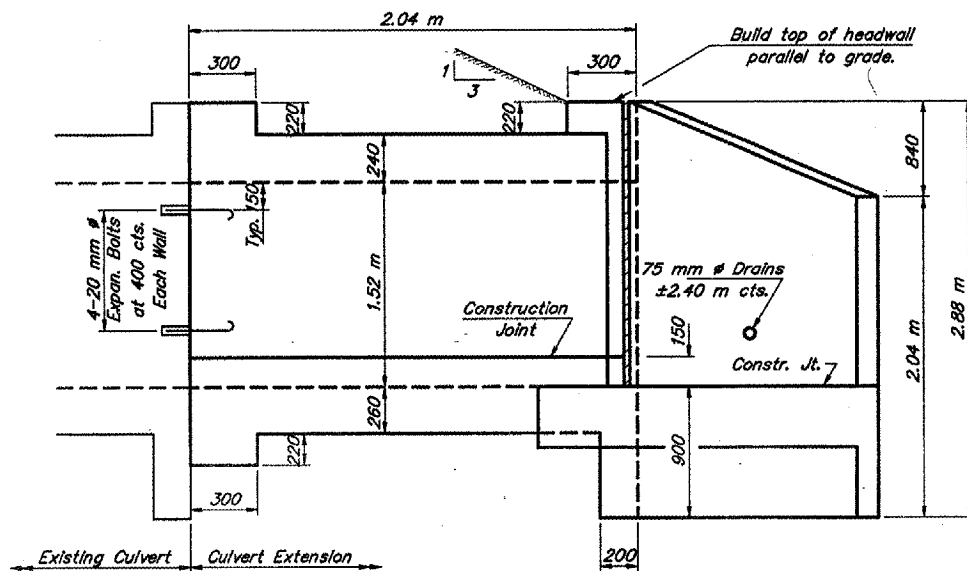
LONG SECTION
Showing Reinforcement



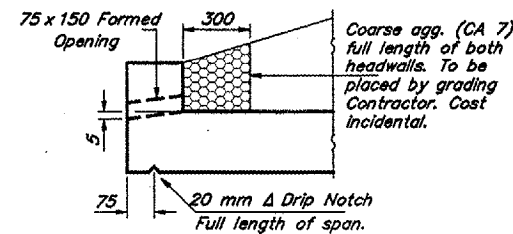
HALF SECTION THRU BARREL
HALF END ELEVATION

BILL OF MATERIAL
(One Extension)

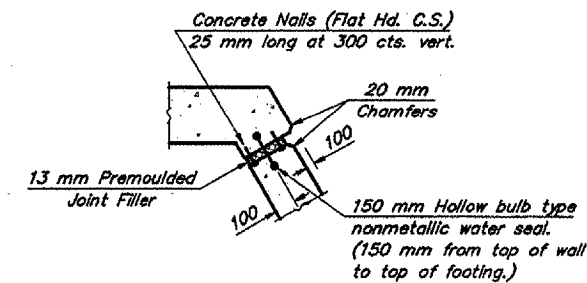
Bar	No.	Size	Length (m)
a	24	#25	7.01
a1	24	#25	2.60
a2	12	#15	2.50
d	21	#15	1.36
h	26	#25	3.46
h1	28	#20	3.46
h2	18	#15	3.46
h3	9	#20	11.00
h4	8	#25	11.00
h5	10	#15	1.64
h6	10	#15	5.60
s	37	#15	1.44
v	36	#15	1.92
v1(E)	25	#15	1.88
v2	4	#15	2.18
v4	9	#15	1.05
v5	7	#15	1.32
v6	9	#15	1.65
w	4	#15	7.37
w1	5	#15	2.98
w2	1	#15	4.73
z	23	#15	2.02
z1	6	#15	1.70
Conc. Box Culverts	m ³		24.3
Reinforcement Bars	kg		2800
Reinforcement Bars Epoxy Coated	kg		80
Expansion Bolts	Each		40



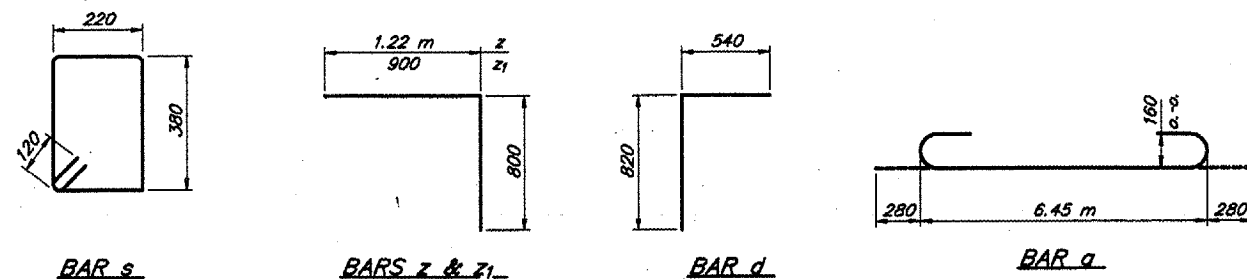
ELEVATION
Showing Outline



DRAIN DETAIL



CORNER DETAIL



DESIGN STRESSES

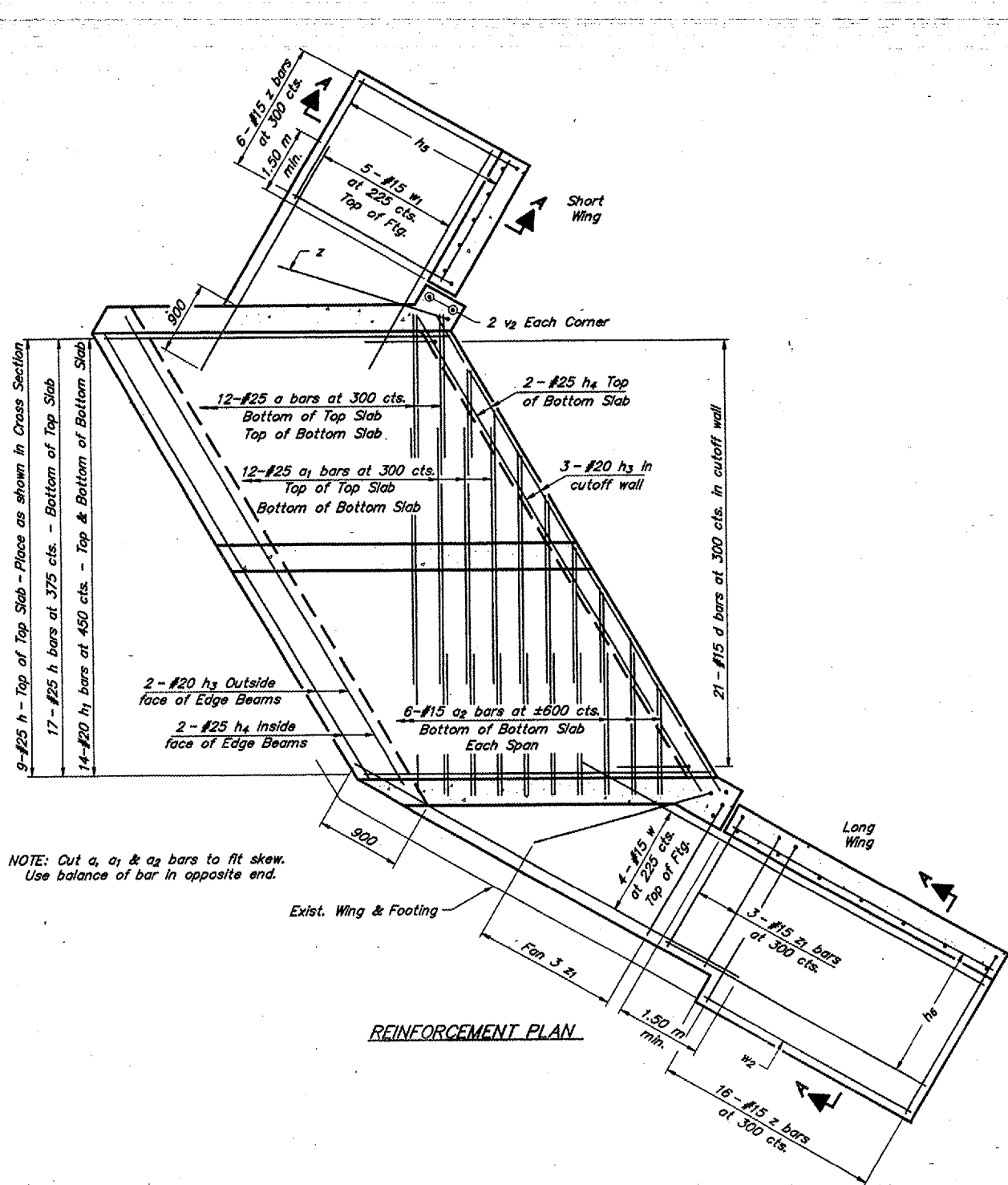
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 $f_c = 24 \text{ MPa}$

LOADING MS 18 & ALT.

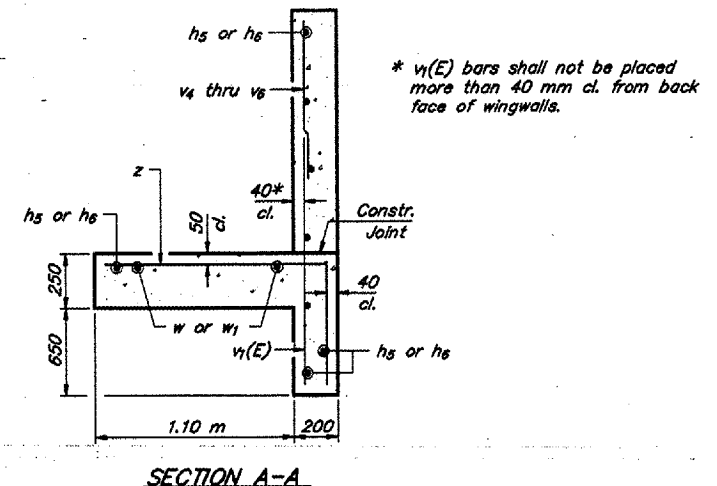
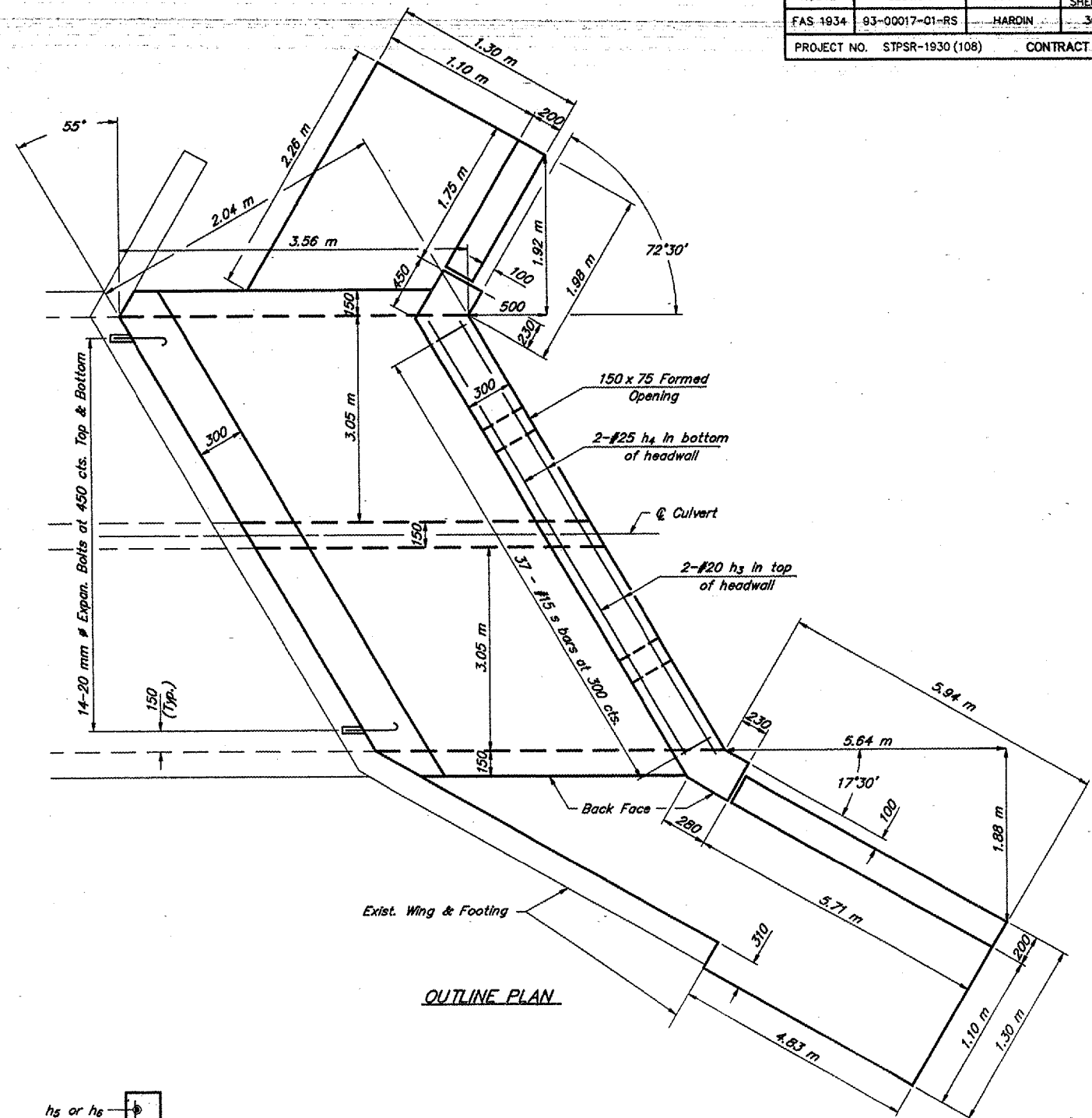
NOTES

Exposed edges shall be beveled 20 mm.
Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 400.
Expansion bolts shall consist of self drilling expansion shields and 20 mm # hooked bolts. Bolts shall extend a minimum of 225 mm into new concrete.
All dimensions are in millimeters (mm) except as noted.
Reinforcement bars designated (E) shall be epoxy coated.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	17
PROJECT NO. STPSR-1930 (108)			CONTRACT NO. 99171	



NOTE: Cut a, a1 & a2 bars to fit skew. Use balance of bar in opposite end.

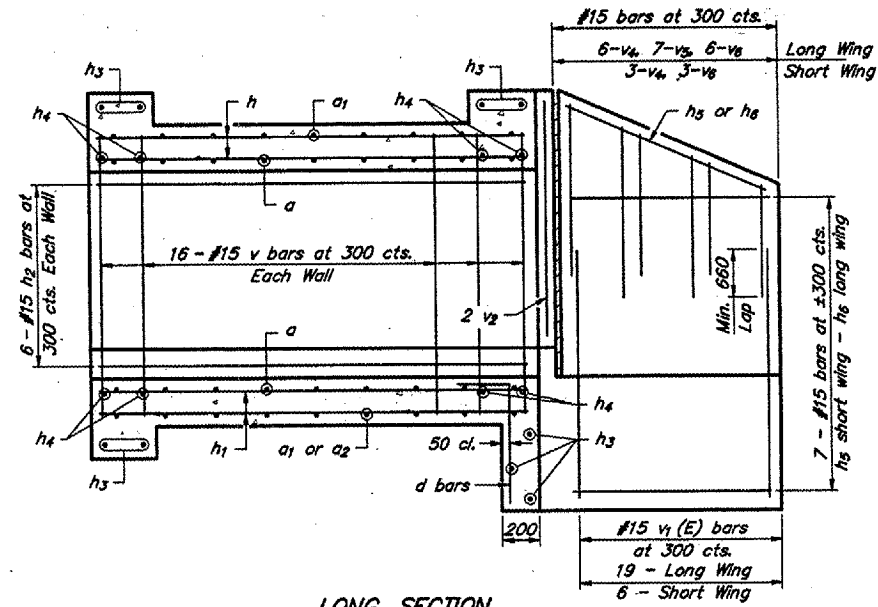


Sheet 2 of 2

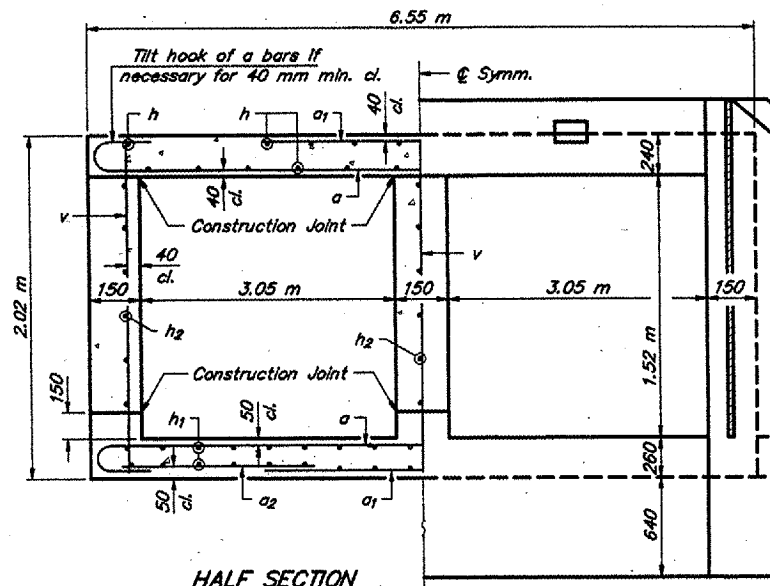
BOX CULVERT EXTENSION
 STATION 4+236.3 LT.
 FAS ROUTE 1934
 SECTION 93-00017-01-RS
 PROJECT NO. STPSR-1934 (108)
 HARDIN COUNTY

475BCE2L 06/18/02 15:53 PM

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	18
PROJECT NO. STPSR-1930 (108)			CONTRACT NO. 99171	



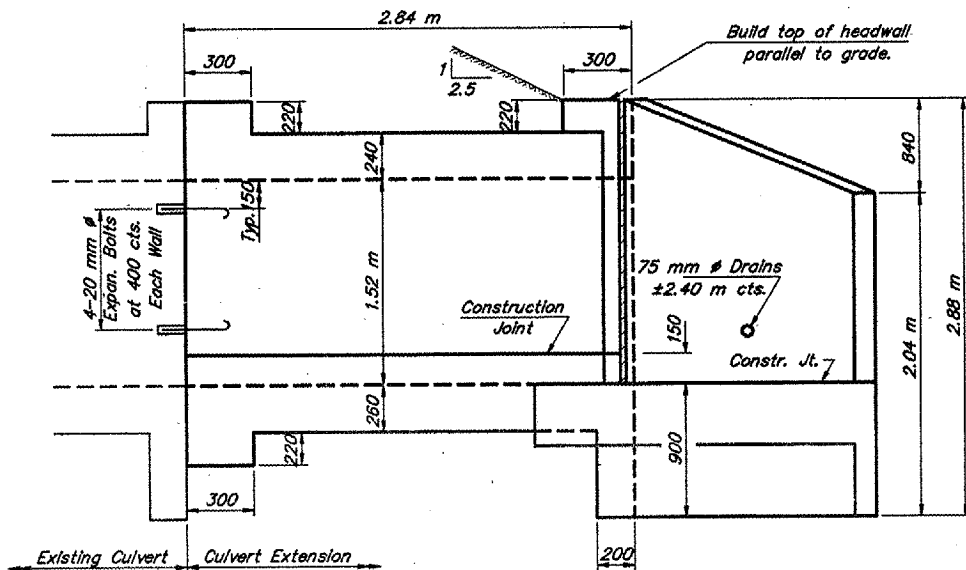
LONG SECTION
Showing Reinforcement



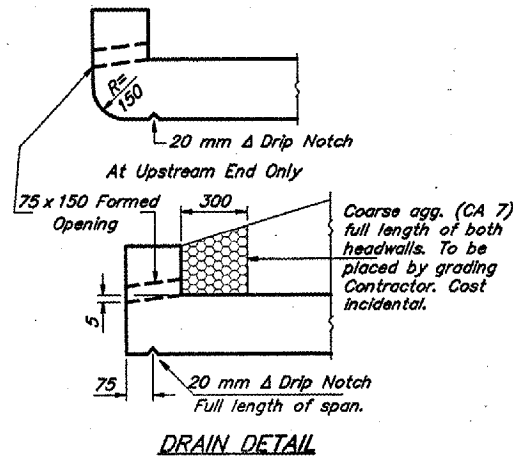
HALF SECTION THRU BARREL
HALF END ELEVATION

BILL OF MATERIAL
(One Extension)

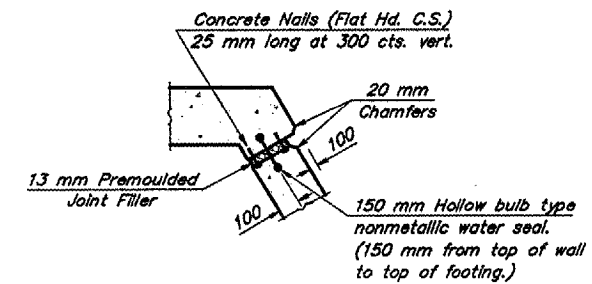
Bar	No.	Size	Length (m)
a	32	#25	7.01
a1	32	#25	2.60
a2	16	#15	2.50
d	21	#15	1.36
h	26	#25	4.85
h1	28	#20	4.85
h2	18	#15	4.85
h3	9	#20	11.00
h4	8	#25	11.00
h5	10	#15	1.64
h6	10	#15	5.60
s1	37	#15	1.39
v	48	#15	1.92
v1(E)	25	#15	1.88
v2	4	#15	2.18
v4	9	#15	1.05
v5	7	#15	1.32
v6	9	#15	1.65
w	5	#15	7.37
w1	5	#15	2.98
z	29	#15	2.02
Conc. Box Culverts	m ³		30.1
Reinforcement Bars	kg		3430
Reinforcement Bars Epoxy Coated	kg		80
Expansion Bolts	Each		40



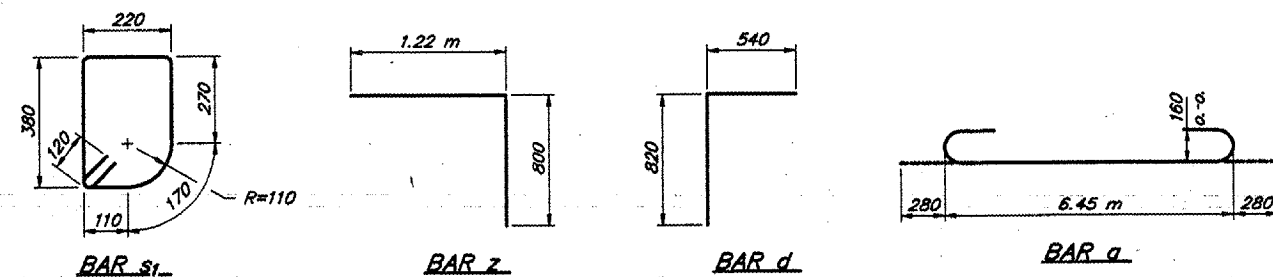
ELEVATION
Showing Outline



DRAIN DETAIL



CORNER DETAIL



DESIGN STRESSES

$f_y = 400 \text{ MPa}$
 $f_c = 24 \text{ MPa}$

LOADING MS 18 & ALI.

NOTES

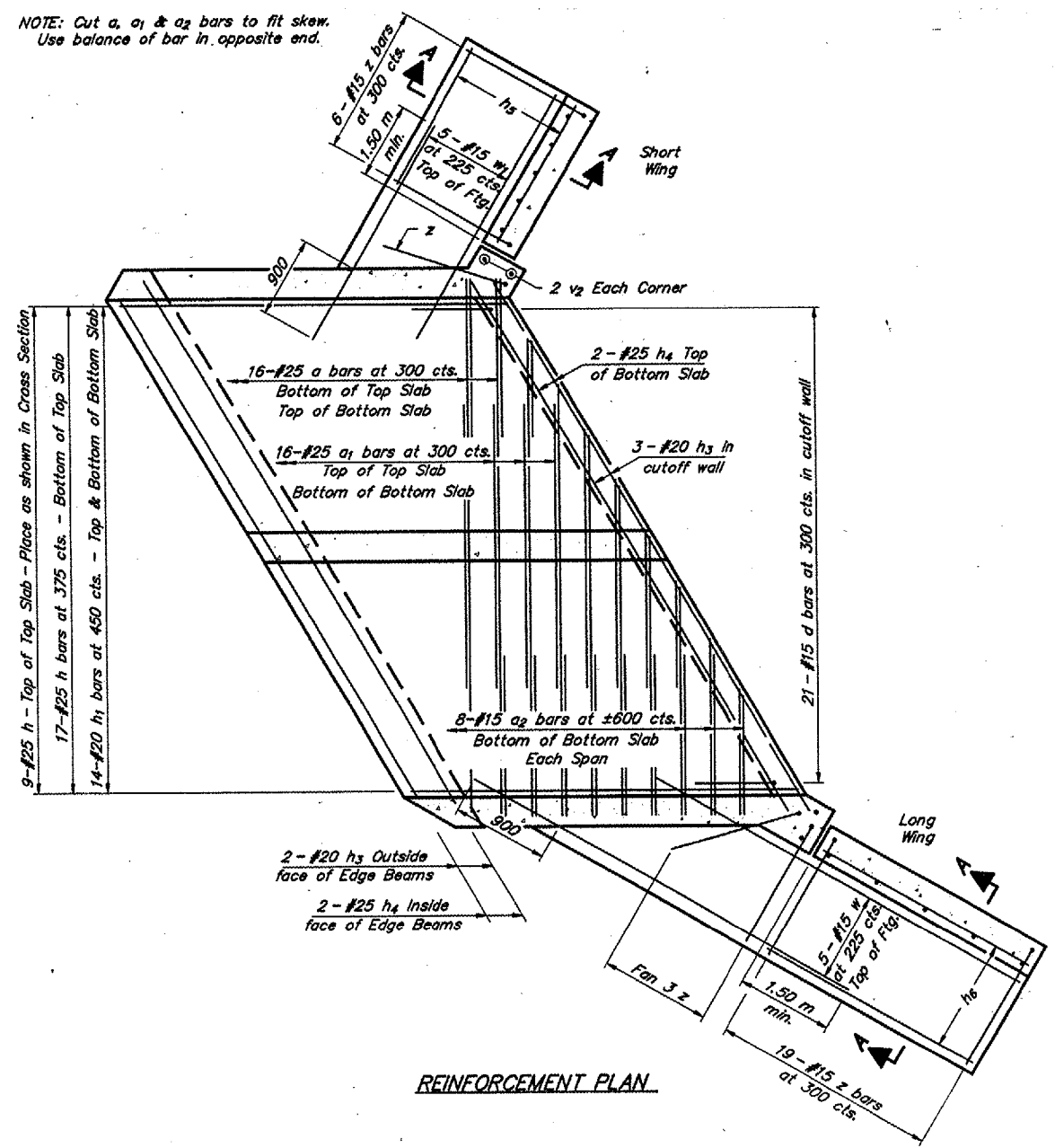
Exposed edges shall be beveled 20 mm.
Reinforcement bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M, Grade 400.
Expansion bolts shall consist of self drilling expansion shields and 20 mm # hooked bolts. Bolts shall extend a minimum of 225 mm into new concrete.
All dimensions are in millimeters (mm) except as noted.
Reinforcement bars designated (E) shall be epoxy coated.

Sheet 1 of 2

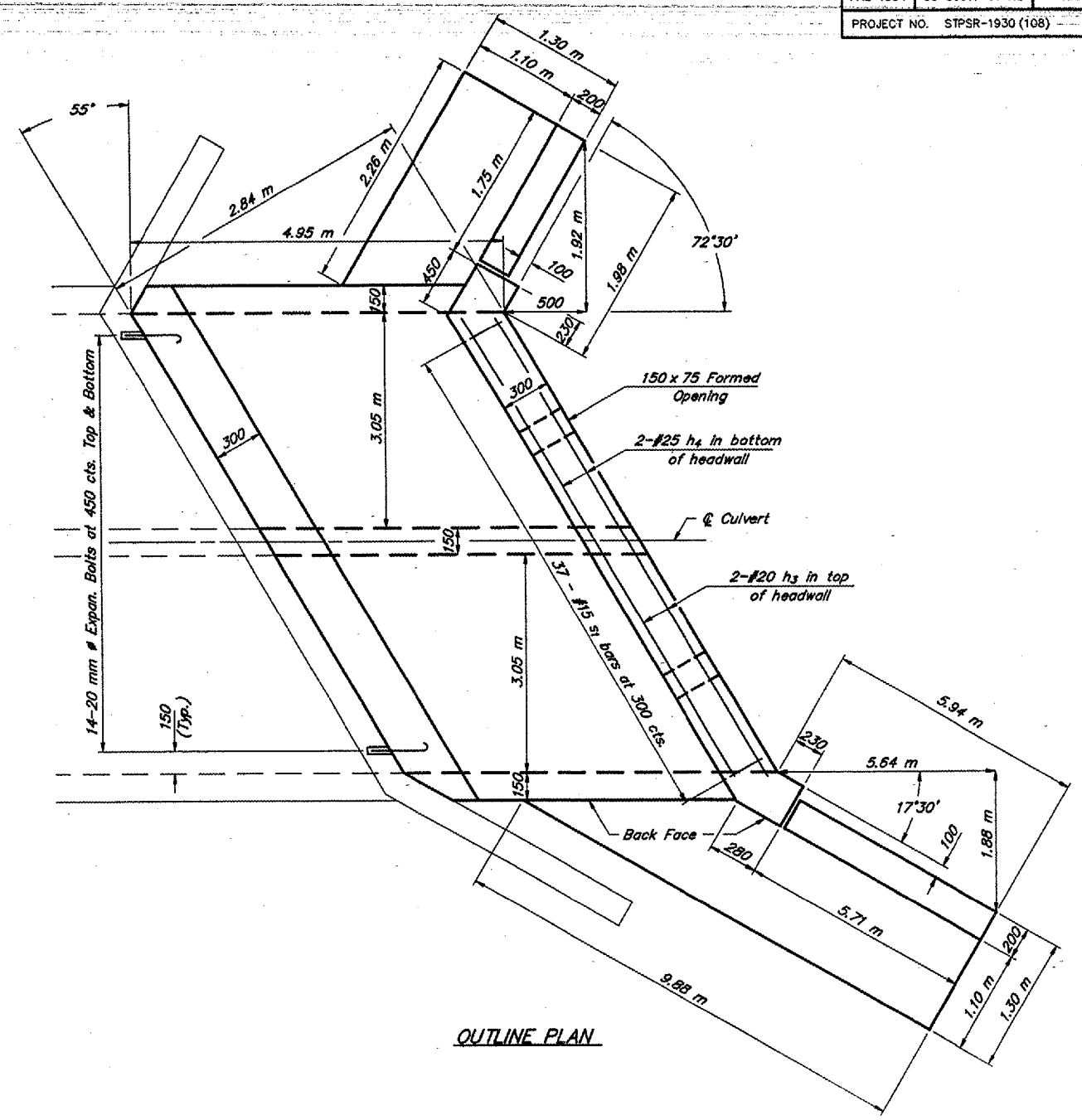
BOX CULVERT EXTENSION
STATION 4+236.3 RT.
FAS ROUTE 1934
SECTION 93-00017-01-RS
PROJECT NO. STPSR-1934 (108)
HARDIN COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1934	93-00017-01-RS	HARDIN	30	19
PROJECT NO. STPSR-1930 (108)			CONTRACT NO. 99171	

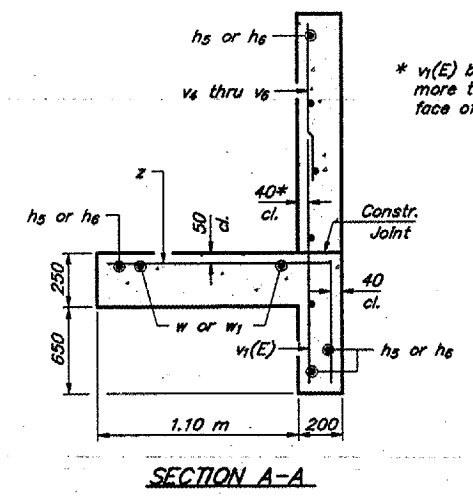
NOTE: Cut a_1 & a_2 bars to fit skew. Use balance of bar in opposite end.



REINFORCEMENT PLAN



OUTLINE PLAN

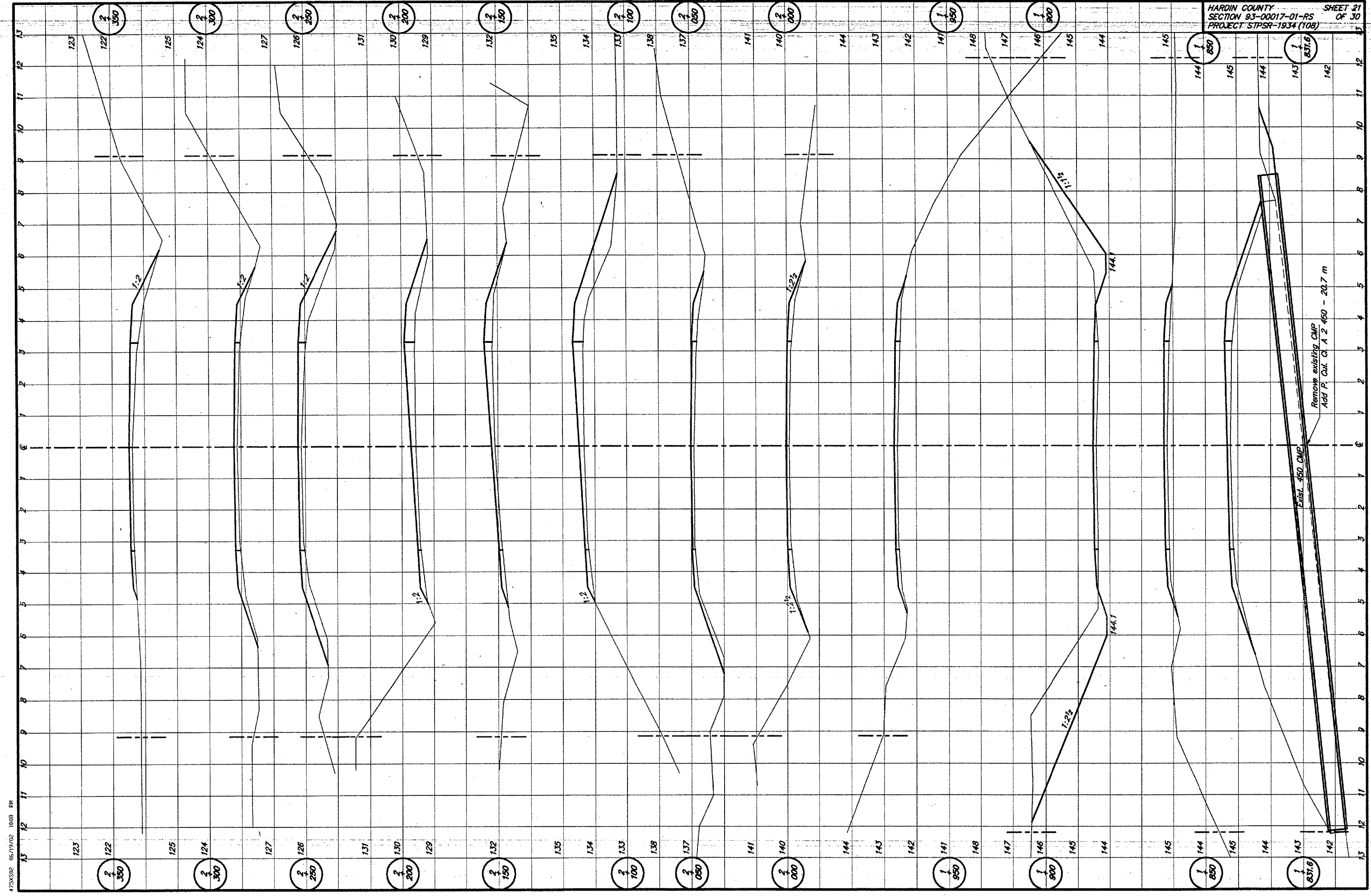


SECTION A-A

Sheet 2 of 2

BOX CULVERT EXTENSION
 STATION 4+236.3 RT.
 FAS ROUTE 1934
 SECTION 93-00017-01-RS
 PROJECT NO. STPSR-1934 (108)
 HARDIN COUNTY

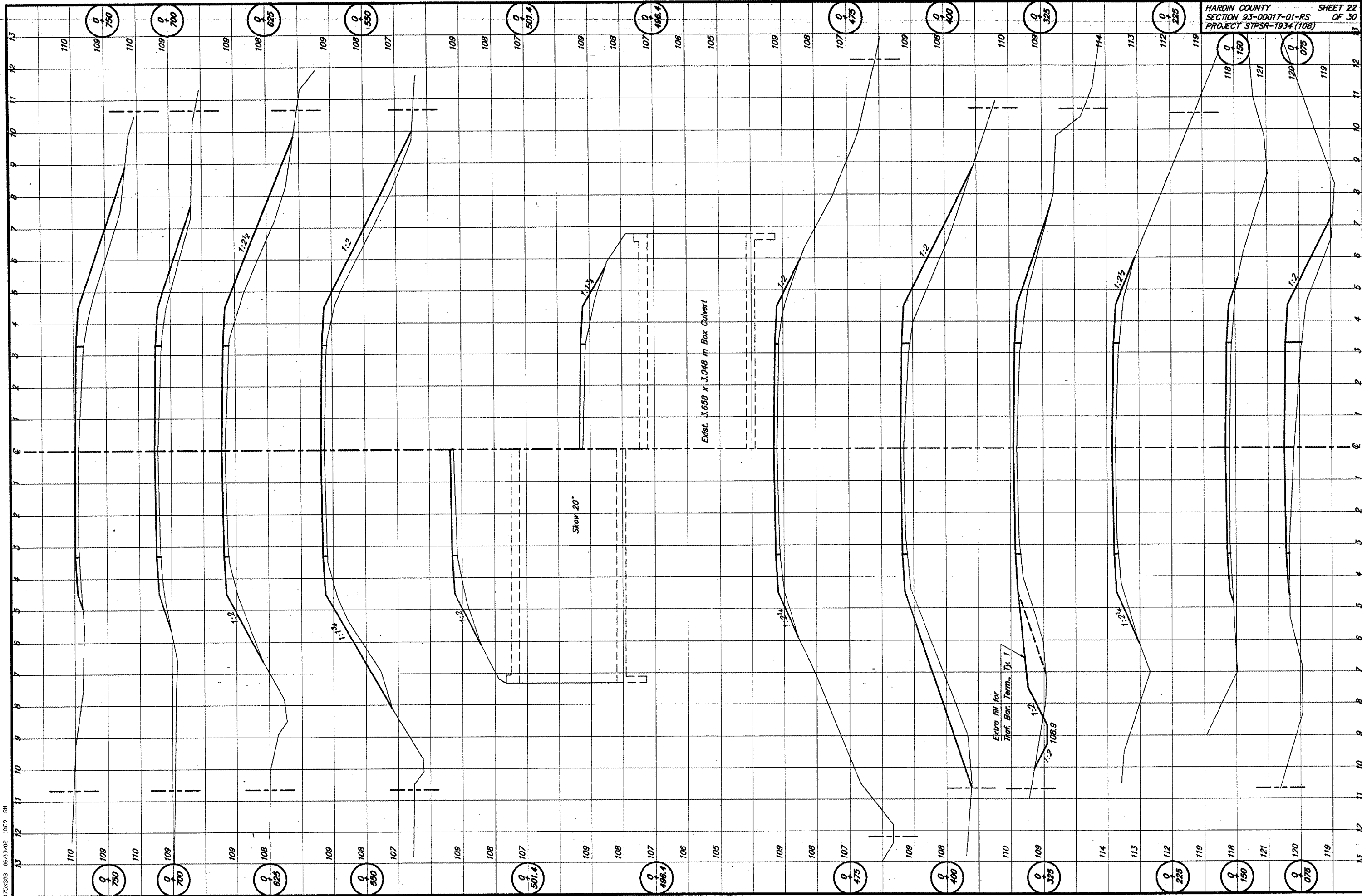
479BCEP 06/18/02 16:05 RH



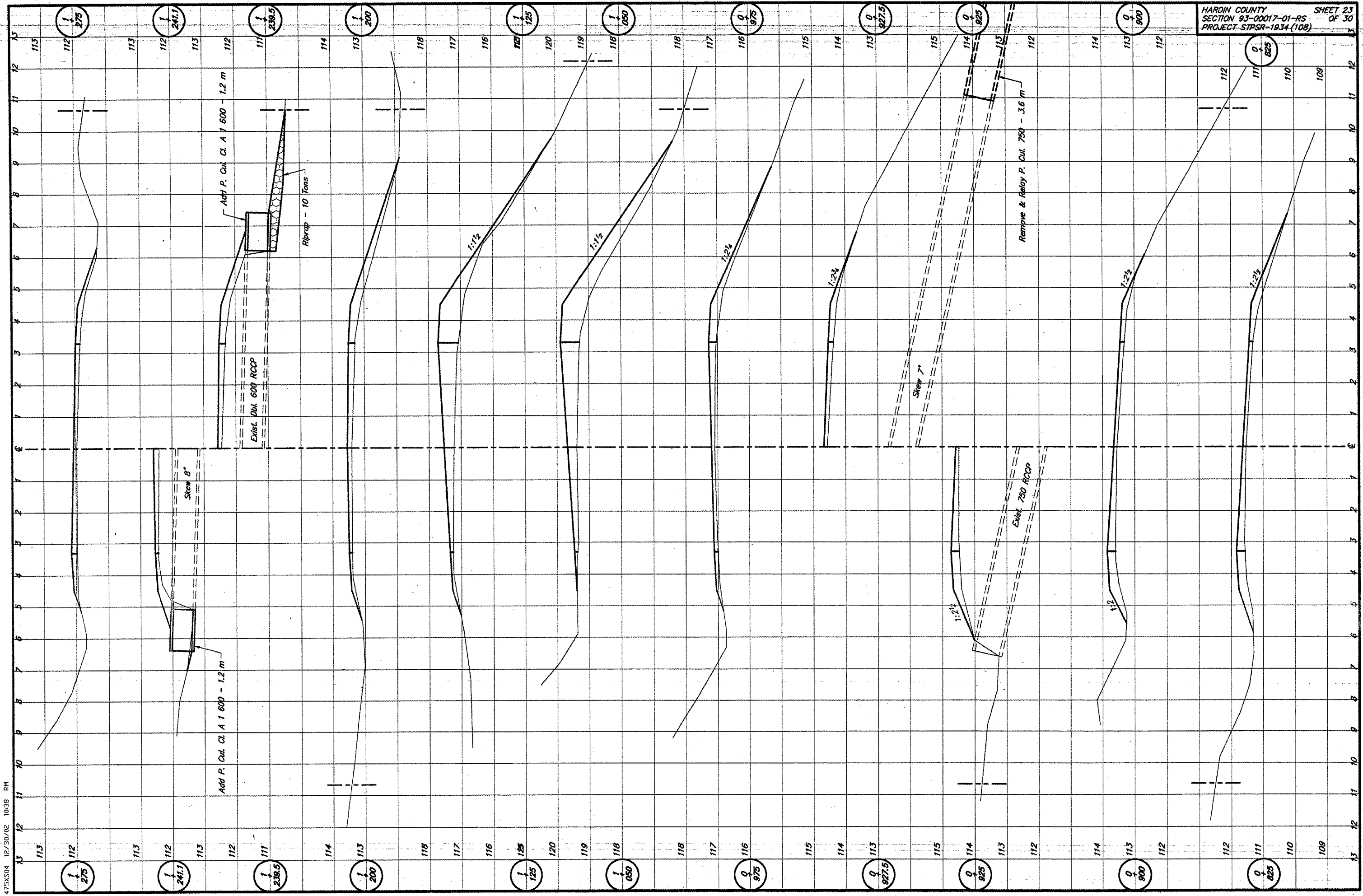
475X30R 06/19/02 100B PH

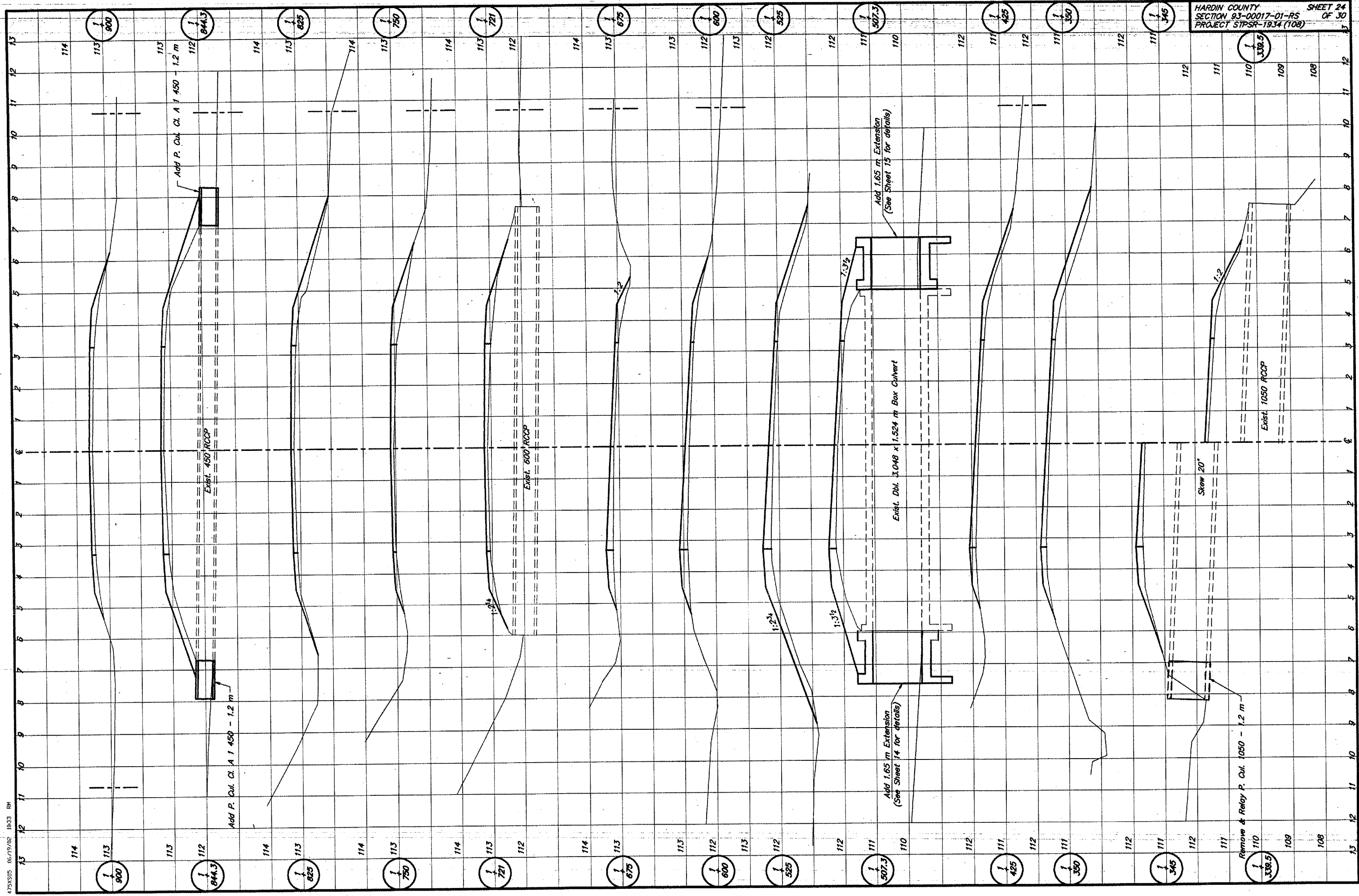
Remove existing CMP
Add P. Cul. Ch. A 2 450 - 20.7 m

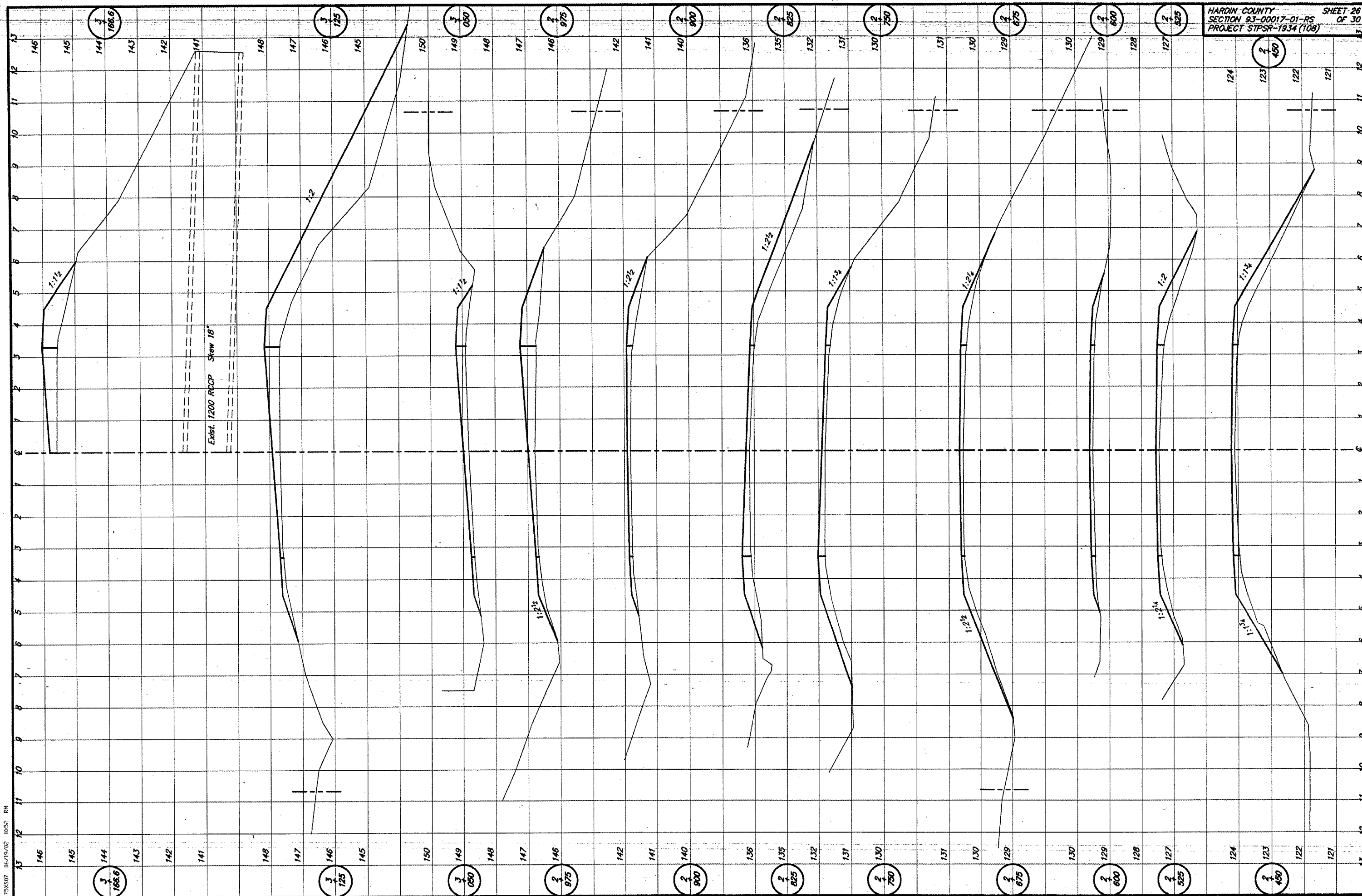
Exist. 450 CMP



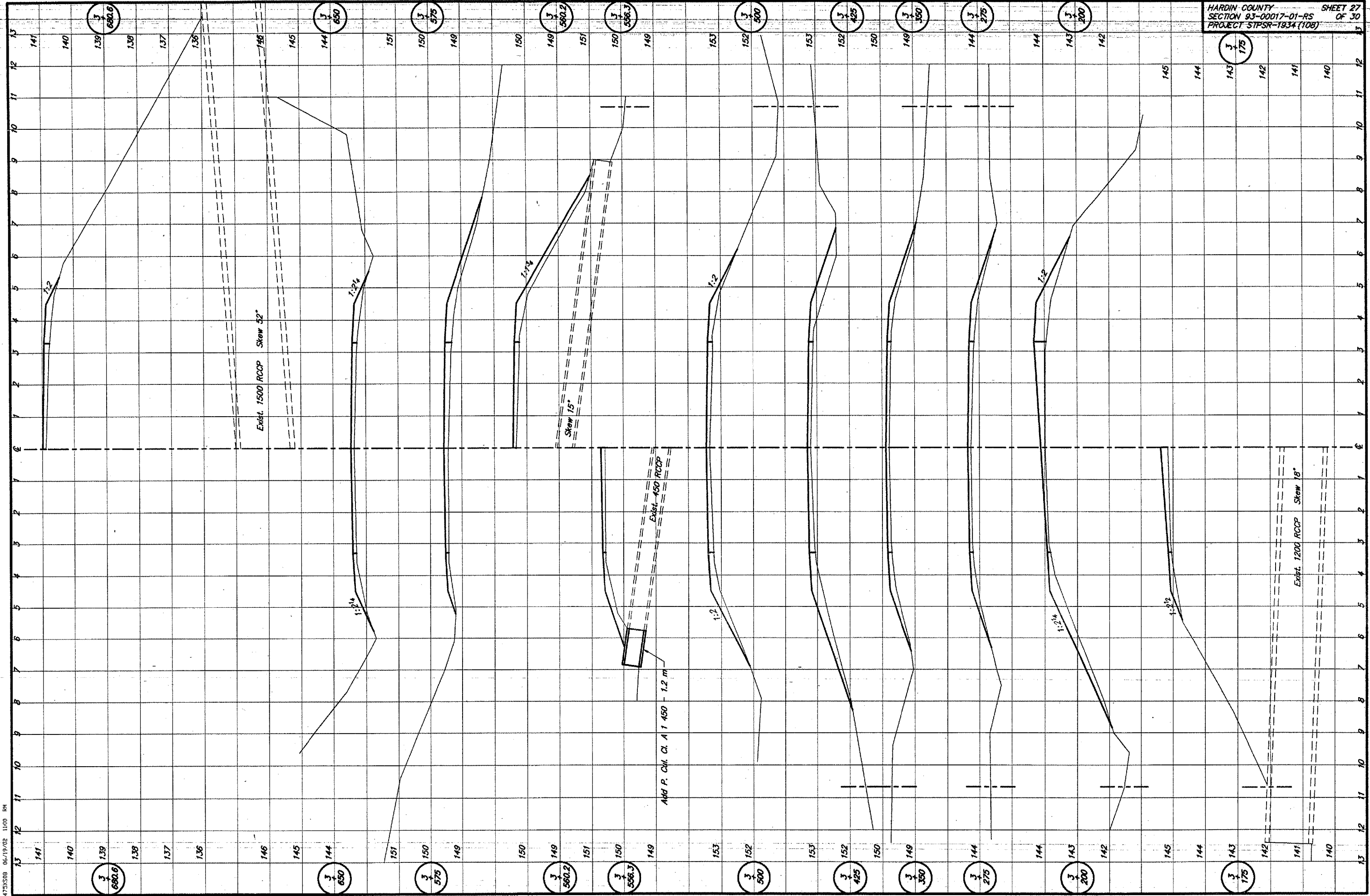
475XS04 12/30/02 10:38 RM







475X508 06/19/02 1100 RM



Exist. 1500 RCCP Skew 52°

Skew 15°

Exist. 450 RCCP

A&P P. C&M. Cl. A 1 450 - 1.2 m

Exist. 1200 RCCP Skew 18°

139 3/8
680.6

144 3/8
650

150 3/8
575

149 3/8
580.2

150 3/8
566.3

152 3/8
500

152 3/8
425

149 3/8
350

144 3/8
275

143 3/8
200

143 3/8
175

139 3/8
680.6

144 3/8
650

150 3/8
575

149 3/8
580.2

150 3/8
566.3

152 3/8
500

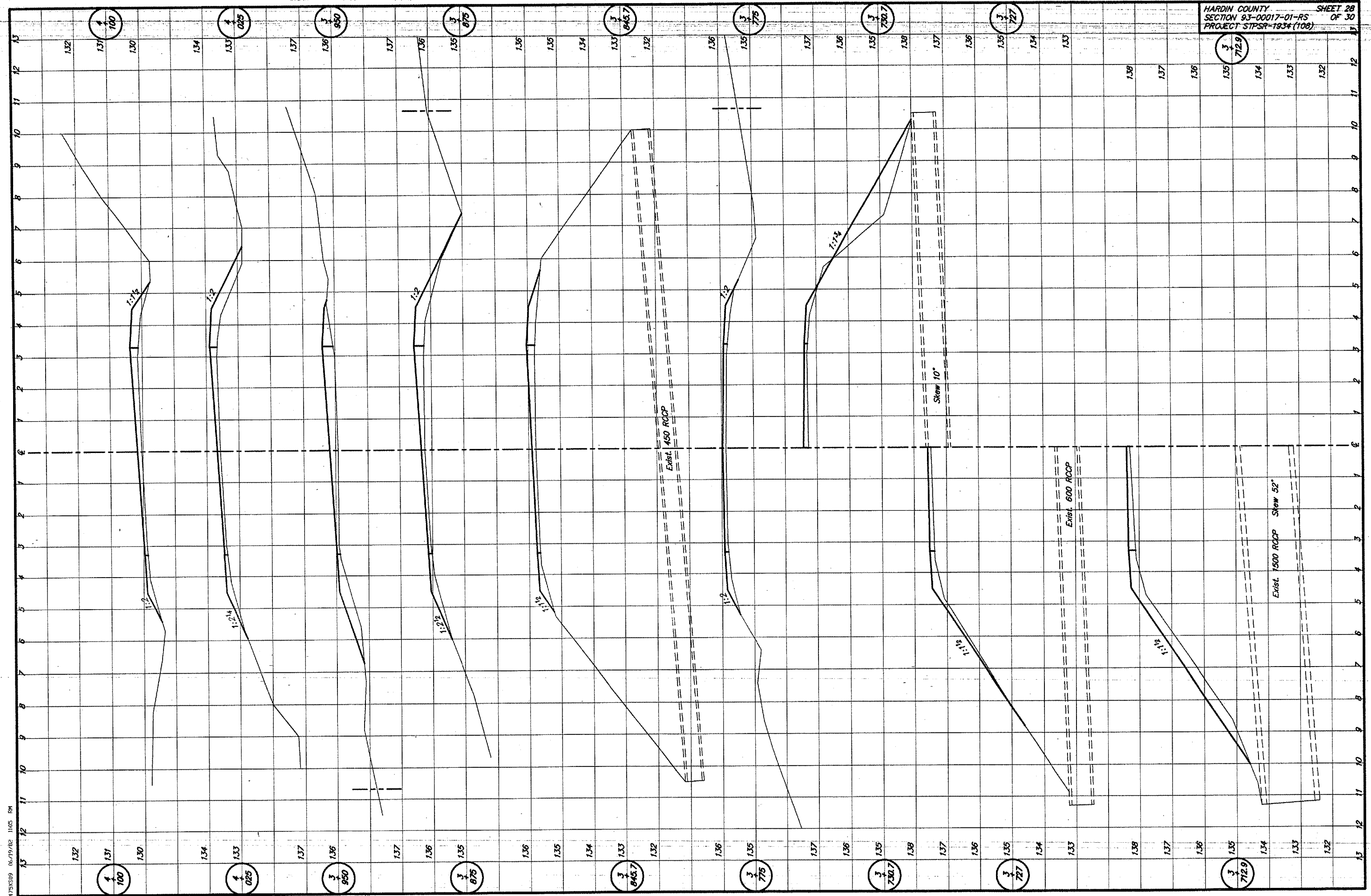
152 3/8
425

149 3/8
350

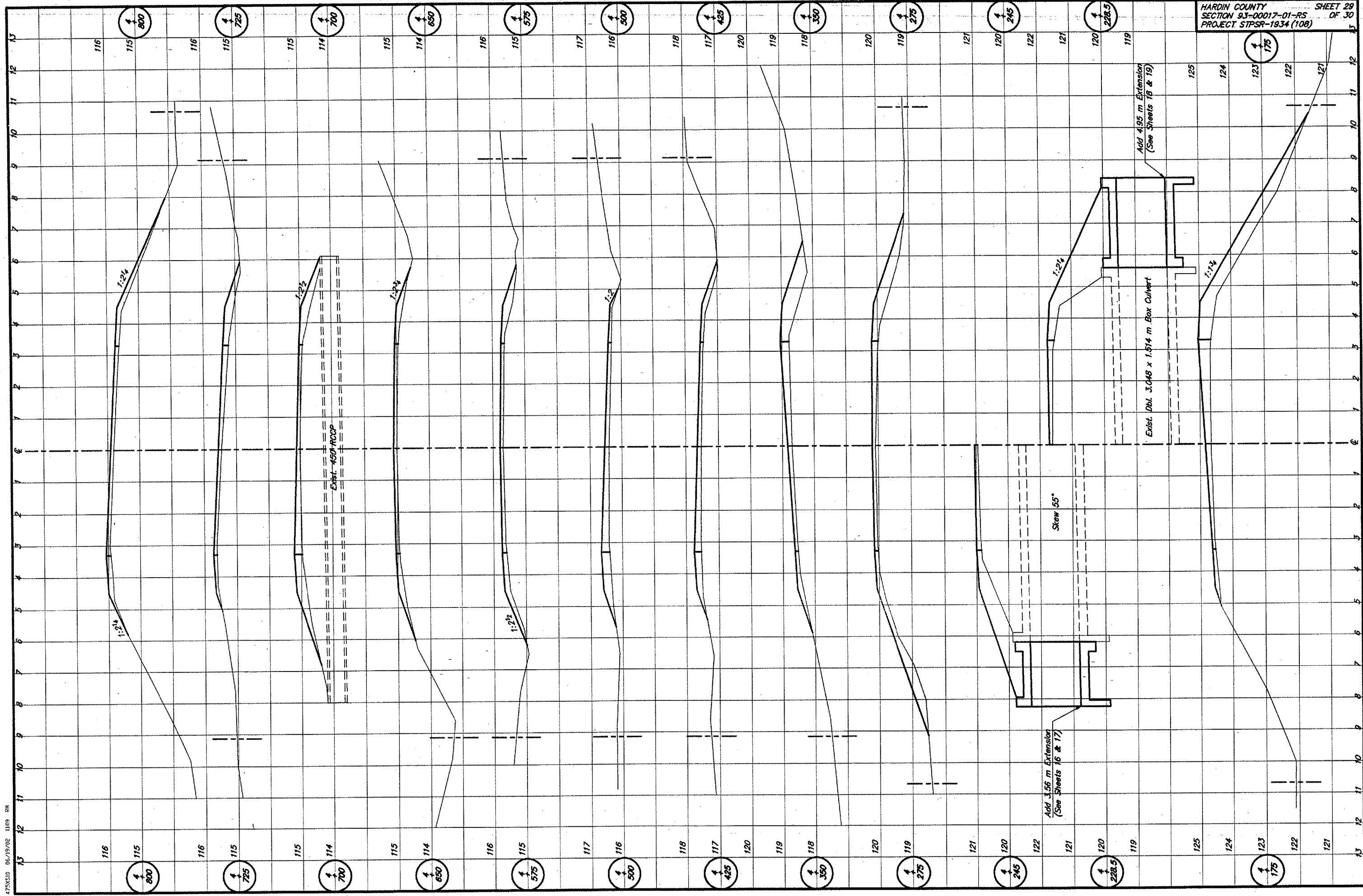
144 3/8
275

143 3/8
200

143 3/8
175



475X509 16-19/02 1105 RM



116
115
4
800

116
115
4
725

115
114
4
700

115
114
4
650

116
115
4
575

117
116
4
500

118
117
4
425

120
119
4
350

120
119
4
275

121
120
4
245

122
121
4
228.5

123
122
4
175

116
115
4
800

116
115
4
725

115
114
4
700

115
114
4
650

116
115
4
575

117
116
4
500

118
117
4
425

120
119
4
350

120
119
4
275

121
120
4
245

122
121
4
228.5

123
122
4
175

475X510 06/19/02 1109 RM

U 4 R 13

U 4 R 13

