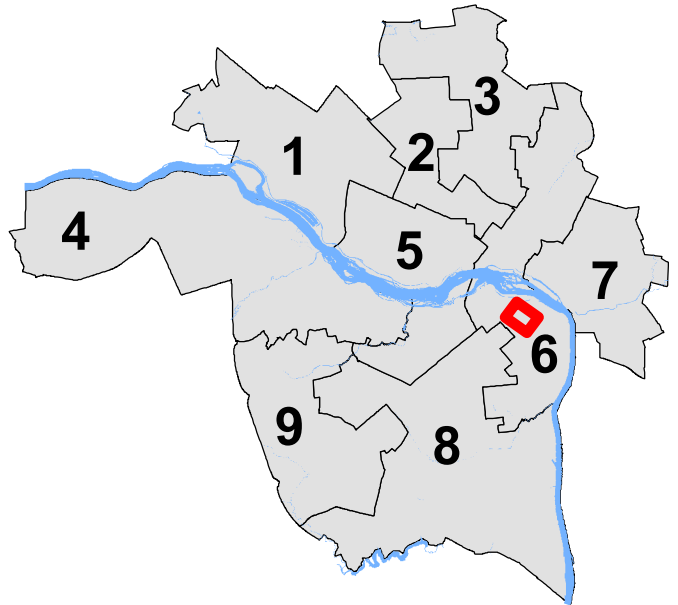




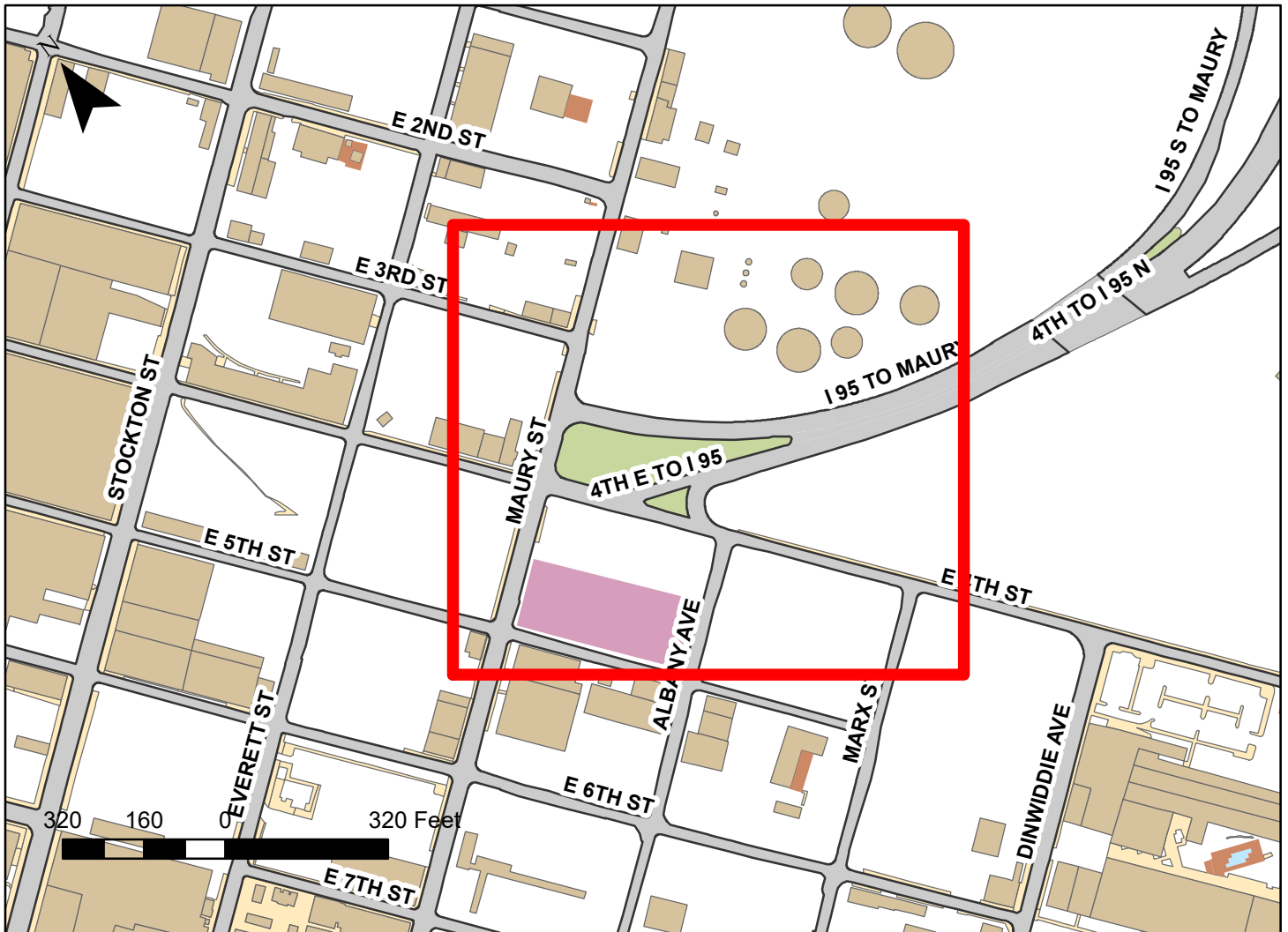
# City of Richmond Department of Planning & Development Review

## Location, Character, and Extent

**LOCATION:** E. 4th St. and Maury St.  
**COUNCIL DISTRICT:** 6  
**PROPOSAL:** Final location, character, and extent review of traffic operation and safety improvements at Maury Street and I-95 interchange.



For questions, please contact Josh Son  
at 646-3741 or [joshua.son@richmondgov.com](mailto: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](http://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

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Planning & Preservation Division  
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## 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  
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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
<b>December 6, 2018</b>	December 17, 2018
<b>January 10, 2019</b>	January 22, 2019 <sup>1</sup>
<b>February 7, 2019</b>	February 19, 2019 <sup>2</sup>
<b>March 7, 2019</b>	March 18, 2019
<b>April 4, 2019</b>	April 15, 2019
<b>May 9, 2019</b>	May 20, 2019
<b>June 6, 2019</b>	June 17, 2019
<b>July 3, 2019**</b>	July 15, 2019
<b>August 8, 2019</b>	August 19, 2019 <sup>3</sup>
<b>September 5, 2019</b>	September 16, 2019
<b>October 10, 2019</b>	October 21, 2019
<b>November 7, 2019</b>	November 18, 2019
<b>December 5, 2019</b>	December 16, 2019

<sup>1</sup> Monday, January 21, 2019 is a City of Richmond Holiday.

<sup>2</sup> Monday, February 18, 2019 is a City of Richmond Holiday.

<sup>3</sup> 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](mailto:joshua.son@richmondgov.com).**



Date: February 11, 2020

# **I-95 at Maury Street Interchange Improvement**

## **Virginia Department of Transportation**

### **VDOT UPC # 109321**

\*\*\*\*\*

#### **LOCATION:**

Intersection of I-95 Ramps and Maury Street / 4<sup>th</sup> Street.

#### **ESTIMATED PROJECT COST:**

Based on 90% Plans

- PE           \$1,087,500
- RW           \$1,882,795
- CN           \$6,220,955
- Total        \$9,191,250

#### **FUNDING SOURCE:**

Project fully funded through Smart Scale.

#### **PROJECT SCHEDULE**

Design:	Started Winter 2016
Right-of-Way:	Started Summer 2018
Advertisement for Construction:	Expected July 2020
Completion of Construction:	Expected July 2021

#### **PROJECT DESCRIPTION:**

This project will provide a gateway with improved traffic operation and safety to the historic Manchester Industrial District for all users by constructing a single lane roundabout on Maury Street at the bottoms of the I-95 Ramps. Two existing traffic signals on Maury Street at East 4th Street and at I-95 Off-Ramp will be eliminated. The roundabout is expected to significantly reduce the vehicle queuing during peak hours on both the I-95 Off-Ramp and Maury Street approaches. In addition to the roundabout, the project scope includes pedestrian and bicycle enhancements, lighting, and landscaping. This project involves both right-of-way acquisitions and utility relocations.

The idea of installing a roundabout at this location came up in the "I-95, Maury, and Hull Street Area Transportation Study" for the City of Richmond in 2011. In 2015 the Richmond Regional Transportation Planning Organization RRTPO submitted the "EI-95 and Maury Street Freight Interchange Improvements" 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 FY2017 through Federal and State Smart Scale funds. PE was authorized on October 14, 2016 and all funds will become available in FY2022. The Virginia Department of Transportation (VDOT) is responsible for the project development and construction. No funding is required from the City in this project. Once construction is complete, VDOT will be responsible to maintain the I-95 on and off ramps while the City will maintain the rest.

PROJECT MANAGER <Jason.Zhang (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804) 694-4600 (Consultant)>  
DESIGN BY <Lankford\_Harkins (804) 786-9726 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

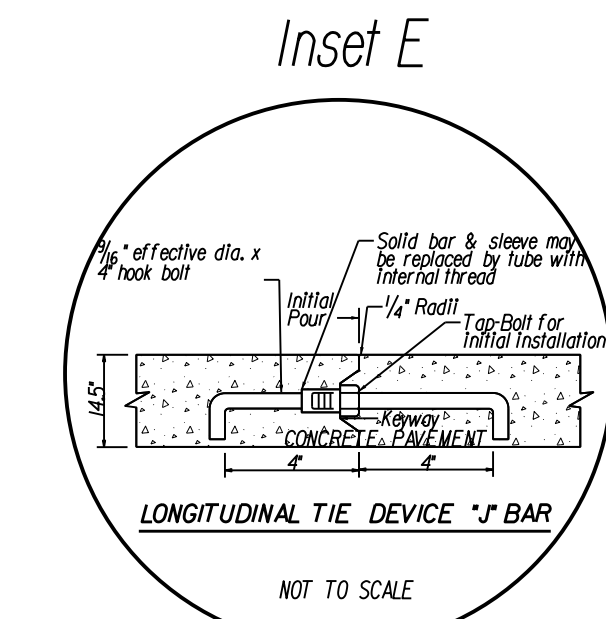
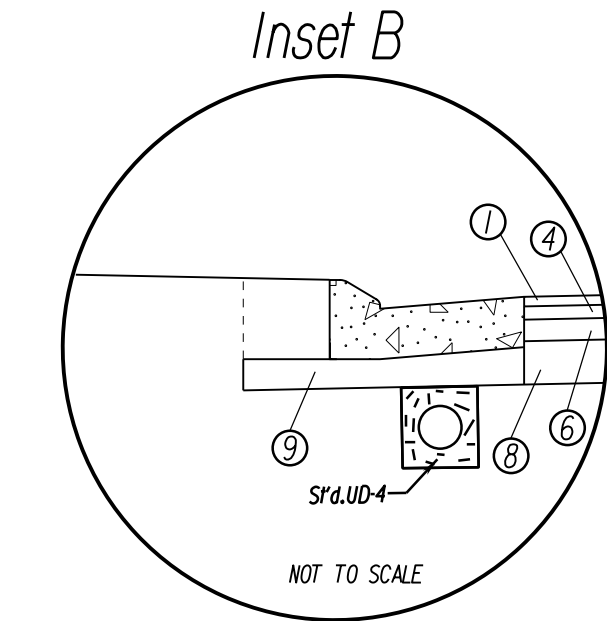
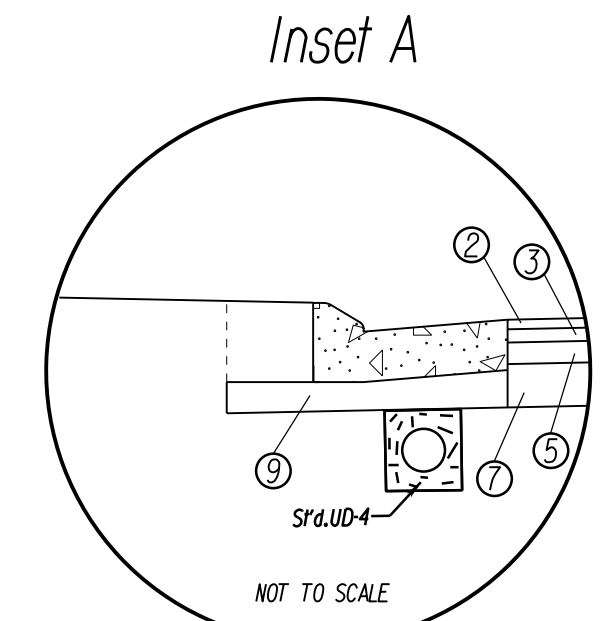
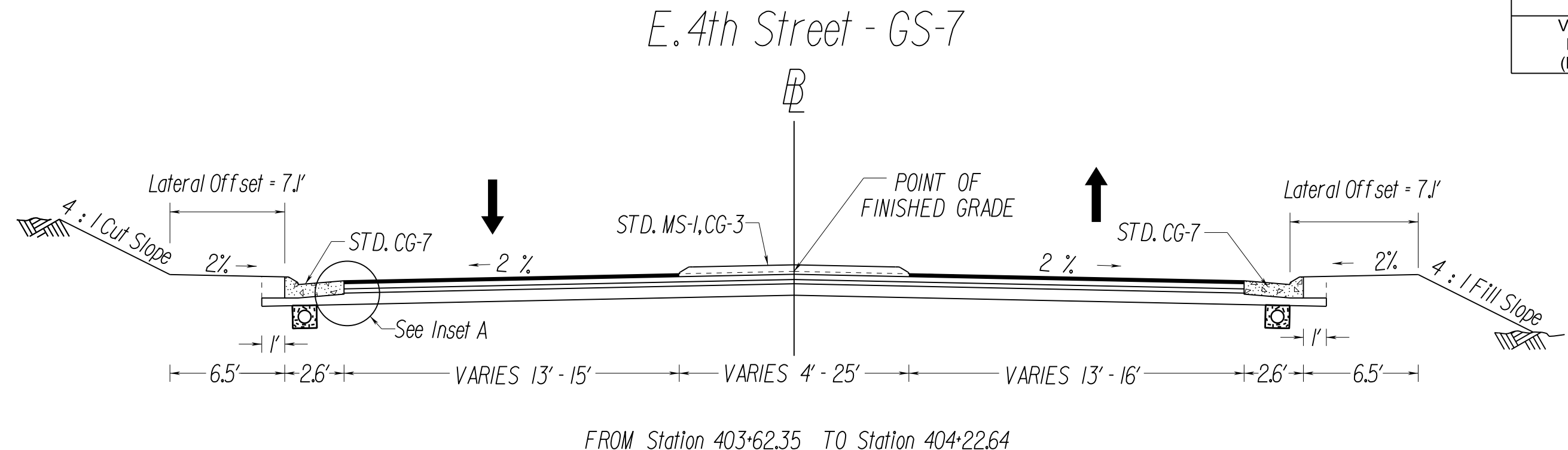
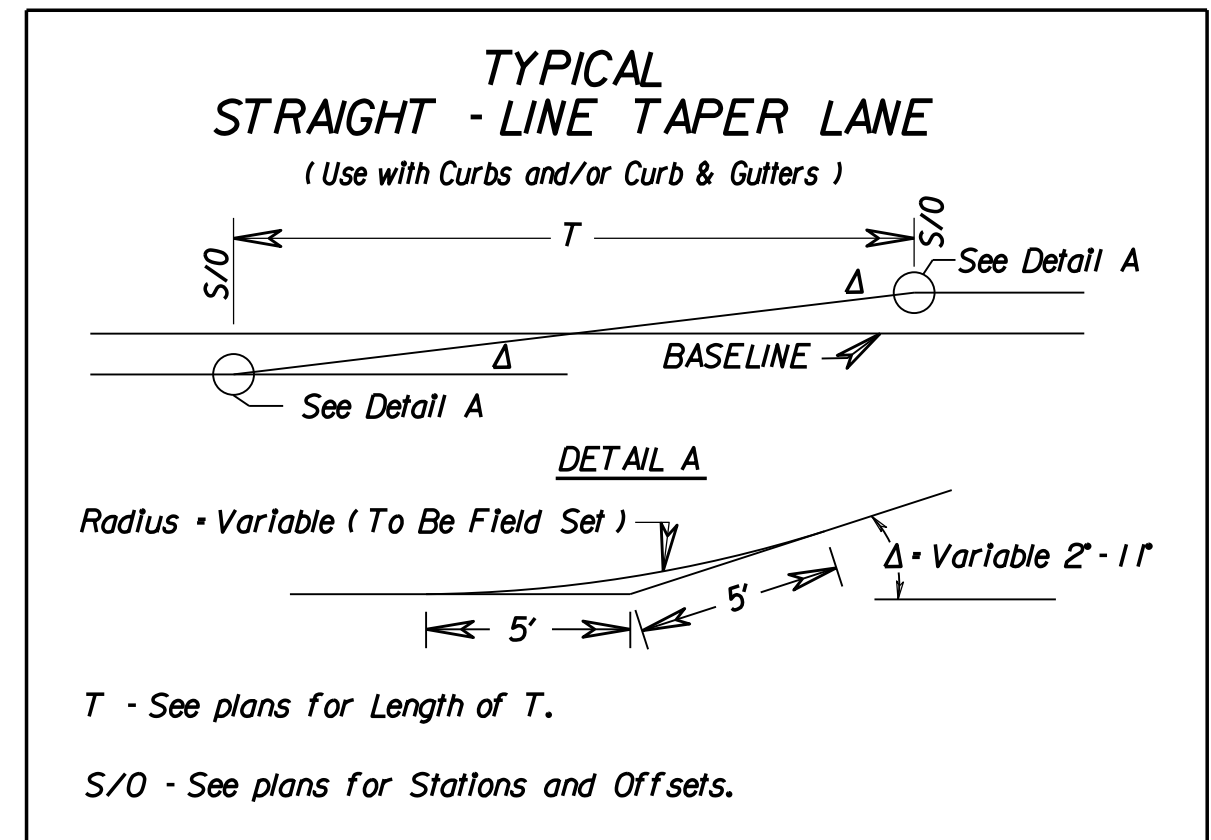
# TYPICAL SECTIONS

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 C-501	2A(1)

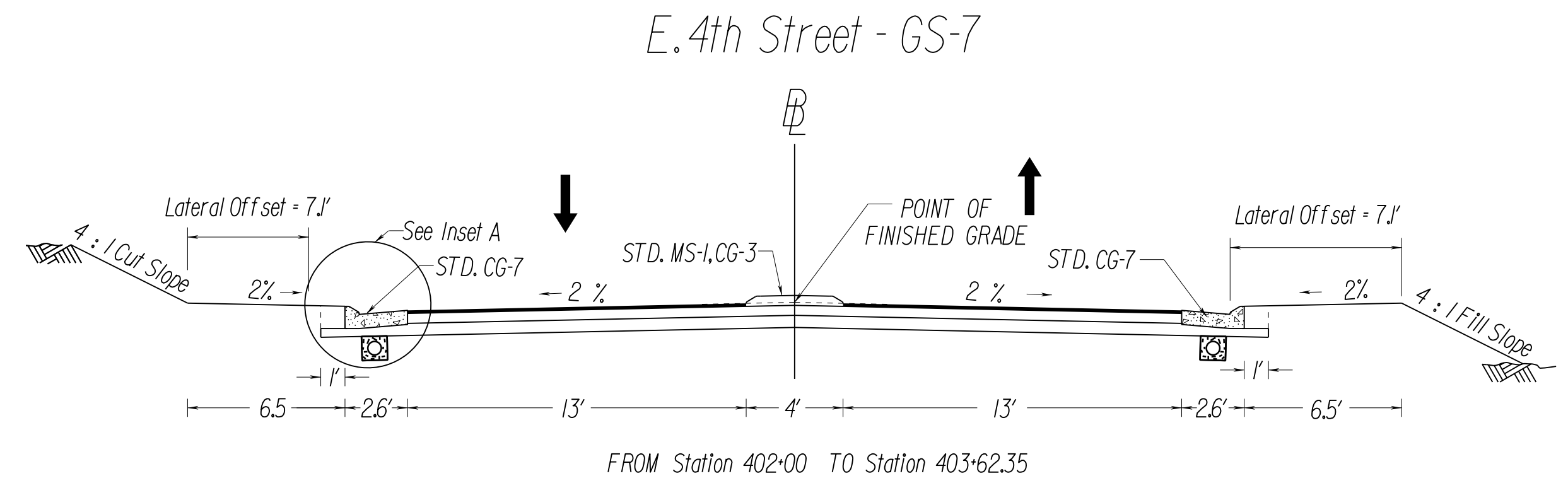
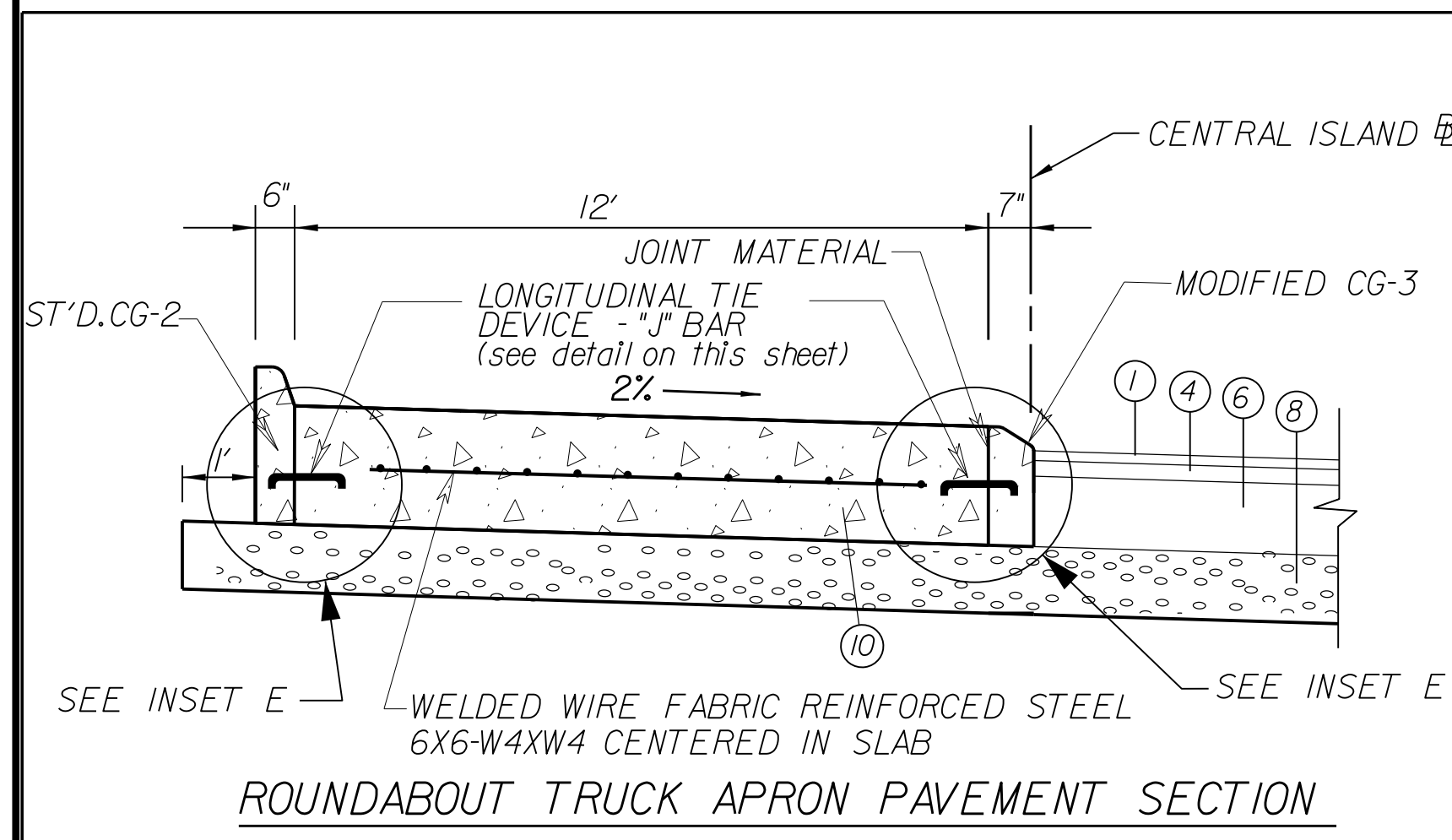
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

VDOT Central Office  
Richmond, Virginia  
(Roadway Engineer)

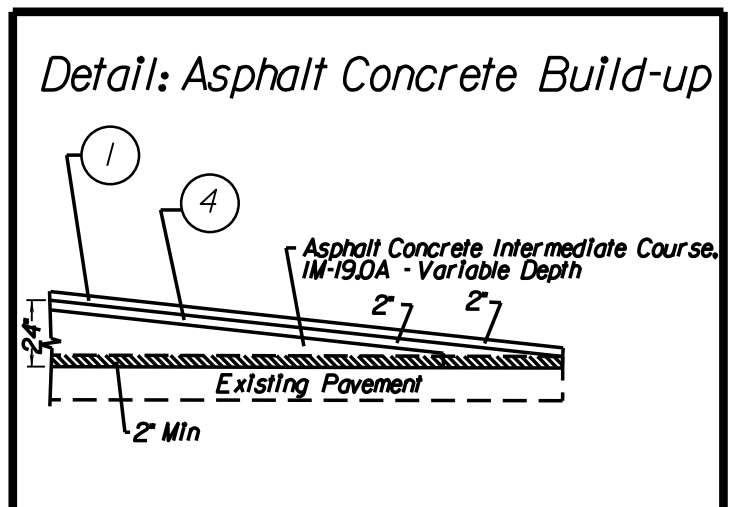
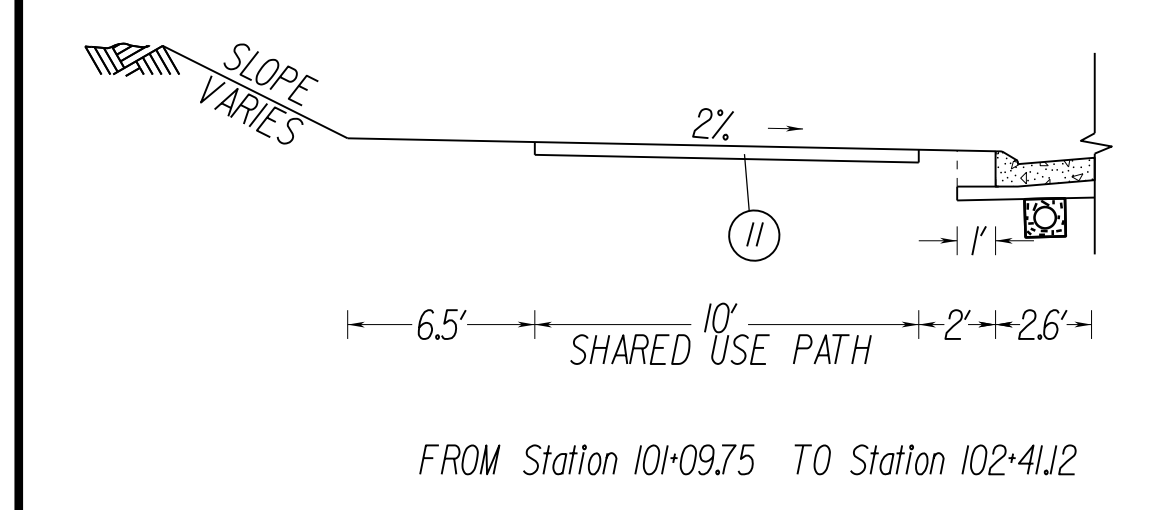
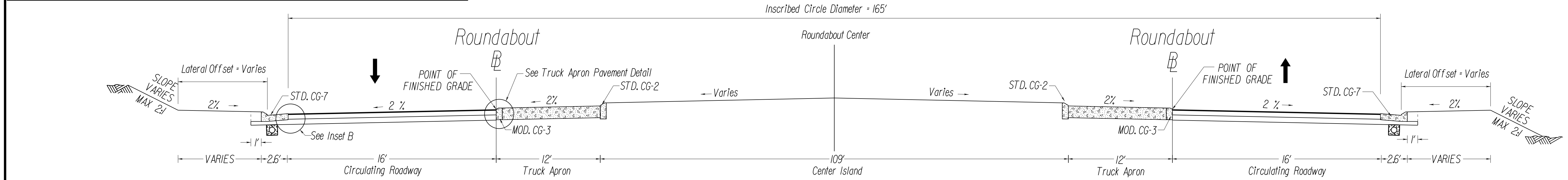
VDOT Central Office  
Richmond, Virginia  
(Materials Engineer)



- 1 Asphalt Concrete Surface Course Type SM-9.5E @ 220 lbs/ Sq.yd
- 2 Asphalt Concrete Surface Course Type SM-9.5A @ 165 lbs/ Sq.yd
- 3 Asphalt Concrete Intermediate Course Type IM-19.0A @ 220 LBS.Sq YD
- 4 Asphalt Concrete Intermediate Course Type IM-19.0D @ 330 LBS.Sq YD
- 5 4" of Asphalt Concrete Base Course Type BM-25.0A
- 6 7" of Asphalt Concrete Base Course Type BM-25.0A
- 7 7" of Aggregate Base Material Type I No. 21B
- 8 12" of Aggregate Base Material Type I No. 21B
- 9 Variable Depth Aggregate Base Material Type I No. 21B
- 10 14.5" Continuously Reinforced Concrete Pavement
- 11 Hydraulic Cement Concrete Sidewalk (4")
- 12 2" Flexible Pavement Planing



NOTES:  
1. CONSTRUCT ROUNDABOUT SHOULDER SLABS AS SHOWN ABOVE.  
NOTE: MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS 22.05'.  
2. EXPANSION JOINTS SHALL CONFORM TO SHEETS 3001.3002 & 3003 OF THE 2016 ROAD AND BRIDGE STANDARDS.  
3. STATIONS AND OFFSETS REFER TO THE CENTRAL ISLAND BASELINE OF CONSTRUCTION.



FROM Station 100+02.59 TO Station 100+42.80  
INSET "F"

**EXISTING PAVEMENT**  
Areas where 2 inches and more of build-up/overlay is required, milling of the existing pavement prior to build-up/overlay is not necessary.

## ROUNDABOUT

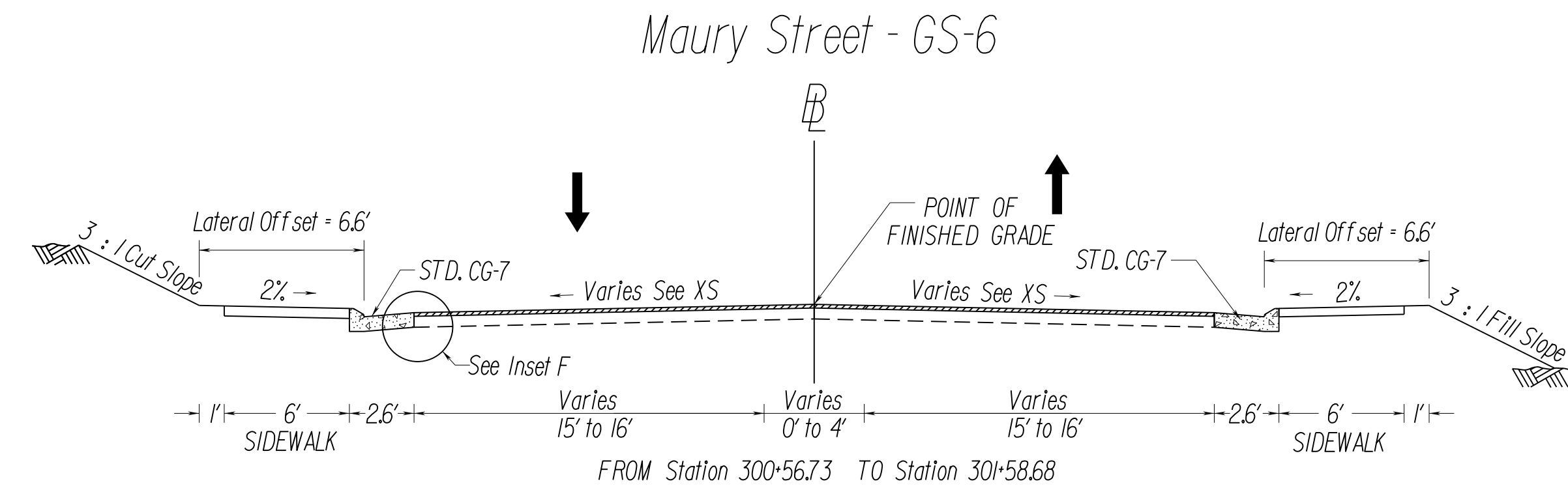
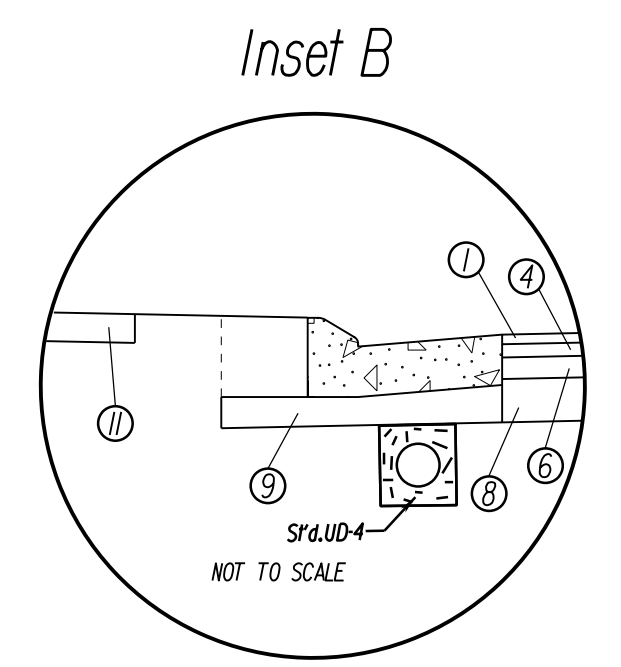
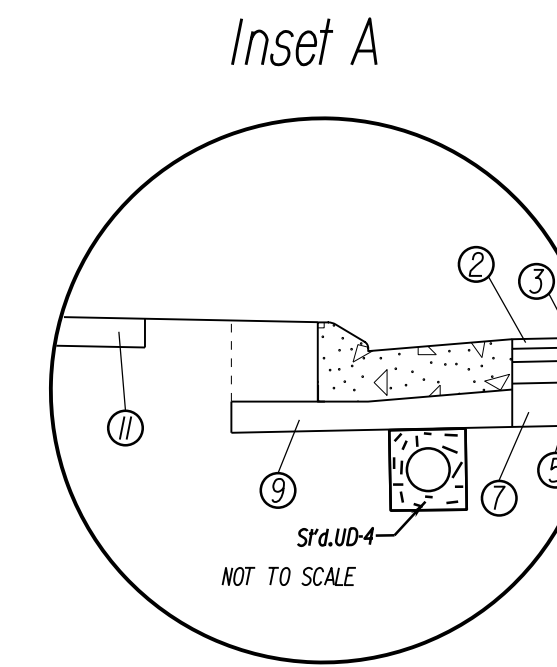
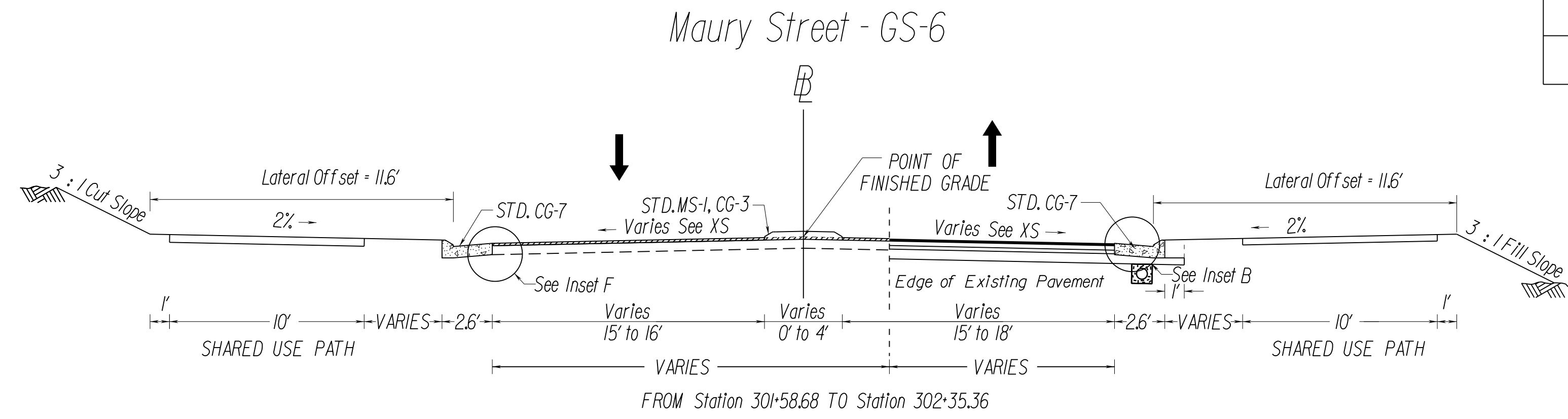
### UNSUITABLE MATERIALS

	Station			
	From		To	
E. 4th Street	403+50.00	Center to Left	404+22.54	Center to Left
Roundabout	100+00.00	RT	100+50.00	RT
Roundabout	103+50.00	RT	104+17.83	RT
Exit 73	200+82.50	LT	201+50.00	LT
Exit 73	202+25.00	LT	204+00.0	LT
Maury Street	304+36.95	RT	305+25.00	RT

PROJECT MANAGER <Jason\_Zhang (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL\_Construction\_Services (804) 644-4600 (Consultant)>  
DESIGN BY <Lankford\_Harkins (804) 786-9726 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

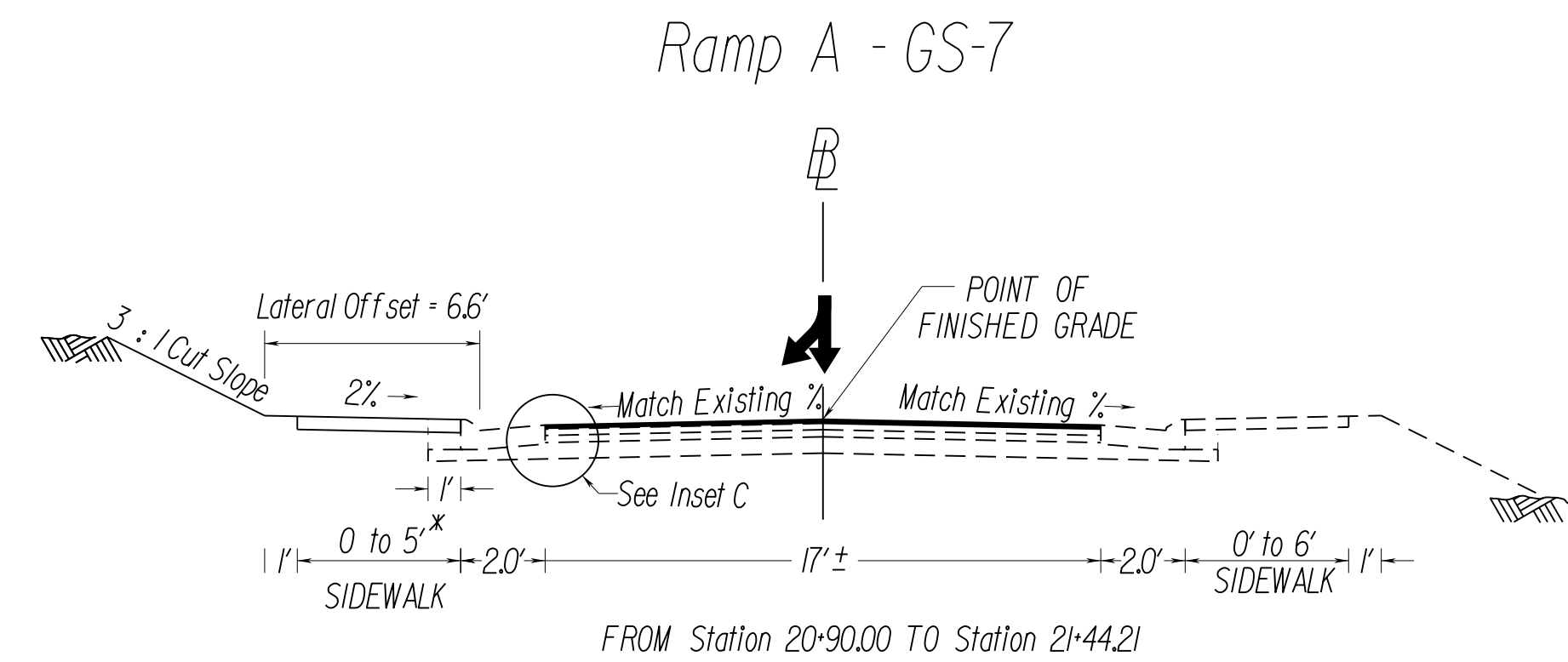
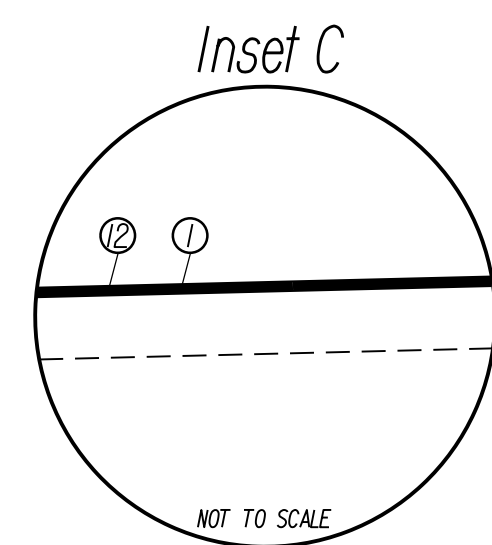
# TYPICAL SECTIONS

REVISED	STATE	STATE		SHEET NO.
	VA.	ROUTE	PROJECT	
		95	0095-127-971 C-501	2A(2)
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Roadway Engineer)		VDOT Central Office Richmond, Virginia (Materials Engineer)		

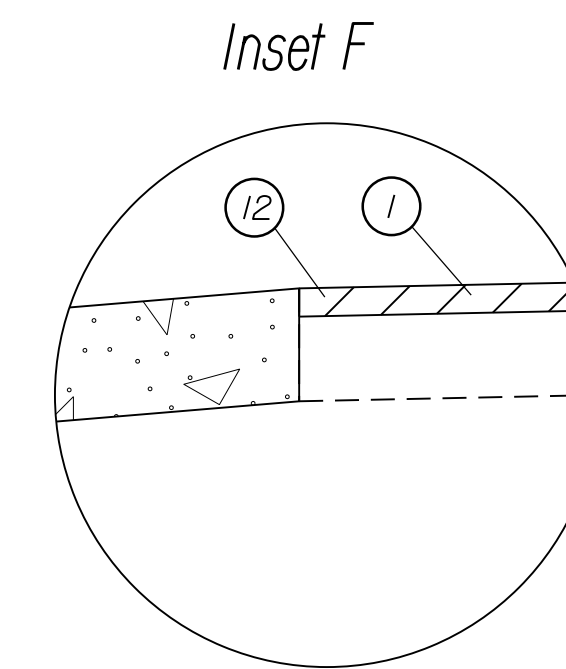
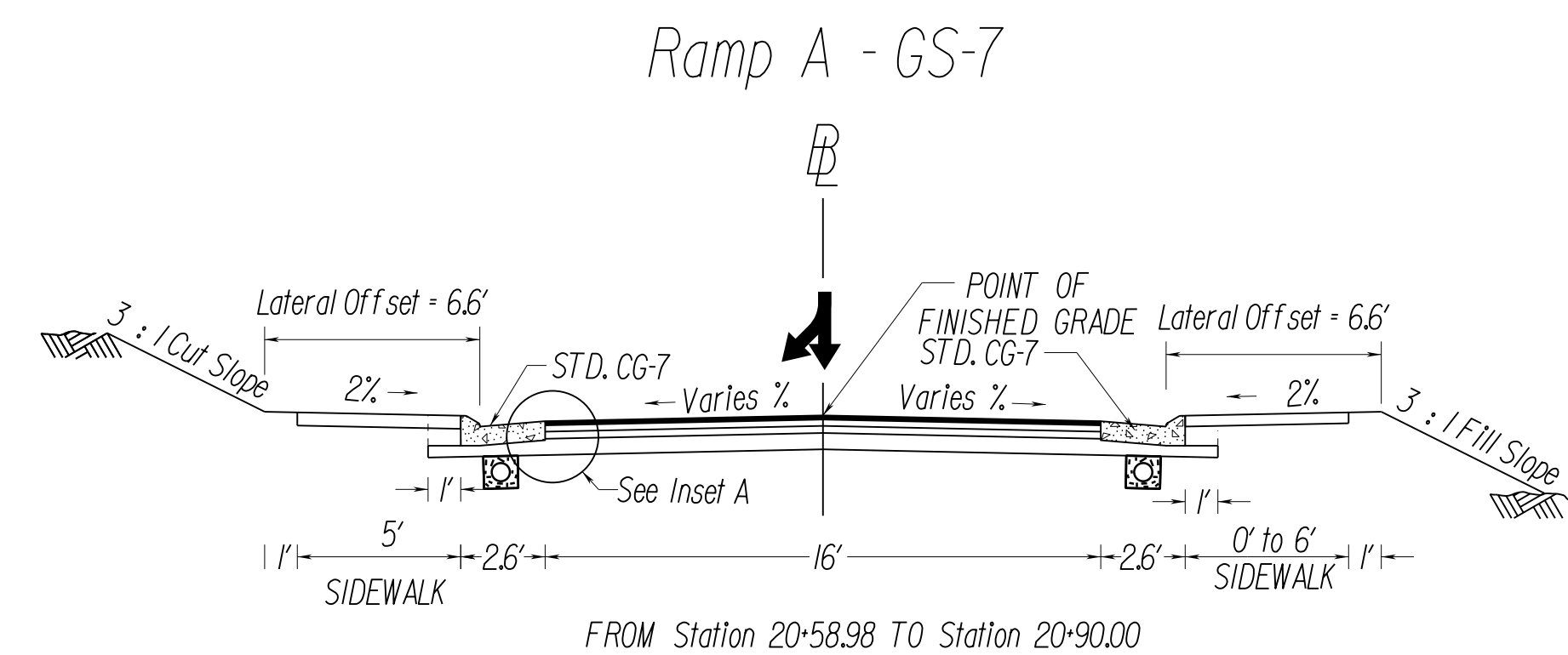


- ① Asphalt Concrete Surface Course Type SM-9.5E @ 220 lbs/ Sq.yd
- ② Asphalt Concrete Surface Course Type SM-9.5A @ 165 lbs/ Sq.yd
- ③ Asphalt Concrete Intermediate Course Type IM-19.0A @ 220 LBS.Sq YD
- ④ Asphalt Concrete Intermediate Course Type IM-19.0D @ 330 LBS.Sq YD
- ⑤ 4" of Asphalt Concrete Base Course Type BM-25.0A
- ⑥ 7" of Asphalt Concrete Base Course Type BM-25.0A
- ⑦ 7" of Aggregate Base Material Type I No. 21B
- ⑧ 12" of Aggregate Base Material Type I No. 21B
- ⑨ Variable Depth Aggregate Base Material Type I No. 21B
- ⑩ 14.5" Continuously Reinforced Concrete Pavement
- ⑪ Hydraulic Cement Concrete Sidewalk (4")
- ⑫ 2" Flexible Pavement Planing

Milling and Overlay  
(Mill Existing Pavement 2" Deep)



\* Sidewalk ends at Sta. 21+00.00

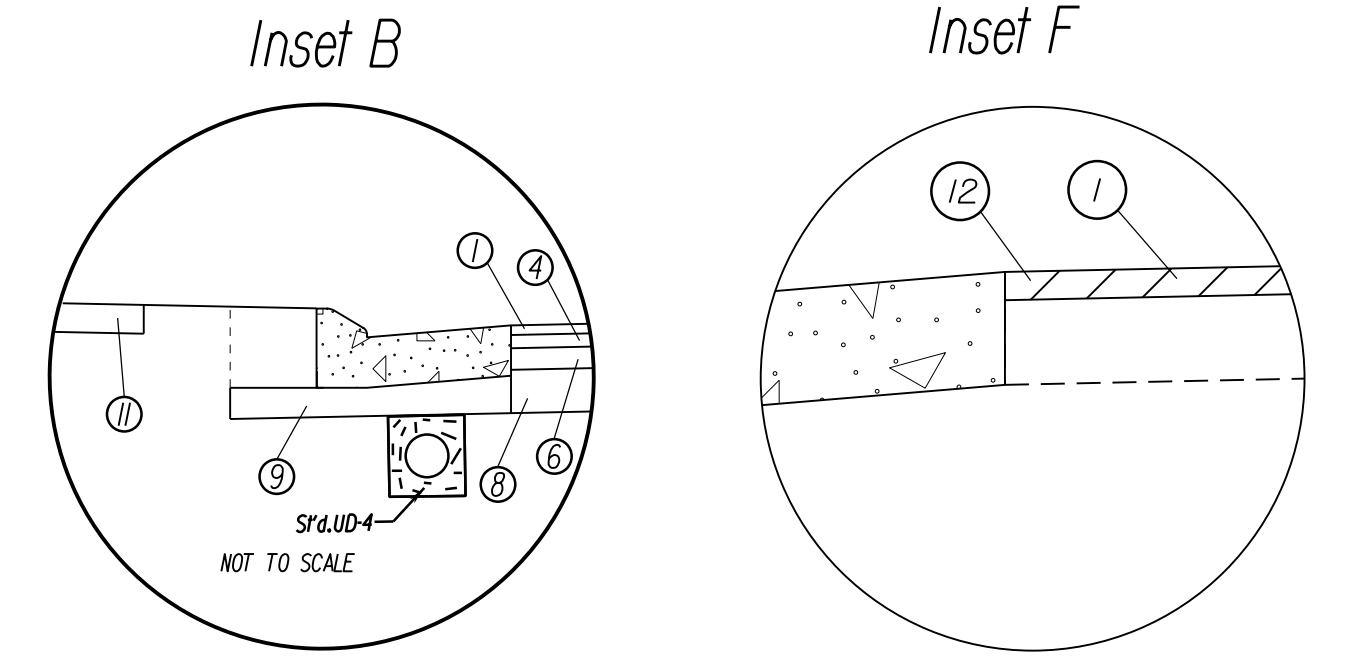
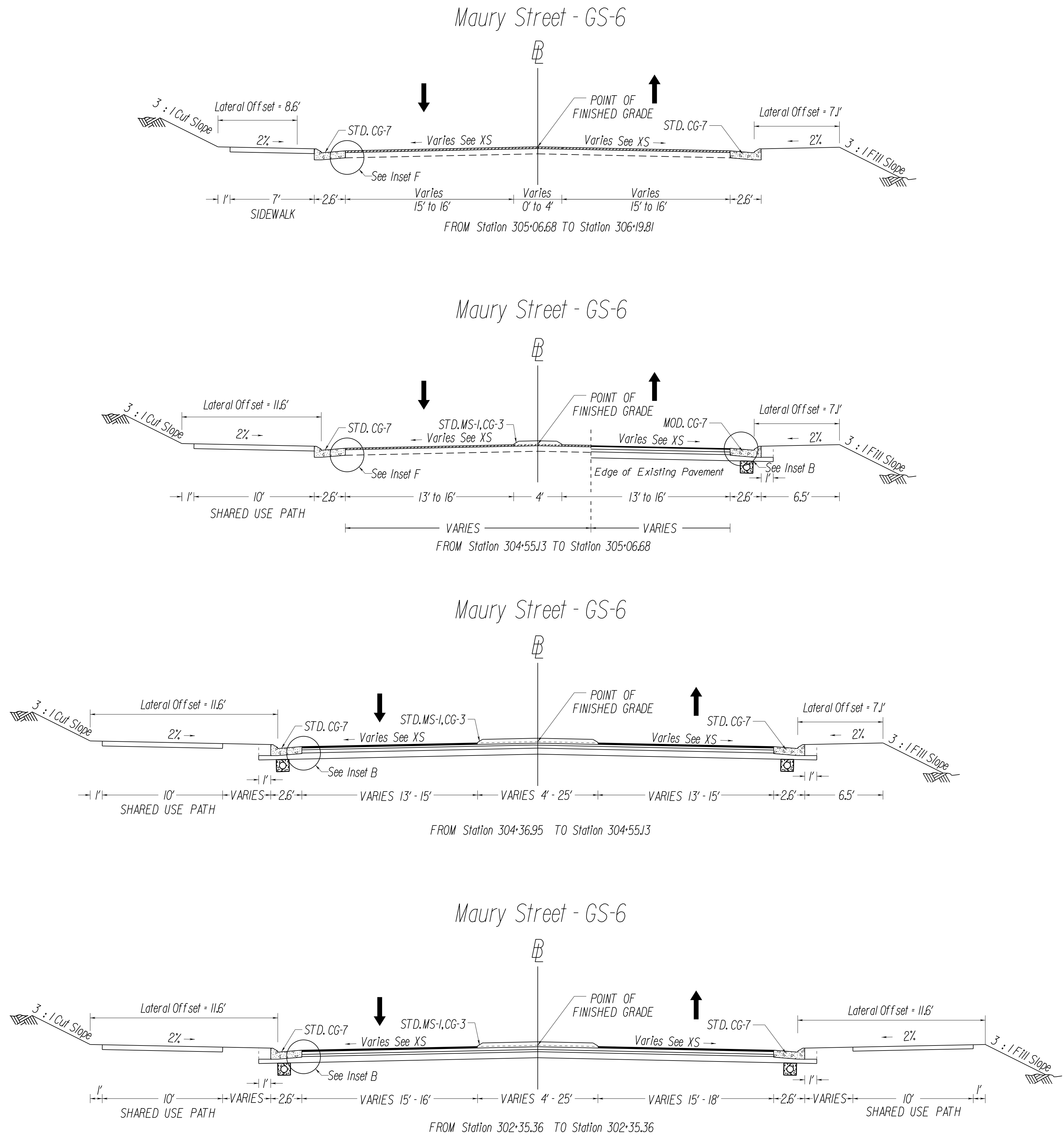


NOT TO SCALE	PROJECT 0095-127-971	SHEET NO. 2A(2)
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PROJECT MANAGER <Jason.Zhang (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804) 644-4600 (Consultant)>  
DESIGN BY <Lankford\_Harkins (804) 786-9726 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

# TYPICAL SECTIONS

REVISED	STATE	STATE		SHEET NO.
		ROUTE	PROJECT	
	VA.	95	0095-127-971 C-501	2A(3)
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Roadway Engineer)		VDOT Central Office Richmond, Virginia (Materials Engineer)		



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- ⑪ Hydraulic Cement Concrete Sidewalk (4")
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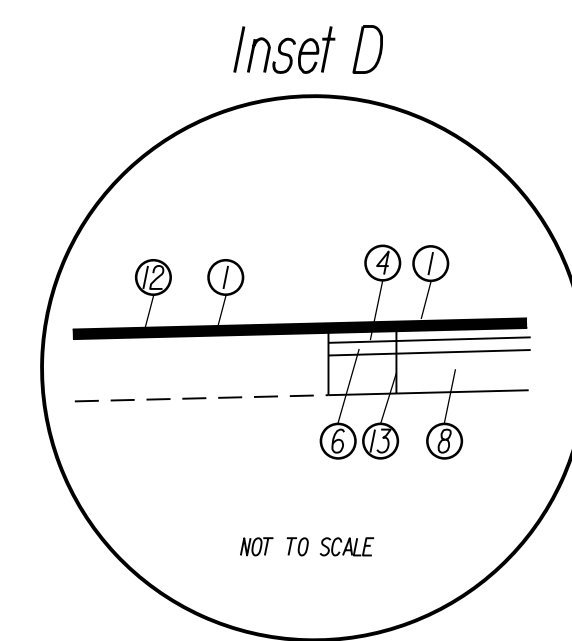
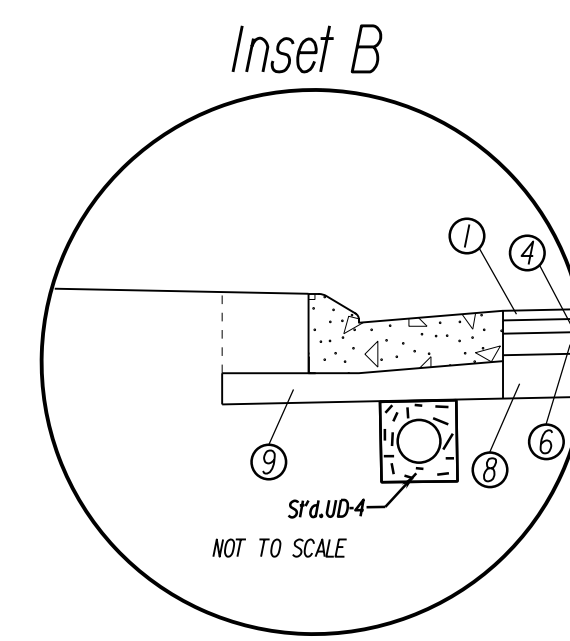
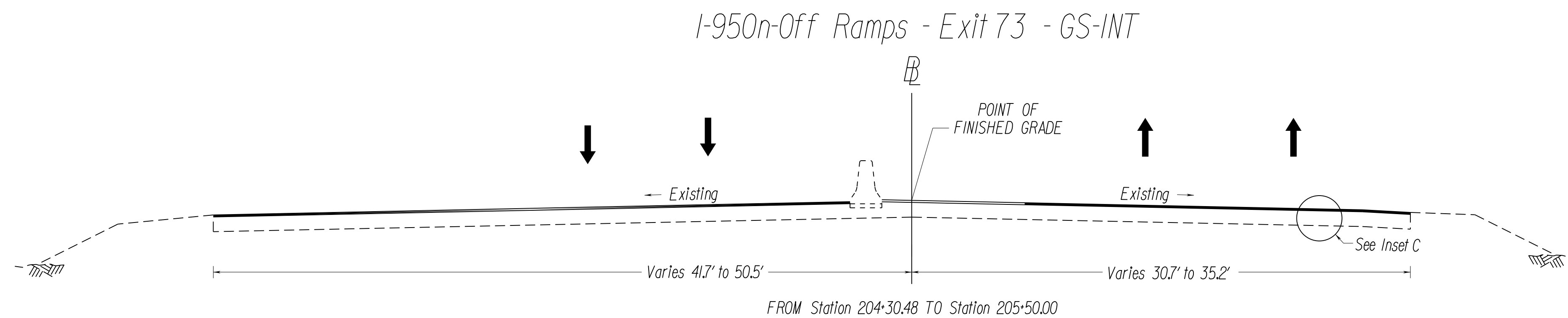
NOT TO SCALE	PROJECT 0095-127-971	SHEET NO. 2A(3)
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PROJECT MANAGER <Jason.Zhang (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804) 644-4600 (Consultant)>  
DESIGN BY <Lankford\_Harkins (804) 786-9726 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

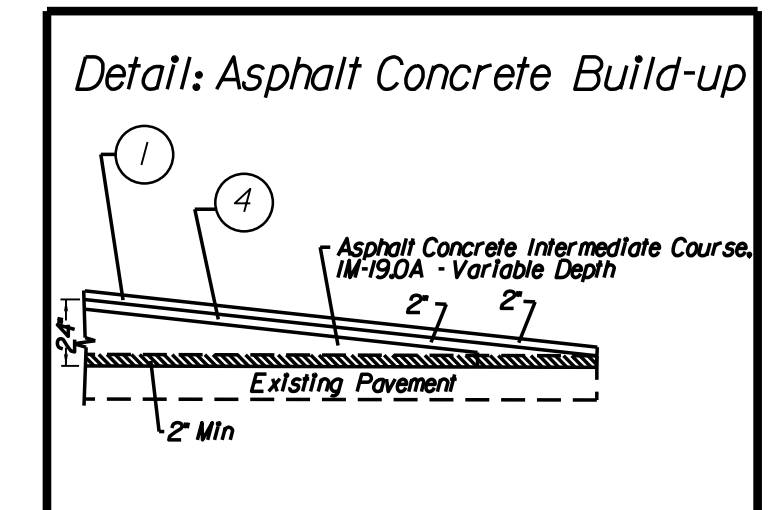
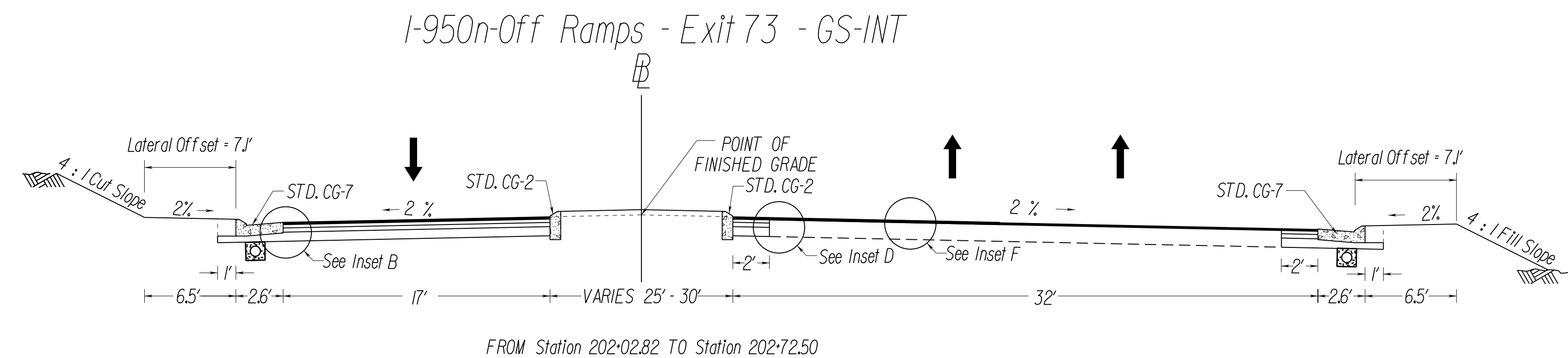
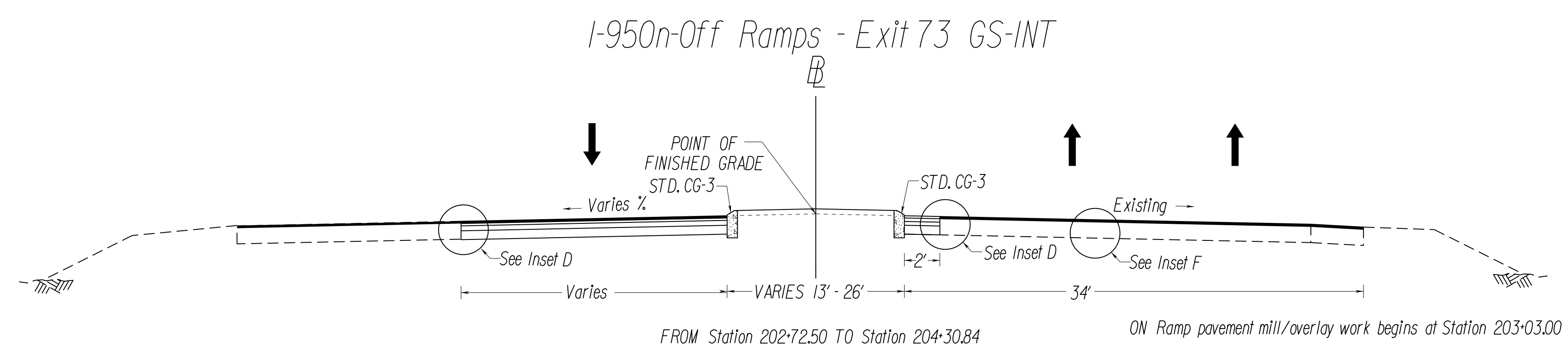
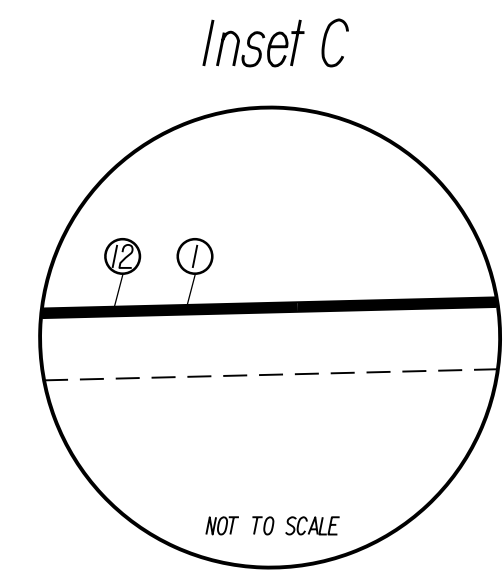
# TYPICAL SECTIONS

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 C-501	2A(4)
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Roadway Engineer)		VDOT Central Office Richmond, Virginia (Materials Engineer)		



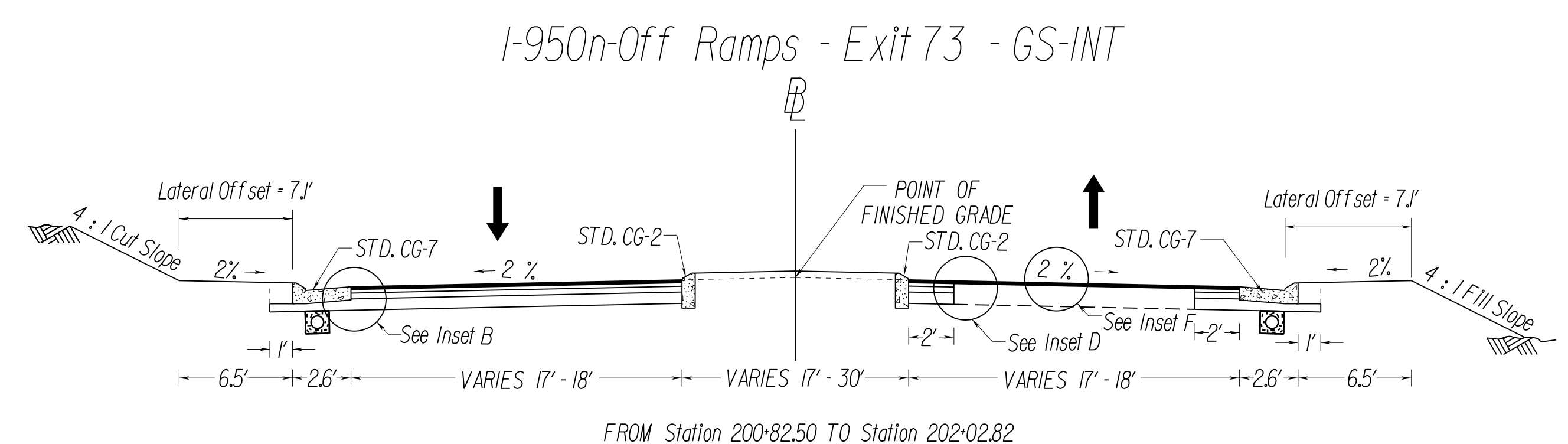
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- ⑩ 14.5" Continuously Reinforced Concrete Pavement
- ⑪ Hydraulic Cement Concrete Sidewalk (4")
- ⑫ 2" Flexible Pavement Planing
- ⑬ Full Depth Sawcut

Milling and Overlay  
(Mill Existing Pavement 2" Deep)



INSET "F"

**EXISTING PAVEMENT**  
Areas where 2 inches and more of build-up/overlay is required, milling of the existing pavement prior to build-up/overlay is not necessary.

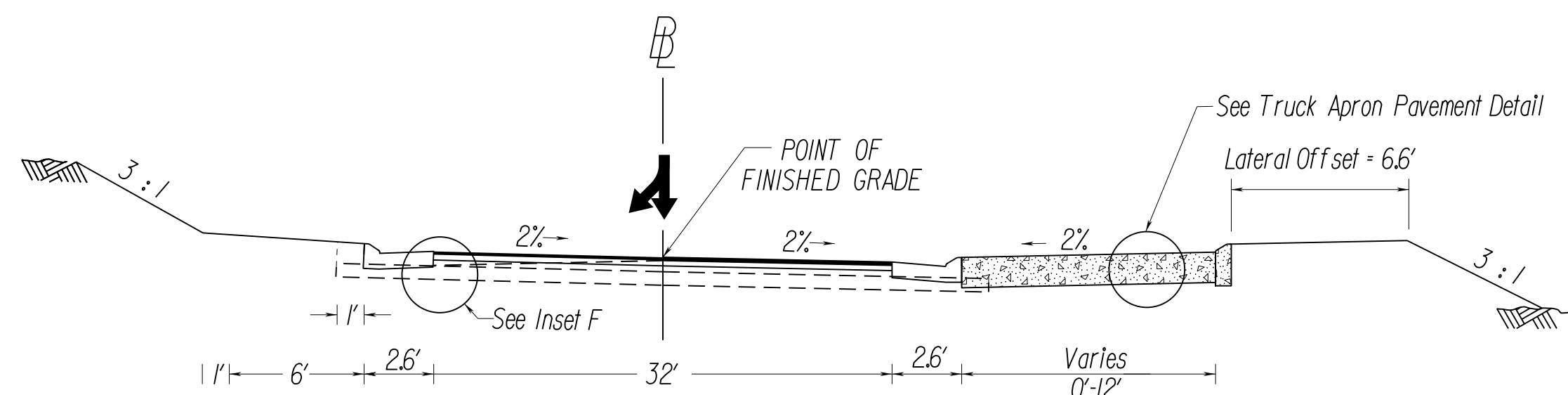


PROJECT MANAGER <Jason.Zhang.(804)524-6118.(Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804)644-4600.(Consultant)>  
DESIGN BY <Lankford\_Harkins (804)786-9726.(CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc.(804)550-7740.(Consultant)>

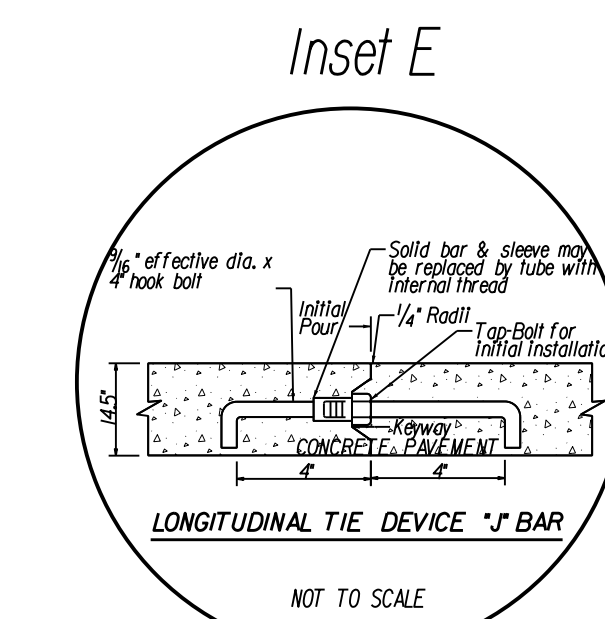
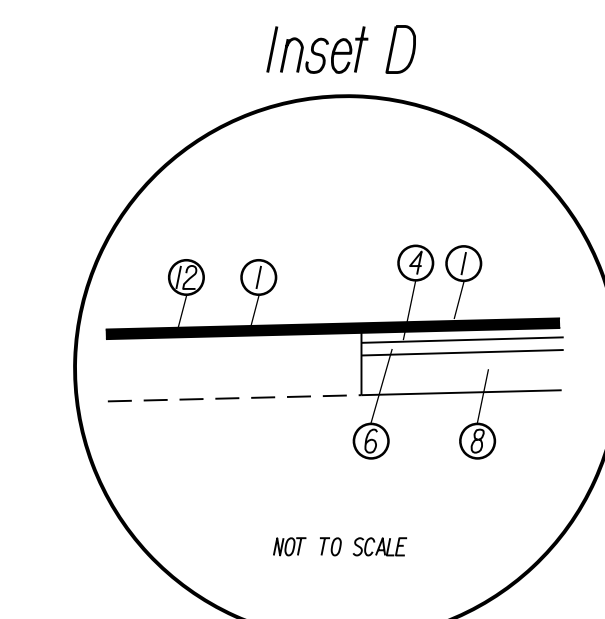
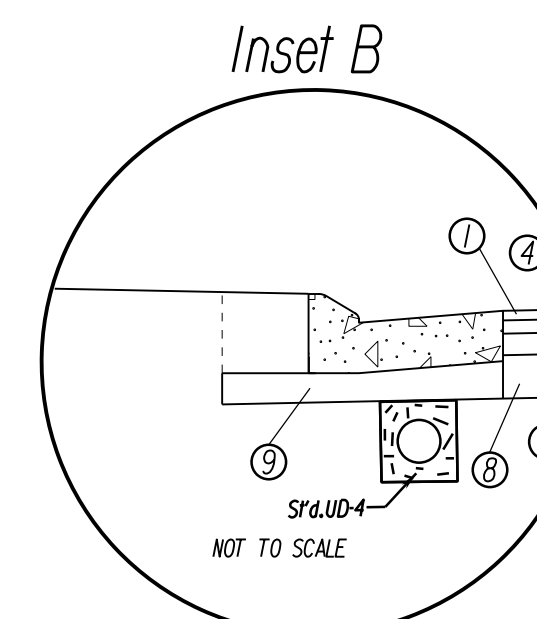
# TYPICAL SECTIONS

REVISED	STATE	STATE		SHEET NO.
		ROUTE	PROJECT	
	VA.	95	0095-127-971 C-501	2A(5)
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Roadway Engineer)		VDOT Central Office Richmond, Virginia (Materials Engineer)		

Ramp B - GS-R



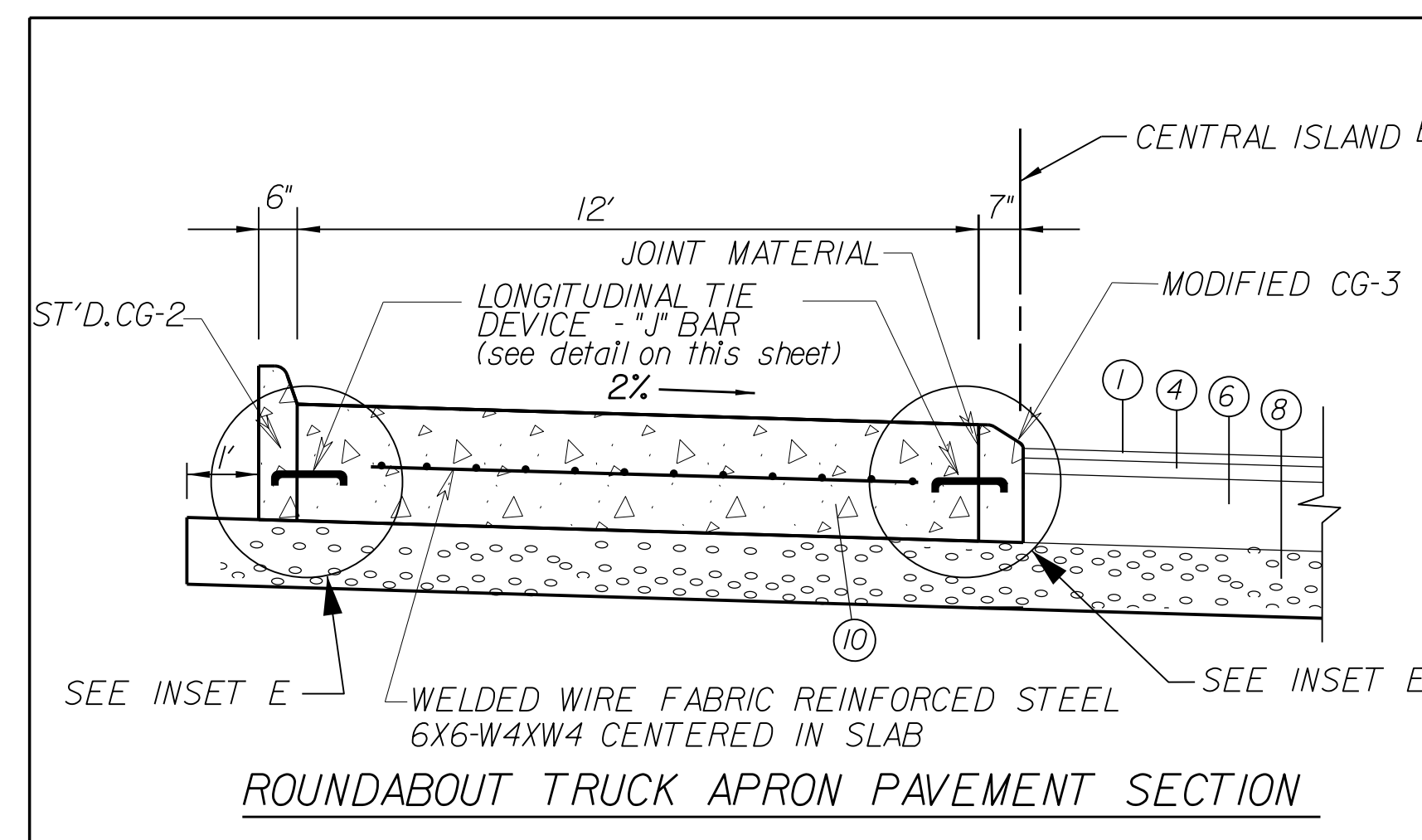
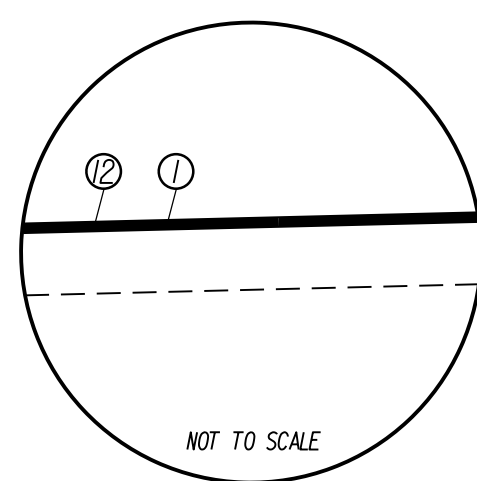
FROM Station 50+34.27 TO Station 51+31.12



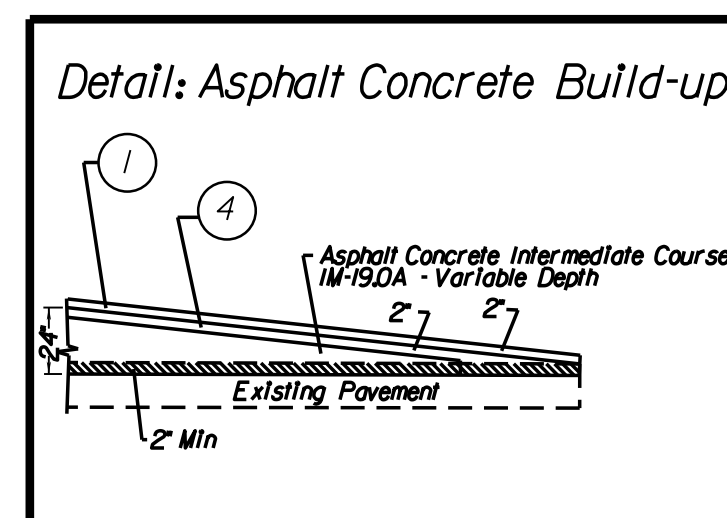
- 1 Asphalt Concrete Surface Course Type SM-9.5E @ 220 lbs/ Sq.yd
- 2 Asphalt Concrete Surface Course Type SM-9.5A @ 165 lbs/ Sq.yd
- 3 Asphalt Concere Intermediate Course Type IM-19.0A @ 220 LBS.Sq YD
- 4 Asphalt Concere Intermediate Course Type IM-19.0D @ 330 LBS.Sq YD
- 5 4" of Asphalt Concrete Base Course Type BM-25.0A
- 6 7" of Asphalt Concrete Base Course Type BM-25.0A
- 7 7" of Aggregate Base Material Type I No. 21B
- 8 12" of Aggregate Base Material Type I No. 21B
- 9 Variable Depth Aggregate Base Material Type I No. 21B
- 10 14.5" Continuously Reinforced Concrete Pavement
- 11 Hydraulic Cement Concrete Sidewalk (4")
- 12 2" Flexible Pavement Planing

Milling and Overlay  
(Mill Existing Pavement 2" Deep)

Inset C



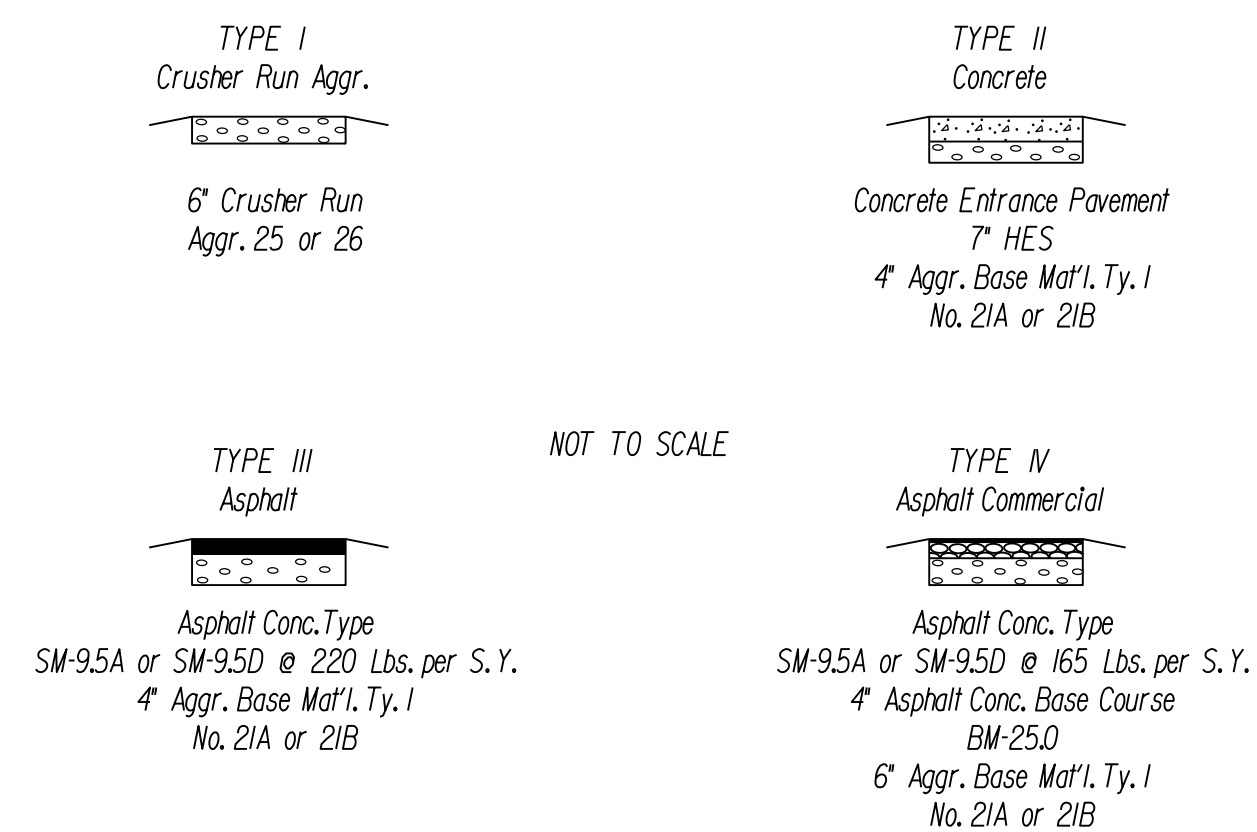
NOTES:  
1. CONSTRUCT ROUNDABOUT SHOULDER SLABS AS SHOWN ABOVE.  
NOTE: MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS 22.05'.  
2. EXPANSION JOINTS SHALL CONFORM TO SHEETS 301D, 301D2, & 301D3 OF THE 2016 ROAD AND BRIDGE STANDARDS.  
3. STATIONS AND OFFSETS REFER TO THE CENTRAL ISLAND BASELINE OF CONSTRUCTION.



INSET "F"

**EXISTING PAVEMENT**  
Areas where 2 inches and more of build-up/overlay is required, milling of the existing pavement prior to build-up/overlay is not necessary.

## PRIVATE AND COMMERCIAL ENTRANCES



The type of entrance (I, II, III, IV) to be constructed will be determined by the existing condition at the time of construction.

NOT TO SCALE	PROJECT 0095-127-971	SHEET NO. 2A(5)
--------------	-------------------------	--------------------



PROJECT MANAGER <Jason.Zhang (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804) 644-4600 (Consultant)>  
DESIGN BY <Ablot-Gemetchu (804) 786-5483 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

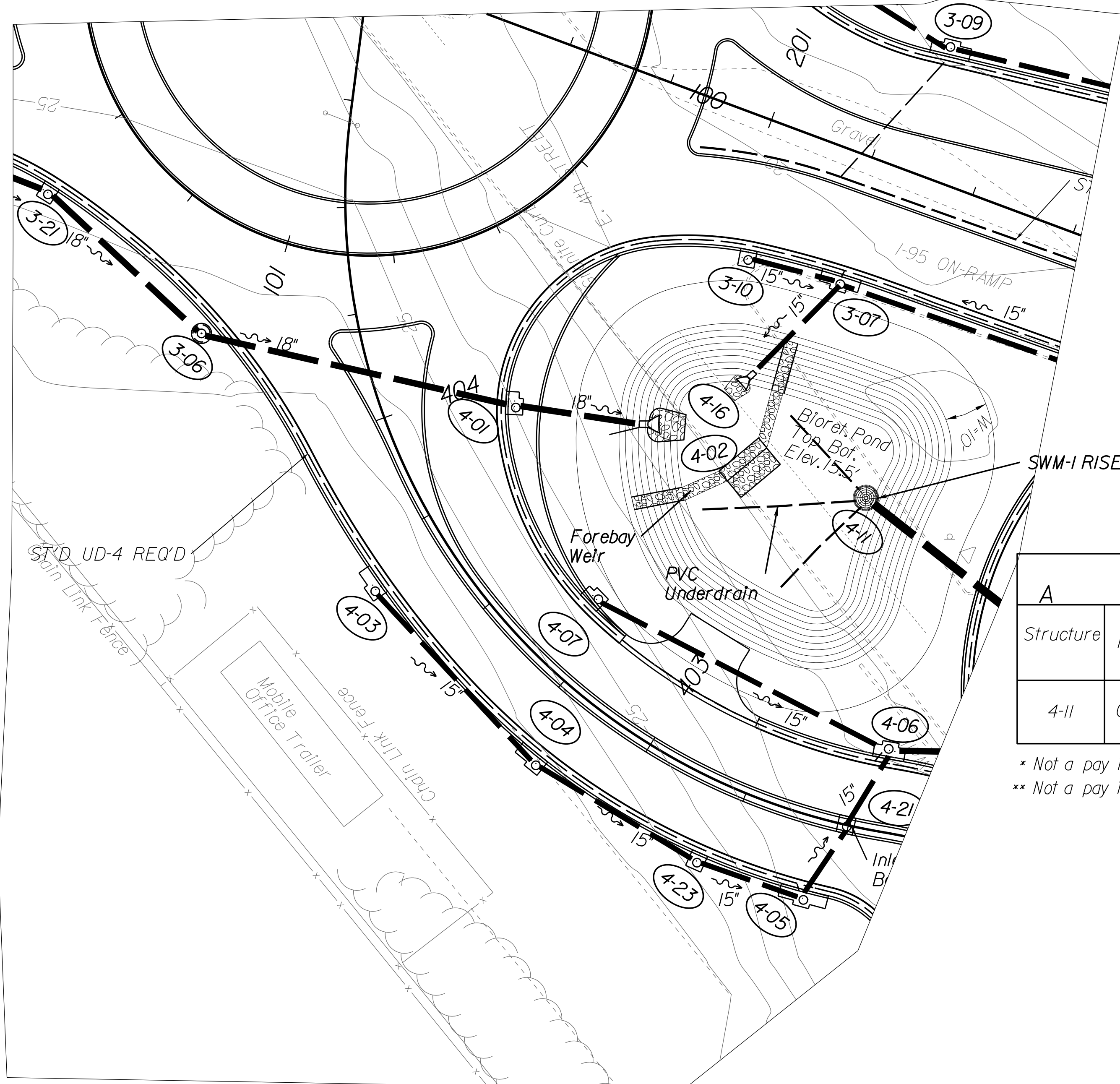
# Bioretention Detail Sheet

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 PE/101, RW201, C501	2E

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

## PAC PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION



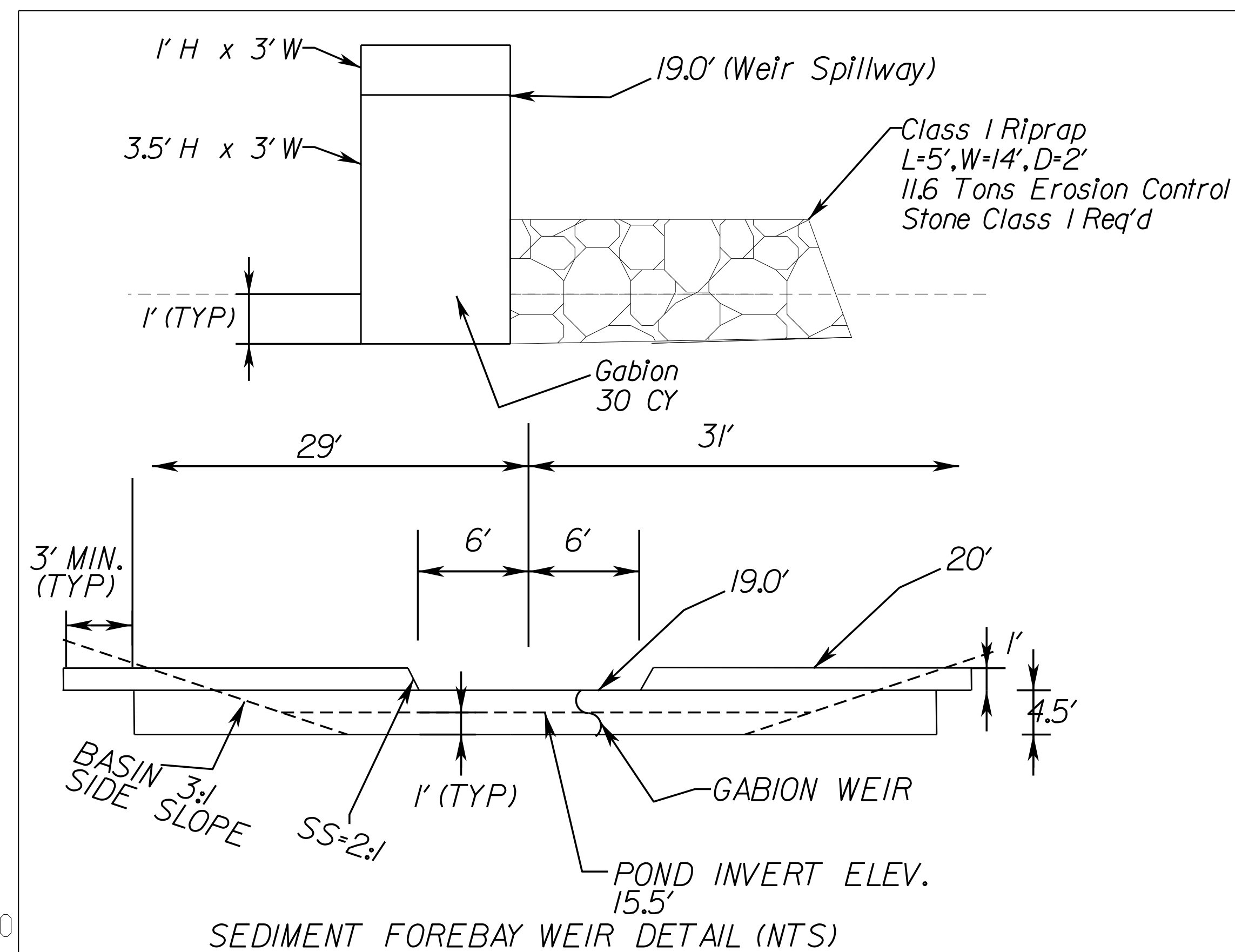
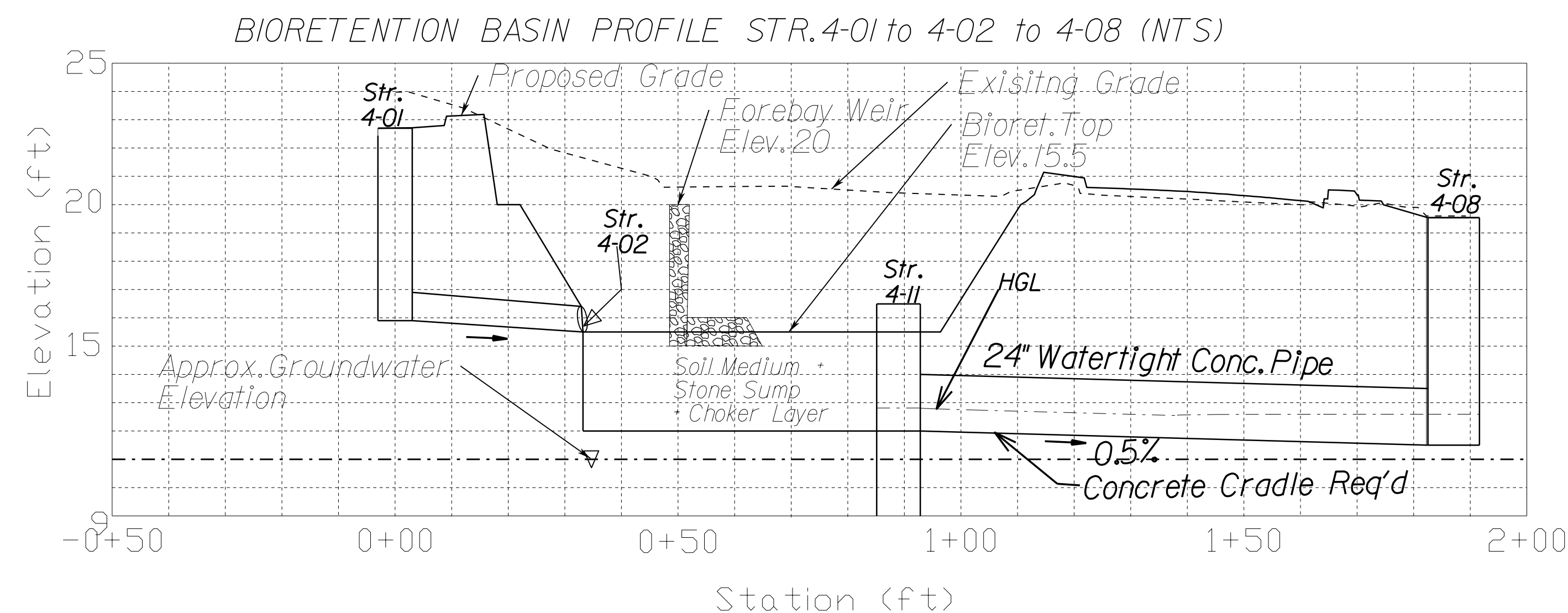
**BIORETENSION BASIN**  
1 - 60" SWM-I; H=7.5'  
BOTTOM ELEV. 12.0 CREST ELEV. 16.5  
100' - 24" CONC. PIPE REQ'D. (6.04' COVER)  
CONC. CRADLE REQ'D. (SEE DIMENSIONS - THIS SHEET)  
INV. (IN) 12.0 (OUT) 11.50

2 YR STORAGE ELEVATION = 16.5  
STORAGE VOLUME = 2,962 cu ft  
10 YR STORAGE ELEVATION = 16.57  
STORAGE VOLUME = 3,049 cu ft

Structure	Pipe Diameter	Cradle Bottom Width	Cradle Height	Cradle Top Width	Cradle Length
4-11 to 4-08	24 in	50 in	21 in	46 in	100 ft

Structure	* Stormwater Management Basin Excavation	SWM Structure SWM-I	** Concrete Cradle Misc Concrete Class A3	Dry Riprap Class 1, 24"	*** Geotextile/Liner (Side of Bioret & Riprap)	Gabions (CY)	Soil Mixture (CY)	Choker Stones (#8)	Sump Layer (*57)	6" PVC (Solid Pipe)	6" PVC Underdrain
4-11	CUT: 1242 CY	7.5 ft	17 CY	11.6 Tons	316 SY	30 CY	159 CY	67 Tons	157 Tons	13 ft	86 ft

\* Not a pay item, quantities included in the Grading Summary    \*\*\* Not a pay item, quantities included in the Erosion Summary  
\*\* Not a pay item, quantities included in the Drainage Summary



### REFERENCES

SWM Basin Detail	2E1
Planting Plan	9(1)-9(4)

PROJECT MANAGER: Jason Zbrag (804) 524-6118 (Richmond)  
SURVEYED BY, DATE: NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY: Lankford\_Hankins (804) 786-9726 (CO)  
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. (804) 550-7740 (Consultant)

# Bioretention Detail Sheet

## PAC PLANS

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 PE101, RW201, C501	2E1
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Hydraulic Engineer)				

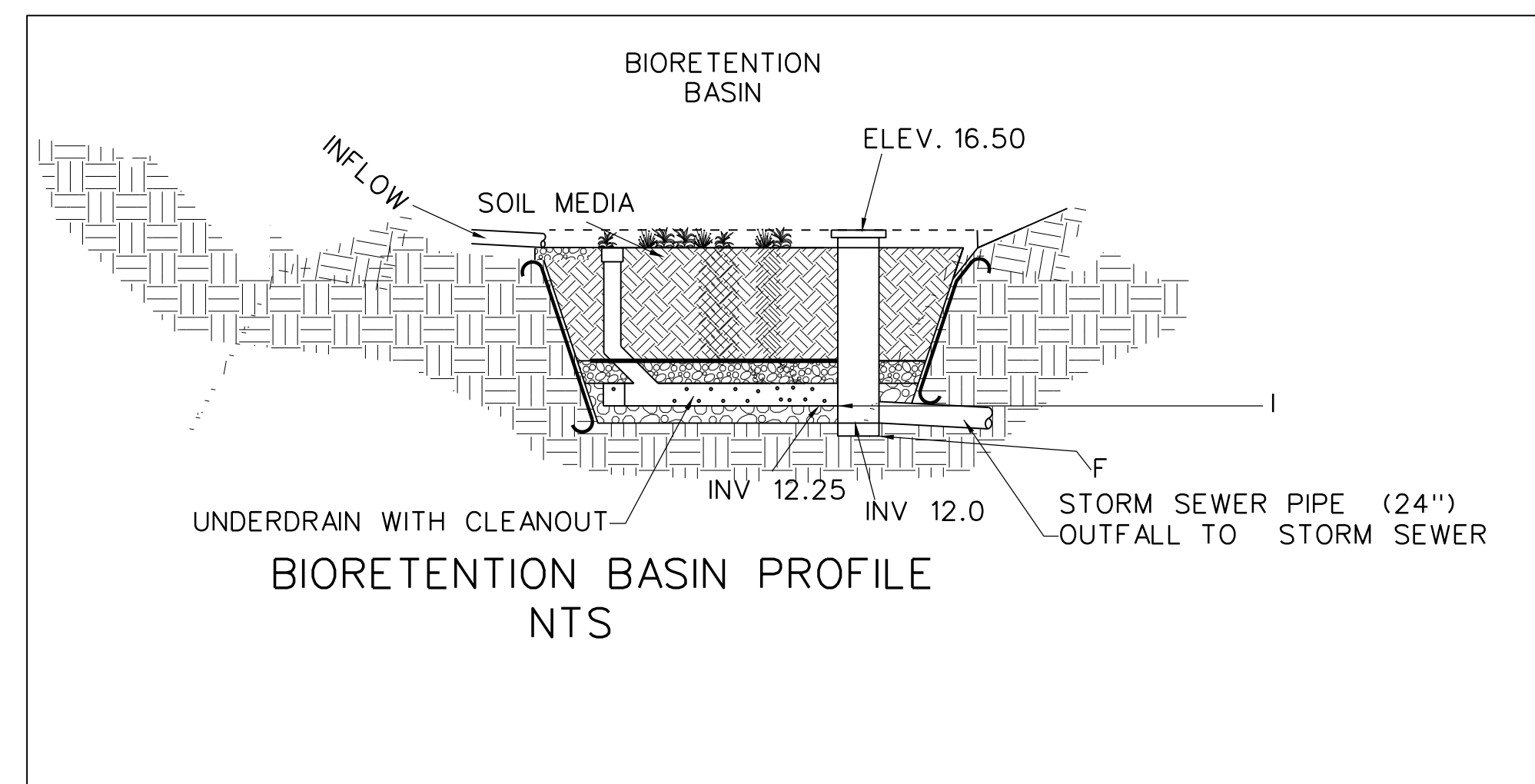


TABLE: BIOFILTER SUBGRADE DIMENSIONING TABLE (BSDT)

ELEMENT	UNIT	DIMENSION	NOTES	
A	BIORETENTION SOIL MEDIA DEPTH	IN	27	INCLUDES MULCH (IF SPECIFIED)
B	CHOKER LAYER	IN	3	MINIMUM 3" DEPTH
C	SUMP LAYER	IN	12	
D	DEPTH OF PONDING	IN	12	
SS	SIDE SLOPES	FT/FT	3:1	3:1 MAXIMUM
	SURFACE AREA OF FILTER BED	SF	1905	

BIORETENTION ELEVATIONS

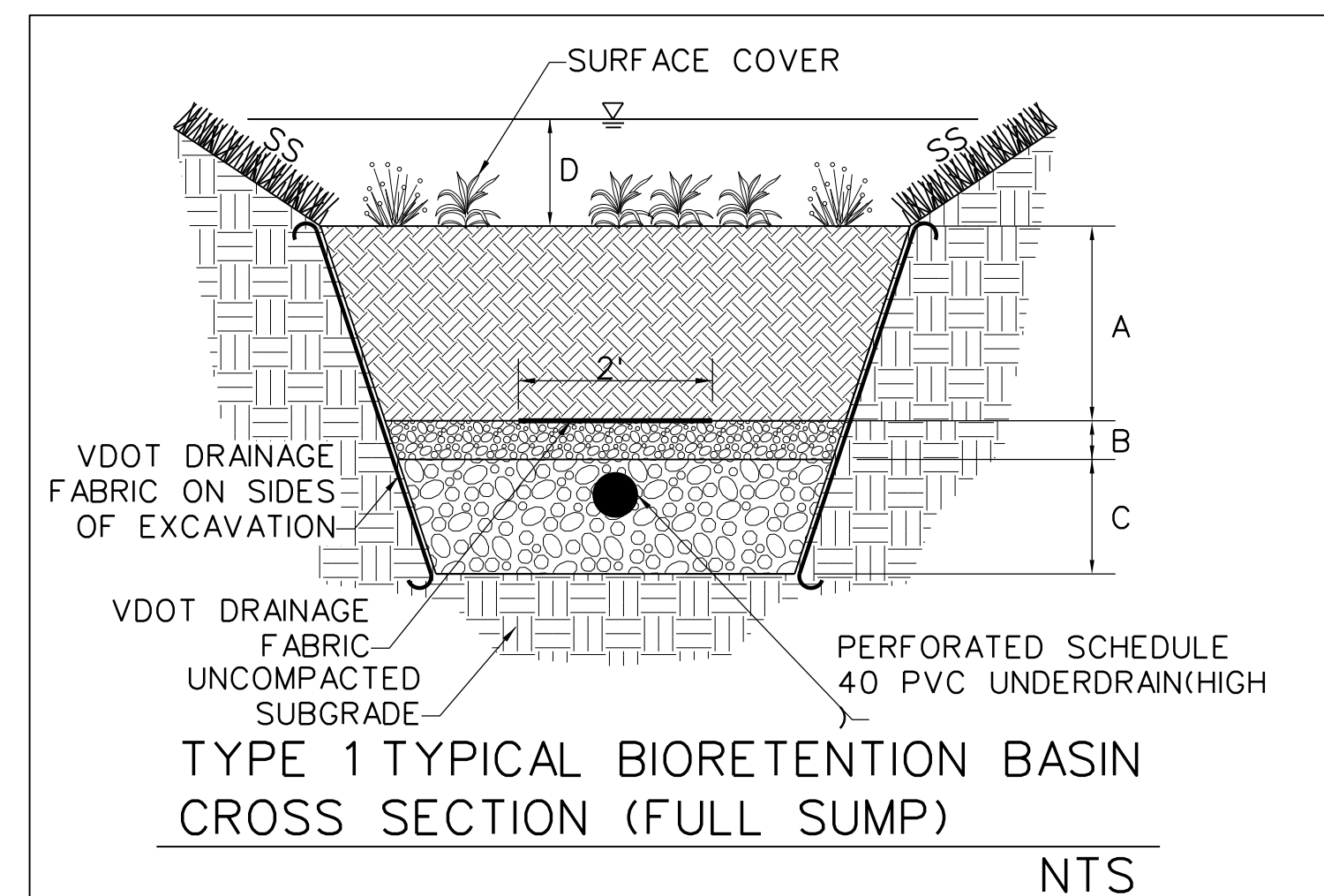
ELEMENT	ELEVATION (FT)	NOTES
E	TOP OF BERM ELEVATION	20.0
F	BOTTOM OF TRENCH SUMP	9.0 (Min)
G	PRETREATMENT FOREBAY/CELL ELEVATION	15.5
H	BIORETENTION BED SURFACE ELEVATION	15.50
I	UNDERDRAIN INVERT	12.25

BIORETENTION MEDIA/MATERIAL

OPTION	ELEMENT	UNIT	VALUE	NOTES
X	HIGH IN SUMP	UNDERDRAIN	DIA 6 IN	PERFORATED SCHEDULE 40 PVC
	LOW IN SUMP	UNDERDRAIN	DIA 6 IN	PERFORATED SCHEDULE 40 PVC
X	MULCH	SURFACE COVER	IN 2	
X	NO MULCH	SURFACE COVER	IN 2	
	SUMP LAYER	STONE SIZE	NO 57 or 8	
	CHOKER LAYER	STONE SIZE	NO 8	
	PVC CLEANOUT	DIA	6 IN	SEE CONSTRUCTION DRAWINGS FOR LOCATION AND QUANTITY
	UNCOMPACTED SUBGRADE SOIL			AVOID COMPACTION OF SUBGRADE; RIPPING/TILLING MAY BE REQUIRED IF COMPACTED; LINER MAY BE REQUIRED OVER STRUCTURAL FILL

BIORETENTION OUTFLOW TYPE

X	SWM RISER OUTFALL		SEE VDOT ROAD/BRIDGE STANDARDS
---	-------------------	--	--------------------------------



### GENERAL NOTES

- 1.) ALL MATERIALS AND PROCEDURES TO BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS AND SPECIAL PROVISIONS.
- 2.) SEE CONSTRUCTION DRAWINGS FOR SPACING AND LAYOUT OF UNDERDRAINS AND CLEANOUTS.
- 3.) SEE SWM-12 FOR DETAILS ON CONVERTING SEDIMENT BASIN/TRAP TO PERMANENT BIORETENTION.

### PLANT SCHEDULE

- 1.) PERENNIALS/HERBACEOUS.
- 2.) PLANT ACCORDING TO SPECIFICATION PROVIDED ON "TABLE 9.4 OF VA DEQ STORMWATER DESIGN SPECIFICATION NO. 9".
- 3.) FOR BIORETENTION MATERIAL SPECIFICATION REFER TO "TABLE 9.6 OF VA DEQ STORMWATER DESIGN SPECIFICATION NO. 9".
- 4.) FOR SUGGESTED MAINTENANCE FREQUENCY AND TASKS REFER TO "TABLE 9.7 OF VA DEQ STORMWATER DESIGN SPECIFICATION NO. 9".

### REFERENCES

SWM Basin Detail 2E  
Planting Plan 9(1)-9(4)



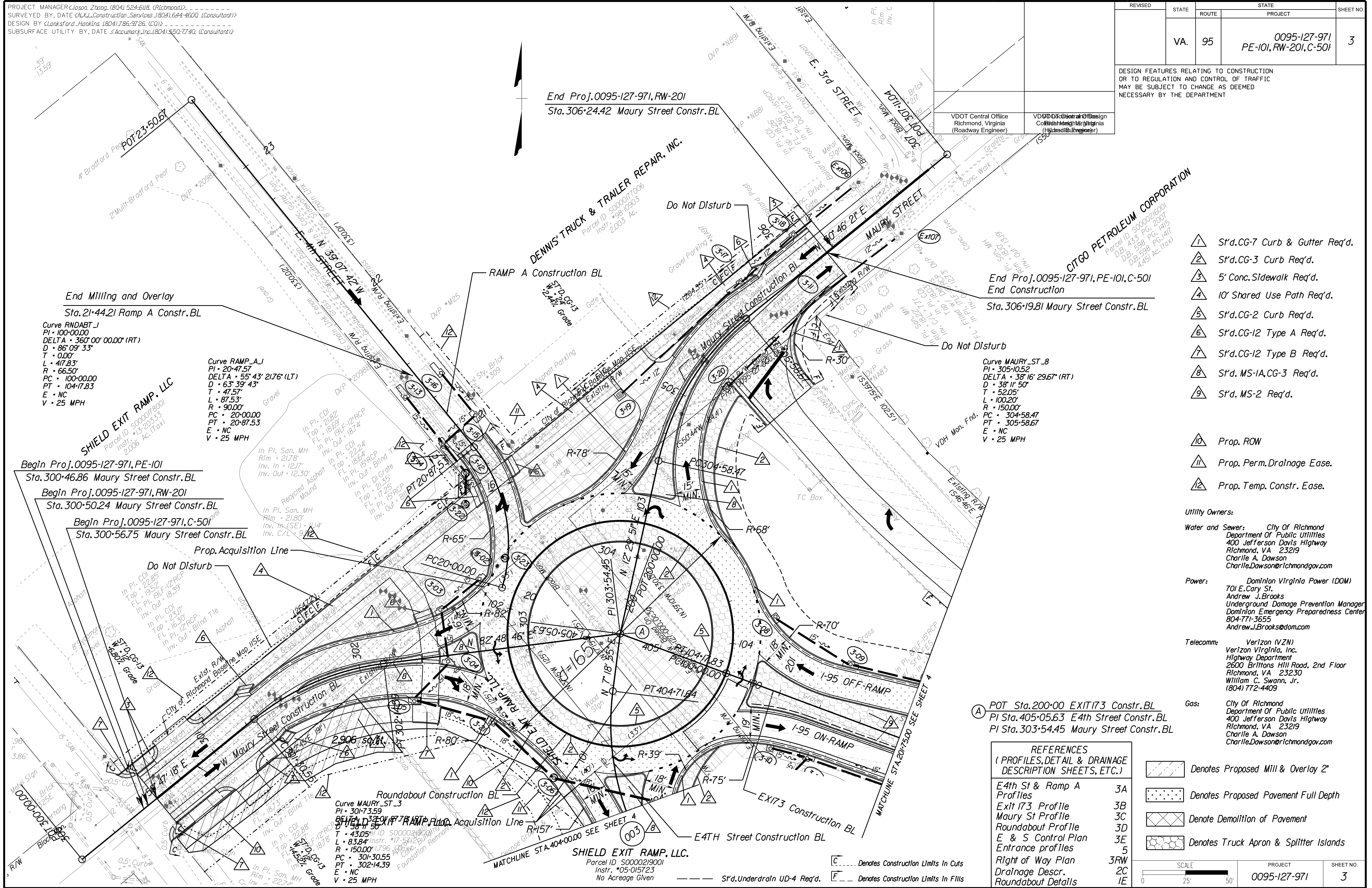
PROJECT MANAGER: Jason Zborog (804) 524-6118 (Richmond)  
SURVEYED BY, DATE: NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY: Lankford\_Harkins (804) 786-9726 (CO)  
SUBSURFACE UTILITY BY, DATE: AccuMark, Inc. (804) 550-7740 (Consultant)

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 PE-101, RW-201, C-501	3

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

VDOT Central Office  
Richmond, Virginia  
(Roadway Engineer)

VDOT District Office  
Richmond, Virginia  
(Highway Engineer)



- 1 St'd. CG-7 Curb & Gutter Req'd.
- 2 St'd. CG-3 Curb Req'd.
- 3 5' Conc. Sidewalk Req'd.
- 4 10' Shared Use Path Req'd.
- 5 St'd. CG-2 Curb Req'd.
- 6 St'd. CG-12 Type A Req'd.
- 7 St'd. CG-12 Type B Req'd.
- 8 St'd. MS-1A, CG-3 Req'd.
- 9 St'd. MS-2 Req'd.
- 10 Prop. ROW
- 11 Prop. Perm. Drainage Ease.
- 12 Prop. Temp. Constr. Ease.

Utility Owners:

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

**Power:** Dominion Virginia Power (DOM)  
701 E. Cary St.  
Andrew J. Brooks  
Underground Damage Prevention Manager  
Dominion Emergency Preparedness Center  
804-771-3655  
Andrew.J.Brooks@dom.com

**Telecomm:** Verizon (VZN)  
Verizon Virginia, Inc.  
Highway Department  
2600 Brittons Hill Road, 2nd Floor  
Richmond, VA 23230  
William C. Swann, Jr.  
(804) 772-4409

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

- (A) POT Sta. 200+00 EXIT I73 Constr. BL
- PI Sta. 405+05.63 E4th Street Constr. BL
- PI Sta. 303+54.45 Maury Street Constr. BL

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

E4th St & Ramp A Profiles	3A
Exit I73 Profile	3B
Maury St Profile	3C
Roundabout Profile	3D
E & S Control Plan	3E
Entrance profiles	5
Right of Way Plan	3RW
Drainage Descr.	2C
Roundabout Details	1E

- Denotes Proposed Mill & Overlay 2"
- Denotes Proposed Pavement Full Depth
- Denote Demolition of Pavement
- Denotes Truck Apron & Splitter Islands

SCALE	PROJECT	SHEET NO.
0 25 50	0095-127-971	3



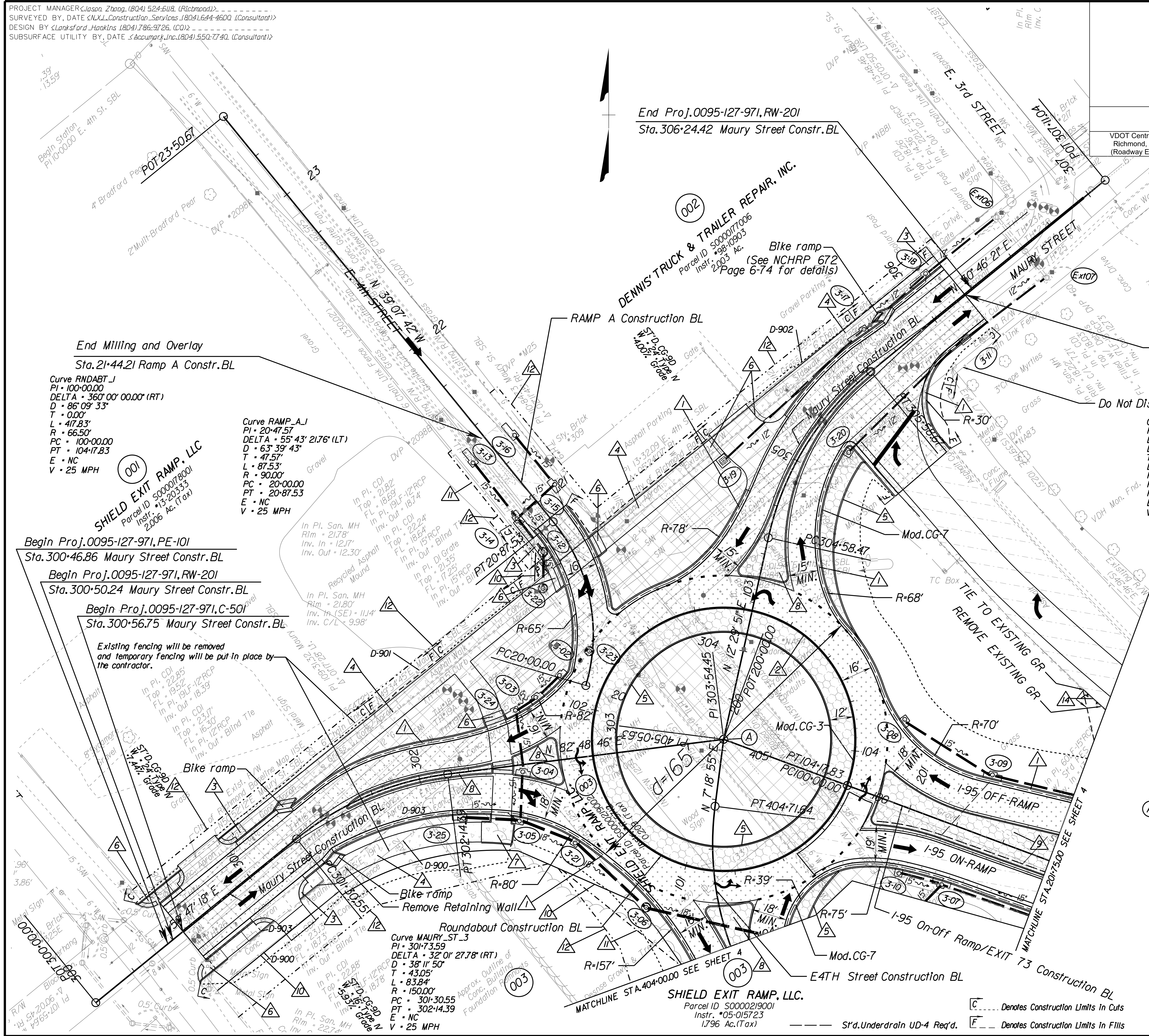
PROJECT MANAGER <Jason.Zborag (804) 524-6118 (Richmond)>  
SURVEYED BY, DATE <NXL Construction Services (804) 644-4600 (Consultant)>  
DESIGN BY <Lankford\_Harkins (804) 786-9726 (CO)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804) 550-7740 (Consultant)>

REVISED	STATE	ROUTE	STATE	PROJECT	SHEET NO.
9/19/18 11/29/18 12/14/18	VA.	95		0095-127-971 PE-101, RW-201, C-501	3

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

VDOT Central Office  
Richmond, Virginia  
(Roadway Engineer)

VDOT Central Office  
Richmond, Virginia  
(Hydraulic Engineer)



- 1 S't.d. CG-7 Curb & Gutter Req'd.
- 2 S't.d. CG-3 Curb Req'd.
- 3 5' Conc. Sidewalk Req'd.
- 4 10' Shared Use Path Req'd.
- 5 S't.d. CG-2 Curb Req'd.
- 6 S't.d. CG-12 Type B Req'd.
- 7 S't.d. CG-12 Type C Req'd.
- 8 S't.d. MS-1, CG-3 Req'd.
- 9 S't.d. MS-2 Req'd.
- 10 Prop. ROW
- 11 Prop. Perm. Drainage Ease.
- 12 Prop. Temp. Constr. Ease.
- 14 S't.d. GR-MGS4 Req'd.

Utility Owners:

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

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

Telecomm: Verizon (VZN)  
Verizon Virginia, Inc.  
Highway Department  
2600 Brittons Hill Road, 2nd Floor  
Richmond, VA 23230  
William C. Swann, Jr.  
(804) 772-4409

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

- (A) POT Sta. 200+00 I-95 On-Off Ramp/EXIT 73 Constr. BL
- PI Sta. 405+05.63 E4th Street Constr. BL
- PI Sta. 303+54.45 Maury Street Constr. BL

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
E4th St & Ramp A Profiles 3A	Denotes Proposed Mill & Overlay 2"
Exit 73 Profile 3B	Denotes Proposed Pavement Full Depth
Maury St Profile 3C	Denote Demolition of Pavement
Roundabout Profile 3D	Denotes Truck Apron & Splitter Islands
E & S Control Plan 3E	Denotes Shared Use Path and Sidewalk
Entrance profiles 5	
Right of Way Plan 3RW	
Drainage Descr. 2C	
Storm Sew. Profiles 2F-2F(5)	
Roundabout Details 1E-1E(1)	
Landscaping Plans 9(1)-9(4)	

SCALE 0 25 50	PROJECT 0095-127-971	SHEET NO. 3
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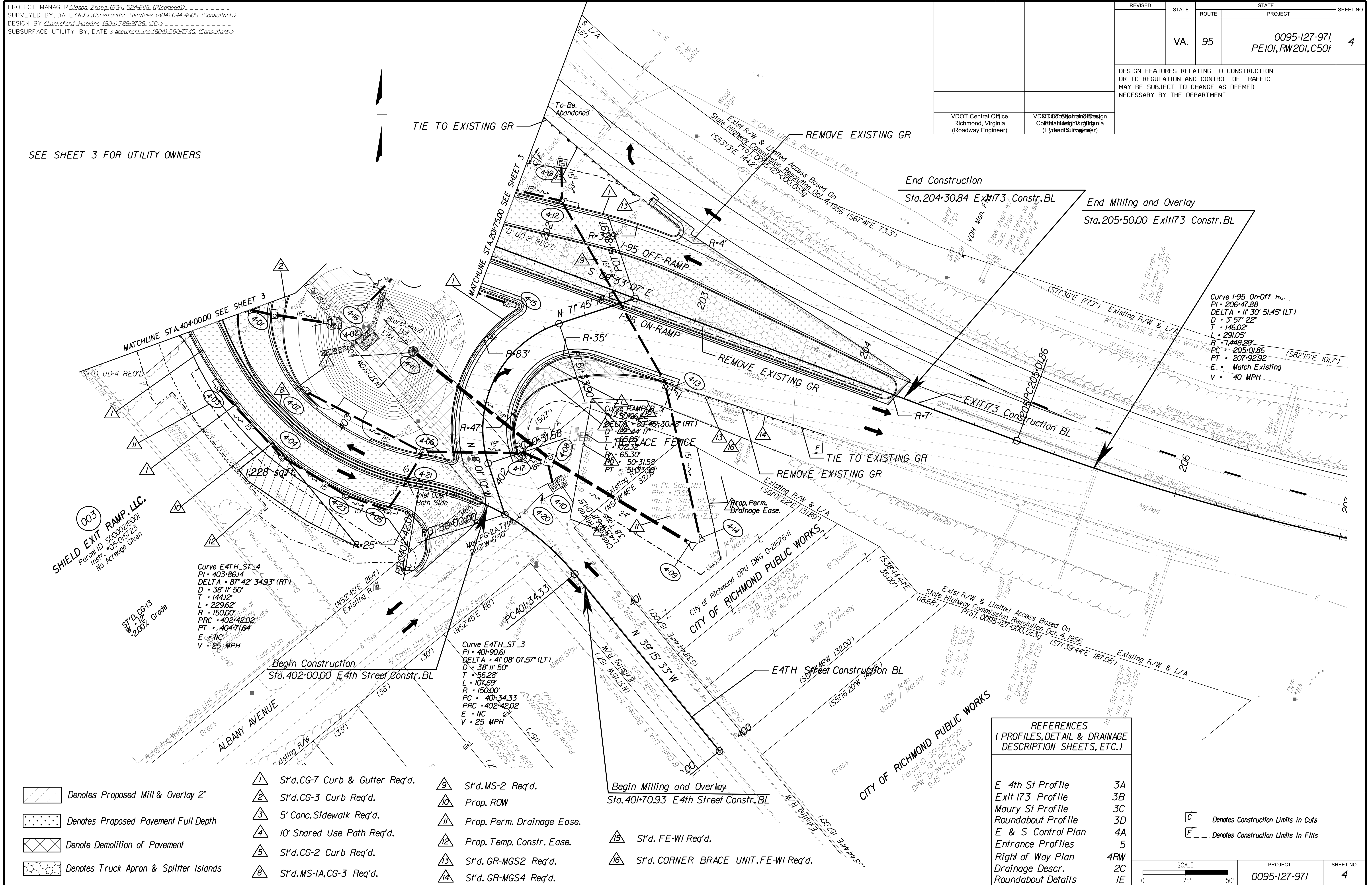
PROJECT MANAGER: Jason Zbrag (804) 524-6118 (Richmond)  
SURVEYED BY, DATE: NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY: Lankford\_Hartkins (804) 786-9726 (CO)  
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. (804) 550-7740 (Consultant)

REVISED	STATE	ROUTE	STATE	SHEET NO.
			PROJECT	
	VA.	95	0095-127-971 PE101, RW201, 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

VDOT Central Office Richmond, Virginia (Roadway Engineer)	VDOT District Office Richmond, Virginia (Hydraulic Engineer)
---	--

SEE SHEET 3 FOR UTILITY OWNERS



Curve I-95 On-Off rd.  
PI • 206+47.88  
DELTA • 11° 30' 51.45" (LT)  
D • 3' 57' 22"  
T • 146.02'  
L • 291.05'  
R • 1448.29'  
PC • 205+01.86  
PT • 207+92.92  
E • Match Existing  
V • 40 MPH

003  
SHIELD EXIT RAMP, LLC.  
Parcel ID: 5000020001  
Instr. # 05-015723  
No Acreage Given

Curve E4TH\_ST\_4  
PI • 403.8614  
DELTA • 87° 42' 34.93" (RT)  
D • 38' 11" 50"  
T • 144.12'  
L • 229.62'  
R • 150.00'  
PRC • 402+42.02  
PT • 404+71.64  
E • NC  
V • 25 MPH

Curve E4TH\_ST\_3  
PI • 401.9061  
DELTA • 41° 08' 07.57" (LT)  
D • 38' 11" 50"  
T • 56.28'  
L • 107.69'  
R • 150.00'  
PRC • 401+34.33  
PT • 402+42.02  
E • NC  
V • 25 MPH

- Denotes Proposed Mill & Overlay 2"
- Denotes Proposed Pavement Full Depth
- Denote Demolition of Pavement
- Denotes Truck Apron & Splitter Islands

- 1 S't.d.CG-7 Curb & Gutter Req'd.
- 2 S't.d.CG-3 Curb Req'd.
- 3 5' Conc. Sidewalk Req'd.
- 4 10' Shared Use Path Req'd.
- 5 S't.d.CG-2 Curb Req'd.
- 6 S't.d.MS-1A,CG-3 Req'd.
- 9 S't.d.MS-2 Req'd.
- 10 Prop. ROW
- 11 Prop. Perm. Drainage Ease.
- 12 Prop. Temp. Constr. Ease.
- 13 S't.d.GR-MGS2 Req'd.
- 14 S't.d.GR-MGS4 Req'd.

- 15 S't.d.FE-WI Req'd.
- 16 S't.d.CORNER BRACE UNIT, FE-WI Req'd.

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

E 4th St Profile	3A
Exit 173 Profile	3B
Maury St Profile	3C
Roundabout Profile	3D
E & S Control Plan	4A
Entrance Profiles	5
Right of Way Plan	4RW
Drainage Descr.	2C
Roundabout Details	1E

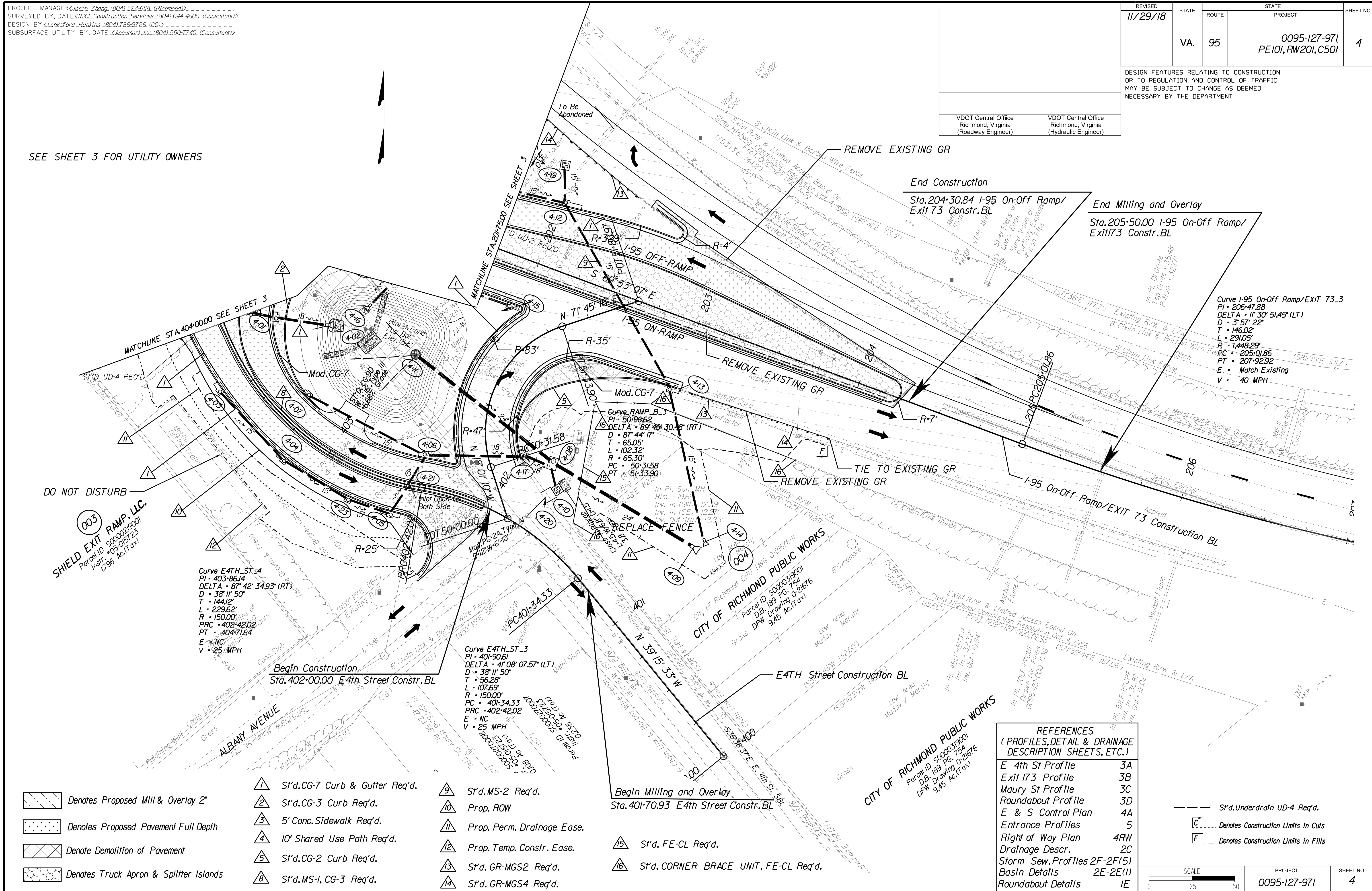
Denotes Construction Limits in Cuts  
 Denotes Construction Limits in Fills



PROJECT MANAGER: Jason Zbrag (804) 524-6118 (Richmond)  
SURVEYED BY, DATE: NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY: Lankford\_Harkins (804) 786-9726 (CO)  
SUBSURFACE UTILITY BY, DATE: Accurmark, Inc. (804) 550-7740 (Consultant)

REVISED 11/29/18	STATE VA.	ROUTE 95	STATE PROJECT 0095-127-971 PE101, RW201, C501	SHEET NO. 4
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT				
VDOT Central Office Richmond, Virginia (Roadway Engineer)		VDOT Central Office Richmond, Virginia (Hydraulic Engineer)		

SEE SHEET 3 FOR UTILITY OWNERS



DO NOT DISTURB  
SHIELD EXIT RAMP, LLC.  
Parcel ID: 5000029001  
Instr. # 05-015723  
1.796 Ac. (Tax)

CITY OF RICHMOND PUBLIC WORKS  
Parcel ID: 50000319001  
D.B. 89 PG. 54  
DPW Drawing: 0-21676  
9.45 Ac. (Tax)

CITY OF RICHMOND PUBLIC WORKS  
Parcel ID: 50000319001  
D.B. 89 PG. 54  
DPW Drawing: 0-21676  
9.45 Ac. (Tax)

- 1 S't.d. CG-7 Curb & Gutter Req'd.
- 2 S't.d. CG-3 Curb Req'd.
- 3 5' Conc. Sidewalk Req'd.
- 4 10' Shared Use Path Req'd.
- 5 S't.d. CG-2 Curb Req'd.
- 6 S't.d. MS-1, CG-3 Req'd.
- 7 S't.d. MS-2 Req'd.
- 8 Prop. ROW
- 9 Prop. Perm. Drainage Easement
- 10 Prop. Temp. Constr. Easement
- 11 S't.d. GR-MGS2 Req'd.
- 12 S't.d. GR-MGS4 Req'd.
- 13 S't.d. FE-CL Req'd.
- 14 S't.d. CORNER BRACE UNIT, FE-CL Req'd.

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

E 4th St Profile	3A
Exit 173 Profile	3B
Maury St Profile	3C
Roundabout Profile	3D
E & S Control Plan	4A
Entrance Profiles	5
Drainage Descr.	2C
Storm Sew. Profiles 2F-2F(5)	2F(5)
Basin Details	2E-2E(1)
Roundabout Details	1E

--- S't.d. Underdrain UD-4 Req'd.  
C --- Denotes Construction Limits in Cuts  
E --- Denotes Construction Limits in Fills



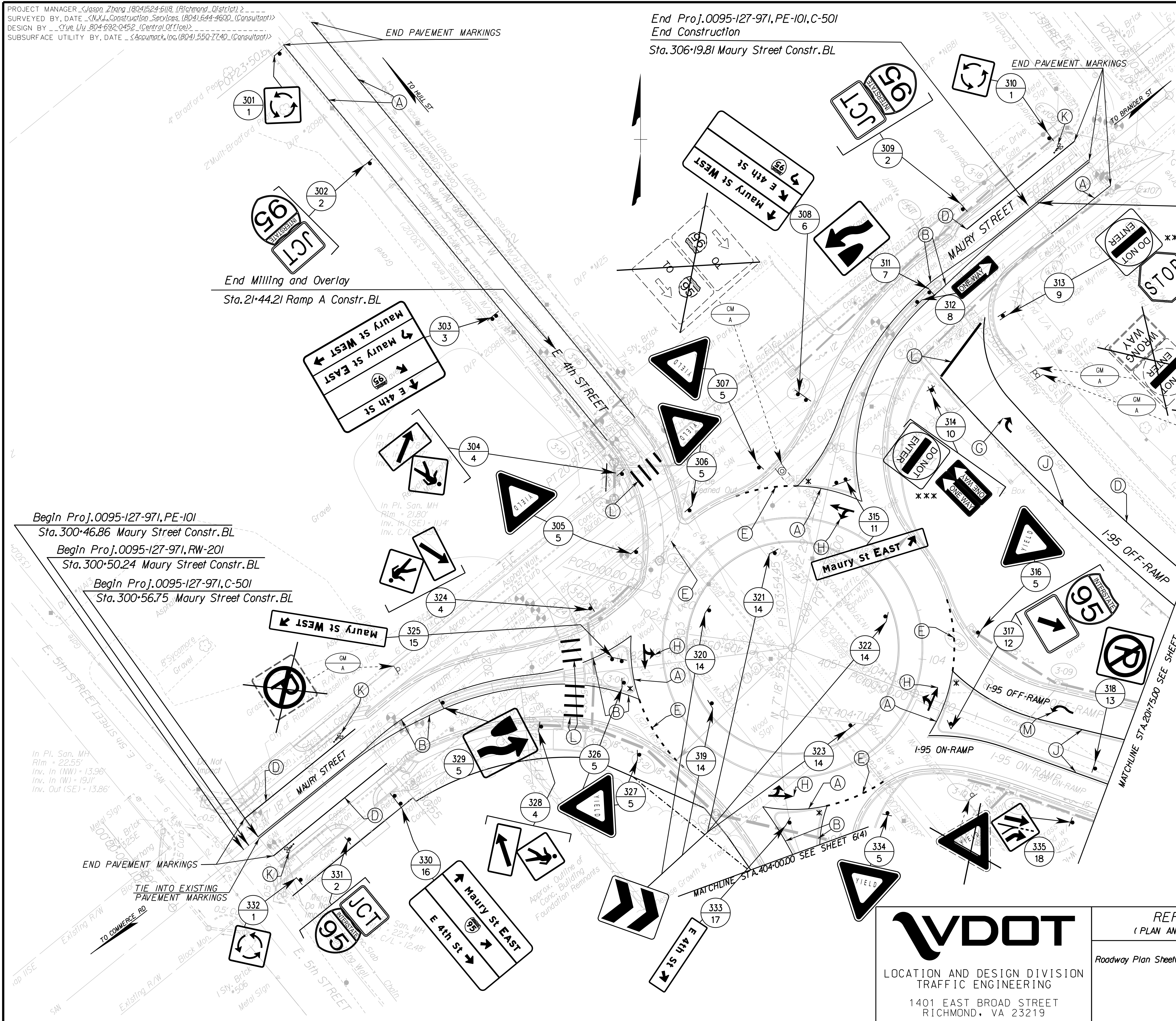
PROJECT MANAGER <Jason Zhang (804)524-6118 (Richmond\_District)>  
SURVEYED BY, DATE <N.X.L. Construction Services (804)644-4600 (Consultant)>  
DESIGN BY <Yue Liu (804)692-0452 (Central Office)>  
SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804)550-7740 (Consultant)>

End Proj.0095-127-971,PE-101,C-501  
End Construction  
Sta.306+19.81 Maury Street Constr.BL

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 RW-201,C-501	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

VDOT Location & Design  
Richmond, Virginia  
TRAFFIC ENGINEER



End Proj.0095-127-971,RW-201  
Sta.306+24.42 Maury Street Constr.BL

\* : Refer to Figure 3C-1 of the MUTCD on pavement markings around the splitter islands.  
\*\* : Refer to Section 2B.10 of the MUTCD and Figure 2B-18(VA) of the Virginia Supplement to MUTCD on installing DO NOT ENTER sign on the back of the STOP sign.  
\*\*\*: Refer to Section 2B.41 of the Virginia Supplement to MUTCD on installing DO NOT ENTER and ONE WAY sign assemblies.

- PAVEMENT MARKING LEGEND**
- (A) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 4" WIDTH
  - (B) TYPE B, CLASS I, YELLOW PAVEMENT LINE MARKING, 4" WIDTH
  - (C) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 8" WIDTH (3" LINE, 9" SPACE)
  - (D) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 6" WIDTH
  - (E) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 12" WIDTH (2" LINE, 3" SPACE)
  - (F) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 12" WIDTH
  - (G) PAVEMENT SYMBOL MARKING (SINGLE TURN ARROW), TYPE B, CLASS II
  - (H) PAVEMENT SYMBOL MARKING (DOUBLE TURN ARROW THRU/LT), TYPE B, CLASS II
  - (J) TYPE B, CLASS I, YELLOW PAVEMENT LINE MARKING, 6" WIDTH
  - (K) PAVEMENT MESSAGE MARKING (HELMETED BICYCLIST), TYPE B, CLASS II
  - (L) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 24" WIDTH
  - (M) PAVEMENT SYMBOL MARKING (FISH HOOK, LEFT), TYPE B, CLASS II

**VDOT**  
LOCATION AND DESIGN DIVISION  
TRAFFIC ENGINEERING  
1401 EAST BROAD STREET  
RICHMOND, VA 23219

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

**TRAFFIC CONTROL DEVICE PLANS  
SIGNING & PAVEMENT MARKINGS  
PLAN**

CITY OF RICHMOND

SCALE 0 25' 50'	PROJECT 0095-127-971	SHEET NO. 6(3)
--------------------	-------------------------	-------------------



PROJECT MANAGER <Jason Zhang (804)524-6118 (Richmond District)>  
 SURVEYED BY, DATE <NXL Construction Services (804)644-4600 (Consultant)>  
 DESIGN BY <Yue Liu (804)692-0452 (Central Office)>  
 SUBSURFACE UTILITY BY, DATE <Accumark, Inc. (804)550-7740 (Consultant)>

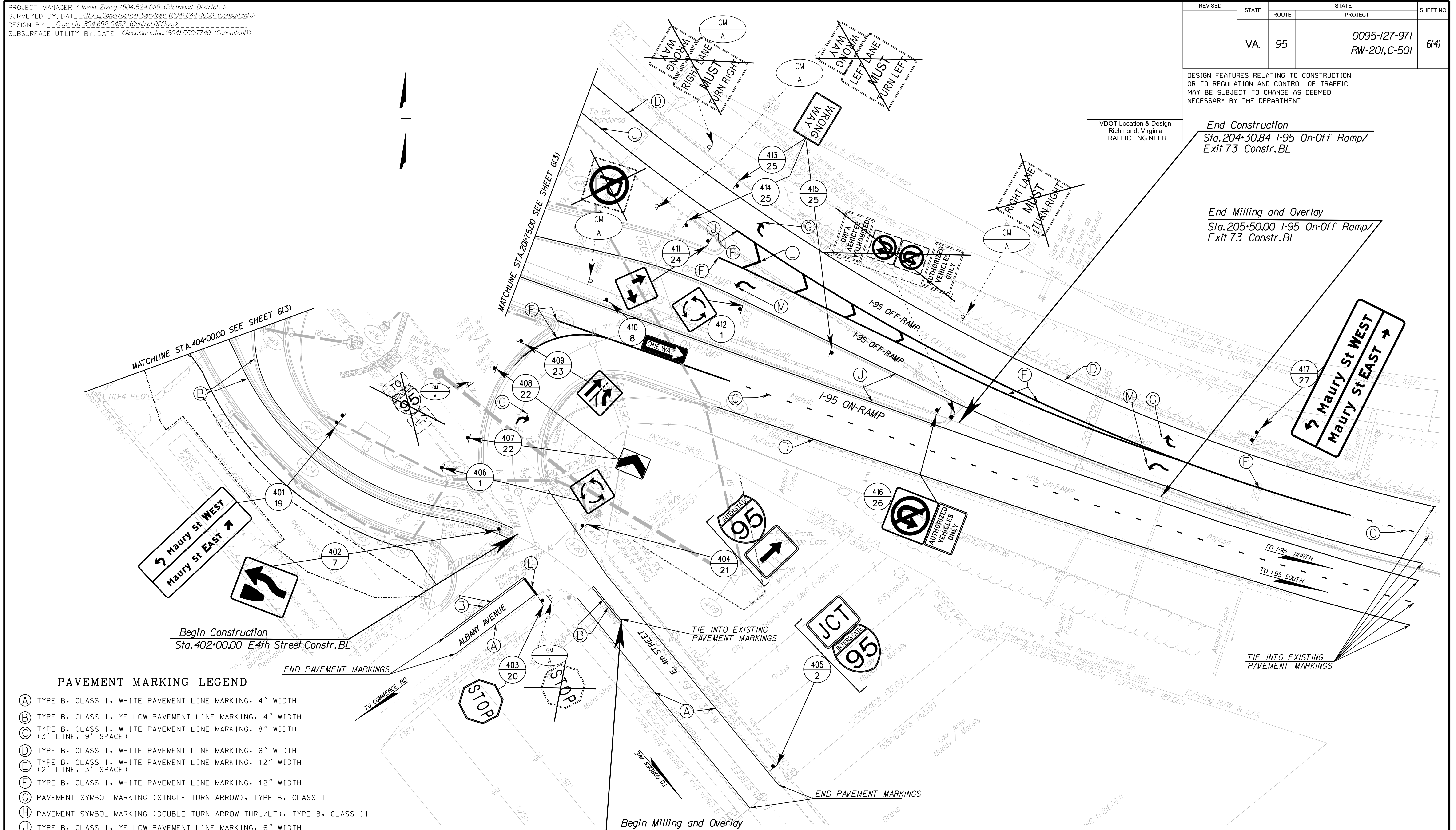
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971 RW-201,C-501	6(4)

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

VDOT Location & Design  
Richmond, Virginia  
TRAFFIC ENGINEER

End Construction  
Sta.204+30.84 I-95 On-Off Ramp/  
Exit 73 Constr.BL

End Milling and Overlay  
Sta.205+50.00 I-95 On-Off Ramp/  
Exit 73 Constr.BL



**PAVEMENT MARKING LEGEND**

- (A) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 4" WIDTH
- (B) TYPE B, CLASS I, YELLOW PAVEMENT LINE MARKING, 4" WIDTH
- (C) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 8" WIDTH (3' LINE, 9' SPACE)
- (D) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 6" WIDTH
- (E) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 12" WIDTH (2' LINE, 3' SPACE)
- (F) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 12" WIDTH
- (G) PAVEMENT SYMBOL MARKING (SINGLE TURN ARROW), TYPE B, CLASS II
- (H) PAVEMENT SYMBOL MARKING (DOUBLE TURN ARROW THRU/LT), TYPE B, CLASS II
- (J) TYPE B, CLASS I, YELLOW PAVEMENT LINE MARKING, 6" WIDTH
- (K) PAVEMENT MESSAGE MARKING (HELMETED BICYCLIST), TYPE B, CLASS II
- (L) TYPE B, CLASS I, WHITE PAVEMENT LINE MARKING, 24" WIDTH
- (M) PAVEMENT SYMBOL MARKING (FISH HOOK, LEFT), TYPE B, CLASS II

**VDOT**  
 LOCATION AND DESIGN DIVISION  
 TRAFFIC ENGINEERING  
 1401 EAST BROAD STREET  
 RICHMOND, VA 23219

**REFERENCES**  
(PLAN AND DETAIL SHEETS)

Roadway Plan Sheet(s)	4
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**TRAFFIC CONTROL DEVICE PLANS**  
 SIGNING & PAVEMENT MARKINGS  
 PLAN

CITY OF RICHMOND

SCALE	PROJECT	SHEET NO.
0 25' 50'	0095-127-971	6(4)

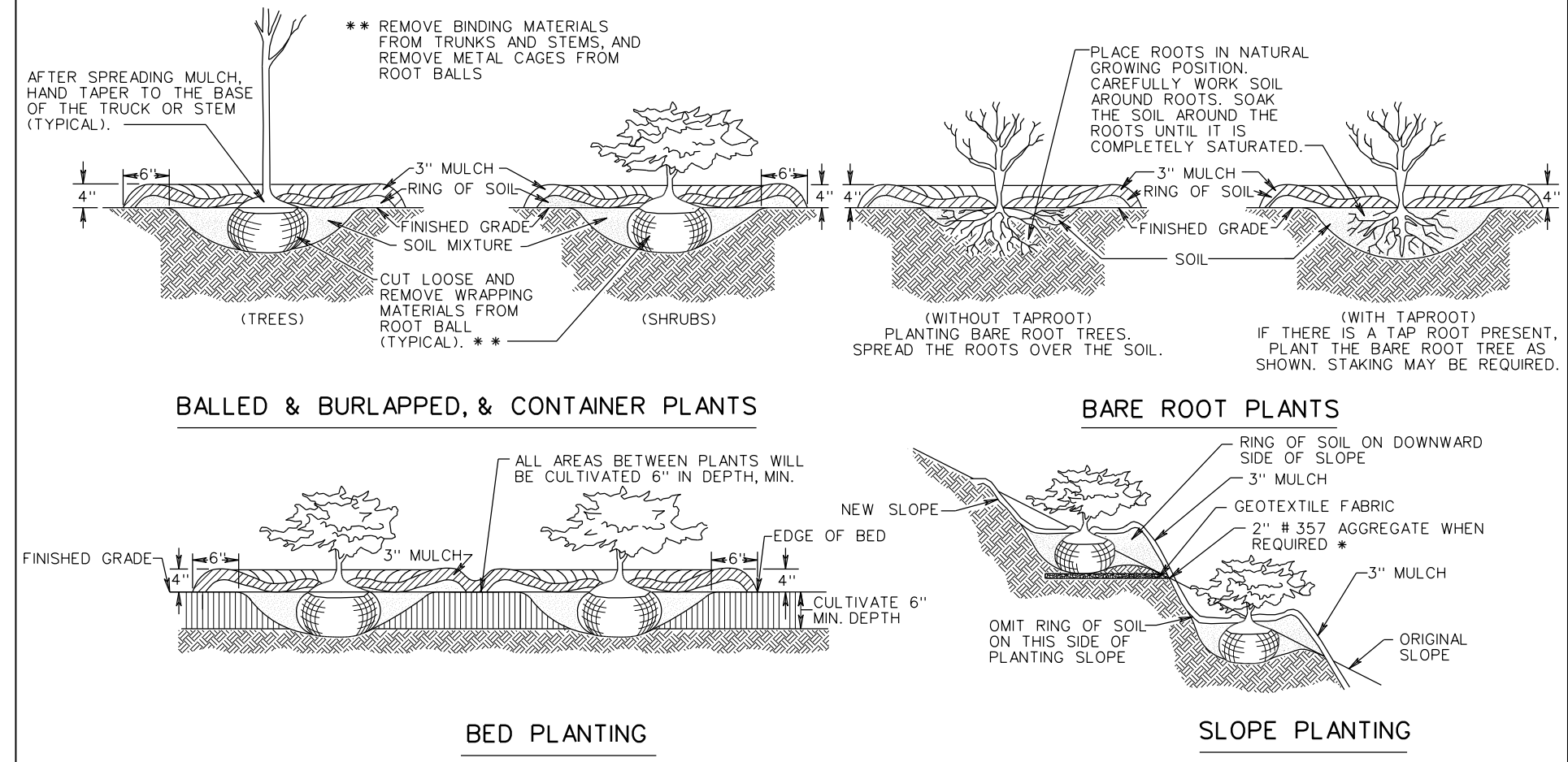




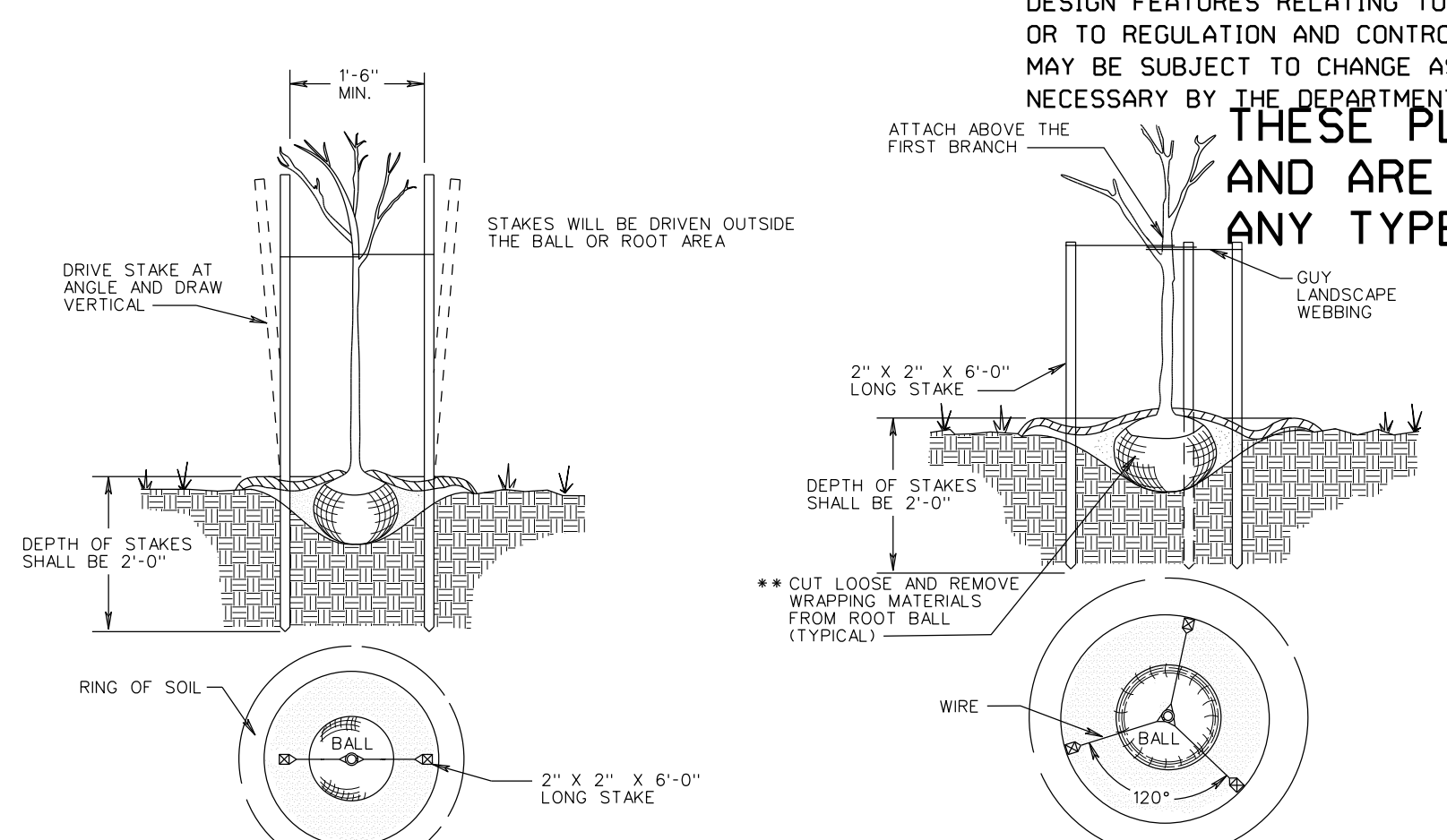
PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Dale Huff, CLA (540) 643-2514 or (540) 577-8231  
SUBSURFACE UTILITY BY, DATE

# LANDSCAPE DETAILS

REVISED	STATE	STATE		SHEET NO.
		ROUTE	PROJECT	
	VA.	95	0095-127-971,C-501	9(2)



- GENERAL NOTES:**
- SEE LANDSCAPE SUMMARY SHEET.
  - ROOT BALL SHALL BE POSITIONED LEVEL WITH FINISHED GRADE. SOIL MIXTURE SHALL TAPER ONTO BUT NOT OVER TOP OF THE ROOT BALL. MULCH SHALL EXTEND AT THE PROPER DEPTH OVER THE ENTIRE ROOT BALL AND PLANTING PIT, AND SHALL BE HAND TAPERED TO THE BASE OF ALL TRUNKS AND STEMS AFTER SPREADING.
  - ON SLOPES STEEPER THAN 3:1, THE FRONT CENTER OF THE PIT SHALL BE MODIFIED WHEN REQUIRED \* TO INCLUDE A 1/4" CUT THE FULL DEPTH OF THE PIT. THE PIT SHALL BE DUG 2" DEEPER THAN SHOWN ON THE SUMMARY SHEET AND BACKFILLED WITH 2" OF #357 AGGREGATE DAYLIGHTED TO THE SLOPE FACE, AND COVERED WITH GEOTEXTILE FABRIC PRIOR TO BACK-FILLING WITH SOIL MIXTURE.
  - SEE NOTE FOR PIT DRAINAGE MODIFICATION FOR SLOPE PLANTING THIS SHEET.

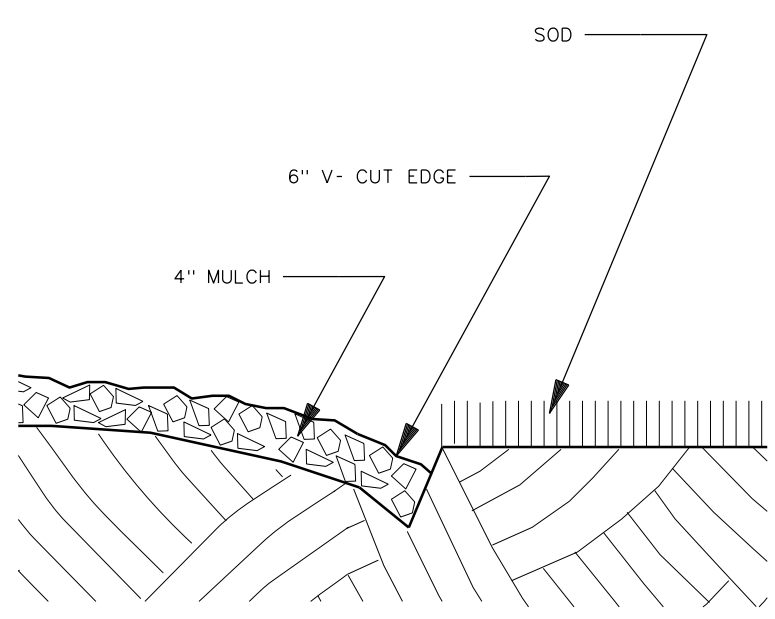


- GENERAL NOTES:**
- ALL DECIDUOUS TREES OVER 4 FT. IN HEIGHT AND ALL EVERGREEN TREES OVER 4 FT. IN HEIGHT OR TALLER SHALL BE STAKED AND GUYED WITH 3 STAKES AS SHOWN.
  - MULTIPLE STEMMED DECIDUOUS TREES 4 FT. IN HEIGHT SHALL BE STAKED WITH 3 STAKES IN SUCH A MANNER AS TO STABILIZE 3 MAINSTEMS.
  - THE WOOD STAKES SHALL BE 2"x2"x6'-0" LONG DRESSED HARDWOOD AND DECAY RESISTANT.
  - DECIDUOUS TREES 2" IN CALIPER OR GREATER
  - EVERGREEN TREES 4 FEET IN HEIGHT OR GREATER

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

**THESE PLANS ARE UNFINISHED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION.**

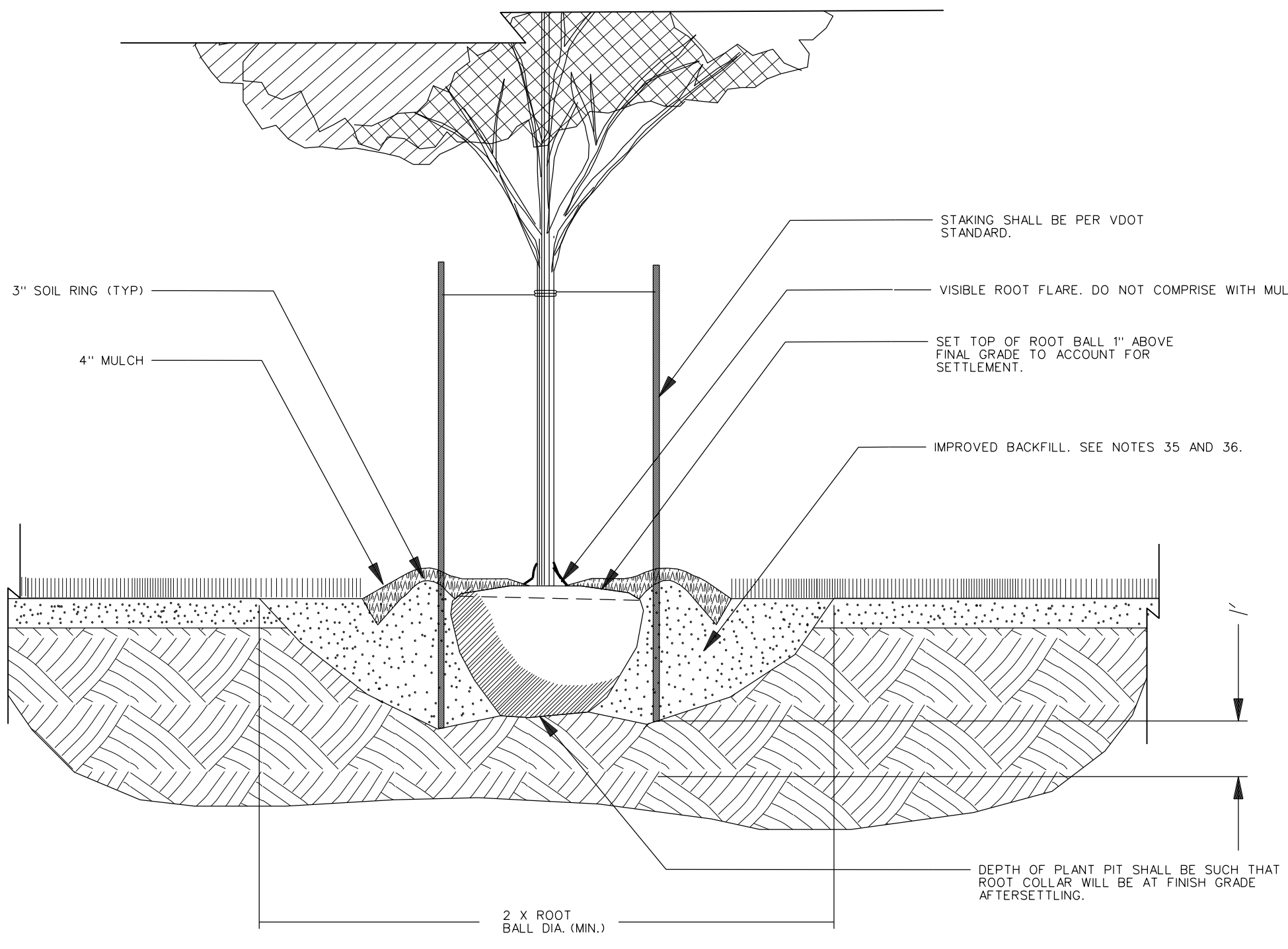
VDOT Location & Design  
Richmond, Virginia  
LANDSCAPE ARCHITECT



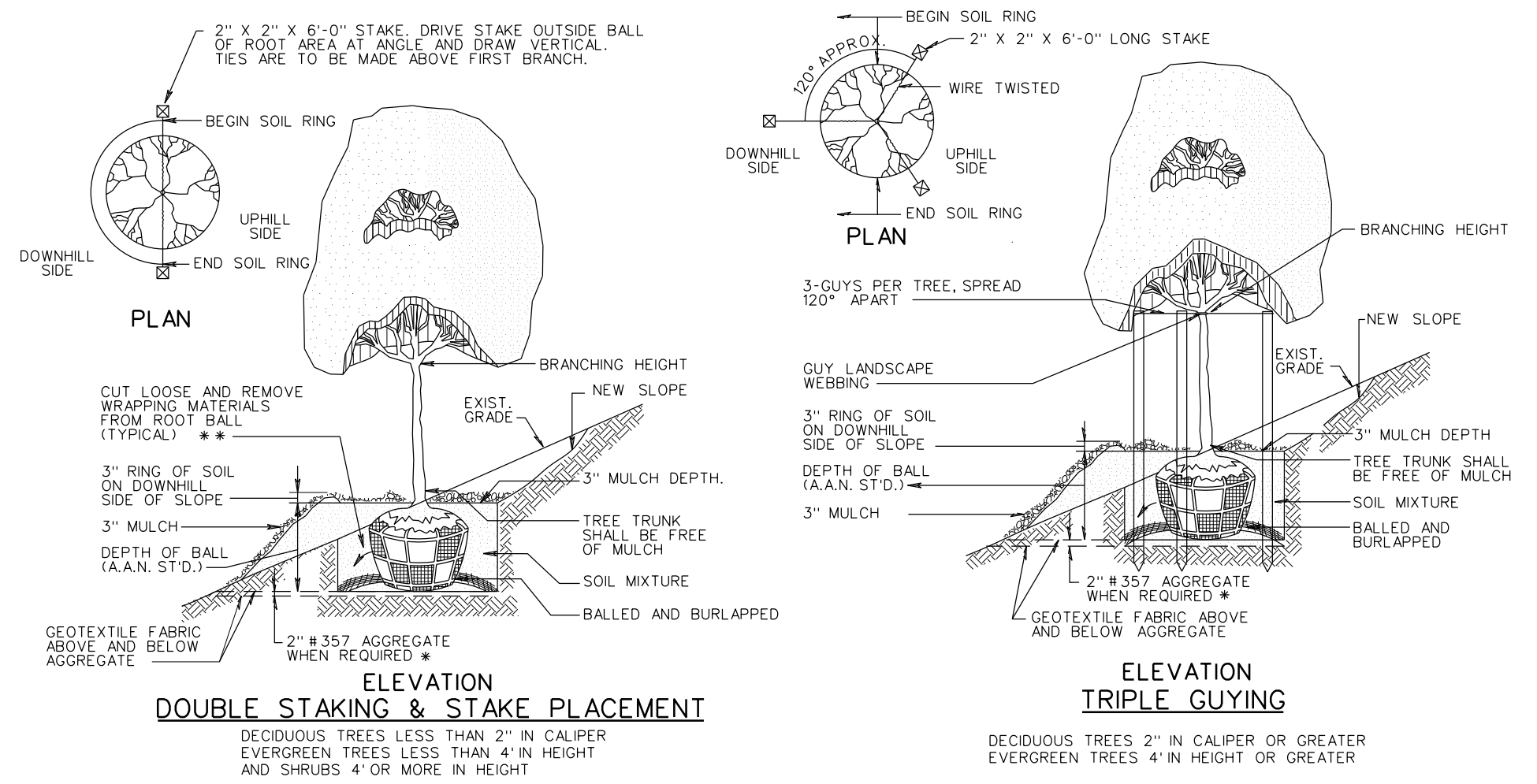
TYPICAL EDGING DETAIL FOR INDIVIDUAL PLANT PITS AND BEDS NTS

PLANTING DETAILS NTS

PLANTING DETAILS STAKING, GUYING NTS



OVERSIZE PLANTING PIT DETAIL FOR ALL TREES 2" CALIPER OR GREATER NTS



- GENERAL NOTES:**
- ALL DECIDUOUS TREES 2" IN CALIPER OR MORE AND ALL EVERGREEN TREES OVER 4' IN HEIGHT SHALL BE STAKED OR GUYED AS SHOWN.
  - MULTIPLE STEMMED DECIDUOUS TREES OVER 4' IN HEIGHT SHALL BE STAKED WITH 3 STAKES IN SUCH A MANNER AS TO STABILIZE 3 MAINSTEMS.
  - THE WOOD STAKES SHALL BE CONSTRUCTION GRADE, ROUGH OR DRESSED, SOUND HARDWOOD, DECAY RESISTANT, AND OF THE SIZE INDICATED IN THE DETAILS.
  - ON SLOPES STEEPER THAN 3:1, THE FRONT CENTER OF THE PIT SHALL BE MODIFIED WHEN REQUIRED \* TO INCLUDE A 1/4" CUT THE FULL DEPTH OF THE PIT. THE PIT SHALL BE DUG 2" DEEPER THAN SHOWN IN THE SUMMARY SHEET AND BACKFILLED WITH 2" OF #357 AGGREGATE DAYLIGHTED TO THE SLOPE FACE, AND COVERED WITH GEOTEXTILE FABRIC PRIOR TO BACK-FILLING WITH SOIL MIXTURE.
  - PIT DRAINAGE MODIFICATION FOR SLOPE PLANTING (WHEN REQUIRED)
  - REMOVE BINDING MATERIALS FROM TRUNKS AND STEMS, AND REMOVE METAL CAGES FROM ROOT BALLS.

SLOPE PLANTING DETAILS PLANTING, STAKING, GUYING NTS



PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Dale Huff, CLA (540) 643-2514, or (540) 577-8231  
SUBSURFACE UTILITY BY, DATE

## BED PLANTING DETAILS & BASIN SEED MIX

THESE PLANS  
AND ARE NOT  
ANY TYPE OF

ARE UNFINISHED  
TO BE USED FOR  
CONSTRUCTION.

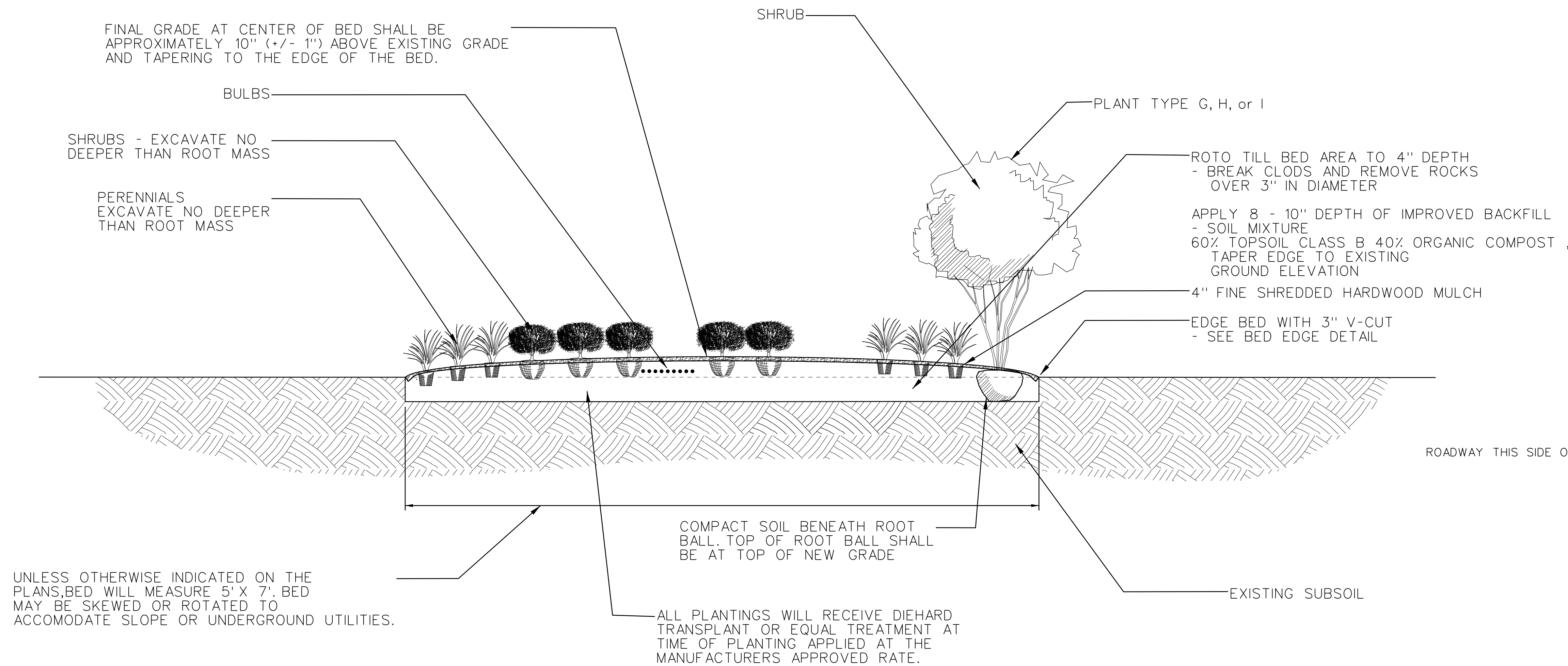
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971, C-501	9(2A)

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

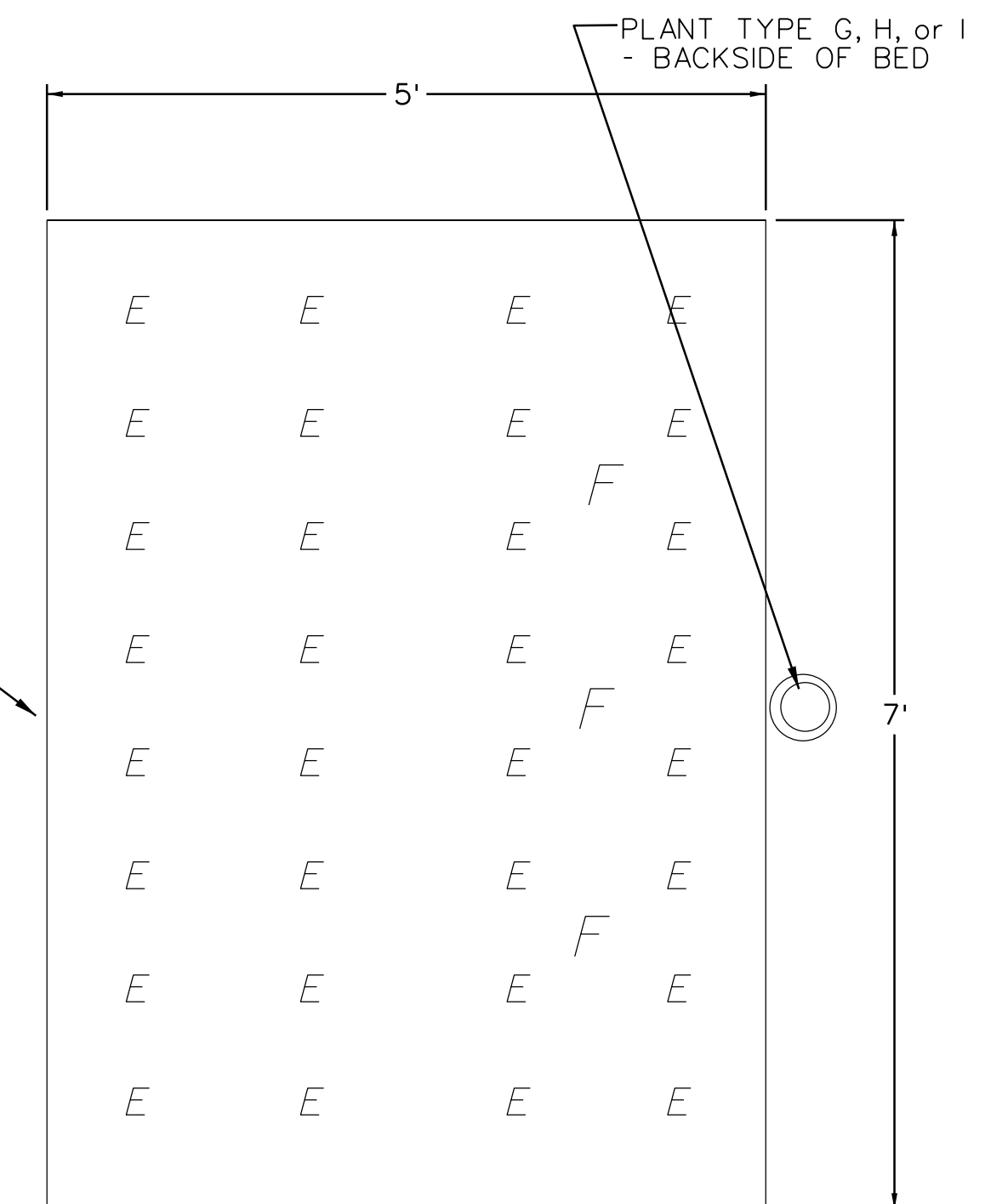
VDOT Location & Design  
Richmond, Virginia  
LANDSCAPE ARCHITECT

K - BASIN SEED MIX	
QTY	SEED TYPE
8.0%	CREeping BENTGRASS
9.0%	COLONIAL BENTGRASS, 'HIGHLAND'
5.0%	BROOMSEDGE, MO ECOTYPE
0.5%	SOFT RUSH
10.0%	REDTOP PANIGRASS, COASTAL PLAIN NC ECOTYPE
10.0%	ROUGH BLUEGRASS
0.2%	VIRGINIA SPIDERWORT, SOUTHEASTERN PA/NORTHERN VA BLEND
0.3%	PARTRIDGE PEA, PA ECOTYPE
2.0%	LANCELEAF COREOPSIS
1.5%	ANNUAL GALLARDIA (INDIAN BLANKET)
1.5%	BLACKEYED SUSAN, COASTAL PLAIN NC ECOTYPE
50.0%	LITTLE BLUESTEM, FORT INDIANTOWN GAP-PA ECOTYPE
1.0%	SHOWY TICKSEED SUNFLOWER (BUR MARIGOLD)
1.0%	COASTAL PLAIN NC ECOTYPE

Notes: Seeding Rate: 30 lbs. per acre from Oct. - May, mid-May preferred. Can be hydroseeded. Ernst Conservation Seeds Inc., seed mixture or approved equal.



NOTE: ON BEDS ADJACENT TO UPRIGHT UTILITIES, ELIMINATE PLANT G, H, OR I.



5'x7' BED PREPARATION TYPE B  
AND BED PLANTING DETAIL NTS

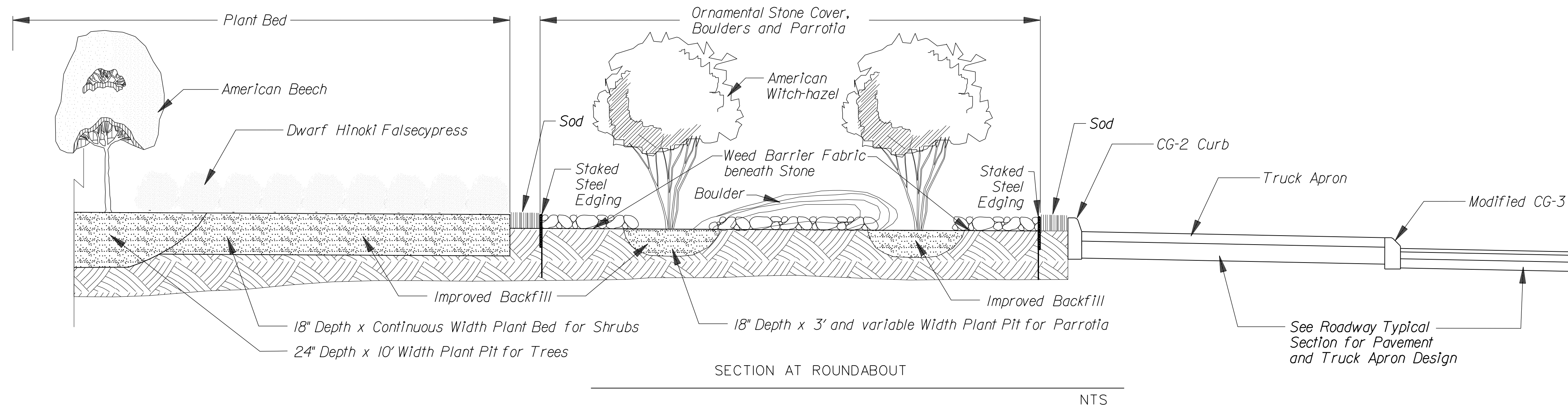
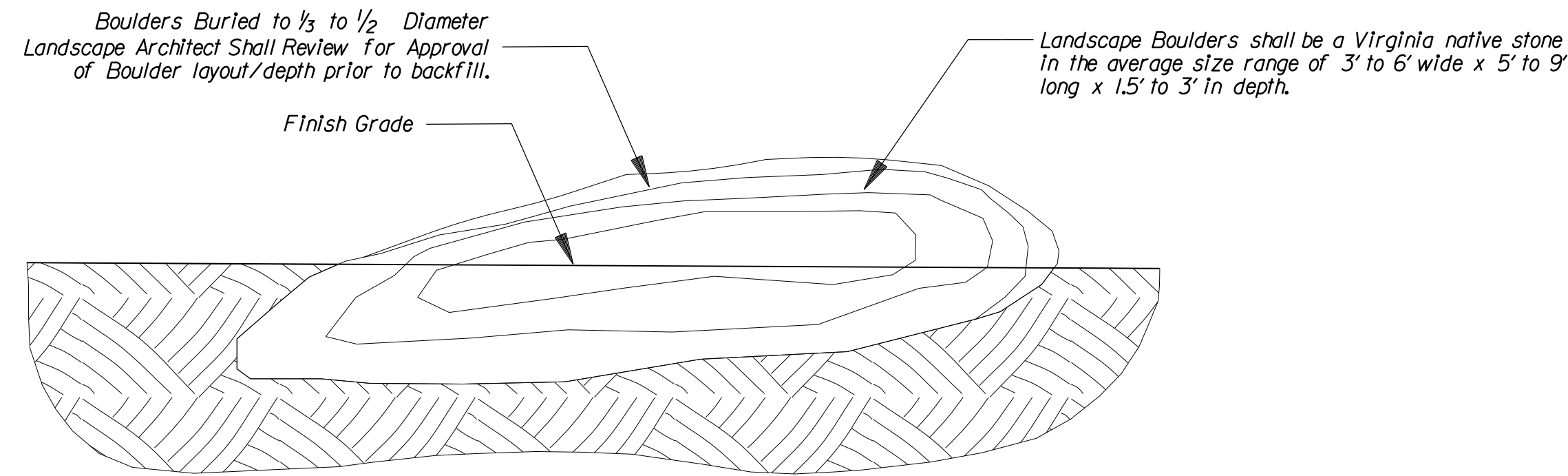
TYPICAL BED PLANTING DETAIL  
PLAN A

PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
 SURVEYED BY, DATE NXL Construction Services (804) 644-4600 (Consultant)  
 DESIGN BY Dale Huff, CLA (540) 643-2514, or (540) 577-8231  
 SUBSURFACE UTILITY BY, DATE

# HARDSCAPE AND ROUNDABOUT PLANTING DETAILS

THESE PLANS  
AND ARE NOT  
ANY TYPE OF

REVISED	STATE	STATE		SHEET NO.
	VA.	ROUTE	PROJECT	
		95	0095-127-971, C-501	9(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 Location & Design Richmond, Virginia LANDSCAPE ARCHITECT				



**MISC. MATERIALS, PROCEDURES, MEASUREMENT AND PAYMENT:**

**ORNAMENTAL STONE COVER:** shall be naturally rounded River Stone in naturally occurring beige, brown to blue-grey tones. Stone shall be 3" to 7" in diameter by 3" to 7" in length (approximate). Stone shall be laid to make a uniform ornamental ground cover that is an average of 5" to 7" in depth (Approximate). The approximate coverage is 36-40 S.F. per Ton at 5" Depth.

Ornamental Stone Cover shall be measured and paid for in units of Square Yards, including furnishing and installing geotextile fabric "weed barrier" and stone, compete in place.

Pay Item: Ornamental Stone Cover  
Pay Unit: Square Yard

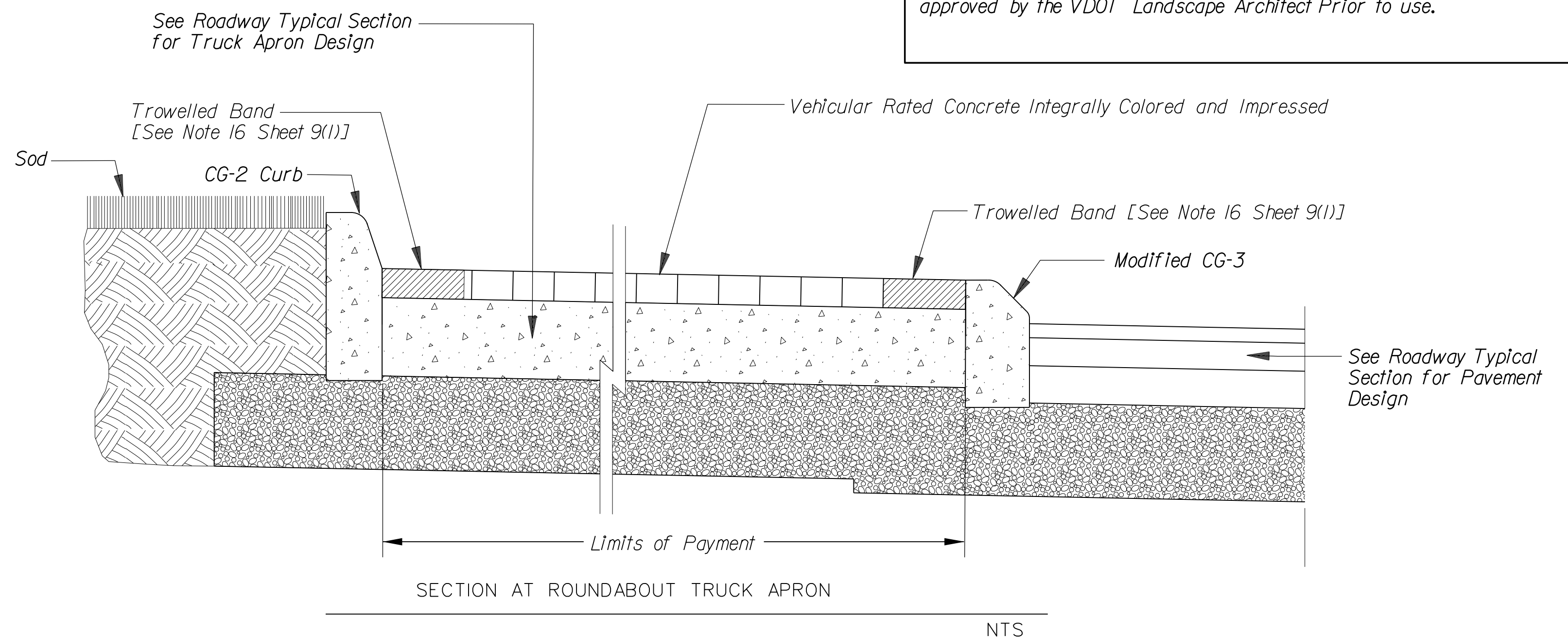
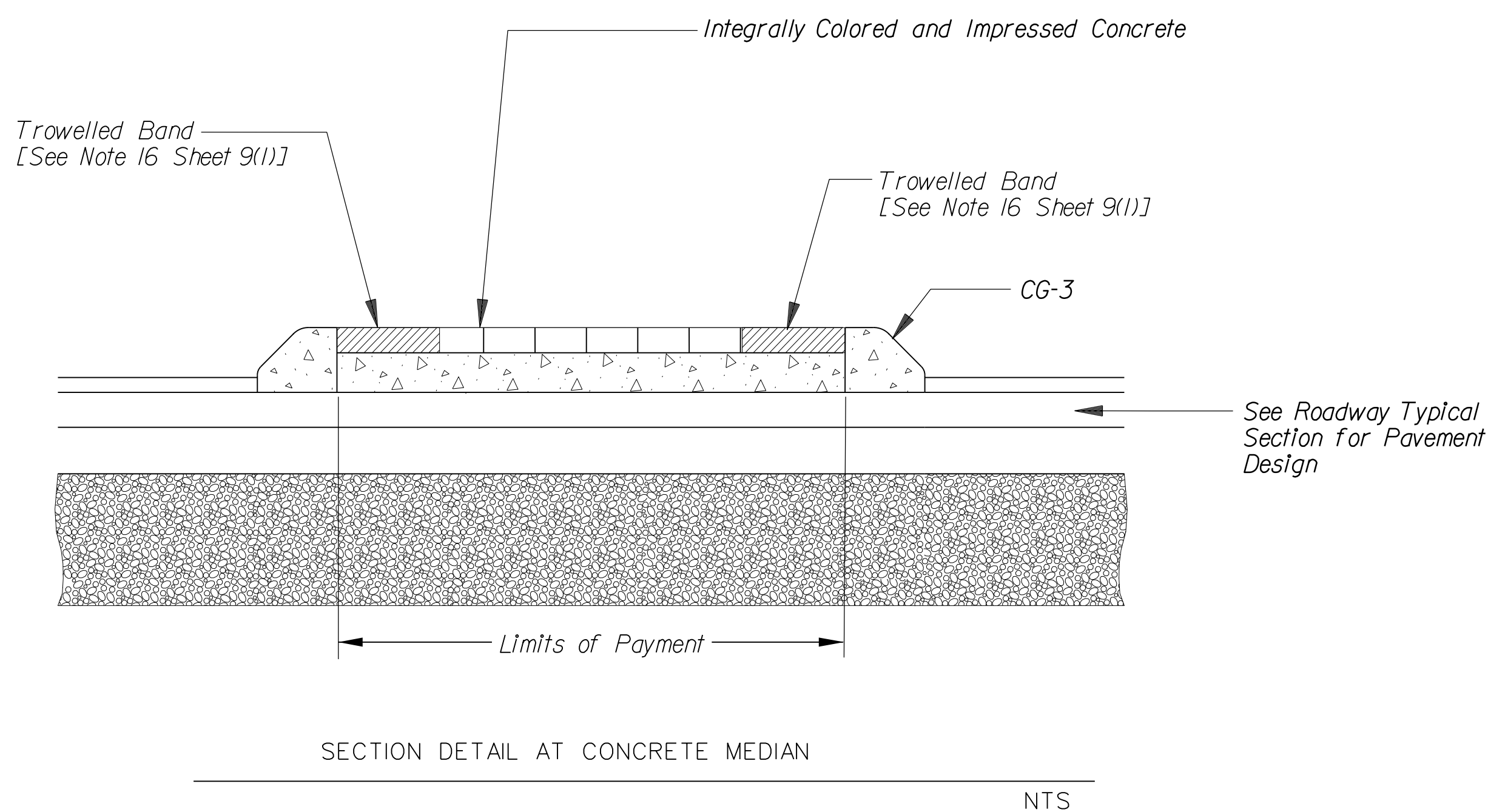
**STEEL EDGING:** For use around inside perimeter of Ornamental Stone Cover, shall be 1/8" (min.) thick by 10" Depth Steel Edging set with 24" length spikes, factory painted Black, Brown or Dark Green and shall be measured and paid for in Units of Linear Feet (L.F.)

Pay Item: Steel Edging  
Pay Unit: L.F.

**BOULDERS:** Landscape Boulders shall be a virginia native stone in the average size range of 3' to 6' wide x 5' to 9' long x 1.5' to 3' in depth. Boulders shall be measured and paid for in units of Each Boulder delivered and set in place as detailed herein.

Pay Item: Boulder  
Pay Unit: Each

**PLANT BED and TREE PITS FOR ROUNDABOUT CENTER:**  
Section 605, Planting, replaced with the Following:  
 1. Contractor shall excavate plant bed to a depth of 18 inches, and Tree Pits to a depth of 24 inches. Contractor shall dispose of excavated material as directed by the Engineer.  
 2. The VDOT Landscape Architect shall review excavation and the Contractor shall not proceed until excavation is approved.  
 3. Once Approved, the Contractor shall backfill excavated area with Composted Yard Waste (See Section 244.02(j) of the Specifications.)  
 Note that Composted Yard Waste Material for Planting must be approved by the VDOT Landscape Architect Prior to use.





PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Dale Huff, CLA (540) 643-2514, or (540) 577-8231  
SUBSURFACE UTILITY BY, DATE

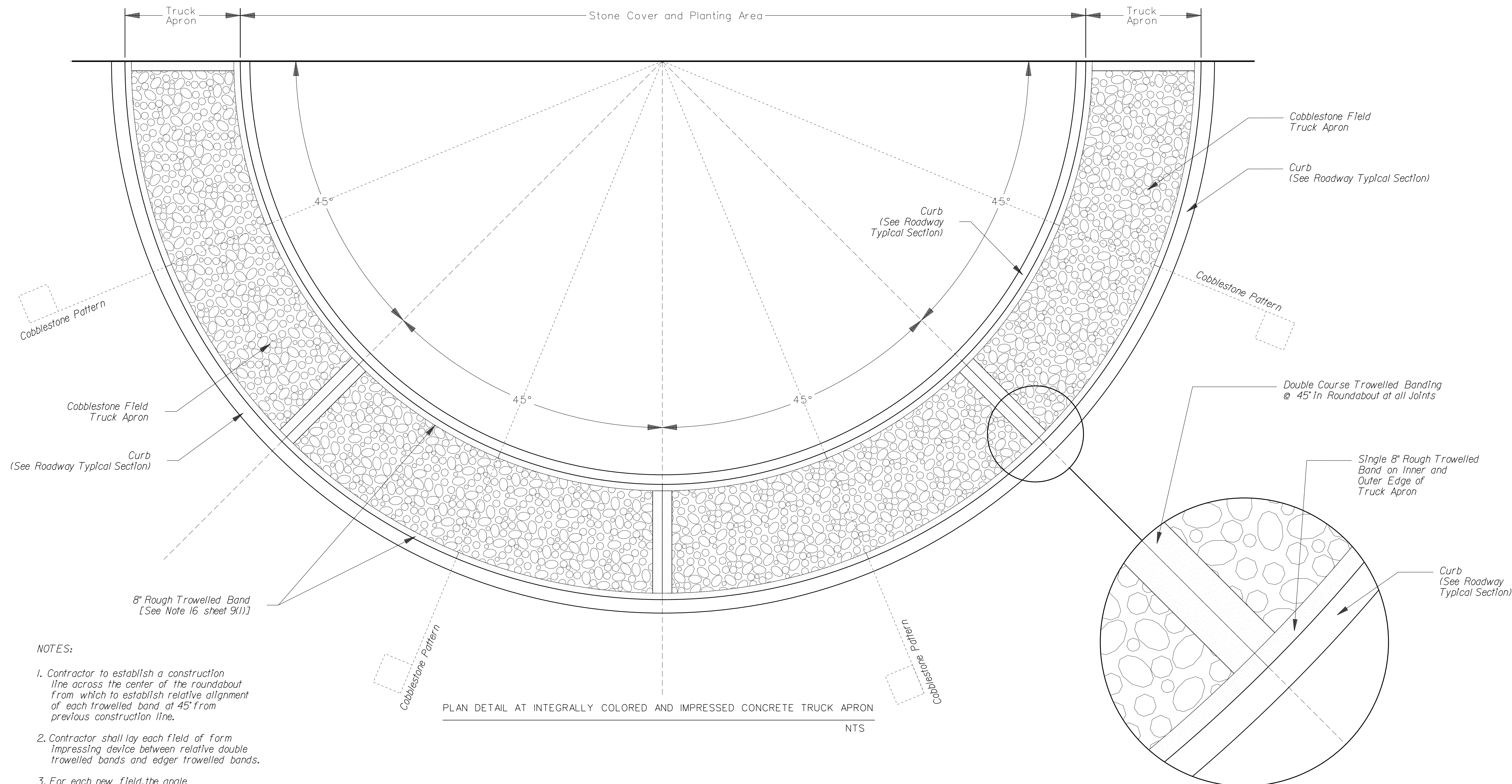
# INTEGRALLY COLORED AND IMPRESSED CONCRETE PLAN VIEW DETAILS

THESE PLANS ARE UNFINISHED  
AND ARE NOT TO BE USED FOR  
ANY TYPE OF CONSTRUCTION.

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971, C-501	9(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 Location & Design  
Richmond, Virginia  
LANDSCAPE ARCHITECT



**NOTES:**

1. Contractor to establish a construction line across the center of the roundabout from which to establish relative alignment of each trowelled band at 45° from previous construction line.
2. Contractor shall lay each field of form impressing device between relative double trowelled bands and edger trowelled bands.
3. For each new field, the angle of the Cobblestone pattern shall be adjusted to 45° from the back of curb at the center point of the impressed field.

PLAN DETAIL AT INTEGRALLY COLORED AND IMPRESSED CONCRETE TRUCK APRON

NTS

PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE M.X.L. Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Dale Huff, CLA (540) 643-2514, or (540) 577-8231  
SUBSURFACE UTILITY BY, DATE

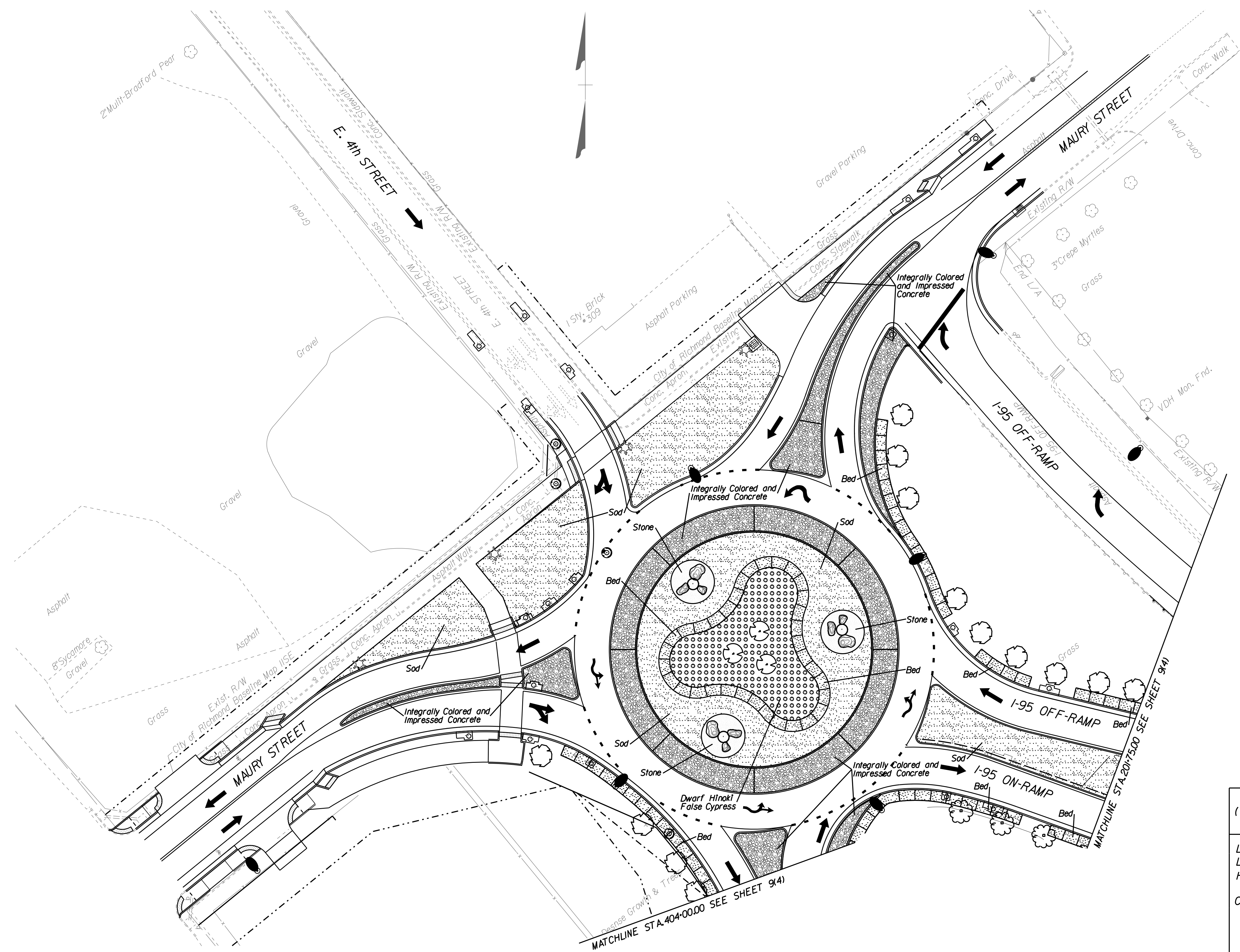
# LANDSCAPE PLAN VIEW

THESE PLANS ARE UNFINISHED  
AND ARE NOT TO BE USED FOR  
ANY TYPE OF CONSTRUCTION.

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971,C-501	9(3)

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

VDOT L&D Division  
Richmond, Virginia  
LANDSCAPE ARCHITECT



- A • 3 EA American Beech
- B • 3 EA Swamp Magnolia
- C • 13 EA Black Pearl Redbud
- D • 3 EA American Witch-hazel
- J • 220 EA Dwarf Hinoki Falsecypress
- N • 9 EA Boulder
- L • 1279 SY Sod
- M • 104 SY Ornamental Stone Cover
- O • 766 SY Integrally Colored and Impressed Concrete
- 2,958 SF Bed

NOTE: On beds adjacent to upright utilities, eliminate plant G, H or I.

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

Landscaping Summary	9(1)
Landscaping Details	9(2)-9(2A)
Hardscape & Roundabout	9(2B)
Planting Details	
Concrete Details	9(2C)



PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE M.X.L. Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Dale Huff, CLA (540) 643-2514, or (540) 577-8231  
SUBSURFACE UTILITY BY, DATE

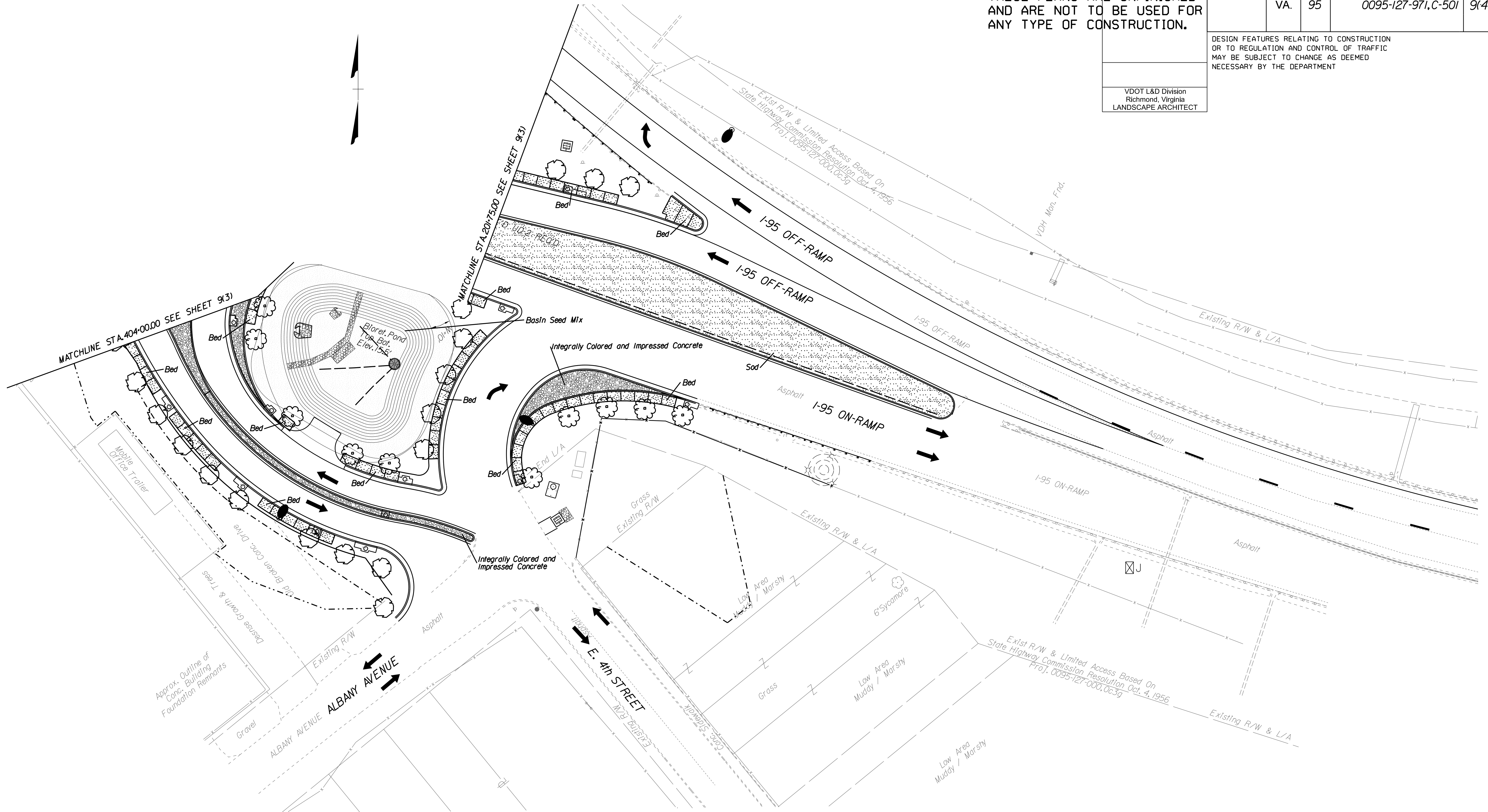
# LANDSCAPE PLAN VIEW




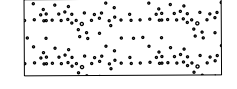


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REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971, C-501	9(4)

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

VDOT L&D Division  
Richmond, Virginia  
LANDSCAPE ARCHITECT

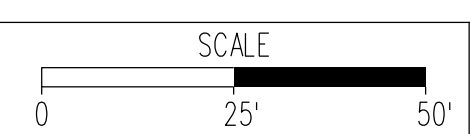


-  B • 10 EA Swamp Magnolia
-  C • 17 EA Black Pearl Redbud
-  K • 0.02 AC Basin Seed Mix
-  L • 624 SY Sod
-  O • 164 SY Integrally Colored and Impressed Concrete
-  2133 SF Bed

NOTE: On beds adjacent to upright utilities, eliminate plant G, H or I.

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

- Landscaping Summary 9(1)
- Landscaping Details 9(2)-9(2A)
- Hardscape Details 9(2B)
- Concrete Details 9(2C)



PROJECT	SHEET NO.
0095-127-971	9(4)



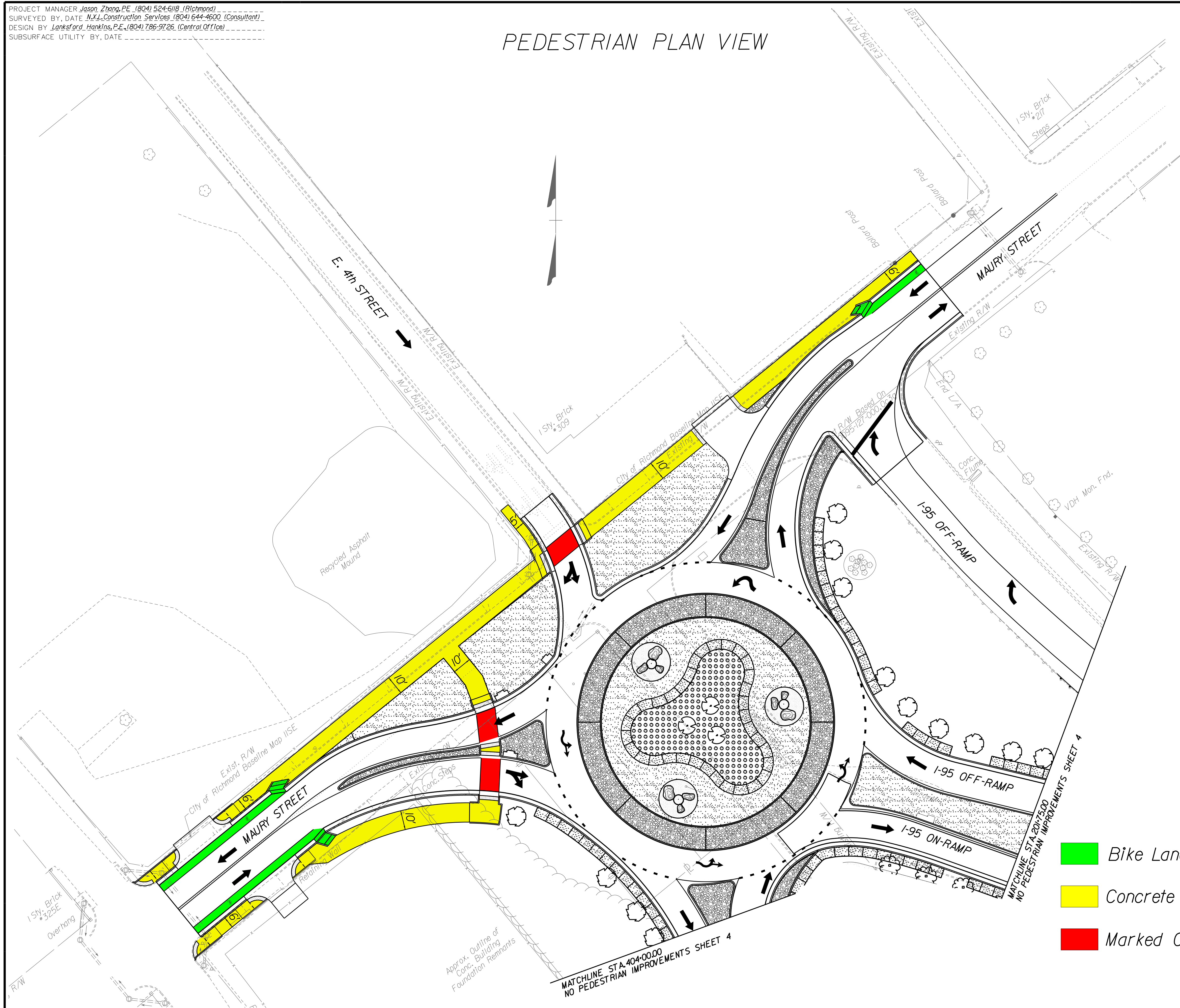
PROJECT MANAGER Jason Zhang, PE (804) 524-6118 (Richmond)  
SURVEYED BY, DATE NXL Construction Services (804) 644-4600 (Consultant)  
DESIGN BY Lankford, Hankins, P.E. (804) 786-9726 (Central Office)  
SUBSURFACE UTILITY BY, DATE

# PEDESTRIAN PLAN VIEW

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	95	0095-127-971,C-501	NA

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

**THIS SHEET IS ILLUSTRATIVE AND IS NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION.**



- Bike Lane, Transitions to Shared Use Path (4' Width)
- Concrete Sidewalk/Shared Use Path (Width Varies)
- Marked Crosswalk (10' Width, Ladder Style)