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SEE SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
TOWNS OF WORCESTER AND ELMORE
COUNTIES OF WASHINGTON AND LAMOILLE
VT ROUTE 12

BEGINNING IN THE TOWN OF WORCESTER AT MILE MARKER 3.946 = STA. 208+33.00 AND EXTENDING
NORTHERLY ALONG VT ROUTE 12 FOR A DISTANCE OF 39216.16 FT (7.427 MILES) TO AN ENDING
POINT IN THE TOWN OF ELMORE AT MILE MARKER 3.520 = STA. 185+85.60.

STATION TO STATION DATA		LENGTH (FEET)	(MILES)
TOWN OF WORCESTER STA. 208+33.00 TO STA. 414+63.92 (MM 3.946 TO MM 7.853)		20,630.92	3.907
TOWN OF ELMORE STA. 0+00.00 TO STA. 185+85.60 (MM 0.000 TO MM 3.520)		18,585.60	3.520
TOTAL ROADWAY LENGTH =		39,216.52	7.427
TOTAL PROJECT LENGTH =		39,216.52	7.427

TRAFFIC DATA

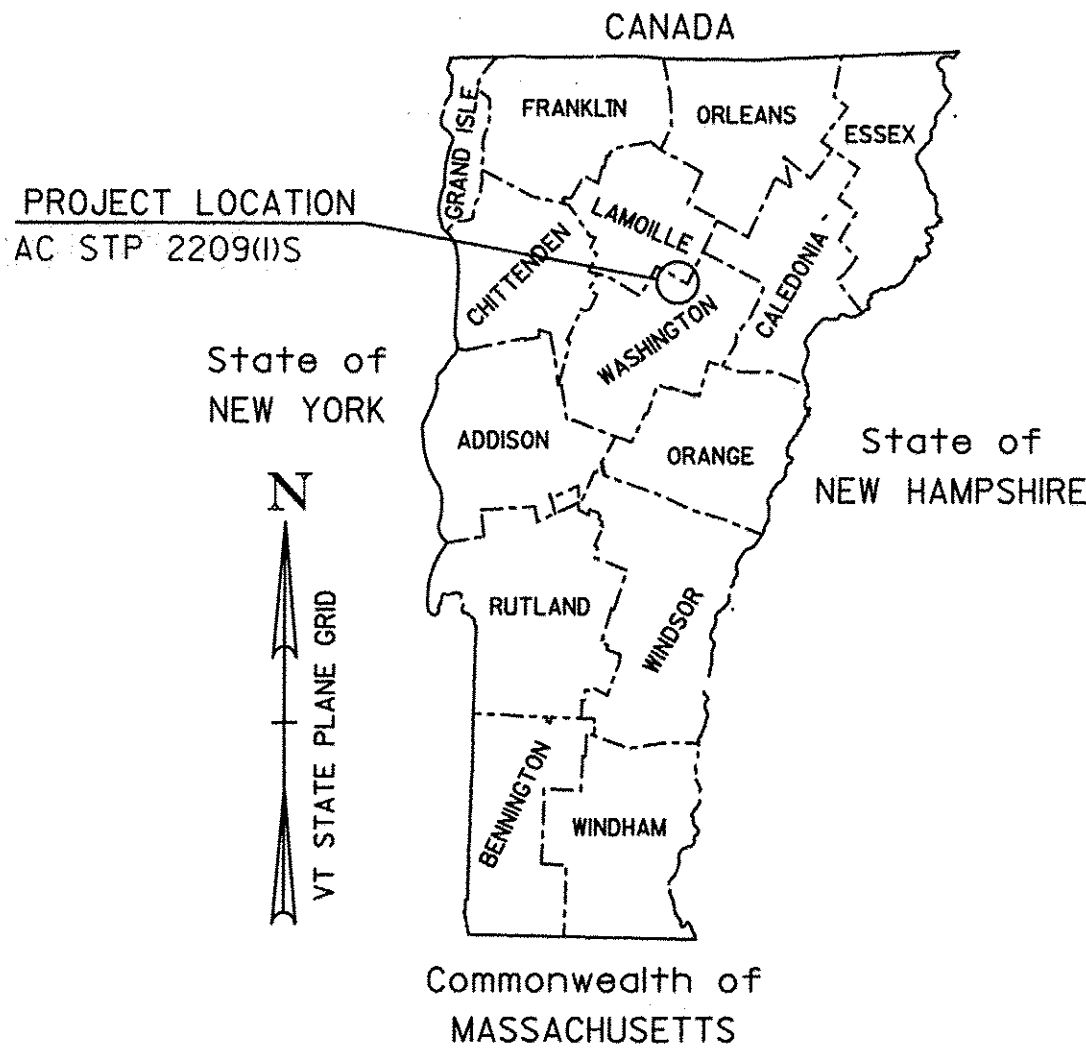
HIGHWAY SECTION	AADT		DHV		CUM. ESALS (2009-2019)	CUM. ESALS (2009-2029)
	2009	2019	2009	2019		
BEGIN OF PROJECT TO END OF PROJECT (MM 3.946 WORCESTER - MM 3.520 ELMORE)	950	1100	140	160	165,000	442,000

BITUMINOUS CONCRETE PAVEMENT
SUPERPAVE MIXTURE DESIGN CRITERIA

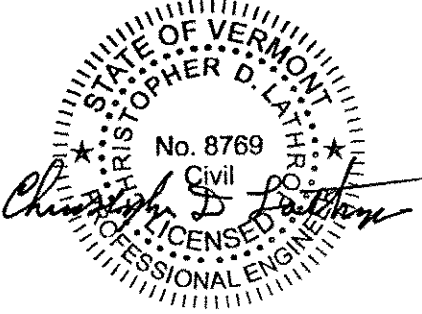
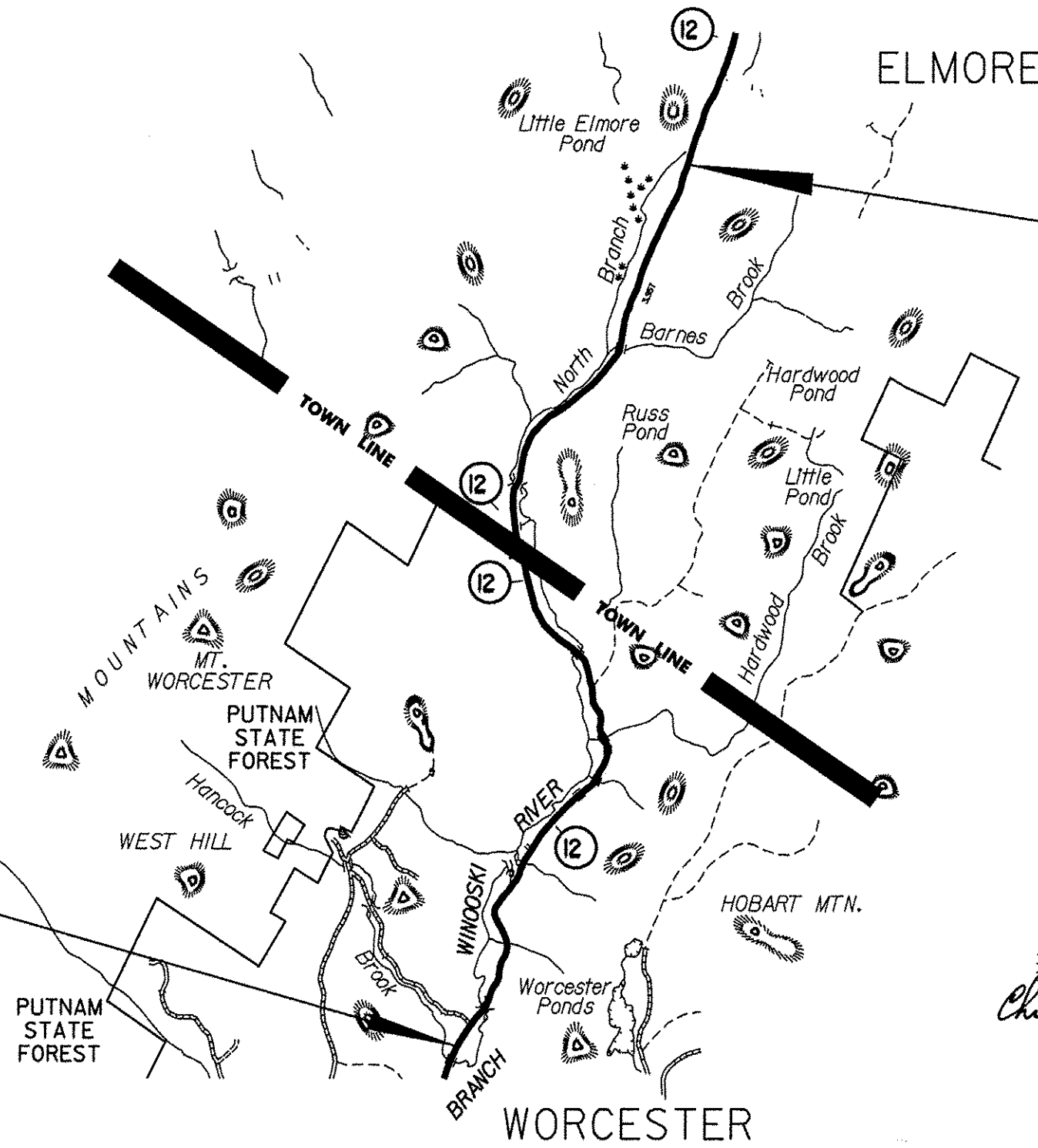
DESIGN LANE / DESIGN LIFE ESAL	221,000
DESIGN NUMBER OF GYRATIONS	50
PERFORMANCE GRADE ASPHALT BINDER	SEE SECTION 490 GENERAL SPECIAL PROVISIONS

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING
CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY
ADMINISTRATION OR THE DIRECTOR OF PROGRAM
DEVELOPMENT.
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE
WITH THESE PLANS AND THE STANDARD SPECIFICATIONS
FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE
FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006
FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT
REVISIONS AND SUCH REVISED SPECIFICATIONS AND
SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE
PLANS.

DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED <i>Kevin Marsha</i>	DATE <u>2-12-10</u>
PROJECT MANAGER : KEVIN MARSHIA, P.E.	
PROJECT NAME : WORCESTER-ELMORE	
PROJECT NUMBER AC STP 2209 (1) S	
SHEET 1 OF 36 SHEETS	



WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES COLD PLANING AND RECLAIMING
SECTIONS, RESURFACING WITH A LEVELING COURSE AND/OR BASE COURSE AND WEARING
COURSE, PAVEMENT MARKINGS, GUARDRAIL IMPROVEMENTS, DRAINAGE IMPROVEMENTS,
AND MISCELLANEOUS ITEMS.



PLOTTED: 1/27/2010

RECORD PLANS

CONTRACTOR: F.W. WHITCOMB CONSTRUCTION CORP. - WALPOLE, NH.
RESIDENT ENGINEER: JON DAY
CONSTRUCTION BEGAN: MAY 24, 2010
CONSTRUCTION COMPLETE: DECEMBER 22, 2010
RECORD PLANS BY: JON DAY & AMOS KEMPTON

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY
THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY *Jon P. Day* RESIDENT ENGINEER
DATE 09-19-11

NOTE: Any further information concerning final quantities, amounts or other details
relative to this project may be found at Central Files in the electronic archives.

CONVENTIONAL SYMBOLS

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

DuBois
& King
inc.

engineering planning management development

DATUM
VERTICAL N/A
HORIZONTAL N/A

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7	BRIDGE DETAIL SHEET
8	HANDWORK DETAILS FOR DRIVES
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12-14	ITEM DETAIL SUMMARY SHEETS
15	DITCH CLEANING DETAIL SHEET
16-28	PROJECT LAYOUT SHEETS
29-31	SUPERELEVATION BANKING DIAGRAM SHEETS
32-35	TRAFFIC SIGN SUMMARY SHEETS
36	CONSTRUCTION APPROACH SIGNING SHEET

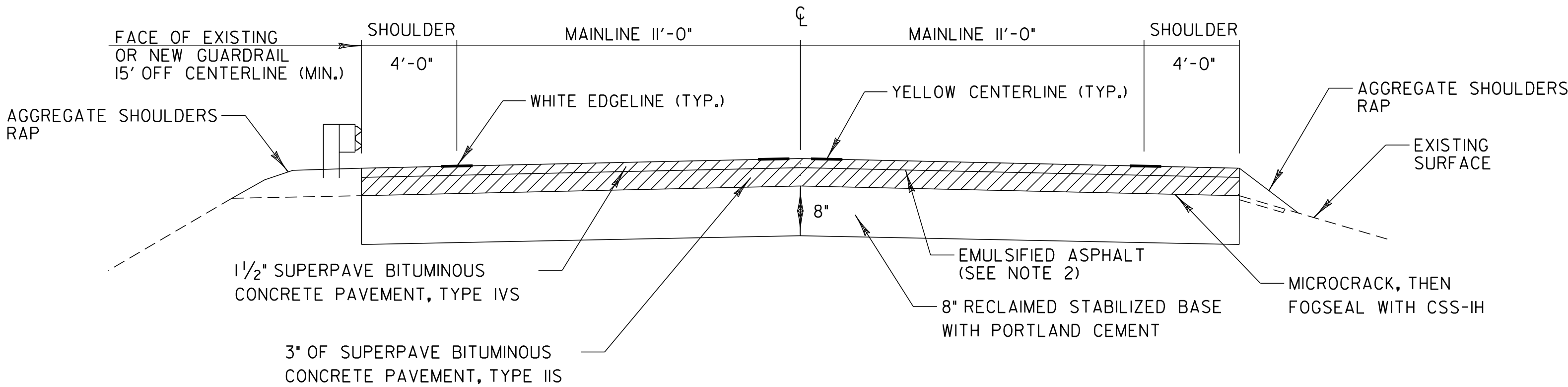
VAOT STANDARDS

B-1	BANKING TABLES	06/01/94
C-10	CURBING	02/11/08
D-3	TREATED GUTTERS	06/01/94
	W/ GRATE FOR USE IN DITCHES	
D-15	PRECAST REINFORCED CONCRETE CATCH BASIN	06/01/94
	W/ CAST IRON GRATE	
	PRECAST REINFORCED MAN HOLE W/ CAST IRON GRATE	
	CAST IRON GRATE WITH FRAME, TYPE D	
	CAST IRON GRATE WITH FRAME, TYPE E	
D-16	PRECAST REINFORCED CURB DROP INLET	06/01/94
	WITH CAST IRON GRATE	
	CAST IRON GRATE, TYPE B	
	CAST IRON GRATE, TYPE C	
	UNDERDRAIN RISER	
	REINFORCED CONCRETE PIPE END SECTION	
	ENERGY DISSIPATION FOR CULVERT	
D-30	UNDERDRAIN CONSTRUCTION DETAILS	08/13/07
E-100	CONSTRUCTION APPROACH SIGNS	01/02/04
E-100A	SIDEROAD CONSTRUCTION APPROACH SIGNS	01/02/04
E-101	CONSTRUCTION SIGN DETAILS	05/30/03
E-102	CONSTRUCTION SIGN DETAILS	06/30/03
E-102A	CONSTRUCTION SIGN DETAILS	05/01/04
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY	03/01/04
	ONE LANE CLOSED	
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	03/01/04
E-107	DELINEATION, BARRICADES AND DETOURS FOR	06/30/03
	CONSTRUCTION AREAS	
E-107A	BREAKAWAY BARRICADE DETAILS	06/08/09
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E-138	MILEMARKER DETAILS - STATE & TOWN HIGHWAYS	05/30/03
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E-193	PAVEMENT MARKING DETAILS	08/18/95
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G-1D	STEEL BEAM GUARDRAIL APPROACH END TERMINAL	01/03/00
	STEEL BEAM GUARDRAIL TRAILING END TERMINAL	
	ANCHOR FOR STEEL BEAM GUARDRAIL	
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G-19	GENERIC PLANS FOR GUARDRAIL END TERMINALS	11/15/02

INDEX
OF
SHEETS

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99cl70.dgn	PLOT DATE: 23-SEP-2011 5:23
PROJECT LEADER: CDL	DRAWN BY: SJL
DESIGNED BY: SJL	CHECKED BY: EPD
PLOT FILE: 99cl70_2.i	SHEET 2 OF 36



RECLAIMED STABILIZED BASE TYPICAL SECTION

WORCESTER
STA. 212+42.00 TO 414+63.92
ELMORE
STA. 0+00.00 TO STA. 183+60.60

TYPICAL ORDER OF OPERATIONS FOR RECLAIMED STABILIZED BASE WITH PORTLAND CEMENT PAVEMENT REHABILITATION		
STEP	DESCRIPTION	PAYMENT ITEM(S)
1	REPAIR EXISTING SHOULDERS AS DIRECTED BY THE RESIDENT ENGINEER	ITEM 301.28 "SUBBASE OF CRUSHED GRAVEL, FINE GRADED"
2	RECLAIM EXISTING ROADBED 8" USING WATER FOR STABILIZATION AND COMPACTION	ITEM 310.20 "RECLAIMED STABILIZED BASE"
3	CORRECT SUPERELEVATION DEFICIENCIES	ITEM 301.28 "SUBBASE OF CRUSHED GRAVEL, FINE GRADED"
4	PLACE PORTLAND CEMENT ON ROADBED SURFACE AND RECLAIM ROADBED 8", CURE, MICROCRACK, AND APPLY FOG SEAL SURFACE TREATMENT	ITEM 900.675 "SPECIAL PROVISION (RECLAIMED STABILIZED BASE, PORTLAND CEMENT)", ITEM 900.680 "SPECIAL PROVISION (PORTLAND CEMENT FOR BASE STABILIZATION)" AND ITEM 900.683 "SPECIAL PROVISION (FOG SEAL SURFACE TREATMENT)"
5	PLACE 3" TYPE IIS BASE COURSE	ITEM 490.30 "SUPERPAVE BITUMINOUS CONCRETE PAVEMENT"
6	PLACE 1 1/2" TYPE IVS WEARING COURSE	ITEM 490.30 "SUPERPAVE BITUMINOUS CONCRETE PAVEMENT"

NOTE:

1. THIS LIST OF PROCEDURES FOR REHABILITATING THE EXISTING ROADBED IS PRESENTED FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL PREPARE THEIR OWN SCHEDULE OF OPERATIONS TO COMPLETE THE PROPOSED WORK UTILIZING THE APPROPRIATE PAY ITEMS AS SHOWN IN THE PLANS AS DIRECTED BY THE RESIDENT ENGINEER.

SEEDING FORMULA

RATE: DOUBLE IF HYDROSEEDING

% WT.	LBS./A.	NAME	PUR %	GERM %
38	32	CREEPING RED FESCUE	98	90
29	24	SPARTAN HARD FESCUE	95	85
15	12	AZAY SHEEP'S FESCUE	95	87
15	12	ANNUAL RYE GRASS	95	90
3	--	INERTS	--	--
100.0	80 LB/A			

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED ITEM 651.15: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE RESIDENT ENGINEER.

FERTILIZER ITEM 651.18: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA)

AGRICULTURAL LIMESTONE ITEM 651.20: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE RESIDENT ENGINEER.

HAY MULCH ITEM 651.25: TO BE PLACED ON THE EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE RESIDENT ENGINEER.

TOPSOIL ITEM 651.35: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE RESIDENT ENGINEER.

NOTES:

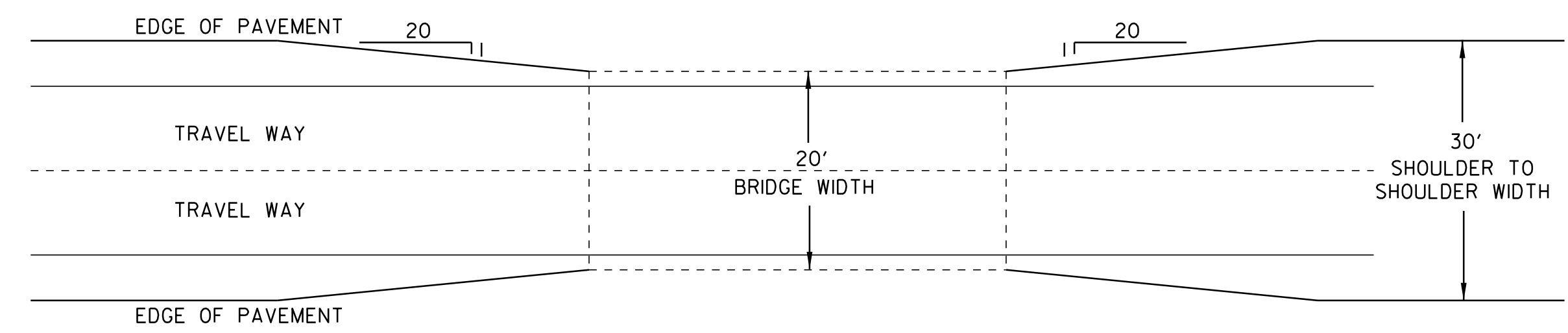
- THE WEARING COURSE SHALL BE TYPE IVS SUPERPAVE BITUMINOUS CONCRETE PAVEMENT. THE BASE COURSE SHALL BE TYPE IIS SUPERPAVE BITUMINOUS CONCRETE PAVEMENT. THE LEVELING COURSE SHALL BE TYPE IVS SUPERPAVE BITUMINOUS CONCRETE PAVEMENT WHERE REQUIRED OR AS DIRECTED BY THE RESIDENT ENGINEER. ALL ASPHALT CEMENT USED IN THE SUPERPAVE BITUMINOUS CONCRETE PAVEMENT SHALL BE AS SPECIFIED IN SECTION 490 OF THE GENERAL SPECIAL PROVISIONS.
- EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES AND BETWEEN ALL COURSES OF PAVEMENT NOT INCLUDING RECLAIMED SURFACES AT THE RATE OF 0.025 GAL/SY OR AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT WILL BE UNDER ITEM 404.65, "EMULSIFIED ASPHALT".
- SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TOLERANCE = +/- 1/4 INCH (TOTAL PAVEMENT THICKNESS EXCLUDING LEVELING).
- PRIOR TO RECLAIMING, ANY EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE RESIDENT ENGINEER WILL BE EXCAVATED TO THE DEPTH OF RECLAIMING OR AS DIRECTED BY THE RESIDENT ENGINEER. EXCAVATED MATERIAL WILL BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM THE PROJECT AS DIRECTED BY THE RESIDENT ENGINEER. THIS WORK WILL BE PAID FOR USING THE APPROPRIATE RENTAL ITEMS. THE METHOD OF REMOVAL AND THE USE OF RENTAL ITEMS SHALL BE APPROVED BY THE RESIDENT ENGINEER. PRIOR TO ANY WORK BEING DONE, MATERIAL REMOVAL SHALL BE REPLACED WITH ITEM 301.40 "SUBBASE, RAP". AN ADDITIONAL QUANTITY OF 301.40 SUBBASE, RAP HAS BEEN INCLUDED TO CORRECT SUPPERELEVATION AND GRADATION DEFICIENCIES WITHIN THE RECLAIMED SECTION. AN ESTIMATED THICKNESS OF 2" HAS BEEN INCLUDED FOR THE ENTIRE RECLAIMED SURFACE AREA. THE COST ASSOCIATED WITH PROVIDING COLD PLANE GRINDINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 301.40 "SUBBASE, RAP".
- COLD PLANING SHALL BE COMPLETED ACCORDING TO THE TYPICAL OR AS OTHERWISE NOTED ON THE PLANS. A FULL DEPTH BUTT JOINT SHALL BE CONSTRUCTED AT THE BEGINNING AND END OF THE PROJECT, ALL SIDE ROAD APPROACHES AS DENOTED ON THE PROJECT PLANS OR AS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. SAWCUTTING WILL NOT BE PAID FOR SEPARATELY. IT SHALL BE CONSIDERED INCIDENTAL TO ITEM 210.10 "COLD PLANING, BITUMINOUS PAVEMENT".
- ALL DRIVES SHALL RECEIVE A PAVED APRON OF 4' OR AS DIRECTED BY THE RESIDENT ENGINEER. ANY AND ALL REQUIRED EXCAVATION IN DRIVE AREAS SHALL BE INCIDENTAL TO ITEM 900.675 "SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)". THE NEW BITUMINOUS SURFACE SHALL BE CONSTRUCTED AS DIRECTED AND WILL BE PAID FOR UNDER ITEM 900.675, "SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)".
- 3'-7" OF BACKING IS REQUIRED BEHIND THE FACE OF GUARDRAIL WITH 6 FOOT POSTS. IF THIS CAN NOT BE OBTAINED THEN 8 FOOT POSTS SHALL BE USED. THESE ITEMS SHALL BE PAID UNDER ITEM 621.20 "STEEL BEAM GUARDRAIL, GALVANIZED" AND ITEM 621.205 "STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS".
- A QUANTITY FOR ITEM 604.412, "REHAB DI, CB OR MH CLASS I" HAS BEEN INCLUDED IN THE QUANTITIES TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER. ALL DI'S SHALL BE RAISED OR REHABILITATED SUCH THAT THE NEW GRATE ELEVATION IS LEVEL WITH THE SURROUNDING TERRAIN.
- ALL EDGES OF PAVEMENT WITHIN THE COLD PLANE SECTION SHALL BE BACKED UP TO FULL HEIGHT WITH COLD PLANE GRINDINGS AS DIRECTED BY RESIDENT ENGINEER AND WILL BE PAID FOR UNDER ITEM 402.13 "AGGREGATE SHOULDERS, RAP". ADDITIONAL MATERIAL REQUIRED AFTER THE COLD PLANE GRINDINGS HAVE BEEN USED WILL BE PAID FOR UNDER ITEM 402.12 "AGGREGATE SHOULDERS".
- ESTIMATED QUANTITIES OF ITEM 608.25, "ALL PURPOSE EXCAVATOR RENTAL, TYPE I", 608.37, "TRUCK RENTAL", AND 608.40, "LOADER RENTAL, TYPE I" HAVE BEEN INCLUDED FOR THE PROVISION OF CONSTRUCTING GUARDRAIL END SECTIONS WITH EXCAVATED DITCHING MATERIAL AND THE REMOVAL OF BUILT UP EXCESS SHOULDER MATERIAL. AN ESTIMATED QUANTITY OF ITEM 203.30, "EARTH BORROW" HAS BEEN INCLUDED FOR USE WITH THE GUARDRAIL END SECTIONS. 25 CY OF ITEM 203.30, "EARTH BORROW" HAS BEEN ESTIMATED FOR EACH NEW MTS. GUARDRAIL END SECTIONS SHALL BE CAPPED WITH AN ESTIMATED 3 INCH DEPTH OF ITEM 402.12, "AGGREGATE SHOULDERS" UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER. THE QUANTITIES INCLUDED REFLECT 5 TONS OF ITEM 402.12, "AGGREGATE SHOULDERS" FOR EACH NEW GUARDRAIL END SECTION. ITEM 653.20, "TEMPORARY EROSION MATTING" SHALL BE PLACED ON SLOPES GREATER THAN 1:6 CREATED BY THE GUARDRAIL END SECTIONS. THE QUANTITIES INCLUDED REFLECT 25 SY OF ITEM 653.20, "TEMPORARY EROSION MATTING" FOR EACH NEW GUARDRAIL END SECTION. PRIOR TO THE PLACEMENT OF TEMPORARY EROSION MATTING, THE AREA SHALL BE TOPSOILED AND SEEDED USING ITEM 651.35, "TOPSOIL" AND ITEM 651.15, "SEED".
- STABILIZING AGENT FOR THE ITEM 900.675 "SPECIAL PROVISION (RECLAIMED STABILIZED BASE)" WILL BE PORTLAND CEMENT. PAYMENT WILL BE MADE UNDER ITEM 900.680 "SPECIAL PROVISION (PORTLAND CEMENT FOR BASE STABILIZATION)".
- ESTIMATED QUANTITY FOR ITEM 619.17 "YIELDING MARKER POSTS" HAS BEEN INCLUDED TO DELINEATE PIPE INLETS, PIPE OUTLETS AND DROP INLETS LOCATED OUTSIDE THE PAVEMENT SURFACES OR AS DIRECTED BY THE RESIDENT ENGINEER.
- STEEL BEAM GUARDRAIL WITH STEEL POSTS SHALL BE USED ON THIS PROJECT.
- IN AREAS WHERE A UTILITY POLE OR SIMILAR OBJECT IS LOCATED WITHIN 4 FEET BEHIND GUARDRAIL, A REDUCED POST SPACING SHALL BE USED. THE REDUCED SPACING IS DETAILED ON SHEET 5.
- A QUANTITY HAS BEEN ESTIMATED FOR ITEM 201.31 "THINNING AND TRIMMING FOR SIGNS".
- A QUANTITY HAS BEEN ESTIMATED FOR ITEM 617.10 "RELOCATE MAILBOX, SINGLE SUPPORT".
- A QUANTITY HAS BEEN ESTIMATED FOR ITEM 605.10 "6 INCH UNDERDRAIN PIPE", ITEM 605.20 "6 INCH UNDERDRAIN CARRIER PIPE" AND ITEM 605.95 "UNDERDRAIN FLUSHING BASIN" TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER. UNDERDRAIN SHALL BE INSTALLED PRIOR TO THE FINAL RECLAIM PASS.

PROJECT
TYPICAL
SHEET 1

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99c170.dgn
PROJECT LEADER: CDL
DESIGNED BY: CDL
PLOT FILE: 99c170_3.1
PLOT DATE: 23-SEP-2011 15:24
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 3 OF 36

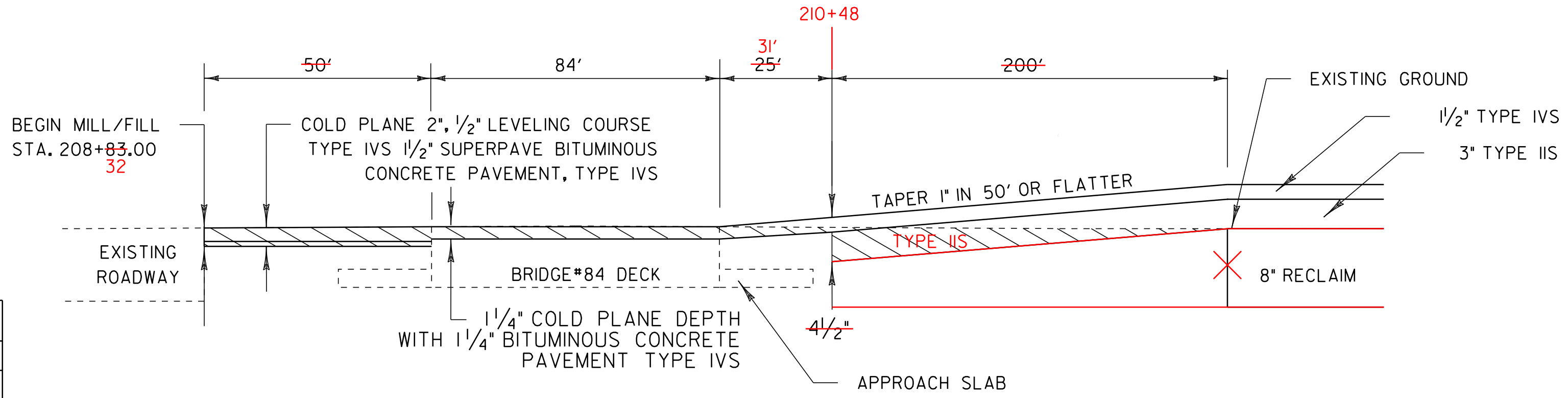
DETAILS ARE NOT TO SCALE



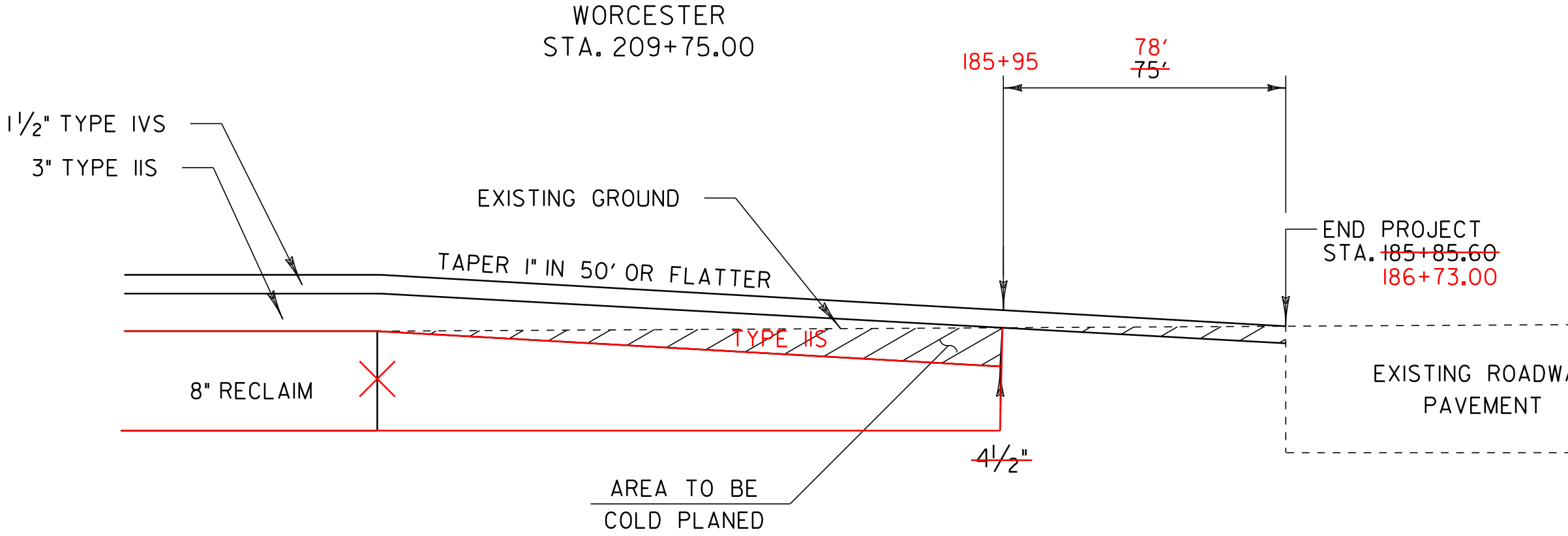
TAPER DETAIL AT
WORCESTER BRIDGE 84

PROJECT PAVING LIMITS

TOWN AND ROUTE	BEGIN STATION	END STATION	LANE TYPICAL	WEARING DEPTH	LEVELING TON	NOTES
WORCESTER	208+83.00	209+33.00	4' - 11' - 11' - 4'	1 1/2"	4.07	COLD PLANE 2", LEVEL, 1 1/2" TYPE IVS
	209+33.00	210+17.00	4' - 11' - 11' - 4'	1 1/4"	-	COLD PLANE 1 1/4", 1 1/4" TYPE IVS (BRIDGE 84)
	210+17.00	210+42.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 1 1/4" - 1 1/2" TYPE IVS
	210+42.00	212+42.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 3" TYPE IIS, 1 1/2" TYPE IVS
	212+42.00	414+63.92	4' - 11' - 11' - 4'	1 1/2"	-	RECLAIM 8", CEMENT STABILIZE RECLAIM, MICROCRACK, THEN FOG SEAL WITH CSS-IH, 3" TYPE IIS, THEN 1 1/2" TYPE IVS
ELMORE	0+00.00	24+27.00	4' - 11' - 11' - 4'	1 1/2"	-	RECLAIM 8", CEMENT STABILIZE RECLAIM, MICROCRACK, THEN FOG SEAL WITH CSS-IH, 3" TYPE IIS, THEN 1 1/2" TYPE IVS
	24+27.00	26+27.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 3" TYPE IIS, 1 1/2" TYPE IVS
	26+27.00	26+52.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 1 1/4" - 1 1/2" TYPE IVS
	26+52.00	26+94.00	4' - 11' - 11' - 4'	1 1/4"	-	COLD PLANE 1 1/4", 1 1/4" TYPE IVS (BRIDGE 1)
	26+94.00	27+19.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 1 1/4" - 1 1/2" TYPE IVS
	27+19.00	29+19.00	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 3" TYPE IIS, 1 1/2" TYPE IVS
	29+19.00	92+07.50	4' - 11' - 11' - 4'	1 1/2"	-	RECLAIM 8", CEMENT STABILIZE RECLAIM, MICROCRACK, THEN FOG SEAL WITH CSS-IH, 3" TYPE IIS, THEN 1 1/2" TYPE IVS
	92+07.50	94+07.50	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 3" TYPE IIS, 1 1/2" TYPE IVS
	94+07.50	94+32.50	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 1 1/4" - 1 1/2" TYPE IVS
	94+32.50	94+45.50	4' - 11' - 11' - 4'	1 1/4"	-	COLD PLANE 1 1/4", 1 1/4" TYPE IVS
	94+45.50	94+70.50	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 1 1/4" - 1 1/2" TYPE IVS
	94+70.50	96+70.50	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE TRANSITION, 3" TYPE IIS, 1 1/2" TYPE IVS
	96+70.50	183+60.60	4' - 11' - 11' - 4'	1 1/2"	-	RECLAIM 8", CEMENT STABILIZE RECLAIM, MICROCRACK, THEN FOG SEAL WITH CSS-IH, 3" TYPE IIS, THEN 1 1/2" TYPE IVS
	183+60.60	185+85.60	4' - 11' - 11' - 4'	1 1/2"	-	COLD PLANE (VARIES), 3" TYPE IIS, 1 1/2" TYPE IVS



APPROACH AREA DETAIL (BEGIN PROJECT)

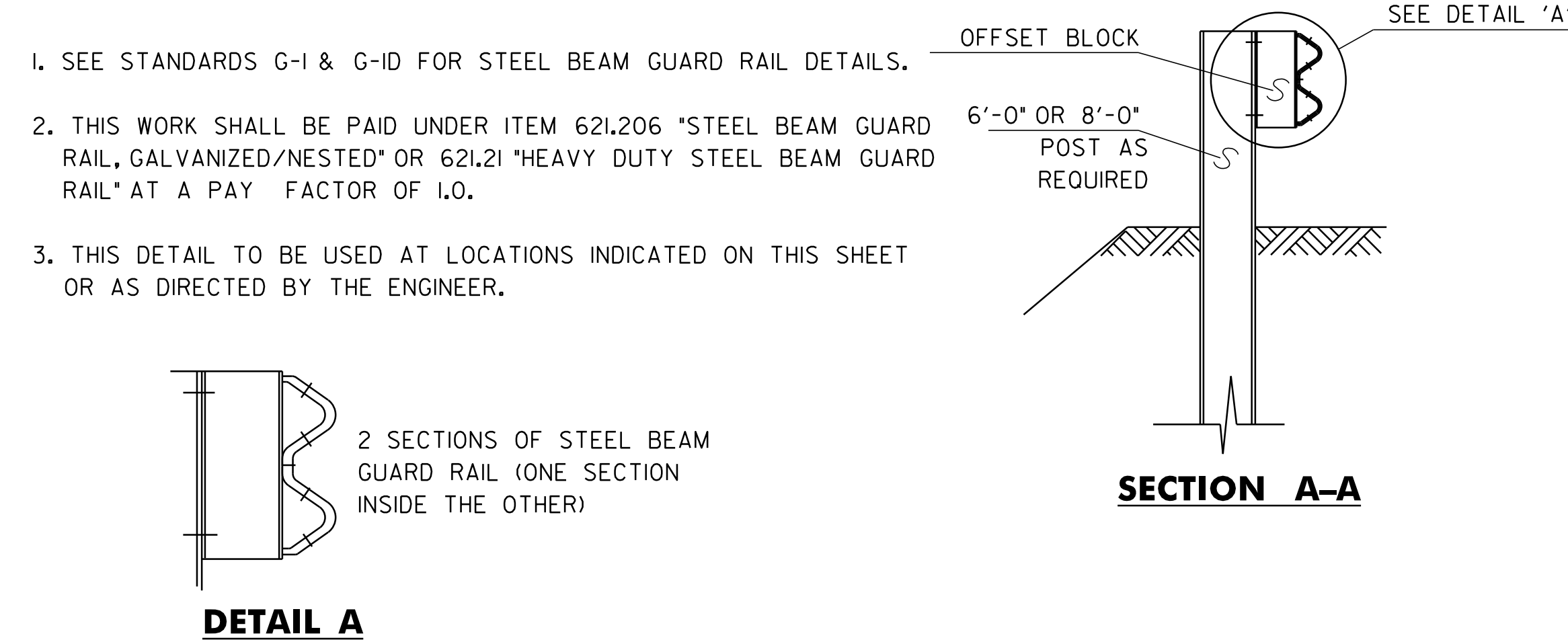


APPROACH AREA DETAIL (END PROJECT)

DETAILS ARE NOT TO SCALE

PROJECT
TYPICAL
SHEET 2

PROJECT NAME:	WORCESTER-ELMORE
PROJECT NUMBER:	STP 2209(IIS)
FILE NAME:	99cl70.dgn
PROJECT LEADER:	CDL
DESIGNED BY:	CDL
PLOT FILE:	99cl70_4.i
PLOT DATE:	23-SEP-2011 5:24
DRAWN BY:	SJL
CHECKED BY:	EPD
SHEET	4 OF 36



ELMORE
STA. 26+73.00
STA. 94+39.00



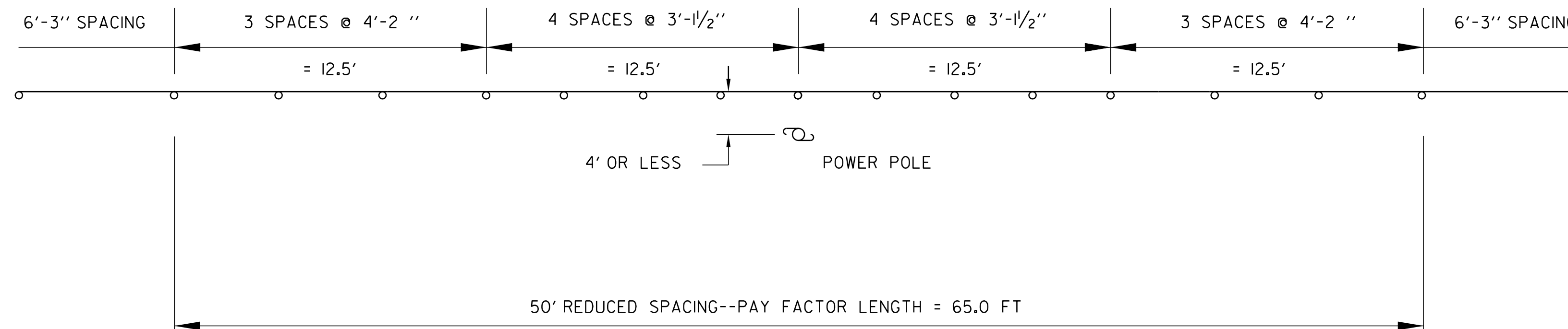
NOTE: GRADE TO DRAIN, PAY UNDER ITEM 608.15 "POWER GRADER RENTAL"



APPROACH SPEED (mph)	SIGHT DISTANCE (feet)
30 OR LESS	300
35	350
40	400
45	450
50	500
55	550

THINNING AND TRIMMING FOR SIGNS DETAIL

ELMORE
STA. 105+60 RT



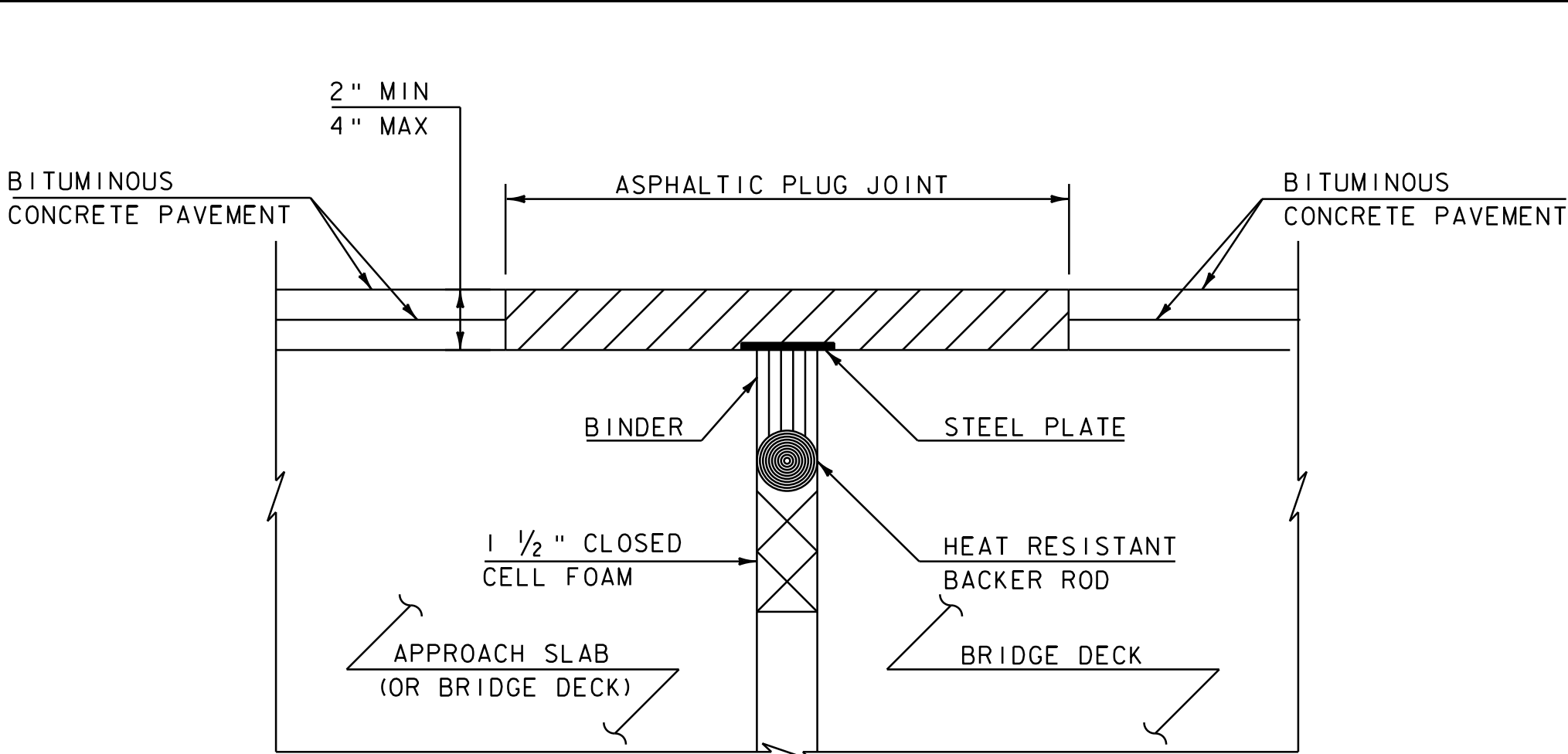
OBJECTS WITHIN 4' OF GUARDRAIL
STA. 333+39.96 RT

**PROJECT
TYPICAL
SHEET 3**

PROJECT NAME:	WORCESTER-ELMORE
PROJECT NUMBER:	STP 2209(I)S

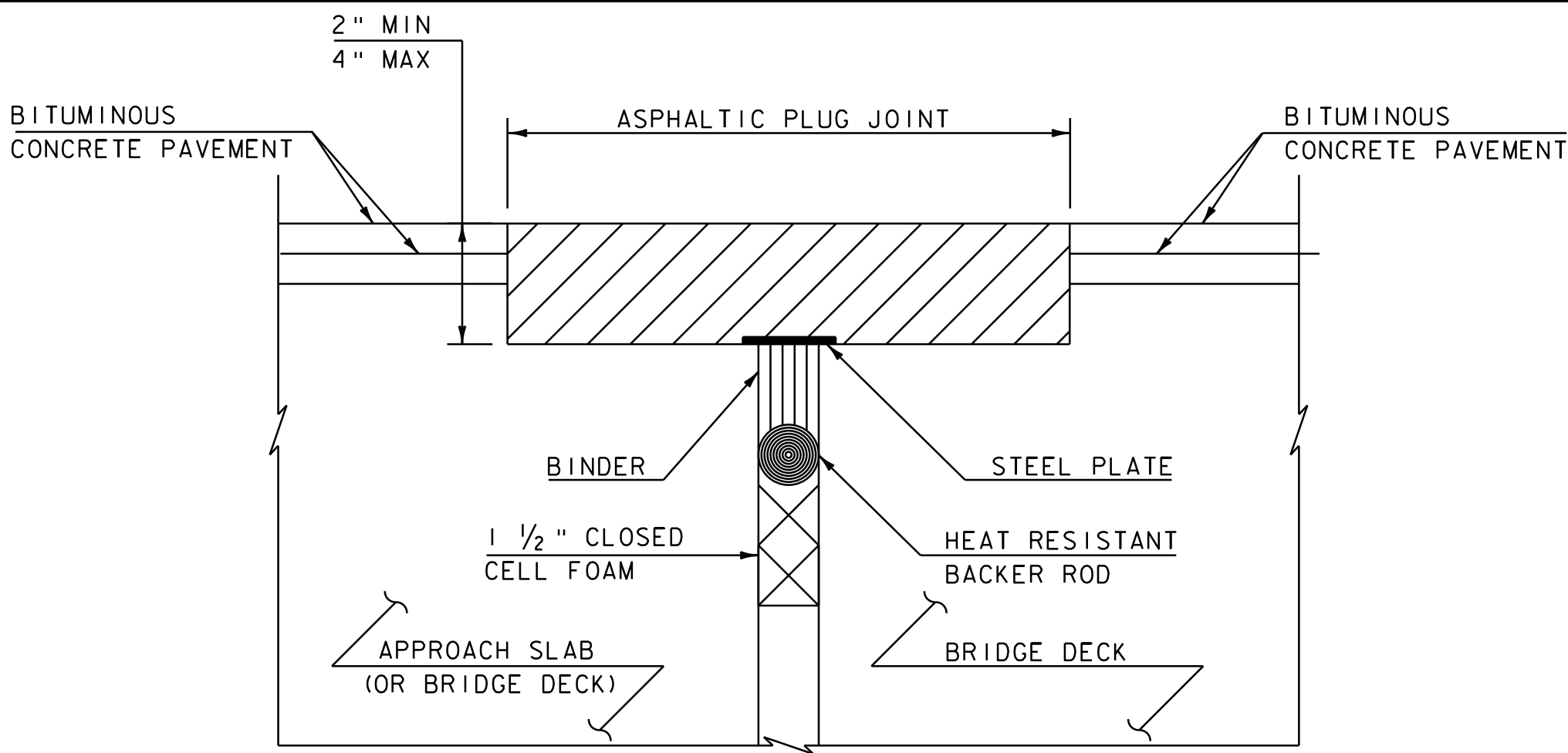
FILE NAME: 99cl70.dgn	PLOT DATE: 23-SEP-2011 5:24:0
PROJECT LEADER: CDL	DRAWN BY: SJL
DESIGNED BY: CDL	CHECKED BY: EPD
PLOT FILE: 99cl70_5.i	SHEET 5 OF 36

DETAILS ARE NOT TO SCALE



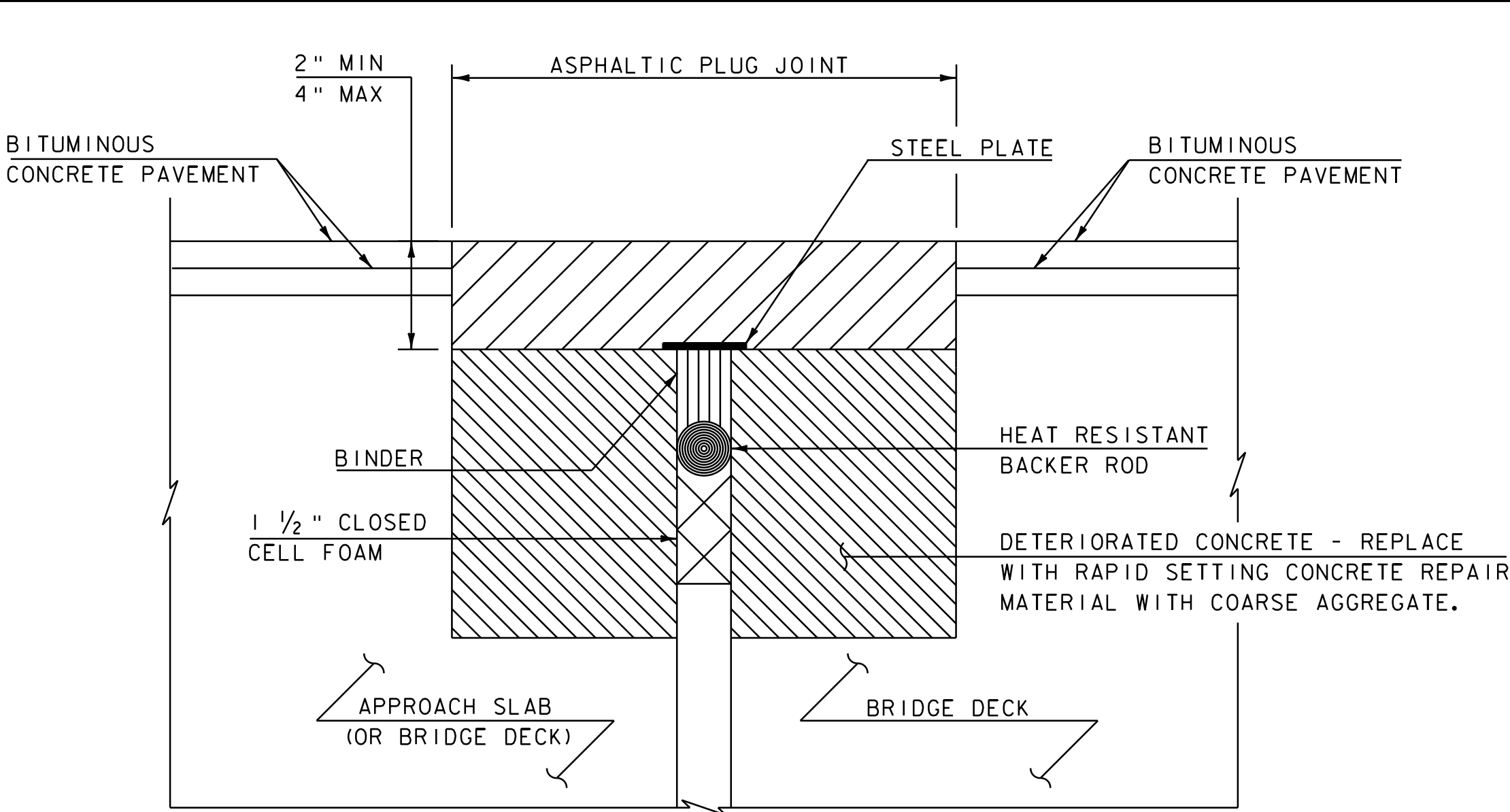
ASPHALTIC PLUG-JOINT
JOINT DETAIL

(NOT TO SCALE)



ASPHALTIC PLUG-JOINT DETAIL
REMOVAL OF < 2" DETERIORATED CONCRETE

(NOT TO SCALE)



ASPHALTIC PLUG-JOINT DETAIL
REMOVAL OF > 2" DETERIORATED CONCRETE

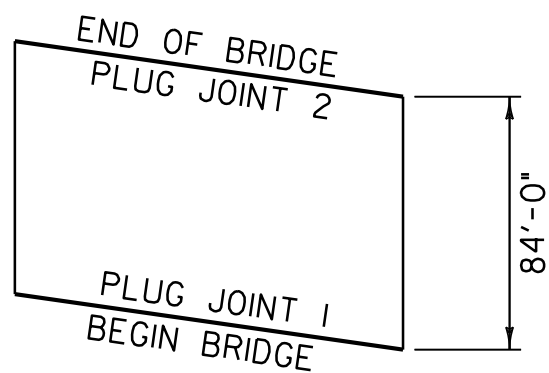
(NOT TO SCALE)

ASPHALTIC PLUG JOINT NOTES

- INSTALLATION
 - LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
 - REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS.THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
 - BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
 - REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.
 - PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
 - HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
 - PLACE ¼ " THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OFTHE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
 - HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
 - INSTALLATION OF MATERIAL , COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
 - IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
 - ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/- , WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
 - PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.
2. WEATHER LIMITATIONS. (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTORER):
- THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
 - THE ROAD SURFACE IS DRY.
 - WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

NOTES:

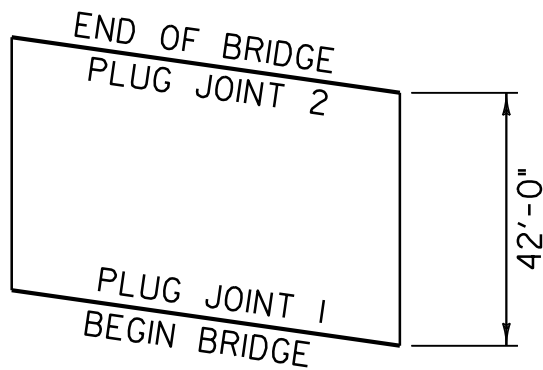
- UPON ENCOUNTERING UP TO 2" AVERAGE OF DETERIORATED CONCRETE , THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH THE ASPHALTIC PLUG JOINT MATERIAL AS DIRECTED BY THE RESIDENT ENGINEEER.
- REMOVAL OF THE DETERIORATED CONCRETE WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10. THE ADDITIONAL PLUG JOINT MATERIAL BELOW THE DESIGN DEPTH TO REPLACE THE DETERIORATED CONCRETE WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10.



JOINT	STATION	LENGTH
1	209+33	20' - 0"
2	210+17	20' - 0"
BRIDGE #84		40' - 0"

TOTAL LENGTH OF JOINT

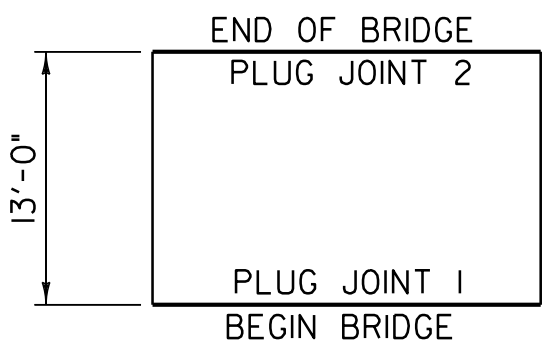
WORCESTER BRIDGE #84
FIELD STA. 209+75 (MM 3.973)
COLD PLANE AND PAVE



JOINT	STATION	LENGTH
1	26+50	28' - 0"
2	26+92	28' - 0"
BRIDGE #1		56' - 0"

TOTAL LENGTH OF JOINT

ELMORE BRIDGE #1
FIELD STA. 26+73 (MM 0.506)
COLD PLANE AND PAVE



JOINT	STATION	LENGTH
1	94+33	23' - 0"
2	94+46	23' - 0"
BRIDGE #2		46' - 0"

TOTAL LENGTH OF JOINT

ELMORE BRIDGE #2
FIELD STA. 94+39 (MM 1.788)
COLD PLANE AND PAVE

NOTES:

- UPON ENCOUNTERING GREATER THAN 2" AVERAGE OF DETERIORATED CONCRETE , THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE FORMED TO EXISTING ELEVATION.
- REMOVAL OF THE DETERIORATED CONCRETE WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 580.20 "RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE".
- REINFORCING STEEL NOT SHOWN FOR CLARITY.

BRIDGE #	516.10 BRIDGE EXPANSION JOINT, ASPHALT PLUG	580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE
	LF	CF
WORCESTER 84	40	10
ELMORE 1	56	10
ELMORE 2	46	10
SUBTOTAL	142	30
ROUNDING	3	5
TOTAL	145	35

**ASPHALTIC
PLUG JOINT
DETAIL
SHEET**

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99c170.dgn
PROJECT LEADER: CDL
DESIGNED BY: CDL
PLOT FILE: 99c170..6.i

PLOT DATE: 23-SEP-2011 15:24
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 6 OF 36

DETAILS ARE NOT TO SCALE

BRIDGE APPROACH RAILING

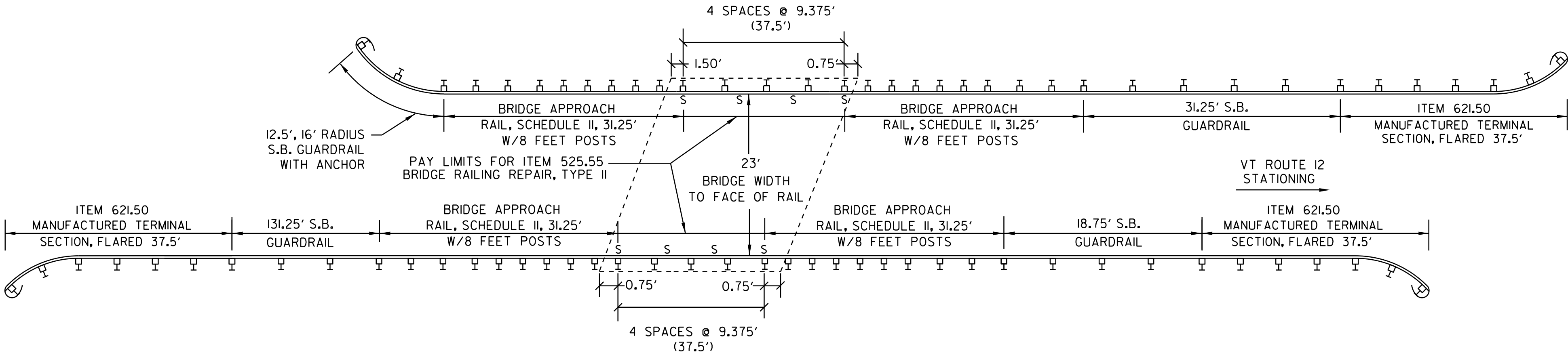
WHEN A RAIL PANEL SPLICE OCCURS AT POST NO.1
USE SCHEDULE I FOR APPROACH RAILING WHEN A RAIL
PANEL SPLICE OCCURS AT BRIDGE END POST USE
SCHEDULE II FOR APPROACH RAILING.

SCHEDULE I		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 x 12.5 ft+
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	3'-1 1/2"	
6	4'-2"	1.2 x 12.5 ft+
7	4'-2"	
8	4'-2"	
9	6'-3" (TYP.)	1.0 (TYP.)

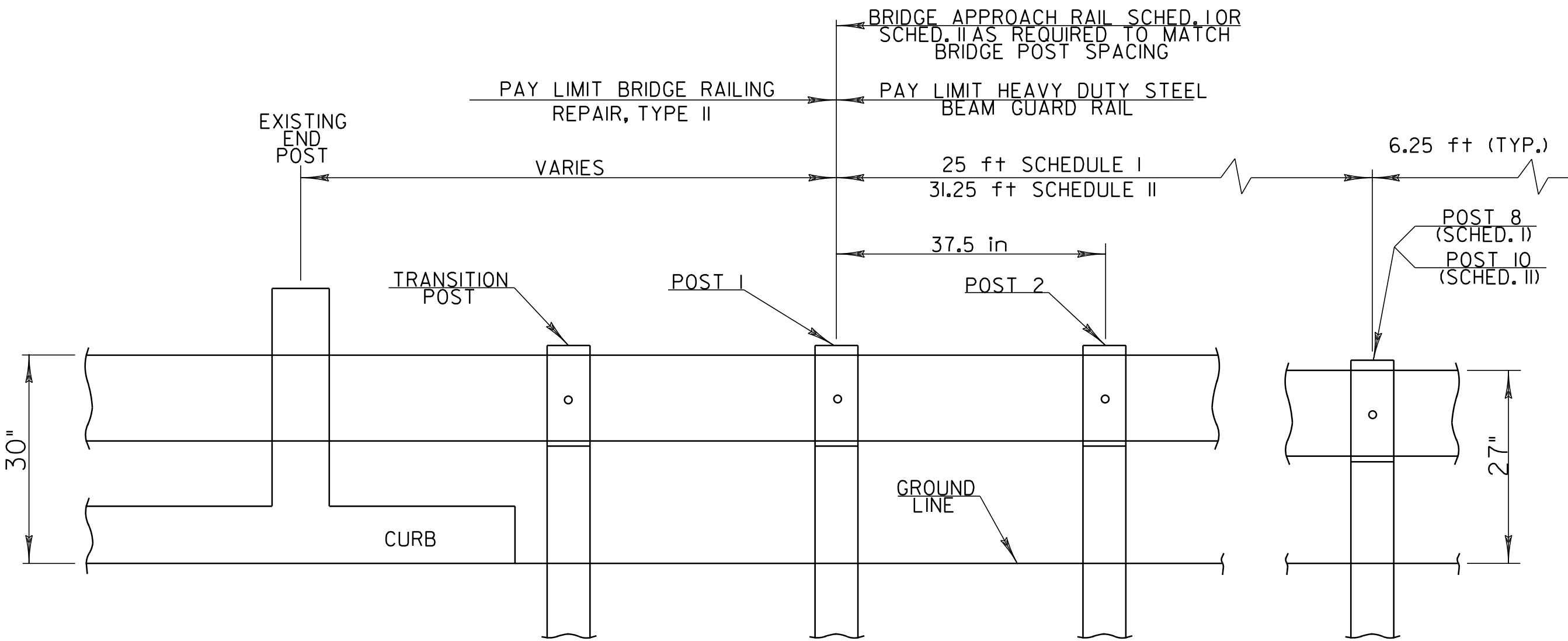
SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1 1/2"	1.4 x 18.75 ft+
2	3'-1 1/2"	
3	3'-1 1/2"	
4	3'-1 1/2"	
5	3'-1 1/2"	
6	3'-1 1/2"	1.2 x 12.5 ft+
7	4'-2"	
8	4'-2"	
9	4'-2"	1.0 (TYP.)
10	6'-3" (TYP.)	
11	6'-3" (TYP.)	

WORCESTER BRIDGE #84
FIELD STA. 209+75 – MM 3.973

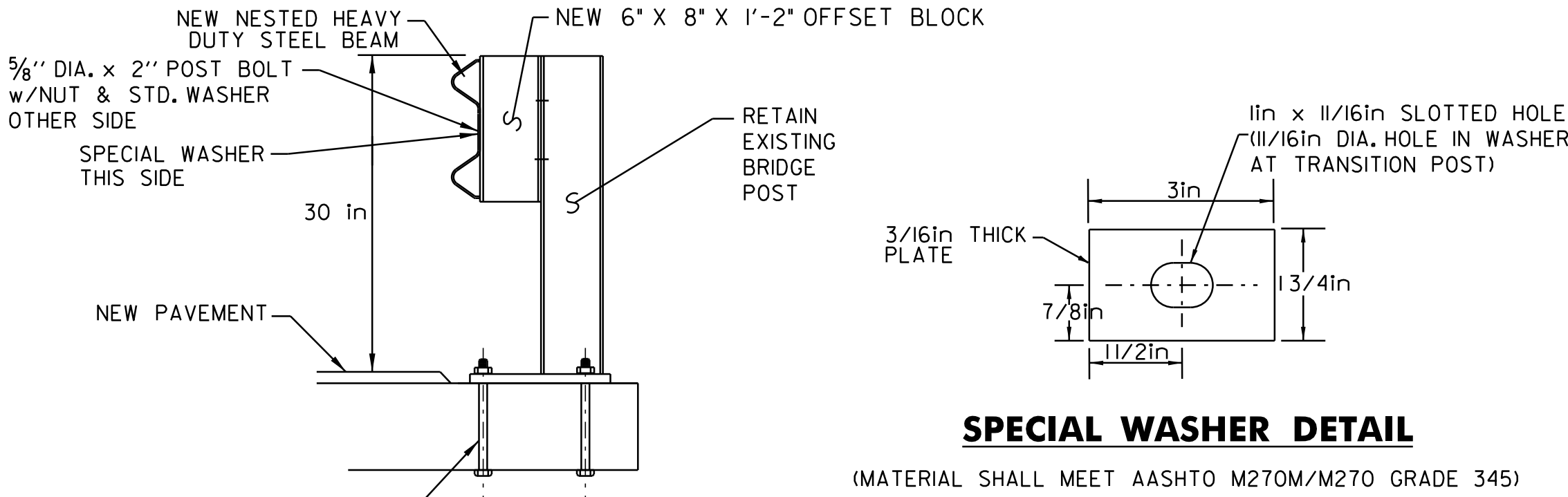
REFER TO LAYOUT SHEETS FOR AS-BUILT GUARDRAIL REVISIONS



ELMORE BRIDGE #1
FIELD STA. 26+73 – MM 0.506



BRIDGE APPROACH RAILING



SPECIAL WASHER DETAIL

(MATERIAL SHALL MEET AASHTO M270M/M270 GRADE 345)

BRIDGE
DETAIL
SHEET

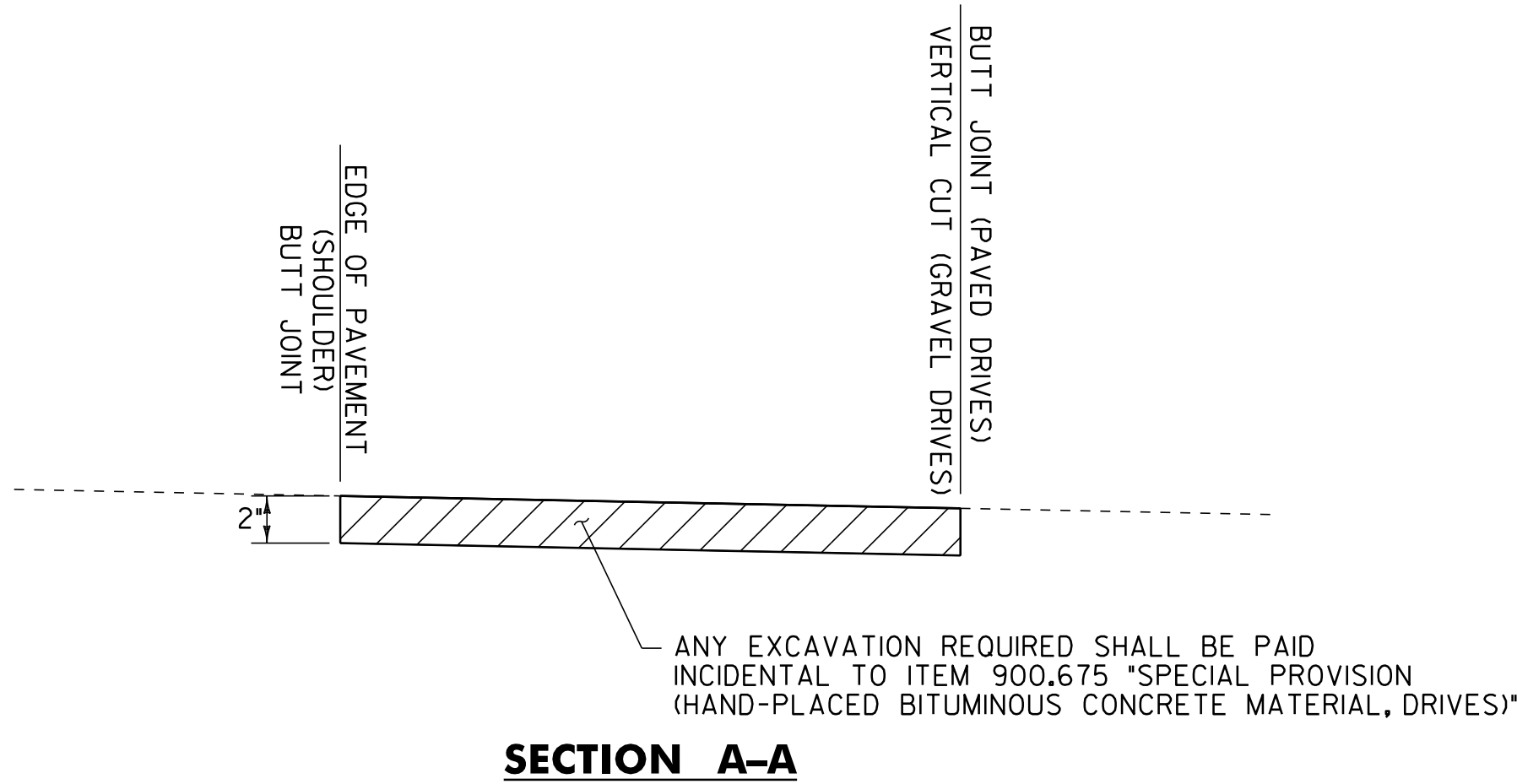
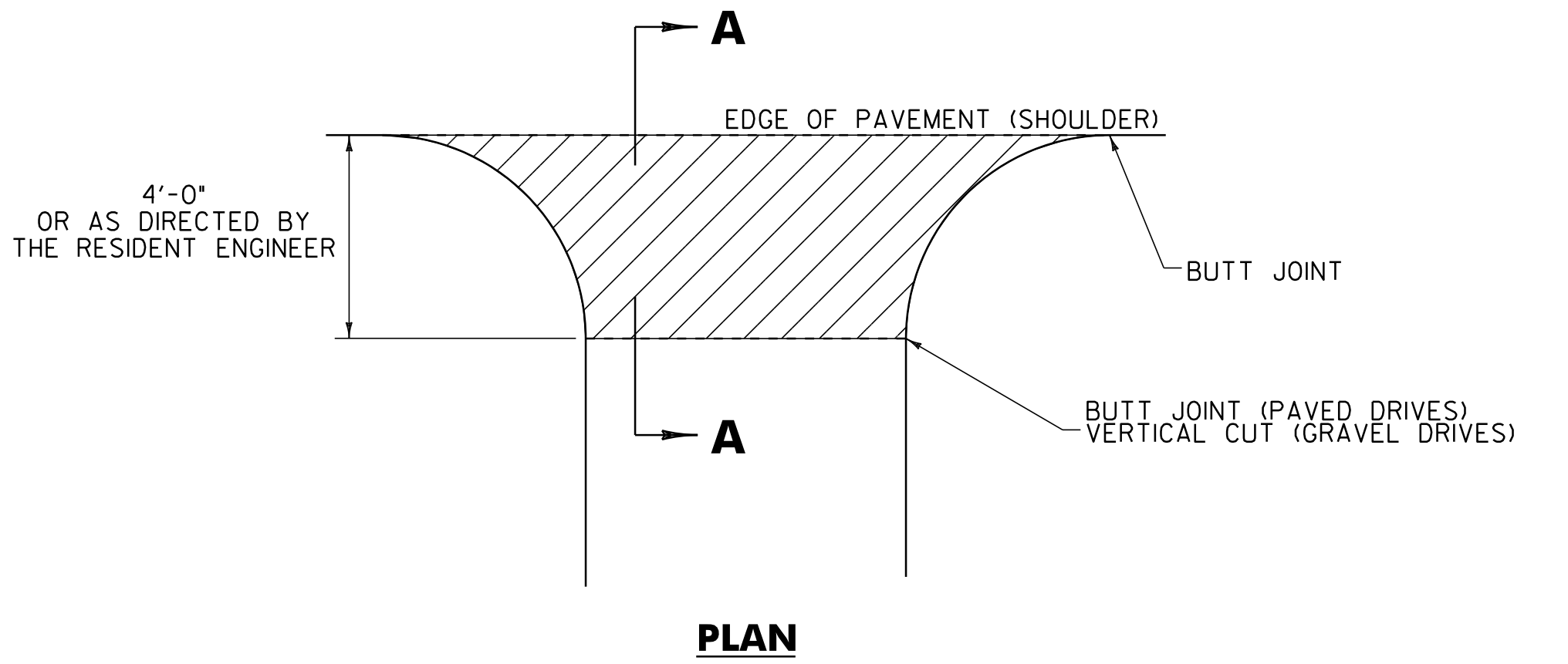
PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(I)S

FILE NAME: 99cl70.dgn
PROJECT LEADER: CDL
DESIGNED BY: RHB
PLOT FILE: 99cl70_7.i
PLOT DATE: 23-SEP-2011 5:24
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 7 OF 36

DETAILS ARE NOT TO SCALE

NOTES:

1. BRIDGE RAIL SHALL BE NESTED HEAVY DUTY STEEL BEAM RAIL, ITEM 525.55 "BRIDGE RAILING REPAIR, TYPE II".
2. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25 FEET.
3. APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR LENGTHS OF 25 FEET OR 31.25 FEET DETERMINED BY THE SCHEDULE. SEE BRIDGE DETAILS.
4. FOR BRIDGE RAILING, THE TRANSITION POST SHALL HAVE AN OFFSET BLOCK AND BE LOCATED AS CLOSE AS PRACTICAL TO THE MID-POINT BETWEEN THE BRIDGE END POST AND APPROACH RAIL POST 1.
5. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.



HANDWORK DETAILS FOR DRIVES
VT ROUTE 12

NOTES:

- PAVING LIFT NOT TO EXCEED 2" (50mm)
- THE COST OF PLACING SUBBASE MATERIAL, CLEANING EXISTING PAVED SURFACES, INCLUDING POWER EQUIPMENT, AND FOR FILLING JOINTS, CRACKS AND HOLES WILL NOT BE PAID DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.675 "SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)".
- EXCAVATION NEEDED TO ACHIEVE PROPER DRIVE SLOPES WILL NOT BE PAID DIRECTLY BUT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.675 "SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)".

LEGEND



STATION	POSITION	QUANTITY (SY)
WORCESTER		
219+96	RT	8.0
233+18	LT	9.2
234+24	RT	9.1
238+50	LT	5.8
242+06	LT	14.6
244+84	LT	7.4
256+29	LT	12.0
257+32	LT	20.0
268+97	RT	6.5
273+51	LT	12.9
274+90	RT	6.5
294+26	LT	12.0
318+75	LT	8.3
321+76	RT	6.5
323+99	LT	7.4
325+23	LT	11.9
329+87	LT	10.9
339+00	RT	7.0
369+09	RT	10.1
370+51	LT	10.4
376+25	RT	14.6
391+50	LT	8.1
407+80	LT	7.4
410+93	LT	7.4

STATION	POSITION	QUANTITY (SY)
ELMORE		
11+01	LT	11.1
26+00	LT	14.4
32+52	RT	6.4
57+70	RT	17.9
64+75	RT	8.3
70+85	RT	8.3
76+82	RT	15.6
77+68	LT	26.1
84+54	RT	11.0
97+40	RT	11.0
113+88	RT	8.4
139+85	RT	9.2
151+77	RT	8.3
174+42	LT	10.2
175+77	RT	12.2
179+90	RT	17.6
184+81	LT	13.7
185+46	RT	13.7
	SUBTOTAL	465.7
	ROUNDING	9.3
	TOTAL	475.0

DETAILS ARE NOT TO SCALE

**HANDWORK
DETAILS FOR
DRIVES**

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99c170.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99c170_8.i

PLOT DATE: 23-SEP-2011 5:24
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 8 OF 36

QUANTITY SHEET 1

STATE OF VERMONT
AGENCY OF TRANSPORTATION

[illegible][illegible][illegible]

QUANTITY SHEET 2

STATE OF VERMONT
AGENCY OF TRANSPORTATION

[illegible][illegible][illegible]

QUANTITY SHEET 3

STATE OF VERMONT
AGENCY OF TRANSPORTATION

[illegible][illegible][illegible]

STATE OF VERMONT																									
AGENCY OF TRANSPORTATION													ITEM DETAIL SUMMARY SHEET 1												
REFER TO LAYOUT SHEETS FOR REVISED GUARDRAIL LOCATIONS																									
BEGIN STATION	END STATION	POS.	203.15 COMMON EXCAV.	203.30 EARTH BORROW	204.20 TRENCH EXCAV. OF EARTH	402.12 AGG. SHOULD.	525.10 REMOVAL OF EXIST. RAILING	525.55 BRIDGE RAILING REPAIR, TYPE II	604.412 REHAB. D. I. CLASS I	605.10 6 INCH UNDER-DRAIN PIPE	613.10 STONE FILL TYPE 1	616.35 TREATED TIMBER CURB	619.17 YIELDING MARKER POSTS	621.20 STEEL BEAM G. R., GALV	621.205 STEEL BEAM G. R., GALV W/8FT POSTS	621.206 STEEL BEAM G. R., GALV. NESTED	621.21 HD STEEL BEAM G. R., GALV.	621.215 HD STEEL BEAM G. R., GALV. W/8FT POSTS	621.50 MANUF. TERMINAL SECTION, FLARED	621.51 MANUF. TERMINAL SECTION, TANGENT	621.60 ANCHOR FOR S.B. GUARDRAIL	621.80 REMOVE & DISP. OF G.R.	676.10 DEL INE. WITH STEEL POSTS	676.12 REMOVAL OF EXIST. DELINE.	REMARKS
WORCESTER			CY	CY	CY	TON	LF	LF	EACH	LF	CY	LF	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	LF	EACH	EACH	
208+33.00	414+63.92	LT&RT	50			1730			3		544		108												ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER
208+33.00	210+78.00	RT					87.5	87.5						106.25			73.75				1	163	1	1	INSTALL 12’ -6” LONG, 16’ RADIUS WITH ANCHOR AT STA. 210+65.50; CONNECT TO EXISTING GUARDRAIL @ 208+33.00
208+33.00	211+15.50	LT		50		10	87.5	87.5						68.75			73.75		2			200	2	2	INSTALL FLARED MTS @ STA. 208+33.00 AND STA. 210+78.00
215+92.00	218+42.00	LT		50		10									175				2			200	2	2	INSTALL FLARED MTS @ STA. 215+92.00 AND STA. 218+04.50
215+89.00	217+39.00	RT		50		10									75				2			125	2	2	INSTALL FLARED MTS @ STA. 215+89 AND STA. 217+01.50
221+41.50	224+16.50	LT		50		10								200					2			275	2	2	INSTALL FLARED MTS @ STA. 221+41.50 AND STA. 223+79.00
221+44.00	223+69.00	RT		50		10								150					2			225	2	2	INSTALL FLARED MTS @ STA. 221+44 AND STA. 223+31.50
231+45.00	233+95.00	RT		50		10								175					2			170	2	2	INSTALL FLARED MTS @ STA. 231+45 AND STA. 233+57.50
233+43.00	238+43.00	LT		25		5								462.5					1		1	406	2	1	INSTALL FLARED MTS @ STA. 233+43
238+68.00	241+43.00	LT		25		5								237.5					1		1		2	1	INSTALL FLARED MTS @ STA. 241+05.50
234+46.00	235+71.00	RT		50		10								50					2			123	2	2	INSTALL FLARED MTS @ STA. 234+46 AND STA. 235+33.50
239+37.00	241+87.00	RT		50		10								175					2			100	2	2	INSTALL FLARED MTS @ STA. 239+37 AND STA. 241+49.50
246+34.50	250+47.00	LT		50		10								337.50					2			404	2	2	INSTALL FLARED MTS @ STA. 246+34.50 AND STA. 250+09.50
257+70.50	259+70.50	LT		50		10								125					1	1		169	2	2	INSTALL TANGENT MTS @ STA. 257+70.50 AND FLARED MTS @ STA. 259+33
265+18.00	268+55.50	LT		50		10									262.5				2			125	2	2	INSTALL FLARED MTS @ STA. 265+18 AND STA. 268+18
266+25.00	268+25.00	RT		50		10								125					2				2		INSTALL FLARED MTS @ STA. 266+25 AND STA. 267+87.50
279+19.00	292+81.50	LT		50		10								312.50	975				2			1360	2	2	INSTALL FLARED MTS @ STA. 279+19 AND STA. 292+44
297+00.00	302+75.00	LT		50		10								125	375				2			575	2	2	INSTALL FLARED MTS @ STA. 297+00 AND STA. 302+37.50
298+05.00	302+80.00	RT		50		10								400					2			455	2	2	INSTALL FLARED MTS @ STA. 298+05 AND STA. 302+42.50
298+60.00		RT									5														TO BE USED FOR REPAIR OF ERODED AREAS
306+30.00	313+80.00	LT		50		10								675					2			752	2	2	INSTALL FLARED MTS @ STA. 306+30 AND STA. 313+42.50
309+00.00	314+25.00	RT		50		10								450					2			325	2	2	CONNECT EXISTING S.B. GUARDRAIL RUNS, INSTALL FLARED MTS AT STA. 309+00 AND STA. 313+87.50
318+66.00	321+66.00	RT		50		10								262.5					1		1	300	2	2	INSTALL FLARED MTS @ STA. 318+66 AND STA. 321+28.50
321+75.00	323+75.00	LT		50		10								162.5					1		1	194	2	2	INSTALL FLARED MTS @ STA. 323+37.50
SUBTOTAL			50	1000		1930	175	175	3		549	-	108	4600	1862.5	-	147.5	-	37	1	5	6646	43	39	
																						ITEM DETAIL SUMMARY SHEET 1		PROJECT NAME: WORCESTER-ELMORE	
																								PROJECT NUMBER: STP 2209(I)S	
																						FILE NAME: 99c170.dgn		PLOT DATE: 23-SEP-2011 5:24	
																						PROJECT LEADER: CDL		DRAWN BY: SJL	
																						DESIGNED BY: RHB		CHECKED BY: EPD	
																						PLOT FILE: I99c171_I2.i		SHEET 12 OF 36	

STATE OF VERMONT										ITEM DETAIL SUMMARY SHEET 2																			
AGENCY OF TRANSPORTATION										*REFER TO LAYOUT SHEETS FOR REVISED GUARDRAIL LOCATIONS*																			
BEGIN STATION	END STATION	POS.	203.15 COMMON EXCAV.	203.30 EARTH BORROW	204.20 TRENCH EXCAV. OF EARTH	402.12 AGG. SHOULD.	525.10 REMOVAL OF EXIST. RAILING	525.55 BRIDGE RAILING REPAIR TYPE II	604.412 REHAB. D. I. CLASS I	605.10 6 INCH UNDER-DRAIN PIPE	613.10 STONE FILL TYPE 1	616.35 TREATED TIMBER CURB	619.17 YIELDING MARKER POSTS	621.20 STEEL BEAM G. R. GALV	621.205 STEEL BEAM G. R. GALV W/8FT POSTS	621.206 STEEL BEAM G. R. GALV. NESTED	621.21 HD STEEL BEAM G. R. GALV.	621.215 HD STEEL BEAM G. R. GALV. W/8FT POSTS	621.50 MANUF. TERMINAL SECTION, FLARED	621.51 MANUF. TERMINAL SECTION, TANGENT	621.60 ANCHOR FOR S. B. GUARDRAIL	621.80 REMOVE & DISP. OF G. R.	676.10 DELINE. WITH STEEL POSTS	676.12 REMOVAL OF EXIST. DELINE.	REMARKS				
			CY	CY	CY	TON	LF	LF	EACH	LF	CY	LF	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	LF	EACH	EACH					
321+85.00	336+12.50	RT		25		5								1400					1		2	1193	2	2	INSTALL FLARED MTS @ STA. 335+72.50				
326+30.00	329+80.00	LT		25		5								312.5					1		2	338	2	2	INSTALL FLARED MTS @ STA. 326+30				
330+00	340+75	LT		25		5								950	62.5				1		2	594	2	2	INSTALL FLARED MTS @ STA. 340+37.50				
350+34	353+71.50	LT		50		10					1			262.50					2			329	2	2	INSTALL FLARED MTS @ STA. 350+34 AND STA. 353+34				
351+51	354+13.50	RT		50		10								187.50					2			179	2	2	INSTALL FLARED MTS @ STA. 351+76 AND STA. 353+26				
356+30	358+92.50	LT		50		10								187.5					2			254	2	2	INSTALL FLARED MTS @ STA. 356+30 AND STA. 358+55				
356+38	359+25.50	RT		50		10								212.50					2			179	2	2	INSTALL FLARED MTS @ STA. 356+38 AND STA. 357+88				
363+15	370+40	LT		50		10									650				2			725	2	2	INSTALL FLARED MTS @ STA. 363+15 AND STA. 370+02.50				
365+88	367+63.00	RT		50		10								100					2			169	2	2	INSTALL FLARED MTS @ STA. 365+88 AND STA. 367+25.5				
370+06	374+56	RT		50		10								375					2			438	2	2	INSTALL FLARED MTS @ STA. 370+06 AND STA. 374+18.5				
376+55	384+55	RT		50		10						800			725				2			794	2	2	INSTALL FLARED MTS @ STA. 376+55 AND STA. 384+17.5				
376+73	384+00	LT			430					725																			
395+66	404+91	RT		50		10								650	200				2			925	2	2	INSTALL FLARED MTS @ STA. 395+66 AND STA. 404+53.5				
ELMORE													106																
0+00	185+85.60	LT&RT	50						1		227														ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER				
6+60	8+10	LT		50		10									75				2			150	2	2	INSTALL FLARED MTS @ STA. 6+60 AND STA. 7+72.5				
7+50	15+00	RT		50		10								675					2			594	2	2	INSTALL FLARED MTS @ STA. 7+50 AND STA. 14+62.5				
24+42.00	27+67.00	RT		50		10	37.5	37.5						150				82.5	2			306	2	2	INSTALL FLARED MTS @ STA. 24+42 AND STA. 27+29.50				
26+23.75	28+05.00	LT		25		5	37.5	37.5						43.75				82.5	1		1	163	2	2	INSTALL 12'-6" LONG, 16' RADIUS WITH ANCHOR AT STA. 26+23.75				
39+05	50+05	LT		50		10								825	200				2			1100	2	2	INSTALL FLARED MTS @ STA. 39+05 AND STA. 49+67.5				
58+45	75+45	LT		50		10								925	700				2			1544	2	2	CONNECT EXISTING GUARDRAIL RUNS. INSTALL FLARED MTS				
59+14	64+51.50	RT		50		10								462.50					2				2		INSTALL FLARED MTS @ STA. 59+14 AND STA. 62+76.50				
	SUBTOTAL		50	850	430	170	75	75	1	725	228	800	106	7718.75	2612.5	-	-	165	34	-	7	9974	38	36					
																						ITEM DETAIL SUMMARY SHEET 2		PROJECT NAME: WORCESTER-ELMORE					
																								PROJECT NUMBER: STP 2209(I)S					
																								FILE NAME: 99ci70.dgn					
																								PLOT DATE: 23-SEP-2011 5:24					
																											PROJECT LEADER: CDL		
																											DRAWN BY: SJL		
																											DESIGNED BY: BMB		
																											CHECKED BY: EPD		
																											PLOT FILE: 99ci70.I3.I		
																											SHEET 13 OF 36		

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

ITEM DETAIL SUMMARY SHEET 3

REFER TO LAYOUT SHEETS FOR REVISED GUARDRAIL LOCATIONS

[illegible]

Diagram illustrating a ditch detail for grades less than 2.5 percent. The ditch is shown in cross-section, with a width that varies (generally 4 ft). The ditch is filled with temporary erosion matting or hay mulch, as directed by the resident engineer. The ditch is labeled "DITCH DETAIL < 2.5 PERCENT NOT TO SCALE".

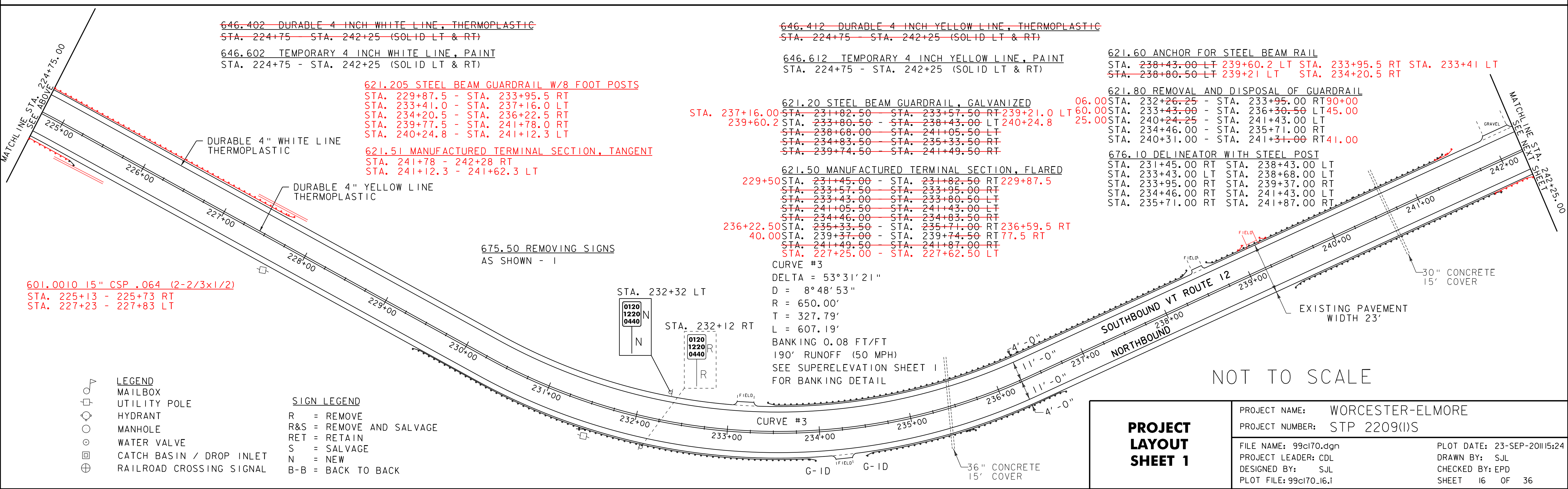
**DITCH DETAIL < 2.5 PERCENT
NOT TO SCALE**

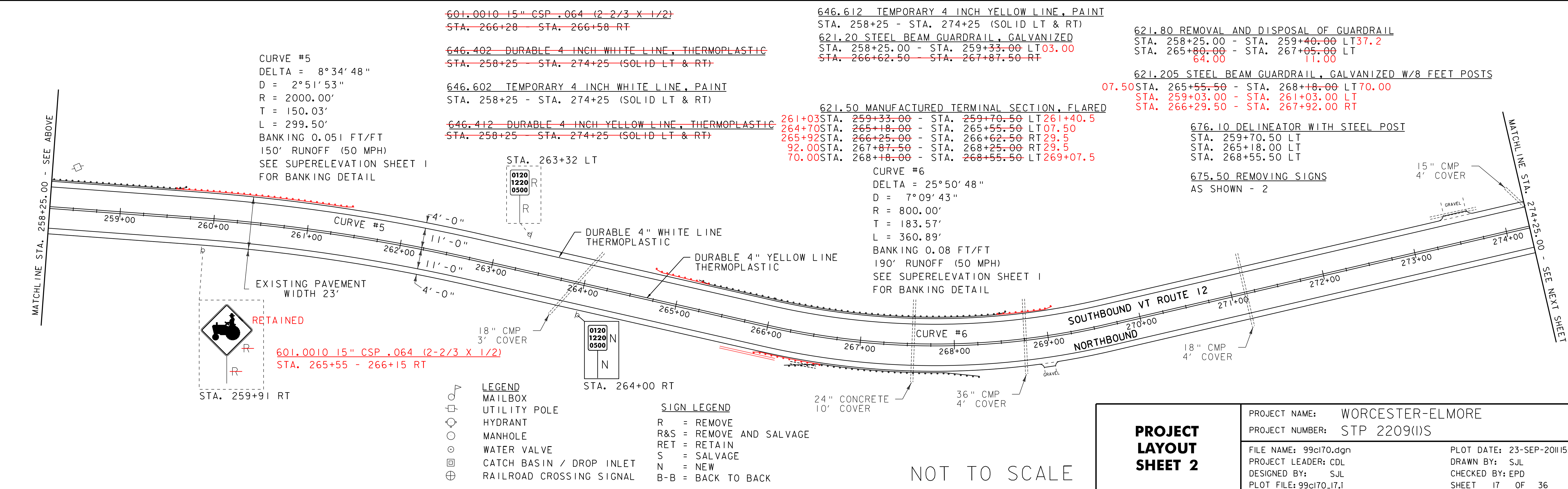
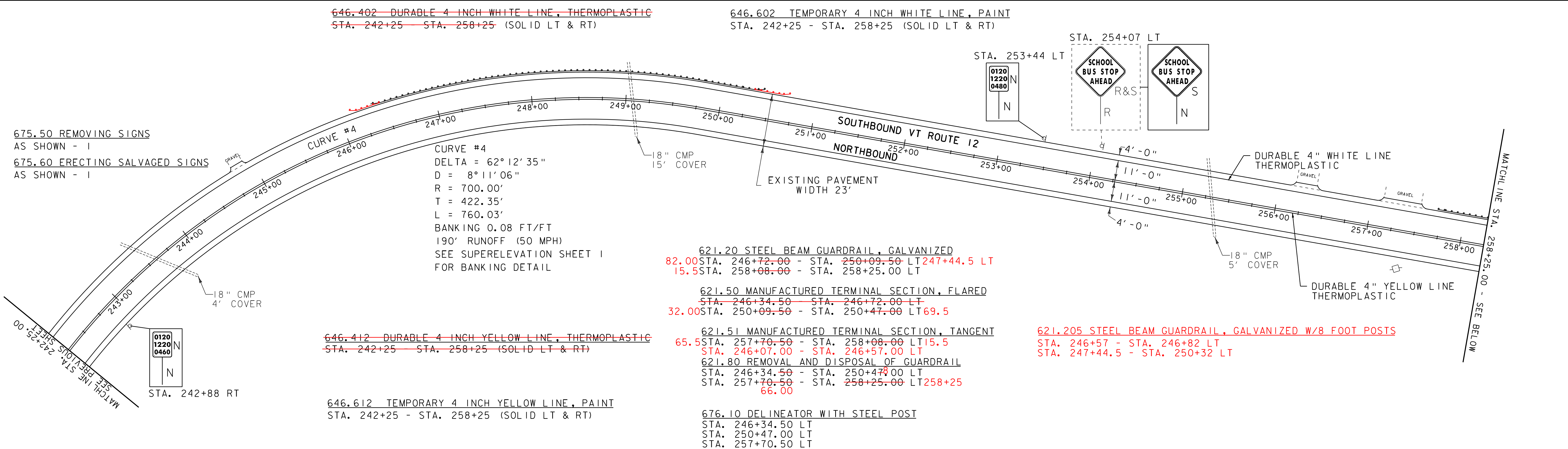
Diagram illustrating a ditch detail for grades greater than 2.5 percent. The ditch is shown in cross-section, with a width that varies (generally 4 ft). The ditch is filled with stone fill, type I, and geotextile under stone fill, type I. The ditch is labeled "DITCH DETAIL > 2.5 PERCENT NOT TO SCALE".

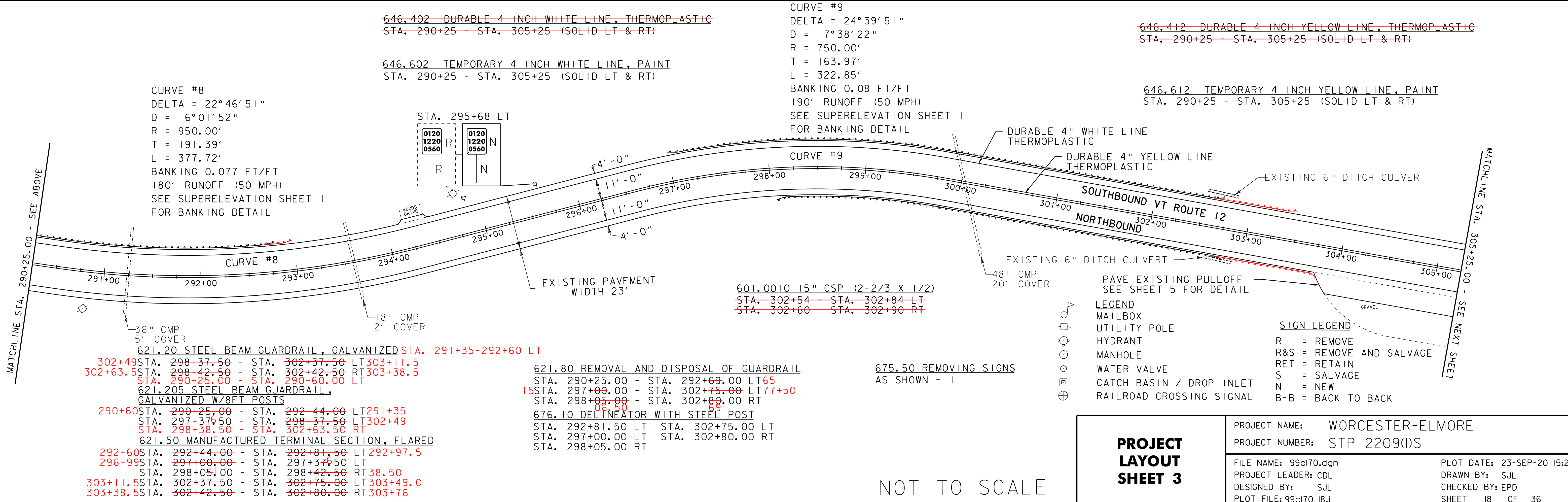
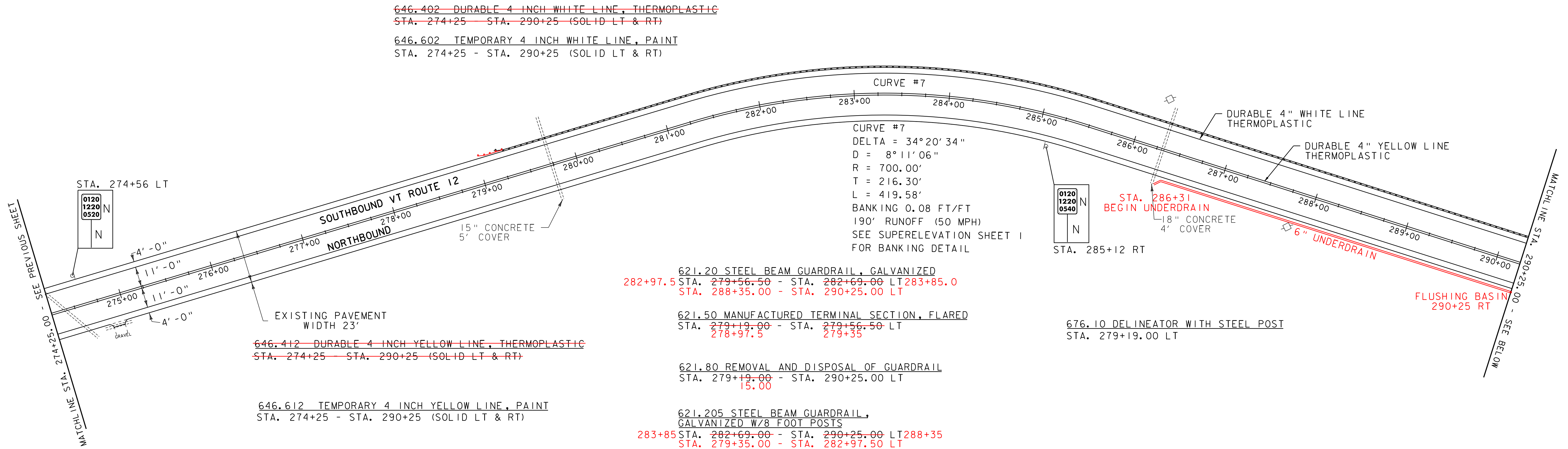
**DITCH DETAIL > 2.5 PERCENT
NOT TO SCALE**

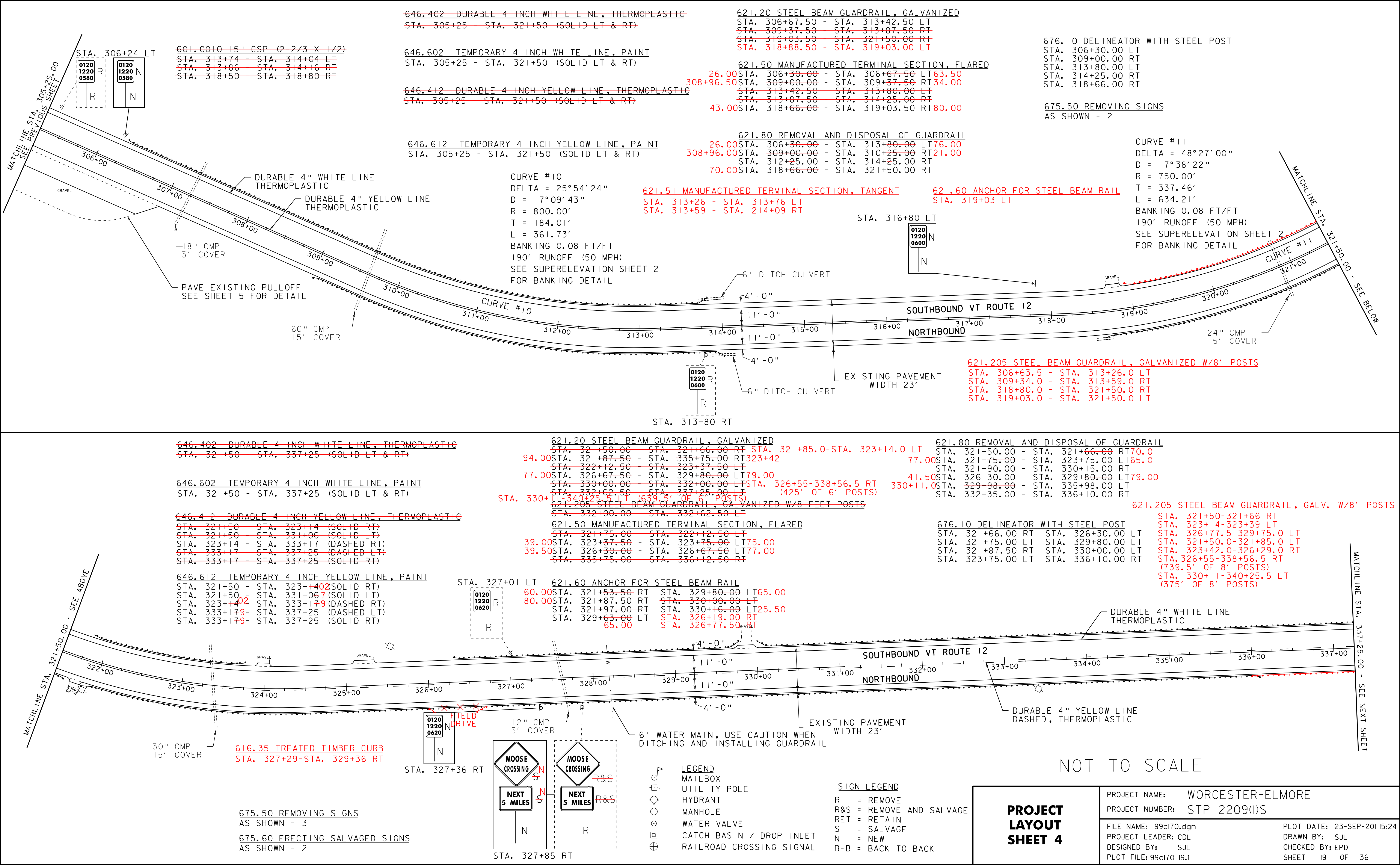
NOTES:

- GRADES LESS THAN 1 PERCENT SHALL USE ITEM 651J5, SEED AND ITEM 651J25, HAY MULCH. GRADES BETWEEN 1 AND 2.5 PERCENT SHALL USE ITEM 651J25, HAY MULCH OR ITEM 653J20, TEMPORARY EROSION MATTING AS DIRECTED BY THE RESIDENT ENGINEER. GRADES OVER 2.5 PERCENT SHALL USE ITEM 649J31, GEOTEXTILE UNDER STONE FILL AND ITEM 613J10, STONE FILL TYPE I AS DIRECTED BY THE RESIDENT ENGINEER.
- PIPE INLET AND OUTLET AREAS, AND DITCH CLEANING THROUGHOUT THE PROJECT, SHALL BE PERFORMED AT LOCATIONS INDICATED ON THIS SHEET AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT WILL BE UNDER THE APPLICABLE EQUIPMENT RENTAL ITEM(S).









~~621.205 STEEL BEAM GUARDRAIL, GALVANIZED W/8' POSTS~~
~~STA. 351+75.00 - STA. 353+25.0 RT~~
~~STA. 326+55.00 - STA. 338+56.5 RT (739' OF 8' POSTS)~~
~~STA. 330+11.00 - STA. 340+25.5 LT (375' OF 8' POSTS)~~
~~STA. 350+82.50 - STA. 358+66.5 LT (262.5' OF 8' POSTS)~~

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 337+25 - STA. 353+25 (SOLID LT & RT)~~

~~646.602 TEMPORARY 4 INCH WHITE LINE, PAINT~~
~~STA. 337+25 - STA. 353+25 (SOLID LT & RT)~~

~~621.20 STEEL BEAM GUARDRAIL, GALVANIZED~~
~~STA. 337+25.00 - STA. 340+37.50 LT~~
~~STA. 350+71.50 - STA. 353+25.00 LT~~
~~STA. 351+88.50 - STA. 353+25.00 RT~~

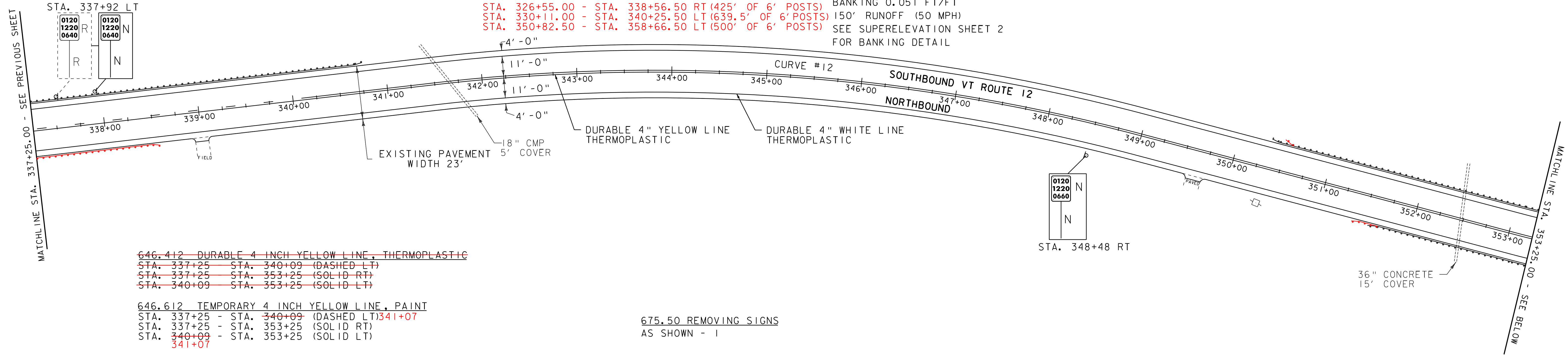
~~STA. 326+55.00 - STA. 338+56.50 RT (425' OF 6' POSTS)~~
~~STA. 330+11.00 - STA. 340+25.50 LT (639.5' OF 6' POSTS)~~
~~STA. 350+82.50 - STA. 358+66.50 LT (500' OF 6' POSTS)~~

~~621.50 MANUFACTURED TERMINAL SECTION, FLARED~~
~~STA. 340+37.50 - STA. 340+75.00 LT 63.00~~
~~STA. 350+34.00 - STA. 350+71.50 LT 82.50~~
~~STA. 351+51.00 - STA. 351+88.50 RT 75.00~~
~~STA. 338+19.00 - STA. 338+56.50 RT~~

~~621.80 REMOVAL AND DISPOSAL OF GUARDRAIL~~
~~STA. 338+00.00 - STA. 340+75.00 LT 62.50~~
~~STA. 350+34.00 - STA. 353+25.00 LT 49~~
~~STA. 351+76.00 - STA. 353+25.00 RT~~

CURVE #12
DELTA = 21°22'32"
D = 2°51'53"
R = 2000.00'
T = 377.46'
L = 746.15'
BANKING 0.051 FT/FT
150' RUNOFF (50 MPH)
SEE SUPERELEVATION SHEET 2
FOR BANKING DETAIL

~~676.10 DELINEATOR WITH STEEL POST~~
~~STA. 338+00.00 LT STA. 350+34.00 LT~~
~~STA. 340+75.00 LT STA. 351+51.00 RT~~



~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 337+25 - STA. 340+09 (DASHED LT)~~
~~STA. 337+25 - STA. 353+25 (SOLID RT)~~
~~STA. 340+09 - STA. 353+25 (SOLID LT)~~

~~646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT~~
~~STA. 337+25 - STA. 340+09 (DASHED LT) 341+07~~
~~STA. 337+25 - STA. 353+25 (SOLID RT)~~
~~STA. 340+09 - STA. 353+25 (SOLID LT)~~
~~341+07~~

~~675.50 REMOVING SIGNS~~
~~AS SHOWN - 1~~

~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 353+25 - STA. 360+10 (SOLID RT)~~
~~STA. 353+25 - STA. 368+01 (SOLID LT)~~
~~STA. 360+10 - STA. 365+90 (DASHED RT)~~
~~STA. 365+90 - STA. 369+50 (SOLID RT)~~
~~STA. 368+01 - STA. 369+50 (DASHED LT)~~

~~646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT~~
~~STA. 353+25 - STA. 360+10 (SOLID RT) 359+63~~
~~STA. 353+25 - STA. 368+01 (SOLID LT) 367+99~~
~~STA. 360+10 - STA. 365+90 (DASHED RT)~~
~~STA. 365+90 - STA. 369+50 (SOLID RT)~~
~~STA. 368+01 - STA. 369+50 (DASHED LT)~~

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 353+25 - STA. 369+50 (SOLID LT & RT)~~

~~646.602 TEMPORARY 4 INCH WHITE LINE, PAINT~~
~~STA. 353+25 - STA. 369+50 (SOLID LT & RT)~~

~~621.50 MANUFACTURED TERMINAL SECTION, FLARED~~
~~STA. 353+34.00 - STA. 353+71.50 LT~~
~~STA. 353+76.00 - STA. 354+13.50 RT 46.00~~
~~STA. 356+30.00 - STA. 356+67.50 LT~~
~~STA. 356+38.00 - STA. 356+75.50 RT 357+00~~
~~STA. 358+55.00 - STA. 358+92.50 LT 359+04.00~~
~~STA. 358+88.00 - STA. 359+25.50 RT 30.50~~
~~STA. 363+15.00 - STA. 363+52.50 LT 51.00~~
~~STA. 365+88.00 - STA. 366+25.50 RT 366+58~~
~~STA. 367+25.50 - STA. 367+63.00 RT 367+83~~

~~621.80 REMOVAL AND DISPOSAL OF GUARDRAIL~~
~~STA. 353+25.00 - STA. 353+71.50 LT 74.00~~
~~STA. 353+25.00 - STA. 353+63.50 RT~~
~~STA. 356+30.00 - STA. 358+92.50 LT 90.00~~
~~STA. 356+38.00 - STA. 358+25.50 RT 37.00~~
~~STA. 363+15.00 - STA. 369+50.00 LT~~
~~STA. 365+88.00 - STA. 367+63.00 RT 83.00~~

STA. 359+04 LT

~~621.20 STEEL BEAM GUARDRAIL, GALVANIZED~~
~~STA. 353+25.00 - STA. 353+76.00 RT~~
~~STA. 353+25.00 - STA. 353+34.00 LT~~
~~STA. 356+67.50 - STA. 358+55.00 LT~~
~~STA. 356+75.50 - STA. 358+88.00 RT 93.00~~
~~STA. 366+25.50 - STA. 367+25.50 RT~~
~~STA. 366+38.50 - STA. 369+50.00 LT~~

~~621.205 STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS~~
~~STA. 363+52.50 - STA. 369+50.00 LT~~
~~STA. 353+25.00 - STA. 354+08.50 RT STA. 357+00.00 - STA. 358+54.00 RT~~
~~STA. 366+58.00 - STA. 367+45.50 RT~~

~~676.10 DELINEATOR WITH STEEL POST~~
~~STA. 353+63.50 RT STA. 358+92.50 LT~~
~~STA. 353+71.50 LT STA. 363+15.00 LT~~
~~STA. 356+30.00 LT STA. 365+88.00 RT~~
~~STA. 356+38.00 RT STA. 367+63.00 RT~~
~~STA. 358+25.50 RT~~

~~675.50 REMOVING SIGNS~~
~~AS SHOWN - 2~~

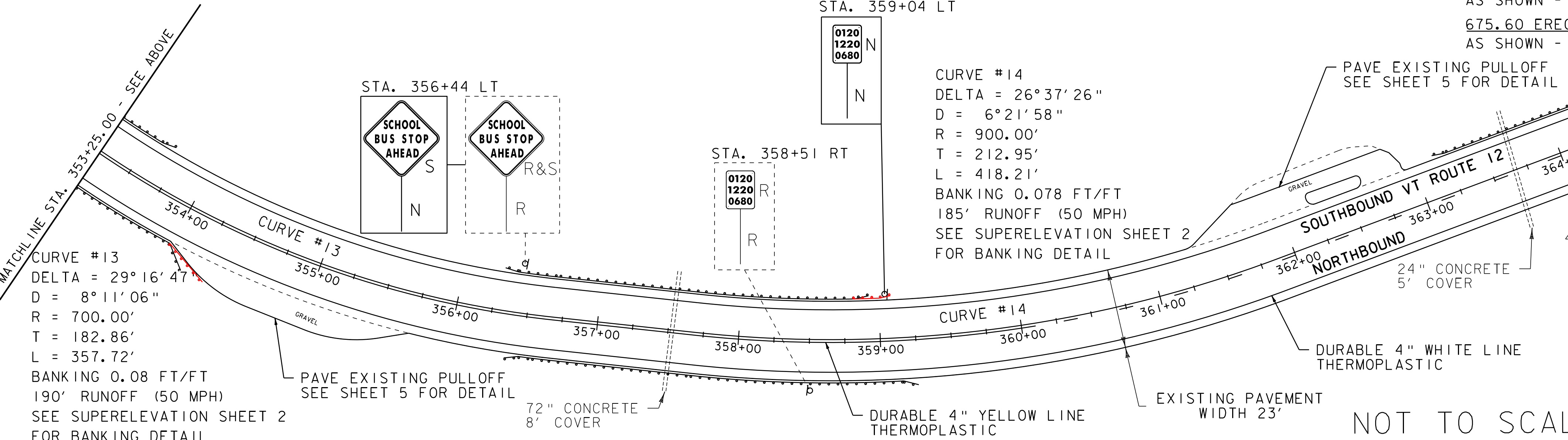
~~675.60 ERECTING SALVAGED SIGNS~~
~~AS SHOWN - 1~~

18" CMP
4' COVER

18" CMP
4' COVER

36" CMP
3' COVER

~~601.0010 15" CSP (2-2/3 X 1/2)~~
~~STA. 367+62 - 368+19 RT~~



CURVE #13
DELTA = 29°16'47"
D = 8°11'06"
R = 700.00'
T = 182.86'
L = 357.72'
BANKING 0.08 FT/FT
190' RUNOFF (50 MPH)
SEE SUPERELEVATION SHEET 2
FOR BANKING DETAIL

CURVE #14
DELTA = 26°37'26"
D = 6°21'58"
R = 900.00'
T = 212.95'
L = 418.21'
BANKING 0.078 FT/FT
185' RUNOFF (50 MPH)
SEE SUPERELEVATION SHEET 2
FOR BANKING DETAIL

PAVE EXISTING PULLOFF
SEE SHEET 5 FOR DETAIL

24" CONCRETE
5' COVER

18" CONCRETE
4' COVER
11' - 0"
11' - 0"
4' - 0"

LEGEND	
	MAILBOX
	UTILITY POLE
	HYDRANT
	MANHOLE
	WATER VALVE
	CATCH BASIN / DROP INLET
	RAILROAD CROSSING SIGNAL
SIGN LEGEND	
R	= REMOVE
R&S	= REMOVE AND SALVAGE
RET	= RETAIN
S	= SALVAGE
N	= NEW
B-B	= BACK TO BACK

**PROJECT
LAYOUT
SHEET 5**

PROJECT NAME: WORCESTER-ELMORE	
PROJECT NUMBER: STP 2209(I)S	
FILE NAME: 99c170.dgn	PLOT DATE: 23-SEP-2011 5:24
PROJECT LEADER: CDL	DRAWN BY: SJL
DESIGNED BY: SJL	CHECKED BY: EPD
PLOT FILE: 99c170.20.i	SHEET 20 OF 36

NOT TO SCALE

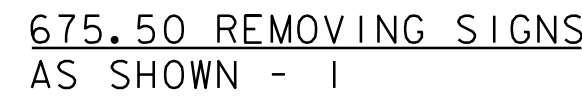
33STA. 372+15 RT (TYPE E GRATE)
93STA. 376+67 RT (TYPE E GRATE)
82STA. 381+48 RT (TYPE E GRATE)

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 369+50 - STA. 385+25 (SOLID LT & RT)

12.50 STA. 370+02.50 - STA. 370+40.00 LT 50.00
 39.00 STA. 370+06.00 - STA. 370+43.50 RT 76.50
 39.00 STA. 374+18.50 - STA. 374+56.00 RT 76.50
~~STA. 376+55.00 - STA. 376+92.50 RT~~
 78.00 STA. 384+17.50 - STA. 384+55.00 RT 385+1

~~STA. 369+50 - STA. 373+81 (DASHED LT)~~
~~STA. 369+50 - STA. 385+25 (SOLID RT)~~
~~STA. 373+81 - STA. 385+25 (SOLID LT)~~

STA. 369+50 - STA. 373+8+73 (DASHED LT)
STA. 369+50 - STA. 385+25 (SOLID RT)
STA. 373+8+73 - STA. 385+25 (SOLID LT)



STA. 376+~~55~~₈₇ - STA. 384+~~55~~_{84.25} RT

621.60 ANCHOR FOR STEEL BEAM GUARDRAIL
STA. 376+74 RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 385+25 - STA. 399+75 (SOLID LT & RT)

STA. ~~398+03.50~~ - STA. 399+75.00 RT
396+07.00

~~STA. 396+03.50 - STA. 398+03.50 RT~~

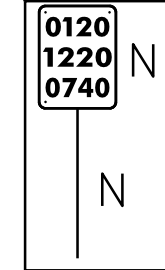
STA. 395+~~66.00~~_{69.50} - STA. 396+~~03.50~~_{07.00} RT

STA. 395+66.00 - STA. 399+75.00 RT

~~STA. 385+25 STA. 399+75 (SOLID LT)~~
~~STA. 385+25 STA. 395+10 (SOLID RT)~~
~~STA. 395+10 STA. 399+75 (DASHED RT)~~

STA. 385+25 - STA. 399+75 (SOLID LT)
STA. 385+25 - STA. ~~395+10~~ (SOLID RT) **394+58**

STA. ~~395+10~~ - STA. 399+75 (DASHED)
394+58
676.10 DELINEATOR WITH STEEL POST
STA. 395+66.00 RT



STA. 390+72 RT

d

○

2

R = REMOVE

RET = RETAIN

N = NEW
D D = BACK TO

B-B = BACK TO BACK

PROJECT LAYOUT SHEET 6

PROJECT NUMBER: STP 2209(I)S

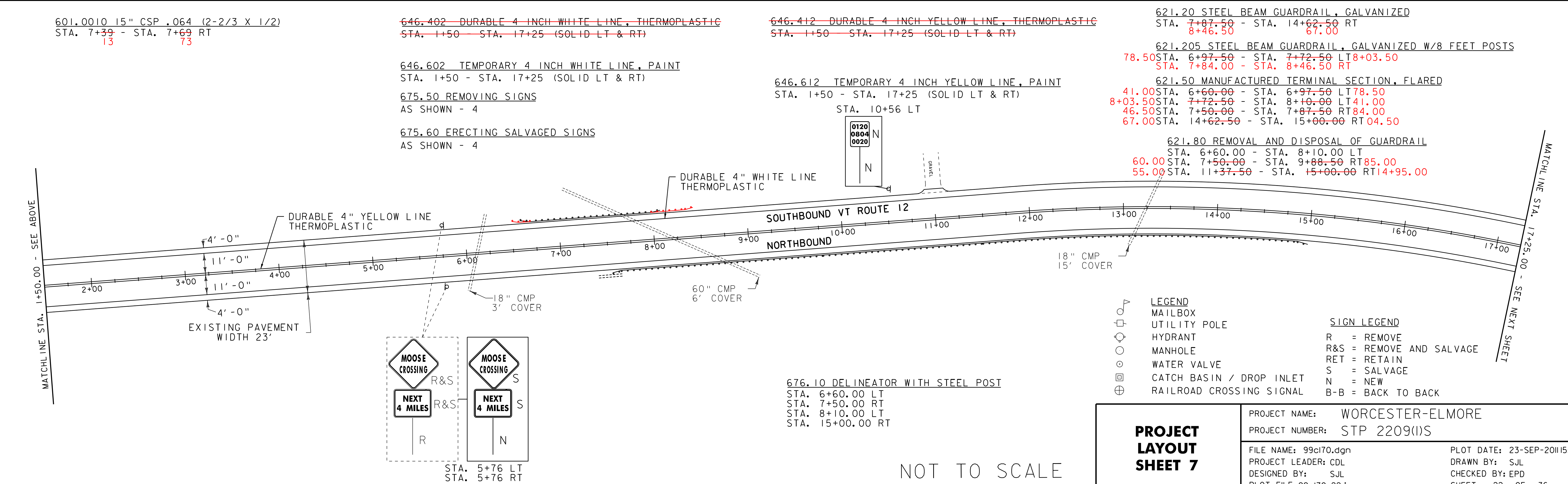
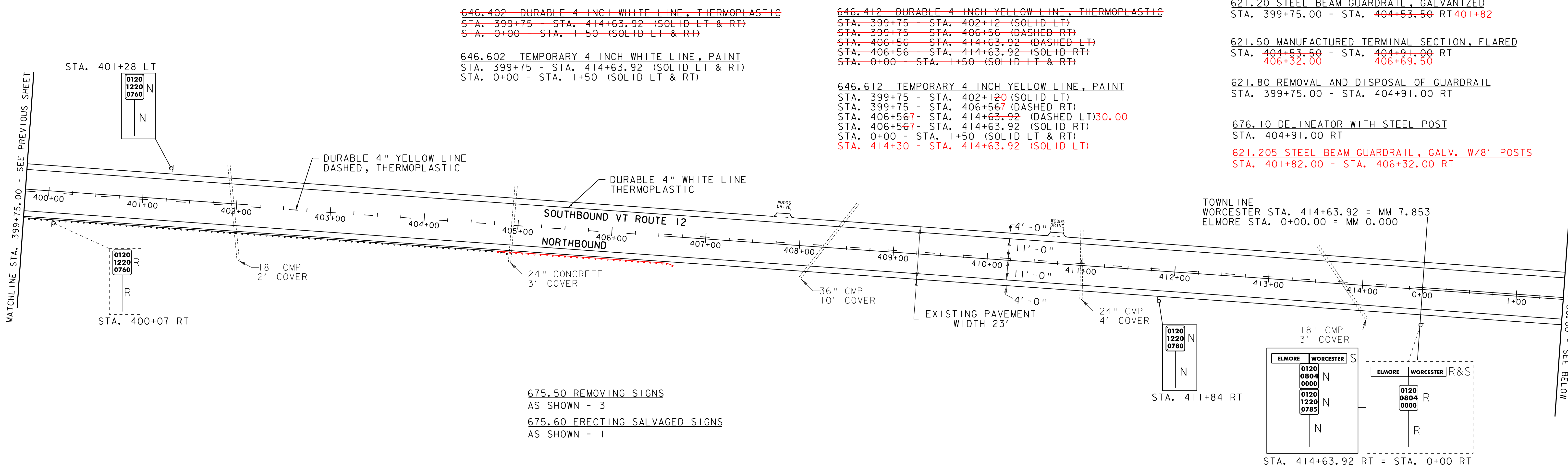
PROJECT LEADER: CDL

DESIGNED BY: SJL

DRAWN BY: SJL

CHECKED BY: EPD

NOT TO SCALE



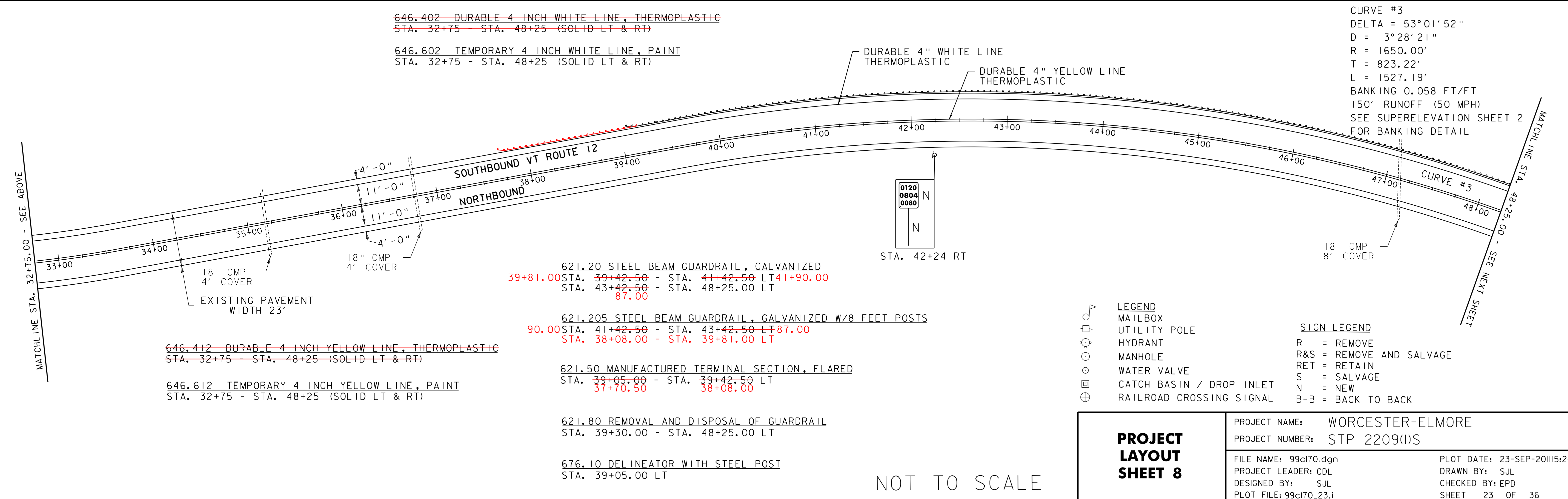
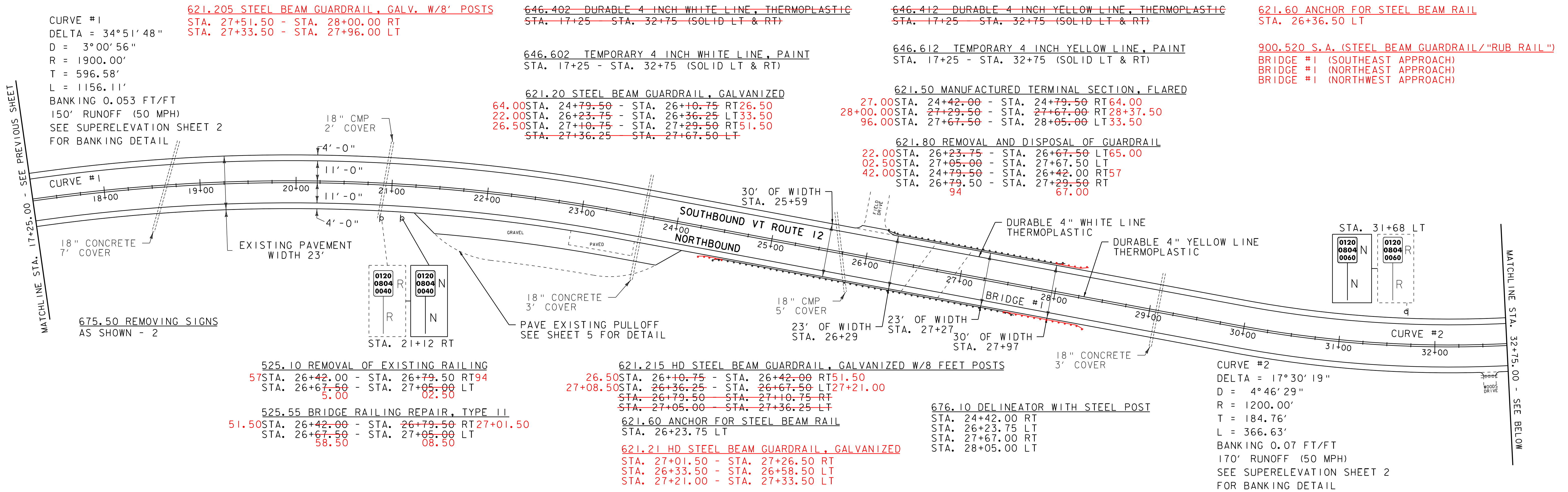
NOT TO SCALE

PROJECT LAYOUT SHEET 7

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(I)S

FILE NAME: 99c170.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99c170.22.i

PLOT DATE: 23-SEP-2011 5:24
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 22 OF 36



604.412 REHAB, DROP INLETS,
CATCH BASINS, OR MANHOLES, CLASS I
STA. 50+59 RT (TYPE B GRATE)
45

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 48+25 - STA. 63+50 (SOLID LT & RT)~~

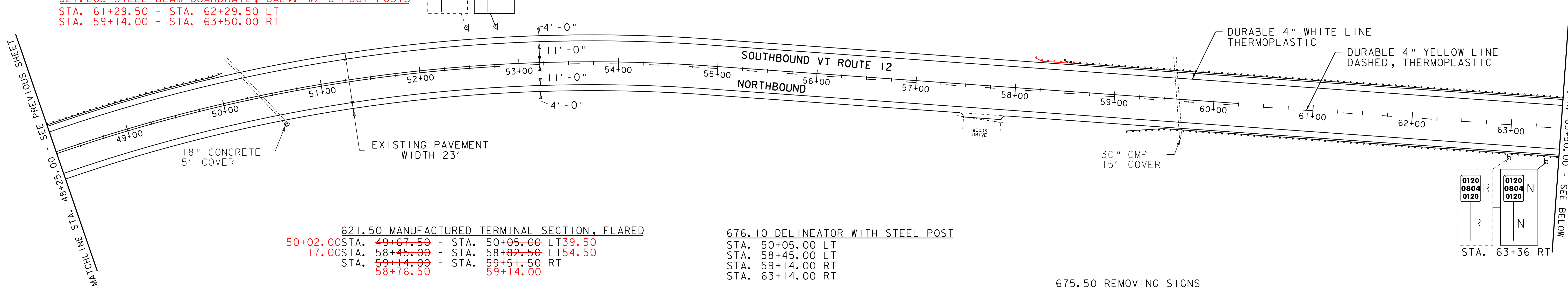
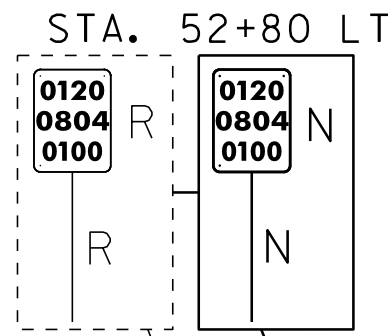
~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 48+25 - STA. 60+25 (SOLID LT)~~
~~STA. 48+25 - STA. 52+81 (SOLID RT)~~
~~STA. 52+81 - STA. 63+50 (DASHED RT)~~

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 48+25 - STA. 63+50 (SOLID LT & RT)

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
STA. 48+25 - STA. 60+25 2 (SOLID LT)
STA. 48+25 - STA. 52+8 0 (SOLID RT)
STA. 52+8+0 - STA. 63+50 (DASHED RT)

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 48+25.00 - STA. 49+67.50 LT 50+02.00
54.50 STA. 58+82.50 - STA. 63+50.00 LT 61+29.50
~~STA. 59+51.50 - STA. 63+50.00 RT~~
STA. 62+29.50 - STA. 63+50.00 LT

621.205 STEEL BEAM GUARDRAIL, GALV. W/ 8 FOOT POSTS
STA. 61+29.50 - STA. 62+29.50 LT
STA. 59+14.00 - STA. 63+50.00 RT



621.50 MANUFACTURED TERMINAL SECTION, FLARED
50+02.00 STA. 49+67.50 - STA. 50+05.00 LT 39.50
17.00 STA. 58+45.00 - STA. 58+82.50 LT 54.50
STA. 59+14.00 - STA. 59+51.50 RT
58+76.50 59+14.00

676.10 DELINEATOR WITH STEEL POST
STA. 50+05.00 LT
STA. 58+45.00 LT
STA. 59+14.00 RT
STA. 63+14.00 RT

675.50 REMOVING SIGNS
AS SHOWN - 2

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 48+25.00 - STA. 50+05.00 LT
STA. 58+45.00 - STA. 63+50.00 LT
34.00

~~601.0010 15" CSP .064 (2-2/3 X 1/2)~~
~~STA. 64+36 - STA. 64+66 RT~~

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 64+64.00 RT
STA. 78+04.50 LT

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 63+50 - STA. 79+50 (SOLID LT & RT)~~

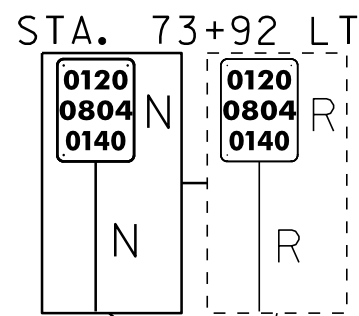
646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 63+50 - STA. 79+50 (SOLID LT & RT)

~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 63+50 - STA. 69+17 (DASHED RT)~~
~~STA. 69+17 - STA. 76+55 (DASHED LT)~~
~~STA. 69+17 - STA. 79+50 (SOLID RT)~~
~~STA. 76+55 - STA. 79+50 (SOLID LT)~~

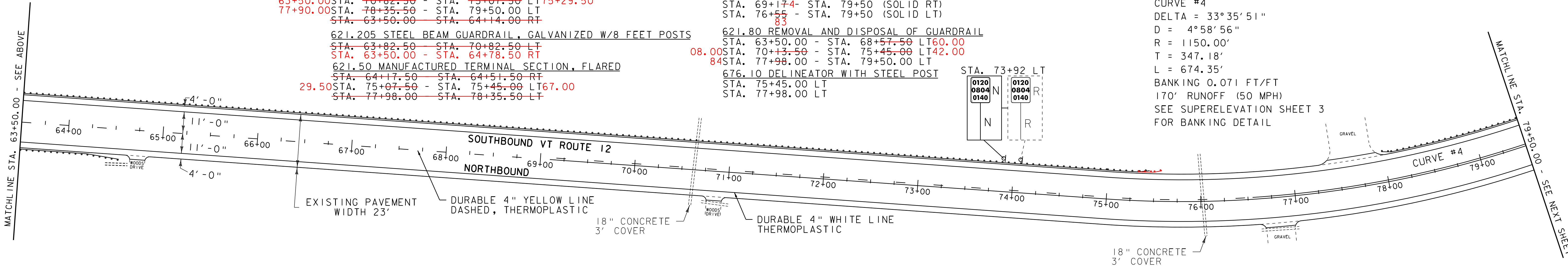
646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
STA. 63+50 - STA. 69+17 4 (DASHED RT)
STA. 69+17 - STA. 76+55 3 (DASHED LT)
STA. 69+17 4 - STA. 79+50 (SOLID RT)
STA. 76+55 - STA. 79+50 (SOLID LT)
83

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 63+50.00 - STA. 68+57.50 LT 60.00
08.00 STA. 70+13.50 - STA. 75+45.00 LT 42.00
84 STA. 77+98.00 - STA. 79+50.00 LT

676.10 DELINEATOR WITH STEEL POST
STA. 75+45.00 LT
STA. 77+98.00 LT



CURVE #4
DELTA = 33°35'51"
D = 4°58'56"
R = 1150.00'
T = 347.18'
L = 674.35'
BANKING 0.071 FT/FT
170' RUNOFF (50 MPH)
SEE SUPERELEVATION SHEET 3
FOR BANKING DETAIL



675.50 REMOVING SIGNS
AS SHOWN - 1

- LEGEND
- MAILBOX
 - UTILITY POLE
 - HYDRANT
 - MANHOLE
 - WATER VALVE
 - CATCH BASIN / DROP INLET
 - RAILROAD CROSSING SIGNAL

- SIGN LEGEND
- R = REMOVE
 - R&S = REMOVE AND SALVAGE
 - RET = RETAIN
 - S = SALVAGE
 - N = NEW
 - B-B = BACK TO BACK

PROJECT
LAYOUT
SHEET 9

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99ci70.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99ci70.24.i

PLOT DATE: 23-SEP-2011 15:25
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 24 OF 36

NOT TO SCALE

~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 79+50 - STA. 79+83 (SOLID RT)~~
~~STA. 79+50 - STA. 87+12 (SOLID LT)~~
~~STA. 79+83 - STA. 86+51 (DASHED RT)~~
~~STA. 86+51 - STA. 95+50 (SOLID RT)~~
~~STA. 87+12 - STA. 94+25 (DASHED LT)~~
~~STA. 94+25 - STA. 95+50 (SOLID LT)~~

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
STA. 79+50 - STA. 79+83 (SOLID RT)
STA. 79+50 - STA. 87+12 (SOLID LT)
68 STA. 79+83 - STA. 86+51 (DASHED RT)
60 STA. 86+51 - STA. 95+50 (SOLID RT)
08 STA. 87+12 - STA. 94+25 (DASHED LT)
16 STA. 94+25 - STA. 95+50 (SOLID LT)

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 79+50 - STA. 95+50 (SOLID LT & RT)~~

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 79+50 - STA. 95+50 (SOLID LT & RT)

601.0010 15" CSP .064 (2-2/3 X 1/2)
STA. 94+87 - STA. 95+17 LT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 79+50.00 - STA. 80+98.00 LT 82+10.00
STA. 81+60.50 - STA. 83+98.00 LT
95.00 STA. 93+87.50 - STA. 94+25.00 LT 07.50
93+94.00 STA. 94+00.00 - STA. 94+25.00 RT 06.50
81.00 STA. 94+62.50 - STA. 94+87.50 RT 92.00
STA. 94+82.50 - STA. 94+95.00 LT

621.205 STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS
STA. 80+98.00 - STA. 81+60.50 LT
82+10.00 84+00.00

621.206 STEEL BEAM GUARDRAIL, GALVANIZED/NESTED
STA. 94+25.00 - STA. 94+62.50 LT
STA. 94+25.00 - STA. 94+62.50 RT

621.50 MANUFACTURED TERMINAL SECTION, FLARED
84+00.00 STA. 83+98.00 - STA. 84+35.50 LT 84+38.00
57.50 STA. 93+50.00 - STA. 93+87.50 LT 95.00
56.50 STA. 93+62.50 - STA. 94+00.00 RT 93+94.00
95.00 STA. 94+62.50 - STA. 95+00.00 LT 32.50
92.00 STA. 94+87.50 - STA. 95+25.00 RT 29.50

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 79+50.00 - STA. 83+12.50 LT
63 STA. 93+50.00 - STA. 95+00.00 LT 94+32.50
STA. 93+78.50 - STA. 95+17.50 RT 94+31.50
STA. 94+56.50 - STA. 95+17.00 RT
STA. 94+57.50 - STA. 95+00.00 LT

SEE PROJECT TYPICAL SHEET 3
FOR DETAIL OF STEEL BEAM
GUARDRAIL AT LARGE CULVERTS

BRIDGE RAILING REPAIR, TYPE II

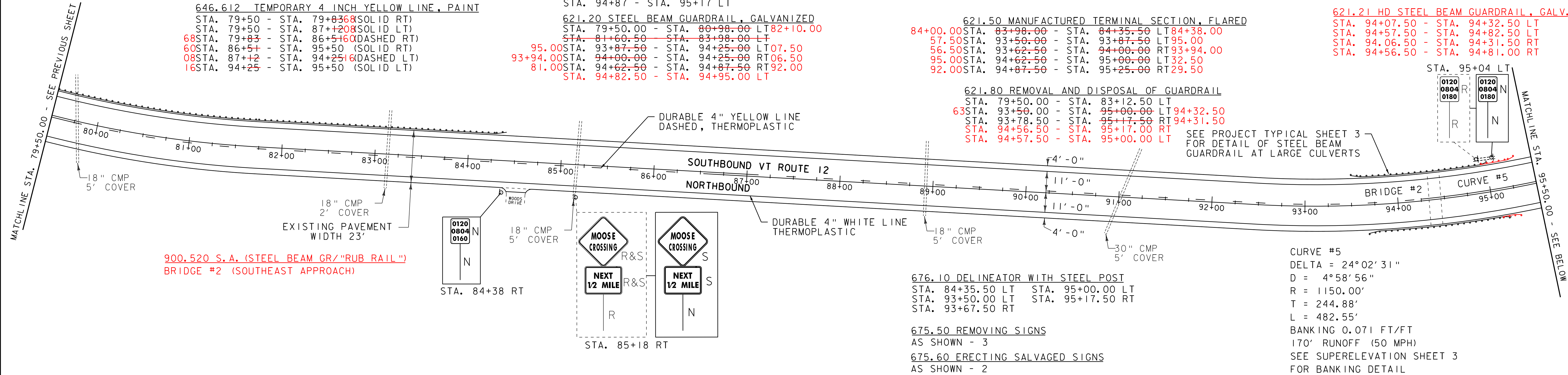
STA. 94+32.50 - STA. 94+57.50 LT
STA. 94+31.50 - STA. 94+56.50 RT

REMOVAL OF EXISTING RAILING

STA. 94+32.50 - STA. 94+57.50 LT
STA. 94+31.50 - STA. 94+56.50 RT

621.21 HD STEEL BEAM GUARDRAIL, GALV.

STA. 94+07.50 - STA. 94+32.50 LT
STA. 94+57.50 - STA. 94+82.50 LT
STA. 94+06.50 - STA. 94+31.50 RT
STA. 94+56.50 - STA. 94+81.00 RT



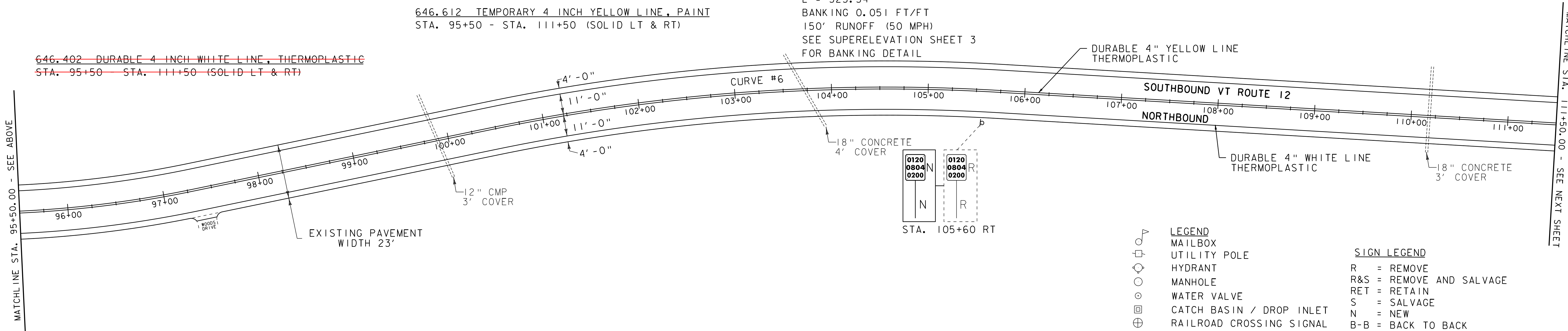
646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
STA. 95+50 - STA. 111+50 (SOLID LT & RT)

~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 95+50 - STA. 111+50 (SOLID LT & RT)~~

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
STA. 95+50 - STA. 111+50 (SOLID LT & RT)

~~646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC~~
~~STA. 95+50 - STA. 111+50 (SOLID LT & RT)~~

CURVE #6
DELTA = 14°59'33"
D = 2°51'53"
R = 2000.00'
T = 263.17'
L = 523.34'
BANKING 0.051 FT/FT
150' RUNOFF (50 MPH)
SEE SUPERELEVATION SHEET 3
FOR BANKING DETAIL

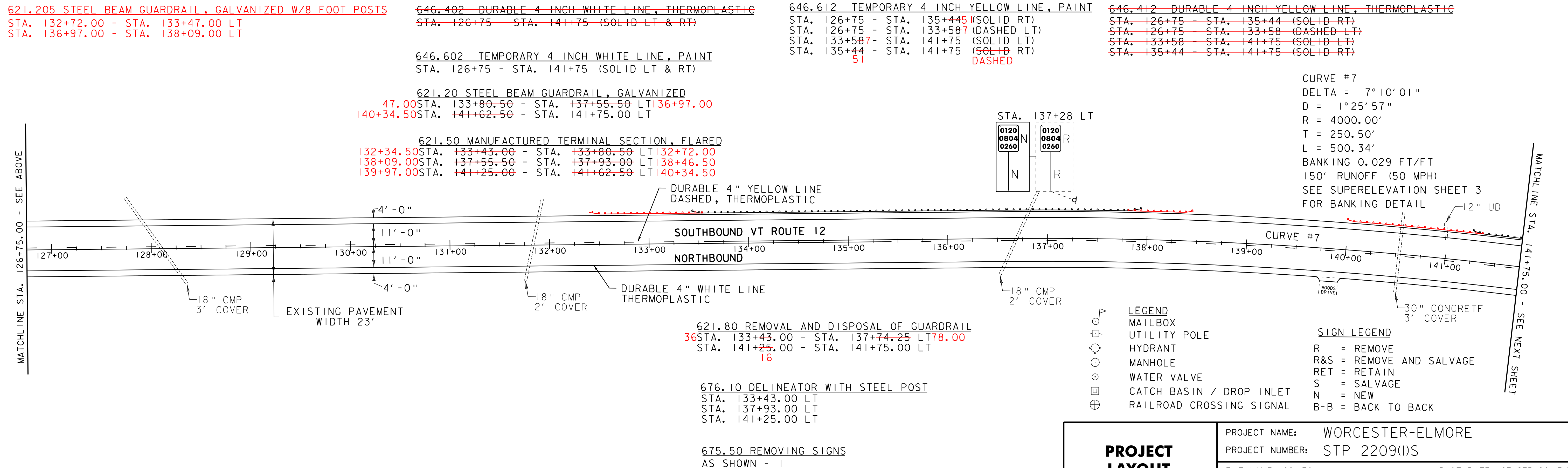
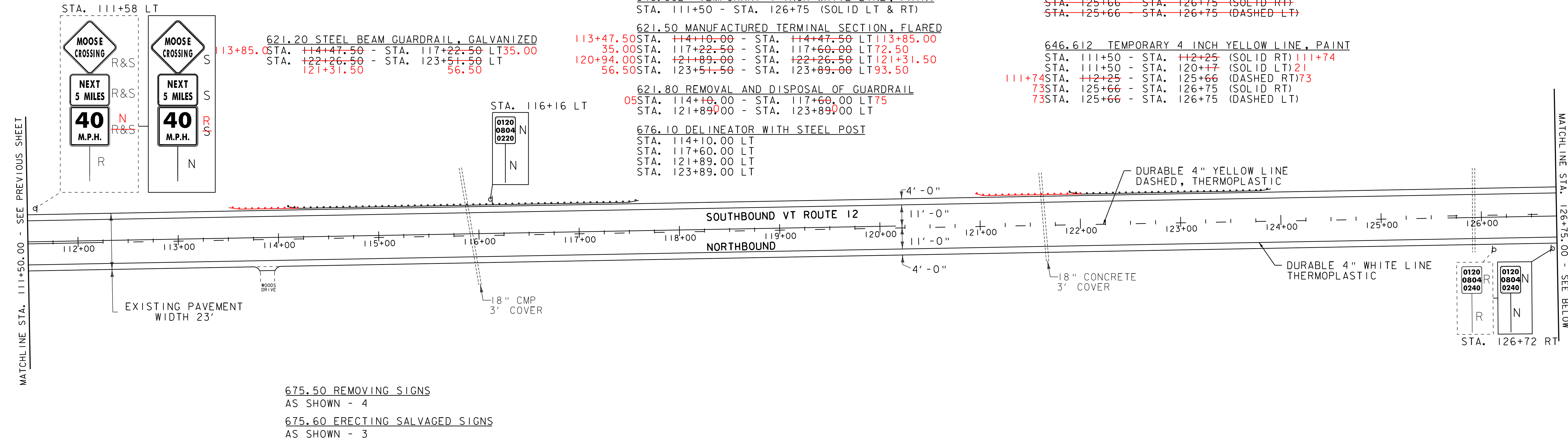


675.50 REMOVING SIGNS
AS SHOWN - 1

PROJECT
LAYOUT
SHEET 10

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99cl70.dgn	PLOT DATE: 23-SEP-2011 15:25
PROJECT LEADER: CDL	DRAWN BY: SJL
DESIGNED BY: SJL	CHECKED BY: EPD
PLOT FILE: 99cl70.25.1	SHEET 25 OF 36



NOT TO SCALE

PROJECT
LAYOUT
SHEET 11

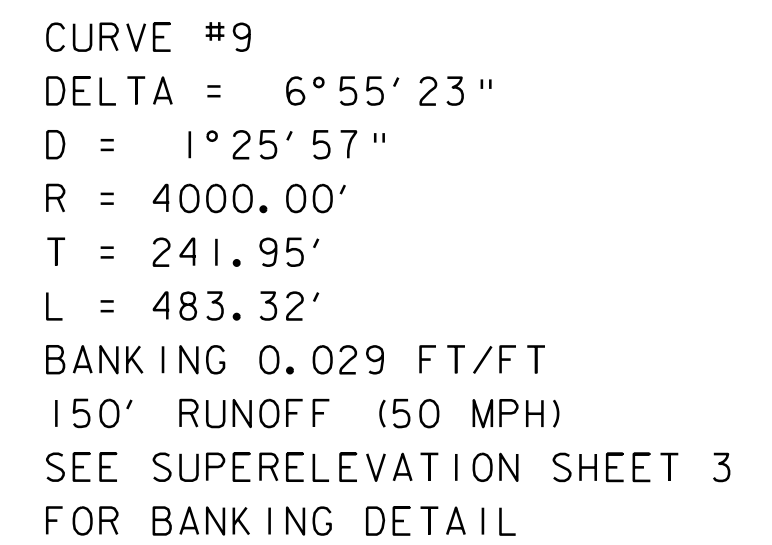
PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99ci70.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99ci70.26.i

PLOT DATE: 23-SEP-2011 5:25
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 26 OF 36

~~646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC~~
~~STA. 141+75 STA. 143+30 (SOLID LT)~~
~~STA. 141+75 STA. 157+50 (DASHED RT)~~

675.50 REMOVING SIGNS
AS SHOWN - 1



~~END UNDERDRAIN~~
~~STA. 172+00.00 LT~~

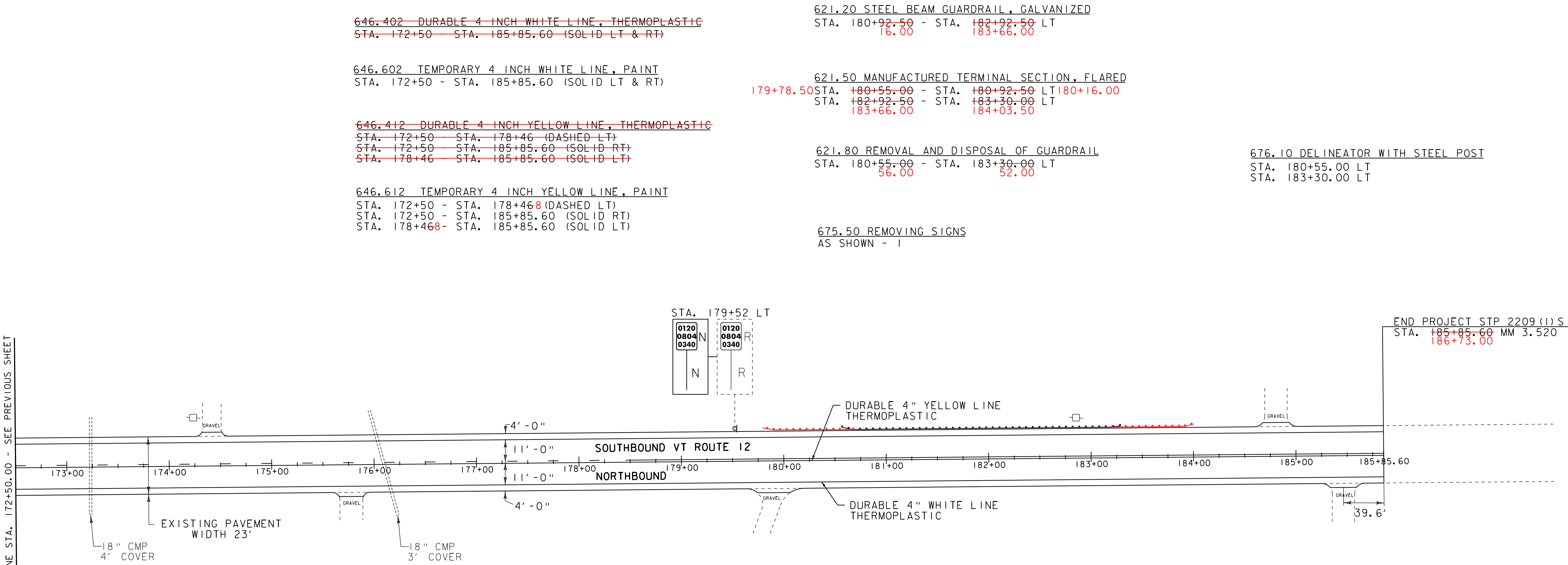


R = REMOVE
R&S = REMOVE AND SALVAGE
RET = RETAIN
S = SALVAGE
N = NEW
B-B = BACK TO BACK

NOT TO SCALE

PLOT DATE: 23-SEP-2011 15:25
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 27 OF 36

MATCHLINE STA. 172+50.00 - SEE PREVIOUS SHEET



- LEGEND**
- MAILBOX
 - UTILITY POLE
 - HYDRANT
 - MANHOLE
 - WATER VALVE
 - CATCH BASIN / DROP INLET
 - RAILROAD CROSSING SIGNAL

- SIGN LEGEND**
- R = REMOVE
 - R&S = REMOVE AND SALVAGE
 - RET = RETAIN
 - S = SALVAGE
 - N = NEW
 - B-B = BACK TO BACK

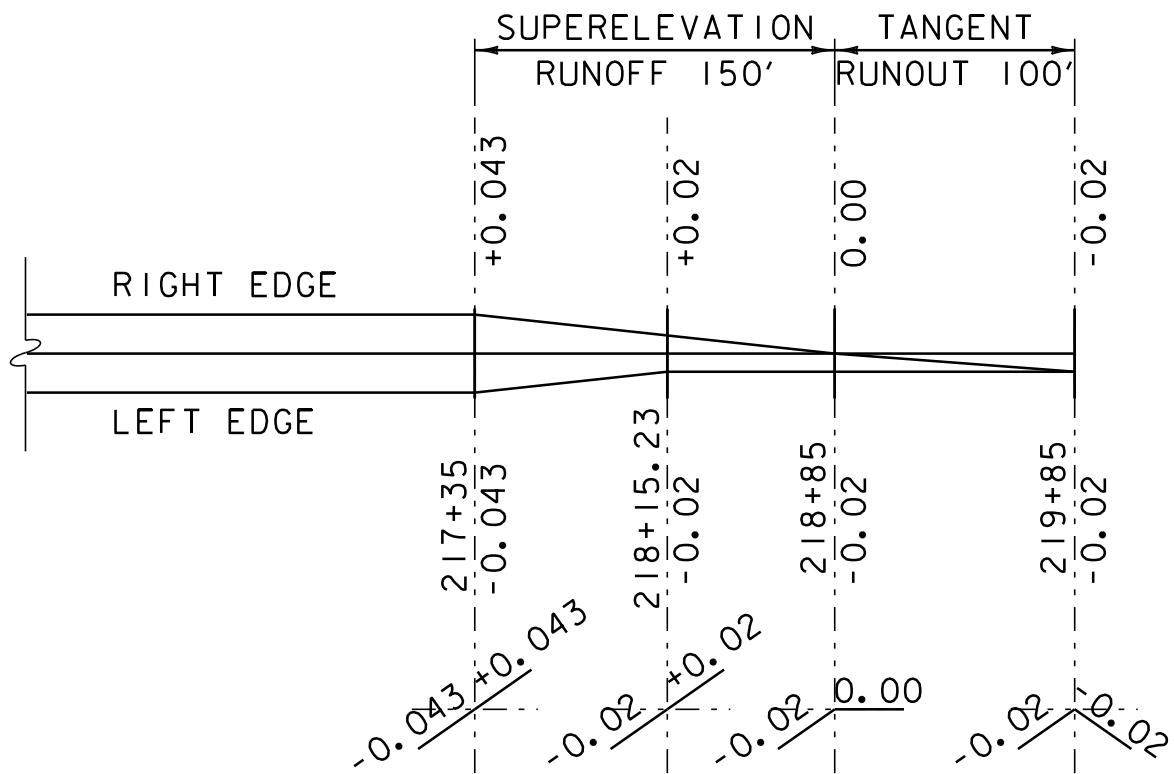
NOT TO SCALE

**PROJECT
LAYOUT
SHEET 13**

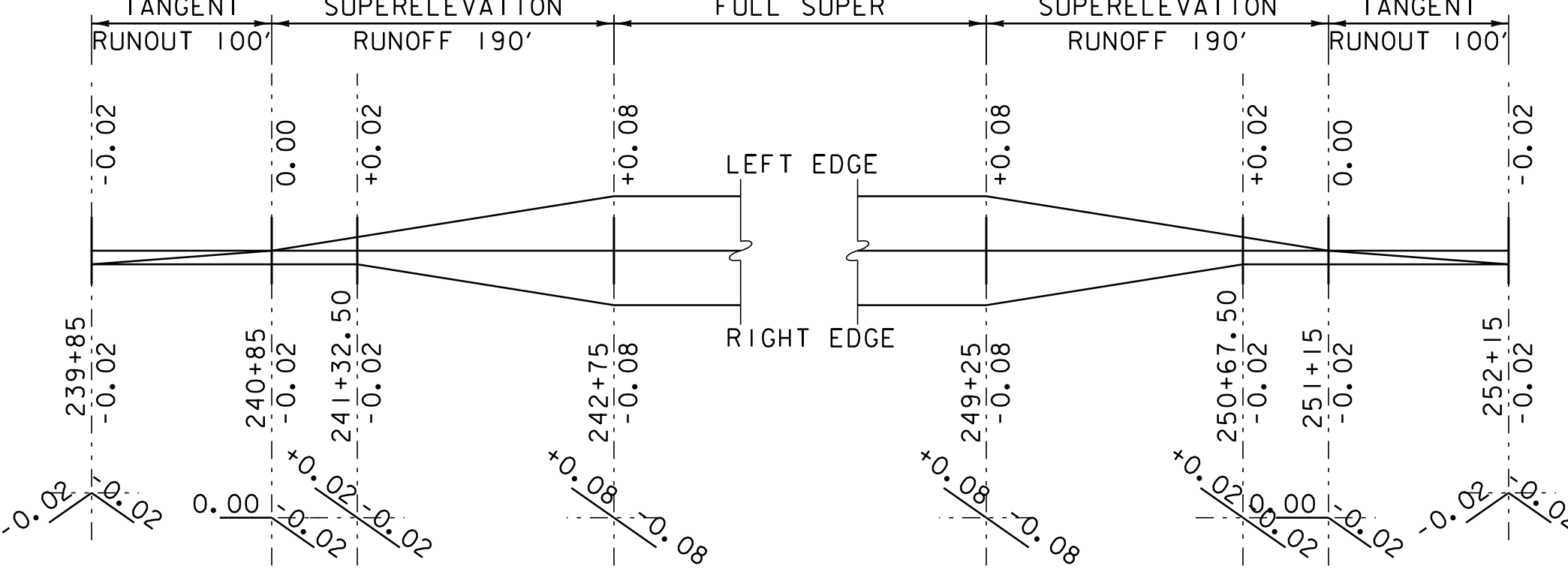
PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(I)S

FILE NAME: 99cl70.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99cl70_28.i

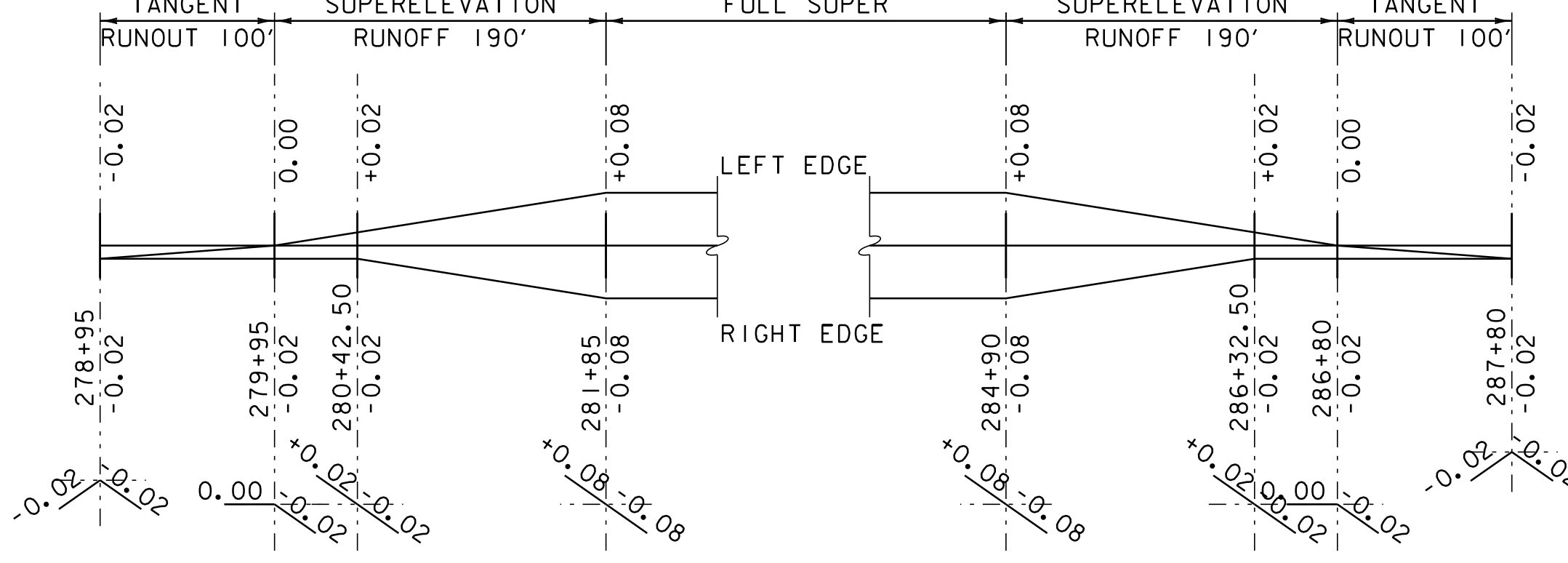
PLOT DATE: 23-SEP-2011 15:25
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 28 OF 36



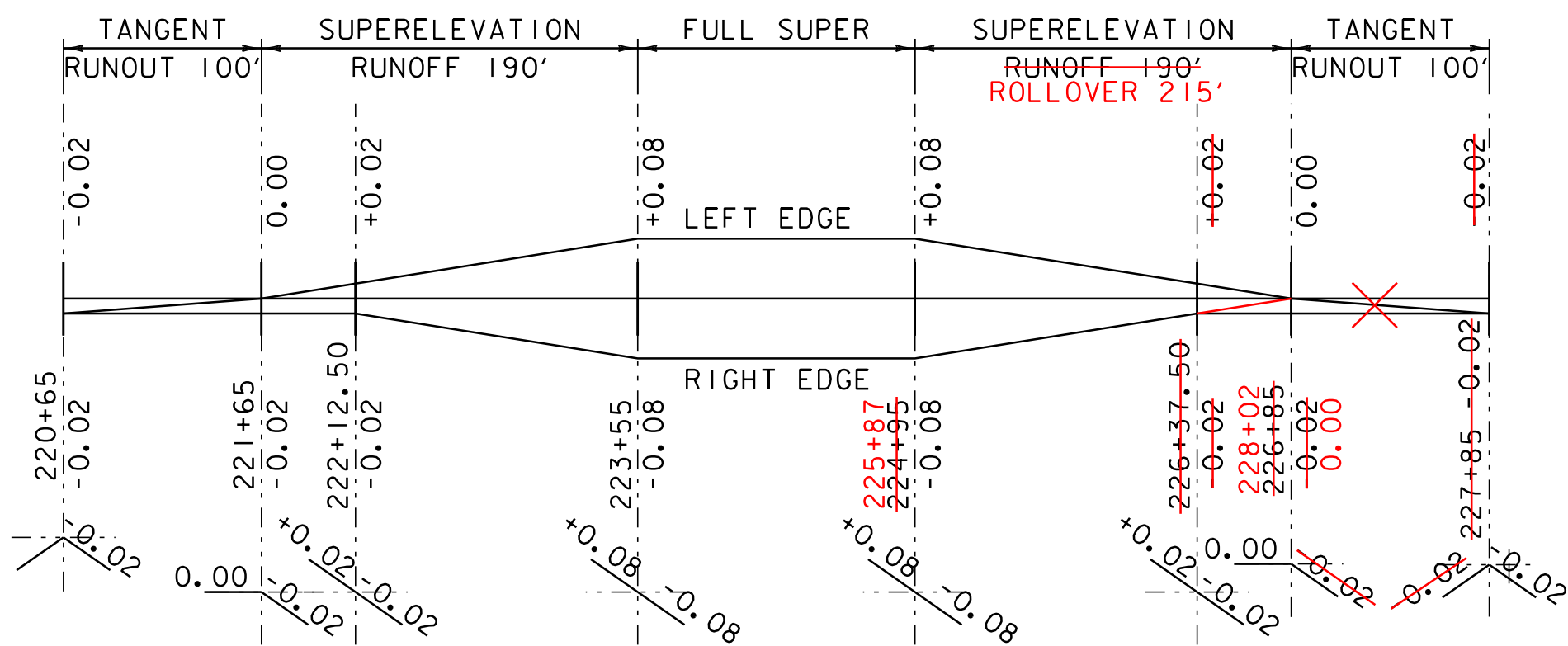
SUPERELEVATION DIAGRAM WORCESTER CURVE #1
NTS
PT = 217+80.82 R = 2500 FT - LT
V = 50 MPH



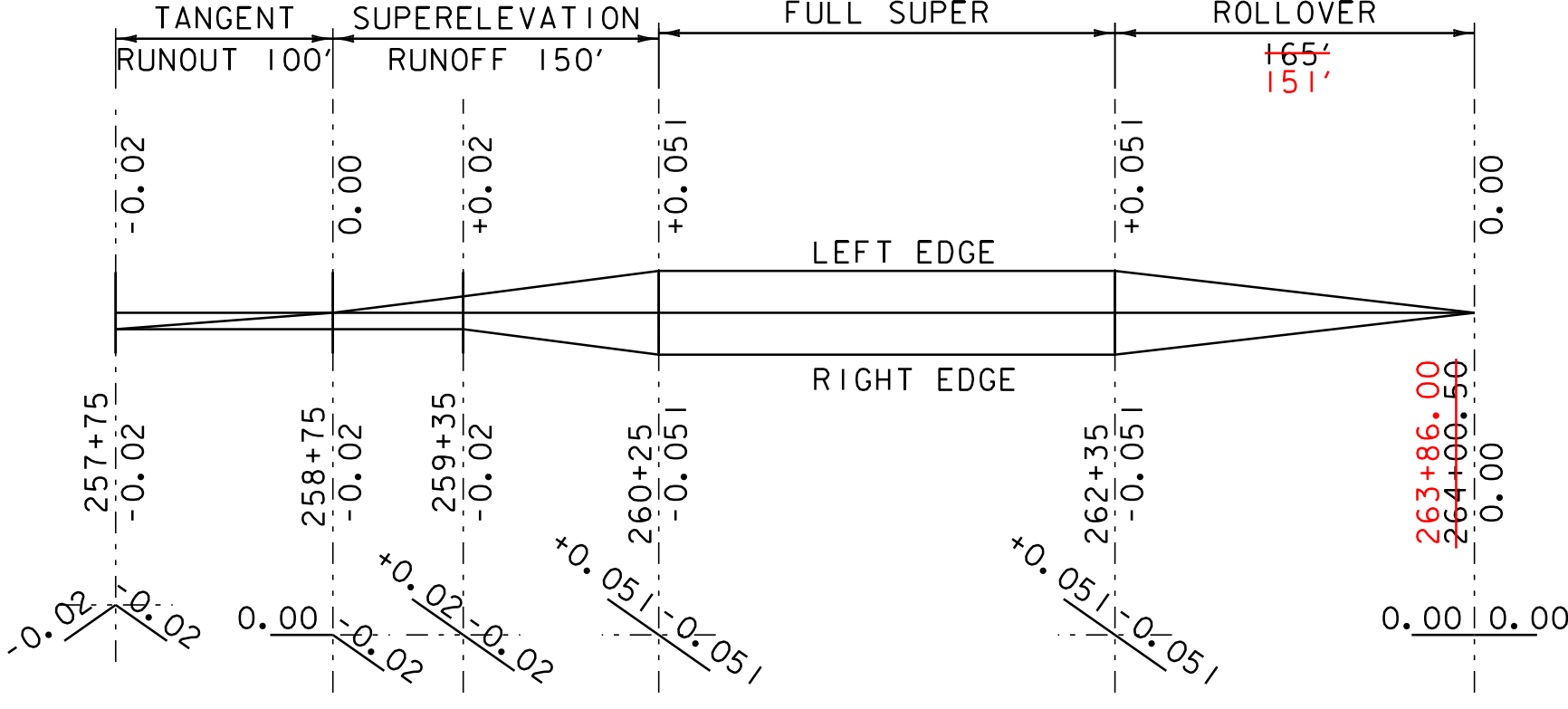
SUPERELEVATION DIAGRAM WORCESTER CURVE #4
NTS
PC = 242+20.12 R = 700 FT - RT
PT = 249+80.16 V = 50 MPH



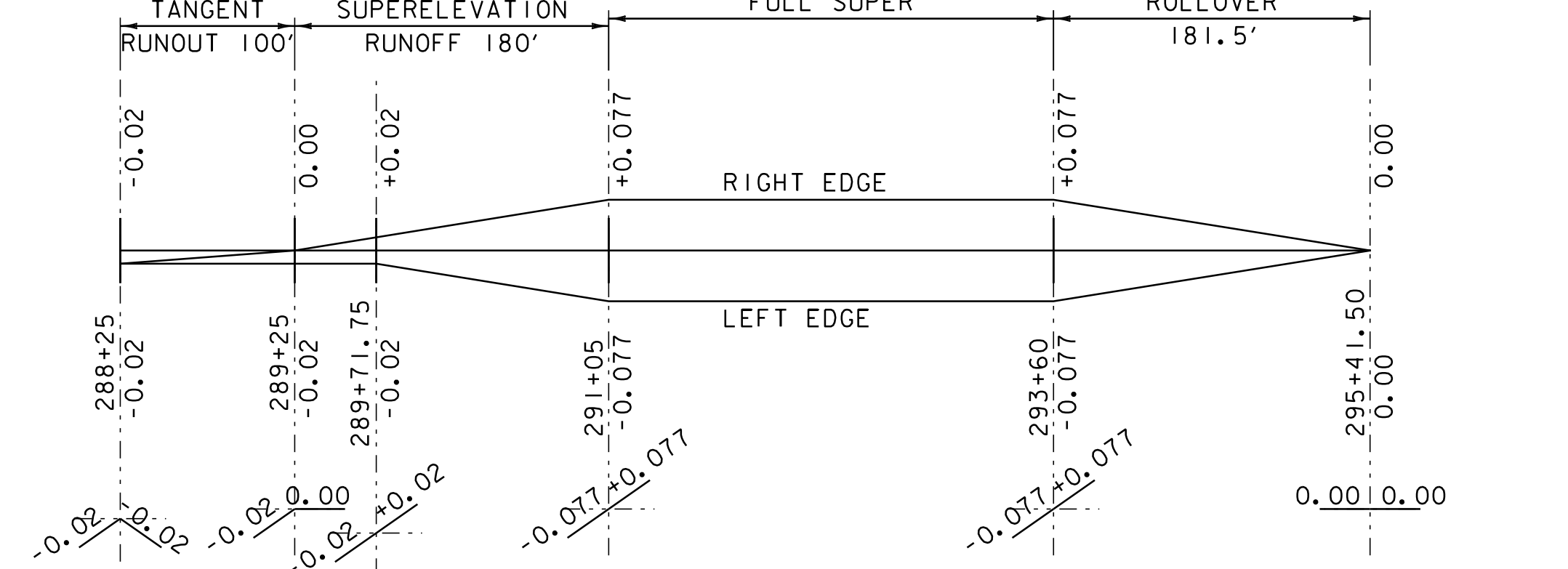
SUPERELEVATION DIAGRAM WORCESTER CURVE #7
NTS
PC = 280+90.50 R = 700 FT - RT
PT = 285+47.53 V = 50 MPH



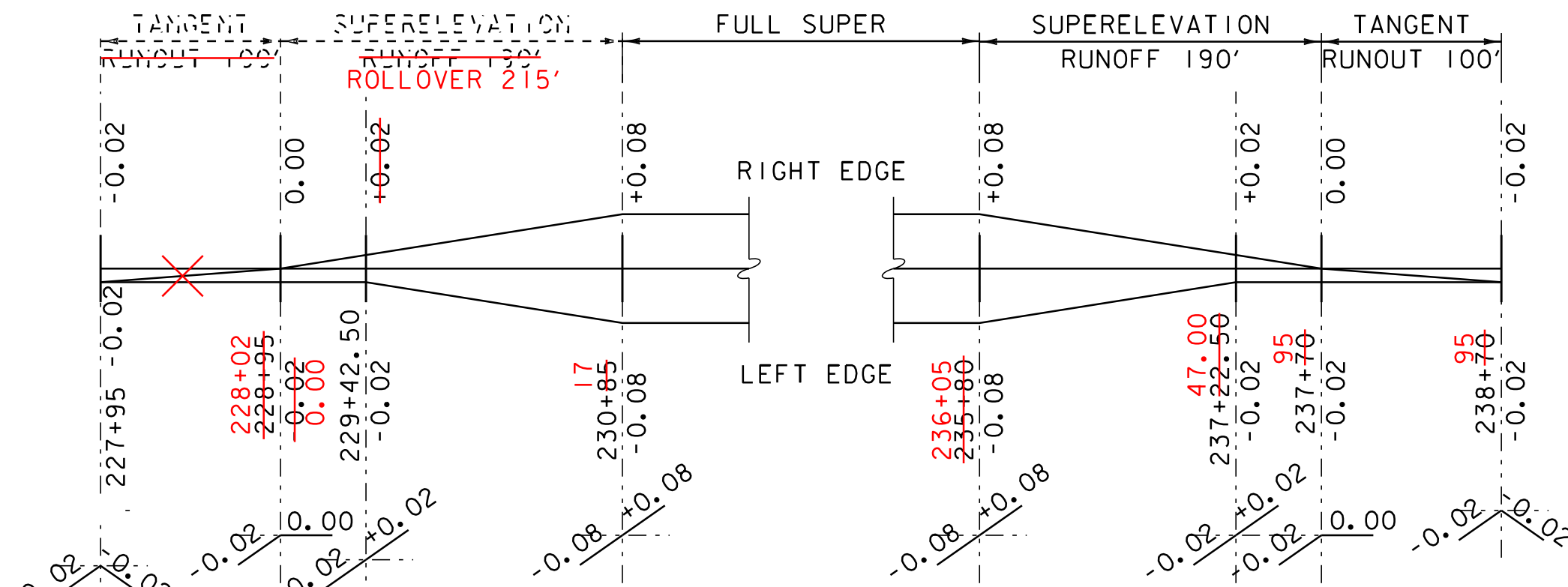
SUPERELEVATION DIAGRAM WORCESTER CURVE #2
NTS
REV PT 225+87
PC = 223+33.93 R = 650 FT - RT
PT = 224+94.53 V = 50 MPH



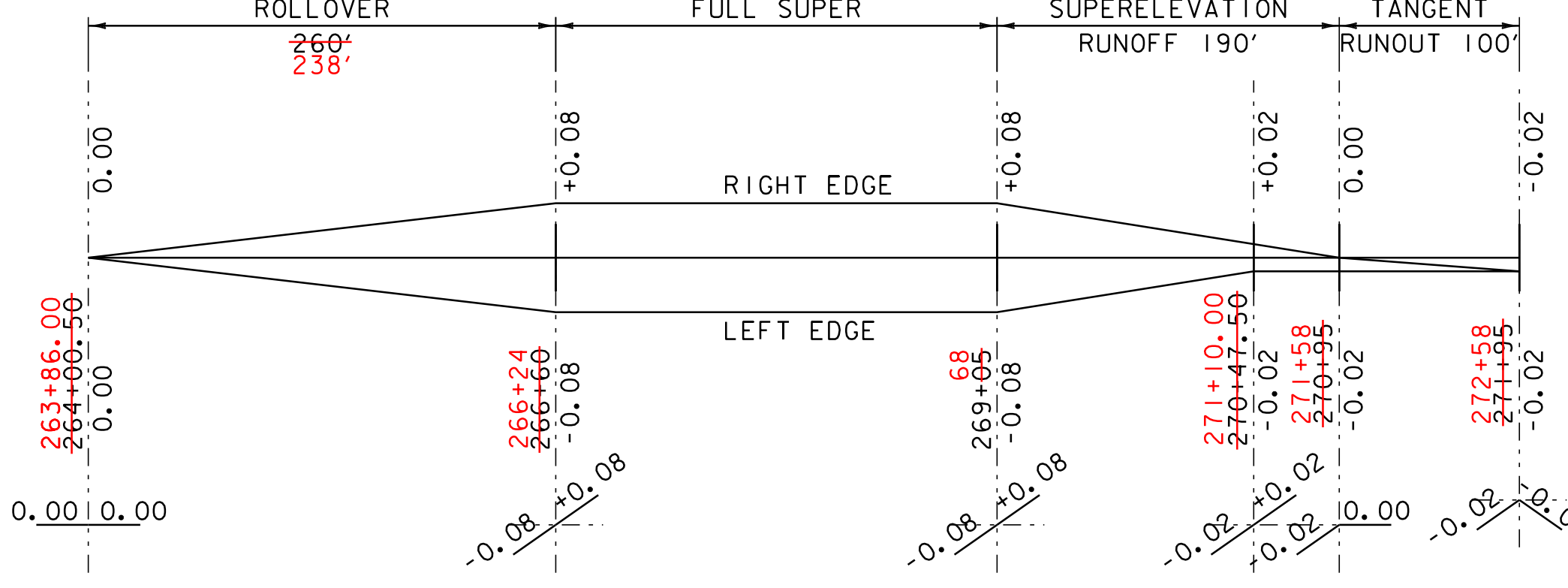
SUPERELEVATION DIAGRAM WORCESTER CURVE #5
NTS
PC = 259+81.51 R = 2000 FT - RT
PT = 262+81.01 V = 50 MPH



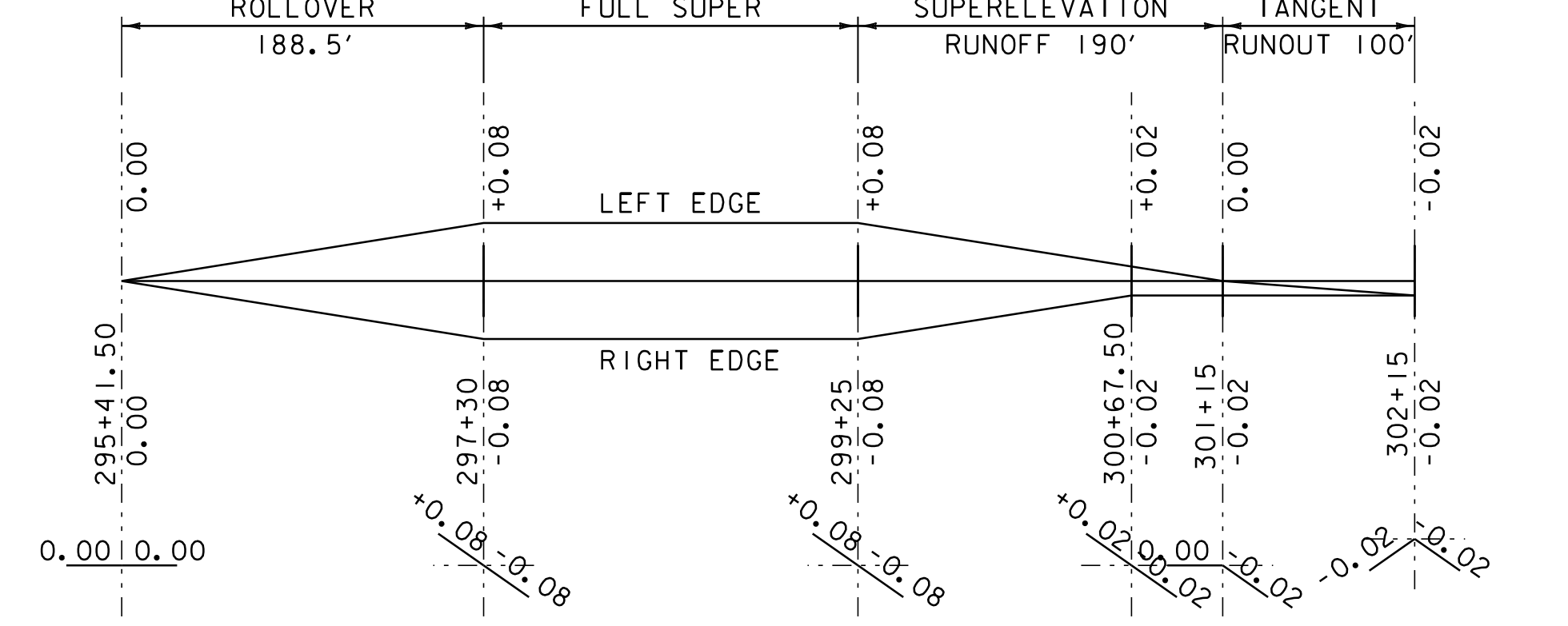
SUPERELEVATION DIAGRAM WORCESTER CURVE #8
NTS
PC = 290+49.93 R = 950 FT - LT
PT = 294+27.65 V = 50 MPH



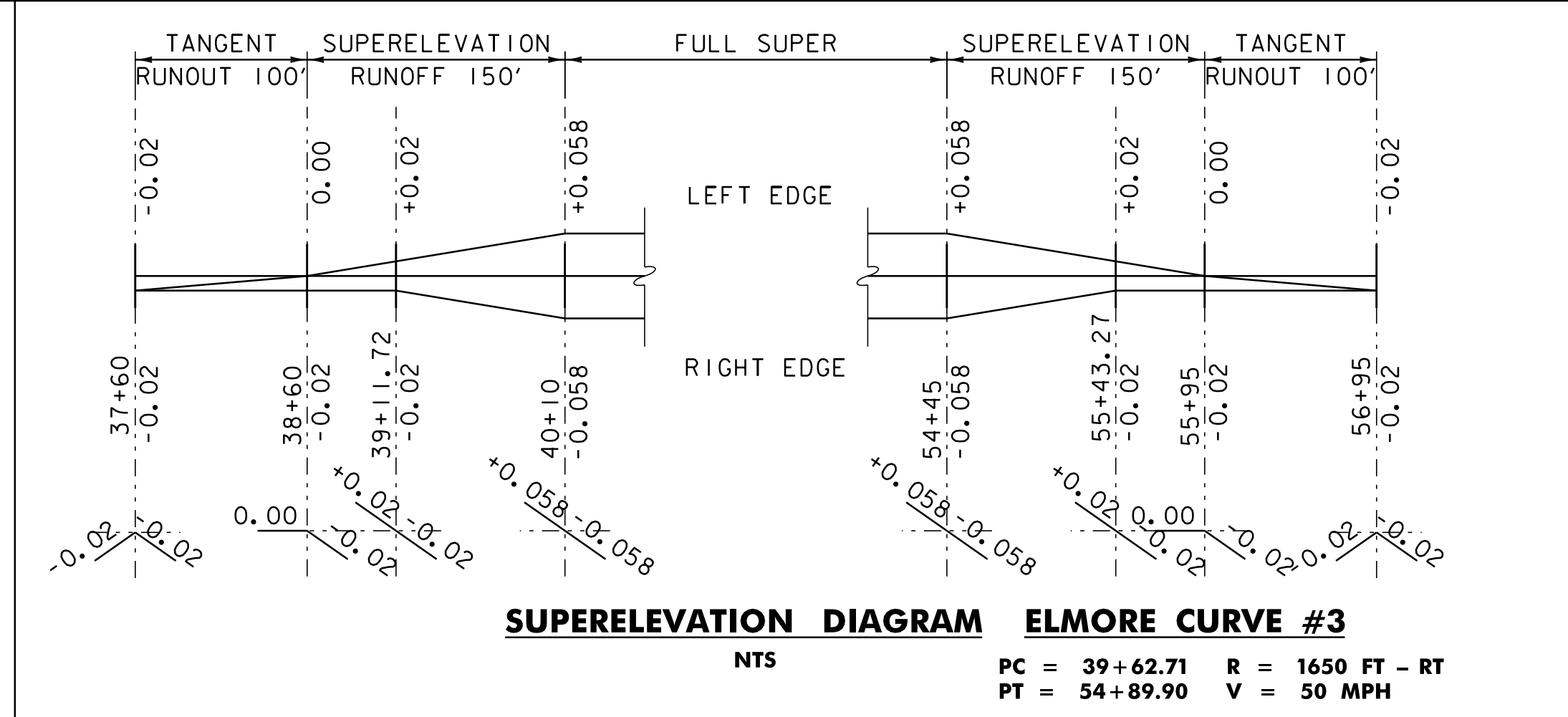
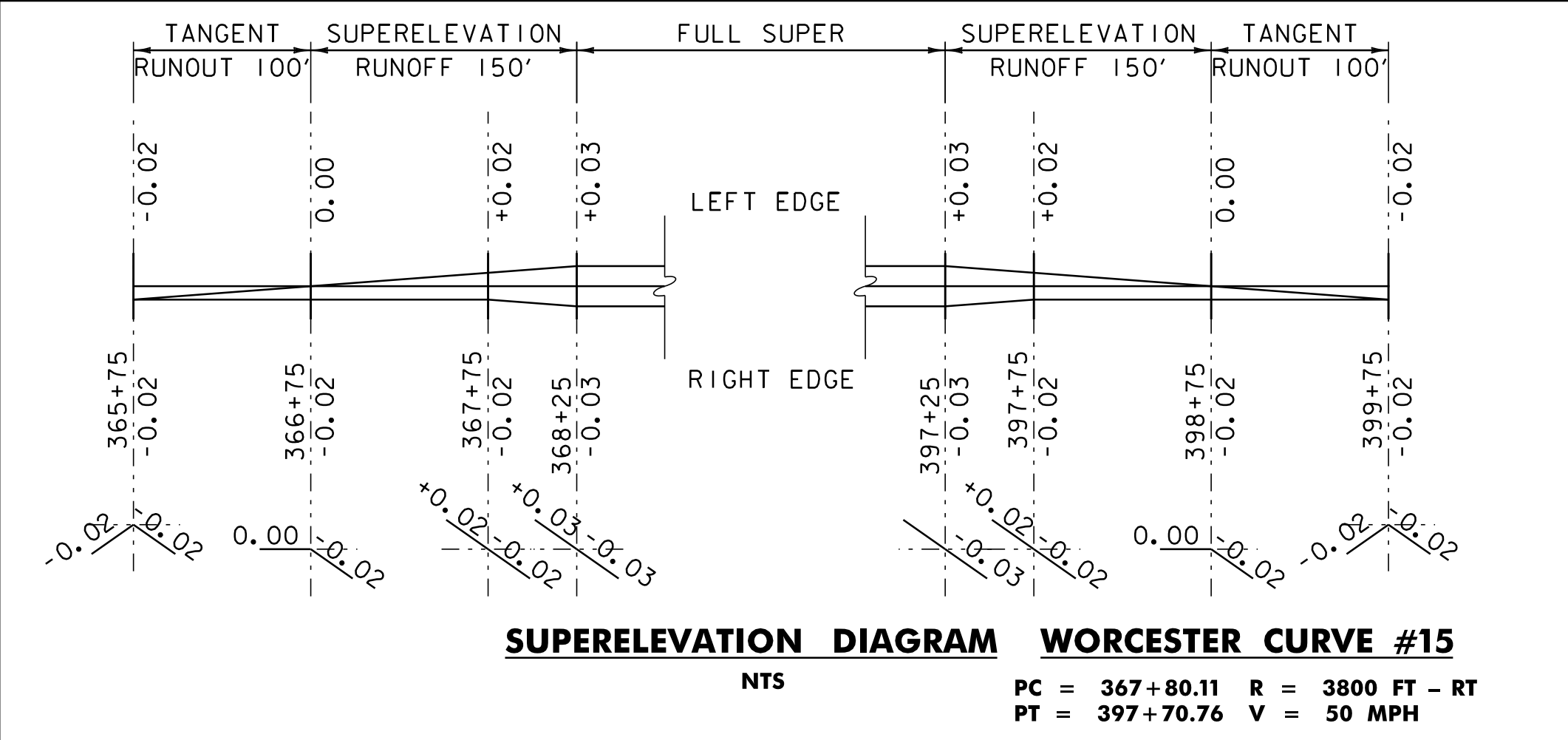
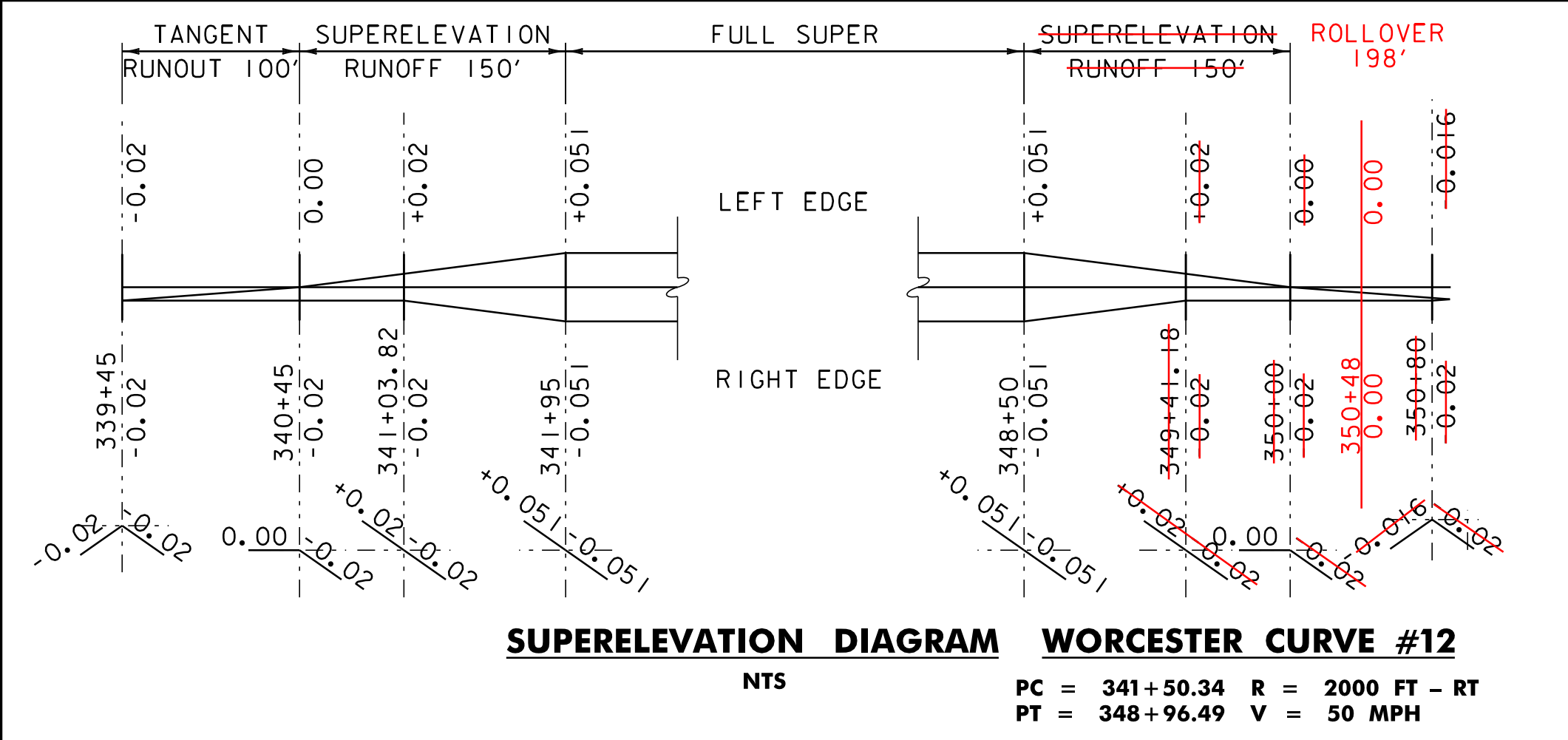
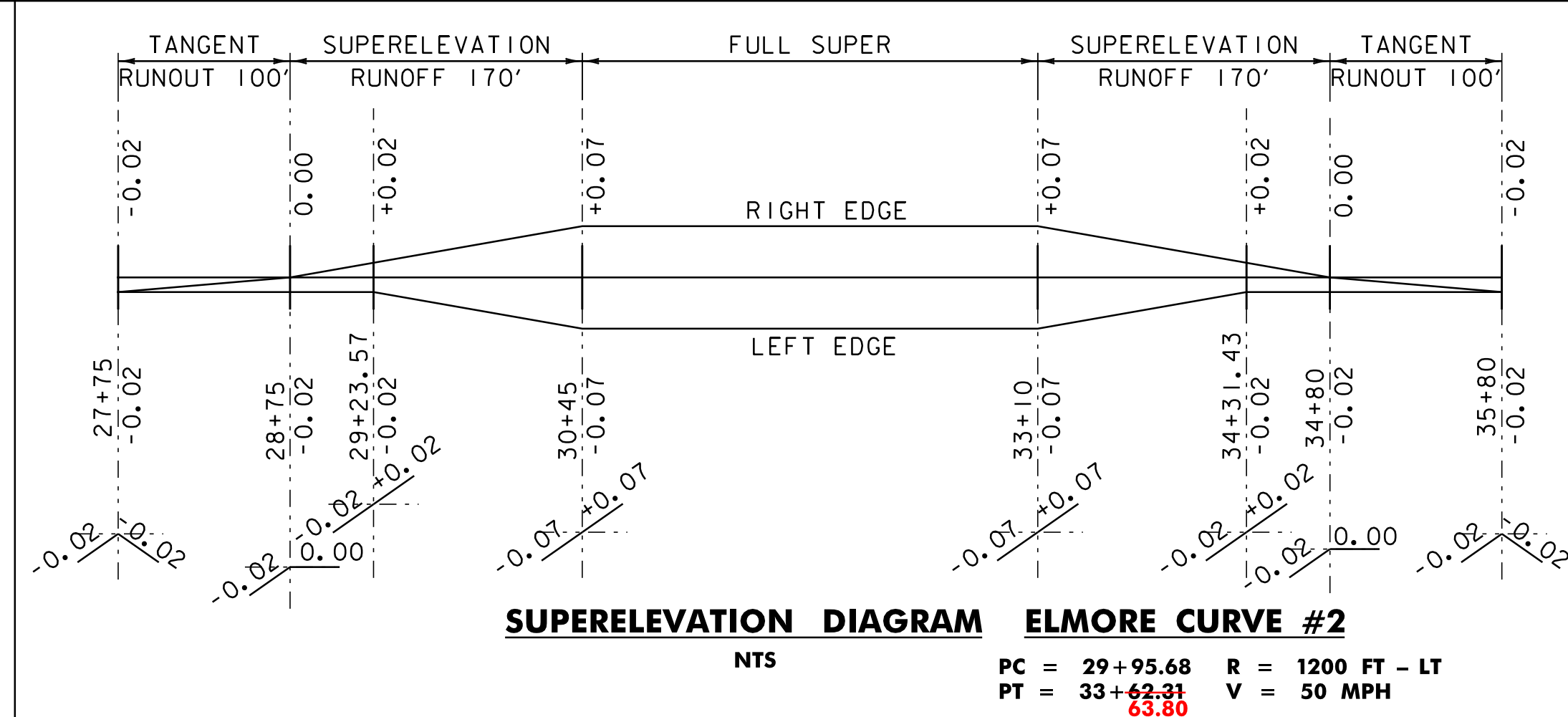
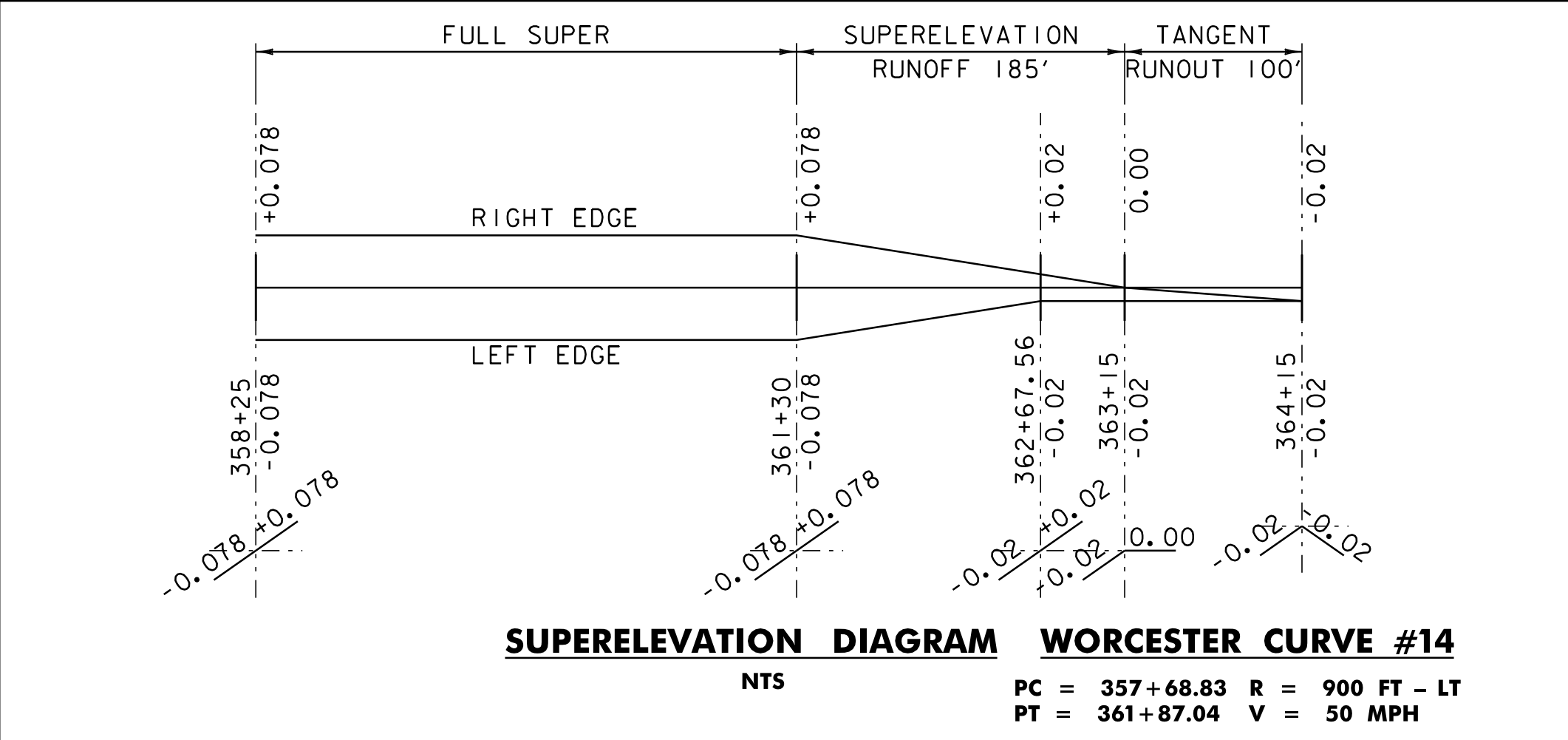
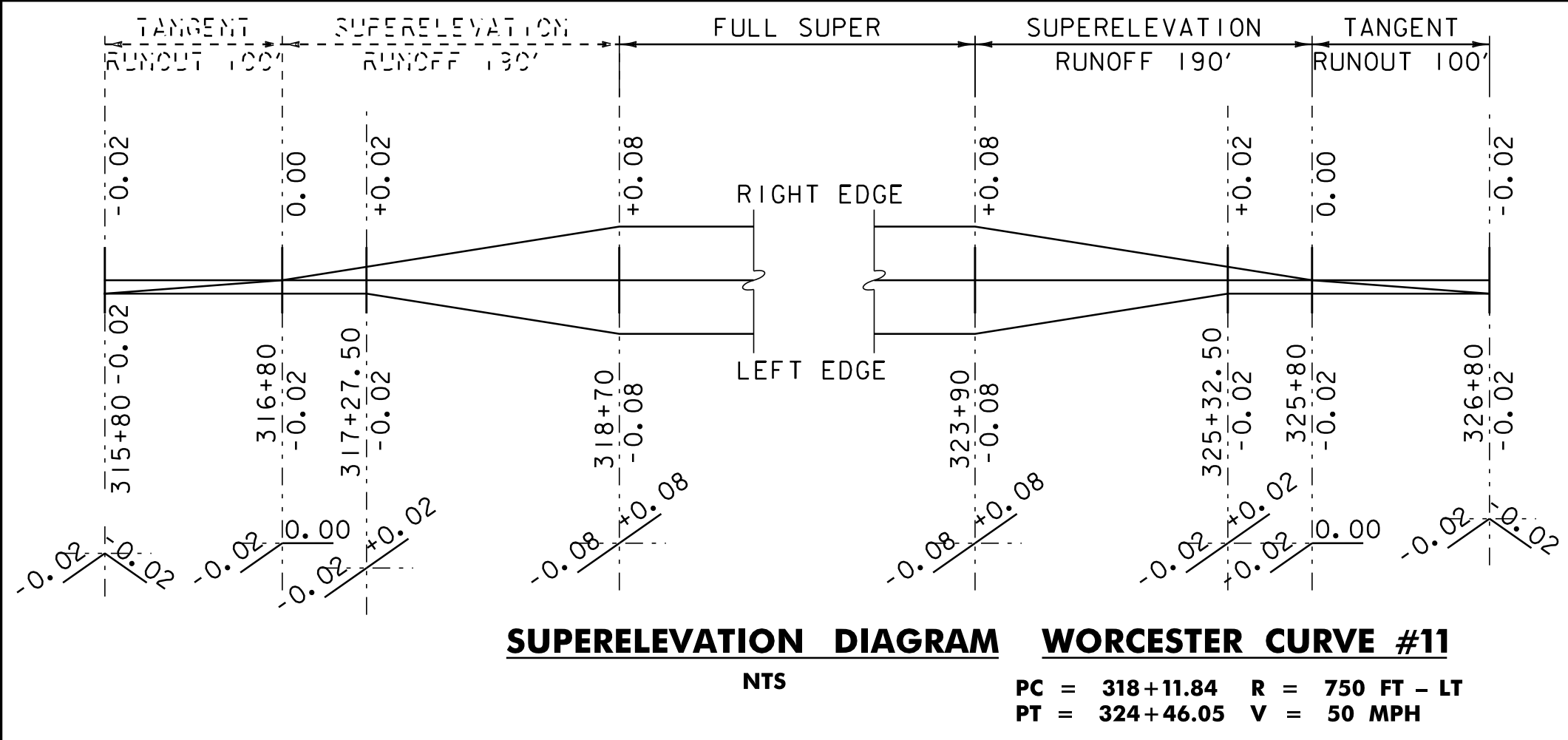
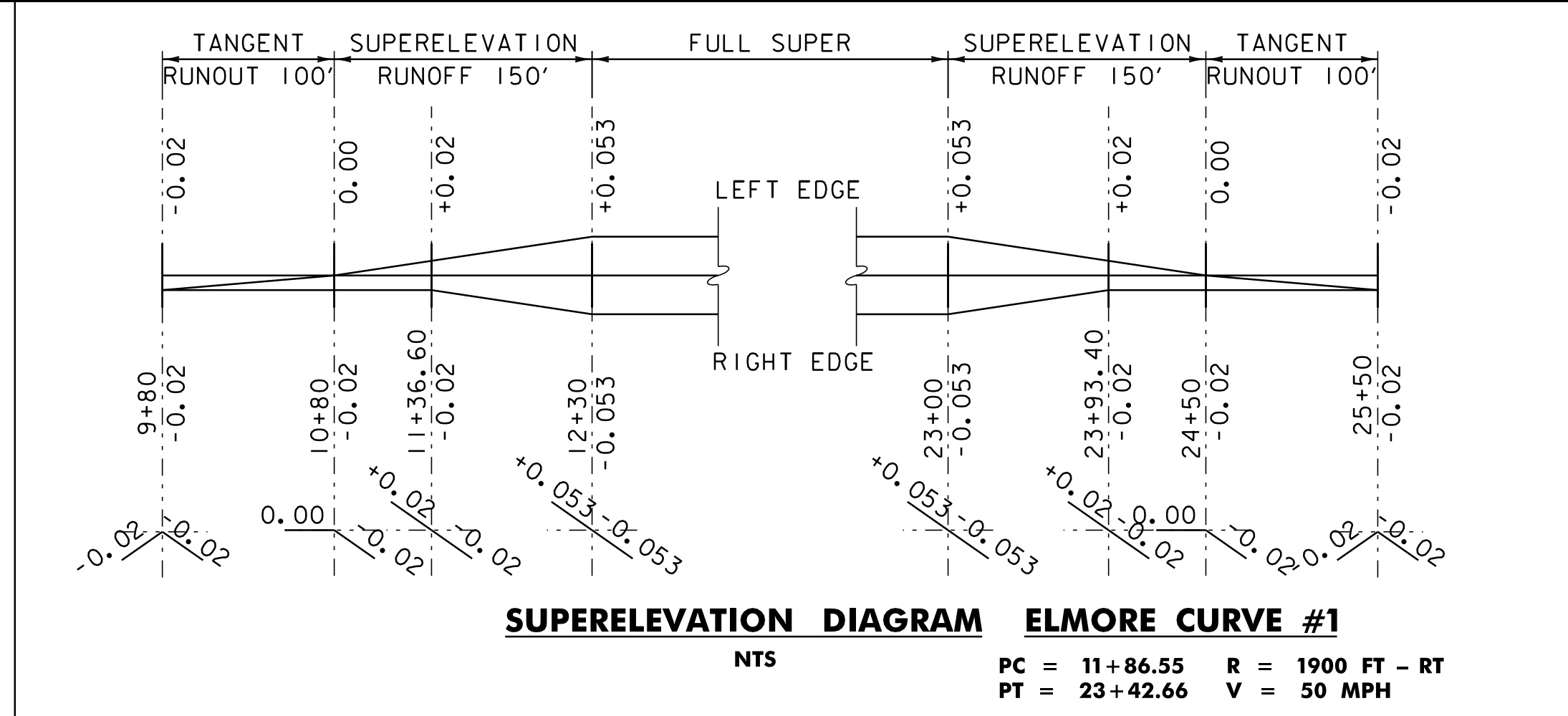
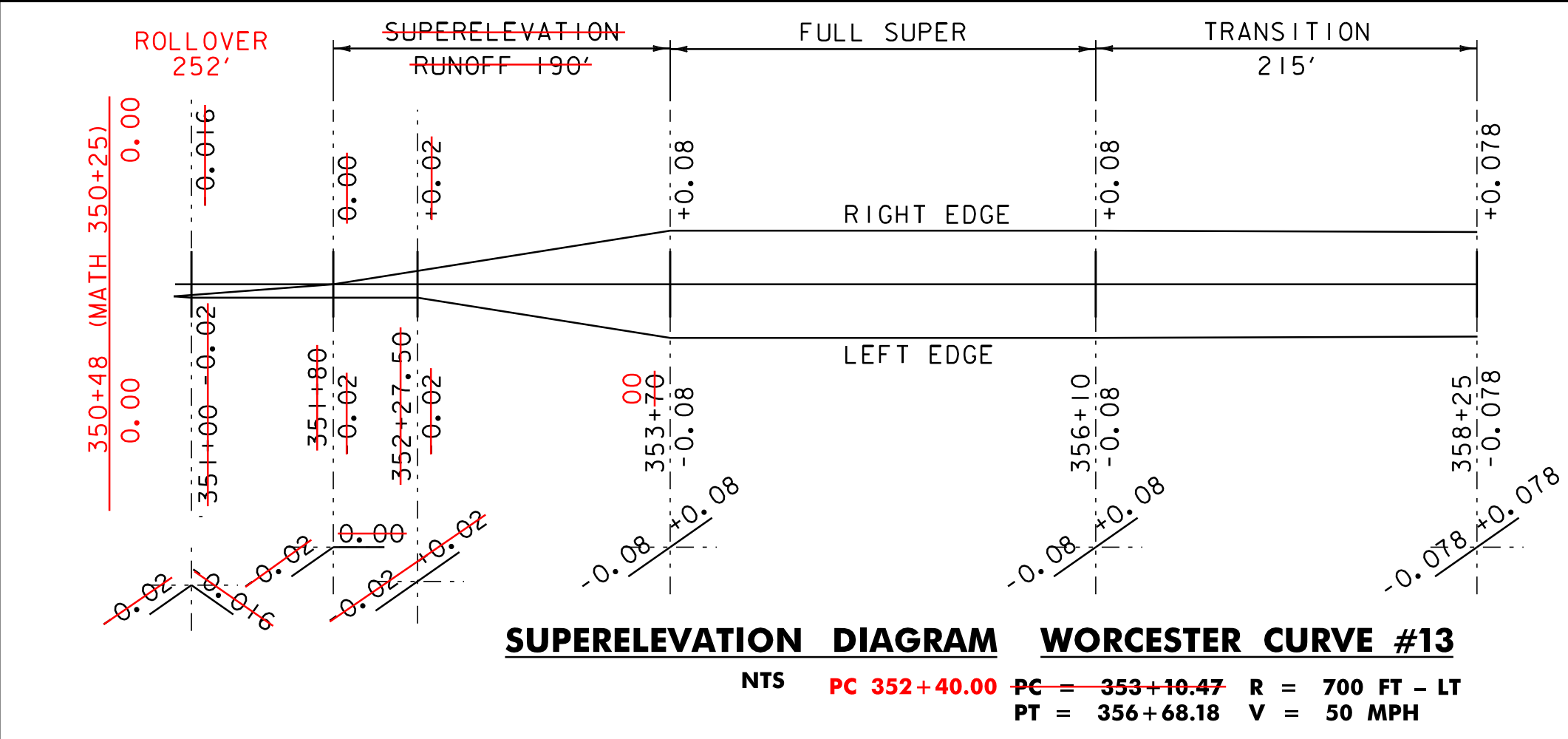
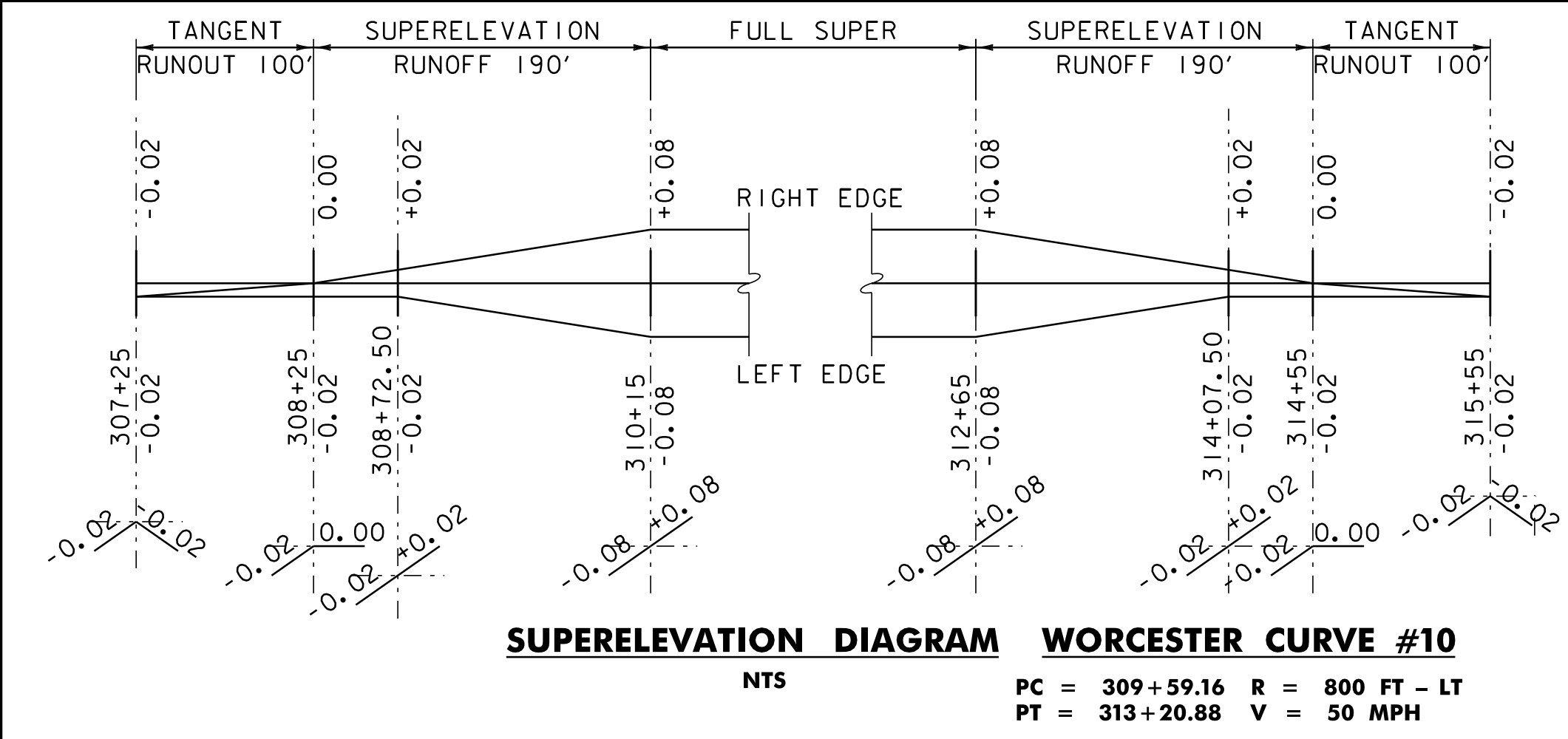
SUPERELEVATION DIAGRAM WORCESTER CURVE #3
NTS
REV PC 229+60
REV PT 236+60
PC = 230+28.39 R = 650 FT - LT
PT = 236+35.58 V = 50 MPH

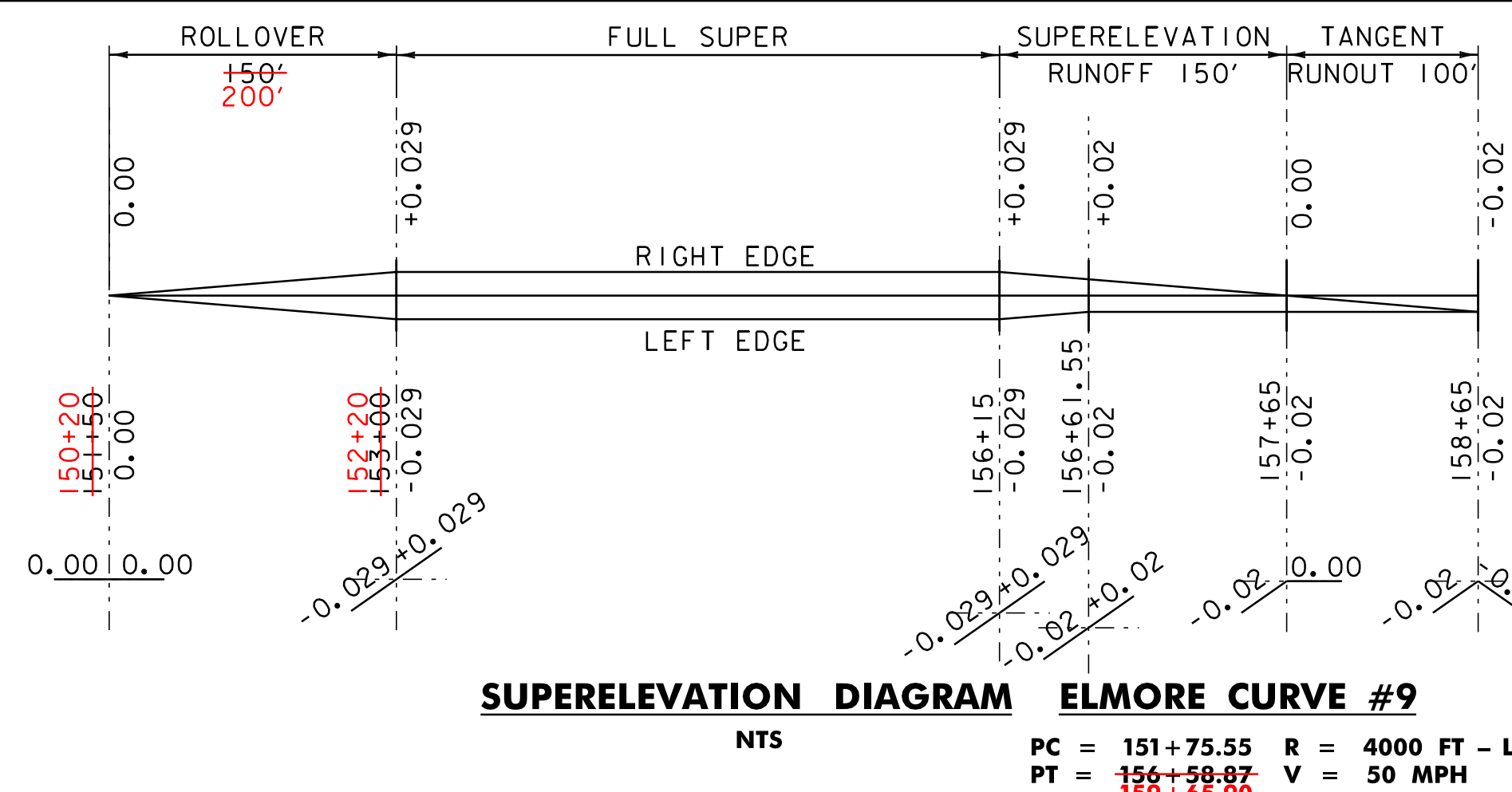
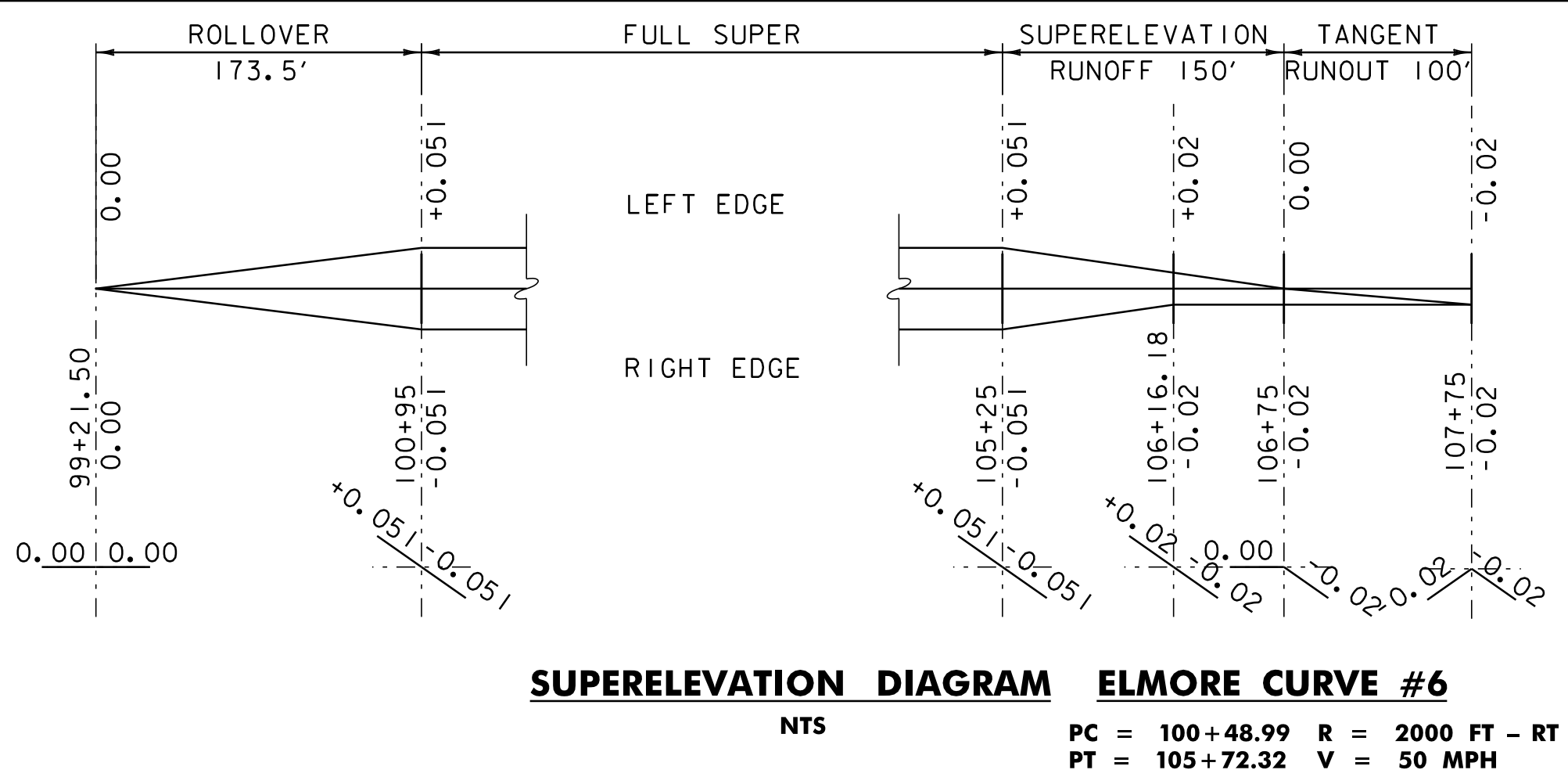
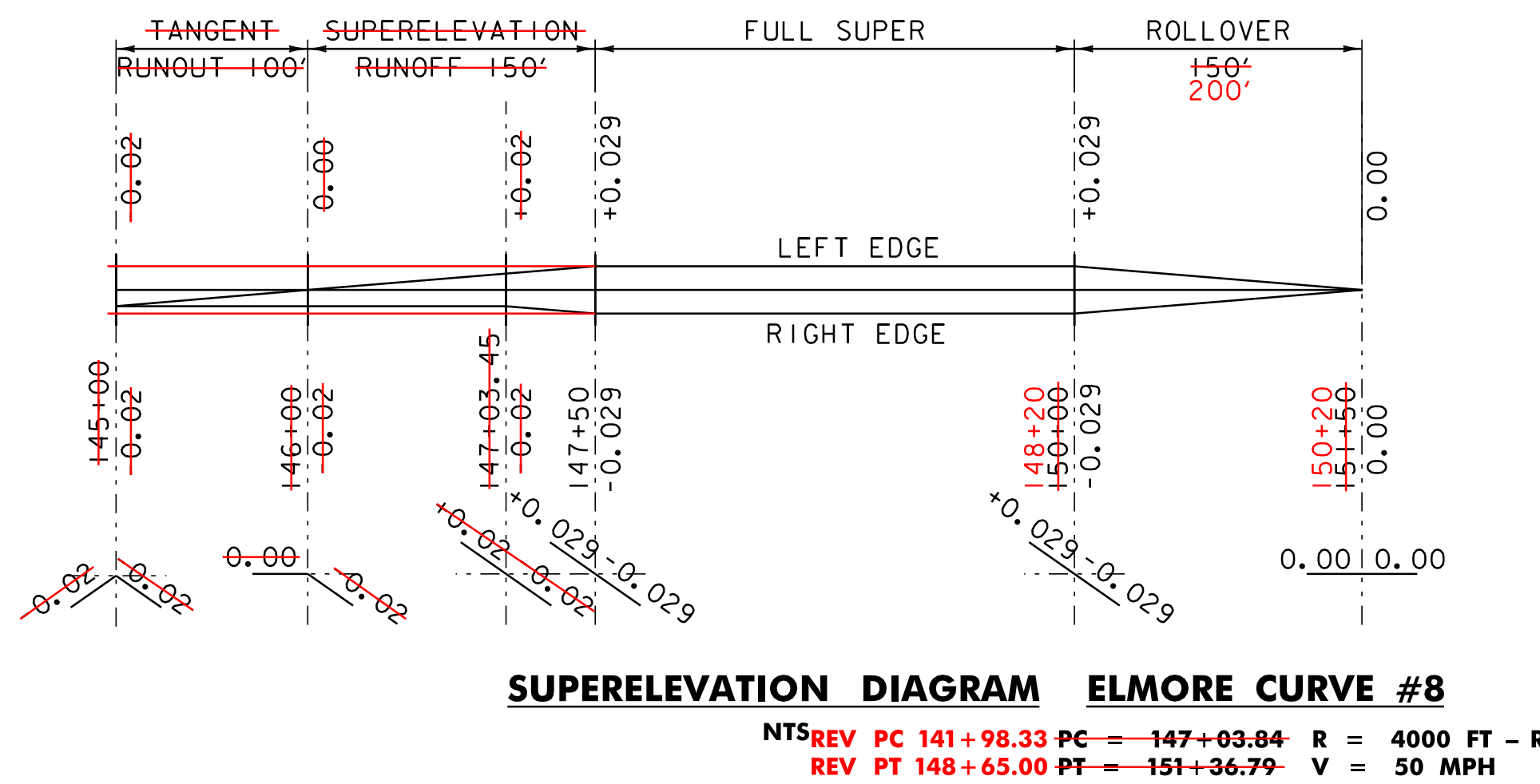
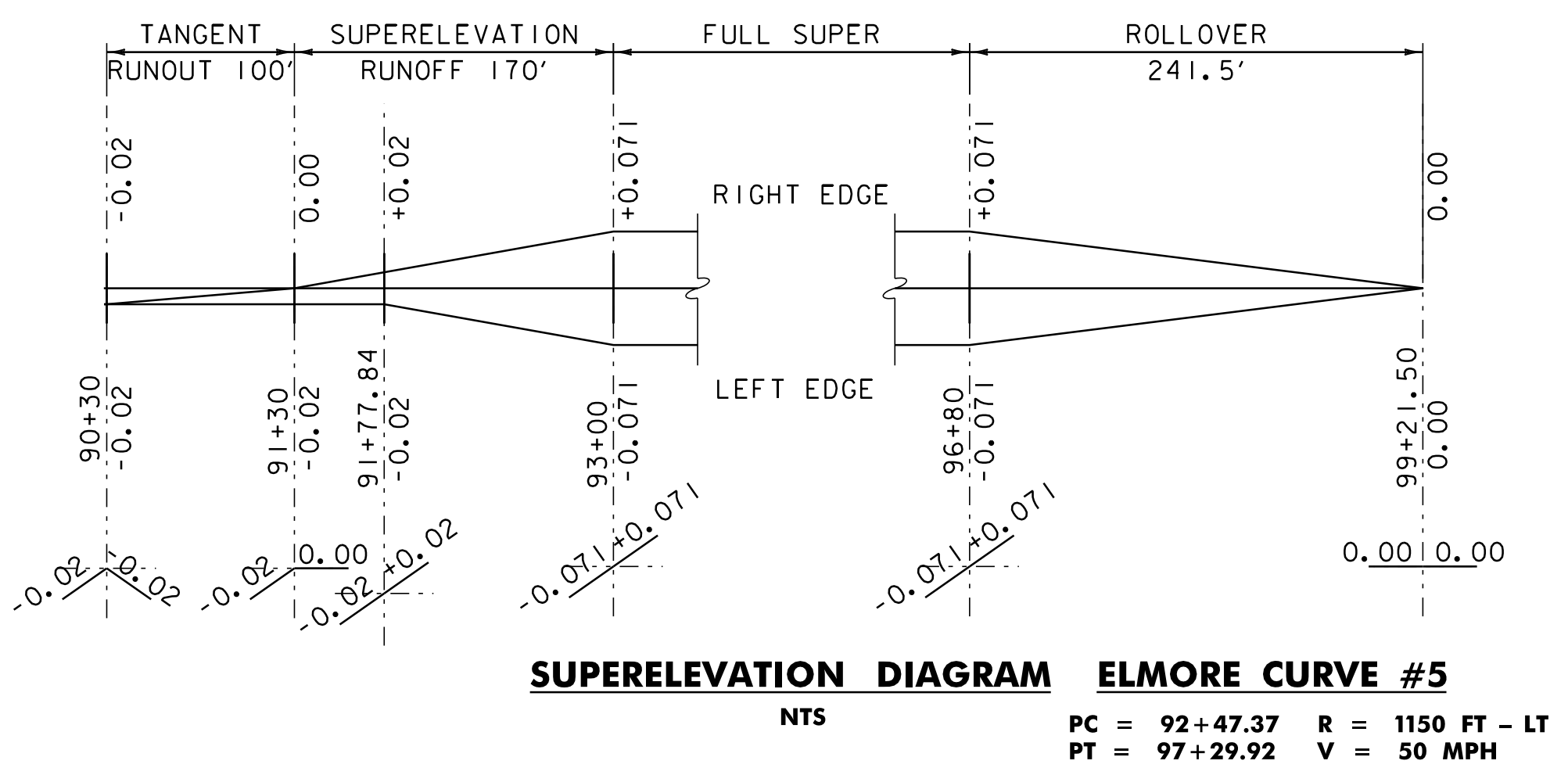
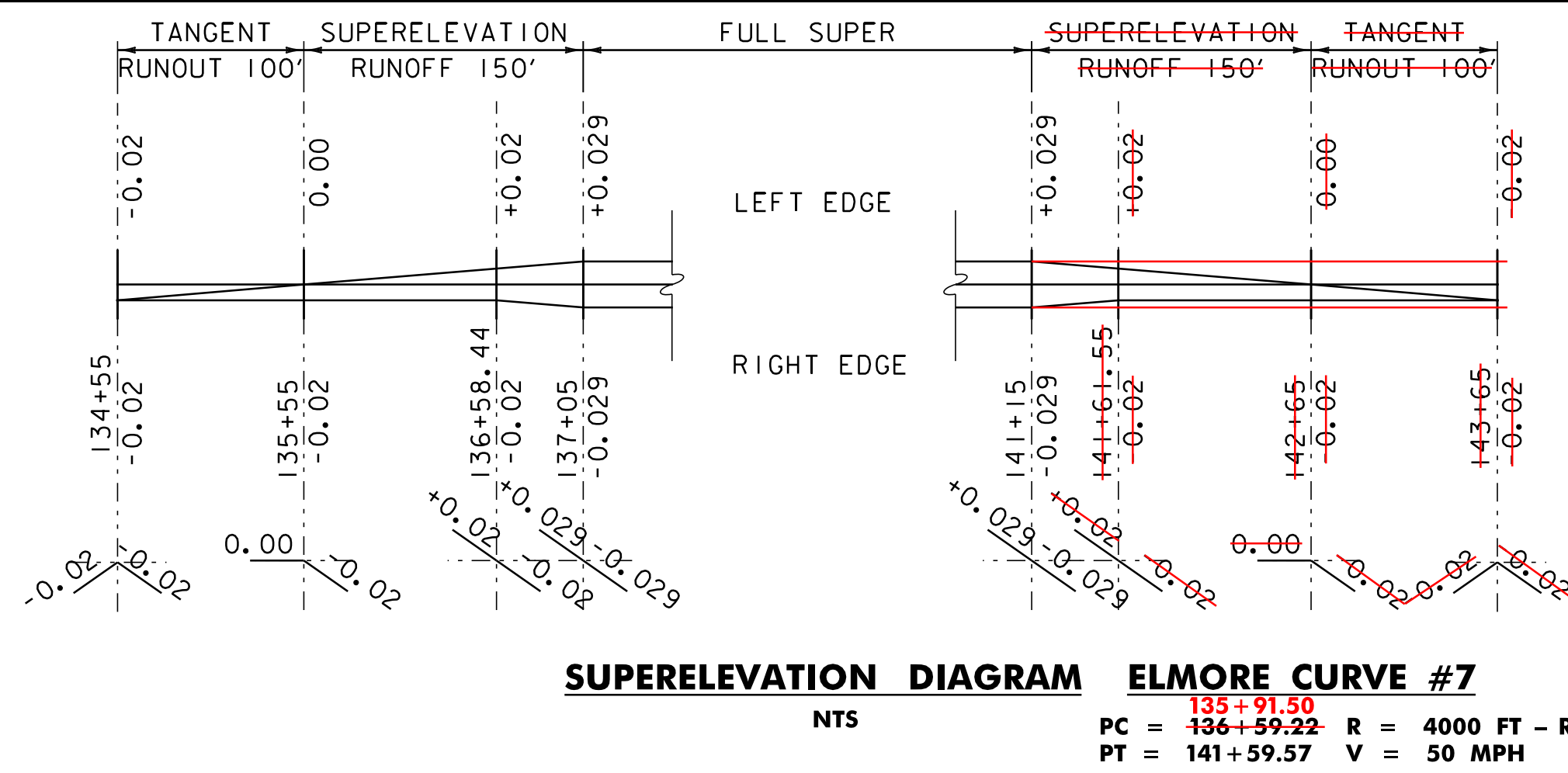
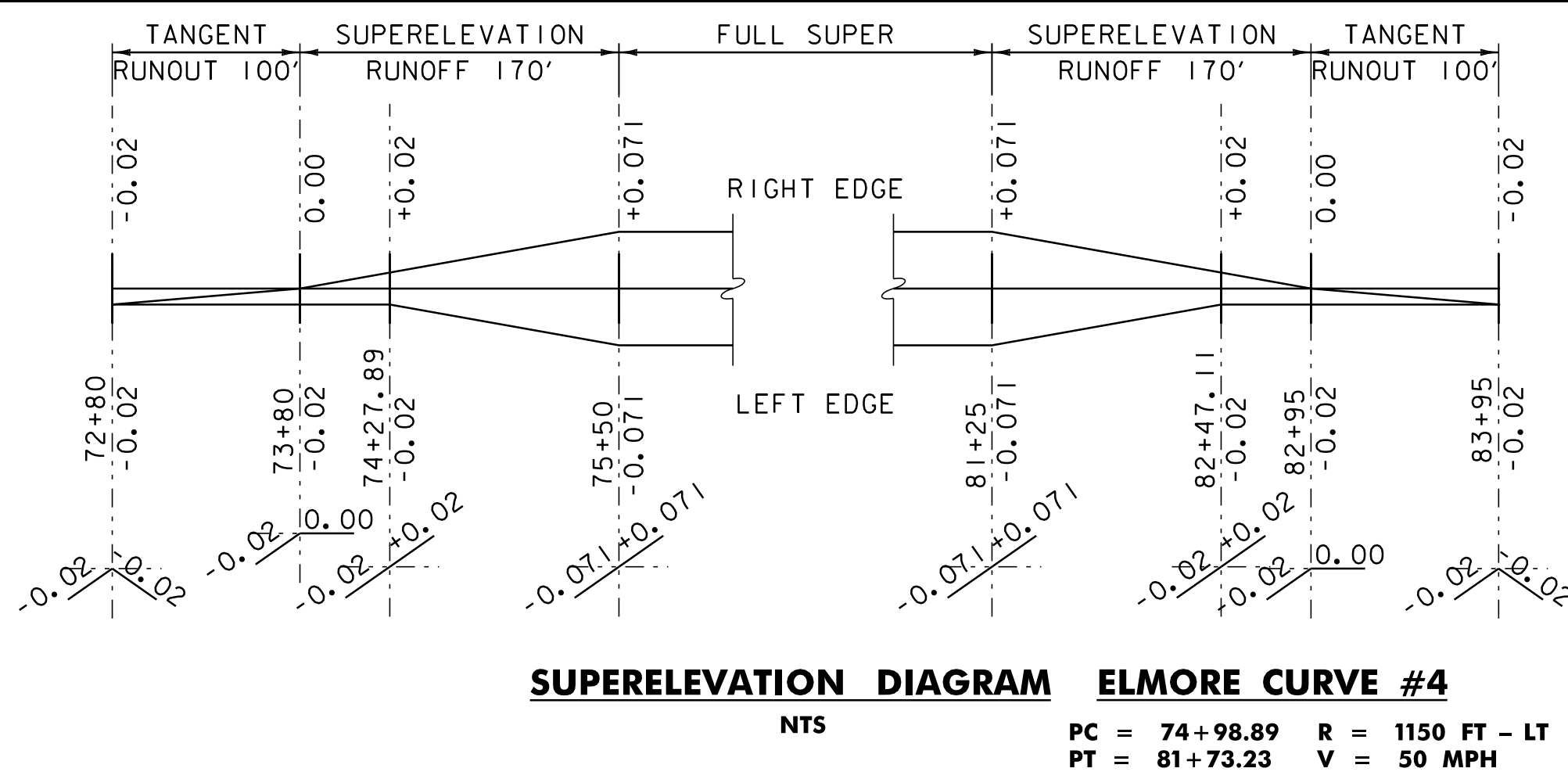


SUPERELEVATION DIAGRAM WORCESTER CURVE #6
NTS
REV PC 265+65
REV PT 270+25
PC = 266+81.19 R = 800 FT - LT
PT = 269+62.08 V = 50 MPH



SUPERELEVATION DIAGRAM WORCESTER CURVE #9
NTS
PC = 296+59.40 R = 750 FT - RT
PT = 299+82.25 V = 50 MPH





**SUPERELEVATION
BANKING
DIAGRAM
SHEET #3**

PROJECT NAME:	WORCESTER - ELMORE
PROJECT NUMBER:	STP 2209 (I)S
FILE NAME:	99c170.DGN
PROJECT LEADER:	CDL
DESIGNED BY:	SJL
PLOT FILE:	99c170_31.i
PLOT DATE:	23-SEP-2011 5:25
DRAWN BY:	SJL
CHECKED BY:	CDL
SHEET	31 OF 36

TRAFFIC SIGN SUMMARY SHEET 1

[illegible]

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 2

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST RETAINED	NO. OF POSTS	NEW SIGN POSTS																				REMARKS				SIGN DETAIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
											FLANGED CHANNEL			SQUARE STEEL (in)				TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			DETAIL ON SHEET NUMBER	STD. SHEET NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		E A	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS			1.75	2.0	2.5	ANCHOR	SLIP E	3.0	4.0	4.0 MOD	FOUND-ATION	3.0	3.5	4.0	5.0	FTG. SIZE		WEIGHT	POST SIZE	REQUIRED SIGN ME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
																lb/ft	lb/ft			lb/ft	lb/ft	lb/ft	24"	30"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 3

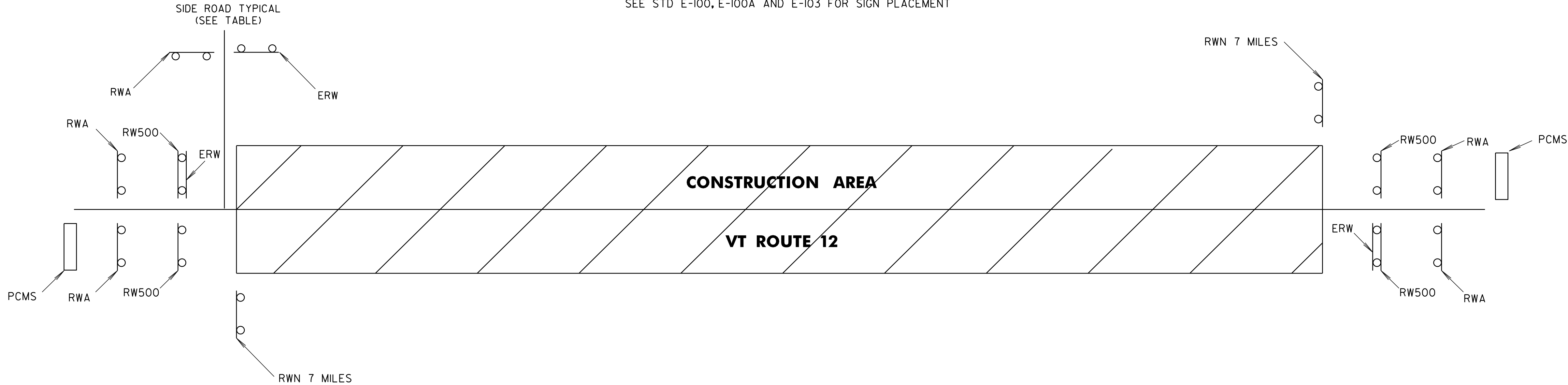
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST	NO. OF POSTS	FLANGED CHANNEL			SQUARE STEEL (in)				TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			REQUIRED FRAMING	REMARKS	SIGN DETAIL					
		E A	WIDTH (in)	HEIGHT (in)	“A”	“B”	SALV SIGN	SALV TIS	RETAIN		SALVAGE	lb/ft			1.75	2.0	2.5	3.0	4.0	4.0 MOD	FOUND- ATION	3.0	3.5	4.0	5.0	FTG. SIZE				WEIGHT	POST SIZE	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER		
												1.12	2.0	3.0	1.88	2.42	3.35	ANCHOR	SLEEVE	1.3		1.7	1.7	7.6	9.0	10.8	14.6							24"	30"
											OPTION ITEMS																								
		I	6	10	0.42																										E-I38				
		I	6	10	0.42																										E-I38				
ELMORE STA. 10+56 LT (MM 0020) STA. 21+12 RT (MM 0040) STA. 31+68 LT (MM 0060) STA. 42+24 RT (MM 0080) STA. 52+80 LT (MM 0100) STA. 63+36 RT (MM 0120) STA. 73+92 LT (MM 0140) STA. 84+38 RT (MM 0160) STA. 95+04 LT (MM 0180) STA. 105+60 RT (MM 0200) STA. 116+16 LT (MM 0220) STA. 126+72 RT (MM 0240) STA. 137+28 LT (MM 0260) STA. 147+84 RT (MM 0280) STA. 158+40 LT (MM 0300) STA. 168+96 RT (MM 0320) STA. 179+52 LT (MM 0340)		17	6	10	7.14						I			X			X													E-I38					
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE VTRANS STANDARD SHEETS AND "SIGN POST DESIGN GUIDELINE".											FT	FT	FT	FT	FT	FT	EA	LB	LB	LB		LB	LB	LB	LB						TRAFFIC SIGN SUMMARY SHEET 3	PROJECT NAME: WORCESTER-ELMORE			
											136																					PROJECT NUMBER: STP 2209(1)S			
											FT			FT				LB			EA.	LB			EA.	EA.	LB	FILE NAME: 99c170.dgn		PLOT DATE: 23-SEP-2011 5:25					
														136														PROJECT LEADER: CDL		DRAWN BY: SJL					
																												DESIGNED BY: SJL		CHECKED BY: EPD					
																												PLOT FILE: 99c170_35.i		SHEET 34 OF 36					

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 4

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST	NO. OF POSTS	FLANGED CHANNEL			SQUARE STEEL (in)				TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			REQUIRE FRAMING	REMARKS	SIGN DETAIL								
		EA	WIDTH (in)	HEIGHT (in)	“A”	“B”	SALV SIGN	SALV TIS	RETAIN		SALVAGE	1.2	2.0	3.0	1.75	2.0	2.5	ANCHOR	SLEEVE	3.0	4.0	4.0 MOD	FOUND- ATION	3.0	3.5	4.0	5.0			FTG. SIZE		WEIGHT	POST SIZE	DETAIL ON SHEET NUMBER	STD. SHEET NUMBER			
															lb/ft					lb/ft				lb/ft														
															1.2	2.0	3.0			1.88	2.42	3.35		1.3	1.7	1.7	7.6			9.0	10.8					14.6	24"	30"
											OPTION ITEMS																											
STA. 5+76 LT ELMORE							I				I					X		X												MOUNT SALVAGED SIGNS ON NEW POST								
							I																							MOUNT SALVAGED SIGNS ON NEW POST								
STA. 5+76 RT ELMORE							I				I					X		X												MOUNT SALVAGED SIGNS ON NEW POST								
											SIGNS INSTALLED AS SHOWN ON LAYOUTS																											
							I																							MOUNT SALVAGED SIGNS ON NEW POST								
STA. 85+18 RT ELMORE							I				I					X		X												MOUNT SALVAGED SIGNS ON NEW POST								
							I																							MOUNT SALVAGED SIGNS ON NEW POST								
STA. III+58 LT ELMORE							I				I					X		X												MOUNT SALVAGED SIGNS ON NEW POST								
							I																							MOUNT SALVAGED SIGNS ON NEW POST								
							I																							MOUNT SALVAGED SIGNS ON NEW POST								
	TSS SHEET 1 TOTAL TSS SHEET 2 TOTAL TSS SHEET 3 TOTAL TSS SHEET 4 TOTAL				17.40 3.00 7.98		8 9						160 136 60	45 105																								
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE VTRANS STANDARD SHEETS AND "SIGN POST DESIGN GUIDELINE".		SUBTOTAL	28.38									FT	FT	FT	FT	FT	FT	EA	LB	LB	LB		LB	LB	LB	LB					TRAFFIC SIGN SUMMARY SHEET 4	PROJECT NAME: WORCESTER-ELMORE PROJECT NUMBER: STP 2209(1)S FILE NAME: 99c170.dgn PROJECT LEADER: CDL DESIGNED BY: SJL PLOT FILE: 99c170_36.i PLOT DATE: 23-SEP-2011 5:25 DRAWN BY: SJL CHECKED BY: EPD SHEET 35 OF 36						
		ROUNDING	1.62																																			
		TOTAL	SF 30.00	SF	EA. 17	SF			FT		FT			LB		EA.		LB		EA.	EA.	LB																

CONSTRUCTION APPROACH SIGNING
NOT TO SCALE
SEE STD E-100, E-100A AND E-103 FOR SIGN PLACEMENT



NOTES:

- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE RESIDENT ENGINEER FOR THEIR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL NOT BE PAID SEPARATELY BUT SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
- THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES AND WORK ZONE SPEED REDUCTIONS IN COMPLIANCE WITH THE TRAFFIC CONTROL NOTES AND PART 6 OF THE MUTCD. PAYMENT FOR PROVIDING THIS PACKAGE SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".
- THE BID PRICE FOR "TRAFFIC CONTROL", ITEM 641.10, SHALL INCLUDE ALL OF THE FOLLOWING, AS NEEDED: APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE ARROW BOARDS, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, AND POSTS AS DETAILED IN VTRANS STANDARDS. ALL ADJUSTING, RELOCATING, AND REMOVING OF THESE DEVICES AS DIRECTED BY THE RESIDENT ENGINEER SHALL ALSO BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:
646.602 AND 646.612 - TEMPORARY PAVEMENT MARKINGS
630.10 UNIFORMED TRAFFIC OFFICER, 630.15 - FLAGGERS
- PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) WILL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE WILL BE APPROVED BY THE RESIDENT ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN".

PCMS SHOULD NOT REPLACE ANY OF THE SIGNING DETAILED IN THE MUTCD AND SHOULD NOT BE USED IF STANDARD TRAFFIC CONTROL DEVICES ADEQUATELY PROVIDE THE INFORMATION THE MOTORISTS NEED TO TRAVEL SAFELY.

THE PCMS SHALL CONSIST OF EITHER ONE OR TWO PHASES. TYPICALLY, A PHASE SHALL CONSIST OF UP TO THREE LINES OF EIGHT CHARACTERS PER LINE. THE PCMS SHOULD BE USED AS A SUPPLEMENT AND NOT AS A SUBSTITUTE FOR CONVENTIONAL SIGNS AND PAVEMENT MARKINGS.

THE PCMS SHOULD COMMUNICATE WHAT INFORMATION MOTORISTS NEED TO KNOW. UNNECESSARY INFORMATION SHOULD BE AVOIDED. MESSAGES SHOULD BE UPDATED PERIODICALLY TO DESCRIBE THE WORK ACTIVITY OCCURRING SO THAT THE PCMS CONTINUES TO COMMAND THE ATTENTION OF MOTORISTS.
- THE MUTCD 2003 SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. EXISTING SIGNS, SIGNALS AND MARKINGS SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH SUCH STANDARDS.
- NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND TOWN HIGHWAYS.

	ROAD WORK AHEAD	END ROAD WORK	ROAD WORK 500 FT	ROAD WORK NEXT 7.5 MILES	PCMS
WORCESTER					
BEGIN PROJECT (VT 12)	2	1	2	1	1
HANCOCK BROOK RD	1	1			
ELMORE					
END PROJECT (VT 12)	2	1	2	1	1
TOTALS	5	3	4	2	2

LEGEND

- RWA = ROAD WORK AHEAD
RW500 = ROAD WORK 500 FT
ERW = END ROAD WORK
RWN = ROAD WORK NEXT 7.5 MILES
PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

CONSTRUCTION
APPROACH
SIGNING
SHEET

PROJECT NAME: WORCESTER-ELMORE
PROJECT NUMBER: STP 2209(1)S

FILE NAME: 99c170.dgn
PROJECT LEADER: CDL
DESIGNED BY: SJL
PLOT FILE: 99c170_37.i
PLOT DATE: 23-SEP-2011 5:25
DRAWN BY: SJL
CHECKED BY: EPD
SHEET 36 OF 36