STORMWATER DRAINAGE IMPROVEMENTS PROJECT
FOR FRANCIS MARION UNIVERSITY (H18-N079-MJ) (EDA#04-01-07484.01)

To: All Prospective Bidders

Subject: Addendum #3

Date: November 30th, 2022

This addendum modifies the Contract Documents only in the manner and to the extent stated herein and on any accompanying drawings. This addendum will become part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

Bidder shall acknowledge receipt of the Addendum in the space provided on the bid form. Failure to do so may constitute informality in the bid.

1. Changes to prior Addenda

1. None with this addendum.

2. Changes to Bidding Requirements

1. None with this addendum.

3. Changes to the Specifications

1. None with this addendum

4. Changes to the Drawings

1. Sheet C-201 – Added Drop Inlet typical note, added limit of disturbance leader, replaced blind junction with MH-5148A, revised RG Inlet to RG Inflow, revised CB 4850 inlet type.
2. Sheet C-202 – Added limit of disturbance leader, replaced blind junction with MH-5148A, revised RG Inlet to RG Inflow, revised CB 4850 inlet type.
3. Sheet C-203 – Added limit of disturbance leader, revised CB 4004 inlet type.
4. Sheet C-204 – Added limit of disturbance leader.
5. Sheet C-205 – Added limit of disturbance leader, revised CB 4000 inlet type.
6. Sheet C-206 – Added limit of disturbance leader.
7. Sheet C-207 – Added limit of disturbance leader.
8. Sheet C-208 – Added limit of disturbance leader, revised pond maintenance note.
9. Sheet C-209 – Added limit of disturbance leader.
10. Sheet C-213 – Revised Profile EX-4004 to EX-4003 to clarify that the pipe between EX-4001 and EX-4003 should be 42”, not 60”.
11. Sheet C-503 – Revised pipe bedding material to AASHTO #57 aggregate.

5. Clarifications to Written Questions

1. Additional details for drainage structures have been provided on the plans. CB Type 1 is the SCDOT Standard Type 1 inlet. Callout has been revised to "CB Type 1" for all CB HG inlets. The conveyance system is to be constructed in accordance with standard SCDOT specifications. Refer to Drop Inlet on SCDOT standard drawing 719-110-01 for additional information. This standard detail has been included as part of this addendum for clarity.

2. The contractor is to match the existing layout / alignment as much as possible, however, in some areas the existing drainage pipe appears to be in line with some of the existing trees. In these areas we show the proposed pipe network in the existing road, instead of the sidewalk. The contractor may provide an option for flowable fill in lieu of removing some of the old drainage infrastructure. Contractor shall coordinate with the engineer and owner in the field prior to this work.

3. On Sheet C-201 & C-202, there is an existing blind junction, and a new manhole (MH-5148A) has been added to this location.

4. Sheet C-207: There is no difference in structure type of Structures DI-3233 and DI-3234.

5. Sheet C-202: The "RG Inlet" notation is the rain garden's inflow pipe end. Detail 04/C-502 is for the rain garden outlet structure. The call out on Sheet C-202 has been revised for clarity.

6. Sheet C-213: The pipe profile has been revised from 60" RCP to 42" RCP. This system is on Sheet C-205.

7. Detail 03/C-503 has been revised to show AASHTO #57 aggregate for pipe bedding and applies to HDPE pipe installation.

8. The plans have been revised to clarify the limit of disturbance line with additional callouts.

9. The work with the basin shall be limited vegetation removal within the basin bottom and the berm slopes. The contractor may cut trees and grind stumps to below grade within the existing basin. No grading / land disturbance is anticipated because of these efforts.

10. Unanticipated plant life demolition will NOT be accepted as a Change Order. The contractor shall be responsible for repairing or replacing all plant life damage outside of the limits of disturbance.

11. Regarding damage to existing trees/roots, the contractor shall coordinate with the University and their landscape staff prior to performing actions which may compromise the integrity of the trees on campus.

12. It is not anticipated that any utilities will be impacted during construction. However, it is the contractor's responsibility to verify existing conditions prior to the start of construction and coordinate with the engineer and owner should a conflict arise.

13. Contractors are to bid within their license limits. For questions regarding licensing, contact LLR, Contractor's Licensing Board.

14. Contractors may work Monday – Friday daylight hours. Owner must be notified if contractor wants to work on weekends/holidays.

15. The contractor must put forth all possible efforts to meet the goals for minority and female participation for each trade. For further guidance, please refer to the Notice of requirements for affirmative action to ensure equal employment opportunity (Executive Order 11246 and 41 CFR Part 60-4) found on page 71 of the Project Manual.

16. Though it is not readily available, 12" RCP is proposed due to cover issues and should be included with the base bid. However, the owner will consider substitutions post-award.

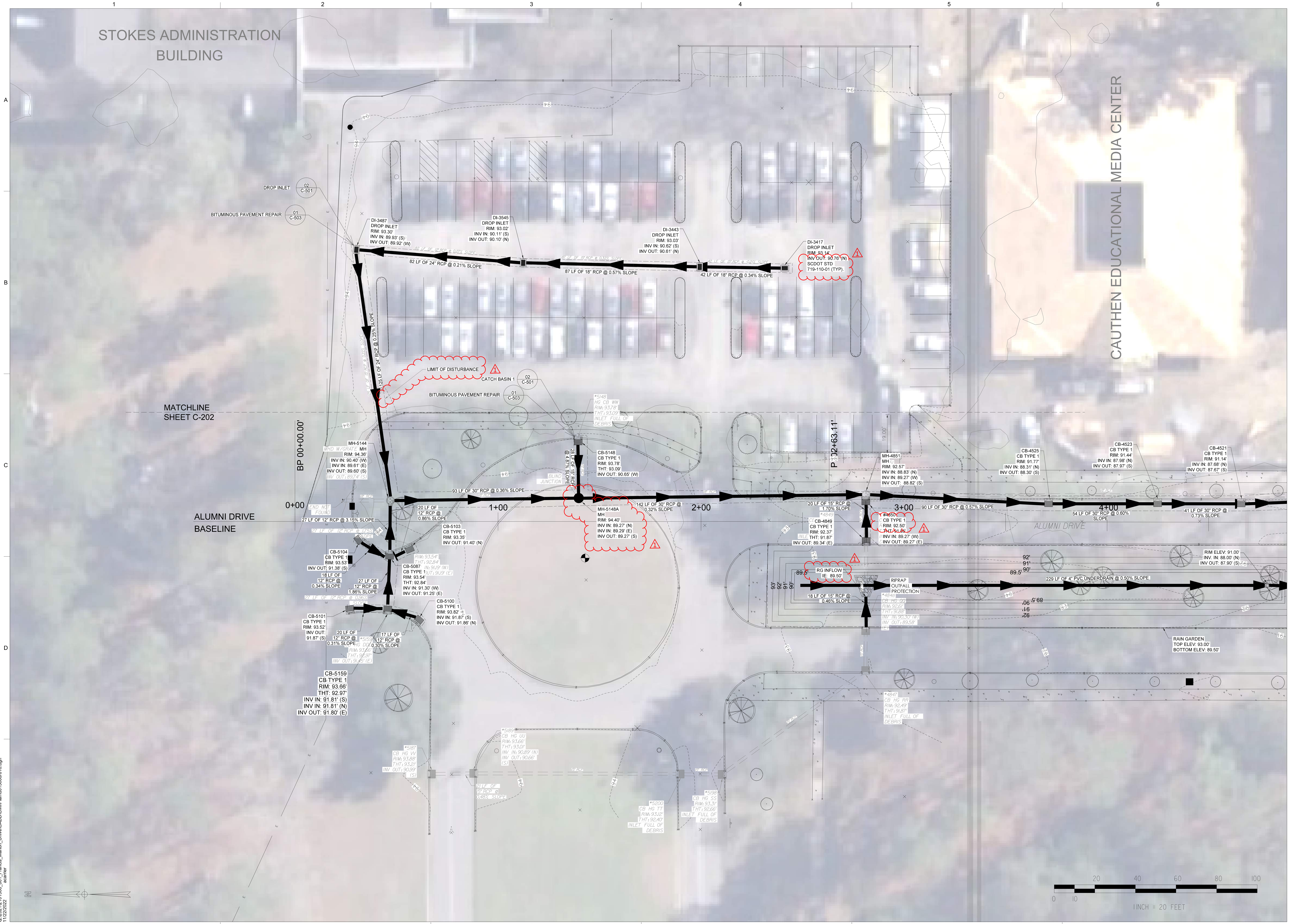
17. If the contractor has done their due diligence in ordering all materials for the project, but lead times exceed the contract time, FMU will grant the additional time only to contractor if no other acceptable materials can be found and used.

18. Price increases from suppliers will not be allowed as a Change Order to the project, unless the contractor can prove it is an "Extreme Hardship".

19. Laydown areas will be designated by the University once the bid has been awarded.

20. For traffic control, all bidders shall refer to General Note 8 on the cover sheet C-001. The contractor shall use standard SCDOT traffic control drawings as necessary.

END OF ADDENDUM 3


STOKES ADMINISTRATION BUILDING
CAUTHEN EDUCATIONAL MEDIA CENTER
MATCHLINE SHEET C-202
ALUMNI DRIVE BASELINE
BP 00+00.00'
DROP INLET 02 C-501
BITUMINOUS PAVEMENT REPAIR 01 C-503
DI-3487 DROP INLET RIM: 93.30' INV IN: 89.93' (S) INV OUT: 89.92' (W)
DI-3545 DROP INLET RIM: 93.02' INV IN: 90.11' (S) INV OUT: 90.10' (N)
DI-3443 DROP INLET RIM: 93.03' INV IN: 90.62' (S) INV OUT: 90.61' (N)
DI-3417 DROP INLET RIM: 93.14' INV OUT: 90.76' (N) SCDOT STD 719-110-01 (TYP.)
82 LF OF 24" RCP @ 0.21% SLOPE
87 LF OF 18" RCP @ 0.57% SLOPE
42 LF OF 18" RCP @ 0.34% SLOPE
125 LF OF 24" RCP @ 0.25% SLOPE
LIMIT OF DISTURBANCE
CATCH BASIN 1 02 C-501
BITUMINOUS PAVEMENT REPAIR 01 C-503
MH-5144 MH RIM: 94.36' INV IN: 90.40' (W) INV IN: 89.61' (E) INV OUT: 89.60' (S)
93 LF OF 30" RCP @ 0.36% SLOPE
CB-5148 CB TYPE 1 RIM: 93.78' THT: 93.09' INV OUT: 90.65' (W)
MH-5148A MH RIM: 94.40' INV IN: 89.27' (N) INV IN: 89.29' (E) INV OUT: 89.27' (S)
142 LF OF 30" RCP @ 0.32% SLOPE
MH-4851 MH RIM: 92.57' INV IN: 88.83' (N) INV IN: 89.27' (W) INV OUT: 88.82' (S)
CB-4525 CB TYPE 1 RIM: 91.77' INV IN: 88.31' (N) INV OUT: 88.30' (S)
CB-4523 CB TYPE 1 RIM: 91.44' INV IN: 87.98' (N) INV OUT: 87.97' (S)
CB-4521 CB TYPE 1 RIM: 91.14' INV IN: 87.68' (N) INV OUT: 87.67' (S)
90 LF OF 30" RCP @ 0.57% SLOPE
54 LF OF 30" RCP @ 0.60% SLOPE
41 LF OF 30" RCP @ 0.73% SLOPE
20 LF OF 15" RCP @ 1.70% SLOPE
CB-4849 CB TYPE 1 RIM: 92.37' THT: 91.87' INV OUT: 89.34' (E)
CB-4850 CB TYPE 1 RIM: 92.50' THT: 91.86' INV IN: 89.27' (W) INV OUT: 89.27' (E)
ALUMNI DRIVE
RIM ELEV: 91.00' INV. IN: 88.00' (N) INV OUT: 87.90' (S)
RG INFLOW IE: 89.50'
RIPRAP OUTFALL PROTECTION
229 LF OF 4" PVC UNDERDRAIN @ 0.50% SLOPE
18 LF OF 15" RCP @ 0.46% SLOPE
RAIN GARDEN TOP ELEV: 93.00' BOTTOM ELEV: 89.50'
0+00
1+00
2+00
3+00
4+00
20 LF OF 12" RCP @ 0.86% SLOPE
27 LF OF 12" RCP @ 3.15% SLOPE
CB-5103 CB TYPE 1 RIM: 93.35' INV OUT: 91.40' (N)
CB-5104 CB TYPE 1 RIM: 93.53' INV OUT: 91.38' (S)
18 LF OF 12" RCP @ 0.34% SLOPE
CB-5087 CB TYPE 1 RIM: 93.54' THT: 92.84' INV IN: 91.30' (W) INV OUT: 91.25' (E)
27 LF OF 12" RCP @ 1.86% SLOPE
CB-5100 CB TYPE 1 RIM: 93.82' INV IN: 91.87' (S) INV OUT: 91.86' (N)
CB-5101 CB TYPE 1 RIM: 93.52' INV OUT: 91.87' (S)
20 LF OF 12" RCP @ 0.31% SLOPE
17 LF OF 12" RCP @ 0.30% SLOPE
CB-5159 CB TYPE 1 RIM: 93.66' THT: 92.97' INV IN: 91.81' (S) INV IN: 91.81' (N) INV OUT: 91.80' (E)
1 INCH = 20 FEET

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FRANCIS MARION UNIVERSITY 1970

SEAL:
SOUTH CAROLINA JOHNSON, MIRRIAM & THOMPSON, INC. No. 3943 CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA PROFESSIONAL ENGINEER No. 39891
11/22/2022

PREPARED FOR:
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4822 E PALMETTO ST.
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REVISIONS

NO.	DATE	DESCRIPTION
1	11/30/22	Addendum 3

PROJECT:
FRANCIS MARION UNIVERSITY STORMWATER DRAINAGE IMPROVEMENTS
H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022
SCALE: 1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-201

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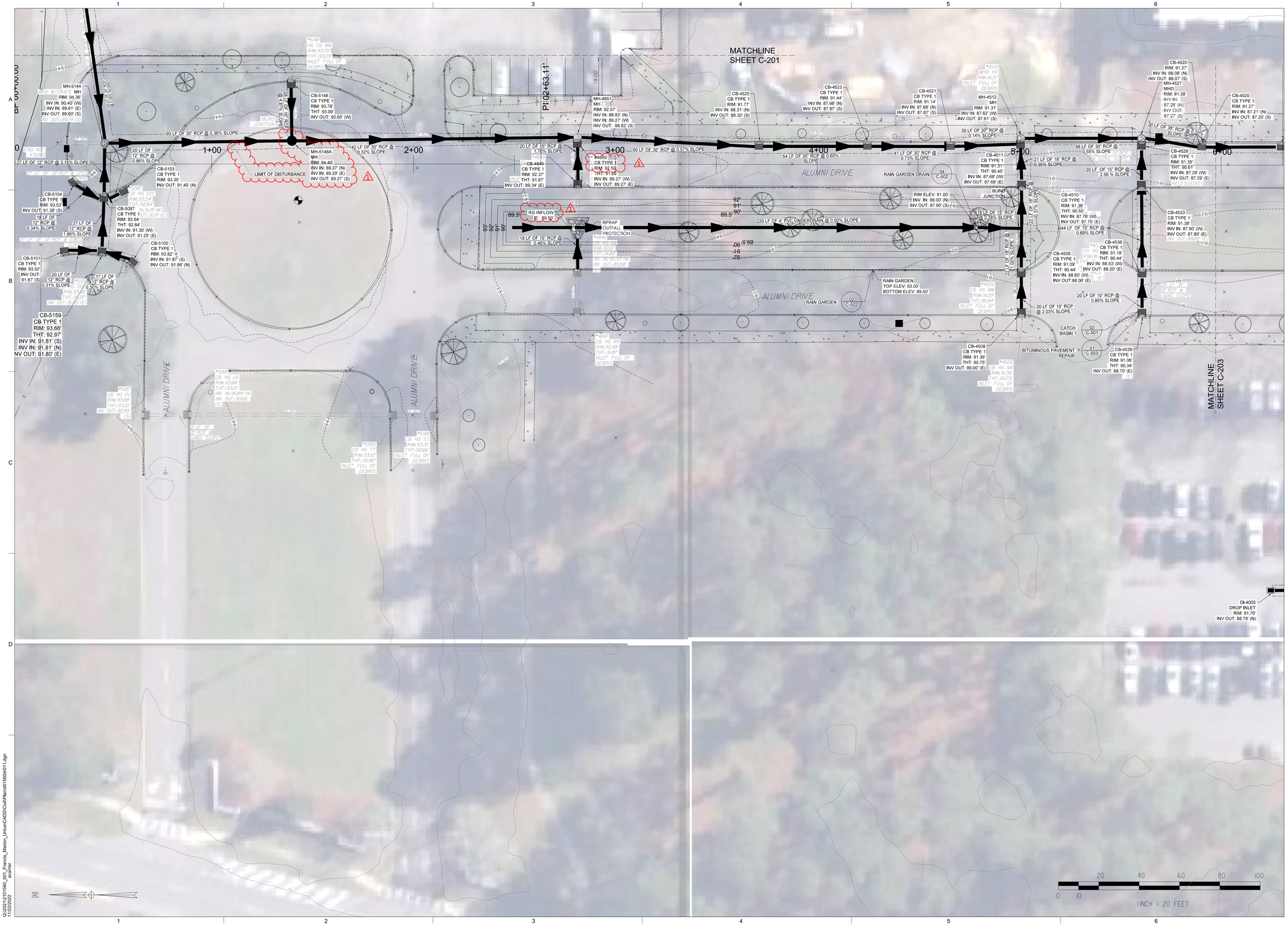

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ANDREW JACK BARKLEY

11/22/2022

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PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022

SCALE: 1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-202

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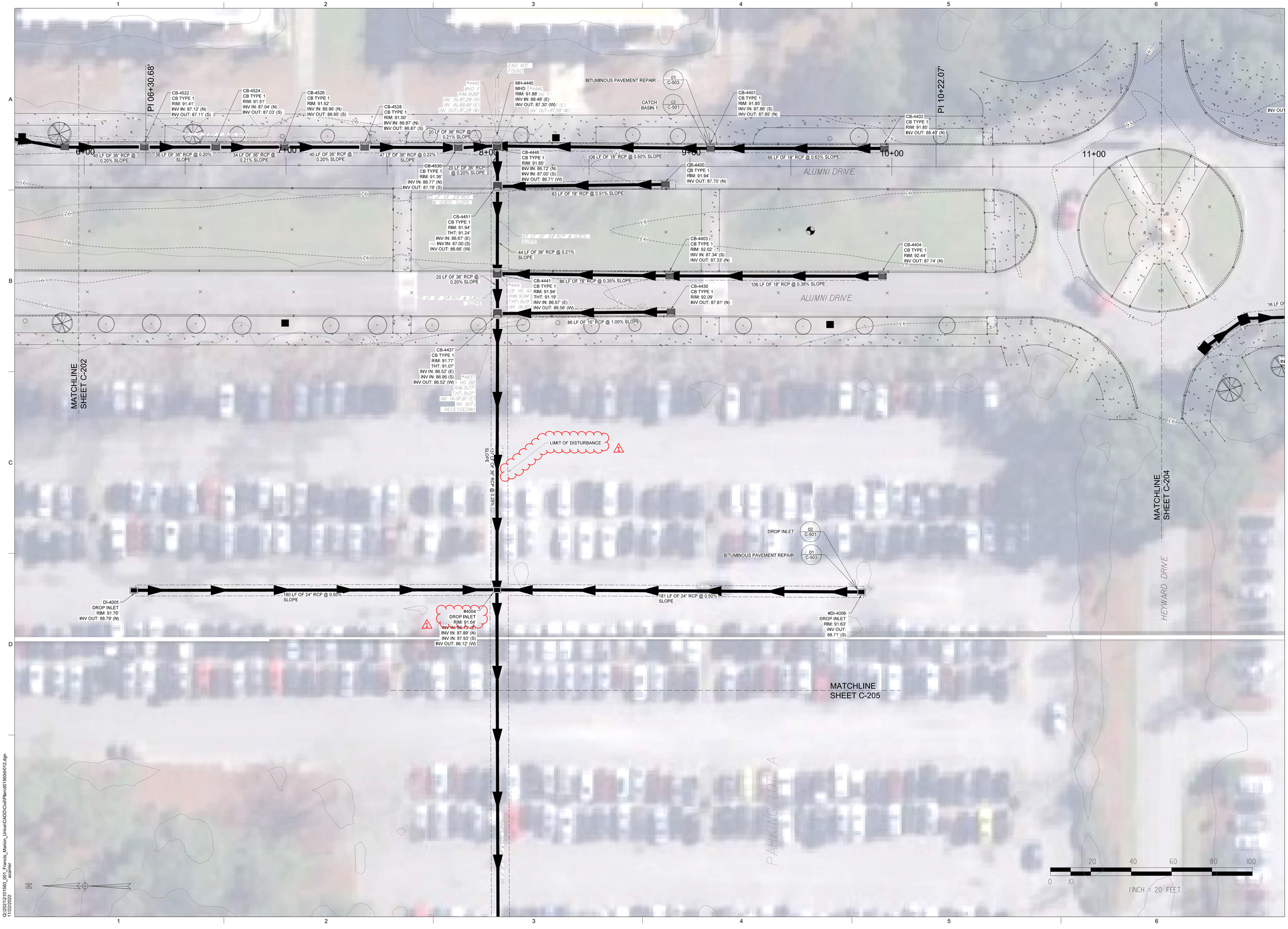

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FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE:	SCALE:
8/10/2022	1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-203

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H18-N079-MJ

EDA AWARD #
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PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE:	SCALE:
8/10/2022	1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-204

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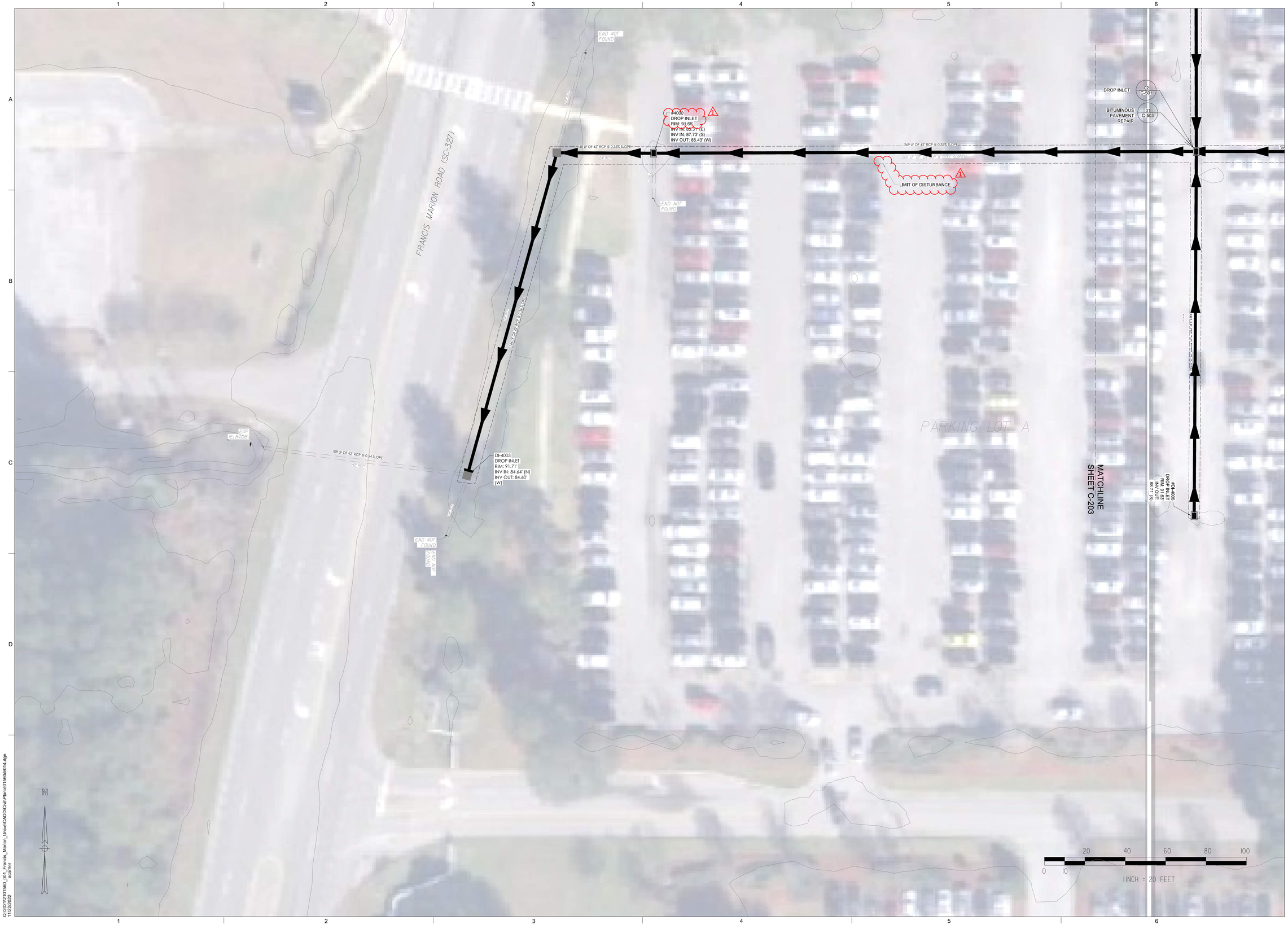

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H18-N079-MJ

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4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE:
8/10/2022

SCALE:
1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-205

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H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
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FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022

SCALE: 1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-206

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H18-N079-MJ

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04-79-07484

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4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022

SCALE: 1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-207

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N

0 10 20 40 60 80 100

1INCH = 20 FEET

REFER TO SHEET C-503 POND MAINTENANCE NOTES. IN ADDITION, THE CONTRACTOR SHALL REMOVE EXISTING VEGETATION FROM THE POND BOTTOM AND BANKS AND MAINTAIN IN ACCORDANCE WITH THE POND MAINTENANCE NOTES. 1

LIMIT OF DISTURBANCE 1

EOP IE: 75.12'

Structure - (20) RCP RIM: 78.27' INV OUT: 75.39' (NE)

RIPRAP OUTFALL PROTECTION 04 C-503

RIPRAP OUTFALL PROTECTION 04 C-503

EOP IE: 75.72'

EOP IE: 76.03'

RR-1

EOP IE: 75.00'

CONCRETE ENDWALL 01 C-501

EW-2

EOP IE: 75.59'

DI-1035 DROP INLET RIM: 78.23' INV IN: 75.60' (W) INV OUT: 75.30' (E)

34 LF OF 30" RCP @ 0.59% SLOPE

103 LF OF 36" RCP @ 1.16% SLOPE

01 C-503 BITUMINOUS PAVEMENT REPAIR

CATCH BASIN 1 02 C-501

CB-1328 CB TYPE 1 RIM: 80.31' INV IN: 76.42' (S) INV OUT: 76.22' (NE)

*1035 DI GIS A RIM: 78.23' INV IN: 75.60' (W) INV OUT: 75.63' (E)

107 LF OF 24" RCP @ 0.53% SLOPE

BP 40+00.00'

FOREST VILLAS BASELINE

40+00 41+00 42+00 43+00 44+00

*1265 DI GI EEE RIM: 80.12' INV OUT: 77.23' (E)

DI-1036 DROP INLET RIM: 80.43' INV IN: 76.27' (W) INV OUT: 76.17' (E)

DROP INLET 02 C-501

BITUMINOUS PAVEMENT REPAIR 01 C-503

END NOT FOUND

MATCHLINE SHEET C-209

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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 39891 ANDREW DAVID SPRINGER

11/22/2022

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STORMWATER DRAINAGE IMPROVEMENTS
H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE:	SCALE:
8/10/2022	1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-208

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11/22/2022
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FRANCIS MARION UNIVERSITY 1970

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ANDREW JACOB MILLER

11/22/2022

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FLORENCE, SC 29506
PHONE: (843)-661-1460

REVISIONS

NO.	DATE	DESCRIPTION
1	11/30/22	Addendum 3

PROJECT:
FRANCIS MARION UNIVERSITY
STORMWATER DRAINAGE IMPROVEMENTS
H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE:	SCALE:
8/10/2022	1" = 20'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PLAN

DRAWING NUMBER:
C-209

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11/22/2022
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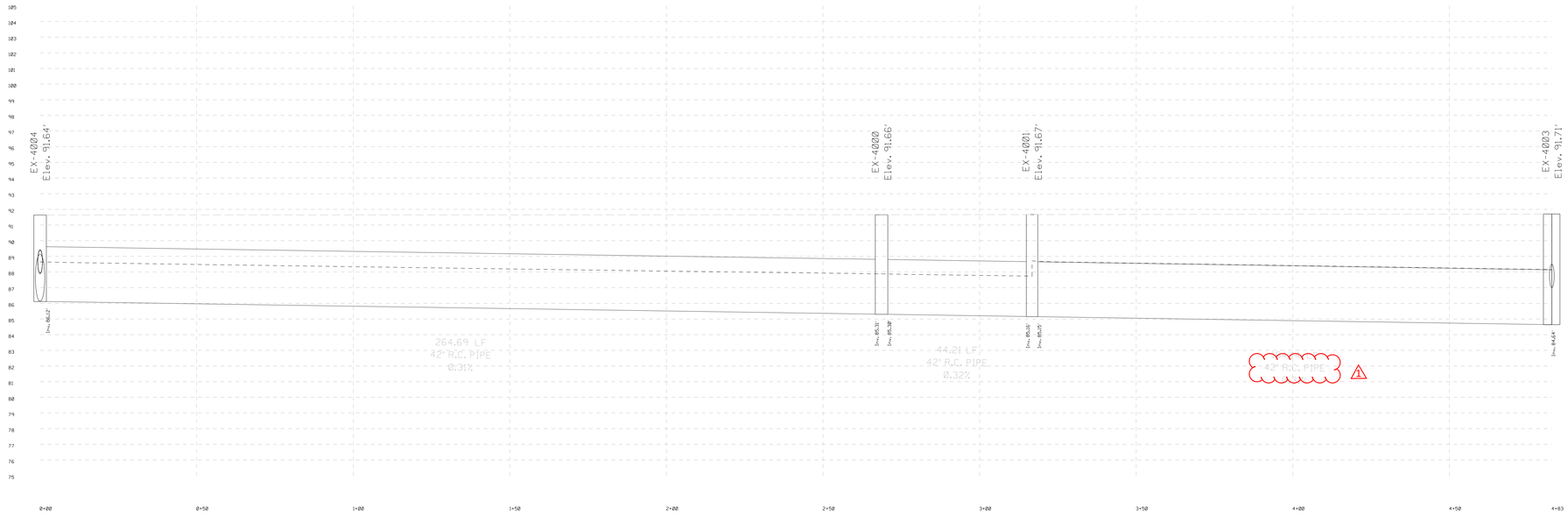
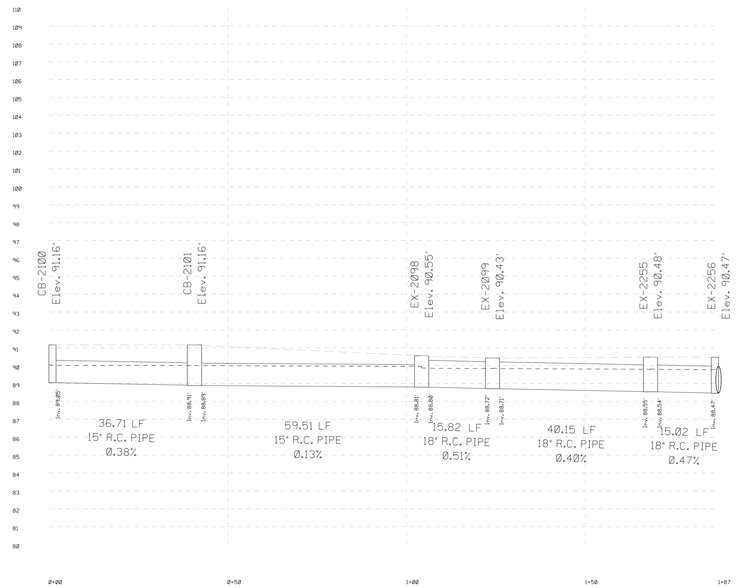
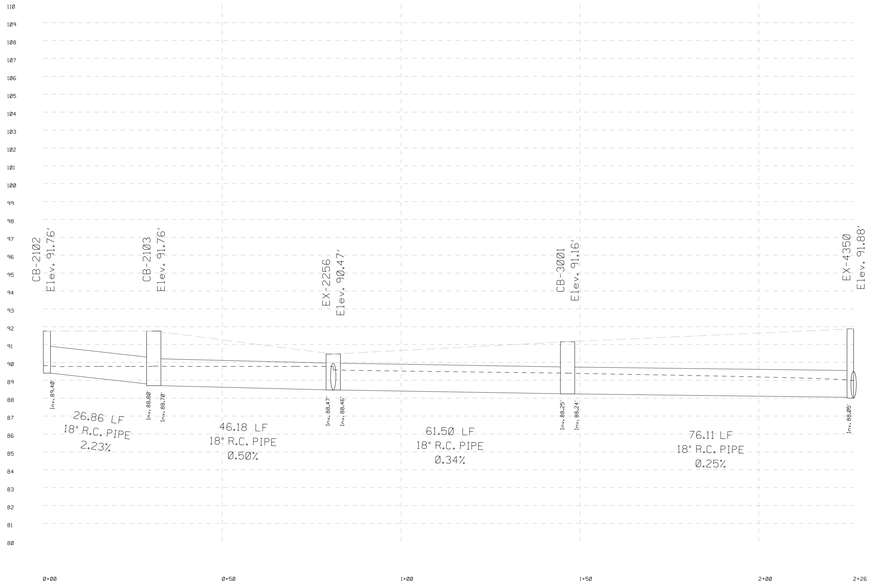


EX-4004 TO EX-4003



CB-2100 TO EX-2256



CB-2102 TO EX-4350

LEGEND

- EXISTING GROUND
- HGL LINE
- PROPOSED PIPE
- EXISTING PIPE

SCALE: HOR. 1" = 20'
VERT. 1" = 4'

235 MAGRATH DARBY BLVD., SUITE 275
MT. PLEASANT, SC 29464
P: 843-556-2624 | F: 843-556-4329 | www.jmt.com

SEAL:

SOUTH CAROLINA
JOHNSON, MIRMIRAN & THOMPSON, INC.
No. 3943
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
No. 39891
REGISTERED PROFESSIONAL ENGINEER
ANDREW JACK BARKER

11/22/2022

PREPARED FOR:
FRANCIS MARION UNIVERSITY
4822 E PALMETTO ST.
FLORENCE, SC 29506
PHONE: (843)-661-1460

REVISIONS

NO.	DATE	DESCRIPTION
1	11/30/22	Addendum 3

PROJECT:
FRANCIS MARION UNIVERSITY
STORMWATER DRAINAGE IMPROVEMENTS
H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022

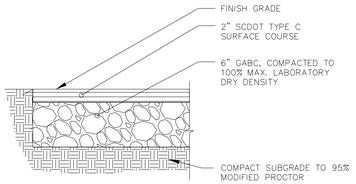
SCALE: HOR. 1" = 20'
VERT. 1" = 4'

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
PROPOSED DRAINAGE PROFILES

DRAWING NUMBER:
C-213

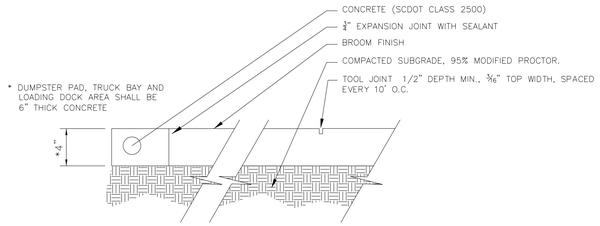
Q:\2021\21501560_001_Francis_Marion_Univ\eCADD\Civil\Plan\d01560dmpro04.dgn
11/22/2022
acarrier



NOTE:

1. CONTRACTOR SHALL UTILIZE THIS SECTION FOR FULL DEPTH PAVEMENT REPAIR AND REPLACEMENT. ~~ONCE REPAIRS ARE MADE AS NECESSARY TO CONSTRUCT THE CIVIL SITE IMPROVEMENTS, THE CONTRACTOR SHALL OVERLAY THE ENTIRE PARKING LOT WITH 1" OF SCDOT TYPE C SURFACE COURSE.~~
2. GRADED AGGREGATE BASE COURSE (GABC) SHALL BE IN ACCORDANCE WITH SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 305.
3. CONTRACTOR SHALL REPAIR PARKING LOT STRIPING IN KIND AFTER PAVEMENT PATCH IS COMPLETED. CONTRACTOR SHALL SUBMIT PAINT FOR REVIEW BY THE ENGINEER. 1

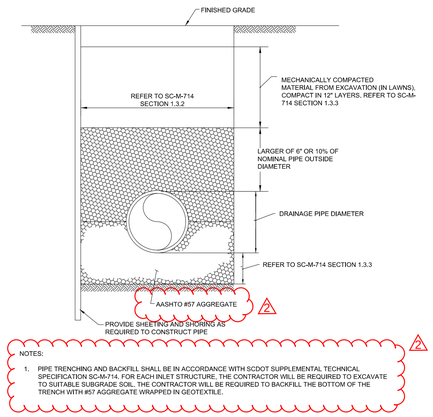
01 C-503 **BITUMINOUS PAVEMENT**
NOT TO SCALE



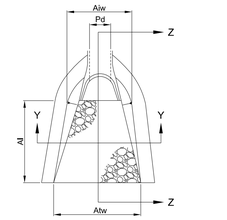
NOTE:

1. CONCRETE SIDEWALK SHALL BE 5' WIDE, TYP.

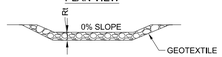
02 C-503 **CONCRETE PAVEMENT**
NOT TO SCALE



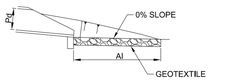
03 C-503 **STORM DRAINAGE PIPE TRENCH SECTION**
NOT TO SCALE



PLAN VIEW



SECTION Y-Y



SECTION Z-Z

OUTLET NO.	PIPE DIA. Pd (IN)	RIPRAP CLASS	RIPRAP THICK Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Atw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW-1	36	B	27	20	9	29
EW-2	30	B	27	16	7.5	23.5
RG INLET	15	A	18	8	3.75	11.75
RR-1	30	B	27	16	7.5	23.5

NOTES:

1. ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

2. ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

04 C-503 **RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL**
STANDARD CONSTRUCTION DETAIL #9-1
NOT TO SCALE

DETENTION POND OPERATIONS + MAINTENANCE

I. OPERATION & MAINTENANCE

1.) THE OUTLET STRUCTURE AND ITS ORIFICES WILL BE INSPECTED QUARTERLY AND AFTER MAJOR STORM EVENTS BY THE OWNER TO ENSURE THAT THEY ARE NOT CLOGGED OR BLOCKED. IN THE EVENT THAT AN ORIFICE IS CLOGGED OR BLOCKED IMMEDIATE ACTION WILL BE TAKEN TO RESTORE THE OUTLET STRUCTURE TO ITS DESIGNED SPECIFICATIONS. IN THE EVENT THAT THE OUTLET STRUCTURE IS DAMAGED THE OWNER WILL CONTACT THE TOWNSHIP ENGINEER FOR THE BEST PROCEDURE TO REMEDY THE SITUATION.

2.) THE POND BERMS WILL BE INSPECTED QUARTERLY AND AFTER MAJOR STORM EVENTS BY THE OWNER TO ENSURE THAT THE INSIDE AND OUTSIDE SLOPES AS WELL THE TOP OF BERM REMAIN STABILIZED. IF EROSION IS TAKING PLACE IMMEDIATE ACTION WILL BE TAKEN TO BRING THE BERM BACK TO DESIGNED CONDITIONS AND TO THEN STABILIZE THE BANK. A SLOPE LINER MAY BE REQUIRED IF EROSION PERSISTS. IF AN ANIMAL BURROW OR HOLE OF ANY KIND IS FOUND IN THE BERM THE HOLE SHOULD BE FILLED WITH MATERIAL SIMILAR TO THE POND BERM AND THEN IMMEDIATELY STABILIZED.

a) THE ENTIRE POND WILL BE INSPECTED ANNUALLY BY A QUALIFIED INDIVIDUAL. THIS INSPECTION WILL AT MINIMUM INCLUDE THAT WHICH IS INCLUDED IN 1) AND 2) ABOVE.
b) CATCH BASINS AND INLETS (UP GRADIENT OF POND) SHALL BE INSPECTED AND CLEANED AT LEAST TWO TIMES PER YEAR AND AFTER RUNOFF EVENTS.
c) THE VEGETATION ALONG THE SURFACE OF THE POND SHALL BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS RE-VEGETATED AS SOON AS POSSIBLE.
d) VEHICLES SHOULD NOT BE PARKED OR DRIVEN ON ANY POND, AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
e) INSPECT THE POND AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS.
f) INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION CONTROL MEASURES, SIGNS OF WATER CONTAMINATION/SPILLS, AND SLOPE STABILITY IN THE BERMS.
g) MOW ONLY AS APPROPRIATE FOR VEGETATIVE COVER SPECIES. (NOT WITHIN THE DETENTION/BIO-INFILTRATION FACILITY)
h) REMOVE ACCUMULATED SEDIMENT FROM BASIN AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.
i) WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING IS REQUIRED.
j) DETRITUS IS TO BE REMOVED EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
k) MULCH WILL BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
l) DURING PERIODS OF EXTENDED DROUGHT THE PLANTINGS IN THE PONDS WILL REQUIRE WATERING TREES AND SHRUBS ARE TO BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH AND REPLACED IF THEY ARE UNHEALTHY AND UNABLE TO BE REPAIRED.

INSPECTION SCHEDULE

STORMWATER BEST MANAGEMENT PRACTICE	INSPECTION TO BE PREFORMED	MAJOR STORM EVENT	QUATERLY	BI-ANNUALLY	ANNUALLY	SEMI-ANNUALLY
INFILTRATION PONDS						
	INSPECT OUTLET STRUCTURE FOR CLOGS	√		√		
	INSPECT SLOPES FOR EROSION	√		√		
	INSPECT CATCH BASINS DRAINING TO PONDS AND REMOVE DEBRIS	√		√		
	ENSURE 72 HOUR DRAIN DOWN TIME FOR WATER DRAINING TO POND					√
	INSPECT FOR ACCUMULATION OF SEDIMENT			√		
	REMOVE ANY ACCUMULATED SEDIMENT			√		
	DURING A DRAUGHT WATER THE PLANTINGS	√	√	√	√	√
	INSPECT TREES AND SHRUBS AND REPLACE IF IN POOR HEALTH				√	

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P: 843-556-2624 | F: 843-556-4329 | www.jmt.com

FRANCIS MARION UNIVERSITY 1970

SEAL:

SOUTH CAROLINA JOHNSON, MIRMIRAN & THOMPSON, INC. No. 3943 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 39891 ANDREW JACK CARTER

11/22/2022

PREPARED FOR:
FRANCIS MARION UNIVERSITY
4822 E PALMETTO ST.
FLORENCE, SC 29506
PHONE: (843)-661-1460

REVISIONS

NO.	DATE	DESCRIPTION
1	11/4/22	DTL 1 Note Revision
2	11/30/22	Addendum 3

PROJECT:
FRANCIS MARION UNIVERSITY
STORMWATER DRAINAGE IMPROVEMENTS
H18-N079-MJ

EDA AWARD #
04-79-07484

PROJECT LOCATION:
4822 E PALMETTO ST.
FLORENCE, SC 29506

PROJECT NUMBER:
21-01560-001

DATE: 8/10/2022
SCALE: AS NOTED

PLAN SET:
CONSTRUCTION PLAN

DRAWING TITLE:
DETAILS SHEET

DRAWING NUMBER:
C-503

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11/22/2022
acarter

REFERENCES

NATIONAL DOCUMENTS

ASTM C55, ASTM A706, AASHTO M55, AASHTO M105, AASHTO M306, AASHTO M111

SCDOT DOCUMENTS

QUALIFIED PRODUCT LIST 14, QUALIFIED PRODUCT LIST 13

RELATED DRAWINGS & KEYWORDS

719-110-01 TO 719-11-02, 719-105-01, 719-550-00, 719-420-00, 719-425-00, 719-305-00, 719-310-00

PRECONSTRUCTION SUPPORT ENGINEER

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 8858 EDWIN SYLVESTER EARGLE, II

E S Eargle
SIGNATURE

MARCH 3, 2008
DATE

#	DATE	CHK	DESCRIPTION
6			
5			
4			
3			
2			
1			
0	3/2008	DSO	GENERAL REVISIONS

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING

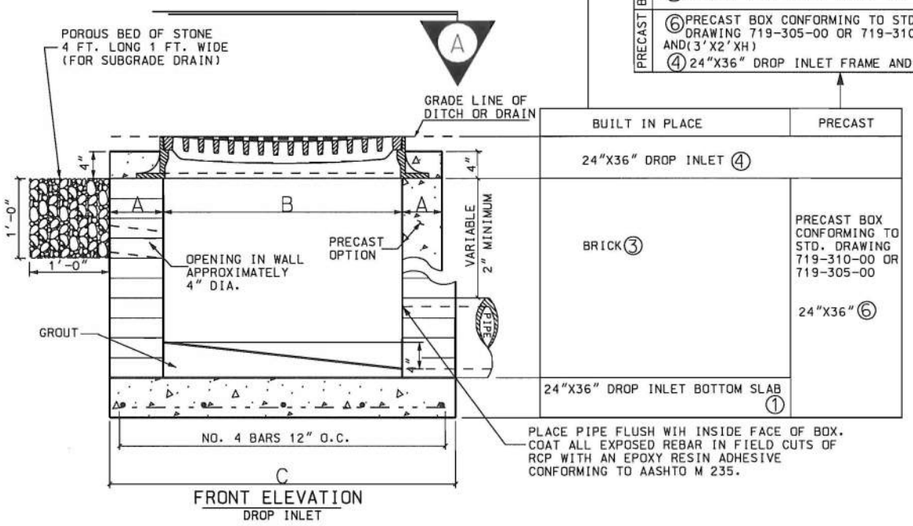
DROP INLET (24"X36") DETAILS

719-110-01

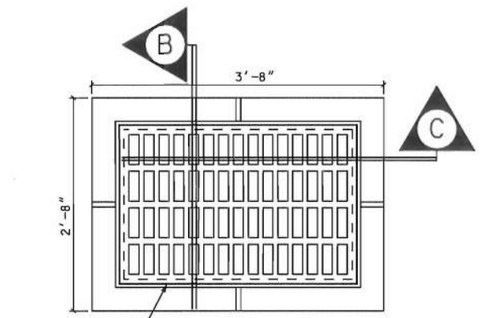
EFFECTIVE LETTING DATE | MAY 2008

THIS DRAWING IS NOT TO SCALE

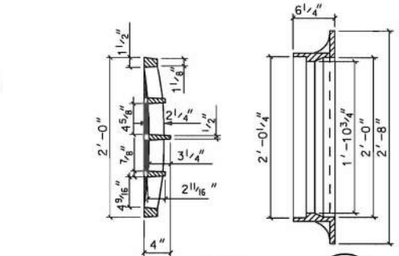
CONTRACTOR MAY USE PRECAST OR BUILT IN PLACE CONSTRUCTION AS NOTED OR COMBINE OPTIONS AS DESIRED. SEE QUALIFIED PRODUCT LIST 14 FOR MANUFACTURERS OF PRECAST ITEMS.	
24"X36" DROP INLET	
BUILT IN PLACE	① 24"X36" DROP INLET BOTTOM SLAB (PC OR CIP 40"X52"X6") AND ③ BRICK WALLS (8") AND ④ 24"X36" DROP INLET FRAME AND GRATE
PRECAST	⑥ PRECAST BOX CONFORMING TO STD. DRAWING 719-305-00 OR 719-310-00 AND(3'X2'XH) ④ 24"X36" DROP INLET FRAME AND GRATE



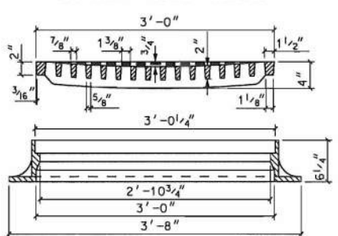
FRONT ELEVATION
DROP INLET



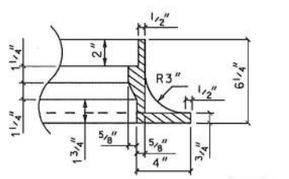
SECTION
FRONT ELEVATION
24"X36" DROP INLET
A



SECTION
SIDE ELEVATION
24"X36" FRAME AND GRATE
B



SECTION
FRONT ELEVATION
24"X36" FRAME AND GRATE
C



DETAIL
FRAME DETAIL
24"X36" GRATE
1

TABLE 719-110B			
DESCRIPTION	ADA	NON ADA BICYCLE	VEHICLE
(24"X36") DROP INLET	NO	YES	YES

USE ANYWHERE OUTSIDE OF DESIGNATED PEDESTRIAN PATHS. (OUTSIDE OF SIDEWALKS & CROSSWALKS)

TABLE 719-110A STANDARD PC ITEMS FOR DROP INLET
(24"X36") DROP INLET BOTTOM SLAB (PC OR CIP 40"X52"X6") SEE ALSO STD. DRAWING 719-310-00 OR 719-305-00

24"X36" DROP INLET		
DIMENSION	BUILT IN PLACE OPTION	PRECAST
A	8"	6"
B	36"	SEE STD. DRAWING 719-305-00 AND 719-310-00 (2'X3'XH) PRECAST BOX
C	4'-4"	SEE STD. DRAWING 719-305-00 AND 719-310-00 (2'X3'XH) PRECAST BOX

NOTES:

1. SEE 719-105-01 FOR DROP INLET (24X24). FOR BUILT IN PLACE CONSTRUCTION OF THE CATCH BASIN WALLS, EITHER BRICK MASONRY (WALLS ONLY) OR CIP CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM OF CLASS 4000P CONCRETE SHALL BE USED.

2. CONCRETE WALLS ARE TO BE 6" THICK WITH A MINIMUM REINFORCING STEEL AREA 0.20 SQUARE INCHES PER FOOT UNLESS NOTED. FOR BRICK, THE WALLS ARE TO BE 8" THICK CONCRETE BRICK AND SIMILAR SOLID UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C 55, GRADE S-11. THE INTERIOR DIMENSIONS ARE TO REMAIN AS SHOWN FOR EITHER TYPE OF CONSTRUCTION.

3. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT I S MET.

4. MORTAR SHALL BE TYPE S OR M.

5. REINFORCING STEEL SHALL BE ASTM A-706, LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M.

6. SEE STANDARD DRAWING 719-550-00 FOR STEPS, WHICH ARE REQUIRED WHEN STRUCTURE DEPTH EXCEEDS 4'-6".

7. SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 12'. PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP OF TH E DRAINAGE BOX BOTTOM SLAB TO THE TOP OF THE GROUND EXCEEDS 12'-0".

8. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC. (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER.

9. THE FLOOR OF THE BASIN MUST SLOPE IN THE DIRECTION OF THE OUTLET PIPE AS SHOWN AND THE INSIDE OF OUTLET PIPE SHALL BE FLUSH WITH FLOOR OF BASIN.

10. SEE STANDARD DRAWING 719-305-00 OR 719-310-00 FOR MAXIMUM PIPE DIAMETERS. THE PIPE SIZES SHOWN ARE MAXIMUM FOR BRICK AND PRECAST BOXES WHEN PIPE ENTERS PERPENDICULAR AND AT THE CENTER OF THE BOX WALL. CONTRACTOR SHOULD CONFIRM THAT PIPE USED FITS APPROPRIATELY INTO BOX.

FRAME AND GRATE NOTES:

11. ALL CASTINGS SHALL CONFORM TO AASHTO M 105, CLASS 35B AND THE SPECIFICATIONS OF AASHTO M 306

12. (a) STEEL GRATES AND FRAME MAY BE USED IN LIEU OF CAST IRON AS LONG AS THE LOADING (NOTE 12d) AND HYDRAULIC REQUIREMENTS ARE MET, AND ARE ON THE DEPARTMENT'S LIST OF APPROVED SUPPLIERS. (QUALIFIED PRODUCT LIST 45)
(b) STEEL GRATES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111.
(C) STEEL GRATES AND FRAMES SHALL BE DIMENSIONED TO BE INTERCHANGEABLE WITH EACH PIECE OF THE CAST IRON GRATE AND FRAME SHOWN. STEEL GRATES MUST HAVE POSITIVE MEANS TO BE RETAINED IN THE FRAME.
(d) STRENGTH REQUIREMENTS OF STEEL GRATES AND FRAMES MUST MEET AASHTO M 306
(e) MANUFACTURERS DESIRING TO BE PLACED ON THE DEPARTMENT'S QUALIFIED PRODUCT LIST SHOULD CONTACT THE MATERIALS AND RESEARCH ENGINEER FOR PROCEDURES.

13. THE LONGEST DIMENSIONS OF THE OPENING IN THE IRON GRATE SHOULD BE ORIENTED IN THE DIRECTION OF FLOW, IF PRACTICABLE. THIS GRATE IS NOT SUITABLE FOR PEDESTRIAN TRAFFIC BECAUSE GRATE OPENINGS EXCEED 1/2".

14. AS SHOWN BY THIS DRAWING, THE FRAME IS SET LEVEL, BUT THE RESIDENT CONSTRUCTION ENGINEER MAY SET SAME ON SLOPE AS REQUIRED BY LOCAL DRAINAGE CONDITIONS.

15. AFTER THE FRAME IS SET IN ITS FINAL POSITION, IT IS TO BE ENCASED WITH CONCRETE AS SHOWN BY DRAWING.

16. ALL MANUFACTURING PROCESSES FOR THE FRAME AND GRATE MUST OCCUR IN THE UNITED STATES.

PRECAST NOTES:

17. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX OR STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

18. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSRY. ALL LIFT HOLES SHALL BE GROUTED SHUT PRIOR TO COMPLETION OF THE INSTALLATION. ALL LIFTING METHODS MUST MEET OSHA REGULATIONS.

19. THE CONTRACTOR SHALL USE A SINGLE SOURCE MANUFACTURER CHOSEN FROM THE LIST ON QUALIFIED PRODUCT LIST 14 FOR PRECAST ITEMS ON THIS DRAWING.

20. FOLLOW QUALIFIED PRODUCT POLICY 14 IN ORDER TO BE LISTED ON QUALIFIED PRODUCT LIST 14.

21. CONTRACTOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR MODIFICATIONS TO THIS ITEM ON A PROJECT BY PROJECT BASIS. MODIFICATIONS TO THESE ITEMS WILL NOT BE LISTED ON ANY QUALIFIED PRODUCT LIST. SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC MODIFICATIONS TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER OF RECORD.

22. JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A 1/2" GROUT LIFT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (FROM QUALIFIED PRODUCT LIST 13.)

PRECAST INSTALLATION NOTES:

23. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMMODATE ELEVATION OF ALL PIPES AND REQUIRED BOX TOP ELEVATION.

24. PLACE AND LEVEL PRECAST BOX OR SLAB.

25. PIPES SHALL BE INSTALLED AND GROUTED IN PLACE.

26. PIPES AND BOX SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS.

27. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING. ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST SHALL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCDOT.

28. THE CONTRACT UNIT PRICE FOR DROP INLETS SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS, (BUILT IN PLACE OR PRECAST), AND WORK INCIDENTAL TO THE CONSTRUCTION OF THE STRUCTURE COMPLETE IN PLACE AS SHOWN, INCLUDING THE CURB AND GUTTER. IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

29. PRECAST CONCRETE CIRCULAR STRUCTURES (AS SHOWN ON 719-420-00) ARE REQUIRED FOR THE FOLLOWING APPLICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL PROVISIONS.

(a) ON DRAINAGE STRUCTURES WITHA A DEPTH EQUAL TO OR GREATER THAN 12 FEET.

(b) ON DRAINAGE STRUCTURES WHERE THE FLOW LINE ELEVATION OF THE INLET PIPE IS EQUAL TO OR HIGHER THAN THE INSIDE TOP (SOFFIT) OF THE OUTLET PIPE.

(c) AS REQUIRED BY THE PROJECT PLANS.

30. THE PAY ITEM SHALL BE:
DROP INLET (24"X36")_____EA

USE SHEETS 719-110-01 THROUGH 719-110-02 FOR THIS ITEM.