

Route 7 — Westbound Truck Climbing Lane



*Loudoun County
Virginia*

*From: Route 9
To: West Market Street*

Submitted to the
Virginia Department of Transportation



State Project No.: 6007-053-133, R201, C501
Federal Project No.: STP-5401(518)
Contract ID Number: C00058599DB54

Submitted by



in association with



June 20, 2013

VOLUME I: TECHNICAL PROPOSAL

4.1 Letter of Submittal



June 20, 2013

Kevin C. Reichert, P.E.
Virginia Department of Transportation
1221 East Broad Street
Main Building, 4th Floor
Richmond, VA 23219

REF: Technical Proposal for Route 7 - Westbound Truck Climbing Lane, Loudoun County, VA
State Project No. 6007-053-133, R201, C501; Federal Project No. STP-5401(518)
Contract ID Number: C00058599DB54

Dear Mr. Reichert:

Branch Highways, Inc. (Branch) is pleased to submit with Rinker Design Associates (RDA) a design-build proposal for the above referenced project.

4.1.1 Full Legal Name and Address of Offeror

Branch Highways, Inc.
P.O. Box 40004
Roanoke, VA 24022

4.1.2 Declaration of Intent

Branch declares its intent, if selected, to enter into a contract with VDOT for the Project in accordance with the terms of this RFP.

4.1.3 120 Day Declaration

The attached offer represented by the Technical and Price Proposals will remain in full force and effect for one hundred twenty (120) days after the date the Technical Proposal is submitted to VDOT.

4.1.4 Point of Contact

Gale M. Tschuor will serve as the official representative and *point to contact* for the Branch/RDA Team. Mr. Tschuor's contact information is as follows:

Gale M. Tschuor, Chief Estimator

Branch Highways, Inc.
P.O. Box 40004
Roanoke, VA 24022

Phone: (540) 982-1678
Fax: (540) 982-4216
Email: gale.tschuor@branchhighways.com

4.1.5 Principal Officer for Offeror

The principal officer for Branch will be J. William Karbach; his contact information is as follows:

J. William Karbach, President

Branch Highways, Inc.
P.O. Box 40004
Roanoke, VA 24022

Phone: (540) 982-1678
Fax: (540) 982-4216

4.1.6 Completion Dates

Branch proposes the following *Milestone, Substantial and Final Completion Dates*, with the understanding that these dates will be deemed by VDOT as the contractual completion dates for the Design-Build Contract for all purposes, including liquidated damages.

Milestone Dates: August 22, 2015
Substantial Completion Date: October 22, 2015
Final Completion Date: October 22, 2015

4.1.7 Proposal Payment Agreement or Waiver of Proposed Payment

In the Appendices at end of this Volume 1 of the Technical Proposal is Branch's signed Attachment 9.3.1 Proposal Payment Agreement.

4.1.8 Certification Regarding Debarment Forms

In the Appendices at the end of this Volume 1 of the Technical Proposal is Branch's Attachment 11.8.6(a) Primary Covered Transactions, and RDA and other subcontractor/subconsultants' 11.8.6(b) Lower Tier Covered Transactions forms.

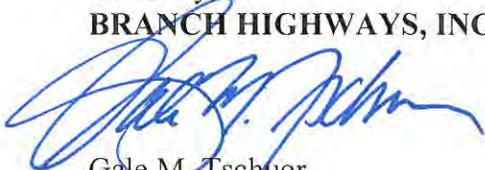
4.1.9 Design Criteria Table and Limits of Construction

Branch's Technical Proposal is fully compliant with the Design Criteria Table included in the RFP Technical Requirements (Part 2) as Attachment (2.1) and all other requirements of this RFP. We also, certify that the our proposed limits of construction including all stormwater management facilities are located within the ROW limits shown on the RFP plans with the exception of permanent and temporary easements and that the Branch/RDA Team's design concepts does not require Design Exception and/or Design Waivers.

We look forward to your favorable review of our proposal.

Sincerely,

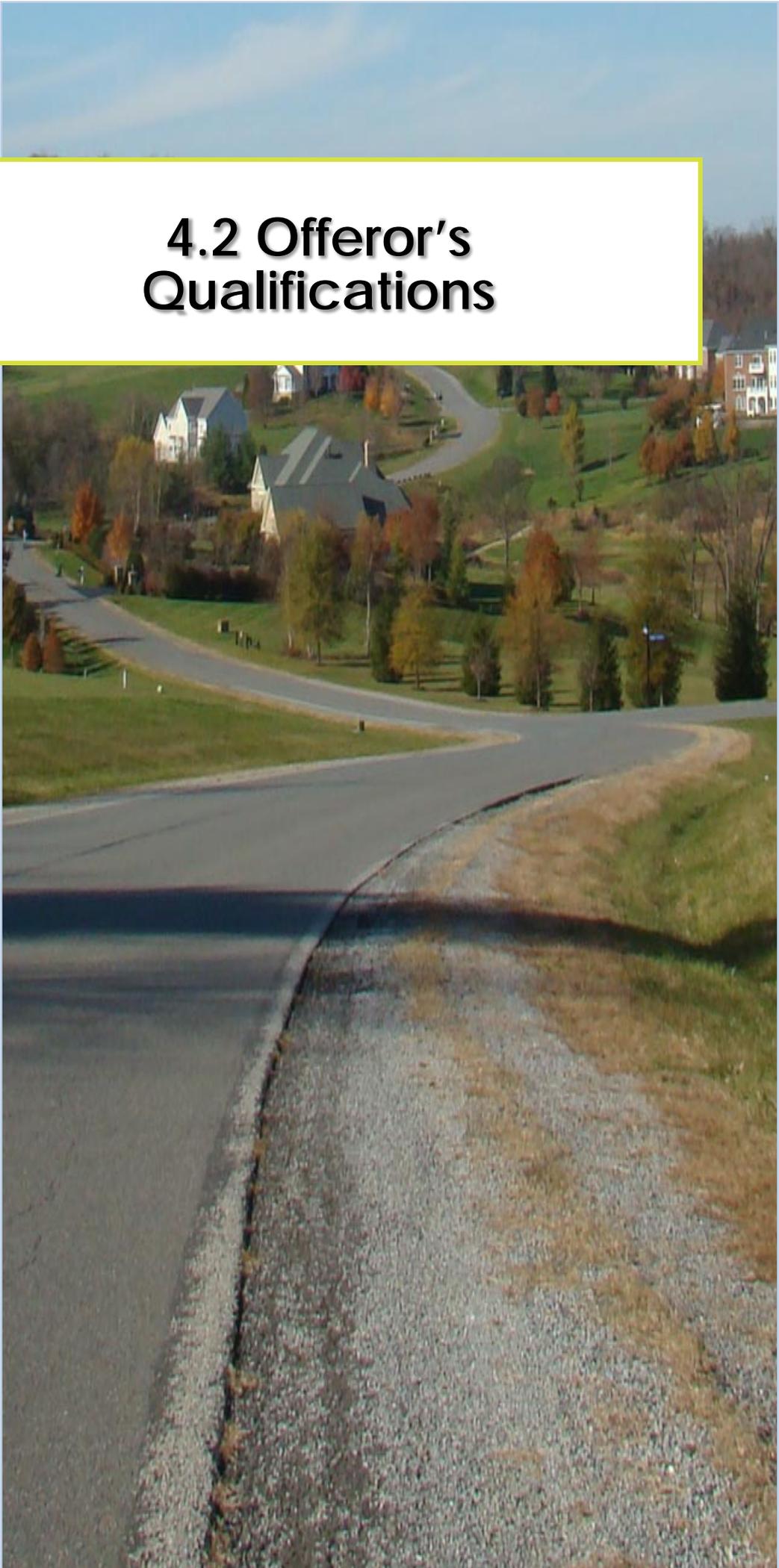
BRANCH HIGHWAYS, INC.



Gale M. Tschuor
Chief Estimator

Attachments

4.2 Offeror's Qualifications



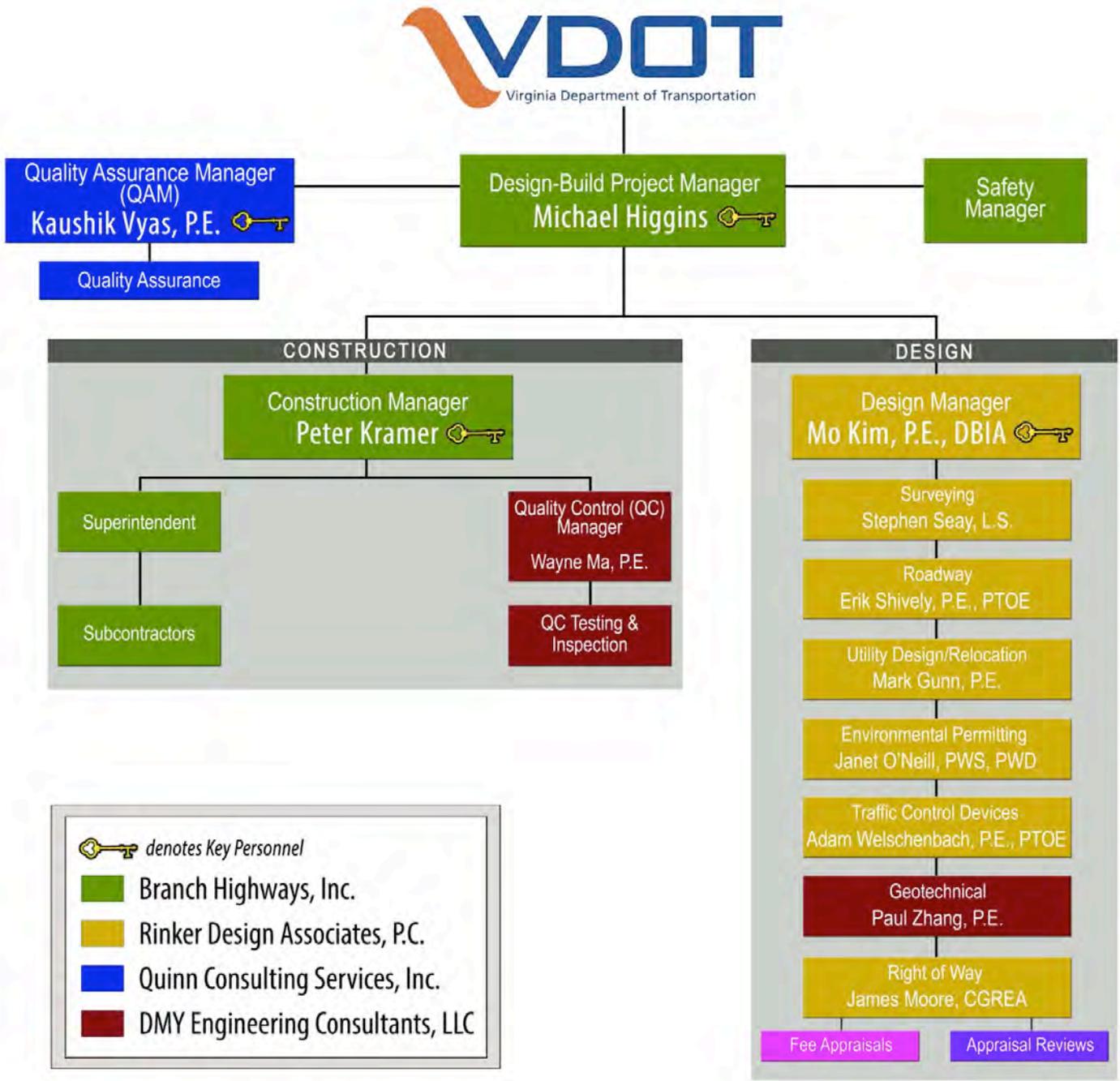
4.2 Offeror’s Qualifications

4.2.1 SOQ Confirmation

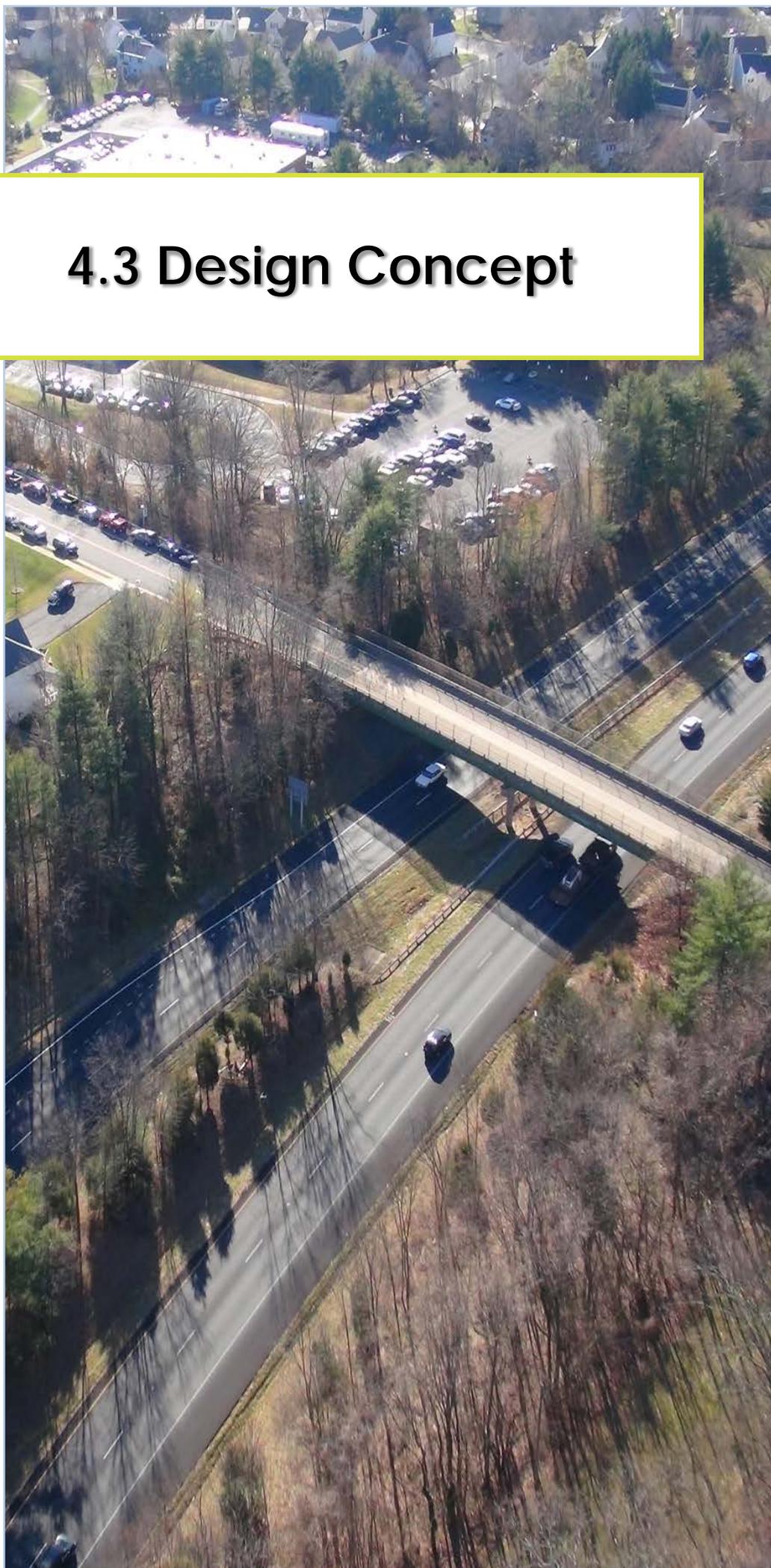
Offeror confirms that the information included in the Branch Team’s SOQ remains true and accurate in accordance with Section 11.4.

4.2.2 Organizational Chart and Narrative Updates

Offeror confirms that the information included in the Branch Team’s SOQ remains true and accurate in accordance with Section 11.4.



4.3 Design Concept



4.3 Design Concept

The Branch Team has developed a conceptual roadway plan meeting or exceeding all requirements of the RFP for the Route 7–Westbound Truck Climbing Lane Project. Our concept plan includes the construction of a westbound truck climbing lane on Route 7 between the West Market Street and Route 9 interchanges, new roundabouts and ramp improvements at the Route 7/Route 9 interchange, additional turn lanes at the Route 7/ West Market Street interchange, the relocation of the W&OD Trail at the Route 7/Route 9 interchange including an underpass at the Route 7 eastbound on-ramp, modifications to the median crossovers, ingress and egress, and the construction improvements to Fort Johnston Road for access management. The conceptual plan, included in Volume II, depicts these major project features along with other key design components including drainage and SWM, lighting, landscaping, and guardrail.

The Branch Team’s conceptual plan has been developed with a focus on 1) adherence to standards and RFP requirements, 2) safety, 3) constructability, and 4) minimizing impact to the environment and community. With this focus, we have developed a plan to integrate our design and construction teams to successfully deliver the highest quality project in a safe and efficient manner.

4.3.1 Conceptual Roadway Plans

The Branch Team has thoroughly reviewed the Roadway Inventory and Minimum Design Criteria Attachment 2.1 (see below) and has developed its Design Concept to meet or exceed the minimum design requirements for each roadway segment and design element. With the exception of the previously approved Design Waivers and Design Exceptions for Bridge Shoulder Width (Market Street Bridge over Route 7), Vertical Curve on Route 7, and Shared Use Path Horizontal Alignment, the Branch Team’s conceptual plan meets all applicable design criteria in accordance with Attachment 2.1 and Section 2.1.1 “Standards and Reference Documents.” No additional design waivers or exceptions are anticipated to be required with final design of the project.

ROADWAY INVENTORY AND MINIMUM DESIGN CRITERIA - RFP ATTACHMENT 2.1									
	W. Market St. to Route 7 WB	Route 7 EB to W. Market St.	Route 7	Route 9	Fort Johnston	Beechnut Road	West Market Street	Route 7 Exit Ramps (Ramps B and D)	Route 7 On Ramps (Ramps A and C)
Roadway Classification	Interchange Ramp	Interchange Ramp	Rural Principal Divided Arterial	Rural Minor Arterial	Rural Local	Rural Local	Urban Minor Arterial	Interchange Ramp	Interchange Ramp
Geometric Design Standard	GS-R	GS-R	GS-1 (1)	GS-2	GS-4	GS-4	GS-6	GS-R	GS-R
ADT			84,750	26,000	75	60	20,000		
% Trucks			4	4	5	5	2		
Terrain	Rolling	Rolling	Rolling	Mountainous	Rolling	Rolling	Rolling	Rolling	Rolling
Design Speed (mph)	30	30	60	45	30	30	30	30	30
Posted Speed (mph)			55	40	25	25	25		
Superelevation Standard	TC-5.11R	TC-5.11R	TC-5.11R	TC-5.11R	TC-5.11R	TC-5.11R	TC-5.11U	TC-5.11R	TC-5.11R
Vertical Clearance	N/A	N/A	16.5'	16.5'	N/A	N/A	16.5'	N/A	N/A
Minimum Lane Width	16'	16'	12'	12'	9'	9'	11'	16'	16'
Min. / Max Grade (%)			0.5 / 6.0 (2)	0.5 / 6.0	0.5 / 10.0	0.5 / 6.0	0.5 / 6.0		
Median (Route 7)	Independent Grading: Variable Width, GS-11 and CS-4 slopes								
Note 1: All lanes constructed in median (Left-turn lane onto Roxbury Hall Road, Acceleration lane Out of Fort Johnston Road, Left-turn lane onto White Gate Road) shall be designed to be 21 feet wide and constructed of full strength pavement, including tapers.									
Note 2: Maximum existing grade of 7.0% to be maintained along westbound roadway									

The minimum and maximum grades proposed for each roadway and ramp with the Branch concept plan is provided below:

Branch Concept Plan—Minimum and Maximum Proposed Grades					
	Route 7	Route 9	Fort Johnston	Beechnut Road	West Market Street
Roadway Classification	Rural Principal Divided Arterial	Rural Minor Arterial	Rural Local	Rural Local	Urban Minor Arterial
Geometric Design Standard	GS-1	GS-2	GS-4	GS-4	GS-6
Min./Max. Grade (%)	0.52/6.99	1.62/5.59	0.5/10.0	2.45/2.65	0.6/5.00

Route 7 Improvements. The proposed improvements to Route 7 include the widening of Route 7 to provide a westbound “truck climbing lane” and extensive median improvements to control access to and from adjacent subdivisions. The provision of the third westbound lane will be constructed using a combination of widening to the inside and to the outside of existing Route 7. All requirements for a Rural Principal Divided Arterial, VDOT Standard GS-1, will be provided including superelevation in accordance with TC-5.11R, standard 12-foot lane widths, and standard shoulders throughout the project limits. Strict adherence to the geotechnical requirements will be incorporated into the design plans, including saw cutting a minimum of 1 foot inside the existing edge of pavement (except in locations requiring more per the GDR) to expose mainline pavement prior to roadway widening.

Access to existing Leeland Orchard Road from WB Route 7 will be limited to emergency access only. The connection to Fort Johnston Road at approximate Station 217+00 will be egress only to EB Route 7. Access to Farm Market Road/Alysheba Drive at approximate Station 205+00 will be right in/right out only, and access to Hidden Gap Road at approximate Station 166+00 will be right in only. Construction of the WB Route 7 improvements will be phased and coordinated with the reconstruction of Fort Johnston Road to provide adequate access to all properties and subdivisions during each phase of construction.

Along EB Route 7, the existing access to Beechnut Road will be removed and replaced with an emergency access only connection. Beechnut Road will terminate at a cul-de-sac located right of approximate Station 166+00. Additional improvements to Beechnut Road right of Route 7 Station 181+00 to 188+00 will be performed within existing R/W. The connection of White Gate Road at approximate Station 205+00 will be converted to left-in/right-in/right-out only, eliminating the left-out movement. Similarly, the connection of Roxbury Hall Road to Route 7 will be converted to left-in/right-in/right-out only. As with the WB Route 7 improvements, construction will be phased to maintain adequate access to and from the adjacent neighborhoods throughout construction.

Median improvements to improve safety for ingress and egress from Route 7 to neighboring subdivisions will include the construction of three “Turning Roadways” complying with AASHTO 2011 Green Book Table 3-29. These include a channelized deceleration lane/left turn from WB Route 7 to Roxbury Hall Road, a channelized acceleration lane for left turning vehicles from Fort Johnston Road to EB Route 7, and a channelized deceleration/left turn from WB Route 7 to White Gate Road. All median lanes will be constructed with a minimum pavement width of 21 feet in accordance with RFP Attachment 2.1, and a combination of barrier, guardrail, raised median, and appropriate signage and marking will be implemented to construct safe turn lane and acceleration/deceleration lanes within the median area.

The Branch Team’s approach to construction of the Route 7 improvements delivers an added value to VDOT as a result of our approach to the roadway design. During the initial construction phase, temporary widening/shoulder strengthening to the outside of EB Route 7 will be constructed to allow traffic to be shifted to the outside to enable median construction. The temporary pavement that will be placed along the outside of EB Route 7 is significantly stronger than the requirement for paved shoulders. This pavement will be milled to final shoulder cross slope and left in place for the permanent condition, providing a permanent shoulder along EB Route 7 that exceeds the requirements of the RFP. This stronger shoulder will reduce long-term maintenance costs to VDOT.

Interchange Ramp Improvements. The Branch Team proposes a modification to the RFP Concept Plan design of Ramp D to EB Route 7 to improve constructability and reduce impacts to the traveling public during construction. With our plan we have shifted Ramp D off the existing ramp alignment to allow for construction of the new ramp outside the footprint of the existing ramp. The proposed design meets all geometric requirements for the ramp and includes reconstruction of the Ramp D/EB Route 7 gore to meet current standards. We acknowledge that this modification to the plan may require an Interchange Modification Report (IMR), and have allowed time in our project schedule for coordination with VDOT/FHWA and for the preparation and processing of an IMR. This proposal brings substantial value to the project by allowing construction of Ramp D, including the W&OD Trail underpass, with minimal impact to traffic on existing Ramp D and a significant reduction in temporary pavement. Additionally, the removal of existing Ramp D and associated regrading/restoration of this area will allow for improved aesthetics along the W&OD Trail in the vicinity of the Ramp D underpass.

Improvements to existing interchange Ramps A, B, and C, and the connections to the Market Street interchange ramps will be completed in accordance with the RFP requirements and RFP Concept Plans.

Route 9 Improvements. In accordance with the requirements of the RFP, existing Route 9 within the project limits will be demolished and reconstructed due to inadequate existing pavement structure. The reconstructed roadway will meet all requirements for a Rural Minor Arterial, VDOT Standard GS-2. The reconstruction of Route 9 has been identified as a critical project element by the Branch Team because of the high traffic volumes that must be maintained during all phases of construction. To minimize impacts to the traveling public during reconstruction of Route 9, Branch will phase construction of the roundabouts on the north and south sides of the Route 9 Bridge over Route 7. We will construct the outer roundabout lanes first, allowing traffic to be shifted to new pavement. Once traffic is shifted and traffic controls installed, the demolition and reconstruction of existing Route 9 can be performed with minimal traffic disruption.

The Branch Team Concept Plan has adjusted the design of the proposed roundabouts on Route 9 to comply with all RFP requirements. Revisions to the VDOT RFP Plan include: 1) design of a bypass lane (30mph design) for westbound Route 7 to northbound Route 9 with physical separation from the roundabout, and 2) design of roundabout north of Route 7 to tie splitter island to existing median, eliminating design conflict depicted in RFP Plan.

West Market Street Improvements. Improvements to West Market Street will be designed and constructed in accordance with VDOT Standard GS-6, Urban Minor Arterial, 30mph design speed. Improvements to West Market Street include widening to include the addition of a southbound right turn lane to westbound Route 7 and a northbound left turn lane to westbound Route 7. Consistent with the RFP Plan, the Branch Team Concept will provide a curb and gutter section north of the interchange ramps and a shoulder section within the interchange. Guardrail will be provided throughout the limits of improvement due to the high fill slopes adjacent to the roadway.

Fort Johnston Road and Beechnut Road Improvements. As part of the access improvements associated with the project, two local rural road (VDOT Std. GS-4, design speed 30mph) improvements will be designed and constructed on Fort Johnston Road and Beechnut Road. These improvements will provide connectivity within the adjacent local road network and will upgrade the existing local roads to current standards within the construction limits.

Turn Lanes and Tapers. The Branch Team concept plan fully complies with the requirement for turn lane storage and tapers as described in Attachment 2.1 of the RFP. **The table on the following page depicts** the RFP requirement for each turn lane and taper, along with the lengths provided in the Branch Team's plan to verify compliance.

TAPERS & STORAGE								
Mainline Roadway	Direction	Turning To (Entrance name or Street Name)	RFP REQUIREMENT (ATTACHMENT 2.1)			BRANCH CONCEPT PLAN		
			Taper Length	Storage Length	Accel/Decel Length	Taper Length	Storage Length	Accel/Decel Length
Route 7	WB	Cont. on Route 7 WB	720'			720'		
Route 7	WB	Right turn to Ramp C	250'		615'	250'		615'
Ramp D	EB	Right turn Route 7 EB	500'			500'		
Route 7	WB	Right turn to Hidden Gap Road	300'		530'	300'		530'
White Gate Road	SB	Right turn to Route 7 WB	300'		1200'	300'		1200'
Route 7	WB	Right turn to White Gate Road	300'		530'	300'		530'
Route 7	WB	Left turn to White Gate Road	530'	600'		530'	600'	
Fort Johnson Rd	SB	Left turn to Route 7 EB	600'		685'	600'		685'
Route 7	EB	Right turn to Roxbury Hall Road	300'		750'	300'		750'
Roxbury	NB	Right turn to Route 7 EB			1100'			1100'
W. Market St. on Ramp	WB	Right turn to Route 7 WB	200'		880'	200'		880'
Route 7	WB	Left turn to Roxbury	525'	1765'		525'	1765'	
West Market St.	WB	Right turn to Route 7 WB	165'		400'	165'		400'

Conceptual Hydraulic and SWM Design. The Branch Team has identified hydraulic and SWM design as critical project elements, and has developed a concept plan that delivers a “best value” design for the project. During the RFP phase, our design team has focused on preparing a hydraulic design that accomplishes the following objectives that decrease project cost, simplify project construction, and shorten project schedule:

Objective #1: Reduce culvert crossings of Route 7

The existing number of culvert crossings can be reduced where the topographic conditions permit the consolidation of crossings of the roadways. This will reduce the culvert installation costs, the number of outfalls that may require channel improvements and acquisition of easements downstream, and the maintenance cost for the life of the project. This opportunity occurs in the following locations within the limits of the project:

- The existing 18-inch RCP located at Station 165+00 can be abandoned in-place and diverted via open cut ditch to the culvert crossing located at Station 154+75, which is proposed to be a 36-inch RCP. In addition, the existing 24-inch CMP located at Station 160+75 can be abandoned in-place and diverted to the same proposed 36-inch RCP culvert located at Station 154+75. This consolidation replaces three existing culverts with a single new culvert.
- Drainage flowing to the existing 18-inch CMP located at Station 221+50 can be diverted to the new proposed 60-inch RCP culvert located at Station 222+85. In addition, the existing 27-inch CMP located at Station 226+10 can be diverted to the same 60-inch RCP culvert located at Station 222+85. It should be noted that the outfall to the proposed 60-inch RCP located at Station 222+85 has an existing storm drain easement, which eliminates the necessity to acquire easements for downstream channel improvements. This approach replaces three existing culverts with a single new culvert.

Objective #2: Reduce conveyance to existing 1,100-linear foot, 54-inch culvert under West Market Street Interchange, allowing the existing culvert to remain in service following project construction

The existing 54-inch RCP located underneath the West Market Street and Route 7 interchange has several storm pipes that tie into this pipe along its path to the outfall location. We intend to provide diversions away from the existing 54-inch RCP so that the flow to this pipe is reduced and the capacity of this pipe is maintained. While these diversions will increase the pipe size of two separate crossings, it will eliminate the need to upgrade the existing 54-inch RCP for hydraulic capacity, and eliminate additional maintenance associated with this 1,100-linear-foot pipe run. The diversions away from this pipe are as follows:

- Abandon the existing 24-inch CMP culvert located at Station 254+50 that ties into the existing 54-inch RCP and divert the drainage to the proposed 42-inch culvert crossing West Market Street at Station 79+50. Also, abandon the existing 21-inch RCP located at Station 258+00 that currently ties into the existing 54-inch RCP and divert drainage to the same proposed 42-inch culvert crossing West Market Street at Station 79+50. The proposed 42-inch RCP pipe length is considerably less than the 54-inch RCP and will be easier to maintain and access if required.

- A significant amount of drainage can be diverted from the south side of Route 7 that currently drains into the existing 54-inch RCP. The diverted flow will be conveyed via open channel to the culvert crossing located at Station 265+00. This diversion will require the existing 33-inch RCP located at Station 265+00 to be upgraded with an additional 48-inch RCP to meet capacity. Again, this pipe run is significantly shorter in length than the existing 54-inch RCP and will be easier to maintain and to access.

► **Reuse of Existing Culverts.** Our concept plan identifies culverts within the project limits with the notation “Potential Reuse of Existing Culvert”. We have proposed these pipes to remain in service based on field inspections, which verified the condition of the existing pipes, and hydraulic analyses that demonstrated that the pipes are adequate from a hydraulic standpoint. We acknowledge that the RFP Section 2.8.1 states “*For purposes of developing the Price Proposal, the Offeror shall assume that the existing drainage pipes and culverts within the project limits are unserviceable and are to be plugged and abandoned in accordance with VDOT R&B Standard PP-1, removed, or replaced....*” and that the reuse of any existing pipes is subject to VDOT approval. Following award, the Branch Team will perform the necessary pipe/culvert inspections and request VDOT approval for any pipes proposed for reuse. We assume all risk associated with our proposal to reuse any existing pipes within the project limits.

► **SWM/BMPs.** The project is located in three major watersheds in accordance with the Department of Conservation and Recreation Hydrologic Unit Code System (HUC). The three major watersheds include the Goose Creek watershed (PL16), the Catoctin Creek watershed (PL02), and the Limestone Branch watershed (PL05). All three watersheds flow into the Potomac River via separate creeks. The Goose Creek watershed flows into Towns Branch and Dry Mill Branch, both of which flow into Tuscarora Creek then Goose Creek and finally into the Potomac River. Goose Creek covers approximately 75% of the project, while Limestone Branch covers approximately 15% of the project and Catoctin Creek covers the remaining 10% at the Route 7 and Route 9 interchange. The Catoctin Creek watershed flows into the South Fork Catoctin Creek, then Catoctin Creek which outfalls into the Potomac River. The portion of the project located within the Limestone Branch watershed flows into Limestone Branch Creek which outfalls directly into the Potomac River.

Runoff water quality and quantity will be addressed by new SWM facilities and designed based upon new project impervious area. Water quality, per the RFP, will be in accordance with the most current VDOT IIM-LD-195.7 and will be designed in accordance with water quality performance based computations. Stormwater quantity will control the 2-year and 10-year storms, as well as assist in attenuating these storms to the pre-developed rate to provide adequate outfall for the downstream receiving channels. In addition, the facilities may be designed to attenuate the 25-year storm to reduce peak flows to downstream culverts. The Branch Team Concept Plan provides two SWM/BMP Extended Detention “Dry” Ponds and three Bio-retention Facilities to meet the water quality and quantity components for the project:

- **SWM 1**—A dry pond/extended detention facility located within the existing R/W, inside the footprint north of the Route 7 westbound lanes and south of Route 9. This facility will provide the water quality and quantity requirements for the Catoctin Creek watershed for this project.
- **SWM 2**—A dry pond/extended detention facility, which is proposed to be located east of the Route 7 westbound lanes at Station 237+00. This facility is proposed on private property currently owned by Fort Johnston, LLC and will require land acquisition. This facility will provide the necessary stormwater quality control for Goose Creek and, in conjunction with the proposed Bio-retention facilities, the water quality requirements for this watershed.
- **Bio-Retention Facilities 1, 2, & 3**—The three Bio-retention facilities are proposed to be located on the west side of the Route 7 eastbound lanes within the existing R/W at the Route 7 and West Market Street interchange. The primary purpose of these facilities is to meet the water quality performance based requirements in conjunction with the SWM dry pond facility #2 referenced above for the Goose Creek watershed.

► **Hydraulic Design and Analysis.** This project is located within the upper reaches of the major watersheds and outside FEMA delineated floodplain. Therefore, no major Hydrologic and Hydraulic Analysis (H&HA) is required. Drainage analysis is required for the following element of this project:

- Drainage Analysis of existing and proposed culverts (25-year storm is required to evaluate capacity of culverts)
- SWM to Control Water Quality and Quantity for the 2- and 10-year storms, as well as the 25-year storm to assist with culvert capacity.
- Adequate Outfall analysis for all downstream tributaries to meet the 2-year velocity and the 10-year capacity.
- Erosion and Sedimentation Control Devices during the construction phase.
- A Stormwater Pollution Prevention Plan and Virginia Stormwater Management Program permitting requirements.

► **Culverts and Roadway Drainage.** Roadway drainage design includes the design and construction of culverts, open channels, storm sewer systems, underdrains, and median barrier drains and structures. Local roadway drainage will be designed per VDOT criteria for a “principal arterial roadway with shoulders” as follows:

- Culverts—25-year event.
- Closed storm drain systems—25-year event.
- Inlets—10-year storm (Maximum spread = shoulder width + 3 feet)
- Roadside and median ditches—10-year capacity and 2-year velocity for ditch lining design

► **Adequate Outfall/E&S.** The project includes 12 individual outfalls that are required to meet adequate outfall in accordance with MS-19 requirements of the Virginia Department of Conservation and Recreation. Adequacy of downstream channels includes meeting the minimum required 2-year storm erosive velocity based on existing soil types and meeting capacity for the 10-year storm event within the bed and banks of the existing channel.

As required by MS-19, if a channel is proven inadequate, then additional measures are necessary to improve the post-developed conditions such that the receiving downstream channels become adequate by definition.

Methods of meeting channel adequacy may include providing SWM Facilities to control the post-developed drainage to the pre-developed rate for the 2-year and 10-year storm events. Also, channel improvements to a point downstream where the “Project Area” is 1% of the total drainage shed, or to a point where the erosive velocities and the channel capacity are satisfied. This project will provide SWM facilities, which will attenuate the 2-year and 10-year storms to provide adequate outfall for the downstream receiving channels to the extent practical so that no additional construction or channel improvements will be necessary. To the extent practical, the roadside ditches will convey and divert drainage to the SWM facilities so that the requirements of MS-19 are met for all receiving channels.

Erosion control design will be phased to address TMP and temporary drainage conditions during the construction phase. Permanent SWM Facilities will be utilized to the extent practical as sediment basins during the construction phase. Sediment traps will be located where necessary to control drainage areas that do not exceed 3 acres during the construction phase. Other Erosion control measures may include, but not be limited to silt fence, super silt fence, diversion dikes, check dams, inlet and outlet protection, and construction entrances where necessary.

Utility Impacts. Risk to the project schedule associated with utility relocations has been minimized by the Branch Team through extensive coordination with the utility owners during the RFP Phase. Utility conflicts have been evaluated and incorporated into the project schedule. It is anticipated that utility conflicts requiring relocation will be limited to Dominion Power overhead facilities, minor Comcast communications facilities, and a Verizon duct located along Fort Johnston Road. The Branch concept design has been developed in a manner that minimizes utility impacts through avoidance wherever possible, and the result of this approach is a reduced

cost and project risk associated with utilities. Our approach to utility coordination and relocations is further detailed in Section 4.4.2.

Landscaping & Lighting. As depicted in the Branch Team’s landscape plan in Volume II, landscaping will be provided in strategic areas to improve the functionality of the roundabouts located on Route 9, to mitigate impacts to neighboring property owners, and to screen the proposed SWM facilities from residential areas nearby. The Branch Team proposes using high growth landscaping in the central island of both roundabouts and in the areas adjacent to the outside of both roundabouts as shown. These proposed locations have been determined using Chapter 9 of the NCHRP Report 672, *Roundabouts: An Informational Guide, Second Edition* to ensure that only the minimum intersection sight distance is provided. This promotes slower vehicle speeds while approaching and utilizing the roundabouts and improves the overall safety of the interchange. Though not depicted in Volume II, the Branch Team will also install appropriate landscaping with screening properties around all proposed SWM facilities, which adjoin residential areas. Furthermore, the Branch Team will reforest areas along the project, which require such treatment as appropriate. Lighting will be provided along Westbound Route 7 from Station 135+00 to Station 144+50 and from Station 219+00 to Station 234+00, along Route 9 from Simpson Circle through the proposed roundabouts, and along the W&OD Trail under the Route 9 Bridge and for the concrete arch underpass of Ramp D.

W&OD Trail Realignment. As depicted in the RFP Plan and the Branch Team’s concept plan, the project will include the realignment of the W&OD Trail in the vicinity of the Route 9/Route 7 interchange. The existing W&OD trail is located along the west side of Route 9 and crosses Route 7 on a bridge adjacent to the Route 9 Bridge over Route 7. The existing trail crosses Ramp B and Ramp A at-grade, and also has an at-grade crossing of Route 9 at the intersection of E. Colonial Highway. The proposed realignment of the W&OD Trail will reconstruct the trail along the west side of the proposed roundabout on the north side of Route 7. The trail will have an at-grade crossing of Ramp B and will connect to the existing W&OD Trail Bridge over Route 7. On the south side of Route 7, the W&OD Trail will be realigned to avoid pedestrian crossing of Ramp A and Route 9 by constructing the trail under the Route 9 Bridge over Route 7. The trail alignment will pass in front of the existing Route 9 Bridge abutment, then pass under Ramp D via a trail underpass before connecting to the existing trail prior to the Dry Mill Road underpass.

The design of the W&OD Trail realignment has been performed in accordance with the RFP Conceptual Plans and Northern Virginia Regional Park Authority (NVRPA) requirements. The Branch Team’s concept plan proposes an adjustment to the horizontal location of Reconstructed Ramp D, which shifts the location of the trail underpass and requires minor adjustments to the trail alignment for constructability purposes. Our proposed design improves the profile of the W&OD Trail between the Route 9 Bridge and the connection to the existing trail prior to Dry Mill Road by reducing the grades to improve rideability for users of the path. A revised profile for this segment of the W&OD Trail is provided in the Concept Plans in Volume II. We understand that a design waiver has previously been approved for the horizontal alignment of the shared use path, and our proposed design is within the design parameters used in the RFP Concept Design. We will initiate coordination with VDOT and NVRPA immediately following NTP, and will prepare a revised design waiver if necessary due to the minor changes proposed for the W&OD Trail realignment.

RDA has extensive experience working with NVRPA and specifically the W&OD Trail, having designed several projects that include crossings of the W&OD. These include the crossing of the W&OD Trail at Sunset Hills Road in Reston (public improvement project being designed for Fairfax County) and the W&OD Trail crossing of Grace Street in Herndon (crossing associated with design of private development and public improvements). We will implement all NVRPA standards where appropriate for roadway crossings (Ramp B and A), including the W&OD Trail Curb Ramp Detail, typical signage and marking for the trail crossings, and will implement the traffic calming measures at the Simpson Circle/Route 9 as described in RFP Attachment 2.4. Our plan will fully comply with all requirements for the trail design including under-bridge lighting and aesthetics for the underpass of Ramp D.

Guardrail. The Branch Team will perform a thorough analysis of the roadside area during project design, and will make every effort to eliminate hazards and fixed objects from the clear zone. Where necessary due to embankment height or the existence of fixed objects within the Clear Zone which cannot be removed, appropriate barrier systems will be designed and constructed in accordance with NCHRP 350 or the AASHTO Manual for Assessing Safety Hardware, First Edition. In addition to the barrier systems needed within the areas of project construction, the Branch Team acknowledges the additional RFP requirements to upgrade existing sub-standard guardrail and fixed object attachments within the project limits and to provide additional guardrail replacements at the locations identified in RFP Attachment 2.3.

Proposed R/W Limits. The Branch Team’s concept plan design does not require any adjustment to the R/W limits as shown on the RFP plan. All roadway improvements and associated elements including SWM facilities and guardrail have been designed within the R/W footprint established by the VDOT RFP Plan. With final design, we do anticipate that minor adjustments to temporary and permanent easements will be required. Permanent easements will be needed for utility relocations and to provide necessary easement for adequate outfall improvements downstream of culvert crossings. The anticipated additional easements are not the result of a “unique solution” being proposed by the Branch Team, but are needed to comply with standards for the design of drainage outfalls and to enable the necessary utility relocations for project construction.

4.3.2 Conceptual Structural Plans

The Branch Team has developed Conceptual Structural plans for the two significant structural components of the project: 1) the retaining wall to be constructed in front of the southern abutment of the Route 9 bridge over Route 7 to allow for construction of the realigned W&OD Trail, and 2) the concrete arch structure for the underpass of the W&OD Trail under Ramp D. Our design and construction teams have collaborated to propose a concept plan that improves constructability while meeting all RFP requirements. The structural concepts are included in Volume II and are described below.

Retaining Wall for W&OD Trail Under Route 9 Bridge. The retaining wall required in front of the southern abutment of the Route 9 Bridge to allow for the realignment of the W&OD Trail presents a unique challenge for the project. The existing slope protection between Route 7 and the existing bridge abutment will be removed to allow for construction of the realigned trail with a minimum 12-foot clearance from the trail surface to the bottom of girder. The proposed retaining wall on the south side of the realigned trail must be constructed within a limited work area with low overhead clearance without disturbing the existing abutment and structure. Our team investigated multiple alternative wall types before arriving at our proposal to use a soil anchor wall at this location.

Due to the fact that the wall will be constructed under an active bridge, the excavation will need to be supported during construction; this eliminated the use of a conventional retaining wall. Two possible solutions we considered were to use a soil anchor wall or a soldier pile wall. Because of the low overhead restrictions, installing soldier piles would be extremely difficult. Therefore, a soil anchor wall is the best practical solution. Using soil anchors will allow for a relatively fast and economical construction. Also, the soil anchor wall will be designed to withstand the required permanent vertical and lateral loading. The anchors will be positioned between the bridge piles so there will be no impact to the bridge foundation system. If large rocks are encountered in the soil beneath the existing abutment, drilled and grouted soil nails may be proposed as an alternative to helical anchors. A thorough geotechnical investigation will be completed following NTP to support the design of this retaining wall.

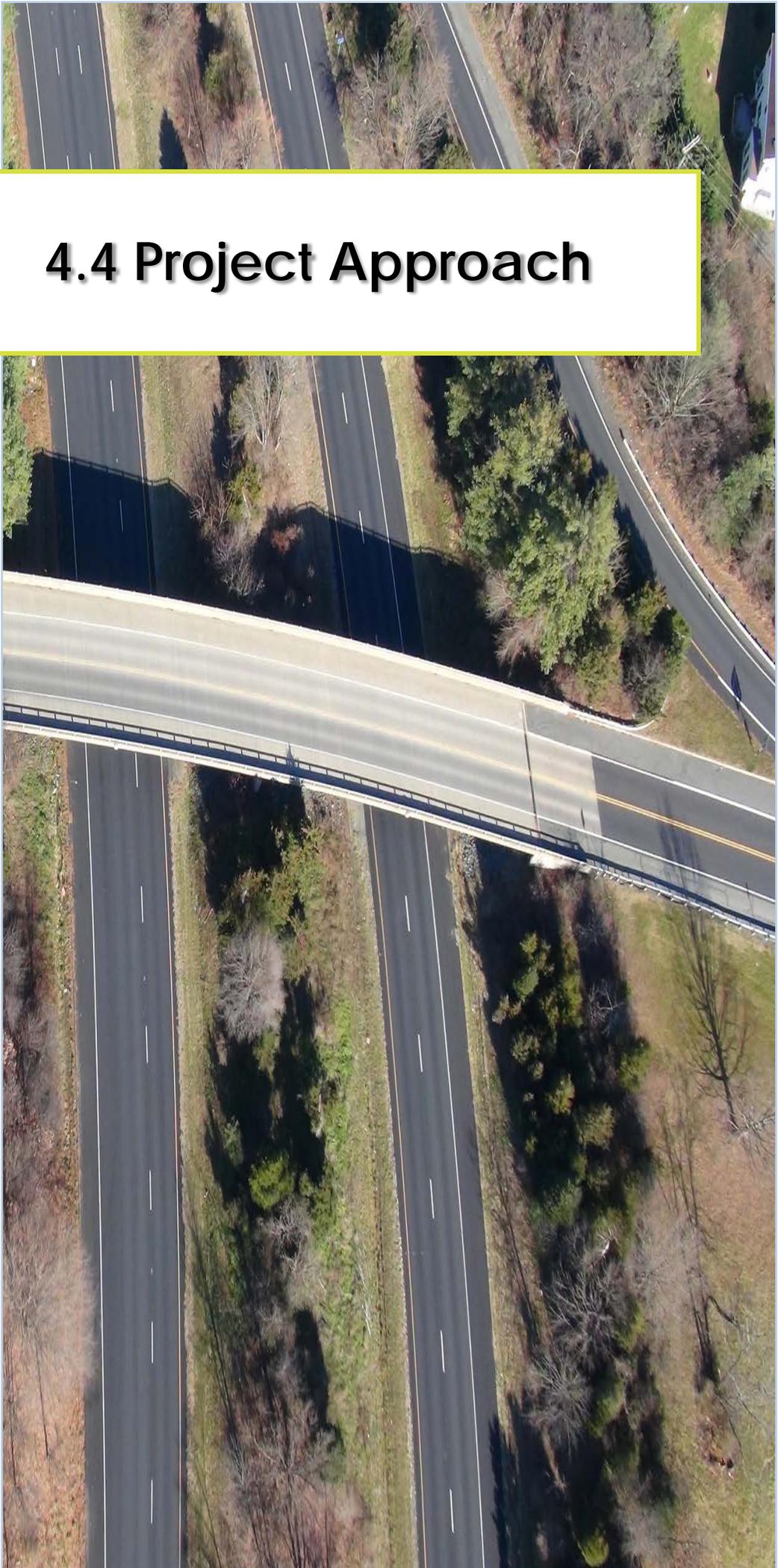
Concrete Arch for W&OD Trail Under Ramp D. The preliminary design of the concrete arch structure for the underpass of the W&OD Trail under Ramp D has been completed by the Branch Team in coordination with our proposed design to realign Ramp D off of the existing ramp alignment. Profiles of the realigned ramp and W&OD Trail are included in the Concept Plans in Volume II demonstrating that clearances in accordance with the RFP requirements have been provided. Additionally, Conceptual Structural plans depicting the arch structure and associated wingwalls at the entrance and exit to the underpass are included in Volume II. The

design of the foundations for the arch structure will be completed following geotechnical analyses in the location of the realigned ramp and arch structure. Key features of the concrete arch structure include:

- Grading associated with the relocation of the ramp and underpass structure allows the use of wingwalls at both the entrance and exit of the structure. This design, along with the proposed grading at the approaches to the arch, will create a safe and open feel for pedestrians and bicyclists approaching the structure.
- 22-foot minimum width of underpass, with 12-foot minimum clearance provide over full width of path
- Lighting of the underpass will be provided to enhance safety
- Design compliant with AASHTO LRFD Bridge Design Specifications, 6th Edition and VDOT Modifications
- Aesthetic treatment applied to all headwalls and connecting walls to match the stone pattern of the existing Dry Mill Road stone arch bridge over the W&OD Trail

Retaining Walls. As depicted on the RFP Plan, we anticipate retaining walls to be required at several locations within the project area. For each proposed retaining wall, the Branch Team will perform necessary geotechnical analysis for retaining wall design and will select an appropriate wall type from the VDOT Approved Retains Wall Systems list as modified with exceptions noted in the RFP. Standard metal railings (VDOT Std. HR-1, galvanized and powder-coated, will be provided for all walls except those requiring barrier based on their location. Finally, architectural treatments will be provided per the requirements of the Special Provision for Architectural Finish, Concrete Form Liners, and Color Stain Coating.

4.4 Project Approach



4.4 Project Approach

Branch Highways is a subsidiary of The Branch Group, Inc., which has been continuously ranked in the *ENR* Top 400 list of contractors for 16 consecutive years. As one of the first successful design-builders in Virginia, Branch currently is leading the re-construction of 37 miles of Route 58 between Stuart and Hillsville, Virginia under Virginia’s PPTA program, along with Design-Build projects for VDOT in Charlottesville, for Prince William, Stafford, and Augusta Counties, as well as for George Mason University, in Fairfax Virginia. Through our demonstrated success on projects throughout Virginia, we have developed a proven approach to successful delivery of design-build projects.

Our approach consists of developing a comprehensive team structure with defined roles, responsibilities, and accountability that involves all the participants in the project. These participants include the project management team, design professionals, R/W acquisition team, environmental team, utility coordinators, the QA/QC team, utility owners, VDOT, the public, and the construction team. Our approach successfully integrates all disciplines of design and construction to deliver a project focused on safety and efficient design and construction of the project while minimizing impacts to the community, traffic, and the environment.

4.4.1 Environmental Management

The Branch Team’s project approach integrates environmental management with all phases of design and construction. During the design phase, our environmental team will work closely with the project designers to ensure environmental impacts are minimized and that the design is contained within the footprint established with the previously completed environmental document. At each project milestone, an environmental review of the design plans will be performed as part of our QA/QC program. Plans will be reviewed for compliance with environmental commitments. Prior to the initiation of construction, a meeting with the design, construction, and environmental teams will be held to review environmental permits, design plans, and environmental commitments. During construction, our environmental team will perform field inspections and environmental compliance monitoring to ensure that all construction activities are performed within the permitted areas and in compliance with environmental commitments.

Having reviewed the previously completed Categorical Exclusion and associated environmental studies and documents, the Branch Team has developed a complete understanding of the environmental management requirements for the project. We have developed our project schedule to include durations to perform supplemental studies and to allow for VDOT and permitting agency reviews, certifications, and authorizations necessary for design approvals and construction authorizations. A summary of the key environmental management tasks is included below.

Environmental Document Re-evaluations. Environmental document reevaluations necessary for R/W Authorization and Construction Authorization are critical milestones in the project schedule. We understand that these milestones are “hold points” that must be completed for the project to advance to the R/W and Construction phases. The Branch Team will complete all necessary studies and documentation to allow VDOT to perform the document reevaluations and update the Environmental Certification (Form EQ-103) if necessary. Time has been built into our project schedule to allow for these reevaluations without delay to the project.

Cultural Resources. A No Effect determination has been obtained from the Virginia State Historic Preservation Officer (VA SHPO). The Branch Team will ensure continued avoidance of impacts to historic properties including the Abraham Davis House at 17313 Dry Mill Road and the house at 40505 Beechnut Drive, when planning staging areas, borrow or disposal areas, or easements. The locations of any off-site project related activities will be coordinated with the VDOT Project Manager to allow for consultation with the VA SHPO if necessary.

Hazardous Materials. Risk associated with hazardous materials is minimal, as VDOT has concluded that there are no hazardous materials concerns if the project is built within existing R/W. Asbestos inspections will be required, and the Branch Team will retain an independent asbestos inspector licensed by the Virginia

Department of Professional and Occupational Regulation (DPOR) to check previously unsampled materials on Type B structures in the project. Copies of all inspection results shall be provided to the VDOT Project Manager. If asbestos containing materials (ACM) are discovered, we will obtain estimates from a certified asbestos abatement and removal company prior to demolition or renovation and in accordance with the Special Provision for Asbestos Removal and NESHAP-Related Demolition Requirements for Structures on Design-Build Projects and with all Federal and State regulations.

Solid waste, hazardous waste, and hazardous materials removal and disposal will be managed in accordance with all applicable state and federal standards and regulations. We will prepare a Spill Prevention, Control, and Countermeasures Plan as required by 40 CFR 112 for submittal to the VDOT Project Manager prior to beginning remediation.

Threatened and Endangered Species. The Branch Team will coordinate with the Virginia Department of Conservation and Recreation, the Virginia Department of Game and Inland Fisheries, and the US Fish and Wildlife Service to update information on threatened and endangered species. Risk to project schedule will be minimized by initiating agency coordination immediately following Notice-to-Proceed. Threatened and Endangered Species determinations will be completed in coordination with the acquisition of water quality permits, and we will comply with any water quality permit conditions that the regulatory agencies require to protect such species.

Air Quality. Given that the project area is located within a moderate ozone nonattainment area, a fine particulate matter nonattainment area, and a volatile organic compounds and nitrogen oxides emission control area, precautions will be taken to limit emissions during construction. Applicable requirements include DEQ air pollution regulations, requirements described in the Air Quality Analysis, and the Special Provision for Volatile Organic Compound Emissions Control Areas.

Noise Mitigation. We understand that VDOT has completed a Noise Abatement design Study Final Report based on the RFP Plan and that no noise mitigation is required for the project. With our proposed design, we do not anticipate any modifications to the horizontal or vertical alignment that would require an update to the previously completed Noise Abatement Study.

Agricultural/Forestal District Properties. The Branch Team will design the project in a manner that limits the impact to the Clairvaux, LLC properties (parcels 011, 012, 013) to less than one acre including R/W and easements. Recognizing that these properties are in an Agricultural/Forestal District, a limit of one acre is allowed by VA Code 15.2-4313.

Additionally, the Branch Team recognizes that the Virginia Outdoors Foundation has an open space easement located on the Rust Sanctuary of the Audubon Naturalist Society, located adjacent to the project in the southeast. With our design, no R/W or easements will be acquired from these properties.

Permitting. The Branch Team understands that it will be fully responsible for obtaining all necessary federal and state Water Quality Permits necessary for project construction. Following Notice-to-Proceed, we will begin the activities required for permitting of the project. These activities include wetland/stream delineations, obtaining a jurisdictional determination from the Army Corps of Engineers, preparing the Pre-Construction Notification or Joint Permit Application once design is advanced to a point where limits of impact are established, and obtaining the necessary federal and state water quality permits necessary for construction, and providing mitigation as required by the permitting agencies. We will initiate contact with the permitting agencies immediately following NTP and maintain communication throughout the design and permitting phase to allow for expedited processing of the required Water Quality Permits.

In compliance with the RFP requirements including the Virginia Erosion and Sediment Control Law and Regulations and the Virginia Stormwater Management Program (VSMP) Law and Regulations, the Branch Team will prepare and implement an Erosion and Sediment Control (ESC) Plan and Narrative, Stormwater Pollution Prevention Plan (SWPPP), and a post construction SWM Plan. The Branch Team will prepare the

necessary ESC and SWM Plan Certifications for submission to the VDOT Project Manager to allow for processing of a VSMP Construction Permit.

4.4.2 Utilities

During the RFP phase, our Team performed a thorough evaluation of utilities within the project corridor. We contacted each utility owner with facilities within the project limits, obtained utility records, and performed field reconnaissance to confirm utility locations and evaluate potential conflicts. We completed preliminary conflict analyses and discussed potential relocation schedules with affected utility owners. The detailed analysis we performed allowed our Team to minimize risk to the project due to utility relocations by considering utility relocations in our project concept plan, sequence of construction, and project schedule. A critical element of our utility analysis is performing a thorough evaluation of overhead utilities within the project limits.

The Branch Team has minimized risk associated with utility relocation by avoiding utility conflicts where necessary and developing a sequence of construction, which minimizes the reliance of construction activities on utility relocations. For those utilities that must be relocated, we will follow our standard procedures for utility coordination in accordance with VDOT’s Utility Manual. A detailed description of the conflicts and our approach to effectively carrying out the relocations is provided below.

Utility Conflict Analysis				
Sheet	Utility Owner	Potential Conflict	Conflict?	Notes
11	Dominion Power	3-4 feet proposed fill will pose clearance issues with aerial lines at STA 28+75 +/- Fort Johnston Road	Yes	Verizon and Comcast attached as well
10	Dominion Power	Pole is within the proposed pavement at STA 24+90 +/- Fort Johnston Road	Yes	Verizon and Comcast attached as well
10	Dominion Power	2-foot cut proposed at pole location will compromise the pole at STA 24+25 +/- Fort Johnston Road	Yes	Verizon and Comcast attached as well
10	Dominion Power	Pole inside the proposed roadway at STA 22+10 +/- Fort Johnston Road	Yes	Verizon and Comcast attached as well
10	Dominion Power	Pole inside the edge of proposed Beechnut at STA 183+50 +/- Route 7	Yes	Verizon and Comcast attached as well
10	Comcast	Drop from aerial line crosses Fort Johnston that will be in conflict with the proposed roadway	Yes	46LF approximately to relocate
10	Verizon	TH#3 and TH#4 confirm conflict with cut area STA 227+46 +/- to 235+15 +/-	Yes	777 LF +/- manhole to manhole for relocation
12(1)	Verizon	UG duct in conflict with proposed cut area STA 80+15 +/- to 84+23 +/- Market Street	Yes	Assumed Conflict – Test Pit Confirmation Needed
8	Verizon	Crossing will be in undercut assumed based on geotechnical reports STA 204 +/-	Yes	Assumed Conflict – Test Pit Confirmation Needed
4	AT&T TCG	Empty conduit crossing Route 7	No	AT&T reports depths of existing line clear of construction

The Branch Team’s Utility Coordinator, Mr. Mark Gunn, P.E., will manage the relocations of all utilities necessary for project construction in accordance with VDOT’s Utility Manual of Instructions. Through strict adherence to the Utility Manual Procedures and constant and effective communication with the utility owners, Mr. Gunn will effectively minimize risk to the project schedule and cost. Utility coordination will be carried out in close coordination with the Design Manager to ensure that the project design and proposed utility relocations are appropriate and conflict-free. Additionally, Mr. Gunn will act as a liaison between the construction team and utility owners throughout the design and construction phases, providing the utility owners a single point of contact throughout the life of the project. Mr. Gunn will track the progress of each utility relocation using a utility tracking matrix. This matrix, identifying all required milestones, document submissions, and approvals/authorizations, will be provided to all members of the project team, including VDOT, to allow for appropriate oversight and progress monitoring throughout the project. This approach allows for early identification of

potential utility delays and provides the Branch Team the opportunity to implement corrective action when necessary to avoid impacts to project schedule and/or cost.

In accordance with the policies set forth in the VDOT Utility Manual of Instructions, the Branch Team will use the following steps and will monitor the progress with the tracking sheet:

1. Coordinate with utility locator during the survey phase to locate underground facilities throughout the project limits. Early identification of all overhead and underground facilities is critical to a smooth and rapid utility coordination effort. Supplemental utility designating will also be provided to ensure accurate depiction.
2. Initiate utility contacts. Begin discussions with Dominion Virginia Power, Verizon, Comcast and AT&T. Advise of project scope and schedules. Establish contact with utility owner engineers or consultants that will be involved with the redesign of the facilities.
3. Maintain open lines of communication at all times. Effective communication will speed response times. The Utility Coordinator will keep the utility companies advised of the project schedules and will maintain constant communication throughout the life of the project. Monthly coordination meetings will be held with all utility owners to monitor progress, update schedules, and facilitate coordination between utility owners.
4. Obtain test pits on underground utilities and adjust design plans to minimize utility relocations. These test pits will be prepared in advance of the formal Utility Field Inspection (UFI) meeting to provide information to the utility companies earlier than normal and speed the preparation of the ROW requests and plan and estimates.
5. Hold a formal UFI meeting to officially request easement documents and plan and estimates for the required relocations. Set specific time limits for preparation and delivery of easement plats in order to not delay the ROW acquisition process.
6. Prepare UT-9 determinations for each utility owner. Perform prior rights determinations, and provide UT-9s and supporting documentation to VDOT for review and approval.
7. Following receipt of utility easement requests, the Utility Coordinator will coordinate with the R/W acquisition team to coordinate the acquisition of utility easements.
8. Work closely with utility owners during the Plan & Estimate preparation phase to monitor progress and ensure any design changes are accommodated with the Plan & Estimate.
9. Review Plan & Estimates for constructability, cost, adherence to VDOT Utility Manual of Instructions requirements, and appropriate cost responsibility determinations. Provide the complete Plan & Estimates to VDOT for review and approval.
10. Facilitate the preparation of any Special Provisions required for coordination of utility relocations with construction operations. Clearly communicate to the Construction Manager the requirements of the utility companies and the ultimate position of the relocated utilities to avoid costly and time-consuming conflicts.
11. Upon receipt of executed easement agreements and approval of Plan & Estimates, forward signed agreements to the utility companies and issue a Notice to Proceed.
12. Coordinate construction stakeout controls for proposed utility relocations.
13. Resolve any conflicts that occur during construction to minimize delays through proactive communication with each utility owner.
14. Act as a liaison between the utility companies, the adjacent property owners, and VDOT for the resolution of any concerns/disputes that arise during construction.

By following these processes, the Branch Team will be able to monitor the progress of all utility relocations, identify schedule impacts, and adjust construction operations accordingly. In addition, at the survey stage, UFI stage, easement acquisition phase, and plan and estimate phase, the design team will conduct reviews and

incorporate any design changes required. This is accomplished by identifying potential conflict points and resolving the conflict by adjusting either the design or the utility.

The Branch Team’s Design Manager will conduct bi-weekly reviews with the Team’s Utility Coordinator to ensure proper communication between the project team and the utility companies is occurring. The review of the Utility Tracking Matrix at these meetings will provide early warning of any potential problems that could impact schedule so the Team can react accordingly.

During the utility relocation phase, the Branch Team’s Utility Coordinator, in coordination with the Construction Manager, Mr. Pete Kramer, will monitor the utility relocations to ensure they are relocated according to plan and do not conflict with the roadway construction. Monitoring of utility relocations and the preparation of utility relocation as-built plans will be performed to verify the relocated utilities will be free of conflict from the proposed construction activities.

4.4.3 Geotechnical

The Branch Team has reviewed the Geotechnical Data Report (GDR) produced by Northern Virginia District Materials Division for the project. Based on the information provided and our working knowledge of the project area, we have assessed the potential geotechnical risks associated with the project and have developed a project approach that will minimize these risks.

This project is located within the Catoctin formation of the late Proterozoic period, just to the west of the boundary of the Culpeper Triassic Basin. Separating the two geologic formations is a thin geologic band known as the Weaverton Formation, which is associated with periods of activity of the nearby Bull Run fault. Generally, rocks within the Catoctin Formation contain metamorphosed igneous and sedimentary rocks typically consisting of metabasalt and schist. In general, subsurface soils encountered in the GDR study consisted of manmade fills commonly near bridge overpasses and interchanges, overlying upper residual soils typically consisting of low plasticity silts, clays, and sands. Portions of the upper residual soils contained isolated locations of highly plastic silts and clays. Underlying the residual soils and fill was decomposed and highly weathered rock derived from the in place weathering of the underlying bedrock. The depth to bedrock was notably shallow in several locations. It should be noted that portions of the upper fill soils were observed to contain varying amounts of organics, vegetative debris, and construction debris. The GDR indicated that selected soil specimens obtained in bulk or from SPT testing were tested in the laboratory. Testing included particle size analysis and Atterberg limits testing as well as moisture density relations and CBR tests for the bulk samples.

DMY Engineering Consultants will be responsible for all geotechnical investigations, evaluations, and recommendations for the project. DMY will supplement the GDR information provided in the RFP by developing a geotechnical engineering investigation program that meets or exceeds Chapter 3 of the *VDOT Manual of Instructions for Materials Division*. A thorough evaluation of the subsurface conditions is important to properly characterize the subsurface conditions and will include performing necessary calculations to allow the Branch Team to mitigate the following geotechnical-related risks for the project:

The Branch Team has identified the following geotechnical-related risks for the project:

- **Proximity of Existing Foundations/Maintaining Existing Structures:** The earth fill slope below the southern abutment of the Route 9 Bridge over Route 7 will be removed to construct the W&OD Trail. Alternatives to the soil nail wall shown in the RFP will be considered to improve safety, constructability and cost.
- **Maintaining/Reconstructing Existing Slopes:** The anticipated fill slopes are 2H:1V. Where fill slope heights are greater than 10 feet, triaxial shear strength testing on proposed embankment fill materials will be considered for slope stability analyses and evaluation of factors of safety. Extension of existing embankments will require horizontal bench cuts starting where the existing slope meets original ground and continuing vertically with successive benches continuing at the intersection of the previous bench

cut. Depending on the available fill materials, it is possible that slightly flatter slopes or benched slopes will be needed to produce a suitable factor of safety especially for fill heights greater than 25 feet.

- **Existing Fill Materials:** Existing fill was encountered throughout much of the roadway alignment, including within the median. The existing fill was typically low plasticity clays, silts, and sands with lesser amounts of highly plastic soils. The existing fill was observed in thicknesses greater than 10 feet in 13 of the soil borings. Measures such as excavation and replacement may be necessary to prepare a stable subgrade for pavement and retaining wall support. Additionally, fill soils containing significant amounts of organics, wood, and construction debris were noted in 10 of the soil borings performed. Fill material containing debris will need to be removed for pavement and retaining wall support. Within the median and in other areas of the site, cement stabilization will be considered for pavement support on the existing fill.
- **Groundwater:** Based on the GDR, we do not anticipate that shallow groundwater will be encountered throughout the entire project site. However, at several boring locations groundwater was observed to be as shallow as 0.5 feet below the existing grade. We anticipate that limited groundwater control will be required for pavement construction to handle groundwater conditions. Some limited dewatering using collector trenches and pumping may be required to install pipes using trenchless technology or earth retention structures. Ground water conditions are highly sensitive to precipitation and surface water run-off. Various types of under-drains will likely be needed in addition to typical pavement edge drains.
- **Jack and Bore of Utility Pipe Crossings:** According to the GDR, rock was encountered at shallow depths at portions of the site. Based upon the boring data, we identified approximately 23 locations where rock was observed at depths less than 10 feet below existing grade. Depths to rock vary depending upon the topography and localized weathering profile of the residual earth material. The variable rock elevations and weathering conditions present a significant challenge to the jack and bore of utility pipe crossings. Additional testing will be performed in these areas to ensure the best construction methods are selected prior to installation.
- **Rock Excavation:** Based upon the soil boring logs in the GDR, we expect shallow rock at about planned Stations 160+00, 166+00, 190+00, 210+00 to 212+00, 216+00, 230+00, and 255+00. Past grading for Route 7 may have cut or fill through the natural topography, especially near overpasses. Based upon the boring data, we anticipate that some rock excavation will be necessary to construct the Route 7 truck climbing lanes. If so, excavation utilizing blasting or hoe rams or other similar techniques is possible pending the outcome of the supplementary GDR. This risk is critical due to the effects of the construction methods on safety, maintenance of traffic, and lane closures.
- **Pavements:** In general, the results reported in the GDR of California Bearing Ratio (CBR) testing exhibited generally good CBR values between 4 and 22.3, with an average CBR of 10.8. We anticipate that much of the existing natural soils and fill soils will be suitable for use as fill below pavements. The existing fill encountered within the pavement subgrades will likely be suitable for support of pavements in most areas, provided they pass a proof-roll and do not consist of high plasticity or high moisture soils. Undercutting or subgrade stabilization could be required to support new pavements on existing fill subgrades in some areas.
- **Stormwater Management Basins:** Depending on final grades, rock excavation could be a potential risk in basin areas. Infiltration may not be possible where low-permeability soil and/or rock are present at the bottom and sides of the basins. Mitigation may include additional undercutting and/or redesign of the basin shapes and depths.
- **High-plasticity Soils:** Based upon the GDR, high plasticity soils were encountered within 10 feet of the existing grade in 28 of the soil borings performed. Problems with high plasticity soils include shrink-swell potential, poor subgrade support when wet, and difficulties with respect to proper compaction when placed as structural fill. If exposed to excessive moisture or disturbance, these soils

will become unstable and unsuitable for subgrade support of fill and will require removal prior to fill and backfill placement. High plasticity soils are not suitable for placement in roadway embankments, and beneath retaining walls or other site structures according to the GDR.

- **Variable Soil Moisture:** The GDR indicates areas of soils with high and low moisture content requiring drying or wetting in order to meet compaction criteria. Therefore, additional laboratory testing is needed to better define the proctor values, estimate the extent of unsuitable soils that require undercut and replacement, and evaluate the extent of soils that can be modified or stabilized versus undercut and replacement with select materials.

4.4.4 Quality Assurance/Quality Control (QA/QC)

The Branch Team considers quality to be one of its highest priorities. For the Route 7–Westbound Truck Climbing Lane Design-Build Project, all members of the Team will work together to ensure that quality assurance and quality control for both design and construction will be implemented in strict accordance with *VDOT's Minimum Requirements for Quality Assurance and Quality Control on Design-Build and Public-Private Transportation Act Projects*, January 2012. This section details the measures that the Branch Team will take to deliver a high-quality project to VDOT.

Construction QA/QC. Branch Highways enjoys an exemplary reputation for quality and safety within the industry as evidenced by awards both from clients, including VDOT, and industry organizations, such as the Virginia Transportation Construction Alliance (VTCA). Those accolades were earned through relentless efforts to plan, schedule, and execute construction safely, while ensuring that work and materials used on the projects met or exceeded the contract requirements and the ‘approved for construction’ plans and specifications.

A key element in ensuring quality on this project will be regularly scheduled team meetings to discuss ongoing and planned operations. VDOT will be invited as part of the Project Team and provided ample opportunity to discuss any concerns on a continual basis. During these meetings, identification of specific quality requirements and expectations for each anticipated activity will be discussed.

As each activity starts, including traffic maintenance installations, clearing, and grading, witness and hold points will be established to ensure that the requirements of these operations are identified and understood by those responsible for implementation, supervision, and inspection oversight. VDOT will be kept abreast of these witness and hold meetings and invited to participate. These meetings will be scheduled ahead of the planned activity start dates to allow each team member ample preparation time with the goal of establishing clear guidelines for implementation.

Along with establishing protocols for specific work activities, the project team will also ensure that each required documentation and reporting element, including a comprehensive document control system, is maintained in a “CQIP-ready” status. In order to accomplish this, Branch assembled its Team predicated on their proven track record of establishing accountability between the Design-Build, Construction, Quality Assurance, and Quality Control Managers and their respective staffs. These individuals and their roles are described in further detail, below.

The Branch Team will provide the highest level of construction quality and safety, while maintaining comprehensive records that meet or exceed the Department’s documentation requirements. In order to assure the Department that the Team will meet those standards, we will provide full access along with weekly updates at our coordination meetings to include an ongoing accounting of any deficiencies and accompanying compliance measures planned or executed, as well as any anticipated/pending issues requiring VDOT review and/or approval.

Construction QA/QC Procedure for a Unique Project Element. One major item of construction that is likely to necessitate enhanced QA/QC involvement will be drainage items requiring boring and/or tunneling. Since many of these installations are anticipated to be deep, large-bore endeavors, strict monitoring for line and grade, roadway and pit stability, and traffic and worker safety will be critical. While the jacking/boring activities will

be fully vetted prior to their start via the witness and hold procedures described above, each individual location will be treated as a single event. In addition, special emphasis will be placed through daily safety and quality meetings at the crew level with the goal of maintaining a keen awareness relative to those issues. As further assurance that the operations meet or exceed QA/QC requirements, the Project Team will perform daily, detailed inspections that will be made part of the Project Record, and those inspection reports will be incorporated into the Daily Crew Meetings.

The Branch Team will be committed to providing Construction QA/QC services throughout each phase of the work. When we perform at the levels described, we often observe a growing confidence with those we work with in our ability to provide quality and safety assurances such as those VDOT expects to see in a Design-Builder. Our Team fully expects to continue that trend and show that we can provide services without undue burden on the Department’s staff administering this Project.

Design QA/QC. The Branch Team’s lead designer for this project, RDA, is committed to excellence in providing QA/QC, from the top of their organization to the bottom. RDA has an established system of QA/QC involving every member of their team, from the President of the firm to the engineering technicians. RDA’s business model reinforces quality as their primary method of marketing by allowing their product and service to propel them to success in this extremely competitive market.

RDA maintains an internal QA/QC program that requires each member of the Team to be accountable for his or her part of the plan being developed. RDA recognizes that checklists are tools to assist in identifying plan deficiencies. As the lead designer, RDA also maintains oversight of the Team’s subconsultants with additional in-house review to provide the highest quality product.

All of RDA’s design projects are previewed in three-dimensions to ensure that their design will be interpreted correctly and that the survey data is reflective of actual field conditions. RDA feels that the additional measures they take as part of their QA/QC program are crucial. As part of their QA/QC process, RDA hand checks calculations that software programs provide. As a result, they have been able to locate design data that has been miscalculated by using a program, thereby reinforcing their need to review and validate all aspects of their design.

A successful quality control program requires a strong policy position, constant monitoring, and continual reminders by all levels of leadership that high quality work is expected, and poor quality work will not be tolerated. The main components of RDA’s successful QA/QC program include:

- *Strong Project Management*—strong project management encompasses developing a clear scope, establishing project functions, defining budgets and schedules, establishing design milestones, establishing clear responsibilities and careful monitoring to ensure reasonable solutions.
- *Concepts Prepared Early*—early preparation ensures reasonable solutions to project issues which are cost-effective and within budget.
- *Understanding and Careful Adherence to Requirements and Standards*—the applicable VDOT standard requirements and procedures are well understood and will be closely followed.
- *Independent Quality Assurance Checking*—all drawings are checked by discipline representatives not directly involved in the design.
- *Coordination Checking*—coordination checks among disciplines are an important element in QC.
- *Calculation Checking*—all calculations are checked by an engineer other than the principal designer. Calculations are checked for accuracy, code compliance, and compliance with design standards.
- *Review Comment Checking*—review comments are checked before each submission to ensure that all comments and/or directives resulting from the previous submission have been adequately addressed.

In addition, RDA has a written “QUALITY MANAGEMENT PLAN” (QMP). This Manual is 44 pages long, and thus, too lengthy to include as part of this Proposal. However, to give VDOT some insight into the procedures that RDA follows to assure quality design, the chapters that constitute this QMP are listed below:

- 1) *Design Procedures*
- 2) *Preparation and Review of Calculations*
- 3) *Preparation and Review of Drawings*
- 4) *Preparation and Review of Specifications*
- 5) *Preparation and Review of Technical Studies and Reports*
- 6) *Software Quality Assurance*
- 7) *Quality Assurance Review and Release of Deliverable*
- 8) *Collection of Field Data*
- 9) *Equipment Calibration Program*

The procedures and forms that comprise the QMP require written documentation and approvals by qualified engineers attesting to the accuracy of the design plans and calculations, as well as tracking associated revisions. By adhering to the standards detailed in their QMP, RDA has been able to consistently provide their clients the highest-quality plans, saving both time and money and allowing projects to proceed more quickly to construction. RDA would be happy to provide VDOT with copies of their QMP to review the details contained therein more closely.

Design QA/QC Procedure for a Unique Project Element. One critical design element for this project will be the preparation and execution of an effective Transportation Management Plan (TMP). The Branch Team has a strategic approach to ensure the successful implementation of QA/QC on this key plan element. **Erik Shively, P.E., PTOE** and **Adam Welschenbach, P.E., PTOE** will lead the TMP design and both hold current VDOT Advanced Work Zone Training certifications. Mr. Shively has recently completed an assignment on the I-95 Express Lanes where he led the Maintenance of Traffic design. Mr. Welschenbach has extensive experience developing TMP plans including the Route 15 Design-Build with Branch Highways in Prince William County. The continuity of experience within the Branch Team will provide confidence that the TMP challenges faced on this project will be handled with minimal additional effort from VDOT.

From the outset of the project, the construction and design engineers will continuously collaborate to determine the safest and most efficient sequence of construction to minimize construction duration, provide safe work zones and maintain accessibility for workers, motorists, pedestrians, bicyclists and transit. The Branch Team will also engage VDOT as well as other stakeholders, including municipal entities and the NVRPA, throughout the process to provide updates and an opportunity for input on the development of the plans, including regular meetings and over-the-shoulder reviews before plans are submitted to ensure final approvals can be secured quickly and efficiently.

Once TMP design concepts are identified, the design team will prepare plans in accordance with all applicable standards, including the correct versions of the MUTCD and Virginia Work Area Protection Manual. Before plans are submitted to VDOT, the Branch Team will perform design QA/QC on the TMP, utilizing the RDA QMP process described above. This will include thorough plan reviews by qualified engineers who were not involved in the design of the plans, in addition to checking for compliance with all applicable standards with tools such as the VDOT LD-436 checklist. This process will provide well-structured and easily audited documentation that appropriate QA/QC has been successfully performed, while facilitating the highest quality TMP design product.

After any subsequent VDOT plan reviews, the Branch Team will discuss and resolve any plan review comments offered. All comments will be closed by reaching a consensus on final disposition, and necessary plan revisions will be made by the design team. Once again, the RDA QMP process will be used to ensure these revisions are successfully integrated into the plans before the next submission to VDOT. This comprehensive

approach to the TMP element will minimize the likelihood of additional QA/QC effort by VDOT and will result in easier reviews and approvals.

QA/QC Staffing Plan. The Branch Team has assembled a staff of proven professionals to ensure that the QA/QC requirements are met for each element of this project. Our Key Personnel each possesses extensive Design-Build experience including the unique experience of all working together on the Route 15 PPTA/Design-Build project. The Design-Build Project Manager, Design Manager, Construction Manager, and the Quality Assurance Manager (who served as the owner’s representative) were all a part of the successful delivery team of this \$55 million project, possessing similar challenges and scope in the Northern Virginia District.

Michael (Mike) Higgins will serve as the Design-Build Project Manager and will oversee the project, to include design, construction, construction quality management and contract administration. Mr. Higgins has over 25 years of construction experience and is the Vice President of Operations and Design-Build Services for Branch. His achievements as the Design-Build Project Manager on the extremely successful Route 58 Corridor PPTA projects (Hillsville and Meadows of Dan Bypasses) and the award winning Route 15 PPTA project for the Prince William County Department of Transportation give proof of his qualifications and experiences.

Mike actively participates in the Virginia Transportation Construction Alliance (VTCA), where his industry peers elected him joint chairman of the Design-Build Committee with Shailendra Patel of VDOT. The Design-Build Committee is a joint committee consisting of both VDOT and industry members whose purpose is to identify and address concerns and issues arising from the design-build procurement and construction process.

As Design-Build Project Manager, Mike will report directly to VDOT at an executive level for all project activities including contract administration, scheduling, design, construction, and quality. He will directly manage the Key Personnel: Kaushik Vyas, P.E. (Quality Assurance Manager), Mo Kim, P.E., DBIA (Design Manager), and Pete Kramer (Construction Manager). Also reporting to Mr. Higgins will be additional personnel whose roles are instrumental to the project’s success.

Mr. Kaushik Vyas, P.E. of Quinn Consulting Services, Inc. will serve as the Quality Assurance Manager (QAM) on the Route 7–Westbound Truck Climbing Lane project. In this role, Mr. Vyas will be independent of the Contractor QC team and will be responsible for overseeing compliance with the approved project specific QA/QC Plan as well as the VDOT Minimum Standards for Design-Build and PPTA Projects. As the QAM, Mr. Vyas will have the authority to stop work on the project should it significantly deviate from the QA/QC Plan and will also be responsible for generating Non-Compliance Reports (NCRs) and deficiency logs for nonconforming work.

Mr. Vyas's experience includes Design-Build projects in Prince William County and Richmond as well as his most recent assignment on the I-495 HOT Lanes project that is nearing completion. On these projects, Mr. Vyas has held the positions of QA Manager and QC Manager so he has an in-depth knowledge of what is required from both the QA and QC teams in order to deliver a successful design-build project. He has personally developed and tracked to conclusion Non-Compliance and Deficiency reports, reviewed inspector reports for completeness and accuracy, and managed the office engineers and project records system.

On the Route 7–Westbound Truck Climbing Lane project, Mr. Vyas's responsibilities will include: holding preparatory meetings before the start of each new contractor activity; overseeing QA inspection staff; assuring that the minimum testing and inspection frequencies as defined in the tables of the Minimum Standards for Design-Build projects are met for both QA and QC; reviewing and signing monthly Contractor pay estimates; developing and following through to successful resolution project NCR's and deficiencies; and assuring that all project QA/QC records are kept up-to-date and in accordance with the approved project QA/QC Plan.

Mo Kim, P.E., DBIA will be responsible for the *design* quality assurance and quality control (QA/QC) requirements, as outlined in VDOT’s *Minimum Quality Assurance and Quality Control Requirements for Design-Build and PPTA Projects*, dated January 2012, specifically as outlined in Section 3 and 4 of that

document. Mr. Kim fully understands the challenges of ensuring the quality of a Design-Build project versus a traditional bid-build project, having served previously as the Design Manager on several PPTA/Design-Build projects and high volume roadway improvement projects throughout Northern Virginia.

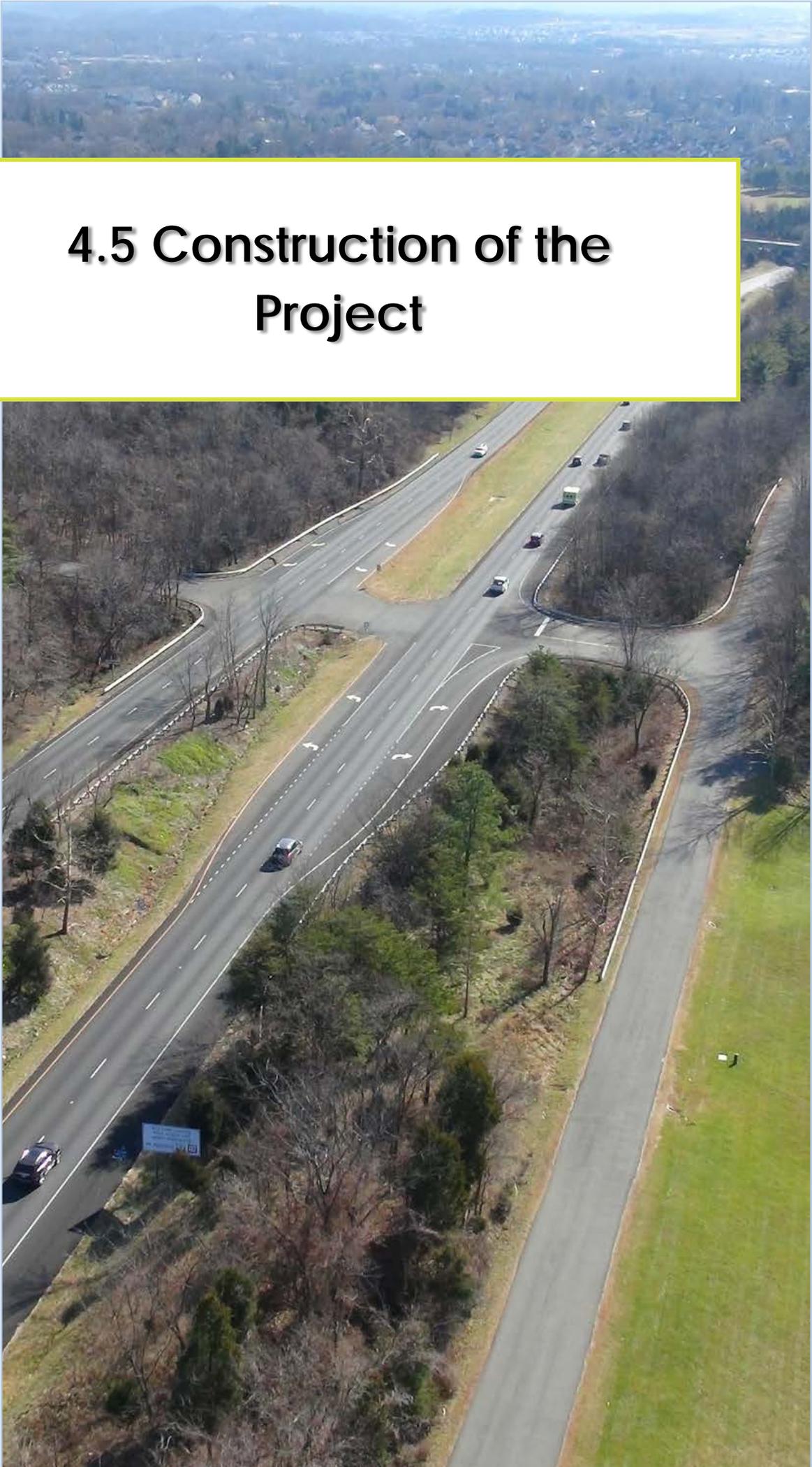
Mr. Kim shall be responsible for overall management of the QA/QC programs for design and will report directly to the Design-Build Project Manager. He will be responsible for overseeing all QA/QC activities associated with multi-discipline design elements of this project. Mr. Kim shall maintain close communication with the Design-Build Project Manager and shall ensure the Project is completed in accordance with the requirements of the contract documents. He will be assisted by **Mr. Darell Fischer, P.E.**, who will provide an independent QA review; Mr. Fischer is not part of the day-to-day production team. Mr. Kim shall perform all of the design oversight reviews along with Mr. Fischer. Design QC will be performed at the office where the work is conducted by a qualified independent staff person of each team member [per section 4.1.4 of the current minimum requirements] but will also be technically reviewed by Mr. Fischer for QA. Under this procedure, Mr. Kim will provide VDOT with draft design plans for review and approval to confirm that the design work complies with the requirements of the Contract Documents, prior to initiation of construction activities on the Project.

Emphasis will be placed on providing high quality in the development of construction plans. In the design process, Mr. Kim is responsible for project design management, compilation of plan assembly and determination of when plans have been developed to the point that Quality Reviews are to be made. He is both responsible and accountable for the quality of all of the plans.

Pete Kramer, the Construction Manager, will plan, schedule, and execute the construction work, ensuring the work and materials used on the project meets or exceed the contract requirements and the ‘approved for construction’ plans and specifications. Mr. Kramer has nearly 25 years of roadway construction experience, including 16 years as a Construction Manager for Branch Highways including Route 15 PPTA/Design-Build project with Prince William County. Mr. Kramer’s proven experience on Route 15 attests to his capabilities of effective communication between Key Team Personnel in delivering an on-time, on-budget project meeting or exceeding the contract requirements.

Mr. Kramer plans to hold weekly progress meetings during the Route 7–Westbound Truck Climbing Lane project as well as implementing an effective quality control plan that ensure materials provided and work performed are in accordance with the contract requirements.

4.5 Construction of the Project



4.5 Construction of the Project

Given Branch’s experience with other design-build projects, we planned our construction approach to achieve the necessary process time frames and minimize the effects of long-lead items such as geotechnical investigations, R/W acquisitions, utility relocations, and environmental permitting. With those considerations as a backdrop, safety for both the Project Team and the traveling public became the driving force in our decision-making process. In this case, that meant staging work to occur first in areas within the R/W and out of environmentally sensitive areas in a manner that enhanced safety. The resulting sequencing plan for construction is reflected in the Project Schedule and the Transportation Management Plan.

4.5.1 Sequence of Construction

We intend to start construction in four key areas. Each begins with a focus on initially improving safety with temporary construction in order to accomplish the Project Goals. The first area includes improving the turning movement from Eastbound to Westbound Route 7 at Market Street (Area 1). This work will accomplish two goals with the same construction. First, it will allow for the safe movement of construction traffic without unnecessary travel on Town of Leesburg secondary roads. Secondly, improving this movement will allow for local traffic that may be affected by median work at existing cross over locations to have an alternate route for ingress and egress.

Area 2, which includes inside temporary widening to enable outside temporary pavement and the permanent ramp reconstruction on the EBL at Market Street, also serves the initial goal of improving overall traffic flow prior to median construction.

Area 3 similarly provides temporary widening to the outside of Route 7 Westbound. This helps provide the necessary pavement to shift traffic away from the planned median construction. Although this temporary construction will be demolished in a later stage of construction, the safety value it brings far outweighs the cost.

Area 4, which includes the roundabouts at Route 9, is also included in the early stages of construction to assist us in providing the best-case scenario for getting traffic, both construction and local, through the Project, including pedestrians and W&OD Trail users. Given the additional widths of existing pavement in that Area, we are confident that we can maintain the same level of access through this portion of the Project that currently exists, with improvements to those movements occurring as construction progresses.

Our Areas 5, 6, and 7, (Fort Johnston, Beechnut, W&OD) are anticipated to require much more community involvement, including close coordination with stakeholders including Loudoun County, The Town of Leesburg, and the Northern Virginia Regional Park Authority. Consequently, these activities include ample time for coordination and additional slack/float as they are anticipated in our schedule. This additional time both recognizes processes and maximizes the probability of anticipating and mitigating any potential delays to construction by third parties, which has the added potential of expediting the Interim Milestone.

Additional details are discussed in Section 4.5.2, Transportation Management Plan, that more specifically describes our intended use of traffic control devices to enhance our overall construction sequencing.

4.5.2 Transportation Management Plan

As part of this project, the Branch Team will implement a Transportation Management Plan (TMP) that will provide safe work zones and maintain accessibility for workers, motorists, pedestrians, bicyclists and transit throughout the project corridor. The Branch Team will develop and implement the TMP in accordance with VDOT’s Requirements in IIM-241/TED-351 and incorporate all of the strategies outlined for a Type B project. The Branch Team recognizes that the Route 7 corridor is an important artery in in the Northern Virginia region’s transportation network. Additionally, we recognize the importance and necessity of maintaining traffic with the least amount of disruption to the corridor. Members of the Branch Team have demonstrated their expertise in developing effective TMPs for I-95 Express Lanes, the MWAA-Dulles North Area Roadway Improvements, and numerous other high traffic roadways in Northern Virginia, and understands the dynamics

of maintaining traffic along a heavily-traveled corridor, particularly for our region. The Branch Team’s TMP, as depicted in Volume II of our Technical Proposal, encompasses the following critical parts:

- Temporary Traffic Control (TTC)
- Work Zone Traffic Impact Analyses
- Public Communications
- Transportation Operations/Incident Management Strategies

Temporary Traffic Control (TTC). The Route 7–Westbound Truck Climbing Lane Design-Build Project’s TTC plan for the construction of roadway widening, ramp replacement, intersection improvements, extensive mill/overlay operations, and pavement marking/signage to provide for an adequate tie to existing conditions east and west of the project, is divided into three (3) phases as discussed in Section 4.5.1. The Branch Team’s TMP utilizes various temporary traffic control applications over the course of the project. As part of the Branch Team’s TMP, the following is noted:

- Flagging Operations will only be permitted as allowed by the VWAPM, and all flaggers will have the required certifications.
- For all roadway, lane, and ramp closures, the Branch Team will follow the time-of-day restrictions outlined in Section 2.11.1.1 of the RFP.
- All lanes throughout the project area will be a minimum 11 feet in width.
- For all other roadways, the roadway width will meet or exceed the requirements in the VDOT Road and Bridge Standards, and all temporary TCD will be a minimum of 1 foot away from the travelway.
- The project will coordinate with adjacent projects as noted within the RFP and all stakeholders as it relates to lane closures, since maintaining efficient operations on this heavily traveled corridor is important.

In general, the types of TTC applications fall within several categories: lane closures, shoulder closure, ramp closures, temporary detours, and rolling roadway closures. Additionally, detailed traffic control designs will be provided for all construction access points to ensure the safety of the traveling public during all phases of construction.

► **Lane Closures.** Closures will generally be implemented for the following proposed elements: installing concrete barrier to provide separation/protection for the construction work zone, installing project signage, shoulder strengthening for temporary shifts in Phase II, and to increase the space between the travelway and the work zone activities when the work zone does not have a barrier present. In all cases, the clear zone for the work area will be met per the VWAPM.

- Within the project’s limits, Route 7 is generally a four-lane divided highway, VWAPM TTC 16.0 and/or TTC 17.0 will be implemented to provide a work zone area as needed and to install the concrete barrier to provide additional separation between the travelway and construction work zone for all phases of the project.
- All lane closures will be implemented during allowable closure timeframes listed in RFP Section 2.11.1.1.

► **Shoulder Closure (and Ramp Gore Area Work).** These closures will generally consist of closing the shoulder. The closures will be for the majority of the construction work to be conducted for this project. A majority of the project’s roadway/drainage improvements, bridge and other structural components (large drainage structures) will be constructed within the work zone separated by a shoulder closure.

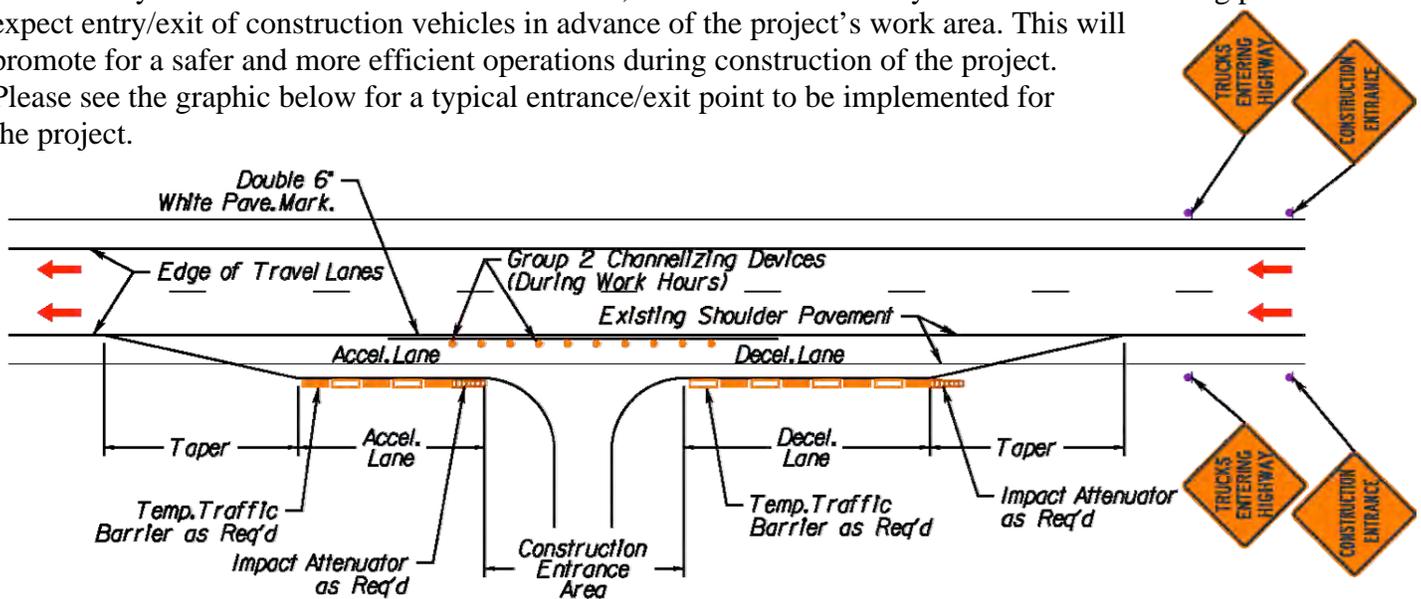
- As previously indicated in Section 4.5.1 for Phases II and III, after restriping and shifting traffic to maintain 12-foot lanes, the Branch Team will implement VWAPM TTC-4.0 and/or TTC-6.0 as applicable for all shoulder closures to provide for a safe separation for the construction work zone.

- For proposed reconstruction of the Route 7 EB On-Ramp at Route 9, the ramp gore will also be improved. When the construction work zone requires entering into the travelway’s clear zone, the Branch Team will implement VWAPM TTC-37.0, 38.0 and/or 39.0 as appropriate during non-peak hours as permitted by the RFP.

► **Roadway Closures.** The Branch Team will follow the mandated time-limit requirements (20-minute maximum per RFP Section 2.11.1.1) and will follow the TTC applications outlined in the VWAPM. The roadway closures (one directional or two directional) will be implemented to best serve multiple needs in order to save time for all stakeholders. In all instances of roadway closures (one directional or two directional), the Branch Team will provide the required advance notification outlined by the RFP and communicate the TMP implementation plans to all stakeholders, including the traveling public.

► **Temporary Detours.** The Branch Team does anticipate the need for temporary detours for any side streets and/or Route 7. If such circumstances arise, we are more than able to adapt and will provide for a temporary detour that complies with the requirements in RFP Section 2.11. The Branch Team also does not anticipate any long-term detours required for any pedestrian/bicyclist movements as these detours will be on-site deviations of the normal path to ensure continuity of the pedestrian/bicyclist movement for the duration of the project.

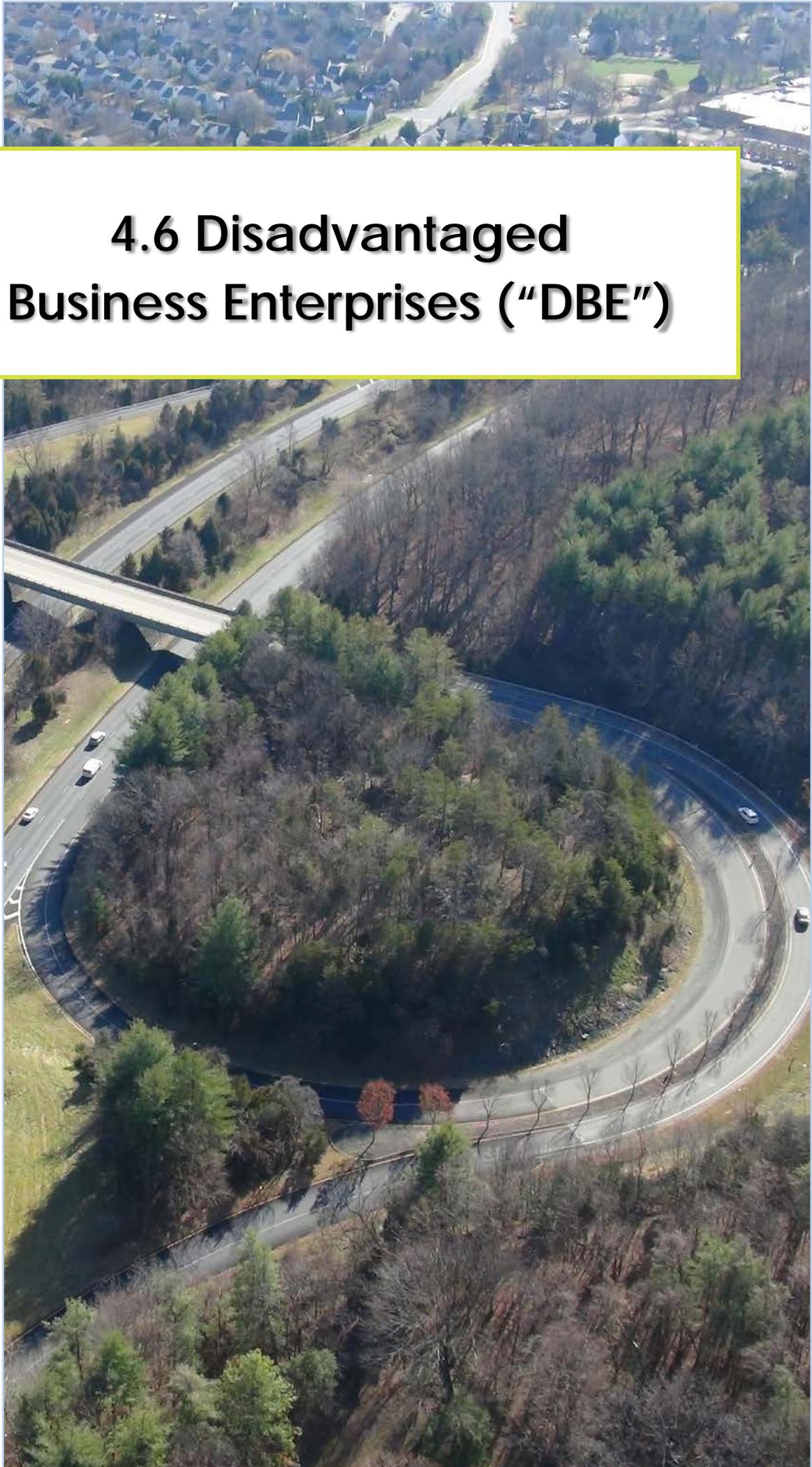
► **Construction Entrance/Exit Points and Staging Areas.** Another critical component for temporary traffic control especially on a heavily traveled, high-speed roadway is the entrance/exit points for construction vehicles to and from the construction work zones. The Branch Team will provide for adequate entrance/exit condition for construction vehicles, which will be signed utilizing temporary traffic control signage and will also provide for adequate acceleration/deceleration space for construction vehicles. This will provide for clearly defined points that not only the construction vehicles will utilize, but will also be clearly understood to traveling public to expect entry/exit of construction vehicles in advance of the project’s work area. This will promote for a safer and more efficient operations during construction of the project. Please see the graphic below for a typical entrance/exit point to be implemented for the project.



Public Communication Plan. The TMP will include a specific Public Communication Plan developed for VDOT’s review and approval. It is an integral part of the project’s overall public outreach. Through this plan, the Branch Team will maintain multiple channels of communication with the traveling public, mass transit systems, local jurisdiction police and fire and rescue, utilities, schools, parks and recreation, local residents and businesses, VDOT, local/County DOTs, adjacent construction project contractors and other stakeholders. As required by the RFP, the Branch Team has designated a project liaison/Point of Contact between VDOT and the project stakeholders to help provide notification to the traveling public. Open channels of communication will be used throughout the life of the project to disseminate project information, including TMP information such as lane closures, traffic pattern changes, and the implementation of ramp closures and, if necessary, temporary detours, through available variable message signs or portable message signs to be installed within or outside the

project's limits. As part of the public communication efforts, and as required by VDOT, the Branch Team is prepared to hold informal meetings with any stakeholder to discuss the project's construction schedule/efforts and potential impacts to traffic. Additionally, updates to VDOT's Northern Virginia District Office of Public Affairs and VDOT Traffic Operations Center (TOC) will be provided to enable information to be posted on VDOT's website (including timely project FAQs and general questions/answers posed by the public and/or stakeholders) and VA511 system for access by the traveling public and any others who may be seeking project/traffic updates.

Transportation Operations and Incident Management Strategies. The Branch Team will coordinate with VDOT to develop protocols for the implementation of incident management. We will develop the necessary list of contacts for any emergency action required and will develop plans to address incident scenarios. Such plans will include the utilization of strategically placed variable message signs to assist motorists in dealing with the incident. These plans may include recommended alternative routes and procedures for emergency lane closures or hazard protection. In addition to planning for incidents occurring within the immediate project limits, it is also appropriate to consider the effect of an incident outside the project boundary. The Branch Team will develop protocols and procedures for various incidents that could affect travel patterns in, and around, the project area. Branch will have on hand: variable message signboards, signs, and channelizing devices to immediately deploy for incident management. The Branch Team will follow VDOT's recently updated VWAPM 2011, which now includes Temporary Traffic Control applications for emergency/incident situations. The Branch Team will keep this onsite along with a list of emergency contacts. This approach will allow our project team to be prepared for, and react quickly and appropriately to, any incident affecting travel through and around the project. Recently, Branch has been responsible for maintaining traffic on I-64. The lessons learned on this project in moving high volumes of traffic through extremely tight construction limits will be integrated as part of our overall TMP approach.



4.6 Disadvantaged Business Enterprises (“DBE”)

4.6 Disadvantaged Business Enterprises (“DBE”)

This is to serve as confirmation that the information presented in the SOQ (Reference Section 3.2.11 of RFQ) remains true and accurate. The following information is to serve to enhance the level of detail of the SOQ information.

Once the Branch Team has a clearer picture of the items/areas where we will need subcontractor/supplier quotes, notifications/RFQs (Request for Quotations) will be emailed, faxed and/or phoned to subcontractors/suppliers chosen from our internal Vendor system and the Virginia Department of Minority Business Enterprises (DMBE) database soliciting interest in the project. This information will include the date/time quotes are need along with information (links) for viewing/downloading and printing the plans and specifications. Contact information consisting of estimator(s) name, phone number and email address for questions about the project will also be included on the RFQ.

Plans and specifications have already been posted to our SmartBid, which is the website that we maintain our database on. Emails to subcontractors/suppliers will include an easy link to those plans and specifications. Additionally those companies we do not have email contacts for or that may be incorrect will receive a fax containing the same information and directions on how to view the plans and specifications.

Newspaper advertisement soliciting quote, especially Minority and Woman-owned business will be placed in two project local newspapers closer to the due date of the Price Proposal.

The Branch Team will meet or exceed the **15%** DBE participation goal during the design and construction of the project. We will submit the required C-111 and signed C-112s from each DBE with the Price Proposal.

4.7 Proposal Schedule



4.7 Proposal Schedule

The Branch Team recognizes the success of this Project will depend on the successful execution of a well-planned and well-managed Project Schedule crafted to meet the needs of the project. Our experience in the design build arena has enabled us to recognize the needs of all project stakeholders, including those third-party entities that will be involved. All stakeholders will play an integral role in the overall success of the project and our goal is to engage each to help them fulfill their roles without undue delay or cost, allowing the Branch Team to stage the project such that the work can proceed orderly and economically while meeting the Contract requirements and minimizing impacts to the public.

4.7.1 Detailed Work Plan

The Branch Team has developed a Detailed Work Plan describes our intended sequence of construction and acknowledges the relationships between activities that require design and/or approval prior to construction. The attached Proposal Schedule provides a detailed breakdown of all activities and their interdependencies. The Proposal Schedule Narrative below describes those relationships and our overall approach to the Project.

4.7.2 Proposal Schedule Narrative

The Branch Team understands the importance of meeting established milestone dates en route to project completion by October 22, 2015. The Work Breakdown Structure detail allows for effective summary-level analysis to aid the management of the project through the design and construction phases. Activities have been developed for contract deliverables and include milestones, scope validation, permitting, R/W, utility relocations, design, VDOT and locality reviews, and construction.

Sequence of Design-Related Activities. The initial activities shown in the schedule are those that recognize the necessary permissions and agreements on behalf of the Design-Build Team with VDOT, regulatory agencies, affected property owners, jurisdictional entities, and the general public. The basis of those agreements, while depicted in limited detail in the Department’s Request for Proposal, will be developed very early in the Project through the Scope Validation Period.

Concurrent activities, such as survey and geotechnical investigations, will be pursued by the Design-Build Team to enable a full understanding of the anticipated impacts leading to comprehensive plan sets on which permits, R/W, utility easements, and environmental impacts will be more specifically described. These initial design plans will serve as the basis for various sets of work packages to be submitted for approval allowing the start of construction activities and for utility relocations and R/W procurement.

Sequence of Construction Activities. With the various work packages developed to aid in early review packages for VDOT, the Branch Team anticipates that work within the current R/W will commence well ahead of those areas requiring additional R/W procurement and utility relocations, which are heavily dependent on third-party permissions and efforts. Consequently, the construction areas have been developed to take advantage of areas that are most easily accessible. Of the seven distinct work areas shown (see table on right), the first four fall within the early start category.

The Transportation Management Plan works in concert with this approach with the overarching goal of improving movements on both ends of the Project to allow for anticipated increased construction traffic, as well as for drivers traversing the work areas. This will have the added benefit of providing an east-west movement on Route 7 at Market Street that currently does not exist without traveling into the Town of Leesburg on local streets.

Work Areas		
	Area	Location
Early Start	1	Market Street
	2	Route 7 Stations 198-259, EBL
	3	Route 7 Stations 267-131, WBL
	4	Route 9
	5	Fort Johnston Road
	6	Beechnut Road
	7	W&OD Trail

Concurrent activities to place temporary pavement along both east and westbound Route 7 will allow traffic to be moved away from median work that starts in the second stage of mainline construction. Once the median work is completed, the Truck Climbing Lane will be added with the benefit of having much safer median crossover points established per the final design.

As indicated in the Schedule, work that requires R/W to be acquired has been pushed in the timeline to allow for the condemnation process as if all must be condemned. While the Branch Team is hopeful that all property owners will cooperate, it would not be prudent to schedule those areas for an early start. In the case that we are successful in gaining right of entry from property owners, we will analyze the areas of work that are affected and gauge the benefits of starting those areas as they become available.

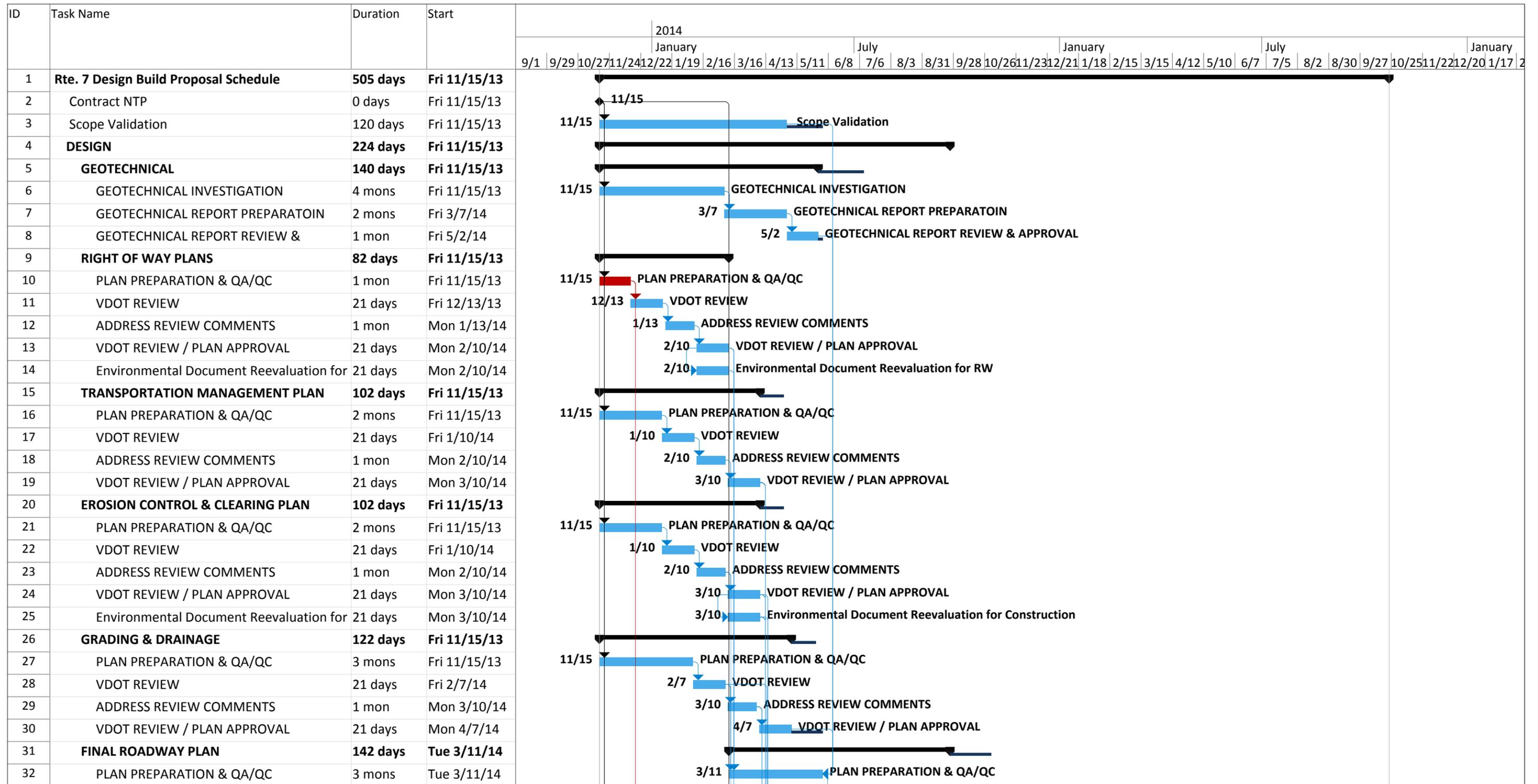
The general sequence of construction for each Area's activities is listed below:

- Utility Relocations, as needed
- Maintenance of Traffic
- R/W Fence
- Erosion Control
- Earthwork
- Storm Drainage
- Pavement
- Signs
- Seeding
- Clean & Dress

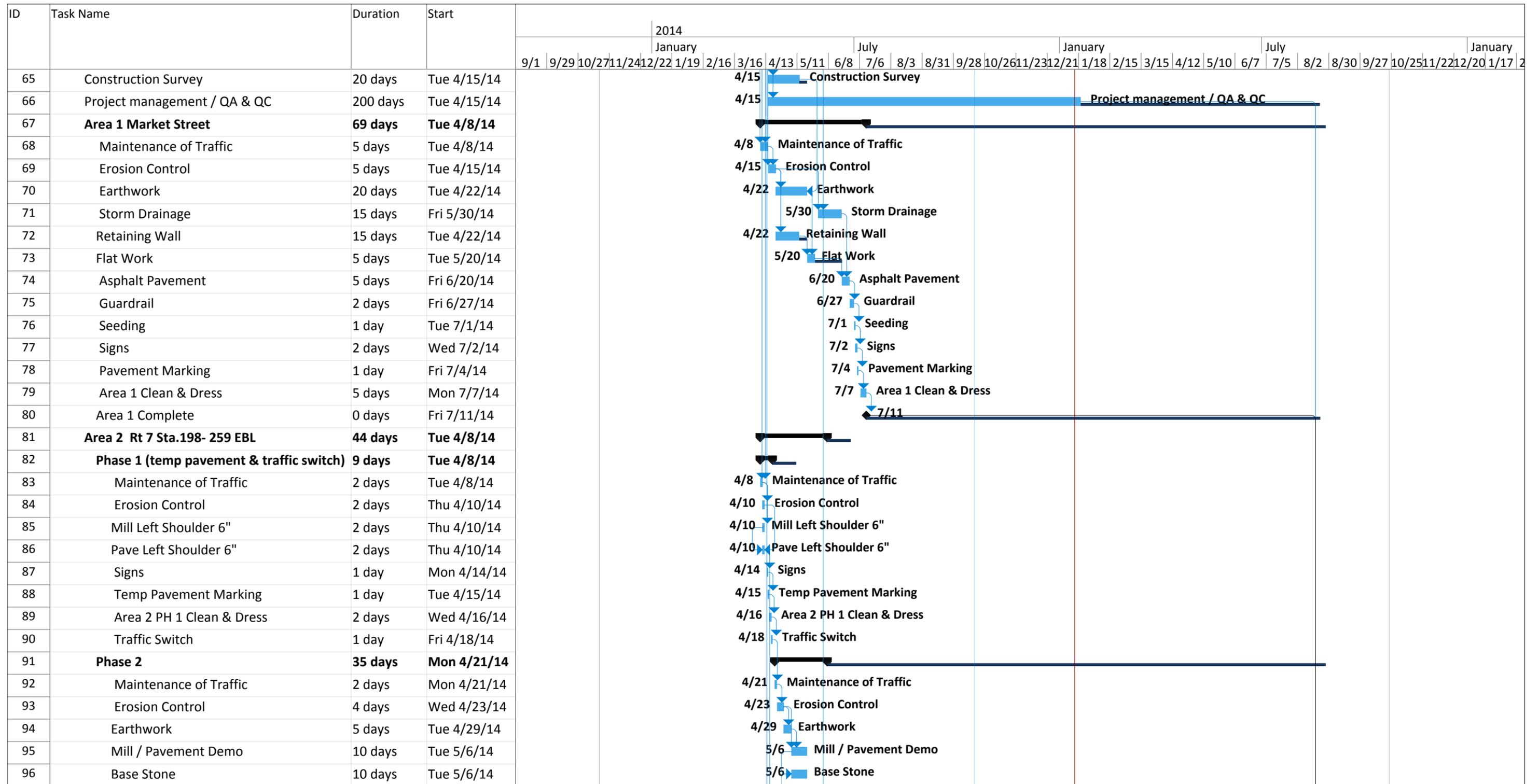
Critical Path. By definition, the design-build process involves a critical path that includes elements of both design and construction. This project is no exception. Specifically, the critical path starts at the Notice to Proceed date, which enables initial design activities to commence. Once started, these design activities start with the design for R/W acquisition, which establish the limits of disturbance and lead to final roadway plans. The predecessors that impact this path run through R/W and utility relocation activities, since there will be a need to complete these activities to allow the WBL widening for the added lane and associated SWM basin construction that will occur during the excavation and storm drain activities within that area.

Given the amount of construction that can be initiated with work packages for E&S, early grading, and drainage, all targeted at specific areas, a logical tie was made from the approval of the final roadway plan to paving along the longest duration of construction, which is the actual truck climbing lane and associated activities.

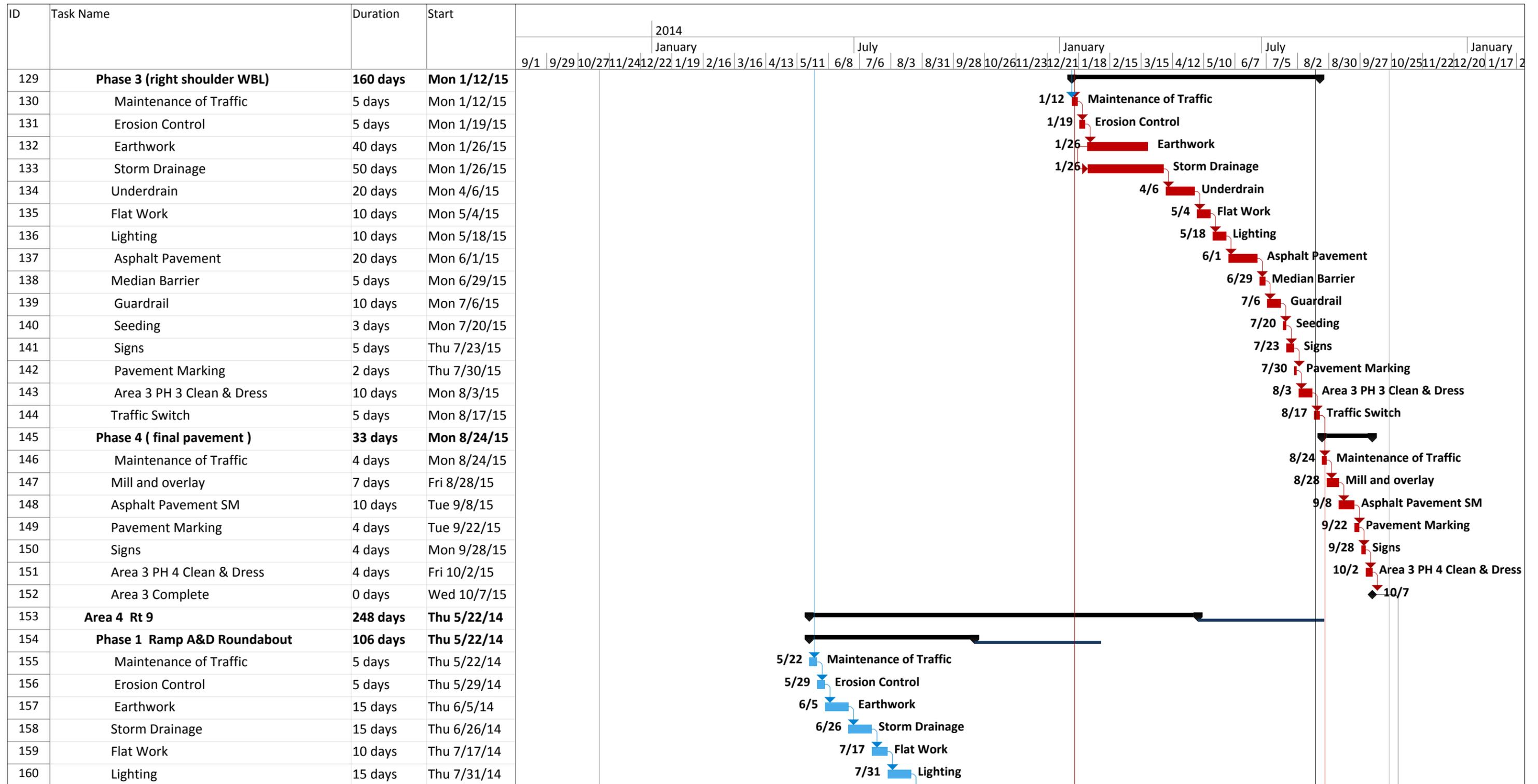
Activities with significant production rates assigned include excavation and fill placements calculated at approximately 500 cy/day. While this rate would appear relatively low, traffic management, work zone restrictions, and relatively restrictive work areas along the mainline are significant. In addition, areas outside of the mainline areas have similar work area hindrances and their own traffic maintenance issues to contend with. As a result, pipe installation rates at approximately 100 feet/day are likewise hindered along with asphalt paving, which varies by course to an average of approximately 1,000 tons/day.



Project: Route 7 Proposal Schedu Date: Tue 6/18/13	Task		External Tasks		Manual Task		Finish-only		Slack	
	Split		External Milestone		Duration-only		Deadline			
	Milestone		Inactive Task		Manual Summary Rollup		Critical			
	Summary		Inactive Milestone		Manual Summary		Critical Split			
	Project Summary		Inactive Summary		Start-only		Progress			



Project: Route 7 Proposal Schedu Date: Tue 6/18/13	Task		External Tasks		Manual Task		Finish-only		Slack	
	Split		External Milestone		Duration-only		Deadline			
	Milestone		Inactive Task		Manual Summary Rollup		Critical			
	Summary		Inactive Milestone		Manual Summary		Critical Split			
	Project Summary		Inactive Summary		Start-only		Progress			



Project: Route 7 Proposal Schedu Date: Tue 6/18/13	Task		External Tasks		Manual Task		Finish-only		Slack	
	Split		External Milestone		Duration-only		Deadline			
	Milestone		Inactive Task		Manual Summary Rollup		Critical			
	Summary		Inactive Milestone		Manual Summary		Critical Split			
	Project Summary		Inactive Summary		Start-only		Progress			

ID	Task Name	Duration	Start	2014																																	
				January							July							January							July												
				9/1	9/29	10/27	11/24	12/22	1/19	2/16	3/16	4/13	5/11	6/8	7/6	8/3	8/31	9/28	10/26	11/23	12/21	1/18	2/15	3/15	4/12	5/10	6/7	7/5	8/2	8/30	9/27	10/25	11/22	12/20	1/17	2/14	
161	Asphalt Pavement	5 days	Thu 8/21/14														8/21	8/21																			
162	Dry Mill Road Improvements	5 days	Thu 8/28/14														8/28	8/28																			
163	Colonial Highway Improvements	5 days	Thu 9/4/14														9/4	9/4																			
164	W&OD Trail	5 days	Thu 9/11/14														9/11	9/11																			
165	Guardrail	4 days	Thu 9/18/14														9/18	9/18																			
166	Landscaping	5 days	Wed 9/24/14														9/24	9/24																			
167	Seeding	2 days	Wed 10/1/14														10/1	10/1																			
168	Signs	3 days	Fri 10/3/14														10/3	10/3																			
169	Pavement Marking	2 days	Wed 10/8/14														10/8	10/8																			
170	Area 4 Phase 2 Clean & Dress	5 days	Fri 10/10/14														10/10	10/10																			
171	Phase 2 Ramp C&B Roundabout	142 days	Fri 10/17/14																																		
172	Maintenance of Traffic	5 days	Fri 10/17/14														10/17	10/17																			
173	Erosion Control	5 days	Fri 10/24/14														10/24	10/24																			
174	Earthwork	15 days	Fri 10/31/14														10/31	10/31																			
175	Storm Drainage	15 days	Fri 11/21/14														11/21	11/21																			
176	Flat Work	10 days	Fri 12/12/14														12/12	12/12																			
177	Lighting	15 days	Fri 12/26/14														12/26	12/26																			
178	Asphalt Pavement	5 days	Mon 3/23/15																																		
179	W&OD Trail	5 days	Mon 3/30/15																																		
180	Guardrail	4 days	Mon 4/6/15																																		
181	Landscaping	5 days	Fri 4/10/15																																		
182	Seeding	2 days	Fri 4/17/15																																		
183	Signs	3 days	Tue 4/21/15																																		
184	Pavement Marking	2 days	Fri 4/24/15																																		
185	Area 4 Phase 1 Clean & Dress	5 days	Tue 4/28/15																																		
186	Area 4 Complete	0 days	Mon 5/4/15																																		
187	Area 5 Fort Johnson Road	70 days	Mon 1/12/15																																		
188	Maintenance of Traffic	2 days	Mon 1/12/15																																		
189	Erosion Control	5 days	Wed 1/14/15																																		
190	Earthwork	15 days	Wed 1/21/15																																		
191	Storm Drainage	10 days	Wed 2/11/15																																		
192	Asphalt Pavement	5 days	Mon 3/23/15																																		

Project: Route 7 Proposal Schedu Date: Tue 6/18/13	Task		External Tasks		Manual Task		Finish-only		Slack	
	Split		External Milestone		Duration-only		Deadline			
	Milestone		Inactive Task		Manual Summary Rollup		Critical			
	Summary		Inactive Milestone		Manual Summary		Critical Split			
	Project Summary		Inactive Summary		Start-only		Progress			

ID	Task Name	Duration	Start	2014																																
				January							July							January							July											
				9/1	9/29	10/27	11/24	12/22	1/19	2/16	3/16	4/13	5/11	6/8	7/6	8/3	8/31	9/28	10/26	11/23	12/21	1/18	2/15	3/15	4/12	5/10	6/7	7/5	8/2	8/30	9/27	10/25	11/22	12/20	1/17	2/14
225	Punch List	40 days	Thu 8/27/15																									8/27	Punch List							
226	Substantial Completion	1 day	Thu 10/22/15																									10/22	Substantial Completion							
227	Final Completion	1 day	Thu 10/22/15																									10/22	Final Completion							

Project: Route 7 Proposal Schedu Date: Tue 6/18/13	Task		External Tasks		Manual Task		Finish-only		Slack	
	Split		External Milestone		Duration-only		Deadline			
	Milestone		Inactive Task		Manual Summary Rollup		Critical			
	Summary		Inactive Milestone		Manual Summary		Critical Split			
	Project Summary		Inactive Summary		Start-only		Progress			

Appendix



Attachment 4.0.1.1: Technical Proposal Checklist

ATTACHMENT 4.0.1.1
ROUTE 7 – WESTBOUND TRUCK CLIMBING LANE
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Offerors shall furnish a copy of this Technical Proposal Checklist, with the page references added, with the Technical Proposal.

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Technical Proposal Checklist and Contents	Attachment 4.0.1.1	Section 4.0.1.1	no	Appendix
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	Appendix
Letter of Submittal	NA	Sections 4.1		
Letter of Submittal on Offeror's letterhead	NA	Section 4.1.1	yes	I-1
Offeror's official representative information	NA	Section 4.1.1	yes	I-1
Authorized representative's original signature	NA	Section 4.1.1	yes	I-1
Declaration of intent	NA	Section 4.1.2	yes	I-1
120 day declaration	NA	Section 4.1.3	yes	I-1
Point of Contact Information	NA	Section 4.1.4	yes	I-1
Principal Officer information	NA	Section 4.1.5	yes	I-2
Interim, Substantial and Final Completion Date(s)	NA	Section 4.1.6	yes	I-2
Proposal Payment Agreement or Waiver of Proposal Payment	Attachment 9.3.1 or 9.3.2	Section 4.1.7	no	Appendix
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.8	no	Appendix
Design Compliance Statements	NA	Section 4.1.9	yes	I-2

ATTACHMENT 4.0.1.1
ROUTE 7 – WESTBOUND TRUCK CLIMBING LANE
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Offeror's Qualifications	NA	Section 4.2		
Confirmation that the information provided in the SOQ submittal remains true and accurate or indicates that any requested changes were previously approved by VDOT	NA	Section 4.2.1	yes	I-3
Organizational chart with any updates since the SOQ submittal clearly identified	NA	Section 4.2.2	yes	I-3
Revised narrative when organizational chart includes updates since the SOQ submittal	NA	Section 4.2.2	yes	I-3
Design Concept	NA	Section 4.3		
Conceptual Roadway Plans and description	NA	Section 4.3.1.1	yes	I-4; II-1–II-16
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	I-11; II-18, II-19
Project Approach	NA	Section 4.4		
Environmental Management	NA	Section 4.4.1	yes	I-13
Utilities	NA	Section 4.4.2	yes	I-15
Geotechnical	NA	Section 4.4.3	yes	I-17
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	I-19

ATTACHMENT 4.0.1.1
ROUTE 7 – WESTBOUND TRUCK CLIMBING LANE
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Construction of Project	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	I-24
Transportation Management Plan	NA	Section 4.5.2	yes	I-24; II-20–II-32
Disadvantaged Business Enterprises (DBE)	NA	Section 4.6		
Written statement of percent DBE participation	NA	Section 4.6	yes	I-28
DBE subcontracting narrative	NA	Section 4.6	yes	I-28
Proposal Schedule	NA	Section 4.7		
Proposal Schedule	NA	Section 4.7	no	PS-3
Proposal Schedule Narrative	NA	Section 4.7	no	PS-1
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	CD located in plastic sleeve on inside of back cover

Attachment 3.6: Form C-78-RFP
Acknowledgement of Receipt of RFP, Revisions, and/or Addenda

ATTACHMENT 3.6**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

RFP NO. C00058599DB54
 PROJECT NO.: 6007-053-133, R201, C501

ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA

Acknowledgement shall be made of receipt of the Request for Proposals (RFP) and/or any and all revisions and/or addenda pertaining to the above designated project which are issued by the Department prior to the Letter of Submittal submission date shown herein. Failure to include this acknowledgement in the Letter of Submittal may result in the rejection of your proposal.

By signing this Attachment 3.6, the Offeror acknowledges receipt of the RFP and/or following revisions and/or addenda to the RFP for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of March 27, 2013 – RFP
(Date)
2. Cover letter of May 14, 2013 – Addendum #1
(Date)
3. Cover letter of June 4, 2013 – Addendum #2
(Date)



 SIGNATURE

06/04/13

 DATE

Attachment 9.3.1: Proposal Payment Agreement

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

THIS PROPOSAL PAYMENT AGREEMENT (this “Agreement”) is made and entered into as of this 20th day of June, 2013, by and between the Virginia Department of Transportation (“VDOT”), and BRANCH HIGHWAYS, INC. (“Offeror”).

WITNESSETH:

WHEREAS, Offeror is one of the entities who submitted Statements of Qualifications (“SOQs”) pursuant to VDOT’s [*Month Day, Year*] Request for Qualifications (“RFQ”) and was invited to submit proposals in response to a Request for Proposals (“RFP”) for the [*Project Name*], **Project No. [0000-000-000]** (“Project”), under a design-build contract with VDOT (“Design-Build Contract”); and

WHEREAS, as part of the procurement process for the Project, Offeror has already provided and/or furnished to VDOT, and may continue to provide and/or furnish to VDOT, certain intellectual property, materials, information and ideas, including, but not limited to, such matters that are: (a) conveyed verbally and in writing during proprietary meetings or interviews; and (b) contained in, related to or associated with Offeror’s proposal, including, but not limited to, written correspondence, designs, drawings, plans, exhibits, photographs, reports, printed material, tapes, electronic disks, or other graphic and visual aids (collectively “Offeror’s Intellectual Property”); and

WHEREAS, VDOT is willing to provide a payment to Offeror, subject to the express conditions stated in this Agreement, to obtain certain rights in Offeror’s Intellectual Property, provided that Offeror submits a proposal that VDOT determines to be responsive to the RFP (“Offeror’s Proposal”), and either (a) Offeror is not awarded the Design-Build Contract; or (b) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror; and

WHEREAS, Offeror wishes to receive the payment offered by VDOT, in exchange for granting VDOT the rights set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth in this Agreement and other good and valuable consideration, the receipt and adequacy of which are acknowledged by the parties, the parties agree as follows:

1. **VDOT's Rights in Offeror's Intellectual Property.** Offeror hereby conveys to VDOT all rights, title and interest, free and clear of all liens, claims and encumbrances, in Offeror's Intellectual Property, which includes, without restriction or limitation, the right of VDOT, and anyone contracting with VDOT, to incorporate any ideas or information from Offeror's Intellectual Property into: (a) the Design-Build Contract and the Project; (b) any other contract awarded in reference to the Project; or (c) any subsequent procurement by VDOT. In receiving all rights, title and interest in Offeror's Intellectual Property, VDOT is deemed to own all intellectual property rights, copyrights, patents, trade secrets, trademarks, and service marks in Offeror's Intellectual Property, and Offeror agrees that it shall, at the request of VDOT, execute all papers and perform all other acts that may be necessary to ensure that VDOT's rights, title and interest in Offeror's Intellectual Property are protected. The rights conferred herein to VDOT include, without limitation, VDOT's ability to use Offeror's Intellectual Property without the obligation to notify or seek permission from Offeror.

2. **Exclusions from Offeror's Intellectual Property.** Notwithstanding Section 1 above, it is understood and agreed that Offeror's Intellectual Property is not intended to include, and Offeror does not convey any rights to, the Escrow Proposal Documents submitted by Offeror in accordance with the RFP.

3. **Proposal Payment.** VDOT agrees to pay Offeror the lump sum amount of [*written number*] and 00/100 Dollars (\$[*numerical*].00) ("Proposal Payment"), which payment constitutes payment in full to Offeror for the conveyance of Offeror's Intellectual Property to VDOT in accordance with this Agreement. Payment of the Proposal Payment is conditioned upon: (a) Offeror's Proposal being, in the sole discretion of VDOT, responsive to the RFP; (b) Offeror complying with all other terms and conditions of this Agreement; and (c) either (i) Offeror is not awarded the Design-Build Contract, or (ii) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror.

4. **Payment Due Date.** Subject to the conditions set forth in this Agreement, VDOT will make payment of the Proposal Payment to the Offeror within forty-five (45) days after the later of: (a) notice from VDOT that it has awarded the Design-Build Contract to another Offeror; or (b) notice from VDOT that the procurement for the Project has been cancelled and that there will be no Contract Award.

5. **Effective Date of this Agreement.** The rights and obligations of VDOT and Offeror under this Agreement, including VDOT's ownership rights in Offeror's Intellectual Property, vests upon the date that Offeror's Proposal is submitted to VDOT. Notwithstanding the above, if Offeror's Proposal is determined by VDOT, in its sole discretion, to be nonresponsive to the RFP, then Offeror is deemed to have waived its right to obtain the Proposal Payment, and VDOT shall have no obligations under this Agreement.

6. **Indemnity.** Subject to the limitation contained below, Offeror shall, at its own expense, indemnify, protect and hold harmless VDOT and its agents, directors, officers, employees, representatives and contractors from all claims, costs, expenses, liabilities, demands, or suits at law or equity (“Claims”) of, by or in favor of or awarded to any third party arising in whole or in part from: (a) the negligence or wilful misconduct of Offeror or any of its agents, officers, employees, representatives or subcontractors; or (b) breach of any of Offeror’s obligations under this Agreement, including its representation and warranty under Section 8 hereof. This indemnity shall not apply with respect to any Claims caused by or resulting from the sole negligence or wilful misconduct of VDOT, or its agents, directors, officers, employees, representatives or contractors.

7. **Assignment.** Offeror shall not assign this Agreement, without VDOT's prior written consent, which consent may be given or withheld in VDOT’s sole discretion. Any assignment of this Agreement without such consent shall be null and void.

8. **Authority to Enter into this Agreement.** By executing this Agreement, Offeror specifically represents and warrants that it has the authority to convey to VDOT all rights, title, and interest in Offeror’s Intellectual Property, including, but not limited to, those any rights that might have been vested in team members, subcontractors, consultants or anyone else who may have contributed to the development of Offeror’s Intellectual Property, free and clear of all liens, claims and encumbrances.

9. **Miscellaneous.**

a. Offeror and VDOT agree that Offeror, its team members, and their respective employees are not agents of VDOT as a result of this Agreement.

b. Any capitalized term used herein but not otherwise defined shall have the meanings set forth in the RFP.

c. This Agreement, together with the RFP, embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto.

d. It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the Commonwealth of Virginia, validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

e. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, this Agreement has been executed and delivered as of the day and year first above written.

VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____

Name: _____

Title: _____

BRANCH HIGHWAYS, INC

By:  _____

Name: GABE M. TSCHLOR _____

Title: CHIEF ESTIMATOR _____

Attachment 11.8.6: Certification Regarding Debarment Forms
(a) Primary Covered Transactions & (b) Lower Tier Covered Transactions

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 6007-053-133, R201, C501

1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; and have not been convicted of any violations of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1) b) of this certification; and

d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

 _____
Signature Date 6/4/13 Chief Estimator
Title

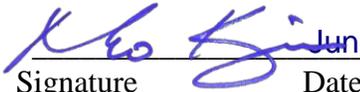
Branch Highways, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 6007-053-133, R201, C501

- 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

 June 4, 2013
Signature Date

Director of Transportation/Vice President
Title

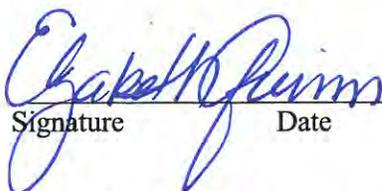
RINKER DESIGN ASSOCIATES, P.C.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 6007-053-133, R201, C501

- 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.



June 4, 2013

President

Signature

Date

Title

Quinn Consulting Services, Inc.

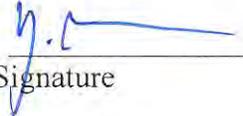
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 6007-053-133, R201, C501

- 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

	June 4, 2013	President and CEO
Signature	Date	Title

DMY Engineering Consultants, LLC
Name of Firm

Route 7 — Westbound Truck Climbing Lane



*Loudoun County
Virginia*

Submitted to the
Virginia Department of Transportation



State Project No.: 6007-053-133, R201, C501
Federal Project No.: STP-5401(518)
Contract ID Number: C00058599DB54

Submitted by

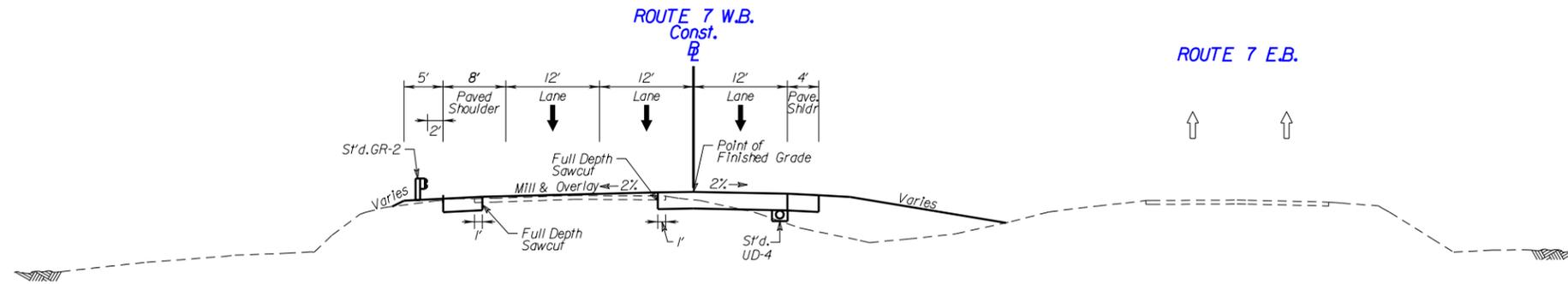


June 20, 2013

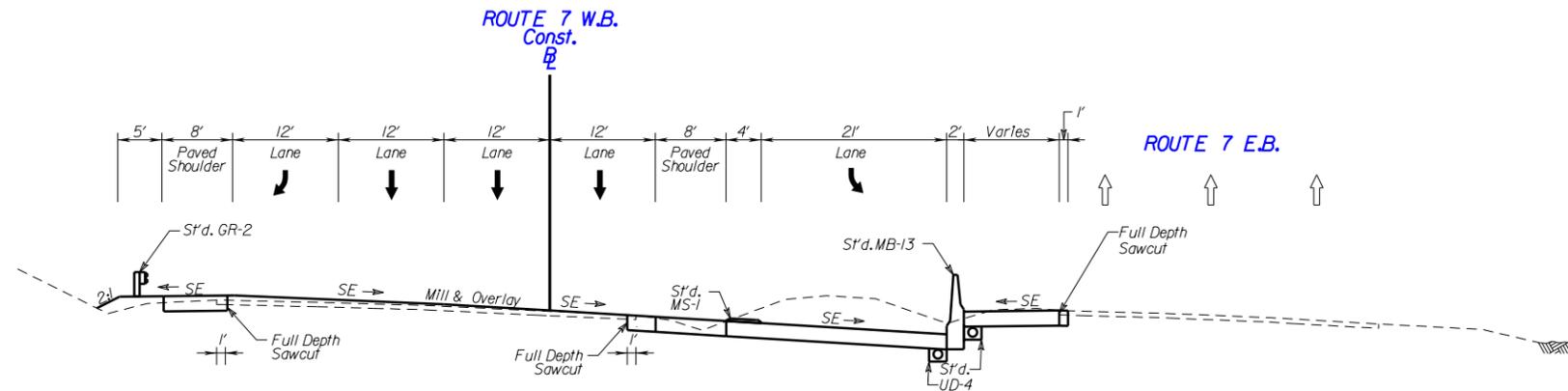


TYPICAL SECTIONS

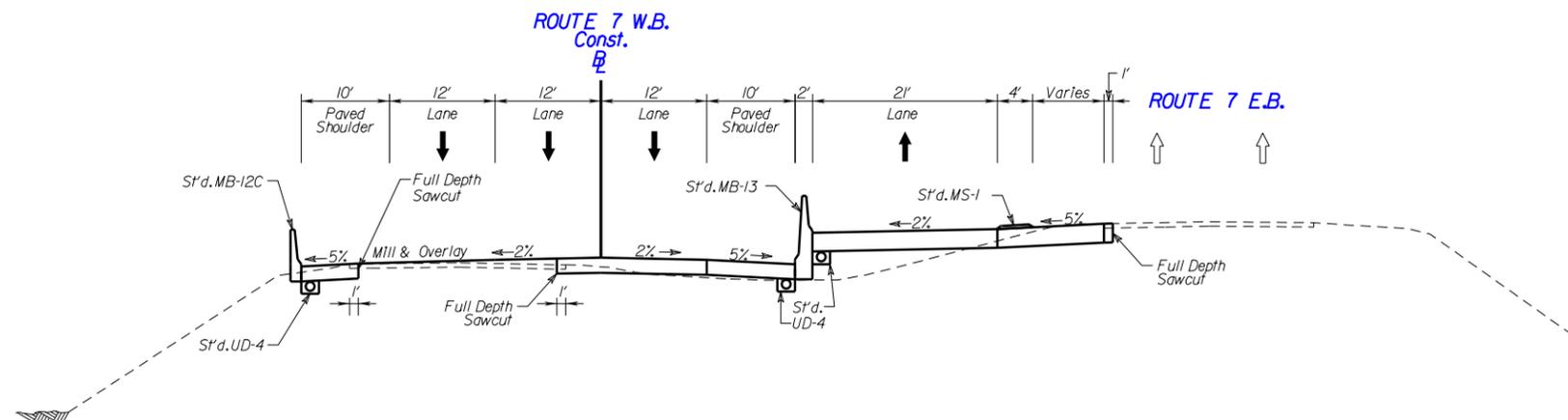
ROUTE 7 NORMAL CROWN SECTION



ROUTE 7 LEFT TURN LANE AT WHITE GATE ROAD

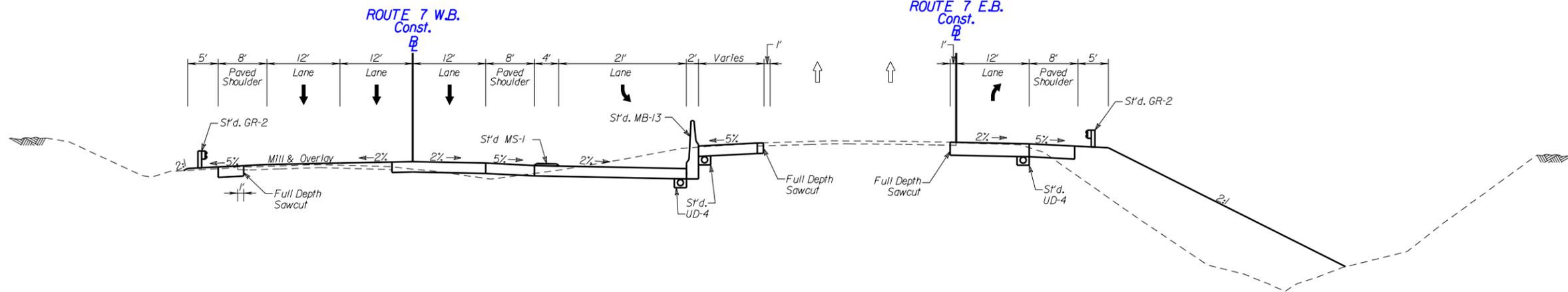


ROUTE 7 ACCELERATION LANE OUT OF FORT JOHNSTON ROAD

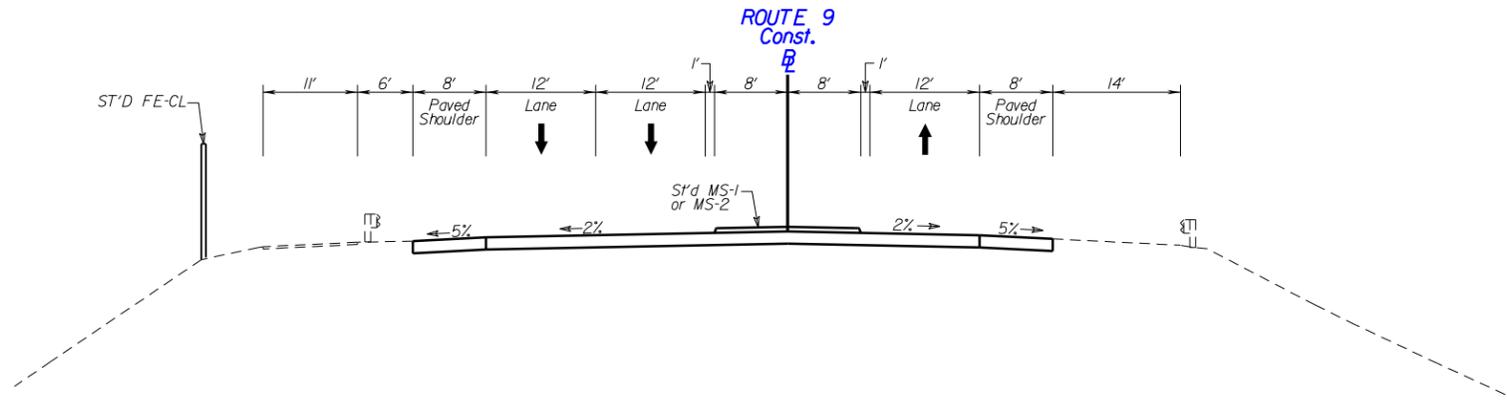


TYPICAL SECTIONS

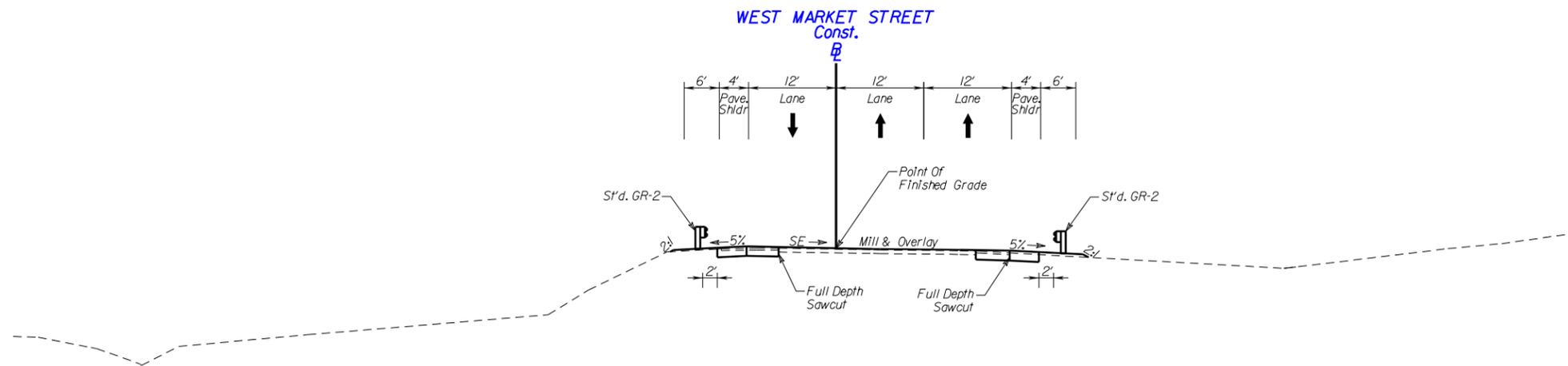
ROUTE 7 LEFT TURN LANE ONTO ROXBURY HALL ROAD



ROUTE 9 NORMAL CROWN SECTION

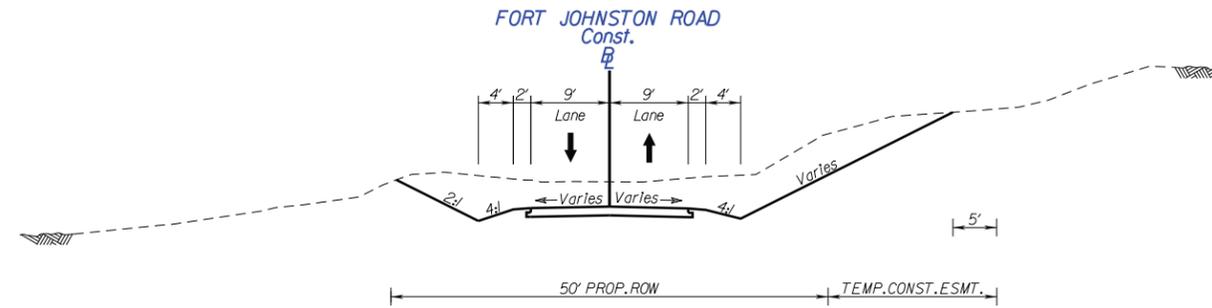


WEST MARKET STREET SUPERELEVATED SECTION

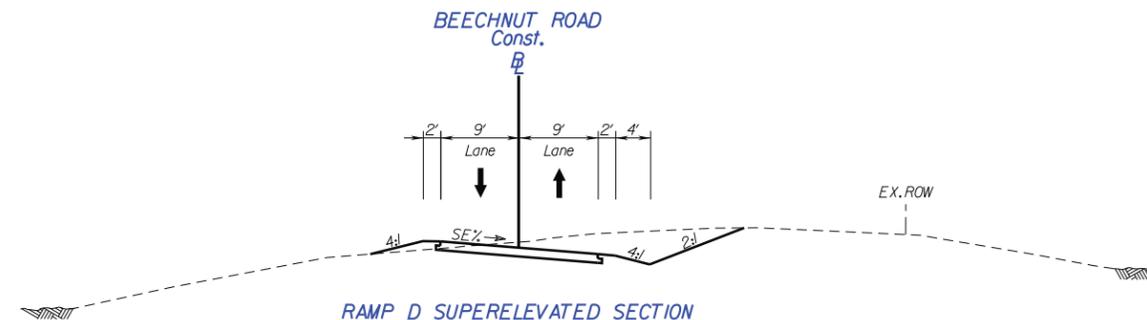


TYPICAL SECTIONS

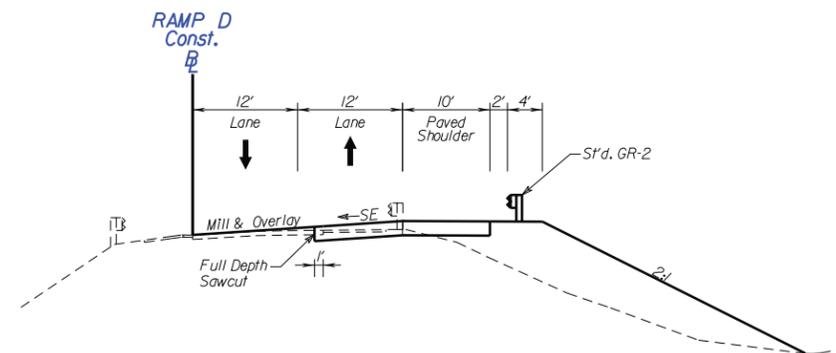
FORT JOHNSTON NORMAL CROWN SECTION



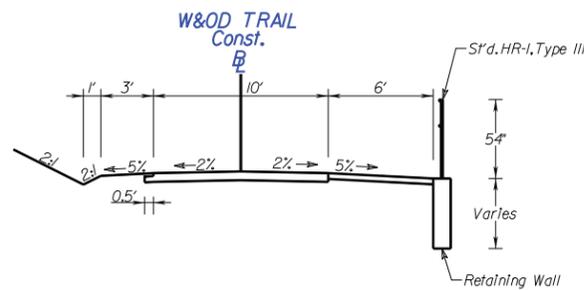
BEECHNUT ROAD SUPERELEVATED SECTION



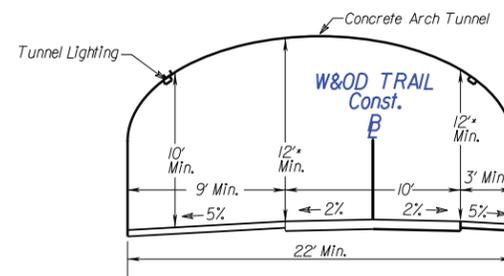
RAMP D SUPERELEVATED SECTION



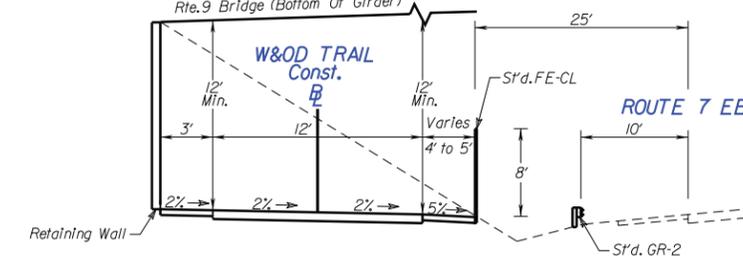
W&OD TRAIL NORMAL CROWN SECTION



W&OD TRAIL TUNNEL

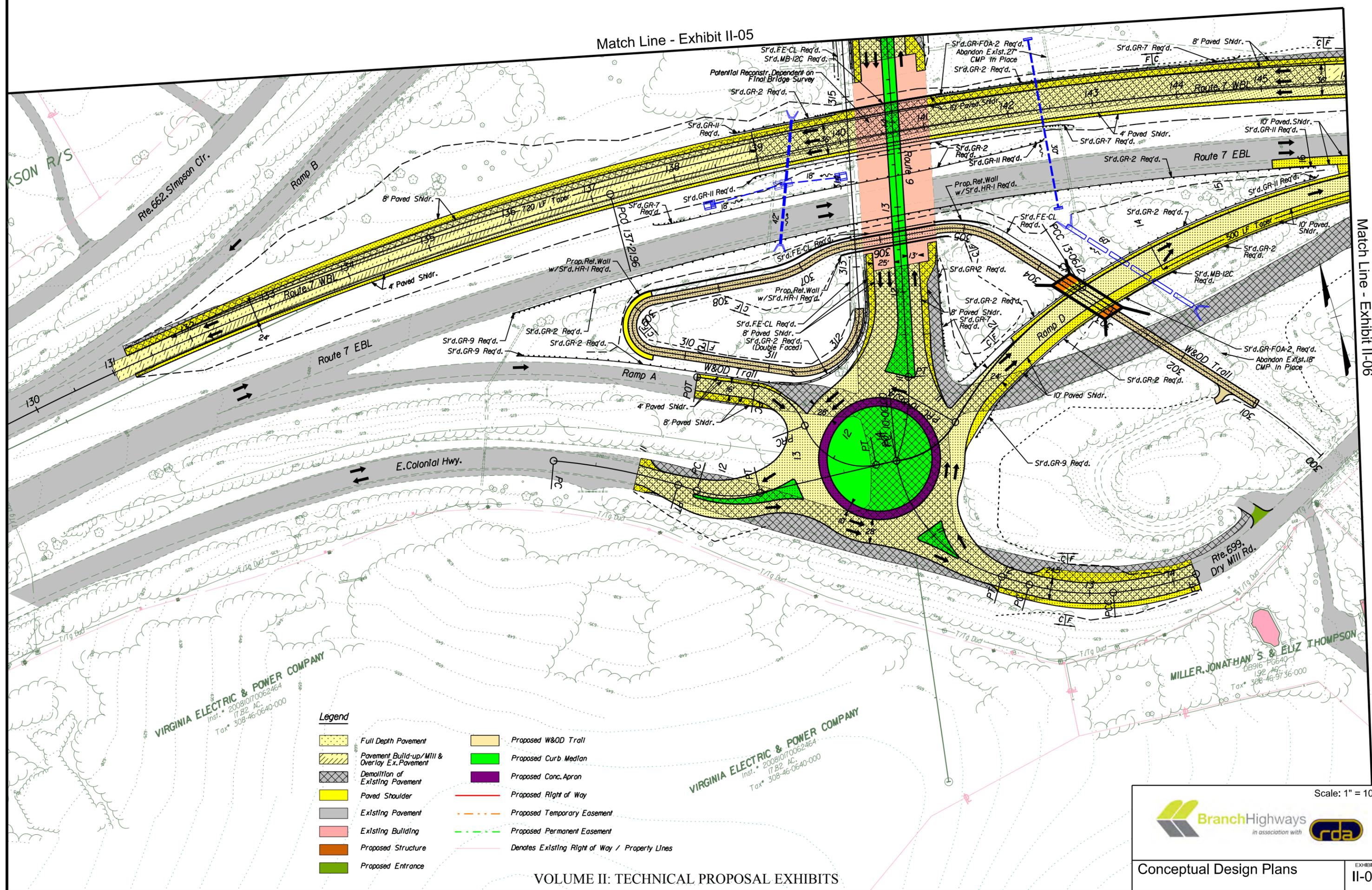


W&OD TRAIL UNDER BRIDGE



Match Line - Exhibit II-05

Match Line - Exhibit II-06



VIRGINIA ELECTRIC & POWER COMPANY
 Inst. # 200810170062464
 17.82 AC.
 Tax # 308-46-0640-000

VIRGINIA ELECTRIC & POWER COMPANY
 Inst. # 200810170062464
 17.82 AC.
 Tax # 308-46-0640-000

MILLER, JONATHAN S. & ELIZ THOMPSON
 08916 P6640
 192 AC.
 Tax # 308-46-9736-000

- Legend**
- Full Depth Pavement
 - Pavement Build-up/Mill & Overlay Ex. Pavement
 - Demolition of Existing Pavement
 - Paved Shoulder
 - Existing Pavement
 - Existing Building
 - Proposed Structure
 - Proposed Entrance
 - Proposed W&OD Trail
 - Proposed Curb Median
 - Proposed Conc. Apron
 - Proposed Right of Way
 - Proposed Temporary Easement
 - Proposed Permanent Easement
 - Denotes Existing Right of Way / Property Lines

VOLUME II: TECHNICAL PROPOSAL EXHIBITS

Scale: 1" = 100'

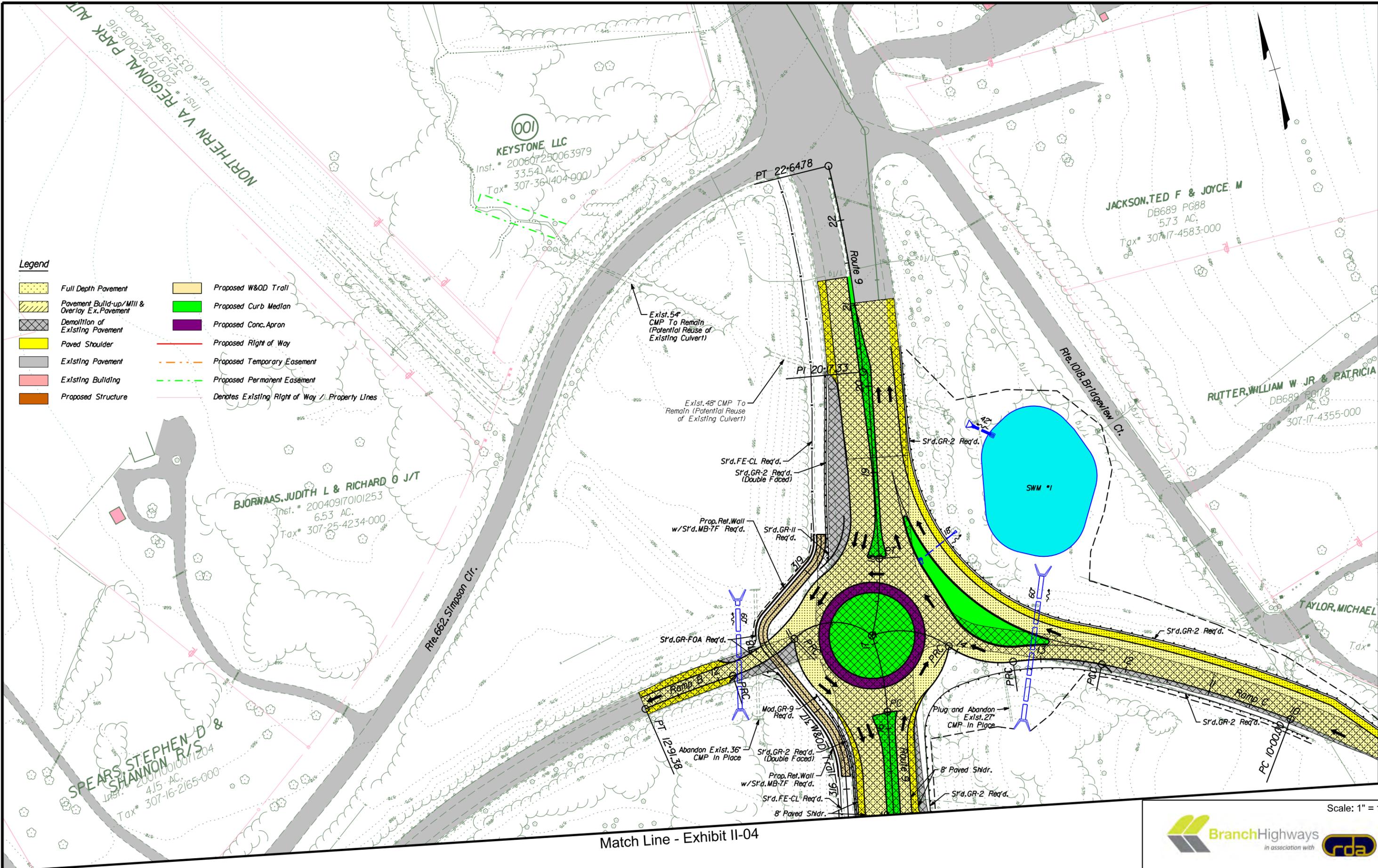


in association with 

Conceptual Design Plans

EXHIBIT #:
II-04

- Legend**
-  Full Depth Pavement
 -  Pavement Build-up/Mill & Overlay Ex. Pavement
 -  Demolition of Existing Pavement
 -  Paved Shoulder
 -  Existing Pavement
 -  Existing Building
 -  Proposed Structure
 -  Proposed W&OD Trail
 -  Proposed Curb Median
 -  Proposed Conc. Apron
 -  Proposed Right of Way
 -  Proposed Temporary Easement
 -  Proposed Permanent Easement
 -  Denotes Existing Right of Way / Property Lines



Match Line - Exhibit II-04

Match Line - Exhibit II-06

Scale: 1" = 100'



Conceptual Design Plans

EXHIBIT #: II-05

Match Line - Exhibit II-05

Match Line - Exhibit II-04

Match Line - Exhibit II-07

- Legend**
- Full Depth Pavement
 - Pavement Build-up/Mill & Overlay Ex. Pavement
 - Demolition of Existing Pavement
 - Paved Shoulder
 - Existing Pavement
 - Existing Building
 - Proposed Structure
 - Proposed W&OD Trail
 - Proposed Curb Median
 - Proposed Right of Way
 - Proposed Temporary Easement
 - Proposed Permanent Easement
 - Denotes Existing Right of Way / Property Lines

P & HEATHER M R/S
 1449 PG1621
 1.29 AC.
 07-17-4022-000

PHILLIPS, KATHLEEN J
 DB1340 PG1648
 11.16 AC.
 Tax# 307-48-0323-000

PHILLIPS, KATHLEEN J
 DB1340 PG1648
 11.16 AC.
 Tax# 307-48-0323-000

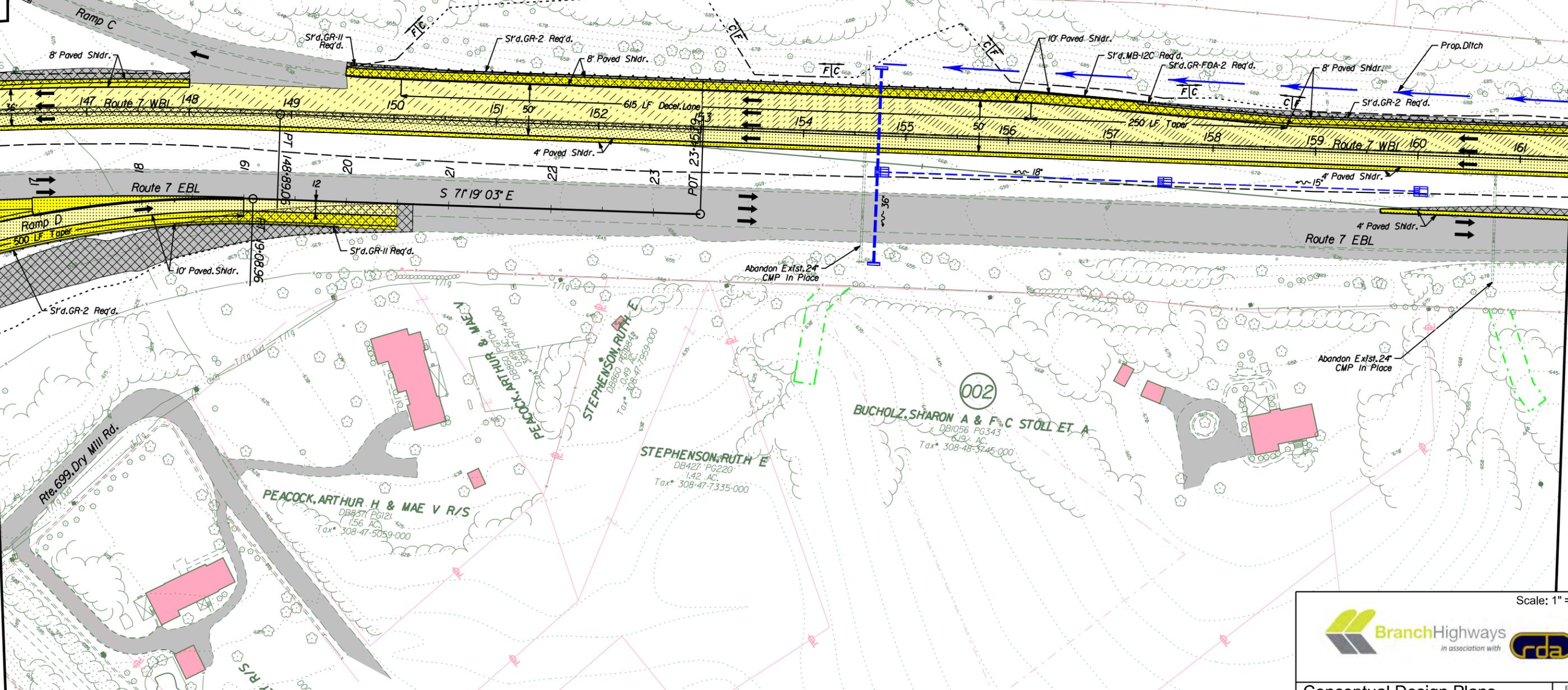
HAVICAN, MARK A & JANET K R/S
 Inst. # 200504040033850
 3.59 AC.
 Tax# 308-48-5285-000

STEPHENSON, RUTH E
 DB3860 PG2848
 10.49 AC.
 Tax# 308-47-7959-000

STEPHENSON, RUTH E
 DB427 PG220
 1.42 AC.
 Tax# 308-47-7335-000

BUCHOLZ, SHARON A & F&C STOLL ET. A
 DB1056 PG343
 6.19 AC.
 Tax# 308-48-5745-000

PEACOCK, ARTHUR H & MAE V R/S
 DB3371 PG121
 1.56 AC.
 Tax# 308-47-5059-000



VOLUME II: TECHNICAL PROPOSAL EXHIBITS

Scale: 1" = 100'

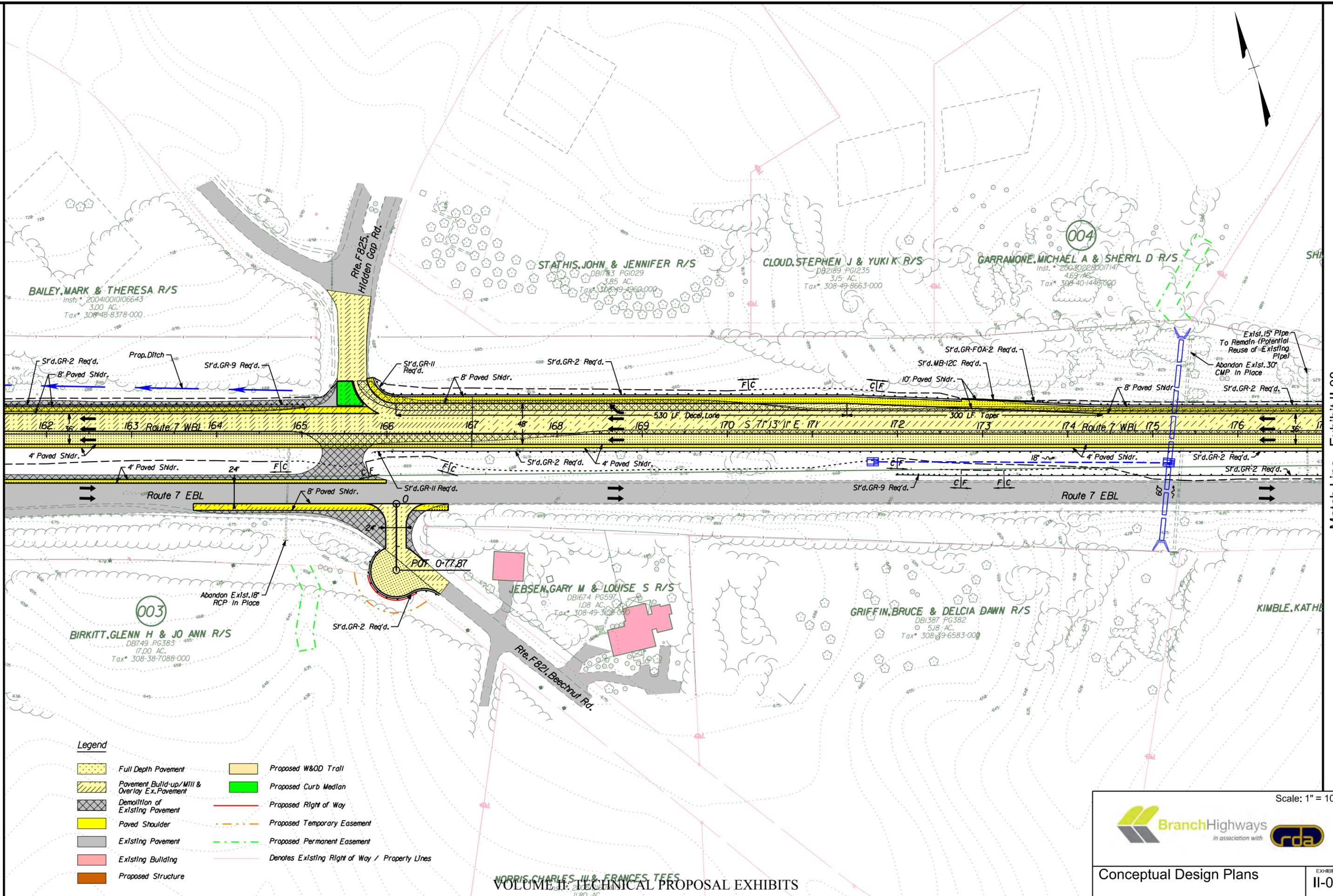
in association with

Conceptual Design Plans

EXHIBIT #:
II-06

Match Line - Exhibit II-06

Match Line - Exhibit II-08



Legend

- Full Depth Pavement
- Pavement Build-up/Mill & Overlay Ex. Pavement
- Demolition of Existing Pavement
- Paved Shoulder
- Existing Pavement
- Existing Building
- Proposed Structure
- Proposed W&OD Trail
- Proposed Curb Median
- Proposed Right of Way
- Proposed Temporary Easement
- Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines



Legend

-  Full Depth Pavement
-  Pavement Build-up/Mill & Overlay Ex. Pavement
-  Demolition of Existing Pavement
-  Paved Shoulder
-  Existing Pavement
-  Existing Building
-  Proposed Structure
-  Proposed W&OD Trail
-  Proposed Curb Median
-  Proposed Right of Way
-  Proposed Temporary Easement
-  Proposed Permanent Easement
-  Denotes Existing Right of Way / Property Lines

BRISBANE, STEVEN W
 Inst. # 200508040086644
 4.29 AC.
 Tax # 269-45-5103-000

RAZI, MEHRDAD & H MEHRABANI R/S
 Inst. # 200312170163737
 3.18 AC.
 Tax # 308-40-3927-000

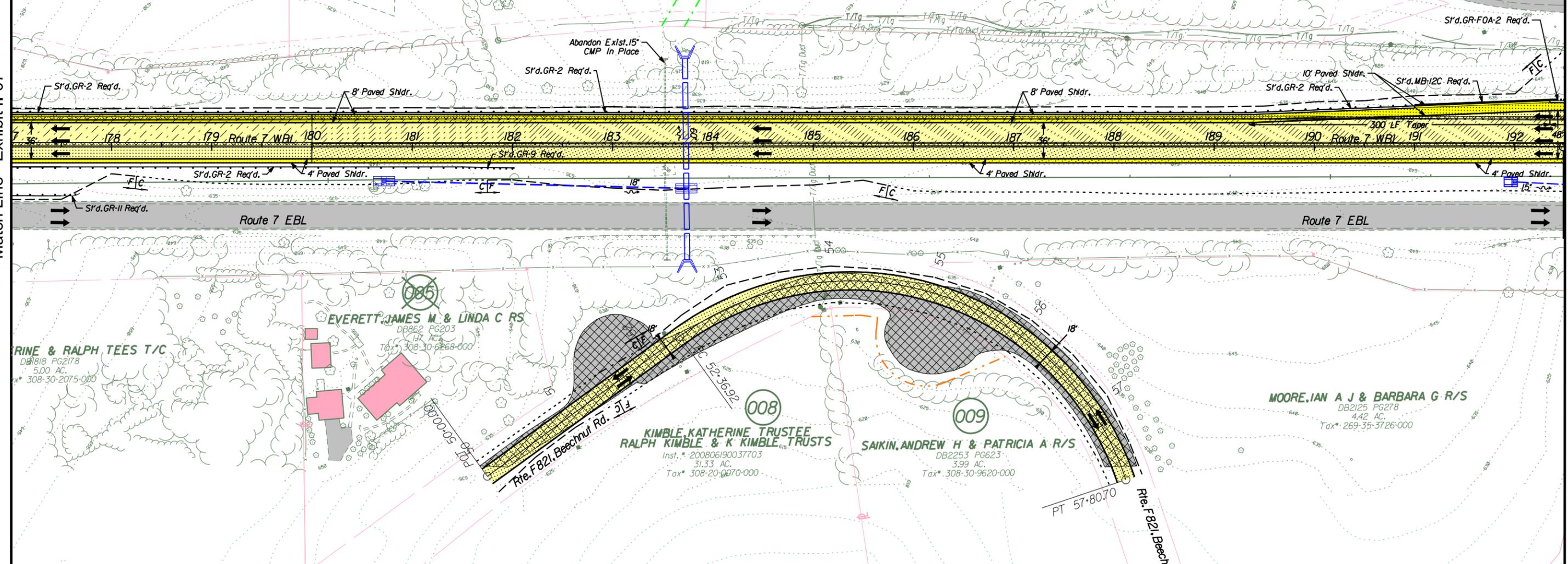
MAGALHAES, CARLOS
 DB200484010029674 PG
 3.38 AC.
 Tax # 308-40-7515-000

HERDMAN, DARWIN T & DAWN D R/S
 Inst. # 200407230076284
 3.51 AC.
 Tax # 269-35-1197-000

Rte. F824, Farm Market Rd.

Match Line - Exhibit II-07

Match Line - Exhibit II-09



Scale: 1" = 100'




CLAIRVAUX LLC
 Inst. # 200506270068752
 13.13 AC.
 Tax# 269-36-9502-000

CROSSLEY, PETER J & WANDA K R/S
 DB1823 PG897
 5.49 AC.
 Tax# 269-46-0411-000

CLAIRVAUX LLC
 Inst. # 200506270068752
 13.13 AC.
 Tax# 269-36-9502-000

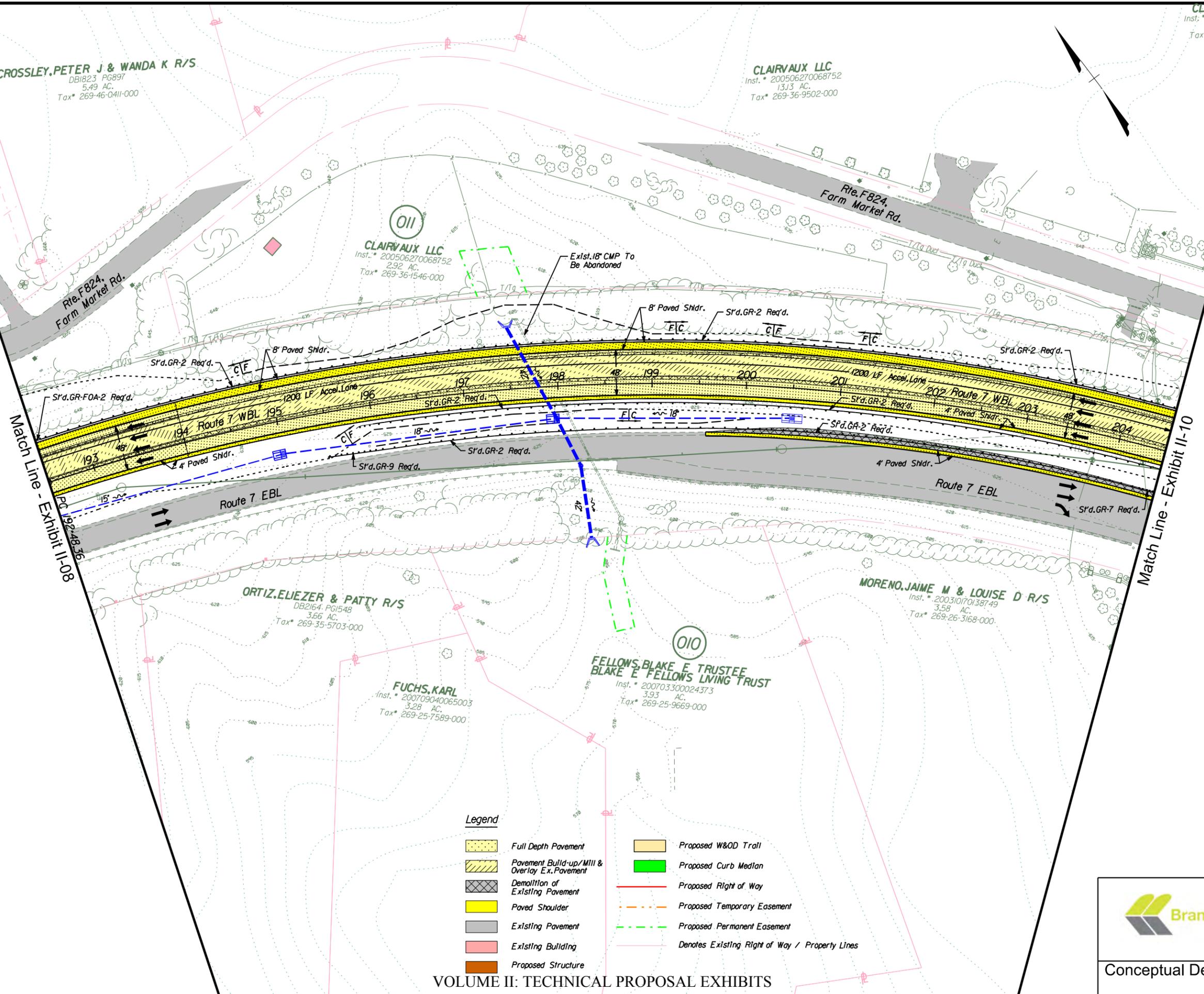
CLAIRVAUX LLC
 Inst. # 200506270068752
 2.92 AC.
 Tax# 269-36-1546-000

ORTIZ, ELIEZER & PATTY R/S
 DB2164 PG1548
 3.66 AC.
 Tax# 269-35-5703-000

MORENO, JAIME M & LOUISE D R/S
 Inst. # 200310170138749
 3.58 AC.
 Tax# 269-26-3168-000

FUCHS, KARL
 Inst. # 200709040065003
 3.29 AC.
 Tax# 269-25-7589-000

FELLOWS, BLAKE E TRUSTEE
 BLAKE E FELLOWS LIVING TRUST
 Inst. # 200703300024373
 3.93 AC.
 Tax# 269-25-9669-000



Match Line - Exhibit II-08

Match Line - Exhibit II-10

Legend

- Full Depth Pavement
- Pavement Build-up/Mill & Overlay Ex. Pavement
- Demolition of Existing Pavement
- Paved Shoulder
- Existing Pavement
- Existing Building
- Proposed Structure
- Proposed W&OD Trail
- Proposed Curb Median
- Proposed Right of Way
- Proposed Temporary Easement
- Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines

VOLUME II: TECHNICAL PROPOSAL EXHIBITS



Scale: 1" = 100'

Conceptual Design Plans

EXHIBIT #:
II-09

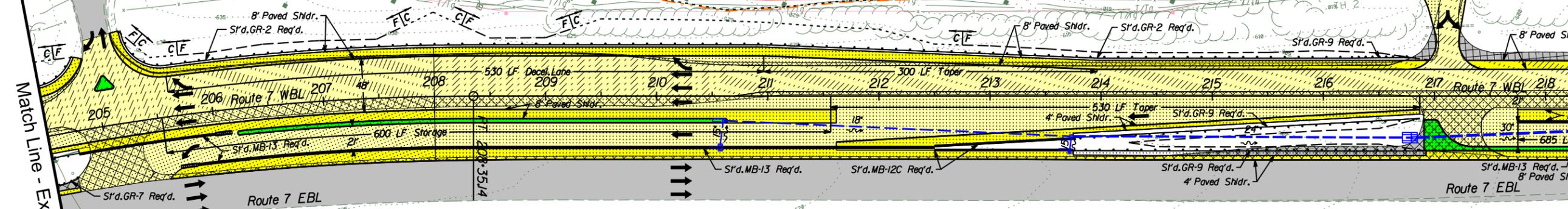
CLAIRVAUX LLC
Inst. * 200506270068752
13.13 AC.
Tax* 269-36-9502-000

CLAIRVAUX LLC
Inst. * 200506270068752
6.08 AC.
Tax* 269-27-3011-000

CLAIRVAUX LLC
Inst. * 200506270068752
6.08 AC.
Tax* 269-27-3011-000

CLAIRVAUX LLC
Inst. * 200605080040820
0.37 AC.
Tax* 269-17-3982-000

HANSEN, DAVID & STEPHANIE R/S
Inst. * 200308050100668
1.92 AC.
Tax* 269-17-5171-000



Match Line - Exhibit II-09

Match Line - Exhibit II-11

KANDOLA, PARGAT S & RANJIT R/S
Inst. * 2005102801222268
4.55 AC.
Tax* 269-26-3925-000

IYER, ARUN
Inst. * 200512070137329
4.73 AC.
Tax* 269-16-5399-000

WIGGINS, SIDNEY L JR & JANET S R/S
DBI/956 PG/995
3.70 AC.
Tax* 269-16-7364-000

QURESHI, MOHAMMAD
Inst. * 200606210054259
3.51 AC.
Tax* 269-16-7643-000

Rte. F820
White Gate Rd.

- Legend**
- Full Depth Pavement
 - Pavement Build-up/Mill & Overlay Ex. Pavement
 - Demolition of Existing Pavement
 - Paved Shoulder
 - Existing Pavement
 - Existing Building
 - Proposed Structure
 - Proposed W&OD Trail
 - Proposed Curb Median
 - Proposed Private Entrance
 - Proposed Right of Way
 - Proposed Temporary Easement
 - Proposed Permanent Easement
 - Denotes Existing Right of Way / Property Lines

Scale: 1" = 100'

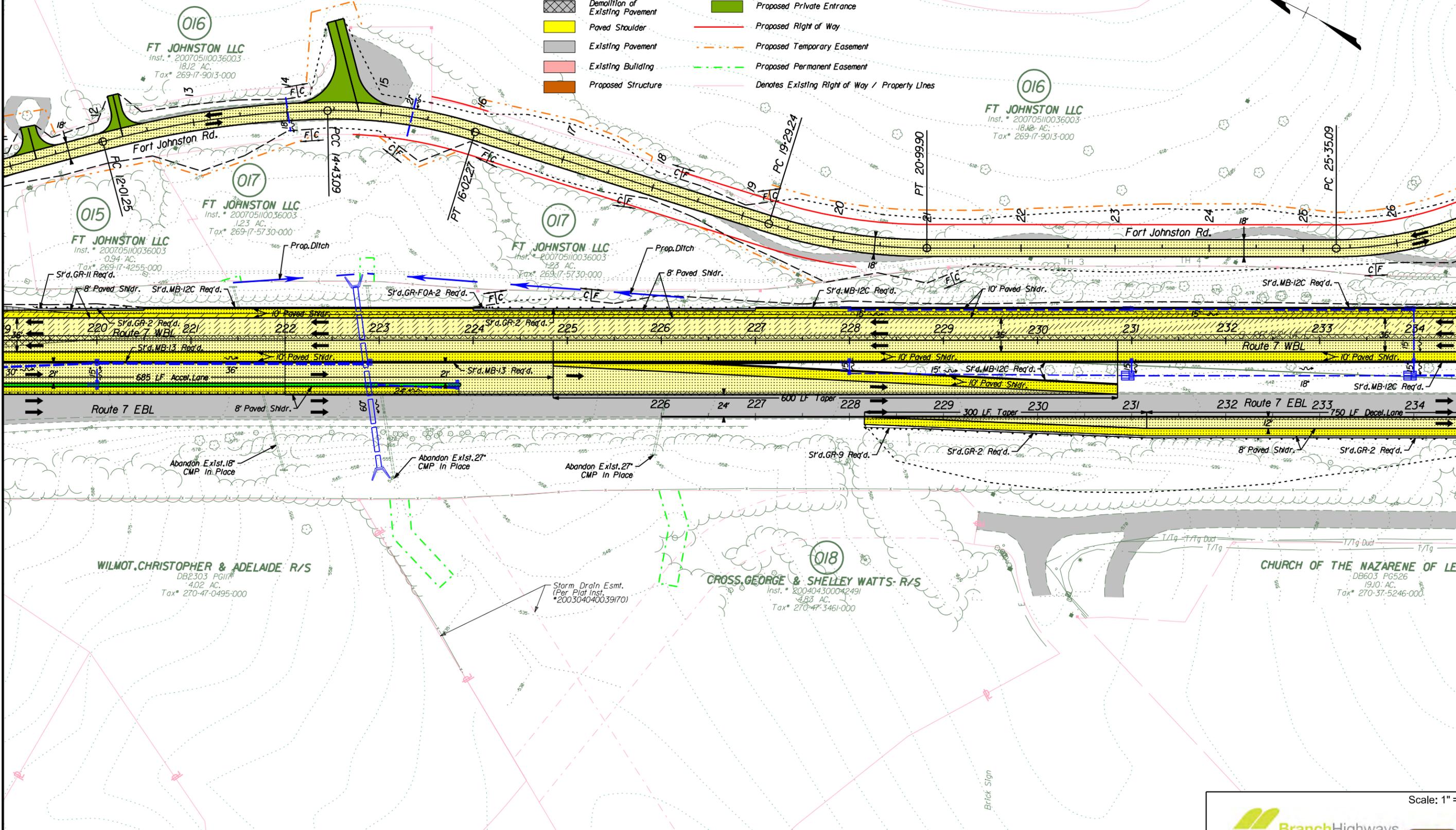
BranchHighways
in association with

Legend

-  Full Depth Pavement
-  Pavement Build-up/Mill & Overlay Ex. Pavement
-  Demolition of Existing Pavement
-  Paved Shoulder
-  Existing Pavement
-  Existing Building
-  Proposed Structure
-  Proposed W&OD Trail
-  Proposed Curb Median
-  Proposed Private Entrance
-  Proposed Right of Way
-  Proposed Temporary Easement
-  Proposed Permanent Easement
-  Denotes Existing Right of Way / Property Lines

Match Line - Exhibit II-10

Match Line - Exhibit II-12



VOLUME II: TECHNICAL PROPOSAL EXHIBITS

Scale: 1" = 100'

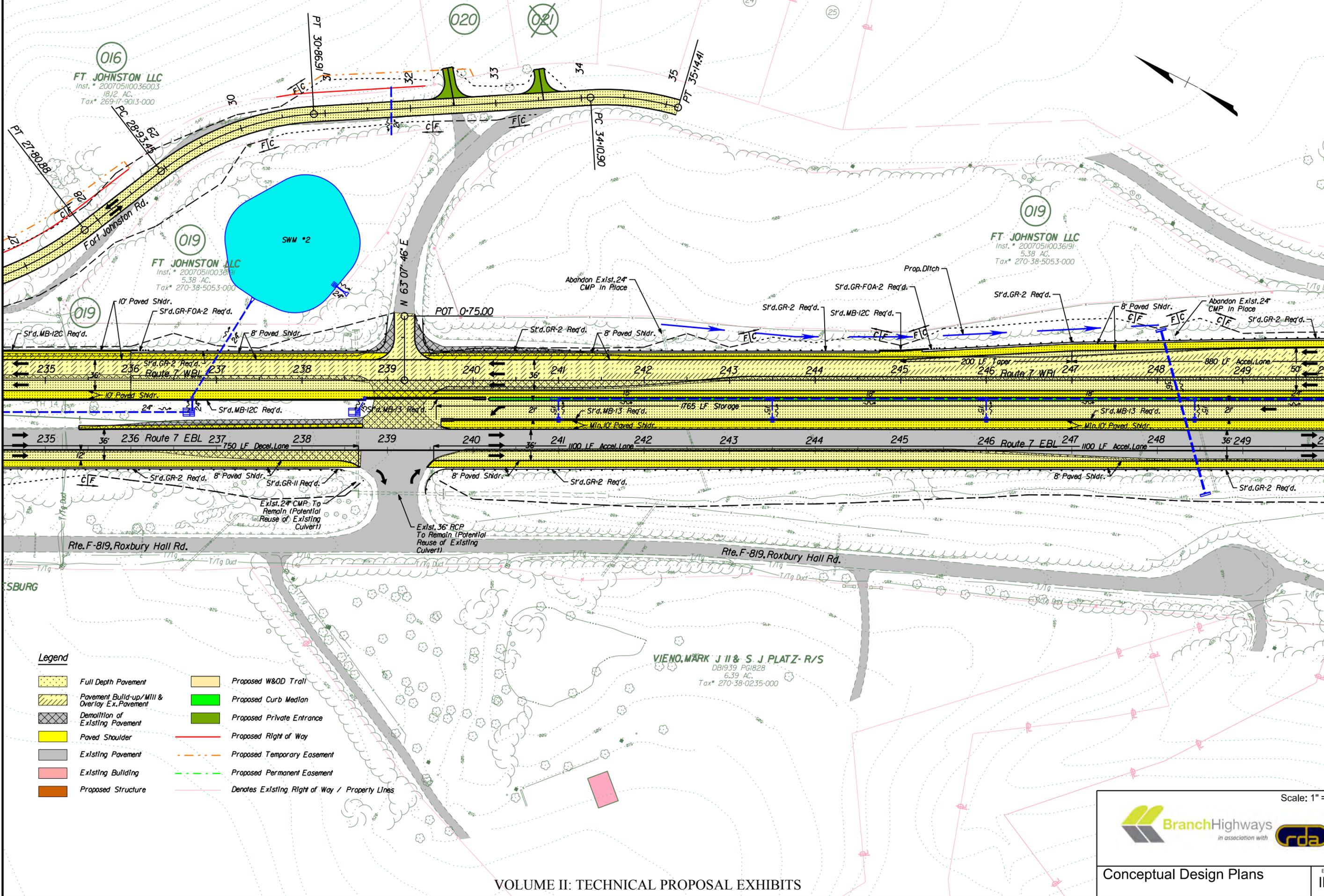



Conceptual Design Plans

EXHIBIT #:
II-11

Match Line - Exhibit II-11

Match Line - Exhibit II-13



Legend

- Full Depth Pavement
- Pavement Build-up/Mill & Overlay Ex. Pavement
- Demolition of Existing Pavement
- Paved Shoulder
- Existing Pavement
- Existing Building
- Proposed Structure
- Proposed W&OD Trail
- Proposed Curb Median
- Proposed Private Entrance
- Proposed Right of Way
- Proposed Temporary Easement
- Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines

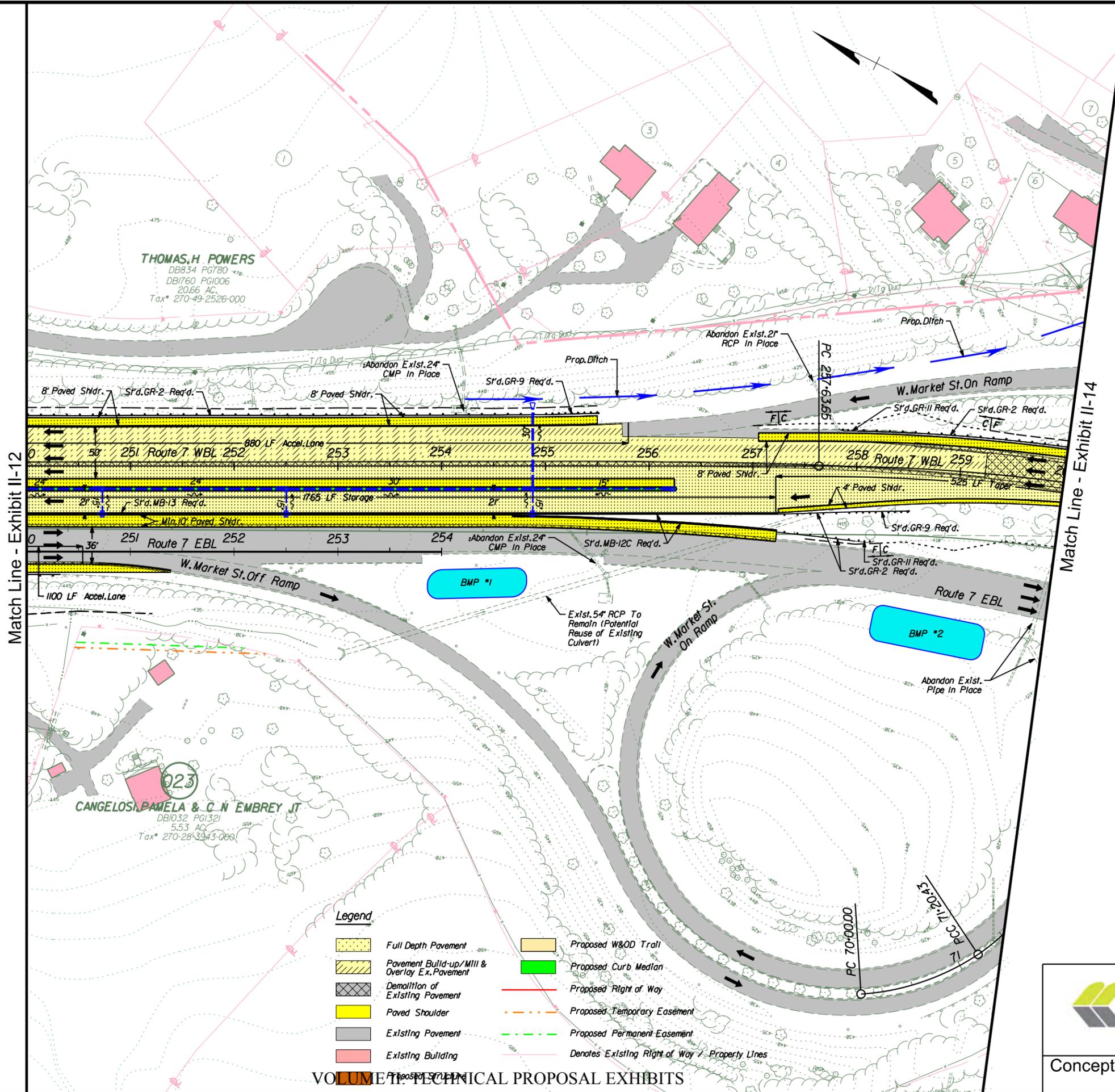
VOLUME II: TECHNICAL PROPOSAL EXHIBITS



Scale: 1" = 100'

Conceptual Design Plans

EXHIBIT #: II-12



Match Line - Exhibit II-12

Match Line - Exhibit II-14

- Legend**
- Full Depth Pavement
 - Pavement Build-up/Mill & Overlay Ex. Pavement
 - Demolition of Existing Pavement
 - Paved Shoulder
 - Existing Pavement
 - Existing Building
 - Proposed W&OD Trail
 - Proposed Curb Median
 - Proposed Right of Way
 - Proposed Temporary Easement
 - Proposed Permanent Easement
 - Denotes Existing Right of Way / Property Lines

VOLUME II - TECHNICAL PROPOSAL EXHIBITS

Scale: 1" = 100'

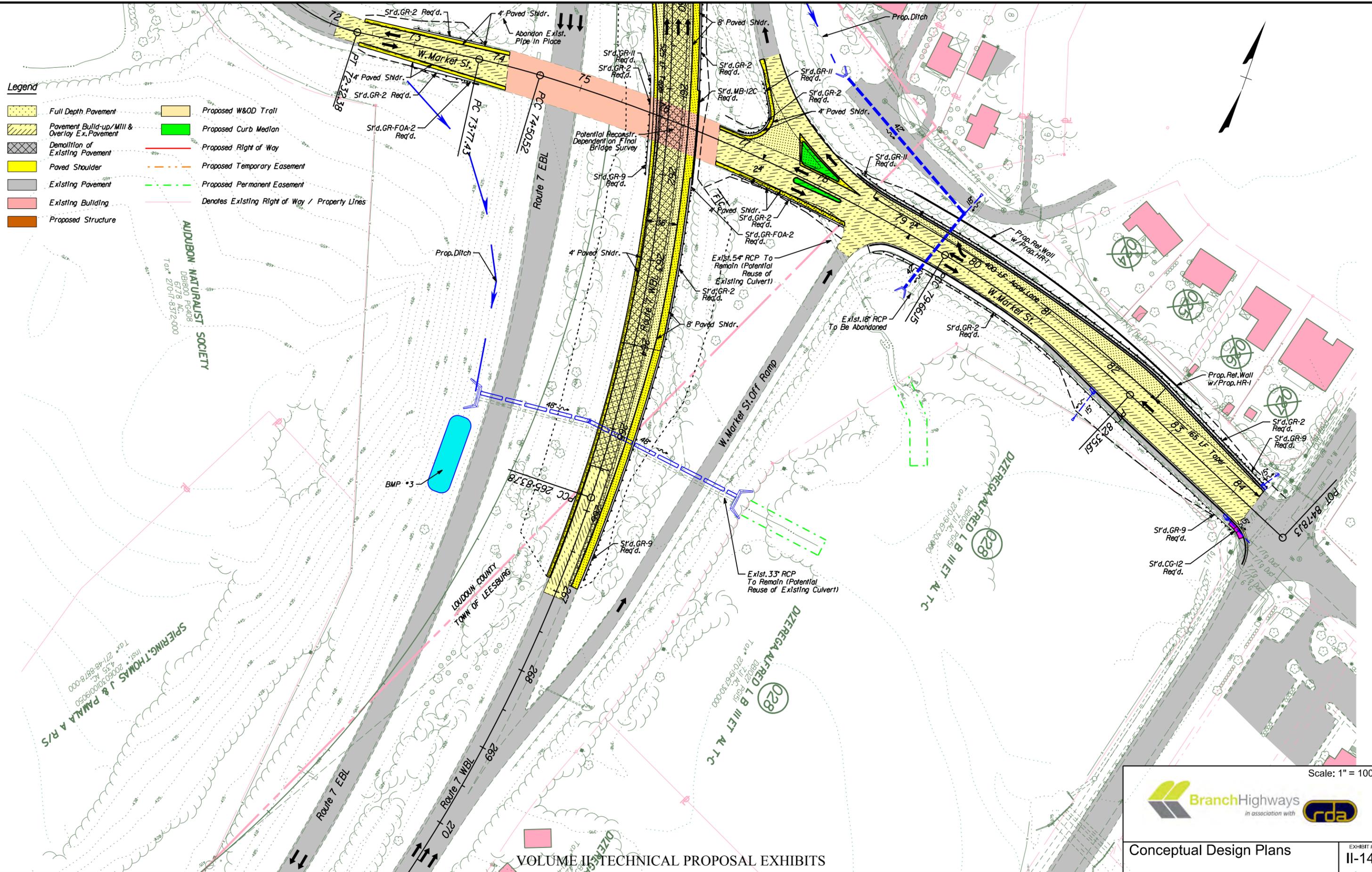
Conceptual Design Plans

EXHIBIT #:
II-13

Match Line - Exhibit II-13

Legend

- | | | | |
|--|---|--|--|
| | Full Depth Pavement | | Proposed W&OD Trall |
| | Pavement Build-up/Mill & Overlay Ex. Pavement | | Proposed Curb Median |
| | Demolition of Existing Pavement | | Proposed Right of Way |
| | Paved Shoulder | | Proposed Temporary Easement |
| | Existing Pavement | | Proposed Permanent Easement |
| | Existing Building | | Denotes Existing Right of Way / Property Lines |
| | Proposed Structure | | |



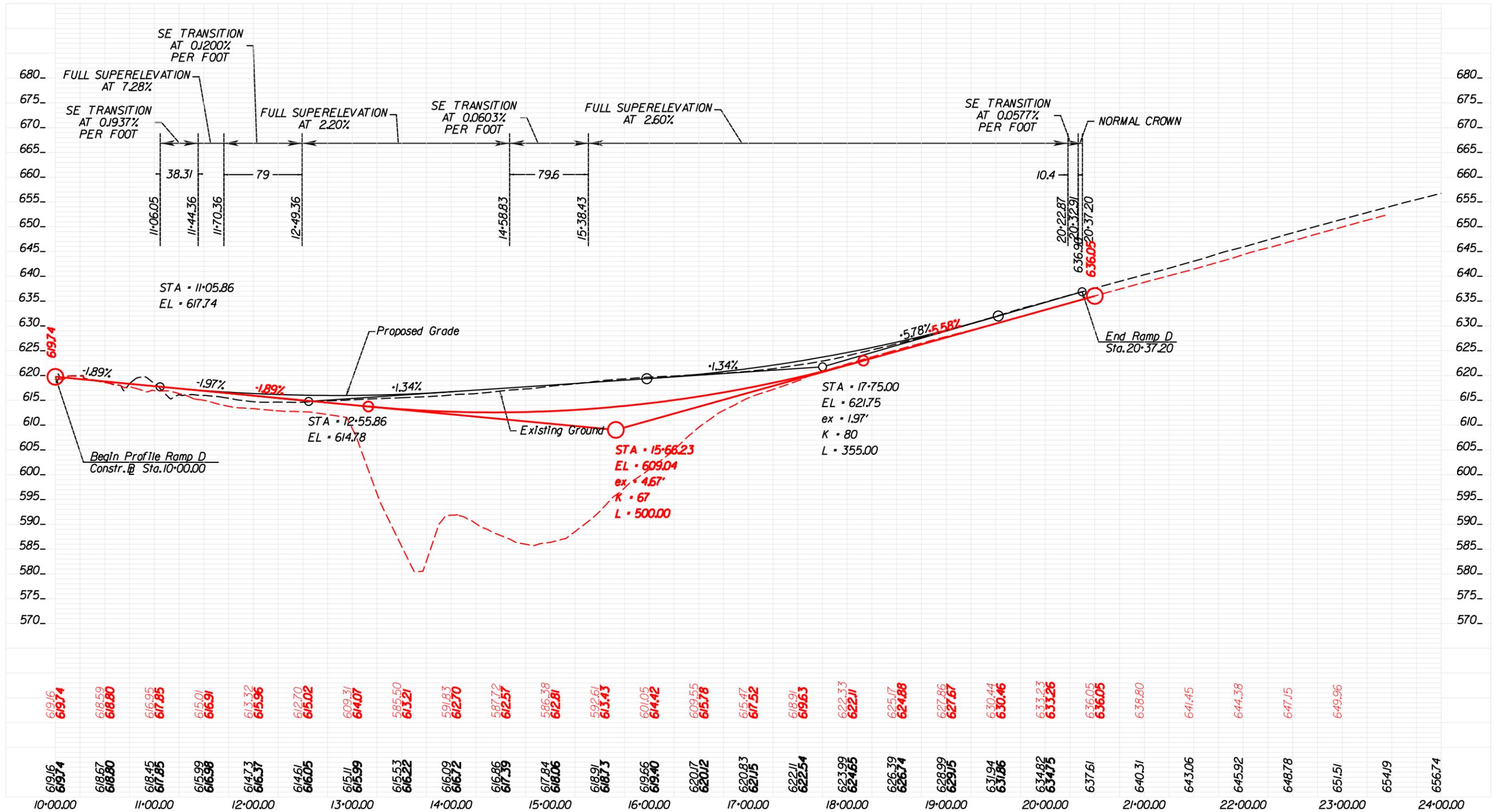
Scale: 1" = 100'

in association with

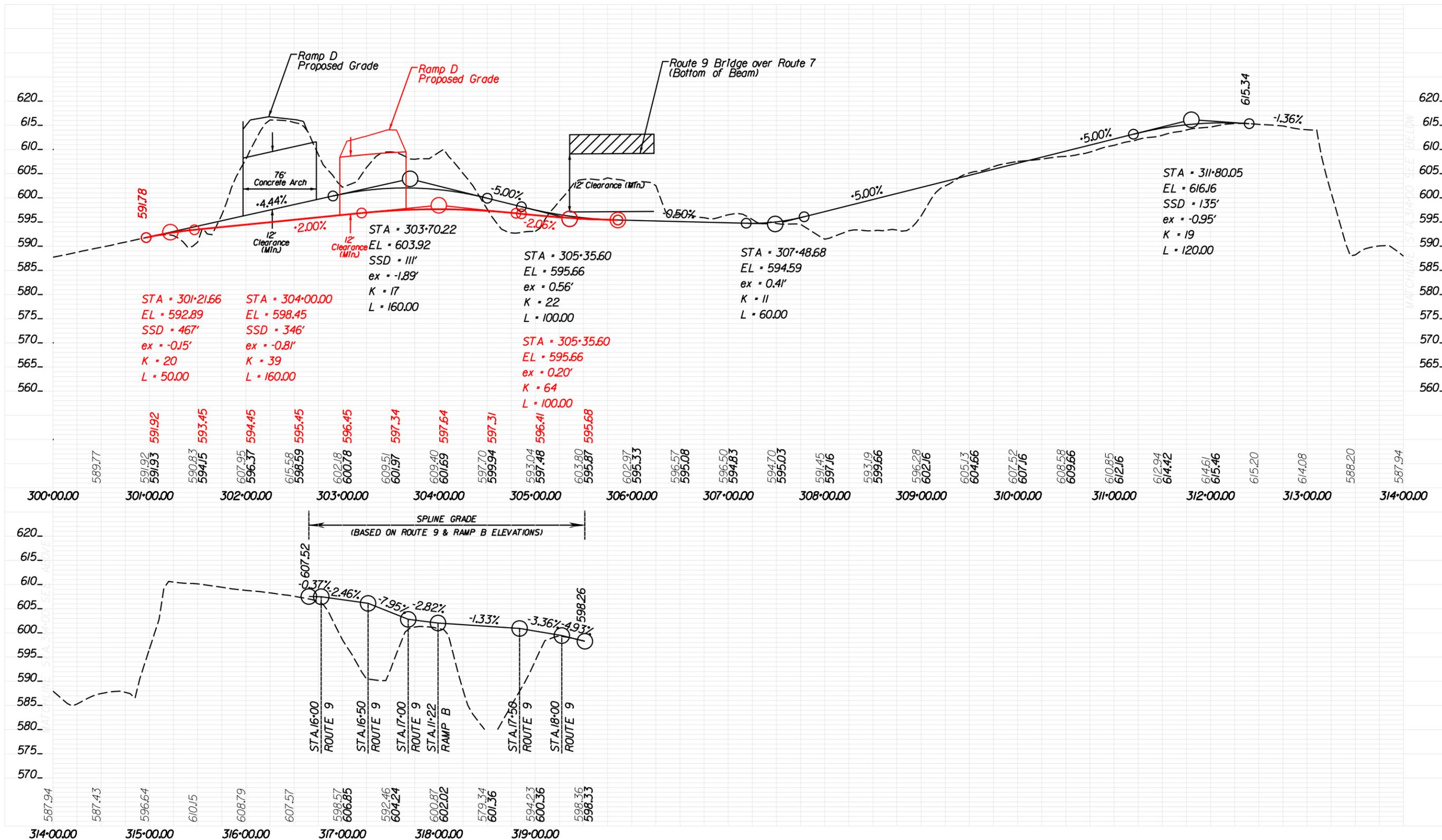
Conceptual Design Plans

EXHIBIT #:
II-14

Ramp D Profile Revised

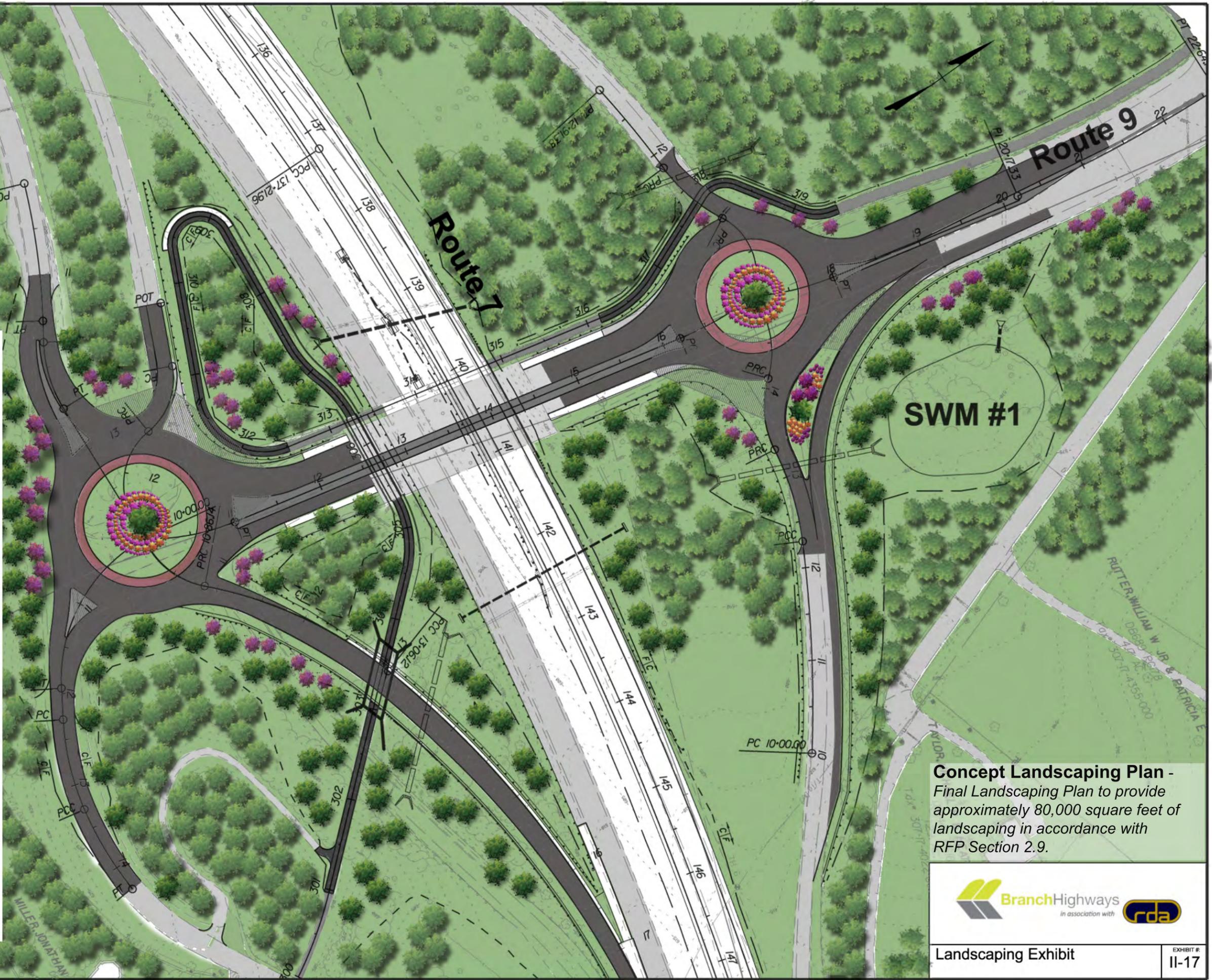
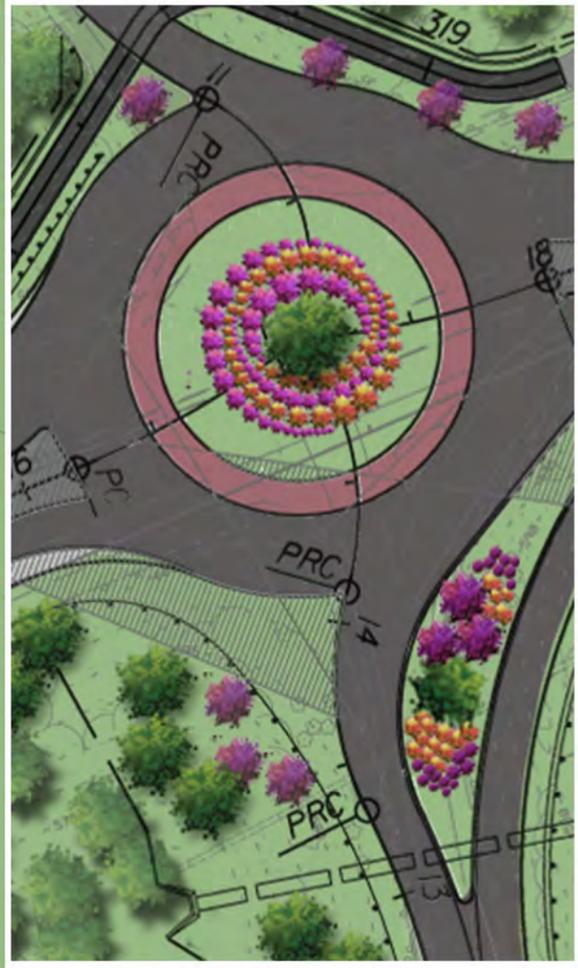


W&OD Trail Profile Revised



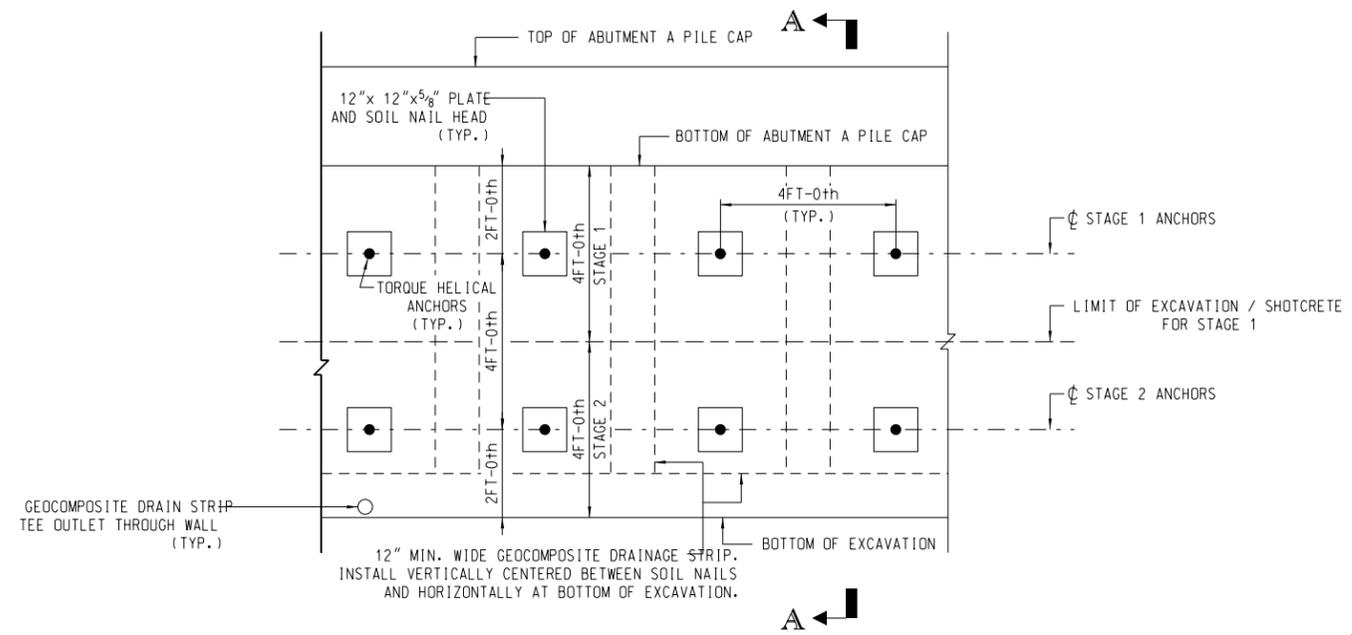
Zoom-In Roundabout (Northern)

-  Ex. Deciduous Trees
-  Prop. Deciduous Trees
-  Ornamental Tree
-  Turf
-  Ornamental Grass

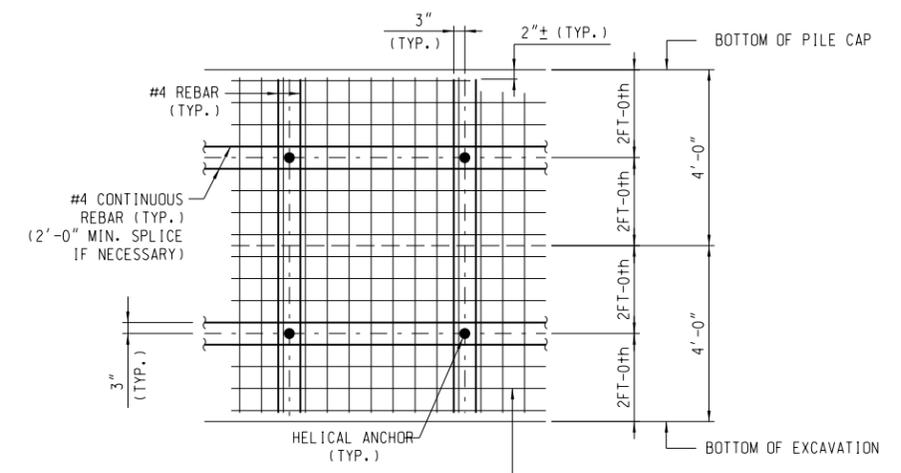


Concept Landscaping Plan -
 Final Landscaping Plan to provide approximately 80,000 square feet of landscaping in accordance with RFP Section 2.9.



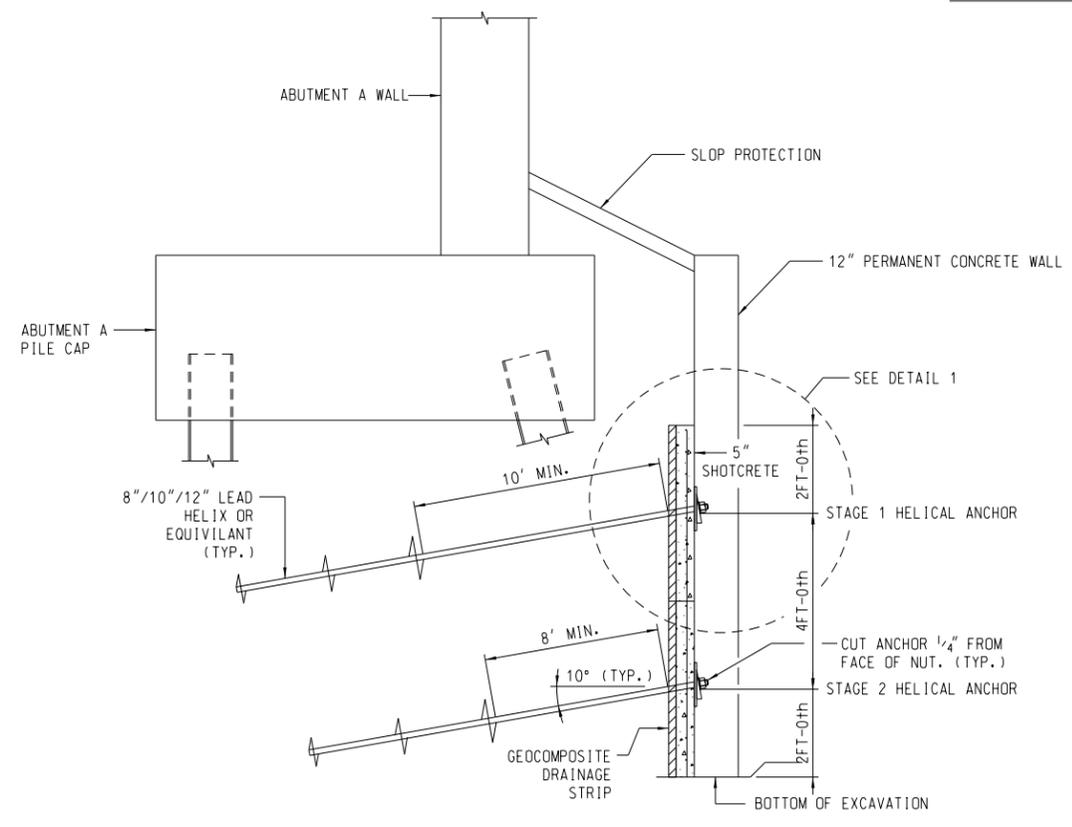


ELEVATION

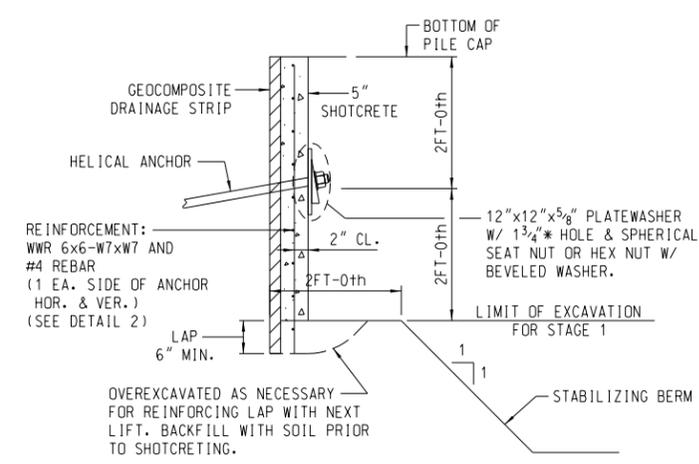


DETAIL 2
PARTIAL REBAR LAYOUT

WWR 6x6-W7xW7 (WELDED WIRE REINFORCEMENT) PLACE REINFORCING SUCH THAT IT IS CENTERED IN WALL WITH A CLEAR COVER OF 2" TO FACE OF WALL.



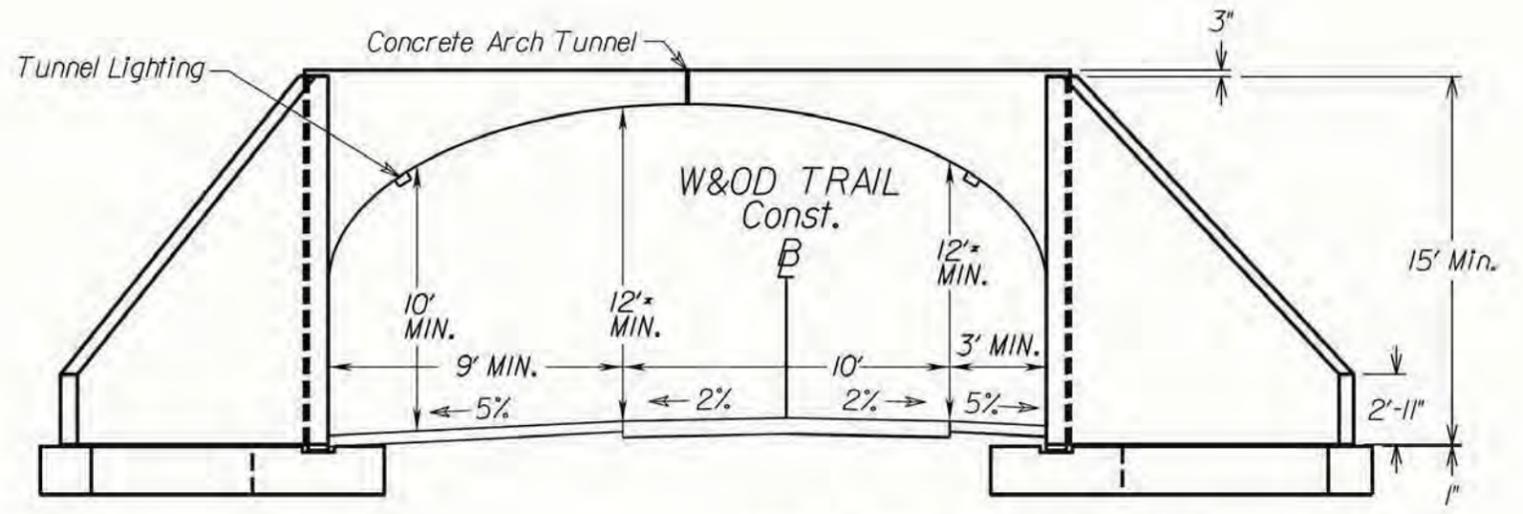
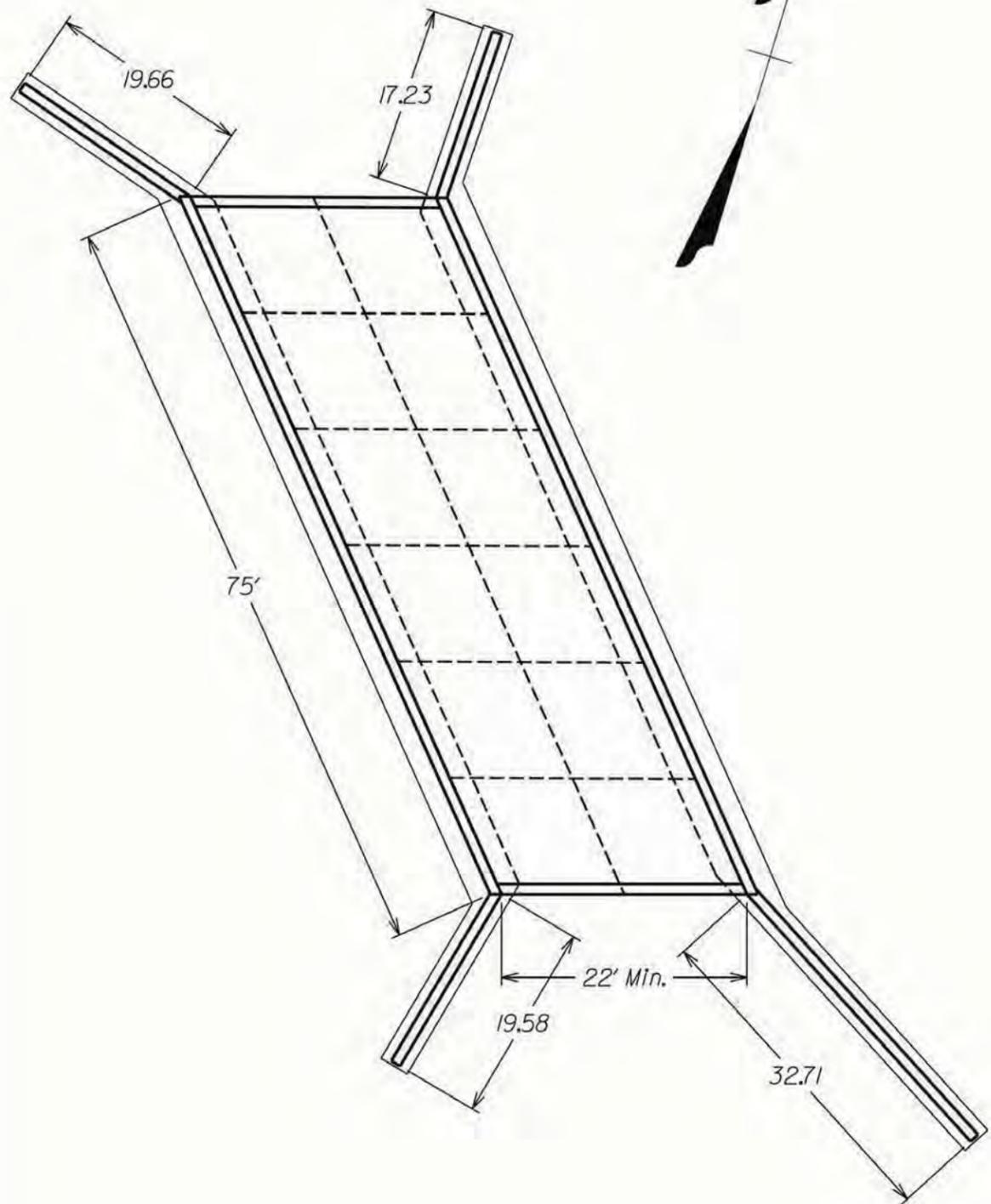
SECTION A-A



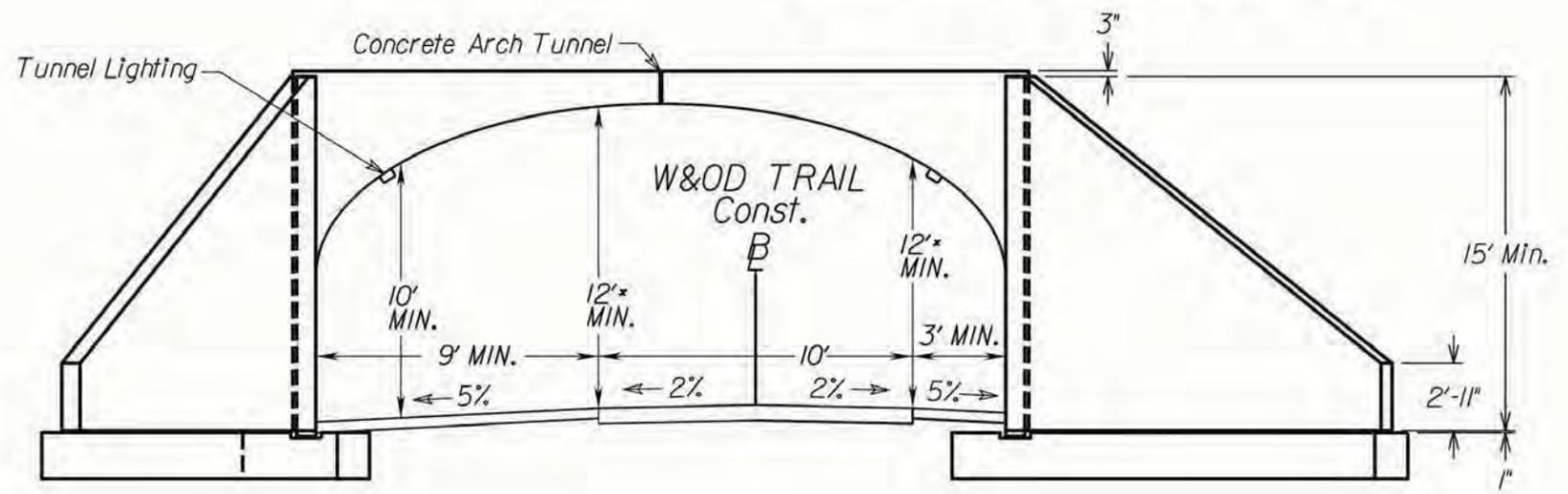
DETAIL 1
STAGE 1

CONCEPTUAL PLANS NOT FOR CONSTRUCTION





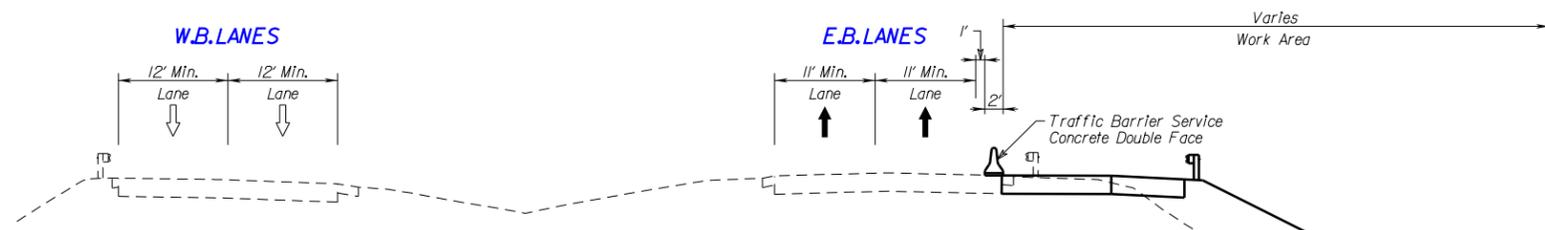
*NOTE: 12' MIN. VERTICAL CLEARANCE IS REQUIRED OVER FULL WIDTH OF PATH.



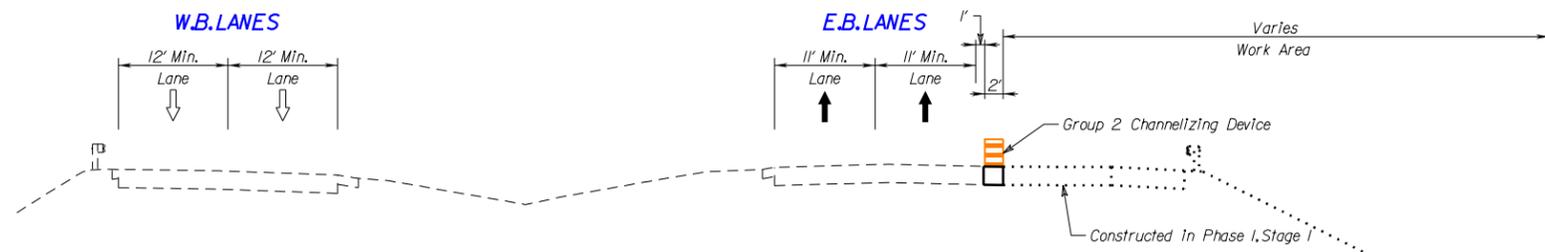
NOTE: The concrete arch structure shall be designed in accordance with AASHTO LRFD Bridge Design Specifications, 6th Edition and VDOT Modifications.

NOTE: All walls connected to the concrete arch structure, shall receive a form liner with an architectural finish that matches the stone pattern of the existing Dry Mill Rd. stone arch bridge over the W&OD trail.

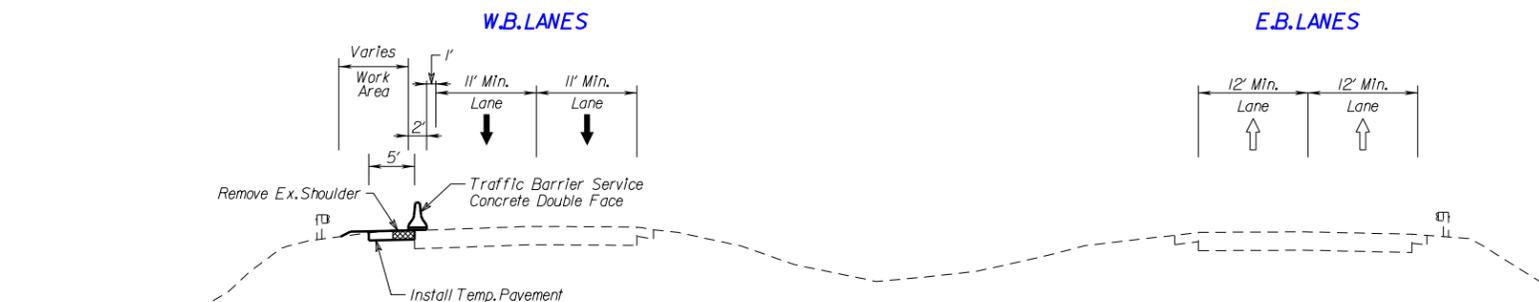




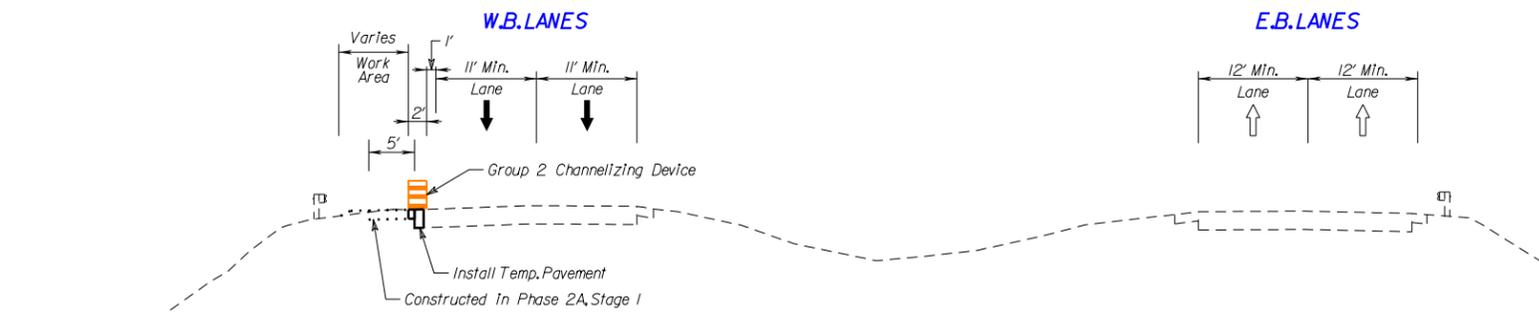
TMP/SOC Phase I, Stage 1: Route 7 E.B. Outside Lane Widening



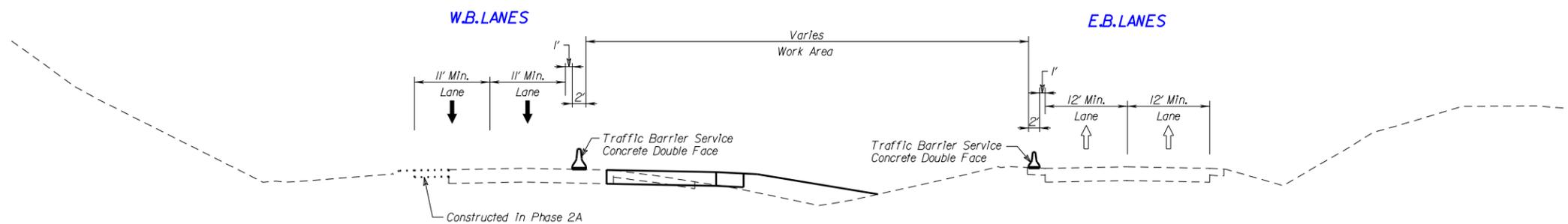
TMP/SOC Phase I, Stage 2: Route 7 E.B. Outside Lane Widening



TMP/SOC Phase 2A, Stage 1: Route 7 W.B. Temporary Pavement

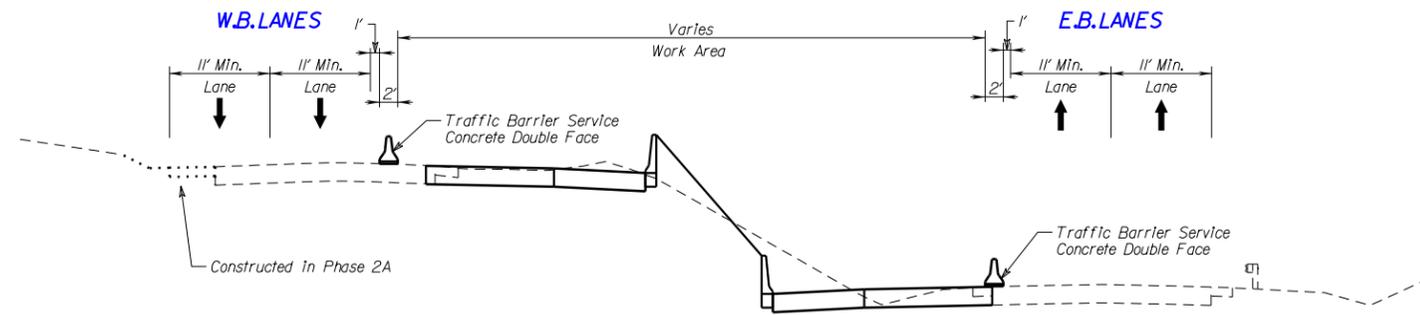


TMP/SOC Phase 2A, Stage 2: Route 7 W.B. Temporary Pavement

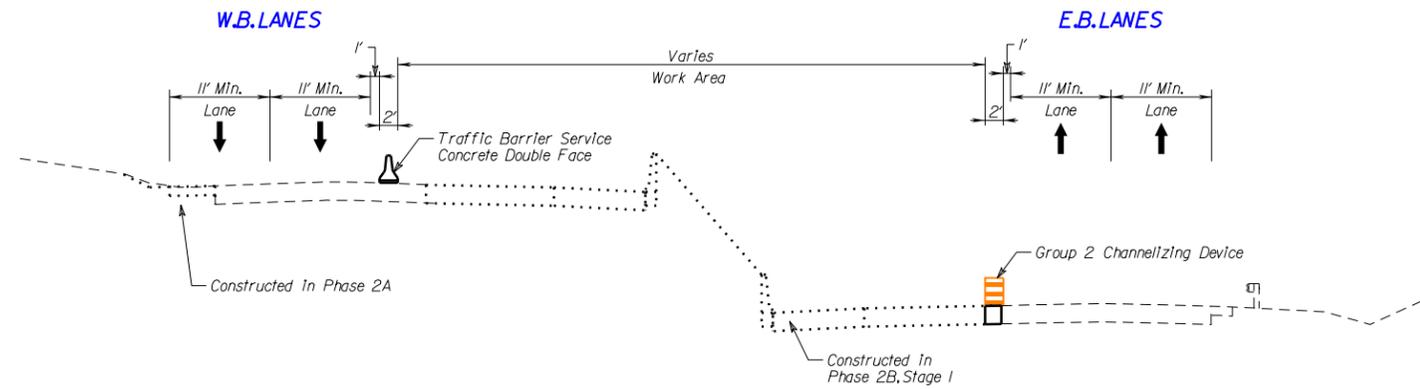


TMP/SOC Phase 2B, Stage 1: Route 7 W.B. Inside Lane Widening

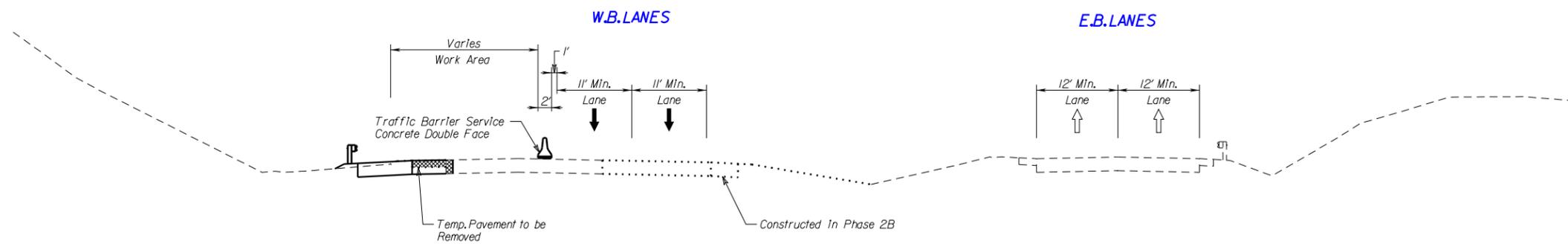
Scale: NTS



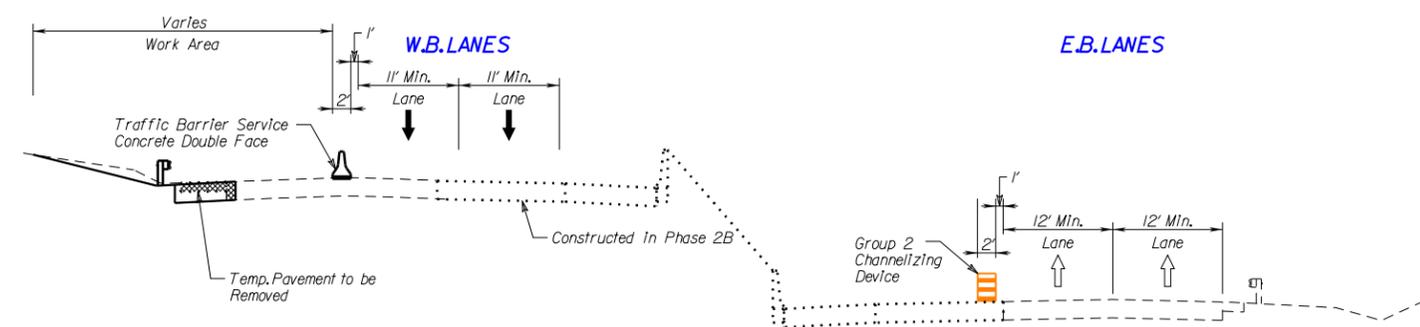
TMP/SOC Phase 2B, Stage 1: Route 7 E.B. and W.B. Inside Lane Widening



TMP/SOC Phase 2B, Stage 2: Route 7 E.B. and W.B. Inside Lane Widening



TMP/SOC Phase 3: Route 7 W.B. Outside Lane Widening



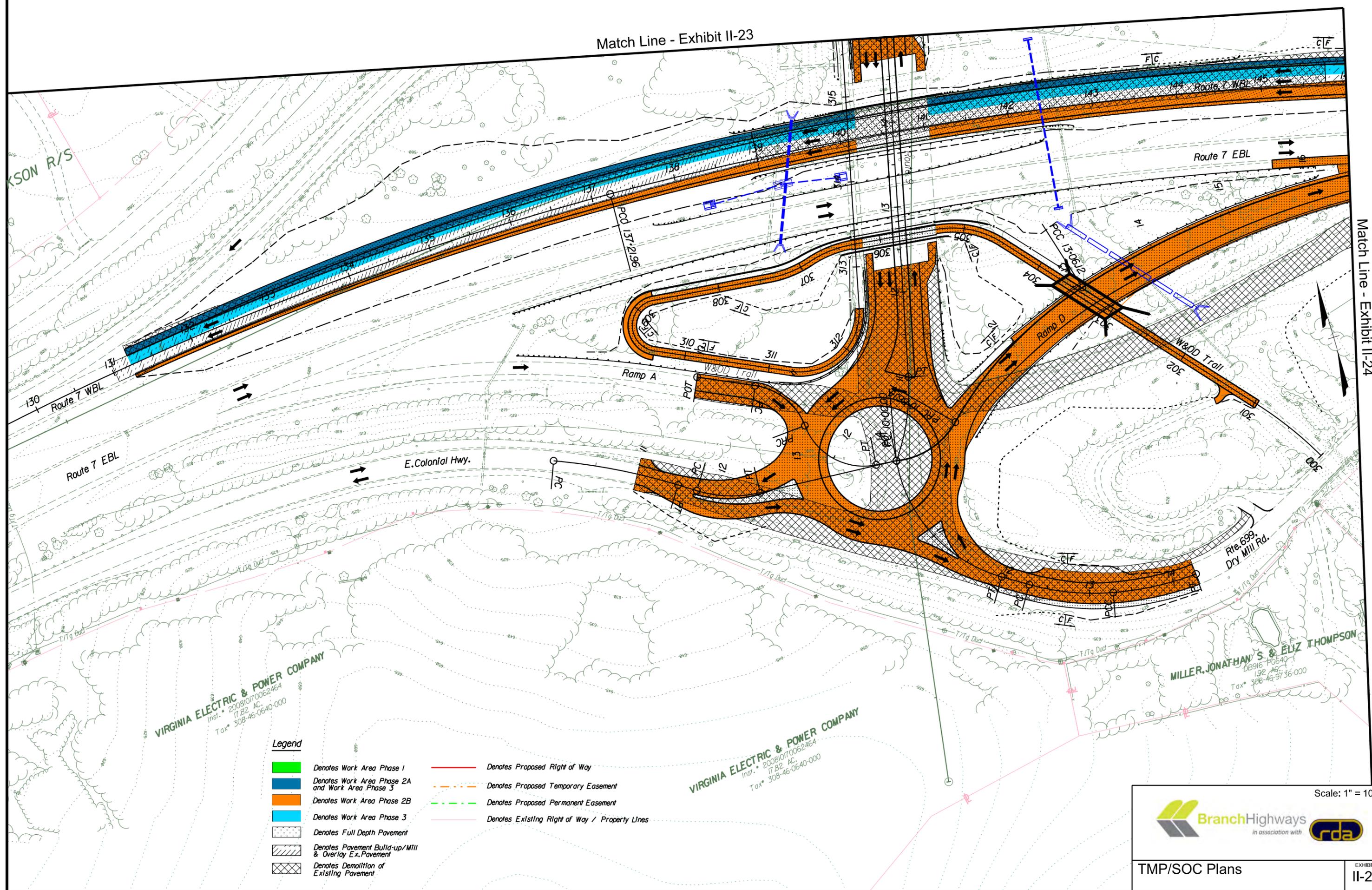
TMP/SOC Phase 3: Route 7 W.B. Outside Lane Widening



Scale: NTS

Match Line - Exhibit II-23

Match Line - Exhibit II-24



VIRGINIA ELECTRIC & POWER COMPANY
 Inst. # 200810170062464
 17.82 AC.
 Tax # 308-46-0640-000

VIRGINIA ELECTRIC & POWER COMPANY
 Inst. # 200810170062464
 17.82 AC.
 Tax # 308-46-0640-000

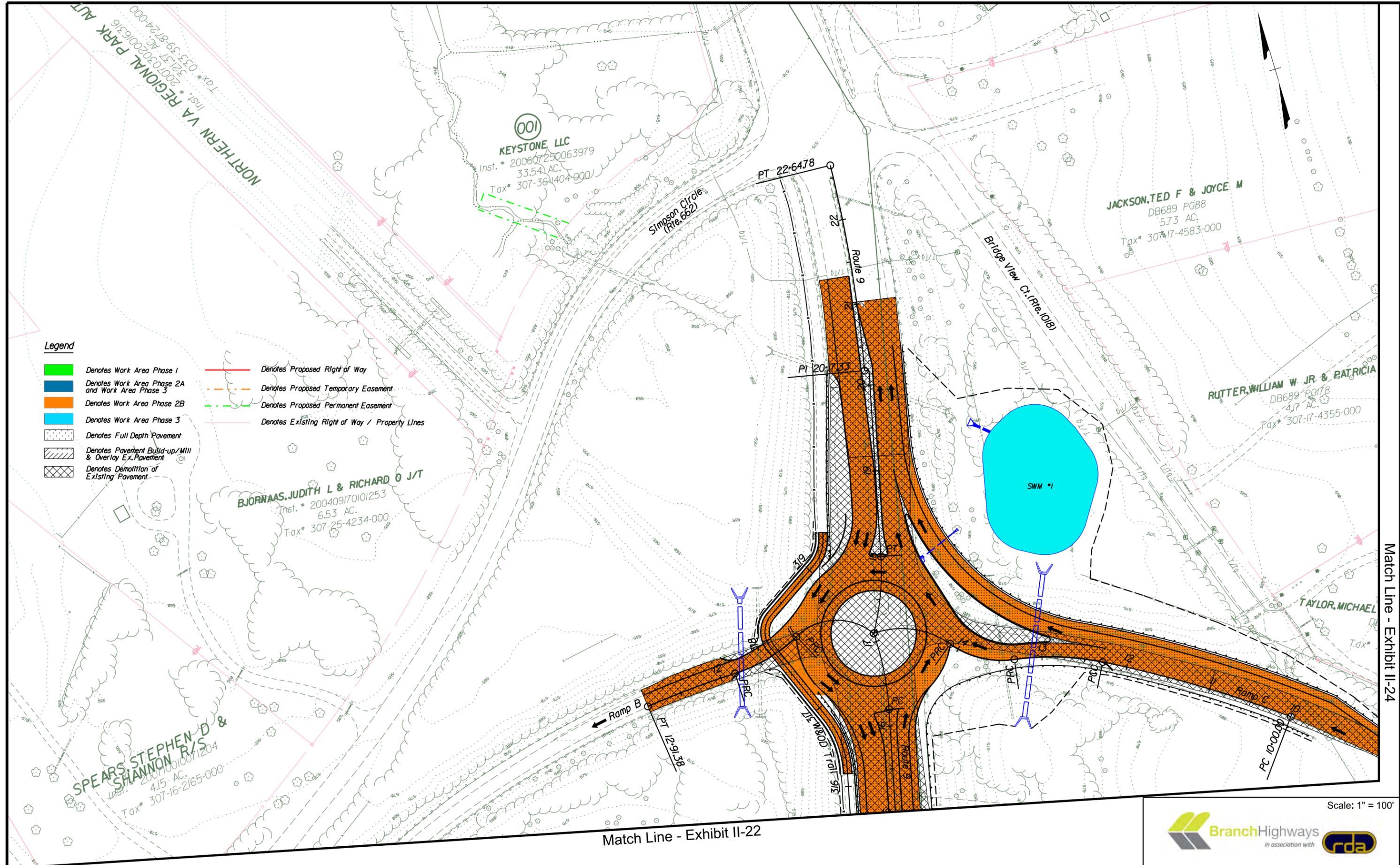
MILLER, JONATHAN S. & ELIZ THOMPSON
 08916 P0640
 192 AC.
 Tax # 308-46-9736-000

- Legend**
- Denotes Work Area Phase 1
 - Denotes Work Area Phase 2A and Work Area Phase 3
 - Denotes Work Area Phase 2B
 - Denotes Work Area Phase 3
 - Denotes Full Depth Pavement
 - Denotes Pavement Build-up/Mill & Overlay Ex. Pavement
 - Denotes Demolition of Existing Pavement
 - Denotes Proposed Right of Way
 - Denotes Proposed Temporary Easement
 - Denotes Proposed Permanent Easement
 - Denotes Existing Right of Way / Property Lines



Scale: 1" = 100'

TMP/SOC Plans EXHIBIT #: II-22



Legend

- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
- Denotes Work Area Phase 2B
- Denotes Work Area Phase 3
- Denotes Full Depth Pavement
- Denotes Pavement Build-up/MIII & Overlay Ex. Pavement
- Denotes Demolition of Existing Pavement
- Denotes Proposed Right of Way
- Denotes Proposed Temporary Easement
- Denotes Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines

Match Line - Exhibit II-24

Match Line - Exhibit II-22

Scale: 1" = 100'



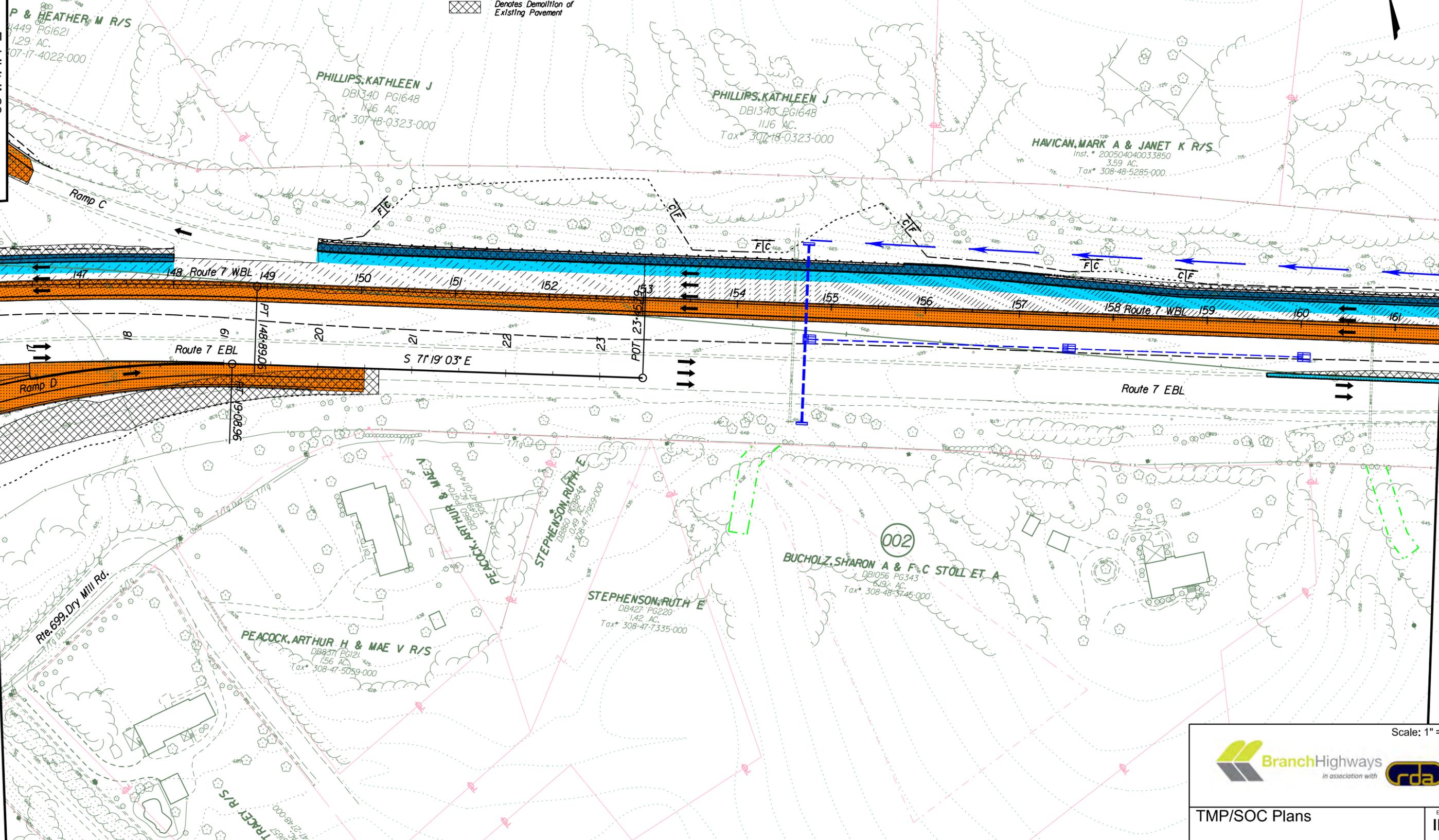
Match Line - Exhibit II-23

Match Line - Exhibit II-22

Match Line - Exhibit II-25

Legend

- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
- Denotes Work Area Phase 2B
- Denotes Work Area Phase 3
- Denotes Full Depth Pavement
- Denotes Pavement Build-up/MIII & Overlay E.x.Pavement
- Denotes Demolition of Existing Pavement
- Denotes Proposed Right of Way
- Denotes Proposed Temporary Easement
- Denotes Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines



Scale: 1" = 100'

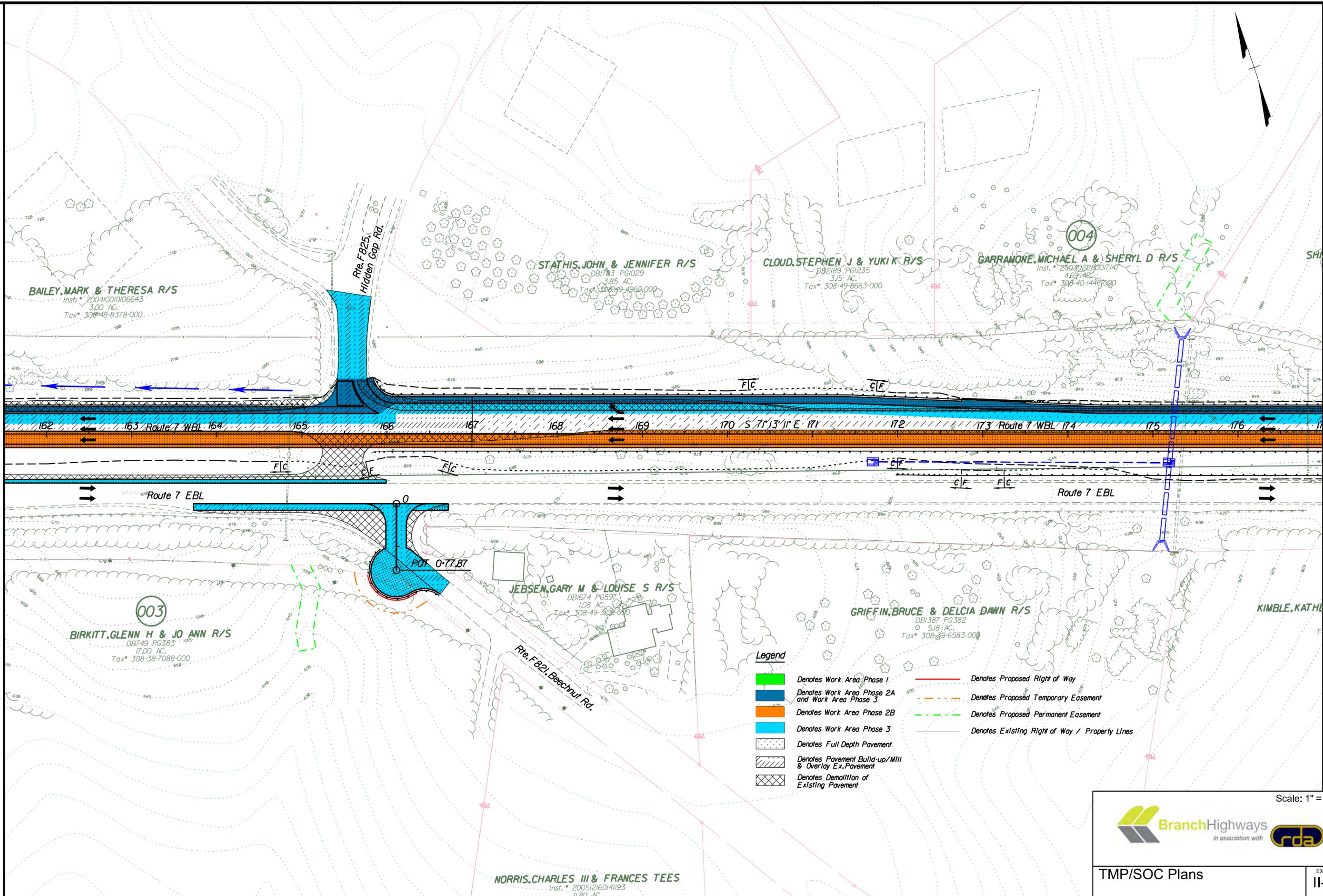


TMP/SOC Plans

EXHIBIT #: II-24

Match Line - Exhibit II-24

Match Line - Exhibit II-26



Scale: 1" = 100'



Legend

- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
- Denotes Work Area Phase 2B
- Denotes Work Area Phase 3
- Denotes Full Depth Pavement
- Denotes Pavement Build-up/Mill & Overlay Ex. Pavement
- Denotes Demolition of Existing Pavement
- Denotes Proposed Right of Way
- Denotes Proposed Temporary Easement
- Denotes Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines



RAZI, MEHRDAD & H MEHRABANI R/S
 Inst. # 2003121701637-37
 3.18 AC.
 Tax # 308-40-3927-000

MAGALHAES, CARLOS
 DB200484010029674 PG
 3.38 AC.
 Tax # 308-40-7515-000

HERDMAN, DARWIN T & DAWN D R/S
 Inst. # 200407230076284
 3.51 AC.
 Tax # 269-35-1197-000

BRISBANE, STEVEN W
 Inst. # 200508040086644
 4.29 AC.
 Tax # 269-45-5103-000

EVERETT, JAMES M & LINDA C R/S
 DB862 PG203
 1.7 AC.
 Tax # 308-30-6268-000

RINE & RALPH TEES T/C
 DB1818 PG2178
 5.00 AC.
 Tax # 308-30-2075-000

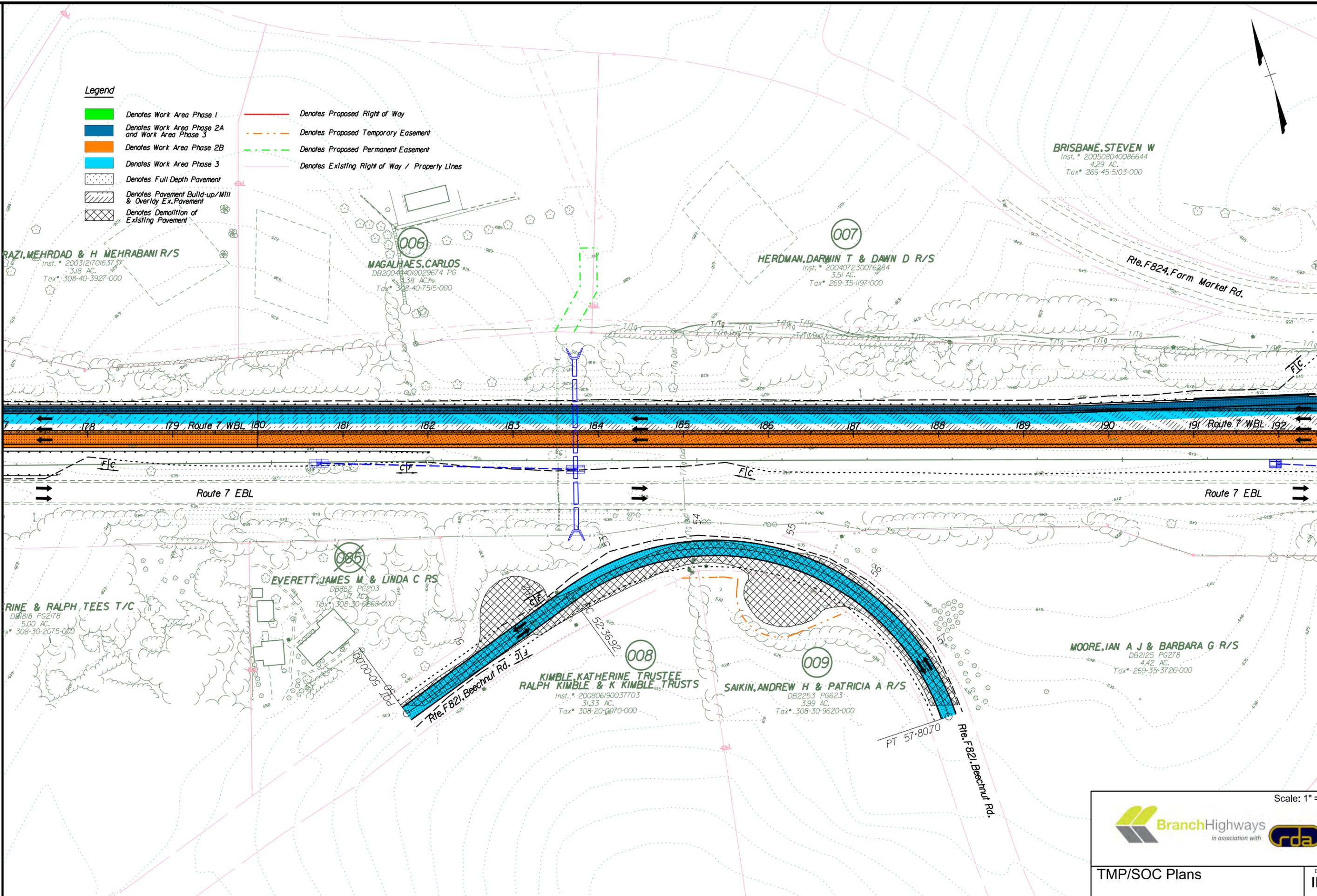
**KIMBLE, KATHERINE TRUSTEE
 RALPH KIMBLE & K KIMBLE TRUSTS**
 Inst. # 200806190037703
 31.33 AC.
 Tax # 308-20-0070-000

SAKIN, ANDREW H & PATRICIA A R/S
 DB2253 PG623
 3.99 AC.
 Tax # 308-30-9620-000

MOORE, IAN A J & BARBARA G R/S
 DB2125 PG278
 4.42 AC.
 Tax # 269-35-3726-000

Match Line - Exhibit II-25

Match Line - Exhibit II-27



CLAIRVAUX LLC
 Inst. # 200506270068752
 13.13 AC.
 Tax# 269-36-9502-000

CROSSLEY, PETER J & WANDA K R/S
 DB1823 PG897
 5.49 AC.
 Tax# 269-46-0411-000

CLAIRVAUX LLC
 Inst. # 200506270068752
 13.13 AC.
 Tax# 269-36-9502-000

011
 CLAIRVAUX LLC
 Inst. # 200506270068752
 2.92 AC.
 Tax# 269-36-1546-000

ORTIZ, ELIEZER & PATTY R/S
 DB2164 PG1548
 3.66 AC.
 Tax# 269-35-5703-000

MORENO, JAIME M & LOUISE D R/S
 Inst. # 20031070138749
 3.58 AC.
 Tax# 269-26-3168-000

FUCHS, KARL
 Inst. # 200709040065003
 3.28 AC.
 Tax# 269-25-7589-000

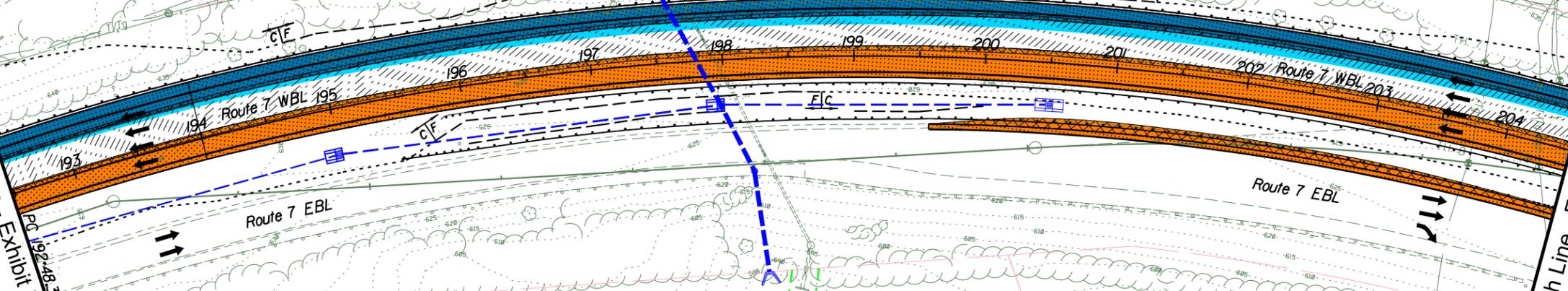
010
 FELLOWS, BLAKE E TRUSTEE
 BLAKE E FELLOWS LIVING TRUST
 Inst. # 200703300024373
 3.93 AC.
 Tax# 269-25-9669-000

Rte. F824,
 Farm Market Rd.

Rte. F824,
 Farm Market Rd.

Match Line - Exhibit II-26

Match Line - Exhibit II-28



Legend

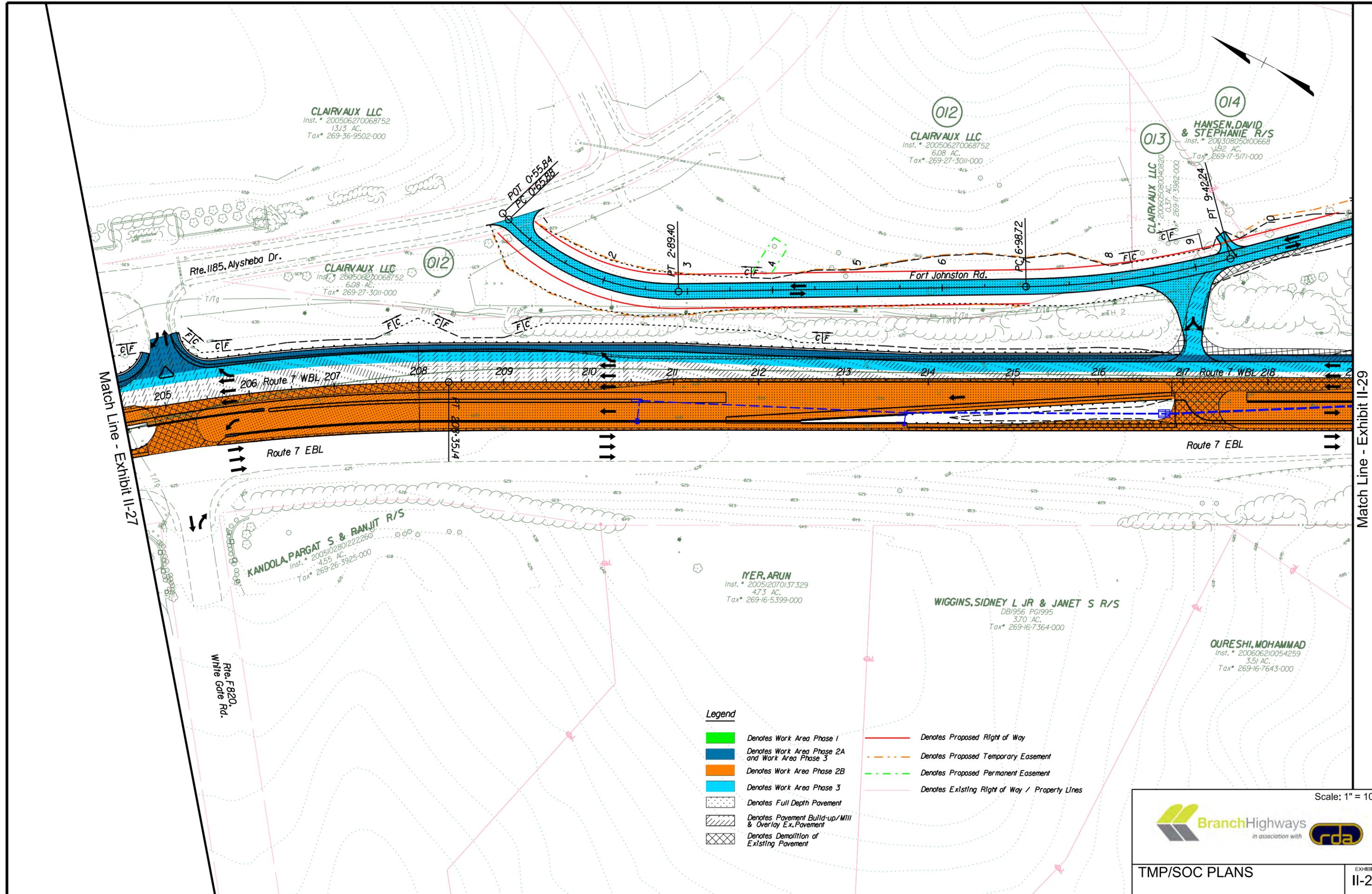
- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
- Denotes Work Area Phase 2B
- Denotes Work Area Phase 3
- Denotes Full Depth Pavement
- Denotes Pavement Build-up/Mill & Overlay Ex. Pavement
- Denotes Demolition of Existing Pavement
- Denotes Proposed Right of Way
- Denotes Proposed Temporary Easement
- Denotes Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines



TMP/SOC PLANS

Scale: 1" = 100'

EXHIBIT #:
 II-27



CLAIRVAUX LLC
 Inst. * 200506270068752
 13.13 AC.
 Tax* 269-36-9502-000

CLAIRVAUX LLC
 Inst. * 200506270068752
 6.08 AC.
 Tax* 269-27-3011-000

HANSEN, DAVID & STEPHANIE R/S
 Inst. * 200308050100668
 1.92 AC.
 Tax* 269-17-5171-000

CLAIRVAUX LLC
 Inst. * 200506270068752
 6.08 AC.
 Tax* 269-27-3011-000

KANDOLA, PARGAT S & RANJIT R/S
 Inst. * 2005102801222268
 4.55 AC.
 Tax* 269-26-3925-000

IYER, ARUN
 Inst. * 200512070137329
 4.73 AC.
 Tax* 269-16-5399-000

WIGGINS, SIDNEY L JR & JANET S R/S
 DBI/956 PG/995
 3.70 AC.
 Tax* 269-16-7364-000

QURESHI, MOHAMMAD
 Inst. * 200606210054259
 3.51 AC.
 Tax* 269-16-7643-000

Legend

- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
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- Denotes Proposed Permanent Easement
- Denotes Existing Right of Way / Property Lines

Scale: 1" = 100'



BranchHighways
 in association with 

TMP/SOC PLANS

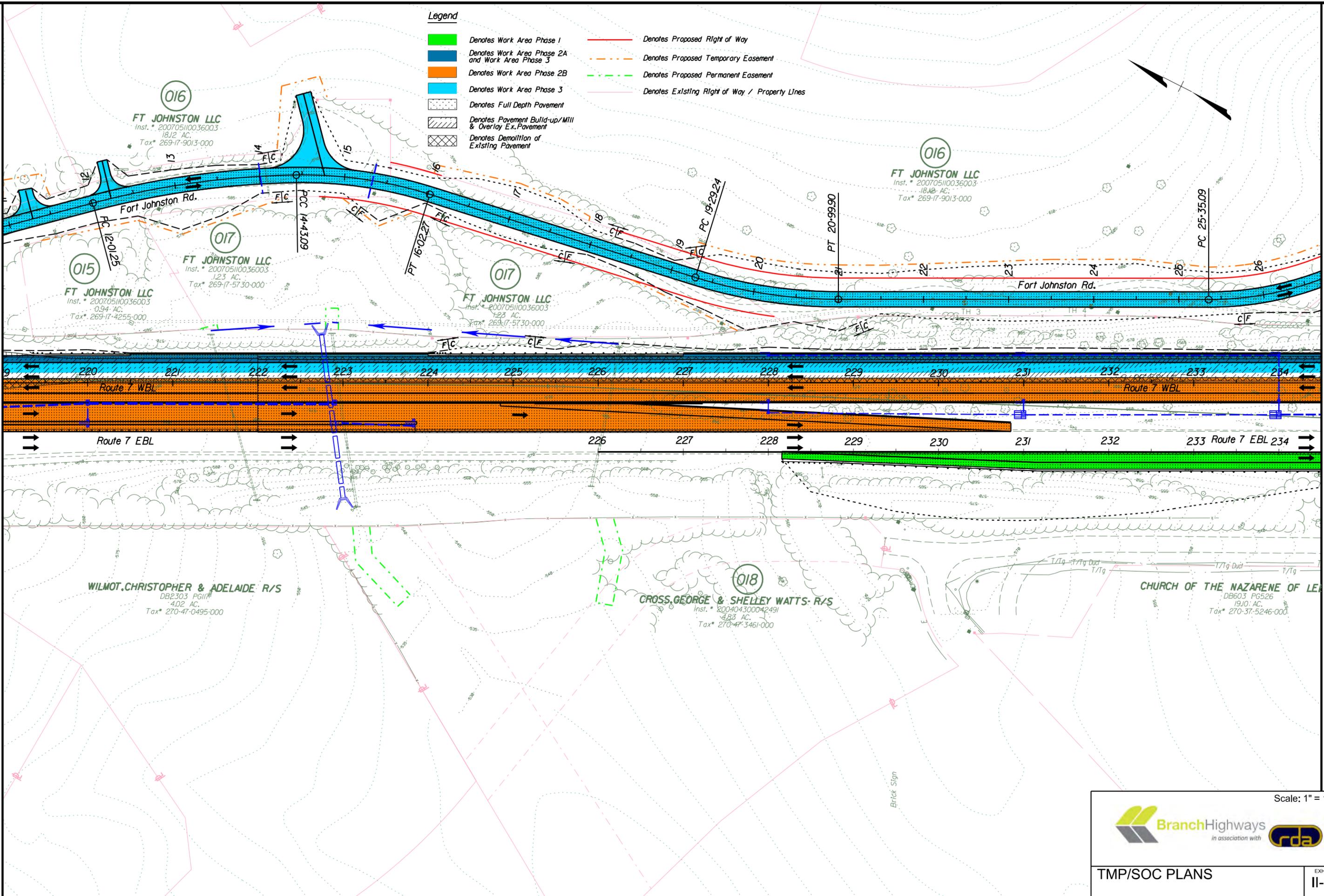
EXHIBIT #:
II-28

Legend

- Denotes Work Area Phase 1
- Denotes Work Area Phase 2A and Work Area Phase 3
- Denotes Work Area Phase 2B
- Denotes Work Area Phase 3
- Denotes Full Depth Pavement
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- Denotes Proposed Permanent Easement
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Match Line - Exhibit II-28

Match Line - Exhibit II-30



016
FT JOHNSTON LLC
 Inst. # 200705110036003
 18.12 AC.
 Tax# 269-17-9013-000

016
FT JOHNSTON LLC
 Inst. # 200705110036003
 18.12 AC.
 Tax# 269-17-9013-000

015
FT JOHNSTON LLC
 Inst. # 200705110036003
 0.94 AC.
 Tax# 269-17-4255-000

017
FT JOHNSTON LLC
 Inst. # 200705110036003
 1.23 AC.
 Tax# 269-17-5730-000

017
FT JOHNSTON LLC
 Inst. # 200705110036003
 1.23 AC.
 Tax# 269-17-5730-000

WILMOT, CHRISTOPHER & ADELAIDE R/S
 DB2303 PG11#
 4.02 AC.
 Tax# 270-47-0495-000

018
CROSS, GEORGE & SHELLEY WATTS R/S
 Inst. # 200404300042491
 4.83 AC.
 Tax# 270-47-3461-000

CHURCH OF THE NAZARENE OF LE...
 DB603 PG526
 19.10 AC.
 Tax# 270-37-5246-000



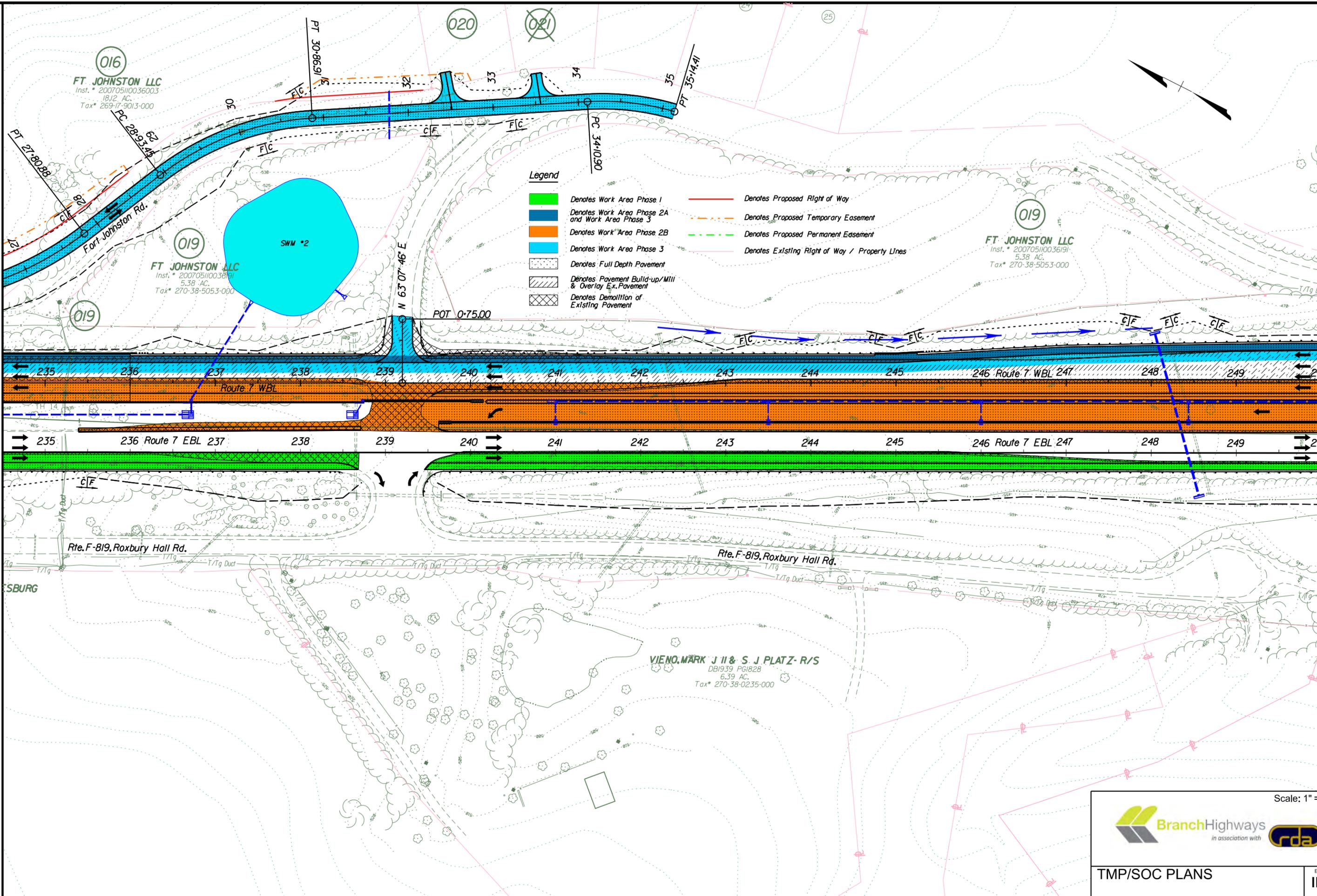
TMP/SOC PLANS

EXHIBIT #:
 II-29

Scale: 1" = 100'

Match Line - Exhibit II-29

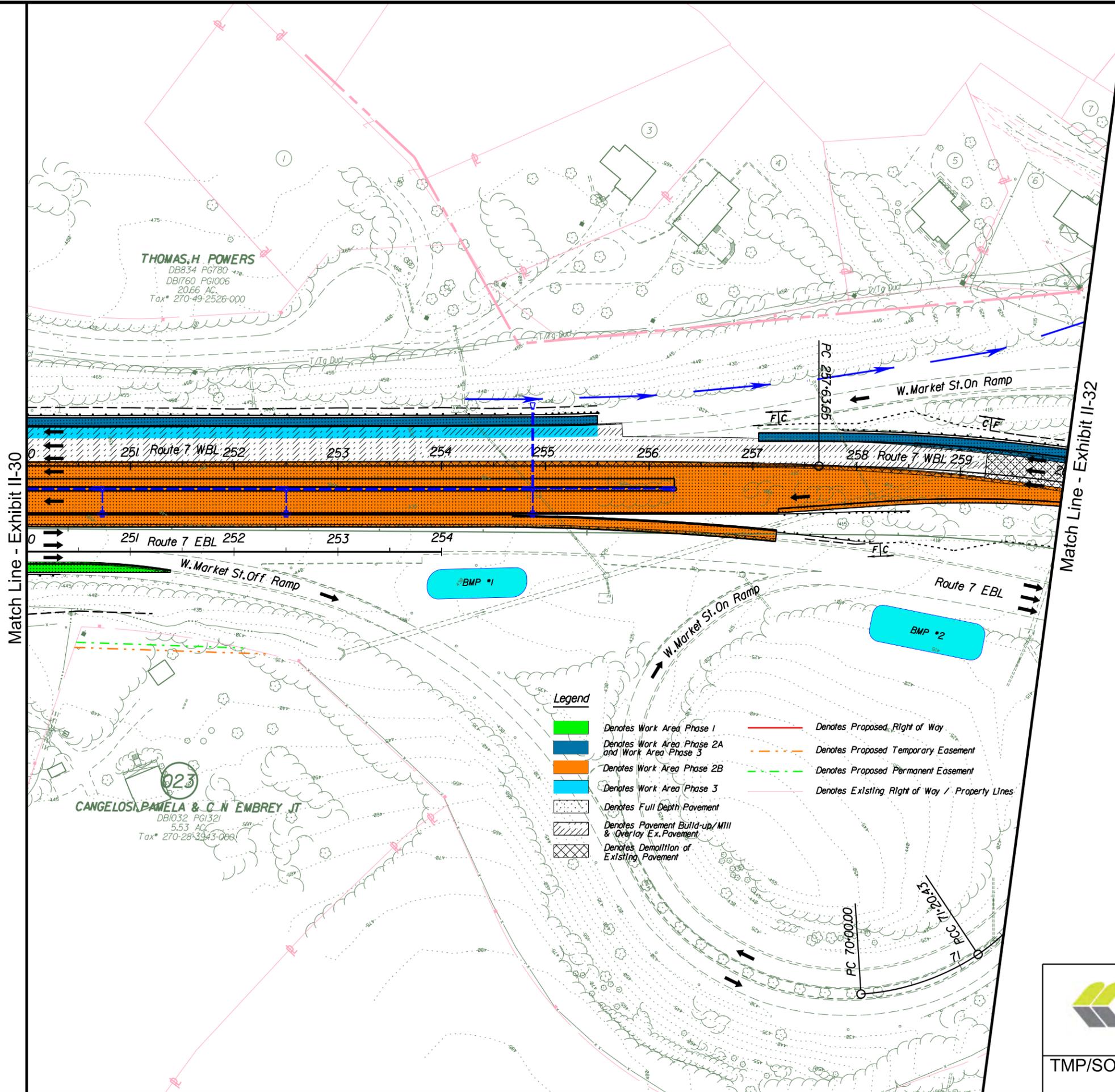
Match Line - Exhibit II-31



Scale: 1" = 100'

TMP/SOC PLANS

EXHIBIT #:
II-30



Match Line - Exhibit II-30

Match Line - Exhibit II-32

THOMAS H. POWERS
 DB834 PG780
 DB1760 PG1006
 20.66 AC.
 Tax# 270-49-2526-000

CANGELOS, PAMELA & C. N. EMBREY, JT.
 DB1032 PG1321
 5.53 AC.
 Tax# 270-28-3943-006

Legend

- Denotes Work Area Phase 1
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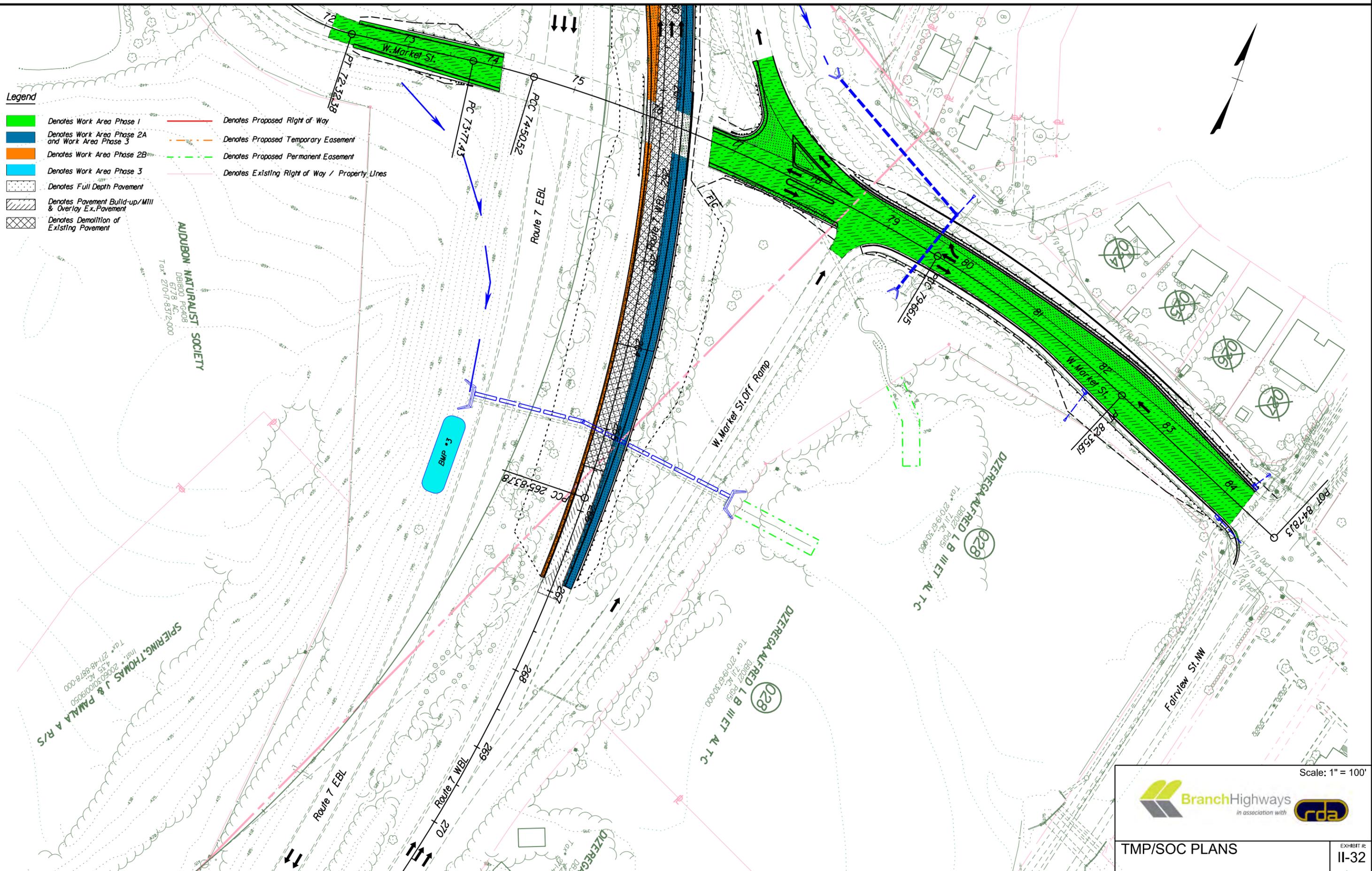
Scale: 1" = 100'

BranchHighways
 in association with

TMP/SOC Plans EXHIBIT #:
II-31

Legend

- Denotes Work Area Phase 1
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Scale: 1" = 100'



TMP/SOC PLANS

EXHIBIT #:
II-32

