

Wellington Road Shared-Use Path Gap Conceptual Plan Development

June, 2020

Prepared by:

SABRA
& ASSOCIATES
A Mead & Hunt Company



National Capital Region
Transportation Planning Board

CONTENTS

PROJECT PURPOSE	1
Prior Studies	2
City's Intent	3
EXISTING CONDITIONS	3
Description of City-Owned ROW	3
Description of Norfolk-Southern Property	4
Existing Utilities	4
PRELIMINARY CONCEPT	5
Prince William Street to Four-Track Crossing	5
Four-Track Crossing	6
Between Crossings	7
Single-Track Crossing	7
Single-Track Crossing to Nokesville Road	7
Cost Estimate for Final Design and Construction	8
COORDINATION	9
APPENDICES	10



PROJECT PURPOSE

The purpose of this project is to develop a conceptual plan of a 0.35-mile section of the Wellington Road shared-used path between Nokesville Road and Prince William Street. This gap has existed since the completion of the northern part of trail between Godwin Drive and Nokesville Road in 2012. This section of the Wellington trail was included in the FY16 Capital

Improvement Program as part of the Wellington Road Overpass project but the project was canceled due to a lack of funds and therefore the trail was never built.

Completion of this section of the path is critical as it would provide a safe connection over the railroad tracks and complete the Wellington Road shared use path with an overall length of 3.6 miles.

This project will address safety, connectivity and access by providing a safe connection over the railroad tracks, greatly improve connectivity of the overall bike network, and providing access to Jennie Dean Elementary School, Dean Park, Downtown Manassas, and the Manassas VRE station (see Figure 1). Additionally, this project will show how the completion of a small critical gap can make a significant difference for the quality of life of a community and the region as a whole. Figure 2 shows the existing and funded bicycle infrastructure within the City of Manassas and the small critical gap that the completion of the Wellington Road shared-use path would address.

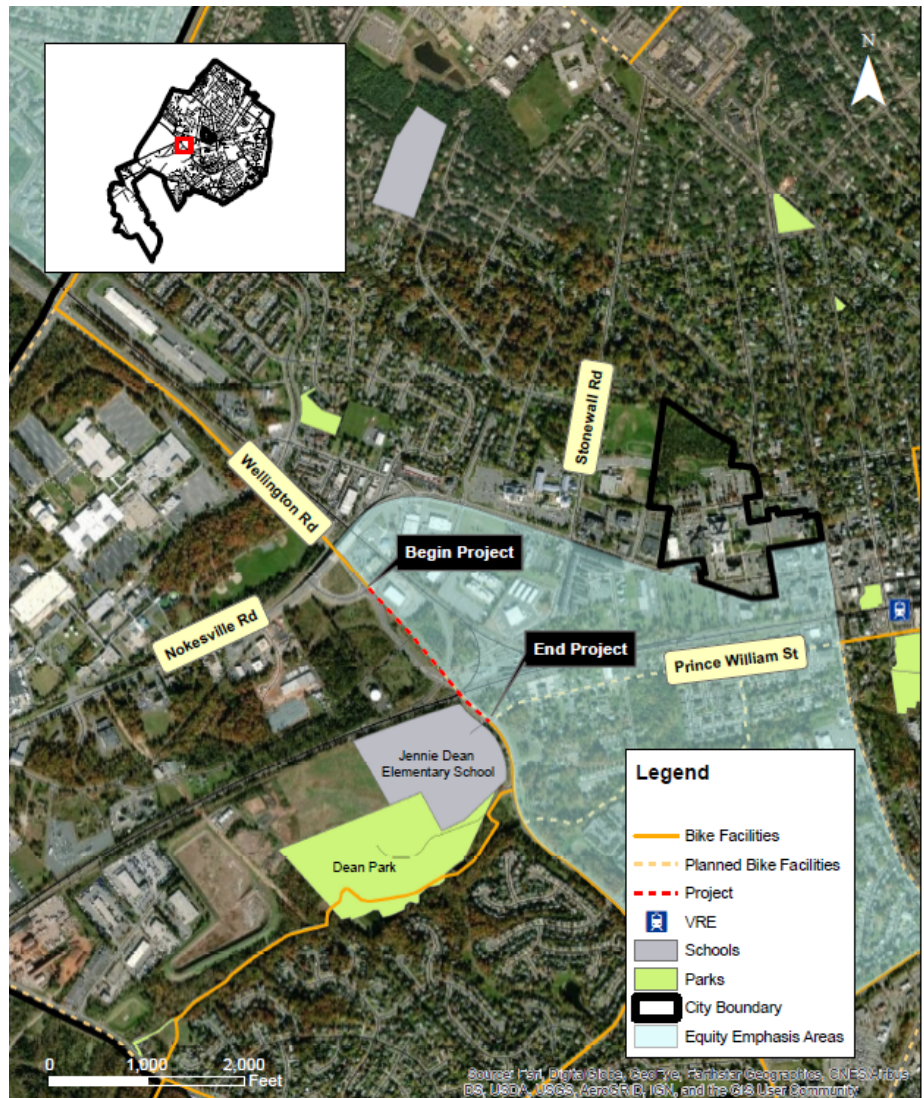


Figure 1: Project Vicinity

Prior Studies

Prior Realignment of Wellington Road

The section of Wellington Road adjacent to the planned shared-use path originally proceeded more-or-less in a straight line between the intersection with Prince William Street and the intersection with the Nokesville Road Access Road. Wellington Road was realigned to the current (temporary) alignment through a major capital project managed by VDOT. The realignment was undertaken as preparation for an eventual overpass structure that would carry Wellington Road over both sets of Norfolk-Southern tracks.

CIP Plans for Wellington Road

The Wellington overpass project was included in the City's Capital Improvements Plan (CIP) up through the 2016 update as Project T-040. The stated objectives of the project were to "significantly lessen congestion and improve emergency response times to the southwestern section of the City." Due to a lack of funding for the project, it was removed from the 2017 CIP update and has not been added in subsequent years. Nevertheless, an overpass structure separating Wellington Road from railroad traffic remains the long-term intent of the City. This knowledge provided further impetus for the current conceptual design to align as far as possible to the eastern edge of the former (permanent) right-of-way in order to minimize the potential need for realignment of the shared-use-path when the overpass eventually comes to fruition.

Wellington Road in the Manassas TMP

The Manassas Transportation Master Plan (TMP), completed in 2019, included a Complete Streets Typology intended to provide a classification system that helps guide future street improvements and road design projects. Within that typology, Wellington Road was classified as a Collector/Connector, defined as streets that form the primary routes for traffic between one part of the city and another. These streets generally have two lanes in either direction and often have landscaped medians. They have fewer commercial uses, and therefore fewer turning vehicles, than the Commercial Corridor Streets. Due to the nature of the roadway, bicycle and pedestrian activity is off-road on a side path. Figure 3 shows the optimal cross-section for Collector/Connector roadways per the TMP.

City of Manassas Transportation Master Plan Bicycle Facilities - Existing and Funded

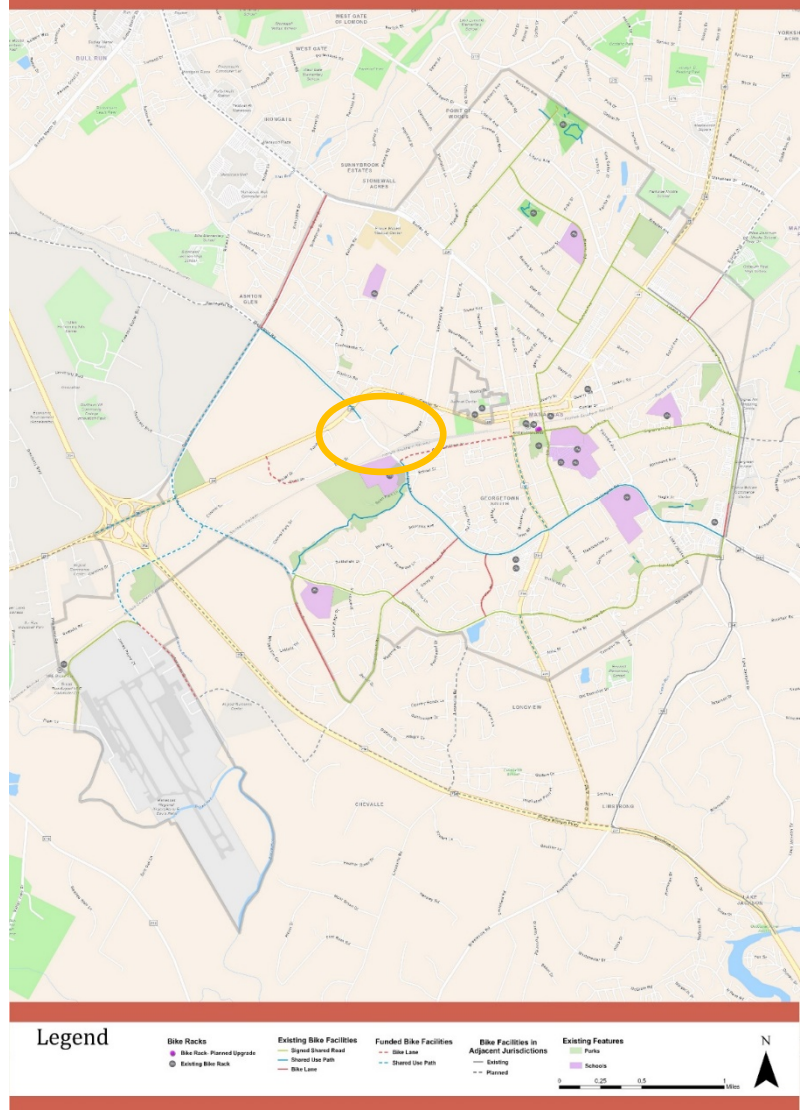


Figure 2: Existing and Funded Pedestrian/Bike Infrastructure in Manassas (from City of Manassas Transportation Master Plan)

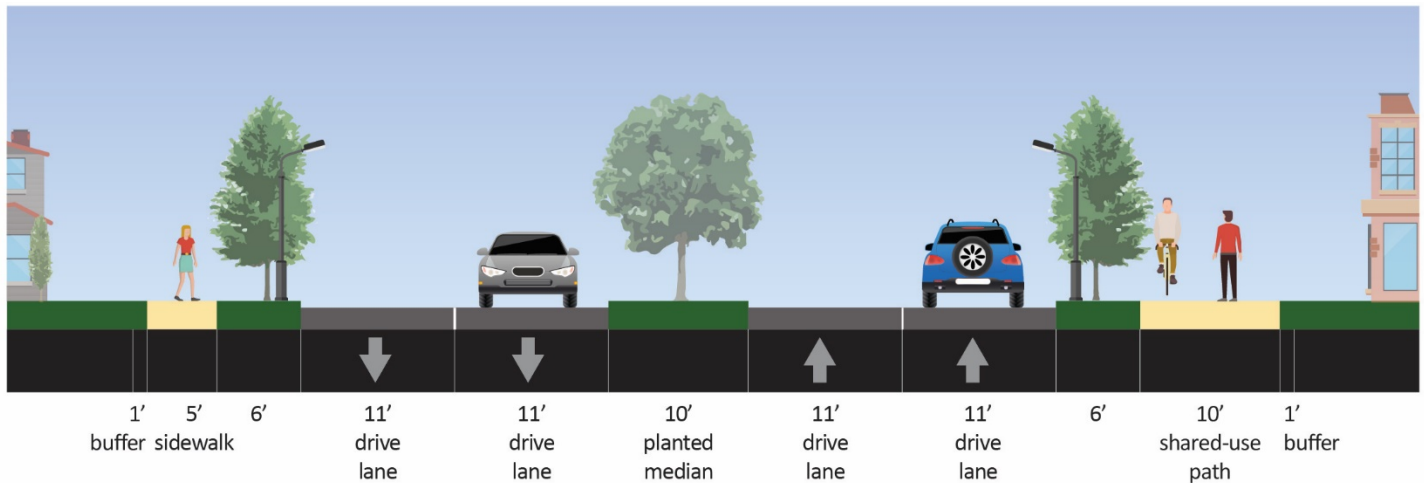


Figure 3: Collector/Connector Intended Cross-Section from the Manassas TMP

In addition, the TMP stipulated that for roadway segments within 1/2-mile of a school, as is the case for the study area, pedestrian amenities should be prioritized over other design criteria.

The TMP established a prioritized set of bicycle and pedestrian projects city-wide. Due to its potential to connect previously separated portions of the City and the proximity of Jennie Dean Elementary School, completion of the missing section of shared-use path on Wellington Road ranked as one of the highest priority pedestrian/bicycle projects for the City.

Regional Connections

In addition to providing a badly-needed connection within the City of Manassas, this section of the Wellington Road shared-use path is instrumental in linking to major regional and national bike connections such as the Potomac Heritage Trail and East Coast Greenway via the Prince William parkway trail in Prince William County. The Wellington Road shared-use path has also been included in the expanded National Capital Trail network, part of TPB's Visualize 2045 plan.

City's Intent

This report represents the documentation for the conceptual plan development of the Wellington Road shared-use path gap from Nokesville Road and Prince William Street, a distance of approximately 0.35 miles. The intent of the City of Manassas is for the path to adhere, as closely as possible, to the eastern edge of the former (permanent) right-of-way for Wellington Road. The shared-use path should include an ADA-compliant connection to the end of Stonewall Drive in order to improve connections between downtown Manassas and areas to the southwest. A future connection to Dean Drive, to be completed when the planned Dean Drive widening (Manassas CIP project T-039) is constructed, should be noted on project plans.

EXISTING CONDITIONS

Existing conditions around the City of Manassas were documented through the previous Transportation Master Plan (TMP), GIS data collection, a walking field audit in February 2020, a survey conducted under the direction of the Virginia Department of Transportation (VDOT), coordination with Norfolk-Southern through VDOT and direction from City staff.

Description of City-Owned ROW

From Nokesville Road to the four-track Norfolk-Southern crossing, the City-Owned right-of-way ranges from approximately 60 feet wide near the Nokesville Road intersection to approximately 100 feet wide. The City's actual right-of-way for Wellington Road continues on a straight line between Nokesville Road and Prince William Street, which is the original alignment of the roadway. The current offset location of the roadway in this segment, roughly 150 feet west of the existing

right-of-way, is the result of a temporary easement (see Prior Realignment of Wellington Road section above). Approximately 500 feet east of Nokesville Road, there is City-Owned right-of-way that extends perpendicular down to Dean Drive for a possible future extension of that roadway. This right-of-way is approximately 50 feet wide.

East of the four-track Norfolk-Southern crossing to Prince William Street, the existing City-Owned right-of-way extends along both sides of Wellington Road and is symmetrical around the roadway centerline. The right-of-way width in this area is approximately 200 feet. Figure 4 illustrates the City-Owned right-of-way from Nokesville Road to Prince William Street.



Figure 4: City of Manassas-Owned Right-of-Way (ROW) from Nokesville Road to Prince William Street (yellow lines are ROW)

Description of Norfolk-Southern Property

There is an existing Norfolk-Southern rail yard located on the northeast side of Wellington Road. There are two at-grade rail crossings of Wellington Road, a single-track crossing which is not located within Norfolk-Southern property (easement for single-track crossing) and a four-track crossing which is located within Norfolk-Southern property. The existing Wellington Road crossing of the four-tracks within Norfolk-Southern property was conveyed by an easement.

Figure 5 shows the aerial view of the existing single-track and four-track crossings of Wellington Road. Figure 6 shows the existing ground views of the single-track and four-track crossing, respectively.

Existing Utilities

Prior to the conceptual design development, a field survey was contracted by VDOT covering a corridor ranging from 100 to 200 feet wide within the City-owned right-of-way from Nokesville Road to Prince William Street. Along with the survey data, the project team collected GIS utility data in the project vicinity in order to develop a GIS Utility Data map. This GIS Utility Data map is shown in Appendix A and was used by the project team to avoid and minimize impacts



Figure 5: Norfolk-Southern Crossings of Wellington Road

to existing utilities during conceptual design development.



Figure 6: Existing Conditions at the Single-Track Crossing (left) and Four-Track Crossing (right)

From Nokesville Road to the Norfolk-Southern four-track crossing, there is an existing sanitary sewer gravity main line that meanders within the City-owned right-of-way where manholes are exposed above the surface especially near Nokesville Road. There are three additional sanitary sewer lines intersecting this main line and running approximately perpendicular, one of them is within the Dean Drive City-owned right-of-way and the other is parallel to the Norfolk-Southern's four tracks on the north side. Also on the north side and parallel to Norfolk-Southern's four tracks is a water distribution main.

From the Norfolk-Southern four-track crossing to Prince William Street, there is an existing water distribution main that crosses the four tracks and on the eastern side of the crossing and intersects another existing water distribution main at a Tee fitting.

From Nokesville Road to Prince William Street, there are three storm water gravity mains within the City-owned right-of-way.

PRELIMINARY CONCEPT

The project team developed conceptual designs for the Wellington Road shared-use path, which are included in Appendix B. The following sections are detailed descriptions of the preliminary concept in five sections from Prince William Street to Nokesville Road along with the cost estimate for final design and construction.

Prince William Street to Four-Track Crossing

The preliminary conceptual design alignment for the shared-use path is proposed to be within the existing City-Owned right-of-way in this section. It should be noted that reconstruction of the existing curb ramp will be needed to accommodate a shared-use path installation. Additionally, the shared-use path is proposed as 10-feet wide in this section, but will gradually narrow to six feet at the edge of the Norfolk-Southern ROW.

Four-Track Crossing

Heading northwest towards Nokesville Road, the proposed shared-use path would taper from 10-feet wide to six-feet wide inside the Norfolk-Southern property. A design waiver will likely be needed at the location of the tapering since the eight-foot offset from Wellington Road could not be maintained. The proposed six-foot shared-use path alignment would be on the east side of the four-track crossing (See Figure 7) and on each side of the crossing, Z-gates are proposed for bicyclists and pedestrians as a safety measure along with fencing to prohibit access to Norfolk-Southern property. The purpose of the Z-gates is to force bicyclists to dismount prior to crossing, and for both pedestrians and cyclists to stop and check railroad traffic in both directions. While typically implemented in more urban contexts, the Z-gate approach was chosen as a low-maintenance safety for this location in order to reinforce safe behavior at this very wide crossing. Additional safety measures designed to alert pedestrians and cyclists as they approach the crossing would include detectable warning surfaces and signage instructing cyclists to dismount, as shown in Appendix B.

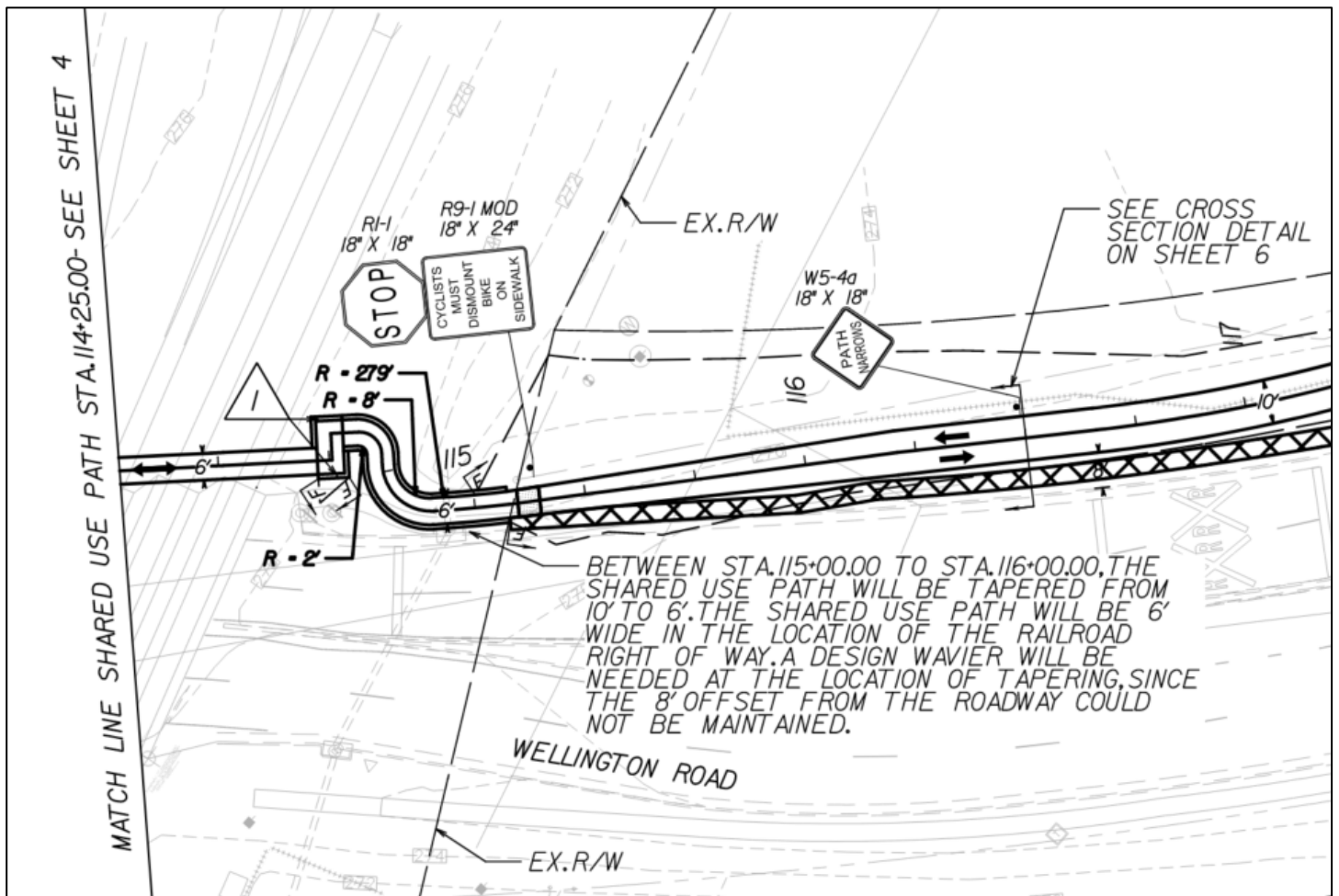


Figure 7: Proposed Crossing Infrastructure (Z-Gate and Six-Foot Wide Sidewalk) within Norfolk-Southern Right-of-Way

The existing paved surfaces adjacent to the NB curbside lane of Wellington Road are not anticipated to be altered other than the addition of high-visibility markings to identify the extent of the sidewalk in this section. Additional pavement will be added only as necessary. The ADA compatibility of these existing surfaces will have to be assessed during the next phase of design.

Between Crossings

The proposed shared-use path alignment between the four-track and single-track crossings is 10-foot wide with a 10-foot path connection to Stonewall Road (See Figure 8). The length of this side connection and its alignment are made necessary by the relatively steep slope to the east in this location. Due to the slope, retaining walls topped with standard railings are called for in this section, both between the two paths and to at the east side of the Stonewall drive extension.

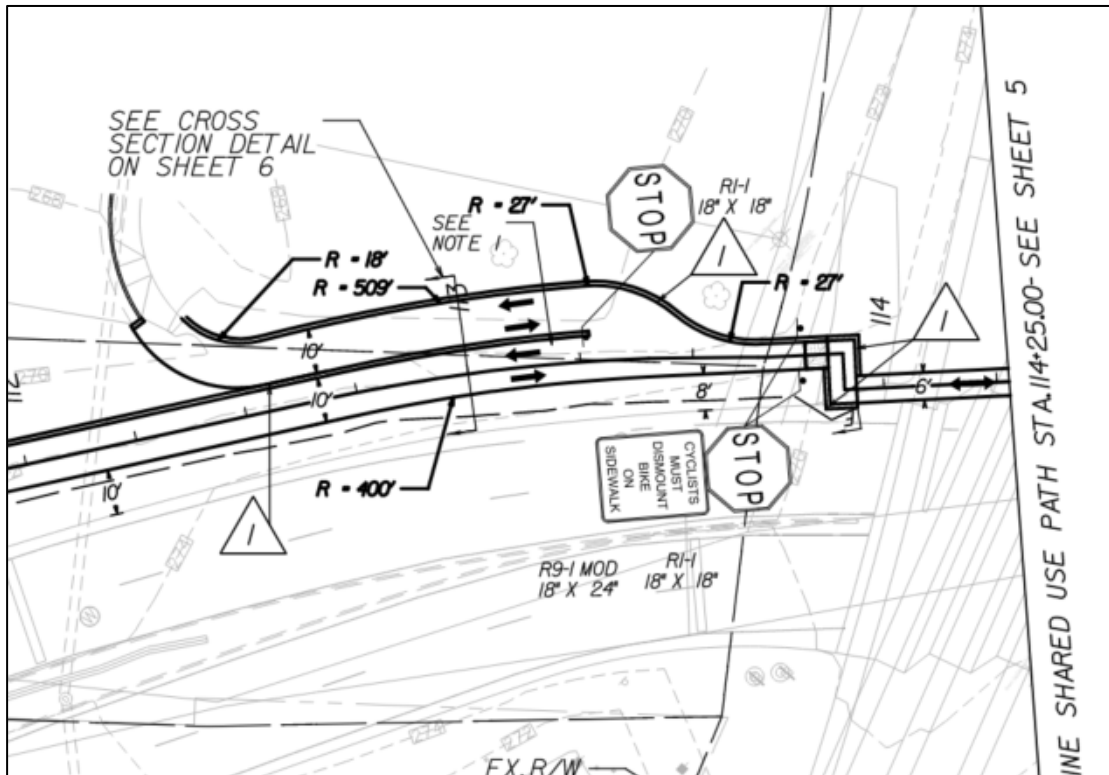


Figure 8: Planned connection to Stonewall Road

Single-Track Crossing

Heading northwest towards Nokesville Road, the proposed shared-use path crossing of the Norfolk-Southern single-track would be 10-foot wide. Similar to the four-track crossing, pedestrians and bicyclists must stop and bicyclists must dismount.

Single-Track Crossing to Nokesville Road

The proposed shared-use path alignment between the single-track crossing and Nokesville Road is 10-foot wide with a provision for a future 10-foot path connection to Dean Road (City-owned right-of-way). That connection is to be completed as part of the City's CIP project T-039, a widening of Dean Drive.

At the northwest terminus (Nokesville Road intersection), right-of-way acquisition or an easement would be required to tie the proposed shared-use path into the existing shared-use path along Wellington Road.

Cost Estimate for Final Design and Construction

Table 1 details the anticipated cost of final design and construction for the .35-mile section of the Wellington Road shared-use path. Final design and construction of the actual crossings will be performed by Norfolk-Southern and as such those sections are called out and estimated as single line items rather than being calculated based on specific construction quantities.

Table 1: Preliminary Cost Estimate for Final Design and Construction of the Wellington Road Shared-Use Path

ITEM CODE	ITEM DESCRIPTION	UNIT	QUANTITY	*UNIT COST	COST
	ROADWAY AND MOT QUANTITIES				
00100	MOBILIZATION	LS	1	\$27,527.23	\$27,527
00101	CONSTRUCTION SURVEYING	LS	1	\$50,000.00	\$50,000
00110	CLEARING AND GRUBBING	LS	1	\$56,478.57	\$56,479
00120	REGULAR EXCAVATION	CY	43	\$51.64	\$2,221
00140	BORROW EXCAVATION	CY	1837	\$20.00	\$36,740
10128	AGGR. BASE MATL. TY. I NO. 21B	TON	812	\$46.78	\$37,985
10417	TACK COAT	GAL	633	\$1.12	\$709
10480	COVER MATL. AGGR. NO. 8	TON	21	\$112.05	\$2,366
10635	ASPHALT CONCRETE TY. SM-9.5A	TON	464	\$114.38	\$53,123
12020	ST. CURB CG-2	LF	120	\$32.27	\$3,872
12600	STD. COMB. CURB & GUTTER CG-6	LF	25	\$29.79	\$745
13108	CG-12 DETECTABLE WARNING SURFACE	SY	18	\$293.67	\$5,286
13220	HYDR. CEMENT CONC. SIDEWALK 4"	SY	52	\$53.26	\$2,758
14100	REMOVE SIDEWALK AND ENTRANCE	SY	1395	\$25.00	\$34,875
14450	SAW CUT CURB, GUTTER AND ENTRANCES	LF	80	\$14.12	\$1,130
24410	DEMO. OF PVMT. COMBINATION	SY	200	\$21.10	\$4,229
25004	HANDRAIL HR-1 TYPE III	LF	203	\$139.00	\$28,217
42765	ADJUST EXIST FRAME & COVER	EA	1	\$750.00	\$750
50108	SIGN PANEL	LF	41	\$25.00	\$1,033
50340	RELOC. EXISTING 1 POST GROUND MOUNTED SIGN PANEL	EA	1	\$400.00	\$400
50430	SIGN POST STP-1, 2", 14 GAUGE	LF	88	\$33.00	\$2,904
50485	CONC. FOUNDATION SQUARE TUBE POST FOUNDATION TYPE A	EA	15	\$630.00	\$9,450
54048	TYPE B CLASS II PAVE. LINE MARKING 24"	LF	24	\$15.25	\$366
	ROADWAY & MOT SUB TOTAL				\$363,165
	PROJECT SUB TOTAL				\$364,000
	PRELIMINARY ENGINEERING (40%)	LS	1	\$145,600.00	\$145,600
	RAILROAD CROSSING DESIGN (TO BE PERFORMED BY THE RR)	EA	2	\$50,000.00	\$100,000
	RAILROAD CONSTRUCTION COST (TO BE PERFORMED BY THE RR)	EA	2	\$50,000.00	\$100,000
	FLAGGERS FOR RAILROAD CONSTRUCTION*	Day	10	\$1,500.00	\$15,000
	CEI	25%			\$91,000
	CONTINGENCY	30%			\$182,880
	PROJECT TOTAL				\$998,480

* = Assumption that each Railroad crossing will require 5 days of construction per crossing

COORDINATION

The next phases of the project, taking the concept from conceptual design to final design and construction, will be administered by VDOT, with the City of Manassas as the local sponsor and partner. Grant funding for final design and construction has already been secured by the City.

Ongoing coordination with Norfolk-Southern through final design and construction for the two railroad crossings (single-track crossing and four-track crossing) will be necessary to provide adequate and safe crossings over the railroad tracks. Norfolk-Southern Railway's general policy is that they oppose at-grade pedestrian facilities crossing their tracks, but that they will work with local jurisdictions to find safe accommodations for such crossings for paths that are of particular value to local communities. A recent coordination effort of this type between the City of Manassas and Norfolk-Southern was successfully completed for the Godwin Drive Trail, which allowed for a five-foot wide sidewalk crossing to connect two sections of that shared-use path.

The concept has been preliminarily discussed with Norfolk-Southern. The primary concern raised by the railroad in those conversations is that making the pedestrian accommodations across the four-track section may invite more pedestrian activity and increase the possibility of accidents. Norfolk-Southern is especially concerned due to the proximity of the study area to the switching yard. Additionally, Norfolk-Southern may be reluctant to agree to the connection to Stonewall Road, the final 700 feet of which is a private street owned by Norfolk-Southern.

Finally, coordination with regional partners will be necessary for project success. As previously mentioned, the Wellington Road shared use path connects the City to the regional bicycle network and has been included as part of the expanded National Capital Trail. Ongoing coordination with Prince William County and the Metropolitan Washington Council of Governments is key in order to realize both the local success of completing the Wellington Road shared use path and the regional connectivity vision.



APPENDICES

Appendix A: GIS Utility Data Map



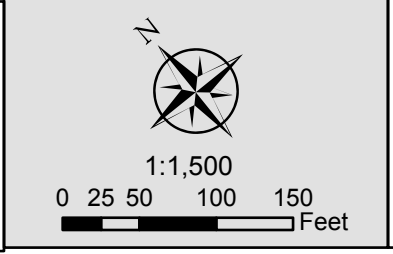
National Capital Region
Transportation Planning Board



This map is intended for reference purposes only. The City of Manassas does not provide any guarantee of the accuracy or completeness regarding the map information. Any determination of topography or contours, or any depiction of physical improvements, property lines or boundaries is for general information only and shall not be used for the design, modification, or construction of improvements to real property or for flood Virginia Geospatial Information Network (VGIN)



	sw Inlet		w Hydrant		sw Gravity Main		w Distribution Main
	sw Discharge Point		w Blowoff Valve		sw Culvert		Streets
	sw Manhole		w Butterfly Valve		sw Open Drain		Tax Parcel
	sw Network Structure		w Gate Valve		ss Gravity Main		
	ss Manhole		w Tee Fitting				



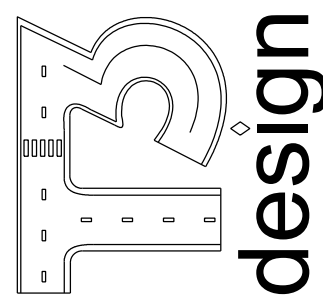
**Wellington Trail
Concept
GIS Utility Data**

Prepared For: Chloe Delhomme, COM

Appendix B: Conceptual Design Plans – Wellington Road Shared-Use Path Connection
(dated June 18, 2020)



National Capital Region
Transportation Planning Board



CONCEPT DESIGN WELLINGTON ROAD SHARED USE PATH CONNECTION

REVISED	STATE	ROUTE	STATE COUNTY PROJECT	SHEET NO.
	VA.			/

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

- A. HANDRAIL:**
1. THE CONTRACTOR SHALL SUBMIT DRAWING ALL ASPECTS OF FABRICATION AND INSTALLATION OF RAILING, INCLUDING CONCRETE FOUNDATIONS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, HOLDING A VALID LICENSE TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF VIRGINIA.
 2. ALL RAILING COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE CURRENT ROAD AND BRIDGE SPECIFICATIONS. TO ACHIEVE A UNIFORM COATING ON ALL SURFACES VENTING AND DRAINAGE HOLES FOR GALVANIZING SHALL BE INCLUDED IN THE SHOP DRAWING.
 3. ALL FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A307, ASTM A563, AND ASTM F844. ALL ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH AASHTO M314, GRADE 36.
 4. A CHEMICAL ANCHOR SYSTEM FROM VDOT'S APPROVED MATERIAL LIST MAY BE USED IN LIEU OF CAST IN PLACE ANCHORS AND SHALL BE INCLUDED IN THE SHOP DRAWINGS.
 5. POSTS SHALL BE MITERED TO MATCH GRADE OF RAMPS, SIDEWALKS, AND STEPS.
 6. HANDRAILS SHALL MATCH GRADE OF RAMPS, SIDEWALKS, AND STEPS.
 7. ALL POSTS AND PICKETS SHALL BE SET PLUMB.
 8. RAILINGS SHALL BE GROUNDED AND EFFECTIVELY BONDED. GROUNDING MATERIALS INSTALLATION TO BE IN ACCORDANCE WITH ST'D. FE-6.
 9. COMMERCIALY AVAILABLE RAILING SYSTEMS MAY BE USED IN LIEU OF DESIGNING AND FABRICATING THE RAILING. DOCUMENTATION FROM THE MANUFACTURER VERIFYING THAT PROJECT REQUIREMENTS ARE MET WITH THE RAILING SYSTEM SHALL BE SUBMITTED WITH THE INSTALLATION DRAWINGS AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH NOTE 1.
 10. HANDRAIL TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
 11. THE HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO ANY VEHICLE IMPACT. FOR VEHICULAR PROTECTION STANDARD GUARDRAIL SHOULD BE USED.
- B. CURB AND GUTTER:**
1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
 2. ALL DETECTABLE WARNING SURFACE PRODUCTS SHALL MEET THE REQUIREMENTS OF SECTION 504 OF THE SPECIFICATIONS FOR CG-12 DETECTABLE WARNING SURFACE. DETECTABLE WARNING SURFACE PRODUCTS USED SHALL BE FROM THE MATERIALS APPROVED PRODUCT LIST NUMBER 72.
 3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
 4. REQUIRED BARS ARE TO BE NO. 5 X 8" PLACED 1' CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR, MINIMUM CONCRETE COVER 1 1/2".
 5. ROADWAY CURB SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB.
 6. CURB RAMPS ARE REQUIRED FOR SIDEWALKS AND SHARED USED PATHS. THE WIDTH OF THE CURB RAMP SHALL MATCH SIDEWALK WIDTH. WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
 7. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP LANDING FLOOR.
 8. CURB RAMPS WILL BE INSTALLED AND LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CURB RAMPS SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC.
 9. RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
 10. DETECTABLE WARNING SURFACE PANELS SHALL BE INSTALLED FLUSH WITH THE BACK OF CURB.
 11. WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS, THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD-MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB. SEE CG-12-INS PAGES 204.06 AND 204.07 FOR METHODS OF INSTALLING DETECTABLE WARNINGS ON A RADIUS.

- C. GRADING:**
1. THE GRADE LINE DENOTES TOP OF FINISHED PAVEMENT UNLESS SHOWN OTHERWISE ON TYPICAL SECTIONS OR PLANS.
 2. EARTHWORK QUANTITIES ON THIS PROJECT ARE BASED ON ANTICIPATED SETTLEMENT AND MAY REQUIRE ADJUSTING DURING CONSTRUCTION. PAYMENT WILL BE MADE ONLY FOR QUANTITIES ACTUALLY MOVED.
 3. THE COST OF REMOVAL OF ALL EXISTING CONCRETE ITEMS LOCATED IN THE AREA TO BE GRADED, INCLUDING, BUT NOT LIMITED TO THE FOLLOING, SHALL BE INCLUDED IN THE PRICE BID FOR REGULAR EXCAVATION.
 4. 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.
 5. THE BORROW MATERIAL FOR THIS PROJECT SHALL BE APPROVED BY THE MATERIALS ENGINEER.
 6. MATERIAL FROM REGULAR EXCAVATION WHICH IS SUITABLE FOR STABILIZATION WITH HYDRAULIC CEMENT (LIME) SHALL BE PLACED IN THE TOP PORTION OF THE SUBGRADE.
- D. RETAINING WALL**
1. RETAINING WALL SHALL MEET ALL CURRENT VDOT STANDARDS.
 2. IF COMPRESSION AT TOE EXCEEDS SAFE BEARING CAPACITY OF SOIL, A SPECIAL FOOTING IS TO BE USED. DEPTH OF WALL IN GROUND DETERMINED BY CONDITIONS TO BE NOT LESS THAN 1'-6".
 3. WATER STOPS TO BE ELASTOMERIC OR OTHER APPROVED MATERIAL.
 4. EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 90'.
 5. POROUS BACKFILL AT 100 LBS/CU FT. #78 OR #8 AGGREGATE OR CRUSHED GLASS MEETING #78 OR #8 GRADATION REQUIREMENTS.
 6. REFER TO RW-2 IN THE CURRENT ROAD AND BRIDGE STANDARDS FOR SAFE BEARING CAPACITY OF SOIL.
- E. SHARED USE PATH**
1. THE PAVED WIDTH OF THE SHARED USE PATH SHALL BE 10 FEET WIDE EXCEPT WHERE NOTED ON THE PLANS.
 2. THE SHARED USE PATH SHALL MAINTAIN AN OFFSET OF 8 FEET FROM THE BACK OF CURB TO THE ASPHALT PATH. ALL LOCATIONS WHERE THE PATH CANNOT MAINTAIN THE 8 FOOT OFFSET IS NOTED ON THE PLANS AND A DESIGN WAIVER WILL BE REQUIRED.
 3. A MINIMUM OF 2 FOOT WIDE GRADED AREA SHOULD BE MAINTAINED ADJACENT TO BOTH SIDES OF THE PATH.
 4. AT THE FOUR TRACK CROSSING, A Z GATE STYLE CROSSING SHOULD BE INSTALLED TO PROVIDE PATH USERS WITH A SAFE CROSSING.

INDEX OF SHEETS

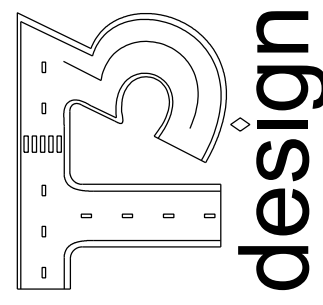
Sheet No.:	Sheet Description:
1	Index of Sheets, General Notes & Legend
2	Summary of Quantities
3-5	Plan Sheets
6	Cross Section Details

LEGEND

	DENOTES CONSTRUCTION LIMITS IN CUTS		ST'D HANDRAIL HR-1 TYPE III
	DENOTES CONSTRUCTION LIMITS IN FILLS		ST'D CG-6 REQ'D.
	TRAFFIC FLOW		ST'D CG-12 TY.B REQ'D
	REMOVE EXISTING SIDEWALK		
	DETECTABLE WARNING SURFACE		

CITY OF MANASSAS

DATE JUNE, 2020	COUNTY PROJECT .	SHEET NO. /
--------------------	---------------------	----------------



CONCEPT DESIGN

WELLINGTON ROAD SHARED USE PATH CONNECTION

REVISED	STATE	ROUTE	STATE	COUNTY PROJECT	SHEET NO.
	VA.				2

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

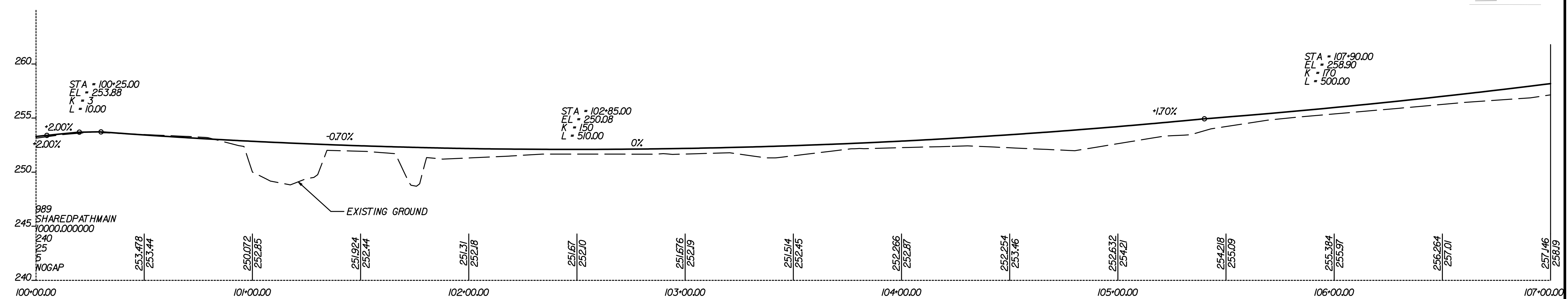
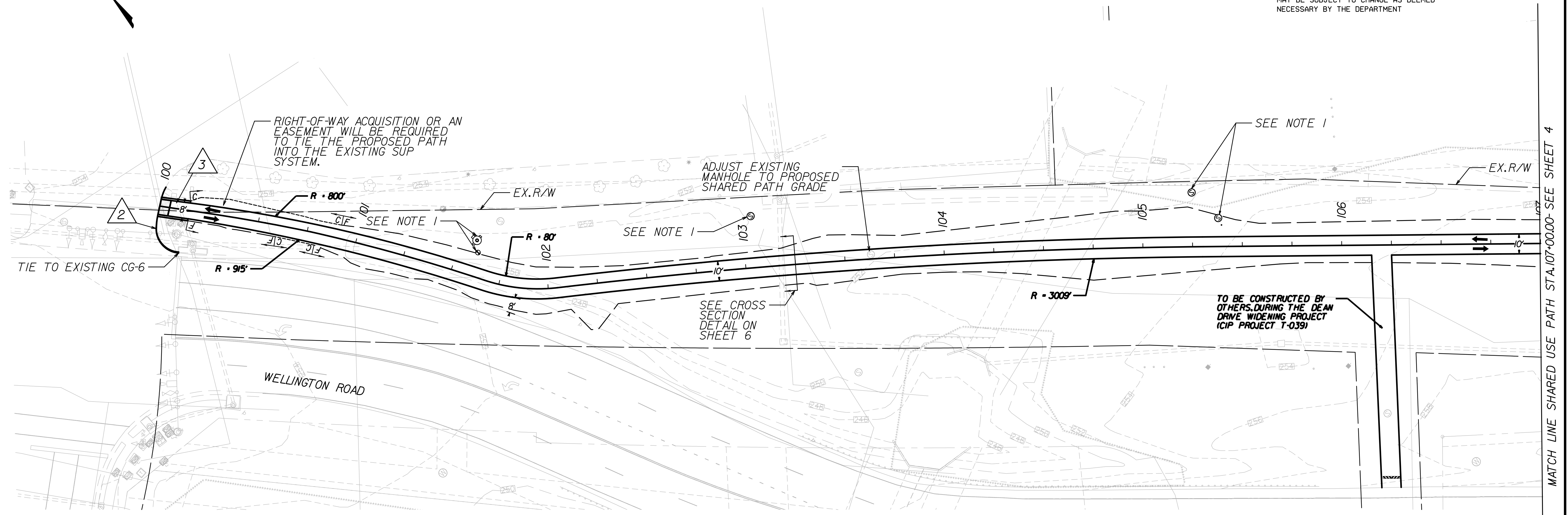
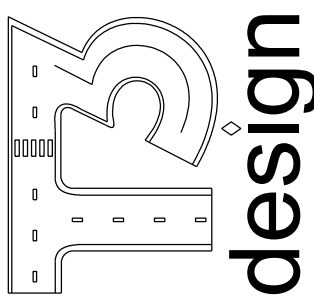
SHEET TITLE	UNIT	ITEM NO.	SHEET NO.	SUMMARY NOTES	DESCRIPTION
Wellington Road Shared Used Path	3 to 5	1	1		MOBILIZATION
		1	1		CONSTRUCTION SURVEYING
		1	1		CLEARING AND GRUBBING
		43	120		REGULAR EXCAVATION
		1837	140		BORROW EXCAVATION
		812	10128		AGGR. BASE MATL. TY. I NO. 21B
		633	10417		TACK COAT
		21	10480		COVER MATL. AGGR. NO. 8
		464	10635		ASPHALT CONCRETE TY. SM-9.5A
		120	12020		ST. CURB CG-2
		25	12600		STD. COMB. CURB & GUTTER CG-6
		18	13108		CG-12 DETECTABLE WARNING SURFACE
		52	13220		HYDR. CEMENT CONC. SIDEWALK 4"
		1395	14100		REMOVE SIDEWALK AND ENTRANCE
		80	14450		SAW CUT CURB, GUTTER AND ENTRANCES
		200	24410		DEMO. OF PVMT. COMBINATION
		203	25004		HANDRAIL HR-1 TYPE III
		1	42765		ADJUST EXIST FRAME & COVER
		41	50108		SIGN PANEL
		1	50340		RELOC. EXISTING 1 POST GROUND MOUNTED SIGN PANEL
		88	50430		SIGN POST STP-1, 2", 14 GAUGE
		15	50485		CONC. FOUNDATION SQUARE TUBE POST FOUNDATION TYPE A
		24	54048		TYPE B CLASS II PAVE. LINE MARKING 24"

REVISED	STATE	ROUTE	STATE COUNTY PROJECT	SHEET NO.
	VA.			3

CONCEPT DESIGN WELLINGTON ROAD SHARED USE PATH CONNECTION

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

T3 DESIGN CORPORATION
10340 DEMOCRACY LN
SUITE 305
FAIRFAX, VA 22030
PHONE: 703-359-5861
www.t3design.us

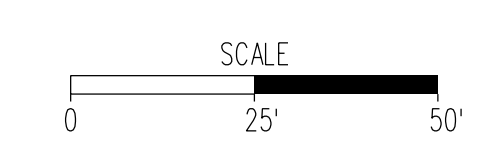


LEGEND

- | | | | |
|--|--------------------------------------|--|-----------------------------|
| | DENOTES CONSTRUCTION LIMITS IN CUTS | | ST'D HANDRAIL HR-I TYPE III |
| | DENOTES CONSTRUCTION LIMITS IN FILLS | | ST'D CG-6 REQ'D. |
| | REMOVE EXISTING SIDEWALK | | ST'D CG-12 TY.B REQ'D |
| | DETECTABLE WARNING SURFACE | | TRAFFIC FLOW |

NOTES:

- 1) DUE TO THE LOCATION OF THE EXISTING UTILITIES THE SHARED USE PATH LOCATION WAS DIVERTED TO AVOID UTILITY RELOCATIONS.
- 2) DESIGN WAIVER WILL BE NEEDED FOR PATH FROM STA. 100+00.00 TO STA. 102+00.00 DUE TO LESS THAN 8' OFFSET FROM EDGE OF ROADWAY TO EDGE OF PATH



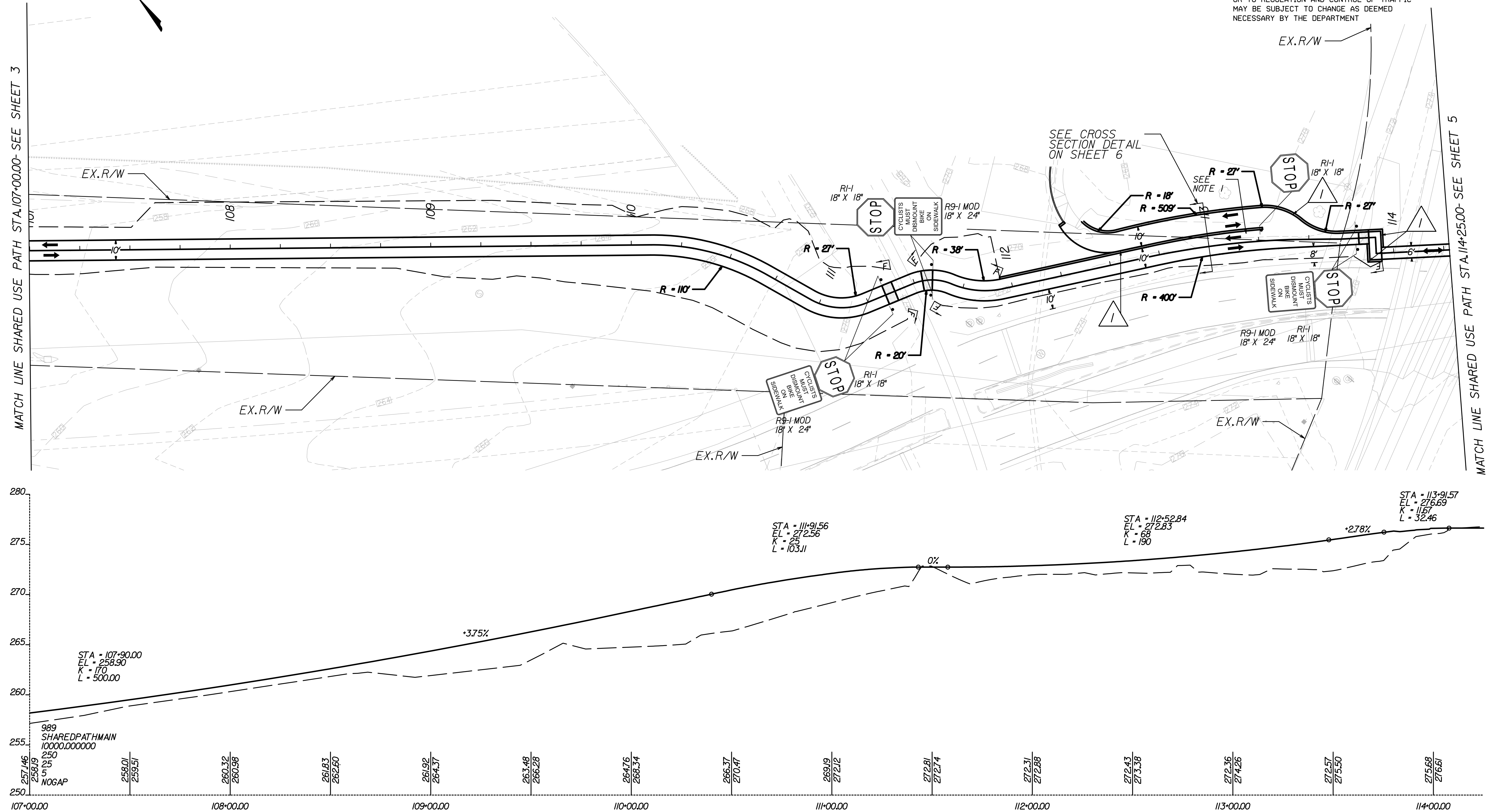
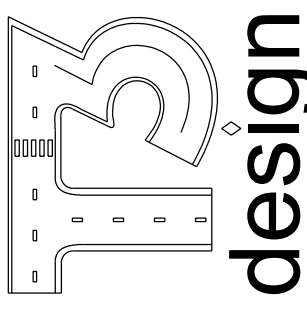
CITY OF MANASSAS		
DATE JUNE, 2020	COUNTY PROJECT	SHEET NO. 3

REVISED	STATE	ROUTE	STATE	COUNTY PROJECT	SHEET NO.
	VA.				4

CONCEPT DESIGN WELLINGTON ROAD SHARED USE PATH CONNECTION

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

T3 DESIGN CORPORATION
10340 DEMOCRACY LN
SUITE 305
FAIRFAX, VA 22030
PHONE: 703-359-5861
www.t3design.us

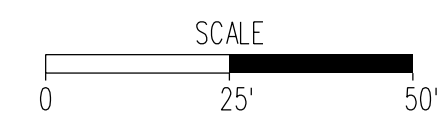


LEGEND

- | | | | |
|--|--------------------------------------|--|-----------------------------|
| | DENOTES CONSTRUCTION LIMITS IN CUTS | | ST'D HANDRAIL HR-I TYPE III |
| | DENOTES CONSTRUCTION LIMITS IN FILLS | | ST'D CG-6 REQ'D. |
| | REMOVE EXISTING SIDEWALK | | ST'D CG-12 TY.B REQ'D |
| | DETECTABLE WARNING SURFACE | | TRAFFIC FLOW |

NOTES:

- HANDRAIL HR-I TYPE III STARTS AT 5.50' LEFT OF STA.112+25.00 & ENDS AT 2.93' LEFT OF STA.113+94.50
- HANDRAIL HR-I TYPE III STARTS AT 24.22' LEFT OF STA.112+41.23 & ENDS AT 17.33' LEFT OF STA.113+27.18
- HANDRAIL HR-I TYPE III STARTS AT 3.07' RIGHT OF STA.113+79.41 & ENDS AT 3.57' RIGHT OF STA.113+93.96



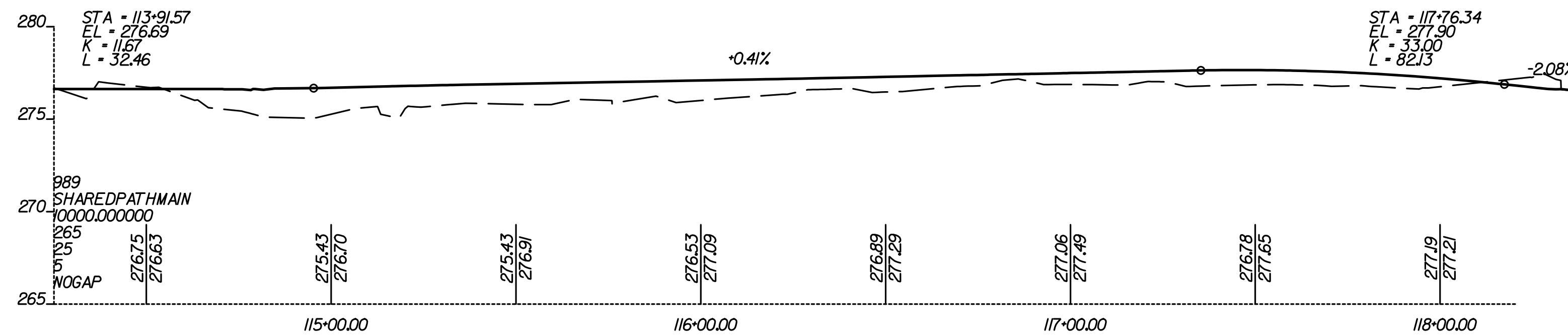
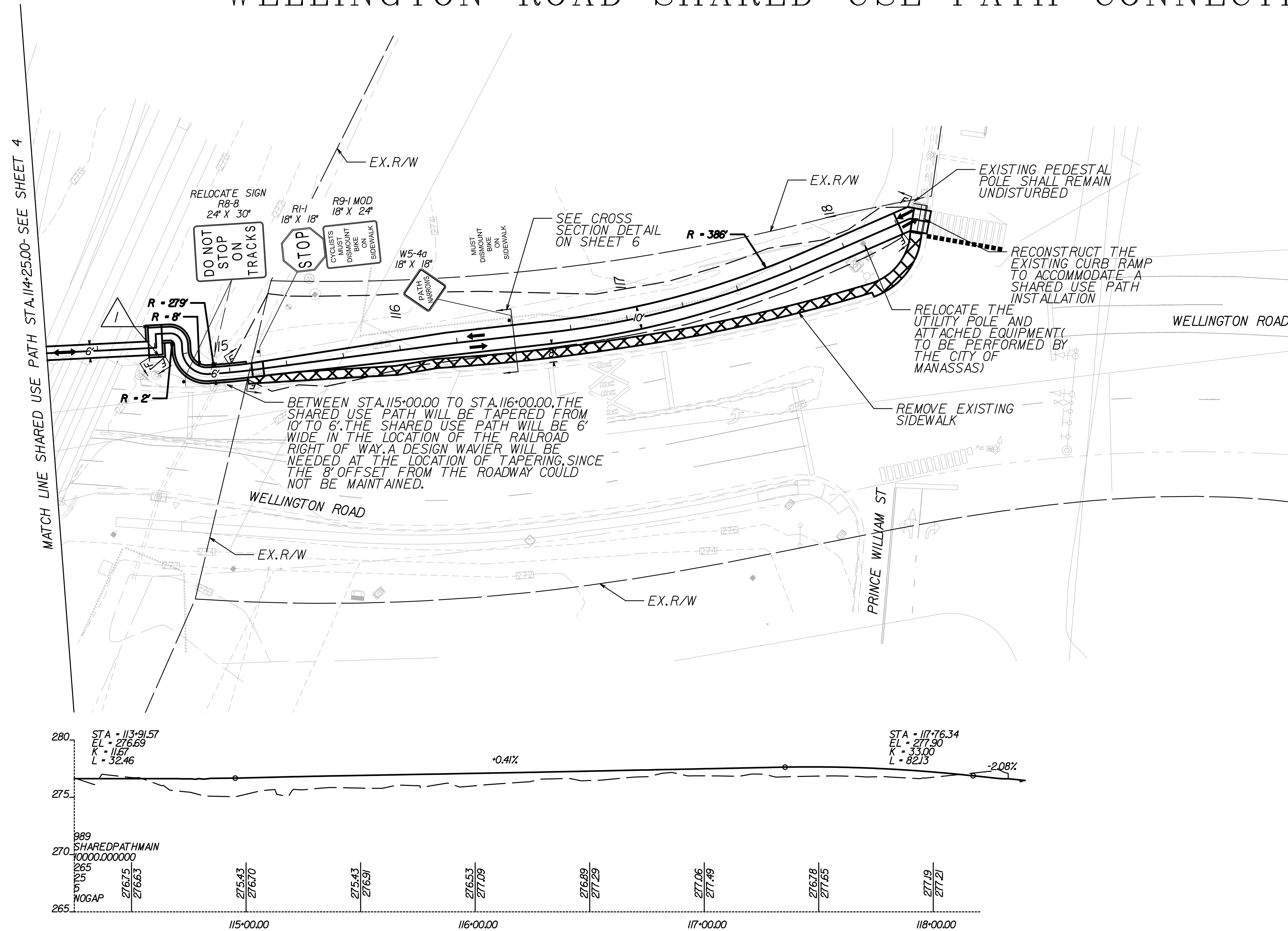
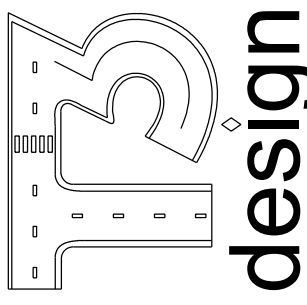
CITY OF MANASSAS		
DATE	COUNTY PROJECT	SHEET NO.
JUNE, 2020		4

REVISED	STATE	ROUTE	STATE	COUNTY PROJECT	SHEET NO.
	VA.				5

CONCEPT DESIGN WELLINGTON ROAD SHARED USE PATH CONNECTION

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

T3 DESIGN CORPORATION
10340 DEMOCRACY LN
SUITE 305
FAIRFAX, VA 22030
PHONE: 703-359-5861
www.t3design.us

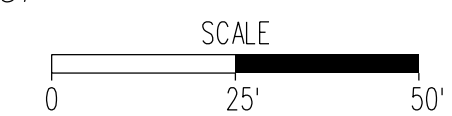


LEGEND

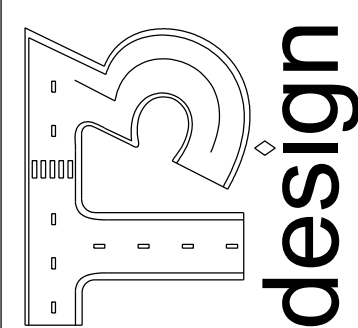
- | | | | |
|--|--------------------------------------|--|-----------------------------|
| | DENOTES CONSTRUCTION LIMITS IN CUTS | | ST'D HANDRAIL HR-I TYPE III |
| | DENOTES CONSTRUCTION LIMITS IN FILLS | | ST'D. CG-6 REQ'D. |
| | REMOVE EXISTING SIDEWALK | | ST'D CG-12 TY.B REQ'D |
| | DETECTABLE WARNING SURFACE | | TRAFFIC FLOW |

NOTES:

- DESIGN WAIVER WILL BE NEEDED FOR PATH FROM STA. 115+00.00 TO STA. 116+00.00 DUE TO LESS THAN 8' OFFSET FROM EDGE OF ROADWAY TO EDGE OF PATH
- HANDRAIL HR-I TYPE III STARTS AT 2.93' LEFT OF STA. 113+71.84 & ENDS AT 3.43' LEFT OF STA. 114+83.38
- HANDRAIL HR-I TYPE III STARTS AT 3.47' RIGHT OF STA. 114+72.93 & ENDS AT 3.20' RIGHT OF STA. 114+77.63



CITY OF MANASSAS		
DATE JUNE, 2020	COUNTY PROJECT	SHEET NO. 5



CONCEPT DESIGN WELLINGTON ROAD SHARED USE PATH CONNECTION

REVISED	STATE	STATE		SHEET NO.
	ROUTE	COUNTY	PROJECT	
	VA.			6

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



CITY OF MANASSAS

DATE	COUNTY PROJECT	SHEET NO.
JUNE, 2020		6