PROJECT MANAGER Hoalnam_Nguyen_P.E.,(703)792-8161,PWC_Dept. of Transportation
SURVEYED BY, DATE Leao_E.Treutle,L.S.,(703)259-3224 7/17/13
DESIGN BY Jeff_Cronin_P.E.,Johnson,Mirncan & Thompson (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon_E.Treutle,L.S.(703)259-3224 7/17/13

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA						
Road Name	Design Speed	GS St'd	Dir	k	Truck %	AADT
Bradys Hill Rd	25	GS-8	-	-	-	1600
Canal Rd (Rt)	25	GS-8	-	-	-	-
Canal Rd (Lt)	25	GS-8	-	-	-	-
Canal Rd/Service Rd	25	GS-9	-	-	-	-
Graham Park Rd (Lt)	25	GS-7	0.5337	0.0879	1	10,000
Graham Park Rd (Rt)	35	GS-7	0.6148	0.0927	1	8,200
Main St. South Cul-de-sac	35	GS-7	0.9271	0.0976	2	13,000
Main St Rt Lane	35	GS-7	-	-	-	-
Original Stage Coach Rd	25	GS-8	-	-	-	950
Possum Point Rd	25	GS-7	0.5733	0.0889	13	690
Quantico Gateway Dr	25	GS-8	-	-	-	1,300
Reloc. E. Duke St	20	GS-8	-	-	-	-
Rel. Main St North	35	GS-7				
Rel. Old Stage Coach Rd	25	GS-8	-	-	-	950
Town Square Ct	25	GS-8	-	-	-	-
Tripoli Blvd	25	GS-8	-	-	-	-
Williamstown Dr	25	GS-8	-	-	-	-

FOR INDEX OF SHEETS SEE SHEET 1B

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).
GEOPAK Computer Identification No. UPC 119481

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
CITY,TOWN OR VILLAGE
RIGHT OF WAY LINE
FENCE LINE
UNFENCED PROPERTY LINE
FENCED PROPERTY LINE
WATER LINE
SANITARY SEWER LINE
GAS LINE
ELECTRIC UNDERGROUND CABLE
TRAVELED WAY
GUARD RAIL
RETAINING WALL
RAILROADS
BASE OR SURVEY LINE

LEVEE OR EMBANKMENT
BRIDGES
CULVERTS
DROP INLET
POWER POLES
TELEPHONE OR TELEGRAPH POLES
TELEPHONE OR TELEGRAPH LINES
HEDGE
TREES
HEAVY WOODS
GROUND ELEVATION
GRADE ELEVATION

COMMONWEALTH OF VIRGINIA

Prince William County Dept. of Transportation

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

TOWN OF DUMFRIES

FRALEY BLVD (US RTE. 1) - WIDEN TO SIX LANES

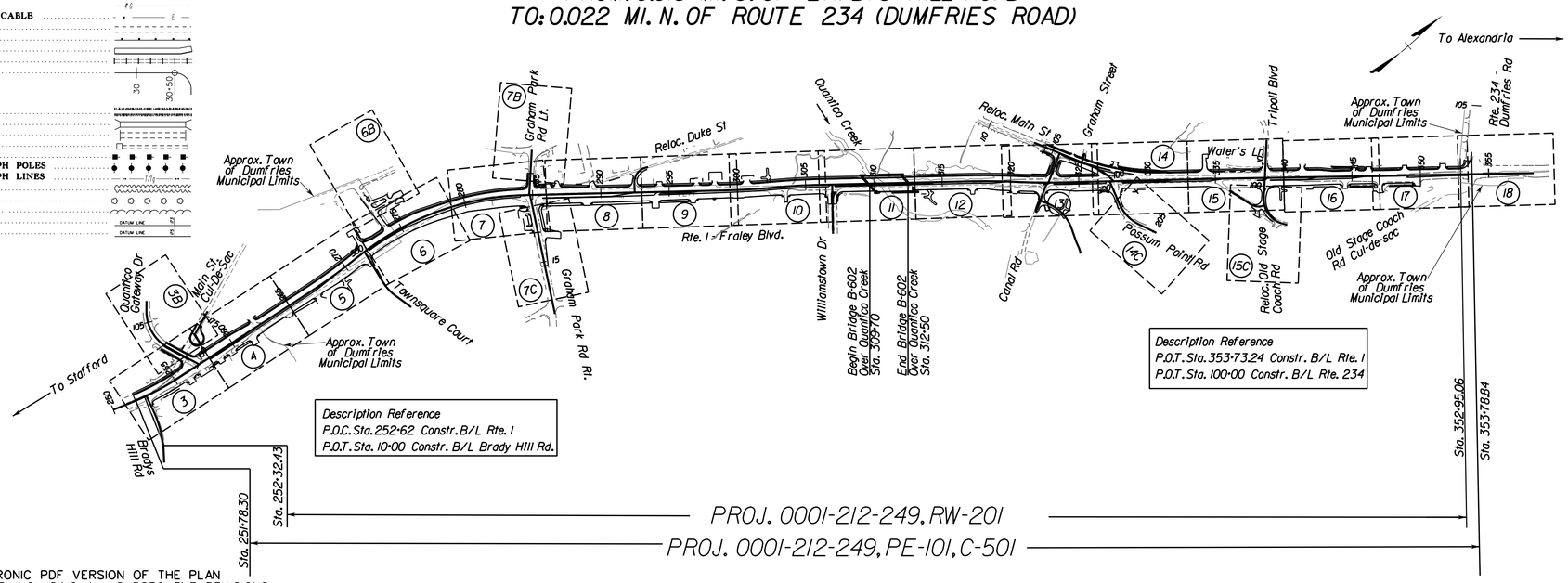
FROM: 0.016 MI. S. OF BRADYS HILL ROAD
TO: 0.022 MI. N. OF ROUTE 234 (DUMFRIES ROAD)

STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
VA.	NHPP-5B01( ) (SEE TABULATION BELOW FOR SECTION NUMBERS)	1	0001 - 212 - 249 (SEE TABULATION BELOW FOR SECTION NUMBERS)	1

FHWA 534 DATA 43103

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
NHS - URBAN PRINCIPAL ARTERIAL (GS-5) - ROLLING - 45 MPH MIN. DESIGN SPEED	
	Fr: 0.016 MI. S. OF BRADYS HILL ROAD To: 0.022 MI. N. OF ROUTE 234 (DUMFRIES ROAD)
ADT 2021	24,000
ADT 2042	69,000
DHV	4,620
D (%) (design hour)	55/45
T (%) (design hour)	3%
V (MPH)	45
DESIGN VEHICLE	WB-62 & S-BUS-40

SEE TYPICAL SECTION SHEETS FOR CONNECTION FUNCTIONAL CLASSIFICATION



THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY AS AWARDED, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE GENERAL NOTES.

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2020 ROAD AND BRIDGE SPECIFICATIONS, 2016 ROAD AND BRIDGE STANDARDS (REV SEPT. 2022), 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.11ULS, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, IS FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

SCALE
0 500' 1000'

Town of Dumfries Population 5,823 (2022 Census)

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	LENGTH INCLUDING BRIDGE(S) FEET	LENGTH INCLUDING BRIDGE(S) MILES	LENGTH EXCLUDING BRIDGE(S) FEET	LENGTH EXCLUDING BRIDGE(S) MILES	BRIDGE PLAN NO.	TYPE PROJECT	DESCRIPTION
0001-212-249	PE-101	NHPP-5B01(305)	PENG	119481	10,200.54	1.932	9,920.54	1.879		Prel. Engr.	From: 0.016 MI. S. of Brady's Hill Rd
											To: 0.022 MI. N. of Dumfries Rd (Route 234)
	RW-201	NHPP-5B01(306)	ROWA	119481	10,062.63	1.906	9,782.63	1.852		Right of Way	From: 0.004 MI. S. of Brady's Hill Rd
											To: 0.015 MI. S. of Dumfries Rd (Route 234)
	C-501	NHPP-5B01(307)	1000	119481	10,200.54	1.932	9,920.54	1.879		Construction	From: 0.016 MI. S. of Brady's Hill Rd
											To: 0.012 MI. S. of Dumfries Rd (Route 234)
	B-602	NHPP-5B01(307)		119481	280.00	0.053			302-14	Bridge	Bridge carrying Rte. 1 (Fraley Blvd) over Quantico Creek (State Str. No. xxx)

Project Lengths are based on Rte. 1 Construction Baseline.

TIER 2 PROJECT

LOCALLY ADMINISTERED PROJECTS
Prince William County

PRINCE WILLIAM COUNTY DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION
DATE — DIRECTOR OF TRANSPORTATION
PRINCE WILLIAM COUNTY DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
DATE — ASSISTANT DIRECTOR OF TRANSPORTATION

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION
DATE — INFRASTRUCTURE INVESTMENT DIRECTOR
DATE — STATE LOCATION AND DESIGN ENGINEER
DATE — CHIEF FINANCIAL OFFICER
DATE — CHIEF ENGINEER

APPROVED FOR RIGHT OF WAY ACQUISITION
DATE — CHIEF OF POLICY

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
DATE — INFRASTRUCTURE INVESTMENT DIRECTOR
DATE — STATE LOCATION AND DESIGN ENGINEER
DATE — STATE STRUCTURE AND BRIDGE ENGINEER
DATE — CHIEF FINANCIAL OFFICER

APPROVED FOR CONSTRUCTION
DATE — CHIEF ENGINEER

APPROVED
DATE — DIVISION ADMINISTRATOR, FEDERAL HIGHWAY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

REVISED

PROJECT	SHEET NO.
0001-212-249	1

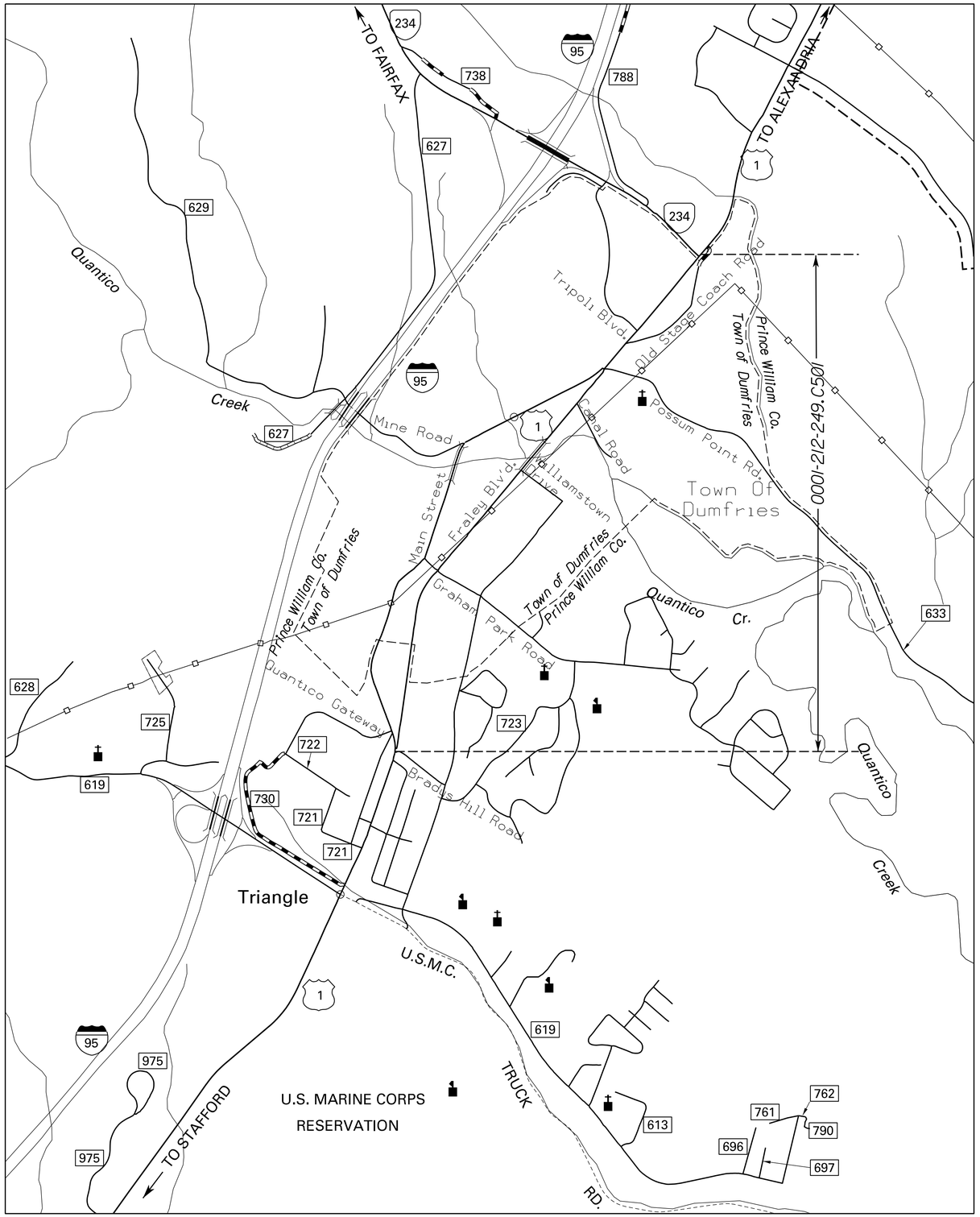
R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 210
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

LOCATION MAP



N

SCALE
0 .25 MILE .5 MILE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501, B-6XX	1A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

	PROJECT	SHEET NO.
	0001-212-249	1A

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 250
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

INDEX OF SHEETS

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IB

	SHEET NO.	DESCRIPTION
	I	TITLE SHEET
	IA	LOCATION MAP
	IB	INDEX OF SHEETS
	IC(1) thru IC(3)	RIGHT OF WAY DATA SHEETS
*	ID(1)	REVISION DATA SHEET
	IE(1) thru IE(4)	EXISTING DRAINAGE DESCRIPTIONS
	IF(1) & IF(2)	SURVEY HORIZONTAL AND VERTICAL CONTROL SHEETS
	IG(1) thru IG(4)	CONSTRUCTION ALIGNMENT DATA SHEETS
	IG(5) thru IG(11)	ENTRANCE CONSTRUCTION ALIGNMENT DATA SHEETS
*	IH	RADIAL OFFSET SHEET
	II	TRANSPORTATION MANAGEMENT PLAN GENERAL NOTES
*	IJ	CONSTRUCTION SIGN SCHEDULE
	IK(1) thru IK(22)	MAINTENANCE OF TRAFFIC / SEQUENCE OF CONSTRUCTION SHEETS
*	IL(1) thru IL(10)	TEMPORARY SIGNAL SHEETS
	IM(1) thru IM(2)	EROSION CONTROL GENERAL NOTES & LEGENDS
	IN(1) thru IN(23)	PHASE I EROSION CONTROL PLAN SHEETS
	IN(24)	SEDIMENT TRAP DETAIL SHEET
	IO	NOT USED
	IP(1) thru IP(23)	PHASE 2 EROSION CONTROL PLAN SHEETS
	IQ	HYDROLOGIC DATA SHEET
	2(1) thru 2(2)	GENERAL NOTES
	2A(1) thru 2D(3)	TYPICAL SECTIONS
	2E(1) thru 2E(6)	DRAINAGE DESCRIPTION SHEETS & DITCH TYPICALS
*	2F(0)	NOT USED
*	2G(0)	NOT USED
	2H(1) thru 2H(4)	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
	2I(1)-2I(2)	BIO-RETENTION LANSCAPING PLAN & CONSTRUCTION SEQUENCE
	2I(3,3A)-2I(7,7A)	SWM PLAN DETAIL SHEETS & SWM PROFILE DETAIL SHEETS
	2J(1) thru 2J(2)	DEMOLITION OF BUILDINGS/CLEARING OF PARCELS
	2K(1) - 2K(8)	RETAINING WALLS (1-8)
*	2L	GRADING DIAGRAM AND SUMMARY
*	2M	PAVEMENT SUMMARY
*	2N	INCIDENTAL SUMMARY
*	2O	ROADSIDE DEVELOPMENT SHEET
	3	PLAN SHEET STA. 251+00 to 258+00
	3A	PROFILE SHEET STA. 251+00 to 258+00
	3B	PLAN SHEET QUANTICO GATEWAY DR & MAIN ST S. CUL-DE-SAC
	3C	PROFILE SHEET QUANTICO GATEWAY DR., MAIN ST CUL-DE-SAC, MAIN ST CUL-DE-SAC EOP & TOWNSQUARE COURT
	4	PLAN SHEET STA. 258+00 to 265+00
	4A	PROFILE SHEET STA. 258+00 to 265+00
	5	PLAN SHEET STA. 265+00 to 272+00
	5A	PROFILE SHEET STA. 265+00 to 272+00
	6	PLAN SHEET STA. 272+00 to 279+00
	6A	PROFILE SHEET STA. 272+00 to 279+00
	6B	PLAN SHEET PARCEL 024 ENTRANCE
	7	PLAN SHEET STA. 279+00 to 286+00
	7A	PROFILE SHEET STA. 279+00 to 286+00
	7B	PLAN SHEET GRAHAM PARK RD LT.
	7C	PLAN SHEET GRAHAM PARK RD RT.
	7D	PROFILE SHEET GRAHAM PARK RD LT.& GRAHAM PARK RD RT.
	8	PLAN SHEET STA. 286+00 to 293+00
	8A	PROFILE SHEET STA. 286+00 to 293+00
	9	PLAN SHEET STA. 293+00 to 300+00
	9A	PROFILE SHEET STA. 293+00 to 300+00
	10	PLAN SHEET STA. 300+00 to 306+00
	10A	PROFILE SHEET STA. 300+00 to 306+00
	11	PLAN SHEET STA. 306+00 to 313+00
	11A	PROFILE SHEET STA. 306+00 to 313+00
	11B	PROFILE SHEET RELOC. EAST DUKE ST & WILLIAMSTOWN DR
	12	PLAN SHEET STA. 313+00 to 320+00
	12A	PROFILE SHEET STA. 313+00 to 320+00

SHEET NO.	DESCRIPTION
13	PLAN SHEET STA. 320+00 to 326+00
13A	PROFILE SHEET STA. 320+00 to 326+00
13B	PROFILE SHEET CANAL RD RT.,CANAL RD LT., CANAL RD SERVICE RD, GRAHAM ST
14	PLAN SHEET STA. 326+00 to 333+00
14A	PROFILE SHEET STA. 326+00 to 333+00
14B	NOT USED
14C	PLAN SHEET CANAL RD SERVICE RD & POSSUM POINT RD
14D	PROFILE SHEET RELOC. MAIN ST NORTH, MAIN ST RIGHT TURN LANE
14E	PROFILE SHEET POSSUM POINT RD & TRIPOLI BLVD
15	PLAN SHEET STA. 333+00 to 340+00
15A	PROFILE SHEET STA. 333+00 to 340+00
15B	NOT USED
15C	PLAN SHEET RELOC. OLD STAGE COACH RD & ORIGINAL STAGE COACH RD
15D	PROFILE SHEET RELOC. OLD STAGE COACH RD & ORIGINAL STAGE COACH RD
16	PLAN SHEET STA. 340+00 to 347+00
16A	PROFILE SHEET STA. 340+00 to 347+00
17	PLAN SHEET STA. 347+00 to 353+00
17A	PROFILE SHEET STA. 347+00 to 353+00
18	PLAN SHEET STA. 353+00 to 360+00
18A	PROFILE SHEET STA. 353+00 to 360+00
19(1) thru 19(6)	ENTRANCE PROFILE SHEETS
20(1) thru 20(22)	STORM SEWER PROFILES
21(1) thru 21(18)	SIGNING AND PAVEMENT MARKING PLANS
22(1) thru 22(6)	SIGNAL PLANS

BRIDGE PLANS, B-602, PLAN NO. 302-14 (4 SHEETS)
[RTE. 1 (FRALEY BLVD. OVER QUANTICO CREEK]

TOTAL CROSS SECTION SHEETS X1- X203
(SEE CROSS SECTION SHEET NUMBER X1 FOR INDEX OF SHEETS)

* Sheets not included with this submission.

	PROJECT	SHEET NO.
	0001-212-249	IB

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle, LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle, LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201	1C(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PRELIMINARY
RIGHT OF WAY DATA SHEET

PARCEL NO.	LANDOWNER	SHEET NO.	AREA																	
			TOTAL	FEE TAKING	PRESCRIPTIVE R/W	FEE REMAINDER	PERMANENT EASEMENTS					UTILITY				TEMPORARY CONSTRUCTION			PROFFERS
							DRAINAGE & SLOPE	DRAINAGE & RET. WALL	SLOPE & RET. WALL	DRAINAGE	SLOPE	JOINT	COLUMBIA	DOMINION	VERIZON	MISC.	TEMPORARY ENTRANCE	TEMPORARY WALL	
			ACRES OR SQ. FEET	ACRES OR SQ. FEET	SQ. FEET	ACRES OR SQUARE FEET	ACRES OR SQ. FEET					ACRES OR SQ. FEET				ACRES OR SQ. FEET			YES/NO
001	NOT USED						0 SF	0 SF	0 SF	0 SF	0 SF					0 SF	0 SF	0 SF	
002	NOT USED																		
003	MARINE TOYS FOR TOTS FOUNDATION	3,3B	2.27 AC	216 SF		2.265 AC				321 SF					2240 SF	4518 SF			NO
004	NOT USED																		
005	EVELYN L. BARNES, TRUSTEE	3,3B,4	0.846 AC	36852 SF		0 AC			176 SF		3412 SF								NO
006	ANDREW COVAN	3	0.586 AC	937 SF		0.564 AC						3155 SF				2329 SF			NO
007	DUMFRIES - TRIANGLE VOLUNTEER FIRE DEPARTMENT	3	0.501 AC	407 SF		0.492 AC						2617 SF		410 SF		683 SF	2675 SF		NO
008	DUMFRIES - TRIANGLE VOLUNTEER FIRE DEPARTMENT	3,4	2.184 AC			2.184 AC								839 SF			1199 SF		NO
009	ASAD NAJAFE & SHEKIBA NAJAFE	3,4	1.151 AC	954 SF		1.129 AC					109 SF	2174 SF					2251 SF		NO
010	TRIANGLE OFFICE BUILDING COMPANY, LLC	3B	4.067 AC			4.067 AC										1681 SF			NO
011	NOT USED																		
012	TRIANGLE SELF STORAGE, LC	4,5	2.861 AC	20403 SF		2.393 AC			2850 SF	865 SF				250 SF		4683 SF	3015 SF		NO
013	NOT USED																		
014	QUANTICO PROPERTY, LLC	5	2.502 AC	22216 SF		1.992 AC	18057 SF												NO
015	ARNOLD PROPERTIES, LLC	4	1.771 AC	122 SF		1.768 AC						2114 SF					2085 SF		NO
016	ARNOLD PROPERTIES, LLC	4	0.785 AC			0.785 AC	14016 SF					97 SF					913 SF		NO
017	BASHIR ASLAMI	4	0.525 AC	109 SF		0.522 AC	1720 SF					2336 SF				483 SF	738 SF		NO
018	K & R INVESTMENT PROPERTIES, LLC	4,5	0.955 AC			0.955 AC						4194 SF				2070 SF	1512 SF		NO
019	COMMONWEALTH OF VIRGINIA	5,6,6B	6.1 AC	2976 SF		6.032 AC											13554 SF		NO
020	K & R INVESTMENT PROPERTIES, LLC	5	0.496 AC	6896 SF		0.338 AC						1247 SF				517 SF	616 SF		NO
021	HAKAN KARACA	5	0.501 AC	21836 SF		0 AC													NO
022	NOT USED																		
023	TRIANGLE PLAZA, LLC	6	0.311 AC	13543 SF		0 AC													NO
024	TRIANGLE PLAZA, LLC	6,6B,7,7B	9.312 AC	34,412.000		8.518 AC	1183 SF				5200 SF	5568 SF				10795 SF	43469 SF		NO
025	SMAI, LLC	7,7B,8	0.775 AC	2789 SF		0.711 AC				1620 SF	90 SF	2063 SF				163 SF	178 SF		NO
026	FIRST NATIONAL BANK OF QUANTICO	7,7C	1.399 AC	2164 SF		1.349 AC	3099 SF			2788 SF					2355 SF		10101 SF		NO
027	SEJ ASSET MANAGEMENT & INVESTMENT COMPANY	7	22240 SF	22240 SF		0 SF													NO
028	DUMFRIES FAMILY LIMITED PARTNERSHIP	7,8	15143 SF	15143 SF		0 SF						2409 SF				979 SF			NO
029	NOT USED																		
030	THE WILLIAMSTOWN HOMEOWNERS ASSOCIATION, INC.	7C	9.025 AC	2119 SF		8.976 AC						4051 SF	4269 SF			4347 SF			NO
031	NOT USED																		
032	MGB PROPERTIES VII, LLC	7B,8	0.449 AC	1199 SF		0.421 AC					643 SF	995 SF					698 SF		NO
033	RELIABLE AUTO SALES AND SERVICES, INC.	8	7414 SF	7414 SF		0 SF					782 SF	1273 SF							NO
034	MGB PROPERTIES VII, LLC	7B,8	1.06 AC	1326 SF	6 SF	1.029 AC					879 SF	1775 SF				379 SF			NO
035	MGB PROPERTIES VII, LLC	8	0.583 AC	262 SF	932 SF	0.577 AC					561 SF	1726 SF					2145 SF		NO
036	RAMIN, LLC	8,9	20649 SF	20649 SF	6377 SF	0 SF					1997 SF	2267 SF							NO
037	NOT USED																		NO
038	NOT USED																		NO
039	DUMFRIES SHOPPING CENTER, INCORPORATED	7C,8,9,10	11.704 AC	1.266 AC		10.438 AC				8757 SF		30407 SF		103 SF		12664 SF	11318 SF		NO
040	RAYMOND F. MOUNTJOY & SHERRILL M. MOUNTJOY	12,13	2.041 AC	5846 SF		1.907 AC					3922 SF	919 SF			3978 SF				NO
041	RAMIN, LLC	9	6694 SF	6694 SF	897 SF	0 SF					738 SF	1225 SF							NO
042	FRALEY BUILDING FAMILY LIMITED PARTNERSHIP	9	16275 SF	1372 SF	1800 SF	14903 SF						2379 SF				1154 SF	600 SF		NO
043	BCL ASSOCIATES, LLC	9	57000 SF	3579 SF	4448 SF	53421 SF						5405 SF				2998 SF	2877 SF		NO
044	WNI HOLDINGS, LLC	9	25252 SF	1510 SF	1559 SF	23742 SF						1543 SF				2100 SF	5688 SF		NO
045	WNI HOLDINGS, LLC	9,10	2 AC	4771 SF	4425 SF	1.89 AC						5672 SF				3369 SF	5333 SF		NO
046	241 FRALEY, LLC	9	14300 SF	2278 SF		12022 SF						1100 SF				770 SF			NO
047	241 FRALEY, LLC	9	16900 SF	2623 SF		14277 SF						1300 SF				910 SF			NO
048	DUMFRIES PLAZA EXXON, LTD.	9	0.895 AC	5771 SF		0.763 AC						3000 SF				2100 SF	487 SF		NO
049	APARTMENTS AT DUMFRIES II, LLC	10,11	6.124 AC	1.262 AC	3972 SF	4.861 AC				5752 SF	7623 SF	14091 SF							NO
050	COMMERCE CENTER, LLC	10,11	2.946 AC	5829 SF		2.813 AC				6201 SF		6553 SF				339 SF	2963 SF		NO

	PROJECT	SHEET NO.
	0001-212-249	1C(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle, LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle, LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201	1C(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PRELIMINARY
RIGHT OF WAY DATA SHEET

PARCEL NO.	LANDOWNER	SHEET NO.	AREA																	
			TOTAL	FEE TAKING	PRESCRIPTIVE R/W	FEE REMAINDER	PERMANENT EASEMENTS					UTILITY				TEMPORARY CONSTRUCTION			PROFFERS
							DRAINAGE & SLOPE	DRAINAGE & RET. WALL	SLOPE & RET. WALL	DRAINAGE	SLOPE	JOINT	COLUMBIA	DOMINION	VERIZON	MISC.	TEMPORARY ENTRANCE	TEMPORARY WALL	
			ACRES OR SQ. FEET	ACRES OR SQ. FEET	SQ. FEET	ACRES OR SQUARE FEET	ACRES OR SQ. FEET					ACRES OR SQ. FEET				ACRES OR SQ. FEET			YES/NO
051	THE TOWN OF DUMFRIES	11	3.351 AC	687 SF		3.335 AC					900 SF	2383 SF							NO
052	NOT USED																		
053	DUMFRIES PURCHASER, LLC	11,12	4.199 AC	42620 SF		3.22 AC	35970 SF				288 SF	25885 SF							NO
054	POTOMAC VALLEY CHURCH OF CHRIST	11	6.408 AC	3578 SF		6.326 AC	10668 SF			370 SF					5951 SF				NO
055	DOUGLAS VLADIMIR CORTEZ & DANILA JANNETTE GONZALEZ	11	0.517 AC	22534 SF		0 AC													NO
056	DUMFRIES PURCHASER, LLC	12	0.3 AC			0.3 AC	1109 SF					104 SF							NO
057	DUMFRIES PURCHASER, LLC	12,13	0.24 AC	25 SF		0.24 AC	1461 SF					601 SF							NO
058	DUMFRIES PURCHASER, LLC	12,13	0.282 AC	671 SF		0.266 AC	1125 SF				756 SF	909 SF							NO
059	ARMANDO CASTRO ESCOBAR & EFREN CASTRO ESCOBAR	11,12	1.356 AC	1.356 AC		0 AC													NO
060	WILLARD L. MOUNTJOY & BETTY B. MOUNTJOY	12	1.46 AC	2018 SF		1.414 AC					4671 SF				5908 SF		1270 SF		NO
061	DUMFRIES PURCHASER, LLC	13	0.281 AC	1548 SF		0.246 AC					1495 SF	1458 SF							NO
062	DUMFRIES PURCHASER, LLC	13	0.267 AC	1753 SF		0.226 AC					1073 SF	1756 SF							NO
063	ACTION IN COMMUNITY THROUGH SERVICE OF PRINCE WILLIAM	13	0.545 AC	1556 SF		0.51 AC				3 SF	657 SF	1861 SF				459 SF			NO
064	ACTION IN COMMUNITY THROUGH SERVICE OF PRINCE WILLIAM	13	0 AC	1395 SF		-0.032 AC				451 SF	65 SF	1123 SF				1008 SF			NO
065	ACTION IN COMMUNITY THROUGH SERVICE OF PRINCE WILLIAM	13	0 AC	668 SF		-0.015 AC				566 SF		39 SF				1300 SF			NO
066	FOLKS FAMILY TRUST & THE CHARLES EDWIN FOLKS REVOCABLE LIVING TR	13	0.387 AC	16836 SF		0 AC				1262 SF		2078 SF							NO
067	HOSSEIN PAHLAVANINEJAD & DANA ANN PAHLAVANINEJAD	13,14	0.27 AC	11761 SF		0 AC				1589 SF		2428 SF							NO
068	POSSUM POINT PROPERTIES, LLC	13	58363 SF	5970 SF		52393 SF										719 SF	1479 SF		NO
069	ALI PAHLAVANI, TRUSTEE	13	0.333 AC	14520 SF		0 AC													NO
070	ALI PAHLAVANI, TRUSTEE	13,14C	0.7 AC	2719 SF		0.638 AC				2383 SF		2789 SF				1070 SF			NO
071	DUMFRIES PURCHASER, LLC	13,14,14C	3.625 AC	9870 SF		3.398 AC					1685 SF	2784 SF				3662 SF			NO
072	LIBERTY VILLAGE, LLC	13,14	1.009 AC	546 SF		0.997 AC								696 SF		702 SF			NO
073	LIBERTY VILLAGE, LLC	14	1.161 AC	1297 SF		1.131 AC			885 SF								1226 SF		NO
074	JACKSAN, LLC	14,15	1.953 AC			1.953 AC							4937 SF						NO
075	TIIE KADAII FAMILY LIMITED PARTNERSHIP	14,14C	1.795 AC	698 SF		1.779 AC			4870 SF			10552 SF				1889 SF			NO
076	TOWN OF DUMFRIES	14	0.086 AC			0.086 AC					402 SF	630 SF							NO
077	STORAGE EQUITY 1, LLC	14,15	2.878 AC	178 SF		2.874 AC			330 SF		1024 SF	2085 SF							NO
078	MANZUR ATTAI	14,15	1.301 AC	1619 SF		1.263 AC			2232 SF			6037 SF							NO
079	POSSUM POINT PROPERTIES, LLC	14C	0.53 AC	1376 SF		0.498 AC										258 SF			NO
080	NOT USED																		
081	NOT USED																		
082	NOT USED																		
083	NOT USED																		
084	QUINNJAMIN, LLC	15	1.574 AC			1.574 AC				2305 SF			2064 SF				4082 SF		NO
085	STEPHEN J. NEUBERGER, TRUSTEE	15	18123 SF			18123 SF	809 SF						2819 SF				2114 SF		NO
086	HELEN H. HODGES-MOORE	15	15300 SF			15300 SF	538 SF						1513 SF				2693 SF		NO
087	HELEN H. HODGES-MOORE	15	15300 SF			15300 SF	535 SF						1510 SF				2242 SF		NO
088	REO'S TATOOING, INC.	15	0.452 AC	149 SF		0.448 AC	544 SF					598 SF	1023 SF	107 SF		457 SF	579 SF		NO
089	VICK JOHNS COUNSELING & CONSULTING, INC.	15	20189 SF			20189 SF	661 SF					2235 SF				5826 SF			NO
090	C & J II, LLC	15	0.39 AC	16988 SF	3316 SF	0 AC					556 SF				1421 SF				NO
091	FOLKS FAMILY TRUST & THE CHARLES EDWIN FOLKS REVOCABLE LIVING TR	15,15C	0.801 AC	34892 SF		0 AC					181 SF				724 SF				NO
092	ROSEMARY R. ALTOMARE	15,15C	0.232 AC	10105 SF		0 AC													NO
093	ROSEMARY R. ALTOMARE	15,15C,16	1.098 AC	21377 SF	2393 SF	0.607 AC			445 SF						712 SF	714 SF			NO
094	BOYS & GIRLS CLUBS OF GREATER WASHINGTON, INC.	15C	1.653 AC			1.653 AC											2084 SF		NO
095	VICK JOHNS COUNSELING & CONSULTING, INC.	16	15125 SF			15125 SF	683 SF					1870 SF							NO
096	NESAR HAMIDI & RAMZIA HAMIDI	16	1.979 AC			1.979 AC		240 SF		2034 SF			4995 SF			1464 SF	1555 SF		NO
097	SUNPOWER HOTELS, LLC	16	1.521 AC	1251 SF		1.492 AC		2809 SF					4323 SF			915 SF	504 SF		NO
098	KFC U.S. PROPERTIES, INC.	16	1.182 AC	3569 SF		1.1 AC		251 SF					3383 SF			719 SF	2760 SF		NO
099	DUMFRIES CAR CARE, LLC	16,17	1.35 AC	1096 SF		1.325 AC				152 SF			4044 SF			2031 SF			NO
100	LUCKSHMI, LLC	16,17	4.271 AC	9525 SF		4.053 AC			6151 SF						9302 SF		3766 SF	6433 SF	NO

	PROJECT	SHEET NO.
	0001-212-249	1C(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201	1C(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PRELIMINARY
RIGHT OF WAY DATA SHEET

PARCEL NO.	LANDOWNER	SHEET NO.	AREA																	
			TOTAL	FEE TAKING	PRESCRIPTIVE R/W	FEE REMAINDER	PERMANENT EASEMENTS					UTILITY				TEMPORARY CONSTRUCTION			PROFFERS
							DRAINAGE & SLOPE	DRAINAGE & RET. WALL	SLOPE & RET. WALL	DRAINAGE	SLOPE	JOINT	COLUMBIA	DOMINION	VERIZON	MISC.	TEMPORARY ENTRANCE	TEMPORARY WALL	
			ACRES OR SQ. FEET	ACRES OR SQ. FEET	SQ. FEET	ACRES OR SQUARE FEET	ACRES OR SQ. FEET					ACRES OR SQ. FEET				ACRES OR SQ. FEET			YES/NO
101	SUBLIME INVESTMENTS, INC.	17	1.235 AC			1.235 AC				219 SF			3500 SF			1561 SF			NO
102	T-COURT INVESTMENTS, LLC	17	0.299 AC			0.299 AC				126 SF			1236 SF				510 SF		NO
103	T-COURT INVESTMENTS, LLC	17,18	0.83 AC			0.83 AC							3874 SF				1076 SF		NO
104	AZAR OF VIRGINIA, LLC	17	1.879 AC	1696 SF		1.84 AC			2854 SF			2953 SF			7092 SF		1609 SF	1993 SF	NO
105	NOT USED																		
106	NOT USED																		
107	NOT USED																		
108	NOT USED																		
109	NOT USED																		
110	QUANTICO PROPERTY, LLC	4,5	2.366 AC	1607 SF		2.329 AC				2297 SF									NO
111	NOT USED																		
112	MANDERFIELD FAMILY, LLC	9	0.28 AC	1391 SF		0.248 AC				560 SF		800 SF							NO
113	DUMFRIES PURCHASER, LLC	12	0.564 AC			0.564 AC					289 SF								NO
114	NOT USED																		
115	NOT USED																		
116	NOT USED																		
117	NOT USED																		
118	HIGHLAND PARK AT TOWNSQUARE HOMEOWNERS ASSOCIATION, INC.	5	4.627 AC	9515 SF		4.409 AC	2011 SF					2159 SF							NO
119	TOWNSQUARE AT DUMFRIES, LLC	5,6	29827 SF			29827 SF	3330 SF					1260 SF							NO
120	TOWNSQUARE AT DUMFRIES BOND, LLC	5,6,7	13.747 AC			13.747 AC	22473 SF												NO
121	TOWNSQUARE AT DUMFRIES, LLC	7C	3.108 AC	449 SF		3.098 AC									808 SF		1308 SF		NO
122	NOT USED																		
123	MANZUR ATTAI	15,15C	1.052 AC	2739 SF		0.989 AC													NO
124	EQUESTRES, INC.	8	1.094 AC		1768 SF	1.094 AC						366 SF							NO

	PROJECT	SHEET NO.
	0001-212-249	1C(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE _ Leon E.Treutle LS (703)259-3224 7/17/13 _____
DESIGN BY _ JMT Engineering (804) 323-9900 _____.
SUBSURFACE UTILITY BY, DATE _ Leon E.Treutle LS (703)259-3224 7/17/13

Existing Drainage Descriptions

001 In Pl. DI
Rim = 155.29
In Pl. 15" Conc. Pipe
Inv. Out = 148.34

002 In Pl. DI
Rim = 151.04
Inv. In (a) = 144.09
Inv. In (b) = 144.09
In Pl. 21" Conc. Pipe
Inv. Out (c) = 143.94

003 In Pl. DI
Rim = 148.74
Inv. In = 143.14
In Pl. 15" Conc. Pipe
Inv. Out = 142.94

004 In Pl. DI
Rim = 145.35
Inv. In = 142.27
In Pl. 24" Conc. Pipe
Inv. Out = 142.10

005 In Pl. DI
Rim = 142.29
Inv. In (a) = 136.84
Upstream Structure Not Found
In Pl. 15" Conc. Pipe
Inv. In (b) = 136.89
In Pl. 24" Conc. Pipe
Inv. Out (c) = 136.29

006 In Pl. Stormwater Control
Device w/Vertical CPP
Top = 147.33
Level of Breach = 146.02

007 In Pl. DI
Rim = 147.17
Inv. In (a) = 137.42
In Pl. 24" Conc. Pipe
Inv. In (b) = 136.27
In Pl. 24" Conc. Pipe
Inv. Out (c) = 136.22

008 In Pl. DI
Rim = 146.08
Inv. In = 134.33
In Pl. 30" Conc. Pipe
Inv. Out = 134.03

009 In Pl. DI
Rim = 143.54
Inv. In (a) = 133.54
Inv. In (b) = 133.29
In Pl. 36" Conc. Pipe
Inv. Out (c) = 132.99

010 In Pl. SSMH
Rim = 143.76
Inv. In (a) = 132.66
Inv. In (b) = 132.36
In Pl. 36" Conc. Pipe
Inv. Out (c) = 132.32

011 In Pl. DI
Rim = 144.28
Inv. In = 131.78
In Pl. 36" Conc. Pipe
Inv. Out = 131.73

012 In Pl. DI
Rim = 144.01
In Pl. 15" Conc. Pipe
Inv. Out = 140.56

013 In Pl. DI
Rim = 144.96
In Pl. 15" Conc. Pipe
Inv. Out = 138.76

014 In Pl. SSMH
Rim = 146.31
Inv. In (a) = 139.66
Inv. In (b) = 131.41
Inv. Out (c) = 138.26
In Pl. 48" Conc. Pipe
Inv. Out (d) = 131.36

015 Inv. In = 128.26
In Pl. Endwall
In Pl. 72" CMP Flume

016 In Pl. DI
Rim = 151.39
In Pl. 15" Conc. Pipe
Inv. Out = 145.67

017 In Pl. DI
Rim = 151.94
In Pl. 15" Conc. Pipe
Inv. Out = 147.74

018 In Pl. DI
Rim = 151.93
Inv. In = 146.46
In Pl. 15" Conc. Pipe
Inv. Out = 146.36

019 In Pl. DI
Rim = 149.61
Inv. In = 145.06
In Pl. 15" Conc. Pipe
Inv. Out = 145.01

020 In Pl. DI
Rim = 149.36
Inv. In (a) = 144.18
Inv. In (b) = 144.18
In Pl. 21" Conc. Pipe
Inv. Out (c) = 144.13

021 In Pl. DI
Rim = 176.51
In Pl. 18" Conc. Pipe
Inv. Out = 162.16

022 In Pl. DI
Rim = 167.17
Inv. In = 156.57
In Pl. 18" Conc. Pipe
Inv. Out = 151.99

023 In Pl. DI
Rim = 157.89
In Pl. 15" Conc. Pipe
Inv. Out = 151.99

024 In Pl. DI
Rim = 156.63
Inv. In (a) = 151.13
Inv. In (b) = 150.07
In Pl. 18" Conc. Pipe
Inv. Out (c) = 149.87

025 In Pl. DI
Rim = 148.56
Inv. In (a) = 143.61
Inv. In (b) = 143.91
In Pl. 30" Conc. Pipe
Inv. Out (c) = 143.44

026 In Pl. DI
Rim = 154.65
Inv. In = 141.65
In Pl. 30" Conc. Pipe
Inv. Out = 141.60
Inv. Outfall FES = 141.37

027 In Pl. DI
Rim = 175.60
In Pl. 15" Conc. Pipe
Inv. Out = 171.40

028 In Pl. DI
Rim = 165.00
Inv. In = 158.76
In Pl. 15" Conc. Pipe
Inv. Out = 154.05

029 In Pl. DI
Rim = 157.47
In Pl. 15" Conc. Pipe
Inv. Out = 153.07

030 In Pl. DI
Rim = 151.98
Inv. In = 145.98
In Pl. 15" Conc. Pipe
Inv. Out = 145.88

031 In Pl. DI
Rim = 158.56
Inv. In (a) = 150.06
Inv. In (b) = 149.96
In Pl. 15" Conc. Pipe
Inv. Out (c) = 149.76
Inv. Outfall FES = 149.21

032 In Pl. DI
Rim = 145.10
In Pl. 15" Conc. Pipe
Inv. Out = 141.10

033 In Pl. DI
Rim = 143.07
Inv. In = 139.07
In Pl. 15" Conc. Pipe
Inv. Out = 138.97

034 In Pl. DI
Rim = 175.88
In Pl. 15" Conc. Pipe
Inv. Out = 168.18

035 In Pl. DI
Rim = 164.17
Inv. In = 158.97
In Pl. 15" Conc. Pipe
Inv. Out = 154.47

036 In Pl. DI
Rim = 161.61
Inv. In = 151.56
In Pl. 18" Conc. Pipe
Inv. Out = 150.21
Inv. Outfall FES = 149.17

037 In Pl. DI
Rim = 176.74
In Pl. 15" Conc. Pipe
Inv. In = 170.56
In Pl. 15" Conc. Pipe
Inv. Out = 170.40

038 In Pl. DI
Rim = 177.30
Inv. In = 168.84
In Pl. 15" Conc. Pipe
Inv. Out = 168.45

039 In Pl. DI
Rim = 164.95
Inv. In = 161.15
In Pl. 15" Conc. Pipe
Inv. Out = 160.35
Inv. Outfall FES = 148.37

040 In Pl. DI
Rim = 178.34
In Pl. 15" Conc. Pipe
Inv. Out = 170.62

041 In Pl. DI
Rim = 170.94
Inv. In = 166.99
In Pl. 15" Conc. Pipe
Inv. Out = 166.84

042 In Pl. DI
Rim = 168.45
Inv. In = 163.85
In Pl. 15" Conc. Pipe
Inv. Out = 163.75

043 In Pl. DI
Rim = 170.94
In Pl. 15" Conc. Pipe
Inv. Out = 166.64

044 In Pl. DI
Rim = 164.81
Inv. In (a) = 160.56
Inv. In (b) = 160.66
In Pl. 15" Conc. Pipe
Inv. Out = 150.16
Inv. Outfall FES = 148.89

045 In Pl. 18" Conc. Pipe
Inv. In = 132.24
Inv. Out = 128.78

046 In Pl. 15" Conc. Pipe
Inv. (a) = Inaccessible (Buried)
Inv. (b) = 125.44

047 In Pl. 24" Conc. Pipe
Inv. = 113.87

048 In Pl. DI
Rim = 114.87
(Offset Pipes)
In Pl. 24" Conc. Pipe
Inv. In = 110.17
In Pl. 24" Conc. Pipe
Inv. Out = 108.71

049 In Pl. DI
Rim = 111.84
(Offset Pipes)
In Pl. 6" CPP
Inv. In (a) = 110.79
Inv. In (b) = 107.14
In Pl. 24" Conc. Pipe
Inv. Out (c) = 106.73

050 In Pl. SSMH
Rim = 111.19
(Offset Pipes)
Inv. In (a) = 104.55
Inv. In (b) = 104.61
In Pl. 27" Conc. Pipe
Inv. Out (c) = 103.32

051 In Pl. DI
Rim = 97.52
(Offset Pipes)
Inv. In = 92.52
In Pl. 27" Conc. Pipe
Inv. Out = 91.90

052 In Pl. DI
Rim = 85.72
In Pl. 15" Conc. Pipe
Inv. In = 81.17
In Pl. 15" Conc. Pipe
Inv. Out = 81.12

053 In Pl. DI
Rim = 82.55
Inv. In (a) = 77.60
Inv. In (b) = 79.68
In Pl. 24" Conc. Pipe
Inv. Out (c) = 75.73

054 In Pl. DI
Rim = 73.32
Inv. In (a) = 67.62
In Pl. Dbl. 24" Conc. Pipe
Inv. Out (b) = 67.40
Inv. Out (c) = 67.40

055 In Pl. SSMH
Rim = 73.32
In Pl. " Conc. Pipe
Inv. In (a) = 64.82
Inv. In (b) = 64.82
In Pl. Dbl. 30" Conc. Pipe
Inv. Out (b) = 64.67
Inv. Out (c) = 64.67

056 In Pl. SSMH
Rim = 67.97
In Pl. " Conc. Pipe
Inv. In (a) = 63.57
Inv. In (b) = 63.57
In Pl. Dbl. 30" Conc. Pipe
Inv. Out (b) = 63.35
Inv. Out (c) = 63.35

057 In Pl. SSMH
Rim = 59.61
Upstream Structure
Not Found
Inv. In (a) = Recessed Pipe
Inv. In (b) = Recessed Pipe
Inv. Out (c) = Recessed Pipe
Previous Structure Not Found
In Pl. 15" Conc. Pipe
Inv. In (d) = Recessed Pipe
In Pl. 48" Conc. Pipe
Inv. Out (e) = Recessed Pipe
Bottom = 51.71

058 In Pl. DI
Rim = 58.11
In Pl. 15" Conc. Pipe
Inv. Out = 54.86

059 In Pl. SSMH
Rim = 59.49
Inv. In (a) = 50.94
Inv. In (b) = 53.99
In Pl. 48" Conc. Pipe
Inv. Out (c) = 50.89

060 In Pl. SSMH
Rim = 62.69
Inv. In = 50.39
In Pl. 48" Conc. Pipe
Inv. Out = 50.24

061 In Pl. DI
Rim = 56.02
Inv. In = 48.02
In Pl. 48" Conc. Pipe
Inv. Out = 47.52
Inv. Outfall = 39.14

062 In Pl. DI
Top (No Rim) = 98.72
In Pl. 18" CMP
Inv. Out = 95.10

063 In Pl. DI
Rim = 95.82
Inv. In = 92.77
In Pl. 18" Conc. Pipe
Inv. Out = 91.42

064 In Pl. DI
Rim = 89.44
Inv. In = 85.89
In Pl. 18" Conc. Pipe
Inv. Out = 85.79

065 In Pl. DI
Rim = 83.31
Inv. In = 78.86
In Pl. 18" Conc. Pipe
Inv. Out = 78.76

066 In Pl. DI
Rim = 75.96
Inv. In = 71.38
In Pl. 18" Conc. Pipe
Inv. Out = 71.52

067 In Pl. DI
Rim = 61.78
Inv. In = 57.73
In Pl. 18" Conc. Pipe
Inv. Out = 57.68

068 In Pl. 18" Conc. Pipe
Inv. = 58.69

069 In Pl. DI
Rim = 75.96
In Pl. 15" Conc. Pipe
Inv. In = 71.11
In Pl. Recessed Pipe
Inv. Out = 70.96

070 In Pl. DI
Rim = 71.24
Inv. In = 65.89
In Pl. 24" Conc. Pipe
Inv. Out = 65.79

071 In Pl. DI
Rim = 67.55
Inv. In = 61.55
In Pl. 24" Conc. Pipe
Inv. Out = 61.35

072 In Pl. DI Overflow
Control Device
Rim = 62.68
Inv. In = 59.08
In Pl. 24" Conc. Pipe
Inv. Out = 59.04

073 In Pl. DI
Rim = 68.19
In Pl. 15" Conc. Pipe
Inv. In (a) = 62.94
In Pl. 15" Conc. Pipe
Inv. In (b) = 62.94
In Pl. 36" CMP
Inv. Out (c) = 60.54

074 In Pl. DI Overflow
Control Device
Rim = 66.63
Inv. In Unable To Access
In Pl. 15" Conc. Pipe
Inv. Out = 59.53

075 In Pl. DI
Rim = 72.58
In Pl. 15" Conc. Pipe
Inv. In (a) = 62.94
In Pl. 15" Conc. Pipe
Inv. In (b) = 62.94
In Pl. 36" CMP
Inv. Out (c) = 60.54

076 In Pl. DI
Rim = 52.00
Inv. In = 45.30
In Pl. 24" Conc. Pipe
Inv. Out = 44.70

077 In Pl. DI
Rim = 55.63
In Pl. 15" Conc. Pipe
Inv. Out = 51.58

078 In Pl. SSMH
Rim = 55.95
Inv. In = 50.80
In Pl. 15" Conc. Pipe
Inv. Out = 47.70

079 In Pl. DI
Rim = 51.37
Inv. In = Recessed Pipe
In Pl. 24" Conc. Pipe
Inv. Out = Recessed Pipe
Bottom = 45.17

080 In Pl. SSMH
Rim = 47.26
In Pl. 15" CPP
Inv. In (a) = 41.76
In Pl. 12" CPP
Inv. In (b) = 40.76
In Pl. 48" Conc. Pipe
Inv. Out (c) = 40.62
Downstream Structure
Not Found

081 In Pl. Endwall
In Pl. 18" CMP
Inv. In = 94.48
Inv. Out = 78.43

082 In Pl. Endwall
In Pl. 15" Conc. Pipe
Inv. In = 80.75
Inv. Out = 78.87

083 In Pl. DI
Rim = 75.46
In Pl. 6" CPP
Inv. Out = 73.76
Next Structure
Not Found

084 In Pl. DI
Rim = 74.69
In Pl. 6" CPP
Inv. Out = 73.04
Next Structure
Not Found

085 In Pl. DI
Rim = 73.70
Full Of Debris

086 In Pl. DI
Rim = 72.57
Full Of Debris

087 In Pl. DI
Rim = 71.62
Full Of Debris

088 In Pl. DI
Rim = 69.85
In Pl. 6" CPP
Inv. In = 68.10
In Pl. 6" PVC Pipe
Inv. Out = 68.05

089 In Pl. DI
Rim = 71.44
In Pl. 6" CPP
Inv. In (a) = 67.44
Inv. In (b) = 67.44
In Pl. 15" Conc. Pipe
Inv. Out = 64.86

090 In Pl. DI
In Pl. 6" CPP
Inv. Out = Full Of Debris

091 In Pl. DI
Rim = 68.43
Inv. In = Inaccessible
In Pl. 18" Conc. Pipe
Inv. Out = 64.03

092 In Pl. DI
Rim = 68.43
Inv. In = Recessed Pipe
In Pl. 18" Conc. Pipe
Inv. Out = 61.85

093 In Pl. DI
Rim = 64.66
In Pl. 6" CPP
Inv. In (a) = Recessed Pipe
Inv. In (b) = Recessed Pipe
In Pl. 15" Conc. Pipe
Inv. Out (c) = 60.04

094 In Pl. DI
Rim = 66.96
In Pl. 15" Conc. Pipe
Inv. Out = 62.22

095 In Pl. DI
Rim = 64.29
Inv. In (a) = 59.19
Inv. In (b) = Recessed Pipe
In Pl. 18" Conc. Pipe
Inv. Out (c) = 55.19

096 In Pl. DI
Rim = 59.70
Inv. In = 53.25
In Pl. 24" Conc. Pipe
Inv. Out = 52.86
Inv. Outfall = 50.99

097 In Pl. DI
Rim = 53.17
In Pl. 15" Conc. Pipe
Inv. Out = 50.52

098 In Pl. DI
Rim = 53.17
Inv. In = 48.32
In Pl. 18" Conc. Pipe
Inv. Out = 48.22

099 In Pl. 18" Conc. Pipe
Inv. In = 47.54
Inv. Out = 46.65

100 In Pl. 12" Conc. Pipe
Inv. In = 44.08
Inv. Out = 44.00

101 In Pl. 12" Conc. Pipe
Inv. In = 40.23
Inv. Out = 37.72

102 In Pl. 12" CPP
Inv. In = 38.69
Inv. Out = 36.51

103 In Pl. 12" CMP
Inv. In = 36.57
Inv. Out = 32.73

104 In Pl. 12" Conc. Pipe
Inv. In = 31.58
Inv. Out = 31.10

105 In Pl. 15" Conc. Pipe
Inv. In = 25.92
Inv. Out = 25.27

106 In Pl. 21" CMP
Inv. In = 39.97
Inv. Out = 39.68

107 In Pl. Endwall
In Pl. 42" X 27" CMP
Inv. In = 36.89
Inv. Out = 32.84

108 In Pl. DI
Rim = 36.36
In Pl. 8" PVC Pipe
Inv. Out = 34.16
Inv. Outfall
Blind Connection

109 In Pl. DI
Rim = 47.32
In Pl. 15" Conc. Pipe
Inv. Out = 44.50

110 In Pl. DI
Rim = 42.35
Inv. In = 39.88
In Pl. 18" Conc. Pipe
Inv. Out = 39.85

111 In Pl. DI
Rim = 40.76
Inv. In = 37.44
In Pl. 18" Conc. Pipe
Inv. Out = 37.41

112 In Pl. DI
Rim = 39.72
Inv. In = 36.82
In Pl. 15" Conc. Pipe
Inv. Out = 36.79
Inv. Outfall = 36.00

113 In Pl. Trench Drain
In Pl. 6" PVC Pipe
Inv. Out = 31.66

114 In Pl. DI
Rim = 31.91
Inv. In = 28.11
In Pl. 24" CMP
Inv. Out = 28.11

115 In Pl. DI
Rim = 34.21
Inv. In = 28.31
In Pl. 10" PVC Pipe
Inv. Out = 28.11
Possible Blind Connection

116 In Pl. Endwall
In Pl. 48" Conc. Pipe
Inv. In = 38.53
Inv. Out = 23.28
In Pl. Endwall

117 In Pl. Endwall
In Pl. 56" Conc. Pipe
Inv. In = 26.00
In Pl. Endwall
Inv. Out = 19.55

118 In Pl. Endwall
In Pl. 3'X3' Box Culvert
Inv. In = 18.74
Inv. Outfall = 16.64
In Pl. Endwall

119 In Pl. DI
Rim = 25.54
In Pl. 12" Conc. Pipe
Inv. Out = 20.36

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IE(1)

PROJECT	SHEET NO.
0001-212-249	IE(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Existing Drainage Descriptions

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	1E(2)

120 In Pl. DI
Rim = 27.82
Inv. In = 20.12
In Pl. 12" Conc. Pipe
Inv. Out = 19.82

121 In Pl. DI
Rim = 29.15
Inv. In = 19.28
In Pl. 15" Conc. Pipe
Inv. Out = 18.95
Downstream Structure Not Found

122 In Pl. SSMH
Rim = 29.41
In Pl. 27" Conc. Pipe
Inv. Out = 17.81
Inv. Outfall = 16.63
In Pl. Endwall

123 In Pl. DI
Rim = 31.21
In Pl. 18" Conc. Pipe
Inv. In = 23.11
In Pl. 21" Conc. Pipe
Inv. Out = 22.83

124 In Pl. DI
Rim = 26.85
Inv. In = 21.77
In Pl. 21" Conc. Pipe
Inv. Out = 21.65

125 In Pl. SSMH
Rim = 28.19
Inv. In = 21.29
In Pl. 21" Conc. Pipe
Inv. Out = 21.19

126 In Pl. DI
Rim = 28.05
Inv. In = 20.65
In Pl. 24" Conc. Pipe
Inv. Out = 20.45

*9417
127 In Pl. SSMH
Rim = 31.28
Bottom = 19.58

*9416
128 In Pl. SSMH
Rim = 30.97
Bottom = 19.02

*9415
129 In Pl. SSMH
Rim = 31.30
Bottom = 18.50

130 In Pl. 18" Conc. Pipe
Inv. = 13.96

131 In Pl. DI
Rim = 17.99
Inv. In = 13.69
In Pl. 21" Conc. Pipe
Inv. Out = 13.64

132 In Pl. DI
Rim = 18.05
Inv. In = 12.75
In Pl. 21" Conc. Pipe
Inv. Out = 12.75
Inv. Outfall = 12.58
In Pl. Endwall

133 In Pl. Grate w/Tree
Rim = 24.22
Bottom = 22.82
No Apparent Outfall

134 In Pl. DI
Rim = 17.99
In Pl. 15" Conc. Pipe
Inv. Out = 19.47

135 In Pl. DI
Rim = 23.61
Inv. In = 16.46
In Pl. 18" Conc. Pipe
Inv. Out = 16.36

136 In Pl. DI
Rim = 22.09
Inv. In (a) = 14.59
Inv. In (b) = 14.09
In Pl. 18" Conc. Pipe
Inv. Out (c) = Recessed Pipe
Inv. Outfall FES = 13.59

137 In Pl. DI
Rim = 30.67
In Pl. 15" Conc. Pipe
Inv. Out = 20.07

138 In Pl. SSMH
w/Control Device
Rim = 32.22
In Pl. 8" PVC Pipe
Inv. In = 29.37
In Pl. 8" PVC Pipe
Inv. Out = 29.22

139 In Pl. Grate w/Tree
Rim = 30.85
Bottom = 29.55
In Pl. 4" PVC Pipe
Recessed Pipe

140 In Pl. DI
Rim = 30.07
Inv. In (a) = 26.87
Inv. In (b) = 28.22
In Pl. 15" Conc. Pipe
Inv. Out (c) = 19.42

141 In Pl. SSMH
Rim = 17.22
Inv. In = 13.22
In Pl. 15" Conc. Pipe
Inv. Out = 2.42
Inv. Outfall Not Found

142 In Pl. DI
No Rim
Top of Structure = 16.16
In Pl. 15" Conc. Pipe
Inv. Out = Full Of Debris
Inv. Outfall= 10.61
In Pl. Endwall

143 In Pl. DI
Rim = 14.52
In Pl. 15" Conc. Pipe
Inv. Out = 11.07

144 In Pl. DI
Rim = 13.79
Inv. In = 10.07
In Pl. 15" Conc. Pipe
Inv. Out = 10.07

145 In Pl. DI
Rim = 14.00
In Pl. 15" Conc. Pipe
Inv. In (a) = 11.00
Inv. In (b) = 9.56
In Pl. 18" Conc. Pipe
Inv. Out (c) = 9.48

146 In Pl. DI
Rim = 14.87
In Pl. 15" Conc. Pipe
Inv. In (a) = 10.32
Inv. In (b) = 9.67
Inv. In (c) = 9.82
In Pl. 30" Conc. Pipe
Inv. Out (d) = 9.47

147 In Pl. DI
Rim = 14.42
In Pl. 18" Conc. Pipe
Inv. Out = 12.27

148 In Pl. DI
Rim = 15.93
In Pl. 18" Conc. Pipe
Inv. Out = 12.63

149 In Pl. DI
Rim = 14.94
Full of Sediment
Bottom = 11.16

150 In Pl. DI
Rim = 14.47
Recessed Pipes
Bottom = 10.72

151 In Pl. DI
Rim = 14.35
Inv. In = 10.25
In Pl. 18" Conc. Pipe
Inv. Out = 10.15

152 In Pl. DI
Rim = 14.81
In Pl. 18" Conc. Pipe
Inv. Out = 11.59

153 In Pl. DI
Rim = 14.39
Inv. In = 10.74
In Pl. 15" Conc. Pipe
Inv. Out = 10.69

154 In Pl. DI
Rim = 14.92
In Pl. 15" Conc. Pipe
Inv. In (a) = 10.37
Inv. In (b) = 9.62
Inv. In (c) = 9.92
In Pl. 30" Conc. Pipe
Inv. Out (d) = Recessed Pipe
Inv. Outfall Pipe is
Buried and Submerged
(Direction Only)

155 In Pl. DI
Rim = 26.29
In Pl. 15" Conc. Pipe
Inv. Out = 22.59

156 In Pl. DI
Rim = 26.29
Inv. In = 19.23
In Pl. 15" Conc. Pipe
Inv. Out = 19.03

157 In Pl. DI
Rim = 19.17
Inv. In = 15.47
In Pl. 15" Conc. Pipe
Inv. Out = 15.42

158 In Pl. 30" Conc. Pipe FES
Inv. = 13.76

159 In Pl. SSMH
Rim = 18.35
Inv. In (a) = 13.50
Inv. In (b) = Recessed Pipe
In Pl. 30" Conc. Pipe
Inv. Out (c) = 13.35

160 In Pl. DI
Rim = 22.96
In Pl. 15" Conc. Pipe
Inv. Out = 19.36

161 In Pl. DI
Rim = 18.84
Inv. In = 12.99
In Pl. 36" Conc. Pipe
Inv. Out = 11.54
Inv. Outfall FES = 11.13

162 In Pl. DI
Rim = 21.39
In Pl. 15" Conc. Pipe
Inv. Out = 17.99

163 In Pl. DI
Rim = 21.03
Inv. In = 17.49
In Pl. 15" Conc. Pipe
Inv. Out = 17.23

164 In Pl. DI
Rim = 17.73
In Pl. 15" Conc. Pipe
Inv. Out = 13.41

165 In Pl. DI
Rim = 17.24
Inv. In = 13.42
In Pl. 15" Conc. Pipe
Inv. Out = 13.36

166 In Pl. DI
Rim = 17.75
Inv. In (a) = 13.66
Inv. In (b) = 13.21
In Pl. 15" Conc. Pipe
Inv. Out (c) = 13.21

167 In Pl. DI
Rim = 17.17
Inv. In = 12.57
In Pl. 18" Conc. Pipe
Inv. Out = 12.47

168 In Pl. DI
Rim = 15.88
Inv. In (a) = 11.64
Inv. In (b) = 11.64
In Pl. 18" Conc. Pipe
Inv. Out (c) = 11.49

169 In Pl. DI
Rim = 15.88
Inv. In = 12.03
In Pl. 15" Conc. Pipe
Inv. Out = 12.03

170 In Pl. DI
Rim = 16.51
Inv. In = 11.26
In Pl. 18" Conc. Pipe
Inv. Out = 11.21
Inv. Outfall = 11.21

171 In Pl. DI
Rim = 15.98
In Pl. 15" Conc. Pipe
Inv. Out = 12.53

172 In Pl. Endwall
In Pl. 60" Conc. Pipe
Inv. = 10.36

173 In Pl. DI
Rim = 12.68
Bottom = 5.33
In Pl. 60" CPP

174 In Pl. DI
Rim = 12.66
(Pipes Offset)
(Some Silting, Full of Debris)
In Pl. 60" CPP
Inv. In = 4.31
In Pl. 60" CPP
Inv. Out = 4.21

175 In Pl. DI
Rim = 22.08
In Pl. 10" CPP
Inv. In = 17.48
In Pl. 15" CPP
Inv. Out = 19.93

176 In Pl. DI
Rim = 22.33
Inv. In = 19.37
In Pl. 24" Conc. Pipe
Inv. Out = 16.33
Inv. Outfall FES = 15.98

177 In Pl. DI
Rim = 21.24
Upstream Structure
Not Found
Inv. In = 18.74
In Pl. 15" Conc. Pipe
Inv. Out = 18.44

178 In Pl. DI
Rim = 19.27
Inv. In = 16.79
In Pl. 15" Conc. Pipe
Inv. Out = 16.02

179 In Pl. DI
Rim = 18.30
Inv. In = 15.20
In Pl. " Conc. Pipe
Inv. Out = 15.15
Inv. Outfall
Buried Under Rip Rap

180 In Pl. DI
Rim = 27.35
In Pl. 15" Conc. Pipe
Inv. Out = 23.90

181 In Pl. DI
Rim = 26.64
Structure Full
Of Sediment

182 In Pl. DI
Rim = 26.64
Structure Full
Of Sediment
Bottom = 23.64

183 In Pl. DI
Rim = 26.90
Structure Full
Of Sediment
Bottom = 24.34

184 In Pl. DI
Rim = 27.12
Structure Full
Of Sediment
Bottom = 23.97

185 In Pl. DI
Rim = 27.09
Inv. In = Inaccessible
In Pl. 15" Conc. Pipe
Inv. Out = 23.49

186 In Pl. DI
Rim = 26.50
Inv. In = 22.96
In Pl. 15" Conc. Pipe
Inv. Out = 22.90

187 In Pl. DI
Rim = 27.30
In Pl. 12" Conc. Pipe
Inv. Out = 23.60

188 In Pl. DI
Rim = 26.31
Inv. In (a) = 22.21
Inv. In (b) = 22.16
In Pl. 18" Conc. Pipe
Inv. Out (c) = 22.11

189 In Pl. Endwall
In Pl. 60" Conc. Pipe
Inv. = 21.90

190 Trench Drain
Top of Grate = 15.01

191 In Pl. DI
Rim = 28.66
Upstream Structure
Not Found
In Pl. 15" Conc. Pipe
Inv. In (a) = 22.56
In Pl. 15" CMP
Inv. In (b) = 26.16
In Pl. 15" Conc. Pipe
Inv. Out (c) = 22.51

192 In Pl. SSMH
Rim = 28.66
Inv. In (a) = Recessed Pipe
Inv. In (b) = Recessed Pipe
In Pl. 60" Conc. Pipe
Inv. Out (c) = Recessed Pipe
Bottom = 19.91

193 In Pl. SSMH
Rim = 27.34
Inv. In (a) = Recessed Pipe
Inv. In (a) = Recessed Pipe
In Pl. 60" Conc. Pipe
Inv. Out (c) = Recessed Pipe
Bottom = 18.24
Inv. Outfall = 17.95
In Pl. Endwall

194 In Pl. DI
Rim = 29.44
In Pl. 15" Conc. Pipe
Inv. Out = 27.19

195 In Pl. DI
Rim = 25.94
Inv. In = 23.04
In Pl. 15" Conc. Pipe
Inv. Out = 22.14

196 In Pl. DI
Rim = 34.20
In Pl. 15" Conc. Pipe
Inv. Out = 31.50
Downstream Structure
Not Found

Possible Retention Area

197 In Pl. DI
Rim = 21.98
(Upstream Structure Not Found)
In Pl. 15" Conc. Pipe
Inv. In (a) = 19.13
Inv. In (b) = 17.88
In Pl. 18" Conc. Pipe
Inv. Out (c) = 17.52

198 In Pl. SSMH
Rim = 23.47
Inv. In = 16.92
In Pl. 24" Conc. Pipe
Inv. Out = 16.82

199 In Pl. DI
Rim = 22.74
Inv. In = 16.49
No Apparent Outflow
Possible Rentention Area

200 In Pl. SSMH
Rim = 32.41
In Pl. 12" CPP
Inv. In (a) = 25.51
In Pl. 15" CPP
Inv. In (b) = 28.41
In Pl. 24" CPP
Inv. Out (c) = 25.31

201 In Pl. SSMH
Rim = 27.08
Inv. In (a) = 21.28
Upstream Structure
Not Found
In Pl. 12" CPP
Inv. In (b) = 21.13
In Pl. 15" CPP
Inv. Out (c) = 19.26
In Pl. 24" CPP
Inv. Out (d) = 19.26

202 In Pl. DI
Rim = 22.75
In Pl. 12" CPP
Inv. Out = 19.70

203 In Pl. SSMH
Rim = 24.91
Inv. In (a) = 19.31
Inv. In (b) = 19.41
In Pl. 24" CPP
Inv. Out (c) = 19.26
Downstream Structure
Not Found

204 In Pl. DI
Rim = 32.84
In Pl. 12" CPP
Inv. Out = 29.60

205 In Pl. DI
Rim = 29.35
Inv. In = 24.77
In Pl. 12" CPP
Inv. Out = 24.67

206 In Pl. DI
Rim = 25.11
Inv. In = 23.16
In Pl. 15" CPP
Inv. Out = 23.11

207 In Pl. SSMH
Rim = 26.07
Previous Structure
Not Found
In Pl. 12" CPP
Inv. In (a) = 22.22
Inv. In (b) = 23.27
In Pl. 15" CPP
Inv. Out (c) = 23.22

208 In Pl. SSMH
Rim = 26.46
Bottom = 19.41

209 In Pl. SSMH
Rim = 26.57
Bottom = 19.47

210 In Pl. SSMH
Rim = 27.08
Bottom = 20.93

211 In Pl. SSMH
Rim = 28.34
Bottom = 20.94

212 In Pl. SSMH
Rim = 28.18
In Pl. CPP
Inv. (a) = 18.38
In Pl. CPP
Inv. (b) = 18.38
In Pl. 42" Conc. Pipe
Inv. Out (c) = 18.28

213 Inv. Outfall = 17.29
In Pl. Endwall

214 In Pl. DI
Rim = 32.70
In Pl. 15" Conc. Pipe
Inv. In = 27.75
In Pl. 15" Conc. Pipe
Inv. Out = 27.70

215 In Pl. DI
Rim = 32.36
Inv. In = 26.86
In Pl. 15" Conc. Pipe
Inv. Out = 26.56
Downstream Structure
Not Found

216 In Pl. 30" Conc. FES
Inv. = 25.89
Next Structure
Not Found

217 In Pl. DI
Rim = 40.17
Underground
Retention Area
Bottom = 27.47

218 In Pl. DI
Rim = 40.40
Underground
Retention Area
Bottom = 27.30

219 In Pl. DI w/Flume
Rim = 46.50
Inv. Out = 38.40

220 In Pl. DI
Rim = 32.70
Inv. In (a) = 34.21
In Pl. 12" Conc. Pipe
Inv. In (b) = 34.26
In Pl. 24" Conc. Pipe
Inv. Out (c) = 30.36

221 In Pl. 15" CPP
Inv. In = 79.03
Inv. Out = 78.14

222 In Pl. 15" CPP
Inv. In = 75.66
Inv. Out = 74.20

223 In Pl. 15" CPP
Inv. In = 71.69
Inv. Out = 70.45

224 In Pl. 15" Conc. Pipe
Inv. In = 68.39
Inv. Out = 67.10

225 In Pl. DI
Rim = 65.93
In Pl. 15" CMP
Inv. Out = 63.73

226 In Pl. 15" Conc. Pipe
Inv. = 66.82

227 In Pl. SSMH
Rim = 66.87
Inv. In (a) = 62.47
Inv. In (b) = 62.42
In Pl. 15" CMP
Inv. Out (c) = 62.37
Inv. Outfall = 57.00

228 In Pl. SSMH
Rim = 51.44
Previous Structure
Not Found
In Pl. 12" CMP
Inv. In = 45.44
In Pl. 15" CMP
Inv. Out = 45.34
Inv. Outfall = 44.86

229 In Pl. 21" Conc. Pipe FES
Inv. In = 47.07
Inv. Out = 43.50

230 In Pl. 15" Conc. Pipe
Inv. In = 59.90
Inv. Out = 59.25

231 In Pl. 12" CMP
Inv. In = 64.99
Inv. Out = 63.72

232 In Pl. 12" CMP
Inv. In = 67.67
Inv. Out = 67.24

233 In Pl. 15" CMP
Inv. In = 73.62
Inv. Out = Buried

234 In Pl. DI
Rim = 76.27
(Offset Pipes)
Inv. In = 72.12
In Pl. 15" Conc. Pipe
Inv. Out = 72.07

235 In Pl. FES
In Pl. 24" Conc. Pipe
Inv. Outfall = 73.15

236 In Pl. SSMH
Rim = 77.06
(Reverse Flow In Structure)
Inv. In (a) = 71.76
Inv. In (b) = 72.46
In Pl. 24" Conc. Pipe
Inv. Out (c) = 71.96

	PROJECT	SHEET NO.
	0001-212-249	1E(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	1E(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Existing Drainage Descriptions

237 In Pl. Endwall
In Pl. 15" Conc. Pipe
Inv. Out = 77.13
Inv. Outfall = 74.99

238 In Pl. DI
Rim = 111.04
In Pl. 18" CPP
Inv. In = 106.49
In Pl. Recessed Pipe
Inv. Out = 105.89

239 In Pl. SSMH
Rim = 110.20
Inaccessible

240 In Pl. SSMH
W/Control Device
Rim = 110.46
Bottom = 97.36

241 In Pl. SSMH
W/Control Device
Rim = 110.43
In Pl. 36" Conc. Pipe
Bottom = 96.13

242 In Pl. DI
Rim = 101.21
Inv. In = 95.86
In Pl. 36" Conc. Pipe
Inv. Out = 88.11

243 In Pl. SSMH
Rim = 93.02
Inv. In = Inaccessible
In Pl. 36" Conc. Pipe
Inv. Out = Inaccessible
Inv. Outfall = 87.57
In Pl. Endwall

244 In Pl. 15" Metal Pipe
Inv. In = 82.17
Inv. Out = Buried

245 In Pl. DI
Rim = 94.02
In Pl. 15" CPP
Inv. Out = 90.90

246 In Pl. DI
Rim = 105.33
In Pl. 15" CPP
Inv. Out = 102.41

247 In Pl. DI
Rim = 99.73
Inv. In = 93.58
In Pl. 15" CPP
Inv. Out = 93.51

248 In Pl. DI
Rim = 96.71
Inv. In (a) = 89.11
Inv. In (b) = 89.11
In Pl. 15" CPP
Inv. In (c) = 89.31
Upstream Structure
Not Found
In Pl. Recessed Pipe
Inv. Out (d) = Inaccessible

249 In Pl. DI
Rim = 94.95
Inv. In (a) = 89.60
Inv. In (b) = Recessed Pipe
In Pl. 18" CPP
Inv. In (c) = 89.35
Downstream Structure
Not Found

250 In Pl. DI
Rim = 121.85
In Pl. 36" Conc. Pipe
Inv. Out = 107.85

251 In Pl. DI
Rim = 118.09
Inv. In = 107.49
In Pl. 36" Conc. Pipe
Inv. Out = 107.49

Possible Retention Area

252 In Pl. DI
Rim = 114.23
Inv. In (a) = Recessed
Inv. In (b) = Recessed
In Pl. 24" Conc. Pipe
Inv. Out = Recessed
Bottom = 106.33

253 In Pl. DI
Rim = 113.57
Inv. In = 106.77
In Pl. 24" Conc. Pipe
Inv. Out = 106.77

254 In Pl. DI
Rim = 112.09
Inv. In = 106.54
In Pl. 18" Conc. Pipe
Inv. Out = 106.54

255 In Pl. SSMH
Rim = 109.44
Inv. In = 103.94
In Pl. 18" Conc. Pipe
Inv. Out = 103.69

256 In Pl. SSMH
Rim = 111.78
In Pl. 15" CPP
Bottom = 104.08

257 In Pl. SSMH
Rim = 109.06
Inv. In (a) = 103.36
Inv. In (b) = 102.74
In Pl. 24" CPP
Inv. Out (c) = 100.56

258 In Pl. DI
Rim = 93.62
Inv. In = 89.12
In Pl. 24" CPP
Inv. Out = 89.02

259 In Pl. DI
Rim = 92.44
Inv. In (a) = Recessed Pipe
Inv. In (b) = Recessed Pipe
In Pl. 24" CPP
Inv. Out (c) = Recessed Pipe
Bottom = 86.39
Inv. Outfall = 85.33
In Pl. Endwall

Possible Retention Area

260 In Pl. SSMH
Rim = 94.31
Bottom = 84.91

261 In Pl. SSMH
Rim = 93.37
Bottom = 81.99

262 In Pl. SSMH
Rim = 92.70
Bottom = 82.00

263 In Pl. DI
Rim = 94.05
In Pl. 15" CPP
Inv. Out = 90.45

264 In Pl. SSMH
Rim = 111.28
Bottom = 98.38

265 In Pl. DI
Rim = 114.27
In Pl. 15" Conc. Pipe
Inv. Out = 108.77

266 In Pl. DI
Rim = 108.72
Inv. In = 104.97
Downstream Structure
Not Found
In Pl. 18" CMP
Inv. Out = 108.77

Possible Retention Area

267 In Pl. DI
Rim = 112.07
In Pl. 8" PVC Pipe From Bldg.
Inv. In (a) = 109.82
In Pl. 8" PVC Pipe From Bldg.
Inv. In (b) = 109.82
In Pl. 15" CPP
Inv. Out (c) = 109.77

268 In Pl. DI
Rim = 110.62
Inv. In = 107.22
In Pl. 15" CPP
Inv. Out = 107.17

269 In Pl. DI
Rim = 111.35
Inv. In = 106.65
In Pl. 15" CPP
Inv. Out = Inaccessible

270 In Pl. SSMH
Rim = 111.08
Bottom = 101.93

271 In Pl. SSMH
Rim = 111.27
Bottom = 106.42

272 In Pl. SSMH
Rim = 111.49
Bottom = 104.09

273 In Pl. SSMH
Rim = 111.71
Bottom = 103.91

274 In Pl. DI
Rim = 113.24
In Pl. 15" CPP
Inv. Out = 109.09

275 In Pl. DI
Rim = 113.53
Inv. In = 108.13
In Pl. 15" CPP
Inv. Out = 107.53

276 In Pl. SSMH
Rim = 116.18
Bottom = 102.63

277 In Pl. SSMH
Rim = 116.23
Bottom = 104.48

278 In Pl. SSMH
Rim = 116.31
Bottom = 104.56

Possible Retention Area

279 In Pl. SSMH
Rim = 122.78
Bottom = 103.68

280 In Pl. SSMH
Rim = 122.94
Bottom = 103.84

281 In Pl. DI
Rim = 118.76
In Pl. Pipe (Inaccessible)
Top Of Sediment = 115.12

Possible Retention Area

282 In Pl. DI
Rim = 118.83
Inv. In = Inaccessible
In Pl. 15" Conc. Pipe
Inv. Out = Inaccessible
Top Of Sediment = 113.33

283 In Pl. DI
Rim = 120.69
Inv. In = 112.54
In Pl. 30" Conc. Pipe
Inv. Out = 107.69

284 In Pl. DI
Rim = 118.06
In Pl. 8" PVC Pipe From Bldg.
Inv. In (a) = 110.06
Inv. In (b) = 107.81
In Pl. 30" Conc. Pipe
Inv. Out = 107.81

285 In Pl. DI
Rim = 116.35
Inv. In = Recessed
In Pl. Recessed Pipe
Inv. Out = Recessed
Bottom = 107.35

286 In Pl. DI
Rim = 114.23
In Pl. 15" Conc. Pipe
Inv. Out = 110.78

287 In Pl. DI
Rim = 116.90
In Pl. 15" Conc. Pipe
Inv. Out = 112.45

288 In Pl. DI
Rim = 112.67
Inv. In (a) = Recessed
Inv. In (b) = 107.02
Inv. In (c) = 108.37
In Pl. 18" Conc. Pipe
Inv. Out (d) = 105.92

289 In Pl. DI
Rim = 111.43
Inv. In = 104.33
In Pl. Large CMP (72"+)
Inv. Out = 100.23

290 In Pl. DI
Rim = 110.98
Possible Retention Area
Bottom = 99.78

291 In Pl. DI
Rim = 114.00
In Pl. 15" Conc. Pipe
Inv. Out = 108.50

292 In Pl. DI
Rim = 112.99
In Pl. Large CMP (72"+)
Bottom = 106.27

293 In Pl. DI
Rim = 110.49
Possible Retention Area
Bottom = 99.99

294 In Pl. DI
Rim = 107.30
In Pl. 18" Conc. Pipe
Inv. In = 98.65
In Pl. 18" Conc. Pipe
Inv. Out = 97.40

295 In Pl. DI
Rim = 103.67
In Pl. Large CMP
Exact Size Unknown
Possible Underground
Retention Area
Bottom = 94.27

Possible Retention Area

296 In Pl. DI
Rim = 103.81
Bottom = 94.21

297 In Pl. DI
Rim = 106.19
In Pl. 15" Conc. Pipe
Inv. In = 96.42
In Pl. 15" Conc. Pipe
Inv. Out = 96.42

298 In Pl. DI
Rim = 107.81
In Pl. Pipe (Inaccessible)
Top Of Sediment = 102.11

299 In Pl. DI
Rim = 106.21
Inv. In = Recessed
In Pl. 15" Conc. Pipe
Inv. Out = 100.41

300 In Pl. Storm Vault
Rim = 109.37
In Pl. 18" Conc. Pipe
Bottom = 99.97

301 In Pl. DI
Rim = 104.35
Inv. In (a) = 99.75
Inv. In (b) = Recessed
In Pl. 24" Conc. Pipe
Inv. Out (c) = 99.67

302 In Pl. SSMH
Rim = 110.40
Bottom = 102.35

303 In Pl. DI
Rim = 103.50
Inv. In = 99.20
In Pl. 18" Conc. Pipe
Inv. Out = 98.76

304 In Pl. DI
Rim = 102.33
Inv. In = 97.75
In Pl. 18" Conc. Pipe
Inv. Out = 97.63

305 In Pl. DI
Rim = 103.14
Inv. In = 96.42
In Pl. 21" Conc. Pipe
Inv. Out = 96.42

306 In Pl. DI
Rim = 103.71
Inv. In = 95.96
In Pl. 24" Conc. Pipe
Inv. Out = 95.86

307
308
309
310

The Original Survey Storm Structures Have Been Modified Or Removed Along This Area On Dumfries Road Due To Construction.

311 In Pl. SSMH
Rim = 104.04
Inv. In = 98.69
In Pl. 18" Conc. Pipe
Inv. Out = 97.86

312 In Pl. DI
Rim = 102.29
In Pl. 15" Conc. Pipe
Inv. Out = 96.95

313 In Pl. DI
Rim = 100.41
Inv. In = 93.51
In Pl. 15" Conc. Pipe
Inv. Out = 93.51

314 In Pl. DI
Rim = 98.81
Inv. In (a) = 90.11
Inv. In (b) = 90.11
In Pl. 18" Conc. Pipe
Inv. Out (c) = 86.51

315 In Pl. DI
Rim = 99.25
In Pl. 15" Conc. Pipe
Inv. In = 91.90
In Pl. 18" Conc. Pipe
Inv. Out = 91.80

316 In Pl. DI
Rim = 99.25
Inv. In = 91.09
In Pl. 18" Conc. Pipe
Inv. Out = 90.94

317 In Pl. DI
Rim = 97.31
In Pl. 15" Conc. Pipe
Inv. Out = 89.86

318 In Pl. DI
Rim = 90.89
Inv. In (a) = Recessed Pipe
Inv. In (b) = Recessed Pipe
In Pl. 30" Conc. Pipe
Inv. Out (c) = 79.64

319 In Pl. DI
Rim = 80.88
Inv. In = Recessed Pipe
In Pl. 30" Conc. Pipe
Inv. Out = 70.63

320 In Pl. 12" CPP
Inv. In = 94.34
Inv. Out = 90.04

321 In Pl. 18" CMP
Inv. In = 89.84
Inv. Out = 84.24

322 In Pl. 18" CMP
Inv. In = 83.68
Inv. Out = 82.37

323 In Pl. 15" CMP
Inv. In = 82.33
Inv. Out = 81.99
In Pl. FES

324 In Pl. DI
Rim = 81.82
In Pl. 36" Conc. Pipe
Inv. In = 73.82
In Pl. 30" Conc. Pipe
Inv. Out = 73.62

325 In Pl. 15" CMP
Inv. In = 85.00
Inv. Out = 83.61

326 In Pl. Endwall
In Pl. 3' X 3' Box Culvert
Inv. = 85.46
Next Structure Not Found

327 In Pl. SSMH
Rim = 109.28
(Upsream Inv. Approx. 30% Filled Concrete)
Inv. In = 104.08
In Pl. 15" Conc. Pipe
Inv. Out = 102.33

328 In Pl. DI
Rim = 109.67
Inv. In = 95.82
In Pl. 15" Conc. Pipe
Inv. Out = 94.01 (Approx.)
Outfall Under Water In Hole

329 In Pl. Stormwater
Control Device
Top = 99.62
Inlet = 97.57

330 In Pl. SSMH
Rim = 91.06
In Pl. 15" Conc. Pipe
Inv. In = 85.61
In Pl. 15" Conc. Pipe
Inv. Out = 78.58

331 In Pl. DI
Rim = 41.85
In Pl. 15" Conc. Pipe
Inv. = 39.00

332 In Pl. DI
Rim = 41.19
Inv. In = 38.19
In Pl. 15" Conc. Pipe
Inv. Out = 38.09

333 In Pl. DI
Rim = 48.33
In Pl. 15" CPP
Inv. Out = 45.91

334 In Pl. SSMH
Rim = 49.57
Inv. In = Recessed Pipe
In Pl. 15" CPP
Inv. Out = 45.47

335 In Pl. SSMH
Rim = 50.21
Inv. In = 44.61
In Pl. 15" CPP
Inv. Out = 44.61

336 In Pl. DI
Rim = 47.96
In Pl. 18" CPP
Inv. Out = 45.86

337 In Pl. SSMH
Rim = 48.40
Inv. In = Recessed Pipe
In Pl. 15" CPP
Inv. Out = 44.95

338 In Pl. SSMH
Rim = 48.53
Inv. In (a) = 44.13
Inv. In (b) = 44.13
In Pl. 15" CPP
Inv. Out (c) = 44.08
Downstream Structure
Not Found

339 In Pl. DI
Rim = 25.72
In Pl. 12" CPP
Inv. Out = 22.17

340 In Pl. 12" CPP
Inv. In = 33.94
Inv. Out = 33.90

341 In Pl. 12" Conc. Pipe
Inv. = 49.69
End of Pipe
Not Found

342 In Pl. 12" Conc. Pipe
Inv. In = 36.48
Inv. Out = 33.81

343 In Pl. 12" Conc. Pipe
Inv. In = 49.05
Inv. Out = 48.08

344 In Pl. DI
Rim = 154.34
In Pl. 15" Conc. Pipe
Inv. Out = 149.59

345 In Pl. DI
Rim = 110.93
In Pl. 15" Conc. Pipe
Inv. Out = 106.23

346 In Pl. DI
Rim = 103.56
Bottom = 89.01
Unknown Connectivity

347 In Pl. DI
Rim = 91.85
In Pl. 24" Conc. Pipe
Inv. In (a) = 84.87
(Upstream Not Found)
In Pl. 18" Conc. Pipe
Inv. In (b) = 88.25
In Pl. 24" Conc. Pipe
Inv. Out (c) = 84.36

348 In Pl. Drainage Control Device
Rim = 143.51
In Pl. 21" Conc. Pipe
Inv. Out = 133.36

349 In Pl. Grated Control Device
Rim = 143.15
Bottom = 133.93

350 In Pl. Stormwater
Control Device
Rim = 143.40
Bottom = 134.35

351 In Pl. Underground
Retention Vault
Rim = 29.78
Bottom = Inaccessible

352 In Pl. Underground
Retention Vault
Rim = 29.87
Bottom = Inaccessible

353 In Pl. Underground
Retention Vault
Rim = 29.91
Bottom = 18.31

	PROJECT	SHEET NO.
	0001-212-249	1E(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Existing Drainage Descriptions

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1E(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

401 In Pl. DI
Rim = 121.79
(Full of Debris)
In Pl. Size Unknown CMP
Inv. Out = 120.01

402 In Pl. DI
Rim = 119.66
(Silt Trap, No Visibility)
(Full of Silt)
Inv. In = 117.86
In Pl. 18" Conc. Pipe
Inv. Out = 117.41

403 In Pl. 18" Conc. Pipe
Inv. Outfall = 116.92

404 In Pl. 24" Conc. Pipe
Inv. = 116.33

405 In Pl. 6" CPP
Inv. = 111.89

406 In Pl. DI
Rim = 64.08
(Full of Debris)
Inv. Out = 61.48

407 In Pl. DI
Rim = 58.61
(Full of Debris)
In. Pl. Pipe Size Unknown
Inv. In. = 56.61
In Pl. 24" Conc. Pipe
Inv. Out = 56.61

408 In Pl. DI
Rim = 60.83
Inv. In = 54.83
In Pl. 24" Conc. Pipe
Inv. Out = 51.63

409 In Pl. DI
Rim = 60.92
Inv. In = 51.64
In Pl. 18" Conc. Pipe
Inv. Out = 51.55

410 In Pl. DI
Rim = 55.73
(Offset Pipes)
Inv. In = 50.98
In Pl. 18" Conc. Pipe
Inv. Out = 50.53

411 In Pl. SSMH
Rim = 58.98
(Offset Pipes)
Inv. In (a) = 47.48
Inv. In (b) = 48.63
Inv. In (c) = 47.28
In Pl. 54" Conc. Pipe
Inv. Out (d) = 47.28

412 In Pl. DI
Rim = 48.92
(Offset Pipes)
Inv. In = 42.12
In Pl. 54" Conc. Pipe
Inv. Out = 41.52

413 In Pl. DI
Rim = 66.93
In Pl. 18" Conc. Pipe
Inv. In = 61.43
In Pl. 18" Conc. Pipe
Inv. Out = 61.35

414 In Pl. DI
Rim = 63.20
Inv. In (a) = 59.10
Inv. In (b) = 59.10
In Pl. 18" Conc. Pipe
Inv. Out (c) = 59.05

415 In Pl. DI
Rim = 60.39
(Offset Pipes)
Inv. In (a) = 52.79
Inv. In (b) = 53.74
In Pl. 18" Conc. Pipe
Inv. Out (c) = 52.66

416 In Pl. DI
Rim = 62.34
In Pl. 15" Conc. Pipe
Inv. Out = 59.29

417 In Pl. DI
Rim = 60.14
(Full of Debris)
In Pl. 15" Conc. Pipe
Inv. Out = 54.64

418 In Pl. DI
Rim = 57.71
In Pl. 15" Conc. Pipe
Inv. Out = 50.74

419 In Pl. DI
Rim = 57.66
(Offset Pipes)
In Pl. 42" Conc. Pipe
Inv. In (a) = 50.36
Inv. In (b) = 50.51
In Pl. 42" Conc. Pipe
Inv. Out (c) = 50.28

420 In Pl. SSMH
Rim = 59.21
Inv. In = 49.11
In Pl. 54" Conc. Pipe
Inv. Out = 47.81

421 In Pl. SSMH
Rim = 10.61
(Moderate Silting and
Surcharge of approx 0.7 feet)
(Offset Pipes)
Inv. In = 1.96
In Pl. 60" CPP
Inv. Out = 1.86
Next Structure Not Found

422 In Pl. Endwall
(Structure Is Completely Buried)
(Full of Silt)
In Pl. 60" CPP
Inv. Outfall = -1.17

423 In Pl. Endwall
(Weir Structure With Double Pipes)
(Full of Debris)
In Pl. 30" Conc. Pipe
Inv. = 5.84
In Pl. Endwall
Inv. Out = 4.85

424 In Pl. Endwall
(Weir Structure With Double Pipes)
(Full of Debris)
In Pl. 30" Conc. Pipe
Inv. = 5.79
In Pl. Endwall
Inv. Out = 4.78

425 In Pl. 15" Plastic Pipe
Inv. In = 13.17
Inv. Out = 13.42

426 In Pl. DI
Rim = 21.09
In Pl. 18" Conc. Pipe
Inv. Out = 18.31

427 In Pl. SSMH
Rim = 68.35
(Offset Pipes)
In Pl. 15" Conc. Pipe
Inv. Out = 61.97

428 In Pl. SSMH
Rim = 62.98
(Offset Pipes)
Inv. In (a) = 59.13
Inv. In (b) = 59.13
In Pl. 18" Conc. Pipe
Inv. Out (c) = 59.03

429 In Pl. Endwall
In Pl. 18" Conc. Pipe
Inv. Outfall = 58.39

430 In Pl. Endwall
In Pl. 15" Conc. Pipe
Inv. In = 68.84
In Pl. Endwall
Inv. Out = 66.27

431 In Pl. Endwall
In Pl. 15" Conc. Pipe
Inv. In = 74.68
In Pl. Endwall
Inv. Out = 72.70

432 In Pl. SSMH
Rim = 76.28
In Pl. 15" Conc. Pipe
Inv. Out = 72.53

433 In Pl. DI
Rim = 75.25
Inv. In = 72.30
In Pl. 15" Conc. Pipe
Inv. Out = 72.20

*434- *435 NOT USED

436 In Pl. SSMH
Rim = 75.50
Inv. In = 71.03
In Pl. 18" Conc. Pipe
Inv. Out = 71.03

*437 NOT USED

438 In Pl. UNK
Underedge Drain
Rim = 71.34

439 In Pl. DI
Rim = 89.26
(Full of Debris)
In Pl. 15" Conc. Pipe
Inv. Out = 85.56

440 In Pl. DI
Rim = 84.06
Inv. In = 80.68
In Pl. 15" Conc. Pipe
Inv. Out = 80.54

441 In Pl. SSMH
Rim = 84.60
Inv. In = 80.15
In Pl. 15" Conc. Pipe
Inv. Out = 76.07

442 In Pl. DI
Rim = 111.66
(In Front of Curb Inlet)
In Pl. 15" Conc. Pipe
Inv. Out = 108.21

443 In Pl. DI
Rim = 109.68
Inv. In = 104.73
In Pl. 15" Conc. Pipe
Inv. Out = 104.68

*444 - *445 NOT USED

446 In Pl. SSMH
Rim = 106.25
Inv. In (a) = 90.20
Inv. In (b) = 90.85
In Pl. 42" Conc. Pipe
Inv. Out (c) = 88.85

447 In Pl. SSMH
Rim = 100.30
(Structure On Top
Of Another Structure)
(Offset Pipes)
(Recessed Pipe)
Inv. In = 80.75
(Recessed Pipe)
In Pl. 42" Conc. Pipe
Inv. Out = 80.65

448 In Pl. SSMH
Rim = 87.03
Inv. In = 79.88
In Pl. 42" Conc. Pipe
Inv. Out = 75.71

449 In Pl. DI
Rim = 82.49
(System Pipe Sizes Do Not
Match Observed Water Flow)
In Pl. 15" Conc. Pipe
Inv. In (a) = 71.69
Inv. In (b) = 75.34
In Pl. 36" Conc. Pipe
Inv. Out (c) = 75.04

*450 NOT USED

451 In Pl. Unk
Rim = 72.13
(Full of Silt)
In Pl. 30" Conc. Pipe
Inv. Out = Unknown

*452-*453 NOT USED

454 In Pl. SSMH
Rim = 105.11
In Pl. 24" Conc. Pipe
Inv. In (a) = 94.56
In Pl. 18" Conc. Pipe
Inv. In (b) = 96.11
In Pl. 30" Conc. Pipe
Inv. Out (c) = 93.91

456 In Pl. DI
Rim = 106.12
In Pl. 15" Conc. Pipe
Inv. Out = 101.81

457 In Pl. DI
Rim = 104.47
(In Front of Curb Inlet)
Inv. In = 100.77
In Pl. 15" Conc. Pipe
Inv. Out = 100.72

458 In Pl. DI
Rim = 103.09
(In Front of Curb Inlet)
(Offset Pipes)
Inv. In = 98.89
In Pl. 15" Conc. Pipe
Inv. Out = 95.46

459 In Pl. DI
Rim = 94.97
(In Front of Curb Inlet)
Inv. In = 91.22
In Pl. 15" Conc. Pipe
Inv. Out = 91.17

460 In Pl. DI
Rim = 93.35
Inv. In = 90.32
In Pl. 18" Conc. Pipe
Inv. Out = 90.30

461 In Pl. UNK
Underedge drain
Rim = 100.86

462 In Pl. UNK
Underedge drain
Rim = 86.70

	PROJECT	SHEET NO.
	0001-212-249	1E(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1F(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Survey Horizontal and Vertical Controls

SURVEY ALIGNMENTS

POINT ID.	STATION	BEARING	PROJECT NORTH (Y)	COORDINATES EAST (X)
	Route 1			
SS	50+00.000		324,376.683	3,614,682.736
		N 8° 42' 44" E		
PI	56+00.000		324,969.760	3,614,773.619
		N 8° 42' 44" E		
PI	64+60.935		325,820.761	3,614,904.026
		N 15° 42' 24" E		
PI	83+50.314		327,639.591	3,615,415.505
		N 36° 30' 57" E		
PI	91+78.517		328,305.212	3,615,908.323
		N 41° 56' 44" E		
PI	115+60.751		330,077.070	3,617,500.665
		N 37° 07' 27" E		
PI	126+73.923		330,964.635	3,618,172.514
		N 44° 34' 15" E		
PI	136+03.171		331,626.616	3,618,824.651
		N 36° 11' 43" E		
PI	154+94.426		333,152.876	3,619,941.512
		N 55° 52' 45" E		
PI	160+38.743		333,458.205	3,620,392.128

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2039 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 212-2040 is 08°42'44"
Latitude: 38°33'11.35264" N (5 Decimal Places)
Longitude: 77°19'58.74858" W (5 Decimal Places)
Geoid Separation (N) : -32.365 m
Ellipsoid Height (h) : 14.990 m (WGS 84)
Control Based On: Station (Name or PID) ....., or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3601719.100 m
North (Y) 2099045.038 m
Ortho. Elevation (H) 47.355 m

VDOT Project Coordinates

East (X) 3614773.620 ft.
North (Y) 324969.760 ft.
Elevation 155.365 ft.
Zone (North) South (circle one)
Horizontal Closure .....

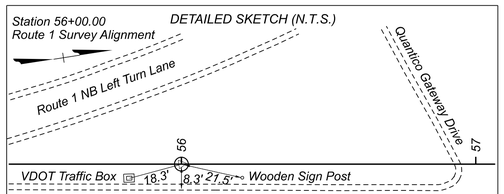
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 56+00.00
Route 1 Survey Alignment



Station Is A Standard VDOT Disk Set In Concrete On West Side Of NBL Of Route 1 Approx. 100' South Of The South Side Of Quantico Gateway Drive. Station Is 18.3' North Of Center Of A VDOT Traffic Box, 8.3' West Of Back Of Curb And 21.5' Southwest Of A Wooden Sign Post.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2040 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 212-2039 is 188°42'44"
Latitude: 38°33'19.74747" N (5 Decimal Places)
Longitude: 77°19'56.97091" W (5 Decimal Places)
Geoid Separation (N) : -32.362 m
Ellipsoid Height (h) : 11.865 m (WGS 84)
Control Based On: Station (Name or PID) ....., or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3601758.846 m
North (Y) 2099304.408 m
Ortho. Elevation (H) 44.227 m

VDOT Project Coordinates

East (X) 3614904.028 ft.
North (Y) 325820.761 ft.
Elevation 145.101 ft.
Zone (North) South (circle one)
Horizontal Closure .....

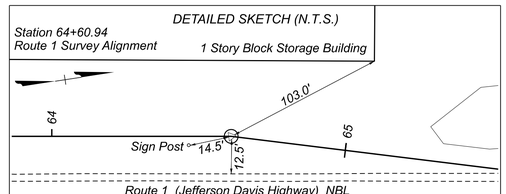
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 64+60.94
Route 1 Survey Alignment



Station Is A Standard VDOT Disk Set In Concrete On West Side Of Route 1 Approx. 700' North Of The North Side Of Quantico Gateway Drive. Station Is 14.5' North Of A Sign Post, 12.5' West Of Edge Of Pavement And 21.5' Southeast Of The Northeast Corner Of A One Story Block Storage Building.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2041 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 2042 is 37°07'27"
Latitude: 38°34'01.48866" N (5 Decimal Places)
Longitude: 77°19'23.59935" W (5 Decimal Places)
Geoid Separation (N) : -32.359 m
Ellipsoid Height (h) : -27.945 m (WGS 84)
Control Based On: Station (Name or PID) ....., or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3602550.258 m
North (Y) 2100601.655 m
Ortho. Elevation (H) 4.414 m

VDOT Project Coordinates

East (X) 3617500.674 ft.
North (Y) 330077.067 ft.
Elevation 14.481 ft.
Zone (North) South (circle one)
Horizontal Closure .....

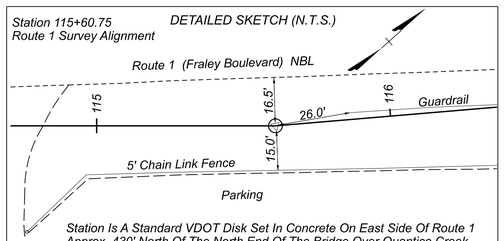
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 115+60.75
Route 1 Survey Alignment



Station Is A Standard VDOT Disk Set In Concrete On East Side Of Route 1 Approx. 430' North Of The North End Of The Bridge Over Quantico Creek. Station Is 26.0' South Of The End Of A Guardrail, 16.5' Southeast Of Edge Of Pavement And 15.0' Northeast Of A 5' Chain Link Fence.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2042 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 2041 is 217°07'27"
Latitude: 38°34'10.17603" N (5 Decimal Places)
Longitude: 77°19'14.99768" W (5 Decimal Places)
Geoid Separation (N) : -32.358 m
Ellipsoid Height (h) : -24.478 m (WGS 84)
Control Based On: Station (Name or PID) ....., or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3602755.026 m
North (Y) 2100872.169 m
Ortho. Elevation (H) 7.879 m

VDOT Project Coordinates

East (X) 3618172.524 ft.
North (Y) 330964.630 ft.
Elevation 25.851 ft.
Zone (North) South (circle one)
Horizontal Closure .....

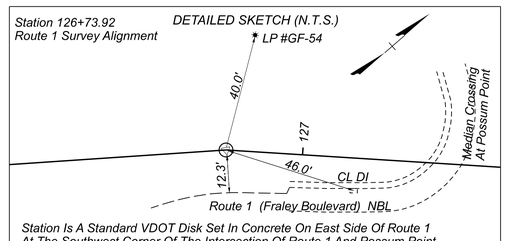
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 126+73.92
Route 1 Survey Alignment



Station Is A Standard VDOT Disk Set In Concrete On East Side Of Route 1 At The Southwest Corner Of The Intersection Of Route 1 And Possum Point. Station Is 40.0' Southeast Of Light Pole #GF-54, 12.3' Northwest Of Edge Of Pavement And 46.0' Southwest Of The Center Of A Drop Inlet.

	PROJECT	SHEET NO.
	0001-212-249	1F(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Survey Horizontal and Vertical Controls

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	1F(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2043 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 2044 is 55°52'45"
Latitude: 38°34'31.57911" N (5 Decimal Places)
Longitude: 77°18'52.37076" W (5 Decimal Places)
Geoid Separation (N) : -32.353 m
Ellipsoid Height (h) : 0.026 m (WGS 84)
Control Based On: Station (Name or PID) ..... or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3603294.184 m
North (Y) 2101539.106 m
Ortho. Elevation (H) 32.380 m

VDOT Project Coordinates

East (X) 3619941.520 ft.
North (Y) 333152.871 ft.
Elevation 106.232 ft.
Zone (North) South (circle one)
Horizontal Closure .....

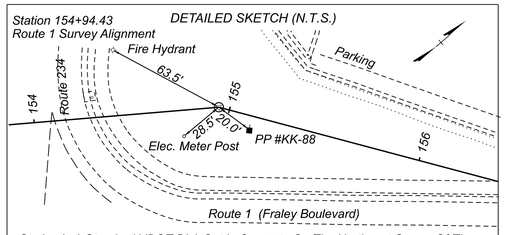
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 154+94.43 Route 1 Survey Alignment — DETAILED SKETCH (N.T.S.)



Station Is A Standard VDOT Disk Set In Concrete On The Northeast Corner Of The Intersection Of Route 1 And Route 234. Station Is 20.0' West Of Power Pole #KK-88, 28.5' North Of Electric Meter Post And 63.5' Northeast Of A Fire Hydrant.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. 212 - 2044 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 2043 is 235°52'45"
Latitude: 38°34'34.53939" N (5 Decimal Places)
Longitude: 77°18'46.64744" W (5 Decimal Places)
Geoid Separation (N) : -32.354 m
Ellipsoid Height (h) : -7.524 m (WGS 84)
Control Based On: Station (Name or PID) ..... or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3603431.524 m
North (Y) 2101632.165 m
Ortho. Elevation (H) 24.830 m

VDOT Project Coordinates

East (X) 3620392.137 ft.
North (Y) 333458.200 ft.
Elevation 81.463 ft.
Zone (North) South (circle one)
Horizontal Closure .....

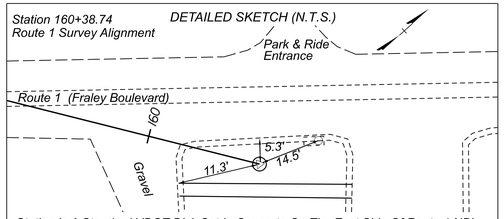
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 160+38.74 Route 1 Survey Alignment — DETAILED SKETCH (N.T.S.)



Station Is A Standard VDOT Disk Set In Concrete On The East Side Of Route 1 NBL Approximately 640' North Of It's Intersection With Route 234 Across From "Park And Ride" Entrance. Station Is 5.3' East Of Back Of Curb, 14.5' South Of Manhole And 11.3' North Of Corner Of Concrete Walk.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. IP 1 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station IP 2 is 36°30'57"
Latitude: 38°33'37.66026" N (5 Decimal Places)
Longitude: 77°19'50.24112" W (5 Decimal Places)
Geoid Separation (N) : -32.358 m
Ellipsoid Height (h) : -10.179 m (WGS 84)
Control Based On: Station (Name or PID) ..... or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3601914.736 m
North (Y) 2099858.755 m
Ortho. Elevation (H) 22.179 m

VDOT Project Coordinates

East (X) 3615415.509 ft.
North (Y) 327639.591 ft.
Elevation 72.764 ft.
Zone (North) South (circle one)
Horizontal Closure .....

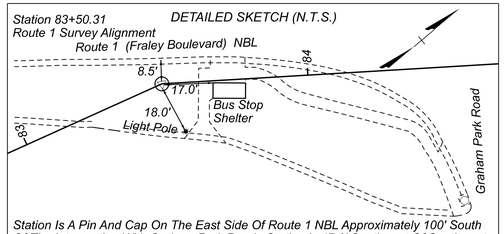
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 83+50.31 Route 1 Survey Alignment — DETAILED SKETCH (N.T.S.)



Station Is A Pin And Cap On The East Side Of Route 1 NBL Approximately 100' South Of The Intersection With Graham Park Road. Station Is 17.0' Southwest Of Southwest Corner Of A Bus Stop Shelter, 18.0' West Of A Light Pole And 8.5' Southeast Of Back Of Curb.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. IP 2 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station IP 1 is 216°30'57"
Latitude: 38°33'44.17711" N (5 Decimal Places)
Longitude: 77°19'43.93051" W (5 Decimal Places)
Geoid Separation (N) : -32.358 m
Ellipsoid Height (h) : -18.074 m (WGS 84)
Control Based On: Station (Name or PID) ..... or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3602064.939 m
North (Y) 2100061.625 m
Ortho. Elevation (H) 14.283 m

VDOT Project Coordinates

East (X) 3615908.328 ft.
North (Y) 328305.211 ft.
Elevation 46.861 ft.
Zone (North) South (circle one)
Horizontal Closure .....

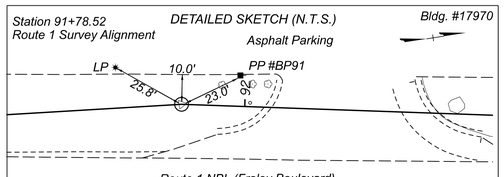
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 91+78.52 Route 1 Survey Alignment — DETAILED SKETCH (N.T.S.)



Station Is A Pin And Cap On The West Side Of Route 1 NBL Approximately 700' East Of It's Intersection With Graham Park Road. Station Is 25.8' Northeast of Light Pole, 10.0' East of Edge Of Pavement Of Parking Lot And 23.0' Southeast of Power Pole # BP91.

LD-200 (REV. 8/2000)

Virginia Department of Transportation Horizontal Control

Control Station I. D. IP 3 Project 001-212-249
Route 1 City/County Prince William Date 05-15-2012
Established By Woolpert, Inc.
Vertical Datum Based On NAVD88 Geoid 12A
Horizontal Datum Based On NAD83 (CORS)
Azimuth to Station 2043 is 36°11'43"
Latitude: 38°34'16.63605" N (5 Decimal Places)
Longitude: 77°19'06.68017" W (5 Decimal Places)
Geoid Separation (N) : -32.358 m
Ellipsoid Height (h) : -10.842 m (WGS 84)
Control Based On: Station (Name or PID) ..... or
Project (Monument No.) ..... Order: ....

Virginia State Plane Coordinates - NAD 83 Metric Values

East (X) 3602953.786 m
North (Y) 2101073.928 m
Ortho. Elevation (H) 21.516 m

VDOT Project Coordinates

East (X) 3618824.663 ft.
North (Y) 331626.610 ft.
Elevation 70.589 ft.
Zone (North) South (circle one)
Horizontal Closure .....

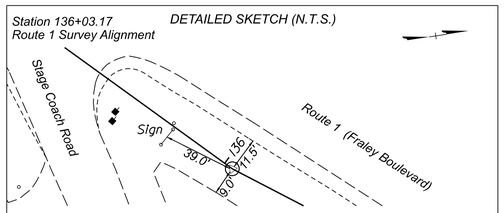
To convert state plane metric units to VDOT project values, use the following formula.

1. Reduce the Easting Metric Values By 2.5 Million Meters. The South and North Zone Northing Metric Values By 1 and 2 Million Respectively.
2. Multiply These Values by the U. S. Survey Foot (3.280833333)
3. Multiply These Values by Combined Scale and Elevation Factor (1.00006) for the County.

Reverse This Procedure to Transform VDOT Project Coordinates to NAD 83 Metric Plane Coordinates

* Sketch and Detailed Description Below *

Station 136+03.17 Route 1 Survey Alignment — DETAILED SKETCH (N.T.S.)



Station Is A Pin And Cap On The Northeast Corner Of The Intersection Of Route 1 And Stage Coach Road. Station Is 11.5 East Of Edge Of Pavement Of Route 1, 9.0' West Of Edge Of Pavement Of Parking Lot And 39.0' North Of Sign.

Route : Route 1 Jefferson Davis Highway
Project : 001-212-249, P101
District : Northern Virginia
County : Prince William County
From : South Corporate Limit
To : North Corporate Limit
Horizontal Datum Based On NAD 83
Vertical Datum Based On NAVD 88
Survey By : Woolpert, Inc.
Operator : H. A. Spence, L.S.
Date : 07 - 17 - 2013
Scale : 1" = 25'
UPC* : 90339

PLANIMETRIC LEGEND

- Advertising Sign
- BM — Bench Mark
- Bollard Post
- PHOTO CP — Photo Control Point
- Control Station
- Cell Tower
- Drainage Flow Arrow (Storm Drainage)
- Filler Cap (Gas Stations)
- Flow Arrow (Streams & Rivers)
- Flag Pole
- Secondary Control Point
- FP — Filler Pipe (Gas Stations)
- GA — Gas Tank Access Manhole (Gas Stations)
- Gravesite Marker
- Guard Post
- GV — Gas Vent Pipe (Gas Stations)
- Mine Entrance
- Node Point
- Property Line Symbol
- Found Monumentation
- Property Monument
- Metal or Wooden Post
- Right of Way Monument
- Iron Right of Way Pin
- Railroad Mile Marker
- Railroad Right of Way Monument
- Railroad Signal Pole or Gate
- Railroad Telegraph Pole
- Railroad Telephone Pole
- Shrub
- Storm Sewer Manhole
- Tree
- Wetland Flag Automatic
- Wetland Flag Manual
- Elevation Tick Mark
- Connected Plat Symbol
- Brush Line
- Pipe Culverts *
- City Line
- County Line
- Curb Only
- Curb and Gutter
- Fence Line
- Guardrail
- Hedge Row
- Jersey Barrier
- Obscure Areas
- Paved Ditches
- Railroad
- Right of Way
- State Line
- Edges of Water
- Sidewalks
- Wetlands
- Woods
- * Designate size of culverts (Variable from 12" to 120")

	PROJECT	SHEET NO.
	0001-212-249	1F(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Horizontal Construction Alignment Data

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

ROUTE I MAINLINE

<× 1 DESCRIBE CHAIN RTE1MLALI

Chain RTE1MLALI contains:
209 CUR RTE1MLALI_3 CUR RTE1MLALI_6 CUR RTE1MLALI_9 CUR RTE1MLALI_12 CUR RTE1MLALI_13 CUR RTE1MLALI_16 CUR RTE1MLALI_17 212 CUR RTE1MLALI_22 213

Beginning chain RTE1MLALI description
Feature: - 25 Scale Baselines

Point 209 N 324,415.09 E 3,614,638.75 Sta 250+00.00

Course from 209 to PC RTE1MLALI_3 N 19° 38' 46.60" E Dist 142.48

Curve Data

Curve RTE1MLALI_3
P.I. Station 253+37.78 N 324,733.20 E 3,614,752.32
Delta = 11° 09' 15.84" (LT)
Degree = 2° 51' 53.24"
Tangent = 195.30
Length = 389.36
Radius = 2,000.00
External = 9.51
Long Chord = 388.75
Mid. Ord. = 9.47
P.C. Station 251+42.48 N 324,549.27 E 3,614,686.66
P.T. Station 255+31.84 N 324,926.36 E 3,614,781.16
C.C. N 325,221.70 E 3,612,803.09
Back = N 19° 38' 46.60" E
Ahead = N 8° 29' 30.76" E
Chord Bear = N 14° 04' 08.68" E

Course from PT RTE1MLALI_3 to PC RTE1MLALI_6 N 8° 29' 30.76" E Dist 1,150.03

Curve Data

Curve RTE1MLALI_6
P.I. Station 268+68.66 N 326,248.52 E 3,614,978.57
Delta = 5° 20' 49.52" (LT)
Degree = 1° 25' 56.62"
Tangent = 186.78
Length = 373.30
Radius = 4,000.00
External = 4.36
Long Chord = 373.16
Mid. Ord. = 4.35
P.C. Station 266+81.87 N 326,063.78 E 3,614,950.98
P.T. Station 270+55.17 N 326,435.02 E 3,614,988.81
C.C. N 326,654.46 E 3,610,994.84
Back = N 8° 29' 30.76" E
Ahead = N 3° 08' 41.24" E
Chord Bear = N 5° 49' 06.00" E

Course from PT RTE1MLALI_6 to PC RTE1MLALI_9 N 3° 08' 41.24" E Dist 91.07

Curve Data

Curve RTE1MLALI_9
P.I. Station 278+18.04 N 327,196.74 E 3,615,030.66
Delta = 37° 08' 02.62" (RT)
Degree = 2° 51' 53.24"
Tangent = 671.79
Length = 1,296.22
Radius = 2,000.00
External = 109.81
Long Chord = 1,273.66
Mid. Ord. = 104.10
P.C. Station 271+46.24 N 326,525.95 E 3,614,993.81
P.T. Station 284+42.47 N 327,709.25 E 3,615,464.98
C.C. N 326,416.24 E 3,616,990.80
Back = N 3° 08' 41.24" E
Ahead = N 40° 16' 43.86" E
Chord Bear = N 21° 42' 42.55" E

Course from PT RTE1MLALI_9 to PC RTE1MLALI_12 N 40° 16' 43.86" E Dist 1,468.54

Curve Data

Curve RTE1MLALI_12
P.I. Station 300+84.31 N 328,961.83 E 3,616,526.45
Delta = 3° 58' 13.30" (LT)
Degree = 1° 08' 45.30"
Tangent = 173.31
Length = 346.48
Radius = 5,000.00
External = 3.00
Long Chord = 346.41
Mid. Ord. = 3.00
P.C. Station 299+11.00 N 328,829.61 E 3,616,414.40
P.T. Station 302+57.48 N 329,101.49 E 3,616,629.07
C.C. N 332,062.15 E 3,612,599.87
Back = N 40° 16' 43.86" E
Ahead = N 36° 18' 30.55" E
Chord Bear = N 38° 17' 37.20" E

ROUTE I MAINLINE (continued)

Curve Data

Curve RTE1MLALI_13
P.I. Station 304+30.79 N 329,241.15 E 3,616,731.69
Delta = 3° 58' 13.30" (RT)
Degree = 1° 08' 45.30"
Tangent = 173.31
Length = 346.48
Radius = 5,000.00
External = 3.00
Long Chord = 346.41
Mid. Ord. = 3.00
P.C. Station 302+57.48 N 329,101.49 E 3,616,629.07
P.T. Station 306+03.96 N 329,373.37 E 3,616,843.74
C.C. N 326,140.83 E 3,620,658.28
Back = N 36° 18' 30.55" E
Ahead = N 40° 16' 43.86" E
Chord Bear = N 38° 17' 37.20" E

Course from PT RTE1MLALI_13 to PC RTE1MLALI_16 N 40° 16' 43.86" E Dist 1,084.91

Curve Data

Curve RTE1MLALI_16
P.I. Station 318+62.18 N 330,333.27 E 3,617,657.19
Delta = 3° 58' 13.30" (RT)
Degree = 1° 08' 45.30"
Tangent = 173.31
Length = 346.48
Radius = 5,000.00
External = 3.00
Long Chord = 346.41
Mid. Ord. = 3.00
P.C. Station 316+88.87 N 330,201.05 E 3,617,545.14
P.T. Station 320+35.35 N 330,457.41 E 3,617,778.12
C.C. N 326,968.51 E 3,621,359.68
Back = N 40° 16' 43.86" E
Ahead = N 44° 14' 57.16" E
Chord Bear = N 42° 15' 50.51" E

Curve Data

Curve RTE1MLALI_17
P.I. Station 322+08.66 N 330,581.55 E 3,617,899.05
Delta = 3° 58' 13.30" (LT)
Degree = 1° 08' 45.30"
Tangent = 173.31
Length = 346.48
Radius = 5,000.00
External = 3.00
Long Chord = 346.41
Mid. Ord. = 3.00
P.C. Station 320+35.35 N 330,457.41 E 3,617,778.12
P.T. Station 323+81.83 N 330,713.77 E 3,618,011.10
C.C. N 333,946.31 E 3,614,196.56
Back = N 44° 14' 57.16" E
Ahead = N 40° 16' 43.86" E
Chord Bear = N 42° 15' 50.51" E

Course from PT RTE1MLALI_17 to 232 N 40° 16' 43.86" E Dist 1,194.95

Point 232 N 331,625.41 E 3,618,783.64 Sta 335+76.78

Course from 232 to 233 N 40° 40' 54.94" E Dist 1,176.29

Point 233 N 332,517.44 E 3,619,550.42 Sta 347+53.07

Course from 233 to 234 N 40° 17' 26.99" E Dist 262.06

Point 234 N 332,717.33 E 3,619,719.88 Sta 350+15.13

Course from 234 to 237 N 40° 39' 11.86" E Dist 815.10

Point 237 N 333,335.72 E 3,620,250.91 Sta 358+30.24

Ending chain RTE1MLALI description

QUANTICO GATEWAY DRIVE

<× 1 DESCRIBE CHAIN QUANTICO

Chain QUANTICO contains:
QUANTICO1 CUR QUANTICO_3 QUANTICO5

Beginning chain QUANTICO description
Feature: - 25 Scale Baselines

Point QUANTICO1 N 325,105.38 E 3,614,807.89 Sta 100+00.00

Course from QUANTICO1 to PC QUANTICO_3 S 69° 58' 17.36" W Dist 256.72

Curve Data

Curve QUANTICO_3
P.I. Station 104+42.30 N 324,953.89 E 3,614,392.33
Delta = 62° 38' 18.16" (RT)
Degree = 18° 47' 07.81"
Tangent = 185.58
Length = 333.44
Radius = 305.00
External = 52.02
Long Chord = 317.08
Mid. Ord. = 44.44
P.C. Station 102+56.72 N 325,017.45 E 3,614,566.69
P.T. Station 105+90.16 N 325,079.53 E 3,614,255.75
C.C. N 325,304.01 E 3,614,462.23
Back = S 69° 58' 17.36" W
Ahead = N 47° 23' 24.48" W
Chord Bear = N 78° 42' 33.56" W

Course from PT QUANTICO_3 to QUANTICO5 N 47° 23' 24.48" W Dist 68.53

Point QUANTICO5 N 325,125.92 E 3,614,205.31 Sta 106+58.69

Ending chain QUANTICO description

GRAHAM PARK ROAD (LEFT)

<× 1 DESCRIBE CHAIN GRAHAMPARKLT

Chain GRAHAMPARKLT contains:
GRAHAMPARKLT1 GRAHAMPARKLT2

Beginning chain GRAHAMPARKLT description
Feature: - 25 Scale Baselines

Point GRAHAMPARKLT1 N 327,734.03 E 3,615,485.98 Sta 10+00.00

Course from GRAHAMPARKLT1 to GRAHAMPARKLT2 N 45° 00' 50.47" W Dist 331.54

Point GRAHAMPARKLT2 N 327,968.41 E 3,615,251.49 Sta 13+31.54

Ending chain GRAHAMPARKLT description

GRAHAM PARK ROAD (RIGHT)

<× 1 DESCRIBE CHAIN GRAHAMPARKRT

Chain GRAHAMPARKRT contains:
GRAHAMPARKRT1 GRAHAMPARKRT2

Beginning chain GRAHAMPARKRT description
Feature: - 25 Scale Baselines

Point GRAHAMPARKRT1 N 327,739.08 E 3,615,490.26 Sta 10+00.00

Course from GRAHAMPARKRT1 to GRAHAMPARKRT2 S 60° 11' 41.58" E Dist 890.41

Point GRAHAMPARKRT2 N 327,296.50 E 3,616,262.89 Sta 18+90.41

Ending chain GRAHAMPARKRT description

NTS	PROJECT 0001-212-249	SHEET NO. IG(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Horizontal Construction Alignment Data

RELOC. E.DUKE STREET

<x 1 DESCRIBE CHAIN DUKE

Chain DUKE contains:
DUKE1 CUR DUKE_3 DUKE5

Beginning chain DUKE description
Feature: - 25 Scale Baselines

Point DUKE1 N 328,323.42 E 3,615,985.44 Sta 10+00.00

Course from DUKE1 to PC DUKE_3 N 49° 43' 16.14" W Dist 74.60

Curve Data

Curve DUKE_3
P.I. Station 11+55.88 N 328,424.20 E 3,615,866.52
Delta = 74° 26' 40.52" (RT)
Degree = 53° 32' 50.85"
Tangent = 81.28
Length = 139.03
Radius = 107.00
External = 27.37
Long Chord = 129.45
Mid. Ord. = 21.80
P.C. Station 10+74.60 N 328,371.65 E 3,615,928.53
P.T. Station 12+13.63 N 328,498.03 E 3,615,900.52
C.C. N 328,453.28 E 3,615,997.71
Back = N 49° 43' 16.14" W
Ahead = N 24° 43' 24.37" E
Chord Bear = N 12° 29' 55.88" W

Course from PT DUKE_3 to DUKE5 N 24° 43' 24.37" E Dist 25.00

Point DUKE5 N 328,520.74 E 3,615,910.97 Sta 12+38.63

Ending chain DUKE description

WILLIAMSTOWN DRIVE

<x 1 DESCRIBE CHAIN WILLIAMSTOWN

Chain WILLIAMSTOWN contains:
WILLIAMSTOWN1 WILLIAMSTOWN2

Beginning chain WILLIAMSTOWN description
Feature: - 25 Scale Baselines

Point WILLIAMSTOWN1 N 329,442.34 E 3,616,902.19 Sta 10+00.00

Course from WILLIAMSTOWN1 to WILLIAMSTOWN2 S 49° 25' 47.36" E Dist 360.26

Point WILLIAMSTOWN2 N 329,208.04 E 3,617,175.85 Sta 13+60.26

Ending chain WILLIAMSTOWN description

CANAL ROAD ROAD RT

<x 1 DESCRIBE CHAIN CANALRT

Chain CANALRT contains:
CANALRT1 CANALRT2

Beginning chain CANALRT description
Feature: - 25 Scale Baselines

Point CANALRT1 N 330,627.28 E 3,617,936.08 Sta 10+00.00

Course from CANALRT1 to CANALRT2 S 27° 42' 30.36" E Dist 234.51

Point CANALRT2 N 330,419.66 E 3,618,045.13 Sta 12+34.51

Ending chain CANALRT description

CANAL ROAD ROAD LT

<x 1 DESCRIBE CHAIN CANAL_TEST

Chain CANAL_TEST contains:
288 289

Beginning chain CANAL_TEST description
Feature: - 25 Scale Baselines

Point 288 N 330,838.68 E 3,617,835.87 Sta 200+00.00

Course from 288 to 289 S 27° 42' 30.36" E Dist 230.12

Point 289 N 330,634.95 E 3,617,942.87 Sta 202+30.12

Ending chain CANAL_TEST description

POSSUM POINT ROAD

<x 1 DESCRIBE CHAIN POSSUM

Chain POSSUM contains:
POSSUM1 CUR POSSUM_3 POSSUM5

Beginning chain POSSUM description
Feature: - 25 Scale Baselines

Point POSSUM1 N 330,976.50 E 3,618,233.74 Sta 200+00.00

Course from POSSUM1 to PC POSSUM_3 S 71° 44' 05.62" E Dist 179.97

Curve Data

Curve POSSUM_3
P.I. Station 202+91.38 N 330,885.18 E 3,618,510.43
Delta = 40° 44' 41.16" (LT)
Degree = 19° 05' 54.94"
Tangent = 111.40
Length = 213.34
Radius = 300.00
External = 20.02
Long Chord = 208.87
Mid. Ord. = 18.77
P.C. Station 201+79.97 N 330,920.09 E 3,618,404.64
P.T. Station 203+93.31 N 330,927.77 E 3,618,613.37
C.C. N 331,204.98 E 3,618,498.67
Back = S 71° 44' 05.62" E
Ahead = N 67° 31' 13.22" E
Chord Bear = N 87° 53' 33.80" E

Course from PT POSSUM_3 to POSSUM5 N 67° 31' 13.22" E Dist 139.66

Point POSSUM5 N 330,981.18 E 3,618,742.42 Sta 205+32.97

Ending chain POSSUM description

MAIN STREET RIGHT TURN LANE

<x 1 DESCRIBE CHAIN MAINSTRT

Chain MAINSTRT contains:
MAINSTRT1 CUR MAINSTRT_3 CUR MAINSTRT_4 MAINSTRT6

Beginning chain MAINSTRT description
Feature: - 25 Scale Baselines

Point MAINSTRT1 N 330,915.43 E 3,617,933.40 Sta 10+00.00

Course from MAINSTRT1 to PC MAINSTRT_3 N 63° 42' 20.86" E Dist 5.00

Curve Data

Curve MAINSTRT_3
P.I. Station 11+74.67 N 330,992.81 E 3,618,090.00
Delta = 11° 47' 57.43" (LT)
Degree = 3° 29' 21.80"
Tangent = 169.67
Length = 338.15
Radius = 1,642.00
External = 8.74
Long Chord = 337.55
Mid. Ord. = 8.70
P.C. Station 10+05.00 N 330,917.64 E 3,617,937.88
P.T. Station 13+43.15 N 331,097.49 E 3,618,223.53
C.C. N 332,389.75 E 3,617,210.51
Back = N 63° 42' 20.86" E
Ahead = N 51° 54' 23.43" E
Chord Bear = N 57° 48' 22.15" E

Curve Data

Curve MAINSTRT_4
P.I. Station 14+92.01 N 331,189.33 E 3,618,340.69
Delta = 11° 37' 39.58" (LT)
Degree = 3° 55' 08.40"
Tangent = 148.86
Length = 296.70
Radius = 1,462.00
External = 7.56
Long Chord = 296.19
Mid. Ord. = 7.52
P.C. Station 13+43.15 N 331,097.49 E 3,618,223.53
P.T. Station 16+39.85 N 331,302.89 E 3,618,436.93
C.C. N 332,248.09 E 3,617,321.56
Back = N 51° 54' 23.43" E
Ahead = N 40° 16' 43.86" E
Chord Bear = N 46° 05' 33.64" E

Course from PT MAINSTRT_4 to MAINSTRT6 N 40° 16' 43.86" E Dist 45.88

Point MAINSTRT6 N 331,337.89 E 3,618,466.59 Sta 16+85.72

Ending chain MAINSTRT description

CANAL ROAD RD.SERVICE ROAD

<x 1 DESCRIBE CHAIN CANALRTSVC

Chain CANALRTSVC contains:
CANALRTSVC1 CUR CANALRTSVC_3 CUR CANALRTSVC_6 CUR CANALRTSVC_9 CANALRTSVC11

Beginning chain CANALRTSVC description
Feature: - 25 Scale Baselines

Point CANALRTSVC1 N 330,502.02 E 3,618,001.87 Sta 20+00.00

Course from CANALRTSVC1 to PC CANALRTSVC_3 N 62° 13' 34.10" E Dist 51.14

Curve Data

Curve CANALRTSVC_3
P.I. Station 21+96.97 N 330,593.80 E 3,618,176.15
Delta = 50° 31' 45.39" (RT)
Degree = 18° 32' 32.36"
Tangent = 145.83
Length = 272.51
Radius = 309.00
External = 32.68
Long Chord = 263.76
Mid. Ord. = 29.56
P.C. Station 20+51.14 N 330,525.85 E 3,618,047.12
P.T. Station 23+23.65 N 330,537.39 E 3,618,310.63
C.C. N 330,252.45 E 3,618,191.11
Back = N 62° 13' 34.10" E
Ahead = S 67° 14' 40.50" E
Chord Bear = N 87° 29' 26.80" E

Course from PT CANALRTSVC_3 to PC CANALRTSVC_6 S 67° 14' 40.50" E Dist 86.69

Curve Data

Curve CANALRTSVC_6
P.I. Station 24+19.44 N 330,500.34 E 3,618,398.97
Delta = 5° 12' 42.26" (LT)
Degree = 28° 38' 52.40"
Tangent = 9.10
Length = 18.19
Radius = 200.00
External = 0.21
Long Chord = 18.19
Mid. Ord. = 0.21
P.C. Station 24+10.34 N 330,503.86 E 3,618,390.57
P.T. Station 24+28.53 N 330,497.60 E 3,618,407.65
C.C. N 330,688.30 E 3,618,467.93
Back = S 67° 14' 40.50" E
Ahead = S 72° 27' 22.76" E
Chord Bear = S 69° 51' 01.63" E

Course from PT CANALRTSVC_6 to PC CANALRTSVC_9 S 72° 27' 22.76" E Dist 36.05

Curve Data

Curve CANALRTSVC_9
P.I. Station 24+78.20 N 330,482.63 E 3,618,455.01
Delta = 7° 47' 31.09" (RT)
Degree = 28° 38' 52.40"
Tangent = 13.62
Length = 27.20
Radius = 200.00
External = 0.46
Long Chord = 27.18
Mid. Ord. = 0.46
P.C. Station 24+64.58 N 330,486.73 E 3,618,442.02
P.T. Station 24+91.78 N 330,476.80 E 3,618,467.32
C.C. N 330,296.03 E 3,618,381.73
Back = S 72° 27' 22.76" E
Ahead = S 64° 39' 51.68" E
Chord Bear = S 68° 33' 37.22" E

Course from PT CANALRTSVC_9 to CANALRTSVC11 S 64° 39' 51.68" E Dist 22.73

Point CANALRTSVC11 N 330,467.07 E 3,618,487.87 Sta 25+14.51

Ending chain CANALRTSVC description

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IG(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

NTS	PROJECT 0001-212-249	SHEET NO. IG(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Horizontal Construction Alignment Data

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IG(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

RELOC.OLD STAGE COACH ROAD

<* 1 DESCRIBE CHAIN RELOCSTAGE

Chain RELOCSTAGE contains:
RELOCSTAGE1 CUR RELOCSTAGE_3 RELOCSTAGE5

Beginning chain RELOCSTAGE description
Feature:- 25 Scale Baselines

Point RELOCSTAGE1 N 331,841.64 E 3,618,969.51 Sta 10+00.00

Course from RELOCSTAGE1 to PC RELOCSTAGE_3 S 45° 15' 10.77" E Dist 145.82

Curve Data

Curve RELOCSTAGE_3
P.I. Station 12+92.87 N 331,635.46 E 3,619,177.51
Delta = 76° 57' 25.71" (LT)
Degree = 30° 58' 14.49"
Tangent = 147.04
Length = 248.48
Radius = 185.00
External = 51.32
Long Chord = 230.22
Mid. Ord. = 40.17
P.C. Station 11+45.82 N 331,738.98 E 3,619,073.07
P.T. Station 13+94.31 N 331,713.84 E 3,619,301.92
C.C. N 331,870.37 E 3,619,203.31
Back = S 45° 15' 10.77" E
Ahead = N 57° 47' 23.51" E
Chord Bear = S 83° 43' 53.63" E

Course from PT RELOCSTAGE_3 to RELOCSTAGE5 N 57° 47' 23.51" E Dist 40.07

Point RELOCSTAGE5 N 331,735.20 E 3,619,335.82 Sta 14+34.37

Ending chain RELOCSTAGE description

BRADYS HILL ROAD

<* 1 DESCRIBE CHAIN BRADYS

Chain BRADYS contains:
BRADYS1 CUR BRADYS_3 BRADYS5

Beginning chain BRADYS description
Feature:- 25 Scale Baselines

Point BRADYS1 N 324,662.97 E 3,614,723.46 Sta 10+00.00

Course from BRADYS1 to PC BRADYS_3 S 73° 46' 46.36" E Dist 118.15

Curve Data

Curve BRADYS_3
P.I. Station 12+78.69 N 324,585.12 E 3,614,991.05
Delta = 22° 41' 40.20" (RT)
Degree = 7° 09' 43.10"
Tangent = 160.54
Length = 316.87
Radius = 800.00
External = 15.95
Long Chord = 314.81
Mid. Ord. = 15.64
P.C. Station 11+18.15 N 324,629.96 E 3,614,836.90
P.T. Station 14+35.02 N 324,484.27 E 3,615,115.97
C.C. N 323,861.81 E 3,614,613.43
Back = S 73° 46' 46.36" E
Ahead = S 51° 05' 06.16" E
Chord Bear = S 62° 25' 56.26" E

Course from PT BRADYS_3 to BRADYS5 S 51° 05' 06.16" E Dist 75.64

Point BRADYS5 N 324,436.76 E 3,615,174.82 Sta 15+10.66

Ending chain BRADYS description

RELOC.MAIN ST. NORTH

<* 1 DESCRIBE CHAIN MAINST1

Chain MAINST1 contains:
CUR MAINST11 D813 D814 D815

Beginning chain MAINST1 description

Curve Data

Curve MAINST11
P.I. Station 100+94.22 N 330,996.95 E 3,618,157.08
Delta = 26° 07' 48.75" (LT)
Degree = 14° 06' 44.14"
Tangent = 94.22
Length = 185.16
Radius = 406.00
External = 10.79
Long Chord = 183.56
Mid. Ord. = 10.51
P.C. Station 100+00.00 N 330,997.22 E 3,618,251.30
P.T. Station 101+85.16 N 330,955.21 E 3,618,072.61
C.C. N 330,591.22 E 3,618,252.46
Back = S 89° 50' 09.61" W
Ahead = S 63° 42' 20.86" W
Chord Bear = S 76° 46' 15.23" W

Course from PT MAINST11 to D813 S 63° 42' 20.86" W Dist 247.83

Point D813 N 330,845.43 E 3,617,850.42 Sta 104+32.99

Course from D813 to D814 S 65° 06' 51.74" W Dist 81.36

Point D814 N 330,811.19 E 3,617,776.61 Sta 105+14.35

Course from D814 to D815 S 63° 42' 20.86" W Dist 135.65

Point D815 N 330,751.10 E 3,617,655.00 Sta 106+50.00

Ending chain MAINST1 description

MAIN ST.CUL-DE-SAC

<* 1 DESCRIBE CHAIN MAINCUL-DE-SAC

Chain MAINCUL-DE-SAC contains:
111 112 113

Beginning chain MAINCUL-DE-SAC description
Feature:- 25 Scale Baselines

Point 111 N 325,409.89 E 3,614,558.65 Sta 174+62.88

Course from 111 to 112 S 19° 26' 17.59" E Dist 193.06

Point 112 N 325,227.83 E 3,614,622.90 Sta 176+55.95

Course from 112 to 113 S 78° 09' 08.93" E Dist 96.96

Point 113 N 325,207.92 E 3,614,717.80 Sta 177+52.91

Ending chain MAINCUL-DE-SAC description

MAIN ST.CUL-DE-SAC EOP

<* 1 DESCRIBE CHAIN MAINCULEOP

Chain MAINCULEOP contains:
D816 CUR MAINCULEOP1 CUR MAINCULEOP2 CUR MAINCULEOP3

Beginning chain MAINCULEOP description

Point D816 N 325,295.35 E 3,614,574.51 Sta 10+00.00

Course from D816 to PC MAINCULEOP1 S 19° 20' 43.04" E Dist 96.15

Curve Data

Curve MAINCULEOP1
P.I. Station 11+89.36 N 325,116.84 E 3,614,637.69
Delta = 123° 34' 53.74" (LT)
Degree = 114° 35' 29.61"
Tangent = 93.21
Length = 107.85
Radius = 50.00
External = 55.78
Long Chord = 88.12
Mid. Ord. = 26.37
P.C. Station 10+96.15 N 325,204.63 E 3,614,606.36
P.T. Station 12+03.99 N 325,191.50 E 3,614,693.50
C.C. N 325,221.44 E 3,614,653.45
Back = S 19° 38' 31.48" E
Ahead = N 36° 46' 34.78" E
Chord Bear = S 81° 25' 58.35" E

Curve Data

Curve MAINCULEOP2
P.I. Station 12+97.21 N 325,266.16 E 3,614,749.30
Delta = 123° 34' 53.74" (LT)
Degree = 114° 35' 29.61"
Tangent = 93.21
Length = 107.85
Radius = 50.00
External = 55.78
Long Chord = 88.12
Mid. Ord. = 26.37
P.C. Station 12+03.99 N 325,191.50 E 3,614,693.50
P.T. Station 13+11.84 N 325,271.36 E 3,614,656.24
C.C. N 325,221.44 E 3,614,653.45
Back = N 36° 46' 34.78" E
Ahead = N 86° 48' 18.97" W
Chord Bear = N 25° 00' 52.09" W

Curve Data

Curve MAINCULEOP3
P.I. Station 13+47.81 N 325,273.36 E 3,614,620.32
Delta = 67° 20' 39.51" (RT)
Degree = 106° 06' 11.86"
Tangent = 35.98
Length = 63.47
Radius = 54.00
External = 10.89
Long Chord = 59.88
Mid. Ord. = 9.06
P.C. Station 13+11.84 N 325,271.36 E 3,614,656.24
P.T. Station 13+75.31 N 325,307.28 E 3,614,608.33
C.C. N 325,325.27 E 3,614,659.25
Back = N 86° 48' 18.97" W
Ahead = N 19° 27' 39.46" W
Chord Bear = N 53° 07' 59.21" W

Ending chain MAINCULEOP description

NTS	PROJECT 0001-212-249	SHEET NO. IG(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Horizontal Construction Alignment Data

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

TRIPOLI BOULEVARD

<* 1 DESCRIBE CHAIN TRIPOLI1

Chain TRIPOLI1 contains:
D806 D807

Beginning chain TRIPOLI1 description

Point D806 N 331,841.92 E 3,618,969.75 Sta 99+87.48

Course from D806 to D807 N 45° 47' 21.10" W Dist 278.23

Point D807 N 332,035.93 E 3,618,770.32 Sta 102+65.71

Ending chain TRIPOLI1 description

ORIGINAL STAGE COACH ROAD

<* 1 DESCRIBE CHAIN STAGEENTR1

Chain STAGEENTR1 contains:
STAGEENTR11 CUR STAGEENTR1_3 STAGEENTR15

Beginning chain STAGEENTR1 description
Feature: - 25 Scale Baselines

Point STAGEENTR11 N 331,705.76 E 3,619,118.89 Sta 100+00.00

Course from STAGEENTR11 to PC STAGEENTR1_3 S 28° 30' 21.36" W Dist 22.22

Curve Data

Curve STAGEENTR1_3
P.I. Station 100+64.38 N 331,649.18 E 3,619,088.16
Delta = 45° 43' 13.97" (RT)
Degree = 57° 17' 44.81"
Tangent = 42.16
Length = 79.80
Radius = 100.00
External = 8.52
Long Chord = 77.70
Mid. Ord. = 7.85
P.C. Station 100+22.22 N 331,686.23 E 3,619,108.28
P.T. Station 101+02.02 N 331,637.72 E 3,619,047.59
C.C. N 331,733.96 E 3,619,020.41
Back = S 28° 30' 21.36" W
Ahead = S 74° 13' 35.34" W
Chord Bear = S 51° 21' 58.35" W

Course from PT STAGEENTR1_3 to STAGEENTR15 S 74° 13' 35.34" W Dist 189.84

Point STAGEENTR15 N 331,586.12 E 3,618,864.90 Sta 102+91.86

Ending chain STAGEENTR1 description

TOWNSQUARE COURT

<* 2 DESCRIBE CHAIN TOWNSQUARE

Chain TOWNSQUARE contains:
TOWNSQUARE1 CUR TOWNSQUARE_3 TOWNSQUARE5

Beginning chain TOWNSQUARE description
Feature: - 25 Scale Baselines

Point TOWNSQUARE1 N 326,557.95 E 3,614,995.82 Sta 9+52.57

Course from TOWNSQUARE1 to PC TOWNSQUARE_3 S 79° 35' 02.29" E Dist 259.39

Curve Data

Curve TOWNSQUARE_3
P.I. Station 12+79.33 N 326,498.87 E 3,615,317.19
Delta = 22° 24' 46.97" (LT)
Degree = 16° 51' 06.12"
Tangent = 67.36
Length = 133.00
Radius = 340.00
External = 6.61
Long Chord = 132.16
Mid. Ord. = 6.48
P.C. Station 12+11.97 N 326,511.05 E 3,615,250.94
P.T. Station 13+44.97 N 326,512.87 E 3,615,383.09
C.C. N 326,845.45 E 3,615,312.41
Back = S 79° 35' 02.29" E
Ahead = N 78° 00' 10.74" E
Chord Bear = N 89° 12' 34.23" E

Course from PT TOWNSQUARE_3 to TOWNSQUARE5 N 78° 00' 10.74" E Dist 147.06

Point TOWNSQUARE5 N 326,543.44 E 3,615,526.93 Sta 14+92.03

Ending chain TOWNSQUARE description

NTS	PROJECT 0001-212-249	SHEET NO. IG(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Entrance Alignment Construction Data

Entrance @ Sta.256+06.41 Fraley Blvd.

<x 1 DESCRIBE CHAIN 256+06RT

Chain 256+06RT contains:
114 115

Beginning chain 256+06RT description
Feature: - 25 Scale Baselines

Point 114	N	325,000.11 E	3,614,792.17	Sta	10+00.00
Course from 114 to 115 S 81° 30' 29.24" E Dist 100.00					
Point 115	N	324,985.34 E	3,614,891.07	Sta	11+00.00

Ending chain 256+06RT description

Entrance @ Sta.257+37.12 Fraley Blvd.

<x 2 DESCRIBE CHAIN 257+37RT

Chain 257+37RT contains:
116 117

Beginning chain 257+37RT description
Feature: - 25 Scale Baselines

Point 116	N	325,129.39 E	3,614,811.47	Sta	10+00.00
Course from 116 to 117 S 81° 30' 29.24" E Dist 100.00					
Point 117	N	325,114.62 E	3,614,910.38	Sta	11+00.00

Ending chain 257+37RT description

Entrance @ Sta.258+69.12 Fraley Blvd.

<x 3 DESCRIBE CHAIN 258+69RT

Chain 258+69RT contains:
118 119

Beginning chain 258+69RT description
Feature: - 25 Scale Baselines

Point 118	N	325,259.94 E	3,614,830.97	Sta	10+00.00
Course from 118 to 119 S 81° 30' 29.24" E Dist 100.00					
Point 119	N	325,245.17 E	3,614,929.87	Sta	11+00.00

Ending chain 258+69RT description

Entrance @ Sta.259+69.11 Fraley Blvd.

<x 4 DESCRIBE CHAIN 259+69RT

Chain 259+69RT contains:
120 121

Beginning chain 259+69RT description
Feature: - 25 Scale Baselines

Point 120	N	325,358.84 E	3,614,845.73	Sta	10+00.00
Course from 120 to 121 S 81° 30' 29.24" E Dist 100.00					
Point 121	N	325,344.07 E	3,614,944.63	Sta	11+00.00

Ending chain 259+69RT description

Entrance @ Sta.261+53.23 Fraley Blvd.

<x 5 DESCRIBE CHAIN 261+43RT

Chain 261+43RT contains:
122 123

Beginning chain 261+43RT description
Feature: - 25 Scale Baselines

Point 122	N	325,540.94 E	3,614,872.92	Sta	10+00.00
Course from 122 to 123 S 81° 30' 29.24" E Dist 120.00					
Point 123	N	325,523.22 E	3,614,991.60	Sta	11+20.00

Ending chain 261+43RT description

Entrance @ Sta.262+17.61 Fraley Blvd.

<x 6 DESCRIBE CHAIN 262+17LT

Chain 262+17LT contains:
124 125

Beginning chain 262+17LT description
Feature: - 25 Scale Baselines

Point 124	N	325,604.61 E	3,614,882.43	Sta	10+00.00
Course from 124 to 125 N 81° 30' 29.24" W Dist 110.00					
Point 125	N	325,620.85 E	3,614,773.63	Sta	11+10.00

Ending chain 262+17LT description

Entrance @ Sta.264+69.59 Fraley Blvd.

<x 7 DESCRIBE CHAIN 264+70RT

Chain 264+70RT contains:
126 127

Beginning chain 264+70RT description
Feature: - 25 Scale Baselines

Point 126	N	325,853.82 E	3,614,919.64	Sta	10+00.00
Course from 126 to 127 S 81° 30' 29.24" E Dist 80.00					
Point 127	N	325,842.01 E	3,614,998.76	Sta	10+80.00

Ending chain 264+70RT description

Entrance @ Sta.267+17.35 Fraley Blvd.

<x 8 DESCRIBE CHAIN 267+17RT

Chain 267+17RT contains:
128 129

Beginning chain 267+17RT description
Feature: - 25 Scale Baselines

Point 128	N	326,098.89 E	3,614,956.07	Sta	10+00.00
Course from 128 to 129 S 81° 48' 05.13" E Dist 120.00					
Point 129	N	326,081.78 E	3,615,074.84	Sta	11+20.00

Ending chain 267+17RT description

Entrance @ Sta.271+89.00 Fraley Blvd.

<x 9 DESCRIBE CHAIN 271+89LT

Chain 271+89LT contains:
130 131 132

Beginning chain 271+89LT description
Feature: - 25 Scale Baselines

Point 130	N	326,568.63 E	3,614,996.61	Sta	10+00.00
Course from 130 to 131 N 85° 58' 25.85" W Dist 93.23					
Point 131	N	326,575.17 E	3,614,903.61	Sta	10+93.23
Course from 131 to 132 N 79° 27' 50.28" W Dist 156.77					
Point 132	N	326,603.84 E	3,614,749.48	Sta	12+50.00

Ending chain 271+89LT description

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(5)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NTS	PROJECT 0001-212-249	SHEET NO. IG(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.,(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(6)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Entrance Alignment Construction Data

Mall Entrance #1 (Sheet 6) @ Sta.274+15.00 Fraley Blvd.

<x 1 DESCRIBE CHAIN 274+15LT

Chain 274+15LT contains:
133 134

Beginning chain 274+15LT description
Feature: - 25 Scale Baselines

Point 133 N 326,792.51 E 3,615,026.51 Sta 10+00.00

Course from 133 to 134 N 86° 05' 53.48" W Dist 400.00

Point 134 N 326,819.73 E 3,614,627.44 Sta 14+00.00

Ending chain 274+15LT description

Mall Entrance #2 (Sheet 6B) @ Sta.12+16.60 of Mall Entr #1

<x 2 DESCRIBE CHAIN MALLRT

Chain MALLRT contains:
MALLRT1 MALLRT2

Beginning chain MALLRT description
Feature: - 25 Scale Baselines

Point MALLRT1 N 326,807.25 E 3,614,810.41 Sta 20+00.00

Course from MALLRT1 to MALLRT2 N 10° 48' 48.67" E Dist 300.00

Point MALLRT2 N 327,101.93 E 3,614,866.70 Sta 23+00.00

Ending chain MALLRT description

Mall Entrance #3 (Sheet 6B) @ Sta.12+80.41 of Mall Entr #1

<x 3 DESCRIBE CHAIN MALLPARK2

Chain MALLPARK2 contains:
MALLPARK21 MALLPARK22

Beginning chain MALLPARK2 description
Feature: - 25 Scale Baselines

Point MALLPARK21 N 326,811.59 E 3,614,746.75 Sta 40+00.00

Course from MALLPARK21 to MALLPARK22 N 17° 37' 50.73" E Dist 125.00

Point MALLPARK22 N 326,930.72 E 3,614,784.61 Sta 41+25.00

Ending chain MALLPARK2 description

Mall Entrance #4 (Sheet 6B) @ Sta.21+34.00 of Mall Entr #2

<x 4 DESCRIBE CHAIN MALLPARK1

Chain MALLPARK1 contains:
MALLPARK11 MALLPARK12

Beginning chain MALLPARK1 description
Feature: - 25 Scale Baselines

Point MALLPARK11 N 327,007.29 E 3,614,848.62 Sta 50+00.00

Course from MALLPARK11 to MALLPARK12 S 70° 02' 48.85" E Dist 70.00

Point MALLPARK12 N 326,983.40 E 3,614,914.42 Sta 50+70.00

Ending chain MALLPARK1 description

Mall Entrance #5 (Sheet 6B) @ Sta.22+03.65 of Mall Entr #2

<x 5 DESCRIBE CHAIN MALL2

Chain MALL2 contains:
MALL21 MALL22

Beginning chain MALL2 description
Feature: - 25 Scale Baselines

Point MALL21 N 326,938.87 E 3,614,835.55 Sta 30+00.00

Course from MALL21 to MALL22 N 80° 06' 56.60" W Dist 60.00

Point MALL22 N 326,949.17 E 3,614,776.44 Sta 30+60.00

Ending chain MALL2 description

NTS	PROJECT 0001-212-249	SHEET NO. IG(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.,(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Entrance Alignment Construction Data

Entrance @ Sta.286+14.02 Fraley Blvd.

<x 1 DESCRIBE CHAIN 286+14LT

Chain 286+14LT contains:
139 140

Beginning chain 286+14LT description
Feature: - 25 Scale Baselines

Point 139 N 327,840.13 E 3,615,575.89 Sta 10+00.00
Course from 139 to 140 N 49° 43' 16.14" W Dist 100.00
Point 140 N 327,904.78 E 3,615,499.60 Sta 11+00.00

Ending chain 286+14LT description

Entrance @ Sta.286+81.78 Fraley Blvd.

<x 2 DESCRIBE CHAIN 286+82LT

Chain 286+82LT contains:
137 138

Beginning chain 286+82LT description
Feature: - 25 Scale Baselines

Point 137 N 327,891.82 E 3,615,619.70 Sta 10+00.00
Course from 137 to 138 N 49° 43' 16.14" W Dist 120.00
Point 138 N 327,969.41 E 3,615,528.15 Sta 11+20.00

Ending chain 286+82LT description

Entrance @ Sta.288+96.70 Fraley Blvd.

<x 3 DESCRIBE CHAIN 288+97RT

Chain 288+97RT contains:
141 142

Beginning chain 288+97RT description
Feature: - 25 Scale Baselines

Point 141 N 328,055.79 E 3,615,758.65 Sta 10+00.00
Course from 141 to 142 S 49° 43' 16.14" E Dist 100.00
Point 142 N 327,991.14 E 3,615,834.94 Sta 11+00.00

Ending chain 288+97RT description

Entrance @ Sta.289+78.30 Fraley Blvd.

<x 4 DESCRIBE CHAIN 289+78LT

Chain 289+78LT contains:
143 144

Beginning chain 289+78LT description
Feature: - 25 Scale Baselines

Point 143 N 328,118.04 E 3,615,811.40 Sta 10+00.00
Course from 143 to 144 N 76° 30' 03.94" W Dist 125.00
Point 144 N 328,147.22 E 3,615,689.86 Sta 11+25.00

Ending chain 289+78LT description

Entrance @ Sta.293+98.86 Fraley Blvd.

<x 5 DESCRIBE CHAIN 294+00RT

Chain 294+00RT contains:
147 148

Beginning chain 294+00RT description
Feature: - 25 Scale Baselines

Point 147 N 328,438.89 E 3,616,083.30 Sta 10+00.00
Course from 147 to 148 S 49° 43' 16.14" E Dist 125.00
Point 148 N 328,358.08 E 3,616,178.66 Sta 11+25.00

Ending chain 294+00RT description

Entrance @ Sta.294+30.42 Fraley Blvd.

<x 6 DESCRIBE CHAIN 294+30LT

Chain 294+30LT contains:
145 146

Beginning chain 294+30LT description
Feature: - 25 Scale Baselines

Point 145 N 328,462.97 E 3,616,103.70 Sta 10+00.00
Course from 145 to 146 N 49° 43' 16.14" W Dist 100.00
Point 146 N 328,527.62 E 3,616,027.41 Sta 11+00.00

Ending chain 294+30LT description

Entrance @ Sta.296+75.85 Fraley Blvd.

<x 7 DESCRIBE CHAIN 296+75RT

Chain 296+75RT contains:
151 152

Beginning chain 296+75RT description
Feature: - 25 Scale Baselines

Point 151 N 328,650.21 E 3,616,262.38 Sta 10+00.00
Course from 151 to 152 S 49° 43' 16.14" E Dist 100.00
Point 152 N 328,585.56 E 3,616,338.67 Sta 11+00.00

Ending chain 296+75RT description

Entrance @ Sta.297+02.60 Fraley Blvd.

<x 8 DESCRIBE CHAIN 297+03LT

Chain 297+03LT contains:
149 150

Beginning chain 297+03LT description
Feature: - 25 Scale Baselines

Point 149 N 328,670.62 E 3,616,279.67 Sta 10+00.00
Course from 149 to 150 N 49° 43' 16.14" W Dist 110.00
Point 150 N 328,741.73 E 3,616,195.75 Sta 11+10.00

Ending chain 297+03LT description

Entrance @ Sta.298+34.52 Fraley Blvd.

<x 9 DESCRIBE CHAIN 298+35LT

Chain 298+35LT contains:
153 154

Beginning chain 298+35LT description
Feature: - 25 Scale Baselines

Point 153 N 328,771.26 E 3,616,364.96 Sta 10+00.00
Course from 153 to 154 N 49° 43' 16.14" W Dist 150.00
Point 154 N 328,868.24 E 3,616,250.52 Sta 11+50.00

Ending chain 298+35LT description

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(7)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NTS	PROJECT 0001-212-249	SHEET NO. IG(7)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(8)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

Entrance Alignment Construction Data

Entrance @ Sta. 300+69.38 Fraley Blvd.

<x 1 DESCRIBE CHAIN 300+69LT

Chain 300+69LT contains:
155 156

Beginning chain 300+69LT description
Feature: - 25 Scale Baselines

Point 155 N 328,952.03 E 3,616,514.86 Sta 10+00.00

Course from 155 to 156 N 51° 45' 54.51" W Dist 120.00

Point 156 N 329,026.30 E 3,616,420.61 Sta 11+20.00

Ending chain 300+69LT description

Entrance @ Sta. 303+54.14 Fraley Blvd.

<x 2 DESCRIBE CHAIN 303+54RT

Chain 303+54RT contains:
157 158

Beginning chain 303+54RT description
Feature: - 25 Scale Baselines

Point 157 N 329,178.82 E 3,616,687.05 Sta 10+00.00

Course from 157 to 158 S 49° 28' 28.49" E Dist 120.00

Point 158 N 329,100.84 E 3,616,778.27 Sta 11+20.00

Ending chain 303+54RT description

Entrance @ Sta. 317+22.00 Fraley Blvd.

<x 3 DESCRIBE CHAIN 317+22RT

Chain 317+22RT contains:
159 160

Beginning chain 317+22RT description
Feature: - 25 Scale Baselines

Point 159 N 330,226.25 E 3,617,566.64 Sta 10+00.00

Course from 159 to 160 S 49° 10' 10.77" E Dist 100.00

Point 160 N 330,160.87 E 3,617,642.31 Sta 11+00.00

Ending chain 317+22RT description

Entrance @ Sta. 320+33.00 Fraley Blvd.

<x 4 DESCRIBE CHAIN 320+33RT

Chain 320+33RT contains:
D810 D811

Beginning chain 320+33RT description

Point D810 N 330,455.73 E 3,617,776.48 Sta 10+00.00

Course from D810 to D811 S 45° 52' 09.75" E Dist 140.76

Point D811 N 330,357.72 E 3,617,877.51 Sta 11+40.76

Ending chain 320+33RT description

Entrance @ Sta. 334+23.00 Fraley Blvd.

<x 5 DESCRIBE CHAIN 334+23LT

Chain 334+23LT contains:
195 CUR 334+23LT_3 196

Beginning chain 334+23LT description
Feature: - 25 Scale Baselines

Point 195 N 331,508.09 E 3,618,684.22 Sta 10+00.00

Course from 195 to PC 334+23LT_3 N 49° 43' 16.14" W Dist 194.41

Curve Data

Curve 334+23LT_3
P.I. Station = 12+11.66 N 331,644.93 E 3,618,522.75
Delta = 38° 04' 06.50" (RT)
Degree = 114° 35' 29.61"
Tangent = 17.25
Length = 33.22
Radius = 50.00
External = 2.89
Long Chord = 32.61
Mid. Ord. = 2.73
P.C. Station = 11+94.41 N 331,633.78 E 3,618,535.91
P.T. Station = 12+27.63 N 331,661.82 E 3,618,519.26
C.C. N 331,671.92 E 3,618,568.23
Back = N 49° 43' 16.14" W
Ahead = N 11° 39' 09.64" W
Chord Bear = N 30° 41' 12.89" W

Course from PT 334+23LT_3 to 196 N 11° 39' 09.64" W Dist 12.37

Point 196 N 331,673.94 E 3,618,516.76 Sta 12+40.00

Ending chain 334+23LT description

Entrance @ Sta. 335+83.43 Fraley Blvd.

<x 6 DESCRIBE CHAIN 335+83LT

Chain 335+83LT contains:
238 239

Beginning chain 335+83LT description
Feature: - 25 Scale Baselines

Point 238 N 331,630.45 E 3,618,787.97 Sta 9+99.98

Course from 238 to 239 N 45° 53' 03.99" W Dist 175.02

Point 239 N 331,752.28 E 3,618,662.32 Sta 11+75.00

Ending chain 335+83LT description

Entrance @ Sta. 336+62.06 Fraley Blvd.

<x 7 DESCRIBE CHAIN 336+62LT

Chain 336+62LT contains:
242 243

Beginning chain 336+62LT description
Feature: - 25 Scale Baselines

Point 242 N 331,690.08 E 3,618,839.23 Sta 9+99.74

Course from 242 to 243 N 46° 03' 30.49" W Dist 160.26

Point 243 N 331,801.29 E 3,618,723.84 Sta 11+60.00

Ending chain 336+62LT description

NTS	PROJECT 0001-212-249	SHEET NO. IG(8)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IG(9)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

Entrance Alignment Construction Data

Entrance @ Sta. 337+36.08 Fraley Blvd.

<x 8 DESCRIBE CHAIN 337+36LT

Chain 337+36LT contains:
244 245

Beginning chain 337+36LT description
Feature: - 25 Scale Baselines

Point 244	N	331,746.21 E	3,618,887.48 Sta	9+99.52
Course from 244 to 245 N 47° 49' 23.92" W Dist 150.48				
Point 245	N	331,847.25 E	3,618,775.96 Sta	11+50.00

Ending chain 337+36LT description

Entrance @ Sta. 341+35.82 Fraley Blvd.

<x 9 DESCRIBE CHAIN 341+36LT

Chain 341+36LT contains:
254 255

Beginning chain 341+36LT description
Feature: - 25 Scale Baselines

Point 254	N	332,049.36 E	3,619,148.06 Sta	9+98.30
Course from 254 to 255 N 49° 29' 31.56" W Dist 121.70				
Point 255	N	332,128.41 E	3,619,055.53 Sta	11+20.00

Ending chain 341+36LT description

Entrance @ Sta. 344+48.85 Fraley Blvd.

<x 10 DESCRIBE CHAIN 344+49RT

Chain 344+49RT contains:
256 257

Beginning chain 344+49RT description
Feature: - 25 Scale Baselines

Point 256	N	332,286.73 E	3,619,352.11 Sta	10+00.00
Course from 256 to 257 S 49° 29' 31.56" E Dist 97.35				
Point 257	N	332,223.50 E	3,619,426.12 Sta	10+97.35

Ending chain 344+49RT description

Entrance @ Sta. 345+20.23 Fraley Blvd.

<x 11 DESCRIBE CHAIN 345+20LT

Chain 345+20LT contains:
258 259

Beginning chain 345+20LT description
Feature: - 25 Scale Baselines

Point 258	N	332,340.87 E	3,619,398.64 Sta	9+97.13
Course from 258 to 259 N 49° 29' 31.56" W Dist 92.87				
Point 259	N	332,401.19 E	3,619,328.03 Sta	10+90.00

Ending chain 345+20LT description

Entrance @ Sta. 346+22.88 Fraley Blvd.

<x 12 DESCRIBE CHAIN 346+23LT

Chain 346+23LT contains:
262 263

Beginning chain 346+23LT description
Feature: - 25 Scale Baselines

Point 262	N	332,418.71 E	3,619,465.55 Sta	9+96.82
Course from 262 to 263 N 49° 29' 31.56" W Dist 83.18				
Point 263	N	332,472.74 E	3,619,402.31 Sta	10+80.00

Ending chain 346+23LT description

Entrance @ Sta. 347+02.16 Fraley Blvd.

<x 13 DESCRIBE CHAIN 347+02RT

Chain 347+02RT contains:
264 267

Beginning chain 347+02RT description
Feature: - 25 Scale Baselines

Point 264	N	332,478.84 E	3,619,517.23 Sta	10+00.00
Course from 264 to 267 S 49° 29' 31.56" E Dist 124.54				
Point 267	N	332,397.94 E	3,619,611.92 Sta	11+24.54

Ending chain 347+02RT description

Entrance @ Sta. 348+86.80 Fraley Blvd.

<x 14 DESCRIBE CHAIN 348+87LT

Chain 348+87LT contains:
270 271

Beginning chain 348+87LT description
Feature: - 25 Scale Baselines

Point 270	N	332,619.45 E	3,619,636.90 Sta	9+96.93
Course from 270 to 271 N 49° 29' 31.56" W Dist 93.07				
Point 271	N	332,679.90 E	3,619,566.14 Sta	10+90.00

Ending chain 348+87LT description

Entrance @ Sta. 349+82.48 Fraley Blvd.

<x 15 DESCRIBE CHAIN 349+83RT

Chain 349+83RT contains:
272 273

Beginning chain 349+83RT description
Feature: - 25 Scale Baselines

Point 272	N	332,692.42 E	3,619,698.77 Sta	10+00.00
Course from 272 to 273 S 49° 29' 31.56" E Dist 77.30				
Point 273	N	332,642.21 E	3,619,757.54 Sta	10+77.30

Ending chain 349+83RT description

Entrance @ Sta. 351+64.88 Fraley Blvd.

<x 16 DESCRIBE CHAIN 351+65LT

Chain 351+65LT contains:
274 277

Beginning chain 351+65LT description
Feature: - 25 Scale Baselines

Point 274	N	332,830.94 E	3,619,817.45 Sta	9+97.04
Course from 274 to 277 N 49° 29' 31.56" W Dist 92.96				
Point 277	N	332,891.33 E	3,619,746.77 Sta	10+90.00

Ending chain 351+65LT description

NTS	PROJECT 0001-212-249	SHEET NO. IG(9)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam_Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT_Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201,C-501	IG(10)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

Side Road Entrance Alignment Construction Data

Entrance @ Sta.11+29.80 Graham Park Rd.Rt (Sheet 7)

<x 1 DESCRIBE CHAIN ENTR11+29

Chain ENTR11+29 contains:
189 190

Beginning chain ENTR11+29 description
Feature: - 25 Scale Baselines

Point 189 N 327,674.56 E 3,615,602.88 Sta 20+00.00

Course from 189 to 190 S 43° 05' 59.69" W Dist 120.00

Point 190 N 327,586.94 E 3,615,520.89 Sta 21+20.00

Ending chain ENTR11+29 description

Entrance @ Sta.12+42.62 Graham Park Rd.Rt (Sheet 7C)

<x 2 DESCRIBE CHAIN ENTR12+42

Chain ENTR12+42 contains:
135 136

Beginning chain ENTR12+42 description
Feature: - 25 Scale Baselines

Point 135 N 327,618.48 E 3,615,700.78 Sta 30+00.00

Course from 135 to 136 S 41° 58' 03.23" W Dist 100.00

Point 136 N 327,544.13 E 3,615,633.91 Sta 31+00.00

Ending chain ENTR12+42 description

Entrance @ Sta.13+01.56 Graham Park Rd. Rt (Sheet 7C)

<x 3 DESCRIBE CHAIN ENTR13+02

Chain ENTR13+02 contains:
ENTR141 CUR ENTR13+021 ENTR142

Beginning chain ENTR13+02 description

Point ENTR141 N 327,589.19 E 3,615,751.93 Sta 40+00.00

Course from ENTR141 to PC ENTR13+021 N 29° 48' 18.42" E Dist 40.09

Curve Data

Curve ENTR13+021
P.I. Station = 40+67.02 N 327,647.34 E 3,615,785.24
Delta = 15° 19' 56.16" (RT)
Degree = 28° 38' 52.40"
Tangent = 26.92
Length = 53.52
Radius = 200.00
External = 1.80
Long Chord = 53.36
Mid. Ord. = 1.79
P.C. Station = 40+40.09 N 327,623.98 E 3,615,771.86
P.T. Station = 40+93.61 N 327,666.33 E 3,615,804.32
C.C. N 327,524.57 E 3,615,945.40
Back = N 29° 48' 18.42" E
Ahead = N 45° 08' 14.57" E
Chord Bear = N 37° 28' 16.49" E

Course from PT ENTR13+021 to ENTR142 N 45° 08' 14.57" E Dist 70.43

Point ENTR142 N 327,716.01 E 3,615,854.24 Sta 41+64.05

Ending chain ENTR13+02 description

Entrance @ Existing Duke St. Turn Around (Sheet 8)

<x 4 DESCRIBE CHAIN DUKETURN

Chain DUKETURN contains:
ENTR315 ENTR316

Beginning chain DUKETURN description
Description: Duke St. turn lane alignment.

Point ENTR315 N 328,288.14 E 3,615,804.86 Sta 10+00.00

Course from ENTR315 to ENTR316 S 65° 12' 13.09" E Dist 46.71

Point ENTR316 N 328,268.56 E 3,615,847.26 Sta 10+46.71

Ending chain DUKETURN description

Entrance @ Sta.20+49.80 Canal Service Rd. (Sheet 13)

<x 5 DESCRIBE CHAIN ENTR20+49

Chain ENTR20+49 contains:
193 194

Beginning chain ENTR20+49 description
Feature: - 25 Scale Baselines

Point 193 N 330,525.22 E 3,618,045.93 Sta 10+00.00

Course from 193 to 194 S 59° 33' 45.34" E Dist 50.00

Point 194 N 330,499.89 E 3,618,089.04 Sta 10+50.00

Ending chain ENTR20+49 description

Entrance @ Sta.103+57.90 Reloc.Main St. N. (Sheet 13)

<x 6 DESCRIBE CHAIN ENTR103+57

Chain ENTR103+57 contains:
163 164

Beginning chain ENTR103+57 description
Feature: - 25 Scale Baselines

Point 163 N 330,878.96 E 3,617,918.28 Sta 10+00.00

Course from 163 to 164 N 26° 17' 39.14" W Dist 70.00

Point 164 N 330,941.72 E 3,617,887.27 Sta 10+70.00

Ending chain ENTR103+57 description

NTS	PROJECT 0001-212-249	SHEET NO. IG(10)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam_Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT_Engineering_(804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201,C-501	IG(11)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

Side Road Entrance Alignment Construction Data

Entrance @ Sta.12+92.53 Main St.RT Lane (Sheet 14)

<x 1 DESCRIBE CHAIN ENTR12+92

Chain ENTR12+92 contains:
167 168

Beginning chain ENTR12+92 description
Feature: - 25 Scale Baselines

Point 167	N	331,066.88 E	3,618,183.23 Sta	10+00.00
Course from 167 to 168 N 34° 43' 02.50" W Dist 80.00				
Point 168	N	331,132.64 E	3,618,137.66 Sta	10+80.00

Ending chain ENTR12+92 description

Entrance @ Sta.102+32.36 Orginal Stage Coach Rd. (Sheet 15)

<x 2 DESCRIBE CHAIN ENTR102+32

Chain ENTR102+32 contains:
282 283

Beginning chain ENTR102+32 description
Feature: - 25 Scale Baselines

Point 282	N	331,602.29 E	3,618,922.16 Sta	10+00.00
Course from 282 to 283 N 15° 46' 24.66" W Dist 55.00				
Point 283	N	331,655.22 E	3,618,907.21 Sta	10+55.00

Ending chain ENTR102+32 description

Entrance @ Sta.102+71.74 Orginal Stage Coach Rd. (Sheet 15)

<x 3 DESCRIBE CHAIN ENTR102+71

Chain ENTR102+71 contains:
248 249

Beginning chain ENTR102+71 description
Feature: - 25 Scale Baselines

Point 248	N	331,591.66 E	3,618,884.53 Sta	0+00.00
Course from 248 to 249 S 15° 46' 24.66" E Dist 30.00				
Point 249	N	331,562.79 E	3,618,892.69 Sta	0+30.00

Ending chain ENTR102+71 description

Entrance @ Sta.100+55.17 Old Stage Coach Rd. (Sheet 15C)

<x 4 DESCRIBE CHAIN ENTR100+55

Chain ENTR100+55 contains:
246 247

Beginning chain ENTR100+55 description
Feature: - 25 Scale Baselines

Point 246	N	331,660.37 E	3,619,088.11 Sta	10+00.00
Course from 246 to 247 S 50° 05' 55.42" E Dist 80.00				
Point 247	N	331,609.05 E	3,619,149.49 Sta	10+80.00

Ending chain ENTR100+55 description

Entrance @ Sta.10+91.52 of Entr 347+02.16 Fraley Blvd. (Sheet 16)

<x 5 DESCRIBE CHAIN ENTR10+94

Chain ENTR10+94 contains:
268 269

Beginning chain ENTR10+94 description
Feature: - 25 Scale Baselines

Point 268	N	332,419.39 E	3,619,586.82 Sta	20+00.00
Course from 268 to 269 S 40° 30' 28.44" W Dist 60.00				
Point 269	N	332,373.77 E	3,619,547.84 Sta	20+60.00

Ending chain ENTR10+94 description

NTS	PROJECT 0001-212-249	SHEET NO. IG(11)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Transportation Management Plan General Notes

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	II

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

Temporary Traffic Control Plan

General Notes:

1 TMP/SOC Type B Project Information:

a Identify the project's TMP Type:
This project's TMP/SOC plan has been designed in conformance with a Type B TMP/SOC plan.

b Identify the work zone location, length, and widths:
The project location is as shown on Sheet 1A.
The work zone areas have been delineated as shown on the TMP/SOC plan sheets 1K series series. The work zone lengths and widths vary by location as shown on the TMP/SOC plan sheets on the 1K series.

c Note the hours the Construction Area will be active:

Construction Area shall be considered when any impact to traffic occurs (1st Cone In Road).

Unless preapproved, the allowable hours for all lane and/or shoulder closures shall be in accordance with the applicable hours as stated in the Lane Closures in NOVA District Memorandum, dated September 29, 2016. All lane and/or shoulder closures shall be completely removed on a daily basis with all lanes being fully open to traffic at all times beyond the allowable and/or approved 1/4 lane closure hours.

Any/all requests for deviation from the allowable lane closure hours, regardless of prior approval, shall be submitted to VDOT NOVA District Traffic Operations Engineering for review a minimum of fourteen (14) days in advance of the work.

Lane closures or shoulder work shall not begin if heavy traffic or significant queuing and backups are already present along the roadways). Lane closures will not be permitted during inclement weather or emergency situations.

The contractor shall continually monitor all lane closures and/or detour routes, if applicable, at all times and make spot adjustments as needed to ease undue backups, delays, or queuing and reopen lanes immediately, if necessary.

All lane and/or shoulder closure hours of operation may be adjusted by VDOT at any time if significant traffic impacts routinely develop as a result of the project or citizen complaints are received.

Any anticipated or incidental impacts to the existing VDOT maintained traffic signal network as a result of the project requires notification and coordination with VDOT Traffic Operations Engineering/TOE through TOE Supervisor, Mr. Ta-Cheng Hsu.

d The TMP/SOC plan, during construction, shall be in accordance with Sections 512, 701, 703 & 704 of the Virginia Department of Transportation Road and Bridge Specifications, dated 2020, the Virginia Work Area Protection Manual, dated 2011, Revised November 2020, the Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition Revised May 2012, and the Virginia Department of Transportation Road and Bridge Standards, dated 2016.

e Note any existing entrances, existing intersections, or existing pedestrian access points that will be affected by the Construction Area or by the traffic control devices:

Access to and from all roadways, side streets, driveways and properties within and adjacent to the work area shall be maintained at all times throughout the duration of the project.

Existing Entrances:
All existing commercial or private entrances shall remain open for the duration of construction unless otherwise indicated on this plan.

Existing Intersections:
There are four signalized intersections within the project limits. They are the intersections of:
Richmond Highway (Route 1) @ Quantico Gateway Drive
Fraley Boulevard (Route 1) @ Graham Park Road
Fraley Boulevard (Route 1) & Main Street @ Possum Point Road
Richmond Highway (Route 1) & Dumfries Road (Route 234)

There are five unsignalized intersections within the limits of this project. They are the intersections of:
Richmond Highway (Route 1) @ Townsquare Court
Fraley Boulevard (Route 1) @ Dr David Cline Lane
Fraley Boulevard (Route 1) @ Williamstown Drive
Fraley Boulevard (Route 1) @ Canal Road
Fraley Boulevard (Route 1) @ Relocated Old Stage Coach Road & Tripoli Boulevard

All intersections are to remain open during construction unless otherwise indicated on this plan. Intersections may be reduced to one lane when the construction zone is active, using VWAPM TTC-28.2 or as approved by the Engineer. When the construction zone is not active, all intersections shall be open.

Existing Pedestrian Access Points:

When working in and around any crosswalks, sidewalks or trails, continuously monitor and maintain safe pedestrian and bicycle access at all times.

Within the project limits, pedestrian access points are very limited. Most pedestrian access points occur at the intersections. Where possible, pedestrians will be directed to cross Richmond Highway/Fraley Boulevard and use the pedestrain facilities on the other side of the street. For all other locations, the sidewalk is to be closed at the project's limits as there are not enough pedestrian paths within the projects to maintain until the project is completed. If requested by the Engineer, the project shall install a 4' orange safety fence wherever directed to discourage pedestrians from walking through the project, at no additional cost to the project.

Existing Bus Stops:
There are several public bus stops within the project limits. Coordination with PWC-DOT and PRTC is required to determine if any bus stops will require relocation during construction.

Along Northbound Richmond Highway/Fraley Boulaverd, Approximate Sta. 255+50, 293+50, 308+00, 329+00, 348+25
Along Southbound Richmond Highway/Fraley Boulevard, Approximate Sta. 329+50, 347+00

f Identify the major types of travelers:
The roadway carries large diverse types of travelers. In the peak hours however, commuters are the prevailing traveler type for this roadway.

g The Contractor, at no additional cost to the project, which shall be considered incidental to the cost of the project, shall:

Designate a person assigned to the project who will have the primary responsibility, with sufficient authority, for implementing the TMP/SOC and other safety and mobility aspects of the permit work. This person shall be designated the "Project Safety Officer." Ensure that personnel assigned to the project are trained in traffic control to a level commensurate with their responsibilities in accordance with VDOT's work zone traffic control training guidelines.

Inform the Engineer of any work requiring lane shifts, lane closures, and/or phase changes a minimum of two working days prior to implementing this activity.

Perform reviews of the Construction Area to ensure compliance with contract documents at regularly scheduled intervals at the direction of the Engineer. Contractor shall maintain a copy of the temporary traffic control plan at the work site at all times.

Coordinate with Prince William County Police Department, Prince William County Fire/Rescue Department, and Virginia State Police for any lane closures and any detours of any nature at least seven working days prior to implementing a lane closure.

Schedule all phases of construction in such a manner that water, sanitary sewer, cable, fiber cable/optic cable, any overhanging utilities, and any underground utility services will not be interrupted.

h During working hours, all construction equipment is to stay outside of the construction area clear zone as designated in the VWAPM, Appendix A. Construction equipment is not to block or obstruct sight distance at any intersection or private entrance along the project when the construction work zone is active.

2 Disposal Site And Staging Area Locations Shall Be The Responsibility Of The Contractor. No Work Shall Be Performed Until Such Sites Have Been Accepted By The Engineer. The Sites Cannot Be Placed On Any Wetlands, E&s Sediment Basins/traps, Or Other Environmentally Sensitive Areas.

3 Contractor is to maintain two lanes of traffic (one in each direction) on Richmond Highway/Fraley Boulevard and is to maintain a minimum of one lane of traffic on all street connections when the construction zone is active unless otherwise specified by the Engineer. When the construction zone is not active, the Contractor shall ensure all street connections maintain a minimum of two lanes of traffic (one in each direction). During construction of this project, the travelway shall have a minimum clear roadway width in accordance with VDOT standard GS-10 unless otherwise approved by the Engineer. For commercial connections, or private entrances, a minimum width no less than the existing width shall be maintained at all times, unless approved by the Engineer.

4 Concrete Traffic Barrier Service shall be installed and removed so as to not present any blunt end or hazard to the motoring public. The placement and removal of Concrete Traffic Barrier Service are to be coordinated by the Project Safety Officer. When Concrete Traffic Barrier Service is installed, Impact Attenuators shall be placed at the beginning of the Concrete Traffic Barrier Service. Project Safety Officer shall ensure Concrete Traffic Barrier Service is installed in accordance with VDOT's and manufacturer's specifications to prevent deflection. Additionally, Project Safety Officer shall ensure Concrete Traffic Barrier Service, when installed with flares, shall be in accordance with VDOT's Virginia Work Area Protection Manual.

Note: There are portions of the project in which the Contractor will be working within 2' behind the Concrete Traffic Barrier Service. The Concrete Traffic Barrier Service shall be pinned in these locations and the Contractor shall implement VWAPM TTC 23.2 and TTC 24.2 when working in these areas.

5 Contractor shall follow the geotechnical recommendations for the project. Materials designated as unsuitable material as detailed in the geotechnical recommendations shall be disposed of offsite and are not to be used for any part of construction. Existing surface, aggregate base, and sub base material which will be demolished or obliterated during construction, and which are suitable for maintenance of traffic, should be utilized prior to the use of commercial material.

6 Each phase of construction shall be completed to the installation of intermediate course asphalt prior to the start of the next phase unless otherwise directed by the Engineer.

7 Contractor shall ensure positive drainage for the duration of the project. Contractor shall add any additional temporary measures necessary to facilitate proper, positive drainage for the duration of construction.

8 Where Group 2 Channelizing Devices are used to separate the Construction Area and traffic, a minimum clear zone area as defined in the VWAPM is to be maintained.

9 The Contractor is to coordinate with Prince William County for location(s) of the construction staging area(s). Contractor is responsible for obtaining easements and permits associated for these location(s). Contractor is solely responsible for the cost to acquire easement for staging area and it shall not be paid for as a separate item. Potential staging areas for construction are at stormwater management basins and storm water management ponds.

10 All areas excavated below the existing pavement surface and within the clear zone at the conclusion of each workday shall be backfilled to form an approximate 6:1 wedge against the existing pavement or newly constructed pavement surface for the safety and protection of vehicular traffic. All costs for placing, maintaining, and removing 6:1 wedge shall be included in the price bid for other items in the contract and no additional compensation will be allowed.

11 IMPLEMENTING THE TRANSPORTATION MANAGEMENT PLAN
During the first day of the new work zone traffic pattern, the project's Manager and project's Maintenance of Traffic Coordinator shall inspect the work zone to ensure compliance with the TMP. On the third to fifth day of implementation of the TMP's new work zone traffic pattern, the District Work Zone Safety Coordinator and the project's Maintenance of Traffic Coordinator shall conduct an on-site review of the work zone's performance and recommend to the Contractor any required changes to the TMP to enhance the work zone's safety and mobility. All such changes shall be documented. An on-site review of the project's work zone traffic control by the District Work Zone Safety Coordinator, Project's Manager/Maintenance of Traffic Coordinator, District Safety Engineer, and the Contractor shall be conducted within 48 hours of any fatal incident/crash within the work zone.

13 EVALUATION OF THE TRANSPORTATION MANAGEMENT PLAN
A performance assessment of the TMP including area-wide impacts on adjacent roadways shall be performed by the Regional Traffic Engineering and Operations sections during construction. As circumstances dictate, a review of the overall effectiveness of the project's TMP shall be completed during the Post Construction Meeting and included with the Post Construction Report. A copy of the specific information on the effectiveness of the TMP will be forwarded to the State Traffic Engineer for review. A copy of the TMP Interim/Post Construction Report Form can be obtained from the Regional Traffic Engineer.

14 PUBLIC COMMUNICATIONS PLAN
The Contractor shall be responsible for:

a Notifying the Project Manager/Residency Administrator two weeks in advance of any scheduled work plans and traffic delays.

b Notifying the Project Manager/Residency Administrator, Regional Operations Manager, and the Public Affairs staff of any unscheduled traffic delays

The contractor shall be responsible for maintaining project lane closure information on LCAMS and VaTraffic/511 throughout the duration of the project in accordance with IIM-OD-16-03, dated December 16, 2016.

All lane and/or shoulder closures shall be entered into LCAMS at least ten (10) days in advance of the proposed lane and/or shoulder and no later than close of business Wednesday the week prior to the closure stating the location, purpose, specific lane(s) to be closed, time and duration of closure. Any conflicts generated from LCAMS shall be resolved no later than close of business Thursday the week prior to the closure.

The contractor shall contact the VDOT NOVA District Transportation Operations Center (TOC) 15-45 minutes prior to executing every lane and/or shoulder closure and contact TOC again once daily work has been completed and lane and/or shoulder closures have been removed.

The contractor shall notify the Virginia State Police (VSP), if necessary, and the various local area law enforcement and emergency services of all closures and times for situational awareness.

Depending on the time of year, the contractor shall notify and coordinate with the local area schools of all closures and times to avoid issues with school building access and/or bus schedules and routes.

15 TRANSPORTATION OPERATIONS
The Contractor shall be responsible for implementing and providing the following:

a The Contractor Must Contact The VDOT Northern Region Transportation Operations Center (TOC) 15-45 Minutes Prior To Executing Lane And/OR Shoulder Closures And Contact The Toc 15-45 Minutes After The Work Has Been Completed And Lane And/or Shoulder Closures Have Been Removed.

The Contractor Must Contact TOC One Week In Advance For Lane Closure Information. This Is Usually By The Wednesday Prior To The Operation. The Contractor Shall Have A Person Designated As The Point Of Contact And Should Be Trained To Place The Required Information In LCAMS.

b Post a list of local emergency response agencies inside the project's construction office/trailer.

c Immediately report any traffic incidents that may occur in the work zone.

d Notify the project's Maintenance of Traffic Coordinator, Project Manager, Resident Administrator, District Work Zone Safety Coordinator, District Traffic Engineer, The Regional Operations Manager and Public Affairs Manager of any incidents and expected traffic delays.

e Within 24 hours of any incidents within the construction work zone, a review of the traffic controls shall be completed and necessary adjustments made to reduce the frequency and severity of any future incidents.

CONTACT NUMBERS

Project Manager	Hoainam Nguyen, P.E.	(703) 792-8161
Construction Manager	Mohammad Ayyoubi	(703) 792-7193
Construction Safety Manager	TBD	TBD
Public Relations	TBD	TBD
VDOT Residency Administrator - Construction	TBD	TBD
District Work Zone Safety Coordinator(s)	TBD	TBD

Emergency Call	911
Non-Emergency Numbers:	
Prince William County Police	(703) 792-6500
Prince William County Fire & Rescue	(703) 792-6800

TMP/SOC Designer

Commonwealth of Virginia VDOT
Virginia Department of Transportation
VERIFICATION OF COMPLETION OF VDOT ADVANCED WORK ZONE TRAFFIC CONTROL TRAINING

This is to verify that Jeff Cronin has successfully completed training and an examination by the Department on the proper practices and methods for the installation, maintenance, removal of temporary traffic control devices and flagging operations.

Expiration Date: 9/30/2025
Verification Number: 093021124

R. J Kheny
State Traffic Engineer

PROJECT	SHEET NO.
0001-212-249	II

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Sequence of Construction Narrative

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

PHASE I

-Leave NB and SB traffic in existing locations; maintain 2 lanes in each direction with a minimum 11' width. Set up temporary construction devices and erosion control measures.
-Begin construction of drainage as shown for Phase I and proceed with construction on the west side of the existing NB lanes, including Graham Park Road Left, North Main Street tie-in, Tripoli Blvd. and Waters Lane. Construct pavement in the median of NB Rte I at intersection with Main Street/Possum Point Road. Place pavement up to the intermediate layer.
-Construct stormwater management ponds and retaining walls on the west side.
-Construct the bridge on the west side, see Bridge plans.

PHASE 2

-Revise temporary construction devices and shift NB traffic onto newly constructed lanes from Phase I; maintain 2 lanes in each direction with a minimum 11' width.
-Begin construction on the east side of the NB lanes, including Graham Park Road Right, Williamstown Drive, Canal Road, Possum Point Road, Relocated Old Stage Coach Road and Old Stage Coach Road Cul-de-sac. Place pavement up to the intermediate layer.
-Construct stormwater management ponds and retaining walls on the east side.
-Construct the bridge on the east side, see Bridge plans.

PHASE 2A

-Revise temporary construction devices and shift NB traffic onto 2 minimum 11' width newly constructed lanes from Phase 2. Complete a minimum 2-11 lanes on west side from sta. 278+00 to sta. 303+00 for use by shifted SBL traffic in Phase 3.

PHASE 3

-Revise temporary construction devices and shift SB traffic onto newly constructed lanes from Phase I and 2A; maintain 2 lanes in each direction with a minimum 11' width.
-Finalize construction of median.
-Construct Quantico Gateway Drive, Main Street South Cul-de-sac and Main Street North tie-in.
-Finalize all stormwater management ponds.
-Finalize the bridge construction, see Bridge plans
-Place final pavement surface layer and pavement markings.

	PROJECT	SHEET NO.
	0001-212-249	IK(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

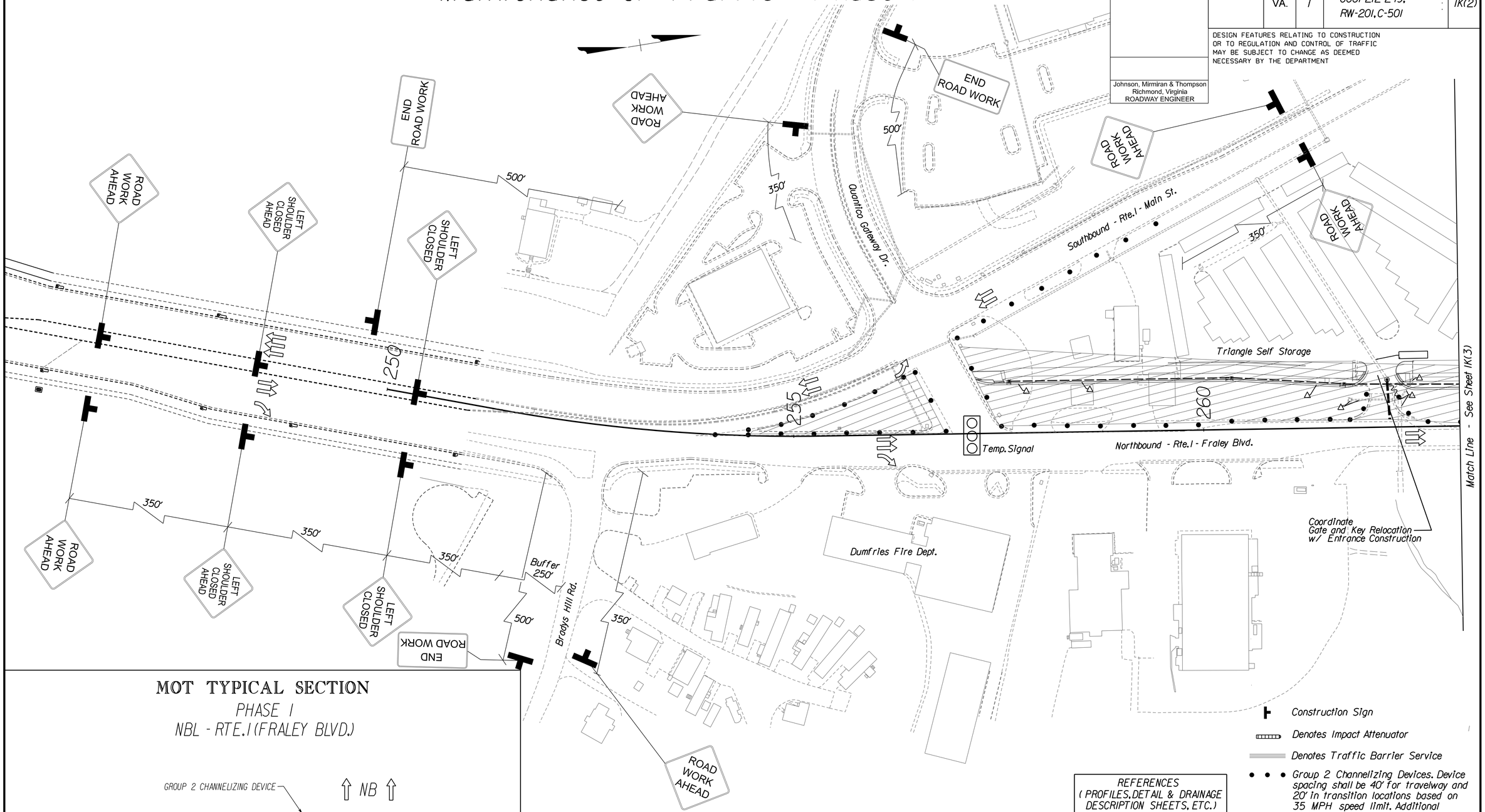
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(2)

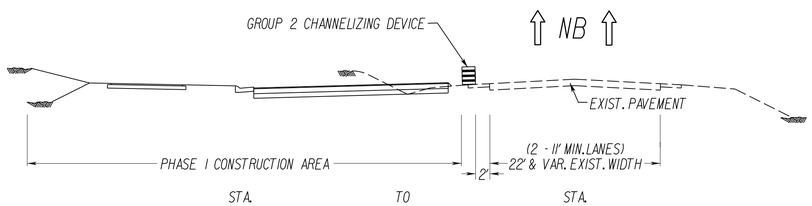
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
NBL - RTE.1 (FRALEY BLVD.)



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	1I
Construction Sign Schedule	1J
SOC Narrative	1K(1)
Temporary Signal Plan	1L(2)

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

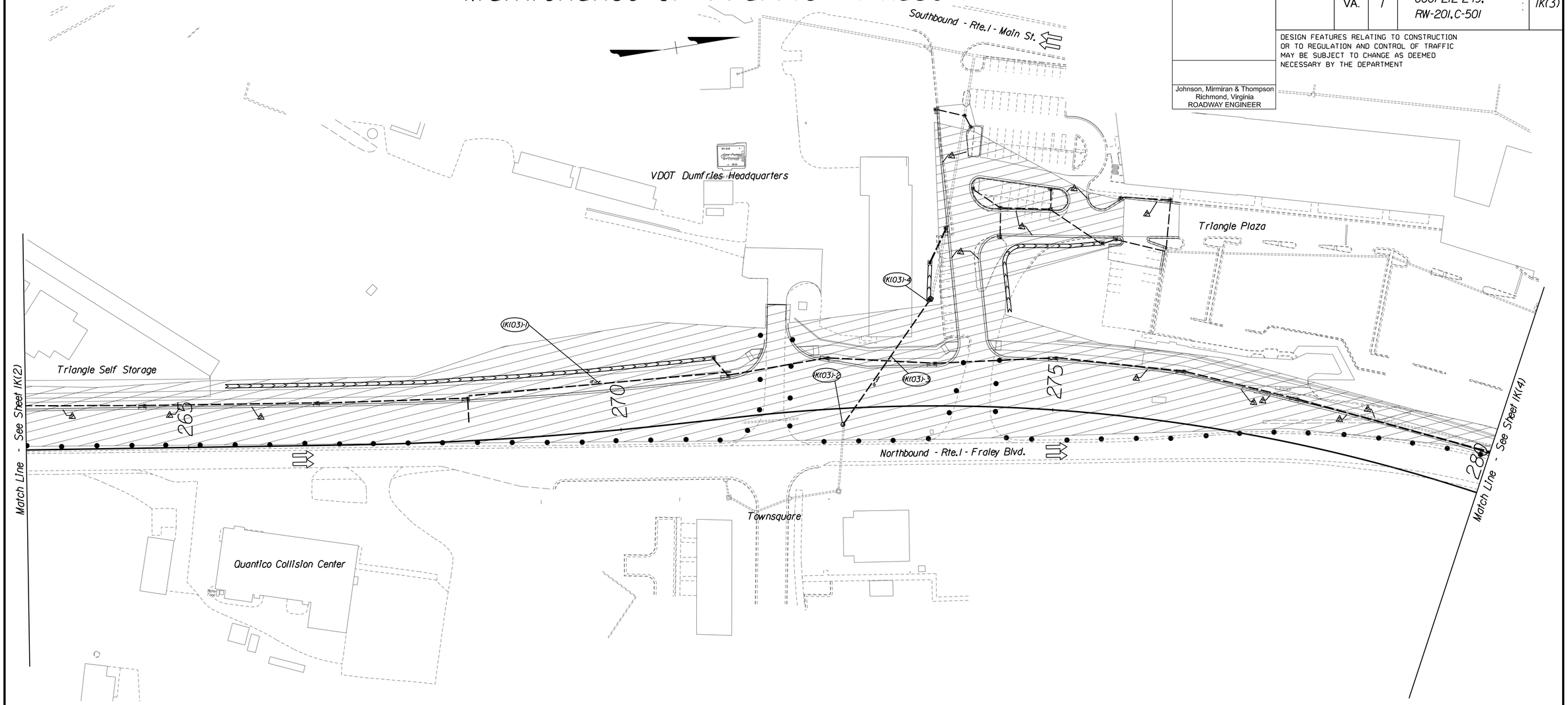
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(3)

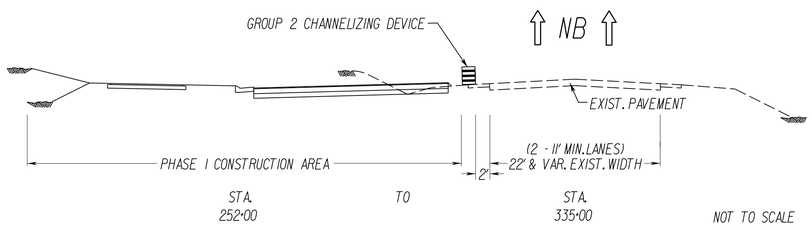
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
NBL - RTE.1 (FRALEY BLVD.)



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	1K(1)

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

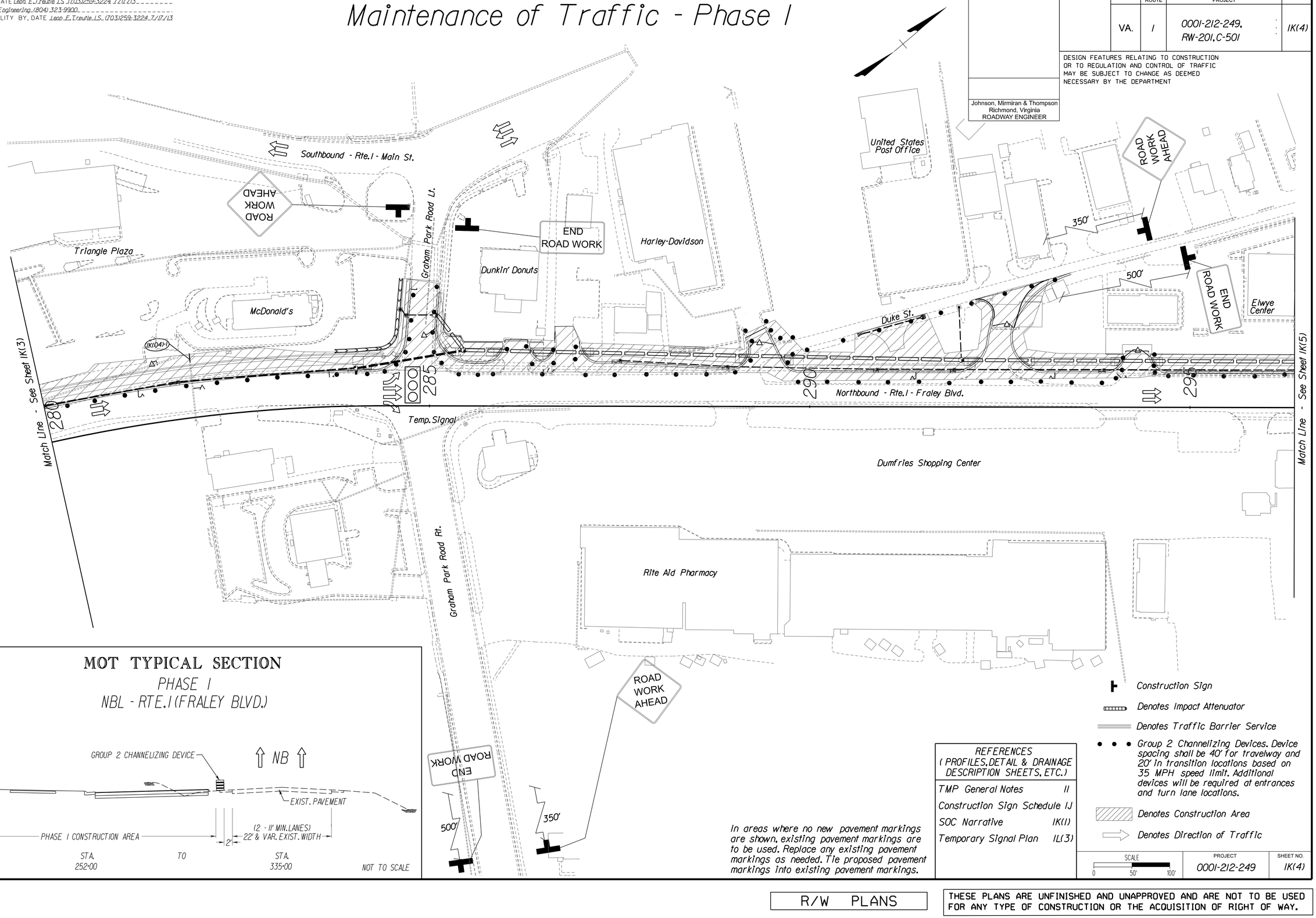
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(4)

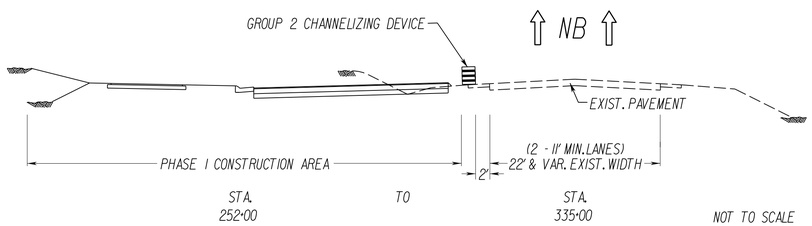
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
NBL - RTE.1 (FRALEY BLVD.)



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(3)

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

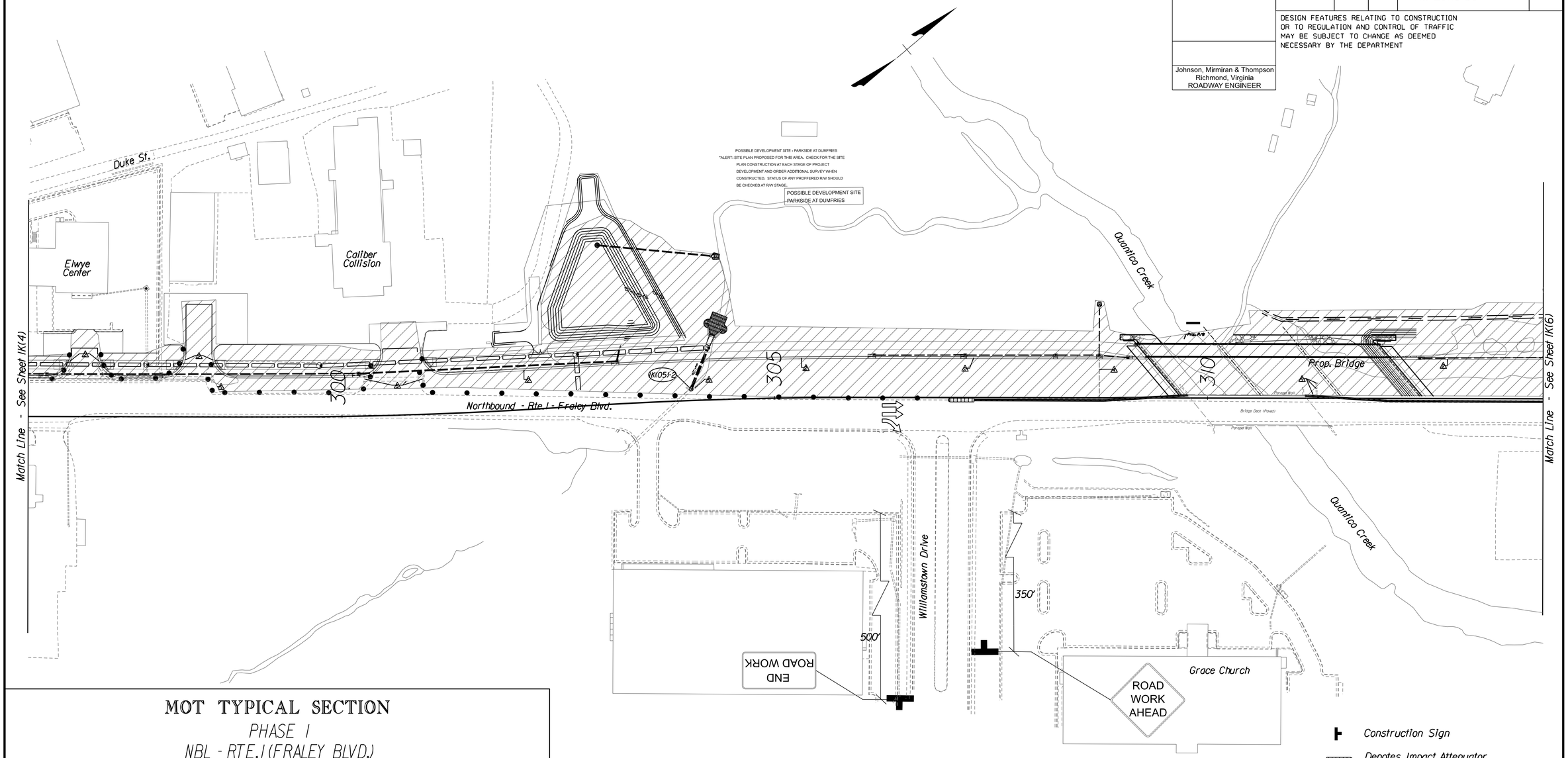
PROJECT MANAGER Hoainam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(5)

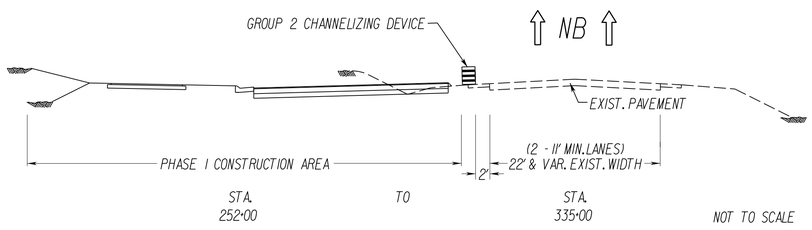
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
NBL - RTE.1 (FRALEY BLVD.)



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	1K(1)
Bridge SOC (302-14)	2

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:10:31 PM

dll948101k(06).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

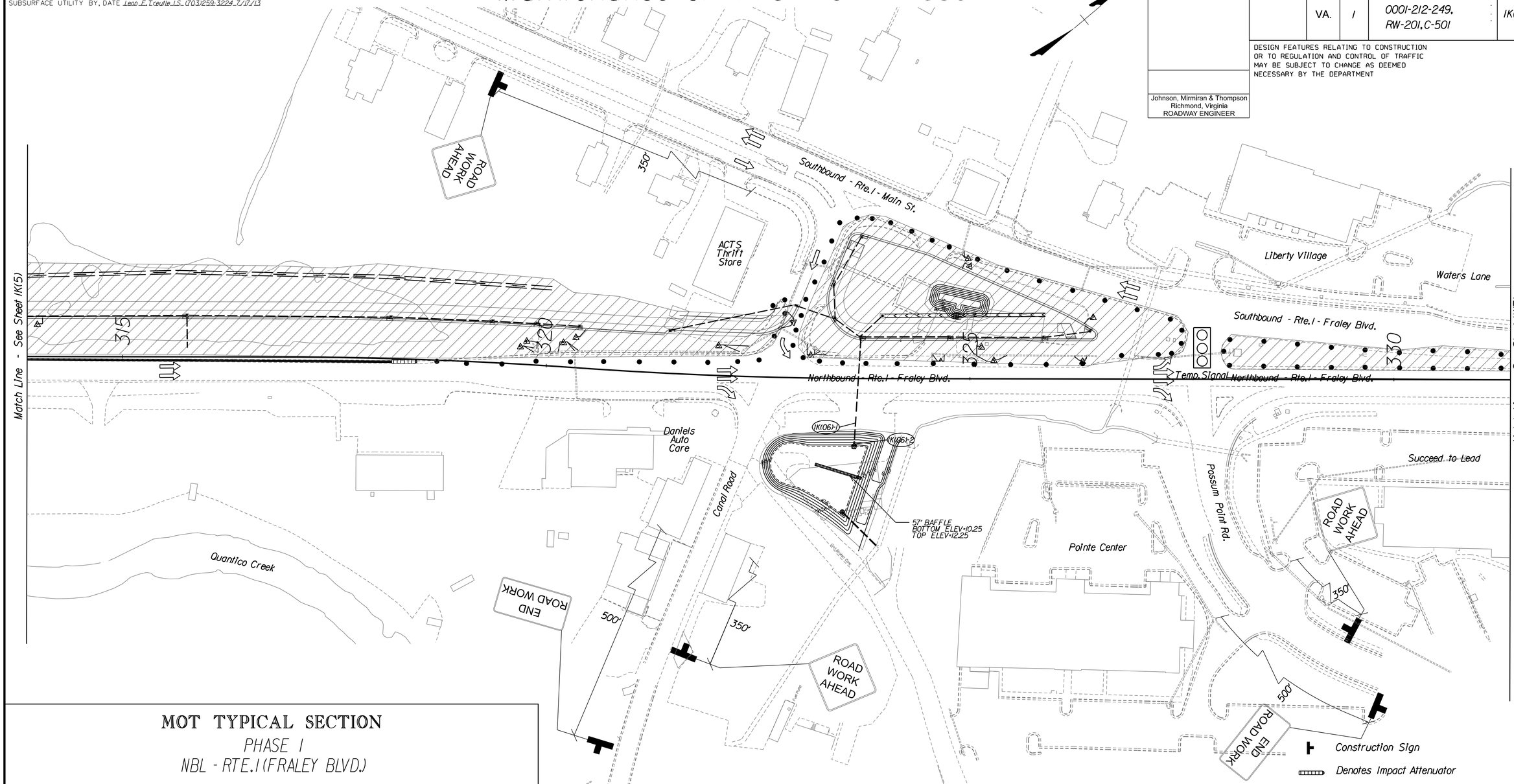
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(6)

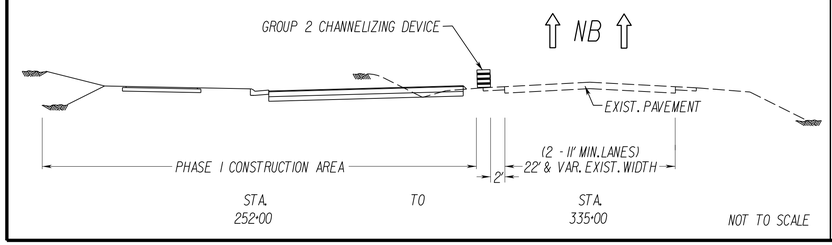
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
NBL - RTE.1 (FRALEY BLVD.)



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(4)

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:10:51 PM

dll948l01lk(07).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

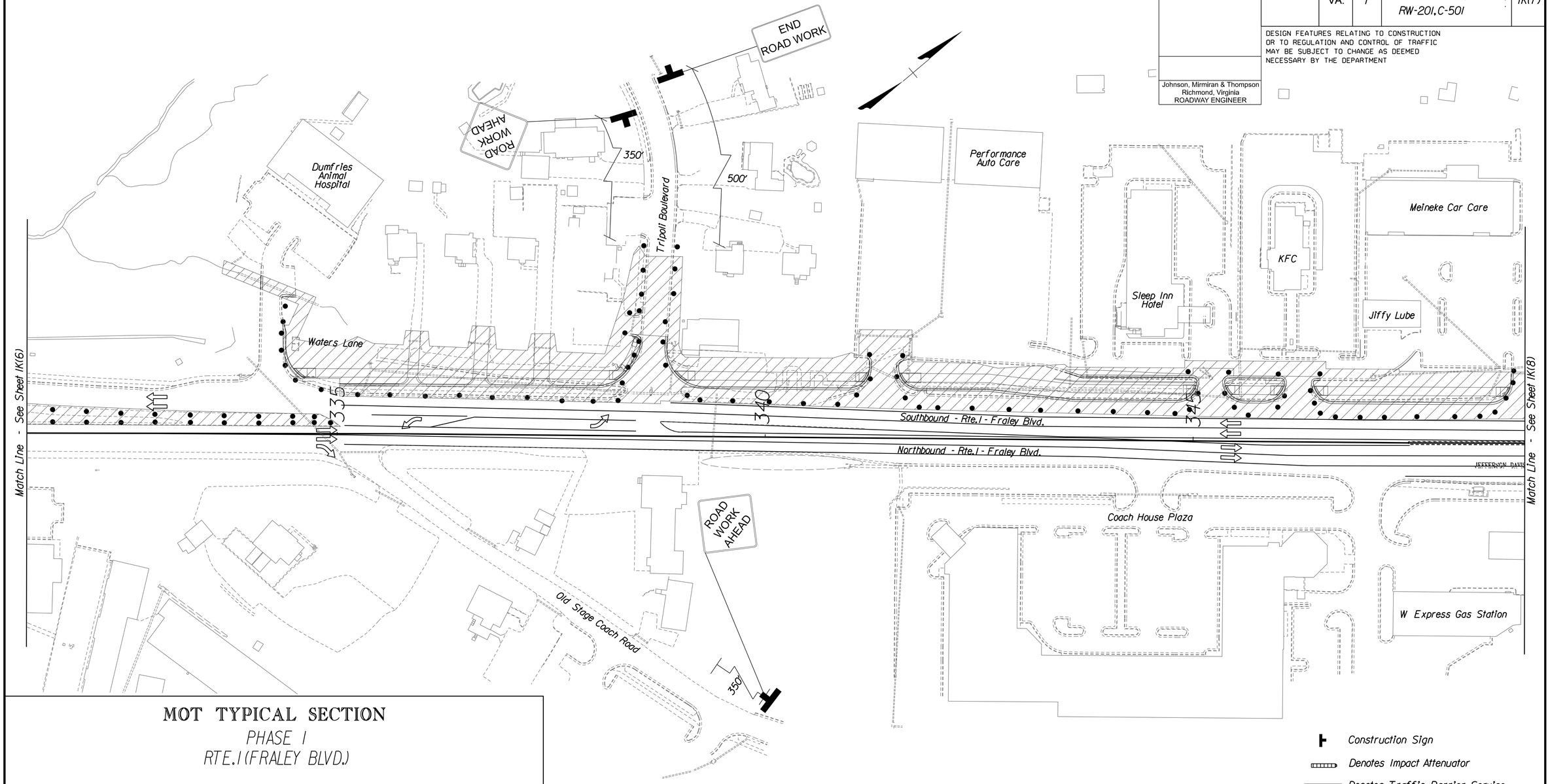
PROJECT MANAGER Hoalnam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(7)

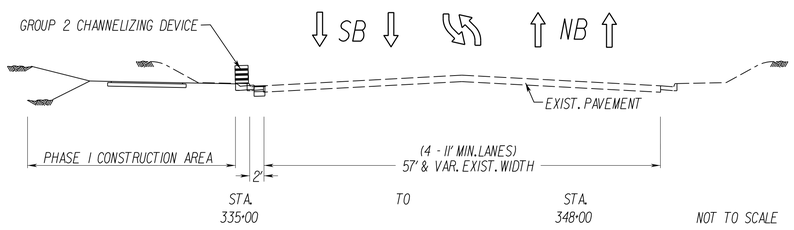
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
RTE.1 (FRALEY BLVD.)



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(7)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

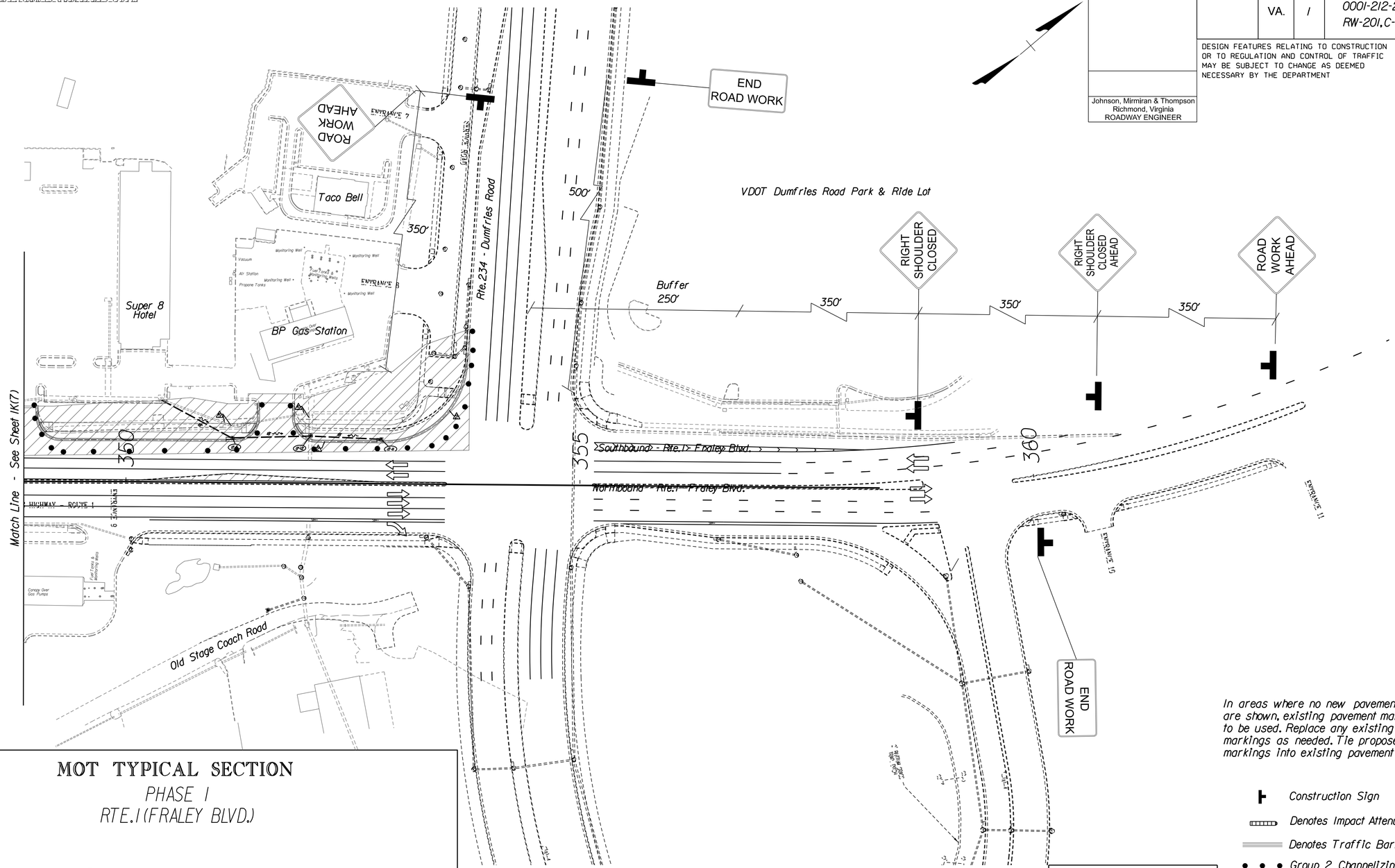
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase I

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(8)

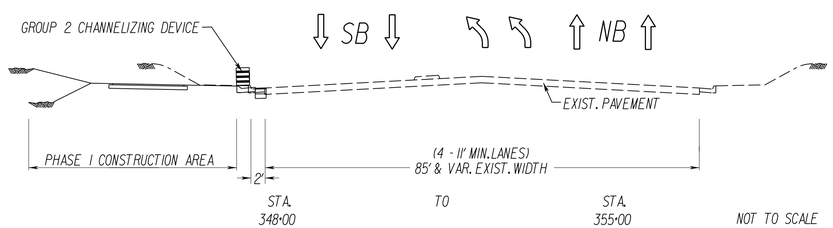
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE I
RTE.1 (FRALEY BLVD.)



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	1K(1)

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(8)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

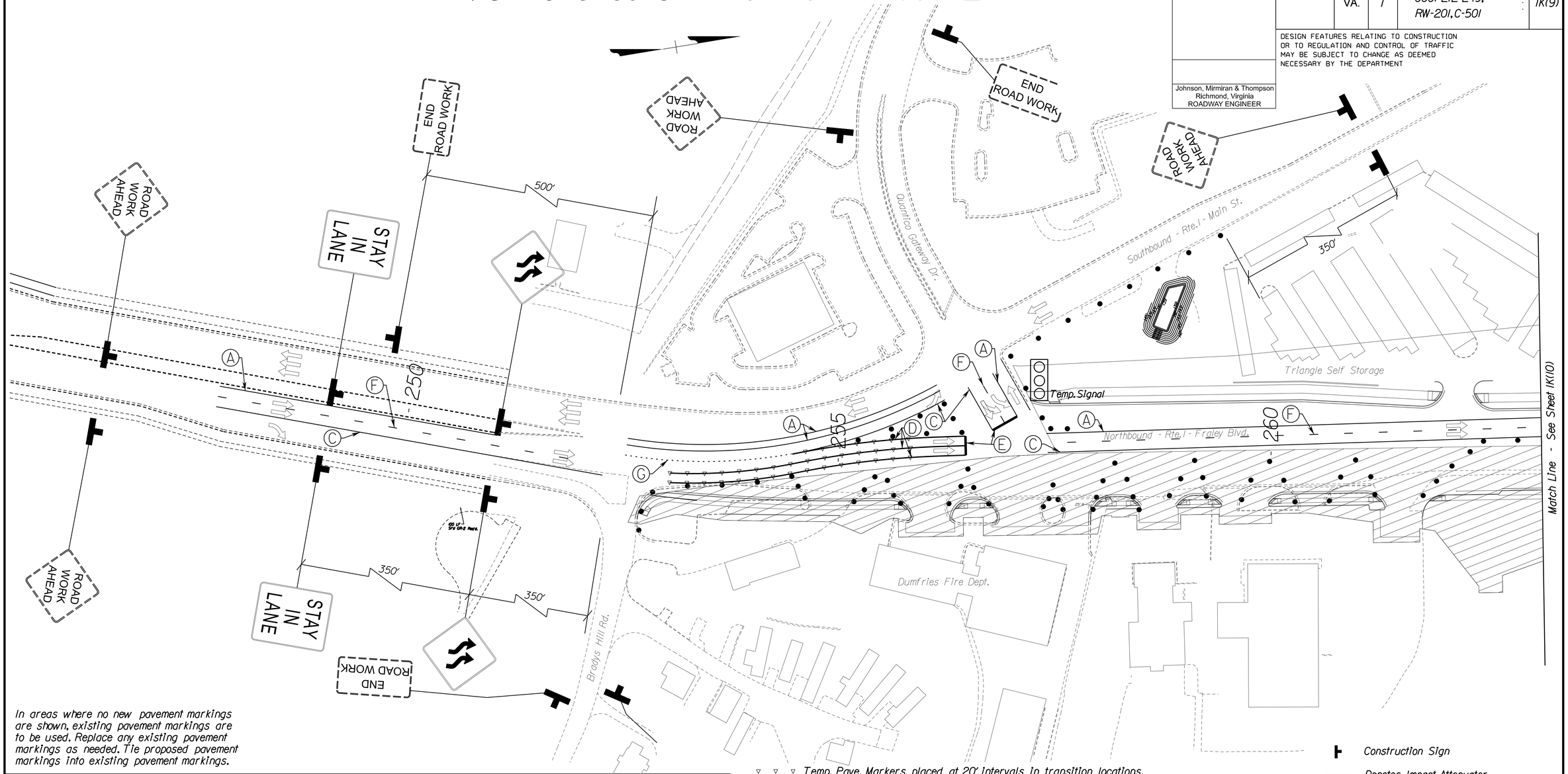
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(9)

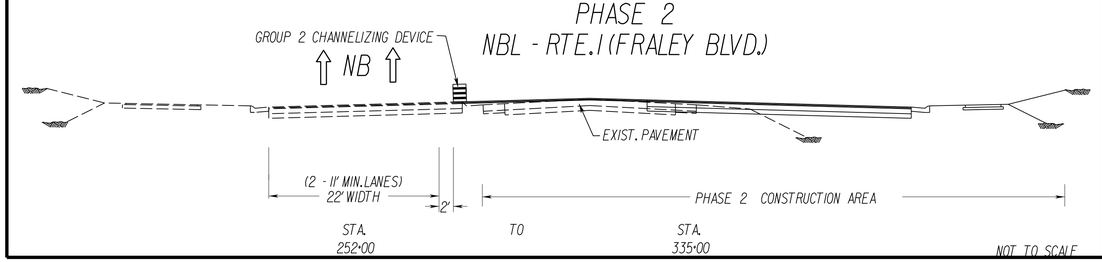
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION
PHASE 2
NBL - RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.
Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(5)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(9)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

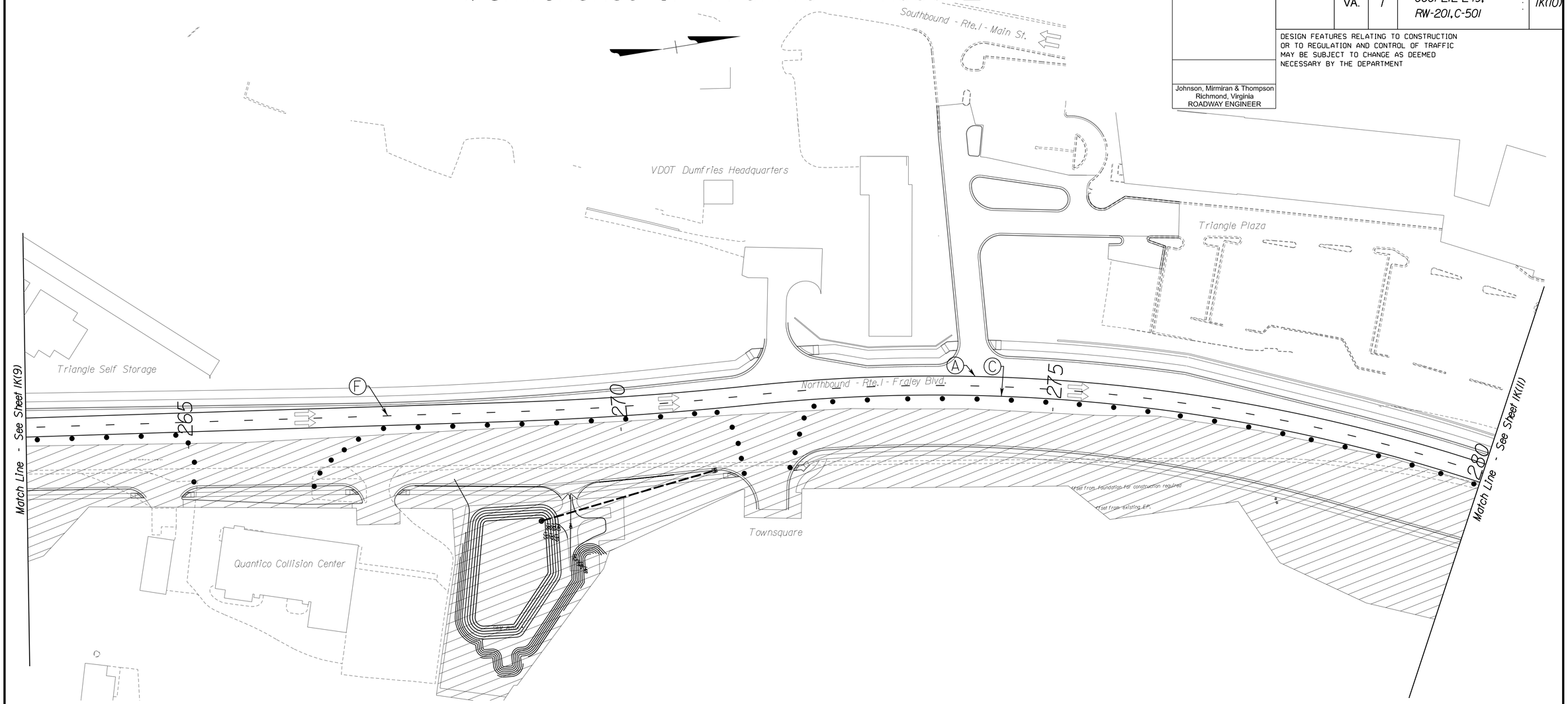
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(10)

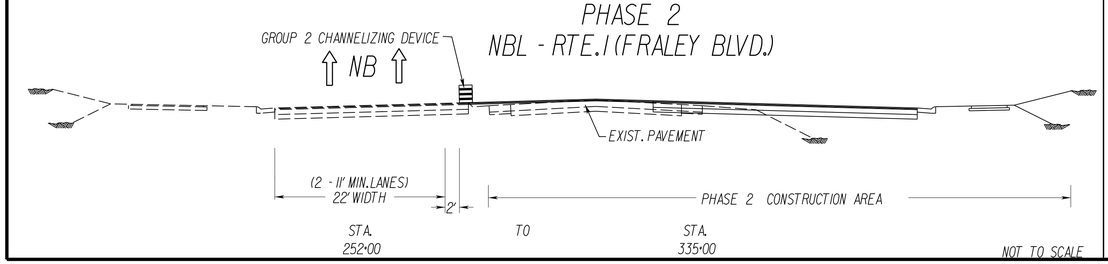
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION
PHASE 2
NBL - RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE 0 50' 100'

PROJECT	SHEET NO.
0001-212-249	IK(10)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:12:13 PM

dll948101k111.dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

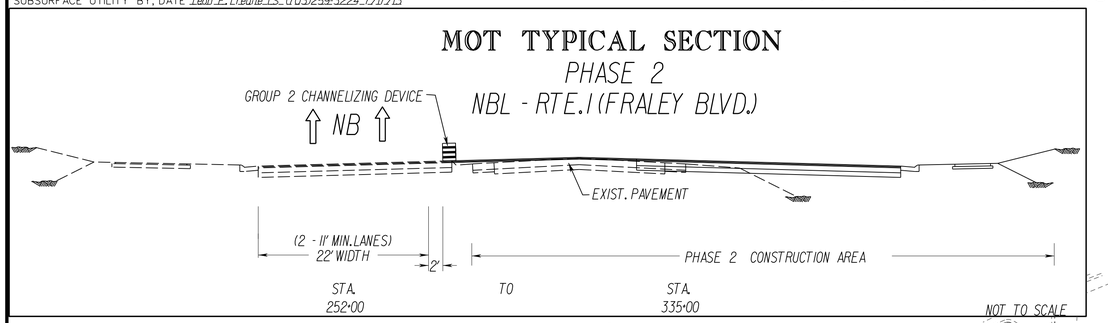
Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(II)

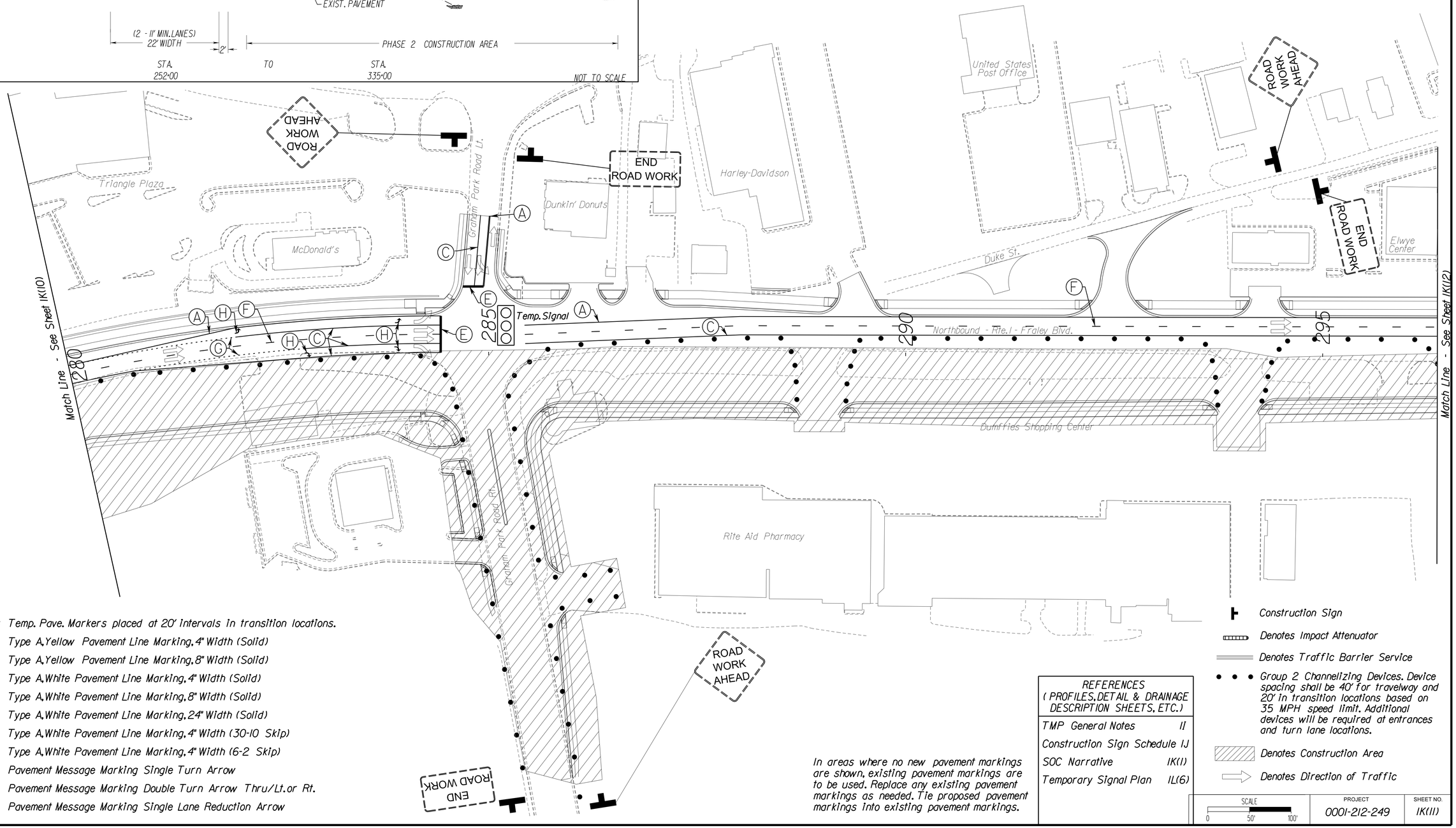
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

MOT TYPICAL SECTION
PHASE 2
NBL - RTE.I (FRALEY BLVD.)



NOT TO SCALE



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(I)
Temporary Signal Plan	IL(6)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(II)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

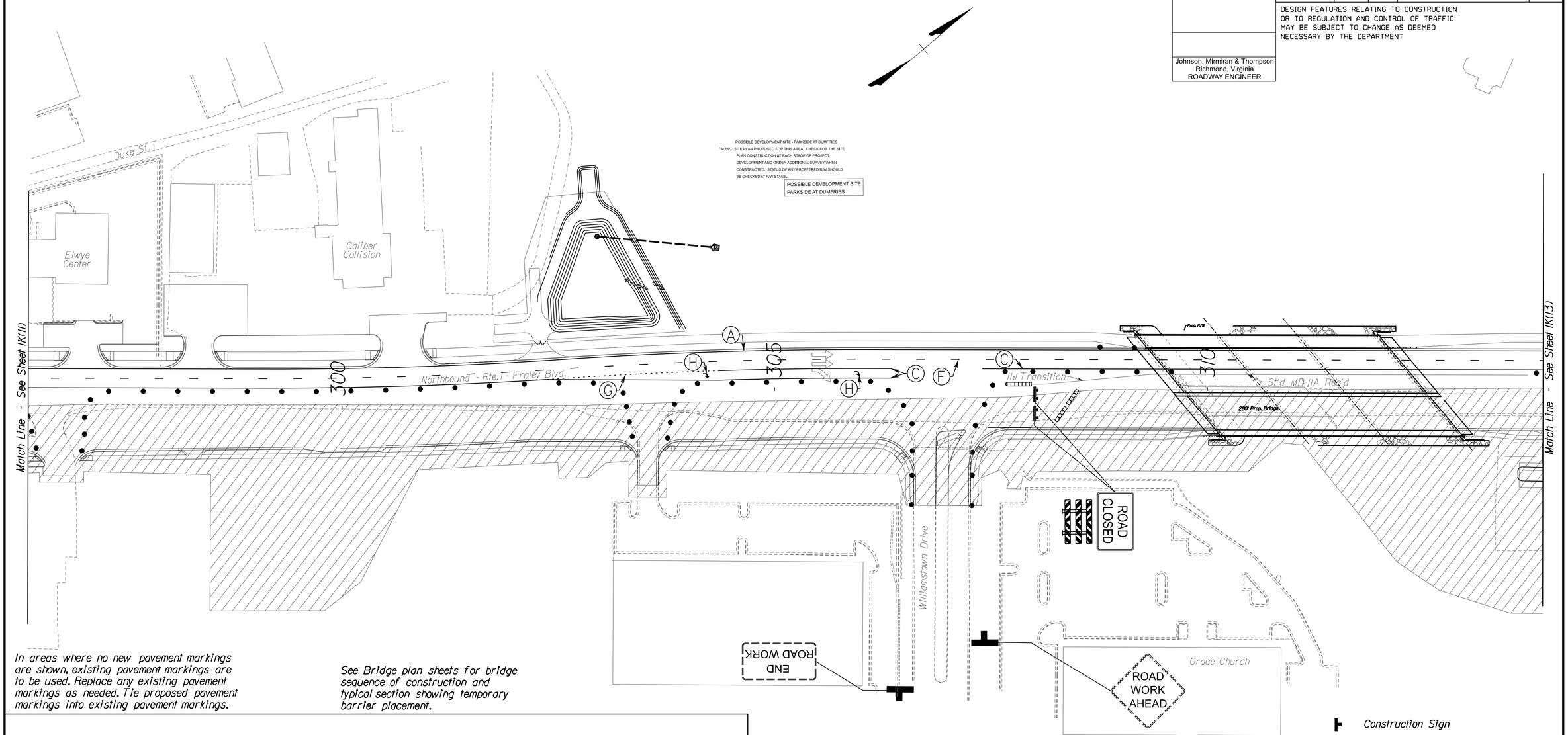
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(12)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

POSSIBLE DEVELOPMENT SITE - PARKSIDE AT DUMFRIES
*ALERT: SITE PLAN PROPOSED FOR THIS AREA. CHECK FOR THE SITE PLAN CONSTRUCTION AT EACH STAGE OF PROJECT DEVELOPMENT AND ORDER ADDITIONAL SURVEY WHEN CONSTRUCTED. STATUS OF ANY PROFFERED R/W SHOULD BE CHECKED AT R/W STAGE.

POSSIBLE DEVELOPMENT SITE
PARKSIDE AT DUMFRIES

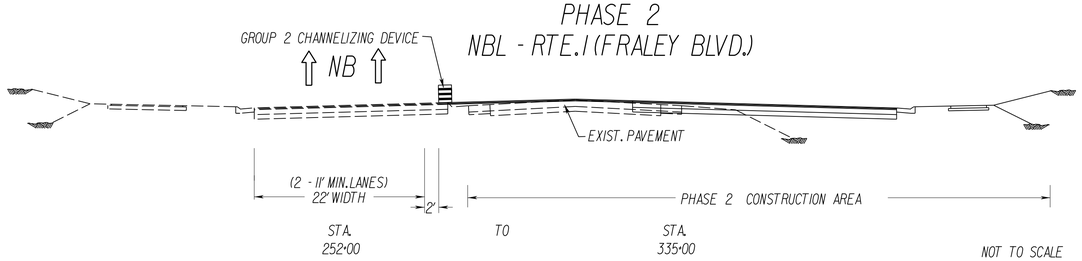


In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

See Bridge plan sheets for bridge sequence of construction and typical section showing temporary barrier placement.

MOT TYPICAL SECTION

PHASE 2
NBL - RTE.1 (FRALEY BLVD.)



NOT TO SCALE

▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.
Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(I)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(12)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

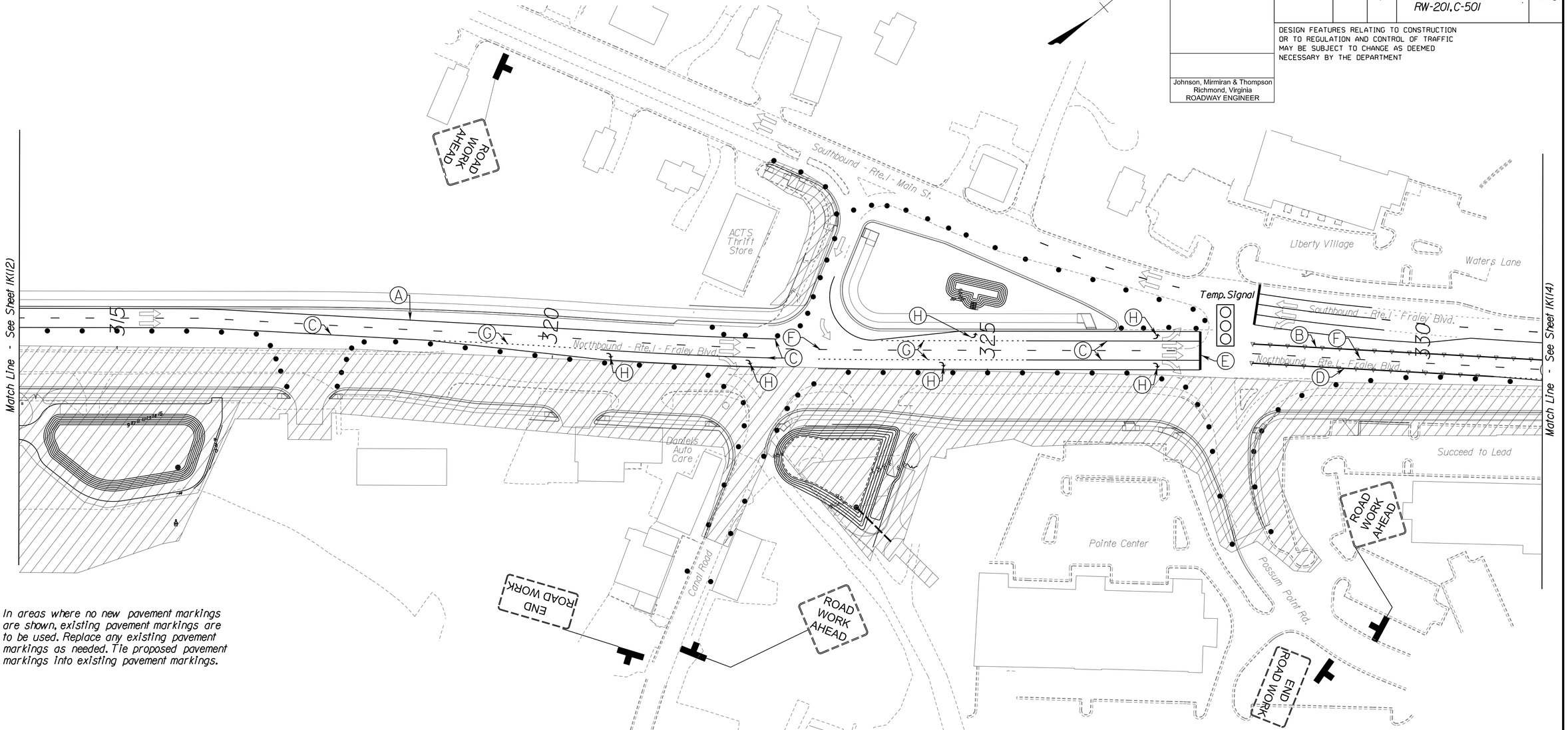
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(13)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

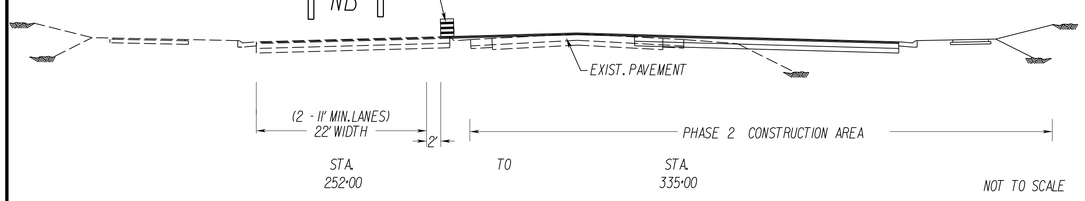


In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION

PHASE 2

NBL - RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(7)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(13)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

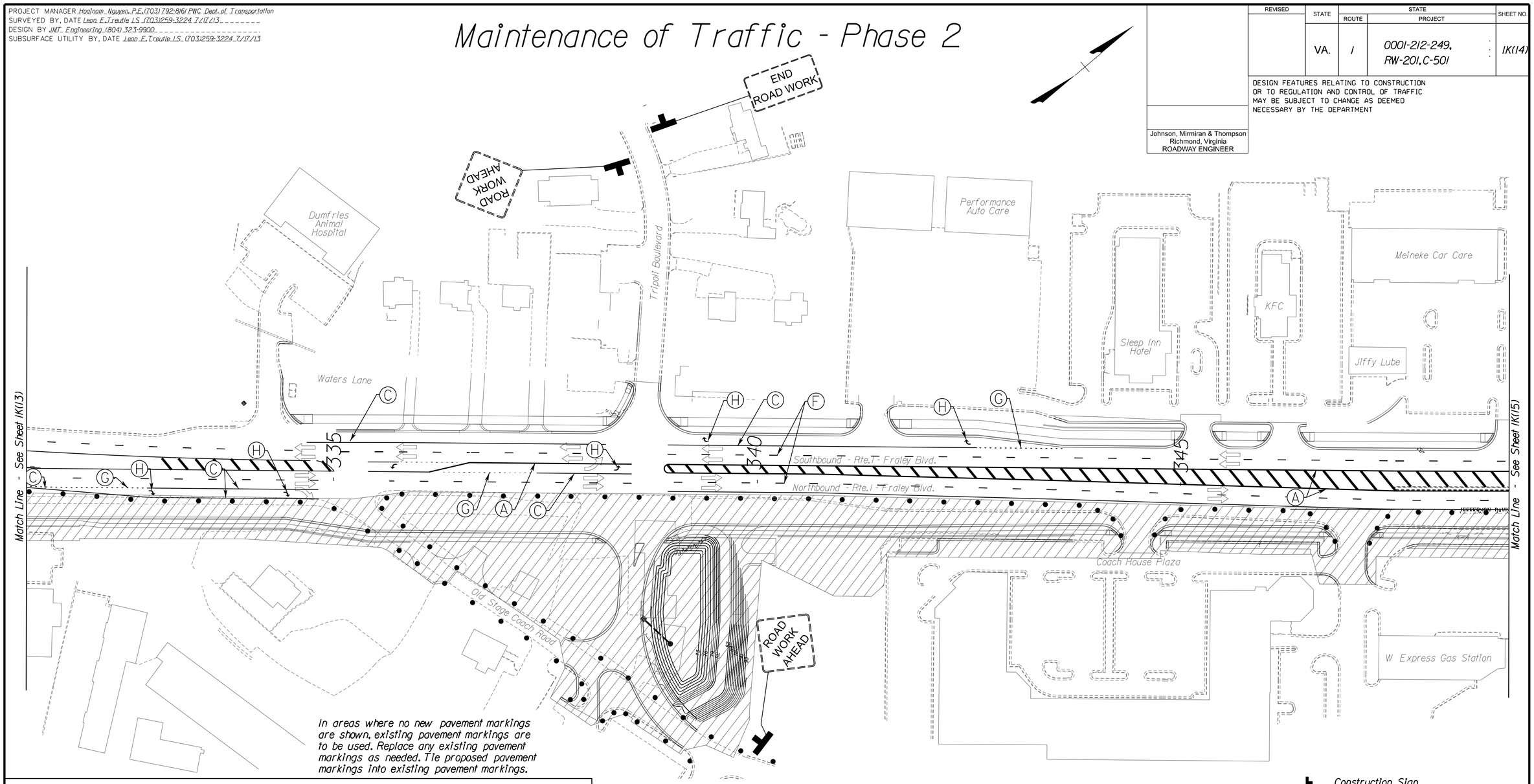
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(14)

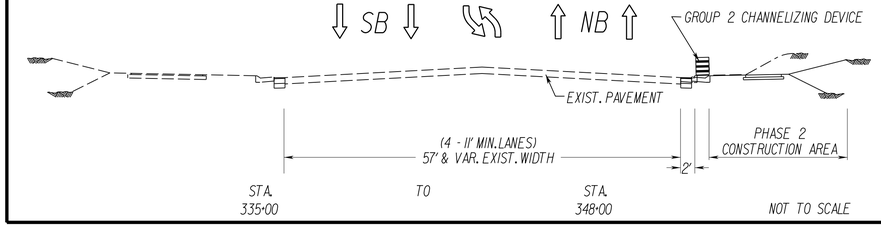
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE 2
RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	IK(1)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(14)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

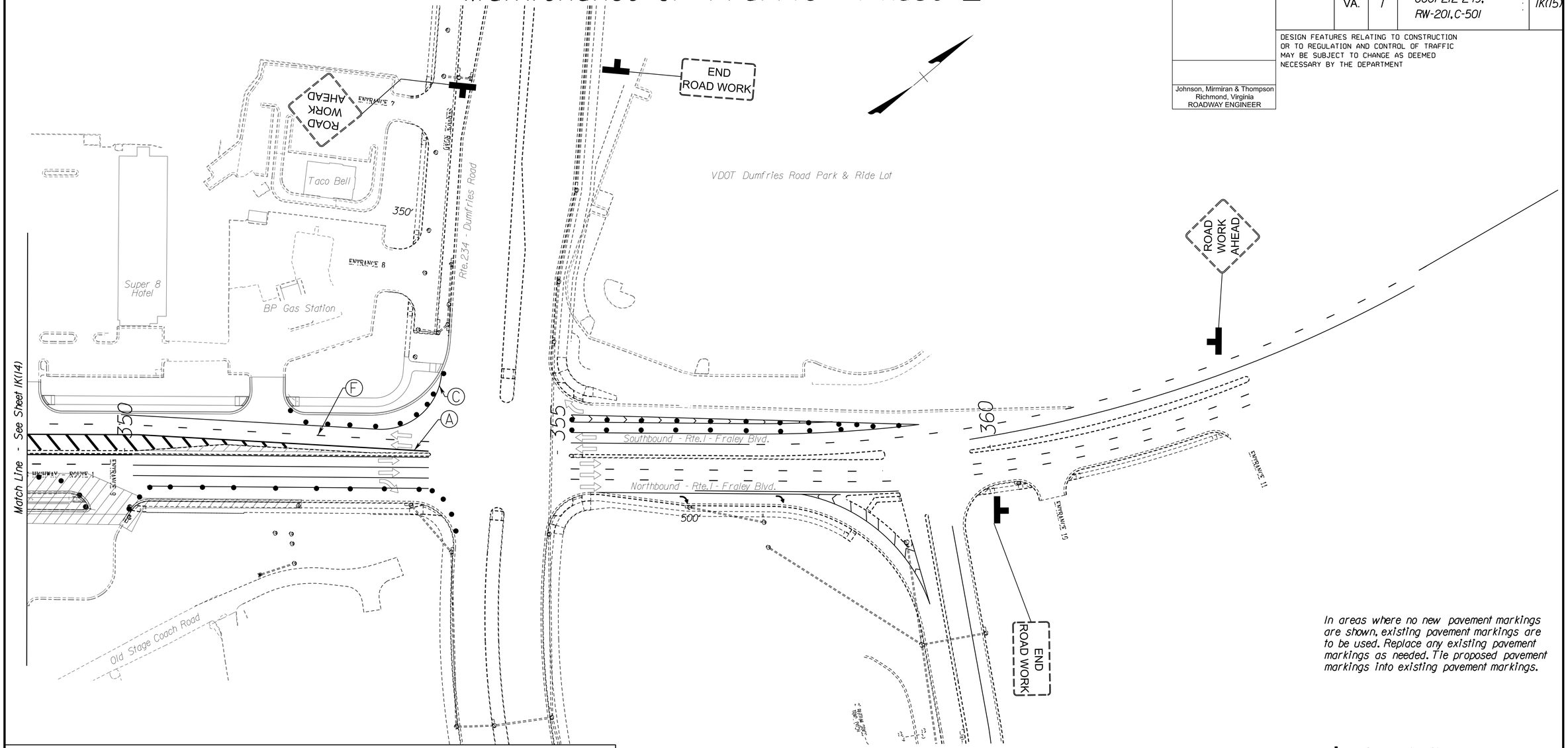
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(15)

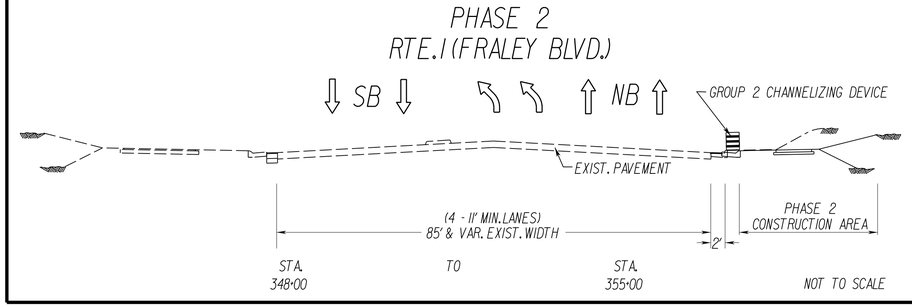
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE 2
RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(15)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:13:53 PM

dl1948101k1(16).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

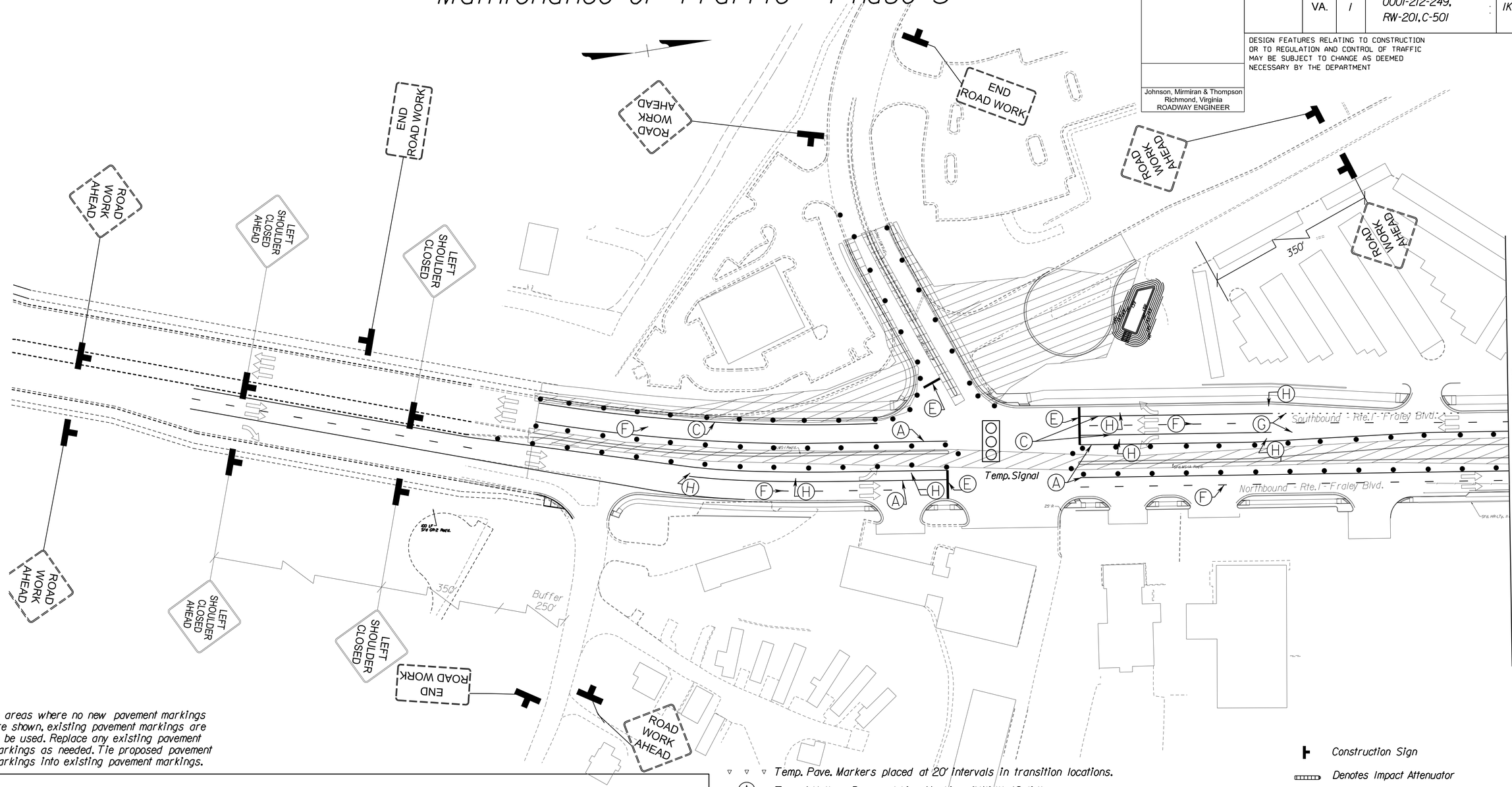
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(16)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

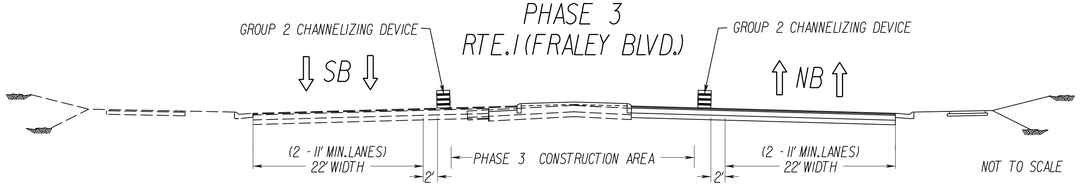
Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION

PHASE 3
RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(8)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(16)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

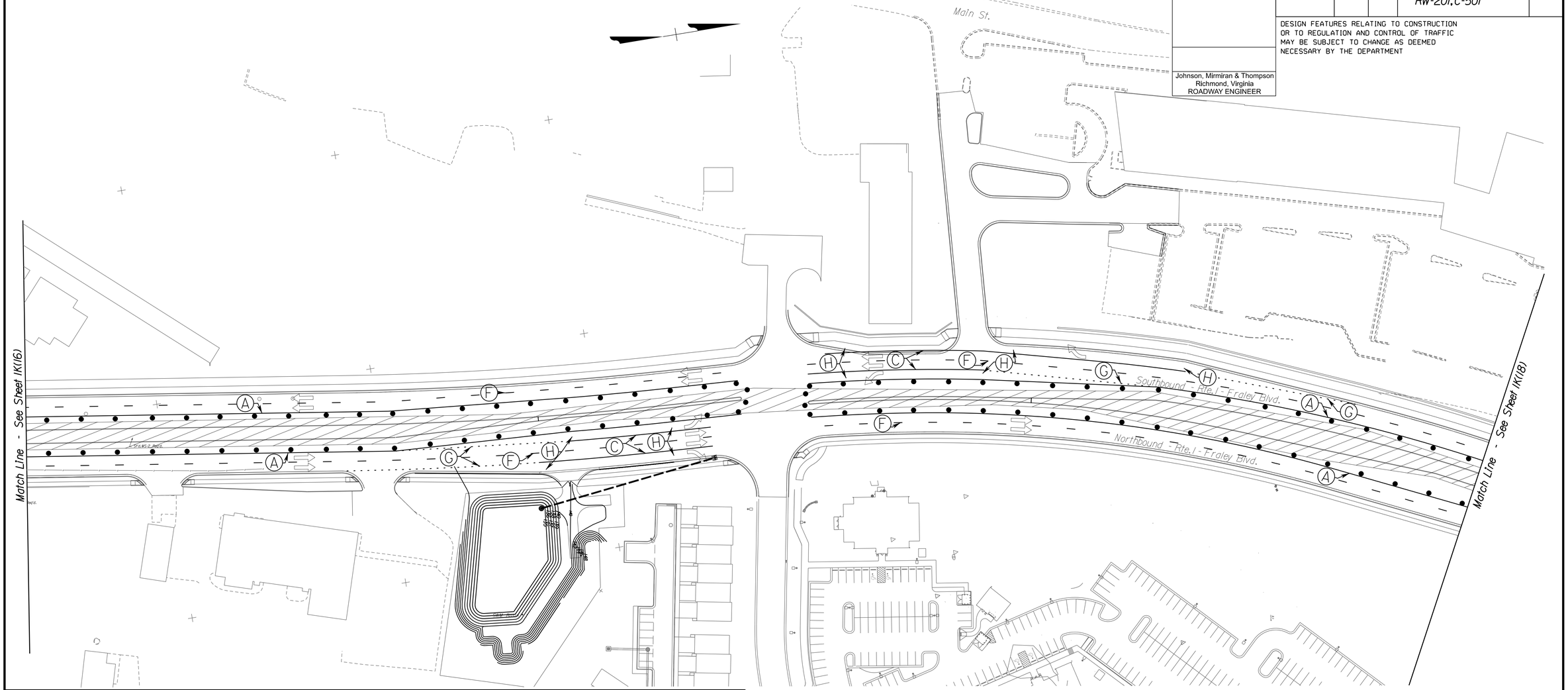
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(17)

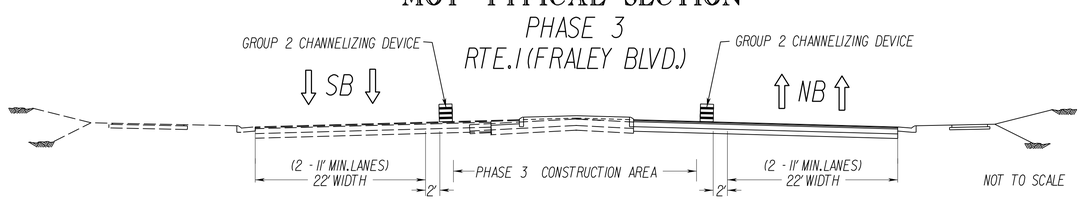
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE 3
RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.
Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(17)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS. (703)259-3224 7/17/13

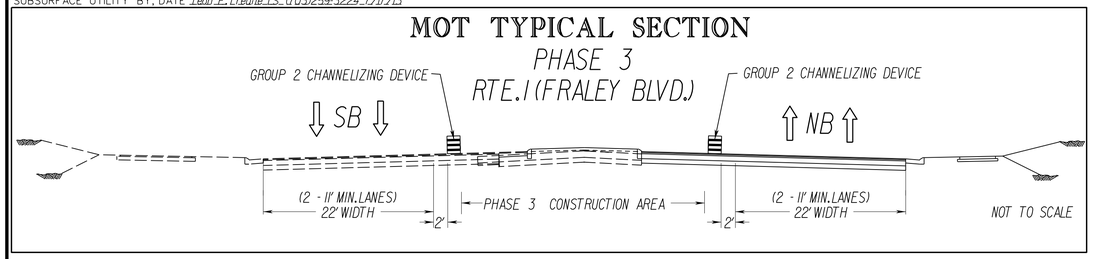
Maintenance of Traffic - Phase 3

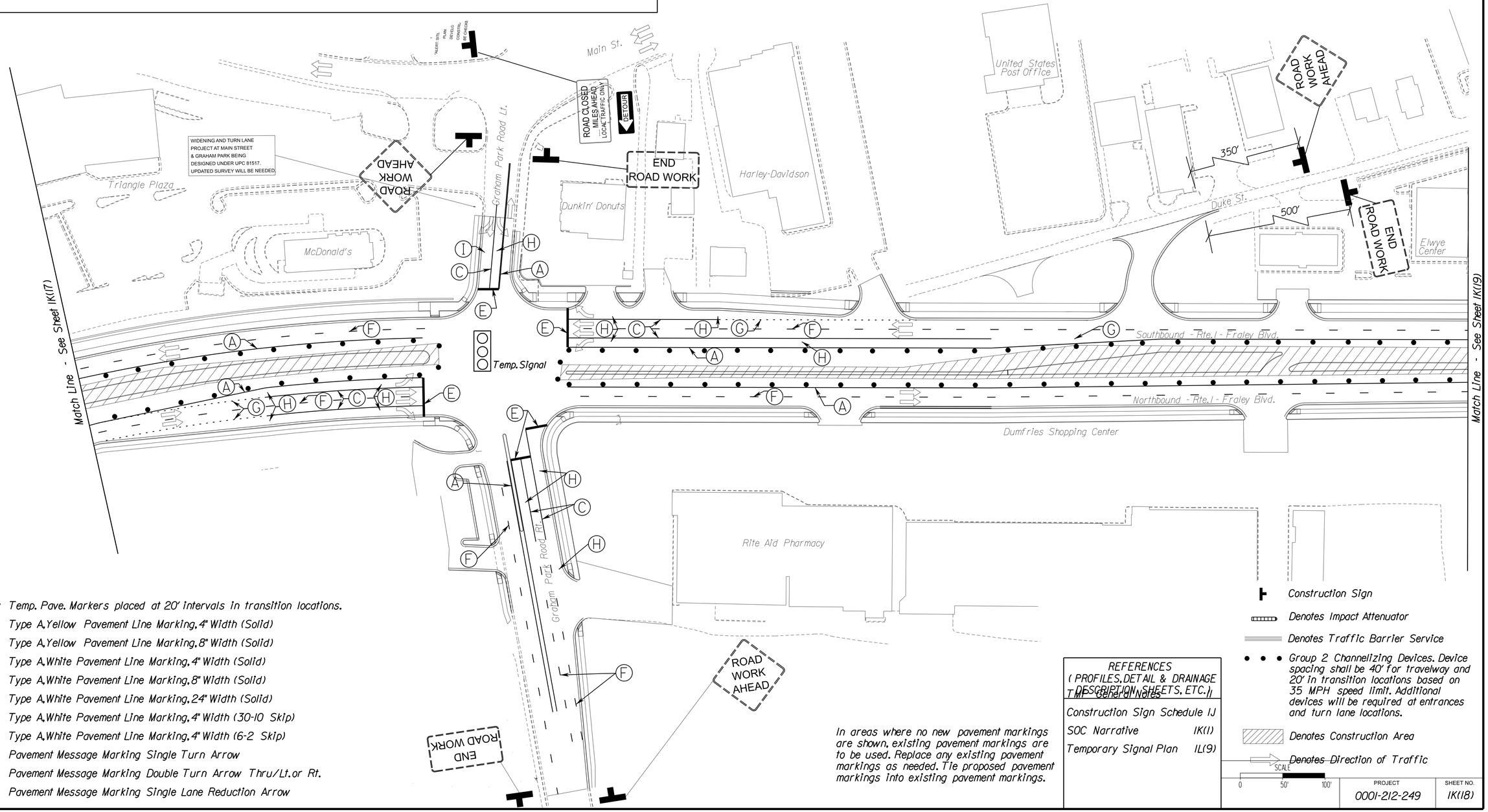
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IK(18)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

MOT TYPICAL SECTION
PHASE 3
RTE.1 (FRALEY BLVD.)





▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

(A) Type A, Yellow Pavement Line Marking, 4" Width (Solid)
(B) Type A, Yellow Pavement Line Marking, 8" Width (Solid)
(C) Type A, White Pavement Line Marking, 4" Width (Solid)
(D) Type A, White Pavement Line Marking, 8" Width (Solid)
(E) Type A, White Pavement Line Marking, 24" Width (Solid)
(F) Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
(G) Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
(H) Pavement Message Marking Single Turn Arrow
(I) Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
(J) Pavement Message Marking Single Lane Reduction Arrow

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	IJ
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(9)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE
0 50' 100'

PROJECT	SHEET NO.
0001-212-249	IK(18)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

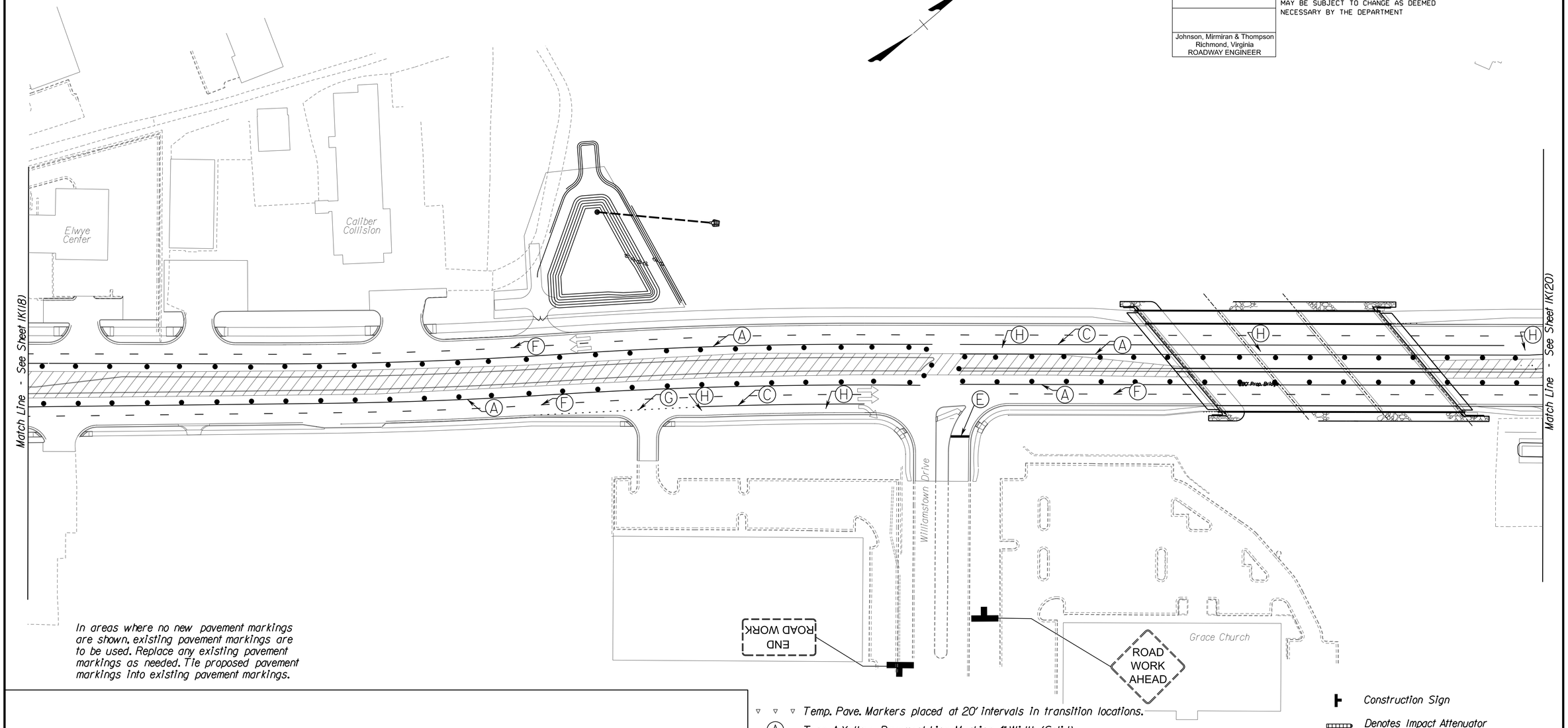
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(19)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

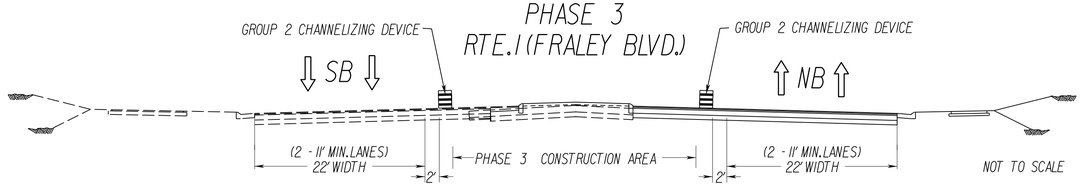
Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION

PHASE 3
RTE. 1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.
Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	IK(1)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(19)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

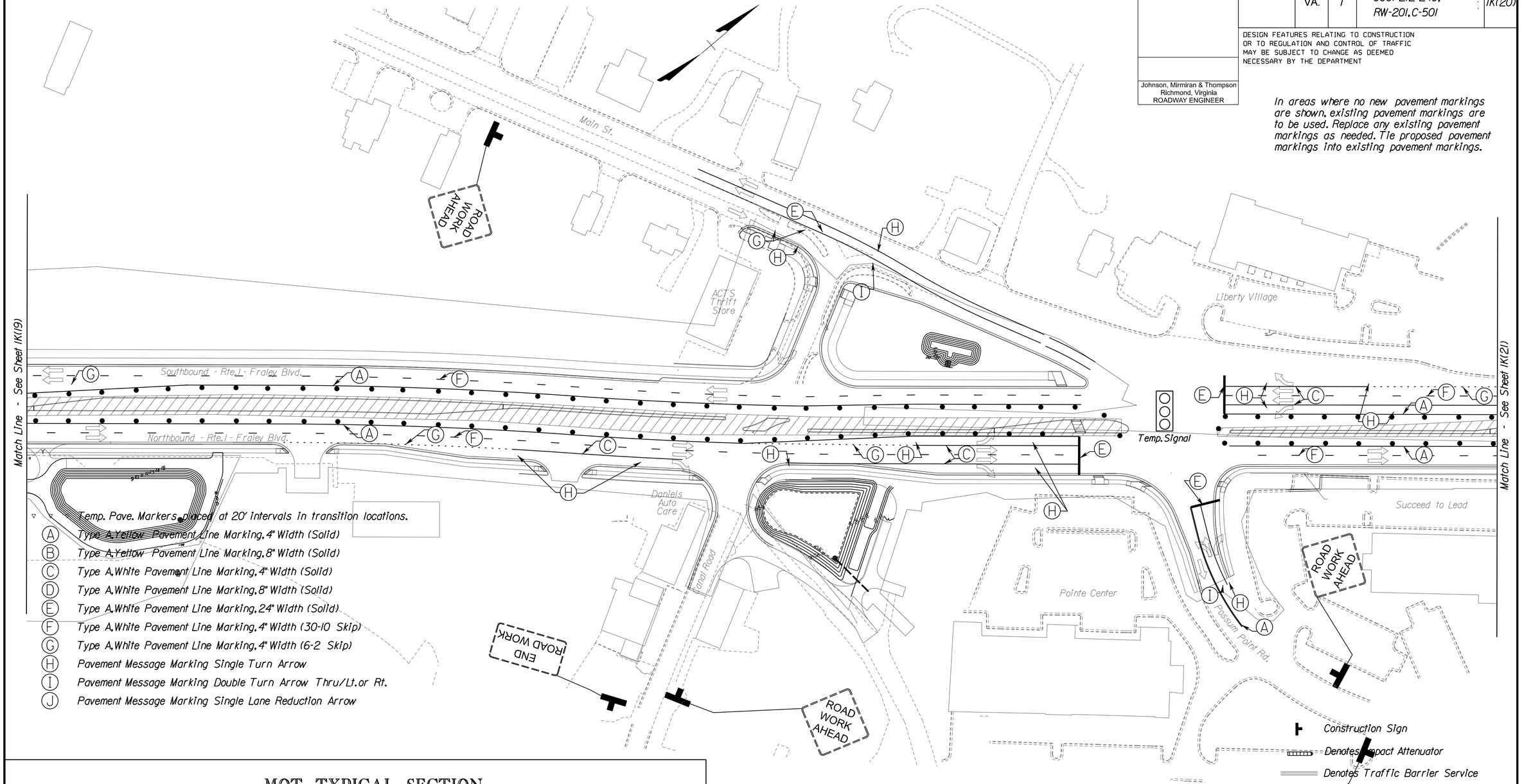
Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IK(20)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER

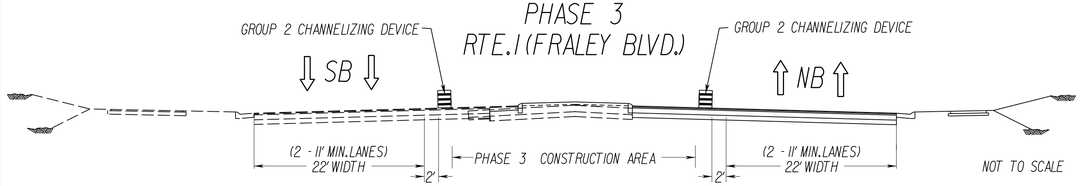
In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.



- Temp. Pave. Markers placed at 20' intervals in transition locations.
- (A) Type A, Yellow Pavement Line Marking, 4" Width (Solid)
- (B) Type A, Yellow Pavement Line Marking, 8" Width (Solid)
- (C) Type A, White Pavement Line Marking, 4" Width (Solid)
- (D) Type A, White Pavement Line Marking, 8" Width (Solid)
- (E) Type A, White Pavement Line Marking, 24" Width (Solid)
- (F) Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
- (G) Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
- (H) Pavement Message Marking Single Turn Arrow
- (I) Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
- (J) Pavement Message Marking Single Lane Reduction Arrow

MOT TYPICAL SECTION

PHASE 3
RTE. 1 (FRALEY BLVD.)



- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

TMP General Notes	II
Construction Sign Schedule	IJ
SOC Narrative	IK(1)
Temporary Signal Plan	IL(10)

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	IK(20)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:15:34 PM

dll948101k(21).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

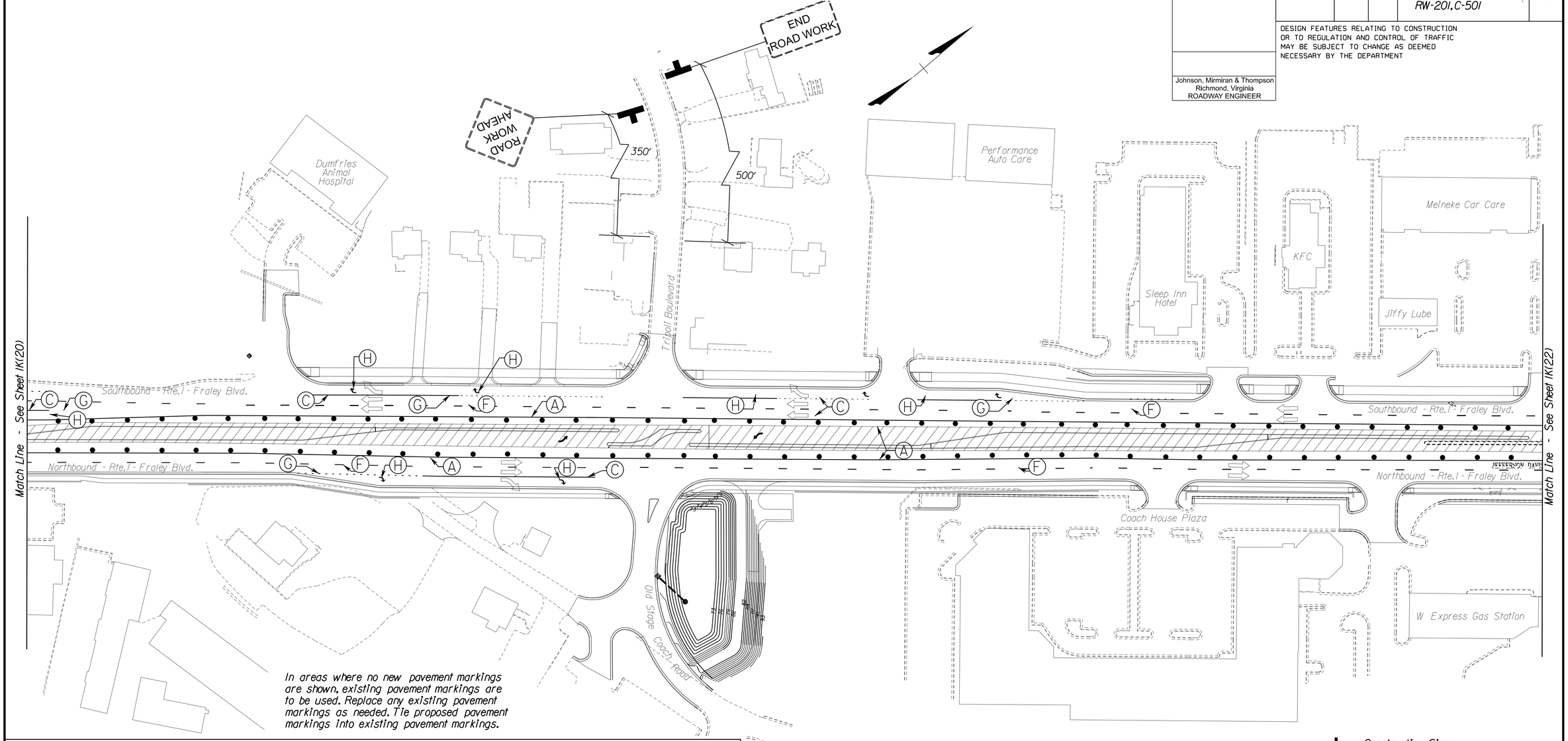
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(21)

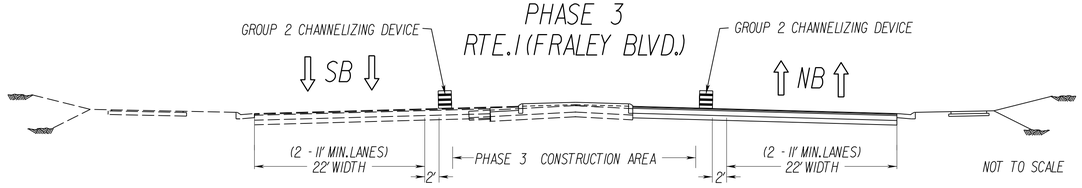
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

MOT TYPICAL SECTION
PHASE 3
RTE.1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	1K(1)

Construction Sign
Denotes Impact Attenuator
Denotes Traffic Barrier Service
• • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
Denotes Construction Area
Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(21)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/7/2023
3:15:54 PM

dll948101k(22).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

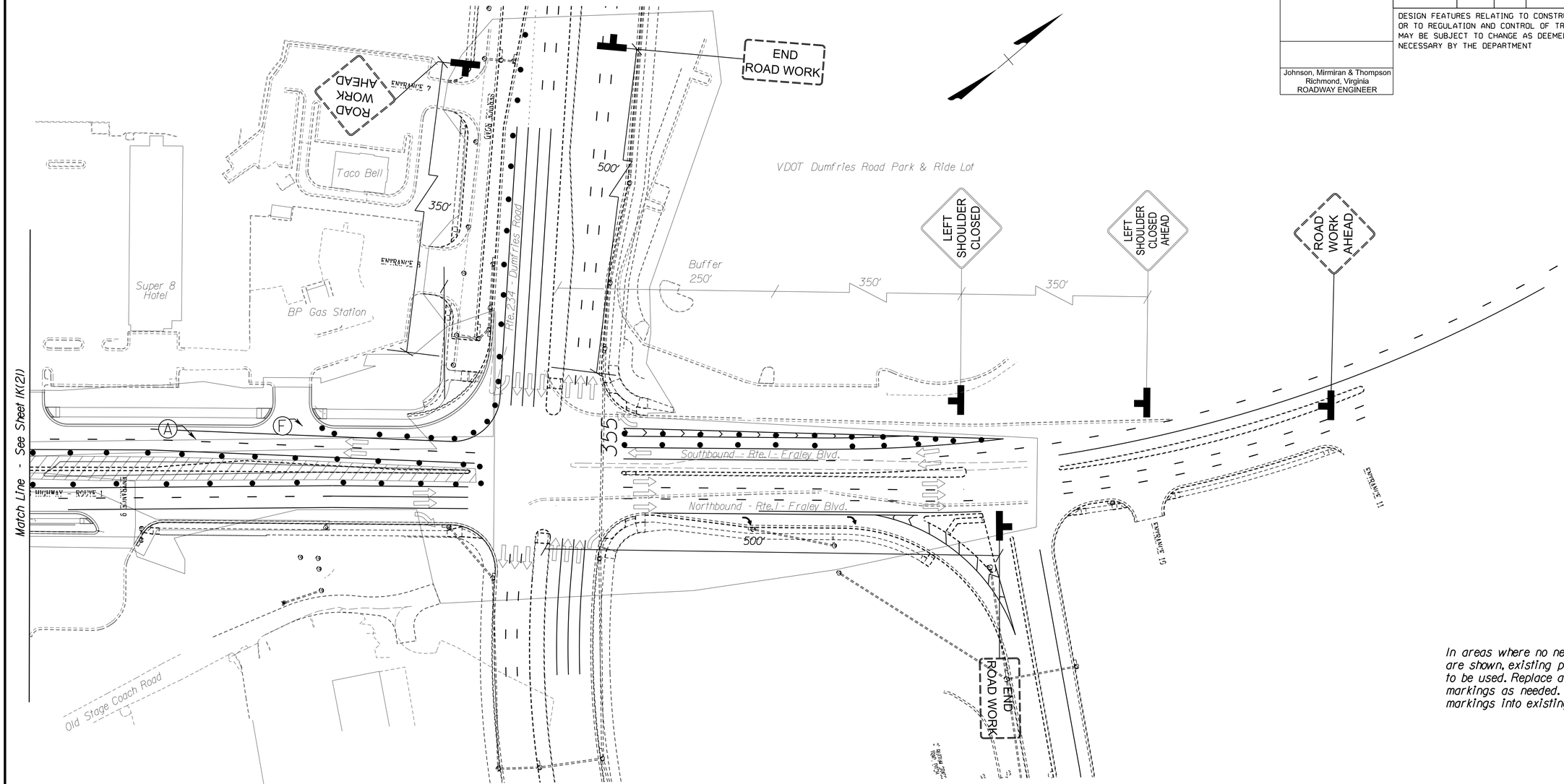
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

Maintenance of Traffic - Phase 3

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1K(22)

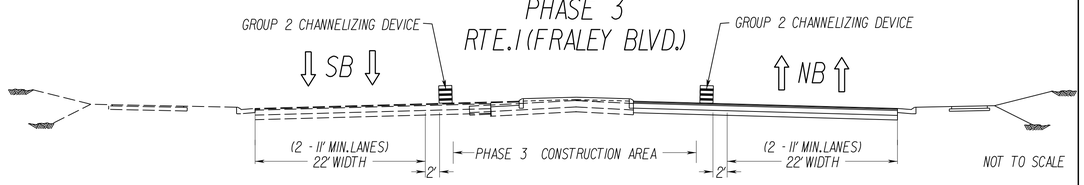
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
ROADWAY ENGINEER



MOT TYPICAL SECTION

PHASE 3
RTE. 1 (FRALEY BLVD.)



▽ ▽ ▽ Temp. Pave. Markers placed at 20' intervals in transition locations.

Ⓐ Type A, Yellow Pavement Line Marking, 4" Width (Solid)
Ⓑ Type A, Yellow Pavement Line Marking, 8" Width (Solid)
Ⓒ Type A, White Pavement Line Marking, 4" Width (Solid)
Ⓓ Type A, White Pavement Line Marking, 8" Width (Solid)
Ⓔ Type A, White Pavement Line Marking, 24" Width (Solid)
Ⓕ Type A, White Pavement Line Marking, 4" Width (30-10 Skip)
Ⓖ Type A, White Pavement Line Marking, 4" Width (6-2 Skip)
Ⓗ Pavement Message Marking Single Turn Arrow
Ⓘ Pavement Message Marking Double Turn Arrow Thru/Lt. or Rt.
Ⓙ Pavement Message Marking Single Lane Reduction Arrow

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
TMP General Notes	11
Construction Sign Schedule	1J
SOC Narrative	1K(1)

In areas where no new pavement markings are shown, existing pavement markings are to be used. Replace any existing pavement markings as needed. Tie proposed pavement markings into existing pavement markings.

- Construction Sign
- Denotes Impact Attenuator
- Denotes Traffic Barrier Service
- • • • Group 2 Channelizing Devices. Device spacing shall be 40' for travelway and 20' in transition locations based on 35 MPH speed limit. Additional devices will be required at entrances and turn lane locations.
- Denotes Construction Area
- Denotes Direction of Traffic

SCALE	PROJECT	SHEET NO.
0 50' 100'	0001-212-249	1K(22)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

EROSION & SEDIMENT CONTROL GENERAL NOTES

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

This project is located in Prince William County and approximately 36.30 acres will be disturbed by the proposed construction activity. The Project is in Prince William County, Dumfries, Virginia along US Route 1. The existing roadway consists of two northbound and two south bound lanes which separate as they pass into and through the town of Dumfries. See "Project Soil Map" in this sheetfor the Project Location. The existing roadway is drained by shoulder ditches with some curb and gutter sections. The proposed Project will combine the separated northbound and southbound lanes and the northbound lanes will carry all US Route 1 traffic transitioning to six lanes separated by a raised grassy median. (VDOT Standard MS-2). The proposed roadway will be drained by curb and gutter for the entire Project length. The existing US Route 1 southbound lanes will become a local roadway through the town of Dumfries. The Project will extend from the existing intersection with Quantico Gateway Drive north to the intersection with Dumfries Road (SR 234) for approximately 1.8 miles in length. The Project will also:

1. Construct a 10-ft shared-use path for bicyclists and pedestrians along the southbound side (east side) of Fraley BLVD and a 5-ft sidewalk along the northbound side (west side) of Fraley BLVD.
2. Conruct and widen the Fraley BLVD Bridge over Quantico Creek.

EXISTING SITE CONDITIONS

The project location is highly urbanized with lots of existing storm sewer system. There are small strips of grass and some forest areas in the project site. There are existing BMPs located near the project site aswell. The drainage throughout the project ultimately drains to Quantico Creek. The project topography has good slope for drainage.

ADJACENT PROPERTY

Adjacent to Route 1 on both sides are primarily commercial developed properties.

OFF-SITE AREAS

There are no anticipated Off-Site borrow areas and/or surplus material disposal areas associated with this project. Therefore offsite-borrow is not covered by this Erosion and Sediment Control Plan. In the event that the above statement is not valid the contractor shall submit a supplementary E&S plan to the owner covering the off-site borrow area which would have to be approved by the authority before any off-site activity commences.

SOILS

According to the Soil Survey of Prince William County, Virginia, the soils in the project area primarily consist of Urban Land _ Udorthents complex (54B). This designation describes areas where 85 percent or more of the surface layer is covered by asphalt, concrete or other impervious surfaces and areas of variable depth and slope which are well draining to moderately well drained solis. The Udorthents are areas where the existing solls have been altered by excavation or covered by fill. Also included are undisturbed soils and fill area containing material, such as concrete, wood and asphalt.

CRITICAL EROSION AREAS

No areas have been identified as critical areas for erosion.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook (1992) and the VDOT Road and Bridge Specifications (2007). See sheet IM(1), IM(2) and IM(3) for a list of E&S controls used and General E&S notes.

PERMANENT STABILIZATION

Permanent stabilization shall be done In accordance with the VESCH and VDOT Road & Bridge Specifications (2016). All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done in accordance with these plans unless otherwise directed by the engineer.

STORMWATER MANAGEMENT

The project is grandfathered and storm water management was designed based on Part II C criteria of VSMP. Calculation of runoff before and after development indicates that there will be a net increase in peak runoff as a result of the project. Therefore Part II C design criteria has been ap plied to be in compliance with water quantity and quality measures.. See drainage report for more details.

STRUCTURAL PRACTICES

1. Safety Fence- 3.01
A safety fence shall be installed around all temporary sediment traps in accordance with the VESCH.

2. Temporary Construction Entrance - 3.02
Temporary construction entrances with wash racks shall be installed adjacent to the construction limits. During muddy conditions, drivers of construction vehicles will be required to wash their wheels before leaving the limits of construction. Any sediment tracked into the travel way shall be cleaned at the end of each day. In accordance with minimum standard *17. Water source for wash rack to be provided by fire hydrant. If no hydrant is available, water to be provided by private water truck.

3. Construction Road Stabilization - 3.03
Temporary stabilization with stone of access roads, subdivision streets, parking areas and other traffic areas immediately after grading to reduce erosion caused by vehicles during wet weather, and to prevent having to regrade permanent roadbeds between initial grading and final stabilization.

4. Silt Fence Barrier - 3.05 Super Silt Fence Barrier
Silt fence sediment barriers will be installed down slope of areas with minimal grades to filter sediment-laden runoff from the sheet flow, as indicated on the plans.

5. Storm Drain Inlet Protection - 3.07
All storm sewer inlets shall be protected during construction. Sediment-laden water shall be filtered before entering the storm sewer inlets.

6. Culvert Inlet Protection - 3.08
All culvert inlets shall be protected during construction. Sediment-laden water shall be filtered before entering the culvert inlets.

7. Temporary Diversion Dike - 3.09
Diversion Dikes shall be installed below major graded areas to direct sediment-laden runoff into the sediment traps. Diversion Dikes shall be installed above major graded areas to divert clean water around the disturbed areas.

8. Temporary Diversion Channel - 3.12
Temporary Diversion Channels shall be installed in the locations shown on the plan to divert the existing channels and allow for the construction of the culverts to be performed in the dry.

9. Temporary Sediment Trap - 3.13
A temporary ponding area will be formed by constructing an earthen embankment with a stone weir outlet. The depth and configuration of the trap will be designed to meet minimum standards, and will be filled in Phase II when all storm sewer utilities are in place and functional. Specific details of the sediment traps are shown on the plan.

10. Rock Check Dams - 3.20
Temporary stone dams shall be constructed across the drainage ditches to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch.

VEGETATIVE PRACTICES

1. Temporary Seeding - 3.31
Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied with in seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. Permanent Seeding 3.32
Permanent or temporary soil stabilization shall be applied on rough-graded areas that will not be brought to final grade for a year or more or where permanent, long-lived, vegetative cover. Is needed on fine-graded areas. Permanent seeding shall consist of perennial vegetative cover and shall be determined by the slopes, soil types, and maintenance requirements.

MANAGEMENT STRATEGIES

The first step in this Erosion and Sediment Control Plan for this multi-phase project is to install all perimeter controls. All perimeter controls will be in place prior to any excavation.

Phase I of the Erosion and Sediment Control Plan shall:

1. Flag limits of clearing and grading and hold pre-construction meeting.
2. Install construction entrances with wash racks in the location shown on the plans. Water for the wash racks to be provided by private water truck if no hydrant is available.
3. Provide minimum grading to allow Phase I measures to be installed.
4. Install perimeter controls as shown to include diversion dikes and silt fence. These sediment trapping measures shall be installed as a first step in grading per the Phase I Erosion and Sediment Control Plan and will be seeded and mulched immediately following installation.
5. Grading operations may commence once perimeter controls, diversions and trapping measures are installed to the satisfaction of the Inspector.
6. Temporary seeding or other stabilization will follow immediately after grading.
7. Once all of Phase I controls are in place, the Contractor is to contact the county Inspector for sign-off. Once sign-off is obtained by the county, the Contractor can proceed with general clearing and earthworks activities.
8. Install proposed utilities.
9. Fine grade excavated areas.
10. Lime, fertilize and permanently seed and mulch all areas that will not receive impervious cover.
11. For vegetative stabilization of all denuded areas see erosion control measures and vegetative practices.
12. Once all areas are stabilized to the satisfaction of the county Inspector the control shall remove perimeter controls.

MAINTENANCE STRATEGIES - SEDIMENT & EROSION CONTROL

1. It will be the responsibility of the Contractor to ensure that all downstream areas are protected against erosion and sedimentation. In doing so, the Contractor must coordinate with the county Inspector throughout the duration of this project.
2. In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. Refer to the attached erosion and sediment control standard notes for detailed maintenance and revegetation/stabilization requirements.
3. All new seeded and mulch areas will be inspected after each rainfall event to ensure the new seed has not been washed away. If so, the areas shall be re-seeded and mulched immediately.
4. The Inspector has the authority to add or delete erosion and sediment controls as needed in the field, as site conditions warrant. The Contractor does have the authority to add additional sediment and erosion control measures as the Contractor deems necessary to prevent erosion and movement of sediment to off-site areas. Additional measures should be authorized by the project manager.
5. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization, in accordance with minimum standard *18.

TWO PHASE EROSION & SEDIMENT CONTROL PLAN

Phase I controls shall be placed as indicated on the Erosion & Sediment Plans, prior to any land disturbing activities. Mud and debris will be washed from all construction vehicles and equipment before leaving the site. See land disturbing/construction sequence, this sheet.

Phase II work will not commence until Phase I work has been approved by the county Inspector. Phase II includes the adjustment of silt fence and perimeter controls, providing the cut and fill areas are near final grade and storm sewer is functional. The utilities, curb and gutter, and roads also should be near final grade. Base stone for the roads and parking areas should be completed within seven (7) days after reaching final grade for subgrade. Inlet protection shall be provided for all proposed and existing inlet storm structures. Additionally, any stock piles (location of which will be coordinated in the field with the site Inspector) will be provided with perimeter silt fence. Topsoil, stockpiles and all areas to be rough graded during initial phase of construction shall be seeded with fast germinating temporary vegetation immediately following grading. Mixture of seed will depend on the time of year. 3:1 slope areas not adequately stabilized by seeding are to be sodded and pegged at the direction of the Inspector. After all construction operations have ended and all disturbed areas have been stabilized, mechanical sediment controls shall be removed and the ground permanently stabilized with vegetation upon the approval of the site Inspector. See land disturbing/construction sequence, this sheet.

The implementation of Phase II controls cannot begin until the Phase II controls have been approved by the Prince William County Inspector.

LAND DISTURBING/CONSTRUCTION SEQUENCE PHASE I

A Pre-Construction meeting shall be held prior to commencement of work.

Prior to clearing and grubbing, all perimeter controls are to be installed as shown and as necessary. Construct temporary sediment traps at proposed locations. The contractor shall install and maintain all necessary temporary pipes to provide adequate drainage throughout construction. Construct proposed drainage outfalls and channel relocations or improvements as shown on the plans. For all ditches constructed during Phase I, the required check dams shall be installed at the time ditches are constructed. Obtain County Site Inspector's approval of perimeter controls.

LAND DISTURBING/CONSTRUCTION SEQUENCE PHASE II

After the County Site Inspector's approval of Phase I E&S controls, clear and grub remainder of the site as necessary. Construct the proposed drainage system as shown and as necessary, install inlet protection as shown and as needed. All silt fence is to be installed as shown and as necessary, drop inlet silt traps shall be installed as shown and as needed, rock check dams shown shall be installed at the same time the ditch is constructed. All ditches shall be constructed and stabilized according to the plans, once stabilization has been completed direct flow to the ditches and remove temporary diversion dikes. Install all curb & gutter and place base stone pavement except where this would interfere with the temporary sediment traps. Fine grade site and install all landscaping, including permanent seeding and fertilizing as shown in the plan. Install base course asphalt paving and finial paving. Clean site of all trash and debris. Have the County Inspector inspect all areas to determine if they are adequately stabilized.

CHECKLIST
FOR EROSION AND SEDIMENT CONTROL PLANS

1M(2) *Minimum Standards* - All applicable Minimum Standards must be addressed.

Narrative

1M(1) *Project description* - briefly describes the nature and purpose of the land- disturbing activity, and the area (acres) to be disturbed.

1M(1) *Existing site conditions* - a description of the existing topography, vegetation and drainage.

1M(1) *Adjacent areas* - A description of neighboring areas such as streams, lakes, residential areas, road, etc., which might be affected by the land disturbance.

1M(1) *Off-site areas* - Describe any off-site land-disturbing activities that will occur(including borrow sites, waste or surplus areas, etc.). Will any other areas be disturbed?

1M(1) *Solls* - a brief description to the solls on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure.

1M(1) *Critical areas* - A description of areas on the site which have potentially serious erosion problems (eg., steep slopes, channels, wet weather/underground springs, etc.).

1M(1) *Erosion and sediment control measures* - A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should meet the specifications in Chapter 3.)

1M(1) *Permanent stabilization* - A brief description, including specifications, of how the site will be stabilized after construction is completed.

1M(1) *Stormwater runoff considerations* - Will the development site cause an increase in peak runoff rates? Will the increase in run off cause flooding or channel degradation down stream? Describe the strategy to control stormwater runoff.

SITE PLAN

1A *Vicinity map* - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

1M(1) *Indicate north* - The direction of north in relation to the site.

1N(1)-1N(23) *Limits of clearing and grading* - Areas which are to be cleared and graded.

1N(1)-1N(23) *Existing contours* - the existing contours of the site.

1P(3)-1P(14) *Final contours* - Changes to the existing contours, including final drainage patterns.

1N(3)-1N(23) *Existing vegetation* - The existing tree lines, grassed areas, or unique vegetation.

1M(1) *Solls* - The boundaries of different soil types.

1N(1)-1N(23) *Existing drainage patterns* - The dividing lines and the direction of flow for the different drainage areas. Include the size (acreage) of each drainage area.

N/A *Critical erosion areas* - Areas with potentially serous erosion problems. (See Chapter 6 for criteria.)

(3)-(23) *Site Development* - Show all improvements such as buildings, parking lots, access roads, utility construction, etc.

1P(1)-1P(23) *Location of practices* - The locations of erosions and sediment controls and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the handbook.

N/A *Off-site areas* - Identify any off-site land-disturbing activities (eg., borrow sites, waste areas, etc.). Show locations of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)

N/A *Detail drawings* - Any structural practices used that are not referenced to the E&S hand book or local handbooks should be explained and illustrated with detail drawings.

1M(1) *Maintenance* - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.

TABLE 3.31B
ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS
"QUICK REFERENCE FOR ALL REGIONS"

Planting Dates	Species	Rate lbs./acre
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal 9 Winter Rye (Secale cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug. 31	German Millet (Setaria italica)	50

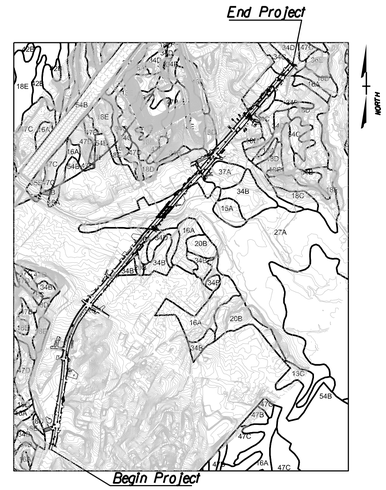
Source: Va. DSWC

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IM(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Project Soils Map
Prince William County, Virginia



18C	Dumfries sandy loam, 7 to 15 percent slopes
18D	Dumfries sandy loam, 15 to 25 percent slopes
27A	Hatboro-Codorus complex, 0 to 2 percent slopes
34C	Lunt loam, 7 to 15 percent slopes
54B	Urban land-Udorthents complex, 0 to 7 percent slopes

TABLE 3.32-D

SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA

	Total Lbs. Per Acre
Minimum Care Lawn	
- Commercial or Residential	
- Kentucky 31 or Turf-Type Tall Fescue	175-200 lbs.
or	
- Common Bermudagrass **	75 lbs.
High-Maintenance Lawn	
- Kentucky 31 or Turf-Type Tall Fescue	200-250 lbs.
or	
- Hybrid Bermudagrass (seed) **	40 lbs. (unhulled)
or	30 lbs. (hulled)
- Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less)	
- Kentucky 31 Fescue	128 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
	150 lbs.
Low Maintenance Slope (Steeper than 3:1)	
- Kentucky 31 Tall Fescue	93-108 lbs.
- Common Bermudagrass **	0-15 lbs.
- Red Top Grass	2 lbs.
- Seasonal Nurse Crop *	20 lbs.
- Sericea Lespedeza **	20 lbs.
	150 lbs.

* Use seasonal nurse crop in accordance with seeding dates as stated below:
February, March through April ..... Annual Rye
May 1st through August ..... Foxtail Millet
September, October through November 15th ..... Annual Rye
November 16th through January ..... Winter Rye

** May through October, use hulled seed. All other seeding periods, use unhulled seed. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

Source: Va. DSWC

PROJECT	SHEET NO.
0001-212-249	IM(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

EROSION & SEDIMENT CONTROL GENERAL NOTES

4VAC50-30-40 MINIMUM STANDARDS. (MS-19)

AN EROSION AND SEDIMENT CONTROL PROGRAM ADOPTED BY A DISTRICT OR LOCALITY MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOILS STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP SLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.

   a. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
   b. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.

7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

11. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NON ERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NON ERODIBLE COVER MATERIALS.

13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NON ERODIBLE MATERIAL SHALL BE PROVIDED.

14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

   a. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   b. EXCAVATED MATERIAL SHALL BE PLACED ON UPHILL SIDE OF TRENCHES.
   c. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
   d. MATERIAL USED FOR BACK FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
   e. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
   f. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASE IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA:

   a. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
   b. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
      (1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR
      (2)
         (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED AND BANKS; AND
         (b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
         (c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:

         (1) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR
         (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
         (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR

   (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION.
   d. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
   e. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT.
   f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
   g. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATERS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
   h. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
   i. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
   j. IN APPLYING THESE STORMWATER RUNOFF CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL, OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
   k. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

MINIMUM STANDARDS (MS-19) NARRATIVE

1. INSTRUCTION FOR TEMPORARY SOIL STABILIZATION REQUIREMENTS ARE PROVIDED ON THE PLANS. SEE THE E&S NARRATIVE - VEGETATIVE PRACTICES #1 ON SHEET #1P(1) AND SEED MIXTURES AND APPLICATION RATES IN TABLE 3.31-B ON SHEET #1P(1). INSTRUCTION FOR PERMANENT STABILIZATION REQUIREMENTS ARE PROVIDED ON THE PLANS. SEE THE E&S NARRATIVE - VEGETATIVE PRACTICES #2 ON SHEET #1P(1).

2. DURING CONSTRUCTION OF THE PROJECT, ANY SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOILS STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. A NOTE STATING THE DEFINITION OF PERMANENT STABILIZATION IS PROVIDED ON THE PLANS. SEE THE E&S NARRATIVE - VEGETATIVE PRACTICES #2 ON SHEET #1P(1) AND TABLE 3.32-D ON SHEET #1P(1).

4. ALL SEDIMENT TRAPPING MEASURES SHALL BE CONSTRUCTED AS A FIRST STEP PRIOR TO UP SLOPE LAND DISTURBANCE.

5. STABILIZATION MEASURES ARE PROVIDED FOR THE EARTHEN STRUCTURES. SEE THE E&S NARRATE MANAGEMENT STRATEGIES, TASK 4 AND SEED MIXTURES AND APPLICATION RATES IN TABLE 3.31-B ON SHEET 1P(1).

6a. THE SEDIMENT TRAPS ARE CONTROLLING LESS THAN THREE ACRES AND ARE DESIGNED WITH A MINIMUM STORAGE CAPACITY OF 134 CUBIC YARDS PER ACRE. SEE STRUCTURAL PRACTICES ON SHEET 1P(1).

6b. N/A

7. CUT AND FILL SLOPES SHOWN ON THIS PLAN HAVE BEEN EVALUATED BY A GEOTECHNICAL ENGINEER AND DESIGNED TO PREVENT EROSION. INSTRUCTION FOR PERMANENT STABILIZATION REQUIREMENTS ARE PROVIDED ON THE PLANS. SEE THE E&S NARRATIVE - VEGETATIVE PRACTICES #2 ON SHEET #1. PROVIDE SURFACE ROUGHENING OR CRIMPING TO ENHANCE SEED GERMINATION.

8. ANY CONCENTRATED RUNOFF FROM THIS SITE IS OUTLET INTO AN ADEQUATE OUTFALL CHANNEL. CHANNEL ADEQUACY WILL BE VERIFIED WITH THE SUBMISSION OF THE ROADWAY CONSTRUCTION PLANS AND DRAINAGE CALCULATIONS.

9. IT IS NOT KNOWN AT THIS TIME IF THERE WILL BE ANY SEEPAGE OF WATER FROM UNDERGROUND. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. INLET PROTECTION HAS BEEN PROVIDE FOR ALL STORM SEWER INLETS DOWN SLOPE OF THE DISTURBANCE ACTIVITIES. SEE PLAN SHEETS 1Q(3) THRU 1R(14).

11. OUTLET PROTECTIONS ARE PROVIDED ON THE PLAN AT THE APPROPRIATE LOCATIONS. SEE EROSION AND SEDIMENT CONTROL SHEETS 1Q(3) THRU 1R(14).

12. ENCROACHMENT IN THE WATERCOURSE SHALL BE LIMITED TO THE LIMITS OF DISTURBANCE, WHICH ARE AT A MINIMUM TO CONSTRUCT THE ROAD. SILT FENCE AND DIVERSION DIKES ARE PROVIDED TO CONTROL SEDIMENT TRANSPORT.

13. WHERE IT IS NECESSARY TO CROSS A LIVE WATERCOURSE, A TEMPORARY OR PERMANENT VEHICULAR STREAM CROSSING, IN ACCORDANCE WITH VESCH 3.24, SHALL BE PROVIDED.

14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. THE BED AND BANKS OF THE DISTURBED WATERCOURSES ARE TO BE IMMEDIATELY STABILIZED AFTER WORK IS COMPLETED.

16 UNDERGROUND UTILITIES
   a. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   b. EXCAVATED MATERIAL SHALL BE PLACED ON UPHILL SIDE OF TRENCHES.
   c. EFFLUENT FROM DEWATERING OPERATION SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE. OR BOTH, AND DISCHARGED IN A MANNER THAT DOES ONT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
   d. MATERIAL USED FOR BACK FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
   e. TEMPORARY AND PERMANENT SEEDING SCHEDULES ARE PROVIDED ON SHEET #1P(1). SEE TABLES 3.31B & 3.32D.

17. A NOTE REQUIRING THE CLEANING OF ADJACENT TRAVELWAYS IS SHOWN ON THE PLAN. SEE STRUCTURAL PRACTICES - TEMPORARY CONSTRUCTION ENTRANCE 3.02 SEE SHEET #1P(1).

18. A NOTE REQUIRING THE REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS PROVIDED ON THE PLAN. SEE MAINTENANCE STRATEGIES-SEDIMENT & EROSION CONTROL SEE SHEET #1P(1).

19. STORMWATER OUTFALL ADEQUACY WILL BE VERIFIED WITH THE SUBMISSION OF THE ROADWAY CONSTRUCTION PLANS AND DRAINAGE CALCULATIONS.

EROSION & SEDIMENT CONTROL STANDARD NOTES:

1. THE OWNER/DEVELOPER MUST NOTIFY THE DEPARTMENT OF PUBLIC WORKS AT 792-7070 AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCES AND POLICIES.

2. THE OWNER/DEVELOPER GRANTS THE RIGHT-OF-ENTRY ON TO THIS PROPERTY TO THE DESIGNATED PRINCE WILLIAM COUNTY PERSONNEL FOR THE PURPOSE OF INSPECTING AND MONITORING FOR COMPLIANCE WITH TITLE 10.01, CHAPTER 5, ARTICLE 4 OF THE CODE OF VIRGINIA, EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL SECTION 750.04 (C).

3. ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE AND INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.

4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE KEPT ON THE SITE AT ALL TIMES.

5. THE DEVELOPER/DEVELOPER'S REPRESENTATIVE IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY PRINCE WILLIAM COUNTY.

6. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATION IS ACHIEVED.

7. WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.

8. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS AND TO THE PRINCE WILLIAM COUNTY DESIGN AND CONSTRUCTION STANDARDS MANUAL.

9. THE DEVELOPER/DEVELOPER'S REPRESENTATIVE WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES AT ALL TIMES.

   THE DEVELOPER/DEVELOPER'S REPRESENTATIVE SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

   A. SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT ELEVATION INDICATED ON THE RISER PIPE. SEDIMENT SHALL BE DISPOSED IN SUITABLE AREAS AND IN SUCH A MANNER THAT WILL NOT ERODE OR CAUSE SEDIMENTATION PROBLEMS. THE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. EMERGENCY SPILLWAYS SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS LINING IS WELL ESTABLISHED AND EROSION RESISTANT.

   B. SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

   C. GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.

   D. SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

   E. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

   F. STREAM DIVERSION AND STORM CONVEYANCE CHANNELS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE THEY'RE FUNCTIONING PROPERLY AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVISES MUST BE MADE IMMEDIATELY AFTER THE INSPECTION.

10. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.

11. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. SEEDING AND SELECTION OF THE SEED MIXTURE SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK STANDARD AND SPECIFICATION 3.32. ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED.

12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUATE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS AUTHORIZED BY THE PRINCE WILLIAM COUNTY INSPECTORS. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION

13. WHEN SEDIMENT IS TRANSPORTED ONTO A PAVED ROAD SURFACE, THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

14. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.

15. RPA AND FLOODPLAIN LIMITS SHALL BE CLEARLY MARKED IN THE FIELD BY FLAGS, SIGNS, ETC.

16. TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD BY ORANGE SAFETY FENCE.

17. ORANGE SAFETY FENCE MUST BE INSTALLED AROUND ALL SILT TRAPS AND SEDIMENT BASINS.

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IM(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

	PROJECT	SHEET NO.
	0001-212-249	IM(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101, RW-201, C-501	IN(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Utility Owners

Water/Sewer:
Prince William County Service Authority
Contact: Butch Rogers
Telephone: 703-609-8097

Gas:
Columbia Gas
Contact: Utiliquest
Telephone: 703-754-2116

Telephone:
Verizon
Contact: Utiliquest
Telephone: 703-754-2116

Electric:
Dominion Energy
Contact: Utiliquest
Telephone: 703-754-2116

Cable:
Comcast Communications
Contact: Cable Protection Services
Telephone: 804-562-3861

BEGIN CONSTR./ BEGIN PROJ.
0001-212-249,PE-101,C-501
STA. 251+78.30

Proj. 0001-212-249,RW-201
Sta. 252+32.43

Prop.Temp. Constr. Ease.
Prop. Perm. Drain.Ease.
Prop. R/W
C L F
LOD
IP-B
TSF-A
TDC

Match Line See Sheet IN(2)
Match Line Sta. 101+75 See Sheet IN(2)
Match Line See Sheet IN(2)
Match Line Sta. 258+00 - See Sheet IN(3)

Quantico Gateway Dr. Constr. BL
Rte.1 Constr. BL
Southbound - Rte.1 - Fraley Blvd.
Northbound - Rte.1 - Fraley Blvd.
Brady's Hill Rd. Constr. BL

Prop.Temp. Constr. Ease. for Entr.

251 252 253 254 255 256 257

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	3

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(1)

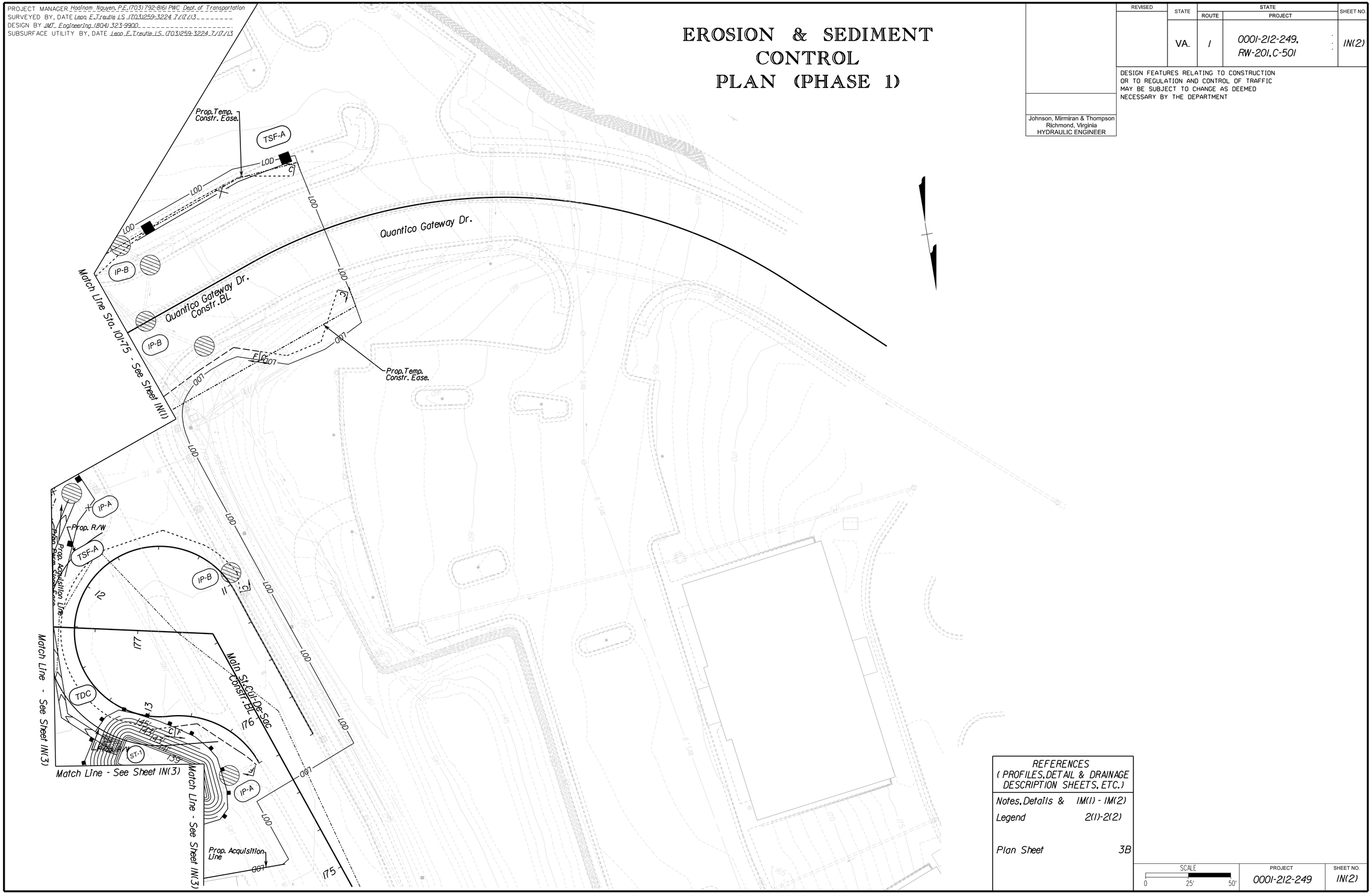
R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)



Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1) - IM(2) 2(1)-2(2)
Plan Sheet	3B

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

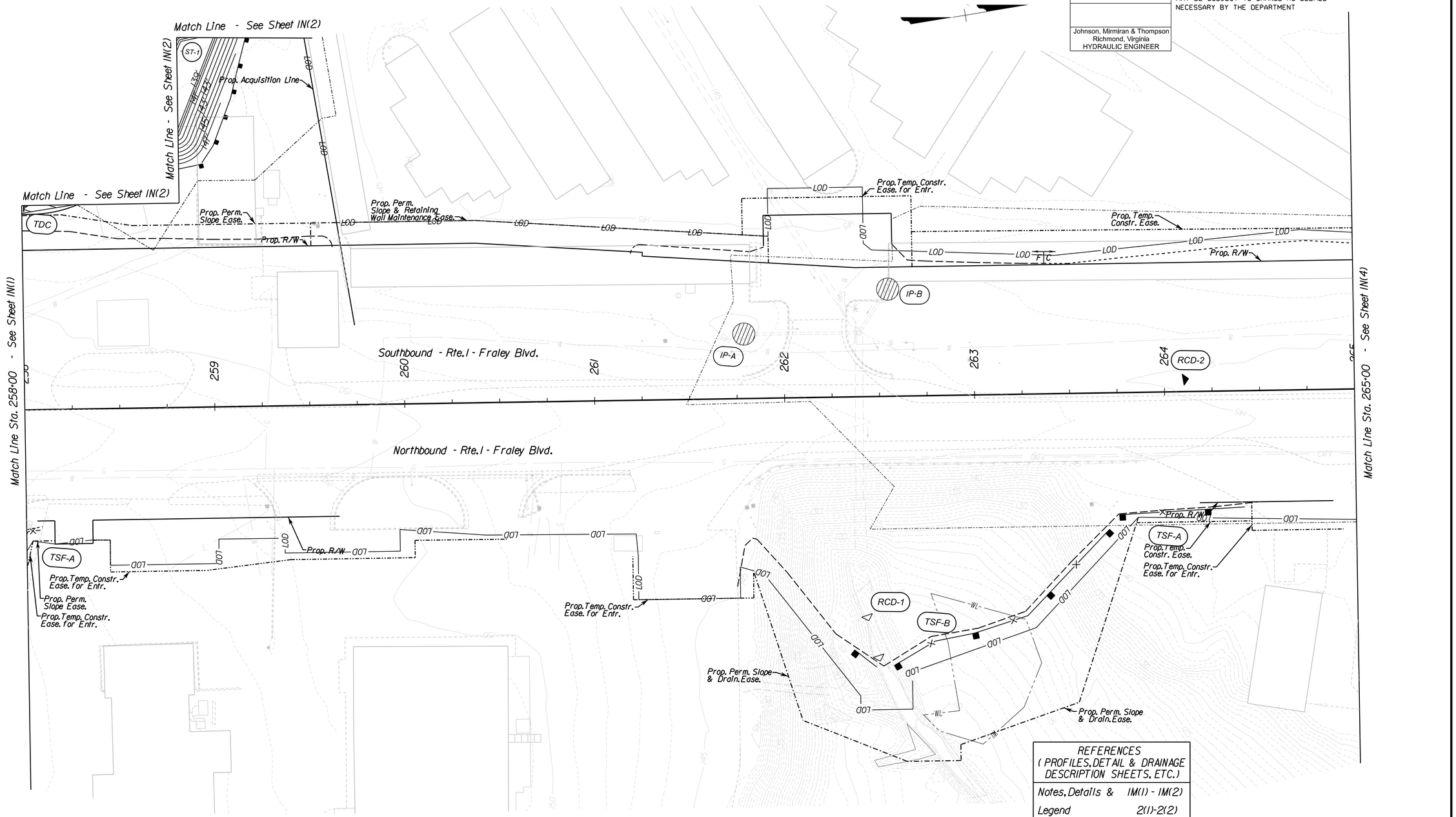
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1) - IM(2) 2(1)-2(2)
Plan Sheets	4

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

T5-9

6.0' ST'D. SWM-1 REQ'D.
TOP ELEV=137.00
BOTTOM ELEV=131.00
205 LF-24" TEMP. PIPE
INV(IN)=131.00 INV(OUT)=128.80

Match Line - See Sheet IN(6)

Match Line Sta. 265+00 - See Sheet IN(3)

Match Line Sta. 272+00 - See Sheet IN(5)

Southbound - Rte.1 - Fraley Blvd.

Northbound - Rte.1 - Fraley Blvd.

Rte.1 Constr.BL

Constr.BL Townsquare Court

Prop. Perm. Drain. Ease.

Prop. Perm. Slope & Drain.Ease.

Prop. R/W

Prop. Temp. Constr. Ease.

Prop. Temp. Constr. Ease. for Entr.

Prop. Acquisition Line

TSF-A

RCD-2

IP-A

IP-B

IP-C

SB-1

LOD

266 267 268 269 270 271 272 10 11 12

C ____ Denotes Construction Limits in Cuts

F ____ Denotes Construction Limits in Fills

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details &	IM(1) - IM(2)
Legend	2(1)-2(2)
Plan Sheet	5

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(5)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Match Line Sta. 11+50 - See Sheet IN(6)
Match Line Sta. 272+00 - See Sheet IN(4)
Match Line Sta. 279+00 - See Sheet IN(7)
Prop. Temp. Constr. Ease. for Entr.
Prop. Temp. Constr. Ease.
Prop. Perm. Slope Ease.
Prop. Temp. Constr. Ease.
Prop. R/W
Prop. Acquisition Line
Rte. I Constr. BL
Northbound Fraley Blvd.
Prop. Perm. Slope & Drain. Ease.
LOD
DD
TSF-A
IP-C
IP-A
RCD-1
RCD-2
F/C
273
274
275
276
277
278

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details &	IM(1) - IM(2)
Legend	2(1)-2(2)
Plan Sheet	6

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IN(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(6)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details &	IM(1) - IM(2)
Legend	2(1)-2(2)
Plan Sheet	6B

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

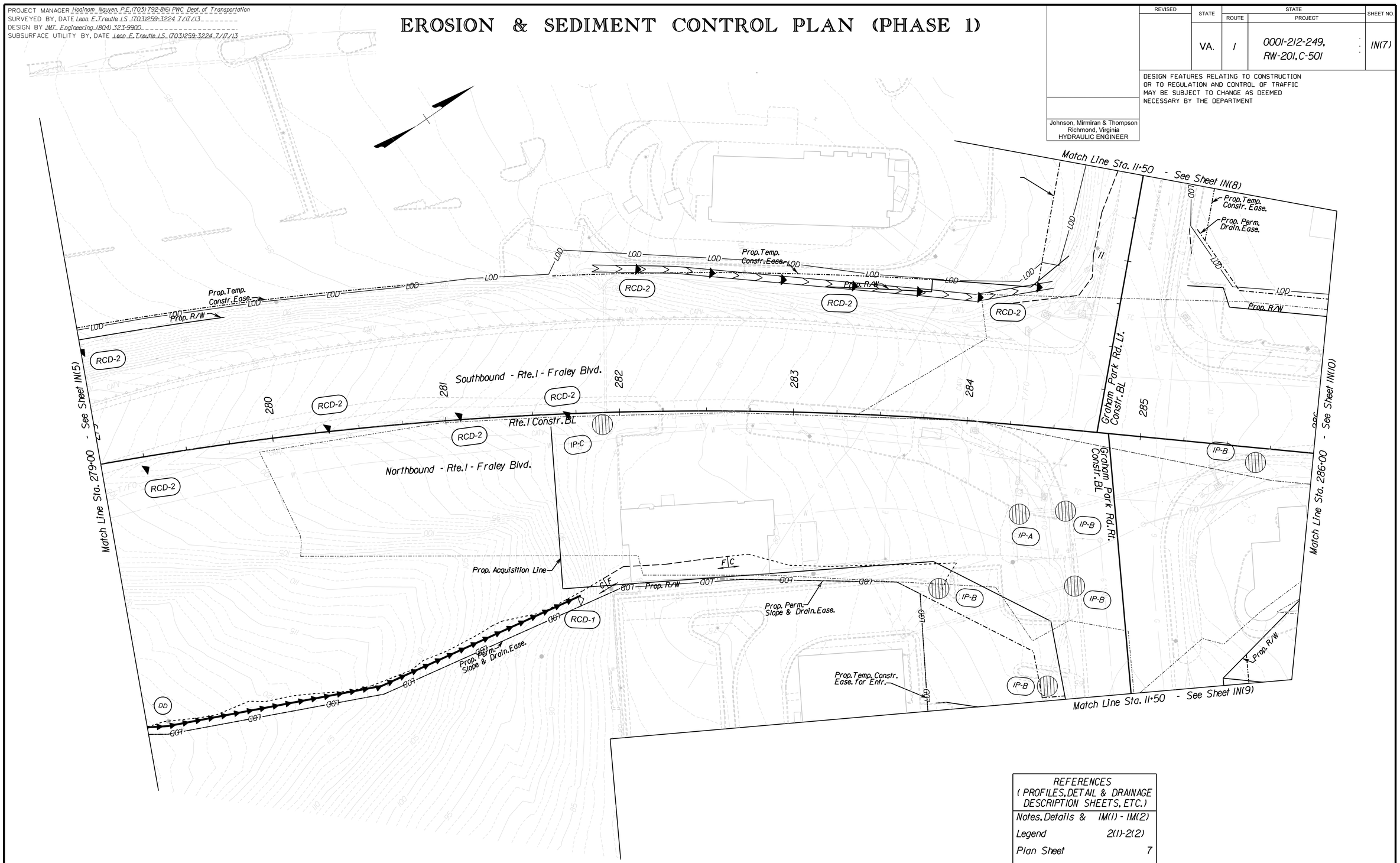
PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(7)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details &	IM(1) - IM(2)
Legend	2(1)-2(2)
Plan Sheet	7

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(7)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:39:59 AM

dl1948101n(08).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(8)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	7B

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(8)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

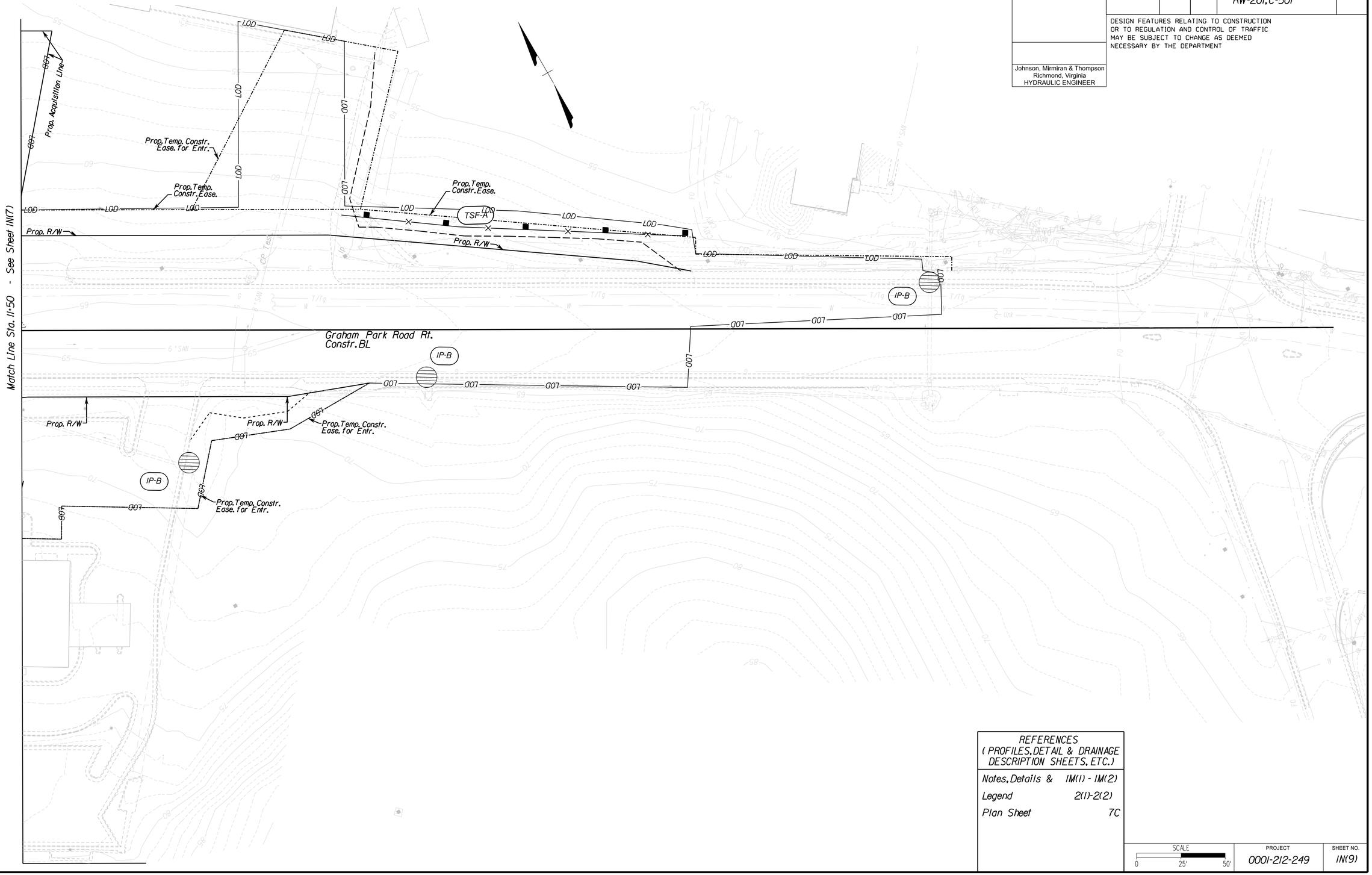
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(9)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details &	IM(1) - IM(2)
Legend	2(1)-2(2)
Plan Sheet	7C

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IN(9)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

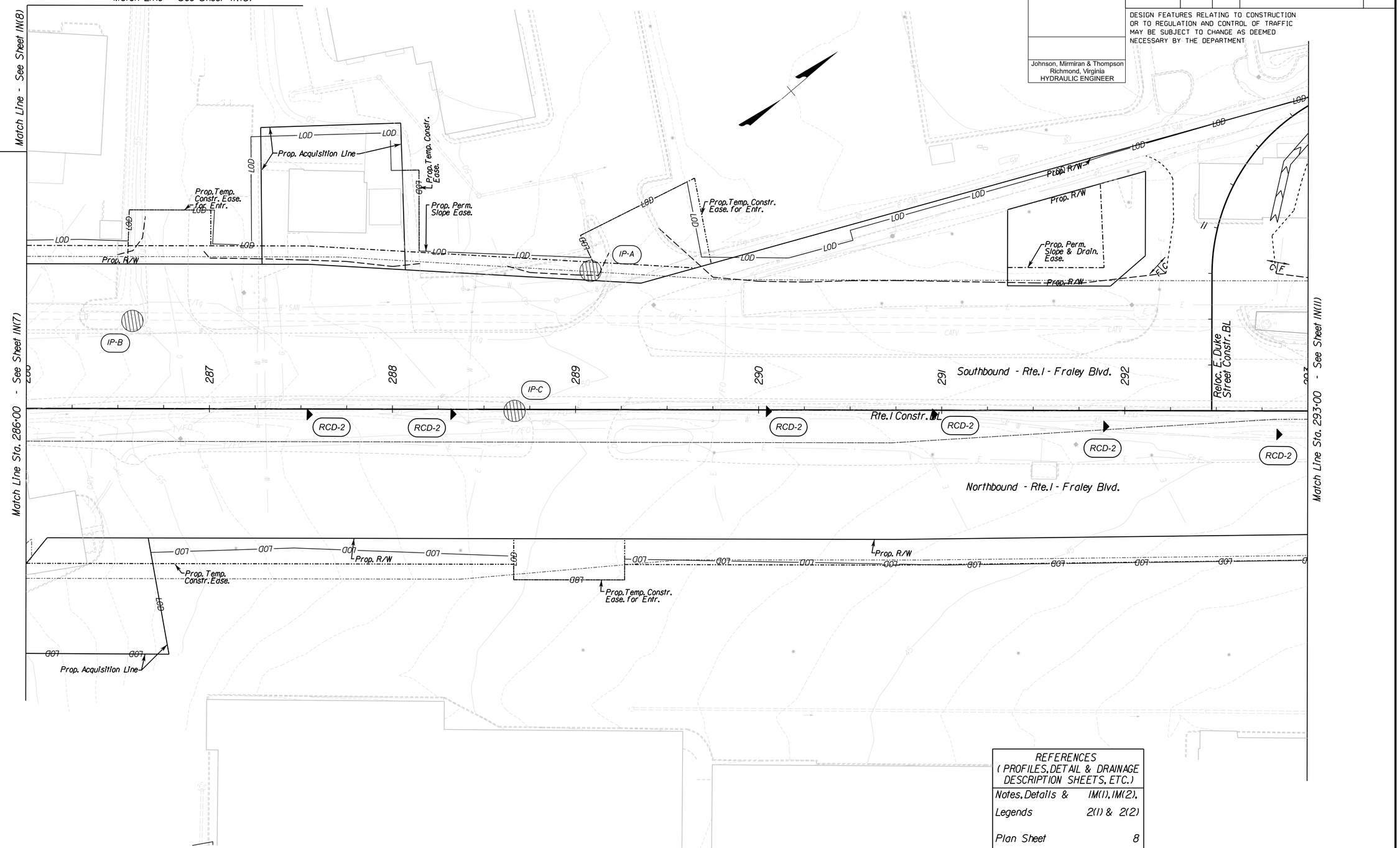
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(10)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	8

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(10)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:40:49 AM

dl1948101rl11.dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(11)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Duke St.
Reloc. E. Duke Street
Constr. BL
Prop. Acquisition Line
Prop. R/W
Prop. Perm. Slope Ease.
Prop. Temp. Constr. Ease. for Entr.
Prop. Temp. Constr. Ease.
Prop. Perm. Drain. Ease.
LOD
RCD-2
RCD-1
IP-C
DD
FC
WL
TM
Southbound - Rte. I - Fraley Blvd.
Rte. I Constr. BL
Match Line Sta. 293+00 - See Sheet IN(10)
Match Line Sta. 300+00 - See Sheet IN(12)
293
294
295
296
297
298
299
300

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	9

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IN(11)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle L.S. (703) 259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle L.S. (703) 259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

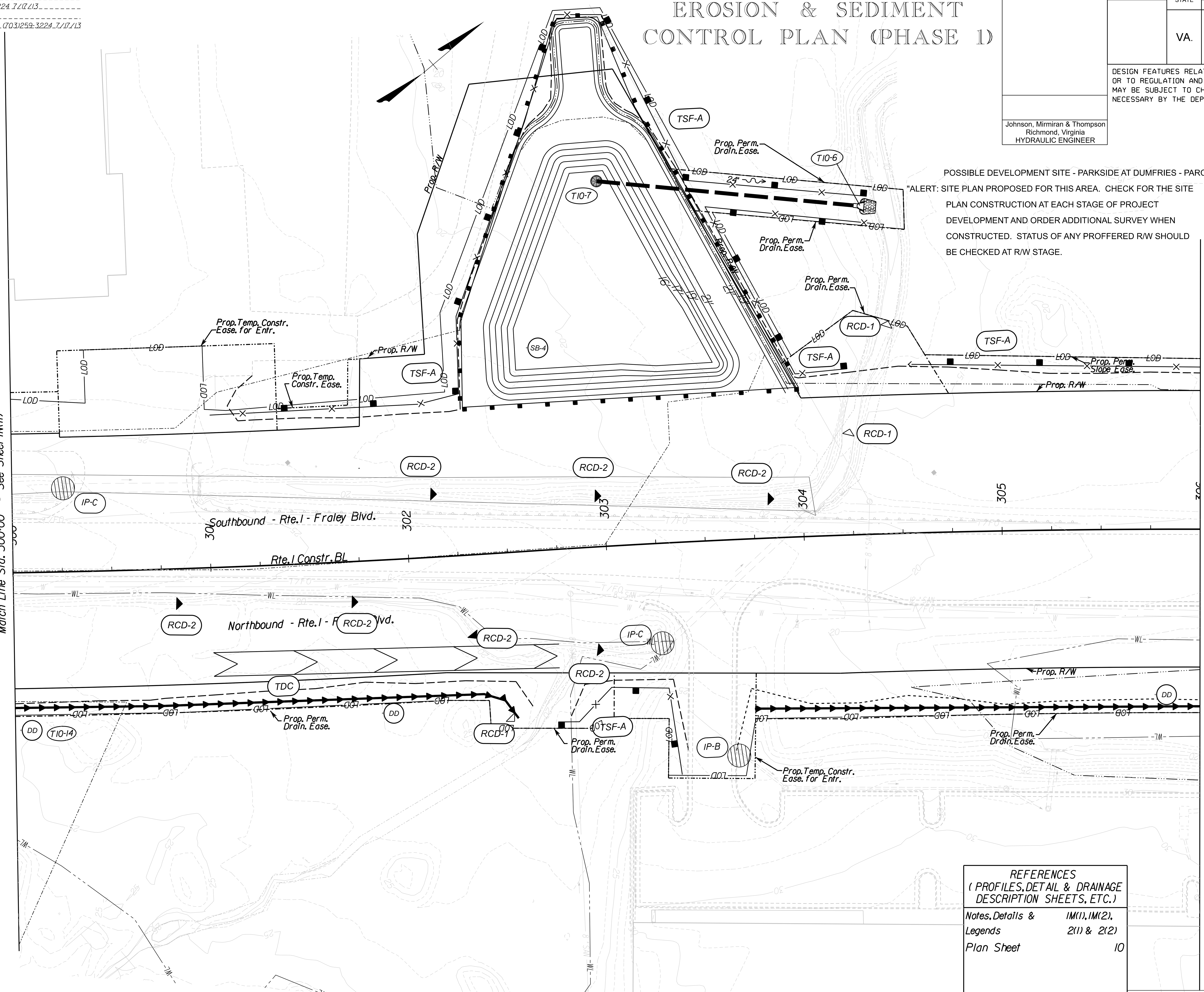
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	1N(12)

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

POSSIBLE DEVELOPMENT SITE - PARKSIDE AT DUMFRIES - PARCEL 049
"ALERT: SITE PLAN PROPOSED FOR THIS AREA. CHECK FOR THE SITE PLAN CONSTRUCTION AT EACH STAGE OF PROJECT DEVELOPMENT AND ORDER ADDITIONAL SURVEY WHEN CONSTRUCTED. STATUS OF ANY PROFFERED R/W SHOULD BE CHECKED AT R/W STAGE.

T10-7
5.1' ST'D. SWM-1 REQ'D.
TOP ELEV=18.25
BOTTOM ELEV=13.20
130 LF-24" TEMP. PIPE
INV(IN)=13.20 INV(OUT)=12.50



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	1M(1), 1M(2), 2(1) & 2(2)
Plan Sheet	10

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	1N(12)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

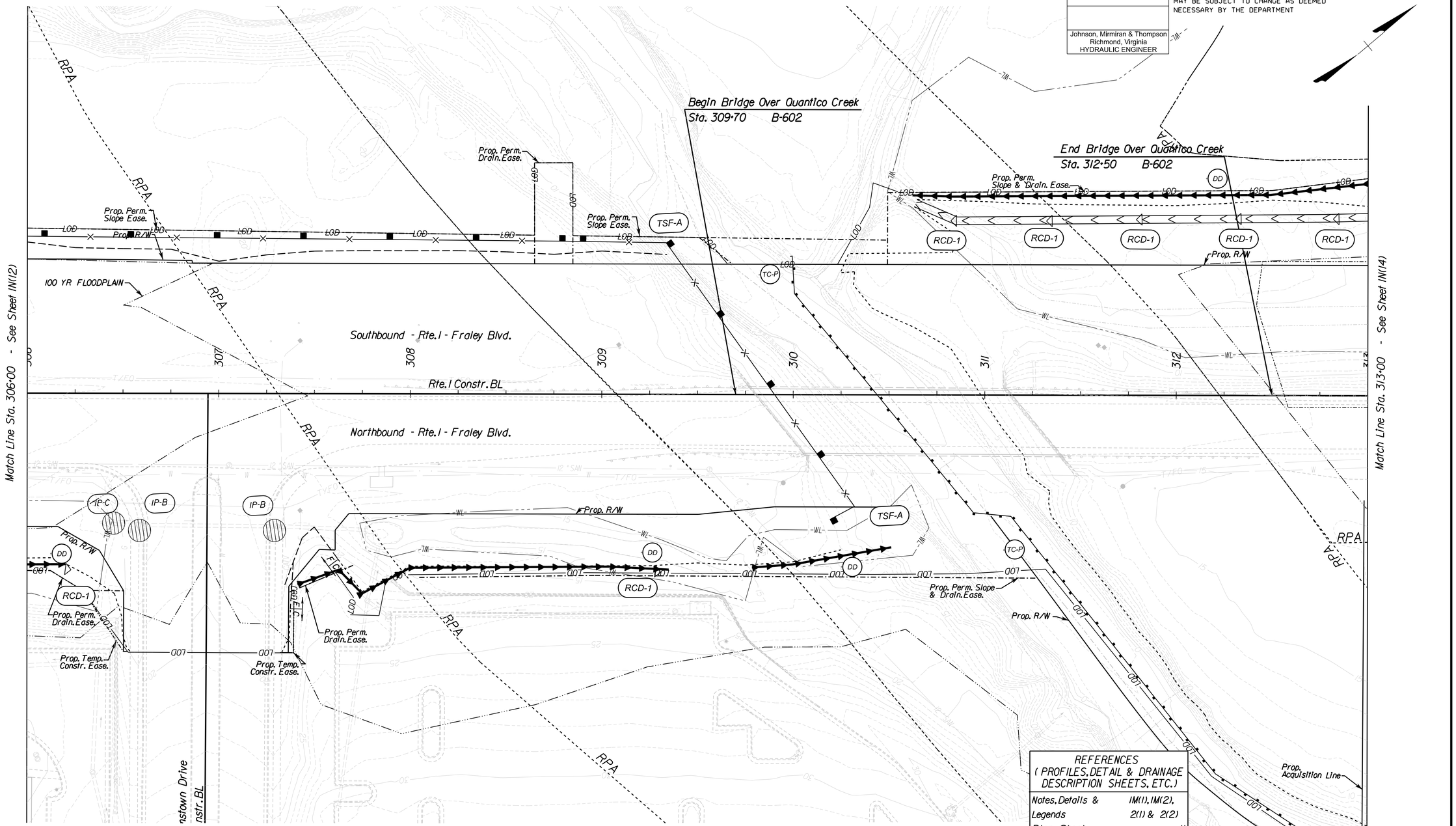
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501, B-xxx	IN(13)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	11

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(13)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

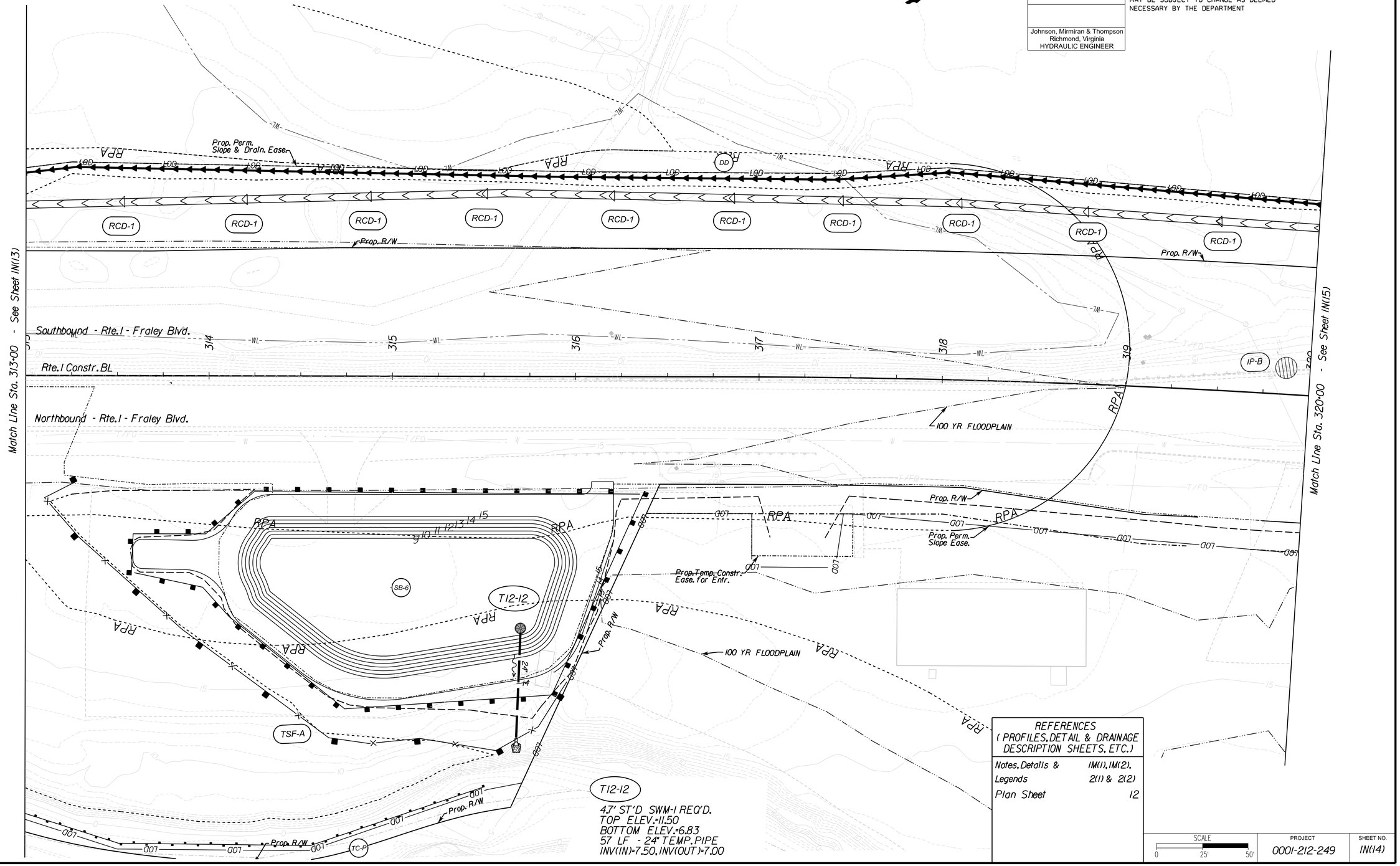
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501, B-xxx	IN(14)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



T12-12
4.7' ST'D SWM-1 REQ'D.
TOP ELEV.=11.50
BOTTOM ELEV.=6.83
57 LF - 24" TEMP. PIPE
INV(IN)=7.50, INV(OUT)=7.00

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	12

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(14)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:41:53 AM

dll948l0lnl15).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(15)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Match Line Sta. 320+00 - See Sheet IN(14)

Match Line Sta. 326+00 - See Sheet IN(16)

Match Line Sta. 102+00 See Sheet IN(16)

Match Line - See Sheet IN(17)

Reloc. Main St. N. Constr. BL

Begin Constr. Graham St. 10+26.70

Main Street Rt. Lane Constr. BL

Canal Rd. Lt. Constr. BL

Canal Rd. RT Constr. BL

Rte. 1 Constr. BL

Southbound - Rte. 1 - Fraley Blvd.

Northbound - Rte. 1 - Fraley Blvd.

Prop. Acquisition Line

Prop. R/W

Prop. Temp. Constr. Ease.

Prop. Temp. Constr. Ease. for Entr.

Prop. Perm. Slope. Ease.

Prop. Perm. Drain. Ease.

Prop. Perm. Slope Ease.

Prop. Temp. Ease.

DA TO SB-5

100-yr flood plain

POT 12-345

T13-1

5.3' ST'D. SWM-1 REQ'D.
TOP ELEV=12.25
BOTTOM ELEV=7.00
58 LF-24" TEMP. PIPE
INV(IN)=7.00 INV(OUT)=6.50

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	13

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IN(15)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:42:09 AM

dll948101n(16).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

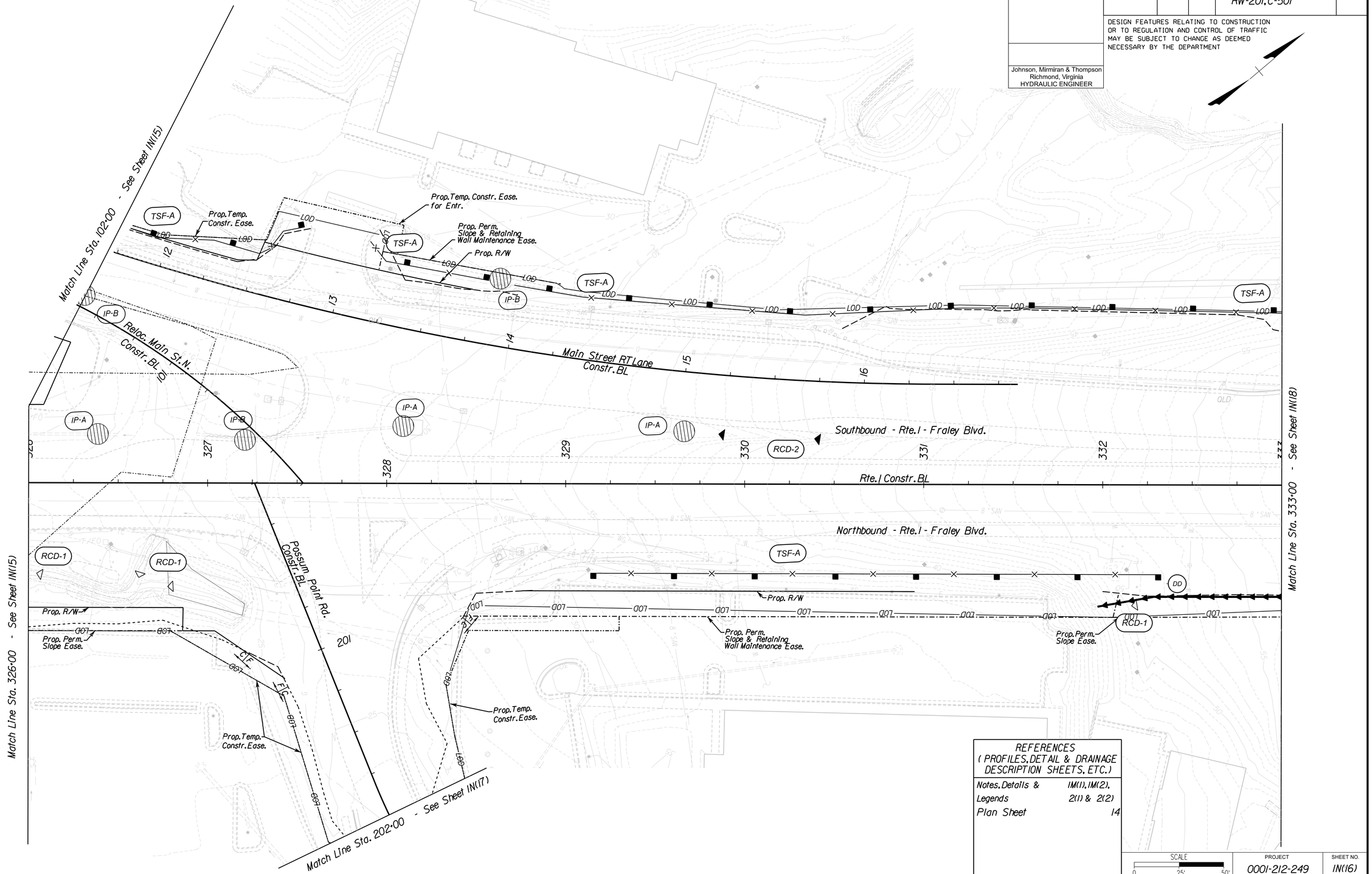
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(16)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	14

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(16)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

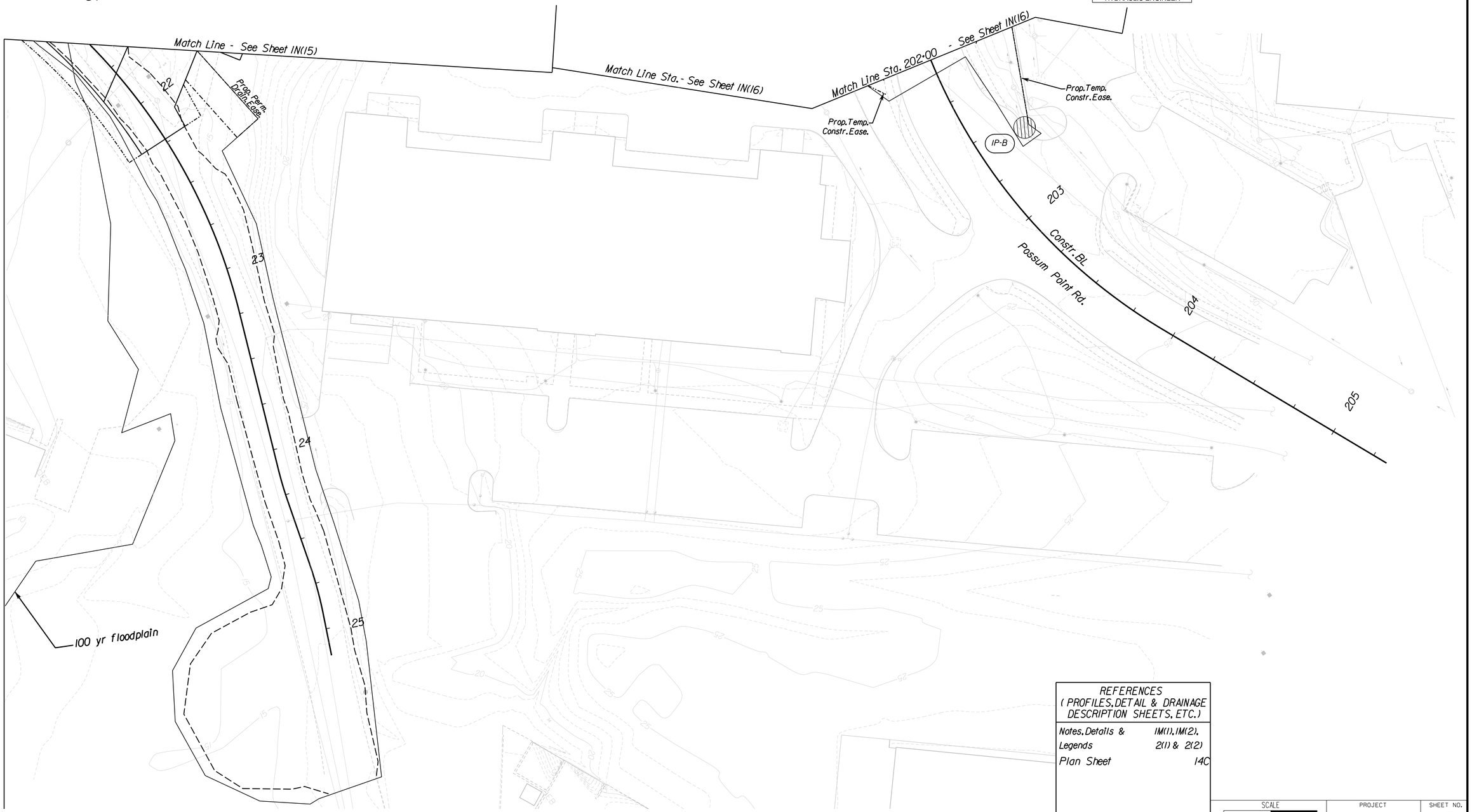
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS. (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(17)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	14C

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(17)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

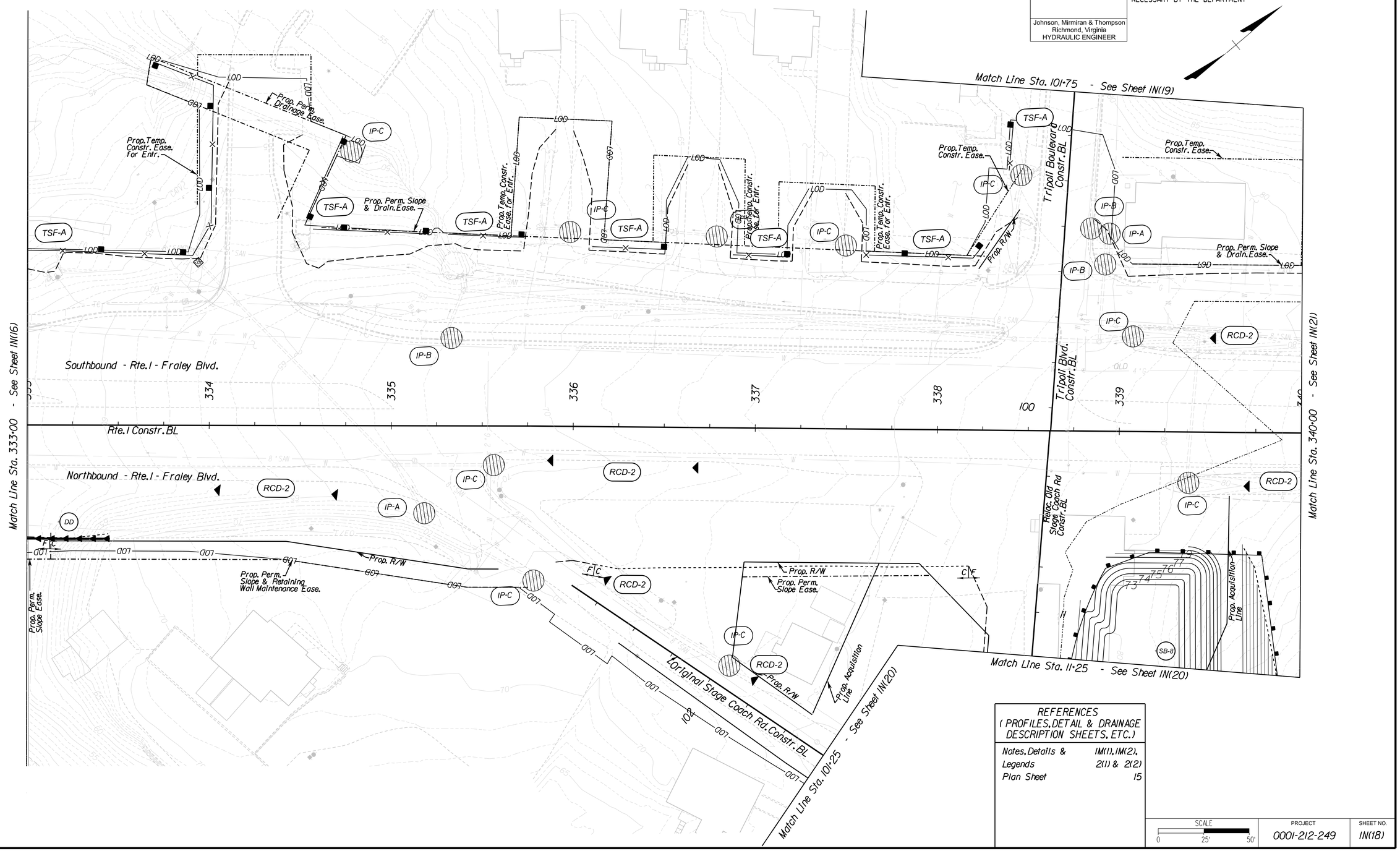
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(18)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	15

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(18)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

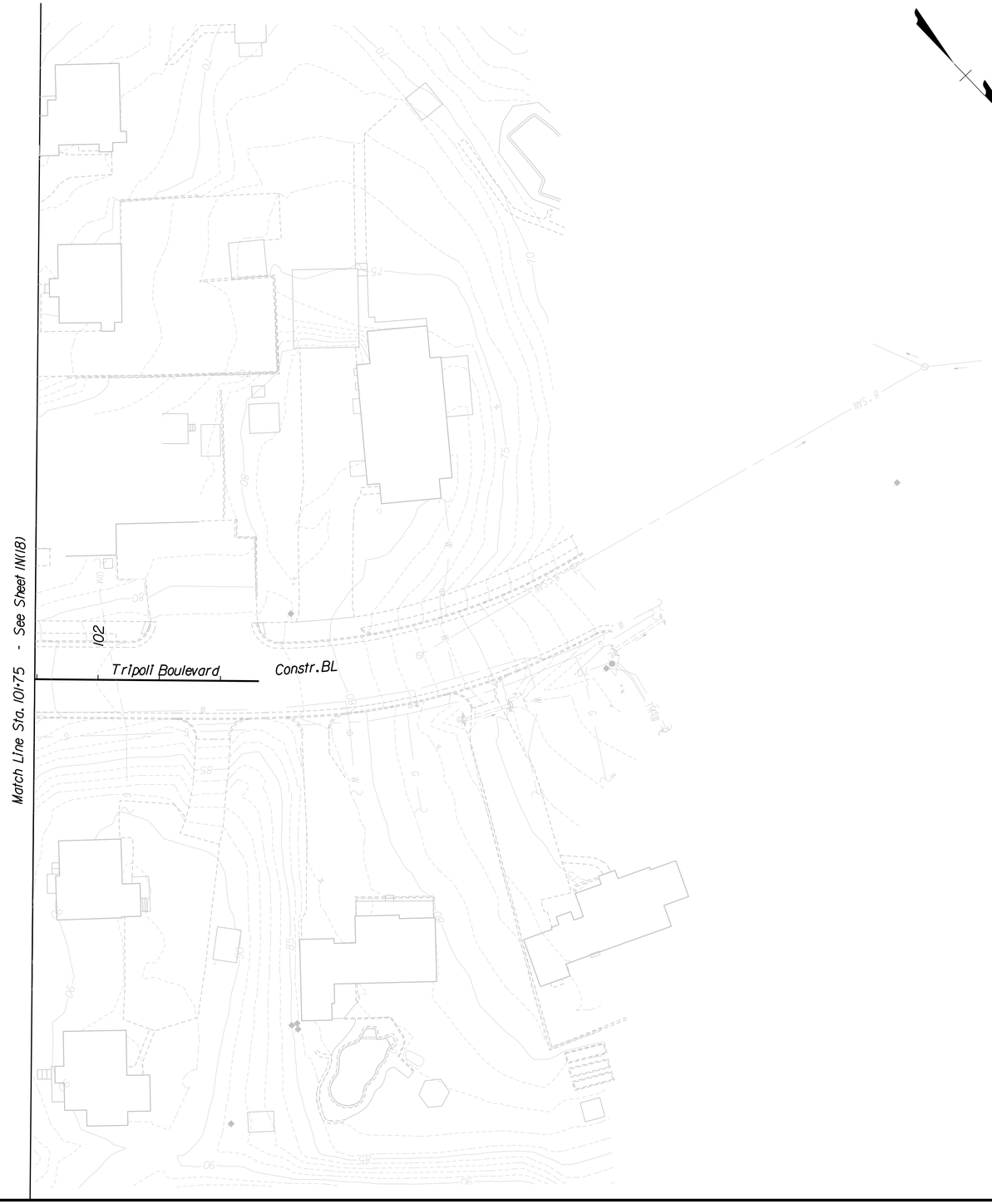
7/6/2023
10:43:50 AM

dll948l0lnl(19).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS. (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(19)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	15B

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(19)

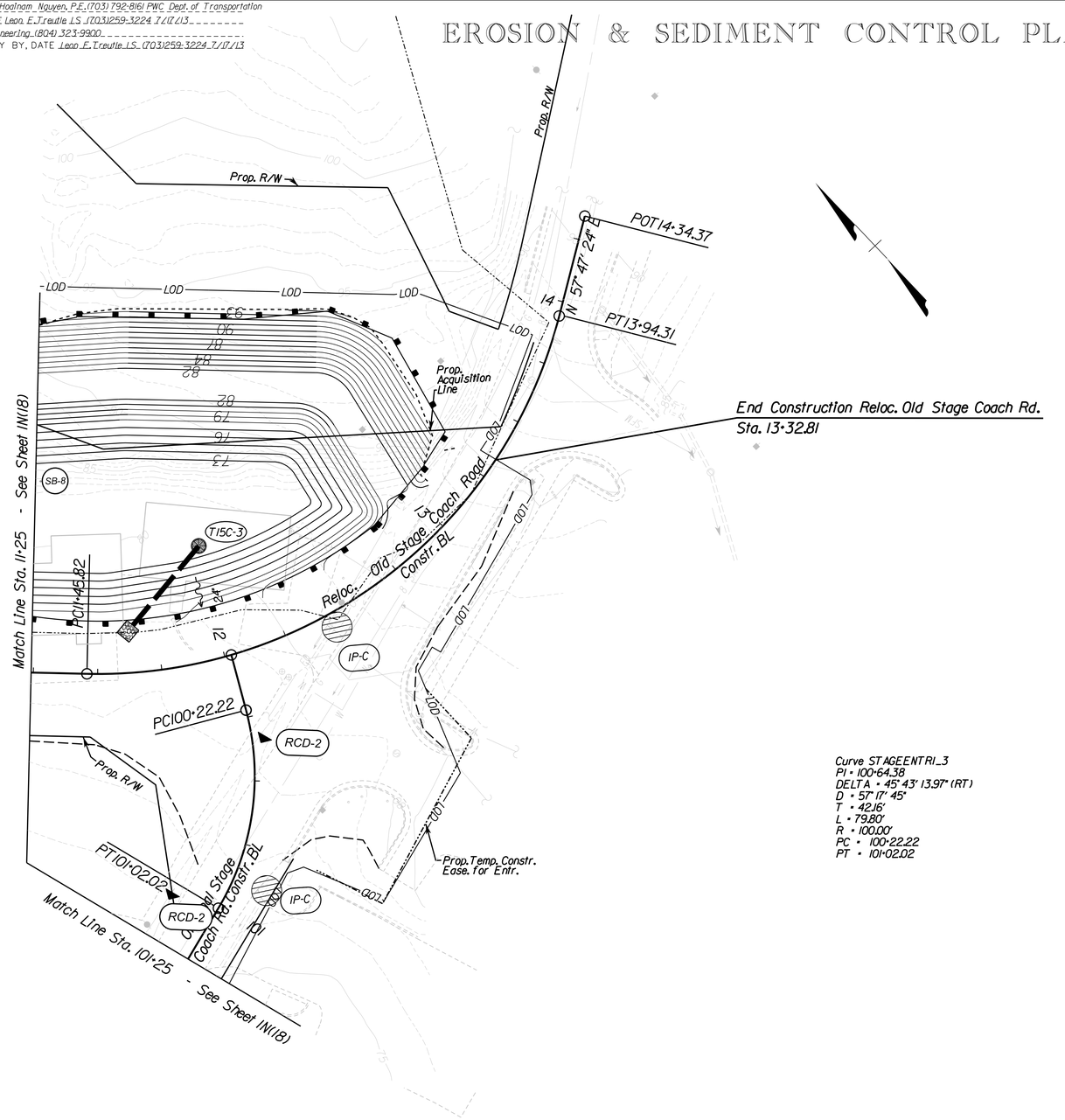
R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)



Curve STAGEENTRI_3
PI = 100+64.38
DELTA = 45° 43' 13.97" (RT)
D = 57° 17' 45"
T = 42.16'
L = 79.80'
R = 100.00'
PC = 100+22.22
PT = 101+02.02

T15C-3
6.5' ST'D. SWM-1 REQ'D.
TOP ELEV=75.50
BOTTOM ELEV=69.00
41 LF-24" TEMP. PIPE
INV(IN)=69.00 INV(OUT)=68.70

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IN(20)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	15C

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(20)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:44:22 AM

dl1948101n(21).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

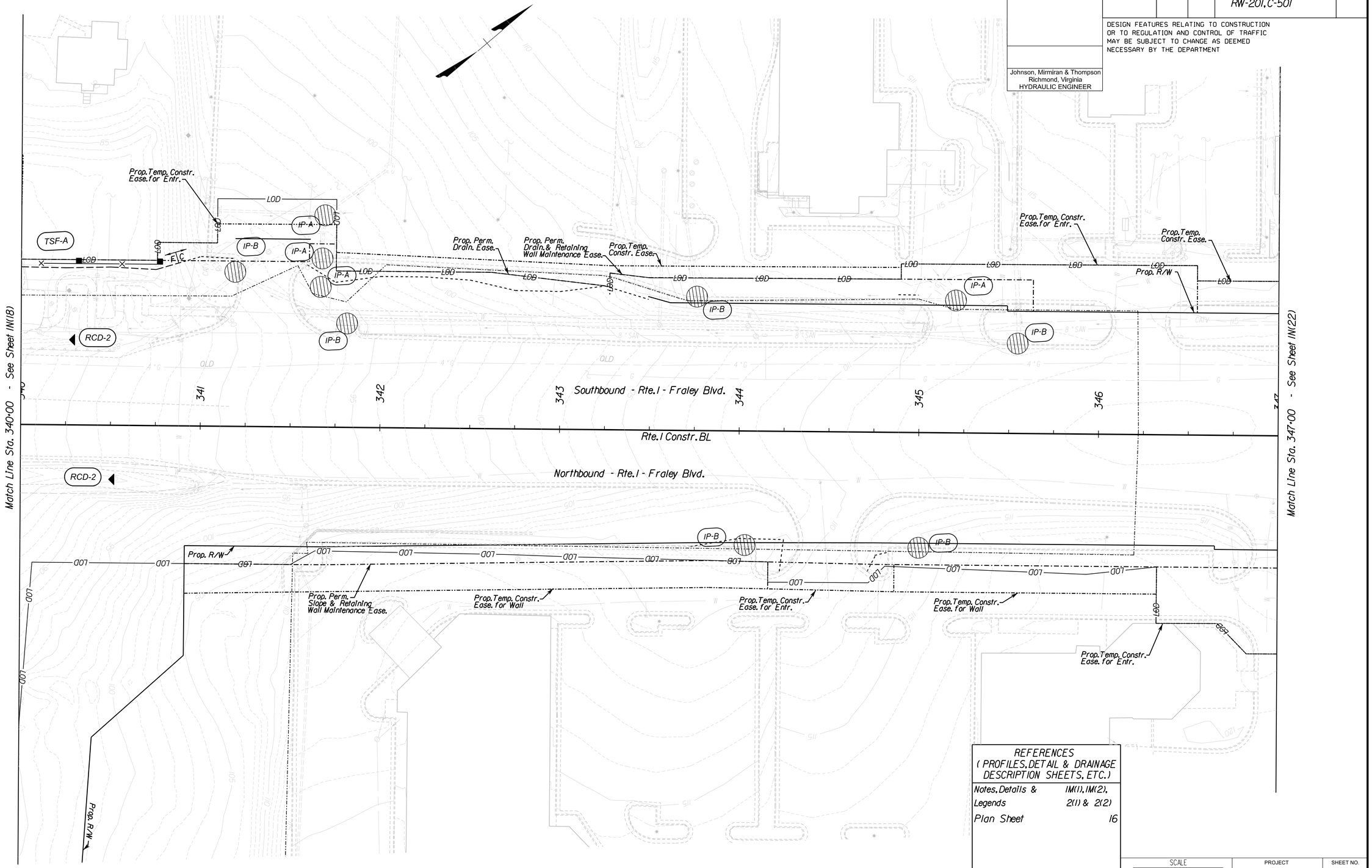
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(21)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	16

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(21)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

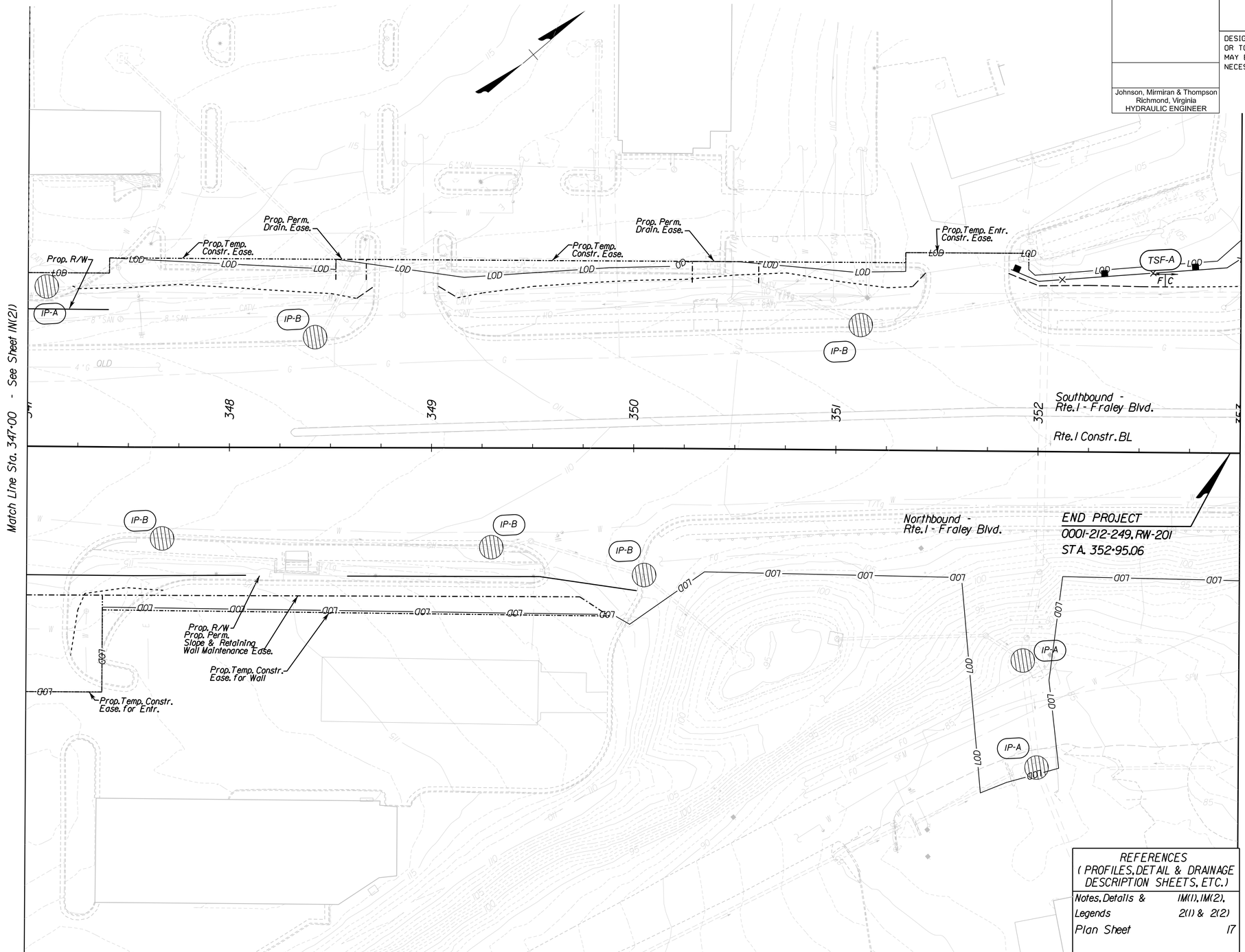
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IN(22)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	17

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(22)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 1)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101, RW-201, C-501	IN(23)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Rte.234 - Dumfries Road

Match Line Sta. 353+00 - See Sheet IN(22)

Constr.BL

LOD

TSF-A

IP-B

END CONSTR./ END PROJ.
0001-212-249, PE-101, C-501
STA. 353+78.84

354 355 356 357 358

Southbound - Rte.1 - Fraley Blvd.

Rte.1 Constr.BL

Northbound - Rte.1 - Fraley Blvd.

PROPOSED INTERSECTION/DEVELOPMENT PROJECT - UPC 104102

"ALERT: SITE PLAN PROPOSED FOR THIS AREA. CHECK FOR THE SITE PLAN CONSTRUCTION AT EACH STAGE OF PROJECT DEVELOPMENT AND ORDER ADDITIONAL SURVEY WHEN CONSTRUCTED. STATUS OF ANY PROFFERED R/W SHOULD BE CHECKED AT R/W STAGE.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	18

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(23)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

TEMPORARY SEDIMENT TRAP DETAIL SHEET

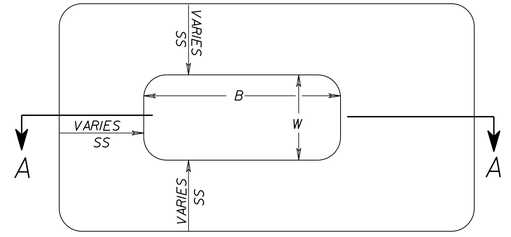
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	1	0001-212-249, RW-201, C-501	IN(24)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

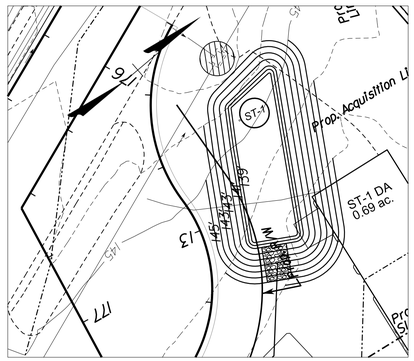
TEMPORARY SEDIMENT TRAP TABLE

	SEDIMENT TRAP INFORMATION	SECTION THRU TEMPORARY SEDIMENT TRAP		SIDE SLOPES (SS)	WET STORAGE ELEV. (C)	WET STORAGE REQ'D. CU.YARDS	WET STORAGE PROVIDED CU.YARDS	DRY STORAGE ELEV. (B)	DRY STORAGE REQ'D. CU.YARDS	DRY STORAGE PROVIDED CU.YARDS	ESTIMATED QUANTITES: SEDIMENT BASIN EXCAVATION CU.YARDS	SILT.CONTROL EXCAVATION CU.YARDS	VDOT #1 STONE TONS	REMARKS
SHEET NO. STATION NO. TRAP NO.	38 & 4 259+00.LT ST-1	B= 50 FT W= 15 FT ELEV.D= 139.0 T= 2 FT		1:1 (WET) 2:1 (DRY)	141.0	46	70	142.0	46	46	116	35	3	DA =0.7 AC
SHEET NO. STATION NO. TRAP NO.	13 325+00.LT ST-2	B= 50 FT W= 8 - 14 FT ELEV.D= 17.0 T= 2 FT		2:1	19.0	31	52	20.0	31	42	94	26	3	DA =0.5 AC

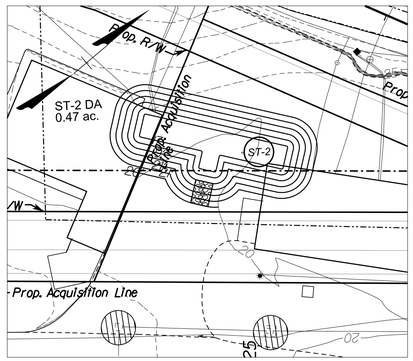


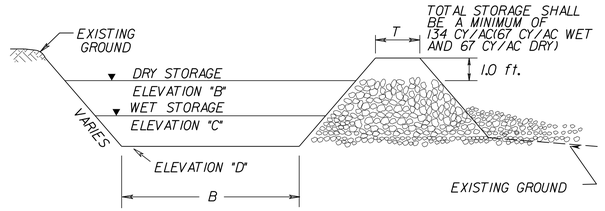
PLAN VIEW OF TEMPORARY SEDIMENT TRAP

SEDIMENT TRAP 1



SEDIMENT TRAP 2





TYPICAL SECTION (A-A) THRU TEMPORARY SEDIMENT TRAP

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IN(24)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101, RW-201, C-501	IP(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Utility Owners

Water/Sewer:
Prince William County Service Authority
Contact: Butch Rogers
Telephone: 703-609-8097

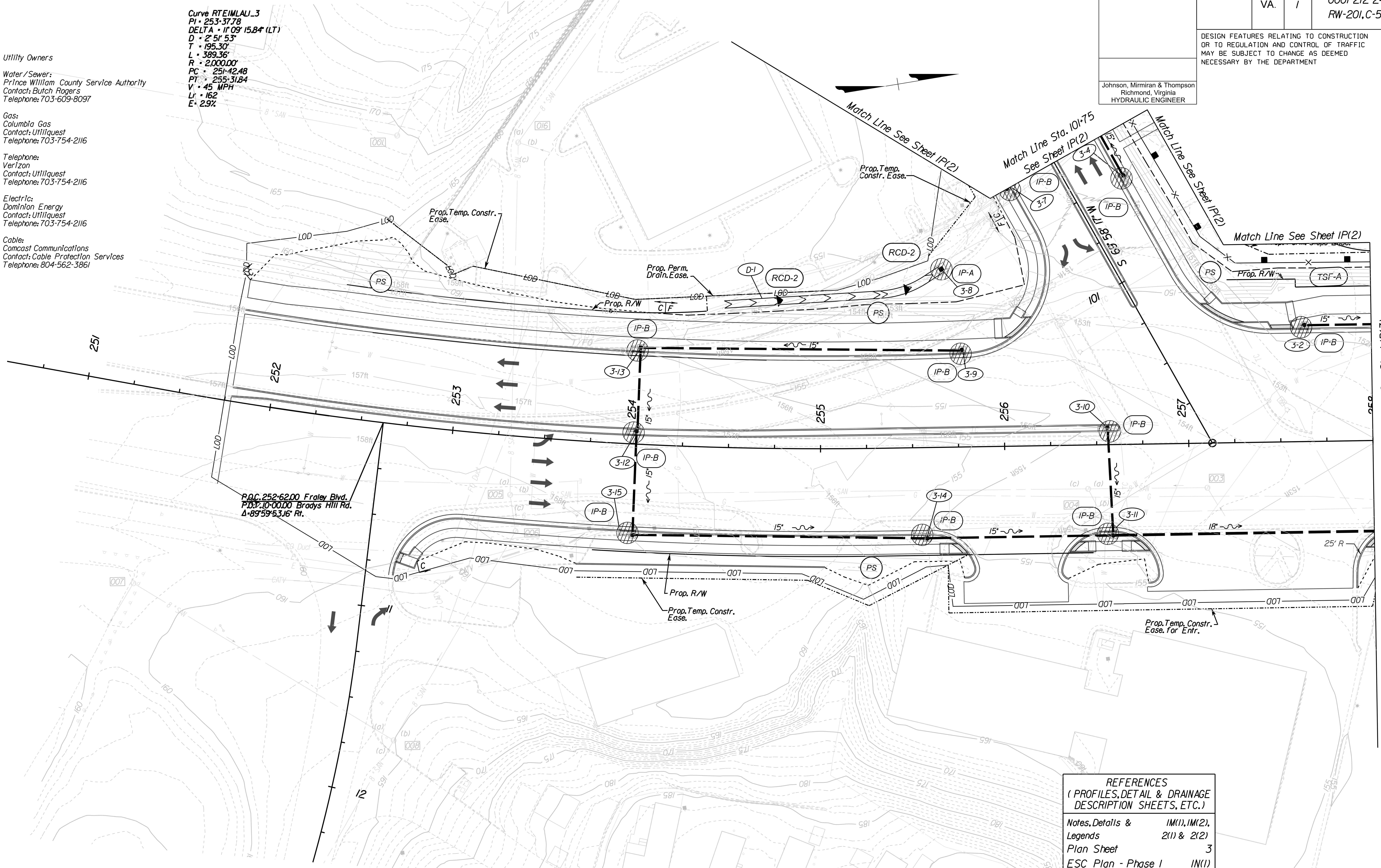
Gas:
Columbia Gas
Contact: Utiliquest
Telephone: 703-754-2116

Telephone:
Verizon
Contact: Utiliquest
Telephone: 703-754-2116

Electric:
Dominion Energy
Contact: Utiliquest
Telephone: 703-754-2116

Cable:
Comcast Communications
Contact: Cable Protection Services
Telephone: 804-562-3861

Curve RTEIMLALI_3
PI = 253+37.78
DELTA = 11° 09' 15.84" (LT)
D = 2° 51' 53"
T = 195.30'
L = 389.36'
R = 2,000.00'
PC = 251+42.48
PT = 255+31.84
V = 45 MPH
Lr = 162
E = 2.9%



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	1M(1), 1M(2), 2(1) & 2(2)
Plan Sheet	3
ESC Plan - Phase 1	1N(1)

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

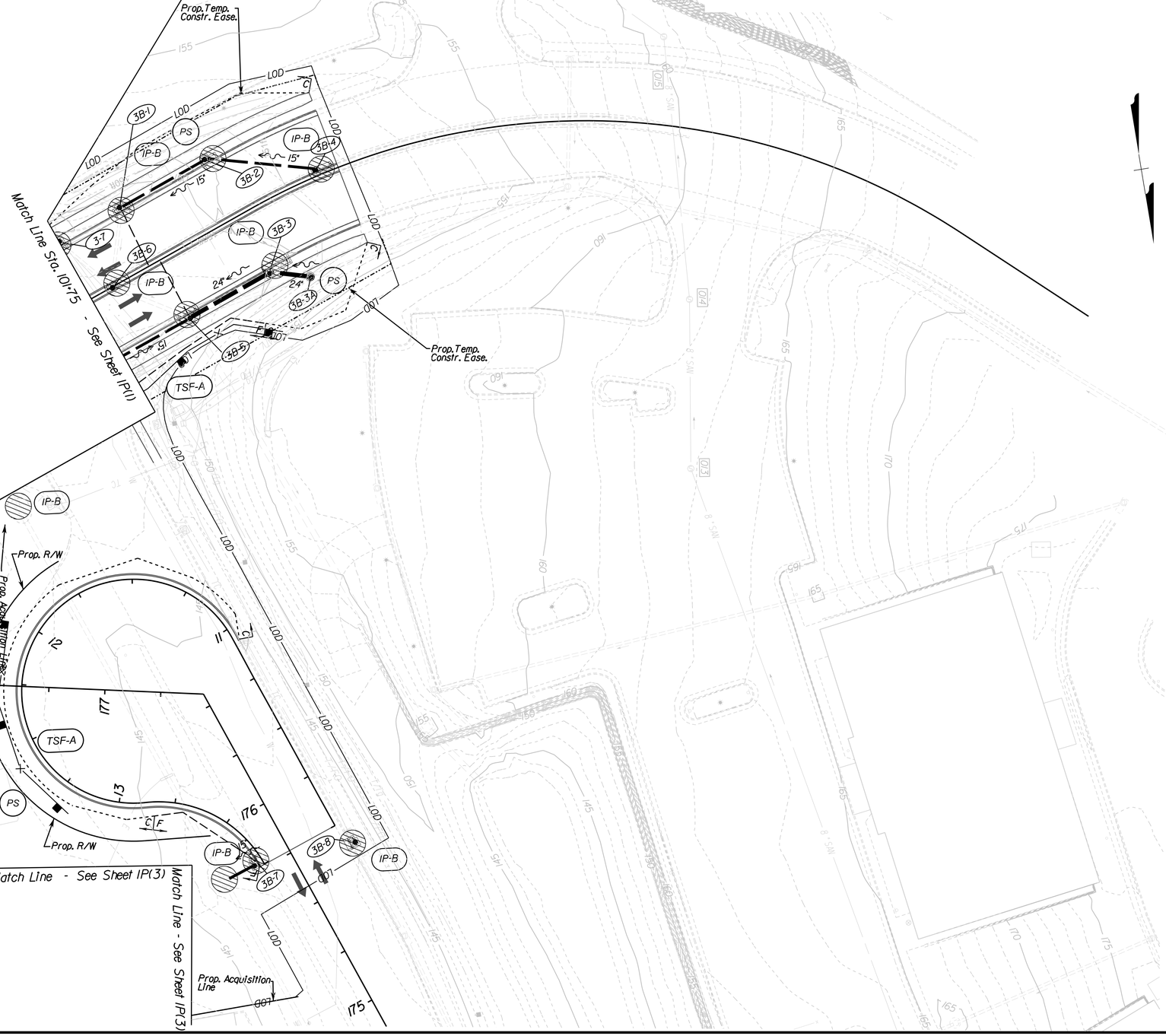
7/6/2023
10:46:39 AM

dl1948101p(02).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IP(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	1M(1), 1M(2), 2(1) & 2(2)
Plan Sheet	3B
ESC Plan - Phase 1	1N(2)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

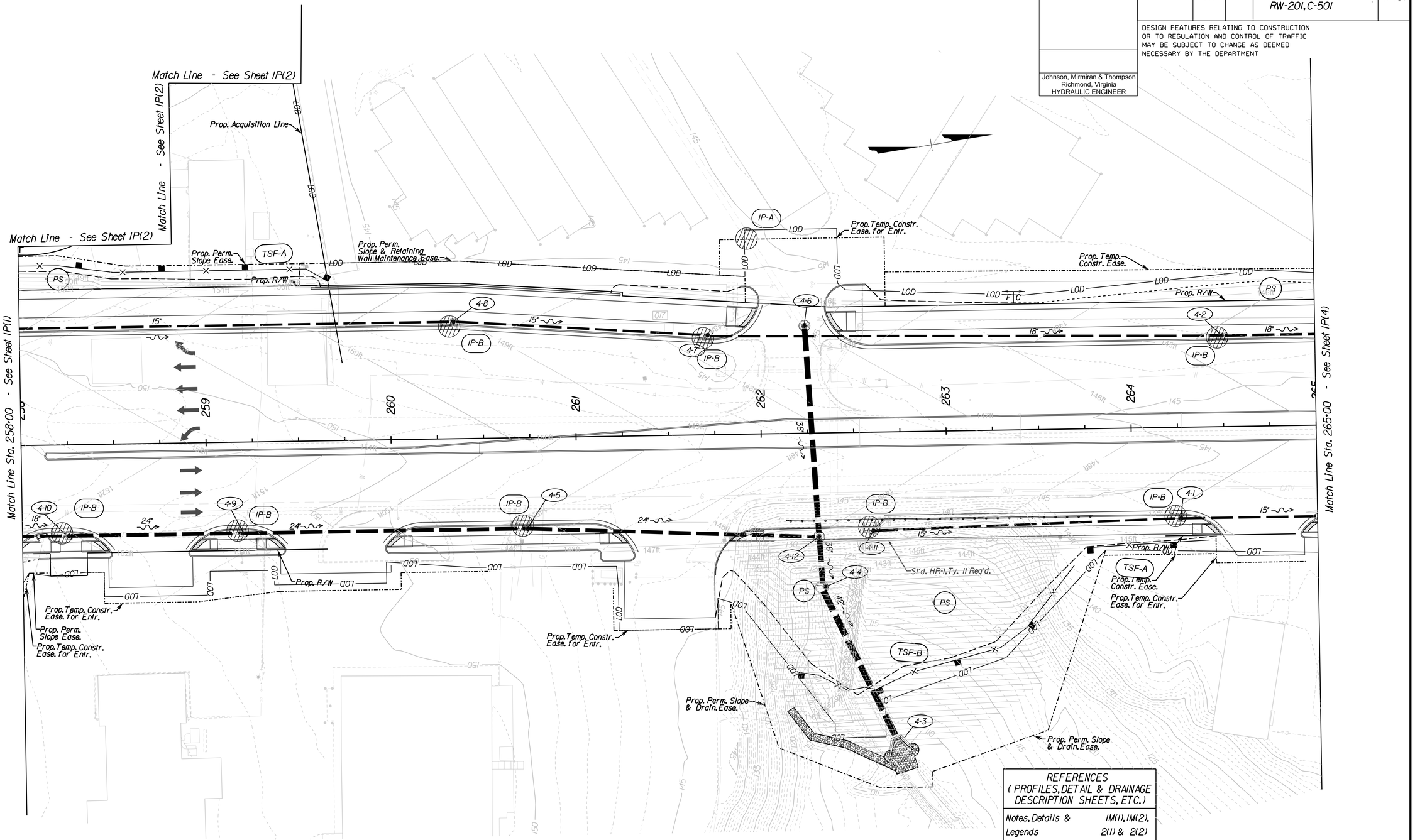
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IP(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	4
ESC Plan - Phase I	IN(3)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:47:14 AM

dl1948101p(04).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

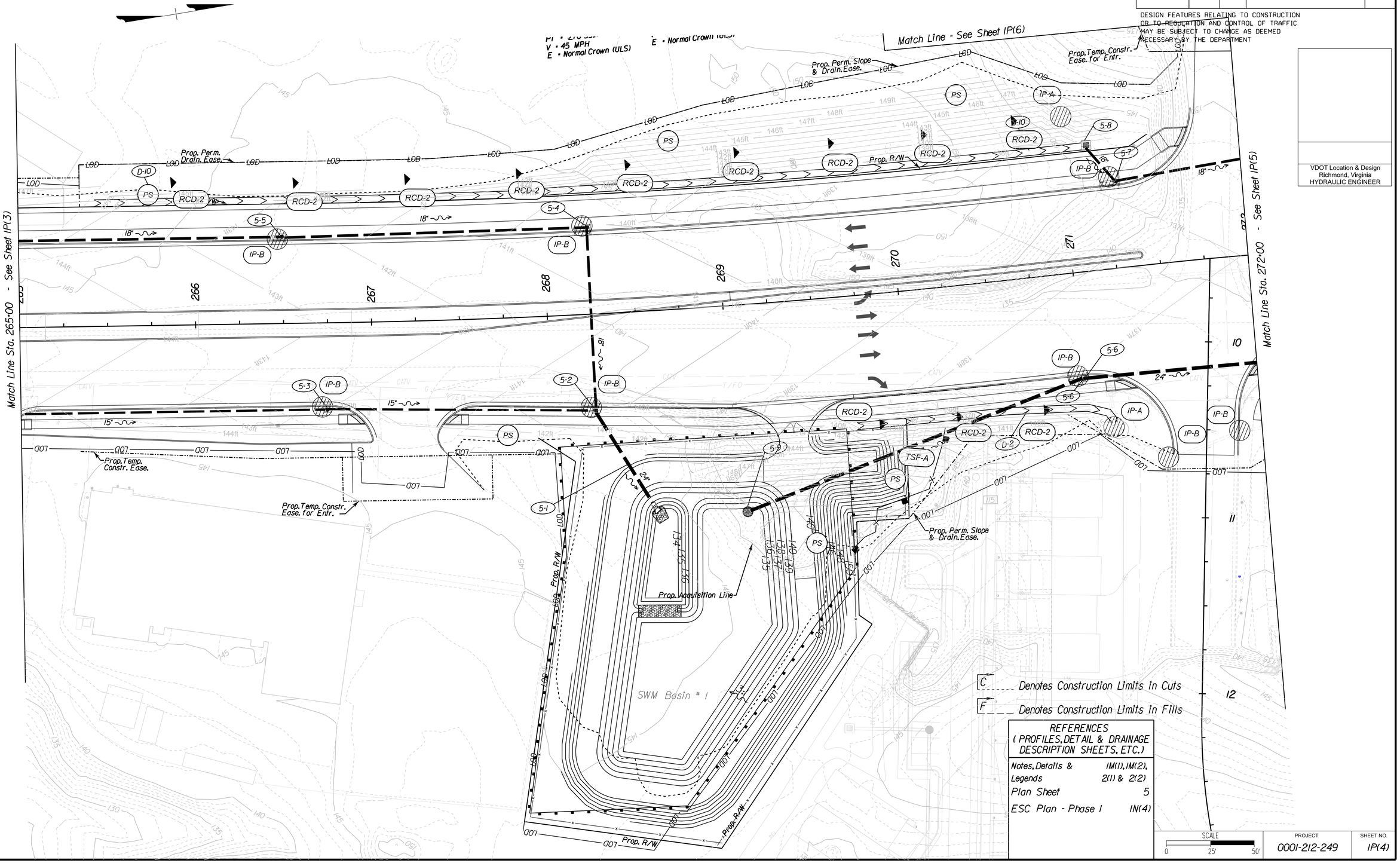
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	5
ESC Plan - Phase I	IN(4)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

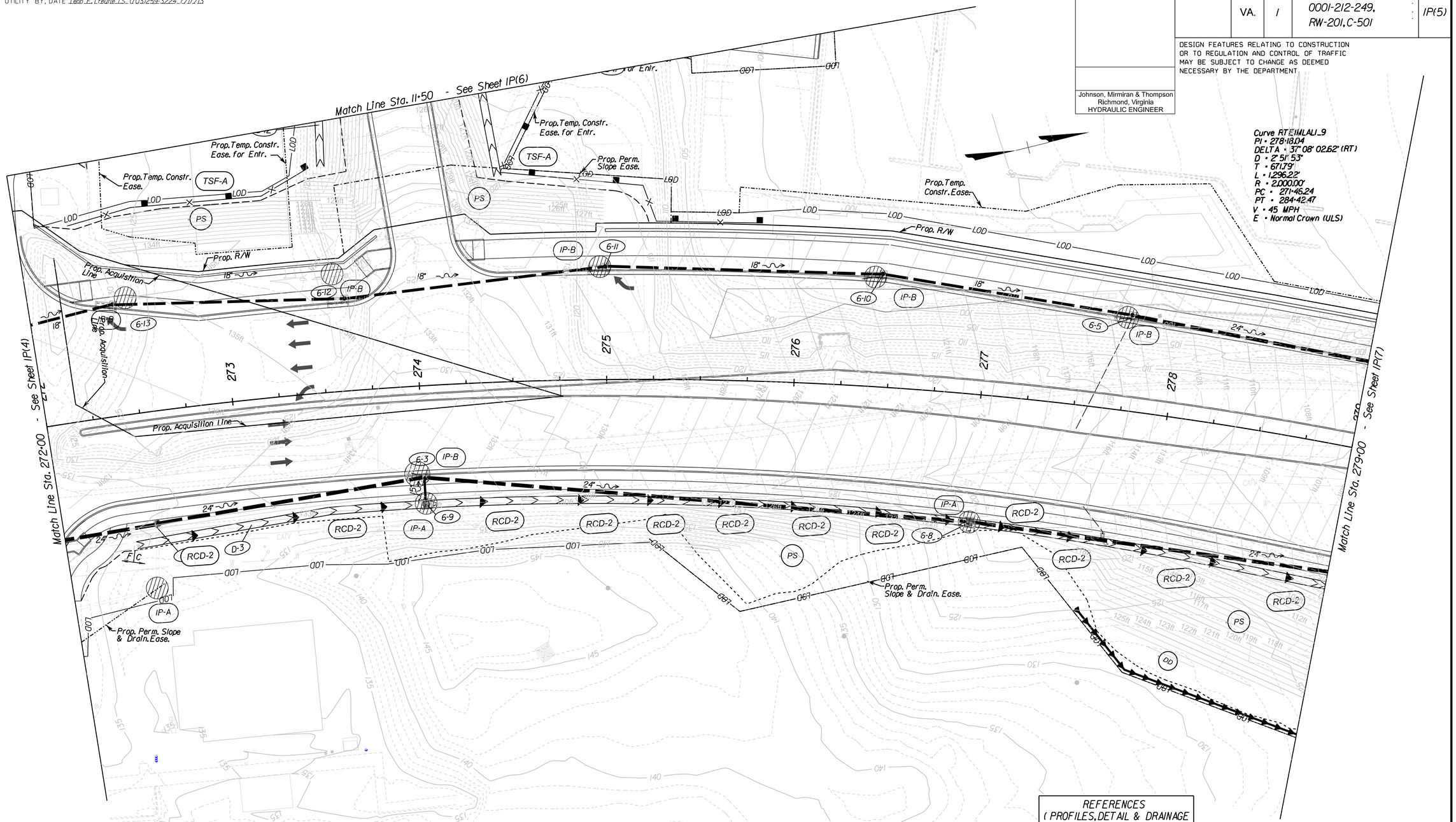
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(5)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



Curve RT ELMLAU_9
PI = 278+18.04
DELTA = 37° 08' 02.62" (RT)
D = 2° 51' 53"
T = 671.79'
L = 1,296.22'
R = 2,000.00'
PC = 271+46.24
PT = 284+42.47
V = 45 MPH
E = Normal Crown (ULS)

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	6
ESC Plan - Phase I	IN(5)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:47:49 AM

dl1948101p(06).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

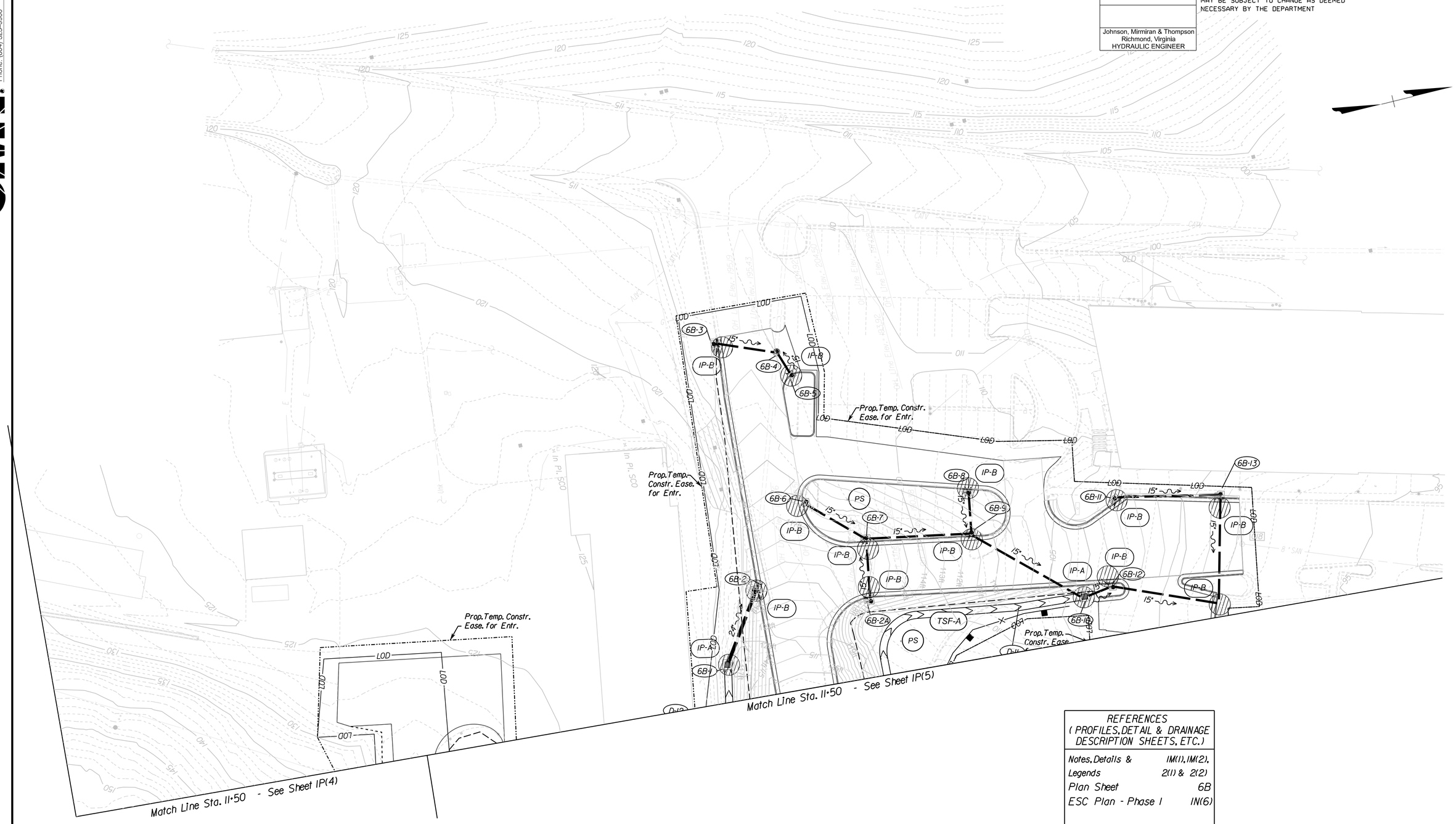
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN PHASE (2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(6)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	6B
ESC Plan - Phase I	IN(6)

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

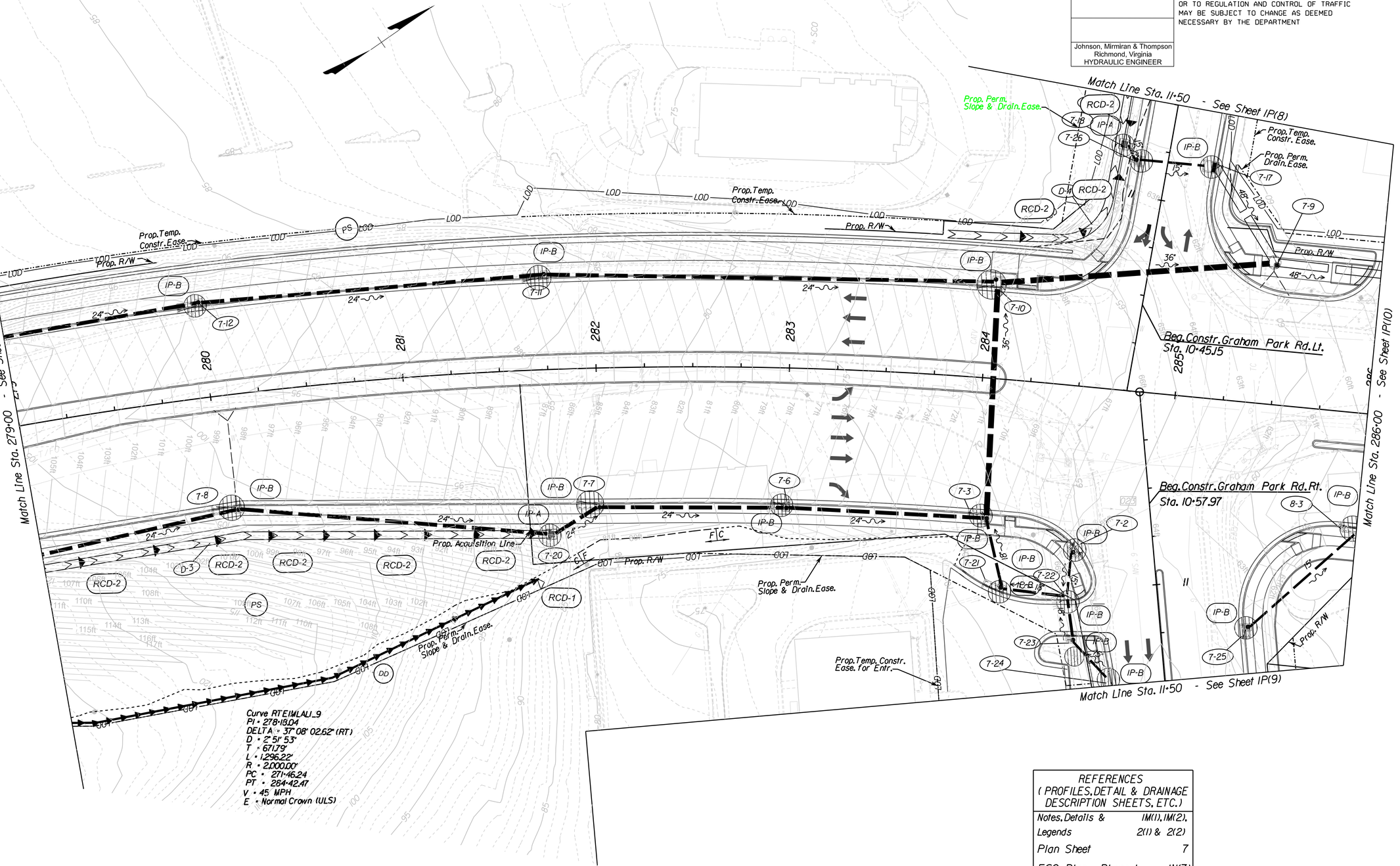
PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(7)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	7
ESC Plan - Phase I	IN(7)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(7)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:48:23 AM

dl1948101p(08).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(8)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	7B
ESC Plan - Phase I	IN(1)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(8)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(9)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Match Line Sta. 11+50 - See Sheet IP(7)

POT 18+90.41

End Constr. Graham Park Rd. Rt.
Sta. 15+22.03

S 60° 11' 42" E

S 60° 11' 42" E

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	7C
ESC Plan - Phase I	IN(9)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(9)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

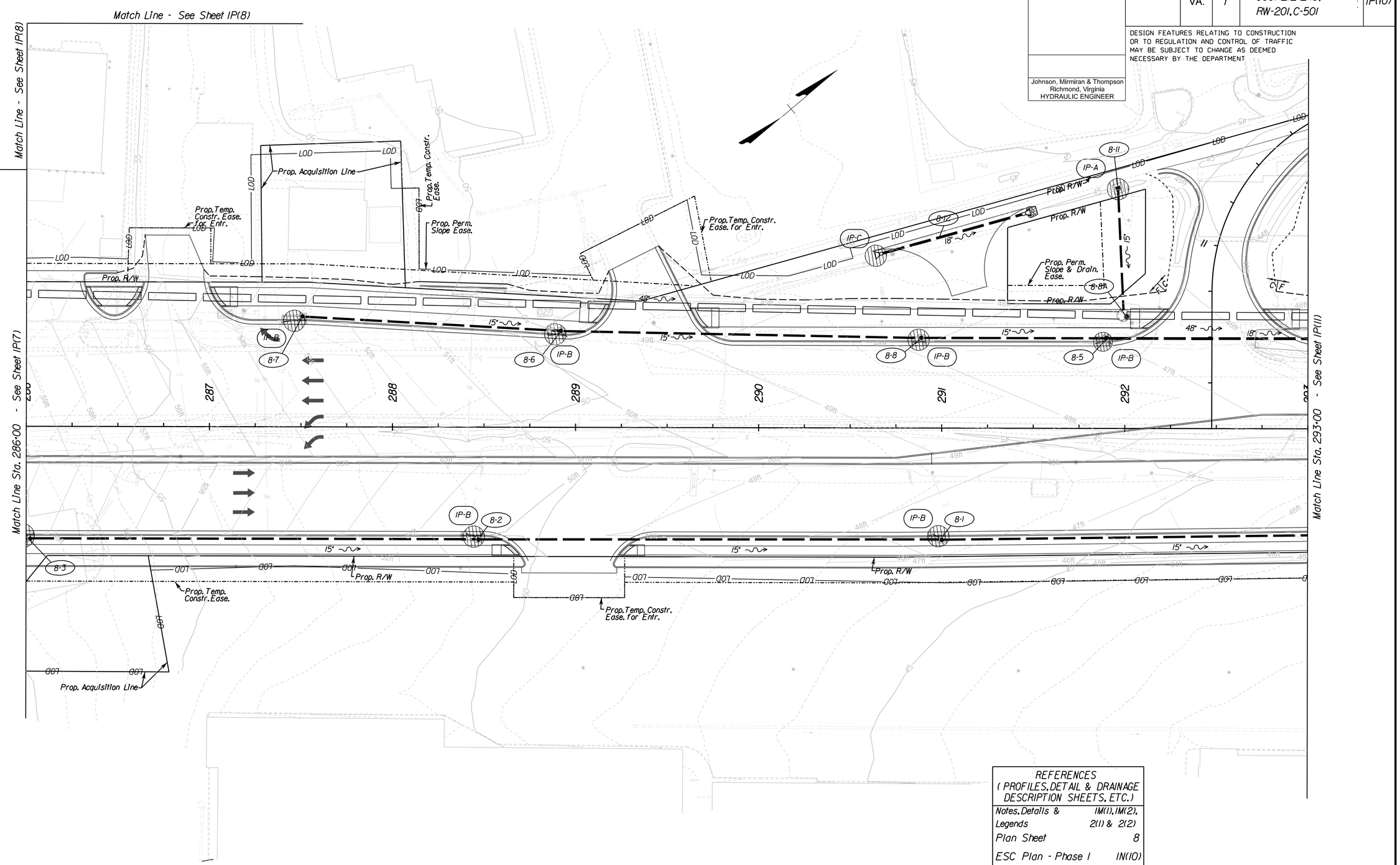
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(10)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legends	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	8
ESC Plan - Phase I	IN(10)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(10)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:49:14 AM

dll948101pllll.dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

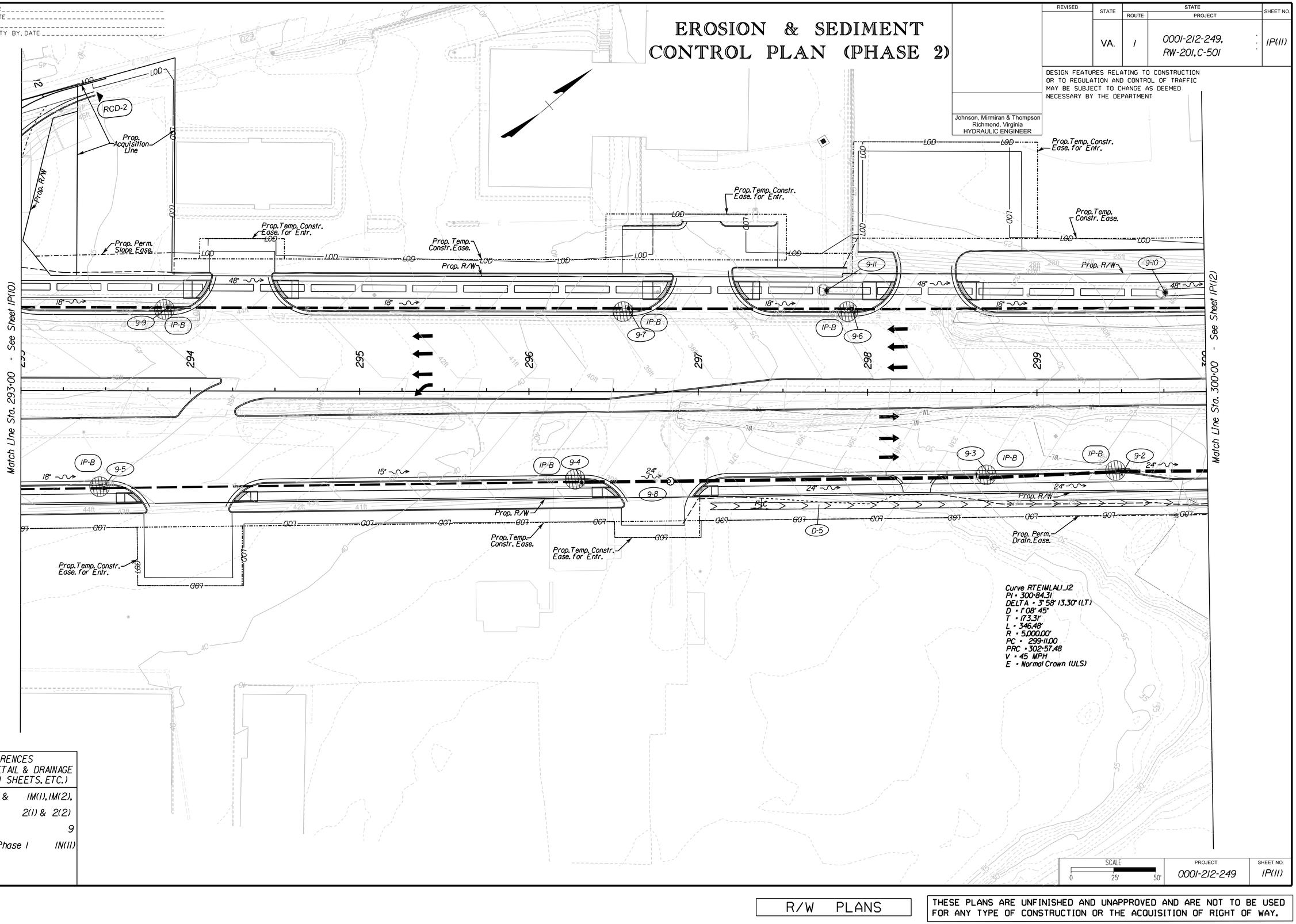
PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IP(11)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	9
ESC Plan - Phase I	IN(11)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(11)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

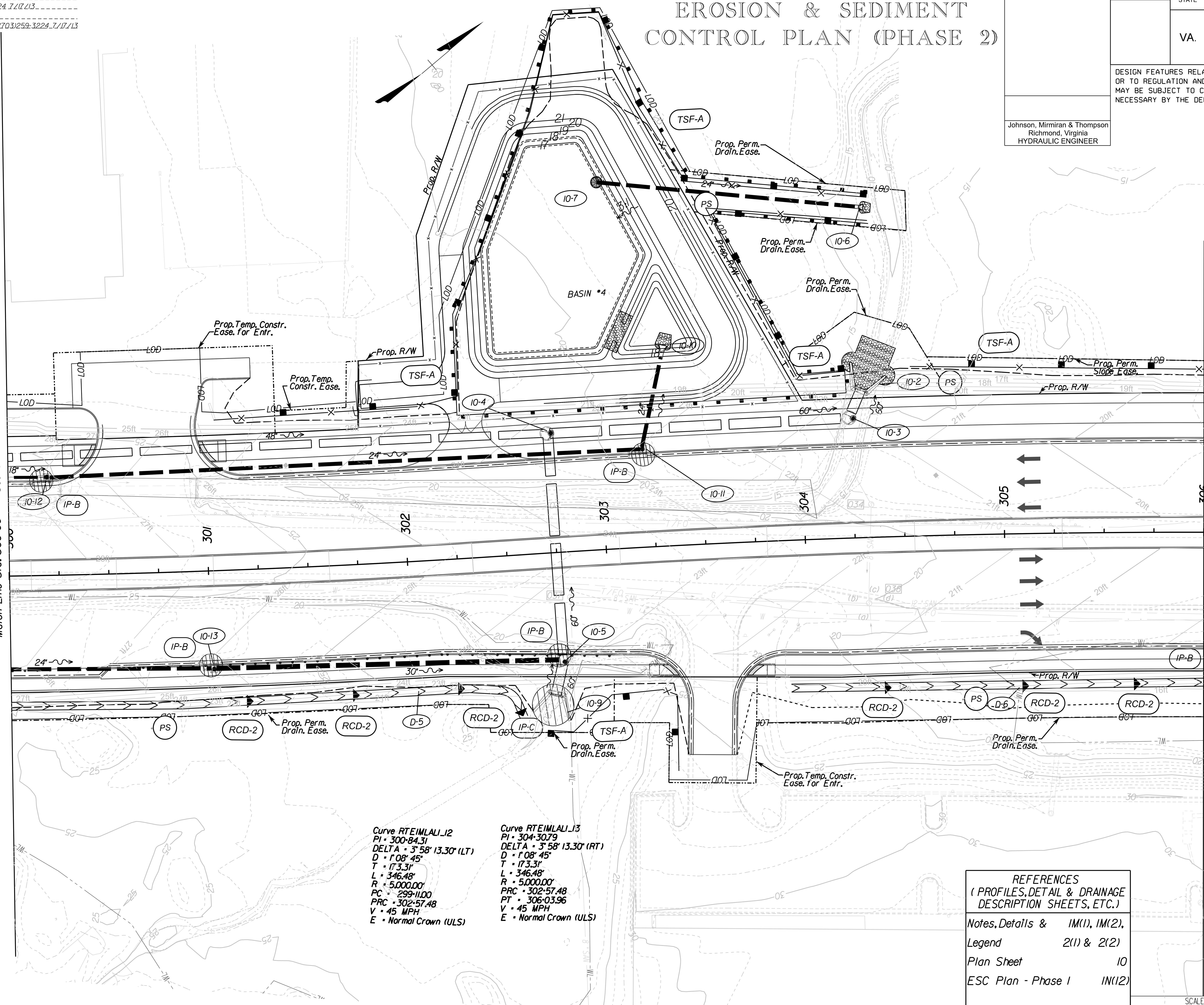
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IP(12)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



Curve RTEIMLALI_12
PI = 300+84.31
DELTA = 3°58′13.30″ (LT)
D = 1°08′45″
T = 173.31′
L = 346.48′
R = 5,000.00′
PC = 299+11.00
PRC = 302+57.48
V = 45 MPH
E = Normal Crown (ULS)

Curve RTEIMLALI_13
PI = 304+30.79
DELTA = 3°58′13.30″ (RT)
D = 1°08′45″
T = 173.31′
L = 346.48′
R = 5,000.00′
PRC = 302+57.48
PT = 306+03.96
V = 45 MPH
E = Normal Crown (ULS)

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details &	IM(1), IM(2),
Legend	2(1) & 2(2)
Plan Sheet	10
ESC Plan - Phase 1	IN(12)

SCALE 0 25′ 50′

PROJECT	SHEET NO.
0001-212-249	IP(12)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:49:50 AM

dl1948101p113).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501, B-xxx	IP(13)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

PI = 304+30.09
DELTA = 3°58'13.30" (RT)
D = 1°08'45"
T = 173.31'
L = 346.48'
R = 5,000.00'
PRC = 302+57.48
PT = 306+03.96
V = 45 MPH
E = Normal Crown (ULS)

Match Line Sta. 306+00 - See Sheet IP(12)

Match Line Sta. 313+00 - See Sheet IP(14)

RPA

Prop. Perm. Drain. Ease.
Prop. Perm. Slope Ease.
Prop. Perm. Slope & Drain. Ease.
Prop. R/W
LOD
Prop. Perm. Slope & Drain. Ease.
Prop. Temp. Constr. Ease.
Prop. Acquisition Line

II-1 II-2 II-3 II-4 II-5 II-6 II-7 II-8 II-9 II-10 II-11 II-12 II-13 II-14 II-15 II-16 II-17 II-18 II-19 II-20
IP-A IP-B
TSF-A
TC-P
PS
DS
D-6 D-7 D-8
RCD-2
15" 24"
280' Prop. Bridge
S 49° 25' 47" E
307 308 309 310 311 312
12

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	II
ESC Plan - Phase I	IN(13)

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(13)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:50:07 AM

dll948101(pl4).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

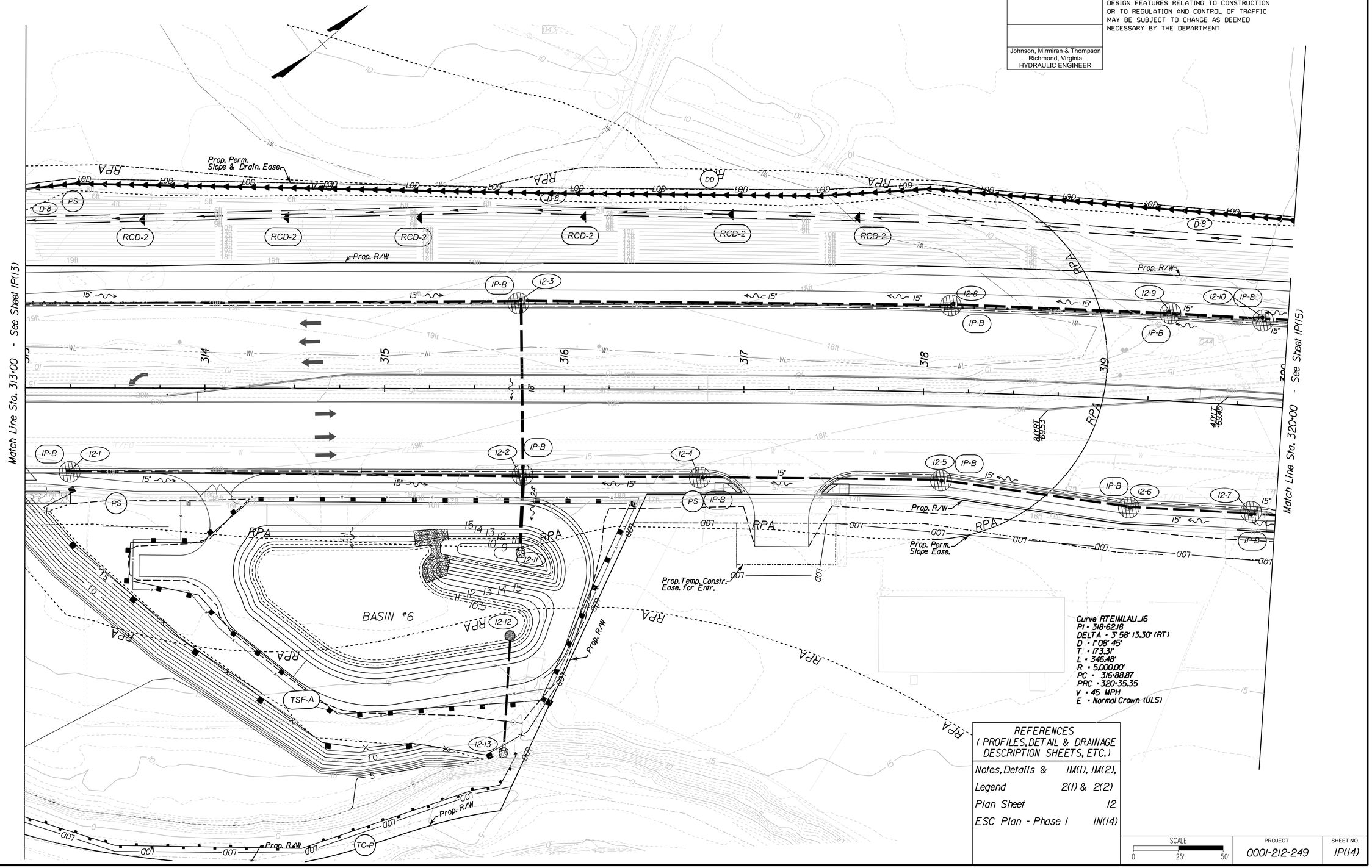
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501, B-xxx	IP(14)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	12
ESC Plan - Phase I	IN(14)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(14)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:50:24 AM

dll948101p115).dgn
Plotted By: ong

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

Curve RTE1MLAU_16
PI = 316+62.18
DELTA = 3° 58' 13.30" (RT)
D = 1° 08' 45"
T = 173.31'
L = 346.48'
R = 5,000.00'
PC = 316+88.87
PRC = 320+35.35
V = 45 MPH
E = Normal Crown (ULS)

Curve RTE1MLAU_17
PI = 322+08.66
DELTA = 3° 58' 13.30" (LT)
D = 1° 08' 45"
T = 173.31'
L = 346.48'
R = 5,000.00'
PRC = 320+35.35
PT = 323+81.83
V = 45 MPH
E = Normal Crown (ULS)

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(15)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

End Constr. Reloc. Main St. North Sta. 105+61.73

Beg. Constr. Canal Rd. Lt Sta. 200+37.31

End Constr. Canal Rd. Lt Sta. 201+81.95

Prop. Temp. Constr. Ease.

Prop. Perm. Slope Ease.

Prop. Perm. Drain. Ease.

Prop. R/W

Prop. Acquisition Line

Beg. Constr. Graham St. 10+26.70

Prop. Temp. Constr. Ease.

Begin Constr. Canal Rd. RT Sta. 10+48.08

POT 11+41.49 Canal Rd. Rt
POT 20+00.00 Canal Rd. Service Rd.

Begin Constr. Canal Rd. Service Rd. Sta. 20+12.00

End Constr. Canal Rd. RT Sta. 12+16.00

POT 12+34.51

Prop. Temp. Constr. Ease. for Emb.

BASIN #5

Match Line Sta. 320+00 - See Sheet IP(14)

Match Line Sta. 102+00 See Sheet IP(16)

Match Line Sta. 326+00 - See Sheet IP(16)

Match Line - See Sheet IP(17)

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	13
ESC Plan - Phase I	IN(15)

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(15)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:50:41 AM

dll948101p(16).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

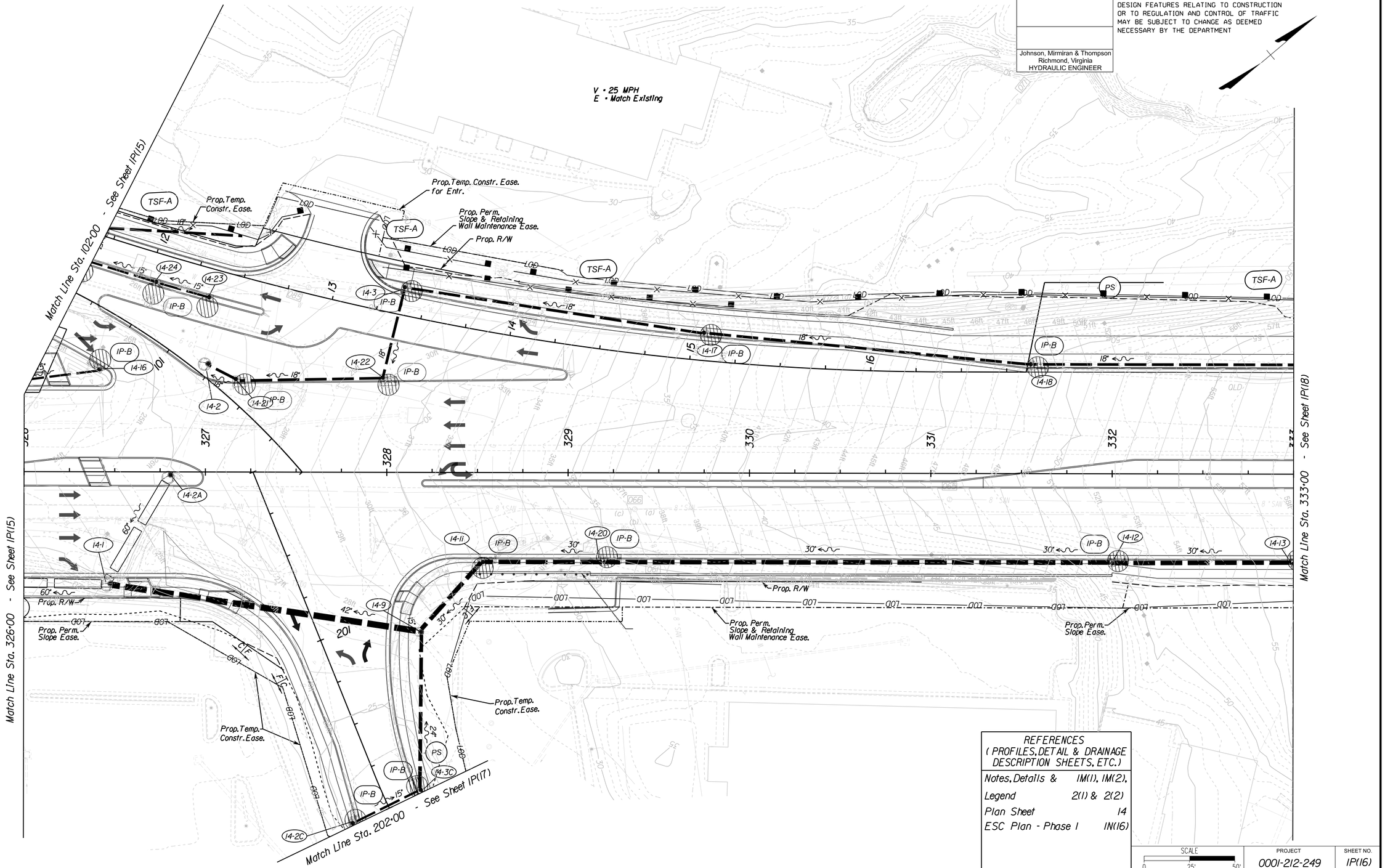
EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(16)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

V = 25 MPH
E = Match Existing



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	14
ESC Plan - Phase I	IN(16)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(16)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(17)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

Match Line - See Sheet IP(15)

Match Line Sta. - See Sheet IP(16)

Match Line Sta. 202+00 - See Sheet IP(16)

Prop. Perm. Drain. Ease.

IP-A

IAC-1

End Constr. Canal Rd. Service Rd. Sta. 22+23.00

Prop. Temp. Constr. Ease.

End Const. Possum Point Rd. Sta. 202+02.06

IP-A Prop. Temp. Constr. Ease.

PS

203

204

205

24

25

LOD

5 MPH
Match Existing

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	14C
ESC Plan - Phase I	IN(17)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(17)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:51:15 AM

dl1948101(p18).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

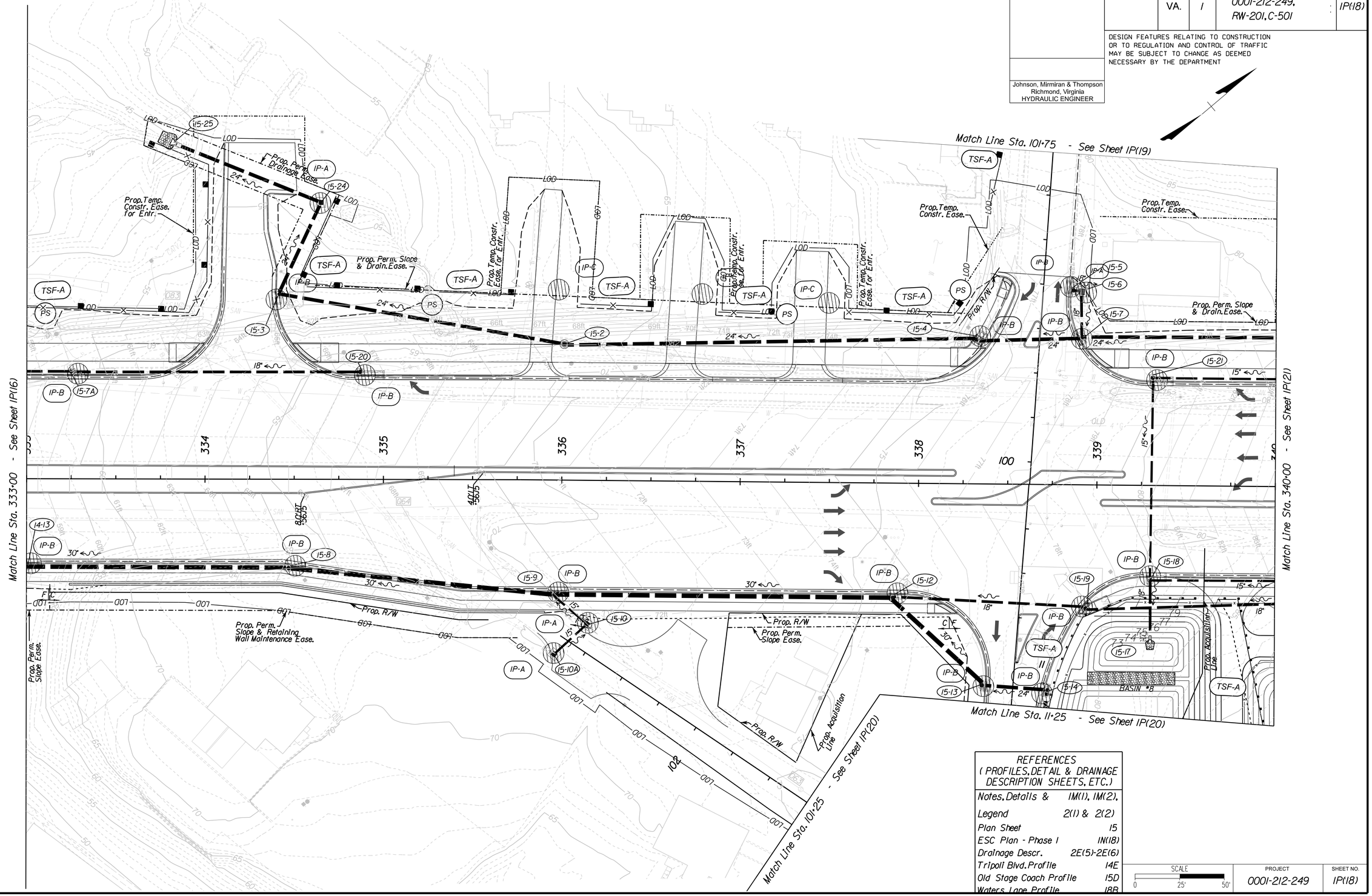
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(18)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	15
ESC Plan - Phase I	IN(18)
Drainage Descr.	2E(5)-2E(6)
Tripoli Blvd. Profile	14E
Old Stage Coach Profile	15D
Waters Lane Profile	18B

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(18)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

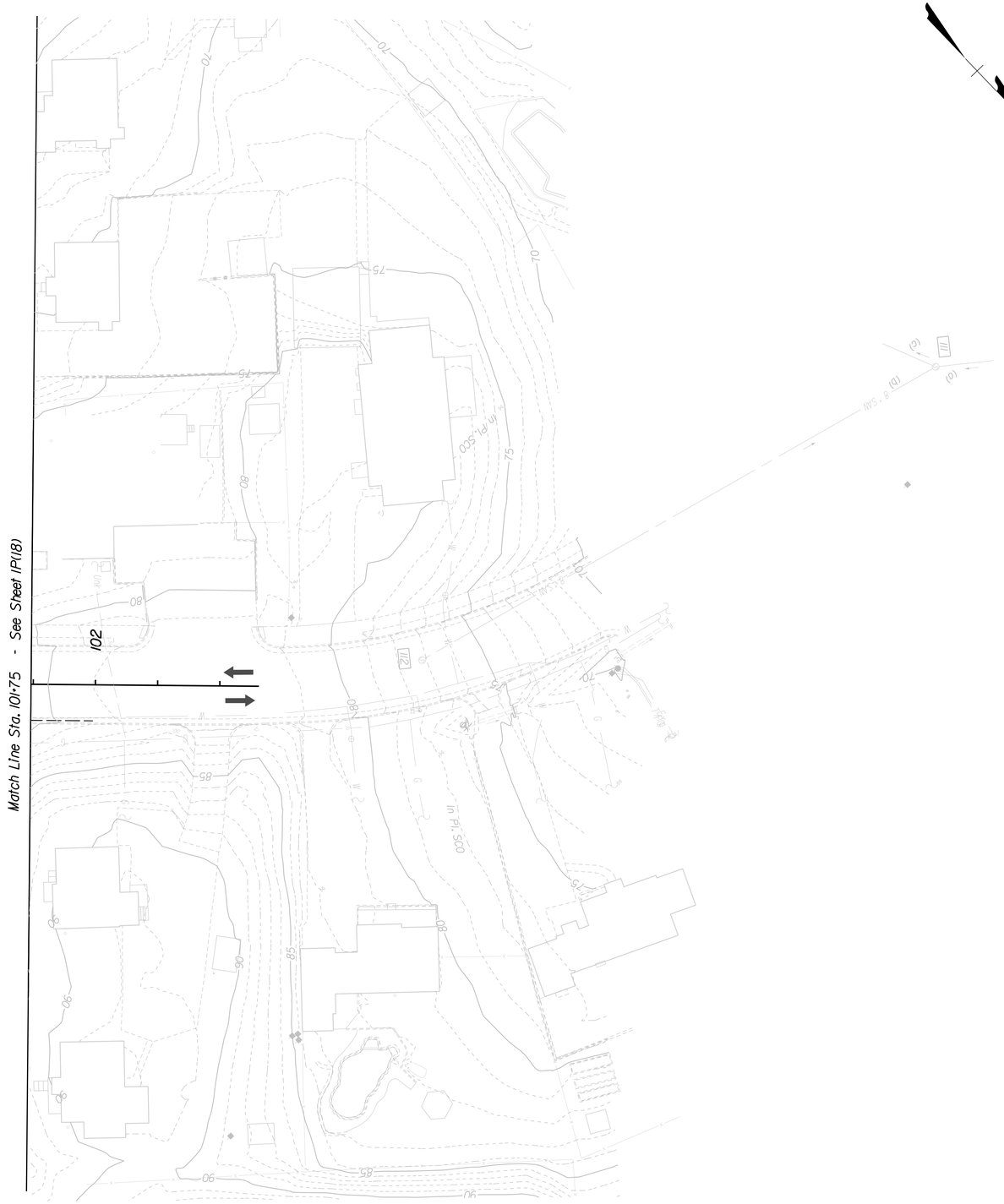
7/6/2023
10:51:32 AM

dl1948101p(19).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	IP(19)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	15B
ESC Plan - Phase 1	IN(19)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(19)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9800

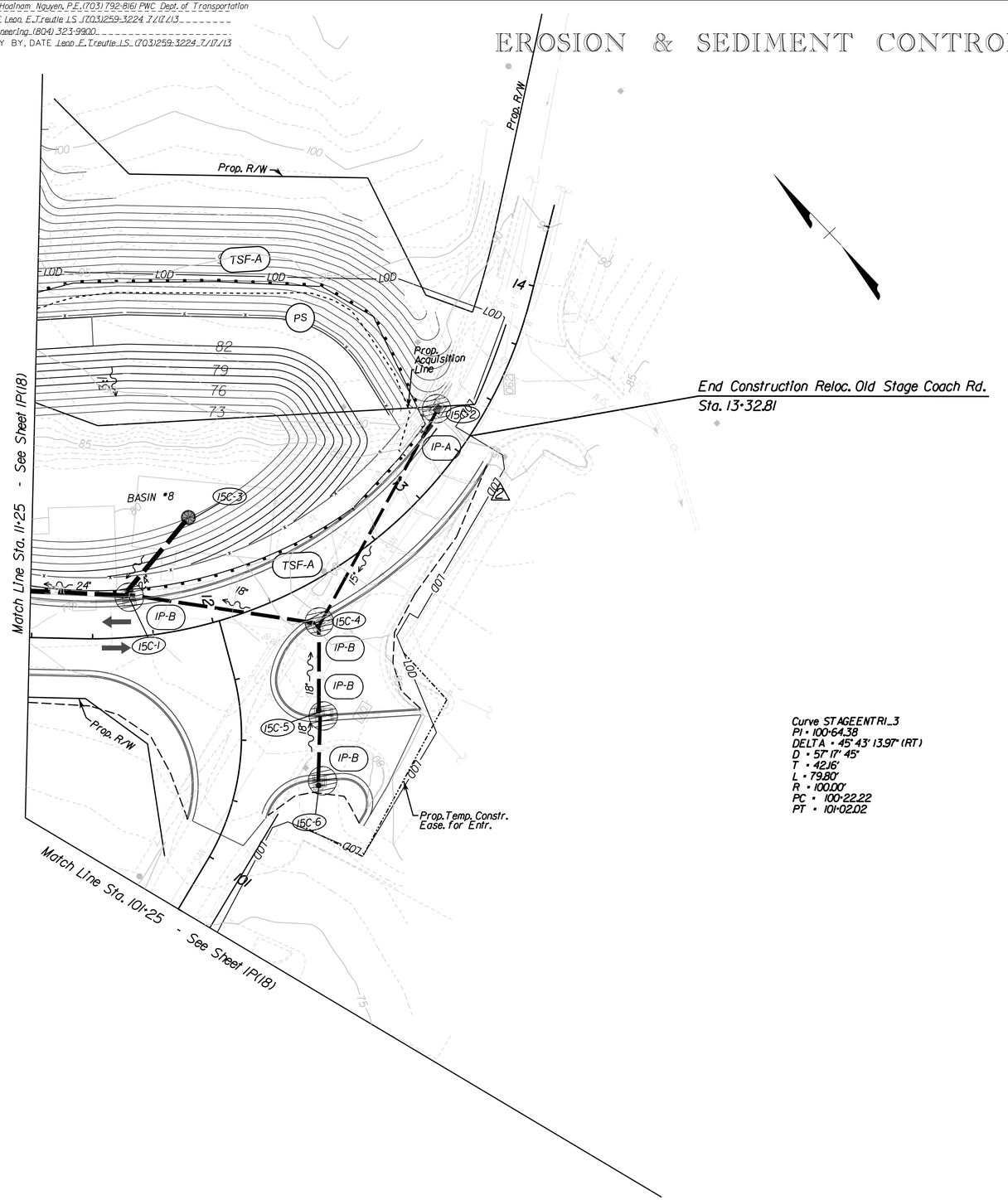
PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(20)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



Curve STAGEENTRI_3
PI = 100+64.38
DELTA = 45° 43' 13.97" (RT)
D = 57° 17' 45"
T = 42.16'
L = 79.80'
R = 100.00'
PC = 100+22.22
PT = 101+02.02

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	I5C
ESC Plan - Phase I	IN(20)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(20)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

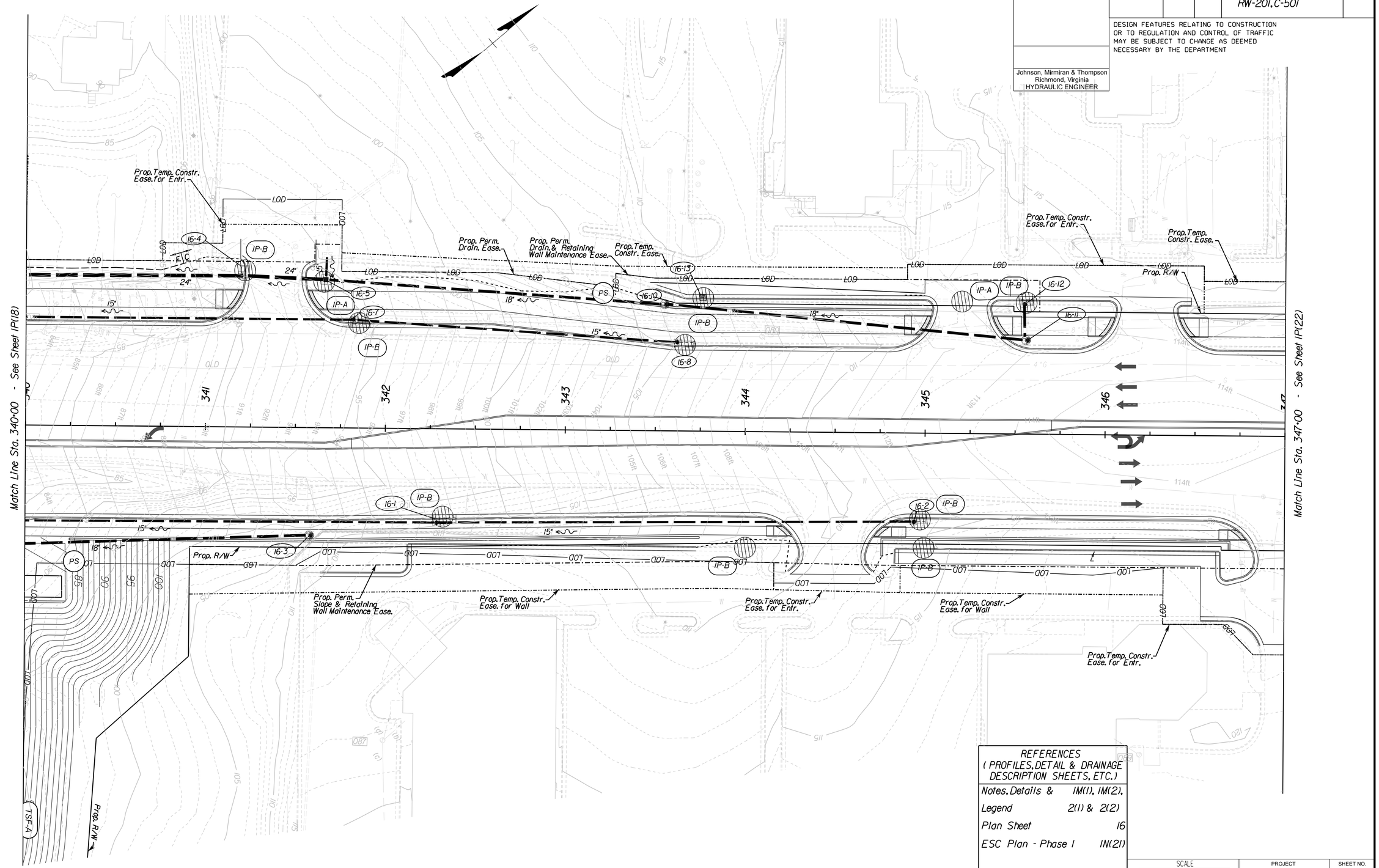
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(21)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	16
ESC Plan - Phase I	IN(21)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(21)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

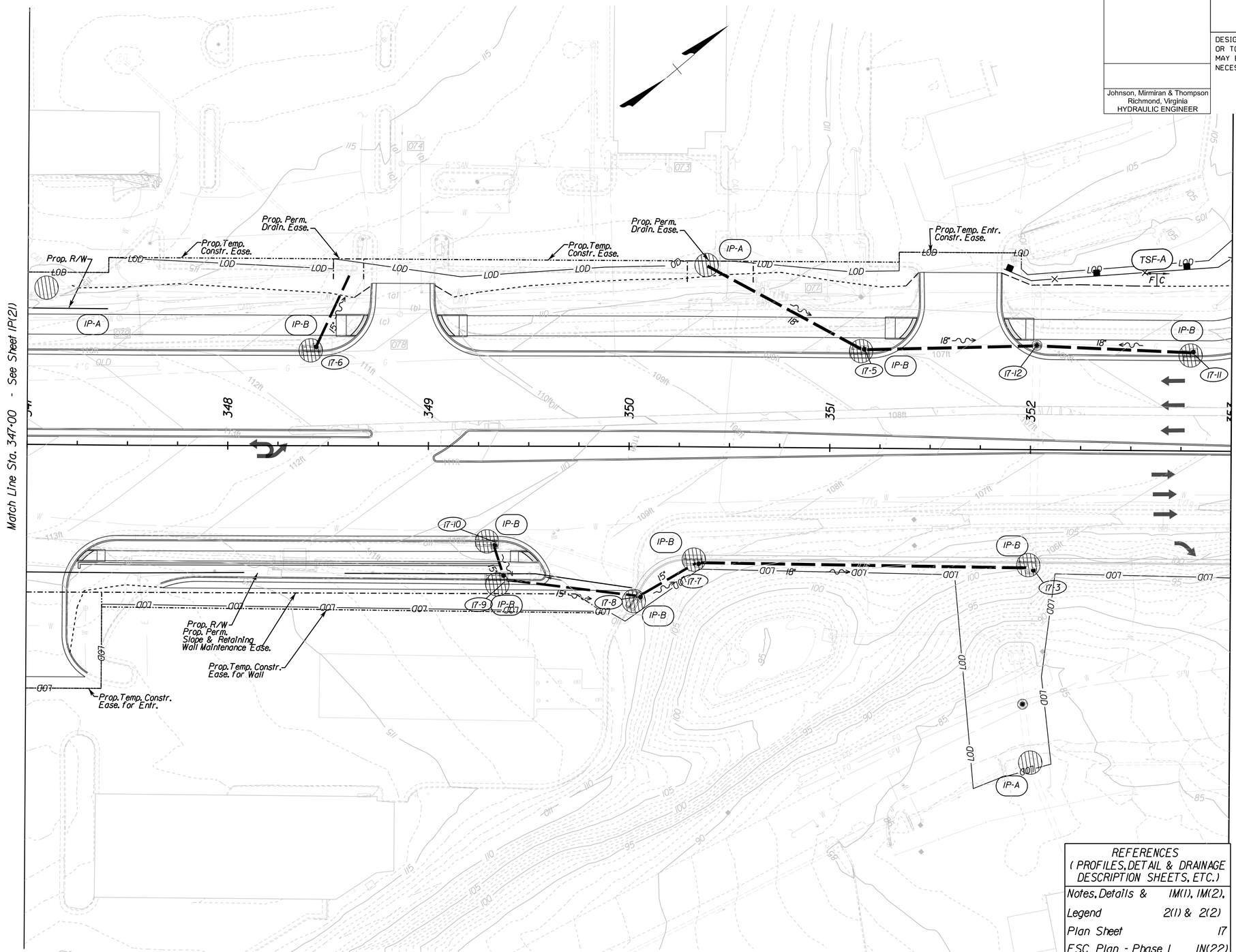
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	IP(22)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	I7
ESC Plan - Phase I	IN(22)

SCALE 0 25' 50'

PROJECT	SHEET NO.
0001-212-249	IP(22)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

7/6/2023
10:52:43 AM

dl1948101p(23).dgn
Plotted By: ong

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

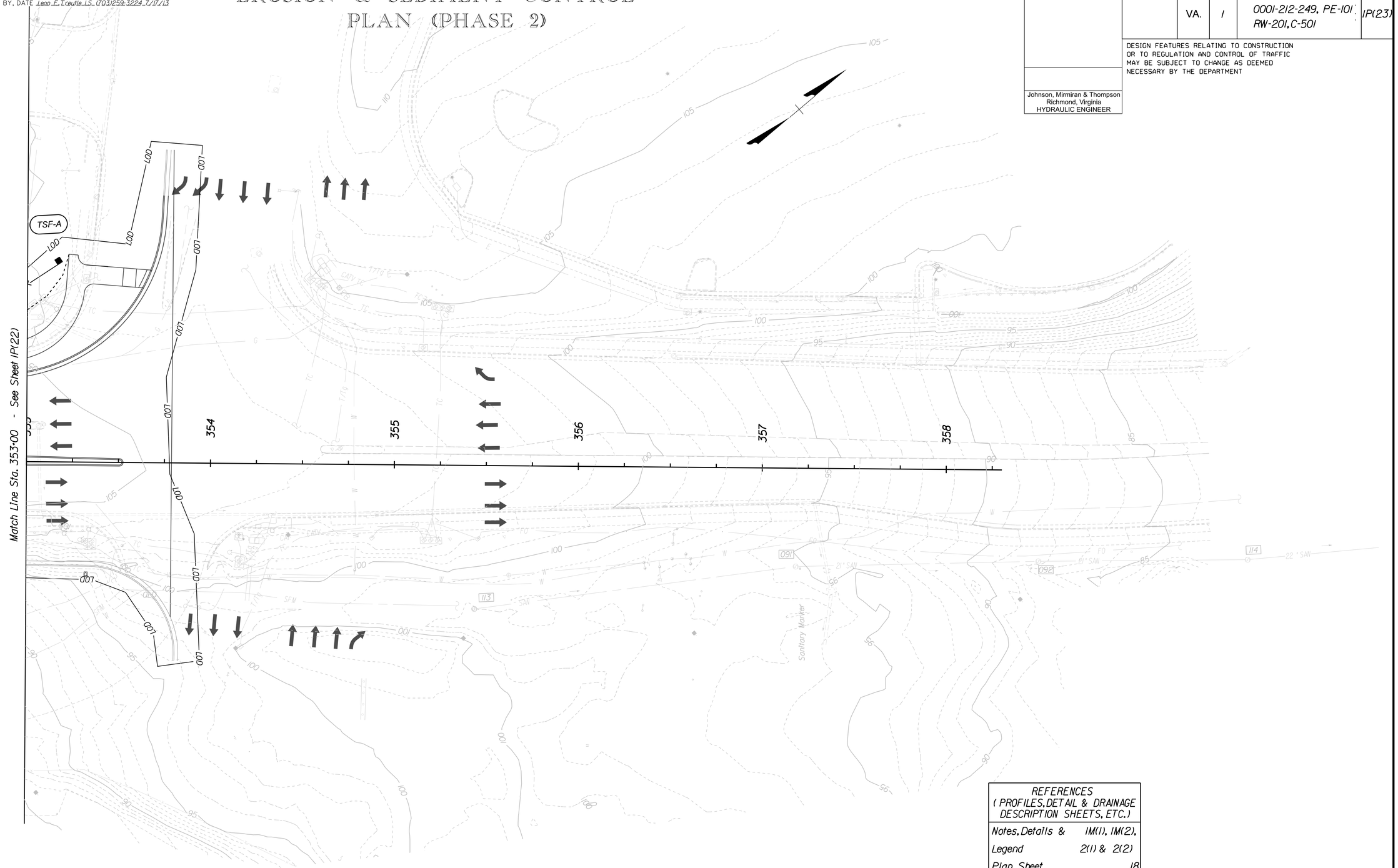
PROJECT MANAGER Hoalnam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

EROSION & SEDIMENT CONTROL PLAN (PHASE 2)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101, RW-201, C-501	IP(23)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER



REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Notes, Details & Legend	IM(1), IM(2), 2(1) & 2(2)
Plan Sheet	18
ESC Plan - Phase I	IN(23)

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	IP(23)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	I	0001-212-249, PE-101	IQ

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

HYDROLOGIC DATA

The data presented herein was statistically derived by empirical methods and from field observations. It is presented as an estimate of the hydraulic performance of these facilities during the passage of actual flood events.

1. Estimated 100 year frequency flood data (unless otherwise noted.) This magnitude of flooding may pass through the proposed facility or it may obtain the necessary hydraulic conveyance by partial inundation of roadways and/or partial by pass of the facility.

2. Specified frequency flood data. It is anticipated that this magnitude of flooding will be conveyed through the proposed hydraulic facility under estimated conditions which satisfy the design criteria applicable to the site.

3. This data was obtained from observations by persons familiar with the area and/or official records combined with an evaluation by empirical methods. The reliability of this data is relative to the accuracy of the source. A future flood of the same magnitude may achieve a significantly different stage elevation from that shown due to changes in the physical characteristics of the watershed.

FIELD INSPECTION STAGE ☐ FINAL DESIGN STAGE ☐

					BASE FLOOD 1.		DESIGN FLOOD 2.			OVERTOPPING FLOOD		HISTORICAL DATA 3.			
Sheet No.	Station	Stream Name	Drainage Area	Structure Size	Discharge (C.F.S.)	Stage Elevation (Ft.)	Discharge (C.F.S.)	Estimated Exceedance Probability %	Stage Elevation (Ft.)	Stage Elevation (Ft.)	Estimated Exceedance Probability %	Date	Stage Elevation (Ft.)	Discharge (C.F.S.)	Estimated Exceedance Probability %
11	310+50	Quantico Creek	27.1 sq. mi.	280-ft Bridge	11,800	18.4	9,800	2%	16.8	17.6	1.5%	June, 1972	17.80	N/A	>1.5%

REMARKS: Discharges adopted from FEMA Flood Insurance Study 51153CV001A dated August 3, 2015
Historical Flood Data Source is XX(Hurricane Agnes)

	PROJECT	SHEET NO.
	0001-212-249, PE-101	IQ

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, RW-201, C-501	2(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

GENERAL NOTES (SHEET 1)

GRADING

G-1 The grade line denotes top of finished pavement unless shown otherwise on typical sections or plans.

G-2 Earthwork quantities on this project are based on anticipated settlement and may require adjusting during construction.

G-4 The cost of removal of all existing concrete items located in the area to be graded, including, but not limited to the following, shall be included in the price bid for regular excavation: concrete pipes, entrances, sidewalk, retaining walls, curbing, medians, ditches & bridge approaches

G-5 The excavation of unsuitable material as specified on these plans is based on previously conducted subsurface soil investigation. If, during construction, it is deemed necessary to change the depth more than one foot, or the limits of such excavation, such change is to be made at the direction of the Engineer and measurement and payment shall be made in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications.

G-6 The borrow material for this project shall be a minimum CBR 5 or as approved by the Materials Engineer.

DRAINAGE

D-1 The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific stations, special design bridges and storm sewer systems.

D-2 The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. If during construction, it is found that the horizontal location or invert elevations shown on the plans differ significantly from the horizontal location or elevations of the stream or swale in which the culvert or storm sewer outfall pipe is to be placed, the Engineer shall confer with, and get approval from, the applicable District Drainage Engineer before installing the culvert or storm sewer outfall pipe.

D-3 The "H" dimensions shown on plans for drop inlets and junction boxes and the "L.F. " dimensions shown for manholes are for estimating purposes and are based on the proposed invert elevations shown for the structure and the anticipated top (rim) elevation based on existing or proposed finished grade. The actual "H" or "L.F. " dimensions are to be determined by the contractor from field conditions.

D-4 At Station (specify station number), the fill shall be placed and allowed to settle and displace all soft materials. Any necessary temporary drainage shall be installed. When directed by the Engineer, that part of the fill where the permanent drainage structure is to reside shall be removed and the structure placed. The cost of installing and removing the temporary drainage facility, the cost of removing the fill above the original ground for installation of permanent drainage structure and the cost of backfill shall be included in the unit price bid for regular excavation. Excavation below the original ground necessary for the installation of the permanent drainage structure will be measured and paid for in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications.

D-5 At locations where Structural Plate Steel Pipe or Pipe Arch with a concrete invert is required or is allowable as an option to Corrugated Steel Pipe or Pipe Arch, the concrete invert is to be field applied and shall cover, at a minimum, the bottom 25% of the circumference of a circular shape structure or the bottom and corner plates of an arch shape structure. As an option to providing the concrete invert, the plates along the bottom 25% (minimum) of the circumference of the Structural Plate Steel Pipe or the bottom and corner plates (minimum) of the Structural Plate Steel Pipe Arch shall be a minimum of two sheet thickness (gages) heavier than the sheet thickness (gage) indicated in the applicable VDOT Road and Bridge Standard PC-1 for the specified height of cover for the structure. Example: For a pipe with height of cover requiring 0.109" sheet thickness (12 gage) plates, the bottom plates shall be 0.168" sheet thickness (8 gage). The sheet thickness (gage) of the remainder of the pipe plates shall either conform to those specified in Standard PC-1 for the applicable height of cover or to the heavier plates used in the bottom of the pipe.

D-6 Pipes shall conform to any of the allowable types shown on sheet number 2E(6), within the applicable height of cover limitations.
For strength, sheet thickness, or class designation; available sizes; height of cover limitations;and other restrictions for a particular pipe type or height of cover, see the VDOT Road and Bridge Standard PC-1. Structural plate pipe may be substituted for corrugated pipe of the same size, provided the substitution complies with the applicable sections of the VDOT Road and Bridge Standards PC-1.

D-8 Where open joint pipe is to be used, no joint shall be opened a distance exceeding 25% of the spigot length. Sealing of the pipe joint shall be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

D-9 A pipe joint length different from that stated on the plans may be used. An adjustment in the percentage of open joint (not to exceed 25% of the spigot length) or amount of bevel shall be made that will obtain the radius stated on the plans. Extra payment for this adjustment will not be allowed. The proposed adjustment shall be approved by the Engineer prior to installation of the pipe line.

D-10 The proposed riprap may be omitted by the Engineer if the slope designated for placement of riprap is found to be comprised of solid rock or closely consolidated boulders with soundness, size and weight equal to, or exceeding, the specifications for the proposed riprap.

D-11 The proposed granular filter blanket for the proposed riprap may be omitted by the Engineer if the slope on which it is to be placed is found to be comprised of material which is coarser than that specified for the proposed granular filter blanket.

D-12 All existing drainage facilities labeled "To Be Abandoned" shall be left in place, backfilled and plugged in accordance with the VDOT Road and Bridge Standard PP-1. Basis of Payment will be C.Y. of Flowable Backfill.

D-13 Existing drainage facilities being utilized as a part of the drainage system, and designated on the plans "To Be Cleaned Out" shall be cleaned as directed by the Engineer. The cost incidental to this shall be included in the contract price for other items.

D-14 Proposed drop inlets with a height (H) less than the standard minimum shown in the VDOT Road and Bridge Standards shall be considered and paid for as Standard Drop Inlets for the type specified. Pipes with less than standard minimum finished height of cover shall be noted as such in the drainage description for the pipe. Specific pipe bedding and cover requirements are provided in the applicable PB-1 and PC-1 standard drawings of the VDOT Road and Bridge Standards.

D-16 When CG-6 or CG-7 is specified on a radius (such as at a street intersection), the Engineer may approve a decrease in the cross slope of the gutter to facilitate proper drainage.

D-17 St'd. SL-1 Safety Slab locations are based on the assumed use of precast structures. If cast-in-place structures are utilized, and the interior chamber dimensions (length and width, or diameter) are less than 4 feet, the safety slabs shall not be installed.

PAVEMENT

P-1 If any settlement occurs in concrete pavement adjacent to bridges prior to acceptance of the project by the Department, the contractor shall restore the pavement to the original grade either by the mud jack method or by replacing the pavement. In the event the pavement cracks or becomes damaged, it shall be replaced, if directed by the Engineer.

P-2 The pavement materials on this project will be paid for on a tonnage basis. The weight will vary in accordance with the specific gravity of the aggregates and the asphaltic content of the mix actually used to secure the design depth. The weight of the asphalt concrete is based on 95% of the theoretical maximum density.

INCIDENTALS

I-3 Service Roads are to be constructed, and private entrances connected thereto prior to the permanent severing of private entrances by other phases of the proposed construction.

I-4 All trees located within the Clear Zone or within a minimum of 30 feet of the edge of pavement, within the limits of the right of way or construction easement, unless otherwise noted on plans or directed by the Engineer, shall be removed, as provided for a Section 301 of the applicable VDOT Road and Bridge Specifications.

I-5 That portion of the right of way lying within the Clear Zone or within a minimum of 10 feet from the edge of pavement or surfacing or within the limits of the construction slopes beyond 10 feet, shall be cleared and grubbed in accordance with the applicable VDOT Road and Bridge Specifications, Section 301, where sufficient right of way or construction easement is provided.

I-7 Where Standard slope roundoffs would damage trees, bushes or other desirable vegetation, they shall be omitted when so ordered by the Engineer.

I-9 When no centerline alignment is shown for a proposed entrance, the entrance shall be constructed in the same location as the existing entrance.

I-12 St'd. RM-2 right of way monuments shall be set by the Contractor.

I-14 Salvaged guardrail materials not used in the new construction shall become the property of the Contractor and shall be disposed of at a licensed landfill, recycled or be retained by the Contractor.

I-16 The "underground utilities" survey data on this project has been provided by consultant and copies are available from the Department.

I-17 For method of constructing Straight-Line Taper Lanes in curb and/or curb and gutter sections, see typical details on Sheet 2B.

I-18 All pavement markings and traffic flow arrows shown on the roadway construction plans are schematic only. The actual location and application of pavement markings shall be in accordance with Section 704 of the applicable VDOT Road and Bridge Specifications, MUTCD, sequence of construction/ traffic control plans, pavement marking plan sheets 21(1) thru 21(18) and as directed by the Engineer.

I-19 The following outside sources, under contract with VDOT, have provided information on this project.

Hydraulic Design	-	JMT
Roadway Design	-	JMT
Utility Design	-	JMT and others
Utility Designation	-	VDOT
Utility Location	-	VDOT
Survey	-	VDOT, JMT & RDA
Bridge Design	-	JMT
Traffic Design	-	JMT
Landscape Design	-	N/A

If questions or problems arise during construction, please contact the Area Construction Engineer. DO NOT CONTACT THE OUTSIDE SOURCES.

I-20 The Official Electronic PDF Version of the plans will override the paper copies or prints of specific layers.

Portions of this plan assembly have been CADD generated. To assist in the preparation of the bid and construction of the project, Microstation format (.dgn) files will be made available to the prime contractor during bids and after award of the contract.

I-21 All electronic plan assemblies will include the construction plans in two formats: PDF files and MicroStation format (.dgn) files. Only the PDF files will be considered as part of the official plan assembly.

The MicroStation format (.dgn) files are furnished only as information for the contractor. These plans are developed in layers (levels) to aid in readability. (See the VDOT CADD Manual for CADD Level Structure). However, the construction items may or may not be in the proper layering scheme as described in the VDOT CADD Manual. The Microstation files will only match the scanned files if all required levels are turned on. A Microstation Software license is required to be able to read these files.

	PROJECT	SHEET NO.
	0001-212-249	2(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 270
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.,(703)792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE _ Leon E. Treutle LS (703)259-3224 7/17/13 _____
DESIGN BY _ JMT Engineering (804) 323-9900 _____.
SUBSURFACE UTILITY BY, DATE _ Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

GENERAL NOTES (Sheet 2)

STORMWATER MANAGEMENT

S-1 CLEARING AND GRUBBING OF SWM BASIN SITE - The area where the dam is to be constructed and the area upstream of the dam, to an elevation equal to the crest of the dam (maximum ponded water elevation), shall be cleared and grubbed in accordance with Section 301 of the applicable VDOT Road and Bridge Specifications.

S-2 SWM BASIN DAM CONSTRUCTION - The dam for detention basins (no permanent pool) shall conform to the details contained in the plans and shall be constructed in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications. The native material on which the dam will set shall meet the specifications for AASHTO Type A-4 or finer material. Where the native material does not meet this requirement, the area beneath the dam is to be excavated a minimum of 4' and backfilled with a material meeting the AASHTO Type A-4 or finer classification unless otherwise specified in the plans. The material used for the embankment of the dam shall be AASHTO Type A-4 or finer or otherwise specified in the plans. Dams with foundation and embankment material not meeting the above requirements or dams greater than 15' in height, or dams for retention basins (permanent pool) shall incorporate a membrane-lined trench, a homogenous embankment with seepage controls, a zoned embankment or other such approved designs as specified in the plans.

S-3 SWM BASIN OUTLET PIPE - The pipe culvert under or through the dam for detention basins (no permanent pool) shall be reinforced concrete pipe with rubber gaskets in accordance with Section 232 and 212 of the applicable VDOT Road and Bridge Specifications. A concrete cradle shall extend the full length of the pipe culvert in accordance with the Standard Drawings. The connection between the pipe culvert and the SWM-1 Drainage Structure (or other control structure) shall be made watertight as approved by the Engineer and the cost shall be included in the price bid for pipe.

S-4 The SWM-1 Drainage Structure (or other control structure) shall have 4" high numbers and 1" wide stripes painted at 1' intervals as shown on the Standard Drawings or detail sheets. The numbers and stripes are to be installed at the time of the initial installation of the SWM-1 Drainage Structure (or other control structure). Paint and application shall be in accordance with Section 231 and 411 of the applicable VDOT Road and Bridge Specifications and the cost is to be included in the price bid for the applicable structure.

S-5 All SWM Basins designated for use as temporary sediment basins shall be constructed during the initial phase of earth moving activities or as specified by the plans or directed by the Engineer. During project construction, the SWM-1 Drainage Structure (or other control structure) shall be modified in accordance with the Standard Drawings or plan details in order to provide a temporary sediment basin with both a "wet" storage volume (permanent pool) and a "dry" storage volume. Sediment accumulated in the basin shall be removed when the volume of the "wet" storage (permanent pool) has been reduced by 50%. Sediment shall be disposed of in accordance with Section 106.04 of the applicable VDOT Road and Bridge Specifications. When project construction is complete to a stage where no additional sediment from the project is expected to enter the basin, as determined by the Engineer, the basin shall be cleaned out and restored to the original design elevations, the area stabilized and all temporary modifications to the SWM-1 Drainage Structure (or other control structure) removed.

EROSION AND SEDIMENT CONTROL (ESC)

E-1 If the removal of Brush Silt Barrier is specified by the plans or required by the Engineer, the cost of removal and disposal of brush shall be in accordance with Section 109 of the applicable VDOT Road and Bridge Specifications.

E-2 Rock for Check Dams, Inlet Protection, Erosion Control Stone and Riprap shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

E-3 The following symbols are used to depict Erosion Control items in the plan assembly:

EC-2, Ty. 1 / EC-2, Ty. 2 / EC-2, Ty. 3 / EC-2, Ty. 4	Denotes Rolled Erosion Control Product, Temporary, St'd. EC-2 Type 1, 2, 3 or 4
EC-3, Ty. 1 / EC-3, Ty. 2 / EC-3, Ty. 3	Denotes Rolled Erosion Control Product, Permanent, St'd. EC-3 Type 1, 2 or 3
TSF-A / TSF-B	Denotes Temporary Silt Fence, St'd EC-5 Type A or B
TCD	Denotes Temporary Check Dam, St'd EC-16
TDC	Denotes Temporary Diversion Channel, St'd EC-12
DD	Denotes Temporary Diversion Dike, St'd EC-9
TC-I	Denotes Turbidity Curtain, Type - Impervious
TC-P	Denotes Turbidity Curtain, Type - Pervious
RCD-1	Denotes Rock Check Dam, Type I; St'd EC-4
RCD-2	Denotes Rock Check Dam, Type II; St'd EC-4
IP-A	Denotes Inlet Protection, Type A; St'd EC-6
IP-B	Denotes Inlet Protection, Type B; St'd EC-6
TSI	Denotes Slope Interrupter; St'd EC-15
DS	Denotes Dewatering Basin; St'd EC-8

E-4 Permanent vegetation shall be established on all denuded areas not otherwise stabilized with non-erodible materials. See the Roadside Development sheet for details on permanent vegetation establishment.

	PROJECT	SHEET NO.
	0001-212-249	2(2)

R/W PLANS

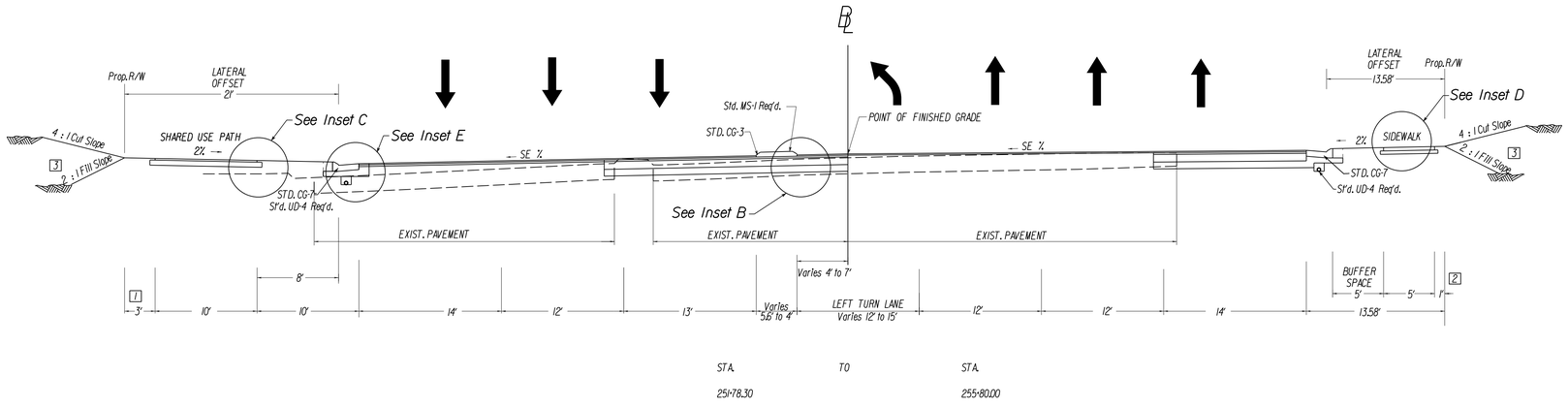
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoahnam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

TYPICAL SECTIONS

Route 1 (Fraley Boulevard) - 6 Lane Design Typical
GS-5 - Urban Principal Arterial - 45 MPH Design Speed

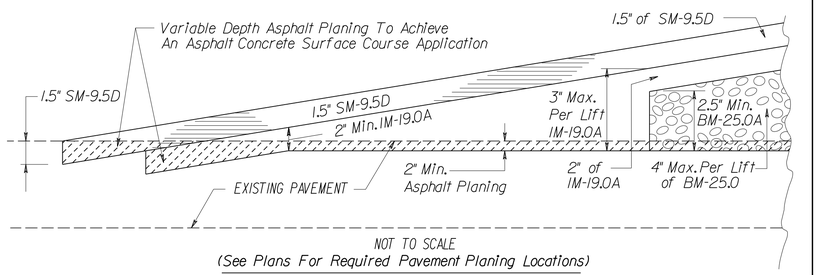


STA. 251+78.30 TO STA. 255+80.00

Pavement Legend

1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

BUILD-UP DETAIL FOR RESURFACING EXISTING PAVEMENT
(Build-up & Overlay Sections)

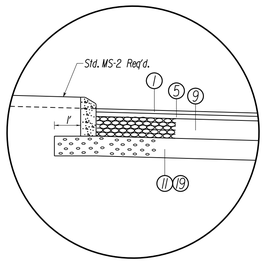


NOT TO SCALE
(See Plans For Required Pavement Planing Locations)

(Note: Build Up Asphalt can be all IM-19.0A or a combination of IM-19.0A & BM-25.0A)

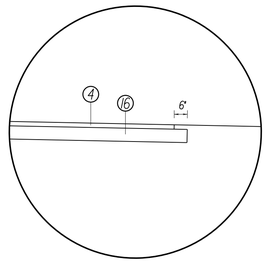
Note:
[1] Locations where fills are greater than 4' in depth beside a shared use path except where retaining walls are proposed the greenspace back of shared use path is be 5' wide.
[2] Locations where handrail is shown beside a sidewalk except where retaining walls are proposed the greenspace back of sidewalk is be 2' wide.
[3] Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

Inset B



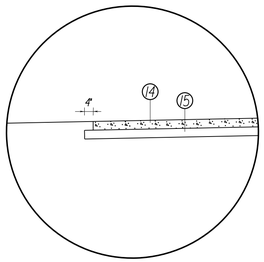
NOT TO SCALE

Inset C



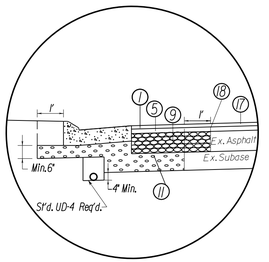
NOT TO SCALE

Inset D



NOT TO SCALE

Inset E



NOT TO SCALE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2A(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

NTS	PROJECT 0001-212-249	SHEET NO. 2A(1)

R/W PLANS

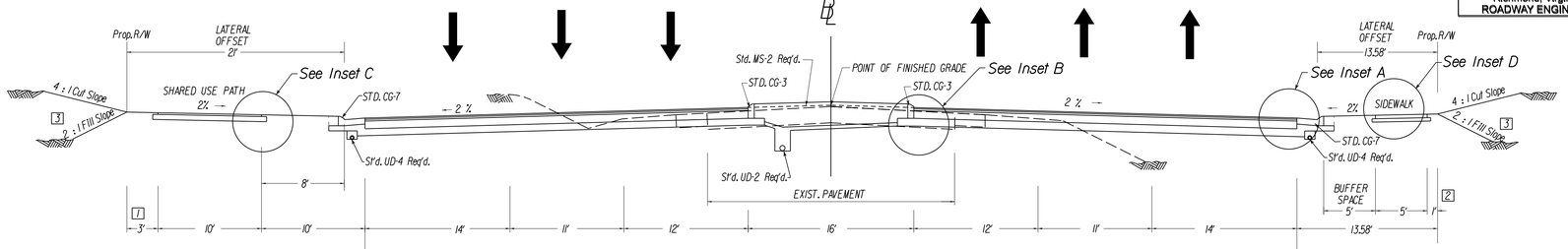
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

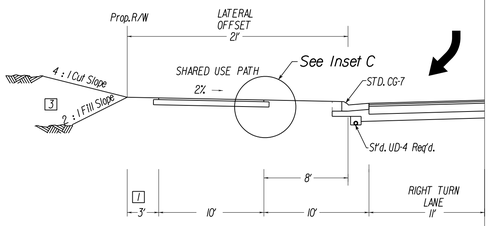
PROJECT MANAGER Hoahnam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

TYPICAL SECTIONS

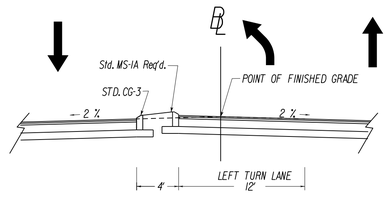
Route 1 (Fraley Boulevard) - 6 Lane Design Typical
GS-5 - Urban Principal Arterial - 45 MPH Design Speed



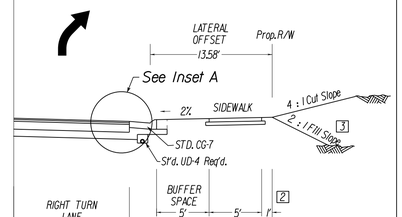
STA.	TO	STA.	
255+80.00		309+70	
309+70		312+50	Bridge Over Quantico Creek
312+50		335+00	



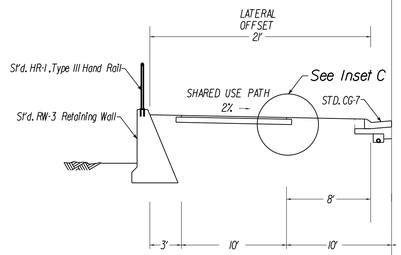
See Plans For Right Turn Lanes Locations



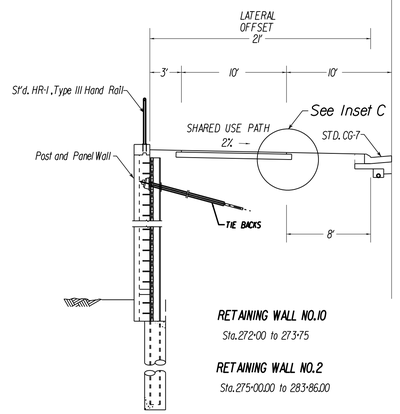
See Plans For Left Turn Lanes Locations



See Plans For Right Turn Lanes Locations

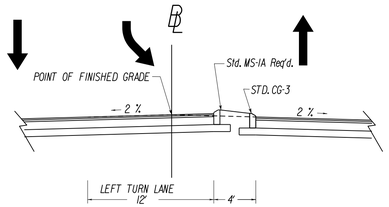


RETAINING WALL NO.1
Sta.259+58.00 to 261+25.00

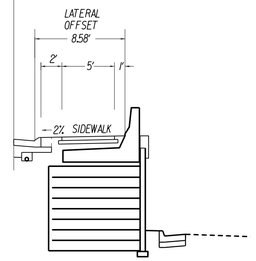


RETAINING WALL NO.10
Sta.272+00 to 273+75

RETAINING WALL NO.2
Sta.275+00.00 to 283+86.00



See Plans For Left Turn Lanes Locations



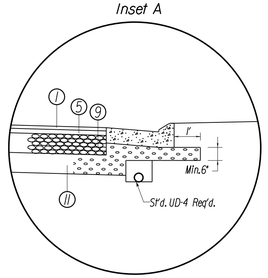
RETAINING WALL NO.3
Sta.328+82.00 to 332+00.00

Note:
1. Locations where fills are greater than 4' in depth beside a shared use path except where retaining walls are proposed the greenspace back of shared use path is be 5' wide.
2. Locations where handrail is shown beside a sidewalk except where retaining walls are proposed the greenspace back of sidewalk is be 2' wide.
3. Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

Pavement Legend

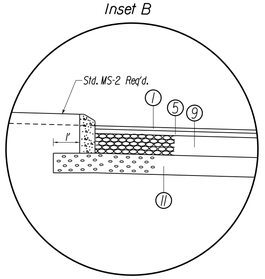
1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

Inset A



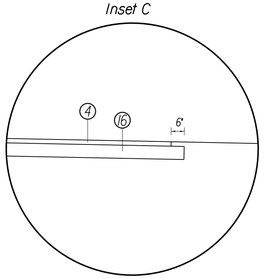
NOT TO SCALE

Inset B



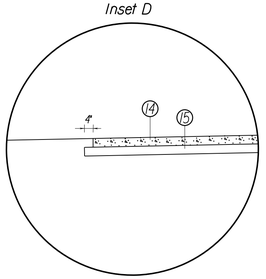
NOT TO SCALE

Inset C



NOT TO SCALE

Inset D



NOT TO SCALE

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2A(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NTS	PROJECT 0001-212-249	SHEET NO. 2A(2)

R/W PLANS

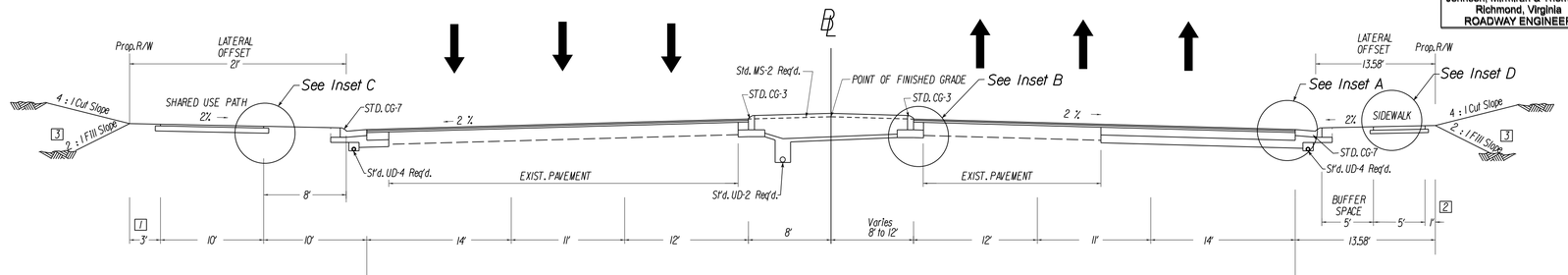
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

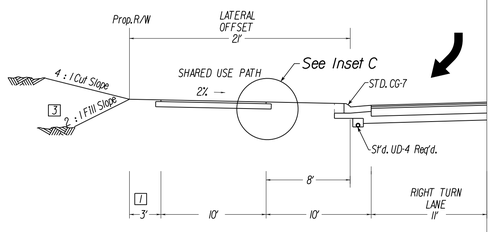
PROJECT MANAGER Hoahnam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

TYPICAL SECTIONS

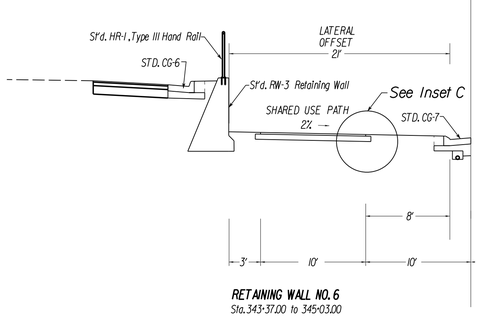
Route 1 (Fraley Boulevard) - 6 Lane Design Typical
GS-5 - Urban Principal Arterial - 45 MPH Design Speed



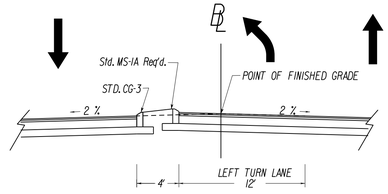
STA. 335+00.00 TO STA. 353+78.84



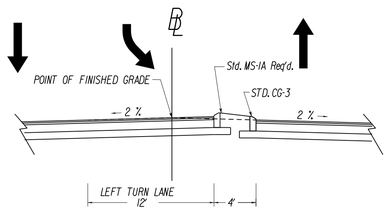
See Plans For Right Turn Lanes Locations



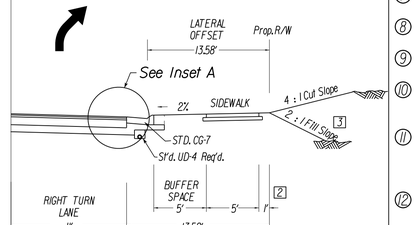
RETAINING WALL NO. 6
Sta. 343+37.00 to 345+03.00



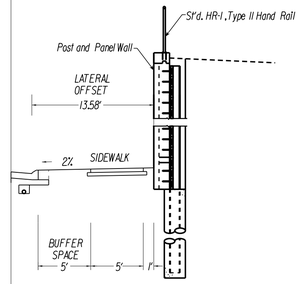
See Plans For Left Turn Lanes Locations



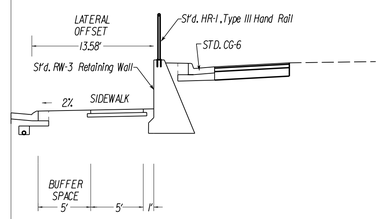
See Plans For Left Turn Lanes Locations



See Plans For Right Turn Lanes Locations



RETAINING WALL NO.4 & 5
Sta. 333+24.00 to 335+91.00
Sta. 339+69.00 to 344+20.00

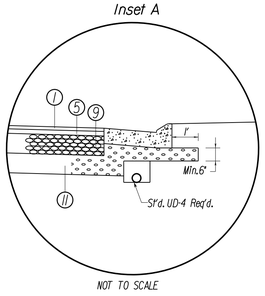


RETAINING WALL NO.7 & 8
Sta. 344+76.00 to 346+70.00
Sta. 347+26.00 to 349+35.50

Pavement Legend

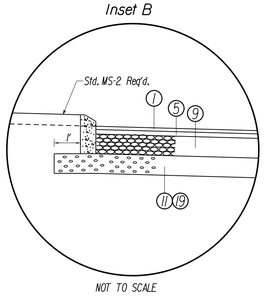
1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

Inset A



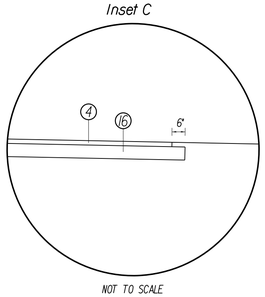
NOT TO SCALE

Inset B



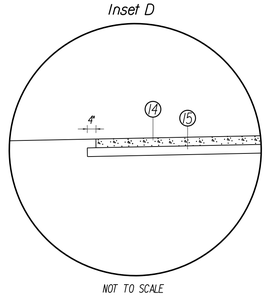
NOT TO SCALE

Inset C



NOT TO SCALE

Inset D



NOT TO SCALE

Note:
1. Locations where fills are greater than 4' in depth beside a shared use path except where retaining walls are proposed the greenspace back of shared use path is be 5' wide.
2. Locations where handrail is shown beside a sidewalk except where retaining walls are proposed the greenspace back of sidewalk is be 2' wide.
3. Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER	

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2A(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NTS	PROJECT 0001-212-249	SHEET NO. 2A(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

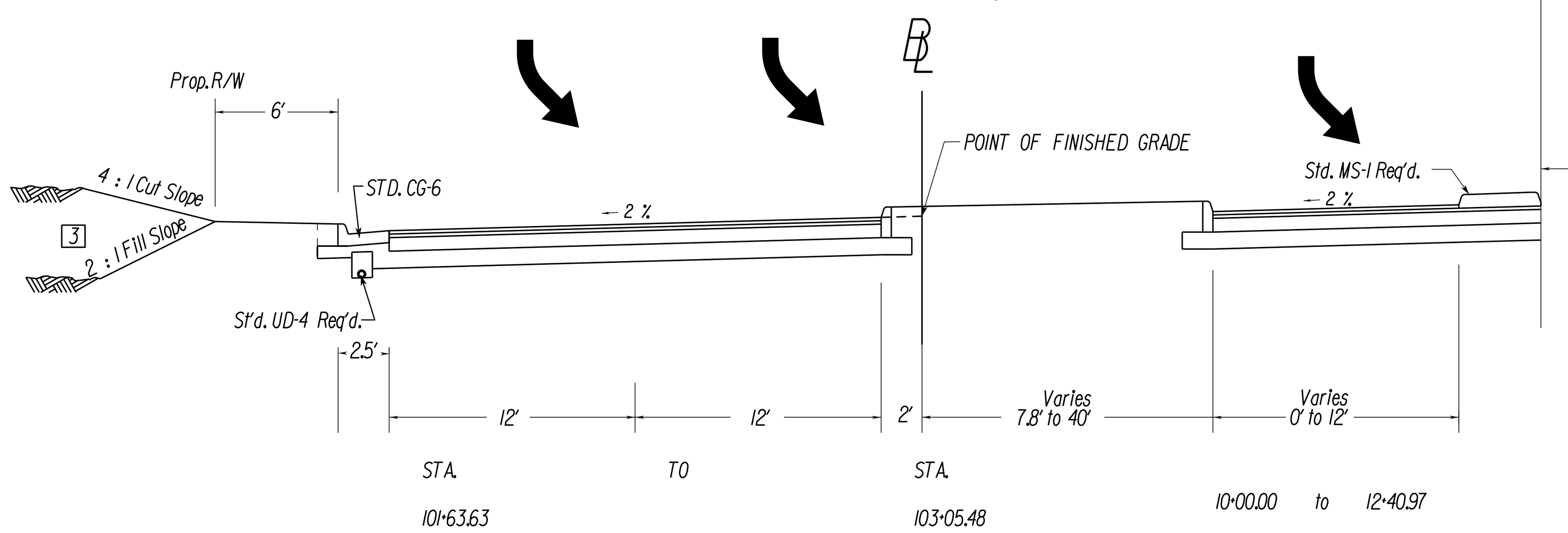
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2B

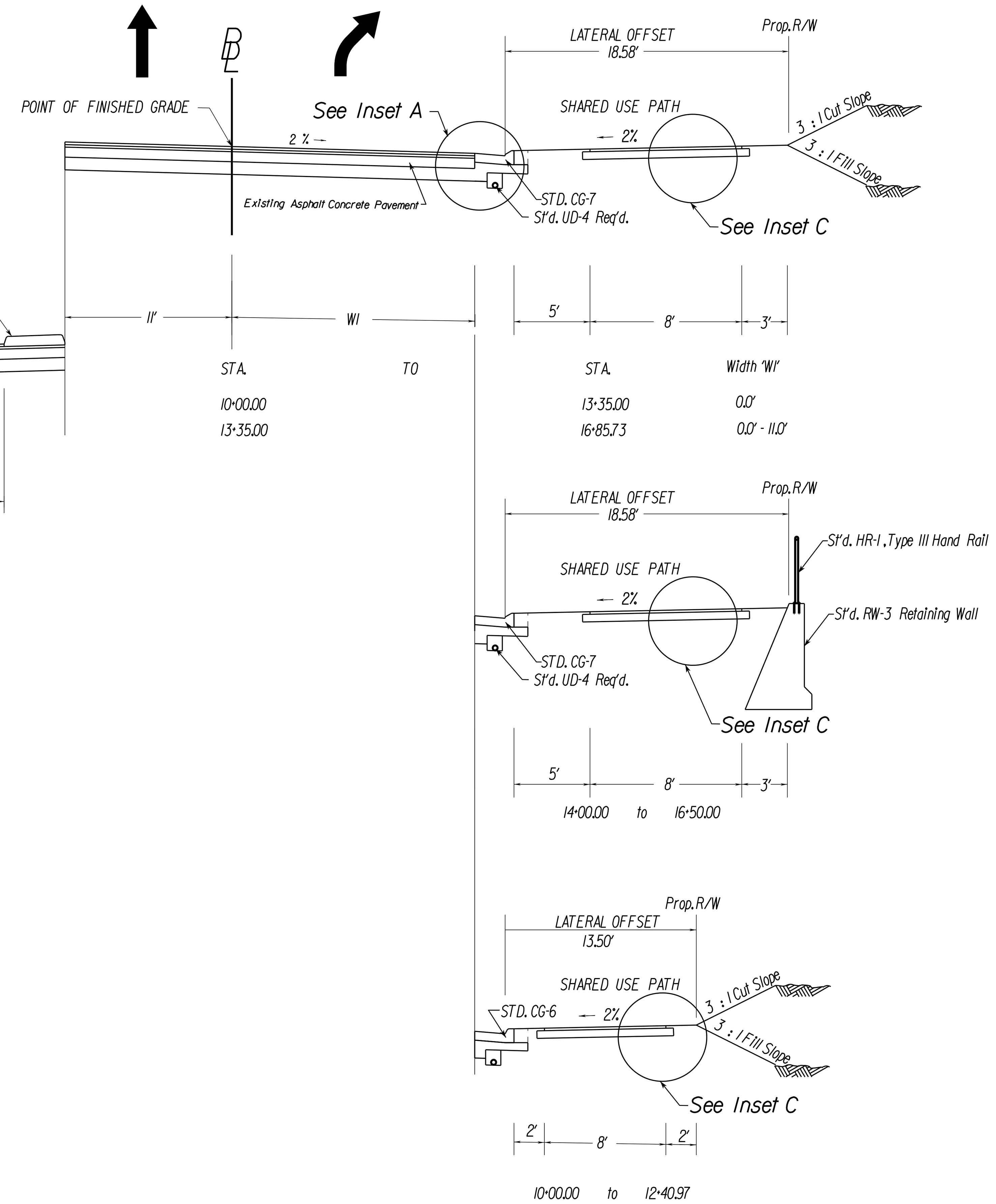
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

Reloc. Main Street North
GS-7 - Urban Collector Street -
40 MPH Design Speed



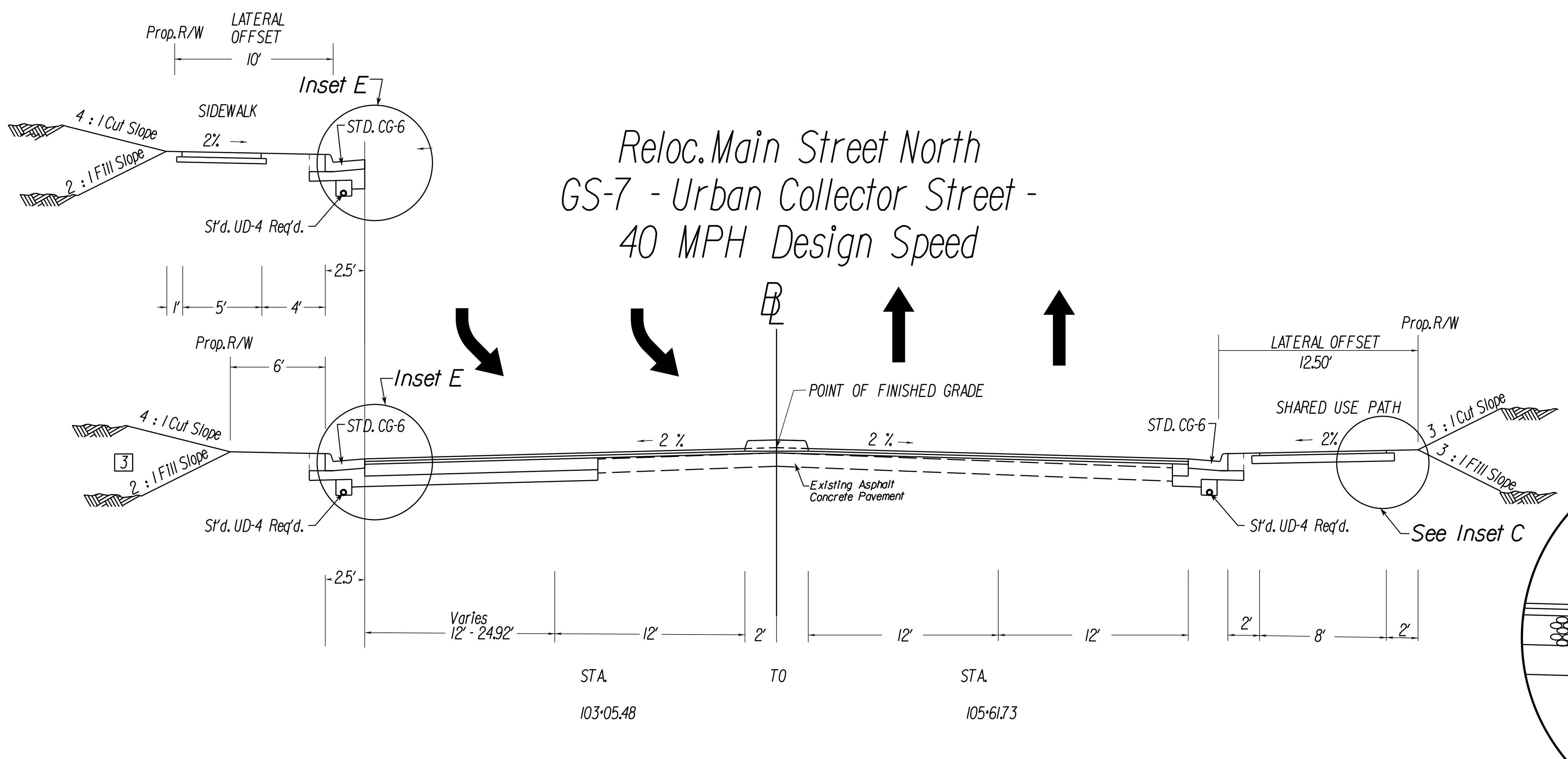
Main Street North - Right Turn Lane

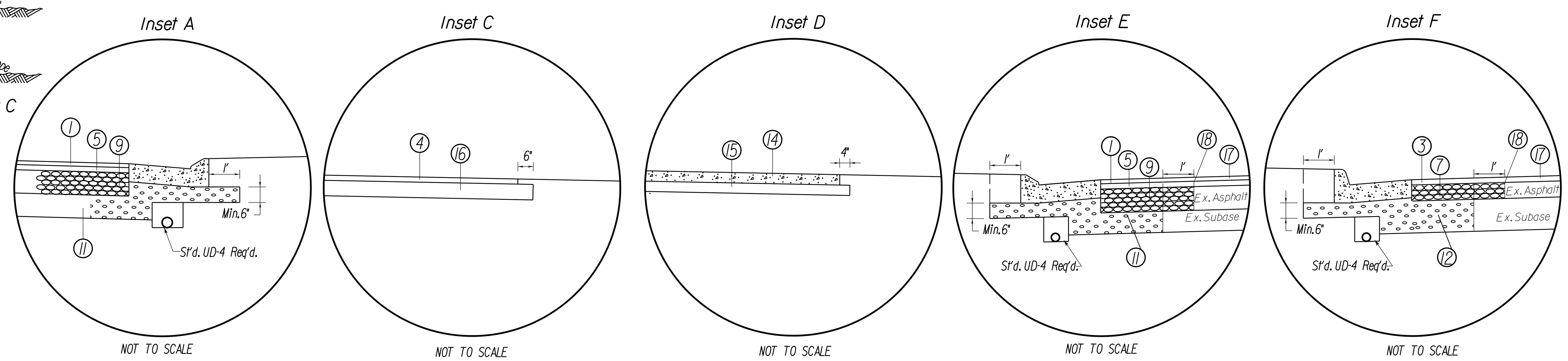


Pavement Legend

1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

Reloc. Main Street North
GS-7 - Urban Collector Street -
40 MPH Design Speed





Notes:
3 Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

NTS	PROJECT 0001-212-249	SHEET NO. 2B

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoalnam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

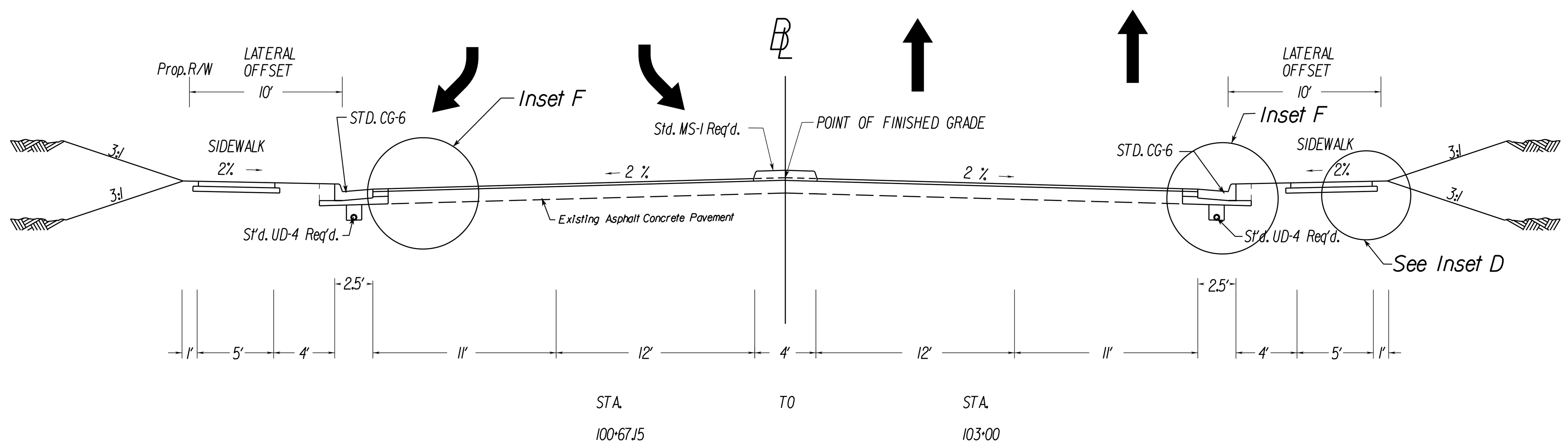
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2C

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

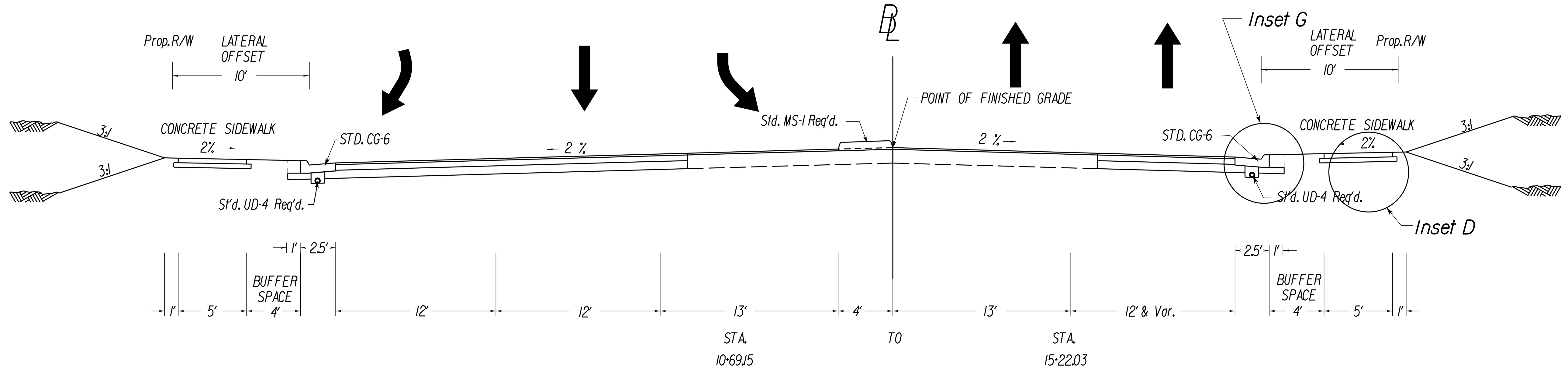
Johnson, Mirmiran & Thompson / VDOT Location & Design Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

TYPICAL SECTIONS

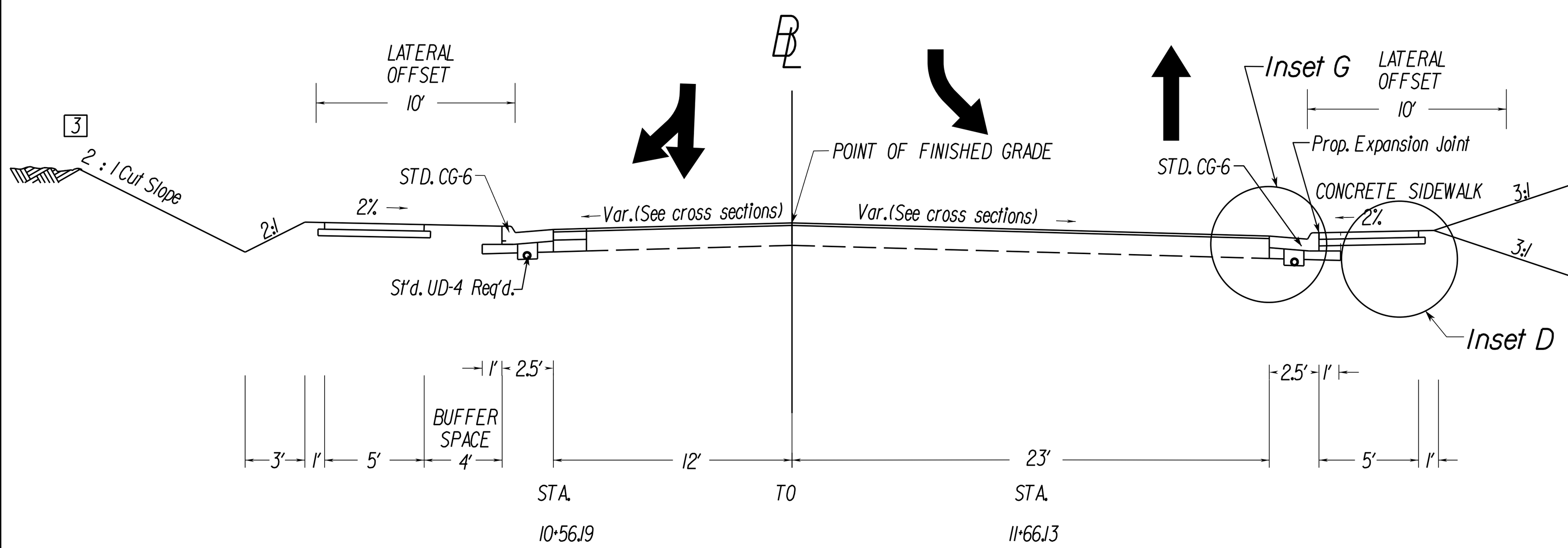
Quantico Gateway Drive
GS-8 - Urban Local Street - 30 MPH Design Speed



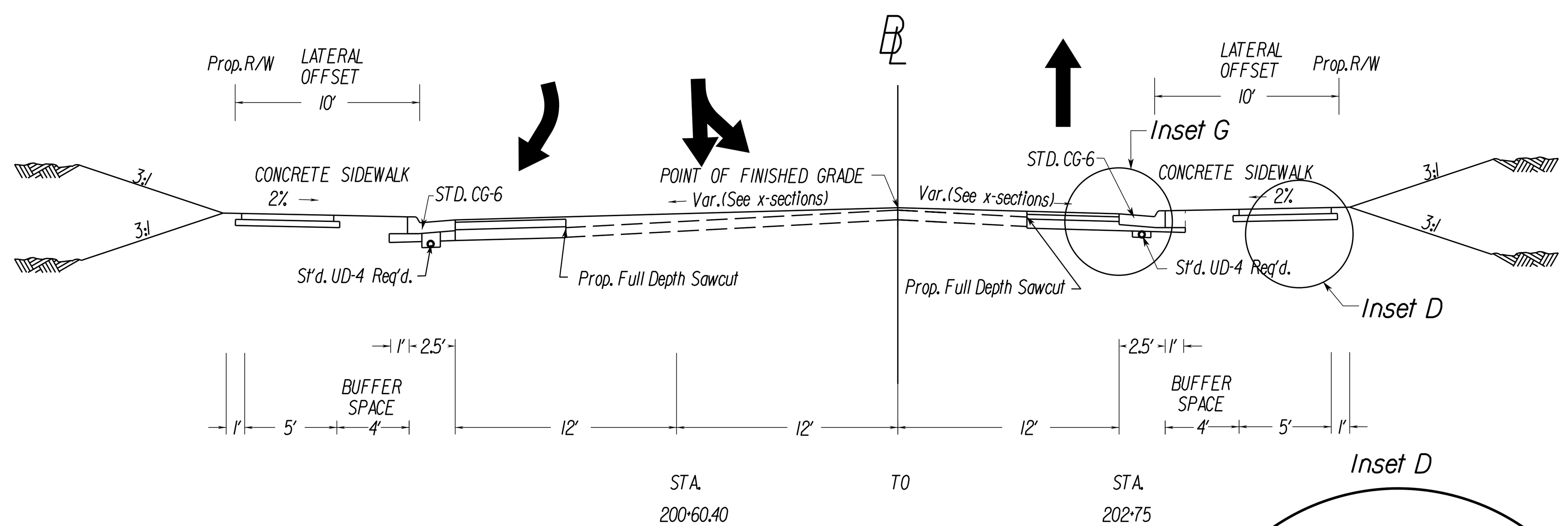
Graham Park Road Rt.
GS-7 - Urban Collector Street - 40 MPH Design Speed



Graham Park Road Lt.
GS-7 - Urban Collector Street - 40 MPH Design Speed

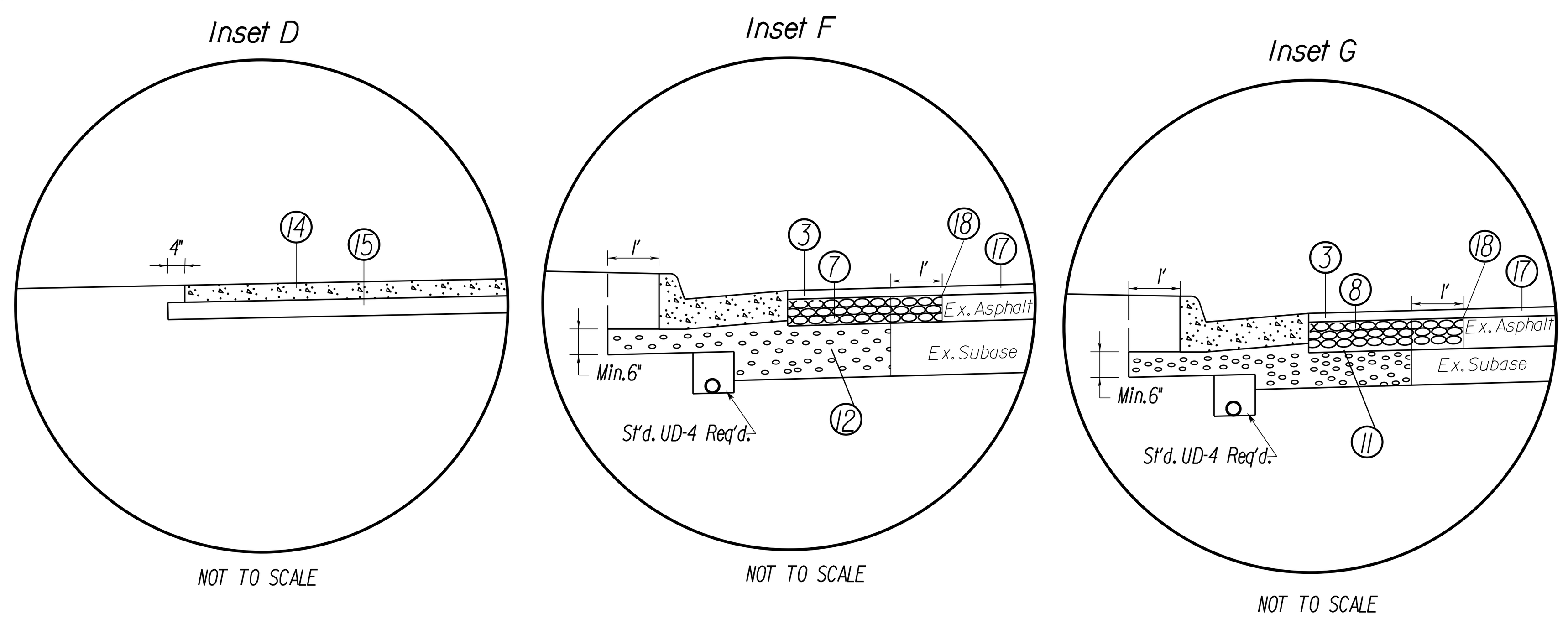


Possum Point Road
GS-7 - Urban Collector Street - 30 MPH Design Speed



Pavement Legend

1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes



Notes:
3 Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.

	PROJECT	SHEET NO.
NTS	0001-212-249	2C

R/W PLANS

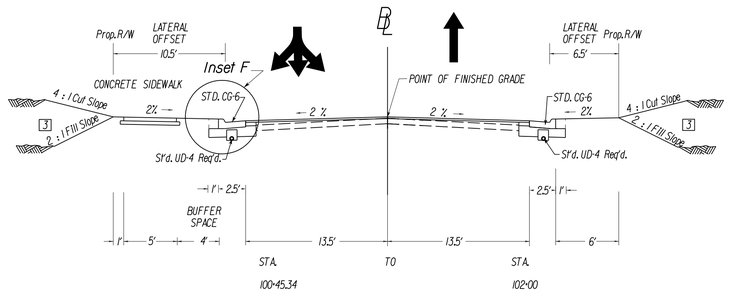
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

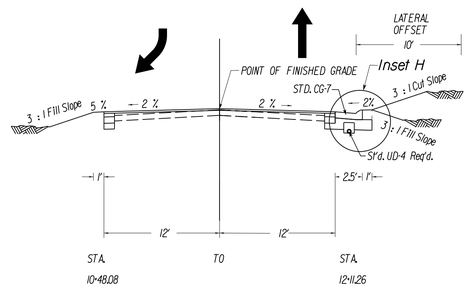
TYPICAL SECTIONS

Tripoli Boulevard
GS-8 - Urban Local Street - 30 MPH Design Speed

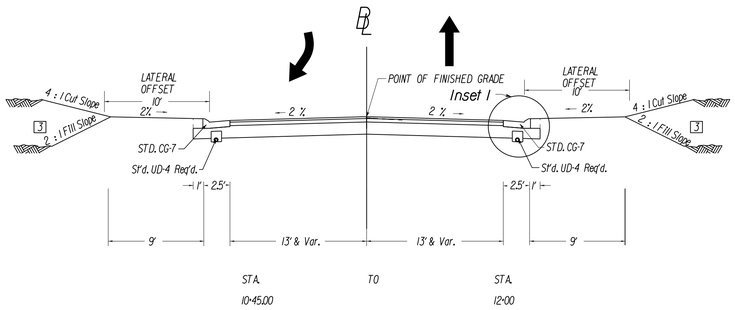


Notes:
All pavement widening shall be performed in accordance with standard WP-2.

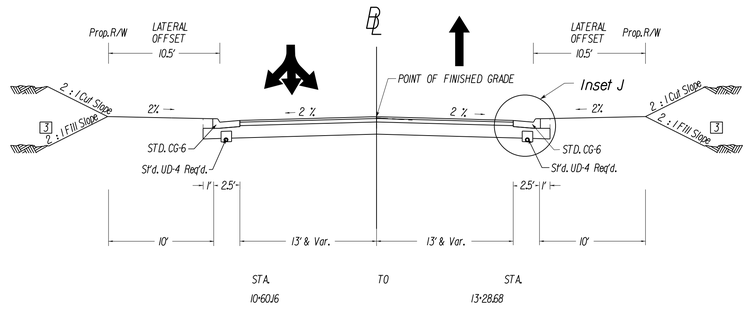
Canal Road RT
GS-8 - Urban Local Street - 25 MPH Design Speed



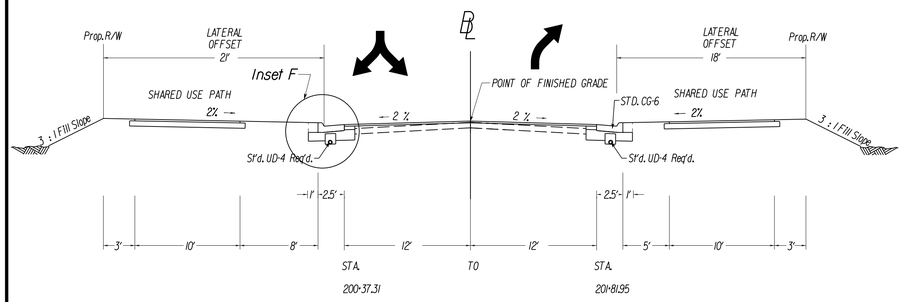
Reloc. Duke Street
GS-8 - Urban Local - 20 MPH Design Speed



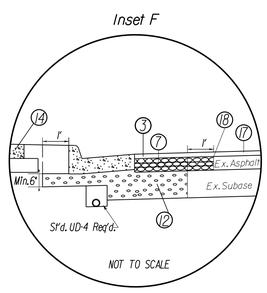
Reloc. Old Stage Coach Road
GS-8 - Urban Local - 30 MPH Design Speed

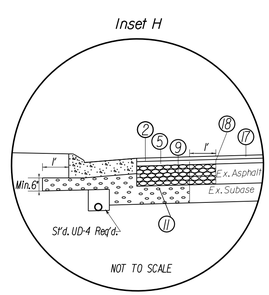


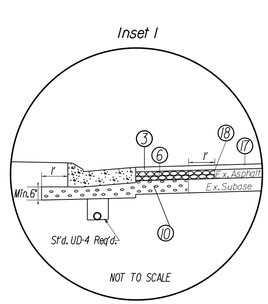
Canal Road LT
GS-8 - Urban Local Street - 25 MPH Design Speed

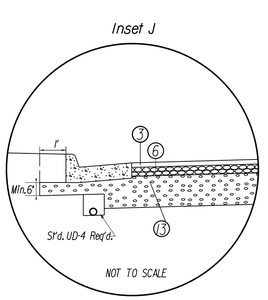


Notes:
3 Permanent Slope Easements have been shown for the maintenance of slopes steeper than 3:1.









Pavement Legend

1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

John D. Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2D(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

NTS	PROJECT 0001-212-249	SHEET NO. 2D(1)

R/W PLANS

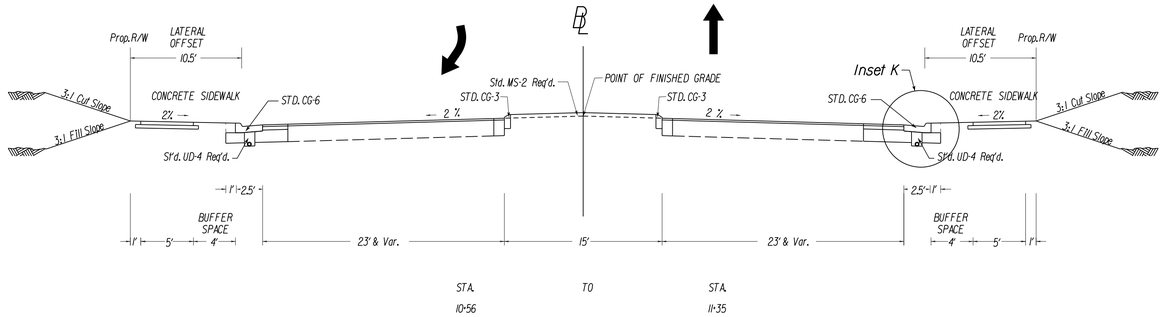
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

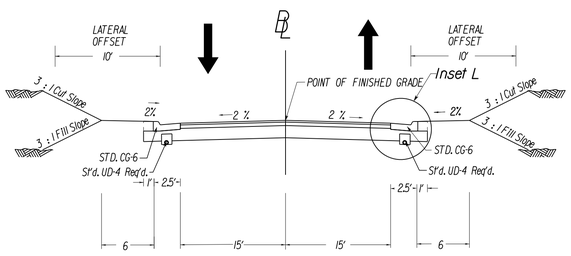
PROJECT MANAGER Hoainam Nguyen, P.E. (703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

TYPICAL SECTIONS

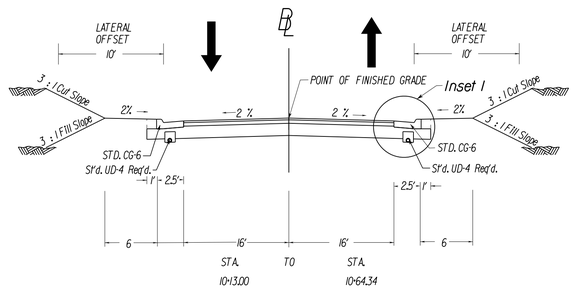
Williamstown Drive
GS-8 - Urban Local Street - 30 MPH Design Speed



Triangle Shopping Plaza Entrance



Town Square Ct
GS-8 - Urban Local St - 25 MPH Design Speed



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2D(2)

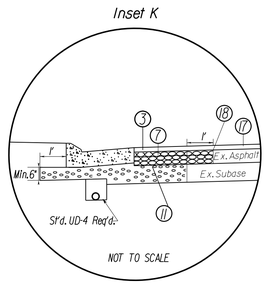
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

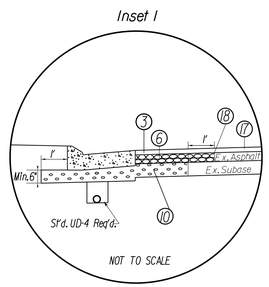
Pavement Legend

1. 1.5" Asphalt Concrete, Type SM-9.5D (estimated 175 lbs/sy)
2. 1.5" Asphalt Concrete, Type SM-9.5A (estimated 175 lbs/sy)
3. 2" Asphalt Concrete, Type SM-9.5A (estimated 234 lbs/sy)
4. 2" Asphalt Concrete, Type SM-9.5A (estimated 240 lbs/sy)
5. 2" Asphalt Concrete, Type IM-19.0A (estimated 234 lbs/sy)
6. 4" Asphalt Concrete, Type BM-25.0A
7. 6" Asphalt Concrete, Type BM-25.0A
8. 7" Asphalt Concrete, Type BM-25.0A
9. 9" Asphalt Concrete, Type BM-25.0A
10. 6" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
11. Min. 8" Aggregate Base Mat'l. Type I, No. 21B or extended to the bottom of existing aggregate, whichever is greater, and connected to a standard UD-4 edgedrain located beneath the curb and gutter.
12. 12" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
13. 14" Aggregate Base Mat'l. Type I, No. 21B connected to a standard UD-4 edgedrain located beneath the curb and gutter.
14. 4" Hydraulic Cement Concrete, Class A3
15. 4" Aggregate Base Mat'l. Type I, No. 21B extended 4" beyond the edge of the surface material
16. 6" Aggregate Base Mat'l. Type I, No. 21B extended 6" beyond the edge of the surface material
17. Existing pavement to be milled 2" and resurfaced See Build-Up Detail for Resurfacing Existing Pavement Sheet 2A(1)
18. Existing pavement is to be Saw Cut to the full depth of asphalt at least 1 foot from the edge of the existing pavement. Abut the new Pavement layers to existing layer per Std. WP-2.
19. Replace 21B with CTA for widening on high side of existing pavement cross slopes

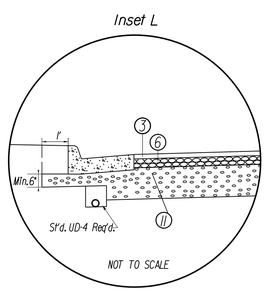
Inset K



Inset I



Inset L



NTS	PROJECT 0001-212-249	SHEET NO. 2D(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Hoainam Nguyen, P.E.(703) 792-8161 PWC Dept. of Transportation
SURVEYED BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E.Treutle LS (703)259-3224 7/17/13

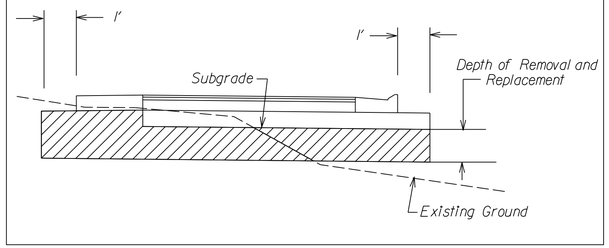
TYPICAL SECTIONS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, RW-201, C-501	2D(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson Richmond, Virginia ROADWAY ENGINEER	VDOT Materials Fairfax, Virginia MATERIALS ENGINEER

Removal of Unsuitable Material Detail



Unsuitable Materials at,or Below Subgrade				
Location	Depth of Unsuitables / Treatment	Estimated Limits	Direction	Reason/Comments
Route 1	12" (a)	255+00 to 258+00	NB+SB	Fat clay, wet soils
Route 1	12" (d)	258+25 to 260+50	SB	Wet soils
Route 1	24" (e)	262+00 to 263+25	NB	Soft,wet soils
Route 1	12" (d)	270+75 to 271+75	NB	Wet soils
Route 1	24" (e)	272+25 to 274+00	NB+SB	Soft,wet soils
Route 1	24" (b)	274+00 to 276+50	NB	Fat clay
Route 1	24" (b)	279+50 to 282+00**	NB+SB	Fat clay
Route 1	24" (b)	286+00 to 292+00	NB	Fat clay
Route 1	24" (b)	292+00 to 295+00	SB	Fat clay,sat.soils
Route 1	24" (b)	298+50 to 301+50	NB	Fat clay,very soft soils
Route 1	24" (b)	303+50 to 306+00	NB	Fat clay
Route 1	24" (c)	304+25 to 306+00	SB	Soft,wet soils
Route 1	24" (e)	313+00 to 320+00	SB	Wetlands
Route 1	36" (b)	320+00 to 327+50	SB	Organic and wet soils
Route 1	24" (a)	324+00 to 336+25	NB	Fat clay,asphalt millings
Route 1	24" (a)	328+50 to 335+00	SB	Fat clay,asphalt millings
Route 1	24" (a)	338+50 to 342+00	SB	Fat clay,wet soils
Route 1	24" (a)	341+75 to 344+50	NB	Fat clay,wet soils
Route 1	24" (b)	348+50 to 350+00	NB	Fat clay
Main Street	24" (b)	100+75 to 103+00	NB+SB	Organic soils
Main Street	24" (b)	176+00 to 177+75	NB+SB	Fat clay
Williamstown Dr.	24"(b)	10+50 to 11+00	EB+WB	Fat clay
Reloc. Duke St.	24" (b)	10+45 to 12+00	EB+WB	Fat clay,wet soils

(a) Excavate unsuitable material,replace with Select Material,Type 1,Minimum CBR-30, placed on a woven geotextile subgrade stabilization fabric.

(b) Excavate unsuitable material,replace with Select Material,Type 1,Minimum CBR-30.

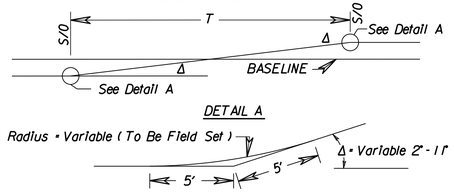
(c) Excavate unsuitable material and replace with regular soil fill having a minimum CBR-5.

(d) Scarify,aerate and re-compact.

(e) Use rock fill for the initial 24" of embankment.

TYPICAL STRAIGHT - LINE TAPER LANE

(Use with Curbs and/or Curb & Gutters)



T - See plans for Length of T.

S/O - See plans for Stations and Offsets.

PRIVATE AND COMMERCIAL ENTRANCES

TYPE I
Crusher Run Aggr.

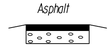
6" Crusher Run Aggr. 25 or 26

TYPE II
Concrete

Concrete Entrance Pavement
7" HES
4" Aggr. Base Mat'l. Ty. I
No. 21B

NOT TO SCALE

TYPE III
Asphalt



Asphalt Conc.Type SM-9.5D @ 220 Lbs. per S.Y.
4" Aggr. Base Mat'l. Ty. I
No. 21B

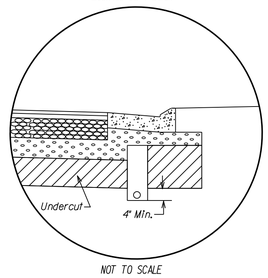
TYPE IV
Asphalt Commercial

Asphalt Conc. Type SM-9.5D @ 165 Lbs. per S.Y.
4" Asphalt Conc. Base Course BM-25.0A
6" Aggr. Base Mat'l. Ty. I
No. 21B

The type of entrance (I, II, III, IV) to be constructed will be determined by the existing condition at the time of construction.

Slope Stability Recommendations			
	Location	Station to Station, Offset	Slope Recommendation
Slope No.1	Route 1	262+00 to 263+50, Right	3:1 Fill Slope
Slope No.2	Route 1	269+25 to 270+00, Right	3:1 Cut Slope
Slope No.3	Route 1	268+25 to 271+50, Left	3:1 Cut Slope
Slope No.4	Route 1	272+50 to 274+75, Left	2:1 Fill Slope
Slope No.5	Route 1	277+75 to 281+75, Right	3:1 Cut Slope w/ one-row of 30-inch diameter drilled shafts installed 20 feet upslope form the toe and extended to a tip elevation of 68 feet.
Slope No.6	Route 1	313+25 to 321+00, Left	2:1 Fill Slope

Modified UD-4 Detail



NOT TO SCALE

1. In undercut areas where UD-4 is to be installed,the UD-4 shall be lowered a minimum of 4" below the bottom of the undercut area. Outlets shall be checked for positive drainage.

Existing Pavement Data (Pavement depths shown are an average depths of existing paving materials)		
Roadway	Station To Station	Type of Paving Materials (Average Depths)
Route 1 Southbound (Main Street)	Project Length	11" Asphalt Concrete 7" Hydraulic Cement Concrete
Route 1 Northbound (Fraley Boulevard)	Project Length	8.1" Asphlat Concrete 7.8" Hudralic Cement Concrete 9" Asphalt Concrete 9.2" Crushed Aggregate
Existing Turn Lanes	Project Length	9" Asphalt Concrete 9.2" Crushed Aggregate

NTS	PROJECT 0001-212-249	SHEET NO. 2D(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	2E(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Note: In addition to the visual inspection performed by the Department during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

SHEET 3

DI-3-2
I ST'D DI-3B REQ'D
H=4.4' L=4' INV=148.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-2 — DI-4-8
269'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=148.00 INV(OUT)=144.98

DI-3-4
I ST'D DI-3B REQ'D
H=5.4' L=6' INV=144.50
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-4 — DI-3B-5
56'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=144.50 INV(OUT)=143.54

DI-3-7
I ST'D DI-3B REQ'D
H=4.8' L=6' INV=144.68
CONNECT TO EXISTING 15" RCP
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-8
I ST'D DI-1 REQ'D
H=5.7' INV=145.67
CONNECT TO EXISTING 15" RCP
ST'D ST-1 REQ'D

DI-3-9
I ST'D DI-3B REQ'D
H=3.8' L=4' INV=151.30
CONNECT UD-4 TO STRUCTURE

DI-3-9 — DI-3-13
172'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=151.30 INV(OUT)=149.50

DI-3-10
I ST'D DI-3B REQ'D
H=3.8' L=6' INV=151.10
CONNECT UD-4 TO STRUCTURE

DI-3-10 — DI-3-11
55'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=151.10 INV(OUT)=150.00

DI-3-11
I ST'D DI-3BB REQ'D
H=8.8' L=10' INV=145.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-11 — DI-4-10
164'-18" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=145.10 INV(OUT)=143.20

DI-3-12
I ST'D DI-3BB REQ'D
H=8.6' L=6' INV=148.80
ST'D ST-1 REQ'D

DI-3-12 — DI-3-15
53'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=148.80 INV(OUT)=148.20

DI-3-13
I ST'D DI-3B REQ'D
H=7.2' L=6' INV=149.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-13 — DI-3-12
43'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=149.40 INV(OUT)=148.90

DI-3-14
I ST'D DI-3BB REQ'D
H=8.8' L=8' INV=146.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-14 — DI-3-11
98'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=146.40 INV(OUT)=145.20

DI-3-15
I ST'D DI-3BB REQ'D
H=9.0' L=8' INV=148.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3-15 — DI-3-14
158'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=148.10 INV(OUT)=146.50

DI-3-16
I ST'D DI-3B REQ'D
H=5.0' L=4' INV=153.67
CONNECT UD-4 TO STRUCTURE

DI-3-16 — DI-3-15
100'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=153.67 INV(OUT)=152.70

SHEET 3B

DI-3B-1
I ST'D DI-3C REQ'D
H=4.4' L=6' INV=145.01
CONNECT TO EXISTING 15" RCP
DOUBLE 4 LF 15" RCP REQ'D FOR CONNECTION
ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-3B-2
I ST'D DI-3B REQ'D
H=3.9' L=6' INV=146.41
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3B-2 — DI-3B-1
41'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=146.41 INV(OUT)=145.11

DI-3B-3
I ST'D DI-3B REQ'D
H=5.7' L=8' INV=144.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3B-3 — DI-3B-5
38'-24" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=144.40 INV(OUT)=144.00

MH-3B-3A
6.0 LF OF ST'D MH-1 OR 2 REQ'D
CONNECT TO EXISTING 18" RCP
4 LF OF 18" RCP REQ'D FOR CONNECTION
1 ST'D MH-1 FRAME & COVER REQ'D
INV=145.34

MH-3B-3A — DI-3B-3
16'-24" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=145.34 INV(OUT)=144.50

DI-3B-4
I ST'D DI-2B REQ'D
H=4.5' L=6' INV=147.60
ST'D ST-1 REQ'D

DI-3B-4 — DI-3B-2
48'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=147.60 INV(OUT)=146.51

DI-3B-5
I ST'D DI-3C REQ'D
H=6.0' L=8' INV=143.44
CONNECT TO EXISTING 30" & 21" RCP
4 LF 30" RCP REQ'D FOR CONNECTION
4 LF 21" RCP REQ'D FOR CONNECTION
ST'D IS-1 REQ'D
ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-3B-6
I ST'D DI-3A REQ'D
H=5.8' INV=144.13
CONNECT TO EXISTING TWO 15" & 21" RCP
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-3B-7
I ST'D DI-3B REQ'D
H=3.3' L=4' INV=140.00
CONNECT UD-4 TO STRUCTURE

DI-3B-7 — DI-EX005
12'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TYPE JOINT TYPE
INV(IN)=140.00 INV(OUT)=138.00

DI-EX005
MODIFY EXISTING DI TO ACCEPT PROPOSED 15" RCP

DI-3B-8
I ST'D DI-3B REQ'D
H=3.6' L=4' INV=140.00
CONNECT TO EXISTING 15" RCP
DOUBLE 4 LF 15" RCP REQ'D FOR CONNECTION
ST'D IS-1 REQ'D
CONNECT UD-4 TO STRUCTURE

SHEET 4

DI-4-1
I ST'D DI-3B REQ'D
H=4.5' L=6' INV=140.66
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-4-1 — DI-5-3
246'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=140.66 INV(OUT)=137.71

DI-4-2
I ST'D DI-3B REQ'D
H=4.6' L=8' INV=140.19
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-4-2 — DI-5-5
198'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=140.19 INV(OUT)=138.00

HW-4-3
I ST'D 42" EW-2 REQ'D
31.88 TONS ST'D EC-1 CLASS I REQ'D
TYPE B INSTALLATION
INV=106.00

MH-4-4
28.8 LF OF ST'D MH-2 REQ'D
1 ST'D MH-1 FRAME & COVER REQ'D
INV=106.50
2 ST'D SL-1 REQ'D
ST'D ST-1 REQ'D

MH-4-4 — HW-4-3
58'-42" CONC. SSP CLASS III REQ'D (26' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=106.50 INV(OUT)=106.00

DI-4-5
I ST'D DI-3BB REQ'D
H=9.3' L=10' INV=139.90
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-4-5 — MH-4-12
154'-24" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=139.90 INV(OUT)=137.25

MH-4-6
16.9 LF OF ST'D MH-2 REQ'D
1 ST'D MH-1 FRAME & COVER REQ'D
CONNECT TO EXISTING 36" RCP
4 LF 36" RCP REQ'D FOR CONNECTION
INV=130.00
ST'D ST-1 REQ'D
1 ST'D SL-1 REQ'D
CONNECT UD-2 TO STRUCTURE

MH-4-6 — MH-4-12
111'-36" CONC. SSP CLASS III REQ'D (16' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=130.00 INV(OUT)=128.25

DI-4-7
I ST'D DI-3B REQ'D
H=4.7' L=6' INV=143.27
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-4-7 — DI-4-2
275'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=143.27 INV(OUT)=140.29

DI-4-8
I ST'D DI-3B REQ'D
H=4.4' L=8' INV=144.88
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-4-8 — DI-4-7
135'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=144.88 INV(OUT)=143.37

DI-4-9
I ST'D DI-3BB REQ'D
H=9.0' L=8' INV=141.90
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-4-9 — DI-4-5
152'-24" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=141.90 INV(OUT)=140.00

DI-4-10
I ST'D DI-3BB REQ'D
H=8.9' L=10' INV=143.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-4-10 — DI-4-9
92'-24" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=143.10 INV(OUT)=142.00

DI-4-11
I ST'D DI-3B REQ'D
H=4.3' L=6' INV=142.73
ST'D ST-1 REQ'D
CONNECT UD-2 TO STRUCTURE

DI-4-11 — DI-4-1
164'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=142.73 INV(OUT)=140.76

MH-4-12
19.8 LF OF ST'D MH-2 REQ'D
1 ST'D MH-1 FRAME & COVER REQ'D
INV=127.00
1 ST'D SL-1 REQ'D
ST'D ST-1 REQ'D

MH-4-12 — MH-4-4
24'-36" CONC. SSP CLASS III REQ'D (17' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=127.00 INV(OUT)=126.70

SHEET 5

HW-5-1
1 ST'D 24" ES-1 REQ'D
6.00 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=134.00

DI-5-2
I ST'D DI-3B REQ'D
H=5.9' L=8' INV=134.50
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-5-2 — HW-5-1
34'-24" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=134.50 INV(OUT)=134.00

DI-5-3
I ST'D DI-3B REQ'D
H=4.7' L=8' INV=137.61
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-5-3 — DI-5-2
150'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=137.61 INV(OUT)=135.77

DI-5-4
I ST'D DI-3B REQ'D
H=4.6' L=6' INV=135.90
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-5-4 — DI-5-2
104'-18" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=135.90 INV(OUT)=134.75

DI-5-5
I ST'D DI-3B REQ'D
H=4.6' L=6' INV=137.90
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-5-5 — DI-5-4
171'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=137.90 INV(OUT)=136.00

DI-5-6
I ST'D 3BB REQ'D
H=9.3' L=10' INV=127.81
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-5-6 — MH-6-14
146'-24" CONC. SSP CLASS III REQ'D (8' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=127.81 INV(OUT)=125.58

DI-5-7
I ST'D DI-3B REQ'D
H=4.3' L=8' INV=132.69
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-5-7 — DI-6-13
125'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=132.69 INV(OUT)=130.35

DI-5-8
I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=6.7' INV=134.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-5-8 — DI-5-7
43'-18" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=134.00 INV(OUT)=132.69

5-9
8.0' ST.D. SWM-1 REQ'D
TOP ELEV=136.00
BOTTOM ELEV=128.00
GRAVEL DIAPHRAGM, AS PER DEATIL
SEE SHEETS 2I(3)-2I(3A) FOR DETAILS
CONNECT UD TO RISER STRUCTURE

DI-5-9 — DI-5-6
205'-24" CONC. SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=131.00 INV(OUT)=127.81
34.6 CY OF CONCRETE CRADLE REQ'D

SHEET 6

DI-6-3
I ST'D 3BB REQ'D
H=15.7' L=10' INV=117.28
1 ST'D SL-1 REQ'D
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6-3 — DI-6-8
288'-24" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=117.28 INV(OUT)=110.00

DI-6-5
I ST'D 3BB REQ'D
H=8.2' L=10' INV=106.20
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

SSP: STORM SEWER PIPE
ST'D IS-1 REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

PROJECT	SHEET NO.
0001-212-249	2E(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS

DI-6-5 — DI-7-12: 228'-24" CONC. SSP CLASS III REQ'D (11' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=106.20 INV(OUT)=85.00

DI-6-8: I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=16.7' INV=103.00
I ST'D SL-I REQ'D
ST'D ST-I REQ'D

DI-6-8 — DI-7-8: 294'-24" CONC. SSP CLASS III REQ'D (14' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=103.00 INV(OUT)=92.70

DI-6-9: I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=6.6' INV=125.70
ST'D ST-I REQ'D

DI-6-9 — DI-6-3: 11'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=125.70 INV(OUT)=125.00

DI-6-10: I ST'D DI-3BB REQ'D
H=8.2' L=10' INV=114.45
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6-10 — DI-6-5: 133'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=114.45 INV(OUT)=106.20

DI-6-11: I ST'D DI-3BB REQ'D
H=8.2' L=8' INV=121.30
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6-11 — DI-6-10: 146'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=121.30 INV(OUT)=114.45

DI-6-12: I ST'D DI-3B REQ'D
H=6.5' L=6' INV=127.13
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6-12 — DI-6-11: 140'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=127.13 INV(OUT)=121.30

DI-6-13: I ST'D DI-3B REQ'D
H=5.0' L=6' INV=130.35
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6-13 — DI-6-12: 109'-18" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=130.35 INV(OUT)=127.13

MH-6-14: 14.3 LF OF ST'D MH-I REQ'D
I ST'D MH-I FRAME & COVER REQ'D
CONNECT TO EXISTING 15" RCP
4 LF 15" RCP REQ'D FOR CONNECTION
INV=120.38
I ST'D SL-I REQ'D
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

MH-6-14 — DI-6-3: 142'-24" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=120.38 INV(OUT)=117.28

SHEET 6B

DI-6B-1: I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=3.8' INV=111.70

DI-6B-1 — DI-6B-2: 42'-24" CONC. SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=111.70 INV(OUT)=108.09

DI-6B-2: I ST'D DI-3BB REQ'D
H=12.3' L=6' INV=108.09
CONNECT UD-4 TO STRUCTURE
CONNECT TO EXISTING 24" PIPE

DI-6B-2 — MH-6B-4: 129'+-, EXISTING 24" SSP
INV(IN)=108.09 INV(OUT)=105.77

DI-6B-2A: I ST'D DI-3B REQ'D
H=4.0' L=4' INV=113.70
CONNECT UD-4 TO STRUCTURE

DI-6B-2A — DI-6B-7: 32'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=113.70 INV(OUT)=111.50

DI-6B-3: I ST'D DI-3B REQ'D
H=3.9' L=6' INV=109.00
CONNECT UD-4 TO STRUCTURE

DI-6B-3 — MH-6B-4: 32'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=109.00 INV(OUT)=107.50

MH-6B-4: 6.2 LF OF ST'D MH-I REQ'D
I ST'D MH-I FRAME & COVER REQ'D
INV=105.77
CONNECT TO EXISTING 24" PIPE

DI-6B-5: I ST'D DI-3A REQ'D
H=4.0' INV=108.50
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-5 — MH-6B-4: 12'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=108.50 INV(OUT)=108.00

DI-6B-6: I ST'D DI-3A REQ'D
H=3.9' INV=112.40
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-6 — DI-6B-7: 37'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=112.40 INV(OUT)=111.00

DI-6B-7: I ST'D DI-3B REQ'D
H=6.4' L=4' INV=111.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-7 — DI-6B-9: 56'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=111.00 INV(OUT)=108.00

DI-6B-8: I ST'D DI-3B REQ'D
H=3.9' L=4' INV=104.60
CONNECT UD-4 TO STRUCTURE

DI-6B-8 — DI-6B-9: 20'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=104.60 INV(OUT)=104.00

DI-6B-9: I ST'D DI-3B REQ'D
H=7.7' L=4' INV=104.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-9 — DI-6B-10: 69'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=104.00 INV(OUT)=101.50

DI-6B-10: I ST'D DI-7 REQ'D
H=3.0' INV=101.50
CONNECT UD-4 TO STRUCTURE

DI-6B-10 — DI-6B-12: 13'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=101.50 INV(OUT)=101.00

DI-6B-11: I ST'D DI-3B REQ'D
H=3.9' L=4' INV=99.20
CONNECT UD-4 TO STRUCTURE

DI-6B-11 — DI-6B-13: 56'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=99.20 INV(OUT)=97.00

DI-6B-12: I ST'D DI-3B REQ'D
H=6.8' L=4' INV=98.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-12 — DI-Ex062: 60'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=98.00 INV(OUT)=96.00

DI-6B-13: I ST'D DI-3B REQ'D
H=4.0' L=4' INV=95.10
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-6B-13 — DI-Ex062: 58'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=95.10 INV(OUT)=94.00

SHEET 7

DI-7-2: I ST'D DI-3C REQ'D
H=3.7' L=6' INV=61.50
ST'D ST-I REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-7-2 — DI-7-22: 21'-15" CONC. SSP CLASS III REQ'D (4' COVER)
INV(IN)=61.50 INV(OUT)=60.50

DI-7-3: I ST'D DI-3BB REQ'D
H=10.5' L=10' INV=59.40
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-3 — DI-7-10: 118'-36" CONC. SSP CLASS III REQ'D (9' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=59.40 INV(OUT)=58.00

DI-7-6: I ST'D DI-3BB REQ'D
H=8.4' L=8' INV=69.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-6 — DI-7-3: 101'-24" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=69.00 INV(OUT)=65.50

DI-7-7: I ST'D DI-3B REQ'D
H=12.3' L=12' INV=72.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-7 — DI-7-6: 94'-24" CONC. SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=72.00 INV(OUT)=69.00

DI-7-8: I ST'D 3BB REQ'D
H=15.3' L=14' INV=82.70
I ST'D SL-I REQ'D
ST'D ST-I REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-7-8 — DI-7-20: 159'-24" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=82.70 INV(OUT)=77.82

MH-7-9: 13.3 LF OF ST'D MH-2 REQ'D
I ST'D MH-I FRAME & COVER REQ'D
INV=47.25
I ST'D SL-I REQ'D
ST'D ST-I REQ'D

MH-7-9 — MH-8-8A: 65'-48" CONC. SSP CLASS III REQ'D (10' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=47.25 INV(OUT)=36.00

DI-7-10: I ST'D DI-4BB REQ'D
H=12.6' L=12' INV=57.90
ST'D ST-I REQ'D
I ST'D SL-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-10 — MH-7-9: 139'-36" CONC. SSP CLASS III REQ'D (9' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=57.90 INV(OUT)=55.00

DI-7-11: I ST'D 3BB REQ'D
H=11.5' L=10' INV=75.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-11 — DI-7-10: 23'-24" CONC. SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=75.00 INV(OUT)=57.90

DI-7-12: I ST'D 3BB REQ'D
H=13.7' L=12' INV=85.00
ST'D ST-I REQ'D
ST'D SL-I REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-7-12 — DI-7-11: 177'-24" CONC. SSP CLASS III REQ'D (11' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=85.00 INV(OUT)=75.00

DI-7-17: I MODIFIED DI-2DD REQ'D
H=10.6' L=5' INV=50.58
CONNECT TO EXISTING 48" RCP
4 LF OF 48" RCP REQ'D FOR CONNECTION
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-17 — MH-7-9: 55'-48" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=50.58 INV(OUT)=49.47
225.4 CY MINOR STRUCTURE EXCAVATION

DI-7-18: I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=3.7' INV=57.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-18 — DI-7-26: 8'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=57.00 INV(OUT)=56.50

DI-7-20: I ST'D DI-5 REQ'D
TYPE E COVER REQ'D
TYPE III GRATE REQ'D
H=13.7' INV=72.98
I ST'D SL-I REQ'D
ST'D ST-I REQ'D

DI-7-20 — DI-7-7: 25'-24" CONC. SSP CLASS III REQ'D (11' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=72.98 INV(OUT)=72.00

DI-7-21: I ST'D DI-3BB REQ'D
H=9.6' L=10' INV=59.90
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-21 — DI-7-3: 35'-18" CONC. SSP CLASS III REQ'D (9' COVER)
INV(IN)=59.90 INV(OUT)=59.40

DI-7-22: I ST'D DI-3B REQ'D
H=5.6' L=4' INV=60.30
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-22 — DI-7-21: 32'-18" CONC. SSP CLASS III REQ'D (7' COVER)
INV(IN)=60.30 INV(OUT)=60.00

DI-7-23: I ST'D DI-3B REQ'D
H=5.8' L=4' INV=60.60
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-23 — DI-7-22: 30'-18" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=60.60 INV(OUT)=60.40

DI-7-24: I ST'D DI-3B REQ'D
H=3.9' L=4' INV=61.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-24 — DI-7-23: 17'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=61.00 INV(OUT)=60.70

DI-7-25: I ST'D DI-3B REQ'D
H=6.8' L=6' INV=57.10
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-25 — DI-8-3: 74'-15" CONC. SSP CLASS III REQ'D (8" COVER)
SILT TIGHT JOINT TYPE
INV(IN)=57.10 INV(OUT)=55.20

DI-7-26: I ST'D DI-3B REQ'D
H=6.2' L=6' INV=56.50
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7-26 — DI-7-17: 34'-15" CONC. SSP CLASS III REQ'D (9' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=56.50 INV(OUT)=50.58

SHEET 7C

DI-7C-2: I ST'D DI-3B REQ'D
H=5.5' L=8' INV=57.06
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-7C-2 — DI-EX7C-1: 141'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=57.06 INV(OUT)=55.30

SSP: STORM SEWER PIPE
ST'D IS-I REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	2E(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Note: In addition to the visual inspection performed by the Contractor during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

PROJECT	SHEET NO.
0001-212-249	2E(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lue (703)259-2918 NOVA District
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS

SHEET 8

DI-8-1
I ST'D DI-3B REQ'D
H=7.9' L=8' INV=40.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-1 — DI 9-5
247'-15" CONC.SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=40.00 INV(OUT)=34.00

DI-8-2
I ST'D DI-3B REQ'D
H=4.5' L=10' INV=46.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-2 — DI-8-1
250'-15" CONC.SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=46.10 INV(OUT)=40.00

DI-8-3
I ST'D DI-3B REQ'D
H=3.7' L=10' INV=55.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-3 — DI-8-2
242'-15" CONC.SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=55.10 INV(OUT)=47.50

DI-8-5
I ST'D DI-3B REQ'D
H=6.0' L=6' INV=41.21
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-5 — DI-9-9
195'-18" CONC.SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=41.21 INV(OUT)=37.76

DI-8-6
I ST'D DI-3B REQ'D
H=4.4' L=8' INV=45.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-6 — DI-8-8
194'-15" CONC.SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=45.40 INV(OUT)=42.93

DI-8-7
I ST'D DI-3B REQ'D
H=4.4' L=12' INV=48.50
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-7 — DI-8-6
139'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=48.50 INV(OUT)=45.50

DI-8-8
I ST'D DI-3B REQ'D
H=5.2' L=6' INV=42.83
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-8-8 — DI-8-5
98'-15" CONC.SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=42.83 INV(OUT)=41.31

MH-8-8A
10.8 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=36.00

MH-8-8A — MH-9-11
57.1'-48" CONC.SSP CLASS III REQ'D (8' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=36.00 INV(OUT)=25.50
1857.3 CY MINOR STRUCTURE EXCAVATION

DI-8-11
I ST'D DI-1 REQ'D
H=2.8' INV=41.21

DI-8-11 — MH-8-8A
66'-15" CONC.SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=41.21 INV(OUT)=39.00

8-12
80'-18" CONC.PIPE CLASS III REQ'D (1' COVER)
INV (IN)=45.50 INV (OUT)=45.00.
2 STD.18" ES-1 REQ'D
3.38 TONS ST'D EC-1 CLASS AI REQ'D.
TYPE A INSTALLATION

SHEET 9

DI-9-2
I ST'D DI-2BB REQ'D
H=10.4' L=6' INV=19.50
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-9-2 — DI-10-13
152'-24" CONC.SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=19.50 INV(OUT)=17.50

DI-9-3
I ST'D DI-3BB REQ'D
H=10.7' L=10' INV=21.50
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-9-3 — DI-9-2
73'-24" CONC.SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=21.50 INV(OUT)=19.50

DI-9-4
I ST'D 3BB REQ'D
H=12.5' L=10' INV=27.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-9-4 — DI-9-8
51'-24" CONC.SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=27.00 INV(OUT)=25.80

DI-9-8
11.7 LF OF ST'D MH-1 OR MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=25.80
ST'D ST-1 REQ'D
CONNECT EXISTING PIPE TO MANHOLE
CONNECT UD-4 TO STRUCTURE

DI-9-8 — DI-9-3
187'-24" CONC.SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=25.80 INV(OUT)=21.50

DI 9-5
I ST'D 3BB REQ'D
H=11.3' L=8' INV=34.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI 9-5 — DI-9-4
279'-15" CONC.SSP CLASS III REQ'D (11' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=34.00 INV(OUT)=27.00

DI-9-6
I ST'D DI-3B REQ'D
H=7.4' L=8' INV=27.47
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-9-6 — DI-10-12
225'-18" CONC.SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=27.47 INV(OUT)=23.40

DI-9-7
I ST'D DI-3B REQ'D
H=6.4' L=10' INV=32.49
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-9-7 — DI-9-6
129'-18" CONC.SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=32.49 INV(OUT)=29.85

DI-9-9
I ST'D DI-3B REQ'D
H=7.2' L=8' INV=37.66
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-9-9 — DI-9-7
270'-18" CONC.SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=37.66 INV(OUT)=32.59

MH-9-10
11.3 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=16.70
I ST'D SL-1 REQ'D
ST'D ST-1 REQ'D

MH-9-10 — MH-10-4
292'-48" CONC.SSP CLASS III REQ'D (8' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=16.70 INV(OUT)=12.00
1130.6 CY MINOR STRUCTURE EXCAVATION

MH-9-11
13.7 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
CONNECT TO EXISTING 24" RCP
4 LF OF 24" RCP REQ'D FOR CONNECTION
INV=20.50
I ST'D SL-1 REQ'D
ST'D ST-1 REQ'D

MH-9-11 — MH-9-10
196'-48" CONC.SSP CLASS III REQ'D (10' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=20.50 INV(OUT)=16.70
881.8 CY MINOR STRUCTURE EXCAVATION

SHEET 10

HW-10-2
I ST'D 60" EW-2 REQ'D
66.00 TONS ST'D EC-1 CLASS I REQ'D
TYPE B INSTALLATION
INV=10.50

MH-10-3
9.3 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=10.60
ST'D ST-1 REQ'D

MH-10-3 — HW-10-2
12'-60" CONC.SSP CLASS III REQ'D (5' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=10.60 INV(OUT)=10.50
65.0 CY MINOR STRUCTURE EXCAVATION

MH-10-4
11.1 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=12.00, ST'D ST-1 REQ'D
CONNECT UD-2 TO STRUCTURE

MH-10-4 — MH-10-3
149'-60" CONC.SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=12.00 INV(OUT)=10.60
571.5 CY MINOR STRUCTURE EXCAVATION

DI-10-5
8.5' ST'D PRECAST MH-2 REQ'D
I ST'D PRECAST T-DI-3 TOP REQ'D
L=8' INV=13.14
ST'D ST-1 REQ'D FOR MANHOLE BASE
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-10-5 — MH-10-4
110'-60" CONC.SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=13.14 INV(OUT)=12.00
428.6 CY MINOR STRUCTURE EXCAVATION

HW-10-6
I ST'D 24" ES-1 REQ'D
6.00 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=11.75

10-7
7.3' STD.SWM-1 REQ'D
TOP ELEV=17.50
BOTTOM ELEV=10.20
GRAVEL DIAPHRAGM, AS PER DEATIL
SEE SHEETS 21(5)-21(5A) FOR DETAILS
CONNECT BMP UD TO RISER STRUCTURE

10-7 — HW-10-6
130'-24" CONC.SSP CLASS III REQ'D (4' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=13.20 INV(OUT)=12.50
21.8 CY OF CONCRETE CRADLE REQ'D

HW-10-9
I ST'D 60" EW-2 REQ'D
INV=16.00

HW-10-9 — DI-10-5
16'-60" CONC.SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=16.00 INV(OUT)=15.81
49.3 CY MINOR STRUCTURE EXCAVATION

HW-10-10
I ST'D 24" ES-1 REQ'D
8.00 TONS ST'D EC-1 CLASS I REQ'D
TYPE A INSTALLATION
INV=17.00

DI-10-11
I ST'D DI-3B REQ'D
H=5.2' L=8' INV=17.62
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-10-11 — HW-10-10
36'-24" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=17.62 INV(OUT)=17.00

DI-10-12
I ST'D DI-3B REQ'D
H=4.6' L=8' INV=23.30
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-10-12 — DI-10-11
297'-24" CONC.SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=23.30 INV(OUT)=18.40

DI-10-13
I ST'D DI-3BB REQ'D
H=8.6' L=6' INV=17.50
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-10-13 — DI-10-5
172'-30" CONC.SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=17.50 INV(OUT)=13.30

SHEET 11

HW-11-1
I ST'D 15" ES-1 REQ'D
2.34 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=12.35

DI-11-2
I ST'D DI-3C REQ'D
H=4.7' L=6' INV=12.51
I ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-11-2 — HW-11-1
15'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.51 INV(OUT)=12.35

DI-11-3
I ST'D DI-3B REQ'D
H=4.3' L=4' INV=12.90
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-3 — DI-11-2
47'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.90 INV(OUT)=12.65

DI-11-4
I ST'D DI-3B REQ'D
H=4.5' L=4' INV=12.76
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-4 — DI-11-2
48'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.76 INV(OUT)=12.51

DI-11-5
I ST'D DI-2B REQ'D
H=4.2' L=6' INV=13.25
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-5 — DI-11-4
49'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.25 INV(OUT)=12.94

HW-11-6
I ST'D 15" ES-1 REQ'D
3.12 TONS ST'D EC-1 CLASS I REQ'D
TYPE A INSTALLATION
INV=10.58

DI-11-7
I ST'D DI-3C REQ'D
H=5.0' L=6' INV=12.20
I ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-11-7 — HW-11-6
53'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.20 INV(OUT)=10.58

DI-11-8
I ST'D DI-3B REQ'D
H=4.4' L=4' INV=12.80
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-8 — DI-11-7
48'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.80 INV(OUT)=12.30

DI-11-9
I ST'D DI-3B REQ'D
H=4.3' L=6' INV=13.46
I ST'D ST-1 REQ'D

DI-11-9 — DI-11-8
102'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.46 INV(OUT)=12.90

DI-11-10
I ST'D DI-3B REQ'D
H=4.3' L=8' INV=14.60
I ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-11-10 — DI-11-9
103'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=14.60 INV(OUT)=13.56

DI-11-11
I ST'D DI-2B REQ'D
H=4.3' L=6' INV=12.87
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-11 — DI-11-7
31'-15" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.87 INV(OUT)=12.30

HW-11-12
I ST'D 24" ES-1 REQ'D
6.00 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=12.07

DI-11-13
I ST'D DI-3B REQ'D
H=5.9' L=10' INV=12.57
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-13 — HW-11-12
48'-24" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.57 INV(OUT)=12.07

DI-11-14
I ST'D DI-3B REQ'D
H=5.6' L=10' INV=13.38
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-11-14 — DI-11-13
68'-24" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.38 INV(OUT)=12.67

DI-11-15
I ST'D DI-3C REQ'D
H=4.4' L=6' INV=13.73
I ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-11-15 — DI-11-14
22'-24" CONC.SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.73 INV(OUT)=13.48

SSP: STORM SEWER PIPE
ST'D IS-1 REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	2E(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Note: In addition to the visual inspection performed by the Department during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

PROJECT	SHEET NO.
0001-212-249	2E(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS

SHEET 11 CONTINUED

DI-11-16
I ST'D DI-3B REQ'D
H=3.8' L=10' INV=14.89
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-11-16 — DI-11-15
47'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=14.89 INV(OUT)=14.40

DI-11-17
I ST'D DI-I REQ'D
H=2.5' INV=14.00

DI-11-17 — DI-11-15
14'-24" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.71 INV(OUT)=13.83

HW-11-18
I ST'D 18" ES-I REQ'D
3.38 TONS ST'D EC-I CLASS AI REQ'D
TYPE A INSTALLATION
INV=13.59

MH-11-19
7.6 LF OF ST'D MH-I REQ'D
I ST'D MH-I FRAME & COVER REQ'D
CONNECT TO EXISTING 15" & 18" RCP
4 LF OF 15" RCP REQ'D FOR CONNECTION
4 LF OF 18" RCP REQ'D FOR CONNECTION
INV=13.83
ST'D ST-I REQ'D

MH-11-19 — HW-11-18
22'-18" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.83 INV(OUT)=13.59

DI-11-20
I ST'D DI-2B REQ'D
H=3.6' L=6' INV=15.20
CONNECT UD-4 TO STRUCTURE

DI-11-20 — DI-12-3
329'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=15.20 INV(OUT)=10.20

SHEET 12

DI-12-1
I ST'D DI-2B REQ'D
H=3.6' L=4' INV=15.50
CONNECT UD-4 TO STRUCTURE

DI-12-1 — DI-12-2
251'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=15.50 INV(OUT)=11.50

DI-12-2
I ST'D DI-3BB REQ'D
H=9.4' L=4' INV=9.30
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-12-2 — HW-12-11
36'-24" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=9.30 INV(OUT)=9.00

DI-12-3
I ST'D DI-3BB REQ'D
H=8.6' L=6' INV=10.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-12-3 — DI-12-2
95'-18" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=10.00 INV(OUT)=9.30

DI-12-4
I ST'D DI-3B REQ'D
H=8.0' L=4' INV=10.10
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-12-4 — DI-12-2
97'-15" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=10.10 INV(OUT)=9.30

DI-12-5
I ST'D DI-3B REQ'D
H=6.4' L=4' INV=11.10
I ST'D ST-I REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-12-5 — DI-12-4
130'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.10 INV(OUT)=10.10

DI-12-6
I ST'D DI-3B REQ'D
H=5.1' L=4' INV=11.90
ST'D ST-I REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-12-6 — DI-12-5
104'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.90 INV(OUT)=11.10

DI-12-7
I ST'D DI-3C REQ'D
H=4.5' L=6' INV=12.50
ST'D ST-I REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-12-7 — DI-12-6
65'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.50 INV(OUT)=11.90

DI-12-8
I ST'D DI-3B REQ'D
H=6.0' L=6' INV=11.80
I ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-12-8 — DI-12-3
238'-15" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.80 INV(OUT)=10.00

DI-12-9
I ST'D DI-3B REQ'D
H=4.5' L=4' INV=12.70
ST'D ST-I REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-12-9 — DI-12-8
118'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.70 INV(OUT)=11.80

DI-12-10
I ST'D DI-3C REQ'D
H=4.1' L=6' INV=13.10
ST'D ST-I REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-12-10 — DI-12-9
50'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.10 INV(OUT)=12.70

HW-12-11
I ST'D 24" ES-I REQ'D
6.00 TONS ST'D EC-I CLASS AI REQ'D
TYPE A INSTALLATION
INV=9.00

DI-12-12
4.7' ST.D. SWM-I REQ'D
TOP ELEV=11.50
BOTTOM ELEV=6.80
GRAVEL DIAPHRAGM. AS PER DEATIL
SEE SHEETS 21(6)-21(6A) FOR DETAILS
CONNECT BMP UD TO RISER STRUCTURE

DI-12-12 — DI-12-13
58'-24" CONC. SSP CLASS III REQ'D (6' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=7.50 INV(OUT)=7.00
21.4 CY OF CONCRETE CRADLE REQ'D

DI-12-13
I ST'D 24" ES-I REQ'D
6.00 TONS ST'D EC-I CLASS AI REQ'D
TYPE A INSTALLATION
INV=7.00

SHEET 13

DI-13-1
8.0' STD. SWM-I REQ'D
TOP ELEV=12.00
BOTTOM ELEV=4.00
GRAVEL DIAPHRAGM. AS PER DEATIL
SEE SHEETS 21(6)-21(6A) FOR DETAILS
CONNECT BMP UD TO RISER STRUCTURE

DI-13-1 — DI-13-2
56'-24" CONC. SSP CLASS III REQ'D (4' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=7.00 INV(OUT)=6.50
9.7 CY OF CONCRETE CRADLE REQ'D

DI-13-2
6.5' ST'D PRECAST MH-2 REQ'D
I ST'D PRECAST T-DI-7 TOP REQ'D
INV=5.33
CONNECT TO EXISTING 60" RCP
4'-60" CONC. SSP REQ'D FOR CONNECTION
ST'D ST-I REQ'D FOR MANHOLE BASE

DI-13-3
10.5' ST'D PRECAST MH-2 REQ'D
I ST'D PRECAST T-DI-3 TOP REQ'D
L=8' INV=9.90
I ST'D SL-I REQ'D
CONNECT TO EXISTING 24" RCP
4'-24" CONC. SSP REQ'D FOR CONNECTION
ST'D ST-I REQ'D FOR MANHOLE BASE
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-13-3 — MH-13-4
150'-60" CONC. SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=9.90 INV(OUT)=6.98
687.5 CY MINOR STRUCTURE EXCAVATION

MH-13-4
9.5 LF OF ST'D MH-2 REQ'D
I ST'D MH-I FRAME & COVER REQ'D
INV=6.88
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

MH-13-4 — DI-13-2
114'-60" CONC. SSP CLASS III REQ'D (5' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=6.88 INV(OUT)=5.33
447.4 CY MINOR STRUCTURE EXCAVATION

ES-13-5
I ST'D 24" ES-I REQ'D
6.00 TONS ST'D EC-I CLASS AI REQ'D
TYPE A INSTALLATION
INV=11.00

DI-13-6
I ST'D DI-3B REQ'D
H=4.1' L=4' INV=12.90
I ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-6 — DI-12-7
47'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.90 INV(OUT)=12.50

DI-13-7
I ST'D DI-3B REQ'D
H=4.9' L=6' INV=15.00
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-7 — DI-13-8
108'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=15.00 INV(OUT)=14.00

DI-13-8
I ST'D DI-3B REQ'D
H=7.0' L=4' INV=11.90
ST'D ST-I REQ'D
ST'D IS-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-8 — DI-13-9
68'-24" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.90 INV(OUT)=11.50

DI-13-9
I ST'D DI-3B REQ'D
H=7.0' L=4' INV=11.40
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-9 — ES-13-5
21'-24" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.40 INV(OUT)=11.00

DI-13-10
I ST'D DI-3B REQ'D
H=6.2' L=6' INV=16.30
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-10 — DI-13-11
109'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=16.30 INV(OUT)=15.98

DI-13-11
I ST'D DI-3B REQ'D
H=5.2' L=6' INV=15.08
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-11 — DI-13-12
101'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=15.08 INV(OUT)=14.05

DI-13-12
I ST'D DI-3B REQ'D
H=6.6' L=4' INV=12.50
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-12 — DI-13-8
96'-18" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.50 INV(OUT)=12.00

DI-13-13
I ST'D DI-2B REQ'D
H=3.8' L=6' INV=14.14
CONNECT UD-4 TO STRUCTURE

DI-13-13 — DI-13-20
140'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=14.14 INV(OUT)=13.44

DI-13-14
I ST'D DI-3B REQ'D
H=3.7' L=4' INV=13.50
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-14 — DI-12-10
48'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.50 INV(OUT)=13.10

DI-13-15
I ST'D 2D REQ'D
H=5.4' L=8' INV=20.63
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-15 — MH-Ex19-3
77'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TYPE JOINT TYPE
INV(IN)=20.63 INV(OUT)=20.06

DI-13-17
I ST'D DI-3B REQ'D
H=4.1' L=8' INV=20.21
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-17 — DI-13-18
66'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=20.21 INV(OUT)=17.80

DI-13-18
I ST'D DI-3B REQ'D
H=3.3' L=6' INV=17.70
ST'D IS-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-18 — DI-13-21
41'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=17.70 INV(OUT)=16.00

DI-13-19
I ST'D DI-I REQ'D
H=2.8' INV=15.67
ST'D ST-I REQ'D
H LESS THAN MIN

DI-13-19 — DI-13-12
33'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=15.67 INV(OUT)=15.00

DI-13-20
I ST'D DI-3B REQ'D
H=6.0' L=6' INV=13.34
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-20 — DI-13-21
49'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.34 INV(OUT)=13.00

DI-13-21
I ST'D DI-3C REQ'D
H=6.4' L=6' INV=12.90
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-21 — DI-13-12
40'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=12.90 INV(OUT)=12.60

DI-13-22
I ST'D DI-3B REQ'D
H=3.6' L=6' INV=11.48
CONNECT UD-4 TO STRUCTURE

DI-13-22 — DI-13-23
78'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.48 INV(OUT)=11.07

DI-13-23
I ST'D DI-I REQ'D
H=2.9' INV=11.07

DI-13-23 — HW-13-24
13'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=11.07 INV(OUT)=11.00

HW-13-24
I ST'D 15" ES-I REQ'D
2.34 TONS ST'D EC-I CLASS AI REQ'D
TYPE A INSTALLATION
INV=11.00

DI-13-25
I ST'D DI-3B REQ'D
H=3.8' L=4' INV=13.40
CONNECT UD-4 TO STRUCTURE

DI-13-25 — DI-13-6
68'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=13.40 INV(OUT)=12.90

DI-13-26
I ST'D DI-3A REQ'D
H=5.6' INV=21.19
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

DI-13-26 — DI-13-15
17'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=21.19 INV(OUT)=20.98

SHEET 14

MH-14-1
12.0 LF OF ST'D MH-2 REQ'D
I ST'D MH-I FRAME & COVER REQ'D
INV=11.3
ST'D ST-I REQ'D
CONNECT UD-4 TO STRUCTURE

MH-14-1 — DI-13-3
58'-60" CONC. SSP CLASS III REQ'D (8' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=11.30 INV(OUT)=10.00
300.7 CY MINOR STRUCTURE EXCAVATION

MH-14-2
9.4 LF OF ST'D MH-2 REQ'D
I ST'D MH-I FRAME & COVER REQ'D
CONNECT TO EXISTING 60" RCP
4 LF OF 60" RCP REQ'D
FOR CONNECTION
INV=18.11
ST'D ST-I REQ'D

SSP: STORM SEWER PIPE
ST'D IS-I REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	2E(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Note: In addition to the visual inspection performed by the Department during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

PROJECT	SHEET NO.
0001-212-249	2E(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lue (703)259-2918 NOVA District
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS

SHEET 14 CONTINUED

MH-14-2A
7.4 LF OF ST'D MH REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
CONNECT TO EXISTING 60" RCP
4 LF OF 60" RCP REQ'D FOR CONNECTION
INV=18.00
CONNECT UD-2 TO STRUCTURE

MH-14-2A — DI-14-1
62'-60" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=18.00 INV(OUT)=16.00
209.7 CY MINOR STRUCTURE EXCAVATION

DI-14-2C
I ST'D DI-3B REQ'D
H=3.3' L=4' INV=20.70
CONNECT UD-4 TO STRUCTURE

DI-14-2C — DI-14-3C
38'-15" CONC. SSP CLASS III REQ'D (2' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=20.70 INV(OUT)=19.80

DI-14-3
I ST'D DI-3B REQ'D
H=4.6' L=10' INV=23.60
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-3 — DI-14-22
51'-18" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=23.60 INV(OUT)=20.90

DI-14-3C
I ST'D DI-3B REQ'D
H=5.2' L=8' INV=18.60
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-3C — MH-14-9
85'-24" CONC. SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=18.60 INV(OUT)=16.50

MH-14-9
13.7 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
CONNECT EXISTING HDPE TO STRUCTURE
INV=13.82
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

MH-14-9 — MH-14-1
169'-42" CONC. SSP CLASS III REQ'D (11' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=13.82 INV(OUT)=11.40

DI-14-11
I ST'D DI-4BB REQ'D
H=9.6' L=8' INV=22.93
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-11 — MH-14-9
46'-30" CONC. SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=22.93 INV(OUT)=22.20

DI-14-12
I ST'D DI-3BB REQ'D
H=15.3' L=8' INV=36.64
I ST'D SL-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-14-12 — DI-14-20
278'-30" CONC. SSP CLASS III REQ'D (12' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=36.64 INV(OUT)=31.04

DI-14-13
I ST'D DI-3BB REQ'D
H=15.3' L=8' INV=42.41
I ST'D SL-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-13 — DI-14-12
98'-30" CONC. SSP CLASS III REQ'D (12' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=42.41 INV(OUT)=40.40

DI-14-16
I ST'D DI-3BB REQ'D
H=9.3' L=8' INV=16.75
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-16 — DI-13-10
53'-15" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=16.75 INV(OUT)=16.40

DI-14-17
I ST'D DI-3B REQ'D
H=7.8' L=10' INV=30.50
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-17 — DI-14-3
164'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=30.50 INV(OUT)=24.00

DI-14-18
I ST'D DI-3B REQ'D
H=7.8' L=10' INV=41.40
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-14-18 — DI-14-17
179'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=41.40 INV(OUT)=30.60

DI-14-20
I ST'D DI-3BB REQ'D
H=11.9' L=10' INV=24.04
I ST'D SL-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-20 — DI-14-11
65'-30" CONC. SSP CLASS III REQ'D (9' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=24.04 INV(OUT)=23.03

DI-14-21
I ST'D DI-3B REQ'D
H=7.5' L=6' INV=19.35
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-21 — MH-14-2
18'-18" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=19.35 INV(OUT)=18.90

DI-14-22
I ST'D DI-3BB REQ'D
H=9.3' L=8' INV=20.80
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-22 — DI-14-21
76'-18" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=20.80 INV(OUT)=19.45

DI-14-23
I ST'D DI-3A REQ'D
H=4.5' INV=22.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-14-23 — DI-14-24
28'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=22.10 INV(OUT)=21.79

DI-14-24
I ST'D DI-3C REQ'D
H=4.8' L=6' INV=21.69
ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-14-24 — DI-13-26
37'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=21.69 INV(OUT)=21.29

MH-Ex19-3
MODIFY EXISTING DI TO ACCEPT PROPOSED 18" RCP

SHEET 14C

MH-14C-1
MODIFY EXISTING STRUCTURE TO ACCEPT PROPOSED 24" RCP
FILL OUTGOING EXISTING 24" RCP WITH FILL MATERIALS
I ST'D MH-1 FRAME & COVER REQ'D
INV=19.26
ST'D ST-1 REQ'D

MH-14C-1 — DI-14-3C
32'-24" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=19.26 INV(OUT)=18.70

DI-14C-4
I ST'D DI-7 REQ'D
H=4.0' INV=9.80

DI-14C-4 — DI-13-2
56'-24" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=9.80 INV(OUT)=5.33

SHEET 15

MH-15-2
21.6 LF OF ST'D MH-1 OR 2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=48.25
ST'D ST-1 REQ'D
I ST'D SL-1 REQ'D

MH-15-2 — DI-15-3
159'-24" CONC. SSP CLASS III REQ'D (20' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=48.25 INV(OUT)=45.82

DI-15-3
I ST'D DI-3BB REQ'D
H=13.7' L=6' INV=45.72
ST'D ST-1 REQ'D
I ST'D SL-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-3 — DI-15-24
54'-24" CONC. SSP CLASS III REQ'D (11' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=45.72 INV(OUT)=44.87

DI-15-4
I ST'D DI-3BB REQ'D
H=11.6' L=6' INV=65.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-4 — MH-15-2
228'-24" CONC. SSP CLASS III REQ'D (9' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=65.00 INV(OUT)=61.52

DI-15-5
I ST'D DI-3B REQ'D
H=4.6' L=6' INV=72.52
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-5 — DI-15-6
2'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=72.52 INV(OUT)=72.40

DI-15-6
I ST'D DI-5 REQ'D
TYPE D COVER REQ'D
TYPE III GRATE REQ'D
H=3.6' INV=72.30
ST'D IS-1 REQ'D

DI-15-6 — DI-15-7
22'-18" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=72.30 INV(OUT)=71.78

DI-15-7
I ST'D DI-3C REQ'D
H=6.0' L=6' INV=71.68
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-7 — DI-15-4
57'-24" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=71.68 INV(OUT)=70.50

DI-15-7A
I ST'D DI-3BB REQ'D
H=9.5' L=10' INV=49.39
ST'D ST-1 REQ'D
CONNECT UD-4 & CD-2 TO STRUCTURE

DI-15-7A — DI-14-18
167'-18" CONC. SSP CLASS III REQ'D (8' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=49.39 INV(OUT)=44.30

DI-15-8
I ST'D DI-3BB REQ'D
H=12.7' L=10' INV=52.41
I ST'D SL-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-8 — DI-14-13
144'-30" CONC. SSP CLASS III REQ'D (10' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=52.41 INV(OUT)=49.47

DI-15-9
I ST'D DI-3BB REQ'D
H=14.4' L=8' INV=55.51
ST'D SL-1 REQ'D
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-9 — DI-15-8
147'-30" CONC. SSP CLASS III REQ'D (12' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=55.51 INV(OUT)=52.51

DI-15-10
I ST'D DI-1 REQ'D
H=4.3' INV=64.70
ST'D ST-1 REQ'D

DI-15-10 — DI-15-9
23'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=64.70 INV(OUT)=64.00

DI-15-10A
I ST'D DI-1 REQ'D
H=3.1' INV=65.30

DI-15-10A — DI-15-10
23'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=65.30 INV(OUT)=64.80

DI-15-12
I ST'D 3BB REQ'D
H=15.3' L=8' INV=59.41
ST'D SL-1 REQ'D
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-15-12 — DI-15-9
187'-30" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=59.41 INV(OUT)=55.61

DI-15-13
I ST'D 3BB REQ'D
H=16.0' L=4' INV=61.00
ST'D SL-1 REQ'D
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-13 — DI-15-12
69'-30" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=61.00 INV(OUT)=59.94

DI-15-14
I ST'D 3CC REQ'D
H=15.5' L=6' INV=61.65
ST'D SL-1 REQ'D
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-14 — DI-15-13
34'-24" CONC. SSP CLASS III REQ'D (13' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=61.65 INV(OUT)=61.10

HW-15-17
I ST'D 18" ES-1 REQ'D
4.52 TONS ST'D EC-1 CLASS I REQ'D
TYPE A INSTALLATION
INV=73.00

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	2E(5)

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Note: In addition to the visual inspection performed by the Department during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

DI-15-18
I ST'D DI-3B REQ'D
H=6.8' L=10' INV=73.60
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-18 — HW-15-17
26'-18" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=73.60 INV(OUT)=73.00

DI-15-19
I ST'D DI-3BB REQ'D
H=8.7' L=4' INV=69.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-19 — DI-15-12
106'-18" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=69.40 INV(OUT)=66.00

DI-15-20
I ST'D DI-3B REQ'D
H=4.5' L=14' INV=61.95
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-20 — DI-15-7A
160'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=61.95 INV(OUT)=54.40

DI-15-21
I ST'D DI-3B REQ'D
H=4.5' L=12' INV=75.60
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15-21 — DI-15-18
110'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=75.60 INV(OUT)=73.70

DI-15-24
I ST'D DI-1 REQ'D
CONNECT TO EXISTING 21" RCP
4 LF OF 21" RCP REQ'D FOR CONNECTION
H=8.4' INV=44.77
ST'D ST-1 REQ'D

DI-15-24 — ES-15-25
83'-24" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=44.77 INV(OUT)=43.50

ES-15-25
I ST'D 24" ES-1 REQ'D
8.00 TONS ST'D EC-1 CLASS I REQ'D
TYPE A INSTALLATION
INV=43.50

SHEET 15C

DI-15C-1
I ST'D DI-3BB REQ'D
H=9.4' L=4' INV=68.52
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15C-1 — DI-15-14
47'-24" CONC. SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=68.52 INV(OUT)=67.61
8.2 CY OF CONCRETE CRADLE REQ'D

DI-15C-2
I ST'D DI-5 REQ'D
TYPE A2 COVER REQ'D
TYPE III GRATE REQ'D
H=8.1' INV=77.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15C-2 — DI-15C-4
99'-15" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=77.00 INV(OUT)=72.92

DI-15C-3
8.0' ST'D. SWM-1 REQ'D
TOP ELEV=74.00
BOTTOM ELEV=66.00
GRAVEL DIAPHRAGM, AS PER DEATIL
SEE SHEETS 21(7)-21(7A) FOR DETAILS
CONNECT BMP UD TO RISER STRUCTURE

DI-15C-3 — DI-15C-1
40'-24" CONC. SSP CLASS III REQ'D (7' COVER)
LEAK-RESISTANT JOINT TYPE
INV(IN)=69.00 INV(OUT)=68.52
6.9 CY OF CONCRETE CRADLE REQ'D

SSP: STORM SEWER PIPE
ST'D IS-1 REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

PROJECT	SHEET NO.
0001-212-249	2E(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lue (703)259-2918 NOVA District
SURVEYED BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leap E.Treutle LS (703)259-3224 7/17/13

DRAINAGE DESCRIPTIONS & DITCH TYPICALS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	1	0001-212-249, PE-101	2E(6)

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Note: In addition to the visual inspection performed by the Department during the initial installation of storm sewer pipes and pipe culverts, a post installation visual/video camera inspection shall be conducted by the Contractor in accordance with the requirements of this specification and VTM 123 on all storm sewer pipe and a selected number of pipe culverts.

SHEET 15C CONTINUED

DI-15C-4 — I ST'D DI-3B REQ'D
H=7.4' L=8' INV=72.82
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15C-4 — DI-15C-1 — 77'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=72.82 INV(OUT)=69.66

DI-15C-5 — I ST'D DI-3B REQ'D
H=5.4' L=6' INV=73.80
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15C-5 — DI-15-C4 — 32'-18" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=73.80 INV(OUT)=73.45

DI-15C-6 — I ST'D DI-3B REQ'D
H=4.7' L=4' INV=74.20
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-15C-6 — DI-15C-5 — 27'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=74.20 INV(OUT)=73.90

SHEET 16

DI-16-1 — I ST'D DI-3B REQ'D
H=2.5' L=12' INV=95.10
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-16-1 — DI-15-18 — 296'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=95.10 INV(OUT)=73.70

DI-16-2 — I ST'D DI-3B REQ'D
H=4.4' L=8' INV=107.40
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-16-2 — DI-16-1 — 263'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=107.40 INV(OUT)=95.20

MH-16-3 — 13.7 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=78.79
I ST'D SL-1 REQ'D
ST'D ST-1 REQ'D
CONNECT TO EXISTING 36" PIPE

MH-16-3 — DI-15-19 — 261'-18" CONC. SSP CLASS III REQ'D (13' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=78.79 INV(OUT)=69.50

DI-16-4 — I ST'D DI-3BB REQ'D
H=14.8' L=6' INV=77.75
CONNECT OUTLET CONC. PIPE FROM UNDERGROUND DETENTION TO PROPOSED DI
ST'D ST-1 REQ'D
I ST'D SL-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-16-4 — DI-15-7 — 226'-24" CONC. SSP CLASS III REQ'D (12' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=77.75 INV(OUT)=72.19

DI-16-5 — I ST'D DI-1 REQ'D
H=8.7' INV=85.67
ST'D ST-1 REQ'D

DI-16-5 — DI-16-4 — 44'-24" CONC. SSP CLASS III REQ'D (7' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=85.67 INV(OUT)=84.71

DI-16-7 — I ST'D DI-3B REQ'D
H=4.6' L=10' INV=89.90
ST'D ST-1 REQ'D
CONNECT UD-4 & UD-2 TO STRUCTURE

DI-16-7 — DI-15-21 — 249'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=89.90 INV(OUT)=75.70

DI-16-8 — I ST'D DI-3B REQ'D
H=4.5' L=10' INV=102.00
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-16-8 — DI-16-7 — 178'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=102.00 INV(OUT)=90.00

MH-16-10 — 16.3 LF OF ST'D MH-1 OR 2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
CONNECT TO EXISTING 15" RCP
4 LF OF 15" RCP REQ'D FOR CONNECTION
INV=89.55
ST'D ST-1 REQ'D
I ST'D SL-1 REQ'D

MH-16-10 — DI-16-5 — 185'-18" CONC. SSP CLASS III REQ'D (16' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=89.55 INV(OUT)=85.77

MH-16-11 — 6.7 LF OF ST'D MH-1 OR 2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
INV=105.03
ST'D ST-1 REQ'D
ST'D IS-1 REQ'D

MH-16-11 — MH-16-10 — 198'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=105.03 INV(OUT)=101.00

DI-16-12 — I ST'D DI-3BB REQ'D
H=8.0' L=6' INV=105.54
CONNECT TO EXISTING 24" RCP
4 LF OF 24" RCP REQ'D FOR CONNECTION
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-16-12 — MH-16-11 — 17'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=105.54 INV(OUT)=105.13

DI-16-13 — I ST'D DI-2A REQ'D
CONNECT TO EXISTING 15" HDPE
H=4.0' INV=107.17
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-Ex249 — MODIFY EX. STRUCTURE TO ACCEPT PROPOSED 15" PIPE

DI-Ex249 — DI-16-5 — 11'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=88.35 INV(OUT)=88.00

SHEET 17

DI-17-3 — MODIFY EX. STRUCTURE TOP TO ST'D PRECAST T-DI-4
L=8' INV=80.65

DI-17-5 — I ST'D DI-3BB REQ'D
H=10.0' L=8' INV=97.54
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-5 — MH-17-12 — 83'-18" CONC. SSP CLASS III REQ'D (10' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=97.54 INV(OUT)=95.00

DI-EX293 — DI-17-5 — 88'-18" CONC. SSP CLASS III REQ'D (9' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=99.69 INV(OUT)=97.64

DI-17-6 — I ST'D DI-3B REQ'D
H=5.1' L=8' INV=106.23
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-6 — DI-EX288 — 38'-15" CONC. SSP CLASS III REQ'D (5' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=106.23 INV(OUT)=106.02

DI-17-7 — I ST'D DI-3B REQ'D
H=5.0' L=8' INV=103.45
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-7 — DI-17-3 — 163'-18" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=103.45 INV(OUT)=101.00

DI-17-8 — I ST'D DI-3B REQ'D
H=4.7' L=8' INV=104.50
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-8 — DI-17-7 — 32'-15" CONC. SSP CLASS III REQ'D (3' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=104.50 INV(OUT)=103.60

DI-17-9 — I ST'D DI-3B REQ'D
H=6.3' L=10' INV=105.40
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-9 — DI-17-8 — 66'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=105.40 INV(OUT)=104.60

DI-17-10 — I ST'D DI-3B REQ'D
H=4.1' L=10' INV=105.94
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-10 — DI-17-9 — 16'-15" CONC. SSP CLASS III REQ'D (4' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=105.94 INV(OUT)=105.50

DI-17-11 — I ST'D DI-3B REQ'D
H=5.0' L=6' INV=100.44
I ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

DI-17-11 — MH-17-12 — 75'-18" CONC. SSP CLASS III REQ'D (6' COVER)
SILT TIGHT JOINT TYPE
INV(IN)=100.44 INV(OUT)=98.88

MH-17-12 — 18.4 LF OF ST'D MH-2 REQ'D
I ST'D MH-1 FRAME & COVER REQ'D
CONNECT TO EXISTING 42" RCP
DOUBLE 4 LF 42" RCP REQ'D FOR CONNECTION
INV=87.39
I ST'D SL-1 REQ'D
ST'D ST-1 REQ'D
CONNECT UD-4 TO STRUCTURE

MH-448 — ADJUST EXISTING STRUCTURE TOP ELEVATION TO 100.00
I ST'D MH-1 FRAME & COVER REQ'D
INV=75.71

MH-449 — ADJUST EXISTING STRUCTURE TOP ELEVATION TO 95.00
I ST'D MH-1 FRAME & COVER REQ'D
INV=75.04
I ST'D ST-1 REQ'D

DI-EX288 — MODIFY EXISTING DI TO ACCEPT PROPOSED 15" RCP

DI-EX293 — MODIFY EXISTING DI TO ACCEPT PROPOSED 18" RCP

DI-EX330 — ADJUST EXISTING STRUCTURE TOP ELEVATION TO 100.00
I ST'D MH-1 FRAME & COVER REQ'D

SHEET IK(03)

IK(03)-1 — 304'-18" CONC. SSP CLASS III REQ'D (3' COVER)
Slit-Tight Joint Type
INV(IN)=135.90 INV(OUT)=132.80
TEMPORARY PIPE FOR MOT

IK(03)-2 — 13.5 LF OF ST'D MH-2 REQ'D
I ST'D FRAME & COVER REQ'D
CONNECT TO EXISTING 15" RCP
4 LF 15" RCP REQ'D FOR CONNECTION
INV=122.50
TEMPORARY STRUCTURE FOR MOT

IK(03)-3 — 170'-18" CONC. SSP CLASS III REQ'D (12' COVER)
Slit-Tight Joint Type
INV(IN)=122.50 INV(OUT)=116.00
TEMPORARY PIPE FOR MOT

IK(03)-4 — I ST'D 18" ES-1 REQ'D
3.38 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=116.00
TEMPORARY END STRUCTURE FOR MOT

SHEET IK(04)

IK(04)-1 — 12'-15" CONC. PIPE CLASS III REQ'D (2' COVER)
Slit-Tight Joint Type
INV(IN)=78.87 INV(OUT)=78.58
CONNECT TO EXISTING RCP
TEMPORARY PIPE FOR MOT

SHEET IK(05)

IK(05)-2 — 7.2 LF OF ST'D MH-2 REQ'D
I ST'D FRAME & COVER REQ'D
CONNECT TO EXISTING 3'X3' BOX CULVERT
INV=14.00
TEMPORARY STRUCTURE FOR MOT

IK(05)-2 — 10-3 — 47'-42" CONC. SSP CLASS III REQ'D (4' COVER)
Slit-Tight Joint Type
INV(IN)=14.00 INV(OUT)=13.00
TEMPORARY PIPE FOR MOT

SHEET IK(06)

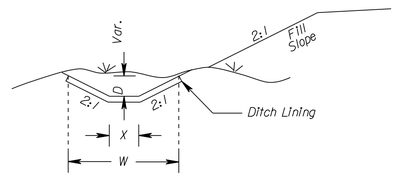
IK(06)-1 — 30'-18" CONC. SSP CLASS III REQ'D (3' COVER)
Slit-Tight Joint Type
INV(IN)=12.00 INV(OUT)=10.50
TEMPORARY PIPE FOR MOT

IK(06)-2 — I ST'D 18" ES-1 REQ'D
3.38 TONS ST'D EC-1 CLASS AI REQ'D
TYPE A INSTALLATION
INV=10.50
TEMPORARY END STRUCTURE FOR MOT

TABLE AI - ALLOWABLE TYPE OF STORM SEWER PIPE

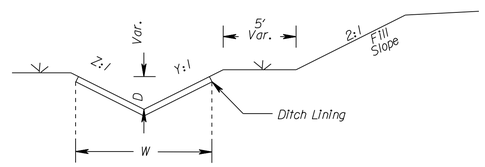
LOCATION	CONCRETE	CORRUGATED STEEL ALUMINUM COATED TYPE 2 FULLY CONCRETE LINED	ALUMINUM COATED TYPE 2 STEEL SPIRAL RIB	POLYMER COATED (10/10) CORRUGATED STEEL SPIRAL RIB	POLYMER COATED (10/10) CORRUGATED STEEL DOUBLE WALL (SMOOTH INTERIOR)	ALUMINUM SPIRAL RIB	POLYVINYLCHLORIDE (PVC) RIBBED PIPE (SMOOTH INTERIOR)	POLYETHYLENE (PE) CORRUGATED TYPE S
Fraley Blvd, Route 1	X				X		X	X
Side Street Connections	X				X		X	X
Entrances	X	X	X	X	X	X	X	X

Trapezoidal Ditches



Location	Station	to	Station	Lining	W	D	X
Fraley Blvd, Rt of CL	269+75		271+15	EC-2, Ty I	5'	1'	1'
Fraley Blvd, Rt of CL	272+25		277+00	EC-2, Ty I	5'	1'	1'
Fraley Blvd, Rt of CL	277+00		281+75	EC-2, Ty I	5.5'	1'	1.5'
Fraley Blvd, Rt of CL	307+85		310+50	EC-2, Ty I	7.5'	1.5'	1.5'

Vee Ditches



Location	Station	to	Station	Lining	W	D	Y	Z
Fraley Blvd, Lt of CL	254+50		255+75	EC-2, Ty I	4'	1'	2	2
Fraley Blvd, Rt of CL	265+50		271+00	EC-2, Ty I	4'	1'	2	2
Fraley Blvd, Rt of CL	283+75		284+50	EC-2, Ty I	4'	1'	2	2
Graham Park Rd, Lt of CL	11+65		11+25	EC-2, Ty I	4'	1'	2	2
Fraley Blvd, Rt of CL	297+00		302+50	EC-2, Ty I	4'	1'	2	2
Fraley Blvd, Lt of CL	303+90		306+35	EC-2, Ty I	4'	1'	2	2
Fraley Blvd, Lt of CL	325+90		323+60	EC-2, Ty I	4'	1'	2	2

SSP: STORM SEWER PIPE
ST'D IS-1 REQ'D FOR ALL STRS.
PIPE: SPEC. SECTION 232 (AASHTO M170)
GASKET: SPEC. SECTION 212 (ASTM C443)

	PROJECT	SHEET NO.
	0001-212-249	2E(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER_____
SURVEYED BY, DATE_____
DESIGN BY_____
SUBSURFACE UTILITY BY, DATE_____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		0001-212-249, PE-101	2H(1)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction plan set (or other such documents) for land disturbance activities that disturb an area equal to or greater than 10,000 square feet outside the Chesapeake Bay Preservation Area, or equal to or greater than 2,500 square feet in the area defined as Tidewater, Virginia in the Virginia Chesapeake Bay Preservation Act.

The VDOT RLD (as defined in the latest IIM 242) will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents)for the land disturbance (construction) activity.

I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that this document and all other documents related to the SWPPP, as identified on the SWPPP General Information Sheets, are maintained at the activity site, or at a location convenient to the activity site where no on-site facilities are available, and such documents will be made available for review upon request in accordance with the provisions of the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10) when applicable. Where the SWPPP documents are not stored on-site, a copy of such documents shall be in the possession of those with day to day operational control over the implementation of the SWPPP whenever they are on site.

* or ** Delegated Authority Signature"

Signature: _____
Printed Name: _____
Date:_____

(1) See Section 1, Item 11 relating to delegation of authority, and form LD-445H (Delegation of Authority).

ACRONYMS

CBPA - Chesapeake Bay Preservation Act
BMP - Best Management Practice
DEQ - Department of Environmental Quality
EPA - U.S. Environmental Protection Agency
ESC - Erosion and Sediment Control
IIM - Instructional and Informational Memorandum
R&B - Road and Bridge
RLD - Responsible Land Disturber
SWPPP - Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Load
VDOT - Virginia Department of Transportation
VPDES - Virginia Pollutant Discharge Elimination System
VSMP - Virginia Stormwater Management Program
VESCP - Virginia Erosion and Sediment Control Program
WLA - Waste Load Allocation
SWM - Stormwater Management

SECTION I GENERAL INFORMATION

1. Activity Description - This project consists of the widening of the U.S. Route 1, Fraley Boulevard, roadway. The existing roadway will be widened from two lanes to six lanes. Existing side roadwas will be realigned to access the widened roadway. The project will also include the construction of a sidewalk along the east side of the roadway and a mixed use path on the west side. Eight stormwater BMPs will be constructed to manage water quality and quantity.

2. This land disturbance (construction) activity site is located in Town of Dumfries, Prince William County and approximately 36.30 acres will be disturbed by excavation, grading or other construction activities.

3. (Include one of the following notes as appropriate)

A. This proposed activity disturbs one acre or greater and requires coverage under the VPDES General Permit for Discharges Of Stormwater from Construction Activities (the VPDES Construction Permit) as issued by the DEQ. A copy of the VPDES Construction Permit (VAR10), the registration information (LD-445 & LD-445C forms) and the permit coverage letter received from DEQ shall be maintained with other SWPPP documents for this land disturbing activity.

~~B. This proposed activity disturbs less than one acre and is exempt from coverage under the VPDES General Permit for Discharges of Stormwater from Construction Activities (the VPDES Construction Permit) as issued by the DEQ.~~

~~C.This proposed activity is exempt from coverage under the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES ConstructionPermit) as issued by the DEQ because it is considered a routine maintenance activity (i.e., the proposed activity is intended to maintain the original line and grade, hydraulic capacity or original construction of the project or involves the paving of an existing roadway with a compacted or impervious surface and the reestablishment of associated ditches and shoulders).~~

** 4. The location of on-site support facilities that will be covered under the VPDES Construction Permit coverage for this land disturbance (construction) activity shall be provided by the contractor and identified on the record set of plans or in other appropriate contract documents. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction site.

** 5. Written Evidence of permit coverage shall be provided by the contractor for all support activities located outside of VDOT right of way or easement in the form of the Construction General Permit coverage letter: (List VPDES Permit " or Letter from VSMP Authority stating coverage not needed)

6. List the surface waters that have been identified as impaired in the DEQ 2012 305(b)/303(d) Water Quality Assessment Integrated Report for sediment, total suspended solids, turbidity, Nitrogen or Phosphorus. These pollutants are considered benthic impairments: Qunatico Creek (sediment)

7. Identify the TMDL's where stormwater from construction activities discharges into a watershed with a TMDL waste load allocation established and approved by the State Water Control Board prior to July 1, 2016 for sediment, total suspended solids, turbidity, nitrogen or phosphorus:
Chesapeake Bay TMDL (nitrogen, phsphorus and total suspended solids)

8. This land disturbance activity discharges stormwater to the following surface waters that have been identified as exceptional in Section 9VAC25-260-30 A 3 c of the Virginia Administrative Code: N/A

9. Locations of surface waters and locations where concentrated stormwater is discharged from this land disturbance (construction) activity are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity. (List name of surface waters and locations here if not shown in construction plan or other such documents).

10. The ESC and SWM plans (where applicable) for this land disturbance (construction) activity have been developed in accordance with VDOT's Approved Annual Erosion and Sediment Control and Stormwater Management Standards and Specifications as approved by the DEQ.

11. List the RLD and other responsible parties for the land disturbance activity: (required for erosion and sediment control). The following individual(s) have "delegated authority" to sign all reports required by the construction permit including the SWPPP General Information Sheets and Inspection Reports (C-107). Reference form LD-445H for delegation of authority (form 445H for the project is hereby incorporated by reference into this SWPPP). These individual(s) has/have overall responsibility or the environmental matters for the project: (required only for permitted projects):

Name	Position	Responsibility
	RLD	Certify the SWPPP (with date & sig.)
	Certified Inspector	Sign (C-107) Inspection Form Part 1
	Certified Inspector	Sign (C-107) Inspection Form Part 2

* 12. The name of the VDOT individual(s) responsible for the oversight inspection in accordance with IIM-LD-256 on these land disturbance construction activities as identified on these SWPPP General Information Sheets. The names will be updated and maintained with the other SWPPP documents for this land disturbance activity.

VDOT Individuals	Position	Responsibility
Marian Carroll	NPDES	NPDES coordinator responsible for the oversight inspection in accordance with IIM-LD-256

* 13. The ESC and P2 inspections for this land disturbing (construction) activity shall follow (Select Schedule 1 or 2, if schedule "2 is used, void note "14) as defined in 2016 R&B Specifications except for Section 107.16(e) 4.an Inspection Requirements Rain gauge notes apply only to Inspection Schedule 1.

** 14. The location of the on-site rain gage that will be used to determine the occurrence of a measurable storm event for the purposes of ESC and Pollution Prevention inspections will be provided by the contractor and identified on the record set of plans or in other appropriate SWPPP documents for this land disturbance activity:
(List location of rain gage).

The rain gage shall be observed daily at "_____" to determine the occurrence of a measurable storm event (i.e., 0.25 inches of rainfall or greater in a 24 hour period). A log book shall be maintained to record observation information which shall include (1) the date, (2) the time, (3) whether or not rainfall is occurring at the time of the observation, (4) the amount of accumulated rainfall in the gage, if any, and (5) whether or not an inspection is required based on the amount of accumulated rainfall in the gage.
If there is no rainfall occurring at the time of the observation, the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.
If there is rainfall occurring at the time of the observation, the observation information is to be noted in the log book. The rain gage is not to be emptied but left to accumulate additional rainfall until the conclusion of the rainfall event. At the conclusion of the rainfall event, an observation of the rain gage shall be made and the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

15. The following VDOT documents are applicable to a) permitted projects b) non-permitted projects in Chesapeake Bay Preservation Areas (CBPA) with 2,500 S.F. to 1.0 acre of land disturbance c) non-permitted projects requiring a SWPPP and d) Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP:

VDOT LD-445: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP and ESC projects > 10,000 s.f. but <1 acre.
VDOT LD-445A: Permitted projects only.
VDOT LD-445C: Projects that require a permit, ESC Plan, or SWPPP.
VDOT LD-445D: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP.
VDOT LD-445F: Emergency work projects (when applicable).
Water Quality Requirement (when applicable)
VDOT LD-445H: Permitted projects only.
VDOT C-107 Part I and Part II. All projects that require a permit or SWPPP.
VDOT LD-445I: AS&S Approval Form (when applicable)

16. If there is an excessive loading of sediment from the project (i.e. more than to be expected from the project with an implemented ESC plan) that is discovered within a local watershed with a sediment TMDL that allocates a WLA to VDOT's MS4, (see note "7) the contractor shall investigate the area of concern at the site within 24 hours of discovery and ensure all erosion and sediment control best management practices are being implemented in accordance with the permits approved standards and specifications required by Part I.B of the current Construction General Permit. If corrective action is necessary, the contractor shall initiate corrective actions no later than 5 business days after the initial investigation.

17. If excessive loading of sediment from a land disturbing activity that is not the responsibility of the contractor is discovered discharging into a MS-4, the contractor shall notify the municipality with jurisdiction over erosion and sediment control activities.

* Denotes information that is to be provided/completed by the RLD.

** Denotes information that is to be provided/completed by the contractor.

	PROJECT	SHEET NO.
	0001-212-249	2H(1)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236

PROJECT MANAGER_____
SURVEYED BY, DATE_____
DESIGN BY_____
SUBSURFACE UTILITY BY, DATE_____

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	2H(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

SECTION II EROSION AND SEDIMENT CONTROL

✳✳ 1. The intended sequence and timing of activities that disturb soils at the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.) shall be provided by the contractor in accordance with the current edition of Section 108.03 of the VDOT R&B Specifications and shall be included with the other SWPPP documents for this land disturbance (construction) activity.

2. Directions of stormwater flow and approximate slopes anticipated after major grading activities are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

3. Areas of soil disturbance and areas of the site which will not be disturbed are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

4. Locations of major structural and nonstructural ESC measures intended to filter, settle or similarly remove sediment are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

5. Locations where stabilization practices are expected to occur are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

6. A description of interim and permanent stabilization practices for the site are identified in the applicable sections of the documents identified in the Note 1 of Section IV.

✳✳ 7. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated will be provided by the contractor and maintained with the record set of plans or other SWPPP documents for this land disturbance (construction) activity: (List how this will be tracked and the location)

8. A description and schedule of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good and effective operating conditions are identified in the current edition of Sections 107.16 and 303.03 of the VDOT R&B Specifications.

9. Nutrients shall be applied in accordance with the current edition of Sections 603 and 604 of the VDOT Road and Bridge Specifications. Nutrients shall not be applied during rainfall events. Top soil shall be applied in accordance with the current edition of section 602 of the latest Road and Bridge Specifications.

10. All engineering calculations supporting the design of erosion and sediment control measures proposed for this land disturbance (construction) activity are contained in the project drainage file located in the (insert appropriate location, i.e., VDOT Central Office Hydraulics Section or the VDOT (specify) District Hydraulics Section or the VDOT (specify) Residency Office) and will be made available for review upon request during normal business hours.

11. The temporary erosion and siltation control items shown on the ESC Plan for this land disturbing (construction) activity are intended to provide a general plan for controlling erosion and sediment within the project limits. The ESC Plan is based on field conditions at the time of plan development and an assumed sequence of construction for the project. The contractor, in conjunction with the VDOT Project Engineer and/or ESC Inspector, shall adjust the location, quantity and type of erosion and sediment control items required based on the actual field conditions encountered at the time of construction and the actual scheduling and sequencing of the construction activities. Significant changes to the proposed ESC Plan (e.g., those that require an engineering analysis, elimination of a perimeter control, change to ESC concept that would affect the quantity or direction of flow of water) shall be submitted to the applicable District Hydraulics Engineer for review and approval. Any changes to the proposed ESC Plan must be noted on the designated record set of plans which shall be retained on the project site and made available upon request during normal business hours.

12. The areas beyond the project's construction limits are to be protected from siltation. Perimeter controls such as silt fence, diversion dikes, turbidity curtains, etc. shall be installed prior to any grubbing operations or other earth moving activities.

13. Temporary earthen structures such as dikes and berms are to be stabilized immediately upon installation. Stabilization may include temporary or permanent seeding, riprap, aggregate, sod, mulching, and/or soil stabilization blankets and matting in conjunction with seeding.

14. All channel relocations are to be constructed during the earliest stage of construction and shall be constructed in accordance with all applicable permit requirements and shall be constructed in the dry wherever possible. Stabilization or vegetation shall be established before flow is redirected through the constructed area as directed by the Engineer.

15. The contractor shall plan and implement his land disturbance operations in order to:
- a. Control the volume and velocity of stormwater runoff within the site to minimize erosion.
- b. Control the peak flow rates, volume and velocity of stormwater discharges to minimize erosion at outlets and in downstream channels.
- c. Minimize the amount of soil exposed.
- d. Minimize the disturbance of steep slopes.
- e. Minimize sediment discharge from the site.
- f. Provide and maintain natural buffers around surface waters, direct stormwater runoff to vegetated areas and maximize stormwater infiltration, unless infeasible.
- g. Minimize soil compaction (except in those areas where compaction is required by the contract documents) and preserve topsoil where feasible.

✳✳ 16. The name of the individual(s) or contractor(s) responsible for the installation and maintenance of the erosion and sediment control measures shall be supplied by the contractor and maintained with the other SWPPP documents for this land disturbance (construction) activity.

17. Soil stockpiles temporarily placed within the project area or on VDOT right of way or easement shall be identified, stabilized, and protected with sediment trapping measures.

18. A construction entrance or other approved measure shall be installed at all locations where construction vehicular traffic access routes intersect a paved or a public road in order to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or a public road surface, the road shall be cleaned thoroughly at the end of each work day by shoveling or sweeping. Removed sediment shall be disposed of in accordance with Section 106.04 of the R&B Specifications.

19. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation (exception/variance/deviation request and DEQ approval) must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VSMP Regulation have been approved by the DEQ for this land disturbance (construction) activity: (list all approved exceptions and include a brief description of the exception, the date approved and the approving DEQ Office)

Type(1)	Regulation Modified(2)	Approval Date(3)	Description of Variance

(1) Type of modification (Variance from ESC regulations, or Deviation from published guidance)
(2) Section of Regulation or Guidance Document Modified (e.g. ESC Min. Std. 15)
(3) Date that variance/exception/deviation was approved by DEQ.

SECTION III POST CONSTRUCTION STORMWATER MANAGEMENT

Choose the appropriate note 1A or 1B that is applicable to the proposed post construction SWM Plan for this land disturbance (construction) activity. (Delete, strikethrough or mark as NA those notes not applicable.)

1. (Include one of the following notes as appropriate)

✳ A. This land disturbance activity is grandfathered under Section 9VAC25-870-48 of the VSMP Regulations and utilizes the Part IIC technical criteria (i.e., Performance or Technology Based, MS 19, etc.) in Section 9VAC25-870-93 et seq. of the VSMP Regulations.

✳ ~~B. This land disturbance activity utilizes the Part IIB technical criteria (i.e., Runoff Reduction Method, Energy Balance Equation, etc.) in Section 9VAC25-870-62 et seq. of the VSMP Regulations.~~

~~2. An exception for (number) pounds of phosphorus removal has been granted for this land disturbance activity by the DEQ in its letter dated (date).~~

3. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation (exception/variance/deviation request and DEQ approval) must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VSMP Regulation have been approved by the DEQ for this land disturbance activity: (list all approved exceptions and include a brief description of the exception, the date approved and the approving DEQ Office)

Type(1)	Regulation Modified(2)	Approval Date(3)	Description of Waiver

(1) Type of modification (Variance, or Exception from SWM Regulations or Deviation from published guidance)
(2) Section of Regulation or Guidance Document Modified (e.g. ESC Min. Std. 15)
(3) Date that variance/exception/deviation was approved by DEQ.

4. The permanent onsite SWM facilities or offsite strategies proposed to meet the water quality/quantity requirements for this land disturbance (construction) activity are listed in Section VI.

5. A description of all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed is included in the construction plan set (or other such documents) for this land disturbance (construction) activity.

6. All engineering calculations supporting the design of the post-construction stormwater management measures for this land disturbance (construction) activity, including an explanation of the technical basis used to select the practices, are contained in the project drainage file located in the (insert appropriate location, i.e., VDOT Central Office Hydraulics Section or the VDOT (specify) District Hydraulics Section or the VDOT (specify) Residency Office) and will be made available for review upon request during normal working business hours.

ACRONYMS

CBPA - Chesapeake Bay Preservation Act
BMP - Best Management Practice
DEQ - Department of Environmental Quality
EPA - U.S. Environmental Protection Agency
ESC - Erosion and Sediment Control
IIM - Instructional and Informational Memorandum
R&B - Road and Bridge
RLD - Responsible Land Disturber
SWPPP - Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Load
VDOT - Virginia Department of Transportation
VPDES - Virginia Pollutant Discharge Elimination System
VSMP - Virginia Stormwater Management Program
VESCP - Virginia Erosion and Sediment Control Program
WLA - Waste Load Allocation
SWM - Stormwater Management

✳ Denotes information that is to be provided/ completed by the RLD.

✳✳ Denotes information that is to be provided/completed by the contractor.

	PROJECT	SHEET NO.
	0001-212-249	2H(2)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236

PROJECT MANAGER_____
SURVEYED BY, DATE_____
DESIGN BY_____
SUBSURFACE UTILITY BY, DATE_____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	2H(3)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction plan set (or other such documents) for land disturbance (construction) activities that disturb an area equal to or greater than 10,000 square feet outside the Chesapeake Bay Preservation Area, or equal to or greater than 2,500 square feet in the area defined as Tidewater, Virginia in the Virginia Chesapeake Bay Preservation Act.

The VDOT RLD will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents) for the land disturbance (construction) activity.

SECTION IV SWPPP

1. All documents related to the SWPPP for this land disturbance (construction) activity shall be maintained at the activity site and shall be readily available for review upon request during normal business hours. Such documents include, but are not limited to, the construction plans (or other such documents), the ESC Plan, the Pollution Prevention Plan, the post construction SWM Plan (if applicable), the VDOT R&B Standards and Specifications, Supplemental Specifications, Special Provisions and Special Provision Copied Notes. Documents related to stormwater pollution prevention which are not a part of those documents referenced above, such as copies of the VPDES Construction Permit coverage letter (when applicable) and the VPDES General Permit For Discharges Of Stormwater From Construction Activities (when applicable) and those required to be developed by the contractor for pollution prevention associated with any on-site support facilities being included in the VPDES Construction Permit coverage for this land disturbance (construction) activity are to be maintained at the activity site with the other SWPPP documents for this land disturbance (construction) activity. Where no facilities are available at the activity site to maintain the SWPPP documents, they are to be kept by or with the designated RLD at a location convenient to the activity site where they would be made available for review upon request during normal business hours.

2. The SWPPP and any subsequent amendments, modifications and updates shall be implemented from commencement of land disturbance until termination of VPDES Construction Permit coverage or completion of land disturbance (construction) activities where no VPDES Construction Permit coverage is required.

XX 3. For all on-site support facilities that will be included in the VPDES Construction Permit coverage for this land disturbance (construction) activity, the contractor shall develop a SWPPP in accordance with, but not limited to, Section 106.08, 107.02 and 107.16 of the VDOT Road and Bridge Specifications. The SWPPP for the on-site support facilities shall be maintained with and become a component of the SWPPP for this land disturbance (construction) activity. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction site.

4. For those land disturbing (construction) activities requiring coverage under the VPDES Construction Permit, the SWPPP shall be made available for review upon the request of the DEQ, the EPA, the VSMP Authority, the VESCP Authority, local government officials or the operator of a municipal separate storm sewer system (MS4) receiving discharge from the construction site.

X 5. For those land disturbing (construction) activities requiring coverage under the VPDES Construction Permit, the VDOT RLD shall post, or have posted, a copy of the General Permit coverage letter and a copy of a completed LD-445A form, noting the name and contact information for the VDOT person responsible for the land disturbing (construction) activity and its SWPPP, outside the project's construction office along with other Federal and State mandated information. Where there is no construction office (e.g., a maintenance activity), the permit coverage letter and the LD-445A form are to be maintained with the other SWPPP documents for the land disturbing (construction) activity.

6. The SWPPP shall be made available for review by the public upon request. Such reviews shall be at a time and publicly accessible location convenient to the VDOT and shall be scheduled during normal business hours and no less than once per month.

SECTION V - POLLUTION PREVENTION PLAN

1. The following non-stormwater discharges from this land disturbing (construction) activity and any on-site support facilities are prohibited:
   a. Wastewater from concrete washouts.
   b. Wastewater from the washout and cleanout of stucco, paint, from release oils, curing compounds and other construction materials.
   c. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance.
   d. Oils, toxic substances or hazardous substances from spills or other releases.
   e. Soaps, solvents or detergents used in equipment and vehicle washing.
   f. There shall be no discharge of floating solids or visible foam in other than trace amounts

2. The following non-stormwater discharges from this land disturbing (construction) activity and any on-site support facilities are allowed when discharged in compliance with the VPDES Construction Permit:
   a. Discharges from firefighting activities.
   b. Fire hydrant flushings.
   c. Waters used to wash vehicles or equipment where soaps, solvents or detergents have not been used and the wash water has been filtered, settled or similarly treated prior to discharge.
   d. Water used to control dust that has been filtered, settled or similarly treated prior to discharge.
   e. Potable water sources including uncontaminated waterline flushings managed in a manner to avoid stream impacts.
   f. Routine external building wash down where soaps, solvents or detergents have not been used and the wash water has been filtered, settled or similarly treated prior to discharge.
   g. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (or where all spilled or leaked material has been removed prior to washing), where soaps, solvents or detergents have not been used and where the wash water has been filtered, settled or similarly treated prior to discharge.
   h. Uncontaminated air conditioning or compressor condensate.
   i. Uncontaminated ground water or spring water.
   j. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
   k. Uncontaminated excavation dewatering, including dewatering trenches and excavations that have been filtered, settled or similarly treated prior to discharge.
   l. Landscape irrigation.

XX 3. The contractor shall develop a Pollution Prevention Plan to address any of his on-site operations that have a potential to generate a pollutant that may reasonably be expected to affect the quality of stormwater discharges from this land disturbance (construction) activity. The Pollution Prevention Plan shall be developed in accordance with, but not limited to, Sections 106.08, 107.02 and 107.16 of the VDOT Road and Bridge Specifications and shall include a narrative with appropriate plan detail and shall be provided on standard 8.5 x 11 inch paper or larger and shall:
   a. Identify the potential pollutant-generating activities and the pollutant that is expected to be exposed to stormwater.
   b. Describe the location where the potential pollutant-generating activities will occur, or if identified on the record set of plans, reference the record set of plans.
   c. Identify all non-stormwater discharges, as described in note two of this section, that are or will be commingled with stormwater discharges from the construction activity, including any on-site support activities.
   d. Identify the person(s) or contractor(s) responsible for implementing and maintaining the pollution prevention practice or practices for each pollutant-generating activity.
   e. Describe the pollution prevention practices and procedures that will be implemented to:
      1) Prevent and respond to leaks, spills, and other releases, including procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases, and procedures for reporting leaks, spills, and other releases in accordance with Section 107.16 of the VDOT Road and Bridge Specifications and the requirements within the VPDES Construction Permit.
      2) Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities.
      3) Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including procedures for the clean-up of stucco, paint, form release oils, and curing compounds.
      4) Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing.
      5) Direct concrete wash water into a leak-proof container or leak-proof settling basin. The container or basin shall be designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters.
      6) Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes including building products (such as asphalt sealants, copper flashing, roofing materials, adhesives, and concrete admixtures), pesticides, herbicides, insecticides, fertilizers, landscape materials, construction and domestic wastes (such as packaging materials), scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.
      7) Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, waste concrete and sanitary wastes.
      8) Address any other discharge from any potential pollutant-generating activity not listed herein.
      9) Minimize the exposure of waste materials to precipitation by closing or covering waste containers during precipitation events and at the end of the business day, or implementing other similarly effective practices. Minimization of exposure is not required in case where the exposure to precipitation will not result in a discharge of pollutants.
      10) Describe and implement procedures for providing pollution prevention awareness (including but not limited to prevention practices, disposal practices and appropriate disposal locations) for all applicable wastes (including any wash water), to appropriate personnel.

X Denotes information that is to be provided/completed by the RLD.

XX Denotes information that is to be provided/completed by the contractor.

	PROJECT	SHEET NO.
	0001-212-249	2H(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236

PROJECT MANAGER_____
SURVEYED BY, DATE_____
DESIGN BY_____
SUBSURFACE UTILITY BY, DATE_____

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the VPDES General Permit For Discharges Of Stormwater From Construction Activities (the VPDES Construction Permit) issued July 1, 2019 and VDOT's approved Annual ESC and SWM Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction plan set (or other such documents) for land disturbance (construction) activities that disturb an area equal to or greater than 10,000 square feet, or equal to or greater than 2,500 square feet in the area defined as Tidewater, Virginia in the Virginia Chesapeake Bay Preservation Act.

The VDOT RLD will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents) for the land disturbance (construction) activity.

Johnson, Mirmiran & Thompson
Richmond, Virginia
HYDRAULIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	2H(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SECTION VI - PERMANENT BMP INFORMATION △

✳ Denotes information that is to be completed by the RLD.
( ) See note referenced by number in parentheses.

INSTALLED BMP INFORMATION
(VDOT Owned/Operated)

Plan Sheet(s)	Date BMP Made Functional	Type of BMP Installed (See Table A and C)	Geographic Location (County or City)	Latitude/Longitude (1) LAT	Latitude/Longitude (1) LONG	VA 6th Order HUC (7)	Receiving Water (2)	Name of Impaired Water (9)	Acres Treated Per BMP (3) Impervious	Pervious	TOTAL	✳ BMP Maintenance ID Number (10)	BMP Maintenance Manual (11) SECTION	BMP Inspection Manual (11) SECTION
5		Bio-Retention Basin	Dumfries	38.5566	-77.3317	PL52	Quantico Creek	n/a	2.66	1.15	3.81		4.1.1	4.1.1
10		Bio-Retention Basin	Dumfries	38.5647	-77.3266	PL52	Quantico Creek	n/a	3.18	0.92	4.10		4.1.1	4.1.1
12		Bio-Retention Basin	Dumfries	38.5668	-77.3232	PL52	Quantico Creek	n/a	2.57	0.94	3.51		4.1.1	4.1.1
13		Bio-Retention Basin	Dumfries	38.5685	-77.3213	PL52	Quantico Creek	n/a	1.96	0.89	2.85		4.1.1	4.1.1
15/15C		Bio-Retention Basin	Dumfries	38.5717	-77.3175	PL52	Quantico Creek	n/a	1.82	0.99	2.81		4.1.1	4.1.1

ALTERNATIVE BMP INFORMATION

Plan Sheet(s)	Date	Type of BMP Installed (See Table B)	Geographic Location (County or City) (5)	Latitude/Longitude (1) (5) LAT	Latitude/Longitude (1) (5) LONG	VA 6th Order HUC (5) (7)	Receiving Water (2)	Name of Impaired Water (9)

Perpetual Nutrient Credits Acquired for Project

Name of Nutrient Credit Generating Entity (6)	Nutrient Credits (lbs./TP./year) Acquired (6) (12)
SWM #1	3.83
SWM #4	4.54
SWM #6	3.69
SWM #5	2.83
SWM #8	2.64

△ Any changes to the proposed SWM Plan or BMPs necessitated during the construction phase of the project that affects the proposed construction details or potentially affects the informationshown in the BMP Tables A and/or B shall be coordinated by the VDOT RLD with the appropriate VDOT District Hydraulics Engineer. The construction plans and the BMP Tables A and/or B are to be formally revised to reflect any authorized/approved changes to the proposed SWM Plan and/or the proposed BMP construction details. All plan revisions shall be completed in accordance with the Road Design Manual and the Construction Division IIM-CD-2013-12.01, signed and sealed in accordance with Department's sealing and signing policy IIM-LD-243 and filed with the construction record drawings maintained in the VDOT Central Office Plan File Room (ProjectWise). Prior to submitting for termination of coverage under the VPDES General Permit For The Discharge Of Stormwater From Construction Activities, the RLD shall have the District Maintenance Division review the BMPs installed with the project (BMP Table A) for acceptance of maintenance responsibility and to obtain a Maintenance ID number for each BMP listed in BMP Table A. The RLD shall use the informationin BMP Tables A and B along with the assigned Maintenance ID number and the date that the BMP became functional as a permanent control measure (for BMPs in Table A only) to complete the LD-445D form when certifying the construction of the BMPs and submitting for termination of coverage under the VPDES General Permit For The Discharge Of Stormwater From Construction Activities.

Table A: Permanent BMP Types (1999 Va. SWM Handbook)
Bio-retention Basin
Bio-retention Filter
Constructed Stormwater Wetlands
Extended Detention Basin
Extended Detention Basin Enhanced
Grassed Swale
Infiltration Basin
Infiltration Trench
Manufactured Treatment Device (MTD) (8)
Retention Basin I
Retention Basin II
Retention Basin III
Sand Filter
Vegetated Filter Strip
Other Approved Types (List Type)
Detention Basin

Table B: Alternative BMP Types
Comprehensive SWM Plan (Regional) Facility
Pollutant Loading Pro Rata Share Program
Other Approved Options (List Type) (4)

Table C: Permanent BMP Types (BMP Clearing House)
Sheet Flow to Vegetated Filter Strip
Grass Channel
Soil Compost Amendment
Permeable Pavement (Level 1)
Permeable Pavement (Level 2)
Infiltration Practice (Level 1)
Infiltration Practice (Level 2)
Bioretention (Level 1)
Bioretention (Level 2)
Dry Swale (Level 1)
Dry Swale (Level 2)
Wet Swale (Level 1)
Wet Swale (Level 2)
Filtering Practice (Level 1)
Filtering Practice (Level 2)
Constructed Wetlands (Level 1)
Constructed Wetlands (Level 2)
Extended Detention Pond (Level 1)
Extended Detention Pond (Level 2)
Wet Pond (Level 1)
Wet Pond (Level 2)
Manufactured Treatment Device (MTD)(8)
Other Approved Types (List Type)

NOTES:
(1) In decimal degrees to the nearest one ten-thousandth of a degree.

(2) For streams with no names, list "(Unnamed Tributary to downstream name)".

(3) Show acres treated to the nearest one hundreths acre.

(4) Include agreements with off-site BMP owners.

(5) Information pertains to the alternative BMP option location, where applicable. Exception - Not required for nutrient credit purchase option.

(6) Applies to the purchase of nutrient credits only.

(7) Virginia 6th Order HUC (VAHU6) Example - YO30.

(8) Final approved shop drawings of Manufactured Treatment Devices (MTDs) are to be included with the BMP information submitted with the LD-445D form.

(9) List the name of any impaired water to which the BMP discharges. The determination of impaired water shall be based on those streams listed as impaired in the DEQ 2012 305(b)/303(d) Water Quality Assessment Integrated Report and shall be the first named waterbody to which the BMP discharges. The impaired waters are those impaired by sediment, total suspended solids, turbidity, nitrogen or phosphorus.

(10) BMP Maintenance ID Number is to be assigned by the District Maintenance Division at permit termination or project completion. This ID number shall be assigned prior to the permit close out process and entered by the area construction engineer under this column, per IIM-LD-95

(11) Provide the section of each Maintenance manual that pertains to the type of BMP. Both manuals can be found at www.vdot.virginia.gov/business/manuals in the Maintenance selections. Example: Section 4 would be noted for both the maintenance and inspection manuals for a Bioretention I infiltration BMP.

(12) Nutrient credits purchased to the nearest one hundredth pound.

Revised 5/1/19

	PROJECT	SHEET NO.
	0001-212-249	2H(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

LANDSCAPING & PLANTING PLAN

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	2(11)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Landscape Planting Notes

1. Plants shall be in accordance with the current edition of the 'American Standard for Nursery Stock' published by the American Association of Nurserymen and conform in general to the representative species.

2. Substitutions shall not be made without prior written approval from the owner. any substitutions made without this approval may be subject to rejection and removal at the contractor's expense.

3. Plant material shall be subject to inspection and approval by owner or owner's representative for conformity to specification requirements as to quality, size, and variety. plants damaged in handling or transportation may be rejected by the owner.

4. All plants shall be nursery grown in accordance with good horticultural practice and be free of plant disease, insects, eggs and larvae and shall have healthy root systems. plants shall be obtained from sites which are similar in soil and climatic conditions as those of the project site.

5. All plant sizes shall be at least as specified in the plant schedule, but in no case shall any plant be less than specified without written approval from the owner.

6. Container grown stock shall have been grown in the container long enough for the root system to have developed sufficiently to hold its soil together.

7. All plant material in transit shall be covered with burlap or similar cover to keep it from wind damage and drying out.

8. Do not remove container grown stock from containers until planting time.

9. Shredded hardwood bark mulch (shbm) 3 inches deep shall be placed to the limits of the bioretention soil mix (bsm) where trees, shrubs, flowering perennials or ornamental grasses are proposed on the landscape plans. Do not place the mulch up against a tree's trunk or the stems of shrubs, perennials or ornamental grasses. reduce the mulch depth immediately adjacent to the trunk or stem.

10. Offsets indicated in these notes are to the center of the plant.

11. Ornamental grass and perennial plants near the outside edge of the bsm shall be offset a minimum of 12 inches inside the edge of the bsm.

12. Ornamental grasses and perennial plants shall be offset a minimum of 18 inches from the center of cleanouts or observation wells.

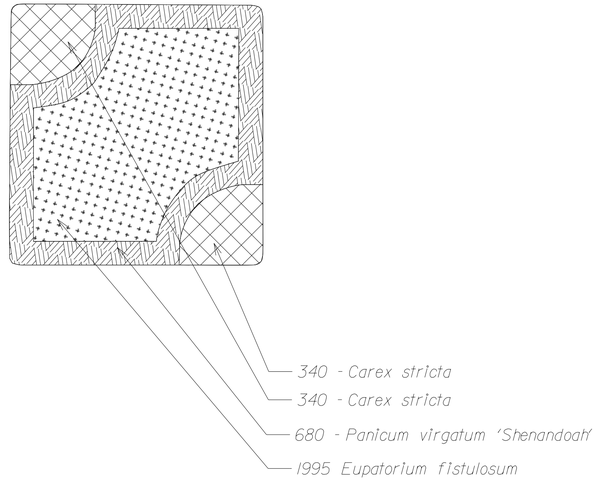
13. Landscape plans are only for landscape planting purposes. Refer to other plan sheets for grading, drainage, etc.

14. Contractor shall be responsible during the contract and up to the time of final acceptance for keeping the planting and work incidental thereto in good condition by replanting, plant replacement, watering, weeding, pruning, spraying, and cleaning up and by performing all other necessary operations of care for promotion of good plant growth so that all work is in satisfactory condition at time of final acceptance, at no additional cost to the owner.

15. The contractor shall remove all dead plant material from the job site on a weekly basis. Contractor shall also be required to retain a log of all plant material removed due to death or injury so as to properly identify those plants for replacement.

16. All plant material shall be unconditionally guaranteed for one year from the date of initial acceptance. The contractor is not responsible for losses or damage caused by other trades, mechanical injury, or vandalism.

17. Any plant material that is 25% or more dead shall be considered dead and shall be replaced at no cost to the owner.



VA Northern Coastal Plain Detention Basin Mix - ERNMX-874

	Botanical Name	Common Name
53.00 %	*Panicum anceps, Eastern Shore MD Ecotype*	Beaked Panicgrass, Eastern Shore MD Ecotype
19.00 %	*Elymus virginicus, PA Ecotype*	Virginia Wildrye, PA Ecotype
17.00 %	*Panicum virgatum, NJ Ecotype*	Switchgrass, NJ Ecotype
5.00 %	*Juncus effusus, Coastal Plain NC Ecotype*	Soft Rush, Coastal Plain NC Ecotype
2.00 %	*Agrostis hyemalis, Piedmont NC Ecotype*	Winter Bentgrass, Piedmont NC Ecotype
2.00 %	*Helenium autumnale, PA Ecotype*	Common Sneezeweed, PA Ecotype
2.00 %	*Helenium flexuosum, VA Ecotype*	Purplehead Sneezeweed, VA Ecotype
100.00 %		

Seeding Rate: Seed at 20 lbs/acre with a cover crop. For a cover crop use Japanese Millet (10 lbs/acre; 1 May to 31 Aug), Barnyard Grass (10 lbs/acre; 1 May to 31 Aug), or Grain Rye (30 lbs/acre; 1 Sept to 30 Apr).

Stormwater Management

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

	PROJECT	SHEET NO.
	0001-212-249	2(11)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

BIORETENTION CONSTRUCTION SEQUENCE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	21(2)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

Construction Sequence

1. Bioretentions to be used as Sediment Basins at proposed grading during construction activities.

2. Construction of the bioretention may only begin after the entire contributing drainage area has been stabilized with vegetation. It may be necessary to block certain curb or other inlets while the bioretention is being constructed. The proposed site should be checked for existing utilities prior to any excavation.

3. The designer and the installer should have a preconstruction meeting, checking the boundaries of the contributing drainage area and the actual inlet elevations to ensure they conform to original design. Since other contractors may be responsible for constructing portions of the site, it is quite common to find subtle differences in site grading, drainage and paving elevations that can produce hydraulically important differences for the proposed bioretention area. The designer should clearly communicate, in writing, any project changes determined during the preconstruction meeting to the installer and the plan review/inspection authority.

4. Temporary E&S controls are needed during construction of the bioretention area to divert stormwater away from the bioretention area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the construction process.

5. Any pre-treatment cells should be excavated first and then sealed to trap sediments.

6. Excavators or backhoes should work from the sides to excavate the bioretention area to its appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the bioretention area. Contractors should use a cell construction approach in larger bioretention basins, whereby the basin is split into 500 to 1,000 sq.ft. temporary cells with a 10-15 foot earth bridge in between, so that cells can be excavated from the side.

7. It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

8. Place geotextile fabric on the sides of the bioretention area with a 6-inch overlap on the sides. If a stone storage layer will be used, place the appropriate depth of #57 stone on the bottom, install the perforated underdrain pipe, pack #57 stone to 3 inches above the underdrain pipe, and add approximately 3 inches of choker stone/pea gravel as a filter between the underdrain and the soil media layer. If no stone storage layer is used, start with 6 inches of #57 stone on the bottom, and proceed with the layering as described above.

9. Deliver the soil media from an approved vendor, and store it on an adjacent impervious area or plastic sheeting. Apply the media in 12-inch lifts until the desired top elevation of the bioretention area is achieved. Wait a few days to check for settlement, and add additional media, as needed, to achieve the design elevation.

10. Prepare planting holes for any trees and shrubs, install the vegetation, and water accordingly. Install any temporary irrigation.

11. Place the surface cover in both cells (mulch, river stone or turf), depending on the design. If coir or jute matting will be used in lieu of mulch, the matting will need to be installed prior to planting (Step 10), and holes or slits will have to be cut in the matting to install the plants.

12. Install the plant materials as shown in the landscaping plan, and water them during weeks of no rain for the first two months.

13. Conduct the final construction inspection (see Section 9.2 of the VA DEQ Stormwater BMP Clearinghouse). Then log the GPS coordinates for each bioretention facility and submit them for entry into the local maintenance tracking database.

	PROJECT	SHEET NO.
	0001-212-249	21(2)

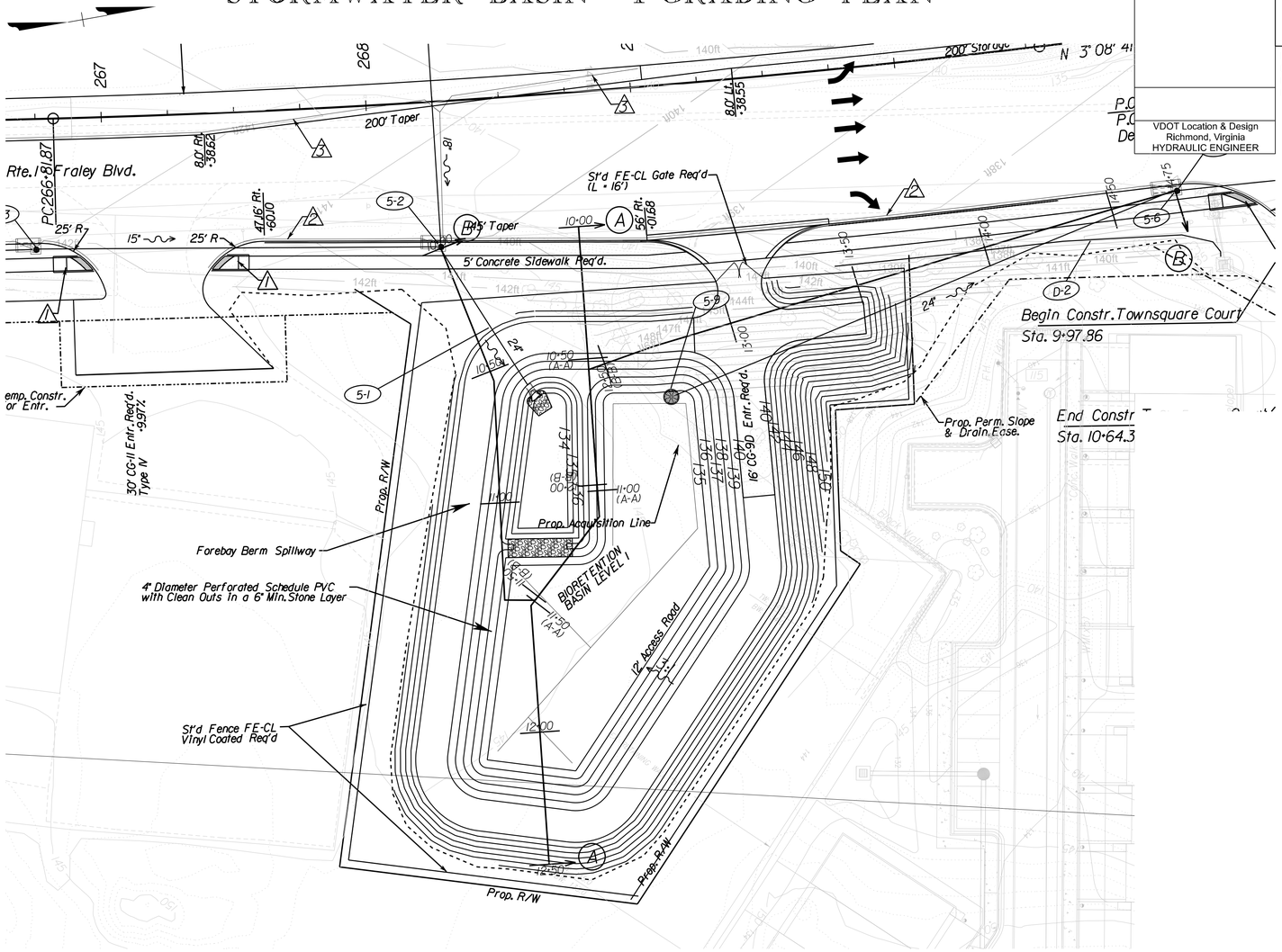
R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

STORMWATER BASIN #1 GRADING PLAN



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	21(3)

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

Notes:

1. The foundation material under the dam and the material to be used for the embankment of the dam shall be an AASHTO Type A-4 or finer and meet the approval of the materials engineer.
2. The contractor shall provide 'As-Built' drawings of all stormwater management facilities. The 'As-Built' drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by the Licensed Professional Engineer or Land Surveyor registered in the State of Virginia. All costs shall be included under Construction Surveying.
3. The as-built drawings shall be signed and sealed by a Professional Engineer or Land Surveyor.
4. SWM 1 shall be maintained by the Virginia Department of Transportation in accordance with VDOT BMP Maintenance Manual.
5. For Profile SWM 1 (B-B), Cross Section A-A and details see sheet 21(3A).
6. For Drainage Descriptions see sheet 2E(01)-2E(06).
   For Landscaping and Planting Plan see sheet 21(1)
   For Bioretention Construction Sequence see sheet 21(2)
7. Construction Inspections must be conducted in accordance with Non-Proprietary BMPs 9 Bioretention Inspection Checklist, dated April 2018, including completion of the Prince William County Construction Inspection Checklist found at https://www.pwcva.gov/department/environmental-services/stormwater-management Additionally, the Inspection Checklist shall be kept in the Route 1 Fraley Boulevard Project SWPPP.

NOTE: FOR TEMPORARY SWM-1 STR. T-5-9 RISER OF 60" AT ELEVATION 137.00' IS REQUIRED. TEMPORARY SWM-1 STRUCTURE SHALL BE CONVERTED TO PERMANENT STRUCTURE 5-9 WITH RISER OF 60" AT ELEVATION 136.00'.

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	21(3)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

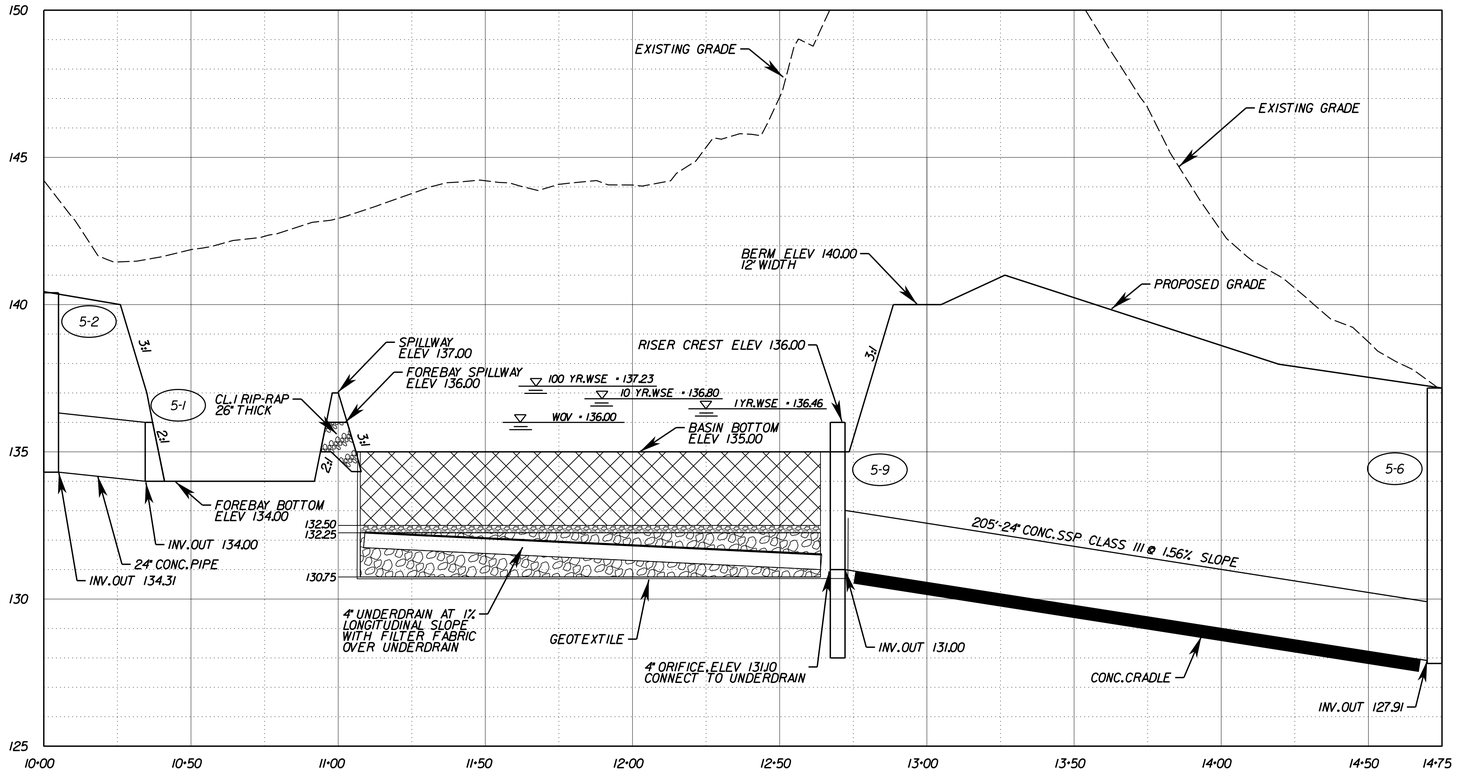
PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

BASIN #1 DETAILS, PROFILE, AND CROSS-SECTION

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	1	0001-212-249, PE-101	21(3A)

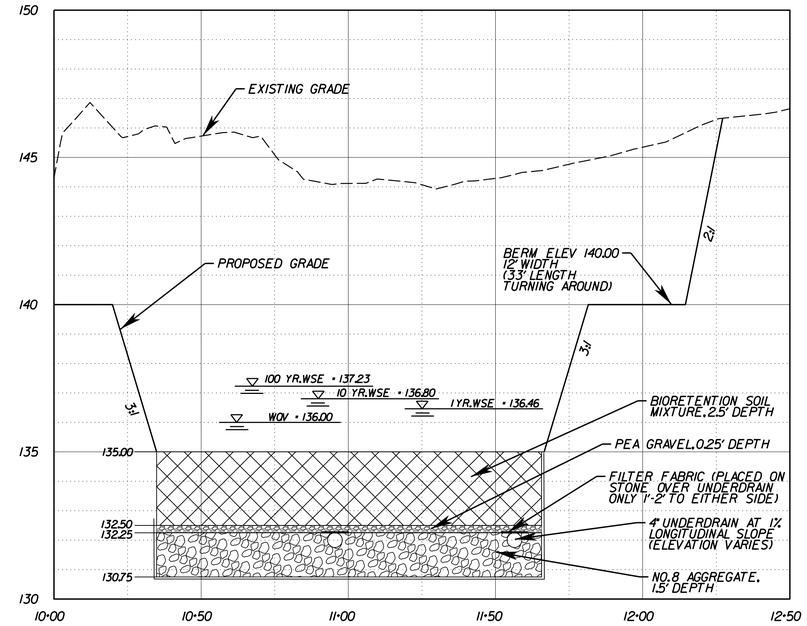
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



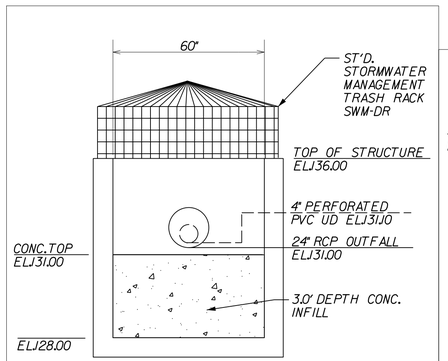
SWM 1 PROFILE B-B

VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'

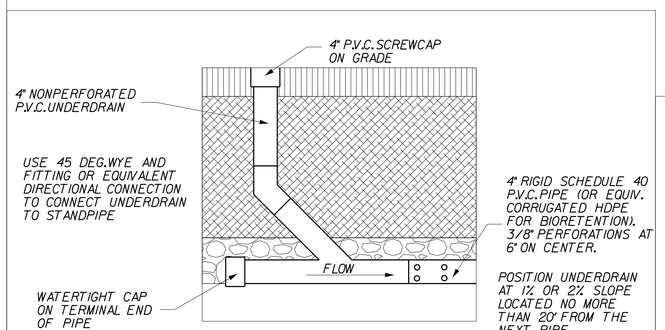


CROSS SECTION A-A

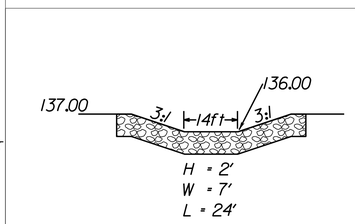
VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'



SWM RISER DETAIL
NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE



SEDIMENT FOREBAY SPILLWAY DETAIL
NOT TO SCALE

	PROJECT	SHEET NO.
	0001-212-249	21(3A)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

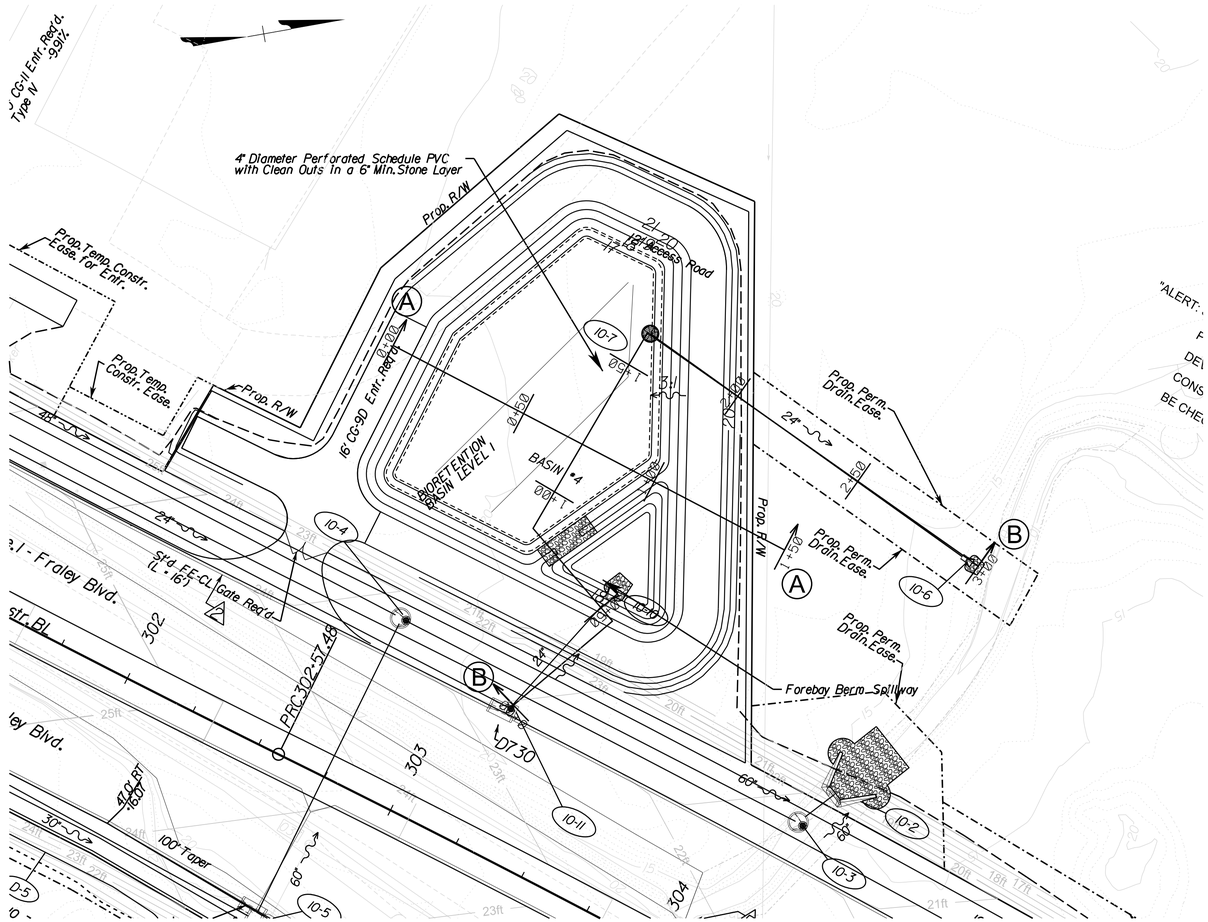
PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

STORMWATER BASIN #4 GRADING PLAN

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	21(4)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



Notes:

1. The foundation material under the dam and the material to be used for the embankment of the dam shall be an AASHTO Type A-4 or finer and meet the approval of the materials engineer.
2. The contractor shall provide 'As-Built' drawings of all stormwater management facilities. The 'As-Built' drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by the Licensed Professional Engineer or Land Surveyor registered in the State of Virginia. All costs shall be included under Construction Surveying.
3. The as-built drawings shall be signed and sealed by a Professional Engineer or Land Surveyor.
4. SWM 4 shall be maintained by the Virginia Department of Transportation in accordance with VDOT BMP Maintenance Manual.
5. For Profile SWM 4 (B-B), Cross Section A-A and details see sheet 21(5A).
6. For Drainage Descriptions see sheet 2E(1)-2E(6).
   For Landscaping and Planting Plan see sheet 21(1)
   For Bioretention Construction Sequence see sheet 21(2)
7. Construction Inspections must be conducted in accordance with Non-Proprietary BMPs 9 Bioretention Inspection Checklist, dated April 2018, including completion of the Prince William County Construction Inspection Checklist found at https://www.pwcva.gov/department/environmental-services/stormwater-management Additionally, the Inspection Checklist shall be kept in the Route 1 Fraley Boulevard Project SWPPP.

NOTE: FOR TEMPORARY SWM-1 STR. T-10-7 RISER OF 60" AT ELEVATION 18.25' IS REQUIRED. TEMPORARY SWM-1 STRUCTURE SHALL BE CONVERTED TO PERMANENT STRUCTURE 10-7 WITH RISER OF 60" AT ELEVATION 17.50'.

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	21(4)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

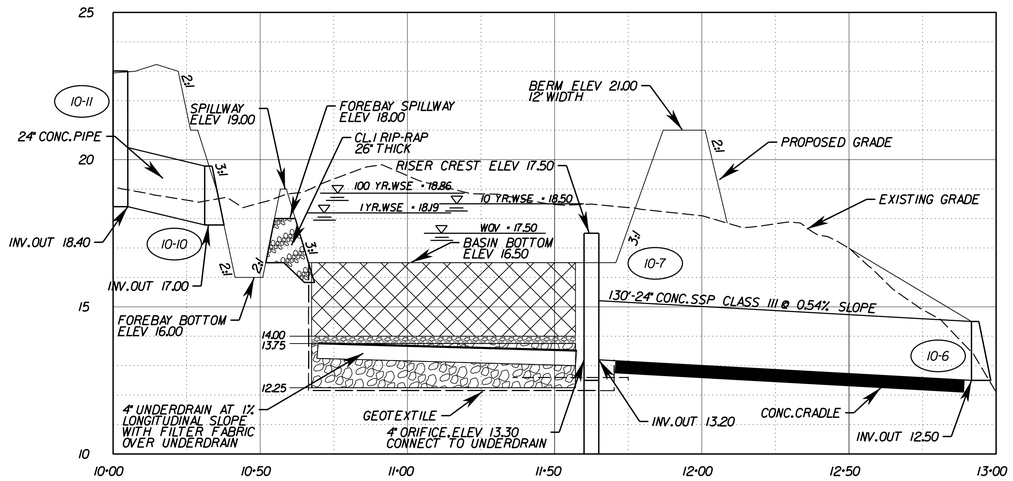
PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

BASIN #4 DETAILS, PROFILE, AND CROSS-SECTION

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	I	0001-212-249, PE-101	21(4A)

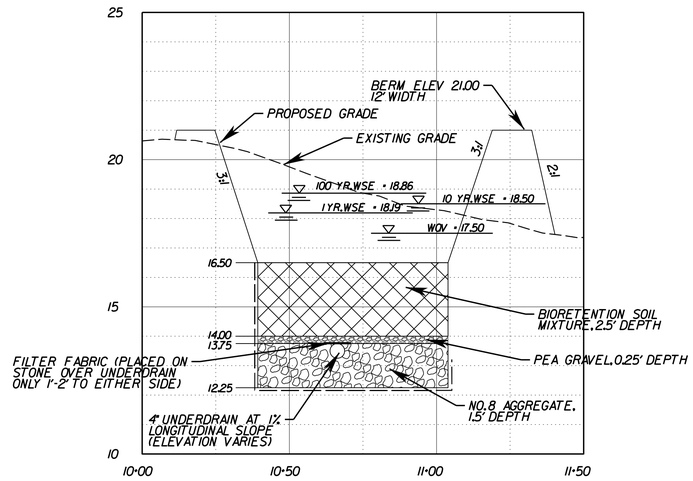
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



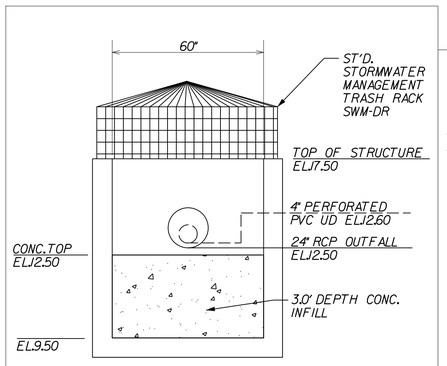
SWM 4 PROFILE B-B

VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'

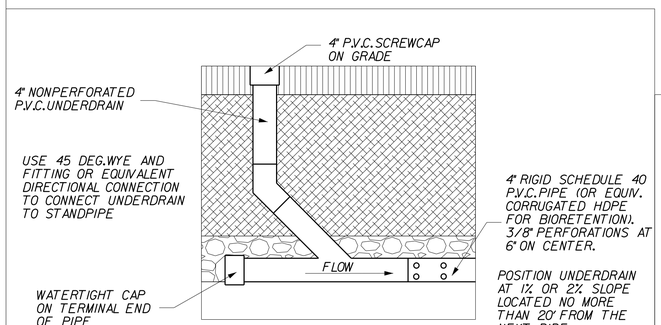


CROSS SECTION A-A

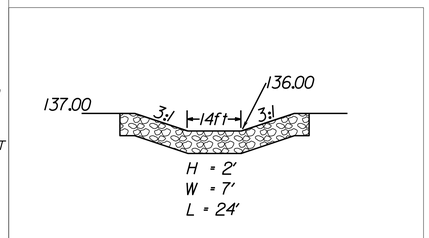
VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'



SWM RISER DETAIL
NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE



SEDIMENT FOREBAY SPILLWAY DETAIL
NOT TO SCALE

	PROJECT	SHEET NO.
	0001-212-249	21(4A)

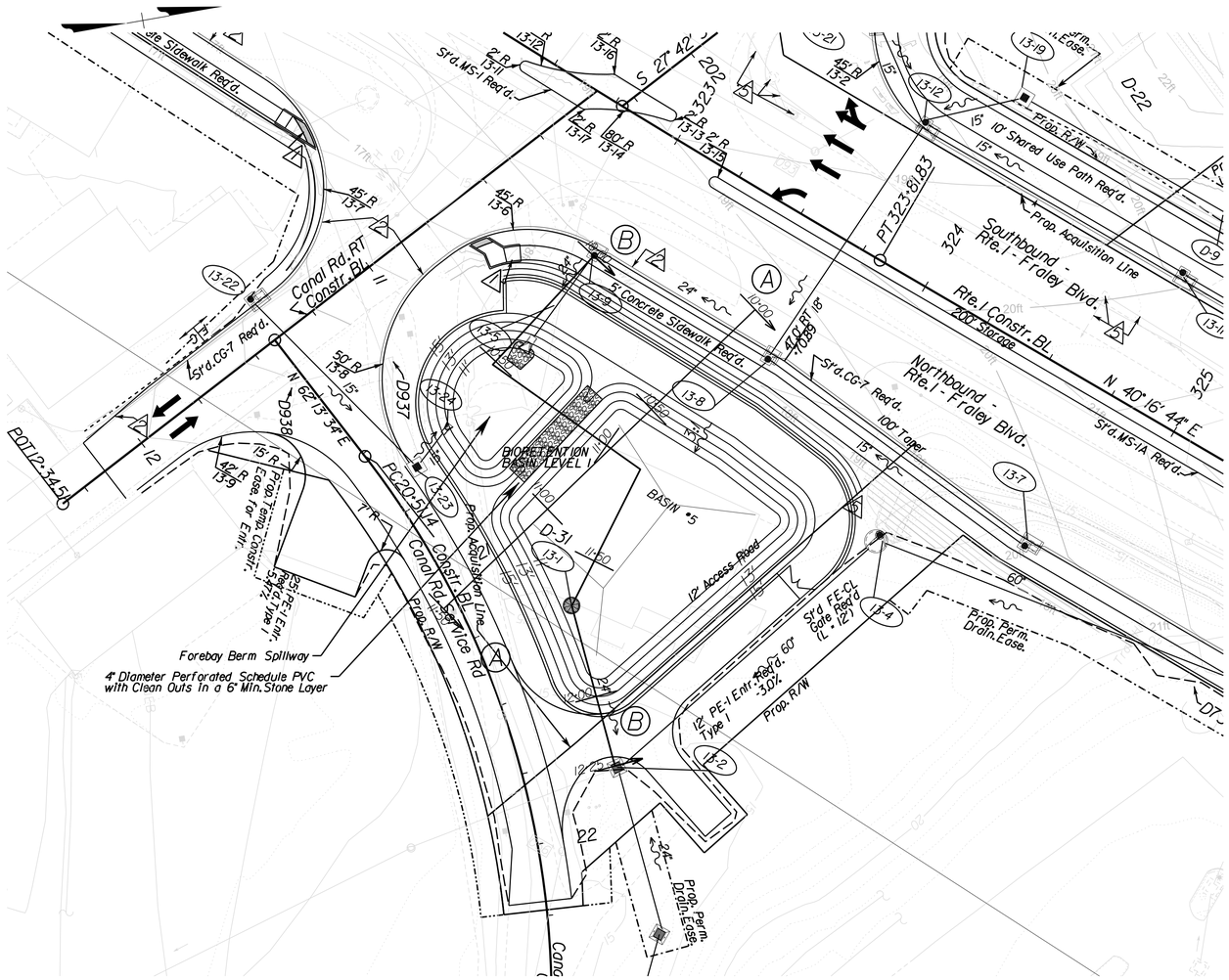
R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS. (703)259-3224 7/17/13

STORMWATER BASIN #5 GRADING PLAN



Notes:

1. The foundation material under the dam and the material to be used for the embankment of the dam shall be an AASHTO Type A-4 or finer and meet the approval of the materials engineer.
2. The contractor shall provide 'As-Built' drawings of all stormwater management facilities. The 'As-Built' drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by the Licensed Professional Engineer or Land Surveyor registered in the State of Virginia. All costs shall be included under Construction Surveying.
3. The as-built drawings shall be signed and sealed by a Professional Engineer or Land Surveyor.
4. SWM 5 shall be maintained by the Virginia Department of Transportation in accordance with VDOT BMP Maintenance Manual.
5. For Profile SWM 5 (B-B), Cross Section A-A and details see sheet 21(6A).
6. For Drainage Descriptions see sheet 2E(1)-2E(6).
   For Landscaping and Planting Plan see sheet 21(1)
   For Bioretention Construction Sequence see sheet 21(2)
7. Construction Inspections must be conducted in accordance with Non-Proprietary BMPs 9 Bioretention Inspection Checklist, dated April 2018, including completion of the Prince William County Construction Inspection Checklist found at https://www.pwcva.gov/department/environmental-services/stormwater-management Additionally, the Inspection Checklist shall be kept in the Route 1 Fraley Boulevard Project SWPPP.

NOTE: FOR TEMPORARY SWM-1 STR. T-13-5 RISER OF 60" AT ELEVATION 12.25' IS REQUIRED. TEMPORARY SWM-1 STRUCTURE SHALL BE CONVERTED TO PERMANENT STRUCTURE 13-5 WITH RISER OF 60" AT ELEVATION 12.00'.

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO
	VA.	1	0001-212-249, PE-101	21(5)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	21(5)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

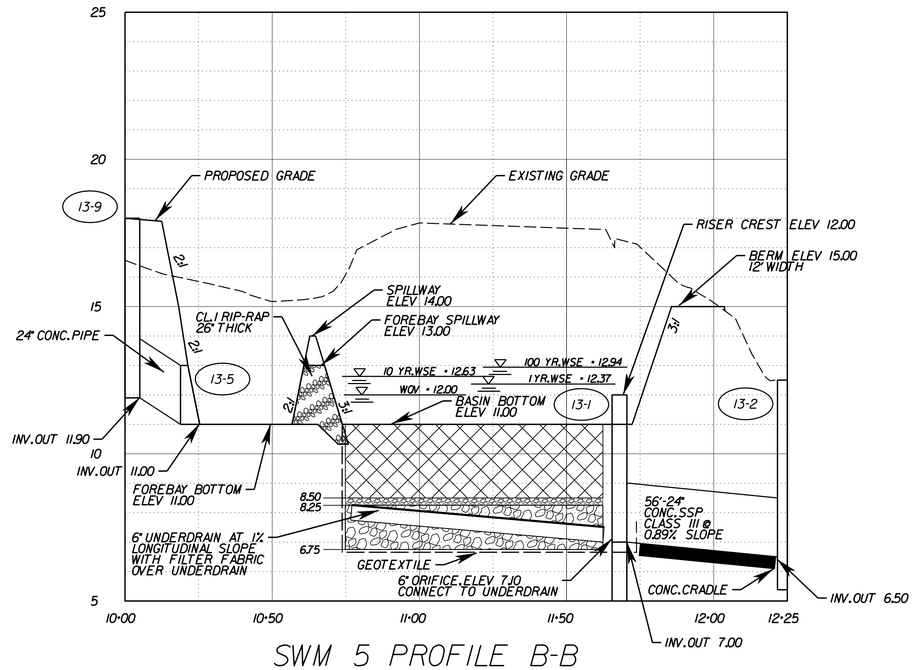
PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

BASIN #5 DETAILS, PROFILE, AND CROSS-SECTION

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	21(5A)

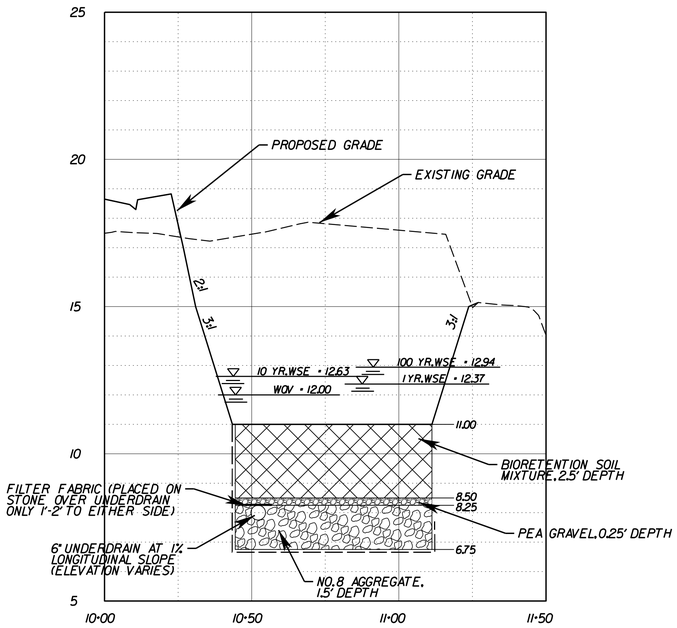
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



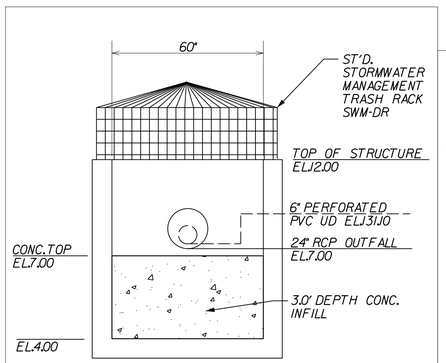
SWM 5 PROFILE B-B

VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'

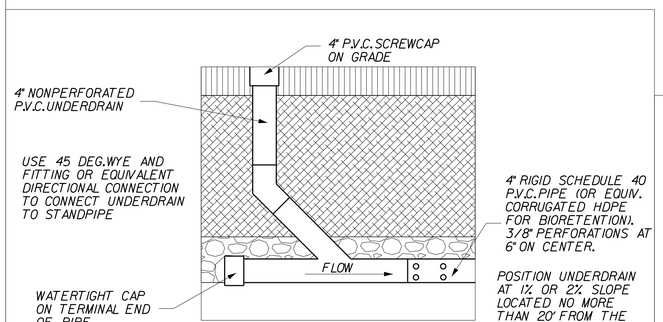


CROSS SECTION A-A

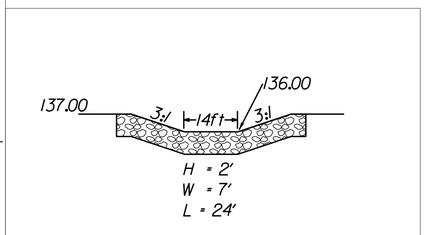
VERTICAL SCALE: 1" = 2.5'
HORIZONTAL SCALE: 1" = 25'



SWM RISER DETAIL
NOT TO SCALE



UNDERDRAIN CLEANOUT DETAIL
NOT TO SCALE



SEDIMENT FOREBAY SPILLWAY DETAIL
NOT TO SCALE

	PROJECT	SHEET NO.
	0001-212-249	21(5A)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

JOHNSON, MIRMIRAN & THOMPSON
9201 Arboretum Parkway
Suite 310
Richmond, Virginia 23236
Phone: (804) 323-9900

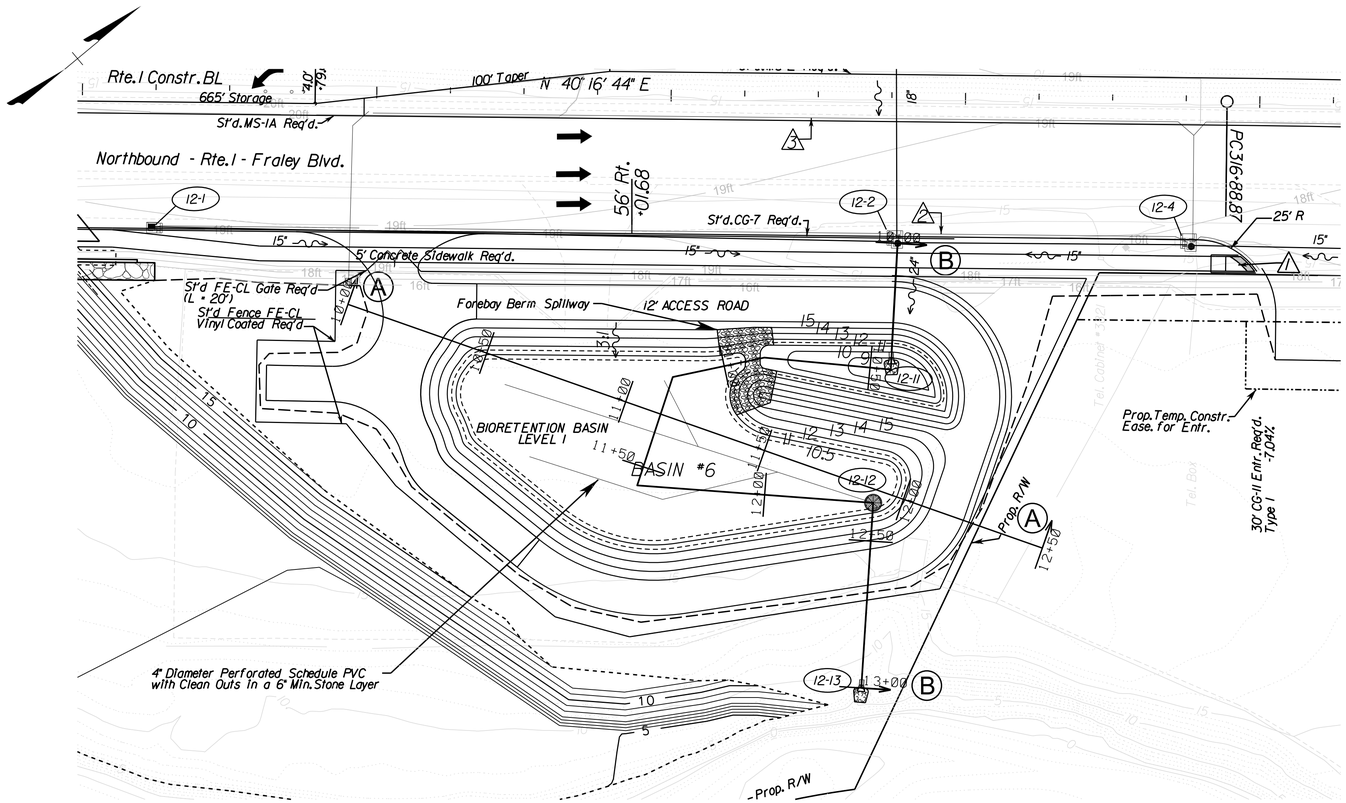
PROJECT MANAGER Susie Lee (703)259-2918 NOVA District
SURVEYED BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13
DESIGN BY JMT Engineering (804) 323-9900
SUBSURFACE UTILITY BY, DATE Leon E. Treutle LS (703)259-3224 7/17/13

STORMWATER BASIN #6 GRADING PLAN

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	1	0001-212-249, PE-101	21(6)

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Location & Design
Richmond, Virginia
HYDRAULIC ENGINEER



Notes:
1. The foundation material under the dam and the material to be used for the embankment of the dam shall be an AASHTO Type A-4 or finer and meet the approval of the materials engineer.
2. The contractor shall provide 'As-Built' drawings of all stormwater management facilities. The 'As-Built' drawings shall show the actual finished ground contours, outlet structure dimensions and elevations, etc. as they exist at the completion of the project. These drawings shall be signed and sealed by the Licensed Professional Engineer or Land Surveyor registered in the State of Virginia. All costs shall be included under Construction Surveying.
3. The as-built drawings shall be signed and sealed by a Professional Engineer or Land Surveyor.
4. SWM 6 shall be maintained by the Virginia Department of Transportation in accordance with VDOT BMP Maintenance Manual.
5. For Profile SWM 3 (B-B), Cross Section A-A and details see sheet 21(4A).
6. For Drainage Descriptions see sheet 2E(1)-2E(6).
   For Landscaping and Planting Plan see sheet 21(1)
   For Bioretention Construction Sequence see sheet 21(2)
7. Construction Inspections must be conducted in accordance with Non-Proprietary BMPs 9 Bioretention Inspection Checklist, dated April 2018, including completion of the Prince William County Construction Inspection Checklist found at https://www.pwcva.gov/department/environmental-services/stormwater-management Additionally, the Inspection Checklist shall be kept in the Route 1 Fraley Boulevard Project SWPPP.

NOTE: FOR TEMPORARY SWM-1 STR. T-12-12 RISER OF 60" AT ELEVATION 10.00' IS REQUIRED. TEMPORARY SWM-1 STRUCTURE SHALL BE CONVERTED TO PERMANENT STRUCTURE 12-12 WITH RISER OF 60" AT ELEVATION 11.50'.

SCALE	PROJECT	SHEET NO.
0 25' 50'	0001-212-249	21(6)

R/W PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.