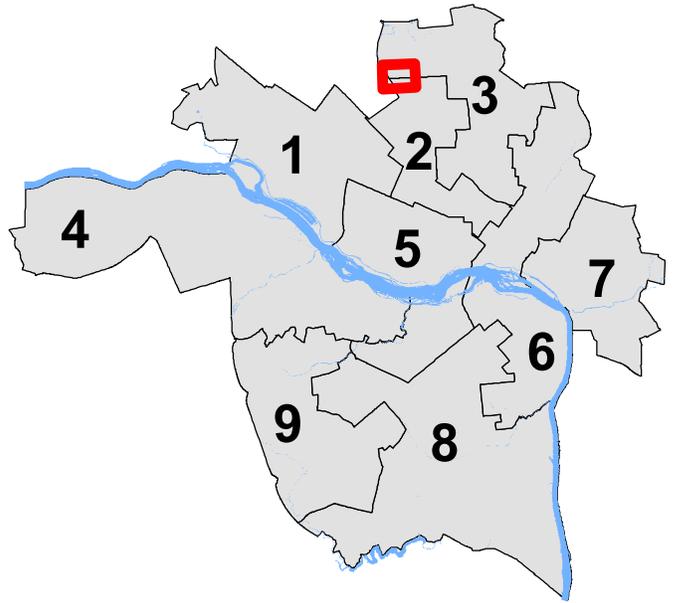




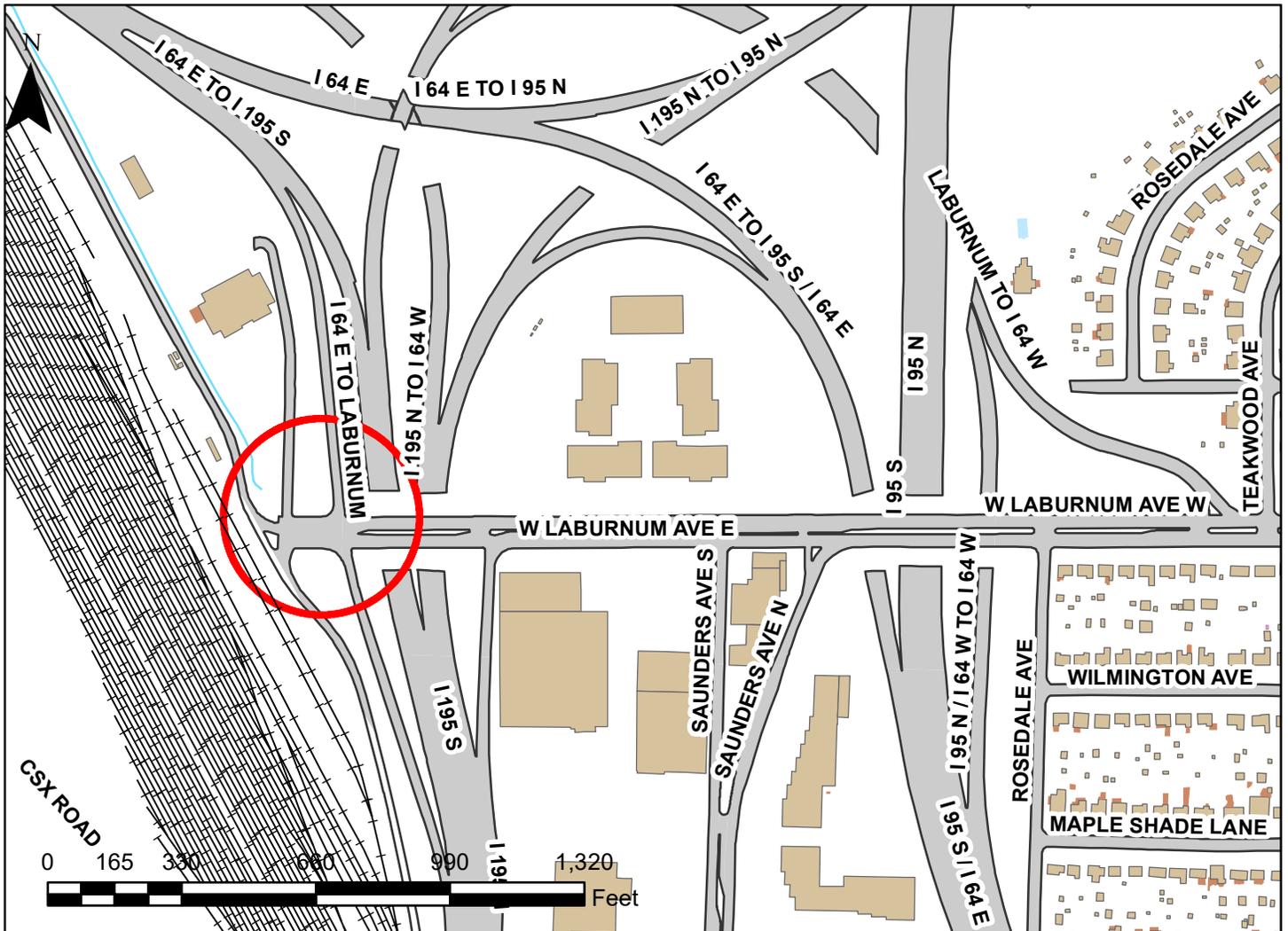
City of Richmond Department of Planning & Development Review

Location, Character, and Extent

LOCATION: 2115 W Laburnum Ave
COUNCIL DISTRICT(S): 2 & 3
PROPOSAL: Review of a new roundabout located at
2115 W. Laburnum Avenue



For questions, please contact Josh Son
at 646-3741 or joshua.son@richmondgov.com





Application for Urban Design Committee Review

Department of Planning and Development Review
Planning & Preservation Division
900 E. Broad Street, Room 510
Richmond, Virginia 23219 | (804) 646-6335
www.richmondgov.com/CommitteeUrbanDesign



Application Type (select one)

Location, Character, & Extent
Section 17.05
Other:

Encroachment
Design Overlay District

Review Type (select one)

Conceptual
Final

Project Information

Submission Date: _____

Project Name: _____

Project Address: _____

Brief Project Description (this is not a replacement for the required detailed narrative):

Applicant Information (a City representative must be the applicant, with an exception for encroachments)

Name: _____ Email: _____

City Agency: _____ Phone: _____

Main Contact (if different from Applicant): _____

Company: _____ Phone: _____

Email: _____

Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. **Late or incomplete submissions will be deferred to the next meeting.**

Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. **It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.**

Submittal Deadlines

The UDC is a ten member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission (CPC) on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06, and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.



Application for Urban Design Committee Review

Department of Planning and Development Review
Planning & Preservation Division
900 E. Broad Street, Room 510
Richmond, Virginia 23219 | (804) 646-6335
www.richmondgov.com/CommitteeUrbanDesign



Submission Requirements

- An electronic copy (PDF preferred) of all application materials, which can be emailed, or delivered by FTP or USB.
- Three (3) copies of the application cover sheet and all support materials (see below).
- Plan sheets should be 11" x 17", folded to 8 1/2" x 11". If it is not possible to scale plans to these dimensions, please provide one set of larger, scaled plans.
- All applications must include the attached cover sheet and the following support materials, as applicable to the project, based on Review Type:

Conceptual Review:

- A detailed project narrative which includes the following: purpose of the project, project background, project budget and funding sources, description of construction program and estimated construction start date (description should also provide information on the surrounding area to provide context).
- A site plan for the project indicating site characteristics which include: building footprints, parking areas, pedestrian routes, recreation areas, open areas, and areas of future expansion.
- A set of floor plans and elevations, as detailed as possible.
- A landscaping plan which shows the general location and character of plant materials and notes any existing tree to be removed.

Final Review:

- A detailed project narrative which includes the following: purpose of the project, project background, project budget and funding sources, description of construction program, and estimated construction start date (description should also provide information on the surrounding area to provide context).
- A site plan for the project indicating site characteristics which include: building footprints, parking areas, pedestrian routes, recreation areas, open areas, and areas of future expansion.
- A set of floor plans and elevations, as detailed as possible.
- A landscaping plan that includes a complete plant schedule, the precise location of all plant materials, and a landscape maintenance analysis. The plant schedule must show number, size and type of each planting proposed. If existing trees are to be removed, their size, type, and location must be noted on the landscape plan.
- The location of all lighting units should be noted on a site plan, including wall-mounted, site, and parking lot lighting. Other site details such as benches, trash containers, and special paving materials should also be located. Include specification sheets for each item.
- Samples of all proposed exterior building materials, including but not limited to brick, mortar, shingles, siding, glass, paint, and stain colors. When an actual sample cannot be provided, a product information sheet that shows the item or a photo of an existing item may be substituted.

Review and Processing

- Once an application is received, it is reviewed by Staff, who compiles a report that is sent to the UDC.
- A copy of the report and the meeting agenda will be sent to the applicant prior to the meeting.
- At the UDC meeting, the applicant or a representative should be present or the application may be deferred to the next regularly scheduled meeting. It is also strongly suggested that a representative of the City Agency which will have final responsibility for the item be present at the meeting (if the applicant and the representative are not the same).
- Once the UDC recommends action on the application, it is automatically placed on the agenda for the next City Planning Commission (CPC) meeting. Exceptions to this are encroachment applications, recommendations for which are forwarded to the Department of Public Works.
- At the CPC meeting, the applicant or a representative should be present, or the application may be deferred to the next regularly scheduled meeting.



Application for Urban Design Committee Review

Department of Planning and Development Review
 Planning & Preservation Division
 900 E. Broad Street, Room 510
 Richmond, Virginia 23219 | (804) 646-6335
www.richmondgov.com/CommitteeUrbanDesign



Regular meetings are scheduled on the Thursday after the first Monday of each month at **10:00 a.m. in the 5th floor conference room of City Hall, 900 E. Broad Street**. Special meetings are scheduled as needed.

Meeting Schedule 2019

Submission Deadline
November 15, 2018
December 13, 2018
January 17, 2019
February 14, 2019
March 14, 2019
April 11, 2019
May 16, 2019
June 13, 2019
July 11, 2019**
August 15, 2019
September 12, 2019
October 17, 2019
November 14, 2019

UDC Meeting	CPC meeting to follow UDC
December 6, 2018	December 17, 2018
January 10, 2019	January 22, 2019 ¹
February 7, 2019	February 19, 2019 ²
March 7, 2019	March 18, 2019
April 4, 2019	April 15, 2019
May 9, 2019	May 20, 2019
June 6, 2019	June 17, 2019
July 3, 2019**	July 15, 2019
August 8, 2019	August 19, 2019 ³
September 5, 2019	September 16, 2019
October 10, 2019	October 21, 2019
November 7, 2019	November 18, 2019
December 5, 2019	December 16, 2019

¹ Monday, January 21, 2019 is a City of Richmond Holiday.

² Monday, February 18, 2019 is a City of Richmond Holiday.

³ This August CPC Meeting may be canceled. If so, the meeting would be Tuesday, September 3, 2019.

** Moved forward to account for Independence Day

The Richmond Urban Design Committee is a ten member advisory committee created by City Council in 1968. Its purpose is to advise the City Planning Commission on the design of City projects. The Urban Design Committee reviews projects for appropriateness in “location, character, and extent” and for consistency with the City’s Master Plan and forwards recommendations to the City Planning Commission. The Urban Design Committee also advises the Department of Public Works in regards to private encroachments in the public right-of-way.

For more information, please contact the Planning and Preservation Division staff at (804) 646-6335 or the Secretary to the Urban Design Committee at (804) 646-3741 or at joshua.son@richmondgov.com.

Laburnum Roundabout (District 2, 3) UDC Narrative

General Description:

Construction of a roundabout on West Laburnum Avenue at the intersection on the I-195 South Bound (SB) off-ramp and intersection improvements at the I-195 North Bound (NB) off-ramp. The \$2.4 million dollar project will be funded with Smart Scale funds and be maintained by the City of Richmond.

The project scope includes pedestrian enhancements, lighting, and lane modifications along West Laburnum Avenue from I-195 to Westwood Avenue. The project is scheduled for construction completion in the summer of 2020.

Project Purpose:

The purpose and need of this project is to improve traffic flow through the I-195/West Laburnum Avenue intersection during peak hours and to eliminate prolonged periods of delay and improve safety within the current deficiencies in capacity, geometry and safety. The improvement should reduce traffic delays in the vicinity of West Laburnum along I-195.

Project Background:

The March 2012 I-95/I-64 Overlap Study conducted by the Virginia Department of Transportation identified the I-195 Interchange Improvements at Laburnum Avenue as a SYIP candidate project.

In 2015 the Richmond Regional Transportation Planning Organization RRTPO submitted the I-195 Interchange Improvement project at Laburnum Avenue for the House Bill 2 Program. The program name was later changed to be called the "Smart Scale" program.

Funding for the project was made available in FY2018 and PE was authorized on July 7, 2017.

On December 7, 2017 the Virginia Department of Transportation held a Design Public Hearing in the City of Richmond at Linwood Holton Elementary School. The Public Hearing Schedule included a construction begin date of December 2, 2020. The project improvements will not require additional right-of-way, easements or utility adjustments. The project construction is ahead of schedule and construction is scheduled to begin in April 2020.

The project is funded through Federal and State Smart Scale funds. The Virginia Department of Transportation is responsible for the project development and construction. No funding is required from the City for these phases. The City of Richmond will be responsible for maintenance once construction is complete.

Project Scope:

This project will reconfigure the I-195 and West Laburnum Avenue intersection in the City of Richmond to reduce the queuing at both the NB and SB exit ramps and improve safety at these intersections. To improve the function of this interchange, a dedicated left turn lane will be included on the northbound off ramp while the southbound on & off ramps will be realigned to facilitate a connection to the

proposed roundabout. The roundabout location shifts slightly to the southwest to avoid impacting existing drainage and utility features. Existing drainage features are being maintained to avoid major utility impacts. Included are minor utility impacts. A raised island at the I-195 northbound off ramp will improve traffic flow and pedestrian safety. New lighting, signs and pavement marking are included within the project limits. Minor drainage improvements and utility adjustments are required. There are no easements or right-of-way required.

Project Budget and Funding:

Laburnum Roundabout is 100% funded through Federal and Virginia “Smart Scale” funding totaling \$2,435,580. The total estimated cost is:

Engineering Design:	\$ 350,000
Utility Relocation:	\$ 0
<u>Construction:</u>	<u>\$2,085,580</u>
Total:	\$2,435,580

The city of Richmond will be responsible for maintenance.

Project Schedule:

Begin Project Design:	July 7, 2017
Public Involvement:	December 7, 2017
VDOT Design Approval:	March 9, 2018
Begin Utility Adjustments	N/A
Begin Construction:	April 7, 2020
End Construction:	August 3, 2020

Project Plans:

- Location Map: See plan sheet 1A
- Lighting Plan: See plan sheets 7(1) thru 7(3)
- Pavement marking and sign plan: See plan sheet 6(1) thru 6(4)

**VDOT Project I-195 at Laburnum Avenue
UPC 109311, State Project U000-127-969, P101, R201, C510**

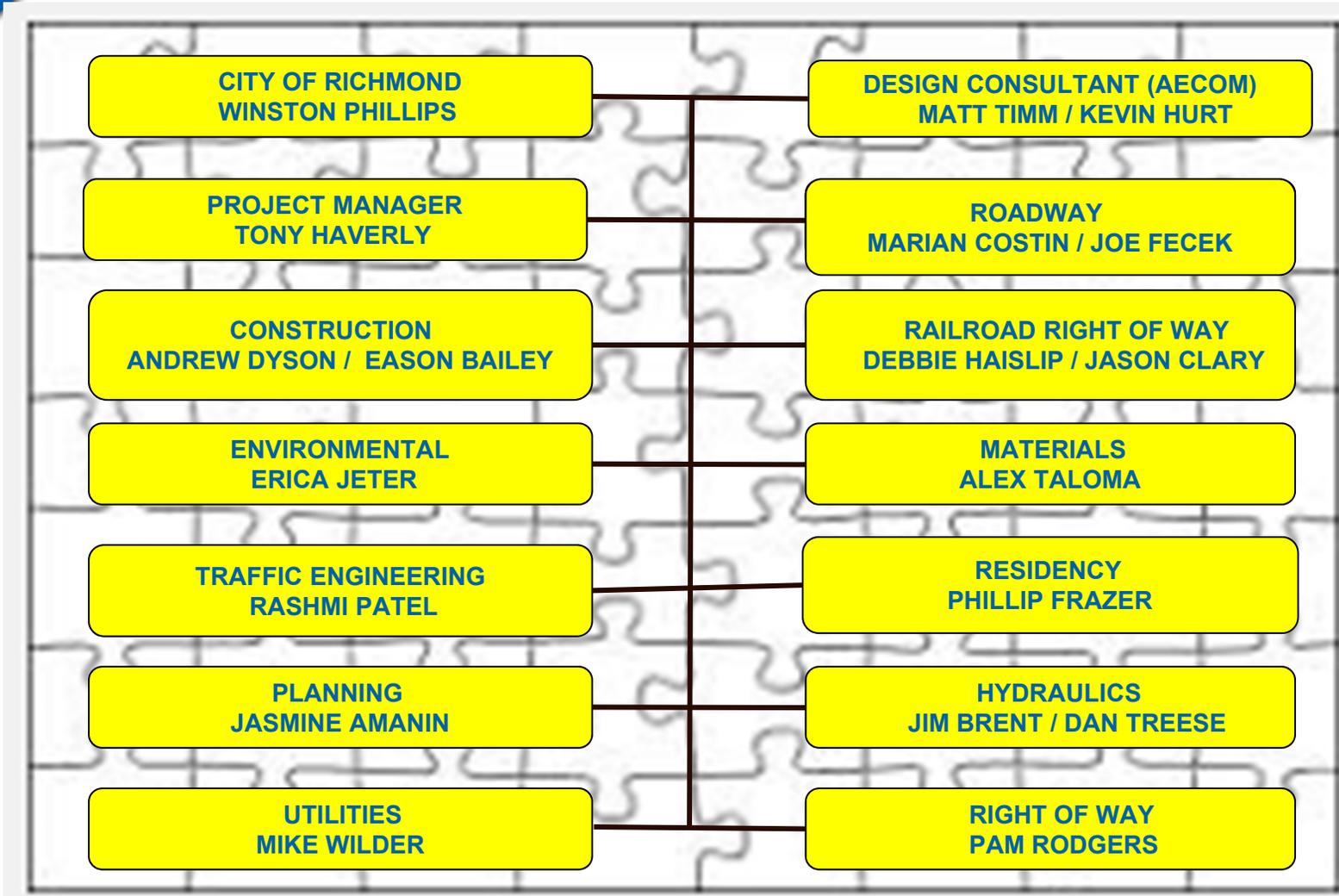


UPC 109311 PAC Team Meeting

Tony Haverly, PE, PMP
Project Manager
Richmond District

July 24, 2019

Project Team

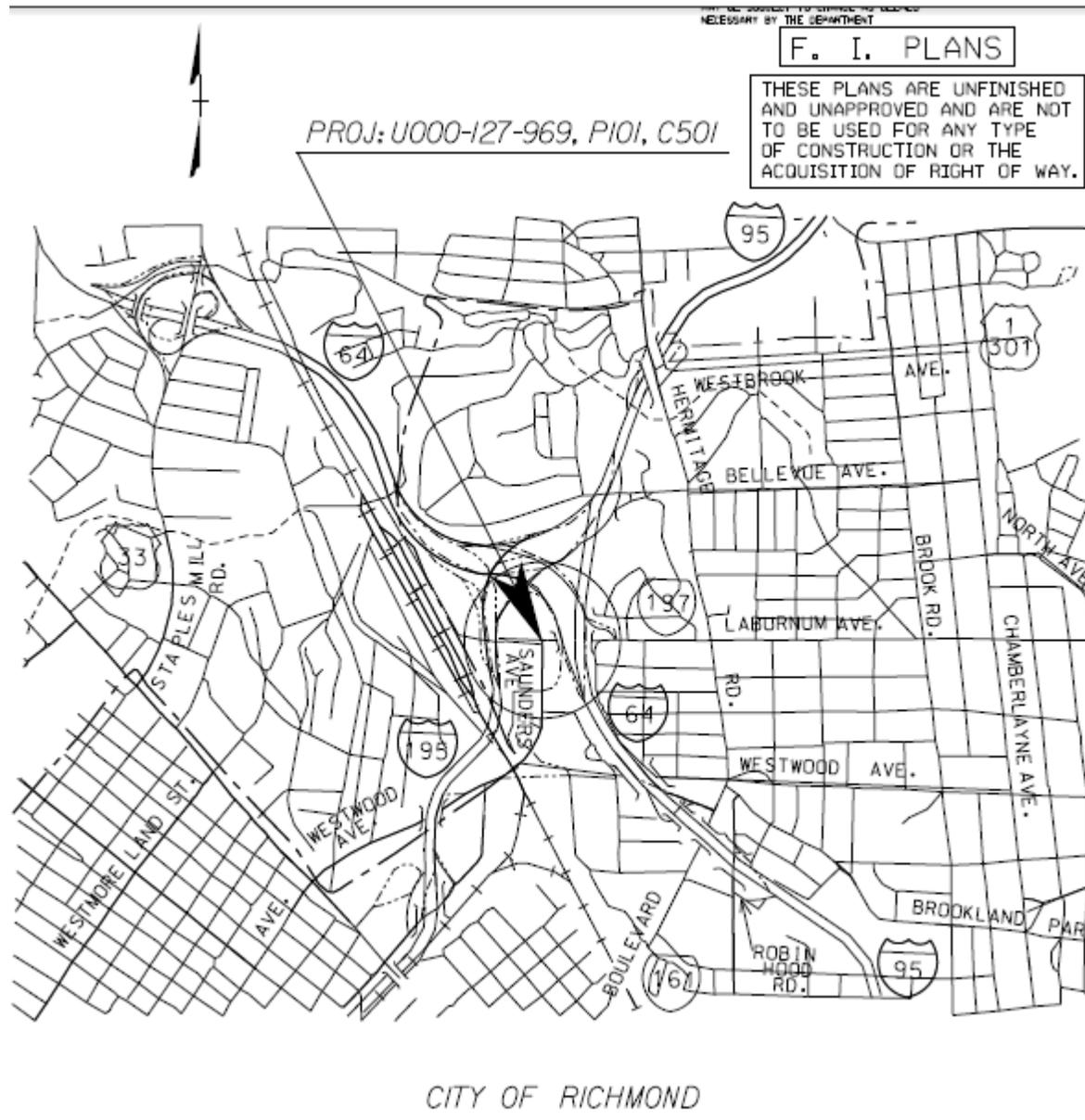


Existing View



Facing East

Location Map



Purpose and Scope

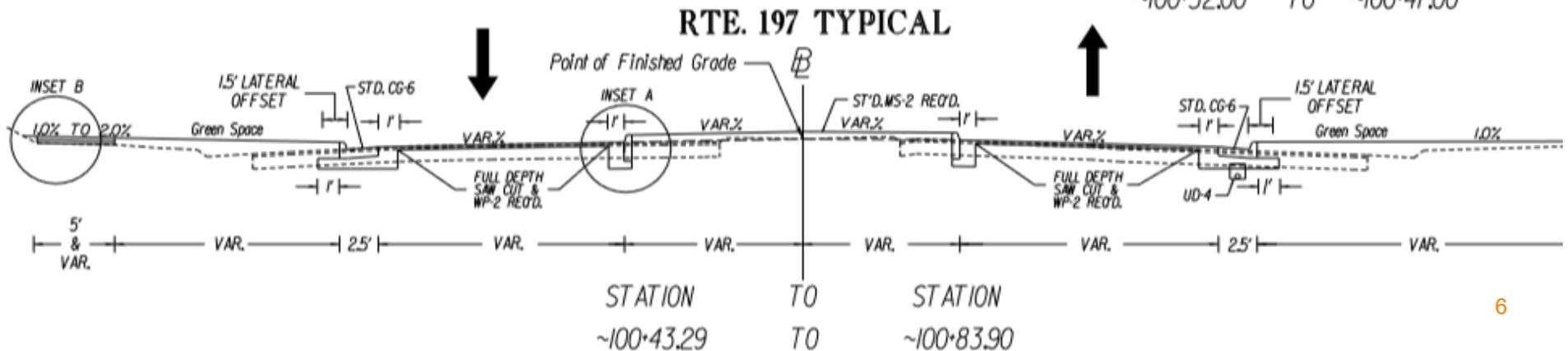
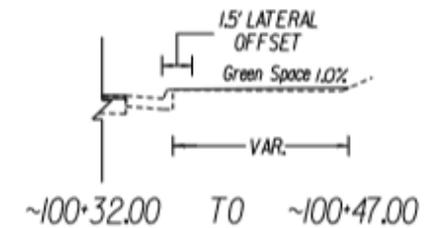
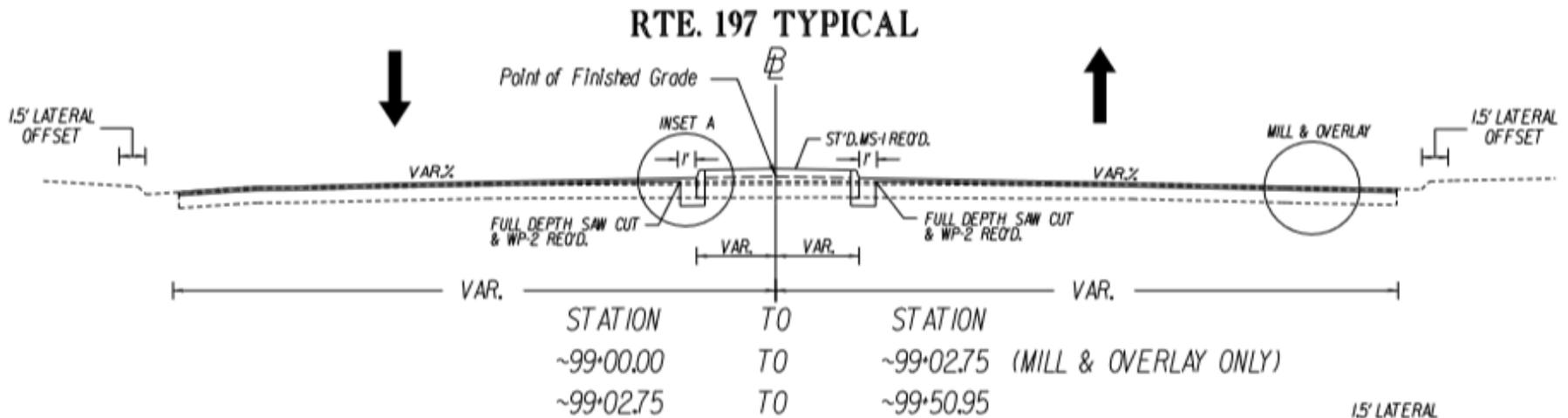
Purpose & Need

FY17 Smart Scale to reduce queuing on the northbound and southbound I-195 exit ramps during the peak hours as well as improve the overall safety of the intersections.

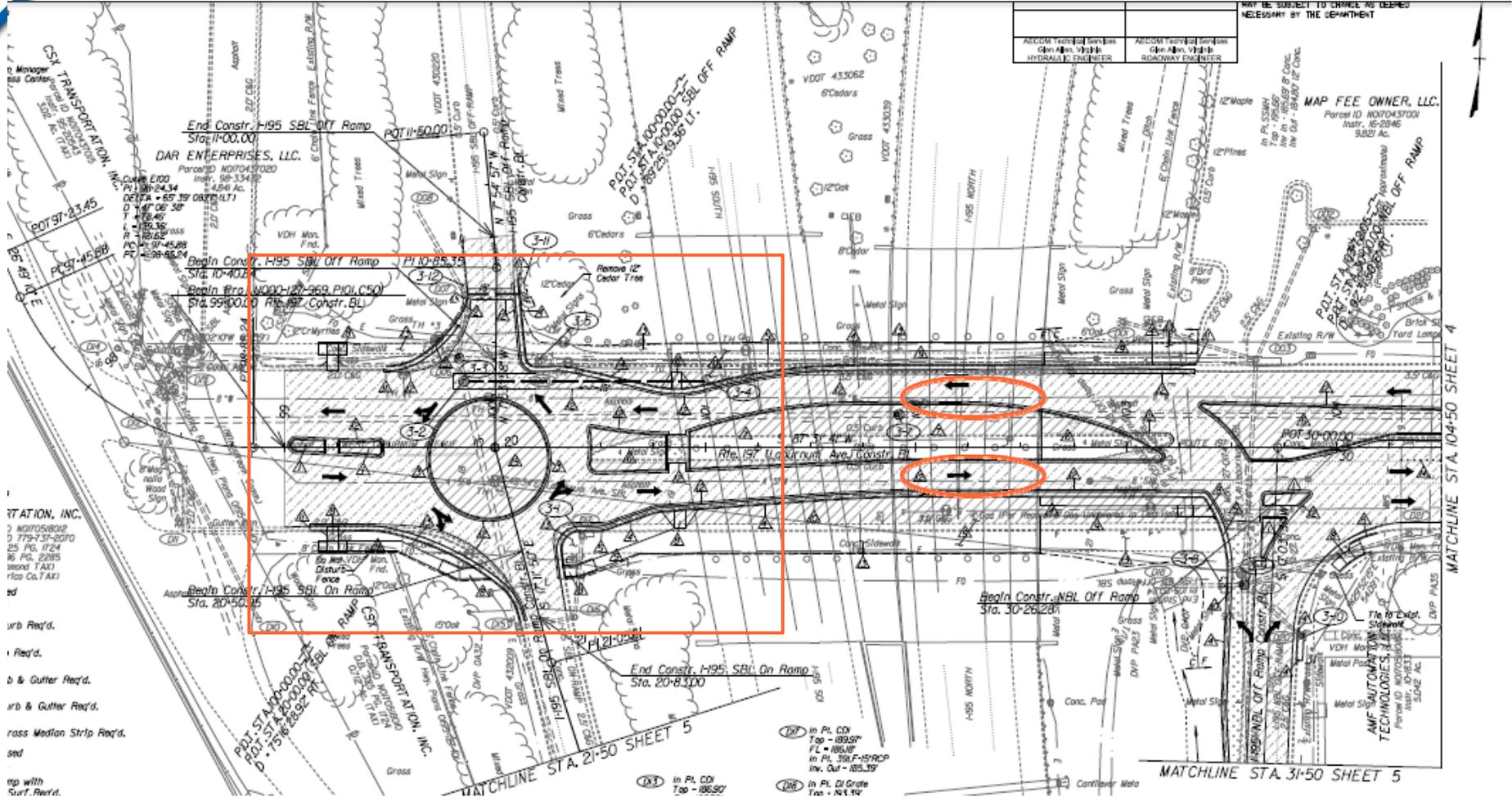
Basic Scope

1. Install a single lane roundabout at the I-195 southbound off-ramp intersection with Laburnum Avenue.
2. Construct a separate left turn lane at the I-195 northbound off-ramp intersection with Laburnum Avenue. Also convert the right turn movement to free flow at this intersection.
3. Convert Laburnum Avenue to a single lane in the vicinity of these intersections.

Proposed Typical Section



FI Plan – Sheet 3



STATION, INC.
 2 1007058012
 3 779-737-8070
 25 PG. 1724
 16 PG. 2285
 (seal) TAXI
 1100 Co. FAX1

ed

urb Req'd.

Req'd.

b & Gutter Req'd.

urb & Gutter Req'd.

grass Median Strip Req'd.

sed

op with
 Surf. Req'd.

Budget & Estimates

Type	Date	Author	Version	PE	RW	CN	Total
Pre-Scoping	6/14/2017	Anthony Haverly	6.20	\$450,300	\$125,000	\$1,860,280	\$2,435,580
Scoping	7/8/2017	Anthony Haverly	6.20	\$300,000	\$322,320	\$1,813,260	\$2,435,580
PFI	8/22/2017	Anthony Haverly	7.00	\$300,000	\$322,320	\$1,813,260	\$2,435,580
PH	3/7/2018	Anthony Haverly	7.10	\$300,000	\$322,320	\$1,813,260	\$2,435,580
FI	2/5/2019	Anthony Haverly	8.10	\$300,000	\$322,320	\$1,813,260	\$2,435,580
RW							
✓ Final Submission	7/24/2019	Anthony Haverly	9.00	\$350,000	\$0	\$2,085,580	\$2,435,580

Project ID (PCN)	Route	City / Co	Section	Type	Project Total	Construction Engineering	Contingencies	Other Non-Bid	Grand Total
0000109311C01	197	127	969	C501	1,357,868.48	271,573.70	135,786.85	0.00	1,765,229.02
Estimate Totals:					1,357,868.48	271,573.70	135,786.85	0.00	1,765,229.02

Development Schedule		Scheduled <i>(Italicized dates not final)</i>	Actual
Start Development:	R	07/03/2017	07/07/2017
Engage Public:	G	03/14/2018	03/09/2018
Determine Requirements:	G	06/01/2018	07/19/2017
Start Purchasing Right-of-Way:	G	05/16/2019	04/10/2019
Complete Purchasing Right-of-Way:	G	11/22/2019	04/10/2019
Utility Relocation:	G	06/17/2020	04/10/2019
Solicit Bids:	G	<i>08/11/2020</i>	
Start Delivery:	G	<i>12/01/2020</i>	



Complete

Complete

- Richmond UT Relocation
- Railroad Agreement
- WAPM changes for projects advertising after Jan 1, 2020
- Construction of Roundabout
- Completing ENV Review

Opportunities

- Utilize Existing Pavement
- Avoided Utilities Relocations & Easements
- Precast Roundabout reduced MOT Impacts

Next Steps

- Submit Special Provisions, CEI, CTDR by 8/2
- Sign & Seal Updated Plans by 8/2
- Disciplines provide Final Dispositions by 8/9
- ENV Submit EQ 103 & EQ-200 by 8/15
- Submit Plans to Schedule & Contracts by 8/26
- Bid-ability Begins 9/18
- Advertise project by 11/5
- Award by 2/18/20

PLAN SUBMISSION TO SCD AND CONTRACT DEVELOPMENT BEGINS	SCD CONTRACT DEVELOPMENT COMPLETED AND DISTRICT BID-ABILITY REVIEW BEGINS	DISTRICT BID-ABILITY REVIEW ENDS AND DISTRICT COMMENTS SENT TO SCD	REVISIONS TO CONTRACT DOCUMENTS BY SCD PER BID-ABILITY REVIEW ENDS (GO TO COLUMN 7)	[PLANS & CONTRACT DOCUMENTS] SUBMISSION TO SCD FOR SAAP PROJECTS	PLAN SUBMISSION TO SCD FOR PROJECTS WITH "NO" BID-ABILITY REVIEW	ADVERTISEMENT SUBMISSION TO SCD PRINT REPRODUCTION OF PLANS	RIGHT OF WAY	Request to FHWA for Authorization to Advertise	"NOT FEDERALLY ELIGIBLE / EXEMPT"		"FEDERALLY ELIGIBLE"	
									ADVERTISEMENT	BID LETTING	ADVERTISEMENT	BID LETTING
1	2	3	4	5	6	7		8	9 (S)	10 (S)	9 (F)	10 (F)
8/26/19	9/18/19	9/25/19	10/1/19	9/25/19	9/25/19	10/13/19	ABX	10/10/19	10/22/19	11/13/19	11/5/19	12/18/19
9/26/19	10/21/19	10/28/19	11/1/19	10/28/19	10/28/19	11/5/19	CE	11/13/19	11/17/19	12/18/19	12/10/19	1/29/20
71 BEG	72 BEG	72B BEG	72B END		71 BEG			80 BEG	80 END		80 END	

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *Accurmark, Inc.* 10/26/16

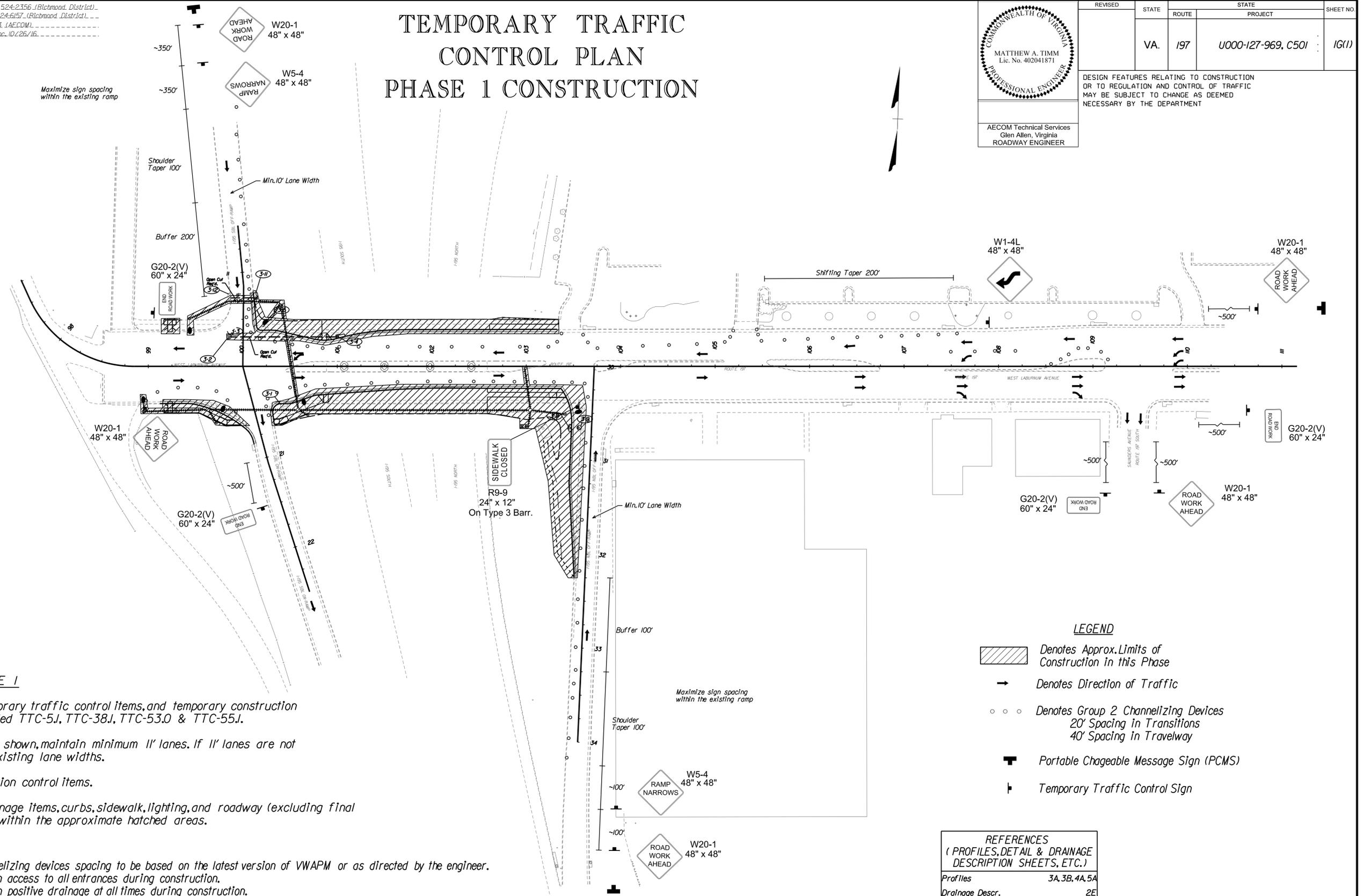
TEMPORARY TRAFFIC CONTROL PLAN PHASE 1 CONSTRUCTION

COMMONWEALTH OF VIRGINIA
 MATTHEW A. TIMM
 Lic. No. 402041871
 PROFESSIONAL ENGINEER

AECOM Technical Services
 Glen Allen, Virginia
 ROADWAY ENGINEER

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	1G(1)

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



MOT & SOC PHASE 1

- 1) Install PCMS, temporary traffic control items, and temporary construction signs per modified TTC-5J, TTC-38J, TTC-53.0 & TTC-55J.
- 2) Divert traffic as shown, maintain minimum 11' lanes. If 11' lanes are not possible, match existing lane widths.
- 3) Construct all erosion control items.
- 4) Construct all drainage items, curbs, sidewalk, lighting, and roadway (excluding final surface course) within the approximate hatched areas.

Notes:

1. Sign sizes and channelizing devices spacing to be based on the latest version of VWAPM or as directed by the engineer.
2. Contractor to maintain access to all entrances during construction.
3. Contractor to maintain positive drainage at all times during construction.
4. PCMS to be installed minimum of 2 weeks before construction begins. Contractor shall find suitable locations for PCMS boards which will then be approved by the engineer.
5. Existing conflicting markings must be eradicated. Any conflicting signs shall be covered or removed.
6. Contractor to limit sidewalk closure along south side of Laburnum Avenue to only when working on the proposed sidewalk. When proposed sidewalk is constructed, remove sidewalk closure sign.

LEGEND

- Denotes Approx. Limits of Construction in this Phase
- Denotes Direction of Traffic
- Denotes Group 2 Channelizing Devices
20' Spacing in Transitions
40' Spacing in Travelway
- Portable Changeable Message Sign (PCMS)
- Temporary Traffic Control Sign

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Profiles	3A, 3B, 4A, 5A
Drainage Descr.	2E
Concrete Staking Detail Sheets	1H(1) - 1H(4)
Pave Marking & Signing Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)



PROJECT	SHEET NO.
U000-127-969	1G(1)

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *Accurmark, Inc.* 10/26/16

TEMPORARY TRAFFIC CONTROL PLAN PHASE 2 CONSTRUCTION

COMMONWEALTH OF VIRGINIA

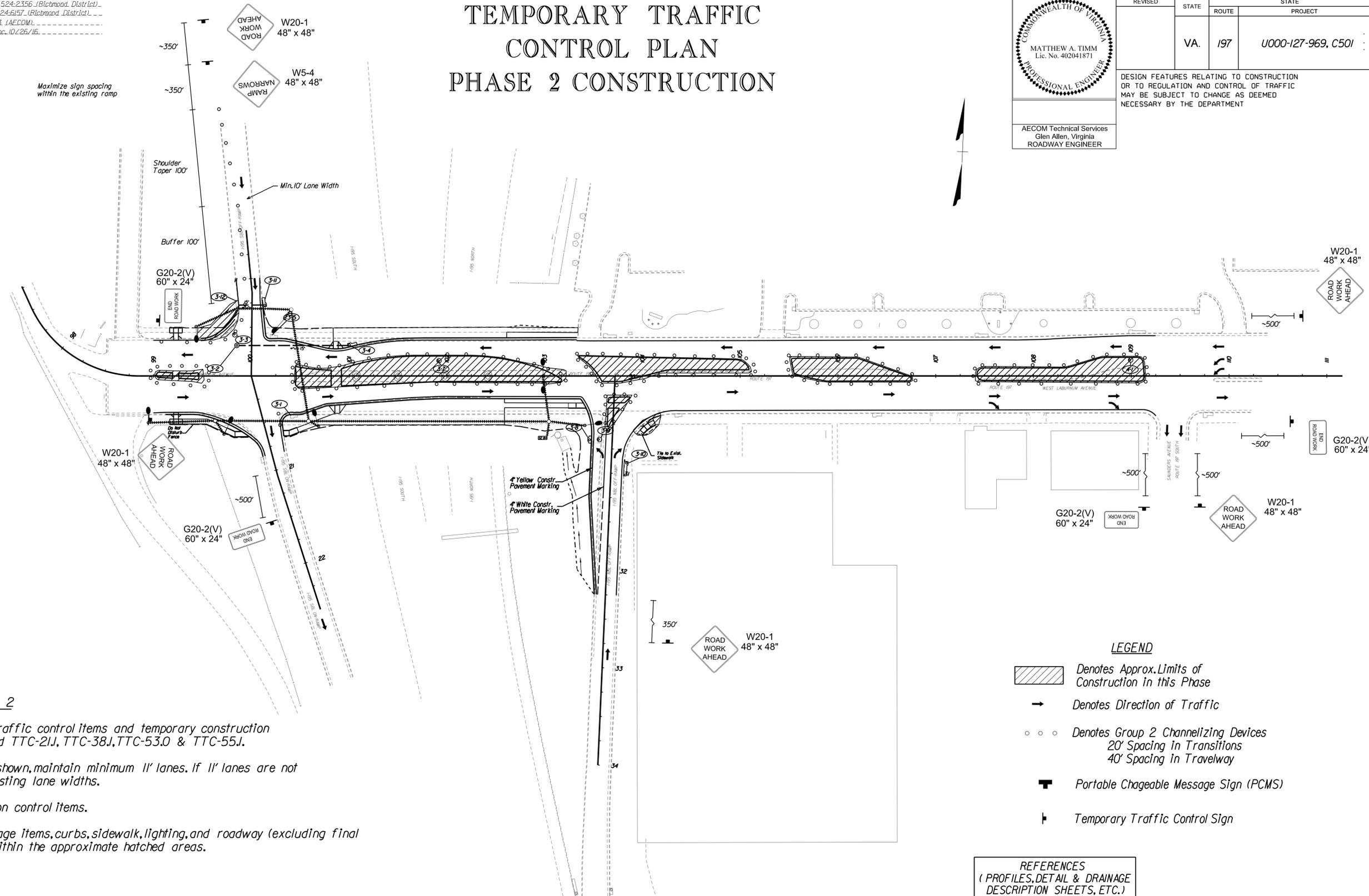
MATTHEW A. TIMM
Lic. No. 402041871

PROFESSIONAL ENGINEER

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	1G(2)

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



MOT & SOC PHASE 2

- 1) Update temporary traffic control items and temporary construction signs per modified TTC-21J, TTC-38J, TTC-53.0 & TTC-55J.
- 2) Divert traffic as shown, maintain minimum 11' lanes. If 11' lanes are not possible, match existing lane widths.
- 3) Construct all erosion control items.
- 4) Construct all drainage items, curbs, sidewalk, lighting, and roadway (excluding final surface course) within the approximate hatched areas.

- Notes:**
1. Sign sizes and channelizing devices spacing to be based on the latest version of VWAPM or as directed by the engineer.
 2. Contractor to maintain access to all entrances during construction.
 3. Contractor to maintain positive drainage at all times during construction.
 4. Existing conflicting markings must be eradicated. Any conflicting signs shall be covered or removed.
 5. Temporary construction pavement markings to be Type D, Class II.

LEGEND

- Denotes Approx. Limits of Construction in this Phase
- Denotes Direction of Traffic
- Denotes Group 2 Channelizing Devices
20' Spacing in Transitions
40' Spacing in Travelway
- Portable Changeable Message Sign (PCMS)
- Temporary Traffic Control Sign

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

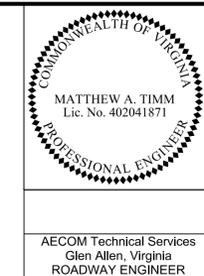
Profiles	3A, 3B, 4A, 5A
Drainage Descr.	2E
Concrete Staking Detail Sheets	1H(1) - 1H(4)
Pave Marking & Signing Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)

SCALE 	PROJECT U000-127-969	SHEET NO. 1G(2)
-----------	-------------------------	--------------------

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *Accurmark, Inc.* 10/26/16

TEMPORARY TRAFFIC CONTROL PLAN

PHASE 3 CONSTRUCTION



REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	1G(3)

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

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER

I-195 SBL Off-Ramp to be closed during construction as needed. See Detour Sheets 1G4 and 1G5.

Place PCMS before roundabout is opened to traffic. Contractor shall find suitable locations for PCMS boards which will then be approved by the engineer.

Note: See additional signage for Phase 3 construction activities on detour sheets 1G(4) and 1G(5).

Place PCMS before roundabout is opened to traffic. Contractor shall find suitable locations for PCMS boards which will then be approved by the engineer.

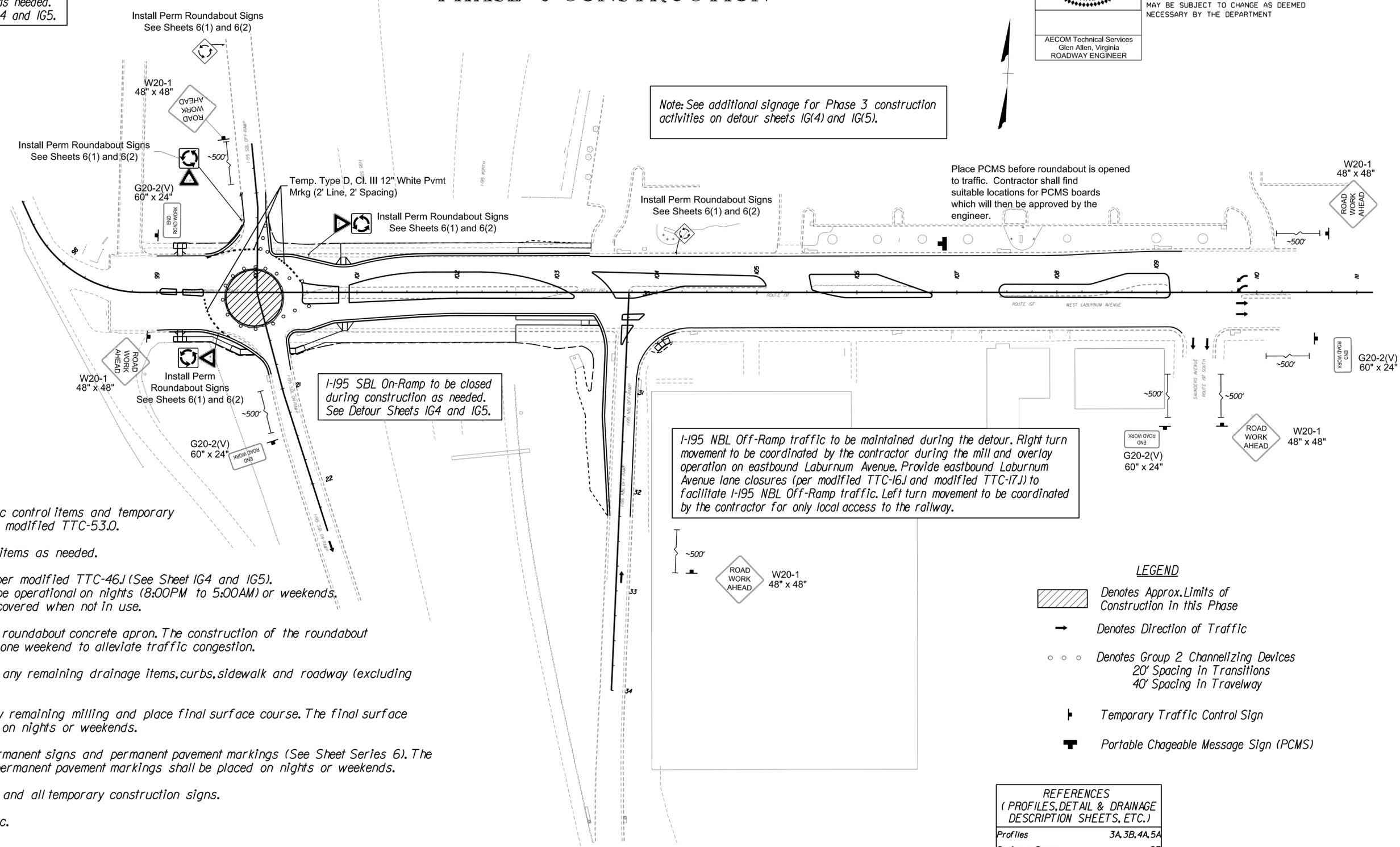
I-195 SBL On-Ramp to be closed during construction as needed. See Detour Sheets 1G4 and 1G5.

I-195 NBL Off-Ramp traffic to be maintained during the detour. Right turn movement to be coordinated by the contractor during the mill and overlay operation on eastbound Laburnum Avenue. Provide eastbound Laburnum Avenue lane closures (per modified TTC-16J and modified TTC-17J) to facilitate I-195 NBL Off-Ramp traffic. Left turn movement to be coordinated by the contractor for only local access to the railway.

MOT & SOC PHASE 3

- Update temporary traffic control items and temporary construction signs per modified TTC-53.0.
- Update erosion control items as needed.
- Install detour signage per modified TTC-46J (See Sheet 1G4 and 1G5). The detour is to only be operational on nights (8:00PM to 5:00AM) or weekends. Detour signs shall be covered when not in use.
- Under detour, construct roundabout concrete apron. The construction of the roundabout apron shall be built in one weekend to alleviate traffic congestion.
- Under detour, construct any remaining drainage items, curbs, sidewalk and roadway (excluding final surface course).
- Under detour, finish any remaining milling and place final surface course. The final surface course shall be placed on nights or weekends.
- Under detour, install permanent signs and permanent pavement markings (See Sheet Series 6). The permanent signs and permanent pavement markings shall be placed on nights or weekends.
- Remove detour signage and all temporary construction signs.
- Open roadway to traffic.

- Notes:
- Sign sizes and channelizing devices spacing to be based on the latest version of VWAPM or as directed by the engineer.
 - Contractor to maintain access to all entrances during construction.
 - Contractor to maintain positive drainage at all times during construction.
 - Existing conflicting markings must be eradicated. Any conflicting signs shall be covered or removed.



LEGEND

- Denotes Approx. Limits of Construction in this Phase
- Denotes Direction of Traffic
- Denotes Group 2 Channelizing Devices
20' Spacing in Transitions
40' Spacing in Travelway
- Temporary Traffic Control Sign
- Portable Changeable Message Sign (PCMS)

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Profiles	3A, 3B, 4A, 5A
Drainage Descr.	2E
Concrete Staking Detail Sheets	1H(1) - 1H(4)
Pave Marking & Signing Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)

SCALE	PROJECT	SHEET NO.
0 50' 100'	U000-127-969	1G(3)

PROJECT MANAGER Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE David Burch, L.S. (804) 524-6157 (Richmond District)
 DESIGN BY Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE Accurmark, Inc. 10/26/16

TEMPORARY TRAFFIC CONTROL PLAN

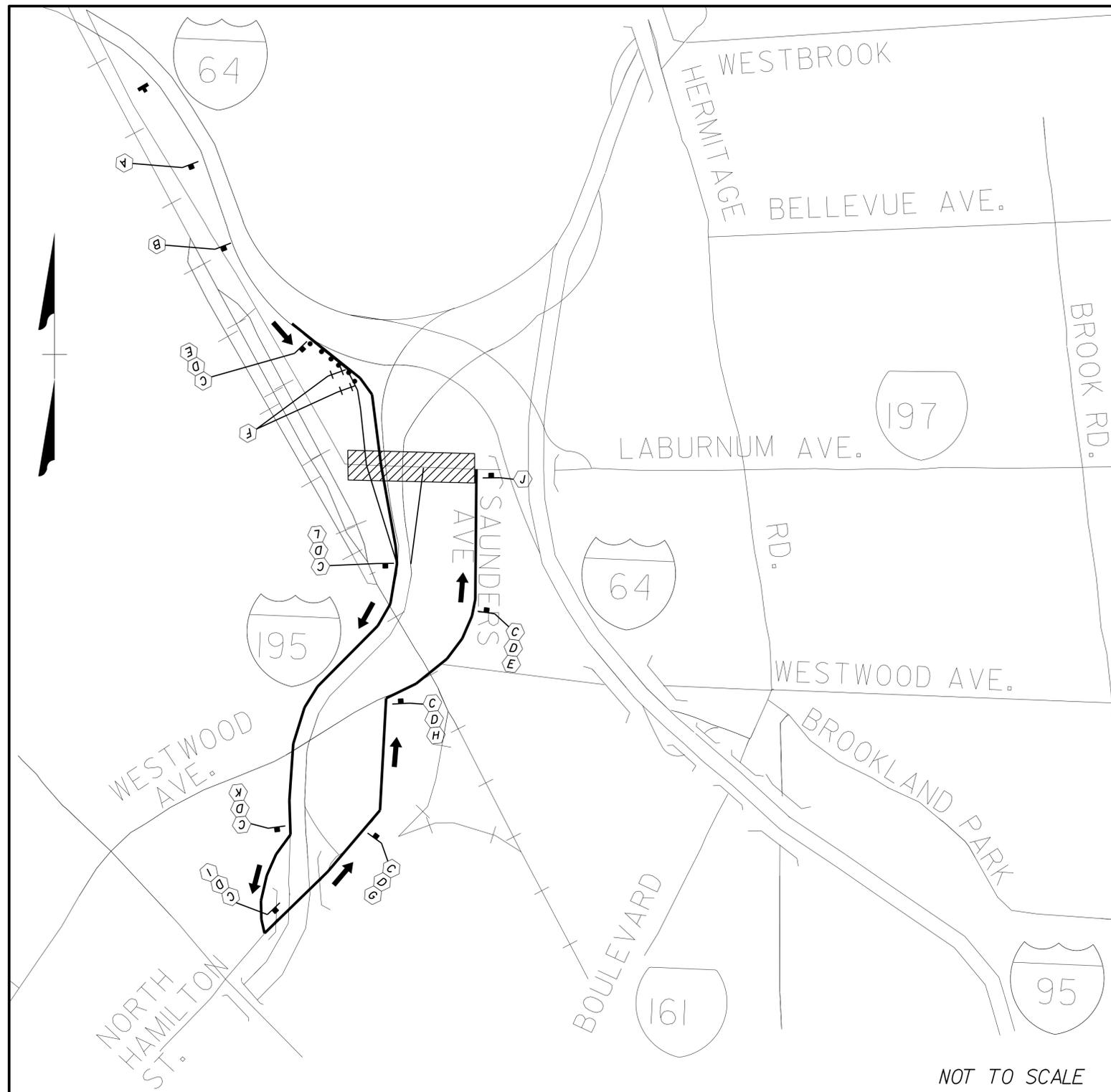
DETOUR MAP: I-195 SB OFF RAMP



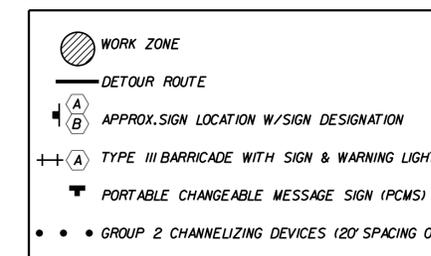
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	IG(4)

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

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



SIGN SCHEDULE				
DESIGNATION	SIGN	NUMBER	SIZE	QUANTITY
A	RAMP CLOSED AHEAD	W20-V12 B/W	48" X 48"	1
B	DETOUR AHEAD	W20-2 B/O	48" X 48"	1
C	DETOUR	M4-8 B/O	30" X 15"	7
D	197	M1-VIC B/W	45" X 36"	7
E	↑	M6-3 B/O	30" X 24"	2
F	RAMP CLOSED	R11-V1 B/W	48" X 30"	2
G	↘	M5-1R B/O	30" X 24"	2
H	→	M6-1R B/O	30" X 24"	1
I	←	M6-1L B/O	30" X 24"	1
J	END DETOUR	M4-8a B/O	24" X 18"	1
K	↗	M6-2R B/O	30" X 24"	1
L	↘	M5-2R B/O	30" X 24"	1



- Notes:
- The I-195 SBL Off-Ramp Detour shown on this sheet to be used in conjunction with the I-195 SBL On-Ramp Detour shown on Sheet IG(5).
 - Sign sizes and channelizing devices spacing to be based on the latest version of VWAPM or as directed by the engineer.
 - PCMS to be installed along eastbound I-64 for use during all detours to alert traffic to the upcoming detour. Contractor shall find suitable locations for PCMS boards which will then be approved by the engineer.
 - Access to the railyard and local businesses shall be provided by the contractor at all times during the detour.

N.T.S.	PROJECT U000-127-969	SHEET NO. IG(4)
--------	----------------------	-----------------

PROJECT MANAGER Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
SURVEYED BY, DATE David Burch, L.S. (804) 524-6157 (Richmond District)
DESIGN BY Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
SUBSURFACE UTILITY BY, DATE Accurmark, Inc. 10/26/16

TEMPORARY TRAFFIC CONTROL PLAN

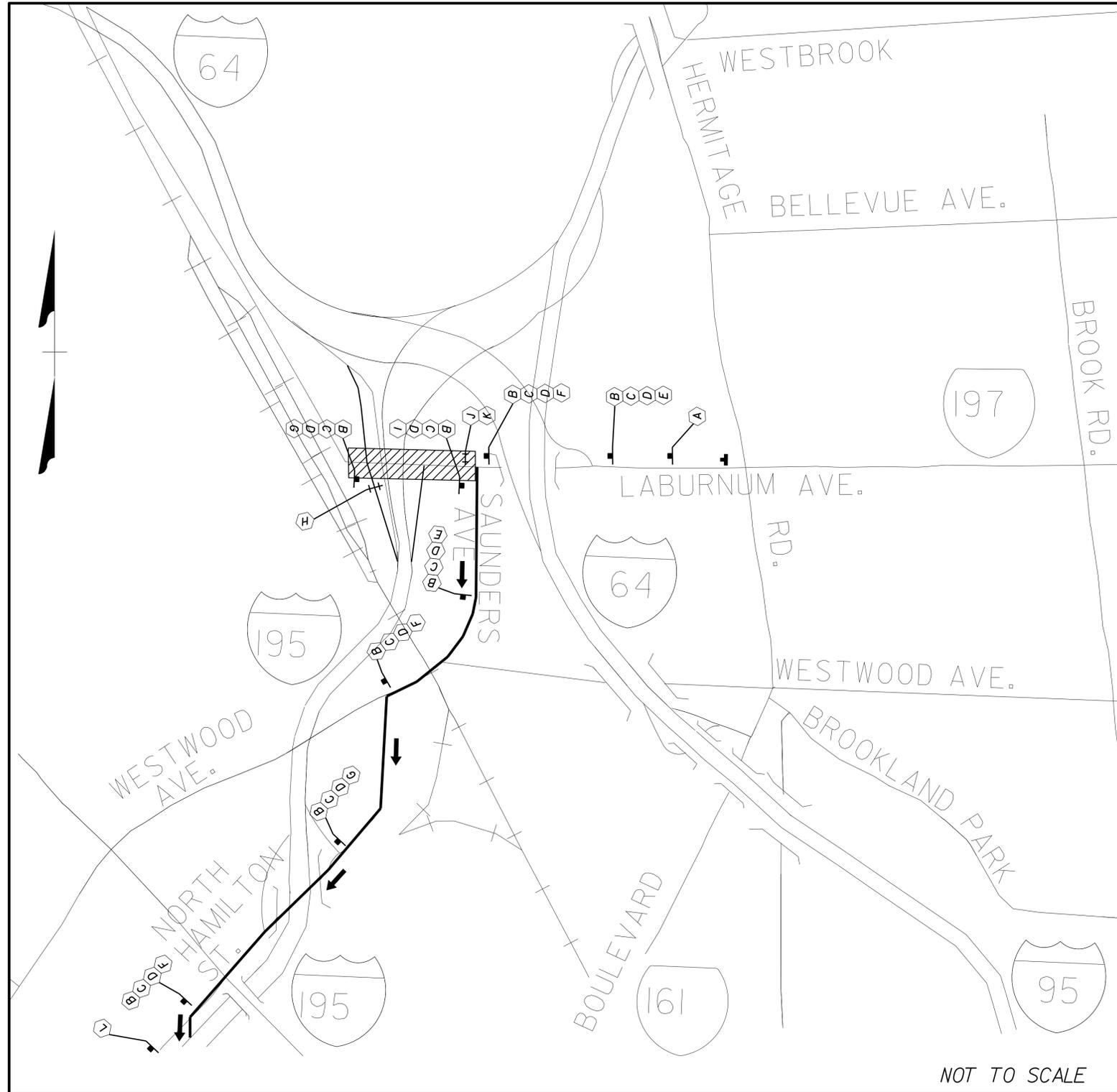
DETOUR MAP: I-195 SB ON RAMP



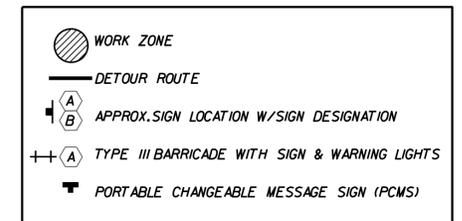
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	1G(5)

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

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



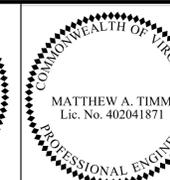
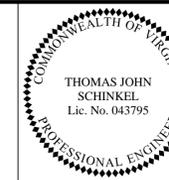
SIGN SCHEDULE				
DESIGNATION	SIGN	NUMBER	SIZE	QUANTITY
A	DETOUR AHEAD	W20-2 B/O	48'x48'	1
B	DETOUR	M4-8 B/O	30'x15'	8
C	SOUTH	M3-4 B/W	18'x36'	8
D	INTERSTATE 195	M1-1	45'x36'	8
E	Left Turn Arrow	M5-1L B/O	30'x24"	2
F	Left Turn Arrow	M6-1L B/O	30'x24"	3
G	Up Arrow	M6-3 B/O	30'x24"	2
H	RAMP CLOSED	R11-V1 B/W	48'x30"	1
I	Right Turn Arrow	M6-1R B/O	30'x24"	1
J	ROAD CLOSED TO THRU TRAFFIC	R11-4	60'x30"	1
K	DETOUR	M4-10L B/O	48'x18'	1
L	END DETOUR	M4-8a B/O	24'x18'	1



- Notes:
- The I-195 SBL On-Ramp Detour shown on this sheet to be used in conjunction with the I-195 SBL Off-Ramp Detour shown on Sheet 1G(4).
 - Sign sizes and channelizing devices spacing to be based on the latest version of VWAPM or as directed by the engineer.
 - PCMS to be installed minimum of 2 weeks before construction begins. Contractor shall find suitable locations for PCMS boards which will then be approved by the engineer.
 - Access to the railyard and local businesses shall be provided by the contractor at all times during the detour.

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

TYPICAL SECTIONS

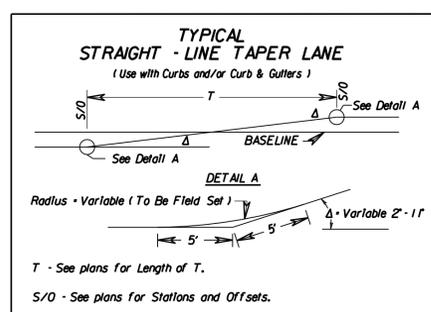
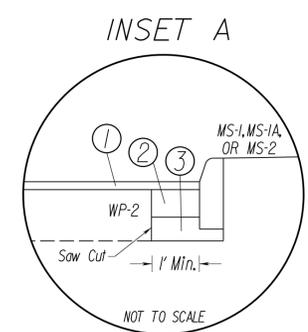
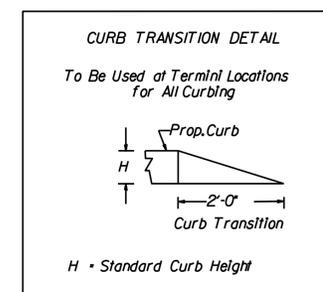
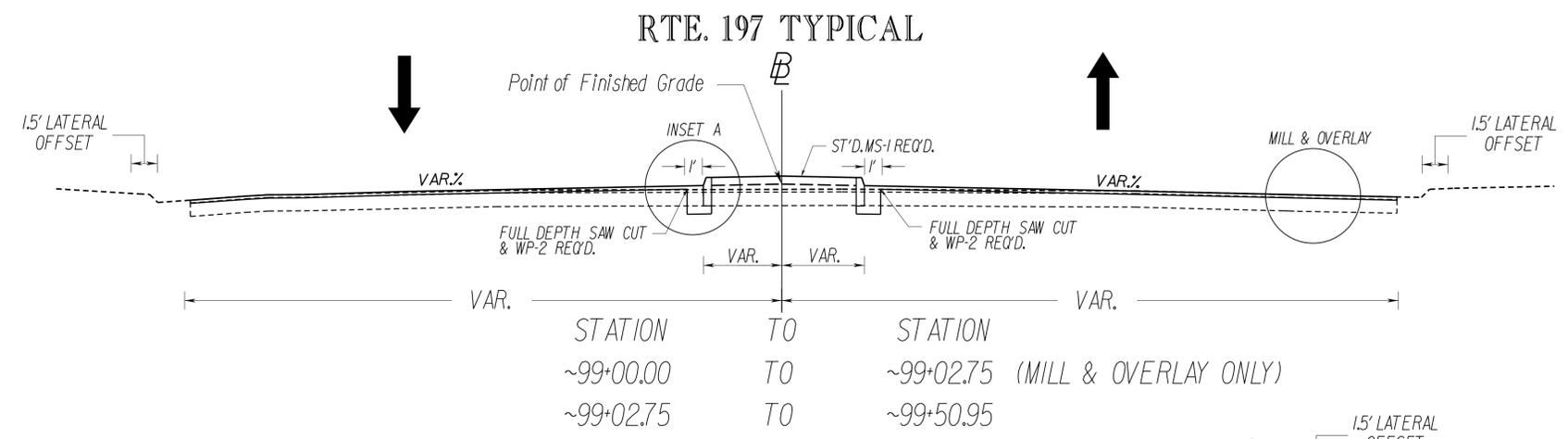


REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	2A

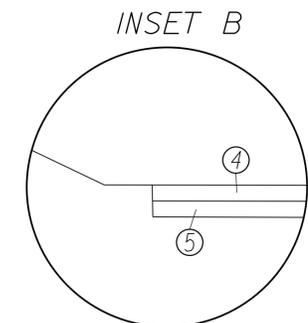
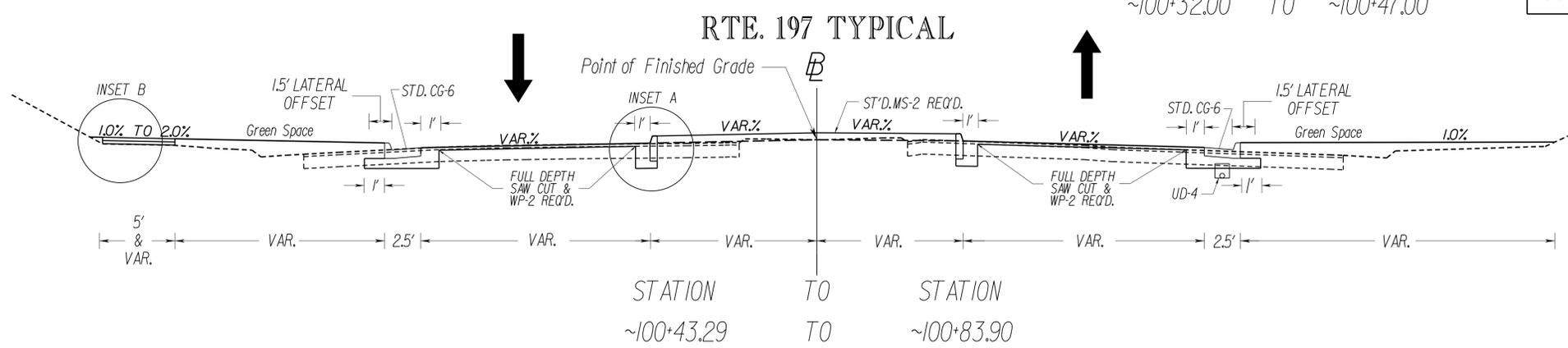
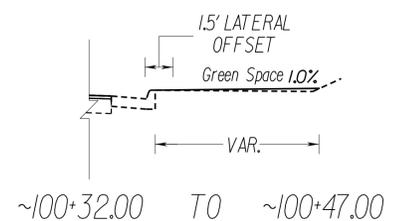
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Materials Division
Colonial Heights, Virginia
MATERIALS ENGINEER

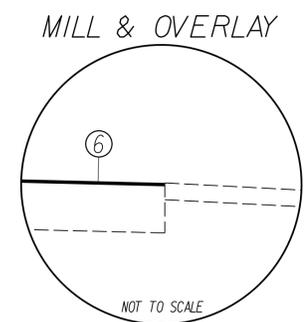
AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



- ① 2" ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.
- ② 7" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE IM-19.0D
- ③ 6.0" DENSE-GRADED SUBBASE COURSE, VDOT 21B AGGREGATE



- ④ 4.0" HYDRAULIC CEMENT CONC. SIDEWALK
- ⑤ 4.0" DENSE-GRADED SUBBASE COURSE, VDOT 21B



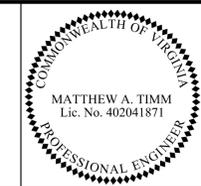
- ⑥ MILL 2" AND OVERLAY (2" & VAR.) WITH ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.

Notes:

- See plans and cross sections for mill and overlay areas.
- Full depth saw cut required a minimum of 1' from existing edge of pavement adjacent to full depth pavement.
- See plans for underdrain locations.

PROJECT MANAGER: Anthony Haverly, P.E. (B04) 524-2356 (Richmond District)
 SURVEYED BY, DATE: David Burck, L.S. (B04) 524-6152 (Richmond District)
 DESIGN BY: Matthew A. Timm, P.E. (B04) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

TYPICAL SECTIONS



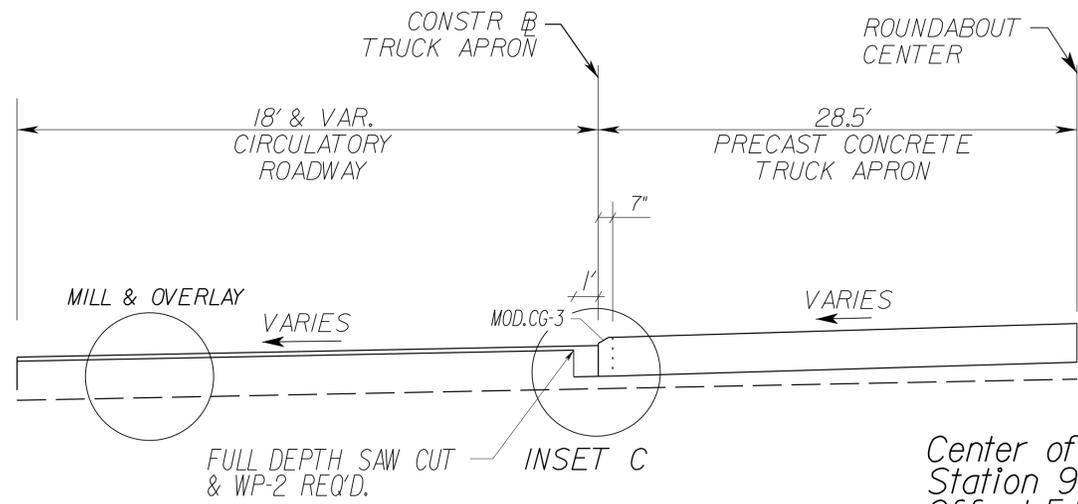
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	2B

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

VDOT Materials Division
Colonial Heights, Virginia
MATERIALS ENGINEER

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER

ROUNDAABOUT

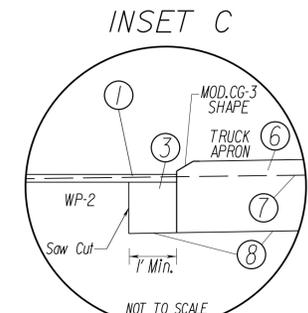
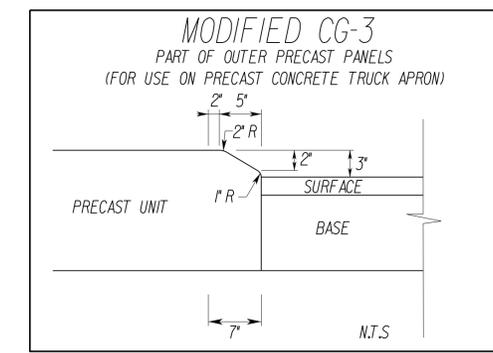


FULL DEPTH SAW CUT & WP-2 REQ'D.

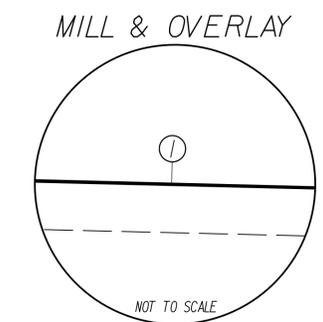
Center of Roundabout:
Station 99+97.12
Offset 5.55' RT

STATION	TO	STATION
~99+50.95	TO	~100+43.29

SEE SPECIAL PROVISION FOR PRECAST CONCRETE TRUCK APRON FOR MORE INFORMATION.



- ① 2" ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.
- ③ VAR. DEPTH ASPHALT CONCRETE BASE COURSE TYPE BM-25.0A @ VAR. LBS. PER SQ. YD.
- ⑥ PRECAST CONCRETE TRUCK APRON
- ⑦ TOP OF EXISTING PAVEMENT
- ⑧ MILLED SURFACE

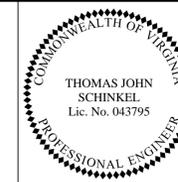


- ① MILL 2" AND OVERLAY (2" & VAR.) WITH ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.

Notes:
 - See plans and cross sections for mill and overlay areas.
 - Full depth saw cut required a minimum of 1' from existing edge of pavement adjacent to full depth pavement.

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

TYPICAL SECTIONS

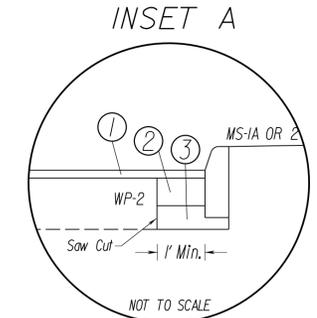
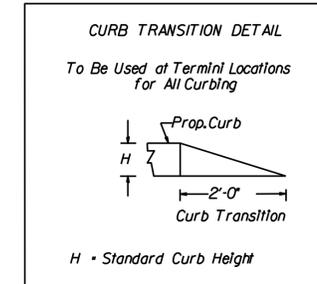
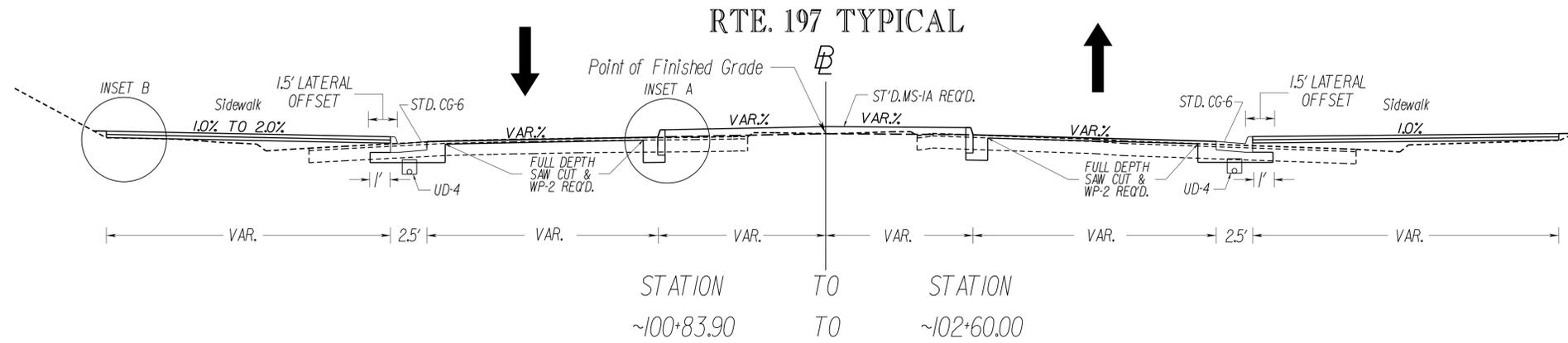


REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	2C

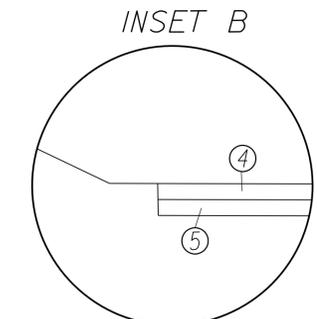
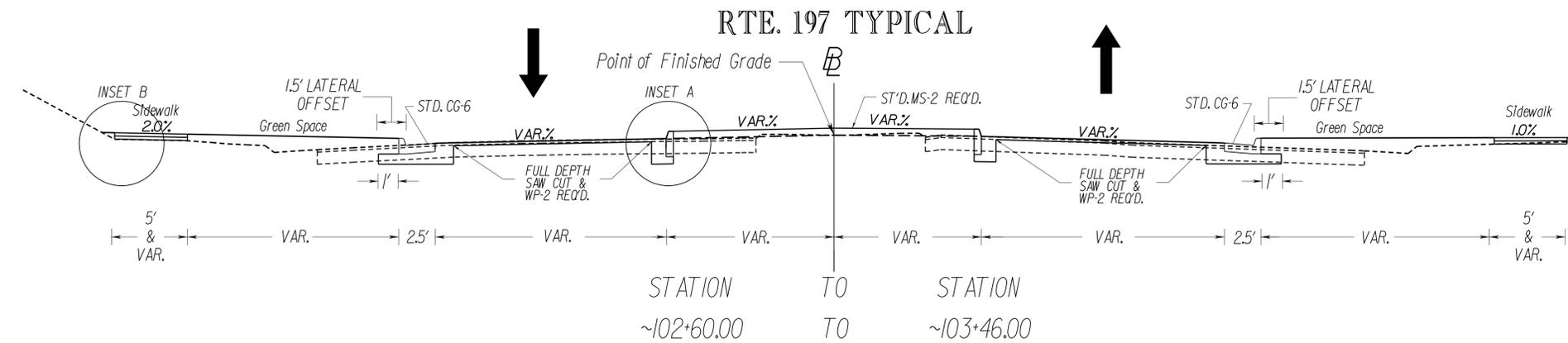
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Materials Division
Colonial Heights, Virginia
MATERIALS ENGINEER

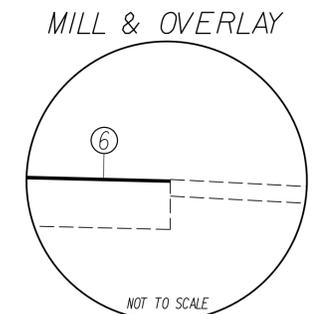
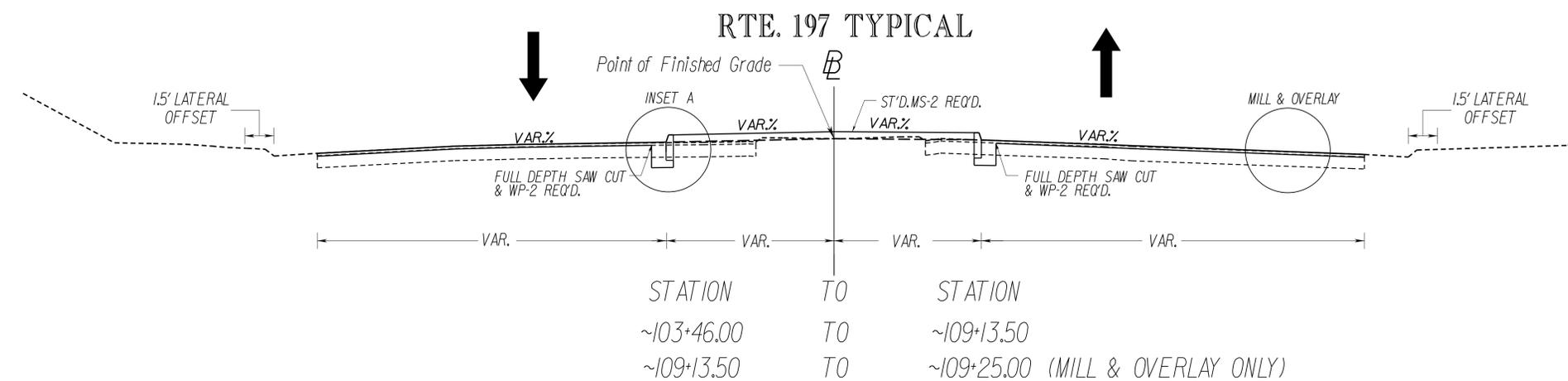
AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



- ① 2" ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.
- ② 7" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE IM-19.0D
- ③ 6.0" DENSE-GRADED SUBBASE COURSE, VDOT 21B AGGREGATE



- ④ 4.0" HYDRAULIC CEMENT CONC. SIDEWALK
- ⑤ 4.0" DENSE-GRADED SUBBASE COURSE, VDOT 21B



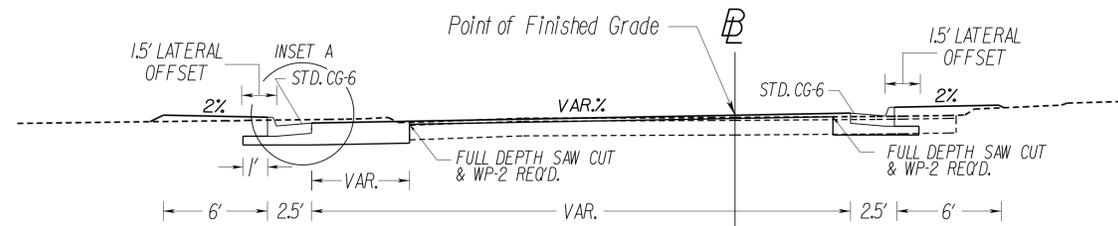
- ⑥ MILL 2" AND OVERLAY (2" & VAR.) WITH ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.

Notes:
- See plans and cross sections for mill and overlay areas.
- Full depth saw cut required a minimum of 1' from existing edge of pavement adjacent to full depth pavement.
- See plans for underdrain locations.

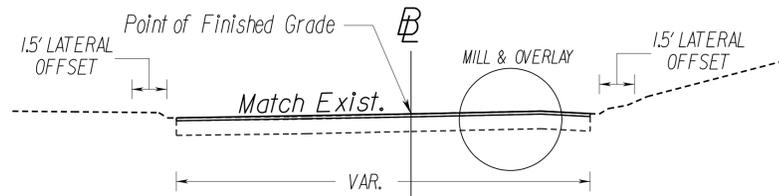
PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

TYPICAL SECTIONS

I-195 SBL OFF RAMP TYPICAL

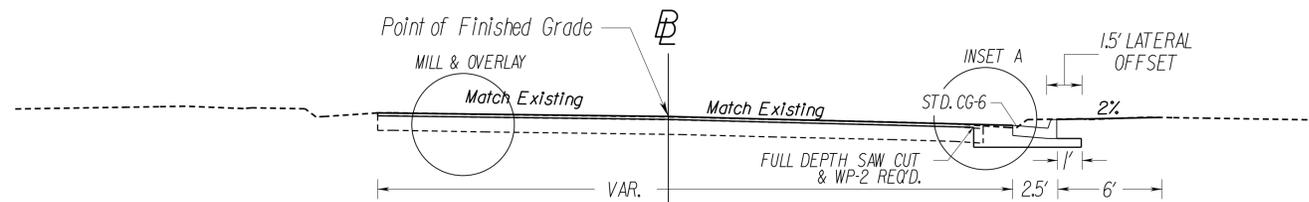


STATION TO STATION
~10+40.84 TO ~10+76.00



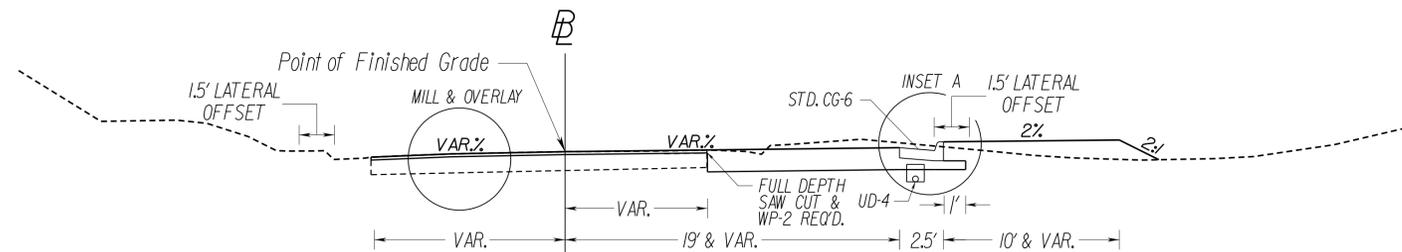
STATION TO STATION
~10+76.00 TO ~11+00.00

I-195 SBL ON RAMP TYPICAL

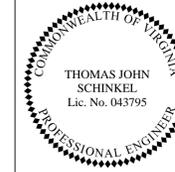


STATION TO STATION
~20+50.95 TO ~20+83.00

I-195 NBL OFF RAMP TYPICAL



STATION TO STATION
~30+26.28 TO ~32+25.00

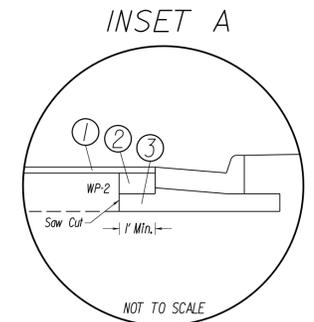
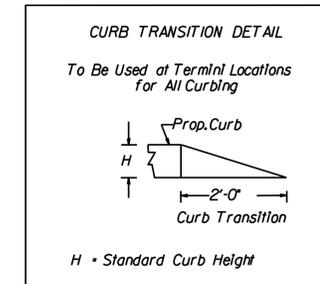


REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	2D

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

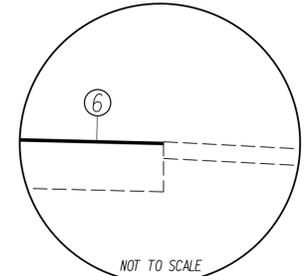
VDOT Materials Division
Colonial Heights, Virginia
MATERIALS ENGINEER

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



- ① 2" ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.
- ② 7" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE IM-19.00
- ③ 6.0" DENSE-GRADED SUBBASE COURSE, VDOT 21B AGGREGATE

MILL & OVERLAY



- ⑥ MILL 2" AND OVERLAY (2" & VAR.) WITH ASPHALT CONCRETE SURFACE COURSE TYPE SM-12.5E @ 220 LBS. PER SQ. YD.

Notes:
- See plans and cross sections for mill and overlay areas.
- Full depth saw cut required a minimum of 1' from existing edge of pavement adjacent to full depth pavement.
- See plans for underdrain locations.

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

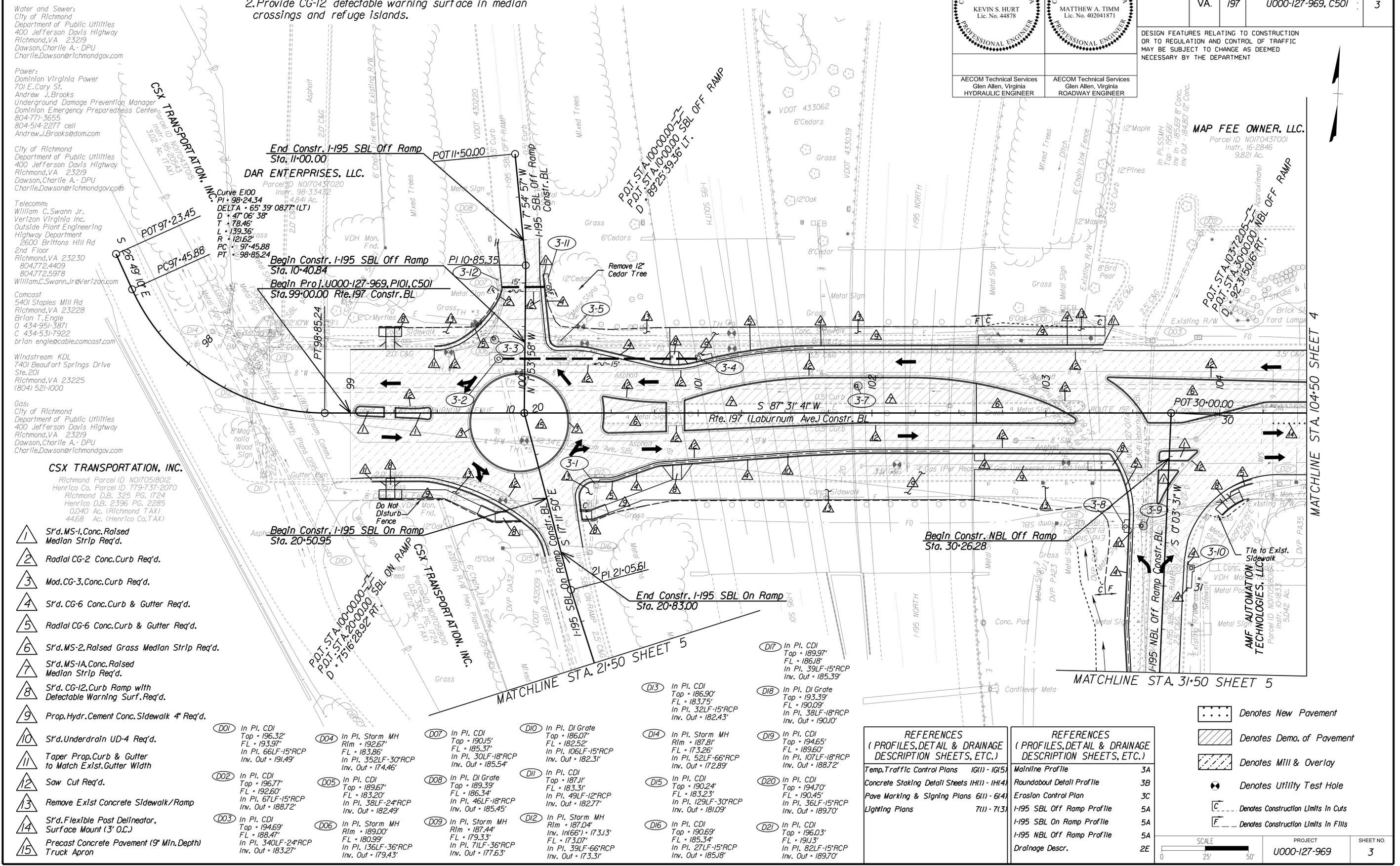
- Notes:**
1. Existing concrete medians are to be demolished.
2. Provide CG-12 detectable warning surface in median crossings and refuge islands.

ROADWAY PLAN

AECOM Technical Services Glen Allen, Virginia HYDRAULIC ENGINEER	AECOM Technical Services Glen Allen, Virginia ROADWAY ENGINEER

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	3

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



Water and Sewer:
City of Richmond
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmond.gov.com

Power:
Dominion Virginia Power
701 E. Cary St.
Andrew J. Brooks
Underground Damage Prevention Manager
Dominion Emergency Preparedness Center
804-771-3655
804-514-2277 cell
Andrew.J.Brooks@dom.com

City of Richmond:
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmond.gov.com

Telecomm:
William C. Swann Jr.
Verizon Virginia Inc.
Outside Plant Engineering
Highway Department
2600 Brittons Hill Rd
2nd Floor
Richmond, VA 23230
804.772.4409
804.772.5978
William.C.Swann.Jr@verizon.com

Comcast:
5401 Staples Mill Rd
Richmond, VA 23228
Brian T. Engle
O. 434-951-3871
C. 434-531-7922
brian.engle@cable.comcast.com

Windstream KDL:
7401 Beaufort Springs Drive
Ste. 201
Richmond, VA 23225
(804) 521-1000

Gas:
City of Richmond
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmond.gov.com

- 1 S'd. MS-1, Conc. Raised Median Strip Req'd.
- 2 Radial CG-2 Conc. Curb Req'd.
- 3 Mod. CG-3, Conc. Curb Req'd.
- 4 S'd. CG-6 Conc. Curb & Gutter Req'd.
- 5 Radial CG-6 Conc. Curb & Gutter Req'd.
- 6 S'd. MS-2, Raised Grass Median Strip Req'd.
- 7 S'd. MS-1A, Conc. Raised Median Strip Req'd.
- 8 S'd. CG-12, Curb Ramp with Detectable Warning Surf. Req'd.
- 9 Prop. Hydr. Cement Conc. Sidewalk 4" Req'd.
- 10 S'd. Underdrain UD-4 Req'd.
- 11 Taper Prop. Curb & Gutter to Match Exist. Gutter Width
- 12 Saw Cut Req'd.
- 13 Remove Exist. Concrete Sidewalk/Ramp
- 14 S'd. Flexible Post Deflector, Surface Mount (3' O.C.)
- 15 Precast Concrete Pavement (9" Min. Depth) Truck Apron

(D01) In Pl. CDI Top = 196.32' FL = 193.97' In Pl. 66LF-15"RCP Inv. Out = 191.49'	(D04) In Pl. Storm MH Rim = 192.67' FL = 183.86' In Pl. 352LF-30"RCP Inv. Out = 174.46'	(D07) In Pl. CDI Top = 190.15' FL = 185.37' In Pl. 30LF-18"RCP Inv. Out = 185.54'	(D10) In Pl. DI Grate Top = 186.07' FL = 182.52' In Pl. 106LF-15"RCP Inv. Out = 182.31'	(D13) In Pl. CDI Top = 186.90' FL = 183.75' In Pl. 32LF-15"RCP Inv. Out = 182.43'	(D16) In Pl. CDI Top = 187.04' FL = 183.31' In Pl. 49LF-12"RCP Inv. Out = 182.77'
(D02) In Pl. CDI Top = 196.77' FL = 192.60' In Pl. 67LF-15"RCP Inv. Out = 188.72'	(D05) In Pl. CDI Top = 189.67' FL = 183.20' In Pl. 38LF-24"RCP Inv. Out = 182.49'	(D08) In Pl. DI Grate Top = 189.39' FL = 186.34' In Pl. 46LF-18"RCP Inv. Out = 185.45'	(D11) In Pl. CDI Top = 187.11' FL = 183.31' In Pl. 49LF-12"RCP Inv. Out = 182.77'	(D14) In Pl. Storm MH Rim = 187.81' FL = 173.26' In Pl. 52LF-66"RCP Inv. Out = 172.89'	(D17) In Pl. CDI Top = 189.97' FL = 186.18' In Pl. 39LF-15"RCP Inv. Out = 185.39'
(D03) In Pl. CDI Top = 194.69' FL = 188.47' In Pl. 340LF-24"RCP Inv. Out = 183.27'	(D06) In Pl. Storm MH Rim = 189.00' FL = 180.99' In Pl. 136LF-36"RCP Inv. Out = 179.43'	(D09) In Pl. Storm MH Rim = 187.44' FL = 179.33' In Pl. 71LF-36"RCP Inv. Out = 177.63'	(D12) In Pl. Storm MH Rim = 187.04' FL = 173.07' In Pl. 39LF-66"RCP Inv. Out = 173.31'	(D15) In Pl. CDI Top = 190.24' FL = 183.23' In Pl. 129LF-30"RCP Inv. Out = 181.09'	(D18) In Pl. DI Grate Top = 193.39' FL = 190.09' In Pl. 38LF-18"RCP Inv. Out = 190.10'
(D19) In Pl. CDI Top = 194.65' FL = 189.60' In Pl. 107LF-18"RCP Inv. Out = 188.72'	(D20) In Pl. CDI Top = 194.70' FL = 190.45' In Pl. 36LF-15"RCP Inv. Out = 189.70'	(D21) In Pl. CDI Top = 196.03' FL = 191.31' In Pl. 82LF-15"RCP Inv. Out = 189.70'	(D22) In Pl. CDI Top = 190.69' FL = 185.34' In Pl. 27LF-15"RCP Inv. Out = 185.18'		

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Temp. Traffic Control Plans	IG(1) - IG(5)
Concrete Staking Detail Sheets	IH(1) - IH(4)
Pave Marking & Signaling Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

Mainline Profile	3A
Roundabout Detail Profile	3B
Erosion Control Plan	3C
I-95 SBL Off Ramp Profile	5A
I-95 SBL On Ramp Profile	5A
I-95 NBL Off Ramp Profile	5A
Drainage Descr.	2E

Denotes New Pavement

Denotes Demo. of Pavement

Denotes Mill & Overlay

Denotes Utility Test Hole

Denotes Construction Limits In Cuts

Denotes Construction Limits In Fills

SCALE: 0 25 50'

PROJECT: U000-127-969

SHEET NO.: 3

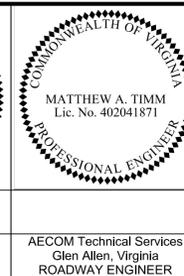
MATCHLINE STA. 104+50 SHEET 4

MATCHLINE STA. 31+50 SHEET 5

MATCHLINE STA. 21+50 SHEET 5

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *AccuMark, Inc.* 10/26/16

ROADWAY PLAN



REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	4

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

AECOM Technical Services
Glen Allen, Virginia
HYDRAULIC ENGINEER

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER

- 1 S'd. MS-1, Conc. Raised Median Strip Req'd.
- 2 Radial CG-2 Conc. Curb Req'd.
- 3 Mod. CG-3, Conc. Curb Req'd.
- 4 S'd. CG-6 Conc. Curb & Gutter Req'd.
- 5 Radial CG-6 Conc. Curb & Gutter Req'd.
- 6 S'd. MS-2, Raised Grass Median Strip Req'd.
- 7 S'd. MS-1A, Conc. Raised Median Strip Req'd.
- 8 S'd. CG-12, Curb Ramp with Detectable Warning Surf. Req'd.
- 9 Prop. Hydr. Cement Conc. Sidewalk 4" Req'd.
- 10 S'd. Underdrain UD-4 Req'd.
- 11 Taper Prop. Curb & Gutter to Match Exist. Gutter Width

- 12 Saw Cut Req'd.
- 13 Remove Exist Concrete Sidewalk/Ramp
- 14 S'd. Flexible Post Delinertor, Surface Mount (3' O.C.)
- 15 Precast Concrete Pavement (9' Min. Depth) Truck Apron

In Pl. CDI
Top = 198.91'
FL = 194.06'
In Pl. 27LF-24" RCP
Inv. Out = 194.06'

In Pl. Storm MH
Rim = 189.29'
FL = 185.51'
In Pl. 30" RCP
Inv. Out = 185.51'

In Pl. SSMH
Top = 195.04'
Inv In = 185.61' 8" PVC (From North)
Inv In = 186.41' 8" PVC (From South)
Inv In = 185.56' 12" Conc. (From West)
Inv Out = 185.45' 12" Conc. (To East)

In Pl. Storm MH
Rim = 198.44'
FL = 187.16'
In Pl. 30" RCP
Inv. Out = 186.64'

In Pl. Storm MH
Rim = 198.92'
FL = 188.12'
In Pl. 30" RCP
Inv. Out = 187.24'

In Pl. Storm MH
Rim = 199.15'
FL = 189.23' 8" RCP (From North)
Inv. In = 184.65' 12" RCP (From West)
Inv. In = 184.65' 12" RCP (To East)

In Pl. Storm MH
Rim = 199.37'
FL = 189.53'
In Pl. 30" RCP
Inv. Out = 188.22'

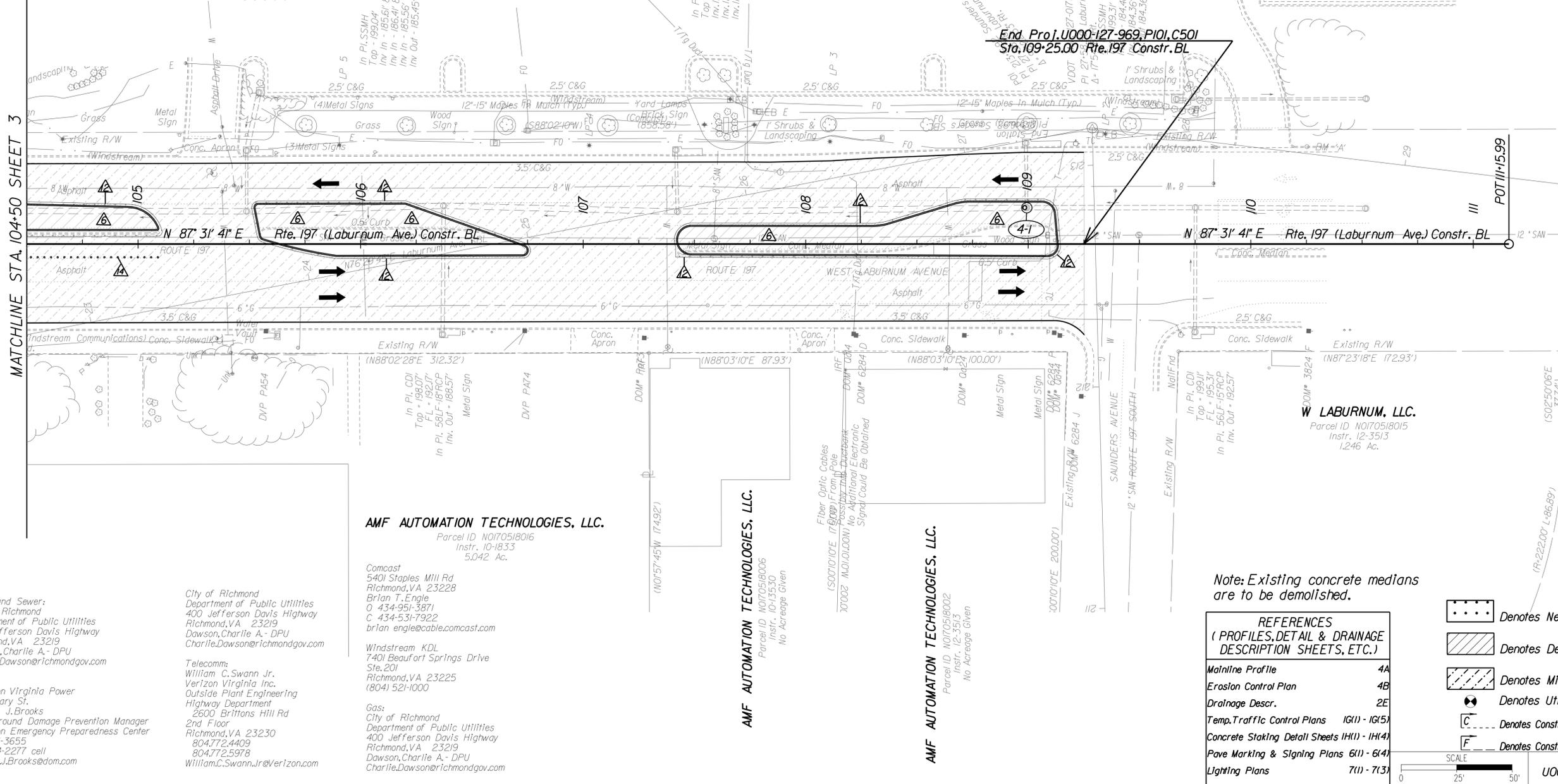
In Pl. Storm MH
Rim = 199.40'
FL = 190.77'
In Pl. 30" RCP
Inv. Out = 190.05'

In Pl. Storm MH
Rim = 199.61'
FL = 191.45'
In Pl. 30" RCP
Inv. Out = 190.80'

In Pl. Storm MH
Rim = 200.38'
FL = 194.06'
Inv. Out of Limits

MAP FEE OWNER, LLC.
Parcel ID: N0170437001
Instr. 16-2846
9.821 Ac.

End. Proj. U000-127-969, P101, C501
Sta. 109+25.00, Rte. 197 Constr. BL



Note: Existing concrete medians are to be demolished.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
Mainline Profile	4A
Erosion Control Plan	4B
Drainage Descr.	2E
Temp. Traffic Control Plans	IG(1) - IG(5)
Concrete Staking Detail Sheets	IHK(1) - IHK(4)
Pave Marking & Signing Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)

- Denotes New Pavement
- Denotes Demo. of Pavement
- Denotes Mill & Overlay
- Denotes Utility Test Hole
- Denotes Construction Limits in Cuts
- Denotes Construction Limits in Fills

Water and Sewer:
City of Richmond
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmondgov.com

Power:
Dominion Virginia Power
701 E. Cary St.
Andrew J. Brooks
Underground Damage Prevention Manager
Dominion Emergency Preparedness Center
804-771-3655
804-514-2277 cell
Andrew.J.Brooks@dom.com

City of Richmond
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmondgov.com

Telecomm:
William C. Swann Jr.
Verizon Virginia Inc.
Outside Plant Engineering
Highway Department
2600 Brittons Hill Rd
2nd Floor
Richmond, VA 23230
804.772.4409
804.772.5978
William.C.Swann.Jr@verizon.com

AMF AUTOMATION TECHNOLOGIES, LLC.
Parcel ID: N0170518016
Instr. 10-1833
5.042 Ac.

Comcast
5401 Staples Mill Rd
Richmond, VA 23228
Brian T. Engle
O 434-951-3871
C 434-531-7922
brian.Engle@cable.comcast.com

Windstream KDL
7401 Beaufort Springs Drive
Ste. 201
Richmond, VA 23225
(804) 521-1000

Gas:
City of Richmond
Department of Public Utilities
400 Jefferson Davis Highway
Richmond, VA 23219
Dawson, Charlie A. - DPU
Charlie.Dawson@richmondgov.com

AMF AUTOMATION TECHNOLOGIES, LLC.
Parcel ID: N0170518006
Instr. 10-15530
No Acreage Given

AMF AUTOMATION TECHNOLOGIES, LLC.
Parcel ID: N0170518002
Instr. 12-3513
No Acreage Given

W LABURNUM, LLC.
Parcel ID: N0170518015
Instr. 12-3513
1.246 Ac.

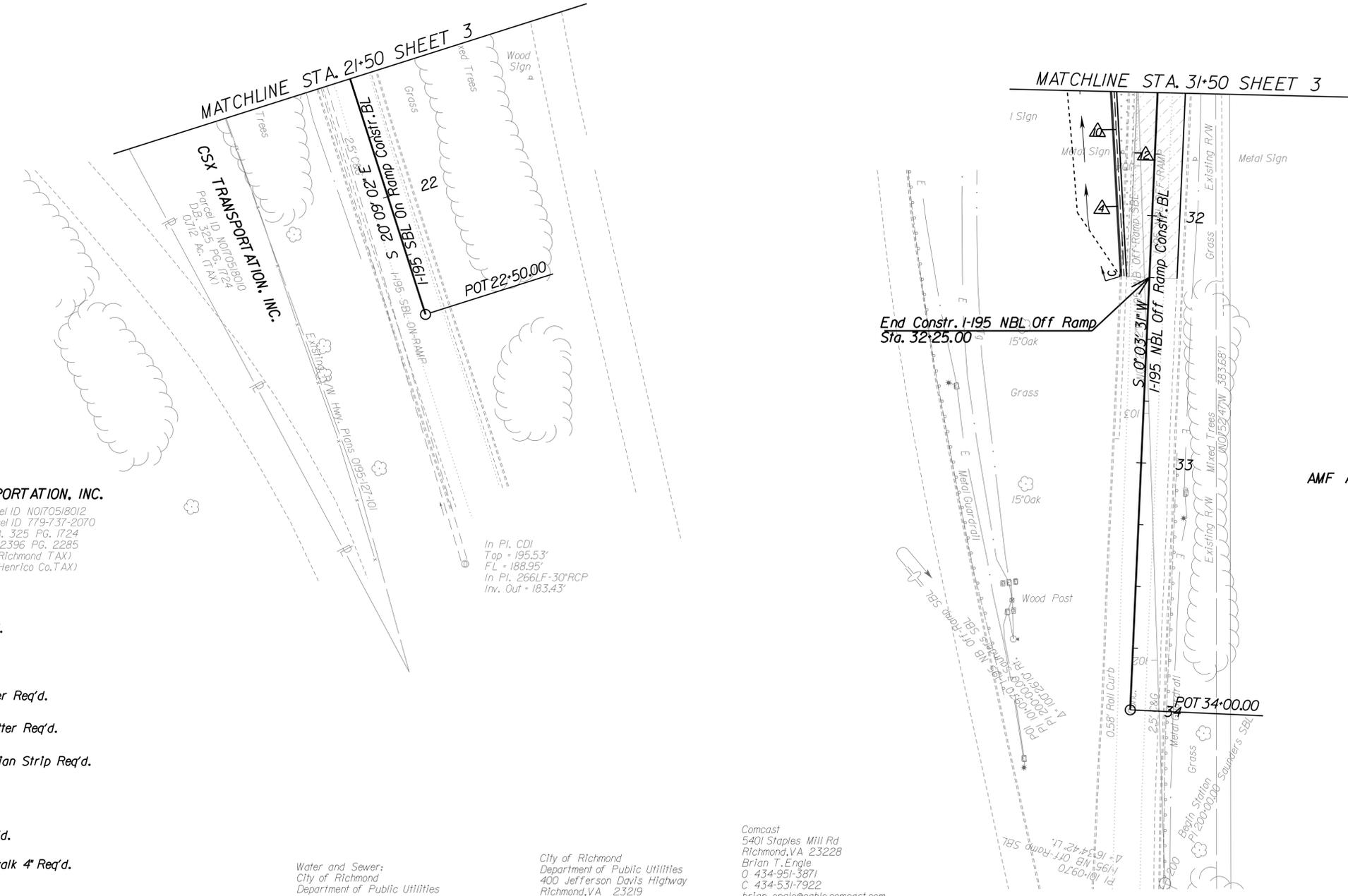
SCALE	PROJECT	SHEET NO.
0 25 50	U000-127-969	4

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *Accumark, Inc.* 10/26/16

ROADWAY PLAN

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	5

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



CSX TRANSPORTATION, INC.
 Richmond Parcel ID N0170518012
 Henrico Co. Parcel ID 779-737-2070
 Richmond D.B. 325 PG. 1724
 Henrico D.B. 2396 PG. 2285
 0.040 Ac. (Richmond TAX)
 44.68 Ac. (Henrico Co. TAX)

AMF AUTOMATION TECHNOLOGIES, LLC.
 Parcel ID N0170518016
 Instr. 10-1833
 5.042 Ac.

- 1 St'd. MS-1, Conc. Raised Median Strip Req'd.
- 2 Radial CG-2 Conc. Curb Req'd.
- 3 Mod. CG-3, Conc. Curb Req'd.
- 4 St'd. CG-6 Conc. Curb & Gutter Req'd.
- 5 Radial CG-6 Conc. Curb & Gutter Req'd.
- 6 St'd. MS-2, Raised Grass Median Strip Req'd.
- 7 St'd. MS-1A, Conc. Raised Median Strip Req'd.
- 8 St'd. CG-12, Curb Ramp with Detectable Warning Surf. Req'd.
- 9 Prop. Hydr. Cement Conc. Sidewalk 4" Req'd.
- 10 St'd. Underdrain UD-4 Req'd.
- 11 Taper Prop. Curb & Gutter to Match Exist. Gutter Width
- 12 Saw Cut Req'd.
- 13 Remove Ex'ist Concrete Sidewalk/Ramp
- 14 St'd. Flexible Post Detailator, Surface Mount (3" O.C.)
- 15 Precast Concrete Pavement (9" Min. Depth) Truck Apron

Water and Sewer:
 City of Richmond
 Department of Public Utilities
 400 Jefferson Davis Highway
 Richmond, VA 23219
 Dawson, Charlie A. - DPU
 Charlie.Dawson@richmondgov.com

Power:
 Dominion Virginia Power
 701 E. Cary St.
 Andrew J. Brooks
 Underground Damage Prevention Manager
 Dominion Emergency Preparedness Center
 804-771-3655
 804-514-2277 cell
 Andrew.J.Brooks@dom.com

City of Richmond
 Department of Public Utilities
 400 Jefferson Davis Highway
 Richmond, VA 23219
 Dawson, Charlie A. - DPU
 Charlie.Dawson@richmondgov.com

Telecomm:
 William C. Swann Jr.
 Verizon Virginia Inc.
 Outside Plant Engineering
 Highway Department
 2600 Brittons Hill Rd
 2nd Floor
 Richmond, VA 23230
 804.772.4409
 804.772.5978
 William.C.Swann.Jr@verizon.com

Comcast
 5401 Staples Mill Rd
 Richmond, VA 23228
 Brian T. Engle
 O 434-951-3871
 C 434-531-7922
 brian.engle@comcast.com

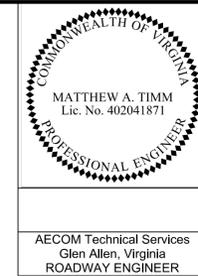
Windstream KDL
 7401 Beaufort Springs Drive
 Ste. 201
 Richmond, VA 23225
 (804) 521-1000

Gas:
 City of Richmond
 Department of Public Utilities
 400 Jefferson Davis Highway
 Richmond, VA 23219
 Dawson, Charlie A. - DPU
 Charlie.Dawson@richmondgov.com

- Denotes New Pavement
- Denotes Demo. of Pavement
- Denotes Mill & Overlay
- Denotes Utility Test Hole
- Denotes Construction Limits in Cuts
- Denotes Construction Limits in Fills

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
I-195 SBL On Ramp Profile	5A
I-195 NBL Off Ramp Profile	5A
Erosion Control	5B
Drainage Descr.	2E
Temp. Traffic Control Plans	1G(1) - 1G(5)
Concrete Staking Detail Sheets	1H(1) - 1H(4)
Pave Marking & Signing Plans	6(1) - 6(4)
Lighting Plans	7(1) - 7(3)

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
 DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16



REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	611

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

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER

SIGN SCHEDULE

TEXT NO.	SIGN NO.	TEXT	SIGN STD. NO.	QUANTITY	PANEL SIZE		ASMBLY AREA (s.f.)		SIGN STRUCT. STD.	REMARKS
					W	H	EACH	TOTAL		
1	1,17,18,19,20		R4-7	5	24"	30"	5	25	STP-1 2" 14 GA	Type A Foundation Attach Sign No.20 to Exlst. Sign Assembly
2	2,3,4	 	R1-2	3	36"x36"x36"		10.25	30.75	STP-1 2.5" 12 GA	Type A Foundation
			R6-5P	3	30"	30"				
3	5,6		W2-6	2	30"	30"	6.25	12.5	STP-1 2" 14 GA	Type A Foundation
4	7,8		R1-1	2	36"	36"	9	18	STP-1 2" 14 GA	Type A Foundation
5	9,16	 	W11-2	2	36"	36"	11	22	STP-1 2.5" 12 GA	Signs to be Fluorescent Green Type A Foundation
			W16-7PL	2	24"	12"				
6	10		R3-1	1	36"	36"	9	9	STP-1 2" 14 GA	Type A Foundation
7	11	 	M3-3	1	24"	12"	9.2	9.2	STP-1 2" 14 GA	Type A Foundation
			M1-1	1	30"	24"				
			M6-2R	1	21"	15"				
8	12,13		W4-3R	2	36"	36"	9	18	STP-1 2" 14 GA	Type A Foundation
9	14,21,22		R1-2	3	36"x36"x36"		4	12	STP-1 2" 14 GA	Type A Foundation
10	15		M5-3	1	21"	15"	2.2	2.2	STP-1 2" 14 GA	Replace Existing M5-1 Sign Relocate Sign Assembly Type A Foundation

STANDARD SIGN LEGEND

PLAN ITEM	PLAN SYMBOL	
	PROPOSED	EXISTING
Single Post Sign Support		
Double Post Sign Support		
Triple Post Sign Support		
Flashing Beacon		
O/H Cantilever Sign Support		
O/H Span Sign Support		
SIGN CALL-OUTS		
Existing Sign to Remain or to be Relocated		
Existing Sign to be Removed		
Proposed Sign Panel		

SIGN LABELS

Proposed Sign Assemblies *Relocated Sign Assemblies*

denotes Sign Assembly No.
 denotes Text No.

denotes Sign Assembly No.
 denotes Text No.

Sign Relocation or Payable Sign Disposal/Salvage

denotes Existing Sign Structure and/or Sign Panel Type

STRUCTURE & SIGN PANEL **SIGN PANEL**

GM - Ground Mounted SP-GM - Ground Mounted Sign Panel
 OM - Overhead Mounted SP-OM - Overhead Mounted Sign Panel
 CM - Cantilever Mounted

STRUCTURE ONLY

ST-GM - Ground Mounted

denotes Action and Measurement & Payment Item

A - Remove & Dispose
 B - Remove & Salvage
 C - Relocate
 D - Overlay Sign Panel

Signs noted on plans to be removed that do not have an accompanying sign label shall not be measured separately for payment. Removal and disposal for such signs shall be incidental to other contract items.

MEASUREMENT AND PAYMENT ITEMS

A. REMOVE AND DISPOSE OF SIGN STRUCTURE, TYPE ()

will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for removal and disposal of sign panels, posts and foundations to at least two feet below existing ground line, backfilling and restoration (topsoiling and seeding), and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

C-xx. RELOCATE EXISTING SIGN STRUCTURE, TYPE STP-1

will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for dismantling and removing existing sign and support(s), backfilling resulting holes, installing existing sign and support(s) in the new location with special backfill material, furnishing new miscellaneous nuts, bolts, and washers, and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

TRAFFIC CONTROL DEVICE PLANS PAVEMENT MARKINGS & SIGNING GENERAL NOTES & LEGEND(S)

CITY OF RICHMOND

PROJECT
U000-127-969

SHEET NO.
611

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
 DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

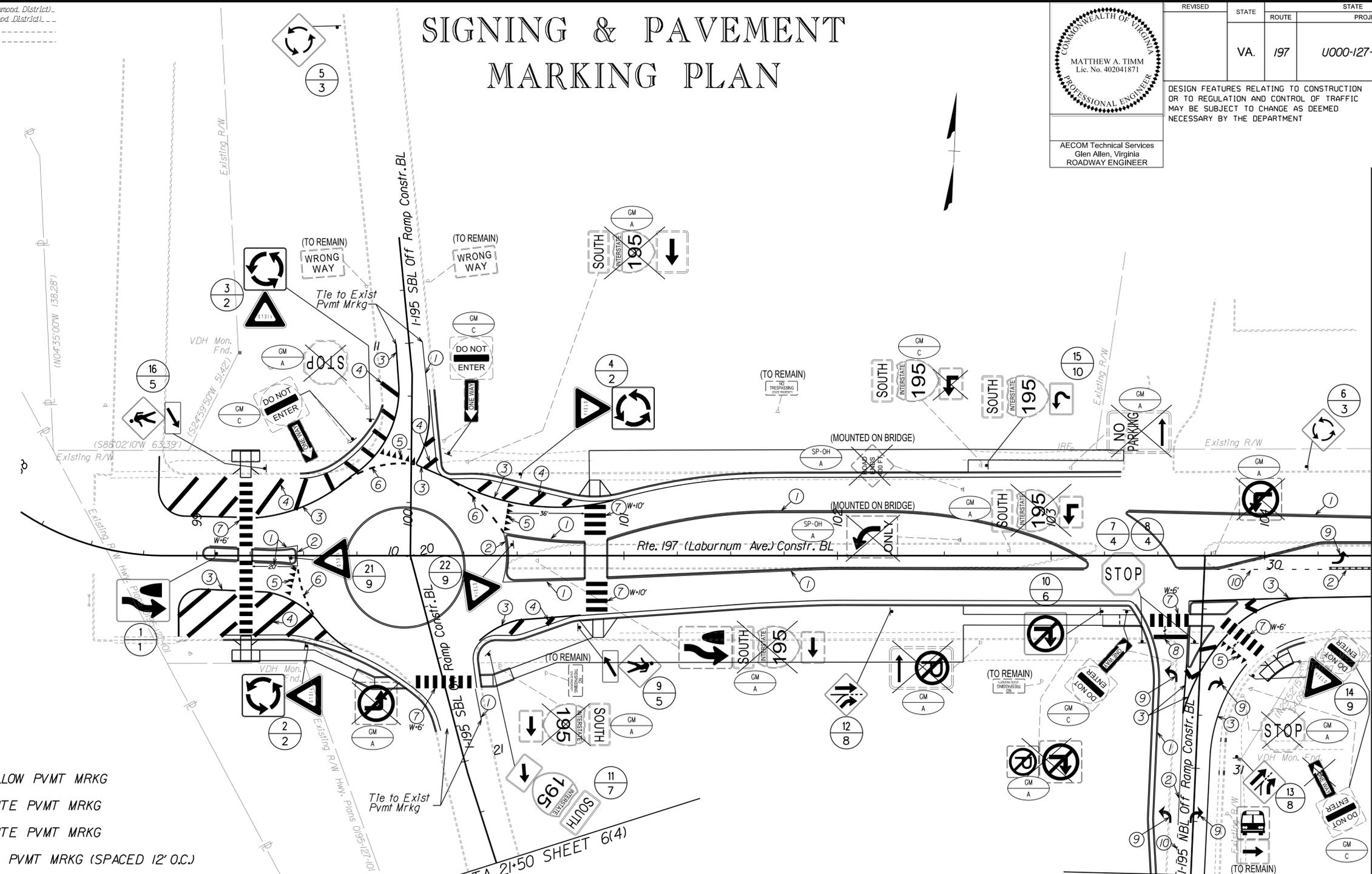
SIGNING & PAVEMENT MARKING PLAN

COMMONWEALTH OF VIRGINIA
 MATTHEW A. TIMM
 Lic. No. 402041871
 PROFESSIONAL ENGINEER

AECOM Technical Services
 Glen Allen, Virginia
 ROADWAY ENGINEER

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	6(2)

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

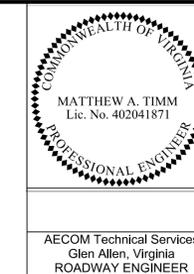


- ① TYPE B,CL. I THERMO, 4" YELLOW PVMT MRKG
- ② TYPE B,CL. I THERMO, 4" WHITE PVMT MRKG
- ③ TYPE B,CL. I THERMO, 6" WHITE PVMT MRKG
- ④ TYPE B,CLASS II, 24" WHITE PVMT MRKG (SPACED 12' O.C.)
- ⑤ TYPE B,CL. I THERMO, WHITE YIELD PVMT MRKG (2' x 3' TRIANGLES)
- ⑥ TYPE B,CL. I THERMO, 12" WHITE PVMT MRKG (2' LINE, 2' SPACING)
- ⑦ TYPE B,CLASS II, 24" WHITE CROSSWALK PVMT MRKG (SPACED 4' O.C.)
- ⑧ TYPE B,CLASS II, 24" WHITE PVMT MRKG
- ⑨ TYPE B,CLASS II, WHITE PVMT SYMB MRKG SGL TURN ARROW
- ⑩ TYPE B,CL. I THERMO, 4" WHITE PVMT MRKG (2' LINE, 6' SPACING)
- ⑪ TYPE B,CL. I THERMO, 4" WHITE PVMT MRKG (10' LINE, 30' SPACING)

REFERENCES (PLAN AND DETAIL SHEETS)		TRAFFIC CONTROL DEVICE PLANS PAVEMENT MARKING & SIGNING PLAN
Roadway Plan Sheet(s)	3	
WEST LABURNUM AVENUE CITY OF RICHMOND		
SCALE 0 25' 50'	PROJECT U000-127-969	SHEET NO. 6(2)

PROJECT MANAGER: Anthony Haverly, P.E. (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: David Burch, L.S. (804) 524-6157 (Richmond District)
 DESIGN BY: Matthew A. Timm, P.E. (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. 10/26/16

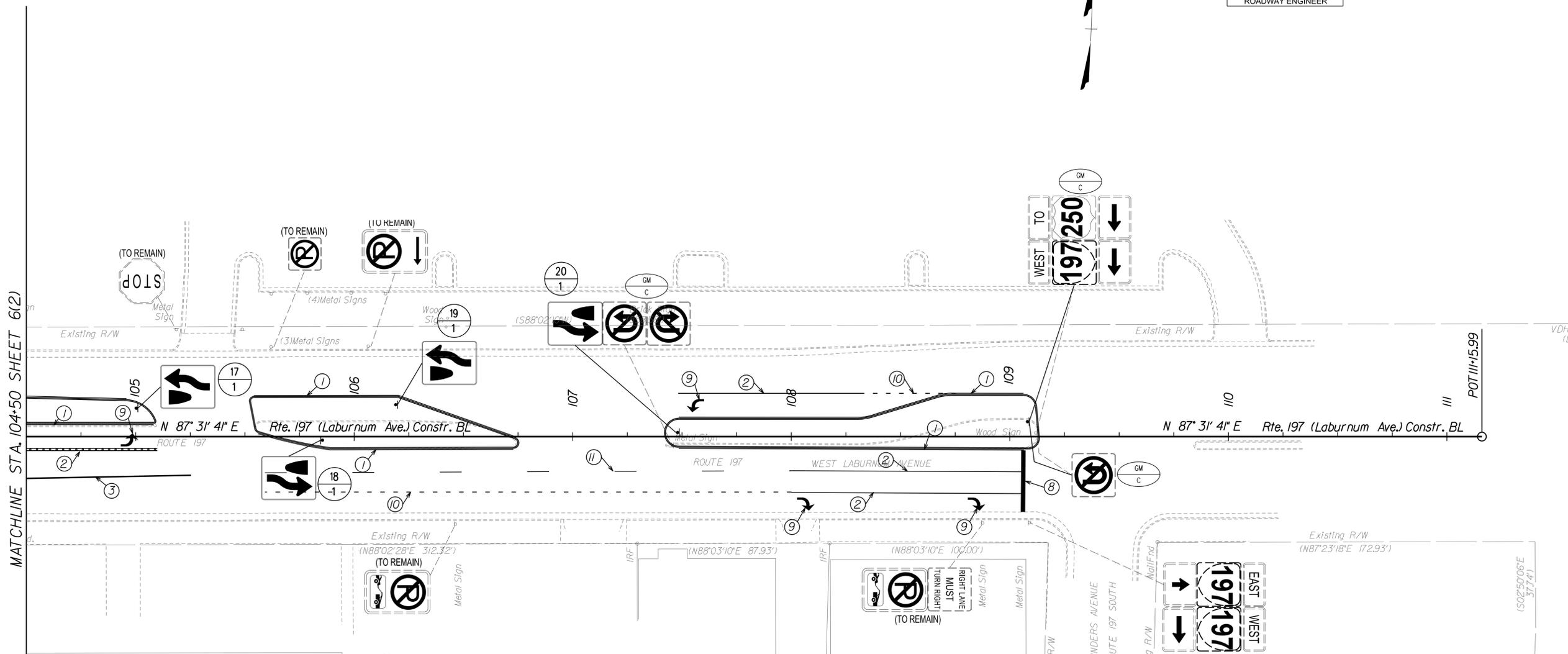
SIGNING & PAVEMENT MARKING PLAN



REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	6(3)

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

AECOM Technical Services
Glen Allen, Virginia
ROADWAY ENGINEER



- ① TYPE B, CL. I THERMO, 4" YELLOW PVMT MRKG
- ② TYPE B, CL. I THERMO, 4" WHITE PVMT MRKG
- ③ TYPE B, CL. I THERMO, 6" WHITE PVMT MRKG
- ④ TYPE B, CLASS II, 24" WHITE PVMT MRKG (SPACED 12' O.C.)
- ⑤ TYPE B, CL. I THERMO, WHITE YIELD PVMT MRKG (2' x 3' TRIANGLES)
- ⑥ TYPE B, CL. I THERMO, 12" WHITE PVMT MRKG (2' LINE, 2' SPACING)
- ⑦ TYPE B, CLASS II, 24" WHITE CROSSWALK PVMT MRKG (SPACED 4' O.C.)
- ⑧ TYPE B, CLASS II, 24" WHITE PVMT MRKG
- ⑨ TYPE B, CLASS II, WHITE PVMT SYMB MRKG SGL TURN ARROW
- ⑩ TYPE B, CL. I THERMO, 4" WHITE PVMT MRKG (2' LINE, 6' SPACING)
- ⑪ TYPE B, CL. I THERMO, 4" WHITE PVMT MRKG (10' LINE, 30' SPACING)

REFERENCES (PLAN AND DETAIL SHEETS)	
Roadway Plan Sheet(s)	4

TRAFFIC CONTROL DEVICE PLANS PAVEMENT MARKING & SIGNING PLAN	
CITY OF RICHMOND	
SCALE 0 25' 50'	PROJECT U000-127-969
	SHEET NO. 6(3)

MATCHLINE STA. 104+50 SHEET 6(2)

POT III+5.99

PROJECT MANAGER *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE *Accumark, Inc.* 10/26/16

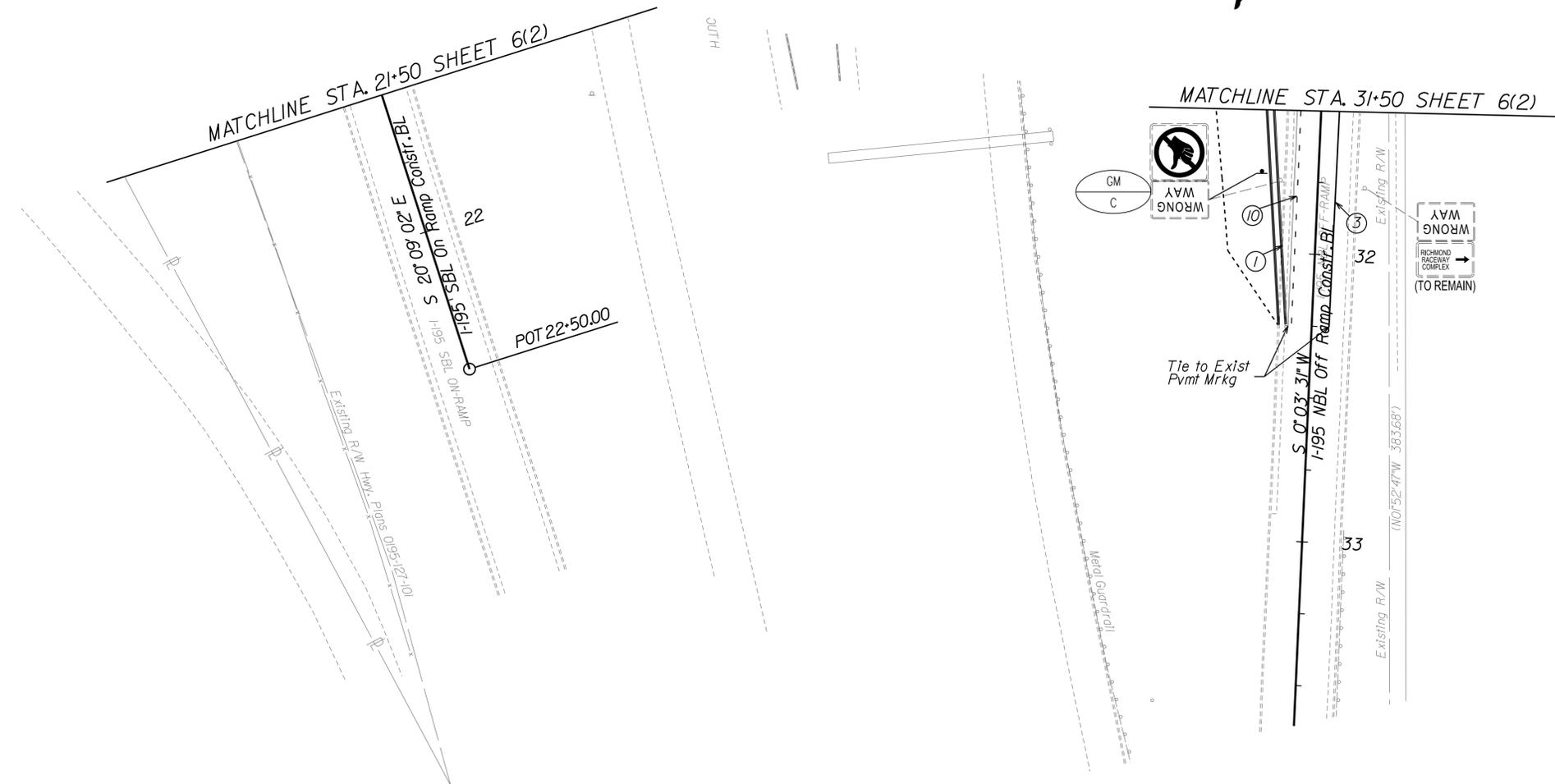
SIGNING & PAVEMENT MARKING PLAN

COMMONWEALTH OF VIRGINIA
 MATTHEW A. TIMM
 Lic. No. 402041871
 PROFESSIONAL ENGINEER

AECOM Technical Services
 Glen Allen, Virginia
 ROADWAY ENGINEER

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	6(4)

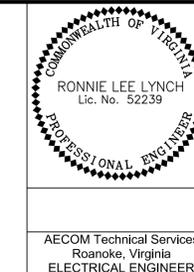
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



- ① TYPE B,CL. I THERMO, 4" YELLOW PVMR MRKG
- ② TYPE B,CL. I THERMO, 4" WHITE PVMR MRKG
- ③ TYPE B,CL. I THERMO, 6" WHITE PVMR MRKG
- ④ TYPE B,CLASS II, 24" WHITE PVMR MRKG (SPACED 12' O.C.)
- ⑤ TYPE B,CL. I THERMO, WHITE YIELD PVMR MRKG (2' x 3' TRIANGLES)
- ⑥ TYPE B,CL. I THERMO, 12" WHITE PVMR MRKG (2' LINE, 2' SPACING)
- ⑦ TYPE B,CLASS II, 24" WHITE CROSSWALK PVMR MRKG (SPACED 4' O.C.)
- ⑧ TYPE B,CLASS II, 24" WHITE PVMR MRKG
- ⑨ TYPE B,CLASS II, WHITE PVMR SYMB MRKG SGL TURN ARROW
- ⑩ TYPE B,CL. I THERMO, 4" WHITE PVMR MRKG (2' LINE, 6' SPACING)
- ⑪ TYPE B,CL. I THERMO, 4" WHITE PVMR MRKG (10' LINE, 30' SPACING)

REFERENCES (PLAN AND DETAIL SHEETS)		TRAFFIC CONTROL DEVICE PLANS PAVEMENT MARKING & SIGNING PLAN	
Roadway Plan Sheet(s)	5	WEST LABURNUM AVENUE CITY OF RICHMOND	
SCALE 0 25' 50'		PROJECT U000-127-969	SHEET NO. 6(4)

PROJECT MANAGER *Anthony Haverly, P.E. (804) 524-2356 (Richmond District)*
 SURVEYED BY, DATE *David Burch, L.S. (804) 524-6157 (Richmond District)*
 DESIGN BY *Matthew A. Timm, P.E. (804) 515-8453 (AECOM)*
 SUBSURFACE UTILITY BY, DATE *Accurmark, Inc. 10/26/16*



REVISED	STATE		PROJECT	SHEET NO.
	VA.	ROUTE		
		197	U000-127-969, C501	7(1)

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

AECOM Technical Services
Roanoke, Virginia
ELECTRICAL ENGINEER

INDEX OF SHEETS

Sheet No.	Sheet Description
7(1)	General Notes, Legend & Index of Sheets
7(2)	Summary of Quantities
7(2A)	Lighting Details
7(2B)	Lighting Details
7(3)	Lighting Plan

GENERAL NOTES - LIGHTING

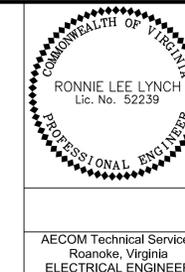
- Lighting Pole Foundation depths and above ground foundation projection/reveal (if needed) shall be determined by the Contractor in accordance with the current Road & Bridge Standards. Lighting poles and foundations shall be in accordance with the current Road & Bridge Standards. The pole supplier shall provide a bolt template for the foundation, which shall be centered in the foundation.
- Lighting pole foundations may be field adjusted no more than 2' in any direction from the plan locations, provided that the revised foundation locations: Remain out of the clear zone and pavement sections. Remain within the right of way or propose easement. Does not conflict with utilities. Does not conflict with vehicle or pedestrians travel way. Does not limit sight distance. Does not affect drainage. Allow the lighting pole foundations to be adjusted with the same alignment with the designated location shown on the plans, and is in accordance with the Lighting Pole Foundation Installation Details. If further adjustment is needed, the Project Inspector shall contact the Design Engineer on the plans. All modifications to the lighting pole placement more than 2' shall be approved by the engineer and shown on the as-built plans. All poles shall be field staked by the Contractor and inspected by the Engineer and Contractor per the specifications prior to installation of foundations.
- Junction boxes may be relocated in the field as necessary provided they remain within the right of way, do not conflict with utilities and remain outside the pavement section.
- All underground and overhead utilities shown on these plans are approximate only and may not be complete. At least 72 hours prior to beginning roadway lighting work, the Contractor shall contact "Miss Utility of Virginia" at 1-800-552-7001 in order to determine the extent, location, and identify all of the utilities within the work area. If the Contractor perceives a conflict between utilities and the proposed lighting equipment, the Contractor shall notify the Engineer immediately so that the conflict may be reviewed. The Contractor shall be responsible for repairing or replacing at their own expense, any existing utilities, pavement, concrete items, etc. that are damaged or disturbed during construction.
- Conduits shown on these plans are diagrammatic and actual conduit runs shall be modified as field conditions warrant. All modifications to the conduit runs shall be approved by the engineer and shown on the as-built plans. Conduit systems shall be bonded in accordance with Section 700 of the Road & Bridge Specifications.
- All equipment is to be installed within the existing or proposed R/W or easement.
- All roadway lighting standards shall include breakaway base unless otherwise noted on the plans.
- Roadway luminaires supplied for this project shall be LED.
- All underground PVC conduits shall be insulated in accordance with Standard ECI-1 and ECI-2. See conduit and wire schedule for conduit type.
- Conduits shall be installed with large radius offsets (5' minimum radius) to bypass drainage inlets, manholes, and other obstructions.
- All underground conduits shall be sloped to drain to junction boxes or manholes. If this cannot be accomplished, they shall be provided with drainage tees at the low points of conduit runs.
- Ground rods shall not have a resistance to ground of more than 25 ohms in accordance with the requirements of Section 700 of the Specifications. The contractor shall provide the engineer with a report of electrical resistance measured between the ground rod and ground.
- Ground rods shall be connected to the ground wire utilizing an exothermic weld. All cost for this item shall be included in the bid price for other items. No separate measurement will be made.
- The contractor shall be responsible to return all disturbed areas, landscaping (trees, shrubs, flowers, etc.), and fencing to their original state at the completion of all work. Disturbed areas shall be seeded in accordance with Section 603 and planted in accordance with Section 605 of the Specifications. All cost for this item shall be included in the price bid for other bid items. No separate measurement will be made.

PLAN ITEM	PLAN SYMBOL		PLAN ITEM	PLAN SYMBOL		LIGHTING LABELS
	PROPOSED	EXISTING		PROPOSED	EXISTING	
Roadway Luminaire			Light Pole			<p>Proposed Lighting</p> <p>Denotes Location of Light Pole in reference to Baseline</p> <p>Station, Offset Const. @ Type, 120W- 0'- 30'</p> <p>Denotes Luminaire Type, Wattage, Arm Length, Mounting Height.</p>
Underbridge Luminaire			Light Pole Foundation			
			Breakaway Base (LP-1 & LP-2)			
			Lighting Control Center, Type			
			Junction Box			
			Electrical Service			
			Conduit			
			Luminaire Arm			
LABELS						
			Cable and Conduit			

TRAFFIC CONTROL DEVICE PLANS
 ROADWAY LIGHTING
 INDEX OF SHEETS, GENERAL NOTES &
 LEGEND(S)
 CITY OF RICHMOND

PROJECT U000-127-969	SHEET NO. 7(1)
-------------------------	-------------------

PROJECT MANAGER *Anthony Haverly, P.E. (804) 524-2356 (Richmond District)*
 SURVEYED BY, DATE *David Burch, L.S. (804) 524-6157 (Richmond District)*
 DESIGN BY *Matthew A. Timm, P.E. (804) 515-8453 (AECOM)*
 SUBSURFACE UTILITY BY, DATE *Accurmark, Inc. 10/26/16*



REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	7(1)

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

AECOM Technical Services
Roanoke, Virginia
ELECTRICAL ENGINEER

INDEX OF SHEETS

Sheet No.	Sheet Description
7(1)	General Notes, Legend & Index of Sheets
7(2)	Summary of Quantities
7(2A)	Lighting Details
7(2B)	Lighting Details
7(3)	Lighting Plan

GENERAL NOTES - LIGHTING

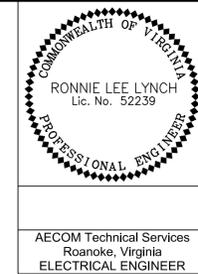
- Lighting Pole Foundation depths and above ground foundation projection/reveal (if needed) shall be determined by the Contractor in accordance with the current Road & Bridge Standards. Lighting poles and foundations shall be in accordance with the current Road & Bridge Standards. The pole supplier shall provide a bolt template for the foundation, which shall be centered in the foundation.
- Lighting pole foundations may be field adjusted no more than 2' in any direction from the plan locations, provided that the revised foundation locations: Remain out of the clear zone and pavement sections. Remain within the right of way or propose easement. Does not conflict with utilities. Does not conflict with vehicle or pedestrians travel way. Does not limit sight distance. Does not affect drainage. Allow the lighting pole foundations to be adjusted with the same alignment with the designated location shown on the plans, and is in accordance with the Lighting Pole Foundation Installation Details. If further adjustment is needed, the Project Inspector shall contact the Design Engineer on the plans. All modifications to the lighting pole placement more than 2' shall be approved by the engineer and shown on the as-built plans. All poles shall be field staked by the Contractor and inspected by the Engineer and Contractor per the specifications prior to installation of foundations.
- Junction boxes may be relocated in the field as necessary provided they remain within the right of way, do not conflict with utilities and remain outside the pavement section.
- All underground and overhead utilities shown on these plans are approximate only and may not be complete. At least 72 hours prior to beginning roadway lighting work, the Contractor shall contact "Miss Utility of Virginia" at 1-800-552-7001 in order to determine the extent, location, and identify all of the utilities within the work area. If the Contractor perceives a conflict between utilities and the proposed lighting equipment, the Contractor shall notify the Engineer immediately so that the conflict may be reviewed. The Contractor shall be responsible for repairing or replacing at their own expense, any existing utilities, pavement, concrete items, etc. that are damaged or disturbed during construction.
- Conduits shown on these plans are diagrammatic and actual conduit runs shall be modified as field conditions warrant. All modifications to the conduit runs shall be approved by the engineer and shown on the as-built plans. Conduit systems shall be bonded in accordance with Section 700 of the Road & Bridge Specifications.
- All equipment is to be installed within the existing or proposed R/W or easement.
- All roadway lighting standards shall include breakaway base unless otherwise noted on the plans.
- Roadway luminaires supplied for this project shall be LED.
- All underground PVC conduits shall be insulated in accordance with Standard ECI-1 and ECI-2. See conduit and wire schedule for conduit type.
- Conduits shall be installed with large radius offsets (5' minimum radius) to bypass drainage inlets, manholes, and other obstructions.
- All underground conduits shall be sloped to drain to junction boxes or manholes. If this cannot be accomplished, they shall be provided with drainage tees at the low points of conduit runs.
- Ground rods shall not have a resistance to ground of more than 25 ohms in accordance with the requirements of Section 700 of the Specifications. The contractor shall provide the engineer with a report of electrical resistance measured between the ground rod and ground.
- Ground rods shall be connected to the ground wire utilizing an exothermic weld. All cost for this item shall be included in the bid price for other items. No separate measurement will be made.
- The contractor shall be responsible to return all disturbed areas, landscaping (trees, shrubs, flowers, etc.), and fencing to their original state at the completion of all work. Disturbed areas shall be seeded in accordance with Section 603 and planted in accordance with Section 605 of the Specifications. All cost for this item shall be included in the price bid for other bid items. No separate measurement will be made.

PLAN ITEM	PLAN SYMBOL		PLAN ITEM	PLAN SYMBOL		LIGHTING LABELS
	PROPOSED	EXISTING		PROPOSED	EXISTING	
Roadway Luminaire			Light Pole			<p>Proposed Lighting</p> <p>Denotes Location of Light Pole in reference to Baseline</p> <p>Station, Offset Const. @ Type, 120W- 0'- 30'</p> <p>Denotes Luminaire Type, Wattage, Arm Length, Mounting Height.</p>
Underbridge Luminaire			Light Pole Foundation			
			Breakaway Base (LP-1 & LP-2)			
			Lighting Control Center, Type			
			Junction Box			
			Electrical Service			
			Conduit			
			Luminaire Arm			
LABELS						
			Cable and Conduit			

TRAFFIC CONTROL DEVICE PLANS
 ROADWAY LIGHTING
 INDEX OF SHEETS, GENERAL NOTES &
 LEGEND(S)
 CITY OF RICHMOND

PROJECT U000-127-969	SHEET NO. 7(1)
-------------------------	-------------------

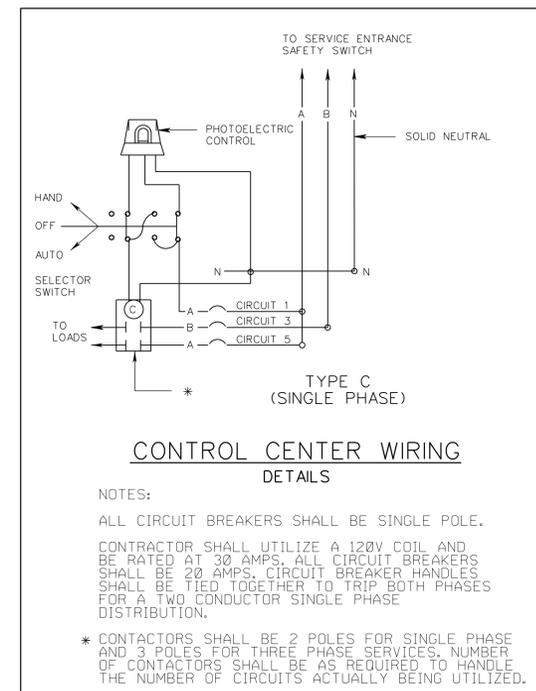
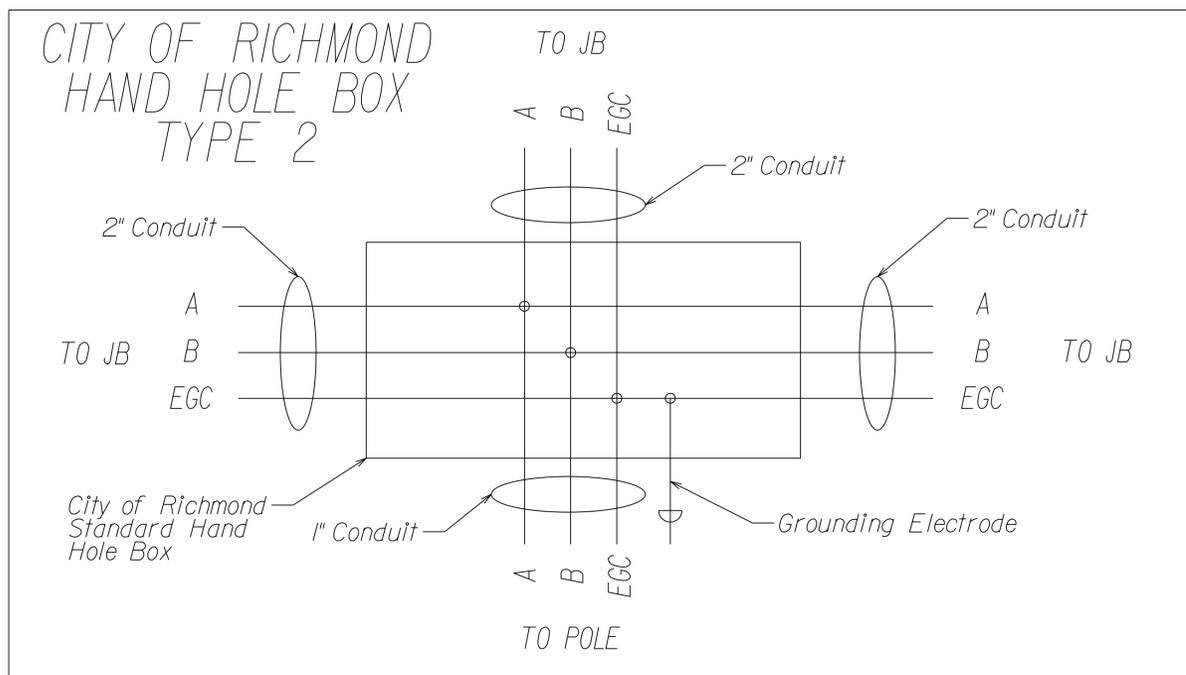
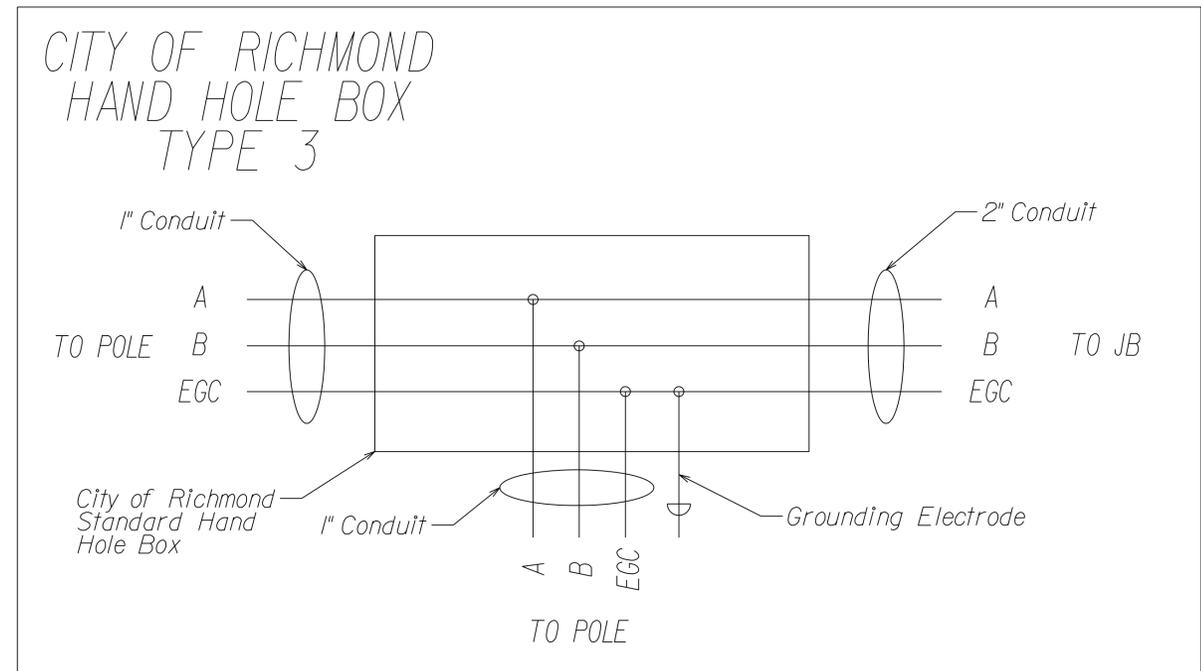
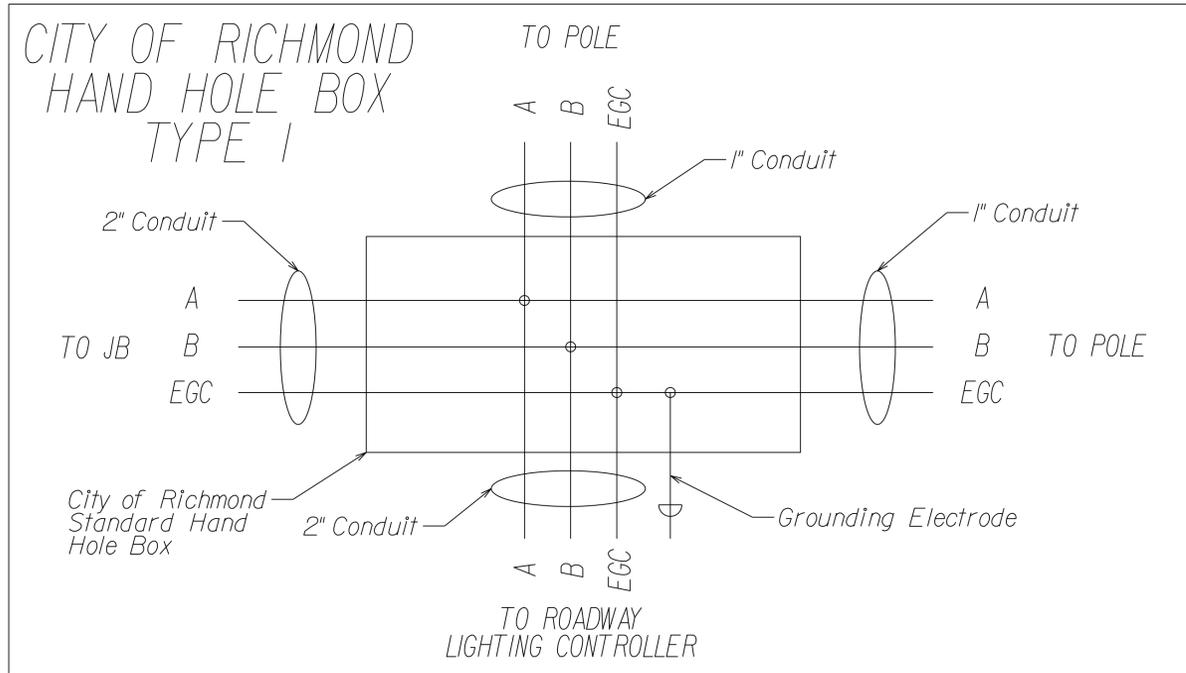
PROJECT MANAGER: *Anthony Haverly, P.E. (804) 524-2356 (Richmond District)*
 SURVEYED BY, DATE: *David Burch, L.S. (804) 524-6157 (Richmond District)*
 DESIGN BY: *Matthew AJimm, P.E. (804) 515-8453 (AECOM)*
 SUBSURFACE UTILITY BY, DATE: *Accurmark, Inc. 10/26/16*



REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	7(2B)

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

AECOM Technical Services
Roanoke, Virginia
ELECTRICAL ENGINEER



**TRAFFIC CONTROL DEVICE PLANS
ROADWAY LIGHTING DETAILS**

PROJECT MANAGER: *Anthony Haverly, P.E.* (804) 524-2356 (Richmond District)
 SURVEYED BY, DATE: *David Burch, L.S.* (804) 524-6157 (Richmond District)
 DESIGN BY: *Matthew A. Timm, P.E.* (804) 515-8453 (AECOM)
 SUBSURFACE UTILITY BY, DATE: *Accurmark, Inc.* 10/26/16

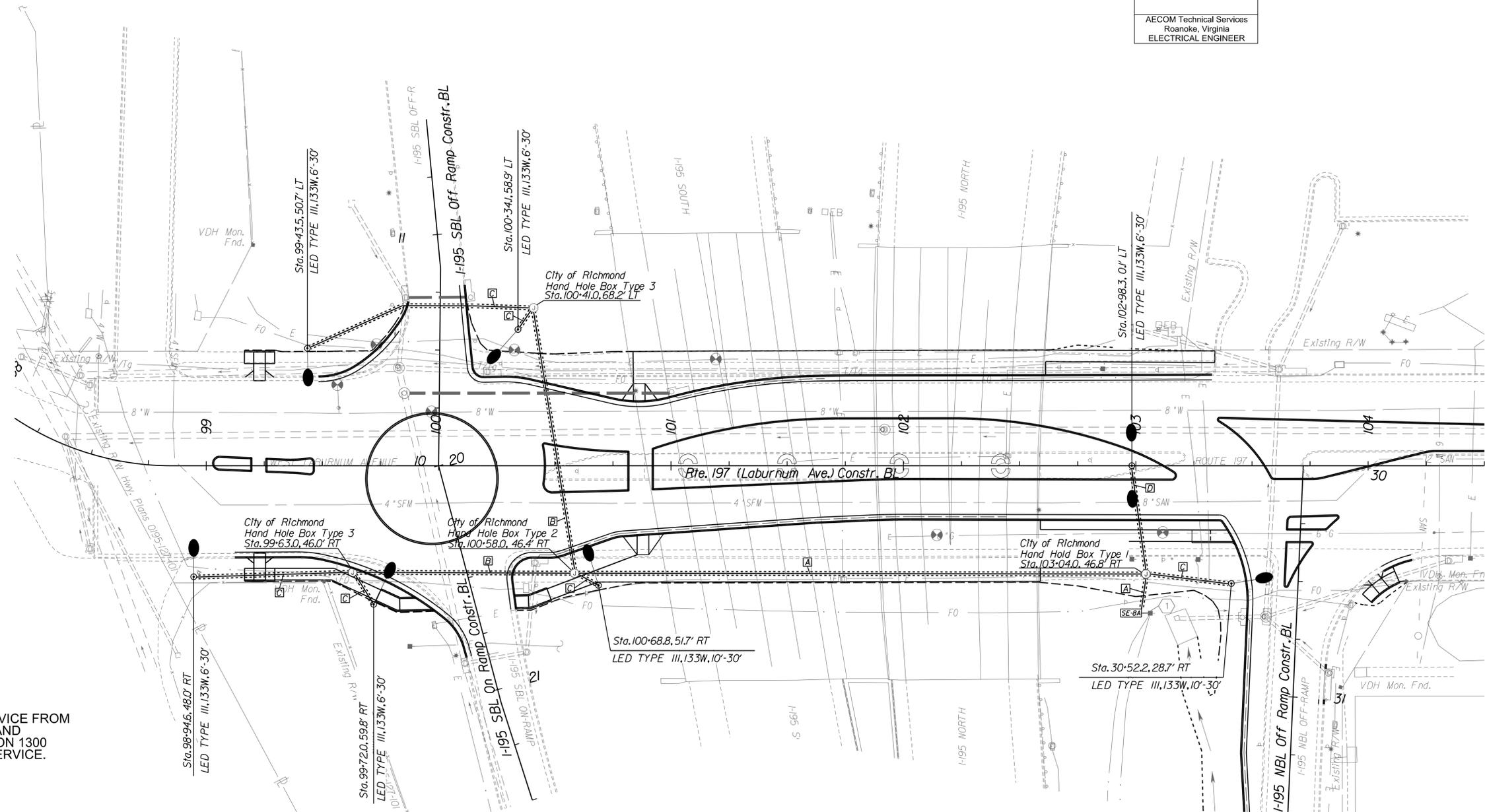
LIGHTING PLAN



REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	197	U000-127-969, C501	7(3)

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

AECOM Technical Services
Roanoke, Virginia
ELECTRICAL ENGINEER



SHEET KEYNOTES:

- CONNECT ELECTRICAL SERVICE FROM THIS POLE TO VDOT ROAD AND BRIDGE STANDARDS SECTION 1300 SE-8 TYPE A ELECTRICAL SERVICE.

CONDUIT AND WIRE SCHEDULE								NOTES
CONDUIT ID	CONDUIT TYPE	CONDUIT SIZE	CONDUIT MATERIAL	CONDUIT NO.	CONDUCTORS			
					#8	#10	#8 EGC	
A	SCHEDULE 40	2"	PVC	1	1	2	1	
B	SCHEDULE 40	2"	HDPE	1	1	2	1	DIRECTIONAL BORE
C	SCHEDULE 40	1"	PVC	1	1	2	1	FROM JUNCTION BOX TO POLE FIXTURE
D	SCHEDULE 40	1"	HDPE	1	1	2	1	FROM JUNCTION BOX TO POLE FIXTURE. DIRECTIONAL BORE

NOTES:
 1. ALL CONDUCTORS ARE THWN COPPER.
 2. PROVIDE PULL CORD IN EMPTY CONDUITS.

REFERENCES (PLAN AND DETAIL SHEETS)	
Roadway Plan Sheet(s)	3

**TRAFFIC CONTROL DEVICE PLANS
ROADWAY LIGHTING**

WEST LABURNUM AVENUE
CITY OF RICHMOND

SCALE 0 25' 50'	PROJECT U000-127-969	SHEET NO. 7(3)
--------------------	-------------------------	-------------------