

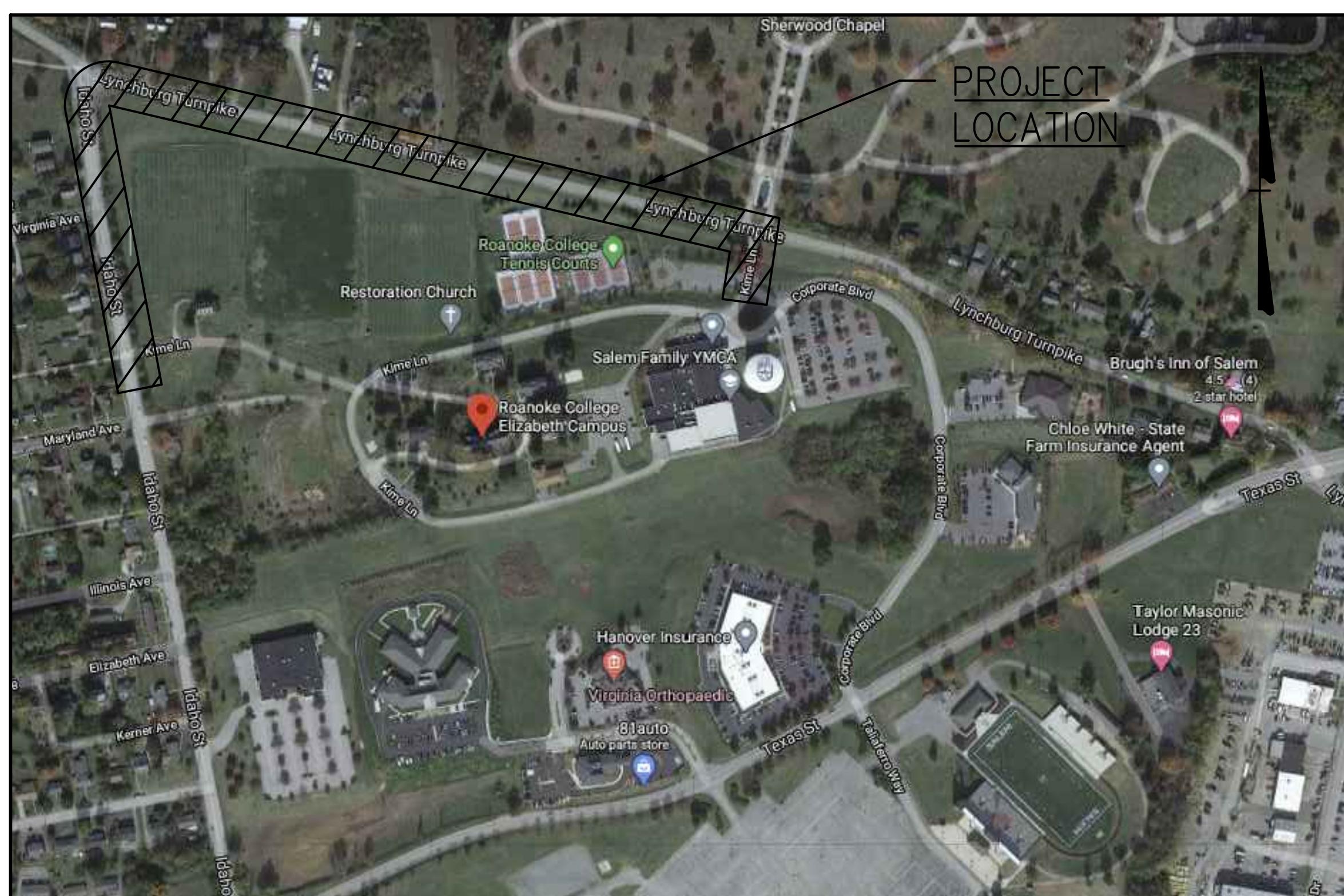
# ELIZABETH CAMPUS GREENWAY KIME LANE TO IDAHO STREET SALEM, VIRGINIA

UPC 113566 / RSTP-5128(431, 505, 506)  
MARCH 27, 2024 COMM. NO. 4110

SHEET LIST:

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C1.0	EXISTING UTILITY SCHEDULES AND SURVEY CONTROL
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C1.2	EXISTING CONDITIONS PLAN - 'B'
C1.3	EXISTING CONDITIONS PLAN - 'C'
C1.4	EXISTING CONDITIONS PLAN - 'D'
C1.5	EXISTING CONDITIONS PLAN - 'E'
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C2.2	LAYOUT PLAN AND PROFILE - 'B'
C2.3	LAYOUT PLAN AND PROFILE - 'C'
C2.4	LAYOUT PLAN AND PROFILE - 'D'
C2.5	LAYOUT PLAN AND PROFILE - 'E'
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C3.3	CROSS SECTIONS
C3.4	CROSS SECTIONS
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C4.3	GRADING-DRAINAGE AND EROSION CONTROL PLAN - 'C'
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C4.8	EROSION AND SEDIMENT CONTROL DETAILS
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C5.3	LANDSCAPE PLAN - 'E'
C6.1	MAINTENANCE OF TRAFFIC (MOT) PLAN NOTES AND TYPICAL SECTIONS
C6.2	MAINTENANCE OF TRAFFIC (MOT) PLAN - STAGE 2

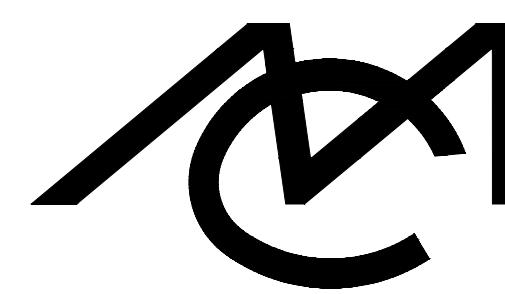
VICINITY MAP  
N.T.S.



PROJECT TEAM:



CITY OF SALEM  
COMMUNITY DEVELOPMENT  
21 SOUTH BRUFFEY STREET  
SALEM, VA. 24153  
PHONE: (540) 375-3032

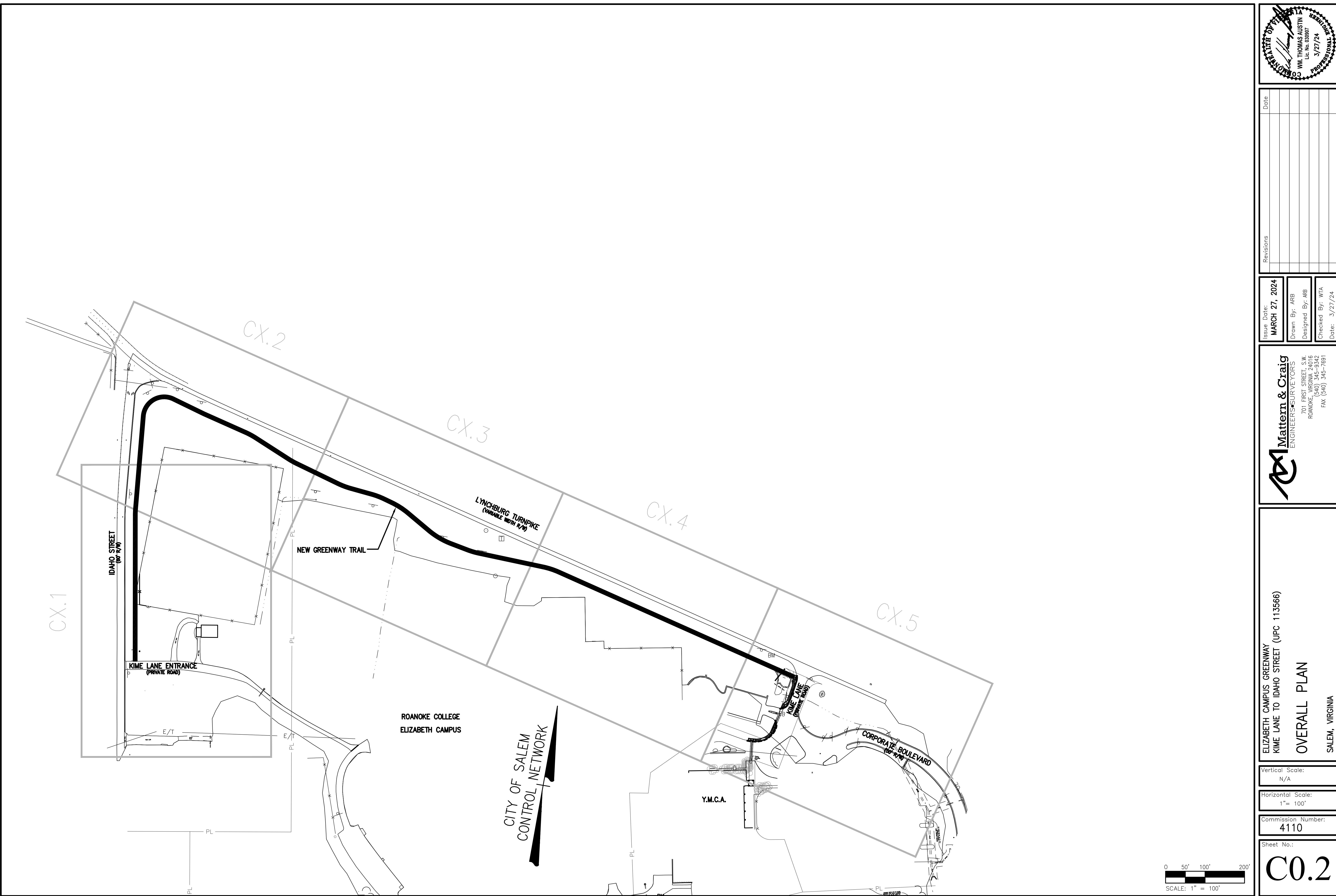


MATTERN AND CRAIG  
701 1st STREET S.W.  
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800 NORTH CHARLES ST. STE. 300  
BALTIMORE, MARYLAND 21201  
PHONE: (410) 528-8395

LOCALLY ADMINISTERED PROJECTS	
CITY OF SALEM	
WILLIAM L. SIMPSON, JR. P.E.	
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
5/1/2024	City Engineer/Assistant Director
DATE	TITLE OF POSITION



## EXISTING STORM DRAINAGE SCHEDULE:

(D1) End Section  
Inv. Out 24" RCP = 1,100.87'

(D2) Curb Inlet  
Top of Rim = 1,104.71'  
Inv. In 15" RCP = 1,100.81'  
Inv. Out 24" RCP = 1,100.76'

(D3) Curb Inlet  
Top of Rim = 1,104.80'  
Inv. In 18" HDP = 1,101.49'  
Inv. Out 24" RCP = 1,101.40'

(D4) Curb Inlet  
Top of Rim = 1,112.01'  
Inv. In 18" HDP = 1,108.72'  
Inv. Out 18" HDP = 1,107.50'

(D5) End Section  
Inv. Out 18" RCP = 1,106.23'

(D6) Storm Drain Manhole  
Underground 4' x 10' Vault  
Top of Rim = 1,110.32'  
Inv. In 15" RCP = 1,106.84' (From D7)  
Inv. In 15" RCP = 1,106.79' (From D9)  
Inv. In 18" RCP = 1,107.05' (From D8)  
Inv. Out 18" RCP = 1,106.44'

(D7) Curb Inlet  
Top of Rim = 1,110.00'  
Inv. Out 15" RCP = 1,107.19'

(D8) Curb Inlet  
Top of Rim = 1,110.95'  
Inv. In 18" RCP = 1,106.88'  
Inv. Out 18" RCP = 1,106.67'

(D9) Curb Inlet  
Top of Rim = 1,113.52'  
Inv. In 18" RDP = 1,109.22'  
Inv. Out 18" RCP = 1,107.99'

(D10) Curb Inlet  
Top of Rim = 1,110.71'  
Inv. Out 15" RCP = 1,108.03'

(D11) Catch Basin  
Top of Grote = 1,104.62'  
Inv. Out 18" RCP = 1,102.41'

(D12) Curb Inlet  
Top of Rim = 1,107.39'  
Inv. In 18" RCP = 1,101.95'  
Inv. Out 18" RCP = 1,101.75'

(D13) Curb Inlet  
Top of Rim = 1,107.34'  
Inv. In 18" RCP = 1,101.49'  
Inv. Out 18" RCP = 1,101.39'

(D14) Conc. Endwall  
Inv. Out 18" RCP = 1,101.21'

(D15) Concrete Headwall  
Inv. Out 48" RCP = 1,101.24'

(D16) Conc. Endwall  
Inv. Out 24" HDP = 1,101.41'

(D17) Conc. Endwall  
Inv. In 48" RCP = 1,102.68'

(D18) Curb Inlet  
Top of Rim = 1,110.02'  
Inv. In 15" HDP = 1,104.72'  
Inv. Out 24" HDP = 1,102.54'

(D19) Catch Basin  
Top of Grote = 1,109.27'  
Inv. Out 15" HDP = 1,105.26'

(D20) Conc. Endwall  
Inv. Out 15" RCP = 1,109.92'

(D21) Curb Inlet  
Top of Rim = 1,114.67'  
Inv. In 15" RCP = 1,110.32'  
Inv. Out 15" RCP = 1,110.06'

(D22) Curb Inlet  
Top of Rim = 1,114.64'  
Inv. Out 15" RCP = 1,111.20'

(D23) Conc. Endwall  
Inv. Out 42" RCP = 1,116.24'

(D24) Storm Drain Manhole  
Top of Rim = 1,128.85'  
Inv. In 24" RCP = 1,121.13' (From D17)  
Inv. In 42" RCP = 1,117.75' (From D19)  
Inv. Out 42" RCP = 1,117.60'

(D25) Curb Inlet  
Top of Rim = 1,126.76'  
Inv. In 24" RCP = 1,122.16'  
Inv. Out 24" RCP = 1,122.10'

(D26) Curb Inlet  
Top of Rim = 1,127.25'  
Inv. Out 24" RCP = 1,122.76'

(D27) Storm Drain Manhole  
Top of Rim = 1,131.64'  
Inv. In 15" RCP = 1,121.25'  
Inv. In 36" RCP = 1,121.45'  
Inv. Out 42" RCP = 1,121.36'

(D28) Curb Inlet  
Top of Rim = 1,127.53'  
Inv. In 15" RCP = 1,123.40'  
Inv. Out 15" RCP = 1,123.34'

(D29) Curb Inlet  
Top of Rim = 1,127.18'  
Inv. Out 15" RCP = 1,123.77'

(D30) Storm Drain Manhole  
Top of Rim = 1,132.12'  
Inv. In 36" RCP = 1,125.19'  
Inv. Out RCP = 1,125.16'

(D31) Storm Drain Manhole  
Top of Rim = 1,130.24'  
Inv. In 15" RCP = 1,125.62' (From D32)  
Inv. In 15" RCP = 1,126.87' (From D33)  
Inv. Out 36" RCP = 1,125.67'

(D32) Curb Inlet  
Top of Rim = 1,130.33'  
Inv. Out 15" RCP = 1,126.61'

(D33) Curb Inlet  
Top of Rim = 1,130.25'  
Inv. Out 15" RCP = 1,126.56'

(D34) Conc. Endwall  
Inv. In 36" RCP = 1,125.96'

(D35) Storm Drain Manhole (Grated)  
Top of Rim = 1,139.00'  
Inv. Out 12" HDP = 1,134.92'

(D36) In Pl. 12" HDP  
Inv. Out = 1,134.13'

(D37) In Pl. 10" PVC  
Inv. In = 1,133.97'  
Inv. Out = 1,133.97'

(D38) In Pl. 10" PVC  
Inv. In = ?  
Inv. Out = 1,134.47'

(D39) In Pl. 18" RCP  
Inv. In = 1,132.63'  
Inv. Out = 1,132.34'

(D40) End Section  
Inv. Out 18" CMP = 1,135.82'

(D41) Catch Basin  
Top of Grote = 1,138.14'  
Inv. Out 18" CMP = 1,136.12'

(D42) In Pl. 18" RCP  
Inv. In = 1,076.46'

(D43) Storm Drain Manhole  
Top of Grote = 1,110.90'  
Inv. In 12" HDPE = 1148.49'  
Inv. Out 18" HDPE = 1148.42'

(D44) End Section  
Inv. Out 18" RCP = 1,072.28'

(D45) Catch Basin  
Top of Conc. = 1,061.16'  
Inv. In 18" CMP = 1,055.12'  
Inv. Out 18" CMP = ?

(D46) Conc. Endwall  
Inv. Out 18" RCP = 1,077.09'

(D47) Conc. Endwall  
Inv. Out 18" HDPE = 1146.35'  
Inv. Out 18" HDPE = 1146.21'

(D48) Catch Basin  
Top of Grote = 1,145.08'  
Inv. Out 18" HDPE = 1141.53'

(D49) In Pl. 1" RCP w/ End Section  
Inv. In = 1,146.05'  
Inv. Out = 1,145.59'

(D50) End Section  
Inv. Out 15" HDPE = 1,142.75'

(D51) Drop Inlet  
Top of Grote = 1,145.65'  
Inv. Out 15" HDPE = 1,143.66'

(D52) In Pl. 15" RCP  
Inv. In RCP = 1,132.88'  
Inv. Out RCP = 1,131.83'

(D53) In Pl. 18" HDPE  
Inv. In = 1,138.50'

(D54) In Pl. 18" HDPE  
Inv. In = 1,137.46'

(D55) In Pl. 15" CMP  
Inv. In = (Unk. Dir.)  
Inv. Out = 1071.22'

(D56) In Pl. 24" CMP  
Inv. In = 1070.96'  
Inv. Out = 1069.34'

(D57) In Pl. 24" CMP  
Inv. In = 1063.51'  
Inv. Out = 1063.00'

(D58) In Pl. 15" CMP w/ Conc. Headwall  
Top of Rim = 1,139.00'  
Inv. Out 12" HDP = 1,134.92'

(D59) In Pl. 15" CMP  
Inv. In = 1063.08'  
Inv. Out = 1061.47'

(D60) In Pl. 15" CMP  
Inv. In = 1076.82'  
Inv. Out = 1073.77'

(D61) In Pl. 15" CMP  
Inv. In = 1073.91'  
Inv. Out = 1071.84'

(D62) Storm Drain Manhole  
Top of Rim = 1,134.24'

## EXISTING SANITARY SEWER SCHEDULE:

(S1) Sanitary Sewer Manhole  
Top of Rim = 1,154.84'  
Inv. In 12" HDP = 1152.91'  
Inv. Out 12" HDPE = 1152.87'

(S2) Storm Drain Manhole  
Top of Rim = 1,135.69'  
Inv. In 12" HDPE = 1151.67'  
Inv. Out 12" HDPE = 1151.64'

(S3) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S4) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S5) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S6) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S7) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S8) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S9) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S10) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S11) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S12) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S13) Catch Basin  
Top of Rim = 1,138.14'  
Inv. In 12" HDPE = 1151.12'

(S14) Sanitary Sewer Manhole  
Top of Rim = 1,143.71'  
Inv. In 8" PVC = 1,134.46' (From S15)  
Inv. Out 8" PVC = 1,134.11'

(S15) Sanitary Sewer Manhole  
Top of Rim = 1,140.61'  
Inv. In 8" PVC = 1,136.36' (From C0)  
Inv. Out 8" PVC = 1,136.31'

(S16) Sanitary Sewer Manhole  
Top of Rim = 1,151.59'  
Inv. In = 1,145.97'  
Inv. Out 8" PVC = 1,145.59'

(S17) Sanitary Sewer Manhole  
Top of Rim = 1,147.58'  
Inv. In 8" = 1,140.74'  
Inv. In 8" = 1,140.86' (From S18)

(S18) Sanitary Sewer Manhole  
Top of Rim = 1,159.14'  
Inv. In 8" = 1,149.88' (From S22)  
Inv. In 8" = 1,149.97' (From S19)  
Inv. Out 8" = 1,149.90'

(S19) Sanitary Sewer Manhole  
Top of Rim = 1,160.63'  
Inv. Out = 1,151.83'

(S20) Sanitary Sewer Manhole  
Top of Rim = 1,170.66'  
Inv. Out = ?

(S21) Sanitary Sewer Manhole  
Top of Rim = 1,165.49'  
Inv. In 4" = 1,156.19' (Unk. Dir.)  
Inv. In 8" = 1,160.23' (From S20)  
Inv. Out 8" = 1,153.94'

(S22) Sanitary Sewer Manhole  
Top of Rim = 1,163.22'  
Inv. In 8" = 1,151.92' (From S21)  
Inv. In 8" = 1,151.80' (From S23)  
Inv. Out 8" = 1,151.75' (From S19)

(S23) Sanitary Sewer Manhole  
Top of Rim = 1,161.64'  
Inv. In 8" = 1,153.19' (From S24)  
Inv. Out 8" = 1,153.23'

(S24) Sanitary Sewer Manhole  
Top of Rim = 1,158.86'  
Inv. In 8" = 1,154.96' (From CO)  
Inv. Out 8" = 1,154.48'

(S25) Sanitary Sewer Manhole  
Top of Rim = 1,094.31'  
Inv. In 10" = 1,086.11'  
Inv. Out 10" = 1,086.01'

(S26) Sanitary Sewer Manhole  
Top of Rim = 1,112.37'  
Inv. In 8" = 1,102.85'  
Inv. Out 8" = 1101.83'

(S27) Sanitary Sewer Manhole  
Top of Rim = 1,113.24'  
Inv. In 8" = 1102.65'  
Inv. Out 8" = 1101.78'

(S28) Sanitary Sewer Manhole  
Top of Rim = 1,095.01'  
Inv. In 10" = 1,077.21' (From S9)  
Inv. In 10" = 1,077.71' (From S10)  
Inv. Out 10" = 1,077.36'

(S29) Sanitary Sewer Manhole  
Top of Rim = 1,085.71'  
Inv. In 6" = 1,078.68' (From Football Stadium)  
Inv. In 6" = 1,078.71' (From Civic Center)  
Inv. Out 10" = 1,078.49'

(S30) Sanitary Sewer Manhole  
Top of Rim = 1,094.31'  
Inv. In 10" = 1,086.11'  
Inv. Out 10" = 1,086.01'

(S31) Sanitary Sewer Manhole  
Top of Rim = 1,101.40'  
Inv. In 8" = 1,094.16'  
Inv. Out 10" PVC = 1,094.20'

(S32) Sanitary Sewer Manhole  
Top of Rim = 1,129.55'

(S33) Sanitary Sewer Manhole  
Top of Rim = 1,139.10'  
Inv. In 8" PVC = 1,128.95' (From S14)  
Inv. Out 8" PVC = 1,128.80'

## SURVEY CONTROL:

ELIZABETH CAMPUS BASELINE:

COSM 08-09: N: 3633999.4991 E: 11033182.9041 ELEV: 1167.298 BEARING: S 58° 23' 17" E HDIST: 311.249'

COSM 92-13: N: 3633836.3540 E: 11033447.9690 ELEV: 1171.710 BEARING: S 79° 16' 08" E HDIST: 696.663'

M&C #3: N: 3633706.6355 E: 11034132.4484 ELEV: 1160.135 BEARING: S 74° 53' 14" E HDIST: 1151.384'

M&C #4: N: 3633408.4473 E: 11035244.0109 ELEV: 1138.559 BEARING: S 55° 56' 33" E HDIST: 538.863'

M&C #5: N: 3633104.6707 E: 11035690.4463 ELEV: 1130.201 BEARING: S 02° 52' 53" E HDIST: 457.194'

M&C #6: N: 3632648.0549 E: 11035713.4289 ELEV: 1108.972L BEARING: S 33° 03' 32" W HDIST: 498.656'

M&C #7: N3632230.1262 E: 11035441.4118 ELEV: 1107.451 BEARING: N 20° 31' 17" W HDIST: 667.309'

M&C #8: N: 3632855.0883 E: 11035207.4819 ELEV: 1142.177 BEARING: S 75° 33' 10" W HDIST: 564.524'

M&C #9: N: 3632714.2461 E: 11034660.8093 ELEV: 1149.642 BEARING: S 80° 47' 14" W HDIST: 409.920'

M&C #10: N: 3632648.6172 E: 11034256.1767 ELEV: 1148.860 BEARING: N 27° 57' 22" W HDIST: 334.897'

M&C #11: N: 3632944.4342 E: 11034099.1784 ELEV: 1155.699 BEARING: S 79° 47' 52" W HDIST: 639.840'

M&C #12: N: 3633057.7644 E: 11033469.4549 ELEV: 1150.605 BEARING: N 01° 34' 51" W HDIST: 778.886'

COSM 92-13: N: 3633836.3540 E: 11033447.9690 ELEV: 1171.710

## TEXAS &amp; LYNCHBURG BASELINE:

M&C #7: N: 3632230.1262 E: 11035441.4118 ELEV: 1107.451 BEARING: N 63° 27' 09" E HDIST: 726.695'

M&C #5782: N: 3632554.9148 E: 11036091.4867 ELEV: 1090.063 BEARING: N 69° 06' 06" E HDIST: 709.194'

M&C #20: N: 3632807.8935 E: 11036754.0255 ELEV: 1059.203 BEARING: N 70° 05' 17" W HDIST: 495.330'

M&C #21: N: 3632976.5907 E: 11036288.3075 ELEV: 1100.034 BEARING: N 66° 39' 45" W HDIST: 671.005'

M&C #22: N: 3633242.4065 E: 11035672.1993 ELEV: 1145.743 BEARING: N 69° 02' 17" W HDIST: 458.535'

M&C #4: N: 3633406.4473 E: 11035244.0109 ELEV: 1138.559

## BENCHMARK (NAVD88):

CHISELED SQUARE ON NORTHEAST CORNER OF CONCRETE WATER VAULT LOCATED AT THE END OF KIME LANE.  
ELEVATION = 1147.17'

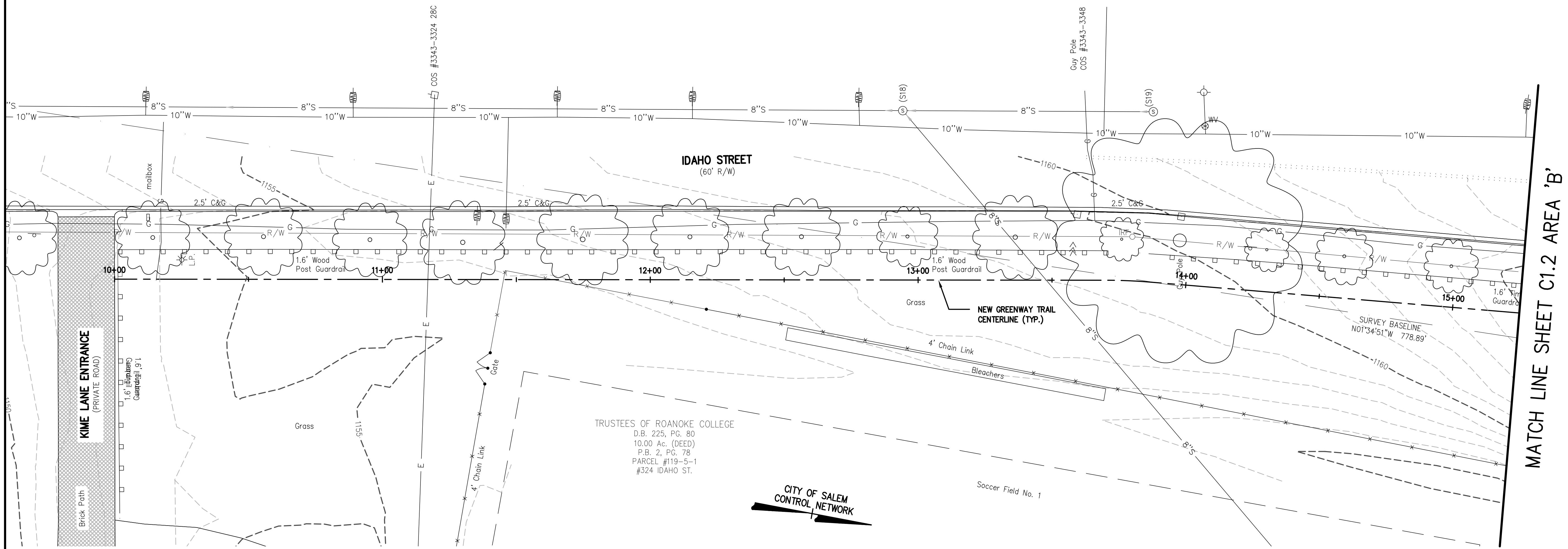
CHISELED SQUARE ON NORTHEAST CORNER OF CONCRETE ENDWALL AT THE NORTHWEST CORNER OF THE INTERSECTION OF TEXAS STREET AND LYNCHBURG TURNPIKE.  
ELEVATION = 1061.15'

CITY OF SALEM CONTROL MONUMENT #92-13, BRASS DISK SET IN CONCRETE AT THE SOUTHEAST CORNER OF THE INTERSECTION OF IDAHO STREET AND LYNCHBURG TURNPIKE.  
ELEVATION = 1171.71'

RAILROAD SPIKE IN BASE OF POWER POLE DESIGNATED COS #3510-3343, LOCATED ON LYNCHBURG TURNPIKE.  
ELEVATION = 1139.45'

## NOTES:

1. THIS LOCATION SURVEY



---

## MATCH LINE SHEET C1.2 AREA 'B'

<u>Legend (Existing)</u>	
Ⓐ	– Sanitary Sewer Manhole
Ⓓ	– Storm Drain Manhole
Ⓣ	– Telephone Manhole
•	– Traffic Handhole
Ⓔ	– Electric Handhole
WM	– Water Meter
WV	– Water Valve
GM	– Gas Meter
GV	– Gas Valve
EM	– Electric Meter
ET	– Electric Transformer
	– Light Pole (L.P.)
	– Signal Pole
	– Power Pole
COS	– City of Salem
Conc.	– Concrete
Entr.	– Entrance
○	– Corner
—○—	– Sign
—UT DUCT—	– Verizon Duct
.....	– Striping
— C —	– Cable Line
— E —	– Electric Line
— UE —	– Underground Electric
— G —	– Gas Line
— T —	– Telephone Line
— W —	– Water Line
	– Existing Conc. Unit P

SEE SHEET C1.0 FOR SURVEY  
CONTROL DATA, BENCHMARKS, AND  
STORM DRAINAGE / SANITARY SEWER  
STRUCTURE SCHEDULE.

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

Vertical Scale:  
N/A

Horizontal Scale:  
1" = 20'

Commission Number  
**4110**

Sheet No.:

C1.1

1. **What is the primary purpose of the study?**

A circular notary seal with a serrated outer edge. The text "NOTARY PUBLIC" is at the top, "STATE OF VIRGINIA" is in the center, and "PROFESSIONAL ENGINEER" is at the bottom. The name "WM. THOMAS AUSTIN" is in the middle. The license number "Lic. No. 030907" is to the left of the date "3/27/24". The seal is signed with a stylized "A" and "T" at the top left.

Revisions	Date

**Mattern & Craig**  
ENGINEERS•SURVEYORS

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FAX (540) 345-7691

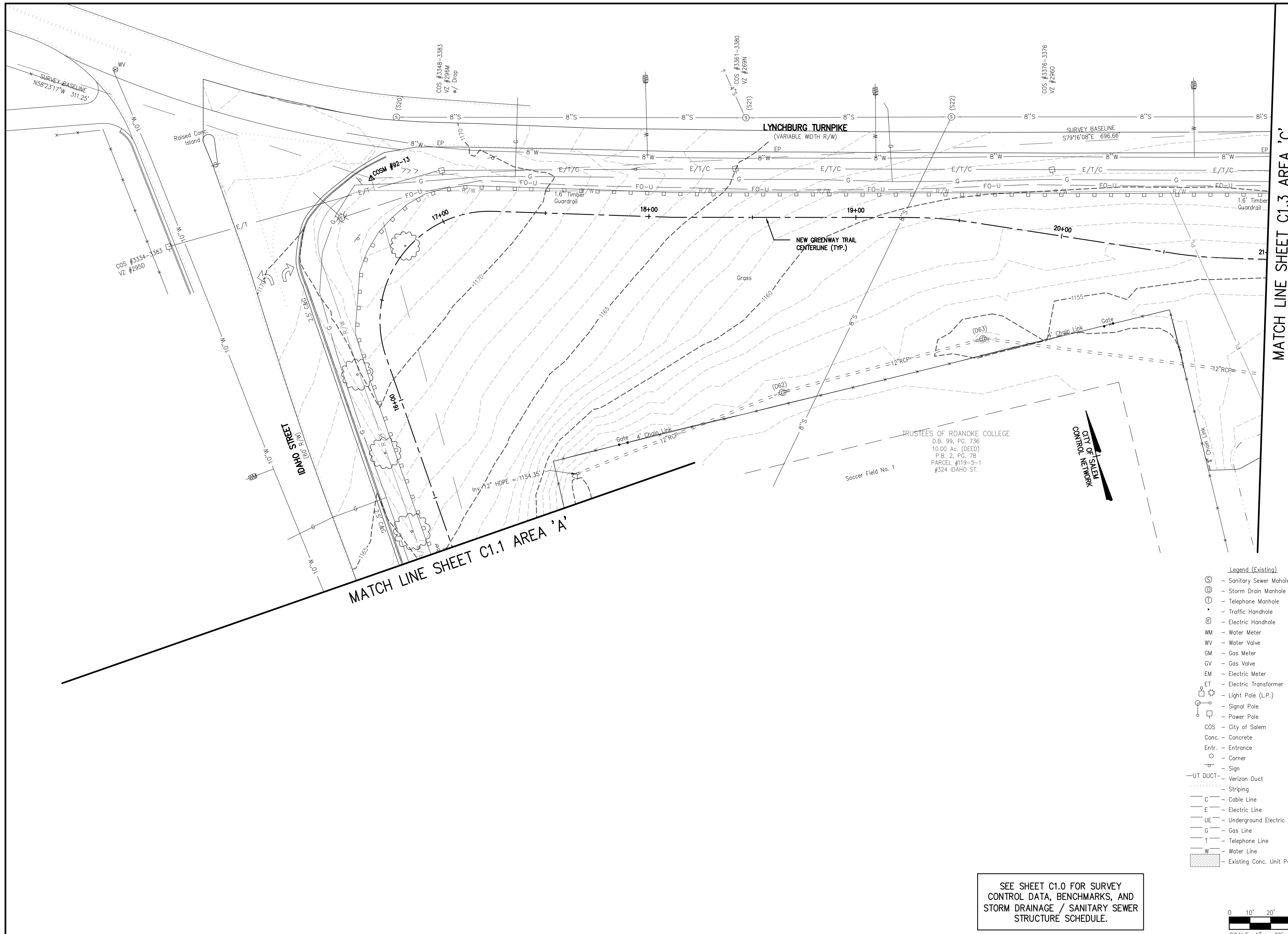
Issue Date: MARCH 27, 2024

Drawn By: WTA

Designed By: ARB

Checked By: WTA

Date: 3/27/24



STATE OF VIRGINIA  
LAW OFFICES OF  
WILLIAM THOMAS AUSTIN, ESQ.  
3/27/24  
PROFESSIONAL PRACTICE  
LIC. NO. 383805

Date	Date
Revisions	

Issue Date: **MARCH 27, 2024**  
Drawn By: WTA  
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Date: 3/27/24

**Mattern & Craig**  
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ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)  
SALEM, VIRGINIA

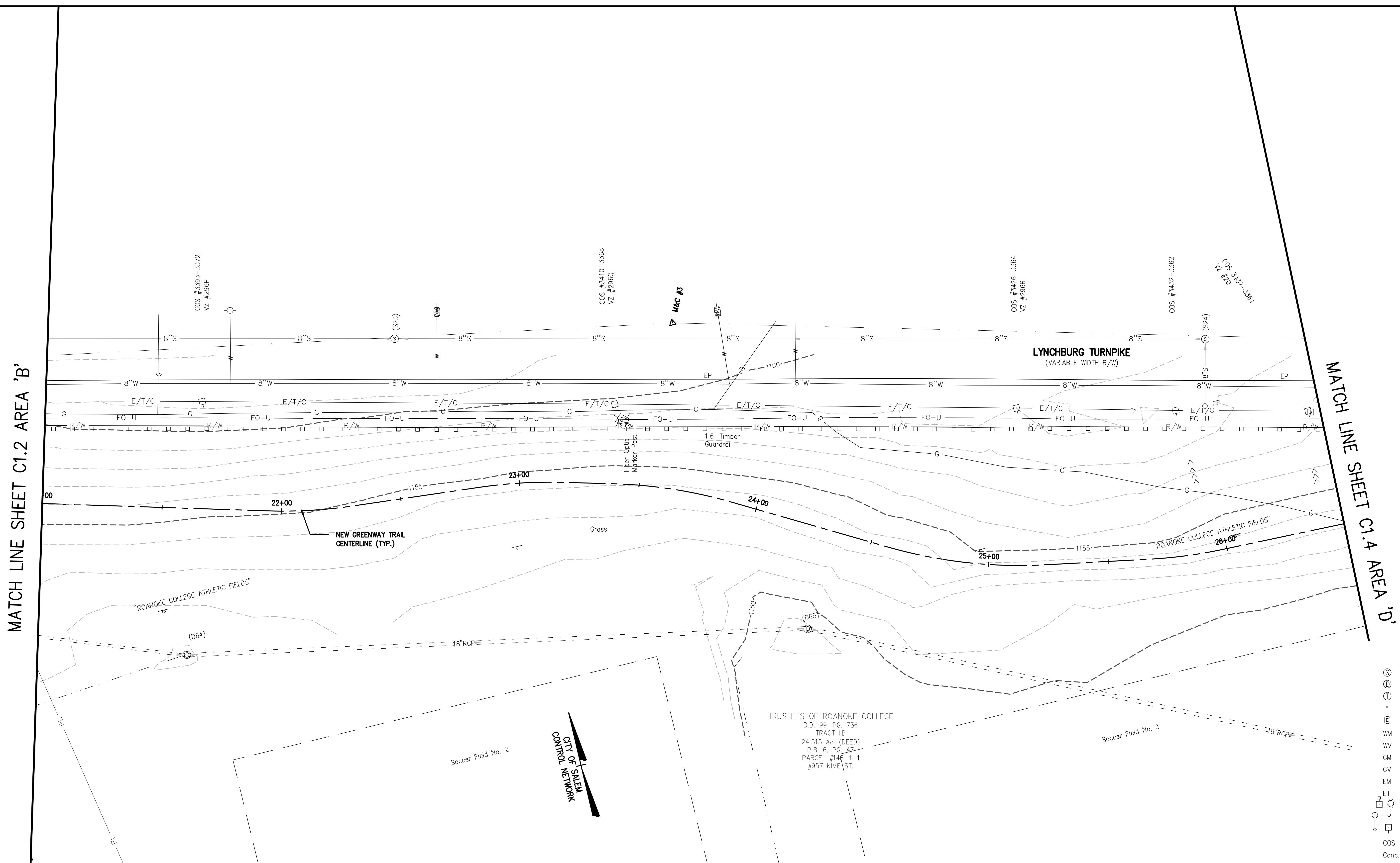
EXISTING CONDITIONS PLAN - 'B'

Vertical Scale: N/A

Horizontal Scale: 1" = 20'

Commission Number: 4110

MATCH LINE SHEET C1.2 AREA 'B'



Date	
Revisions	

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 FAX (540) 345-7691

ELIZABETH CAMPUS GREENWAY  
 KIME LANE TO IDAHO STREET (UPC 113566)  
 SALEM, VIRGINIA

EXISTING CONDITIONS PLAN - 'C'

Vertical Scale: N/A

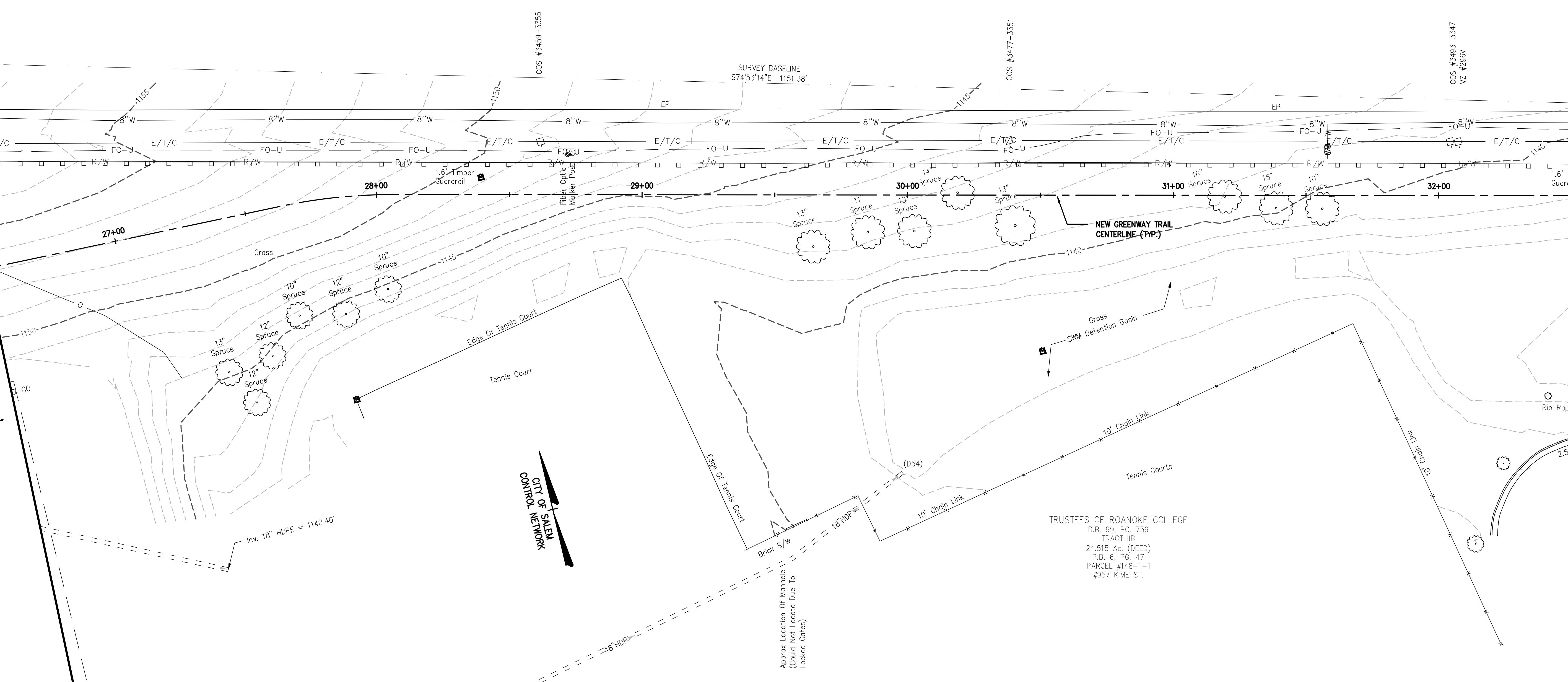
Horizontal Scale: 1" = 20'

Commission Number: 4110

Sheet No.: C1.3

0 10' 20' 40'  
 SCALE: 1" = 20'

# MATCH LINE SHEET C1.3 AREA 'C'



SEE SHEET C1.0 FOR SURVEY  
CONTROL DATA, BENCHMARKS, AND  
STORM DRAINAGE / SANITARY SEWER  
STRUCTURE SCHEDULE.

0    10'    20'    40'

SCALE: 1" = 20'

COS #3493-3347  
VZ #296V

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

### Vertical S

N/A

1' =

Commission  
41

Sheet No

1

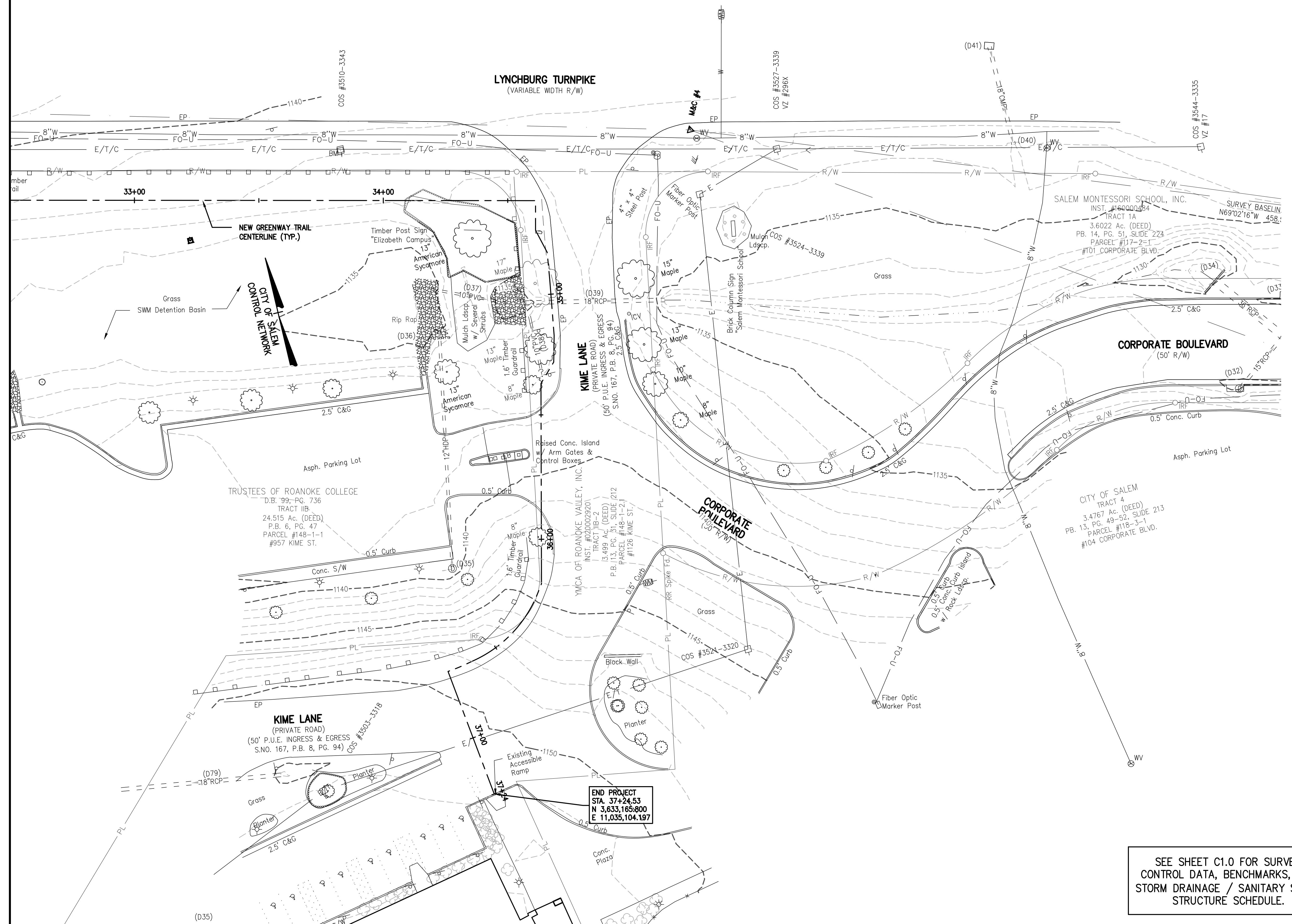
11

1

Issue Date: <b>MARCH 27, 2024</b>		Drawn By: WTA Designed By: ARB	Checked By: WTA 7/27/24
<b>Craig &amp; Sons Surveyors</b>			
701 FIRST STREET, S.W. ROANOKE, VIRGINIA 24016 (540) 345-9342 FAX (540) 345-7691			

<u>Legend (Existing)</u>	
(S)	— Sanitary Sewer Manhole
(D)	— Storm Drain Manhole
(T)	— Telephone Manhole
*	— Traffic Handhole
(E)	— Electric Handhole
WM	— Water Meter
WV	— Water Valve
GM	— Gas Meter
GV	— Gas Valve
EM	— Electric Meter
ET	— Electric Transformer
 	— Light Pole (L.P.)
	— Signal Pole
	— Power Pole
COS	— City of Salem
Conc.	— Concrete
Entr.	— Entrance
○	— Corner
—○—	— Sign
— DUCT —	— Verizon Duct
.....	— Striping
— C —	— Cable Line
— E —	— Electric Line
— UE —	— Underground Electric
— G —	— Gas Line
— T —	— Telephone Line
— W —	— Water Line
	— Existing Conc. Unit Paver

MATCH LINE SHEET C1.4 AREA 'D'



**Legend (Existing)**

- ⑤ - Sanitary Sewer Manhole
- ⑥ - Storm Drain Manhole
- ⑦ - Telephone Manhole
- - Traffic Handhole
- ⑧ - Electric Handhole
- WM - Water Meter
- WV - Water Valve
- GM - Gas Meter
- GV - Gas Valve
- EM - Electric Meter
- ET - Electric Transformer
- LP - Light Pole (L.P.)
- SP - Signal Pole
- PP - Power Pole
- COS - City of Salem
- Conc. - Concrete
- Entr. - Entrance
- - Corner
- - Sign
- UT DUCT- - Verizon Duct
- - Striping
- C— - Cable Line
- E— - Electric Line
- UE— - Underground Electric
- G— - Gas Line
- T— - Telephone Line
- W— - Water Line
- Existing Conc. Unit Paver

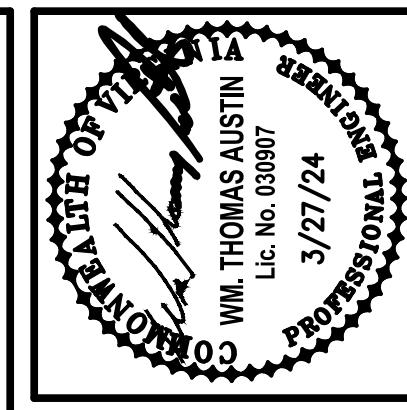
**ELIZABETH CAMPUS GREENWAY**  
KIME LANE TO IDAHO STREET (UPC 113566)

**EXISTING CONDITIONS PLAN - 'E'**

SALEM, VIRGINIA

**Mattern & Craig**  
ENGINEERS & SURVEYORS  
701 FIRST STREET, S.W.  
ROANOKE, VIRGINIA 24016  
(540) 345-7691

Issue Date: MARCH 27, 2024  
Drawn By: WTA  
Designed By: ARB  
Checked By: WTA  
Date: 3/27/24



Date	Date
Revisions	
Comments	

Vertical Scale: N/A  
Horizontal Scale: 1" = 20'  
Commission Number: 4110  
Sheet No.: C1.5  
Scale: 1" = 20'



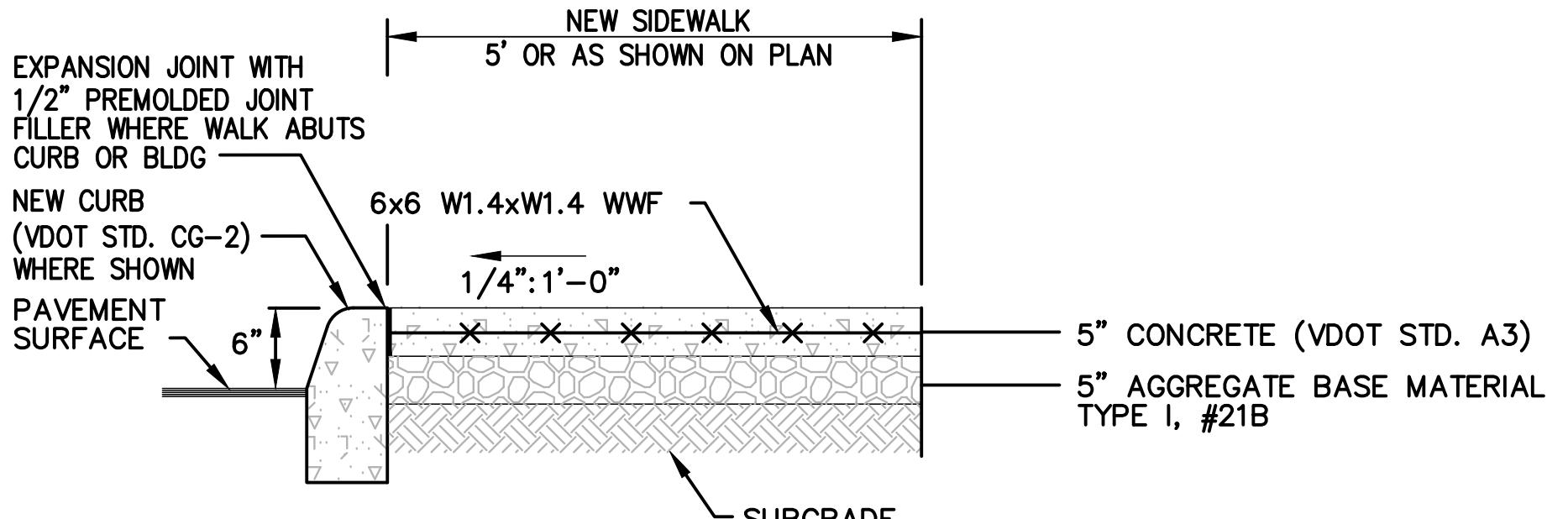
Date	3/27/24
Revisions	

Issue Date:	MARCH 27, 2024
Drawn By:	WTA
Designed By:	ARB
Checked By:	WTA
Date:	3/27/24

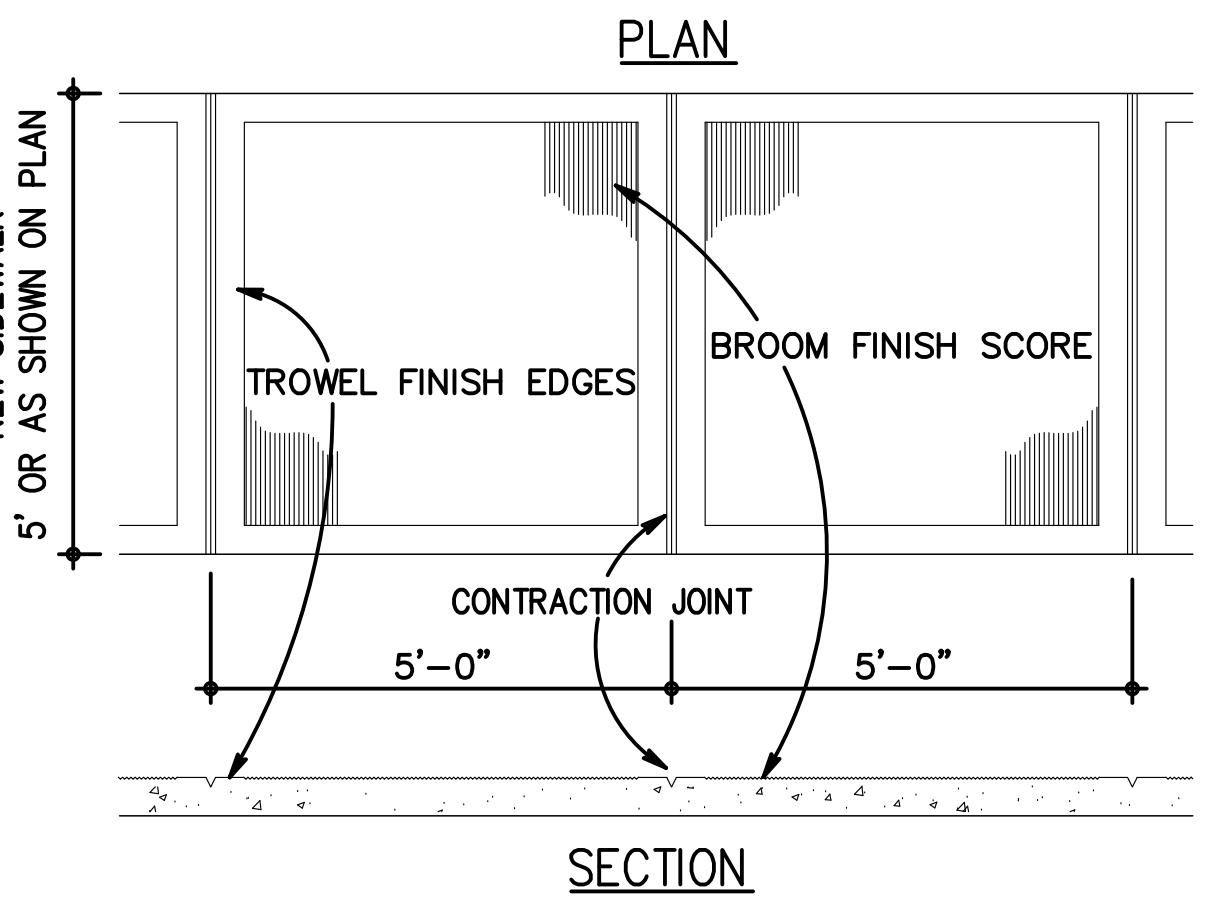


ELIZABETH CAMPUS GREENWAY KIME LANE TO IDAHO STREET (UPC 113566)
DETAILED AND SECTIONS
SALEM, VIRGINIA

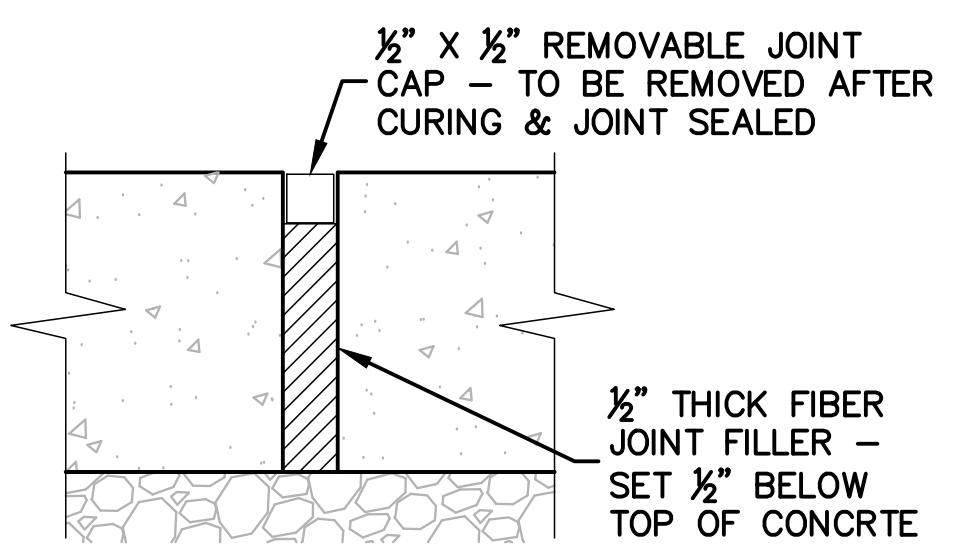
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Horizontal Scale: N/A
Commission Number: 4110
Sheet No.: C2.0



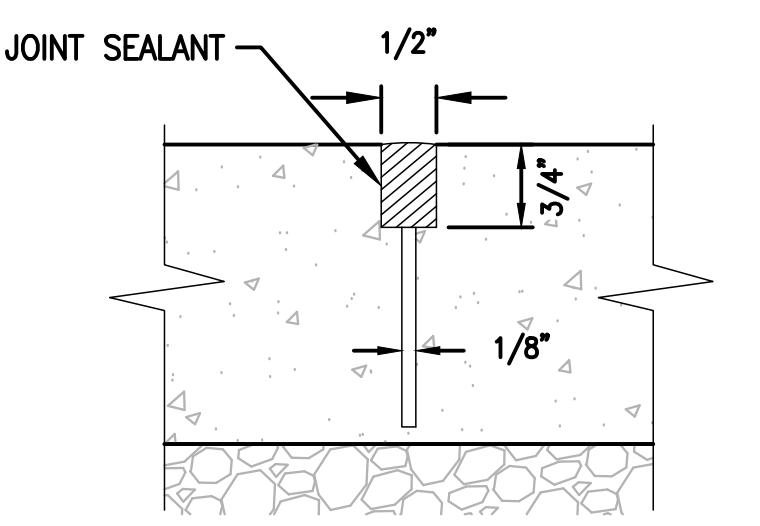
① CONC. SIDEWALK SECTION  
NO SCALE



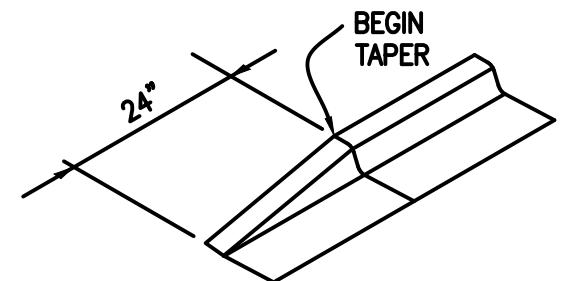
② SIDEWALK FINISH DETAIL  
NO SCALE



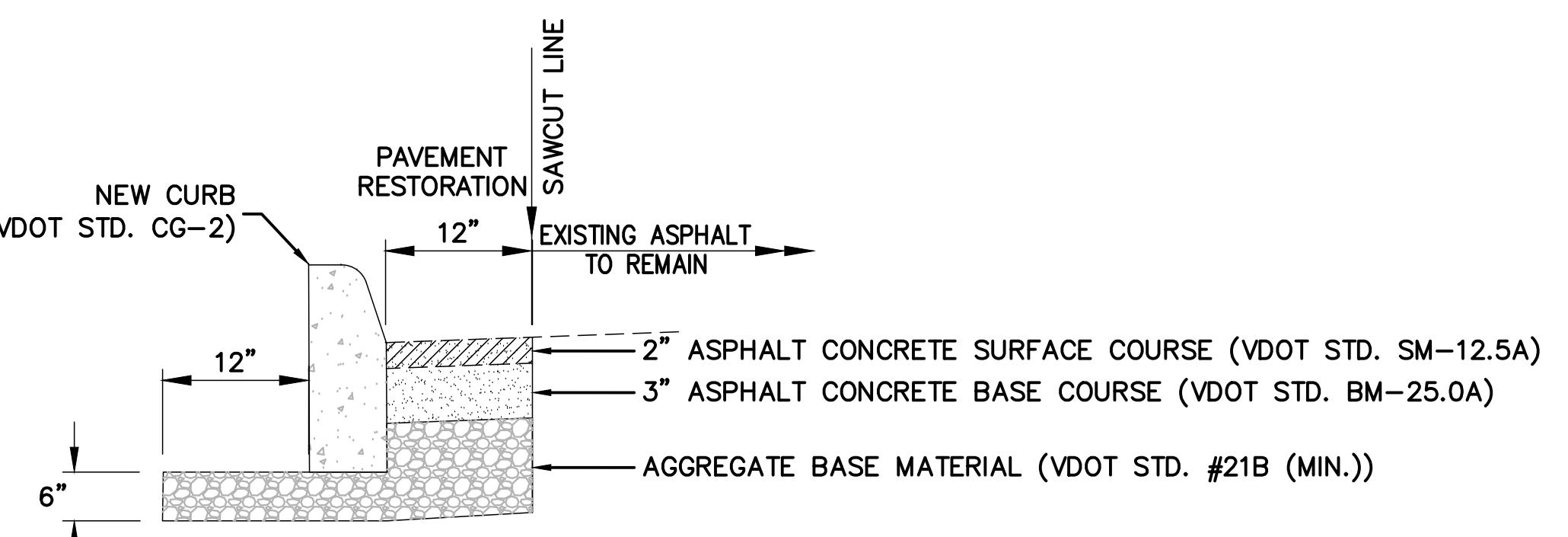
③ PRE-FORMED  
EXPANSION JOINT  
NO SCALE



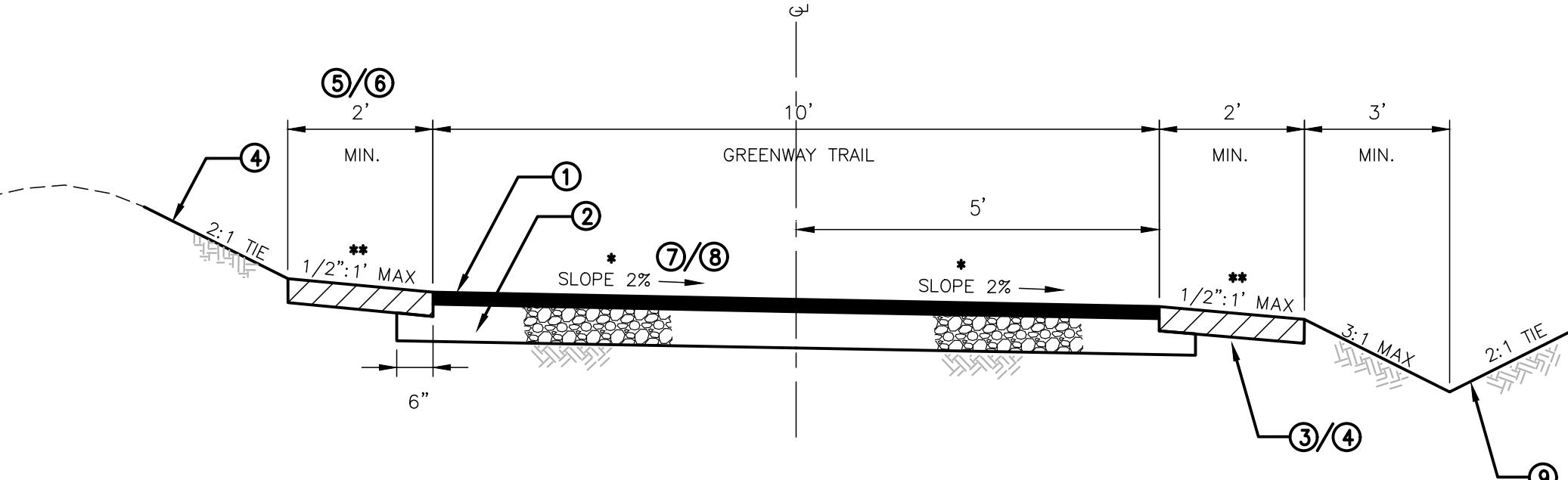
④ SAW-CUT CONTRACTION  
JOINT  
NO SCALE



⑤ TURN DOWN CURB  
NO SCALE



⑥ CURB DETAIL RETROFIT TO EXISTING PAVEMENT  
NO SCALE



SHARED USE PATH / GREENWAY TRAIL TYPICAL SECTION  
NO SCALE

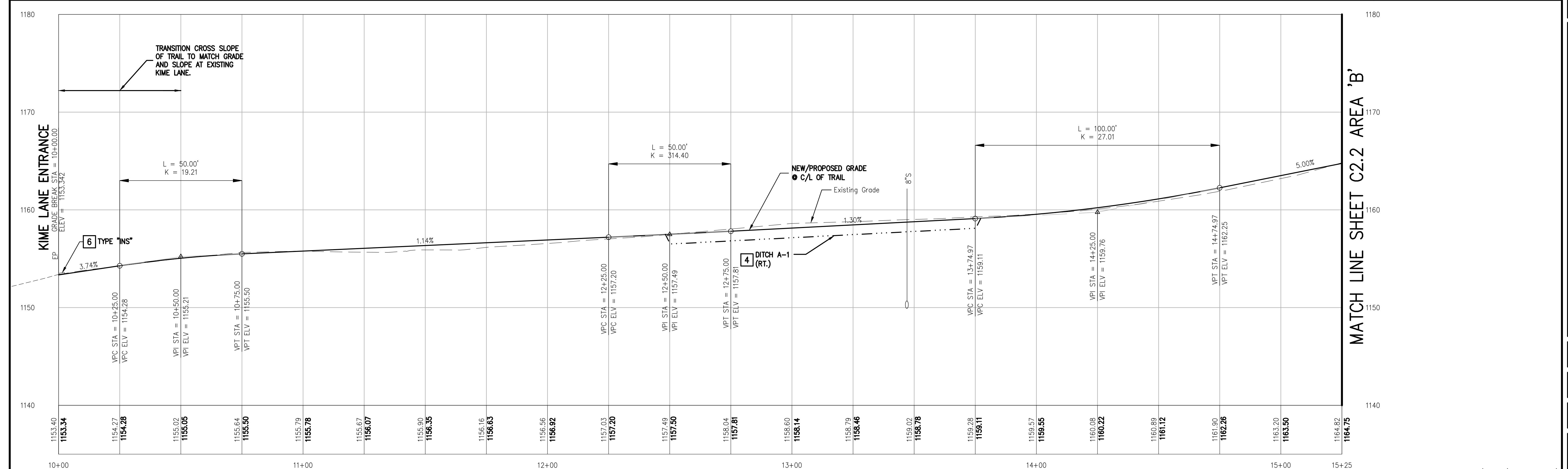
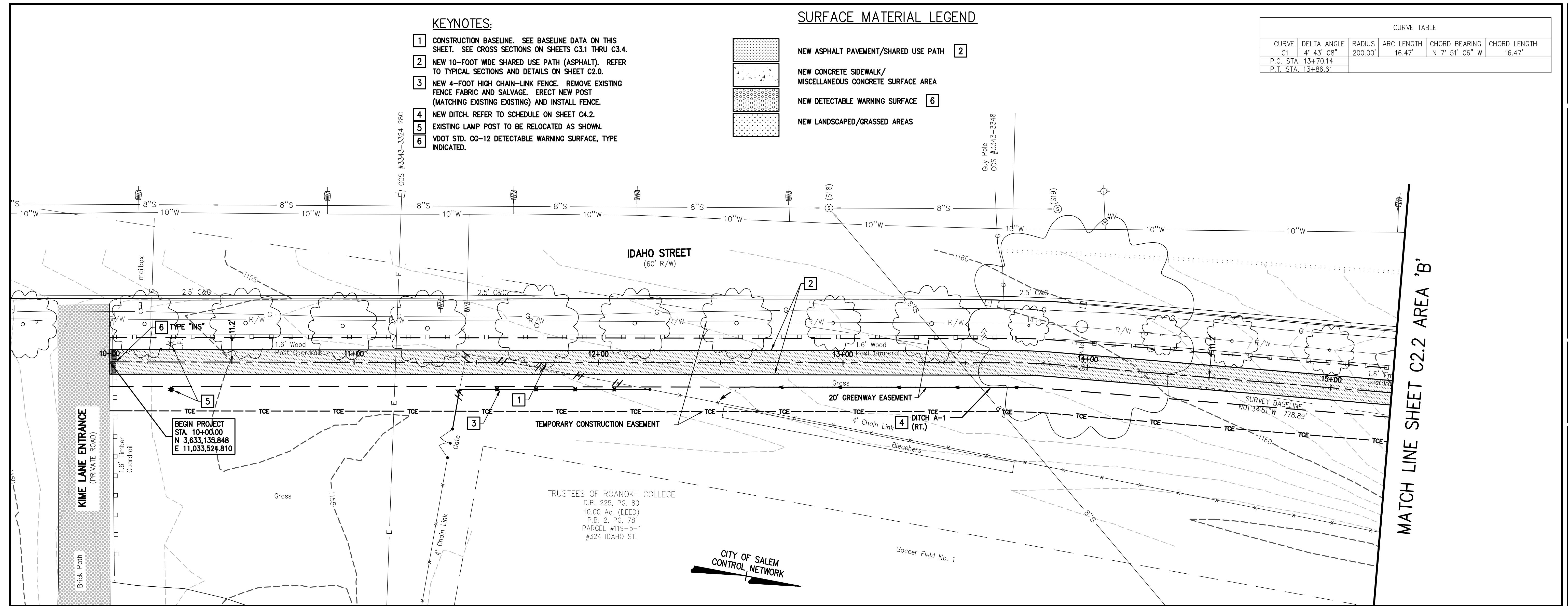
KEYNOTES:

- ① TRAIL ASPHALT SURFACE COURSE: 2" VDOT SM-9.5A (110 LBS/SY/IN - COMPAKTED).
- ② TRAIL AGGREGATE BASE: 6" AGGREGATE BASE MATERIAL TYPE I, NO. 21B. (COMPAKTED) / EXTEND 6" BEYOND EDGE OF ASPHALT SURFACE.
- ③ 4" OF COMPAKTED TOPSOIL ON ALL DISTURBED AREAS, EXPOSED SLOPES, AND GREENWAY TRAIL SHOULDERs.
- ④ PERMANENT SEEDING ON ALL DISTURBED AREAS IN ACCORDANCE WITH SPECIFICATIONS AND EROSION AND SEDIMENT CONTROL PLAN.
- ⑤ SHOULDER WIDTH SHALL BE 2' MINIMUM UNLESS OTHERWISE SHOWN IN THE CROSS SECTIONS.
- ⑥ 3' OF HORIZONTAL CLEARANCE SHALL BE PROVIDED FROM THE EDGE OF GREENWAY TRAIL TO ANY LATERAL OBSTRUCTION SUCH AS TREES, ROCKS, POSTS, GUARDRAILS, WALLS, BENCHES, ETC.
- ⑦ GREENWAY TRAIL CROSS SLOPES SHALL NOT EXCEED 1/4":1" (2.08%) PER ADA REQUIREMENTS. REFER TO CROSS SECTIONS FOR ADDITIONAL INFORMATION.
- ⑧ LONGITUDINAL SLOPES PROVIDED GREENWAY AND AT GREENWAY ACCESS POINTS SHALL NOT EXCEED 5% UNLESS OTHERWISE SHOWN ON THE PLANS.
- \* UNLESS OTHERWISE NOTED OR SHOWN ON THE CROSS SECTIONS TRAIL SHALL SLOPE UNIFORMLY FROM ONE EDGE TO THE OTHER.
- \*\* SHOULDER SLOPE SHALL NOT EXCEED 1/2":1" (4.17%). SHOULDER SHALL SLOPE AS SHOWN ON TYPICAL SECTION AND AS SHOWN ON CROSS SECTIONS.
- ⑨ SEE DITCH LOCATION ON SHEETS C2.1, C2.2 AND DITCH SCHEDULE ON SHEET C4.2.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH VDOT ROAD & BRIDGE STANDARDS AND SPECIFICATIONS, LATEST EDITION.

THE FOLLOWING VDOT STANDARD DETAILS ARE INCLUDED BY REFERENCE.

- VDOT STD. CG-2 / PAGE 201.01
- VDOT STD. CG-2 / PAGES 204.01 THRU 204.04



## C2.1

# ELIZABETH CAMPUS GREENWAY KIME LANE TO IDAHO STREET (UPC 113566)

SWIMMING, VIRGINIA

Vertical Scale:  
1" = 5'  

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Horizontal Scale:  
1" = 20'  

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Commission Number:  
**4110**  

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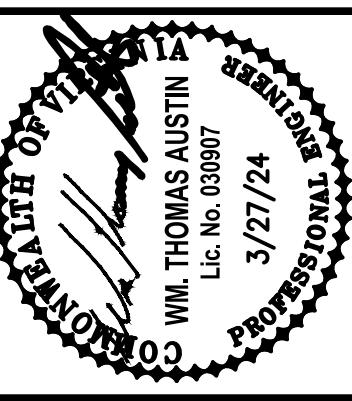
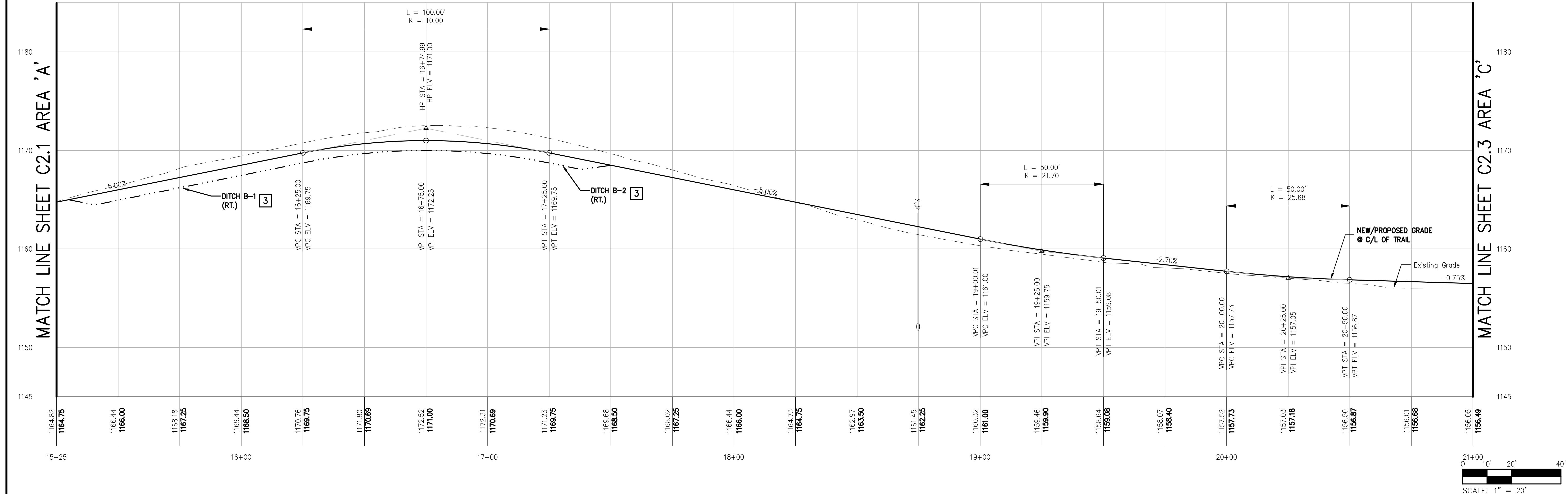
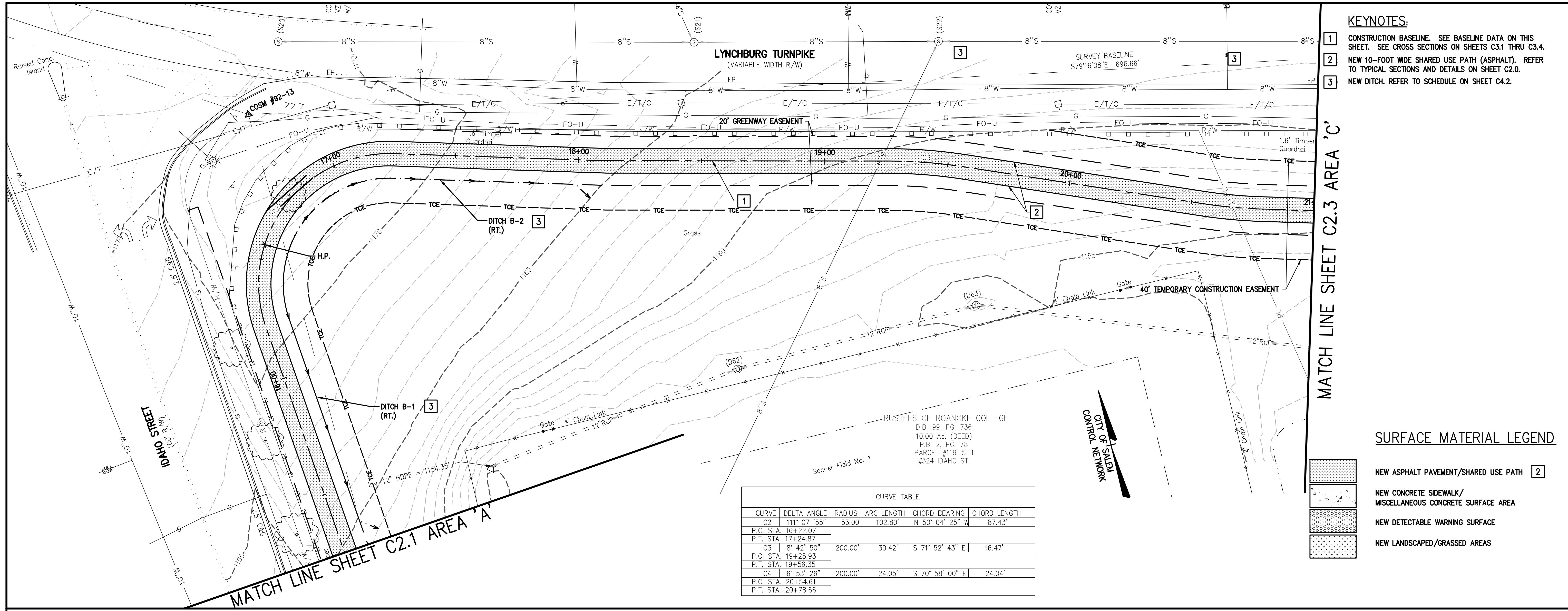
Sheet No.:

**C2.1**



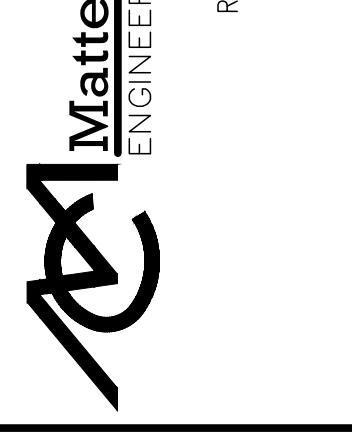
CURVE TABLE					
CURVE	DELTA ANGLE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	4° 43' 08"	200.00'	16.47'	N 7° 51' 06" W	16.47'
P.C. STA.	13+70.14				
P.T. STA.	13+86.61				

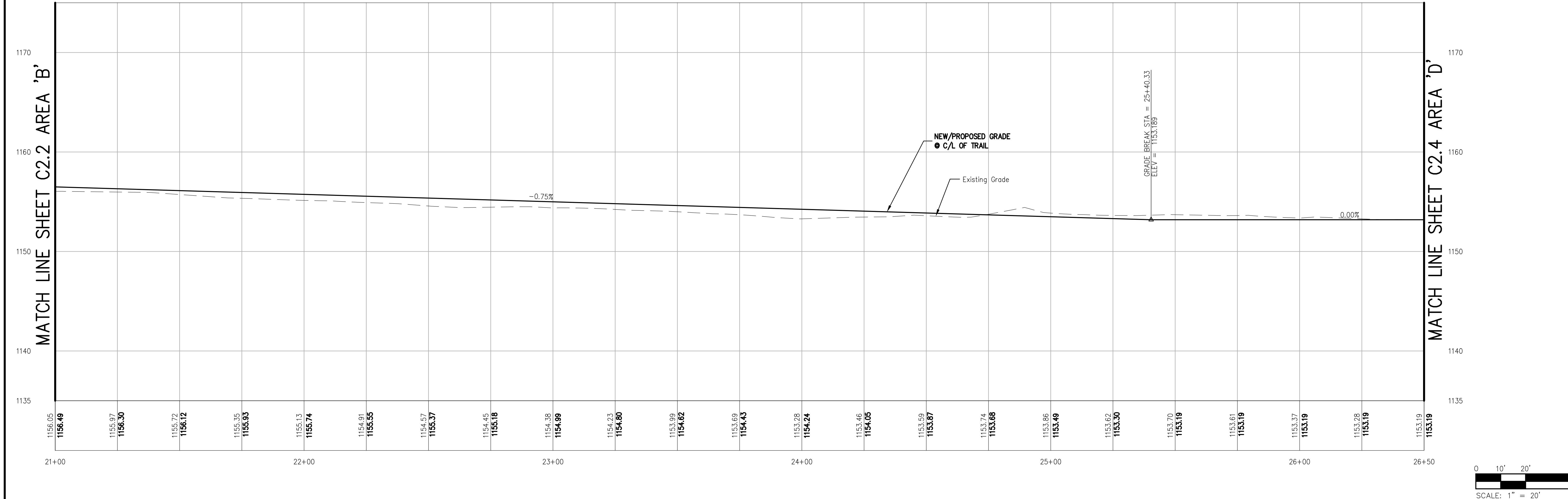
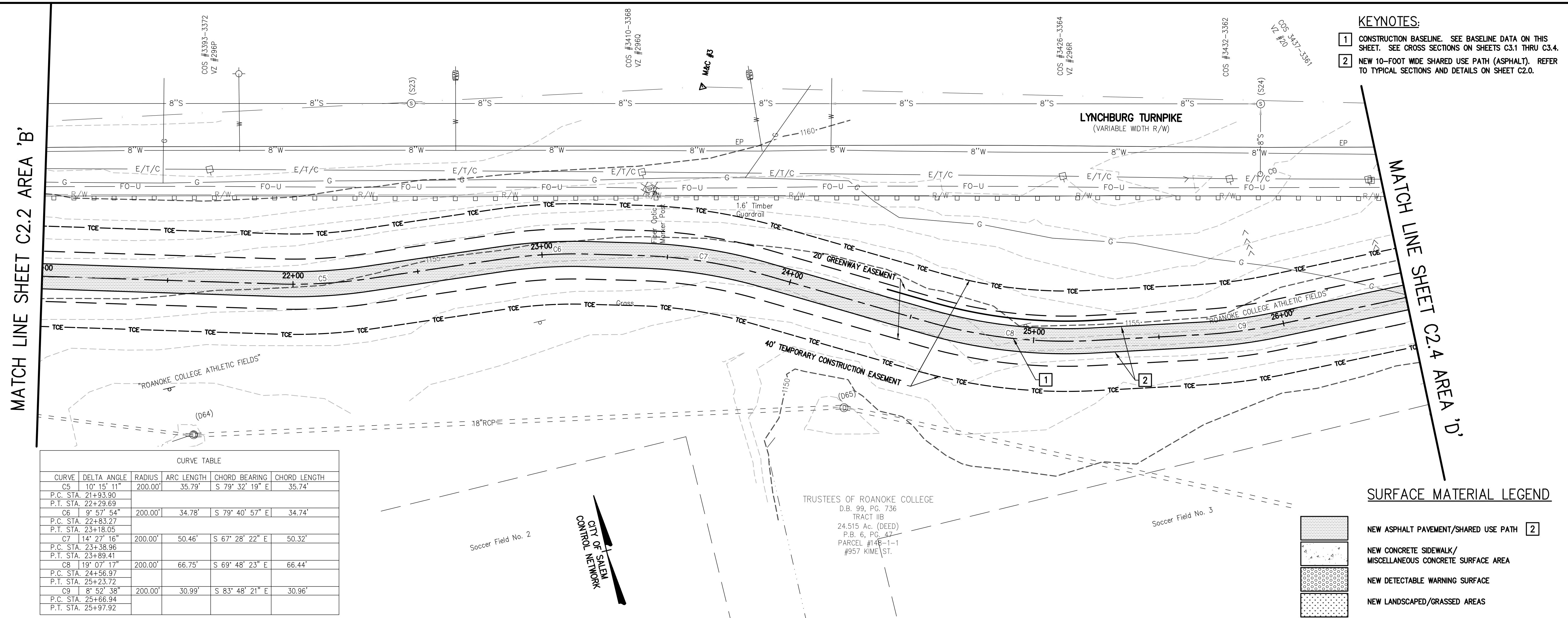
Issue Date:	MARCH 27, 2024
Drawn By:	WTA
Designed By:	ARB
Checked By:	WTA
SURVEYORS	
701 FIRST STREET, S.W.	
ANOKE, VIRGINIA 24016	
(540) 345-9342	
FAX (540) 345-7691	



Date
Revisions

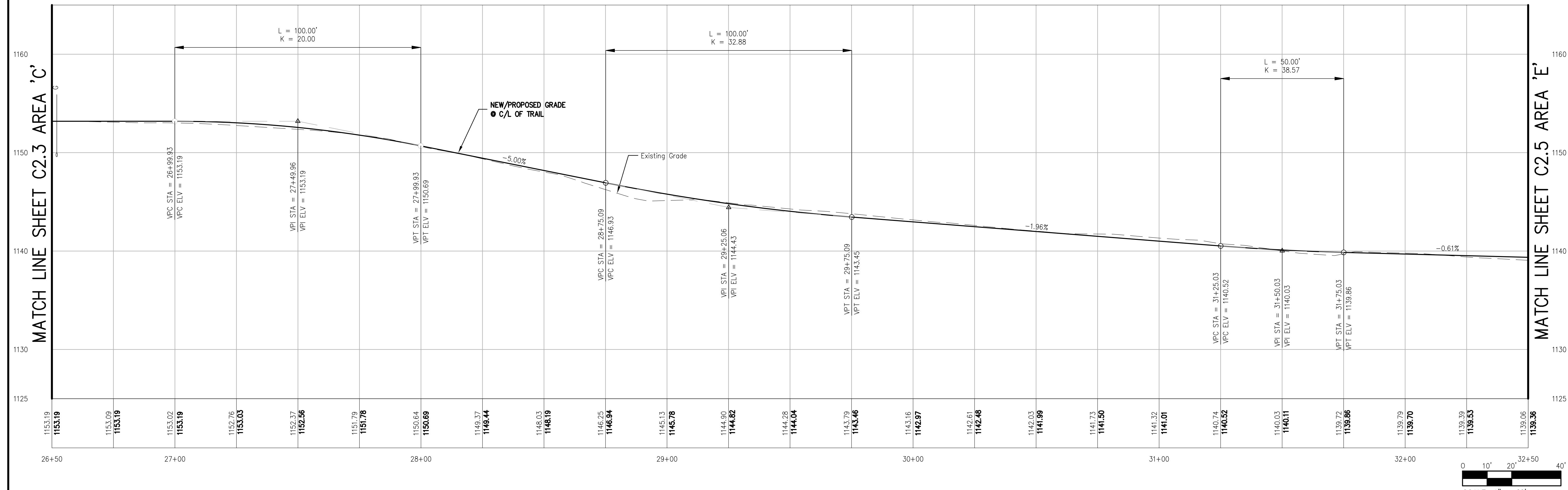
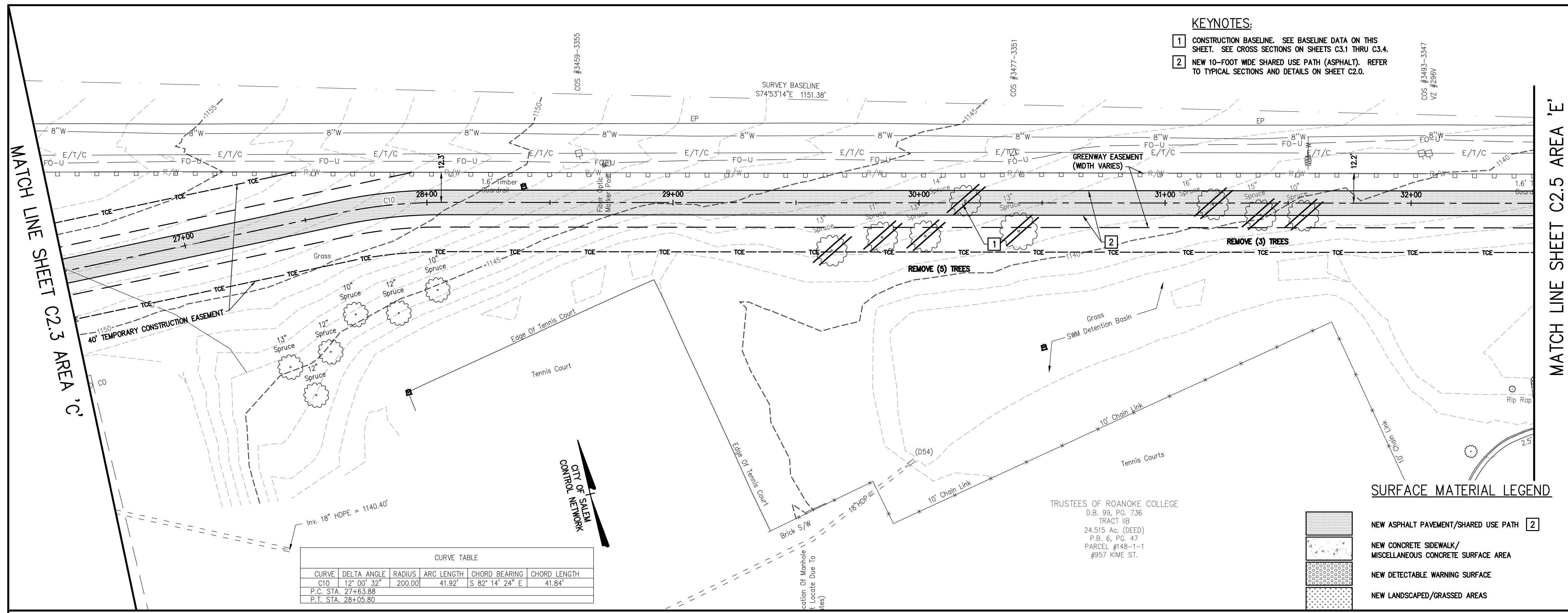
Issue Date: MARCH 27, 2024
Drawn By: WTA
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Checked By: WTA
Date: 3/27/24





Date	
Revisions	
Issue Date:	MARCH 27, 2024
Drawn By:	WTA
Designed By:	ARB
Checked By:	WTA
Date:	3/27/24





## C2.4

# ELIZABETH CAMPUS TIME LANE TO IDAH

# AYOUT PL

# AL EM VIRGINIA

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

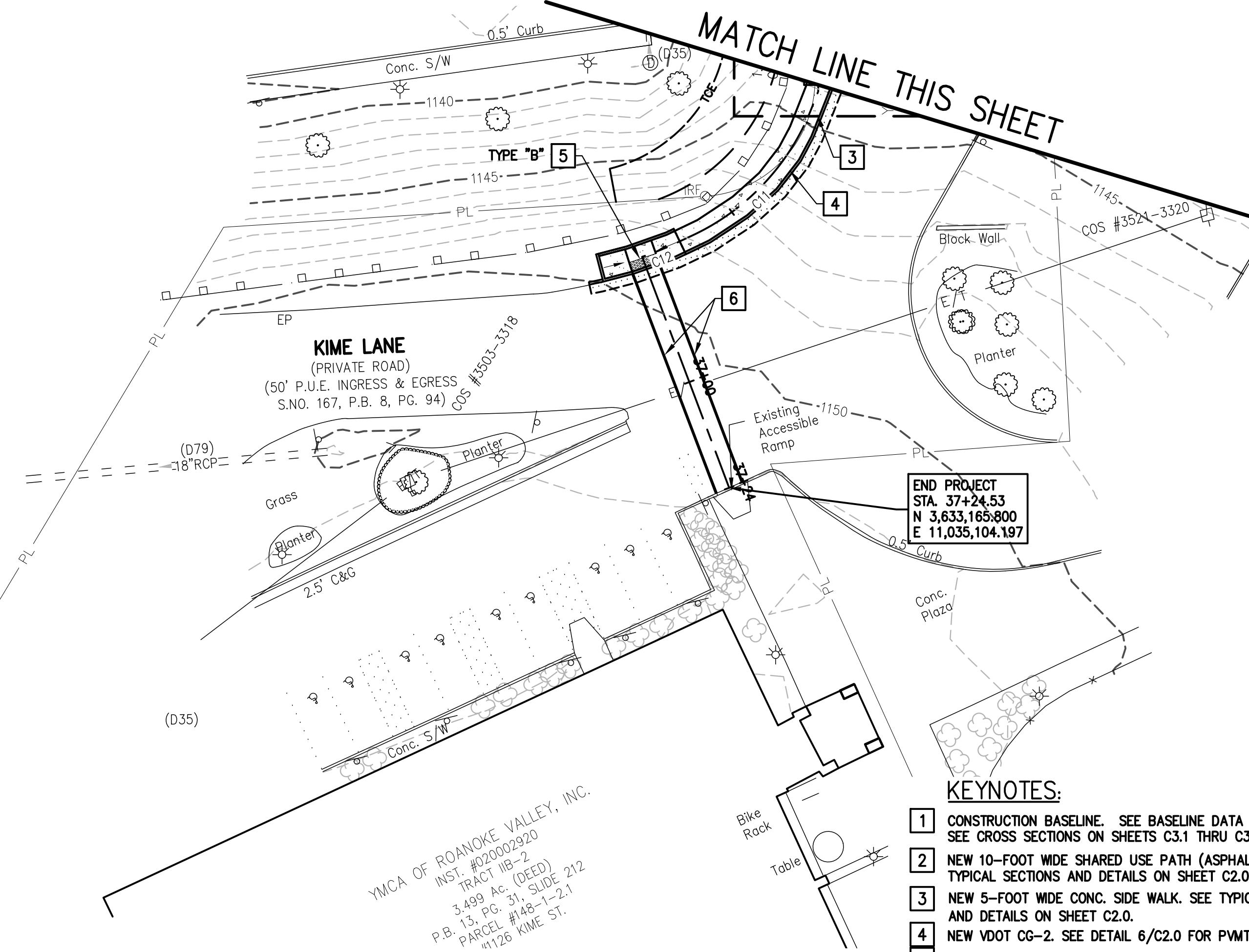
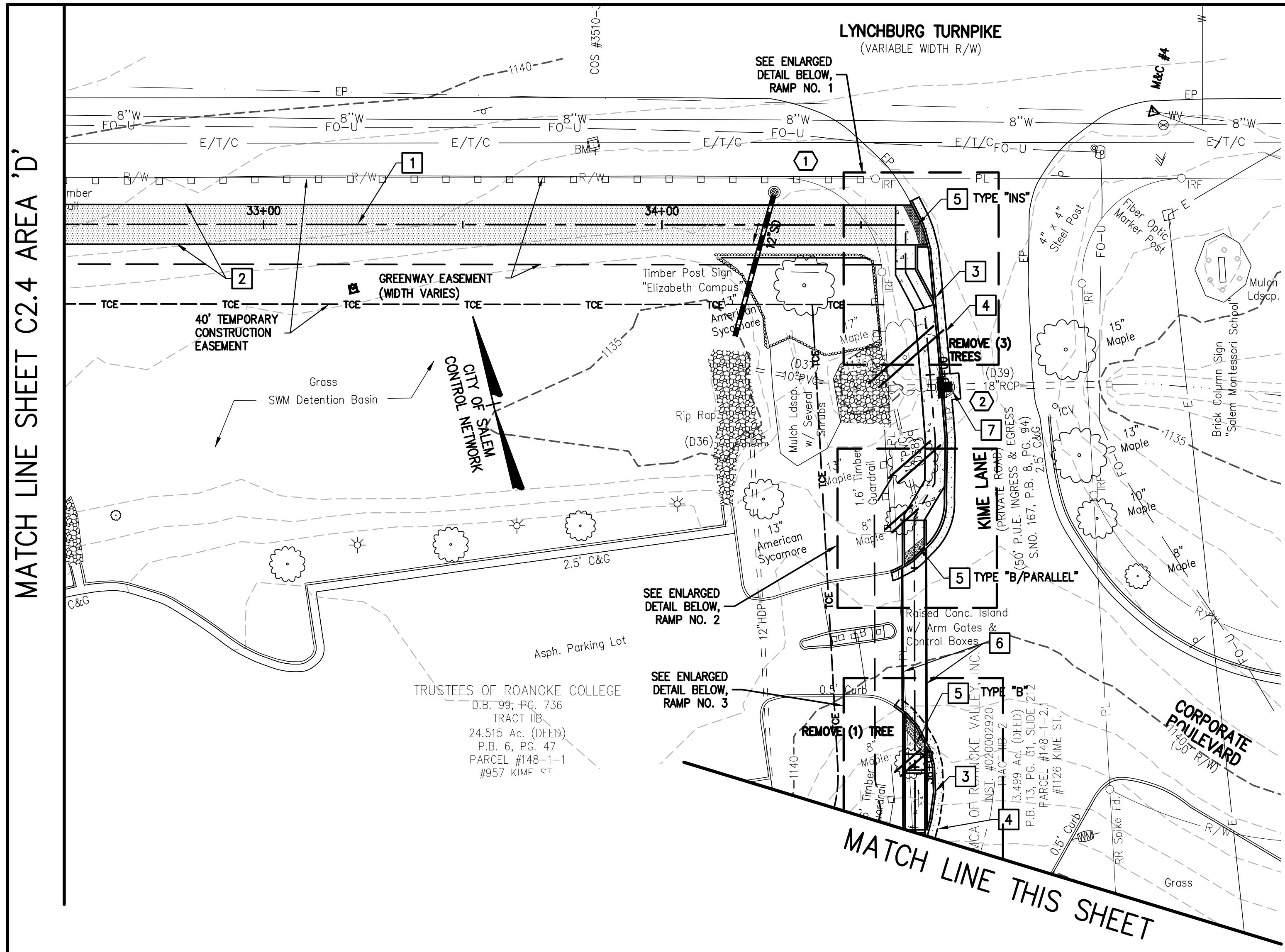
PROFILE — [REDACTED]

SALEM VIRGINIA

A circular stamp with a serrated outer edge. The text "COMMONWEALTH OF VIRGINIA" is curved along the top inner edge, and "PROFESSIONAL ENGINEER" is curved along the bottom right inner edge. In the center, it says "WM. THOMAS AUSTIN" and "Lic. No. 030907" above a signature, with the date "3/27/24" to the right.

 <b>Mckinsey &amp; Company</b>	
<b>MARCH 27, 2024</b>	
<b>Issue Date:</b>	Drawn By: WTA
<b>Designed By:</b>	ARB
<b>Checked By:</b>	WTA
<b>701 FIRST STREET, S.W.</b> <b>ROANOKE, VIRGINIA 24016</b> <b>(540) 345-9342</b> <b>FAX (540) 345-7691</b>	

# MATCH LINE SHEET C2.4 AREA 'D'



## KEYNOTES:

CONSTRUCTION BASELINE. SEE BASELINE DATA ON THIS SHEET.  
SEE CROSS SECTIONS ON SHEETS C3.1 THRU C3.4.

NEW 10-FOOT WIDE SHARED USE PATH (ASPHALT). REFER TO  
TYPICAL SECTIONS AND DETAILS ON SHEET C2.0.

NEW 5-FOOT WIDE CONC. SIDE WALK. SEE TYPICAL SECTIONS  
AND DETAILS ON SHEET C2.0.

NEW VDOT CG-2. SEE DETAIL 6/C2.0 FOR PVMT. CUT/RESTORE DETAIL  
VDOT STD. CG-12 DETECTABLE WARNING SURFACE, TYPE  
INDICATED.

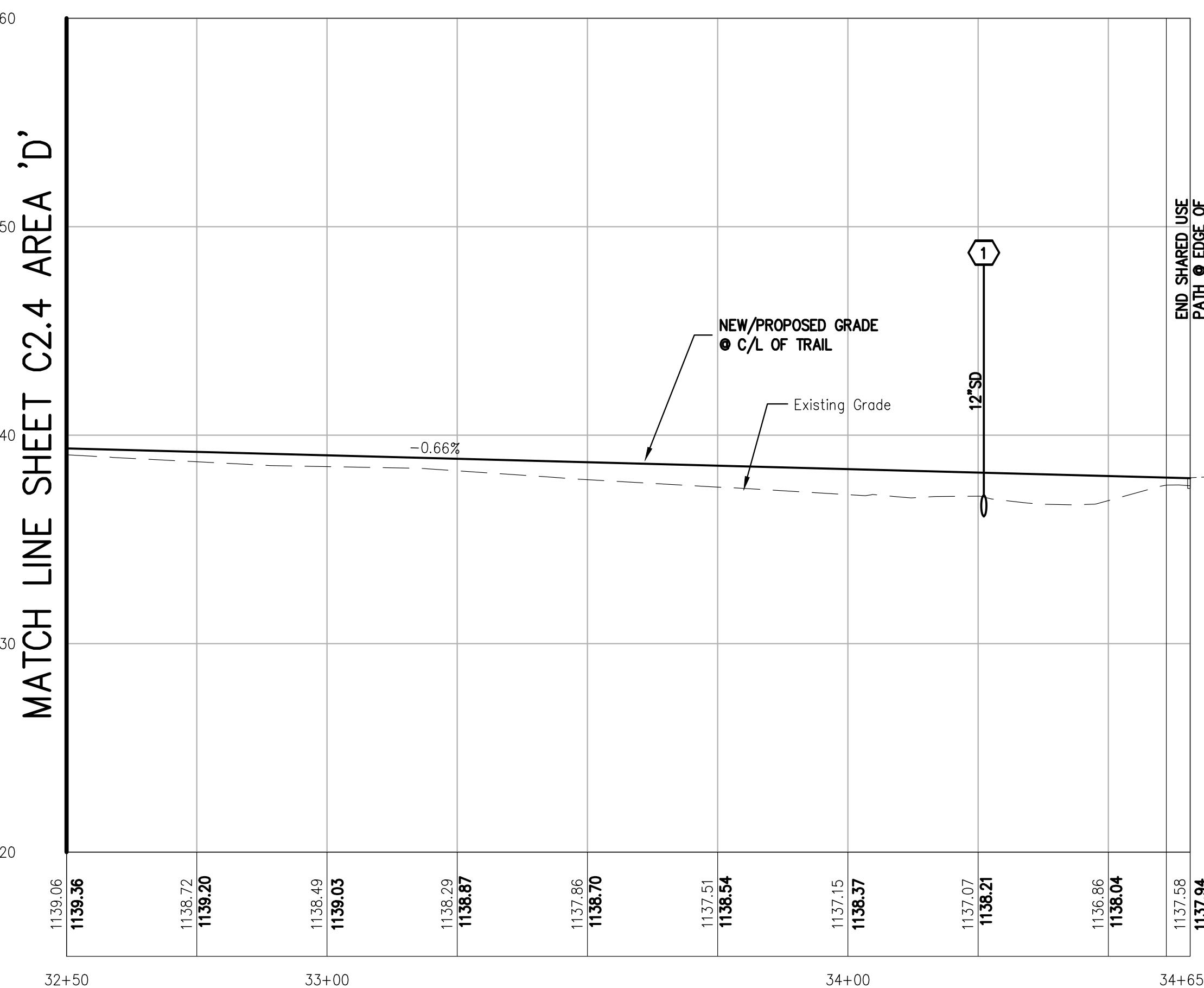
NEW CROSS WALK. 12" WIDE/WHITE/TYPE B, CLASS II  
(THERMOPLASTIC)

NEW VDOT DI-2C.

NEW DITCH. REFER TO SCHEDULE ON SHEET C4.2.

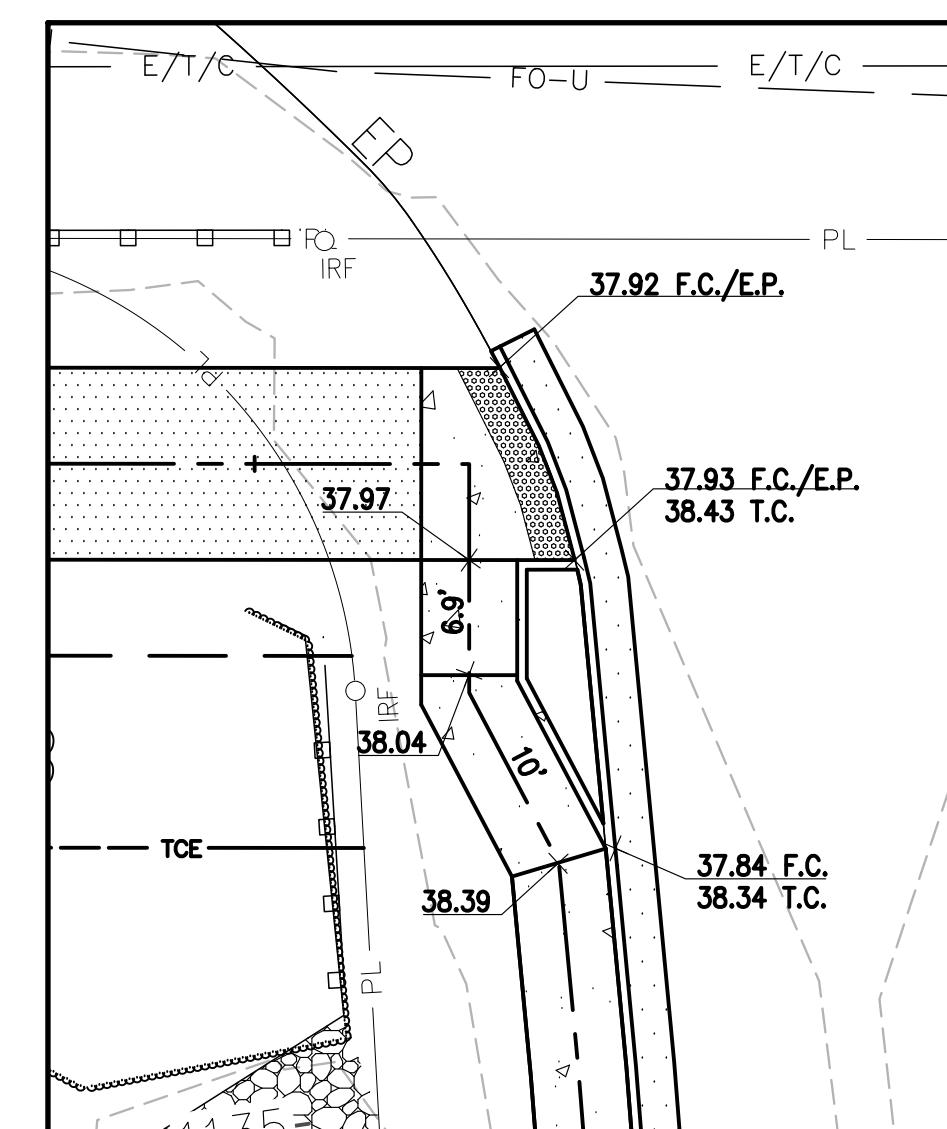
NEW AREA DRAIN. SEE SHEET C4.5.

# MATCH LINE SHEET C2.4 AREA 'D'



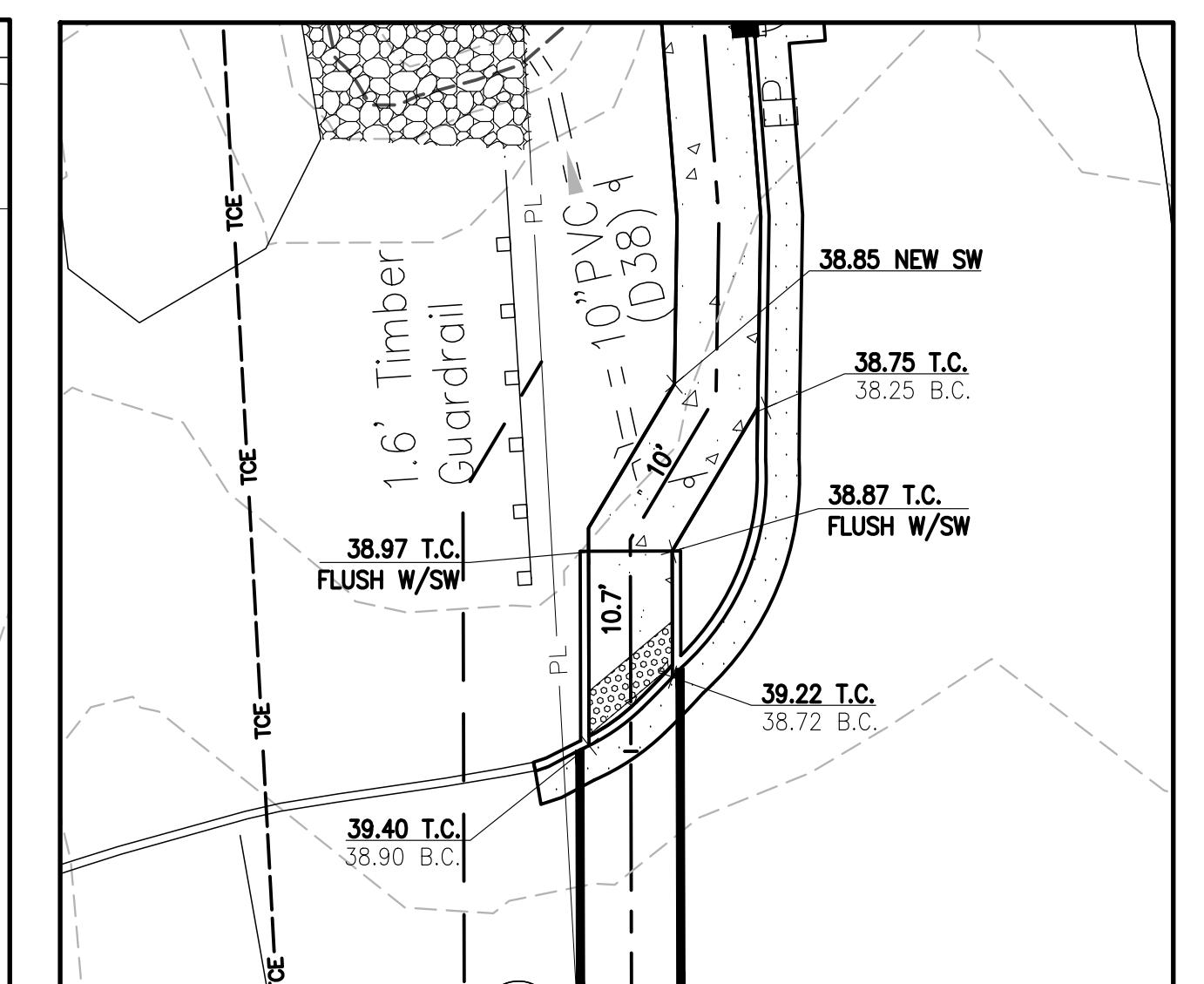
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SCALE: 1" = 10'



## ENLARGED RAMP NO. 2 PLAN

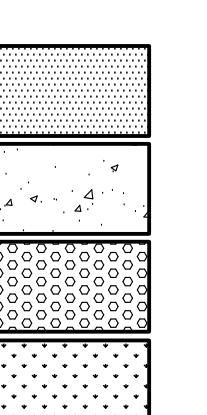
SCALE: 1" = 10'



## ENLARGED RAMP NO. 3 PLAN

SCALE: 1" = 10'

#### SURFACE MATERIAL LEGEND



- NEW ASPHALT PAVEMENT/SHARED USE PATH 2
- NEW CONCRETE SIDEWALK/  
MISCELLANEOUS CONCRETE SURFACE AREA 3
- NEW DETECTABLE WARNING SURFACE 5
- NEW LANDSCAPED /GRASSED AREAS 0

10' 20' 40'

C2.5

AVOID IT DI AN AND DROUNI F  
KIME LANE TO IDAHO STREET (UPC 113566)

WALM VIRGINIA

1" = 5'

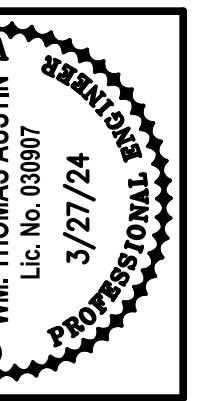
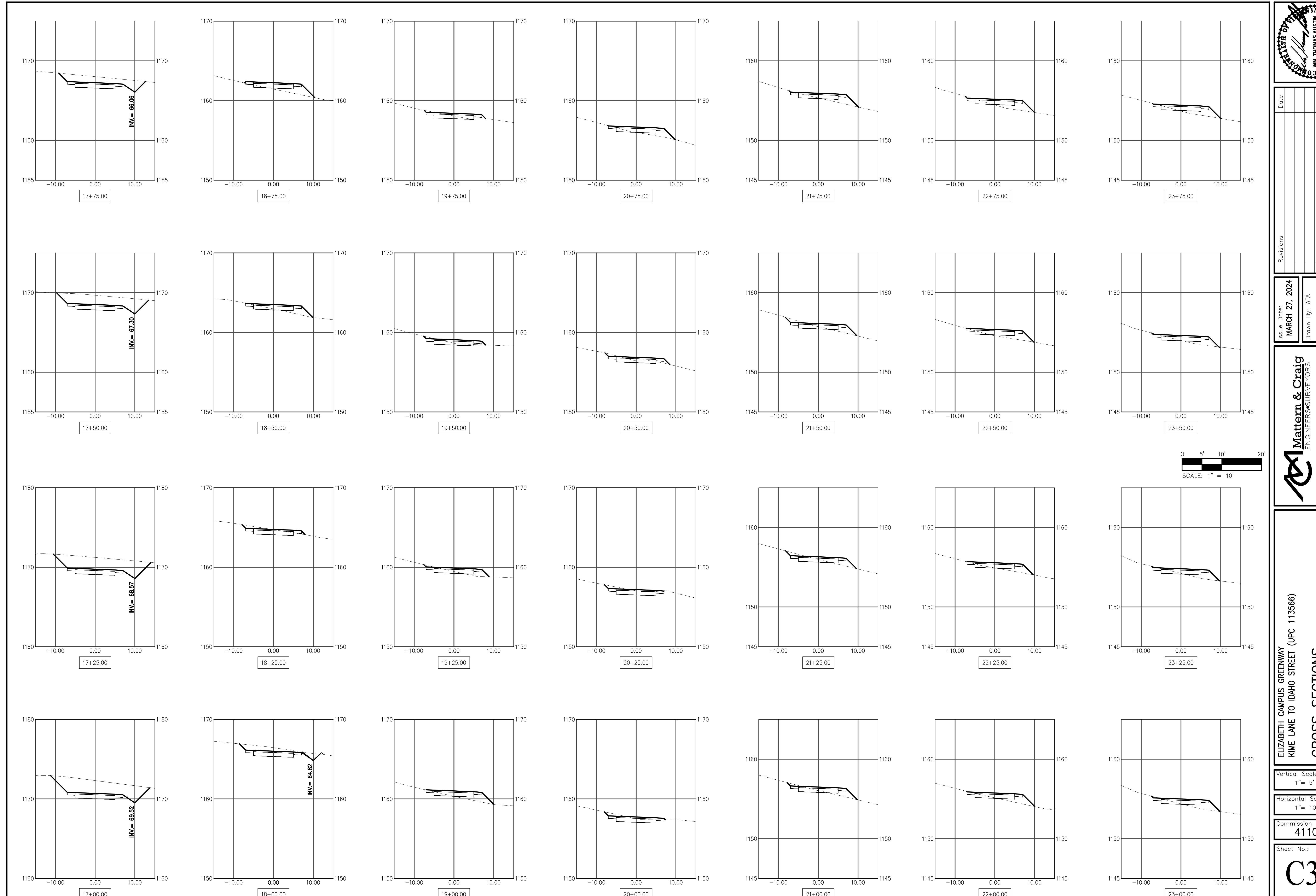
Horizontal Scale:  
1" = 20'

mission Number:  
**4110**

Set No.:

25





Date
Revisions

Issue Date: MARCH 27, 2024  
 Drawn By: WTA  
 Designed By: ARB  
 Checked By: WTA  
 Date: 3/27/24

**Mattern & Craig**  
 ENGINEERS•SURVEYORS  
 701 FIRST STREET, S.W.  
 ROANOKE, VIRGINIA 24016  
 (540) 345-3342  
 FAX (540) 345-7691



0 5' 10' 20'

SCALE: 1" = 10'

ELIZABETH CAMPUS GREENWAY  
 KIME LANE TO IDAHO STREET (UPC 113566)  
 SALEM, VIRGINIA

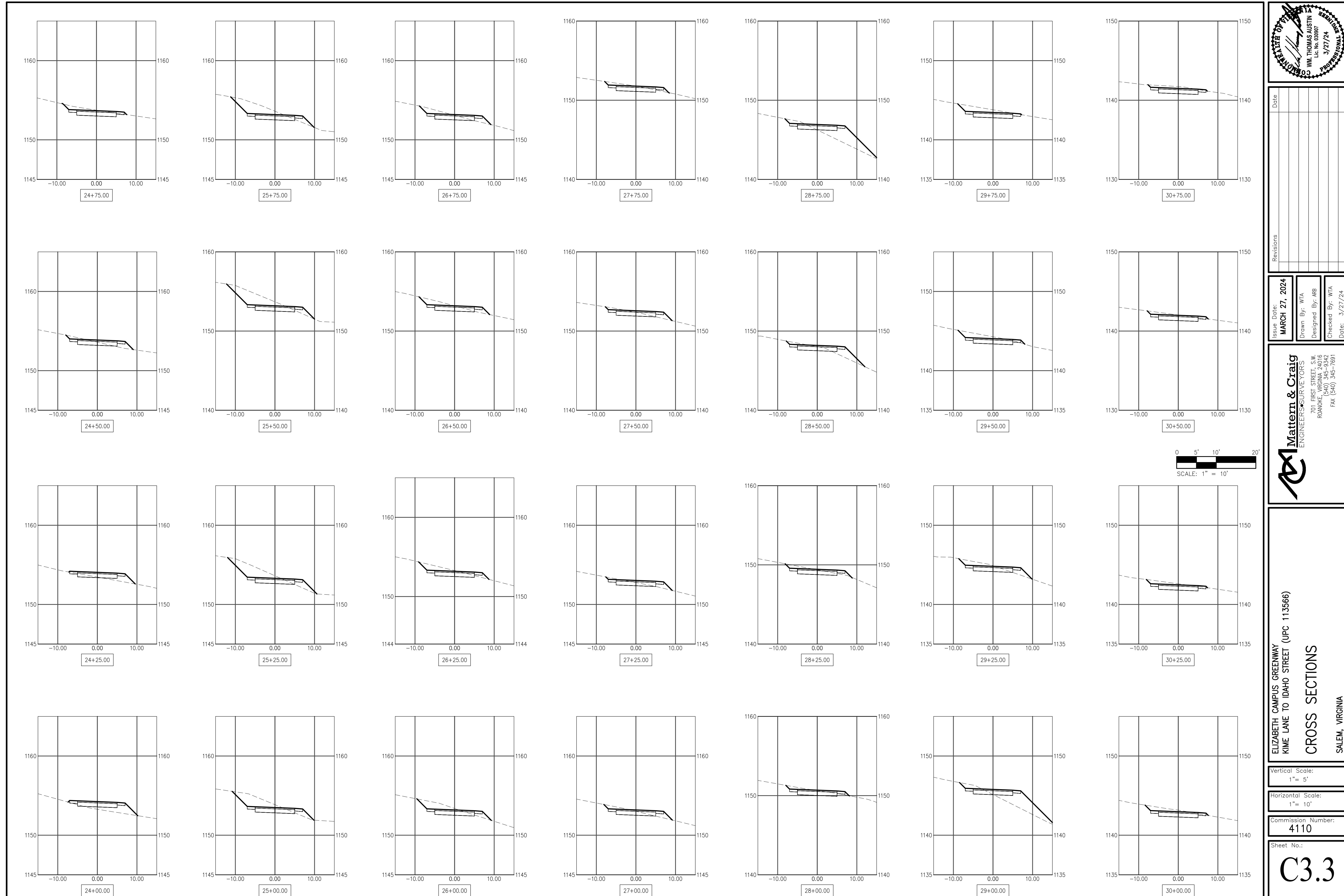
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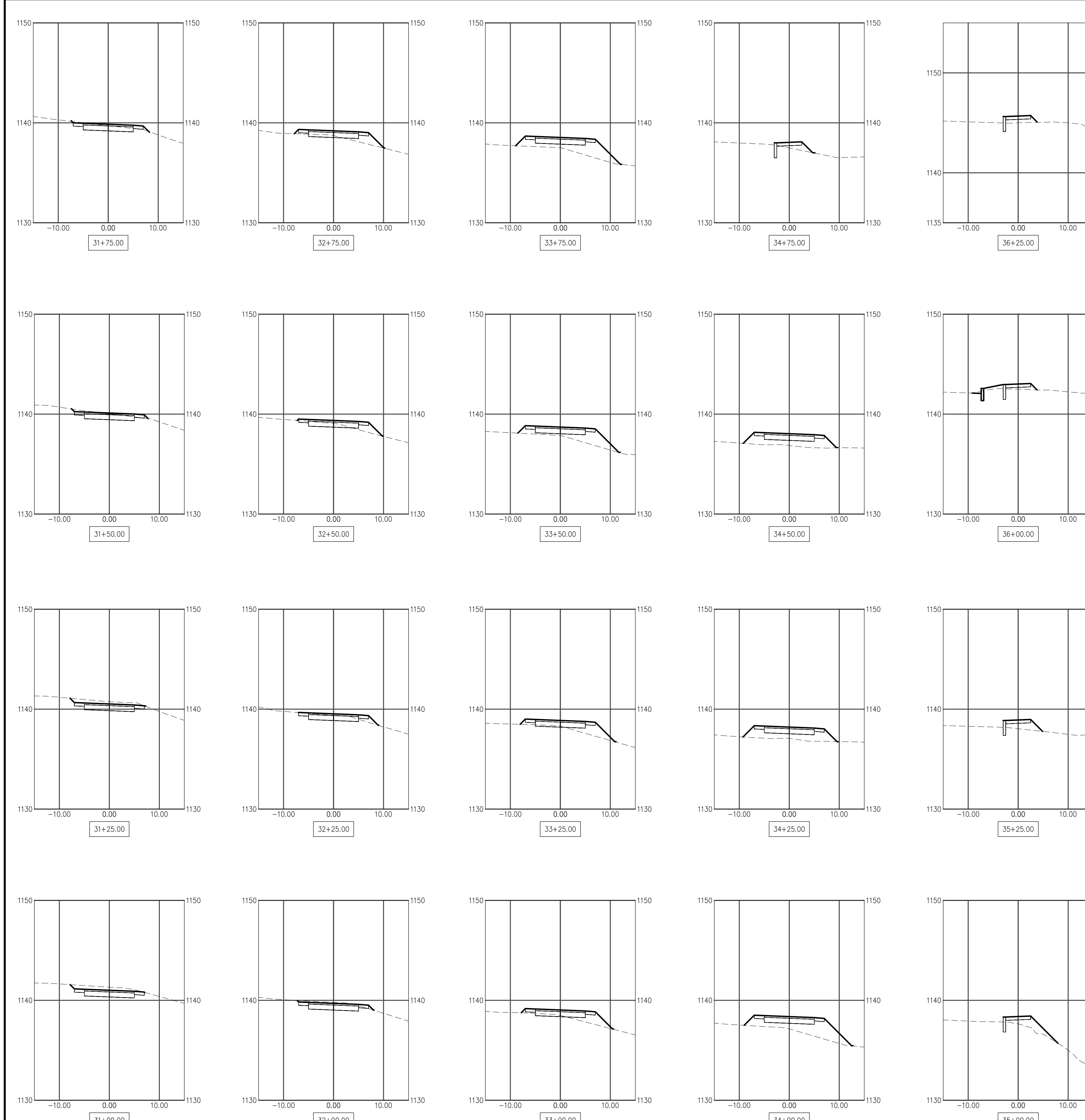
Horizontal Scale:  
 1" = 10'

Commission Number:  
 4110

Sheet No.:

**C3.2**





# CROSS SECTIONS

SECTIONIC SECTIONS

I Scale:  
1" = 5'  
  
E Scale:  
1" = 10'  
  
Mission Number  
**4110**  
  
No.:  
**C3.4**

<p><b>CRAIG &amp; CERN</b> ERS • SURVEYORS</p>		<p>Drawn By: WTA Designed By: ARB Checked By: WTA Date: 3/27/24</p>
<p>101 FIRST STREET, S.W. ROANOKE, VIRGINIA 24016 (540) 345-9342 FAX (540) 345-7691</p>		
<p>WM. THOMAS AUSTIN Lic. No. 030907 3/27/24 PROFESSIONAL ENGINEER</p>		

# Mattern & Craig ENGINEERS•SURVEYORS

## EROSION & SEDIMENT CONTROL SYMBOLS LEGEND

MS-XX		REFER TO REQUIREMENTS FOR "MINIMUM STANDARDS"
CE	OUTLET PROTECTION (STD. 3.18)	TS
TEMPORARY STONE CONSTRUCTION ENTRANCE (STD. 3.02)	MS-11	TEMPORARY SEEDING (STD. 3.31)
IP	RR	MS-1 & MS-3
TEMPORARY INLET PROTECTION (STD. 3.07)	PERMANENT SEEDING MIXTURE (STD. 3.32)	PS
SF	LS	DRAINAGE DIVIDE
SILT FENCE (WITHOUT WIRE SUPPORT) (STD. 3.05-1)	LEVEL SPREADER (STD. 3.21)	LIMITS OF LAND DISTURBANCE

USE OF NUTRIENT BANK CREDITS FOR BMP	
CRITERIA	BMP #1
BMP TYPE:	NUTRIENT CREDIT PURCHASE
NAME OF AUTHORIZED NUTRIENT BANK:	TO BE DETERMINED
REQUIRED PHOSPHORUS TO BE REMOVED (LBS/YR):	1.08
AMOUNT OF PHOSPHORUS CREDIT PURCHASED (LBS/YR):	1.08
TECHNICAL REQUIREMENTS MET (PART IIB OR IIC):	PART IIB
TOTAL AREA TREATED (AC):	1.216
IMPERVIOUS AREA TREATED BY BMP (AC):	0.597
MANAGED TURF AREA TREATED BY BMP (AC):	0.619
OPEN SPACE / FOREST AREA TREATED BY BMP (AC):	0.000
SURFACE AREA OF BMP (AC):	N/A
STORAGE VOLUME OF BMP (AC-FT):	N/A
QUALITY, QUANTITY, OR BOTH?:	QUALITY
TMDL ADDRESSED?:	PHOSPHORUS
NAME OF RECEIVING WATER (PROJECT SITE):	MASON CREEK
HYDROLOGIC UNIT CODE FOR PROJECT SITE:	RU10
NOTES:	

## EROSION & SEDIMENT CONTROL GENERAL NOTES:

(ADOPTED FROM TABLE 6-1 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK)

ES-1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE "MINIMUM STANDARDS" PUBLISHED IN VIRGINIA REGULATIONS 9VAC25-840-40 - EROSION AND SEDIMENT CONTROL REGULATIONS, AND THE SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

ES-2. UNLESS OTHERWISE NOTED HEREON OR STIPULATED BY THE LAND DISTURBING PERMIT, THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3. UNLESS OTHERWISE NOTED IN THE E&SC NARRATIVE, PERIMETER CONTROLS AND SEDIMENT TRAPS SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

ES-4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTAL EROSION CONTROL PLAN FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY OR PROVIDE DOCUMENTATION OF APPROVAL / PERMITTING FOR SAID SITE.

ES-6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10. THE EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHOWN ON THESE SHEETS ARE TO BE CONSTRUCTED DURING THE SITE GRADING AND CONSTRUCTION. REFER TO THE FOLLOWING SHEETS FOR EROSION AND SEDIMENT CONTROL NARRATIVE, SEQUENCE OF WORK, DETAILS, AND DESIGN DATA.

ES-11. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

ES-12. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

ES-13. PERMANENT OR TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

ES-14. TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION MEASURES SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

ES-15. FINAL SEEDING MIXTURE SHALL BE "SOUTHERN LAWN EXTREME" AND SHALL BE: NATIONAL TURFGRASS EVALUATION PROGRAM (NTEP), VA/MD RECOMMENDED, BLUE TAG CERTIFIED (WITH THE TAGS SENT TO OWNER) PRIOR TO APPLICATION, AND APPLIED AT 4.0-6.0 POUNDS PER 1,000 SQUARE FEET.

ES-16. ALL AREAS DISTURBED BY THE WORK OF THIS PROJECT SHALL BE STABILIZED BY EITHER THE CONSTRUCTION OF A PERMANENT SURFACE SUCH AS CURB, PAVEMENT, OR CONCRETE SIDEWALK, OR STABILIZED BY MEANS OF PERMANENT SEEDING OR ANOTHER APPROVED STABILIZATION METHOD.

ES-17. FOLLOWING THE COMPLETION OF SITE DEVELOPMENT CONSTRUCTION/GRADING, CONFIRMED STABILIZATION OF ALL DISTURBED AREAS, CONFIRMATION THAT EROSION OR SEDIMENTATION IS NO LONGER OCCURRING ON THE PROJECT SITE OR AT ITS BOUNDARIES, CONFIRMATION THAT DRAINAGE FLOWS ARE FUNCTIONING ACCORDING TO DESIGN, AND APPROVAL HAS BEEN GRANTED BY THE ROANOKE COUNTY EROSION AND SEDIMENT CONTROL INSPECTOR, THE CONTRACTOR MAY THEN BEGIN TO REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. THIS WORK SHALL BE DONE IN A CAREFUL, NEAT, AND ORGANIZED MANNER. IF DEWATERING IS REQUIRED, WATER SHALL BE PUMPED TO AN APPROVED FILTERING DEVICE.

## EROSION & SEDIMENT CONTROL SHEET NOTES:

1. THIS DRAWING IS INTENDED TO SHOW THE PERIMETER EROSION & SEDIMENT CONTROL (E&SC) MEASURES REQUIRED DURING THE CONSTRUCTION OF THE GREENWAY TRAIL, SIDEWALK, STORM DRAINAGE SYSTEM, AND OTHER SITE IMPROVEMENTS. ADDITIONAL REQUIRED MEASURES AND SEQUENCE OF WORK MAY BE SHOWN ON SUBSEQUENT SHEETS OR SPECIFIED IN THE NARRATIVE, SEQUENCE OF WORK, AND STATEMENT OF COMPLIANCE WITH THE MINIMUM STANDARDS.

2. REFER TO SHEET C4.6 FOR EROSION & SEDIMENT CONTROL (E&SC) NARRATIVE, SEQUENCE OF WORK, AND REFER TO SHEET C4.7 FOR LISTING AND STATEMENT OF COMPLIANCE WITH THE MINIMUM STANDARDS.

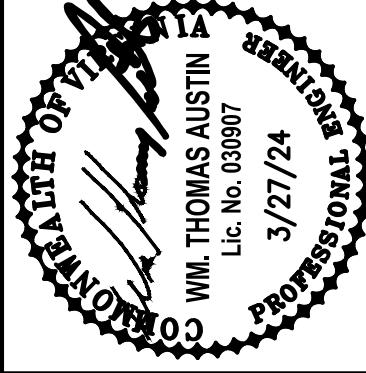
3. REFER TO SHEET C4.8 FOR STANDARD E&SC DETAILS AND DESIGN SUMMARY DATA.

4. WHERE APPLICABLE, THIS SHEET SHOWS THE DRAINAGE AREAS (DIVIDES) AND THE TOTAL AREA (IN ACRES) DRAINING TO CRITICAL E&SC CONTROL MEASURES. THE AREAS DENOTED REPRESENT THE MAXIMUM AREA DRAINING TO A GIVEN MEASURE.

5. WHERE APPLICABLE, THIS DRAWING SHOWS THE TYPES AND APPROXIMATE LIMITS OF SOILS ANTICIPATED TO BE ENCOUNTERED ON THE SITE. ALL SOIL DATA IS TAKEN FROM UNITED STATES DEPARTMENT OF AGRICULTURE - NATURAL RESOURCES CONSERVATION SERVICES - NATIONAL COOPERATIVE SOIL SURVEY PUBLICATIONS.

6. REFER TO E&SC NARRATIVE FOR INFORMATION REGARDING "CRITICAL EROSION AREAS."

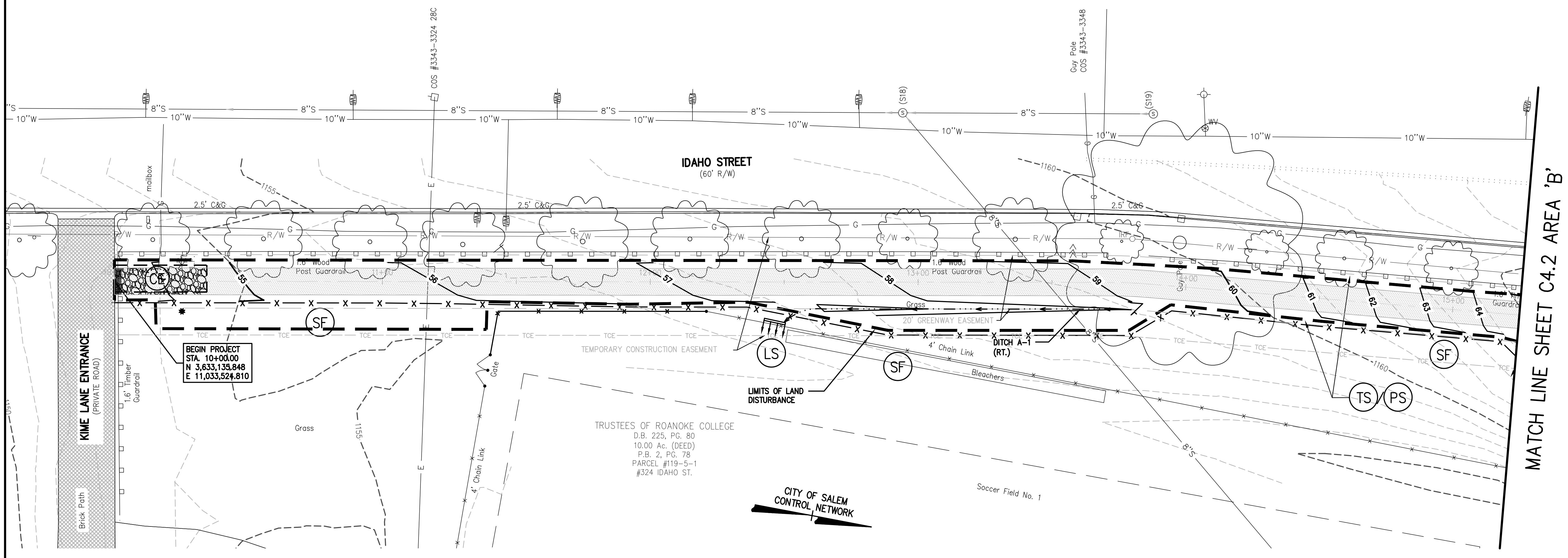
7. A CERTIFIED RESPONSIBLE LAND DISTURBER (RLD) SHALL OVERSEE AND BE INVOLVED IN ALL ASPECTS OF THE LAND DISTURBANCE ACTIVITIES (FROM INITIAL LAND DISTURBANCE THROUGH FINAL STABILIZATION). THE NAME OF THE RLD SHALL BE PROVIDED TO PLAN REVIEWING AUTHORITY AT OR PRIOR TO THE PRECONSTRUCTION CONFERENCE. THIS PERSON SHALL ATTEND THE PRECONSTRUCTION CONFERENCE AND PROVIDE A COPY OF HIS RLD CERTIFICATE.



Date	
Revisions	

Issue Date: MARCH 27, 2024
Drawn By: WTA
Checked By: WTA
Designed By: ARB
Date: 3/27/24

ELIZABETH CAMPUS GREENWAY KIME LANE TO IDAHO STREET (UPC 113566) GRADING - DRAINAGE AND EROSION CONTROL PLAN - 'A' SALEM, VIRGINIA
Vertical Scale: N/A
Horizontal Scale: 1" = 20'
Commission Number: 4110
Sheet No.: C4.1











## EROSION & SEDIMENT CONTROL NARRATIVE:

- 1.1 PROJECT DESCRIPTION: THE WORK OF THE PROJECT INCLUDES CONSTRUCTION WORK AS FOLLOWS: LIMITED DEMOLITION AND REMOVAL OF THE EXISTING SITE FEATURES; MINOR/INCIDENTAL CLEARING AND TREE REMOVAL; TOPSOIL STRIPPING AND STOCKPILING; GRADING; STORM DRAINAGE PIPING AND DITCHING; NEW GREENWAY TRAIL; CURB; SIDEWALK, AND OTHER SITE CONSTRUCTION REQUIRED FOR THE CONSTRUCTION OF A NEW GREENWAY TRAIL.
- 1.2 THE PROJECT SITE AREA IS SHOWN ON SHEETS C1.1 THRU C1.5 (EXISTING CONDITIONS PLANS).
- 1.3 THE LAND DISTURBANCE IS LINEAR IN NATURE AND INCLUDES TWO (2) DISCRETE AREAS. TOTAL AREA OF PROPOSED LAND DISTURBANCE IS 52,979-SQUARE FEET (1.216-ACRES) AS SHOWN ON SHEETS C3.1 AND C3.5.
- 1.4 TO MINIMIZE THE POTENTIAL FOR SILT-LADEN RUNOFF LEAVING THE SITE, EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHALL BE PROVIDED AS SHOWN AND SPECIFIED ON THESE PLANS AND AS OUTLINED IN THIS E&SC NARRATIVE. THE E&SC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE "CITY OF SALEM EROSION AND SEDIMENT CONTROL ORDINANCE" AND THE DETAILS AND SPECIFICATIONS FOUND IN THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", LATEST EDITION.
- 1.5 SEQUENCING OF WORK: IN ORDER TO MINIMIZE THE POTENTIAL FOR SOIL EROSION AND SEDIMENTATION OF DOWNSTREAM WATERWAYS AND PROPERTIES, THE WORK OF THE PROJECT SHOULD BE STAGED AND EXECUTED GENERALLY CHRONOLOGICALLY IN ACCORDANCE WITH THE GENERAL SEQUENCE OF WORK CONTAINED IN THE NARRATIVE.
- 2.1 EXISTING SITE CONDITIONS:
  - LAND COVER: THE EXISTING SITE IS CURRENTLY DEVELOPED AND IS COVERED PREDOMINANTLY WITH TURF AND LAWN. THERE ARE SPORADIC LANDSCAPE TREES LOCATED ALONG THE PERIMETER OF AND WITHIN THE WORK AREA, BUT THE SITE IS OTHERWISE DEVOID OF EXTENSIVE VEGETATION AND WOODED AREAS. A SMALL SECTION OF THE SITE AREA CONSISTS OF EXISTING ASPHALT PAVEMENT AND LIMITED AREAS OF CONCRETE CURB.
  - SLOPES/TOPOGRAPHY: THE EXISTING TOPOGRAPHY (SHOWN AT 1-FOOT CONTOUR INTERVAL) IS SHOWN ON SHEETS C1.1 & C1.5. THE PROJECT SITE AREA SLOPES IN VARIOUS DIRECTIONS TOWARD EXISTING STORM DRAINAGE INLETS WITHIN THE RECREATIONAL FIELDS, WHICH FORM THE LOW-POINTS WITHIN THE DEVELOPMENT. THE SITE SLOPES ARE GENERALLY MILD TO MODERATE, UNIFORM, AND RANGING BETWEEN 1 AND 5-PERCENT.
  - DRAINAGE FEATURES: DRAINAGE FEATURES CONSISTS OF EXISTING STORM DRAIN INLETS AND PIPING SYSTEMS LOCATED WITHIN AND ALONG THE PERIMETER OF THE RECREATIONAL FIELDS ADJACENT THE SITE. THESE DRAINAGE INLETS/STRUCTURE/PIPES ARE PRIVATE AND OWNED/OPERATED BY ROANOKE COLLEGE. THE LOCATION OF THE DRAINAGE FEATURES WITHIN THE PROJECT AREA ARE SHOWN ON SHEET C1.1 AND C1.5. THE SITE GENERALLY DRAINS BY SHEET FLOW TO THESE INLETS AND PIPING SYSTEMS AND FLOWS GENERALLY WEST TO EAST TOWARDS THE INTERSECTION OF KIME LANE AND LYNCHBURG TURNPIKE. THE STORMWATER EXITS THE SITE VIA A PIPE UNDER KIME LANE, A MAN-MADE CHANNEL, AND PIPING SYSTEMS WITHIN CORPORATE BOULEVARD.
- 3.1 ADJACENT PROPERTY:
  - THE PROJECT SITE IS WITHIN AND BOUND BY THE RECREATIONAL FIELDS AND FACILITIES OF ROANOKE COLLEGE. IN ADDITION, THE SITE IS ADJACENT TO PUBLIC STREETS ON THE WESTERN (IDAHO STREET) AND NORTHERN (LYNCHBURG TURNPIKE) PERIMETER.
- 4.1 SOILS:
  - A DETAILED SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION WAS NOT PERFORMED FOR THE PROJECT. THE SOILS THAT ARE CURRENTLY IN-PLACE ARE EITHER NATIVE IN-SITU SOILS OR FROM PRIOR GRADING ACTIVITIES.
  - 4.2 PER THE USDA WEB SOIL SURVEY (WSS), THE SOIL TYPES WITHIN THE PROJECT LIMITS ARE SHOTOWER LOAM (39C) AND SHOTOWER-URBAN LAND COMPLEX (41C). THE SHOTOWER LOAM IS AN ALLUVIUM MATERIAL DERIVED FROM LIMESTONE, SANDSTONE, AND SHALE. THE SOIL IS WELL DRAINED AND HAS A MEDIUM RUN-OFF CLASS. THE DEPTH TO WATER TABLE IS GENERALLY MORE THAN 80 INCHES AND THE AREA IS NOT PRONE TO PONDING OR FLOODING. HYDROLOGIC SOIL GROUP IS "B." THE SHOTOWER-URBAN LAND COMPLEX IS A MISCELLANEOUS OR COMPOSITE AREA CONSISTING OF 40-PERCENT SHOTOWER LOAMS AND OTHER SIMILAR SOILS, WITH THE REMAINDER CONSISTING OF URBAN LAND AREAS. THE SOIL IS WELL DRAINED AND HAS A MEDIUM RUN-OFF CLASS. THE DEPTH TO WATER TABLE IS GENERALLY MORE THAN 80 INCHES AND THE AREA IS NOT PRONE TO PONDING OR FLOODING. HYDROLOGIC SOIL GROUP IS "B."
  - 4.3 BASED ON A REVIEW OF THE AVAILABLE SUB-SURFACE INVESTIGATIONS AND KNOWLEDGE OF THE ON-SITE SOILS, THE SOILS ARE NOT DEEMED "MODERATELY ERODIBLE."
- 5.1 OFF-SITE DISPOSAL/BORROW AREAS:
  - TOPSOIL STRIPPED FROM THE PROJECT SITE AND ANY OTHER UNSUITABLE MATERIAL ENCOUNTERED WILL BE STOCKPILED AT THE LOCATION DESIGNATED AND RE-USED TO THE MAXIMUM EXTENT PRACTICABLE.
  - 5.2 SHOULD IT BECOME NECESSARY TO REMOVE MATERIAL FROM THE SITE AND DISPOSE OF IT AT AN OFF-SITE LOCATION, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT THE DISPOSAL SITE IS CURRENTLY PERMITTED WITH A VALID LAND DISTURBANCE PERMIT. PRIOR TO REMOVAL OF MATERIAL FROM THE SITE THE CONTRACTOR SHALL PROVIDE THE LOCATION OF THE DISPOSAL SITE AND EVIDENCE OF A VALID LAND-DISTURBING PERMIT FOR THE DISPOSAL SITE.
  - 5.3 IT IS ANTICIPATED THE EARTHWORK FOR THE PROJECT WILL BALANCE - I.E. THE REQUIRED AMOUNT OF FILL MATERIAL REQUIRED TO CONSTRUCT THE PROJECT WILL BE EQUAL TO THE AMOUNT OF ON-SITE CUT PRODUCED. IF REQUIRED, ADDITIONAL FILL MATERIAL WILL BE OBTAINED FROM AN APPROVED AND PERMITTED BORROW OR CONSTRUCTION SITE. PRIOR TO IMPORTING MATERIAL TO THE SITE THE CONTRACTOR SHALL PROVIDE THE LOCATION OF THE BORROW SITE AND EVIDENCE OF A VALID LAND-DISTURBING PERMIT.
- 6.1 CRITICAL EROSION AREAS: NONE IDENTIFIED.
- 7.1 EROSION AND SEDIMENT CONTROL MEASURES:
  - UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS (STD. AND SPEC.) OF THE LATEST EDITION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK" MEASURES SPECIFICALLY IDENTIFIED ON THESE PLANS ARE LISTED BELOW.
- 7.2 CONSTRUCTION ENTRANCE (CE): SHALL BE INSTALLED IN ACCORDANCE WITH STD. & SPEC 3.02 WHERE SHOWN ON THE PLAN. THE CONTRACTOR SHALL ENSURE VEHICLES LEAVING THE WORK AREA ARE FREE OF EXCESS MUD, DIRT, AND DUST. VEHICLE WASH-DOWN PROVISIONS SHALL BE ADDED IF REQUIRED BY E&SC INSPECTOR. THE CONTRACTOR MAY USE CONSTRUCTION ROAD STABILIZATION (CRS) MEASURES TO STABILIZE THE CONSTRUCTION ACCESS ROAD AND TRAIL IMMEDIATELY AFTER GRADING. THE PURPOSE OF THE (CRS) IS TO REDUCE THE EROSION OF TEMPORARY ROADBEDS BY CONSTRUCTION TRAFFIC DURING WET WEATHER AND REDUCE THE EROSION AND SUBSEQUENT RE-GRADING OF PERMANENT ROADBEDS BETWEEN THE TIME OF INITIAL GRADING AND FINAL STABILIZATION.
- 7.3 SILT FENCE (SF): SILT FENCE AND OTHER SEDIMENT BARRIERS ARE NOT SHOWN ON THE PLAN, BUT MAY BE REQUIRED DEPENDING ON THE SEQUENCE OF WORK. IF REQUIRED, SF/SF SHALL BE INSTALLED IN CONFORMANCE WITH STD. AND SPEC. 3.05. SILT FENCE INSTALLATION SHALL BE COORDINATED WITH AND INSPECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR OR REPRESENTATIVE. GIVEN THAT PORTIONS OF THE PROJECT PERIMETER ARE ADJACENT TO EXISTING ASPHALT, THE CONTRACTOR MAY ELECT TO DEPLOY AN APPROVED SEDIMENT BARRIER.
- 7.4 INLET PROTECTION (IP): SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND IN CONFORMANCE WITH STD. AND SPEC. 3.07. INLET PROTECTIONS ARE PROVIDED IN ORDER TO FILTER RUNOFF BEFORE IT ENTERS THE STORM DRAINAGE SYSTEM.
- 7.5 STORMWATER CONVEYANCE CHANNEL (SCC): CONSISTS OF A PERMANENT, DESIGNED WATERWAY CHANNEL, SHAPED, SIZED, AND LINED WITH APPROPRIATE VEGETATION OR STRUCTURAL MATERIAL USED TO SAFELY CONVEY STORMWATER RUNOFF WITHIN OR AWAY FROM A DEVELOPING AREA OR CONVEYANCE OF CONCENTRATED SURFACE RUNOFF WATER TO A RECEIVING CHANNEL OR SYSTEM WITHOUT DAMAGE FROM EROSION. THE (SCC) SHALL BE INSTALLED IN ACCORDANCE WITH THE GENERAL REQUIREMENTS OF STD. AND SPEC. 3.17 AND THE APPLICABLE DETAIL AND SPECIFICATION ON THESE PLANS.
- 7.6 OUTLET PROTECTION (OP): SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND IN CONFORMANCE WITH STD. AND SPEC. 3.18. OUTLET PROTECTION IS AN ENERGY DISSIPATING DEVICE WHICH PROTECTS THE OUTLET AND REDUCES DOWNSTREAM EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORMWATER FLOWS.
- 7.7 ROCK CHECK DAMS (CD): SHALL BE APPLIED TO GRADED/DISTURBED CHANNELS AND NEWLY GRADED/FORMED CHANNELS AS INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN AND SHALL BE APPLIED IN ACCORDANCE WITH THE STD. AND SPEC. 3.20. ROCK CHECK DAMS WILL: SLOW THE CONVEYANCE VELOCITY WITHIN THE CHANNEL AND THUS ALLOW FOR THE TEMPORARY AND PERMANENT LINING TO MATURE AND DEVELOP; CAPTURE AND TRAP SEDIMENT WITHIN THE CHANNEL BEFORE EXITING THE SITE; AND, REDUCE THE PEAK RUN-OFF FROM THE PROJECT DURING CONSTRUCTION BY EXTENDING THE TIME OF CONCENTRATION TO OUTFALL.
- 7.8 LEVEL SPREADER (LS): SHALL BE INSTALLED WHERE SHOWN ON THE PLANS AND IN CONFORMANCE WITH SPEC. 3.21. THE LEVEL SPREADER PROVIDES AN OUTLET FOR DIKES AND DIVERSIONS CONSISTING OF AN EXCAVATED DEPRESSION CONSTRUCTED AT ZERO GRADE ACROSS A SLOPE. THE LEVEL SPREADER CONVERTS CONCENTRATED RUNOFF TO SHEET FLOW AND RELEASE IT UNIFORMLY INTO AREAS STABILIZED BY EXISTING VEGETATION.
- 7.9 TOPSOILING (TS): SHALL BE APPLIED TO ALL DISTURBED AREAS WHICH ARE TO RECEIVE PERMANENT SEEDING AS INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN AND SHALL BE APPLIED IN ACCORDANCE WITH THE STD. AND SPEC. 3.30. TOPSOILING PROVIDES A METHOD FOR PRESERVING AND RE-USING THE SURFACE LAYER OF SOIL, OFTEN ENRICHED IN ORGANIC MATTER, IN ORDER TO OBTAIN A MORE DESIRABLE PLANTING AND GROWTH MEDIUM.
- 7.10 TEMPORARY SEEDING / STABILIZATION (TS): SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE AND SHALL CONFORM TO STD. AND SPEC. 3.31. ADDITIONALLY, TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.
- 7.11 PERMANENT SEEDING (PS): ALL DISTURBED AREAS BROUGHT TO FINAL GRADE THAT ARE NOT BUILT UPON (BUILDING, PAVEMENT, WALKS, ETC.) OR THAT ARE NOT LANDSCAPED SHALL BE SEEDED IN CONFORMANCE WITH STD. AND SPEC. 3.32. PERMANENT STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.
- 8.1 MANAGEMENT STRATEGY AND SEQUENCE OF CONSTRUCTION:
  - CONSTRUCTION SHALL BE SEQUENCED SO LAND DISTURBING AND GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY MARKED PRIOR TO START OF WORK.
  - 8.2 SEDIMENT TRAPPING, PERIMETER MEASURES, AND INLET PROTECTION SHALL BE INSTALLED AS THE FIRST STEP IN THE GRADING OPERATION AND SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
  - 8.3 TEMPORARY SEEDING (TS) OR OTHER STABILIZATION MEASURES SHALL BE PLACED IMMEDIATELY FOLLOWING GRADING.
  - 8.4 THE RESPONSIBLE LAND DISTURBER (RLD) SHALL BE DIRECTLY RESPONSIBLE TO ENSURE THE MEASURES SPECIFIED HEREIN ARE INSTALLED AND MAINTAINED AND THE SEQUENCE OF WORK IS FOLLOWED.
  - 8.5 AFTER PERFORMANCE OF THE WORK OF THE PROJECT AND UPON ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&SC MEASURES WILL BE CLEARED UP AND REMOVED.
- 9.1 INSPECTION & MAINTENANCE REQUIREMENTS:
  - THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL MAINTENANCE REQUIREMENTS OF THE EROSION AND SEDIMENT CONTROL MEASURES AS OUTLINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
  - 9.2 ALL EROSION AND SEDIMENT MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE ITEMS LISTED BELOW WILL BE CHECKED IN ACCORDANCE WITH THE REQUIREMENTS FOR EACH PARTICULAR ITEM.
  - 9.3 TEMPORARY STONE CONSTRUCTION ENTRANCE (CE) / STD. & SPEC 3.02: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.
- 10.1 PERMANENT STABILIZATION / REMOVAL OF MEASURES:
  - 10.2 FOLLOWING THE COMPLETION OF DEVELOPMENT AND STABILIZATION OF ALL AREAS, AND IT HAS BEEN DETERMINED THAT EROSION OR SEDIMENTATION IS NO LONGER OCCURRING ON THE SITE OR AT ITS BOUNDARIES, AND DRAINAGE FLOWS ARE FUNCTIONING ACCORDING TO DESIGN, THE CONTRACTOR MAY THEN BEGIN TO REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. THIS WORK SHALL BE DONE IN A CAREFUL, NEAT, AND ORGANIZED MANNER.
  - 10.3 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT SHALL BE CAREFULLY REMOVED OR UNIFORMLY SPREAD OVER THE AREA, AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- 11.1 STORMWATER MANAGEMENT:
  - 11.2 STORMWATER RUN-OFF FROM THE PROJECT SITE WILL BE COLLECTED BY NEW AND/OR EXISTING STORM DRAINAGE INLETS, AREA DRAINS, AND GRATE INLETS, OR OTHER DEVICES, CONVEYED BY PIPE OR CHANNEL, AND DISCHARGED IN A NON-EROSIVE MANNER IN TO THE EXISTING STORM DRAINAGE SYSTEM LOCATED ALONG THE PERIMETER OF THE SITE.

9.4 STD. & SPEC 3.05 - SILT FENCE (SF): SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEFUL LIFE, AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH A DEPTH OF 6-INCHES. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEADED.

9.5 STD. & SPEC 3.07 - STORM DRAIN INLET PROTECTION (IP) - THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

9.6 STD. & SPEC 3.32 - PERMANENT SEEDING (PS): IN GENERAL, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL IT HAS BEEN MAINTAINED FOR ONE FULL YEAR AFTER PLANTING. IRRIGATION - NEW SEEDING SHOULD BE SUPPLIED WITH ADEQUATE MOISTURE, SUPPLY WATER AS NEEDED, ESPECIALLY LATE IN THE SEASON, IN ABNORMALLY HOT OR DRY WEATHER. ON ADVERSE SITES, WATER APPLICATION RATES SHOULD BE CONTROLLED TO PREVENT EXCESSIVE RUNOFF. RE-SEEDING INSEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVER-SEED AND FERTILIZE IN CONFORMANCE WITH SOIL TEST RESULTS. IF A STAND HAS LESS THAN 40% COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. THE SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCES ARE RESPONSIBLE. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS. FERTILIZATION - COOL SEASON GRASSES SHOULD BEGIN TO BE FERTILIZED 90 DAYS AFTER PLANTING TO ENSURE PROPER STAND AND DENSITY. WARM SEASON FERTILIZATION SHOULD BEGIN AT 30 DAYS AFTER PLANTING. APPLY MAINTENANCE LEVELS OF FERTILIZER AS DETERMINED BY SOIL TEST. IN THE ABSENCE OF A SOIL TEST, FERTILIZATION SHOULD BE AS TESTED ON THE SEED SCHEDULE.

10. PERMANENT STABILIZATION / REMOVAL OF MEASURES:
 

- 10.1 AFTER THE INSTALLED EROSION AND SEDIMENT CONTROL DEVICES ARE FOUND TO BE FUNCTIONAL, THE CONTRACTOR SHALL IMMEDIATELY PROCEED WITH CLEARING, GRUBBING, AND PRELIMINARY GRADING OPERATIONS. PERMANENT OR TEMPORARY STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.

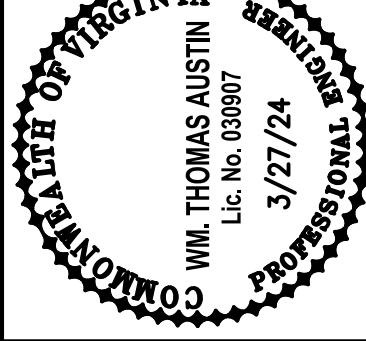
10.2 FOLLOWING THE COMPLETION OF DEVELOPMENT AND STABILIZATION OF ALL AREAS, AND IT HAS BEEN DETERMINED THAT EROSION OR SEDIMENTATION IS NO LONGER OCCURRING ON THE SITE OR AT ITS BOUNDARIES, AND DRAINAGE FLOWS ARE FUNCTIONING ACCORDING TO DESIGN, THE CONTRACTOR MAY THEN BEGIN TO REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. THIS WORK SHALL BE DONE IN A CAREFUL, NEAT, AND ORGANIZED MANNER.

10.3 ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT SHALL BE CAREFULLY REMOVED OR UNIFORMLY SPREAD OVER THE AREA, AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

11.1 STORMWATER MANAGEMENT:
 

- 11.2 STORMWATER RUN-OFF FROM THE PROJECT SITE WILL BE COLLECTED BY NEW AND/OR EXISTING STORM DRAINAGE INLETS, AREA DRAINS, AND GRATE INLETS, OR OTHER DEVICES, CONVEYED BY PIPE OR CHANNEL, AND DISCHARGED IN A NON-EROSIVE MANNER IN TO THE EXISTING STORM DRAINAGE SYSTEM LOCATED ALONG THE PERIMETER OF THE SITE.

END OF EROSION & SEDIMENT CONTROL NARRATIVE



Date	
Revisions	
Issue Date: MARCH 27, 2024	Drawn By: ARB
Designed By: ARB	Checked By: WTA
Date: 3/27/24	

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

EROSION AND SEDIMENT CONTROL  
NARRATIVE

SALEM, VIRGINIA

Vertical Scale: N/A

Horizontal Scale: N/A

Commission Number: 4110

Sheet No.: C4.6

STATEMENT OF COMPLIANCE  
WITH VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS  
9VAC25-840-40 – MINIMUM STANDARDS

THE LAND-DISTURBING ACTIVITIES OF THIS PROJECT MUST COMPLY WITH THE 19 "MINIMUM STANDARDS" (MS) SPECIFIED IN SECTION 4VAC50-30-40 OF THE REGULATIONS (VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS) THAT ARE APPLICABLE TO THE PROJECT. THIS SECTION PROVIDES A RECITAL OF THE FULL TEXT OF THE 19 MINIMUM STANDARDS (MS) AND FOLLOWS WITH A "METHOD OF COMPLIANCE" WITH EACH MINIMUM STANDARD. THESE EROSION AND SEDIMENT CONTROL PLANS WERE PREPARED IN A MANNER TO ENSURE COMPLIANCE WITH THE MINIMUM STANDARDS.

THE CONTRACTOR AND THE CERTIFIED RESPONSIBLE LAND DISTURBER (RLD) SHALL PERFORM THE WORK OF THE PROJECT IN THE MANNER STATED AND IN A MANNER AND SEQUENCE SUCH THAT THE INTENT AND REQUIREMENTS OF THE MINIMUM STANDARDS ARE MET. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL INFORMATION.

MS-1: Permanent or temporary soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be final grade but will remain dormant for longer than fourteen (14) days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

**METHOD OF COMPLIANCE: PERMANENT SEEDING (PS) AND TEMPORARY SEEDING (TS) MEASURES ARE SHOWN AND SPECIFIED ON THE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS, AND NARRATIVES / SEQUENCE OF WORK. CONTRACTOR SHALL REFER TO E&SC PLAN SHEETS, THE E&SC NARRATIVE, AND DETAILS FOR SEEDING REQUIREMENTS AND SCHEDULES.**

MS-2: During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

**METHOD OF COMPLIANCE: STRIPPED TOPSOIL SHALL BE STOCKPILED AT THE LOCATION SHOWN AND SHALL BE RE-SUED ON AREAS TO BE PERMANENTLY STABILIZED WITH TURF. EXCESS EXCAVATION MATERIAL AND/OR UN-SUITABLE MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN A LEGAL MANNER.**

MS-3: A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.

**METHOD OF COMPLIANCE: ALL DENUDED AREAS NOT STABILIZED THROUGH APPLICATION OF PAVEMENT, TRAIL, SIDEWALK, OR OTHER PERMANENT IMPERVIOUS SURFACES SHALL BE STABILIZED WITH PERMANENT SEEDING (PS) MEASURES ARE SHOWN AND SPECIFIED ON THE E&SC PLANS, THE DETAIL SHEETS, THE NARRATIVE, AND SEQUENCE OF WORK.**

MS-4: Sediment basins and sediment traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

**METHOD OF COMPLIANCE: REFER TO THE SEQUENCE OF WORK AND NARRATIVE FOR THE APPLICATION OF SILT FENCE AND OTHER PERIMETER BARRIERS AND SEDIMENT TRAPPING MEASURES. GIVEN THE EXTENT OF LAND DISTURBANCE AND THE TOPOGRAPHY OF THE PROJECT AREA, SEDIMENT BASIN AND TRAPS ARE NOT REQUIRED.**

MS-5: Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

**METHOD OF COMPLIANCE: NOT APPLICABLE.**

MS-6: Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

**METHOD OF COMPLIANCE: NOT APPLICABLE – SEDIMENT TARPS AND/OR BASINS ARE NOT PROPOSED.**

MS-7: Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

**METHOD OF COMPLIANCE: NEW CUT OR FILL SLOPES GREATER THAN 6 FEET IN HEIGHT, OR EXISTING STEEP SLOPES (GREATER THAN 3H:1V) THAT WILL BE DISTURBED ARE CONSIDER "HIGH EROSION POTENTIAL" AREA. THESE SLOPES ARE DENOTED ON THE E&SC PLAN TO RECEIVE SPECIFIC MEASURES (SURFACE ROUGHENING, TOPSOIL, TEMPORARY OR PERMANENT SEEDING, AND/OR BLANKET MATTING) TO ENSURE PROPER STABILIZATION.**

MS-8: Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

**METHOD OF COMPLIANCE: DITCHES ARE INCORPORATED INTO THE DESIGN TO ENSURE CONCENTRATED RUNOFF/FLOWS DO NOT FLOW DOWN AND ALONG THE FACE OF NEW CUT OR FILL SLOPES. LEVEL-SPREADERS ARE INCORPORATED WHERE CONCENTRATED FLOWS ARE MINIMAL. REFER TO THE E&SC PLAN FOR SPECIFIC MEASURES TO CONTROL RUN-OFF AND ENSURE PROPER STABILIZATION.**

MS-9: Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

**METHOD OF COMPLIANCE: METHOD OF COMPLIANCE: BASED ON A REVIEW OF SUBSURFACE DATA AVAILABLE FOR THE PROJECT AREA AND KNOWLEDGE OF THE GROUNDWATER CONDITIONS AT THE SITE, THIS CONDITION IS NOT ANTICIPATED DURING THIS PROJECT. IF ENCOUNTERED DURING CONSTRUCTION IT WILL BE ADDRESSED WITH PLAN REVISION.**

MS-10: All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

**METHOD OF COMPLIANCE: INLET PROTECTION [IP] DEVICES ARE SPECIFIED AND SHOWN ON THE E&SC PLAN SHEETS AND IN THE NARRATIVE. THE GENERAL WORK SEQUENCE SPECIFIES THE TIMING FOR INSTALLATION OF THESE MEASURES.**

MS-11: Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed to both the conveyance channel and receiving channel.

**METHOD OF COMPLIANCE: THE NEW STORMWATER CONVEYANCE SYSTEM DISCHARGES DIRECTLY INTO NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS. WHERE REQUIRED, CHANNEL LINING AND OUTLET PROTECTION MEASURES (E.G. CHECK DAMS) ARE SPECIFIED AND DETAILED ON THE E&SC PLAN SHEETS. THE TIMING OF INSTALLING LININGS AND OUTLET PROTECTIONS IS SPECIFIED IN THE NARRATIVE AND SEQUENCE OF WORK.**

MS-12: When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non-erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non-erodible cover materials.

**METHOD OF COMPLIANCE: NOT APPLICABLE. NO WORK IS PROPOSED IN A LIVE WATERCOURSE.**

MS-13: When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

**METHOD OF COMPLIANCE: NOT APPLICABLE. WORK DOES NOT INVOLVE THE CROSSING OF A LIVE WATERCOURSE.**

MS-14: All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.

**METHOD OF COMPLIANCE: NOT APPLICABLE. WORK DOES NOT INVOLVE WORKING IN OR CROSSING OF A LIVE WATERCOURSE.**

MS-15: The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

**METHOD OF COMPLIANCE: NOT APPLICABLE. WORK DOES NOT INVOLVE WORKING IN OR CROSSING OF A LIVE WATERCOURSE.**

MS-16: Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

- No more than 500 linear feet of trench may be opened at one time.
- Excavated material shall be placed on the uphill side of trenches.
- Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
- Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
- Restabilization shall be accomplished in accordance with this chapter.
- Applicable safety requirements shall be complied with.

**METHOD OF COMPLIANCE: NO NEW UNDERGROUND UTILITIES ARE PROPOSED.**

MS-17: Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

**METHOD OF COMPLIANCE: GIVEN THE EXTENT AND LOCATION OF PROPOSED LAND DISTURBING ACTIVITIES, A CONSTRUCTION ENTRANCE IS NOT WARRANTED OR PRACTICAL. ALL CONSTRUCTION VEHICLES SHALL ENTER AND LEAVE THE SITE AT A SPECIFIED LOCATION. THE GENERAL SEQUENCE OF WORK AND NARRATIVE ADDRESS HOW TRACKING ONTO THE PAVED SURFACE IS TO BE ADDRESSED.**

MS-18: All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

**METHOD OF COMPLIANCE: REFER TO NARRATIVE AND WORK SEQUENCE ON THE E&SC PLAN SHEETS AND THE GENERAL NOTES FOR STATED REQUIREMENTS REGARDING THE PROVISIONS OF REMOVAL OF E&SC MEASURES.**

MS-19: Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (V SMP) Regulations as stated in paragraph N. above.

1.) COMPLIANCE IS PROVIDED BY CONFORMING TO THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (V SMP) REGULATIONS AS STATED IN PARAGRAPH N. ABOVE.  
2.) STORMWATER RUN-OFF FROM THE PROJECT SITE AREAS WILL BE COLLECTED BY NEW AND/OR EXISTING STORM DRAINAGE INLETS AND PIPES, CONVEYED BY PIPE (MAN-MADE CONVEYANCE), AND DISCHARGED IN A NON-EROSIVE MANNER INTO THE EXISTING MAN-MADE DRAINAGE CHANNELS RECEIVING CHANNELS.

3.) CHANNEL PROTECTION IS PROVIDED BY COMPLYING WITH PARAGRAPH B.1.c. OF 9VAC25-870-66 – AS STATED: "THE MAN-MADE STORMWATER CONVEYANCE SYSTEM SHALL CONVEY THE POST-DEVELOPMENT PEAK FLOW RATE FROM THE TWO-YEAR 24-HOUR STORM EVENT WITHOUT CAUSING EROSION OF THE SYSTEM." LIMITS OF ANALYSIS REQUIREMENTS AS STATED IN PARAGRAPH B.4.a. ARE MET.

4.) FLOOD PROTECTION IS PROVIDED BY COMPLYING WITH PARAGRAPH C.1. OF 9VAC25-870-66 – AS STATED: "CONCENTRATED STORMWATER FLOW TO STORMWATER CONVEYANCE SYSTEMS THAT CURRENTLY DO NOT EXPERIENCE LOCALIZED FLOODING DURING THE 10-YEAR 24-HOUR STORM EVENT: THE POINT OF DISCHARGE RELEASES STORMWATER INTO A STORMWATER CONVEYANCE SYSTEM THAT, FOLLOWING THE LAND-DISTURBING ACTIVITY, CONFINES THE POST-DEVELOPMENT PEAK FLOW RATE FROM THE 10-YEAR 24-HOUR STORM EVENT WITHIN THE STORMWATER CONVEYANCE SYSTEM." LIMITS OF ANALYSIS REQUIREMENTS AS STATED IN PARAGRAPH C.3.a. OR C.3.c. ARE MET.

5.) REFER TO THE STORMWATER MANAGEMENT CALCULATIONS AND NARRATIVES FOR ADDITIONAL INFORMATION.

END OF STATEMENT OF COMPLIANCE  
WITH VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS  
9VAC25-840-40 – MINIMUM STANDARDS



Date	
Revisions	

Issue Date: MARCH 27, 2024
Drawn By: ARB
Designed By: ARB
Checked By: WTA
Date: 3/27/24

ELIZABETH CAMPUS GREENWAY KIME LANE TO IDAHO STREET (IIPC# 113566)
EROSION AND SEDIMENT CONTROL
STATEMENT OF COMPLIANCE (MS-19)
SALEM, VIRGINIA

Vertical Scale: N/A  
Horizontal Scale: N/A

Commission Number: 4110  
Sheet No.:

C4.7

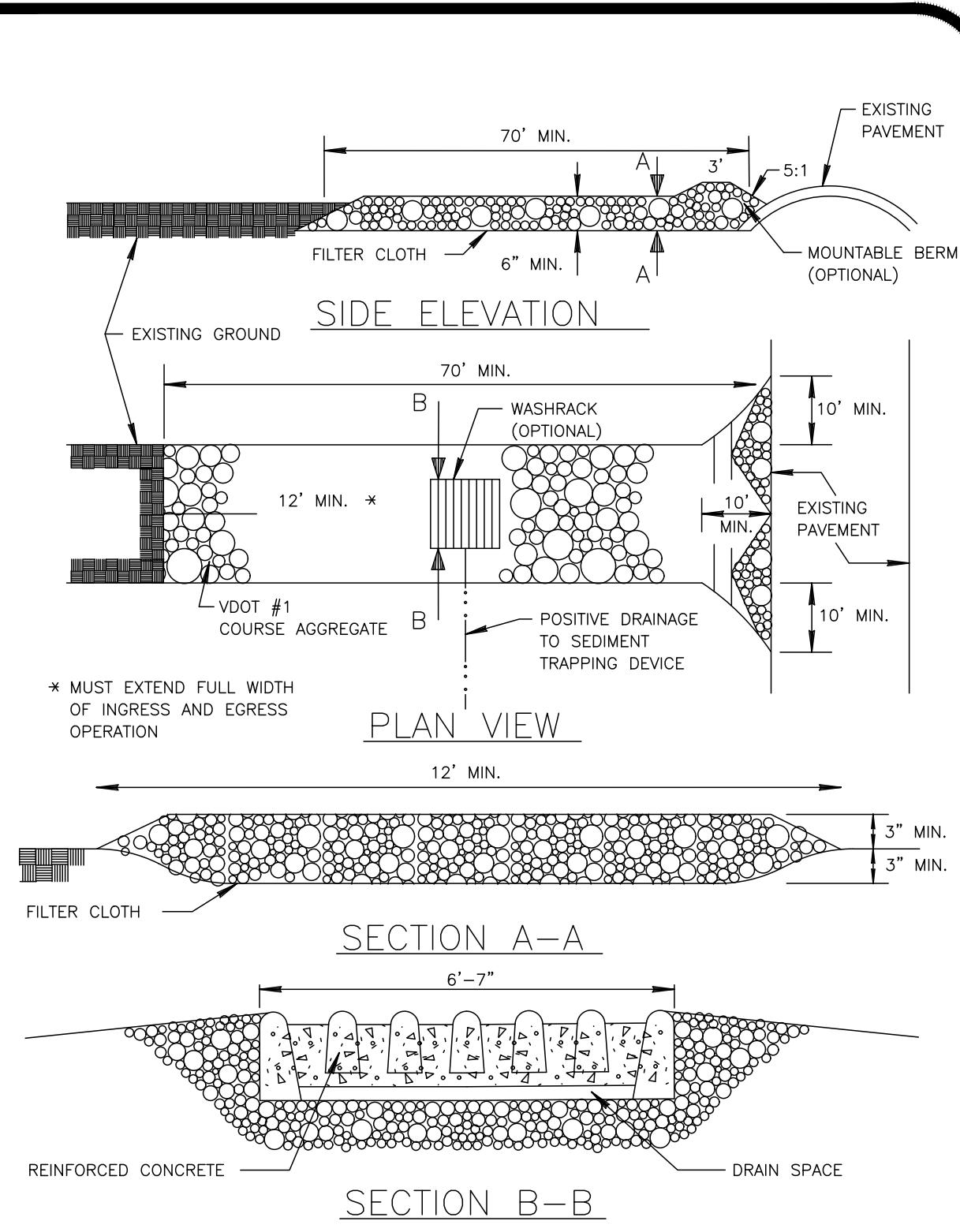


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 Checked By: WTA  
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ELIZABETH CAMPUS GREENWAY  
 KIME LANE TO IDAHO STREET (UPC 113566)  
 EROSION AND SEDIMENT CONTROL  
 DETAILS  
 SALEM, VIRGINIA

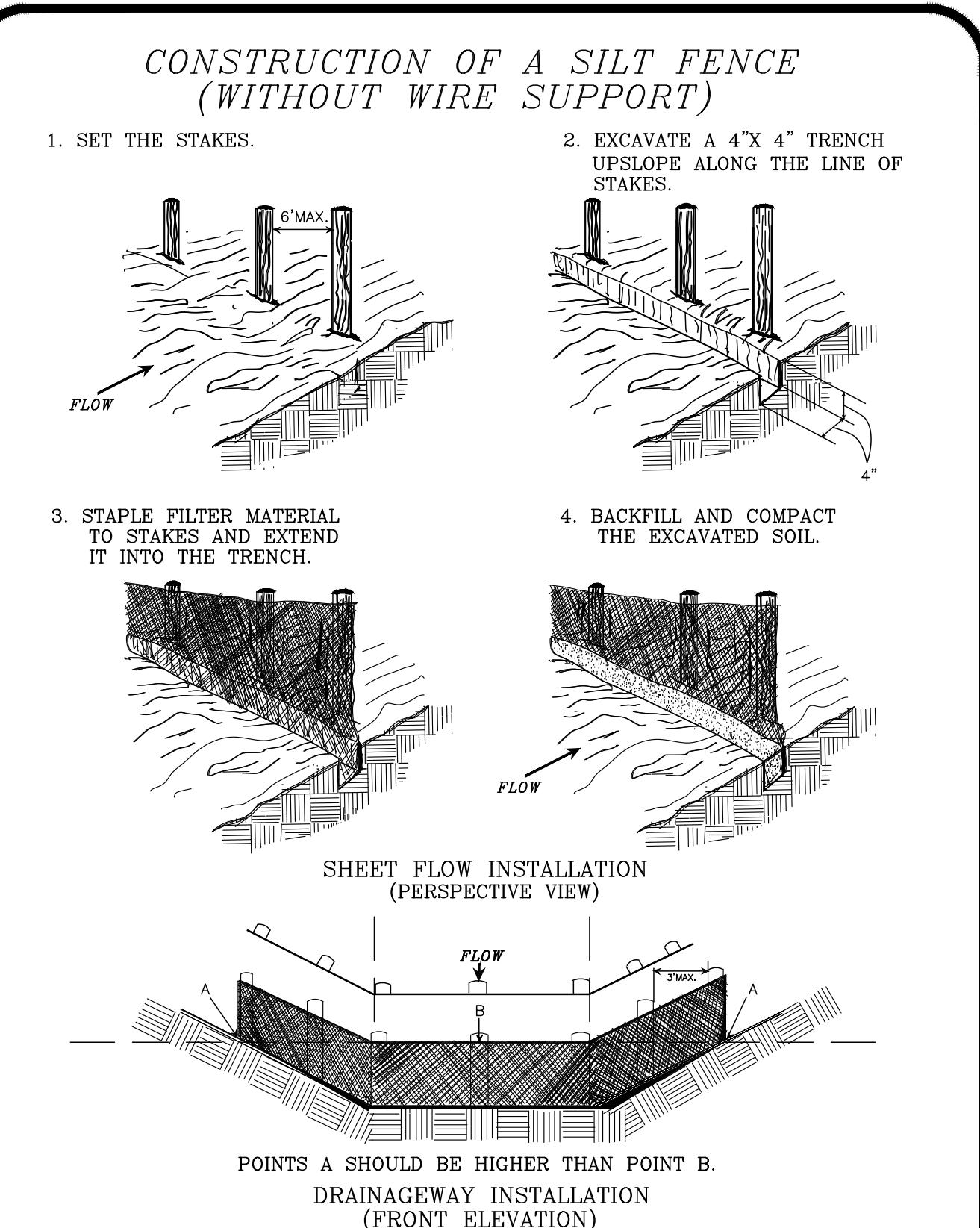
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Sheet No.: C4.8



**STONE CONSTRUCTION ENTRANCE**  
 (STD. & SPEC. 3.02)

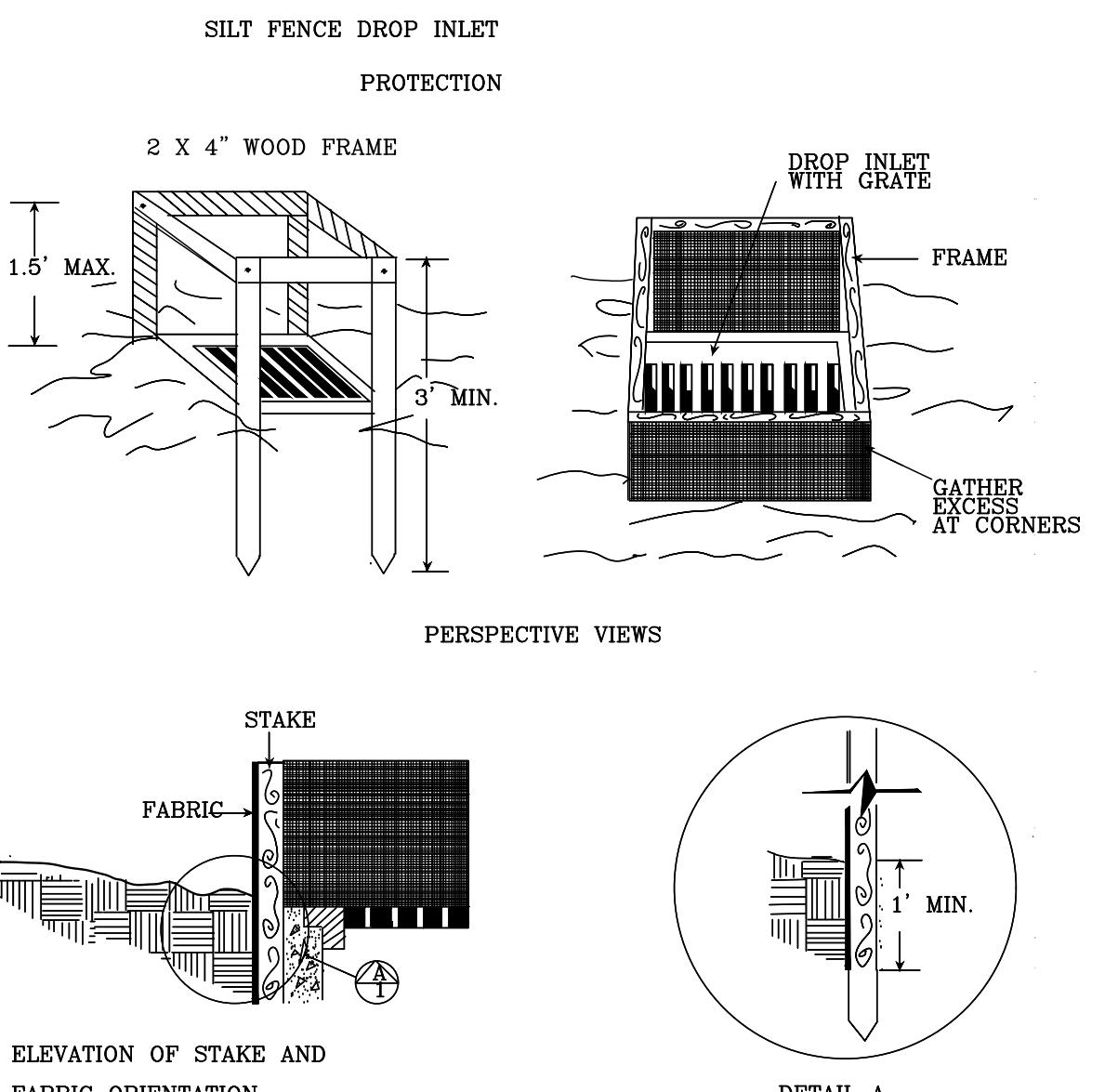
CE



**SILT FENCE**  
 (STD. & SPEC. 3.05)

SF

**SILT FENCE DROP INLET PROTECTION**



**INLET PROTECTION**  
 (STD. & SPEC. 3.07)

IP

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIAN.

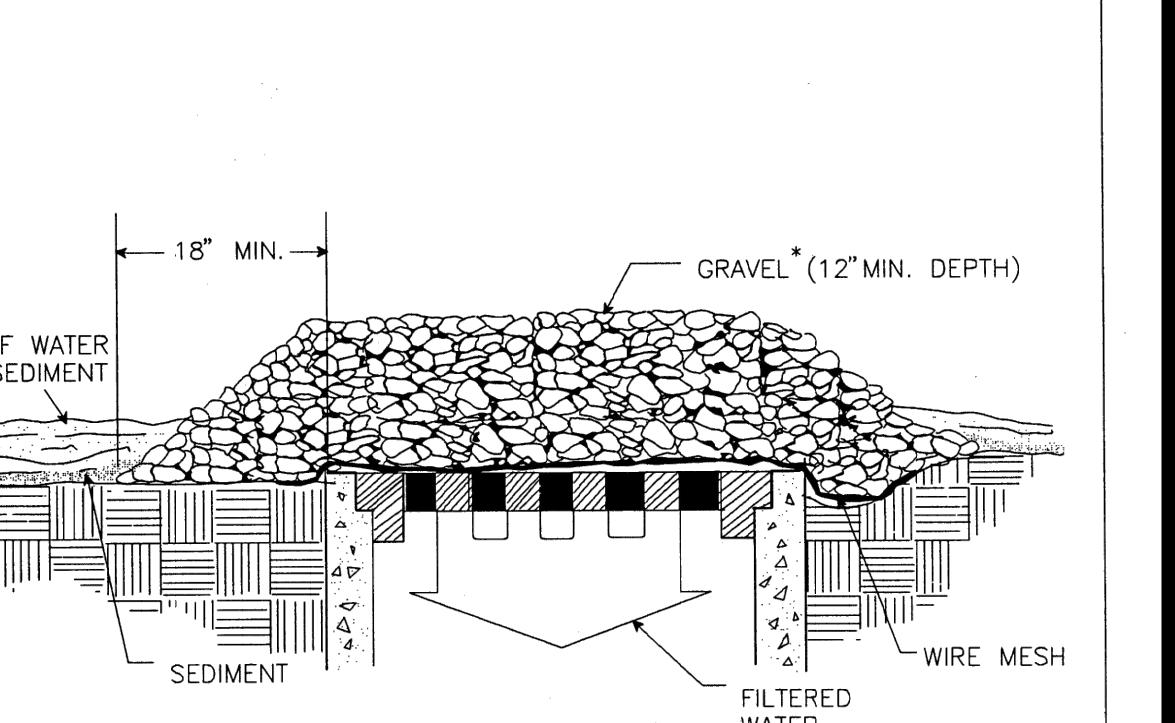
**TEMPORARY SEEDING MIXTURE**  
 (STD. & SPEC. 3.31)

TS

1992

3.07

**GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER**



Source: Va. DSWC

Plate 3.07-2

**INLET PROTECTION**  
 (STD. & SPEC. 3.07)

IP

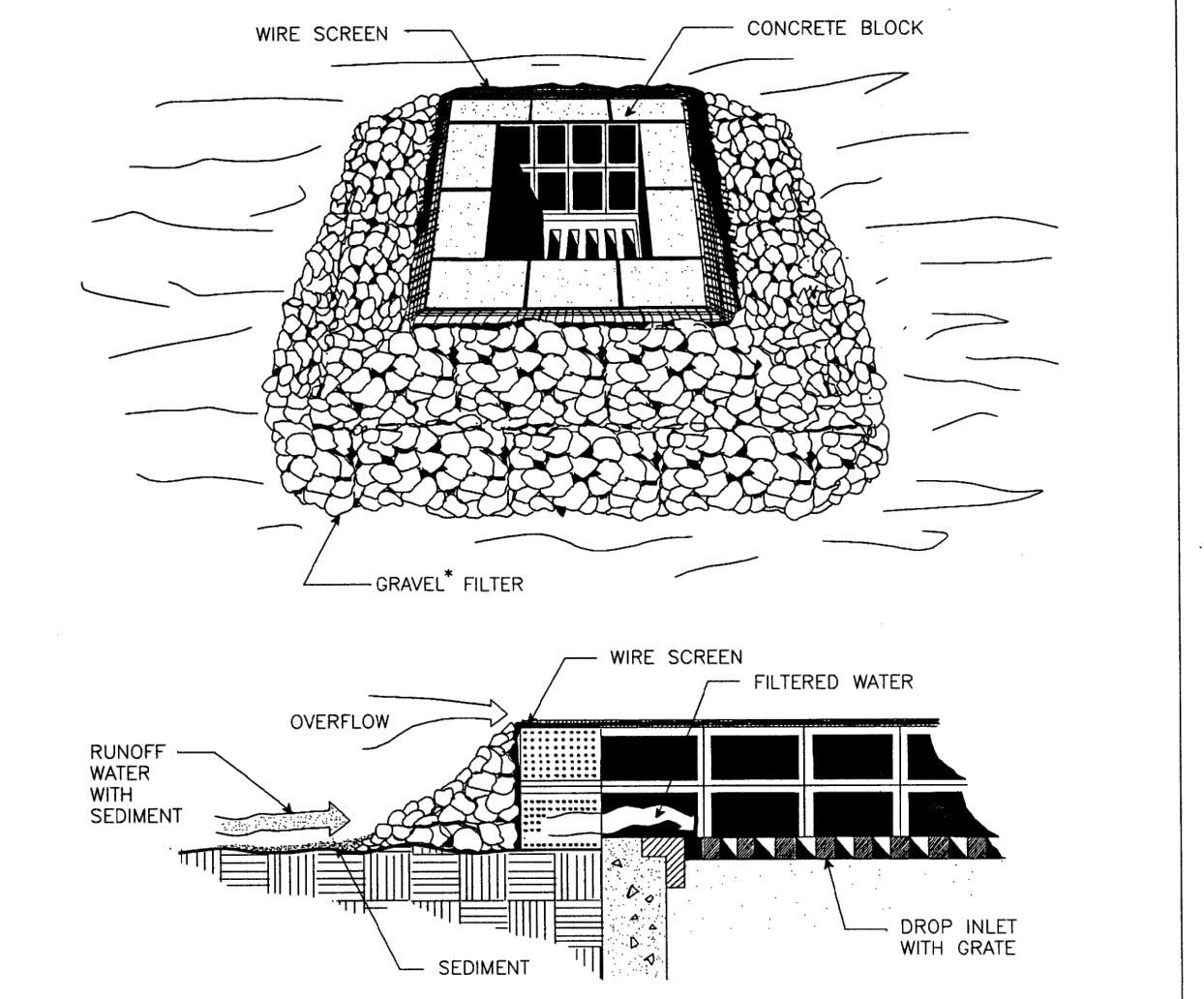
**PERMANENT SEEDING MIXTURE**  
 (STD. & SPEC. 3.32)

PS

1992

3.07

**BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER**



Source: Va. DSWC

Plate 3.07-3

**INLET PROTECTION**  
 (STD. & SPEC. 3.07)

IP

DEPARTMENT OF TRANSPORTATION  
 WILLIAM THOMAS AUSTIN  
 Lic. No. 338309  
 3/27/24  
 PROFESSIONAL PRACTICE

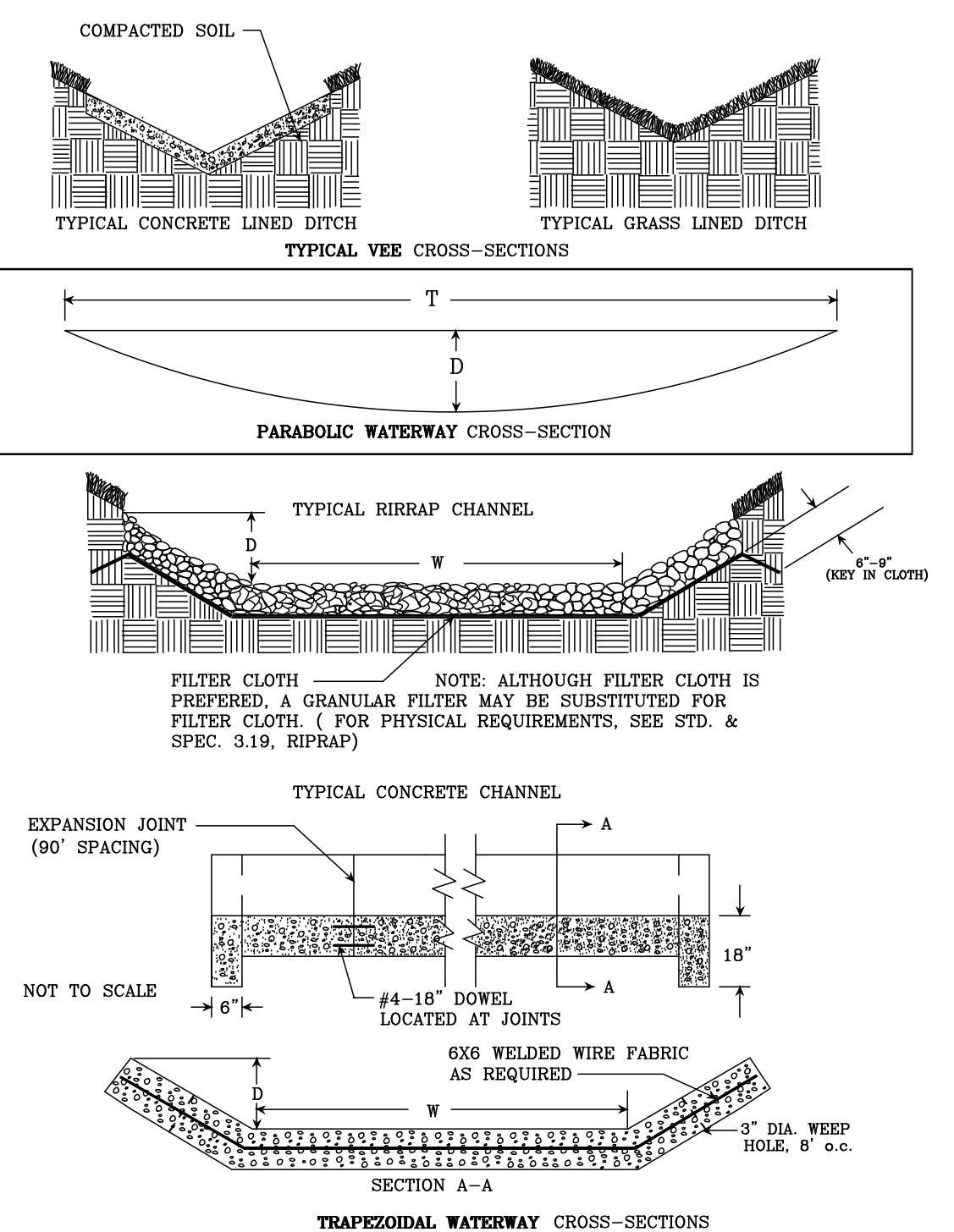
Date	Date
Revisions	

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 Date: 3/27/24

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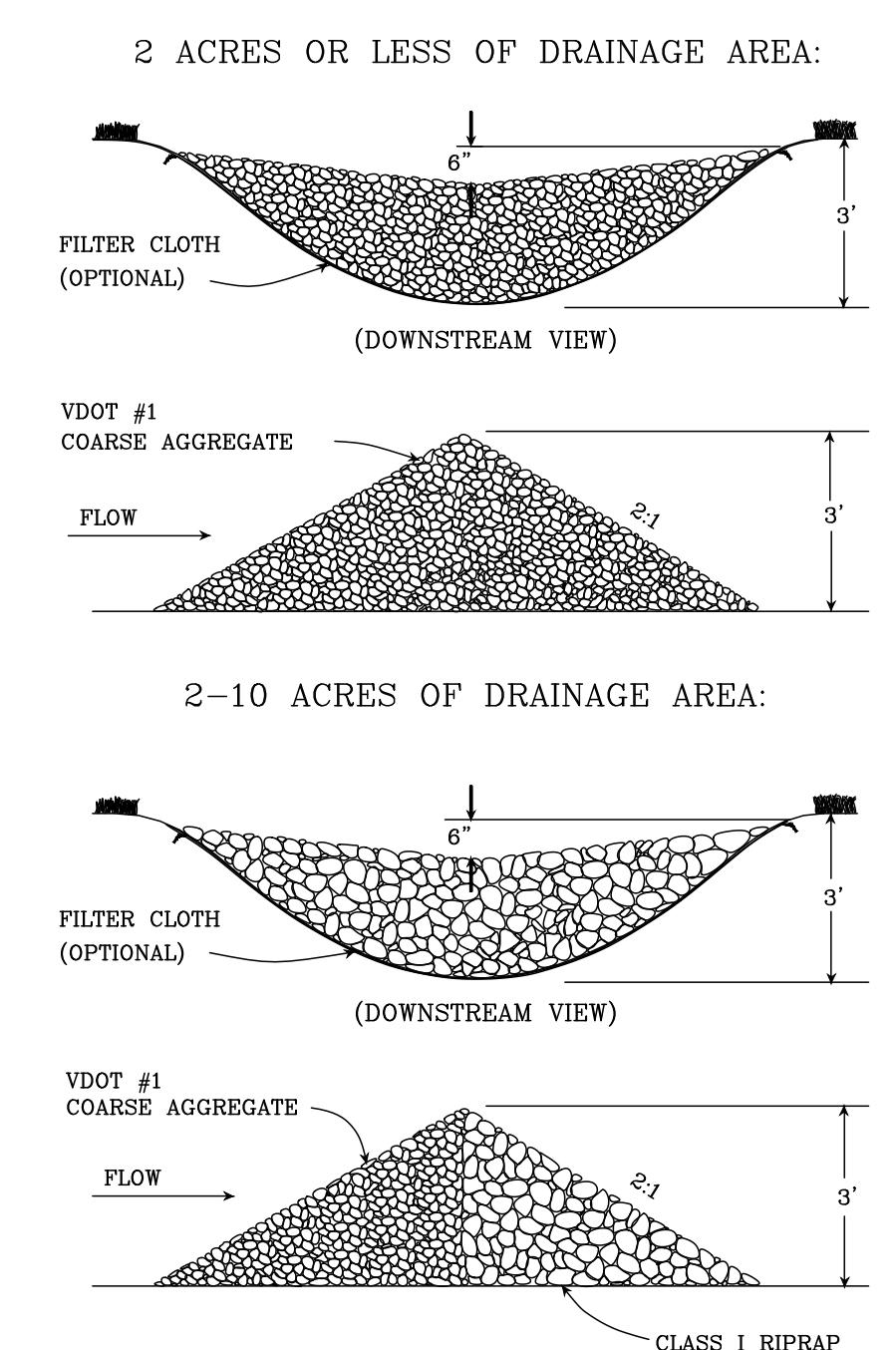
## *TYPICAL WATERWAY CROSS-SECTIONS*



# STORMWATER CONVEYANCE CHANNEL

(STD. & SPEC. 3.17)

## *ROCK CHECK DAM*



# **CHECK DAM**

---

(STD. & SPEC. 3.20)

PIPE OUTLET CONDITIONS

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

$W = d_o + L_a$

SECTION A-A

$L_a$

0%

FILTER CLOTH

KEY IN 6"-9";  
RECOMMEND FOR ENTIRE PERIMETER

PIPE OUTLET TO WELL DEFINED CHANNEL

SECTION A-A

$L_a$

0%

FILTER CLOTH

KEY IN 6"-9";  
RECOMMEND FOR ENTIRE PERIMETER

RECOMMEND FOR ENTIRE  
NOTES: 1. APRON LINING MAY BE RIPRAP, PERIMETER  
GROUTED RIPRAP GABION BASKET OR CONCRETE.  
2. La IS CALCULATED USING PLATES 3.18-3 & 3.18-4  
3. d=1.5 TIMES MAX STONE DIAM. BUT NOT LESS THAN 6".

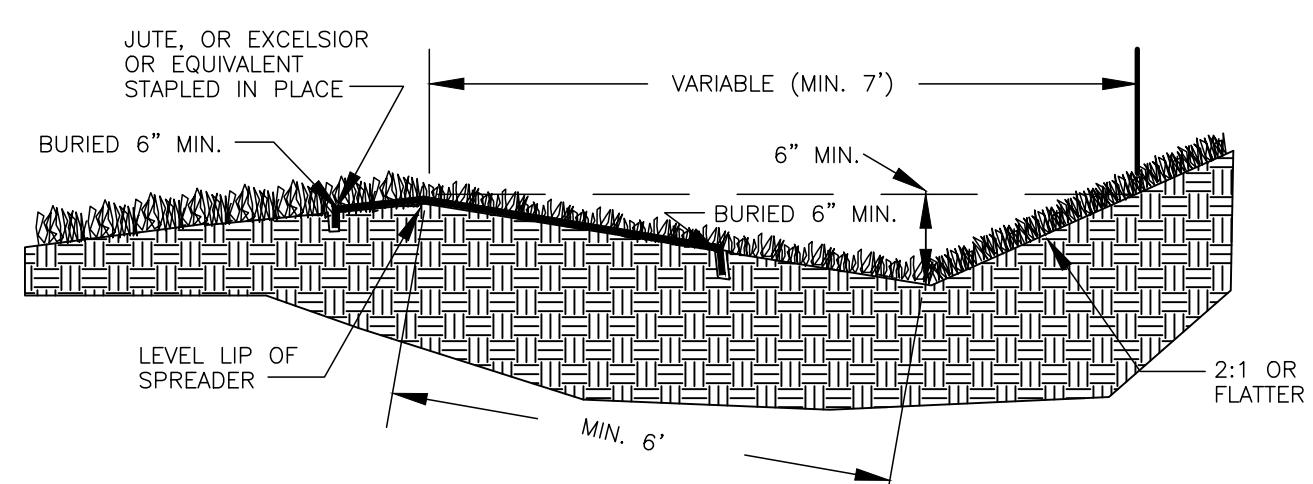
# OUTLET PROTECTION

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(STD. & SPEC. 3.18)

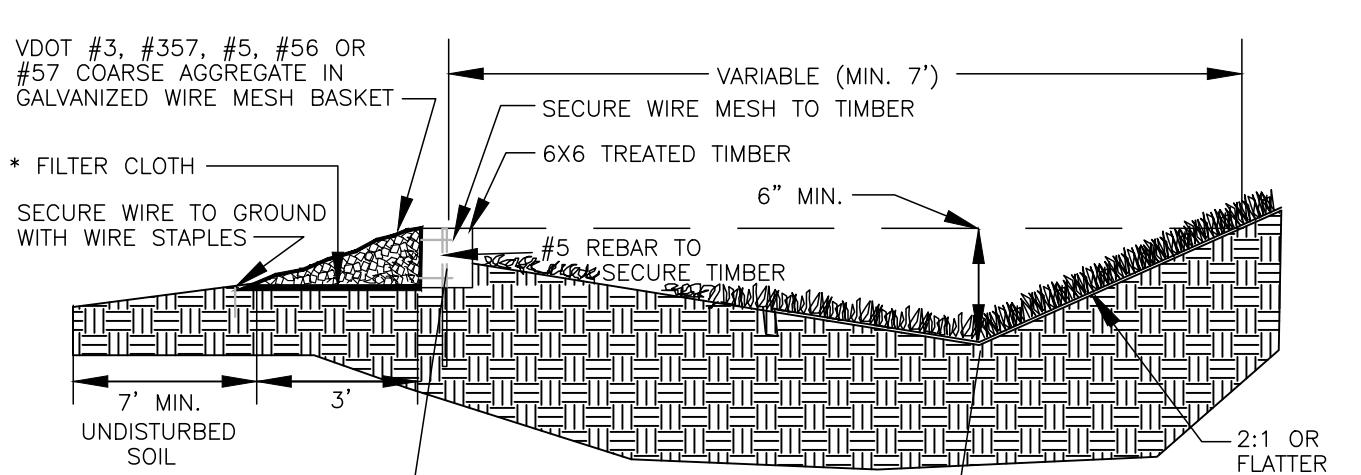


## *EVEL SPREADER*



## CROSS SECTION

## READER WITH VEGET



# LEVEL SPREADER

### (STD. & SPEC. 3.21)

# ELIZABETH CAMPUS GREENWAY ME LANE TO IDAHO STREET (UPC 113566) EROSION AND SEDIMENT CONTROL DETAILS

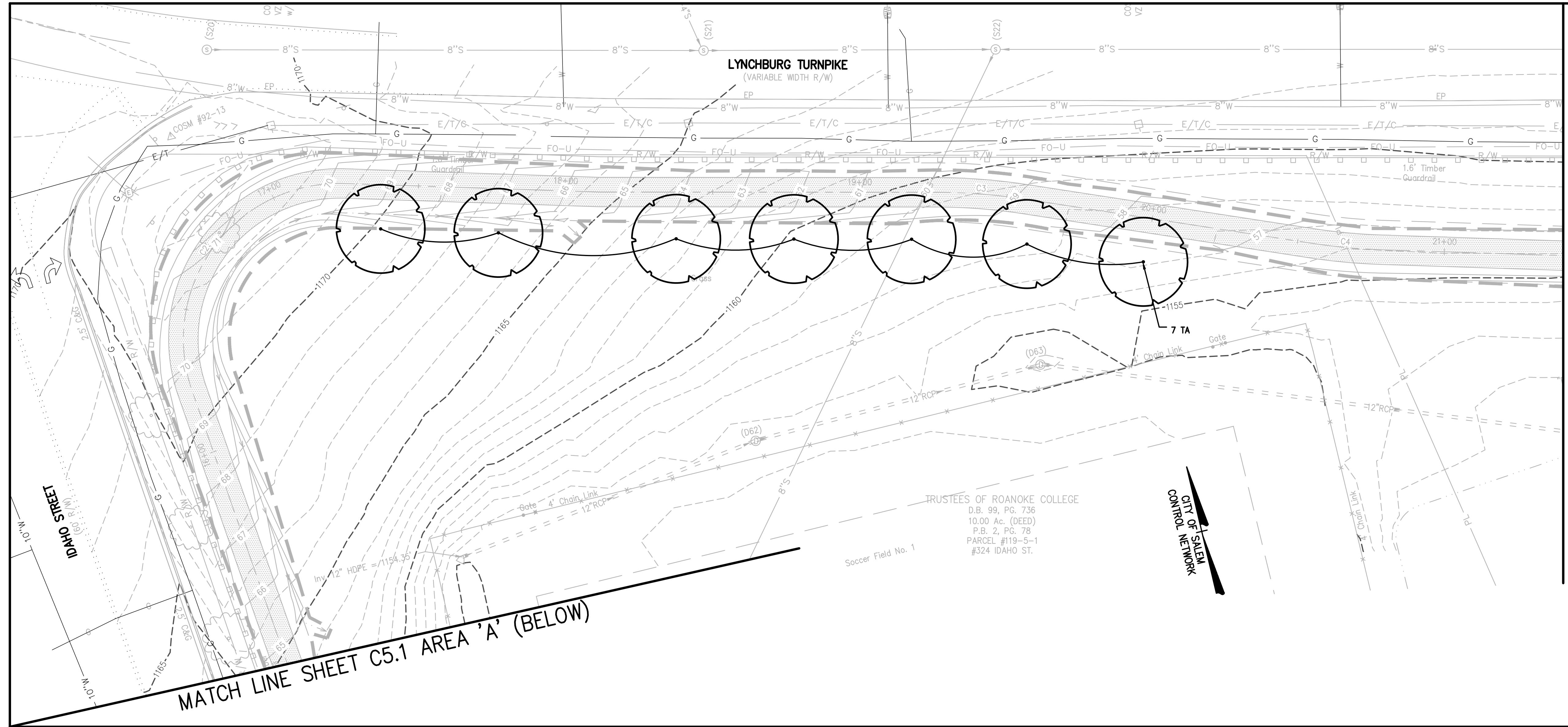
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Commission Number:  
**4110**

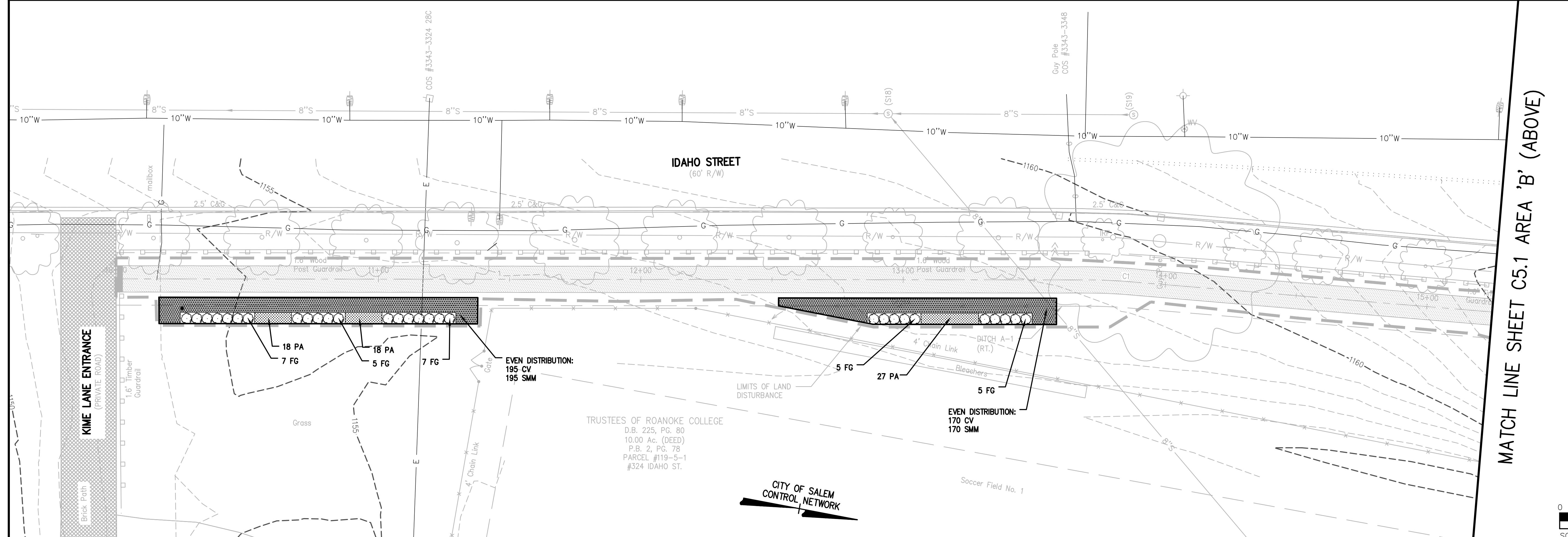
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SEE PLANTING SCHEDULE  
ON SHEET C5.3

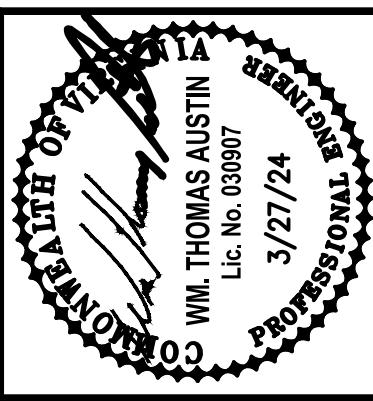
# MATCH LINE SHEET C5.2 AREA 'C'



# MATCH LINE SHEET C5.1 AREA 'B' (ABOVE)

0 10' 20' 40'

SCALE: 1" = 20'



**Pattern & Craig**  
PATTERNSURVEYORS  
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ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

Vertical Scale:  
N/A

Horizontal Scale:  
1" = 20'

Commission Number:  
11110

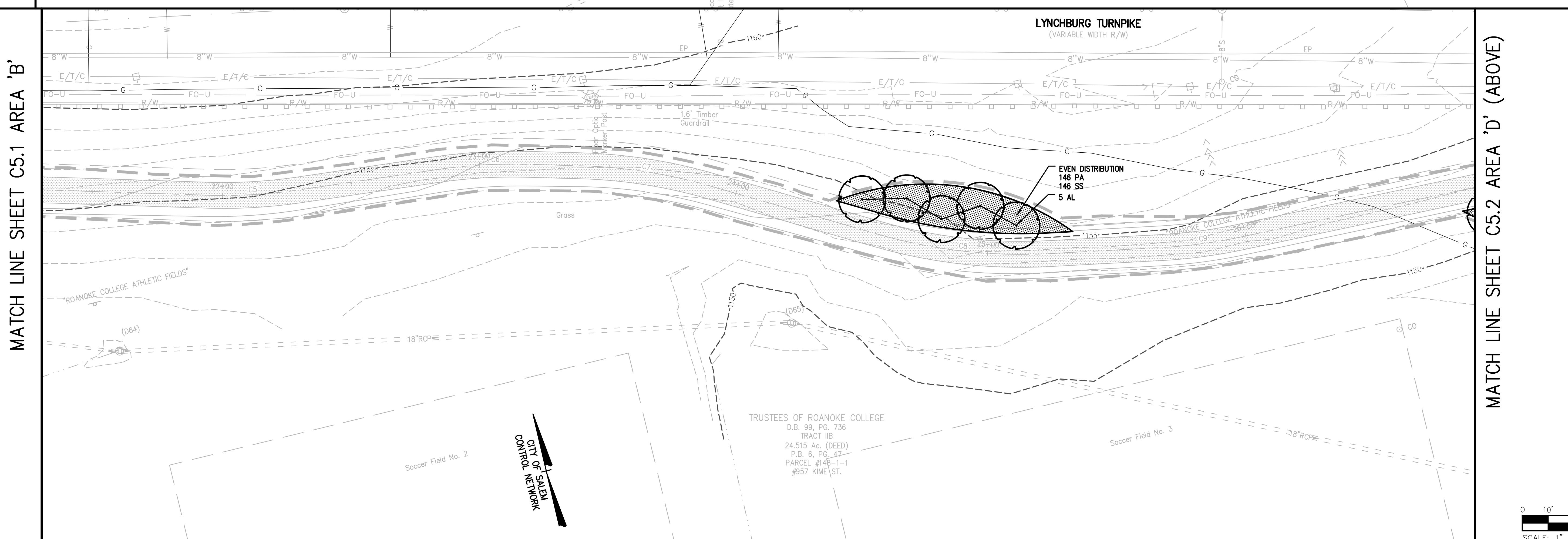
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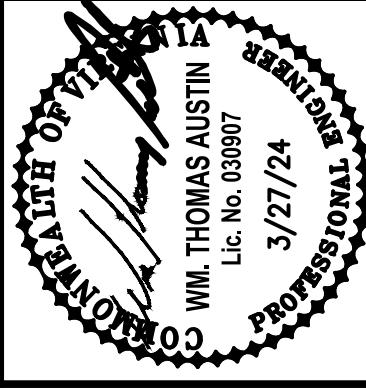
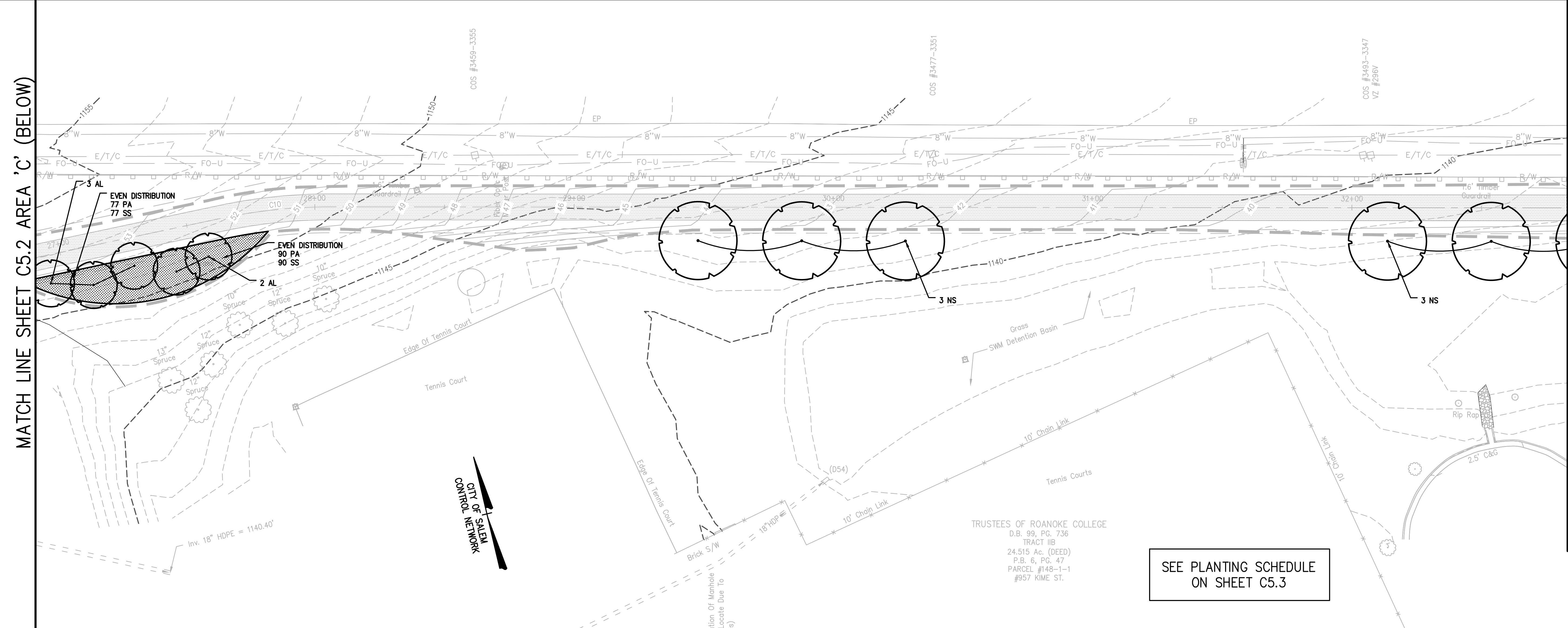
Sheet No.:

**C5.1**

# MATCH LINE SHEET C5.1 AREA 'B'



## MATCH LINE SHEET C5.2 AREA 'C' (BELOW)



Issue Date:	MARCH 27, 2024
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Designed By:	ARB
Checked By:	WTA
Date:	3/27/24

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**Matter**  
ENGINEER

ZABETH CAMPUS GREENWAY  
IE LANE TO IDAHO STREET (UPC 113566)

ZABETH CAMPUS GREENWAY  
IF I ANE TO IDAHO STREET (UPC 113566)

Vertical Scale:  
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Horizontal Scale:  
1" = 20'

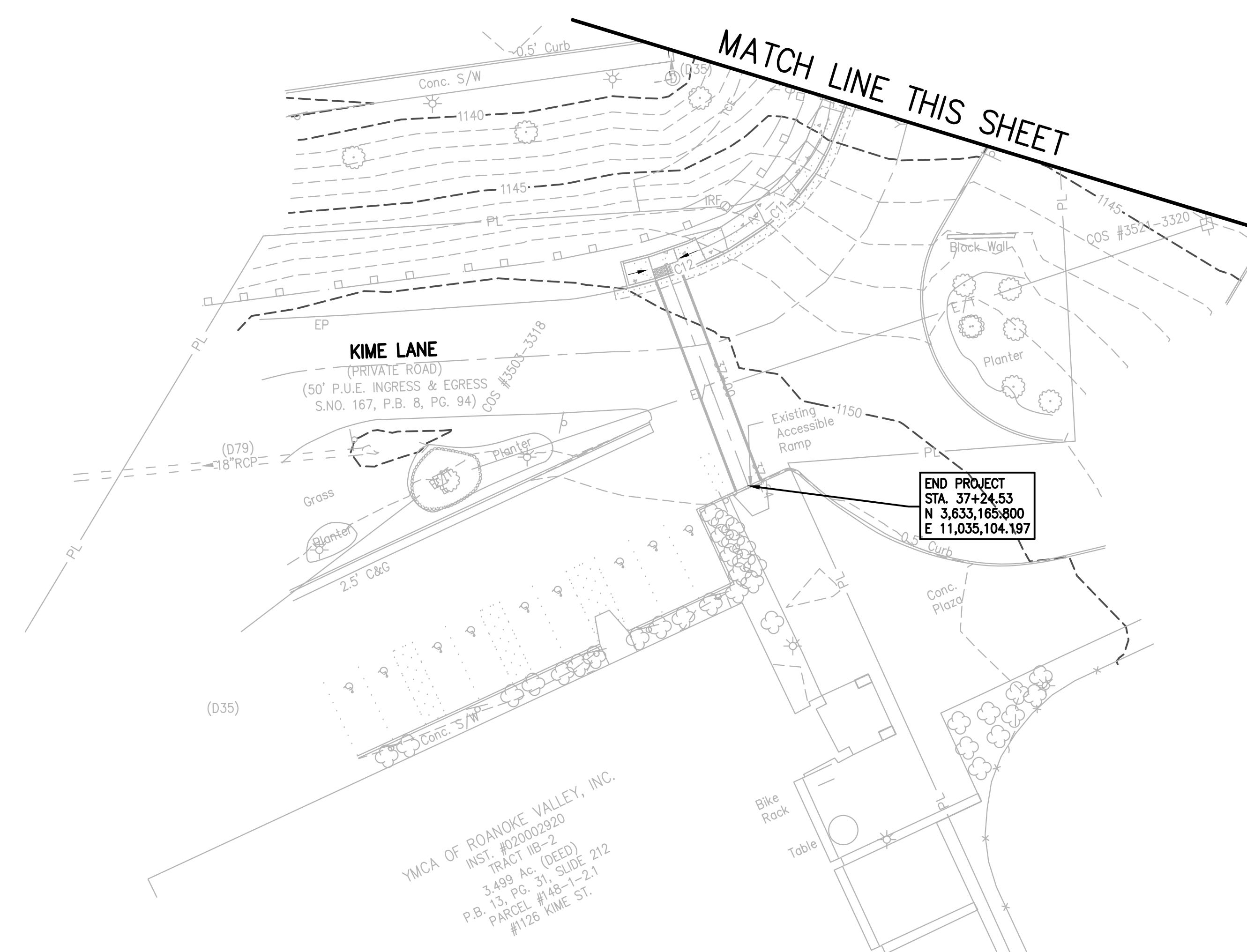
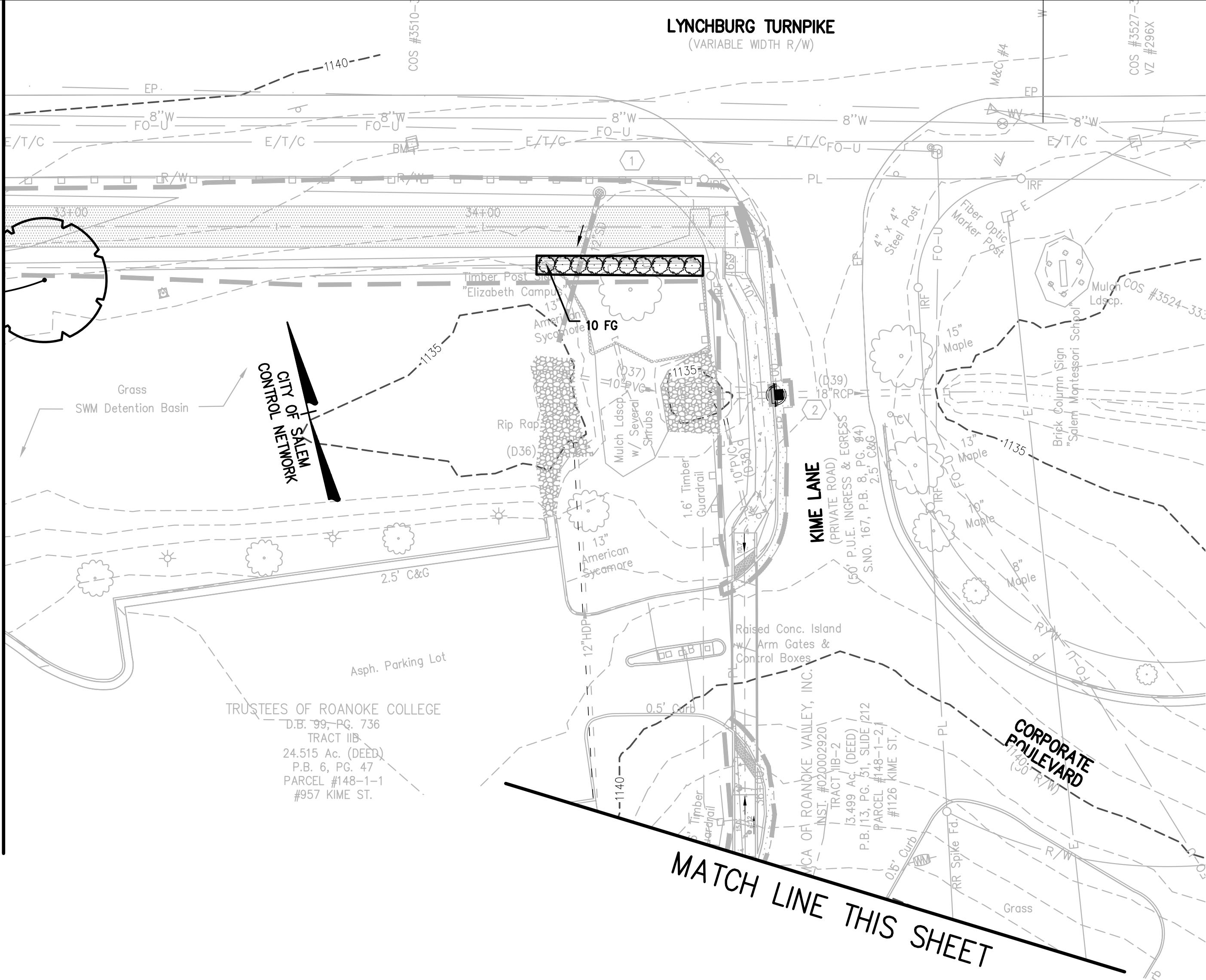
Commission Number:  
**4110**

Sheet No.:

**C5.2**

Sheet No.:  
**C5.2**

# MATCH LINE SHEET C5.2 AREA 'D'



Roanoke College Elizabeth Campus - Shared Use Path Master Plant Schedule							
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS	
<b>OVERSTORY SHADE TREES</b>							
TA	7	<i>Tilia americana</i> 'Redmond'	Redmond American Linden	2.5" Cal.	B&B		
NS	6	<i>Nyssa sylvatica</i> 'Green Gable'	Green Gable Baldcypress	2.5" Cal.	B&B		
<b>UNDERSTORY ORNAMENTAL TREES</b>							
AL	10	<i>Amelanchier laevis</i> 'Allegheny'	Allegheny Serviceberry	7'-8' Ht.	B&B	Multi-stem	
<b>SHRUBS</b>							
FG	39	<i>Fothergilla gardenii</i> 'Mount Airy'	Mount Airy Dwarf Fothergilla	30" Ht.	#7 Cont.		
<b>PERENNIALS</b>							
CV	365	<i>Coreopsis verticillata</i> 'Zagreb'	Zagreb Threadleaf Tickseed		#1 Cont.	18" OC	
PA	376	<i>Perovskia atriplicifolia</i> 'Blue Steel'	Blue Steel Russian Sage		#1 Cont.	24" OC	
SMM	365	<i>Salvia</i> 'Midnight Model'	Midnight Model Salvia		#1 Cont.	18" OC	
SS	313	<i>Schizachyrium scoparium</i> 'The Blues'	The Blues Little Bluestem		#1 Cont.	24" OC	

ELIZABETH CAMPUS GREENWAY  
KIME LANE TO IDAHO STREET (UPC 113566)

## LANDSCAPE PLAN = E

Vertical Scale:  
N/A

Horizontal Scale:  
1" = 20'

Commission Number  
**4110**

Sheet No.:

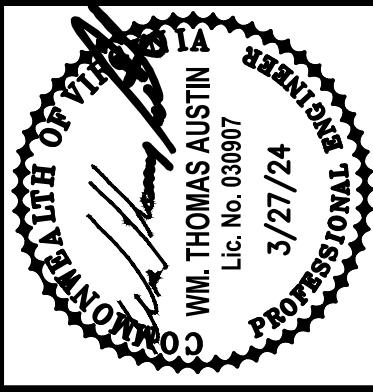
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C5.3

C5.3

C5.3



Date			
Revisions			

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Designed By: MPF	Checked By: WTA
Date: 3/27/24	



ELIZABETH CAMPUS GREENWAY (UPC 113566)	MAINTENANCE OF TRAFFIC (MOT) PLAN NOTES AND TYPICAL SECTIONS		
SALEM, VIRGINIA			

Vertical Scale:			
Horizontal Scale:			
Commission Number:	4110		
Sheet No.:			

C6.1

#### MAINTENANCE OF TRAFFIC (MOT) PLAN NOTES:

1. THIS PROJECT IS A VDOT TYPE A, CATEGORY I PROJECT.
2. IT IS NOT THE INTENT OF THE SEQUENCE OF CONSTRUCTION PLANS TO ENUMERATE EVERY DETAIL WHICH MUST BE CONSIDERED DURING CONSTRUCTION BUT ONLY TO SHOW THE GENERAL CONSTRUCTION SEQUENCING AND HANDLING OF TRAFFIC.
3. MAINTENANCE OF TRAFFIC, SIGNS, SIGN LAYOUT, TEMPORARY PAVEMENT MARKINGS, WORK ZONES AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING:  
2011 VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM) REV. 2.1, NOVEMBER 2020  
2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)  
2011 VIRGINIA SUPPLEMENT TO THE MUTCD  
2016 VDOT ROAD AND BRIDGE STANDARDS  
2020 ROAD AND BRIDGE SPECIFICATION BOOK.

ALL TRAFFIC CONTROL DEVICES AND SIGNS NECESSARY FOR MAINTENANCE OF TRAFFIC ARE TO BE PROVIDED, INSTALLED, MAINTAINED, ADJUSTED, AND REMOVED BY THE CONTRACTOR PER THE PLANS, VDOT SPECIFICATIONS, AND STANDARD DETAILS.

4. ANY MAJOR CHANGES IN SEQUENCE OF CONSTRUCTION WILL REQUIRE APPROVAL BY THE CITY OF SALEM. MINOR ADJUSTMENTS OF THE MAINTENANCE OF TRAFFIC PLAN SHALL BE REVIEWED BY THE CITY OF SALEM. ALL TRAFFIC DEVICE LOCATIONS SHALL BE MARKED BY THE CONTRACTOR AND REVIEWED BY THE CITY OF SALEM PRIOR TO INSTALLATION.

5. THE CONTRACTOR SHALL COORDINATE WITH THE SALEM FIRE DEPARTMENT AND CITY OF SALEM POLICE DEPARTMENT AS IT RELATES TO ALL ROAD CLOSURES OF ANY NATURE.

6. EMERGENCY VEHICLE ACCESS IS TO BE MAINTAINED AT ALL TIMES FOR LOCAL RESIDENTS AND BUSINESSES.

7. ACCESS TO ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. FOR CONNECTIONS AND ENTRANCES, MINIMUM WIDTH SHALL BE EITHER NO LESS THAN EXISTING CONDITIONS OR 11'-0" MINIMUM UNLESS OTHERWISE SHOWN ON PLANS.

8. SEE "MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION NARRATIVE", THIS SHEET, FOR CONSTRUCTION PHASING.

9. ONCE CONSTRUCTION IS STARTED ON A PHASE, THE WORK WILL BE COMPLETED ON THAT PHASE BEFORE PROCEEDING TO THE NEXT PHASE, OR AS DIRECTED BY THE CITY OF SALEM.

10. THE CONTRACTOR MAY WORK FROM 7:00AM TO 5:00PM, MONDAY THROUGH FRIDAY FROM THE COMMENCEMENT OF THE PROJECT TO THE FINAL ACCEPTANCE BY THE CITY OF SALEM, EXCEPT AS INDICATED BELOW, AS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE CITY OF SALEM. CONTRACTOR MAY WORK ADDITIONAL HOURS PER DAY AND ADDITIONAL DAYS PER WEEK ONLY AFTER RECEIVING WRITTEN AGREEMENT FROM THE CITY OF SALEM. ADDITIONAL COSTS INCURRED BY THE CONTRACTOR FOR THESE HOURS SHALL BE INCIDENTAL TO LUMP SUM COST OF MAINTENANCE OF TRAFFIC AND WORK AREA PROTECTION.

11. MODIFICATION OF TRAFFIC CONTROL DEVICES REQUIRED WHEN MOVING FROM ONE STAGE OF CONSTRUCTION TO ANOTHER SHALL BE PERFORMED DURING NIGHT TIME HOURS.

12. THE WORK ZONE WILL BE MAINTAINED ACCORDING TO THE TEMPORARY TRAFFIC CONTROL (TTC) APPLICATIONS OF THE VWAPM AS DESCRIBED IN THE "MAINTENANCE OF TRAFFIC AND SEQUENCE OF CONSTRUCTION NARRATIVE" ON THIS SHEET. REFER TO THE LATEST EDITION OF THE VWAPM.

13. THE POSTED SPEED IS 25 MPH ON LYNCHBURG TURNPIKE, IDAHO STREET, AND CORPORATE BOULEVARD AND SHALL BE MAINTAINED AS SUCH DURING CONSTRUCTION OF THIS PROJECT.

14. CONTRACTOR SHALL MAINTAIN ALL ROADWAY SIGNAGE THROUGHOUT THE PROJECT AREA. SIGNS NO LONGER APPLICABLE AND/OR IN CONFLICT WITH OTHER TRAFFIC CONTROL DEVICES SHALL BE REMOVED AND/OR COVERED WHEN NO LONGER NECESSARY. ALL OTHER SIGNS SHALL BE PROPERLY ALIGNED/ORIENTED AND MAINTAINED.

15. FOR PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC DUE TO DROP OFF'S SEE PAGE A-4 APPENDIX A OF THE VWAPM. AT THE END OF EACH WORK DAY, ALL AREAS IMMEDIATELY ADJACENT TO VEHICULAR TRAFFIC THAT ARE EXCAVATED BELOW THE EXISTING SURFACE SHALL BE BACKFILLED TO FORM AN APPROXIMATE 6:1 WEDGE (DESIRED) OR A 4:1 WEDGE (MINIMUM) AGAINST THE EXISTING PAVEMENT SURFACE FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC. ALL COSTS FOR PLACING, MAINTAINING, AND REMOVING THE PROTECTION SHALL BE INCLUDED IN THE COST OF OTHER ITEMS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

16. IF NECESSARY, THE CONTRACTOR SHALL PROVIDE TEMPORARY DRAINAGE TO PREVENT PONDING OF WATER ON THE ROADWAY AND ADJACENT PROPERTIES. ANY TEMPORARY DRAINAGE STRUCTURES INSTALLED ON THE PROJECT ARE THE CONTRACTOR'S RESPONSIBILITY. THE COST OF SUCH STRUCTURES IS TO BE INCLUDED IN THE LUMP SUM COST OF MAINTENANCE OF TRAFFIC.

17. ANY TEMPORARY DRAINAGE STRUCTURES WITHIN THE CLEAR ZONE SHALL BE PROTECTED WITH A 6:1 WEDGE (DESIRED) OR A 4:1 WEDGE (MINIMUM).

18. NO OPEN TRENCH SHALL BE LEFT OPEN AT THE END OF EACH WORKDAY UNLESS APPROVED BY THE CITY OF SALEM.

19. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING PEDESTRIAN ACCESS TO COMMERCIAL PROPERTY ENTRANCES DURING BUSINESS HOURS THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH VWAPM CHAPTER 6D, SECTIONS 6D.01—"PEDESTRIAN CONSIDERATIONS" AND 6D.02—"ACCESSIBILITY CONSIDERATIONS", UNLESS OTHERWISE APPROVED BY THE CITY OF SALEM.

20. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A STAGING AREA OUTSIDE THE CLEAR ZONE OR DYNAMIC DEFLECTION AREAS OF PHYSICAL BARRIERS AT ALL LOCATIONS FOR CONSTRUCTION EQUIPMENT AND OR MATERIAL STORAGE.

21. ALL FLAGGING OPERATIONS SHALL FOLLOW TTC-23.2 OF THE 2011 VIRGINIA WORK AREA PROTECTION MANUAL.

#### MAINTENANCE OF TRAFFIC & SEQUENCE OF CONSTRUCTION NARRATIVE:

THE WORK ZONE WILL BE MAINTAINED ACCORDING TO THE FOLLOWING TEMPORARY TRAFFIC CONTROL (TTC) APPLICATIONS OF THE VWAPM DATED 2011 (REVISION 2.1):

- TTC-1.1, "WORK BEYOND THE SHOULDER OPERATION"
- TTC-4.2, "STATIONARY OPERATION ON A SHOULDER"
- TTC-14.2, "MOVING/MOBILE OPERATIONS ON A TWO-LANE ROADWAY"
- TTC-23.2, "LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS"
- TTC-28.2, "LANE CLOSURE OPERATION IN AN INTERSECTION"
- TTC-53.0, "SIGNING FOR PROJECT LIMITS"
- TTC-68.0, "LANE CLOSURE OPERATION FOR FLAGGING OPERATIONS ON AN INTERSECTING ROADWAY"

FOR ALL TTC APPLICATIONS, APPLY VWAPM GUIDANCE FOR URBAN CONDITIONS.

UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL PLAN AND PROSECUTE THE WORK IN ACCORDANCE WITH THE FOLLOWING:

#### CONSTRUCTION STAGE 1 – SHARED USE PATH CONSTRUCTION.

STAGE 1 CONSISTS OF CONSTRUCTING SHARED USE PATH ALONG IDAHO STREET AND LYNCHBURG TURNPIKE.

- UTILIZE FIGURE TTC-53.0 "SIGNING FOR PROJECT LIMITS" TO SET THE ADVANCE WARNING SIGNS.
- THE WORK WILL BE COMPLETED USING FIGURE TTC-1.1 "WORK BEYOND THE SHOULDER OPERATION" EXISTING TRAFFIC PATTERNS WILL BE MAINTAINED ALONG BOTH IDAHO STREET AND LYNCHBURG TURNPIKE, AND WORK ACTIVITIES WILL BE COMPLETED OUTSIDE OF THE CLEAR ZONE.
- COMPLETE SHARED USE PATH CONSTRUCTION ACTIVITIES.
- CONSTRUCTION ACCESS FROM AND ALONG EDGE OF IDAHO STREET AND LYNCHBURG TURNPIKE IS PROHIBITED.

#### CONSTRUCTION STAGE 2 – SIDEWALK CONSTRUCTION.

STAGE 2 CONSISTS OF CONSTRUCTING SIDEWALK, CURB AND GUTTER AND PORTIONS OF FULL DEPTH PAVEMENT RECONSTRUCTION ALONG SOUTHBOUND KIME LANE AT THE INTERSECTION WITH LYNCHBURG TURNPIKE.

- UTILIZE FIGURE TTC-53.0 "SIGNING FOR PROJECT LIMITS" TO SET THE ADVANCE WARNING SIGNS.
- THE WORK WILL BE COMPLETED USING FIGURES TTC-68.0 "LANE CLOSURE OPERATION FOR FLAGGING OPERATIONS ON AN INTERSECTING ROADWAY" AND TTC-23.2 "LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS". BOTH DIRECTIONS OF TRAFFIC ON KIME LANE WILL BE MAINTAINED IN THE NORTHBOUND LANE USING FLAGGING.
- COMPLETE SIDEWALK, CURB AND GUTTER AND MISCELLANEOUS CONSTRUCTION ACTIVITIES ALONG SOUTHBOUND KIME LANE.
- SEE SHEET C8.2 FOR THE MAINTENANCE OF TRAFFIC.

#### PUBLIC COMMUNICATIONS PLAN:

- NON EMERGENCY TRAFFIC IMPACTS / DELAYS AND CHANGING TRAFFIC PATTERNS SHOULD BE PROVIDED TO THE SALEM CITY ENGINEER AT LEAST 72 HOURS IN ADVANCE OF THE CHANGES.

#### CONTACTS AS PART OF PUBLIC COMMUNICATIONS PLAN

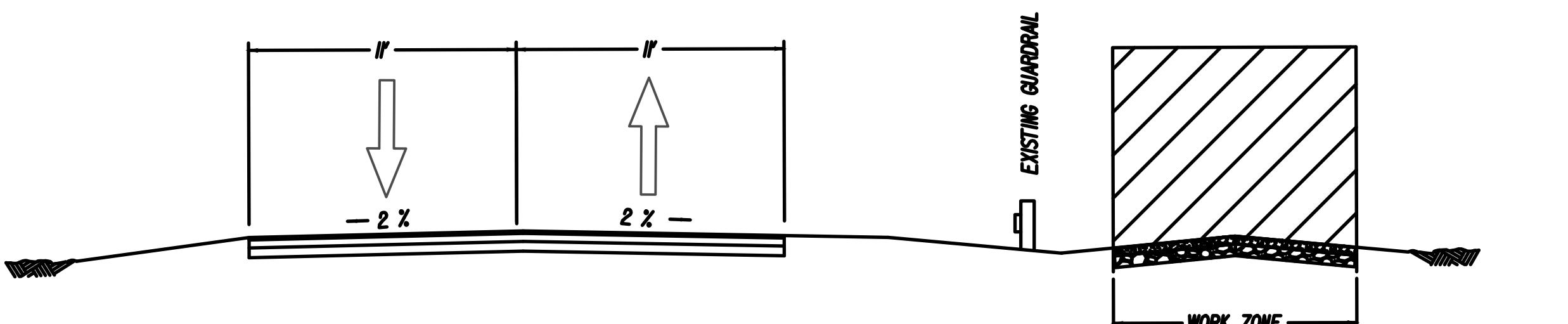
TARGET AUDIENCE	CONTACT METHOD	PHONE NUMBER	RESPONSIBLE CHARGE
SALEM POLICE DEPARTMENT	PHONE	(540) 375-3078	CITY PROJECT INSPECTOR
SALEM FIRE DEPARTMENT	PHONE	(540) 375-3080	CITY PROJECT INSPECTOR
VIRGINIA STATE POLICE	PHONE	(540) 375-9500	CITY PROJECT INSPECTOR
VDOT SALEM TRAFFIC OPERATIONS CENTER	PHONE	(540) 375-0170	CITY PROJECT INSPECTOR

#### TRANSPORTATION OPERATIONS PLAN:

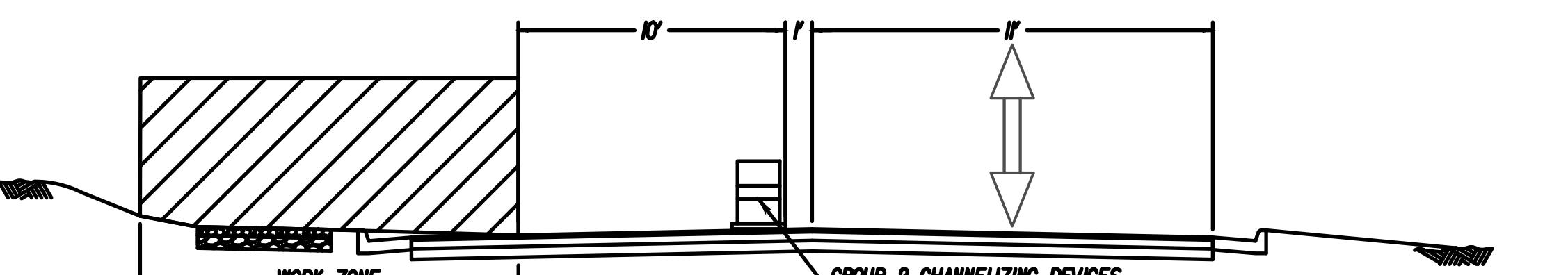
- THE VDOT SALEM TRAFFIC OPERATIONS CENTER (540) 375-0170 SHALL BE NOTIFIED OF LANE CLOSURES AND TRAFFIC RELATED TO THE WORK BY THE CITY PROJECT INSPECTOR.
- EMERGENCY CONTACT ON THIS PROJECT SHALL BE 911.
- THE CITY PROJECT INSPECTOR SHALL BE RESPONSIBLE FOR INTRA-AGENCY NOTIFICATIONS TO ENTITIES SUCH AS, BUT NOT LIMITED TO, VIRGINIA STATE POLICE, LOCAL 911, AND OTHER AFFECTED AGENCIES.
- THE VDOT SALEM TRAFFIC OPERATIONS CENTER WILL MAKE NOTIFICATIONS TO THE DEPARTMENT STAFF. THE STAFF NOTIFICATIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE PROJECT MAINTENANCE OF TRAFFIC COORDINATOR, PROJECT MANAGER, RESIDENT ENGINEER, DISTRICT WORK ZONE SAFETY COORDINATOR, DISTRICT TRAFFIC ENGINEER, DISTRICT TRANSPORTATION OPERATIONS MANAGER, AND DISTRICT COMMUNICATIONS MANAGER OF ANY INCIDENTS AND EXPECTED TRAFFIC DELAYS.
- A REVIEW OF ALL MAJOR INCIDENTS, AS DETERMINED BY THE REGIONAL INCIDENT MANAGEMENT COORDINATOR, SHALL BE ACCOMPLISHED WITHIN 48 HOURS OF CLEARANCE OF THE INCIDENT. VDOT PROJECT STAFF, CITY OF SALEM PROJECT STAFF, REGIONAL OPERATIONS STAFF, CONTRACTOR STAFF, AND EMERGENCY RESPONDERS SHALL BE REPRESENTED AT THESE MEETINGS.

#### CRISIS COMMUNICATIONS PLAN:

- EMERGENCY CONTACT FOR THIS PROJECT SHALL BE 911.



KIME LANE TYPICAL SECTION - STAGE 2  
(NOT TO SCALE)



**\*NOTE:** DIMENSIONS DESIGNATED BY AN ASTERISK ARE NOT TO SCALE AND FOR INFORMATION ONLY  
**\*\*NOTE:** SIGNS DESIGNATED BY A DOUBLE ASTERISK SHALL BE MOUNTED ON 5' HIGH POST STANDS  
OR POST MOUNTED

A circular professional engineer license seal. The outer ring contains the text "COMMONWEALTH OF MASSACHUSETTS" at the top and "PROFESSIONAL ENGINEER" at the bottom. The inner circle contains "WM. THOMAS AUSTIN" in the center, "Lic. No. 030907" to the left, and "3/27/24" to the right. The entire seal is rendered in black and white.

**Mattern & Craig**  
ENGINEERS•SURVEYORS

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Issue Date: MARCH 27, 2024

Drawn By: MPF  
Designed By: MPF  
Checked By: WTA  
Date: 3/27/24

ELIZABETH CAMPUS GREENWAY (UPC 113566)

MAINTENANCE OF TRAFFIC PLAN –

STAGE 2

SALEM, VIRGINIA

Vertical Scale:  
N/A

Horizontal Scale:  
1"=30'

Commission Number:  
**4110**

Sheet No.:  
**C6.2**

