

STATE OF COLORADO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
XIII	COLORADO	IR(CX) 070-4(153)	1

CONSTRUCTION SUBACCOUNT: 90131

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☒ 12-1-94 VOID ☐

REVISIONS

RI	BEGINNING STATION	

TABULATION OF LENGTH & DESIGN DATA

MILE POST	ROADWAY		MAJOR STRUCTURE	
	LIN. FT.	MILES	LIN. FT.	MILES
329.020 Begin Project IR(CX) 070-4 (153) = End IR(CX) 70-4 (121)	4,012.81	0.760		
329.780 Begin Major Str. F-20-BE & F-20-BF			137.28	0.026
329.806 End Major Str. F-20-BE & F-20-BF	18,606.72	3.524		
333.330 Begin Major Str. F-20-BQ & F-20-BR			137.28	0.026
333.356 End Major Str. F-20-BQ & F-20-BR	2,449.92	0.464		
333.820 Begin Major Str. F-20-BS			21.12	0.004
333.824 End Major Str. F-20-BS	12,175.68	2.306		
336.130 Begin Major Str. F-21-J			31.68	0.006
336.136 End Major Str. F-21-J	3,611.52	0.684		
336.820 Begin Major Str. F-21-S & F-21-T			95.04	0.018
336.838 End Major Str. F-21-S & F-21-T	4,656.96	0.882		
337.720 Begin Major Str. G-21-J			21.12	0.004
337.724 End Major Str. G-21-J	2,618.88	0.496		
338.220 End Project IR(CX) 070-4 (153) On Project IN 005-4(7)				
TOTALS	48,132.48	9.116	443.52	0.084
SUMMARY				
Roadway (Net Length)	48,132.48		9.116	
Major Structure (Net Length)	443.52		0.084	
Project TOTAL (Gross Length)	48,576.00		9.200	

DESIGN DATA

Maximum Degree of Curve	1°15'
Maximum Grade	2.21 %
Minimum S.S.D. Horizontal	900 Ft.
Minimum S.S.D. Vertical	>625 Ft.
Maximum Design Speed	70 M.P.H.

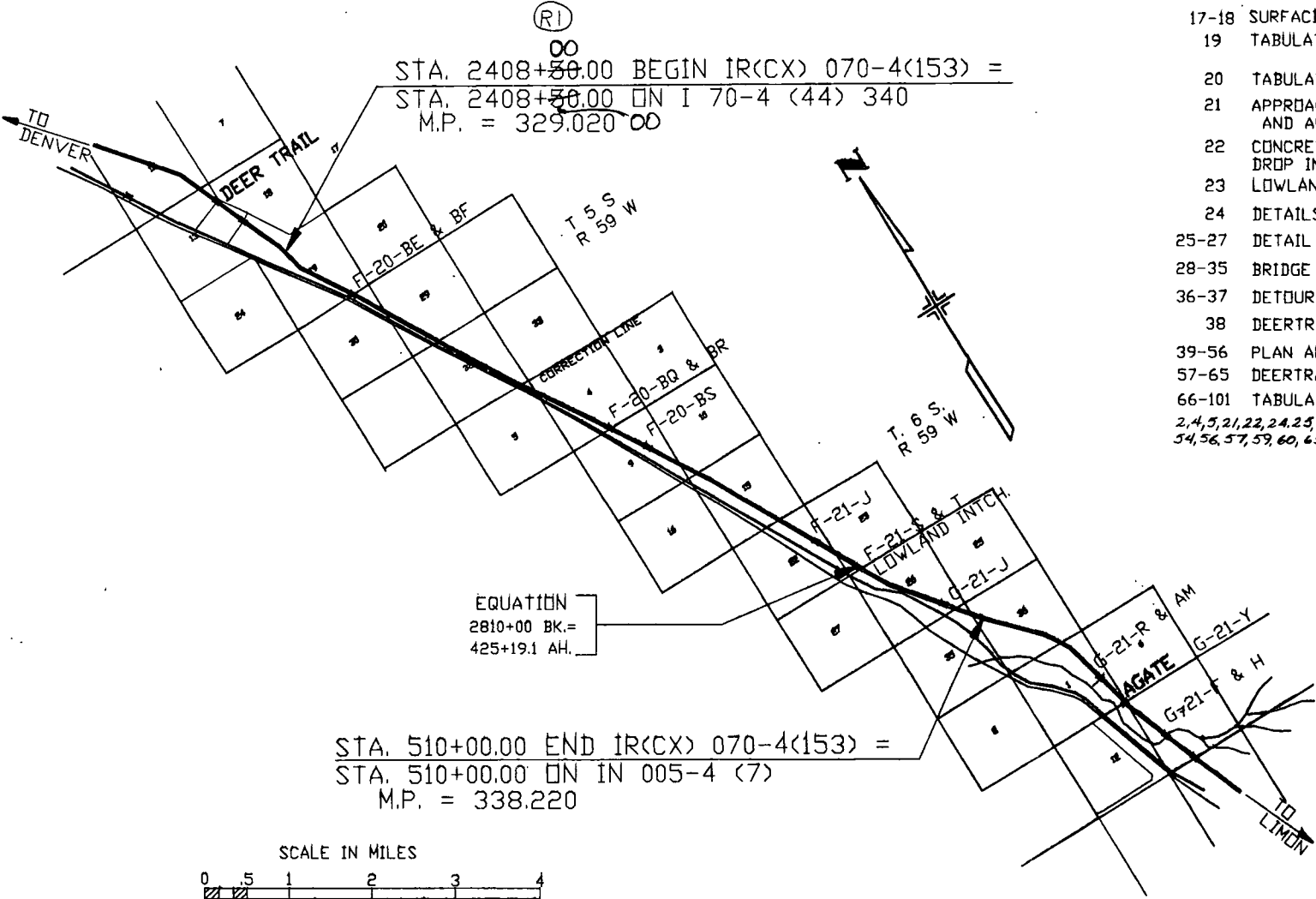
Design Traffic Volume

	1993	2023
ADT =	7,592	11,972
DHV =	987	1,556
% Trucks =	31	31

PLAN AND PROFILE OF ~~PROPOSED~~

FEDERAL AID PROJECT NO. IR(CX) 070-4(153)
STATE HIGHWAY NO. 70
ARAPAHOE AND ELBERT COUNTIES

OVERSIGHT NO ☒ YES ☐ NOT APPLICABLE ☐



STA. 2408+50.00 BEGIN IR(CX) 070-4(153) =
STA. 2408+50.00 ON I 70-4 (44) 340
M.P. = 329.020 00

STA. 510+00.00 END IR(CX) 070-4(153) =
STA. 510+00.00 ON IN 005-4 (7)
M.P. = 338.220

SHEET NO.

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- 2,4,5,21,22,24,25,29-31,33-36,
54,56,57,59,60,65,71,72,74-79,81,82 No REVISIONS

AS CONSTRUCTED INFORMATION

CONTRACTOR	INTERSTATE HIGHWAY CONSTRUCTION
PROJECT ENGINEER	W.D. COPELAND (Project or Resident)
PROJECT STARTED	OCTOBER 15, 1993
PROJECT COMPLETED	DECEMBER 1, 1994
AS CONSTRUCTED PLANS	APPROVED <i>[Signature]</i>
TITLE	8-21-95
DATE	

G.L.M./REGION 1

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PLAN NO.	TITLE	PAGE	PLAN NO.	TITLE	PAGE	PLAN NO.	TITLE	PAGE
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THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO
DIVISION OF HIGHWAYS

STANDARD PLANS LIST

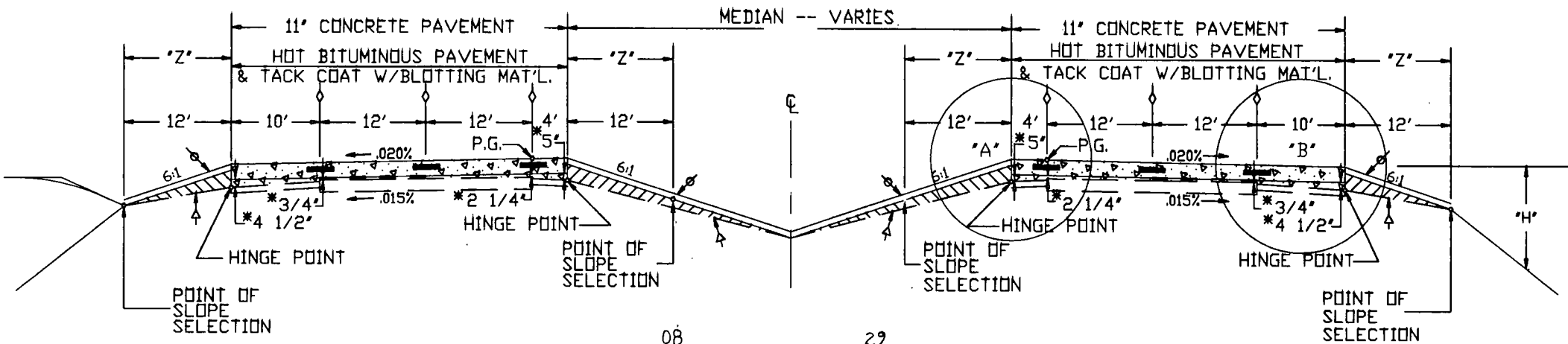
M & S STANDARDS - NOVEMBER 1992

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	3	101

TYPICAL SECTIONS

DETAIL
SHOULDER TYPICAL



Bituminous Material shall be placed in separate courses at the following approximate rates per 100 Lin. Ft. of roadway:

3/4" OVERLAY 6 Tons/STA.

The rates shown have been determined from information available at the time of design. Rates should be adjusted during construction to obtain the required approximate thickness.

STA. 2414+00.0	TO	STA. 2449+00.0
STA. 2458+95.2	TO	STA. 2614+00.0
STA. 2649+00.0	TO	STA. 2801+00.0 (E.B.)
STA. 2648+00.0	TO	STA. 2801+00.0 (W.B.)
STA. 444+00.0	TO	STA. 510+00.0

The depth and width of the side ditches shall be varied where necessary in order to provide proper drainage.

Fill Slopes:

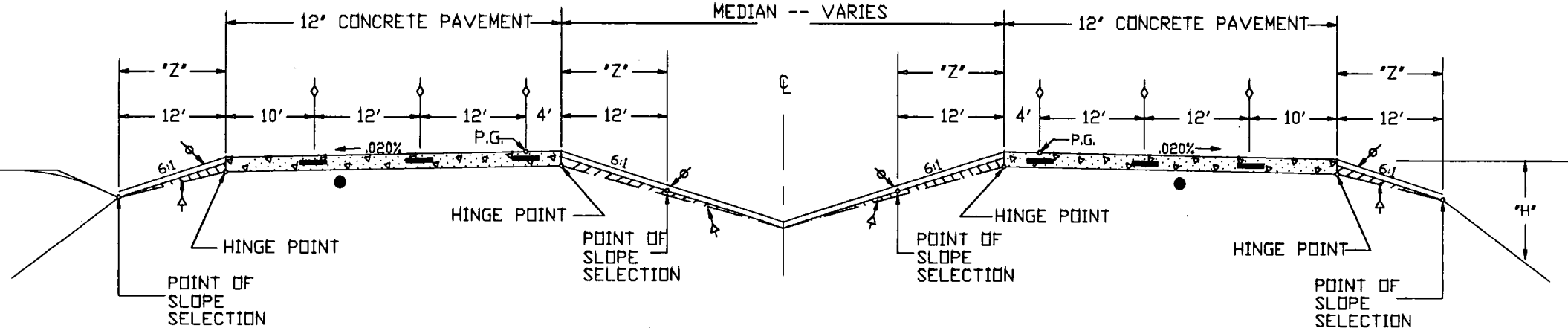
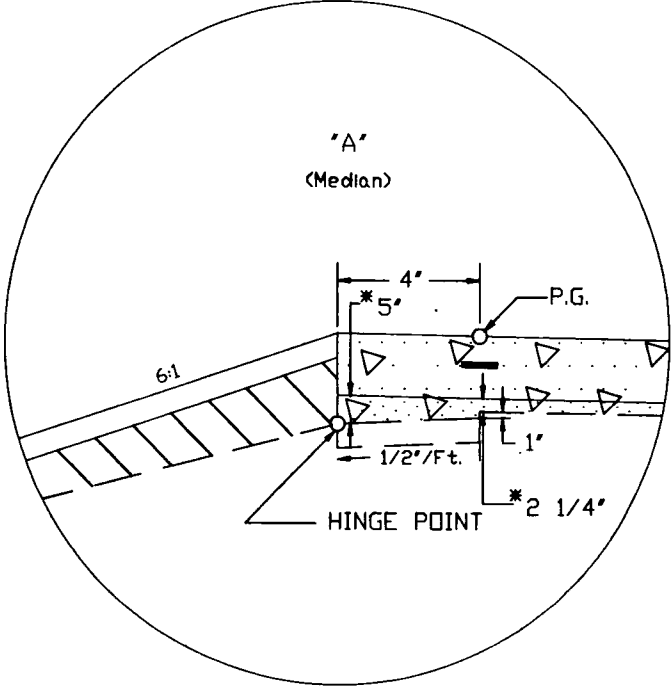
Slope 6:1 Where 'H' is less than 4'

Slope 4:1 Where 'H' is 4' to 10'

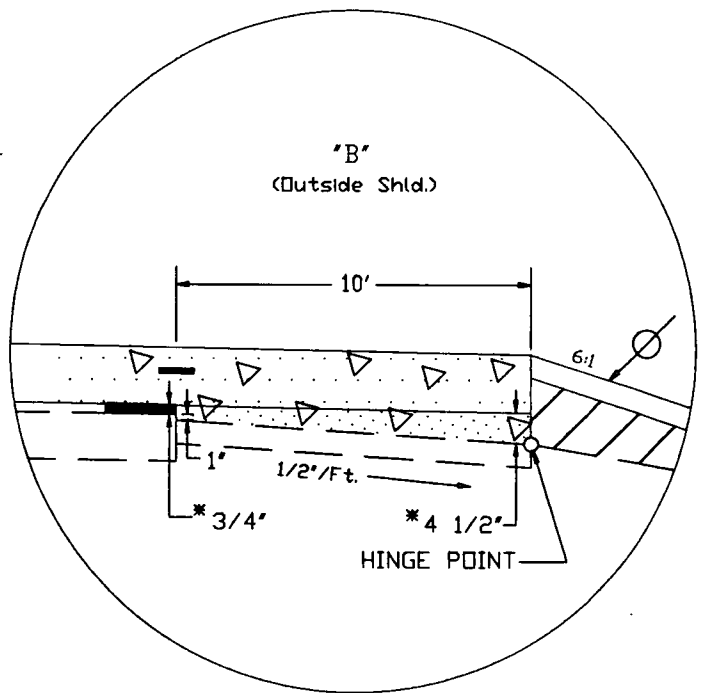
Slope 4:1 Where 'H' is over 10'

Median Slope 6:1 or Flatter

In special cases, side slopes may be steepened.



STA. 2429+00.0	TO	STA. 2446+88.7 (E.B.)
STA. 2429+00.0	TO	STA. 2446+69.1 (W.B.)
STA. 2447+72.2	TO	STA. 2458+89.0 (E.B.)
STA. 2448+05.1	TO	STA. 2458+89.0 (W.B.)
STA. 2614+00.0	TO	STA. 2634+27.0
STA. 2635+67.0	TO	STA. 2649+00.0 (E.B.)
STA. 2635+67.0	TO	STA. 2648+00.0 (W.B.)
STA. 2801+00.0	TO	STA. 431+53.0
STA. 432+50.0	TO	STA. 444+00.0



- ✓ Suitable material 4' - Contractor will place Suitable material to this line after Completion of Paving operation.
- ✓ Excavation (CIP) - (No Moisture Density Control) - after 5 ft. from shoulder or as directed by the Engineer.
- * Approximate thickness
- Excavation (CIP) -UNDER PAVEMENT- (Minimum 'R' Value = 20 with MOISTURE DENSITY CONTROL)

AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	12-1-94	REVISED	VOID	VIII	COLD	IR(CX) 070-4(153)	4	101

TYPICAL SECTIONS

ACCEL., DECEL. LANES

The depth and width of the side ditch shall be varied where necessary in order to produce proper drainage.

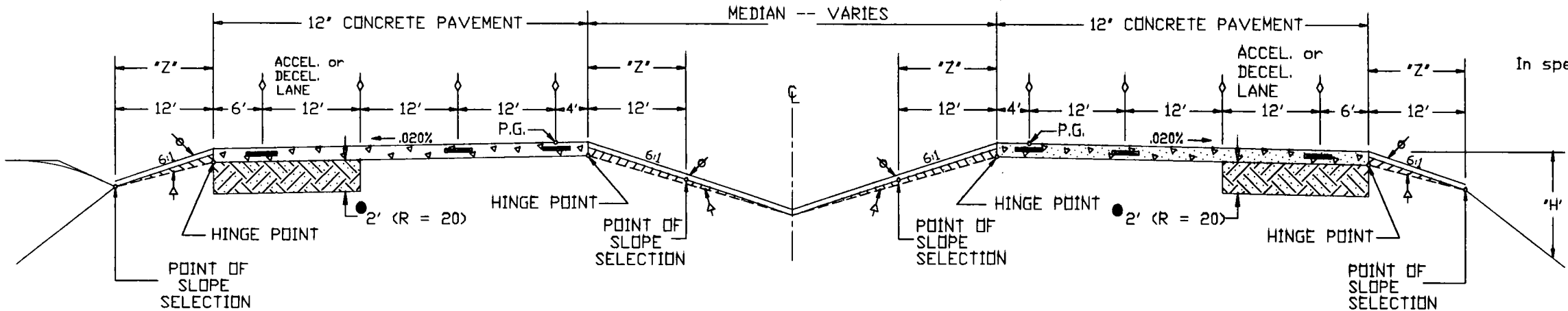
Fill Slopes 6:1 where 'H' is less than 4'

Fill Slopes 4:1 where 'H' is 4' to 10'

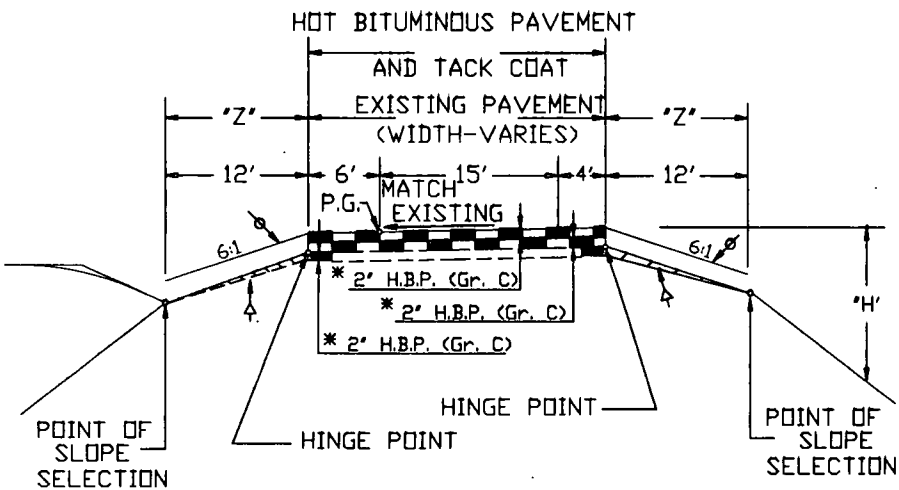
Fill Slopes 4:1 where 'H' is over 10'

Median Slopes are 6:1 or Flatter

In special cases, side slopes may be steepened.



RAMP TYPICAL



Bituminous Material shall be placed in separate courses at the following approximate rates per 100 Lin. Ft. of roadway:

Top Layer	31 Tons/Sta.
Bottom Layer	36 Tons/Sta.

The rates shown have been determined from information available at the time of design. Rates should be adjusted during construction to obtain the required approximate thickness.

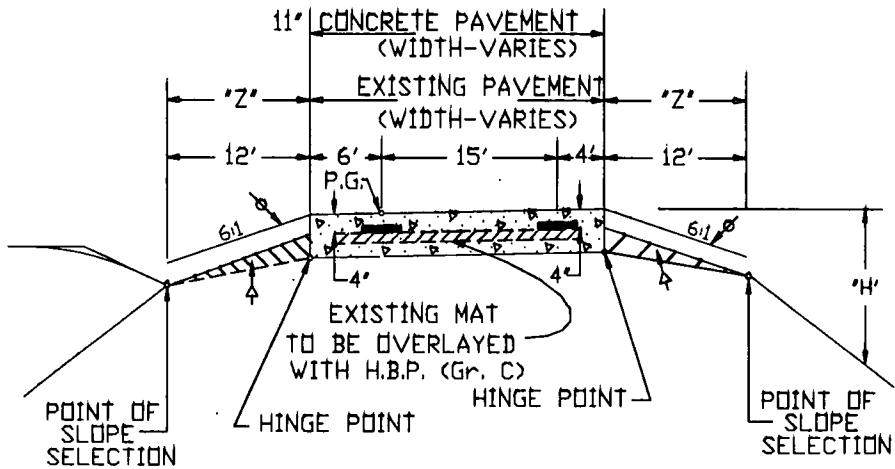
- ✓ Suitable Material 4" - Contractor will place Suitable material to this line after Completion of Paving operation.
- ✓ Excavation (CIP) - (No Moisture Density Control) - after 5' from shoulder or as directed by the Engineer.

* Approximate thickness

- Excavation (CIP) -UNDER PAVEMENT- (Minimum 'R' Value = 20 with MOISTURE DENSITY CONTROL)

INFORMATION ONLY
RAMP TYPICAL

CONNECTION FROM CONCRETE TO ASPHALT



MAXIMUM LAYER OF H.B.P. SHALL BE 2 INCH WHILE OVERLAYING.

N.E. RAMP STA. 10 + 69.7 TO 14 + 86.4

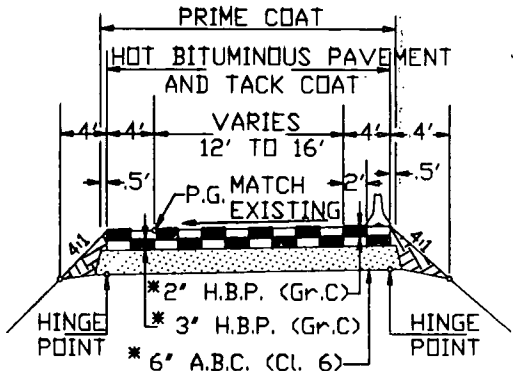
N.W. RAMP STA. 0 + 00 TO 5 + 23.9

S.W. RAMP STA. 10 + 89.8 TO 15 + 06.5

S.E. RAMP STA. 4 + 16.7 TO 0 + 00

INFORMATION ONLY

DETOUR TYPICAL



Sta. 2387+73.72 to 2405+84.92 (East bound Detour-west end)
Sta. 2386+45.52 to 2405+84.92 (West bound Detour-west end)
Sta. 593+00 TO 608+95.5712 (East bound Detour-east end)
Sta. 593+00 TO 608+95.5712 (West bound Detour-east end)

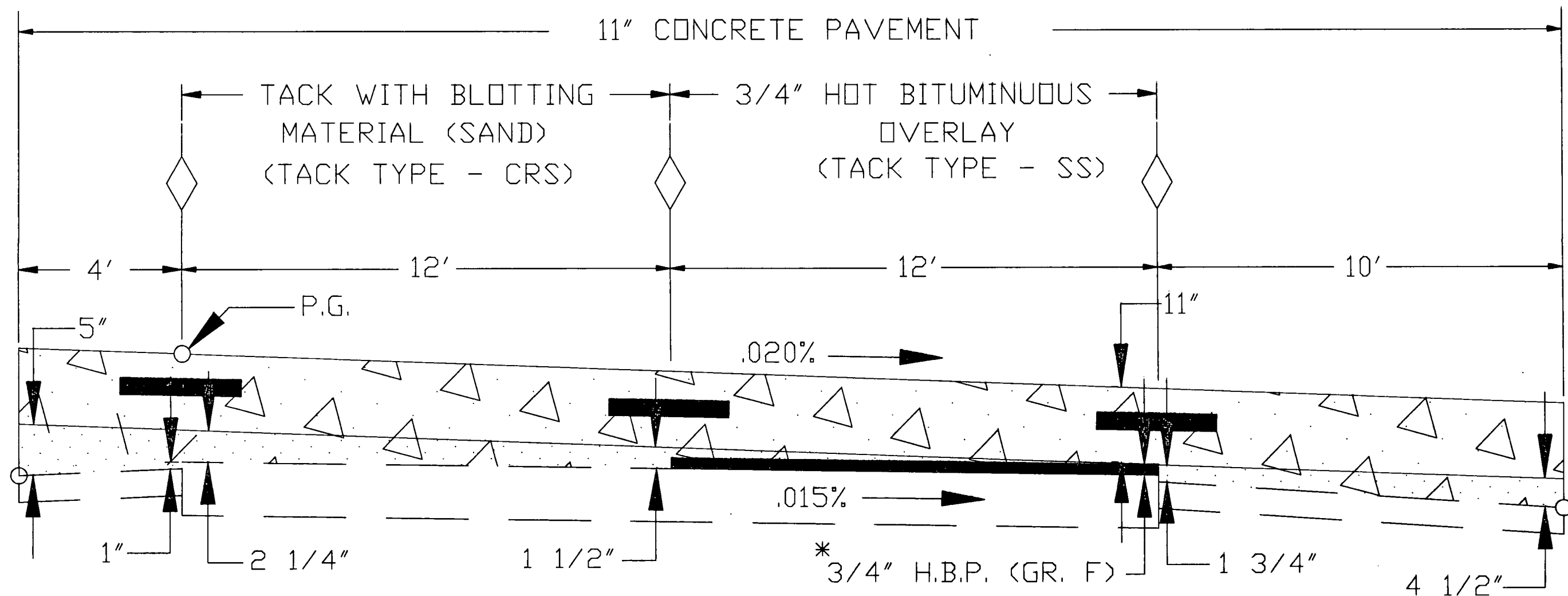
Bituminous Material shall be placed in separate courses at the following approximate rates per 100 Lin. FT. of roadway.

Top Layer	27 Tons/Sta.
Bottom Layer	40 Tons/Sta.
A.B.C. Cl. 6	73 Tons/Sta.

The rates shown have been determined from information available at the time of design. Rates should be adjusted during construction to obtain the required approximate thickness.

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NO REVISIONS	12-1-94	REVISED	VIII	COLO.	IR(CX) 070-4(153)	5	101

TYPICAL EAST & WEST BOUND LANES



*CALCULATIONS - INFORMATION ONLY

TACK COAT WITH BLOTTER MATERIAL (SAND)
RAPID SET EMULSIFIED ASPHALT (CRS)
 $\{(12' \times 100' \times 0.25 \text{ gal.}) / 2\} / 9 = 16.7 \text{ GAL/STATION}$
BLOTTING MATERIAL (SAND)
 $12' \times 100' \times 20 \text{ LB.} / 18000 = 1.3 \text{ TON/STATION}$
HOT BITUMINOUS PAVEMENT (GR. F)
 $(3/4") \times (110') \times (12') \times (100') / 18000 = 5.5 \text{ T. (USED 6 TONS)}$
TACK COAT SS $\{[(12') \times (100') \times (0.1)] / 2\} / 9 = 6.7 \text{ GAL/STATION}$

CONCRETE PER STATION NEEDED TO ATTAIN FINAL RESULTS AS
PER TYPICAL SECTION AND TO BE PAID AS CU. YD. AND TO BE BID ACCORDINGLY.

$$11' - (0.9167') \times (38') \times (100') / 27 = 129.0 \text{ cu. yd.}$$

$$11' - (0.9167') \times (28') \times (100') / 27 = 95.1 \text{ cu. yd.}$$

ADDITIONAL

$$(0.4167' + 0.2708') / 2 \times (4') \times (100') / 27 = 5.1 \text{ CU. YD.}$$

$$(0.1875' + 0.1250') / 2 \times (12') \times (100') / 27 = 6.9 \text{ CU. YD.}$$

$$(0.0625' + 0') / 2 \times (12') \times (100') / 27 = 1.4 \text{ CU. YD.}$$

$$(0.1458' + 0.3750') / 2 \times (10') \times (100') / 27 = 9.6 \text{ CU. YD.}$$

$$12' - (1.0') \times (100') \times (38') / 27 = 140.7 \text{ CU. YD.}$$

$$12' - (1.0') \times (100') \times (28') / 27 = 103.7 \text{ CU. YD.}$$

$$12' - (1.0') \times (100') \times (2') / 27 = 7.4 \text{ CU. YD.}$$

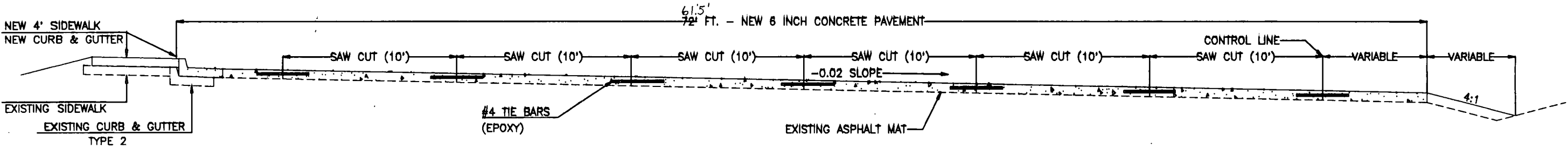
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DEERTRAIL REST AREA
TYPICAL SECTION

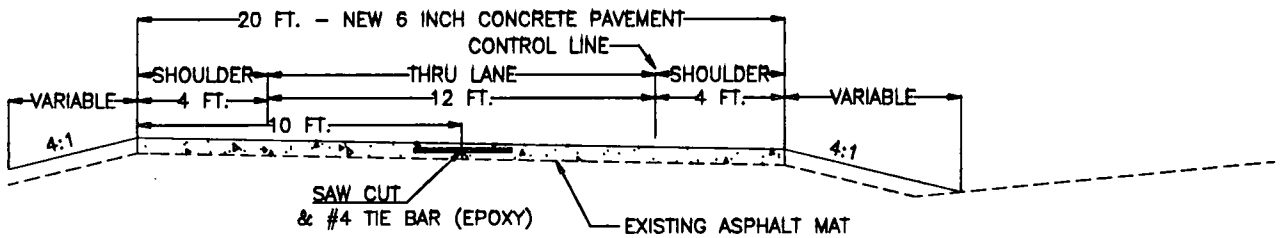
AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	6	101

AUTOMOBILE PARKING LOT



ENTRANCE AND EXIT ROAD
TO AUTOMOBILE PARKING AREA



APPROXIMATE QUANTITIES - PARKING LOT & DRIVE

ITEM		
202	REMOVAL OF ASPHALT MAT	= 800.0 SQ. YD.
202	REMOVE DELINEATORS TYPE 1	= 20 EACH(CRYSTAL)
202	REMOVAL OF SIDEWALK	= 60 SQ. YD.
* 203	SUB-EXCAVATION	= 200.0 CU. YD.
* 203	SHOULDER MATERIAL	= 200.0 CU. YD.
210	RESET SPRINKLER HEADS	= 30 EACH (BESIDE EA. DEL. ON LAWN SIDE).
412	PLACE 6 INCH CONCRETE PAVEMENT	= 15,630 SQ. YD.
412	FURNISH 6 INCH CONCRETE PAVEMENT	= 15,630 SQ. YD. X 0.5' /3 = 2,605.0 CU. YD.
608	CONCRETE SIDEWALK	= 535 SQ. YD.
608	CONCRETE CURB RAMP (TYPE 3A)	= 13 SQ. YD.
609	CURB ANDS GUTTER TYPE 2 (SECTION I-B)	= 1200 LIN. FT.

* ITEM 203 TO BE PAID AS EXCAVATION (C.I.P.)

ALL QUANTITIES CARRIED TO THEIR APPROPRIATE TABULATION OF QUANTITIES OR SUMMARY SHEET

NOTE:

LONGITUDINAL SAW CUTS AND TIE BARS SHALL BE CONSTRUCTED AS SHOWN.
HORIZONTAL SAW CUTS (SEE STANDARD PLAN M-608-1)
THE HORIZONTAL CUT WILL BE PLACED AT 90 DEGREES
TO LONGITUDINAL CUTS. CUTS WILL BE SEALED BY THE SAME METHOD AS THE
12 INCH CONCRETE PAVEMENT.

EDGE OF NEW PAVEMENT WILL BE AT THE EDGE OF EXISTING ASPHALT MAT

CONCRETE CROSS SLOPE SHALL BE -0.02 FT./FT TOWARD THE OUTSIDE.
ALL CURVES ALSO WILL BE SLOPED TO THE OUTSIDE IN RESTAREA
CROSS SLOPE SHALL BE -0.02 FT./FT .

WATER, SEWER, ELECTRICAL, AND SPRINKLER SYSTEM SHALL BE LOCATED
PRIOR TO PLACING CONCRETE OR SHOULDER MATERIAL. IF ANY DAMAGE IS
DONE TO SAID UTILITIES THEY WILL BE REPLACED AT THE EXPENSE OF THE
CONTRACTOR.

THE FRONT PARKING AREA FOR TRUCKS WILL REMAIN UNCHANGED.

NEW ELEVATIONS FOR CONCRETE PAVEMENT WILL BE ESTABLISHED IN THE
FIELD BY USING THE EXISTING MAT AND THE TOP OF THE EXISTING CURB.

SOME EXCAVATION AND REMOVAL MAY BE REQUIRED AT THE ENTRANCE AND
EXIT WHERE THE 6 INCH CONCRETE MATCHES THE 12 INCH CONCRETE PAVEMENT.
EXCAVATION AND RECOMPACTION AT THESE LOCATIONS WILL NOT BE PAID FOR
SEPARATELY BUT SHALL BE INCLUDED IN ITEM 203.

TIE BARS SHALL BE PLACED ACCORDING TO M & S STANDARD M-412-2.

IT IS ESTIMATED THAT 66 SQ. YD. OF REMOVAL OF SIDEWALK WILL BE
REQUIRED ON THIS PROJECT. REMOVAL OF SIDEWALK WILL OCCURE WHEN
MATCHING NEW SIDEWALK TO EXISTING SIDEWALK GOING TO THE BUILDING
AND OTHER STRUCTURES.

SHOULDER MATERIAL WILL BE REQUIRED BEHIND NEW SIDEWALK.

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GENERAL NOTES

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS		REVISED 12-1-94	VMD	VIII	COLD.	IR(CX) 070-4(153)	7 101

FOR PRELIMINARY PLAN QUANTITIES, THE FOLLOWING RATES OF APPLICATION WERE USED:

EMULSIFIED ASPHALT(CRS-1) (TACK COAT DILUTED)	@ 0.25 GAL./SQ.YD.(DIL)
EMULSIFIED ASPHALT(SS) (TACK COAT DILUTED)	@ 0.1 GAL./SQ.YD.(DIL)
HOT BITUMINOUS PAVEMENT	@ 110 LBS./SQ.YD./INCH
BLOTTING MATERIAL (SAND)	@ 20 LBS./SQ.YD.

RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

DILUTED EMULSIFIED ASPHALT USED FOR TACK COAT SHALL CONSIST OF 1 PART WATER TO 1 PART EMULSIFIED ASPHALT (SLOW-SETTING) AND CATIONIC RAPID SET. IT IS ESTIMATED THAT 15,856 AND 13,290 GALLONS (NET) (CRS-1) WILL BE REQUIRED FOR THIS PROJECT. IT IS ESTIMATED THAT 4,090 TON OF BLOTTING MATERIAL (SAND) WILL BE REQUIRED FOR THIS PROJECT.

BITUMINOUS PAVERS SHALL BE FURNISHED WITH THE FOLLOWING DEVICES:
1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
2. SHORT SKI OR SHOE.
3. TAPERED SHOE.
4. A PAVING LEVELER AT LEAST 55 FEET IN LENGTH, OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL ARRANGE HIS PAVING OPERATION FOR THE LAYER SO THAT THERE WILL BE NO EXPOSED LONGITUDINAL JOINTS BETWEEN ADJACENT TRAVEL LANES AT THE END OF A DAY'S RUN.

PRIOR TO APPLYING BITUMINOUS MATERIAL, SWEEPING OF DIRT AND GRAVEL FROM THE EXISTING MAT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEMS 403.

EXISTING ASPHALT OVERLAYS WILL NOT BE RE-OVERLAYED OR TACKED.

ANY LAYER OF BITUMINOUS PAVEMENT MATERIAL THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

IF LOWLAND INTERCHANGE IS USED AS A HAUL ROUTE THE BOTTOM 2 INCH OVERLAY WILL BE REQUIRED PRIOR TO USE.

ITEM 412 (CONCRETE PAVEMENT) SQ. YD. IS FOR ALL INCIDENTAL ITEMS HAS REINFORCING STEEL, LABOR, FINISHING, ETC. ITEM 412 (CONCRETE PAVEMENT) CU. YD. IS FOR THE AMOUNT OF CONCRETE PAVEMENT ONLY.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

REQUIRED UNDER ALL THE NEW PAVEMENT AREAS WHERE THE EXISTING PAVEMENT AS BEEN REMOVED AND SHALL BE AASHTO T-99.

MOISTURE DENSITY CONTROL WILL NOT BE REQUIRED FOR THE REMAINING EMBANKMENT ON THIS PROJECT. EXCEPT 5 FT. EITHER SIDE OF PAVEMENT SHALL BE COMPACTED WITHOUT MOISTURE DENSITY CONTROL BEFORE SEEDING.

THE CHANNEL IN THE WETLAND AREA WILL BE COMPACTED BEFORE FILTER MATERIAL IS PLACED.

CLEAN CONCRETE PAVEMENT MAY BE USED AS RIPRAP IN THE DEERTRAIL WETLAND AREA IN LIEU OF ROCK IF IT PASSES THE REQUIREMENTS FOR THAT TYPE OF RIPRAP.

STRUCTURE EXCAVATION FOR RELAY RIPRAP SHALL BE INCLUDED IN THE PRICE OF ITEM 210 RELAY RIPRAP, APPROXIMATELY 227 CU. YDS. OF EXCAVATION. GEOTEXTILE (EROSION) CLASS B) WILL BE REQUIRED BENEATH RELAY RIPRAP AS PER DETAIL.

EXISTING CONCRETE PAVEMENT WILL BE PROOF ROLLED TO SET EXISTING BROKEN SLABS. A MINIMUM OF 3 PASSES WITH A 50 TON PNEUMATIC ROLLER PER EACH DIRECTION OF TRAFFIC. ROLLER WILL NOT BE ALLOWED TO PASS OVER ANY BRIDGE WHILE IN OPERATION AND PAVEMENT TO BE REMOVED WILL NOT BE ROLLED. APPROXIMATELY 60 HOURS WILL BE REQUIRED (ITEM 203) PROOF ROLLING, TRAVEL LANE ONLY.

REINFORCED SLOPE PAVING UNDER STRUCTURES F-20-BE, BF, BR, BQ, F-21-S AND T WILL BE REMOVED AND REPLACED APPROXIMATELY 40 FEET WIDE AND FULL LENGTH OR AS DIRECTED BY THE ENGINEER. BACKFILL MATERIAL WILL BE NEEDED TO FILL THE VOIDS BEFORE PLACING NEW SLOPE AND DITCH PAVING ON ABUTMENTS.

THE LAST 37.5 FT. OF EXISTING GUARDRAIL SHALL BE RESET FROM A (TY D) CONFIGURATION TO A TYPE 'E' END ANCHORAGE. THIS WILL BE PAID AS 'RESET GUARDRAIL', END ANCHORAGE TYPE 'E' AND 'REMOVAL OF END ANCHORAGE'. IF THE EXISTING GUARDRAIL IS TOO SHORT OR IS NON EXISTENT, THE CONTRACTOR WILL FURNISH GUARDRAIL TO OBTAIN THE REQUIRED LENGTH. IT IS ESTIMATED THAT 2,177 LIN. FT. SHALL BE REQUIRED FOR THIS PROJECT. THIS WILL BE PAID AS RESET GUARDRAIL, (AS A TY-E END ANCHORAGE, AND AS A REMOVAL.) THIS SHALL BE COMPLETED PRIOR TO DETOURING TRAFFIC ONTO THIS SEGMENT OF ROADWAY. AFTER THE COMPLETION OF THE PROJECT THE 2,177 LIN. FT. OF GUARDRAIL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

THE COMPLETED GRADE FOR ALL PITS ALONG I-70 RIGHTS OF WAY SHALL BE 50:1 OR FLATTER DRAINING TO THE INTERSTATE DITCH.

WATER SHALL BE USED AS A DUST PALLATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED. PAY TO BE INCLUDED IN EXCAVATION (C.I.P.), IT IS ESTIMATED THAT 8,000 M. GAL. WILL BE REQUIRED ON THIS PROJECT.

WHERE EXISTING PAVEMENT IS REMOVED THE CONTRACTOR WILL BE REQUIRED TO SUBEXCAVATE TO A DEPTH OF 2 FT. AND PLACE R-20 MATERIAL OR BETTER; IF A MINIMUM OF 2 FT. OF R-20 MATERIAL DOESN'T EXIST, RECOMPACTION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN ITEM 203.

IT IS ESTIMATED THAT 625 HOURS OF BLADING WITH A MOTOR GRADER IN THE 125 TO 150 FLYWHEEL HORSEPOWER RANGE WILL BE REQUIRED FOR FINISHING DITCH WORK IN THE WETLAND AREA AND 20 HOURS OF BLADING FOR CLEARING OUT OLD FENCE LINE RT. BEFORE NEW FENCE IS PLACED.

UTILITY LINES AS SHOWN ON THE PLAN AND PROFILE SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION.

REMOVAL OF SLOPE PROTECTORS AND END SECTIONS WILL BE INCLUDED IN REMOVAL OF STRUCTURES.

THE REMOVAL OF TREES OR BUSHES OUTSIDE THE TOE OF SLOPES WILL NOT BE PERMITTED, UNLESS THEY ARE WITHIN THE 40' CLEAR ZONE.

A BAR INSERTOR PAVER MAY BE USED UPON PROOF OF SUITABLE PERFORMANCE. A TEST SECTION WILL BE REQUIRED ON THIS PROJECT.

CLASS 1, CATEGORY 1 SMOOTHNESS FOR CONCRETE PAVEMENT WILL BE REQUIRED ON THIS PROJECT.

ALL ITEMS TO BE REMOVED WILL BECOME THE PROPERTY OF THE CONTRACTOR, EXCEPT GUARDRAIL TYPE 3. THE CONTRACTOR WILL BE REQUIRED TO COORDINATE THE REMOVAL WITH C.D.O.T. MAINTENANCE PERSONNEL. PRECEDING THIS, THE CONTRACTOR WILL REMOVE PILE, TIE, AND LOAD ALL RAIL, POST AND HARDWARE ONTO C.D.O.T. VEHICLE FOR DELIVERY.

CONCRETE REMOVED CAN BE PLACED IN THE FILL WITH AT LEAST TWO FEET OF COVER OR AS DIRECTED BY THE ENGINEER

IF AT ANY TIME THE TRAFFIC IS TRAVELLING IN THE OPPOSITE DIRECTION OF THE LAPS ON GUARDRAIL TYPE-3, THE CONTRACTOR SHALL RE-LAP THE GUARDRAIL. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN RESET GUARDRAIL TYPE-3.

BREAK POINTS ON SLOPES AND IN BOTTOM OF DITCHES SHALL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE.

IT WILL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL DITCH WILL DRAIN PROPERLY. THIS MAY REQUIRE ADDITIONAL PLACEMENT OF EXCAVATION (C.I.P.)

ALL ADDITIONAL FILL (DIKES, CROSS-OVERS, FILLS OVER C.B.C.) SHALL HAVE A MINIMUM OF 10:1 SIDE SLOPES OR FLATTER.

MUCK EXCAVATION WILL BE REQUIRED FROM UNDER THE EXISTING PAVEMENT ON THIS PROJECT. THIS MATERIAL WILL BE USED FOR SLOPE FLATTENING. THIS QUANTITY WILL BE PAID FOR UNDER ITEM 203 (MUCK EXCAVATION).

THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/TOES OF SLOPES AS SHOWN ON THE PLANS AND CROSS-SECTIONS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES, SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS.

~~SECTION CURNER IN N.V. RAMP (LOWLAND INTERCHANGE) IS NON EXISTING. WILL HAVE TO BE LOCATED FROM OTHER DATA.~~

~~IT IS ESTIMATED THAT ONE SURVEY MONUMENT (TYPE 9A) WILL BE REQUIRED FOR THIS PROJECT.~~

CONTRACT SURVEYING WILL BE REQUIRED ON THIS PROJECT.

THE CONTRACTOR SHALL ARRANGE HIS ACTIVITIES, SO THAT, CROSSOVER DETOURS WILL NOT BE USED DURING THE WINTER MONTHS OF NOVEMBER THRU MARCH.

THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING LOCAL RESIDENCE OF DETOUR ROUTES WHILE REMOVING AND PLACING STRUCTURES UNDER FRONTAGE ROAD, AND ALSO THE SCHOOLS WHEN IN SESSION.

ELEVATIONS SHOWN ON PLAN SHEETS AND CROSS SECTION SHEETS ARE EXISTING ELEVATIONS OR "AS CONSTRUCTED" ELEVATIONS. ELEVATIONS SHALL BE ESTABLISHED DURING CONSTRUCTION FOR ALL ITEMS INCIDENTAL TO THE PROJECT. STRUCTURE F-20-BE HAS A BRASS CAP WHICH WAS USED DURING THE SURVEY WITH AN ELEVATION OF 5244.24 THAT CAN BE USED TO ESTABLISH ELEVATIONS DURING CONSTRUCTION.

HORIZONTAL CONTROL SHALL BE ESTABLISHED ALONG THE EXISTING EDGE OF CONCRETE NEAREST THE 4 FT. SHOULDER. THIS CONTROL LINE WILL BECOME THE PROFILE GRADE LINE (P.G.) SHOWN ON TYPICALS.

FOR ALL CONCRETE BOX CULVERTS THAT EXTEND UNDER THE FRONTAGE ROAD (RT.) THAT PORTION UNDER THE FRONTAGE ROAD WILL HAVE THE GRADE SET BEFORE ESTABLISHING THE GRADE BETWEEN THE EAST BOUND LANE AND FR. RD. SINCE A MINIMUM COVER OF 1 FOOT IS REQUIRED.

NATURAL WATER MAY EXIST AT STRUCTURES, THE PUMPING OF THIS WATER WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE WORK.

FINAL ESTIMATED QUANTITIES FOR F-20-BS, F-21-J AND G-21-J

ITEM	DESCRIPTION	UNITS	F-20-BS	F-21-J	G-21-J
202	REMOVAL OF SLOPE & DITCH PAVING	SQ. YD.	97	169	
202	REMOVE PORTION OF STRUCTURE	EACH	5	4	1
206	STRUCTURE EXCAVATION	CU. YD.	127.81	240	34
206	STRUCTURE BACKFILL (CLASS 2)	CU. YD.	287	528	87
601	CONCRETE (CL. D) BOX CULVERT	CU. YD.	284.11	490.19	57.23
602	REINFORCING STEEL	LBS.	47,928.11	68,899.75	8,711.64
602	REINFORCING STEEL (EPOXY COATED)	LBS.	26,902.24	46,097.01	0

GENERAL NOTES

ROADWAY

SEEDING, SOIL PREPARATION, FERTILIZING WITH COMMERCIAL FERTILIZER, AND MULCHING WILL BE REQUIRED FOR 194 ACRES FOR ROADWAY WITHIN RIGHT OF WAY LIMITS ON ALL DISTURBED AREAS NOT SURFACED.

THE FOLLOWING TYPES AND RATES SHALL BE USED:

SEEDING PLAN		
COMMON NAME	SCIENTIFIC NAME	LB.PLS/ACRE
Western Wheatgrass V. Arriba	PASCOPIRUM SMITHII	7
Smooth Brome V. Lincoln	Bromus Inermis	5
Sand dropseed	Sporobolus cryptandrus	1
Sideoats grama V. Vaughn	Boutelous curtipendula	5
Blue grama v. N. M. Native	Boutelous gracilis	4
Buffalo Grass (Treated)	Buchloe Dactyloides	6
Perennial Gaillardia	Gaillardia Aristata	.5
Alfalfa V. Ladak	Medicago sativa	.5
Oats (Certified)	Avena sativa	5.0 (spring)
Winter Wheat	Triticum Aestivum	5.0 (fall)

TOTAL 34 Lbs./Acre

FOR SPRING PLANTING, OATS IS TO BE ADDED TO SEED MIX, IF FALL, PLANTING WINTER WHEAT WILL BE ADDED FOR A COVER CROP.

MULCHING REQUIREMENT AND APPLICATION: 1 1/2 TON PER ACRE NATIVE HAY MECHANICALLY CRIMPED INTO THE SOIL.

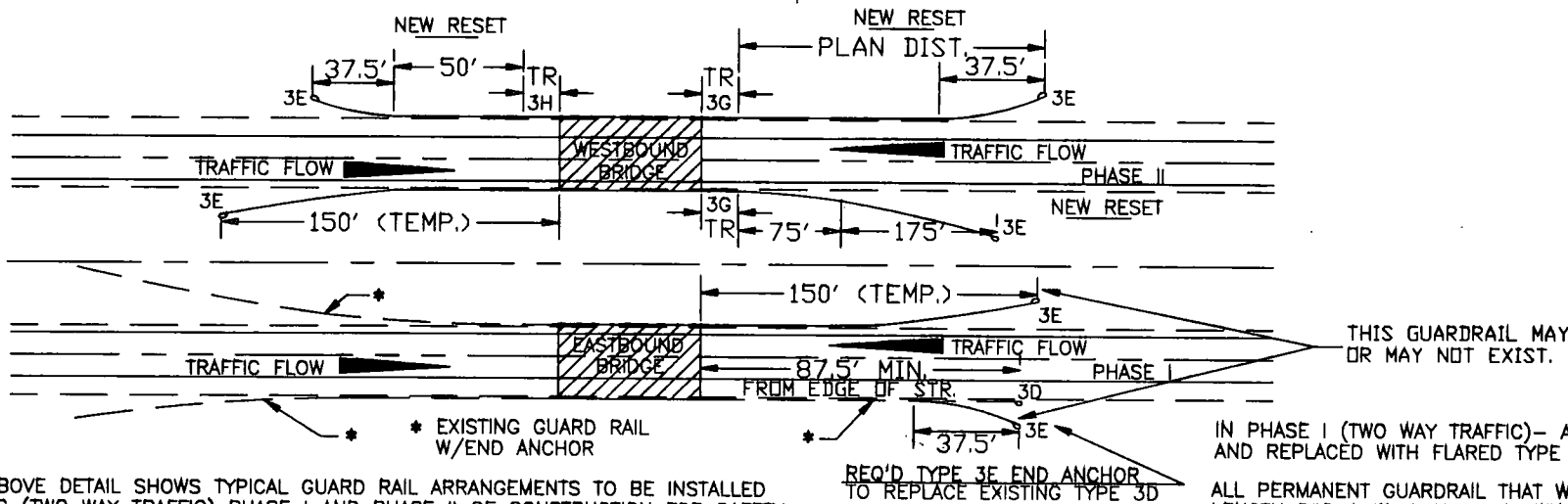
SEED SHALL BE MECHANICALLY DRILLED TO A DEPTH OF 0.25' TO .5' INTO SOIL.

COMMERCIAL FERTILIZER	%	LBS/ACRE
AVAILABLE N	18	27
AVAILABLE P	.46	69
AVAILABLE K	0	0

PROJECT TOTALS

SEEDING	(NATIVE)	194.98174 ACRE
MULCHING		194.98174 ACRE
*FERTILIZER	(AVAILABLE N)	52654690 LBS
*FERTILIZER	(AVAILABLE P)	1345412006 LBS
*FERTILIZER	(AVAILABLE K)	.0 LBS
*SOIL PREPARATION	(NATIVE)	194.98174 ACRE
MULCH TACKIFIER		161434,000 LBS

SEE WETLAND TABULATION FOR ADDITIONAL QUANTITIES FOR ITEMS LISTED ABOVE.



THE ABOVE DETAIL SHOWS TYPICAL GUARD RAIL ARRANGEMENTS TO BE INSTALLED DURING (TWO WAY TRAFFIC) PHASE I AND PHASE II OF CONSTRUCTION FOR SAFETY CONSIDERATIONS.

(SEE FIRST PAGE OF GENERAL NOTES FOR TEMPORARY PAY ITEMS.)

VEGETATION SHALL BE LEFT IN PLACE AND EXCAVATION (C.I.P.) PLACED OVER THE TOP UPON COMPLETION OF PLACING EXCAVATION THE TOP 4 INCHES SHALL BE PREPARED FOR PLANTING. THIS MATERIAL WILL BE FROM CONTRACTOR'S SOURCE. THE TOP 4 INCH HAS ALREADY BEEN INCLUDE IN THE QUANTITY OF EXCAVATION (C.I.P.) IT IS ESTIMATED THAT 84,164 CU. YD. WILL BE REQUIRED FOR THIS PROJECT. THE INTENT OF THIS METHOD IS TO KEEP SOIL EROSION TO A MINIMUM.

THE SOIL TO BE PLACED AS SUITABLE MATERIAL SHALL BE FREE OF REFUSE, STUMPS, ROOTS, ROCKS, BRUSH, WEEDS, HARD CLODS, TOXIC SUBSTANCES OR OTHER MATERIAL WHICH WOULD BE DETRIMENTAL TO ITS USE ON THE PROJECT. IT SHALL HAVE A MINIMUM P.I. OF 5 BUT SHALL NOT BE SUCH HEAVY CLAY AS TO PRECLUDE PLACEMENT WITH A SHOULDER MACHINE. PAYMENT SHALL BE AS EXCAVATION (C.I.P.).

THE MATERIAL FROM THE EXISTING POLISHING POND MAY BE USED AS SUITABLE MATERIAL. THIS MATERIAL MAY BE PLACED ON THE WETLAND BERM BECAUSE OF THE ODOR, RATHER THAN USED AS SUITABLE MATERIAL ON THE ROADWAY.

EXCAVATION OF THE EXISTING POLISHING POND WILL BE PAID FOR UNDER ITEM 203 AS (MUCK EXCAVATION).

TEMPORARY COLORED FENCING WILL BE PLACED AROUND ALL DESIGNATED ROADWAY WETLAND AREAS AT THE DIRECTION OF THE PROJECT OR ENVIRONMENTAL ENGINEER.

PRIOR TO WINTER SHUT-DOWN ALL COMPLETED SLOPES SHALL BE SEEDED AND MULCHED. UNCOMPLETED SLOPES SHALL BE MULCHED WITH 2 TONS NATIVE HAY OR STRAW MECHANICALLY CRIMPED IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER PER PROJECT SPECIAL PROVISION (ITEM 213).

IT IS ESTIMATED THAT 111 EROSION BALES WILL BE REQUIRED AROUND DROP INLETS, PIPE AND C.B.C. INLETS WITHIN R.O.W. AS DIRECTED BY THE ENGINEER.

MULCHING REQUIREMENTS: 2 TONS PER ACRE NATIVE HAY MECHANICALLY CRIMPED INTO THE SOIL. ON SLOPES 2:1 AND STEEPER 2 TONS NATIVE HAY PER ACRE IN COMBINATION WITH AN ORGANIC MULCH TACKIFIER PER SPECIAL PROVISION 213.

PLACEMENT OF SOIL FOR SEEDING, AND MULCHING WILL NOT BE DONE IN A SINGLE OPERATION, BUT SHALL BE COMPLETED AFTER EACH CONSTRUCTION PHASE. IT IS ESTIMATED THAT SEVERAL MOBILIZATIONS FOR SEEDING AND MULCHING WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PRICE OF THE WORK.

DISTURBED SURFACES SHALL BE LEFT IN A ROUGHENED CONDITION AT ALL TIMES DURING CONTRUCTION.

WHEN DISTURBED AREA EXCEEDS LIMITS REFERENCED IN PROJECT SPECIAL PROVISION 107.25, APPLY 2 TONS PER ACRE NATIVE HAY OR STRAW MACHANICALLY CRIMPED INTO SOIL. IT IS ESTIMATED THAT SEVERAL MOBILIZATIONS FOR MULCHING WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PRICE OF THE WORK.

IN PHASE I (TWO WAY TRAFFIC)- ALL EXISTING 3D END ANCHORS SHALL BE REMOVED AND REPLACED WITH FLARED TYPE 3E END ANCHOR AS SHOWN.

ALL PERMANENT GUARDRAIL THAT WAS TO HAVE A 3D END ANCHORAGE SHALL HAVE THE LENGTH FOR A 3D PLUS 37.5' WHERE A TYPE 3E END ANCHORAGE SHALL BE PLACED.

ALL TEMPORARY TYPE 3 GUARDRAIL AND END ANCHORAGES SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

SUMMARY OF ~~APPROXIMATE~~ ^{FINAL} QUANTITIES

AS CONSTRUCTED		C D O H	FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94					
			VIII	COLO.	IR(CX) 070-4(153)	9

INDEX FORM NO.	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURE F-20-BF		STRUCTURE F-20-BE		STRUCTURE F-20-BQ		STRUCTURE F-20-BR		STRUCTURE F-20-BS		STRUCTURE F-21-J		STRUCTURE F-21-S		STRUCTURE F-21-T		STRUCTURE G-21-J		PROJECT TOTALS	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
305	202	REMOVAL OF STRUCTURE	EACH	19	19																			19	19
	202	REMOVAL OF TREE	EACH	28	34																			28	34
	202	REMOVAL OF CONCRETE BOX CULVERT	EACH	1	1																			1	1
	202	REMOVAL OF SLOPE AND DITCH PAVING	SY	628	635	312	23	312	0	312	204	312	227	74	66	109	97	312	23	312	0			2,683	1,275
	202	REMOVAL OF PIPE	EACH	4	4																			4	4
	202	REMOVAL OF DELINEATOR	EACH	510	603																			510	603
	202	REMOVAL OF SIDEWALK	SY	60	66																			60	66
	202	REMOVAL OF CONCRETE PAVEMENT	SY	46,168	46,327																			46,168	46,327
	202	REMOVAL OF ASPHALT MAT	SY	53,122	50,862																			53,122	50,862
	202	REMOVAL OF PAVEMENT MARKING	SF	85,000	97,544																			85,000	97,544
	202	REMOVAL OF BRIDGE	EACH	5	5																			5	5
	202	REMOVAL OF BRIDGE RAILING	LF			270	270	270	270	280	280	280	280					194	194	194	194			1,488	1,488
	202	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	L S			00.18	00.18	00.18	00.18	00.19	00.19	00.19	00.19					00.13	00.13	00.13	00.13			1	1
	202	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	EACH	32	32									5	5	4	4					1	1	42	42
	202	REMOVAL OF GROUND SIGN	EACH	16	26																			16	26
	202	REMOVAL OF FENCE	LF	50,647	47,117																			50,647	47,117
	202	REMOVAL OF GUARDRAIL TYPE 3	LF	3,450	8,462.5																			3,450	8,462.5
	202	REMOVAL OF END ANCHORAGE	EACH	111	93																			111	93
	202	PLUG STRUCTURE	EACH	1	3																			1	3
	202	SANDBLASTING	SF	79,200	38,809																			79,200	38,809
	203	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	547,826	487,804.3																			547,826	487,804.3
	203	EMBANKMENT MATERIAL (C.I.P.) (SPECIAL) (MCR *1)	CY	4,410	4,410																			4,410	4,410
	203	MUCK EXCAVATION	CY	10,725	148.1																			10,725	148.1
	203	PROOF ROLLING	HOUR	60	30.5																			60	30.5
	203	BLADING	HOUR	60	82.5																			60	82.5
	206	STRUCTURE EXCAVATION	CY	3,035	2,326.38									128	127.81	240	240					34	34	3,437	2,728.19
	206	STRUCTURE BACKFILL (SPECIAL) (DELETED)	CY	177	0																			177	0
	206	STRUCTURE BACKFILL (CLASS 2)	CY	3,976	3,798.9	30	0	30	0	30	0	30	0	287	287	528	528	30	0	30	0	87	87	5,008	4,700.9
	206	FILTER MATERIAL (SPECIAL)	CY	1,222	1,835																			1,222	1,835
	206	FILTER MATERIAL (SPECIAL) (MCR *1)	CY	222	222																			222	222
	210	RESET END SECTION	EACH	21	26																			21	26
	210	RESET GROUND SIGN	EACH	78	90																			78	90
	210	RESET GUARDRAIL TYPE 3	LF	6,064	6,662.5																			6,064	6,662.5
	210	RESET SPRINKLER HEAD	EACH	30	52																			30	52
	210	RELAY RIPRAP	CY	467	641																			467	641
	210	MODIFY INLET	EACH	6	6																			6	6

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SUMMARY OF ~~APPROXIMATE~~ ^{FINAL} QUANTITIES

AS CONSTRUCTED			C	FED. ROAD	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED	VOID	D	VIII	COLO.	IR(CX) 070-4(153)	10
	12-1-94		O				
			H				

INDEX FORM NO.	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURE F-20-BF		STRUCTURE F-20-BE		STRUCTURE F-20-BQ		STRUCTURE F-20-BR		STRUCTURE F-20-BS		STRUCTURE F-21-J		STRUCTURE F-21-S		STRUCTURE F-21-T		STRUCTURE G-21-J		PROJECT TOTALS	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
305	212	SEEDING (NATIVE)	ACRE	174	194.98																			174	194.98
	212	SEEDING (LAWN)	ACRE	0.30	0.53																			0.30	0.53
	212	SEEDING (WETLANDS)	ACRE	5	5																			5	5
	212	SOIL PREPARATION (SPECIAL)	ACRE	5	5																			5	5
	213	MULCHING	ACRE	179	199.98																			179	199.98
	213	MULCHING (M.C.R. #1)	ACRE	45	41.63																			45	41.63
	213	MULCH TACKIFIER	LB	34,800	1,614																			34,800	1,614
	213	EROSION BALES	EACH	100	111																			100	111
	214	DECIDUOUS TREE (1.5 INCH CALIPER)	EACH	9	9																			9	9
	214	DECIDUOUS TREE (2.5 INCH CALIPER)	EACH	19	19																			19	19
	214	DECIDUOUS SHRUB (5 GALLON CONTAINER)	EACH	233	233																			233	233
	214	DECIDUOUS SHRUB (1 GALLON) WILLOWS (M.C.R. #1)	EACH	529	529																			529	529
	214	EVERGREEN TREE (4 FOOT) (BALL AND BURLAP)	EACH	5	5																			5	5
	214	BRUSH LAYER CUTTING (DELETED) (M.C.R. #1)	EACH	1,890	0																			1,890	0
	215	TRANSPLANT SEEDLING	EACH	200	200																			200	200
	306	RECONDITIONING (C.M.O. #3)	SY	92,000	68,884																			92,000	68,884
	403	HOT BITUMINOUS PAVEMENT (GRADING C) (ASPHALT)	TON	4,892	5,230.44																			4,892	5,230.44
	403	HOT BITUMINOUS PAVEMENT (GRADING F) (ASPHALT) (C.M.O. #4)	TON	4,742	10,557.52																			4,742	10,557.52
	403	HOT BITUMINOUS PAVEMENT (PATCHING) (ASPHALT) (M.C.R. #1)	TON	60	102.14																			60	102.14
	407	BLOTTER MATERIAL	TON	1,030	758.15																			1,030	758.15
	411	EMULSIFIED ASPHALT (CRS-1)	GAL	13,230	15,856																			13,230	15,856
	411	EMULSIFIED ASPHALT (SLOW-SETTING)	GAL	6,475	7,078.5																			6,475	7,078.5
	412	FURNISH CONCRETE PAVEMENT	CY	151,229	152,411.7																			151,229	152,411.7
	412	PLACE CONCRETE PAVEMENT (C.M.O. #2)	SY	435,394	7,620																			435,394	7,620
	412	PLACE CONCRETE PAVEMENT (PROJECT ORDER #2)	SY	429,413	419,688																			429,413	419,688
	420	GEOTEXTILE (EROSION CONTROL) (CLASS-B)	SY	797	486																			797	486
	506	PLACE RIPRAP	CY	68	51																			68	51
	507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	CY	54	18.21	34	2.51	34	0	34	20.57	34	21.63					34	6.01	34	0			258	68.93
	507	GRADED RIPRAP SLOPE & DITCH PAVING	CY	97	119																			97	119
	507	BITUMINOUS SLOPE AND DITCH PAVING (ASPHALT)	TON	36	176.54																			36	176.54
	601	CONCRETE CLASS A (MISCELLANEOUS)	CY	21	20.59																			21	20.59
	601	CONCRETE CLASS D (BOX CULVERT)	CY	1,820	1,757.87									293	284.11	523	490.19					53	57.23	2,689	2,589.40
	601	CONCRETE (PATCHING) (PROJECT ORDER #5)	SF	300	313.37																			300	313.37
	601	CONCRETE CLASS D (BRIDGE)	CY			28.3	68.96	28.3	68.27	29.5	69.64	29.5	69.64					20.2	60.36	20.2	60.36			156	397.23
	602	REINFORCING STEEL	LB	262,862	220,163.92									57,989	47,928.11	93,858	68,899.25					7,537	8,712.64	422,246	345,704.42
	602	REINFORCING STEEL (EPOXY COATED)	LB	73,677	120,580.24	3,780	10,991.36	3,780	11,106.97	3,950	10,472.78	3,950	10,600.64	16,352	26,902.24	26,447	46,097.01	2,694	8,945.32	2,694	8,997.68	2,185	0	139,509	254,632.4
	603	18 INCH REINFORCED CONCRETE PIPE	LF	7.5	8																			7.5	8
	603	18 INCH REINFORCED CONCRETE END SECT. (M.C.R. #1)	EA	2	1																			2	1
	603	24 INCH REINFORCED CONCRETE PIPE	LF	283	352																			283	352
	603	24 INCH REINFORCED CONCRETE END SECT. (M.C.R. #1)	EA	10	17																			10	17

07/19/93 14:17:50 F:\90131\K113BB 90131 R-1 (DESIGN) SQ.-G.L.MOOM/MK

SUMMARY OF ~~APPROXIMATE~~ ^{FINAL} QUANTITIES

AS CONSTRUCTED			C	FED. ROAD	DIVISION	PROJ. NO.	SHEET
NO REVISIONS	REVISED 12-1-94	VOID	D	REGION	COLO.	1R(CX) 070-4(153)	NO.
			H	VIII			11

INDEX FORM NO.	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURE F-20-BF		STRUCTURE F-20-BE		STRUCTURE F-20-BQ		STRUCTURE F-20-BR		STRUCTURE F-20-BS		STRUCTURE F-21-J		STRUCTURE F-21-S		STRUCTURE F-21-T		STRUCTURE G-21-J		PROJECT TOTALS	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
305	603	36 INCH REINFORCED CONCRETE PIPE	LF	120	208																			120	208
	603	36 INCH REINFORCED CONCRETE END SECT. (M.C.R #1)	EACH	2	6																			2	6
	603	72 INCH REINFORCED CONCRETE PIPE	LF	32	30																			32	30
	603	48 INCH CORRUGATED STEEL PIPE	LF	29	258.5																			29	258.5
	604	INLET TYPE C (5 FOOT)	EACH	1	3																			1	3
	604	INLET TYPE C (10 FOOT) (DELETED)	EACH	1	0																			1	0
	606	END ANCHORAGE TYPE 3E	EACH	45	37																			45	37
	606	END ANCHORAGE TYPE 3G	EACH	12	12																			12	12
	606	END ANCHORAGE TYPE 3H	EACH	6	6																			6	6
	606	BRIDGE RAIL TYPE 10	LF			270	270	270	270	280	280	280	280					194	194	194	194			1,488	1,488
	607	END POST	EACH	68	68																			68	68
	607	CORNER AND LINE BRACE POST	EACH	55	64																			55	64
	607	FENCE BARBED WIRE WITH METAL POSTS	LF	46,131	43,595																			46,131	43,595
	607	FENCE COMBINATION WIRE WITH METAL POSTS (M.C.R #1)	LF	2,500	2,380																			2,500	2,380
	607	FENCE (PLASTIC)	LF	1,100	962																			1,100	962
	607	END POST (CHAIN LINK)	EACH	4	5																			4	5
	607	CORNER AND LINE BRACE POST (CHAIN LINK)	EACH	12	9																			12	9
	607	FENCE CHAIN LINK (72 INCH)	LF	3,800	2,841																			3,800	2,841
	607	16 FOOT GATE	EACH	17	14																			17	14
	607	3 FT GATE SINGLE (CHAIN LINK)	EACH	1	1																			1	1
	607	8 FT GATE SINGLE (CHAIN LINK)	EACH	1	1																			1	1
	608	CONCRETE SIDEWALK	SY	535	288																			535	288
	608	CONCRETE CURB RAMP	SY	13	48																			13	48
	609	CURB AND GUTTER TYPE 2 (SECTION 1-B)	LF	1200	618.5																			1200	618.5
	612	DELINEATOR (TYPE I)	EACH	395	413																			395	413
	612	DELINEATOR (TYPE II)	EACH	216	129																			216	129
	612	DELINEATOR (TYPE III)	EACH	12	15																			12	15
	612	DELINEATOR (FLEXIBLE) (TYPE I) (C HO #6)	EACH	353	353																			353	353
	613	1/2 INCH ELECTRICAL CONDUIT	LF	110	110																			110	110
	613	1-1/2 INCH ELECTRICAL CONDUIT	LF	120	200																			120	200
	613	2 INCH ELECTRICAL CONDUIT (JACKED)	LF	280	246																			280	246
	613	DIRECT-BURIAL CABLE	LF	5,310	5,044																			5,310	5,044
	613	WIRING	L S	1	1																			1	1
	613	LIGHT STANDARD METAL (40 FOOT)	EACH	7	7																			7	7
	613	CONCRETE FOUNDATION PAD	EACH	7	7																			7	7

06/25/93 14:24:48 F:\90131\K113BC 90131 R-1 (DESIGN) SQ.-G.L.MOON/MK

SUMMARY OF ~~APPROXIMATE~~ ^{FINAL} QUANTITIES

AS CONSTRUCTED			C D O H	FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94	VOID		VIII	COLO.	IR(CX) 070-4(153)	12

INDEX FORM NO.	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURE F-20-BF		STRUCTURE F-20-BE		STRUCTURE F-20-BQ		STRUCTURE F-20-BR		STRUCTURE F-20-BS		STRUCTURE F-21-J		STRUCTURE F-21-S		STRUCTURE F-21-T		STRUCTURE G-21-J		PROJECT TOTALS	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
305	613	LUMINAIRE HIGH PRESSURE SODIUM (400 WATT)	EACH	7	.7																			7	7
	613	LUMINAIRE HIGH PRESSURE SODIUM (WALL TYPE)(150 WATT)	EACH	2	.2																			2	2
	614	SIGN PANEL (CLASS I)	SF	72	73.5																			72	73.5
	614	SIGN PANEL (CLASS II)	SF	6	.6																			6	.6
	614	SIGN PANEL (CLASS III)	SF	47	47																			47	47
	614	TIMBER SIGN POST 4X4 INCH	LF	62	133																			62	133
	614	TIMBER SIGN POST 4X6 INCH	LF	41	40.5																			41	40.5
	614	TIMBER SIGN POST 6X6 INCH	LF	272	262																			272	262
	614	STEEL SIGN POST (U-2)	LF	103	222.5																			103	222.5
	614	CONCRETE FOOTING (TYPE 2)	EACH	6	.6																			6	.6
	614	CONCRETE FOOTING (TYPE 3)	EACH	2	.2																			2	.2
	614	RUMBLE STRIP	LF	1,152	1,152																			1,152	1,152
	617	24 INCH CULVERT PIPE	LF	1,500	2,033																			1,500	2,033
	617	30 INCH CULVERT PIPE (DELETED)	LF	1,516	0																			1,516	0
	617	36 INCH CULVERT PIPE (DELETED)	LF	110	0																			110	0
	617	DETOUR CULVERT PIPE	L S	1	1																			1	1
	619	3/4 INCH PLASTIC PIPE	LF	560	308																			560	308
	619	1 INCH PLASTIC PIPE	LF	400	439																			400	439
	619	1-1/4 INCH PLASTIC PIPE	LF	550	603																			550	603
	619	1-1/2 INCH PLASTIC PIPE	LF	1,450	1,407																			1,450	1,407
	619	2 INCH PLASTIC PIPE	LF	1,240	1,230																			1,240	1,230
	619	4 INCH PLASTIC PIPE	LF	11	11																			11	11
	619	12 INCH PLASTIC PIPE	LF	4	4																			4	4
	620	FIELD OFFICE (CLASS 2)	EACH	1	1																			1	1
	620	FIELD LABORATORY (CLASS 2)	EACH	1	.2																			1	.2
	620	SANITARY FACILITY	EACH	2	.2																			2	.2
	621	DETOUR PAVEMENT	SY	11,300	12,289																			11,300	12,289
	622	SUMP PUMP	EACH	1	1																			1	1
	623	AUTO CONTROL T/R UNIT (M.C.R.=1)	EACH	1	1																			1	1
	623	3/4 INCH POP-UP ROTARY SPRINKLER	EACH	48	48																			48	48
	623	1 INCH BACKFLOW PREVENTER	EACH	1	1																			1	1
	623	1 INCH MANUAL CONTROL VALVE	EACH	1	1																			1	1
	623	1-1/2 INCH AUTOMATIC CONTROL VALVE	EACH	12	12																			12	12
	623	2 INCH AUTOMATIC CONTROL VALVE	EACH	1	1																			1	1
	623	CONTROL WIRE 24 VOLT	LF	10,200	10,430																			10,200	10,430
	623	POWER SOURCE WIRE	LF	100	120																			100	120
	623	3/4 INCH QUICK-COUPLER VALVE	EACH	2	2																			2	2
	623	VALVE BOX	EACH	15	14																			15	14
	623	14 STATION AUTOMATIC CONTROLLER	EACH	1	1																			1	1

07/08/93 14:26:22 F:\90131\K113BD 90131 R-1 (DESIGN)SQ.-G.L.MOON/MK

SUMMARY OF ~~APPROXIMATE~~ ^{FINAL} QUANTITIES

AS CONSTRUCTED			C	FED. ROAD	DIVISION	PROJ. NO.	SHEET
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐			D	REGION	COLO.	1R(CX) 070-4(153)	NO.
			O	VIII			13
			H				

INDEX	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		STRUCTURE F-20-BF		STRUCTURE F-20-BE		STRUCTURE F-20-BQ		STRUCTURE F-20-BR		STRUCTURE F-20-BS		STRUCTURE F-21-J		STRUCTURE F-21-S		STRUCTURE F-21-T		STRUCTURE G-21-J		PROJECT TOTALS	
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
305	625	CONSTRUCTION SURVEYING	L S	1	.1																			1	.1
	626	MOBILIZATION	L S	1	.1																			1	.1
	627	PAVEMENT MARKING PAINT	GAL	1,190	1,808																			1,190	1,808
	627	EPOXY PAVEMENT MARKING	GAL	426	1,015																			426	1,015
	627	4 INCH PAVEMENT MARKING TAPE (TEMP) (M.C.R. #1)		3,000	5,775																			3,000	5,775
	627	RAISED PAVEMENT MARKER (TEMPORARY)	EACH	2,074	1,812																			2,074	1,812
	627	PREFORMED PLASTIC PAVEMENT MARKING (60 MILS)	SF	22.5	.30																			22.5	.30
	627	PREFORMED PLASTIC PAVEMENT MARKING (TYPE A)	SF	38,724	444																			38,724	444
	629	SURVEY MONUMENT (TYPE 3A) (DELETED)	EACH	1	0																			1	0
	630	FLAGGING	HOURL	6,000	7,666.5																			6,000	7,666.5
	630	TRAFFIC CONTROL SUPERVISOR	DAY	350	331																			350	331
	630	T.C.S. VEHICLE (CHO #6)	EACH	1	1																			1	1
	630	FLASHING BEACON (PORTABLE)	EACH	4	6																			4	6
	630	BARRICADE (TYPE 3 M-B) (TEMPORARY)	EACH	10	7																			10	7
	630	BARRICADE (TYPE 3 M-D) (TEMPORARY) (DELETED)	EACH	2	0																			2	0
	630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	33	35																			33	35
	630	CONST. TRAFFIC SIGN (PANEL SIZE B) (CHO #6)	EACH	6	6																			6	6
	630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	66	80																			66	80
	630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	38	49																			38	49
	630	CONSTRUCTION TRAFFIC SIGN (SPECIAL) (M.C.R. #1)	SF	730	720																			730	720
	630	PORTABLE MESSAGE SIGN PANEL	EACH	2	2																			2	2
	630	CONSTRUCTION TRAFFIC SIGN (SPECIAL) (M.C.R. #1)	SF	161	161																			161	161
	630	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EACH	2	4																			2	4
	630	DRUM CHANNELIZING DEVICE	EACH	200	200																			200	200
	630	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)	EACH	3	3																			3	3
	630	CONCRETE BARRIER (TEMPORARY)	LF	2,310	1,622																			2,310	1,622
	630	GLARE SCREEN (TEMPORARY)	LF	1,460	1,310																			1,460	1,310
	630	TRAFFIC CONE	EACH	100	200																			100	200
	630	CHANNELIZING DEVICE (SPECIAL)	EACH	532	575																			532	575
	630	IMPACT ATTENUATOR (TEMPORARY)	EACH	2	2																			2	2
	700	FORCE ACCOUNT																							
	700	F/A MINOR CONTRACT REVISIONS	F A	1	.1																			1	.1
	700	F/A ON-THE-JOB TRAINEE	EACH	7	6																			7	6
	700	F/A DJT PILOT	F A	1	1																			1	1
	700	F/A CONCRETE PAVEMENT SMOOTHNESS INCENTIVE	F A	1	1																			1	1
	700	F/A REIMBURSEMENT FOR LONG DISTANCE TELEPHONE	F A	1	.1																			1	.1
	700	UTILITIES																							
	700	MOUNTAIN VIEW ELECTRIC.. F/A PROVIDE POWER SOURCE (WORK BY E.R.E.A.)	F A	1	1																			1	1

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STRUCTURE QUANTITIES

[illegible]

~~* CARRIED TO SURFACING PLAN~~

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AS CONSTRUCTED

NO REVISIONS

REVISED 12-1-94

VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	15	101

STRUCTURE QUANTITIES

FORM INDEX NO. REFER.	LOCATION	REMOVAL OF STRUCTURE	UNCLASSIFIED EXCAVATION			RESET END SECTION	STRUCTURE EXCAV.		STRUCTURE BACKFILL	REMOVE PORTION OF STRUCTURE	RELAY RIPRAP	HOT BITUMINOUS PAVEMENT GRADING C	REMOVE ASPHALT MAT	CONCRETE		REINFORCING STEEL	REINFORCING STEEL (EPOXY COATED)	CONCRETE SLOPE & DITCH PAVING REINF.	REMOVE SLOPE & DITCH PAVING	CULVERT PIPE				MISCELLANEOUS								
			CUBIC YARD				CU. YD.	CL. 2						CU. YD.	LINEAR FEET																	
			EACH	EXCAV	DITCH	EMB									18'					24'	36'	72'	24'		30'	36'						
305	2634 + 27 (LT. & RT.) 2635 + 67 (LT. & RT.)																												6 TON -- BIT. SLOPE & DITCH PAVING (ASPH) 26.59 6 TON -- BIT. SLOPE & DITCH PAVING (ASPH) 24.97			
	2642 + 00 2644 + 00 (NO CHANGE) 2652 + 48 (NO CHANGE)	2																											(EMBANKMENT PROTECTOR RT. & LT.)			
	2659 + 72 2660 + 08 2682 + 00 2683 +						20 43	41 34		2			13																PLUG STRUCTURE WITH CONCRETE WALL WITH END SECTION WITH END SECTIONS 100 LIN. FT. -- FENCE (PLASTIC)			
	2683 + 15						23 83	43 335		4	27	15.9(FR.RD.) 14.8		202		27,341 22,500	7,703 15,940		40 36											GEO TEXTILE (EROSION) CLASS B-45 SQ. YD. REMOVAL OF BRIDGE (TIMBER)(FR. RD.) WITH END SECTION (EMBANKMENT PROTECTOR RT. & LT.)		
	2704 + 22 2705 + 00	2					4 66.47	8 257		2	26	15.9(FR.RD.) 64.9		165 153.42		21,072 17,446	6,159 9,774		21 22											GEO TEXTILE (EROSION) CLASS B-37 SQ. YD. REMOVAL OF BRIDGE (TIMBER)(FR. RD.) WITH END SECTION		
	2729 + 90 2746 + 79						68.9 157	348		4		66(FR.RD.) 37.2	30(FR.RD.)	193.22 203		25,604 20,182	7,215 12,773													REMOVAL OF PIPE (FR. RD.)(48" C.M.P.) 29 LIN. FT. -- 48 IN. CORRUGATED STEEL PIPE		
	2751 + 25						21 139	42 472		4	32	24(FR.RD.) 37.2		332		49,341 40,333	13,906 22,249		44 54											REMOVAL OF BRIDGE (TIMBER)(FR. RD.) GEO TEXTILE (EROSION) CLASS B-40 SQ. YD. WITH END SECTION		
	2757 + 25 2781 + 55 2794 + 2797 + 00 2810 + (N.E.RAMP)						14(E.B.L.) 3(FR.RD.)	56(E.B.L.) 34	97(E.B.L.) 26(FR.RD.)			8(E.B.L.) 3.2(FR.RD.)	14(FR.RD.)																	WITH END SECTION * REMOVE CONCRETE PAVEMENT E.B.L. 13 SQ. YD. * FURNISH CONCRETE PAVEMENT 5 CU. YD. * PLACE CONCRETE PAVEMENT 21 SQ. YD. WITH END SECTION (EMBANKMENT PROTECTOR) MODIFY MEDIAN INLET (H = 2' 0") TYPE 'C' INLET (H = 3' 0") LT.		
	2807 + 00 2807 + (RT.) 427 + 00	2 2					15 7	23 11											1.29 1.1	9										(EMBANKMENT PROTECTOR LT. & RT.) TYPE 'C' INLET (H=3'0") RT. (EMBANKMENT PROTECTOR LT. & RT.)		
	430 + 51 (NO CHANGE) 431 + 53 (LT. & RT.) 432 + 50 (LT. & RT.) 433 + (RT.)																													44.02 6 TON -- BIT. SLOPE & DITCH PAVING (ASPH) 44.23 6 TON -- BIT. SLOPE & DITCH PAVING (ASPH) TYPE 'C' INLET (H=3'0") RT.		
	PAGE TOTAL	12	20	17	957	3	71.38	1,720	1,637	16	05	182.3	65	880.64	100.521	124,150	34,905	2.85	121	40	22.5											

* CARRIED TO SURFACING PLAN

STRUCTURE QUANTITIES

FORM INDEX NO. REFER.	LOCATION	REMOVAL OF STRUCTURE EACH	UNCLASSIFIED EXCAVATION			RESET END SECTION	STRUCTURE EXCAV.		STRUCTURE BACKFILL	REMOVE PORTION OF STRUCTURE	RELAY RIPRAP	HOT BITUMINOUS PAVEMENT GRADING C	REMOVE ASPHALT MAT	CONCRETE		REINFORCING STEEL	REINFORCING STEEL (EPOXY COATED)	CONCRETE SLOPE & DITCH PAVING (REINF.)	REMOVE SLOPE & DITCH PAVING	CULVERT PIPE LINEAR FEET						MISCELLANEOUS							
			CUBIC YARD				CU. YD.							CU. YD.						CUBIC YARD		REINFORCED CONCRETE PIPE		CULVERT PIPE									
			EXCAV	DITCH	EMB		EACH	CU. YD.						CL 2	EACH					CU. YD.	CL. D	LB.	LB.	CU. YD.	SQ. YD.		18'	24'	36'	72'	24'	30'	36'
305	436 + 00	1																									EMBANKMENT PROTECTOR LT.) ✓						
	437 + 00	1																									EMBANKMENT PROTECTOR RT.) ✓						
	443 + 00 (NO CHANGE)																																
	457 + 64 (FR.RD.)(NO CHANGE)																																
	469 + 89			10		1	11	17										1.1 (APRON)	9				24 (LT.)				MODIFY INLET RT. (H = 1' 6" - 2' 0") ✓ (MATCH 4:1 SLOPE)						
	478 + 76			7 (DIKE)		1	2	4										1.29 (APRON)	9	7.5 (LT.)							MODIFY INLET MEDIAN (H = 1' 0") ✓						
	492 + 69			7 (DIKE)			6	4										1.29 (APRON)	9								MODIFY INLET MEDIAN (H = 1' 0") ✓						
	506 + 02			75 (DIKE)		1	15	16										1.29 (APRON)	9				24 (LT.)				MODIFY INLET RIGHT (H = 2' 6") ✓						
	14+32 N.W. RAMP						38	29																67			WITH END SECTIONS						
	2673 + 00 (MEDIAN CROSSOVER)						20	15																67 66			WITH END SECTION ✓						
	450 + 85 (MEDIAN CROSSOVER)						22	15																66			REMOVAL OF PIPE (MED.) (6' CAST IRON) WITH END SECTION						
	WETLANDS @ REST AREA						171	49								1176 1,168											102 SQ. YD. -- GEOTEXTILE (EROSION) CLASS B 329 MISCELLANEOUS -- SUMMARY						
																											1 EACH -- REMOVAL OF C.B.C. ✓ 4 EACH -- REMOVAL OF PIPE ✓						
	F-20-BE & BF ABUT. #1							30										2.51 34	23 312								5 EACH -- REMOVAL OF BRIDGE ✓ 1 EACH -- PLUG STRUCTURE						
	ABUT. #2							30										0 34	0 312								177 CU. YD. -- STRUCTURE BACKFILL (SPECIAL)						
	F-20-BR & BQ ABUT. #1							30										20.57 34	204 312								6 EACH -- MODIFY INLET ✓ • 234 CU. YD. REMOVAL OF CONCRETE PAVEMENT ✓						
	ABUT. #2							30										21.63 34	227 312								• 199 CU. YD. -- FURNISH CONCRETE PAVEMENT ✓						
	F-21-S & T ABUT. #1							30										6.01 34	23 312								• 384 SQ. YD. -- PLACE CONCRETE PAVEMENT 797 SQ. YD. -- GEOTEXTILE (EROSION) CLASS B						
	ABUT. #2							30										0 34	0 312								36 TON -- BIT. SLOPE & DITCH PAVING (ASPH)						
	PAGE TOTAL	2	05	23	3	285	241	149	296							1168		54.89 200.4	513 1900	8 7.5		48	201 132				1100 LIN. FT. -- FENCE (PLASTIC) ✓						
	TOTALS	19	1082 1620	139 3190	21	2334.38 3035	3798.09 4156		32	641 467	437.3 145.6	221 310	1758 1620	220,164 262,062	120,580 73,677	58.84 257.0	1,112 2500	8 7.5	352 2025	208 120	30 92	203 1500	0 1516	0 110			1 L.S. -- DETOUR CULVERT PIPE ✓						

* CARRIED TO SURFACING PLAN

• CARRIED TO SUMMARY OF EARTHWORK QUANTITIES

SURFACING PLAN

AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	REVISED 12-1-94	VIII	COLO.	TR(CX) 070-4(153)	17	101

WIDTH	STATION TO STATION	SIDE	QUANTITIES - TONS										PLACE CONCRETE PAVEMENT				FURNISH CONCRETE PAVEMENT		REMOVAL OF PAVEMENT				
			H.B.P. (GR. F) (ASPHALT)		BLOTTER MATERIAL		H.B.P. (GR. C)(ASPHALT)					(SQ. YD.)		(SQ. YD.)		(SQ. YD.)		CU. YD.		CONCRETE (SQ. YD.)		ASPHALT (SQ. YD.)	
			12 FT. DRIVING LANE				TAPER	DETOURS		RAMP													
			BOND BREAKER					APPROACH TO PROJECT	BOTTOM LAYER	TOP LAYER	BOTTOM LAYER												
			PLAN	FINAL	PLAN	FINAL	EAST END	3'	2'	2'	2'	11'	12'	6'	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN
38'	2408 + 00 TO 2414 + 50	RT.																				2,744	
38'	2408 + 00 TO 2431 + 35	RT.	140		30							9,859					3,549						
38'	2431 + 35 TO 2446 + 39	RT.															2,116		4,011		2,340		
38'	2447 + 72 TO 2458 + 89 BK.=	RT.															1,572		2,979		1,738		
38'	2458 + 95 AH. TO 2614 + 00	RT.	930		202							65,466					23,568						
38'	2614 + 99 TO 2634 + 27	RT.															2,713		5,405		3,153		
38'	2635 + 67 TO 2649 + 00	RT.															1,876		3,585		2,074		
38'	2649 + 00 TO 2794 + 30	RT.	872		189							61,349					22,086						
38'-42'	2794 + 30 TO 2795 + 30	RT.	6		1							422					167						
28'	2795 + 30 TO 2799 + 02 BK.=	RT.	22		5							1,157					404						
28'	2799 + 00 AH. TO 2801 + 00	RT.	12		3							622					217						
28'	2801 + 00 TO 2806 + 25	RT.															544		1,400		233		
38'	2806 + 25 TO 2810 + 00 BK.=	RT.															528		1,000		583		
38'	425 + 19.1 AH. TO 431 + 53	RT.															892		1,690		986		
38'	432 + 50 TO 442 + 75	RT.															4,328		2,733		1,594		
28'	442 + 75 TO 444 + 00	RT.															130		333		56		
28'	444 + 00 TO 463 + 00	RT.	114		25							5,911					2,062						
42'-38'	463 + 00 TO 464 + 00	RT.	6		1							422					167						
38'	464 + 00 TO 499 + 21.2 BK.=	RT.	211		46							14,867					5,352						
38'	499 + 14.6 AH. TO 499 + 86.2 BK.=	RT.	4		1							302					109						
38'	499 + 79.3 AH. TO 510 + 00	RT.	61		13							4,310					1,551						
	467 + 50 TO 510 + 00 (6' OF THE 10' INSIDE SHOULDER TO BE REMOVED RT.)																				2,833		
38'	2408 + 00 TO 2414 + 50	LT.															3,549				2,744		
38'	2408 + 00 TO 2431 + 35	LT.	140		30							9,859											
38'	2431 + 35 TO 2446 + 69	LT.															2,158		4,091		2,386		
38'	2448 + 05 TO 2458 + 89 BK.=	LT.															1,525		2,891		1,686		
38'	2458 + 95 AH. TO 2536 + 00	LT.	462		100							32,532					11,712						
38'-42'	2536 + 00 TO 2537 + 00	LT.	6		1							422					167						
28'	2537 + 00 TO 2554 + 00	LT.	102		22							5,289					1,845						
38'	2554 + 00 TO 2562 + 00	LT.	28		10							3,378					1,216						
28'	2562 + 00 TO 2570 + 00	LT.	48		10							2,489					868						
42'-38'	2570 + 00 TO 2571 + 00	LT.	6		1							422					167						
38'	2571 + 00 TO 2614 + 00	LT.	258		56							18,156					6,536						
38'	2614 + 00 TO 2634 + 27	LT.															2,852		5,405		3,153		
38'	2635 + 67 TO 2648 + 00	LT.															1,735		3,288		1,918		
38'	2648 + 00 TO 2785 + 00	LT.	822		178							57,844					20,824						
38'-42'	2785 + 00 TO 2786 + 00	LT.	6		1							422					167						
28'	2786 + 00 TO 2799 + 02 BK.=	LT.	78		17							4,051					1,413						
28'	2799 + 00 AH. TO 2801 + 00	LT.	12		3							622					304						
28'	2801 + 00 TO 2802 + 00	LT.															104						
28'	2802 + 00 TO 2806 + 00	LT.															419		267		44		
38'	2806 + 00 TO 2810 + 00 BK.=	LT.															563		1,067		178		
38'	425 + 19.1 AH. TO 431 + 53	LT.															892		1,690		622		
38'	432 + 50 TO 440 + 75	LT.															3,483		8,200		1,283		
28'	440 + 75 TO 444 + 00	LT.															1,011		867		144		
28'	444 + 00 TO 451 + 70	LT.	46		10							2,396					835						
42'-38'	451 + 70 TO 452 + 70	LT.	6		1							422					167						
38'	452 + 70 TO 499 + 86.2 BK.=	LT.	283		61							19,913					7,169						
38'	499 + 79.3 AH. TO 510 + 00	LT.	61		13							4,310					1,551						
SUB - TOTAL			4,742		1,030							327,214					141,277		45,939		33,478		

PROJECT TOTALS CONTINUE NEXT PAGE

STABILIZATION BASED ON

CONCRETE MAIN LINE

- | | | | |
|----------------------------|------------|--------------------------|-------|
| 1.) 18K ESAL (30 YR) | 21,300,000 | 4.) PSI LOSS | 2.000 |
| 2.) RELIABILITY | 95.00% | 5.) OVERALL DEVIATION | 0.340 |
| 3.) MINIMUM SUBGRADE VALUE | 20 | 6.) SERVICEABILITY INDEX | 2.5 |

SURFACING PLAN

AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS		
NO REVISIONS		REVISED	12-1-94	VOID		VIII	COLO.	IR(CX) 070-4(153)	18	101

WIDTH	STATION TO STATION	SIDE	QUANTITIES - TONS										PLACE CONCRETE PAVEMENT						FURNISH CONCRETE PAVEMENT		REMOVAL OF PAVEMENT					
			H.B.P. (GR. F) (ASPHALT)		BLOTTER MATERIAL		H.B.P. (GR. C)(ASPHALT)					(SQ. YD.)		(SQ. YD.)		(SQ. YD.)		CU. YD.		CONCRETE		ASPHALT				
			12 FT. DRIVING LANE				TAPER	DETOURS		RAMPS & FR. RD.		11'		12'		6'		PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
			BOND BREAKER		APPROACH TO PROJECT	BOTTOM LAYER	TOP LAYER	BOTTOM LAYER	TOP LAYER	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL											
			PLAN	FINAL	PLAN	FINAL	EAST END	3'	2'	2'	2'	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL			
DEERTRAIL REST AREA																										
14'-18'	2536 + 00 TO 2537 + 00	TAPER															178									111
18'	2537 + 00 TO 2552 + 00 ACCEL. LANE																3,000									2,667
VARIES	100 + 00 TO 102 + 50 RAMP & GORE																1,206									1,206
VARIES	300 + 00 TO 301 + 50 RAMP & GORE																279									279
18'	2563 + 50 TO 2569 + 20 DECEL. LANE																1,140									1,013
18'-14'	2569 + 20 TO 2570 + 20	TAPER															178									111
LOWLAND INTERCHANGE																										
N.W. RAMP																										
14'-18'	2795 + 30 TO 2796 + 30	TAPER															178									111
18'	2796 + 30 TO 2802 + 00 DECEL. LANE																1,140									1,013
VARIES	0 + 00 TO 5 + 23.9 RAMP & GORE																1,513									1,348
25'	5 + 23.9 TO 14 + 88.1	RAMP								346	297															
S.W. RAMP																										
25'	0 + 00 TO 9 + 50	RAMP																								
VARIES	9 + 50 TO 15 + 06.5 RAMP & GORE																1,411									1,260
18'	447 + 00 TO 462 + 00 ACCEL. LANE																3,000									2,667
18'-14'	462 + 00 TO 463 + 00	TAPER															178									111
N.E. RAMP																										
14'-18'	2786 + 00 TO 2787 + 00	TAPER															178									111
18'	2787 + 00 TO 2802 + 00 ACCEL. LANE																3,000									2,667
VARIES	14 + 86.4 TO 9 + 50 RAMP & GORE																1,427									1,276
25'	9 + 50 TO 0 + 00	RAMP								385	332															
S.E. RAMP																										
25'	13 + 06.6 TO 6 + 00	RAMP																								
VARIES	6 + 00 TO 0 + 00 RAMP & GORE																1,617									1,451
18'	445 + 00 TO 450 + 70 DECEL. LANE																1,140									1,013
18'-14'	450 + 70 TO 451 + 70	TAPER															178									111
DETOURS																										
	2392 + 00 TO 2407 + 50 WEST END																									
	800 + 00 TO 815 + 50 EAST END																									
APPROACH TO PROJECT																										
EAST END																										
	510 + 00 TO 516 + 50	LT.																								
	510 + 00 TO 516 + 50	RT.																								
DEERTRAIL REST AREA																										
IRREGULARITIES																										

~~* QUANTITIES ARE FOR INFORMATION~~

PAY ITEM - 403 DETOUR PAVEMENT - 11,300 SQ. YD.

SOURCE OF MATERIAL - CONTACTOR'S SOURCE

CONCRETE MAIN LINE

- 1.) 18K ESAL (30 YR)
- 2.) RELIABILITY
- 3.) MINIMUM SUBGRADE VALUE

STABILIZATION BASED ON

- | | | |
|------------|--------------------------|-------|
| 21,300,000 | 4.) PSI LOSS | 2.000 |
| 95.00% | 5.) OVERALL DEVIATION | 0.340 |
| 20 | 6.) SERVICEABILITY INDEX | 2.5 |

TABULATION OF GUARDRAIL

AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐		VIII	COLD.	IR(CX) 070-4(153)	19	101

SUMMARY OF EARTHWORK
QUANTITIES

UNCLASSIFIED
EXCAVATION MATERIAL (CIP) CUBIC YARDS

EMBANKMENT X FACTOR 1.25
ROADWAY (FROM CROSS SECTION) 449,488
ADDED QUANTITIES ("R" VALUE OF 20) 76,805
STRUCTURE QUANTITIES AS EMBANKMENT 3,988
EMBANKMENT FOR WETLAND (BERM) 3,889

TO REPLACE MUCK EXCAVATION
SHOULDER MAT'L. (REST AREA) 13,406
250

TOTAL 547,826
487,804

MUCK EXCAVATION CUBIC YARDS
ROADWAY 10,000
REST AREA 725
TOTAL 10,725
148
(FOR INFORMATION ONLY)

WETTING M GAL.
(FOR INFORMATION ONLY)
DUST PALLIATIVE 1,231
COMPACTION (ROADWAY) 6,763

TOTAL 7,994

UNCLASSIFIED EXCAVATION CUBIC YARDS
ROADWAY (SUBEXCAVATION) 61,444
STRUCTURE QUANTITIES AS EMBANKMENT 3,190
STRUCTURE QUANTITIES AS DITCH 1,620
DEERTRAIL (WETLAND AREA) (ESTIMATED) 50,000
REST AREA (ROADWAY) 200
TOTAL 116,454

COMPACTION (AASHTO T99) CUBIC YARDS
EMBANKMENT (NET)(FROM CROSS SECTIONS) 359,590
ADDED QUANTITIES ("R" VALUE OF 20) 61,444
STRUCTURE QUANTITIES AS EMB. (NET) 3,190

EMBANKMENT FOR WETLAND (BERM) 3,111
TO REPLACE MUCK EXCAVATION 10,725
SHOULDER MAT'L. (REST AREA) 200

TOTAL 438,260

ROADWAY QUANTITIES BALANCE CUBIC YARDS
EXCAVATION
UNCLASSIFIED 116,454
* BORROW (UNDESIGNATED) 431,372

TOTAL 547,826

EMBANKMENT
ROADWAY (FROM ROADWAY SECTIONS) 359,590
STRUCTURE QUANTITIES AS EMBANKMENT 3,190
ADDED QUANTITIES ("R" VALUE OF 20) 61,444

EMBANKMENT FOR WETLAND AREA (BERM) 3,111
TO REPLACE MUCK EXCAVATION (RDWY.) 10,000
TO REPLACE MUCK EXCAVATION (REST AREA) 725
SHOULDER MAT'L. (REST AREA) 200

TOTAL 438,260

* CONTRACTOR'S SOURCE

STATION TO STATION	SIDE	GUARDRAIL			END ANCHORAGE				RESET GUARDRAIL	
		RESET GUARDRAIL TYPE 3 LIN. FT.	REMOVAL OF GUARDRAIL TYPE 3 LIN. FT.		TYPE			REMOVE EACH	TEMPORARY LIN. FT.	
					3G EA.	3H EA.	3E EA.		PHASE 1	PHASE 2
2442 + TO 2446 + 2443 + TO 2446 + 2445 + TO 2446 + 2447 + TO 2449 + 2448 + TO 2449 + 2448 + TO 2451 +	RT. MED. LT. RT. LT. MED.	475' 250' 87.5' 475' 112.5' 250'			1' 1' 1' 1' 1' 1'			1 1 2 3 1 1	37.5 (RESET) ADD 150' (MED. RT.)	(MED. LT.) 150' (RESET)
2489 + TO 2490 + 2489 + TO 2490 + 2489 + TO 2490 + 2489 + TO 2490 +	RT. MED. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 44.0 ADD 119.0	
2540 + TO 2541 + 2540 + TO 2541 + 2541 + TO 2542 + 2541 + TO 2542 +	RT. MED. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 56.5 ADD 131.5	
2566 + TO 2567 + 2566 + TO 2567 + 2567 + TO 2568 + 2567 + TO 2568 +	RT. MED. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 50.0 ADD 125.0	
2594 + TO 2596 + 2594 + TO 2596 + 2595 + TO 2596 + 2595 + TO 2596 +	RT. MED. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 62.5 ADD 137.5	
2629 + TO 2634 + 2631 + TO 2634 + 2633 + TO 2634 + 2635 + TO 2636 + 2635 + TO 2638 + 2635 + TO 2637 +	RT. MED. LT. RT. MED. LT.	112.5' 250' 87.5' 87.5' 250' 112.5'			1' 1' 1' 1' 1' 1'			1 1 2 2 2 2	ADD 75' RT. ADD 150' (MED. RT.)	(MED. LT.) 150' (RESET)
2659 + TO 2660 + 2659 + TO 2660 + 2659 + TO 2660 + 2659 + TO 2660 +	RT. MED. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 50.0 ADD 125.0	
2549+25 TO 2555+30 PHASE 1&2 DETOURS	LT. LT., RT., MED.	625' 1,837.5'								
2682 + TO 2683 + 2682 + TO 2683 + 2682 + TO 2683 +	LT. RT. MED. RT.		100.0 100.0 100.0					1 1 2	ADD 50.0 ADD 125.0	
2729 + TO 2730 + 2729 + TO 2730 + 2729 + TO 2730 + 2729 + TO 2730 +	RT. MED. RT. LT. MED. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 50.0 ADD 112.5	
2749 + TO 2751 + 2750 + TO 2751 + 2751 + TO 2752 + 2751 + TO 2752 +	MED. RT. RT. MED. LT. LT.		100.0 100.0 100.0 100.0					1 1 2 2	ADD 125.0 ADD 50.0	
2779 + TO 2781 + 2780 + TO 2781 + 2781 + TO 2782 + 2781 + TO 2782 +	RT. MED. RT. MED. LT. LT.		87.5 87.5 87.5 87.5					1 1 2 2	ADD 44.0 ADD 119.0	
429 + TO 431 + 430 + TO 431 + 430 + TO 431 + 432 + TO 433 + 432 + TO 434 + 432 + TO 435 + 457+45 TO 465+45	MED. RT. LT. RT. LT. MED. RT.	225' 112.5' 87.5' 87.5' 112.5' 225' 800'			1' 1' 1' 1' 1' 1' 1'			1 1 2 3 1 1 1	ADD 75' RT. ADD 150' (MED. RT.)	(MED. LT.) 150' (RESET)
FINAL TOTALS		6,662.5 3,400	8,462.5 3,450		12'	6'	37'45"	93'11"	2,214.0	450

NOTE : ALL TYPE 3 GUARDRAIL TO REMAIN IN PLACE ON THE LANES TO BE USED AS A DETOUR IN PHASE I.
RESET OF TYPE 3 GUARDRAIL MAY BE LENGTHENED OR SHORTENED TO FIT THE FILL SLOPE CONDITIONS (CLEAR ZONE 4:1 CRITERIA),
EXCEPT THE GUARDRAIL CAN NOT BE SHORTER THAN THE MINIMUM THAT IS SHOWN IN THE M & S STANDARDS.

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TABULATION OF DELINEATOR

STATION TO STATION	SIDE	SPACING	DELINEATOR - EACH								
			TYPE 1			TYPE 2			TYPE 3		
			C	Y	R	C	Y	R		Y	
2408 + 50 TO 2433 + 85	LT.	NORMAL	56								
2408 + 50 TO 2441 + 40	RT.	NORMAL	5								
2433 + 85 TO 2448 + 05	LT.	CURVE	65								
2433 + 85 TO 2443 + 65	RT.	CURVE	34								
2443 + 65 TO 2446 + 40	MED. RT.	STRUCTURE		7						1	
2443 + 65 TO 2446 + 70	MED. LT.	STRUCTURE (P.L.)								1	
2444 + 90 TO 2446 + 40	RT.	STRUCTURE	43							1	
2447 + 30 TO 2448 + 05	LT.	STRUCTURE	2								
2447 + 70 TO 2448 + 45	RT.	STRUCTURE	2								
2448 + 05 TO 2449 + 80	MED. LT.	STRUCTURE		74						1	
2448 + 15 TO 2449 + 65	LT.	STRUCTURE	4							1	
2449 + 65 TO 2465 + 80	RT.	CURVE	56								
2449 + 80 TO 2465 + 85	LT.	CURVE	5								
2465 + 85 TO 2534 + 00	LT. & RT.	NORMAL	26								
2534 + 00 TO 2553 + 50	LT.	ACCEL. LANE				21	20				
2553 + 50 TO 2562 + 75	FR. LT.	STRUCTURE	4								
2562 + 75 TO 2572 + 30	LT.	NORMAL	4								
	LT.	DECEL. LANE				11	10				
2572 + 30 TO 2634 + 30	MED. LT.	STRUCTURE (P.L.)								1	
2572 + 30 TO 2634 + 30	LT.	NORMAL	12								
2572 + 30 TO 2634 + 30	RT.	NORMAL	19								
2631 + 52 TO 2634 + 27	RT. MED.	STRUCTURE		7						1	
2632 + 77 TO 2634 + 27	RT.	STRUCTURE	43							1	
2633 + 52 TO 2634 + 27	LT.	STRUCTURE	2								
2635 + 70 TO 2636 + 45	RT.	STRUCTURE	21								
2635 + 70 TO 2637 + 20	LT.	STRUCTURE	4							1	
2635 + 70 TO 2638 + 45	LT. MED.	STRUCTURE		74						1	
2636 + 45 TO 2759 + 75	RT.	NORMAL	2422								
2637 + 20 TO 2751 + 00	LT.	NORMAL	2221								
2751 + 00 TO 2783 + 45	LT.	CURVE	11								
2759 + 75 TO 2793 + 30	RT.	CURVE	11								
2784 + 00 TO 2805 + 50	LT.	ACCEL. LANE				23	22				
2793 + 30 TO 2805 + 50	RT.	DECEL. LANE				14	4				
2805 + 50 TO 431 + 53	MED. LT.	STRUCTURE (P.L.)								1	
2805 + 50 TO 431 + 50	LT. & RT.	NORMAL	35								
429 + 53 TO 431 + 53	RT. MED.	STRUCTURE		7						1	
430 + 03 TO 431 + 53	RT.	STRUCTURE	43							1	
430 + 78 TO 431 + 53	LT.	STRUCTURE	2								
432 + 50 TO 433 + 25	RT.	STRUCTURE	21								
432 + 50 TO 434 + 00	LT.	STRUCTURE	4							1	
432 + 50 TO 435 + 00	LT. MED.	STRUCTURE		74						1	
433 + 25 TO 442 + 80	RT.	NORMAL	2								
434 + 00 TO 440 + 80	LT.	NORMAL	12								
440 + 80 TO 453 + 70	LT.	DECEL. LANE				13	14				
442 + 80 TO 465 + 00	RT.	ACCEL. LANE				22	24				
455 + 40 TO 473 + 80	LT.	CURVE	67								
593 + TO 609 +	MED. LT. & RT.	DETOUR X-OVER		32							
465 + 00 TO 473 + 80	RT. & LT.	CURVE	32								
473 + 80 TO 479 + 60	LT. & RT.	NORMAL	2								
479 + 60 TO 508 + 20	RT.	CURVE	10								
480 + 20 TO 508 + 80	LT.	CURVE	10								
508 + 80 TO 516 + 00	LT. & RT.	NORMAL	23								
0 + 00 TO 11 + 50	N.E. RAMP	RAMP	11		11						
3 + 50 TO 14 + 88	N.W. RAMP	RAMP	139		157	4	4		4	8	
13 + 07 TO 4 + 17	S.E. RAMP	RAMP	95		119	4	4				
0 + 00 TO 10 + 90	S.W. RAMP	RAMP	113		11						
DEERTRAIL REST AREA	ROADWAY & PARKING LOT		2044								
MEDIAN CROSSING											
STRUCTURE (MINOR)											
TOTAL			297	90	0	43	165	0		12	
NET TOTAL			310	103	0	107	161	0		15	

IT IS ESTIMATED THAT 603 REMOVAL OF DELINEATORS WILL BE REQUIRED.
INFO. ONLY REFLECTORS: CRYSTAL 382
YELLOW 456
RED 24

NOTE: MEDIAN WILL NOT BE DELINEATED EXCEPT AT GUARDRAIL LOCATIONS.

AS CONSTRUCTED

NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	20	101

FENCE TABULATION

STATION TO STATION	SIDE	REMOVAL OF FENCE		FENCE		END POST	CORNER AND LINE BRACE POST
		BARB WIRE & COMBINATION	CHAIN LINK	BARB WIRE WITH METAL POST	CHAIN LINK 72"		
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH
2529 + TO 2540 +	RT.	592 1137					
2541 + 40	LT.	270		221		2	
2541 + 40	MED.	60					
2541 + 40	RT.	78		20		2	2
2554 +	MED.	150					
REST AREA (WETLAND AREA)			1564		3800		
2567 + 60	LT.	319		249		2	
2595 + 83	LT.	292		256		2	
2622 + TO 2623 +	MED.	157					
2660 + 08	LT.	280		140			
2683 + 15	LT.	270		228		2	
2704 + 22	LT.	200		170		2	
2704 + 22	RT.			20		2	2
2729 + 90	LT.	112		77		2	
2729 + 90	MED.	100					
2729 + 90	RT.			28		2	2
2751 + 25	LT.	210		135		2	
2751 + 25	RT.			36		2	2
2751 + 25	MED.	112					
2781 + 35	LT.	220		172		2	
2781 + 55	MED.	176					
2781 + 55	RT.	32		98		4	
2780 +	RT.	35					
2446 + TO 504 +	RT.	44,281		44,281		40	47
TOTAL		47,117 49,083	1,564	43,595 46,131	3,800	68	55

TREE REMOVAL

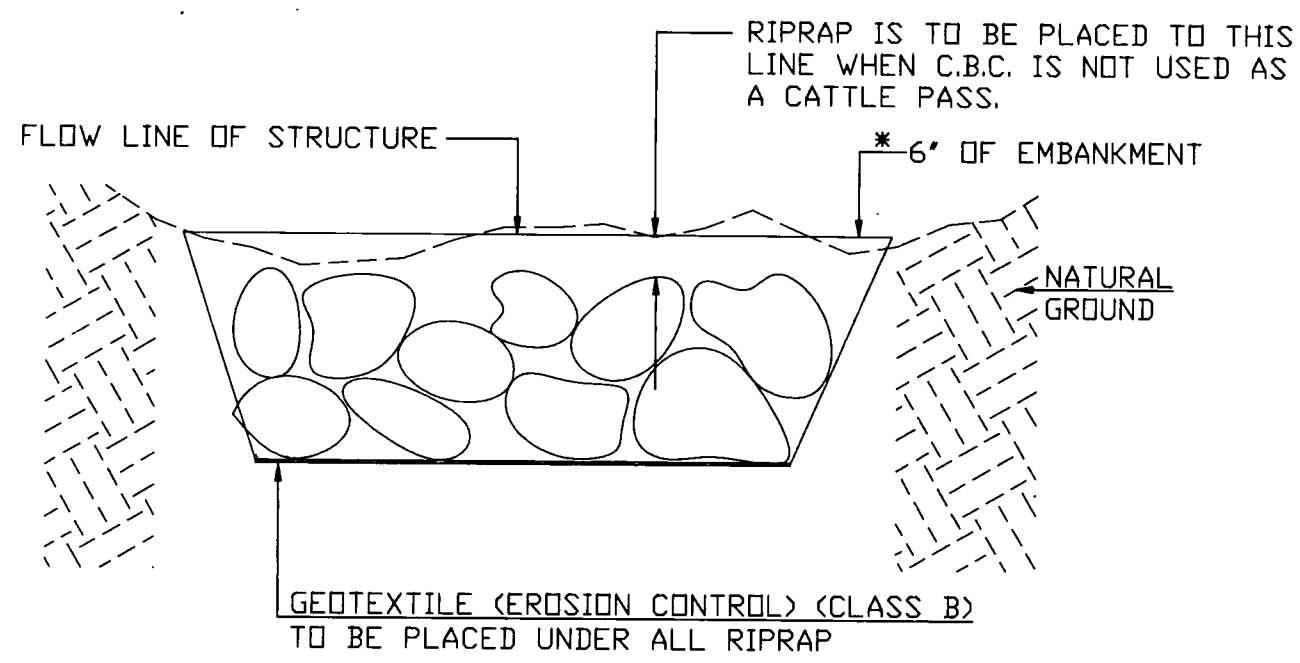
STATION	SIDE	REMOVAL OF TREE
		EACH
2453 +	MED.	1
2601 +	LT.	3
2612 + TO 2615 +	MED.	16
2712 +	MED.	1
2792 +	LT.	1
2779 + TO 2801 +	LT.	6
TOTAL		28 34

16' BARB WIRE GATES 14 EACH RT.
8' GATE SINGLE (CHAIN LINK) 1 EACH REST AREA
3' GATE SINGLE (CHAIN LINK) 1 EACH REST AREA
END POST (CHAIN LINK) 4 EACH REST AREA
CORNER AND LINE BRACE POST (CHAIN LINK) 12 EACH REST AREA
FENCE COMBINATION WIRE WITH METAL POSTS 2380 LIN. FT.

02/19/93 11:39:18 F:\90131\90131DFT 90131 M.K.

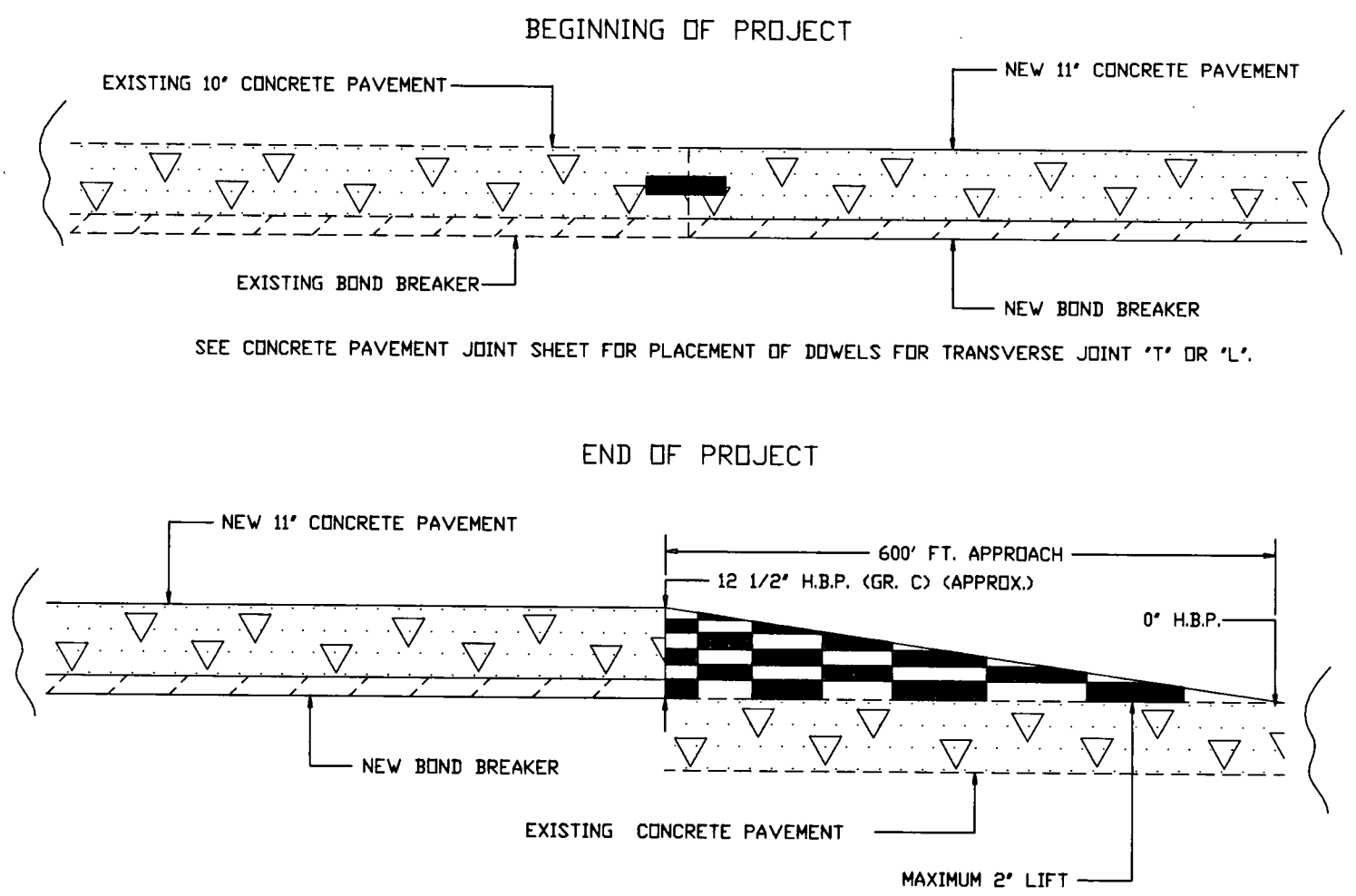
AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS 12-1-94 REVISED VOID				VIII	COLO.	IR(CX) 070-4(153)	21	101

RELAY RIPRAP

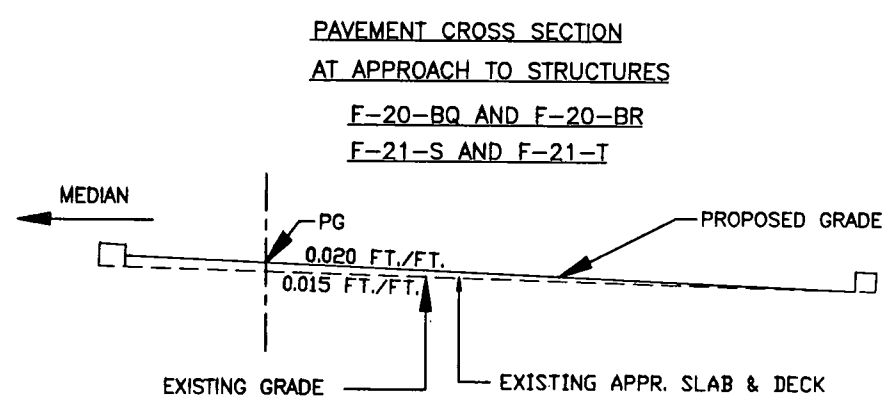
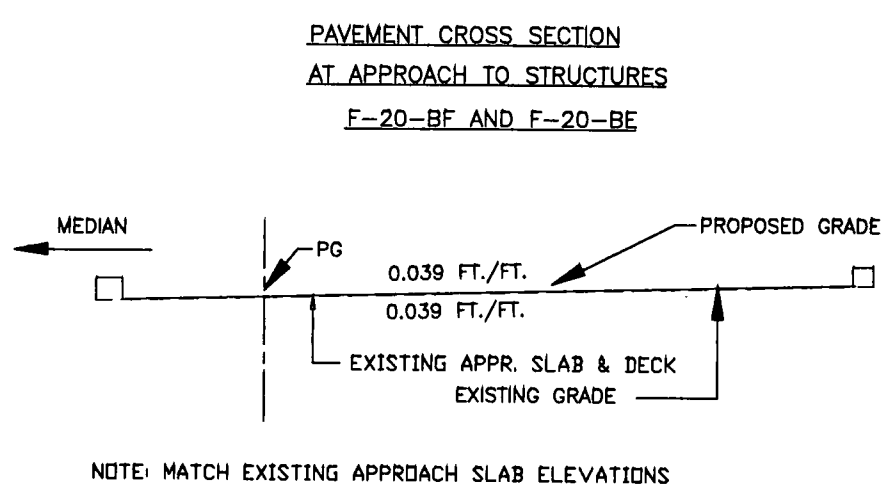


* EMBANKMENT TO BE PLACED OVER RELAY RIPRAP WHEN PLACED IN THE OULET OR INLET OF A CATTLE PASS.

APPROACH TO PROJECT DETAILS



APPROACH TO BRIDGE TYPICAL



NOTE: TRANSITION 100 FEET AWAY FROM APPROACH SLAB FROM 0.02 SLOPE TO EXISTING SLOPE OF APPROACH SLAB

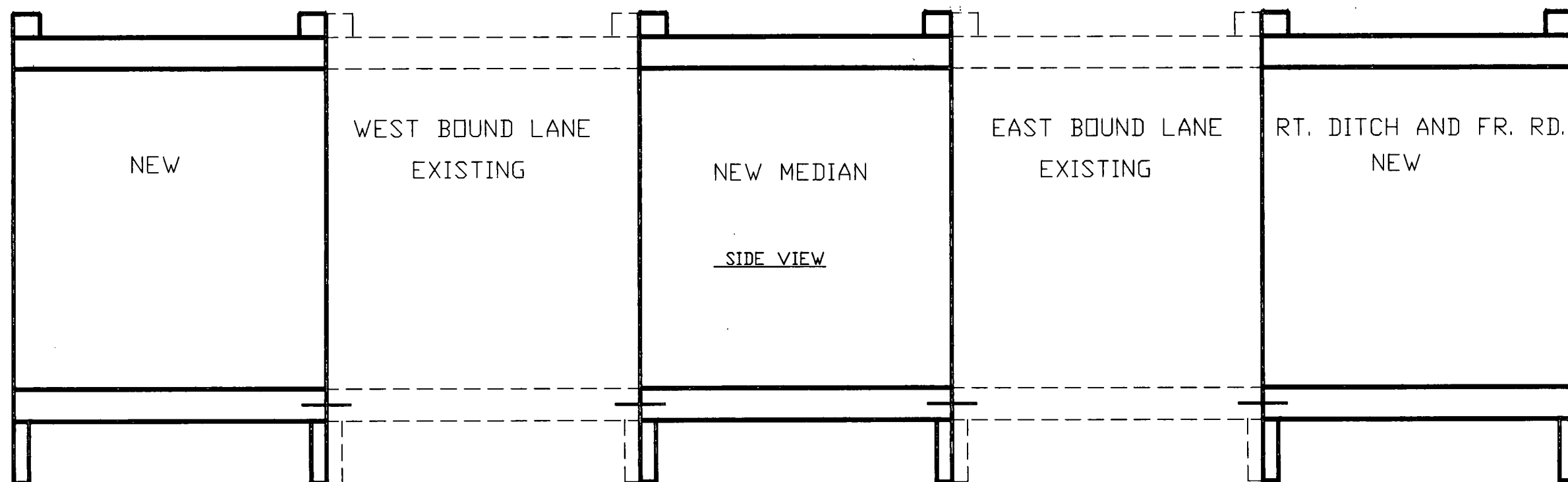
NEW CONCRETE PAVEMENT IS TO STOP AND START AT THE APPROACH SLABS. APPROACH SLABS SHALL BE DOWELED.

02/25/93 105855 F:\90131\90131D-2 90131 M.K.

AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS		
NO REVISIONS	12-1-94	REVISED		VOID		VIII	COLD.	IR(CX) 070-4(153)	22	101

CONCRETE BOX CULVERT EXTENSION DETAILS

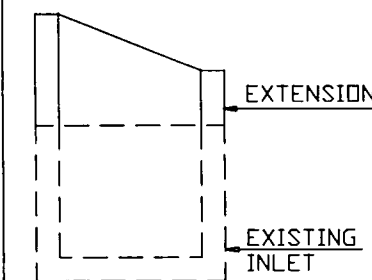
TYPICAL FOR ALL C.B.C. EXTENSIONS



DROP INLET DETAIL

FOR INFORMATION ONLY

TYPE 'C' INLET MODIFIED
TO FIT EITHER A 6:1 OR
4:1 SIDE SLOPE



HEADWALL AND TOE WALLS SHALL BE PLACED ON BOTH ENDS OF ALL EXTENSIONS OF C.B.C. AND DOWELED IN FLOOR ONLY. HEADWALLS ON EXISTING C.B.C. SHALL NOT BE REMOVED, ONLY WING WALLS, APRONS, AND RIPRAP SHALL BE REMOVED. ENOUGH OF THE WING FOOTERS AND TOE WALL WILL BE REMOVED TO ALLOW A FLUSH CONSTRUCTION JOINT BETWEEN THE EXISTING C.B.C. AND THE EXTENSION.

REMOVAL OF WING WALLS WILL BE PAID AS ITEM 202 REMOVAL OF PORTION OF PRESENT STRUCTURE.

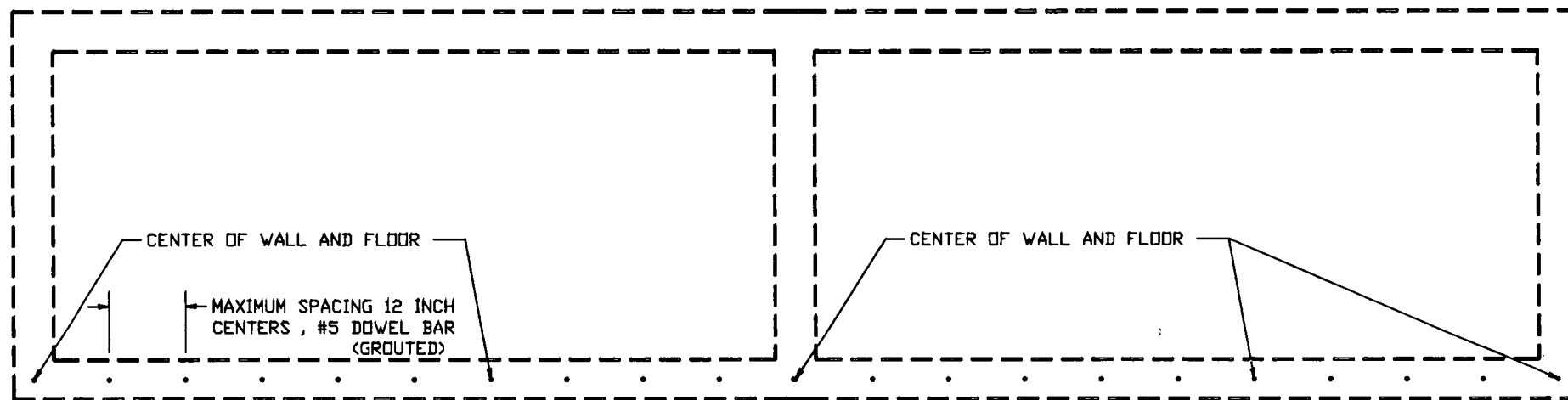
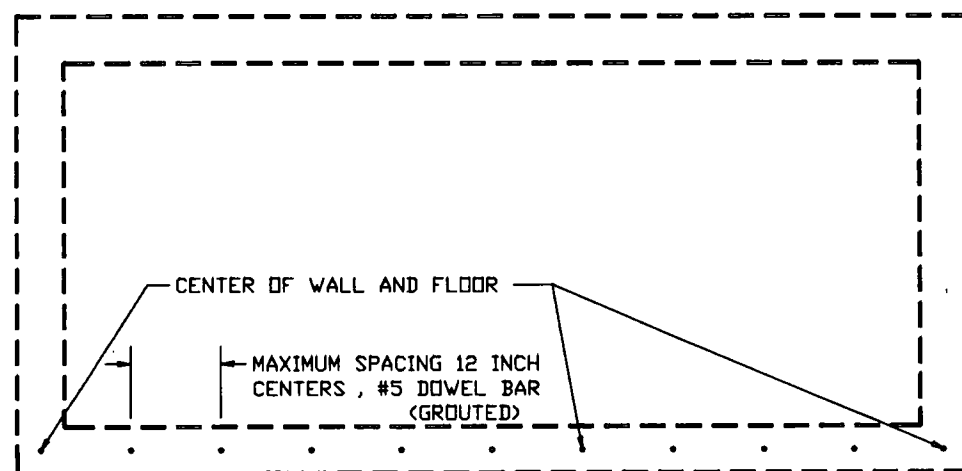
WING WALLS, TOE WALLS, APRONS, RIPRAP SHALL BE CONSTRUCTED AS PER M & S STANDARDS - WHERE CALLED FOR IN PLANS.

END VIEW

END VIEW

SINGLE CELL C.B.C.

DOUBLE CELL C.B.C.



LIGHT STANDARDS ARE TO BE PLACED 125' FROM GORE

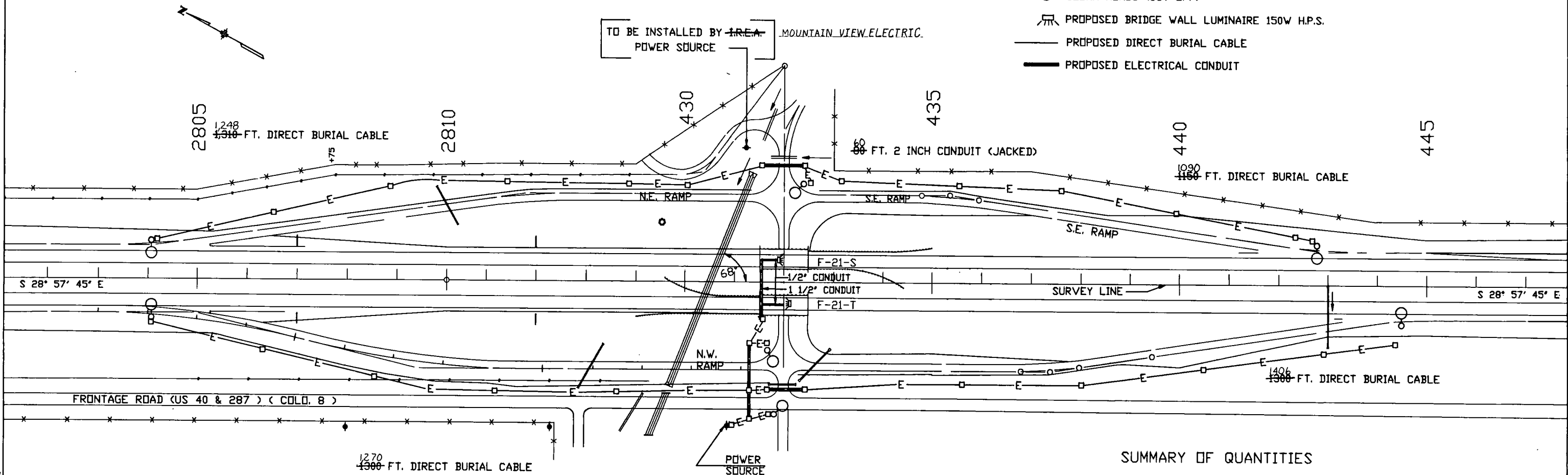
LOWLAND INTERCHANGE
LIGHTING PLAN

AS CONSTRUCTED	
NO REVISIONS	REVISED 12-1-94 VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	23	101

LEGEND

- PROPOSED LIGHT STANDARD (40 FOOT) WITH 400W. H.P.S. COBRA HEADS (CUT-OFF)
- PROPOSED BRIDGE WALL LUMINAIRE 150W H.P.S.
- PROPOSED DIRECT BURIAL CABLE
- PROPOSED ELECTRICAL CONDUIT



SUMMARY OF QUANTITIES

ITEM NO.	UNIT	DESCRIPTION	QUANTITY
613	LIN. FT.	1/2 INCH ELECTRICAL CONDUIT	110 ✓
613	LIN. FT.	1 1/2 INCH ELECTRICAL CONDUIT	200
613	LIN. FT.	2 INCH ELECTRICAL CONDUIT (JACKED)	246
613	LIN. FT.	DIRECT BURIAL CABLE	5044
613	L.S.	WIRING	1 ✓
613	EACH	LUMINAIRE HPS WT (150W)	2 ✓
* 613	EACH	LUMINAIRE HPS (400W.)	7 ✓
613	EACH	LIGHT STANDARD METAL (40 FT.)	7 ✓
613	EACH	CONCRETE FOUNDATION PAD	7 ✓

* COBRA HEADS (CUT-OFF)

30 ~~250~~ FT. DIRECT BURIAL CABLE
186 ~~200~~ FT. 2 INCH CONDUIT (JACKED)
200 ~~120~~ FT. 1 1/2 INCH CONDUIT (UNDER STR'S.)
110 FT. 1/2 INCH CONDUIT (UNDER STR'S.)

NOTE: NO ALUMINUM WIRING WILL BE ALLOWED ON THIS PROJECT.
WALL PACKS UNDER STRUCTURES WILL BE LOCATED
BY STATE FORCES (PHONE 757- 9141).

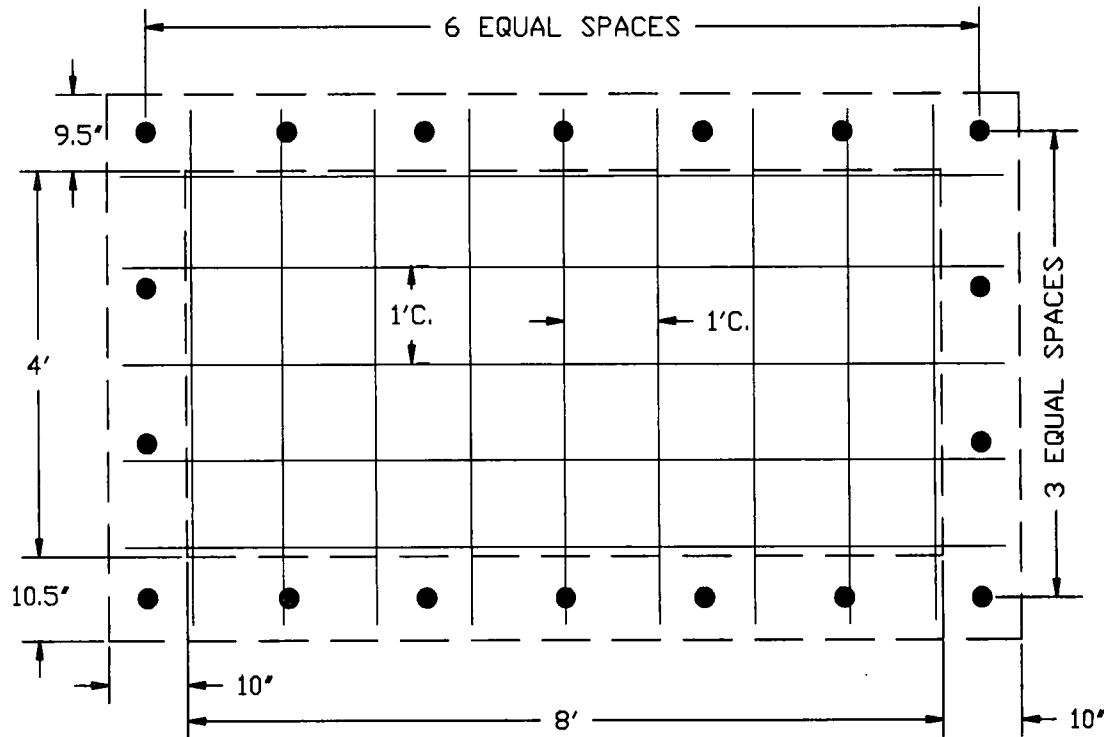
AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	12-1-94	REVISED		VOID		VIII	COLO. IR(CX) 070-4(153) 24 101

DETAILS CURTAIN WALL

STA. 2659 + 72

ORIGINAL SCALE 1" = 1'

END VIEW



C.B.C. 8' X 4'

QUANTITIES: (FOR INFORMATION ONLY)

CONCRETE: $[(0.79' + 4' + 0.875')][0.833' \times 2 + 8']0.833' = 45.6 \text{ CU. FT.} = 1.7 \text{ CU. YD.}$
 $1.7 \times 2 = 3.4 \text{ CU. YDS. TOTAL}$

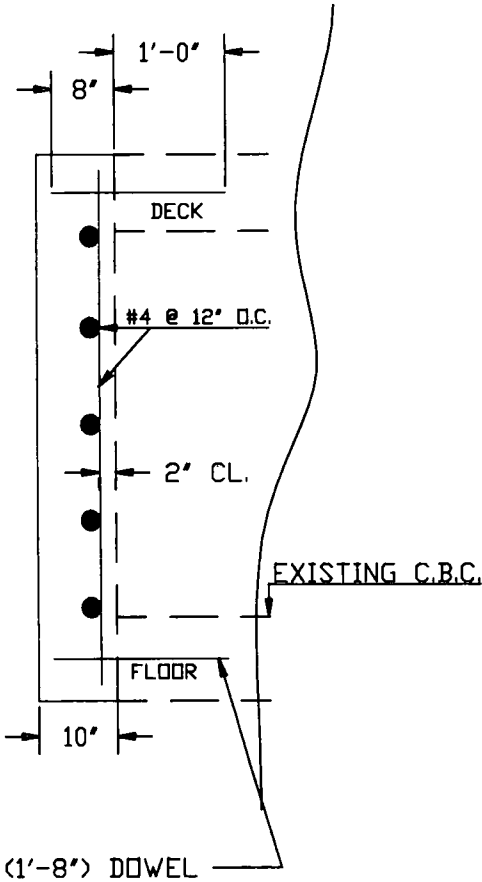
REINFORCEMENT:

9 BARS #4 LENGTH 5.33' 9 X 5.33 X 0.668 = 32.0 LB.
5 BARS #4 LENGTH 9.33' 5 X 9.33 X 0.668 = 31.2 LB.
18 DOWELS #4 LENGTH 1.67' 18 X 1.67 X 0.668 = 20.1 LB.

83.3 LBS.

83.3 X 2 = 166.6 LBS. TOTAL

SIDE VIEW

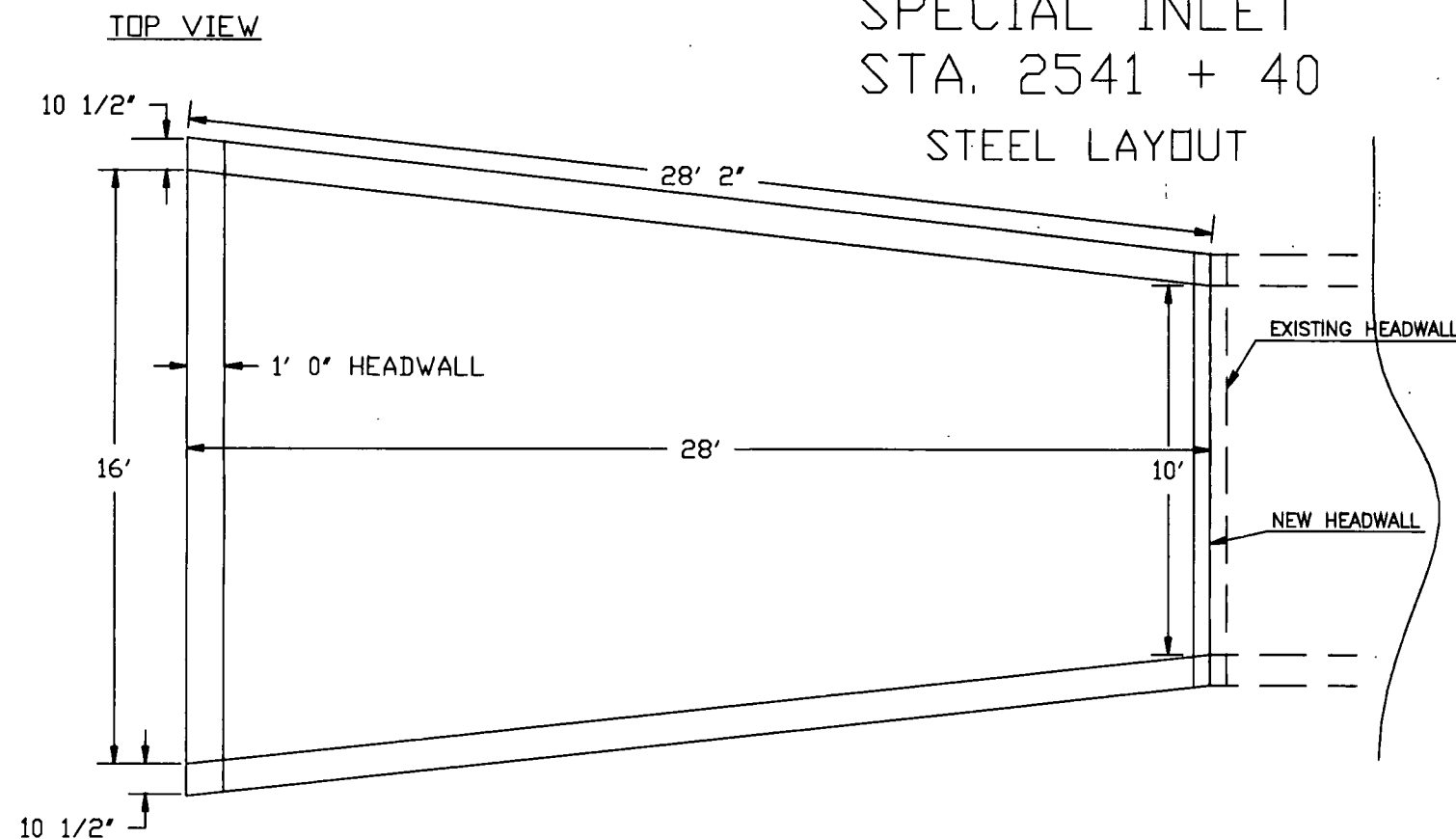


SPECIAL INLET STA. 2541 + 40 STEEL LAYOUT

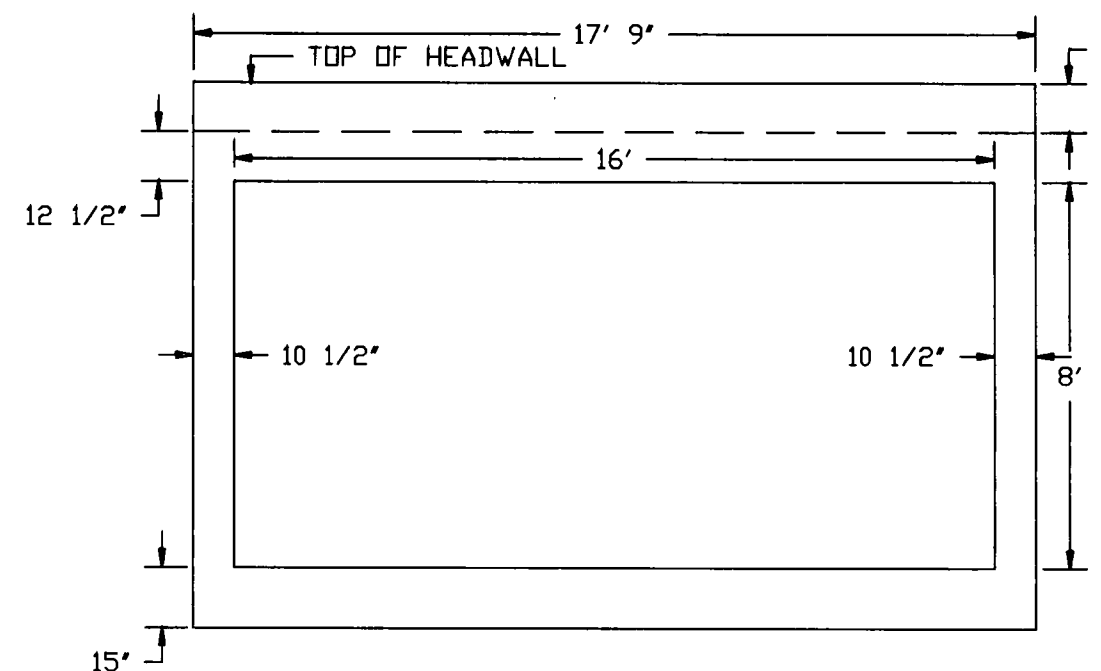
AS CONSTRUCTED		
NO REVISIONS	12-1-94	REVISED
		VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	25	101

ORIGINAL SCALE 1" = 1'

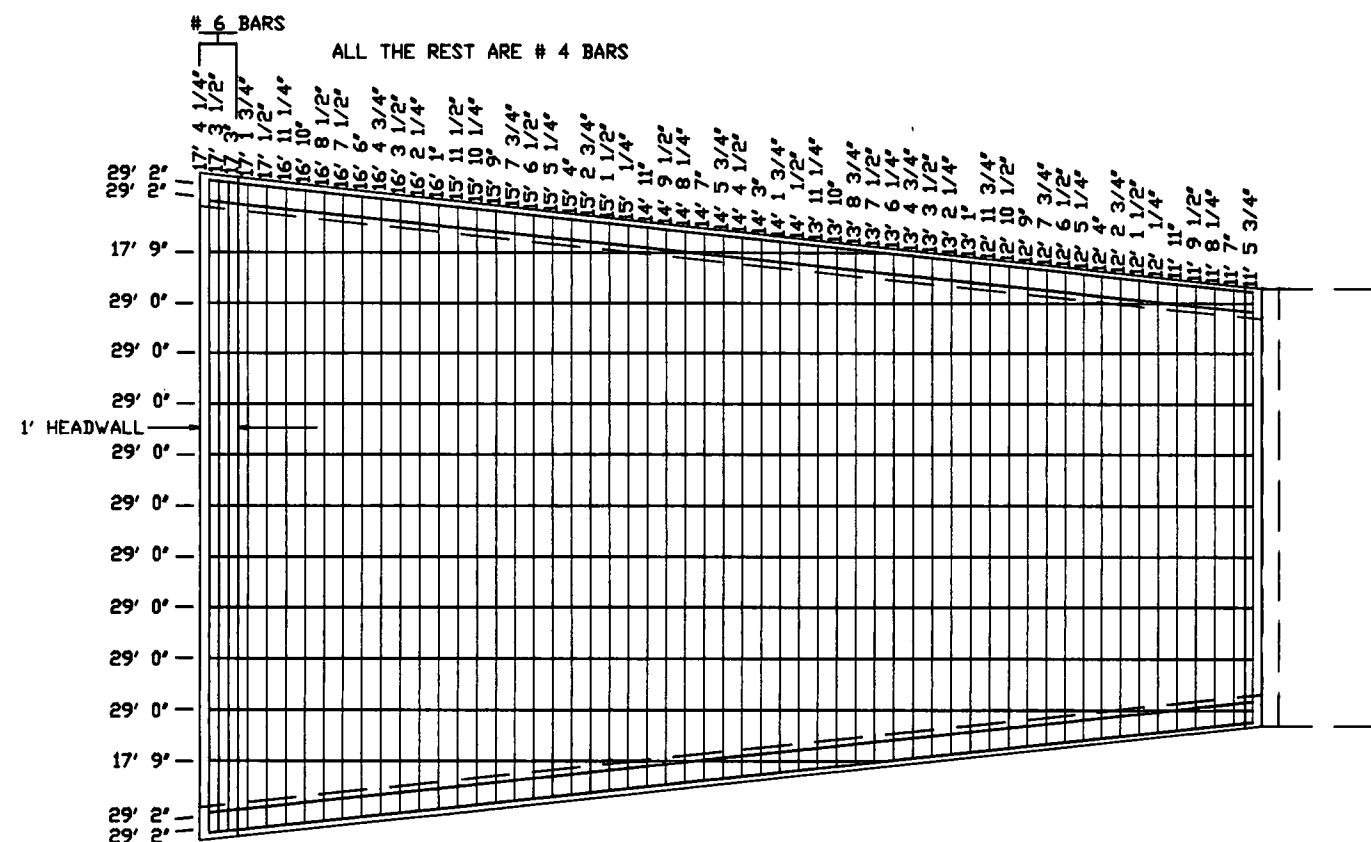


END VIEW

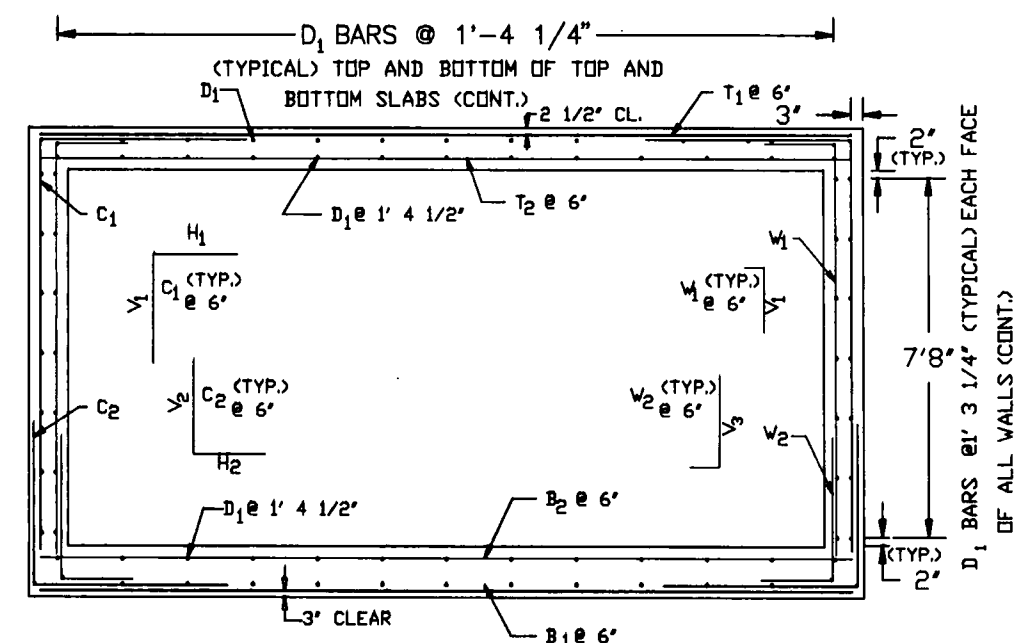


NOTE : FOR ALL OTHER DETAILS SEE STANDARDS

TOP VIEW WITH STEEL



END VIEW WITH STEEL



CLEARANCES SHALL BE 2 INCH ON ALL FACES UNLESS NOTED OTHERWISE.

SPECIAL INLET STATION 2541 + 40
BAR LIST

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	REVISED	VOID	VIII	COLD.	IR(CX) 070-4(153)	26	101

NO. 4 REINFORCING BARS FOR DECK AND FLOOR

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
T ₁ & B ₁	17' 1 3/4"	2	0.668	22.91
T ₁ & B ₁	17' 1/2"	2	0.668	22.76
T ₁ & B ₁	16' 11 1/4"	2	0.668	22.63
T ₁ & B ₁	16' 10"	2	0.668	22.49
T ₁ & B ₁	16' 8 1/2"	2	0.668	22.32
T ₁ & B ₁	16' 7 1/2"	2	0.668	22.21
T ₁ & B ₁	16' 6"	2	0.668	22.04
T ₁ & B ₁	16' 4 3/4"	2	0.668	21.90
T ₁ & B ₁	16' 3 1/2"	2	0.668	21.77
T ₁ & B ₁	16' 2"	2	0.668	21.63
T ₁ & B ₁	16' 1"	2	0.668	21.49
T ₁ & B ₁	15' 11 1/2"	2	0.668	21.32
T ₁ & B ₁	15' 10 1/4"	2	0.668	21.18
T ₁ & B ₁	15' 9"	2	0.668	21.04
T ₁ & B ₁	15' 7 3/4"	2	0.668	20.90
T ₁ & B ₁	15' 6 1/2"	2	0.668	20.76
T ₁ & B ₁	15' 5 1/4"	2	0.668	20.62
T ₁ & B ₁	15' 4"	2	0.668	20.49
T ₁ & B ₁	15' 2 3/4"	2	0.668	20.35
T ₁ & B ₁	15' 1 1/2"	2	0.668	20.21
T ₁ & B ₁	15' 1/4"	2	0.668	20.07
T ₁ & B ₁	14' 11"	2	0.668	19.93
T ₁ & B ₁	14' 9 1/2"	2	0.668	19.76
T ₁ & B ₁	14' 8 1/4"	2	0.668	19.62
T ₁ & B ₁	14' 7"	2	0.668	19.48
T ₁ & B ₁	14' 5 3/4"	2	0.668	19.34
T ₁ & B ₁	14' 4 1/2"	2	0.668	19.21
T ₁ & B ₁	14' 3"	2	0.668	19.04
T ₁ & B ₁	14' 1 3/4"	2	0.668	18.90
T ₁ & B ₁	14' 1/2"	2	0.668	18.76
T ₁ & B ₁	13' 11 1/4"	2	0.668	18.62
T ₁ & B ₁	13' 10"	2	0.668	18.48
T ₁ & B ₁	13' 8 3/4"	2	0.668	18.34
T ₁ & B ₁	13' 7 1/2"	2	0.668	18.20
T ₁ & B ₁	13' 6 1/4"	2	0.668	18.06
T ₁ & B ₁	13' 4 3/4"	2	0.668	17.90
T ₁ & B ₁	13' 3 1/2"	2	0.668	17.76
T ₁ & B ₁	13' 2 1/4"	2	0.668	17.62
T ₁ & B ₁	13' 1"	2	0.668	17.48
T ₁ & B ₁	12' 11 3/4"	2	0.668	17.34
T ₁ & B ₁	12' 10 1/2"	2	0.668	17.12
T ₁ & B ₁	12' 9"	2	0.668	17.03
T ₁ & B ₁	12' 7 3/4"	2	0.668	16.89
T ₁ & B ₁	12' 6 1/2"	2	0.668	16.76
T ₁ & B ₁	12' 5 1/4"	2	0.668	16.62
T ₁ & B ₁	12' 4"	2	0.668	16.48
T ₁ & B ₁	12' 2 3/4"	2	0.668	16.34
T ₁ & B ₁	12' 1 1/2"	2	0.668	16.20
T ₁ & B ₁	12' 1/4"	2	0.668	16.06
T ₁ & B ₁	11' 11"	2	0.668	15.92
T ₁ & B ₁	11' 9 1/2"	2	0.668	15.75
T ₁ & B ₁	11' 8 1/4"	2	0.668	15.61
T ₁ & B ₁	11' 7"	2	0.668	15.48
T ₁ & B ₁	11' 5 3/4"	2	0.668	15.34
TOTAL		110		1,032.53

NO. 8 REINFORCING BARS FOR DECK AND FLOOR

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
T ₂ & B ₂	17' 1 3/4"	2	2.670	91.56
T ₂ & B ₂	17' 1/2"	2	2.670	91.00
T ₂ & B ₂	16' 11 1/4"	2	2.670	90.45
T ₂ & B ₂	16' 10"	2	2.670	89.89
T ₂ & B ₂	16' 8 1/2"	2	2.670	89.22
T ₂ & B ₂	16' 7 1/2"	2	2.670	88.78
T ₂ & B ₂	16' 6"	2	2.670	88.11
T ₂ & B ₂	16' 4 3/4"	2	2.670	87.55
T ₂ & B ₂	16' 3 1/2"	2	2.670	87.00
T ₂ & B ₂	16' 2"	2	2.670	86.44
T ₂ & B ₂	16' 1"	2	2.670	85.88
T ₂ & B ₂	15' 11 1/2"	2	2.670	85.22
T ₂ & B ₂	15' 10 1/4"	2	2.670	84.66
T ₂ & B ₂	15' 9"	2	2.670	84.11
T ₂ & B ₂	15' 7 3/4"	2	2.670	83.55
T ₂ & B ₂	15' 6 1/2"	2	2.670	82.99
T ₂ & B ₂	15' 5 1/4"	2	2.670	82.44
T ₂ & B ₂	15' 4"	2	2.670	81.88
T ₂ & B ₂	15' 2 3/4"	2	2.670	81.32
T ₂ & B ₂	15' 1 1/2"	2	2.670	80.77
T ₂ & B ₂	15' 1/4"	2	2.670	80.21
T ₂ & B ₂	14' 11"	2	2.670	79.66
T ₂ & B ₂	14' 9 1/2"	2	2.670	78.99
T ₂ & B ₂	14' 8 1/4"	2	2.670	78.43
T ₂ & B ₂	14' 7"	2	2.670	77.87
T ₂ & B ₂	14' 5 3/4"	2	2.670	77.32
T ₂ & B ₂	14' 4 1/2"	2	2.670	76.76
T ₂ & B ₂	14' 3"	2	2.670	76.10
T ₂ & B ₂	14' 1 3/4"	2	2.670	75.54
T ₂ & B ₂	14' 1/2"	2	2.670	74.98
T ₂ & B ₂	13' 11 1/4"	2	2.670	74.43
T ₂ & B ₂	13' 10"	2	2.670	73.87
T ₂ & B ₂	13' 8 3/4"	2	2.670	73.31
T ₂ & B ₂	13' 7 1/2"	2	2.670	72.76
T ₂ & B ₂	13' 6 1/4"	2	2.670	72.20
T ₂ & B ₂	13' 4 3/4"	2	2.670	71.53
T ₂ & B ₂	13' 3 1/2"	2	2.670	70.98
T ₂ & B ₂	13' 2 1/4"	2	2.670	70.42
T ₂ & B ₂	13' 1"	2	2.670	69.86
T ₂ & B ₂	12' 11 3/4"	2	2.670	69.31
T ₂ & B ₂	12' 10 1/2"	2	2.670	68.75
T ₂ & B ₂	12' 9"	2	2.670	68.09
T ₂ & B ₂	12' 7 3/4"	2	2.670	67.53
T ₂ & B ₂	12' 6 1/2"	2	2.670	66.97
T ₂ & B ₂	12' 5 1/4"	2	2.670	66.42
T ₂ & B ₂	12' 4"	2	2.670	65.86
T ₂ & B ₂	12' 2 3/4"	2	2.670	65.30
T ₂ & B ₂	12' 1 1/2"	2	2.670	64.75
T ₂ & B ₂	12' 1/4"	2	2.670	64.19
T ₂ & B ₂	11' 11"	2	2.670	63.64
T ₂ & B ₂	11' 9 1/2"	2	2.670	62.97
T ₂ & B ₂	11' 8 1/4"	2	2.670	62.41
T ₂ & B ₂	11' 7"	2	2.670	61.85
T ₂ & B ₂	11' 5 3/4"	2	2.670	61.30
TOTAL		110		4,127.38

NO. 4 REINFORCING BARS FOR DECK, FLOOR AND WALLS

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
D ₁	29' 2"	40	0.668	779.33
D ₁	17' 9"	8	0.668	94.86
D ₁	29' 0"	36	0.668	697.39
TOTAL		84		1,571.58

BEGINNING HEADWALL & TOE WALL

HEADWALL REINFORCING STEEL = 281.0 LBS.
TOE WALL REINFORCING STEEL = 38.5 LBS.
#5 DOWEL BARSZ

NO. 6 REINFORCING BARS FOR HEADWALL

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
Z-BARS	17' 4 1/2"	2	1.502	52.19
Z-BARS	17' 3 1/2"	2	1.502	51.94
Z-BARS	17' 1/2"	2	1.502	51.19
TOTAL		6		155.32

NO. 4 REINFORCING BARS FOR HEADWALL (STIRRUPS)

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
TOTAL	9' 0"	18	0.668	108.22

NO. 6 REINFORCING BARS FOR TOE WALL

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
Z-BARS	17' 4 1/2"	1	1.502	26.10
Z-BARS	17' 3 1/2"	1	1.502	25.97
Z-BARS	17' 1/2"	1	1.502	25.60
TOTAL		3		77.67

NO. 4 REINFORCING BARS FOR TOE WALL

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.
L-BARS	3' 9"	18	0.668	45.09
TRANSVERSE	17' 4 1/2"	2	0.668	23.21
TOTAL				68.30

REINFORCING BARS FOR WALLS

TYPE	LENGTH	QUANTITY	LBS./FT.	LBS.	SIZE
*C ₂	7' 5"	112	1.502	1,247.66	6
*C ₁	13' 5"	112	2.044	3,071.45	7
*W ₁	10' 1"	112	1.043	1,177.89	5
*W ₂	4' 5"	112	1.043	515.94	5
TOTAL				6,012.94	

GRAND TOTAL FOR SPECIAL INLET 15,000.31
13,473.44 LBS.
* FOR LENGTH OF V AND H SEE STANDARD FOR C.B.C.

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS		REVISED 12-1-94	VOID			VIII	COLO. IR(CX) 070-4(153) 27 101

SPECIAL INLET
STATION 2541 + 40
ESTIMATED QUANTITIES

STRUCTURE EXCAVATION

LENTH X AVG. WIDTH X DEPTH
(50')(28.67')(3')/27 = 159.3 CU. YD. INLET TOTAL ✓

STRUCTURE BACKFILL

BARREL - (3')(29.67')(10.29')/27 = 33.9 CU. YD.
OVER C.B.C. - (1')(29.67')(17.67') = 19.4 CU. YD.
WING WALLS - DESIGN AID # 50 = (20.8)(2) = 41.6 CU. YD.
TOE WALL - DESIGN AID # 50 = (3.7)(2) = 7.4 CU. YD.
TOTAL FOR INLET = 102.3 CU. YD. ✓

STRUCTURE CONCRETE FOR INLET

~~FLOOR — AVG. BETWEEN A 10' TO A 16' C.B.C.
AVG. WIDTH X DEPTH X LENGTH
(14.71')(1.25')(29.67')/27 = 20.21 CU. YD.
DECK
(14.71')(1.04')(29.67')/27 = 16.77 CU. YD.
WALLS
(8')(0.88')(29.67')/27(2) = 15.47 CU. YD.
HEADWALL
(1')(1')(17.75')/27 = 0.66 CU. YD.
(1')(1')(11.67')/27 = 0.43 CU. YD.
TOE WALL (DESIGN AID #50)
(0.67')(16.00')(3')/27 = 1.19 CU. YD.
(0.67')(11.00')(3')/27 = 0.82 CU. YD.
WING WALLS AND FOOTINGS (DESIGN AID #50)
(8.0)(2) = 16.0 CU. YD.
TOTAL FOR INLET = ~~70.75~~ 71.55 CU. YD.~~

STRUCTURE REINFORCING STEEL FOR INLET

FROM PREVIOUS PAGE = ~~13,473.44~~ 15,000.31 LB.
~~WING WALLS AND FOOTERS~~
~~DESIGN AID #50 (436)(2) = 872.00 LB.~~
TOTAL FOR INLET = ~~14,345.44~~ 15,000.31 LB.

NOTE: FOR ALL OTHER QUANTITIES FOR MEDIAN AND OUTLET SEE
STRUCTURE CROSS SECTIONS FOR THIS STRUCTURE.

Designed By	Checked By	DATE	INITIAL
GD	1-92	GD	1-92
Checked By	Quantities By	1-92	BRL
BRL	1-92	BRL	1-92

GENERAL NOTES

Grade 60 reinforcing steel is required.

The contractor shall be responsible for the stability of the structure during construction.

All construction joints shall be thoroughly cleaned before fresh concrete is poured.

All construction joints not shown on the plans shall be approved by the Engineer.

Permanent steel bridge deck forms shall not be used.

SUMMARY OF QUANTITIES

Item No.	Description	Unit	F-20-BE	F-20-BF	F-20-BQ	F-20-BR	F-21-S	F-21-T	TOTAL
202	Removal of Bridge Railing	L.F.	270	270	280	280	194	194	1488
202	Removal of Portions of Present Structure	L.S.	0.18	0.18	0.19	0.19	0.13	0.13	1
601	Concrete Class D (Bridge)	Cu.Yd.	68.27	68.76	69.64	69.64	60.36	60.36	397.23
			28.3	28.3	29.5	29.5	20.2	20.2	156
602	Reinforcing Steel (Epoxy Coated)	Lb.	11,106.97	10,991.36	10,472.78	10,600.64	8,945.32	8,996.68	61,113.75
			3,768	3,768	3,950	3,950	2,694	2,694	20,848
606	Bridge Rail Type 10	L.F.	270	270	280	280	194	194	1488

DESIGN DATA

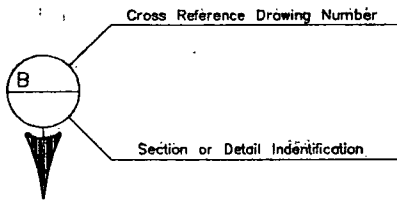
1989 AASHTO STANDARD SPECIFICATIONS.

LIVE LOAD: AASHTO HS-20-44 and Interstate Alternate.
DEAD LOAD: Assumes 48 lbs. per sq. ft. for bituminous pavement

REINFORCED CONCRETE:

Class D Concrete: $f_c = 1,800$ psi, $n = 8$
 $f_c = 4,500$ psi

Reinforcing Steel: $f_s = 24,000$ psi
 $f_y = 60,000$ psi



AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
III	COLORADO	IR(CX)070-4(153)	28
REVISIONS			

INDEX OF DRAWINGS

- Dwg. No. B 1 General Information - Summary of Quantities
- Dwg. No. B 2 Layouts F-20-BE F-20-BF
- Dwg. No. B 3 Layouts F-20-BQ F-20-BR
- Dwg. No. B 4 Layouts F-21-S F-21-T
- Dwg. No. B 5 Modification Details
- Dwg. No. B 6 Bridge Rail Type 10
- Dwg. No. B 7 Bridge Rail Type 10
- Dwg. No. B 8 Bridge Rail Type 10

BRIDGE DESCRIPTION

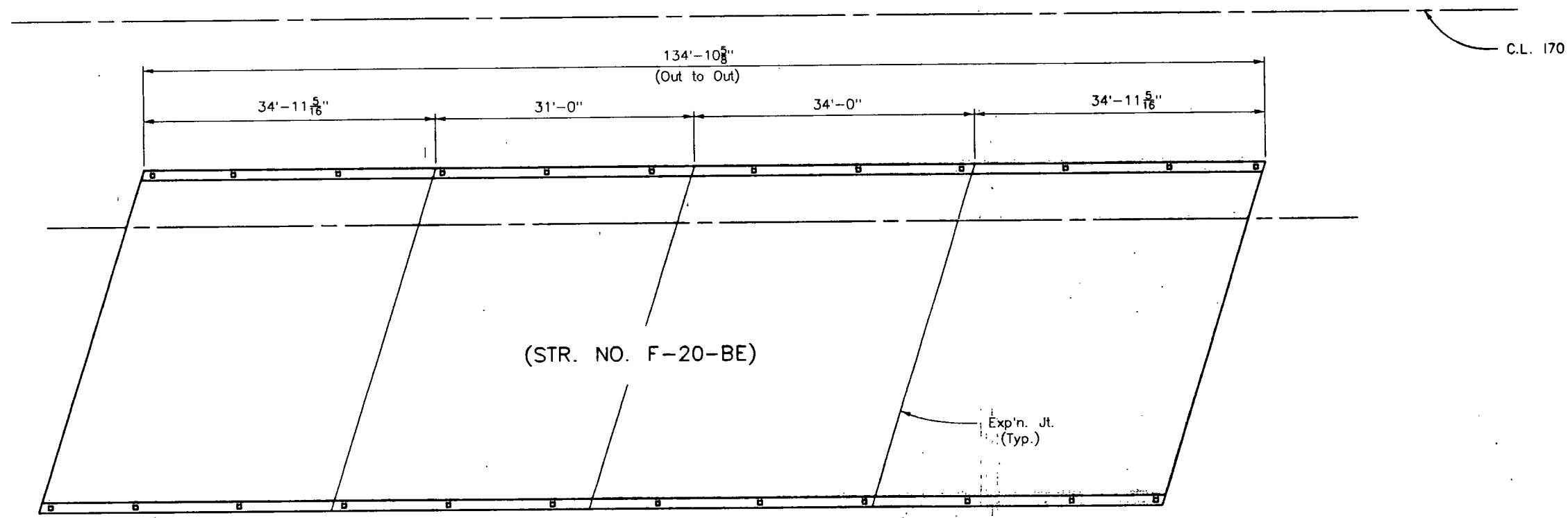
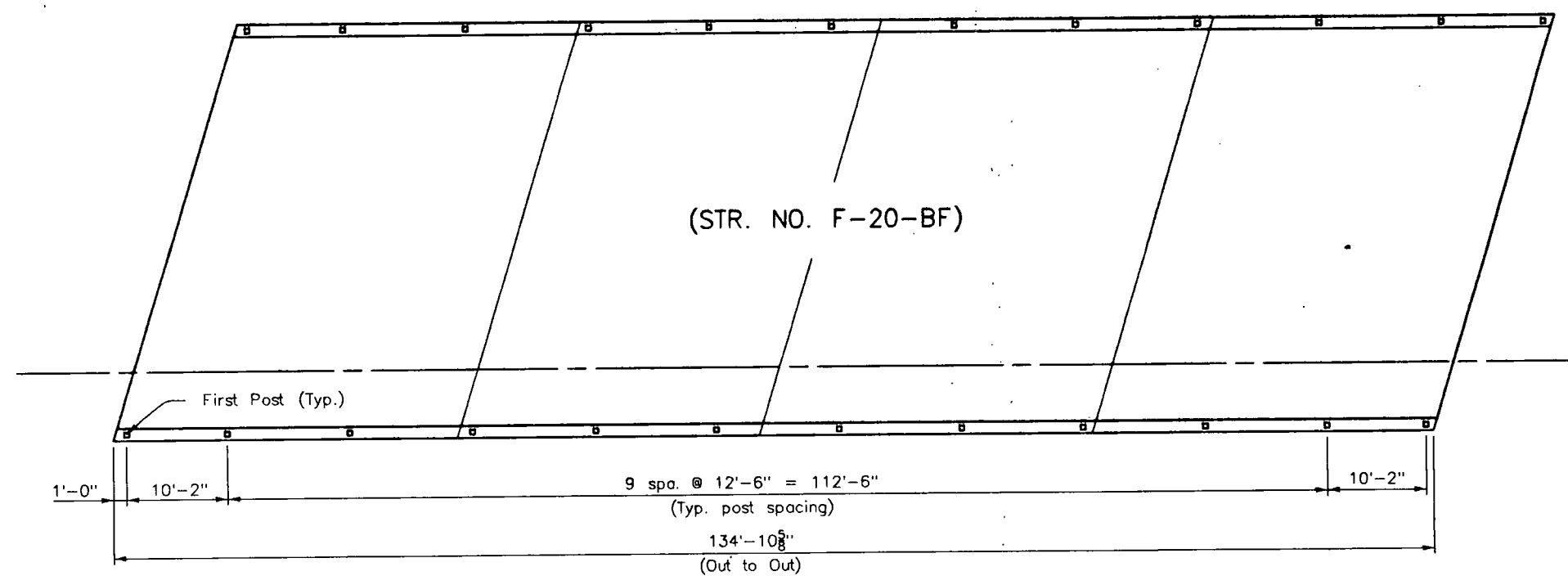
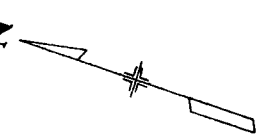
Bridge Rail Type 10 for 6 Bridges.

DIVISION OF HIGHWAYS			
GENERAL INFORMATION SUMMARY OF QUANTITIES			
Near Deertrail	S.	T.	R.
Designer G. Davydov	Structure		
Detailer B. Lere	Numbers		
Drawing Number B 1	of 8	Drawings	
Revision Dates (Preliminary Stage Only)			

AS CONSTRUCTED		
NO REVISIONS	12-1-94	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
III	COLORADO	IR(CX)070-4(153)	29

REVISIONS		



INITIAL	DATE	Checked By
GD	1-92	RWS
BRL	1-92	Checked By

02/25/93 shavano:(user/01200/br_admin2/bruce/20b)LAYOUTEF

DIVISION OF HIGHWAYS		
LAYOUTS		
STR. NO. F-20-BE		
STR. NO. F-20-BF		
Designer G. Davydov	Structure	
Detailer B. Lere	Numbers	
Drawing Number B 2	of 8	Drawings
Revision Dates (Preliminary Stage Only)		

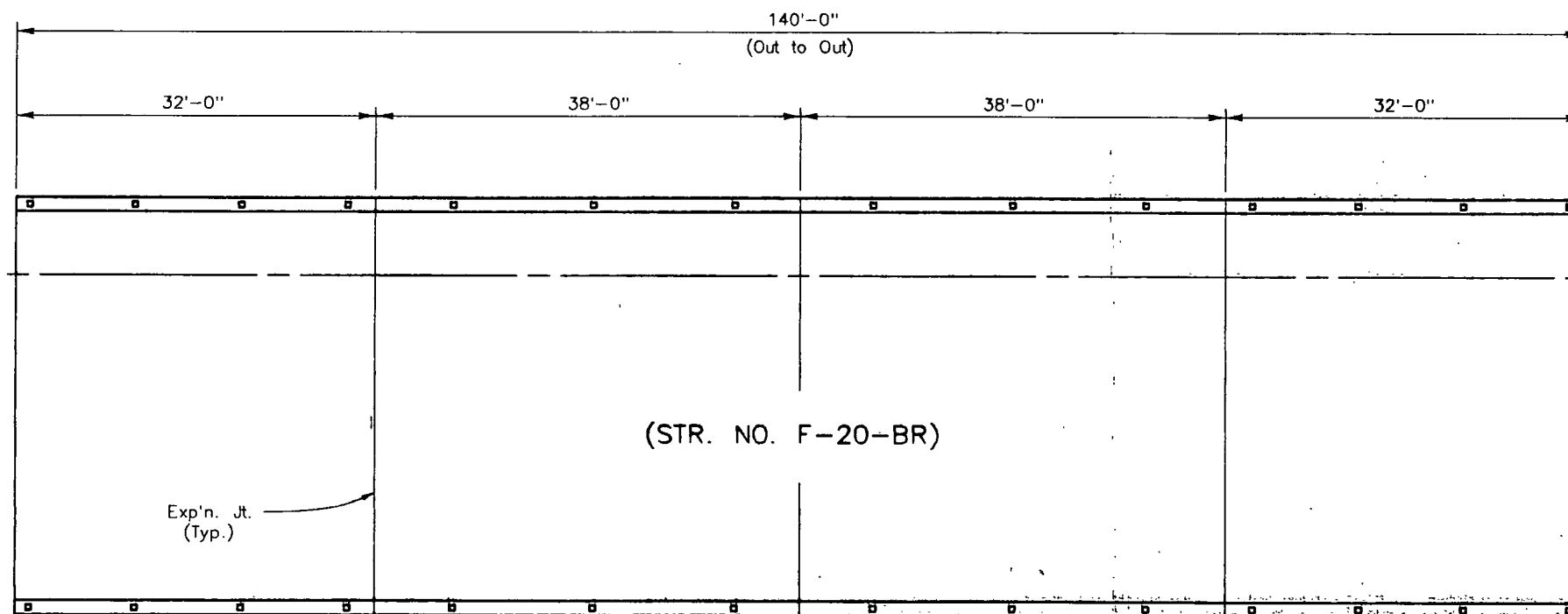
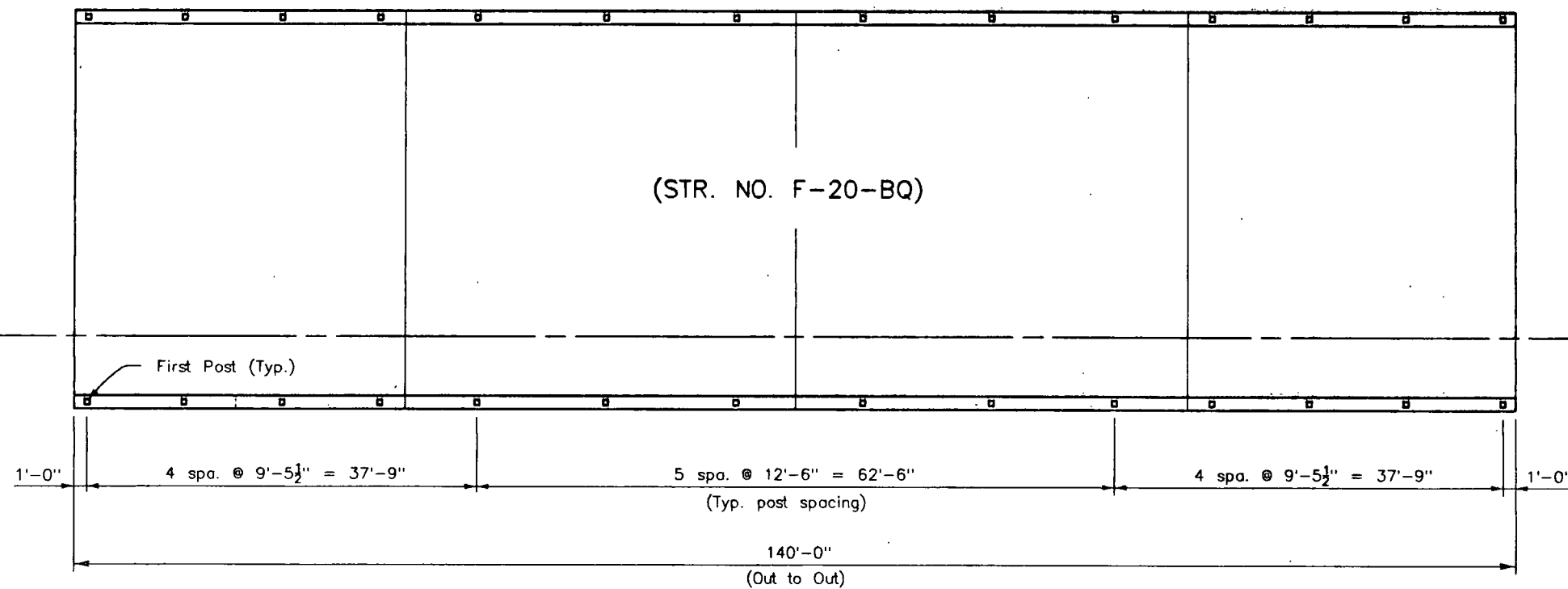
AS CONSTRUCTED		
NO REVISIONS	12-1-94	REVISED
		VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
221	COLORADO	IR(CX)070-4(153)	30

REVISIONS		

INITIAL	DATE	Checked By	Quantities By
GD	1-92		RWS
BRL	1-92		

Designed By	Checked By	Detalled By



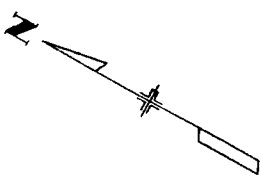
DIVISION OF HIGHWAYS	
LAYOUTS	
STR. NO. F-20-BQ	
STR. NO. F-20-BR	
Designer G. Davydov	Structure
Detailer B. Lere	Numbers
Drawing Number B 3 of 8 Drawings	

Revision Dates	(Preliminary Stage Only)

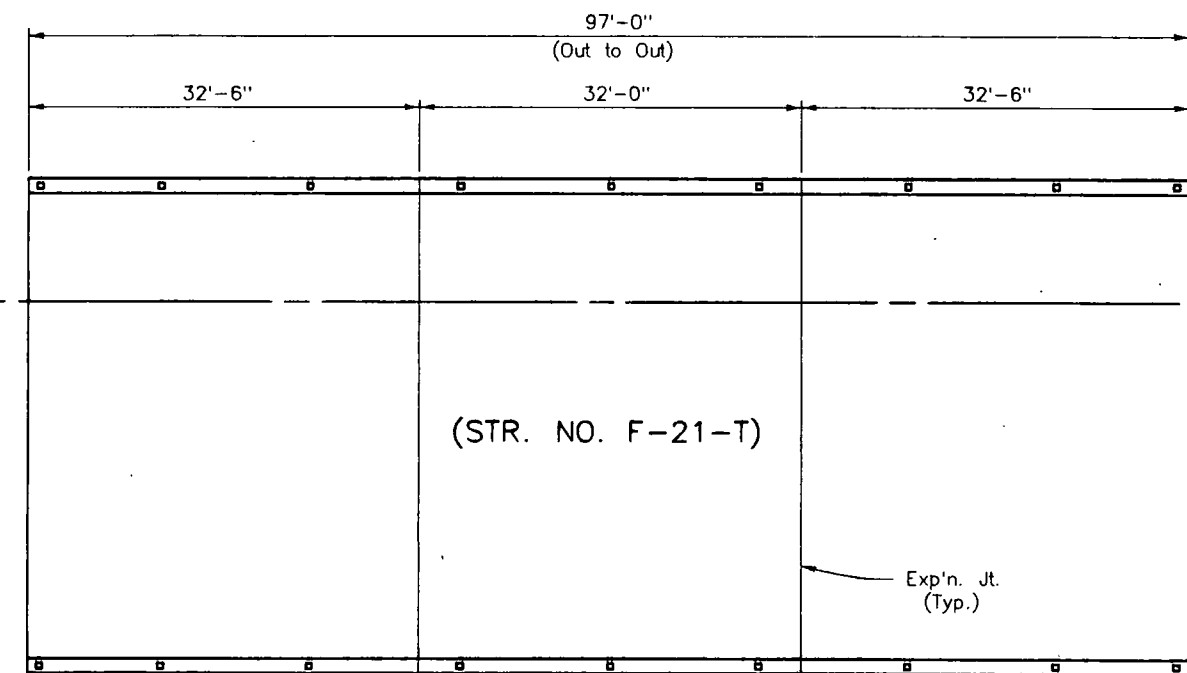
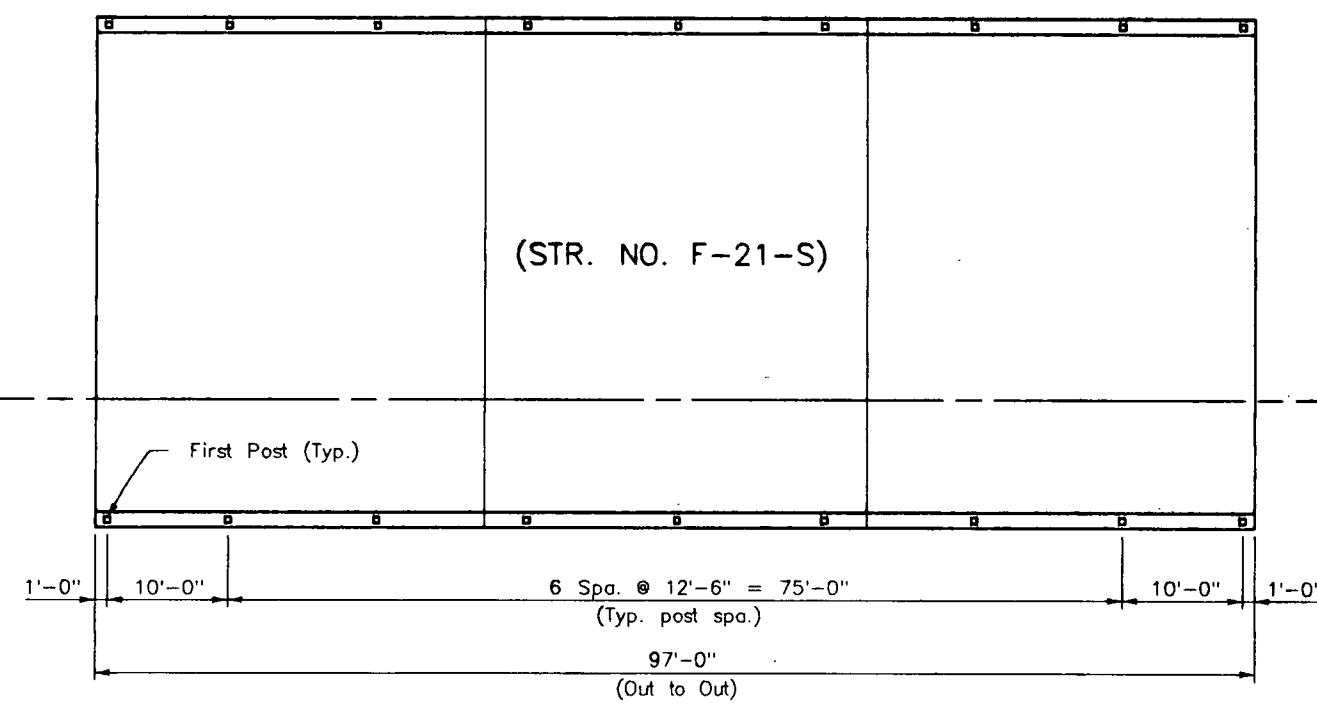
AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER	
NO REVISIONS	12-1-94	REVISED	VOID	III	COLORADO	IR(CX)070-4(153)	31

REVISIONS		

INITIAL	DATE	CHECKED BY
GD	1-92	
BRL	1-92	
Designed By		
Checked By		
Detalled By		



C.L. 170



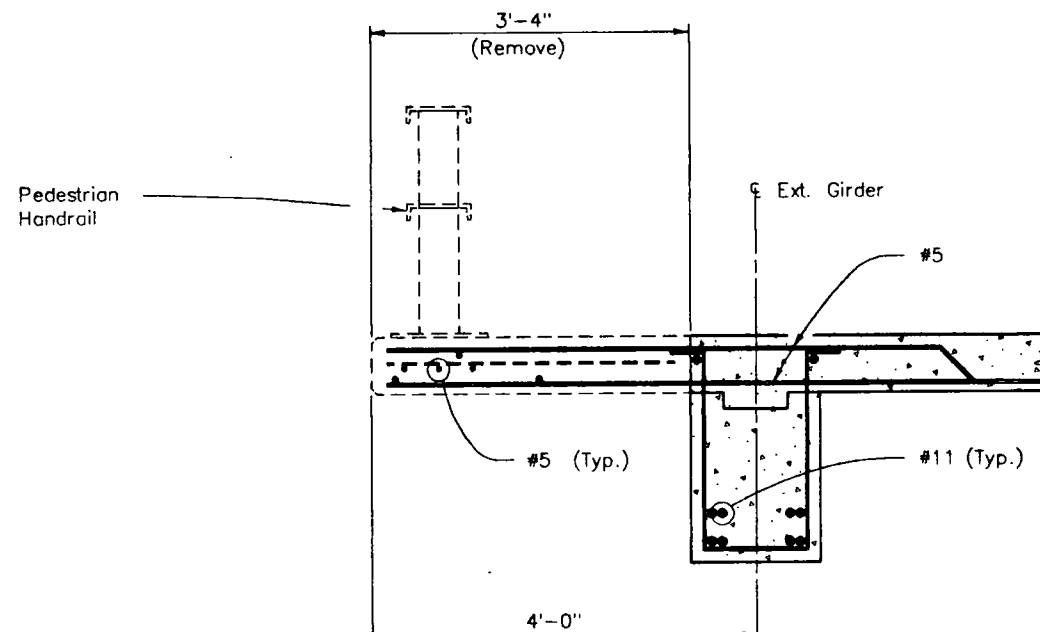
DIVISION OF HIGHWAYS	
LAYOUTS	
STR. NO. F-21-S	
STR. NO. F-21-T	
Designer G. Davydov	Structure
Detailer B. Lere	Numbers
Drawing Number B 4 of 8	Drawings

Revision Dates	(Preliminary Stage Only)

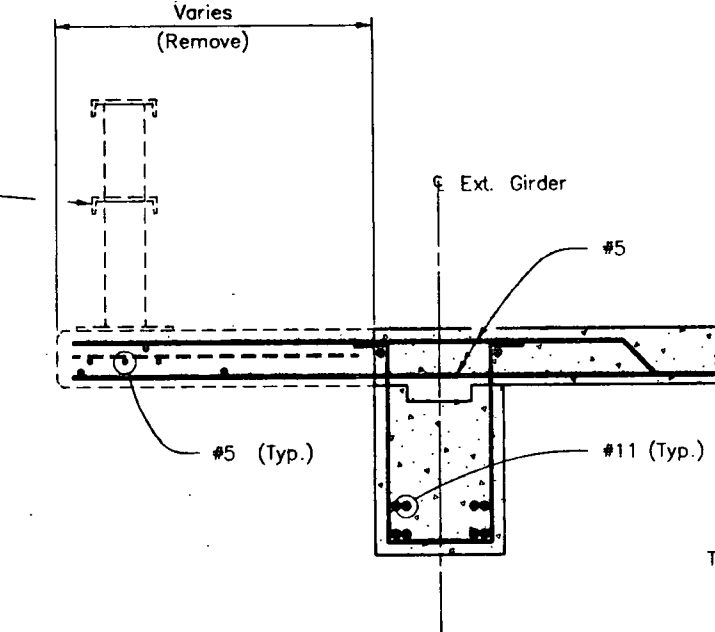
AS CONSTRUCTED				FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
NO REVISIONS		REVISED 12-1-94	VOID				

REVISIONS		

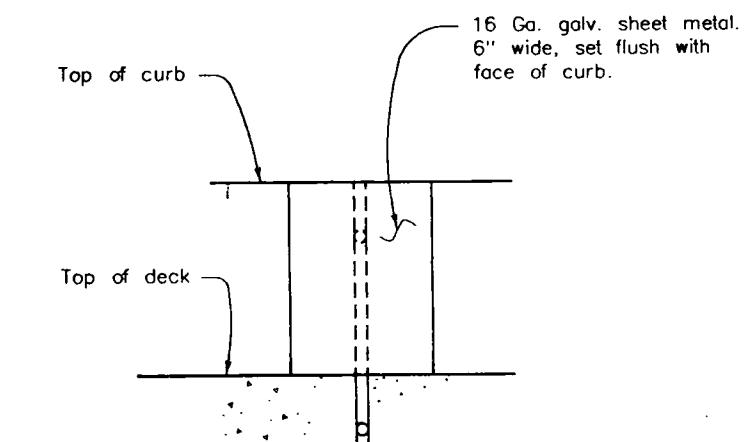
INITIAL	DATE	CHECKED BY	QUANTITIES BY
GD	1-92	RWS	1-92
BRL	1-92		



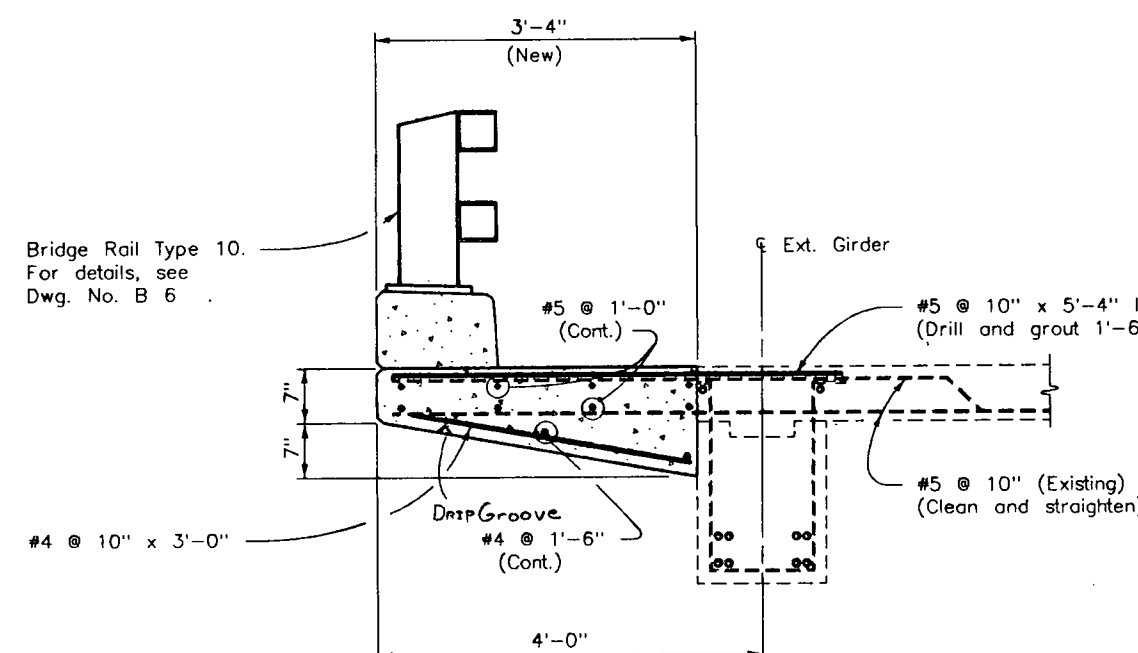
EXISTING
Str. No. F-20-BQ
Str. No. F-20-BR
Str. No. F-21-S
Str. No. F-21-T



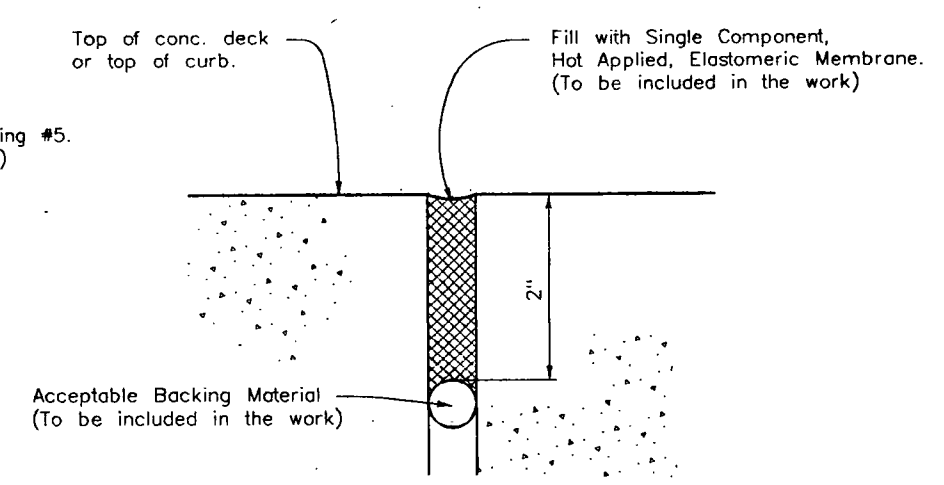
EXISTING
Str. No. F-20-BE
Str. No. F-20-BF



TYPICAL SECTION THRU EXP'N. JOINT @ CURB



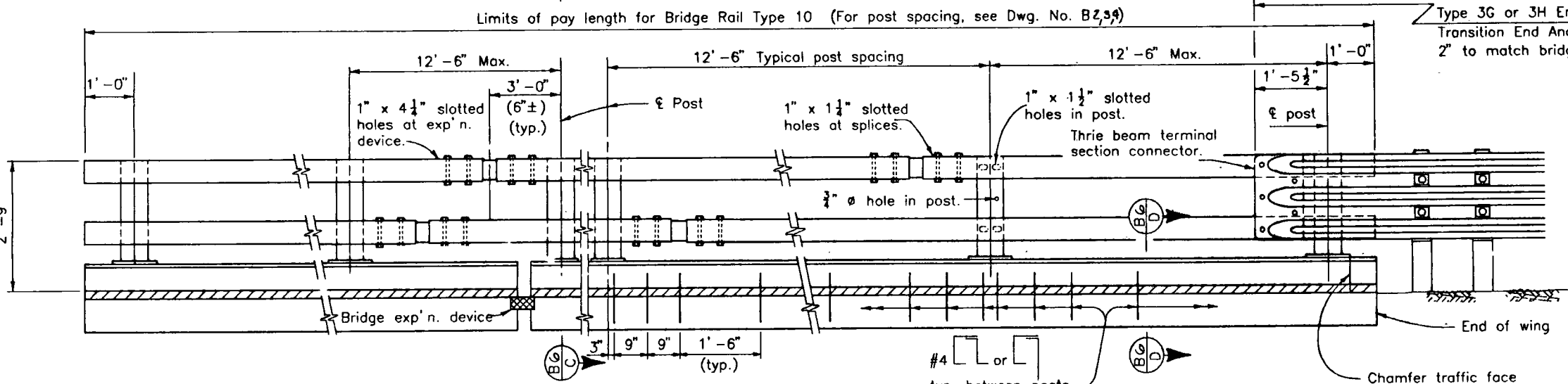
NEW



TYPICAL SECTION THRU EXP'N. JOINT

DIVISION OF HIGHWAYS		
MODIFICATION DETAILS		
Designer G. Davydov	Structure	
Detailer B. Lere	Numbers	
Drawing Number B 5	of 8	Drawings
Revision Dates (Preliminary Stage Only)		

AS CONSTRUCTED		FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
NO REVISIONS	12-1-94	REVISED	WORD	IR(CX)070-4(153)	39
REVISIONS					



ELEVATION - BRIDGE RAIL

RAIL PANEL ON WING TRANSITION SECTION

(See roadway plans for ends requiring attachment to guard rail.)

Notes:

All tubes shall be fabricated from ASTM A-500 Grade B.
All posts shall be fabricated from ASTM A-36 steel.

The above material and all anchor bolts and miscellaneous bolts, nuts, and washers shall be galvanized after fabrication in accordance with the specifications.

Post anchor, encased in concrete, shall be ASTM A-36 or AASHTO M-169 steel and need not be galvanized.

The tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 1,500 feet.

Tubes shall be continuous over not less than two posts.

The centerline of the posts at the bridge expansion device shall be a minimum of 3'-0" from the centerline of the bridge expansion device, measured along the centerline of posts.

All bolts that have lock washers shall be tightened to snug only.

Posts shall be perpendicular to the grade of the deck.

One or more 12'-6" post spacings may be reduced (8'-4" min.) in order to maintain dimensions from the end of the wings and expansion joints.

Optional drain hole for galvanizing may be drilled, punched, or clipped leaving smooth surfaces and transitions. No flame cutting or air carbon arc gouging is allowed.

Posts, post anchors, base plates, backing plates, anchor bolts, miscellaneous bolts, nuts, washers, tubes, tube expansion devices, tube splices, end plates, curb concrete (Class D), curb reinforcing steel, and reflector tabs shall be included in Item 606 - Bridge Rail Type 10.

Prior to fabrication of this item, two sets of shop drawings which comply with the requirements of Section 105, shall be submitted to the Division for information only. One set shall be sent to the Colorado Division of Highways, Staff Materials Branch Inspection Unit, 4340 E. Louisiana Avenue, Denver, Colorado 80222. One set shall be sent to the Engineer. The shop drawings will not be approved or returned.

Structural Steel:
AASHTO M-183(ASTM A-36) $f_y = 36,000$ psi
Cold formed ASTM A-500 Grade B $f_y = 46,000$ psi

For additional details see next rail sheets.

INFORMATION ONLY

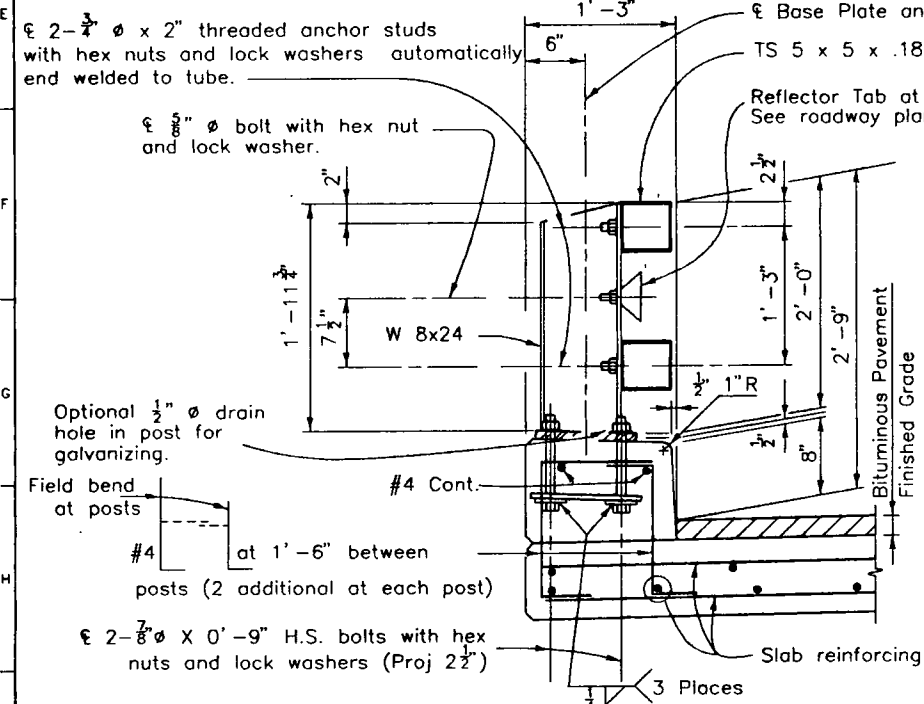
Description	Unit	Per Lin. Ft.
Structural Steel (Galvanized)	Lb.	33.1
Concrete Class D (Bridge)	Cu.Yd.	.04
Reinforcing Steel (Epoxy Coated)	Lb.	4.0

COLORADO
DEPARTMENT OF TRANSPORTATION

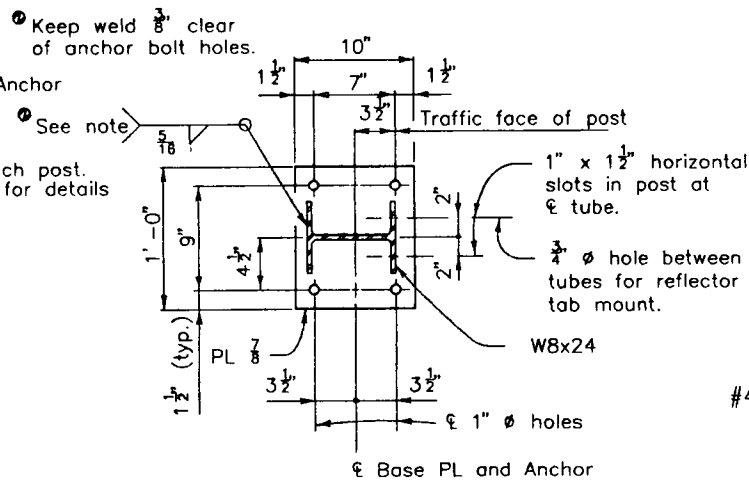
BRIDGE RAIL TYPE 10

Designer G. Davydov	Structure
Detailer B. Lere	Numbers
Drawing Number B 6	of 8 Drawings

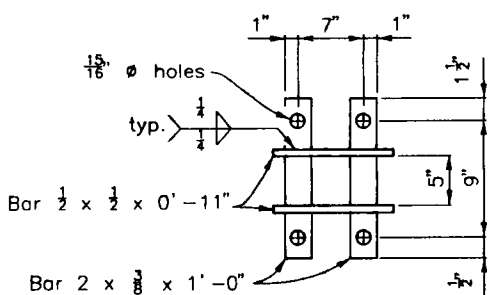
Revision Dates	(Preliminary Stage Only)
8-90	11-90
11-91	03-92



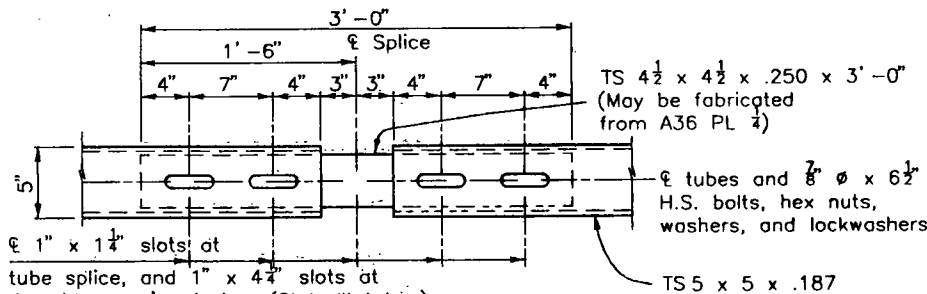
SECTION B6C



PLAN - POST DETAIL



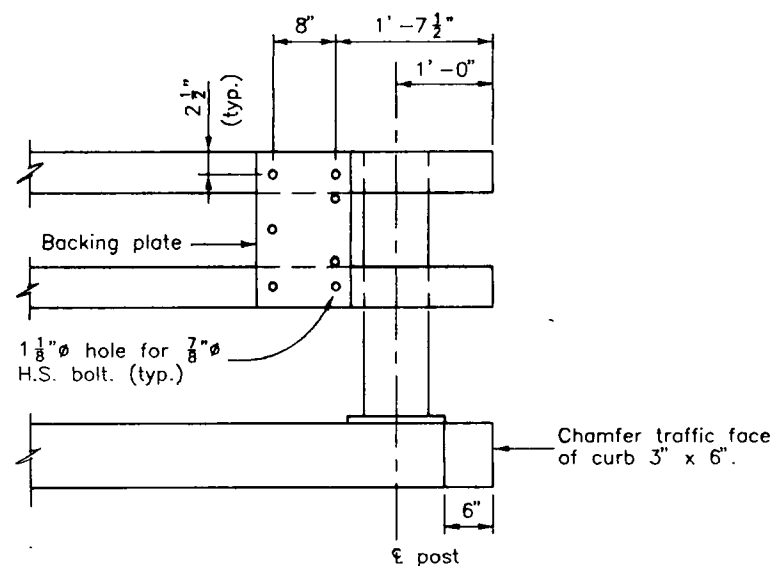
ANCHOR DETAIL



PLAN - TUBE SPLICE

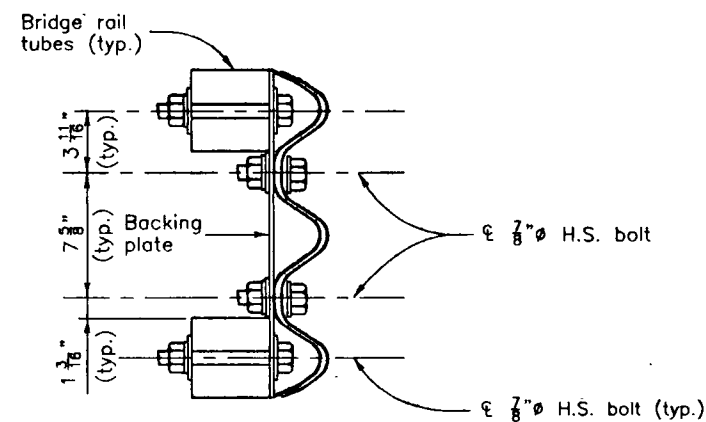
AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
NO REVISIONS	12-1-94	REVISED	VOID	III	COLORADO	IR(CX)070-4(153)

REVISIONS		

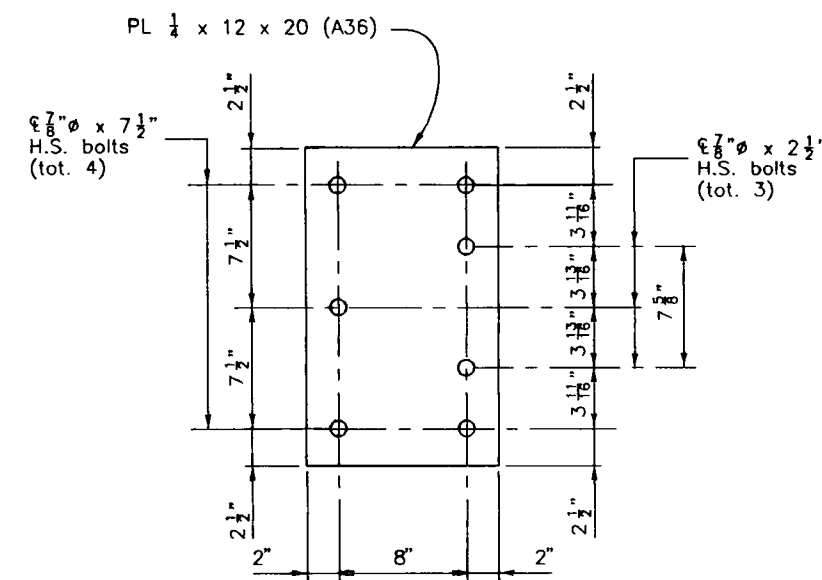


RAIL TUBE DETAILS

Three beam not shown.

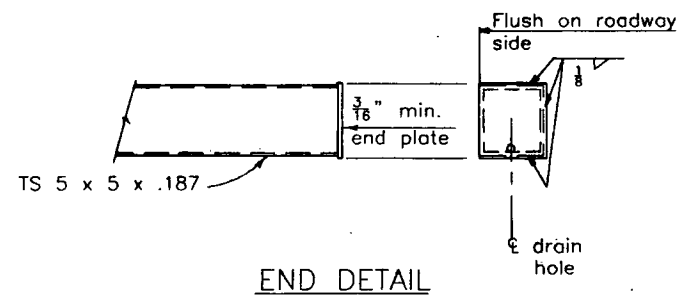


SECTION THRU BACKING PLATE



BACKING PLATE

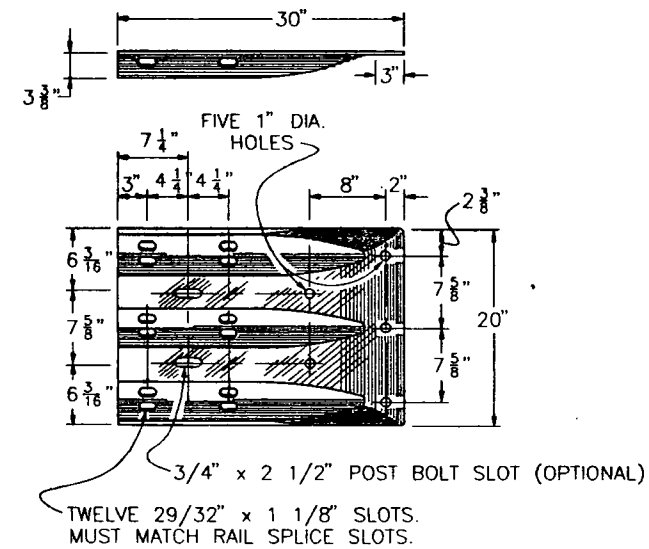
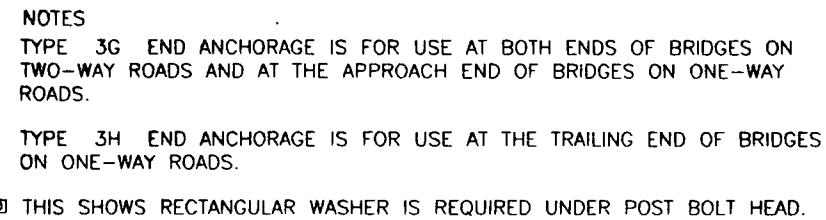
Holes are 1 1/8" for 7/8" H.S. bolts with hex nuts,
2 PL washers, and 1 lock washer.



END DETAIL

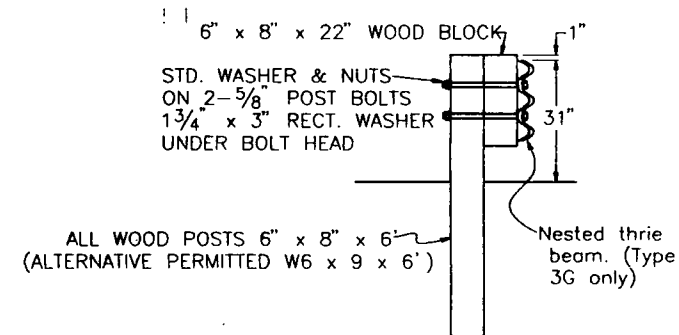
COLORADO DEPARTMENT OF TRANSPORTATION			
BRIDGE RAIL TYPE 10			
Designer G. Davydov	Structure		
Detailer B. Lere	Numbers		
Drawing Number B 7	of 8	Drawings	
Revision Dates (Preliminary Stage Only)			
03-92			

	8	9	10	11	12	13	14	15	16	
	REVIEWS			AS CONSTRUCTED			FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
				NO REVISIONS	12-1-94	REVISED		VOID		
							VIII	COLORADO	1R(CX)070-4(153)	35



RE-63 (CLASS B, TYPE 1 OR 2)-76 (GALV.)
RE-63 (CLASS B, TYPE 4)-76 (CORR. RESIST.)

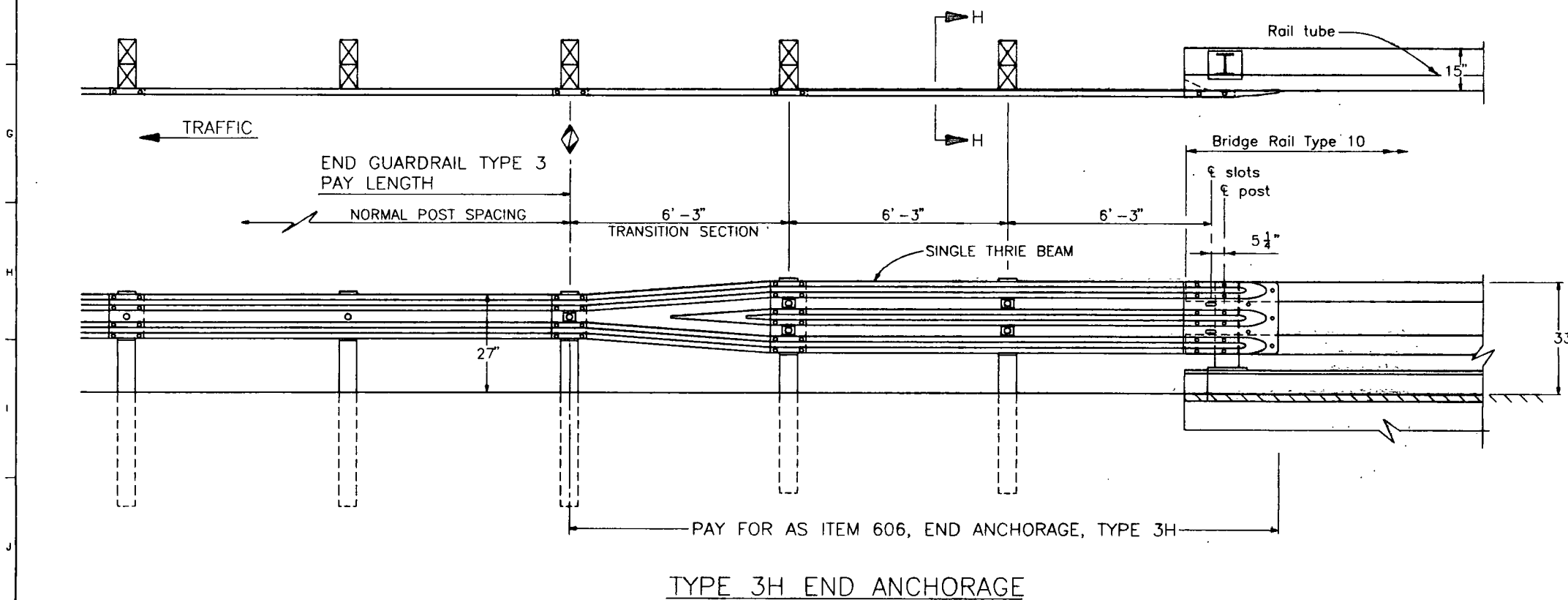
THRIE BEAM
TERMINAL SECTION : (CONNECTOR)



ALL WOOD POSTS 6" x 8" x 6'
(ALTERNATIVE PERMITTED W6 x 9 x 6')

SECTION H-H

BACKUP PLATE NOT REQUIRED AT
GUARDRAIL POSTS ON TYPE 3G AND 3H.



COLORADO DEPARTMENT OF TRANSPORTATION			
BRIDGE RAIL TYPE 10			
Designer	G. Davydov	Structure	
Detailer	B. Lere	Numbers	
Drawing Number B 8		of 8	Drawings
Revision Dates		(Preliminary Stage Only)	
03-92	09-92		

DETOUR
WEST BOUND

$\Delta = 11^\circ 24' 21''$ Rt.
 $D = 2^\circ 36' 03''$
 $T = 220$ Ft.
 $L = 438.5549$ Ft.
 $R = 2,203.0257$ Ft.
 $e = -0.020$ Ft./Ft.
 $M.D.S. = 60$ M.P.H.
 $S.S.D. = > 650$ Ft.

DETOUR
WEST-END
OF PROJECT

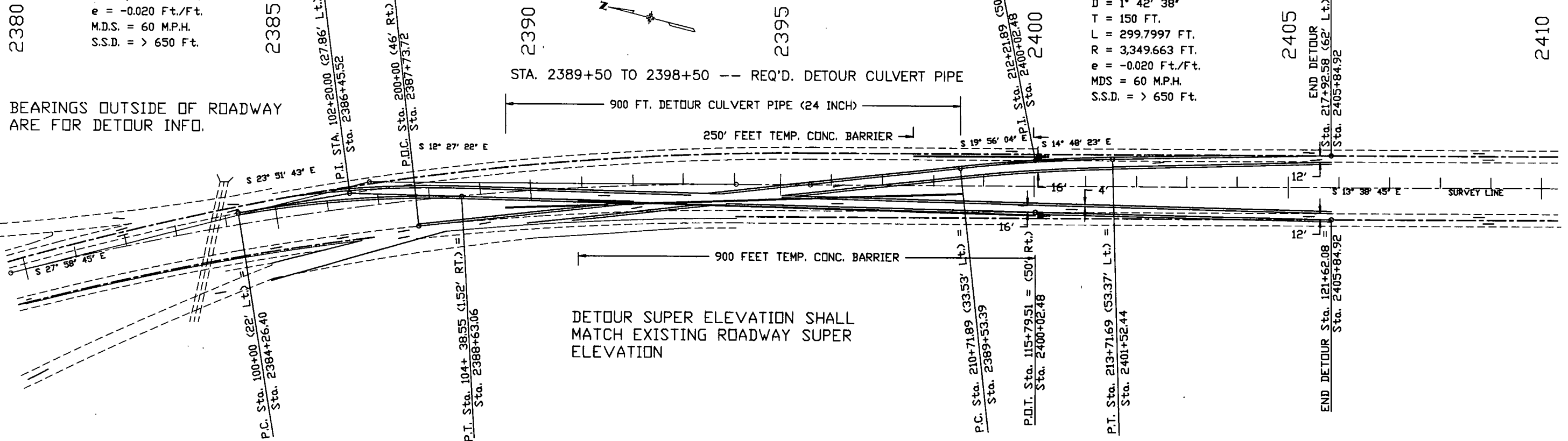
AS CONSTRUCTED

NO REVISIONS 12-1-94 REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	36	101

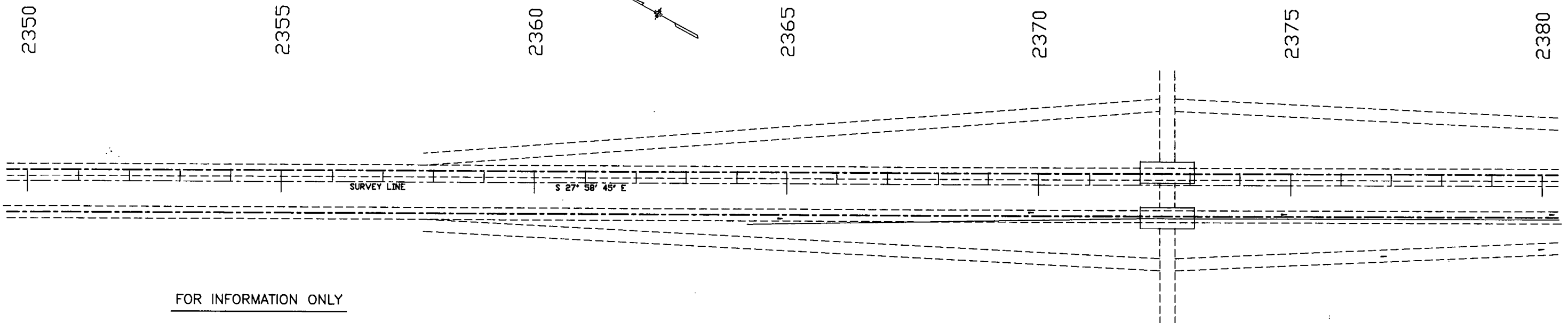
DETOUR
EAST BOUND

$\Delta = 5^\circ 07' 41''$ RT.
 $D = 1^\circ 42' 38''$
 $T = 150$ FT.
 $L = 299.7997$ FT.
 $R = 3,349.663$ FT.
 $e = -0.020$ Ft./Ft.
 $MDS = 60$ M.P.H.
 $S.S.D. = > 650$ Ft.



DETOUR SUPER ELEVATION SHALL
MATCH EXISTING ROADWAY SUPER
ELEVATION

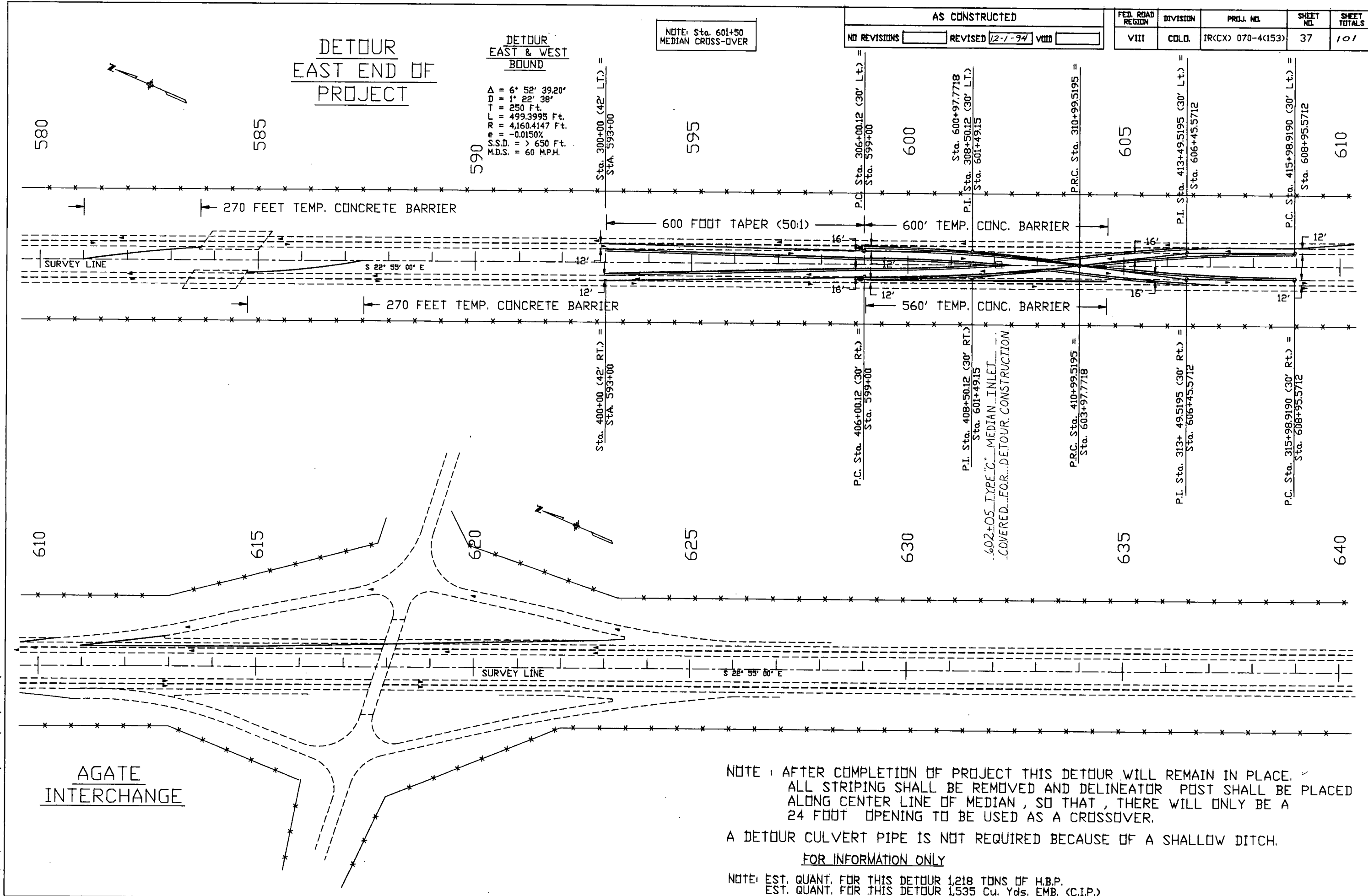
THIS DETOUR WILL BE REMOVED AT THE COMPLETION OF PROJECT.



FOR INFORMATION ONLY

NOTE: APPROX. H.B.P. QUANT. NEEDED FOR THIS DETOUR 1,760 TONS
 APPROX. EMB. (C.I.P.) NEEDED FOR THIS DETOUR 11,100 Cu. Yds.

DEERTRAIL INTERCHANGE



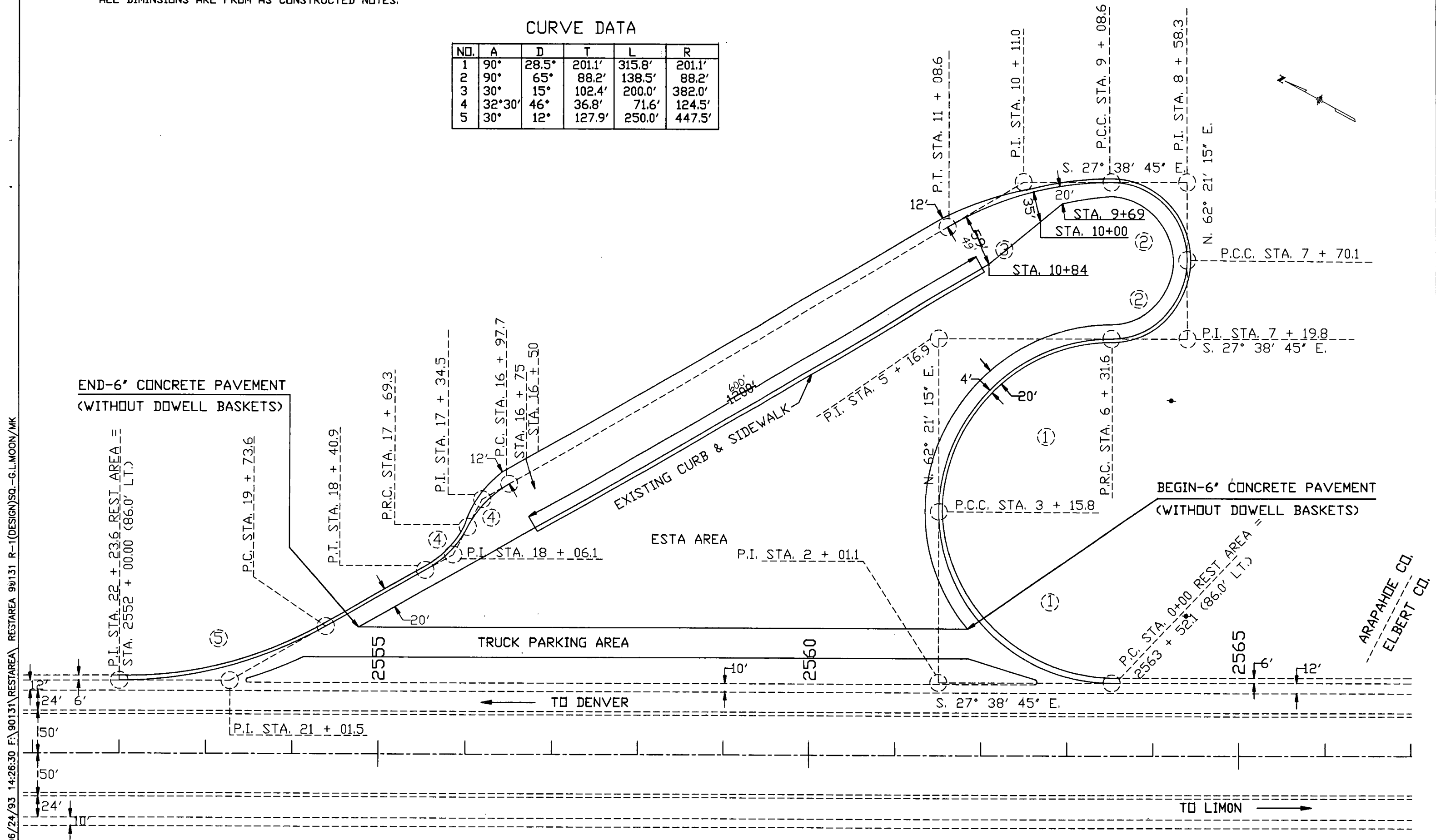
AS CONSTRUCTED	
NO REVISIONS ☐	REVISED ☐ 12-1-94 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	38	101

ALL DIMINSIONS ARE FROM AS CONSTRUCTED NOTES.

ORIGINAL SCALE 1' = 50'

NO.	A	D	T	L	R
1	90°	28.5°	201.1'	315.8'	201.1'
2	90°	65°	88.2'	138.5'	88.2'
3	30°	15°	102.4'	200.0'	382.0'
4	32°30'	46°	36.8'	71.6'	124.5'
5	30°	12°	127.9'	250.0'	447.5'



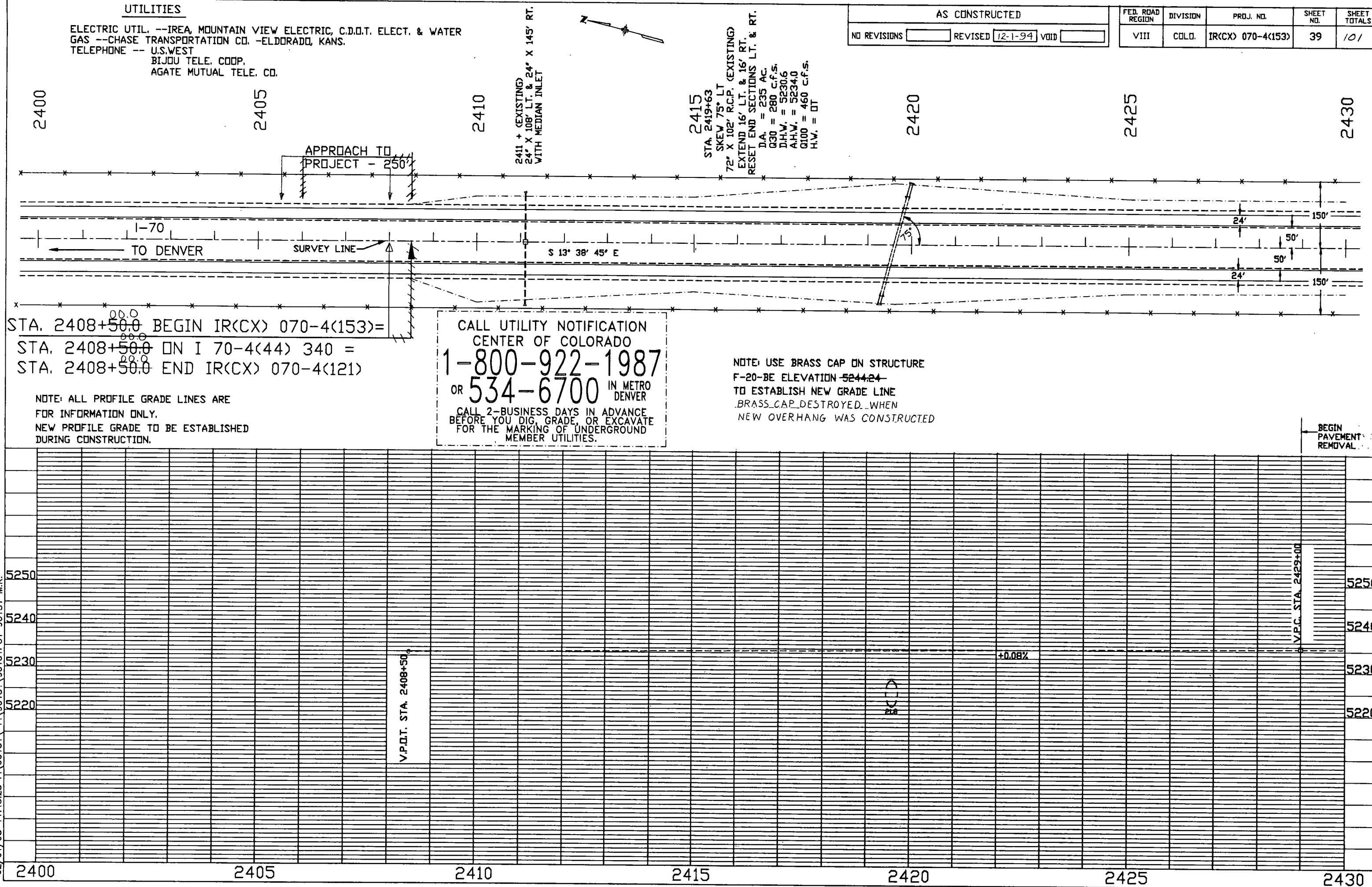
UTILITIES

ELECTRIC UTIL. -- IREA, MOUNTAIN VIEW ELECTRIC, C.D.O.T. ELECT. & WATER
 GAS -- CHASE TRANSPORTATION CO. - ELDORADO, KANS.
 TELEPHONE -- U.S. WEST
 BIJOU TELE. COOP.
 AGATE MUTUAL TELE. CO.

AS CONSTRUCTED

NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	39	101

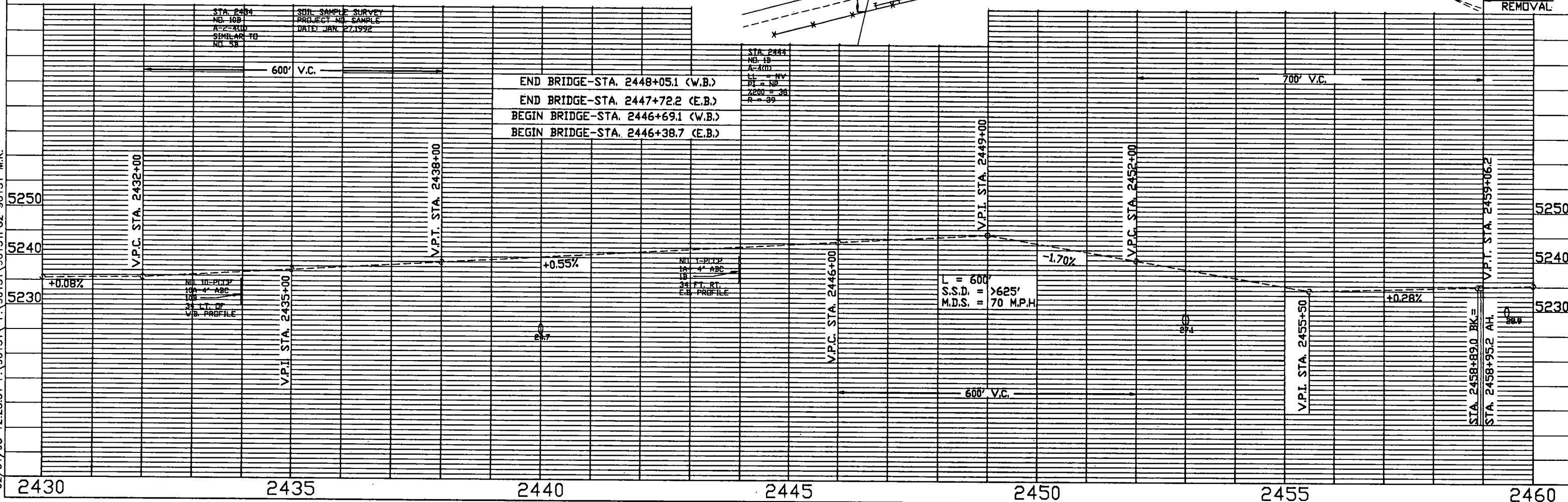
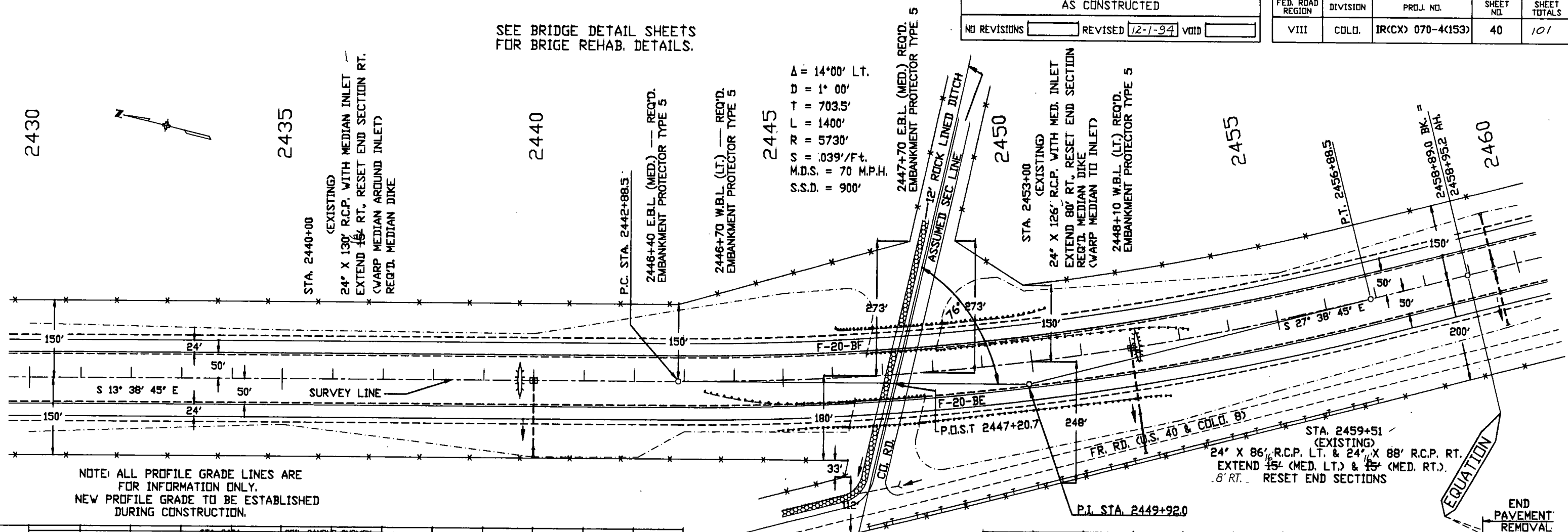


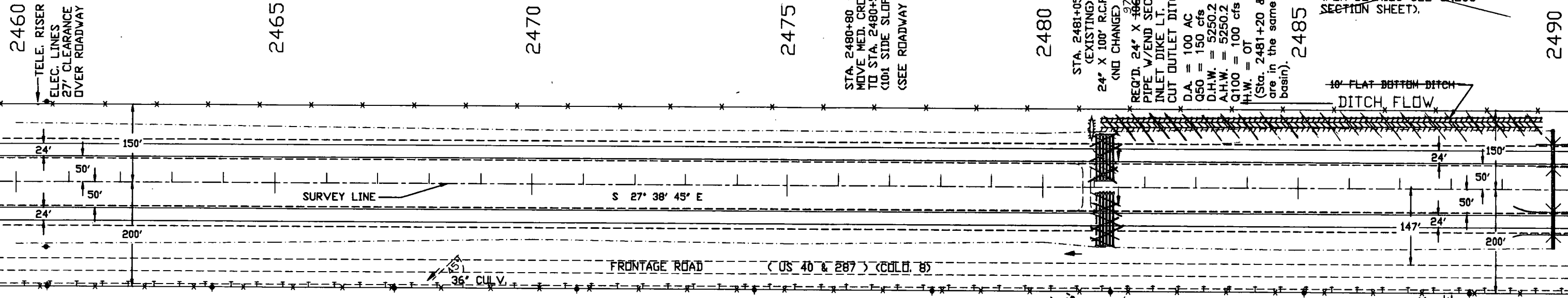
SEE BRIDGE DETAIL SHEETS
FOR BRIDGE REHAB. DETAILS.

AS CONSTRUCTED

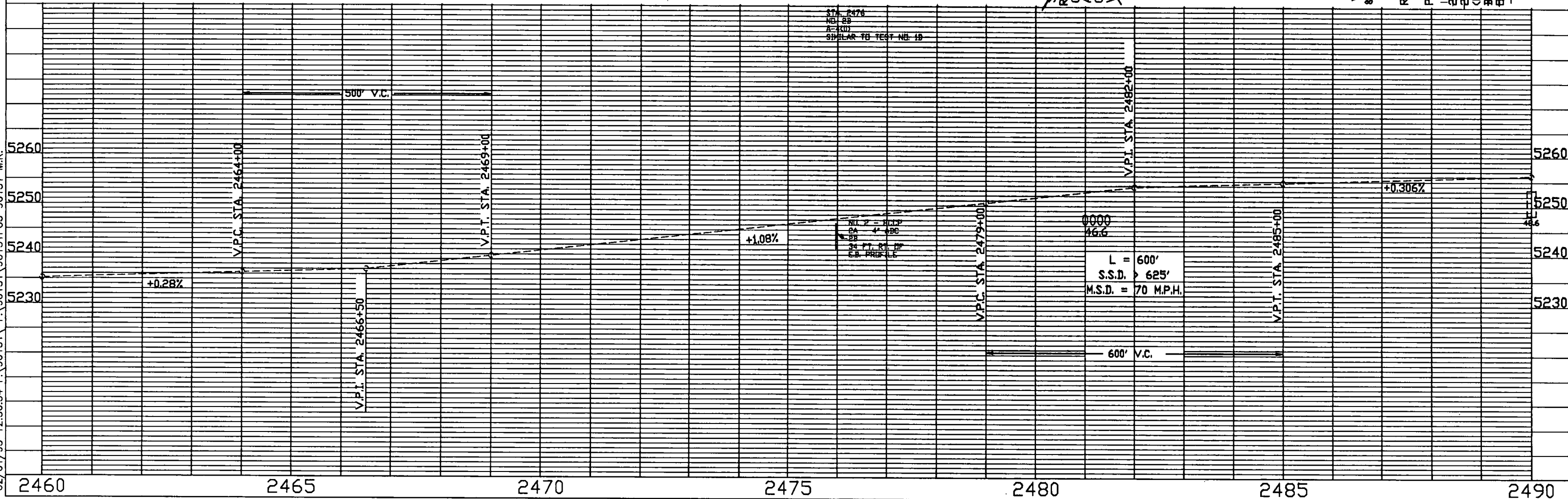
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	40	101





NOTE: ALL PROFILE GRADE LINES ARE FOR INFORMATION ONLY.
NEW PROFILE GRADE TO BE ESTABLISHED DURING CONSTRUCTION.



AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLL.	IR(CX) 070-4(153)	41	101

STA. 2480+80
MOVE MED. CROSS-OVER
TO STA. 2480+50
(10:1 SIDE SLOPES)
(SEE ROADWAY CROSS-SECTIONS)

2480

STA. 2481+05
(EXISTING)
24" X 100" R.C.P. RT.
(NO CHANGE)
REQ'D. 24" X 106" CULVERT
PIPE W/END SECTIONS LT.
INLET DIKE LT.
CUT OUTLET DITCH RT.
D.A. = 100 AC
Q50 = 150 cfs
D.H.W. = 5250.2
A.H.W. = 5250.2
Q100 = 100 cfs
H.W. = OT
(Sta. 2481+20 & 2490+00
are in the same drainage
basin).

STA. 2481 + TO STA. 2490 +
REQ'D. DITCH LT.
(FOR DETAILS SEE CROSS
SECTION SHEET).

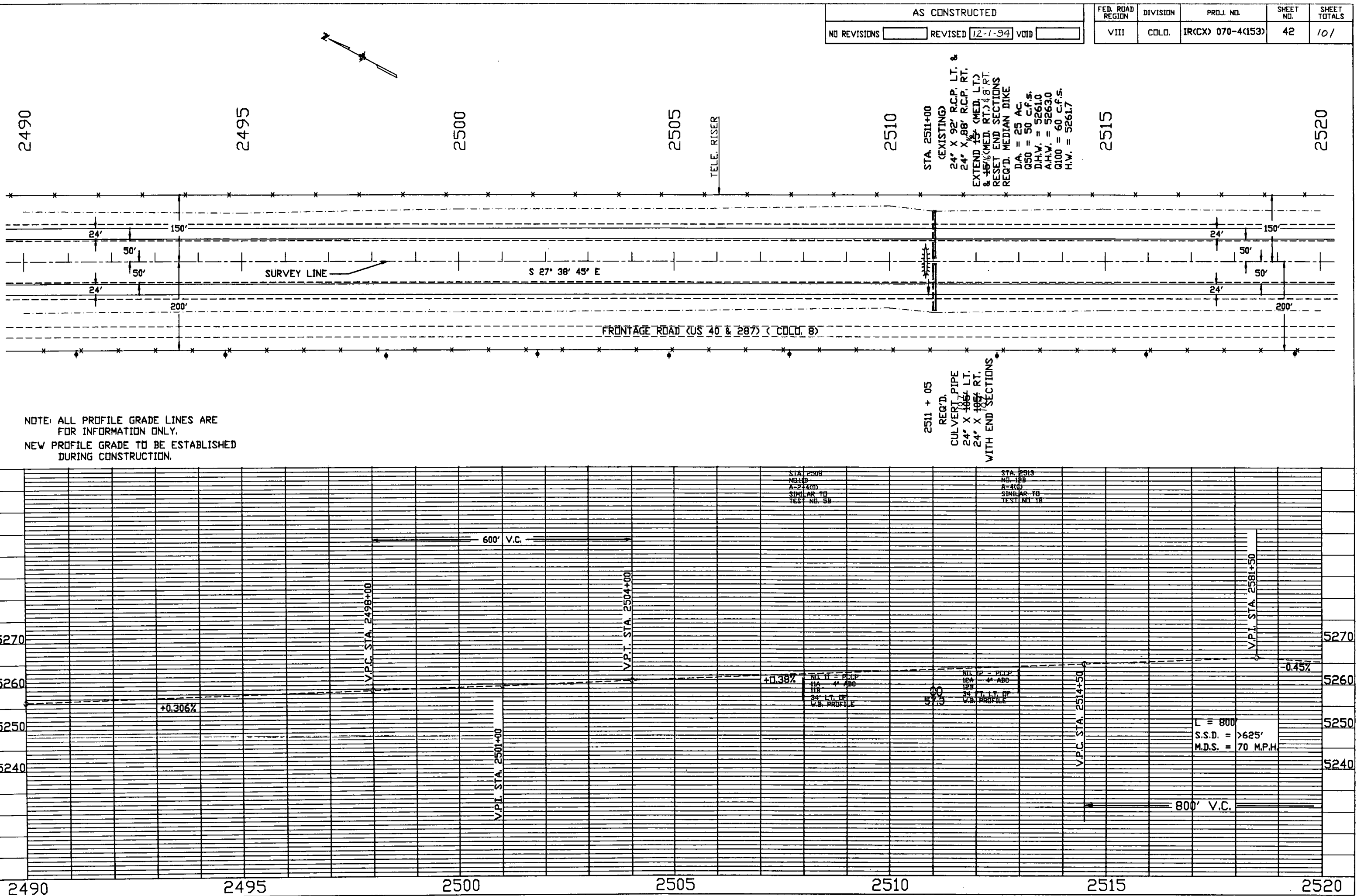
2490

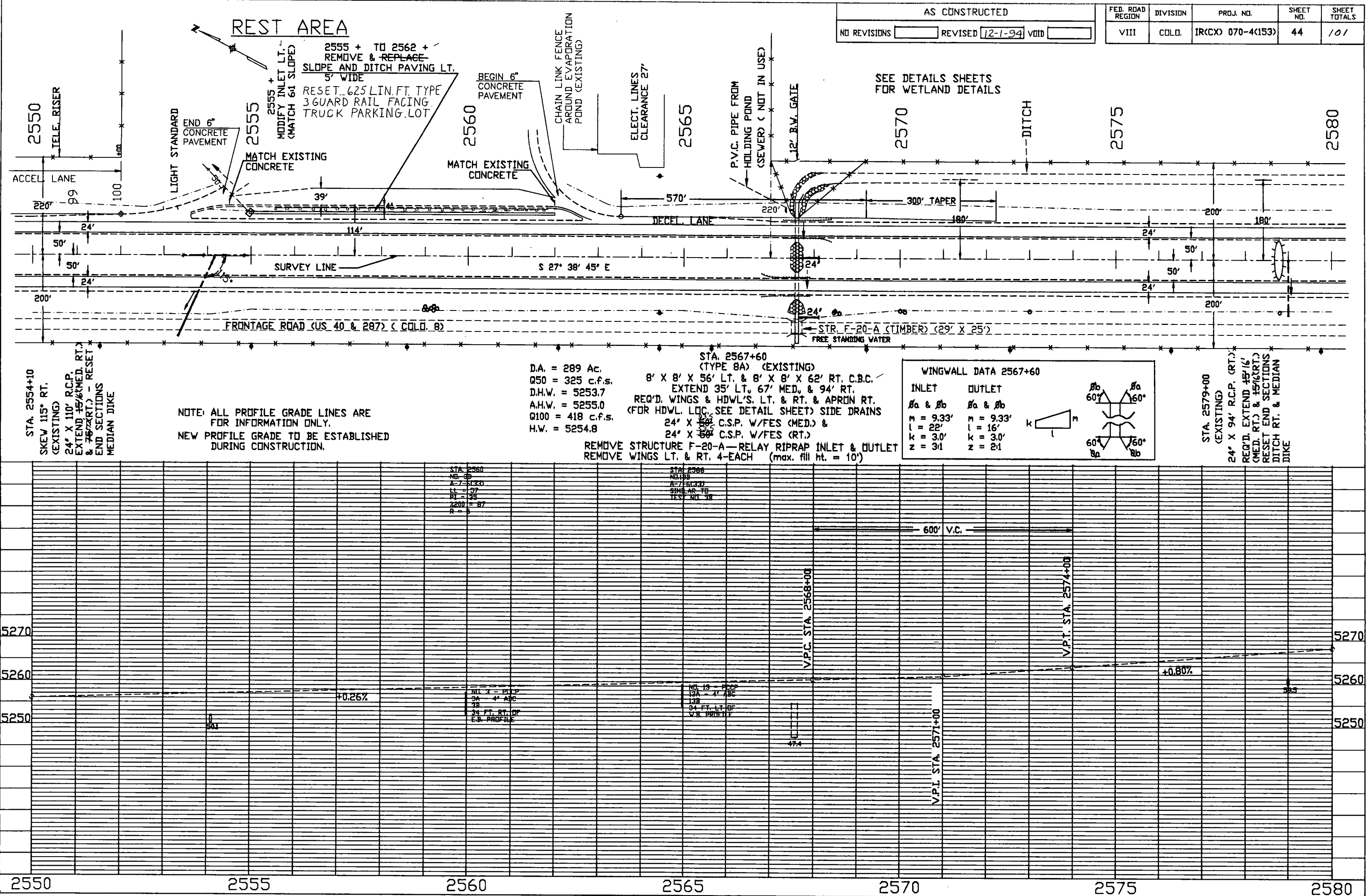
18" FLAT BOTTOM DITCH
DITCH FLOW

STA. 2481 + 20
REQ'D. 5' - 30' X 106'
CULVERT PIPE LT.
AND 5' - 30' X 106'
CULVERT PIPE RT.
W/END SECTIONS

STA. 2490+00
(EXISTING)
6' X 5' X 52' C.B.C.
W/WING WALLS LT.
& RT. (TYPE 6A)
REQ'D.
REMOVE WING WALLS
LT. & RT.
PLACE CULVERT PIPE
THRU C.B.C. 24'
2 48" X 114" LT.
2 30" X 114" RT.
(NO END SECT'S.)
BACKFILL W/CL. 1
BR. CL. 2 (SPECIAL)
MATERIAL: PLUG C.B.C.'s

02/01/93 13:43:39 F:\90131\F:\90131\PG4 90131 M.K.

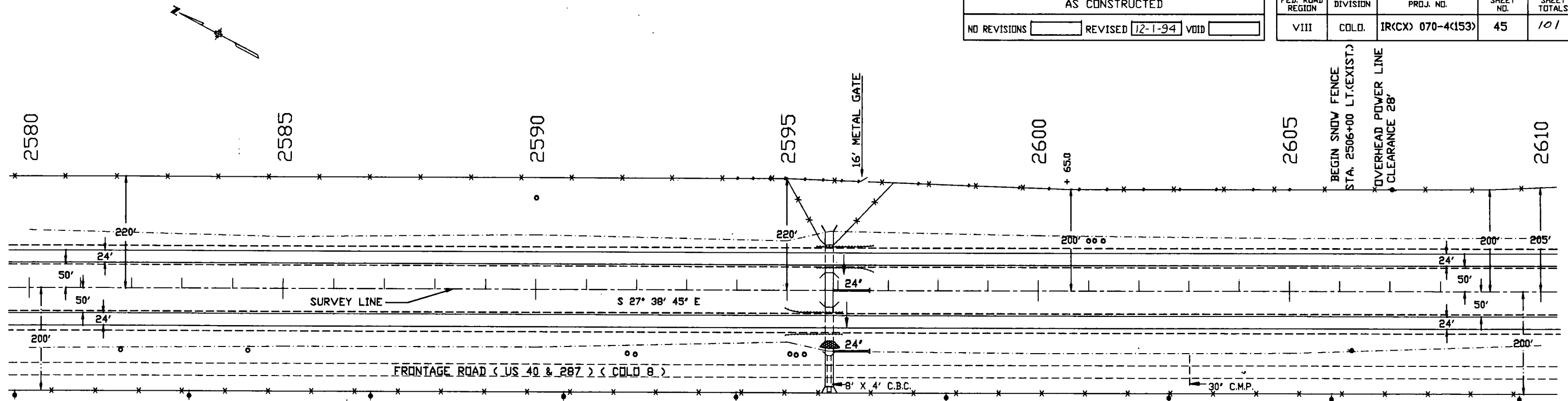




02/01/93 14:16:08 F:\90131\90131PG7 90131 M.K.

AS CONSTRUCTED
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

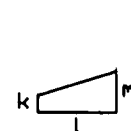
FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	1R(CX) 070-4(153)	45	101



NOTE: ALL PROFILE GRADE LINES ARE FOR INFORMATION ONLY.
NEW PROFILE GRADE TO BE ESTABLISHED DURING CONSTRUCTION.

D.A. = 315 Ac.
Q50 = 358 c.f.s.
D.H.W. = 5273.0
A.H.W. = 5274.0
Q100 = 460 c.f.s.
H.W. = 5273.8

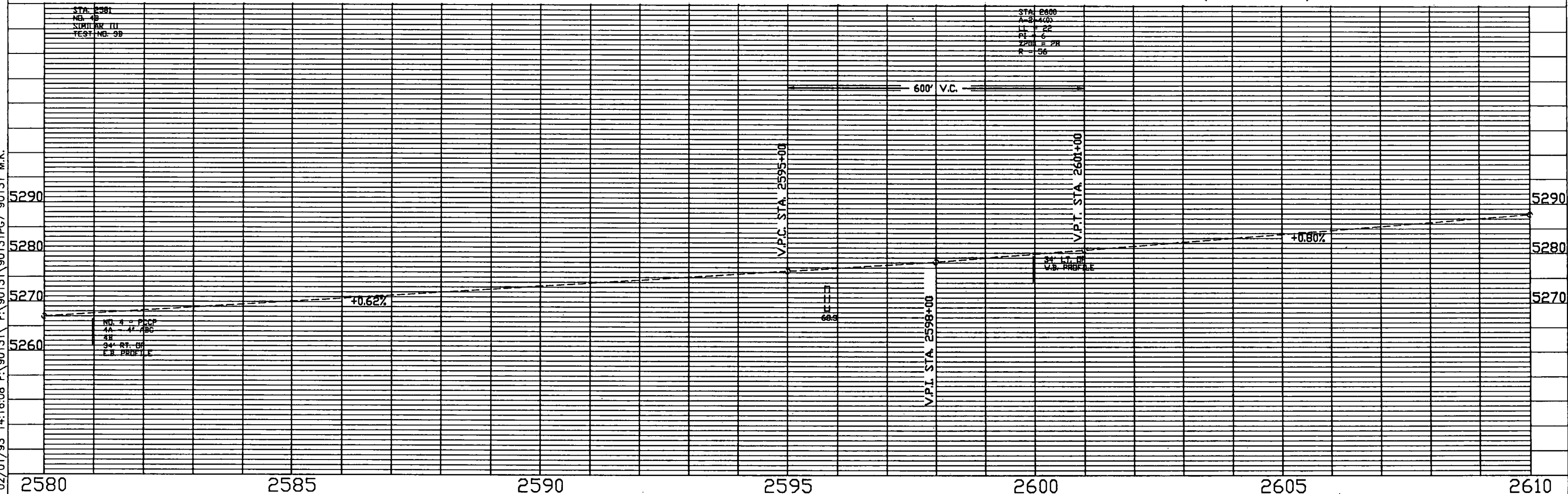
WINGWALL DATA 2595+83			
INLET	OUTLET		
B_a & B_b	B_a & B_b		
$m = 6.33'$	$m = 6.33'$		
$l = 14'$	$l = 14'$		
$k = 1.5'$	$k = 1.5'$		
$z = 3:1$	$z = 2:1$		



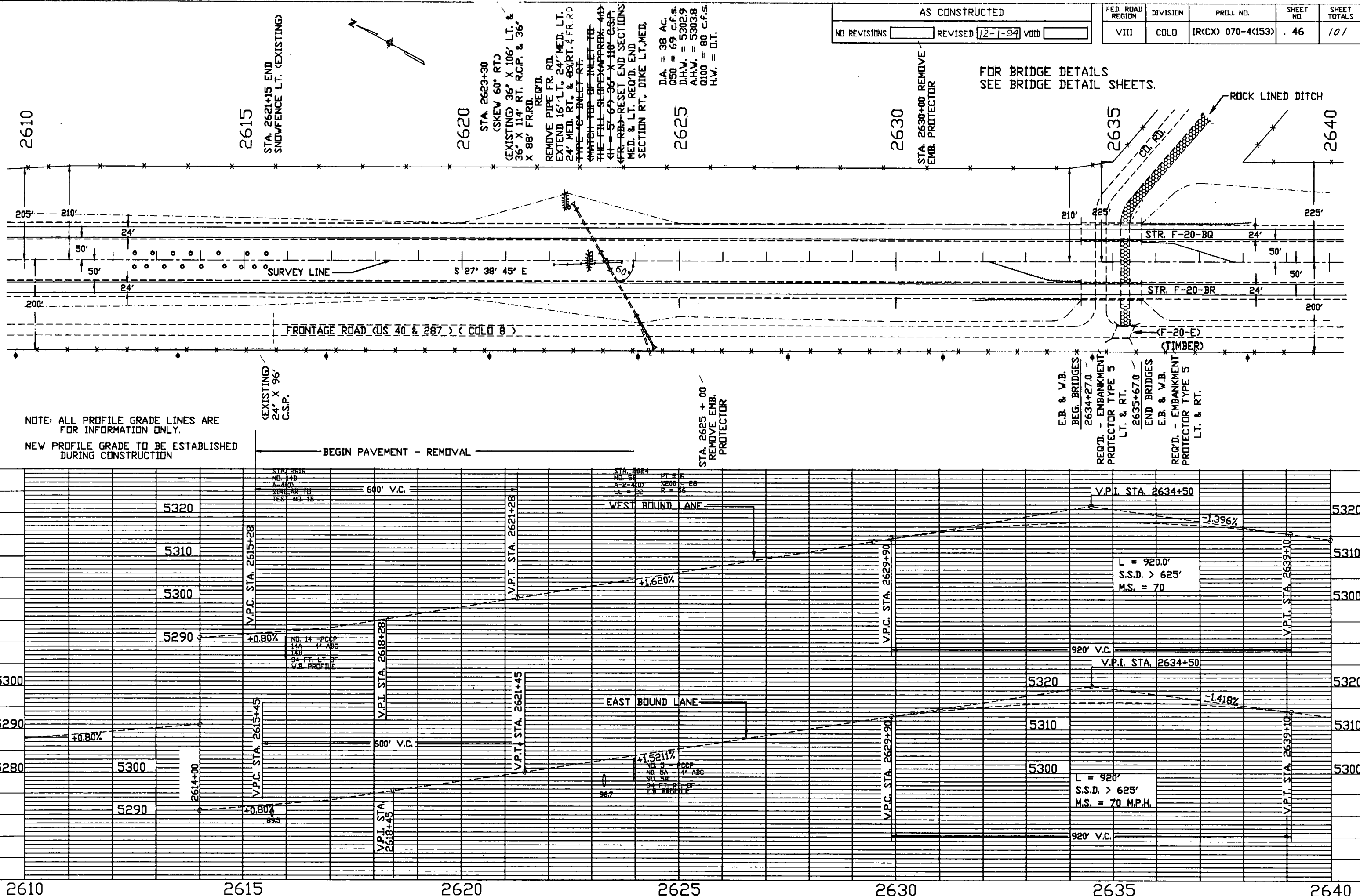
STA. 2595+83
(TYPE 8-8-A)
(EXISTING)
DOUBLE 8' X 5' X 54' LT. &
8' X 5' X 66' RT.
8' X 4' X 73' (FR. RD.)
REMOVE STRUCTURE (FR. RD.)

(FOR HDWL. LOC SEE DETAIL SHEET)
REMOVE WINGS 4-EACH
REQ'D. EXTEND 26' LT.
64' MED. & 96' RT.
WINGS WALLS & HDWL'S. LT.
& RT. & APRON RT.
RELAY RIPRAP AT OUTLET

SIDE DRAINS
24' X 74' C.M.P. W/FES (MED)
24' X 74' C.M.P. W/FES (RT.)
RELAY RIPRAP
(max. fill ht. = 10')



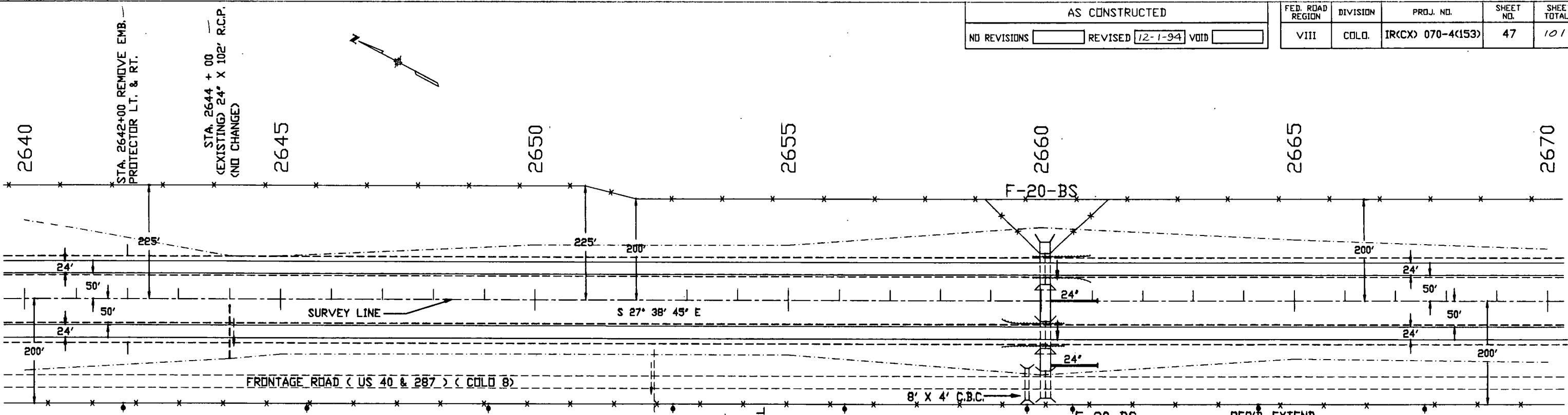
AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	REVISED 12-1-94 VOID	VIII	COLD.	IR(CX) 070-4(153)	46	101



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AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	47	101



NOTE: ALL PROFILE GRADE LINES ARE FOR INFORMATION ONLY.
NEW PROFILE GRADE TO BE ESTABLISHED DURING CONSTRUCTION

WINGWALL DATA 2660+08

INLET

θ_a & θ_b

$\theta = 7.33'$

$\theta = 18'$

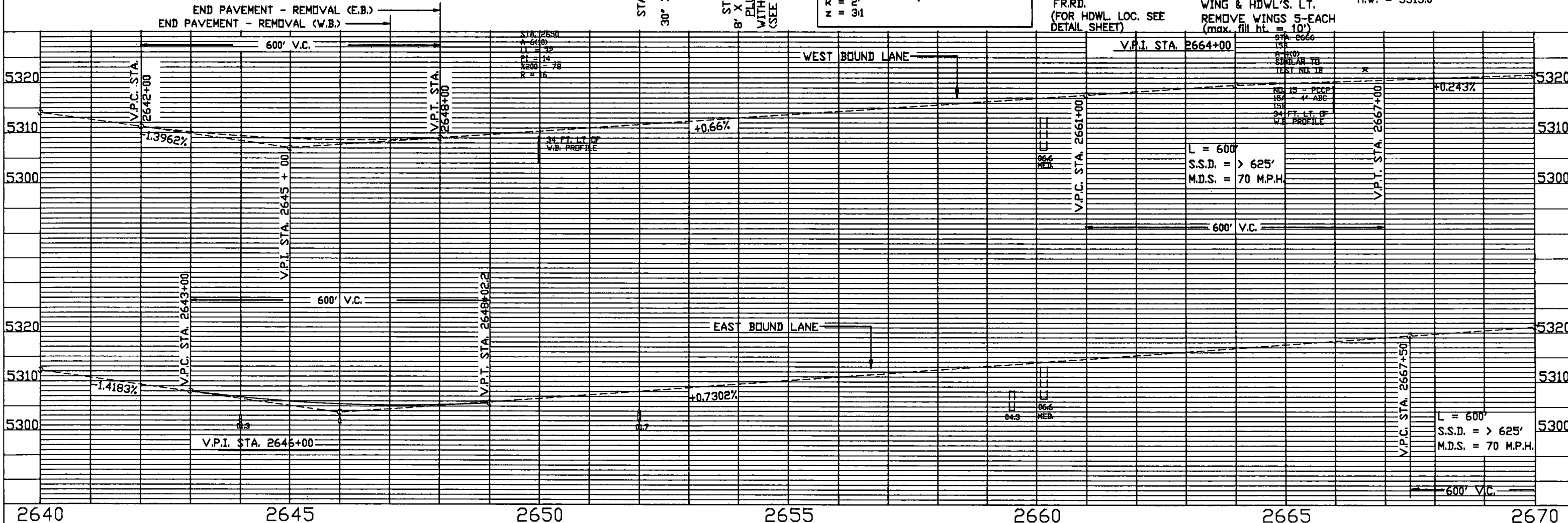
$\theta = 2'$

$\theta = 31'$

F-20-BS
STA 2660 + 08
(TYPE 10 - 10 - A)
(EXISTING)
DOUBLE 10' X 6' X 60' LT. 10' X 6' X 52' RT. & 10' X 5' X 52' FR.RD.
(FOR HDWL. LOC. SEE DETAIL SHEET)

REQ'D. EXTEND
22' LT. 72' MED. & 44' RT. (CONNECT TO 10' X 5' C.B.C. UNDER FR.RD.)
24' X 34' C.S.P. W/FES MED. & 24' X 34' C.S.P. W/FES RT. WING & HDWL'S. LT. REMOVE WINGS 5-EACH (max. fill ht. = 10')

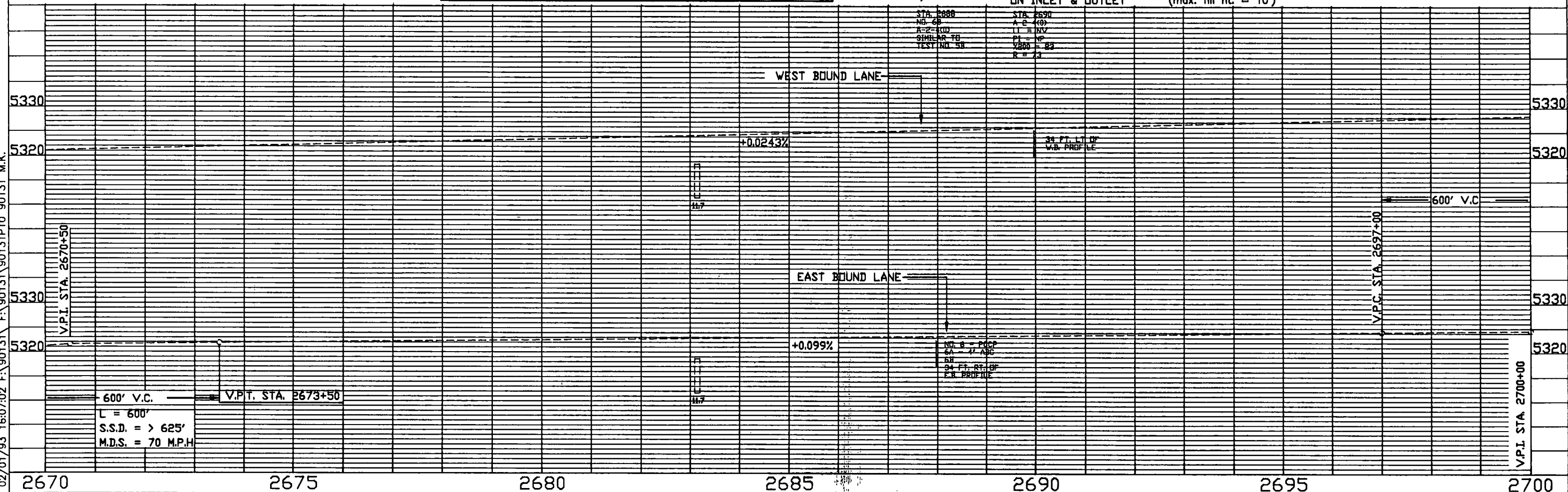
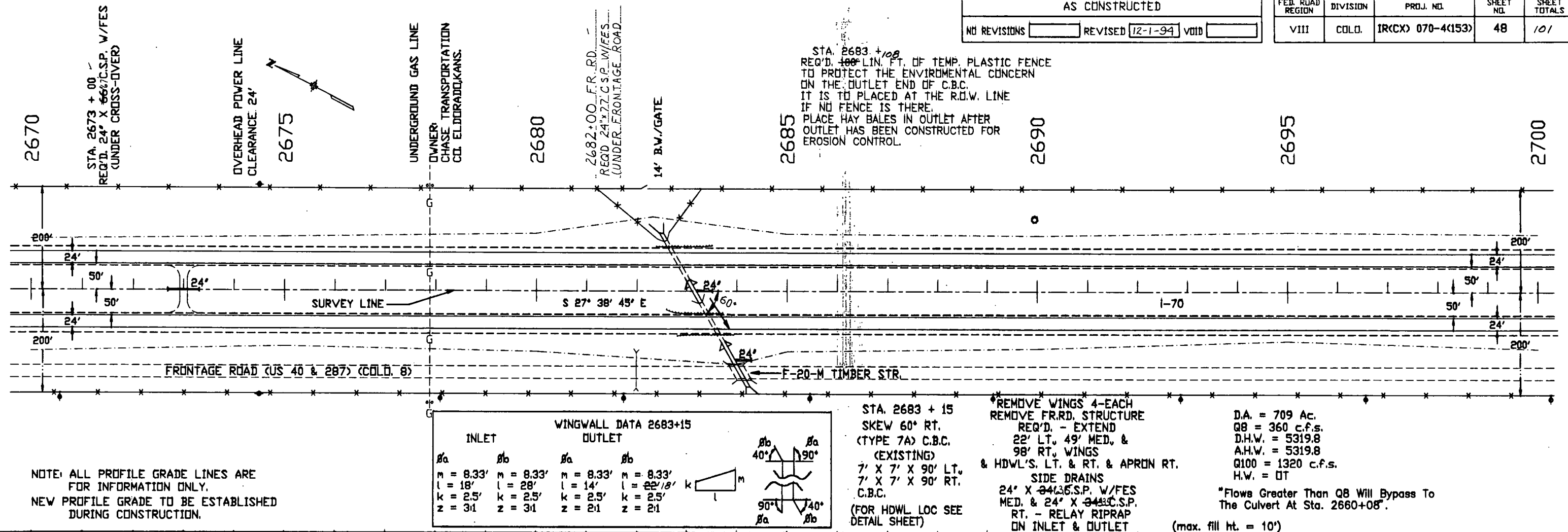
D.A. = 670 Ac.
Q50 = 832 c.f.s.
D.H.W. = 5313.8
A.H.W. = 5315.0
Q100 = 1010 c.f.s.
H.W. = 5315.0



AS CONSTRUCTED

NO REVISIONS REVISED 12-1-94 VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	48	101



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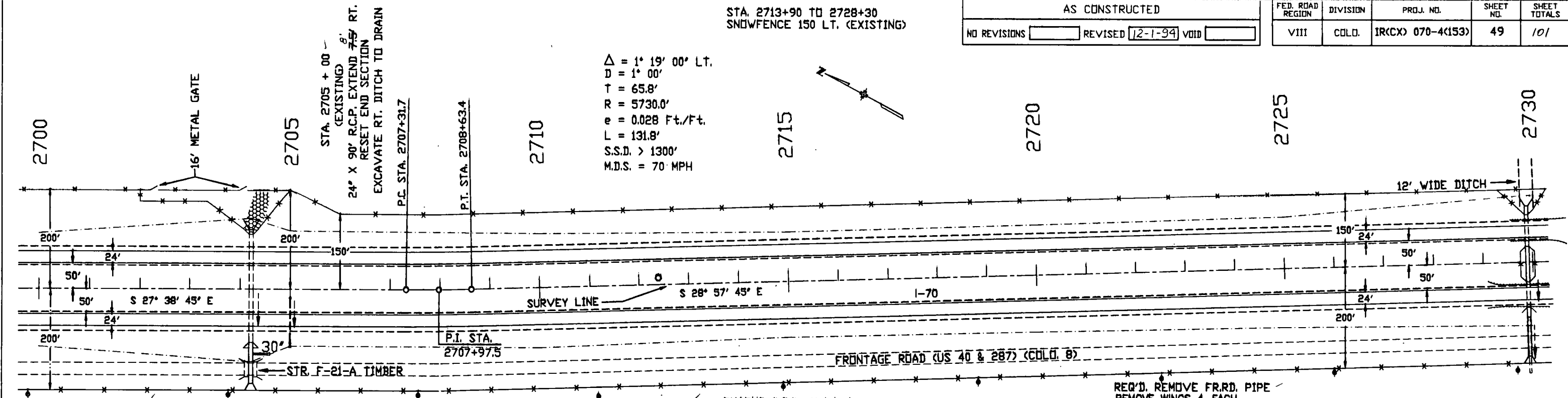
STA. 2713+90 TO 2728+30
SNOWFENCE 150 LT. (EXISTING)

AS CONSTRUCTED

NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

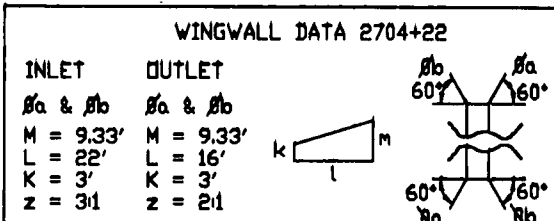
FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	1R(CX) 070-4(153)	49	101

$\Delta = 1^\circ 19' 00''$ LT.
 $D = 1^\circ 00'$
 $T = 65.8'$
 $R = 5730.0'$
 $e = 0.028$ Ft./Ft.
 $L = 131.8'$
 $S.S.D. > 1300'$
 $M.D.S. = 70$ MPH



STA. 2704+22 REMOVE ASPHALT EMB. PROTECTOR LT. & RT.

NOTE: ALL PROFILE GRADE LINES ARE FOR INFORMATION ONLY.
NEW PROFILE GRADE TO BE ESTABLISHED DURING CONSTRUCTION.



STA. 2704 + 22
(TYPE 9A)
(EXISTING)
9' X 8' X 214' C.B.C.
TIMBER BRIDGE FR.RD.
REQ'D. - REMOVE
TIMBER STRUCTURE
REMOVE WINGS 2-EACH
(FOR HDWL LOC. SEE
DETAIL SHEET)

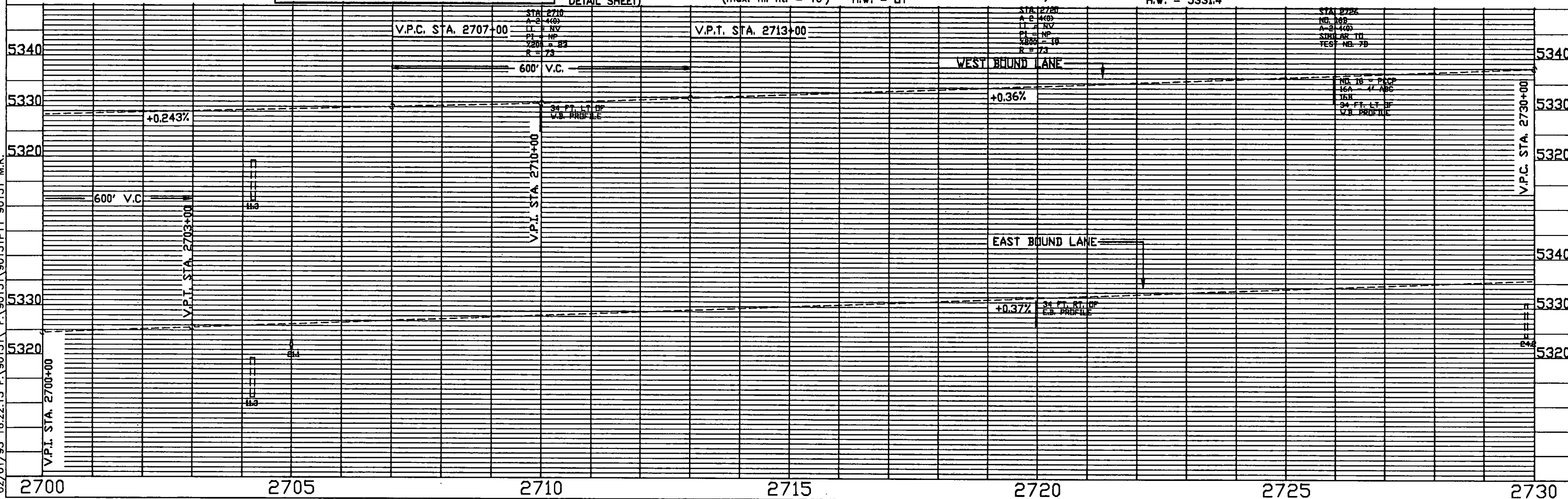
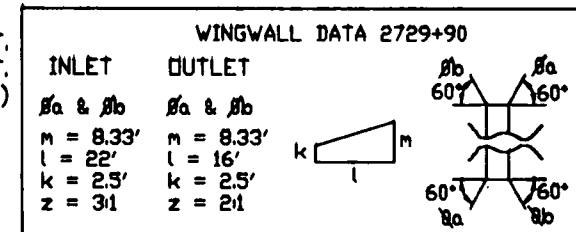
EXTEND C.B.C. 9' LT. &
& 82' RT.
SIDE DRAIN RT.
24' X 34 3/4" W/END
SECTIONS
RELAY RIPRAP AT
INLET AND OUTLET
WINGS & HDWL'S.
LT. & RT. APRON RT.
(max. fill ht. = 10')

D.A. = 634 Ac.
Q25 = 600 c.f.s.
D.H.W. = 5320.2
A.H.W. = 5324.0
Q100 = 1150 c.f.s.
H.W. = DT

STA. 2729 + 90
(TYPE 6A)
(EXISTING)
6' X 7' X 64' LT., 6' X
7' X 50 RT., 48' X 115'
C.S.P. FR. RD.
(FOR HDWL LOC. SEE
DETAIL SHEET)

REQ'D. REMOVE FR.RD. PIPE
REMOVE WINGS 4-EACH
EXTEND
18' LT., 71' MED. & 98' RT.
WINGS & HDWL'S. LT. & RT.
APRON RT. (MAX. FILL HT. = 10')

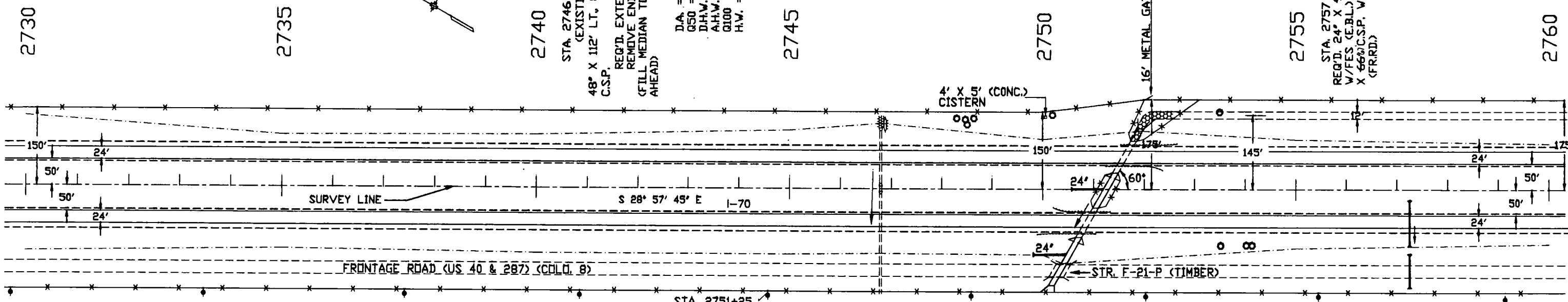
D.A. = 216 Ac.
Q50 = 214 c.f.s.
D.H.W. = 5330.4
A.H.W. = 5335.0
Q100 = 268 c.f.s.
H.W. = 5331.4



STA. 2730+87 TO 2739+05
SNOWFENCE LT. (EXISTING)

AS CONSTRUCTED
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	50	101

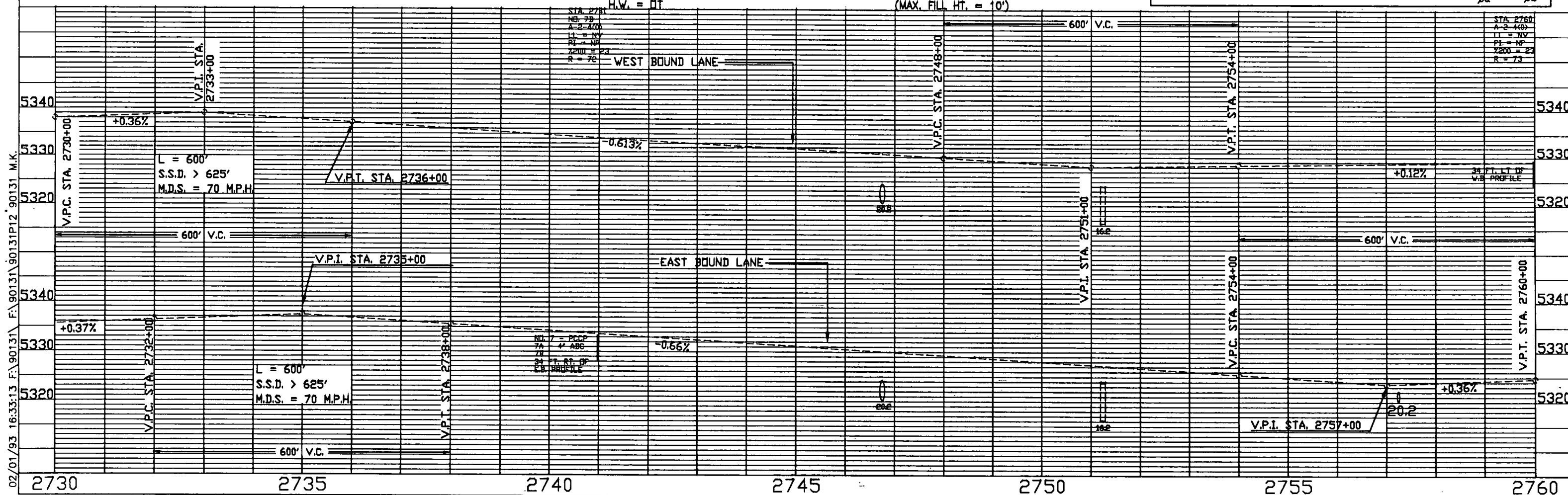


NOTE: ALL PROFILE GRADE LINES ARE FOR INFORMATION ONLY.
NEW PROFILE GRADE TO BE ESTABLISHED DURING CONSTRUCTION.

STA. 2751+25
SKEW 60° LT. (TYPE 10A) C.B.C. (EXISTING)
10' X 8' X 64' LT., 10' X 8' X 66' RT.
& TIMBER STRUCTURE FR. RD.
D.A. = 786 Ac.
Q27 = 665 c.f.s.
D.H.W. = 5324.9
A.H.W. = 5329.4
Q100 = 1330 c.f.s.
H.W. = 01

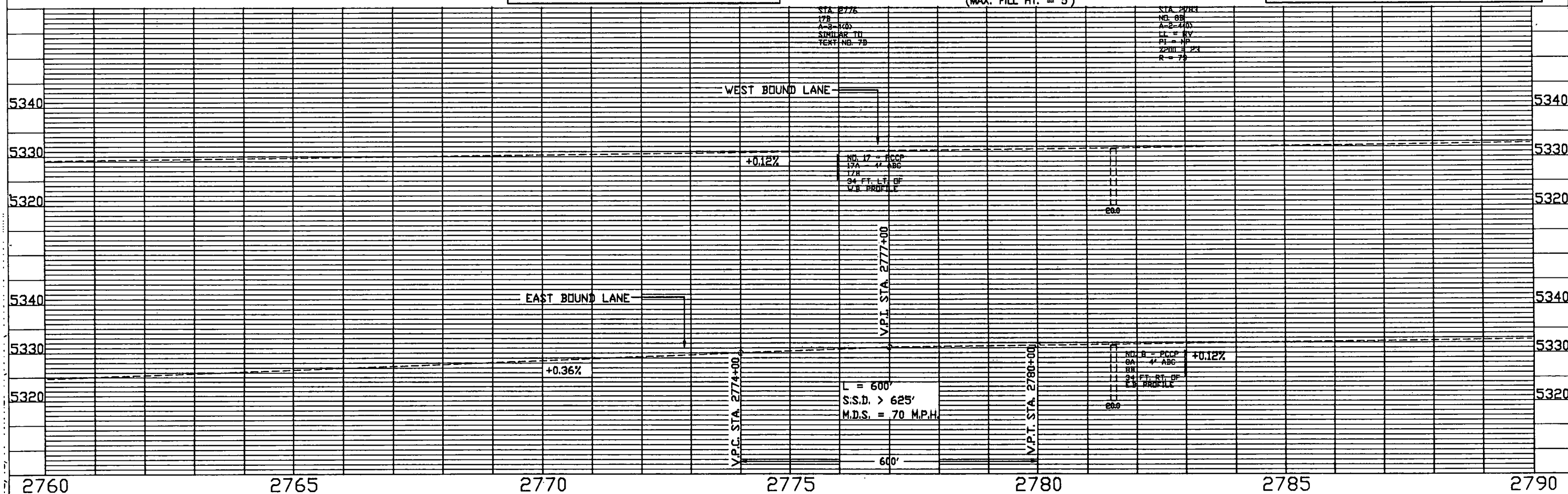
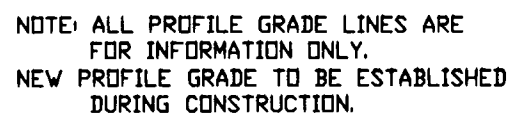
REQ'D. - REMOVE TIMBER STRUCTURE
REMOVE WINGS 4-EACH
EXTEND 28' LT., 78' MED., & 108' RT.
WINGS & HDWL'S. LT. & RT. - APRON RT.
(FOR HDWL LOC. SEE DETAIL SHEET)
SIDE DRAINS 24' X 64' (MED.) &
24' X 60' RT. C.S.P. W/FES'S.
RELAY RIPRAP AT INLET
(MAX. FILL HT. = 10')

WINGWALL DATA 2751+25			
INLET		OUTLET	
β_a	β_b	β_a	β_b
$m = 9.33'$	$m = 9.33'$	$m = 9.33'$	$m = 9.33'$
$l = 18' 30"$	$l = 30' 18"$	$l = 14' 22"$	$l = 22' 14"$
$k = 3'$	$k = 3'$	$k = 3'$	$k = 3'$
$z = 3:1$	$z = 3:1$	$z = 2:1$	$z = 2:1$



FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	51	101

$\Delta = 3^{\circ} 23' 08''$ RT.
 $D = 0^{\circ} 15'$
 $T = 677.4'$
 $L = 1354.2'$
 $R = 22920.0'$

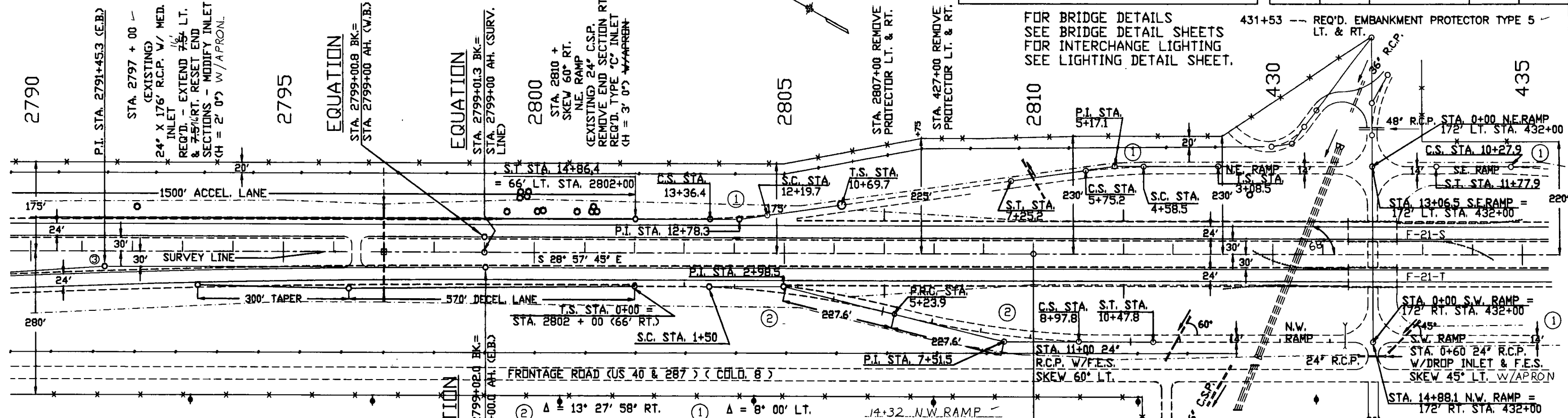


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STA 2794 +
REMOVE 1 ASPH. EMB. PROTECTOR

AS CONSTRUCTED
NO REVISIONS ☐ REVISED 12-1-94 ☒ VOID ☐

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	52	101



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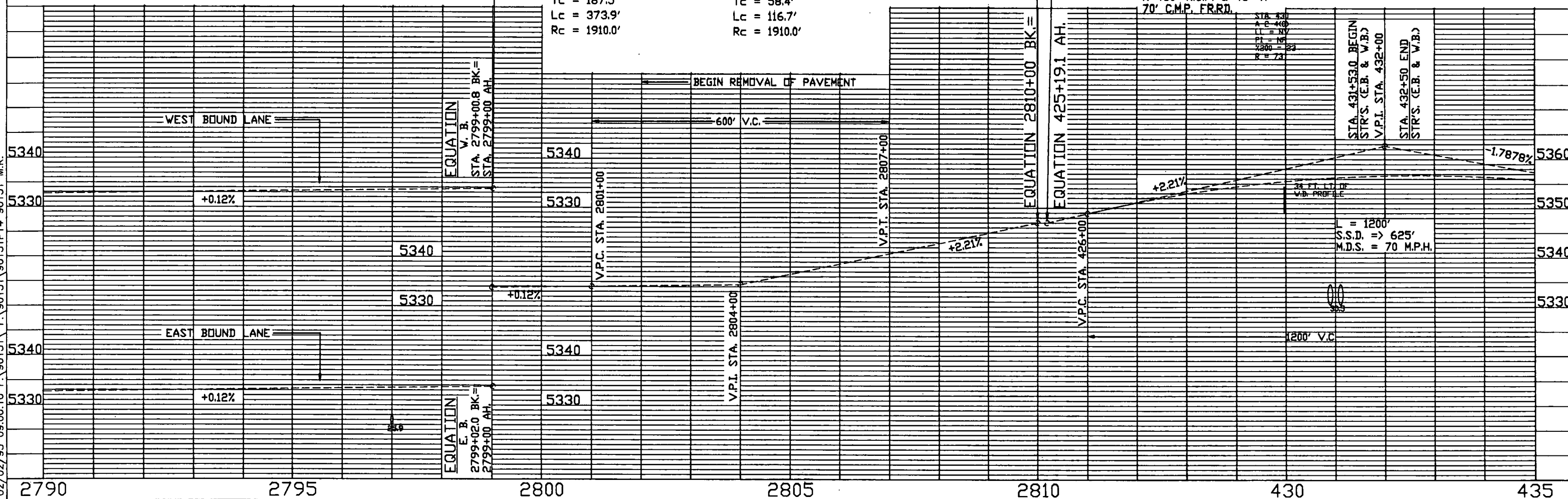
② $\Delta = 13^\circ 27' 58''$ RT.
 $T_s = 298.5'$
 $L_s = 150.0'$
 $\Delta_c = 11^\circ 12' 58''$ RT.
 $D_c = 3^\circ 00'$
 $T_c = 187.5'$
 $L_c = 373.9'$
 $R_c = 1910.0'$

① $\Delta = 8^\circ 00'$ LT.
 $T_s = 208.6'$
 $L_s = 150.0'$
 $\Delta_c = 3^\circ 30'$ LT.
 $D_c = 3^\circ 00'$
 $T_c = 58.4'$
 $L_c = 116.7'$
 $R_c = 1910.0'$

14+32 N.W. RAMP
REQ'D 24'x67' CSP W/F.E.S.

STA. 430 + 51
SKEW 68° LT.
(EXISTING) DOUBLE 48' X 450' R.C.P. & 48' X 70' C.M.P. F.R.R.D.

NOTE: ESTABLISH SEC. CBR. IN N.W. RAMP
432+50 -- REQ'D EMBANKMENT PROTECTOR TYPE 5 LT. & RT.



STA. 436+00 & STA. 437+00
REMOVE EMB. PROTECTOR LT. & RT.

NOTE: ALL PROFILE GRADE LINES ARE
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NEW PROFILE GRADE TO BE ESTABLISHED
DURING CONSTRUCTION.

STA. 443 + 00
(EXISTING)
24' X 121' R.C.P.

① RAMP

$\Delta = 8^{\circ} 00'$
 $T_s = 208.6'$
 $L_s = 150.0'$
 $\Delta c = 3^{\circ} 30' 00''$
 $D_c = 3^{\circ} 00'$
 $T_c = 58.4'$
 $L_c = 116.7'$
 $R_c = 1910.0'$

MAIN LINE

$\Delta = 11^{\circ} 45' 00''$ LT.
 $D = 1^{\circ} 15' 00''$
 $T = 471.7'$
 $L = 940.0'$
 $R = 4584.0'$
 $e = 0.039'/\text{Ft.}$
 $S.S.D. > 1300'$
 $M.D.S. = 70 \text{ M.P.H.}$

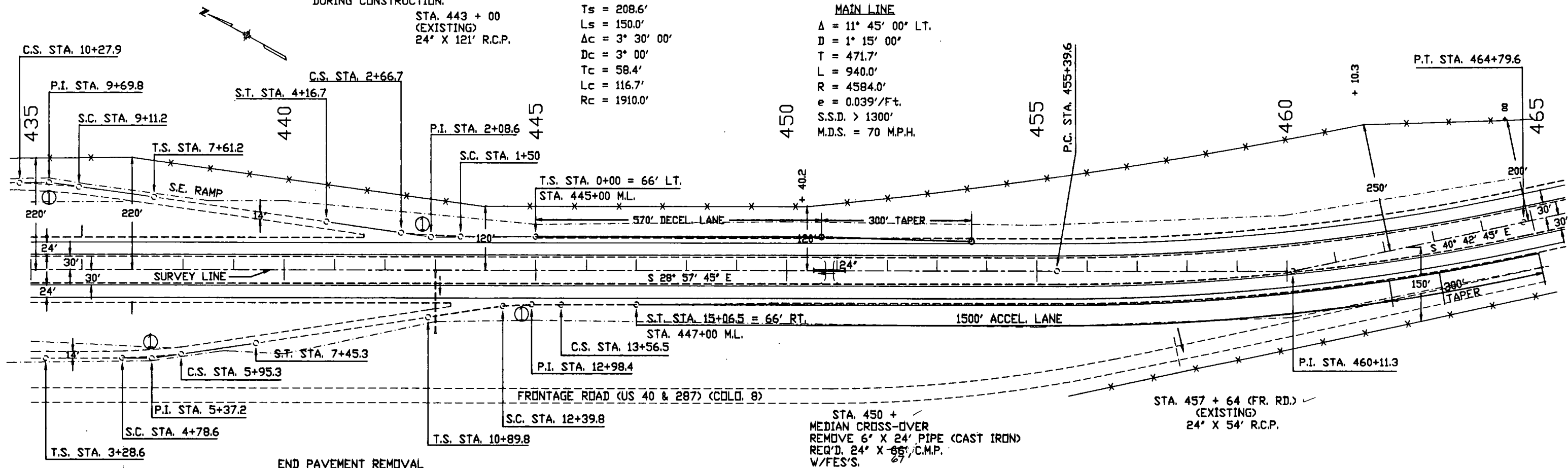
AS CONSTRUCTED

NO REVISIONS

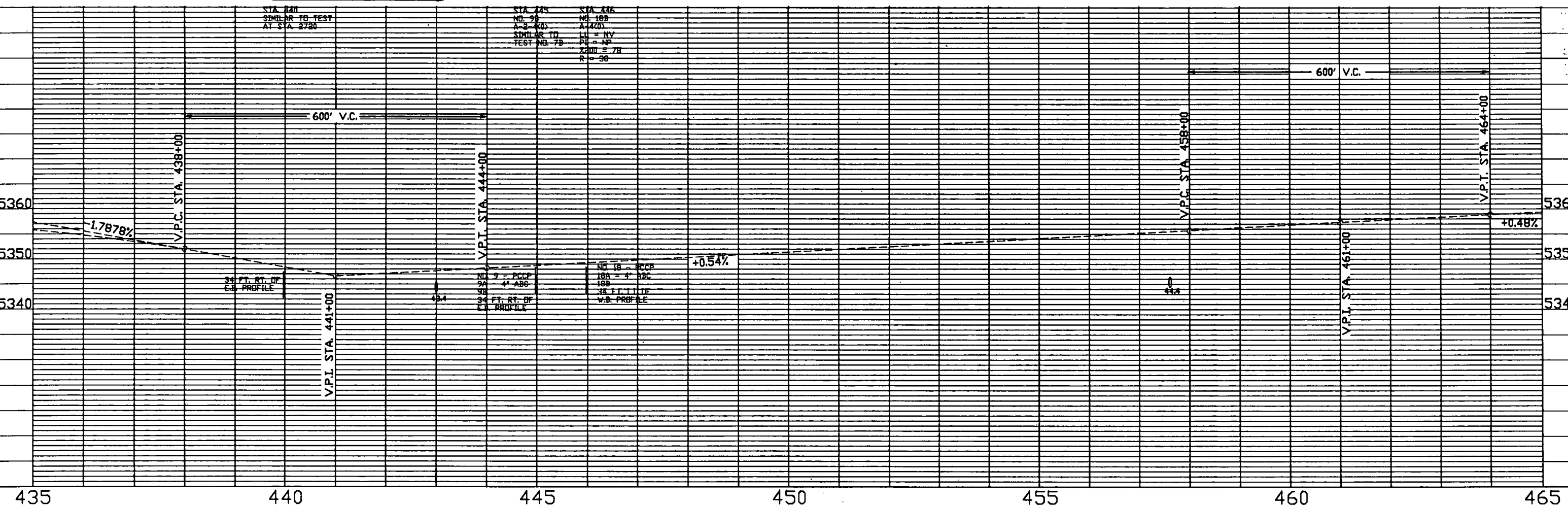
REVISED 12-1-94

VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	53	101



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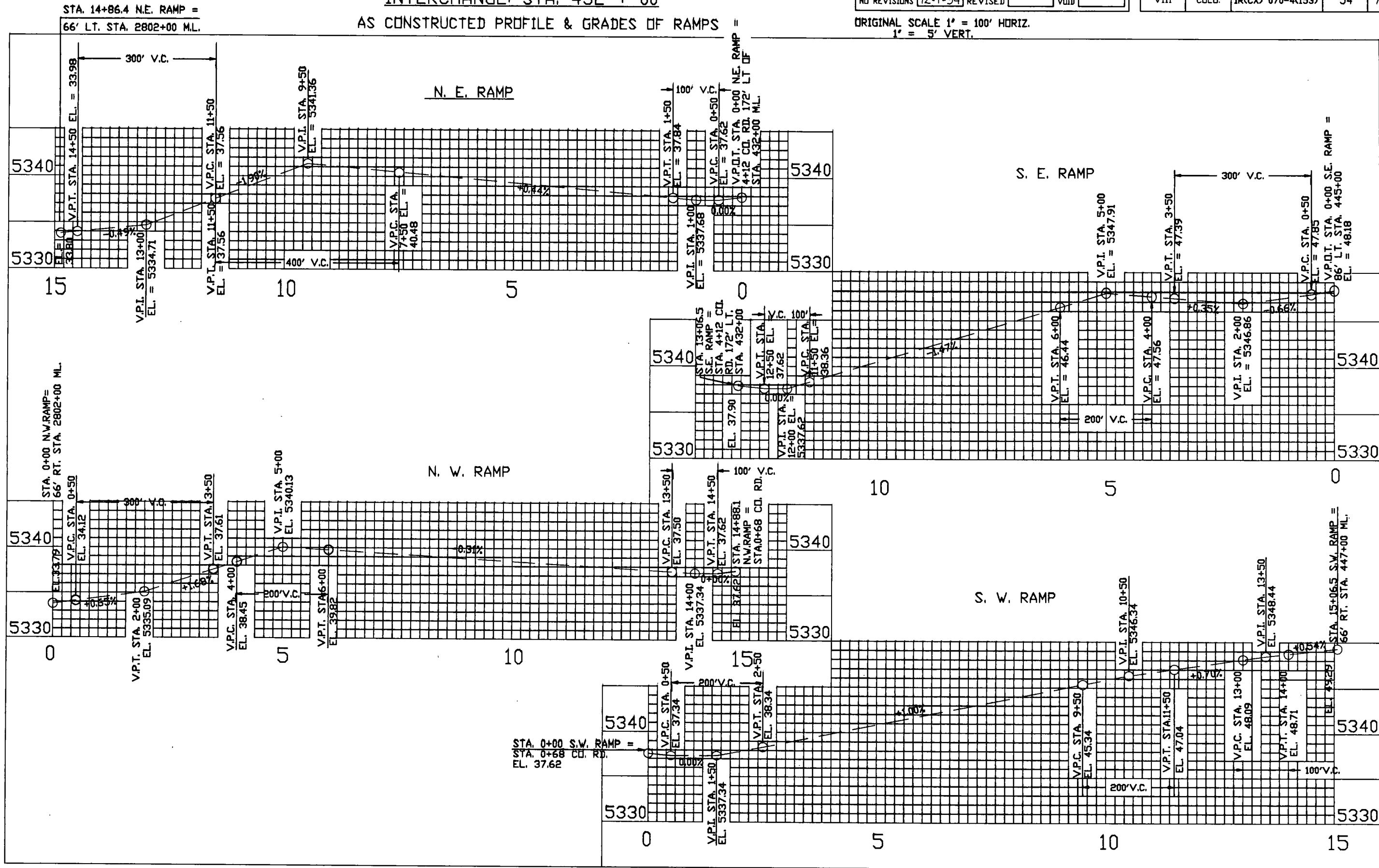
INTERCHANGE! STA. 432 + 00
AS CONSTRUCTED PROFILE & GRADES OF RAMPS =

AS CONSTRUCTED

NO REVISIONS 12-1-94 REVISED VOID

ORIGINAL SCALE 1" = 100' HORIZ.
1" = 5' VERT.

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	54	101



465

STA. 465 + 28 -
61' X 43' C.S.P. ARCH
W/ ASPHALT RUN DOWN
FIELD DRAIN (EXISTING)

STA. 469 + 89 -
(EXISTING)

36' X 213' R.C.P. V/OFFSET INLET
REQ'D. - EXTEND 24' LT.
RESET END SECTION
MODIFY INLET RT. (H = 15' - 2'0")
MATCH 4:1 SLOPE WITH INLET TOP
(WARP MEDIAN TO FIT EXISTING
INLET) DITCH LT.

470

D.A. = 30 AC.
Q40 = 55 c.f.s.
D.H.W. = 5361.9
A.H.W. = 5362.5
Q100 = 80 c.f.s.
H.W. = OT

P.O.T. STA. 473+00

475

480

STA. 478+76 -
(EXISTING)
18' X 100' R.C.P.
REQ'D. - EXTEND 75' LT. RESET
END SECTION, MODIFY MEDIAN
INLET (H = 1' 0") APRON

485

490

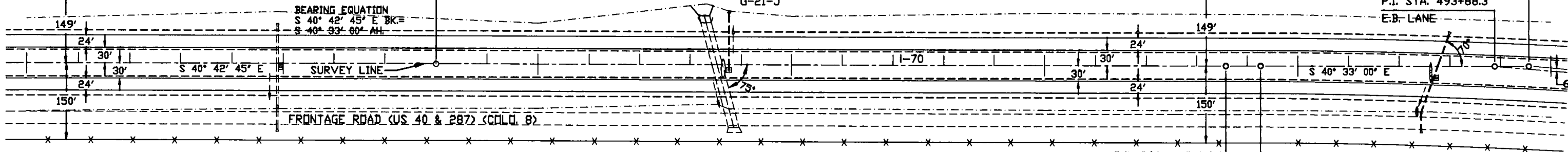
STA. 492+69 -
SKEW 70° LT.
(EXISTING)
24' X 231' R.C.P.
W/ INLETS MED. & RT.
REQ'D. - MODIFY MED. INLET
(H = 1' 0") APRON & DIKE

P.I. STA. 494+56.6

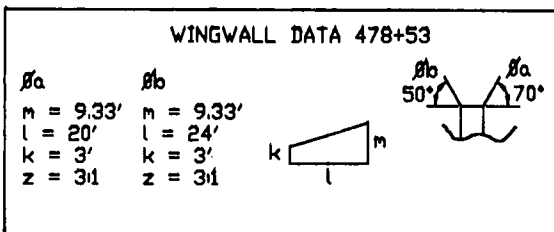
495

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	55	101



NOTE: ALL PROFILE GRADE LINES ARE
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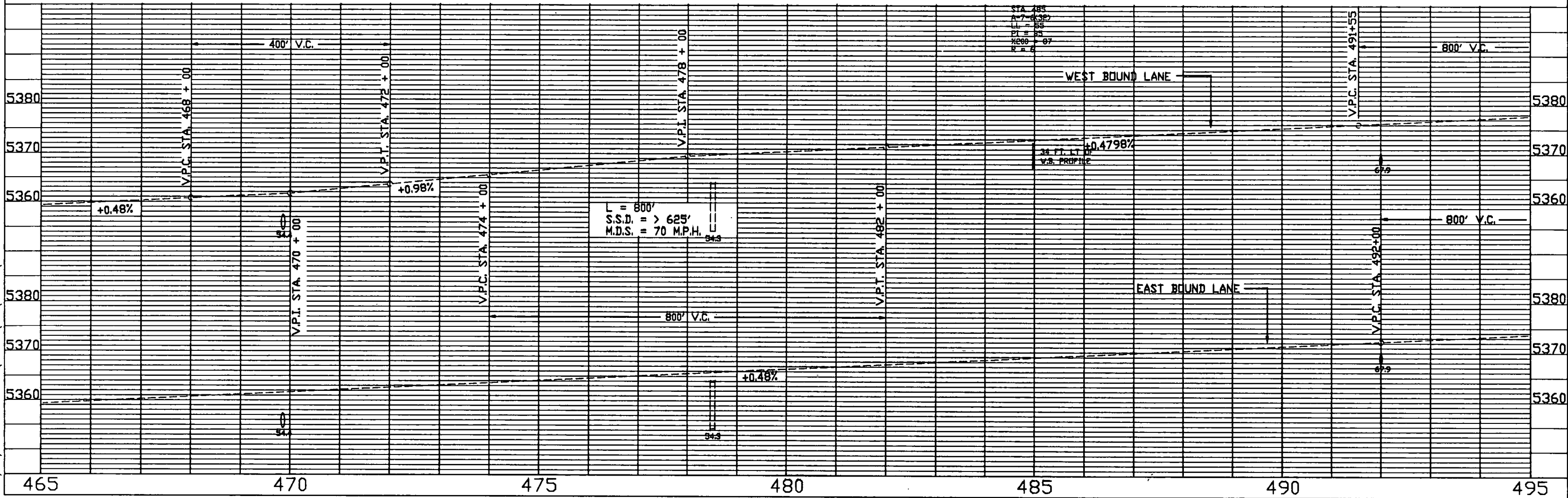


STA. 478 + 53 ✓
SKEW 75° RT.
(EXISTING)
TYPE 10-10-A C.B.C.
DOUBLE 10' X 8' X 211'

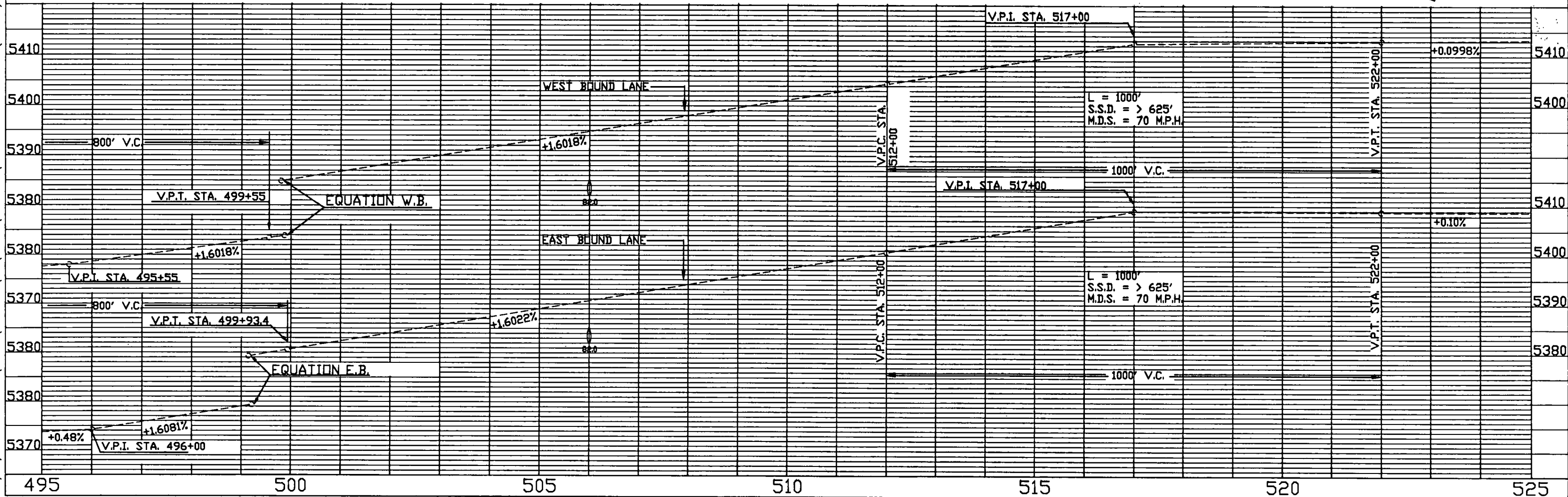
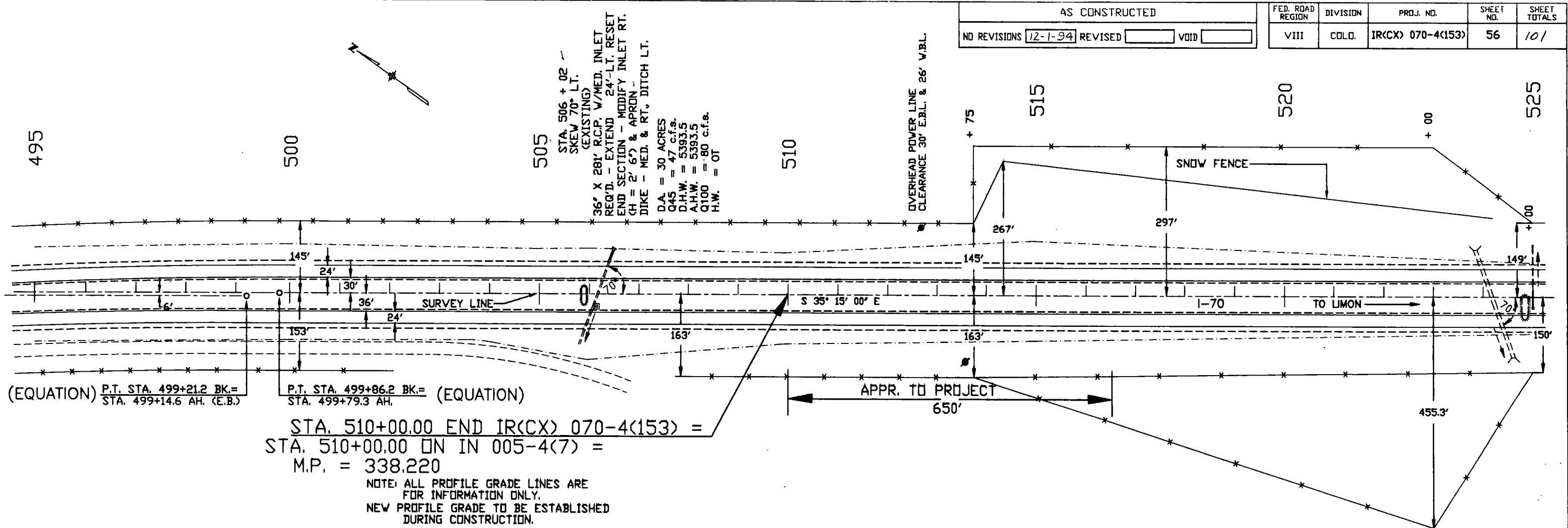
REMOVE WINGS 1-EACH
REQ'D. - EXTEND 14' LT.
& WING WALLS ON INLET
(FOR HDWL. LOC. SEE DETAIL SHEET) (MAX. FILL HT. = 10')

D.A. = 915 ACRES
Q50 = 1150 c.f.s.
D.H.W. = 5362.4
A.H.W. = 5363.5
Q100 = 1500 c.f.s.
H.W. = OT

$\Delta = 5^\circ 18' 00''$ RT.
 $D = 0^\circ 30' 00''$
 $T = 530.4'$
 $L = 1060.0'$
 $R = 11460.0'$
 $e = .02'/ft.$
 $S.S.D. > 1300'$
 $M.D.S. = 70$ M.P.H.



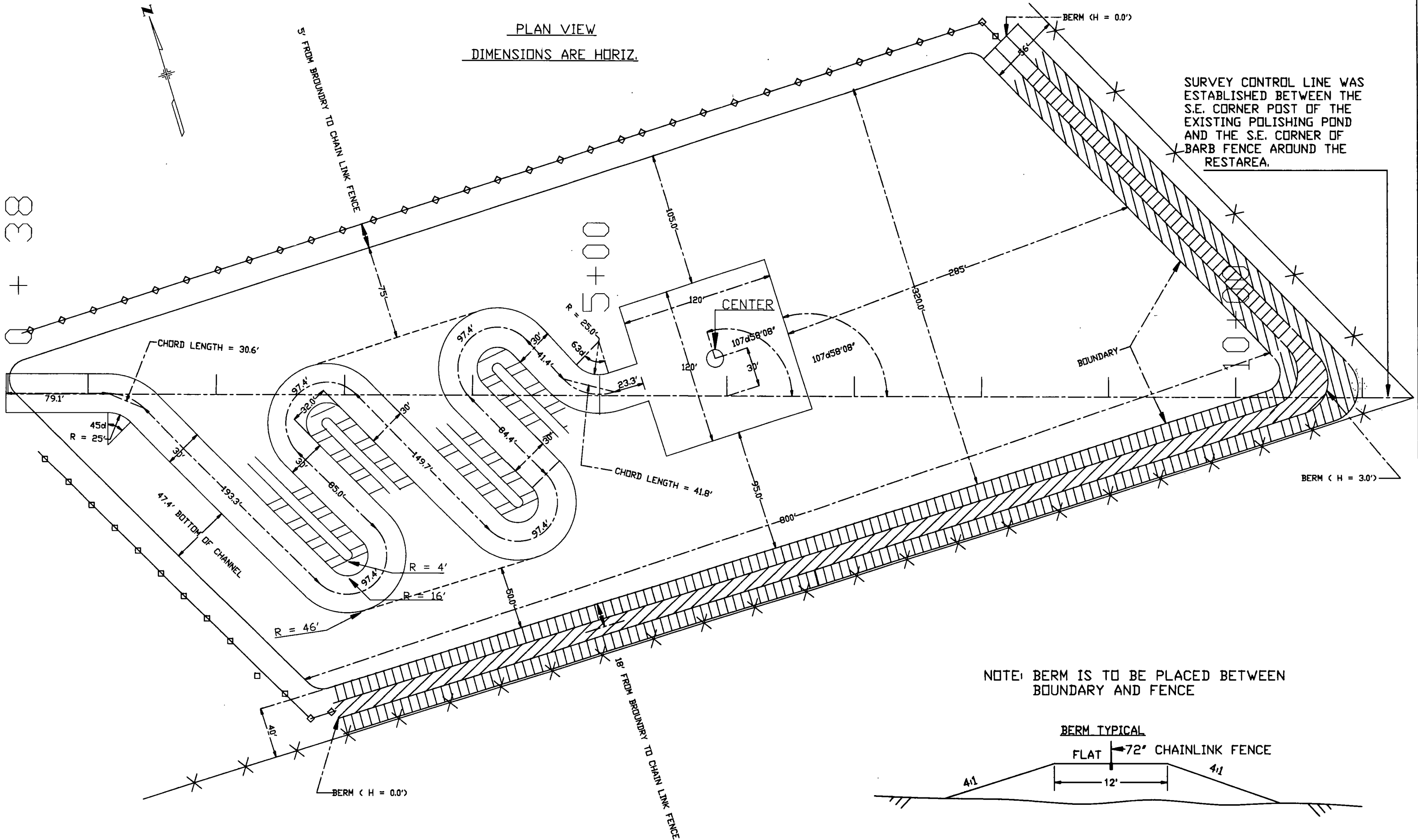
AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	12-1-94	REVISED	VOID	VIII	COLO.	IR(CX) 070-4(153)	56	101



DEERTRAIL REST AREA

AS CONSTRUCTED		
NO REVISIONS	12-1-94	REVISED
		VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	57	101



POND DIMENSIONS
320' W. X 800' L.

DEERTRAIL REST AREA

WETLAND CONTOURS & CHAIN LINK FENCE NOTES

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

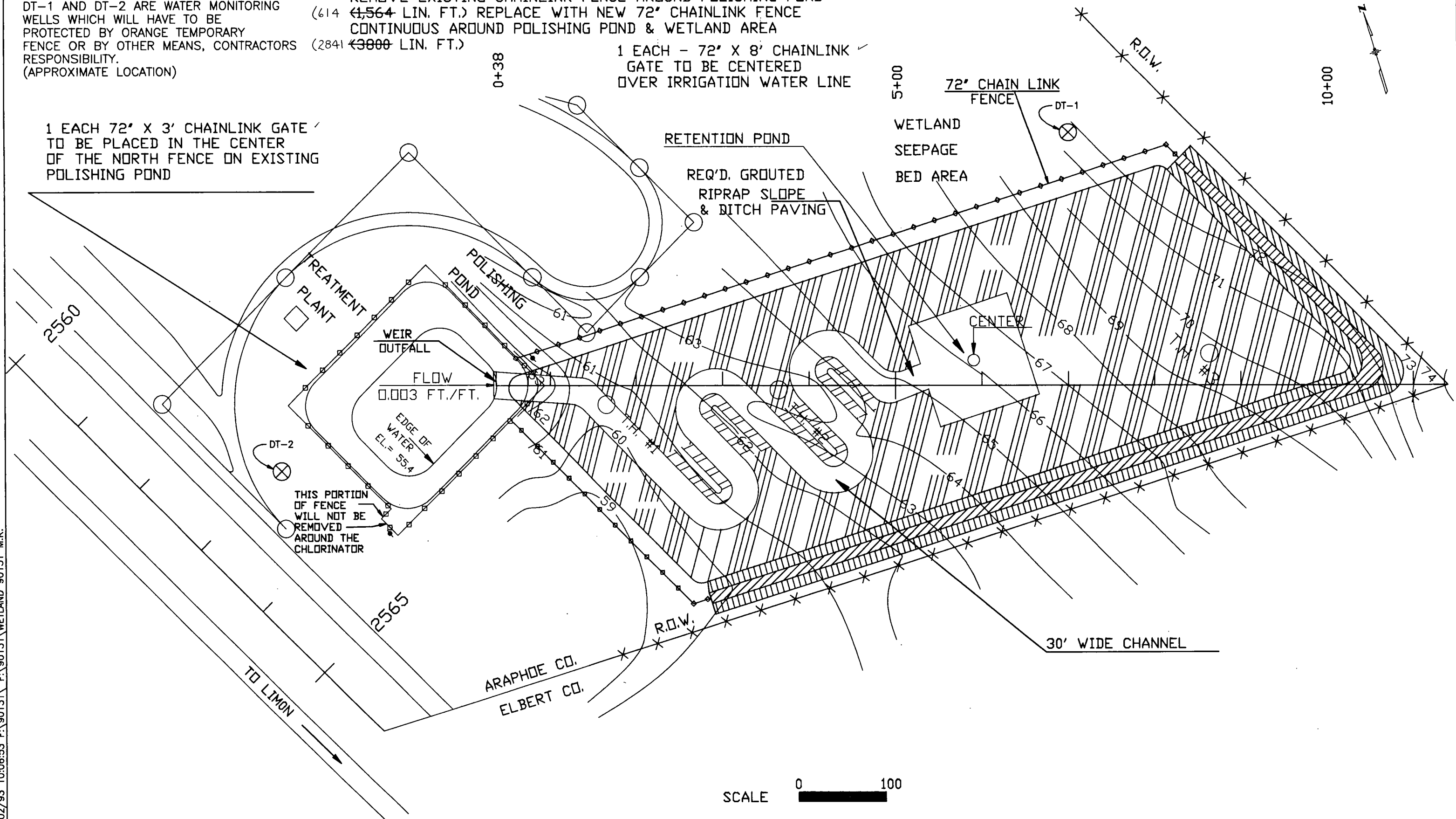
FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	58	101

NOTE:
DT-1 AND DT-2 ARE WATER MONITORING
WELLS WHICH WILL HAVE TO BE
PROTECTED BY ORANGE TEMPORARY
FENCE OR BY OTHER MEANS, CONTRACTORS
RESPONSIBILITY.
(APPROXIMATE LOCATION)

REMOVE EXISTING CHAINLINK FENCE AROUND POLISHING POND
(1,564 LIN. FT.) REPLACE WITH NEW 72" CHAINLINK FENCE
CONTINUOUS AROUND POLISHING POND & WETLAND AREA
(3,800 LIN. FT.)

1 EACH - 72" X 8' CHAINLINK
GATE TO BE CENTERED
OVER IRRIGATION WATER LINE

1 EACH 72" X 3' CHAINLINK GATE
TO BE PLACED IN THE CENTER
OF THE NORTH FENCE ON EXISTING
POLISHING POND



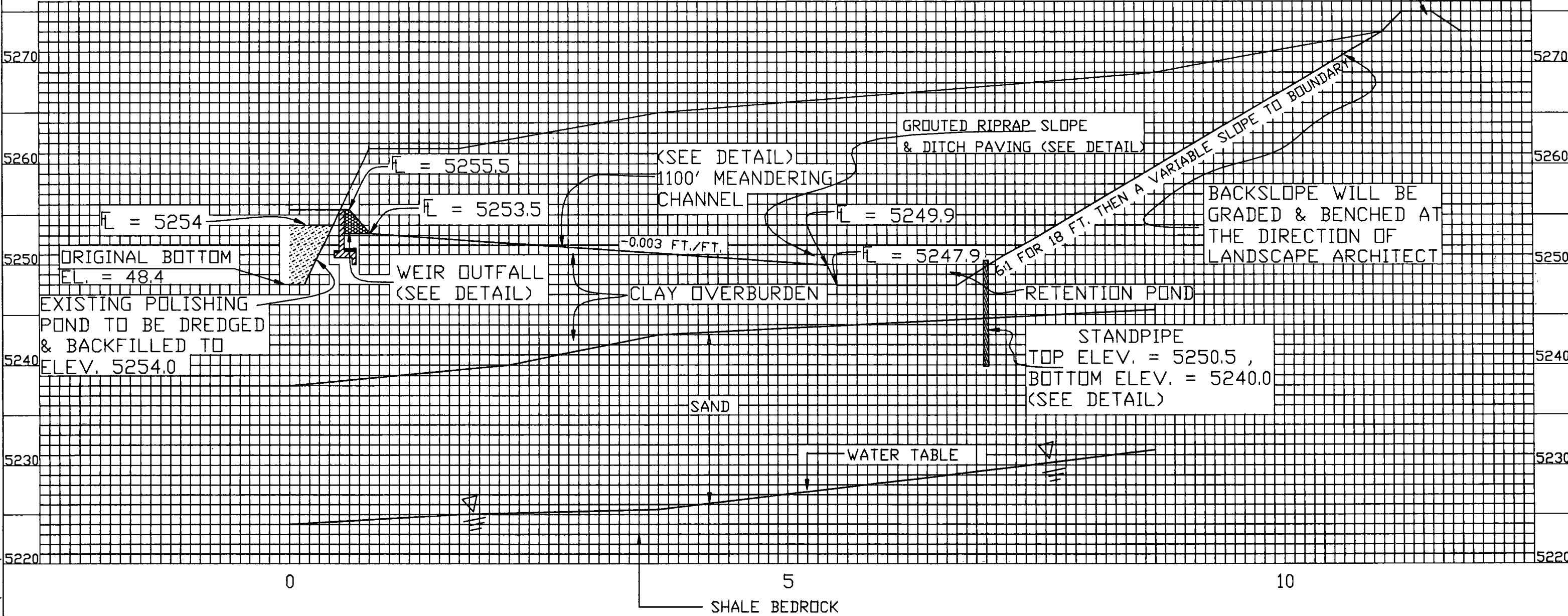
ORIGINAL SCALE 1" = 50' HORIZ.
1" = 5' VERT.

AS CONSTRUCTED		
NO REVISIONS	12-1-94	REVISED
		VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	59	101

DEERTRAIL REST AREA
WETLANDS

BERM TO DIVERT
OFFSITE RUNOFF TO BE
PLACED BETWEEN
BOUNDARY & FENCE



CONFIRMATION DATE: 9-21-90

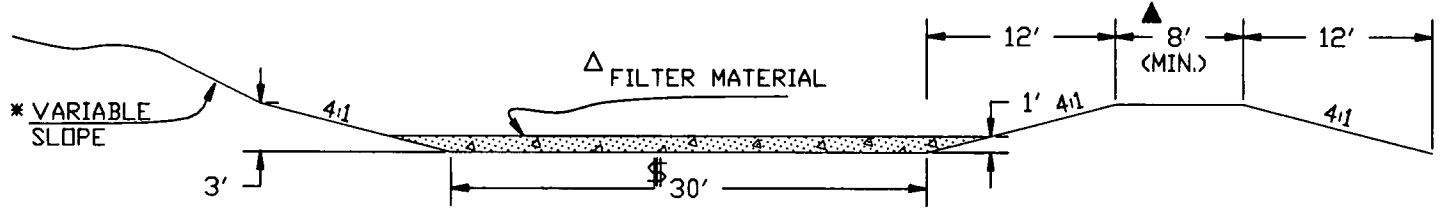
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DEERTRAIL REST AREA

AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO REVISIONS	12-1-94	REVISED	VOID	VIII	COLD.	IR(CX) 070-4(153)	60	101

NOT TO SCALE

WETLAND CHANNEL
TYPICAL SECTION



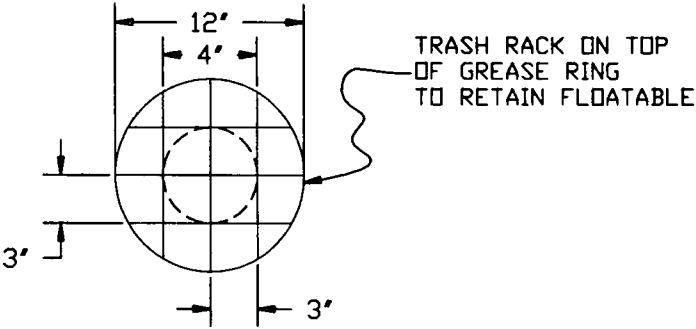
* IF CHANNEL SLOPE IS ON OUTSIDE OF MEANDER RADIUS, SLOPE WILL EXTEND UP AT A VARIABLE SLOPE TO INTERCEPT EXISTING GROUND LINE.

▲ IF CHANNEL SLOPE IS PASSING OTHER SECTION OF CHANNEL IN A MEANDER LOOP A FLAT SURFACE A MINIMUM OF 8 FT. WIDE WILL BE GRADED BETWEEN THE TWO SECTIONS.

\$ 30 FOOT CHANNEL WILL BE COMPACTED T-99 TO BE PAID AS ITEM 203 EXCAVATION (C.I.P.) BEFORE FILTER MATERIAL IS PLACED.

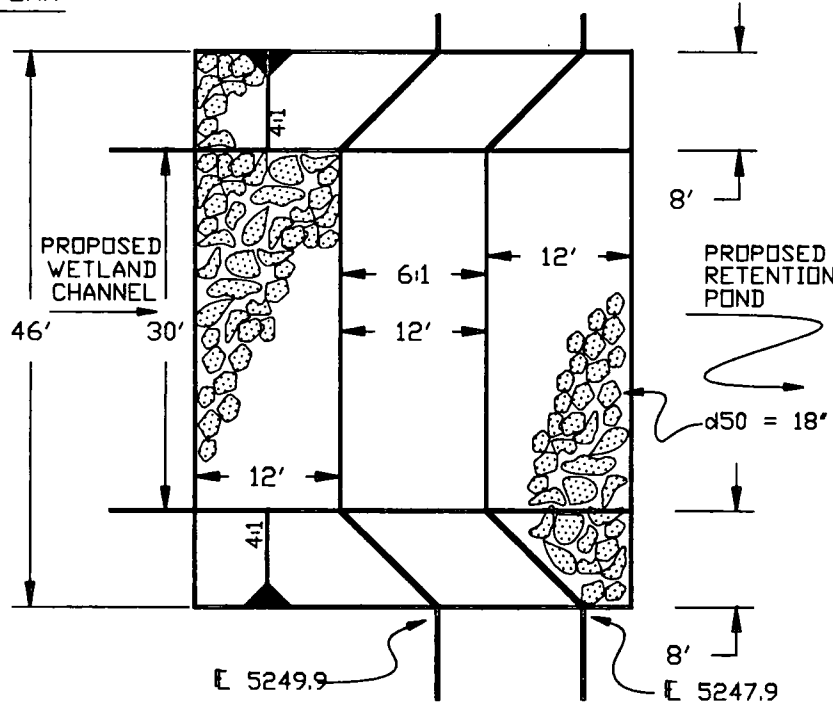
Δ FILTER MATERIAL SHALL BE CLASS 1 OR CLASS 2 BACKFILL MATERIAL.

STANDPIPE DETAIL

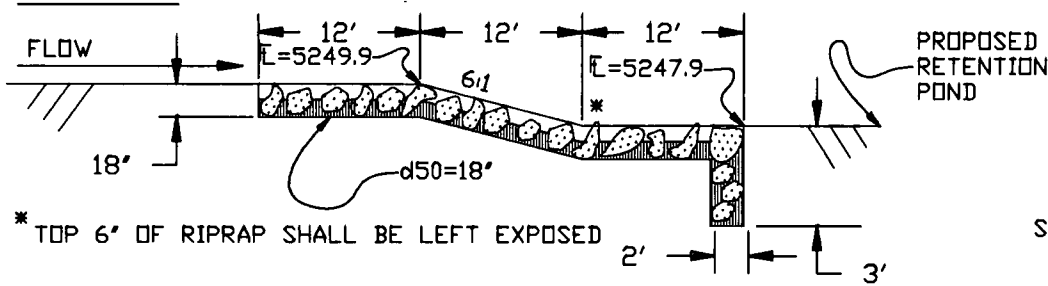


GRouted RIPRAP SLOPE & DITCH PAVING
(STA. 5 + 14 TO 5 + 50)

— PLAN



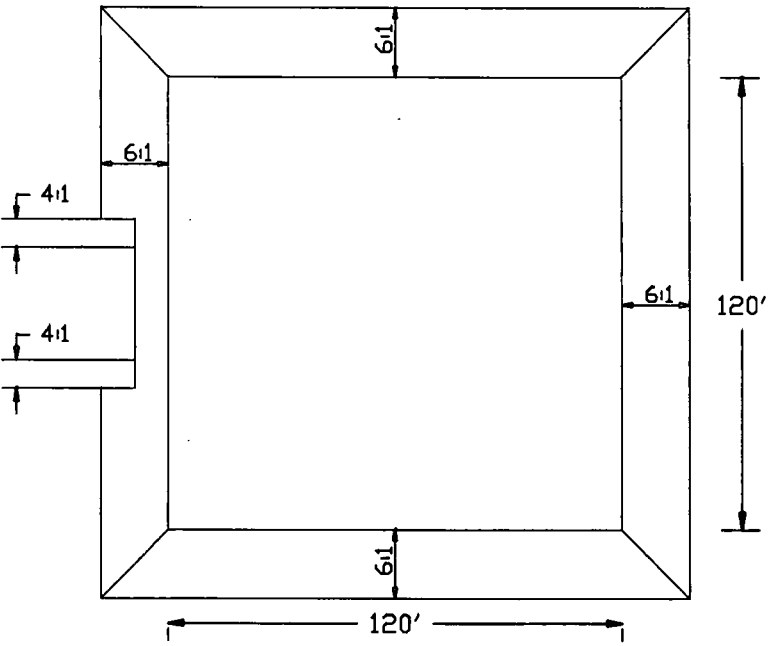
— PROFILE



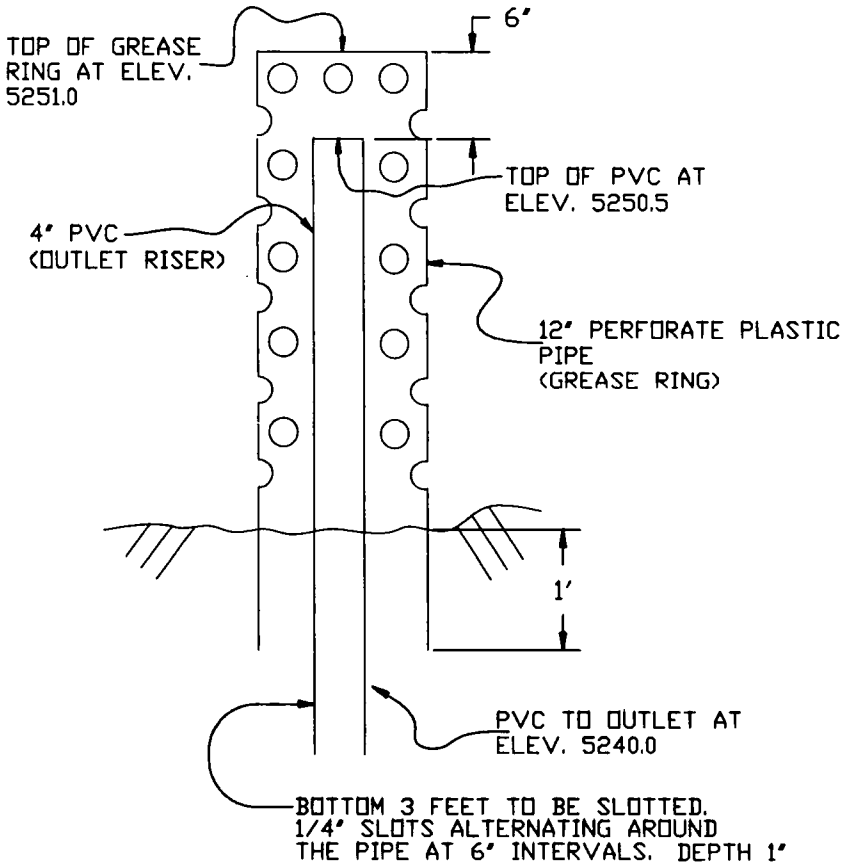
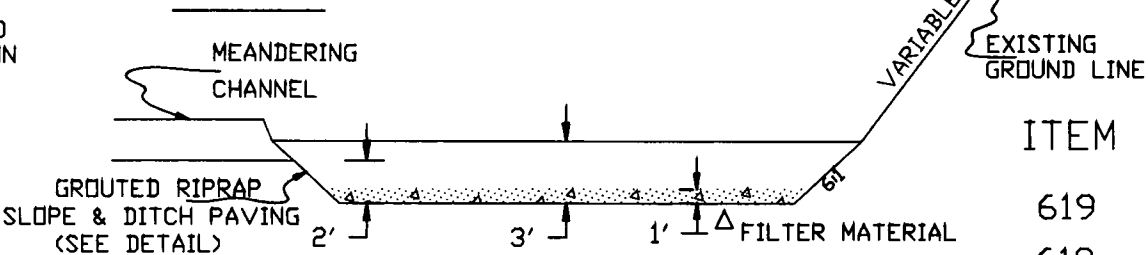
* TOP 6" OF RIPRAP SHALL BE LEFT EXPOSED

RETENTION POND DETAIL (STA. 6 + 10 AT CENTER)

— PLAN



— PROFILE



* GREASE RING SHALL BE IMBEDDED 1 FT. BELOW THE BOTTOM OF THE RETENTION POND.

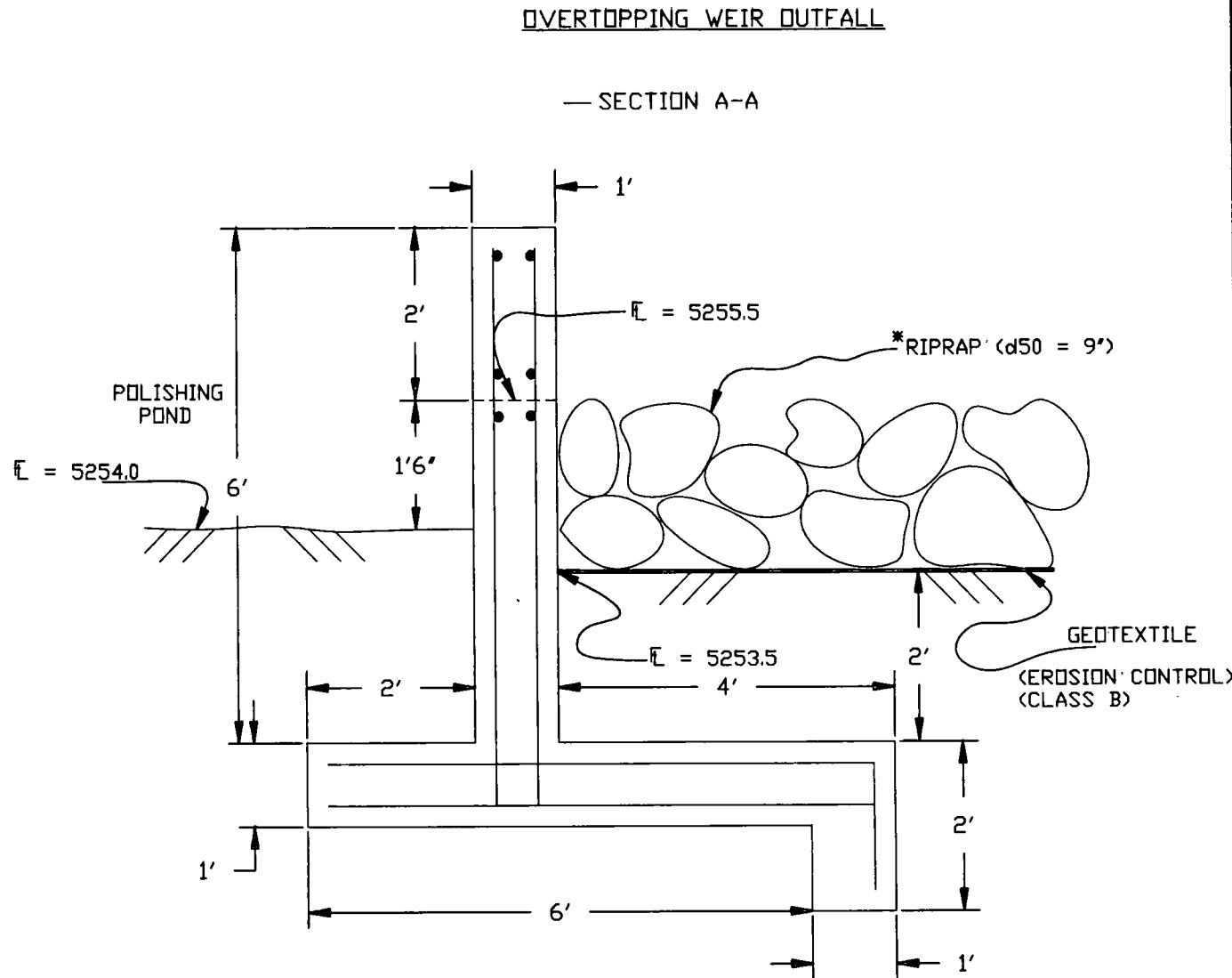
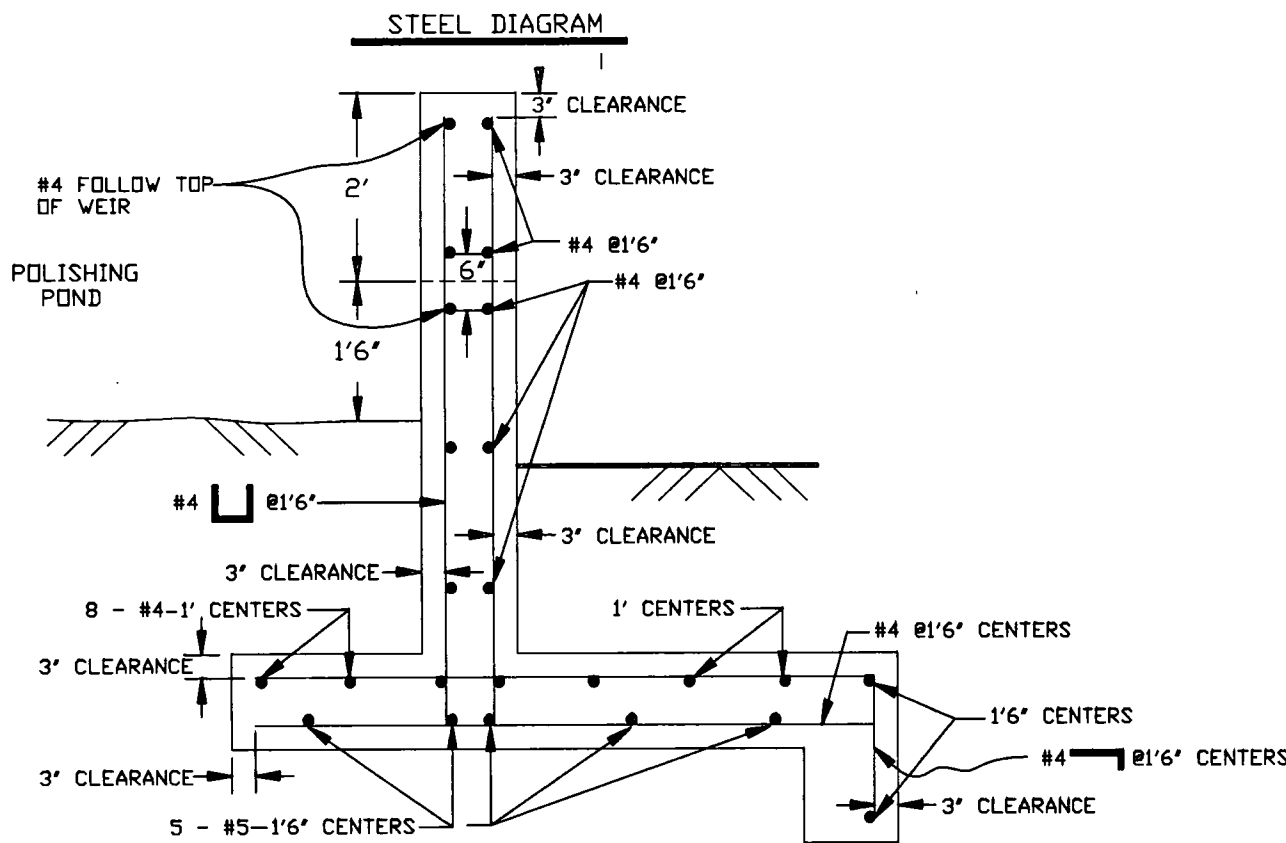
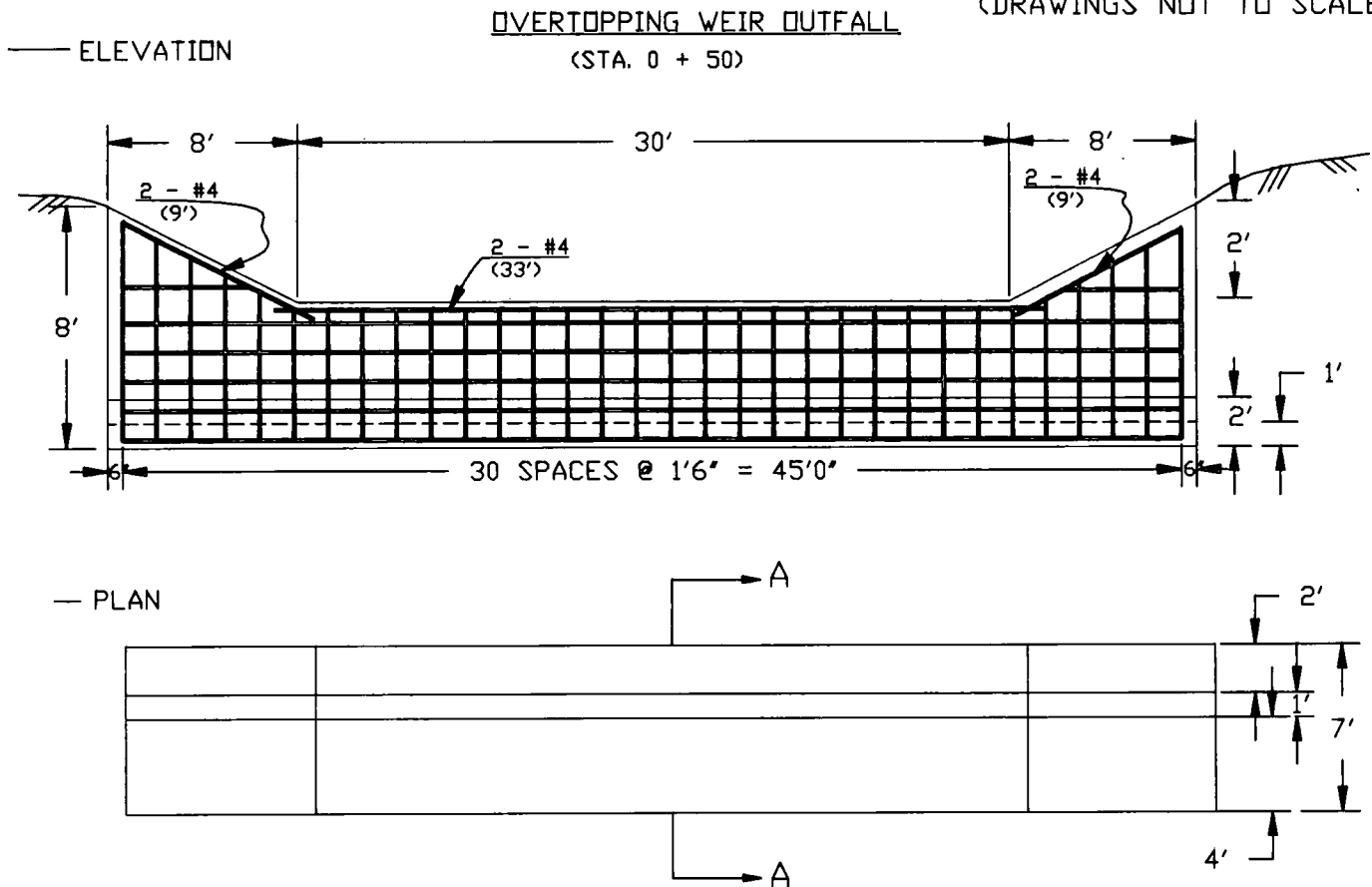
ITEM	DESCRIPTION	UNIT	TOTAL
619	4" PLASTIC PIPE	LIN. FT.	11 ✓
619	12" PLASTIC PIPE	LIN. FT.	4 ✓

DEERTRAIL REST AREA

(DRAWINGS NOT TO SCALE)

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	61	101



RIPRAP SHOULD EXTEND 20' FROM DOWNSTREAM FACE OF WEIR.

ITEM	DESCRIPTION	UNIT	TOTAL
420	* GEOTEXTILE (EROSION CONTROL)(CL-B)	SQ. YD.	102✓
506	GROUTED RIPRAP SLOPE & DITCH PAVING	CU. YD.	97 119✓
601	CONCRETE (CL-A)(MISC.)	CU. YD.	21 20.59✓
206	FILTER MATERIAL (SPECIAL)	CU. YD.	1,222 1835✓
206	FILTER MATERIAL (SPECIAL) M.C.R. LINE 16	CU. YD.	222✓
206	* STR. EXC. (GROUTED RIPRAP RUNDOWN)	CU. YD.	103✓
206	* STR. EXC. (WEIR OUTFALL)	CU. YD.	68✓
206	* STR. BACKFILL (WEIR OUTFALL)	CU. YD.	49✓
506	PLACE RIPRAP (WEIR OUTFALL)	CU. YD.	68 51✓
602	* REINFORCING STEEL	LB.	1,176 1,167.77

* CARRIED TO STRUCTURE QUANTITIES

LEGEND:

--- , --- LIMITS OF WETLAND SEEDING AND SOIL PREP(SPECIAL)

— — — — — LIMITS OF WETLAND PLUGS

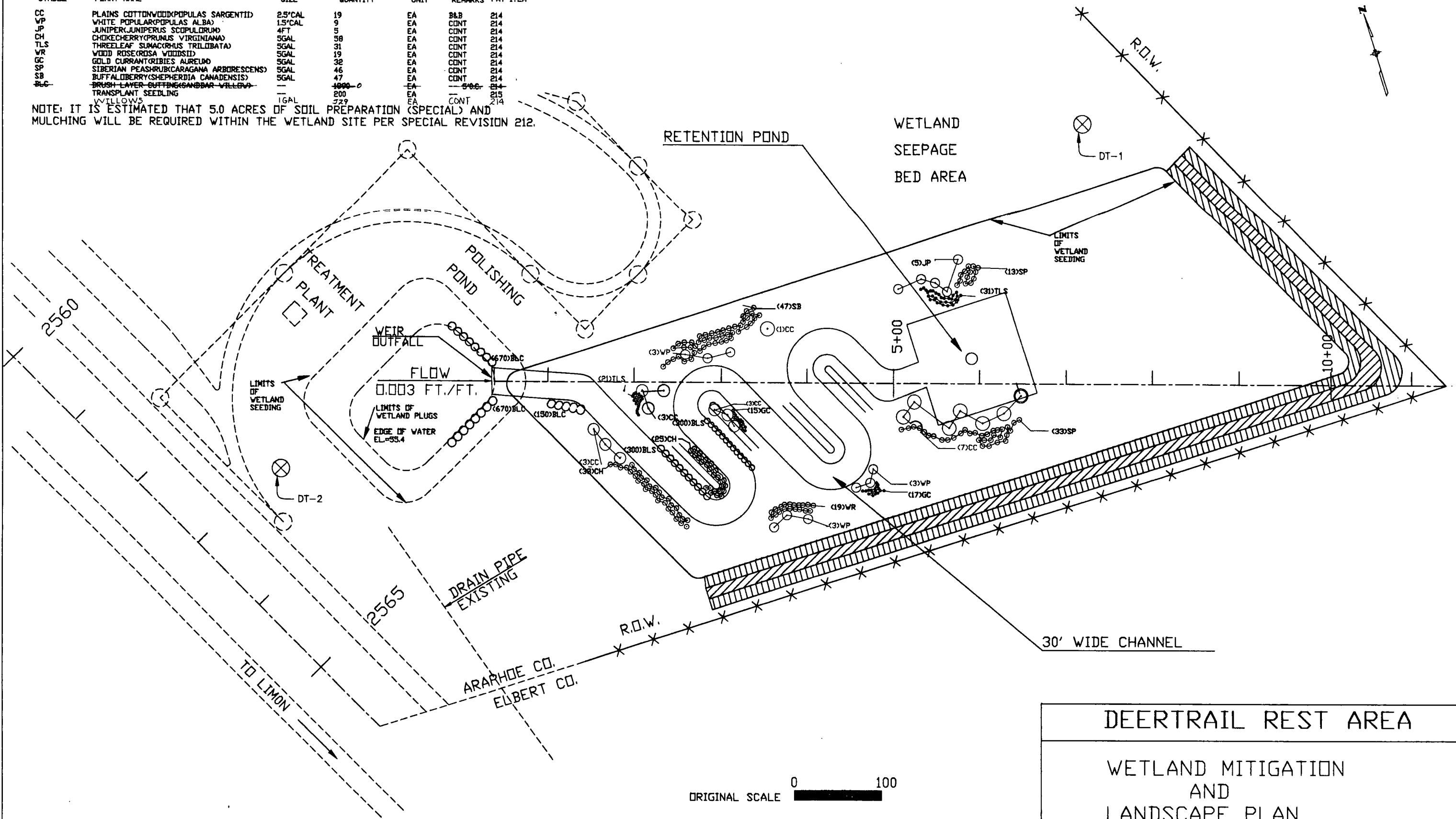
PLANTING LEGEND

SYMBOL	PLANT NAME	SIZE	QUANTITY	UNIT	REMARKS	PAY ITEM
CC	PLAINS COTTONWOOD(POPULUS SARGENTII)	2.5" CAL	19	EA	B&B	214
VP	WHITE POPULAR(POPULUS ALBA)	1.5" CAL	9	EA	CONT	214
JP	JUNIPER(JUNIPERUS SCOPULORUM)	4 FT	5	EA	CONT	214
CH	CHOKECHERRY(PRUNUS VIRGINIANA)	5 GAL	58	EA	CONT	214
TLS	THREELAF SUMAC(RHUS TRILOBATA)	5 GAL	31	EA	CONT	214
VR	WOOD ROSE(ROSA VIRGINICA)	5 GAL	19	EA	CONT	214
GC	GOLD CURRANT(RIBES AUREUM)	5 GAL	32	EA	CONT	214
SP	SIBERIAN PEASHRUB(CARAGANA ARBORESCENS)	5 GAL	46	EA	CONT	214
SB	BUFFALOBERRY(SHEPHERDIA CANADENSIS)	5 GAL	47	EA	CONT	214
BLC	BRUSH-LAYER-GUTIERREZ(VILLOW)	1000-0	200	EA	5-00	214
	TRANSPLANT SEEDLING	1 GAL	729	EA	CONT	214
	WILLOWS					

NOTE: IT IS ESTIMATED THAT 5.0 ACRES OF SOIL PREPARATION (SPECIAL) AND MULCHING WILL BE REQUIRED WITHIN THE WETLAND SITE PER SPECIAL REVISION 212.

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	62	101



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WETLAND MITIGATION, IRRIGATION, AND

PLANTING NOTES:

NO BARE ROOT MATERIAL WILL BE ACCEPTED.

PRIOR TO INSTALLATION, ALL TREE AND SHRUB LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT.

FRESH WOOD CHIP MULCH 6" THICK SHALL BE REQUIRED FOR PLANTING BASINS AND BEDS. WOOD CHIPS MULCH WILL NOT BE BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PRICE OF THE WORK.

SOIL CONDITIONER (ASPEN HUMUS) SHALL BE ADDED TO BACKFILL FOR TREES AND SHRUBS IN ACCORDANCE WITH SUBSECTION 214.03 BACKFILLING. SOIL CONDITIONER (ASPEN HUMUS) WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE PRICE OF THE WORK.

ALL WIRE BASKETS ON BALLED AND BURLAPPED TREES SHALL BE REMOVED PRIOR TO BACKFILLING OR AS DIRECTED BY THE ENGINEER.

ALL TREE GUYING AND STAKING SHALL BE REMOVED BY THE CONTRACTOR AT THE END OF PLANT ESTABLISHMENT PERIOD.

NOTES:

UPON COMPLETION OF THE WETLAND SEEDING, PLANTING, IRRIGATION, CHANNEL AREA CONSTRUCTION AND GRADING, THE EXISTING POND SHALL BE DRAINED INTO THE CONSTRUCTED CHANNEL OR AS DIRECTED BY ENGINEER.

IT IS ESTIMATED THAT 20 BLADING HOURS WILL BE REQUIRED TO ROUND AND SHAPE SLOPES AND CHANNEL BOTTOM WITHIN WETLAND SITE.

SEEDING (WETLAND)

SEEDING, SOIL PREPARATION AND MULCHING WILL BE REQUIRED FOR APPROXIMATELY 5 ACRES WITHIN WETLAND AREA INCLUDING CHANNEL BOTTOM. THE FOLLOWING TYPES AND RATES SHALL BE USED:

COMMON NAME:	SCIENTIFIC NAME:	LBS./PLS/ ACRE
WESTERN WHEAT GRASS V ARRIBA	PASCOPIRON SMITHII	4
ALKALI SACATON	SPOROBOLUS AIROIDES	.5
STREAMBANK WHEATGRASS	ELYMUS LANCEOLATUS	4
BLUE GRAMA V N.M. NATIVE	BOUTELOUA GRACILIS	1
BIG BLUE STEM	ANDROPOGON GERARDI	4
ORCHARDGRASS	DACTYLIS GLOMERATA	2
REED CANARYGRASS	PHALARIS ARUNDINACEA	2
SWITCHGRASS	PANICUM VIRGATUM	2
YARROW	ACHILLEA MILLEFOLIUM	.1
BLUE FLAX	LINUM PERENNE V APAR	.5
FOUR WINGED SALTBU	ATRIPLEX CANESCENS	.5
PRAIRE CONEFLOWER	RATIBIDA COLUMNIFERA	.25
TOTAL		20.85

SEEDING APPLICATION: SEED SHALL BE MECHANICALLY DRILLED TO A DEPTH OF .25 TO .5 INCHES INTO SOIL. CHANNEL BOTTOM AND SLOPES STEEPER THAN 2:1 SHALL BE HAND SEEDED AND RAKED INTO SOIL TO A DEPTH OF .25 TO .5 INCHES.

MULCHING REQUIREMENTS: 1.5 TONS PER ACRE NATIVE HAY CRIMPED INTO SOIL (CHANNEL BOTTOM EXCLUDED)

NO FERTILIZERS SHALL BE USED IN WETLAND AREA.

IT IS ESTIMATED THAT ^{0.53}~~0.4~~ ACRES OF SEEDING (LAWN) WILL BE REQUIRED WITHIN LIMITS OF DISTURBED REST AREA LAWN. RESEED TURF AREA USING 220 LBS. PER ACRE TALL FESCUE (FESTUCA SPP. RERBEL II). MULCHING WILL NOT BE REQUIRED IN TURF AREA. TURF AREA WILL BE FERTILIZED WITH THE SAME TYPE OF FERTILIZER AS THE ROADWAY AND ALSO AT THE SAME RATE OF APPLICATION. IT IS ESTIMATED THAT 66 LBS. OF SEED WILL BE REQUIRED FOR THIS PROJECT. SEEDING OF TURF AREA WILL BE PAID UNDER ITEM 212 SEEDING (LAWN).

REPLACE EXISTING SUMP PUMP LOCATED AT TREATMENT PLANT WITH A SUBMERSIBLE SEWAGE PUMP (GOULD MODEL 3888DX-1.5HP SINGLE PHASE) OR APPROVED EQUAL. THE PUMP DISCHARGE PIPE SHALL BE 4 INCH SCH 40 PVC AND EXTEND FROM SUMP PUMP PIT TO THE TOP OF POND SLOPE. PIPE DEPTH TO 2 FT. WHERE POSSIBLE. FROM PIPE OUTLET TO WATERLINE CONSTRUCT RIPRAP AND GEOTEXTILE CULVERT OUTLET PAVING PER (M-606-12). CONTROLS AND WIRING FOR PUMP TO BE PER MANUFACTURERS RECOMMENDATIONS. ALL WORK AND INCIDENTAL ITEMS PERTAINING TO THE REPLACEMENT OF THE SUMP PUMP SHALL BE INCLUDED IN PAY ITEM 622 SUMP PUMP.

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS		REVISED 12-1-94	VIII	COLO.	IR(CX) 070-4(153)	63

SUMP PUMP NOTES:

THE SYSTEM DESIGN ASSUMES A MINIMUM DYNAMIC PRESSURE OF 55 PSI WITH A FLOW OF 17 TO 24 GPM. THE CONTRACTOR SHALL VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION OF THE IRRIGATION SYSTEM.

THE CONTRACTOR SHALL DETERMINE LOCATIONS OF EXISTING UNDERGROUND UTILITIES.

POINT OF CONNECTION IS EXISTING ONE INCH HYDRANT SUPPLY PIPE LOCATED NEXT TO TREATMENT PLANT. SERVICE TAP, 1" SUPPLY PIPE AND BACKFLOW PREVENTER ENCLOSURE AND PAD WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE PRICE OF THE WORK.

THE CONTROLLER POWER SOURCE SHALL BE FROM THE TREATMENT PLANT AS APPROVED PER STATE CODES. ELECTRICAL HOOK UP TO POWER SOURCE AND CLOCK WILL BE INCLUDED IN THE WORK.

CONTRACTOR SHALL REFER TO AND COORDINATE IRRIGATION SYSTEM INSTALLATION WITH LANDSCAPE PLANS.

SUMMARY OF IRRIGATION QUANTITIES

ITEM	DESCRIPTION	UNIT	REMARKS	TOTAL
619	3/4" PLASTIC PIPE	LF	LATERAL PIPE	560 308
619	1" PLASTIC PIPE	LF	LATERAL PIPE	400 439
619	1-1/4" PLASTIC PIPE	LF	LATERAL PIPE	550 603
619	1-1/2" PLASTIC PIPE	LF	LATERAL PIPE	1450 1407
619	2" PLASTIC PIPE	LF	PRESSURE LINE PIPE	1240 1230
623	2" AUTO CONTROL VALVE	EACH	MASTER VALVE	1
623	3/4" POP-UP ROTARY SPRK	EACH	RB MAXI-PAW	48
623	1-1/2" AUTO CONTROL VALVE	EACH		12
623	1" BACKFLOW PREVENTER	EACH	REDUCED PRESSURE	1
623	CONTROL WIRE (24 VOLT)	LF		10200 10430
623	POWER SOURCE WIRE	LF		100 120
623	3/4" QUICK COUPLER VALVE	EACH		2
623	VALVE BOX	EACH		15 14
623	14 STA AUTO CONTROLLER	EACH	OUTDOOR W/PEDESTAL	1
623	1" MANUAL CONTROL VALVE	EACH	STOP AND WASTE	1

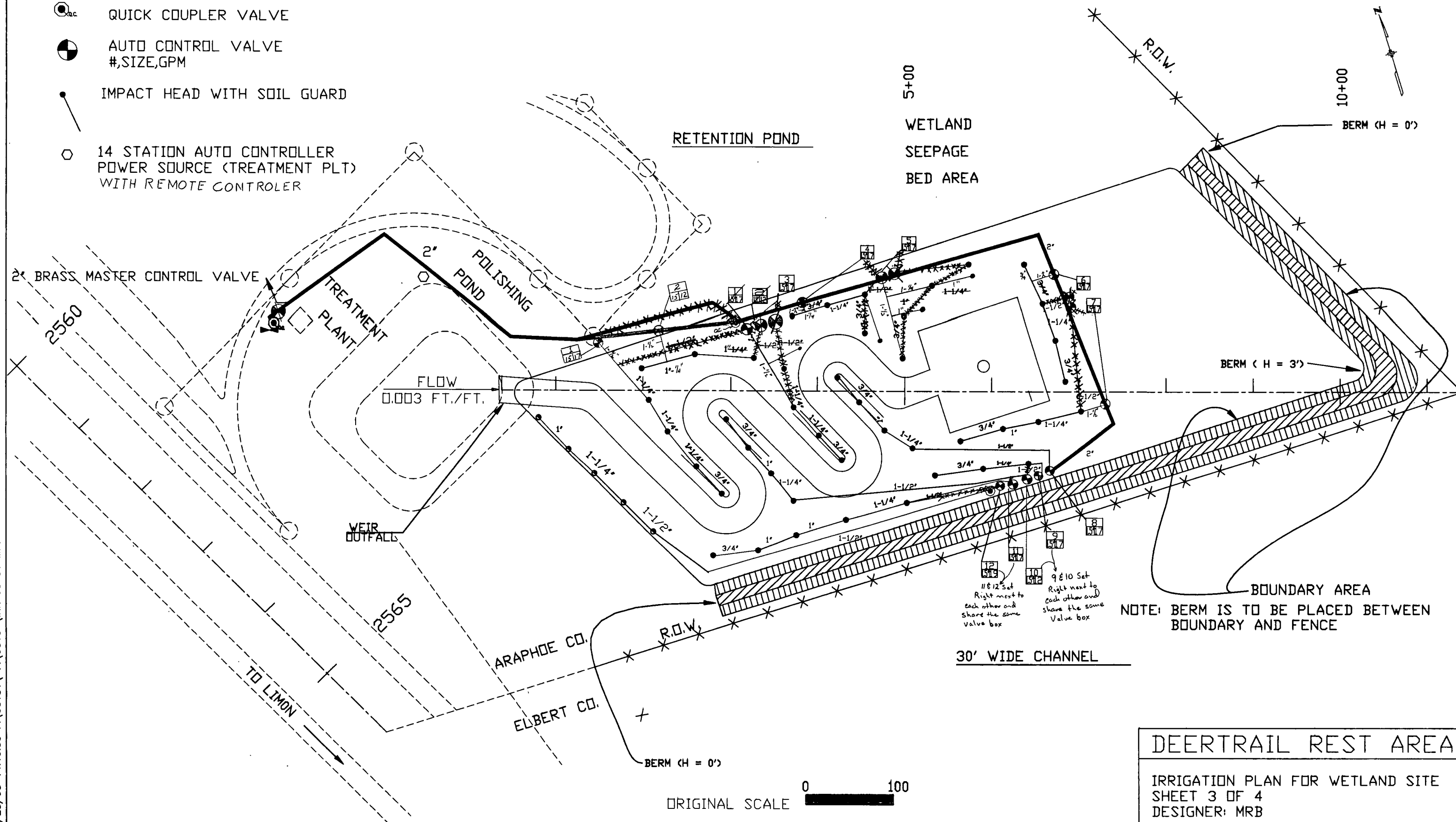
DEERTRAIL REST AREA
WETLAND MITIGATION AND IRRIGATION NOTES
SHEET 2 OF 4

IRRIGATION LEGEND

-  2" CL 200 PVC PRESSURE LINE
-  LATERAL PIPE (POLY)
-  1" R.P. BACKFLOW PREVENTER
-  QUICK COUPLER VALVE
-  AUTO CONTROL VALVE
#,SIZE,GPM
-  IMPACT HEAD WITH SOIL GUARD
-  14 STATION AUTO CONTROLLER
POWER SOURCE (TREATMENT PLT)
WITH REMOTE CONTROLLER

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
	7-1-94	

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR(CX) 070-4(153)	64	101



ORIGINAL SCALE 0 100

DEERTRAIL REST AREA

IRRIGATION PLAN FOR WETLAND SITE
SHEET 3 OF 4
DESIGNER: MRB

REGION 1 (DESIGN) G.L. MOON/MK E:\070\329901\31\SIGN\AB3.dwg 7/19/93

TABULATION OF SIGNING QUANTITIES

ITEM NO.	ITEM	UNIT	PROJECT TOTALS
202	REM PAVEMENT MARKING	S.F.	97,544
202	REM GROUND SIGN	EACH	85,888
202	SANDBLASTING	S.F.	38,809
210	RESET GROUND SIGN	EACH	90
614	TIMBER SIGN POST (4x4)	L.F.	133
614	TIMBER SIGN POST (4x6)	L.F.	41
614	TIMBER SIGN POST (6x6)	L.F.	262
614	SIGN PANEL (CL I)	S.F.	735
614	SIGN PANEL (CL II)	S.F.	8
614	SIGN PANEL (CL III)	S.F.	47
614	STEEL SIGN POST (U-2)	L.F.	222.5
614	CONC FOOTING (TY 2)	EACH	8
614	CONC FOOTING (TY 3)	EACH	2
614	RUMBLE STRIP	L.F.	1,152
627	PVMT MKG PAINT	GAL.	1808
627	EPOXY PAVEMENT MKG	GAL.	1015
627	RAISED PVMT MARKER (TEMP)	EACH	1812
627	4 INCH PVMT MKG TAPE (MCR*)	L.F.	5,775
627	PREFORMED PLASTIC PAVEMENT MARKING (60 MILS)	S.F.	30
627	PREFORMED PLASTIC PAVEMENT MARKING (TYPE A)	S.F.	4438
630	FLASHING BEACON (PORTABLE)	EACH	6
630	BARRICADE (3M-B) (TEMP)	EACH	7
630	BARRICADE (3M-D) (TEMP) (DELETED)	EACH	0
630	CONST TRAF SIGN (A)	EACH	35
630	CONST TRAF SIGN (B)	EACH	80
630	CONST TRAF SIGN (C)	EACH	49
630	PORTABLE MESSAGE PANEL	EACH	2
630	FLASH ARROW PANEL (C TY)	EACH	4
630	DRUM CHANNELIZING DEVICE	EACH	200
630	DRUM DEVICE (LIGHT) (F)	EACH	3
630	CONCRETE BARRIER (TEMP)	L.F.	1622
630	GLARE SCREEN (TEMP)	L.F.	1,310
630	TRAFFIC CONE	EACH	200
630	CHANNELIZING DEVICE (SPECIAL)	EACH	575
630	IMPACT ATTEN (TEMPORARY)	EACH	2

SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES

SIGNS					
SIGN CODE	LEGEND	DIMENSIONS	PANEL SIZE		
			A	B	C
48W20-1	ROAD/CONSTRUCTION/(DIST)	48"x48"		12	
48W20-5(L)	LEFT LANE/CLOSED/(DIST)	48"x48"		4	
48W4-2L	LEFT LANE TRANSITION	48"x48"		4	
36W1-8	CHEVRON ALIGNMENT	36"x48"		6	
48W6-3	TWO-WAY TRAFFIC SYMBOL	48"x48"		13	
48W20-7a	FLAGGER SYMBOL	48"x48"		6	
48W3-2a	YIELD AHEAD SYMBOL	48"x48"		2	
48W20-51a	GIVE 'EM A BRAKE	48"x48"		2	
120W20-51b	PLEASE USE/EXTRA/CARE IN/WORK ZONE	10'x4'			2
48R1-2	YIELD	48"x48"	2		
48R2-1(45)	SPEED/LIMIT/45	48"x60"			8
48R2-1(55)	SPEED/LIMIT/55	48"x60"			16
48R2-1(65)	SPEED/LIMIT/65	48"x60"			2
48R4-1	DO/NOT/PASS	48"x60"			4
48R4-2	PASS/WITH/CARE	48"x60"			2
48R4-7	KEEP RIGHT SYMBOL	48"x60"			2
48R5-1	DO NOT/ENTER	48"x48"		2	
42R5-1A	WRONG WAY	42"x30"	4		
48R11-2	ROAD/CLOSED	48"x30"		10	
80G20-1	ROAD/CONSTRUCTION/NEXT 12 MILES	80"x36"		2	
80G20-2	END/CONSTRUCTION	80"x24"		3	
48M4-10(L)	LEFT DETOUR ARROW SYMBOL	48"x18"	2		
48M4-10(R)	RIGHT DETOUR ARROW SYMBOL	48"x18"	1		
24M4-8	DETOUR	24"x12"	4		
24M3-2a	EAST	24"x12"	2		
24M3-4a	WEST	24"x12"	4		
24M1-1(70)	I-70 SHIELD	24"x24"	4		
21M8-1a	→ ←	21"x15"	2		
21M8-3a	↑	21"x15"	2		
30R1-1	STOP	30"x30"			
48W21-5	SHOULDER WORK	48"x48"		6	
SPECIAL	LOWLAND/DETOUR/↔	3"x3'	2		
60R11-4	ROAD CLOSED TO THRU TRAFFIC	60"x30"		2	
SPECIAL	LOWLAND/DETOUR/↔	3"x3'	2		
48R2-1(35)	SPEED/LIMIT/35	48"x36"		2	
SPECIAL	LOWLAND/DETOUR/↑	3"x3'	2		
48R2-1(50)	SPEED/LIMIT/50	48"x60"			5
SPECIAL	LOWLAND/EXIT CLOSED/DETOUR/NEXT EXIT	8"x8"			1
48R2-1(35)	SPEED/LIMIT/35	48"x60"			6
SPECIAL	LOWLAND/DETOUR/NEXT RIGHT	8"x8"			1
SPECIAL	ROAD DAMAGE	48"x48"		2	
SPECIAL	EXIT 328/Deer Trail/1 MILE	13"x7'			1
SPECIAL	EXIT 340/Agate/1 MILE	10"x7'			1
SIGN TOTALS			35	80	38
OTHER DEVICES			35	80	49
ITEM		QUANTITY			
BARRICADE (TYPE 3M-B) (TEMP)		48-7			
BARRICADE (TYPE 3M-D) (TEMP) (DELETED)		2-0			
DRUM CHANNELIZING DEVICE		200			
DRUM DEVICE (LIGHT) (F)		3			
TRAFFIC CONE (36")		488-200			
CHANNELIZING DEVICE (SPECIAL)		575-575			
PORTABLE MESSAGE PANEL		2			
FLASH ARROW PANEL (C TY)		4-4			
FLASHING BEACON (PORTABLE)		4-6			
CONCRETE BARRIER (TEMP)		2,348-1,622			
IMPACT ATTENUATOR (TEMP)		2			
RUMBLE STRIP (TEMP)		1,152			
RAISED PVMT MARKER (TEMP)		2,674-1,812			
GLARE SCREEN (TEMP)		4,488-1,310			

NOTES:

1. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATION OF SIGNS IS SUBJECT TO THE APPROVAL OF THE ENGINEER.
2. ALL SIGNS SHALL BE POST MOUNTED AND PLACED IN ACCORDANCE WITH THE STANDARD "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE DIRECTED OR APPROVED BY THE ENGINEER.
3. 48W20-7a THIS SIGN IS INTENDED FOR USE 500 FT IN ADVANCE OF ANY POINT AT WHICH A FLAGGER HAS BEEN STATIONED TO CONTROL TRAFFIC THROUGH OR AROUND THE PROJECT.
4. THE LANE SEPARATOR FOR DETOUR SHALL CONSIST OF A DOUBLE YELLOW STRIPE WITH CHANNELIZING DEVICES ADHERED TO THE ROADWAY AT 110 FOOT SPACING.
5. CHANNELIZING DEVICES (SPECIAL) WILL BE RESET ON THE EASTBOUND ROADWAY BEFORE TRAFFIC IS SWITCHED FROM THE WESTBOUND TO THE EASTBOUND ROADWAY.
6. IT IS ESTIMATED THAT A TOTAL OF 1,198 GAL. OF PAINT (784 GAL. YELLOW & 414 GAL. WHITE) IS REQUIRED FOR TEMPORARY PAVEMENT MARKING.
7. QUANTITIES FOR RAISED PAVEMENT MARKER (TEMP) SHOWN, INCLUDE BOTH SIDES FOR YELLOW & WHITE @ 10' SPACING ON THE EDGES LINES FROM BEGIN TAPER OF LANE TRANSITION THRU THE CROSSOVER.
- A) WEST END DETOUR:

PHASE 1 & 2412

PHASE 1300

PHASE 2280

PHASE 2280
- B) EAST END DETOUR:

PHASE 1 & 2202

PHASE 2230

PHASE 1250

PHASE 1140

TOTAL2,674 1,812
8. THE CONTRACTOR SHALL ARRANGE HIS ACTIVITIES, SO THAT, CROSSOVER DETOURS WILL NOT BE USED DURING THE WINTER MONTHS.

TABULATION OF SIGNS

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94	VOID	VIII	COLO.	IR(CX)070-4(153)	67

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE GROUND SIGN (EACH)	RESET GROUND SIGN (EACH)	NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN.FT.)										CONC FOOTING TYPE (EACH)							SIGN PANEL (SQ.FT.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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NOTES:
1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

TABULATION OF SIGNS

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94	VOID	VIII	COLO.	IR(CX)070-4(153)	68

SIGN NO.	SIGN CODE	STATION	SIGN PANEL SIZE	BACK-GROUND COLOR	REMOVE GROUND SIGN (EACH)	RESET GROUND SIGN (EACH)	NO. OF POSTS	LENGTH OF POST	POST TYPE (LIN.FT.)										CONC FOOTING TYPE (EACH)										SIGN PANEL (SQ.FT.)		
									4X4 TIMBER	6X6 TIMBER	4X6 TIMBER									U-2		2	3							CLASS I	CLASS II
51		LOWLAND/NW RAMP				1																									
52		LOWLAND/NW RAMP				1																									
53		LOWLAND/NW RAMP				1																									
54		LOWLAND/NW RAMP				1																									
55		LOWLAND/SW RAMP				1																									
56		SW RAMP				1	1	13'0"	13.0																						
57		SE RAMP				1																									
58		441+00 WB				1																									
59		445+00 WB				1																									
60		453+70 WB				1													2												
61		441+50 EB				1																									
62		443+00 EB				1																									
63		443+00 WB				1																									
64		467+00 EB				1																									
65		477+00 EB				1																									
66		487+00 EB				1	1/1	19'-6"/20'-0"	49.5	39.5																					
67		495+00 EB				1																									
68		495+00 WB				1																									
69		REST AREA				1																									
70		REST AREA				1																									
71		REST AREA				1 0																									
72		REST AREA				1																									
73A	24RG-110	REST AREA	24" x24"	BROWN	1		1	16'		16.0															4.00						
73B	SPECIAL		24" x24"	WHITE																							4.00				
74		REST AREA			1																										
75	12R7-70	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
76A	24RG-110	REST AREA	24" x24"	BROWN	1		1	16'		16.0															4.00						
76B	SPECIAL		24" x24"	WHITE																							4.00				
77	12R7-70	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
78		REST AREA			1																										
79	12R7-70	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
80	SPECIAL	REST AREA	18" x12"	WHITE	1		1	11'										11.0							1.50						
81A	24RG-110	REST AREA	24" x24"	BROWN	1		1	16'		16.0															4.00						
81B	SPECIAL		24" x24"	WHITE																							4.00				
82		REST AREA			1																										
83	12R7-70	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
84A	24RG-110	REST AREA	24" x24"	BROWN	1		1	16'		16.0															4.00						
84B	SPECIAL		24" x24"	WHITE																							4.00				
85		REST AREA			1																										
86	12R7-70	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
87	SPECIAL	REST AREA	72" x24"	BLUE			2	13'	26.0																	12.00					
88A	30R5-1	REST AREA	30" x30"	WHITE	1		1	14'-6"		14.5															6.25						
88B	36R6-1L		36" x12"	BLACK																							3.00				
89A	30R5-1	REST AREA	30" x30"	WHITE	1		1	14'-6"		14.5															6.25						
89B	36R6-1R		36" x12"	BLACK																							3.00				
90		REST AREA				1																									
91		REST AREA				1																									
92	12R7-8	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
93	12R7-8	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						
94	12R7-8	REST AREA	12" x18"	WHITE	1		1	11'-6"										11.5							1.50						
94A	12R7-8	REST AREA	12" x18"	WHITE			1	11'-6"										11.5							1.50						

NOTES:
1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED	VOID	VIII	COLO.	IR(CX)070-4(153)	69

NOTES:

1. POST LENGTHS ARE APPROXIMATE ONLY. EXACT LENGTHS TO BE DETERMINED BY THE ENGINEER.

AS CONSTRUCTED				FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS		REVISED	12-1-94	VOID		IR(CX)070-4(153)	70

SUMMARY OF PAVEMENT MARKING QUANTITIES				
		REST AREA PARKING LOT	\$ PREFORMED PLASTIC PAVEMENT MARKING (TYPE A)	
COLOR	EPOXY (GAL.)	EPOXY (GAL.)	E.B. LANE	DIAGONAL LINE
			SQ. FT.	REST AREA (SQ. FT.)
YELLOW	*179	7	16,994	
WHITE	*287	19	21,229	501
TOTAL		426 1015	38,224	444

~~\$ EAST BOUND LANE, ADGEEL & DEGEEL LANES, RAMPS, ASSOCIATED WITH THE EAST BOUND LANE AND DIAGONAL STALL LINE (REST AREA) WILL BE STRIPED WITH PREFORMED PLASTIC MARKING (TYPE A).~~

PAVEMENT MARKING ARROW DETAIL

NOTE
FOR DETAILS OF PAVEMENT MARKING LINES AND LINE PLACEMENT,
SEE STANDARD S-627-1

DIST 1 E:\070\32990131\CROSSX1.dwg 11/26/91

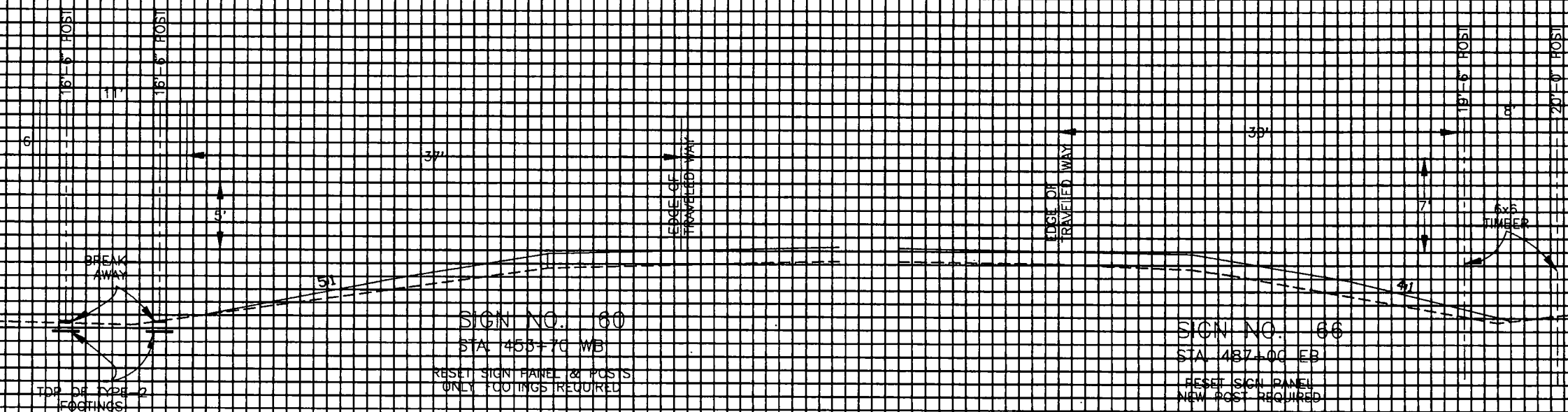
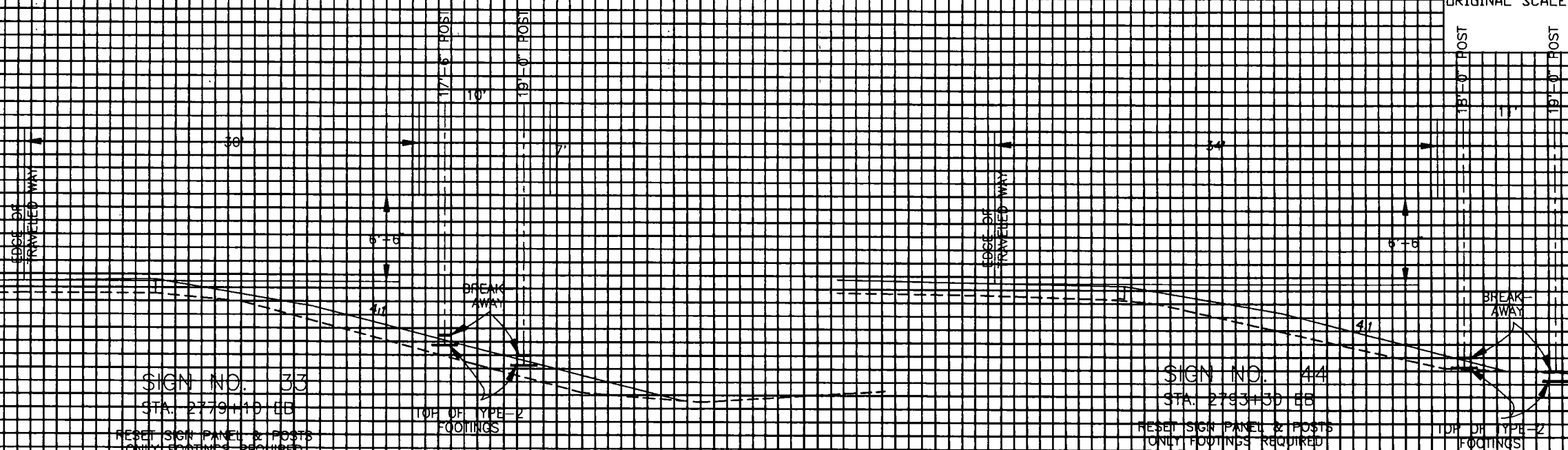
CROSS SECTIONS AT CLASS III SIGN LOCATIONS

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLD.	IR(CX) 070-4(153)	72	101

AS CONSTRUCTED

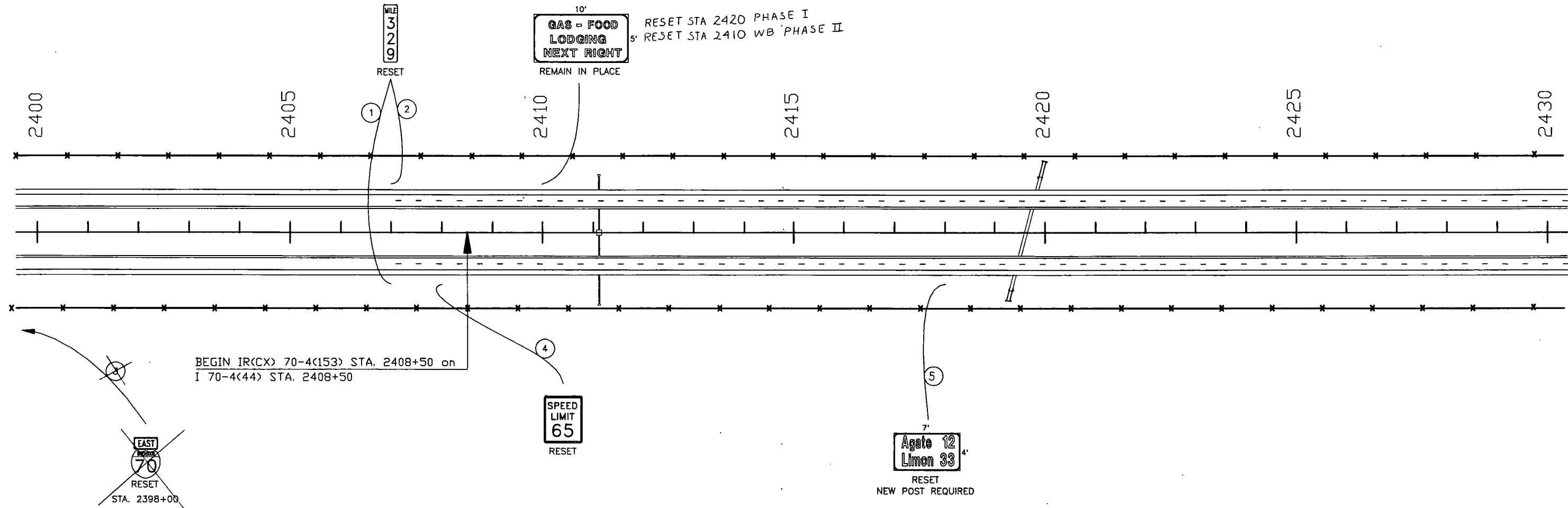
NO REVISIONS 12-1-94 REVISED VOID

ORIGINAL SCALE 1" = 5' HORIZ. & VERT.



AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS		REVISD 12-1-94	VOID	IR(CX)070-4(153)	73
		VIII	COLO.		

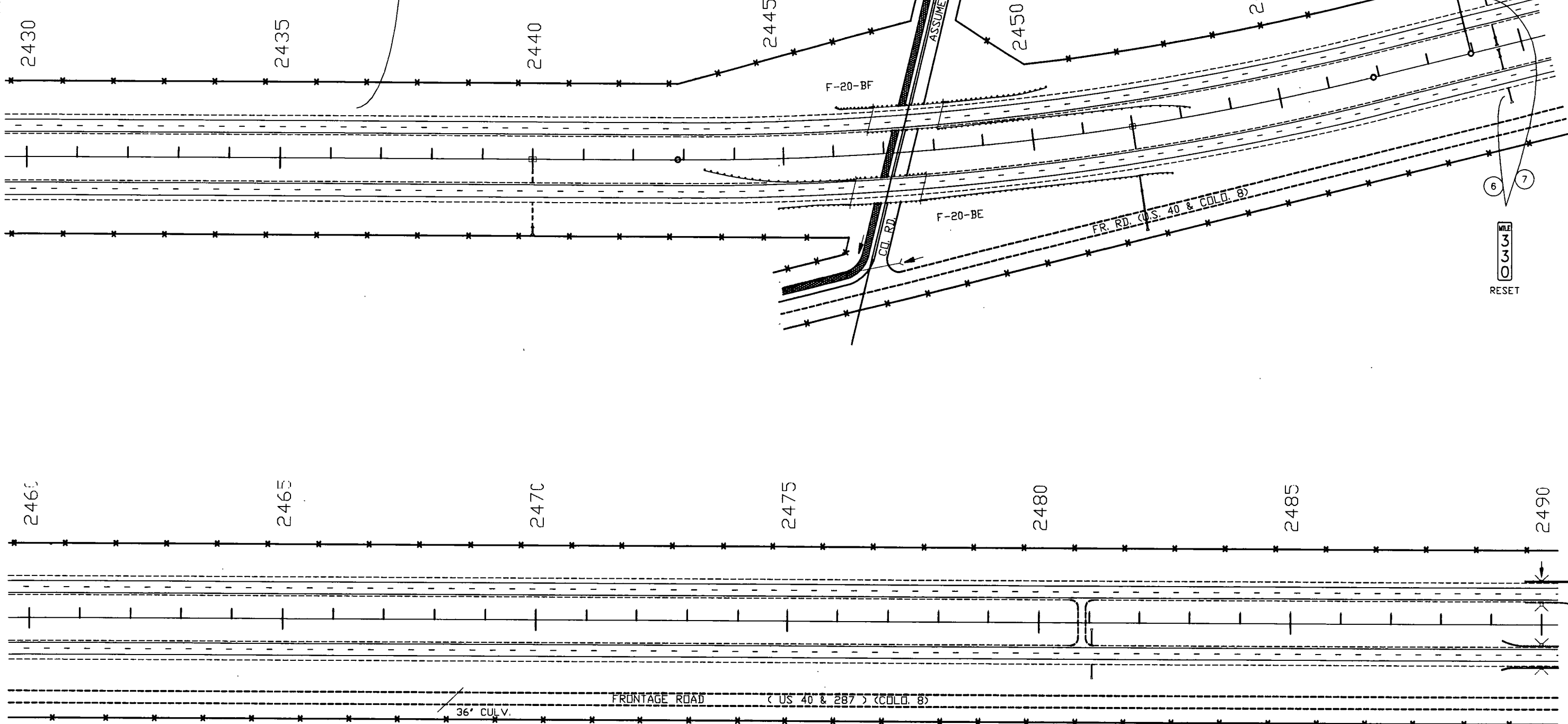
FINAL SIGNING & STRIPING



FINAL SIGNING & STRIPING

10'
2' EXIT 328
Deer Trail
1 MILE

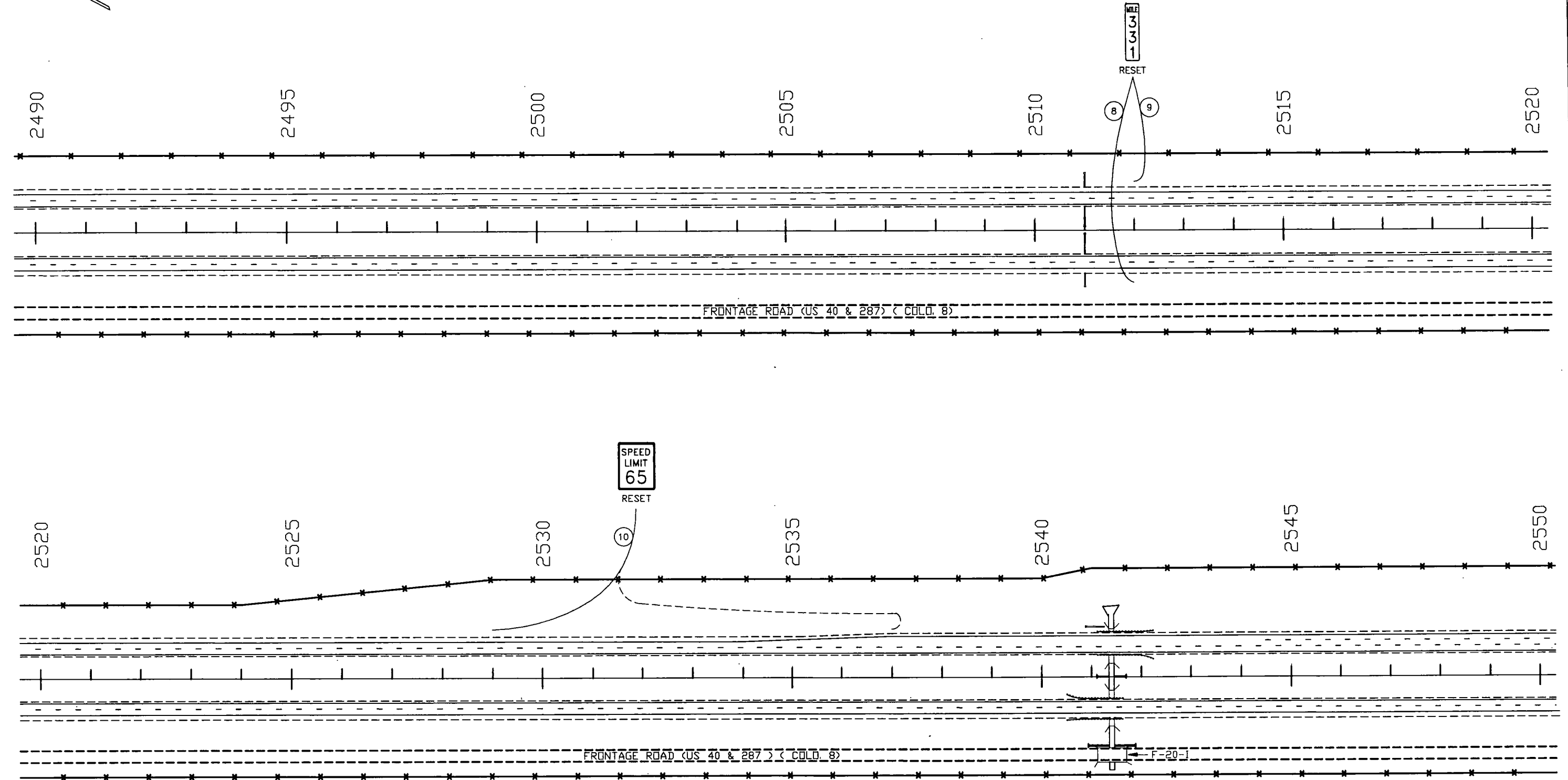
13'
REMAIN IN PLACE



RESET
330

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	12-1-94	REVISED	VIII	COLO.	IR(CX)070-4(153)	75

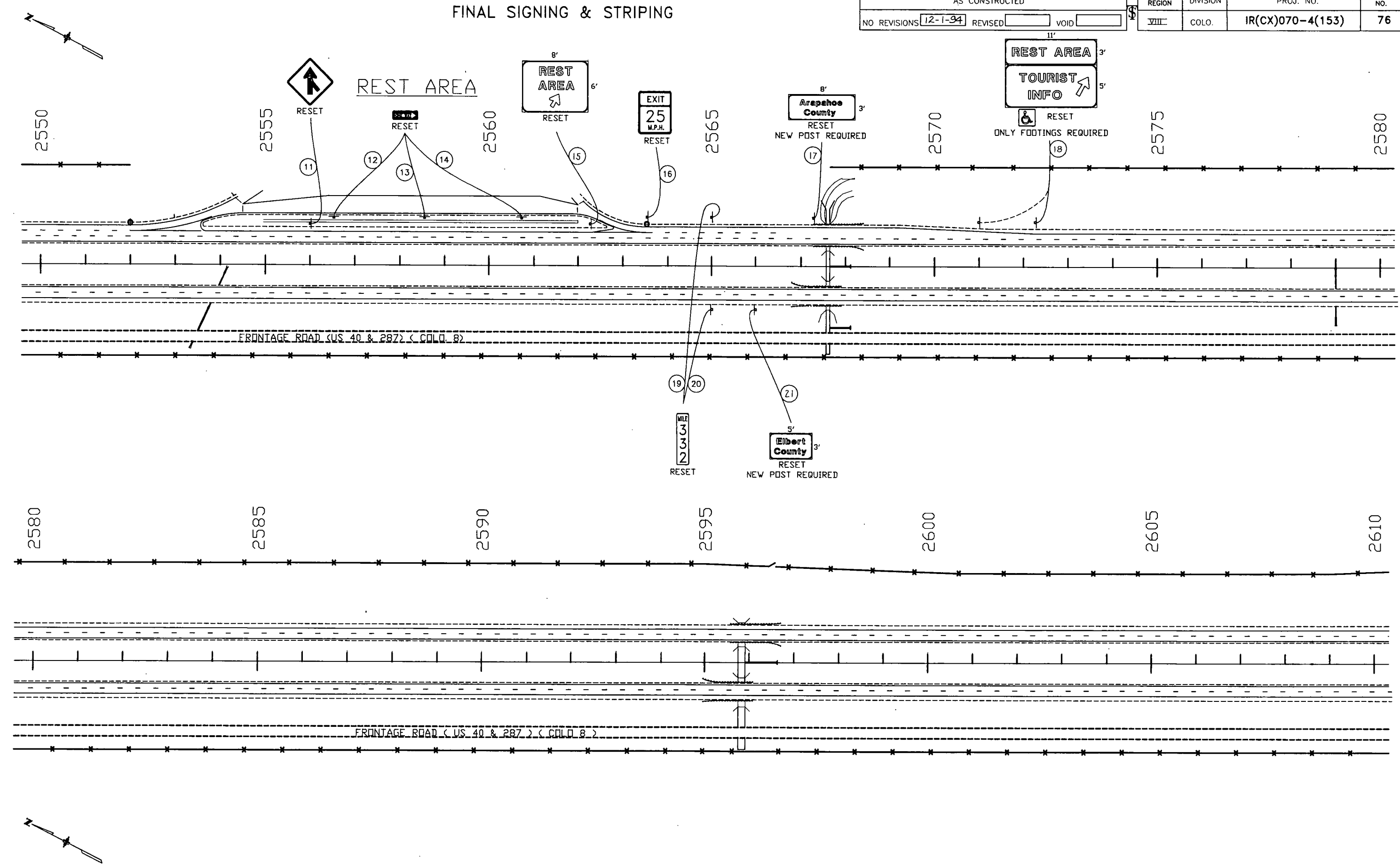
FINAL SIGNING & STRIPING



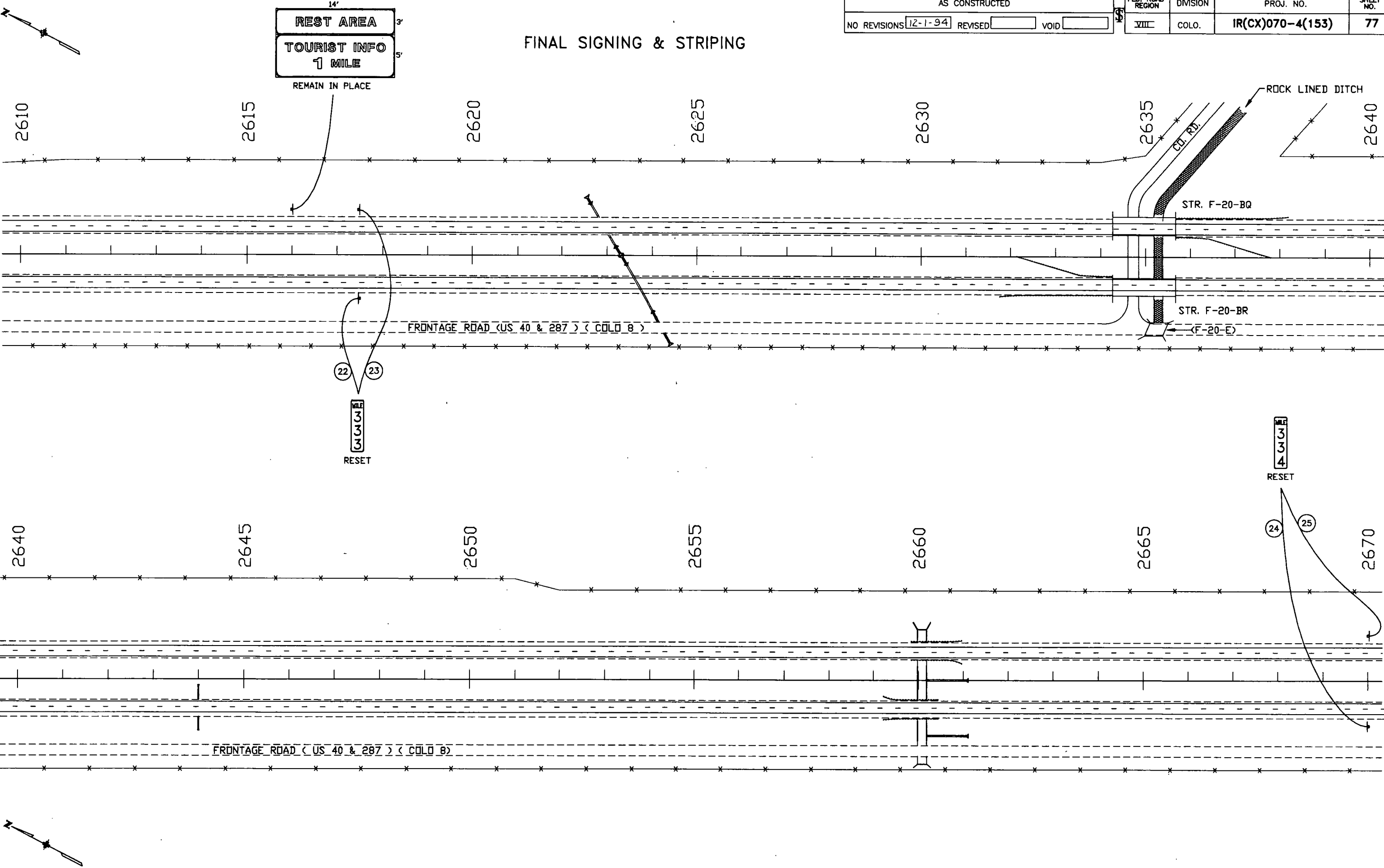
FINAL SIGNING & STRIPING

AS CONSTRUCTED
NO REVISIONS 12-1-94 REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLO.	IR(CX)070-4(153)	76

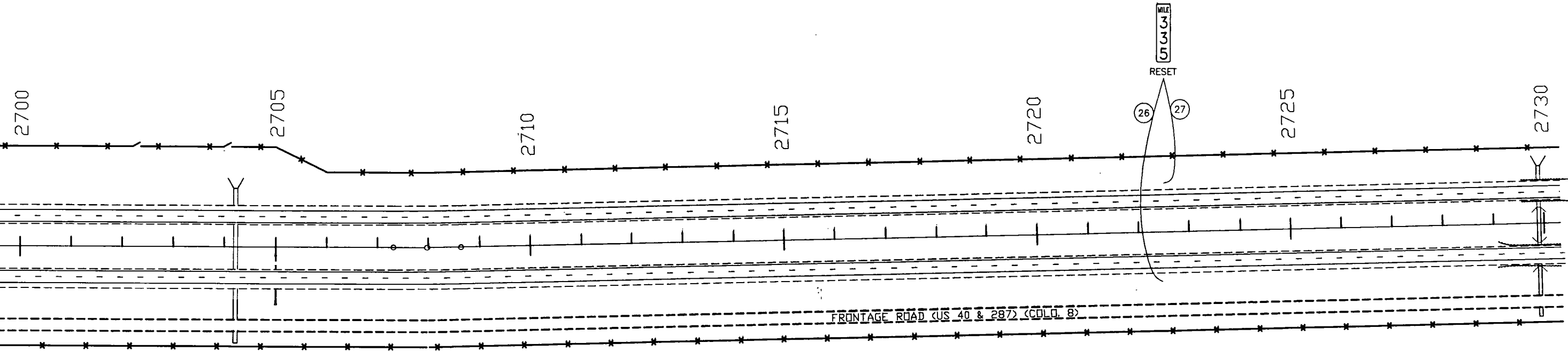
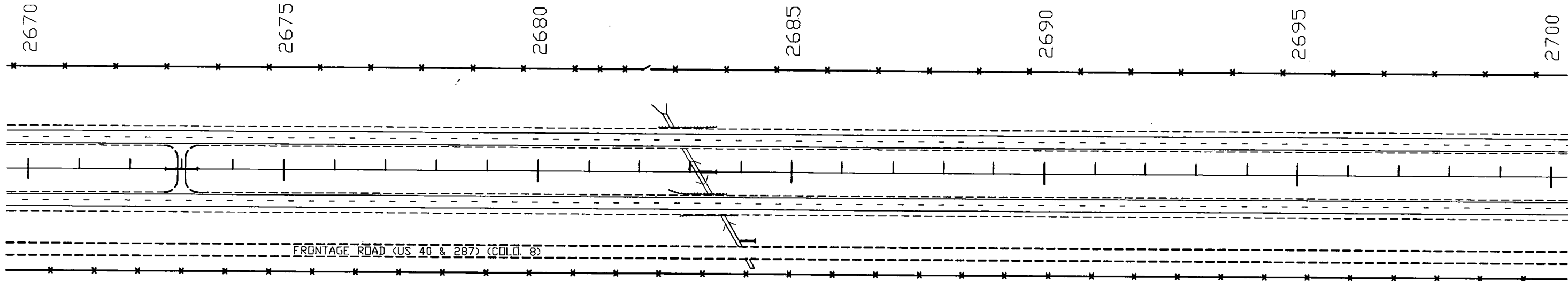


FINAL SIGNING & STRIPING



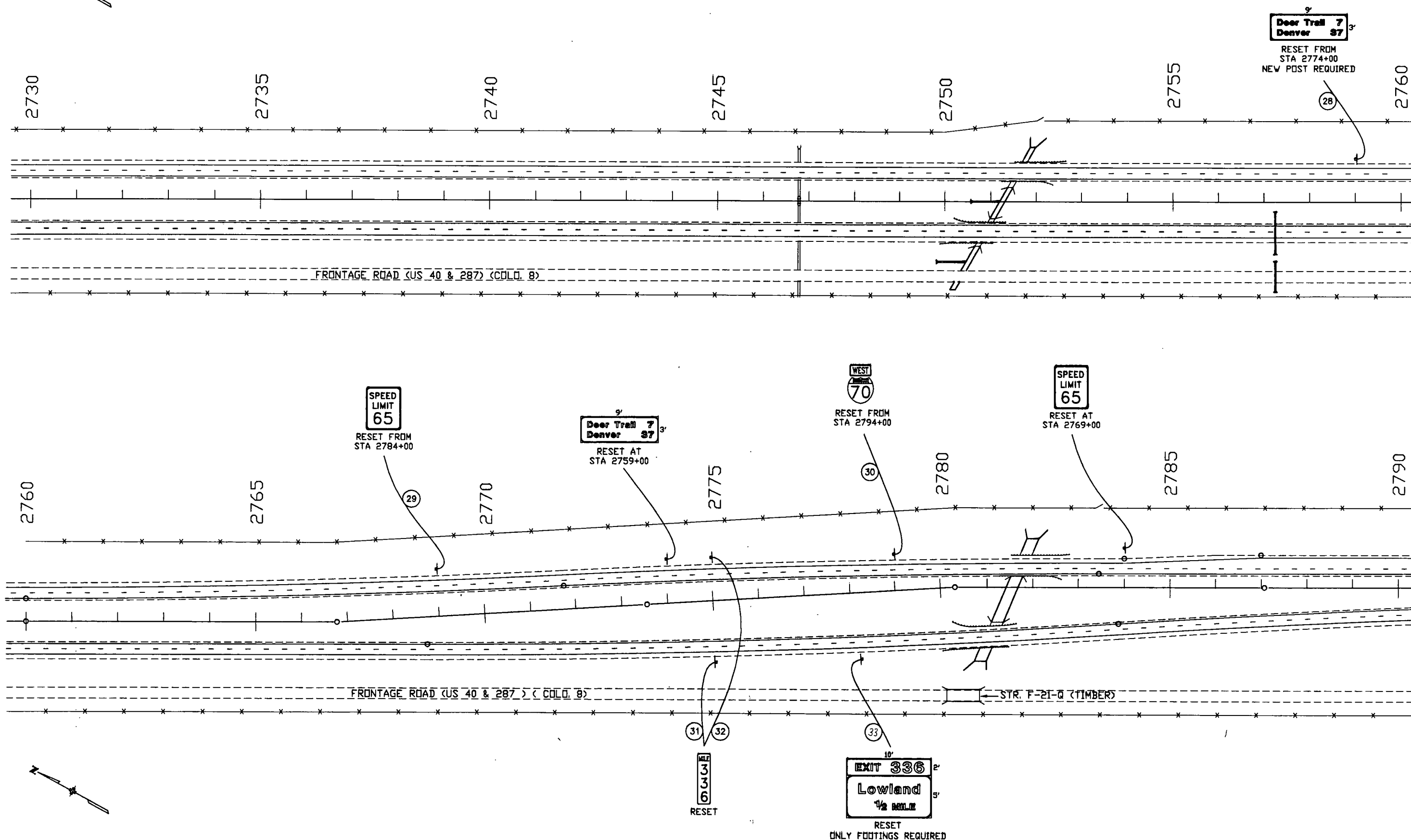
FINAL SIGNING & STRIPING

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	12-1-94	REVISED	VIII	COLO.	IR(CX)070-4(153)	78



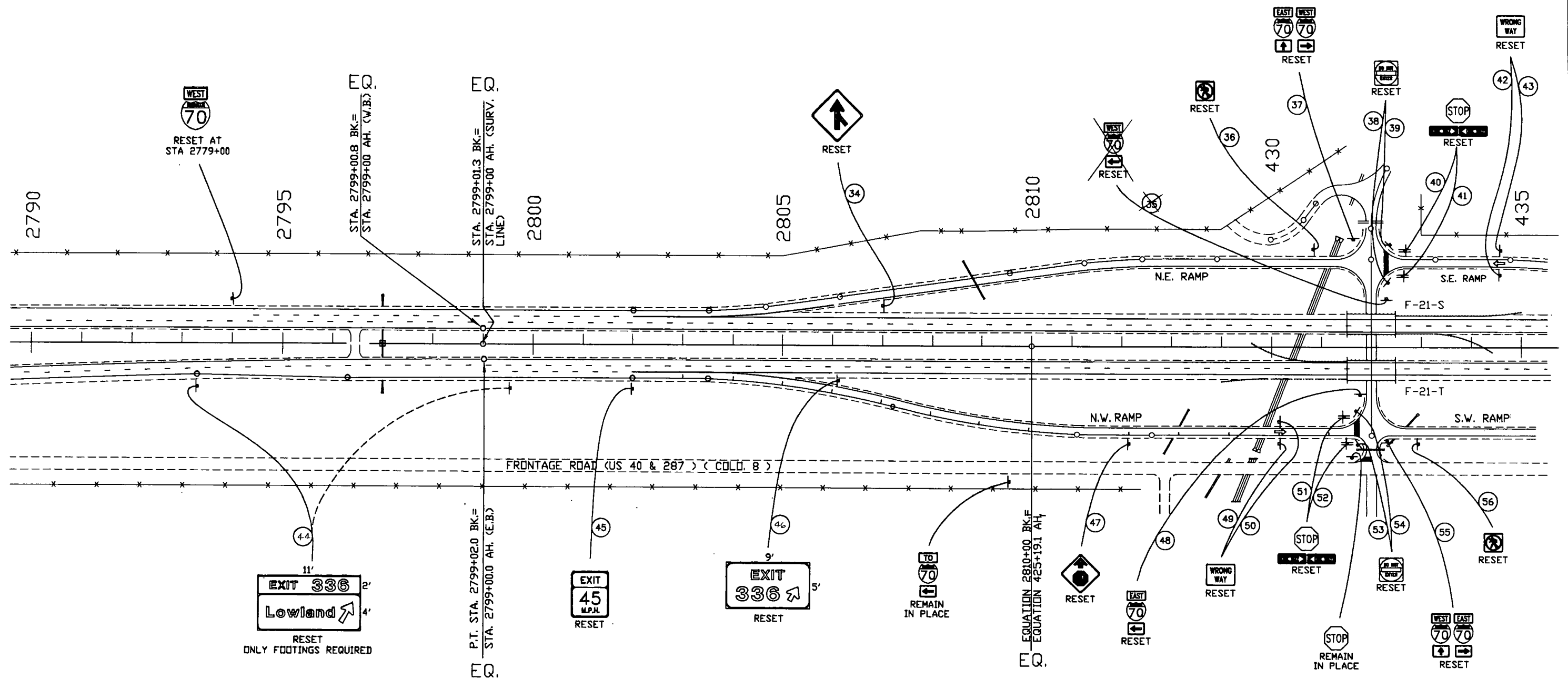
FINAL SIGNING & STRIPING

AS CONSTRUCTED	FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS 12-1-94 REVISED VOID	VIII	COLO.	IR(CX)070-4(153)	79



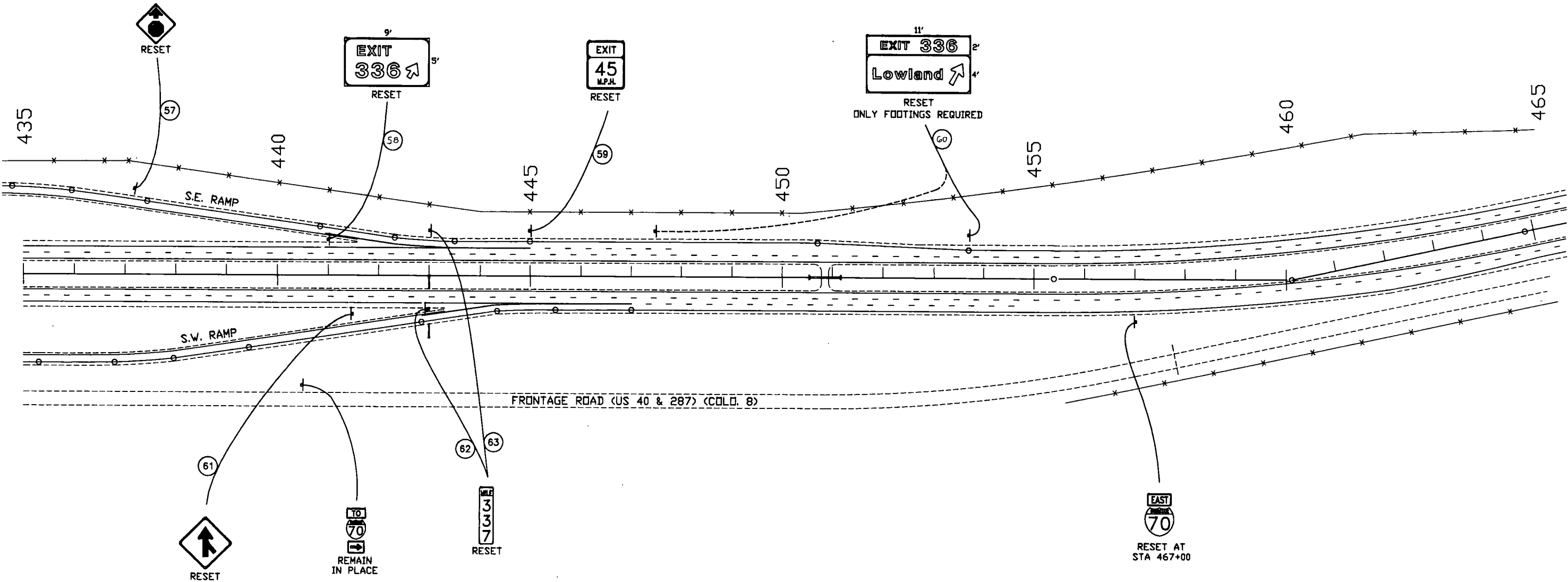
LOWLAND INTERCHANGE
FINAL SIGNING & STRIPING

AS CONSTRUCTED	FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS REVISED 12-1-94 VOID	VIII	COLO.	IR(CX)070-4(153)	80



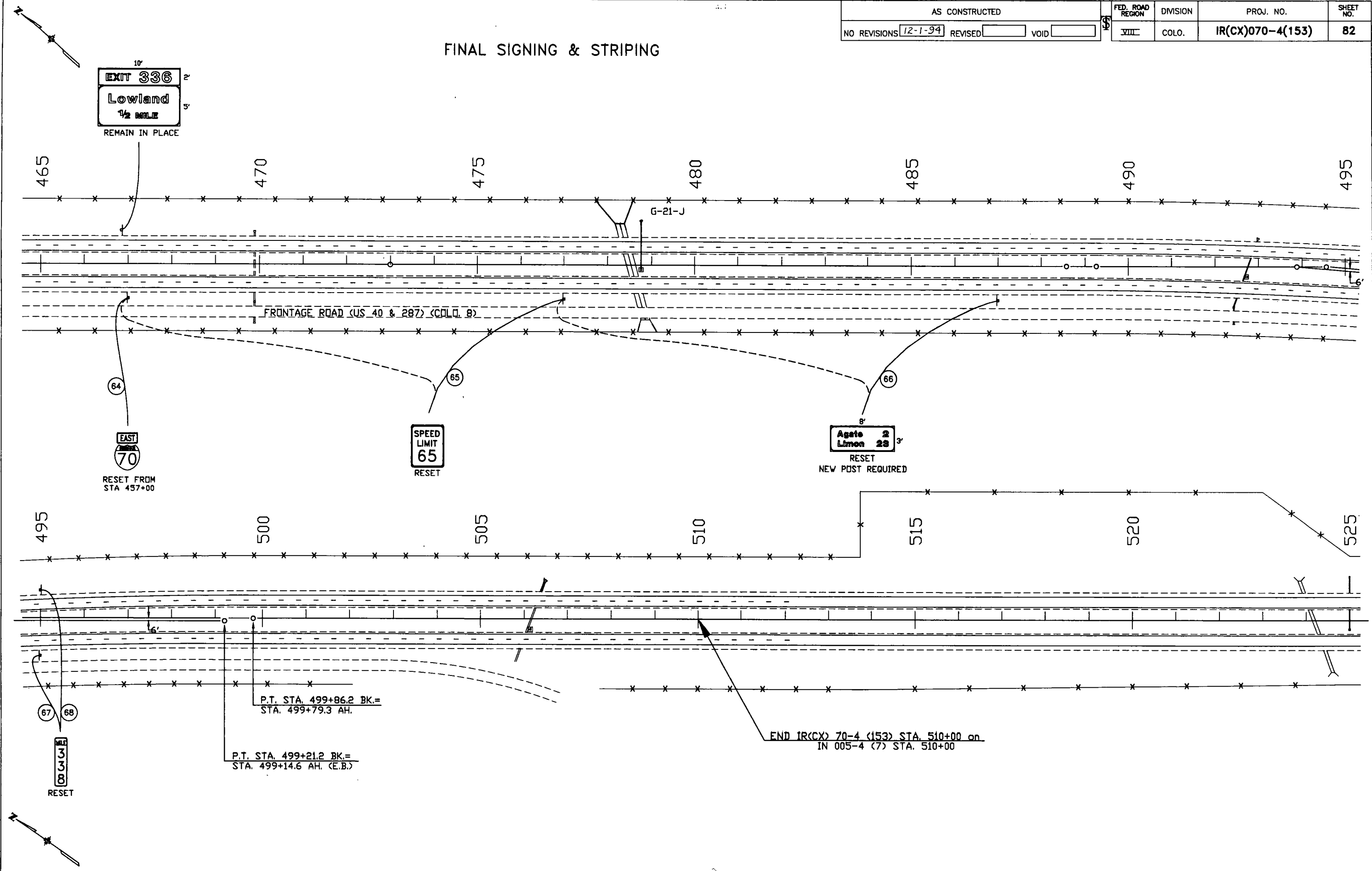
FINAL SIGNING & STRIPING

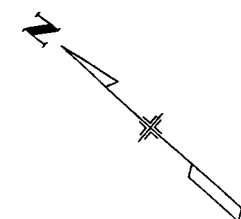
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NO REVISIONS	12-1-94	REVISED	VOID	IR(CX)070-4(153)	81
		VIII	COLO.		



FINAL SIGNING & STRIPING

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	12-1-94	REVISED	VIII	COLO.	IR(CX)070-4(153)	82

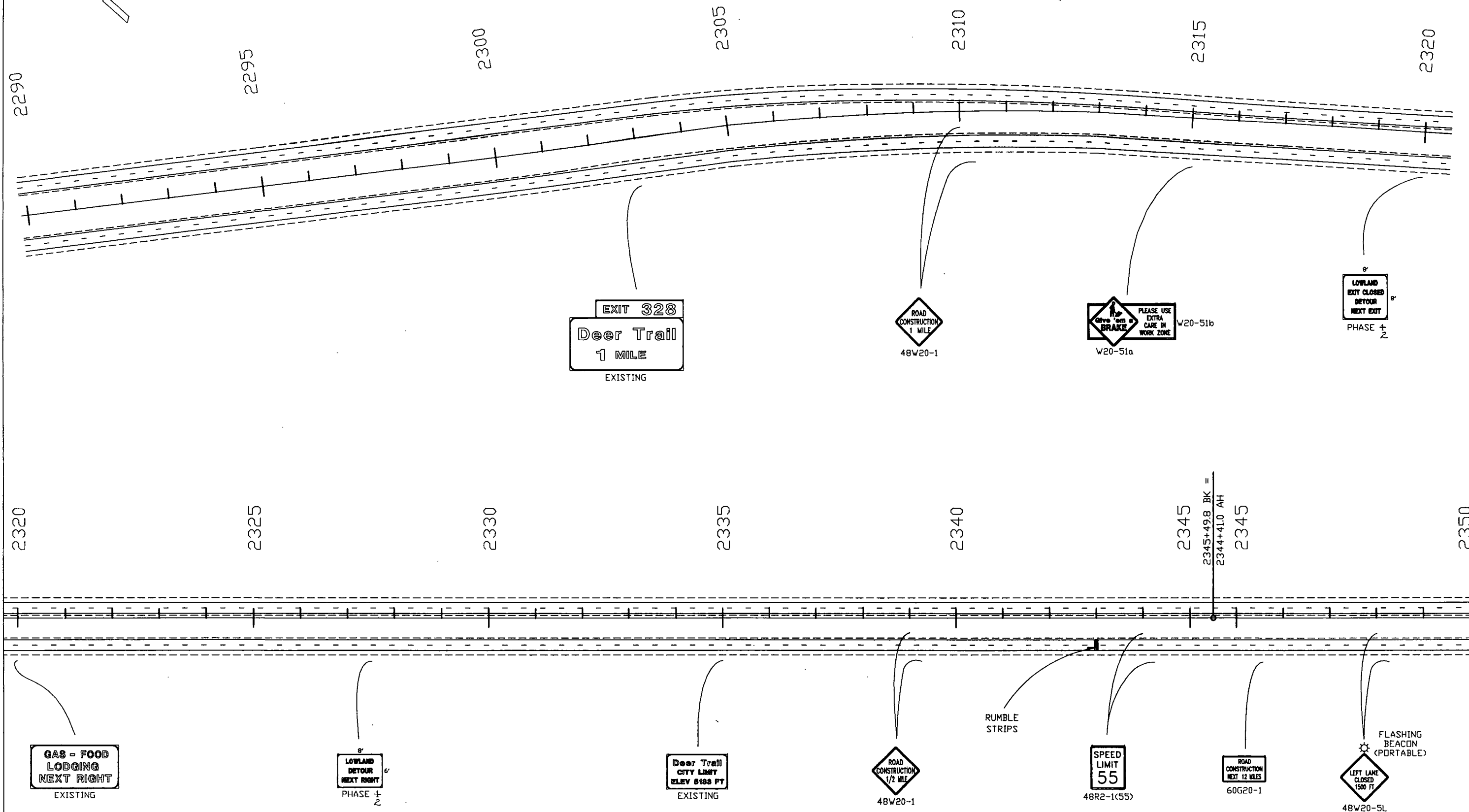




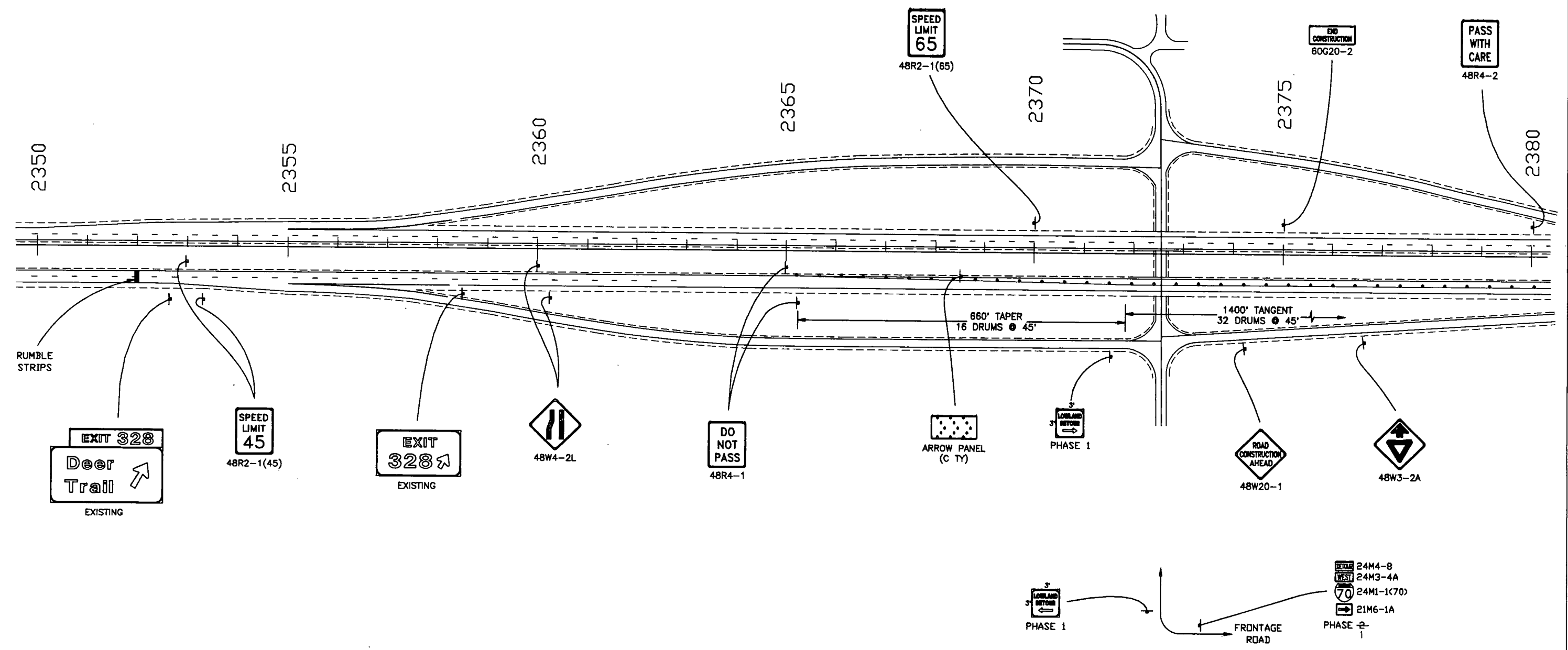
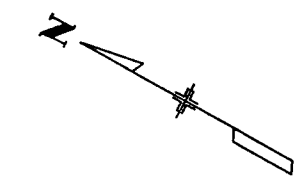
PHASE 1,2
2,1

AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLO.	IR(CX)070-4(153)	83



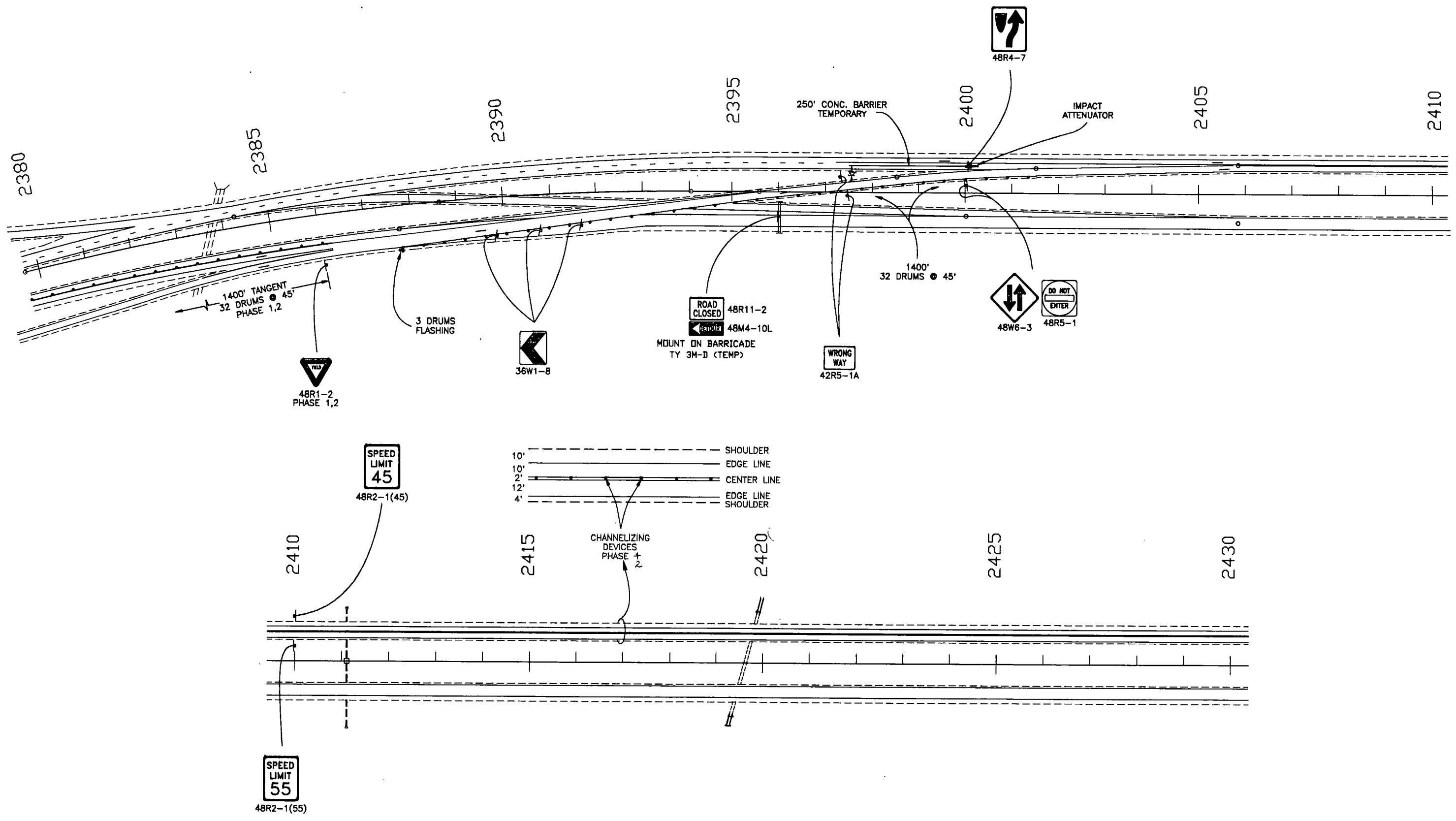
DEER TRAIL INTERCHANGE PHASE 1,2 2,1



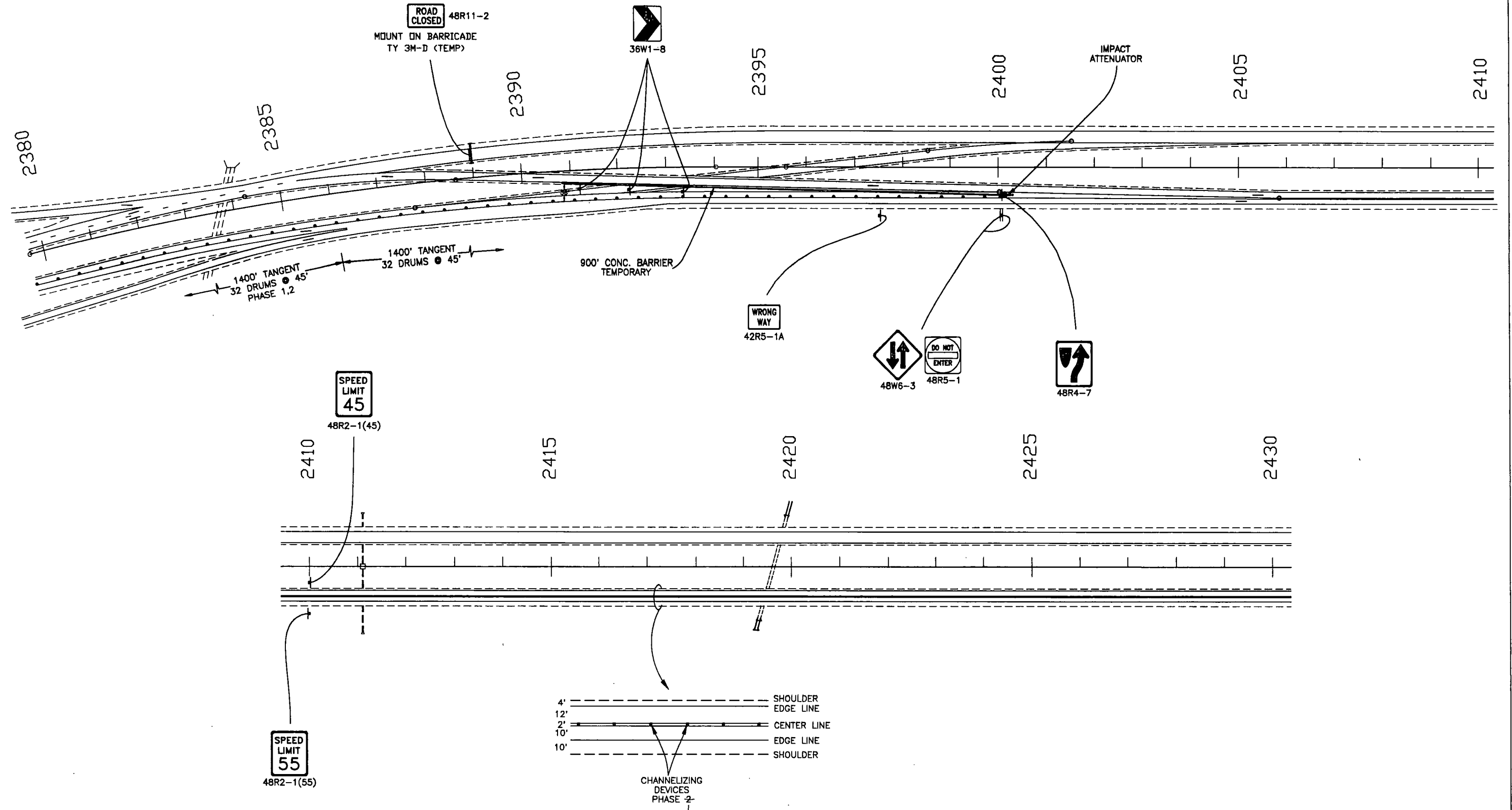


PHASE 1
2

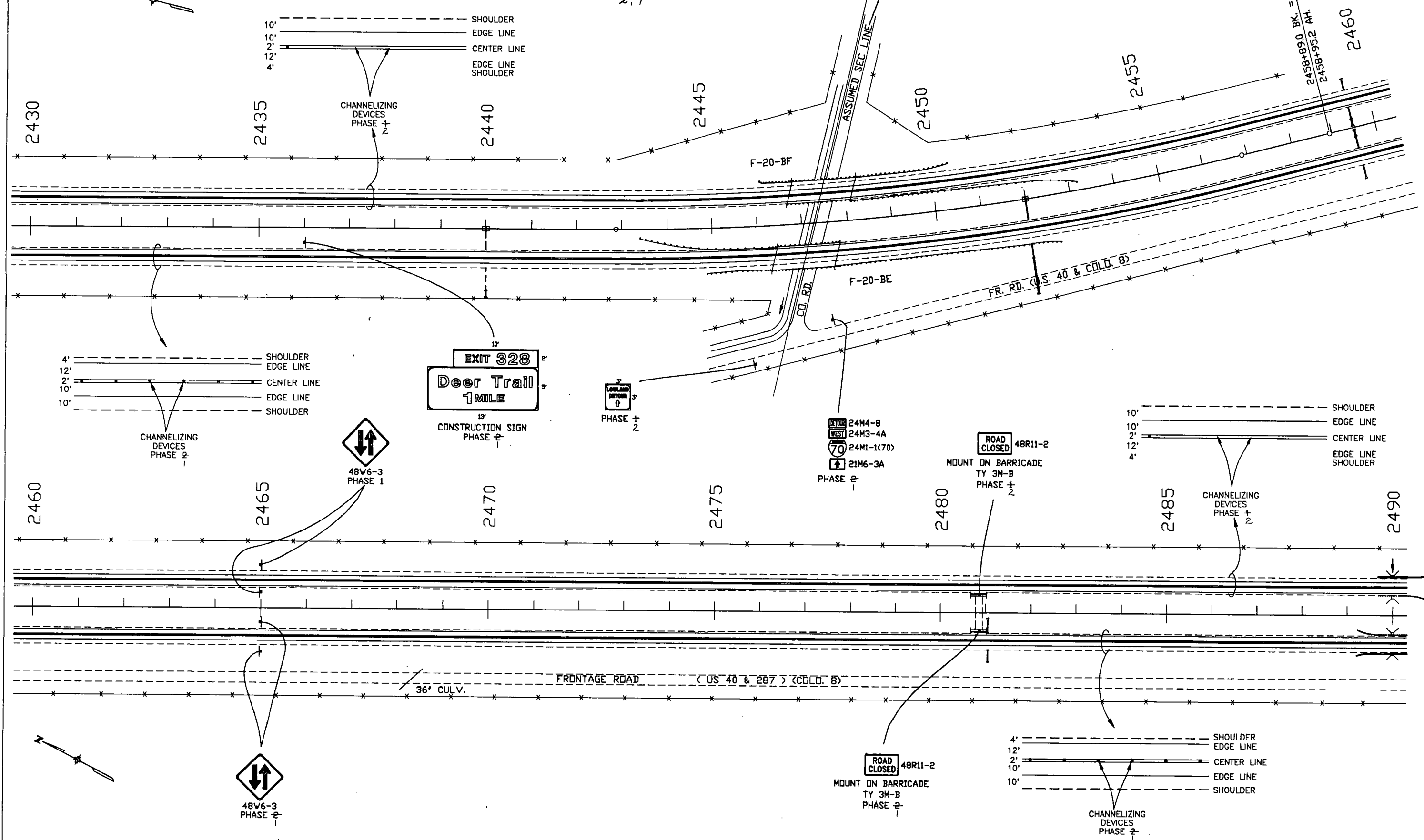
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NO REVISIONS		REVISD 12-1-94	VOID	IR(CX)070-4(153)	85
		VIII	COLO.		



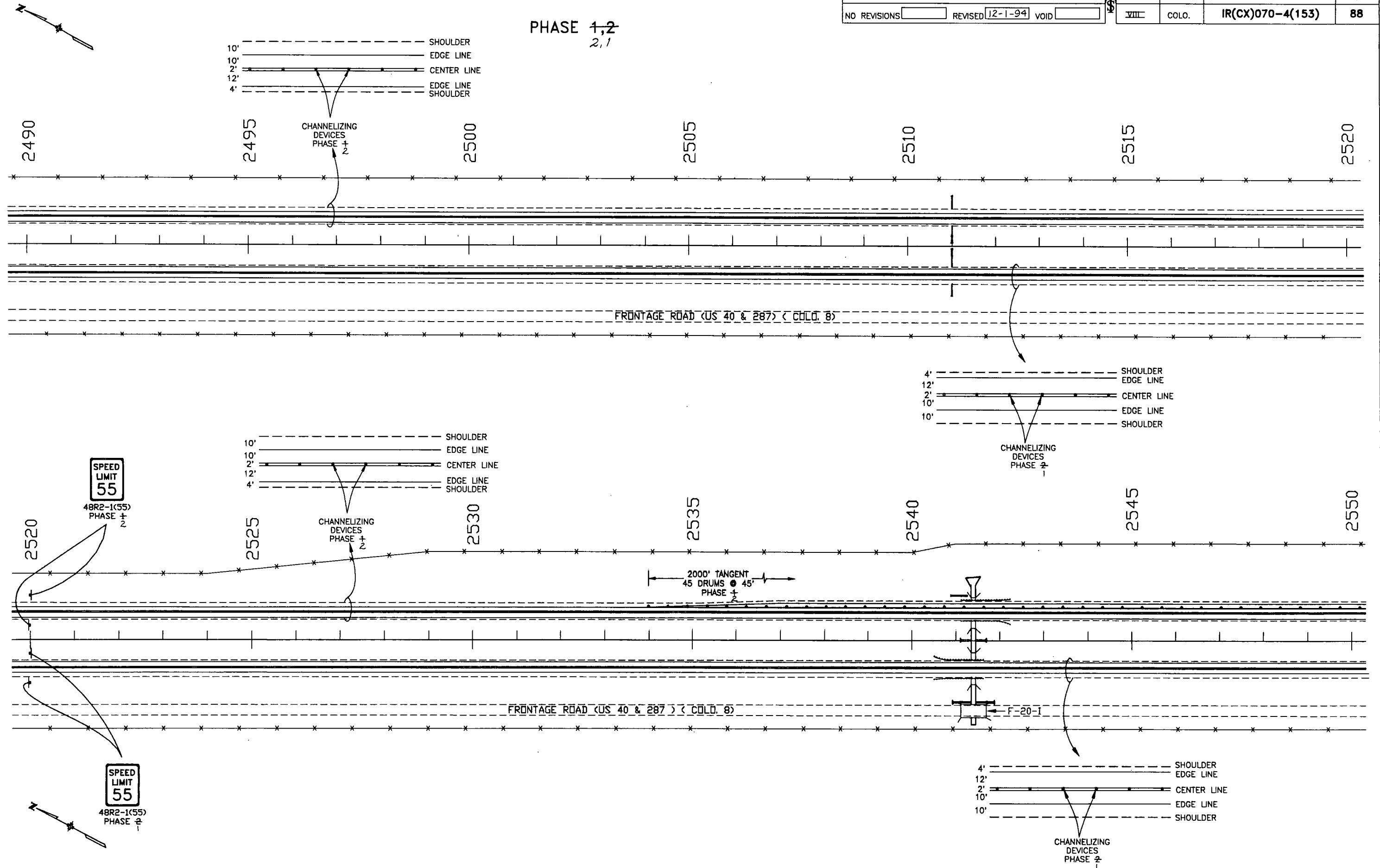
PHASE 2



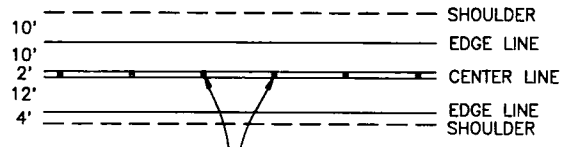
PHASE 1,2
2,1



PHASE 1,2
2,1



PHASE 1,2
2,1



CHANNELIZING DEVICES
PHASE 1/2

SPEED LIMIT
55

48R2-1(55)
PHASE 1/2

STR. F-20-BQ

STR. F-20-BR

FRONTAGE ROAD (US 40 & 287) (COLD 8)

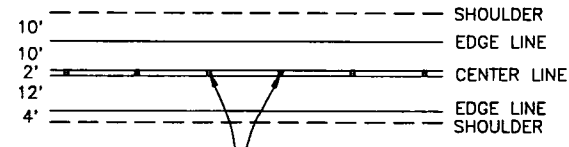
(F-20-E)

SPEED LIMIT
55

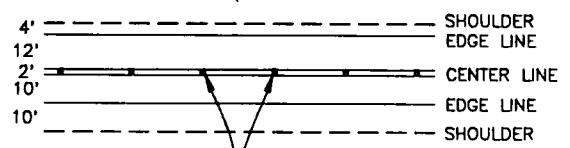
48R2-1(55)
PHASE 1/2

LOWLAND
PHASE 1/2

24M4-8
24M3-4A
24M1-1(70)
21M6-3A
PHASE 1/2

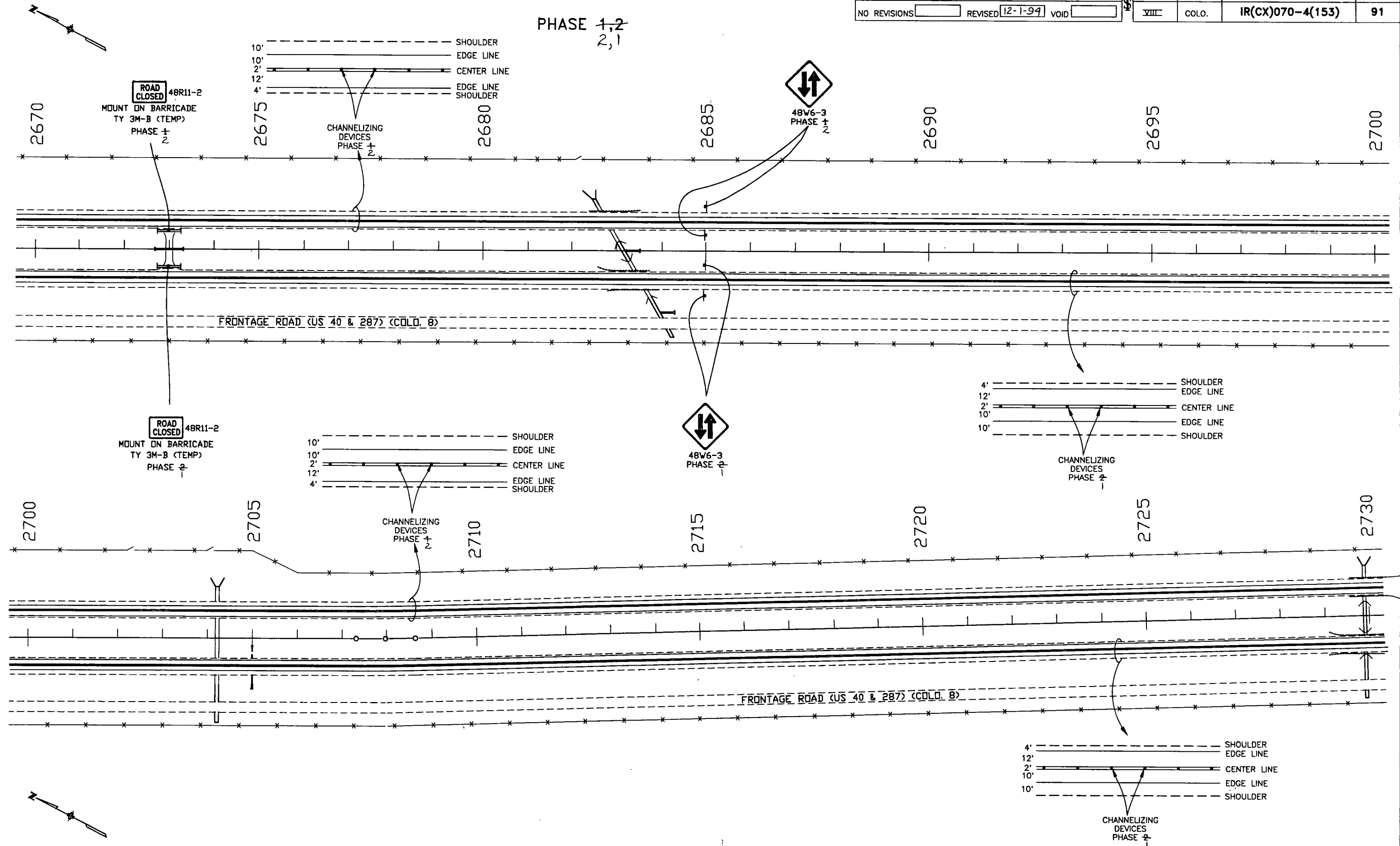


CHANNELIZING DEVICES
PHASE 1/2

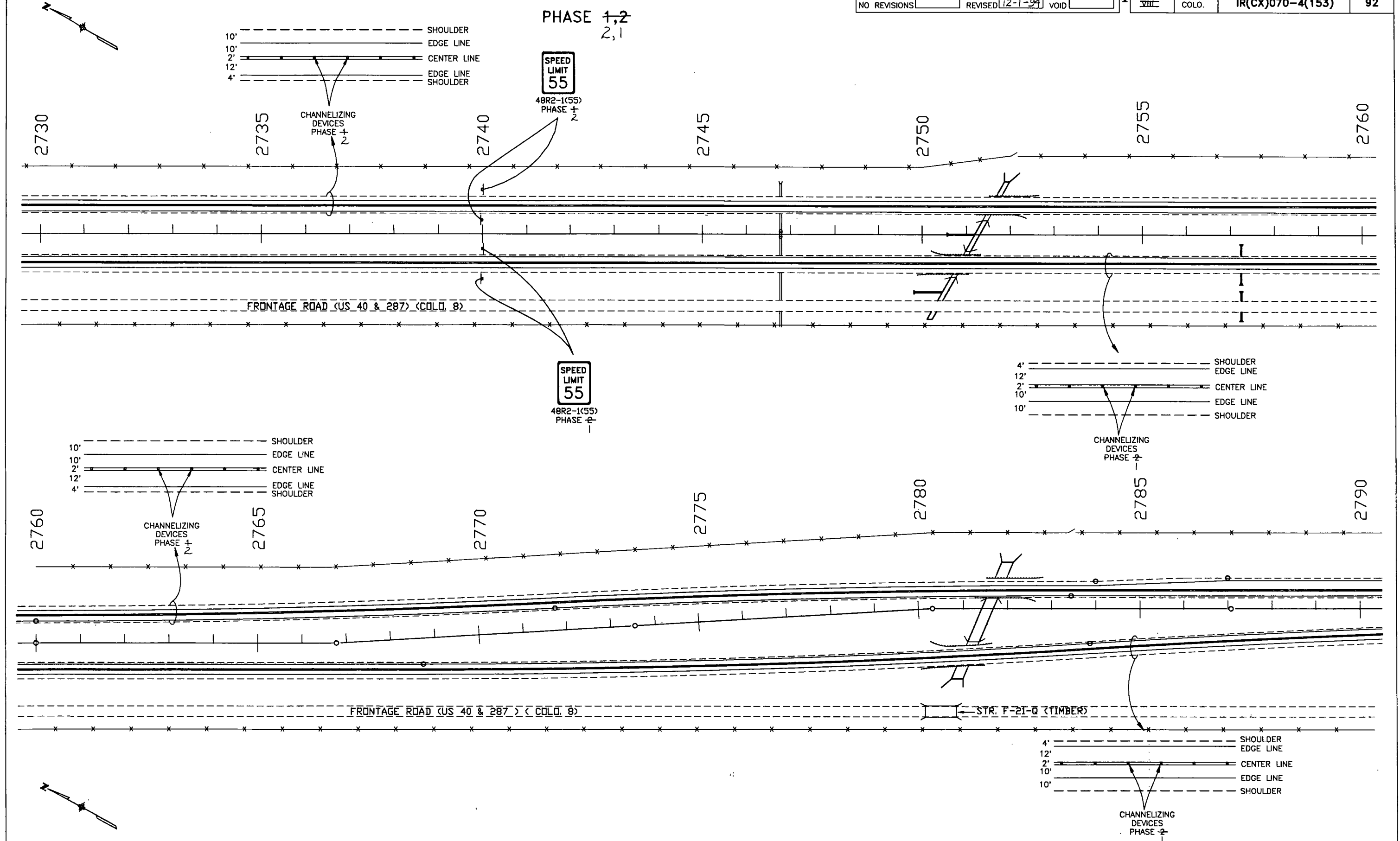


CHANNELIZING DEVICES
PHASE 1/2

PHASE 1,2
2,1

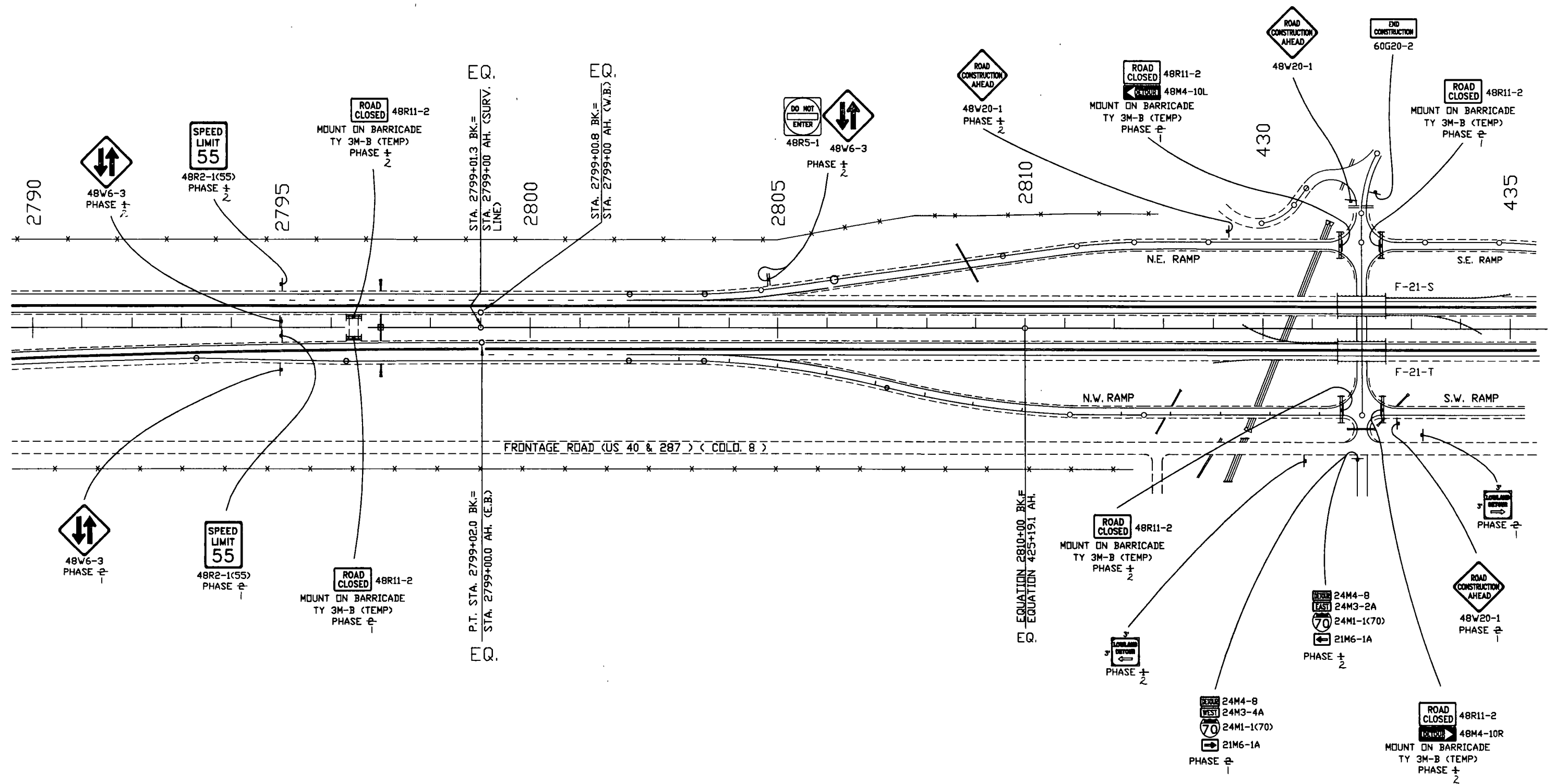


AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94	VOID	VIII	COLO.	IR(CX)070-4(153)
					92

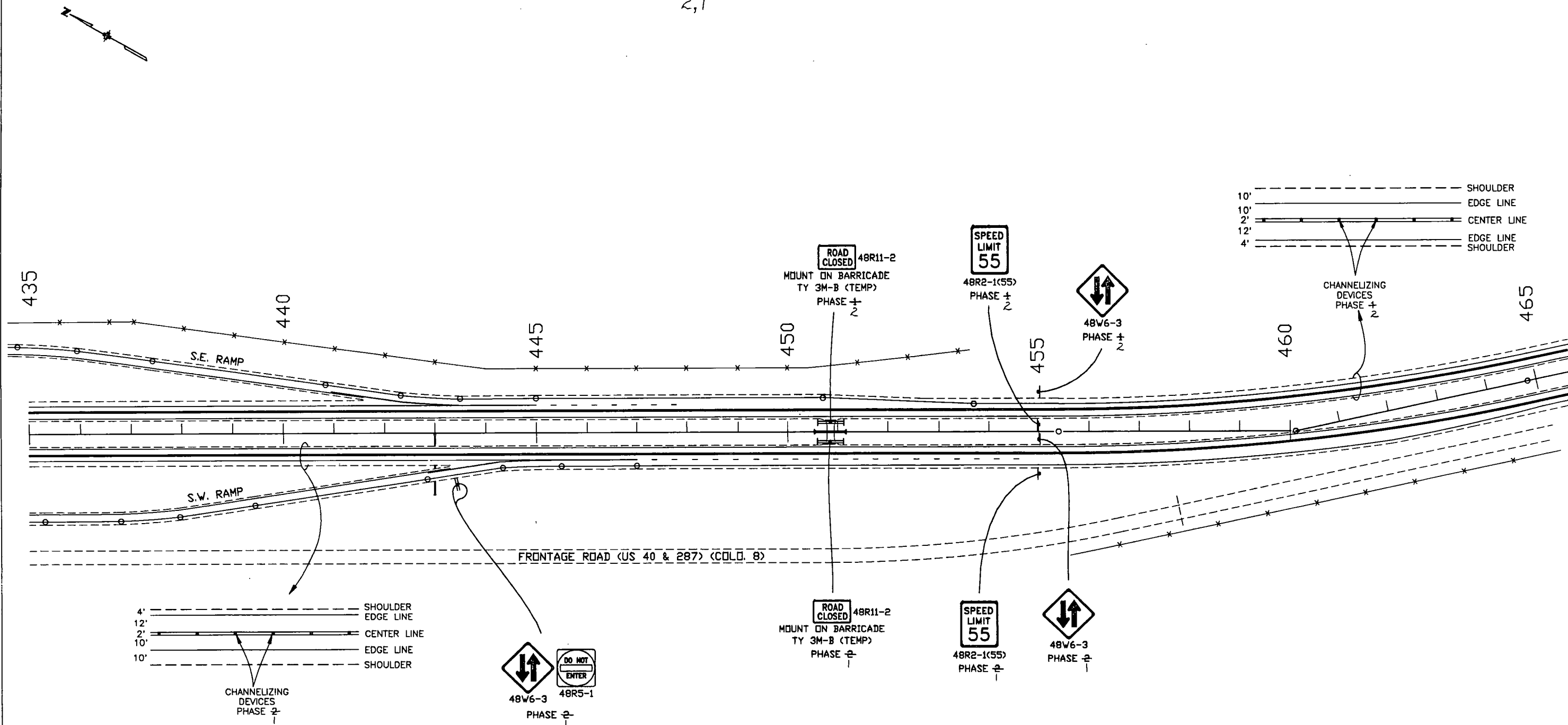


LOWLAND INTERCHANGE
PHASE 1,2
2,1

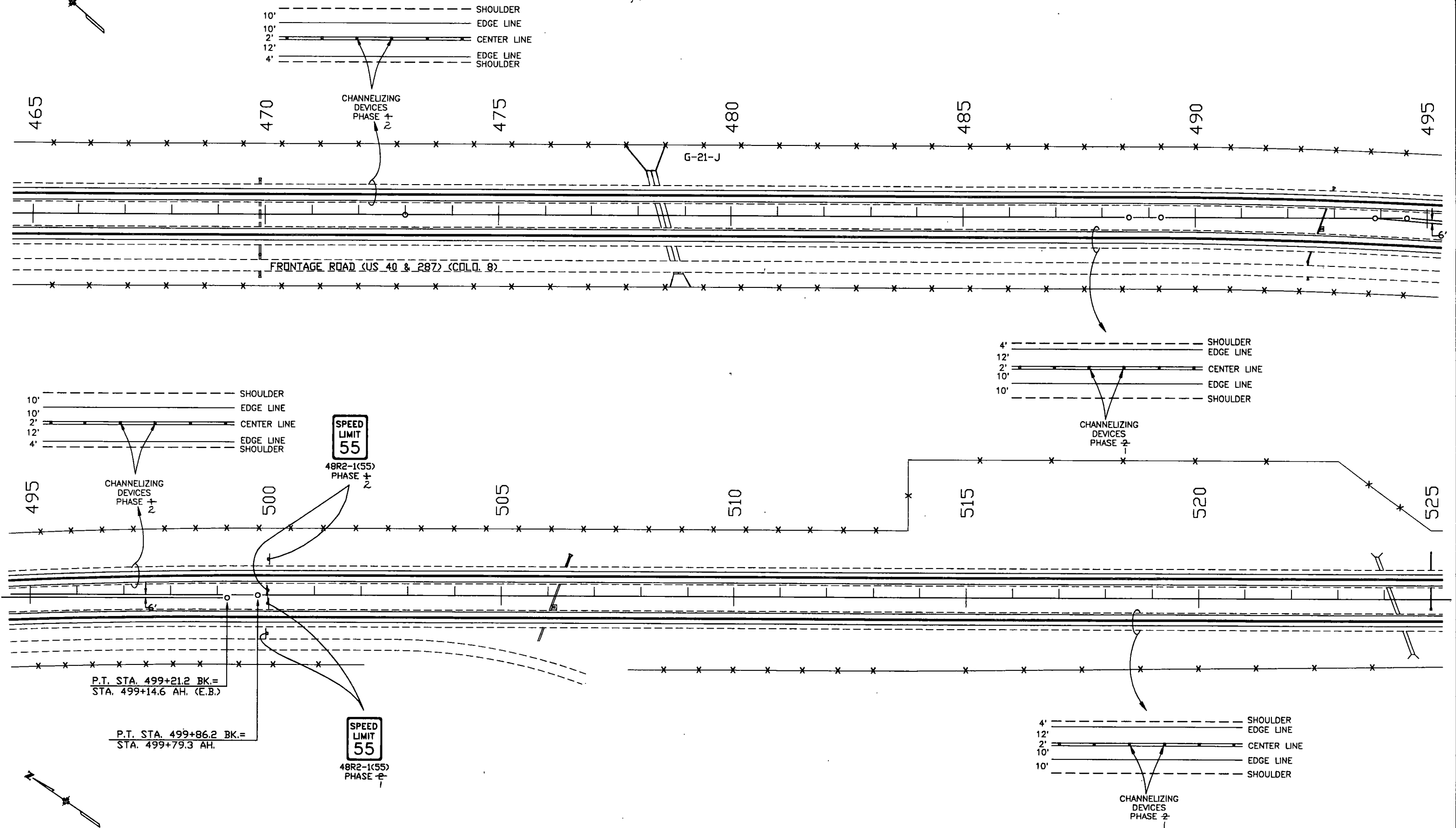
AS CONSTRUCTED	FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS ☐ REVISED 12-1-94 VOID ☐	VIII	COLO.	IR(CX)070-4(153)	93



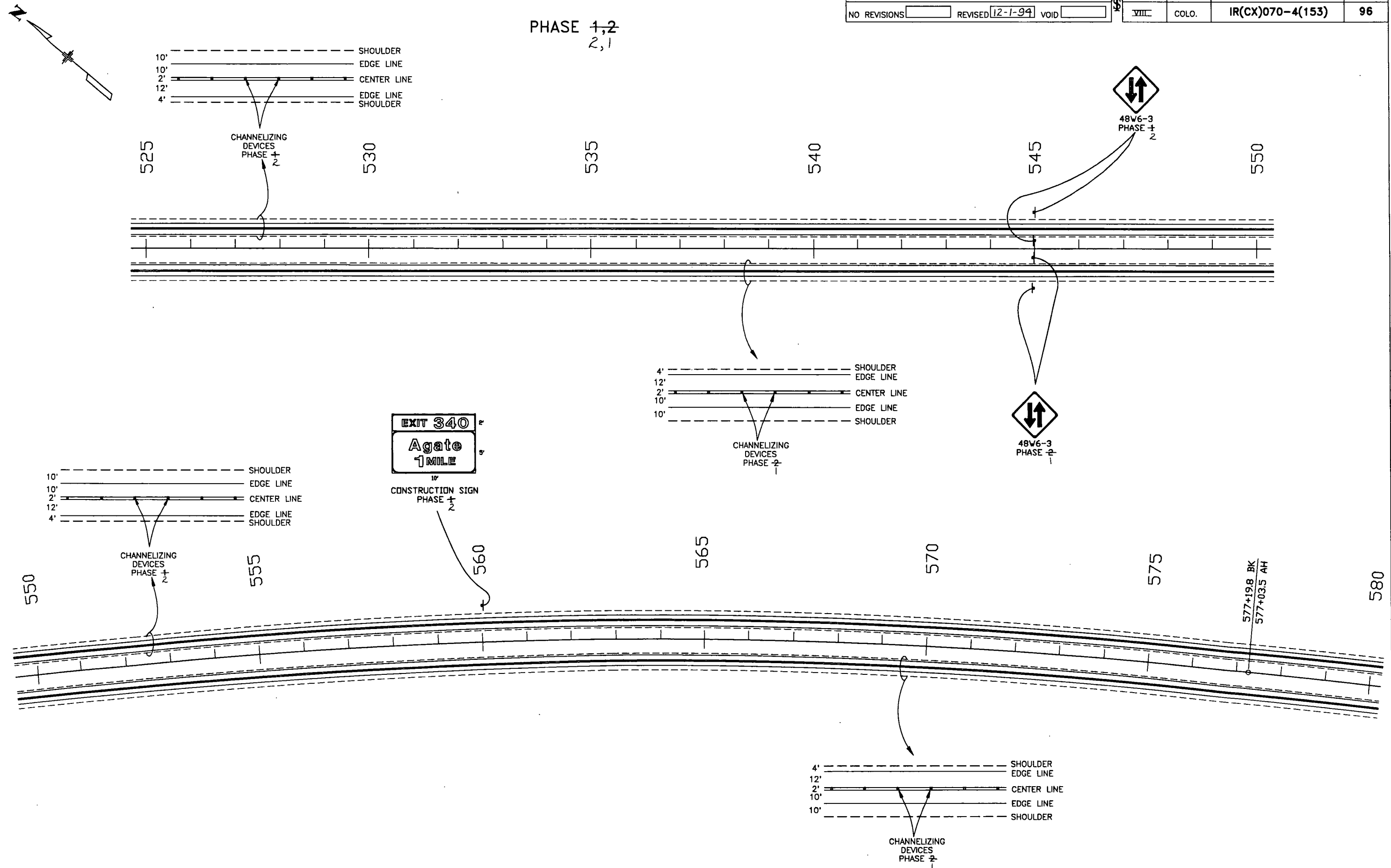
PHASE 1,2
2,1

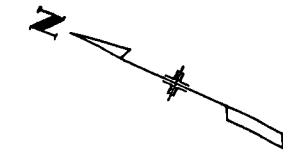


PHASE 1,2
2,1



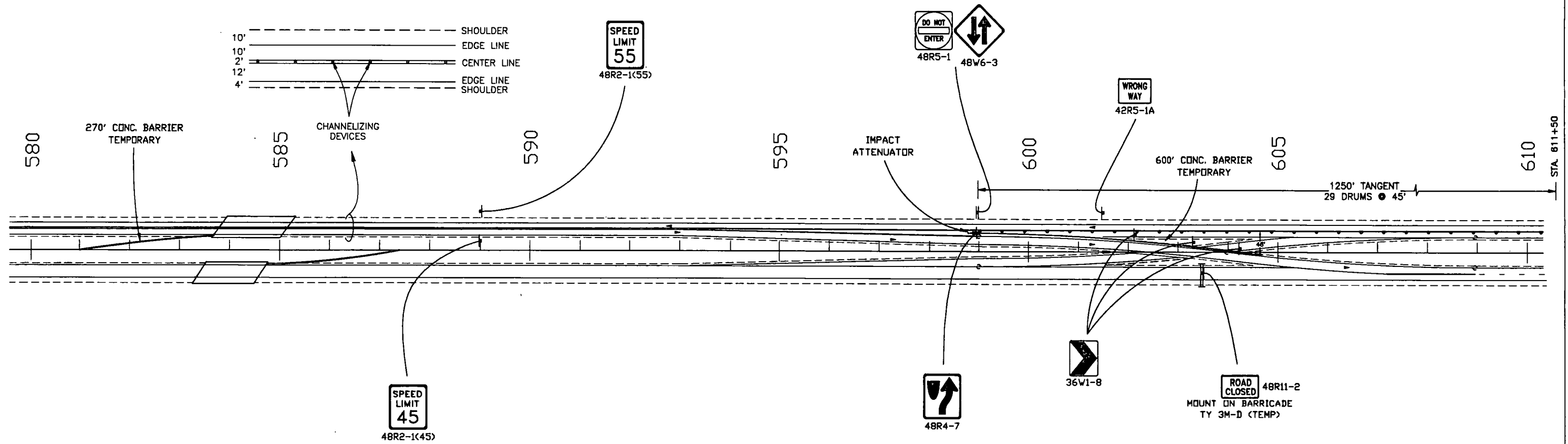
PHASE 1,2
2,1

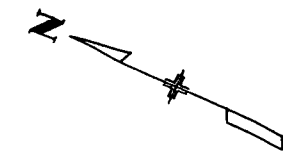




PHASE $\frac{1}{2}$

AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS		VIII	COLO.	IR(CX)070-4(153)	97
REVISED	12-1-94				
VOID					

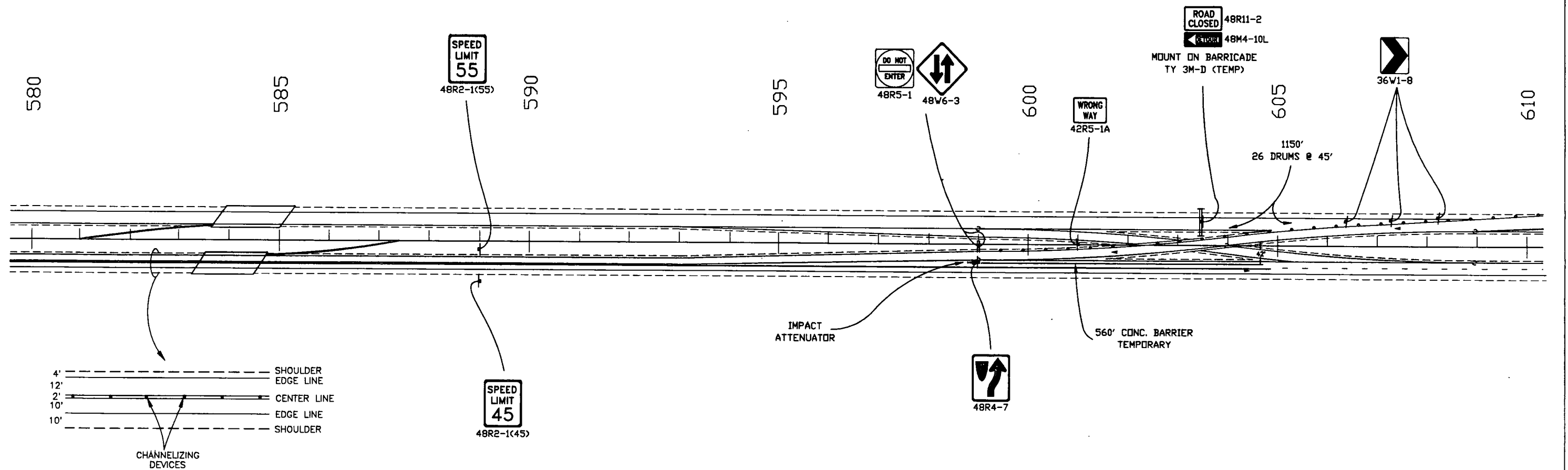




PHASE 2
1

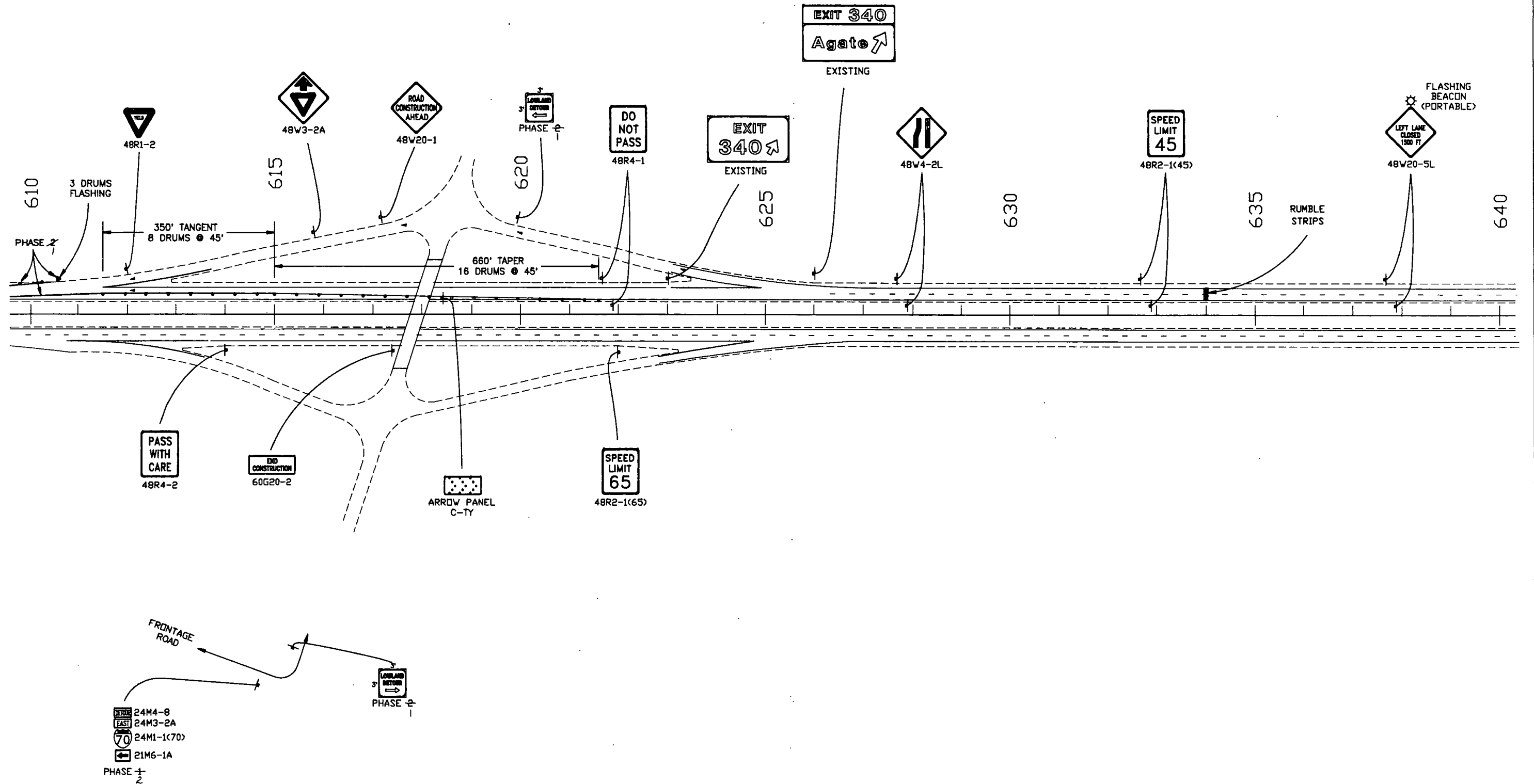
AS CONSTRUCTED		
NO REVISIONS	REVISED 12-1-94	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
VIII	COLO.	IR(CX)070-4(153)	98



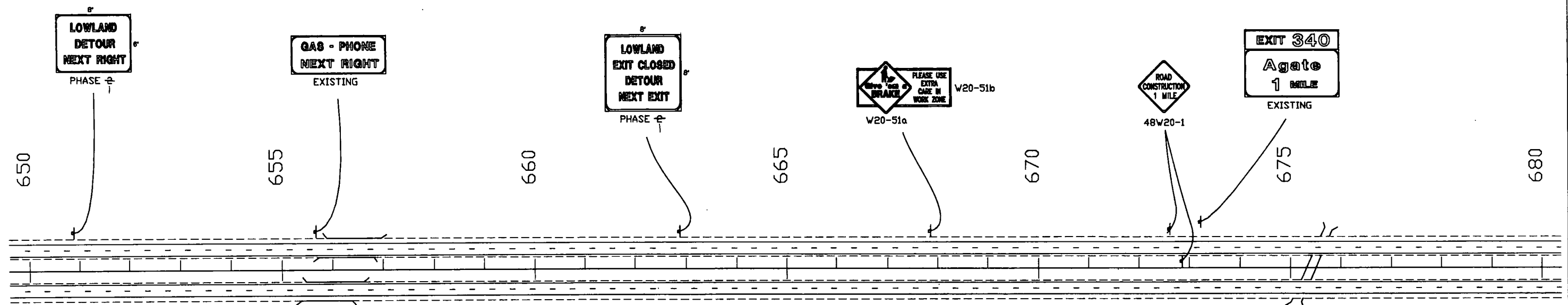
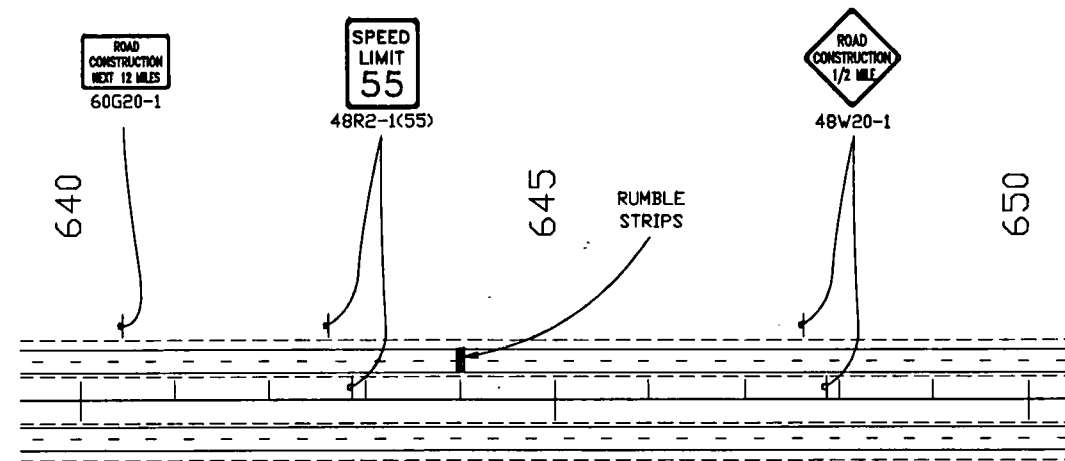
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NO REVISIONS	REVISED 12-1-94	VIII	COLO.	IR(CX)070-4(153)	99

AGATE INTERCHANGE PHASE 1,2 2,1



AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS		REVISED 12-1-94	VIII	COLO.	IR(CX)070-4(153)	100

PHASE 1,2
2,1



DEERTRAIL REST AREA

SIGNING AND STRIPING LAYOUT

AS CONSTRUCTED			FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.
NO REVISIONS	REVISED 12-1-94	VOID	VIII	COLO.	IR(CX) 070-4(153)	101

TYPICAL STALL LAYOUT

