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STATE OF VERMONT

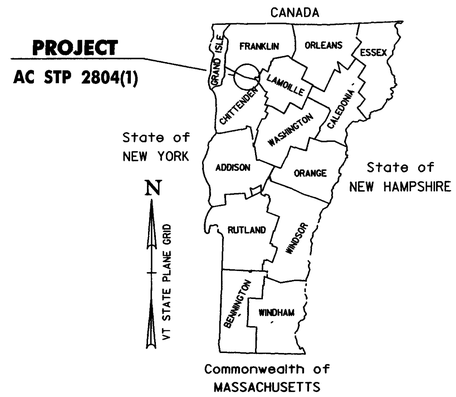
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
TOWNS OF WESTFORD & FAIRFAX
COUNTIES OF CHITTENDEN & FRANKLIN
VT ROUTE 128

BEGINNING IN THE TOWN OF WESTFORD ON VT ROUTE 128 AT STA. 68+85.12 (MM 1.304) AND EXTENDING NORTHERLY ALONG VT ROUTE 128 FOR A DISTANCE OF 31,092.16 FEET (5.889 MILES) TO FAIRFAX STA. 33+05.28 (MM 0.626). PROJECT ALSO INCLUDES VT ROUTE 128 APPROACH BEGINNING IN THE TOWN OF FAIRFAX AT STA. 0+12.00 (MM 0.002) AND EXTENDING EASTERLY ALONG VT ROUTE 128 APPROACH FOR A DISTANCE OF 496.00 FEET (0.094 MILE) TO VT ROUTE 128 APPROACH STA. 5+08.00 (MM 0.096).

PROJECT DATA:	LENGTH (FEET)	LENGTH (MILES)
TOWN OF WESTFORD		
VT ROUTE 128		
STA. 68+85.12 TO 346+72.00	27,786.88	
MM 1.304 TO 6.567		5.263
TOWN OF FAIRFAX		
VT ROUTE 128		
STA. 0+00.00 TO 33+05.28	3,305.28	
MM 0.000 TO 0.626		0.626
TOWN OF FAIRFAX		
VT ROUTE 128 APPROACH		
STA. 0+12.00 TO 5+08.00	496.00	
MM 0.002 TO 0.096		0.094
TOTAL LENGTH OF PROJECT:	31,588.16 =	5.983 MILES
TOTAL LENGTH OF ROADWAY:	31,588.16 =	5.983 MILES

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES COLD PLANING, RECLAIMING AND RESURFACING OF THE EXISTING HIGHWAY WITH A RECLAIMED STABILIZED BASE, LEVELING COURSE AND WEARING COURSE, NEW PAVEMENT MARKINGS, GUARDRAIL, SIGNS AND OTHER INCIDENTAL ITEMS.



RECORD PLANS

CONTRACTOR	F W WHITCOMB CONSTRUCTION CORP – WALPOLE, NH
RESIDENT ENGINEER	DELVIN WARNER
CONSTRUCTION BEGAN	JUNE 1, 2010
CONSTRUCTION COMPLETE	NOVEMBER 4, 2010
RECORD PLANS BY	DELVIN WARNER & CRAIG PIERCE

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

BY _____ RESIDENT ENGINEER

DATE 02/28/11

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

SUPERPAVE BITUMINOUS CONCRETE PAVEMENT MIXTURE DESIGN CRITERIA

DESIGN LANE/DESIGN LIFE ESALS	755,000
DESIGN NUMBER OF GYRATIONS	65
PERFORMANCE GRADE ASPHALT BINDER	SEE SECTION 490 GENERAL SPECIAL PROVISIONS

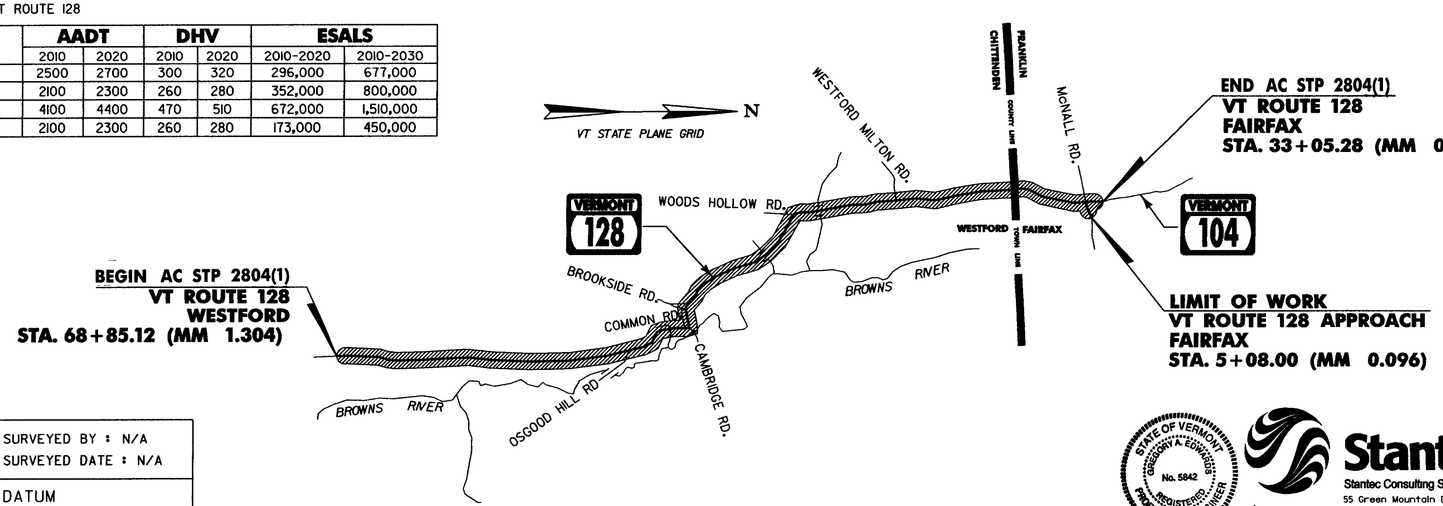
TRAFFIC DATA

VT ROUTE 128

LOCATION	AADT		DHV		ESALS	
	2010	2020	2010	2020	2010-2020	2010-2030
VT 128: BEGIN PROJECT TO CAMBRIDGE ROAD	2500	2700	300	320	296,000	677,000
CAMBRIDGE ROAD TO MILTON-WESTFORD ROAD	2100	2300	260	280	352,000	800,000
MILTON-WESTFORD ROAD TO VT 128: END PROJECT	4100	4400	470	510	672,000	1,510,000
VT 128 APPROACH: BEGIN PROJECT TO END PROJECT	2100	2300	260	280	173,000	450,000

CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARDRAIL
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



RIGHT-OF-WAY LIMITS, IF APPLICABLE, ARE PROVIDED SOLELY FOR THE CONVENIENCE OF THE STATE AND ITS CONTRACTOR DURING THE COURSE OF THIS PAVING PROJECT. ANY REFERENCES TO OFFSETS ON THESE PLANS ARE APPROXIMATE AND SHOULD NOT BE RELIED UPON FOR ANY PURPOSES.

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.

UNLESS OTHERWISE NOTED, ALL DRAWINGS AND DETAILS ON THESE PLANS ARE DRAWN 'NOT TO SCALE'.

SURVEYED BY : N/A
SURVEYED DATE : N/A

DATUM
VERTICAL N/A
HORIZONTAL N/A

STATE OF VERMONT
GREGORY A. EDWARDS
No. 5842
REGISTERED
PROFESSIONAL ENGINEER
02-08-10

Stantec
Stantec Consulting Services Inc.
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Tel. 802.864.0223
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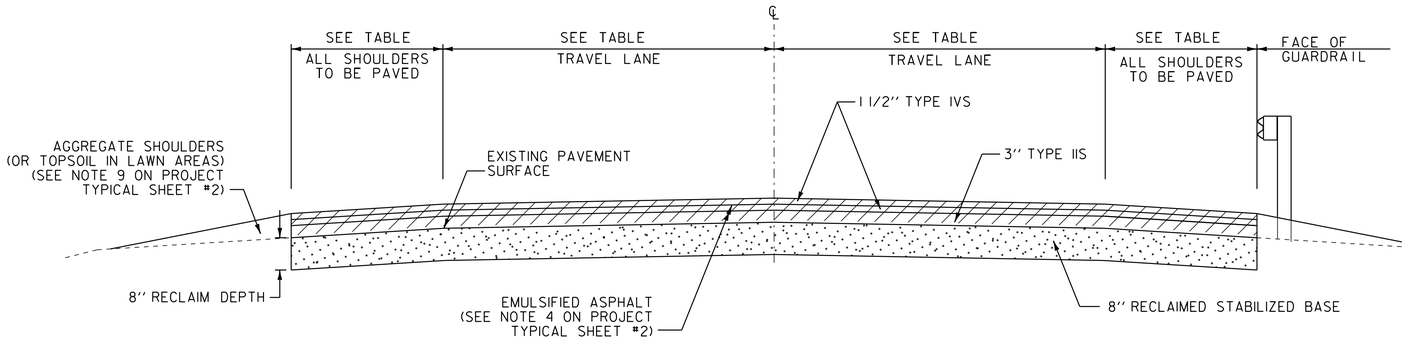
p08c212.dgn
p08c212ts.i

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 2-22-10

PROJECT MANAGER : KEVIN MARSHIA

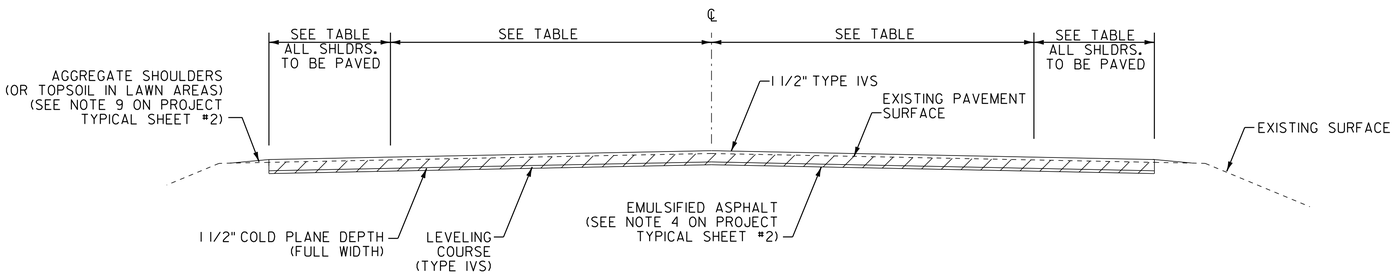
PROJECT NAME : WESTFORD - FAIRFAX
PROJECT NUMBER : AC STP 2804(1)

SHEET 1 OF 79 SHEETS



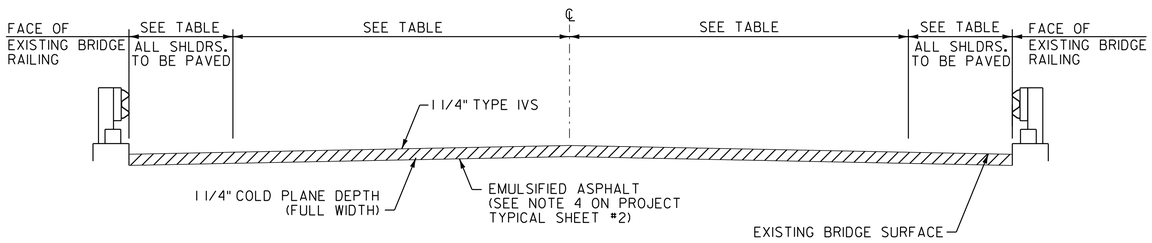
RECLAIM TYPICAL SECTION

VT ROUTE 128 WESTFORD STA. 209+08.80 TO FAIRFAX 8+65.00
VT ROUTE 128 FAIRFAX STA. 9+39.00 TO 27+65.00
(INCLUDES TRANSITIONS)



COLD PLANE TYPICAL SECTION

VT ROUTE 128 WESTFORD STA. 68+85.12 TO 194+12.00
VT ROUTE 128 WESTFORD STA. 194+86.00 TO 209+08.80
VT ROUTE 128 FAIRFAX STA. 27+65.00 TO 33+05.28
VT ROUTE 128 APPROACH FAIRFAX STA. 0+12.00 TO 5+08.00



COLD PLANE TYPICAL SECTION – BRIDGE

BR#5 VT ROUTE 128 WESTFORD STA. 194+12 TO 194+86
BR#8 VT ROUTE 128 FAIRFAX STA. 8+65 TO 9+39

PROJECT PAVING LIMITS

TOWN & ROUTE	BEGIN STATION	END STATION	LANE TYPICAL	WEARING DEPTH	LEVELING DEPTH	NOTES
WESTFORD VT ROUTE 128	68+85.12	193+87	4 - 11 - 11 - 4	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	193+87	194+12	VARIES-SEE PLANS	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	194+12	194+86	5 - 11 - 11 - 5	1 1/4"	-	BRIDGE NO. 5 COLD PLANE 1 1/4" + 1 1/4" TYPE IVS
WESTFORD VT ROUTE 128	194+86	197+91	VARIES-SEE PLANS	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	197+91	209+08.80	2 - 11 - 11 - 2	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	209+08.80	210+00	2 - 11 - 11 - 2	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	210+00	210+25	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	210+25	319+75	1.5 - 11 - 11 - 1.5	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	319+75	320+00	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	320+00	345+97	2 - 11 - 11 - 2	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
WESTFORD VT ROUTE 128	345+97	346+72	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	0+00	8+45	5 - 11 - 11 - 5	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	8+45	8+65	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	8+65	9+39	5.5 - 11 - 11 - 5.5	1 1/4"	-	BRIDGE NO. 8 COLD PLANE 1 1/4" + 1 1/4" TYPE IVS
FAIRFAX VT ROUTE 128	9+39	9+69	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	9+69	14+25	5 - 11 - 11 - 5	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	14+25	15+00	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	15+00	18+00	2 - 11 - 11 - 2	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	18+00	18+25	VARIES-SEE PLANS	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	18+25	27+65.00	1 - 11 - 11 - 1	1 1/2"	-	RECLAIM 8" + 3" TYPE IIS + 1 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	27+65.00	32+48	1 - 11 - 11 - 1	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128	32+48	33+05.28	1 - 11 - 11 - 6	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS
FAIRFAX VT ROUTE 128 APPROACH	0+12	5+08	1.5 - 11 - 11 - 1.5	1 1/2"	1/2"	COLD PLANE 1 1/2", LEVEL 1/2" + 1 1/2" TYPE IVS

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			

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.

GRADES LESS THAN 1 PERCENT SHALL USE ITEM 651.15, SEED AND ITEM 651.25, HAY MULCH. GRADES BETWEEN 1 AND 2.5 PERCENT SHALL USE ITEM 651.25, HAY MULCH OR ITEM 653.20, TEMPORARY EROSION MATTING AS DIRECTED BY THE RESIDENT ENGINEER. GRADES OVER 2.5 PERCENT SHALL USE ITEM 649.31, GEOTEXTILE UNDER STONE FILL AND ITEM 613.10, 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).

NOT TO SCALE

Stantec

PROJECT TYPICAL SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212pts01.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 2 OF 79

NOTES

1. THE PAVEMENT WEARING COURSE SHALL BE SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS. THE ESTIMATED 1/2" LEVELING COURSE SHALL BE SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TYPE IVS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

2. GRASS GROWING ADJACENT TO PAVEMENT OR THROUGH CRACKS IN THE PAVEMENT WHICH MAY HAMPER THE PLACEMENT OF NEW BITUMINOUS CONCRETE SHALL BE REMOVED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK WILL NOT BE MADE DIRECTLY, BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 490.30 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT.

3. SUPERPAVE BITUMINOUS CONCRETE PAVEMENT TOLERANCE = ±1/4". (TOTAL THICKNESS EXCLUDING LEVELING)

4. EMULSIFIED ASPHALT, TYPE RS-1, SHALL BE APPLIED ON ALL EXISTING PAVEMENT SURFACES, ON COLD PLANED 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. PAID AS ITEM 404.65, EMULSIFIED ASPHALT.

5. AN ESTIMATED THICKNESS OF 2" OF ITEM 900.680 SPECIAL PROVISION (SUBBASE, RAP FOR RECLAIMING), HAS BEEN INCLUDED FOR THE PROVISION OF IMPROVING GRADATION DEFICIENCIES AND/OR CORRECTING SUPERELEVATION, AS NECESSARY, OR AS DIRECTED BY THE RESIDENT ENGINEER. IF THERE IS NOT A SUFFICIENT AMOUNT OF COLD PLANE GRINDINGS AVAILABLE TO COMPLETE THESE REPAIRS, THE CONTRACTOR SHALL OBTAIN COLD PLANE GRINDINGS FROM ANOTHER SOURCE. THE COST ASSOCIATED WITH PROVIDING ADDITIONAL COLD PLANE GRINDINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.680 SPECIAL PROVISION (SUBBASE, RAP FOR RECLAIMING). THIS MATERIAL SHALL BE RECLAIMED INTO THE RECLAIMED STABILIZED BASE. PAYMENT FOR THIS SECOND RECLAIMING OPERATION WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.680 SPECIAL PROVISION (SUBBASE, RAP FOR RECLAIMING).

6. 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.

7. PRIOR TO PAVING IN COLD PLANE AREAS, ANY EXISTING SHOULDER MATERIAL DEEMED UNSUITABLE BY THE RESIDENT ENGINEER SHALL BE EXCAVATED TO A DEPTH OF 3" OR AS DIRECTED BY THE RESIDENT ENGINEER. EXCAVATION WILL BE PAID FOR AS ALL PURPOSE EXCAVATOR RENTAL, TYPE I. MATERIAL REMOVED SHALL BE REPLACED WITH ITEM 301.26 SUBBASE OF CRUSHED GRAVEL, FINE GRADED. EXCAVATED MATERIAL SHALL BE SPREAD ON THE ADJACENT SLOPES OR REMOVED FROM THE PROJECT AREA AS DIRECTED BY THE RESIDENT ENGINEER.

8. COLD PLANING TO BE COMPLETED ACCORDING TO TYPICAL OR AS NOTED OTHERWISE ON THE PLANS. THE COLD PLANING AND PAVING SHALL MATCH THE EXISTING CONDITIONS AT THE BEGINNING AND END OF CONSTRUCTION AREAS BY THE USE OF A VERTICAL COLD PLANE JOINT. SEE DETAIL ON PROJECT TYPICAL SHEET #3.

9. ALL EDGES OF PAVEMENT SHALL BE BACKED UP TO FULL HEIGHT WITH AGGREGATE SHOULDERS AS DIRECTED BY THE RESIDENT ENGINEER AND WILL BE PAID FOR UNDER ITEM 402.12 AGGREGATE SHOULDERS.

10. ESTIMATED QUANTITIES OF ITEMS 608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I, ITEM 608.37 TRUCK RENTAL AND ITEM 608.40 LOADER RENTAL, TYPE I HAVE BEEN INCLUDED FOR THE PROVISION OF CONSTRUCTING GUARDRAIL END SECTION FLARES WITH EXCAVATED DITCHING MATERIAL. AN ESTIMATED QUANTITY OF ITEM 203.30 EARTH BORROW HAS BEEN INCLUDED IN THE CASE THAT THE DITCHING MATERIAL IS NOT SUITABLE TO USE IN THE GUARDRAIL END SECTION FLARE AREA. 25 CUBIC YARDS OF EARTH BORROW HAVE BEEN ESTIMATED FOR EACH NEW GUARDRAIL END SECTION FLARE. ITEM 653.20 TEMPORARY EROSION MATTING SHALL BE PLACED ON ALL SLOPES CREATED BY THE GUARDRAIL END SECTION FLARE. THE QUANTITIES INCLUDED REFLECT 25 SY OF ITEM 653.20 TEMPORARY EROSION MATTING FOR EACH NEW GUARDRAIL END SECTION FLARE TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER.

11. THE PROPOSED GUARDRAIL SHALL BE INSTALLED IN A LOCATION THAT MAXIMIZES THE DISTANCE FROM THE CENTER OF THE ROAD TO THE FACE OF GUARDRAIL AS DIRECTED BY THE RESIDENT ENGINEER.

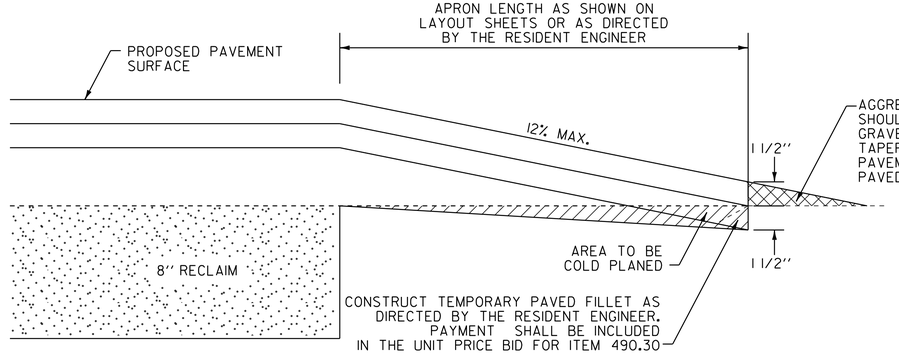
12. ALL DRIVES SHALL RECEIVE A PAVED APRON AS DIRECTED BY THE RESIDENT ENGINEER. SEE THE DRIVE DETAIL SHEETS FOR LOCATIONS, DETAILS AND PAYMENT PROVISIONS.

13. AN ESTIMATED QUANTITY OF ITEM 619.17 YIELDING MARKER POSTS HAS BEEN INCLUDED TO DELINEATE PIPE INLETS, PIPE OUTLETS AND DROP INLETS LOCATED OUTSIDE OF THE PAVEMENT SURFACE OR AS DIRECTED BY THE RESIDENT ENGINEER.

14. STEEL BEAM GUARDRAIL WITH STEEL POSTS SHALL BE USED ON THIS PROJECT.

15. A QUANTITY FOR ITEM 604.412 REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I HAS BEEN INCLUDED TO BE USED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. ALL DI'S SHALL BE RAISED OR REHABILITATED SUCH THAT THE NEW GRATE ELEVATION IS EVEN WITH THE SURROUNDING TERRAIN.

16. AN ESTIMATED QUANTITY OF ITEM 601.0910 15" CPEP HAS BEEN INCLUDED FOR USE AS DIRECTED BY THE RESIDENT ENGINEER WHEN BURYING GUARDRAIL ENDS INTO BACKSLOPES. FOR DETAILS, SEE GUARDRAIL DETAIL SHEET #1.

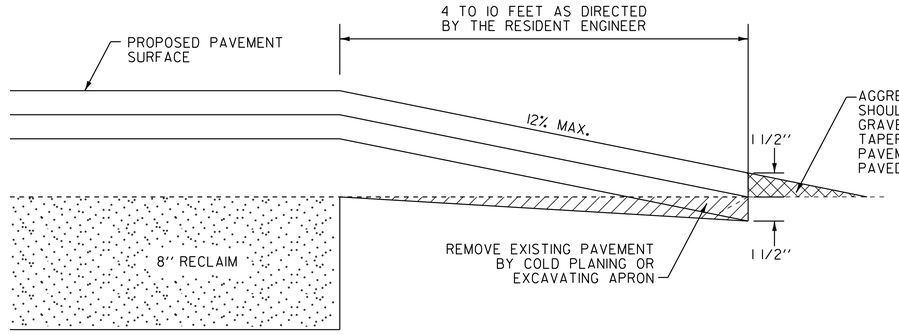


SIDE ROAD AREA DETAIL - TOWN HIGHWAYS

FULL WIDTH OF TOWN HIGHWAY

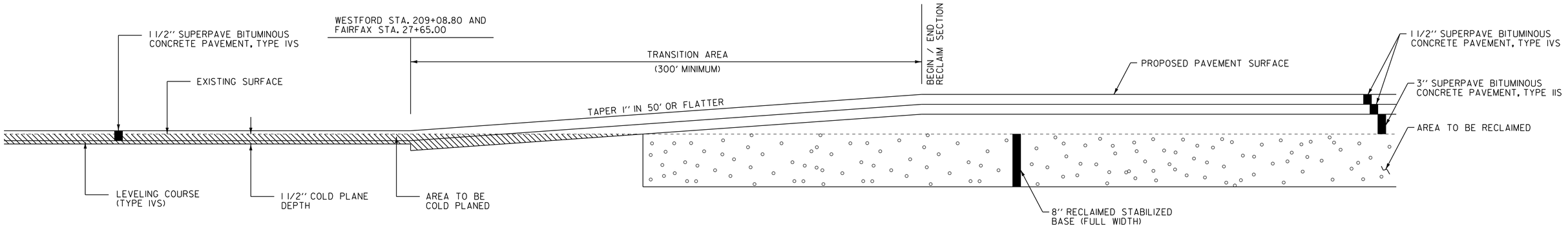
NOTE: THIS DETAIL SHALL BE USED FOR THE SIDE ROADS LISTED BELOW AS DIRECTED BY THE RESIDENT ENGINEER.

WOODS HOLLOW ROAD (T.H. 7) WESTFORD STA. 264+88, LT
WESTFORD-MILTON ROAD (T.H. 2) WESTFORD STA. 303+24, LT



DRIVEWAY TRANSITION DETAIL AT RECLAIM AREAS

NOTE: THIS DETAIL SHALL BE USED FOR ALL DRIVES WITHIN THE RECLAIM AREA AS DIRECTED BY THE RESIDENT ENGINEER.



COLD PLANE /RECLAIM TRANSITION AREA DETAIL

FULL ROADWAY WIDTH

WESTFORD STA. 209+08.80 TO 212+08.8
FAIRFAX STA. 24+65.00 TO 27+65.00

NOT TO SCALE

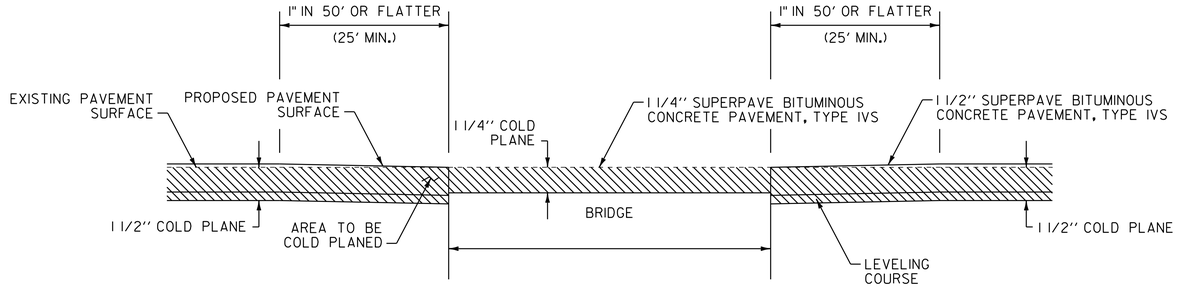
Stantec

PROJECT TYPICAL SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

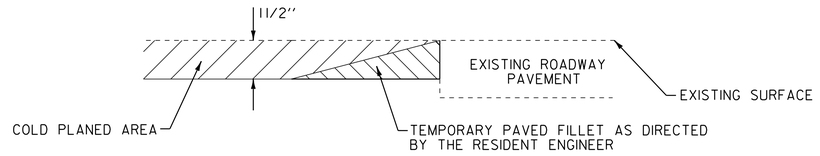
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212pts02.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL



COLD PLANING DETAIL AT BRIDGE #5

VT ROUTE 128 WESTFORD STA. 194+49



DETAIL AT VERTICAL COLD PLANE JOINTS (1 1/2" DEPTH)

NOTE: THIS DETAIL SHALL BE USED AT THE LOCATIONS LISTED BELOW AND AT ALL DRIVES BETWEEN WESTFORD STA. 68+85.12 AND STA. 209+08.80, BETWEEN FAIRFAX STA. 27+65.00 AND 33+05.28, AND ON THE VT 128 APPROACH AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 210.10.

FULL ROADWAY WIDTH

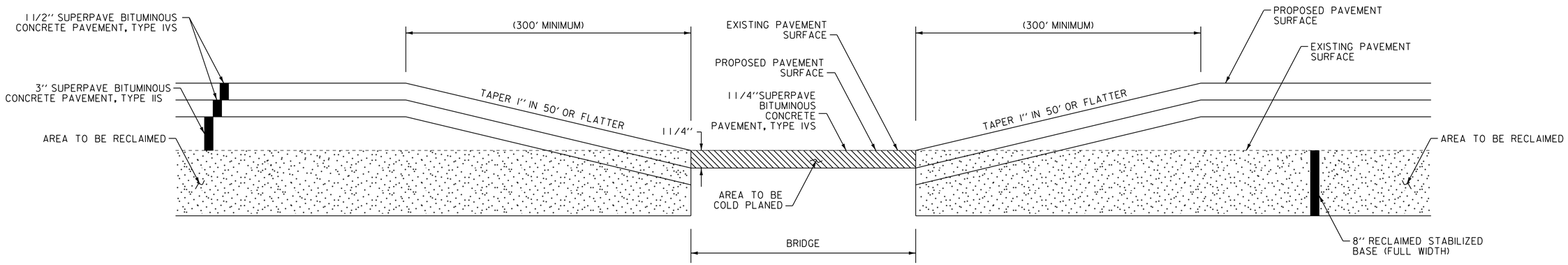
WESTFORD STA. 68+85.12 (BEGIN PROJECT)
OSGOOD HILL ROAD WESTFORD STA. 177+27, RT
COMMON ROAD WESTFORD STA. 199+28, LT
CAMBRIDGE ROAD WESTFORD STA. 201+14, RT
BROOKSIDE ROAD WESTFORD STA. 208+28, LT

MCNALL ROAD FAIRFAX STA. 28+21, LT
MCNALL ROAD FAIRFAX STA. 28+80, LT
FAIRFAX STA. 33+05.28 (END PROJECT)

VT ROUTE 128 APPROACH
FAIRFAX STA. 5+08.00 (LIMIT OF WORK)

PAVEMENT CORE DATA

CORE #	LOCATION	DEPTH (INCHES)	PCC
WESTFORD			
1	137+81	3 1/4	NO
2	137+81	5	NO
3	137+91	3 1/4	NO
4	204+18	11	NO
5	224+61	3	NO
6	250+06	4	NO
7	272+03	3 1/2	NO
8	295+68	4	NO
9	323+35	4	NO
FAIRFAX			
10	4+02	4 1/4	NO



COLD PLANING DETAIL AT BRIDGE #8

VT ROUTE 128 FAIRFAX STA. 9+02

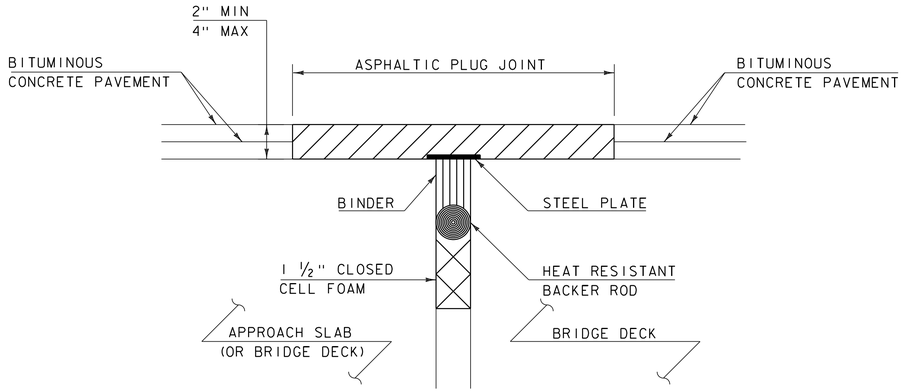
NOT TO SCALE

PROJECT TYPICAL SHEET #3

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212pts03.i

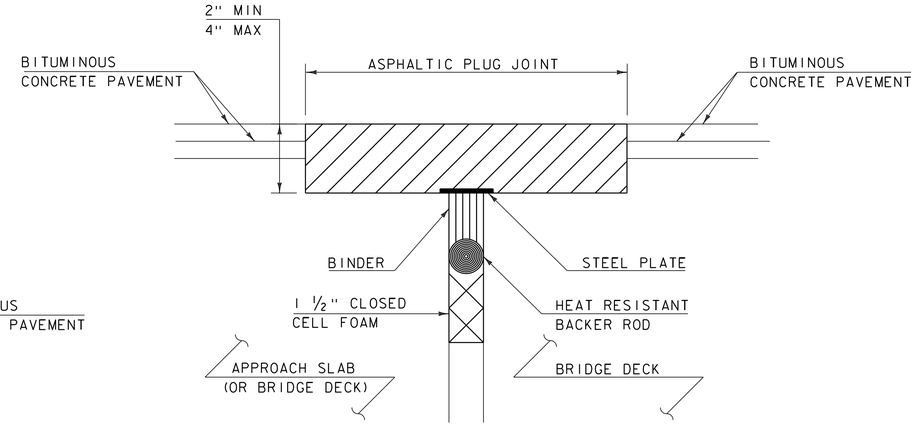
PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 4 OF 79



ASPHALTIC PLUG-TYPE JOINT DETAIL

(NOT TO SCALE)

BR 5	VT ROUTE 128	WESTFORD	STA. 194+12	(32 LF)
BR 5	VT ROUTE 128	WESTFORD	STA. 194+86	(32 LF)
BR 8	VT ROUTE 128	FAIRFAX	STA. 8+65	(34 LF)
BR 8	VT ROUTE 128	FAIRFAX	STA. 9+39	(34 LF)



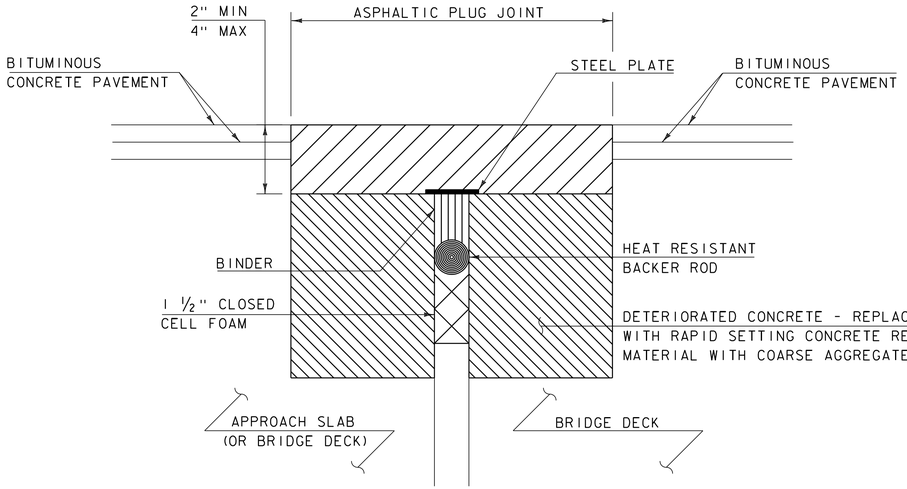
ASPHALTIC PLUG-TYPE JOINT DETAIL REMOVAL OF < 2" DETERIORATED CONCRETE

(NOT TO SCALE)

NOTES:

1. 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.

2. 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.



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

(NOT TO SCALE)

NOTES:

1. 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.

2. 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".

3. REINFORCING STEEL NOT SHOWN FOR CLARITY.

ASPHALTIC PLUG JOINT NOTES

I. INSTALLATION

A. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

B. 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.

C. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.

F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.

G. 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.

H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.

I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

K. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.

L. 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 MANUFACTURER):

A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.

B. THE ROAD SURFACE IS DRY.

C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

ASPHALTIC PLUG JOINT DETAIL SHEET

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212apjds.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 5 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES — TOTALS — DESCRIPTIONS

		ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUND
		225				225	CY	EARTH BORROW	203.30	-
		1				1	CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-
		51000				51000	SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	122
		1080				1080	CY	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	301.26	9
		48500				48500	SY	RECLAIMED STABILIZED BASE	310.20	240
		1850				1850	TON	AGGREGATE SHOULDERS	402.12	9
		415				415	CWT	EMULSIFIED ASPHALT	404.65	4
		1				1	LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-
		23000				23000	TON	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	490.30	163
		1				1	LU	AIR VOIDS PAY ADJUSTMENT (N.A.B.I.)	490.31	-
		1				1	LU	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	490.32	-
		1				1	LU	SURFACE TOLERANCE PAY ADJUSTMENT (N.A.B.I.)	490.33	-
		1				1	LU	LONGITUDINAL JOINT COMPACTION PAY ADJUSTMENT (N.A.B.I.)	490.34	-
				135		135	LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	3
				100		100	CF	RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE	580.20	EST.
		40				40	LF	15" CPEP	601.0910	EST.
		1				1	EA	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I	604.412	EST.
		300				300	HR	POWER GRADER RENTAL	608.15	EST.
		300				300	HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST.
		100				100	HR	POWER BROOM RENTAL, TYPE I	608.30	EST.
		160				160	HR	POWER BROOM RENTAL, TYPE II	608.31	EST.
		160				160	HR	TRUCK RENTAL	608.37	EST.
		160				160	HR	LOADER RENTAL, TYPE I	608.40	EST.
			1520			1520	CY	STONE FILL, TYPE I	613.10	13.9
			50			50	CY	STONE FILL, TYPE II	613.11	EST.
		220				220	LF	TREATED TIMBER CURB	616.35	7
		2				2	TON	BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47	0.4
		40				40	EA	RELOCATE MAILBOX, SINGLE SUPPORT	617.10	-
		3				3	EA	RELOCATE MAILBOX, MULTIPLE SUPPORT	617.12	-
		66				66	EA	YIELDING MARKER POSTS	619.17	2
		2800				2800	LF	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	7.5
		300				300	LF	STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	621.205	12.5
		50				50	LF	STEEL BEAM GUARDRAIL, GALVANIZED / NESTED W/8 FEET POSTS	621.207	-
		150				150	LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	2.5
		9				9	EA	MANUFACTURED TERMINAL SECTION, FLARED	621.50	-
		17				17	EA	ANCHOR FOR STEEL BEAM RAIL	621.60	-
		4				4	EA	GUARDRAIL APPROACH SECTION, GALVANIZED TYPE I	621.70	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		COLD PLANING - BITUMINOUS PAVEMENT
49424	SY	MAINLINE
534	SY	BRIDGES
920	SY	SIDEROADS
122	SY	ROUNDING
51000	SY	TOTAL
		RECLAIMED STABILIZED BASE
38841	SY	WESTFORD MAINLINE
8671	SY	FAIRFAX MAINLINE
748	SY	SIDEROADS
240	SY	ROUNDING
48500	SY	TOTAL
		SUPERPAVE BITUMINOUS CONCRETE PAVEMENT
12665	TON	MAINLINE WEARING COURSE (TYPE IVS)
210	TON	SIDEROAD WEARING COURSE (TYPE IVS)
40	TON	BRIDGE WEARING COURSE (TYPE IVS)
8314	TON	MAINLINE BASE COURSE (TYPE IIS)
130	TON	SIDEROAD BASE COURSE (TYPE IIS)
1478	TON	LEVELING (TYPE IVS)
163	TON	ROUNDING
23000	TON	TOTAL
		STONE FILL, TYPE I
1482	CY	DITCH CLEANING
24.1	CY	SLOPE EROSION REPAIR
13.9	CY	ROUNDING
1520	CY	TOTAL

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212qs01.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 6 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES

		TOTALS				DESCRIPTIONS			
		ROADWAY	EROSION CONTROL	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUND
		2665				2665	LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	-
		1520				1520	HR	UNIFORMED TRAFFIC OFFICERS	630.10	EST.
		4560				4560	HR	FLAGGERS	630.15	EST.
					1	1	LS	FIELD OFFICE, ENGINEERS	631.10	-
					1	1	LS	TESTING EQUIPMENT, CONCRETE	631.16	-
					1	1	LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-
					1	1	LU	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.25	-
		1				1	LS	MOBILIZATION/DEMOBILIZATION	635.11	-
		1				1	LS	TRAFFIC CONTROL	641.10	-
		1				1	LS	PUBLIC RELATIONS OFFICER	641.12	-
		2				2	EA	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-
		63400				63400	LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	146
		54200				54200	LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412	85
		250				250	LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482	3
		53				53	EA	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	646.492	-
		126700				126700	LF	TEMPORARY 4 INCH WHITE LINE, PAINT	646.602	192
		108400				108400	LF	TEMPORARY 4 INCH YELLOW LINE, PAINT	646.612	170
		500				500	LF	TEMPORARY 24 INCH STOP BAR, PAINT	646.682	6
		106				106	EA	TEMPORARY LETTER OR SYMBOL, PAINT	646.692	-
		3000				3000	EA	LINE STRIPING TARGETS	646.76	28
			7600			7600	SY	GEOTEXTILE UNDER STONE FILL	649.31	47
			250			250	SY	GEOTEXTILE FOR SILT FENCE	649.51	EST.
			40			40	LB	SEED	651.15	EST.
			250			250	LB	FERTILIZER	651.18	EST.
			1			1	TON	AGRICULTURAL LIMESTONE	651.20	EST.
			1			1	TON	HAY MULCH	651.25	EST.
			25			25	CY	TOPSOIL	651.35	EST.
			850			850	SY	TEMPORARY EROSION MATTING	653.20	50
		315				315	SF	TRAFFIC SIGNS, TYPE A	675.20	3.31
		1190				1190	LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341	10
		103				103	EA	REMOVING SIGNS	675.50	-
		18				18	EA	ERECTING SALVAGED SIGNS	675.60	-
		24				24	EA	DELINEATOR WITH STEEL POST	676.10	-
		16				16	EA	REMOVAL OF EXISTING DELINEATOR	676.12	-
		1				1	LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-
		1780				1780	SY	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	900.675	22
		5650				5650	TON	SPECIAL PROVISION (SUBBASE, RAP FOR RECLAIMING)	900.680	8

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		GEOTEXTILE UNDER STONE FILL
6672	SY	DITCH CLEANING
881	SY	SLOPE EROSION REPAIR
47	SY	ROUNDING
7600	SY	TOTAL
		TEMPORARY EROSION MATTING
375	SY	DITCH CLEANING
225	SY	M.T.S. CONSTRUCTION
200	SY	SEED PROTECTION (EST.)
50	SY	ROUNDING
850	SY	TOTAL

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212qs02.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 7 OF 79

ITEM DETAIL SUMMARY SHEET 1

LOCATION			GUARDRAIL								MISCELLANEOUS											REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	621.20 S.B. G.R. GALV. LF	621.205 S.B. G.R. GALV. 8' POST LF	621.207 S.B. G.R. GALV./NEST. W/8' POSTS LF	621.21 H.D. S.B. G.R. GALV. LF	621.50 MTS, FLARED EA	621.60 ANCHOR FOR S.B. RAIL EA	621.70 G.R. APP. SECTION GALV. TYPE I EA	621.80 REMOVAL & DISPOSAL OF GUARDRAIL LF	203.30 EARTH BORROW CY	402.12 AGG. SHLDRS. TON	601.0910 15" CPEP LF	604.412 REHAB DI, CB, OR MH, CLASS I EA	613.10 STONE FILL, TYPE I CY	613.11 STONE FILL, TYPE II CY	616.35 TREATED TIMBER CURB LF	616.47 BIT. CONC. GUT. & TRAFF. ISL. TON	617.10 RELOC. MAILBOX, SNGL. SUPP. EACH	617.12 RELOC. MAILBOX, MULT. SUPP. EACH	619.17 YIELDING MARKER POSTS EACH	
VT ROUTE 128																						
WESTFORD	FAIRFAX																					
68+85	33+06	LT&RT										1963				50					64	QUANTITIES FOR USE AS DIRECTED BY THE RESIDENT ENGINEER.
WESTFORD																						
112+95	117+45	RT	375				2			341	50											INSTALL M.T.S., FLARED @ 112+95,RT AND 117+07.5, RT
113+75	117+25	LT	275				2			303	50											INSTALL M.T.S., FLARED @ 113+75, LT AND 116+87.5, LT
170+35	170+55	RT													3.7							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
192+74.5	195+54.75	RT	154			73.75		2		154							29	1.1				INSTALL ANCHORS AT 192+74.5, RT AND 195+54.75, RT; CONNECT NEW HDSB RAIL TO EXISTING BRIDGE RAIL AT 194+12 AND 194+86, RT; INSTALL TREATED TIMBER CURB FROM 193+83 TO 194+12, RT; CONSTRUCT BITUMINOUS CONCRETE GUTTER FROM 193+85 TO 194+12, RT; SEE BRIDGE DETAIL SHEET #2
193+68.25	196+11	LT	116.5			73.75		2		134												INSTALL ANCHORS AT 193+68.25, LT AND 196+11, LT; CONNECT NEW HDSB RAIL TO EXISTING BRIDGE RAIL AT 194+12 AND 194+86, LT; SEE BRIDGE DETAIL SHEET #2
193+85		RT												1								REHAB DI'S, CB'S or MH'S
211+60		RT																	1			
211+62		RT																	1			
220+10		LT													1.1							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
220+30		LT													1.1							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
221+44		LT													1.1							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
225+04		RT																	1			
225+06		RT																	1			
226+70.5	230+08	RT	341.5					2		180							60					INSTALL ANCHORS @ 226+70.5, RT AND 230+08, RT; INSTALL TREATED TIMBER CURB FROM 229+00 TO 229+60, RT
238+59		RT																	1			
238+61		RT																	1			
238+63		RT																	1			
244+85	248+97.5	LT	412.5					2		136					5.6							INSTALL ANCHOR @ 244+85, LT AND 248+97.5, LT INSTALL SLOPE EROSION REPAIR FROM 244+80 TO 245+10, LT (SEE MISCELLANEOUS DETAIL SHEET)
245+79	248+29	RT	204	50				2		213			20		9.3							INSTALL ANCHORS @ 245+79, RT AND 248+29, RT (SEE BURIED END DETAIL ON GUARDRAIL DETAIL SHEET #1) INSTALL SLOPE EROSION REPAIR FROM 246+00 TO 246+50, RT (SEE MISC. DETAIL SHEET)
249+96		RT																	1			
250+53		RT																	1			
250+55		RT																	1			
251+52		RT													1.1							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
251+75		RT																	1			
253+46		RT																	1			
257+18		RT																	1			
260+27		RT																	1			
264+31	265+31	LT	104					2														INSTALL ANCHORS @ 264+31 AND 265+31, LT
267+70		RT																	1			
SHEET SUBTOTALS:			1982.5	50	-	147.5	4	12	-	1461	100	1963	20	1	23	50	89	1.1	15	-	64	

ITEM DETAIL SUMMARY SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss01.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 8 OF 79

ITEM DETAIL SUMMARY SHEET 2

LOCATION			MISCELLANEOUS																			REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	649.31 GEO. UNDER STONE FILL SY	649.51 GEO. FOR SILT FENCE SY	653.20 TEMP. EROSION MATTING SY	676.10 DEL.W/ STEEL POST EACH	676.12 REMOVAL OF EXIST. DEL. EACH															
VT ROUTE 128																						
WESTFORD	FAIRFAX																					
68+85	33+06	LT&RT		250																		QUANTITIES FOR USE AS DIRECTED BY THE RESIDENT ENGINEER.
WESTFORD																						
112+95	117+45	RT			50	2																INSTALL M.T.S., FLARED @ 112+95,RT AND 117+07.5, RT
113+62.5	117+25	LT			50	2																INSTALL M.T.S., FLARED @ 113+75, LT AND 116+87.5, LT
170+35	170+55	RT	179																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
192+74.5	195+54.75	RT				2	2															INSTALL ANCHORS AT 192+74.5, RT AND 195+54.75, RT; CONNECT NEW HDSB RAIL TO EXISTING BRIDGE RAIL AT 194+12 AND 194+86, RT; INSTALL TREATED TIMBER CURB FROM 193+83 TO 194+12, RT; CONSTRUCT BITUMINOUS CONCRETE GUTTER FROM 193+85 TO 194+12, RT; SEE BRIDGE DETAIL SHEET #2
193+68.25	196+23.5	LT				2																INSTALL ANCHORS AT 193+68.25, LT AND 196+11, LT; CONNECT NEW HDSB RAIL TO EXISTING BRIDGE RAIL AT 194+12 AND 194+86, LT; SEE BRIDGE DETAIL SHEET #2
193+85		RT																				REHAB DI'S, CB'S or MH'S
211+60		RT																				
211+62		RT																				
220+10		LT	7.2																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
220+30		LT	7.2																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
221+44		LT	7.2																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
225+04		RT																				
225+06		RT																				
227+45.5	230+08	RT				2																INSTALL ANCHORS @ 226+70.5, RT AND 230+08, RT; INSTALL TREATED TIMBER CURB FROM 229+00 TO 229+60, RT
238+59		RT																				
238+61		RT																				
238+63		RT																				
244+47.5	249+22.5	LT	260			2	2															INSTALL ANCHOR @ 244+85, LT AND 248+97.5, LT INSTALL SLOPE EROSION REPAIR FROM 244+80 TO 245+10, LT (SEE MISCELLANEOUS DETAIL SHEET)
245+79	248+41.5	RT	406			2	2															INSTALL ANCHORS @ 245+79, RT AND 248+29, RT (SEE BURIED END DETAIL ON GUARDRAIL DETAIL SHEET #1) INSTALL SLOPE EROSION REPAIR FROM 246+00 TO 246+50, RT (SEE MISC. DETAIL SHEET)
249+96		RT																				
250+53		RT																				
250+55		RT																				
251+52		RT	7.2																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
251+75		RT																				
253+46		RT																				
257+18		RT																				
260+27		RT																				
264+31	265+31	LT																				INSTALL ANCHORS @ 264+31 AND 265+31, LT
267+70		RT																				
SHEET SUBTOTALS:			873.8	250	100	14	6															

ITEM DETAIL SUMMARY SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss02.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 9 OF 79

ITEM DETAIL SUMMARY SHEET 3

LOCATION			GUARDRAIL								MISCELLANEOUS											REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	621.20 S.B. G.R. GALV. LF	621.205 S.B. G.R. GALV. 8' POST LF	621.207 S.B. G.R. GALV./NEST. W/8' POSTS LF	621.21 H.D. S.B. G.R. GALV. LF	621.50 MTS, FLARED EA	621.60 ANCHOR FOR S.B. RAIL EA	621.70 G.R. APP. SECTION GALV. TYPE I EA	621.80 REMOVAL & DISPOSAL OF GUARDRAIL LF	203.30 EARTH BORROW CY	402.12 AGG. SHLDRS. TON	601.0910 15" CPEP LF	604.412 REHAB DI, CB, OR MH, CLASS I EA	613.10 STONE FILL, TYPE I CY	613.11 STONE FILL, TYPE II CY	616.35 TREATED TIMBER CURB LF	616.47 BIT. CONC. GUT. & TRAFF. ISL. TON	617.10 RELOC. MAILBOX, SNGL. SUPP. EACH	617.12 RELOC. MAILBOX, MULT. SUPP. EACH	619.17 YIELDING MARKER POSTS EACH	
VT ROUTE 128																						
WESTFORD	FAIRFAX																					
271+24		RT																	1			
272+14		LT																	1			
273+31.5	279+06.5	LT	354	200	25			2		365			20							1		INSTALL ANCHOR @ 273+31.5, LT AND 279+06.5, LT (SEE BOTH DETAILS ON GUARDRAIL DETAIL SHEET #1) RELOCATE MAILBOX MULTIPLE SUPPORT AT STA. 274+58, LT
274+81.5	277+31.5	RT	152	37.5	25		1	1		190	25											INSTALL ANCHOR @ 274+81.5, RT, INSTALL M.T.S., FLARED @ 276+94, RT (SEE GUARDRAIL AT LARGE CULVERT DETAIL ON GUARDRAIL DETAIL SHEET #1)
275+07		LT													1.1							ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
279+55		LT																	1			
281+40		LT																		1		
282+05		LT																	1			
285+20		RT																	1			
288+25		LT																	1			
302+93	303+93	RT	104					2		98							89					INSTALL ANCHOR @ 302+93, RT AND 303+93, RT; INSTALL TREATED TIMBER CURB @ STA. 303+00 TO 303+89, RT
304+17		RT																	1			
304+27		RT																	1			
318+30		LT																	1			
322+24		RT																	1			
329+93		RT																	1			
335+22		LT																	1			
335+89		RT																	1			
337+55		LT																	1			
337+57		LT																	1			
341+76		RT																	1			
342+21		LT																	1			
344+76		LT																	1			
344+80		LT																	1			
344+82		LT																	1			
345+65		LT																	1			
FAIRFAX																						
0+38		RT																	1			
2+07		LT																	1			
3+11		LT																	1			
7+44	11+02	LT	100				2		2	284	50						35	0.5				INSTALL M.T.S., FLARED @ 7+44, LT AND 10+56.5, LT; SEE BRIDGE DETAIL SHEET NO.3; INSTALL TREATED TIMBER CURB FROM 9+44 TO 9+79, LT; CONSTRUCT BITUMINOUS CONCRETE GUTTER FROM 9+44 TO 9+79, LT
SHEET SUBTOTALS:			710	237.5	50	-	3	5	2	937	75	-	20	-	1.1	-	124	0.5	24	2	-	

ITEM DETAIL SUMMARY SHEET #3

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss03.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 10 OF 79

ITEM DETAIL SUMMARY SHEET 4

LOCATION			MISCELLANEOUS																			REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	649.31 GEO. UNDER STONE FILL SY	649.51 GEO. FOR SILT FENCE SY	653.20 TEMP. EROSION MATTING SY	676.10 DEL.W/ STEEL POST EACH	676.12 REMOVAL OF EXIST. DEL. EACH															
VT ROUTE 128																						
WESTFORD	FAIRFAX																					
271+24		RT																				
272+14		LT																				
273+06.5	279+06.5	LT				2	2															INSTALL ANCHOR @ 273+31.5, LT AND 279+06.5, LT (SEE BOTH DETAILS ON GUARDRAIL DETAIL SHEET #1) RELOCATE MAILBOX MULTIPLE SUPPORT AT STA. 274+58, LT
274+81.5	277+44.0	RT			25	2	2															INSTALL ANCHOR @ 274+81.5, RT, INSTALL M.T.S., FLARED @ 276+94, RT (SEE GUARDRAIL AT LARGE CULVERT DETAIL ON GUARDRAIL DETAIL SHEET #1)
275+07		LT	7.2																			ITEMS TO BE USED WITH SLOPE EROSION REPAIR.
279+55		LT																				
281+40		LT																				
282+05		LT																				
285+20		RT																				
288+25		LT																				
302+93	303+93	RT				2	2															INSTALL ANCHOR @ 302+93, RT AND 303+93, RT; INSTALL TREATED TIMBER CURB @ STA. 303+00 TO 303+89, RT
304+17		RT																				
304+27		RT																				
318+30		LT																				
322+24		RT																				
329+93		RT																				
335+22		LT																				
335+89		RT																				
337+55		LT																				
337+57		LT																				
341+76		RT																				
342+21		LT																				
344+76		LT																				
344+80		LT																				
344+82		LT																				
345+65		LT																				
FAIRFAX																						
0+38		RT																				
2+07		LT																				
3+11		LT																				
7+44	11+02	LT			50	2	2															INSTALL M.T.S., FLARED @ 7+44, LT AND 10+56.5, LT; SEE BRIDGE DETAIL SHEET NO.3; INSTALL TREATED TIMBER CURB FROM 9+44 TO 9+79, LT; CONSTRUCT BITUMINOUS CONCRETE GUTTER FROM 9+44 TO 9+79, LT
SHEET SUBTOTALS:		-	7.2	-	75	8	8															

ITEM DETAIL SUMMARY SHEET #4

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss04.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 11 OF 79

ITEM DETAIL SUMMARY SHEET 5

LOCATION			GUARDRAIL								MISCELLANEOUS											REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	621.20 S.B. G.R. GALV. LF	621.205 S.B. G.R. GALV. 8' POST LF	621.207 S.B. G.R. GALV./NEST. W/8' POSTS LF	621.21 H.D. S.B. G.R. GALV. LF	621.50 MTS, FLARED EA	621.60 ANCHOR FOR S.B. RAIL EA	621.70 G.R. APP. SECTION GALV. TYPE I EA	621.80 REMOVAL & DISPOSAL OF GUARDRAIL LF	203.30 EARTH BORROW CY	402.12 AGG. SHLDRS. TON	601.0910 15" CPEP LF	604.412 REHAB DI, CB, OR MH, CLASS I EA	613.10 STONE FILL, TYPE I CY	613.11 STONE FILL, TYPE II CY	616.35 TREATED TIMBER CURB LF	616.47 BIT. CONC. GUT. & TRAFF. ISL. TON	617.10 RELOC. MAILBOX, SNGL. SUPP. EACH	617.12 RELOC. MAILBOX, MULT. SUPP. EACH	619.17 YIELDING MARKER POSTS EACH	
VT ROUTE 128																						
FAIRFAX (CONT.)																						
7+46	10+96.5	RT	100				2		2	267	50											INSTALL M.T.S., FLARED @ 7+48.5, RT AND 10+59, RT; SEE BRIDGE DETAIL SHEET NO. 3
21+56		LT																		1		
25+37		LT																	1			
SHEET 1 SUBTOTALS:			1982.5	50	-	147.5	4	12	-	1461	100	1963	20	1	23	50	89	1.1	15	-	64	
SHEET 3 SUBTOTALS:			710	237.5	50	-	3	5	2	937	75	-	20	-	1.1	-	124	0.5	24	2	-	* THESE TOTALS ARE CARRIED FORWARD TO THE DETAILED SUMMARY OF QUANTITIES ON THE QUANTITY SHEETS
SHEET 5 SUBTOTALS:			100	-	-	-	2	-	2	267	50	-	-	-	-	-	-	-	1	1	-	
PROJECT SUBTOTALS:			2792.5	287.5	50	147.5	9	17	4	2665	225	1963	40	1	24.1	50	213	1.6	40	3	64	
ROUNDINGS:			7.5	12.5	-	2.5	-	-	-	-	-	17	-	-	-	-	7	0.4	-	-	2	
TOTALS:			2800	300	50	150	9	17	4	2665	225	1980	40	1	24.1*	50	220	2	40	3	66	

ITEM DETAIL SUMMARY SHEET #5

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss05.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 12 OF 79

ITEM DETAIL SUMMARY SHEET 6

LOCATION			MISCELLANEOUS																			REMARKS
BEGIN MILE STA.	END MILE STA.	POS.	649.31 GEO. UNDER STONE FILL SY	649.51 GEO. FOR SILT FENCE SY	653.20 TEMP. EROSION MATTING SY	676.10 DEL.W/ STEEL POST EACH	676.12 REMOVAL OF EXIST. DEL. EACH															
VT ROUTE 128																						
FAIRFAX (CONT.)																						
7+46	11+21.5	RT			50	2	2															INSTALL M.T.S., FLARED @ 7+48.5, RT AND 10+59, RT; SEE BRIDGE DETAIL SHEET NO. 3
21+56		LT																				
25+37		LT																				
SHEET 2 SUBTOTALS:			873.8	250	100	14	6															
SHEET 4 SUBTOTALS:			7.2	-	75	8	8															
SHEET 6 SUBTOTALS:			-	-	50	2	2															
PROJECT SUBTOTALS:			881	250	225	24	16															
ROUNDINGS:			-	-	-	-	-															
TOTALS:			881 *	250	225 *	24	16															

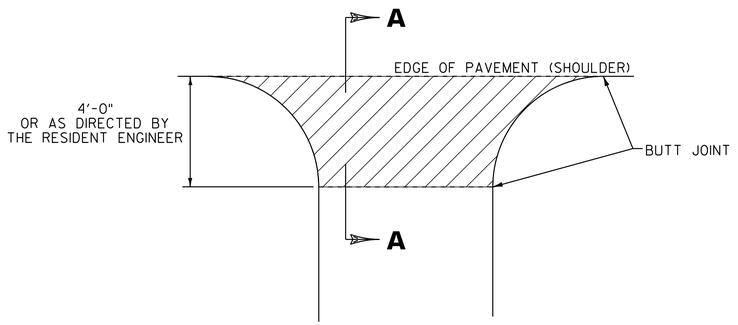
* THESE TOTALS ARE CARRIED FORWARD TO THE DETAILED SUMMARY OF QUANTITIES ON THE QUANTITY SHEETS

ITEM DETAIL SUMMARY SHEET #6

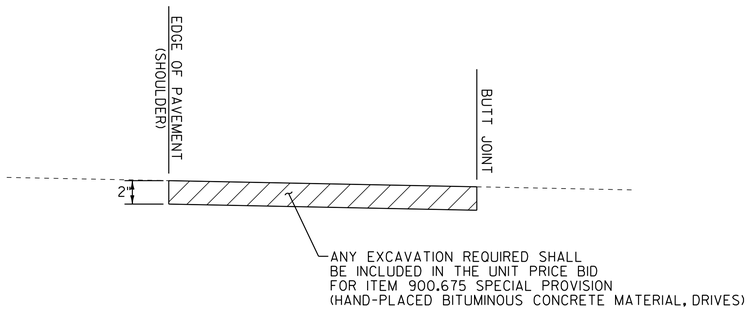
PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212idss06.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 13 OF 79

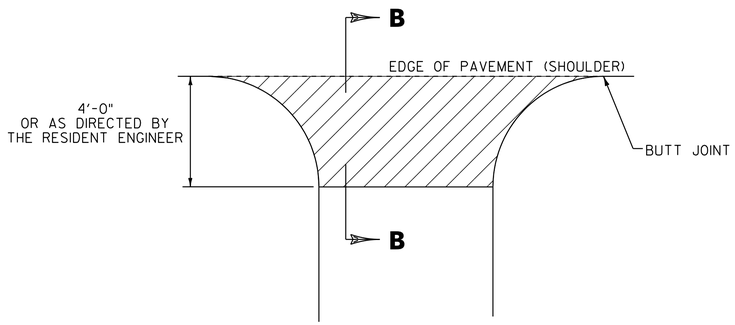


PLAN

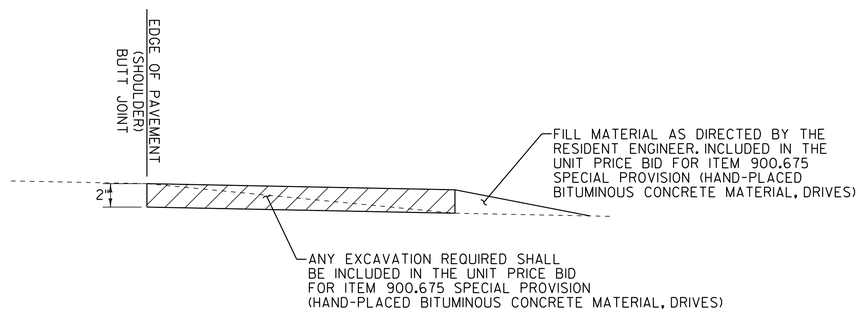


SECTION A–A

HANDWORK DETAILS FOR PAVED DRIVES



PLAN



SECTION B–B

HANDWORK DETAILS FOR GRAVEL DRIVES

LEGEND

ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)

NOTES:

1. PAVING LIFT SHALL BE A MINIMUM OF 1 1/2 " AND A MAXIMUM OF 2".
2. THE COST OF PROVIDING AND 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 INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES).
3. EXCAVATION NEEDED TO ACHIEVE PROPER DRIVE SLOPES WILL NOT BE PAID DIRECTLY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES).

NOT TO SCALE

DRIVE DETAIL SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212ds01.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 14 OF 79

DRIVE LOCATION SUMMARY – ITEM 900.675 SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)

STATION	POSITION	900.675 (SY)
WESTFORD		
VT ROUTE 128 - COLD PLANE AREA		
83+82	RT	13
90+73	LT	10
93+36	LT	9
99+00	LT	8
100+91	RT	8
103+52	RT	10
105+29	RT	12
106+95	RT	20
107+86	RT	10
110+06	LT	8
112+65	RT	10
117+47	LT	9
122+40	RT	7
124+19	LT	11
131+94	RT	9
136+57	RT	11
137+03	LT	10
137+53	LT	13
137+59	RT	8
141+57	RT	8
145+50	LT	21
146+60	LT	5
147+77	LT	8
148+71	RT	16
151+69	LT	7
152+32	RT	14
161+10	LT	8
161+13	RT	5
162+56	RT	14
165+77	LT	8
177+58	LT	8
177+95	RT	6
178+09	LT	9
180+68	RT	10
182+30	RT	15
182+59	LT	7
185+71	RT	10
188+15	RT	7
188+32	LT	11
189+68	LT	10
192+04	RT	5
193+32	LT	18
195+90	RT	8
197+26	LT	8
197+29	RT	5
SUBTOTAL		447

STATION	POSITION	900.675 (SY)
WESTFORD (CONT.)		
VT ROUTE 128 - COLD PLANE AREA (CONT.)		
197+56	RT	6
197+77	RT	6
199+10	RT	7
200+14	RT	4
200+95	RT	6
203+68	RT	7
205+65	RT	31
207+11	RT	9
207+70	RT	9
208+77	RT	16
VT ROUTE 128 - RECLAIM AREA		
211+37	RT	20
211+92	RT	30
212+13	LT	19
216+43	RT	15
221+63	LT	12
222+28	RT	13
223+71	LT	8
224+89	RT	13
229+20	LT	7
230+38	RT	22
238+97	LT	28
239+07	RT	33
245+57	RT	15
250+15	LT	10
250+30	RT	22
251+93	RT	17
253+64	RT	14
257+07	RT	10
259+90	RT	23
259+99	LT	13
267+90	LT	33
267+92	RT	15
271+39	RT	12
272+30	LT	13
274+62	RT	18
278+82	RT	9
279+40	LT	12
281+23	LT	9
281+54	RT	10
282+30	LT	18
283+81	RT	14
285+07	RT	8
286+28	RT	69
288+00	LT	9
SUBTOTAL		694

STATION	POSITION	900.675 (SY)
WESTFORD (CONT.)		
VT ROUTE 128 - RECLAIM AREA (CONT.)		
288+51	LT	8
297+48	LT	7
304+04	RT	8
304+74	RT	36
306+12	RT	21
306+98	LT	21
318+19	LT	15
322+42	RT	15
325+63	RT	15
329+00	LT	16
330+08	RT	15
331+68	RT	9
335+37	LT	19
336+11	RT	14
337+67	LT	27
341+95	RT	14
342+40	LT	10
344+33	LT	13
345+68	RT	10
FAIRFAX VT ROUTE 128 - RECLAIM AREA		
0+18	RT	10
2+21	LT	9
2+98	LT	9
4+59	LT	50
6+69	LT	74
7+26	RT	10
7+32	LT	14
11+86	LT	28
21+78	LT	12
23+65	LT	11
24+66	LT	9
25+22	LT	13
FAIRFAX VT ROUTE 128 - COLD PLANE AREA		
31+99	RT	39
FAIRFAX VT ROUTE 128 APP. - C.P. AREA		
1+24	RT	17
2+57	LT	19
SUBTOTAL		617
COLUMN 1		447
COLUMN 2		694
COLUMN 3		617
SUBTOTAL		1758
ROUNDING		22
TOTAL		1780

NOTE:

FOR DRIVE DETAILS SEE DRIVE DETAIL SHEET 1 AND THE DRIVEWAY TRANSITION DETAIL AT RECLAIM AREAS ON PROJECT TYPICAL SHEET #2.

NOT TO SCALE

Stantec

DRIVE DETAIL SHEET #2

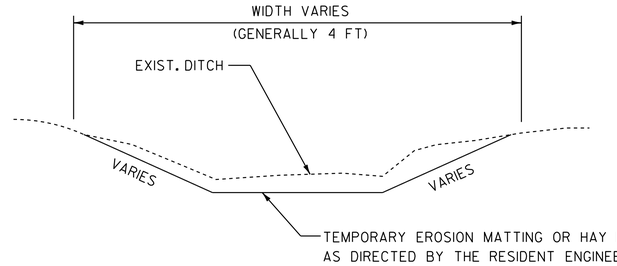
PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212ds02.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 15 OF 79

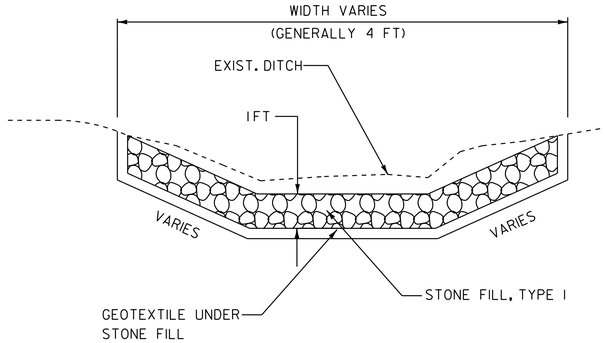
LOCATION				FEET OF DITCHING				MISCELLANEOUS ITEMS				
								613.10	649.31	651.15	653.20	
SITE	STATION	STATION	POS.	PERCENT GRADE				STONE FILL, TYPE I	GEOT. UNDER STONE FILL	SEED	TEMP. EROS. MATT.	REMARKS
				0-1	1-2.5	2.5-10	>10	CY	SY	LB	SY	
VT ROUTE 128												
WESTFORD												
1	186+91	190+08	RT			317		47	211			
2	190+08	191+35	RT	127								
3	194+41	195+36	LT&RT	190								
4	195+36	196+73	RT			137		20	91			
5	195+36	200+64	LT			528		78	352			
6	200+64	205+92	RT	528								
7	205+92	206+98	RT			106		16	71			
8	210+94	215+37	LT&RT			888		132	592			
9	218+49	221+60	LT			312		46	208			
10	218+49	262+73	RT			4425		656	2950			
11	238+87	255+71	LT			1684		249	1123			
12	256+98	262+73	LT			576		85	384			
13	264+63	266+22	RT		158						70	
14	270+39	273+13	LT&RT		550						244	
15	276+36	278+04	RT			169		25	113			
16	287+50	262+73	RT	818								
17	295+68	300+96	RT			528		78	352			
FAIRFAX												
18	19+80	23+18	RT			338		50	225			
19	30+25	31+68	LT	143								
20	31+68	33+05	RT		138						61	
DITCHING SUBTOTALS (EST.)				1806	846	10008		1482 *	6672 *		375 *	

LOCATION				FEET OF DITCHING				MISCELLANEOUS ITEMS				
								613.10	649.31	651.15	653.20	
SITE	MILE MARKER	MILE MARKER	POS.	PERCENT GRADE				STONE FILL, TYPE I	GEOT. UNDER STONE FILL	SEED	TEMP. EROS. MATT.	REMARKS
				0-1	1-2.5	2.5-10	>10	CY	SY	LB	SY	



DITCH DETAIL < 2.5 PERCENT

NOT TO SCALE



DITCH DETAIL > 2.5 PERCENT

NOT TO SCALE

STONE DITCH DETAIL

NOTES:

1. PIPE INLET AND OUTLET AREAS AND DITCH CLEANING THROUGHOUT THE PROJECT SHALL BE PERFORMED AT LOCATIONS IDENTIFIED ON THIS SHEET AND AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT WILL BE UNDER THE APPLICABLE EQUIPMENT RENTAL ITEM(S).

2. ESTIMATED QUANTITIES OF TEMPORARY EROSION MATTING AND SEED HAVE BEEN INCLUDED AS NEEDED OR AS DIRECTED BY THE RESIDENT ENGINEER.

3. ESTIMATED QUANTITIES OF STONE FILL TYPE I AND GEOTEXTILE UNDER STONE FILL HAVE BEEN INCLUDED AS NEEDED. STONE FILLTYPE I SHALL BE USED IN ALL DITCHES WITH A GRADE 2.5 PERCENT OR GREATER OR AS DIRECTED BY THE RESIDENT ENGINEER.

* THESE TOTALS ARE CARRIED FORWARD TO THE DETAILED SUMMARY OF QUANTITIES ON THE QUANTITY SHEETS

NOT TO SCALE

Stantec

DITCH CLEANING DETAIL SHEET

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08C212dcs.i

PLOT DATE: 31-OCT-2012 13:56
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 16 OF 79

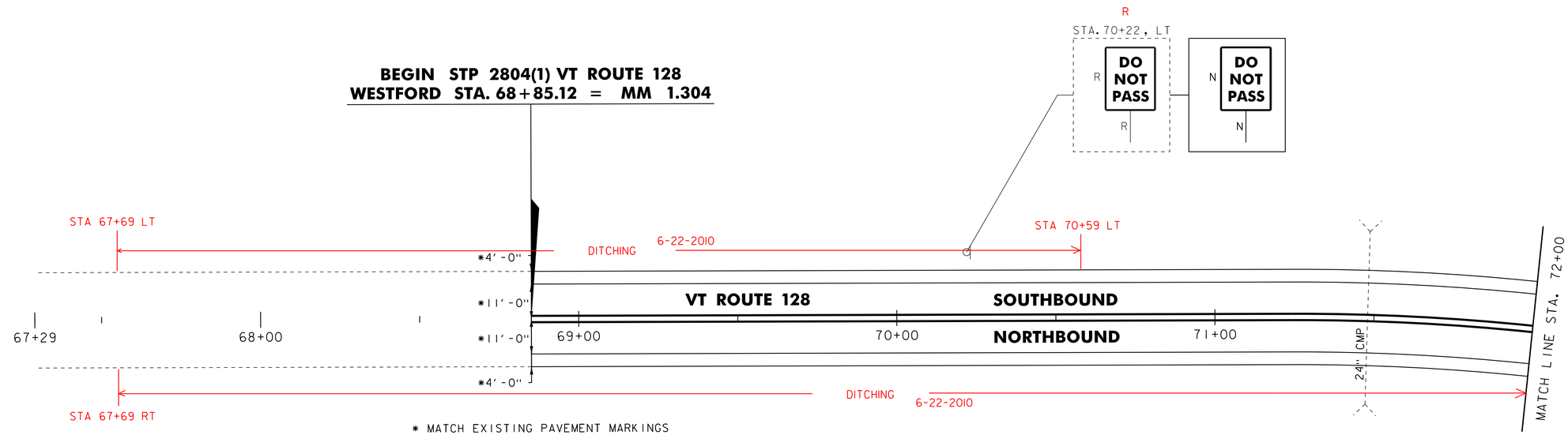
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 68+85 TO 72+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 68+85 TO 72+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 68+85 TO 72+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 68+85 TO 72+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



CURVE #1
PC = 71+25
PT = 72+67
R = 716'
△ = 11°23'28", RT
D = 8°00'00"
e = 3.55
L = 142'
SEE SUPERELEVATION
BANKING DIAGRAM SHEET #1

R=1

UTILITY LEGEND

	= PAVEMENT CORE
	= EXISTING HYDRANT
	= EXISTING DI
	= EXISTING MANHOLE
TEL	= EXISTING TELEPHONE MANHOLE
ELEC	= EXISTING ELECTRIC MANHOLE
SMH	= EXISTING SEWER MANHOLE
WSO	= EXISTING WATER SHUTOFF
GSO	= EXISTING GAS SHUTOFF
	= EXISTING MAILBOX
	= EXISTING POWER POLE
	= EXISTING TELEPHONE POLE
	= EXISTING UTILITY POLE
	= EXISTING SIGNAL HEAD
	= EXISTING PULL BOX
	= EXISTING GUARDRAIL
	= EXISTING RAILROAD

SIGN LEGEND

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

NOTE:
ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

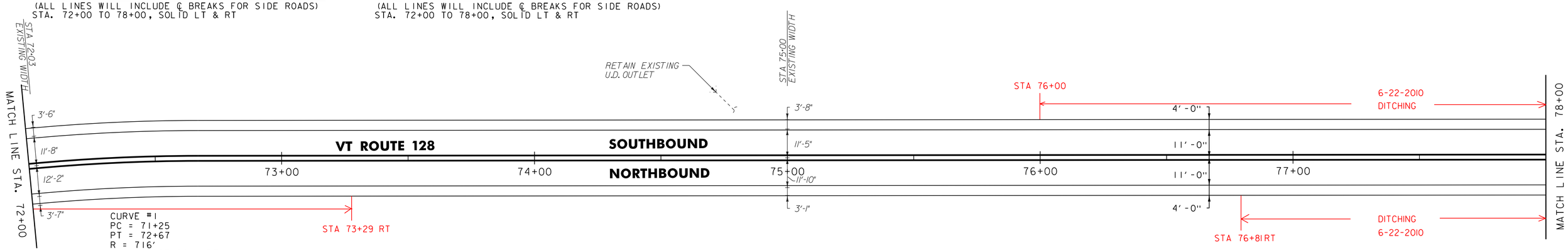
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l01.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 17 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 72+00 TO 78+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 72+00 TO 78+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 72+00 TO 78+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 72+00 TO 78+00, SOLID LT & RT



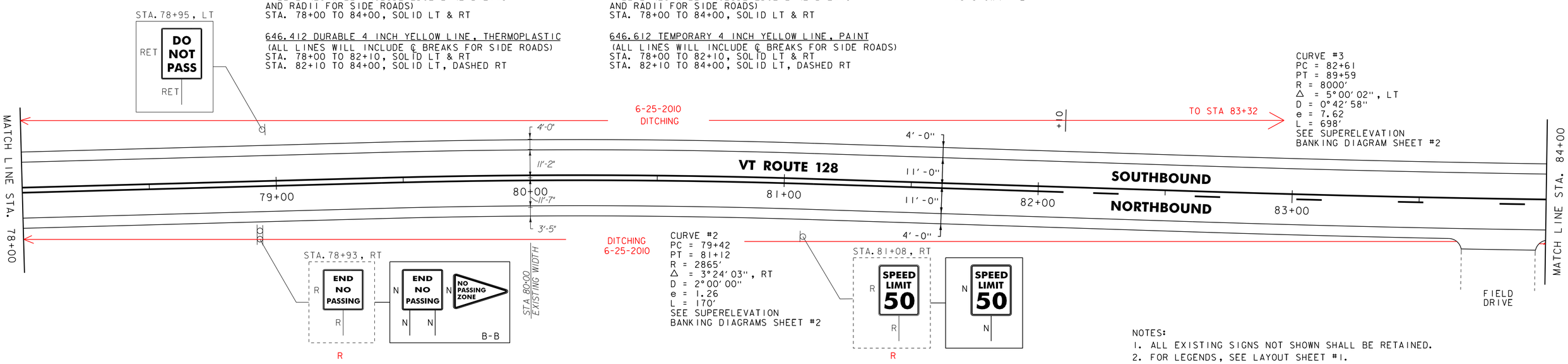
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 78+00 TO 84+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 78+00 TO 82+10, SOLID LT & RT
STA. 82+10 TO 84+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 78+00 TO 84+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 78+00 TO 82+10, SOLID LT & RT
STA. 82+10 TO 84+00, SOLID LT, DASHED RT

675.50 REMOVING SIGNS
AS SHOWN - 2



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l02.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 18 OF 79

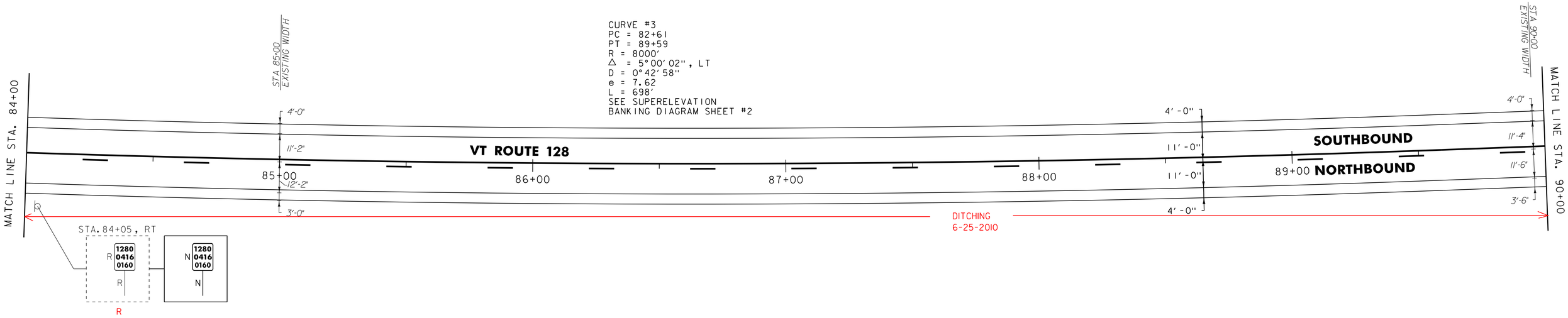
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 84+00 TO 90+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 84+00 TO 90+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 84+00 TO 90+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 84+00 TO 90+00, SOLID LT, DASHED RT

675.50 REMOVING SIGNS
AS SHOWN - 1



CURVE #3
PC = 82+61
PT = 89+59
R = 8000'
△ = 5°00'02", LT
D = 0°42'58"
e = 7.62
L = 698'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #2

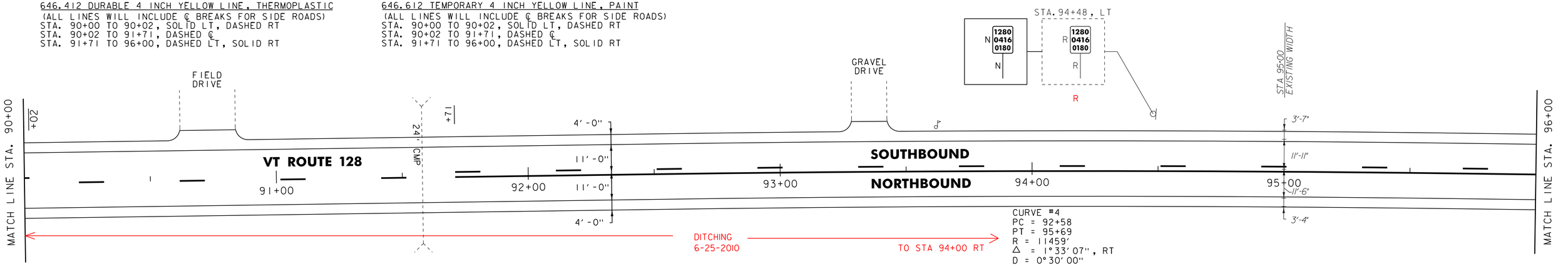
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 90+00 TO 96+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 90+00 TO 90+02, SOLID LT, DASHED RT
STA. 90+02 TO 91+71, DASHED ℄
STA. 91+71 TO 96+00, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 90+00 TO 96+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 90+00 TO 90+02, SOLID LT, DASHED RT
STA. 90+02 TO 91+71, DASHED ℄
STA. 91+71 TO 96+00, DASHED LT, SOLID RT

675.50 REMOVING SIGNS
AS SHOWN - 1



CURVE #4
PC = 92+58
PT = 95+69
R = 11459'
△ = 1°33'07", RT
D = 0°30'00"
e = 1.05
L = 310'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #3

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #3

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l03.i

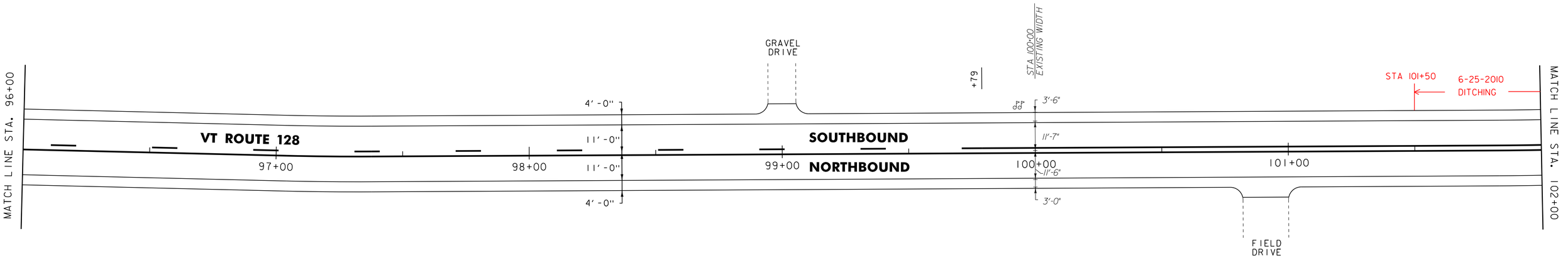
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 19 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 96+00 TO 102+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 96+00 TO 99+79, DASHED LT, SOLID RT
STA. 99+79 TO 102+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 96+00 TO 102+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 96+00 TO 99+79, DASHED LT, SOLID RT
STA. 99+79 TO 102+00, SOLID LT & RT



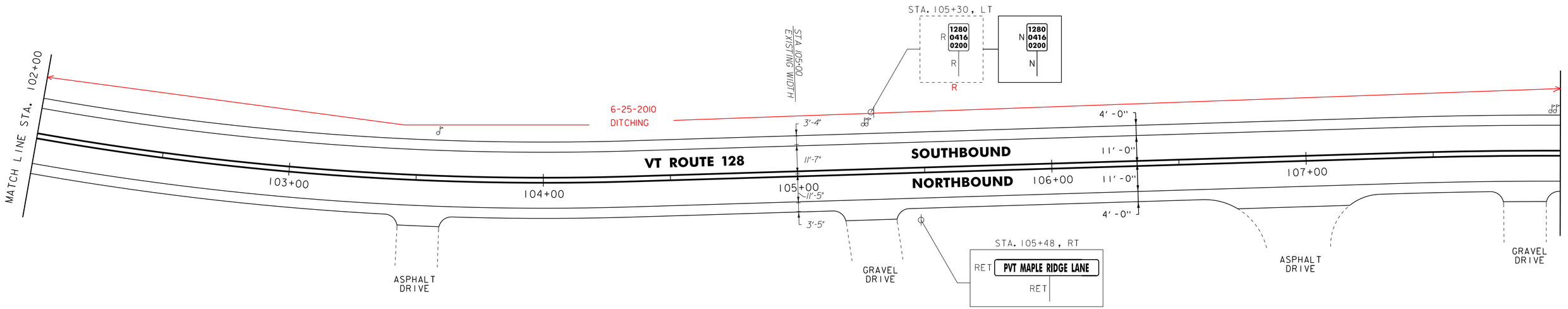
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 102+00 TO 108+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 102+00 TO 108+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 102+00 TO 108+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 102+00 TO 108+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

Stantec

PROJECT LAYOUT SHEET #4

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l04.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 20 OF 79

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 113+32.5 TO 114+00, RT

621.50 MANUFACTURED TERMINAL SECTION, FLARED
STA. 112+95 TO 113+32.5, RT
STA. 113+75 TO 114+00, LT

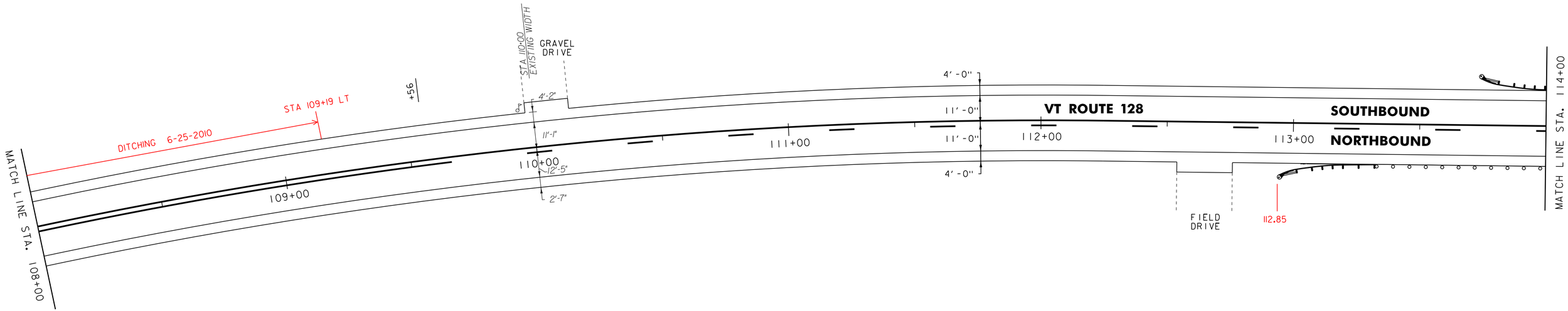
621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 112+96 TO 114+00, RT
STA. 113+97 TO 114+00, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 108+00 TO 114+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 108+00 TO 109+56, SOLID LT & RT
STA. 109+56 TO 114+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 108+00 TO 114+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 108+00 TO 109+56, SOLID LT & RT
STA. 109+56 TO 114+00, SOLID LT, DASHED RT



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #5

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l05.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 21 OF 79

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 114+12.5 TO 116+87.5, LT
STA. 114+00 TO 117+07.5, RT

621.50 MANUFACTURED TERMINAL SECTION, FLARED
STA. 114+00 TO 114+12.5, LT
STA. 116+87.5 TO 117+25, LT
STA. 117+07.5 TO 117+45, RT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 114+00 TO 116+37, RT
STA. 114+00 TO 117+00, LT

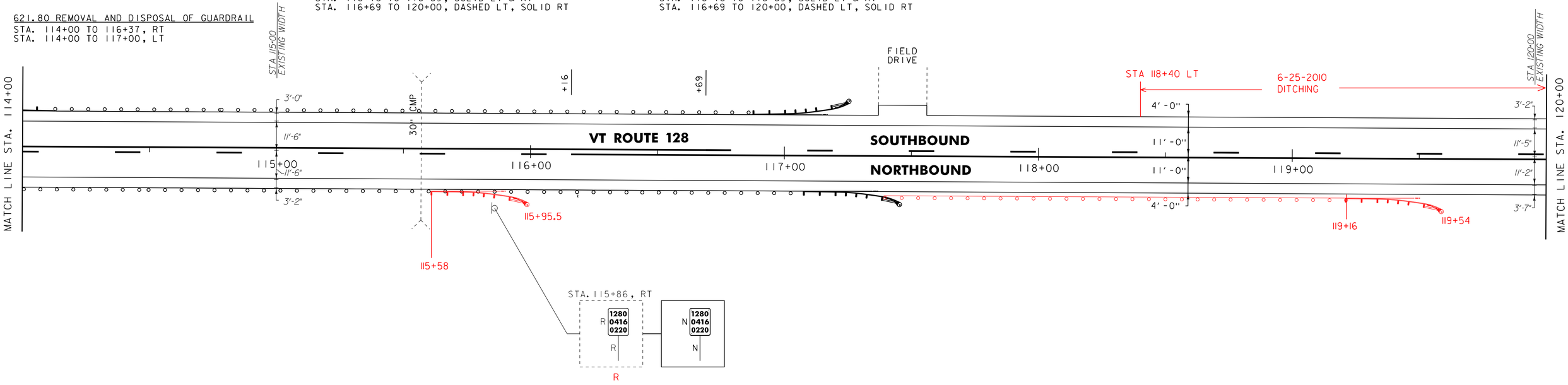
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 114+00 TO 120+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 114+00 TO 116+16, SOLID LT, DASHED RT
STA. 116+16 TO 116+69, SOLID LT & RT
STA. 116+69 TO 120+00, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 114+00 TO 120+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 114+00 TO 116+16, SOLID LT, DASHED RT
STA. 116+16 TO 116+69, SOLID LT & RT
STA. 116+69 TO 120+00, DASHED LT, SOLID RT

675.50 REMOVING SIGNS
AS SHOWN - 1

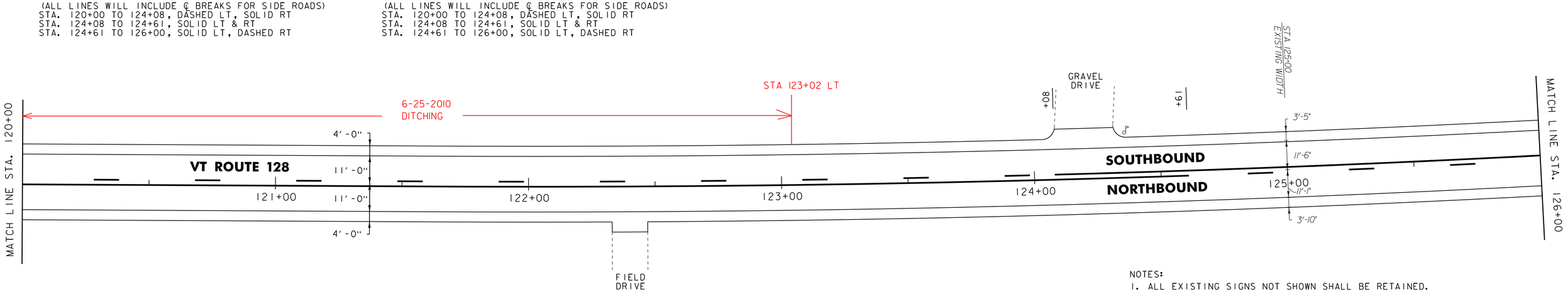


646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 120+00 TO 126+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 120+00 TO 124+08, DASHED LT, SOLID RT
STA. 124+08 TO 124+61, SOLID LT & RT
STA. 124+61 TO 126+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 120+00 TO 126+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 120+00 TO 124+08, DASHED LT, SOLID RT
STA. 124+08 TO 124+61, SOLID LT & RT
STA. 124+61 TO 126+00, SOLID LT, DASHED RT



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

Stantec

PROJECT LAYOUT SHEET #6

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212106.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 22 OF 79

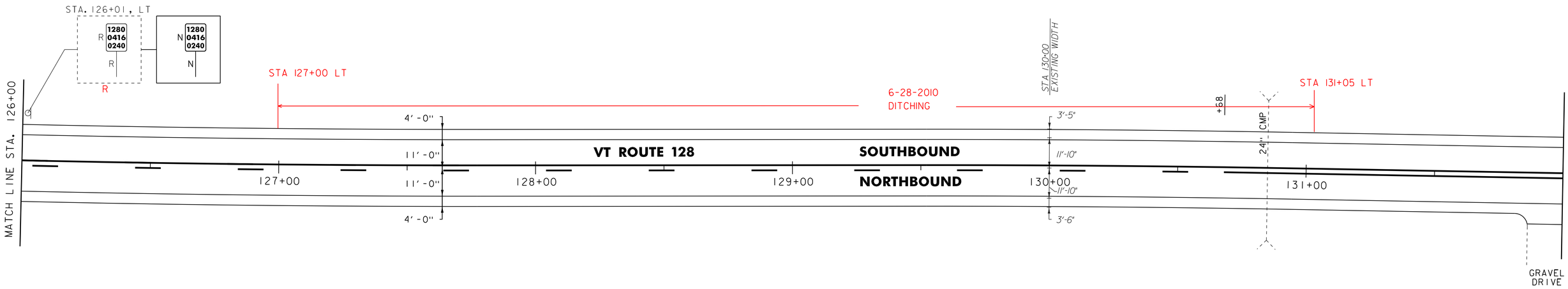
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 126+00 TO 132+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 126+00 TO 130+68, SOLID LT, DASHED RT
STA. 130+68 TO 132+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 126+00 TO 132+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 126+00 TO 130+68, SOLID LT, DASHED RT
STA. 130+68 TO 132+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



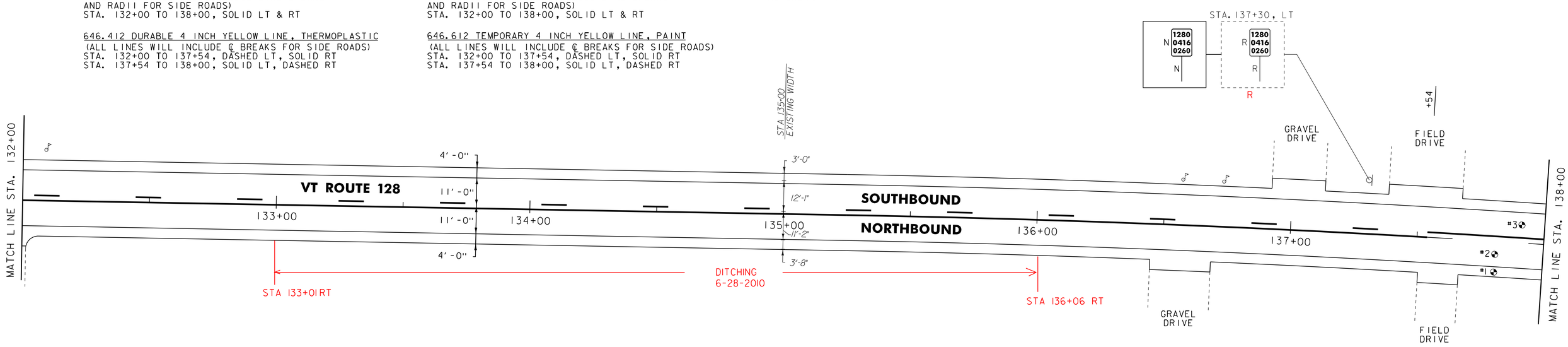
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 132+00 TO 138+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 132+00 TO 137+54, DASHED LT, SOLID RT
STA. 137+54 TO 138+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 132+00 TO 138+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 132+00 TO 137+54, DASHED LT, SOLID RT
STA. 137+54 TO 138+00, SOLID LT, DASHED RT

675.50 REMOVING SIGNS
AS SHOWN - 1



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
1	3 1/4"	NO	
2	5"	NO	
3	3 1/4"	NO	

R=1

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #7

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

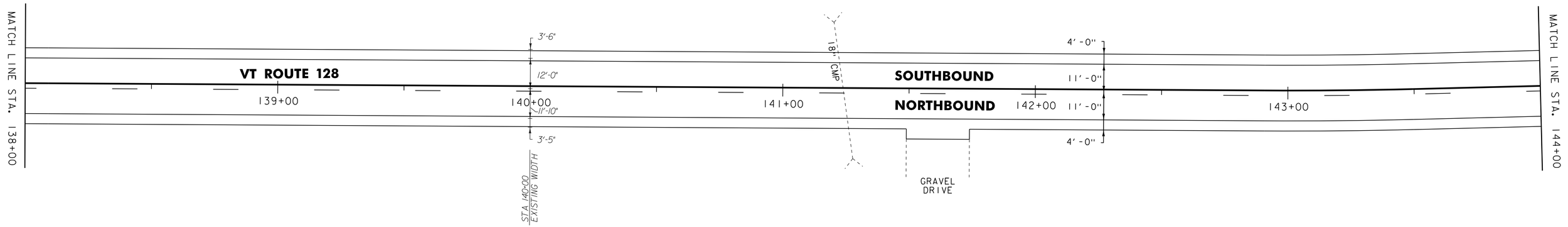
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212107.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 23 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 138+00 TO 144+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 138+00 TO 144+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 138+00 TO 144+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 138+00 TO 144+00, SOLID LT, DASHED RT

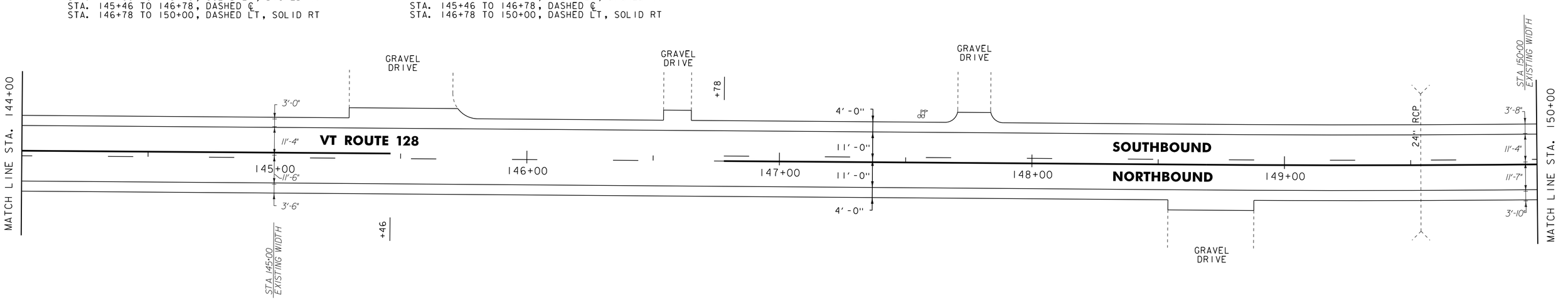


646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 144+00 TO 150+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 144+00 TO 145+46, SOLID LT, DASHED RT
STA. 145+46 TO 146+78, DASHED ℄
STA. 146+78 TO 150+00, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 144+00 TO 150+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 144+00 TO 145+46, SOLID LT, DASHED RT
STA. 145+46 TO 146+78, DASHED ℄
STA. 146+78 TO 150+00, DASHED LT, SOLID RT



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #8

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I08.i

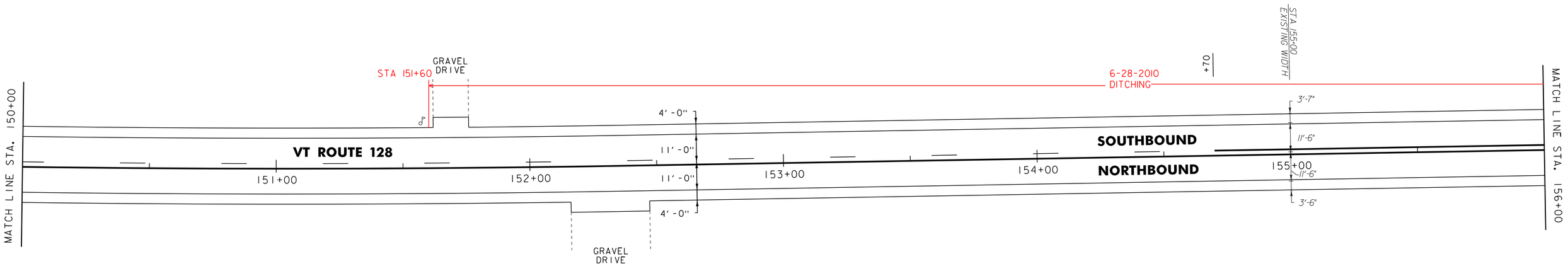
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 150+00 TO 156+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 150+00 TO 154+70, DASHED LT, SOLID RT
STA. 154+70 TO 156+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 150+00 TO 156+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 150+00 TO 154+70, DASHED LT, SOLID RT
STA. 154+70 TO 156+00, SOLID LT & RT

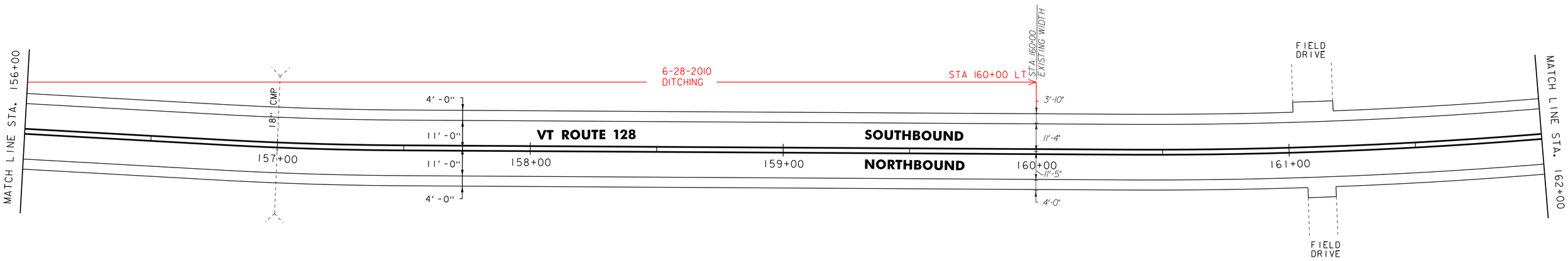


646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 156+00 TO 162+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 156+00 TO 162+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 156+00 TO 162+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 156+00 TO 162+00, SOLID LT & RT



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #9

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l09.i

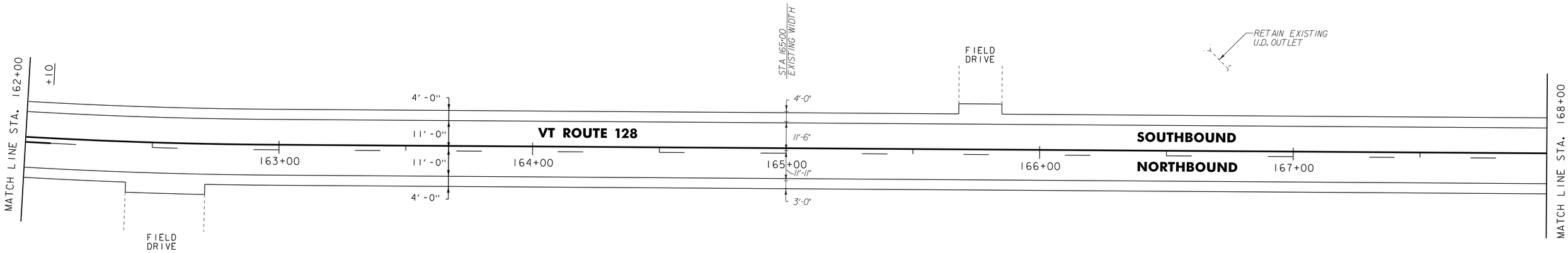
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 25 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 162+00 TO 168+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 162+00 TO 162+10, SOLID LT & RT
STA. 162+10 TO 168+00, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 162+00 TO 168+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 162+00 TO 162+10, SOLID LT & RT
STA. 162+10 TO 168+00, SOLID LT, DASHED RT



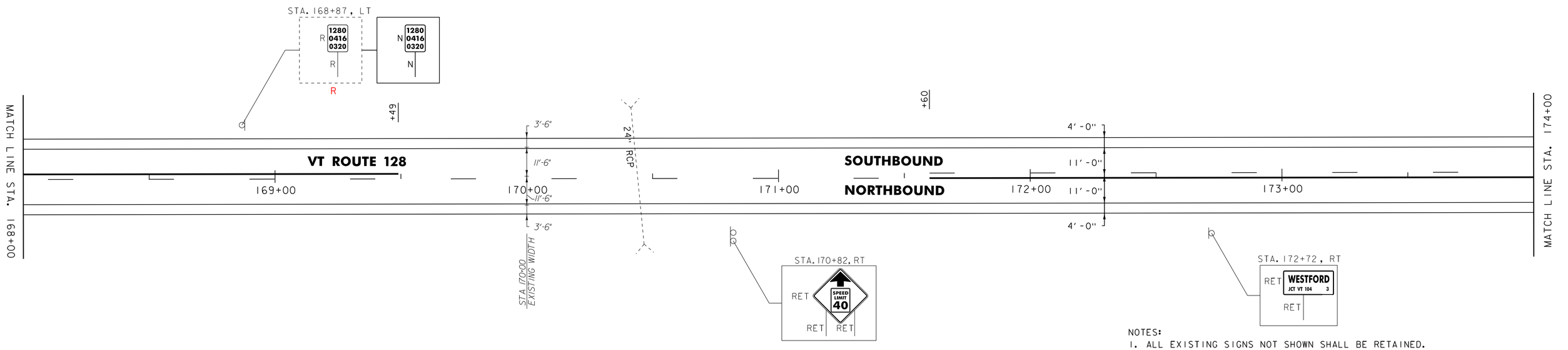
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 168+00 TO 174+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 168+00 TO 169+49, SOLID LT, DASHED RT
STA. 169+49 TO 171+60, DASHED ℄
STA. 171+60 TO 174+00, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 168+00 TO 174+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 168+00 TO 169+49, SOLID LT, DASHED RT
STA. 169+49 TO 171+60, DASHED ℄
STA. 171+60 TO 174+00, DASHED LT, SOLID RT

675.50 REMOVING SIGNS
AS SHOWN - 1



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

Stantec

PROJECT LAYOUT SHEET #10

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l10.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 26 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 174+00 TO 180+00, SOLID LT & RT
STA. 177+27, SOLID RT (TH 19 EDGELINES)

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 174+00 TO 176+77, DASHED LT, SOLID RT
STA. 176+77 TO 180+00, SOLID LT & RT
STA. 177+27, DOUBLE SOLID RT (TH 19)

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 174+00 TO 180+00, SOLID LT & RT
STA. 177+27, SOLID RT (TH 19 EDGELINES)

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 174+00 TO 176+77, DASHED LT, SOLID RT
STA. 176+77 TO 180+00, SOLID LT & RT
STA. 177+27, DOUBLE SOLID RT (TH 19)

646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 177+27, RT (TH 19)

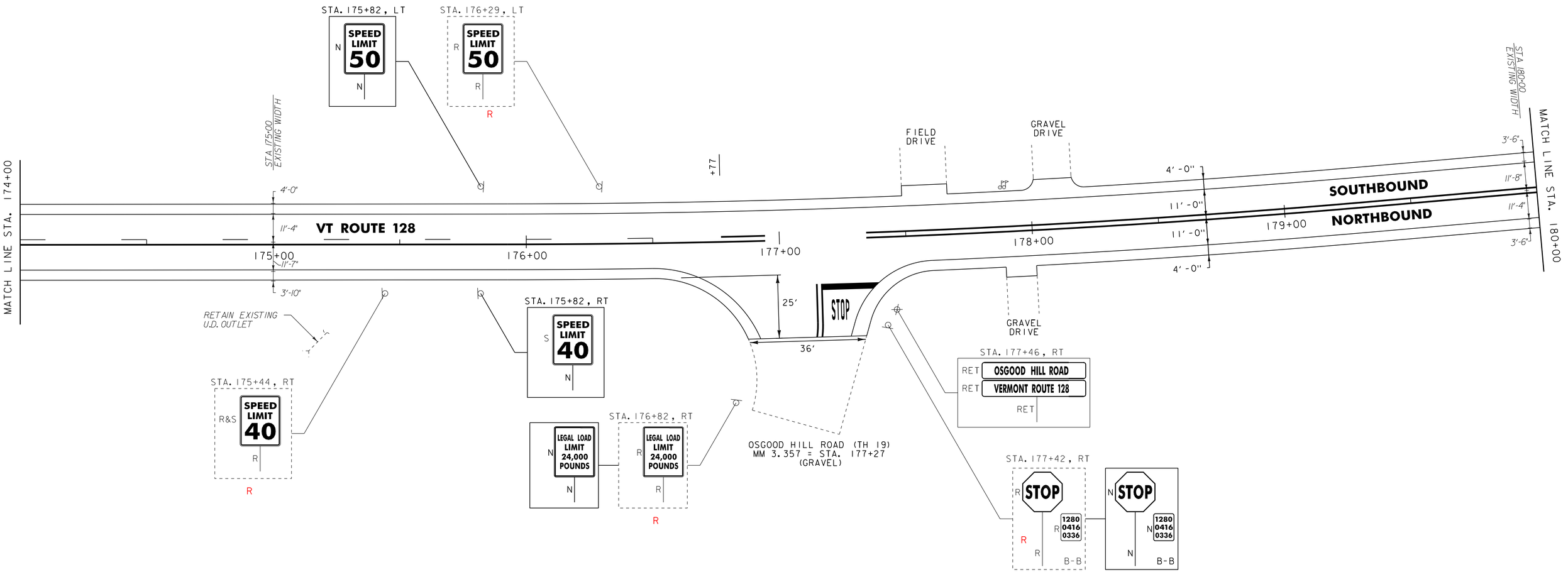
646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 177+27, RT - "STOP"

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 177+27, RT (TH 19)

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 177+27, RT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 5

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 1



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=4

Stantec

PROJECT LAYOUT SHEET #11

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l11.i

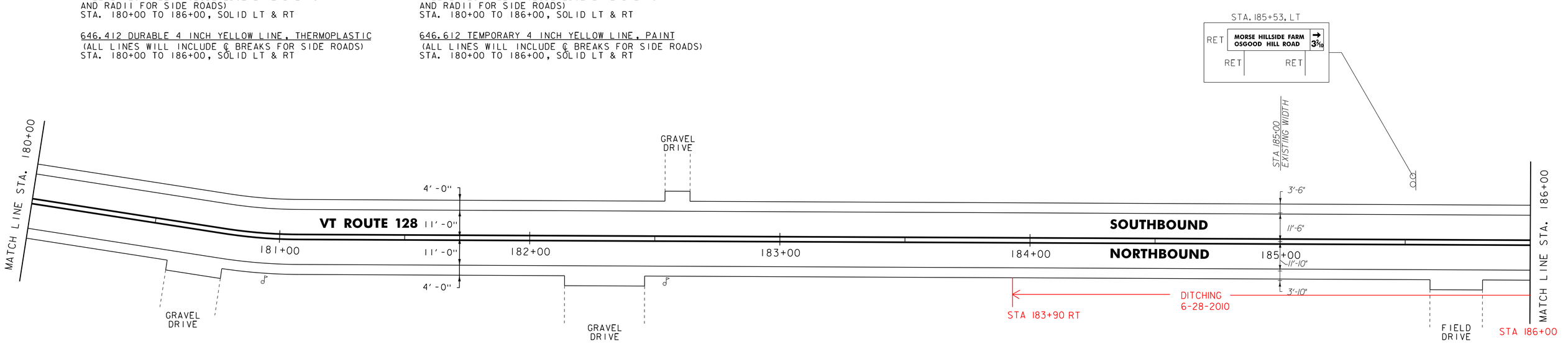
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 27 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 180+00 TO 186+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 180+00 TO 186+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 180+00 TO 186+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 180+00 TO 186+00, SOLID LT & RT



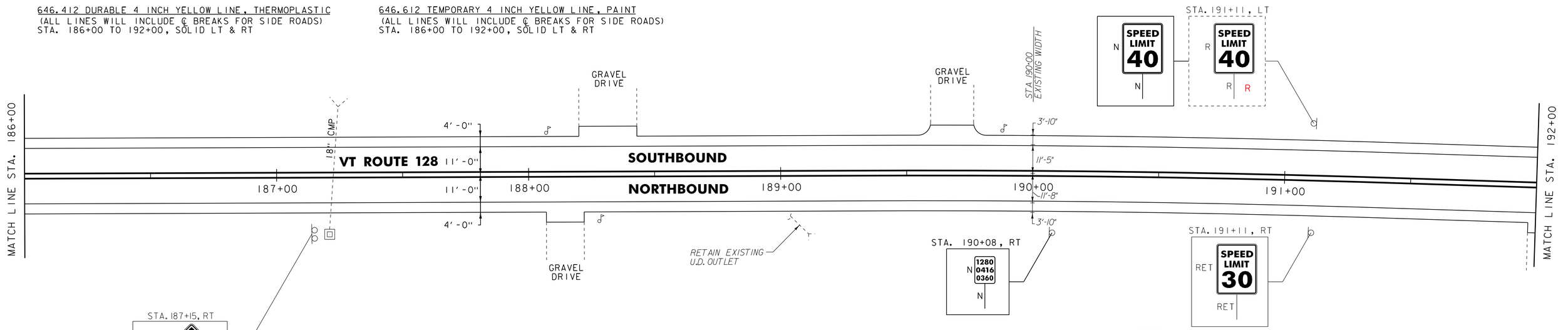
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 186+00 TO 192+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 186+00 TO 192+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 186+00 TO 192+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 186+00 TO 192+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

Stantec

PROJECT LAYOUT SHEET #12

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l12.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 28 OF 79

604.412 REHAB. DI'S, CB'S OR MH'S, CLASS I
STA. 193+85, RT

616.35 TREATED TIMBER CURB
STA. 193+83 TO 194+12, RT

616.47 BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS
STA. 193+85 TO 194+12, RT
(SEE DETAIL ON MISCELLANEOUS DETAIL SHEET)

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
193+25 STA. ~~192+74.5~~ TO 193+87, RT
193+00 STA. ~~193+68.25~~ TO 193+80.75, LT
194+87 STA. ~~195+11~~ TO ~~196+11~~, LT 194+99
195+11 STA. ~~195+17.25~~ TO ~~195+54.75~~, RT 195+42

621.21 HD STEEL BEAM GUARDRAIL, GALVANIZED
193+87 STA. ~~193+80.75~~ TO 194+12, LT
STA. 193+87 TO 194+12, RT
STA. 194+86.7 TO ~~195+11~~, LT 194+99
STA. 194+86 TO 195+17.25, RT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 192+74.5, RT
STA. 193+68.25, LT
STA. 195+54.75, RT
STA. 196+11, LT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 193+17 TO 194+12, RT
STA. 193+70 TO 194+12, LT
STA. 194+86 TO 195+45, RT
STA. 194+86 TO 195+78, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 192+00 TO 198+00, SOLID LT & RT

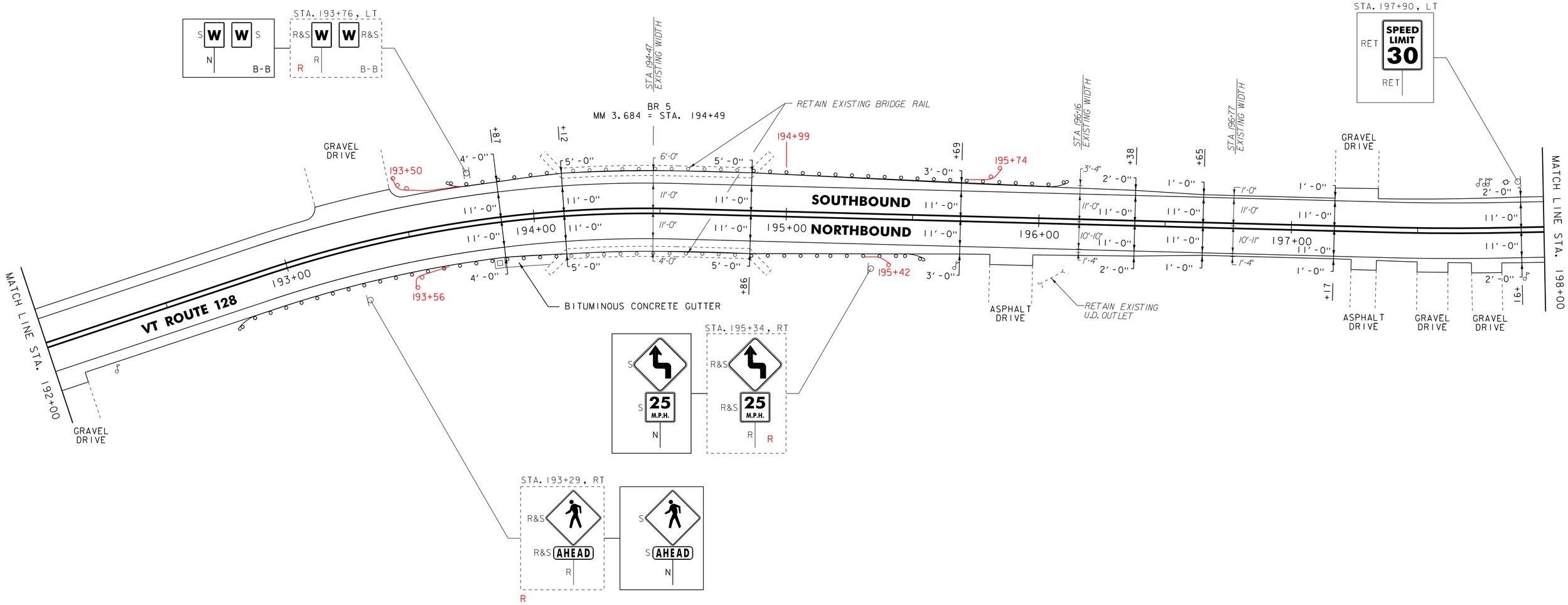
646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 192+00 TO 198+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 192+00 TO 198+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 192+00 TO 198+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 6

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 6



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #13

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I13.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 29 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 198+00 TO 203+00, SOLID LT & RT
STA. 199+28, SOLID LT (TH 33 EDGELINES)
STA. 201+14, SOLID RT (TH 3 EDGELINES)

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 198+00 TO 203+00, SOLID LT & RT
STA. 199+28, DOUBLE SOLID LT (TH 33)
STA. 201+14, DOUBLE SOLID RT (TH 3)

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 198+00 TO 203+00, SOLID LT & RT
STA. 199+28, SOLID LT (TH 33 EDGELINES)
STA. 201+14, SOLID RT (TH 3 EDGELINES)

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 198+00 TO 203+00, SOLID LT & RT
STA. 199+28, DOUBLE SOLID LT (TH 33)
STA. 201+14, DOUBLE SOLID RT (TH 3)

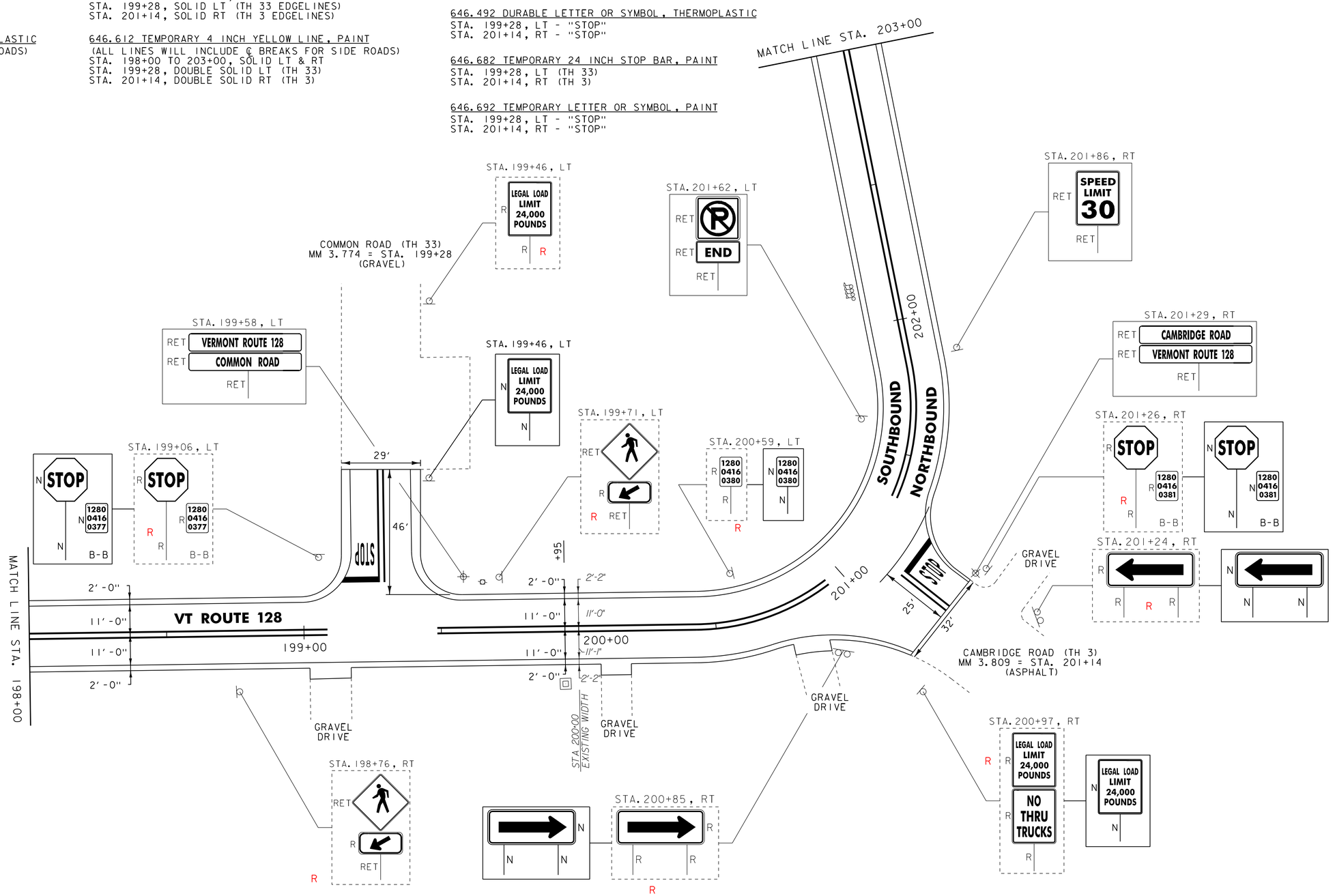
646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 199+28, LT (TH 33)
STA. 201+14, RT (TH 3)

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 199+28, LT - "STOP"
STA. 201+14, RT - "STOP"

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 199+28, LT (TH 33)
STA. 201+14, RT (TH 3)

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 199+28, LT - "STOP"
STA. 201+14, RT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 12



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=9

Stantec

PROJECT LAYOUT SHEET #14

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l14.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 30 OF 79

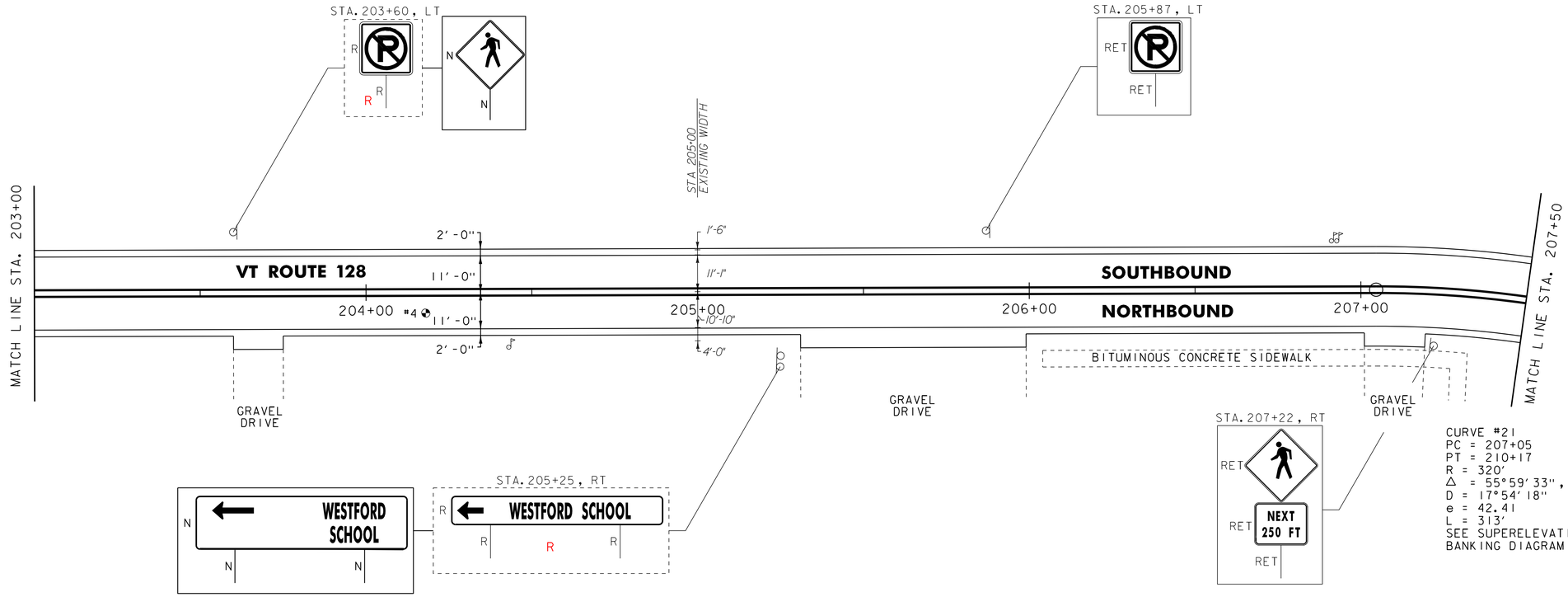
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 203+00 TO 207+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 203+00 TO 207+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 203+00 TO 207+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 203+00 TO 207+50, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 2



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
4	11"	NO	

R=2

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #15

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l15.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 31 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 211+60, RT
STA. 211+62, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 207+50 TO 213+00, SOLID LT & RT
STA. 208+28, SOLID LT (TH 1 EDGELINES)

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 207+50 TO 213+00, SOLID LT & RT
STA. 208+28, DOUBLE SOLID LT (TH 1)

646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 208+28, LT (TH 1)

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 208+28, LT - "STOP"

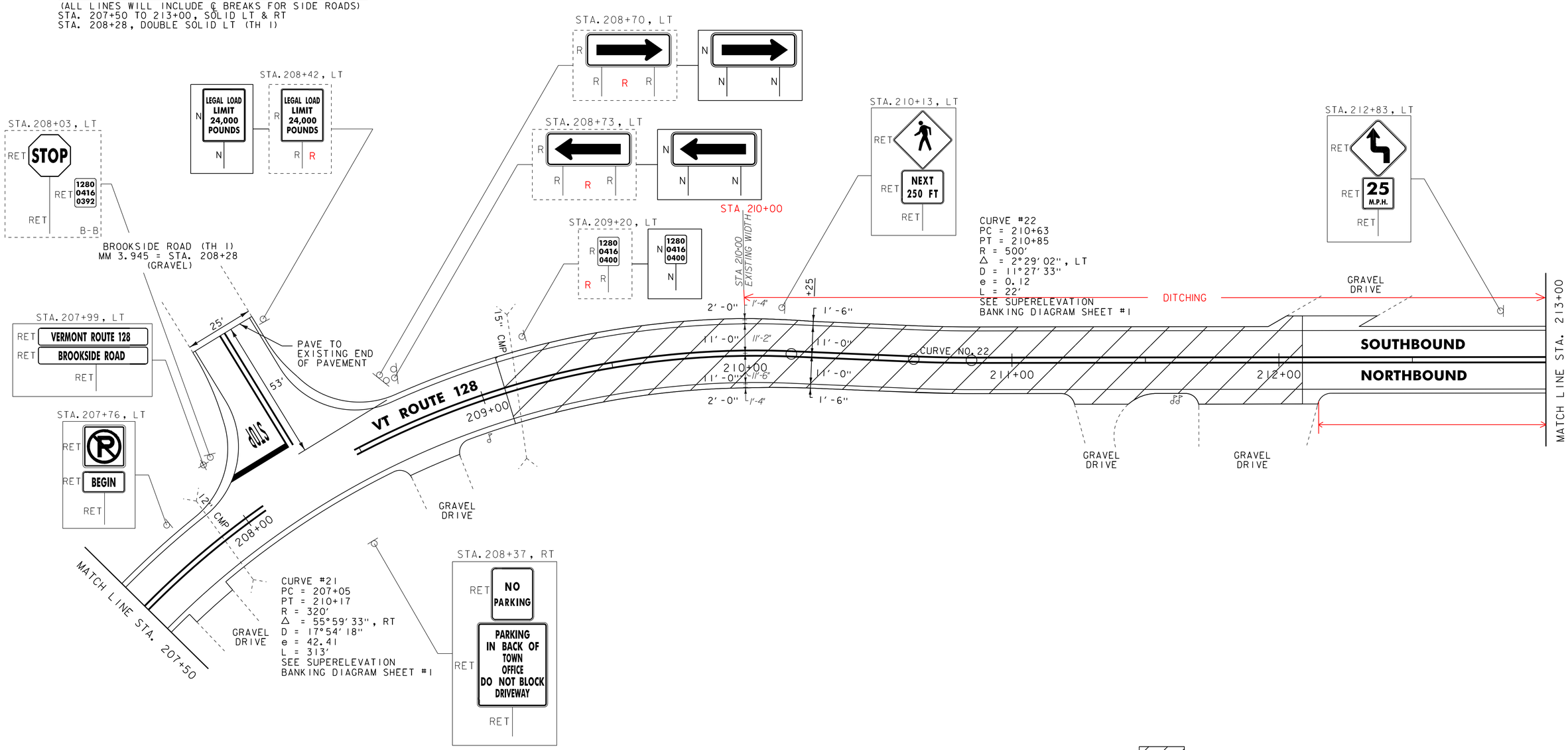
646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 207+50 TO 213+00, SOLID LT & RT
STA. 208+28, SOLID LT (TH 1 EDGELINES)

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 207+50 TO 213+00, SOLID LT & RT
STA. 208+28, DOUBLE SOLID LT (TH 1)

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 208+28, LT (TH 1)

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 208+28, LT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 4



COLD PLANE TO RECLAIM TRANSITION AREA
(SEE DETAIL ON TYPICAL SHEET #2)

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=4

Stantec

PROJECT LAYOUT SHEET #16

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l16.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 32 OF 79

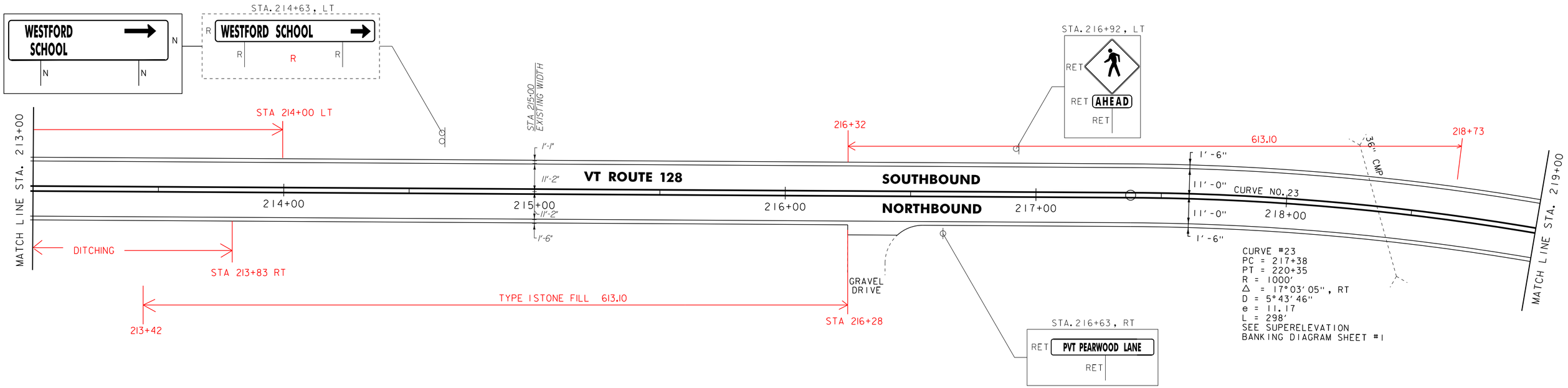
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 213+00 TO 219+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 213+00 TO 219+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 213+00 TO 219+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 213+00 TO 219+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



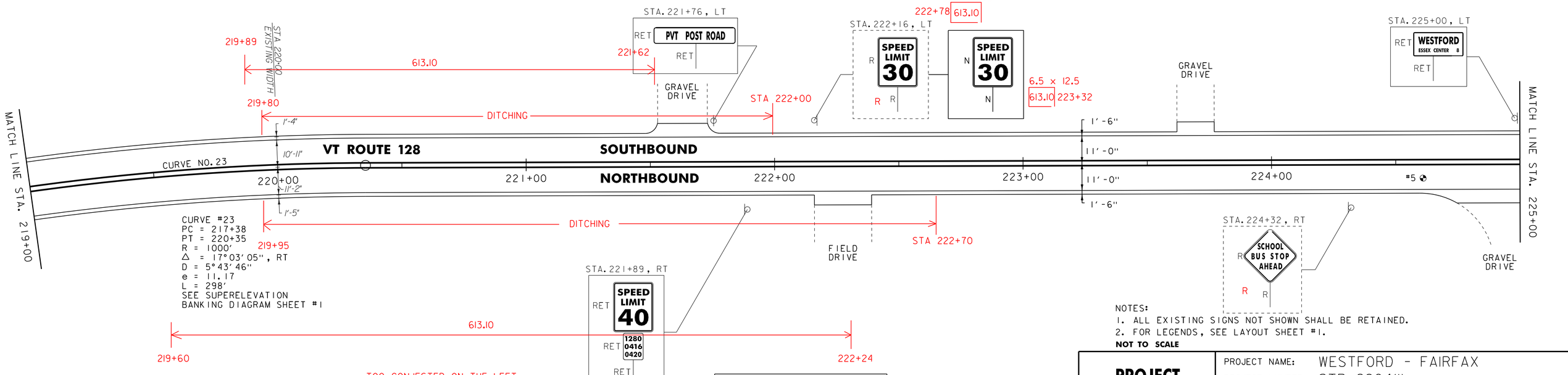
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 219+00 TO 225+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 219+00 TO 225+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 219+00 TO 225+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 219+00 TO 225+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 2



TOO CONJESTED ON THE LEFT, NOPLACE TO PLOT THIS

PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
5	3"	NO	

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=3

Stantec

PROJECT LAYOUT SHEET #17

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l17.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 33 OF 79

616.35 TREATED TIMBER CURB
STA. 229+00 TO 229+60, RT

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 225+04, RT
STA. 225+06, RT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. ~~226+70.5~~ 228+33 TO 230+08, RT
228+82.5 - 229+20 LT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. ~~226+70.5, RT~~ 228+33 RT
STA. 230+08, RT

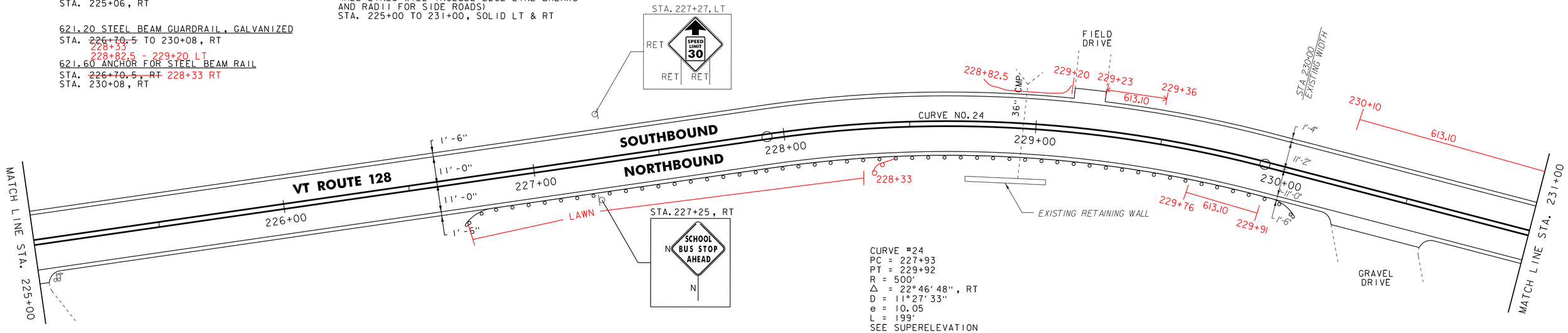
621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 228+28 TO 230+08, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 225+00 TO 231+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 225+00 TO 231+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 225+00 TO 231+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 225+00 TO 231+00, SOLID LT & RT



CURVE #24
PC = 227+93
PT = 229+92
R = 500'
Δ = 22°46'48", RT
D = 11°27'33"
e = 10.05
L = 199'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #2

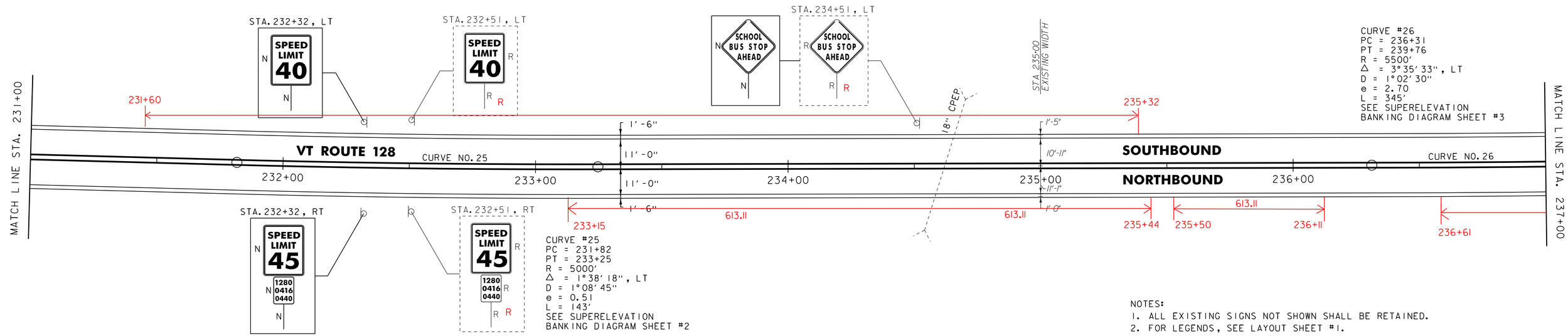
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 231+00 TO 237+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE C BREAKS FOR SIDE ROADS)
STA. 231+00 TO 237+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 231+00 TO 237+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 231+00 TO 237+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 4



CURVE #25
PC = 231+82
PT = 233+25
R = 5000'
Δ = 1°38'18", LT
D = 1°08'45"
e = 0.51
L = 143'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #2

CURVE #26
PC = 236+31
PT = 239+76
R = 5500'
Δ = 3°35'33", LT
D = 1°02'30"
e = 2.70
L = 345'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #3

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=3

Stantec

PROJECT LAYOUT SHEET #18

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l18.i
PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 34 OF 79

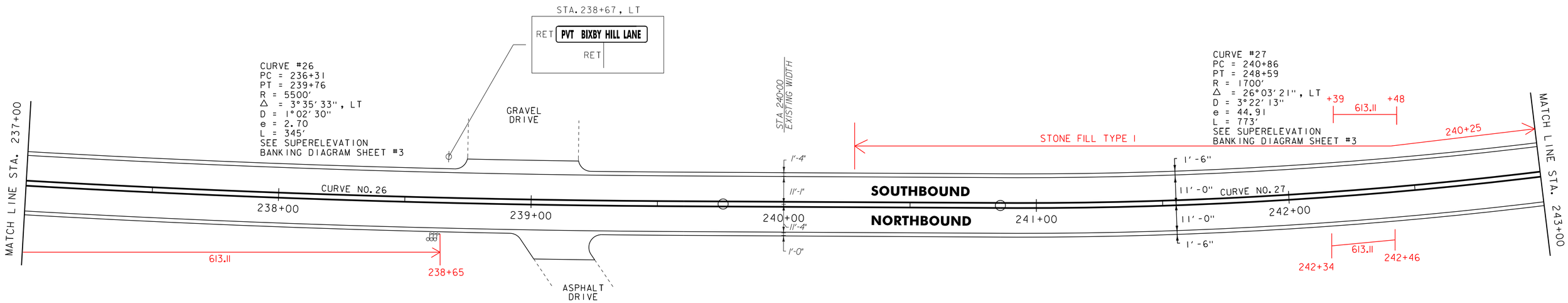
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 238+59, RT
STA. 238+61, RT
STA. 238+63, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 237+00 TO 243+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 237+00 TO 243+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 237+00 TO 243+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 237+00 TO 243+00, SOLID LT & RT



621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 244+85 TO 249+00, LT 246+04 TO 247+42 LT
STA. 245+79 TO 246+29, RT
STA. 246+79 TO 248+29, RT (BURIED END)

621.205 STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS
STA. 246+29 TO 246+79, RT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 244+85, LT 246+04 LT
STA. 245+79, RT
STA. 248+29, RT
STA 247+42 LT

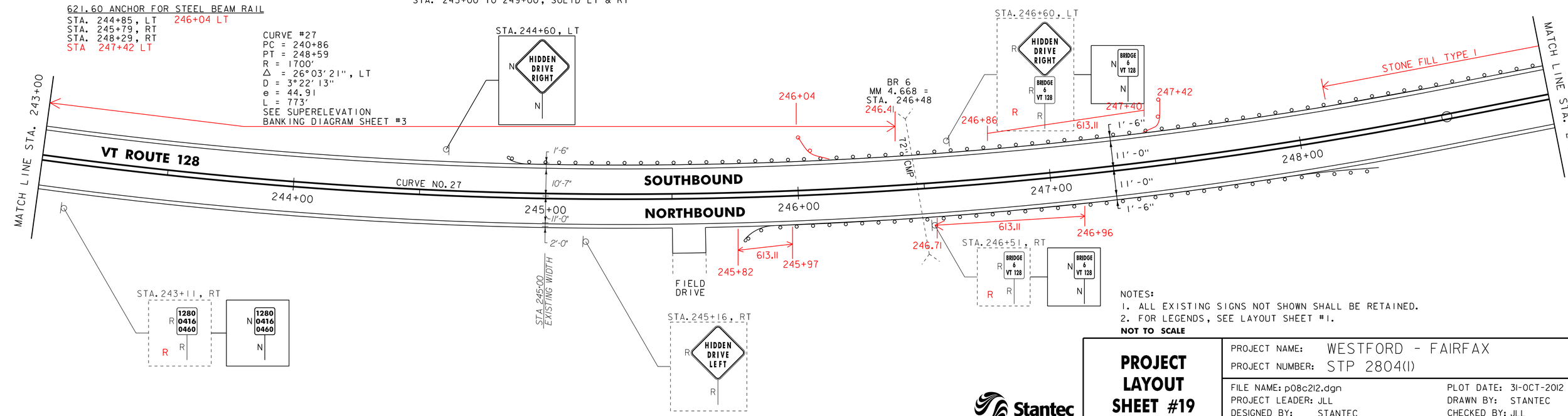
621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 245+86 TO 247+99, RT
STA. 246+06 TO 247+42, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 243+00 TO 249+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 243+00 TO 249+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 243+00 TO 249+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 5



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #19

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l19.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 35 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 249+96, RT
STA. 250+53, RT
STA. 250+55, RT
STA. 251+75, RT
STA. 253+46, RT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 249+00 TO 249+22.5, LT

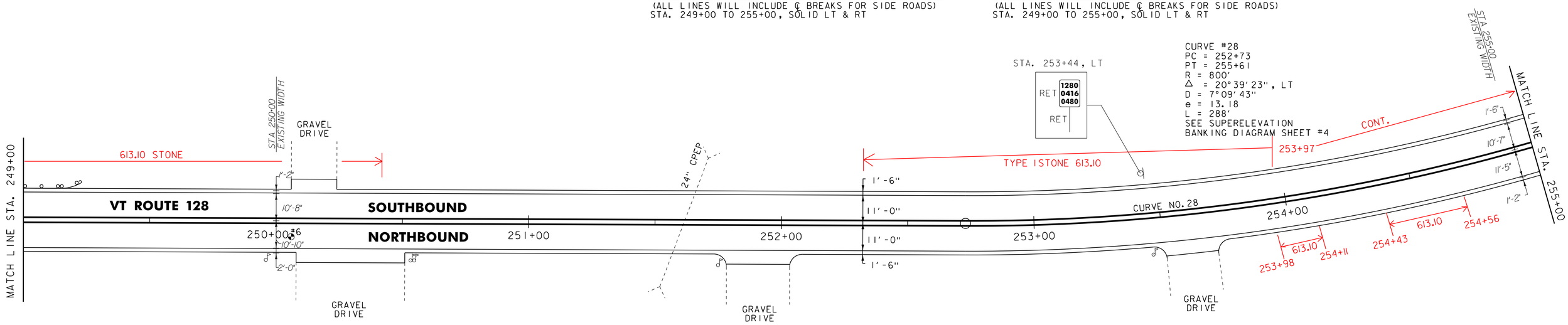
621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 249+22.5, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 249+00 TO 255+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 249+00 TO 255+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 249+00 TO 255+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 249+00 TO 255+00, SOLID LT & RT



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
6	4"	NO	

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 257+18, RT
STA. 260+27, RT

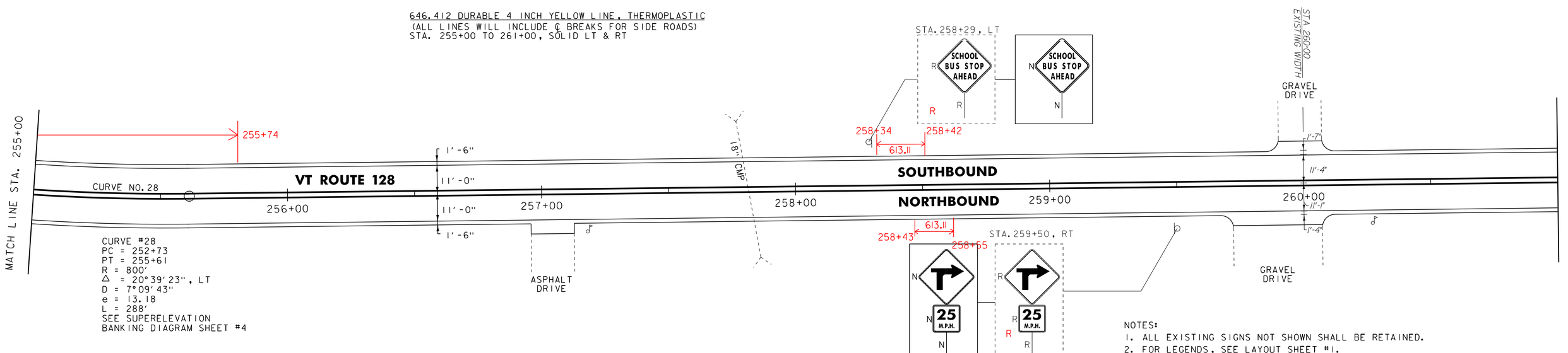
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 255+00 TO 261+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 255+00 TO 261+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 255+00 TO 261+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 255+00 TO 261+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 3



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #20

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I20.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 36 OF 79

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 264+31 TO 265+31. LT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 264+31, LT
STA. 265+31, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 261+00 TO 267+00, SOLID LT & RT
STA. 264+68, SOLID LT (TH 7 EDGELINES)

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 261+00 TO 267+00, SOLID LT & RT
STA. 264+68, DOUBLE SOLID LT (TH 7)

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 261+00 TO 267+00, SOLID LT & RT
STA. 264+68, SOLID LT (TH 7 EDGELINES)

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 261+00 TO 267+00, SOLID LT & RT
STA. 264+68, DOUBLE SOLID LT (TH 7)

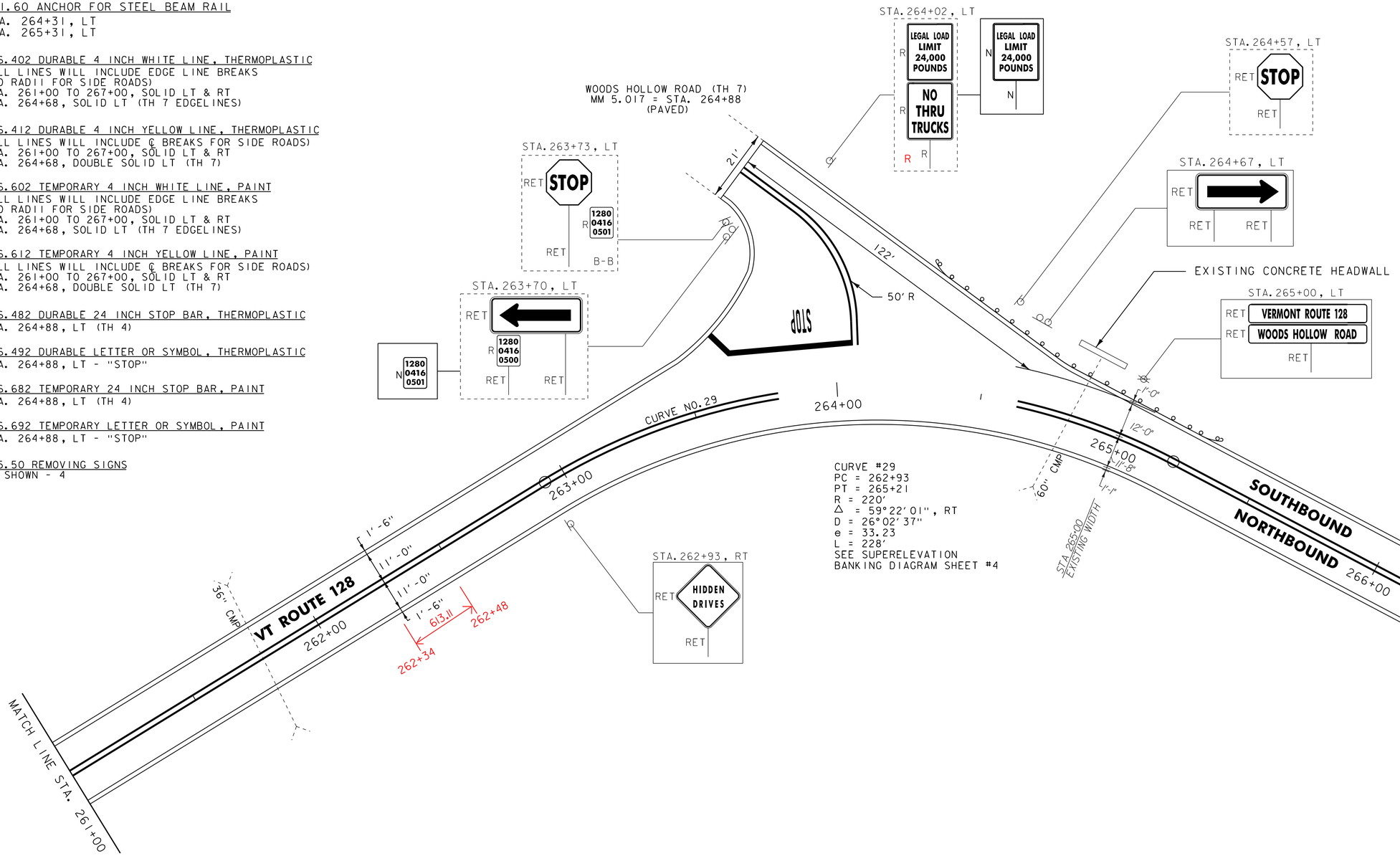
646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 264+88, LT (TH 4)

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 264+88, LT - "STOP"

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 264+88, LT (TH 4)

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 264+88, LT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 4



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

Stantec

PROJECT LAYOUT SHEET #21

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212121.i

PLOT DATE: 31-OCT-2012 13:57
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 37 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 267+70, RT
STA. 271+24, RT
STA. 272+14, LT

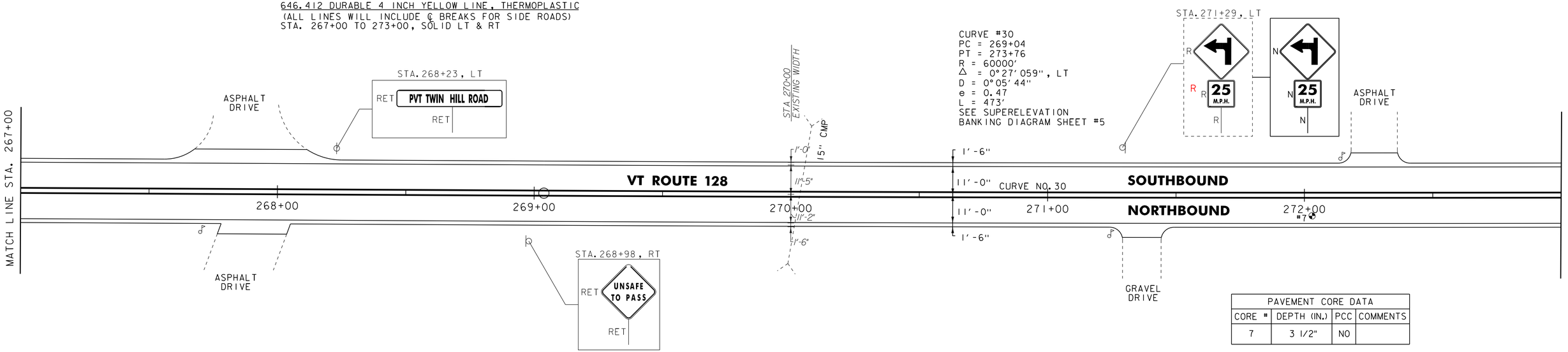
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 267+00 TO 273+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 267+00 TO 273+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 267+00 TO 273+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 267+00 TO 273+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 2



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
7	3 1/2"	NO	

617.12 RELOCATE MAILBOX, MULTIPLE SUPPORT
STA. 274+58, LT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 273+31.5 TO 274+94, LT
STA. 274+81.5 TO 274+94, RT
STA. 275+56.5 TO 277+06.5, RT
STA. 277+19 TO 279+00, LT
(SEE GUARDRAIL DETAIL SHEET #1)

621.205 STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS
STA. 274+94 TO 275+06.5, RT
STA. 274+94 TO 275+06.5, LT
STA. 275+31.5 TO 275+56.5, RT
STA. 275+31.5 TO 277+19, LT

621.207 STEEL BEAM GUARDRAIL, GALVANIZED/NESTED W/8 FEET POSTS
STA. 275+06.5 TO 275+31.5, LT
STA. 275+06.5 TO 275+31.5, RT
(SEE GUARDRAIL DETAIL SHEET #1)

621.50 MANUFACTURED TERMINAL SECTION, FLARED
STA. 276+94 TO 277+31.5, RT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 273+31.5, LT
STA. 274+81.5, RT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 274+51 TO 278+16, LT
STA. 274+82 TO 276+72, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 273+00 TO 279+00, SOLID LT & RT

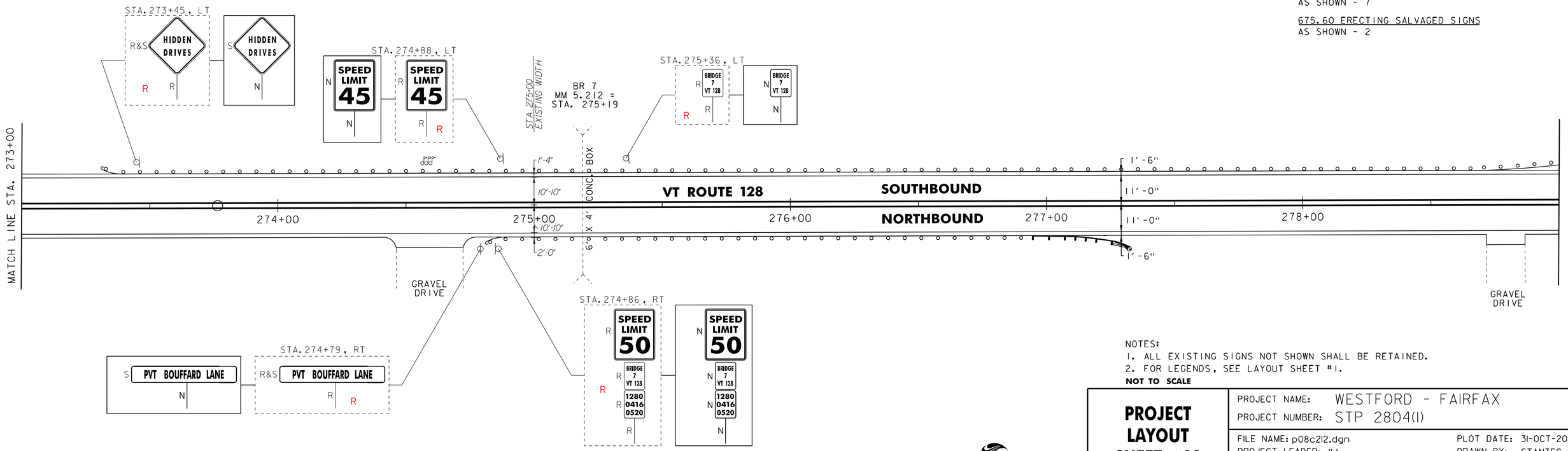
646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 273+00 TO 279+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 273+00 TO 279+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 273+00 TO 279+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 7

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 2



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #22

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l22.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 38 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 279+55, LT
STA. 282+05, LT

617.12 RELOCATE MAILBOX, MULTIPLE SUPPORT
STA. 281+40, LT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 279+00 TO 279+06.5, LT (BURIED END)
(SEE GUARDRAIL DETAIL SHEET)

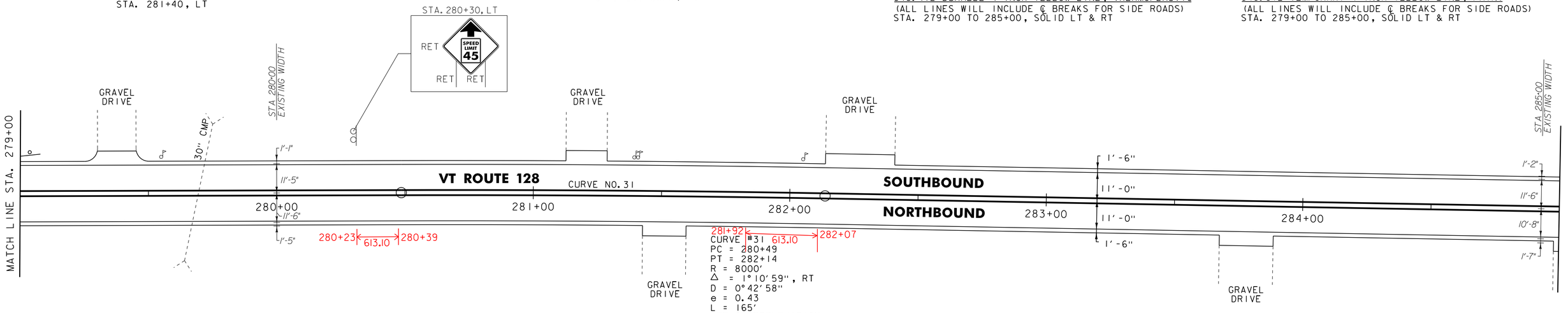
621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 279+06.5, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 279+00 TO 285+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 279+00 TO 285+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 279+00 TO 285+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 279+00 TO 285+00, SOLID LT & RT



CURVE #31
PC = 280+49
PT = 282+14
R = 8000'
△ = 1°10'59", RT
D = 0°42'58"
e = 0.43
L = 165'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #5

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 285+20, RT
STA. 288+25, LT

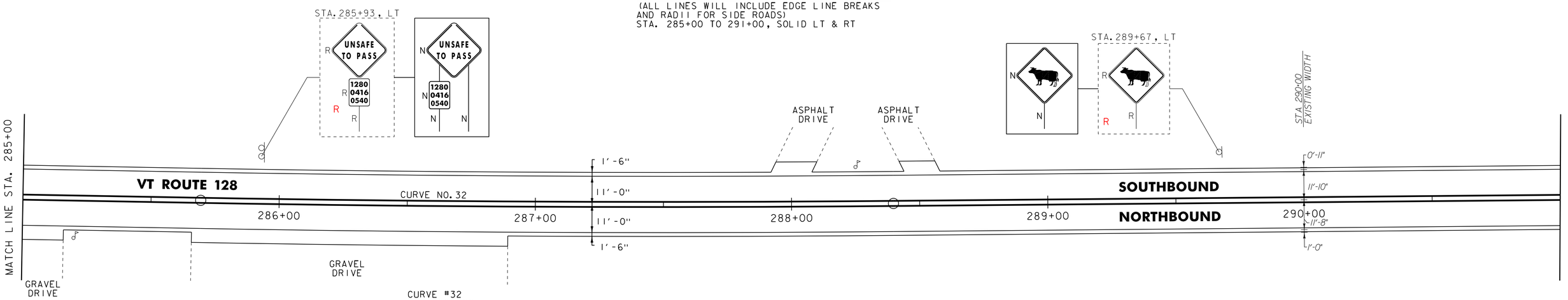
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 285+00 TO 291+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 285+00 TO 291+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 285+00 TO 291+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 285+00 TO 291+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 3



CURVE #32
PC = 285+69
PT = 288+40
R = 10000'
△ = 1°32'57", LT
D = 0°34'23"
e = 0.91
L = 270'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #5

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #23

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l23.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 39 OF 79

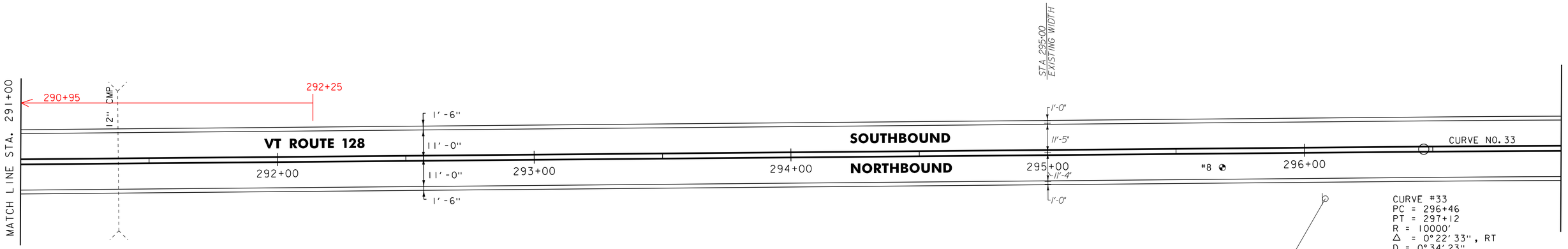
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 291+00 TO 297+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 291+00 TO 297+00, SOLID LT & RT

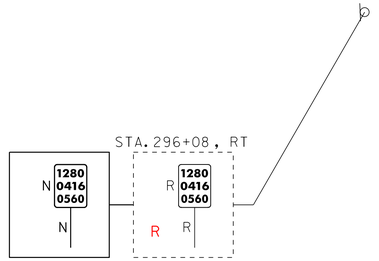
646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 291+00 TO 297+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 291+00 TO 297+00, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
8	4"	NO	



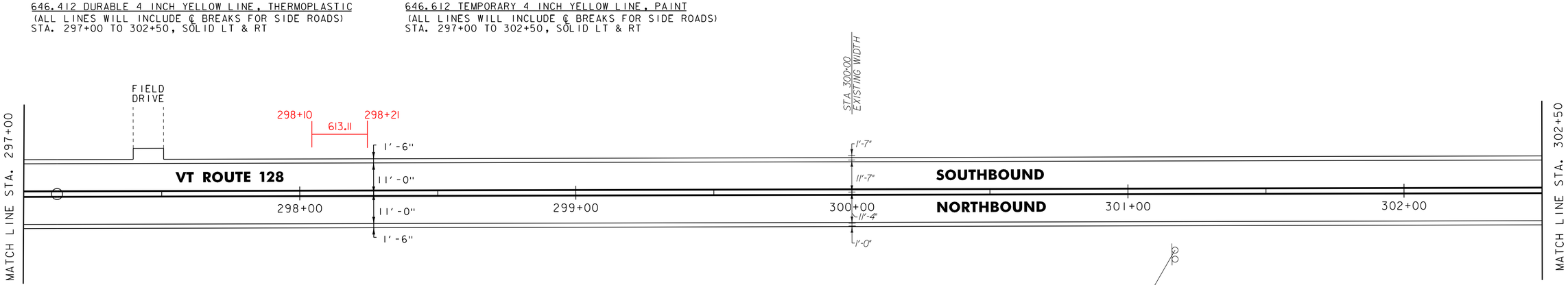
CURVE #33
PC = 296+46
PT = 297+12
R = 10000'
Δ = 0°22'33", RT
D = 0°34'23"
e = 0.05
L = 66'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #6

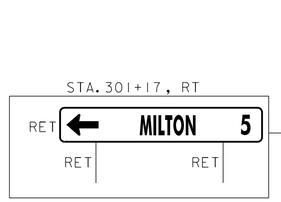
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 297+00 TO 302+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 297+00 TO 302+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 297+00 TO 302+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 297+00 TO 302+50, SOLID LT & RT





NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=1

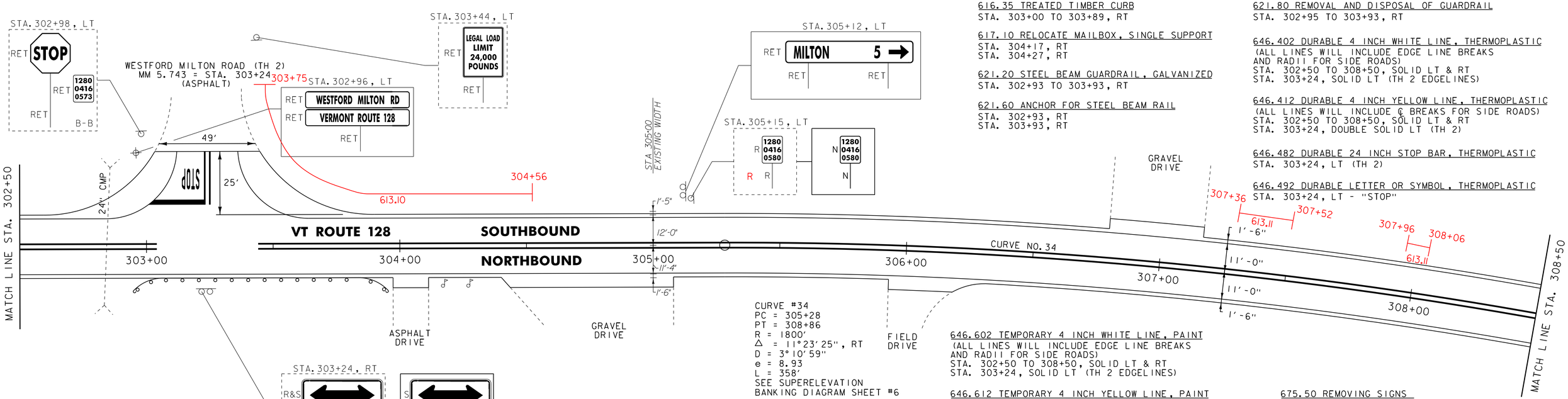
Stantec

PROJECT LAYOUT SHEET #24

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l24.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 40 OF 79



616.35 TREATED TIMBER CURB
STA. 303+00 TO 303+89, RT

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 304+17, RT
STA. 304+27, RT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 302+93 TO 303+93, RT

621.60 ANCHOR FOR STEEL BEAM RAIL
STA. 302+93, RT
STA. 303+93, RT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 302+95 TO 303+93, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 302+50 TO 308+50, SOLID LT & RT
STA. 303+24, SOLID LT (TH 2 EDGELINES)

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 302+50 TO 308+50, SOLID LT & RT
STA. 303+24, DOUBLE SOLID LT (TH 2)

646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 303+24, LT (TH 2)

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 303+24, LT - "STOP"

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 302+50 TO 308+50, SOLID LT & RT
STA. 303+24, SOLID LT (TH 2 EDGELINES)

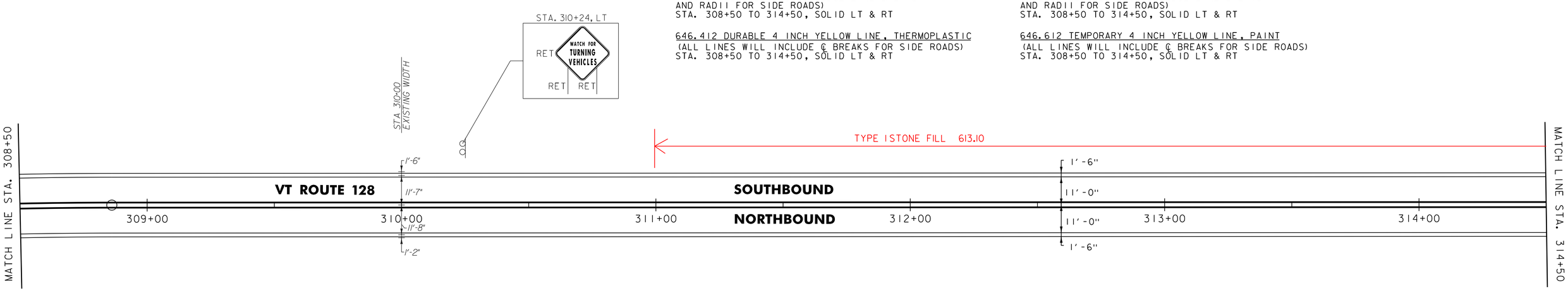
646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 302+50 TO 308+50, SOLID LT & RT
STA. 303+24, DOUBLE SOLID LT (TH 2)

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 303+24, LT (TH 2)

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 303+24, LT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 2

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 1



646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 308+50 TO 314+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 308+50 TO 314+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 308+50 TO 314+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 308+50 TO 314+50, SOLID LT & RT

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #25

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l25.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 41 OF 79

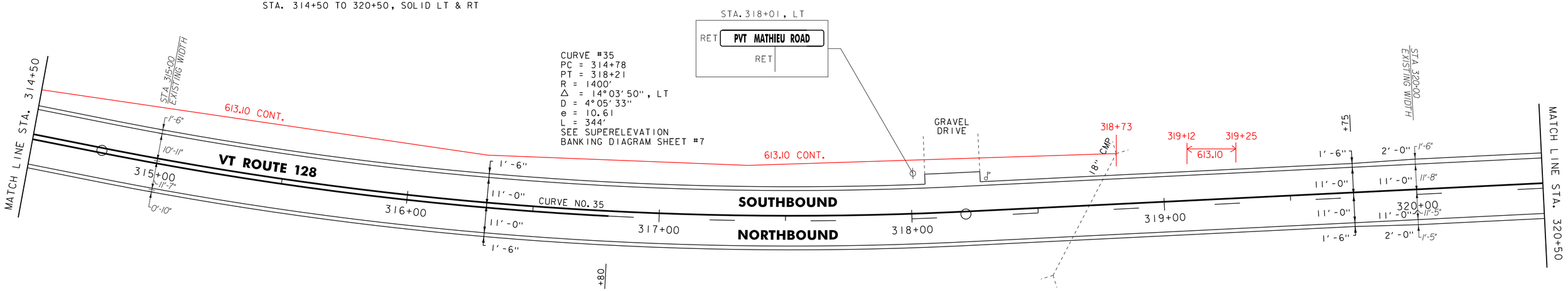
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 318+30, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 314+50 TO 320+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 314+50 TO 316+80, SOLID LT & RT
STA. 316+80 TO 320+50, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 314+50 TO 320+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 314+50 TO 316+80, SOLID LT & RT
STA. 316+80 TO 320+50, SOLID LT, DASHED RT



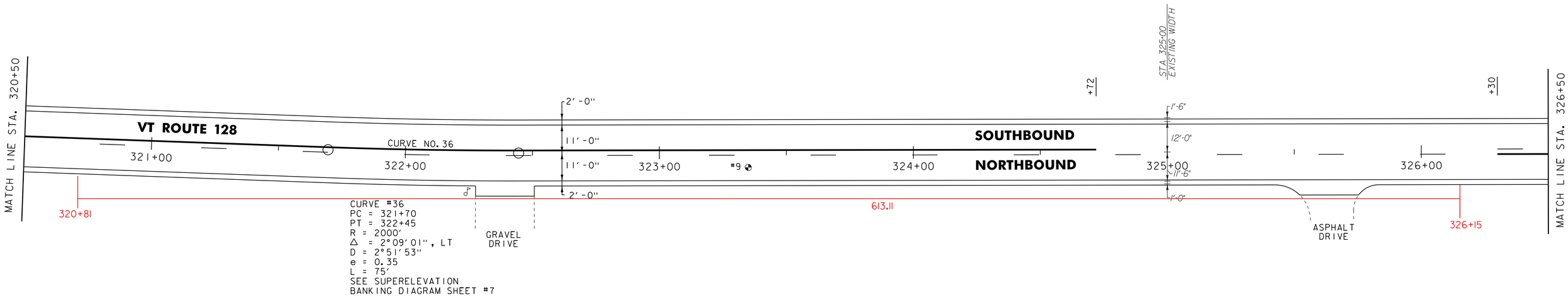
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 322+24, RT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 320+50 TO 326+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 320+50 TO 324+72, SOLID LT, DASHED RT
STA. 324+72 TO 326+30, DASHED ℄
STA. 326+30 TO 326+50, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 320+50 TO 326+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 320+50 TO 324+72, SOLID LT, DASHED RT
STA. 324+72 TO 326+30, DASHED ℄
STA. 326+30 TO 326+50, DASHED LT, SOLID RT



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
9	4"	NO	

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #26

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212126.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 42 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 329+93, RT

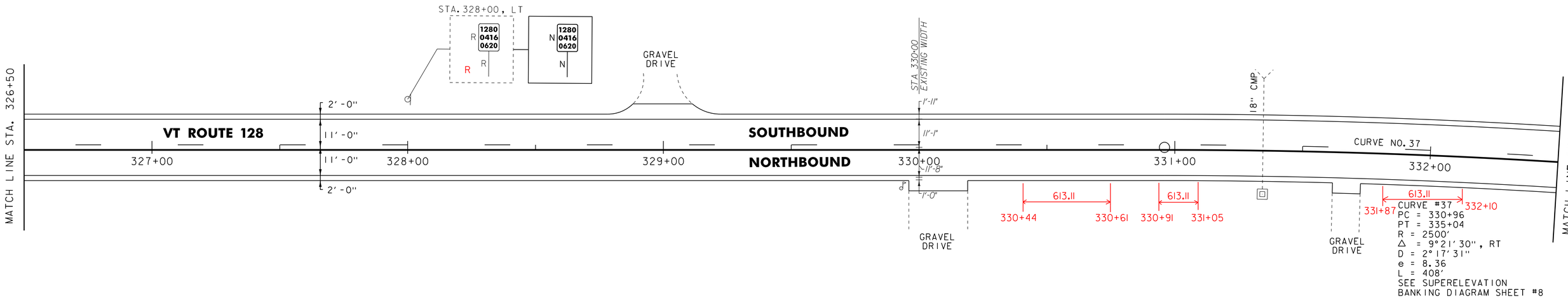
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 326+50 TO 332+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 326+50 TO 332+50, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 326+50 TO 332+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 326+50 TO 332+50, DASHED LT, SOLID RT

675.50 REMOVING SIGNS
AS SHOWN - 1



CURVE #37
PC = 330+96
PT = 335+04
R = 2500'
Δ = 9°21'30", RT
D = 2°17'31"
e = 8.36
L = 408'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #8

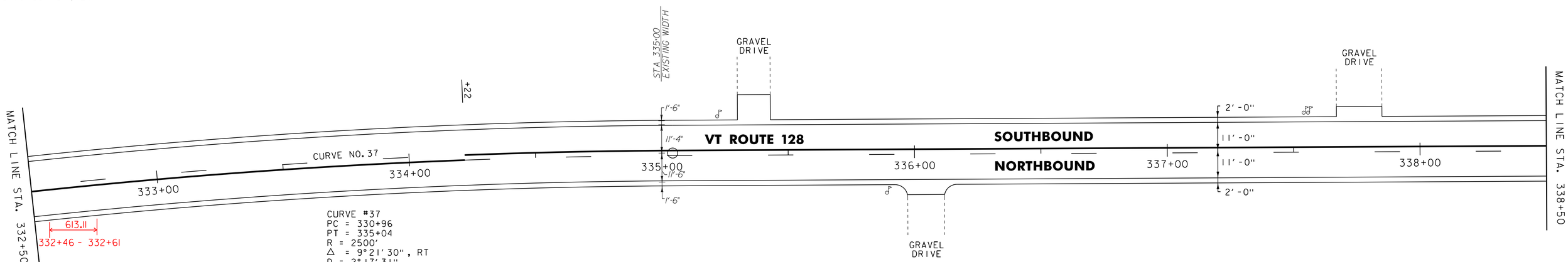
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 335+22, LT
STA. 335+89, RT
STA. 337+55, LT
STA. 337+57, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 332+50 TO 338+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 332+50 TO 334+22, DASHED LT, SOLID RT
STA. 334+22 TO 338+50, SOLID LT, DASHED RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 332+50 TO 338+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 332+50 TO 334+22, DASHED LT, SOLID RT
STA. 334+22 TO 338+50, SOLID LT, DASHED RT



CURVE #37
PC = 330+96
PT = 335+04
R = 2500'
Δ = 9°21'30", RT
D = 2°17'31"
e = 8.36
L = 408'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #8

R=1

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #27

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l27.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 43 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 341+76, RT
STA. 342+21, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 338+50 TO 344+50, SOLID LT & RT

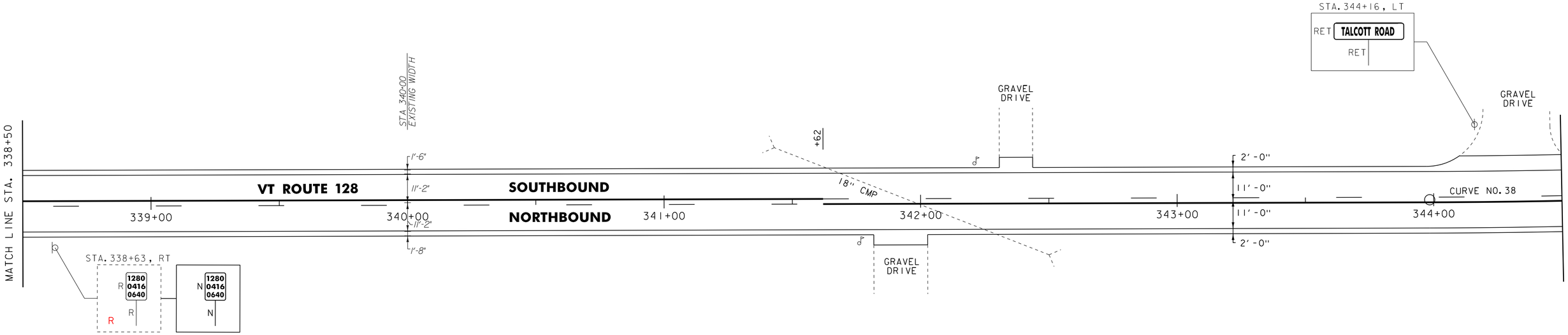
646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 338+50 TO 341+62, SOLID LT, DASHED RT
STA. 341+62 TO 344+50, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 338+50 TO 344+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 338+50 TO 341+62, SOLID LT, DASHED RT
STA. 341+62 TO 344+50, DASHED LT, SOLID RT

675.50 REMOVING SIGNS
AS SHOWN - 1

CURVE #38
PC = 343+98
PT = 346+02
R = 3000'
Δ = 3°52'53", LT
D = 1°54'35"
e = 1.72
L = 203'
SEE SUPERELEVATION BANKING DIAGRAM SHEET #9



R=1

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #28

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212128.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 44 OF 79

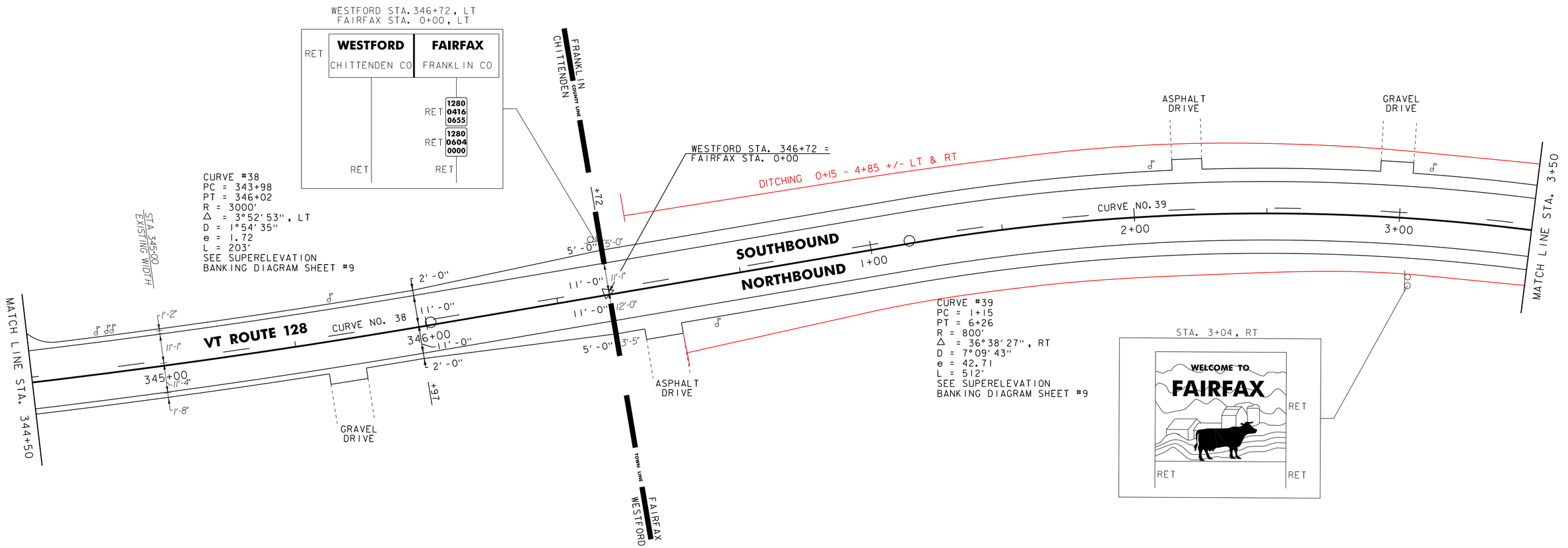
617.10 RELOCATE MAILBOX, SINGLE SUPPORT
WESTFORD
STA. 344+76, LT
STA. 344+80, LT
STA. 344+82, LT
STA. 345+65, LT
FAIRFAX
STA. 0+38, RT
STA. 2+07, LT
STA. 3+11, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
WESTFORD
STA. 344+50 TO 346+72 SOLID LT & RT
FAIRFAX
STA. 0+00 TO 3+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
WESTFORD
STA. 344+50 TO 346+72 DASHED LT, SOLID RT
FAIRFAX
STA. 0+00 TO 3+50, DASHED LT, SOLID RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
WESTFORD
STA. 344+50 TO 346+72 SOLID LT & RT
FAIRFAX
STA. 0+00 TO 3+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
WESTFORD
STA. 344+50 TO 346+72 DASHED LT, SOLID RT
FAIRFAX
STA. 0+00 TO 3+50, DASHED LT, SOLID RT



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #29

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I29.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 45 OF 79

616.35 TREATED TIMBER CURB
STA. 9+44 TO 9+50, LT

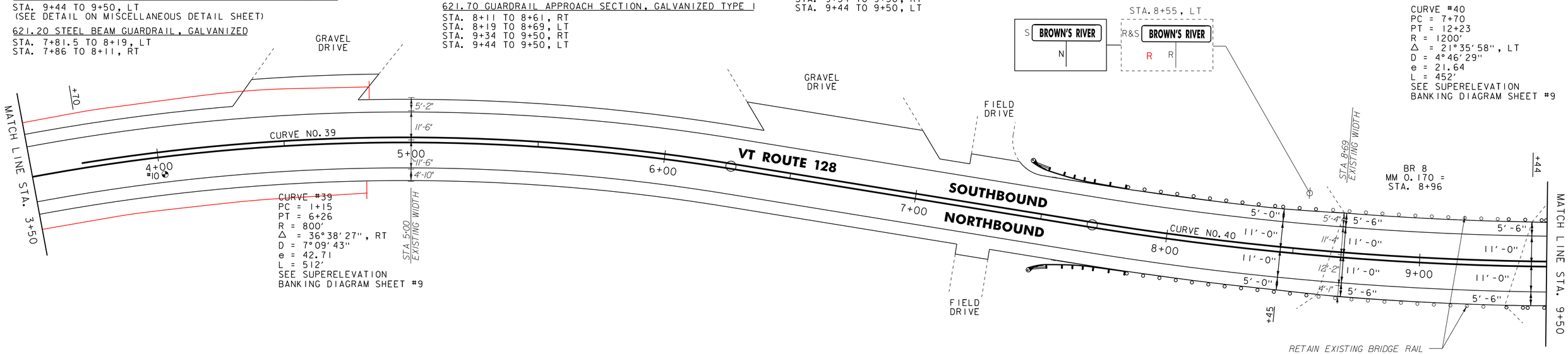
616.47 BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS
STA. 9+44 TO 9+50, LT
(SEE DETAIL ON MISCELLANEOUS DETAIL SHEET)

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 7+81.5 TO 8+19, LT
STA. 7+86 TO 8+11, RT

621.50 MANUFACTURED TERMINAL SECTION, FLARED
STA. 7+44 TO 7+81.5, LT
STA. 7+48.5 TO 7+86, RT

621.70 GUARDRAIL APPROACH SECTION, GALVANIZED TYPE 1
STA. 8+11 TO 8+61, RT
STA. 8+19 TO 8+69, LT
STA. 9+34 TO 9+50, RT
STA. 9+44 TO 9+50, LT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 7+43.5 TO 8+69, LT
STA. 7+46 TO 8+61, RT
STA. 9+34 TO 9+50, RT
STA. 9+44 TO 9+50, LT



PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
10	4 1/4"	NO	

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 3+50 TO 9+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 3+50 TO 3+70, DASHED LT, SOLID RT
STA. 3+70 TO 9+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 3+50 TO 9+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 3+50 TO 3+70, DASHED LT, SOLID RT
STA. 3+70 TO 9+50, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 1

616.35 TREATED TIMBER CURB
STA. 9+50 TO 9+79, LT

616.47 BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS
STA. 9+50 TO 9+79, LT

621.20 STEEL BEAM GUARDRAIL, GALVANIZED
STA. 9+84 TO 10+59, RT
STA. 9+94 TO 10+56.5, LT

621.50 MANUFACTURED TERMINAL SECTION, FLARED
STA. 10+56.5 TO 10+94, LT
STA. 10+59 TO 10+96.5, RT

621.70 GUARDRAIL APPROACH SECTION, GALVANIZED TYPE 1
STA. 9+50 TO 9+84, RT
STA. 9+50 TO 9+94, LT

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 9+50 TO 10+86, RT
STA. 9+50 TO 11+02, LT

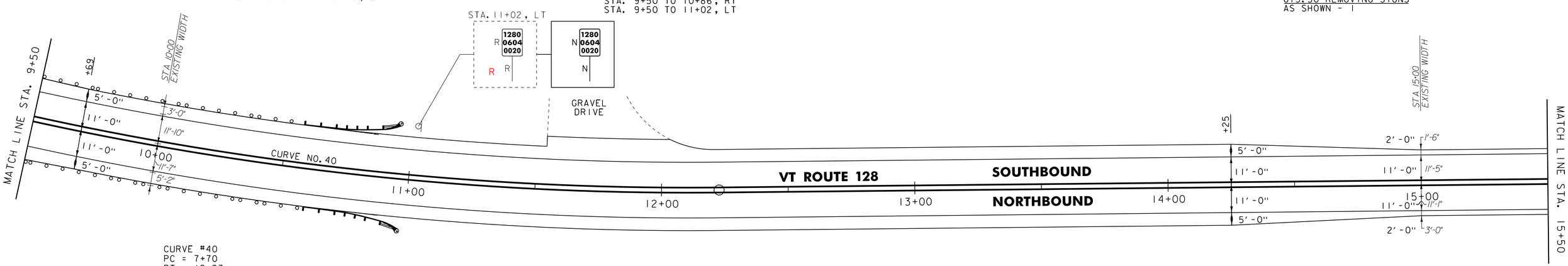
646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 9+50 TO 15+50, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 9+50 TO 15+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 9+50 TO 15+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 9+50 TO 15+50, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 1



CURVE #40
PC = 7+70
PT = 12+23
R = 1200'
Δ = 21°35'58", LT
D = 4°46'29"
e = 21.64
L = 452'
SEE SUPERELEVATION
BANKING DIAGRAM SHEET #9

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #30

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I30.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 46 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 15+50 TO 21+50, SOLID LT & RT

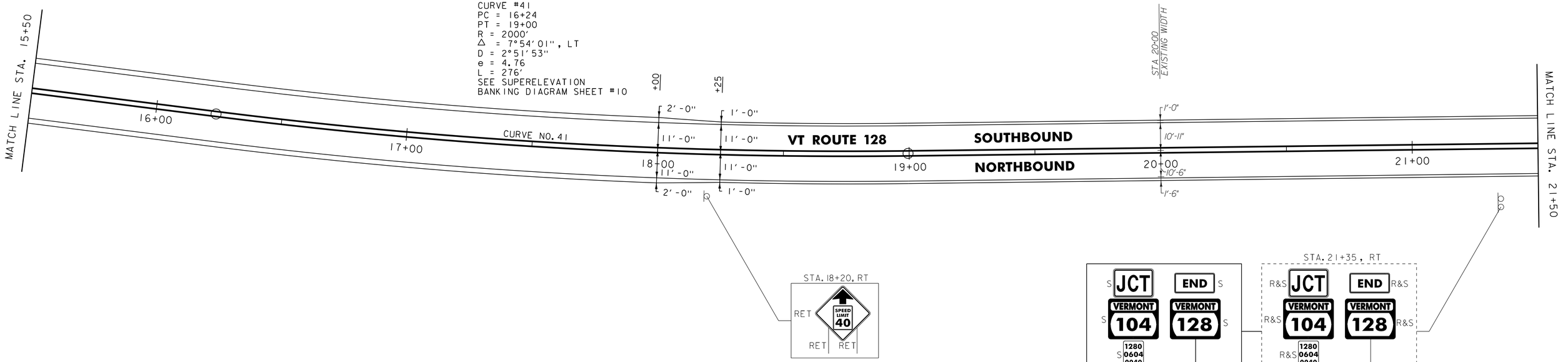
646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 15+50 TO 21+50, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 15+50 TO 21+50, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 15+50 TO 21+50, SOLID LT & RT

675.50 REMOVING SIGNS
AS SHOWN - 5

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 5



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

R=2

Stantec

PROJECT LAYOUT SHEET #31

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l31.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 47 OF 79

617.10 RELOCATE MAILBOX, SINGLE SUPPORT
STA. 25+37, LT

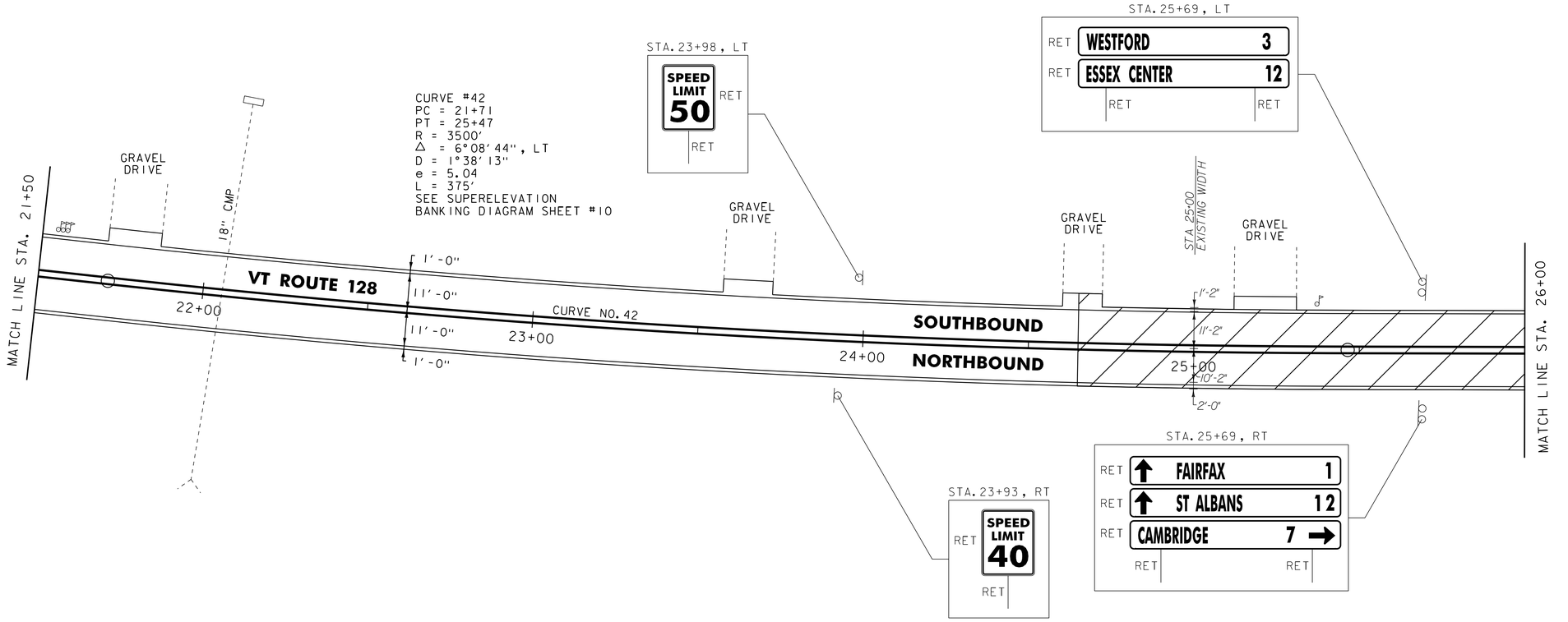
617.12 RELOCATE MAILBOX, MULTIPLE SUPPORT
STA. 21+56, LT

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 21+50 TO 26+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 21+50 TO 26+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 21+50 TO 26+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 21+50 TO 26+00, SOLID LT & RT



RECLAIM TO COLD PLANE TRANSITION AREA
(SEE DETAIL ON TYPICAL SHEET #2)

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #32

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l32.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 48 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
VT ROUTE 128 STA. 26+00 TO 32+00, SOLID LT & RT
VT ROUTE 128 STA. 28+21, SOLID LT (TH 33 EDGELINES)
VT ROUTE 128 STA. 28+80, SOLID LT (TH 33 EDGELINES)
VT ROUTE 128 APPROACH STA. 0+12 TO 1+00, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
VT ROUTE 128 STA. 26+00 TO 32+00, SOLID LT & RT
VT ROUTE 128 STA. 28+21, DOUBLE SOLID LT (TH 33)
VT ROUTE 128 STA. 28+80, DOUBLE SOLID LT (TH 33)
VT ROUTE 128 APPROACH STA. 0+16 TO 1+00, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
VT ROUTE 128 STA. 26+00 TO 32+00, SOLID LT & RT
VT ROUTE 128 STA. 28+21, SOLID LT (TH 33 EDGELINES)
VT ROUTE 128 STA. 28+80, SOLID LT (TH 33 EDGELINES)
VT ROUTE 128 APPROACH STA. 0+12 TO 1+00, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
VT ROUTE 128 STA. 26+00 TO 32+00, SOLID LT & RT
VT ROUTE 128 STA. 28+21, DOUBLE SOLID LT (TH 33)
VT ROUTE 128 STA. 28+80, DOUBLE SOLID LT (TH 33)
VT ROUTE 128 APPROACH STA. 0+16 TO 1+00, SOLID LT & RT

646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
VT ROUTE 128 STA. 28+21, LT (TH 33)
VT ROUTE 128 STA. 28+80, LT (TH 33)
VT ROUTE 128 APPROACH STA. 0+17, LT

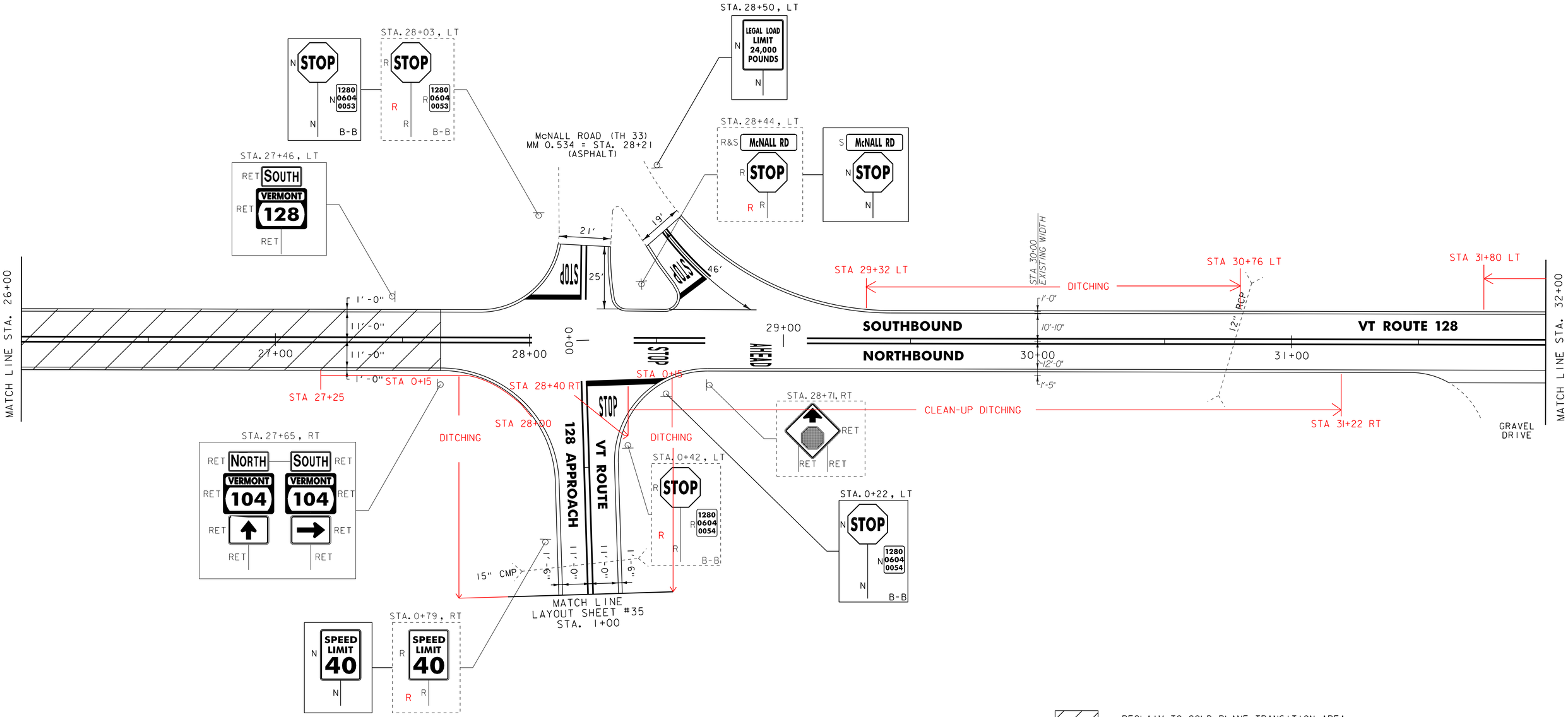
646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
VT ROUTE 128 STA. 28+21, LT (TH 33) - "STOP"
VT ROUTE 128 STA. 28+51, RT - "STOP"
VT ROUTE 128 STA. 28+80, LT (TH 33) - "STOP"
VT ROUTE 128 STA. 28+91, RT - "AHEAD"
VT ROUTE 128 APPROACH STA. 0+26, LT - "STOP"

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
VT ROUTE 128 STA. 28+21, LT (TH 33)
VT ROUTE 128 STA. 28+80, LT (TH 33)
VT ROUTE 128 APPROACH STA. 0+17, LT

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
VT ROUTE 128 STA. 28+21, LT (TH 33) - "STOP"
VT ROUTE 128 STA. 28+51, RT - "STOP"
VT ROUTE 128 STA. 28+80, LT (TH 33) - "STOP"
VT ROUTE 128 STA. 28+91, RT - "AHEAD"
VT ROUTE 128 APPROACH STA. 0+26, LT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 7

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 1



RECLAIM TO COLD PLANE TRANSITION AREA
(SEE DETAIL ON TYPICAL SHEET #2)

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #33

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212I33.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 49 OF 79

R=4

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 32+00 TO 33+05, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 32+00 TO 33+05, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
(ALL LINES WILL INCLUDE EDGE LINE BREAKS
AND RADII FOR SIDE ROADS)
STA. 32+00 TO 33+05, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 32+00 TO 33+05, SOLID LT & RT

646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 33+04, RT

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 32+95, RT - "STOP"

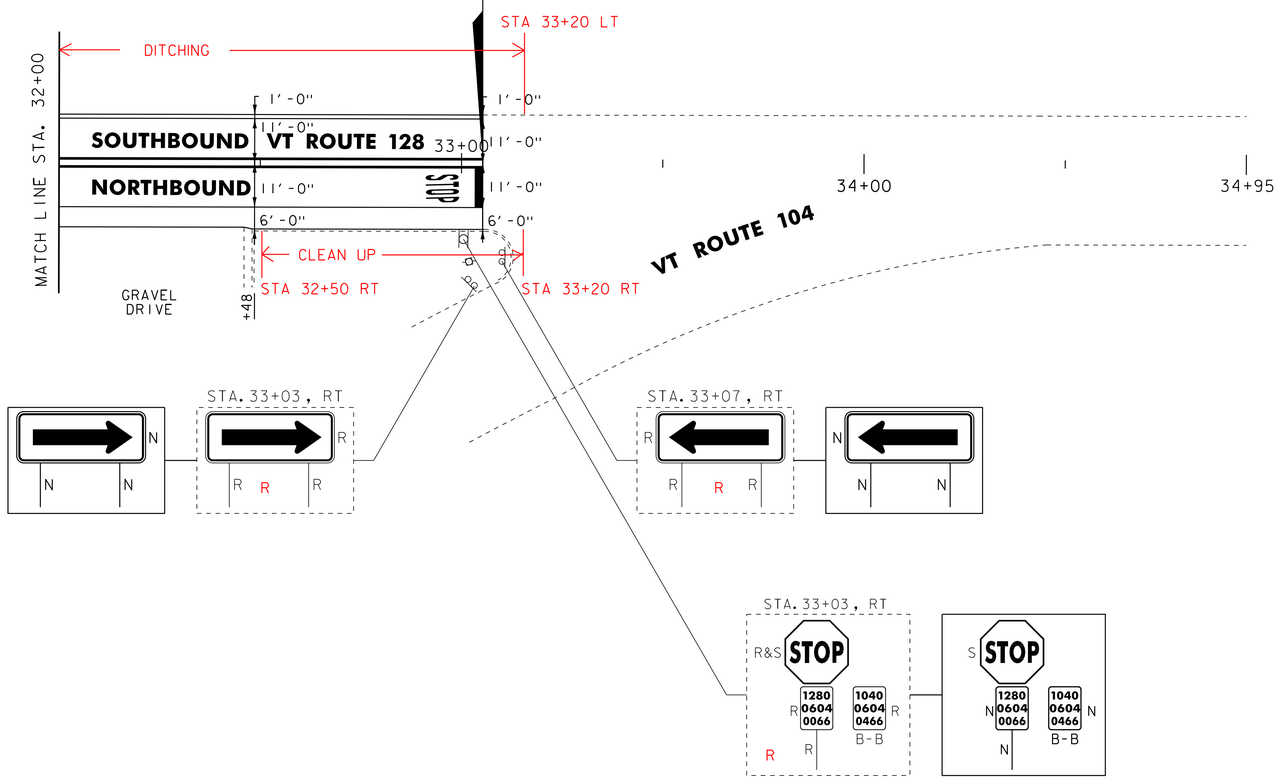
646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 33+04, RT

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 32+95, RT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 5

675.60 ERECTING SALVAGED SIGNS
AS SHOWN - 1

END STP 2804(1) VT ROUTE 128
FAIRFAX STA. 33+05.28 = MM 0.626



NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.
NOT TO SCALE

PROJECT LAYOUT SHEET #34

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212134.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 50 OF 79

646.402 DURABLE 4 INCH WHITE LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 1+00 TO 5+08, SOLID LT & RT

646.412 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 1+00 TO 5+08, SOLID LT & RT

646.602 TEMPORARY 4 INCH WHITE LINE, PAINT
((ALL LINES WILL INCLUDE EDGE LINE BREAKS AND RADII FOR SIDE ROADS)
STA. 1+00 TO 5+08, SOLID LT & RT

646.612 TEMPORARY 4 INCH YELLOW LINE, PAINT
(ALL LINES WILL INCLUDE ℄ BREAKS FOR SIDE ROADS)
STA. 1+00 TO 5+08, SOLID LT & RT

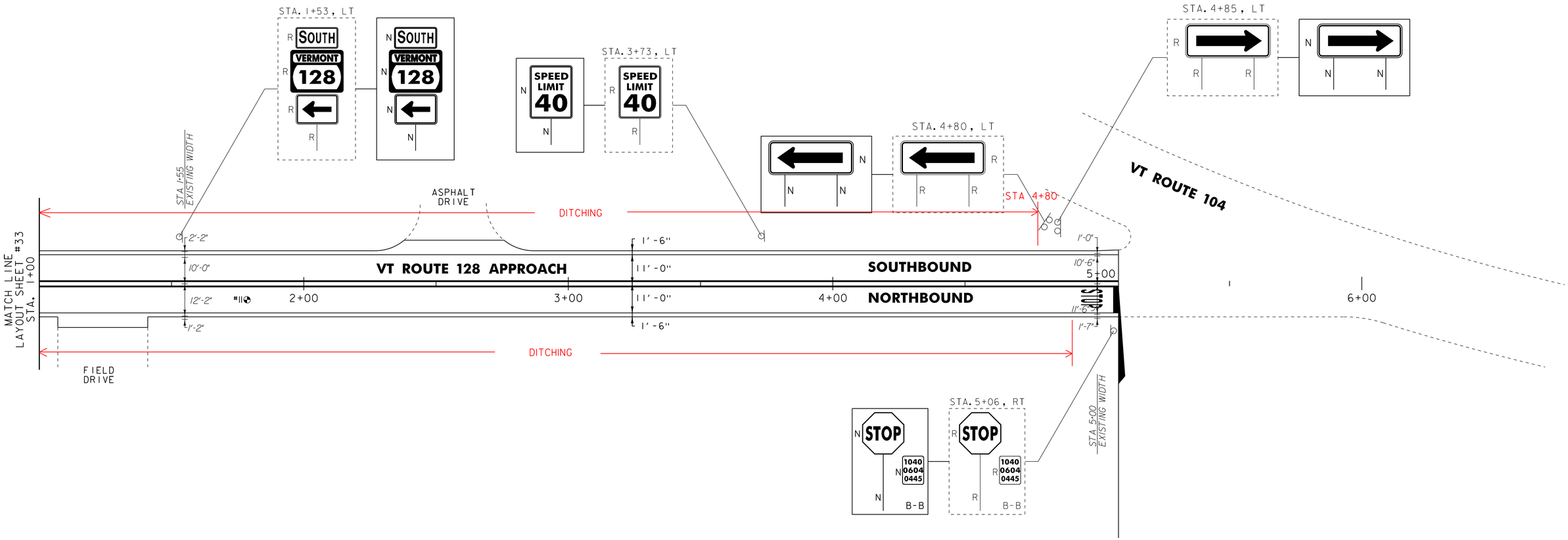
646.482 DURABLE 24 INCH STOP BAR, THERMOPLASTIC
STA. 5+07, RT

646.492 DURABLE LETTER OR SYMBOL, THERMOPLASTIC
STA. 4+98, RT - "STOP"

646.682 TEMPORARY 24 INCH STOP BAR, PAINT
STA. 5+07, RT

646.692 TEMPORARY LETTER OR SYMBOL, PAINT
STA. 4+98, RT - "STOP"

675.50 REMOVING SIGNS
AS SHOWN - 8



LIMIT OF WORK
VT ROUTE 128 APPROACH
FAIRFAX STA 5+08.00 = MM 0.096

PAVEMENT CORE DATA			
CORE #	DEPTH (IN.)	PCC	COMMENTS
11	2 3/4"	NO	

NOTES:
1. ALL EXISTING SIGNS NOT SHOWN SHALL BE RETAINED.
2. FOR LEGENDS, SEE LAYOUT SHEET #1.

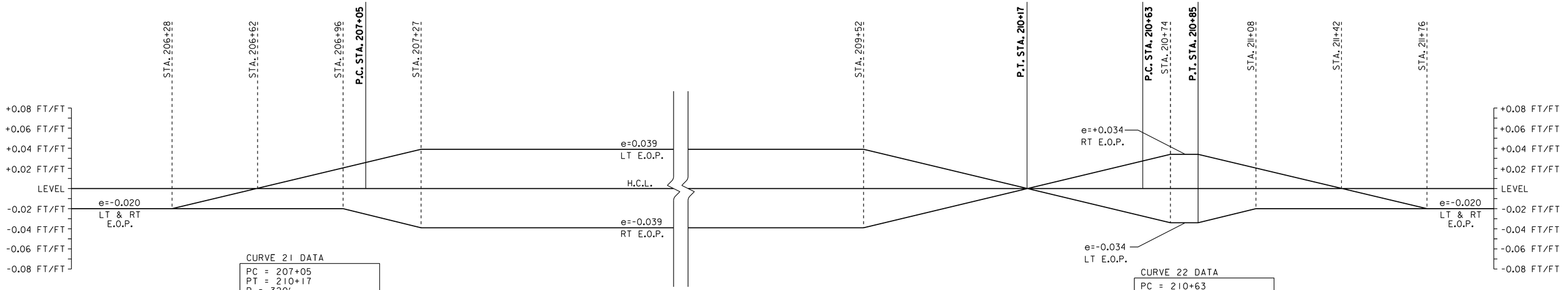
NOT TO SCALE

Stantec

PROJECT LAYOUT SHEET #35

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212l35.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 51 OF 79



CURVE 21 DATA

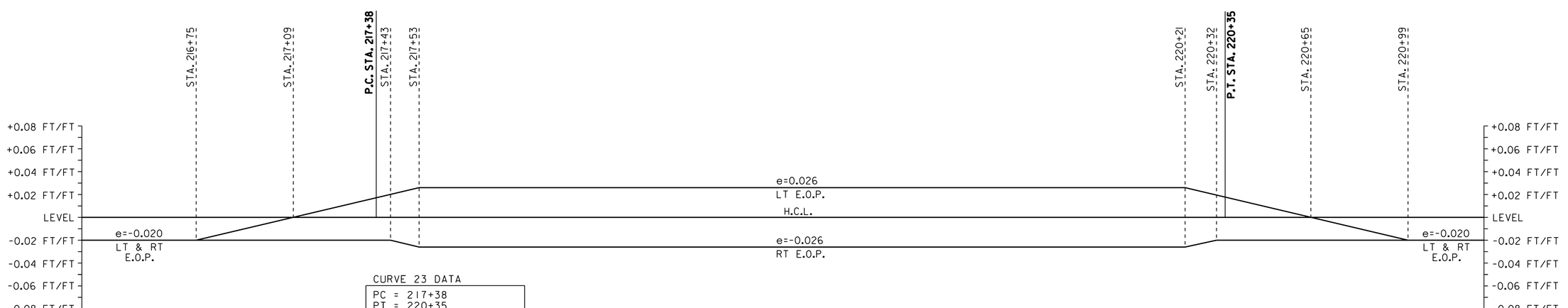
PC	= 207+05
PT	= 210+17
R	= 320′
△	= 55°59′33″, RT
D	= 17°54′18″
e	= 42.41
L	= 313′

CURVE 22 DATA

PC	= 210+63
PT	= 210+85
R	= 500′
△	= 2°29′02″, LT
D	= 11°27′33″
e	= 0.12
L	= 22′

CURVE 21 & 22 BANKING DIAGRAM

CURVE 21 RADIUS = 320′ RIGHT
CURVE 22 RADIUS = 500′ LEFT



CURVE 23 DATA

PC	= 217+38
PT	= 220+35
R	= 1000′
△	= 17°03′05″, RT
D	= 5°43′46″
e	= 11.17
L	= 298′

CURVE 23 BANKING DIAGRAM

CURVE 23 RADIUS = 1,000′ RIGHT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

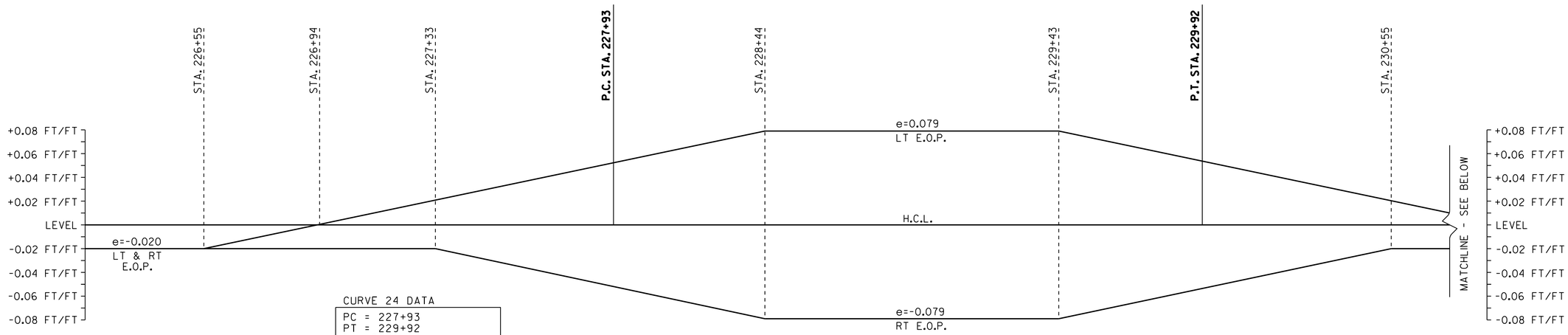
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd1.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 52 OF 79

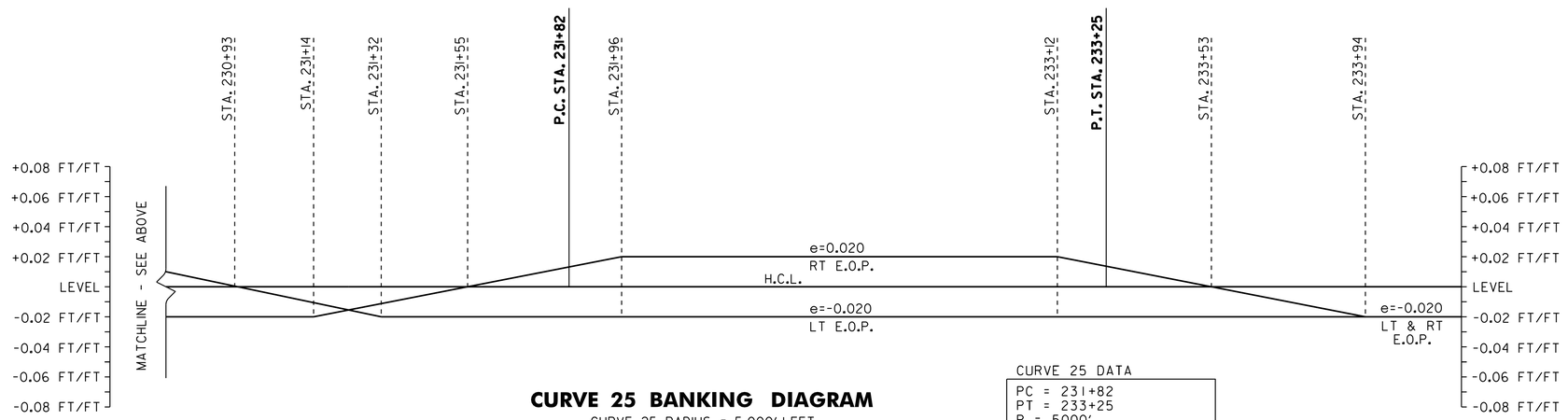


CURVE 24 DATA

PC = 227+93
PT = 229+92
R = 500'
△ = 22°46'48", RT
D = 11°27'33"
e = 10.05
L = 199'

CURVE 24 BANKING DIAGRAM

CURVE 24 RADIUS = 500' RIGHT



CURVE 25 DATA

PC = 231+82
PT = 233+25
R = 5000'
△ = 1°38'18", LT
D = 1°08'45"
e = 0.51
L = 143'

CURVE 25 BANKING DIAGRAM

CURVE 25 RADIUS = 5,000' LEFT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.

2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.

3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

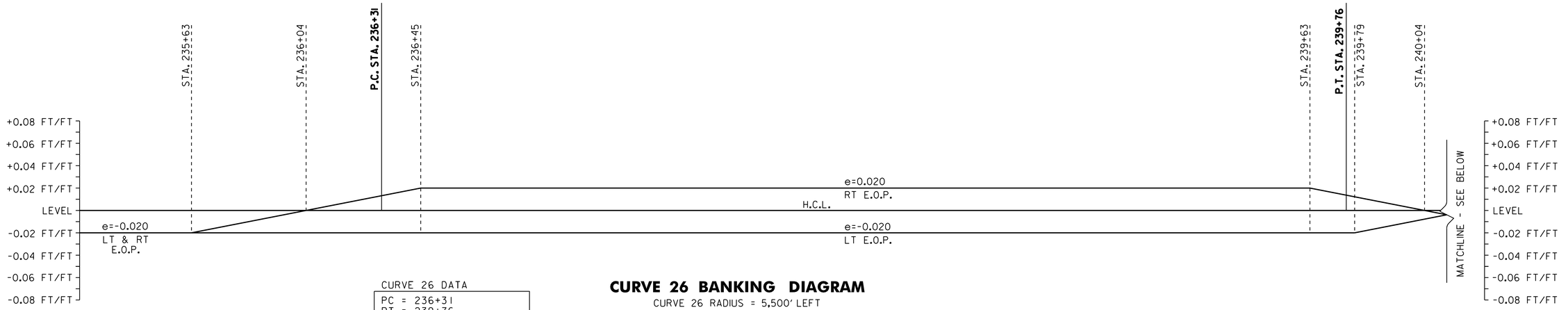
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd2.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 53 OF 79

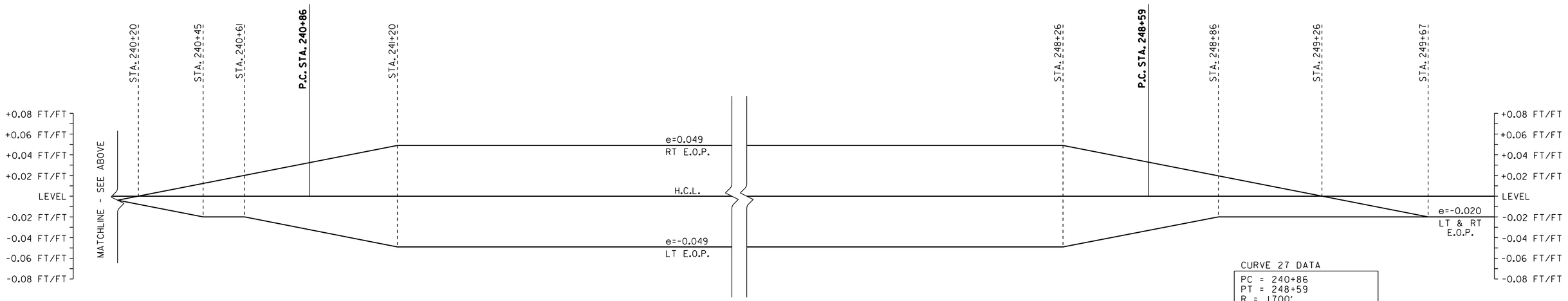


CURVE 26 DATA

PC = 236+31
PT = 239+76
R = 5500'
△ = 3°35'33", LT
D = 1°02'30"
e = 2.70
L = 345'

CURVE 26 BANKING DIAGRAM

CURVE 26 RADIUS = 5,500' LEFT



CURVE 27 DATA

PC = 240+86
PT = 248+59
R = 1700'
△ = 26°03'21", LT
D = 3°22'13"
e = 44.91
L = 773'

CURVE 27 BANKING DIAGRAM

CURVE 27 RADIUS = 1,700' LEFT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

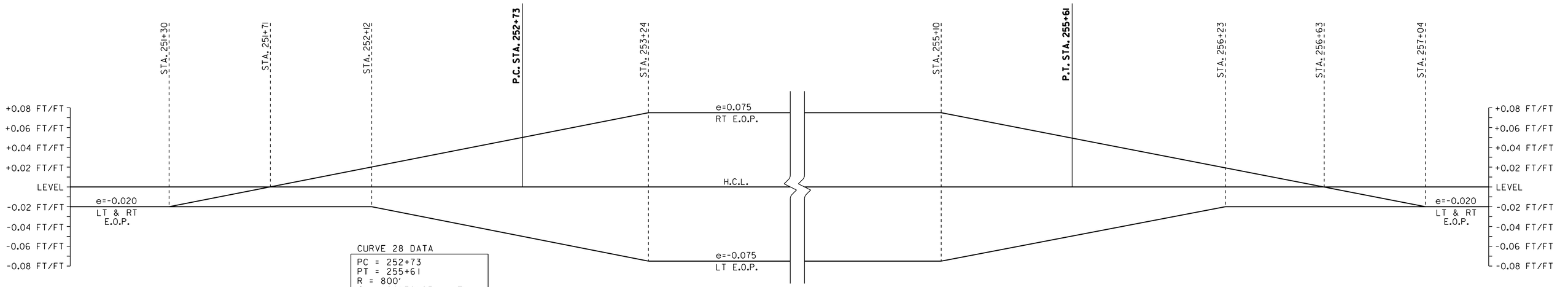
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #3

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd3.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 54 OF 79

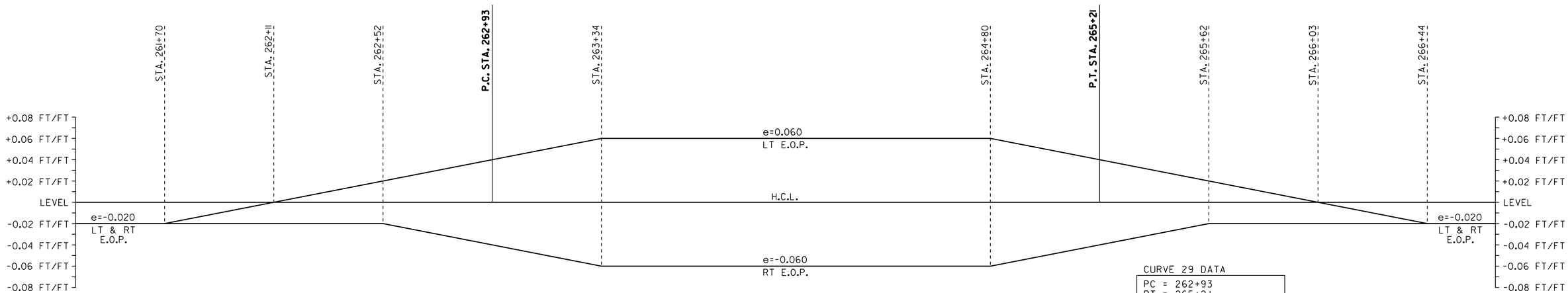


CURVE 28 DATA

PC = 252+73
PT = 255+61
R = 800'
△ = 20°39'23", LT
D = 7°09'43"
e = 13.18
L = 288'

CURVE 28 BANKING DIAGRAM

CURVE 28 RADIUS = 800' LEFT



CURVE 29 DATA

PC = 262+93
PT = 265+21
R = 220'
△ = 59°22'01", RT
D = 26°02'37"
e = 33.23
L = 228'

CURVE 29 BANKING DIAGRAM

CURVE 29 RADIUS = 220' RIGHT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

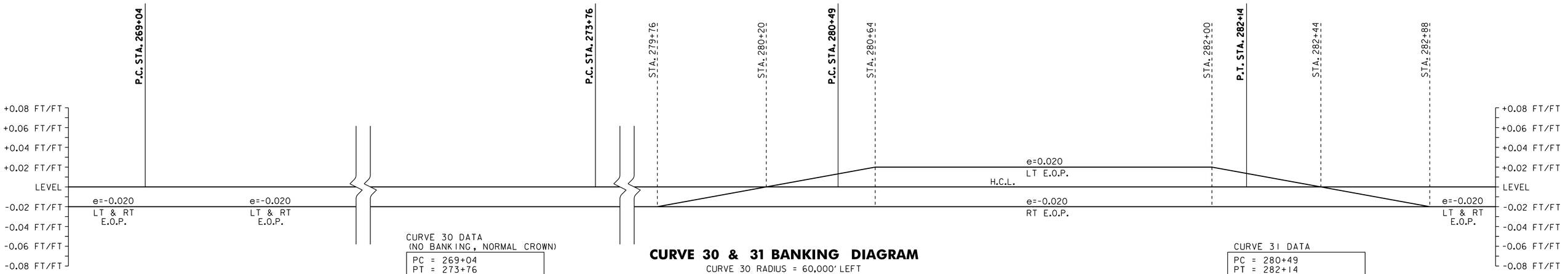
NOT TO SCALE

Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #4

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd4.i
PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 55 OF 79

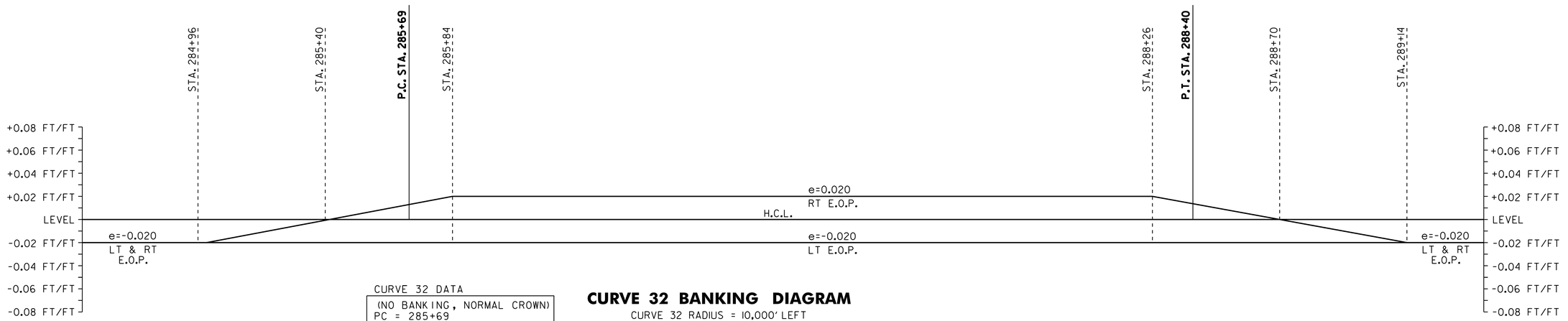


CURVE 30 DATA
(NO BANKING, NORMAL CROWN)
PC = 269+04
PT = 273+76
R = 60000'
Δ = 0°27'059", LT
D = 0°05'44"
e = 0.47
L = 473'

CURVE 30 & 31 BANKING DIAGRAM

CURVE 30 RADIUS = 60,000' LEFT
CURVE 31 RADIUS = 8,000' RIGHT

CURVE 31 DATA
PC = 280+49
PT = 282+14
R = 8000'
Δ = 1°10'59", RT
D = 0°42'58"
e = 0.43
L = 165'



CURVE 32 DATA
(NO BANKING, NORMAL CROWN)
PC = 285+69
PT = 288+40
R = 10000'
Δ = 1°32'57", LT
D = 0°34'23"
e = 0.91
L = 270'

CURVE 32 BANKING DIAGRAM

CURVE 32 RADIUS = 10,000' LEFT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

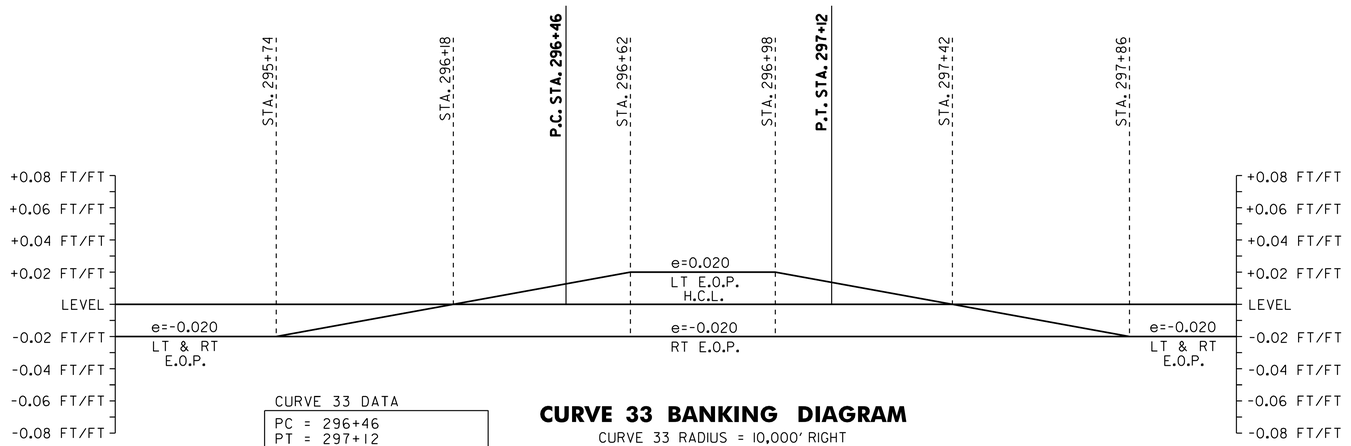
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #5

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd5.i

PLOT DATE: 31-OCT-2012 13:58
DRAWN BY: STANTEC
CHECKED BY: JLL

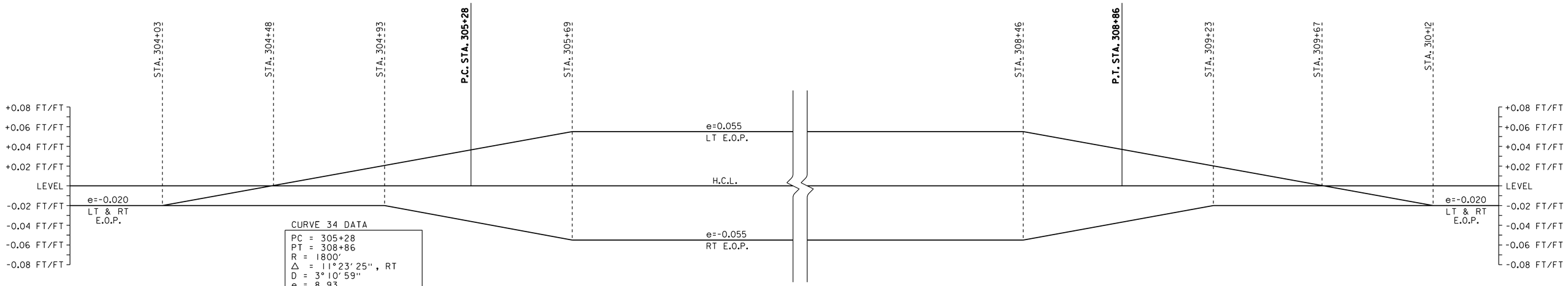


CURVE 33 DATA

PC = 296+46
PT = 297+12
R = 10000'
Δ = 0°22'33", RT
D = 0°34'23"
e = 0.05
L = 66'

CURVE 33 BANKING DIAGRAM

CURVE 33 RADIUS = 10,000' RIGHT



CURVE 34 DATA

PC = 305+28
PT = 308+86
R = 1800'
Δ = 11°23'25", RT
D = 3°10'59"
e = 8.93
L = 358'

CURVE 34 BANKING DIAGRAM

CURVE 34 RADIUS = 1,800' RIGHT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

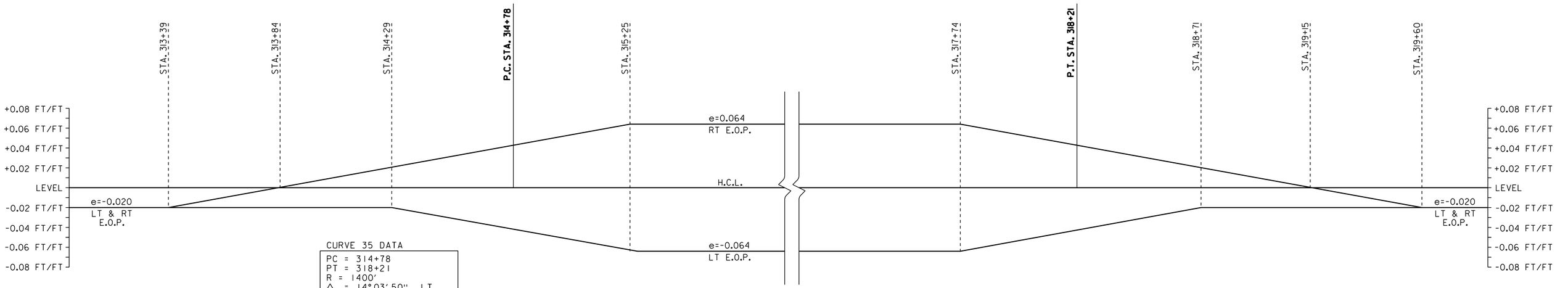
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #6

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd6.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 57 OF 79

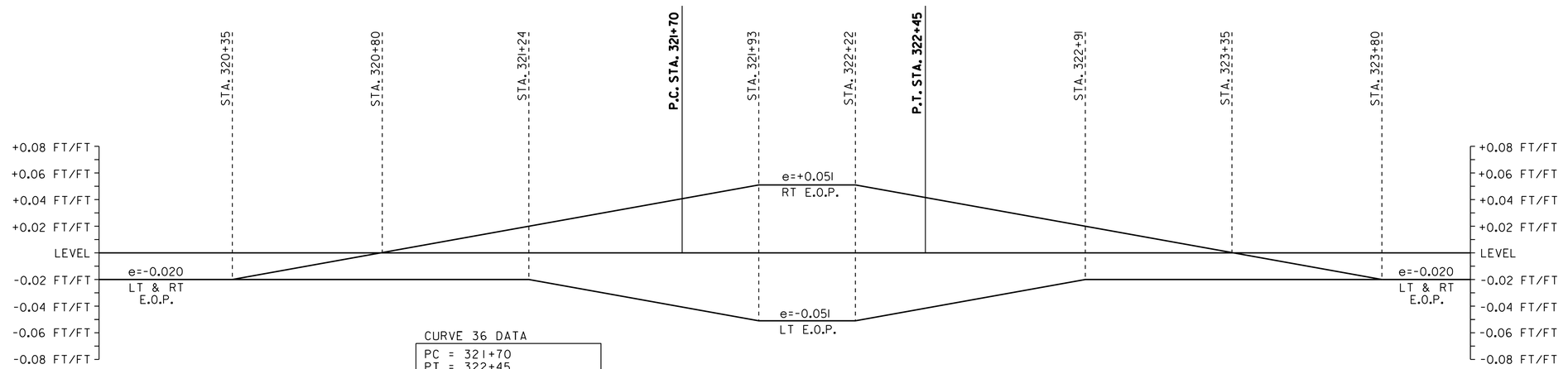


CURVE 35 DATA

PC = 314+78
PT = 318+21
R = 1400'
△ = 14°03'50", LT
D = 4°05'33"
e = 10.61
L = 344'

CURVE 35 BANKING DIAGRAM

CURVE 35 RADIUS = 1,400' LEFT



CURVE 36 DATA

PC = 321+70
PT = 322+45
R = 2000'
△ = 2°09'01", LT
D = 2°51'53"
e = 0.35
L = 75'

CURVE 36 BANKING DIAGRAM

CURVE 36 RADIUS = 2,000' LEFT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

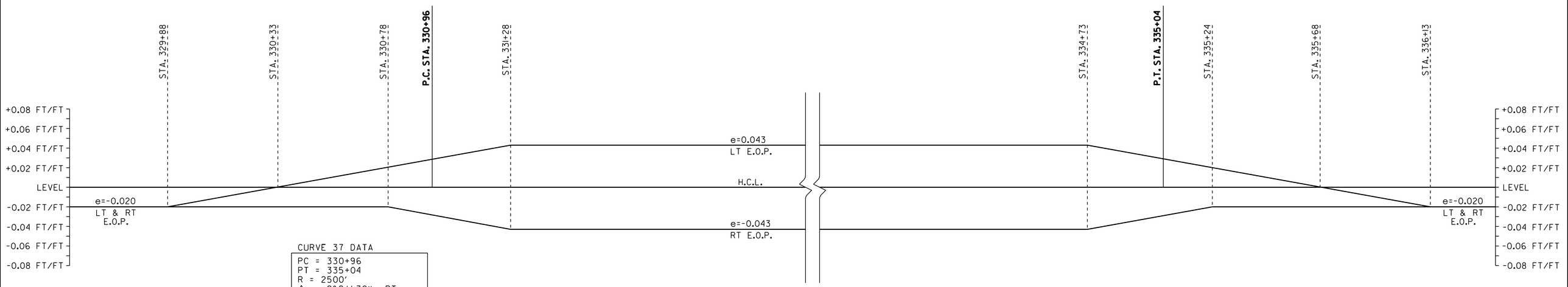
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #7

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd7.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 58 OF 79



CURVE 37 DATA

PC = 330+96
PT = 335+04
R = 2500'
Δ = 9°21'30", RT
D = 2°17'31"
e = 8.36
L = 408'

CURVE 37 BANKING DIAGRAM

CURVE 37 RADIUS = 2,500' RIGHT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.
2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.
3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

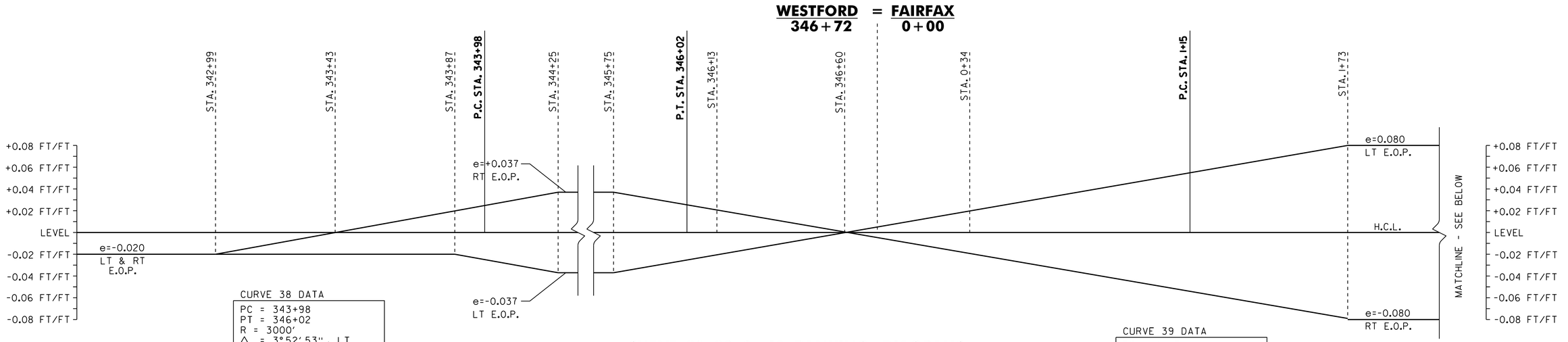
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #8

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

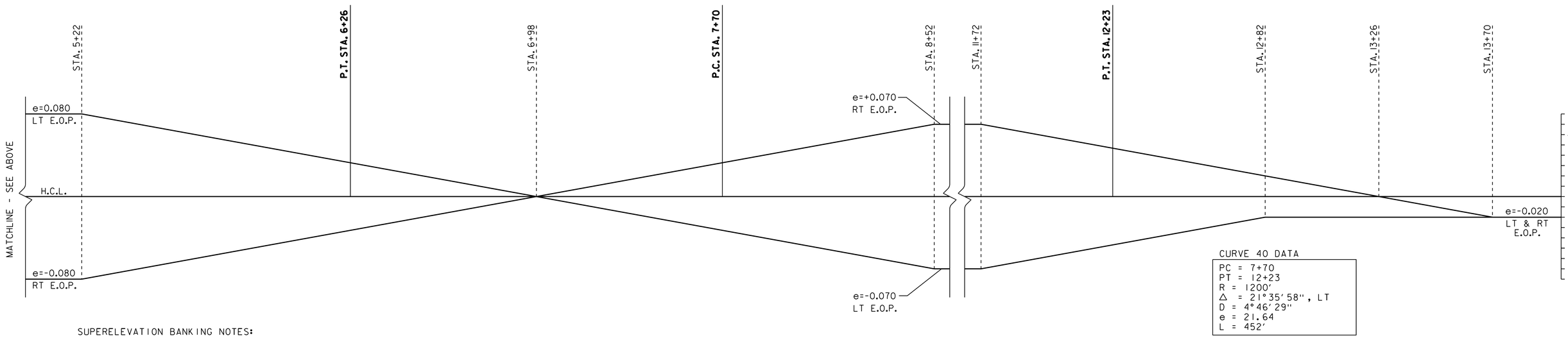
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd8.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 59 OF 79



CURVE 38, 39 & 40 BANKING DIAGRAMS

CURVE 38 RADIUS = 3,000' LEFT
CURVE 39 RADIUS = 800' RIGHT
CURVE 40 RADIUS = 1,200' LEFT



SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.

2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.

3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

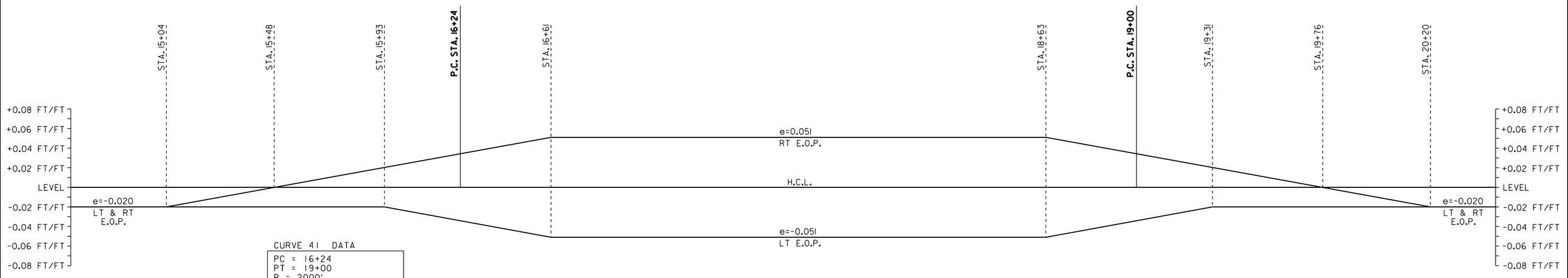
Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #9

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd9.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 60 OF 79

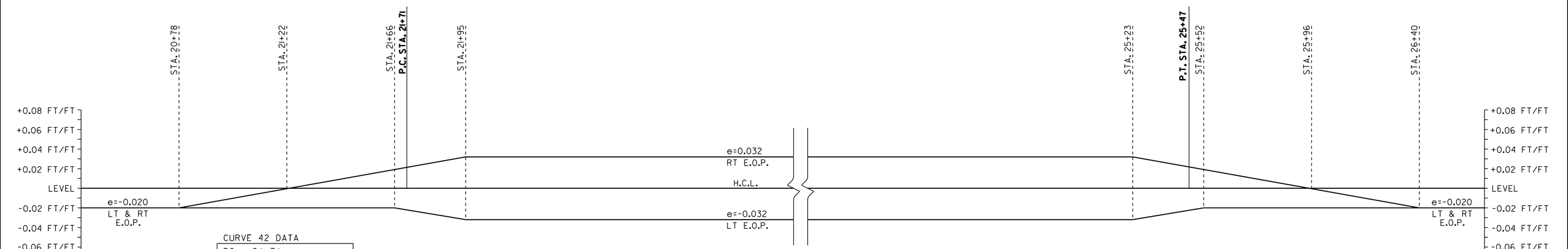


CURVE 41 DATA

PC = 16+24
PT = 19+00
R = 2000'
△ = 7°54'01", LT
D = 2°51'53"
e = 4.76
L = 276'

CURVE 41 BANKING DIAGRAM

CURVE 41 RADIUS = 2,000' LEFT



CURVE 42 DATA

PC = 21+71
PT = 25+47
R = 3500'
△ = 6°08'44", LT
D = 1°38'13"
e = 5.04
L = 375'

CURVE 42 BANKING DIAGRAM

CURVE 42 RADIUS = 3,500' LEFT

SUPERELEVATION BANKING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING THE HORIZONTAL AND VERTICAL GEOMETRY OF THE EXISTING ROADWAY.

2. THE MAXIMUM ROLL-OVER BETWEEN LANE AND SHOULDER CROSS SLOPES ON THE OUTSIDE (HIGH SIDE) OF A SUPERELEVATED CURVE SHALL BE SEVEN PERCENT. SHOULDER CROSS SLOPE ON THE INSIDE (LOW SIDE) OF A SUPERELEVATED CURVE SHALL BE A MINIMUM OF SIX PERCENT AND MATCH THE ADJACENT LANE CROSS SLOPE WHEN THE LANE CROSS SLOPE EXCEEDS SIX PERCENT.

3. SUPERELEVATION RATES AND RUNOFF LENGTHS WERE DETERMINED USING A DESIGN SPEED EQUAL TO THE POSTED SPEED. A MAXIMUM SUPERELEVATION RATE OF 0.08 IS USED IN AREAS WITH A POSTED SPEED ABOVE 30 MPH. IN THE 30 MPH ZONE A MAXIMUM SUPERELEVATION RATE OF 0.04 WAS USED. IN AREAS WITH AN INTERSECTING SIDE ROAD A MAXIMUM SUPERELEVATION RATE OF 0.06 WAS USED. SEE VAOT STANDARD B-1 FOR MORE INFORMATION.

NOT TO SCALE

Stantec

SUPERELEVATION BANKING DIAGRAMS SHEET #10

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212sbd10.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 61 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 01

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																				REMARKS	SIGN DETAIL	
		EA	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POSTS	FLANGED CHANNEL lb/ft			SQUARE STEEL (in) lb/ft			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft			FOUNDATION	TUBULAR STEEL Ø (in) lb/ft				W-SHAPE STEEL FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED		DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
															1.75	2.0	2.5			3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0	24"	30"						
												1.12	2.0	3.0	1.88	2.42	3.35			1.3	1.7	1.7		7.6	9.0	10.8	14.6								
WESTFORD																																			
70+22, LT	DO NOT PASS	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE R4-1		SEE FHWA SHS
78+93, RT	END NO PASSING / NO PASSING ZONE B-B	1 1	30 40	30 30	6.25 4.17						2					14x2 X 67.76		X															SIGN ID CODE VR-417 SIGN ID CODE W14-3 MOUNT SIGNS BACK TO BACK		E-141 SEE FHWA SHS
81+08, RT	SPEED LIMIT 50	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE R2-1		SEE FHWA SHS
84+05, RT	1280 0416 0160	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
94+48, LT	1280 0416 0180	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
105+30, LT	1280 0416 0200	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
115+86, RT	1280 0416 0220	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
126+01, LT	1280 0416 0240	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
137+30, LT	1280 0416 0260	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
168+87, LT	1280 0416 0320	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
175+82, LT	SPEED LIMIT 50	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE R2-1		SEE FHWA SHS
175+82, RT	SPEED LIMIT 40						1				1					14 X 33.88		X															MOUNT SALVAGED SIGN ON NEW POST	-	-
176+82, RT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE VR-017		E-141
															105.28	237.16																			
												FT	FT	FT	FT 56 56	FT 98 105	FT		EA	LB	LB	LB		LB	LB	LB	LB							
TOTALS			SF 33.36		SF	EA. 1	SF					FT			154	FT 161	342.44 #			LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss01.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 62 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 02

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	FOUND-ATION	TUBULAR STEEL Ø (in) lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
		1	6	10	0.42							1.88	2.42	3.35						1.3	1.7	1.7		7.6	9.0	10.8	14.6								
WESTFORD (CONT.)																																			
177+42, RT	STOP 1280 0416 0336 B-B	1 1	30 6	30 10	6.25 0.42						1					14 X 33.88		X															SIGN ID CODE RI-1 MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		SEE FHWA SHS E-138
190+08, RT	1280 0416 0360	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
191+11, LT	SPEED LIMIT 40	1	24	30	5.00						1					12 X 29.04		X															SIGN ID CODE R2-1		SEE FHWA SHS
193+29, RT	AHEAD						1 1				1					14 X 33.88		X															MOUNT SALVAGED SIGN ON NEW POST	- -	- -
193+76, LT	W W B-B						2				1				10 / X 18.8	10		X															MOUNT SALVAGED SIGNS BACK-TO-BACK ON NEW POST	-	-
195+34, RT	25 M.P.H.						1 1				1					16 X 38.72		X															MOUNT SALVAGED SIGN ON NEW POST	- -	- -
199+06, LT	STOP 1280 0416 0377 B-B	1 1	30 6	30 10	6.25 0.42						1					14 X 33.88		X															SIGN ID CODE RI-1 MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		SEE FHWA SHS E-138
199+46, LT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE VR-017		E-141
200+59, LT	1280 0416 0380	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
															48.88	203.20																				
												FT	FT	FT	FT 26 24	FT 84 90	FT		EA	LB	LB	LB		LB	LB	LB	LB								
TOTALS			SF 24.18		SF	EA. 6	SF					FT			110		FT 114	252.08		LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

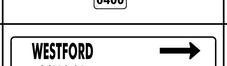
Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss02.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 63 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 03

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
WESTFORD (CONT.)																																			
200+85, RT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
200+97, RT		1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE VR-017		E-141
201+24, RT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
201+26, RT		1	30	30	6.25						1					14 X 33.88		X																SIGN ID CODE R1-1		SEE FHWA SHS
	 B-B	1	6	10	0.42																													MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		E-138
203+60, LT		1	30	30	6.25						1					14 X 33.88		X																SIGN ID CODE W11-2		SEE FHWA SHS
205+25, RT		1	72	20	10.00						2					14x2 X 67.76		X																SIGN ID CODE D1-2 (L)		SEE FHWA SHS
208+42, LT		1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE VR-017		E-141
208+70, LT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
208+73, LT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
209+20, LT		1	6	10	0.42						1				8 / X 15.04	8		X																		E-138
214+63, LT		1	72	20	10.00						2					12x2 X 58.08		X																SIGN ID CODE D1-2 (R)		E-123
222+16, LT		1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE R2-1		SEE FHWA SHS
227+25, RT		1	30	30	6.25						1					16 X 38.72		X																SIGN ID CODE S3-1		SEE FHWA SHS
															15.04	605.00																				
												FT	FT	FT	FT 8	FT 250 270	FT		EA	LB	LB	LB		LB	LB	LB	LB								
TOTALS					SF 86.59	SF	EA.	SF				FT			FT 258	FT 278		620.04		LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss03.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 64 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 04

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUND-ATION	lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
WESTFORD (CONT.)																																			
232+32, LT	SPEED LIMIT 40	1	24	30	5.00						1					12 X 29.04		X															SIGN ID CODE R2-1		SEE FHWA SHS
232+32, RT	SPEED LIMIT 45	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE R2-1		SEE FHWA SHS
	1280 0416 0440	1	6	10	0.42																												MOUNT MM PLAQUE BELOW SPEED LIMIT SIGN.		E-138
234+51, LT	SCHOOL BUS STOP AHEAD	1	30	30	6.25						1					12 X 29.04		X															SIGN ID CODE S3-1		SEE FHWA SHS
243+11, RT	1280 0416 0460	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
244+60, LT	HIDDEN DRIVE RIGHT	1	30	30	6.25						1					16 X 38.72		X															SIGN ID CODE VW-054		E-154
246+51, RT	BRIDGE 6 VT 128	1	6	8	0.33						1				10 / X 18.8	10		X															SIGN ID CODE VD-701		E-134
246+60, LT	BRIDGE 6 VT 128	1	6	8	0.33						1				10 / X 18.8	10		X															SIGN ID CODE VD-701		E-134
258+29, LT	SCHOOL BUS STOP AHEAD	1	30	30	6.25						1					14 X 33.88		X															SIGN ID CODE S3-1		SEE FHWA SHS
259+50, RT	25 M.P.H.	1	30	30	6.25						1					14 X 33.88		X															SIGN ID CODE W1-1MaR	71	
		1	18	18	2.25																												SIGN ID CODE W13-1		SEE FHWA SHS
263+70, LT	1280 0416 0501	1	6	10	0.42																												MOUNT MM SIGN ON EXISTING POST BELOW EXISTING SIGN.		E-138
264+02, LT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30	5.00						1					14 X 33.88		X															SIGN ID CODE VR-017		E-141
												FT	FT	FT	FT 28 ~~24~~	FT 96 ~~105~~	FT		EA	LB	LB	LB		LB	LB	LB	LB								
															52.64	232.32																			
	TOTALS		SF 44.17	SF	EA.	SF						FT				FT 124	FT 129		284.96 #	LB			EA.	LB				EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss04.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 65 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 05

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75	2.0	2.5	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0	4.0	4.0 MOD	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0	3.5	4.0	5.0	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
WESTFORD (CONT.)																																			
271+29, LT		1 1	30 18	30 18	6.25 2.25						1					16 X 38.72		X																SIGN ID CODE W1-1MbL SIGN ID CODE W13-1	71	 SEE FHWA SHS
273+45, LT							1				1					14 X 33.88		X																MOUNT SALVAGED SIGN ON NEW POST	-	-
274+79, RT							1				1					12 X 29.04		X																MOUNT SALVAGED SIGN ON NEW POST	-	-
274+86, RT	  	1 1 1	24 6 6	30 8 10	5.00 0.33 0.42						1					14 X 33.88		X																SIGN ID CODE R2-1 SIGN ID CODE VD-701		SEE FHWA SHS E-134 E-138
274+88, LT		1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE R2-1		SEE FHWA SHS
275+36, LT		1	6	8	0.33						1				1 X	12		X																SIGN ID CODE VD-701		E-134
285+93, LT	 	1 1	36 6	36 10	9.00 0.42						2					14x2 X 33.88		X																SIGN ID CODE VW-092		E-150 E-138
289+67, LT		1	30	30	6.25						1					14 X 33.88		X																SIGN ID CODE W11-4		SEE FHWA SHS
															22.56	237.16																			
												FT	FT	FT	FT 12 ~~8~~	FT 112 ~~120~~	FT		EA	LB	LB	LB		LB	LB	LB	LB							
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."	**TOTALS**		SF 35.25	SF	EA. 2	SF						FT			FT 124		FT 128				LB		EA.		LB				EA.	EA.	LB					

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss05.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 66 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 06

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
WESTFORD (CONT.)																																			
296+08, RT	1280 0416 0560	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
303+24, RT							1				2					14x2 X 67.76		X																MOUNT SALVAGED SIGN ON NEW POSTS	-	-
305+15, LT	1280 0416 0580	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
328+00, LT	1280 0416 0620	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
338+63, RT	1280 0416 0640	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
FAIRFAX 8+55, LT	BROWN'S RIVER						1				1					X		X																MOUNT SALVAGED SIGN ON NEW POST	-	-
11+02, LT	1280 0604 0020	1	6	10	0.42						1				8 / X 15.04	8		X																	E-138
21+35, RT	JCT VERMONT 104 END VERMONT 128 1280 0604 0040						1 1 1 1 1				2					16 18 X 82.25		X															IB	MOUNT SALVAGED SIGNS ON NEW POSTS	- - - - -	- - - - -
28+03, LT	STOP 1280 0604 0053 B-B	1	30	30	6.25						1					12 X 29.04		X																SIGN ID CODE R1-1 MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		SEE FHWA SHS E-138
28+44, LT	McNALL RD STOP	1	30	30	6.25		1				1					14 X 33.88		X																MOUNT SALVAGED STREET SIGN 90 DEGREES TO AND 6" ABOVE NEW STOP SIGN SIGN ID CODE R1-1	-	- SEE FHWA SHS
															75.20	212.96																				
												FT	FT	FT	FT 40	FT 88 ~~105~~	FT		EA	LB	LB	LB		LB	LB	LB	LB							
															FT 128		FT 145	288.16		LB			EA.	LB				EA.	EA.	LB				
TOTALS					SF 15.02	SF	EA. 8	SF																												

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss06.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 67 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 07

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 1.88	2.0 2.42	2.5 3.35	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 1.3	4.0 1.7	4.0 MOD 1.7	FOUNDATION	TUBULAR STEEL Ø (in) lb/ft 3.0 7.6	3.5 9.0	4.0 10.8	5.0 14.6	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
FAIRFAX (CONT.)																																			
28+50, LT	LEGAL LOAD LIMIT 24,000 POUNDS	1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE VR-017		E-141
33+03, RT	STOP 1280 0604 0066	1	6	10	0.42		1				1					14 X 33.88		X																MOUNT SALVAGED SIGN ON NEW POST	-	-
	1040 0604 0466 B-B	1	6	10	0.42																												MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		E-138 E-138
33+03, RT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
33+07, RT		1	48	24	8.00						2					14x2 X 67.76		X																SIGN ID CODE W1-6		SEE FHWA SHS
VT ROUTE 128 APPROACH																																			
0+22, LT	STOP 1280 0604 0054 B-B	1	30	30	6.25						1					14 X 33.88		X																SIGN ID CODE R1-1		SEE FHWA SHS
		1	6	10	0.42																												MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		E-138
0+79, RT	SPEED LIMIT 40	1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE R2-1		SEE FHWA SHS
1+53, LT	SOUTH VERMONT 128	1	24	12	2.00						1					16 X 38.72		X																SIGN ID CODE M3-3		E-136B
		1	30	24	5.00																												SIGN ID CODE M6-1		E-136B
		1	21	15	2.19																														E-136B
3+73, LT	SPEED LIMIT 40	1	24	30	5.00						1					14 X 33.88		X																SIGN ID CODE R2-1		SEE FHWA SHS
4+80, LT		1	48	24	8.00						2					12 14 X 62.92		X																SIGN ID CODE W1-6		SEE FHWA SHS
4+85, LT		1	48	24	8.00						2					12 14 X 62.92		X																SIGN ID CODE W1-6		SEE FHWA SHS
																469.48																				
												FT	FT	FT	FT	FT 194 ~~210~~	FT		EA	LB	LB	LB		LB	LB	LB	LB	EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

TOTALS	SF	SF	EA.	SF		FT	FT	LB	EA.	LB	EA.	EA.	LB
	63.70		1				194 210 469.48						

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss07.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 68 OF 79

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET 08

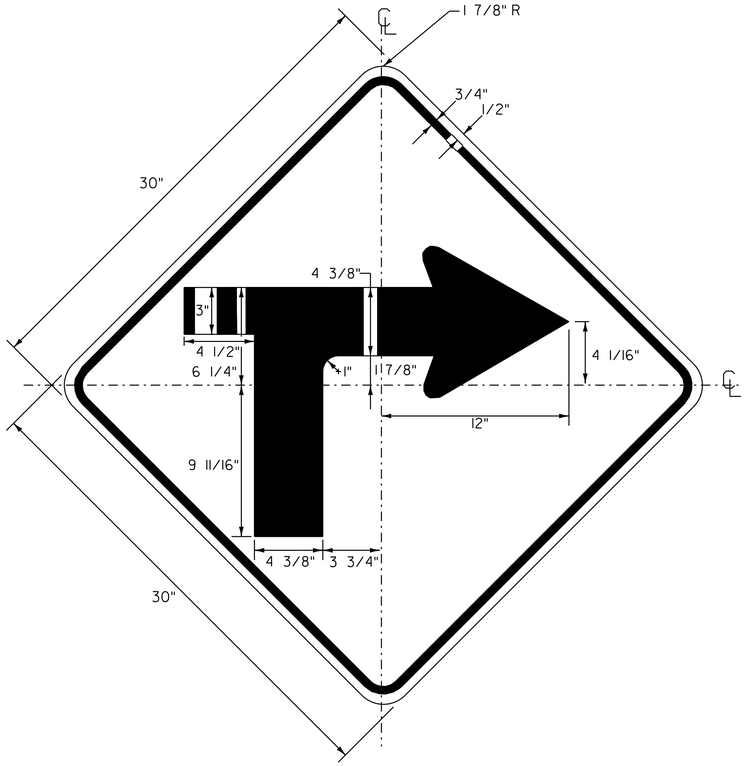
MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (in)	HEIGHT (in)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL lb/ft 1.12	2.0	3.0	SQUARE STEEL (in) lb/ft 1.75 (1.88)	2.0 (2.42)	2.5 (3.35)	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (in) lb/ft 3.0 (1.3)	4.0 (1.7)	4.0 MOD (1.7)	TUBULAR STEEL Ø (in) FOUNDATION	lb/ft 3.0 (7.6)	3.5 (9.0)	4.0 (10.8)	5.0 (14.6)	W-SHAPE STEEL FTG. SIZE 24"	30"	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
VT ROUTE 128 APPROACH (CONT.)																																			
5+06, RT	STOP	1	36	36	9.00						1					14		X																SIGN ID CODE RI-1		SEE FHWA SHS
	1040 0604 0445 B-B	1	6	10	0.42																												MOUNT MILE MARKER PLAQUE BACK-TO-BACK AND BELOW STOP SIGN		E-138
	SHEET TOTAL				9.42											15																			
	TSS SHEET 1 SUBTOTALS				33.36		1								56	~~105~~ 98	154																			
	TSS SHEET 2 SUBTOTALS				24.18		6								~~24~~ 26	~~90~~ 84	110																			
	TSS SHEET 3 SUBTOTALS				86.59		-								8	~~270~~ 250	258																			
	TSS SHEET 4 SUBTOTALS				44.17		-								~~24~~ 28	~~105~~ 96	124																			
	TSS SHEET 5 SUBTOTALS				35.25		2								~~8~~ 12	~~120~~ 112	124																			
	TSS SHEET 6 SUBTOTALS				15.02		8								40	~~105~~ 88	128																			
	TSS SHEET 7 SUBTOTALS				63.70		1								-	~~210~~ 194	194																			
	TSS SHEET 8 SUBTOTALS				9.42		-								-	~~15~~ 14	14																			
	PROJECT SUBTOTALS				311.69		18								~~160~~	~~1020~~	1106'																			
	ROUNDING				3.31		-								5	5																				
	TOTALS		SF 315		SF		EA. 18		SF			FT			FT 165	FT 1025	FT 1190		EA	LB	LB	LB	EA.	LB	LB	LB	LB	EA.	EA.	LB					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

Stantec

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tss08.i
PLOT DATE: 31-OCT-2012 13:5
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 69 OF 79

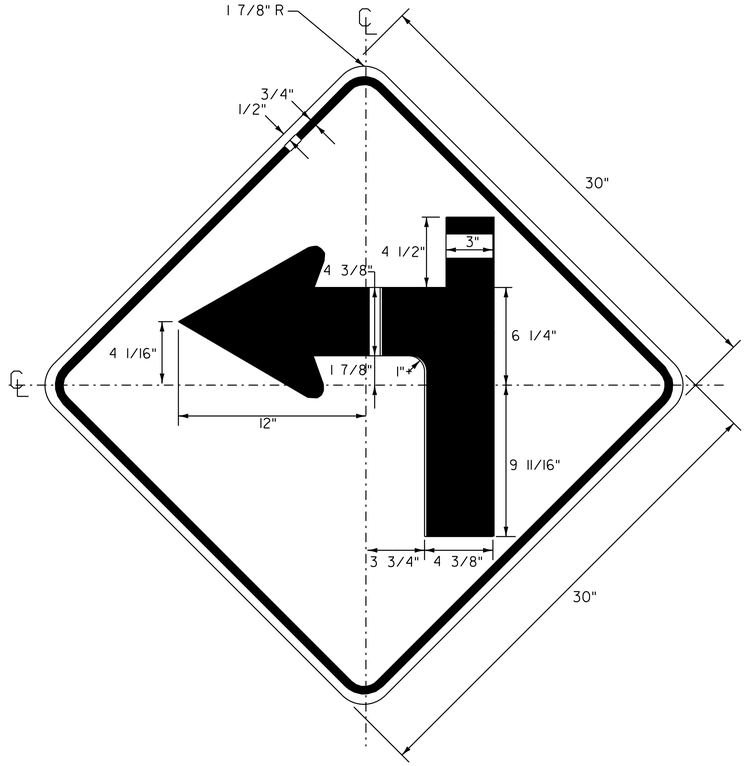


W1-1MaR

BLACK BORDER & SYMBOL
WITH YELLOW (RETROREFLECTIVE) BACKGROUND
SEE VTRANS STANDARD E-150 FOR MATERIALS

LOCATIONS

WESTFORD STA. 259+50, RT

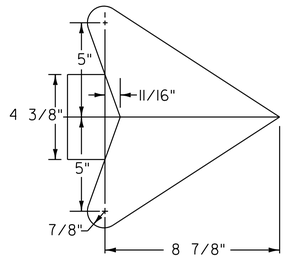


W1-1MbL

BLACK BORDER & SYMBOL
WITH YELLOW (RETROREFLECTIVE) BACKGROUND
SEE VTRANS STANDARD E-150 FOR MATERIALS

LOCATIONS

WESTFORD STA. 271+29, LT



ARROW DETAIL

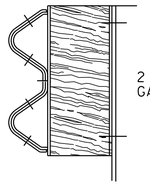
NOT TO SCALE

Stantec

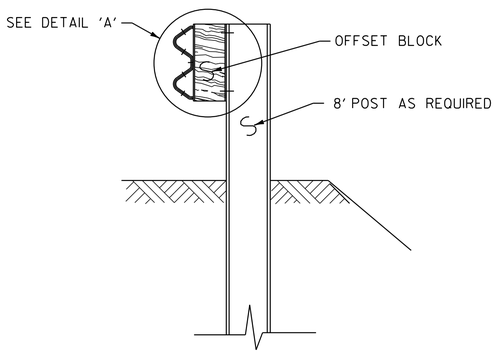
TRAFFIC SIGN DETAIL SHEET

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

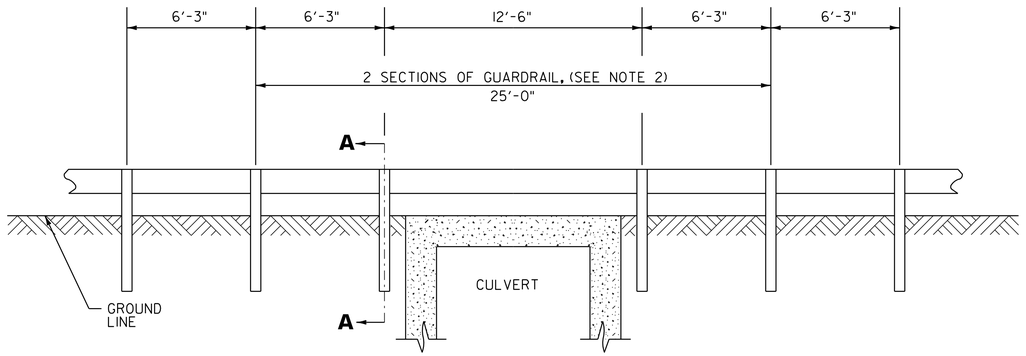
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tsd.i
PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 70 OF 79



DETAIL A



SECTION A–A

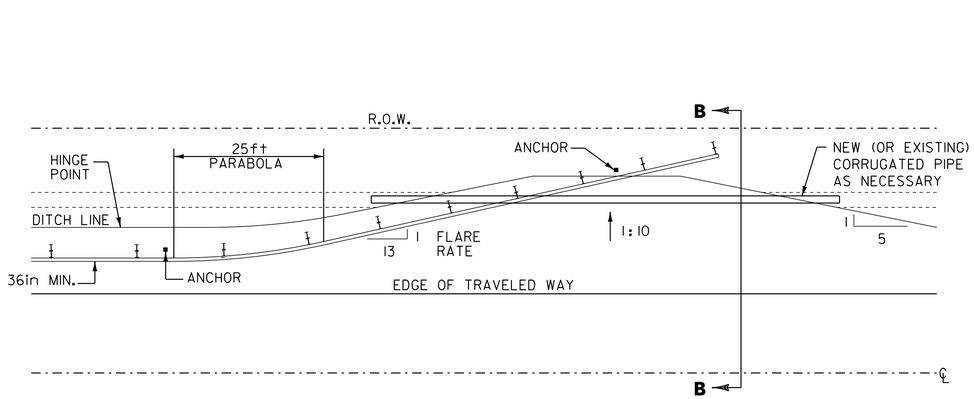


DETAIL OF STEEL BEAM GUARDRAIL AT LARGE CULVERTS (BRIDGE #7)

WESTFORD STA. 275+19, LT
WESTFORD STA. 275+19, RT

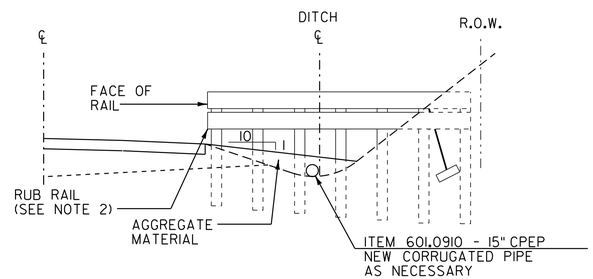
NOTES:

1. SEE VAOT STANDARDS G-1 & G-1d FOR STEEL BEAM GUARDRAIL DETAILS
2. THIS WORK SHALL BE PAID UNDER ITEM 621.207, STEEL BEAM GUARDRAIL, GALVANIZED/NESTED W/8 FEET POSTS
3. THIS DETAIL TO BE USED AS INDICATED ON THE ITEM DETAIL SUMMARY SHEET OR AS DIRECTED BY THE RESIDENT ENGINEER.



DETAIL FOR BURIED GUARDRAIL ENDS INTO BACKSLOPES

WESTFORD STA. 248+29, RT
WESTFORD STA. 279+06.5, LT



SECTION B–B

NOTES:

1. PRIMARY RAIL SHALL REMAIN AT A CONSTANT HEIGHT (LEVEL) RELATIVE TO THE HEIGHT OF RAIL AT THE EDGE OF SHOULDER.
2. ADDITION OF RUB RAIL IS REQUIRED WHEN OPENING BENEATH PRIMARY RAIL EXCEEDS 18". RUB RAIL EXTENDS FROM THE EDGE OF SHOULDER TO THE BACK SLOPE.
3. AN ESTIMATED 20 LF OF ITEM 601.0910 15" CPEP HAS BEEN INCLUDED AT EACH LOCATION FOR USE AS DIRECTED BY THE RESIDENT ENGINEER.

NOT TO SCALE

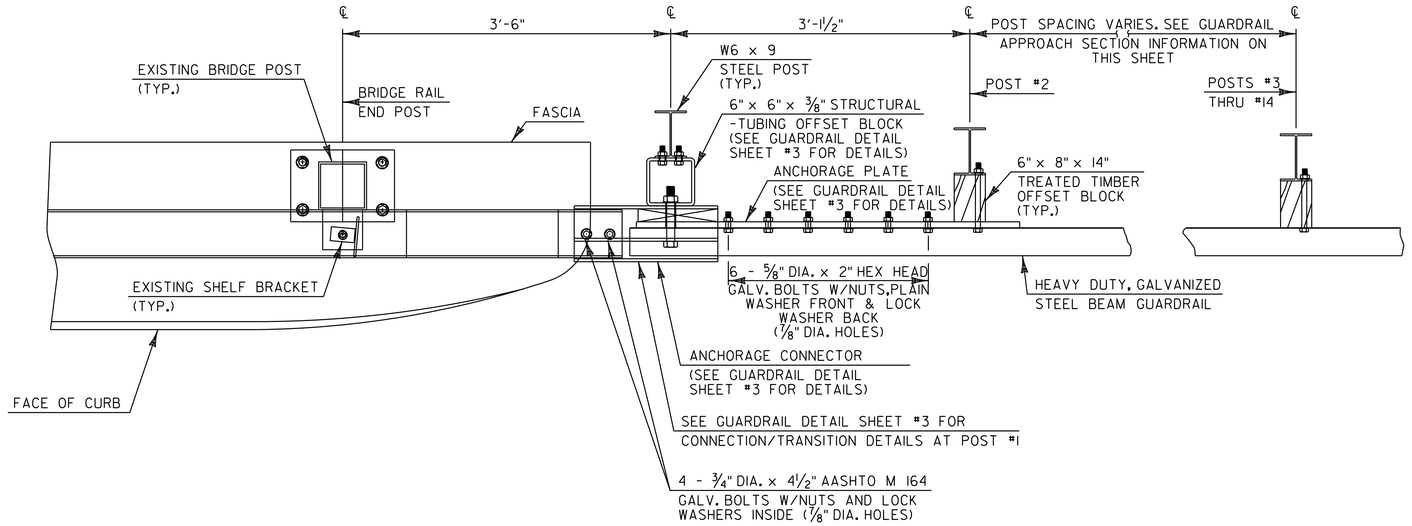
Stantec

GUARDRAIL DETAIL SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212gds01.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 71 OF 79

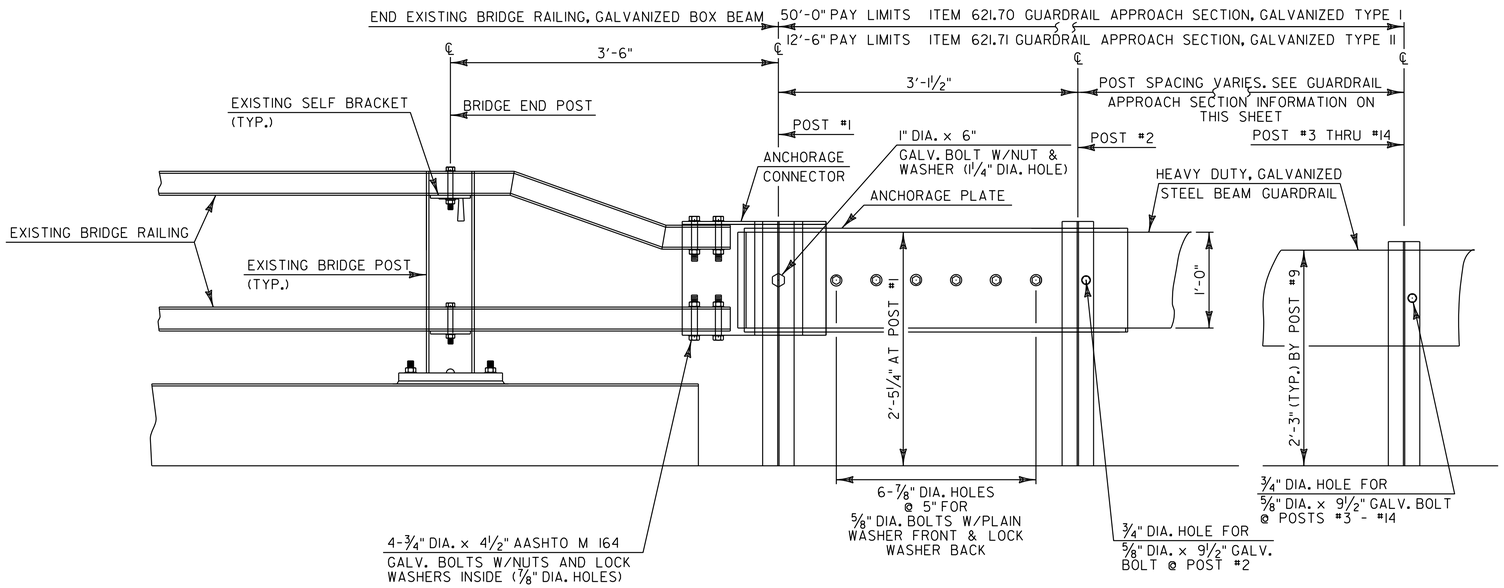


PLAN

ITEM 621.70 GUARDRAIL APPROACH SECTION, TYPE I

POST NO.	SPACING
1	
2	3'-1½"
3	3'-1½"
4	3'-1½"
5	3'-1½"
6	3'-1½"
7	3'-1½"
8	3'-1½"
9	3'-1½"
10	4'-2"
11	4'-2"
12	4'-2"
13	6'-3"
14	6'-3"

50'-0" PAY LIMIT GUARDRAIL APPROACH SECTION, TYPE I



ELEVATION

ITEM 621.71 GUARDRAIL APPROACH SECTION, TYPE II

POST NO.	SPACING
1	
2	3'-1½"
3	4'-8¼"
4	4'-8¼"

12'-6" PAY LIMIT GUARDRAIL APPROACH SECTION, TYPE II

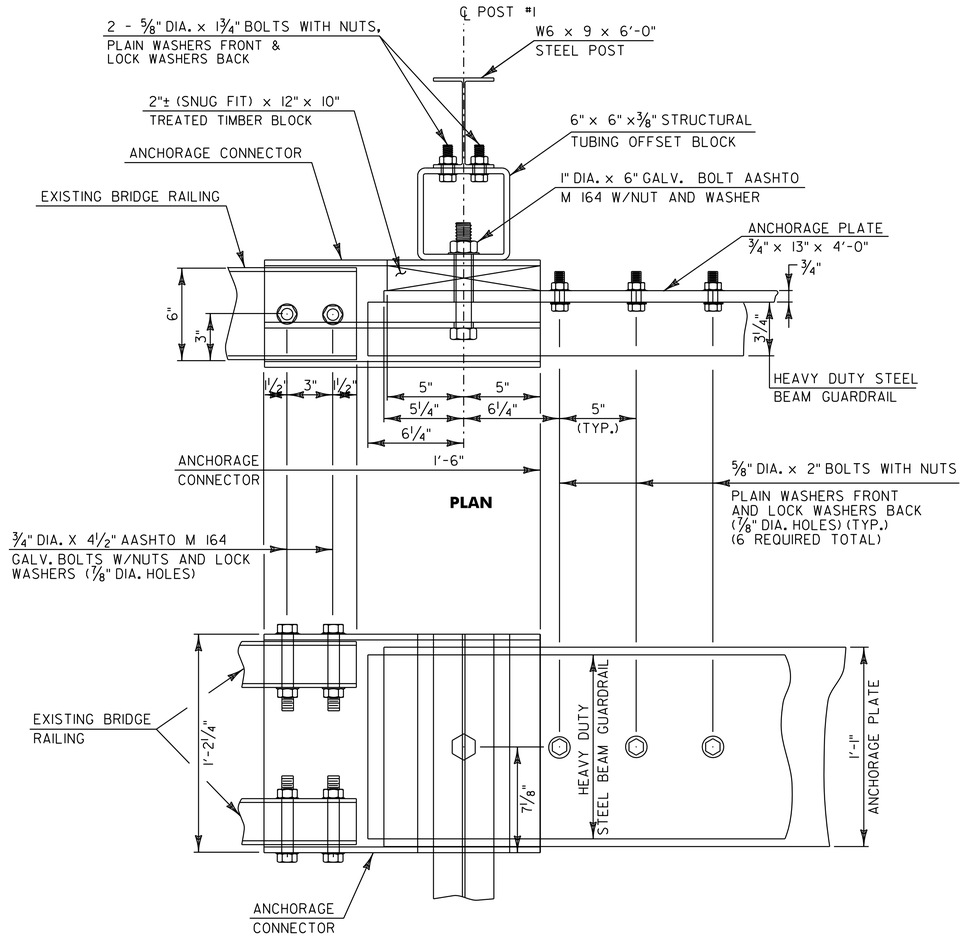
GUARDRAIL APPROACH SECTION DETAIL

GUARDRAIL DETAIL SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

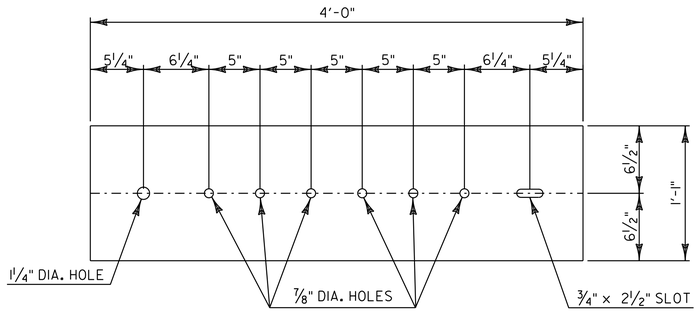
FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212gds02.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 72 OF 79



ELEVATION

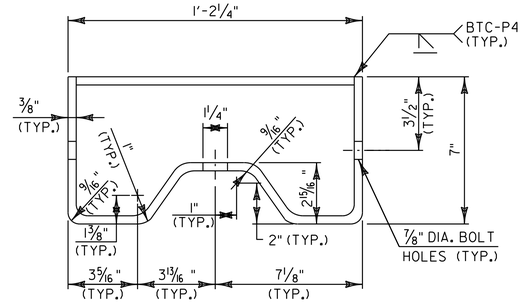
CONNECTION DETAILS AT POST #1



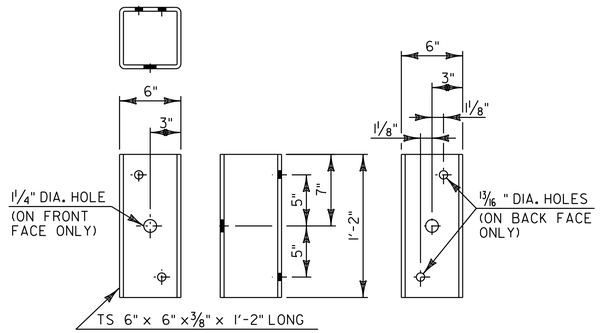
ANCHORAGE PLATE DETAIL

NOTES

1. REFER TO STANDARD G-1 FOR ADDITIONAL RAIL DETAILS.
2. ALL POSTS FOR HEAVY DUTY STEEL BEAM GUARDRAIL SHALL BE STEEL IN ACCORDANCE WITH SECTION 728 "GUARDRAIL, GUIDE POSTS AND BARRIERS" UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.
3. APPROACH RAIL SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
4. ANCHORAGE CONNECTOR AND ANCHORAGE PLATE SHALL BE AASHTO M 270M/M 270, GRADE 250 GALVANIZED TO AASHTO M 111M/M 111 AFTER FABRICATION.
5. ALL BOLTS, NUTS AND WASHERS SHALL BE AASHTO M 164 GALVANIZED TO AASHTO M 232M/M 232 AFTER FABRICATION.
6. STRUCTURAL TUBING OFFSET BLOCK SHALL BE AASHTO M 270M/M 270, GRADE 250(36) GALVANIZED TO AASHTO M 111M/M 111 AFTER FABRICATION.
7. APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR 50'-0" FROM THE ℄ OF POST #1 FOR TYPE I AND 12'-6" FROM THE ℄ OF POST #1 FOR TYPE II.
8. ALLOWABLE DIMENSIONAL TOLERANCE FOR BENT SECTIONS IS ± 1/16 ".
9. THE UNIT PRICES BID FOR EITHER TYPE OF GUARDRAIL APPROACH SECTION SHALL INCLUDE ANCHORAGE CONNECTOR, ANCHORAGE PLATE, HEAVY DUTY STEEL BEAM GUARDRAIL, POSTS, OFFSET BLOCKS, BLOCKING, BOLTS, AND ALL NECESSARY HARDWARE.



ANCHORAGE CONNECTOR DETAIL
(SEE NOTE 8)



STRUCTURAL TUBING OFFSET BLOCK DETAILS
(OCCURS AT POST #1 WHEN USING APPROACH RAIL UTILIZING STEEL POSTS)

GUARDRAIL DETAIL SHEET #3

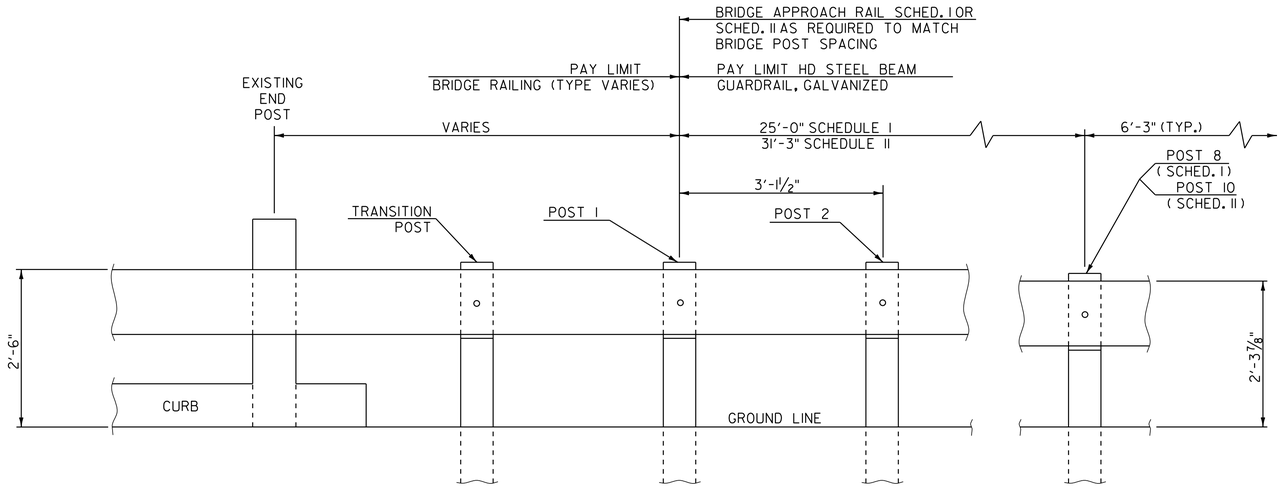
PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212gds03.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 73 OF 79

BRIDGE QUANTITY SHEET

STATION	POS.	BRIDGE NUMBER	OFFSET BLOCK	525.10 (LF)	525.40 (LF)	525.60 (LF)	529.25 (CY)	REMARKS
LOCATION:								
WESTFORD								
194+12 - 194+86	LT&RT	5						ALL EXISTING BRIDGE RAIL IS TO BE RETAINED
FAIRFAX								
8+61 - 9+34	RT	8						ALL EXISTING BRIDGE RAIL IS TO BE RETAINED
8+69 - 9+44	LT	8						ALL EXISTING BRIDGE RAIL IS TO BE RETAINED
SUBTOTALS								
ROUNDING								
TOTAL								



SCHEDULE I		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1½"	1.4 x 12'-6"
2	3'-1½"	
3	3'-1½"	
4	3'-1½"	
5	4'-2"	1.2 x 12'-6"
6	4'-2"	
7	4'-2"	
8	6'-3" (TYP.)	1.0 (TYP.)
9		
TOTAL PAY LENGTH = 32' - 6"		

SCHEDULE II		
POST NO.	SPACING	PAYMENT FACTOR
1	3'-1½"	1.4 x 18'-9"
2	3'-1½"	
3	3'-1½"	
4	3'-1½"	
5	3'-1½"	
6	3'-1½"	
7	4'-2"	1.2 x 12'-6"
8	4'-2"	
9	4'-2"	
10	6'-3" (TYP.)	1.0 (TYP.)
11		
TOTAL PAY LENGTH = 41' - 3"		

SCHEDULE I APPROACH RAILING SHALL BE USED WHEN A RAIL PANEL SPLICE OCCURS AT POST NO. 1. SCHEDULE II APPROACH RAILING SHALL BE USED WHEN A RAIL PANEL SPLICE OCCURS AT THE BRIDGE END POST.

BRIDGE APPROACH RAILING

GENERAL NOTES

1. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25'.
2. APPROACH RAILING SHALL BE HEAVY DUTY STEEL BEAM FOR 25' FROM THE ENDS OF THE BRIDGE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT ENGINEER.
3. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
4. SEE STANDARD SHEET G-1 FOR DELINEATION DETAILS AND PLACEMENT.
5. ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 31'-3" APART. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
6. ALL STEEL POSTS, PLATES, OFFSET BLOCKS AND FIXTURES SHALL BE PROVIDED IN ACCORDANCE WITH SUBSECTION 732.04 , UNLESS OTHERWISE NOTED, AND SHALL BE GALVANIZED AFTER FABRICATION TO CONFORM TO AASHTO A-123.
7. SEE STANDARD SHEET G-1 FOR CONNECTION OF STEEL BEAM TO OFFSET BLOCK AND OFFSET BLOCK TO BRIDGE POST.

NOT TO SCALE

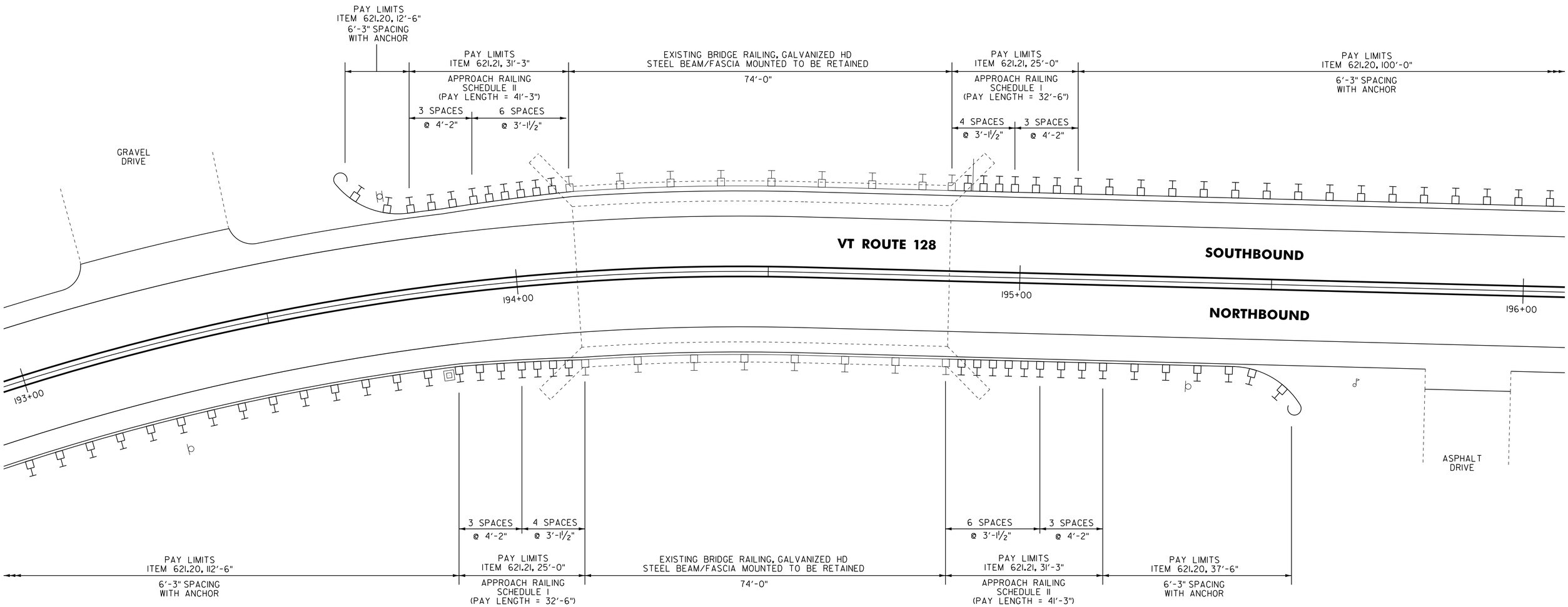
Stantec

BRIDGE DETAIL SHEET #1

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212bds1.i

PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 74 OF 79



BR 5 WESTFORD MM 3.684 = STA. 194+49

NOTES

1. SEE VAOT STANDARD SHEETS G-1 AND G-1d FOR ADDITIONAL DETAILS.
2. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25'.
3. APPROACH RAILING SHALL BE GALVANIZED HD STEEL BEAM FOR AT LEAST 25' FROM THE ENDS OF THE BRIDGE.
4. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
5. SEE VAOT STANDARD SHEET G-1 FOR DELINEATION DETAILS AND PLACEMENT.
6. ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 29.5' APART. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.

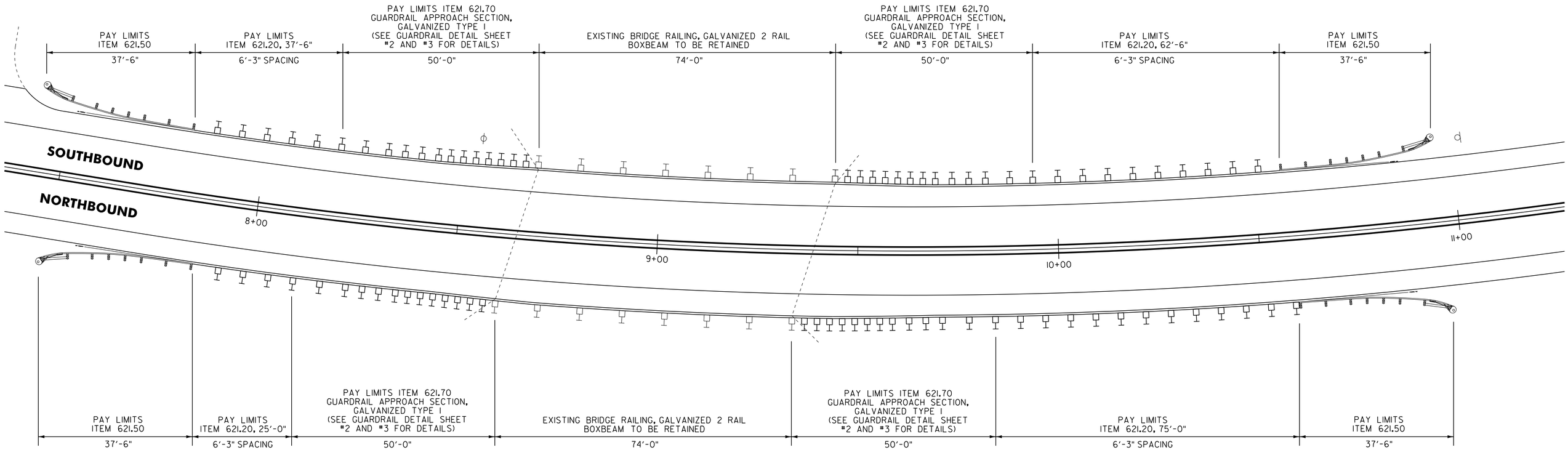
NOT TO SCALE

Stantec

BRIDGE DETAIL SHEET #2

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212bds2.i
PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 75 OF 79



BR 8 FAIRFAX MM 0.170 = STA. 8+96

NOTES

1. SEE VAOT STANDARD SHEETS G-1 AND G-1d FOR ADDITIONAL DETAILS.
2. BRIDGE APPROACH RAIL HEIGHT SHALL BE TRANSITIONED TO NORMAL ROADWAY RAIL HEIGHT IN 25'.
3. APPROACH RAILING SHALL BE GALVANIZED HD STEEL BEAM FOR AT LEAST 25' FROM THE ENDS OF THE BRIDGE.
4. SPLICES SHALL LAP IN DIRECTION OF TRAFFIC FLOW.
5. SEE VAOT STANDARD SHEET G-1 FOR DELINEATION DETAILS AND PLACEMENT.
6. ERECT DELINEATORS ON EVERY FIFTH POST OR APPROXIMATELY 29.5' APART. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.

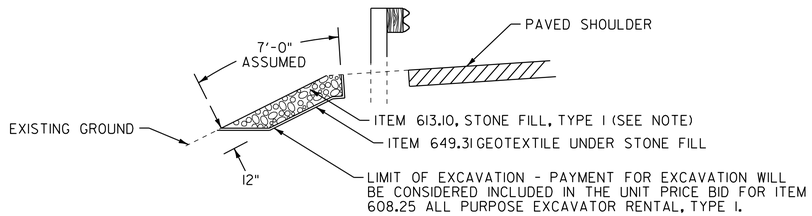
NOT TO SCALE

Stantec

BRIDGE DETAIL SHEET #3

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212bds3.i
PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 76 OF 79



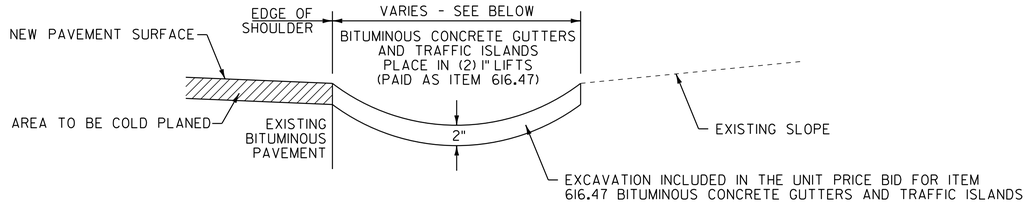
SLOPE EROSION REPAIR DETAIL

(ASSUME A 6' LENGTH AND 7' WIDTH UNLESS OTHERWISE NOTED)

WESTFORD STA. 170+35 TO 170+55, RT (20 FT)
STA. 220+10, LT
STA. 220+30, LT
STA. 221+44, LT
STA. 244+80 TO 245+10, LT (30 FT)
STA. 246+00 TO 246+50, RT (50 FT)
STA. 251+52, RT
STA. 275+07, LT

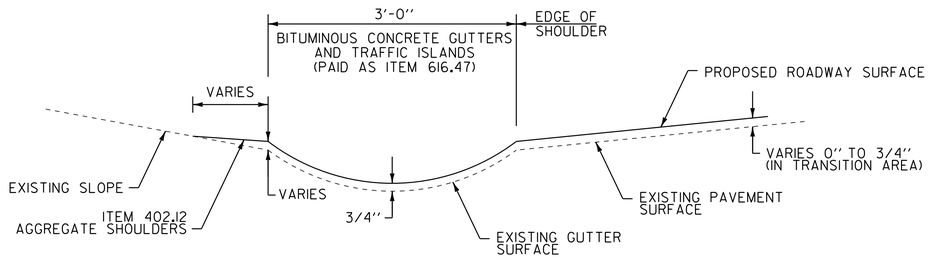
NOTE:

AN ESTIMATED QUANTITY OF ITEM 613.11 STONE FILL, TYPE II HAS BEEN INCLUDED FOR USE AS DIRECTED BY THE RESIDENT ENGINEER. IF ITEM 613.11 IS NECESSARY, THE ADDITIONAL EXCAVATION DEPTH REQUIRED WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCLUDED IN THE UNIT PRICE BID FOR ITEM 608.25 ALL PURPOSE EXCAVATOR RENTAL, TYPE I



BITUMINOUS CONCRETE GUTTER DETAIL (COLD PLANE AREA)

WESTFORD STA. 193+85 TO 194+12, RT (2'WIDE)



BITUMINOUS CONCRETE GUTTER DETAIL (RECLAIM TRANSITION AREA AT BRIDGE #8)

FAIRFAX STA. 9+44 TO 9+79, LT (3' WIDE)

EXISTING CULVERT INVENTORY TABLE

STATION	CULVERT SIZE	CULVERT MATERIAL	APPROX. DEPTH (FT)	COMMENT
WESTFORD				
71+48	24"	CMP	4	
91+58	24"	CMP	4	
115+57	30"	CMP	8	
130+85	24"	CMP	4.5	
141+24	18"	CMP	6	
149+54	24"	RCP	4.5	
157+00	18"	CMP	5	
170+44	24"	RCP	5	
187+22	18"	CMP	5	
207+87	12"	CMP	1.5	
209+13	15"	CMP	3	
218+37	36"	CMP	6	
228+95	36"	CMP	2	
234+62	18"	CPEP	2.3	
246+48	72"	CMP	6	BR #6
251+62	24"	CPEP	3	
257+82	18"	CMP	2.5	
261+77	36"	CMP	3	
264+81	60"	CMP	3.5	
270+04	15"	CMP	2.5	
275+19	6'x4'	CONC. BOX	1	BR #7
279+70	30"	CMP	5	
291+38	12"	CMP	3	
302+84	24"	CMP	2.5	
318+69	18"	CMP	2	
331+35	18"	CMP	2.5	
341+97	18"	CMP	3	
FAIRFAX				
22+05	18"	CMP	3	
30+78	12"	RCP	2	
APPROACH				
0+88	15"	CMP	1.3	

NOT TO SCALE

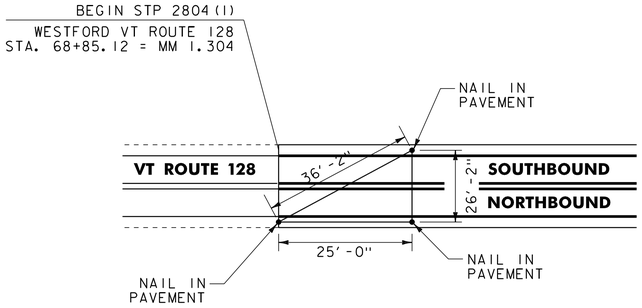
Stantec

CULVERT INVENTORY & MISCELLANEOUS DETAIL SHEET

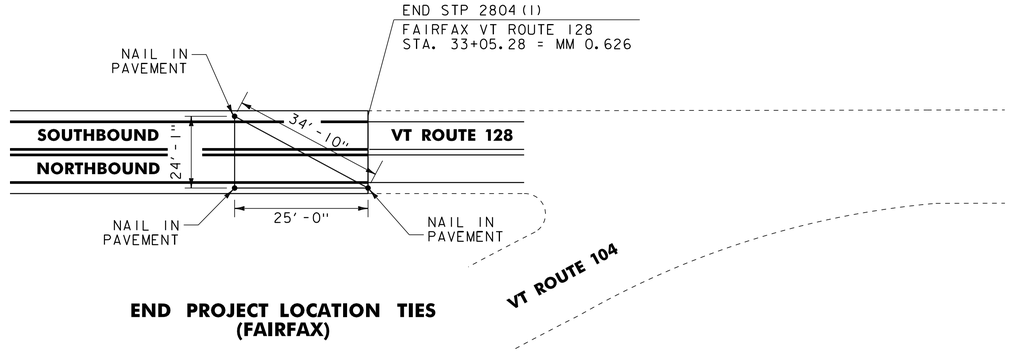
PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(1)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212csd.i

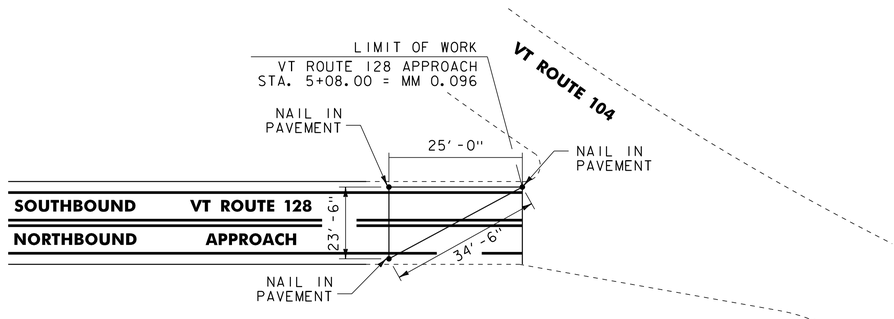
PLOT DATE: 31-OCT-2012 13:59
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 77 OF 79



BEGIN PROJECT LOCATION TIES (WESTFORD)



END PROJECT LOCATION TIES (FAIRFAX)



TIES FOR VT ROUTE 128 APPROACH LIMIT OF WORK

NOT TO SCALE

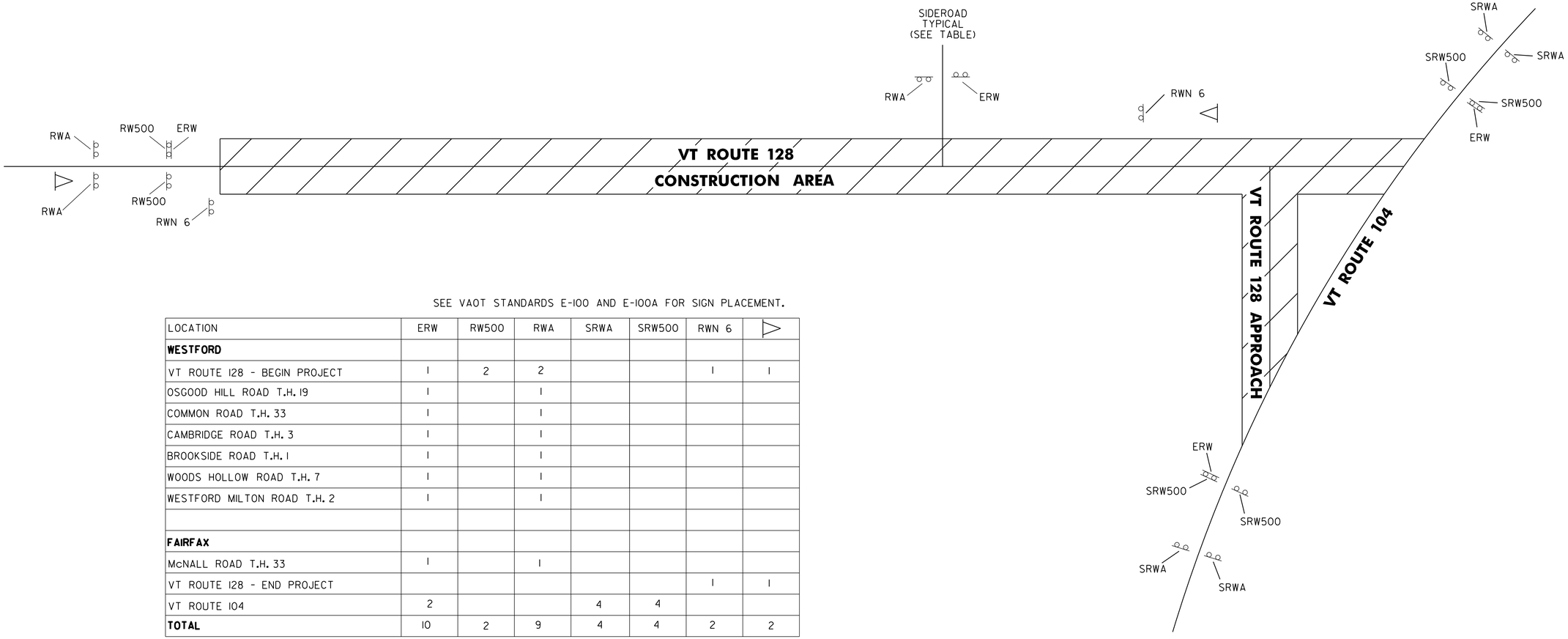
Stantec

PROJECT LOCATION TIE SHEET

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212tie.i

PLOT DATE: 31-OCT-2012 14:00
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 78 OF 79



SEE VAOT STANDARDS E-100 AND E-100A FOR SIGN PLACEMENT.

LOCATION	ERW	RW500	RWA	SRWA	SRW500	RWN 6	▷
WESTFORD							
VT ROUTE 128 - BEGIN PROJECT	1	2	2			1	1
OSGOOD HILL ROAD T.H. 19	1		1				
COMMON ROAD T.H. 33	1		1				
CAMBRIDGE ROAD T.H. 3	1		1				
BROOKSIDE ROAD T.H. 1	1		1				
WOODS HOLLOW ROAD T.H. 7	1		1				
WESTFORD MILTON ROAD T.H. 2	1		1				
FAIRFAX							
McNALL ROAD T.H. 33	1		1				
VT ROUTE 128 - END PROJECT						1	1
VT ROUTE 104	2			4	4		
TOTAL	10	2	9	4	4	2	2

LEGEND

ERW = END ROAD WORK
RW500 = ROAD WORK 500 FT
RWA = ROAD WORK AHEAD
SRWA = SIDE ROAD WORK AHEAD
SRW500 = SIDE ROAD WORK 500 FT
RWN 6 = ROAD WORK NEXT 6 MILES
▷ = PORTABLE CHANGEABLE MESSAGE SIGN

NOTES:

1. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.10, TRAFFIC CONTROL.
2. PORTABLE CHANGEABLE MESSAGE SIGNS ARE OPTIONAL AND ARE TO BE USED AS DIRECTED BY THE VAOT RESIDENT ENGINEER. CONTRACTOR SHALL POSITION PORTABLE CHANGABLE MESSAGE BOARDS WARNING MOTORISTS OF THE EXPECTED ROADWAY CONDITIONS AHEAD. THE MESSAGE TO BE DISPLAYED SHALL BE SUBMITTED TO THE RESIDENT ENGINEER IN ADVANCE FOR APPROVAL. THE COST OF PROVIDING THESE MESSAGE BOARDS SHALL BE PAID UNDER ITEM 641.15, PORTABLE CHANGABLE MESSAGE SIGN.
3. THE BID PRICE FOR TRAFFIC CONTROL, ITEM 641.10, SHALL INCLUDE ALL OF THE FOLLOWING, AS NEEDED: APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE FLASHING 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.
4. THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. EXISTING SIGNS AND MARKING SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC 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.
5. 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.
6. THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN PACKAGE FOR EXPECTED LANE CLOSURES AND WORK ZONE SPEED REDUCTIONS IN COMPLIANCE WITH STANDARD E-103. PAYMENT FOR PROVIDING THIS PACKAGE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.10, TRAFFIC CONTROL.
7. SEE VAOT STANDARD E-100 FOR ADDITIONAL SIGN PLACEMENT DETAILS.
8. CONSTRUCTION ZONE SIGN LAYOUT SHALL BE IN ACCORDANCE WITH SECTION 6 OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
9. CONSTRUCTION SIGNS SHALL BE IN NEW OR LIKE NEW CONDITION PER VAOT STANDARDS AND SPECIAL PROVISIONS.
10. DIAMOND SHAPED SIGNS SHALL BE 4' X 4' WITH BLACK TEXT AND BORDER ON A RETROFLECTIVE FLUORESCENT ORANGE BACKGROUND.
11. RETROREFLECTIVE SHEETING SHALL BE TYPE III OR VIII AS NOTED ON VAOT STANDARD E-100 AND IN THE SPECIAL PROVISIONS.
12. CONSTRUCTION ZONE SIGNS SHALL BE INSTALLED AS OUTLINED IN THE SPECIAL PROVISIONS.
13. WHERE TEMPORARY SIGNS ARE PLACED BEHIND GUARDRAIL, THEY SHALL BE ADJUSTED SUCH THAT THE BOTTOM OF THE SIGNS ARE ABOVE THE TOP OF GUARDRAIL.
14. AS THE PAVING OPERATION MOVES, FLAGGER SIGNS SHALL BE MOVED ACCORDINGLY. AT NO TIME SHOULD THE FLAGGER SYMBOL SIGN BE MORE THAN 1000 FEET FROM THE FLAGGER STATION. FLAGGER SIGNS SHALL BE COVERED OR TURNED AWAY FROM TRAFFIC WHEN FLAGGING OPERATIONS CEASE FOR LONGER THAN 15 MINUTES.
15. CONES SHALL BE USED TO CLEARLY DEFINE THE TRAVEL SPACE AND PROVIDE SEPARATION FROM THE WORK SPACE ALONG ITS ENTIRE LENGTH.

NOT TO SCALE

Stantec

TEMPORARY TRAFFIC CONTROL PLAN SHEET

PROJECT NAME: WESTFORD - FAIRFAX
PROJECT NUMBER: STP 2804(I)

FILE NAME: p08c212.dgn
PROJECT LEADER: JLL
DESIGNED BY: STANTEC
IPARM FILE: p08c212ttcp.i

PLOT DATE: 31-OCT-2012 14:00
DRAWN BY: STANTEC
CHECKED BY: JLL
SHEET 79 OF 79