

# Construction Plans

## For

# Francis Marion University

## Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Sidewalks and Lot A

# State Project No: H18-9584-MJ-B3

**Contact: Taylor McMillian**

**Tel: (843) 661-1488**

**Email: taylor.mcmillian2@fmarion.edu**



**Prepared by:**

# Chao & Associates, Inc.

## Consulting Engineers

**C & A #: 392912-22**

Please note that all work must be completed within 90 days of the Date of Commencement in the Notice to Proceed.

### ZONING CERTIFICATION

"I hereby certify that, to the best of my knowledge, these plans comply with all applicable zoning ordinances, and that plans have been submitted to appropriate authority for their review and/or approval."

Engineer: Taylor McMillian Date: 04-16-24

### TABLE 1 FLOOD HAZARD INFORMATION & FLOOD LOADS

#### FLOOD HAZARD AREA

Flood Map Information: Flood Zone: X  
Community Number: 450076 Panel Number: 45041C0167E

Is the Project Site in a 100-Year Floodplain? Yes  No   
Base Flood Elevation (NGVD or FIRM) N/A  
Design Flood Elevation (IBC 1612.3 and ASCE 24) N/A

### EROSION AND SEDIMENT REDUCTION/STORMWATER MANAGEMENT

Designer's Certification:  
"I hereby certify that the measures in this plan are designed to control erosion, retain sediment on the site, and manage stormwater in a manner that neither any on-site nor off-site damage or problem is caused or increased, that all structural measures are designed to the minimum standards for health and safety, and that all the provisions of the plan are in compliance with the Regulations contained in Chapter 72, Article 2, SC Code of Regulations (Erosion and Sediment Reduction and Stormwater Management Regulations)"

Engineer: Taylor McMillian Date: 04-16-24



**Chao & Associates, Inc.**

Civil - Structural - Survey

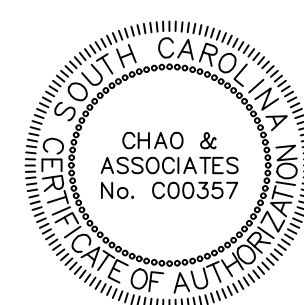
7 Clusters Court

Columbia, SC 29210

Voice: (803) 772-8420

Fax: (803) 772-9120

Email: consult@chaoinc.com

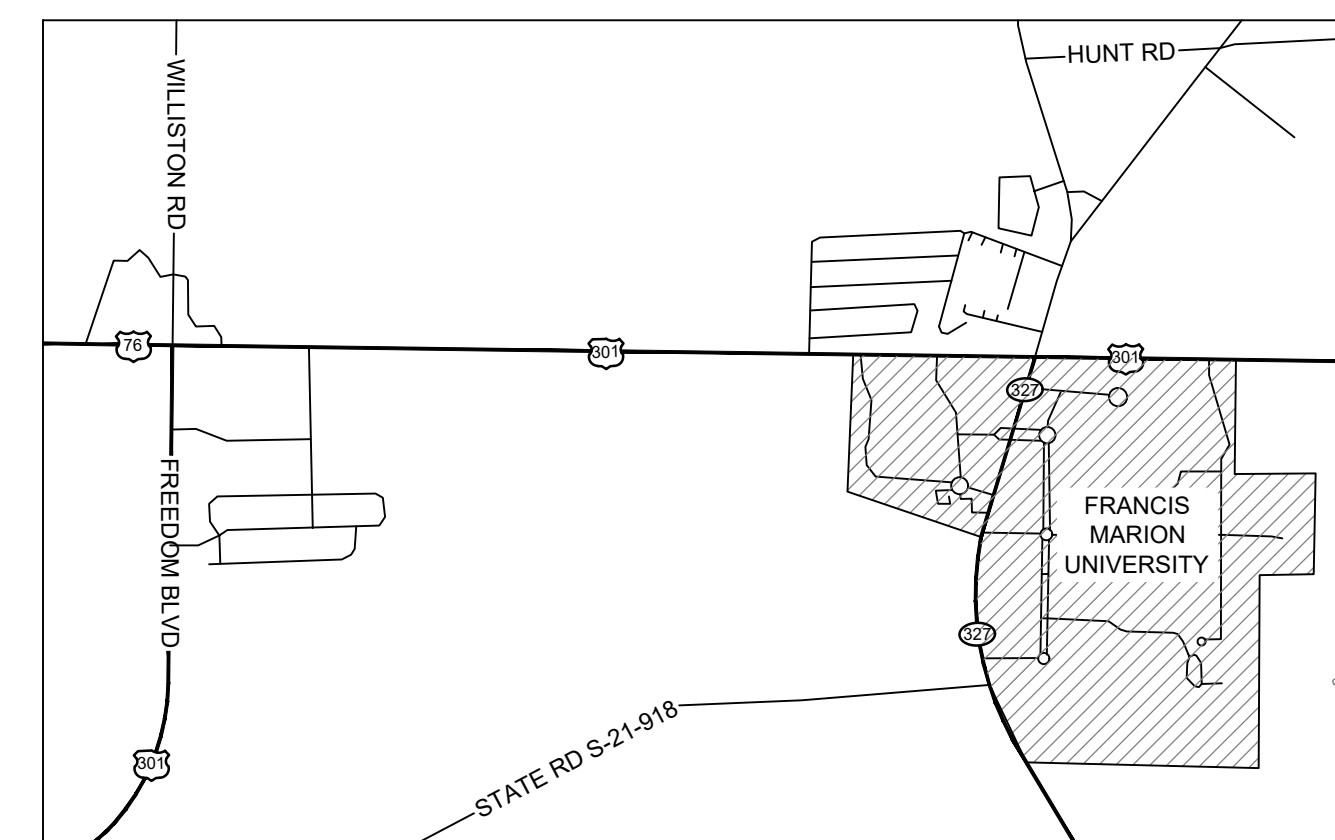


### Drawing Index

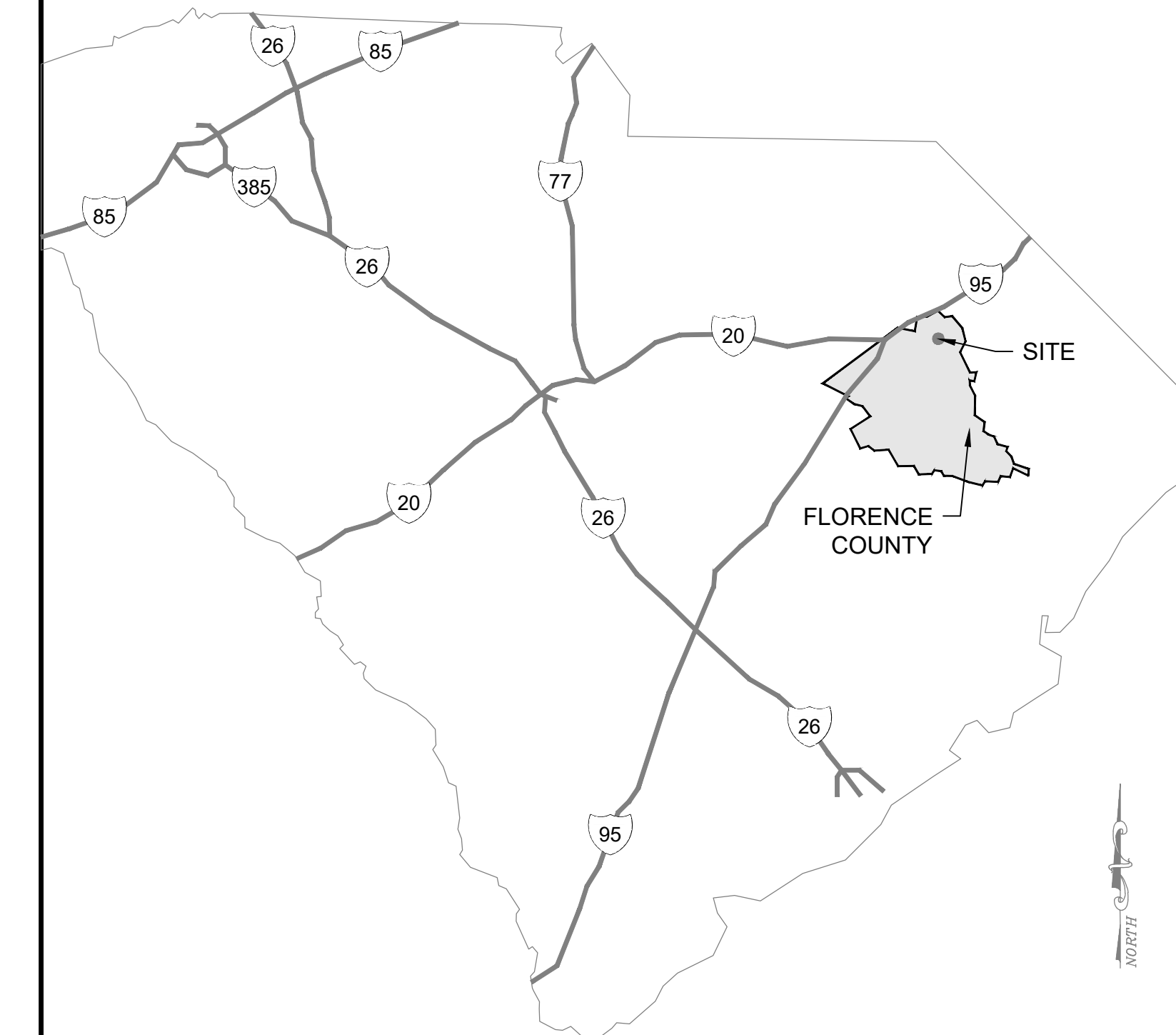
- C0.0 - Key Plan
- C1.0 - Existing Conditions & Repair Plan for Lot A
- C1.1 - Pavement Striping Plan for Lot A
- C2.0 - Sidewalk & Ramp Condition Plan for Area 'A'
- C2.1 - Sidewalk & Ramp Condition Plan for Area 'B'
- C2.2 - Sidewalk & Ramp Condition Plan for Area 'C'
- C3.0 - Construction Details

### Location Map

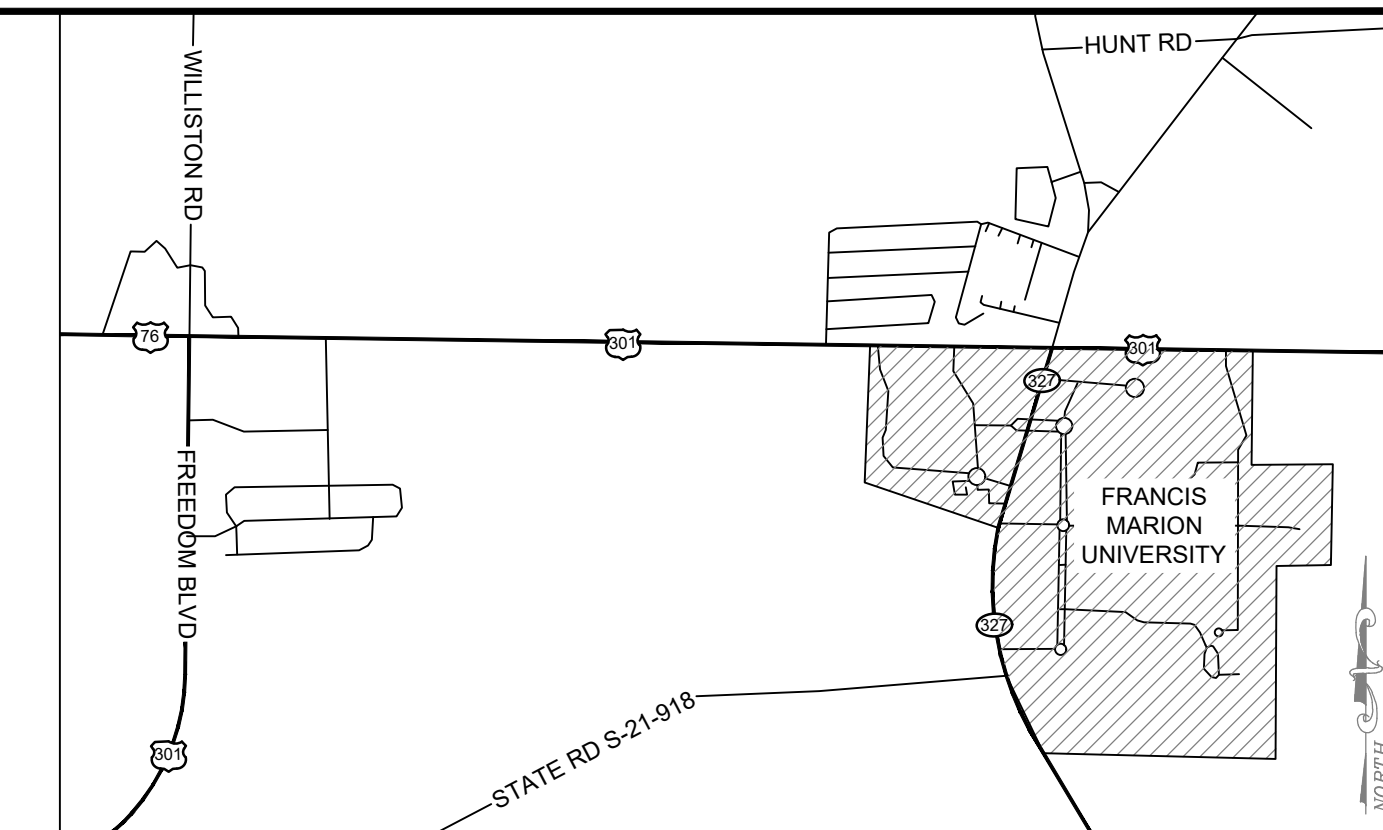
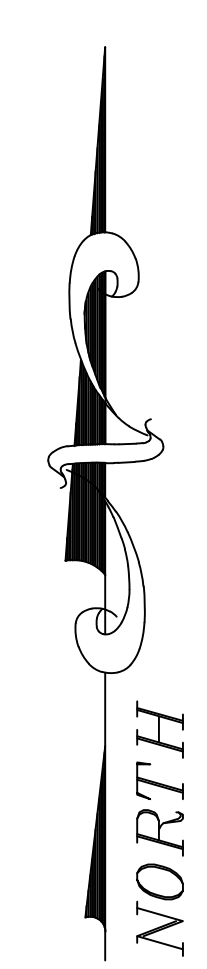
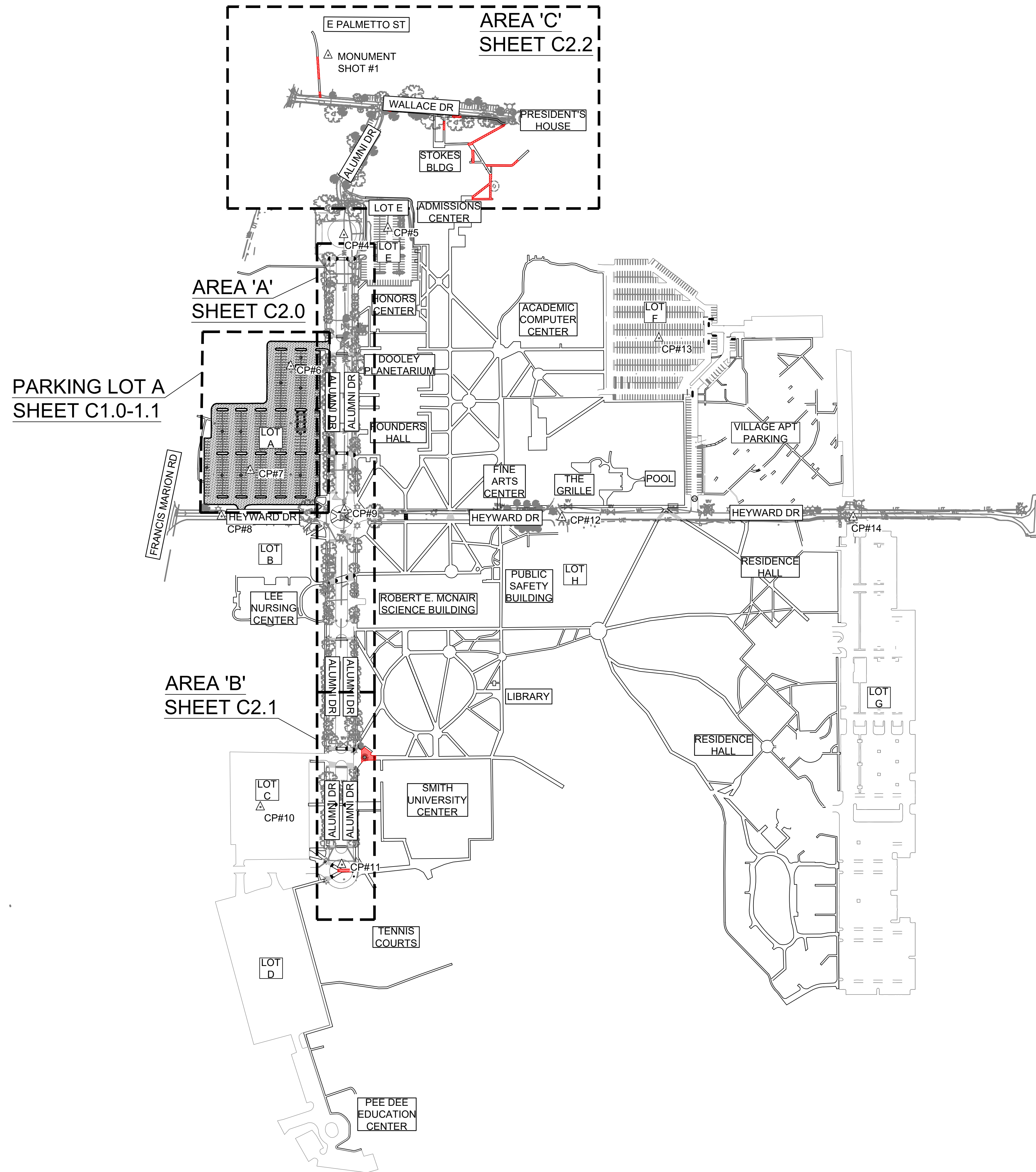
County of Florence  
Scale: Not to Scale



State of South Carolina  
Scale: 1" = 30 Miles

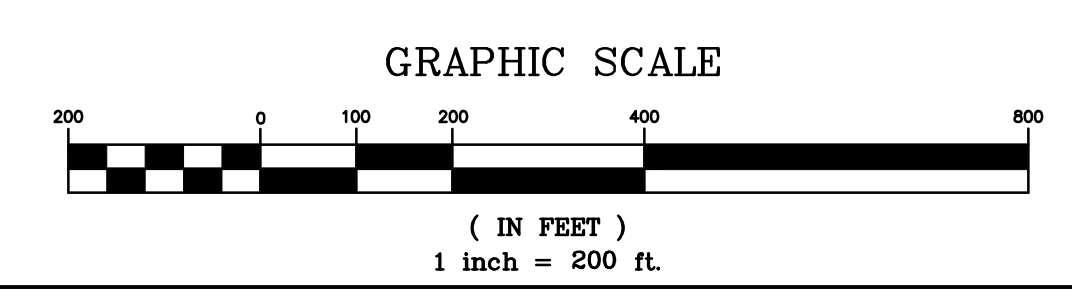


Drawing file: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 - 11:46am



Control Point Table

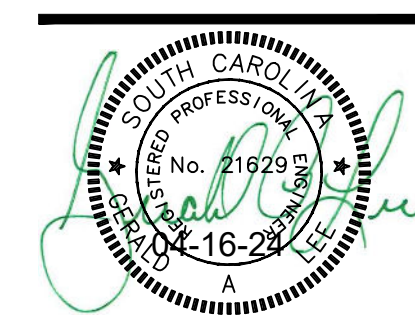
Point #	Raw Description	Elevation	Northing	Easting
1	MONUMENT SHOT	95.00	862236.76	2406619.86
4	CP#4	94.91	861607.11	2406675.00
5	CP#5	92.90	861629.74	2406830.06
6	CP#6	92.37	861146.18	2406488.47
7	CP#7	93.40	860780.00	2406346.50
8	CP#8	92.26	860619.20	2406245.52
9	CP#9	93.82	860641.49	2406677.09
10	CP#10	91.97	859598.88	2406382.06
11	CP#11	92.93	859396.61	2406667.86
12	CP#12	92.49	860614.77	2407440.56
13	CP#13	91.82	861243.95	2407780.91
14	CP#14	84.36	860615.93	2408463.05



PROJECT: DEF. MAINT: ROADS, PARKING LOTS,  
 SIDEWALKS, WALKWAYS -  
 SIDEWALKS AND LOT A  
 STATE PROJECT NO.: H18-9584-MJ-B3



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**Key Plan**  
 Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
 - Sidewalks and Lot A  
 Prepared for: Francis Marion University  
 Florence County, South Carolina

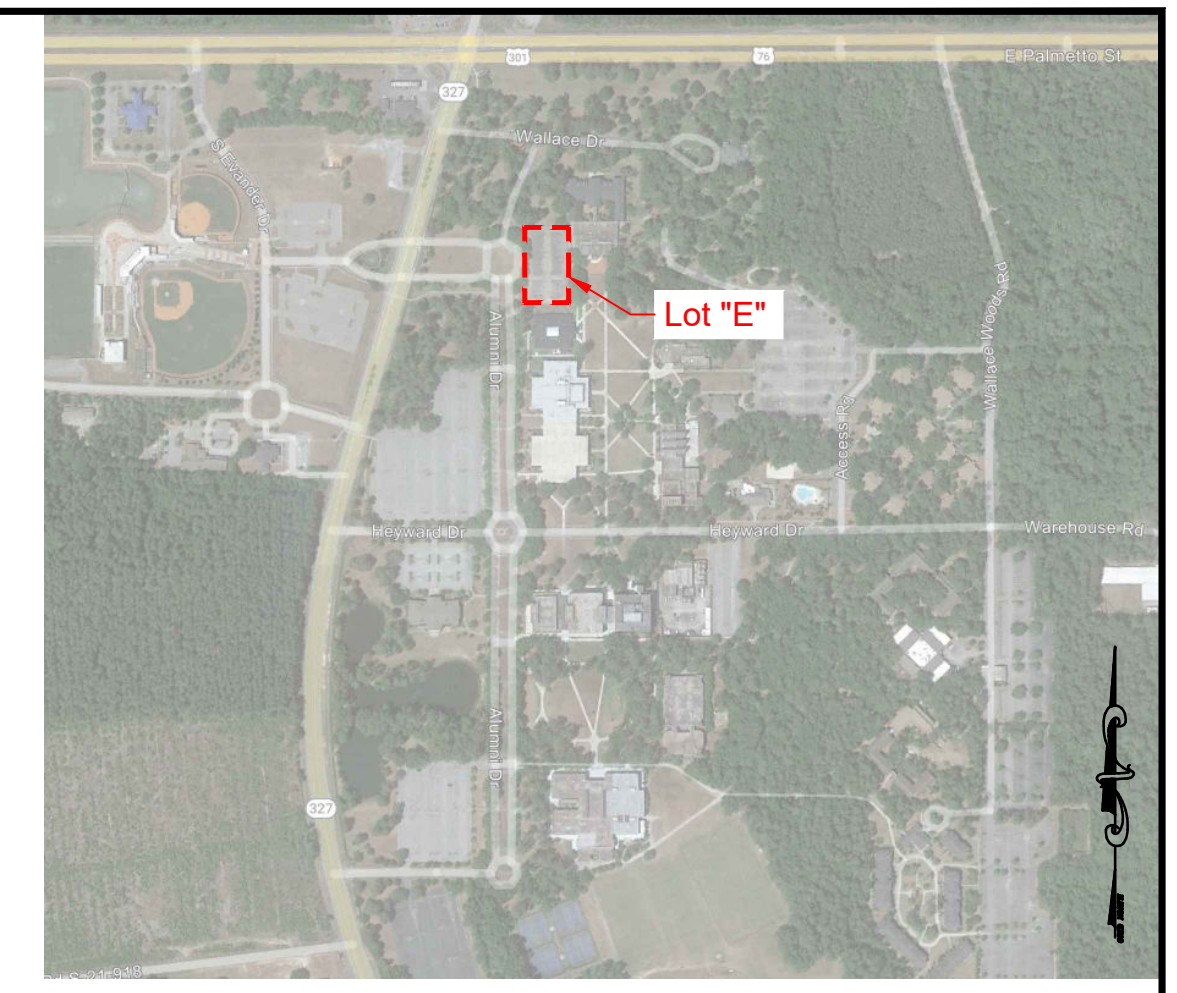
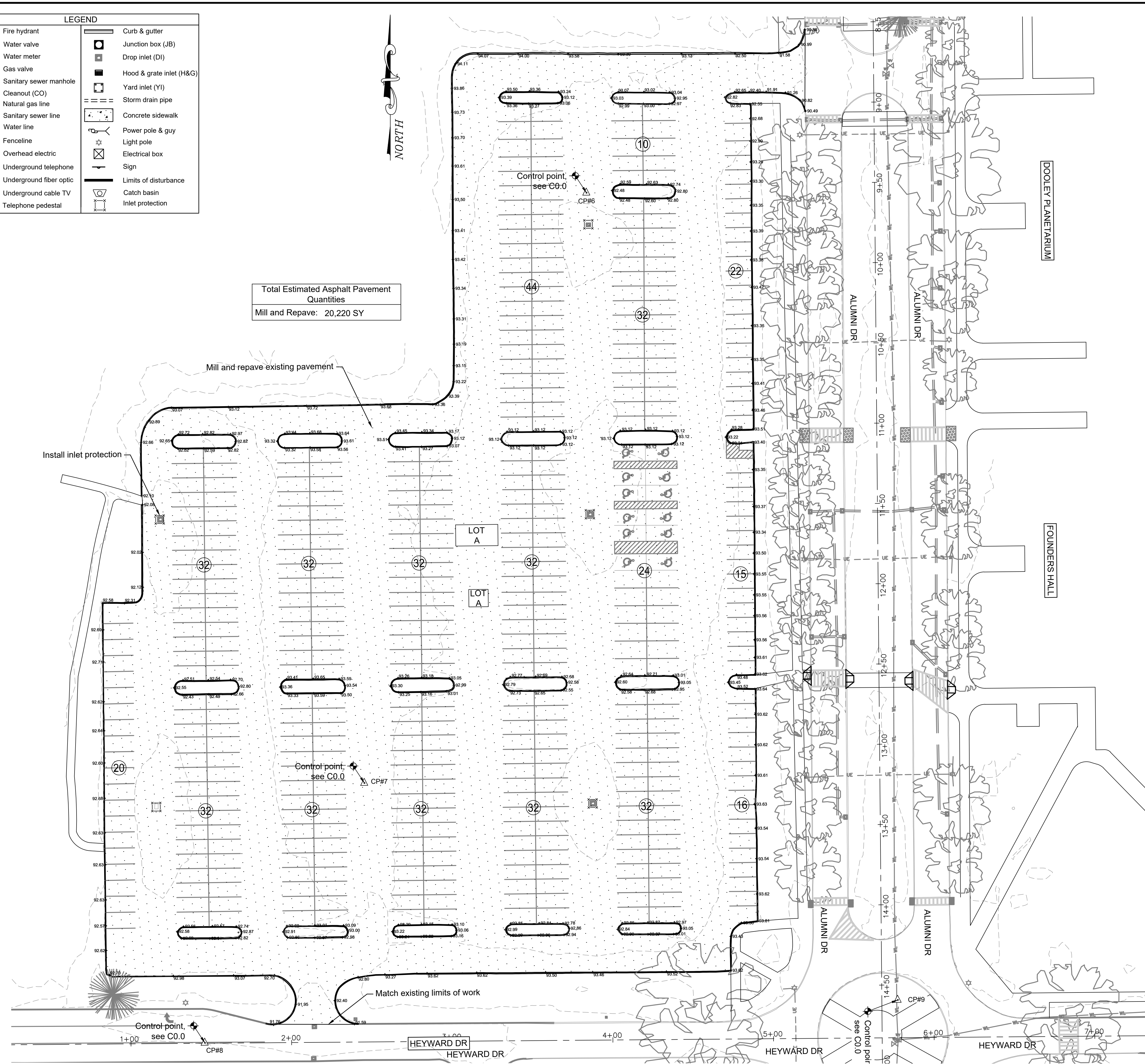
Designed: EYC Checked: GAL  
 Revised:  
 File: 392912C-P2\_Pkg2.dwg Project No.: 392912-22

**C0.0**  
 Sheet Number  
 April 16, 2024  
 Date

Drawing file: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 - 11:46am

LEGEND	
	Fire hydrant
	Water valve
	Water meter
	Gas valve
	Sanitary sewer manhole
	Cleanout (CO)
	Natural gas line
	Sanitary sewer line
	Water line
	Fenceline
	Overhead electric
	Underground telephone
	Underground fiber optic
	Underground cable TV
	Telephone pedestal
	Curb & gutter
	Junction box (JB)
	Drop inlet (DI)
	Hood & grate inlet (H&G)
	Yard inlet (YI)
	Storm drain pipe
	Concrete sidewalk
	Power pole & guy
	Light pole
	Electrical box
	Sign
	Limits of disturbance
	Catch basin
	Inlet protection

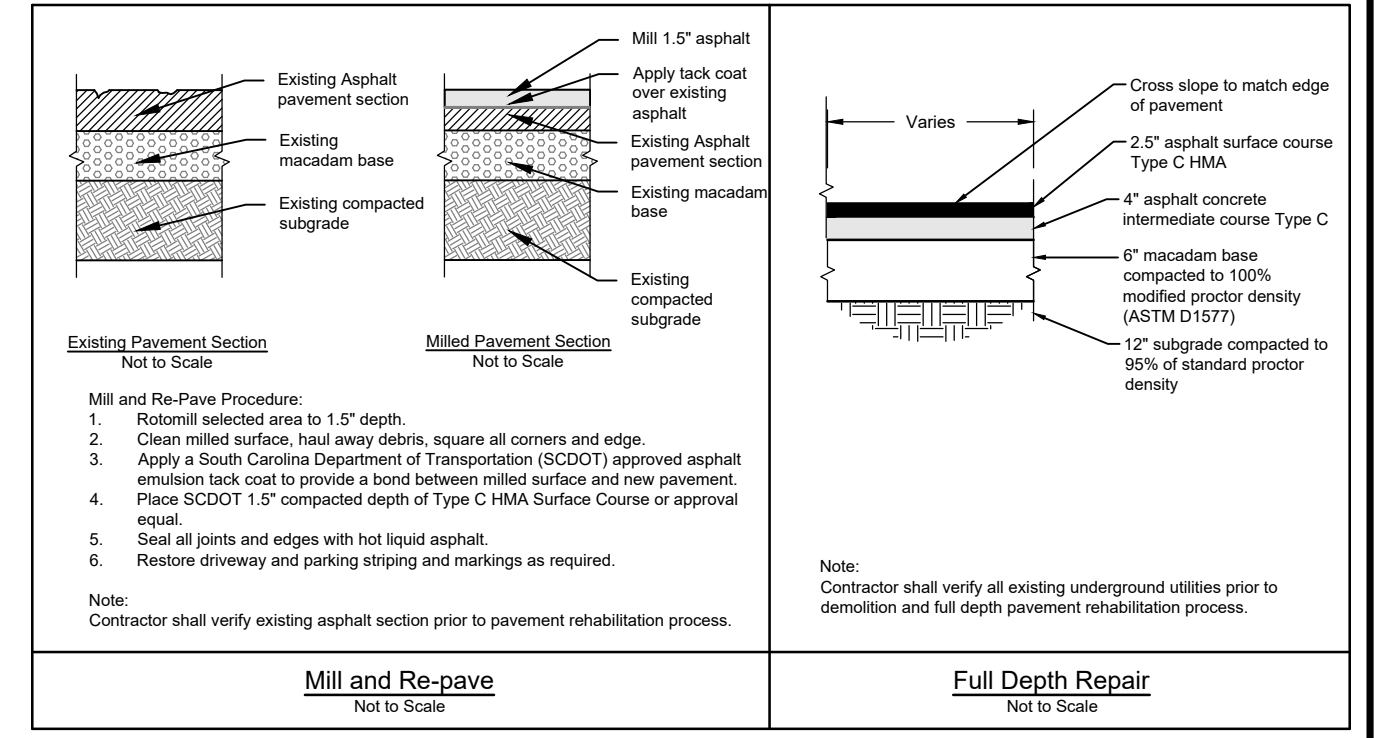
Total Estimated Asphalt Pavement Quantities  
Mill and Repave: 20,220 SY



LOCATION MAP  
SCALE: NTS

- Notes:
- All materials, installation and workmanship shall meet or exceed the minimum standards of South Carolina Department of Transportation.
  - All excavation for this project is unclassified. When excavating all excess material of whatever substance shall be removed and disposed of in a legal manner.
  - Contractor to repair any damage done to curbs, utilities, etc. due to construction at their expense.
  - Contractor to repair and/or replace pavement markings in accordance with the school pavement marking standards of materials, location and installation.
  - Contractor to verify exact location and depth of existing underground utility lines such as but not limited to electric, water, gas and sewer prior to excavation.
  - Contractor shall restore parking striping, handicapped signs, visitor parking signs, stop bars, traffic arrows, traffic lines, crosswalks, painted islands and wheel stops, etc to original places after asphalt pavement rehabilitation is completed.
  - Contractor to protect all existing trees along work limits.
  - Contractor responsible for traffic control.

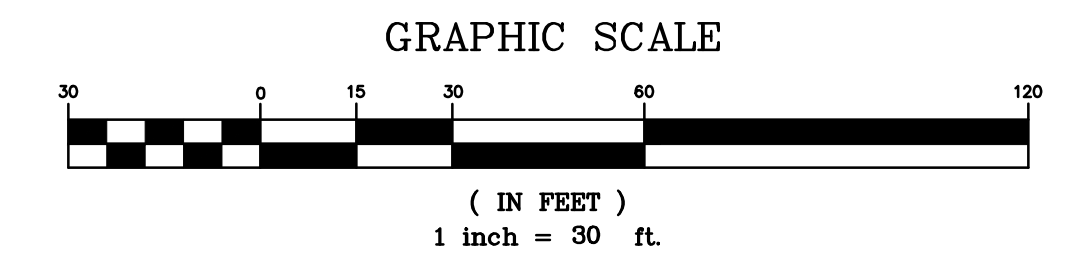
- Installation:
- All spot grades are existing top of curb.
  - Contractor to mill and repave 1 1/2" asphalt.
  - Existing curb to remain if not shown to be removed and/or replaced.
  - Contractor to remove full depth pavement section and replace according to the detail on sheet C1.0, where needed or shown.



- Mill and Re-Pave Procedure:
- Rotomill selected area to 1.5" depth
  - Clean milled surface, haul away debris, square all corners and edge
  - Apply a South Carolina Department of Transportation (SCDOT) approved asphalt emulsion tack coat to provide a bond between milled surface and new pavement
  - Place SCDOT 1.5" compacted depth of Type C HMA Surface Course or approved equal
  - Seal all joints and edges with hot liquid asphalt
  - Restore driveway and parking striping and markings as required

Note:  
Contractor shall verify existing asphalt section prior to pavement rehabilitation process.

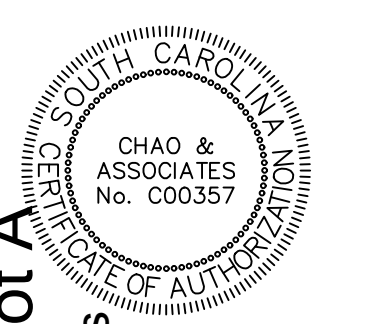
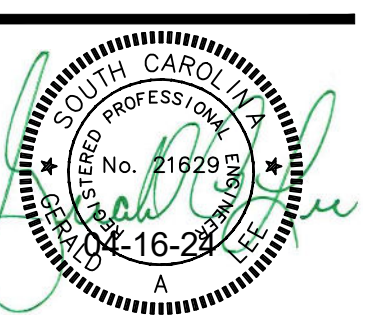
- Reference:
- See Appendix A of Project Manual for geotechnical report
  - Topographic Map by Back Forty Aerial solutions dated 12-26-2022



PROJECT: DEF. MAINT: ROADS, PARKING LOTS, SIDEWALKS, WALKWAYS - SIDEWALKS AND LOT A  
STATE PROJECT NO.: H18-9584-MJ-B3



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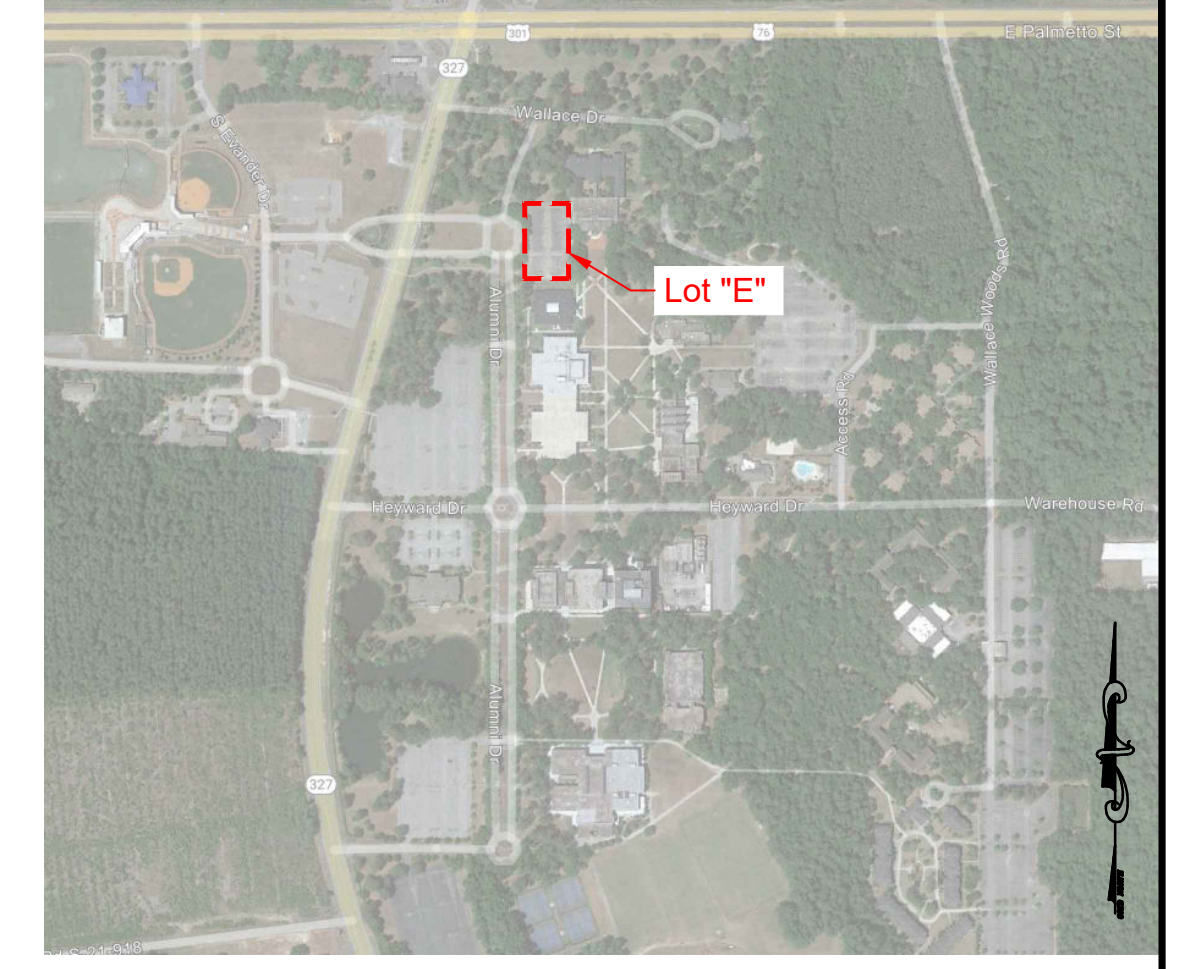
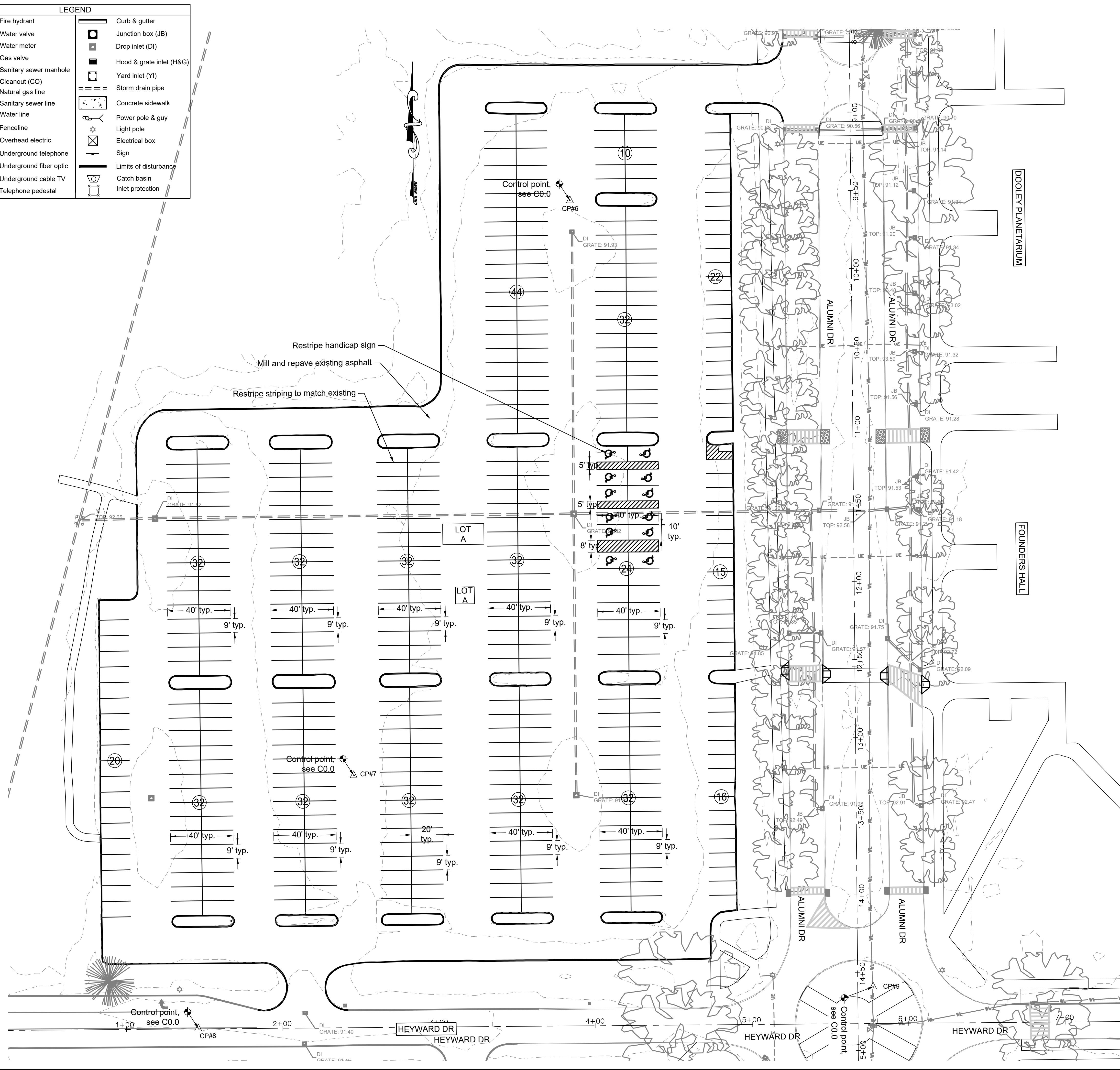
Existing Conditions & Repair Plan for Lot A  
Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

Designed: EYC Checked: GAL  
Revised:  
File: 392912C-P2\_Pkg2.dwg Project No.: 392912-22

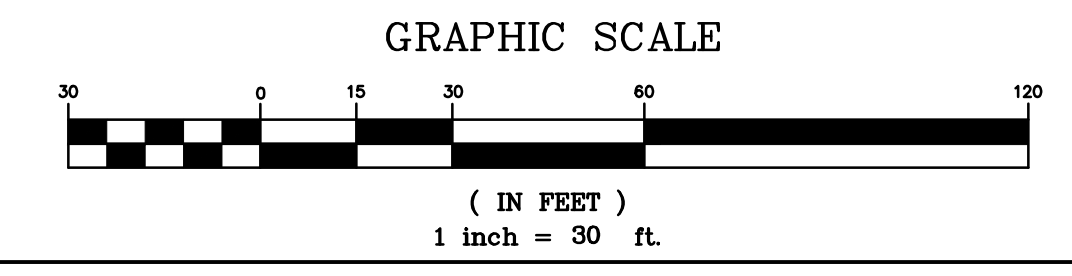
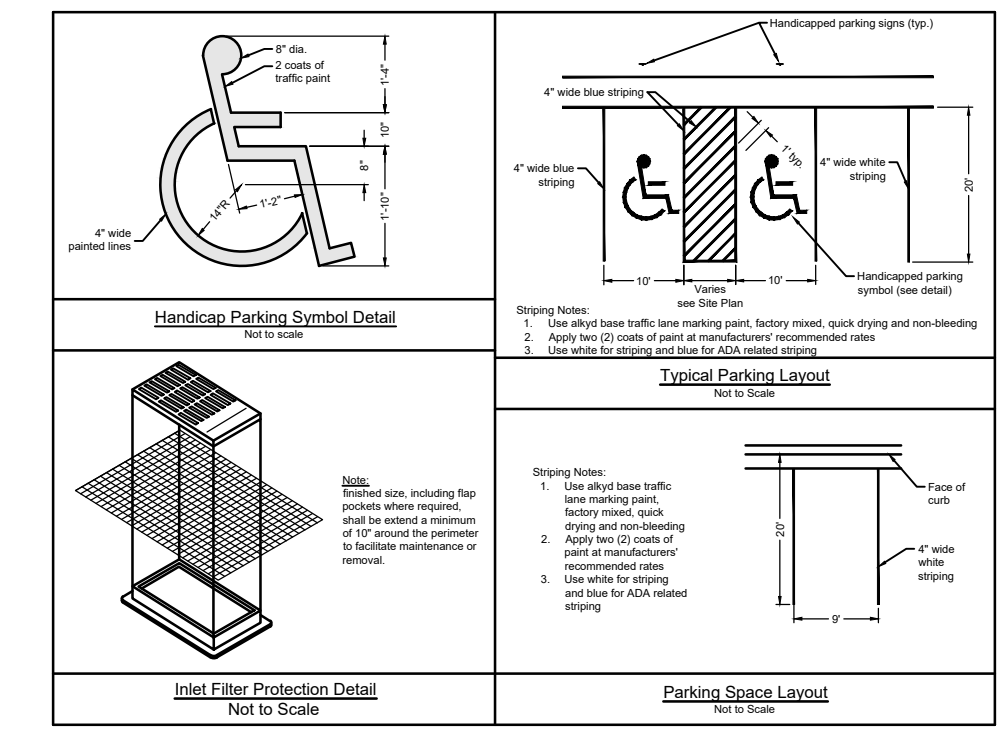
C1.0  
Sheet Number  
April 16, 2024  
Date

Drawing file: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 11:47am

LEGEND	
	Fire hydrant
	Water valve
	Water meter
	Gas valve
	Sanitary sewer manhole
	Cleanout (CO)
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	Underground cable TV
	Telephone pedestal
	Curb & gutter
	Junction box (JB)
	Drop inlet (DI)
	Hood & grate inlet (H&G)
	Yard inlet (YI)
	Storm drain pipe
	Concrete sidewalk
	Power pole & guy
	Light pole
	Electrical box
	Sign
	Limits of disturbance
	Catch basin
	Inlet protection



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**Pavement Striping Plan for Lot A**  
Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

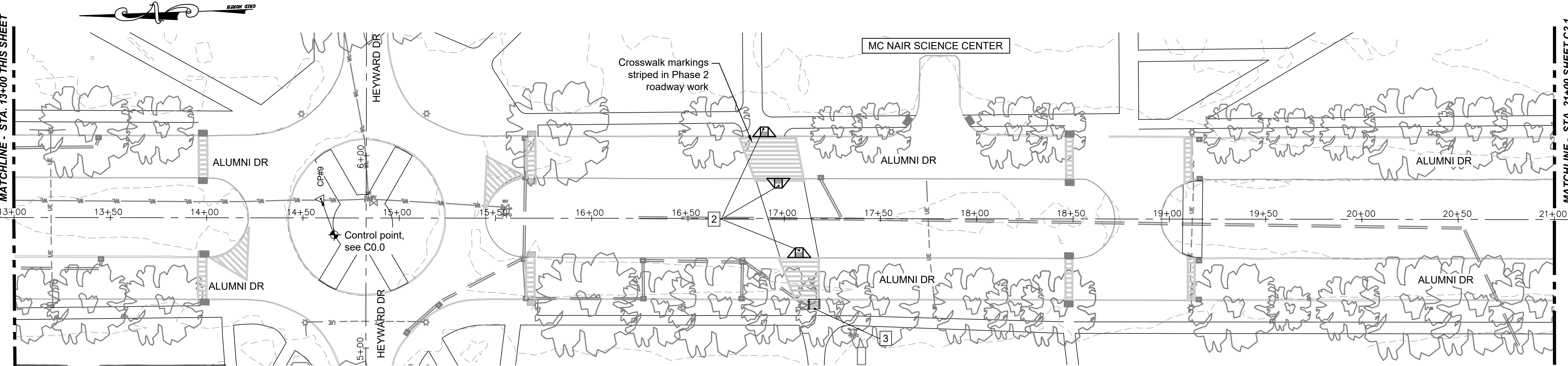
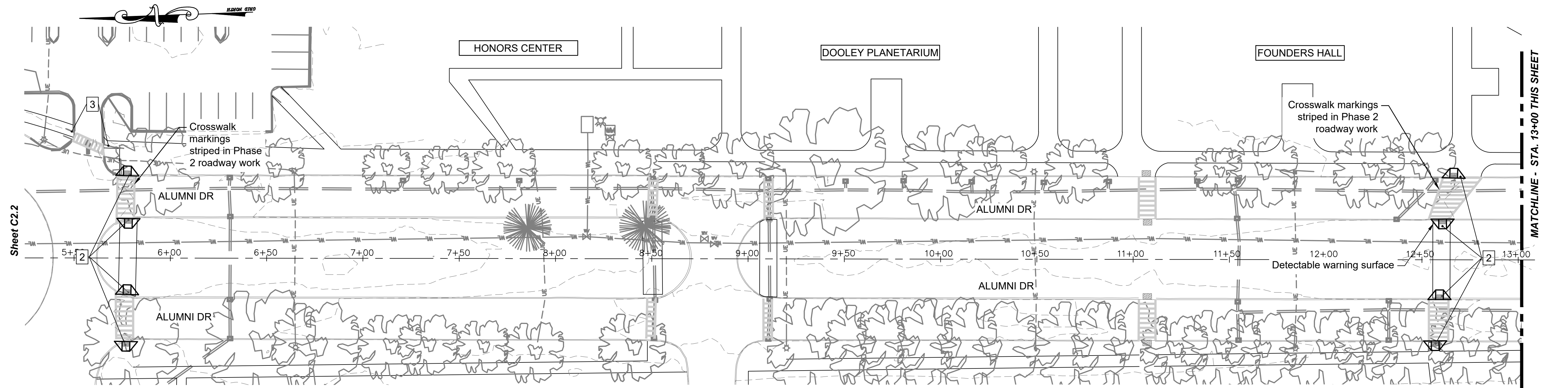
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Revised:  
File: 392912C-P2\_Pkg2.dwg Project No.: 392912-22

**C1.1**  
Sheet Number  
April 16, 2024  
Date

Drawing File: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 11:47am



The utilities are shown for the contractor's convenience only. There may be other utilities not shown on these Plans. The Engineer assumes no responsibility to verify the locations shown and it shall be the contractor's responsibility to verify the locations of all utilities within the limits of the work. All damage made to existing utilities by the contractor shall be the sole responsibility of the contractor.



LEGEND			
	Fire hydrant		Curb & gutter
	Water valve		Junction box (JB)
	Water meter		Drop inlet (DI)
	Gas valve		Hood & grate inlet (H&G)
	Sanitary sewer manhole		Yard inlet (YI)
	Cleanout (CO)		Storm drain pipe
	Natural gas line		Concrete sidewalk
	Sanitary sewer line		Power pole & guy
	Water line		Light pole
	Fenceline		Electrical box
	Overhead electric		Sign
	Underground telephone		Limits of disturbance
	Underground fiber optic		Catch basin
	Underground cable TV		Inlet protection
	Telephone pedestal		



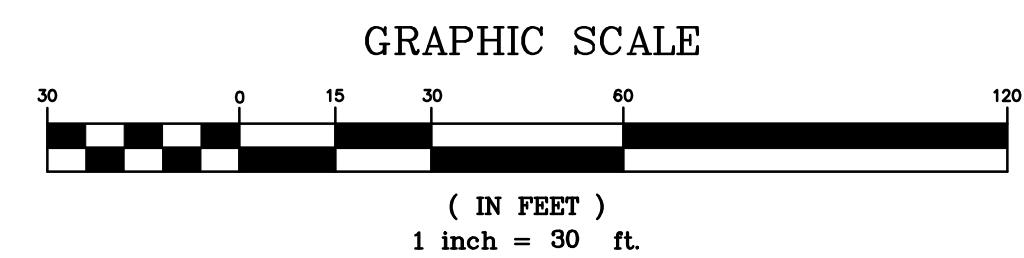
LOCATION MAP  
SCALE: NTS

Sidewalk Repair Legend: See details C3.0	
	Repair
	Handicap Access Ramp
	Sidewalk Ramp

Total Estimated Concrete Repair Quantities	
Repair:	723 Sq. Yards

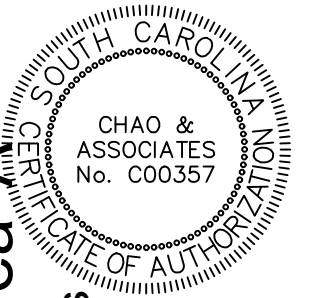
- Notes:**
- Contractor to see Appendix A of project manual for detail of each deficiency
  - Contractor to field verify location of deficiencies



PROJECT: DEF. MAINT: ROADS, PARKING LOTS, SIDEWALKS, WALKWAYS - SIDEWALKS AND LOT A  
STATE PROJECT NO.: H18-9584-MJ-B3



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**Sidewalk & Ramp Condition Plan for Area 'A'**  
Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

Designed: EYC Checked: GAL

Revised:

File: 392912C-P2\_Pkg2.dwg/Project No.: 392912-22

**C2.0**

Sheet Number  
April 16, 2024  
Date

Drawing File: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 - 11:47am

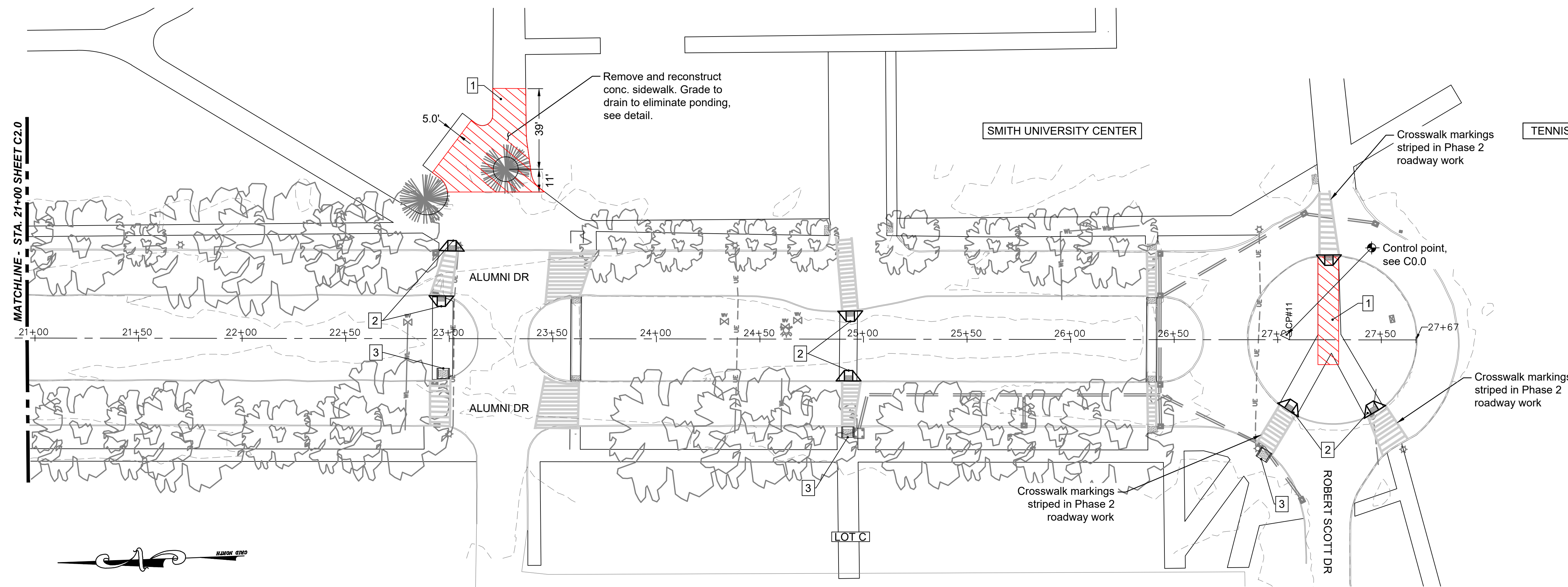


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LEGEND	
	Fire hydrant
	Water valve
	Water meter
	Gas valve
	Sanitary sewer manhole
	Cleanout (CO)
	Natural gas line
	Sanitary sewer line
	Water line
	Fenceline
	Overhead electric
	Underground telephone
	Underground fiber optic
	Underground cable TV
	Telephone pedestal
	Curb & gutter
	Junction box (JB)
	Drop inlet (DI)
	Hood & grate inlet (H&G)
	Yard inlet (YI)
	Storm drain pipe
	Concrete sidewalk
	Power pole & guy
	Light pole
	Electrical box
	Sign
	Limits of disturbance
	Catch basin
	Inlet protection



LOCATION MAP  
SCALE: NTS

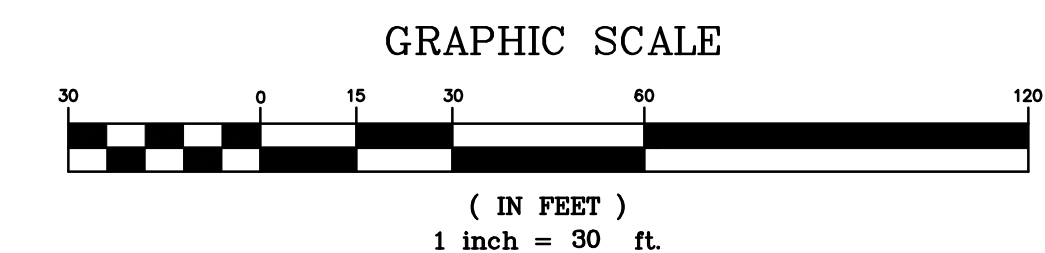


Sidewalk Repair Legend: See details C3.0	
	Repair
	Handicap Access Ramp
	Sidewalk Ramp

Total Estimated Concrete Repair Quantities	
Repair:	723 Sq. Yards

- Notes:**
- Contractor to see Appendix A of project manual for detail of each deficiency
  - Contractor to field verify location of deficiencies



PROJECT: DEF. MAINT: ROADS, PARKING LOTS,  
SIDEWALKS, WALKWAYS -  
SIDEWALKS AND LOT A  
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**Sidewalk & Ramp Condition Plan for Area 'B'**  
Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

Designed: EYC Checked: GAL

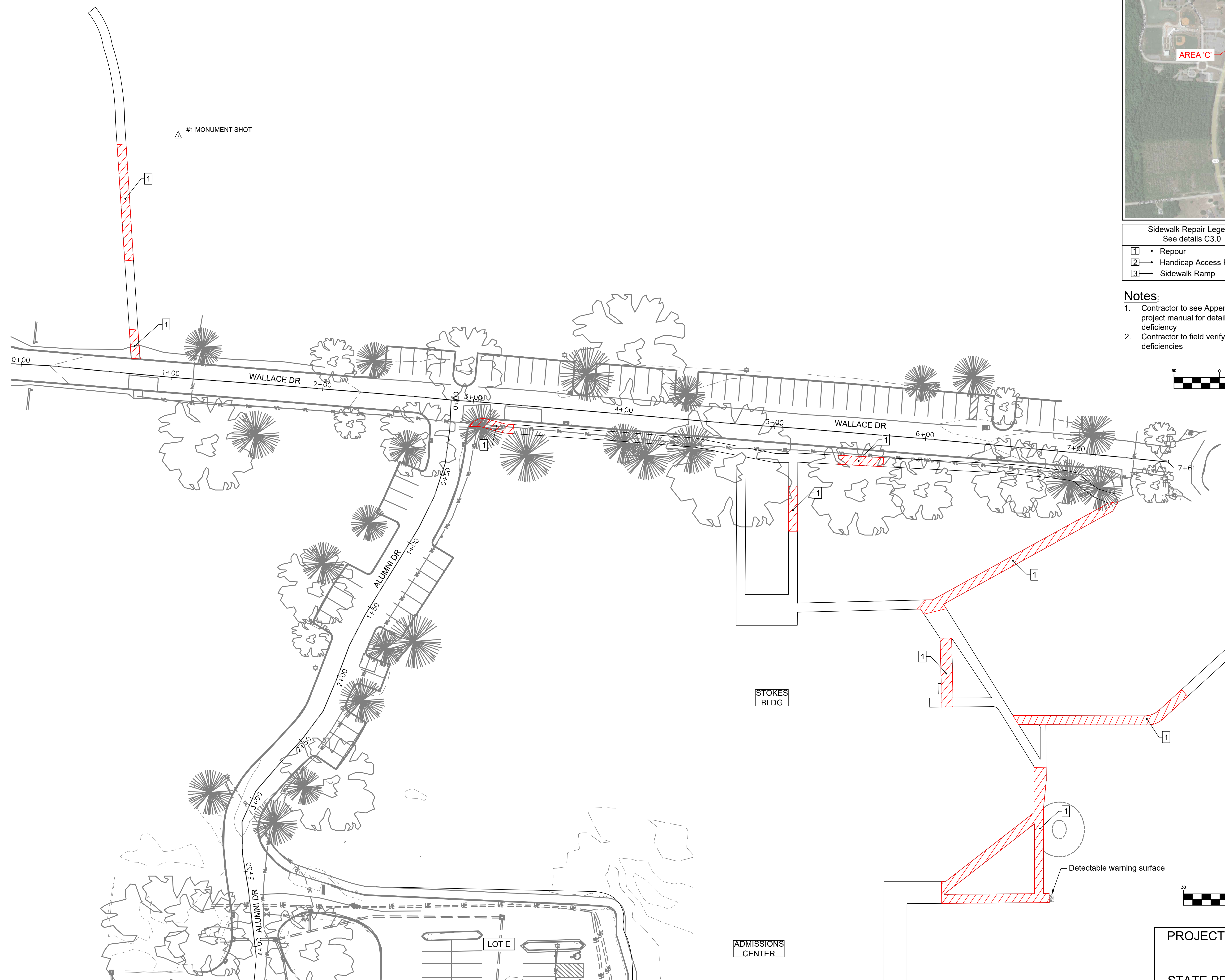
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**C2.1**

Sheet Number  
April 16, 2024  
Date

Drawing file: 392912C-P2\_Pkg2.dwg Plotted: May 09, 2024 11:47am



#1 MONUMENT SHOT



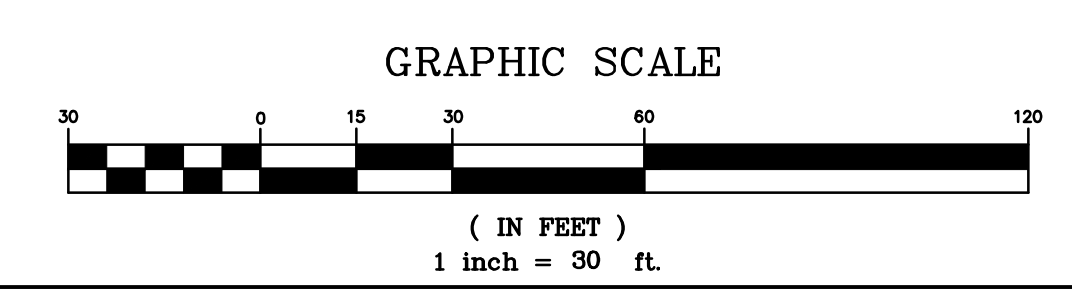
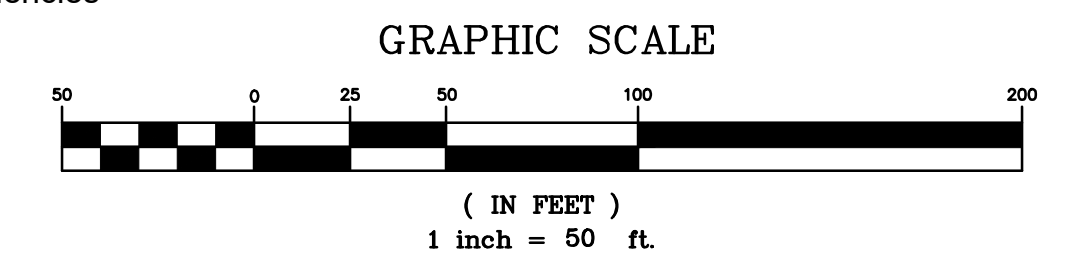
Sidewalk Repair Legend:  
See details C3.0

1	→ Repour
2	→ Handicap Access Ramp
3	→ Sidewalk Ramp

Total Estimated Concrete Repair Quantities

Repour:	723 Sq. Yards
---------	---------------

- Notes:**
- Contractor to see Appendix A of project manual for detail of each deficiency
  - Contractor to field verify location of deficiencies



PROJECT: DEF. MAINT: ROADS, PARKING LOTS, SIDEWALKS, WALKWAYS - SIDEWALKS AND LOT A  
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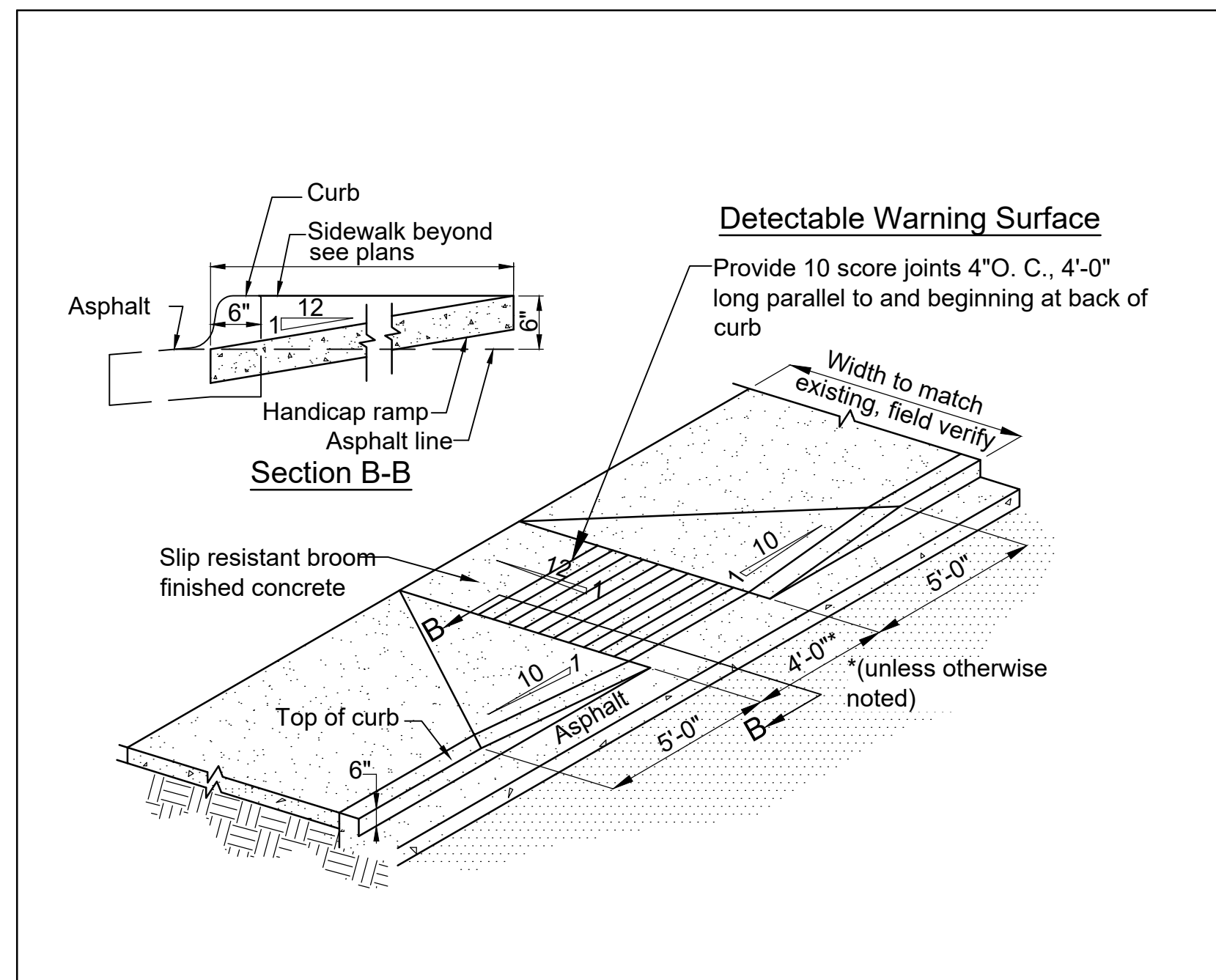


**Sidewalk & Ramp Condition Plan for Area 'C'**  
Def. Maint: Roads, Parking Lots, Sidewalks, Walkways  
- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

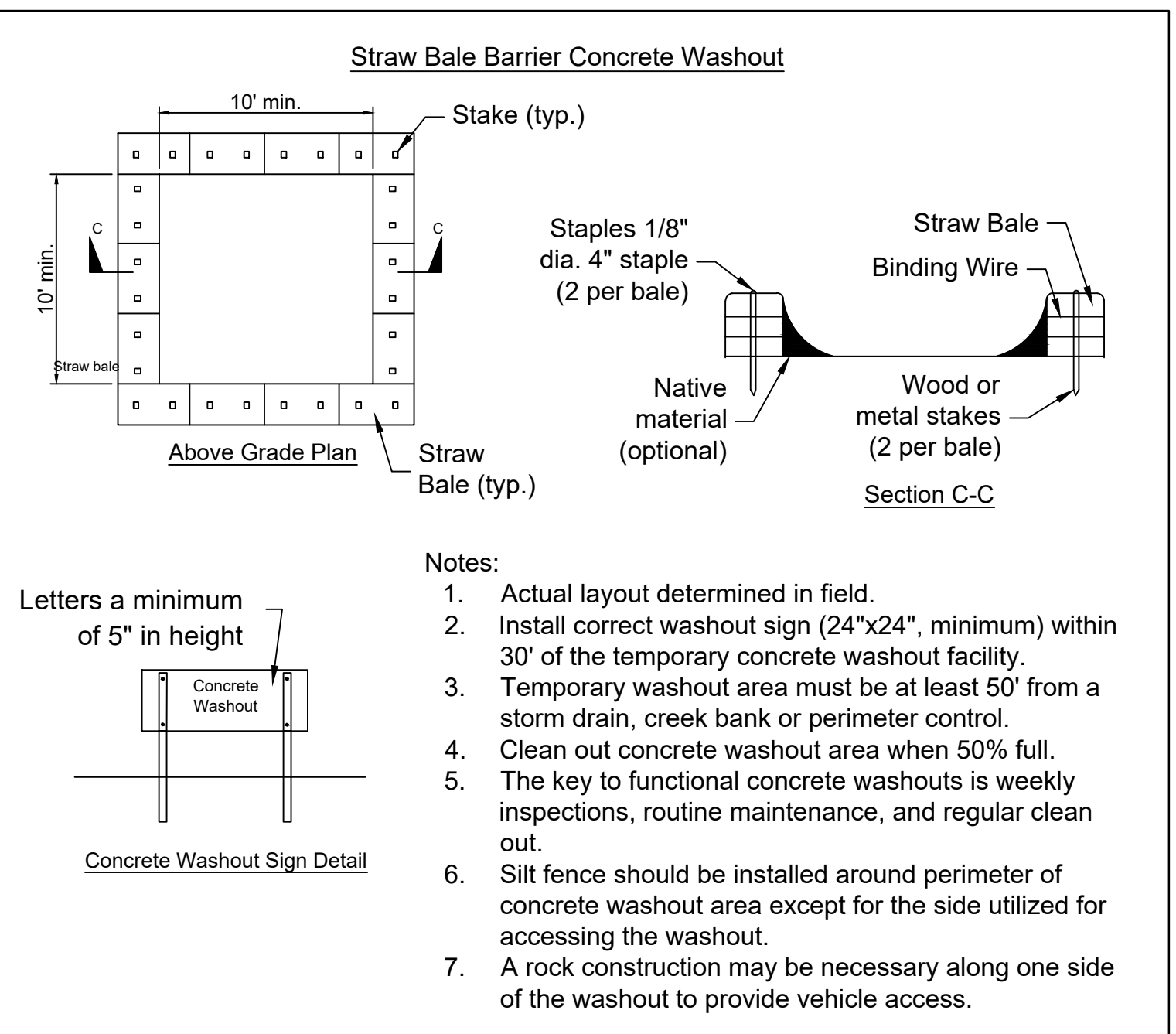
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Revised:  
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**C2.2**  
Sheet Number  
April 16, 2024  
Date

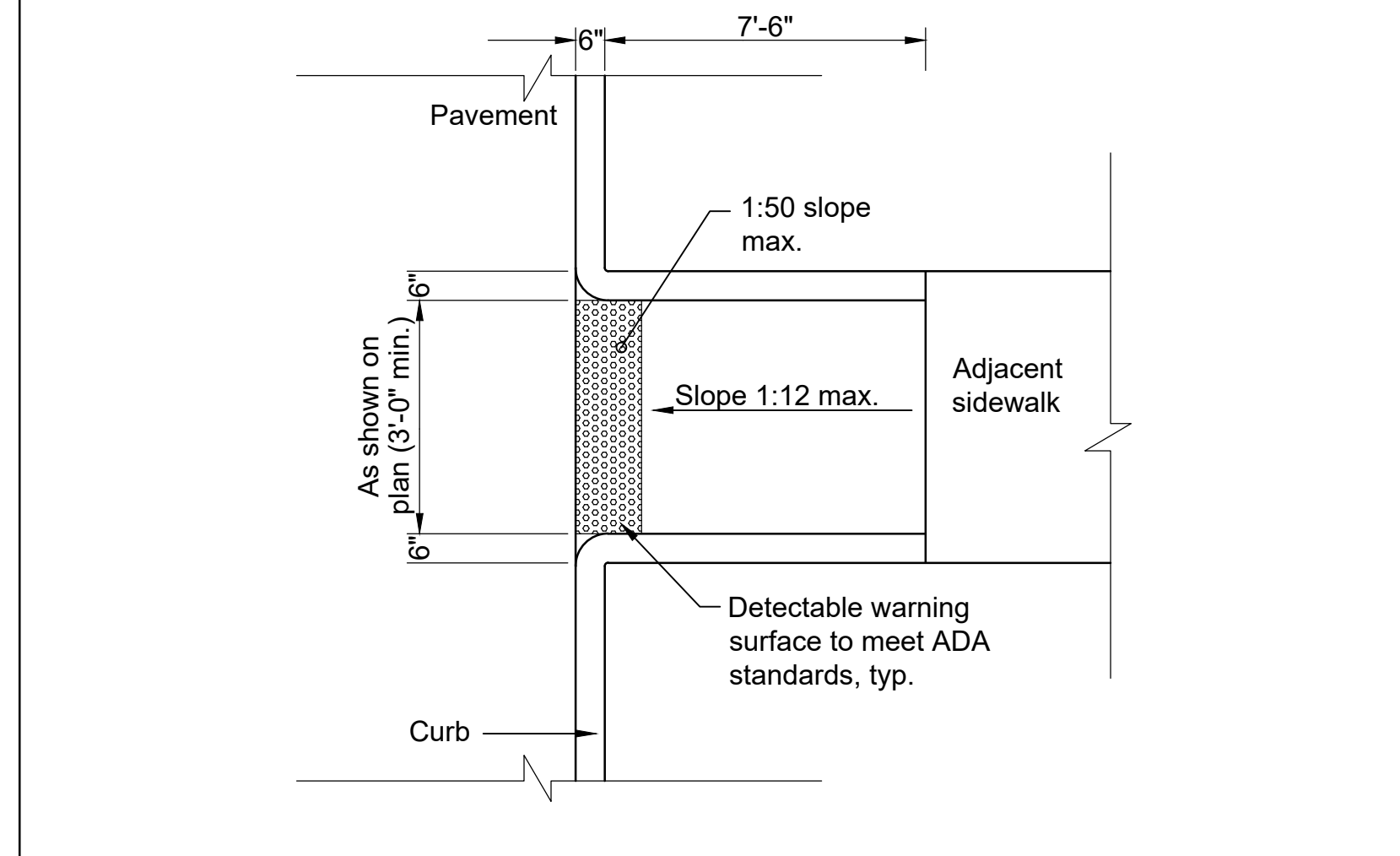
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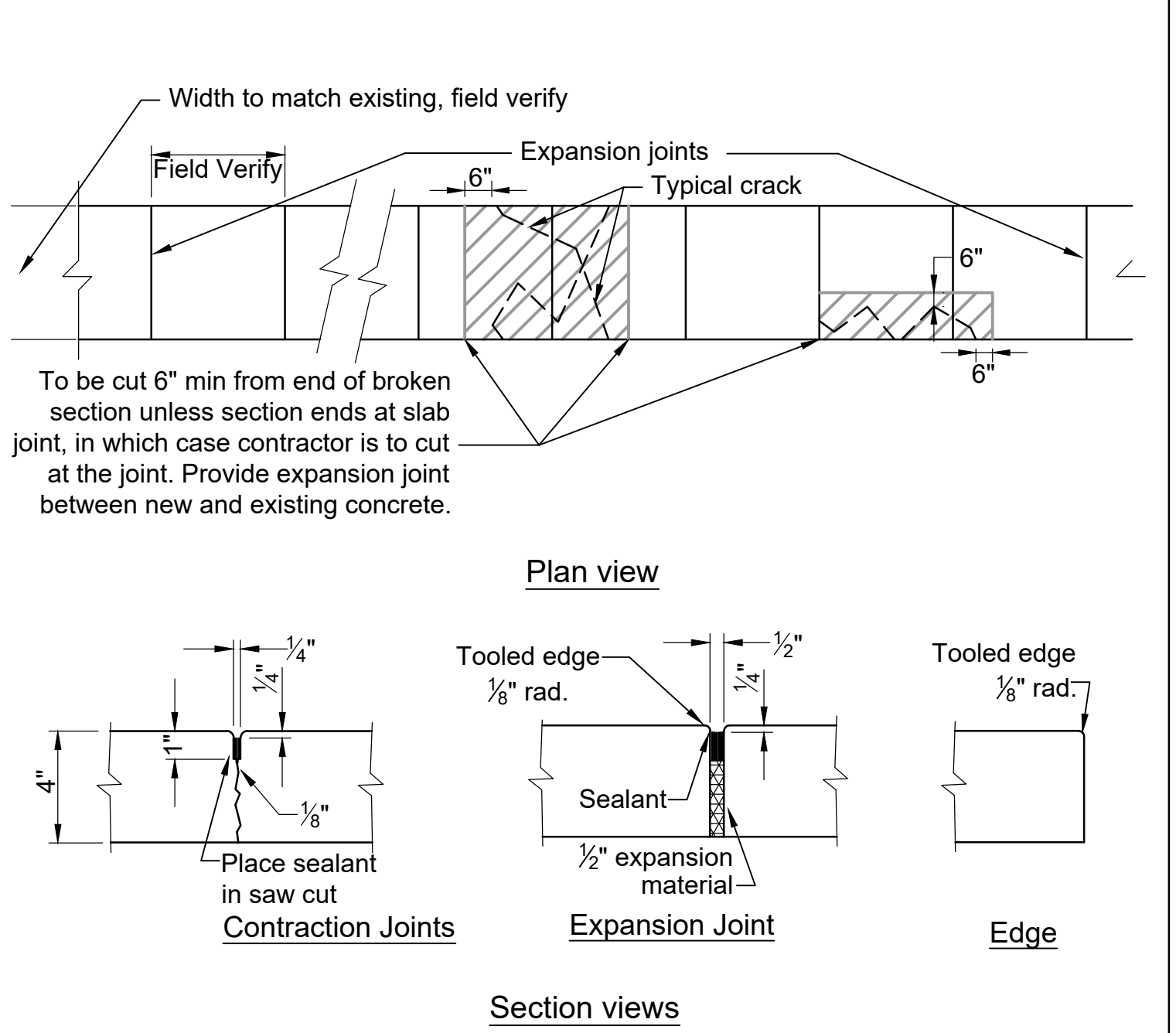
**Handicap Access Ramp**  
Not to Scale 2



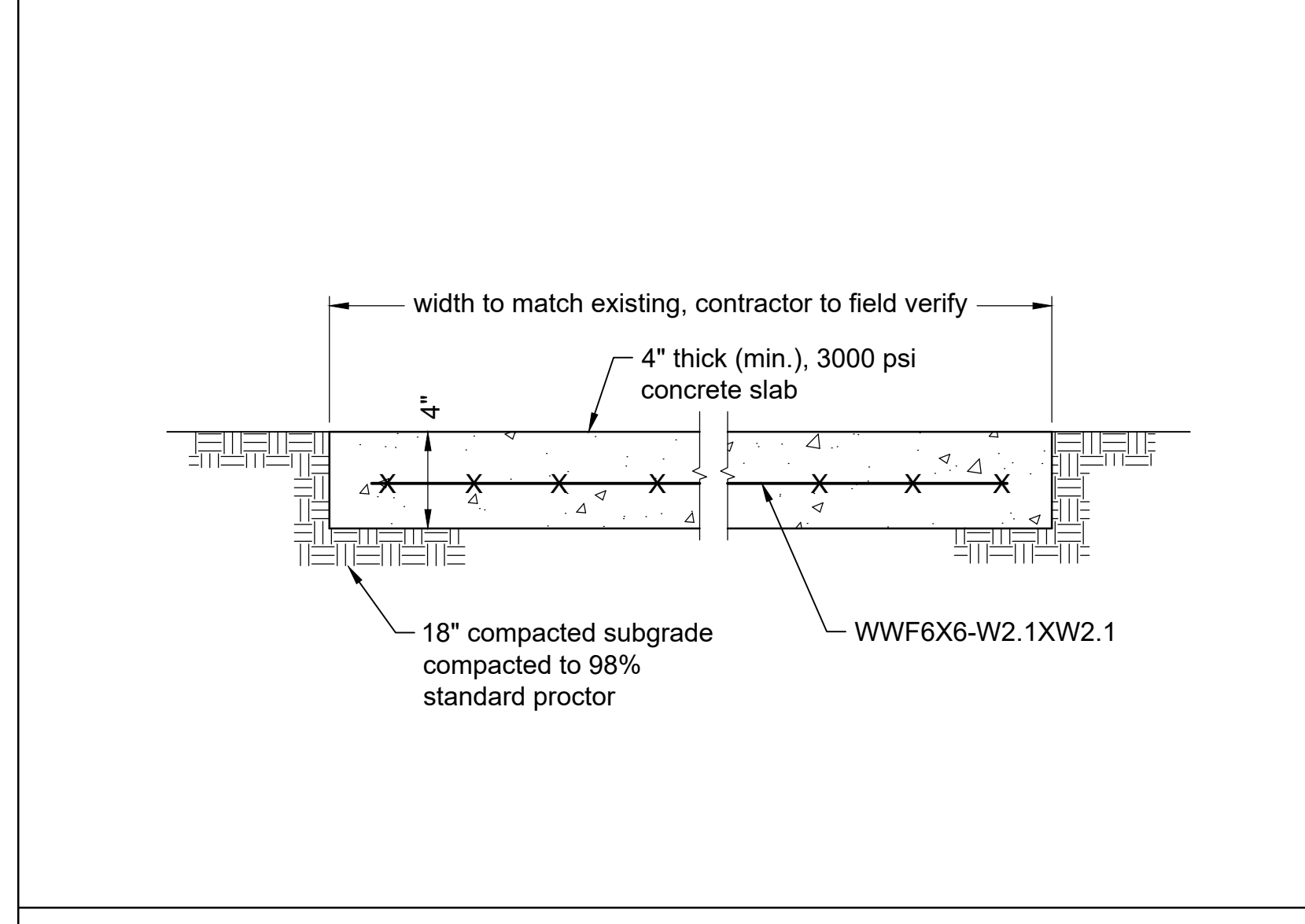
**Concrete Washout (Straw Bale or Above Ground)**  
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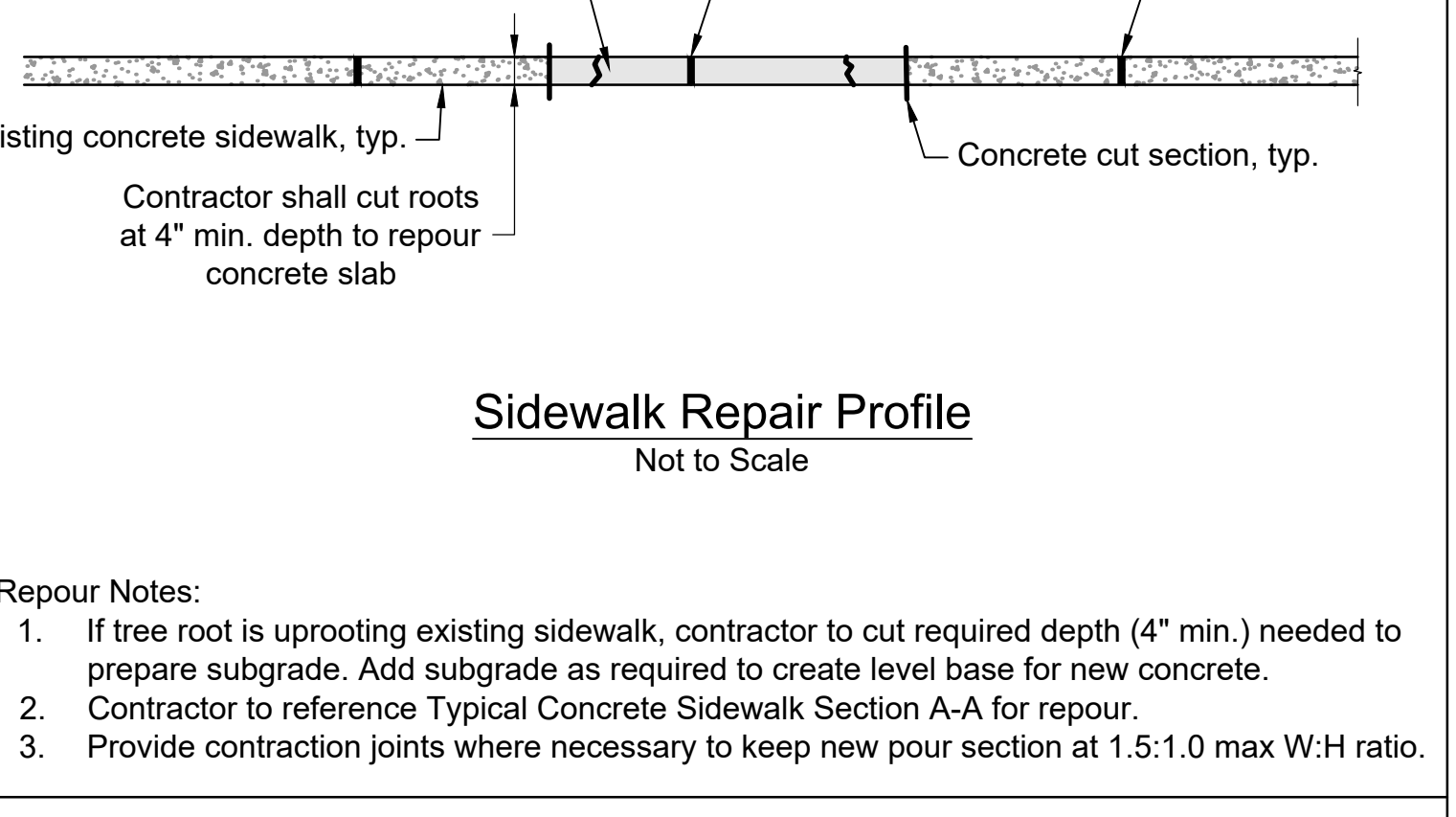
**Sidewalk Ramp Detail**  
Not to Scale 3



**Sidewalk Repair Profile**  
Not to Scale



**Typical Concrete Sidewalk Section A-A**  
Not to Scale



**Concrete Repour**  
Not to Scale 1

- Repour Notes:
1. If tree root is uprooting existing sidewalk, contractor to cut required depth (4" min.) needed to prepare subgrade. Add subgrade as required to create level base for new concrete.
  2. Contractor to reference Typical Concrete Sidewalk Section A-A for repour.
  3. Provide contraction joints where necessary to keep new pour section at 1.5:1.0 max W:H ratio.

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**Construction Details**  
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- Sidewalks and Lot A  
Prepared for: Francis Marion University  
Florence County, South Carolina

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