

VICINITY MAP  
NOT TO SCALE

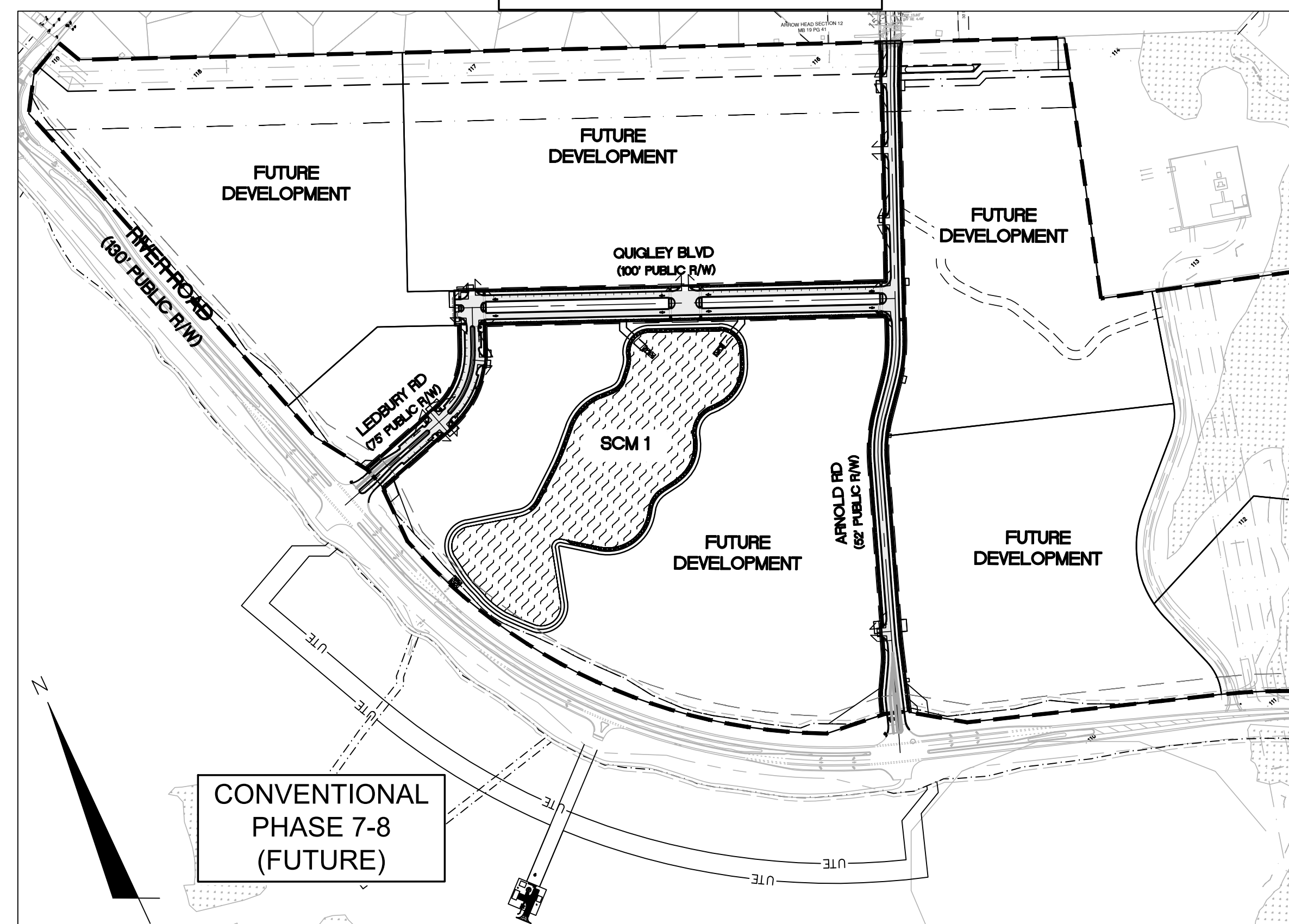
# RIVERLIGHTS MIXED-USE PHASE 3- ROAD IMPROVEMENTS

CITY OF WILMINGTON, NC

ISSUED FOR CONSTRUCTION - ADDENDUM 1

DECEMBER 17TH, 2021

FINAL DRAWING REVISED  
AFTER ISSUED FOR  
CONSTRUCTION -  
ISSUED FOR PERMITTING



CONVENTIONAL  
PHASE 7-8  
(FUTURE)

VICINITY MAP  
1"=300'



NORTH AMERICA SEKISUI HOUSE, LLC



RIVERLIGHTS®



243 North Front Street  
Wilmington, North Carolina 28401  
Phone: (910)343-1048 , Fax: (910)251-8282  
License: F-1222

www.mckimcreed.com

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COUNTY AND AGENCY CONTACTS

A. City of Wilmington  
Planning Department  
102 North Third Street  
PO BOX 1810  
Wilmington, NC 28402-1810  
(910)342-2782  
Contact: Brian Chambers  
Email: Brian.Chambers@wilmingtonnc.gov

B. City of Wilmington  
Engineering  
212 Operations Center Drive  
PO BOX 1810  
Wilmington, NC 28402-1810  
(910) 765-7461  
Contact: Eric Seidel  
Email: Eric.Seidel@wilmingtonnc.gov

C. New Hanover County  
Sediment and Erosion Control  
230 Government Center Drive, Suite 160  
Wilmington, NC 28403  
(910) 798-7432  
Contact: Beth Wetherill  
Email: BWetherill@nhcgov.com

D. Cape Fear Public Utility Authority  
235 Government Center Drive  
Wilmington, NC 28403  
(910) 332-6626  
Contact: David Dailey  
Email: David.Dailey@cfpua.org

E. NCDENR  
Division of Environmental Health  
Public Water Supply Section  
1634 Mail Service Center  
Raleigh, NC 27699-1634  
(919) 707-9064  
Contact: Shashi Bhatta  
Email: shashi.bhatta@ncdenr.gov



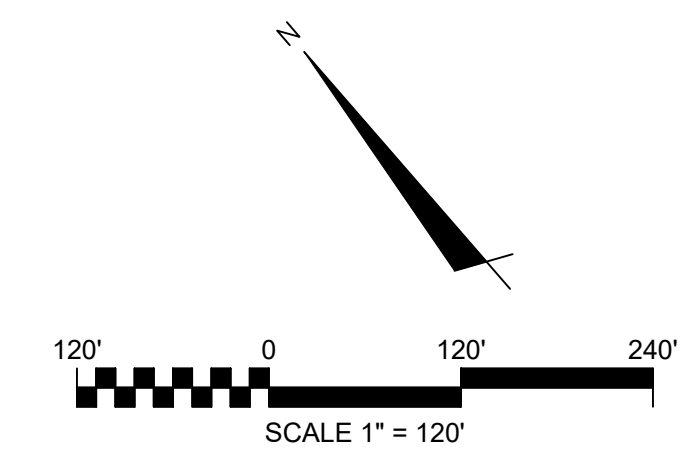
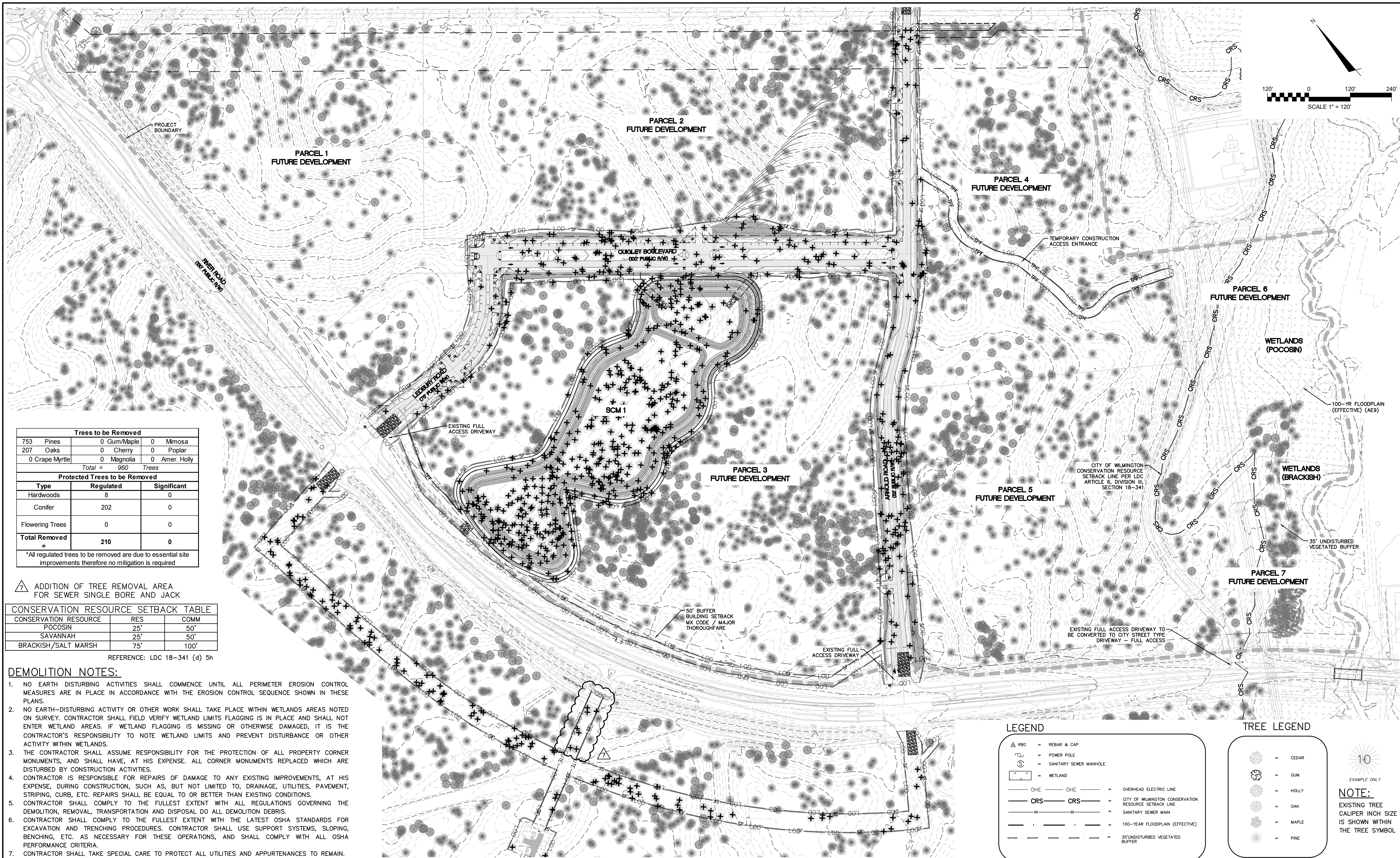
Know what's below.  
Call before you dig.

PROJECT DATA

NAME OF PROJECT:  
RIVERLIGHTS - MIXED-USE PHASE 3  
MASONBORO TOWNSHIP, WILMINGTON  
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER/DEVELOPER:  
NNP IV-CAPE FEAR RIVER, LLC  
109 PIER MASTER POINT, SUITE 209  
WILMINGTON, NC 28412  
PHONE: (910)473-5409  
CONTACT: NICK CASSALA  
EMAIL: NICK.CASSALA@BROOKFIELDPROPERTIESDEVELOPMENT.COM

PREPARED BY:  
MCKIM & CREED, INC  
243 NORTH FRONT ST  
WILMINGTON, NC 28401  
PHONE: (910)343-1048  
CONTACT: KATHRYN ESPINOZA, PE  
EMAIL: KESPINOZA@MCKIMCREED.COM



Trees to be Removed		
753	Pines	0 Gum/Maple 0 Mimosa
207	Oaks	0 Cherry 0 Poplar
0	Crape Myrtle	0 Magnolia 0 Amer. Holly
Total =		960 Trees
Protected Trees to be Removed		
Type	Regulated	Significant
Hardwoods	8	0
Conifer	202	0
Flowering Trees	0	0
<b>Total Removed</b>	<b>210</b>	<b>0</b>

\*All regulated trees to be removed are due to essential site improvements therefore no mitigation is required

▲ ADDITION OF TREE REMOVAL AREA FOR SEWER SINGLE BORE AND JACK

CONSERVATION RESOURCE SETBACK TABLE		
CONSERVATION RESOURCE	RES	COMM
POCOSIN	25'	50'
SAVANNAH	25'	50'
BRACKISH/SALT MARSH	75'	100'

REFERENCE: LDC 18-341 (d) 5h

**DEMOLITION NOTES:**

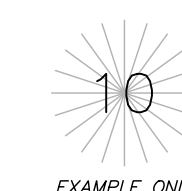
- NO EARTH DISTURBING ACTIVITIES SHALL COMMENCE UNTIL ALL PERIMETER EROSION CONTROL MEASURES ARE IN PLACE IN ACCORDANCE WITH THE EROSION CONTROL SEQUENCE SHOWN IN THESE PLANS.
- NO EARTH-DISTURBING ACTIVITY OR OTHER WORK SHALL TAKE PLACE WITHIN WETLANDS AREAS NOTED ON SURVEY. CONTRACTOR SHALL FIELD VERIFY WETLAND LIMITS FLAGGING IS IN PLACE AND SHALL NOT ENTER WETLAND AREAS. IF WETLAND FLAGGING IS MISSING OR OTHERWISE DAMAGED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTE WETLAND LIMITS AND PREVENT DISTURBANCE OR OTHER ACTIVITY WITHIN WETLANDS.
- THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE. ALL CORNER MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS, AT HIS EXPENSE, DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
- CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH ALL REGULATIONS GOVERNING THE DEMOLITION, REMOVAL, TRANSPORTATION AND DISPOSAL DO ALL DEMOLITION DEBRIS.
- CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS FOR EXCAVATION AND TRENCHING PROCEDURES. CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING, ETC. AS NECESSARY FOR THESE OPERATIONS, AND SHALL COMPLY WITH ALL OSHA PERFORMANCE CRITERIA.
- CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL UTILITIES AND APPURTENANCES TO REMAIN.

**LEGEND**

△ RBC	=	REBAR & CAP
□	=	POWER POLE
⊙	=	SANITARY SEWER MANHOLE
■	=	WETLAND
— OHE —	=	OVERHEAD ELECTRIC LINE
— CRS —	=	CITY OF WILMINGTON CONSERVATION RESOURCE SETBACK LINE
— SS —	=	SANITARY SEWER MAIN
— 100' —	=	100-YEAR FLOODPLAIN (EFFECTIVE)
— 35' —	=	35' UNDISTURBED VEGETATED BUFFER

**TREE LEGEND**

○	=	CEDAR
○	=	GUM
○	=	HOLLY
○	=	OAK
○	=	MAPLE
○	=	PINE



**NOTE:**  
EXISTING TREE CALIPER INCH SIZE IS SHOWN WITHIN THE TREE SYMBOL

REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIGLEY MEDIAN LANDSCAPE	12-06-2021
5	OPPIJA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	CPPIJA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-26-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
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SEAL

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NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS®**

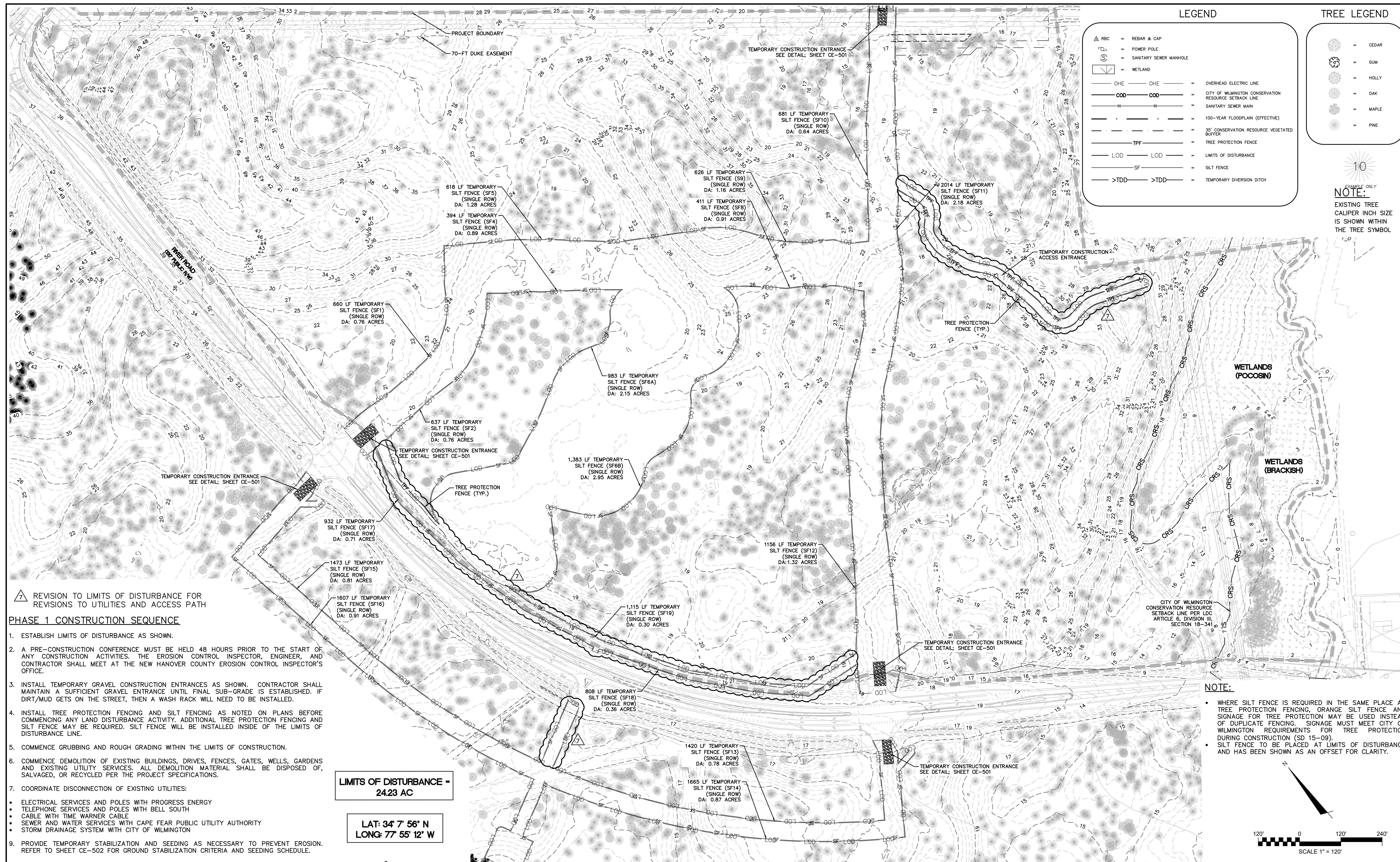
**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

**TREE INVENTORY**

DATE:	08/19/2020
MCE PROJ. #	02735-0285
DRAWN	EEM/JEB
DESIGNED	EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

SCALE	HORIZONTAL: 1"=120'	VERTICAL: N/A
DATE	08/19/2020	SCALE
DRAWING NUMBER	<b>CX-102</b>	REVISION
	<b>6</b>	<b>7</b>

STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION



7 REVISION TO LIMITS OF DISTURBANCE FOR REVISIONS TO UTILITIES AND ACCESS PATH

**PHASE 1 CONSTRUCTION SEQUENCE**

1. ESTABLISH LIMITS OF DISTURBANCE AS SHOWN.
2. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. THE EROSION CONTROL INSPECTOR, ENGINEER, AND CONTRACTOR SHALL MEET AT THE NEW HANOVER COUNTY EROSION CONTROL INSPECTOR'S OFFICE.
3. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AS SHOWN. CONTRACTOR SHALL MAINTAIN A SUFFICIENT GRAVEL ENTRANCE UNTIL FINAL SUB-GRADE IS ESTABLISHED. IF DIRT/MUD GETS ON THE STREET, THEN A WASH RACK WILL NEED TO BE INSTALLED.
4. INSTALL TREE PROTECTION FENCING AND SILT FENCING AS NOTED ON PLANS BEFORE COMMENCING ANY LAND DISTURBANCE ACTIVITY. ADDITIONAL TREE PROTECTION FENCING AND SILT FENCE MAY BE REQUIRED. SILT FENCE WILL BE INSTALLED INSIDE OF THE LIMITS OF DISTURBANCE LINE.
5. COMMENCE GRUBBING AND ROUGH GRADING WITHIN THE LIMITS OF CONSTRUCTION.
6. COMMENCE DEMOLITION OF EXISTING BUILDINGS, DRIVES, FENCES, GATES, WELLS, GARDENS AND EXISTING UTILITY SERVICES. ALL DEMOLITION MATERIAL SHALL BE DISPOSED OF, SALVAGED, OR RECYCLED PER THE PROJECT SPECIFICATIONS.
7. COORDINATE DISCONNECTION OF EXISTING UTILITIES:
  - ELECTRICAL SERVICES AND POLES WITH PROGRESS ENERGY
  - TELEPHONE SERVICES AND POLES WITH BELL SOUTH
  - CABLE WITH TIME WARNER CABLE
  - SEWER AND WATER SERVICES WITH CAPE FEAR PUBLIC UTILITY AUTHORITY
  - STORM DRAINAGE SYSTEM WITH CITY OF WILMINGTON
9. PROVIDE TEMPORARY STABILIZATION AND SEEDING AS NECESSARY TO PREVENT EROSION. REFER TO SHEET CE-502 FOR GROUND STABILIZATION CRITERIA AND SEEDING SCHEDULE.

**LIMITS OF DISTURBANCE - 24.23 AC**

**LAT: 34° 7' 56" N  
LONG: 77° 55' 12" W**

**NOTE:**

- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).
- SILT FENCE TO BE PLACED AT LIMITS OF DISTURBANCE AND HAS BEEN SHOWN AS AN OFFSET FOR CLARITY.

REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO AVOID ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIETLY MEDIAN LANDSCAPE	12-06-2021
5	OPPIJA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	CPHA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-26-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

**FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
PERMITTING**

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**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**PHASE 1 SEDIMENT AND EROSION CONTROL PLAN**

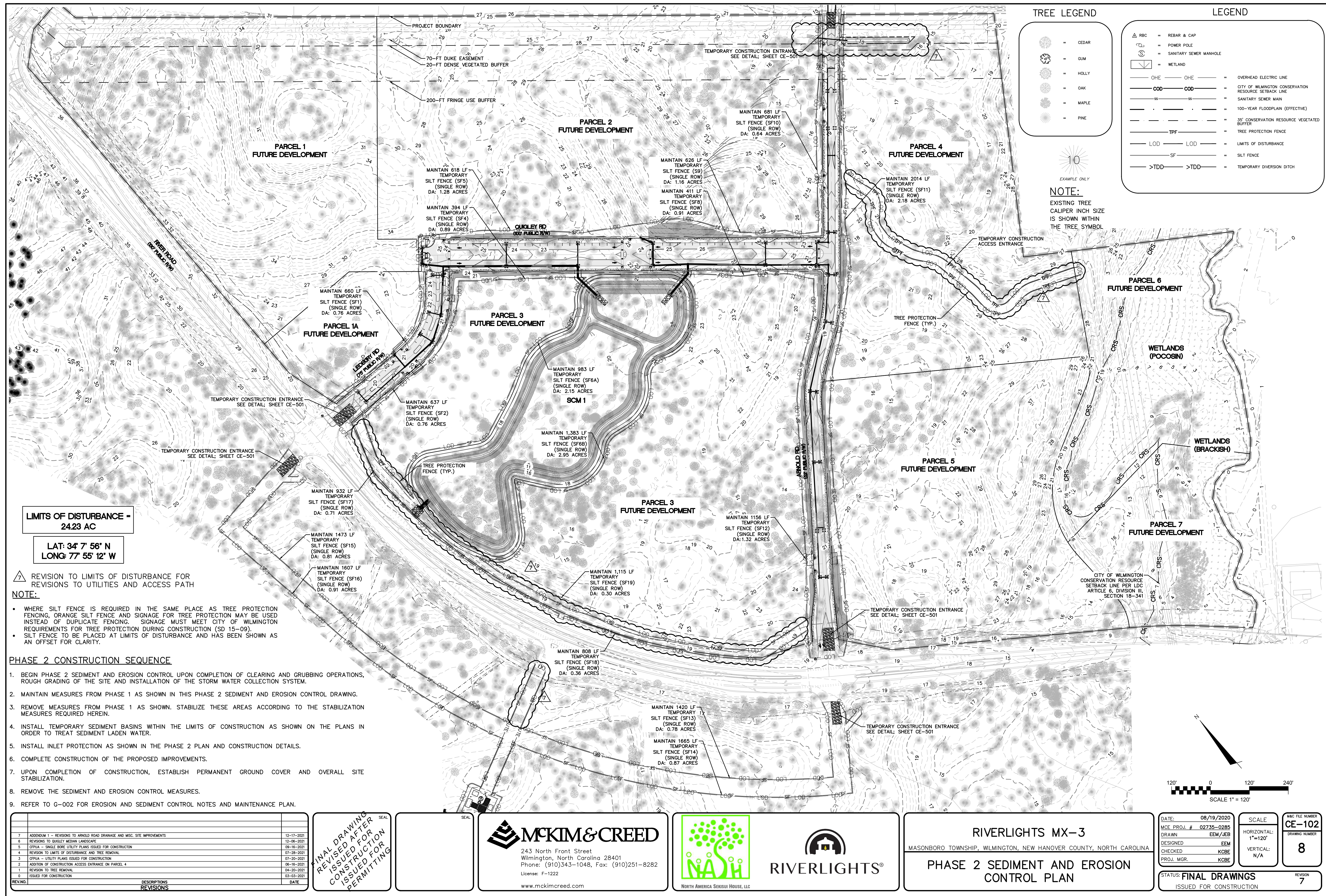
DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE: HORIZONTAL: 1"=120'  
VERTICAL: N/A

M&C FILE NUMBER: **CE-101**  
DRAWING NUMBER: **7**

STATUS: **FINAL DRAWINGS**  
ISSUED FOR CONSTRUCTION

REVISION: **7**



**LIMITS OF DISTURBANCE - 24.23 AC**

**LAT: 34° 7' 56" N**  
**LONG: 77° 55' 12" W**

- 7** REVISION TO LIMITS OF DISTURBANCE FOR REVISIONS TO UTILITIES AND ACCESS PATH
- NOTE:**
- WHERE SILT FENCE IS REQUIRED IN THE SAME PLACE AS TREE PROTECTION FENCING, ORANGE SILT FENCE AND SIGNAGE FOR TREE PROTECTION MAY BE USED INSTEAD OF DUPLICATE FENCING. SIGNAGE MUST MEET CITY OF WILMINGTON REQUIREMENTS FOR TREE PROTECTION DURING CONSTRUCTION (SD 15-09).
  - SILT FENCE TO BE PLACED AT LIMITS OF DISTURBANCE AND HAS BEEN SHOWN AS AN OFFSET FOR CLARITY.

- PHASE 2 CONSTRUCTION SEQUENCE**
- BEGIN PHASE 2 SEDIMENT AND EROSION CONTROL UPON COMPLETION OF CLEARING AND GRUBBING OPERATIONS, ROUGH GRADING OF THE SITE AND INSTALLATION OF THE STORM WATER COLLECTION SYSTEM.
  - MAINTAIN MEASURES FROM PHASE 1 AS SHOWN IN THIS PHASE 2 SEDIMENT AND EROSION CONTROL DRAWING.
  - REMOVE MEASURES FROM PHASE 1 AS SHOWN. STABILIZE THESE AREAS ACCORDING TO THE STABILIZATION MEASURES REQUIRED HEREIN.
  - INSTALL TEMPORARY SEDIMENT BASINS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS IN ORDER TO TREAT SEDIMENT LADEN WATER.
  - INSTALL INLET PROTECTION AS SHOWN IN THE PHASE 2 PLAN AND CONSTRUCTION DETAILS.
  - COMPLETE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
  - UPON COMPLETION OF CONSTRUCTION, ESTABLISH PERMANENT GROUND COVER AND OVERALL SITE STABILIZATION.
  - REMOVE THE SEDIMENT AND EROSION CONTROL MEASURES.
  - REFER TO G-002 FOR EROSION AND SEDIMENT CONTROL NOTES AND MAINTENANCE PLAN.

REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLO ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIGLEY MEDIAN LANDSCAPE	12-06-2021
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**REVISED AFTER**  
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**CONSTRUCTION**  
**PERMITTING**

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**PHASE 2 SEDIMENT AND EROSION CONTROL PLAN**

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE  
HORIZONTAL: 1"=120'  
VERTICAL: N/A

M&C FILE NUMBER  
**CE-102**  
DRAWING NUMBER  
**8**

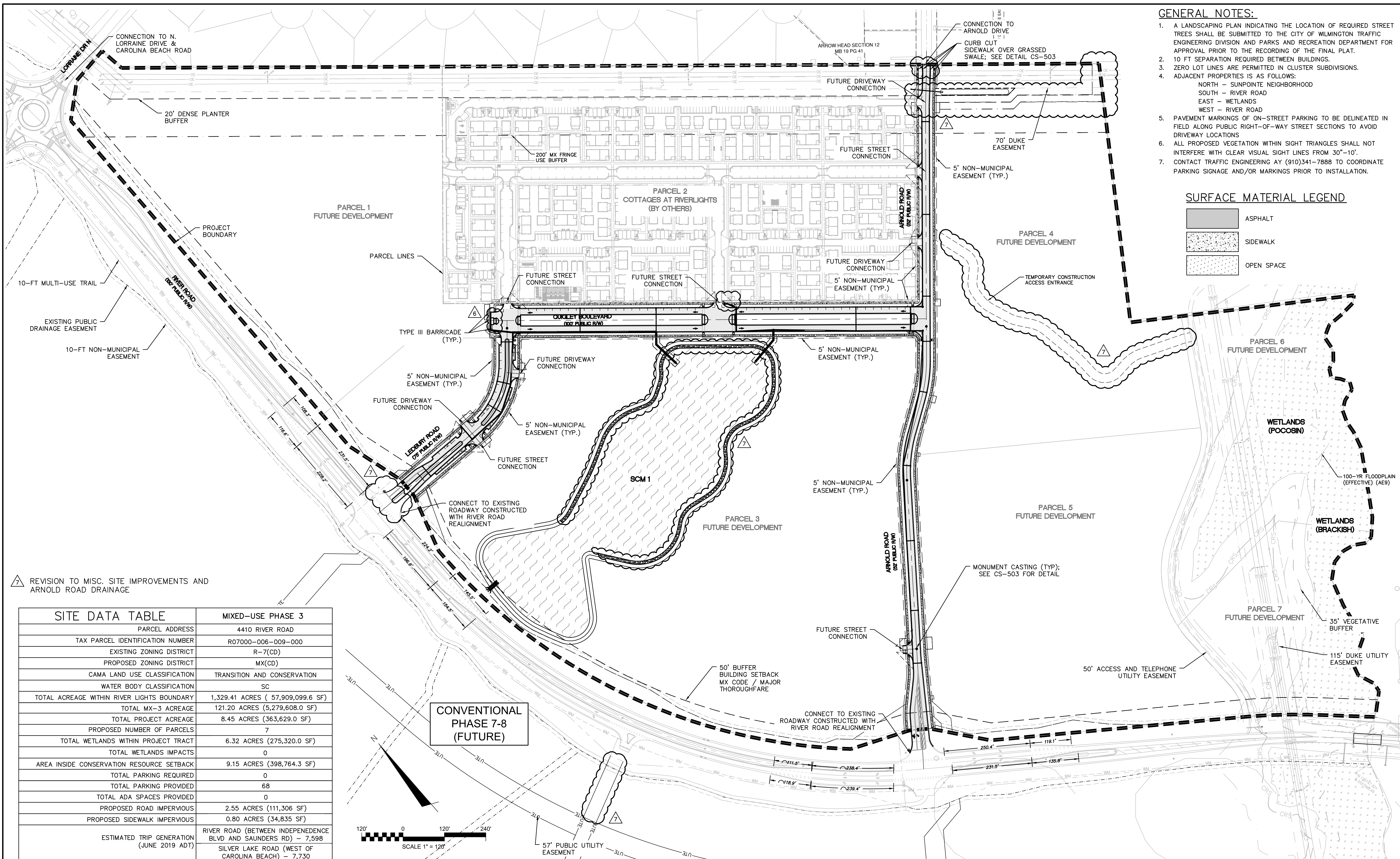
STATUS: **FINAL DRAWINGS**  
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REVISION  
**7**

- GENERAL NOTES:**
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
  - 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
  - ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
  - ADJACENT PROPERTIES IS AS FOLLOWS:  
 NORTH - SUNPOINTE NEIGHBORHOOD  
 SOUTH - RIVER ROAD  
 EAST - WETLANDS  
 WEST - RIVER ROAD
  - PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG PUBLIC RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS
  - ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.
  - CONTACT TRAFFIC ENGINEERING AY (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.

**SURFACE MATERIAL LEGEND**

	ASPHALT
	SIDEWALK
	OPEN SPACE



7 REVISION TO MISC. SITE IMPROVEMENTS AND ARNOLD ROAD DRAINAGE

SITE DATA TABLE		MIXED-USE PHASE 3	
PARCEL ADDRESS	4410 RIVER ROAD	TAX PARCEL IDENTIFICATION NUMBER	R07000-006-009-000
EXISTING ZONING DISTRICT	R-7(CD)	PROPOSED ZONING DISTRICT	MX(CD)
CAMA LAND USE CLASSIFICATION	TRANSITION AND CONSERVATION	WATER BODY CLASSIFICATION	SC
TOTAL ACREAGE WITHIN RIVER LIGHTS BOUNDARY	1,329.41 ACRES ( 57,909,099.6 SF)	TOTAL MX-3 ACREAGE	121.20 ACRES (5,279,608.0 SF)
TOTAL PROJECT ACREAGE	8.45 ACRES (363,629.0 SF)	PROPOSED NUMBER OF PARCELS	7
TOTAL WETLANDS WITHIN PROJECT TRACT	6.32 ACRES (275,320.0 SF)	TOTAL WETLANDS IMPACTS	0
AREA INSIDE CONSERVATION RESOURCE SETBACK	9.15 ACRES (398,764.3 SF)	TOTAL PARKING REQUIRED	0
TOTAL PARKING PROVIDED	68	TOTAL ADA SPACES PROVIDED	0
PROPOSED ROAD IMPERVIOUS	2.55 ACRES (111,306 SF)	PROPOSED SIDEWALK IMPERVIOUS	0.80 ACRES (34,835 SF)
ESTIMATED TRIP GENERATION (JUNE 2019 ADT)	RIVER ROAD (BETWEEN INDEPENDENCE BLVD AND SAUNDERS RD) - 7,598		
	SILVER LAKE ROAD (WEST OF CAROLINA BEACH) - 7,730		

CONVENTIONAL PHASE 7-8 (FUTURE)

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 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**SITE PLAN**

DATE: 08/19/2020  
 MCE PROJ. # 02735-0285  
 DRAWN: EEM/JEB  
 DESIGNED: EEM  
 CHECKED: KCBE  
 PROJ. MGR. KCBE

SCALE  
 HORIZONTAL: 1"=120'  
 VERTICAL: N/A

M&C FILE NUMBER  
**CS-100**  
 DRAWING NUMBER  
**9**

STATUS: **FINAL DRAWINGS**  
 ISSUED FOR CONSTRUCTION

REVISION  
**7**

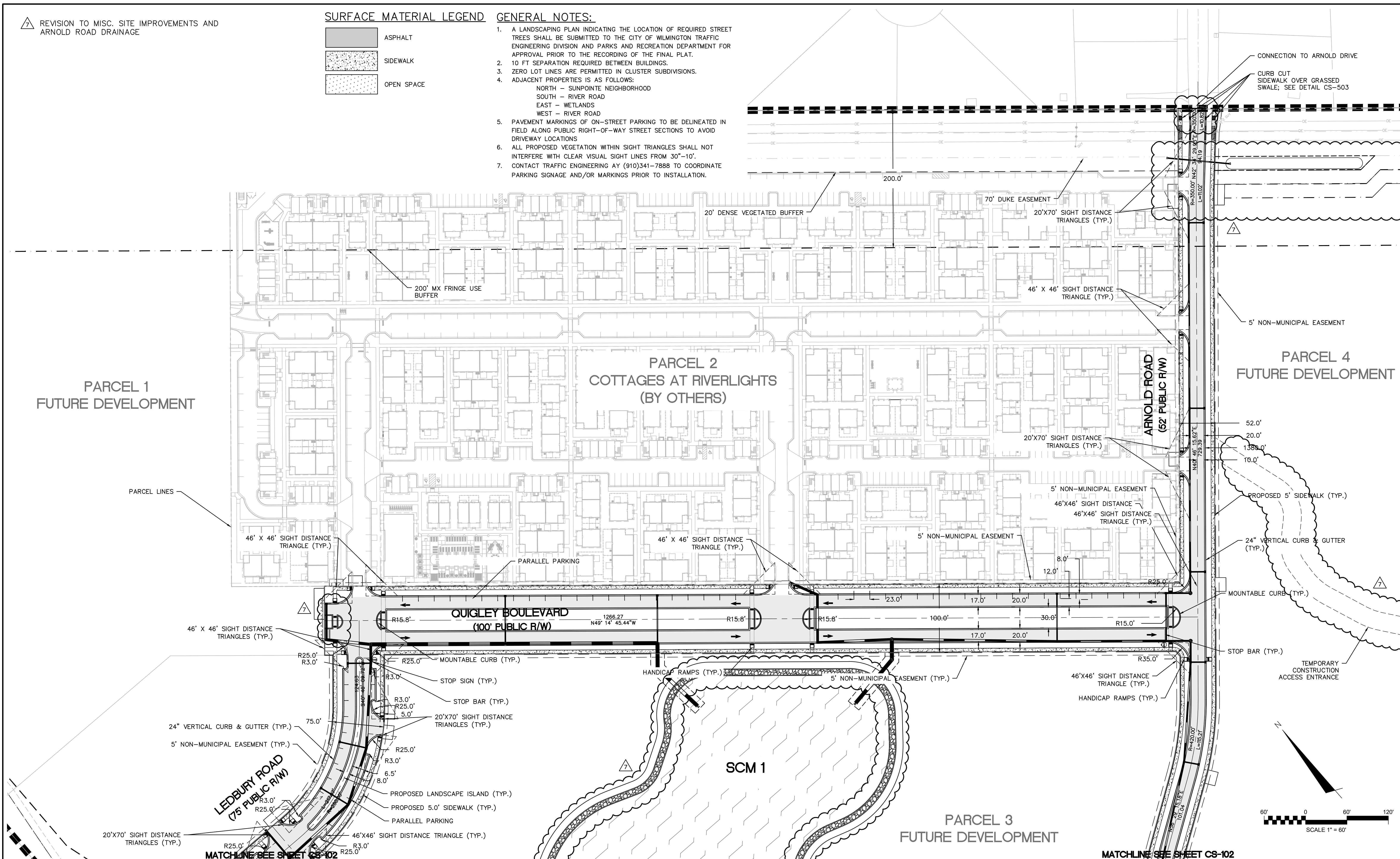
△ REVISION TO MISC. SITE IMPROVEMENTS AND ARNOLD ROAD DRAINAGE

**SURFACE MATERIAL LEGEND**

	ASPHALT
	SIDEWALK
	OPEN SPACE

**GENERAL NOTES:**

1. A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
2. 10 FT SEPARATION REQUIRED BETWEEN BUILDINGS.
3. ZERO LOT LINES ARE PERMITTED IN CLUSTER SUBDIVISIONS.
4. ADJACENT PROPERTIES IS AS FOLLOWS:  
NORTH - SUNPOINTE NEIGHBORHOOD  
SOUTH - RIVER ROAD  
EAST - WETLANDS  
WEST - RIVER ROAD
5. PAVEMENT MARKINGS OF ON-STREET PARKING TO BE DELINEATED IN FIELD ALONG PUBLIC RIGHT-OF-WAY STREET SECTIONS TO AVOID DRIVEWAY LOCATIONS
6. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.
7. CONTACT TRAFFIC ENGINEERING AY (910)341-7888 TO COORDINATE PARKING SIGNAGE AND/OR MARKINGS PRIOR TO INSTALLATION.



REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIGLEY MEDIAN LANDSCAPE	12-06-2021
5	OPPIA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	OPPIA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-28-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
ISSUED FOR  
PERMITTING

SEAL

**MCKIM & CREED**  
243 North Front Street  
Wilmington, North Carolina 28401  
Phone: (910)343-1048, Fax: (910)251-8282  
License: F-1222  
www.mckimcreed.com

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NASH  
NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**ENLARGED SITE PLAN**

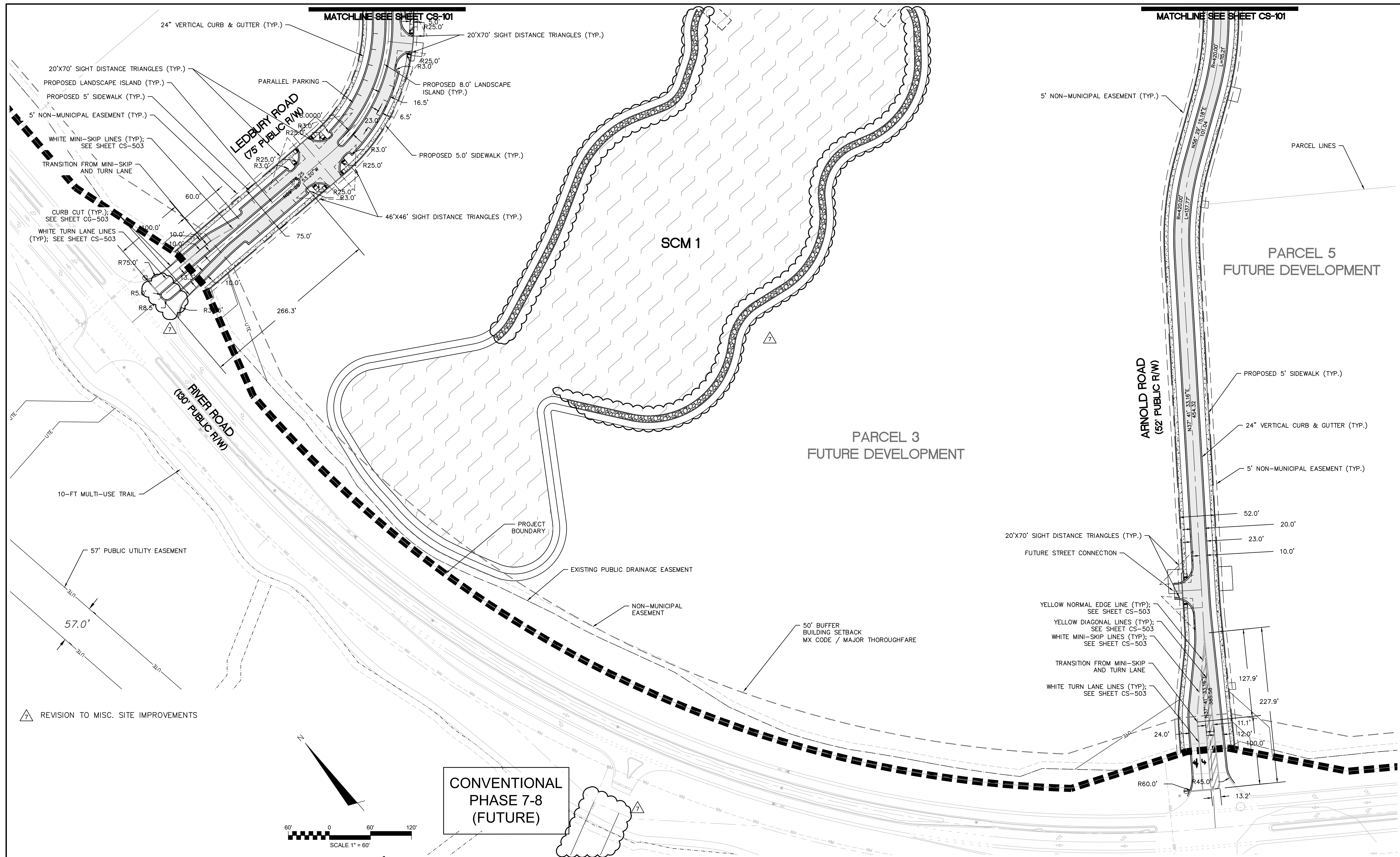
DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE  
HORIZONTAL: 1"=60'  
VERTICAL: N/A

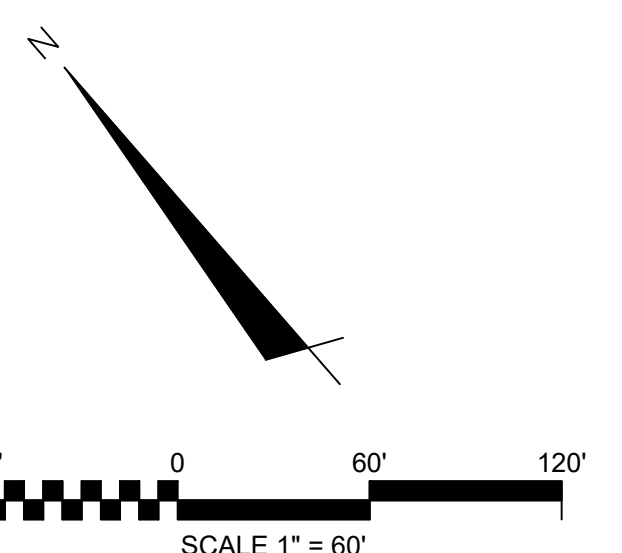
M&C FILE NUMBER  
**CS-101**  
DRAWING NUMBER  
**10**

STATUS: **FINAL DRAWINGS**  
ISSUED FOR CONSTRUCTION

REVISION  
**7**



△ REVISION TO MISC. SITE IMPROVEMENTS



**CONVENTIONAL  
PHASE 7-8  
(FUTURE)**

REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
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2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

**FINAL DRAWING  
ISSUED AFTER  
CONSTRUCTION  
ISSUED FOR  
PERMITTING**

SEAL

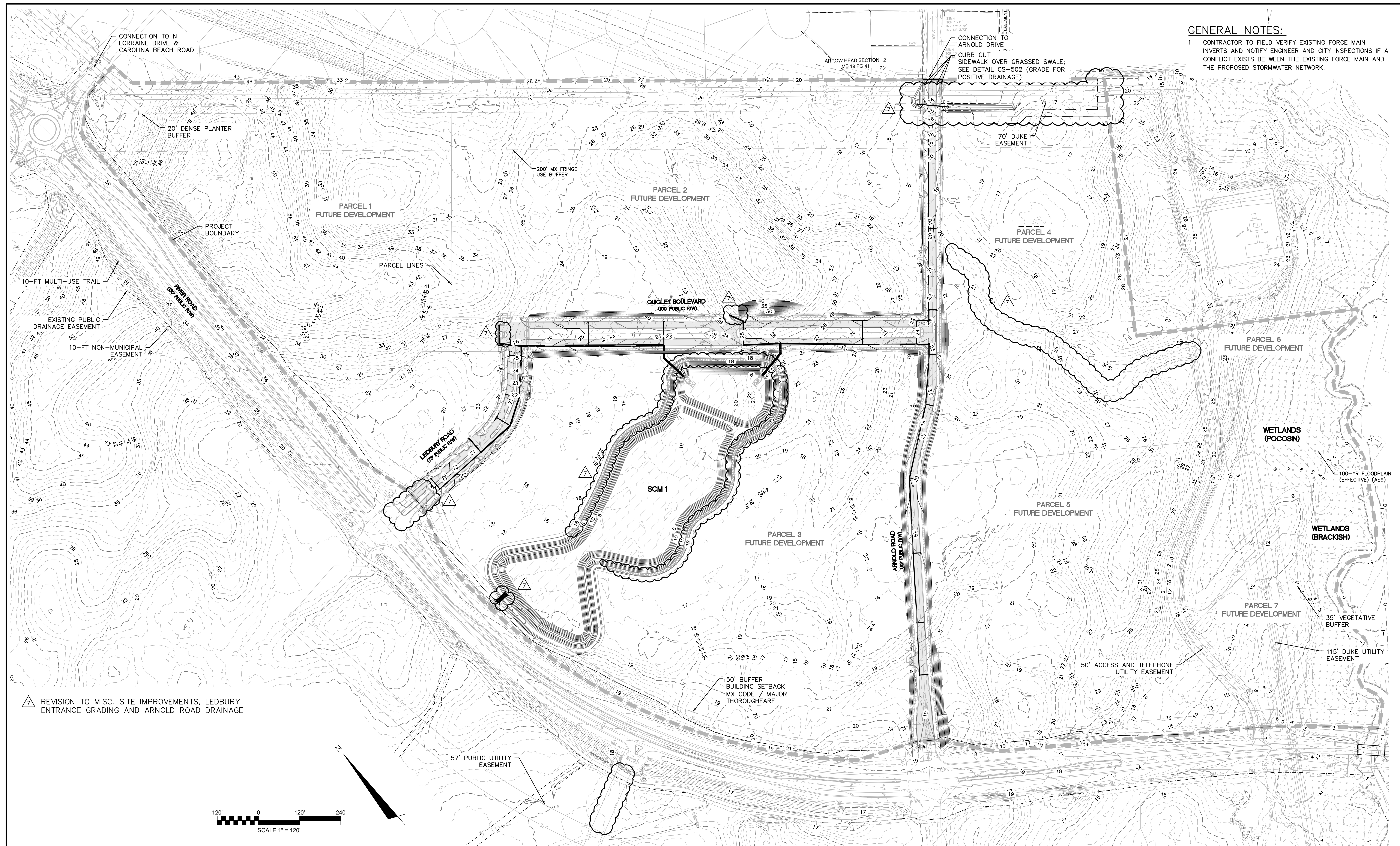
**MCKIM & CREED**  
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 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**ENLARGED SITE PLAN**

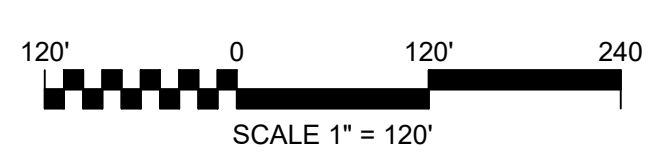
DATE:	08/19/2020
MCE PROJ. #	02735-0285
DRAWN	EEM/JEB
DESIGNED	EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

SCALE	HORIZONTAL: 1"=60'	VERTICAL: N/A
M&C FILE NUMBER	<b>CS-102</b>	
REVISION	<b>11</b>	
STATUS: <b>FINAL DRAWINGS</b> ISSUED FOR CONSTRUCTION		



**GENERAL NOTES:**  
 1. CONTRACTOR TO FIELD VERIFY EXISTING FORCE MAIN INVERTS AND NOTIFY ENGINEER AND CITY INSPECTIONS IF A CONFLICT EXISTS BETWEEN THE EXISTING FORCE MAIN AND THE PROPOSED STORMWATER NETWORK.

△ REVISION TO MISC. SITE IMPROVEMENTS, LEDBURY ENTRANCE GRADING AND ARNOLD ROAD DRAINAGE



REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
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0	ISSUED FOR CONSTRUCTION	03-03-2021

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**RIVERLIGHTS MX-3**  
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**OVERALL GRADING AND STORM DRAINAGE PLAN**

DATE:	08/19/2020
MCE PROJ. #	02735-0285
DRAWN	EEM/JEB
DESIGNED	EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

SCALE	HORIZONTAL: 1"=120'	VERTICAL: N/A
M&C FILE NUMBER	CG-100	
DRAWING NUMBER	12	
STATUS:	FINAL DRAWINGS	
ISSUED FOR CONSTRUCTION	REVISION 7	



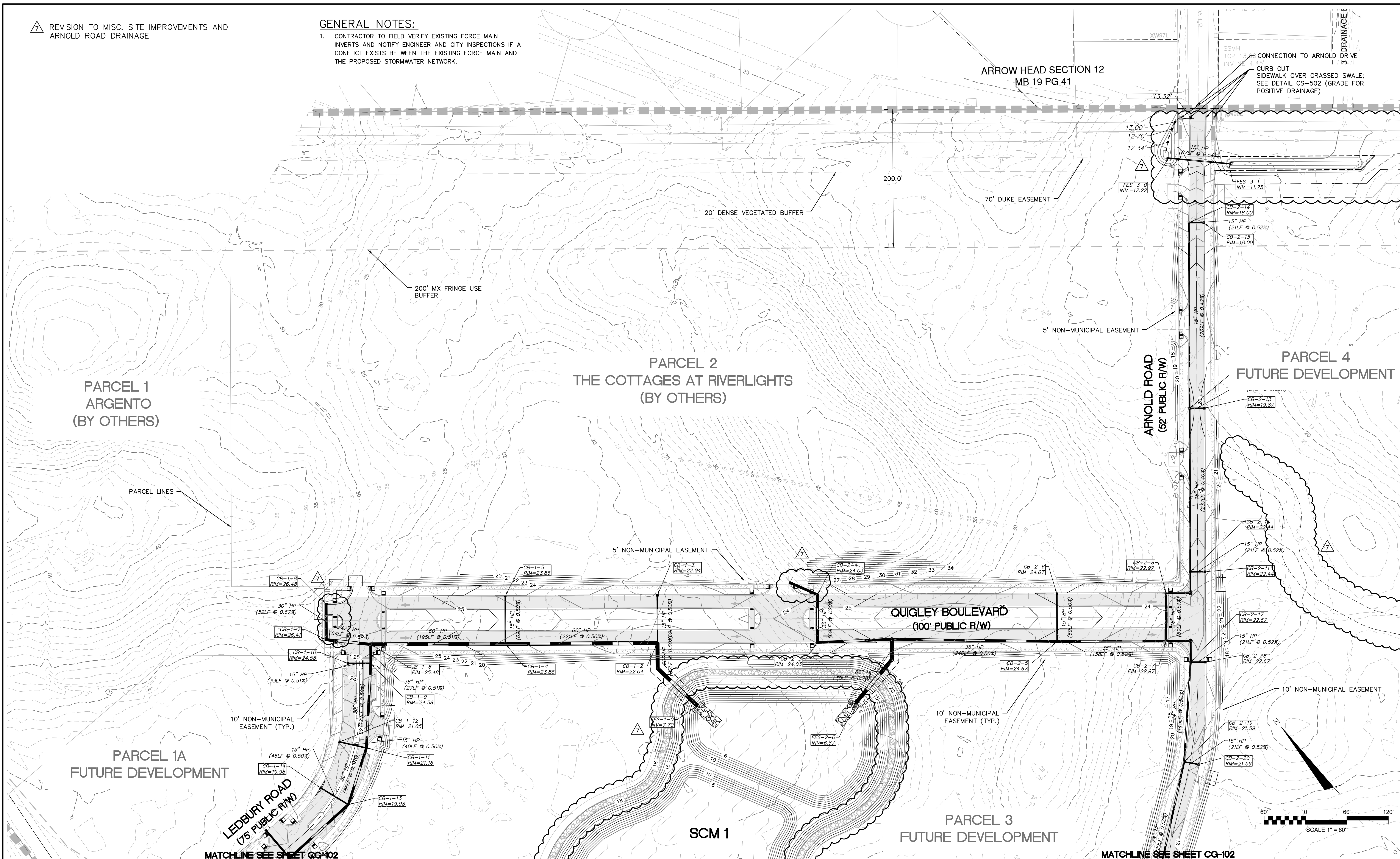
△ REVISION TO MISC. SITE IMPROVEMENTS AND ARNOLD ROAD DRAINAGE

**GENERAL NOTES:**

- CONTRACTOR TO FIELD VERIFY EXISTING FORCE MAIN INVERTS AND NOTIFY ENGINEER AND CITY INSPECTIONS IF A CONFLICT EXISTS BETWEEN THE EXISTING FORCE MAIN AND THE PROPOSED STORMWATER NETWORK.

ARROW HEAD SECTION 12  
MB 19 PG 41

CONNECTION TO ARNOLD DRIVE  
CURB CUT  
SIDEWALK OVER GRASSED SWALE;  
SEE DETAIL CS-502 (GRADE FOR  
POSITIVE DRAINAGE)



REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
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1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

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ISSUED FOR  
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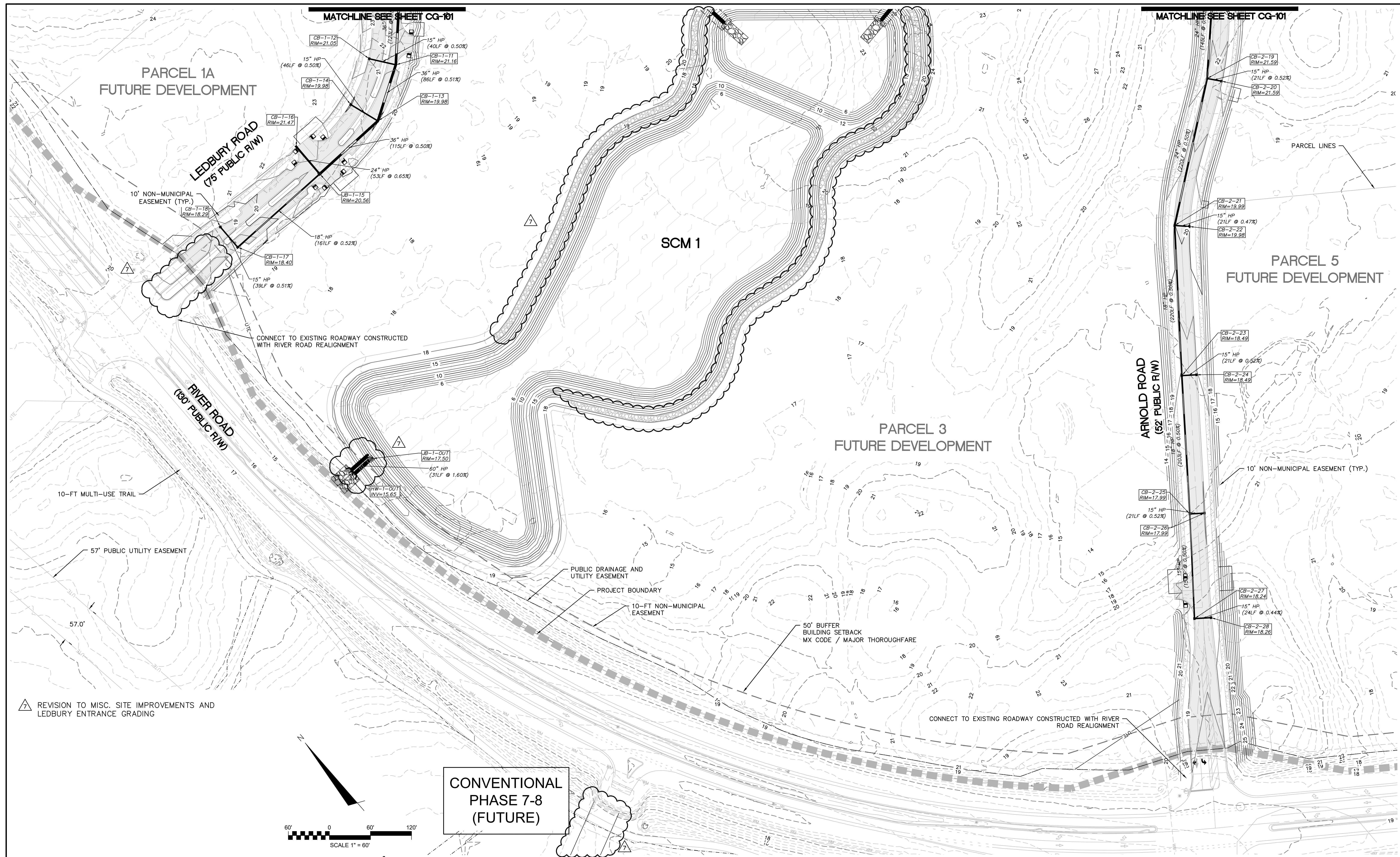
**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**ENLARGED STORM DRAINAGE AND GRADING PLAN**

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

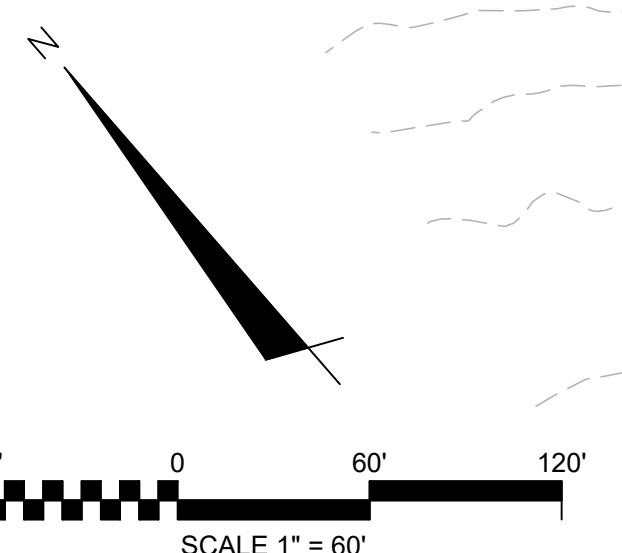
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M&C FILE NUMBER  
**CG-101**  
DRAWING NUMBER  
**13**  
REVISION  
**7**

STATUS: **FINAL DRAWINGS**  
ISSUED FOR CONSTRUCTION



△ REVISION TO MISC. SITE IMPROVEMENTS AND LEDBURY ENTRANCE GRADING



**CONVENTIONAL  
PHASE 7-8  
(FUTURE)**

REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIESCE MEDIAN LANDSCAPE	12-08-2021
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1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
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ISSUED FOR  
CONSTRUCTION  
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**RIVERLIGHTS MX-3**  
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**ENLARGED STORM DRAINAGE AND  
GRADING PLAN**

DATE: 08/19/2020  
 MCE PROJ. # 02735-0285  
 DRAWN: EEM/JEB  
 DESIGNED: EEM  
 CHECKED: KCBE  
 PROJ. MGR: KCBE

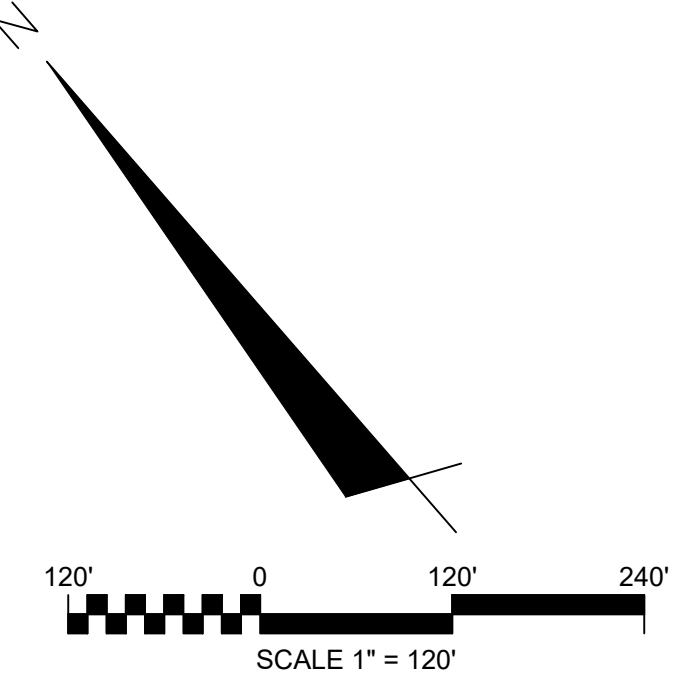
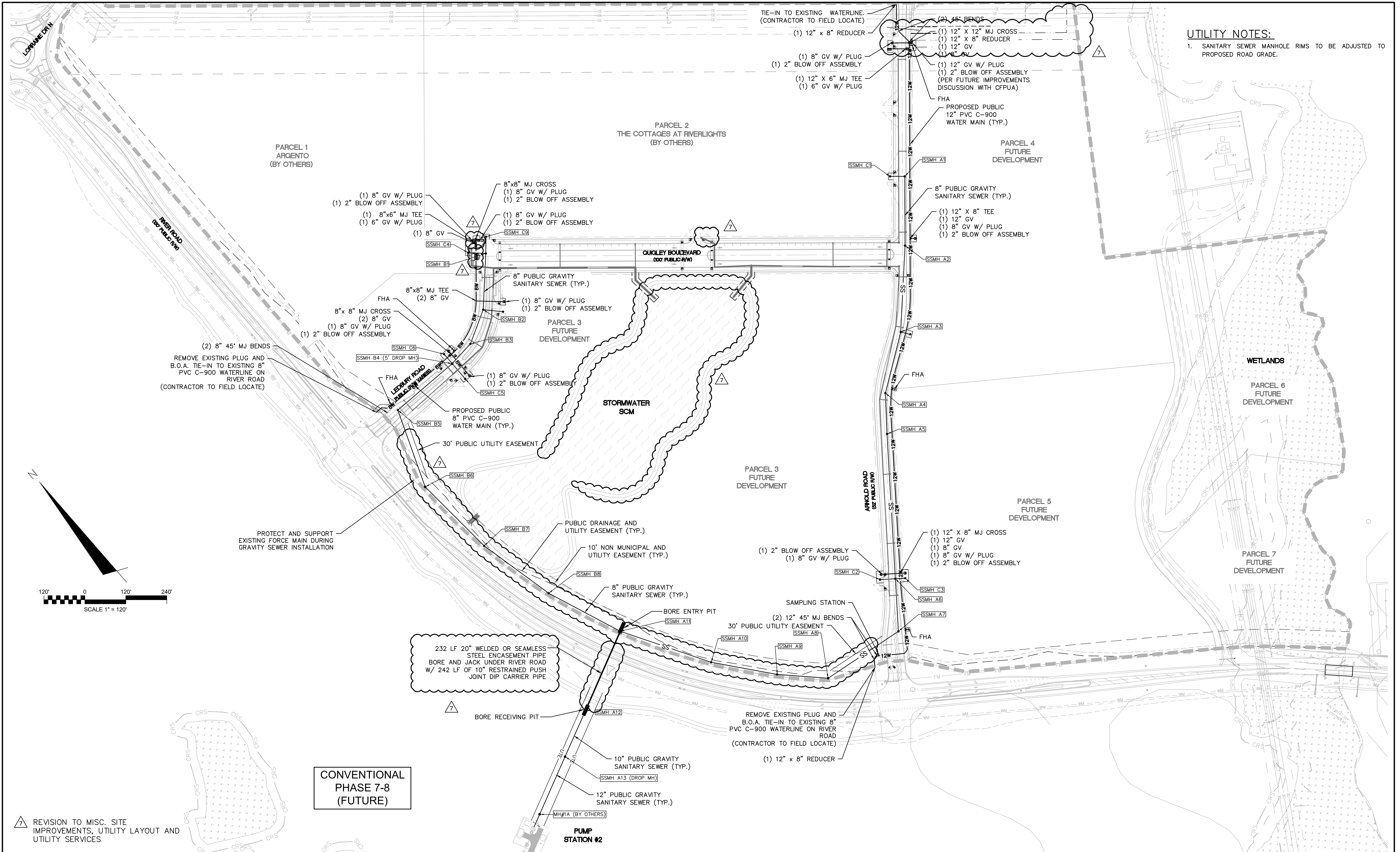
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M&C FILE NUMBER  
**CG-102**

**14**

REVISION  
**7**

STATUS: **FINAL DRAWINGS**  
 ISSUED FOR CONSTRUCTION



REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIGLEY MEDIAN LANDSCAPE	12-06-2021
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4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-29-2021
3	CFPIA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-20-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-18-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
 REVISED AFTER  
 ISSUED FOR  
 CONSTRUCTION  
 ISSUED FOR  
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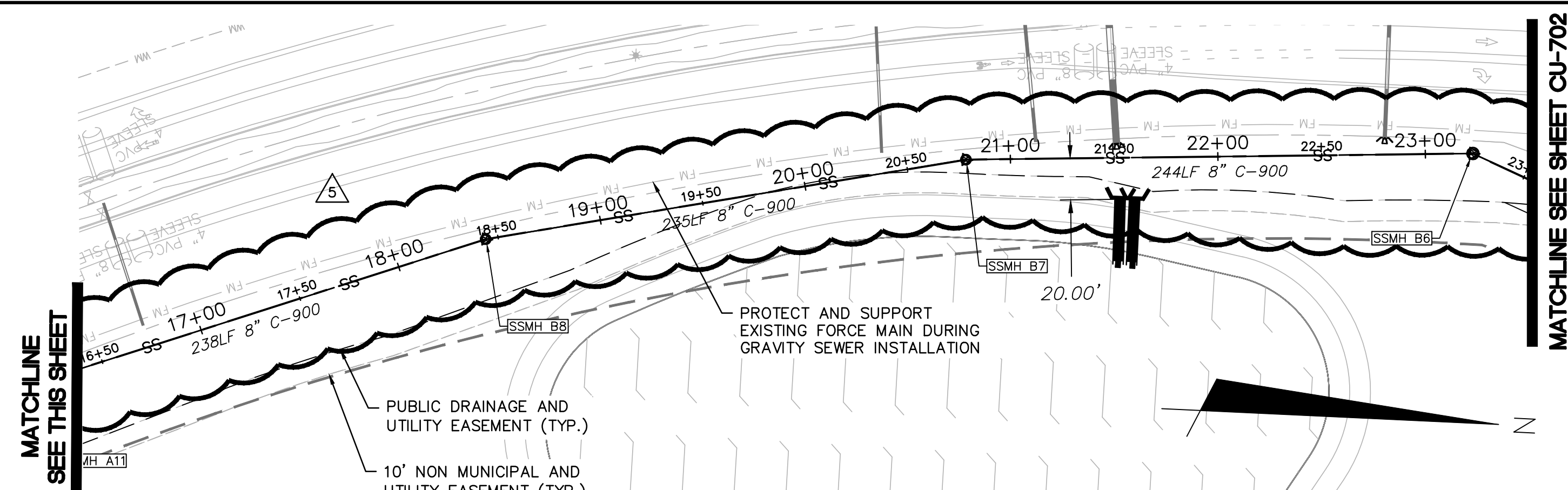
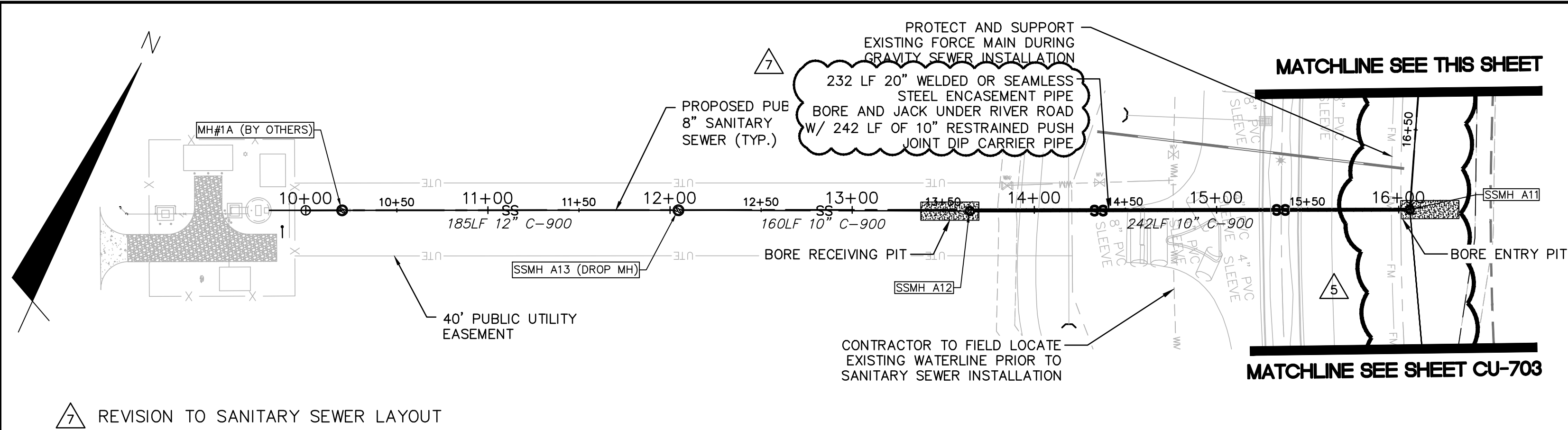
**OVERALL UTILITY PLAN**

DATE: 08/19/2020  
 MCE PROJ. # 02735-0285  
 DRAWN: EEM/JEB  
 DESIGNED: EEM  
 CHECKED: KCBE  
 PROJ. MGR.: KCBE

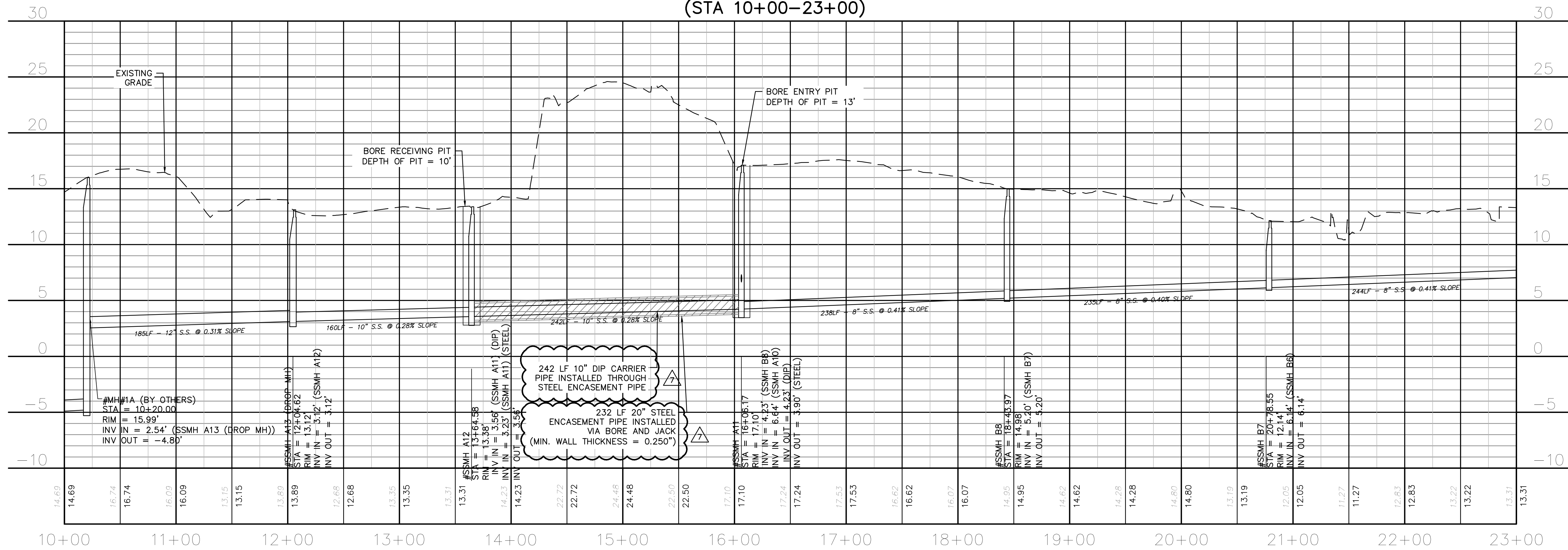
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MAC FILE NUMBER: CU-100  
 DRAWING NUMBER: 15  
 REVISION: 6

STATUS: FINAL DRAWINGS  
 ISSUED FOR CONSTRUCTION



SF 7-8 S.S. NORTH  
(STA 10+00-23+00)



SF 7-8 S.S. NORTH  
(STA 10+00-23+00)

CFPUA STANDARD NOTES:

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.

BORE AND JACK NOTES:

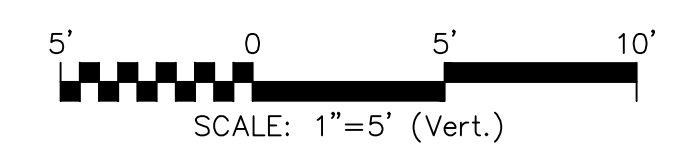
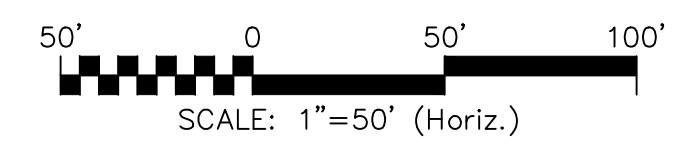
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

UTILITY NOTES:

- CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITY PIPES AND REPLACE/REPAIR ALL UTILITY PIPES DAMAGES AS A RESULT OF CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN ALL WATER AND SEWER LATERALS TO ALL HOMES AND BUSINESSES DURING CONSTRUCTION.
- CONTRACTOR SHALL LOCATE AND SUPPORT EXISTING UNDERGROUND TELEPHONE, CABLE, FIBER OPTICS AND ELECTRIC DURING CONSTRUCTION. SERVICE SHALL NOT BE INTERRUPTED.
- DRILL PIT AND STAGING AREA SHOWN FOR INFORMAL PURPOSES ONLY. THE FINAL PIT SIZING, STAGING AREA, EROSION CONTROL AND DRILLING FLUID CONTAINMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL BE AT NO ADDITIONAL COST TO THE OWNER.

UTILITY NOTES:

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT OR BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.
- VALVE LOCATIONS TO BE FIELD ADJUSTED TO AVOID PLACEMENT WITHIN HANDICAP RAMPS.
- WATER METERS AND CLEAN OUTS TO BE INSTALLED ON STRUCTURE SIDE OF MAIN (NO REVERSE TAPS).
- SANITARY SEWER MANHOLE RIMS TO BE ADJUSTED TO PROPOSED CONVENTIONAL PHASE 7 & 8 ROAD GRADE.



REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO AVOID ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIETLY MEDIAN LANDSCAPE	12-06-2021
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1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
ISSUED AFTER  
CONSTRUCTION  
PERMITTING

SEAL

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RIVERLIGHTS MX-3  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
PLAN AND PROFILE  
SF 7-8 S.S. NORTH  
STA 10+00 TO 23+00

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE  
HORIZONTAL: 1"=120'  
VERTICAL: 1"=5'

STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION

MAC FILE NUMBER  
CU - 701  
DRAWING NUMBER  
16  
REVISION  
7

**CFPUA STANDARD NOTES:**

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
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- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

**UTILITY NOTES:**

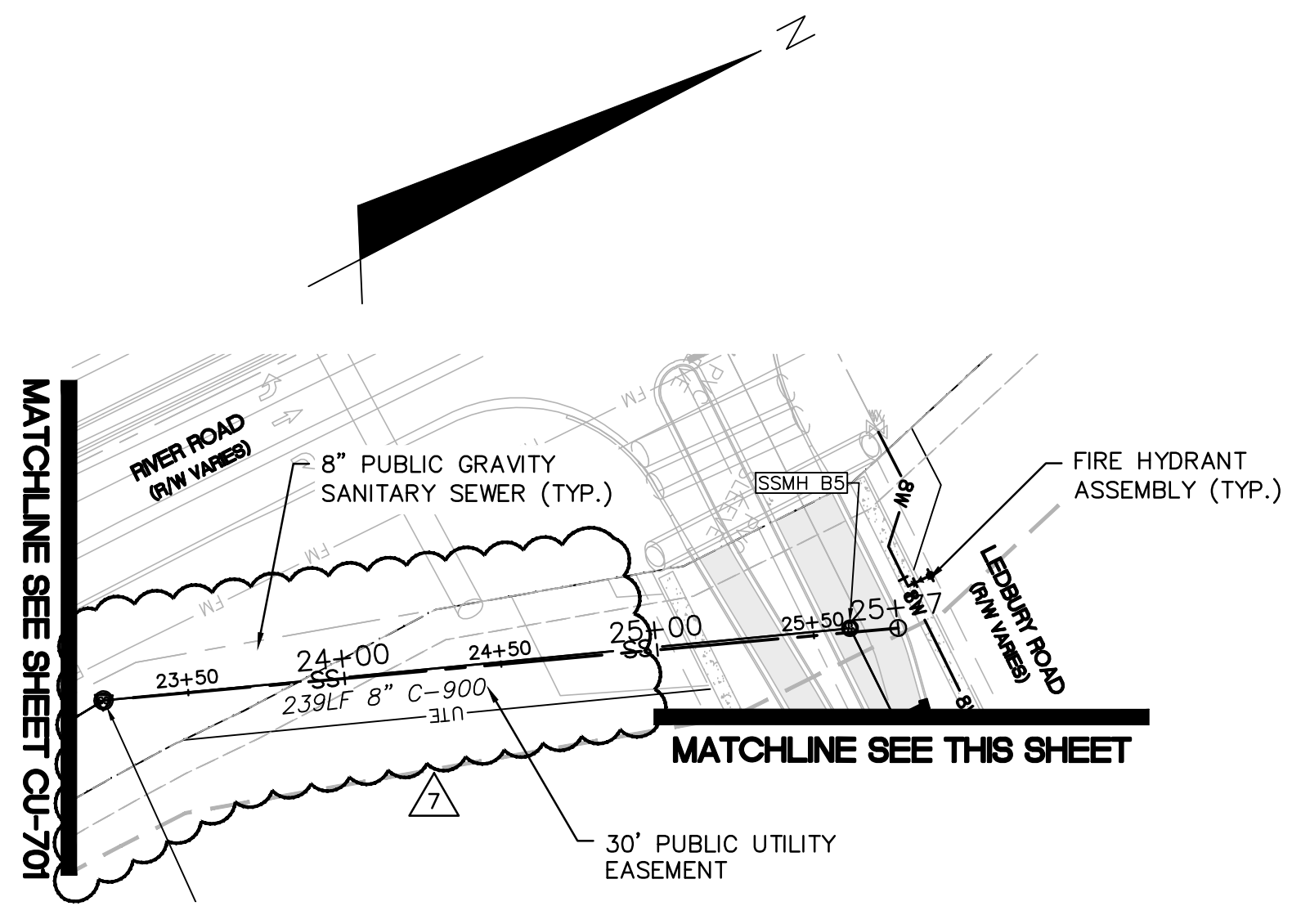
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**CONDUIT NOTES:**

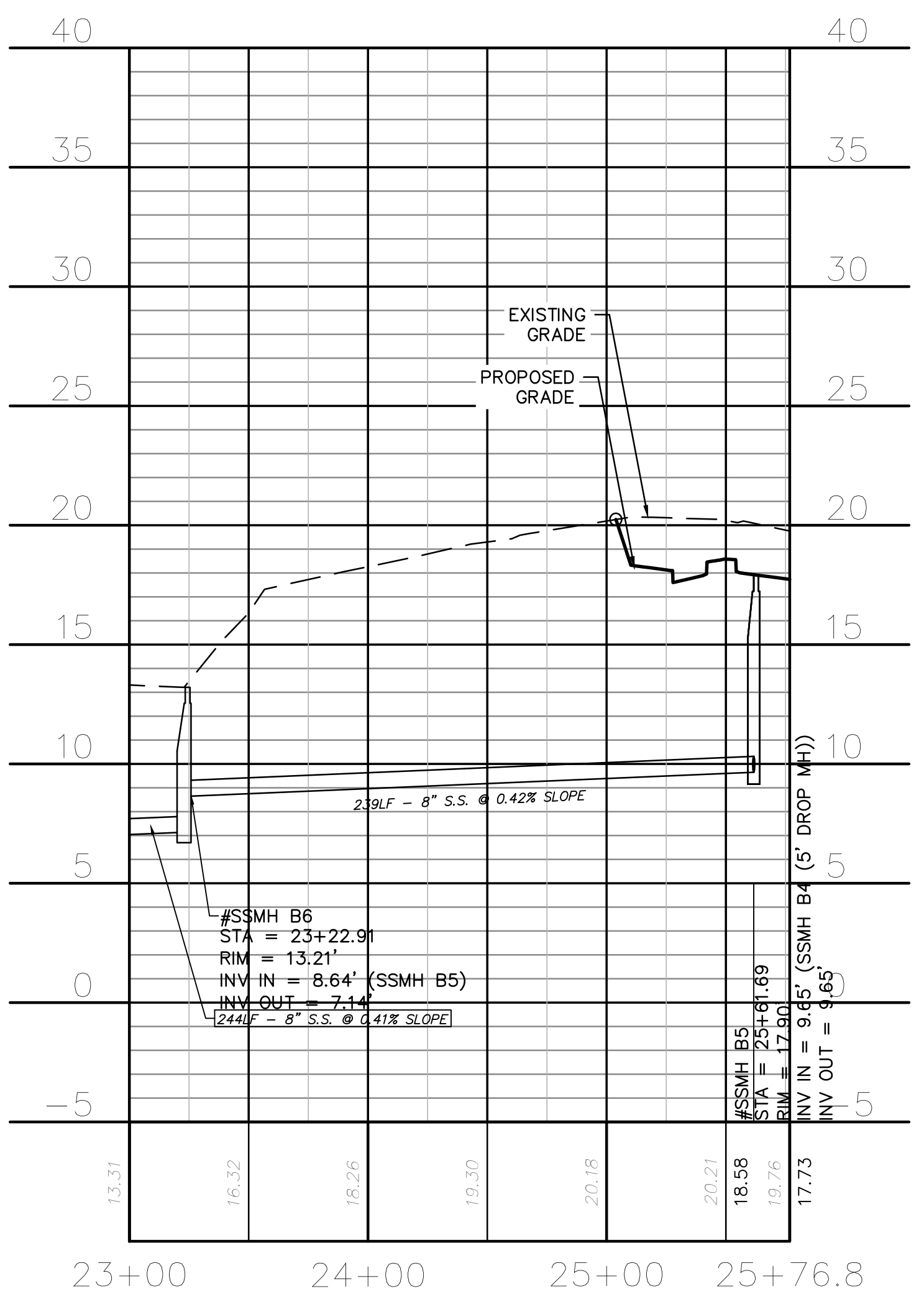
- ALL CONDUITS AND EXISTING UTILITIES TO BE FIELD LOCATED PRIOR TO SANITARY SEWER INSTALLATION.

REVISION TO MISC. SITE IMPROVEMENTS, UTILITY LAYOUT AND UTILITY SERVICES

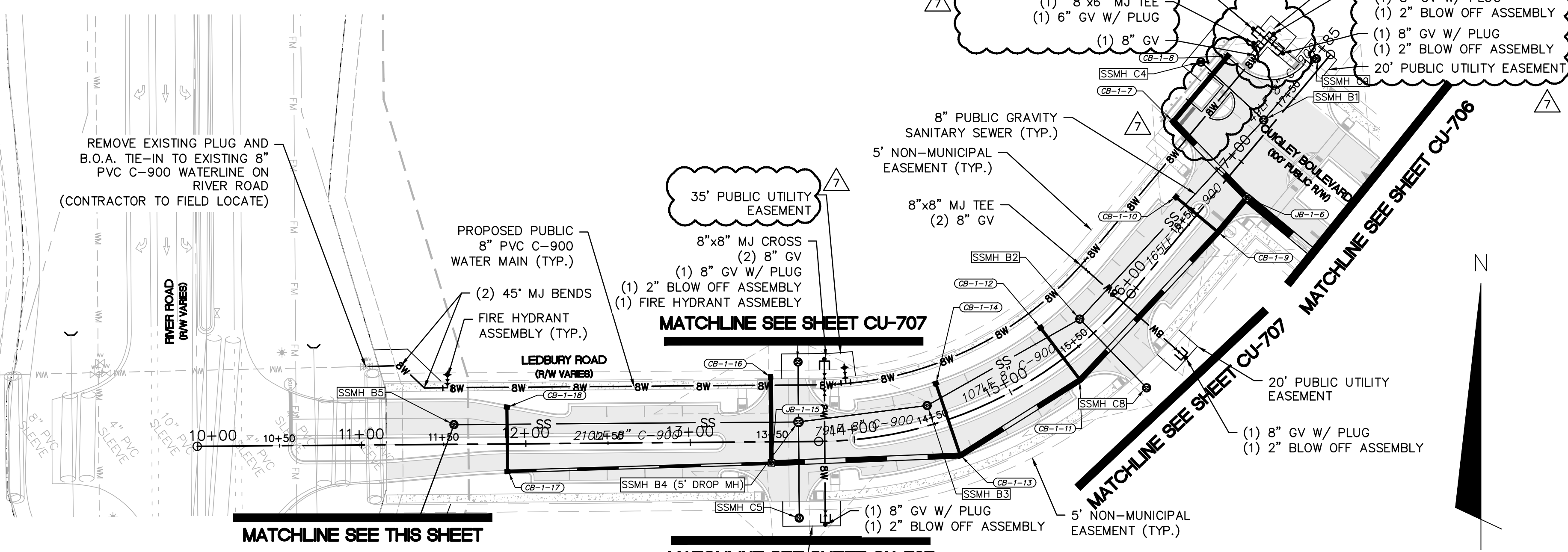
REV. NO.	DESCRIPTION	DATE
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1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021



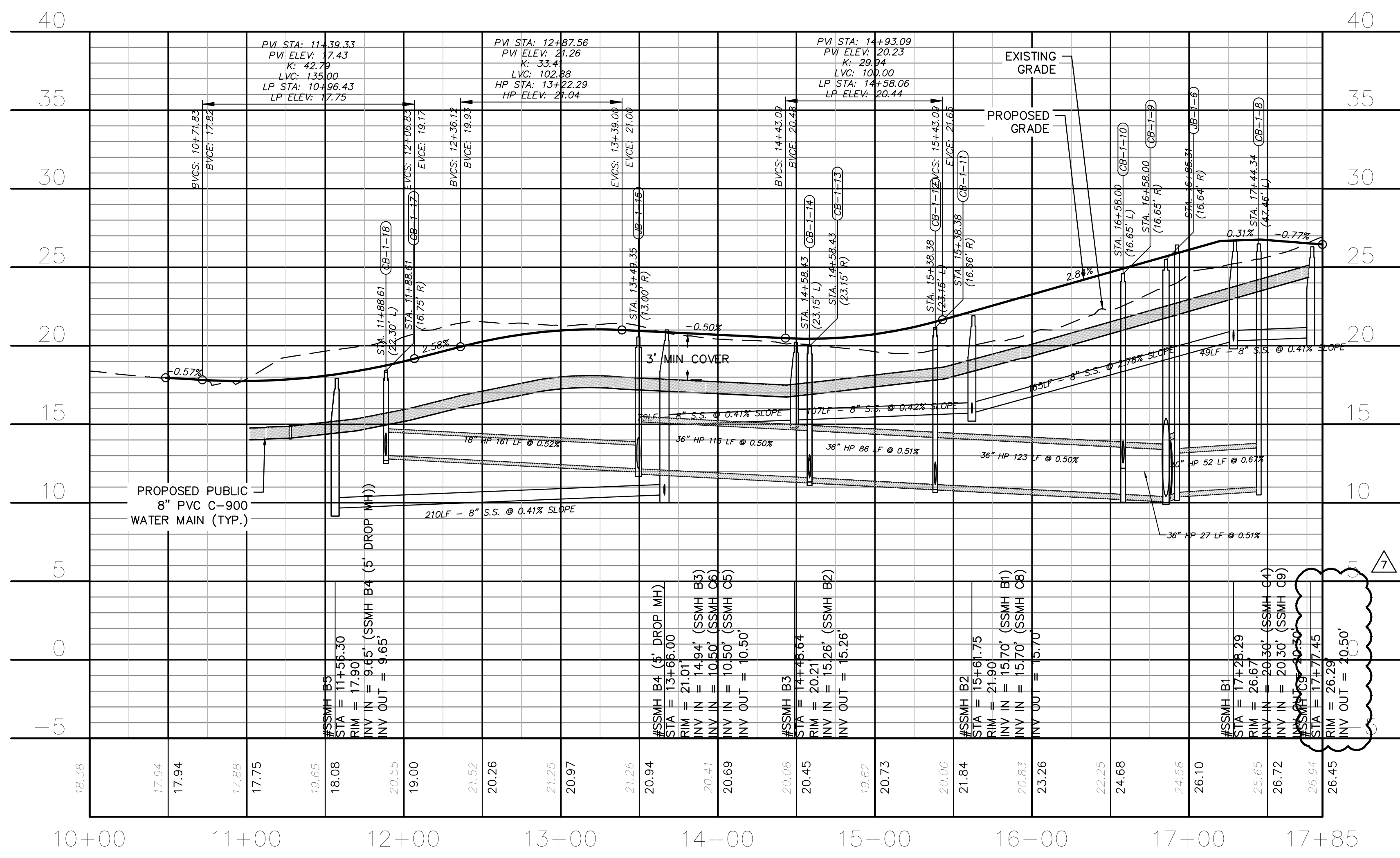
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(STA 23+00 TO 25+76.76)



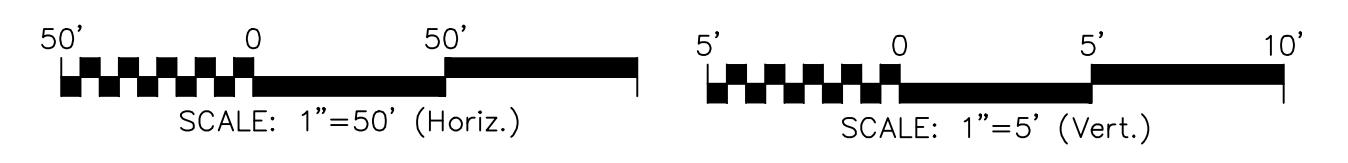
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(STA 23+00 TO 25+76.76)



LEDBURY ROAD  
(STA 10+00 TO 17+69.95)



LEDBURY ROAD  
(STA 10+00 TO 17+69.95)



FINAL DRAWING  
ISSUED AFTER  
CONSTRUCTION  
PERMITTING

**MCKIM & CREED**  
243 North Front Street  
Wilmington, North Carolina 28401  
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www.mckimcreed.com

**RIVERLIGHTS**  
NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**PLAN AND PROFILE**  
SF 7-8 S.S. NORTH  
LEDBURY ROAD

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE: HORIZONTAL: 1"=120'  
VERTICAL: 1"=5'

M&C FILE NUMBER: CU-702  
DRAWING NUMBER: 17  
STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION  
REVISION: 7

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- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
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- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
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- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
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- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

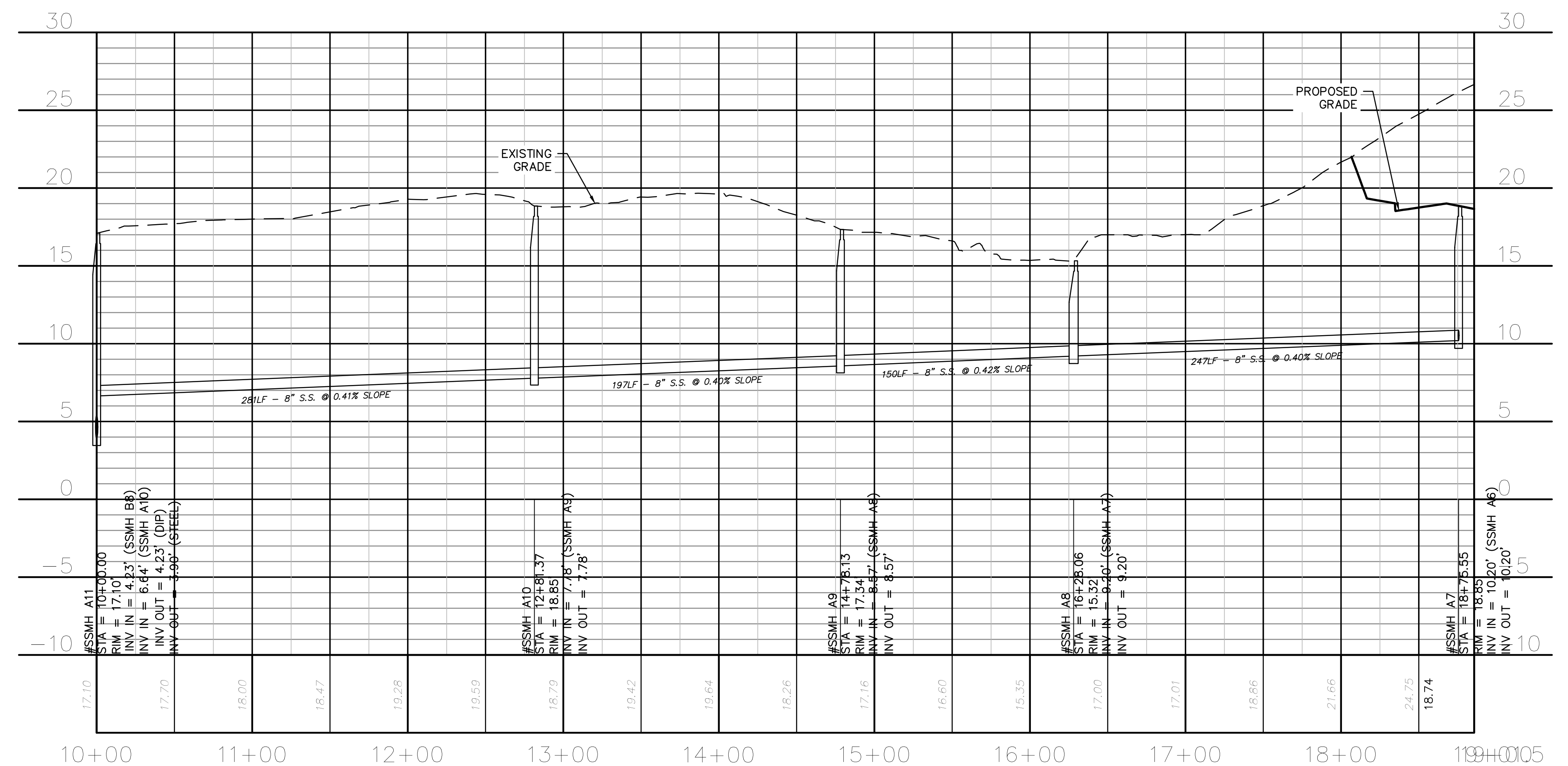
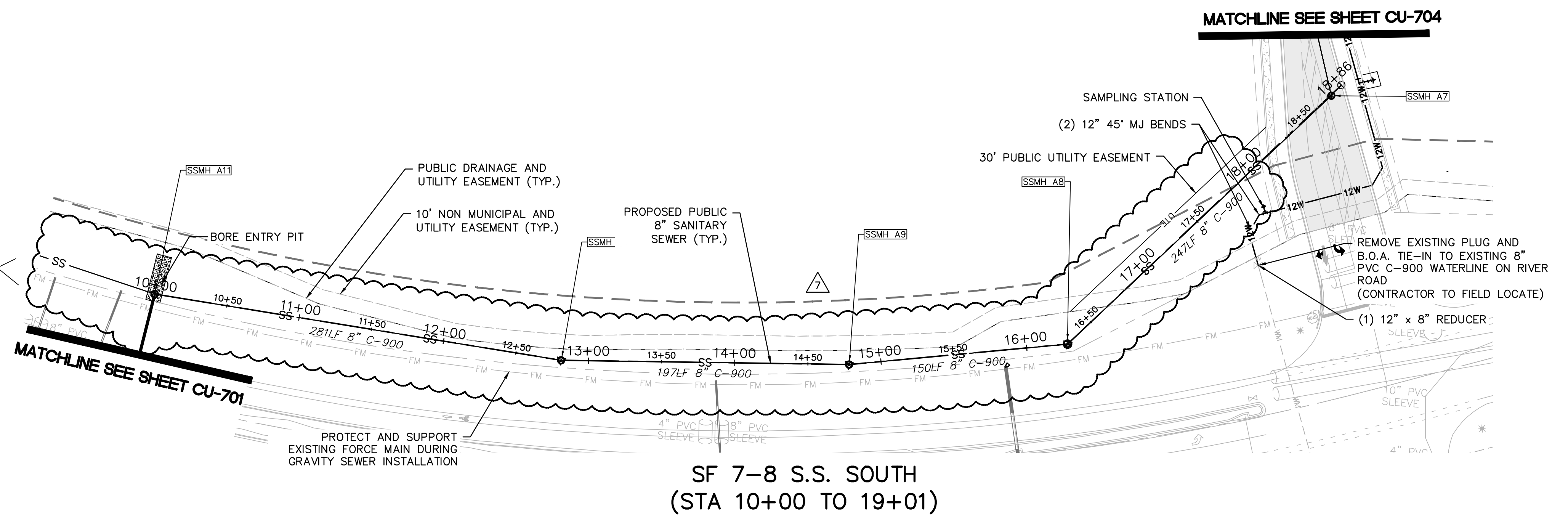
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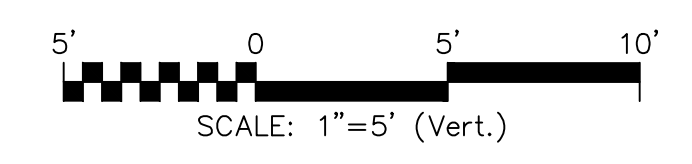
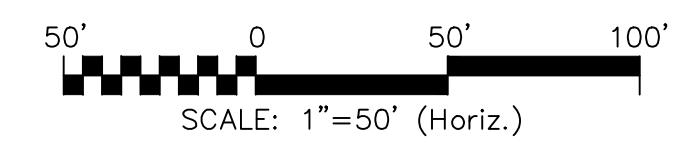
**CONDUIT NOTES:**

- ALL CONDUITS AND EXISTING UTILITIES TO BE FIELD LOCATED PRIOR TO SANITARY SEWER INSTALLATION.

△ REVISION TO UTILITY LAYOUT



SF 7-8 S.S. SOUTH  
(STA 10+00 TO 19+01)



REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO AVOID ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIETLY MEDIAN LANDSCAPE	12-08-2021
5	CFPUA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
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FINAL DRAWING  
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CONSTRUCTION  
ISSUED FOR  
PERMITTING

SEAL

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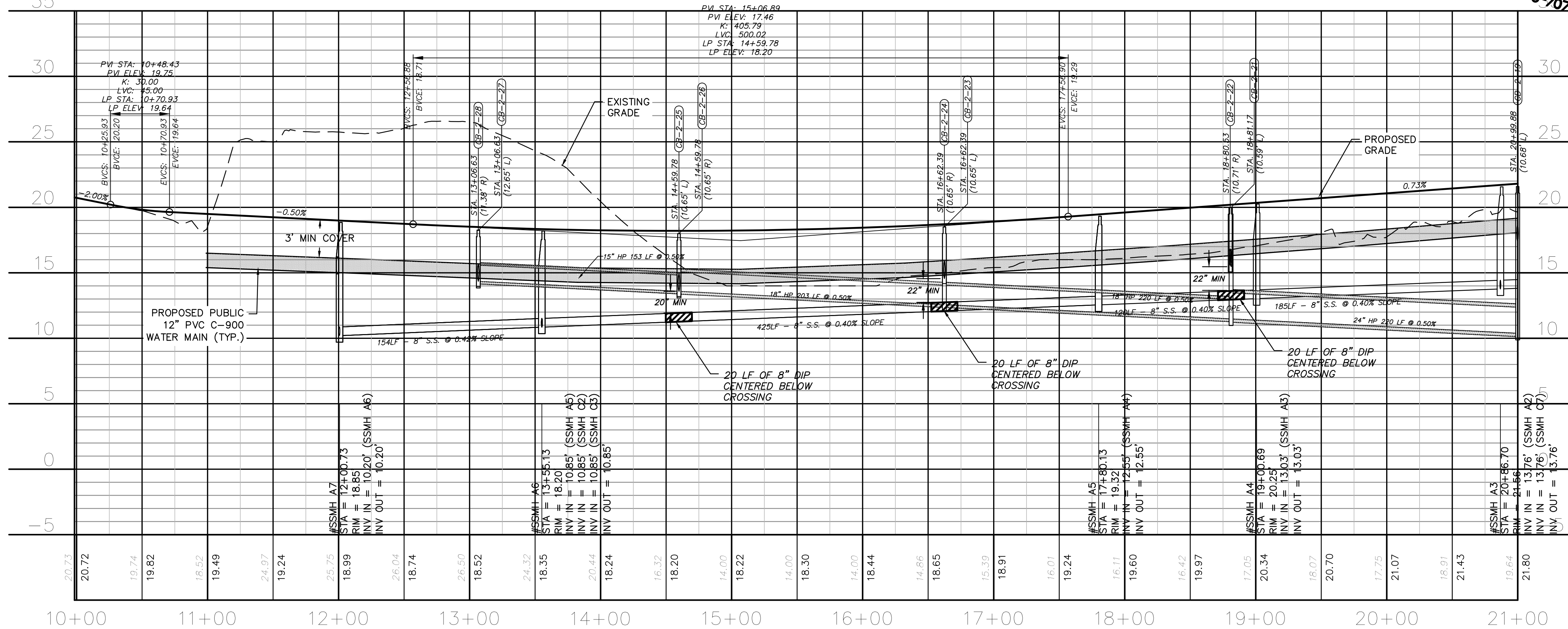
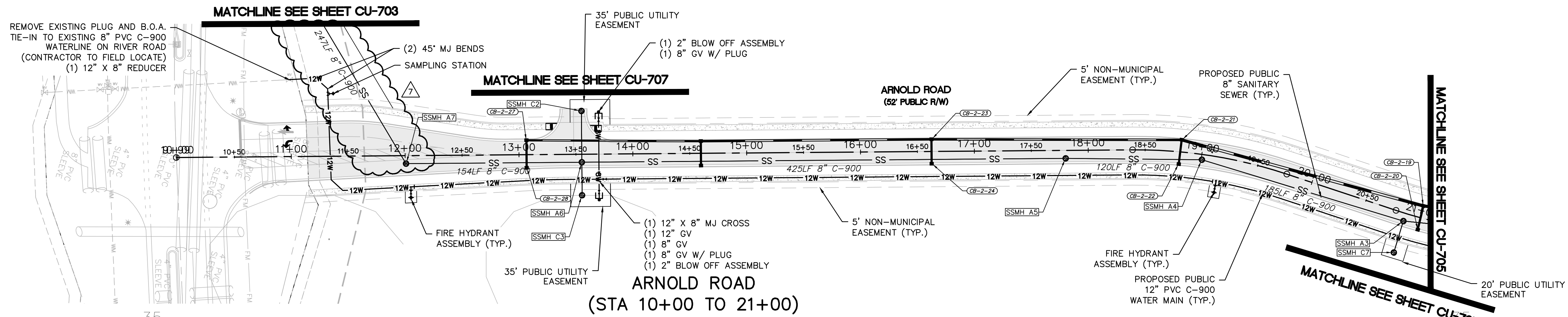
**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**PLAN AND PROFILE**  
SF 7-8 S.S. SOUTH  
STA 10+00 TO 20+50

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE: HORIZONTAL: 1"=120'  
VERTICAL: 1"=5'

STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION

MAC FILE NUMBER: CU - 703  
DRAWING NUMBER: 18  
REVISION: 7



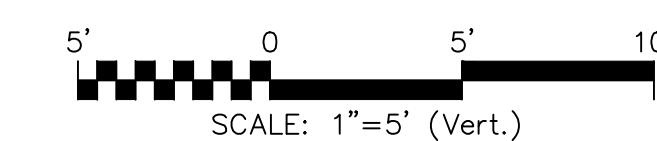
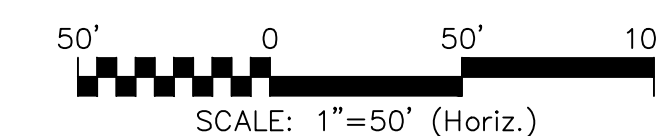
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REV. NO.	DESCRIPTIONS	DATE
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**PLAN AND PROFILE**  
SF 7-8 S.S. SOUTH  
ARNOLD DRIVE

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

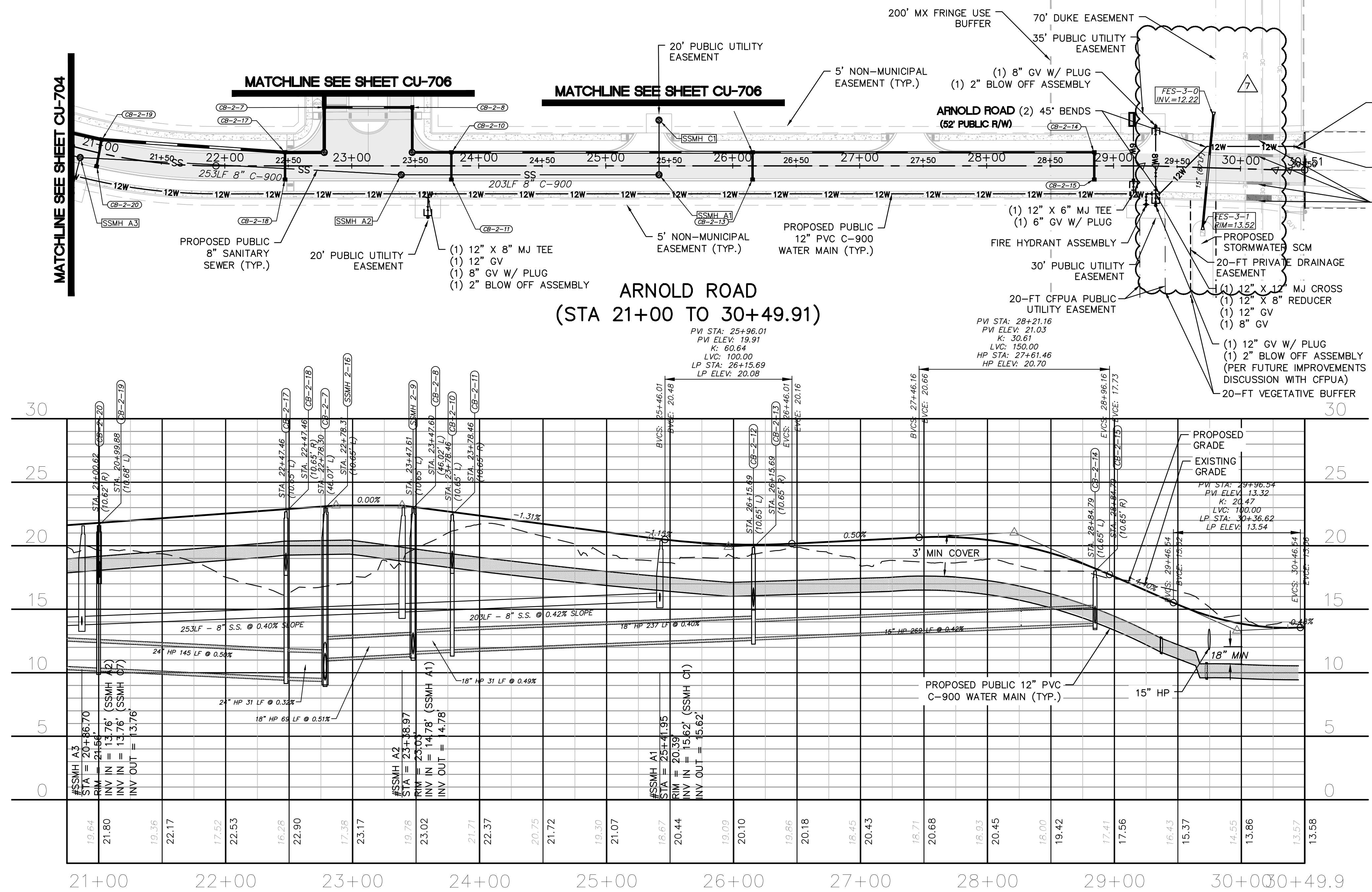
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HORIZONTAL: 1"=120'  
VERTICAL: 1"=5'

M&C FILE NUMBER  
**CU - 704**  
DRAWING NUMBER  
**19**

STATUS: **FINAL DRAWINGS**  
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REVISION  
**7**

REVISION TO UTILITY SERVICES AND ARNOLD ROAD DRAINAGE



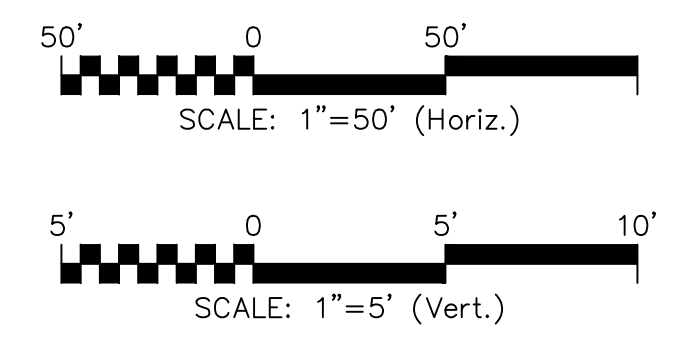
ARNOLD ROAD (STA 21+00 TO 30+49.91)

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**PLAN AND PROFILE**  
**ARNOLD DRIVE**  
**STA 21+00 TO 30+49.91**

DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

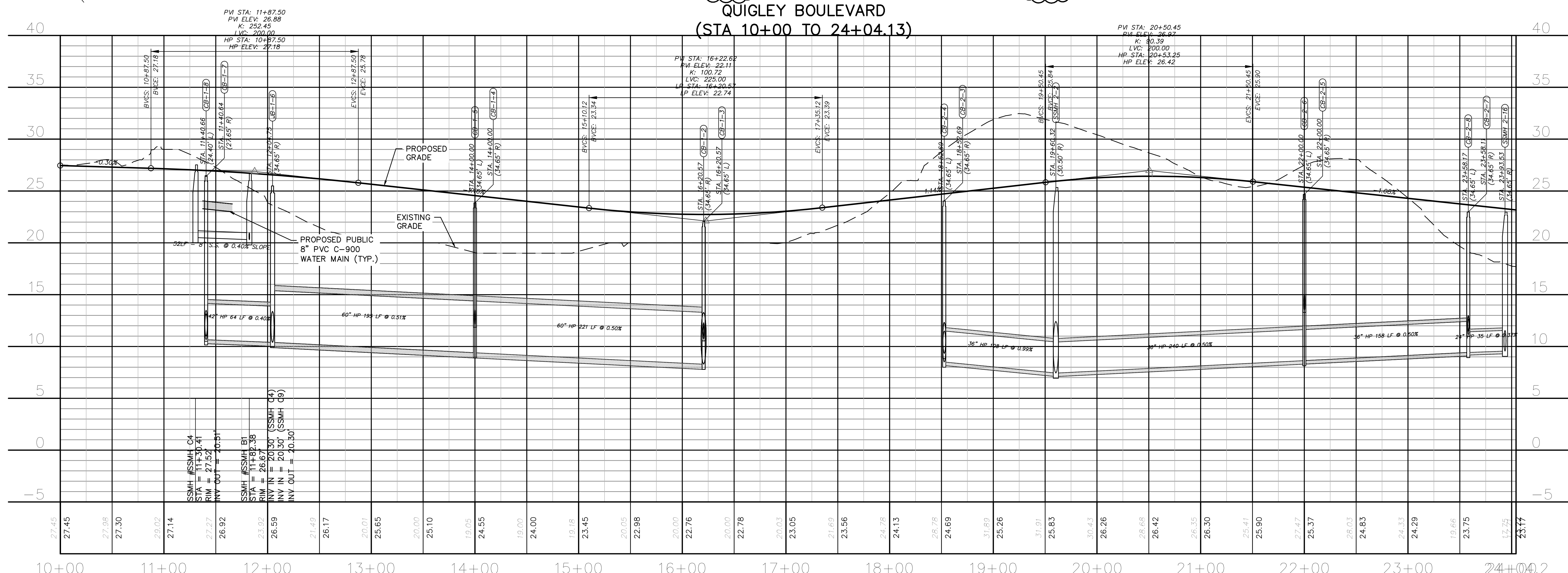
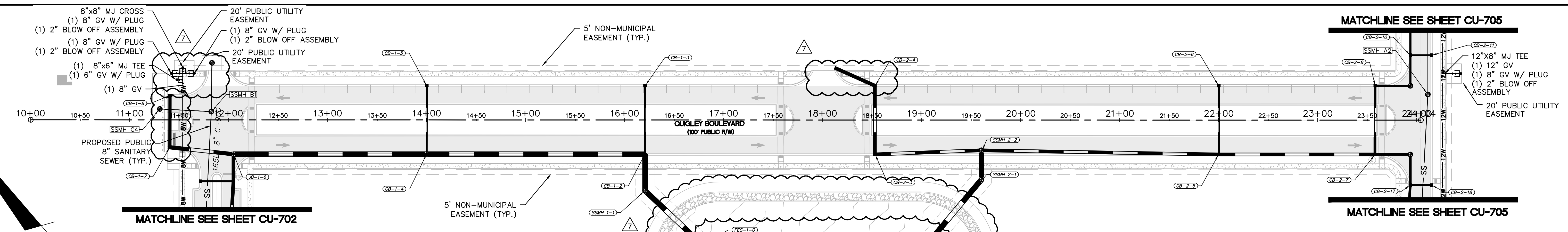
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VERTICAL: 1"=5'

M&C FILE NUMBER  
**CU-705**  
DRAWING NUMBER  
**20**

STATUS: **FINAL DRAWINGS**  
ISSUED FOR CONSTRUCTION

REVISION  
**7**



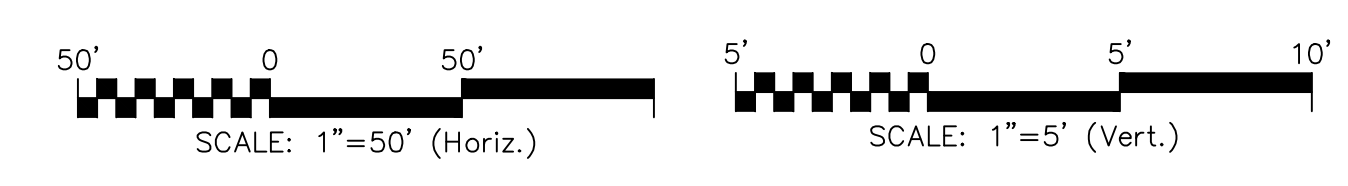


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**PLAN AND PROFILE**  
**QUIGLEY ROAD**  
**STA 10+00 TO 24+04.13**

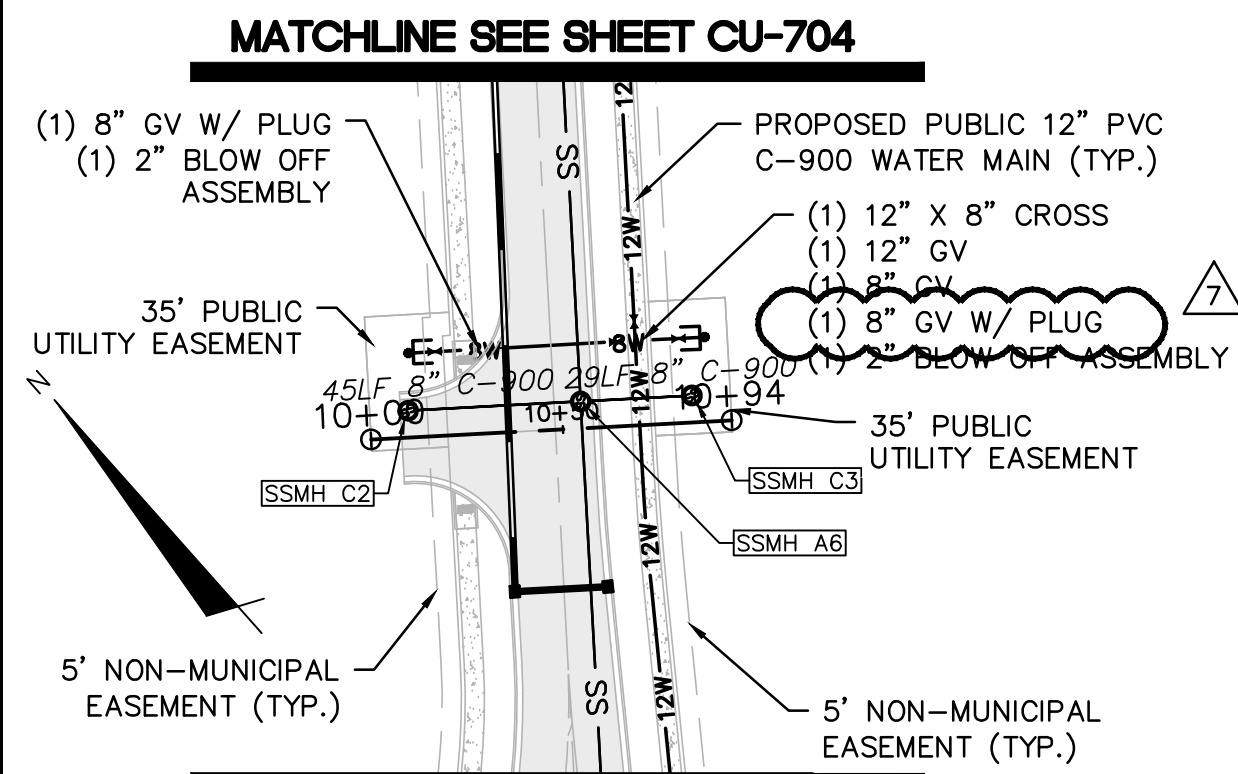
DATE: 08/19/2020  
MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR. KCBE

SCALE  
HORIZONTAL: 1"=50'  
VERTICAL: 1"=5'

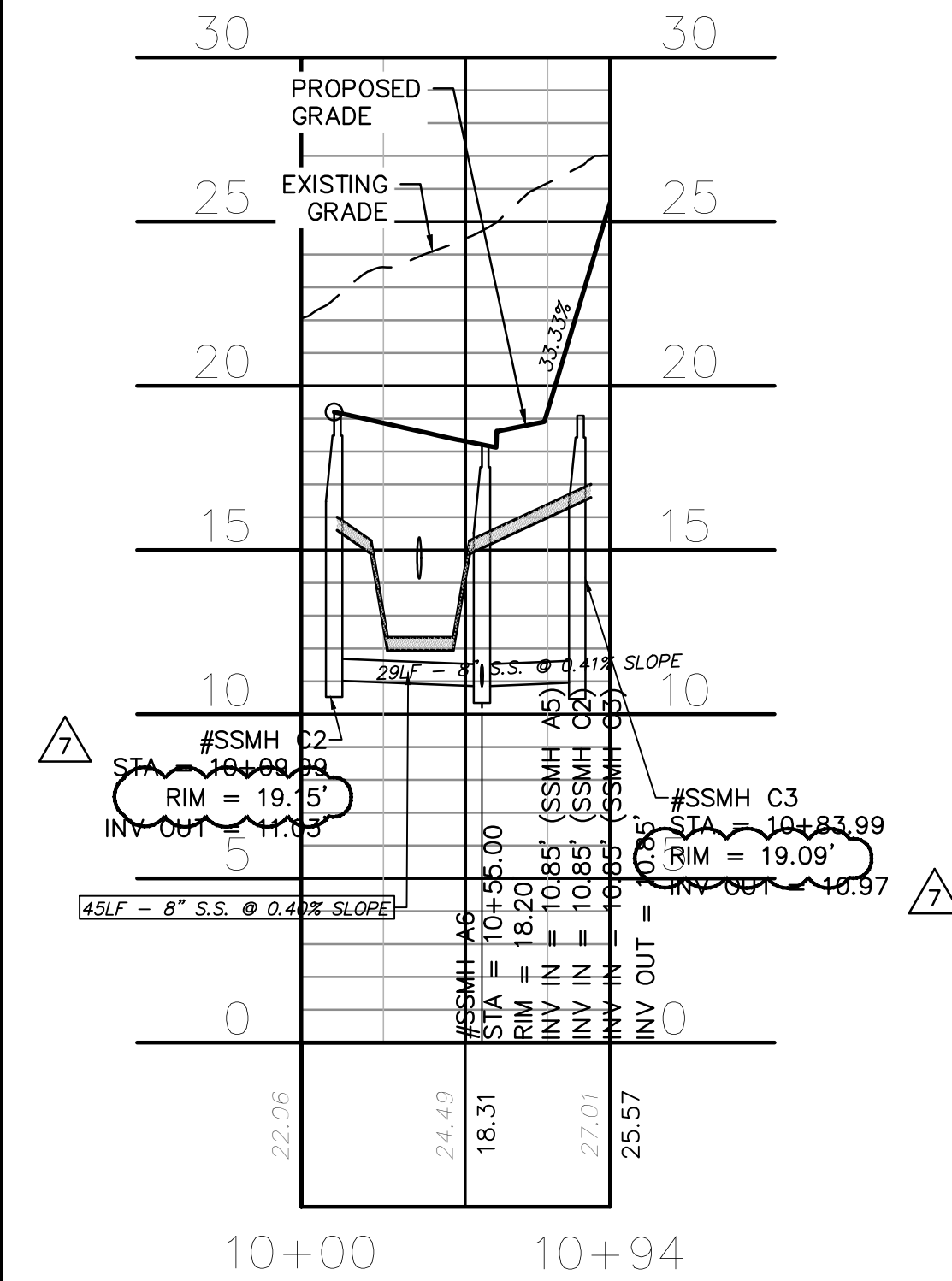
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ISSUED FOR CONSTRUCTION

REVISION  
**7**

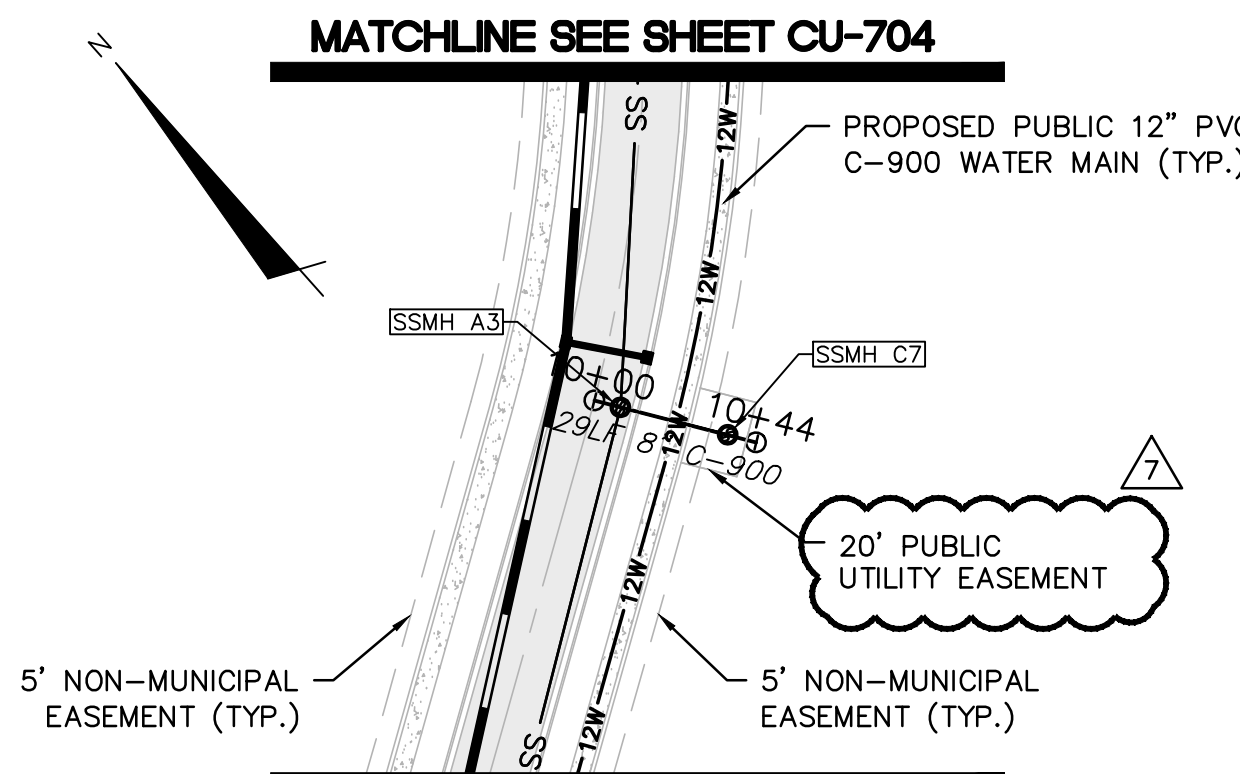
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**CU-706**  
DRAWING NUMBER  
**21**



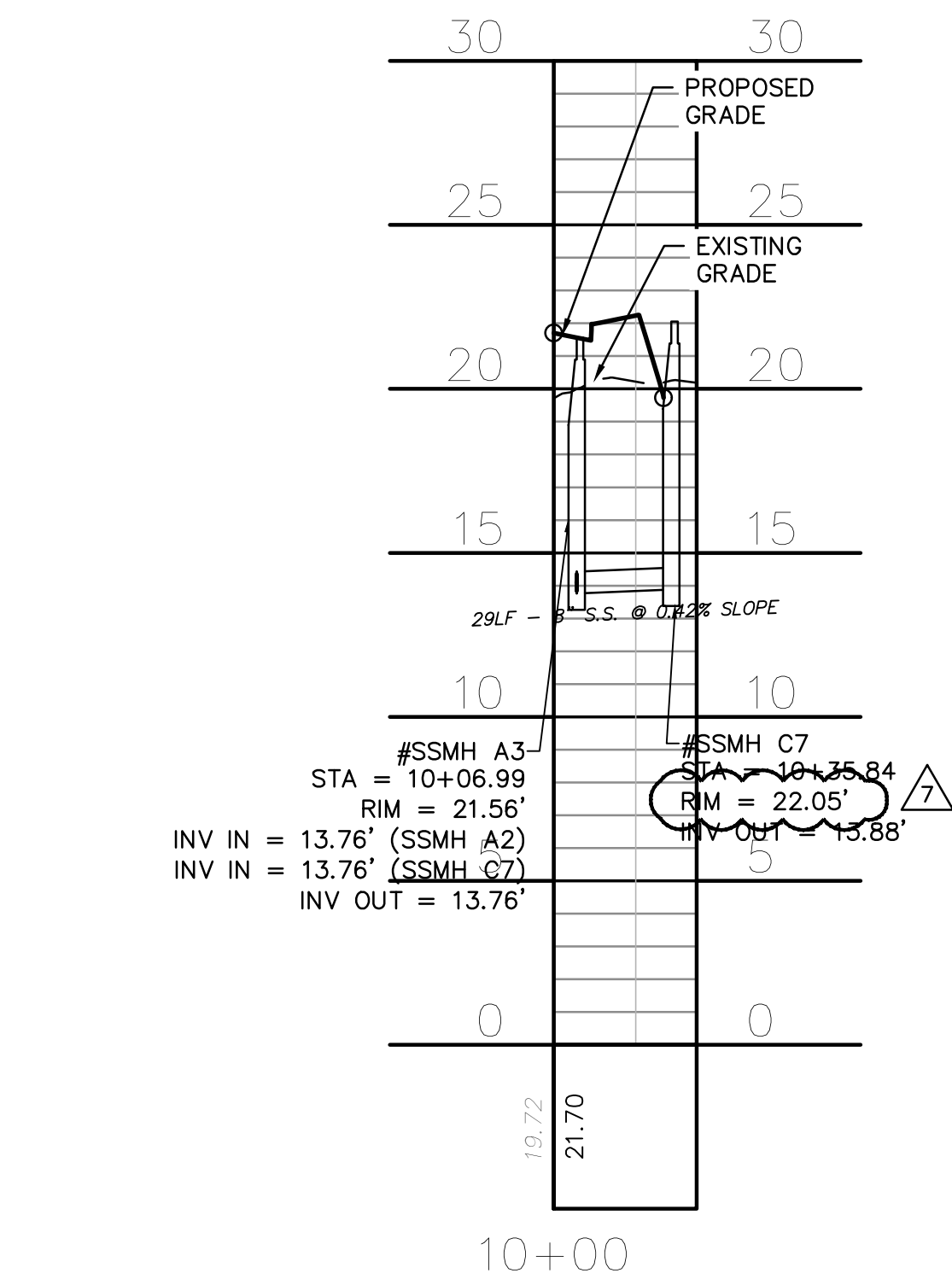
**MATCHLINE SEE SHEET CU-704**  
**ARNOLD ROAD - DW #1**  
**(STA 10+00 TO 10+94)**



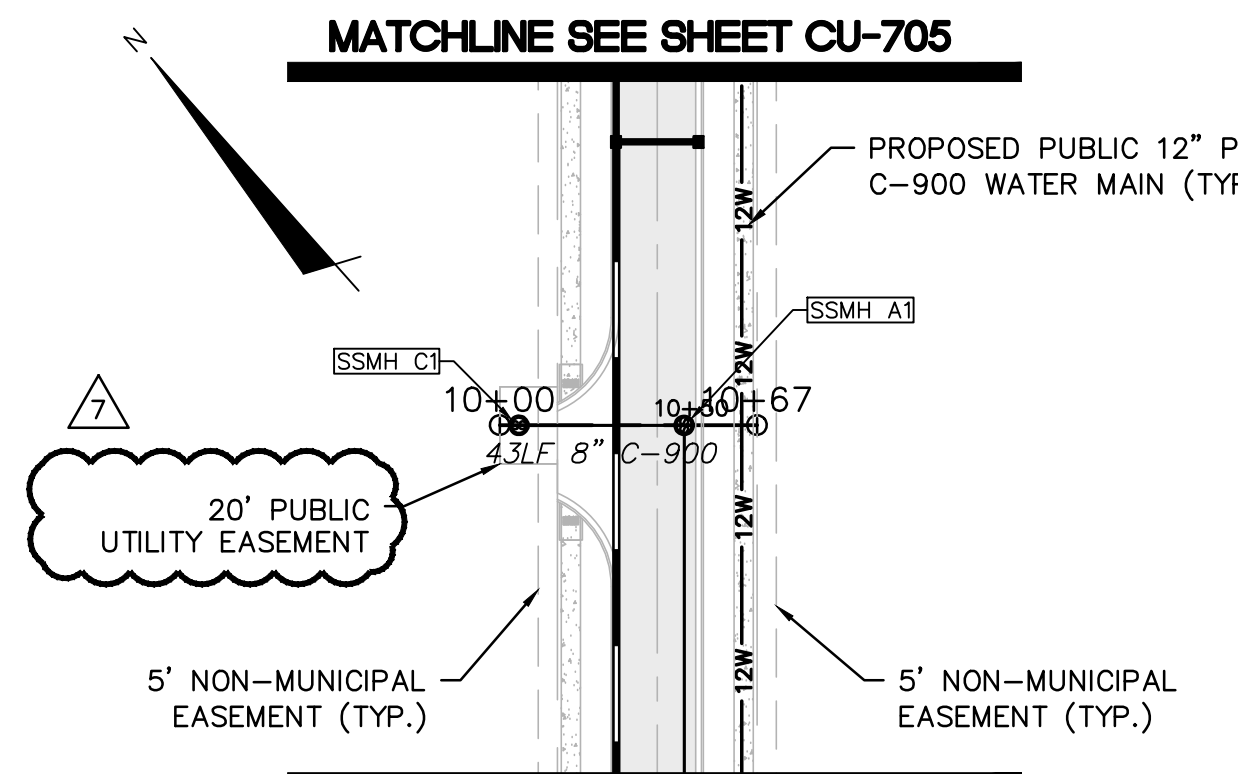
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**(STA 10+00 TO 10+94)**



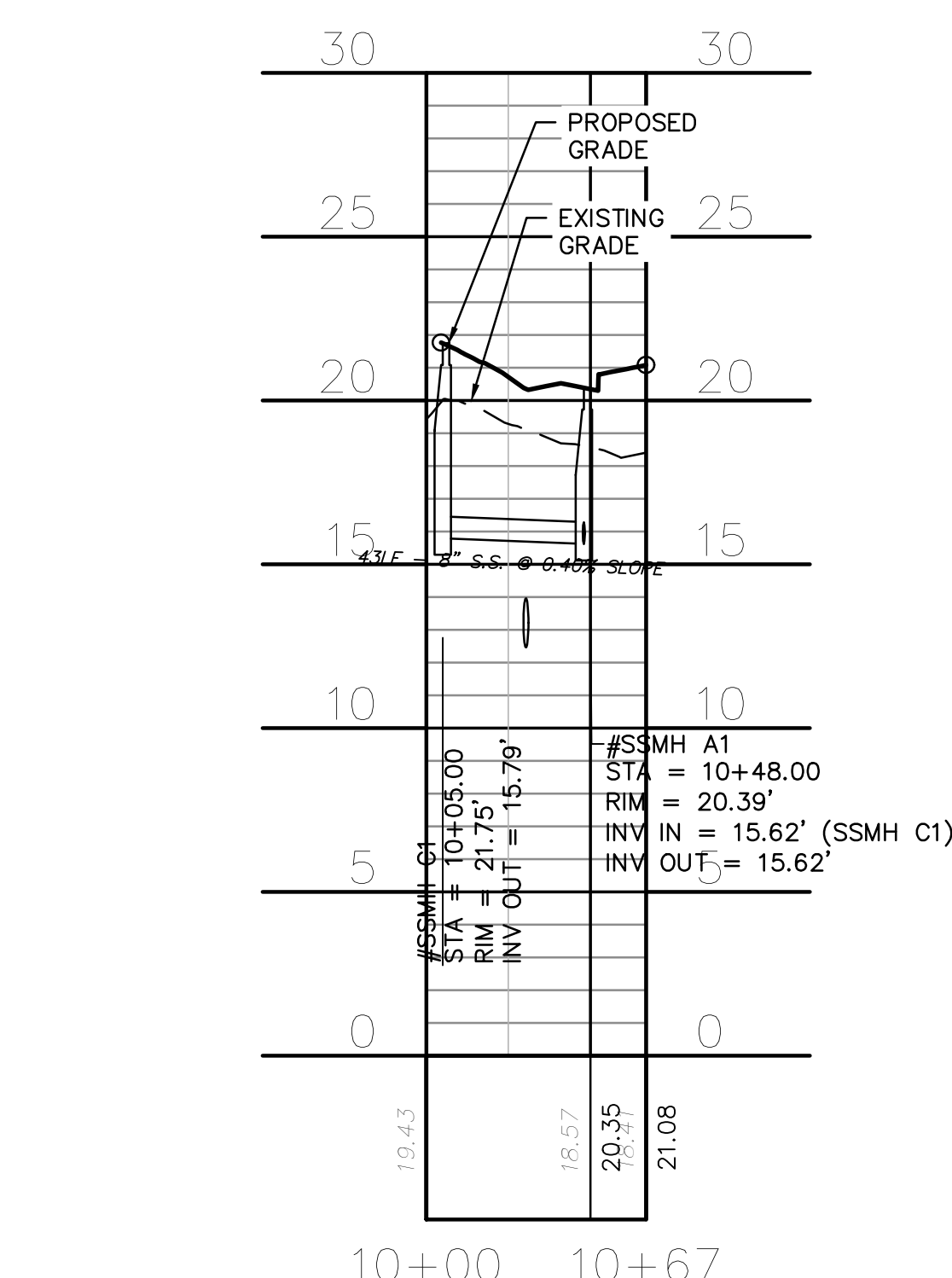
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**ARNOLD ROAD - DW #2**  
**(STA 10+00 TO 10+44)**



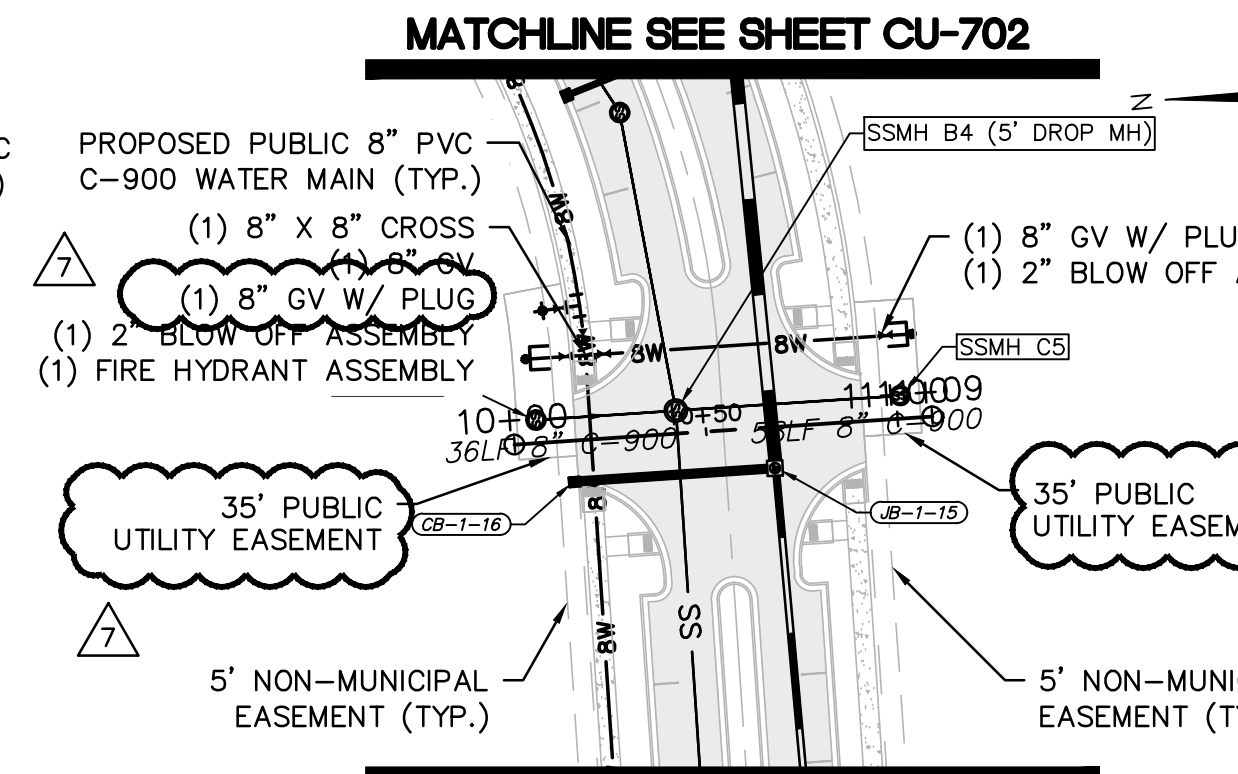
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**(STA 10+00 TO 10+44)**



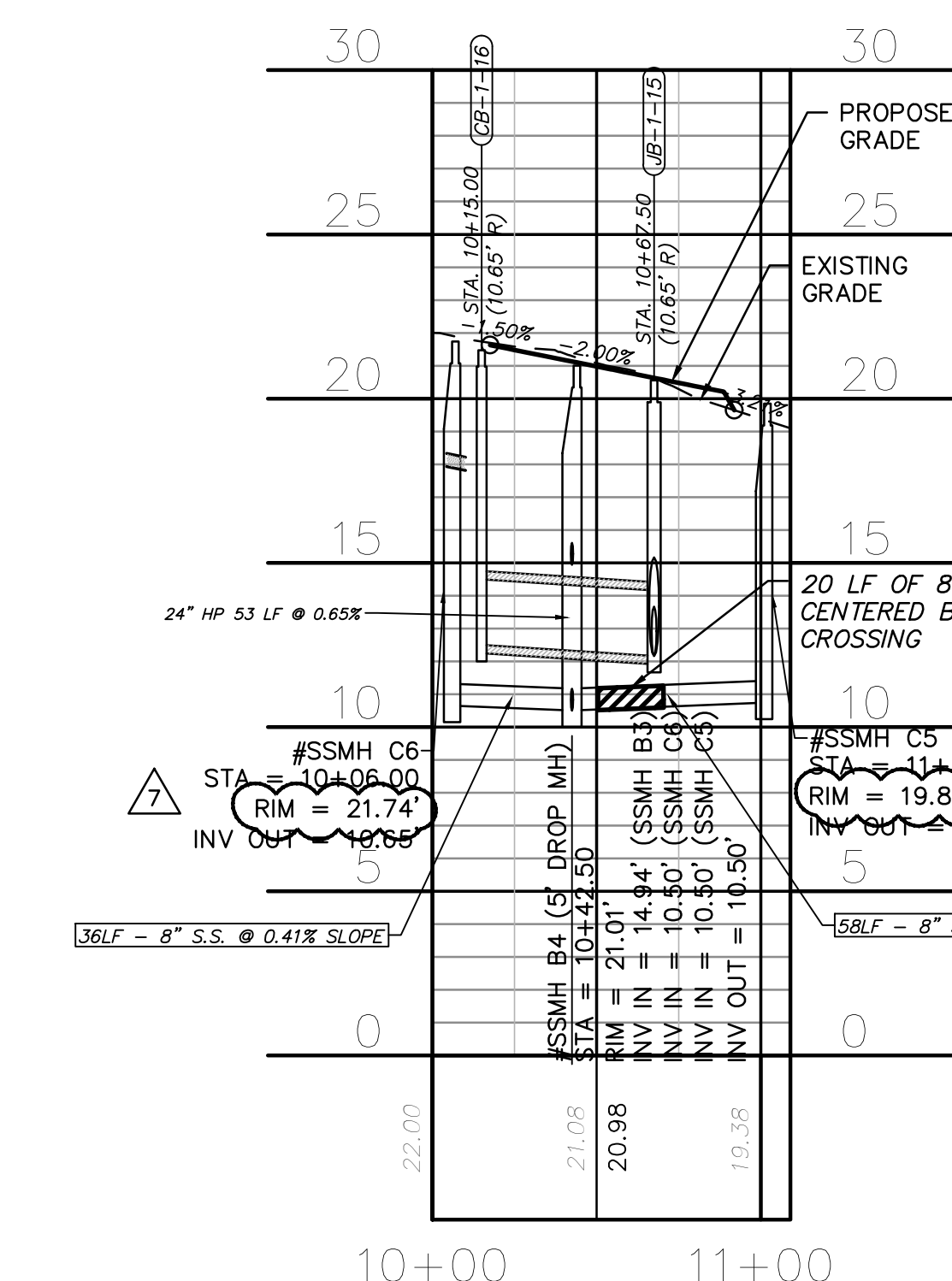
**MATCHLINE SEE SHEET CU-705**  
**ARNOLD ROAD - DW #3**  
**(STA 10+00 TO 10+67)**



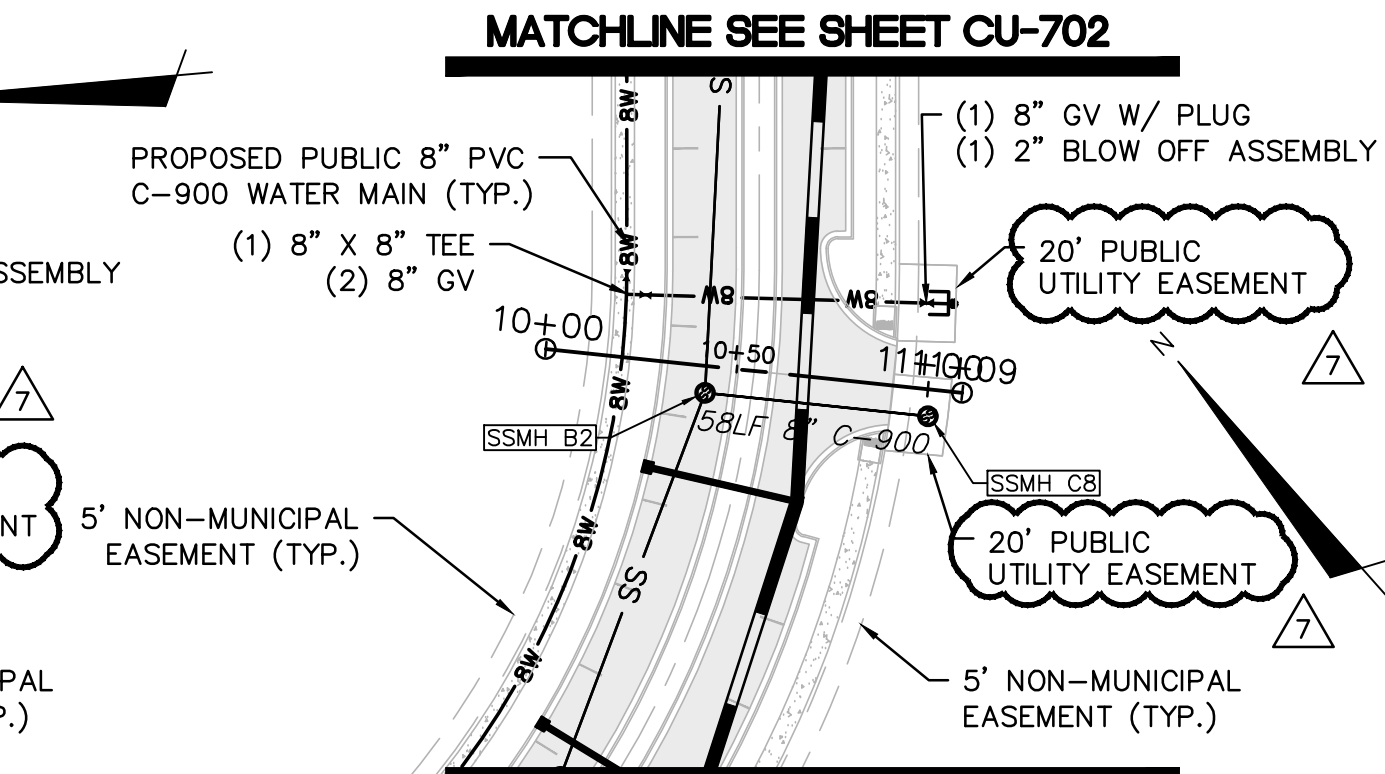
**ARNOLD ROAD - DW #3**  
**(STA 10+00 TO 10+67)**



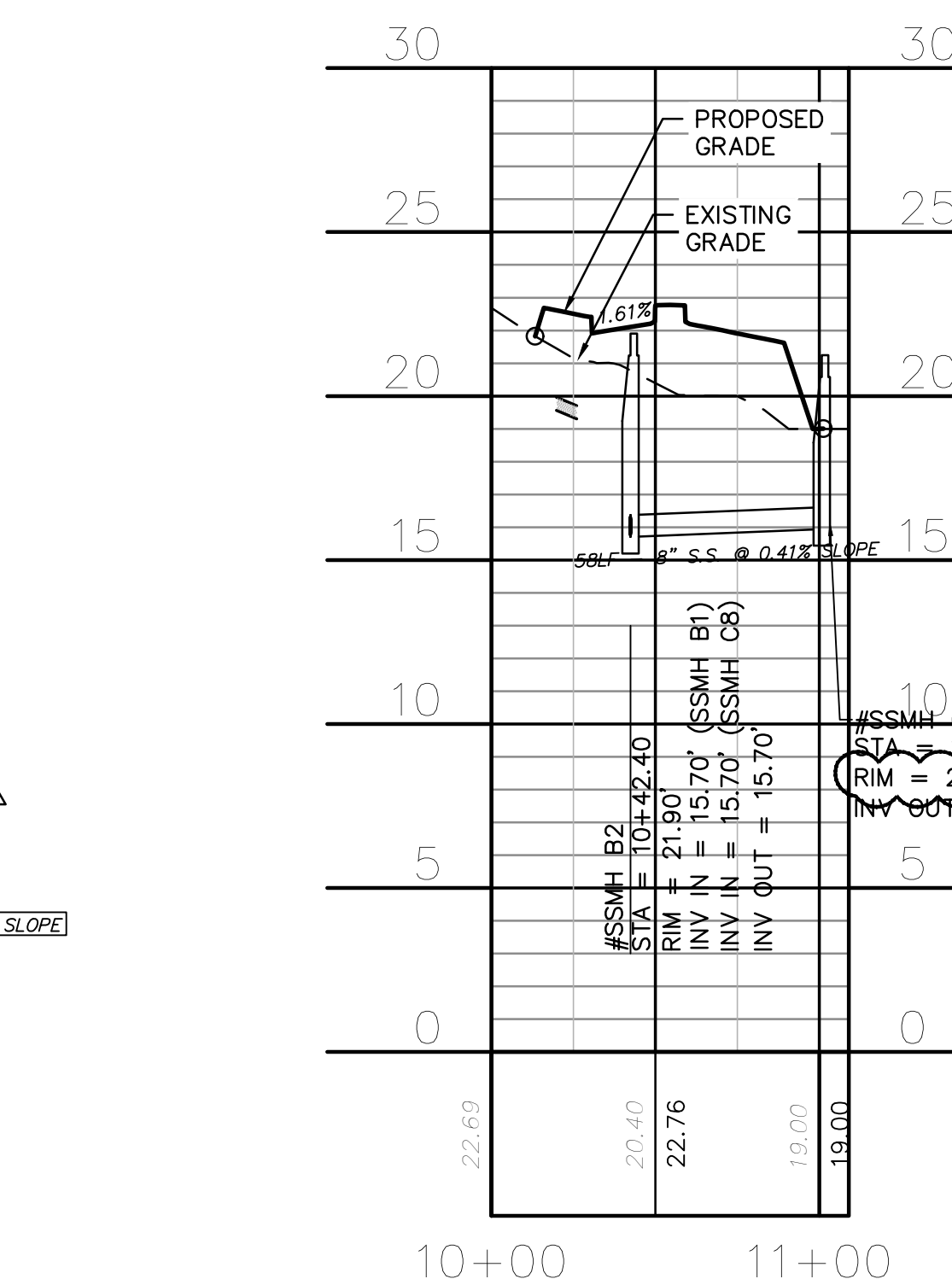
**MATCHLINE SEE SHEET CU-702**  
**LEDBURY ROAD - DW #1**  
**(STA 10+00 TO 11+09)**



**LEDBURY ROAD - DW #1**  
**(STA 10+00 TO 11+09)**



**MATCHLINE SEE SHEET CU-702**  
**LEDBURY ROAD - DW #2**  
**(STA 10+00 TO 11+09)**



**LEDBURY ROAD - DW #2**  
**(STA 10+00 TO 11+09)**

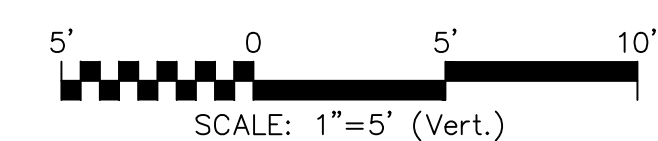
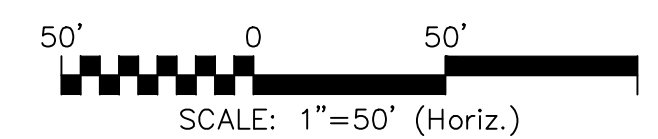
**CFPUA STANDARD NOTES:**

- ALL PROPOSED ADDITIONS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) WATER DISTRIBUTION AND SANITARY SEWER COLLECTION SYSTEMS, AS SHOWN AND SPECIFIED HEREIN, SHALL BE DESIGNED AND CONSTRUCTED TO CONFORM TO STATE RULES AND THE CFPUA'S MINIMUM TECHNICAL STANDARDS. THE CFPUA MINIMUM TECHNICAL STANDARDS ARE CONTAINED IN THE CURRENT DESIGN GUIDANCE MANUAL, MATERIAL SPECIFICATION MANUAL, TECHNICAL SPECIFICATIONS FOR CONSTRUCTION, AND STANDARD DRAWING DETAILS.
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE 18" INSIDE RIGHT-OF-WAY LINE.
- ALL SEWER SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL ALSO BE CONSTRUCTED OF DIP.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE TYPE 316.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 6 FEET FROM ALL PROPERTY CORNERS.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- UNUSED SERVICES SHALL BE ABANDONED. ABANDONED WATER SERVICES SHALL BE DISCONNECTED FROM MAIN.
- A MINIMUM OF 10' OF MAIN LINE, 5' UPSTREAM AND 5' DOWNSTREAM SHALL BE REPLACED FOR NEW CONNECTIONS TO EXISTING CLAY GRAVITY SEWER MAINS.
- A MINIMUM OF 20' OF MAIN LINE, 10' UPSTREAM AND 10' DOWNSTREAM SHALL BE REPLACED FOR NEW CUT IN MANHOLES ON EXISTING CLAY GRAVITY SEWER MAINS.
- PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT PERMITTED.
- WATER MAIN AND FORCE MAIN PIPE INSTALLED BY OPEN CUT SHALL BE BURIED AT A MINIMUM OF THREE (3) FEET AND A MAXIMUM OF FIVE (5) FEET BELOW FINISHED GRADE. DEPTHS GREATER THAN FIVE (5) FEET MUST BE APPROVED BY CFPUA.
- ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

△ REVISION TO UTILITY SERVICES AND UTILITY EASEMENTS

**UTILITY NOTES:**

- ALL VALVES AND FITTINGS TO BE RESTRAINED JOINT OR BLOCKED PER CFPUA STANDARD DETAILS AND SPECIFICATIONS. SEE CFPUA STANDARD DETAIL SHEETS AND UTILITY NOTES G-002.
- VALVE LOCATIONS TO BE FIELD ADJUSTED TO AVOID PLACEMENT WITHIN HANDICAP RAMPS.
- WATER METERS AND CLEAN OUTS TO BE INSTALLED ON STRUCTURE SIDE OF MAIN (NO REVERSE TAPS).
- SANITARY SEWER MANHOLE RIMS TO BE ADJUSTED TO PROPOSED CONVENTIONAL PHASE 7 & 8 ROAD GRADE.



REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIETLY MEDIAN LANDSCAPE	12-08-2021
5	CFPUA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	CFPUA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-28-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
 REVISIONS  
 ISSUED AFTER  
 CONSTRUCTION  
 PERMITTING

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**RIVERLIGHTS**  
 NORTH AMERICA SEKISUI HOUSE, LLC

**RIVERLIGHTS MX-3**  
 MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**PLAN AND PROFILE**  
**FUTURE SERVICE CONNECTIONS**

DATE: 08/19/2020  
 MCE PROJ. # 02735-0285  
 DRAWN: EEM/JEB  
 DESIGNED: EEM  
 CHECKED: KCBE  
 PROJ. MGR. KCBE

SCALE  
 HORIZONTAL: 1"=50'  
 VERTICAL: 1"=5'

M&C FILE NUMBER  
**CU-707**  
 DRAWING NUMBER  
**22**

STATUS: FINAL DRAWINGS  
 ISSUED FOR CONSTRUCTION

REVISION  
**7**

**SEEDBED PREPARATION:**

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTRANCE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW\*).
- CONTINUE TILLAGE UNTIL A WELL - PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- APPLY:
  - AGRICULTURAL LIMESTONE - 2 TONS/ACRE
  - FERTILIZER - 1000 LBS/ACRE (10-10-10)
  - SUPERPHOSPHATE - 500 LBS/ACRE (20%)
  - MULCH - 2 TONS/ACRE (SMALL GRAIN STRAW)
  - ANCHOR - ASPHALT EMULSION AT 450 GAL/ACRE

GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL
BERMUDA, COMMON	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
FESCUE, TALL (KENTUCKY 31)	5-7 LBS	JUNE - AUGUST FEB. - OCT.	25 LBS 10-10-10
SERICEA LESPEDEZA (SLOPES)	1-2 LBS	MARCH - APRIL	25 LBS 10-10-10

GRASS TYPE	AMOUNT/1000 S.F.	TIME OF SEEDING	INITIAL
RYE GRAIN	1-2 LBS.	APRIL - JUNE	25 LBS. 10-10-10
BROWNTOP MILLET	1-2 LBS	JUNE - AUGUST	25 LBS 10-10-10

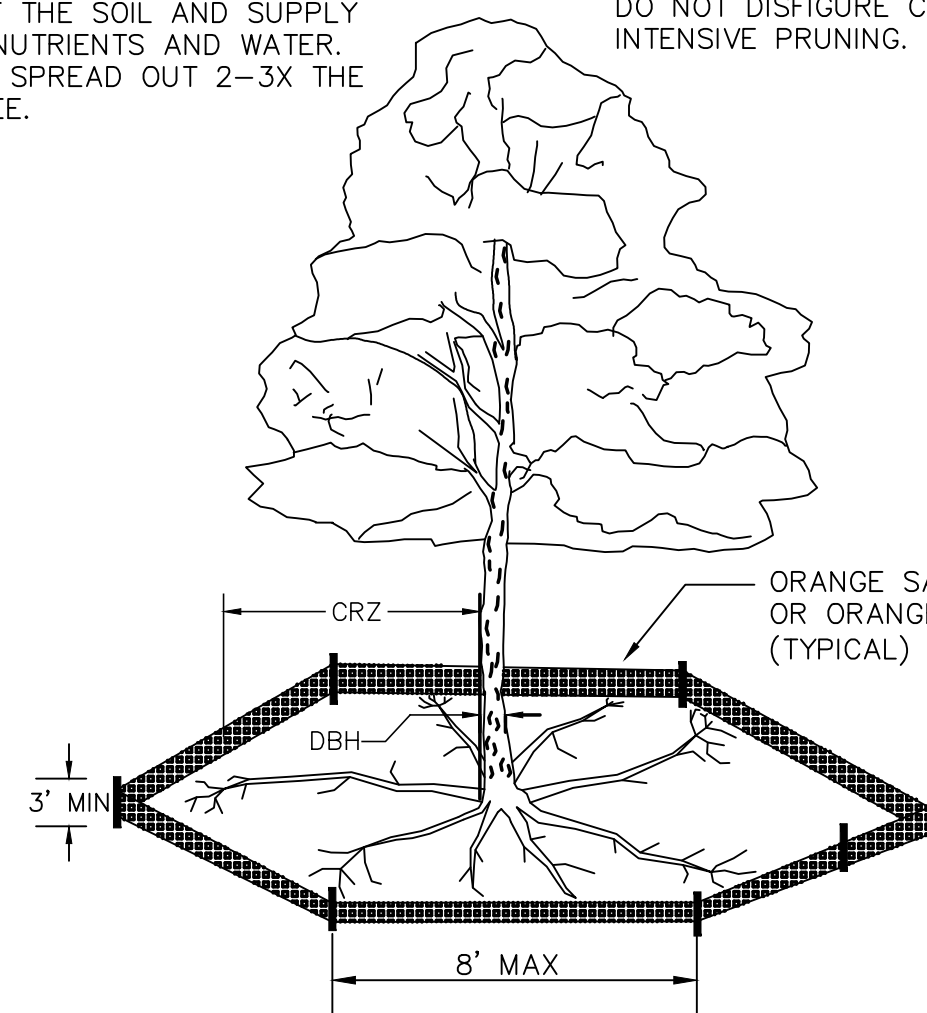
**TREE PROTECTION NOTES:**

- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS. [18-457(b)]
- PROTECTIVE FENCING IS TO BE PROPERLY MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. [18-458]
- LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS. [18-457(d)]
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING AND GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS. [18-458]
- NO EQUIPMENT IS ALLOWED ON THE SITE UNTIL ALL TREE PROTECTION FENCING AND SILT FENCING HAS BEEN INSTALLED AND APPROVED. [18-458]
- REGULATED AND SIGNIFICANT TREES IN THE STREET YARD [18-456(c)] AND ANY TREES IN ANY REQUIRED BUFFERS [18-456(b)] ARE REQUIRED TO BE RETAINED.

**GENERAL NOTES**

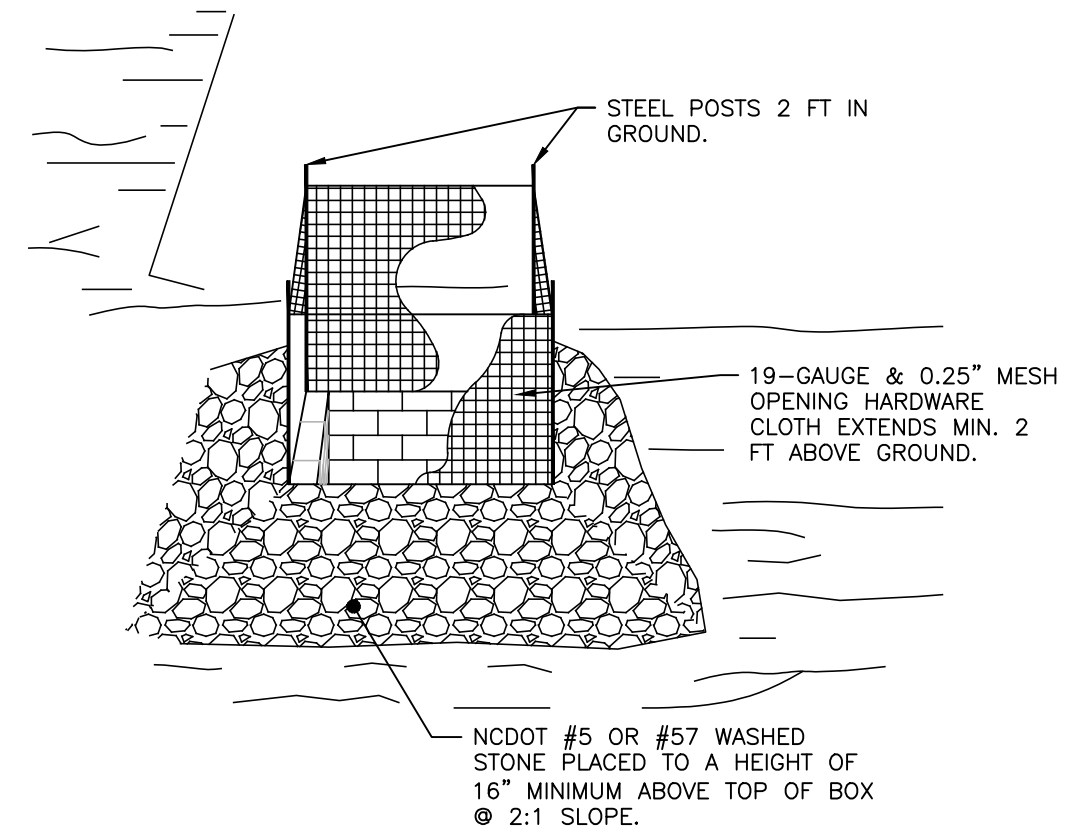
NOTE: THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE: CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.



- NOTES:**
- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
  - CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
  - IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
  - WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
  - FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
  - FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

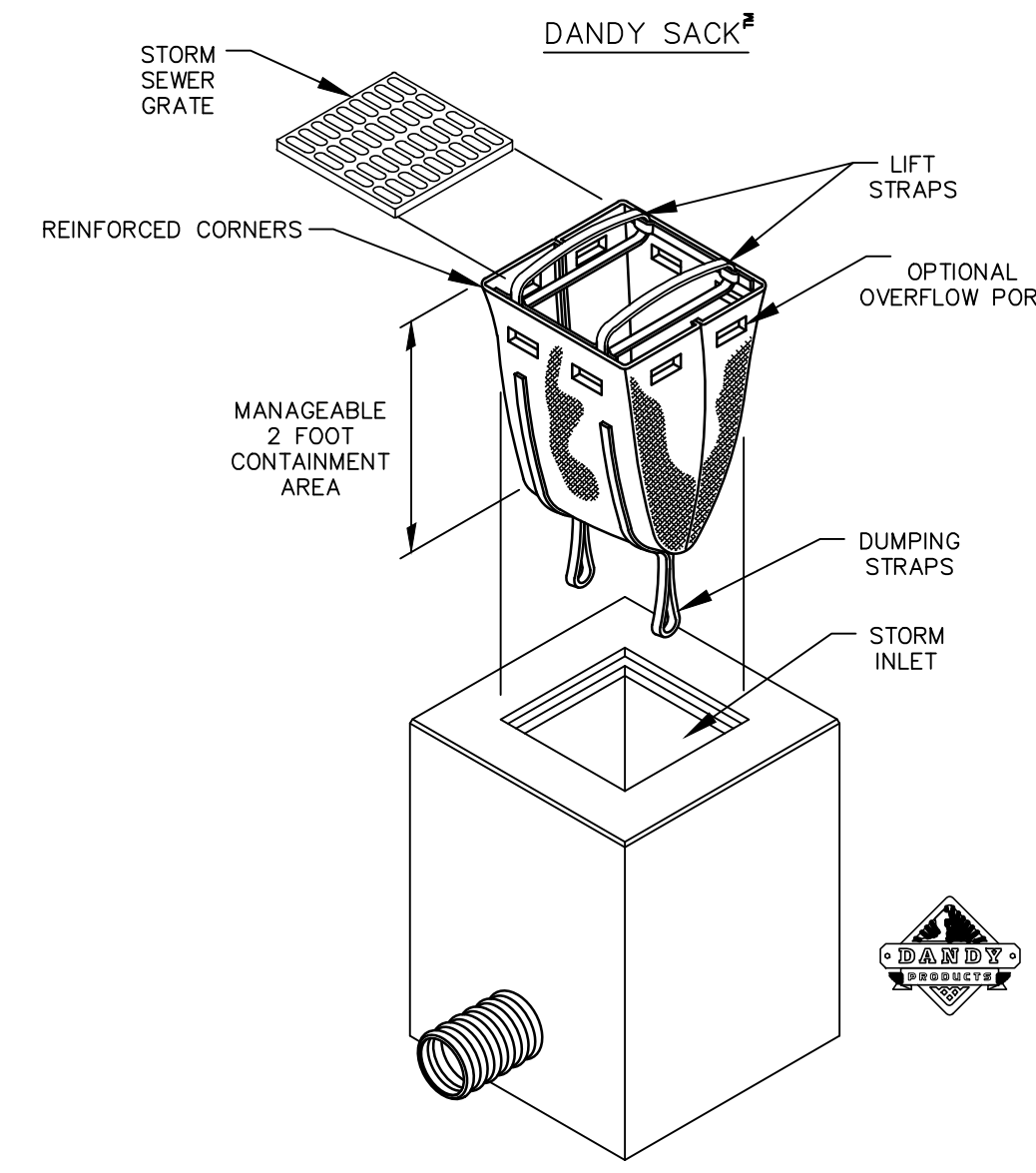
METHOD OF TREE PROTECTION DURING CONSTRUCTION  
SD 15-09



- NOTES:**
- DRIVE 5-FOOT STEEL POSTS (1.25 lb/lf steel) 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.
  - SURROUND THE POSTS WITH AT LEAST 19-GAUGE HARDWARE CLOTH WITH A 1/4-INCH MESH OPENING. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM FOR A MIN. 2 FEET ABOVE THE GROUND. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING AND REMOVAL IS RECOMMENDED.
  - UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET. THE TOP ELEVATION OF THE STRUCTURE MUST BE AT LEAST 1/2-INCHES LOWER THAN THE SURROUNDING GROUND ELEVATION DOWNSLOPE FROM THE INLET TO ENSURE THAT STORM FLOWS GET INTO THE INTENDED INLET, UNLESS OTHER SEDIMENT-CONTROL DEVICES ARE INSTALLED TO PREVENT OFF-SITE SEDIMENT-RUNOFF.

TEMP. STORM DRAIN INLET PROTECTION  
NOT TO SCALE

5 TEMPORARY STORM DRAIN INLET PROTECTION N/A



**DANDY SACK™ SPECIFICATIONS**

NOTE: THE DANDY SACK™ WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOPLYMENT FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	lb (kg)	1.78 (400) x 1.40 (315)
Grab Tensile Elongation	ASTM D 4632	%	15 x 15
Puncture Strength	ASTM D 4633	lb (kg)	0.67 (150)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	5500 (800)
Trapezoid Tear Strength	ASTM D 4533	lb (kg)	0.67 (150) x 0.75 (168)
UV Resistance	ASTM D 4355	%	96
Apparent Opening Size	ASTM D 4751	mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	2902 (75)
Permeability	ASTM D 4491	Sec	0.90

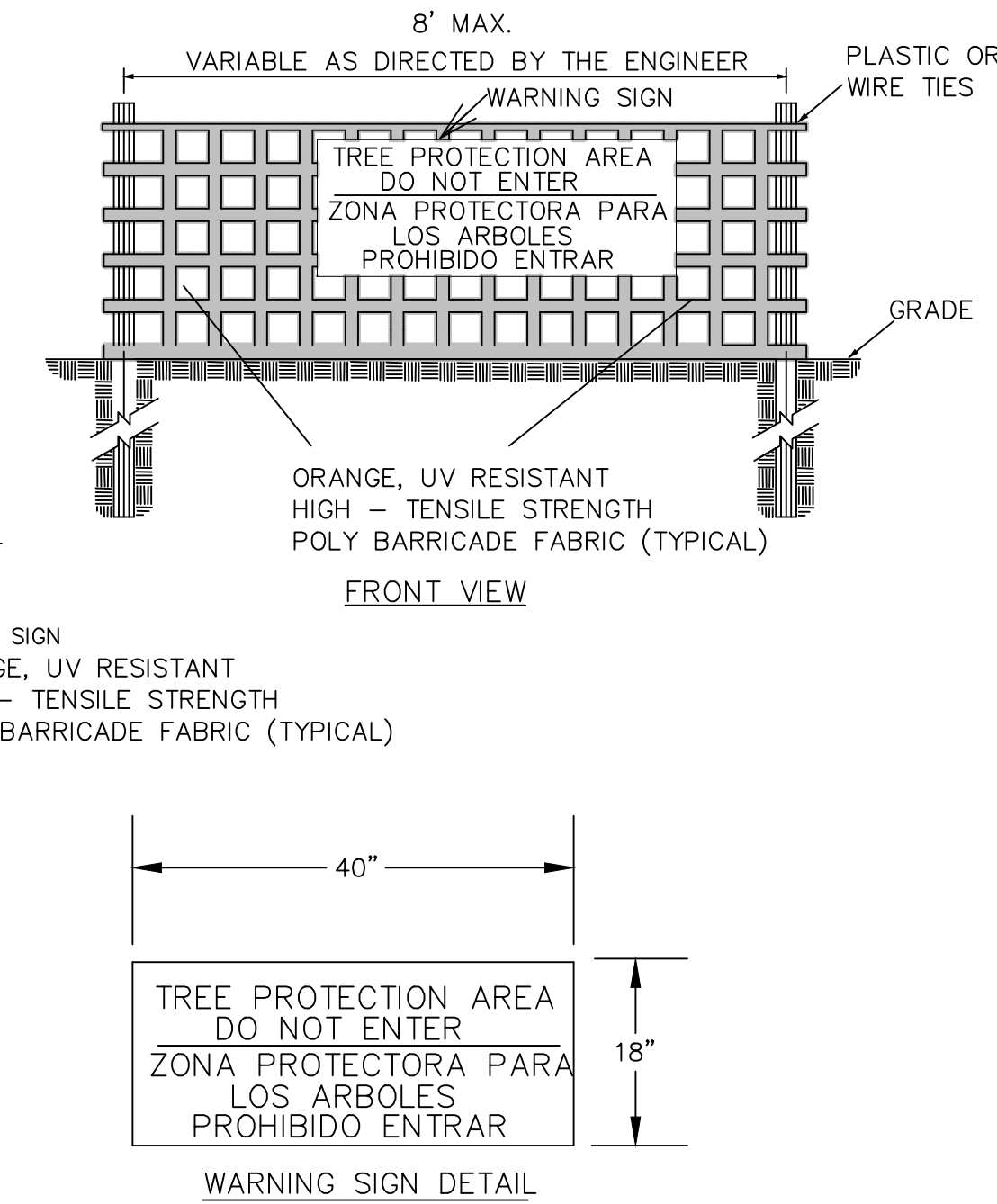
Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	lb (kg)	1.62 (365) x 0.80 (200)
Grab Tensile Elongation	ASTM D 4632	%	14 x 10
Puncture Strength	ASTM D 4633	lb (kg)	0.40 (90)
Mullen Burst Strength	ASTM D 3786	psi (kPa)	2097 (450)
Trapezoid Tear Strength	ASTM D 4533	lb (kg)	0.51 (115) x 0.33 (78)
UV Resistance	ASTM D 4355	%	96
Apparent Opening Size	ASTM D 4751	mm (US Std Sieve)	0.425 (40)
Flow Rate	ASTM D 4491	l/min/m² (gal/min/ft²)	5907 (145)
Permeability	ASTM D 4491	Sec	2.1

\*Note: All Dandy Sacks™ can be ordered with our optional oil absorbent pillows

TEMPORARY DANDY SACK® INLET PROTECTION  
NOT TO SCALE

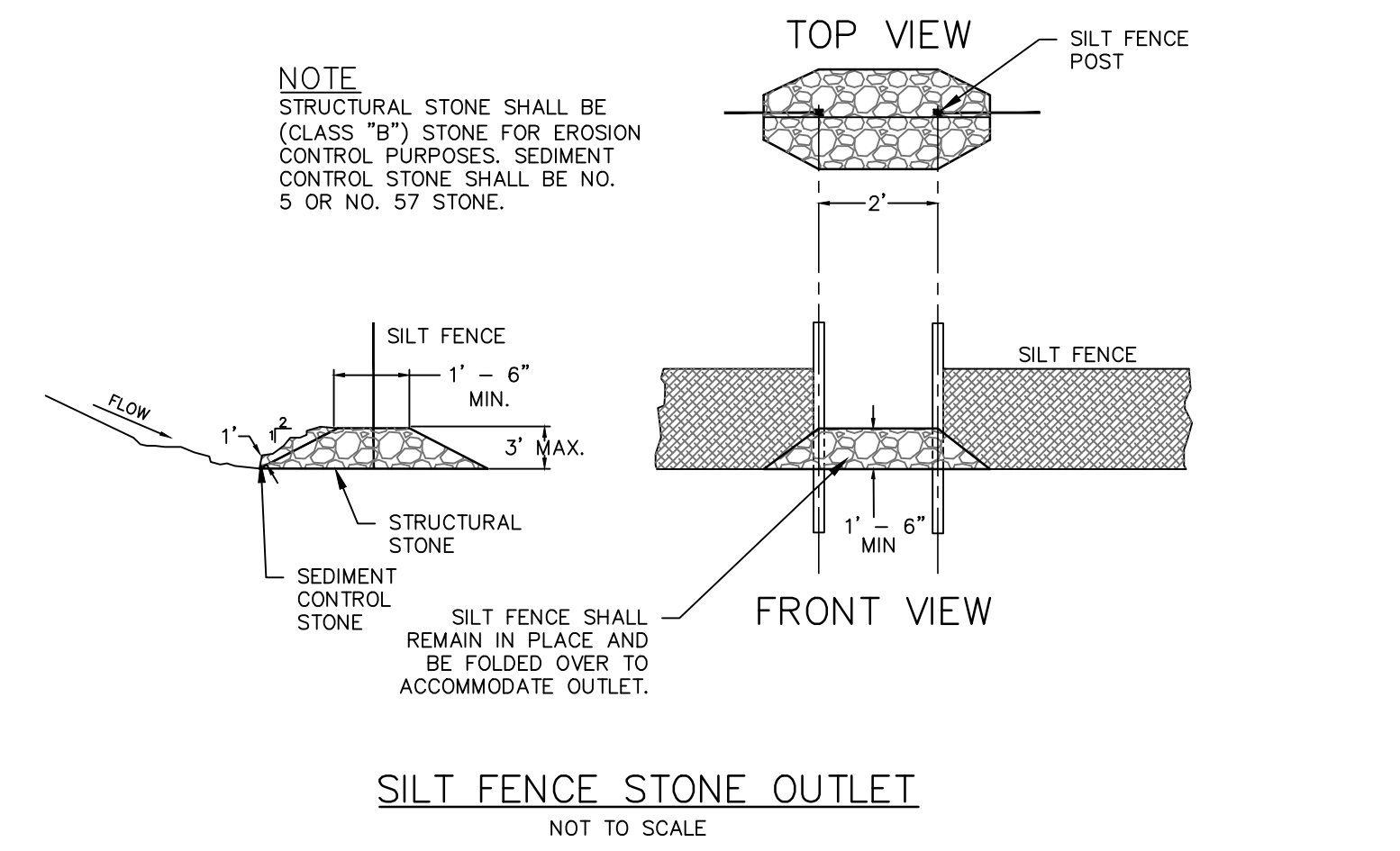
1 INLET PROTECTION NOT TO SCALE

6 GENERAL NOTES N/A

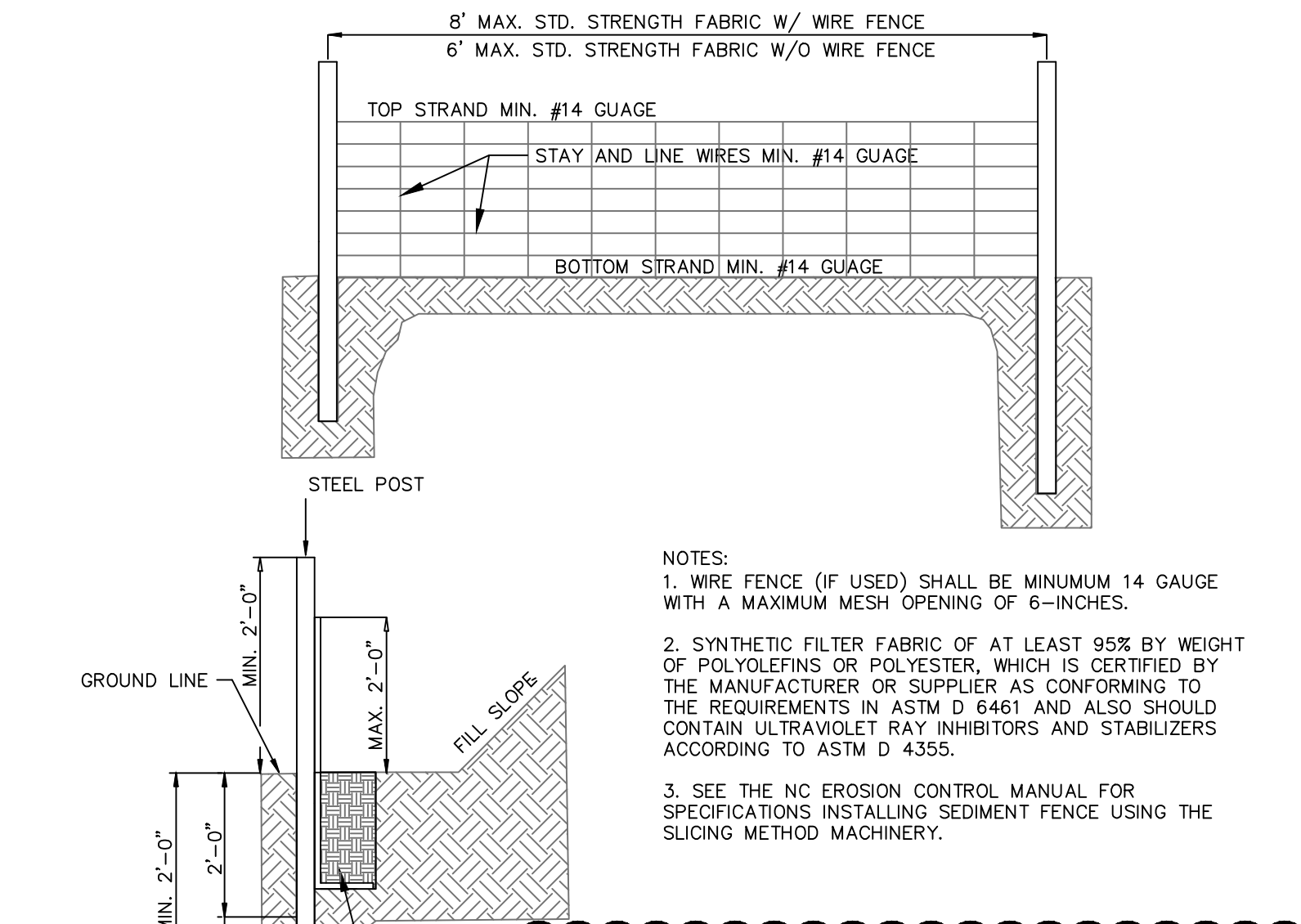


- NOTES:**
- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
  - WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
  - SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
  - ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
  - TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
  - ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

3 CONSTRUCTION ENTRANCE NOT TO SCALE



4 SILT FENCE OUTLET NOT TO SCALE



**SILT FENCE CALCULATION TABLE**

SILT FENCE No.	Drainage Area ac	Length ft	Acre per 100 ft	0.25 Acre per 100 ft YES/NO
SF1	0.76	660.0	0.11	YES
SF2	0.76	637.0	0.12	YES
SF4	0.89	394.0	0.23	YES
SF5	1.28	618.0	0.21	YES
SF6A	2.15	983.0	0.22	YES
SF6B	2.95	1383.0	0.21	YES
SF8	0.91	411.0	0.22	YES
SF9	1.16	626.0	0.19	YES
SF10	0.64	681.0	0.09	YES
SF11	2.18	2014.0	0.11	YES
SF12	1.32	1156.0	0.11	YES
SF13	0.78	1420.0	0.06	YES
SF14	0.87	1665.0	0.05	YES
SF15	0.81	1473.0	0.05	YES
SF16	0.91	1607.0	0.06	YES
SF17	0.71	932.0	0.08	YES
SF18	0.36	808.0	0.04	YES
SF19	0.30	1115.0	0.03	YES

Notes: Calculation taken from Table 6.62a of the NCDENR ESC Manual for slopes < 2% only.

2 TEMPORARY SILT FENCE NOT TO SCALE

7 TREE SAVE N/A

REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO AROUND ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUALITY MEDIAN LANDSCAPE	12-06-2021
5	CFRUA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-29-2021
3	CFRUA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-20-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
ISSUED FOR  
PERMITTING

SEAL

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**RIVERLIGHTS®**

NORTH AMERICA SEXISUI HOUSE, LLC

**RIVERLIGHTS MX-3**

MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

**SEDIMENT AND EROSION CONTROL DETAILS**

DATE: 08/19/2020  
MCE PROJ. #: 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: N/A  
VERTICAL: N/A

MFC FILE NUMBER: CE-501  
DRAWING NUMBER: 28

STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION

REVISION: 7

**20 SIDEWALK OVER GRASSED SWALE** N/A

**31 GUIDELINES FOR PAVE. MARK. AND SYMBOLS** N/A

**16 PAVEMENT MARKINGS TURN LANES** N/A

**14 CROSSWALK PAVEMENT MARKINGS** N/A

**19 NCDOT CONCRETE CURB, GUTTER AND CURB & GUTTER DETAIL** N/A

**17 PAVEMENT MARKINGS LINE TYPES** N/A

**15 PAVEMENT MARKING OFFSETS** N/A

**13 MONUMENT CASING DETAIL** N/A

REV. NO.	DESCRIPTIONS	REVISIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS		12-17-2021
6	REVISIONS TO COURSEY MEDIAN LANDSCAPE		12-06-2021
5	CPUPA - SINGLE SIDE UTILITY PLANS ISSUED FOR CONSTRUCTION		09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL		07-28-2021
3	CPUPA - UTILITY PLANS ISSUED FOR CONSTRUCTION		07-20-2021
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0	ISSUED FOR CONSTRUCTION		03-03-2021

FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
ISSUED FOR  
PERMITTING

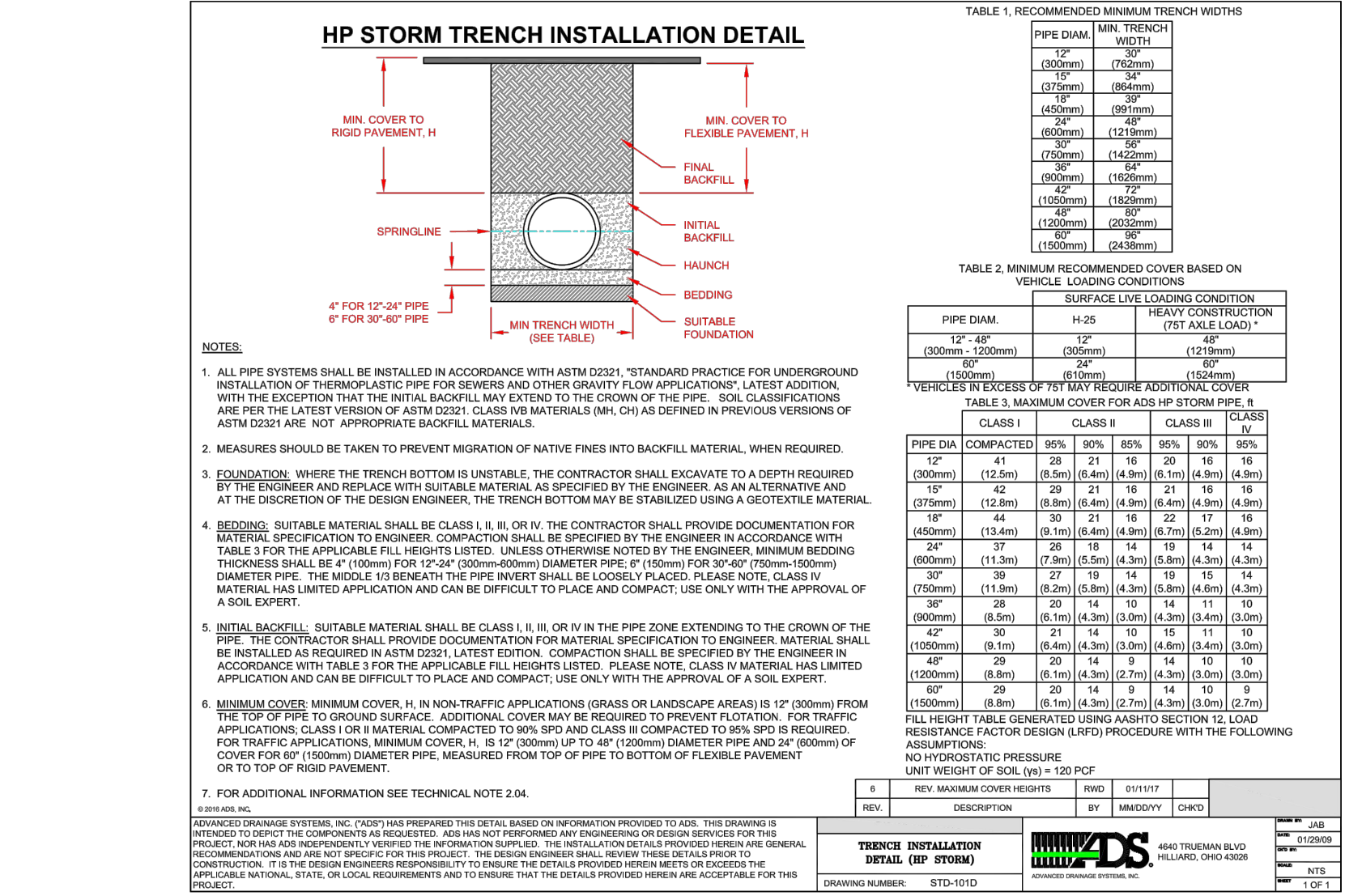
**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA

**SITE DETAILS**

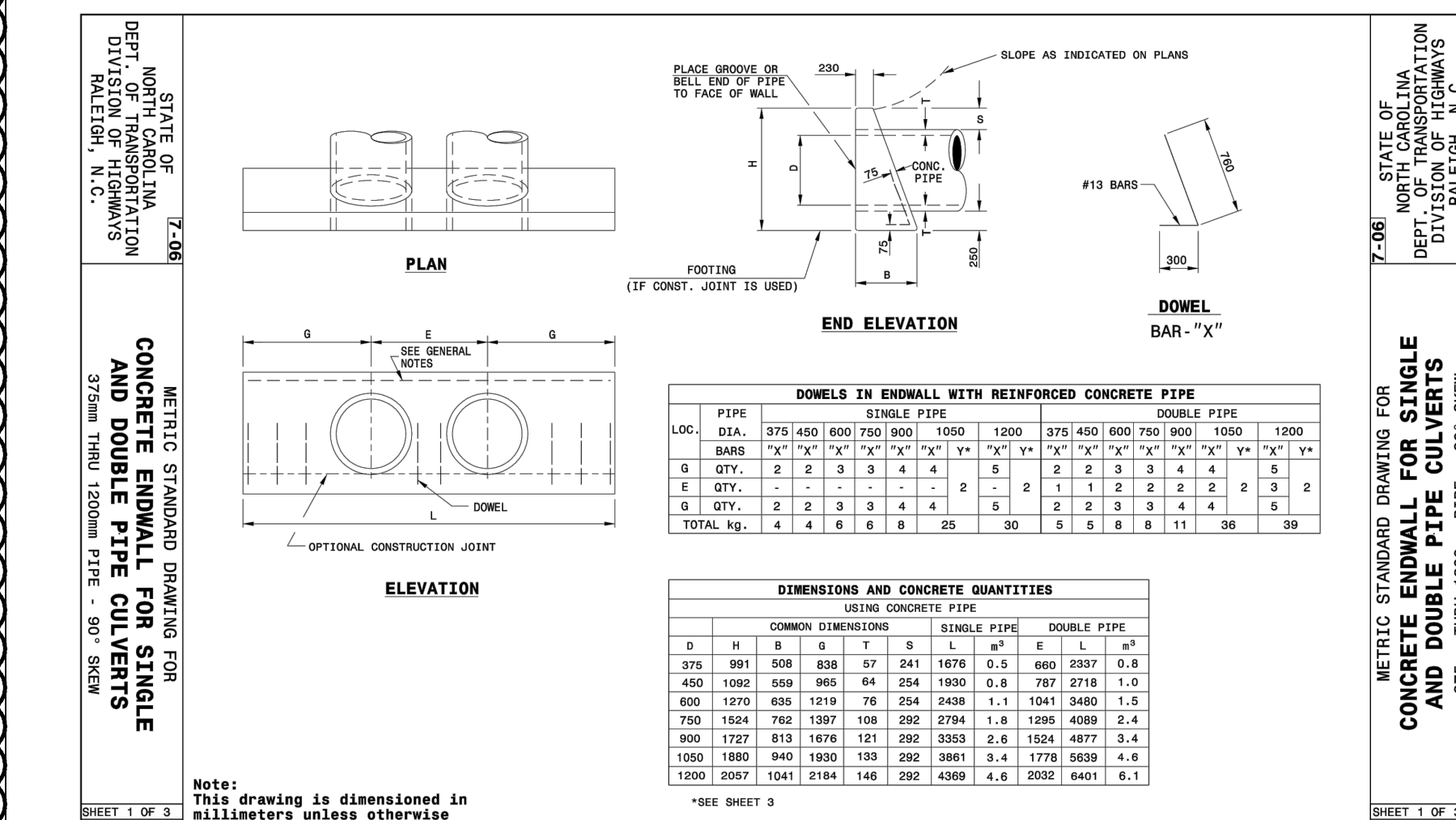
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MCE PROJ. # 02735-0285	HORIZONTAL: N/A	DRAWING NUMBER: 31
DRAWN: EEM/JEB	VERTICAL: N/A	
DESIGNED: EEM		
CHECKED: KCB		
PROJ. MGR.: KCB		

STATUS: FINAL DRAWINGS  
ISSUED FOR CONSTRUCTION

REVISIONS TO STORMWATER STRUCTURE TABLES FOR REVISIONS TO GRADING, ADDITION OF HP TRENCH INSTALLATION DETAIL.



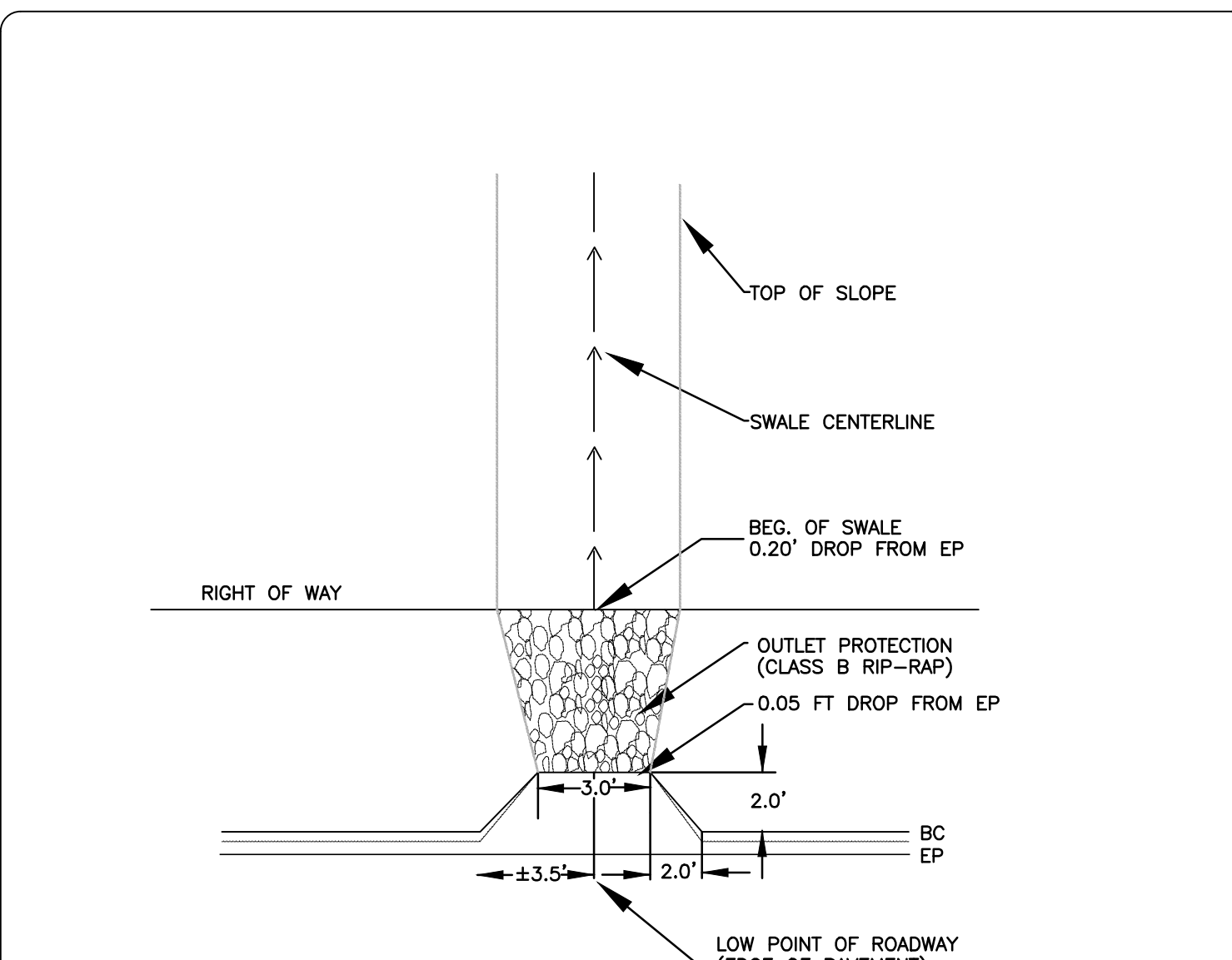
5 HP TRENCH INSTALLATION DETAIL N/A



4 CONCRETE ENDWALL N/A

STRUCTURE TABLE		STRUCTURE TABLE	
STRUCTURE NAME	DETAILS	STRUCTURE NAME	DETAILS
CB-2-17	RIM = 22.67 INV IN = 18.06 INV IN = 9.65 INV OUT = 9.65	CB-1-2	RIM = 22.04 INV IN = 8.29 INV IN = 10.69 INV OUT = 8.29
CB-2-18	RIM = 22.67 INV OUT = 18.17	CB-1-3	RIM = 22.04 INV OUT = 11.04
CB-2-19	RIM = 21.59 INV IN = 10.37 INV IN = 17.40 INV OUT = 10.37	CB-1-4	RIM = 23.86 INV IN = 9.39 INV IN = 12.01 INV OUT = 9.39
CB-2-20	RIM = 21.59 INV OUT = 17.51	CB-1-5	RIM = 23.86 INV OUT = 12.36
CB-2-21	RIM = 19.99 INV IN = 11.47 INV IN = 15.47 INV OUT = 11.47	CB-1-7	RIM = 26.41 INV IN = 10.65 INV OUT = 10.65
CB-2-22	RIM = 19.98 INV OUT = 15.57	CB-1-8	RIM = 26.48 INV OUT = 14.00
CB-2-23	RIM = 18.49 INV IN = 12.56 INV IN = 14.56 INV OUT = 12.56	CB-1-9	RIM = 24.58 INV IN = 10.53 INV IN = 12.53 INV OUT = 10.53
CB-2-24	RIM = 18.49 INV OUT = 14.67	CB-1-10	RIM = 24.58 INV OUT = 12.70
CB-2-25	RIM = 17.99 INV IN = 13.58 INV IN = 13.58 INV OUT = 13.58	CB-1-11	RIM = 21.16 INV IN = 11.15 INV IN = 11.15 INV OUT = 11.15
CB-2-26	RIM = 17.99 INV OUT = 13.69	CB-1-12	RIM = 21.05 INV OUT = 11.35
CB-2-27	RIM = 18.24 INV IN = 14.34 INV OUT = 14.34	CB-1-13	RIM = 18.38 INV IN = 11.59 INV IN = 11.59 INV OUT = 11.59
CB-2-28	RIM = 18.26 INV OUT = 14.45	CB-1-14	RIM = 19.98 INV OUT = 14.82
FES-1-0	RIM = 13.29 INV IN = 7.70	CB-1-16	RIM = 21.47 INV OUT = 12.50
FES-2-0	RIM = 12.25 INV IN = 6.67	CB-1-17	RIM = 18.40 INV IN = 13.00 INV OUT = 13.00
FES-3-0	RIM = 13.74 INV OUT = 12.22	CB-1-18	RIM = 18.29 INV OUT = 13.20
FES-3-1	RIM = 13.52 INV IN = 12.00	CB-2-3	RIM = 24.03 INV IN = 8.50 INV OUT = 8.50
HW-1-OUT	RIM = 16.00 INV IN = 10.00	CB-2-4	RIM = 24.03 INV IN = 9.33 INV OUT = 9.33
HW-1-OUTA	RIM = 16.00 INV IN = 10.00	CB-2-5	RIM = 24.67 INV IN = 8.63 INV IN = 10.39 INV OUT = 8.63
JB-1-6	RIM = 25.48 INV IN = 10.39 INV IN = 10.39 INV OUT = 10.39	CB-2-6	RIM = 20.56 INV IN = 12.16 INV IN = 12.16 INV OUT = 12.16
JB-1-15	RIM = 20.56 INV IN = 12.16 INV IN = 12.16 INV OUT = 12.16	CB-2-7	RIM = 22.97 INV IN = 11.13 INV IN = 9.42 INV OUT = 9.42
JB-1-OUT	RIM = 17.50 INV OUT = 10.50	CB-2-8	RIM = 22.97 INV IN = 11.48 INV OUT = 11.48
JB-1-OUTA	RIM = 17.50 INV OUT = 10.50	CB-2-10	RIM = 22.44 INV IN = 18.22 INV IN = 11.81 INV OUT = 11.81
SSMH 1-1	RIM = 19.48 INV IN = 8.11 INV OUT = 8.11	CB-2-11	RIM = 22.44 INV OUT = 18.33
SSMH 2-1	RIM = 27.25 INV IN = 7.20 INV OUT = 7.20	CB-2-12	RIM = 25.33 INV IN = 7.43 INV IN = 7.43 INV OUT = 7.43
SSMH 2-2	RIM = 25.33 INV IN = 7.43 INV IN = 7.43 INV OUT = 7.43	SSMH 2-9	RIM = 19.87 INV IN = 11.66
SSMH 2-9	RIM = 19.87 INV IN = 11.66	SSMH 2-16	RIM = 22.97 INV IN = 9.55 INV OUT = 9.55
SSMH 2-16	RIM = 22.97 INV IN = 9.55 INV OUT = 9.55	CB-2-13	RIM = 19.87 INV OUT = 15.43
CB-2-13	RIM = 18.00 INV IN = 13.89 INV IN = 13.89 INV OUT = 13.89	CB-2-14	RIM = 18.00 INV IN = 13.89 INV IN = 13.89 INV OUT = 13.89
CB-2-14	RIM = 18.00 INV IN = 13.89 INV IN = 13.89 INV OUT = 13.89	CB-2-15	RIM = 18.00 INV OUT = 14.00
CB-2-15	RIM = 18.00 INV OUT = 14.00		

1 STORM DRAINAGE STRUCTURE TABLE N/A



3 CURB OUTLET SCALE: NTS

**STORM DRAINAGE PIPE DATA TABLE**

FROM	TO	LENGTH	SIZE	PIPE TYPE	SLOPE	UPSTREAM INVERT	DOWNSTREAM INVERT
SSMH 2-16	CB-2-7	35.42'	24"	HP	0.37%	9.55	9.42
SSMH 2-9	CB-2-8	35.37'	18"	HP	0.51%	11.66	11.48
SSMH 2-2	SSMH 2-1	29.50'	60"	HP	0.78%	7.43	7.20
SSMH 2-1	FES-2-0	81.93'	60"	HP	0.65%	7.20	6.67
SSMH 1-1	FES-1-0	79.30'	60"	HP	0.51%	8.11	7.70
JB-1-OUTA	HW-1-OUTA	31.47'	60"	HP	1.59%	10.50	10.00
JB-1-OUT	HW-1-OUT	31.29'	60"	HP	1.60%	10.50	10.00
JB-1-15	CB-1-13	115.07'	36"	HP	0.50%	12.16	11.59
JB-1-6	CB-1-4	195.25'	60"	HP	0.51%	10.39	9.39
FES-3-0	FES-3-1	87.30'	15"	HP	0.25%	12.22	12.00
CB-2-28	CB-2-27	24.03'	15"	HP	0.44%	14.45	14.34
CB-2-27	CB-2-25	153.16'	15"	HP	0.50%	14.34	13.58
CB-2-26	CB-2-25	21.30'	15"	HP	0.52%	13.69	13.58
CB-2-25	CB-2-23	202.60'	18"	HP	0.50%	13.58	12.56
CB-2-24	CB-2-23	21.30'	15"	HP	0.52%	14.67	14.56
CB-2-23	CB-2-21	219.79'	18"	HP	0.50%	12.56	11.47
CB-2-22	CB-2-21	21.31'	15"	HP	0.47%	15.57	15.47
CB-2-21	CB-2-19	220.02'	24"	HP	0.50%	11.47	10.37
CB-2-20	CB-2-19	21.31'	15"	HP	0.52%	17.51	17.40
CB-2-19	CB-2-17	144.82'	24"	HP	0.50%	10.37	9.65
CB-2-18	CB-2-17	21.30'	15"	HP	0.52%	18.17	18.06
CB-2-17	SSMH 2-16	30.86'	24"	HP	0.52%	9.65	9.55
CB-2-15	CB-2-14	21.30'	15"	HP	0.52%	14.00	13.89
CB-2-14	CB-2-12	269.10'	15"	HP	0.42%	13.89	12.76
CB-2-13	CB-2-12	21.30'	15"	HP	0.99%	15.43	15.22

2 STORM DRAINAGE PIPE TABLE

**STORM DRAINAGE PIPE DATA TABLE**

FROM	TO	LENGTH	SIZE	PIPE TYPE	SLOPE	UPSTREAM INVERT	DOWNSTREAM INVERT
CB-2-12	CB-2-10	237.23'	18"	HP	0.40%	12.76	11.81
CB-2-11	CB-2-10	21.30'	15"	HP	0.52%	18.33	18.22
CB-2-10	SSMH 2-9	30.84'	18"	HP	0.49%	11.81	11.66
CB-2-8	CB-2-7	69.30'	18"	HP	0.51%	11.48	11.13
CB-2-7	CB-2-5	158.11'	36"	HP	0.50%	9.42	8.63
CB-2-6	CB-2-5	69.30'	15"	HP	0.50%	13.79	13.44
CB-2-5	SSMH 2-2	239.72'	36"	HP	0.50%	8.63	7.43
CB-2-4	CB-2-3	69.30'	36"	HP	1.20%	9.33	8.50
CB-2-3	SSMH 2-2	107.71'	36"	HP	0.99%	8.50	7.43
CB-1-18	CB-1-17	39.04'	15"	HP	0.51%	13.20	13.00
CB-1-17	JB-1-15	160.78'	18"	HP	0.52%	13.00	12.16
CB-1-16	JB-1-15	52.50'	24"	HP	0.65%	12.50	12.16
CB-1-14	CB-1-13	46.30'	15"	HP	0.50%	11.82	11.59
CB-1-13	CB-1-11	86.19'	36"	HP	0.51%	11.59	11.15
CB-1-12	CB-1-11	39.81'	15"	HP	0.50%	11.35	11.15
CB-1-11	CB-1-9	123.08'	36"	HP	0.50%	11.15	10.53
CB-1-10	CB-1-9	33.30'	15"	HP	0.51%	12.70	12.53
CB-1-9	JB-1-6	27.31'	36"	HP	0.51%	10.53	10.39
CB-1-8	CB-1-7	52.05'	30"	HP	0.67%	11.00	10.65
CB-1-7	JB-1-6	64.49'	42"	HP	0.40%	10.65	10.39
CB-1-5	CB-1-4	69.30'	15"	HP	0.50%	12.36	12.01
CB-1-4	CB-1-2	220.57'	60"	HP	0.50%	9.39	8.29
CB-1-3	CB-1-2	69.30'	15"	HP	0.50%	11.04	10.69
CB-1-2	SSMH 1-1	36.66'	60"	HP	0.50%	8.29	8.11
CB-1-2 (COTTAGES)	CB-2-4	44.53'					

STRUCTURE TABLE	
STRUCTURE NAME	DETAILS
MH#1A (BY OTHERS)	RIM = 15.99 INV IN = 2.54 INV OUT = -4.80
PUMP STATION #2 WET WELL (BY OTHERS)	RIM = -3.92 INV IN = -5.00
SSMH A8	RIM = 15.32 INV IN = 9.20 INV OUT = 9.20
SSMH A9	RIM = 17.34 INV IN = 8.57 INV OUT = 8.57
SSMH A10	RIM = 18.85 INV IN = 7.78 INV OUT = 7.78
SSMH A11	RIM = 17.10 INV IN = 4.23 INV IN = 6.64 INV OUT = 4.23 INV OUT = 3.90
SSMH A12	RIM = 13.38 INV IN = 3.56 INV IN = 3.23 INV OUT = 3.56
SSMH A13 (DROP MH)	RIM = 13.12 INV IN = 3.12 INV OUT = 3.12
SSMH B6	RIM = 13.21 INV IN = 8.64 INV OUT = 7.14
SSMH B7	RIM = 12.14 INV IN = 6.14 INV OUT = 6.14
SSMH B8	RIM = 14.98 INV IN = 5.20 INV OUT = 5.20

STRUCTURE TABLE	
STRUCTURE NAME	DETAILS
SSMH A1	RIM = 20.39 INV IN = 15.62 INV OUT = 15.62
SSMH A2	RIM = 23.03 INV IN = 14.78 INV OUT = 14.78
SSMH A3	RIM = 21.56 INV IN = 13.76 INV IN = 13.76 INV OUT = 13.76
SSMH A4	RIM = 20.25 INV IN = 13.03 INV OUT = 13.03
SSMH A5	RIM = 19.32 INV IN = 12.55 INV OUT = 12.55
SSMH A6	RIM = 18.26 INV IN = 10.85 INV IN = 10.85 INV IN = 10.85 INV OUT = 10.85
SSMH A7	RIM = 18.85 INV IN = 10.20
SSMH B1	RIM = 26.67 INV IN = 20.30 INV IN = 20.30 INV OUT = 20.30
SSMH B2	RIM = 21.90 INV IN = 15.70 INV IN = 15.70 INV OUT = 15.70
SSMH B3	RIM = 20.21 INV IN = 15.26 INV OUT = 15.26
SSMH B4 (5' DROP MH)	RIM = 21.01 INV IN = 14.94 INV IN = 10.50 INV IN = 10.50 INV OUT = 10.50
SSMH B5	RIM = 17.92 INV IN = 9.65
SSMH C1	RIM = 21.75 INV IN = 15.79
SSMH C2	RIM = 19.15 INV IN = 10.93
SSMH C3	RIM = 19.09 INV IN = 10.97
SSMH C4	RIM = 27.52 INV IN = 20.51
SSMH C5	RIM = 19.85 INV IN = 14.67
SSMH C6	RIM = 21.74 INV IN = 15.65
SSMH C7	RIM = 22.05 INV IN = 15.88
SSMH C8	RIM = 21.25 INV IN = 15.94
SSMH C9	RIM = 26.29 INV OUT = 20.50



2 SEWER STRUCTURE TABLE N/A

Sanitary Sewer Pipe Data Table							
FROM	TO	Length	Size	PIPE TYPE	Slope	UPSTREAM INVERT	DOWNSTREAM INVERT
SSMH C9	SSMH B1	49.17'	8"	PVC	0.41%	20.50'	20.30'
SSMH C8	SSMH B2	58.35'	8"	PVC	0.41%	15.94'	15.70'
SSMH C7	SSMH A3	28.85'	8"	PVC	0.42%	13.88'	13.76'
SSMH C6	SSMH B4 (5' DROP MH)	36.50'	8"	PVC	0.41%	10.65'	10.50'
SSMH C5	SSMH B4 (5' DROP MH)	58.50'	8"	PVC	0.41%	10.74'	10.50'
SSMH C4	SSMH B1	52.05'	8"	PVC	0.40%	20.51'	20.30'
SSMH C3	SSMH A6	28.99'	8"	PVC	0.41%	10.97'	10.85'
SSMH C2	SSMH A6	45.01'	8"	PVC	0.40%	11.03'	10.85'
SSMH C1	SSMH A1	43.00'	8"	PVC	0.40%	15.79'	15.62'
SSMH B4 (5' DROP MH)	SSMH B5	209.70'	8"	PVC	0.41%	10.50'	9.65'
SSMH B3	SSMH B4 (5' DROP MH)	78.94'	8"	PVC	0.41%	15.26'	14.94'
SSMH B2	SSMH B3	106.77'	8"	PVC	0.42%	15.70'	15.26'
SSMH B1	SSMH B2	165.04'	8"	PVC	2.78%	20.30'	15.70'
SSMH A6	SSMH A7	154.41'	8"	PVC	0.42%	10.85'	10.20'
SSMH A5	SSMH A6	425.00'	8"	PVC	0.40%	12.55'	10.85'
SSMH A4	SSMH A5	119.67'	8"	PVC	0.40%	13.03'	12.55'
SSMH A3	SSMH A4	184.96'	8"	PVC	0.40%	13.76'	13.03'
SSMH A2	SSMH A3	253.25'	8"	PVC	0.40%	14.78'	13.76'
SSMH A1	SSMH A2	202.98'	8"	PVC	0.42%	15.62'	14.78'

Sanitary Sewer Pipe Data Table							
FROM	TO	Length	Size	PIPE TYPE	Slope	UPSTREAM INVERT	DOWNSTREAM INVERT
MH#1A (BY OTHERS)	PUMP STATION #2 WET WELL (BY OTHERS)	39.94'	12"	PVC	0.50%	-4.80'	-5.00'
SSMH A11	SSMH A12	241.59'	18"	STEEL	0.28%	3.90'	3.23'
SSMH A13 (DROP MH)	MH#1A (BY OTHERS)	184.62'	12"	PVC	0.31%	3.12'	2.54'
SSMH A12	SSMH A13 (DROP MH)	159.96'	10"	PVC	0.28%	3.56'	3.12'
SSMH A10	SSMH A11	281.37'	8"	PVC	0.41%	7.78'	6.64'
SSMH A9	SSMH A10	196.76'	8"	PVC	0.40%	8.57'	7.78'
SSMH A8	SSMH A9	149.92'	8"	PVC	0.42%	9.20'	8.57'
SSMH A7	SSMH A8	247.49'	8"	PVC	0.40%	10.20'	9.20'
SSMH A11	SSMH A12	241.59'	10"	DIP	0.28%	4.23'	3.56'
SSMH B8	SSMH A11	237.80'	8"	PVC	0.41%	5.20'	4.23'
SSMH B7	SSMH B8	234.59'	8"	PVC	0.40%	6.14'	5.20'
SSMH B6	SSMH B7	244.36'	8"	PVC	0.41%	7.14'	6.14'
SSMH B5	SSMH B6	238.79'	8"	PVC	0.42%	9.65'	8.64'



1 SEWER PIPE TABLE N/A

REV. NO.	DESCRIPTIONS	DATE
7	ADDENDUM 1 - REVISIONS TO ARIOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIGLEY MEDIUM LANDSCAPE	12-06-2021
5	OPPIA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-29-2021
3	OPPIA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-20-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
REVISED AFTER  
ISSUED FOR  
CONSTRUCTION  
ISSUED FOR  
PERMITTING

SEAL

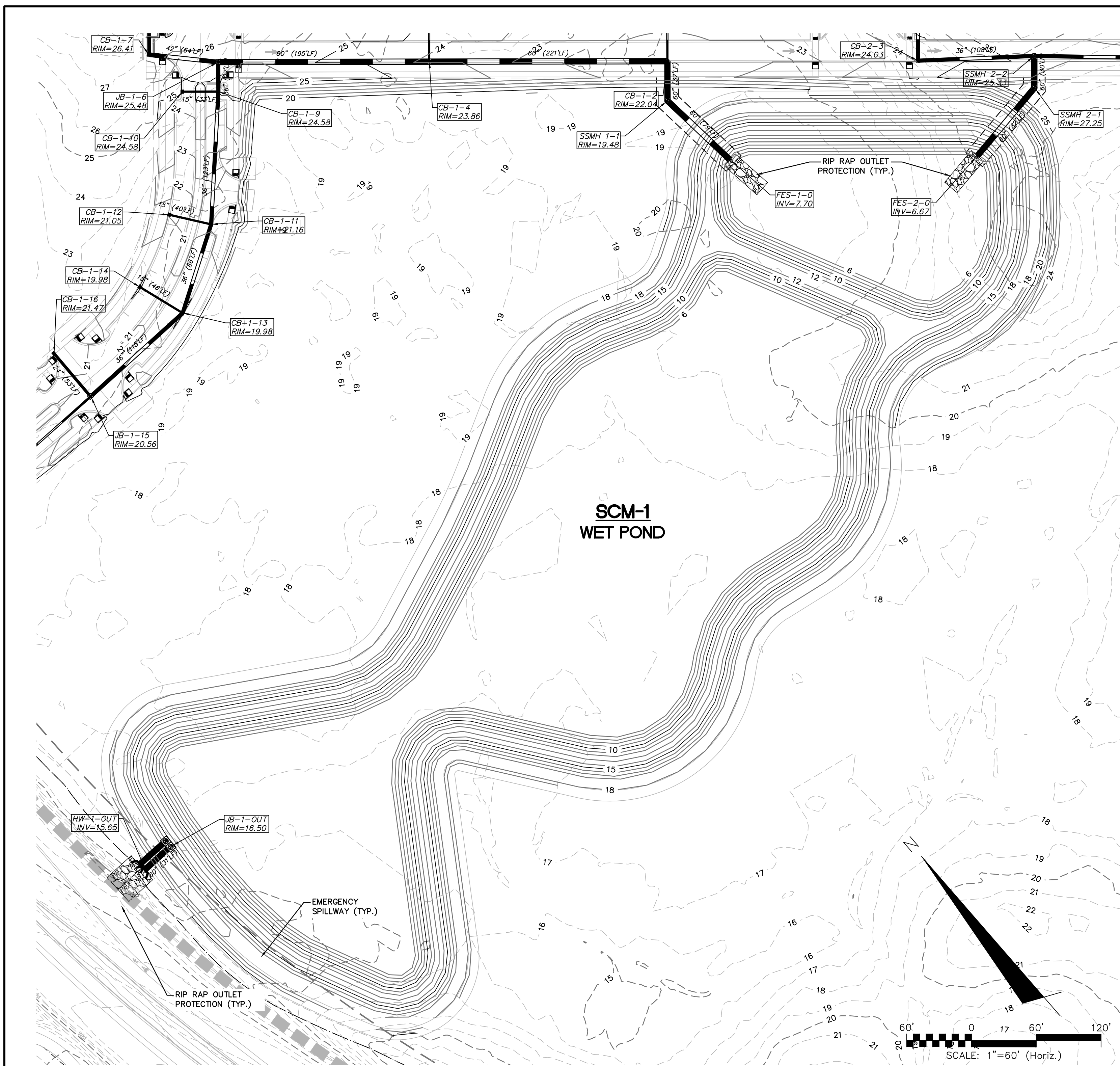
243 North Front Street  
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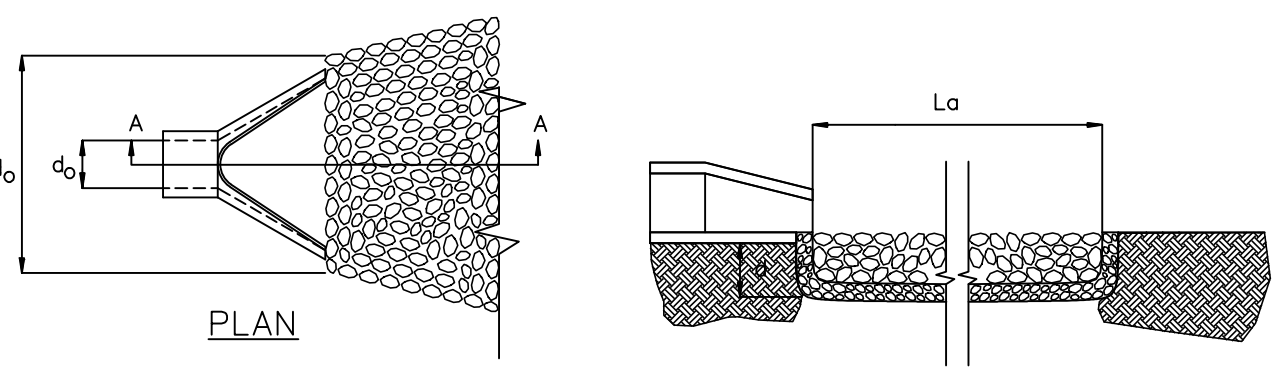
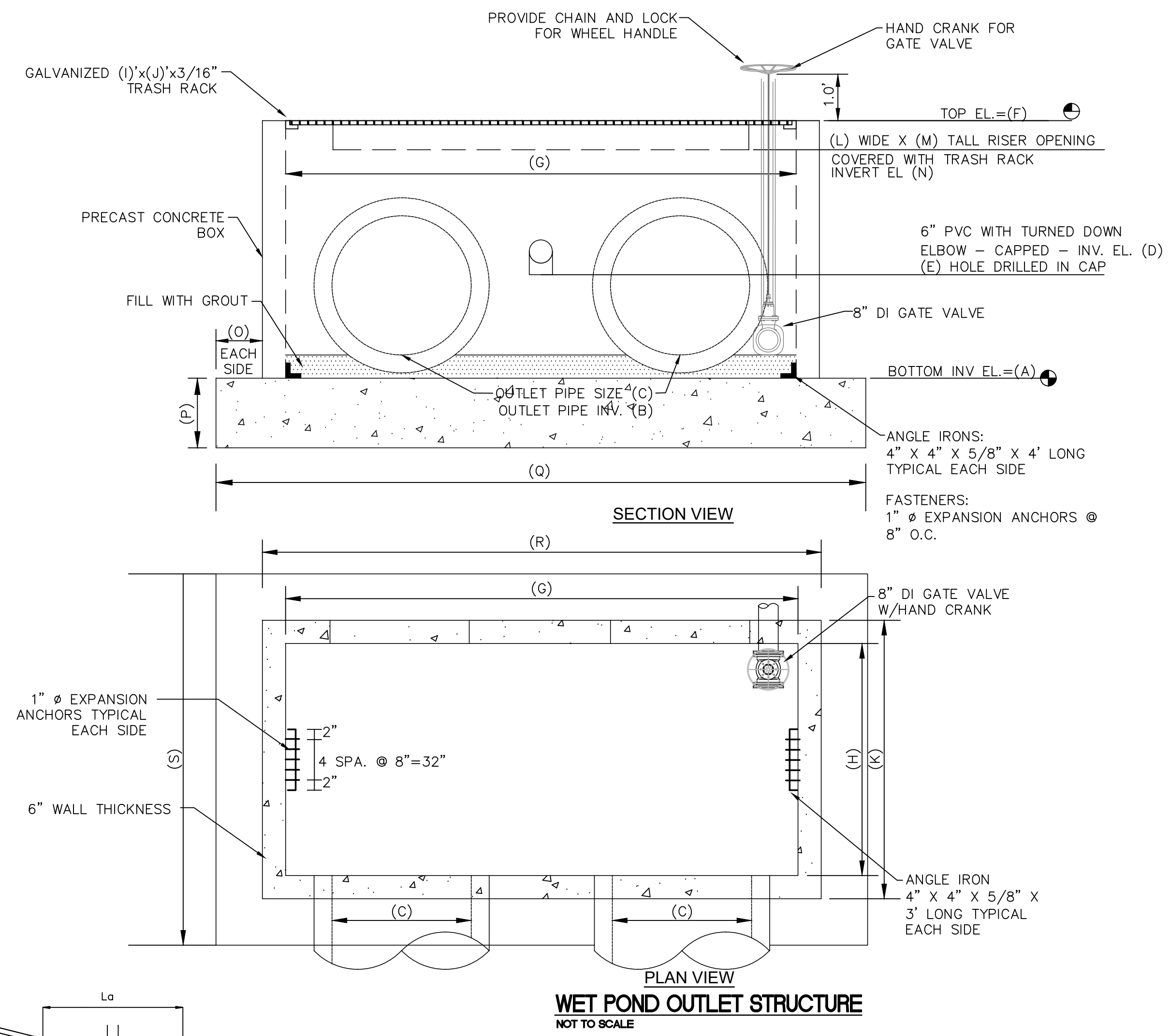
SEWER PIPE/STRUCTURE TABLES

DATE: 08/19/2020	SCALE: N/A	MAC FILE NUMBER: CU-505
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DRAWN: EEM/JEB	VERTICAL: N/A	
DESIGNED: EEM		
CHECKED: KCB		
PROJ. MGR.: KCB		
STATUS: FINAL DRAWINGS		REVISION: 7
ISSUED FOR CONSTRUCTION		



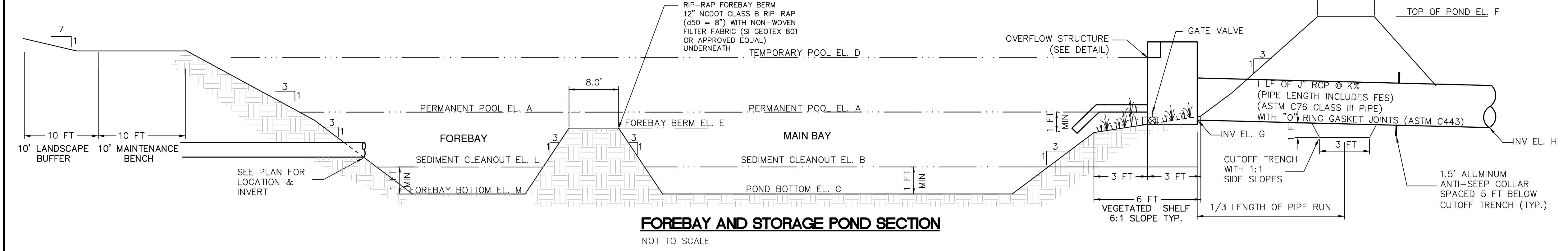
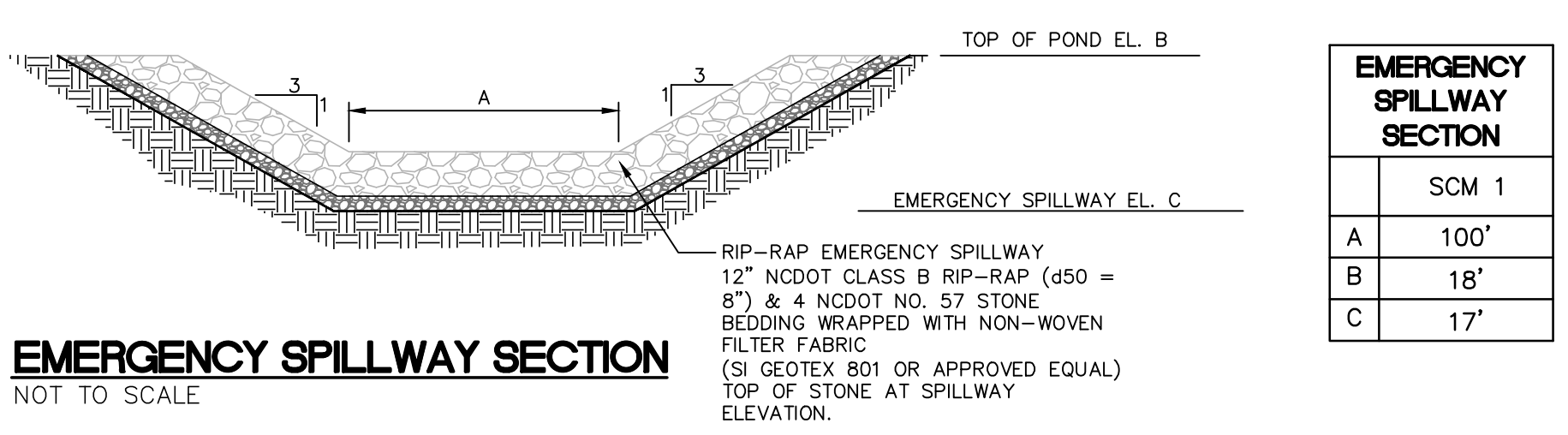
**WET POND OUTLET STRUCTURE**

JB-1-OUT	
A	7.5'
B	10.5'
C	60"
D	13.0'
E	4.25'
F	16.5'
G	14'
H	4'
I	4'
J	14'
K	5.34'
L	90"
M	9"
N	15.75'
O	12"
P	15"
Q	17.34'
R	15.34'
S	7.34'



**WET POND OUTLET STRUCTURE PROTECTION**

	FES-1-1	FES-2-1	HW-1-OUT
OUTLET PIPE DIA.	60"	60"	2 x 60"
OUTLET FLOWRATE	145.48 CFS	110.69 CFS	6.35 CFS/BARREL
OUTLET VELOCITY	7.41 FPS	5.64 FPS	5.49 FPS/BARREL
MATERIAL	CLASS I	CLASS I	CLASS B
LENGTH	40.0'	40.0'	30.0'
WIDTH	15.0'	15.0'	15.0'
STONE DIA.	13"	13"	6"
THICKNESS	22"	22"	22"



**STORAGE POND**

SCM 1	
A	13.0'
B	7.0'
C	6.0'
D	15.5'
E	12.0'
F	18.0'
G	10.5'
H	10.0'
I	3'
J	2 x 60"
K	1.59%
L	7.0'
M	6.0'

REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO AVOID ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUIETLY MEDIAN LANDSCAPE	12-06-2021
5	OPPIA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	CPUIA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-26-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
ISSUED AFTER  
CONSTRUCTION  
PERMITTING

SEAL

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**STORMWATER MANAGEMENT DETAILS**

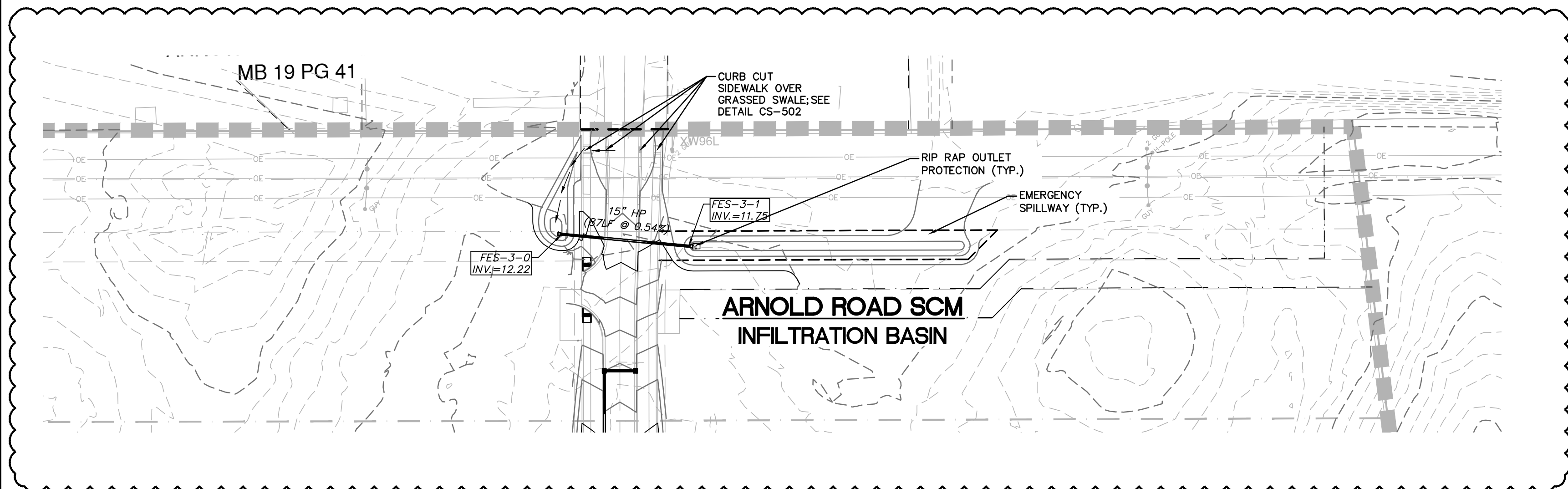
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MCE PROJ. # 02735-0285  
DRAWN: EEM/JEB  
DESIGNED: EEM  
CHECKED: KCBE  
PROJ. MGR.: KCBE

SCALE: HORIZONTAL: 1"=60'  
VERTICAL: N/A

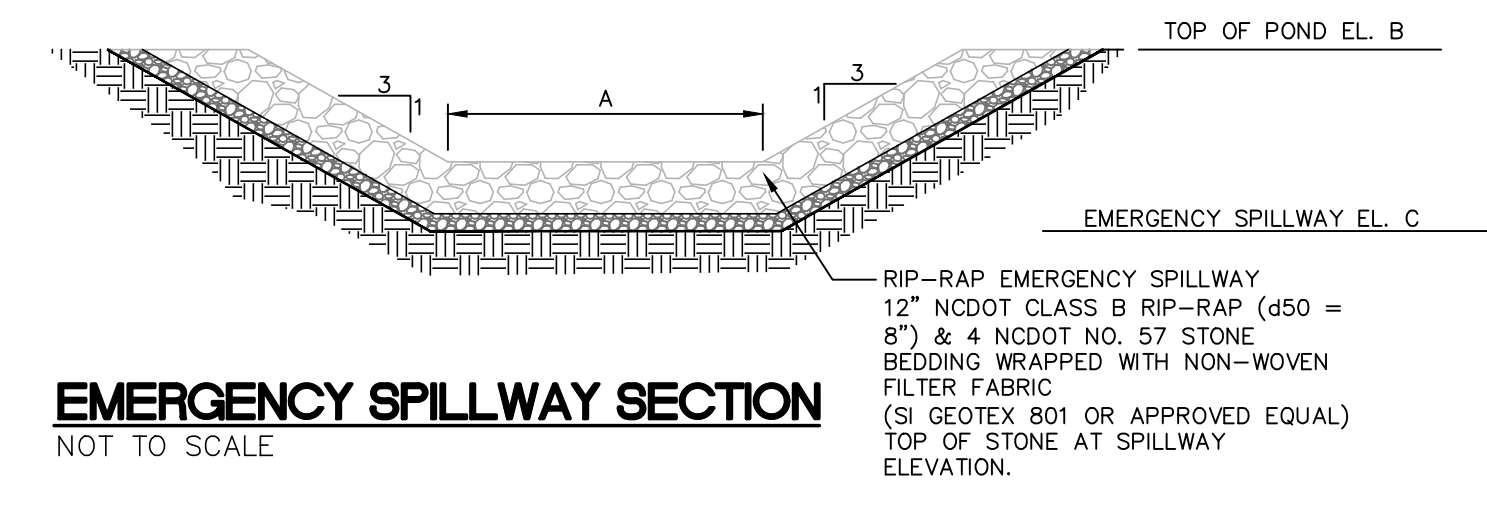
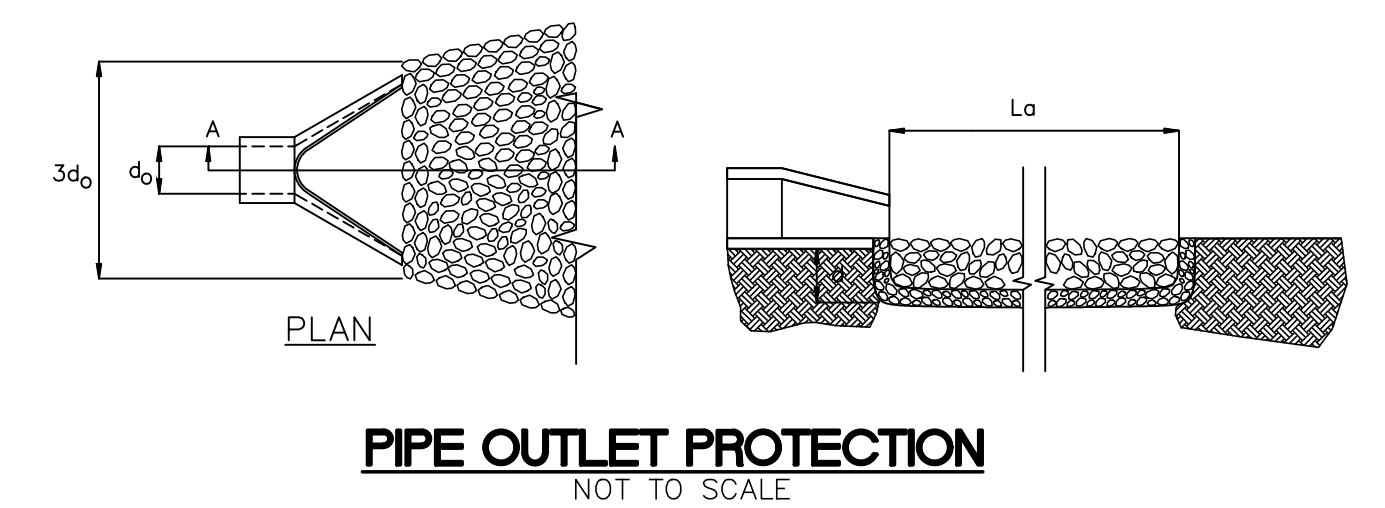
M&C FILE NUMBER: **CN-500**  
DRAWING NUMBER: **41**

STATUS: **FINAL DRAWINGS**  
ISSUED FOR CONSTRUCTION

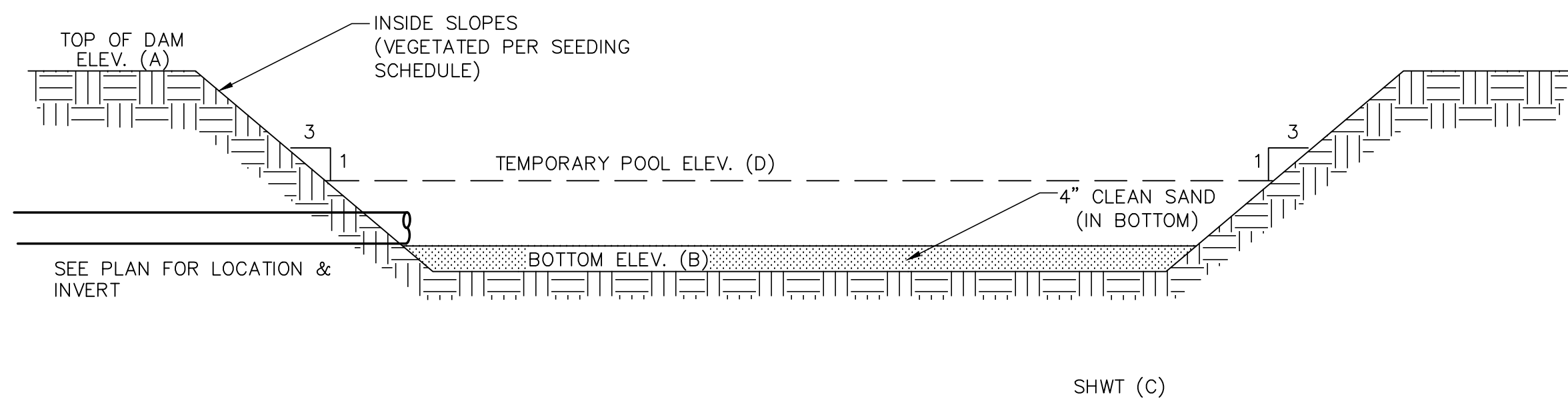
REVISION: **7**



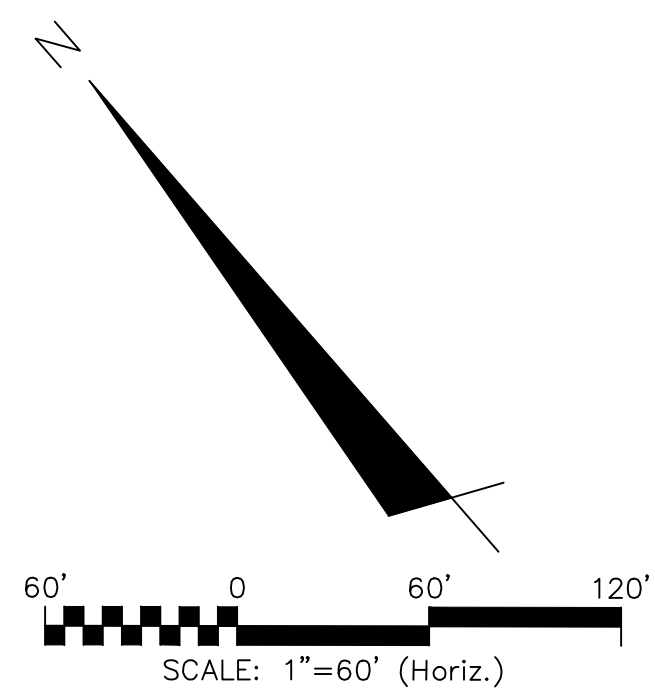
WET POND OUTLET STRUCTURE PROTECTION	
	FES-3-1
OUTLET PIPE DIA.	15"
OUTLET FLOWRATE	1.86 CFS
OUTLET VELOCITY	2.73 FPS
MATERIAL	CLASS A
LENGTH	5.0'
WIDTH	3.8'
STONE DIA.	3"
THICKNESS	9"



EMERGENCY SPILLWAY SECTION	
	SCM 1
A	60'
B	13.25'
C	12.75'



**INFILTRATION BASIN**  
NOT TO SCALE



**NOTES**

1. THE ENTIRE INFILTRATION BASIN SHALL BE SEEDED PER THE SEEDING SCHEDULE IMMEDIATELY FOLLOWING THE COMPLETION OF CONSTRUCTION.
2. THE BOTTOM SHALL BE OVEREXCAVATED 4" AND BACKFILLED WITH CLEAN SAND TO THE BOTTOM ELEVATION SPECIFIED.
3. IF HARDPAN OR OTHER UNSUITABLE SOILS ARE ENCOUNTERED, OVEREXCAVATE THE BOTTOM A MINIMUM OF 2" AND BACKFILL WITH ENGINEER APPROVED SANDY SOIL MATERIAL.
4. IF THE BASIN IS USED AS AN EROSION CONTROL DEVICE, THE BOTTOM MUST BE COMPLETELY CLEANED OUT, OVEREXCAVATED 6" AND BACKFILLED WITH AN ENGINEER APPROVED SANDY SOIL MATERIAL.

STORAGE BASIN SECTION	
	SCM 2
A	13.25'
B	11.75'
C	9.75'
D	12.75'

△ REVISION TO STORMWATER LAYOUT

REV.	DESCRIPTION	DATE
7	ADDENDUM 1 - REVISIONS TO ARNOLD ROAD DRAINAGE AND MISC. SITE IMPROVEMENTS	12-17-2021
6	REVISIONS TO QUAGLEY MEDIAN LANDSCAPE	12-06-2021
5	OPPIA - SINGLE BORE UTILITY PLANS ISSUED FOR CONSTRUCTION	09-16-2021
4	REVISION TO LIMITS OF DISTURBANCE AND TREE REMOVAL	07-28-2021
3	OPPIA - UTILITY PLANS ISSUED FOR CONSTRUCTION	07-26-2021
2	ADDITION OF CONSTRUCTION ACCESS ENTRANCE ON PARCEL 4	06-16-2021
1	REVISION TO TREE REMOVAL	04-20-2021
0	ISSUED FOR CONSTRUCTION	03-03-2021

FINAL DRAWING  
ISSUED AFTER  
ISSUED FOR  
CONSTRUCTION  
PERMITTING

SEAL

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**RIVERLIGHTS MX-3**  
MASONBORO TOWNSHIP, WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
**STORMWATER MANAGEMENT DETAILS**

DATE:	08/19/2020
MCE PROJ. #	02735-0285
DRAWN	EEM/JEB
DESIGNED	EEM
CHECKED	KCBE
PROJ. MGR.	KCBE

SCALE	HORIZONTAL: 1"=60'	VERTICAL: N/A
M&C FILE NUMBER	CN-500A	
DRAWING NUMBER	41A	
STATUS:	FINAL DRAWINGS	REVISION 7
	ISSUED FOR CONSTRUCTION	