



McADAMS

The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

phone 919.361.5000
fax 919.361.2269
license number: C-0293, C-187

www.mcadamsco.com

CLIENT

ASHTON RALEIGH RESIDENTIAL, LLC.
900 RIDGEFIELD DRIVE, SUITE 335
RALEIGH, NORTH CAROLINA 27609
PHONE: 919.422.7663
CONTACT: BOB MISHLER



ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



William T. O'Daniel
en=William T. O'Daniel, c=US,
o=North Carolina,
email=odaniel@mcadamsco.com
2023.03.20 12:36:31 -0400

REVISIONS

NO.	DATE	DESCRIPTION
2	03.07.2023	ADDED SCM "P"

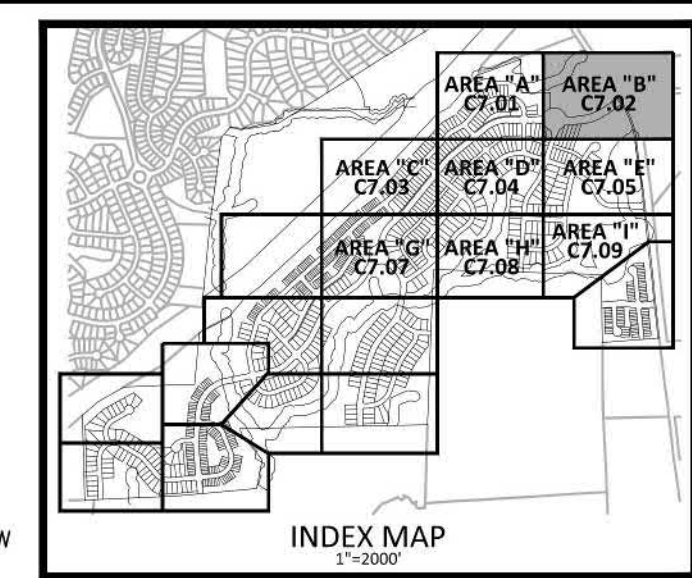
PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-S1
CHECKED BY
DRAWN BY
SCALE 1"=40'
DATE 03.21.2022

SHEET

PAVEMENT MARKING AND SIGNAGE PLAN
AREA "B"

C7.02



PAVEMENT MARKING LEGEND

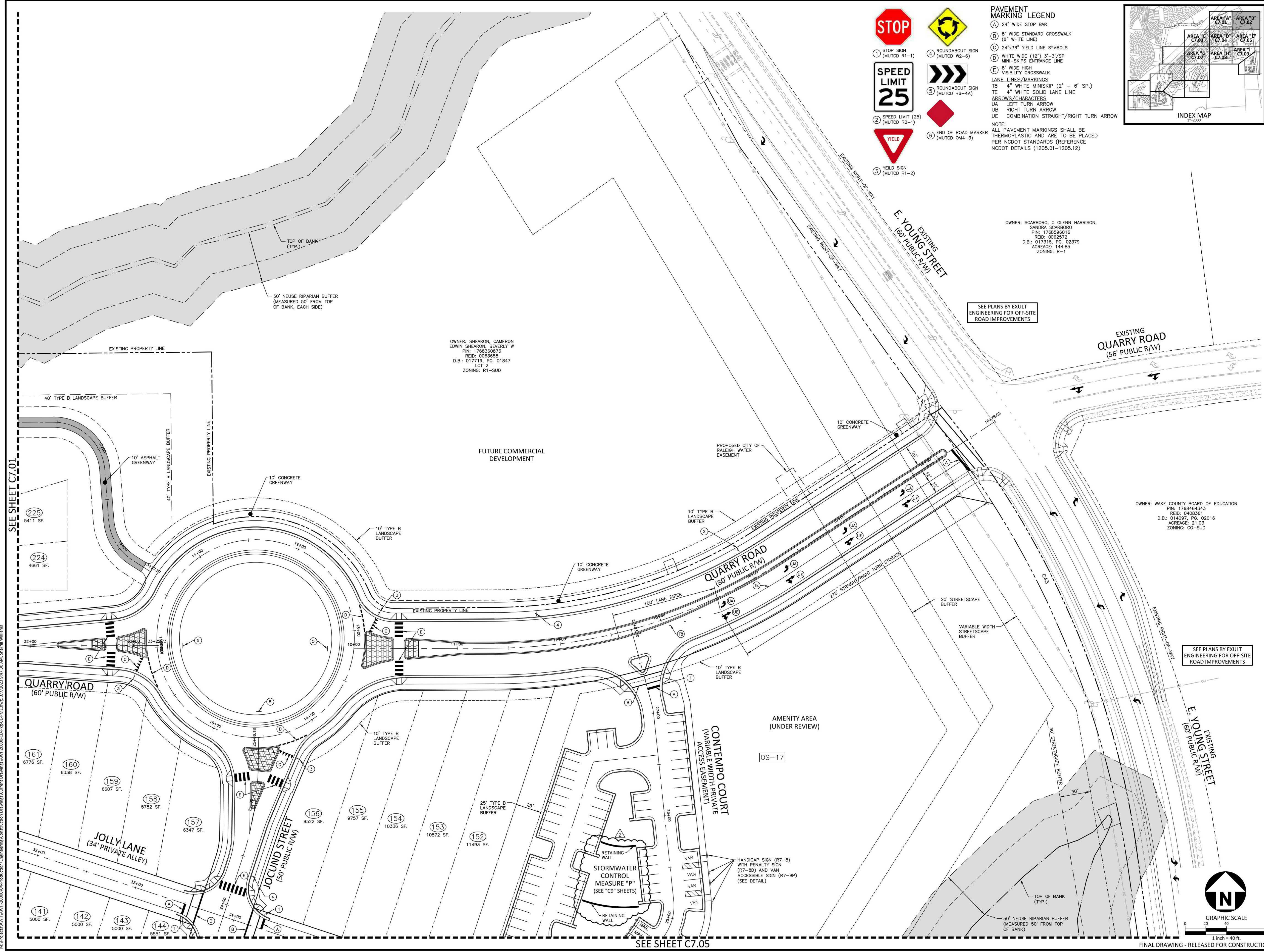
A 24" WIDE STOP BAR
 B 8" WIDE STANDARD CROSSWALK (8" WHITE LINE)
 C 24"x36" YIELD LINE SYMBOLS
 D WHITE WIDE (12") 3"-3"/SP MINI-SKIPS ENTRANCE LINE
 E 8" WIDE HIGH VISIBILITY CROSSWALK
LANE LINES/MARKINGS
 TB 4" WHITE MINISKIP (2' - 6' SP.)
 TE 4" WHITE SOLID LANE LINE
ARROWS/CHARACTERS
 LA LEFT TURN ARROW
 UB RIGHT TURN ARROW
 UE COMBINATION STRAIGHT/RIGHT TURN ARROW

NOTE:
 ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ARE TO BE PLACED PER NCDOT STANDARDS (REFERENCE NCDOT DETAILS (1205.01-1205.12))

OWNER: SCARBORO, C GLENN HARRISON,
 SANDRA SCARBORO
 PIN: 1768596016
 REID: 0062572
 D.B.: 017315, PG. 02379
 ACREAGE: 144.85
 ZONING: R-1

OWNER: SHEARON, CAMERON
 EDWIN SHEARON, BEVERLY W
 PIN: 1758350873
 REID: 0063658
 D.B.: 017718, PG. 01847
 LOT 2
 ZONING: R1-SUD

OWNER: WAKE COUNTY BOARD OF EDUCATION
 PIN: 1768464343
 REID: 0406361
 D.B.: 014097, PG. 02016
 ACREAGE: 21.03
 ZONING: CO-SUD



SEE PLANS BY EXULT ENGINEERING FOR OFF-SITE ROAD IMPROVEMENTS

SEE PLANS BY EXULT ENGINEERING FOR OFF-SITE ROAD IMPROVEMENTS

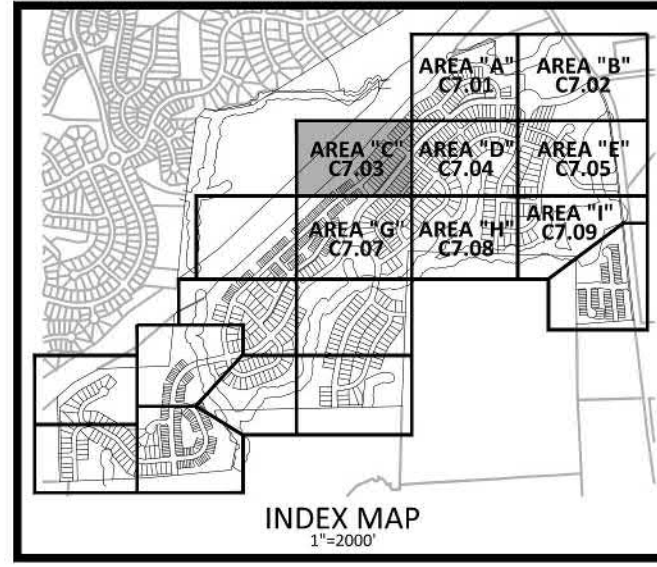


SEE SHEET C7.01

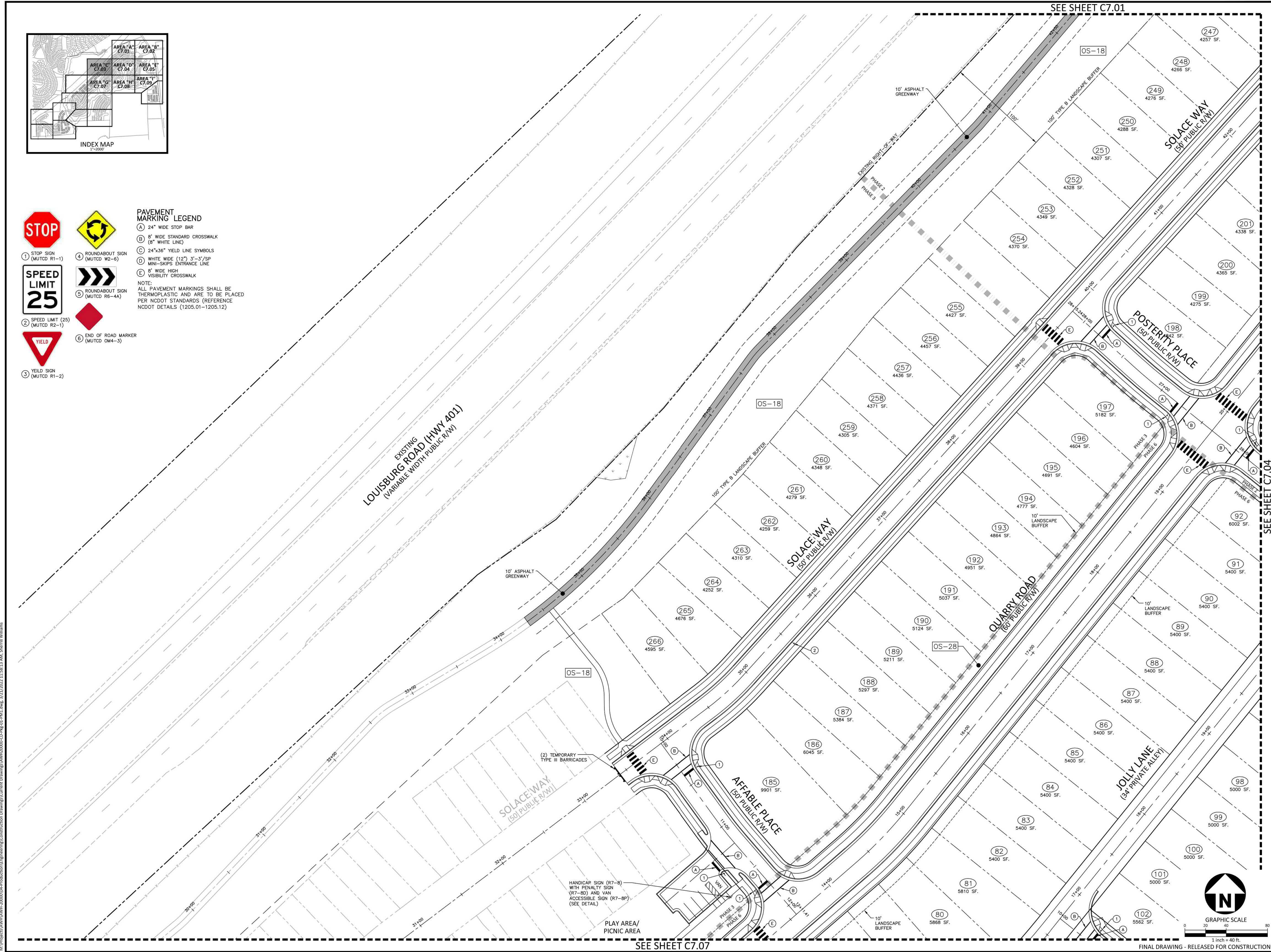
SEE SHEET C7.05

FINAL DRAWING - RELEASED FOR CONSTRUCTION

M:\Projects\AWH\AWH-20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-PKG-01-S1.dwg, 3/7/2023 9:47:30 AM, Sherrill Williams



- PAVEMENT MARKING LEGEND**
- (A) 24" WIDE STOP BAR
 - (B) 8" WIDE STANDARD CROSSWALK (8" WHITE LINE)
 - (C) 24"x36" YIELD LINE SYMBOLS
 - (D) WHITE WIDE (12") 3'-3"/SP MINI-SKIPS ENTRANCE LINE
 - (E) 8" WIDE HIGH VISIBILITY CROSSWALK
- NOTE: ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ARE TO BE PLACED PER NCDOT STANDARDS (REFERENCE NCDOT DETAILS (1205.01-1205.12))
- (1) STOP SIGN (MUTCD R1-1)
 - (2) SPEED LIMIT (25) (MUTCD R2-1)
 - (3) YIELD SIGN (MUTCD R1-2)
 - (4) ROUNDABOUT SIGN (MUTCD W2-6)
 - (5) ROUNDABOUT SIGN (MUTCD R6-4A)
 - (6) END OF ROAD MARKER (MUTCD DM4-3)



SEE SHEET C7.01

SEE SHEET C7.07

SEE SHEET C7.04

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ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



William T. O'Daniel
Mar 28 2022 9:02 AM

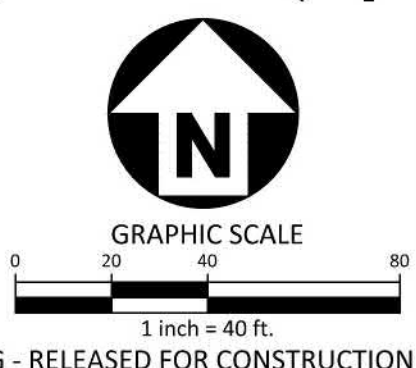
REVISIONS

NO.	DATE

PLAN INFORMATION

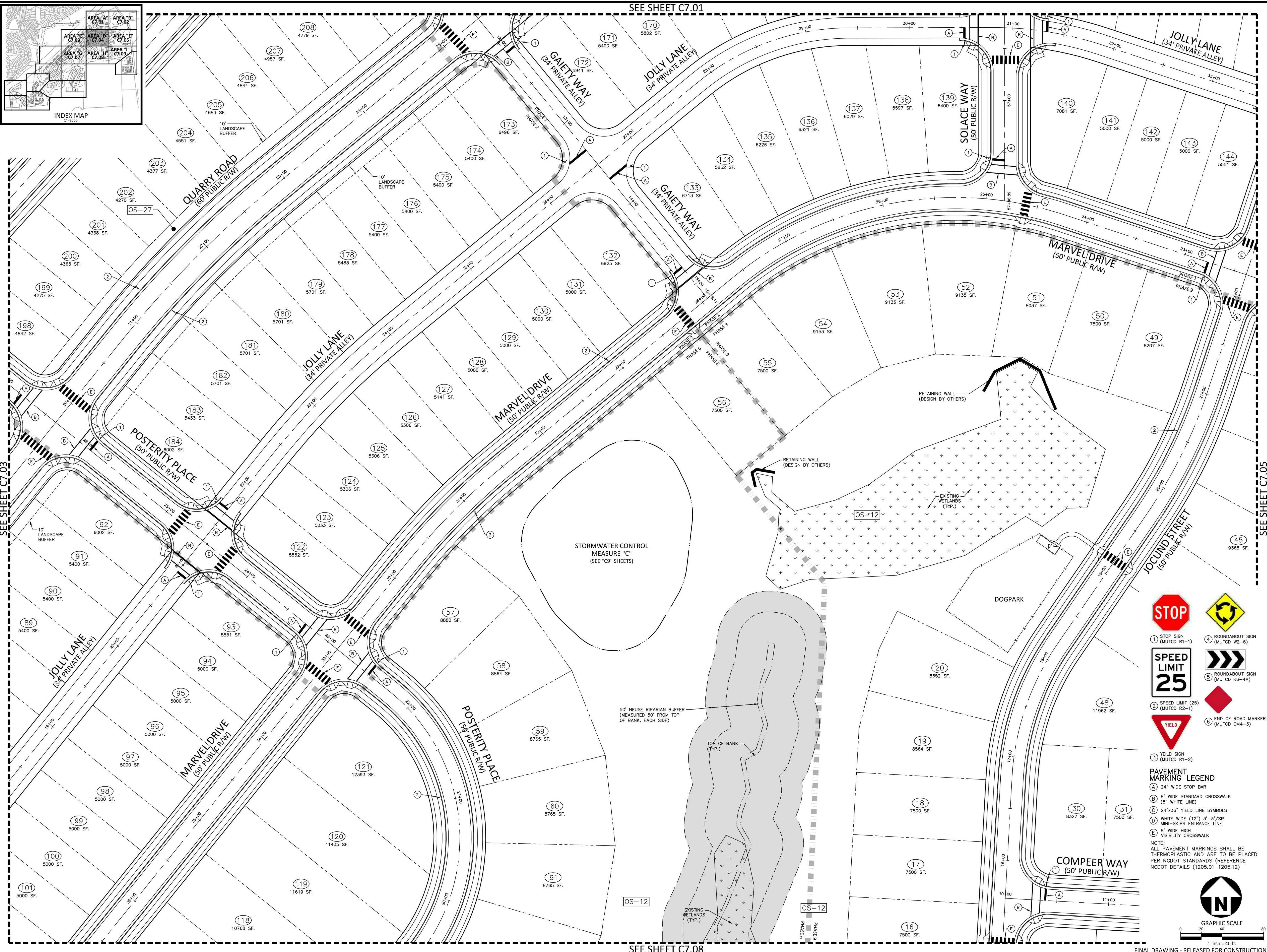
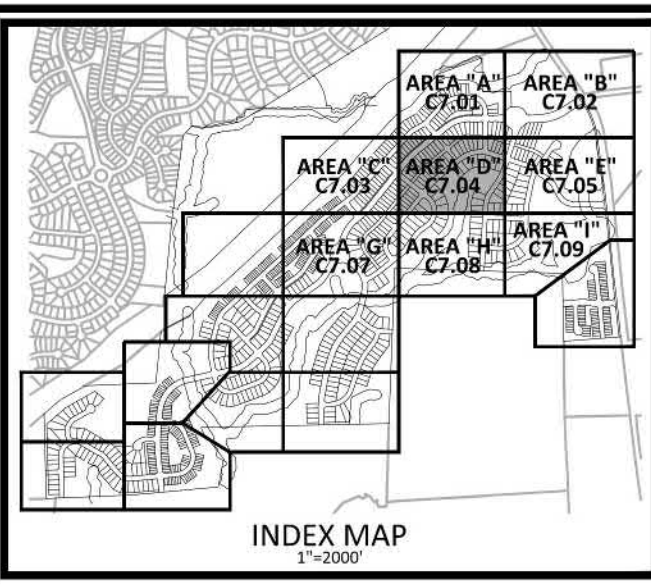
PROJECT NO.	AWH-20000
FILENAME	AWH20000-CD-PKG-01-S1
CHECKED BY	
DRAWN BY	
SCALE	1"=40'
DATE	03. 21. 2022

SHEET
PAVEMENT MARKING AND SIGNAGE PLAN
AREA "C"
C7.03



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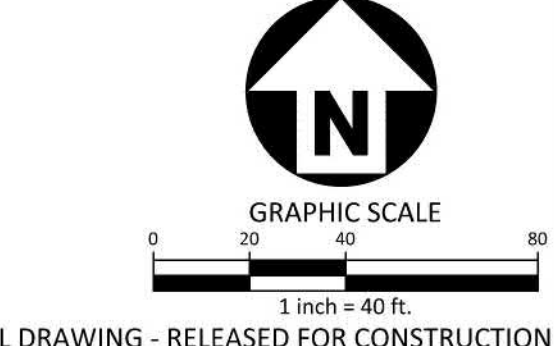
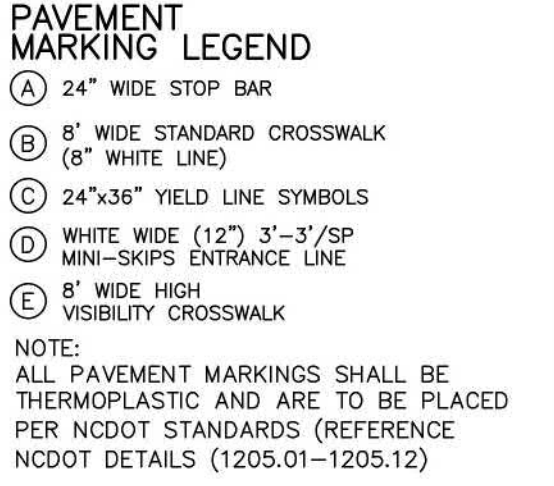


SEE SHEET C7.03

SEE SHEET C7.01

SEE SHEET C7.08

SEE SHEET C7.05



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THE POINT
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EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

REVISIONS

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SCALE 1"=40'
DATE 03.21.2022

SHEET
PAVEMENT MARKING AND SIGNAGE PLAN
AREA "D"
C7.04

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1 STOP SIGN (MUTCD R1-1)



2 SPEED LIMIT (25) (MUTCD R2-1)



3 YIELD SIGN (MUTCD R1-2)



4 ROUNDABOUT SIGN (MUTCD W2-4)



5 ROUNDABOUT SIGN (MUTCD R6-4A)



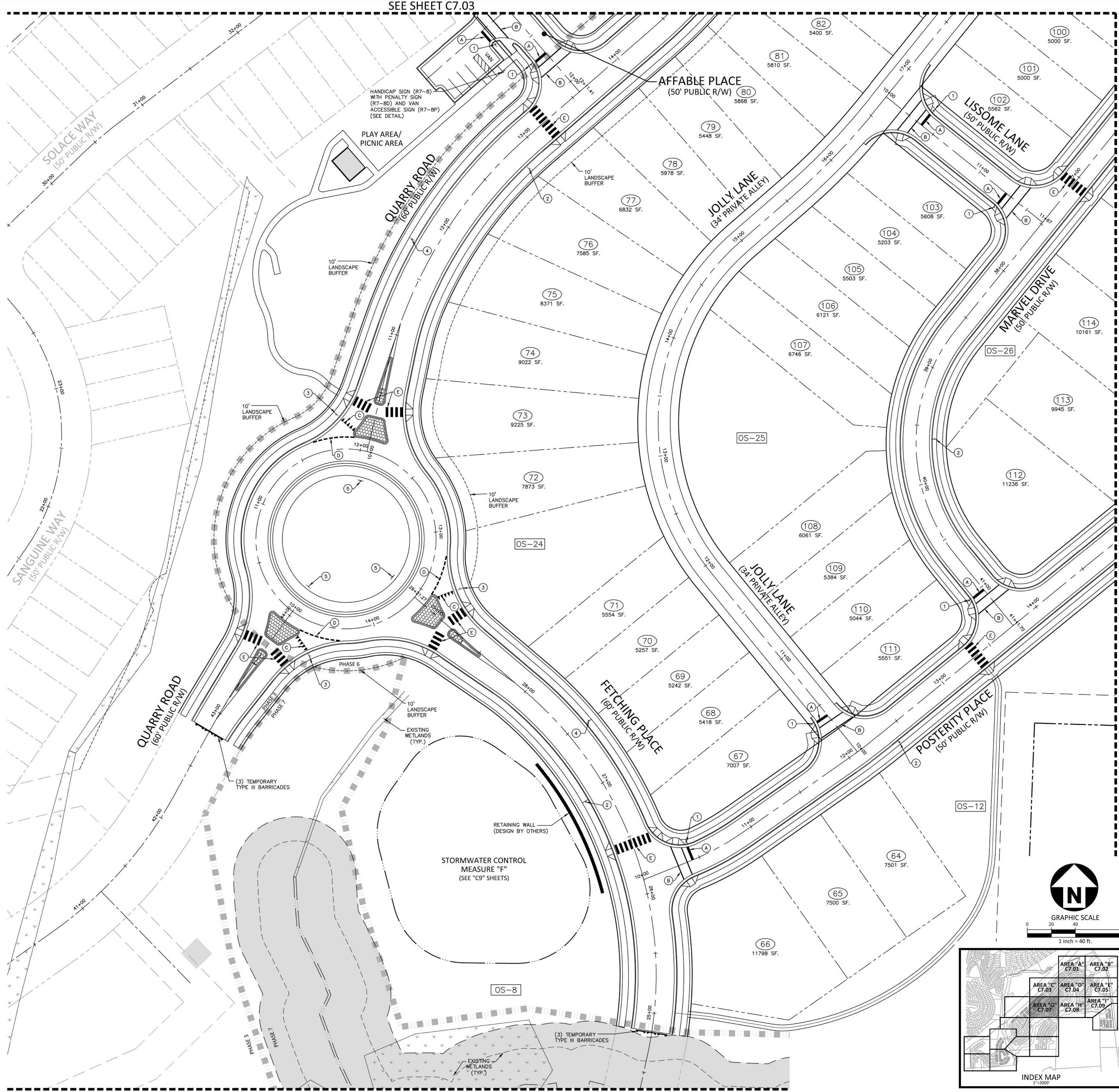
6 END OF ROAD MARKER (MUTCD OM4-3)

PAVEMENT MARKING LEGEND

- A 24" WIDE STOP BAR
- B 8" WIDE STANDARD CROSSWALK (8" WHITE LINE)
- C 24"x36" YIELD LINE SYMBOLS
- D WHITE WIDE (12") 3"-3"/SP MINI-SKIPS ENTRANCE LINE
- E 8" WIDE HIGH VISIBILITY CROSSWALK

NOTE: ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ARE TO BE PLACED PER NCDOT STANDARDS (REFERENCE NCDOT DETAILS (1205.01-1205.12))

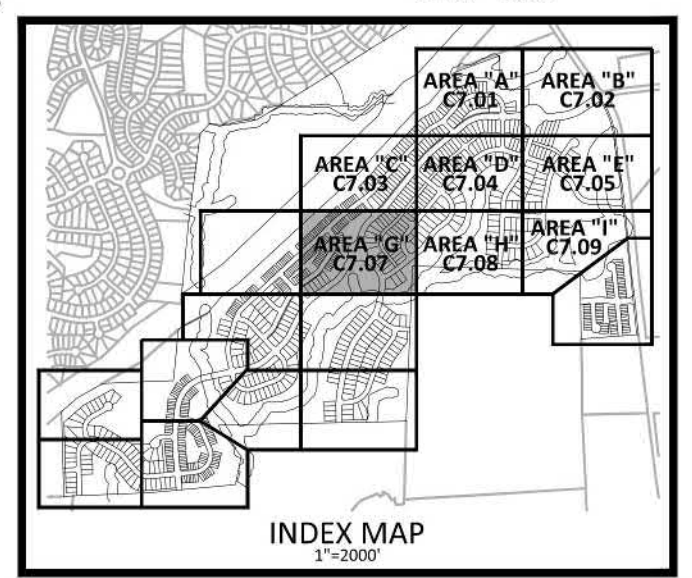
SEE SHEET C7.03



SEE SHEET C7.08



GRAPHIC SCALE
1 inch = 40 ft.



FINAL DRAWING - RELEASED FOR CONSTRUCTION



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 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA



Todd O'Daniel
Mar 28 2022 9:04 AM

REVISIONS

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PLAN INFORMATION

PROJECT NO. AWH-20000
 FILENAME AWH20000-CD-PKG-01-S1
 CHECKED BY .
 DRAWN BY .
 SCALE 1"=40'
 DATE 03.21.2022

SHEET

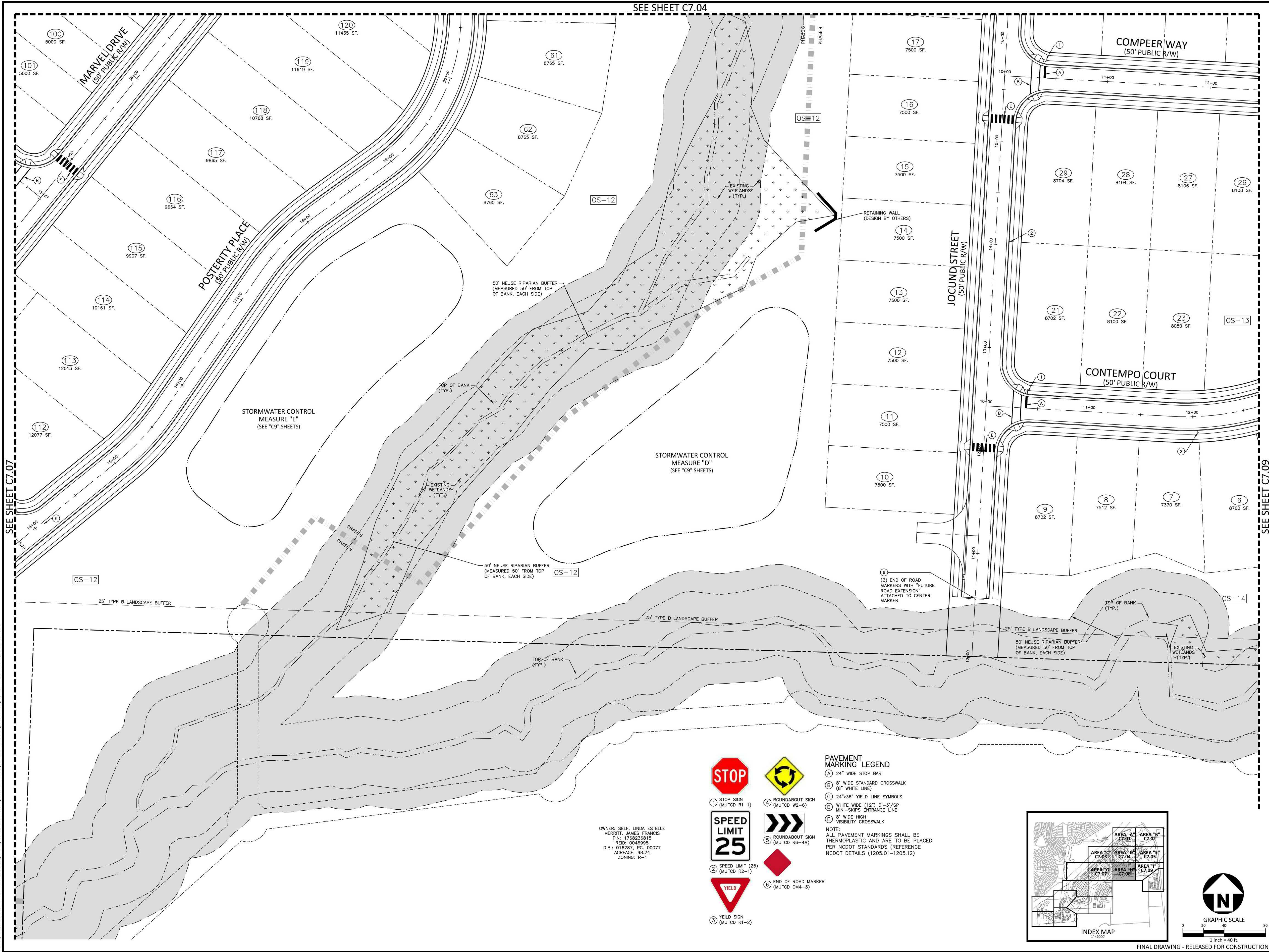
PAVEMENT MARKING AND SIGNAGE PLAN
AREA "G"

C7.07

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SEE SHEET C7.04



SEE SHEET C7.07

SEE SHEET C7.09

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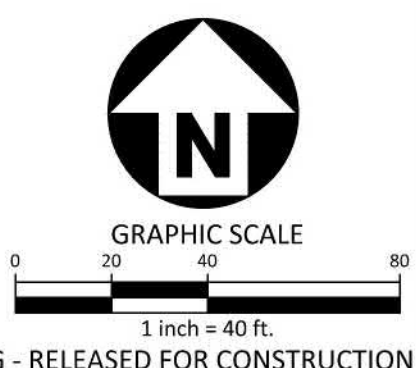
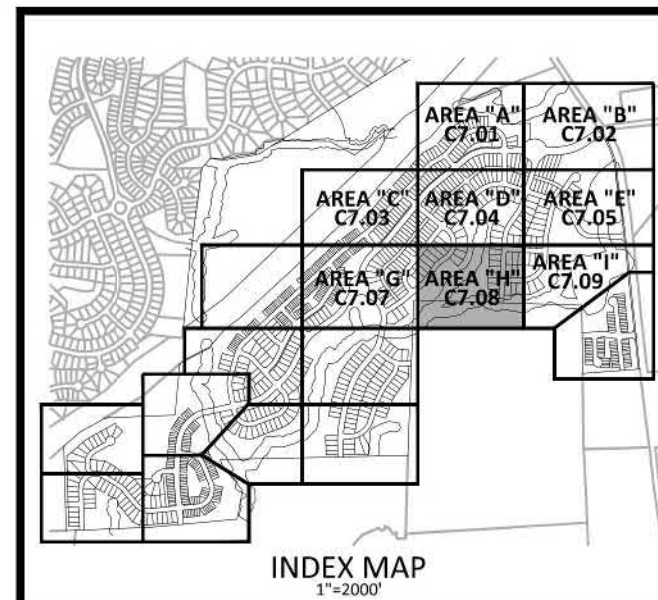
OWNER: SELF, LINDA ESTELLE
 MERRITT, JAMES FRANCIS
 P/N: 1768236815
 REID: 00469995
 D.B.: 016287, PG. 00077
 ACREAGE: 98.24
 ZONING: R-1

- (A) STOP SIGN (MUTCD R1-1)
- (B) SPEED LIMIT (25) (MUTCD R2-1)
- (C) YIELD SIGN (MUTCD R1-2)
- (D) ROUNDABOUT SIGN (MUTCD W2-6)
- (E) ROUNDABOUT SIGN (MUTCD R6-4A)
- (F) END OF ROAD MARKER (MUTCD OM4-3)

PAVEMENT MARKING LEGEND

- (A) 24" WIDE STOP BAR
- (B) 8" WIDE STANDARD CROSSWALK (8" WHITE LINE)
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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

PROFESSIONAL SEAL
 WILLIAM T. O'DANIEL
 ENGINEER
 No. 22630
 Mar 28 2022 9:05 AM
 W.T. O'Daniel
 Docs/Sign

REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
 FILENAME AWH20000-CD-PKG-01-S1
 CHECKED BY
 DRAWN BY
 SCALE 1"=40'
 DATE 03. 21. 2022

SHEET
PAVEMENT MARKING AND SIGNAGE PLAN
AREA "H"
C7.08

FINAL DRAWING - RELEASED FOR CONSTRUCTION



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EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



Todd O'Daniel
Mar 28 2022 9:06 AM

REVISIONS

NO. DATE

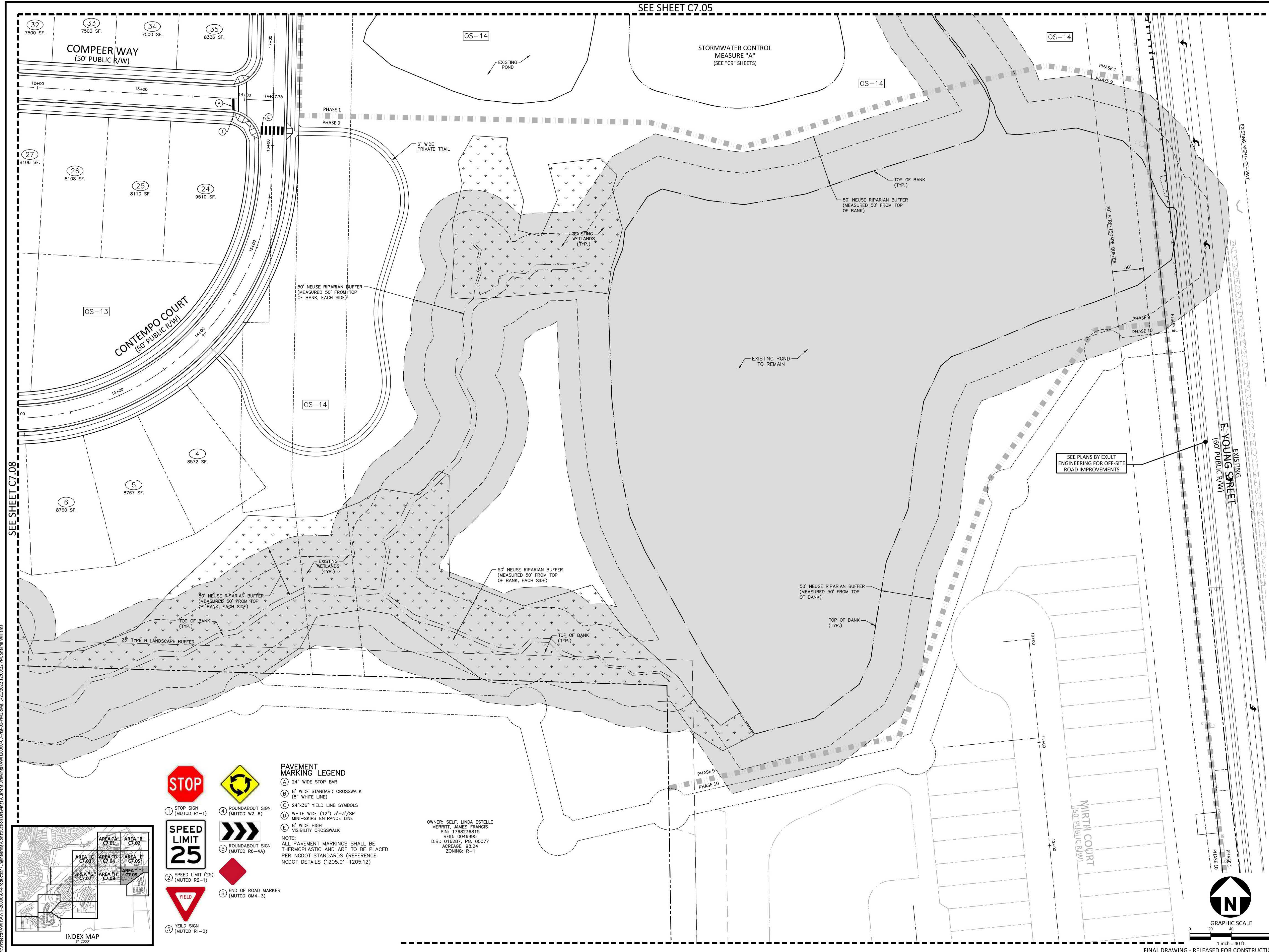
PLAN INFORMATION

PROJECT NO. AWH-20000
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CHECKED BY
DRAWN BY
SCALE 1"=40'
DATE 03.21.2022

SHEET

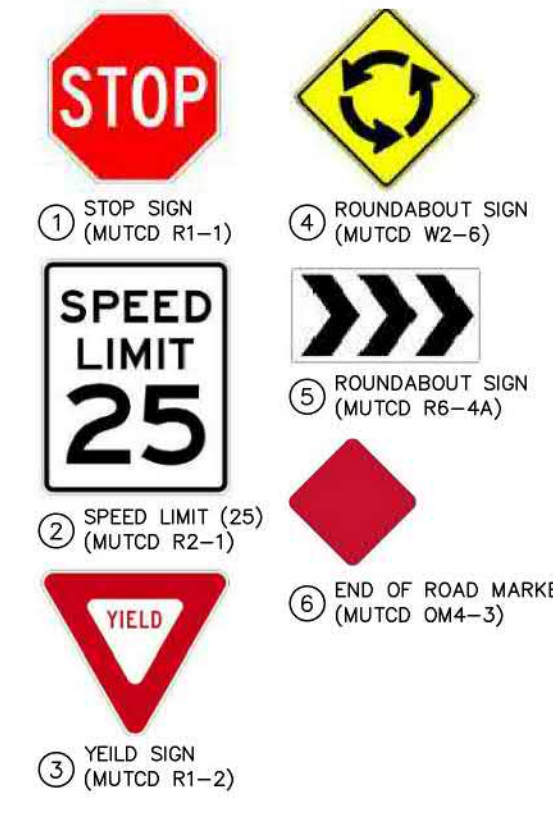
PAVEMENT MARKING
AND SIGNAGE PLAN
AREA "I"

C7.09



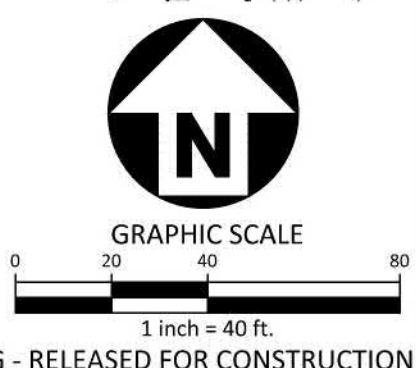
SEE SHEET C7.08

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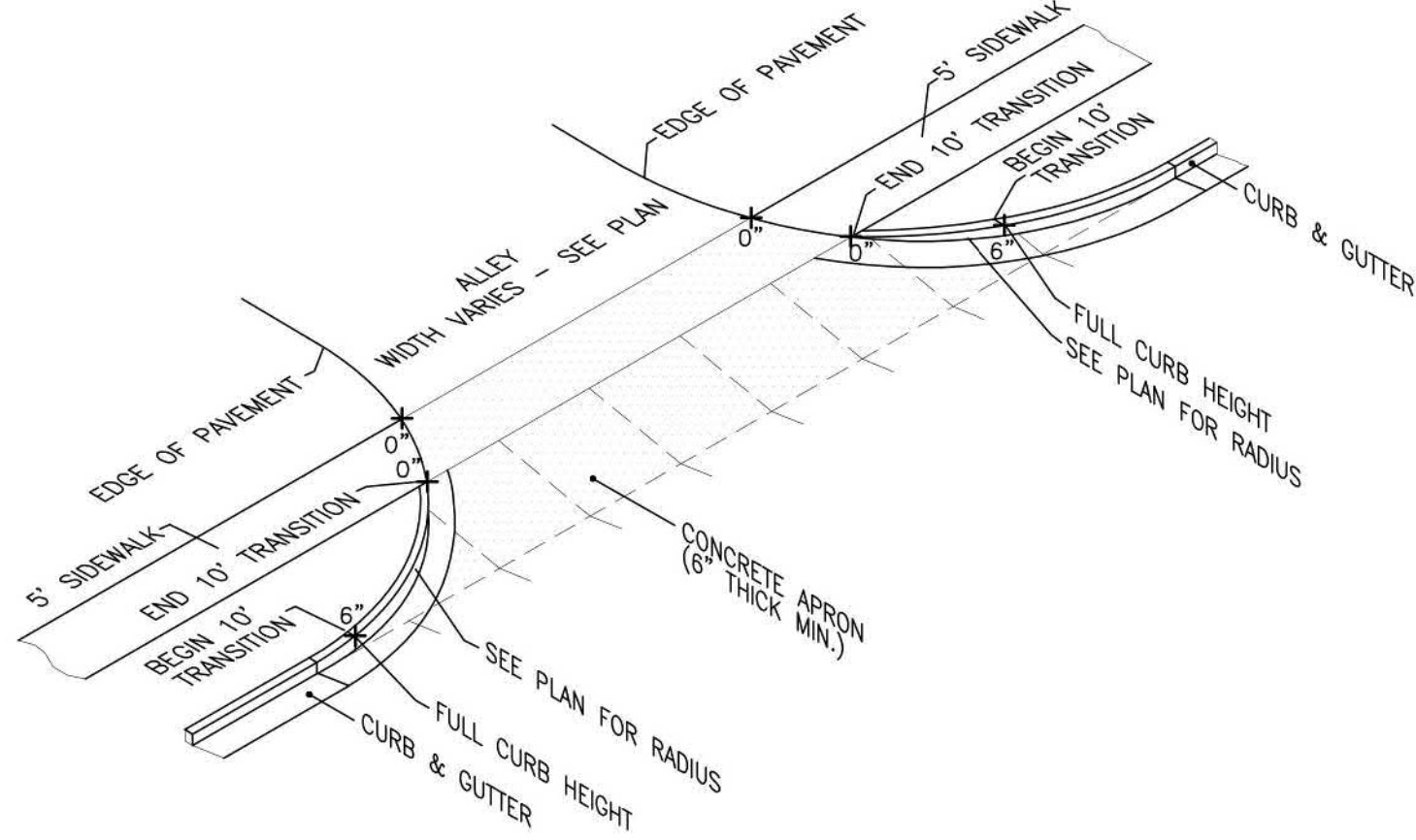


PAVEMENT MARKING LEGEND
A 24" WIDE STOP BAR
B 8" WIDE STANDARD CROSSWALK (8" WHITE LINE)
C 24"x36" YIELD LINE SYMBOLS
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NOTE: ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ARE TO BE PLACED PER NCDOT STANDARDS (REFERENCE NCDOT DETAILS (1205.01-1205.12)

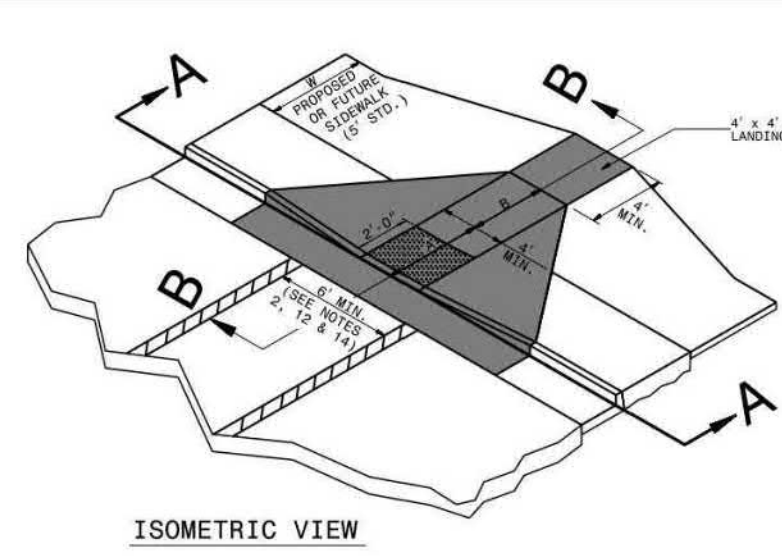
OWNER: SELF, LINDA ESTELLE MERRITT, JAMES FRANCIS
PIN: 1768236815
REID: 00469995
D.B.: 018287, PG. 00077
ACRAGE: 98.24
ZONING: R-1



FINAL DRAWING - RELEASED FOR CONSTRUCTION

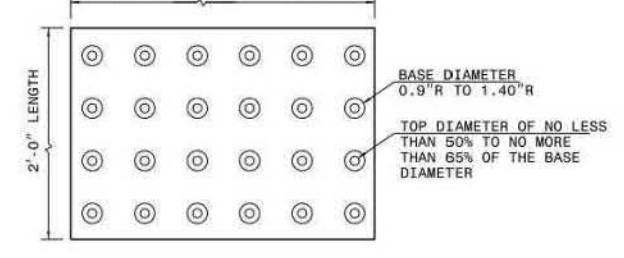


RESIDENTIAL ALLEY ENTRANCE DETAIL
N.T.S.



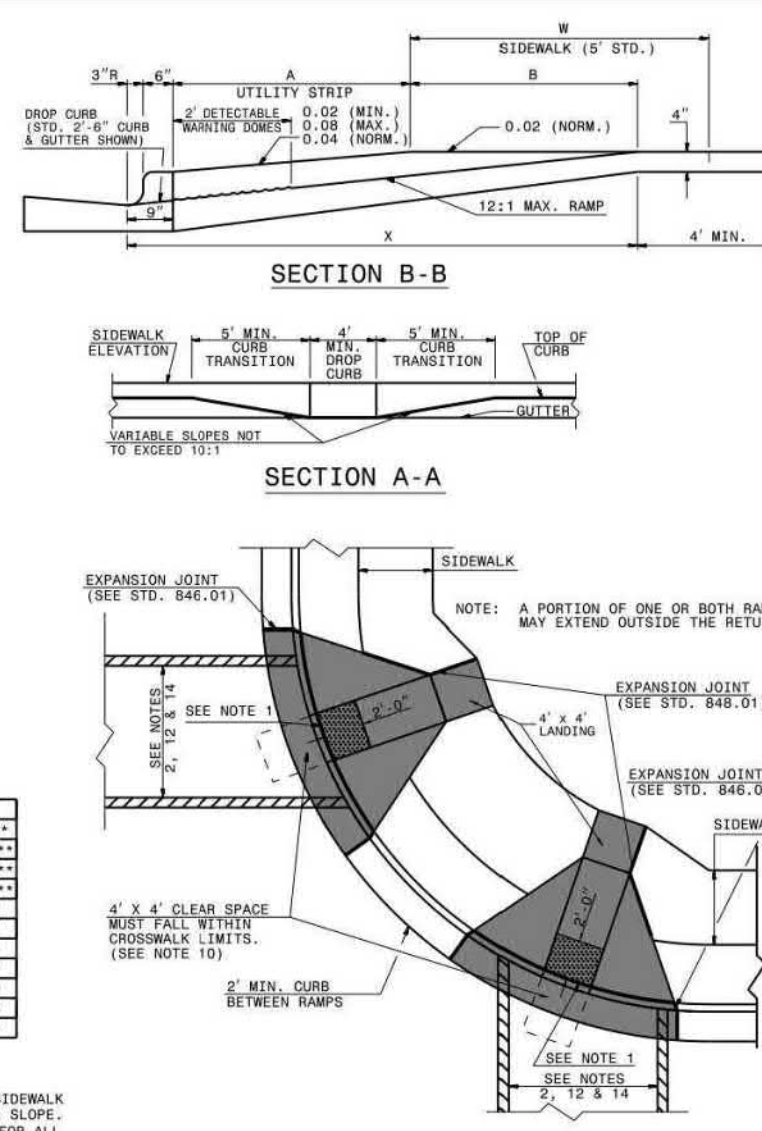
ISOMETRIC VIEW

NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAIL.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



PLAN VIEW
(4' MIN. FLOOR WIDTH)

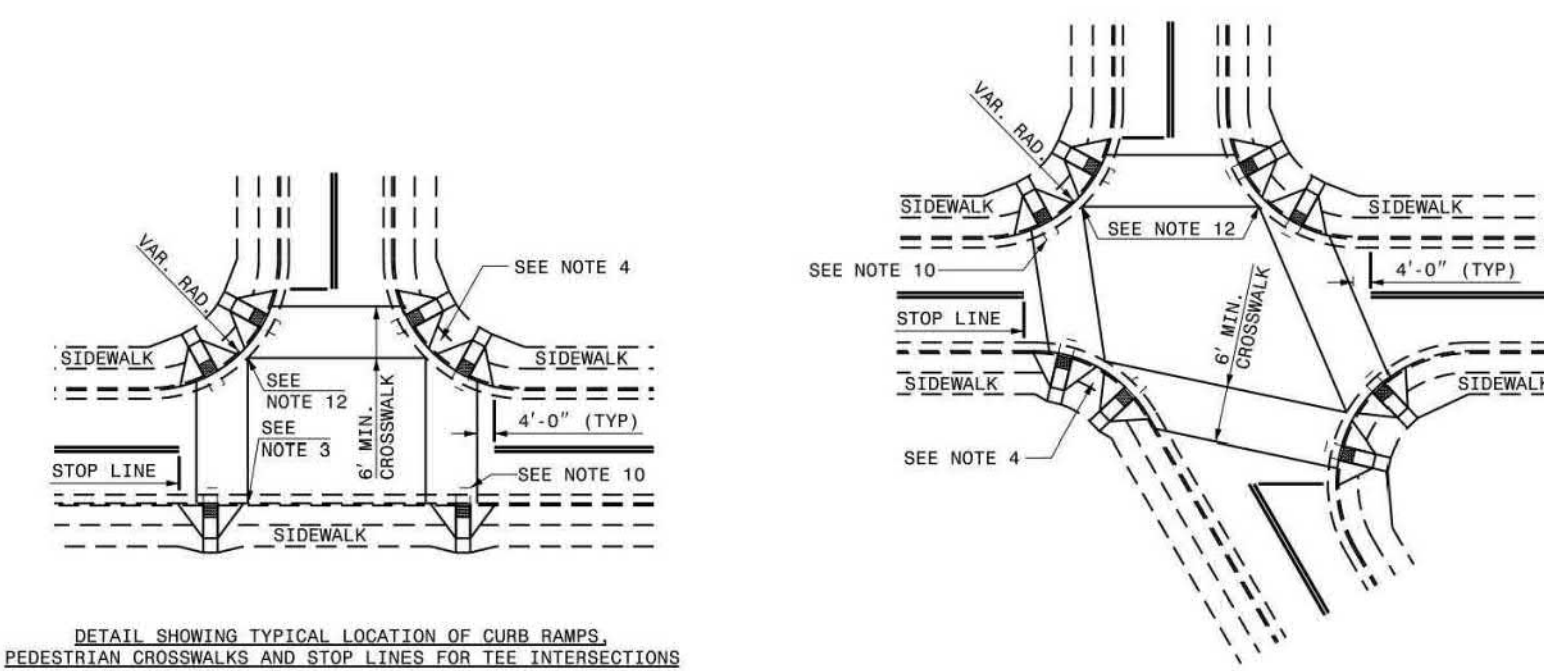
DETECTABLE WARNING DOMES



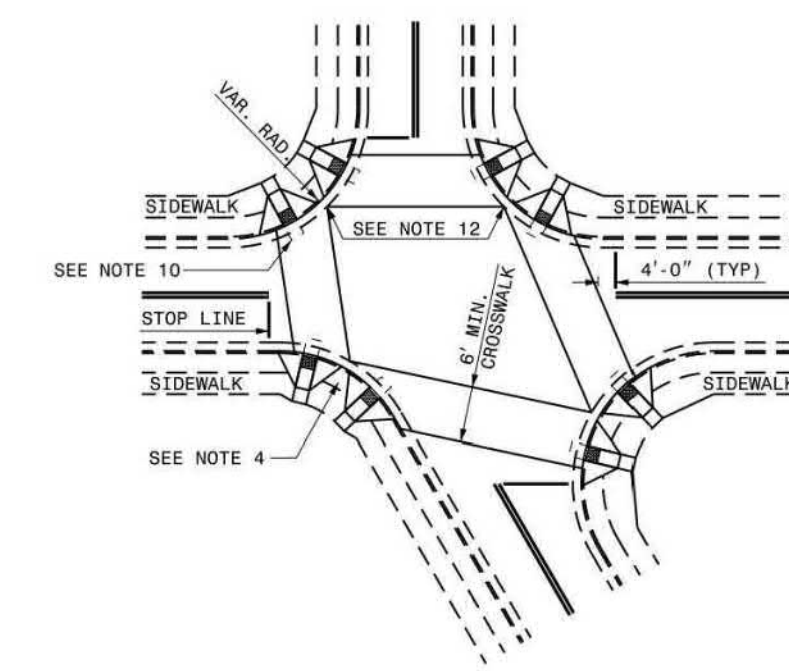
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

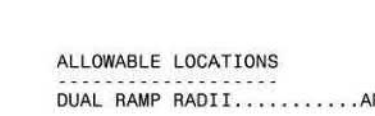
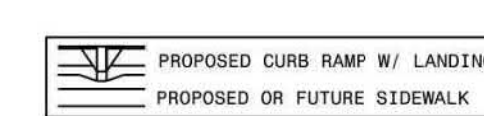
SHEET 1 OF 3
848.05



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMP, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



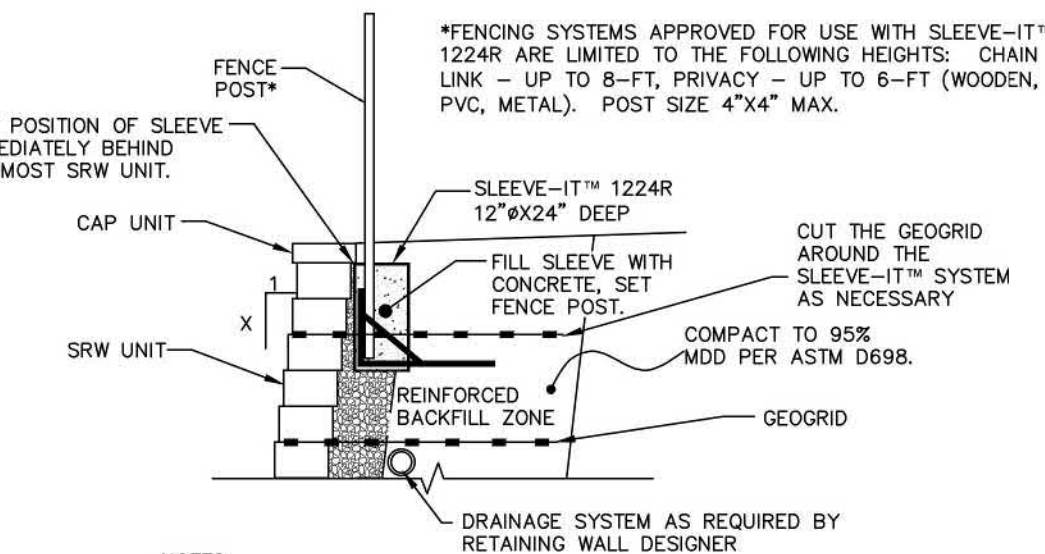
DETAIL SHOWING TYPICAL LOCATION OF CURB RAMP, PEDESTRIAN CROSSWALKS AND STOP LINES FOR CROSS INTERSECTIONS



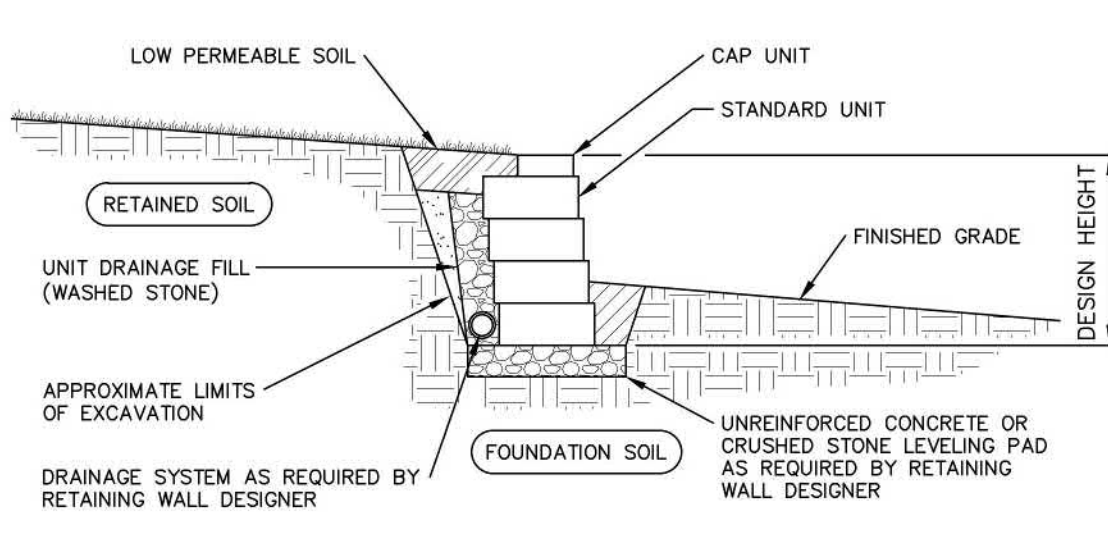
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER

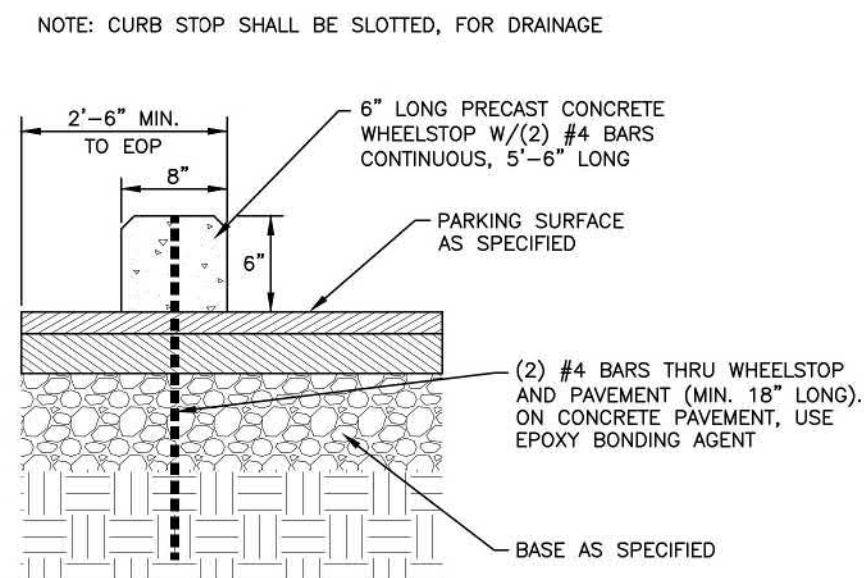
SHEET 2 OF 3
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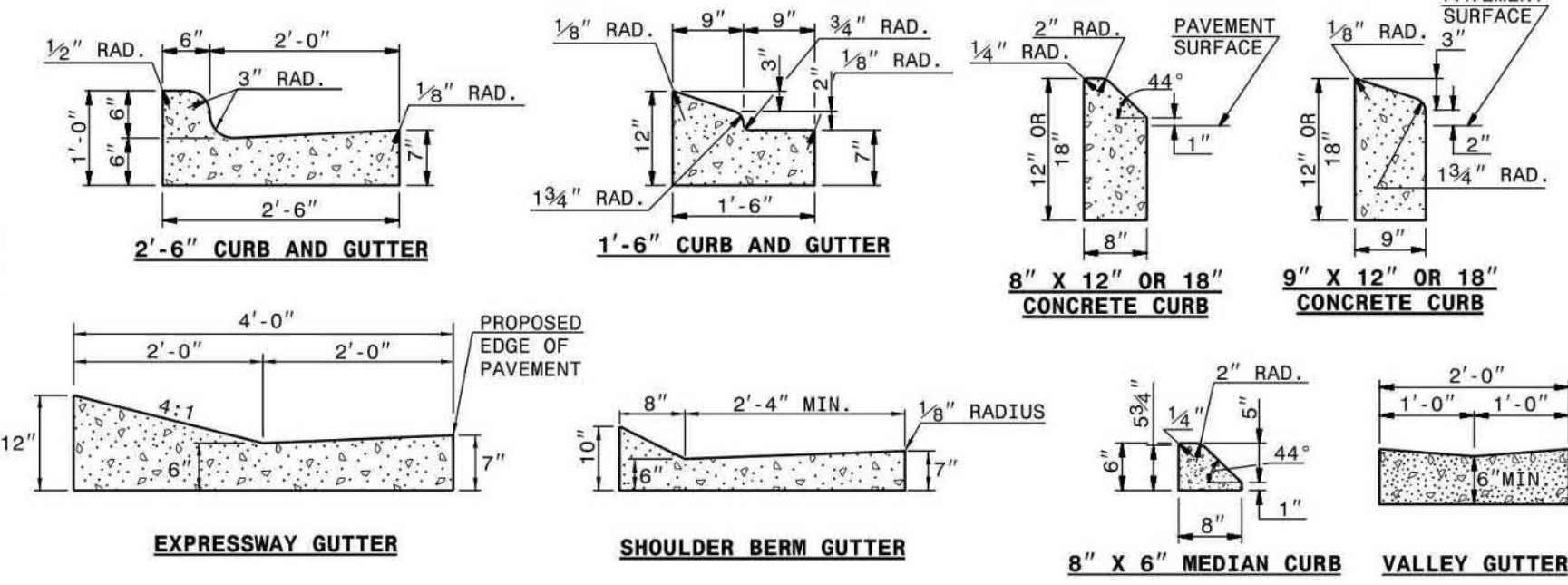
INTERLOCKING BLOCK WALL WITH FENCE
(SLEEVE-IT™ OR APPROVED EQUAL)
N.T.S.



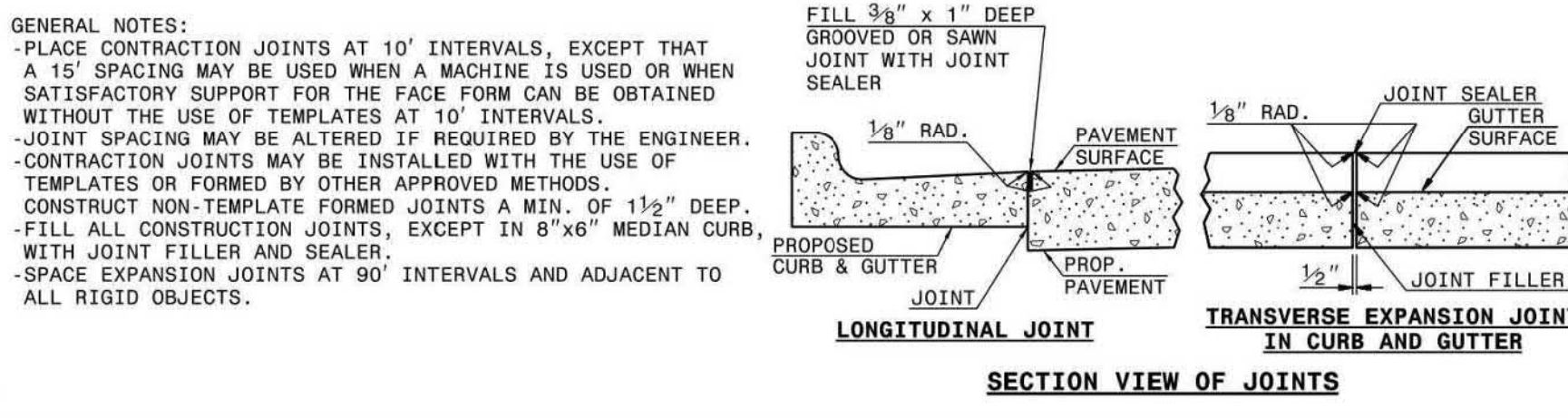
INTERLOCKING BLOCK WALL
N.T.S.



WHEEL STOP
N.T.S.



SECTION VIEW OF CURBS OR CURBS AND GUTTERS



SECTION VIEW OF JOINTS

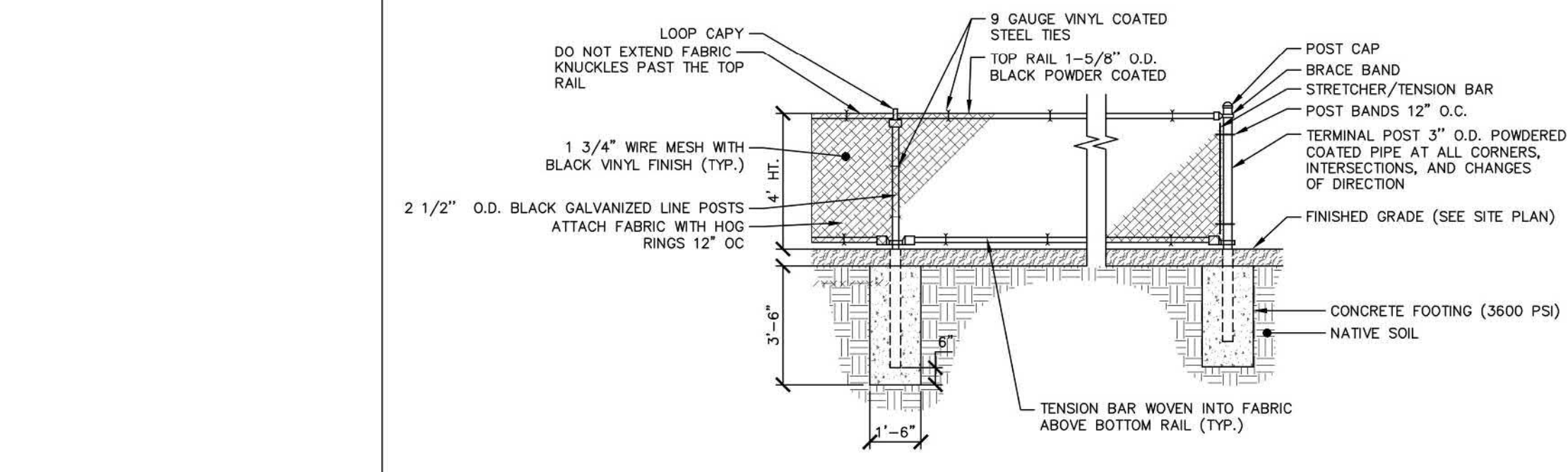
GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS.
- CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1 1/2" DEEP. FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8" X 6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
- SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.

NOTES:
1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMP AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMP OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4' X 4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BEHIND A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMP A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 0.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMP SURFACES WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4' X 4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5' X 5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5' X 5' LANDING AT THE TOP OF A RAMP, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMP WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMP THROUGH MEDIAN ISLANDS, SINGLE RAMP AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

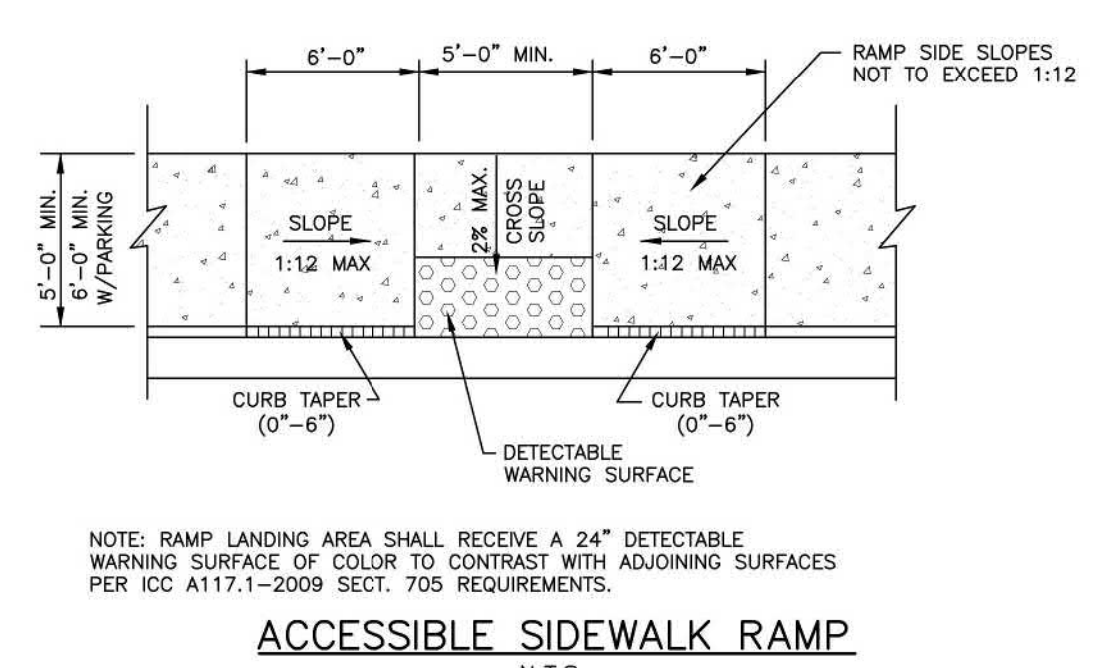
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER
AND CURB & GUTTER

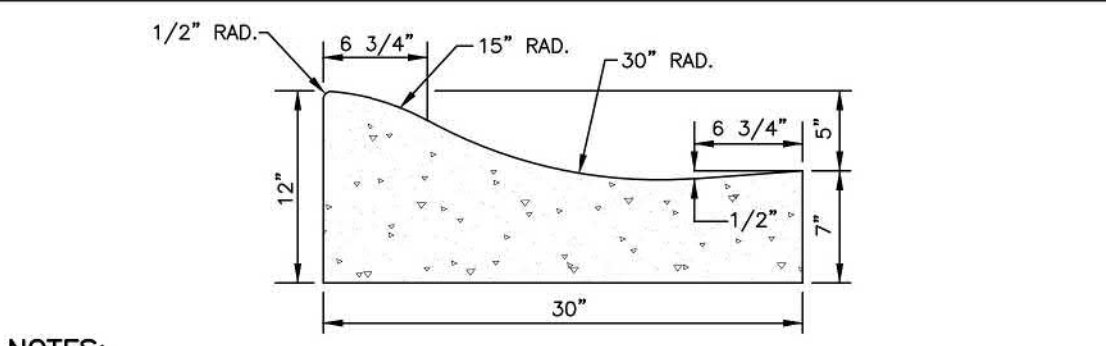
SHEET 1 OF 3
846.01



4' CHAIN LINK FENCE
1/4"=1'-0"



ACCESSIBLE SIDEWALK RAMP
N.T.S.



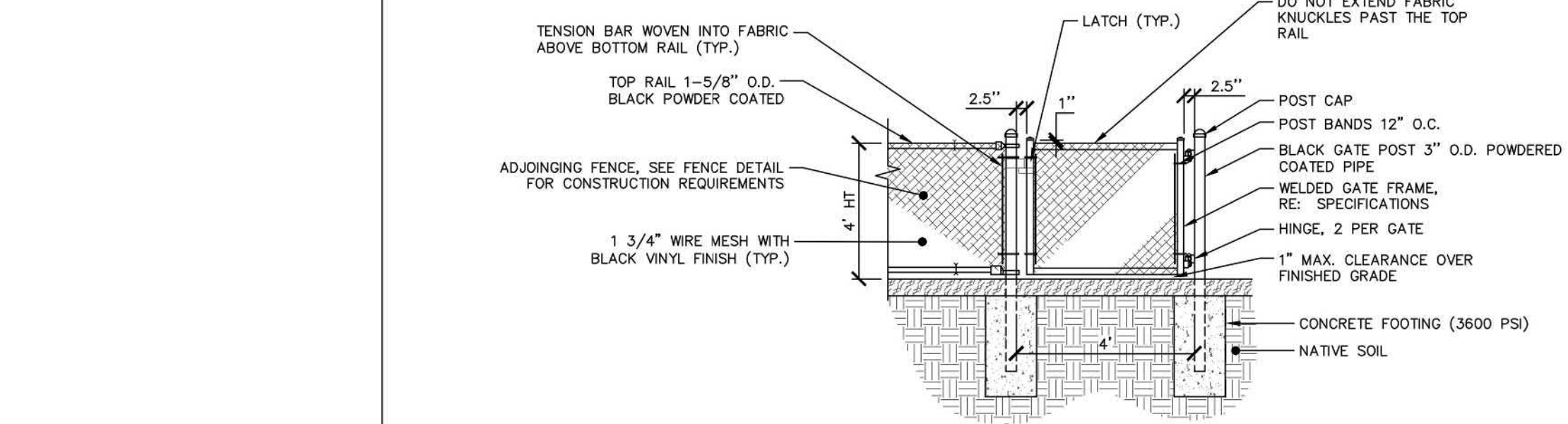
30" ROLLED CURB AND GUTTER
N.T.S.

NOTES:
1. 10' MAXIMUM BETWEEN DUMMY JOINTS. 15' MAXIMUM BETWEEN DUMMY JOINTS ON MACHINE POURS.
2. 1/2" EXPANSION JOINT EVERY 50'.
3. 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
4. LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1026-2 OF NCDOT STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES.
5. ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 846.01. THE JOINT MATERIAL SHALL CONFORM TO SECTION 1026-2 OF THE NCDOT STANDARDS AND SPECIFICATIONS FOR ROADS AND STRUCTURES.
6. REFER TO NCDOT DETAIL 846.01 FOR CURB AND GUTTER SUPERELEVATION RATES.

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
CURB RAMP
NOTES

SHEET 3 OF 3
848.05



4' CHAIN LINK FENCE SINGLE SWING GATE
1/4"=1'-0"

NOTES:
1. SEE SPECIFICATIONS FOR POST AND RAIL SIZING.
2. ALL POST FOOTINGS SHALL BE PER SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR FENCE FINISH REQUIREMENTS.
4. ALL FABRIC TO BE ON OUTSIDE OF RAILS AND POSTS.
5. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL.
6. CONTRACTOR TO SUBMIT FENCE POST LOCATION PLAN FOR APPROVAL.
7. FENCE NOT DESIGNED FOR WIND SCREEN USE.
8. ALL POSTS, RAILS AND FITTINGS SHALL BE BLACK POWDER COATED.
9. CONTRACTOR TO PROVIDE ELECTRONIC CARD/CHIP READER AT MAIN GATE PER OWNER'S DESIGN.



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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

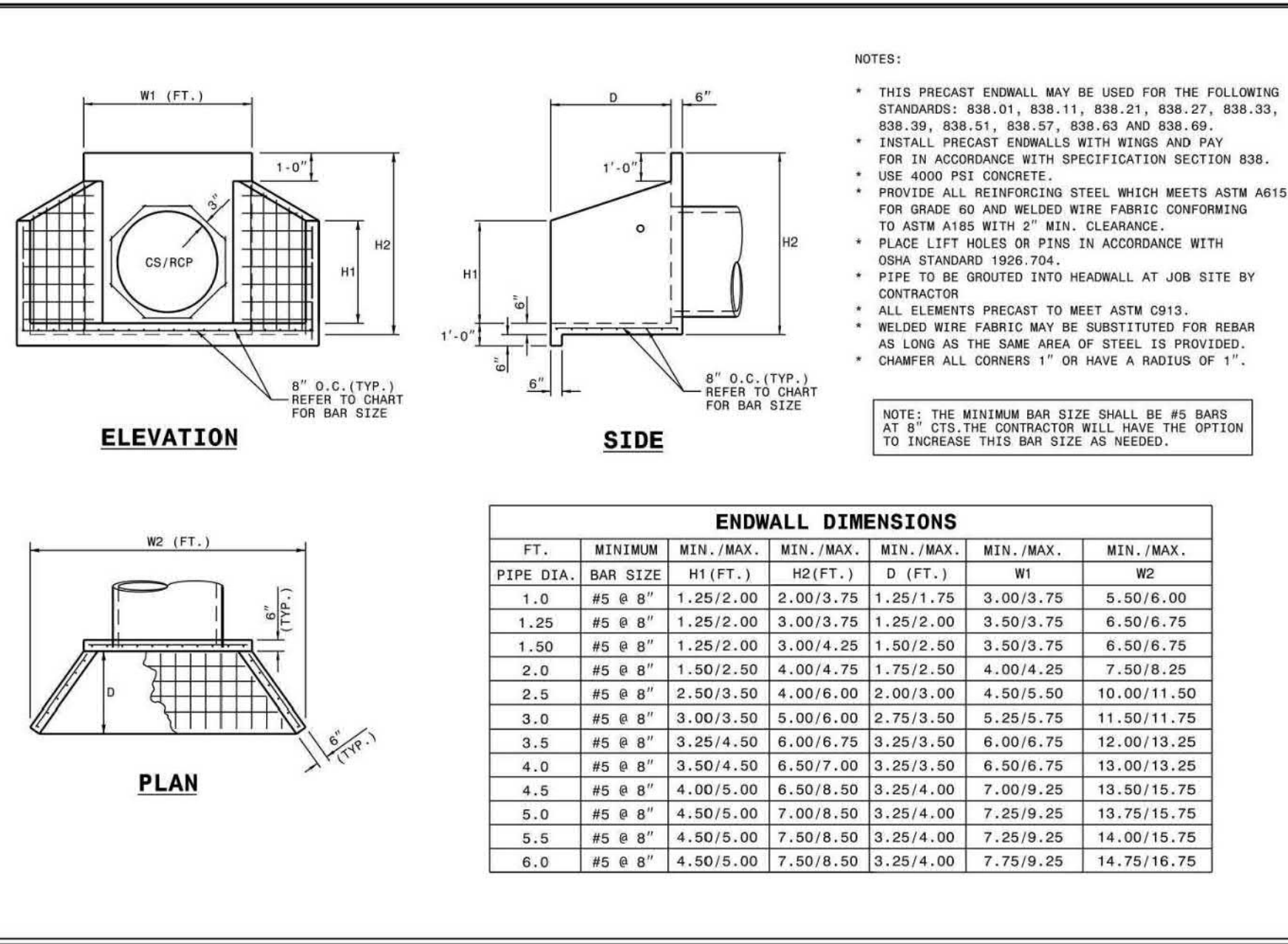


W.T. O'Daniel
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REVISIONS
NO. DATE

PLAN INFORMATION
PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-01
CHECKED BY .
DRAWN BY .
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DATE 03.21.2022

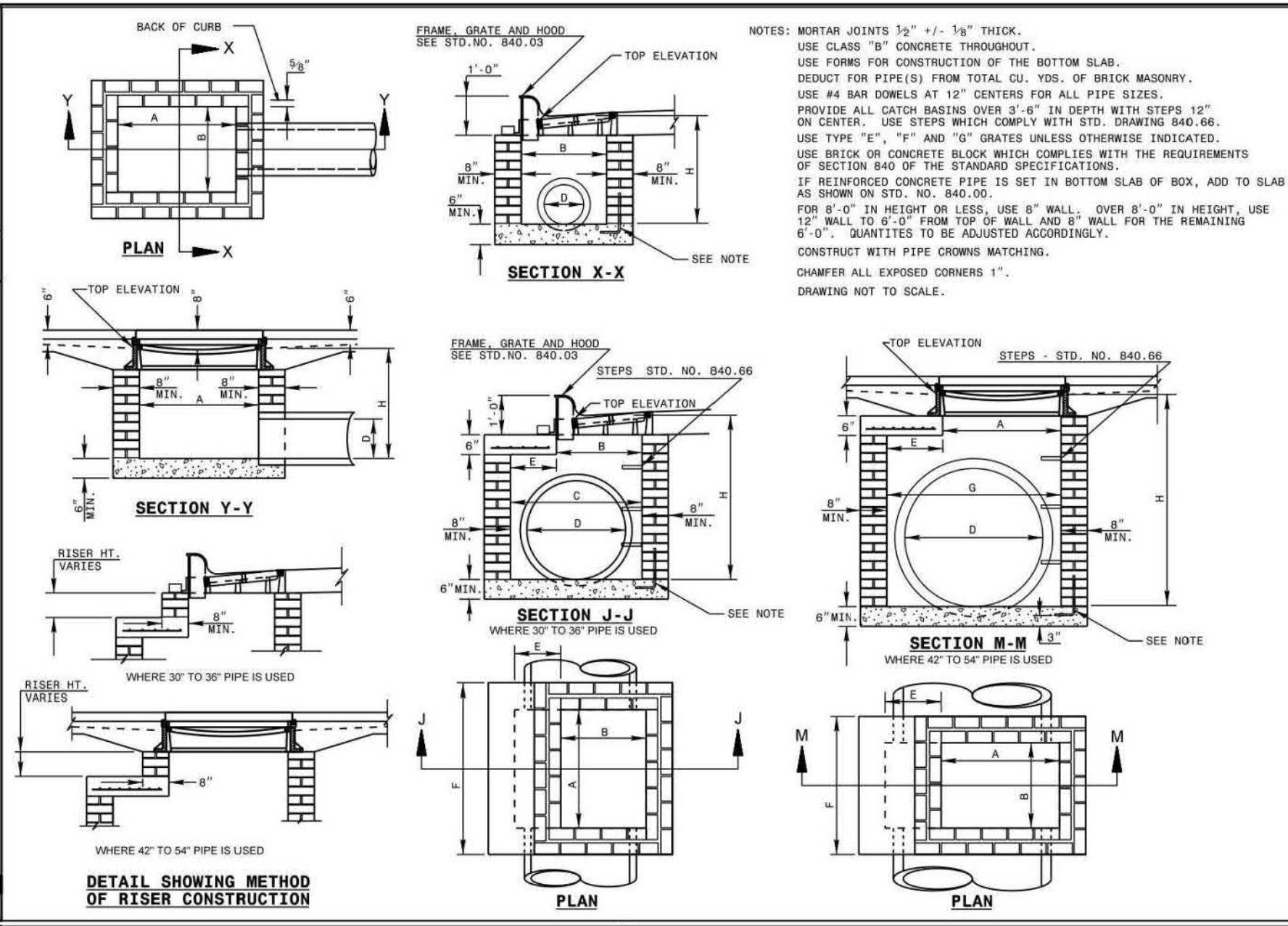
SHEET
SITE DETAILS
C8.00



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR PRECAST CONCRETE ENDWALL FOR SINGLE 12" THRU 72" PIPE - 80' SKEW

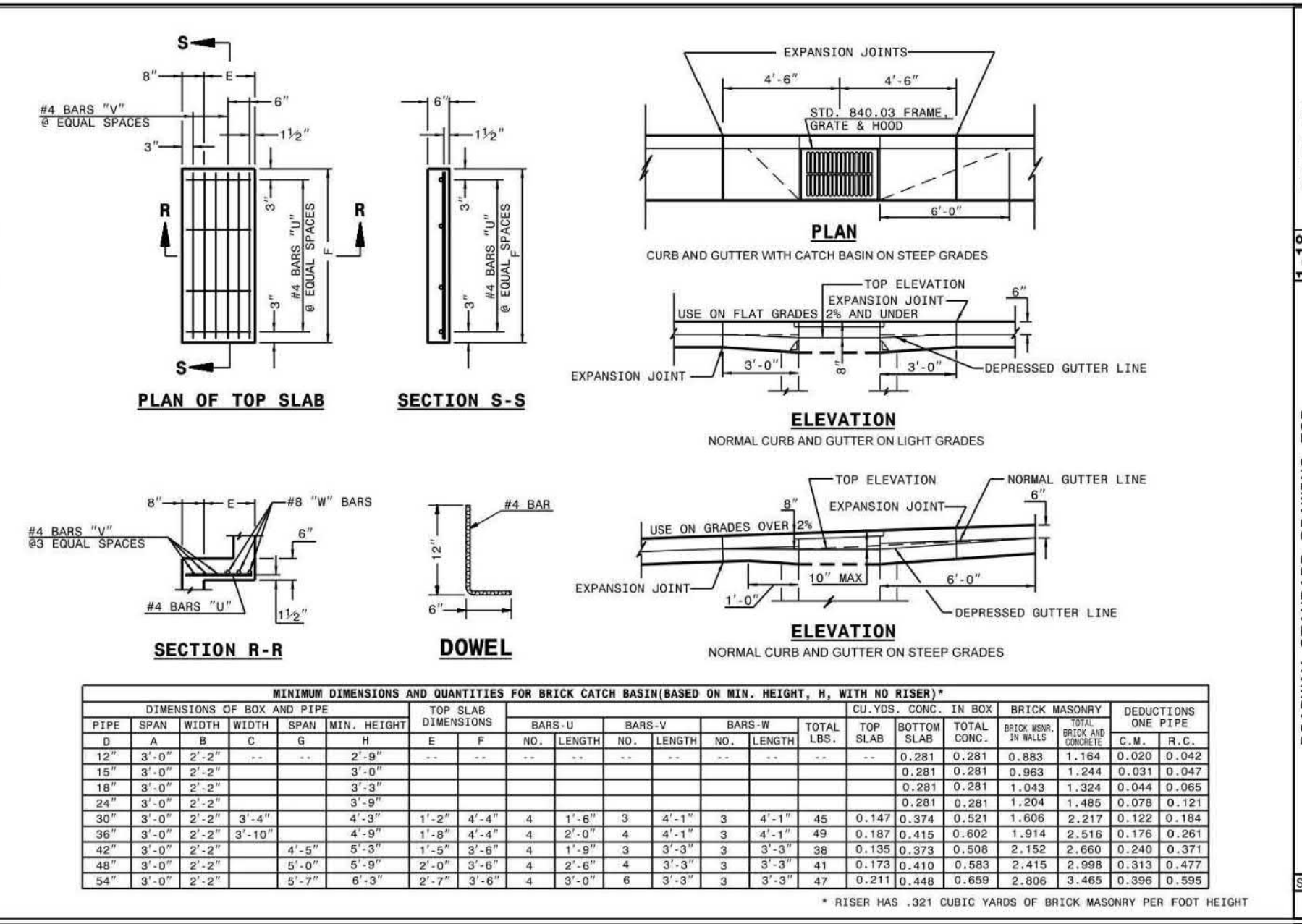
SHEET 1 OF 1
838.80



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK CATCH BASIN 12" THRU 54" PIPE

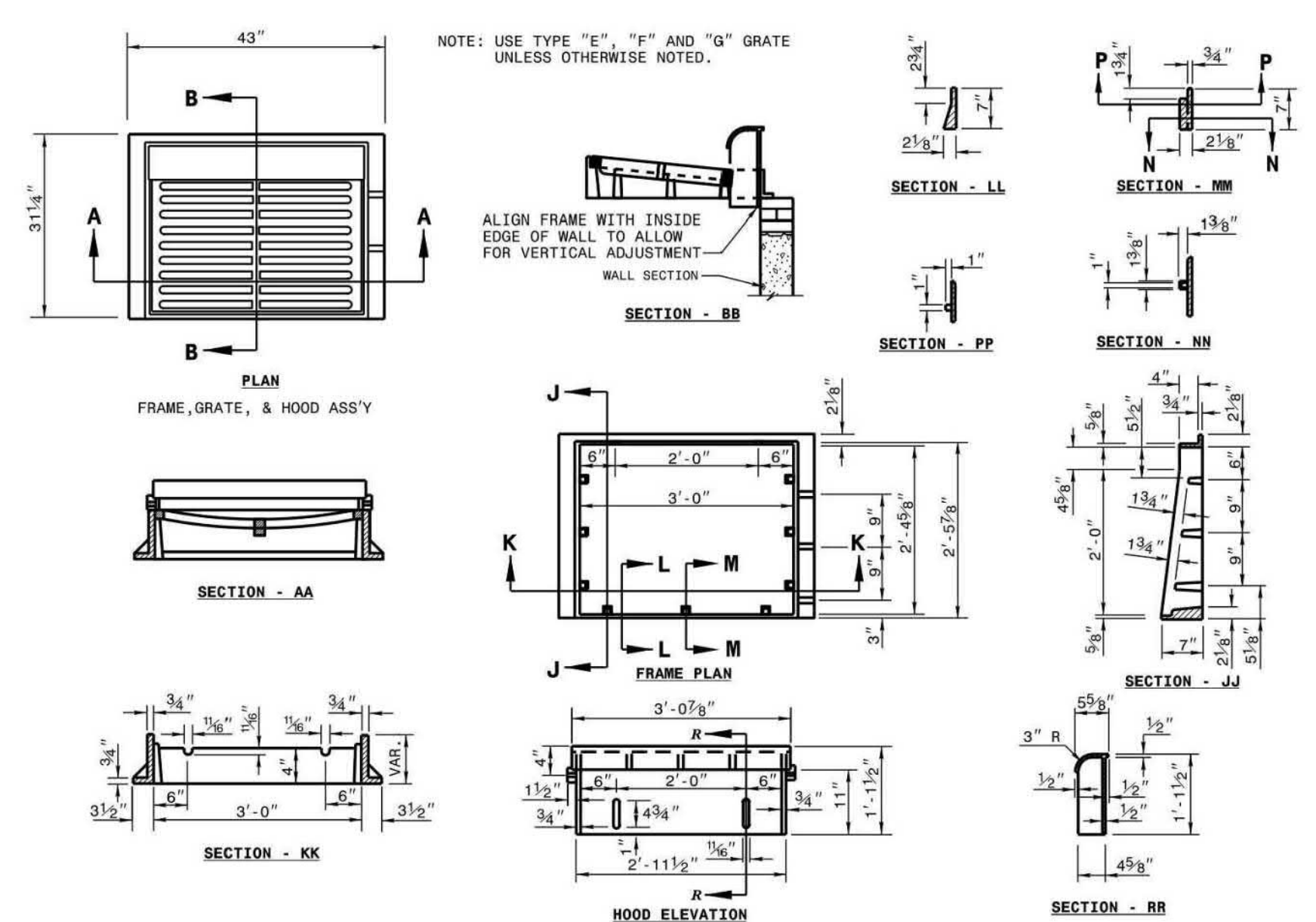
SHEET 1 OF 3
840.01



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK DROP INLET 12" THRU 30" PIPE

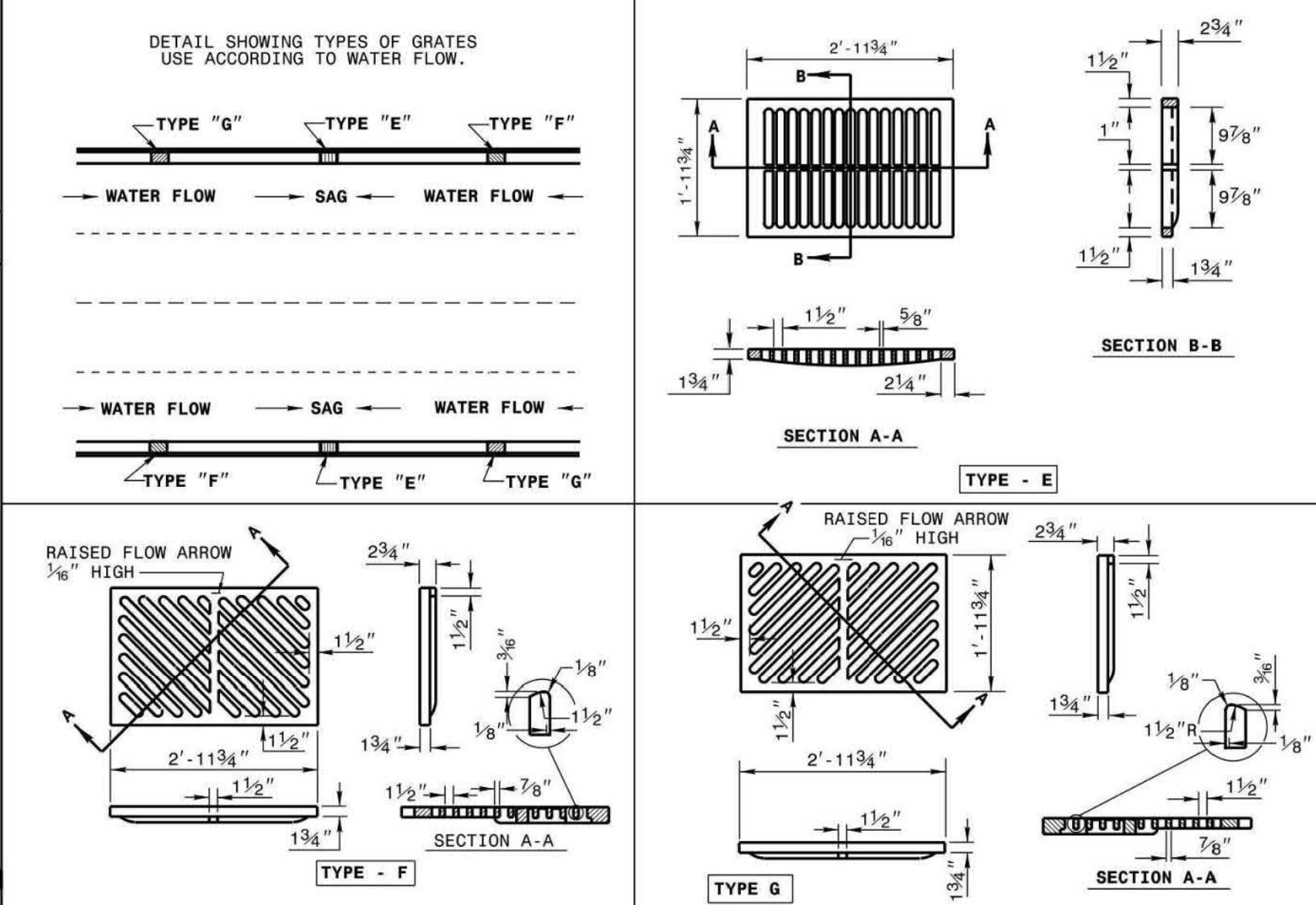
SHEET 1 OF 1
840.01



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

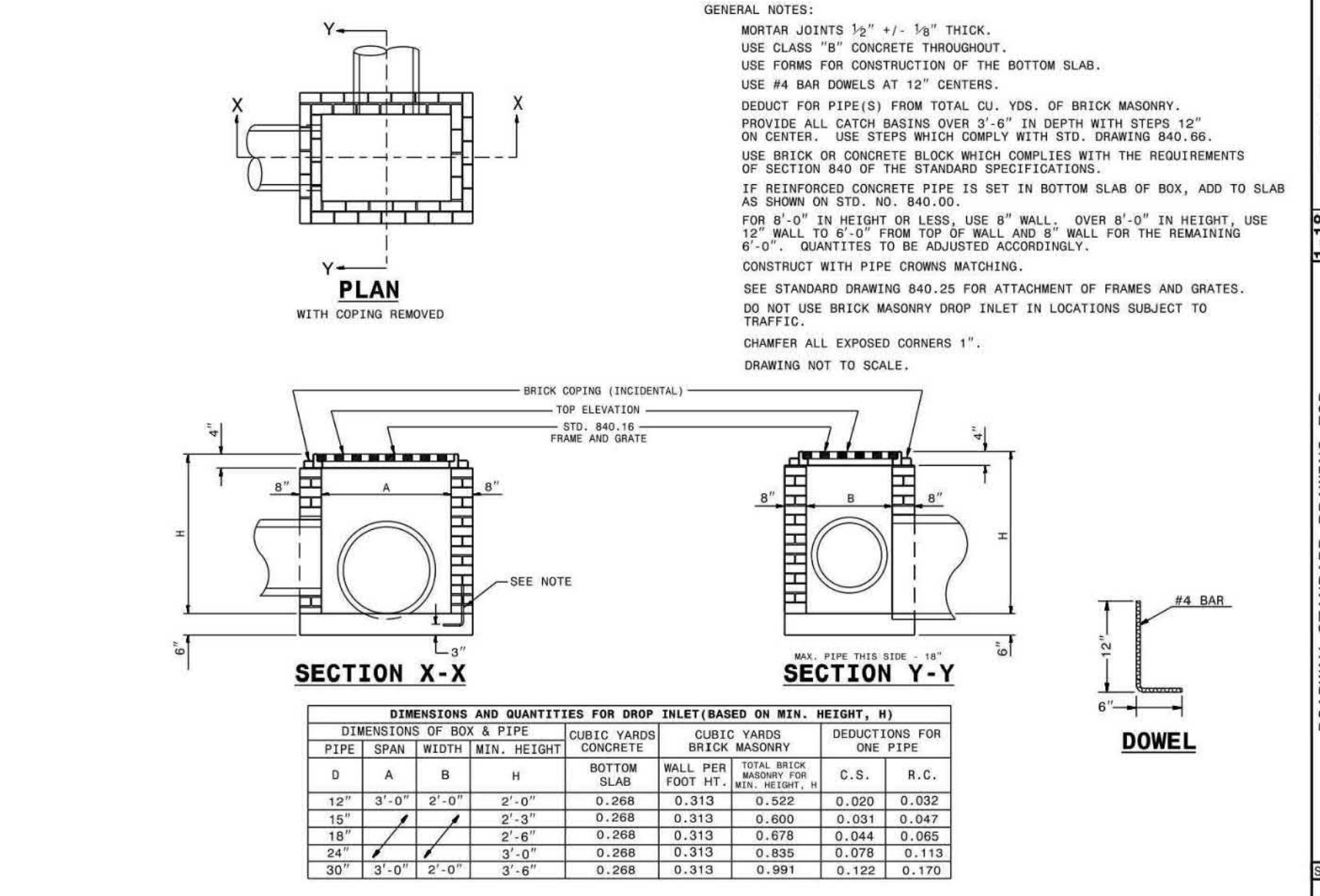
SHEET 1 OF 2
840.03



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN

SHEET 2 OF 2
840.03



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

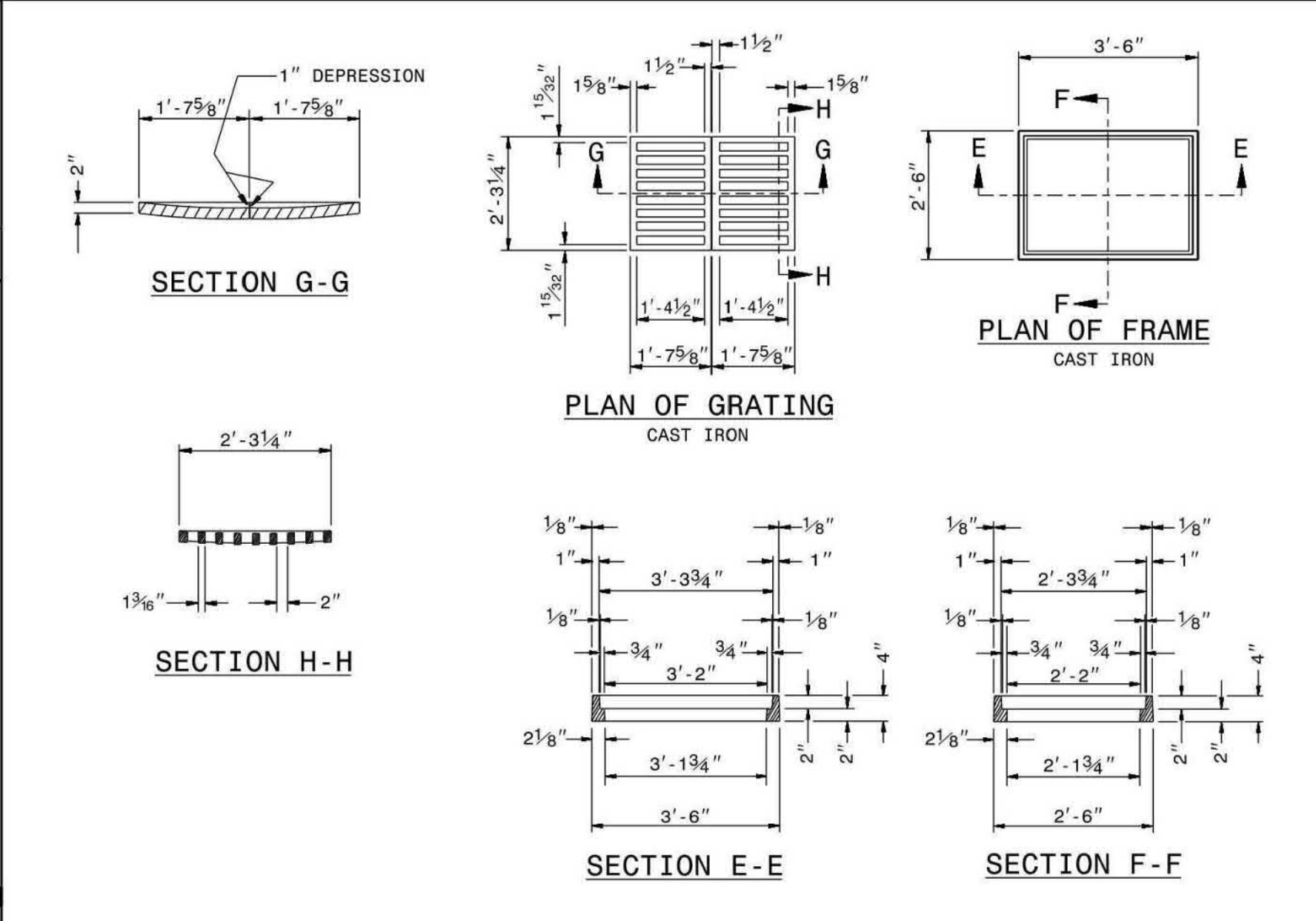
SHEET 1 OF 1
840.15



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DWG. S 840.14 AND 840.15

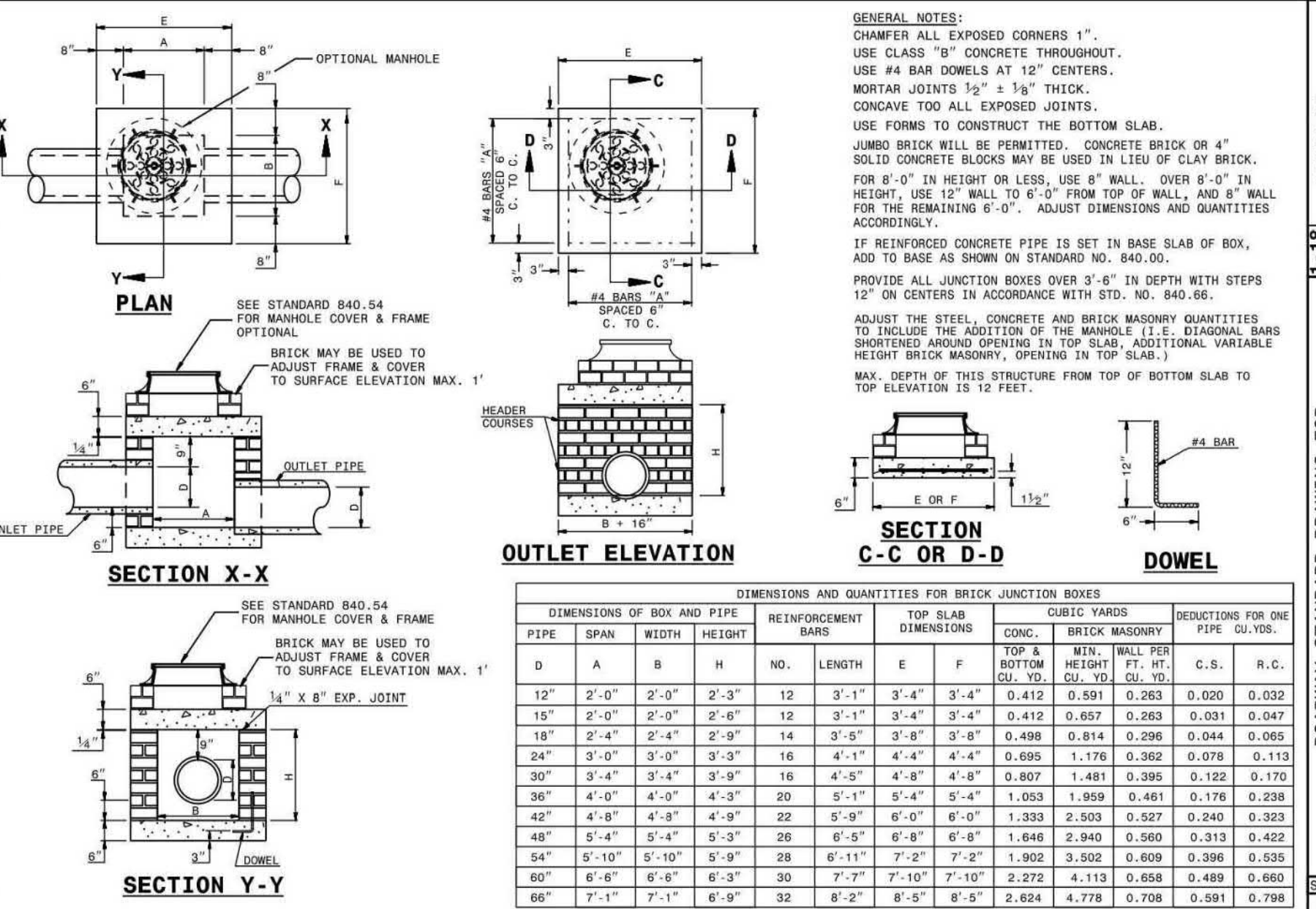
SHEET 1 OF 1
840.16



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR DROP INLET FRAME AND GRATES FOR USE WITH STD. DWG. S 840.14 AND 840.15

SHEET 1 OF 1
840.16



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR BRICK JUNCTION BOX (WITH OPTIONAL MANHOLE) 12" THRU 66" PIPE

SHEET 1 OF 1
840.15

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CONTACT: BOB MISHLER

ASHTON WOODS

THE POINT

PHASES 1, 2, 6 AND 9

CONSTRUCTION DRAWINGS - PACKAGE 1

EAST YOUNG STREET

TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

Professional Engineer Seal: WILLIAM T. O'DANIEL, No. 22630

W.T. O'Daniel
Mar 18 2022 3:39 PM

REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-D1
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STORM DRAINAGE DETAILS

C8.02



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ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



Todd O'Daniel
Mar 18 2022 3:41 PM

REVISIONS

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PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-D1
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DRAWN BY
SCALE N.T.S.
DATE 03.21.2022

SHEET

STORM DRAINAGE
DETAILS

C8.03

FINAL DRAWING - RELEASED FOR CONSTRUCTION

TRAFFIC BEARING GRATED DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES. Includes Bill of Materials table and various diagrams like SECTION X-X, SECTION Y-Y, PLAN, STRAIGHT BARS, and CORNER BARS.

TRAFFIC BEARING GRATED DROP INLET FOR CAST IRON DOUBLE FRAME AND GRATES. Includes Bill of Materials table and various diagrams like SECTION X-X, SECTION Y-Y, PLAN, STRAIGHT BARS, and CORNER BARS.

TRAFFIC BEARING JUNCTION BOX FOR USE WITH PIPES 42" AND UNDER. Includes Bill of Materials table and various diagrams like SECTION X-X, SECTION Y-Y, PLAN, STRAIGHT BARS, and CORNER BARS.

ROADWAY STANDARD DRAWING FOR DRAINAGE STRUCTURE STEPS. Includes diagrams for PLAN, SIDE ELEVATION, and ELEVATION for CAST IRON and REINFORCING STEEL.

ROADWAY STANDARD DRAWING FOR MANHOLE FRAME AND COVER. Includes diagrams for PLAN, SIDE ELEVATION, and ELEVATION for CAST IRON and POLYPROPYLENE PLASTIC.

ROADWAY STANDARD DRAWING FOR MANHOLE FRAME AND COVER. Includes diagrams for PLAN OF FRAME, PLAN OF COVER, SECTION A-A, and SECTION B-B.

FILL HEIGHT TABLE 9. Includes tables for TYPE 3 (BEDDING) INSTALLATION and TYPE 4 (BEDDING) INSTALLATION, and a FILL HEIGHT TABLE BASE ON.

TABLE 1 EQUIVALENT USCS AND AASHTO SOIL CLASSIFICATION FOR SDD SOIL DESIGNATIONS. TABLE 2 STANDARD INSTALLATIONS SOILS AND MINIMUM COMPACTION REQUIREMENTS. Includes notes and reference sources.

STORM DRAIN PIPE INSTALLATION. Includes diagrams for STORM DRAIN PIPE INSTALLATION and STORM DRAIN PIPE INSTALLATION.

STORM DRAIN PIPE INSTALLATION
N.T.S.
1 OF 3

STORM DRAIN PIPE INSTALLATION
N.T.S.
2 OF 3

STORM DRAIN PIPE INSTALLATION
N.T.S.
3 OF 3



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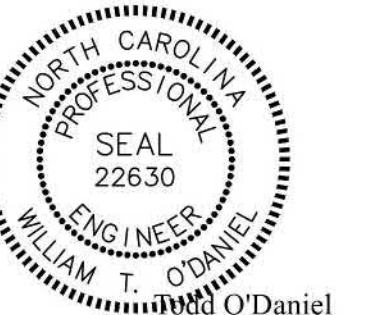
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ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



W.T. O'Daniel
Mar 18 2022 3:42 PM

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PLAN INFORMATION

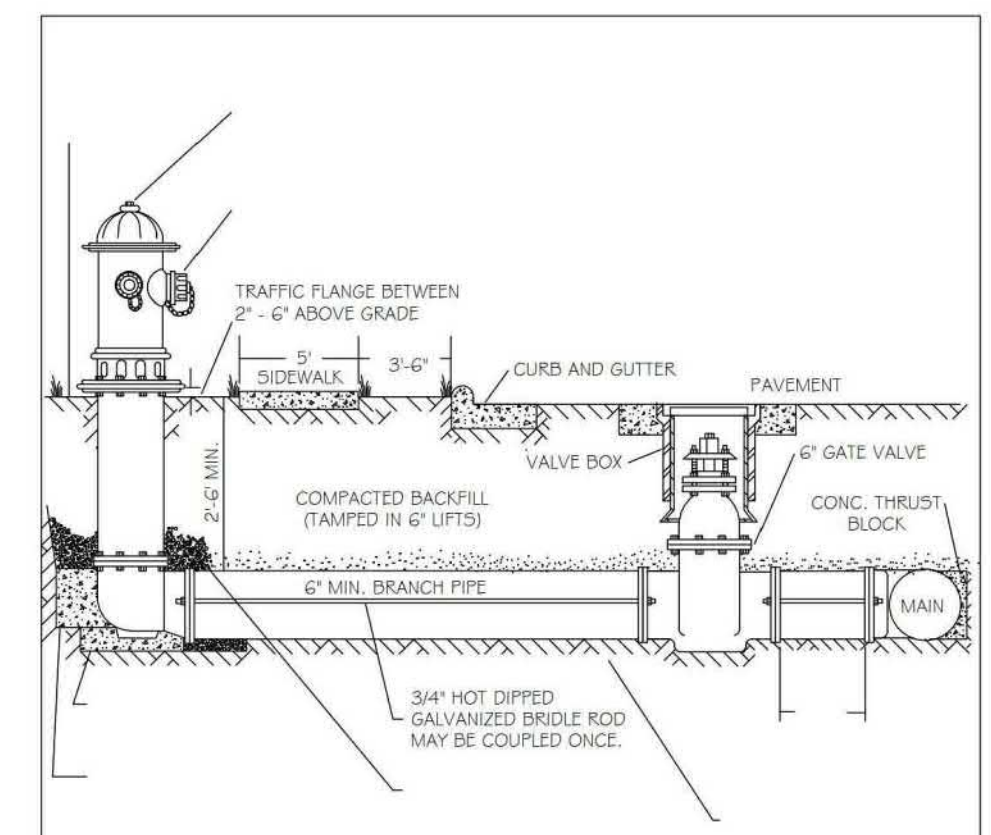
PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-D1
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DRAWN BY
SCALE N.T.S.
DATE 03.21.2022

SHEET

WATER DETAILS

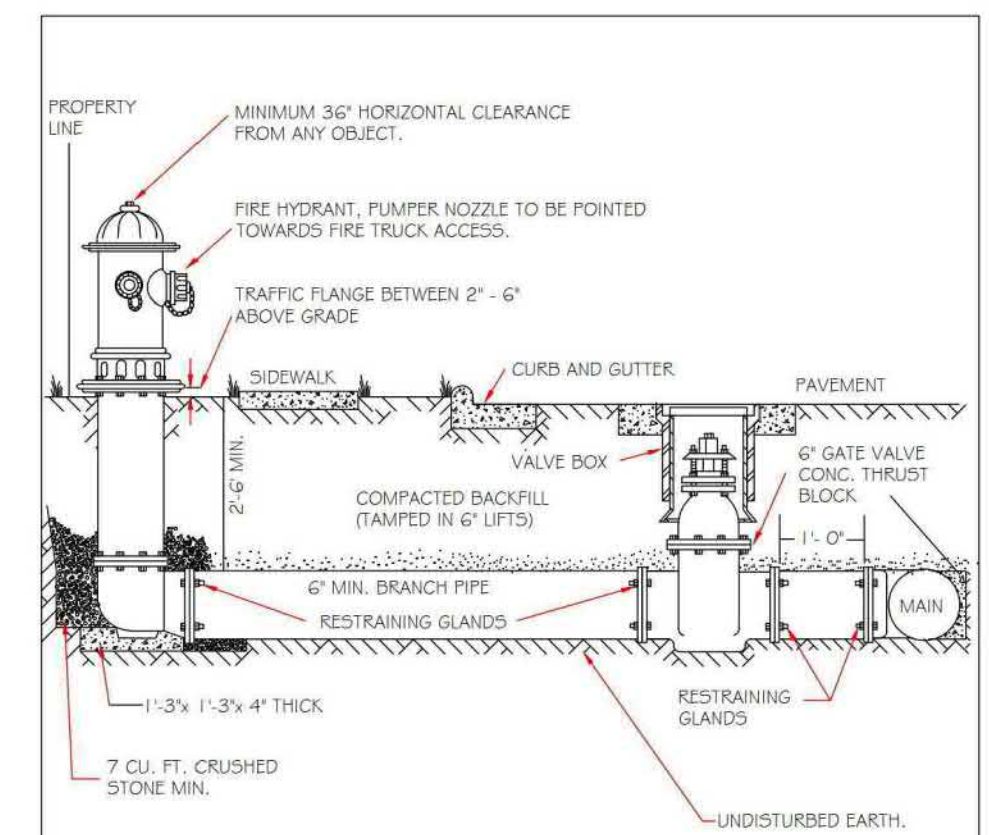
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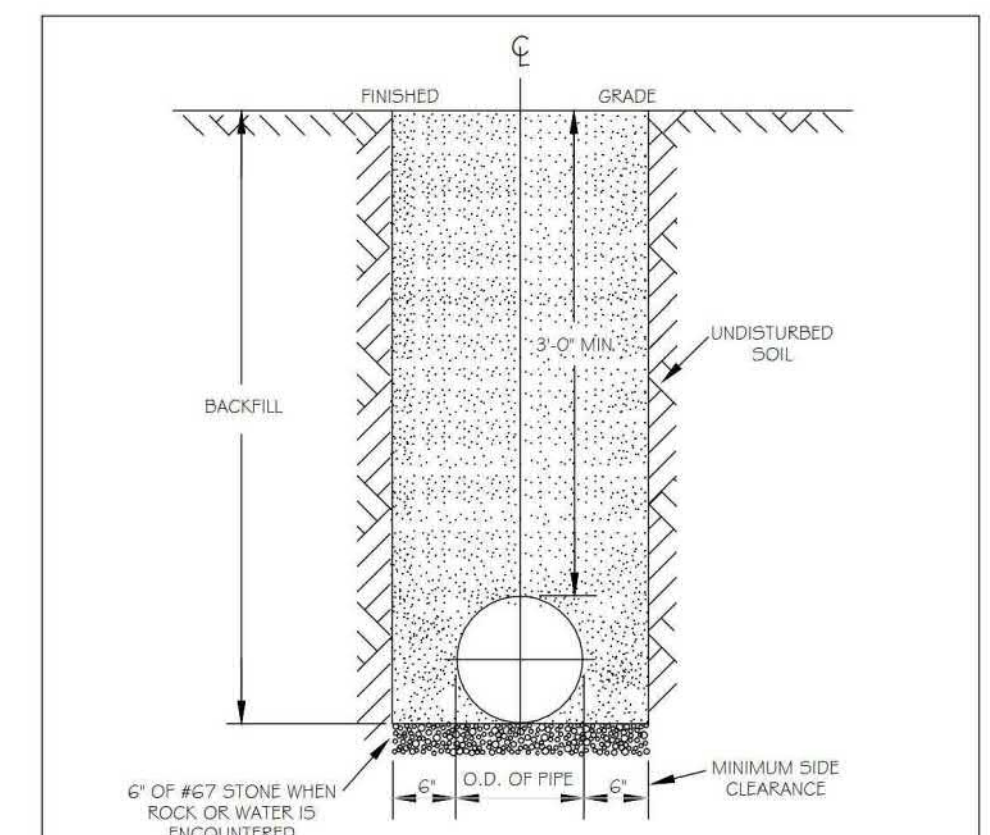
- NOTES: 1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MPH, WATERLOO, GLOW, EAST JORDAN IRON WORKS, OR ISO PIPE. 2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96...

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-4.



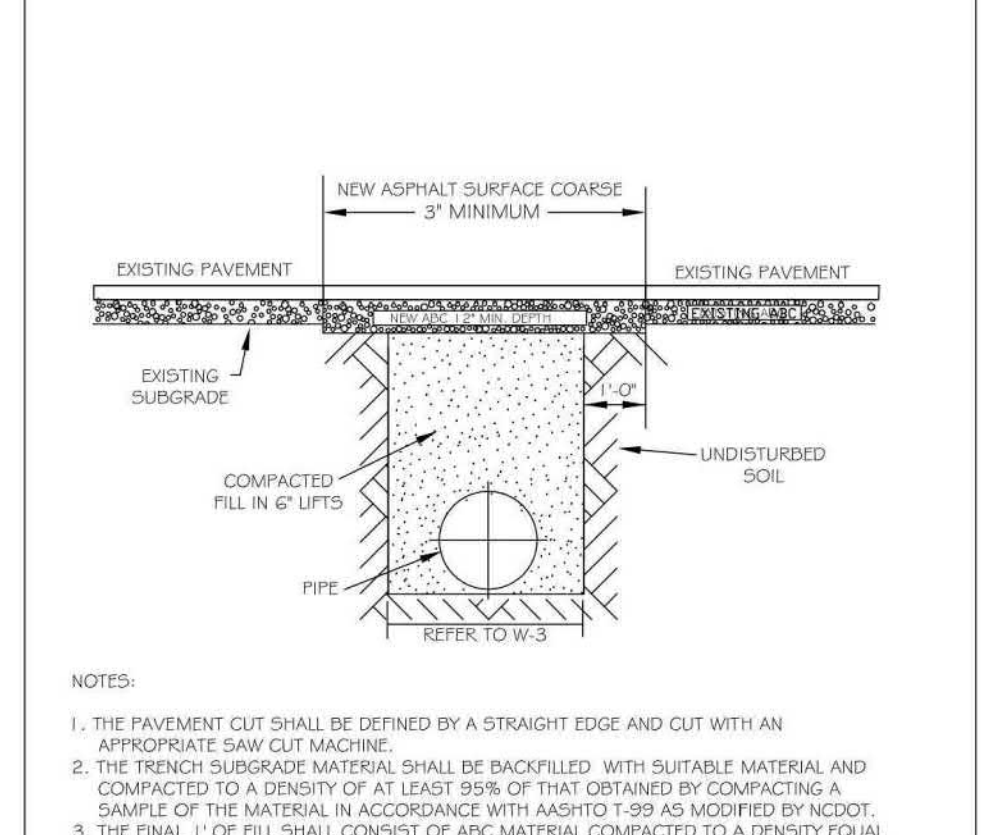
- NOTES: 1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MPH, WATERLOO, GLOW, EAST JORDAN IRON WORKS, OR ISO PIPE. 2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96...

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-4.



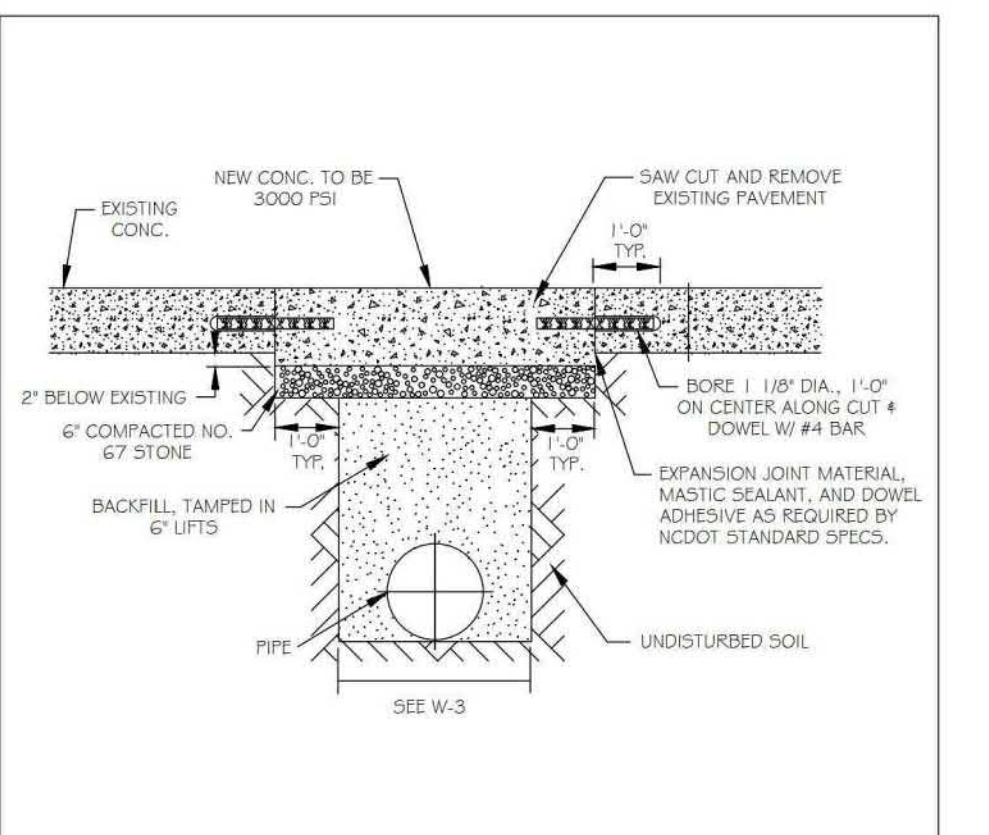
- NOTES: 1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING. 2. NO RODS OR BOLTS 4" OR LARGER TO BE USED IN BACKFILL...

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-3.



- NOTES: 1. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE. 2. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-2.



- NOTES: 1. SIZE CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING W-3 FOR ADDITIONAL DETAILS. 2. PAVEMENT CUTS WITHIN NCDDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-1.

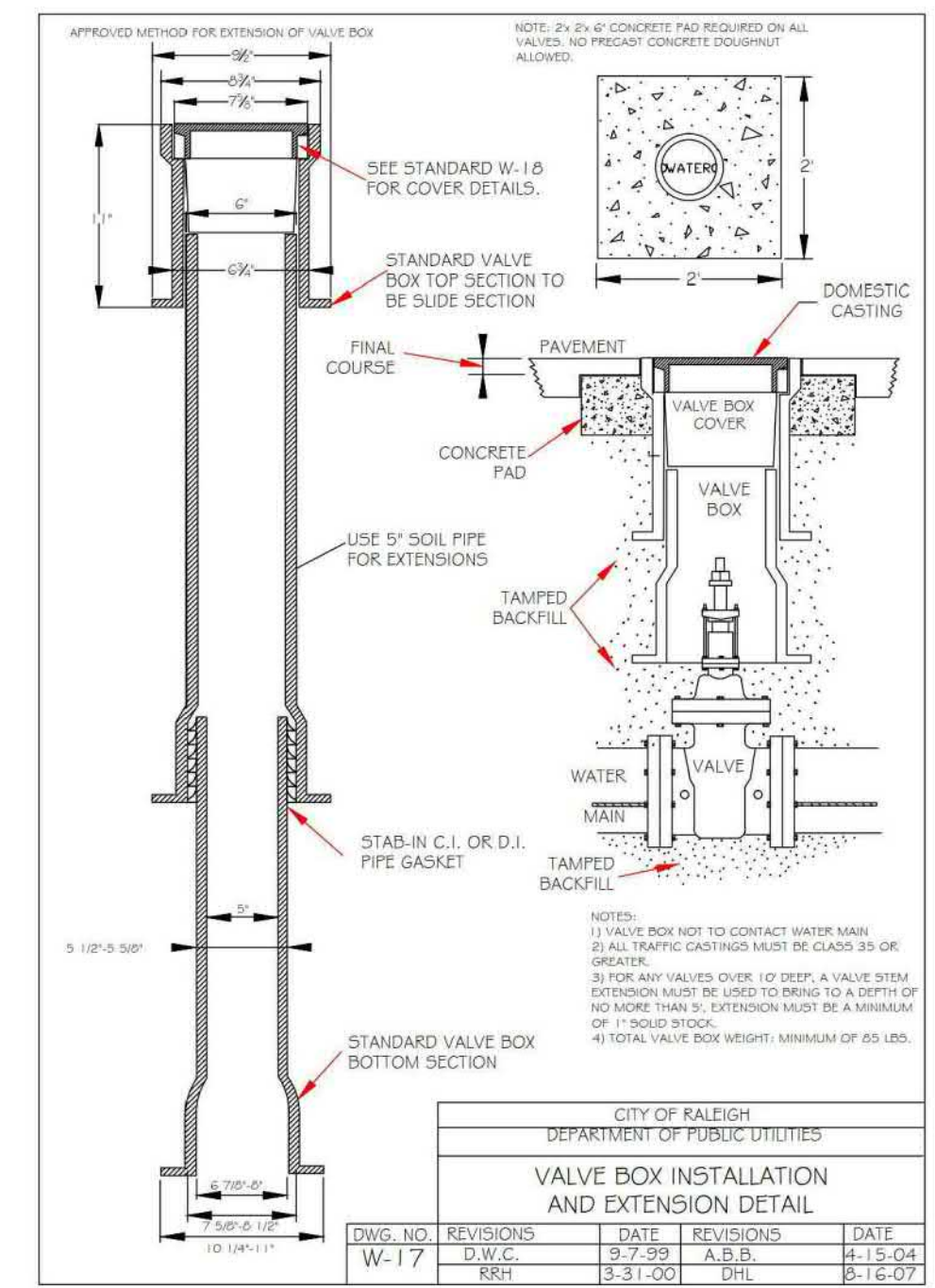


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-17.

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Table with columns: BEND, PRESSURE, AREA, etc.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-10.

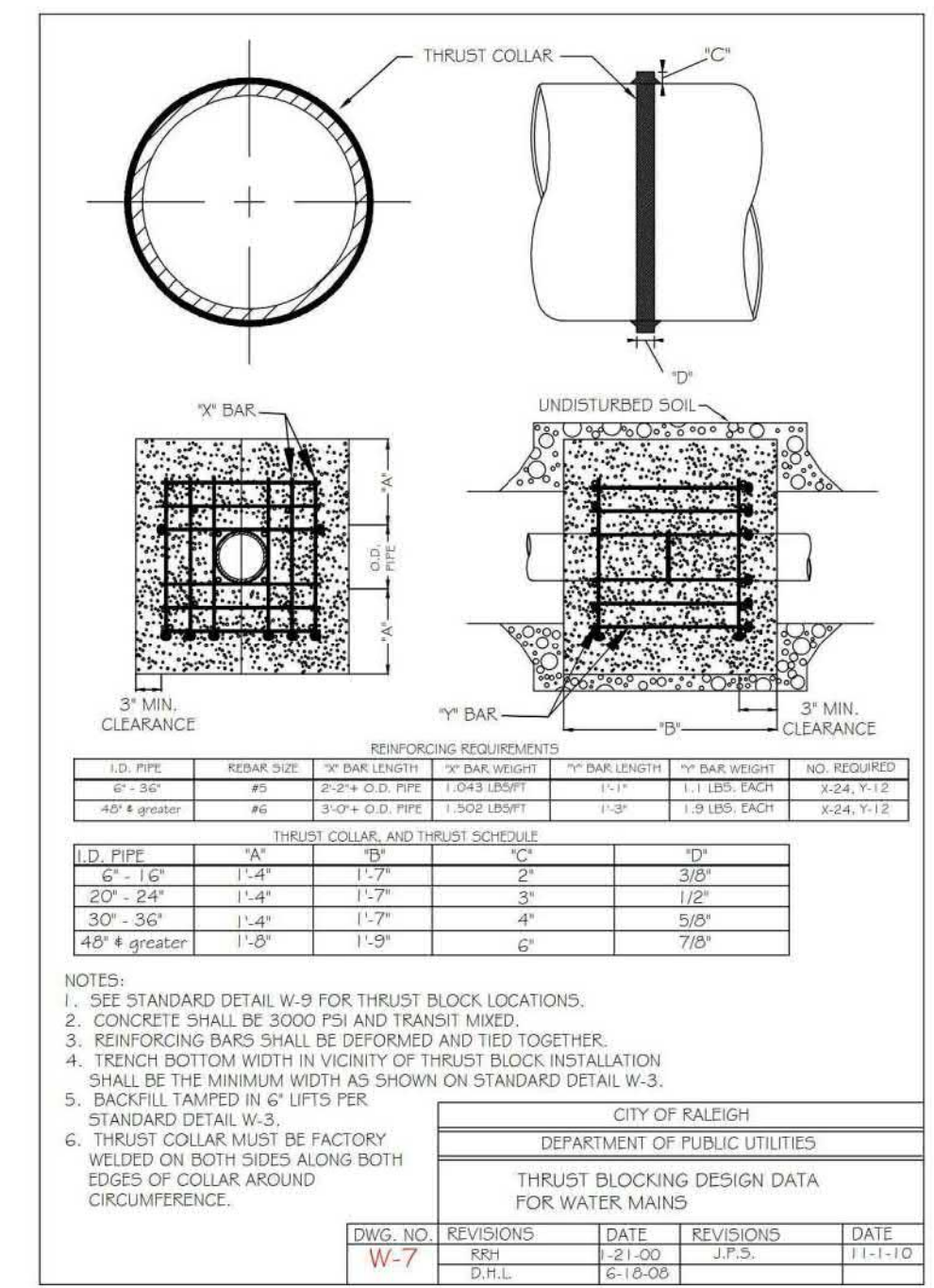


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-7.

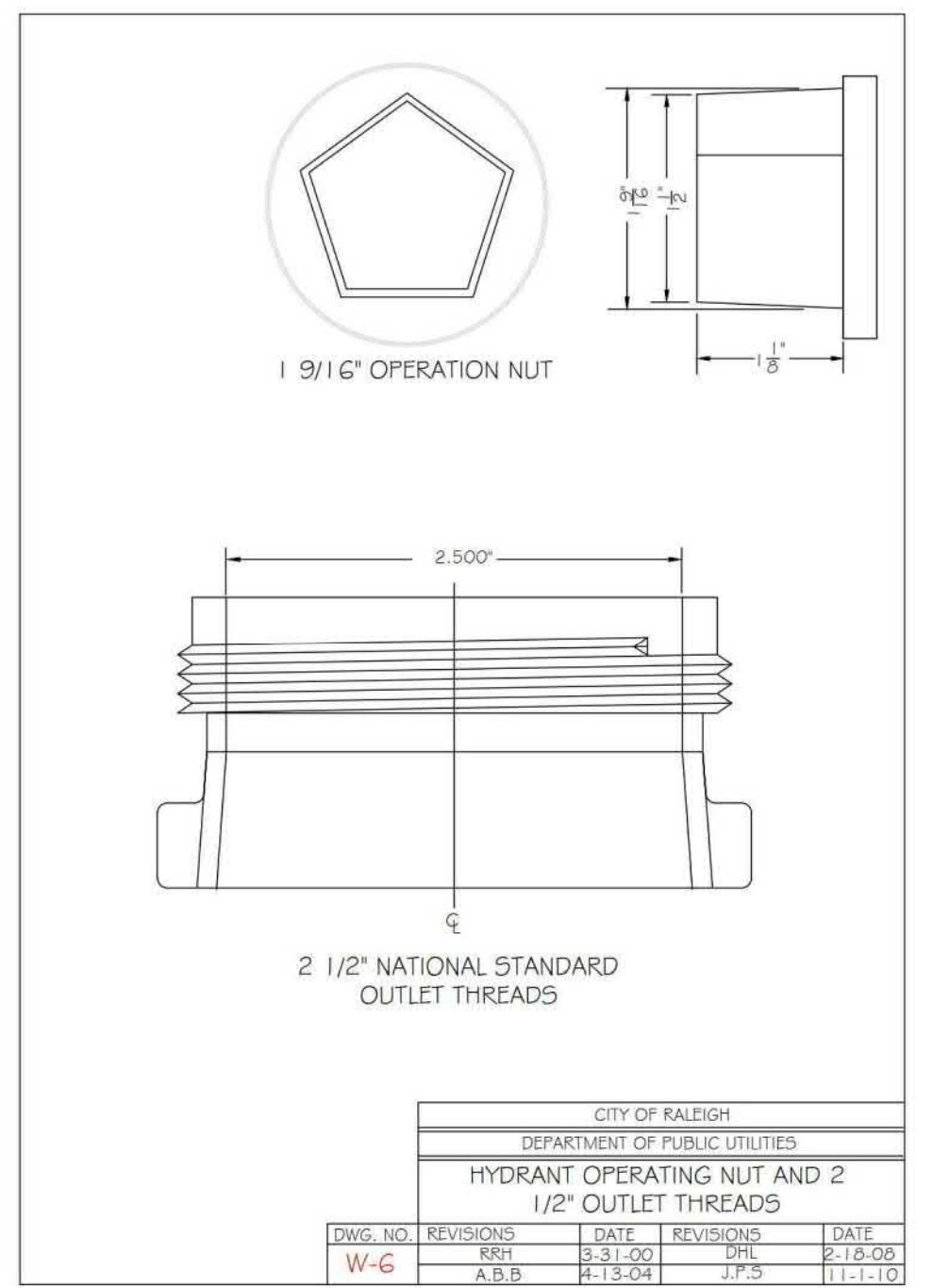


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-6.

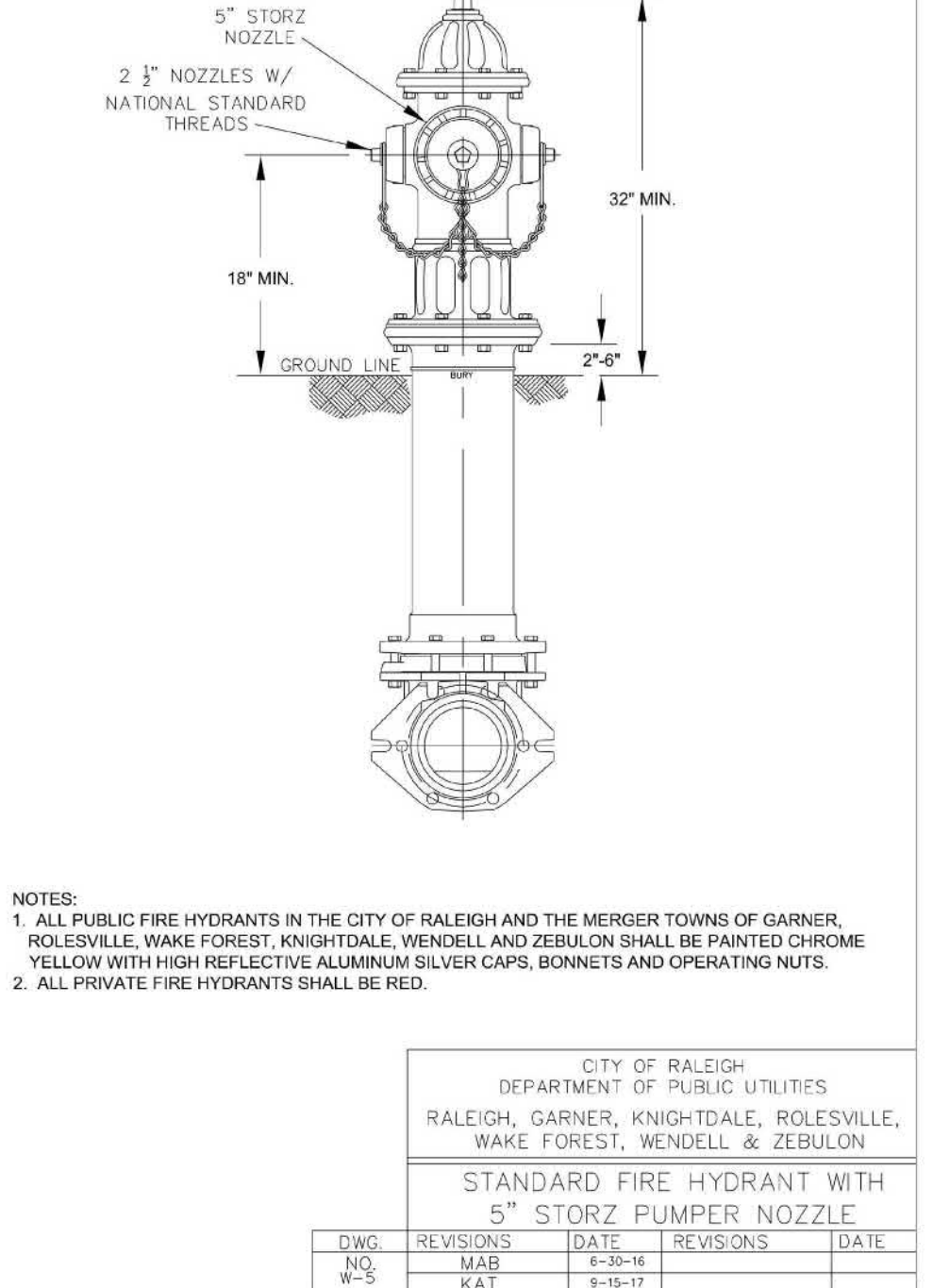


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-5.

CONCURRENT REVIEW APPROVAL
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.



Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-15.

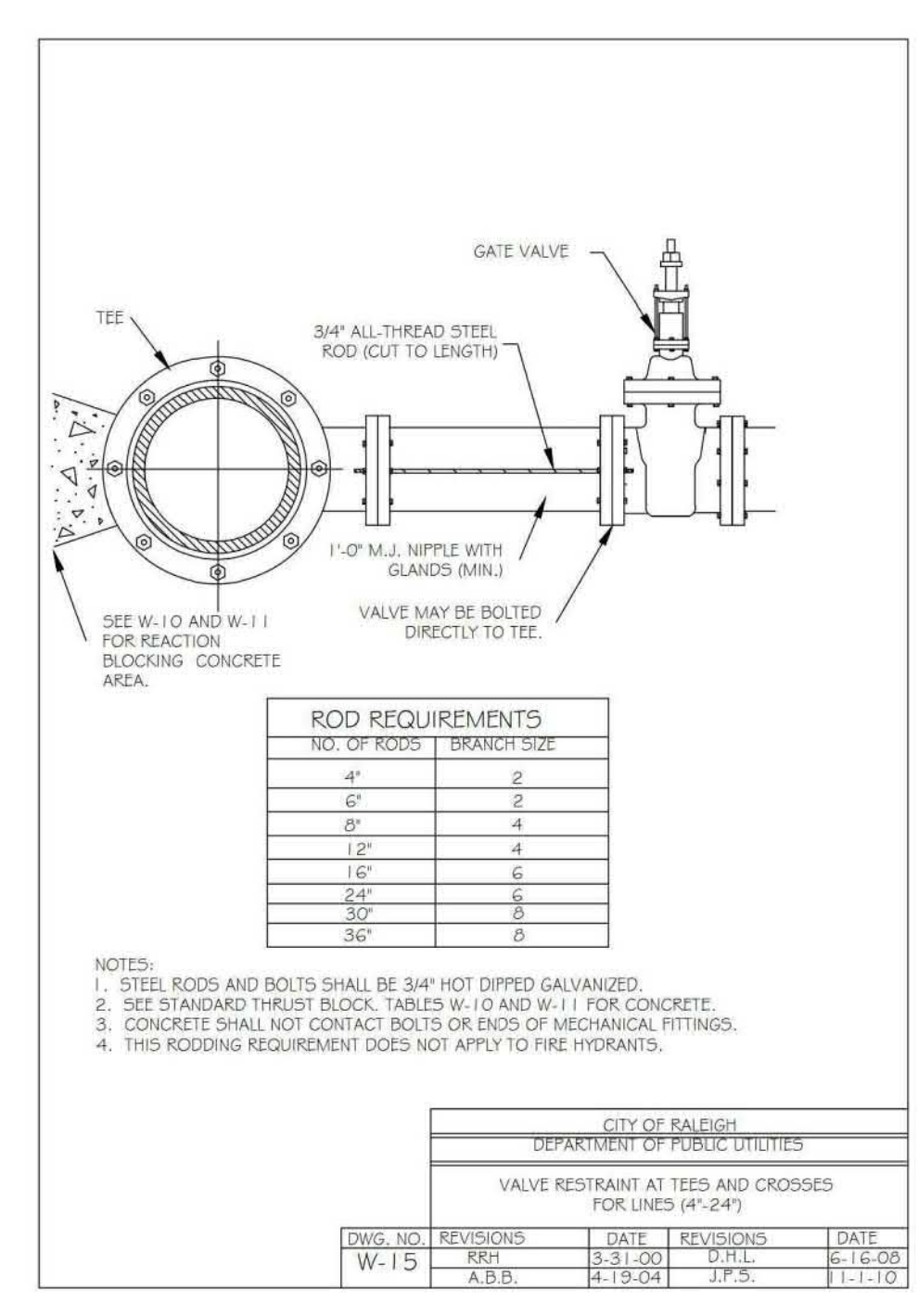


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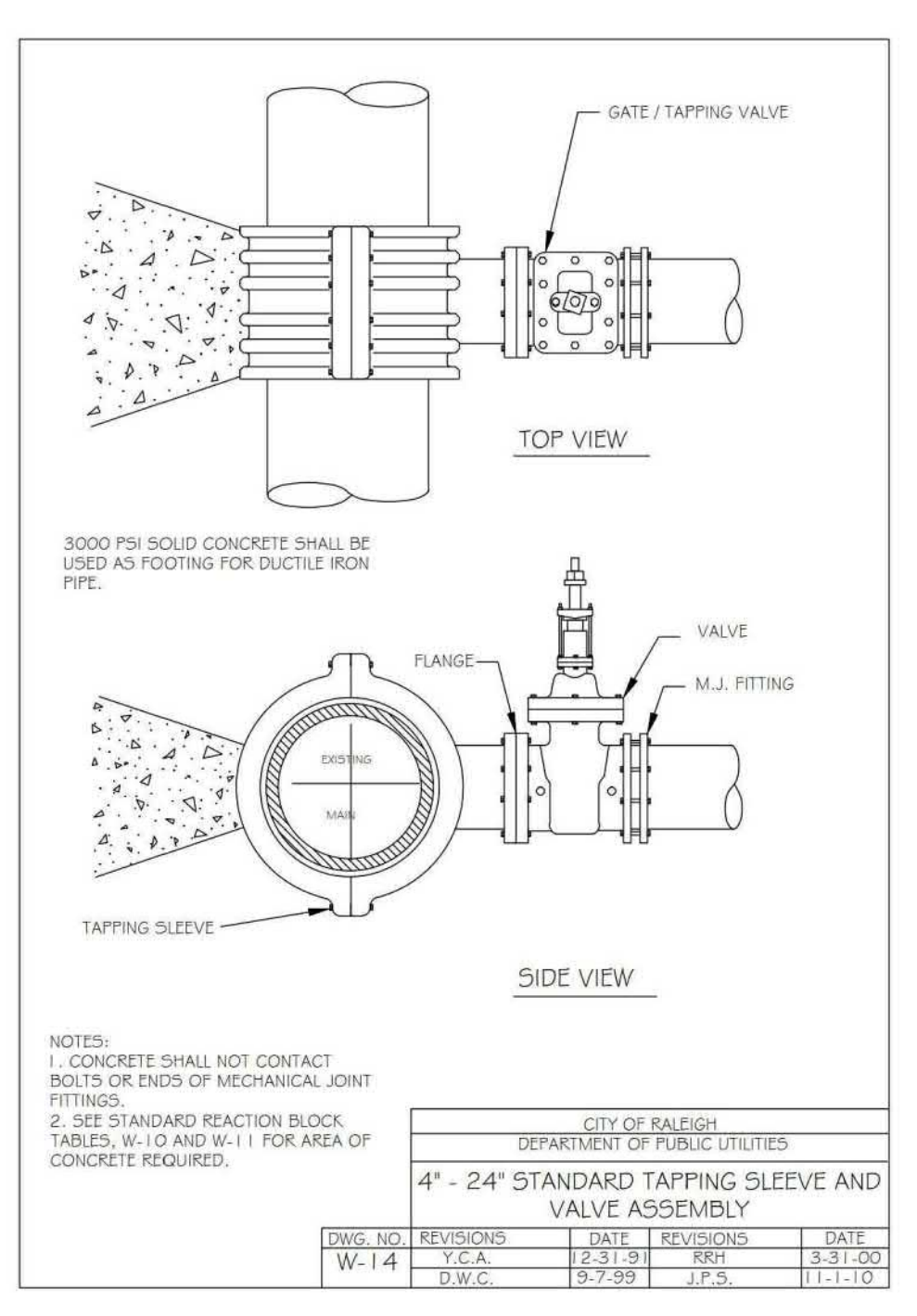


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-11.

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Table with columns: BEND, PRESSURE, AREA, etc.

Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision W-11.

M:\Projects\AWH\AWH-20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-Pkg-01-D1.dwg, 3/18/2022 1:25:50 PM, Williams, L1



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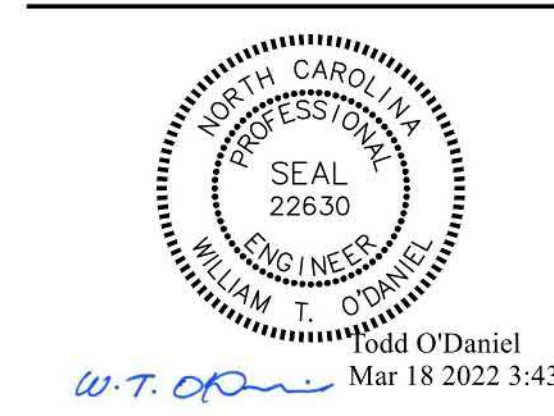
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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



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Mar 18 2022 3:43 PM

REVISIONS

NO.	DATE
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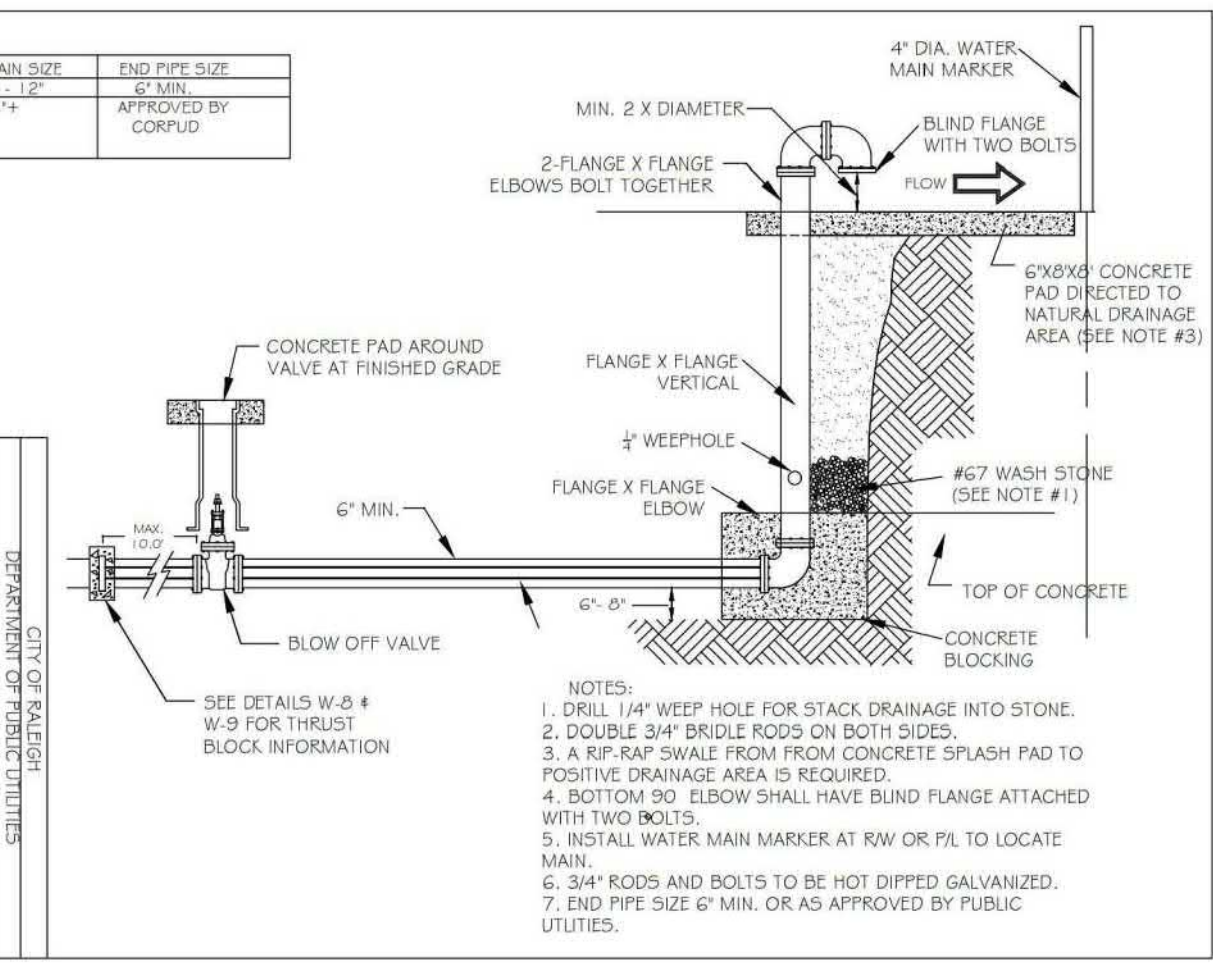
PLAN INFORMATION

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FILENAME AWH20000-CD-PKG-01-D1
CHECKED BY
DRAWN BY
SCALE N.T.S.
DATE 03.21.2022

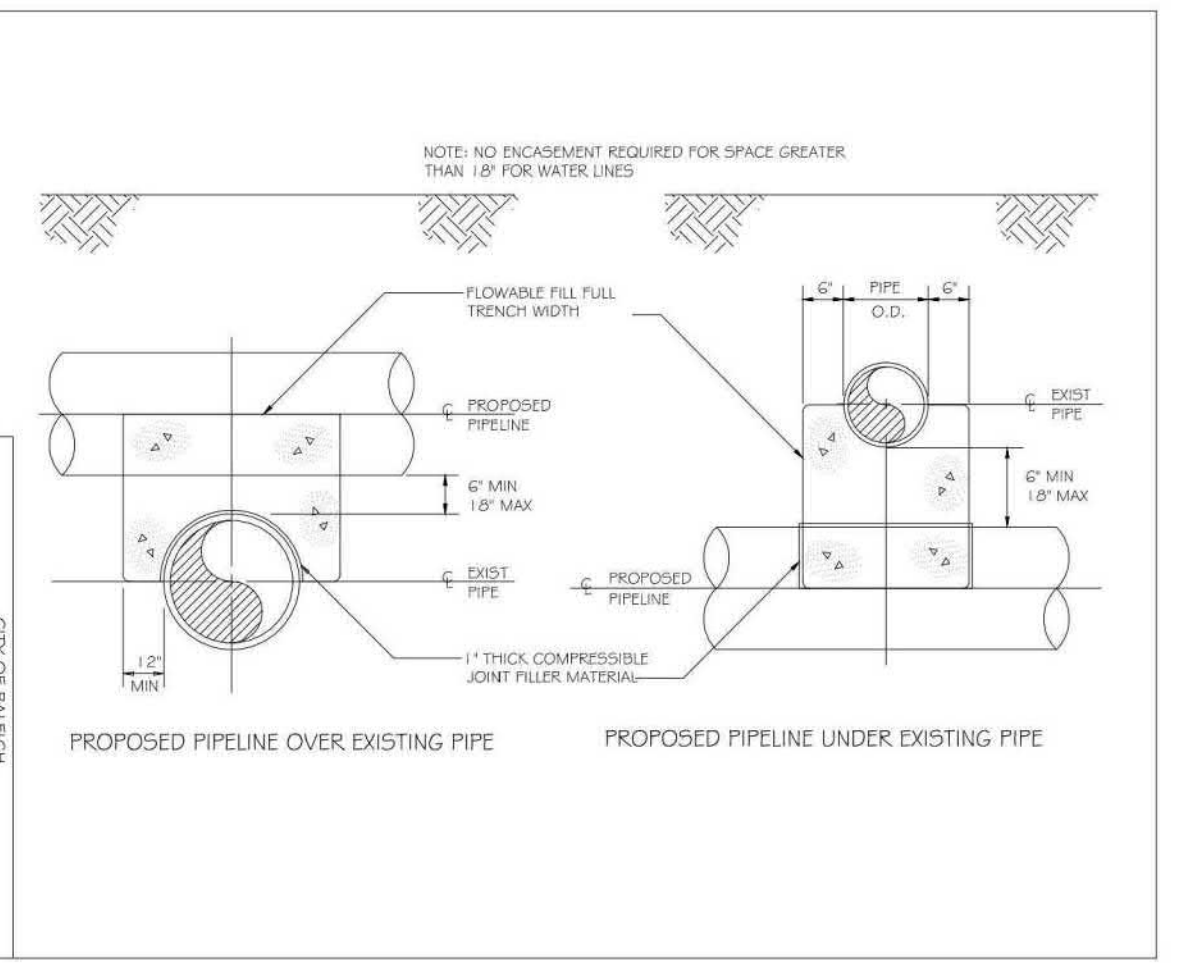
SHEET

WATER DETAILS
C8.05

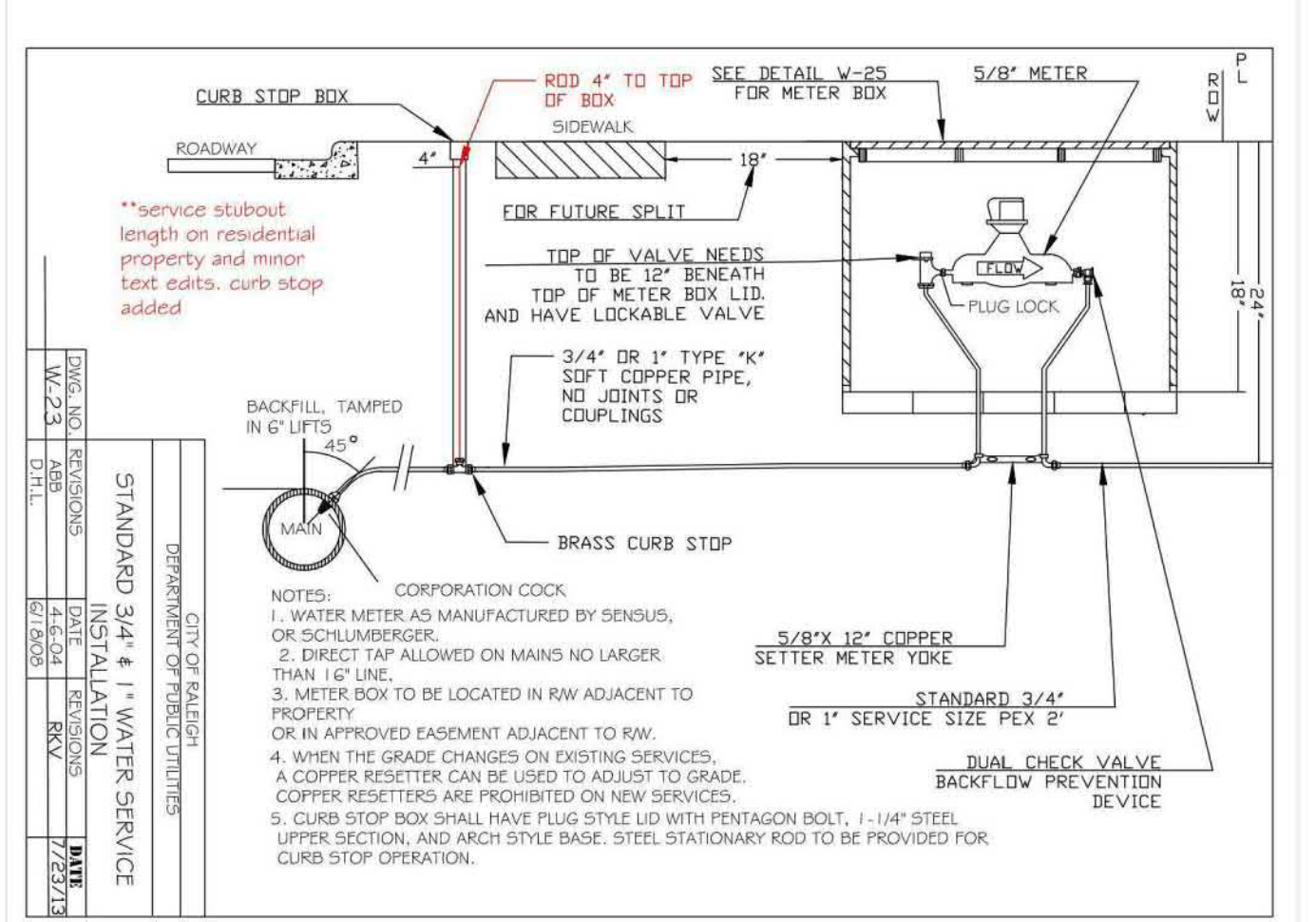
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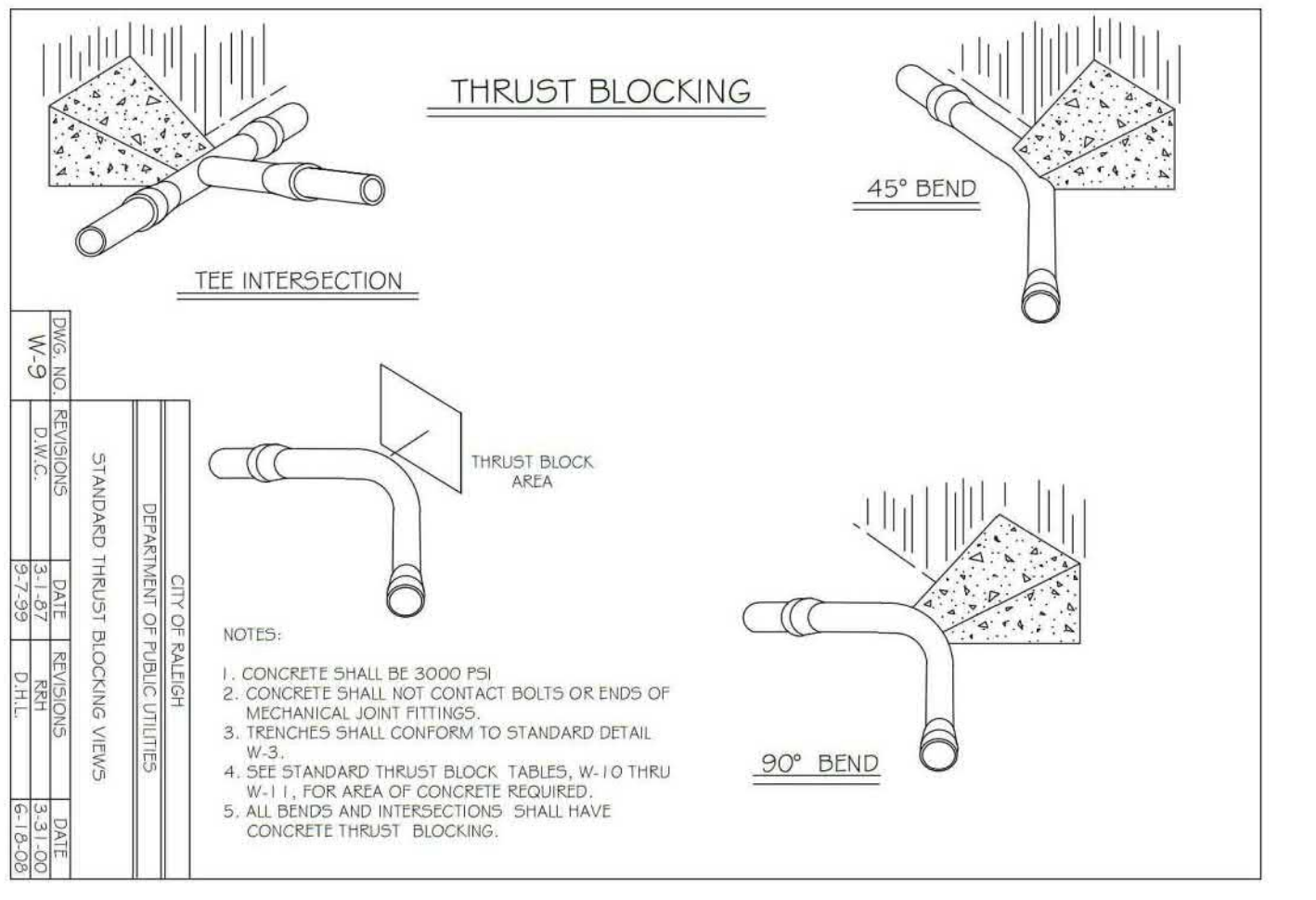
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-23		2-20-20		



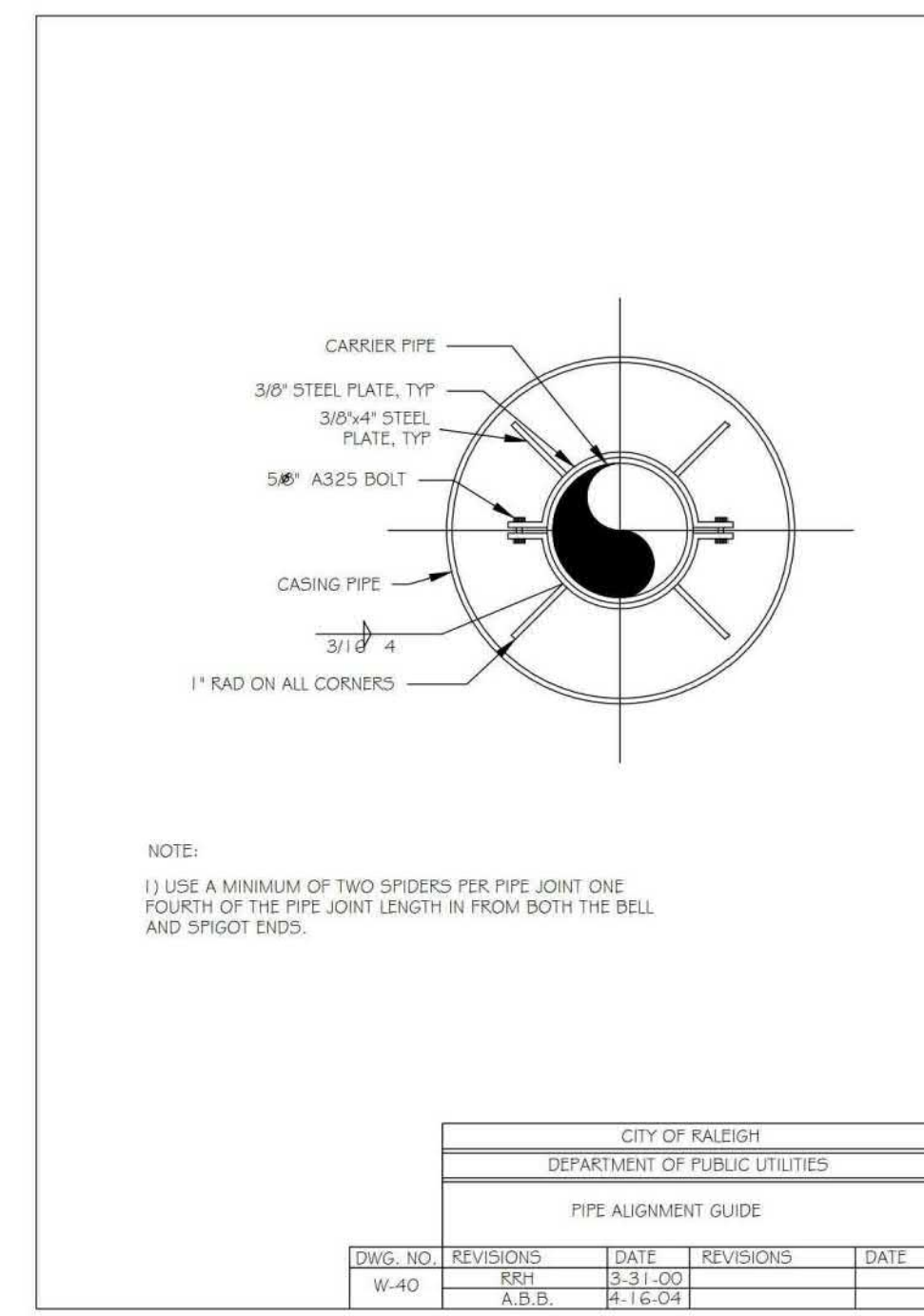
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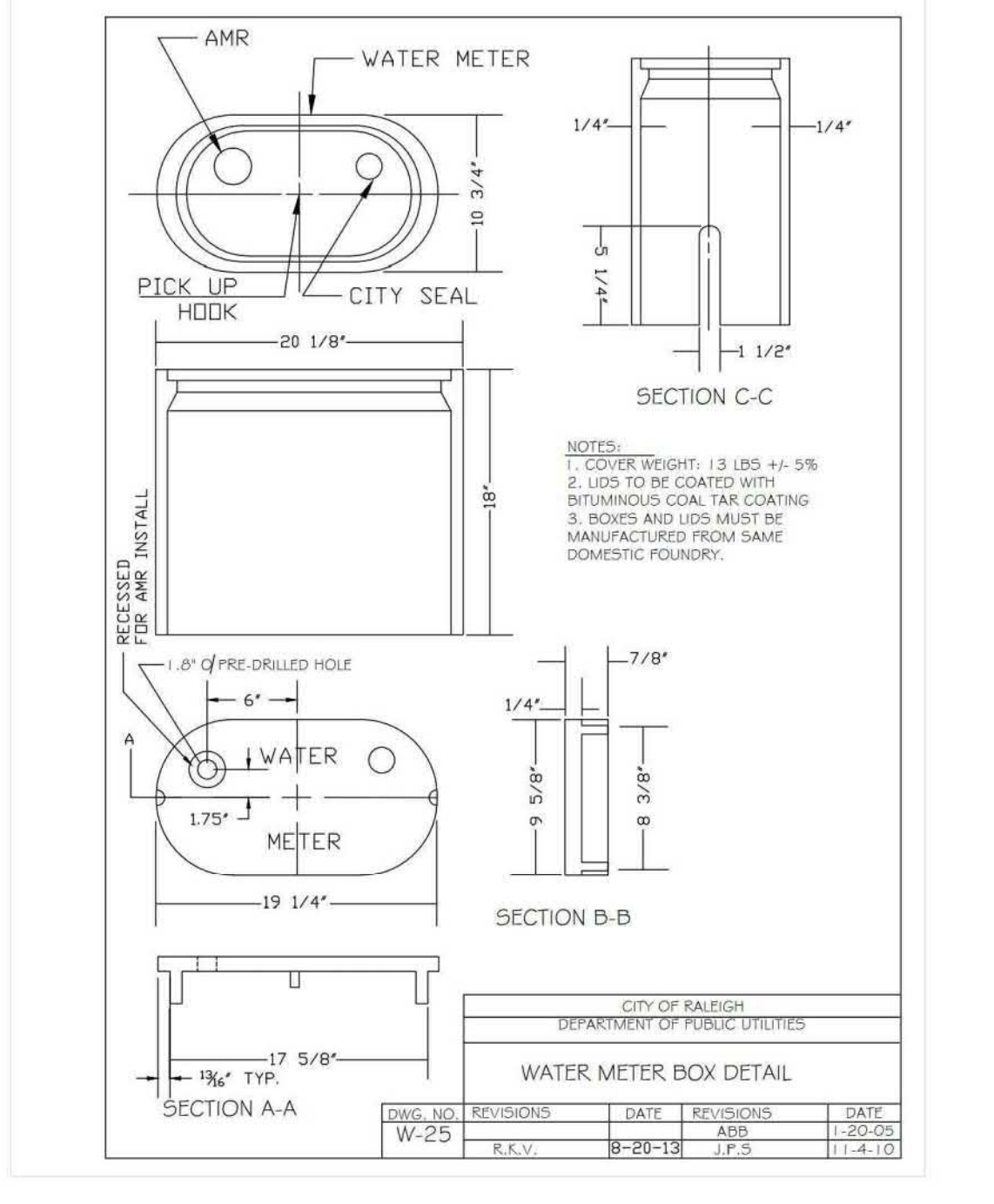
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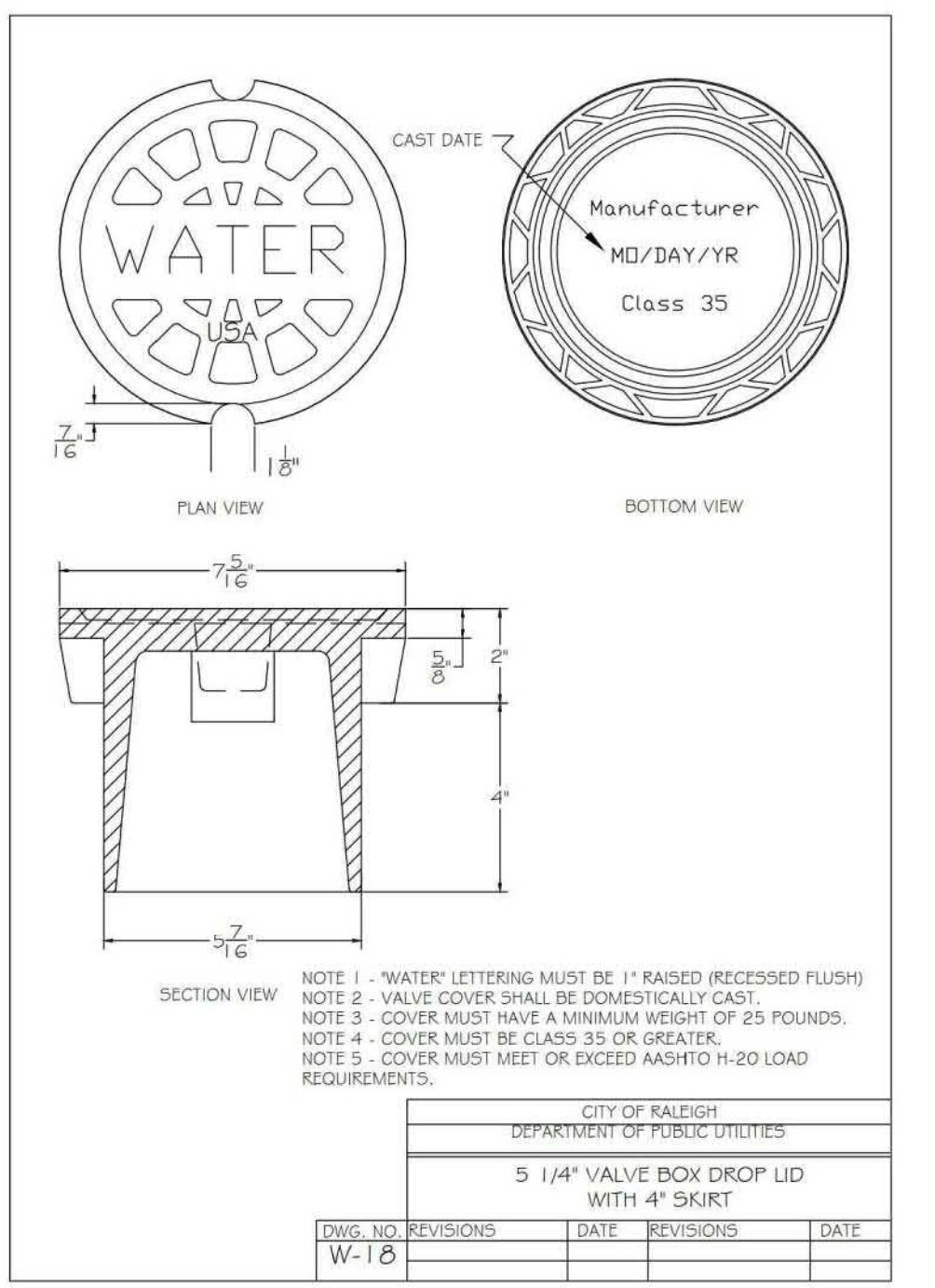
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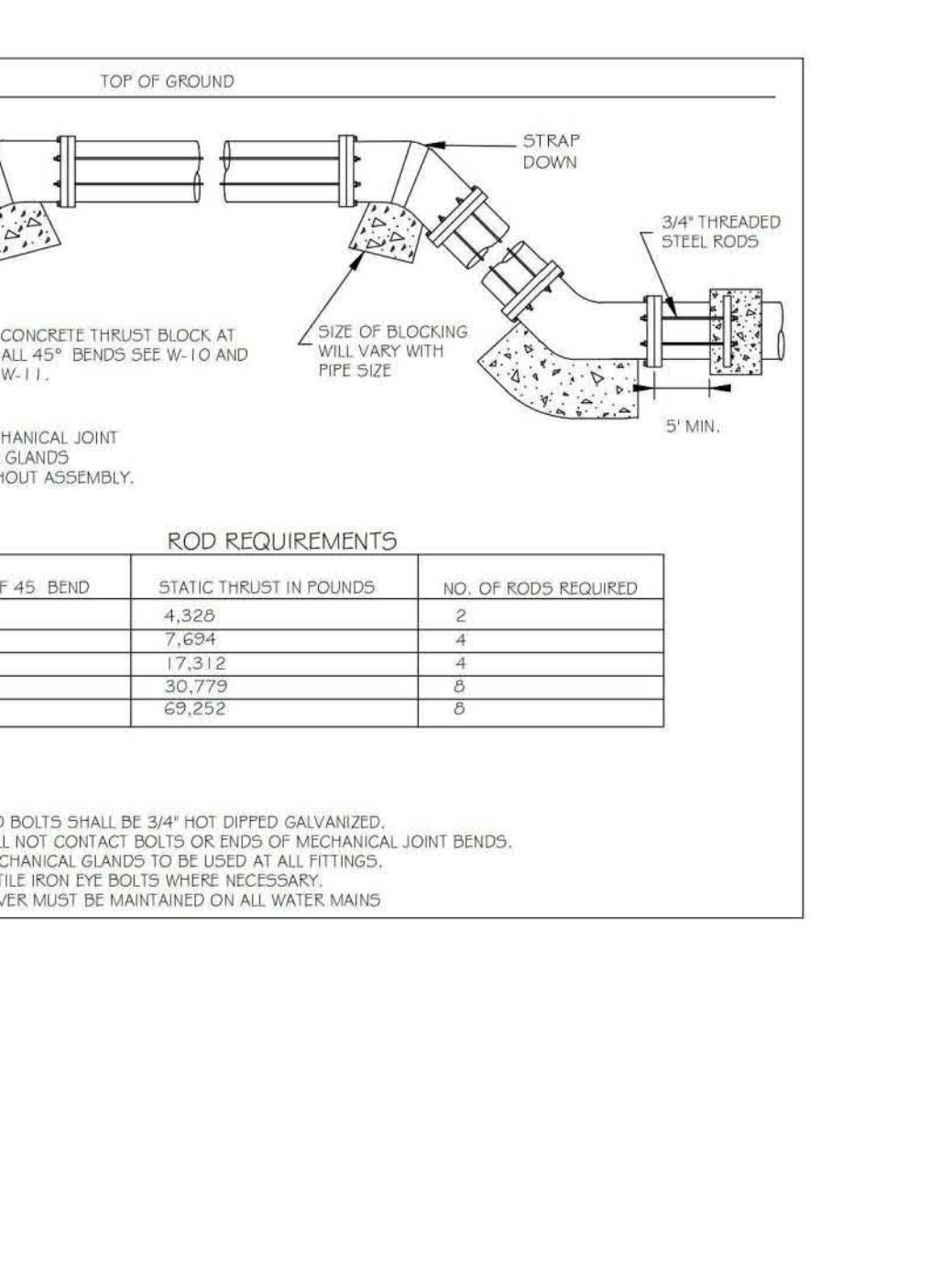
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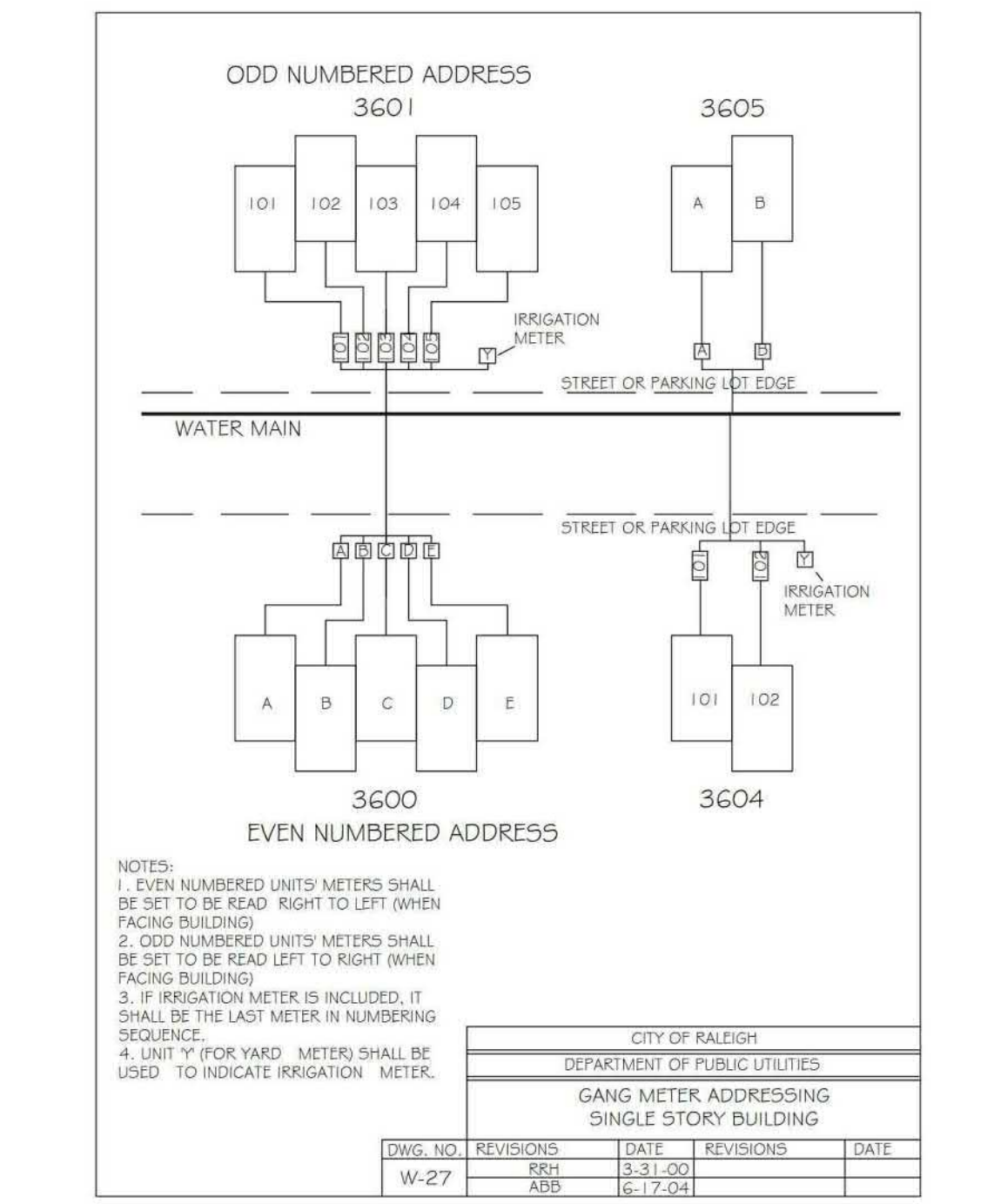
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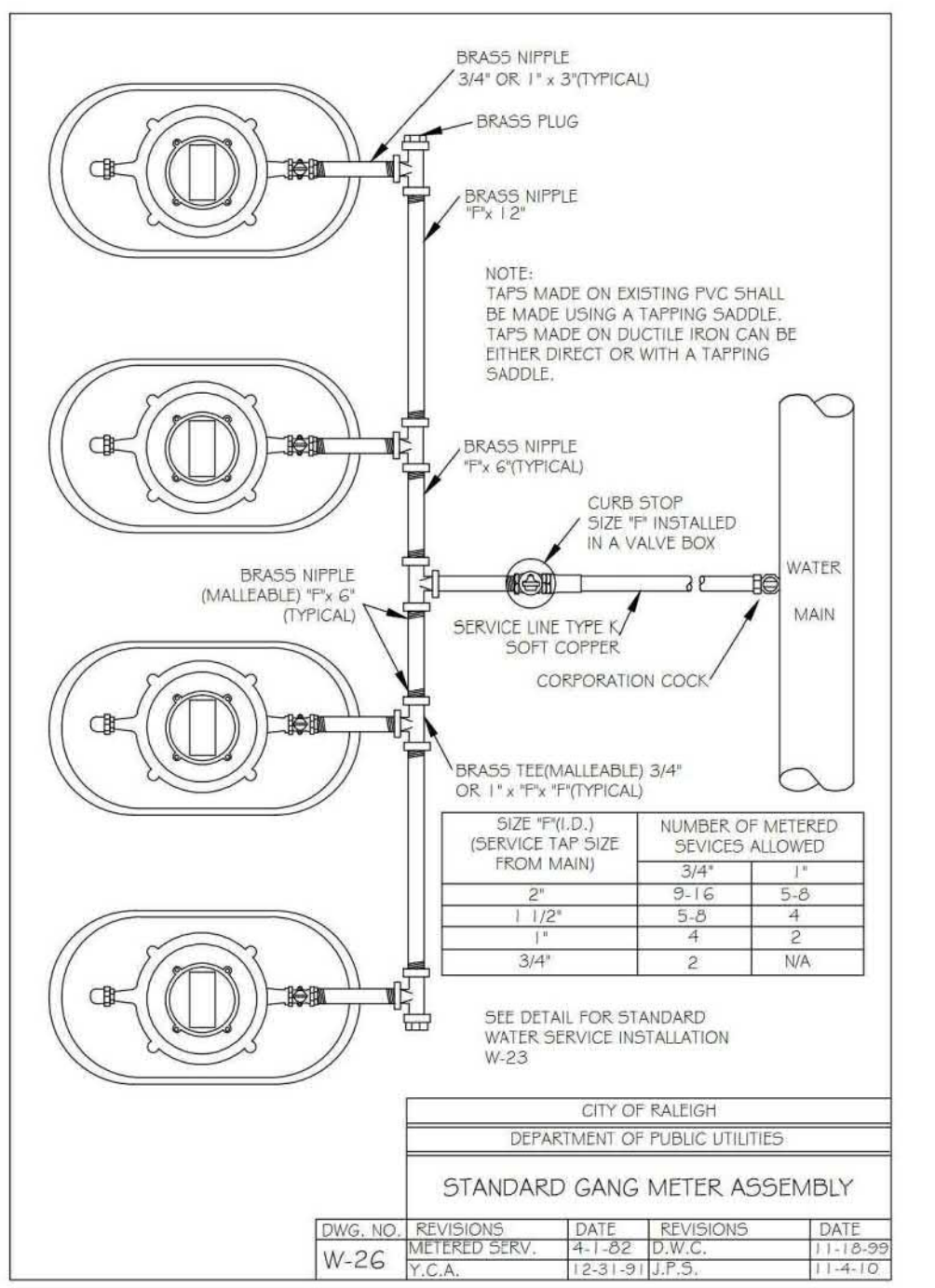
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-18				



SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,320	2
8"	7,680	4
12"	17,312	4
16"	30,720	6
24"	69,252	6



DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-27		8-31-20		



DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-26		11-11-20		

M:\Projects\AWH\AWH-20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-PKG-01-D1.dwg, 3/18/2022 1:30:44 PM, Sherrill Williams



McADAMS

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ASHTON WOODS RESIDENTIAL, LLC.
5711 SIX FORKS ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
PHONE: 919. 232. 3695
CONTACT: BOB MISHLER



ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



William T. O'Daniel
Professional Engineer
Seal 22630
Date: Mar 18 2022 3:45 PM

REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-D1
CHECKED BY
DRAWN BY
SCALE N.T.S.
DATE 03.21.2022

SHEET

SANITARY SEWER
DETAILS

C8.06

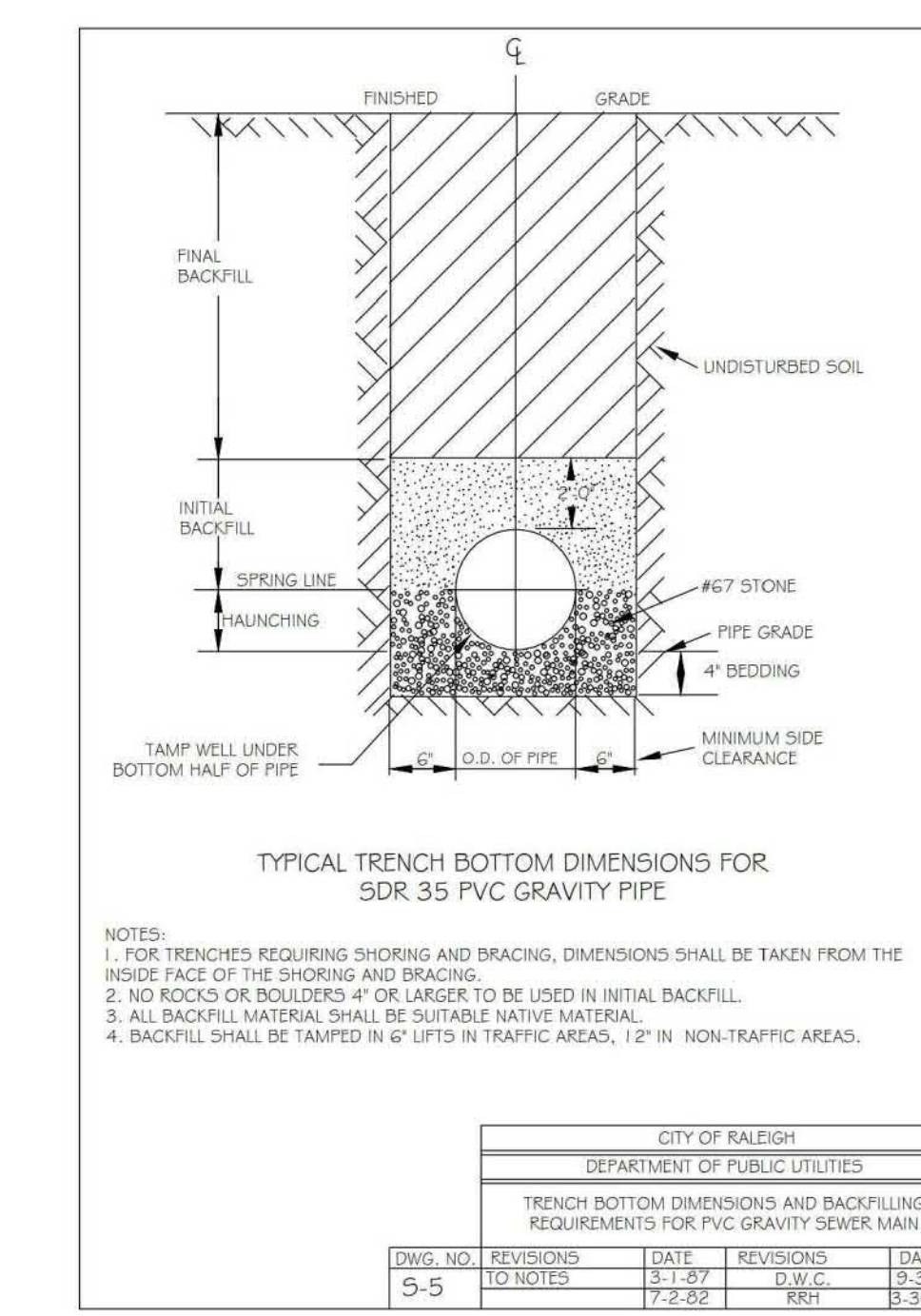
CONCURRENT REVIEW APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.

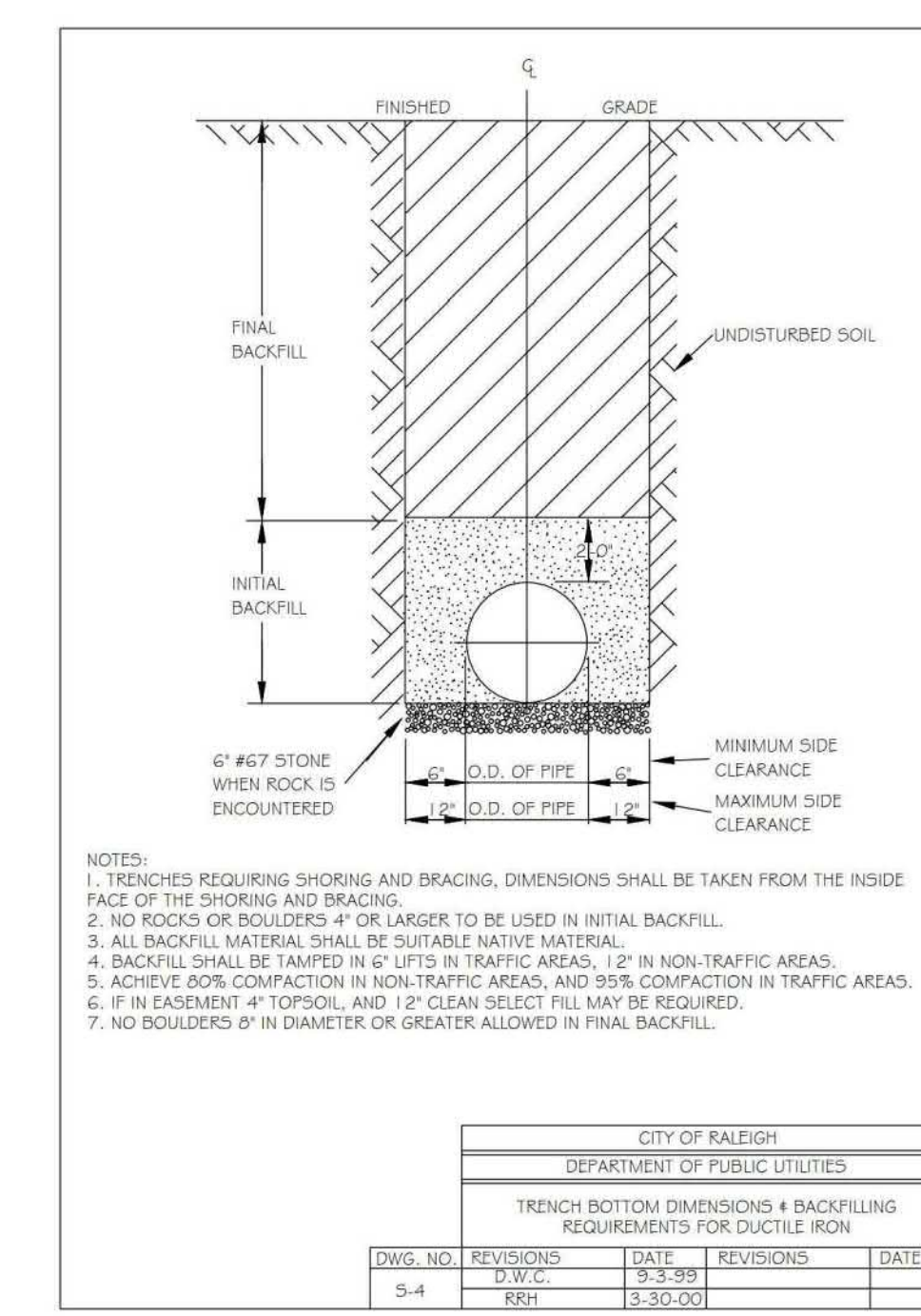
PUBLIC UTILITIES Timothy Beasley

FINAL DRAWING - RELEASED FOR CONSTRUCTION



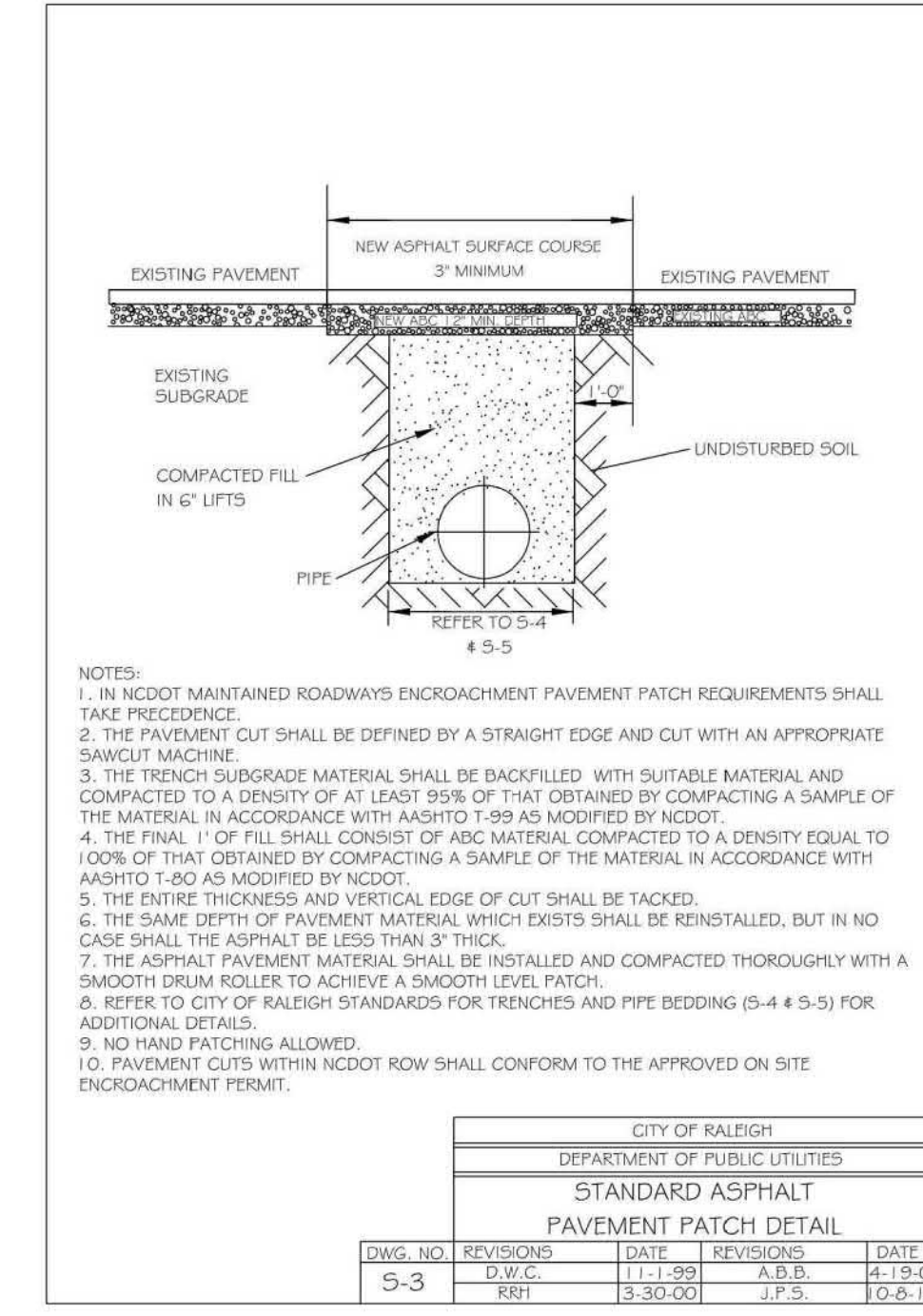
TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-5, 10 NOTES, 3-1-07, A.B.B., 8-3-08. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



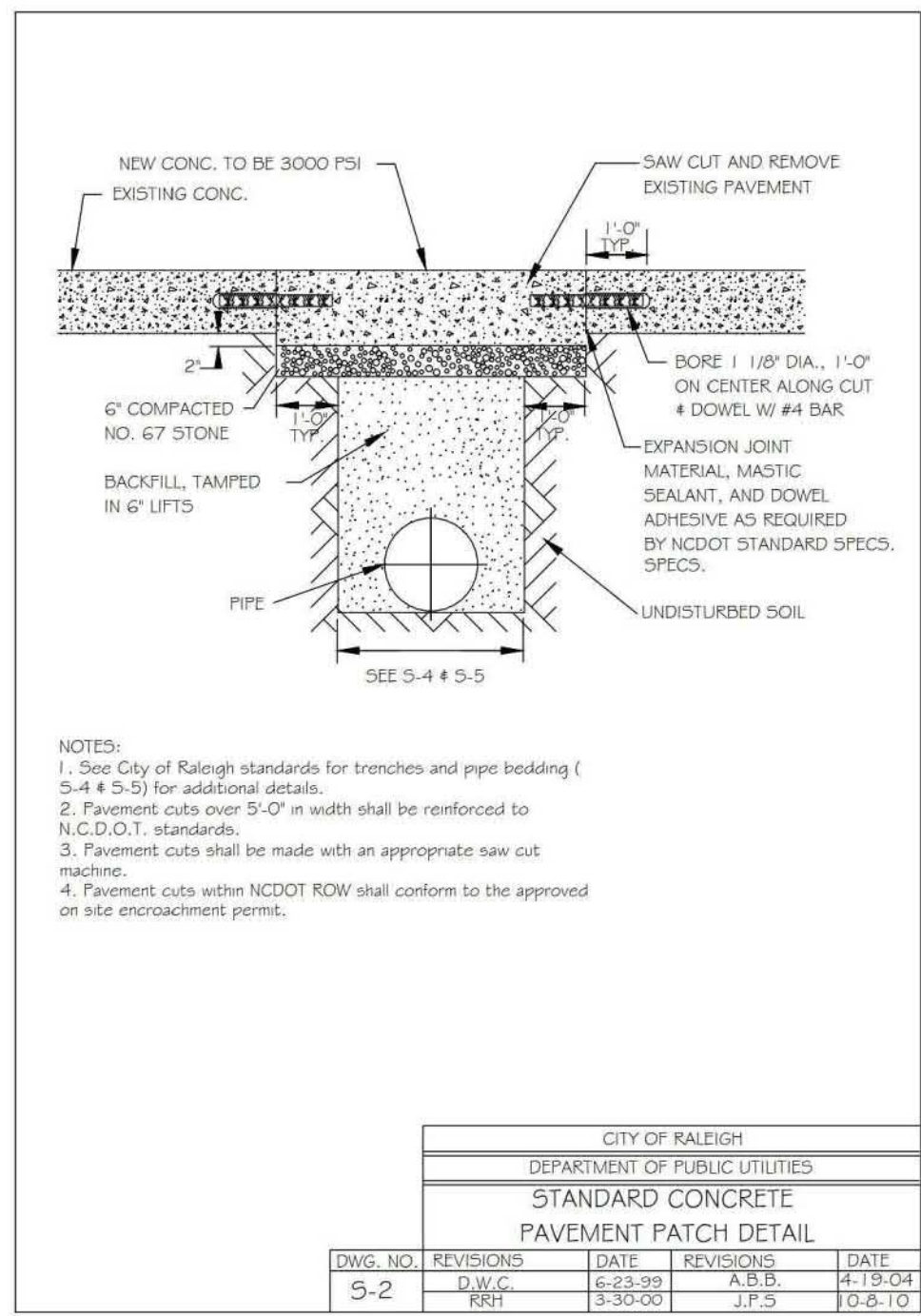
TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-4, 10 NOTES, 3-1-07, A.B.B., 8-3-08. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



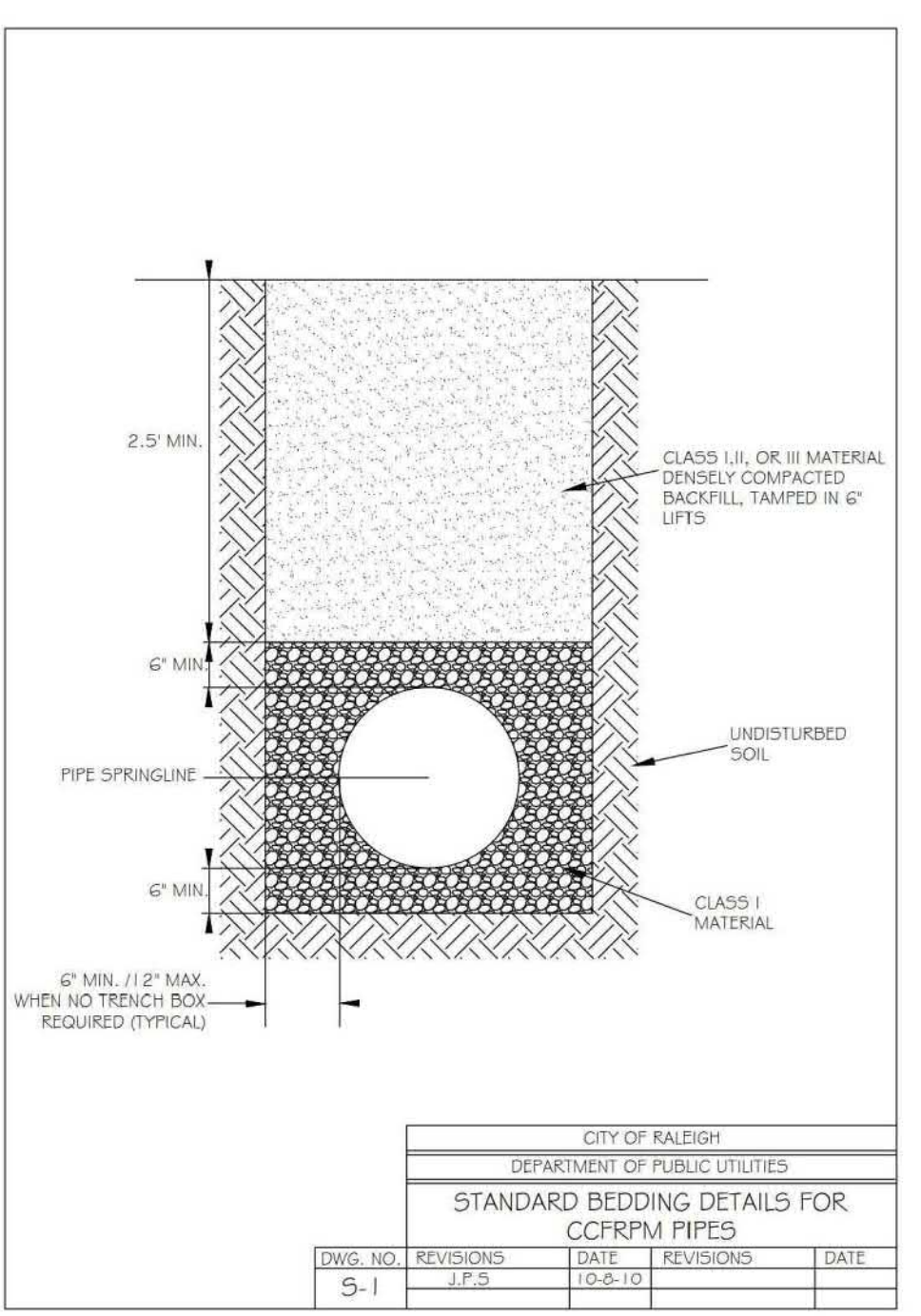
STANDARD CONCRETE PAVEMENT PATCH DETAIL

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-2, D.W.C., 6-28-09, A.B.B., 4-18-04. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



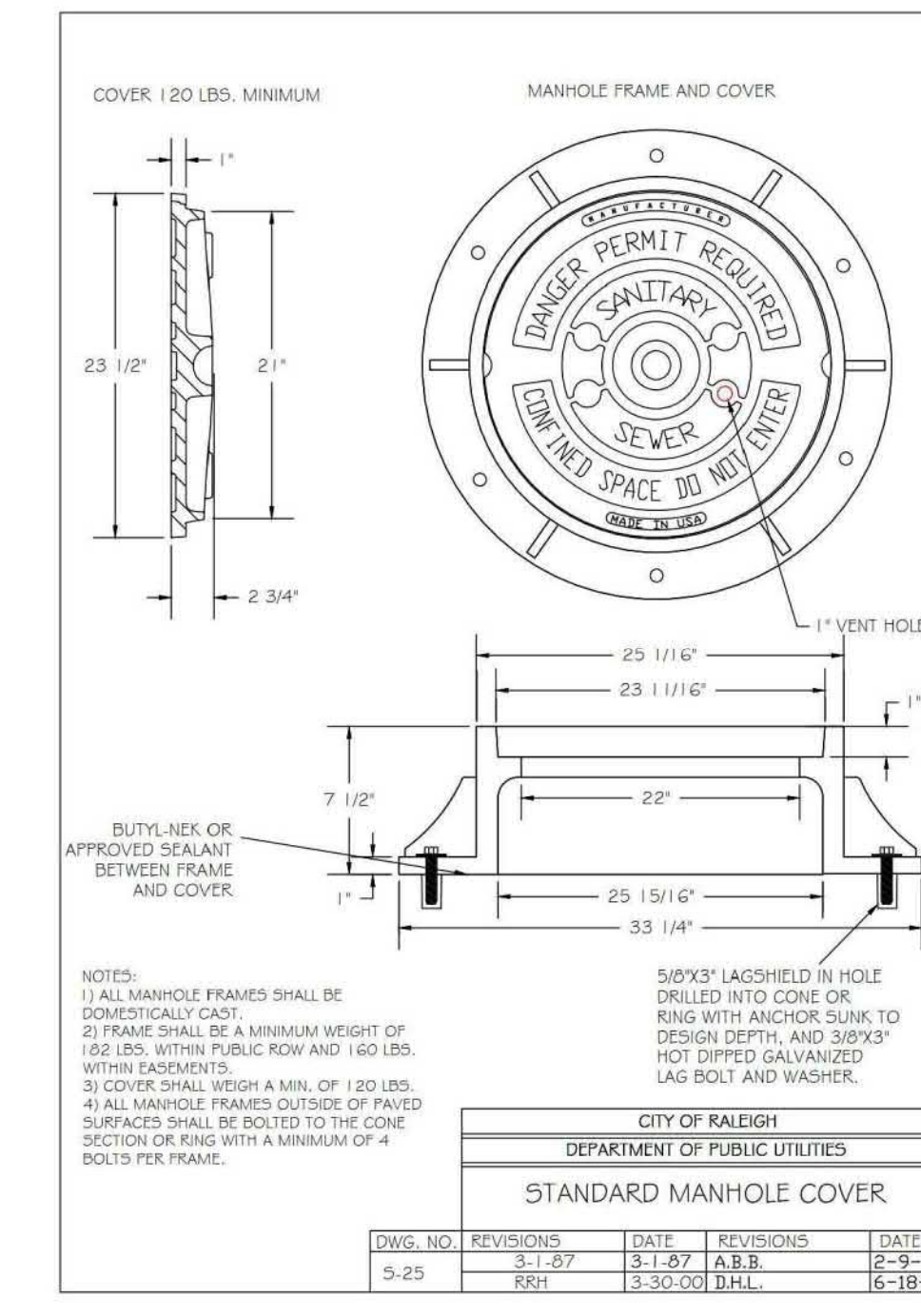
STANDARD ASPHALT PAVEMENT PATCH DETAIL

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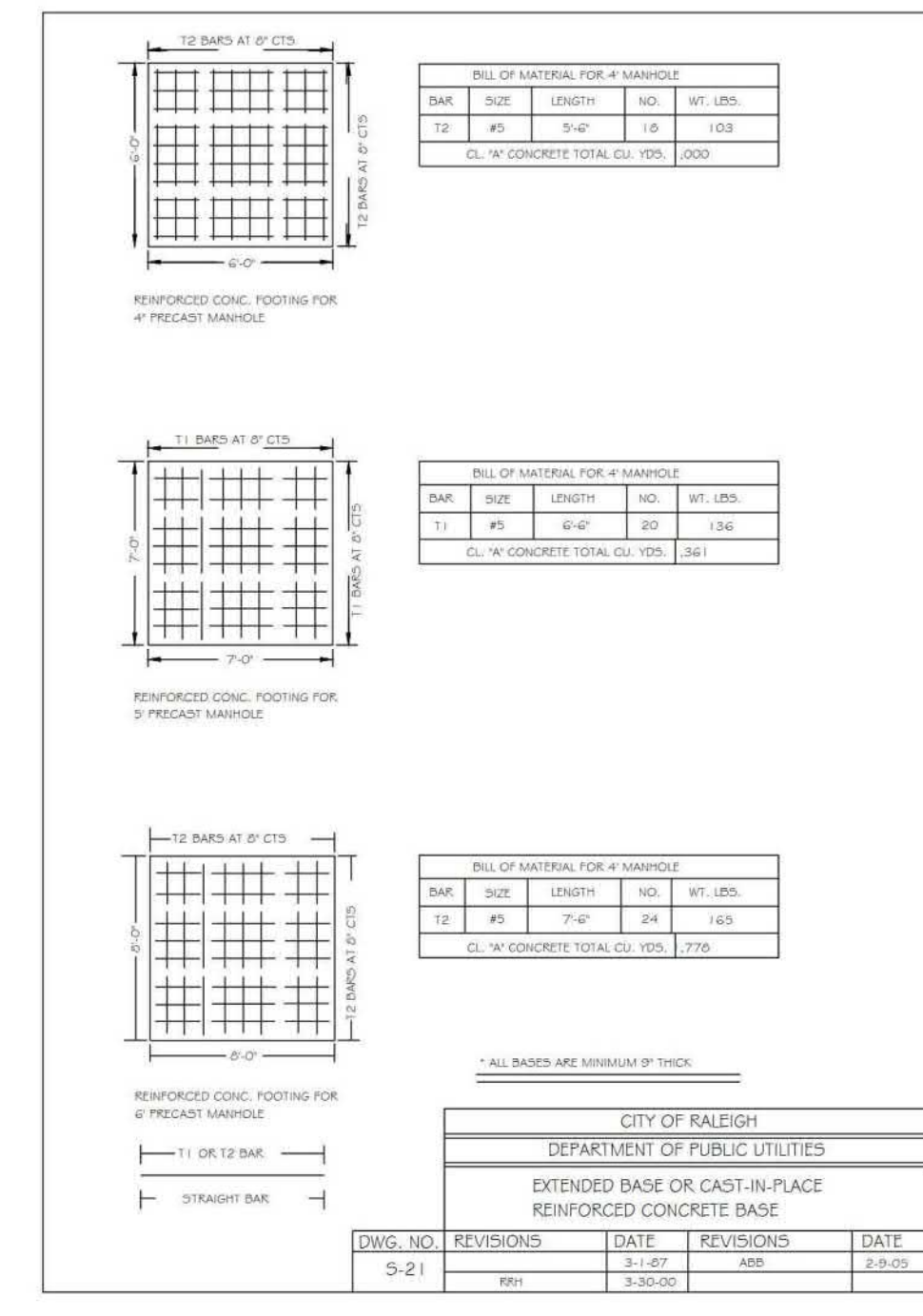
STANDARD BEDDING DETAILS FOR CCRPM PIPES

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-1, J.P.S., 10-2-10. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



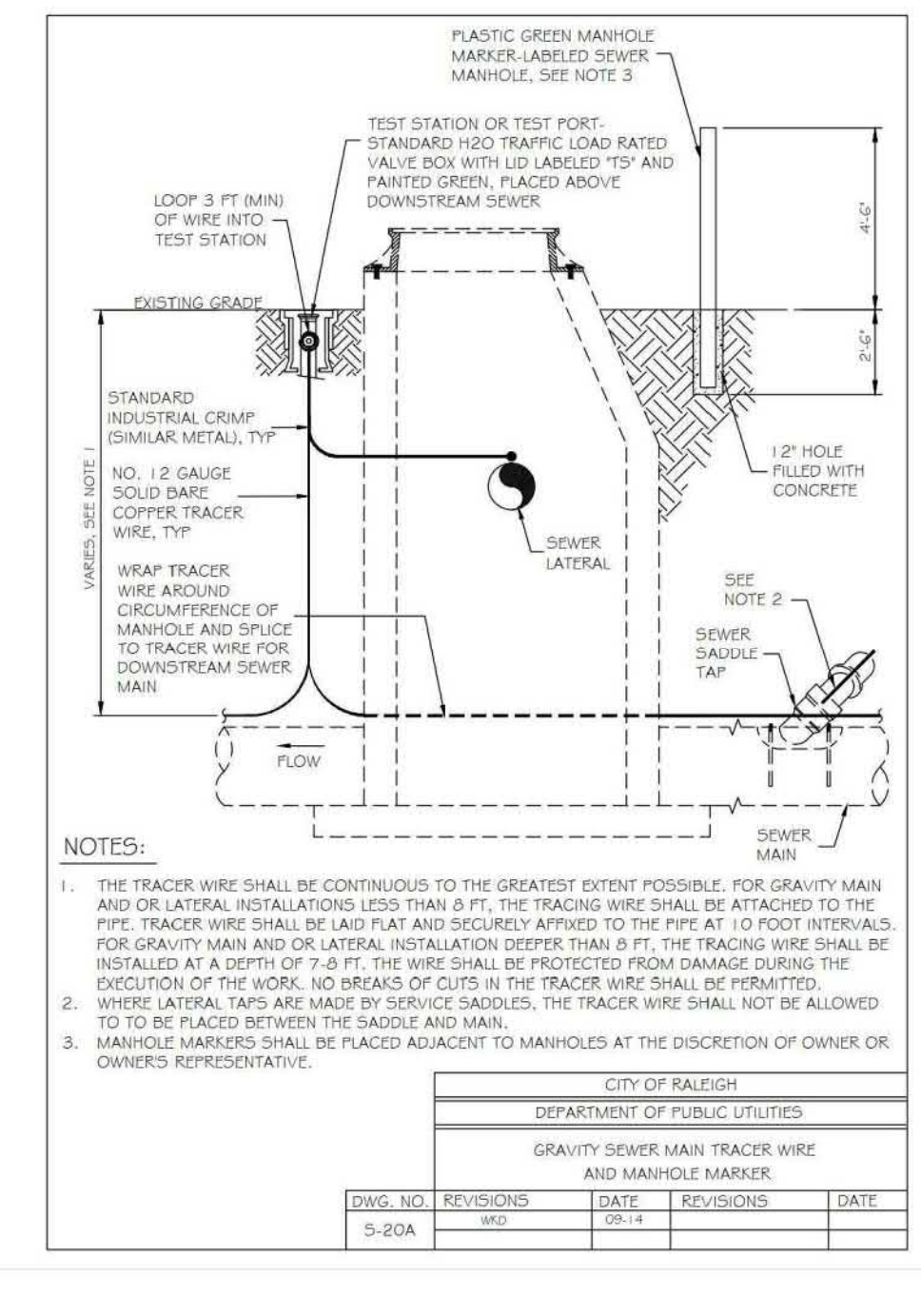
STANDARD MANHOLE COVER

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-23, 10 NOTES, 3-1-07, A.B.B., 8-3-08. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



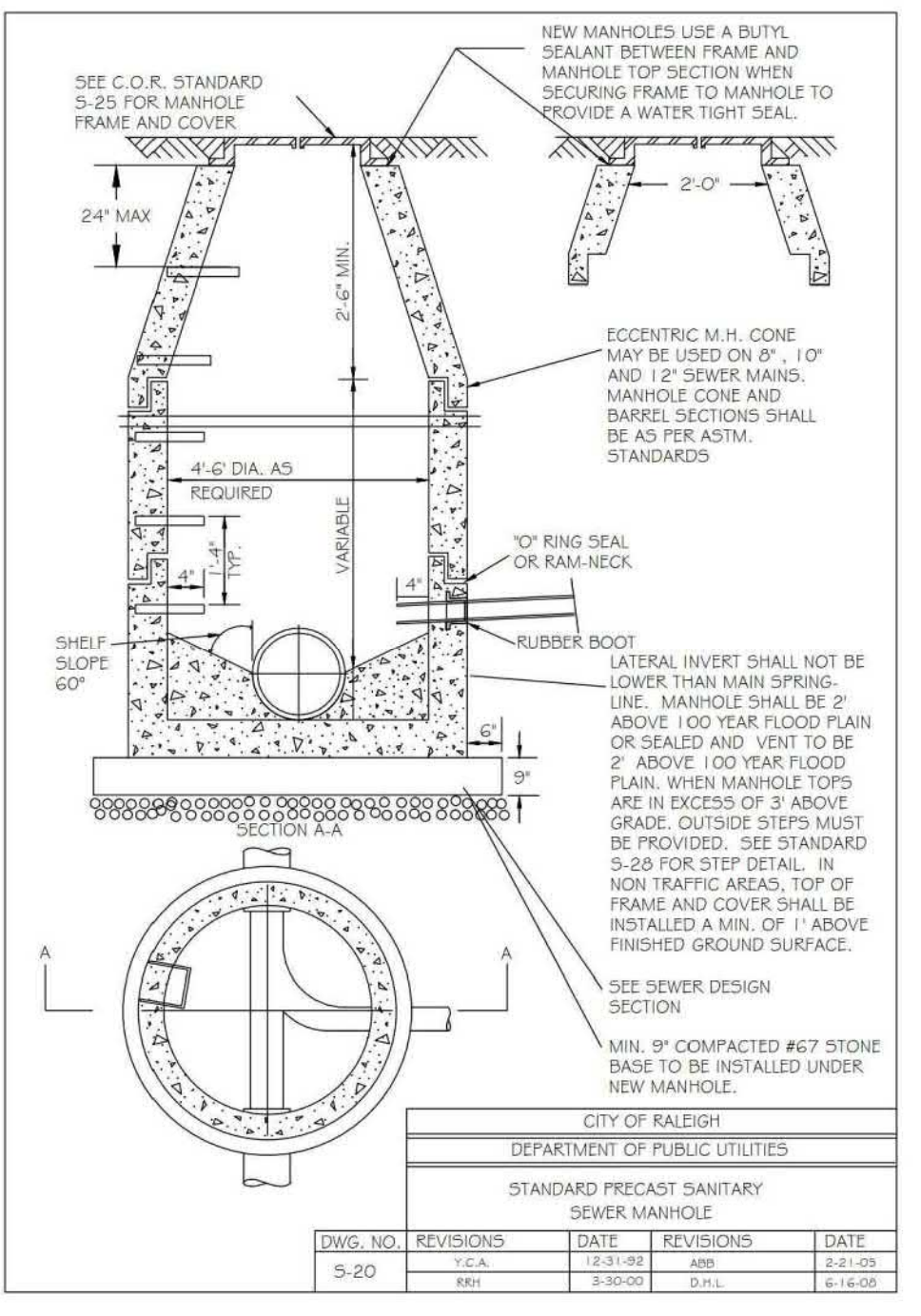
STANDARD PRECAST SANITARY SEWER MANHOLE

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-20A, V.C.A., 3-31-02, A.B.B., 2-21-09. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



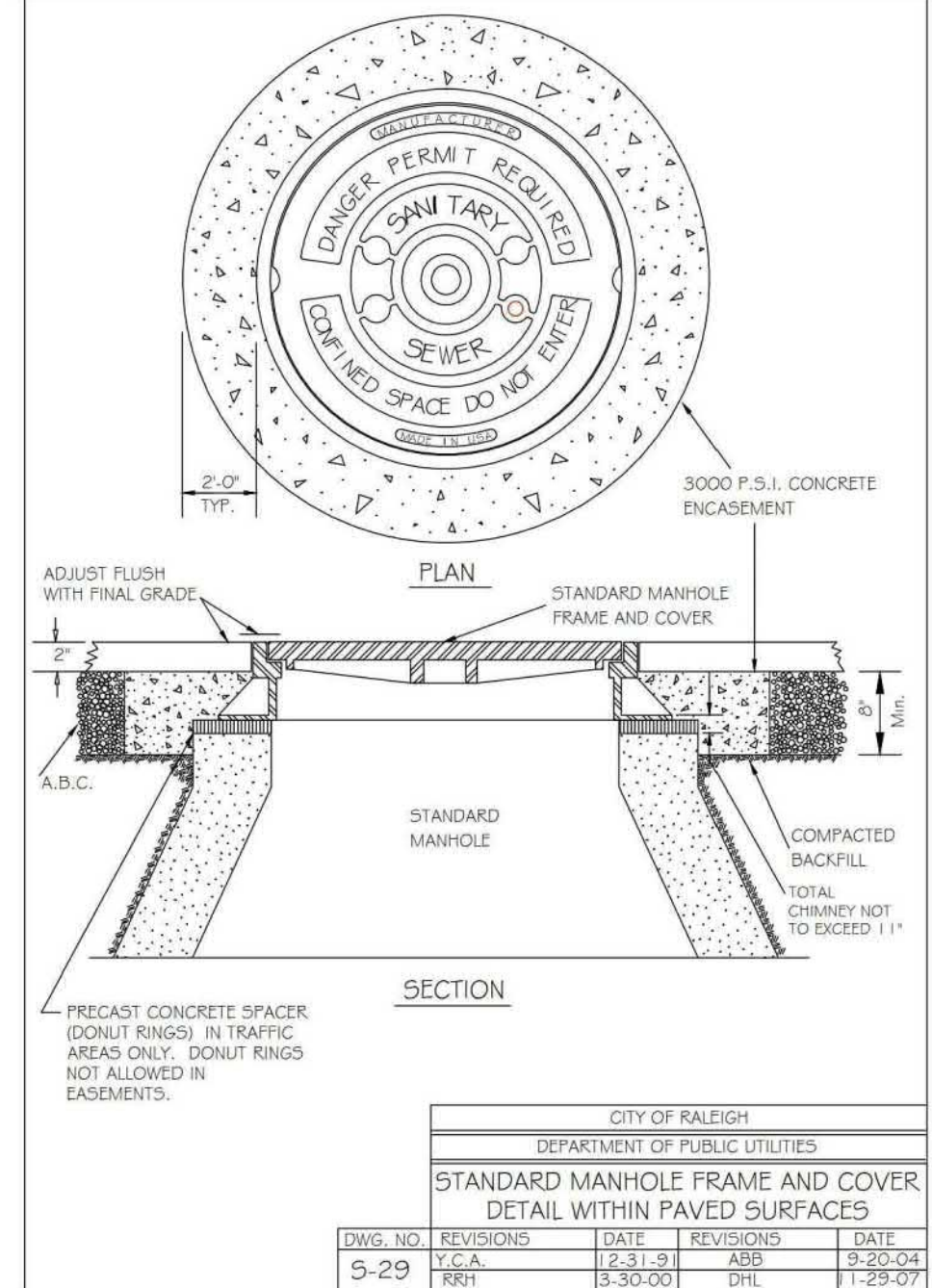
STANDARD GRAVITY SEWER MAN TRACER WIRE AND MANHOLE MARKER

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-20A, V.C.A., 3-31-02, A.B.B., 2-21-09. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



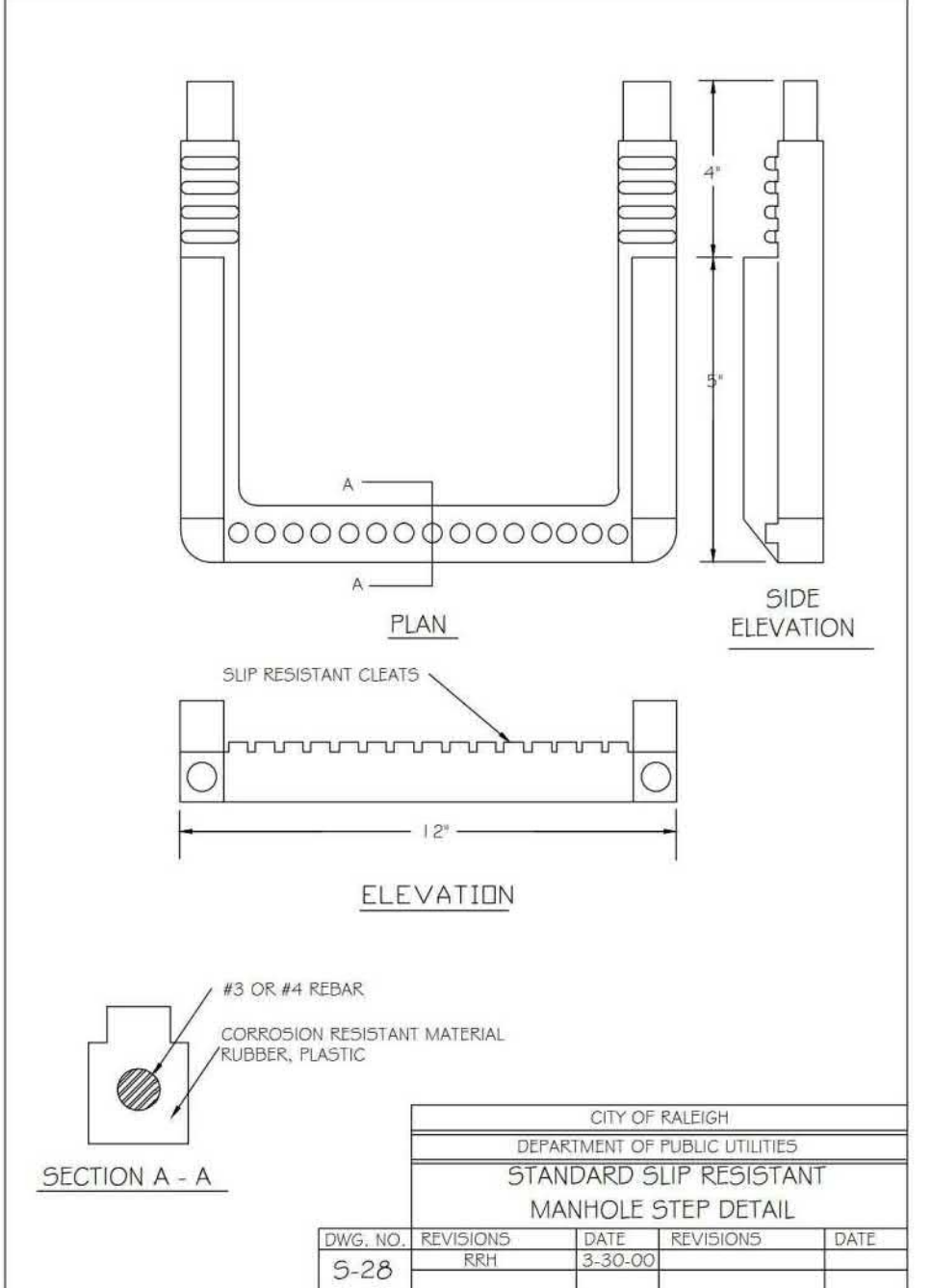
STANDARD PRECAST SANITARY SEWER MANHOLE

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-20, V.C.A., 3-31-02, A.B.B., 2-21-09. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.



STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-29, H.B.P., 1-31-00, A.B.B., 9-20-06. Row 2: RHT, 3-30-00, J.P.S., 11-29-07.



STANDARD SLIP RESISTANT MANHOLE STEP DETAIL

Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-28, RHT, 3-30-00. Row 2: RHT, 3-30-00, J.P.S., 10-6-10.

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M:\Projects\AWH\AWH-20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-PKG-01-D1.dwg, 3/18/2022 1:31:50 PM, Sherrill Williams



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RALEIGH, NORTH CAROLINA 27609
PHONE: 919. 232. 3695
CONTACT: BOB MISHLER



THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



W.T. Odaniel
Mar 18 2022 4:01 PM

REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000-CD-PKG-01-D1
CHECKED BY .
DRAWN BY .
SCALE N.T.S.
DATE 03. 21. 2022

SHEET

SANITARY SEWER
DETAILS

C8.07

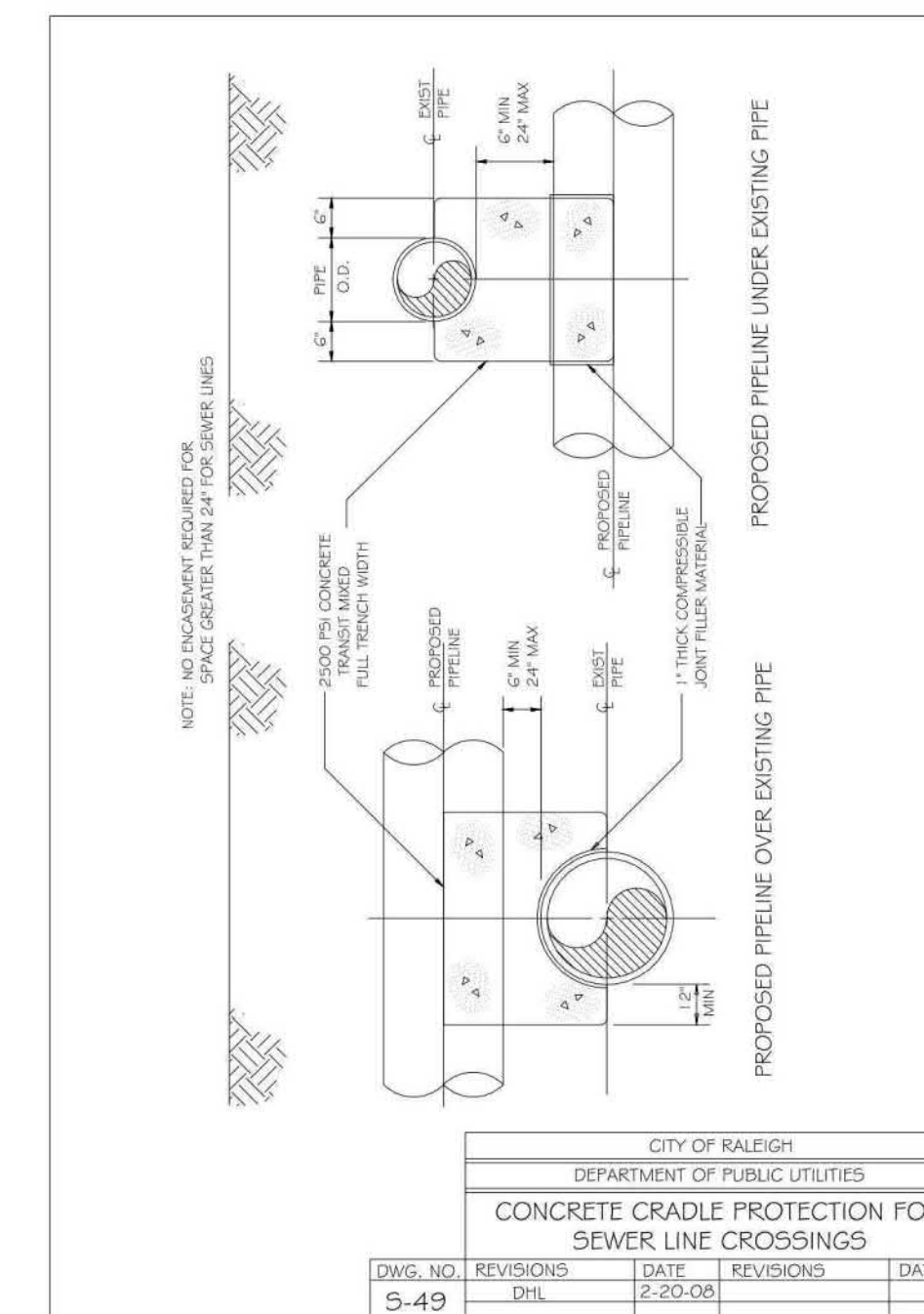


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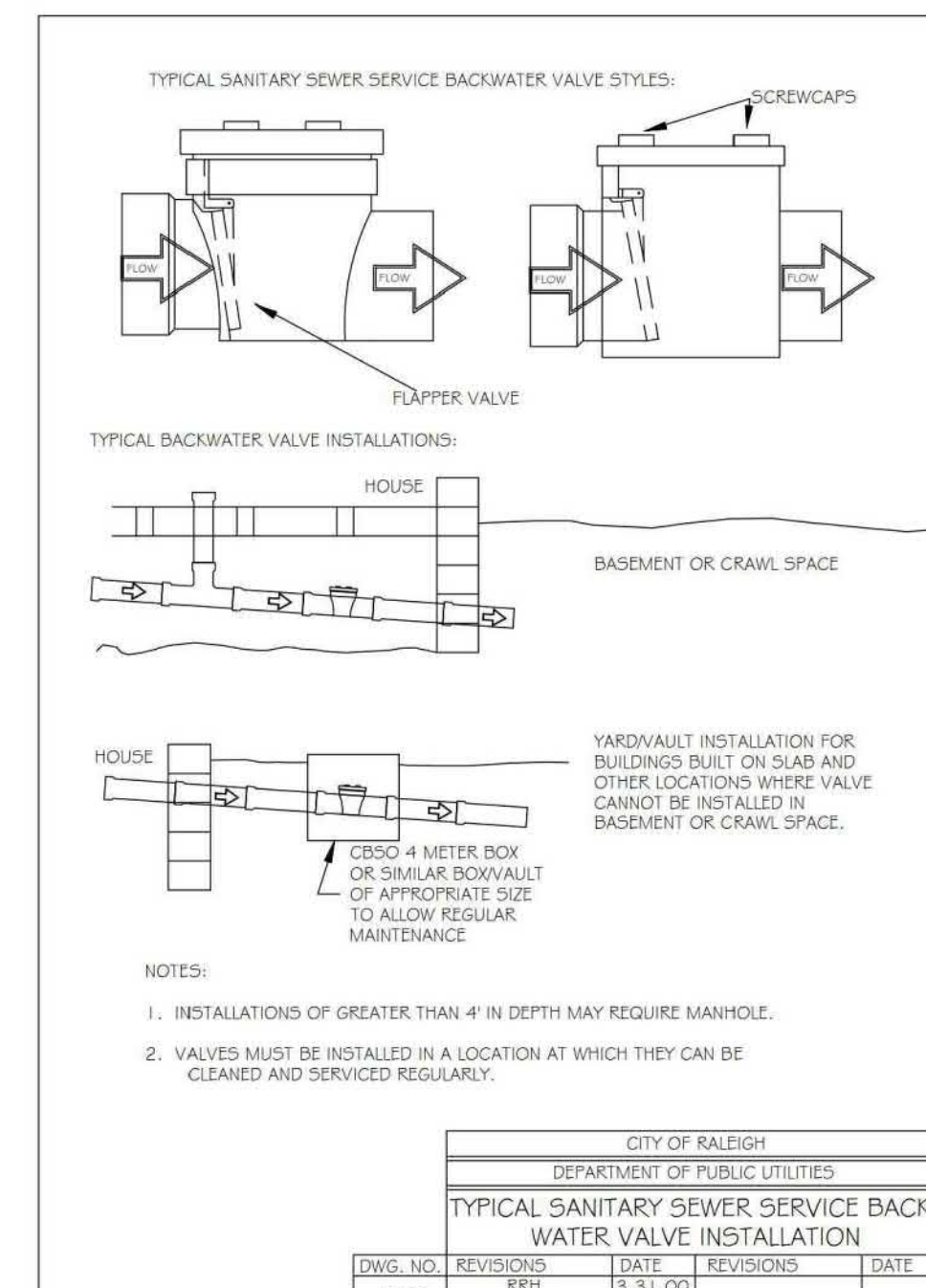


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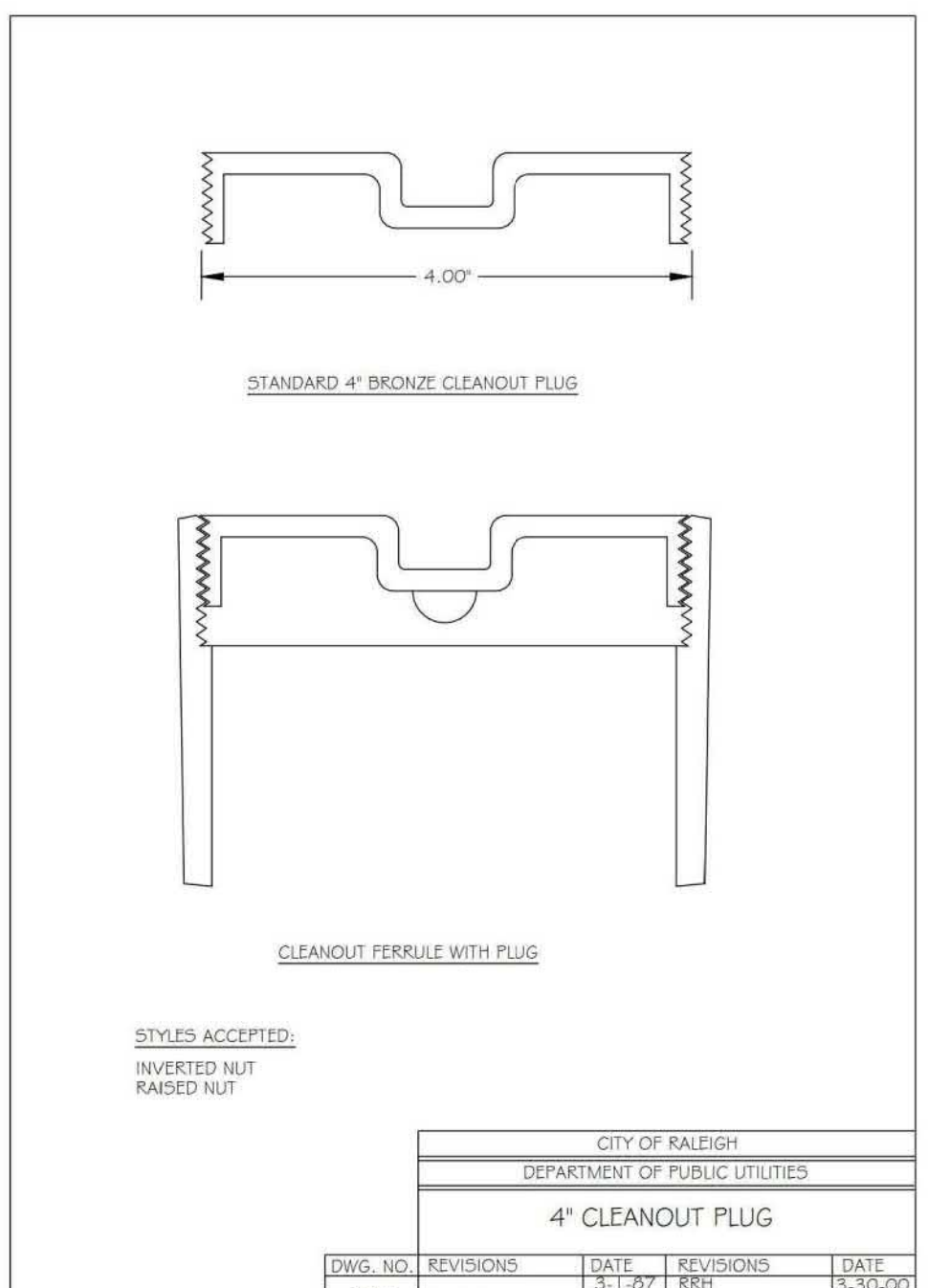


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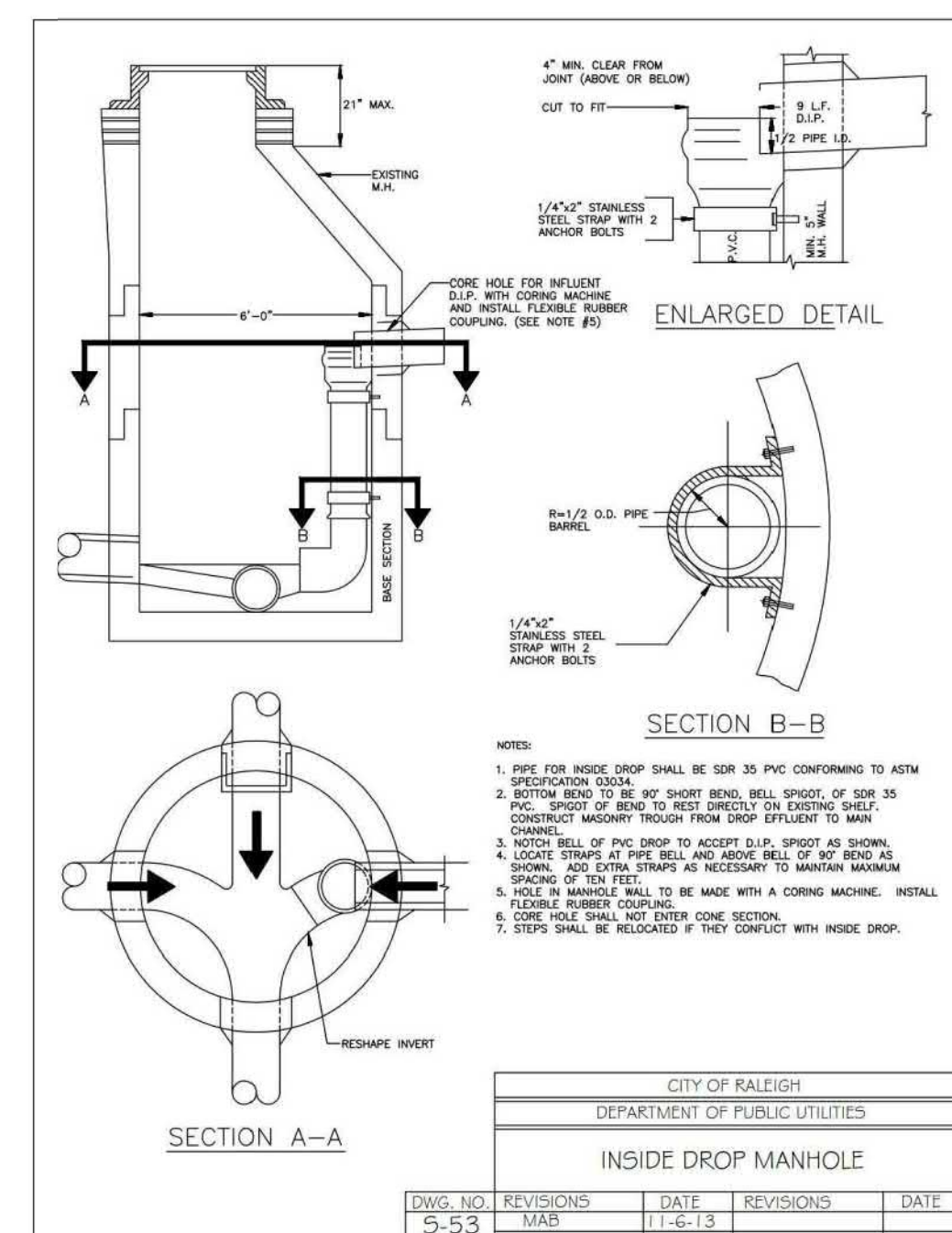


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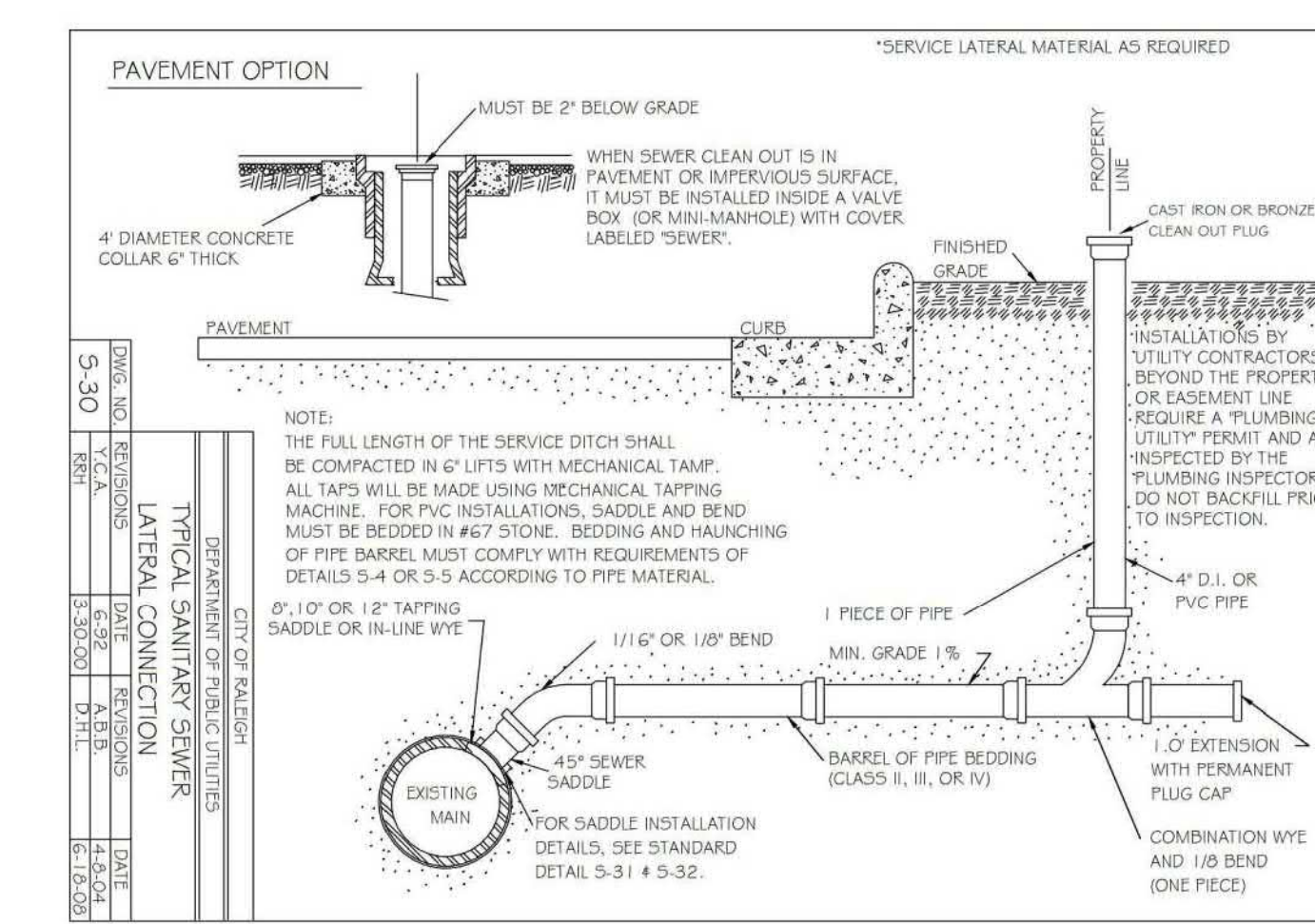


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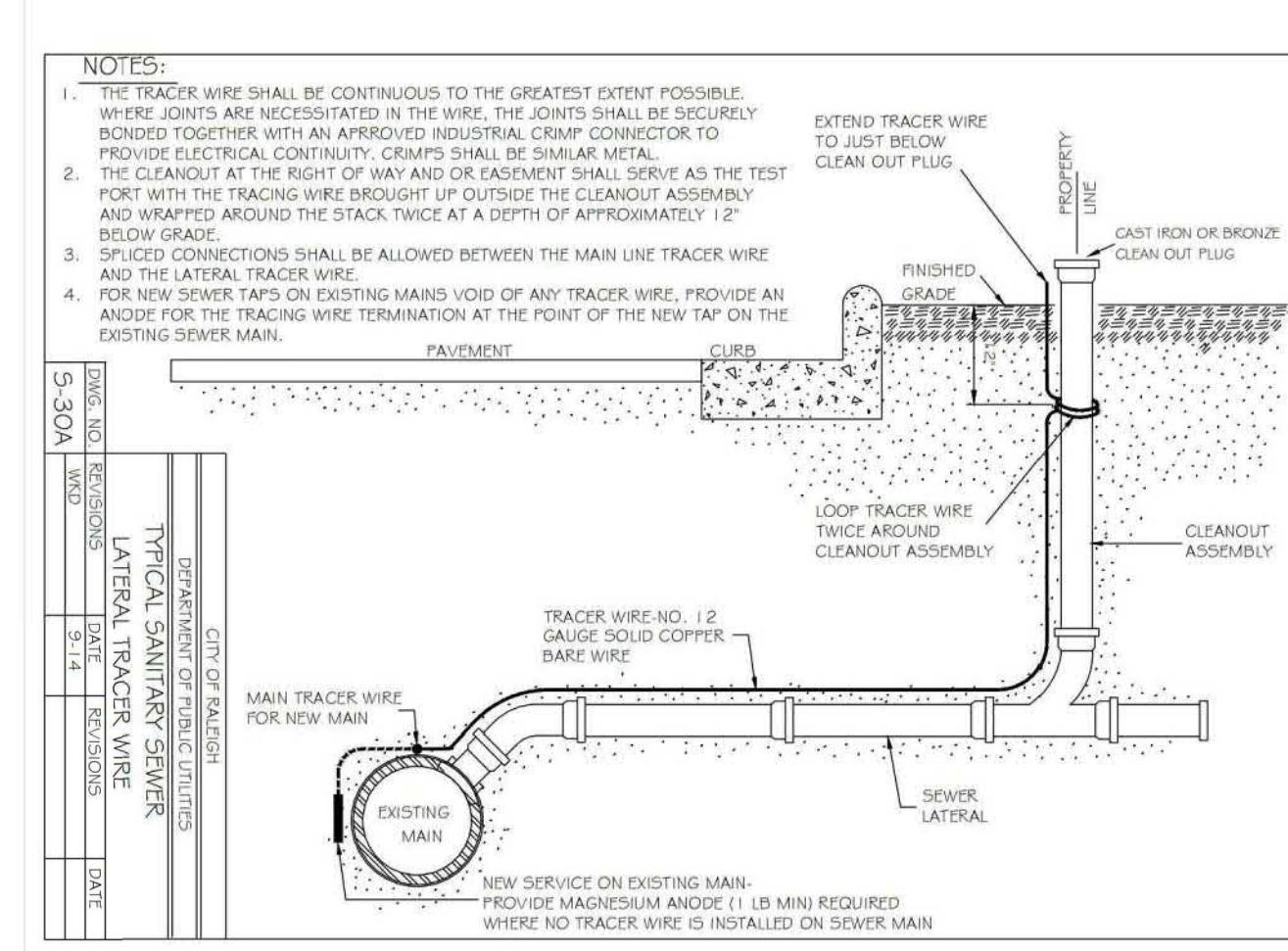


Table with 5 columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Row 1: 5-30A, RRH, 3-30-00.

CONCURRENT REVIEW APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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PUBLIC UTILITIES Timothy Beasley

FINAL DRAWING - RELEASED FOR CONSTRUCTION

M:\Projects\AWH\AWH-20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-Pkg-01-D1.dwg, 3/18/2022 1:52:23 PM, Williams, 1:1

STORMWATER CONTROL MEASURE 'A' CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING FOR THE FACILITY. THE INTERIOR FINE GRADING WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE PERMANENT 6" DIP DRAIN PIPE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E. - PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A N.C.P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- ON-SITE GEOTECHNICAL ENGINEER TO DETERMINE IF IN-SITU SOILS ENCOUNTERED WOULD MAINTAIN A STORMWATER CONTROL MEASURE PERMANENT POOL AT DESIGN ELEVATION. IF HIGHLY PERMEABLE SOILS ARE ENCOUNTERED THAT WOULD NOT MAINTAIN THE PERMANENT POOL ELEVATION AS DESIGNED, A CLAY LINER MAY BE REQUIRED TO MAINTAIN A PERMANENT POOL OF WATER IN THE STORMWATER CONTROL MEASURE. FINAL DETERMINATION IF A CLAY LINER IS NEEDED SHALL BE THE RESPONSIBILITY OF THE ON-SITE GEOTECHNICAL ENGINEER. UPON DETERMINATION OF HIGHLY PERMEABLE SOIL CONDITIONS, ON-SITE GEOTECHNICAL ENGINEER WILL INFORM THE DESIGN ENGINEER AND RECOMMEND LINER SPECIFICATIONS.
- IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G. - EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.). THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E. PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (ACF ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE WET POND PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE WET POND AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3"-4" ON THE DAM EMBANKMENT AND AQUATIC SHELF. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT AND AQUATIC SHELF.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THIS FACILITY. CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION. PLEASE NOTE THAT NO TREES/SHRUBS OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS).

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 30" RCP OUTLET BARREL SHALL BE CLASS III RCP, MODIFIED BELL AND SPIGOT, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4. (ADD OTHER BARREL FOR LEVEL SPREADER IF APPLICABLE).
 - THE STRUCTURAL DESIGN FOR THE 4' X 4' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
 - THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66. PLEASE REFER TO SHEET C9.02A FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
 - THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.01A. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 16,277 LBS. IN PLACE. CAST-IN-PLACE. THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 9,088 LBS.
 - THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL FARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AND INSTALL GALVANIZED STEEL STRIPS PER DETAIL ON SHEET C9.01A.
 - PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
 - ALL POURED CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SLUMP = 3" - 5"
 - ENTRAINED AIR = 5% - 7%
- PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.
- ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL POURED CONCRETE MEETS THE ABOVE SPECIFICATIONS.

- GEOTEXTILE FABRIC FOR THE 30" RCP OUTLET BARREL JOINTS SHALL BE MIRAFI 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).
- STORMWATER CONTROL MEASURE EMERGENCY DRAW DOWN IS VIA AN 6" PLUG VALVE. THE VALVE SHALL BE A M&H STYLE 1820 ECCENTRIC VALVE OR APPROVED EQUAL. THIS VALVE IS IN ACCORDANCE WITH AWWA C-517, AND SHALL BE OPERABLE FROM TOP OF OUTLET STRUCTURE VIA A HAND WHEEL (SEE DETAIL SHEET C9.02A). THE CONTRACTOR SHALL PROVIDE A REMOVABLE VALVE WRENCH WITH A HAND WHEEL ON TOP FOR OPERATION OF THE 6" PLUG VALVE.

CONSTRUCTION SEQUENCE

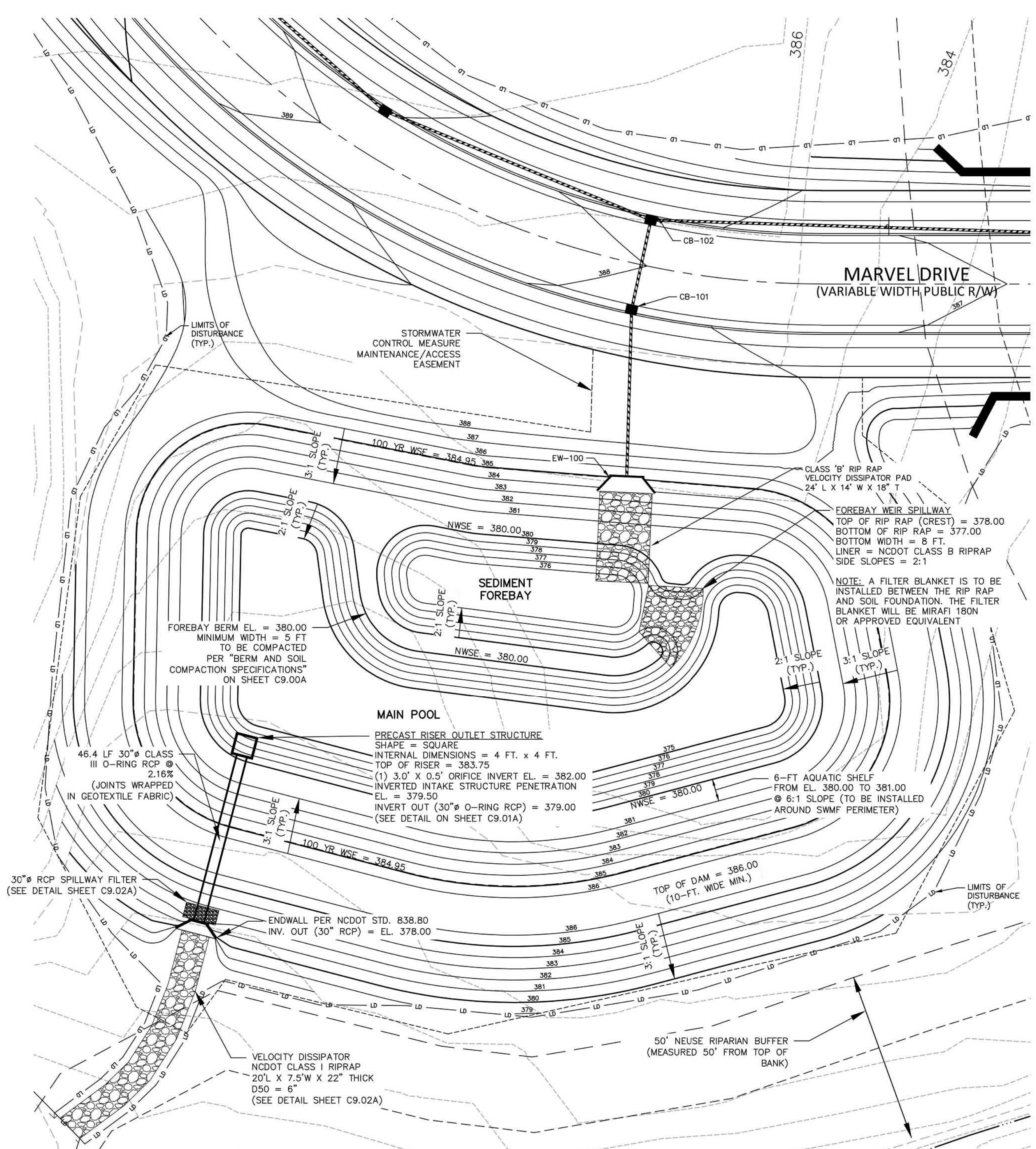
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING (GRADING) PERMIT AND AN "APPROVAL TO CONSTRUCT" FROM THE TOWN OF ROLESVILLE AND ALL OTHER NECESSARY PERMITS FROM APPLICABLE AGENCIES (E.G. 404 / 401 PERMITS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT, AS REQUIRED. THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED DAM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE DAM FOOTPRINT AREA AND BACKFILLED WITH SUITABLE SOIL MATERIAL. THE BACKFILLED AREAS SHALL BE COMPACTED TO THE SAME STANDARDS AS THE DAM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT FILL. NO EMBANKMENT MATERIAL SHALL BE PLACED FOR THE DAM OR KEY TRENCH UNTIL APPROVAL OF THE DAM SUBGRADE IS OBTAINED FROM THE ON-SITE GEOTECHNICAL ENGINEER.
- EXCAVATE FOR THE NEW KEY TRENCH ALONG THE CENTERLINE OF THE PROPOSED DAM EMBANKMENT. THE TRENCH SHALL EXTEND A MINIMUM OF 5 FT BELOW EXISTING GRADE OR 2 FT BELOW THE 30" RCP OUTLET BARREL AND SHALL HAVE A MINIMUM BOTTOM WIDTH OF 5 FEET. THE KEY TRENCH SIDESLOPES SHALL BE A MINIMUM OF 1:1 (H:V). WHEN EXCAVATING THE KEY TRENCH, IF ANY DEBRIS IS ENCOUNTERED TO AN EXTENT THAT SUCH DEBRIS MAY EXIST IN OTHER INSITU PORTIONS OF THE DAM EMBANKMENT, IT SHOULD ALSO BE REMOVED. THE KEY TRENCH SHALL BE COMPACTED TO THE SAME SPECIFICATION LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" DEPENDING UPON ON-SITE SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION. THE ON-SITE GEOTECHNICAL ENGINEER MAY VARY THE DEPTH AND DIMENSIONS OF THE KEY TRENCH AS DEEMED NECESSARY. THE ON-SITE GEOTECHNICAL ENGINEER SHALL RETAIN DOCUMENTATION OF ANY VARIATION FOR FUTURE AS-BUILT SUBMITTALS TO THE TOWN OF ROLESVILLE.
- BEGIN PLACEMENT OF BACKFILL WITHIN THE KEY TRENCH. THE KEY TRENCH SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS". THE KEY TRENCH SHALL BE TESTED PER THE SPECIFICATIONS LISTED IN THAT SECTION.
- PRIOR TO INSTALLATION, SUBGRADE CONDITIONS ALONG THE SPILLWAY PIPES SHOULD BE EVALUATED BY THE ON-SITE GEOTECHNICAL ENGINEER TO ASSESS WHETHER SUITABLE BEARING CONDITIONS EXIST AT THE SUBGRADE LEVEL. SHOULD SOFT OR OTHERWISE UNSUITABLE CONDITIONS BE ENCOUNTERED ALONG THE PIPE ALIGNMENTS, THESE MATERIALS SHOULD BE UNDERCUT AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDERCUT MATERIALS SHALL BE REPLACED WITH ADEQUATELY COMPACTED STRUCTURAL FILL, LEAN CONCRETE OR FLOWABLE FILL AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- IN ORDER TO HELP PROTECT THE SOIL SUBGRADE FROM DETERIORATION (DUE TO EXPOSURE, RAINFALL, SEEPAGE, AND RUNOFF) BEFORE THE CRADLE CAN BE POURED, IT IS STRONGLY RECOMMENDED THAT A 3" TO 4" THICK CONCRETE MUD MAT BE POURED OVER THE SUBGRADE ONCE IT IS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE MUD MAT WILL ALSO PROVIDE BEARING FOR THE BLOCKS THAT TEMPORARILY SUPPORT THE PIPE UNTIL THE CRADLE CAN BE POURED. THE METHOD OF BLOCK SUPPORT FOR THE PIPE PROPOSED BY THE CONTRACTOR SHOULD BE SUBMITTED TO THE JOHN R. McADAMS COMPANY FOR REVIEW.
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 6" THICK LIFTS PRIOR TO COMPACTION, UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER. FILL LIFTS SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL. IF IT IS NECESSARY, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO FINAL GRADE IN ORDER TO ACHIEVE PROPER COMPACTION.
- AS CONSTRUCTION OF THE EMBANKMENT MOVES FORWARD, IT WILL BE NECESSARY TO INSTALL THE CONCRETE CRADLE. SEE NOTE ON CRADLE DETAIL (SHEET C9.02A). THIS MAY BE CONSTRUCTED USING ONE OF THE FOLLOWING METHODS:
 - IF THE PROPOSED STRUCTURAL FILL MATERIAL IS UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN THE STRUCTURAL FILL SHOULD BE INSTALLED AND COMPACTED UP TO THE TOP OF CONCRETE CRADLE ELEVATION. ONCE THE STRUCTURAL FILL REACHES THE NEXT DOWNSTREAM JUNCTION BOX OR HEADWALL AND IS COMPACTED TO THE ELEVATION OF THE TOP OF THE CONCRETE CRADLE, EXCAVATE THE CONCRETE CRADLE TRENCH PER THE PROVIDED DETAILS AND CONSTRUCT THE CONCRETE CRADLE AS PER THE PROVIDED CONCRETE CRADLE DETAIL.
 - IF THE PROPOSED STRUCTURAL FILL IS NOT UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN PRIOR TO CONSTRUCTING THE STRUCTURAL FILL EMBANKMENT, THE FORMWORK FOR THE CONCRETE CRADLE SHOULD BE INSTALLED ON EXISTING GROUND AND/OR THE MUD MAT. THE CONCRETE CRADLE SHALL BE CONSTRUCTED PER THE PROVIDED DETAILS.
- AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (SEE SHEET C9.02A), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL IF THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A N.C.P.E SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER PRIOR TO BACKFILL. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM AND SOIL COMPACTION SPECIFICATIONS ON THIS SHEET. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS (AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTORS INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTORS CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
- INSTALL RISER / BARREL ASSEMBLY, ALONG WITH THE EMERGENCY DRAIN SYSTEM. INSTALL 30" RCP OUTLET BARREL SPILLWAY FILTER FROM THE DETAILS SHOWN ON SHEET C9.02A.
- CONSTRUCT EMBANKMENT PER SPECIFICATIONS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" AND REQUIREMENTS OF THE ON-SITE GEOTECHNICAL ENGINEER. ALL CHARACTERISTICS OF THE EMBANKMENT FILL MATERIAL SHALL MEET THE STANDARDS SET FORTH IN "BERM AND SOIL COMPACTION SPECIFICATIONS", INCLUDING COMPACTION AND MOISTURE REQUIREMENTS. IF NECESSARY TO ACHIEVE PROPER COMPACTION, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO PROPER FINAL GRADE. ANY HAND COMPACTION ACTIVITIES AROUND SPILLWAY OR DRAIN STRUCTURES SHALL BE CONDUCTED IN 4-INCH LOOSE LIFTS AND BE TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT. ALL COMPACTION AND MOISTURE TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER AND AS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS".
- UPON COMPLETION OF DAM EMBANKMENT, PROMPTLY STABILIZE AND SEED DAM EMBANKMENT PER SEEDING SCHEDULE. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER THE PERMANENT SEEDING SCHEDULE FOUND ON SHEET C9.02A.
- SCHEDULE A FINAL AS-BUILT INSPECTION AND AS-BUILT SURVEY WITH THE ENGINEER AND SURVEYOR. AN AS-BUILT INSPECTION AND SURVEY SHALL BE SCHEDULED BEFORE IMPOUNDING WATER IN THE FACILITY AND A MINIMUM OF 60 DAYS PRIOR TO THE ANTICIPATED DATE OF CERTIFICATION APPROVAL. ANY COMMENTS OR DEFICIENCIES IN THE SCM CONSTRUCTION MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AND OWNER BEFORE CERTIFICATION SHALL BE GRANTED.

BERM AND SOIL COMPACTION SPECIFICATIONS

- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 6" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 30" RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

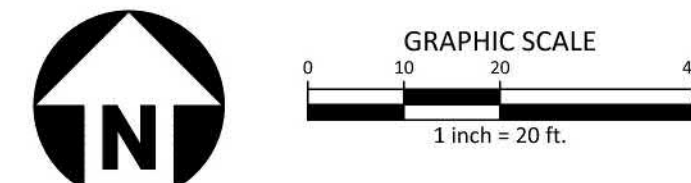
STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THE STORMWATER CONTROL MEASURE SHALL BE THE RESPONSIBILITY OF THE OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



STORMWATER CONTROL MEASURE 'A' PLAN VIEW

1" = 20'



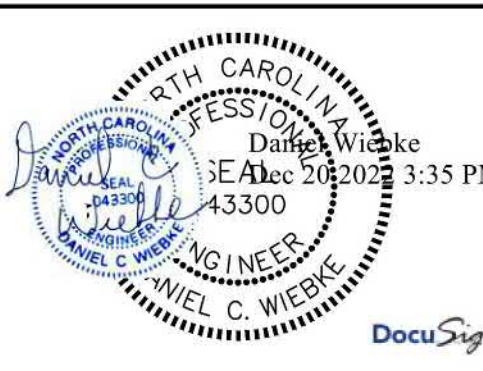
FINAL DRAWING - RELEASED FOR CONSTRUCTION

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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE	ADDED SCM*P*
2	12.20.2022	ADDED SCM*P*

PLAN INFORMATION

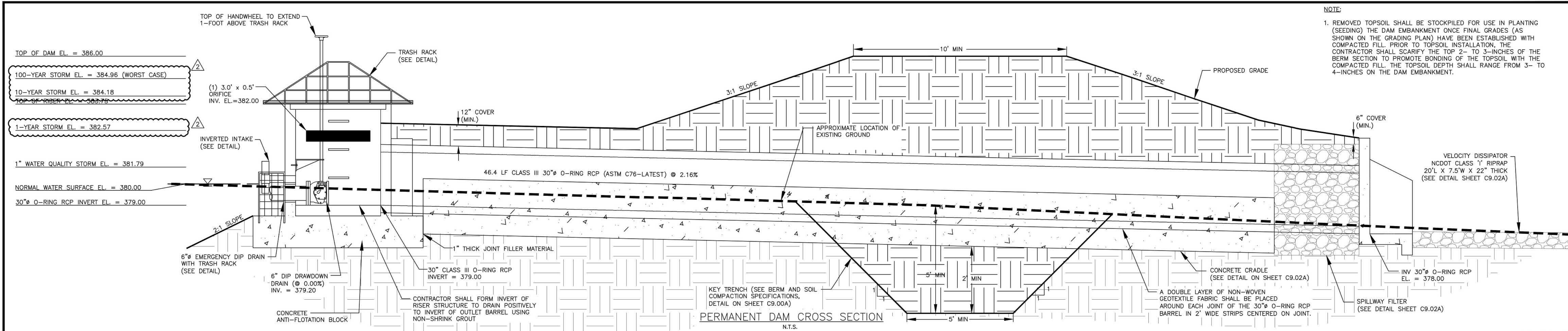
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CHECKED BY	DCW
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DATE	03.21.2022

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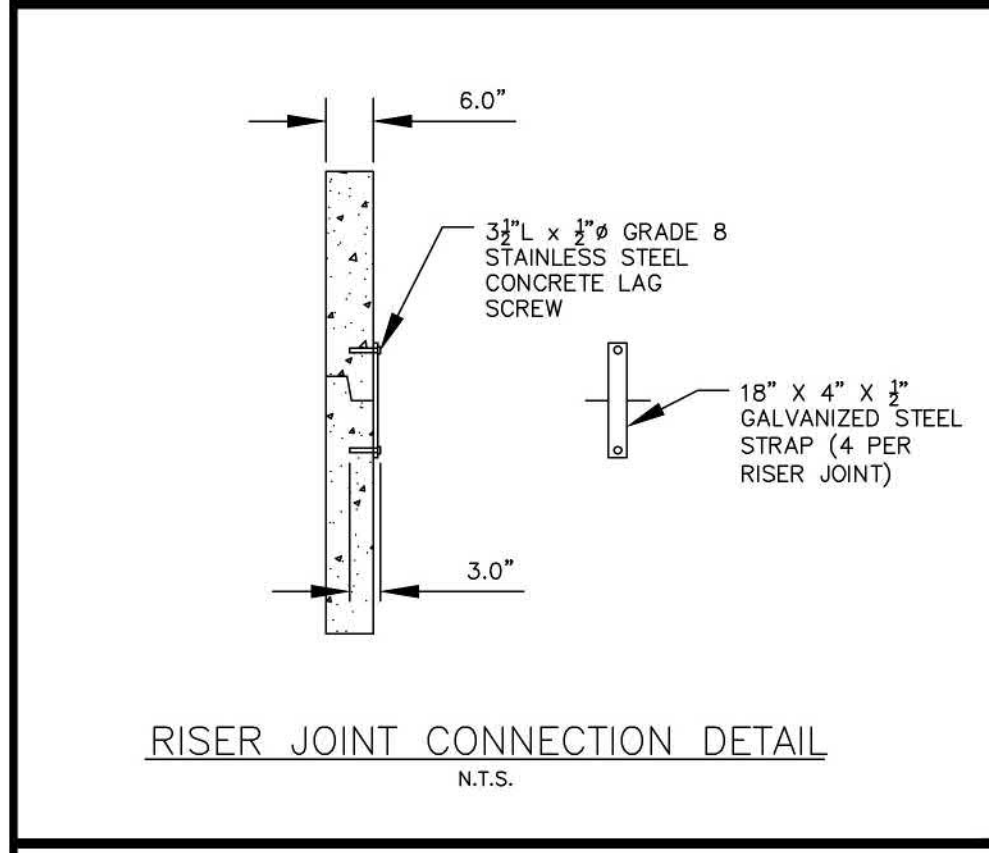
STORMWATER CONTROL MEASURE 'A' PLAN VIEW

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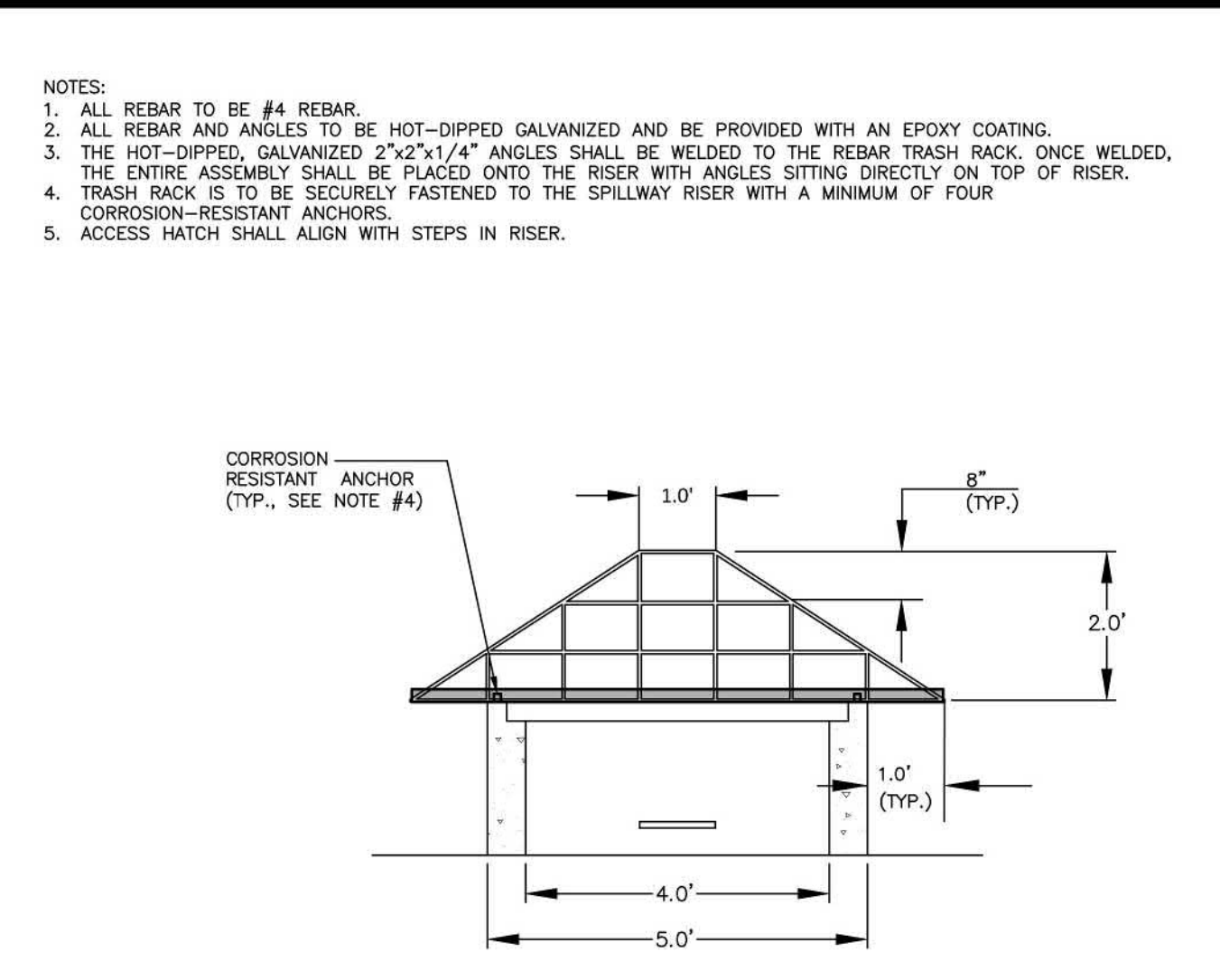
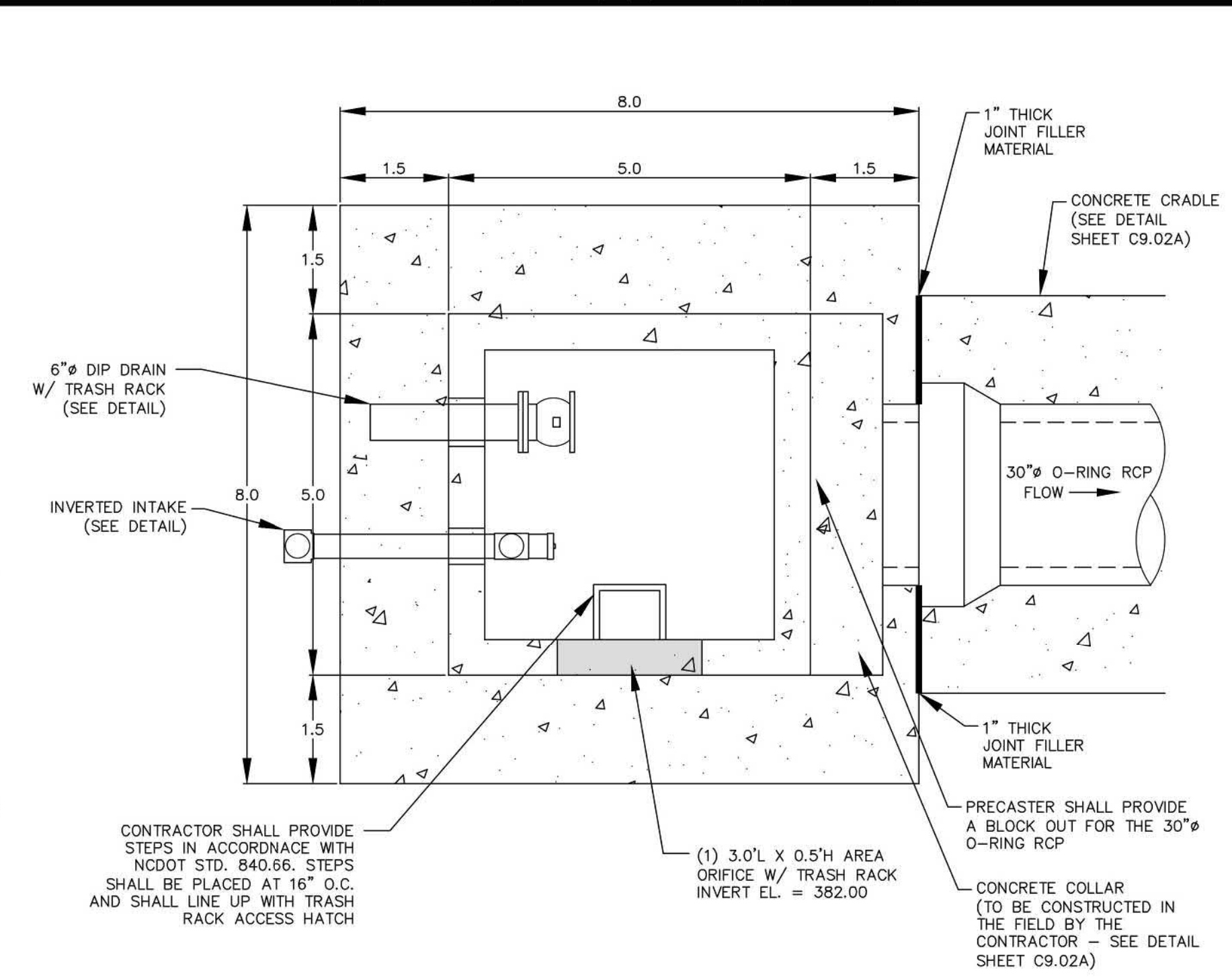
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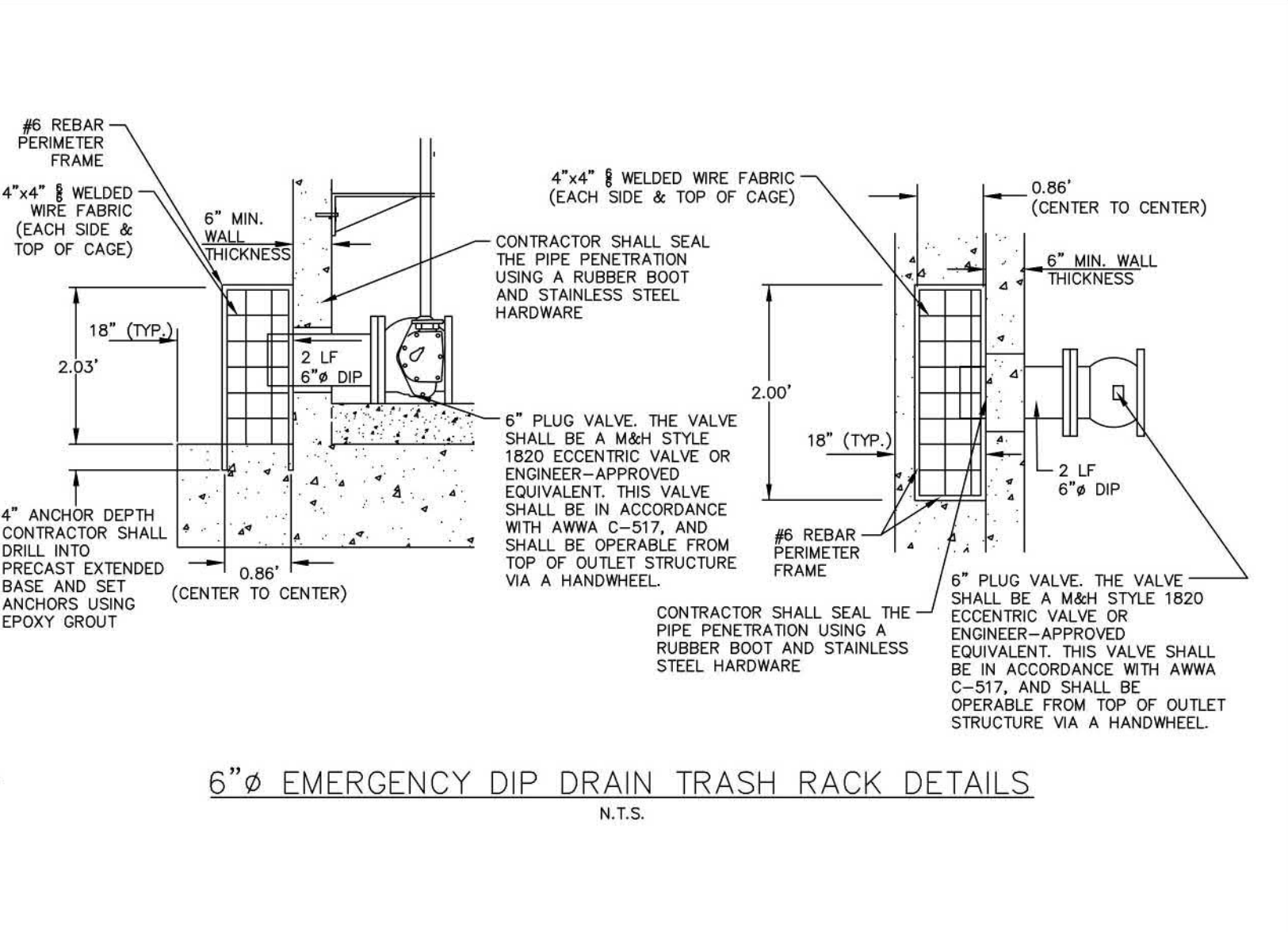
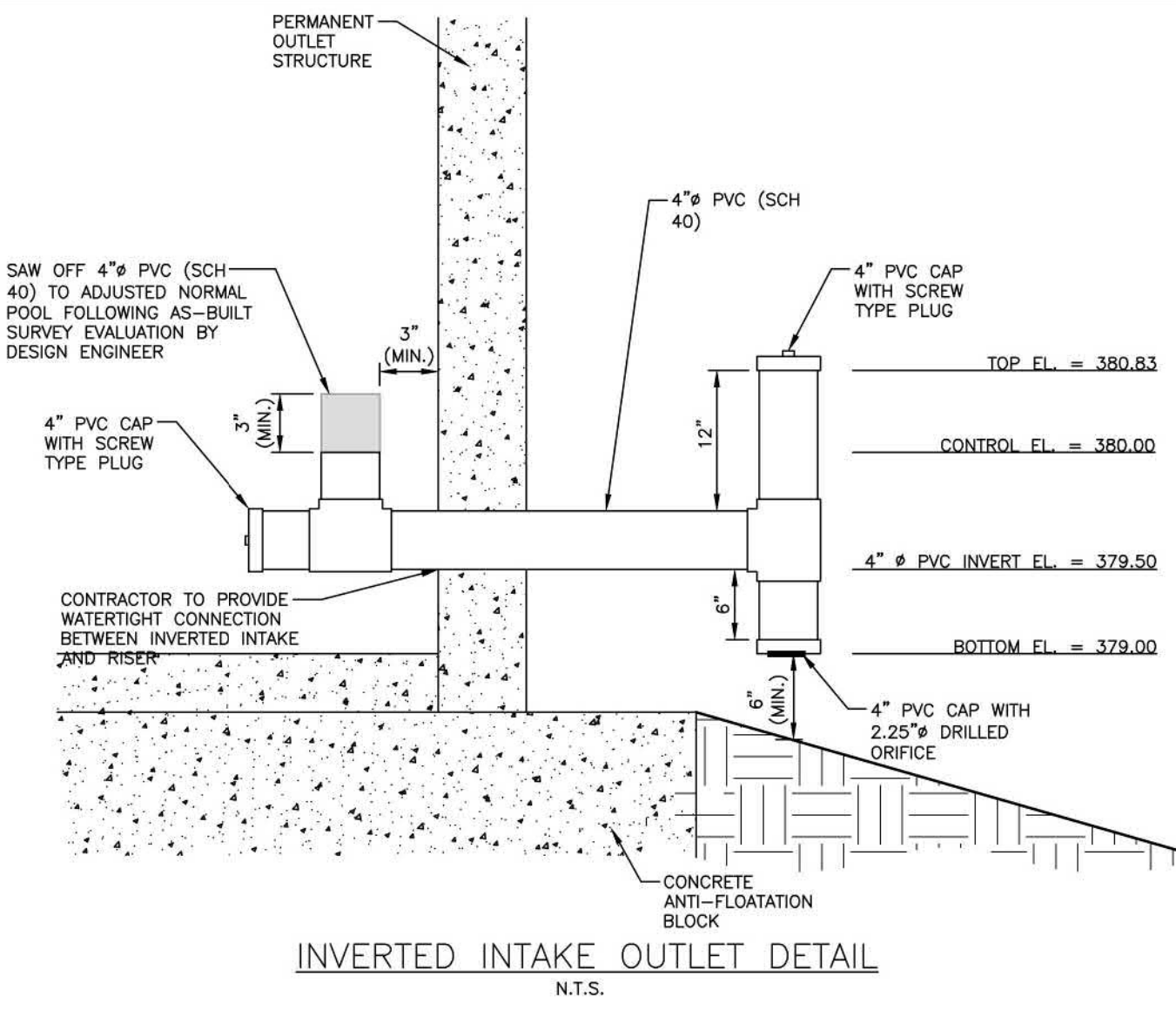
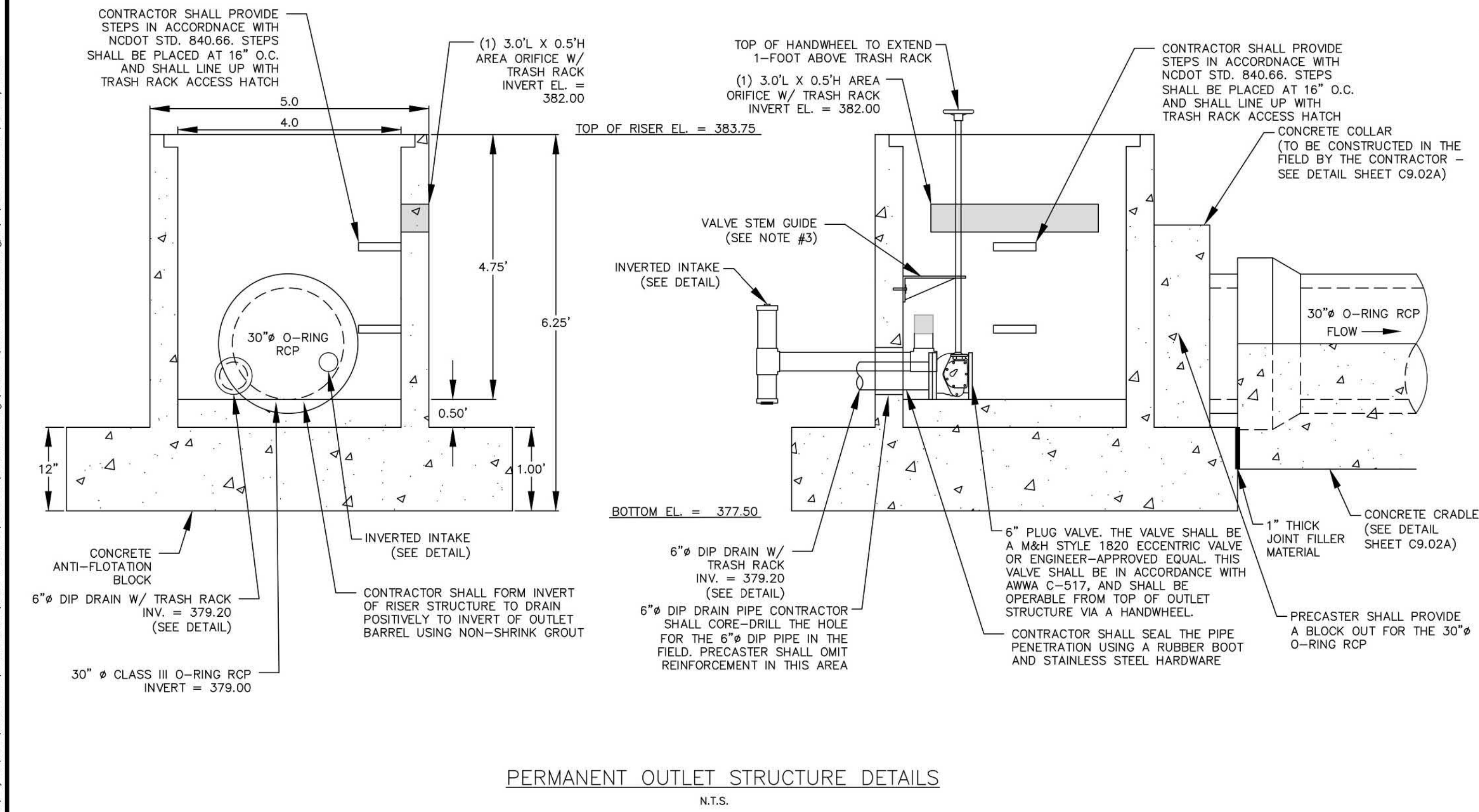
NOTE:
 1. REMOVED TOPSOIL SHALL BE STOCKPILED FOR USE IN PLANTING (SEEDING) THE DAM EMBANKMENT ONCE FINAL GRADES (AS SHOWN ON THE GRADING PLAN) HAVE BEEN ESTABLISHED WITH COMPACTED FILL. PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2- TO 3-INCHES OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3- TO 4-INCHES ON THE DAM EMBANKMENT.



NOTES:
 1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
 2. TRASH RACKS NOT SHOWN FOR CLARITY.
 3. THE NUMBER OF GUIDES FOR THE VALVE STEM SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE VALVE STEM MUST BE OPERABLE FROM THE TOP OF THE RISER VIA THE HANDWHEEL WITH AN INSIGNIFICANT AMOUNT OF PLAY IN THE VALVE STEM.
 4. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.



NOTES:
 1. ALL REBAR TO BE #4 REBAR.
 2. ALL REBAR AND ANGLES TO BE HOT-DIPPED GALVANIZED AND BE PROVIDED WITH AN EPOXY COATING.
 3. THE HOT-DIPPED, GALVANIZED 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE REBAR TRASH RACK, ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
 4. TRASH RACK IS TO BE SECURELY FASTENED TO THE SPILLWAY RISER WITH A MINIMUM OF FOUR CORROSION-RESISTANT ANCHORS.
 5. ACCESS HATCH SHALL ALIGN WITH STEPS IN RISER.



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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

REVISIONS

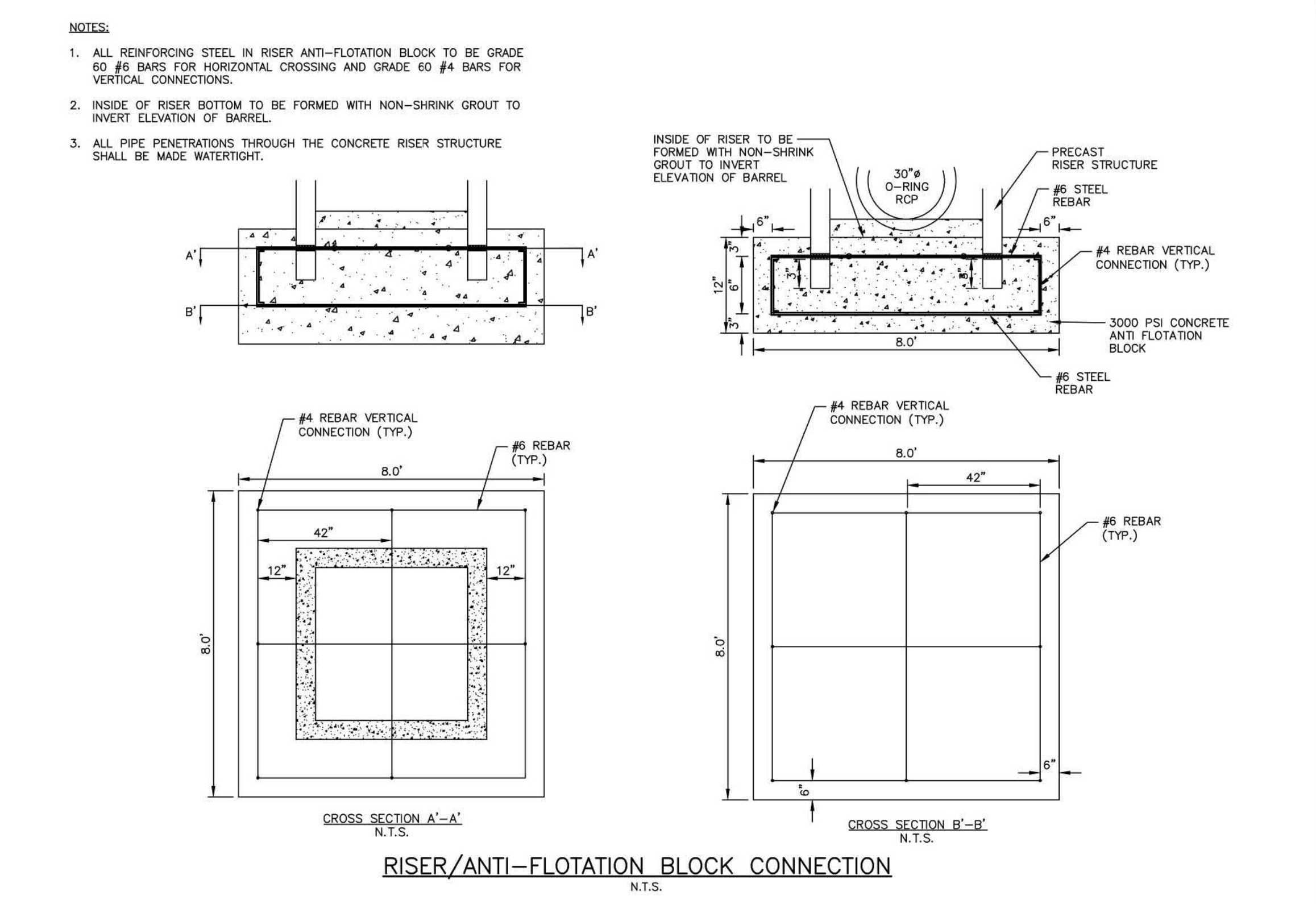
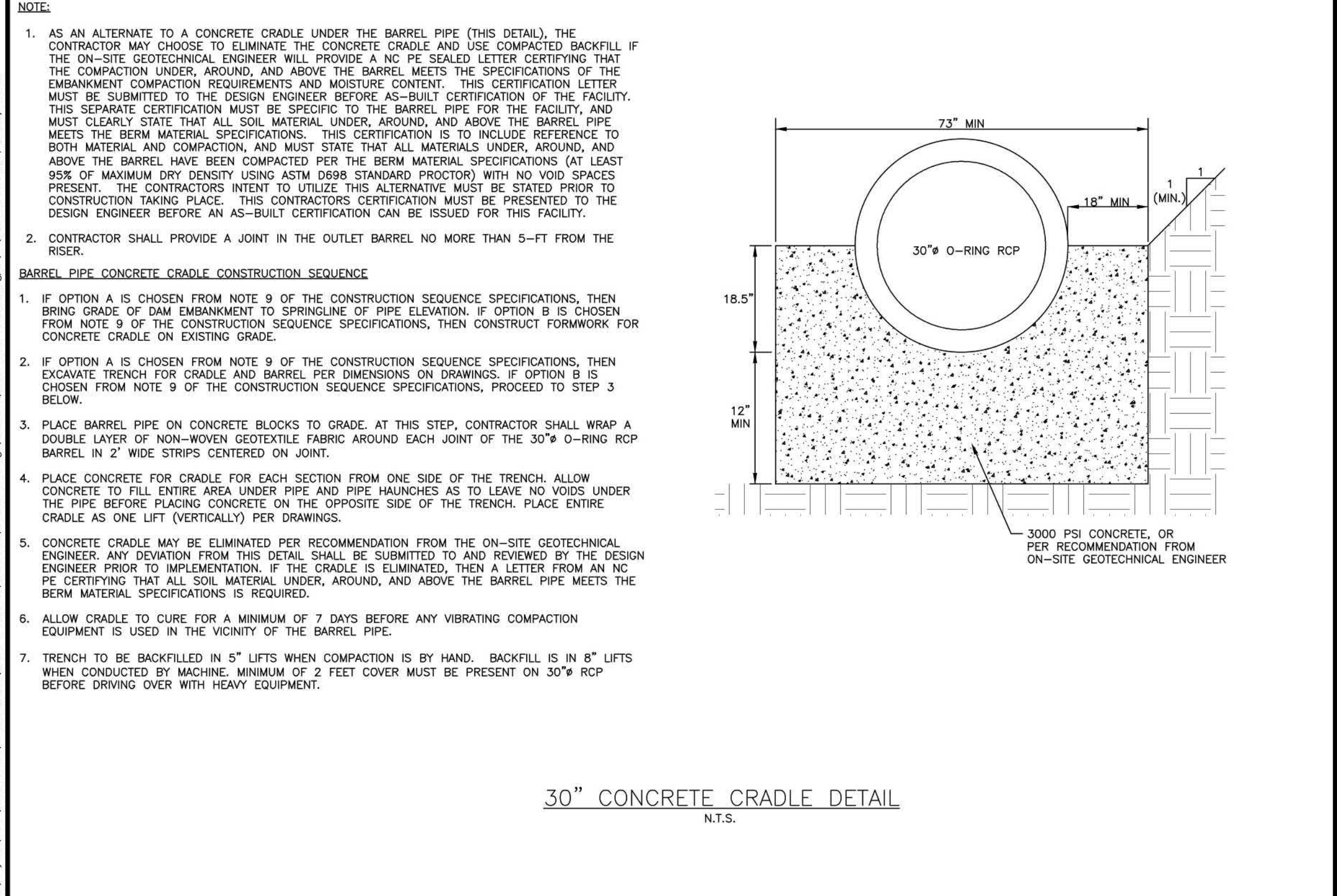
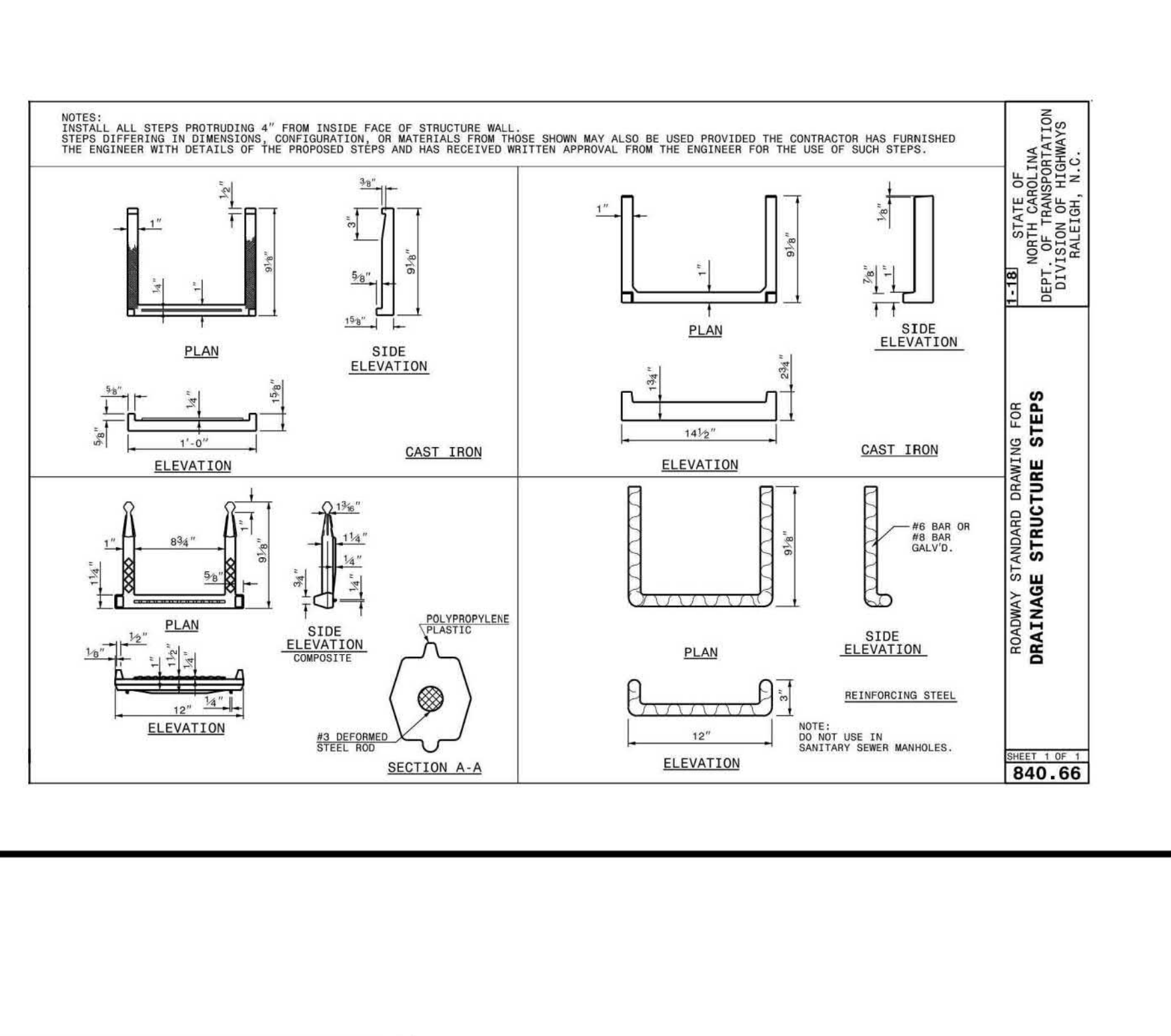
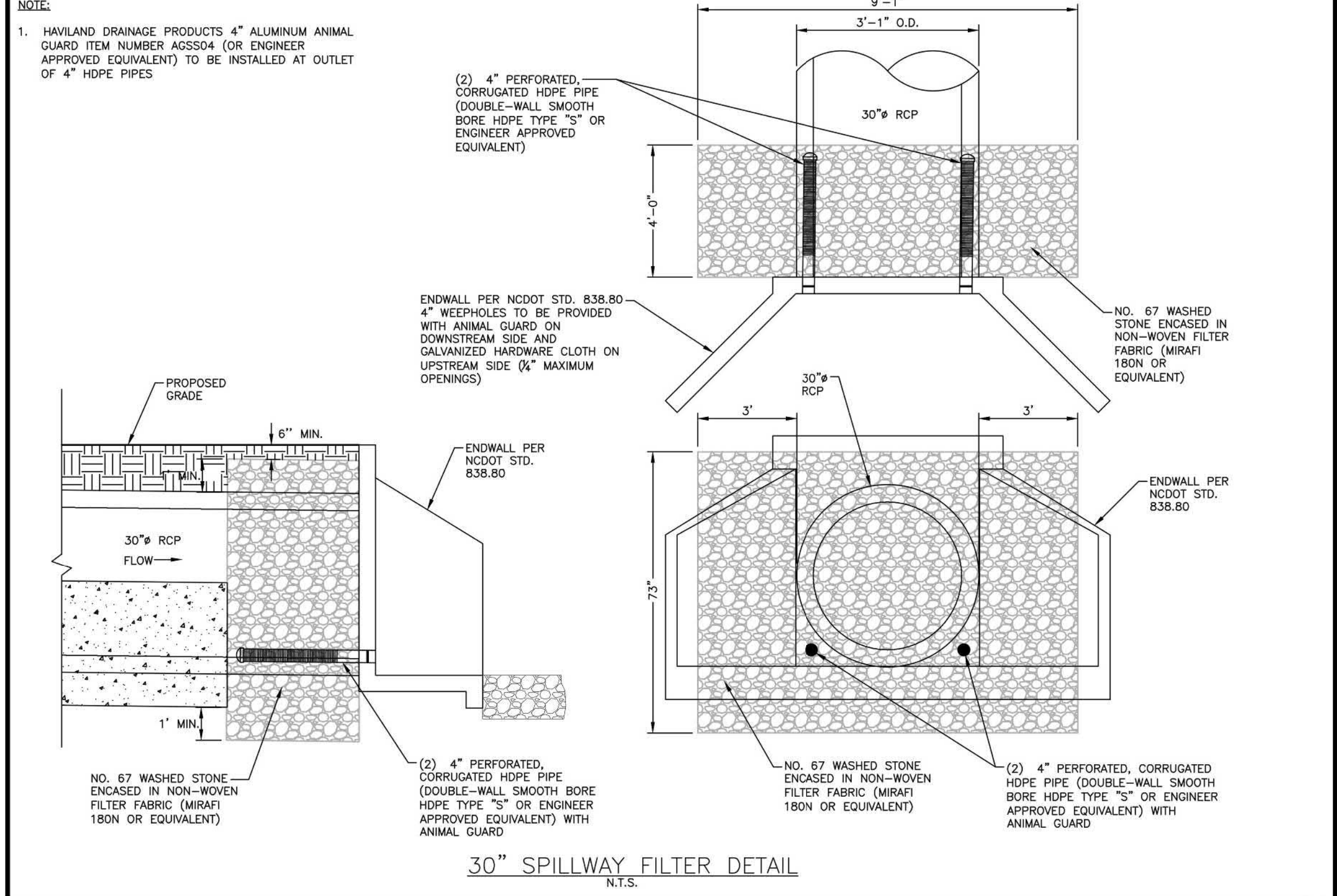
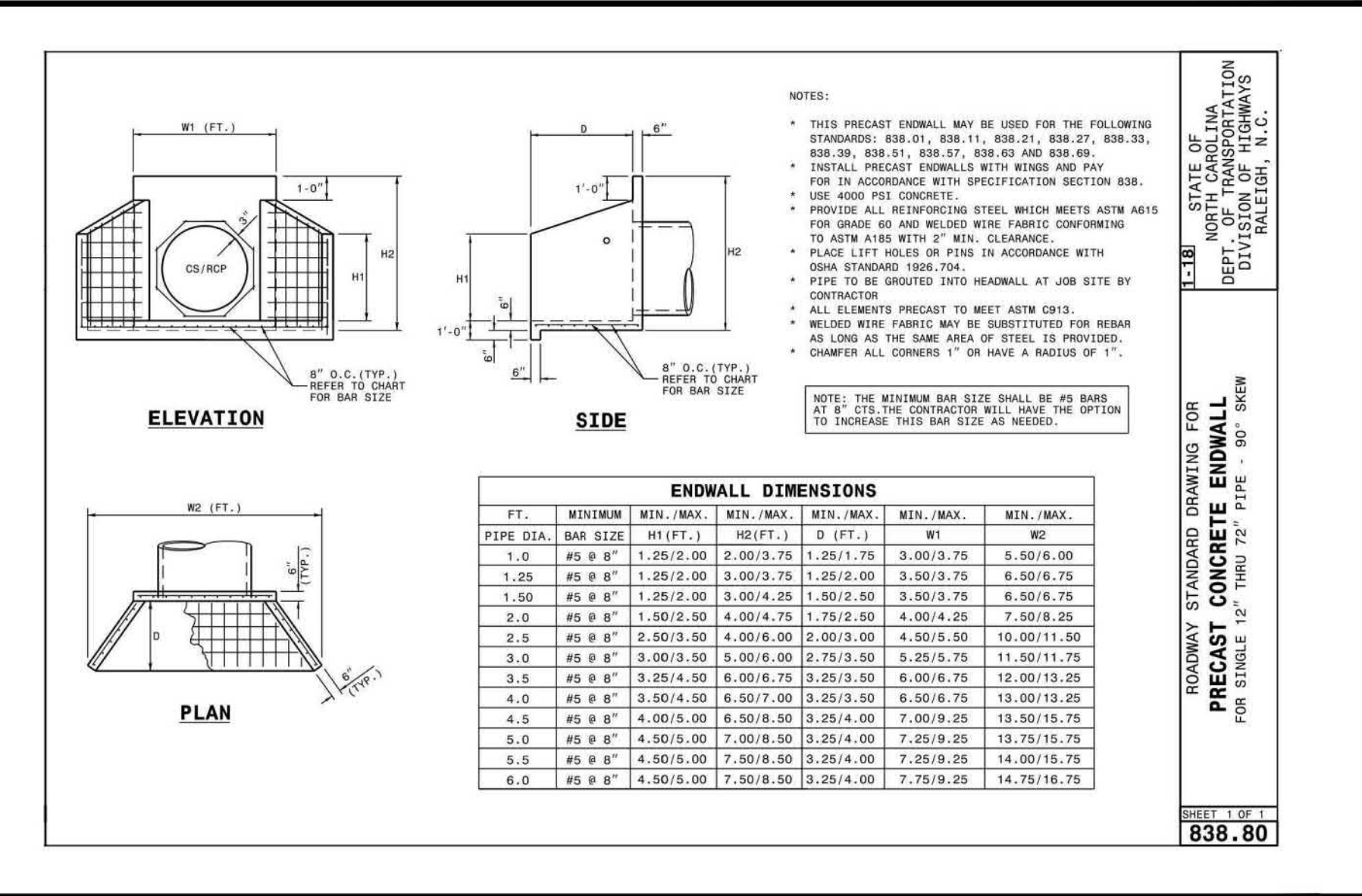
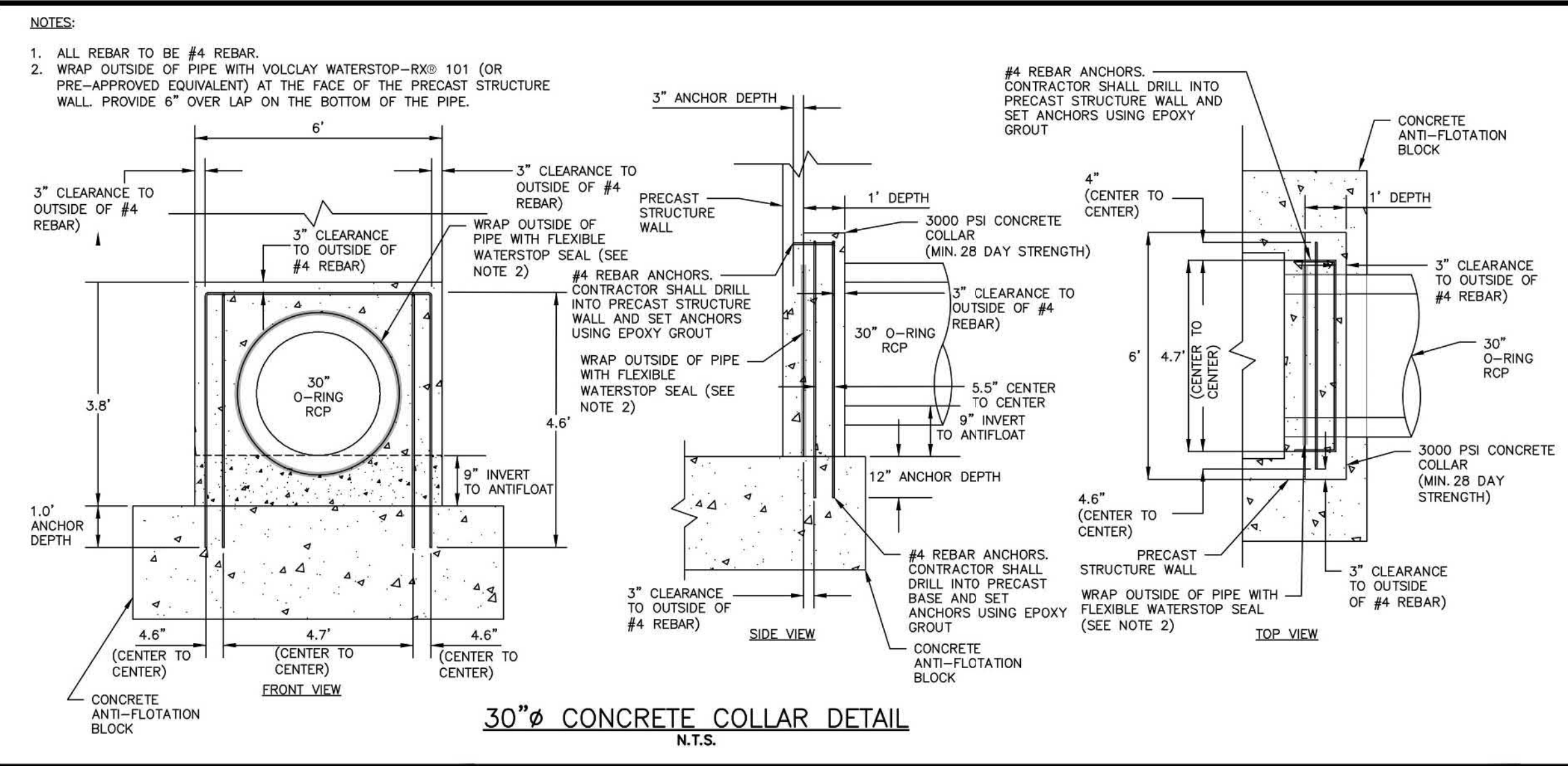
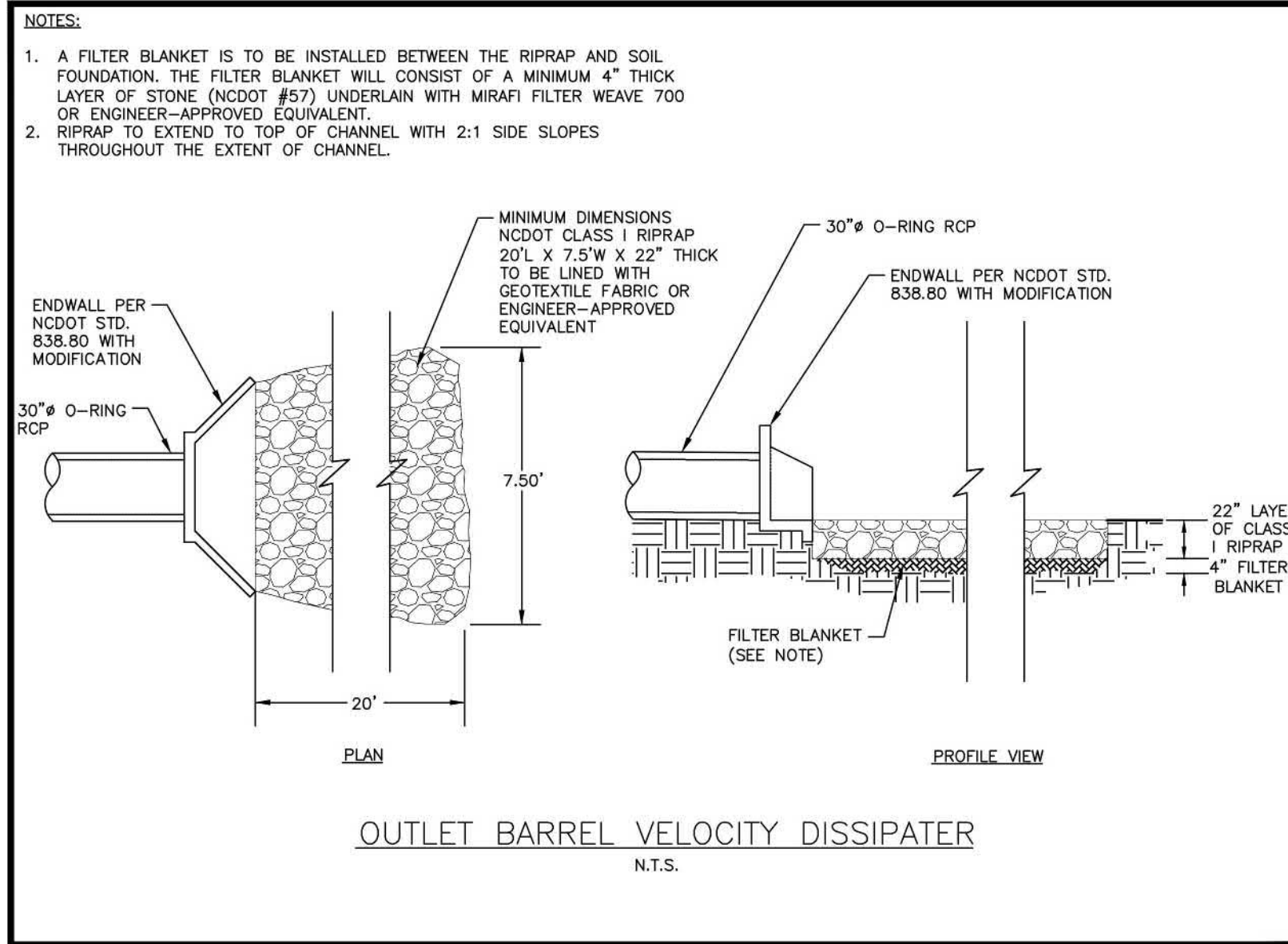
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2	12.20.2022	ADDED SCM "P"

PLAN INFORMATION

PROJECT NO. AWH-20000
 FILENAME AWH20000 - SCM A
 CHECKED BY DCW
 DRAWN BY JKD
 SCALE AS NOTED
 DATE 03.21.2022

STORMWATER CONTROL
MEASURE 'A' DETAILS
C9.01A

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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

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REVISIONS

NO.	DATE	DESCRIPTION
2	12.20.2022	ADDED SCM "P"

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM A
CHECKED BY DCW
DRAWN BY JKD
SCALE AS NOTED
DATE 03.21.2022

HEET
STORMWATER CONTROL MEASURE 'A' DETAILS
C9.02A

FINAL DRAWING - RELEASED FOR CONSTRUCTION

STORMWATER CONTROL MEASURE 'A' LANDSCAPE SPECIFICATIONS

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HATCH	TYPE	SPACING
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SHALLOW WATER						
130	IV	IRIS VIRGINIANA	BLUE FLAG IRIS		4-INCH CONTAINER	24" O.C.
256	PC	PONTEREDIA CORDATA	PICKEREL WEED		4-INCH CONTAINER	24" O.C.
124	ST	SCHOENOPLECTUS TABERNAEMONTANI	SOFT-STEM BULRUSH		4-INCH CONTAINER	24" O.C.

SHALLOW LAND						
108	CS	CAREX SPP.	SEDGES		4-INCH CONTAINER	24" O.C.
100	CA	CRINUM AMERICANUM	AMERICAN CRINUM LILY		4-INCH CONTAINER	24" O.C.
129	HA	HIBISCUS ACULEATUS	PINELANDS MALLOW		4-INCH CONTAINER	24" O.C.

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3-4 INCHES DEEP OVER ADVERSE SOIL CONDITIONS. TOPSOIL SHOULD BE INCORPORATED INTO THE FINAL GRADING OF THE BASIN SIDE SLOPES AND AQUATIC SHELF. CONTRACTOR SHOULD SCARIFY THE TOP 3-4 INCHES OF THE COMPACTED FILL TO PROMOTE BONDING WITH TOPSOIL.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- PER ONE TIME ONLY, APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL.
- 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.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. AFTER PERMANENT COVER IS ESTABLISHED.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET	40 LBS/AC
	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE (DAM EMBANKMENTS)

SEEDING DATE	SEEDING MIXTURE OPTIONS (CHOOSE ONE)	APPLICATION RATE
MAY 1 - AUG 31	CENTPEDE RAW	30 LBS/AC
APRIL 1 - SEPT 1	SUMMER MIX	200 LBS/AC
OCT 1 - MARCH 1	(80% HULLED BERMUDA/20% MILLET) FALL MIX (80% TALL FESCUE/20% ANNUAL RYEGRASS)	200 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

NOTE: PERMANENT SEEDING SCHEDULE IS FOR SLOPES OF THE BASIN AND TOP OF BERM.

PLANTING INSTRUCTIONS

- PLANTING TECHNIQUES**
- ENSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
 - CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
 - PLACE PLANTS IN PIT ENSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
 - HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
 - NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
 - ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY.
 - THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
 - SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
 - PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
 - BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAMAGED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

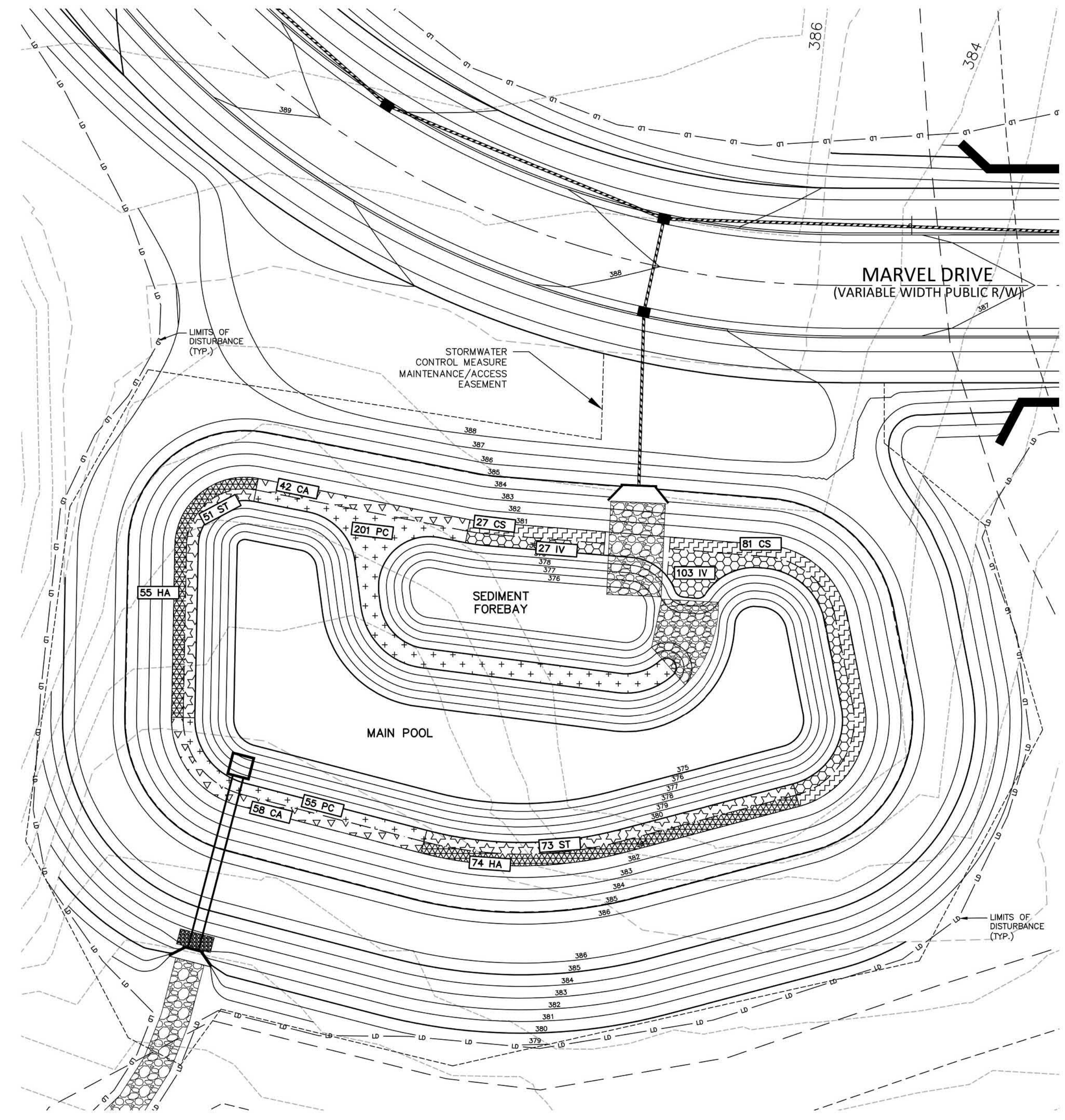
- CONTAINER STOCK / BARE ROOT**
- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
 - CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
 - BARE ROOT PLANTS ARE FOR IMMEDIATE PLANTING, OTHERWISE SEE D) BELOW.
 - IF BARE ROOT SPECIMENS ARE NOT TO BE PLANTED WITHIN FOUR (4) DAYS, TEMPORARY HOLDING OF BARE ROOT SPECIMENS ARE TO BE COVERED ENTIRELY BY A SUITABLE MEDIUM (ETC. SOIL, SAWDUST, MULCH OR THE LIKE) AND WATERED REGULARLY SO AS TO NOT DRY OUT.

- PLANT LOCATIONS**
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
 - NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

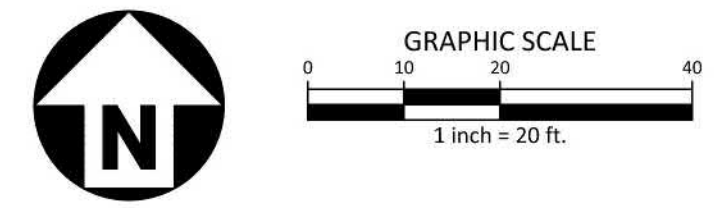
WATER
WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.

PLANTING SCHEDULE

- ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER MANAGEMENT FACILITY PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
- ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER MANAGEMENT FACILITY PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER MANAGEMENT FACILITY PLANTING PLAN.
- OPTIMAL PLANTING PERIODS RANGE APPROXIMATELY FROM APRIL 15TH THRU JUNE 30TH AND SEPTEMBER 1ST THRU OCTOBER 31ST. FOR FINAL DETERMINATION OF THE SITE'S PLANTING PERIOD, THE CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION.
- IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PREVENT WILDLIFE FROM DAMAGING OR CONSUMING WETLAND PLANTINGS.



STORMWATER CONTROL MEASURE 'A' LANDSCAPE PLAN
1" = 20'



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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

REVISIONS

NO.	DATE	DESCRIPTION
2	12.20.2022	ADDED SCM "P"

PLAN INFORMATION

PROJECT NO. AWH-20000
 FILENAME AWH20000 - SCM A
 CHECKED BY DCW
 DRAWN BY JKD
 SCALE 1"=20'
 DATE 03.21.2022

STORMWATER CONTROL MEASURE 'A' LANDSCAPE PLAN
C9.03A

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STORMWATER CONTROL MEASURE 'C' CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING FOR THE FACILITY. THE INTERIOR FINE GRADING WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE PERMANENT 6"Ø DIP DRAIN PIPE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E. - PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A N.C.P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- ON-SITE GEOTECHNICAL ENGINEER TO DETERMINE IF IN-SITU SOILS ENCOUNTERED WOULD MAINTAIN A STORMWATER CONTROL MEASURE PERMANENT POOL AT DESIGN ELEVATION. IF HIGHLY PERMEABLE SOILS ARE ENCOUNTERED THAT WOULD NOT MAINTAIN THE PERMANENT POOL ELEVATION AS DESIGNED, A CLAY LINER MAY BE REQUIRED TO MAINTAIN A PERMANENT POOL OF WATER IN THE STORMWATER CONTROL MEASURE. FINAL DETERMINATION IF A CLAY LINER IS NEEDED SHALL BE THE RESPONSIBILITY OF THE ON-SITE GEOTECHNICAL ENGINEER. UPON DETERMINATION OF HIGHLY PERMEABLE SOIL CONDITIONS, ON-SITE GEOTECHNICAL ENGINEER WILL INFORM THE DESIGN ENGINEER AND RECOMMEND LINER SPECIFICATIONS.
- IF IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G. - EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.), THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E. PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (AFC ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE WET POND PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE WET POND AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3"-4" ON THE DAM EMBANKMENT AND AQUATIC SHELF. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT AND AQUATIC SHELF.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THIS FACILITY. CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION. PLEASE NOTE THAT NO TREES/SHRUBS OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS).

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 42"Ø RCP OUTLET BARREL SHALL BE CLASS III RCP, MODIFIED BELL AND SPIGOT, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4. (ADD OTHER BARREL FOR LEVEL SPREADER IF APPLICABLE).
- THE STRUCTURAL DESIGN FOR THE 5' X 5' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
- THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66. PLEASE REFER TO SHEET C9.02C FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
- THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.02C. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 26,890 LBS. IN LIEU OF CAST-IN-PLACE, THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 17,253 LBS.
- THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL FARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AND INSTALL GALVANIZED STEEL STRIPS PER DETAIL ON SHEET C9.01C.
- PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
- ALL POURED CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SLUMP = 3" - 5"
 - ENTRAINED AIR = 5% - 7%

PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.

ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL POURED CONCRETE MEETS THE ABOVE SPECIFICATIONS.

- GEOTEXTILE FABRIC FOR THE 42"Ø RCP OUTLET BARREL JOINTS SHALL BE MIRAFI 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).

- STORMWATER CONTROL MEASURE EMERGENCY DRAW DOWN IS VIA AN 6"Ø PLUG VALVE. THE VALVE SHALL BE A M&H STYLE 1820 ECCENTRIC VALVE OR APPROVED EQUAL. THIS VALVE IS IN ACCORDANCE WITH AWWA C-517, AND SHALL BE OPERABLE FROM TOP OF OUTLET STRUCTURE VIA A HAND WHEEL (SEE DETAIL SHEET C9.02C). THE CONTRACTOR SHALL PROVIDE A REMOVABLE VALVE WRENCH WITH A HAND WHEEL ON TOP FOR OPERATION OF THE 6"Ø PLUG VALVE.

CONSTRUCTION SEQUENCE

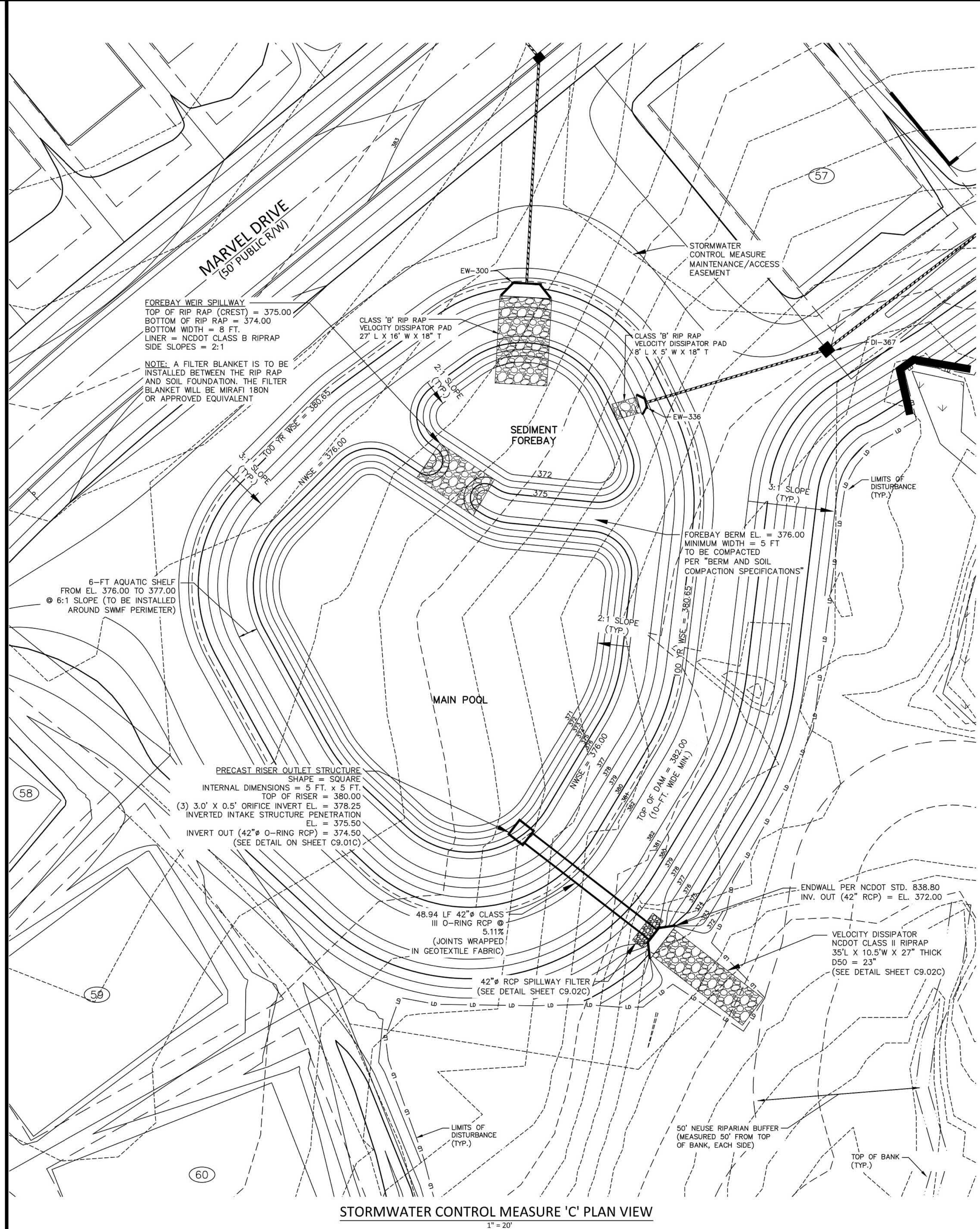
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING (GRADING) PERMIT AND AN "APPROVAL TO CONSTRUCT" FROM THE TOWN OF ROLESVILLE AND ALL OTHER NECESSARY PERMITS FROM APPLICABLE AGENCIES (E.G. 404 / 401 PERMITS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT, AS REQUIRED, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED DAM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE DAM FOOTPRINTED AREA AND BACKFILLED WITH SUITABLE SOIL MATERIAL. THE BACKFILLED AREAS SHALL BE COMPACTED TO THE SAME STANDARDS AS THE DAM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT. FILL NO EMBANKMENT MATERIAL SHALL BE PLACED FOR THE DAM OR KEY TRENCH UNTIL APPROVAL OF THE DAM SUBGRADE IS OBTAINED FROM THE ON-SITE GEOTECHNICAL ENGINEER.
- EXCAVATE FOR THE NEW KEY TRENCH ALONG THE CENTERLINE OF THE PROPOSED DAM EMBANKMENT. THE TRENCH SHALL EXTEND A MINIMUM OF 5 FT BELOW EXISTING GRADE OR 2 FT BELOW THE 42"Ø RCP OUTLET BARREL AND SHALL HAVE A MINIMUM BOTTOM WIDTH OF 5 FEET. THE KEY TRENCH SIDESLOPES SHALL BE A MINIMUM OF 1:1 (H:V). WHEN EXCAVATING THE KEY TRENCH, IF ANY DEBRIS IS ENCOUNTERED TO AN EXTENT THAT SUCH DEBRIS MAY EXIST IN OTHER INSITU PORTIONS OF THE DAM EMBANKMENT, IT SHOULD ALSO BE REMOVED. THE KEY TRENCH SHALL BE COMPACTED TO THE SAME SPECIFICATION LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." DEPENDING UPON ON-SITE SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION, THE ON-SITE GEOTECHNICAL ENGINEER MAY VARY THE DEPTH AND DIMENSIONS OF THE KEY TRENCH AS DEEMED NECESSARY. THE ON-SITE GEOTECHNICAL ENGINEER SHALL RETAIN DOCUMENTATION OF ANY VARIATION FOR FUTURE AS-BUILT SUBMITTALS TO THE TOWN OF ROLESVILLE.
- BEGIN PLACEMENT OF BACKFILL WITHIN THE KEY TRENCH. THE KEY TRENCH SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." THE KEY TRENCH SHALL BE TESTED PER THE SPECIFICATIONS LISTED IN THAT SECTION.
- PRIOR TO INSTALLATION, SUBGRADE CONDITIONS ALONG THE SPILLWAY PIPES SHOULD BE EVALUATED BY THE ON-SITE GEOTECHNICAL ENGINEER TO ASSESS WHETHER SUITABLE BEARING CONDITIONS EXIST AT THE SUBGRADE LEVEL. SHOULD SOFT OR OTHERWISE UNSUITABLE CONDITIONS BE ENCOUNTERED ALONG THE PIPE ALIGNMENTS, THESE MATERIALS SHOULD BE UNDERCUT AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDERCUT MATERIALS SHALL BE REPLACED WITH ADEQUATELY COMPACTED STRUCTURAL FILL, LEAN CONCRETE OR FLOWABLE FILL AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- IN ORDER TO HELP PROTECT THE SOIL SUBGRADE FROM DETERIORATION (DUE TO EXPOSURE, RAINFALL, SEEPAGE, AND RUNOFF) BEFORE THE CRADLE CAN BE POURED, IT IS STRONGLY RECOMMENDED THAT A 3" TO 4" THICK CONCRETE MUD MAT BE POURED OVER THE SUBGRADE ONCE IT IS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE MUD MAT WILL ALSO PROVIDE BEARING FOR THE BLOCKS THAT TEMPORARILY SUPPORT THE SPILLWAY PIPE UNTIL THE CRADLE CAN BE POURED. THE METHOD OF BLOCK SUPPORT FOR THE PIPE PROPOSED BY THE CONTRACTOR SHOULD BE SUBMITTED TO THE JOHN R. McADAMS COMPANY FOR REVIEW.
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS PRIOR TO COMPACTION, UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER. FILL LIFTS SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL. IF IT IS NECESSARY, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO FINAL GRADE IN ORDER TO ACHIEVE PROPER COMPACTION.
- AS CONSTRUCTION OF THE EMBANKMENT MOVES FORWARD, IT WILL BE NECESSARY TO INSTALL THE CONCRETE CRADLE. SEE NOTE ON CRADLE DETAIL (SHEET C9.02C). THIS MAY BE CONSTRUCTED USING ONE OF THE FOLLOWING METHODS:
 - IF THE PROPOSED STRUCTURAL FILL MATERIAL IS UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN THE STRUCTURAL FILL SHOULD BE INSTALLED AND COMPACTED UP TO THE TOP OF CONCRETE CRADLE ELEVATION. ONCE THE STRUCTURAL FILL REACHES THE NEXT DOWNSTREAM JUNCTION BOX OR HEADWALL AND IS COMPACTED TO THE ELEVATION OF THE TOP OF THE CONCRETE CRADLE, EXCAVATE THE CONCRETE CRADLE TRENCH PER THE PROVIDED DETAILS AND CONSTRUCT THE CONCRETE CRADLE AS PER THE PROVIDED CONCRETE CRADLE DETAIL.
 - IF THE PROPOSED STRUCTURAL FILL IS NOT UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN PRIOR TO CONSTRUCTING THE STRUCTURAL FILL EMBANKMENT, THE FORMWORK FOR THE CONCRETE CRADLE SHOULD BE INSTALLED ON EXISTING GROUND AND/OR THE MUD MAT. THE CONCRETE CRADLE SHALL BE CONSTRUCTED PER THE PROVIDED DETAILS.
- AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (SEE SHEET C9.02C), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL. IF THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A N.C.P.E SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER PRIOR TO BACKFILL. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM AND SOIL COMPACTION SPECIFICATIONS ON THIS SHEET. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS (AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTORS INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTORS CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
- INSTALL RISER / BARREL ASSEMBLY, ALONG WITH THE EMERGENCY DRAIN SYSTEM. INSTALL 42" RCP OUTLET BARREL SPILLWAY FILTER FROM THE DETAILS SHOWN ON SHEET C9.02C.
- CONSTRUCT EMBANKMENT PER SPECIFICATIONS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" AND REQUIREMENTS OF THE ON-SITE GEOTECHNICAL ENGINEER. ALL CHARACTERISTICS OF THE EMBANKMENT FILL MATERIAL SHALL MEET THE STANDARDS SET FORTH IN "BERM AND SOIL COMPACTION SPECIFICATIONS", INCLUDING COMPACTION AND MOISTURE REQUIREMENTS. IF NECESSARY TO ACHIEVE PROPER COMPACTION, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO PROPER FINAL GRADE. ANY HAND COMPACTION ACTIVITIES AROUND SPILLWAY OR DRAIN STRUCTURES SHALL BE CONDUCTED IN 4-INCH LOOSE LIFTS AND BE TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT. ALL COMPACTION AND MOISTURE TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER AND AS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS".
- UPON COMPLETION OF DAM EMBANKMENT, PROMPTLY STABILIZE AND SEED DAM EMBANKMENT PER SEEDING SCHEDULE. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER THE PERMANENT SEEDING SCHEDULE FOUND ON SHEET C9.03C.
- SCHEDULE A FINAL AS-BUILT INSPECTION AND AS-BUILT SURVEY WITH THE ENGINEER AND SURVEYOR. AN AS-BUILT INSPECTION AND SURVEY SHALL BE SCHEDULED BEFORE IMPOUNDING WATER IN THE FACILITY AND A MINIMUM OF 60 DAYS PRIOR TO THE ANTICIPATED DATE OF CERTIFICATION APPROVAL. ANY COMMENTS OR DEFICIENCIES IN THE SCM CONSTRUCTION MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AND OWNER BEFORE CERTIFICATION SHALL BE GRANTED.

BERM AND SOIL COMPACTION SPECIFICATIONS

- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 6" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 42"Ø RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THE STORMWATER CONTROL MEASURE SHALL BE THE RESPONSIBILITY OF THE OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



STORMWATER CONTROL MEASURE 'C' PLAN VIEW

1" = 20'

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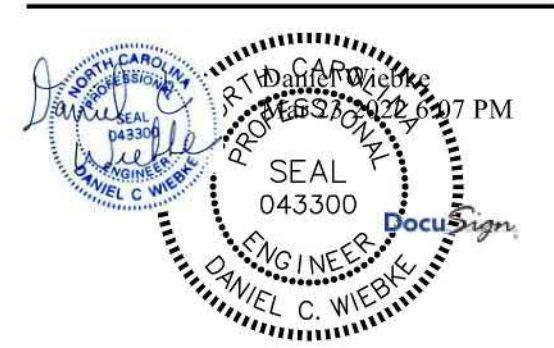
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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE

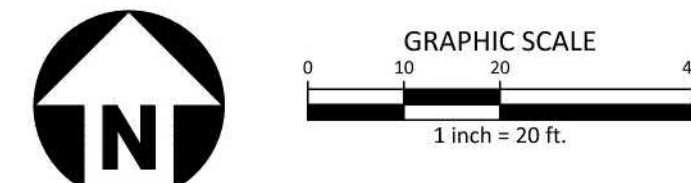
PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000 - SCM C
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1"=20'
DATE	03. 21. 2022

SHEET

STORMWATER CONTROL MEASURE 'C' PLAN VIEW

C9.00C



M:\Projects\AWH\AWH-20000\04-Production\Water Resources\South Side\Current Drawings\SCM C\AWH20000 - SCM C.dwg, 3/23/2022 5:39:22 PM, Tommy Daboot



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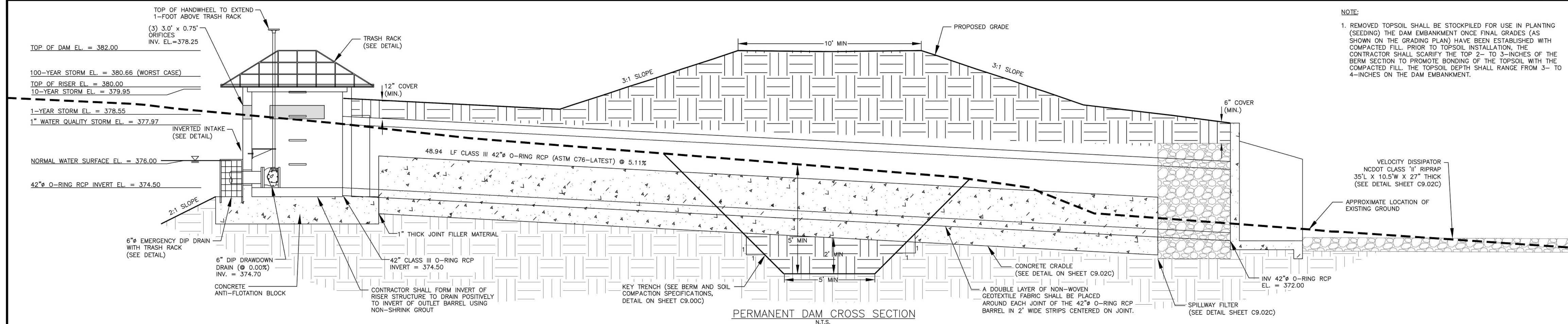
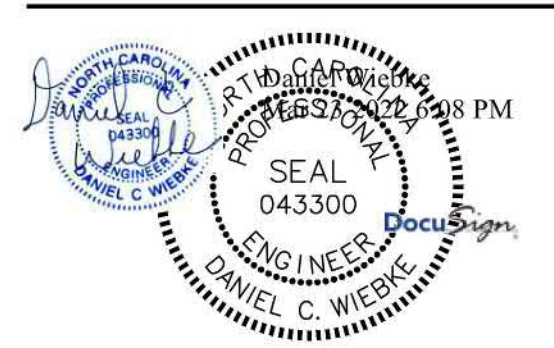
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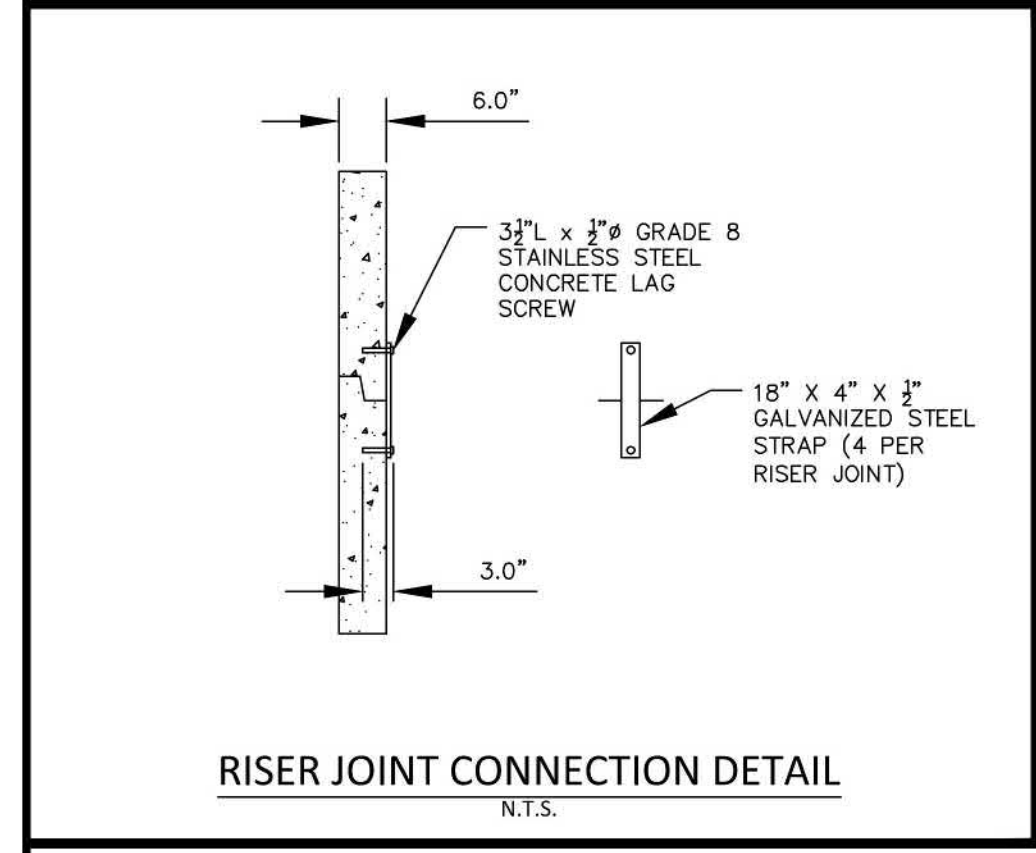


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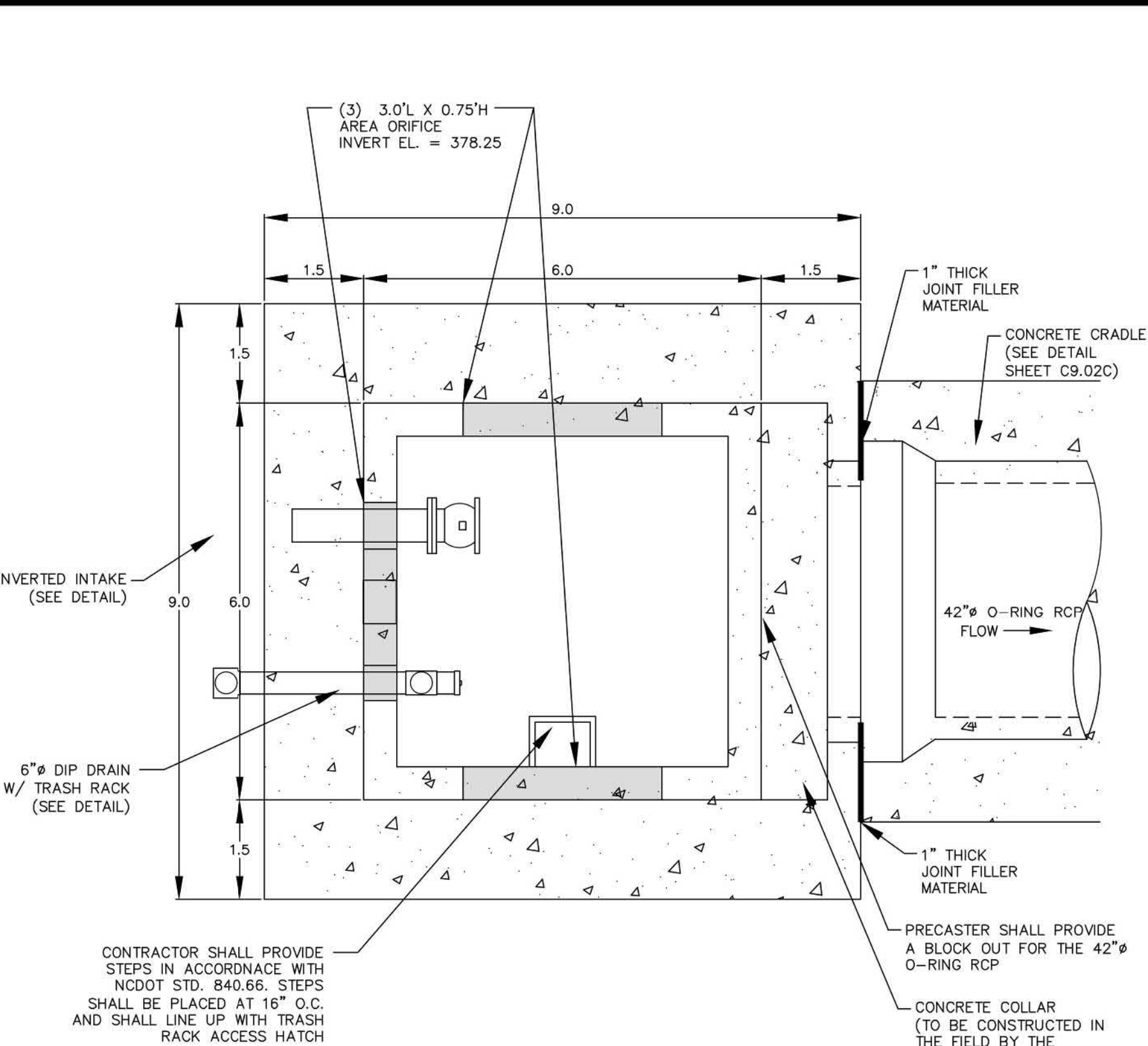
PERMANENT DAM CROSS SECTION
N.T.S.

NOTE:
1. REMOVED TOPSOIL SHALL BE STOCKPILED FOR USE IN PLANTING (SEEDING) THE DAM EMBANKMENT ONCE FINAL GRADES (AS SHOWN ON THE GRADING PLAN) HAVE BEEN ESTABLISHED WITH COMPACTED FILL. PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2" TO 3" INCHES OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3" TO 4" INCHES ON THE DAM EMBANKMENT.



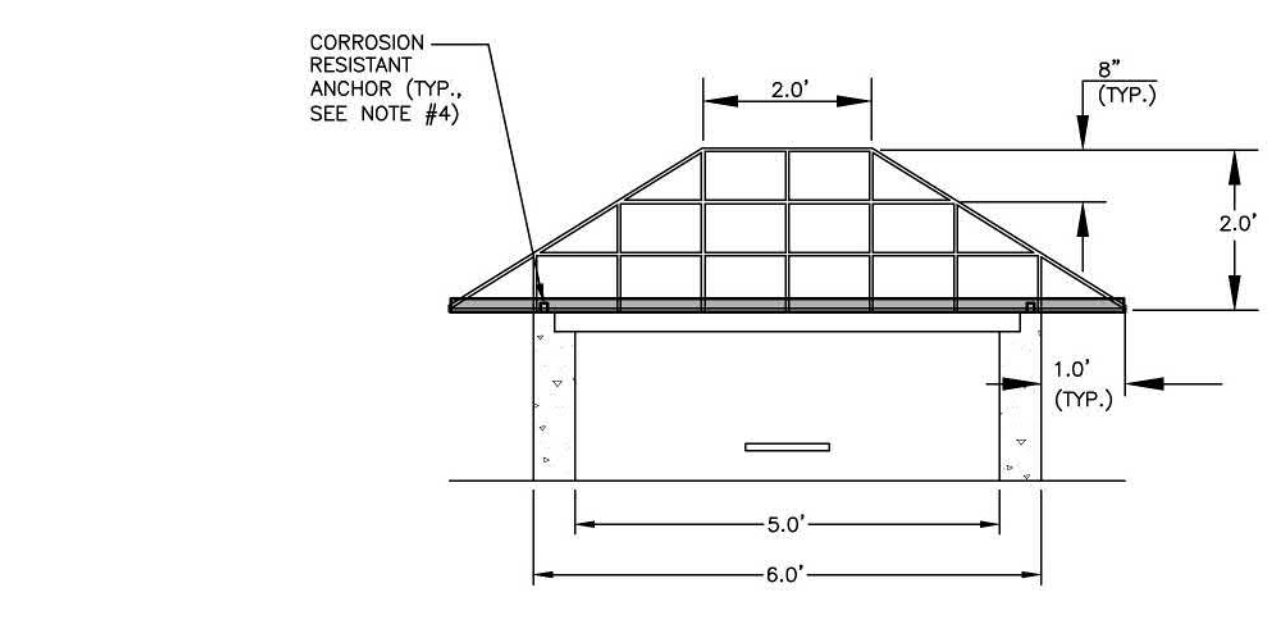
RISER JOINT CONNECTION DETAIL
N.T.S.

NOTES:
1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
2. TRASH RACKS NOT SHOWN FOR CLARITY.
3. THE NUMBER OF GUIDES FOR THE VALVE STEM SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE VALVE STEM MUST BE OPERABLE FROM THE TOP OF THE RISER VIA THE HANDWHEEL WITH AN INSIGNIFICANT AMOUNT OF PLAY IN THE VALVE STEM.
4. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.

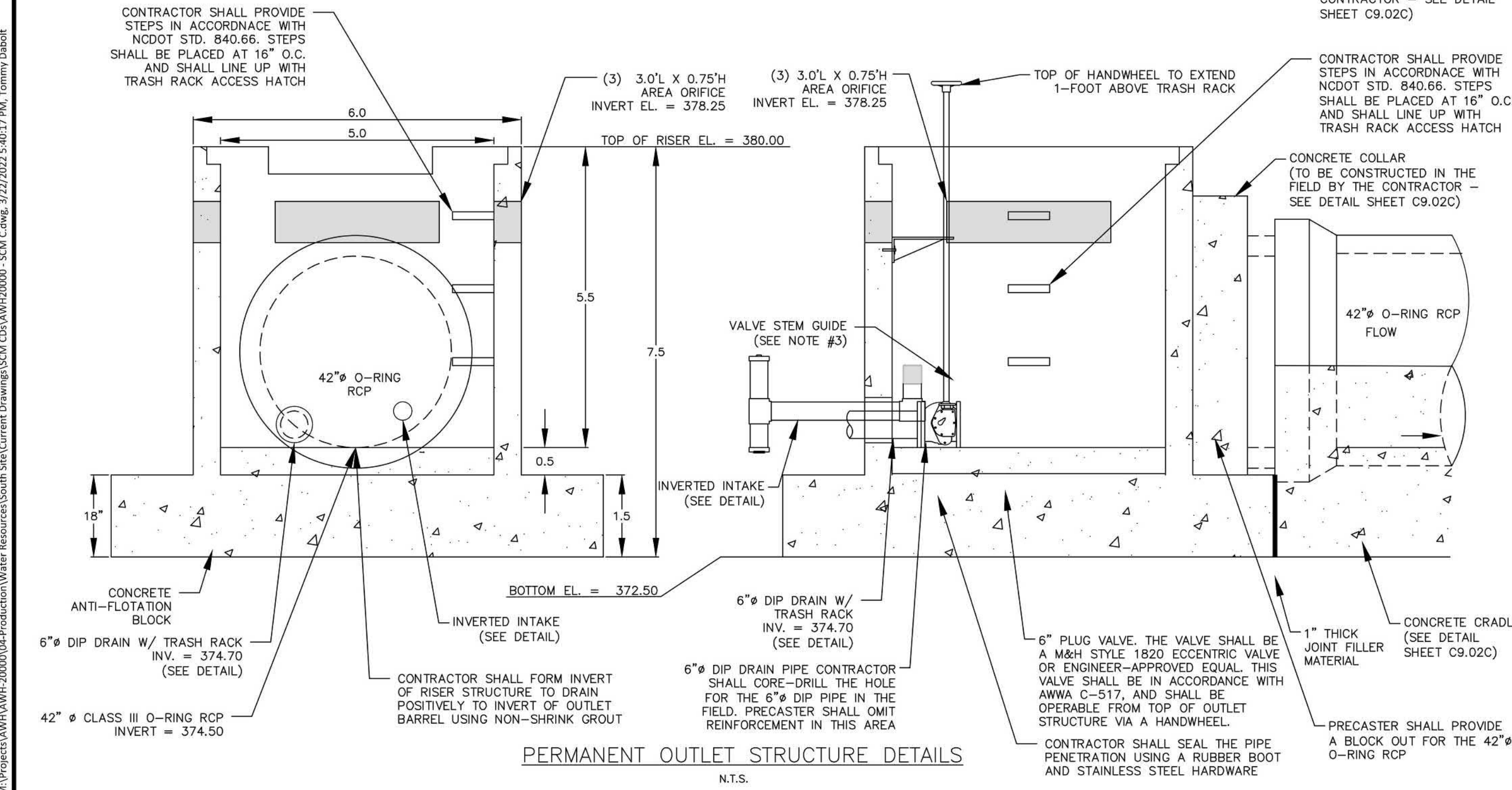


5'x5' RISER TRASH RACK DETAIL
N.T.S.

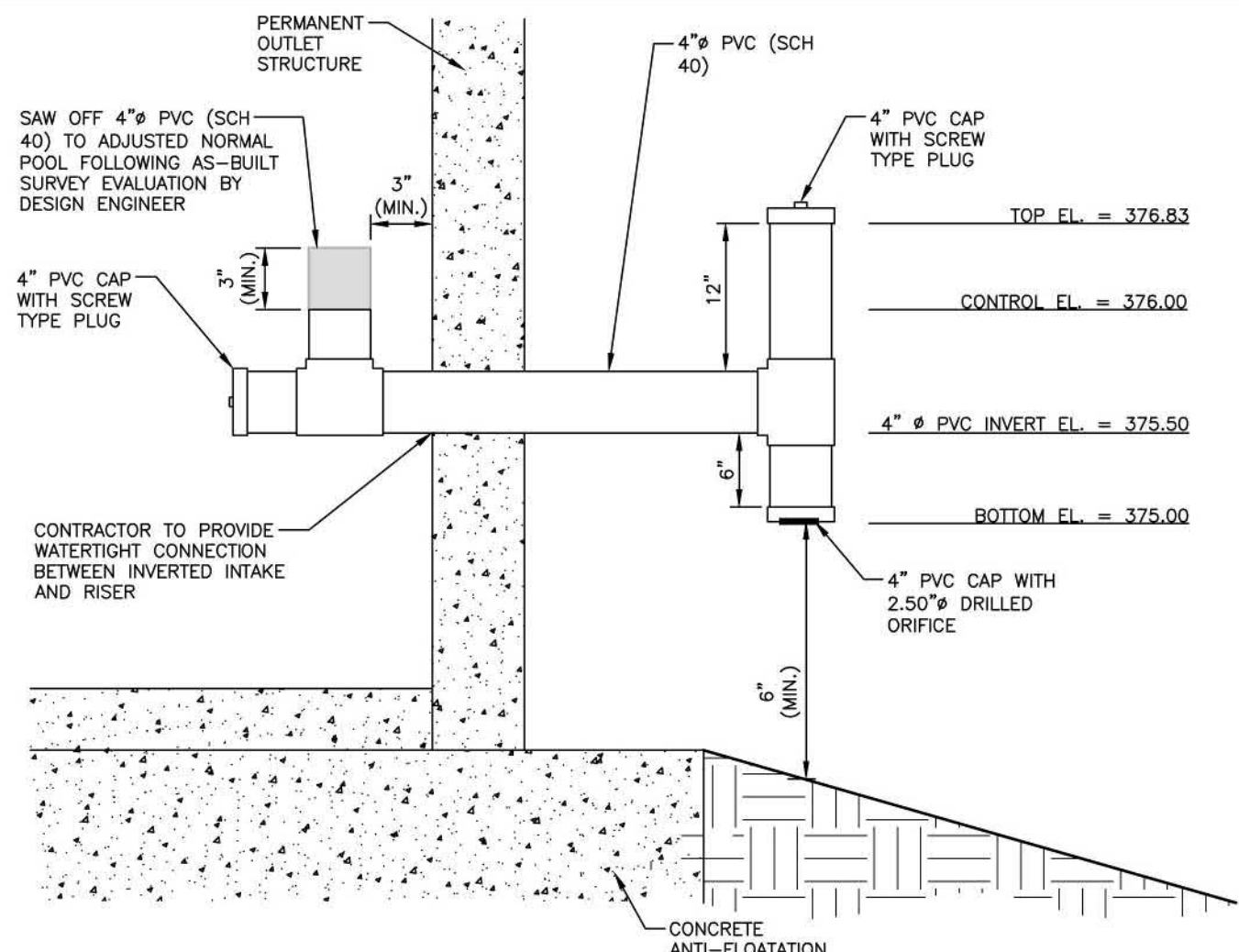
NOTES:
1. ALL REBAR TO BE #4 REBAR.
2. ALL REBAR AND ANGLES TO BE HOT-DIPPED GALVANIZED AND BE PROVIDED WITH AN EPOXY COATING.
3. THE HOT-DIPPED, GALVANIZED 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE REBAR TRASH RACK. ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
4. TRASH RACK IS TO BE SECURELY FASTENED TO THE SPILLWAY RISER WITH A MINIMUM OF FOUR CORROSION-RESISTANT ANCHORS.
5. ACCESS HATCH SHALL ALIGN WITH STEPS IN RISER.



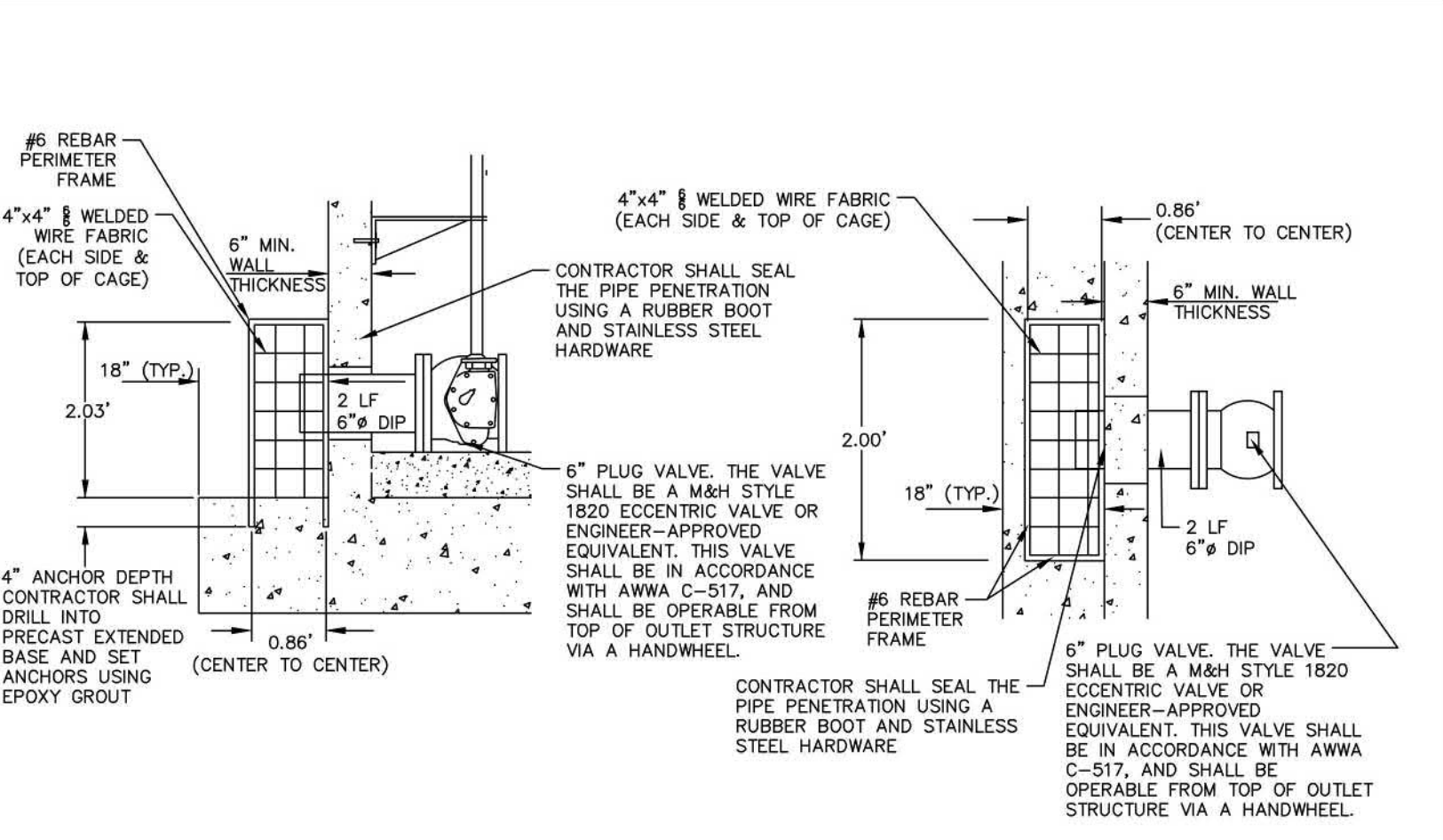
INVERTED INTAKE OUTLET DETAIL
N.T.S.



PERMANENT OUTLET STRUCTURE DETAILS
N.T.S.



6" EMERGENCY DIP DRAIN TRASH RACK DETAILS
N.T.S.



6" EMERGENCY DIP DRAIN TRASH RACK DETAILS
N.T.S.

REVISIONS

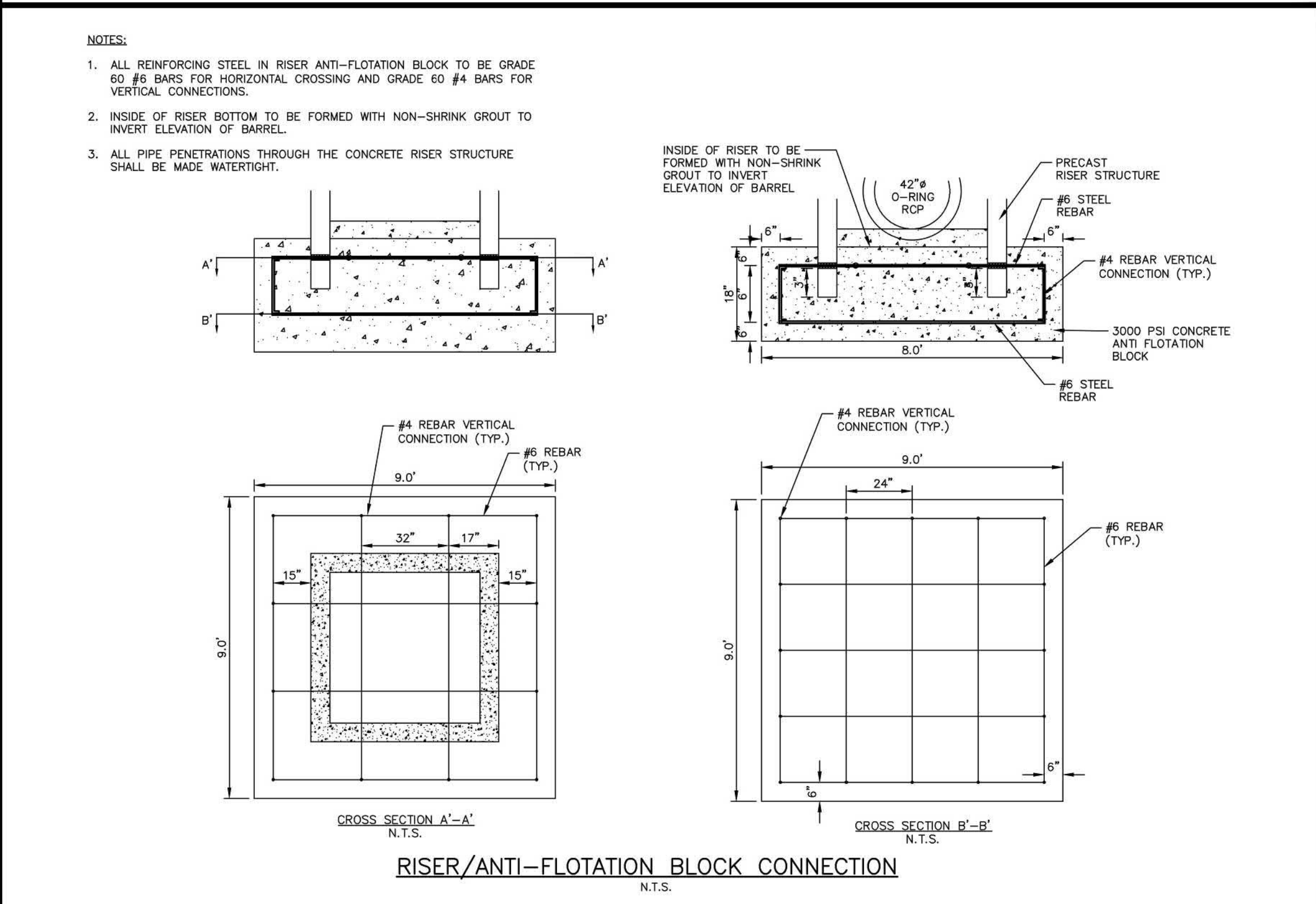
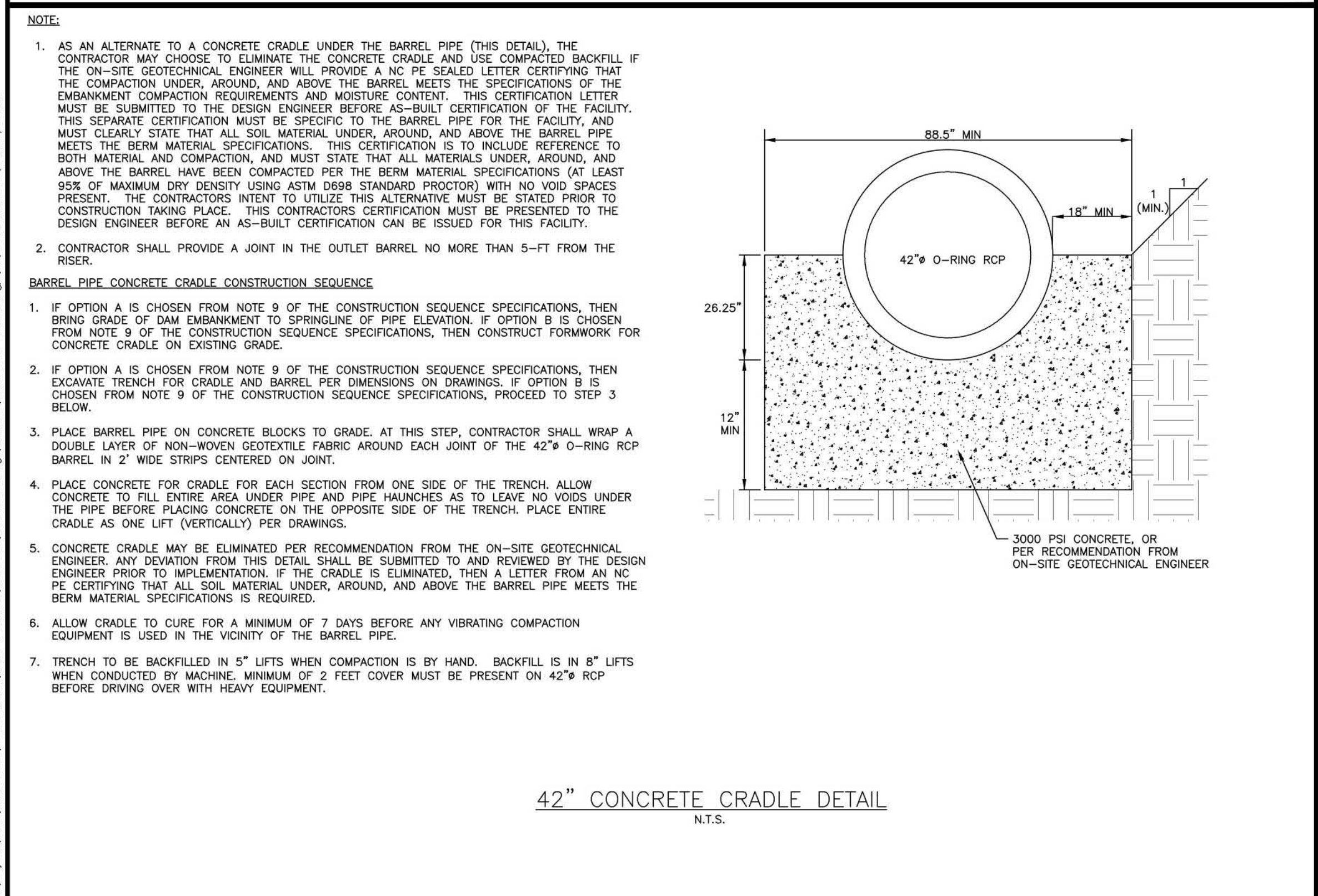
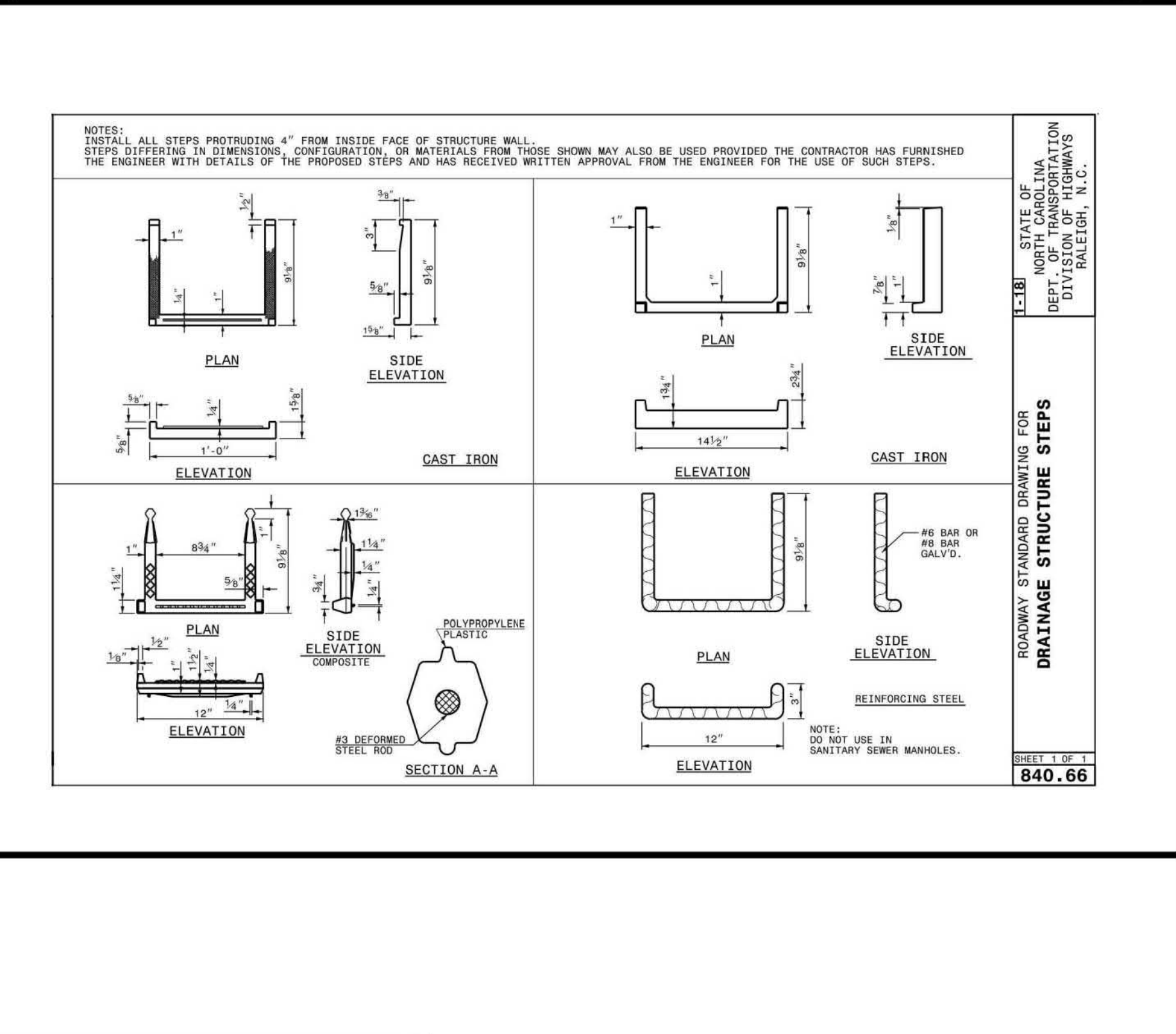
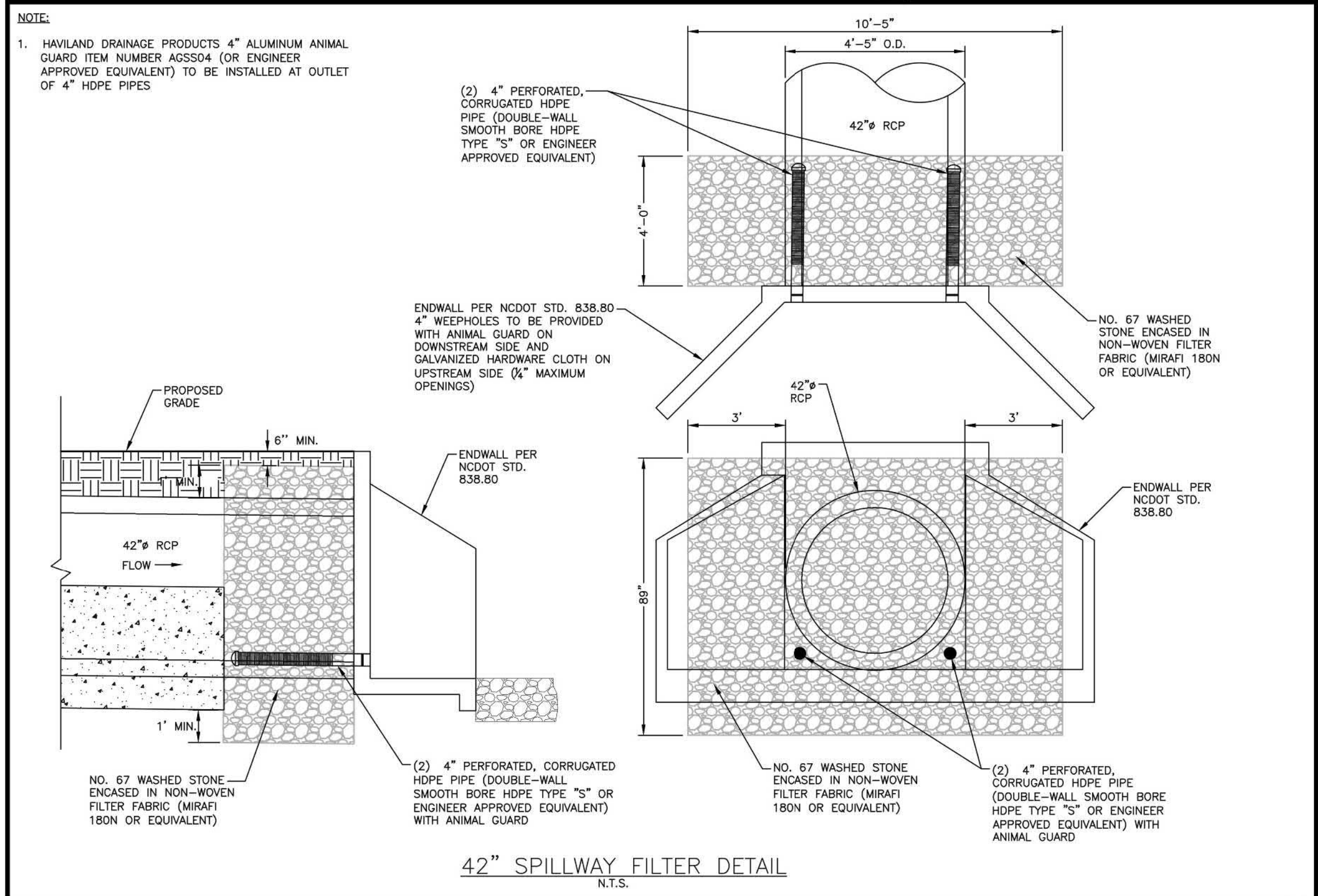
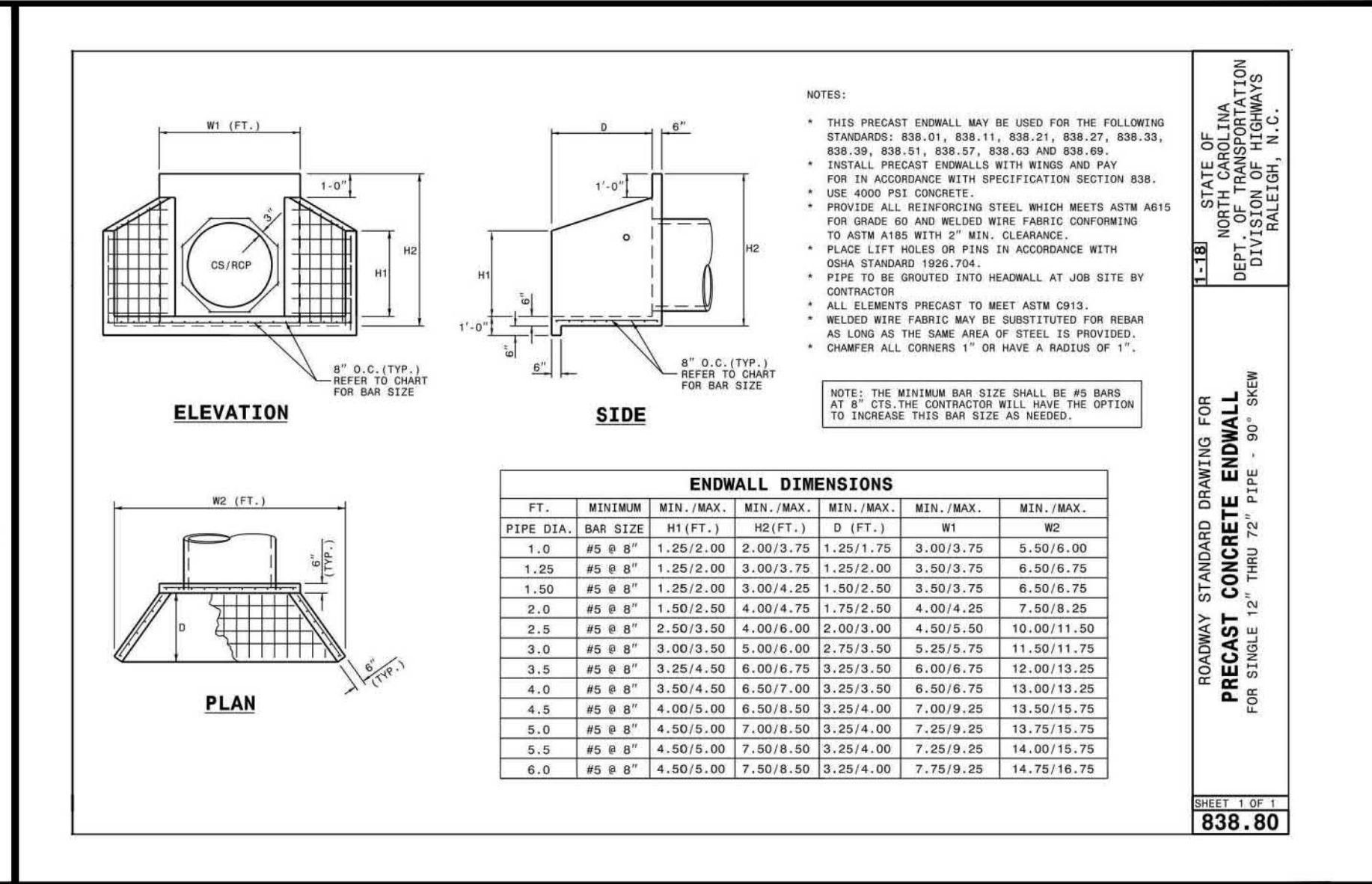
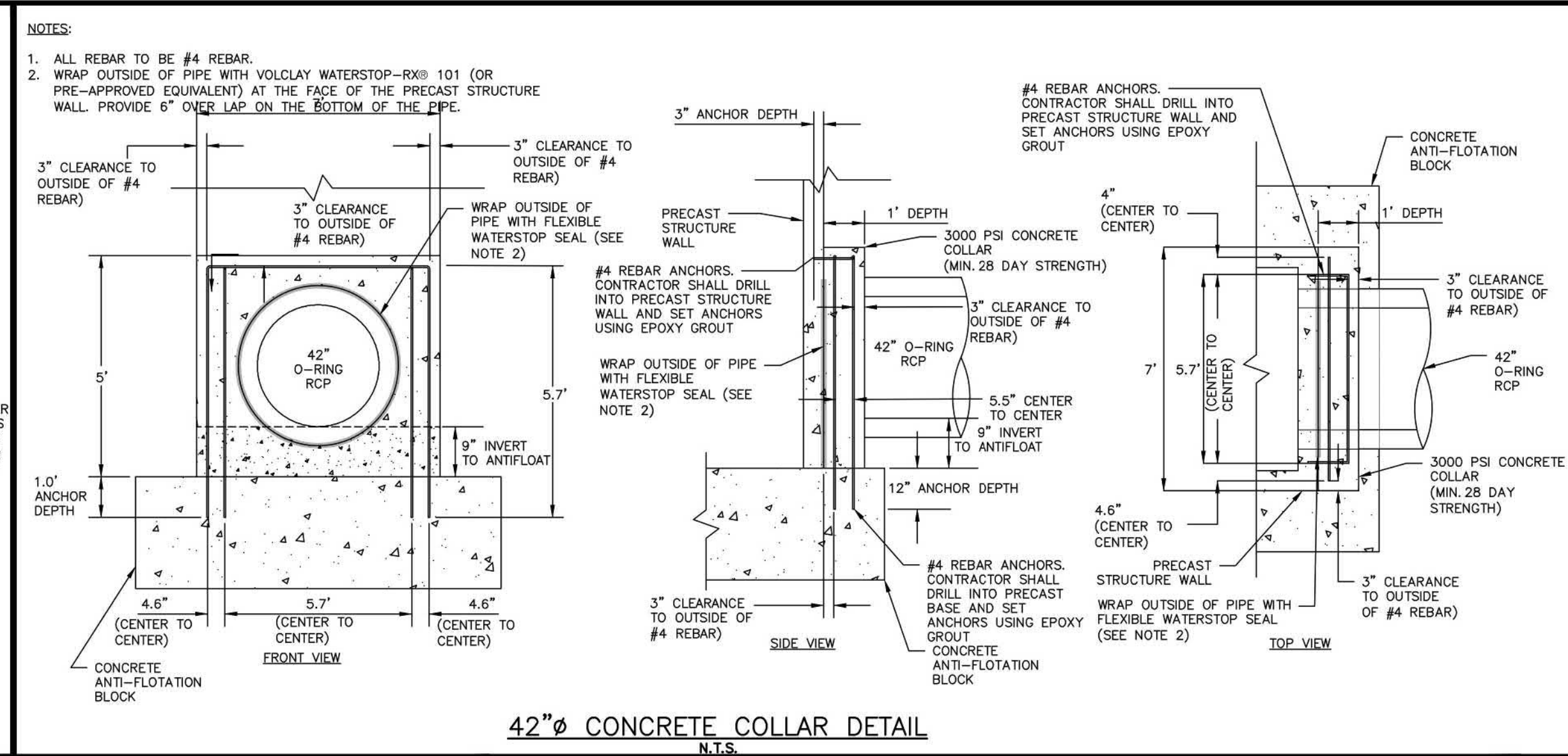
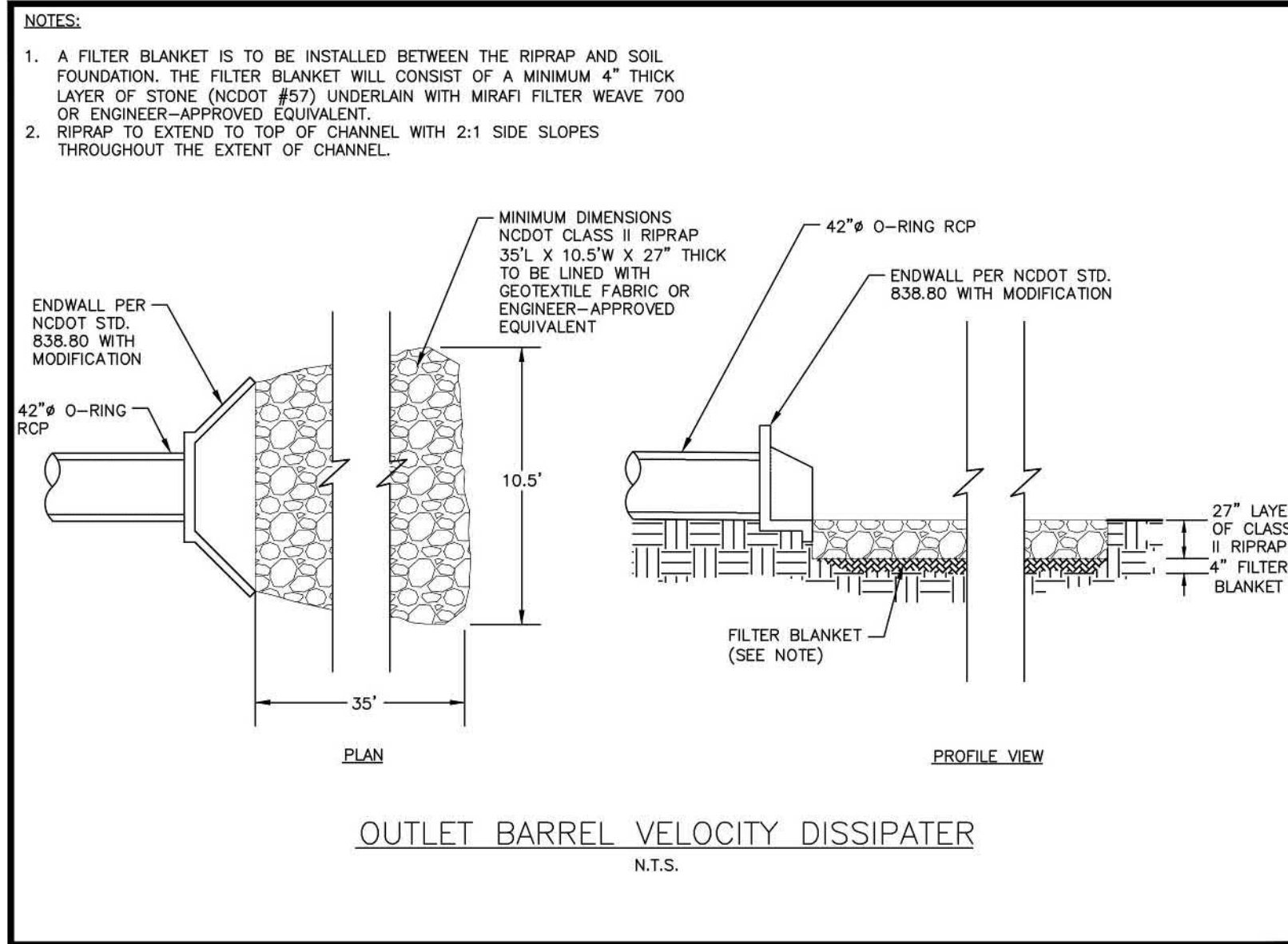
Table with columns NO. and DATE

PLAN INFORMATION

Table with columns PROJECT NO., FILENAME, CHECKED BY, DRAWN BY, SCALE, DATE

STORMWATER CONTROL MEASURE 'C' DETAILS

C9.01C



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WAKE COUNTY, NORTH CAROLINA

REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM C
CHECKED BY DCW
DRAWN BY JKD
SCALE AS NOTED
DATE 03.21.2022

HEET
STORMWATER CONTROL
MEASURE 'C' DETAILS
C9.02C

FINAL DRAWING - RELEASED FOR CONSTRUCTION

M:\Projects\AWH\AWH-20000\04-Production\Water Resources\South Side\Current Drawings\SCM C\AWH20000 - SCM C.dwg, 3/22/2022 5:40:19 PM, Tommy Dabois

STORMWATER CONTROL MEASURE 'C' LANDSCAPE SPECIFICATIONS

LEGEND

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HATCH	TYPE	SPACING
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SHALLOW WATER

211	IV	IRIS VIRGINIANA	BLUE FLAG IRIS		4-INCH CONTAINER	24" O.C.
119	PC	PONTEREDIA CORDATA	PICKEREL WEED		4-INCH CONTAINER	24" O.C.
137	ST	SCHOENOPLECTUS TABERNAEMONTANI	SOFT-STEM BULRUSH		4-INCH CONTAINER	24" O.C.

SHALLOW LAND

122	CS	CAREX SPP.	SEDGES		4-INCH CONTAINER	24" O.C.
84	CA	CRINUM AMERICANUM	AMERICAN CRINUM LILY		4-INCH CONTAINER	24" O.C.
125	HA	HIBISCUS ACULEATUS	PINELANDS MALLOW		4-INCH CONTAINER	24" O.C.

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3-4 INCHES DEEP OVER ADVERSE SOIL CONDITIONS. TOPSOIL SHOULD BE INCORPORATED INTO THE FINAL GRADING OF THE BASIN SIDE SLOPES AND AQUATIC SHELF. CONTRACTOR SHOULD SCARIFY THE TOP 3-4 INCHES OF THE COMPACTED FILL TO PROMOTE BONDING WITH TOPSOIL.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- PER ONE TIME ONLY, APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL.
- 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.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. AFTER PERMANENT COVER IS ESTABLISHED.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET	40 LBS/AC
	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE (DAM EMBANKMENTS)

SEEDING DATE	SEEDING MIXTURE OPTIONS (CHOOSE ONE)	APPLICATION RATE
MAY 1 - AUG 31	CENTPEDE RAW	30 LBS/AC
APRIL 1 - SEPT 1	SUMMER MIX	200 LBS/AC
OCT 1 - MARCH 1	(80% HULLED BERMUUDA/20% MILLET)	200 LBS/AC
	FALL MIX	200 LBS/AC
	(80% TALL FESCUE/20% ANNUAL RYEGRASS)	

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

NOTE: PERMANENT SEEDING SCHEDULE IS FOR SLOPES OF THE BASIN AND TOP OF BERM.

PLANTING INSTRUCTIONS

- PLANTING TECHNIQUES**
- ENSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
 - CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
 - PLACE PLANTS IN PIT ENSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
 - HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
 - NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
 - ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY.
 - THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
 - SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
 - PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
 - BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAMAGED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

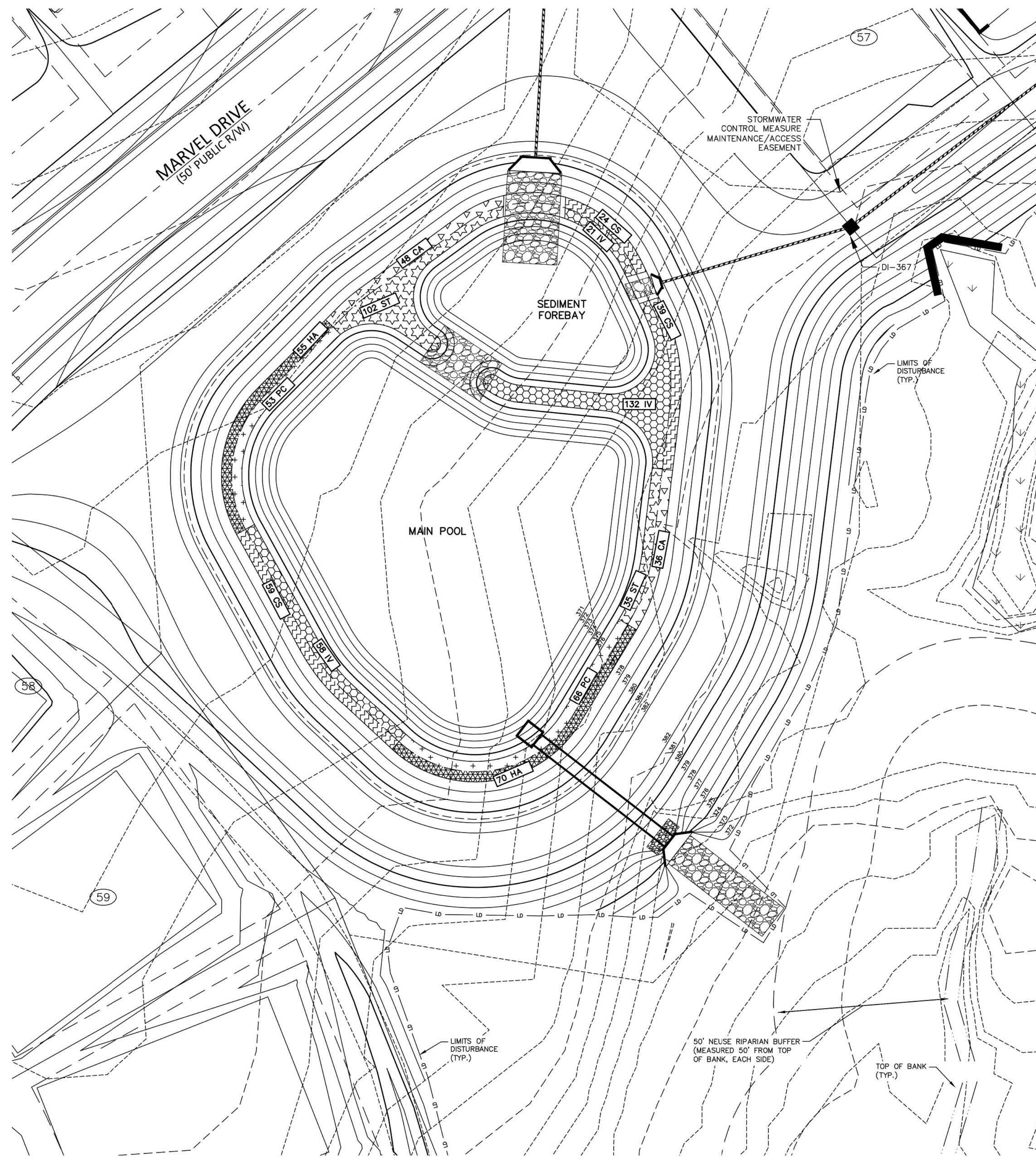
- CONTAINER STOCK / BARE ROOT**
- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
 - CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
 - BARE ROOT PLANTS ARE FOR IMMEDIATE PLANTING, OTHERWISE SEE D) BELOW.
 - IF BARE ROOT SPECIMENS ARE NOT TO BE PLANTED WITHIN FOUR (4) DAYS, TEMPORARY HOLDING OF BARE ROOT SPECIMENS ARE TO BE COVERED ENTIRELY BY A SUITABLE MEDIUM (ETC. SOIL, SAWDUST, MULCH OR THE LIKE) AND WATERED REGULARLY SO AS TO NOT DRY OUT.

- PLANT LOCATIONS**
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
 - NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

WATER
WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.

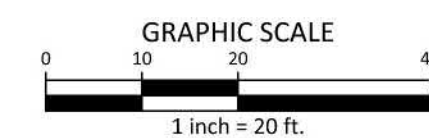
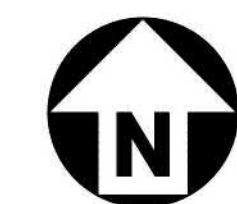
PLANTING SCHEDULE

- ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER MANAGEMENT FACILITY PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
- ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER MANAGEMENT FACILITY PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER MANAGEMENT FACILITY PLANTING PLAN.
- OPTIMAL PLANTING PERIODS RANGE APPROXIMATELY FROM APRIL 15TH THRU JUNE 30TH AND SEPTEMBER 1ST THRU OCTOBER 31ST. FOR FINAL DETERMINATION OF THE SITE'S PLANTING PERIOD, THE CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION.
- IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PREVENT WILDLIFE FROM DAMAGING OR CONSUMING WETLAND PLANTINGS.



STORMWATER CONTROL MEASURE 'C' LANDSCAPE PLAN

1" = 20'



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TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM C
CHECKED BY DCW
DRAWN BY JKD
SCALE 1"=20'
DATE 03. 21. 2022

SHEET

STORMWATER CONTROL
MEASURE 'C' LANDSCAPE PLAN

C9.03C

FINAL DRAWING - RELEASED FOR CONSTRUCTION

STORMWATER CONTROL MEASURE 'D' CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING FOR THE FACILITY. THE INTERIOR FINE GRADING WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE PERMANENT 6" Ø DRAIN PIPE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E., PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A N.C.P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- ON-SITE GEOTECHNICAL ENGINEER TO DETERMINE IF IN-SITU SOILS ENCOUNTERED WOULD MAINTAIN A STORMWATER CONTROL MEASURE PERMANENT POOL AT DESIGN ELEVATION. IF HIGHLY PERMEABLE SOILS ARE ENCOUNTERED THAT WOULD NOT MAINTAIN THE PERMANENT POOL ELEVATION AS DESIGNED, A CLAY LINER MAY BE REQUIRED TO MAINTAIN A PERMANENT POOL OF WATER IN THE STORMWATER CONTROL MEASURE. FINAL DETERMINATION IF A CLAY LINER IS NEEDED SHALL BE THE RESPONSIBILITY OF THE ON-SITE GEOTECHNICAL ENGINEER. UPON DETERMINATION OF HIGHLY PERMEABLE SOIL CONDITIONS, ON-SITE GEOTECHNICAL ENGINEER WILL INFORM THE DESIGN ENGINEER AND RECOMMEND LINER SPECIFICATIONS.
- IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G., EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.). THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E., PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (A/C ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE WETLAND PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE WETLAND AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3"-4" ON THE DAM EMBANKMENT AND WETLAND. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT AND WETLAND.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THIS FACILITY. THE CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION. PLEASE NOTE THAT NO TREES/SHRUBS OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS).

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 24" Ø RCP OUTLET BARREL SHALL BE CLASS III RCP, MODIFIED BELL AND SPIGOT, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C-443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4. (ADD OTHER BARREL FOR LEVEL SPREADER IF APPLICABLE).
 - THE STRUCTURAL DESIGN FOR THE 4' x 4' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
 - THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.06. PLEASE REFER TO SHEET C9.02D FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
 - THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.02D. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 16,780 LBS. IN LIEU OF CAST-IN-PLACE, THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 9,088 LBS.
 - THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL PARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AND INSTALL GALVANIZED STEEL STRAPS PER DETAIL ON SHEET C9.01D.
 - PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
 - ALL Poured CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SLUMP = 3" - 5"
 - ENTRAINED AIR = 5% - 7%

PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.

ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL Poured CONCRETE MEETS THE ABOVE SPECIFICATIONS.
- GEOTEXTILE FABRIC FOR THE 24" Ø RCP OUTLET BARREL JOINTS SHALL BE MIRAFI 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).
 - STORMWATER CONTROL MEASURE EMERGENCY DRAW DOWN IS VIA AN 6" Ø PLUG VALVE. THE VALVE SHALL BE A M&H STYLE 1820 ECCENTRIC VALVE OR APPROVED EQUAL. THIS VALVE IS IN ACCORDANCE WITH AWWA C-517, AND SHALL BE OPERABLE FROM TOP OF OUTLET STRUCTURE VIA A HAND WHEEL (SEE DETAIL SHEET C9.02D). THE CONTRACTOR SHALL PROVIDE A REMOVABLE VALVE WRENCH WITH A HAND WHEEL ON TOP FOR OPERATION OF THE 6" Ø PLUG VALVE.

CONSTRUCTION SEQUENCE

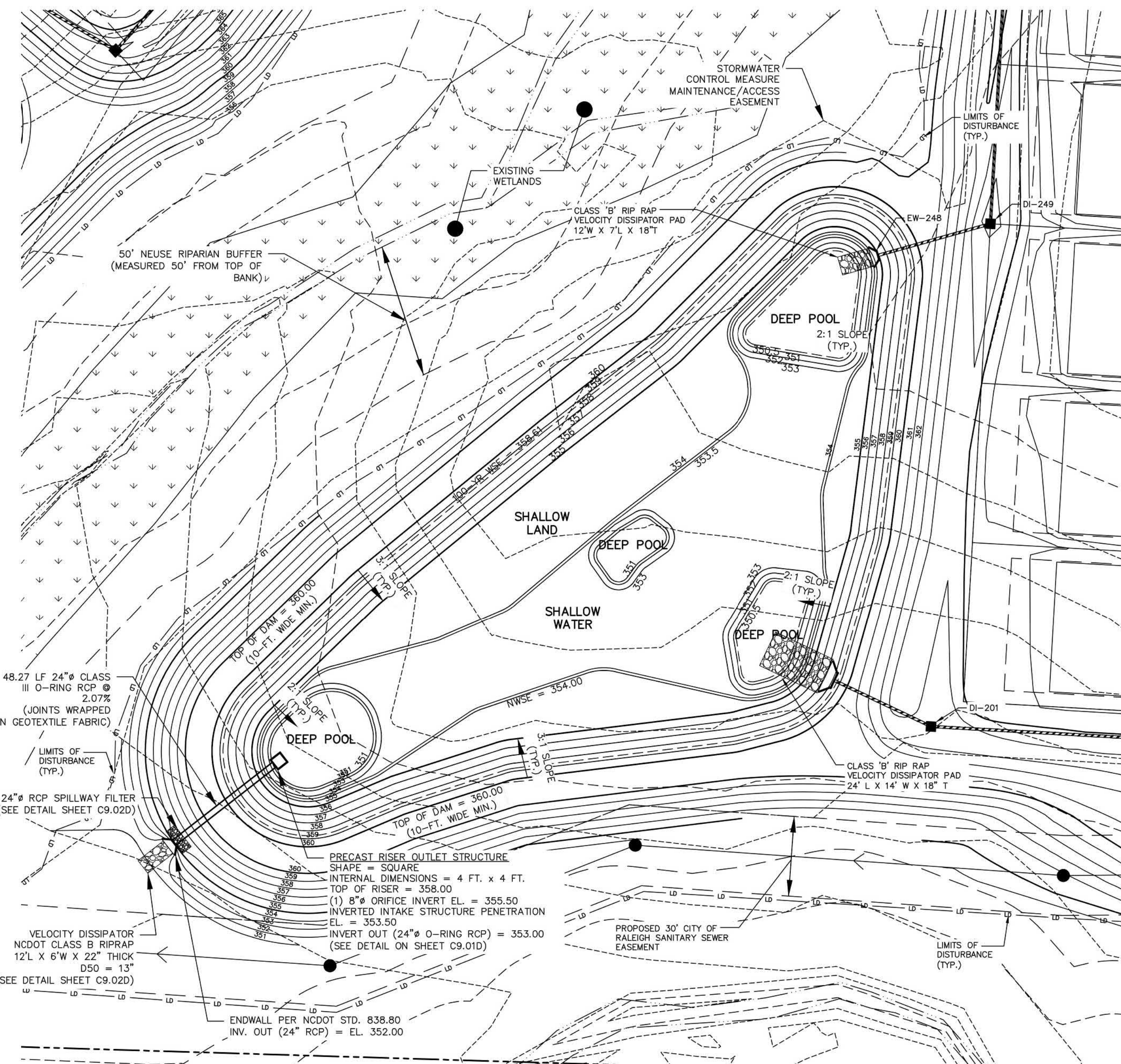
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING (GRADING) PERMIT AND AN "APPROVAL TO CONSTRUCT" FROM THE TOWN OF ROLESVILLE AND ALL OTHER NECESSARY PERMITS FROM APPLICABLE AGENCIES (E.G. 404 / 401 PERMITS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT, AS REQUIRED. THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED DAM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE DAM FOOTPRINT AREA AND BACKFILLED WITH SUITABLE SOIL MATERIAL. THE BACKFILLED AREA SHALL BE COMPACTED TO THE SAME STANDARDS AS THE DAM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT FILL. NO EMBANKMENT MATERIAL SHALL BE USED FOR THE DAM OR KEY TRENCH UNTIL APPROVAL OF THE DAM SUBGRADE IS OBTAINED FROM THE ON-SITE GEOTECHNICAL ENGINEER.
- EXCAVATE FOR THE NEW KEY TRENCH ALONG THE CENTERLINE OF THE PROPOSED DAM EMBANKMENT. THE TRENCH SHALL EXTEND A MINIMUM OF 5 FT BELOW EXISTING GRADE OR 2 FT BELOW THE 24" Ø RCP OUTLET BARREL AND SHALL HAVE A MINIMUM BOTTOM WIDTH OF 5 FEET. THE KEY TRENCH SIDESLOPES SHALL BE A MINIMUM OF 1:1 (H:V). WHEN EXCAVATING THE KEY TRENCH, IF ANY DEBRIS IS ENCOUNTERED TO AN EXTENT THAT SUCH DEBRIS MAY EXIST IN OTHER INSITU PORTIONS OF THE DAM EMBANKMENT, IT SHOULD ALSO BE REMOVED. THE KEY TRENCH SHALL BE COMPACTED TO THE SAME SPECIFICATION LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." (DEPENDING UPON ON-SITE SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION, THE ON-SITE GEOTECHNICAL ENGINEER MAY VARY THE DEPTH AND DIMENSIONS OF THE KEY TRENCH AS DEEMED NECESSARY. THE ON-SITE GEOTECHNICAL ENGINEER SHALL RETAIN DOCUMENTATION OF ANY VARIATION FOR FUTURE AS-BUILT SUBMITTALS TO THE TOWN OF ROLESVILLE.
- BEGIN PLACEMENT OF BACKFILL WITHIN THE KEY TRENCH. THE KEY TRENCH SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." THE KEY TRENCH SHALL BE TESTED PER THE SPECIFICATIONS LISTED IN THAT SECTION.
- PRIOR TO INSTALLATION, SUBGRADE CONDITIONS ALONG THE SPILLWAY PIPES SHOULD BE EVALUATED BY THE ON-SITE GEOTECHNICAL ENGINEER TO ASSESS WHETHER SUITABLE BEARING CONDITIONS EXIST AT THE SUBGRADE LEVEL. SHOULD SOFT OR OTHERWISE UNSUITABLE CONDITIONS BE ENCOUNTERED ALONG THE PIPE ALIGNMENTS, THESE MATERIALS SHOULD BE UNDERCUT AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDERCUT MATERIALS SHALL BE REPLACED WITH ADEQUATELY COMPACTED STRUCTURAL FILL, LEAN CONCRETE OR FLOWABLE FILL AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- IN ORDER TO HELP PROTECT THE SOIL SUBGRADE FROM DETERIORATION (DUE TO EXPOSURE, RAINFALL, SEEPAGE, AND RUNOFF) BEFORE THE CRADLE CAN BE POURED, IT IS STRONGLY RECOMMENDED THAT A 3" TO 4" THICK CONCRETE MUD MAT BE POURED OVER THE SUBGRADE ONCE IT IS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE MUD MAT WILL ALSO PROVIDE BEARING FOR THE BLOCKS THAT TEMPORARILY SUPPORT THE SPILLWAY PIPE UNTIL THE CRADLE CAN BE POURED. THE METHOD OF BLOCK SUPPORT FOR THE PIPE PROPOSED BY THE CONTRACTOR SHOULD BE SUBMITTED TO THE JOHN R. McADAMS COMPANY FOR REVIEW.
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS PRIOR TO COMPACTION, UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER. FILL LIFTS SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL. IF IT IS NECESSARY, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO FINAL GRADE IN ORDER TO ACHIEVE PROPER COMPACTION.
- AS CONSTRUCTION OF THE EMBANKMENT MOVES FORWARD, IT WILL BE NECESSARY TO INSTALL THE CONCRETE CRADLE. SEE NOTE ON CRADLE DETAIL (SHEET C9.02D). THIS MAY BE CONSTRUCTED USING ONE OF THE FOLLOWING METHODS:
 - IF THE PROPOSED STRUCTURAL FILL MATERIAL IS UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN THE STRUCTURAL FILL SHOULD BE INSTALLED AND COMPACTED UP TO THE TOP OF CONCRETE CRADLE ELEVATION. ONCE THE STRUCTURAL FILL REACHES THE NEXT DOWNSTREAM JUNCTION BOX OR HEADWALL AND IS COMPACTED TO THE ELEVATION OF THE TOP OF THE CONCRETE CRADLE, EXCAVATE THE CONCRETE CRADLE TRENCH PER THE PROVIDED DETAILS AND CONSTRUCT THE CONCRETE CRADLE AS PER THE PROVIDED CONCRETE CRADLE DETAIL.
 - IF THE PROPOSED STRUCTURAL FILL IS NOT UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN PRIOR TO CONSTRUCTING THE STRUCTURAL FILL EMBANKMENT, THE FORMWORK FOR THE CONCRETE CRADLE SHOULD BE INSTALLED ON EXISTING GROUND AND/OR THE MUD MAT. THE CONCRETE CRADLE SHALL BE CONSTRUCTED PER THE PROVIDED DETAILS
- AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (SEE SHEET C9.02D), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL IF THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A N.C.P.E. SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER PRIOR TO BACKFILL. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM AND SOIL COMPACTION SPECIFICATIONS ON THIS SHEET. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTORS INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTORS CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
- INSTALL RISER / BARREL ASSEMBLY, ALONG WITH THE EMERGENCY DRAIN SYSTEM. INSTALL 24" RCP OUTLET BARREL SPILLWAY FILTER FROM THE DETAILS SHOWN ON SHEET C9.02D.
- CONSTRUCT EMBANKMENT PER SPECIFICATIONS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" AND REQUIREMENTS OF THE ON-SITE GEOTECHNICAL ENGINEER. ALL CHARACTERISTICS OF THE EMBANKMENT FILL MATERIAL SHALL MEET THE STANDARDS SET FORTH IN "BERM AND SOIL COMPACTION SPECIFICATIONS", INCLUDING COMPACTION AND MOISTURE REQUIREMENTS. IF NECESSARY TO ACHIEVE PROPER COMPACTION, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO PROPER FINAL GRADE. ANY HAND COMPACTION ACTIVITIES AROUND SPILLWAY OR DRAIN STRUCTURES SHALL BE CONDUCTED IN 4-INCH LOOSE LIFTS AND BE TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT. ALL COMPACTION AND MOISTURE TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER AND AS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS".
- UPON COMPLETION OF DAM EMBANKMENT, PROMPTLY STABILIZE AND SEED DAM EMBANKMENT PER SEEDING SCHEDULE. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER THE PERMANENT SEEDING SCHEDULE FOUND ON SHEET C9.03D.
- SCHEDULE A FINAL AS-BUILT INSPECTION AND AS-BUILT SURVEY WITH THE ENGINEER AND SURVEYOR. AN AS-BUILT INSPECTION AND SURVEY SHALL BE SCHEDULED BEFORE IMPOUNDING WATER IN THE FACILITY AND A MINIMUM OF 60 DAYS PRIOR TO THE ANTICIPATED DATE OF CERTIFICATION APPROVAL. ANY COMMENTS OR DEFICIENCIES IN THE SCM CONSTRUCTION MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AND OWNER BEFORE CERTIFICATION SHALL BE GRANTED.

BERM AND SOIL COMPACTION SPECIFICATIONS

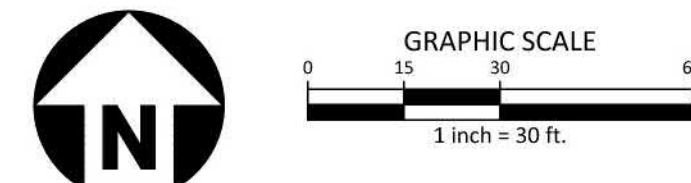
- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 8" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 24" Ø RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THE STORMWATER CONTROL MEASURE SHALL BE THE RESPONSIBILITY OF THE OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



STORMWATER CONTROL MEASURE 'D' PLAN VIEW
1" = 30'



FINAL DRAWING - RELEASED FOR CONSTRUCTION



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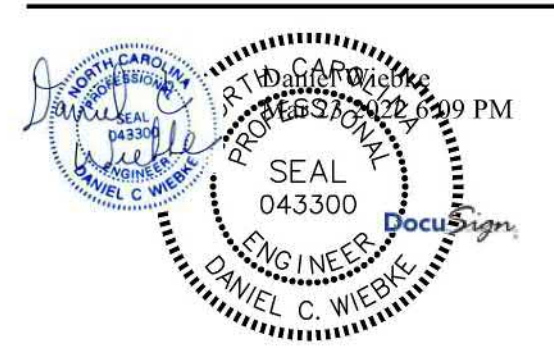
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RALEIGH, NORTH CAROLINA 27609
PHONE: 919. 232. 3695
CONTACT: BOB MISHLER



ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000 - SCM D
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1"=30'
DATE	03. 21. 2022

SHEET

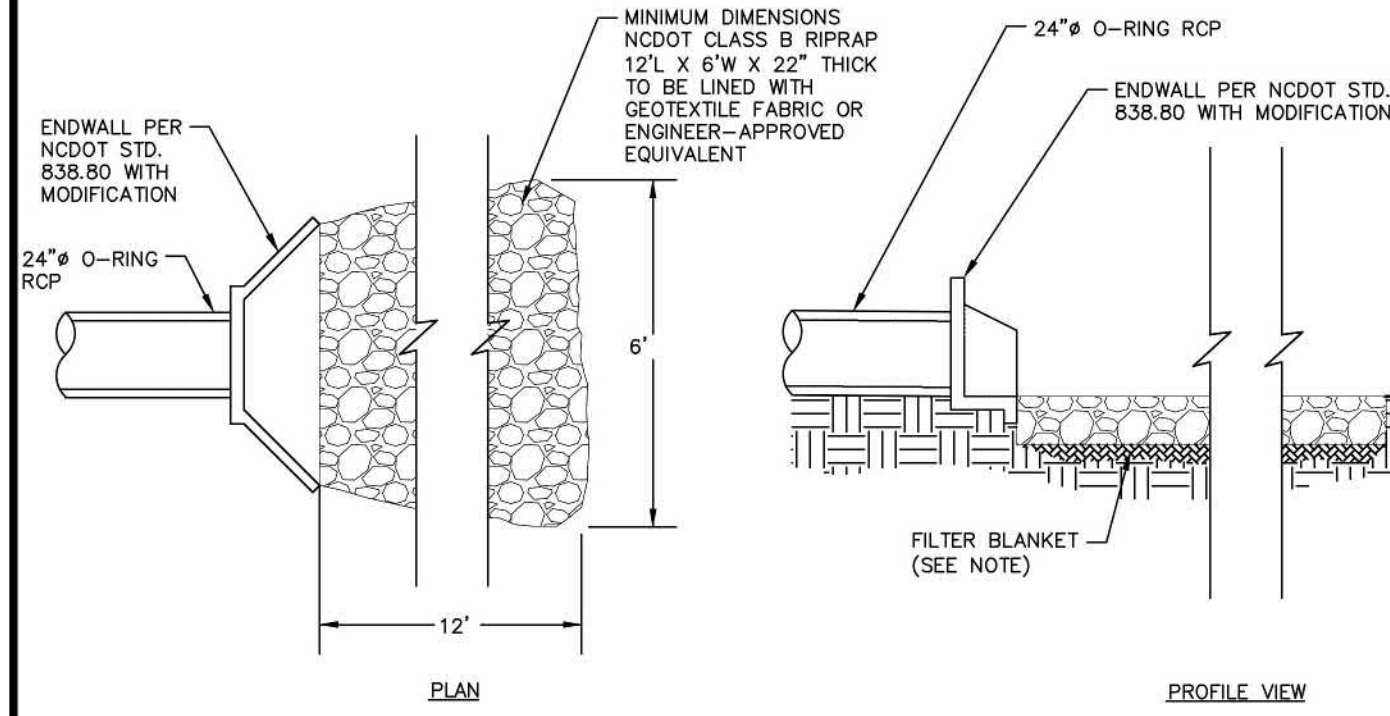
STORMWATER CONTROL MEASURE 'D' PLAN VIEW

C9.00D

M:\Projects\AWH\AWH-20000\04-Production\Water Resources\South Site\Current Drawings\SCM D\AWH20000 - SCM D.rvt, 3/22/2022 5:42:10 PM, Tommy Dabolt

NOTES:

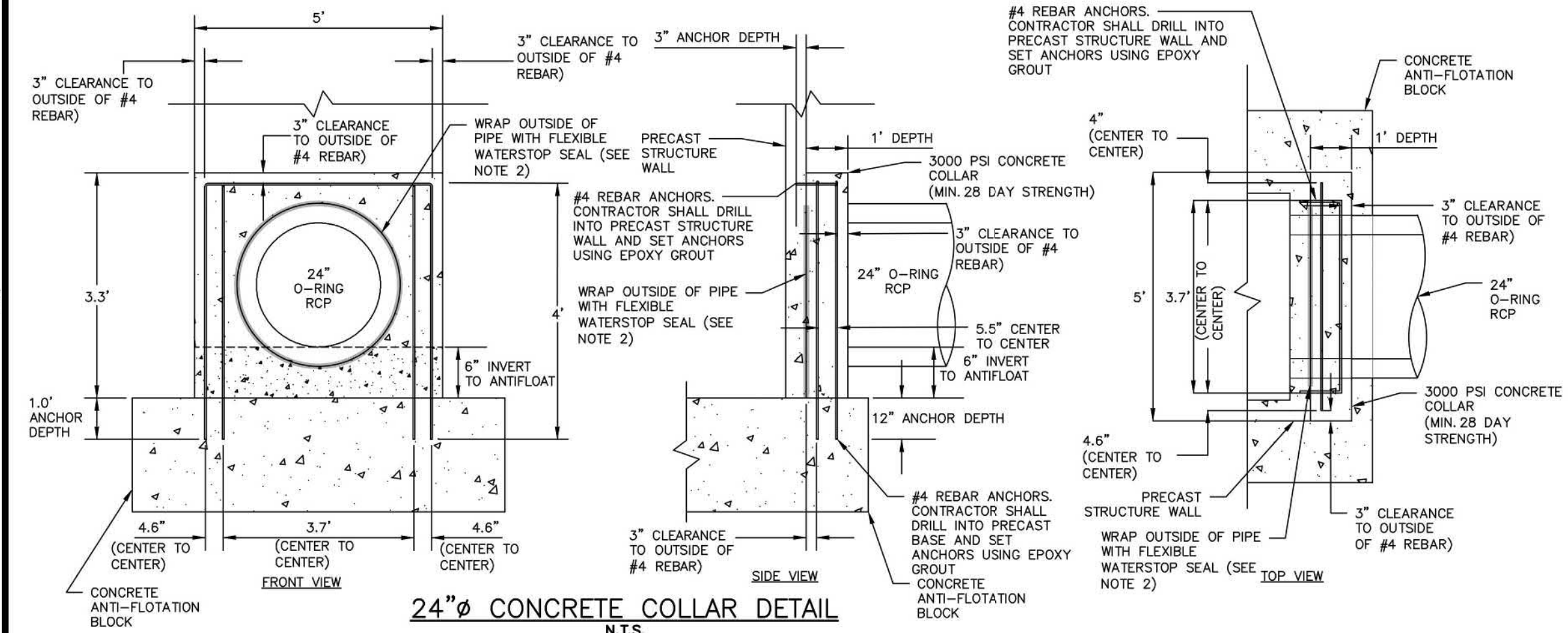
1. A FILTER BLANKET IS TO BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION. THE FILTER BLANKET WILL CONSIST OF A MINIMUM 4" THICK LAYER OF STONE (NCDOT #57) UNDERLAIN WITH MIRAFI FILTER WEAVE 700 OR ENGINEER-APPROVED EQUIVALENT.
2. RIPRAP TO EXTEND TO TOP OF CHANNEL WITH 2:1 SIDE SLOPES THROUGHOUT THE EXTENT OF CHANNEL.



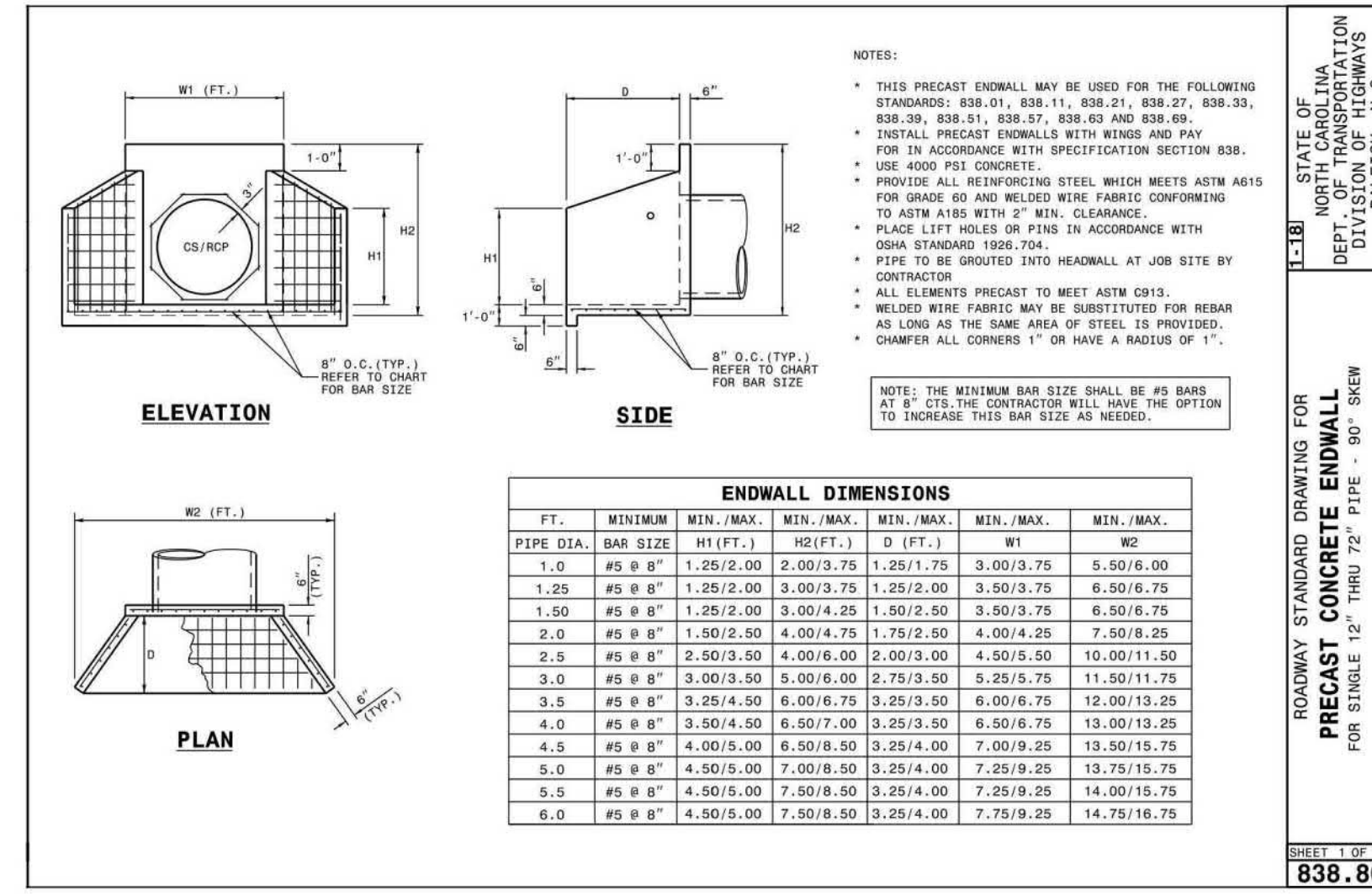
OUTLET BARREL VELOCITY DISSIPATER
N.T.S.

NOTES:

1. ALL REBAR TO BE #4 REBAR.
2. WRAP OUTSIDE OF PIPE WITH VOLCLAY WATERSTOP-RX00 101 (OR PRE-APPROVED EQUIVALENT) AT THE FACE OF THE PRECAST STRUCTURE WALL. PROVIDE 6" OVER LAP ON THE BOTTOM OF THE PIPE.



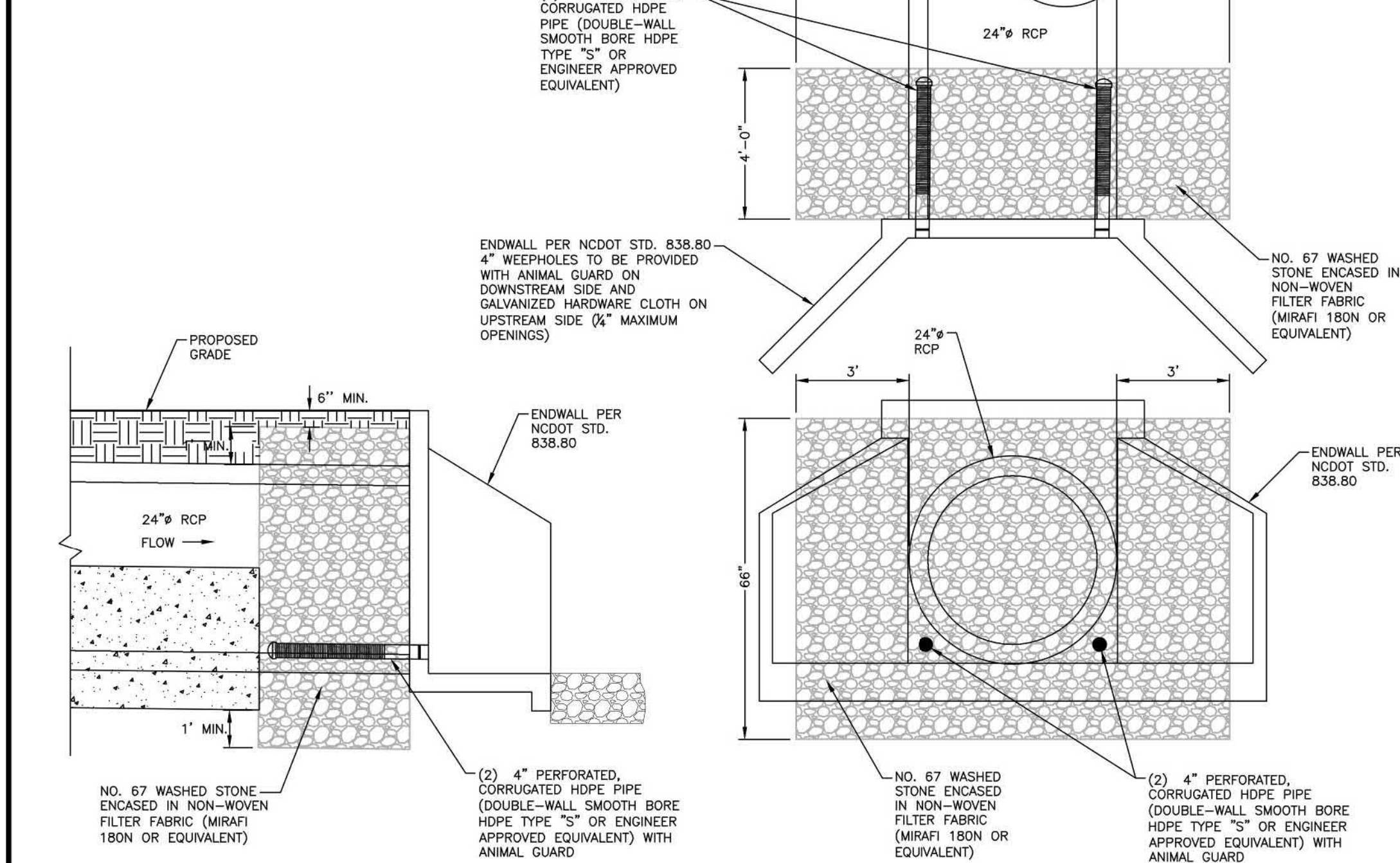
24" CONCRETE COLLAR DETAIL
N.T.S.



838.80

NOTE:

1. HAVILAND DRAINAGE PRODUCTS 4" ALUMINUM ANIMAL GUARD ITEM NUMBER AG304 OR ENGINEER APPROVED EQUIVALENT TO BE INSTALLED AT OUTLET OF 4" HDPE PIPES



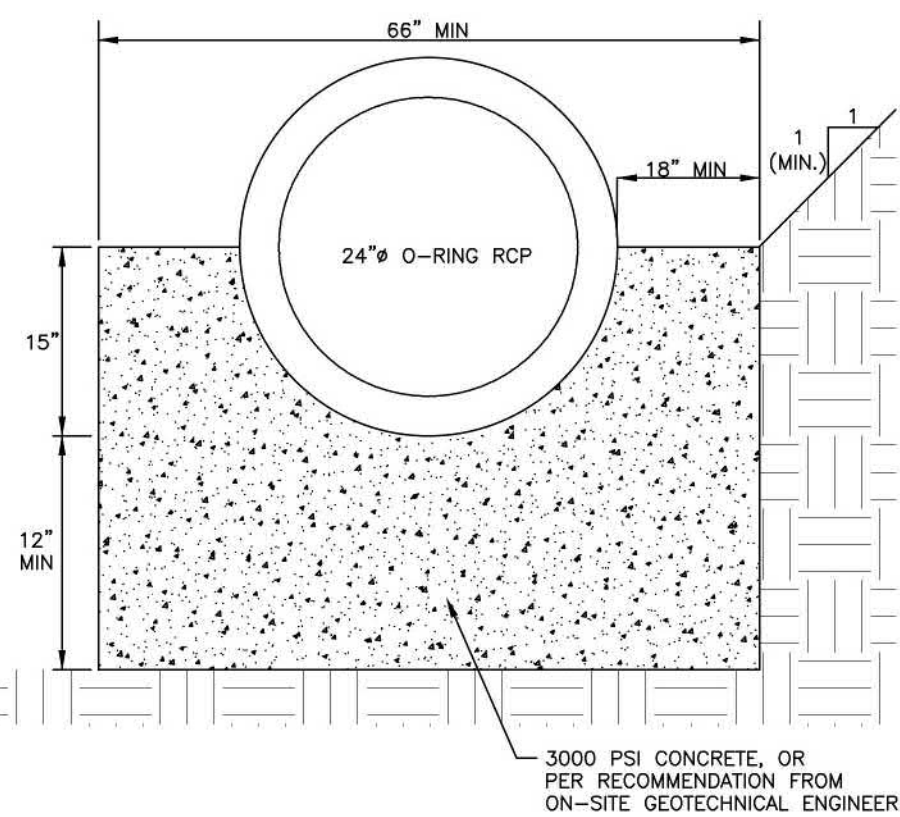
24" SPILLWAY FILTER DETAIL
N.T.S.

NOTE:

1. AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (THIS DETAIL), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL IF THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A NC PE SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER BEFORE AS-BUILT CERTIFICATION OF THE FACILITY. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM MATERIAL SPECIFICATIONS. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS (AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTOR'S INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTOR'S CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
2. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.

BARREL PIPE CONCRETE CRADLE CONSTRUCTION SEQUENCE

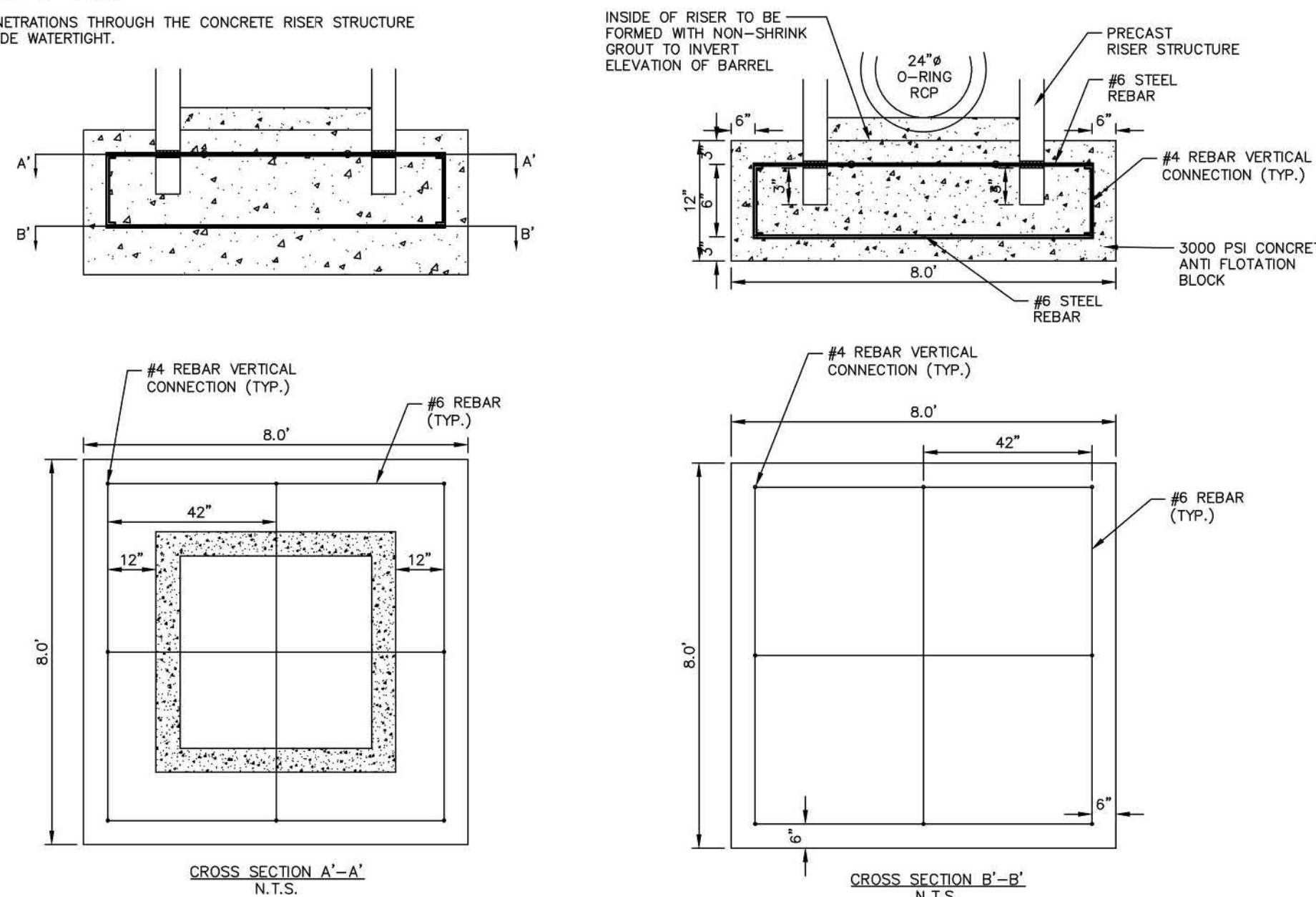
1. IF OPTION A IS CHOSEN FROM NOTE 9 OF THE CONSTRUCTION SEQUENCE SPECIFICATIONS, THEN BRING GRADE OF DAM EMBANKMENT TO SPRINGLINE OF PIPE ELEVATION. IF OPTION B IS CHOSEN FROM NOTE 9 OF THE CONSTRUCTION SEQUENCE SPECIFICATIONS, THEN CONSTRUCT FORMWORK FOR CONCRETE CRADLE ON EXISTING GRADE.
2. IF OPTION A IS CHOSEN FROM NOTE 9 OF THE CONSTRUCTION SEQUENCE SPECIFICATIONS, THEN EXCAVATE TRENCH FOR CRADLE AND BARREL PER DIMENSIONS ON DRAWINGS. IF OPTION B IS CHOSEN FROM NOTE 9 OF THE CONSTRUCTION SEQUENCE SPECIFICATIONS, PROCEED TO STEP 3 BELOW.
3. PLACE BARREL PIPE ON CONCRETE BLOCKS TO GRADE. AT THIS STEP, CONTRACTOR SHALL WRAP A DOUBLE LAYER OF NON-WOVEN GEOTEXTILE FABRIC AROUND EACH JOINT OF THE 24" O-RING RCP BARREL IN 2' WIDE STRIPS CENTERED ON JOINT.
4. PLACE CONCRETE FOR CRADLE FOR EACH SECTION FROM ONE SIDE OF THE TRENCH. ALLOW CONCRETE TO FILL ENTIRE AREA UNDER PIPE AND PIPE HAUNCHES AS TO LEAVE NO VOIDS UNDER THE PIPE BEFORE PLACING CONCRETE ON THE OPPOSITE SIDE OF THE TRENCH. PLACE ENTIRE CRADLE AS ONE LIFT (VERTICALLY) PER DRAWINGS.
5. CONCRETE CRADLE MAY BE ELIMINATED PER RECOMMENDATION FROM THE ON-SITE GEOTECHNICAL ENGINEER. ANY DEVIATION FROM THIS DETAIL SHALL BE SUBMITTED TO AND REVIEWED BY THE DESIGN ENGINEER PRIOR TO IMPLEMENTATION. IF THE CRADLE IS ELIMINATED, THEN A LETTER FROM AN NC PE CERTIFYING THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM MATERIAL SPECIFICATIONS IS REQUIRED.
6. ALLOW CRADLE TO CURE FOR A MINIMUM OF 7 DAYS BEFORE ANY VIBRATING COMPACTION EQUIPMENT IS USED IN THE VICINITY OF THE BARREL PIPE.
7. TRENCH TO BE BACKFILLED IN 5" LIFTS WHEN COMPACTION IS BY HAND. BACKFILL IS IN 8" LIFTS WHEN CONDUCTED BY MACHINE. MINIMUM OF 2 FEET COVER MUST BE PRESENT ON 24" RCP BEFORE DRIVING OVER WITH HEAVY EQUIPMENT.



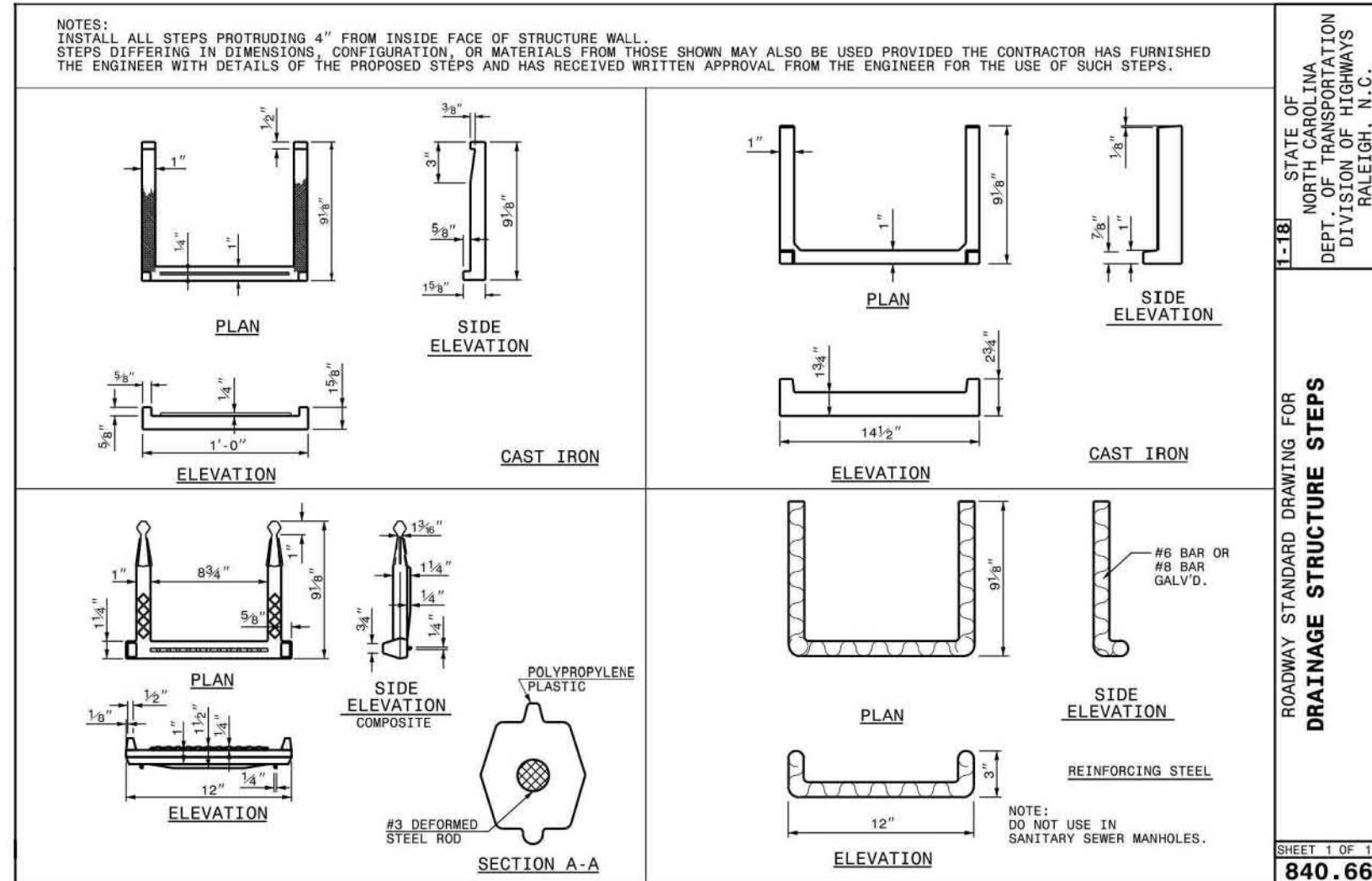
24" CONCRETE CRADLE DETAIL
N.T.S.

NOTES:

1. ALL REINFORCING STEEL IN RISER ANTI-FLOTATION BLOCK TO BE GRADE 60 #6 BARS FOR HORIZONTAL CROSSING AND GRADE 60 #4 BARS FOR VERTICAL CONNECTIONS.
2. INSIDE OF RISER BOTTOM TO BE FORMED WITH NON-SHRINK GROUT TO INVERT ELEVATION OF BARREL.
3. ALL PIPE PENETRATIONS THROUGH THE CONCRETE RISER STRUCTURE SHALL BE MADE WATERTIGHT.



RISER/ANTI-FLOTATION BLOCK CONNECTION
N.T.S.



840.66

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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

Professional Engineer Seal for Daniel C. Wiebe, License No. 043300, State of North Carolina.

REVISIONS
NO. DATE

PLAN INFORMATION
PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM D
CHECKED BY DCW
DRAWN BY JKD
SCALE AS NOTED
DATE 03.21.2022

STORMWATER CONTROL
MEASURE 'D' DETAILS
C9.02D

STORMWATER CONTROL MEASURE 'D' PLANTING PLAN SPECIFICATIONS

LEGEND

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HATCH	TYPE	SPACING	% OF TOTAL AREA	PROVIDED AREA
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LOW MARSH (SHALLOW WATER, TOTAL AREA = 10,308 SF)

792	AC	ACORUS CALAMUS	SWEETFLAG		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 30%	3,166 SF
721	PP	PONTERDERIA PECTINATUS	PICKEREL WEED		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 28%	2,883 SF
1,076	NL	NUPHAR LUTEA SSP. ADVENA	YELLOW POND-LILY		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 42%	4,304 SF

HIGH MARSH (SHALLOW LAND, TOTAL AREA = 8,910 SF)

822	SC	SAURURUS CERNUUS	LIZARD'S TAIL		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 36%	3,285 SF
861	HA	HELENIUM ALUTUMNALE	SNEEZEWEEED		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 39%	3,433 SF
528	CG	CHELONE GLABRA	WHITE TURTLEHEAD		4-INCH CONTAINER	24" O.C.	PROVIDED PERCENTAGE = 24%	2,109 SF

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3-4 INCHES DEEP OVER ADVERSE SOIL CONDITIONS. TOPSOIL SHOULD BE INCORPORATED INTO THE FINAL GRADING OF THE BASIN SIDE SLOPES AND SHALLOW LAND AND SHALLOW WATER AREAS. CONTRACTOR SHOULD SCARIFY THE TOP 3-4 INCHES OF THE COMPACTED FILL TO PROMOTE BONDING WITH TOPSOIL.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- PER ONE TIME ONLY, APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL.
- 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.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. AFTER PERMANENT COVER IS ESTABLISHED.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET RYE (GRAIN)	40 LBS/AC 120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE (DAM EMBANKMENTS)

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
AUG 25 - OCT (BEST)	TALL FESCUE	200 LBS/AC
FEB - APR 15 (POSSIBLE)		

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

NOTE: PERMANENT SEEDING SCHEDULE IS FOR SLOPES OF THE BASIN AND TOP OF BERM.

PLANTING INSTRUCTIONS

PLANTING TECHNIQUES

- ENSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
- CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
- PLACE PLANTS IN PIT ENSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
- HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
- NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
- ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEARLY.
- THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
- SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
- PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
- BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAUNAGED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

CONTAINER STOCK / BARE ROOT

- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
- CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
- BARE ROOT PLANTS ARE FOR IMMEDIATE PLANTING, OTHERWISE SEE D) BELOW.
- IF BARE ROOTS SPECIMENS ARE NOT TO BE PLANTED WITHIN FOUR (4) DAYS, TEMPORARY HOLDING OF BARE ROOT SPECIMENS ARE TO BE COVERED ENTIRELY BY A SUITABLE MEDIUM [ETC. SOIL, SAWDUST, MULCH OR THE LIKE] AND WATERED REGULARLY SO AS TO NOT DRY OUT.

PLANT LOCATIONS

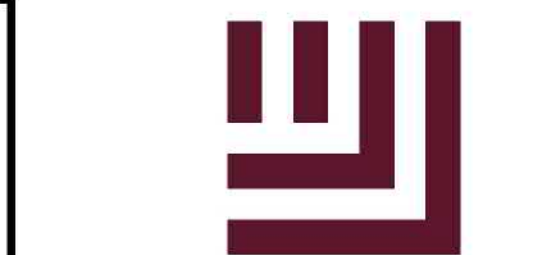
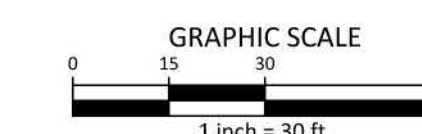
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
- NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

WATER
WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.



STORMWATER CONTROL MEASURE 'D' LANDSCAPE PLAN

1" = 30'



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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO. DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM D
CHECKED BY DCW
DRAWN BY JKD
SCALE 1"=30'
DATE 03. 21. 2022

SHEET

STORMWATER CONTROL
MEASURE 'D' LANDSCAPE PLAN

C9.03D

FINAL DRAWING - RELEASED FOR CONSTRUCTION

STORMWATER CONTROL MEASURE 'E' CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING FOR THE FACILITY. THE INTERIOR FINE GRADING WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE PERMANENT 6"Ø DIP DRAIN PIPE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E. - PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A NC P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- ON-SITE GEOTECHNICAL ENGINEER TO DETERMINE IF IN-SITU SOILS ENCOUNTERED WOULD MAINTAIN A STORMWATER CONTROL MEASURE PERMANENT POOL AT DESIGN ELEVATION. IF HIGHLY PERMEABLE SOILS ARE ENCOUNTERED THAT WOULD NOT MAINTAIN THE PERMANENT POOL ELEVATION AS DESIGNED, A CLAY LINER MAY BE REQUIRED TO MAINTAIN A PERMANENT POOL OF WATER IN THE STORMWATER CONTROL MEASURE. FINAL DETERMINATION IF A CLAY LINER IS NEEDED SHALL BE THE RESPONSIBILITY OF THE ON-SITE GEOTECHNICAL ENGINEER. UPON DETERMINATION OF HIGHLY PERMEABLE SOIL CONDITIONS, ON-SITE GEOTECHNICAL ENGINEER WILL INFORM THE DESIGN ENGINEER, AND RECOMMEND LINER SPECIFICATIONS.
- IF IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G. - EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.), THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E. PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (ACF ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE WET POND PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE WET POND AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3"-4" ON THE DAM EMBANKMENT AND AQUATIC SHELF. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT AND AQUATIC SHELF.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THIS FACILITY. CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION. PLEASE NOTE THAT NO TREES/SHRUBS OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS).

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 36"Ø RCP OUTLET BARREL SHALL BE CLASS III RCP, MODIFIED BELL AND GASKET, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4. (ADD OTHER BARREL FOR LEVEL SPREADER IF APPLICABLE).
 - THE STRUCTURAL DESIGN FOR THE 4' X 4' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
 - THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66. PLEASE REFER TO SHEET C9.02E FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
 - THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.02E. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 16,262 LBS. IN LIEU OF CAST-IN-PLACE, THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 9,088 LBS.
 - THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL FARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AND INSTALL GALVANIZED STEEL STRIPS PER DETAIL ON SHEET C9.01E.
 - PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
 - ALL POURED CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SUMP = 3" - 5"
 - ENRAINED AIR = 5% - 7%

PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.

ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL POURED CONCRETE MEETS THE ABOVE SPECIFICATIONS.
- GEOTEXTILE FABRIC FOR THE 36"Ø RCP OUTLET BARREL JOINTS SHALL BE MIRAFI 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).
 - STORMWATER CONTROL MEASURE EMERGENCY DRAW DOWN IS VIA AN 6"Ø PLUG VALVE. THE VALVE SHALL BE A M&H STYLE 1320 ECCENTRIC VALVE OR APPROVED EQUAL. THIS VALVE IS IN ACCORDANCE WITH AWWA C-517, AND SHALL BE OPERABLE FROM TOP OF OUTLET STRUCTURE VIA A HAND WHEEL (SEE DETAIL SHEET C9.02E). THE CONTRACTOR SHALL PROVIDE A REMOVABLE VALVE WRENCH WITH A HAND WHEEL ON TOP FOR OPERATION OF THE 6"Ø PLUG VALVE.

CONSTRUCTION SEQUENCE

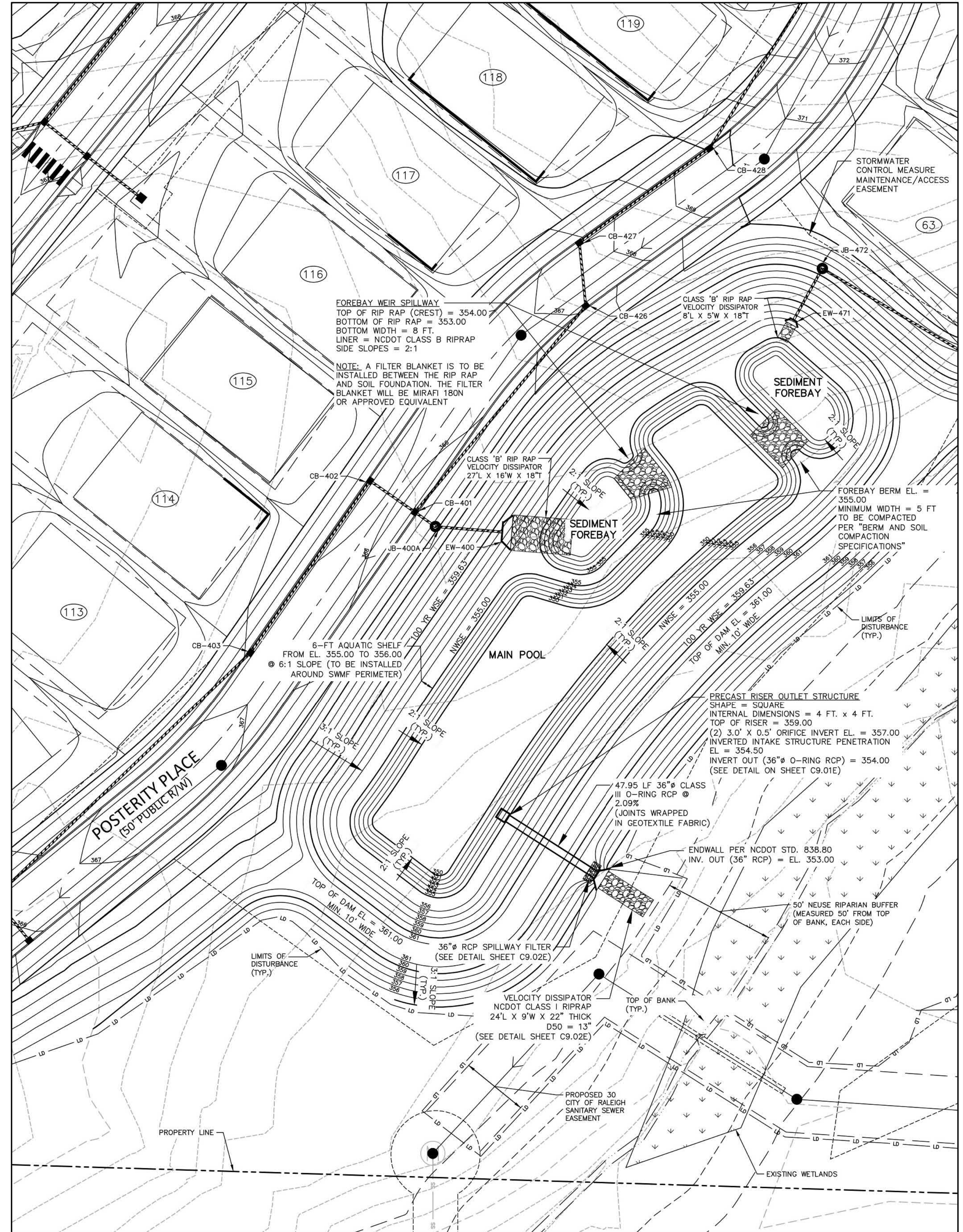
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING (GRADING) PERMIT AND AN "APPROVAL TO CONSTRUCT" FROM THE TOWN OF ROLESVILLE AND ALL OTHER NECESSARY PERMITS FROM APPLICABLE AGENCIES (E.G. 404 / 401 PERMITS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT, AS REQUIRED, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED DAM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE DAM FOOTPRINT AND BACKFILLED WITH SUITABLE SOIL MATERIAL. THE BACKFILLED AREAS SHALL BE COMPACTED TO THE SAME STANDARDS AS THE DAM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT FILL. NO EMBANKMENT MATERIAL SHALL BE PLACED FOR THE DAM OR KEY TRENCH UNTIL APPROVAL OF THE DAM SUBGRADE IS OBTAINED FROM THE ON-SITE GEOTECHNICAL ENGINEER.
- EXCAVATE FOR THE NEW KEY TRENCH ALONG THE CENTERLINE OF THE PROPOSED DAM EMBANKMENT. THE TRENCH SHALL EXTEND A MINIMUM OF 5 FT BELOW EXISTING GRADE OR 2 FT BELOW THE 36"Ø RCP OUTLET BARREL AND SHALL HAVE A MINIMUM BOTTOM WIDTH OF 5 FEET. THE KEY TRENCH SIDESLOPES SHALL BE A MINIMUM OF 1:1 (H:V). WHEN EXCAVATING THE KEY TRENCH, IF ANY DEBRIS IS ENCOUNTERED TO AN EXTENT THAT SUCH DEBRIS MAY EXIST IN OTHER INSITU PORTIONS OF THE DAM EMBANKMENT, IT SHOULD ALSO BE REMOVED. THE KEY TRENCH SHALL BE COMPACTED TO THE SAME SPECIFICATION LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." DEPENDING UPON ON-SITE SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION, THE ON-SITE GEOTECHNICAL ENGINEER MAY VARY THE DEPTH AND DIMENSIONS OF THE KEY TRENCH AS DEEMED NECESSARY. THE ON-SITE GEOTECHNICAL ENGINEER SHALL RETAIN DOCUMENTATION OF ANY VARIATION FOR FUTURE AS-BUILT SUBMITTALS TO THE TOWN OF ROLESVILLE.
- BEGIN PLACEMENT OF BACKFILL WITHIN THE KEY TRENCH. THE KEY TRENCH SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS." THE KEY TRENCH SHALL BE TESTED PER THE SPECIFICATIONS LISTED IN THAT SECTION.
- PRIOR TO INSTALLATION, SUBGRADE CONDITIONS ALONG THE SPILLWAY PIPES SHOULD BE EVALUATED BY THE ON-SITE GEOTECHNICAL ENGINEER TO ASSESS WHETHER SUITABLE BEARING CONDITIONS EXIST AT THE SUBGRADE LEVEL. SHOULD SOFT OR OTHERWISE UNSUITABLE CONDITIONS BE ENCOUNTERED ALONG THE PIPE ALIGNMENTS, THESE MATERIALS SHOULD BE UNDERCUT AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDERCUT MATERIALS SHALL BE REPLACED WITH ADEQUATELY COMPACTED STRUCTURAL FILL, LEAN CONCRETE OR FLOWABLE FILL AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- IN ORDER TO HELP PROTECT THE SOIL SUBGRADE FROM DETERIORATION (DUE TO EXPOSURE, RAINFALL, SEEPAGE, AND RUNOFF) BEFORE THE CRADLE CAN BE POURED, IT IS STRONGLY RECOMMENDED THAT A 3" TO 4" THICK CONCRETE MUD MAT BE POURED OVER THE SUBGRADE ONCE IT IS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE MUD MAT WILL ALSO PROVIDE BEARING FOR THE BLOCKS THAT TEMPORARILY SUPPORT THE SPILLWAY PIPE UNTIL THE CRADLE CAN BE POURED. THE METHOD OF BLOCK SUPPORT FOR THE PIPE PROPOSED BY THE CONTRACTOR SHOULD BE SUBMITTED TO THE JOHN R. McADAMS COMPANY FOR REVIEW.
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS PRIOR TO COMPACTION, UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER. FILL LIFTS SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL. IF IT IS NECESSARY, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO FINAL GRADE IN ORDER TO ACHIEVE PROPER COMPACTION.
- AS CONSTRUCTION OF THE EMBANKMENT MOVES FORWARD, IT WILL BE NECESSARY TO INSTALL THE CONCRETE CRADLE. SEE NOTE ON CRADLE DETAIL (SHEET C9.02E). THIS MAY BE CONSTRUCTED USING ONE OF THE FOLLOWING METHODS:
 - IF THE PROPOSED STRUCTURAL FILL MATERIAL IS UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN THE STRUCTURAL FILL SHOULD BE INSTALLED AND COMPACTED UP TO THE TOP OF CONCRETE CRADLE ELEVATION. ONCE THE STRUCTURAL FILL REACHES THE NEXT DOWNSTREAM JUNCTION BOX OR HEADWALL AND IS COMPACTED TO THE ELEVATION OF THE TOP OF THE CONCRETE CRADLE, EXCAVATE THE CONCRETE CRADLE TRENCH PER THE PROVIDED DETAILS AND CONSTRUCT THE CONCRETE CRADLE AS PER THE PROVIDED CONCRETE CRADLE DETAIL.
 - IF THE PROPOSED STRUCTURAL FILL IS NOT UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN PRIOR TO CONSTRUCTING THE STRUCTURAL FILL EMBANKMENT, THE FORMWORK FOR THE CONCRETE CRADLE SHOULD BE INSTALLED ON EXISTING GROUND AND/OR THE MUD MAT. THE CONCRETE CRADLE SHALL BE CONSTRUCTED PER THE PROVIDED DETAILS.
- AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (SEE SHEET C9.02E), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL. THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A NC PE SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER PRIOR TO BACKFILL. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM AND SOIL COMPACTION SPECIFICATIONS ON THIS SHEET. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS (AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTORS INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTORS CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
- INSTALL RISER / BARREL ASSEMBLY, ALONG WITH THE EMERGENCY DRAIN SYSTEM. INSTALL 36" RCP OUTLET BARREL SPILLWAY FILTER FROM THE DETAILS SHOWN ON SHEET C9.02E.
- CONSTRUCT EMBANKMENT PER SPECIFICATIONS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" AND REQUIREMENTS OF THE ON-SITE GEOTECHNICAL ENGINEER. ALL CHARACTERISTICS OF THE EMBANKMENT FILL MATERIAL SHALL MEET THE STANDARDS SET FORTH IN "BERM AND SOIL COMPACTION SPECIFICATIONS", INCLUDING COMPACTION AND MOISTURE REQUIREMENTS. IF NECESSARY TO ACHIEVE PROPER COMPACTION, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO PROPER FINAL GRADE. ANY HAND COMPACTION ACTIVITIES AROUND SPILLWAY OR DRAIN STRUCTURES SHALL BE CONDUCTED IN 4-INCH LOOSE LIFTS AND BE TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT. ALL COMPACTION AND MOISTURE TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER AND AS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS".
- UPON COMPLETION OF DAM EMBANKMENT, PROMPTLY STABILIZE AND SEED DAM EMBANKMENT PER SEEDING SCHEDULE. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER THE PERMANENT SEEDING SCHEDULE FOUND ON SHEET C9.03E.
- SCHEDULE A FINAL AS-BUILT INSPECTION AND AS-BUILT SURVEY WITH THE ENGINEER AND SURVEYOR. AN AS-BUILT INSPECTION AND SURVEY SHALL BE SCHEDULED BEFORE IMPOUNDING WATER IN THE FACILITY AND A MINIMUM OF 60 DAYS PRIOR TO THE ANTICIPATED DATE OF CERTIFICATION APPROVAL. ANY COMMENTS OR DEFICIENCIES IN THE SCM CONSTRUCTION MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AND OWNER BEFORE CERTIFICATION SHALL BE GRANTED.

BERM AND SOIL COMPACTION SPECIFICATIONS

- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 8" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 36"Ø RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

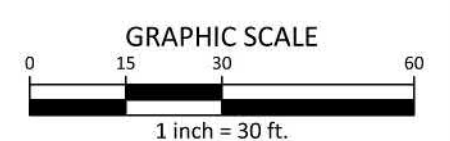
STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THE STORMWATER CONTROL MEASURE SHALL BE THE RESPONSIBILITY OF THE OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



STORMWATER CONTROL MEASURE 'E' PLAN VIEW

1" = 30'

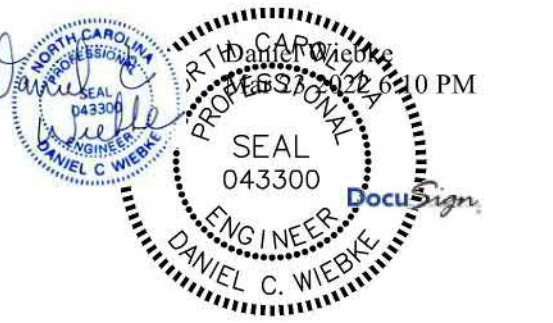


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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000 - SCM E
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1"=30'
DATE	03. 21. 2022

SHEET

STORMWATER CONTROL MEASURE 'D' PLAN VIEW

C9.00E

STORMWATER CONTROL MEASURE 'E' LANDSCAPE SPECIFICATIONS

LEGEND

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HATCH	TYPE	SPACING
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SHALLOW WATER

262	IV	IRIS VIRGINIANA	BLUE FLAG IRIS		4-INCH CONTAINER	24" O.C.
211	PC	PONTEREDIA CORDATA	PICKEREL WEED		4-INCH CONTAINER	24" O.C.
306	ST	SCHOENOPLECTUS TABERNAEMONTANI	SOFT-STEM BULRUSH		4-INCH CONTAINER	24" O.C.

SHALLOW LAND

201	CS	CAREX SPP.	SEDGES		4-INCH CONTAINER	24" O.C.
124	CA	CRINUM AMERICANUM	AMERICAN CRINUM LILY		4-INCH CONTAINER	24" O.C.
197	HA	HIBISCUS ACULEATUS	PINELANDS MALLOW		4-INCH CONTAINER	24" O.C.

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3-4 INCHES DEEP OVER ADVERSE SOIL CONDITIONS. TOPSOIL SHOULD BE INCORPORATED INTO THE FINAL GRADING OF THE BASIN SIDE SLOPES AND AQUATIC SHELF. CONTRACTOR SHOULD SCARIFY THE TOP 3-4 INCHES OF THE COMPACTED FILL TO PROMOTE BONDING WITH TOPSOIL.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- PER ONE TIME ONLY, APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL.
- 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.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. AFTER PERMANENT COVER IS ESTABLISHED.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET	40 LBS/AC
	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE (DAM EMBANKMENTS)

SEEDING DATE	SEEDING MIXTURE OPTIONS (CHOOSE ONE)	APPLICATION RATE
MAY 1 - AUG 31	CENTPEDE RAW	30 LBS/AC
APRIL 1 - SEPT 1	SUMMER MIX	200 LBS/AC
	(80% HULLED BERMUUDA/20% MILLET)	
OCT 1 - MARCH 1	FALL MIX	200 LBS/AC
	(80% TALL FESCUE/20% ANNUAL RYEGRASS)	

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

NOTE: PERMANENT SEEDING SCHEDULE IS FOR SLOPES OF THE BASIN AND TOP OF BERM.

PLANTING INSTRUCTIONS

- PLANTING TECHNIQUES**
- ENSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
 - CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
 - PLACE PLANTS IN PIT ENSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
 - HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
 - NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
 - ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY.
 - THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
 - SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
 - PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
 - BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAUNTED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

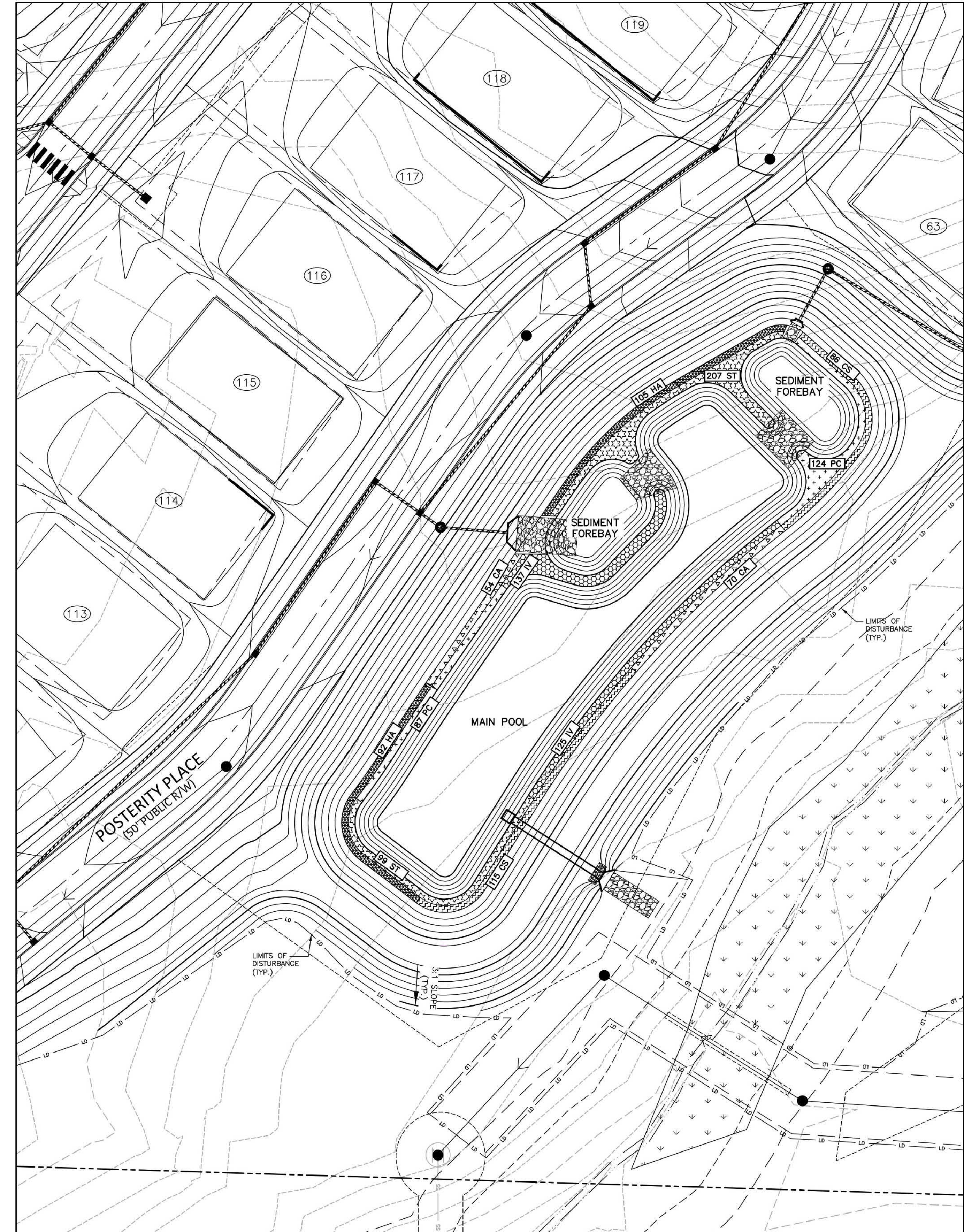
- CONTAINER STOCK / BARE ROOT**
- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
 - CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
 - BARE ROOT PLANTS ARE FOR IMMEDIATE PLANTING, OTHERWISE SEE D) BELOW.
 - IF BARE ROOT SPECIMENS ARE NOT TO BE PLANTED WITHIN FOUR (4) DAYS, TEMPORARY HOLDING OF BARE ROOT SPECIMENS ARE TO BE COVERED ENTIRELY BY A SUITABLE MEDIUM (ETC. SOIL, SAWDUST, MULCH OR THE LIKE) AND WATERED REGULARLY SO AS TO NOT DRY OUT.

- PLANT LOCATIONS**
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
 - NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

WATER
WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.

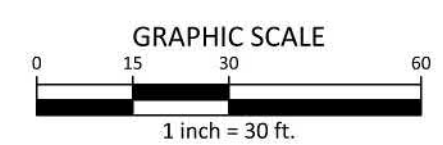
PLANTING SCHEDULE

- ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER MANAGEMENT FACILITY PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
- ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER MANAGEMENT FACILITY PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER MANAGEMENT FACILITY PLANTING PLAN.
- OPTIMAL PLANTING PERIODS RANGE APPROXIMATELY FROM APRIL 15TH THRU JUNE 30TH AND SEPTEMBER 1ST THRU OCTOBER 31ST. FOR FINAL DETERMINATION OF THE SITE'S PLANTING PERIOD, THE CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION.
- IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PREVENT WILDLIFE FROM DAMAGING OR CONSUMING WETLAND PLANTINGS.



STORMWATER CONTROL MEASURE 'E' LANDSCAPE PLAN

1" = 30'



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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000 - SCM E
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1"=30'
DATE	03. 21. 2022

SHEET

STORMWATER CONTROL
MEASURE 'E' LANDSCAPE PLANS

C9.03E

STORMWATER CONTROL MEASURE 'F' CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING FOR THE FACILITY. THE INTERIOR FINE GRADING WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE PERMANENT 6" DIP DRAIN PIPE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E. - PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT GRADING), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A N.C.P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- ON-SITE GEOTECHNICAL ENGINEER TO DETERMINE IF IN-SITU SOILS ENCOUNTERED WOULD MAINTAIN A STORMWATER CONTROL MEASURE PERMANENT POOL AT DESIGN ELEVATION. IF HIGHLY PERMEABLE SOILS ARE ENCOUNTERED THAT WOULD NOT MAINTAIN THE PERMANENT POOL ELEVATION AS DESIGNED, A CLAY LINER MAY BE REQUIRED TO MAINTAIN A PERMANENT POOL OF WATER IN THE STORMWATER CONTROL MEASURE. FINAL DETERMINATION IF A CLAY LINER IS NEEDED SHALL BE THE RESPONSIBILITY OF THE ON-SITE GEOTECHNICAL ENGINEER. UPON DETERMINATION OF HIGHLY PERMEABLE SOIL CONDITIONS, ON-SITE GEOTECHNICAL ENGINEER WILL INFORM THE DESIGN ENGINEER AND RECOMMEND LINER SPECIFICATIONS.
- IF IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G. - EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.), THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E. PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (AC ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE WET POND PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE WET POND AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3"-4" ON THE DAM EMBANKMENT AND AQUATIC SHELF. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT AND AQUATIC SHELF.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THIS FACILITY. CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION. PLEASE NOTE THAT NO TREES/SHRUBS OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS).
- THE RETAINING WALL ALIGNMENT SHOWN ON THESE PLANS DEPICTS THE LOCATION OF THE FRONT FACE OF THE RETAINING WALL AT THE BOTTOM.
- THE RETAINING WALL IS TO BE A DESIGN-BUILD PROJECT(S) BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN FINAL CONSTRUCTION DRAWINGS FROM A REGISTERED PROFESSIONAL ENGINEER AND GAIN ALL REQUIRED PERMITS NECESSARY FOR THE CONSTRUCTION OF THE RETAINING WALL.
- THE RETAINING WALL SHALL BE ASSUMED TO BE BACKFILLED WITH OFF-SITE BORROW MATERIAL OR PROCESSED FILL UNLESS CONTRACTOR CAN PROVIDE OWNER WITH CONFIRMATION FROM THE GEOTECHNICAL ENGINEER AND THE RETAINING WALL DESIGNER THAT READILY AVAILABLE ON-SITE SOILS CAN BE USED.
- THE TOP AND BOTTOM OF WALL ELEVATIONS SHOWN ON THESE PLANS IDENTIFY FINISHED GRADE ELEVATIONS ONLY. THE EXTENT THAT THE RETAINING WALL WILL BE EXTENDED BELOW GRADE TO THE FOOTING SHALL BE IDENTIFIED ON THE RETAINING WALL CONSTRUCTION DRAWINGS.
- THE ON-SITE GEOTECHNICAL ENGINEER SHOULD BE GIVEN AN OPPORTUNITY TO REVIEW ALL RETAINING WALL PLANS AND DESIGNS RELEVANT TO GEOTECHNICAL CONSIDERATIONS PRIOR TO FINAL DESIGN OF THE WALLS.

OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 48" RCP OUTLET BARREL SHALL BE CLASS III RCP, MODIFIED BELL AND SPIGOT, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C-443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4.
- THE STRUCTURAL DESIGN FOR THE 6' X 6' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
- THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66. PLEASE REFER TO SHEET C9.02F FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
- THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.02F. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 39,213 LBS. IN LIEU OF CAST-IN-PLACE, THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 28,400 LBS.
- THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL PARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AND INSTALL GALVANIZED STEEL STRAPS PER DETAIL ON SHEET C9.01F.
- PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
- ALL POURED CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SLUMP = 3" - 5"
 - EN-TRAINED AIR = 5% - 7%

PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.

ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL POURED CONCRETE MEETS THE ABOVE SPECIFICATIONS.

- GEOTEXTILE FABRIC FOR THE 48" RCP OUTLET BARREL JOINTS SHALL BE MIRAFI 180N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).
- STORMWATER CONTROL MEASURE EMERGENCY DRAW DOWN IS VIA AN 6" PLUG VALVE. THE VALVE SHALL BE A M&H STYLE 1820 ECCENTRIC VALVE OR APPROVED EQUAL. THIS VALVE IS IN ACCORDANCE WITH AWWA C-517, AND SHALL BE OPERABLE FROM TOP OF OUTLET STRUCTURE VIA A HAND WHEEL (SEE DETAIL SHEET C9.01F). THE CONTRACTOR SHALL PROVIDE A REMOVABLE VALVE WRENCH WITH A HAND WHEEL ON TOP FOR OPERATION OF THE 6" PLUG VALVE.

CONSTRUCTION SEQUENCE

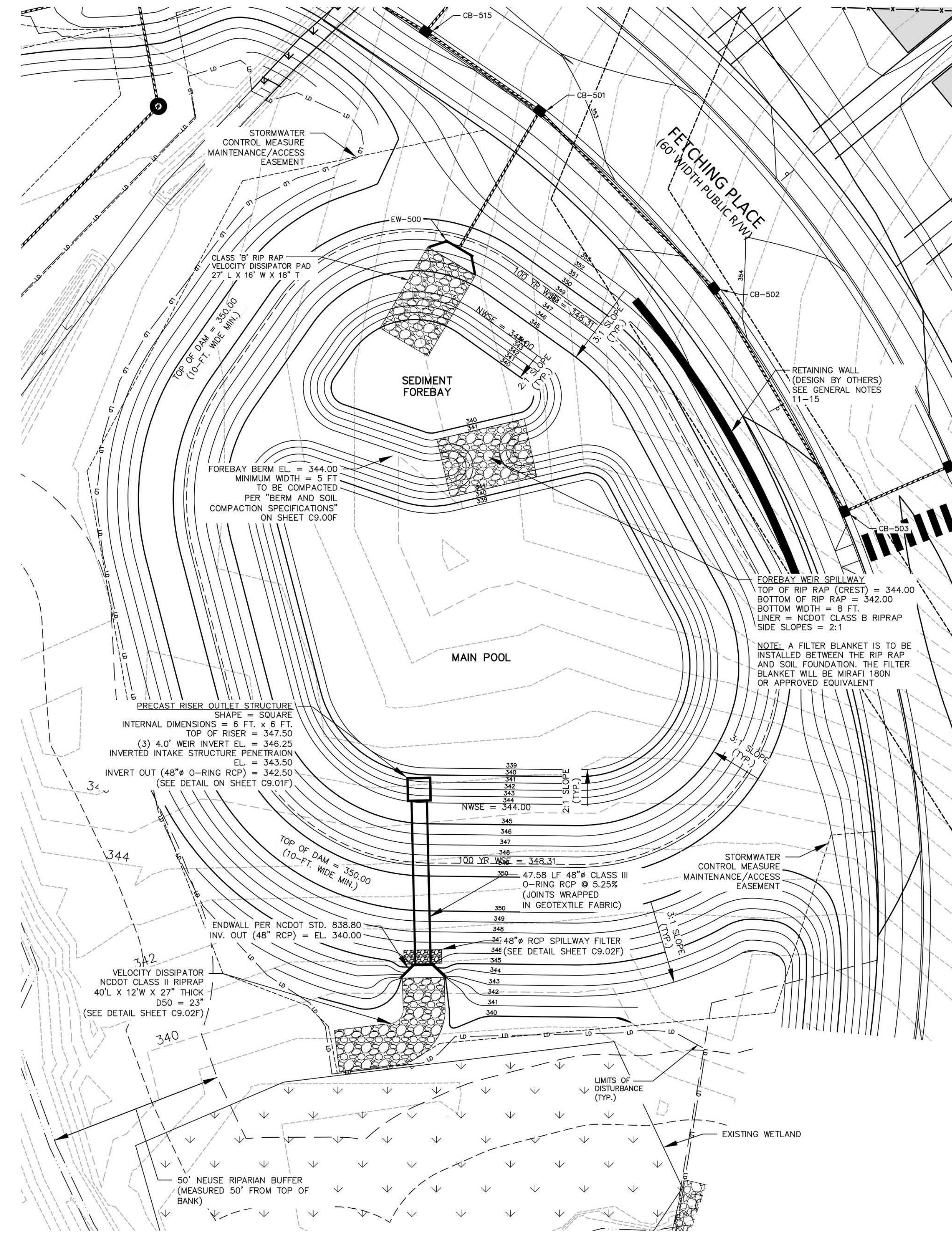
- PRIOR TO CONSTRUCTION, THE OWNER SHALL OBTAIN A LAND DISTURBING (GRADING) PERMIT AND AN "APPROVAL TO CONSTRUCT" FROM THE TOWN OF ROLESVILLE AND ALL OTHER NECESSARY PERMITS FROM APPLICABLE AGENCIES (E.G. 404 / 401 PERMITS)
- INSTALL ALL SEDIMENT AND EROSION CONTROL MEASURES PER THE APPROVED SEDIMENT AND EROSION CONTROL PLAN. THE CONTRACTOR SHALL MAINTAIN ALL APPROVED SEDIMENT AND EROSION CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT, AS REQUIRED, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE EROSION CONTROL INSPECTOR, AS REQUIRED BY GOVERNING AGENCIES, PRIOR TO ANY CLEARING.
- CLEAR AND GRUB AREA WITHIN THE LIMITS OF THE PROPOSED DAM CONSTRUCTION. ALL TREES AND THEIR ENTIRE ROOT SYSTEMS MUST BE REMOVED FROM THE DAM FOOTPRINT AREA AND BACKFILLED WITH SUITABLE SOIL MATERIAL. THE BACKFILLED AREAS SHALL BE COMPACTED TO THE SAME STANDARDS AS THE DAM EMBANKMENT. THE REMAINING AREA OF THE EMBANKMENT SHALL BE STRIPPED TO A SUITABLE DEPTH AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER. ANY RESIDUAL SOILS TO BE LEFT IN PLACE MUST BE WELL SCARIFIED TO PROMOTE BONDING OF THE NEW EMBANKMENT FILL. NO EMBANKMENT MATERIAL SHALL BE PLACED FOR THE DAM OR KEY TRENCH UNTIL APPROVAL OF THE DAM SUBGRADE IS OBTAINED FROM THE ON-SITE GEOTECHNICAL ENGINEER.
- EXCAVATE FOR THE NEW KEY TRENCH ALONG THE CENTERLINE OF THE PROPOSED DAM EMBANKMENT. THE TRENCH SHALL EXTEND A MINIMUM OF 5 FT BELOW EXISTING GRADE OR 2 FT BELOW THE 48" RCP OUTLET BARREL AND SHALL HAVE A MINIMUM BOTTOM WIDTH OF 5 FEET. THE KEY TRENCH SIDESLOPES SHALL BE A MINIMUM OF 1:1 (H:V). WHEN EXCAVATING THE KEY TRENCH, IF ANY DEBRIS IS ENCOUNTERED TO AN EXTENT THAT SUCH DEBRIS MAY EXIST IN OTHER INSITU PORTIONS OF THE DAM EMBANKMENT, IT SHOULD ALSO BE REMOVED. THE KEY TRENCH SHALL BE COMPACTED TO THE SAME SPECIFICATION LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" DEPENDING UPON ON-SITE SOIL CONDITIONS ENCOUNTERED DURING EXCAVATION. THE ON-SITE GEOTECHNICAL ENGINEER MAY VARY THE DEPTH AND DIMENSIONS OF THE KEY TRENCH AS DEEMED NECESSARY. THE ON-SITE GEOTECHNICAL ENGINEER SHALL RETAIN DOCUMENTATION OF ANY VARIATION FOR FUTURE AS-BUILT SUBMITTALS TO THE TOWN OF ROLESVILLE.
- BEGIN PLACEMENT OF BACKFILL WITHIN THE KEY TRENCH. THE KEY TRENCH SHALL BE COMPACTED TO THE SPECIFICATIONS LISTED IN ITEM 4 OF THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS". THE KEY TRENCH SHALL BE TESTED PER THE SPECIFICATIONS LISTED IN THAT SECTION.
- PRIOR TO INSTALLATION, SUBGRADE CONDITIONS ALONG THE SPILLWAY PIPES SHOULD BE EVALUATED BY THE ON-SITE GEOTECHNICAL ENGINEER TO ASSESS WHETHER SUITABLE BEARING CONDITIONS EXIST AT THE SUBGRADE LEVEL. SHOULD SOFT OR OTHERWISE UNSUITABLE CONDITIONS BE ENCOUNTERED ALONG THE PIPE ALIGNMENTS, THESE MATERIALS SHOULD BE UNDERCUT AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDERCUT MATERIALS SHALL BE REPLACED WITH ADEQUATELY COMPACTED STRUCTURAL FILL, LEAN CONCRETE OR FLOWABLE FILL AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- IN ORDER TO HELP PROTECT THE SOIL SUBGRADE FROM DETERIORATION (DUE TO EXPOSURE, RAINFALL, SEEPAGE, AND RUNOFF) BEFORE THE CRADLE CAN BE POURED, IT IS STRONGLY RECOMMENDED THAT A 3" TO 4" THICK CONCRETE MUD MAT BE POURED OVER THE SUBGRADE ONCE IT IS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE MUD MAT WILL ALSO PROVIDE BEARING FOR THE BLOCKS THAT TEMPORARILY SUPPORT THE SPILLWAY PIPE UNTIL THE CRADLE CAN BE POURED. THE METHOD OF BLOCK SUPPORT FOR THE PIPE PROPOSED BY THE CONTRACTOR SHOULD BE SUBMITTED TO THE JOHN R. McADAMS COMPANY FOR REVIEW.
- BEGIN CONSTRUCTION OF THE NEW EMBANKMENT. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8" THICK LIFTS PRIOR TO COMPACTION, UNLESS DIRECTED OTHERWISE BY THE ON-SITE GEOTECHNICAL ENGINEER. FILL LIFTS SHALL BE CONTINUOUS OVER THE ENTIRE LENGTH OF FILL. IF IT IS NECESSARY, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO FINAL GRADE IN ORDER TO ACHIEVE PROPER COMPACTION.
- AS CONSTRUCTION OF THE EMBANKMENT MOVES FORWARD, IT WILL BE NECESSARY TO INSTALL THE CONCRETE CRADLE. SEE NOTE ON CRADLE DETAIL (SHEET C9.02F). THIS MAY BE CONSTRUCTED USING ONE OF THE FOLLOWING METHODS:
 - IF THE PROPOSED STRUCTURAL FILL MATERIAL IS UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN THE STRUCTURAL FILL SHOULD BE INSTALLED AND COMPACTED UP TO THE TOP OF CONCRETE CRADLE ELEVATION. ONCE THE STRUCTURAL FILL REACHES THE NEXT DOWNSTREAM JUNCTION BOX OR HEADWALL AND IS COMPACTED TO THE ELEVATION OF THE TOP OF THE CONCRETE CRADLE, EXCAVATE THE CONCRETE CRADLE TRENCH PER THE PROVIDED DETAILS AND CONSTRUCT THE CONCRETE CRADLE AS PER THE PROVIDED CONCRETE CRADLE DETAIL.
 - IF THE PROPOSED STRUCTURAL FILL IS NOT UTILIZED AS THE FORMWORK FOR THE CONCRETE CRADLE, THEN PRIOR TO CONSTRUCTING THE STRUCTURAL FILL EMBANKMENT, THE FORMWORK FOR THE CONCRETE CRADLE SHOULD BE INSTALLED ON EXISTING GROUND AND/OR THE MUD MAT. THE CONCRETE CRADLE SHALL BE CONSTRUCTED PER THE PROVIDED DETAILS.
- AS AN ALTERNATE TO A CONCRETE CRADLE UNDER THE BARREL PIPE (SEE SHEET C9.02F), THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL IF THE ON-SITE GEOTECHNICAL ENGINEER WILL PROVIDE A N.C.P.E SEALED LETTER CERTIFYING THAT THE COMPACTION UNDER, AROUND, AND ABOVE THE BARREL MEETS THE SPECIFICATIONS OF THE EMBANKMENT COMPACTION REQUIREMENTS AND MOISTURE CONTENT. THIS CERTIFICATION LETTER MUST BE SUBMITTED TO THE DESIGN ENGINEER PRIOR TO BACKFILL. THIS SEPARATE CERTIFICATION MUST BE SPECIFIC TO THE BARREL PIPE FOR THE FACILITY, AND MUST CLEARLY STATE THAT ALL SOIL MATERIAL UNDER, AROUND, AND ABOVE THE BARREL PIPE MEETS THE BERM AND SOIL COMPACTION SPECIFICATIONS ON THIS SHEET. THIS CERTIFICATION IS TO INCLUDE REFERENCE TO BOTH MATERIAL AND COMPACTION, AND MUST STATE THAT ALL MATERIALS UNDER, AROUND, AND ABOVE THE BARREL HAVE BEEN COMPACTED PER THE BERM MATERIAL SPECIFICATIONS AT LEAST 95% OF MAXIMUM DRY DENSITY USING ASTM D698 STANDARD PROCTOR) WITH NO VOID SPACES PRESENT. THE CONTRACTORS INTENT TO UTILIZE THIS ALTERNATIVE MUST BE STATED PRIOR TO CONSTRUCTION TAKING PLACE. THIS CONTRACTORS CERTIFICATION MUST BE PRESENTED TO THE DESIGN ENGINEER BEFORE AN AS-BUILT CERTIFICATION CAN BE ISSUED FOR THIS FACILITY.
- INSTALL RISER / BARREL ASSEMBLY, ALONG WITH THE EMERGENCY DRAIN SYSTEM. INSTALL 48" RCP OUTLET BARREL SPILLWAY FILTER FROM THE DETAILS SHOWN ON SHEET C9.02F.
- CONSTRUCT EMBANKMENT PER SPECIFICATIONS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS" AND REQUIREMENTS OF THE ON-SITE GEOTECHNICAL ENGINEER. ALL CHARACTERISTICS OF THE EMBANKMENT FILL MATERIAL SHALL MEET THE STANDARDS SET FORTH IN "BERM AND SOIL COMPACTION SPECIFICATIONS", INCLUDING COMPACTION AND MOISTURE REQUIREMENTS. IF NECESSARY TO ACHIEVE PROPER COMPACTION, THE EMBANKMENT FILL MATERIAL WILL BE OVERBUILT IN HORIZONTAL LIFTS AND CUT BACK TO PROPER FINAL GRADE. ANY HAND COMPACTION ACTIVITIES AROUND SPILLWAY OR DRAIN STRUCTURES SHALL BE CONDUCTED IN 4-INCH LOOSE LIFTS AND BE TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT. ALL COMPACTION AND MOISTURE TESTING SHALL BE CARRIED OUT AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER AND AS LISTED IN THE SECTION TITLED "BERM AND SOIL COMPACTION SPECIFICATIONS".
- UPON COMPLETION OF DAM EMBANKMENT, PROMPTLY STABILIZE AND SEED DAM EMBANKMENT PER SEEDING SCHEDULE. PERMANENT GROUND COVER SHALL BE ESTABLISHED PER THE PERMANENT SEEDING SCHEDULE FOUND ON SHEET C9.02F.
- SCHEDULE A FINAL AS-BUILT INSPECTION AND AS-BUILT SURVEY WITH THE ENGINEER AND SURVEYOR. AN AS-BUILT INSPECTION AND SURVEY SHALL BE SCHEDULED BEFORE IMPOUNDING WATER IN THE FACILITY AND A MINIMUM OF 60 DAYS PRIOR TO THE ANTICIPATED DATE OF CERTIFICATION APPROVAL. ANY COMMENTS OR DEFICIENCIES IN THE SCM CONSTRUCTION MUST BE CORRECTED TO THE SATISFACTION OF THE ENGINEER AND OWNER BEFORE CERTIFICATION SHALL BE GRANTED.

BERM AND SOIL COMPACTION SPECIFICATIONS

- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 8" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF FILL FOR THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 48" RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

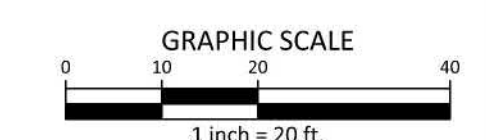
STATEMENT OF RESPONSIBILITY

- ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THE STORMWATER CONTROL MEASURE SHALL BE THE RESPONSIBILITY OF THE OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.



STORMWATER CONTROL MEASURE 'F' PLAN VIEW

1" = 20'

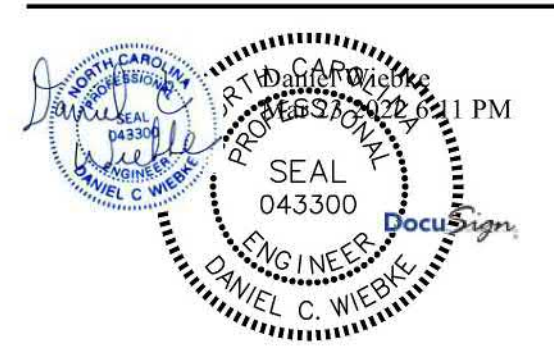


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ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000 - SCM F
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1"=20'
DATE	03. 21. 2022

SHEET

STORMWATER CONTROL MEASURE 'F' PLAN VIEW

C9.00F



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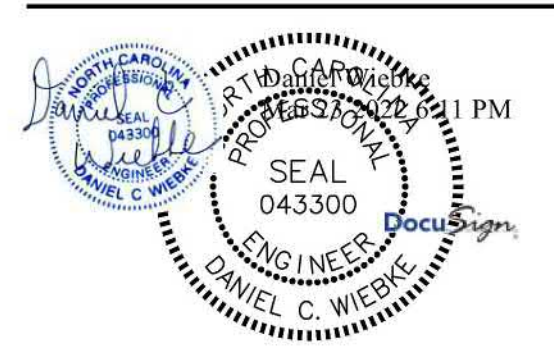
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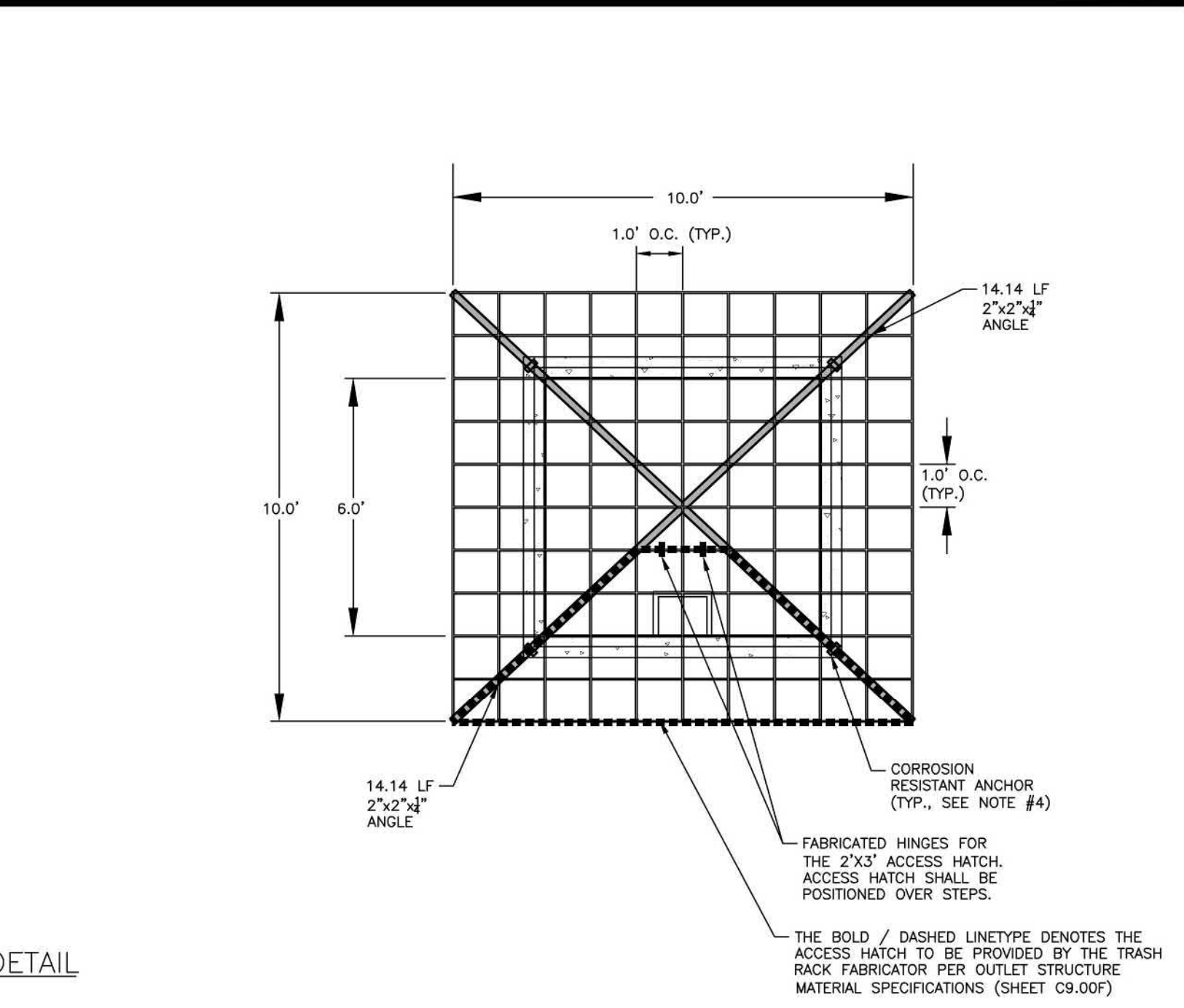
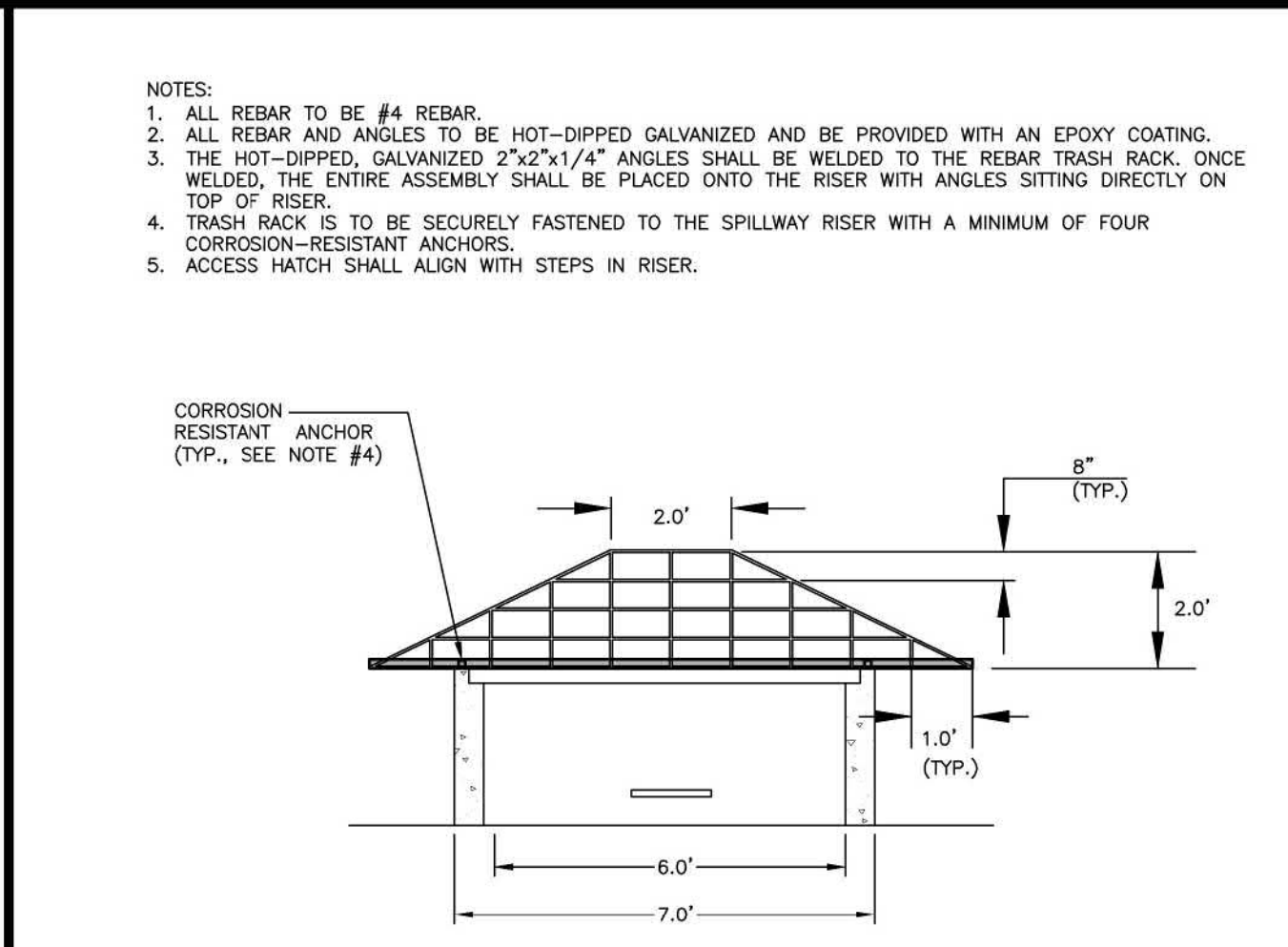
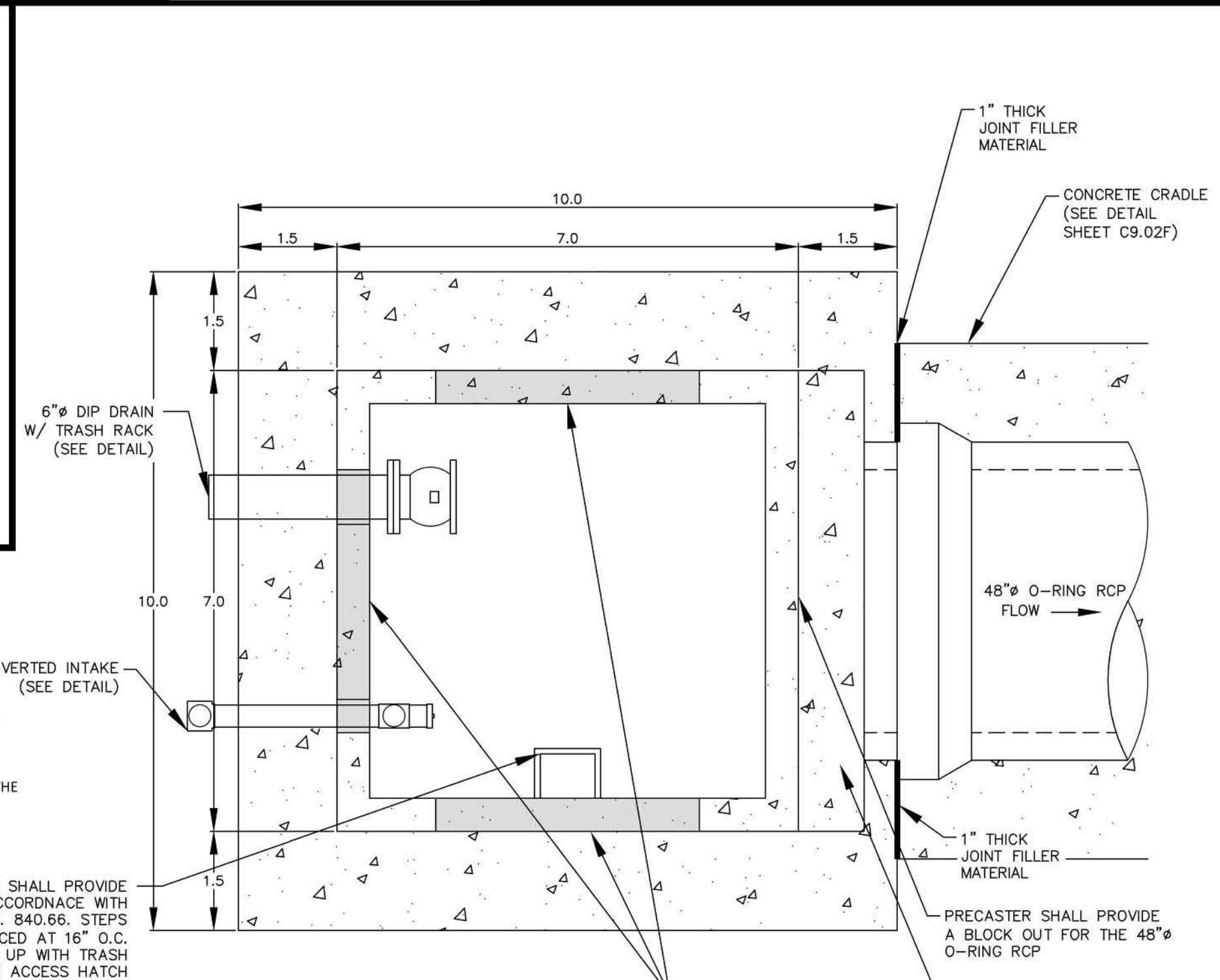
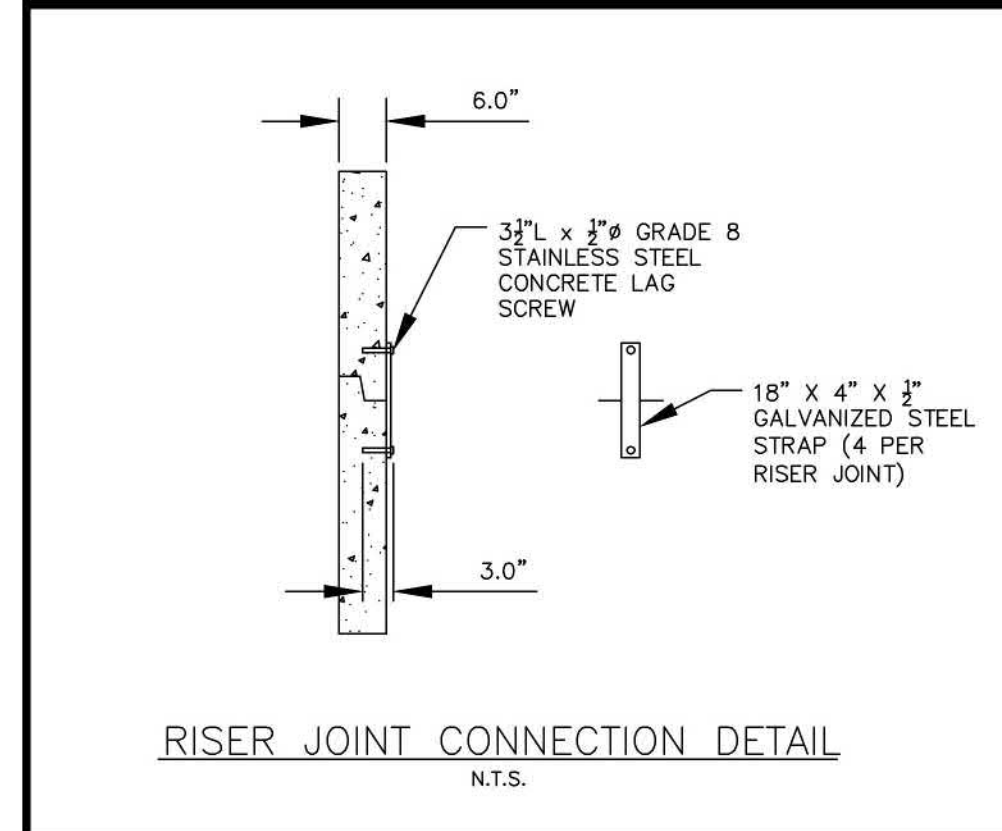
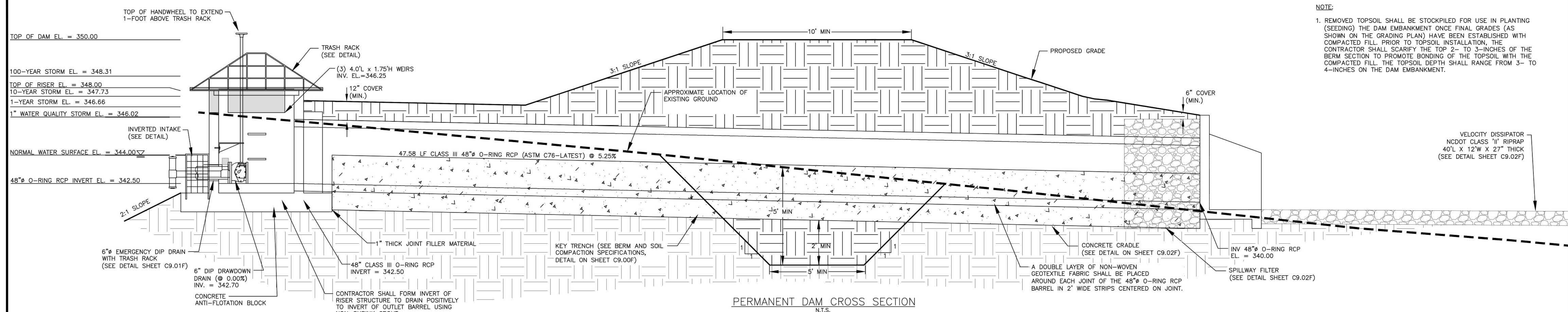
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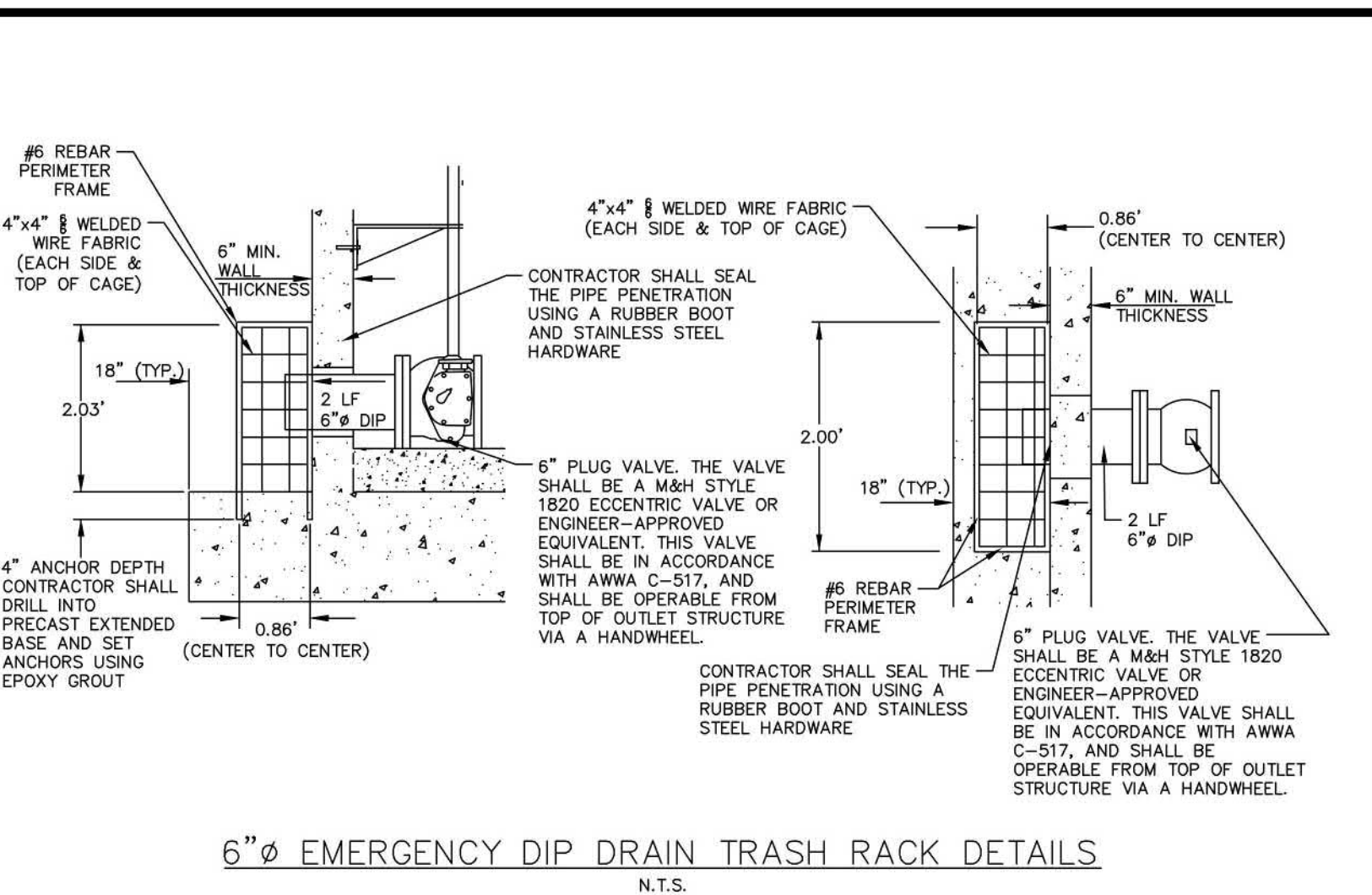
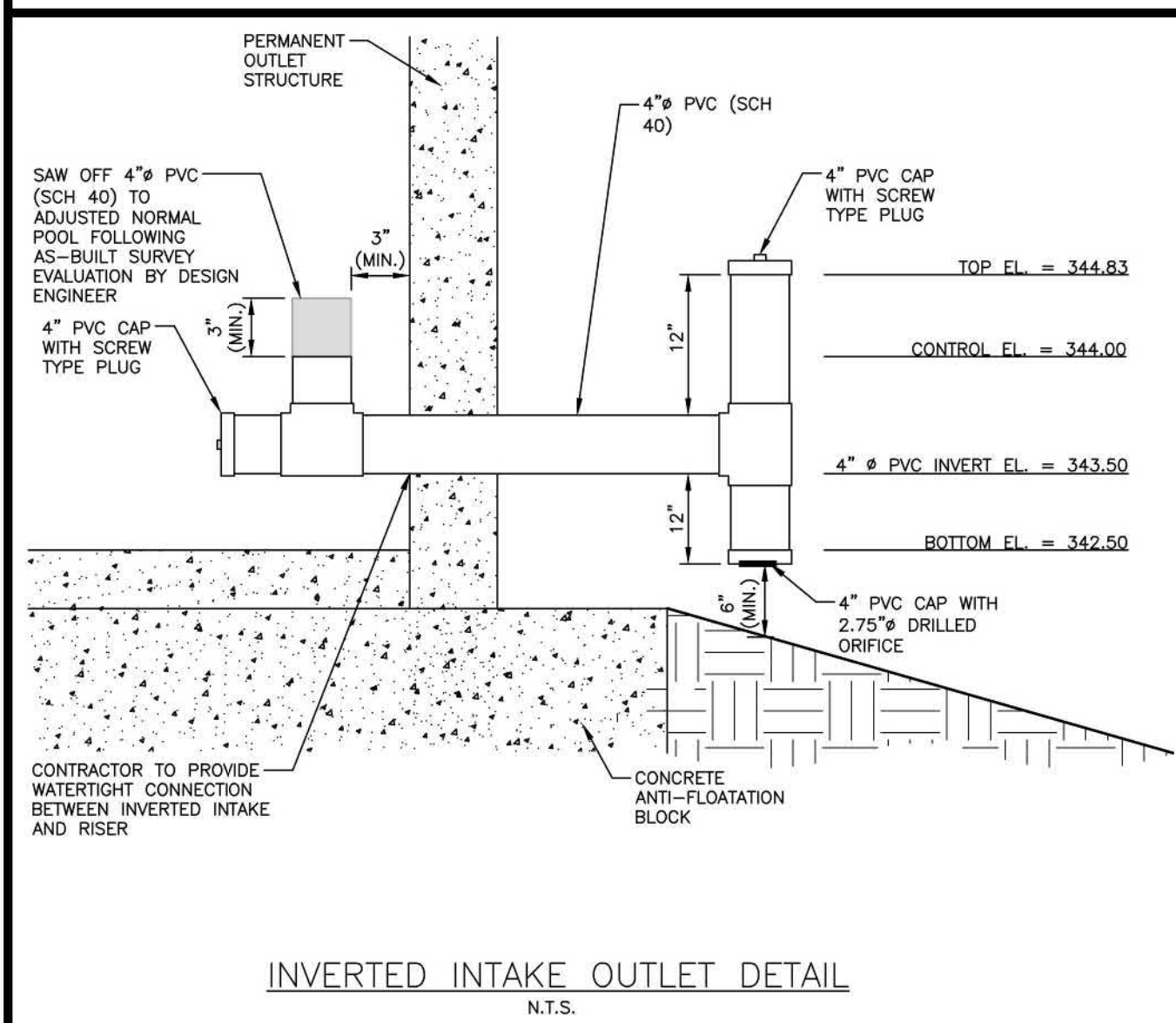
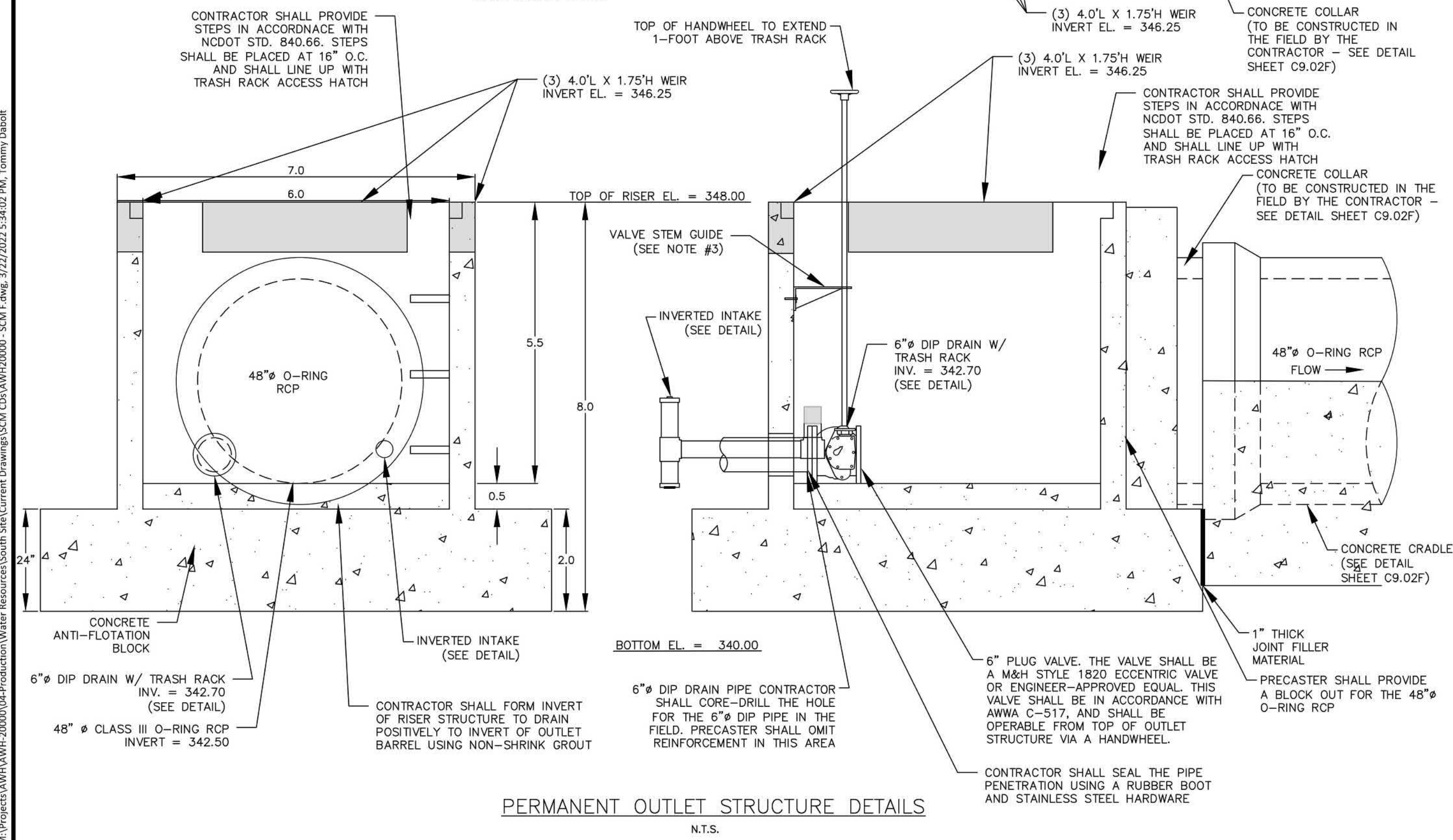


NOTE:
1. REMOVED TOPSOIL SHALL BE STOCKPILED FOR USE IN PLANTING (SEEDING) THE DAM EMBANKMENT ONCE FINAL GRADES (AS SHOWN ON THE GRADING PLAN) HAVE BEEN ESTABLISHED WITH COMPACTED FILL. PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2- TO 3-INCHES OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 3- TO 4-INCHES ON THE DAM EMBANKMENT.



NOTES:
1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
2. TRASH RACKS NOT SHOWN FOR CLARITY.
3. THE NUMBER OF GUIDES FOR THE VALVE STEM SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE VALVE STEM MUST BE OPERABLE FROM THE TOP OF THE RISER VIA THE HANDWHEEL WITH AN INSIGNIFICANT AMOUNT OF PLAY IN THE VALVE STEM.
4. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.

NOTES:
1. ALL REBAR TO BE #4 REBAR.
2. ALL REBAR AND ANGLES TO BE HOT-DIPPED GALVANIZED AND BE PROVIDED WITH AN EPOXY COATING.
3. THE HOT-DIPPED, GALVANIZED 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE REBAR TRASH RACK. ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
4. TRASH RACK IS TO BE SECURELY FASTENED TO THE SPILLWAY RISER WITH A MINIMUM OF FOUR CORROSION-RESISTANT ANCHORS.
5. ACCESS HATCH SHALL ALIGN WITH STEPS IN RISER.



STORMWATER CONTROL MEASURE 'F' LANDSCAPE SPECIFICATIONS

LEGEND

QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	HATCH	TYPE	SPACING
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SHALLOW WATER

161	IV	IRIS VIRGINIANA	BLUE FLAG IRIS		4-INCH CONTAINER	24" O.C.
153	PC	PONTEREDIA CORDATA	PICKEREL WEED		4-INCH CONTAINER	24" O.C.
180	ST	SCHOENOPLECTUS TABERNAEMONTANI	SOFT-STEM BULRUSH		4-INCH CONTAINER	24" O.C.

SHALLOW LAND

125	CS	CAREX SPP.	SEDGES		4-INCH CONTAINER	24" O.C.
108	CA	CRINUM AMERICANUM	AMERICAN CRINUM LILY		4-INCH CONTAINER	24" O.C.
108	HA	HIBISCUS ACULEATUS	PINELANDS MALLOW		4-INCH CONTAINER	24" O.C.

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3-4 INCHES DEEP OVER ADVERSE SOIL CONDITIONS. TOPSOIL SHOULD BE INCORPORATED INTO THE FINAL GRADING OF THE BASIN SIDE SLOPES AND AQUATIC SHELF. CONTRACTOR SHOULD SCARIFY THE TOP 3-4 INCHES OF THE COMPACTED FILL TO PROMOTE BONDING WITH TOPSOIL.
- RIP THE ENTIRE AREA TO 6 INCHES DEPTH.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- PER ONE TIME ONLY, APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL.
- 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.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDBED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. AFTER PERMANENT COVER IS ESTABLISHED.
- CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	KOBE LESPEDEZA	50 LBS/AC
AUG 15 - DEC 30	GERMAN MILLET	40 LBS/AC
	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

PERMANENT SEEDING SCHEDULE (DAM EMBANKMENTS)

SEEDING DATE	SEEDING MIXTURE OPTIONS (CHOOSE ONE)	APPLICATION RATE
MAY 1 - AUG 31	CENTPEDE RAW	30 LBS/AC
APRIL 1 - SEPT 1	SUMMER MIX	200 LBS/AC
OCT 1 - MARCH 1	(80% HULLED BERMUDA/20% MILLET)	200 LBS/AC
	FALL MIX	200 LBS/AC
	(80% TALL FESCUE/20% ANNUAL RYEGRASS)	

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

MULCH
APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTILIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

NOTE: PERMANENT SEEDING SCHEDULE IS FOR SLOPES OF THE BASIN AND TOP OF BERM.

PLANTING INSTRUCTIONS

- PLANTING TECHNIQUES
- ENSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
 - CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
 - PLACE PLANTS IN PIT ENSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
 - HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
 - NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
 - ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY.
 - THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
 - SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
 - PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
 - BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAMAGED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

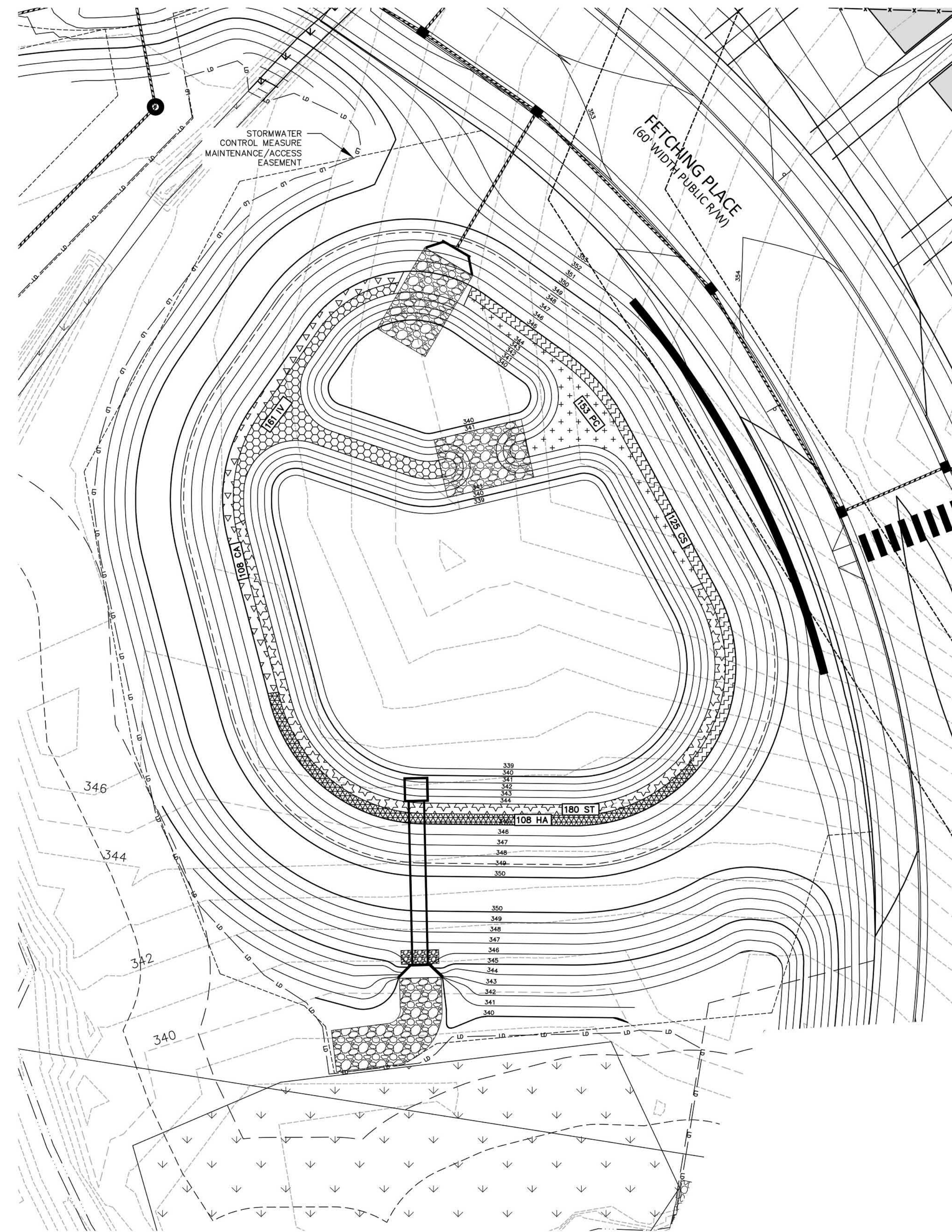
- CONTAINER STOCK / BARE ROOT
- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
 - CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.
 - BARE ROOT PLANTS ARE FOR IMMEDIATE PLANTING, OTHERWISE SEE D) BELOW.
 - IF BARE ROOT SPECIMENS ARE NOT TO BE PLANTED WITHIN FOUR (4) DAYS, TEMPORARY HOLDING OF BARE ROOT SPECIMENS ARE TO BE COVERED ENTIRELY BY A SUITABLE MEDIUM (ETC. SOIL, SAWDUST, MULCH OR THE LIKE) AND WATERED REGULARLY SO AS TO NOT DRY OUT.

- PLANT LOCATIONS
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
 - NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

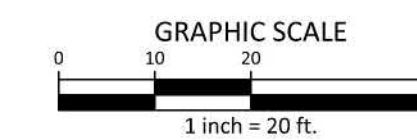
WATER
WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.

PLANTING SCHEDULE

- ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER MANAGEMENT FACILITY PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
- ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER MANAGEMENT FACILITY PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER MANAGEMENT FACILITY PLANTING PLAN.
- OPTIMAL PLANTING PERIODS RANGE APPROXIMATELY FROM APRIL 15TH THRU JUNE 30TH AND SEPTEMBER 1ST THRU OCTOBER 31ST. FOR FINAL DETERMINATION OF THE SITE'S PLANTING PERIOD, THE CONTRACTOR SHALL COORDINATE WITH A LANDSCAPE PROFESSIONAL REGARDING SCHEDULING FOR PLANT INSTALLATION.
- IT IS RECOMMENDED THAT THE CONTRACTOR TAKE MEASURES TO PREVENT WILDLIFE FROM DAMAGING OR CONSUMING WETLAND PLANTINGS.



STORMWATER CONTROL MEASURE 'F' LANDSCAPE PLAN
1" = 20'



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NO. DATE

PLAN INFORMATION

PROJECT NO. AWH-20000
FILENAME AWH20000 - SCM F
CHECKED BY DCW
DRAWN BY JKD
SCALE 1"=20'
DATE 03. 21. 2022

SHEET

STORMWATER CONTROL
MEASURE 'F' LANDSCAPE PLAN

C9.03F

BIORETENTION AREA CONSTRUCTION SPECIFICATIONS

GENERAL NOTES

- PRIOR TO CONSTRUCTION, ANY DISCREPANCIES IN THE PLANS AND NOTES SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- THE FINAL CERTIFICATION FOR THIS FACILITY WILL INCLUDE A CERTIFICATION BY THE ON-SITE GEOTECHNICAL ENGINEER THAT THE PROJECT WAS CONSTRUCTED PER THE APPROVED PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE ON-SITE GEOTECHNICAL ENGINEER FOR OBSERVATION AND TESTING SUCH THAT THE ON-SITE GEOTECHNICAL ENGINEER CAN CERTIFY THE CONSTRUCTION OF THE DAM EMBANKMENT AND SPILLWAY. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY.
- ALL CONSTRUCTION ACTIVITY RELATED TO THE PROPOSED STORMWATER CONTROL MEASURE SHALL BE PER THE DETAILS AND SPECIFICATIONS SHOWN IN THESE DRAWINGS. SOILS, COMPACTION, AND OTHER MISCELLANEOUS DETAILS AND SPECIFICATIONS MAY BE MODIFIED PER THE RECOMMENDATIONS OF THE ON-SITE GEOTECHNICAL ENGINEER. HOWEVER, PRIOR TO IMPLEMENTATION, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATION FROM THESE DESIGN DRAWINGS, INCLUDING SHOP DRAWINGS FOR ANY PROPOSED MODIFICATION.
- DURING THE INITIAL STAGES OF CONSTRUCTION, THE STORMWATER CONTROL MEASURE MAY BE USED AS A SEDIMENT BASIN FOR EROSION CONTROL PURPOSES. IF SO, THE CONTRACTOR SHALL FOLLOW THE GENERAL CONSTRUCTION SEQUENCE BELOW:
 - THE CONTRACTOR SHALL CONSTRUCT THE ENTIRE FACILITY (PERMANENT OUTLET STRUCTURE, DAM, KEY TRENCH, ETC.) WITH THE EXCEPTION OF THE INTERIOR FINE GRADING AND THE BIORETENTION MEDIA FOR THE FACILITY. THE INTERIOR FINE GRADING AND BIORETENTION MEDIA WILL BE CONSTRUCTED ONCE THE EROSION CONTROL PHASE IS COMPLETE.
 - THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) SHALL BE CONNECTED TO THE 6" UNDERDRAIN OUTLET ORIFICE.
 - ONCE THE UPSTREAM DRAINAGE AREA IS STABILIZED AND THE EROSION CONTROL INSPECTOR APPROVES THE REMOVAL OF THE SEDIMENT BASIN, THE CONTRACTOR SHALL REMOVE THE TEMPORARY DRAW DOWN RISER (OR SKIMMER) AND CLEAN OUT THE BASIN. ALL SEDIMENT, TRASH, ETC. SHALL BE DISPOSED OF PROPERLY (I.E. PLACED IN A LANDFILL) AND NOT STOCKPILED IN AN AREA WHERE WATER QUALITY COULD BE ADVERSELY AFFECTED.
 - ONCE THE BASIN IS CLEANED OUT, AND ALL EROSION CONTROL DEVICES REMOVED, THE CONTRACTOR SHALL CONSTRUCT THE INTERIOR GRADING SHOWN ON THIS SHEET.
 - ONCE THE GRADING IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF THE STORMWATER CONTROL MEASURE PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED VEGETATION PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
 - ONCE THE ENGINEER HAS APPROVED THE AS-BUILT GRADING, THE CONTRACTOR SHALL PLANT THE PROPOSED STORMWATER CONTROL MEASURE PLANTS SHOWN ON THE LANDSCAPE PLAN FOR THE FACILITY. AFTER COMPLETION OF THE PLANTING, THE LANDSCAPE CONTRACTOR SHALL PROVIDE A LETTER TO THE ENGINEER CERTIFYING THAT THE PLANTS HAVE BEEN INSTALLED PER THE APPROVED STORMWATER CONTROL MEASURE PLANTING PLAN. THE CONTRACTOR SHALL PROVIDE A ONE-YEAR WARRANTY FOR ALL PLANTS INSTALLED.
- ALL OSHA REQUIREMENTS FOR EXCAVATIONS (SHORING, DEPTH, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN TO BE SEALED BY A P.E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE IF AN EXCAVATION PLAN IS REQUIRED. THE JOHN R. McADAMS COMPANY ASSUMES NO RESPONSIBILITY FOR ANY EXCAVATION DESIGN RELATED TO SAFETY OR OSHA REQUIREMENTS.
- IT IS ANTICIPATED THAT DEWATERING WILL BE NECESSARY IN THE EXCAVATION AREAS (E.G., EMBANKMENT SUB GRADE, INTERIOR PORTIONS OF THE STORMWATER CONTROL MEASURE, KEY TRENCH, ETC.). THEREFORE, THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ANY PUMPING EQUIPMENT, ETC. NEEDED FOR REMOVAL OF WATER FROM VARIOUS PARTS OF THE STORMWATER CONTROL MEASURE SITE. DURING PLACEMENT OF FILL WITHIN THESE AREAS, THE CONTRACTOR SHALL KEEP THE WATER LEVEL BELOW THE BOTTOM OF THE EXCAVATION / CONSTRUCTION AREAS. THE MANNER IN WHICH THE WATER IS REMOVED SHALL BE SUCH THAT THE EXCAVATION BOTTOM AND SIDE SLOPES ARE STABLE, WITH NO SEDIMENT DISCHARGED FROM THE SITE (I.E. PUMPED WATER MAY NEED TO BE DIRECTED TO AN APPROVED EROSION CONTROL DEVICE SUCH AS A DIRT BAG (AC ENVIRONMENTAL), OR ENGINEER APPROVED EQUIVALENT, PRIOR TO DISCHARGE).
- PRIOR TO CONSTRUCTION, THE ONSITE GEOTECHNICAL ENGINEER SHALL VERIFY THE FILTRATION AND PERMEABILITY ASPECTS OF THE PROPOSED BIORETENTION MATERIALS. SPECIAL ATTENTION SHALL BE PAID TO PREVENT MIGRATION OF FINE SOIL PARTICLES THROUGH UNDERLYING GRAVEL LAYERS.
- PRIOR TO PLACING THE BIORETENTION AREA BACKFILL MATERIAL, THE CONTRACTOR SHALL REQUEST AN ON-SITE MEETING WITH THE DESIGN ENGINEER AND THE EROSION CONTROL INSPECTOR TO ENSURE THE UPSTREAM DRAINAGE AREA IS COMPLETELY STABILIZED (I.E. GOOD VEGETATIVE COVER). IF THE CONTRACTOR DECIDES TO PLACE THE BACKFILL FOR THE BIORETENTION AREA PRIOR TO APPROVAL FROM THE DESIGN ENGINEER AND THE EROSION CONTROL INSPECTOR, THEN THE CONTRACTOR SHALL EXCAVATE / REPLACE, AS NECESSARY, ANY BACKFILL MATERIAL NEEDED FOR THE SYSTEM TO FUNCTION PROPERLY AT HIS / HER EXPENSE SHOULD THE BIORETENTION AREA NOT FUNCTION PROPERLY (I.E. WILL NOT DRAIN DUE TO SEDIMENT DEPOSITION) DUE TO AN UNSTABILIZED UPSTREAM DRAINAGE AREA.
- THE GRADES SHOWN ON THIS PLAN ARE FINISHED GRADES. IF THE EXISTING SOIL LAYER AFTER CONSTRUCTION / COMPACTION IS NOT DETERMINED SUITABLE BY A LANDSCAPE PROFESSIONAL FOR THE BIORETENTION AREA PLANTINGS, THEN THE CONTRACTOR SHALL AMEND THE PLANTING AREA OF THE BIORETENTION AREA AS DIRECTED BY A LANDSCAPE PROFESSIONAL.
- PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARIFY THE TOP 2"-3" OF THE BERM SECTION TO PROMOTE BONDING OF THE TOPSOIL WITH THE COMPACTED FILL. THE TOPSOIL DEPTH SHALL RANGE FROM 2"-4" ON THE DAM EMBANKMENT. PLEASE NOTE THE TOPSOIL SHALL BE AMENDED, AS DIRECTED BY A LANDSCAPE PROFESSIONAL, PRIOR TO INSTALLATION ON THE EMBANKMENT.
- ONCE CONSTRUCTION OF THE BIORETENTION INTERIOR IS COMPLETE, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION AND AN AS-BUILT SURVEY PRIOR TO INSTALLATION OF ANY LANDSCAPING/PLANTS. IF THE CONTRACTOR PLANTS THE PROPOSED LANDSCAPING PRIOR TO AN AS-BUILT SURVEY (AND SUBSEQUENT APPROVAL), ANY CHANGES TO THE GRADING / RE-PLANTING OF PLANTS WILL BE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL REFER TO THE LANDSCAPE PLAN ON SHEET C9.04 FOR THE PERMANENT PLANTING PLAN/SCHEDULE FOR THE INTERIOR OF THE BIORETENTION AREA. THE PERMANENT VEGETATION FOR THE PROPOSED DAM EMBANKMENT SHALL BE TALL FESCUE. PLEASE NOTE THAT NO TREES/SHRUBS OR WOODY VEGETATION OF ANY TYPE MAY BE PLANTED ON THE PROPOSED DAM EMBANKMENT (FILL AREAS). THE INTERIOR SLOPES OF THE BIORETENTION AREA ARE TO BE PROVIDED WITH A TALL FESCUE SOI STRIP AROUND THE ENTIRE PERIMETER OF THE CELL FROM ELEVATION 302.50'-308.00'.
- ANY EXPOSED EDGE/SIDE OF THE BIORETENTION CELL SHALL BE SODDED AS SOON AS POSSIBLE AFTER CONSTRUCTION IS COMPLETE. PLEASE REFER TO THE LANDSCAPE PLAN FOR ADDITIONAL INFORMATION.

CONSTRUCTION PREPARATION

- PRIOR TO PLACEMENT OF THE NEW FILL, THE AREAS ON WHICH FILL IS TO BE PLACED SHALL BE CLEARED AND STRIPPED OF TOPSOIL, TREES, ROOTS, VEGETATION, AND OTHER OBJECTIONABLE MATERIAL. THE AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED.
- FOUNDATION AREAS MAY REQUIRE UNDERCUTTING OF COMPRESSIBLE AND/OR UNSUITABLE SOILS IN ADDITION TO THAT INDICATED ON THE PLANS. ALL SUCH UNDERCUTTING SHALL BE PERFORMED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER AND SHALL BE MONITORED AND DOCUMENTED. IN NO CASE SHALL THERE BE AN ATTEMPT TO STABILIZE ANY PORTIONS OF THE FOUNDATION SOILS WITH CRUSHED STONE.
- TREATMENT OF SEEPAGE AREAS, SUBGRADE PREPARATION, FOUNDATION DEWATERING AND ROCK FORMATION PREPARATION (I.E., TREATMENT WITH SLUSH GROUTING, DENTAL CONCRETE, ETC.) MAY BE REQUIRED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER. ALL SUCH ACTIVITIES SHALL BE CLOSELY MONITORED AND DOCUMENTED BY THE GEOTECHNICAL ENGINEER.

BIORETENTION PLANTING SOIL MIX SPECIFICATIONS

- THE PLANTING SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN ONE-HALF INCH IN DIAMETER. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERBERIDA GRASS, JOHNSON GRASS, QUACK GRASS, MUDWORT, NUTSEDGE, POISON IVY, CANADA THISTLE, OR OTHER NOXIOUS WEEDS.
- THE MEDIA SHALL BE A HOMOGENOUS SOIL MIX ENGINEERED MEDIA BLEND WITH APPROXIMATE VOLUMES OF:
 - 75% TO 85% MEDIUM TO COARSE WASHED SAND (ASTM C33, AASHTO M6/M80, ASTM C330, AASHTO M195, OR APPROVED EQUIVALENT)
 - 8% TO 15% FINES (SILT AND CLAY, PASSING #200 SIEVE)
 - 5% TO 10% ORGANIC MATTER
- THE P-INDEX OF THE MEDIA SHALL NOT EXCEED 30.
- THE FOLLOWING TEST FREQUENCIES SHALL APPLY TO THE ABOVE SOIL CONSTITUENTS: ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST PER 200 CUBIC YARDS. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR MIX COMPOSITION AND PHOSPHORUS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED BIORETENTION SOIL.
 - SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.
- AFTER INSTALLATION OF THE MEDIA, AN INFILTRATION TEST SHALL BE PERFORMED. THE MINIMUM INFILTRATION RATE OF THE INSTALLED MEDIA IS 1.0 IN/HR.
- THE MEDIA SHALL NOT BE MECHANICALLY COMPACTED. IT IS RECOMMENDED TO EITHER WATER OR WALK ON THE MEDIA AS IT IS PLACED.
- TRIPLE SHREDDED HARDWOOD MULCH SHALL BE USED FOR THE BIORETENTION AREA. MULCH SHALL BE UNIFORMLY PLACED TWO TO FOUR INCHES DEEP.

TESTING OF THE EMBANKMENT

- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH REPORTS TO VERIFY THAT THE DAM EMBANKMENT MEETS THE SPECIFIED COMPACTION REQUIREMENTS. COMPACTION REPORTS WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER FACILITY. THEREFORE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPACTION TESTS ARE PROPERLY PERFORMED DURING CONSTRUCTION.
- TESTING WILL BE REQUIRED ALONG THE 15" Ø O-RING OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL.
- TESTING OF THE DEGREE (%) OF COMPACTION OF THE PLACED FILL IN THE DAM SHALL BE PERFORMED AS A PART OF THE PERMITTEE'S NORMAL QUALITY CONTROL PROGRAM FOR THE CONSTRUCTION OF THE DAM. TESTS SHALL BE CONDUCTED CONCURRENT WITH THE INSTALLATION OF COMPACTED FILL AND THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE DAM SO THAT TESTING CAN BE COMPLETED. SHOULD THE RESULTS OF THE TESTS INDICATE THAT THE SPECIFIED DEGREE OF COMPACTION HAS NOT BEEN OBTAINED, THE PORTIONS OF THE DAM REPRESENTED BY SUCH TESTS SHALL BE REWORKED OR REBUILT. ALL PORTIONS OF THE DAM SHALL ACHIEVE THE SPECIFIED MINIMUM DEGREE OF COMPACTION.

STATEMENT OF RESPONSIBILITY

ALL REQUIRED MAINTENANCE AND INSPECTIONS OF THIS FACILITY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER, PER THE EXECUTED OPERATION AND MAINTENANCE AGREEMENT FOR THIS FACILITY.

BIORETENTION AREA MATERIAL SPECIFICATIONS

- THE MULCH SHALL CONSIST OF DOUBLE OR TRIPLE SHREDDED HARDWOOD. MULCH SHALL BE WELL-AGED AND UNIFORM IN COLOR. WELL-AGED MULCH IS DEFINED AS MULCH THAT HAS BEEN STOCKPILED OR STORED FOR AT LEAST 12 MONTHS. MULCH SHOULD BE FREE OF WEED SEEDS, SOIL, ROOTS, OR ANY OTHER SUBSTANCE NOT CONSISTING OF EITHER BOLE OR BRANCH WOOD AND BARK. THE MULCH DEPTH SHALL BE 2-4 INCHES UNIFORMLY PLACED. GRASS CLIPPINGS ARE UNSUITABLE FOR MULCH AND SHOULD BE AVOIDED FOR USE WITHIN THE BIORETENTION AREA.
- THE GRAVEL LAYER SHALL CONSIST OF NCDOT WASHED #57 STONE OR ENGINEER APPROVED EQUIVALENT
- THE WASHED SAND SHALL MEET REQUIREMENTS OF WASHED ASTM-C-33 FINE AGGREGATE CONCRETE SAND. IN ADDITION TO THE ASTM-C-33 SPECIFICATION, THE WASHED SAND MUST MEET THE FOLLOWING CONDITIONS:
 - SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM-C-33 FINE AGGREGATE CONCRETE SAND, AASHTO M-6/M-80, ASTM C330, AASHTO M195 GRADATION IS ALSO ACCEPTABLE.
 - SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
 - SAND MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
 - MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.
- THE CHOKING STONE LAYER SHALL BE WASHED #8 OR WASHED #89 STONE LAYER MEETING THE REQUIREMENTS OF ASTM-C-33.
- THE UNDERDRAIN PIPING FOR THE BIORETENTION AREA SHALL BE 6" Ø ADS N-12 PIPE. THE PIPE AND FITTINGS SHALL BE TYPE 'S' AND SHALL MEET THE REQUIREMENTS OF AASHTO M-252. THE 6" Ø PERFORATED PIPE SHALL CONTAIN CIRCULAR PERFORATIONS MEETING AASHTO CLASS II. THE PERFORATIONS SHALL BE 3/8" DIAMETER AT 6" ON CENTER MEETING PERFORATION PATTERN 'E' (6 AT 60').

BIORETENTION AREA BACKFILLING SEQUENCE

- UNDERCUT BIORETENTION AREA TO NECESSARY DEPTH (SEE BIORETENTION AREA CROSS SECTION ON SHEET C9.02P).
- PLACE 6" Ø SCHEDULE 40 OR SDR 35 SMOOTH WALL PVC UNDERDRAIN PIPES AND GEOTEXTILE LAYER. GEOTEXTILE SHALL BE SPECIFIED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE ENDS OF THE UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED. THE COLLECTOR PIPES SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%.
- PLACE 2" OF CHOKING STONE AND 4" OF WASHED SAND PER THE CROSS-SECTION ON SHEET C9.02P.
- PLACE LAYER OF PLANTING SOIL (PER PLANTING SOIL SPECIFICATION) TO ELEVATION 289.75'. PLACEMENT OF THE SOIL IN THE BIORETENTION AREA SHOULD BE IN LIFTS OF 18" OR LESS AND LIGHTLY COMPACTED.
- PLACE 3" LAYER OF MULCH (PER MULCH SPECIFICATIONS) TO GRADE.
- BIORETENTION SURFACE AREA SHALL BE 2,443 SF (MINIMUM) AT EL. 290.00. THIS REQUIRED SURFACE AREA EXCLUDES THE SURFACE AREA OCCUPIED BY THE INLET RIPRAP VELOCITY DISSIPATOR.

COMPACTION OF THE BIORETENTION AREA

- CONTRACTOR SHALL MINIMIZE THE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, CONTRACTOR SHALL USE EXCAVATION HOES TO REMOVE THE ORIGINAL SOIL. IF THE BIORETENTION AREA IS EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT WITH TIRE TYPE TIRES. COMPACTION AT THE BASE OF THE BIORETENTION AREA CAN BE ALLEVATED BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
- ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE REQUIRED GRAVEL LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
- WHEN BACKFILLING THE BIORETENTION AREA, PLACE SOIL IN LIFTS OF 12 INCHES TO 18 INCHES. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION AREA. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

BERM SOIL AND COMPACTION SPECIFICATIONS

- PRIOR TO CONSTRUCTION, THE ON-SITE GEOTECHNICAL ENGINEER SHALL IDENTIFY BORROW / FILL AREAS AND VERIFY THEIR SUITABILITY FOR USE WITHIN THE DAM EMBANKMENT. ALSO, THE ON-SITE GEOTECHNICAL ENGINEER SHALL PERFORM STANDARD PROCTORS ON THE PROPOSED BORROW MATERIAL TO ENSURE THAT OPTIMUM MOISTURE CONTENT AND COMPACTION CAN BE ACHIEVED / CONTROLLED DURING CONSTRUCTION.
- ALL FILL MATERIALS TO BE USED FOR THE DAM EMBANKMENT SHALL BE TAKEN FROM BORROW AREAS APPROVED BY THE ON-SITE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, WOOD, STONES GREATER THAN 6", AND FROZEN OR OTHER OBJECTIONABLE MATERIAL. THE FOLLOWING SOIL TYPES ARE SUITABLE FOR USE AS FILL WITHIN THE DAM EMBANKMENT AND KEY TRENCH: ML AND CL. ALL FILL MATERIALS SHALL BE APPROVED BY THE ONSITE GEOTECHNICAL ENGINEER FOR THE INTENDED USE.
- FILL PLACEMENT FOR THE EMBANKMENT SHALL NOT EXCEED A MAXIMUM 8" LIFT (UNCOMPACTED). EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF EMBANKMENT. BEFORE PLACEMENT OF THE BERM SECTION, ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND THE SURFACE PROPERLY PREPARED FOR FILL PLACEMENT. FILL MATERIAL ADJACENT TO ALL SPILLWAY AND DRAINAGE STRUCTURES SHALL BE PLACED IN 4-INCH (UNCOMPACTED) LIFTS AND HAND-COMPACTED TO THE SAME COMPACTION AND MOISTURE REQUIREMENTS AS THE ENTIRE EMBANKMENT.
- ALL FILL SOILS USED IN THE EMBANKMENT CONSTRUCTION SHALL BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698). THE FILL SOILS SHALL BE COMPACTED AT A MOISTURE CONTENT WITHIN -1 TO +3 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. COMPACTION TESTS SHALL BE PERFORMED BY THE ON-SITE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE PROPER COMPACTION LEVEL HAS BEEN REACHED. THE FILL SHOULD BE COMPACTED USING A SHEEPSFOOT TYPE COMPACTOR. IN ORDER TO PREVENT DAMAGE TO THE PIPE, NO COMPACTION EQUIPMENT SHALL CROSS ANY PIPE UNTIL MINIMUM COVER IS ESTABLISHED ALONG THE PIPE.
- THE DESIGN ENGINEER SHALL BE PROVIDED WITH REPORTS AND CERTIFICATION, BY THE ON-SITE GEOTECHNICAL ENGINEER, THAT THE GEOTECHNICAL ASPECTS OF THE FACILITY HAVE BEEN CONSTRUCTED PER PLAN. THIS CERTIFICATION MUST ADDRESS THE TESTING FOR MATERIALS AND COMPACTION OF THE DAM EMBANKMENT AND SPILLWAY. THESE REPORTS AND CERTIFICATION WILL BE NEEDED DURING THE AS-BUILT CERTIFICATION PROCESS FOR THIS STORMWATER CONTROL MEASURE. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE TESTING AND OBSERVATION WITH THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING OF THE NEW FILL MATERIALS SHALL BE PERFORMED TO VERIFY THAT THE RECOMMENDED LEVEL OF COMPACTION IS ACHIEVED DURING CONSTRUCTION. THEREFORE, ONE DENSITY TEST SHALL BE PERFORMED FOR EVERY 2,500 SQUARE FEET OF AREA FOR EVERY LIFT OF FILL OR AS RECOMMENDED BY THE ON-SITE GEOTECHNICAL ENGINEER.
- TESTING WILL BE REQUIRED ALONG THE 15" Ø RCP OUTLET BARREL AT A FREQUENCY OF ONE TEST PER 25 LF OF PIPE PER VERTICAL FOOT OF FILL OR AS DIRECTED BY THE ON-SITE GEOTECHNICAL ENGINEER.

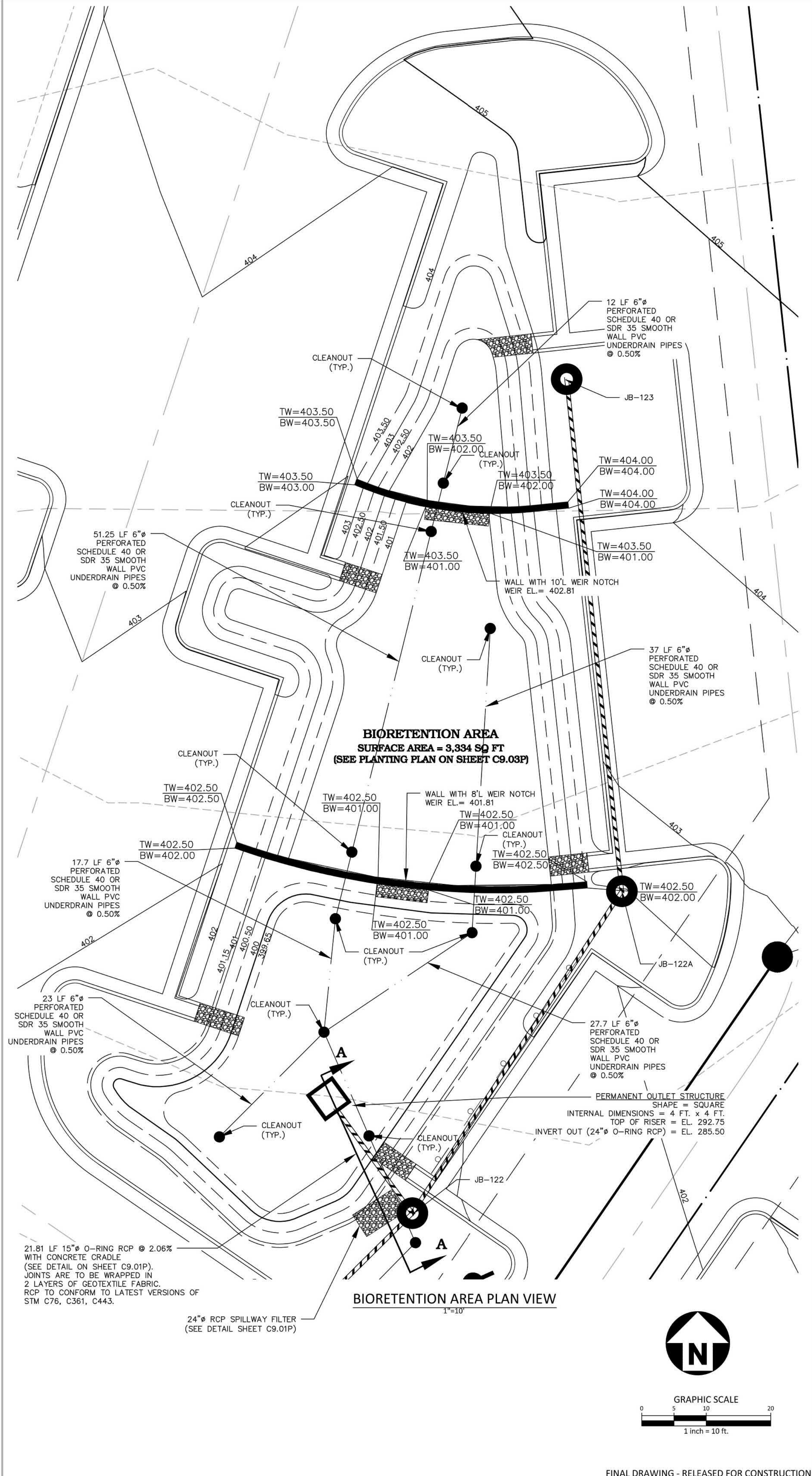
OUTLET STRUCTURE MATERIAL SPECIFICATIONS

- THE 15" Ø RCP OUTLET BARREL SHALL BE CLASS II RCP, MODIFIED BELL AND SPIGOT, MEETING THE REQUIREMENTS OF ASTM C76-LATEST. THE PIPES SHALL HAVE CONFINED O-RING RUBBER GASKET JOINTS MEETING ASTM C-443-LATEST. THE PIPE JOINTS SHALL BE TYPE R-4
- THE STRUCTURAL DESIGN FOR THE 4' X 4' (INTERNAL DIMENSIONS) RISER BOX WITH EXTENDED BASE SHALL BE BY OTHERS. PRIOR TO ORDERING THE STRUCTURES, THE CONTRACTOR SHALL PROVIDE, TO THE DESIGN ENGINEER FOR REVIEW, SHOP DRAWINGS AND SUPPORTING STRUCTURAL CALCULATIONS SEALED BY A P.E. REGISTERED IN NORTH CAROLINA DEMONSTRATING THE PERTINENT VERTICAL LOADS ARE SUPPORTED BY THE CONCRETE RISER STRUCTURE.
- THE RISER BOX OUTLET STRUCTURE SHALL BE PROVIDED WITH STEPS 16" ON CENTER. STEPS SHALL BE PROVIDED ON THE INNER WALL OF THE RISER BOX. STEPS SHALL BE IN ACCORDANCE WITH NCDOT STD. 840.66. PLEASE REFER TO SHEET C9.02P FOR LOCATION OF THE RISER STEPS. NOTE THE STEPS SHALL LINE UP WITH THE ACCESS HATCH OF THE TRASH RACK.
- THE CONCRETE ANTI-FLOTATION BLOCK SHALL BE CAST-IN-PLACE. STEEL REINFORCEMENT AND CONNECTION TO THE RISER SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAIL ON SHEET C9.01P. THE CONTRACTOR SHALL ENSURE THE WEIGHT OF THE ENTIRE RISER STRUCTURE IS GREATER THAN OR EQUAL TO 14,470 LBS. IN LIEU OF CAST-IN-PLACE, THE CONTRACTOR MAY OPT FOR A PRECAST ANTI-FLOTATION BLOCK. SHOP DRAWINGS FOR THE PRECAST BLOCK SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE PRECAST ANTI-FLOTATION BLOCK SHALL HAVE A SHIPPING WEIGHT OF 9,088 LBS.
- THE RISER BOX JOINTS SHALL BE SEALED USING BUTYL RUBBER SEALANT CONFORMING TO ASTM-C990-LATEST. IF NECESSARY, THE CONTRACTOR SHALL INCORPORATE A WATERSTOP INTO THE RISER BOX JOINT TO ENSURE A WATERTIGHT CONNECTION. THE CONTRACTOR SHALL PARGE JOINTS ON BOTH THE INSIDE AND OUTSIDE WITH NON-SHRINK GROUT. JOINT STRAPS SHALL BE PROVIDED PER THE DETAIL ON C9.02P.
- PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT TRASH RACK SHOP DRAWINGS TO THE ENGINEER FOR REVIEW. CONTRACTOR SHALL ENSURE THAT AN ACCESS HATCH IS PROVIDED WITHIN THE TRASH RACK (SEE DETAIL FOR LOCATION) THAT WILL ALLOW FOR FUTURE MAINTENANCE ACCESS. CONTRACTOR SHALL ALSO PROVIDE A CHAIN AND LOCK FOR SECURING THE ACCESS HATCH. NOTE THE ACCESS HATCH SHALL LINE UP WITH THE ACCESS STEPS AFTER INSTALLATION.
- ALL POURED CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS UNLESS OTHERWISE NOTED:
 - MINIMUM 3000 PSI (28 DAY)
 - SLUMP = 3" - 5"
 - ENTRAINED AIR = 5% - 7%

PLEASE NOTE NO CONCRETE SHALL BE POURED WHEN THE AMBIENT AIR TEMPERATURES ARE EXPECTED TO BE ABOVE 85°F OR BELOW 40°F. CAST-IN-PLACE CONCRETE SHALL BE "WET CURED" AFTER FINISHING FOR A MINIMUM OF 48 HOURS.

ON-SITE GEOTECHNICAL ENGINEER TO ENSURE AND CERTIFY ALL POURED CONCRETE MEETS THE ABOVE SPECIFICATIONS.

GEOTEXTILE FABRIC FOR THE 15" Ø RCP OUTLET BARREL JOINTS SHALL BE MIRAF1380N OR ENGINEER APPROVED EQUAL (NON-WOVEN FABRIC).



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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



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NO.	DATE	ADDED	SCM	"P"
2	12.20.2022	ADDED	SCM	"P"

REVISIONS

NO.	DATE	ADDED	SCM	"P"
2	12.20.2022	ADDED	SCM	"P"

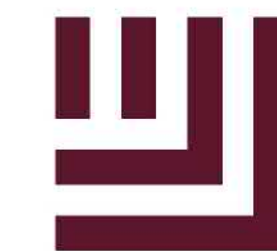
PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH-20000 - BIORETENTION
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	1" = 10'
DATE	03.21.2022

SHEET

STORMWATER CONTROL
MEASURE 'P' PLAN VIEW

C9.00P



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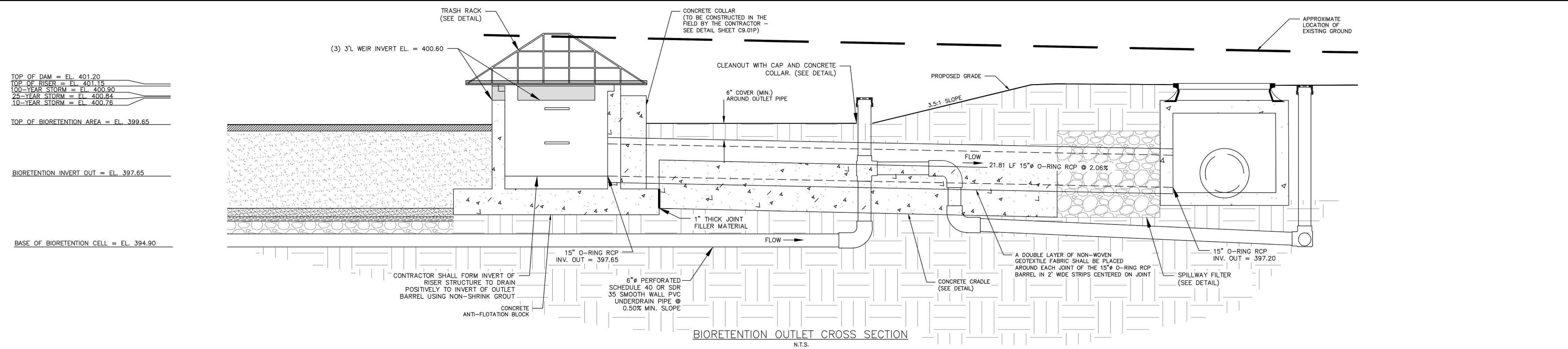
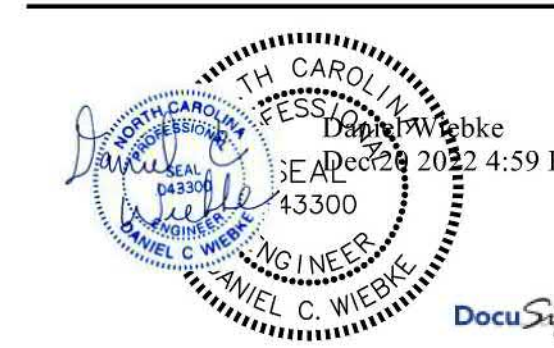
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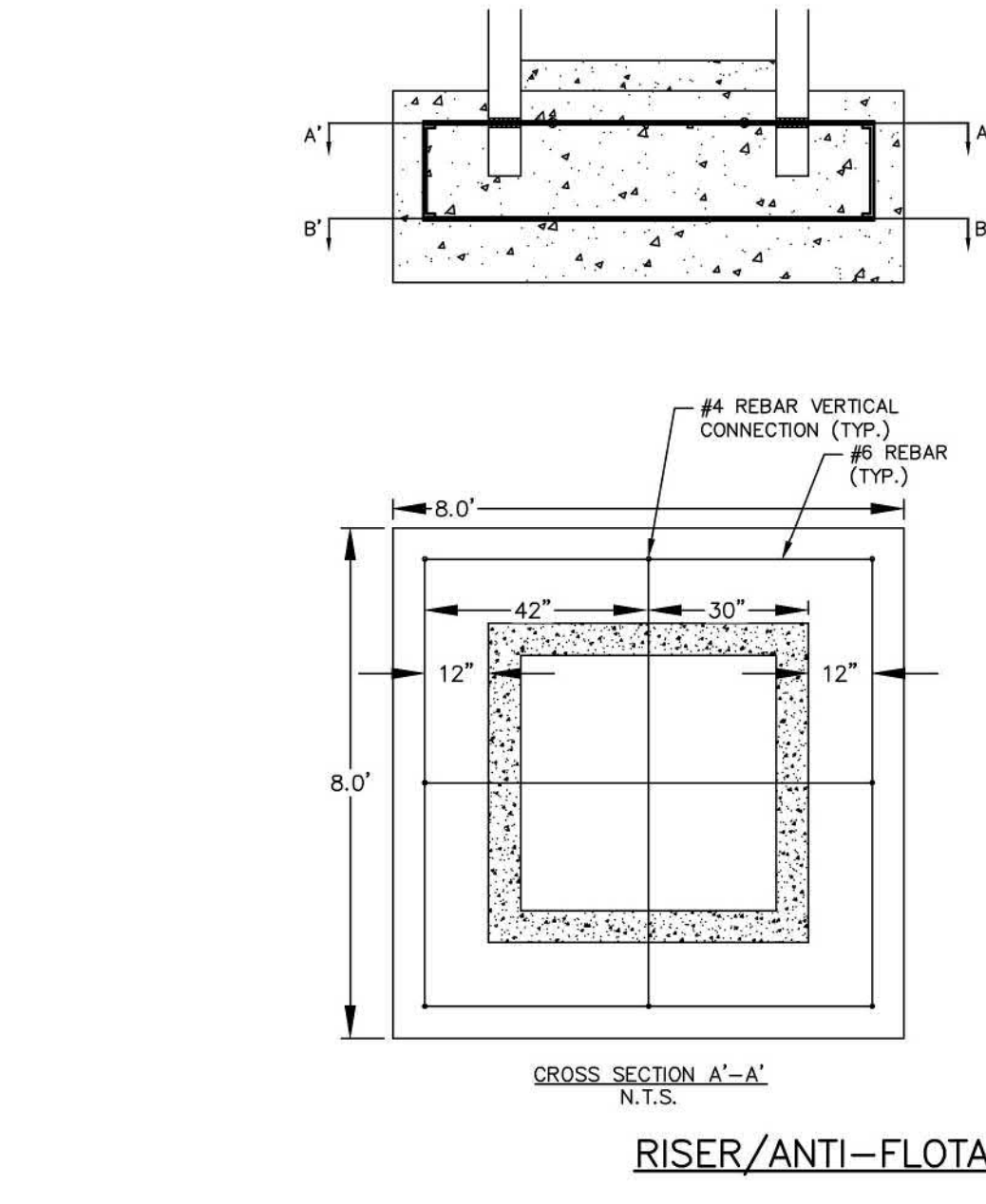
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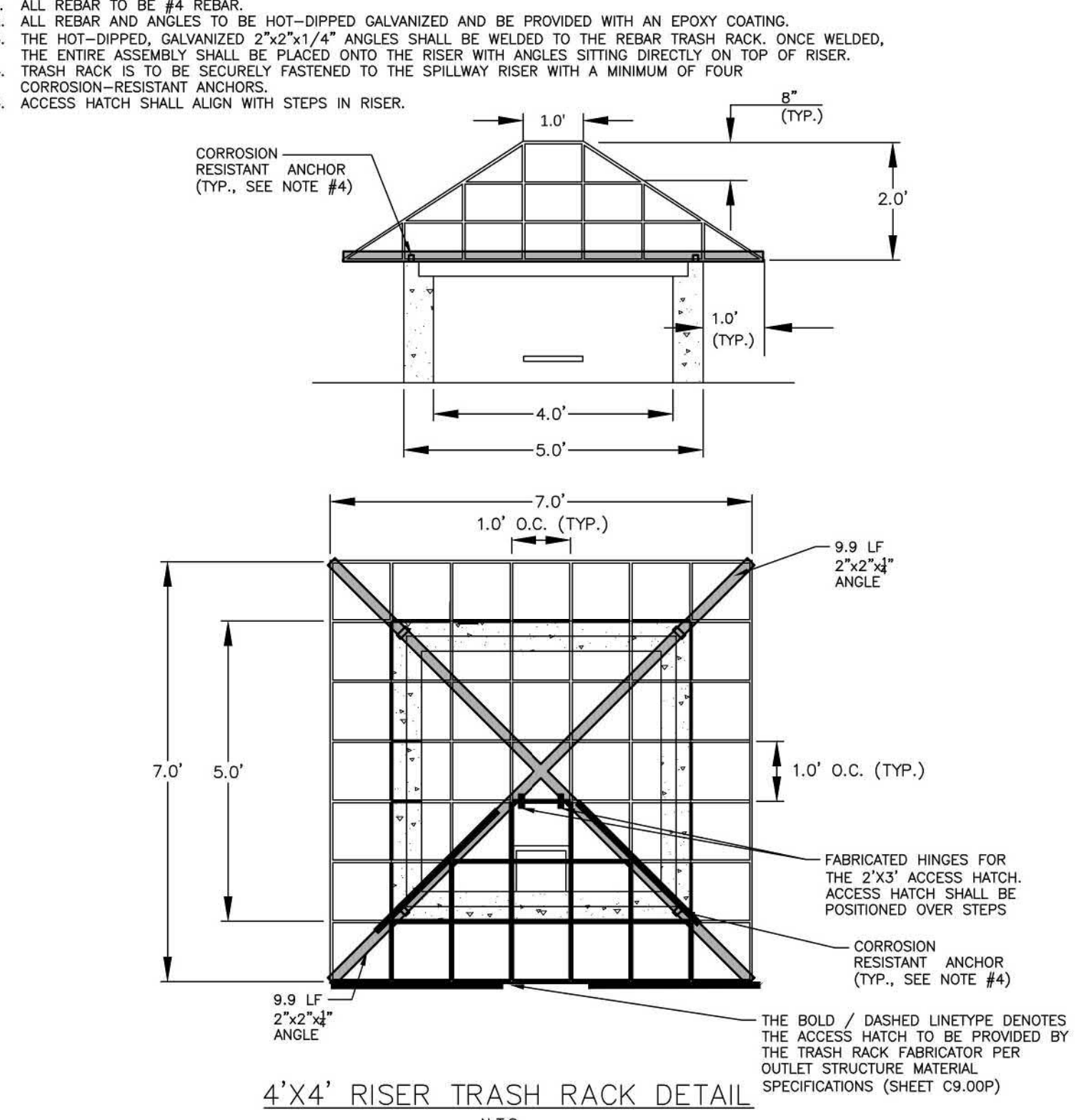
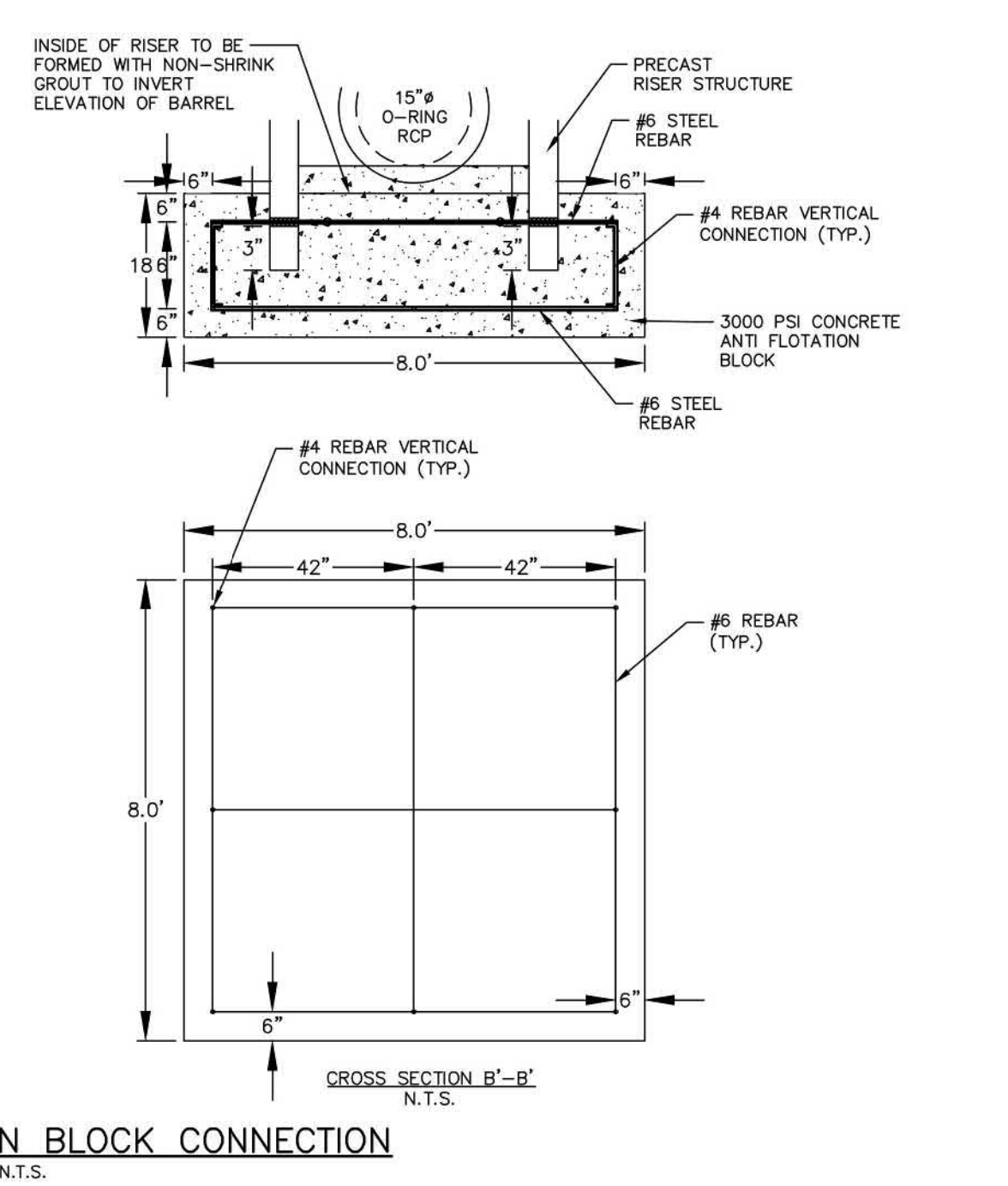
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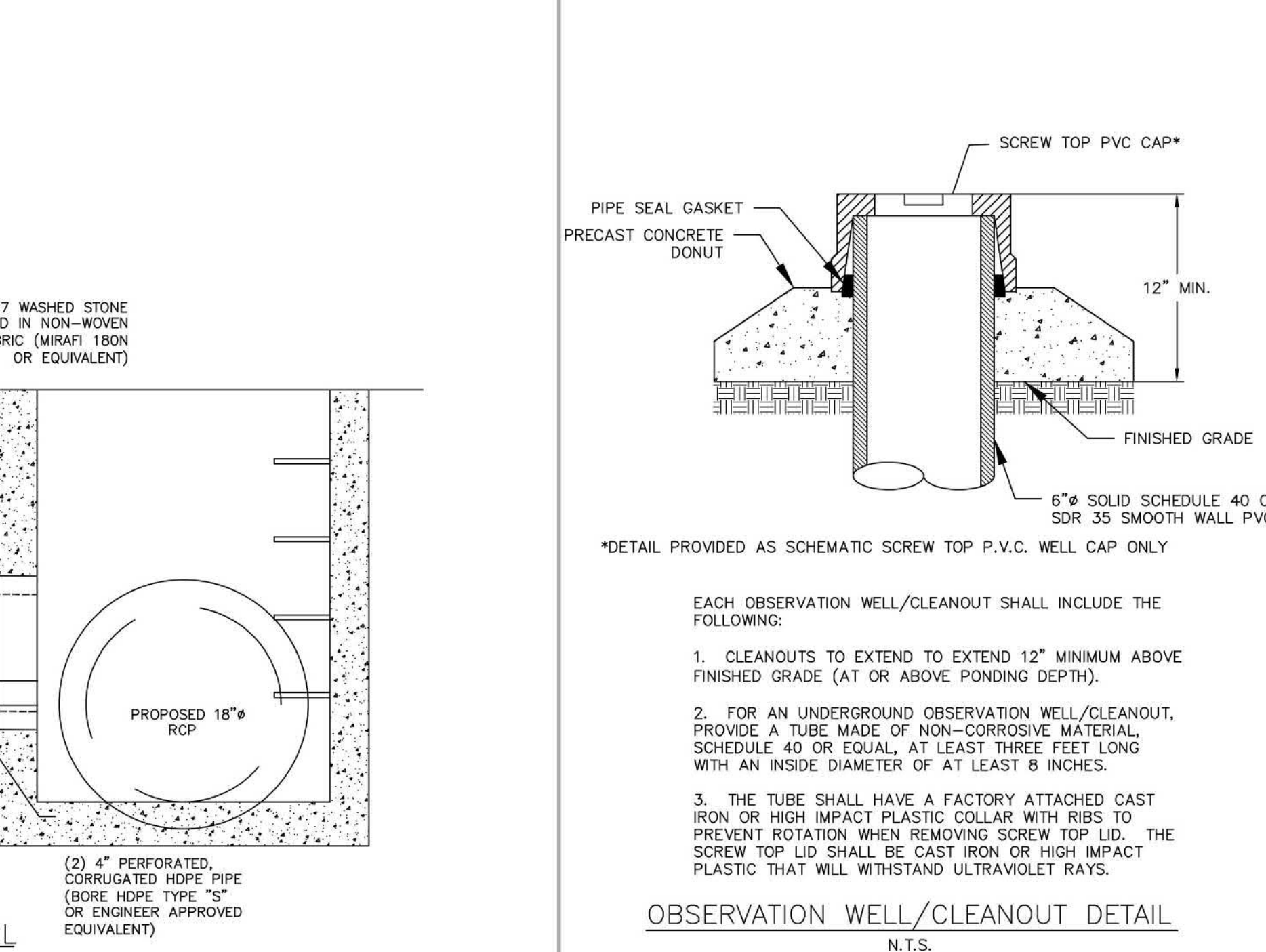
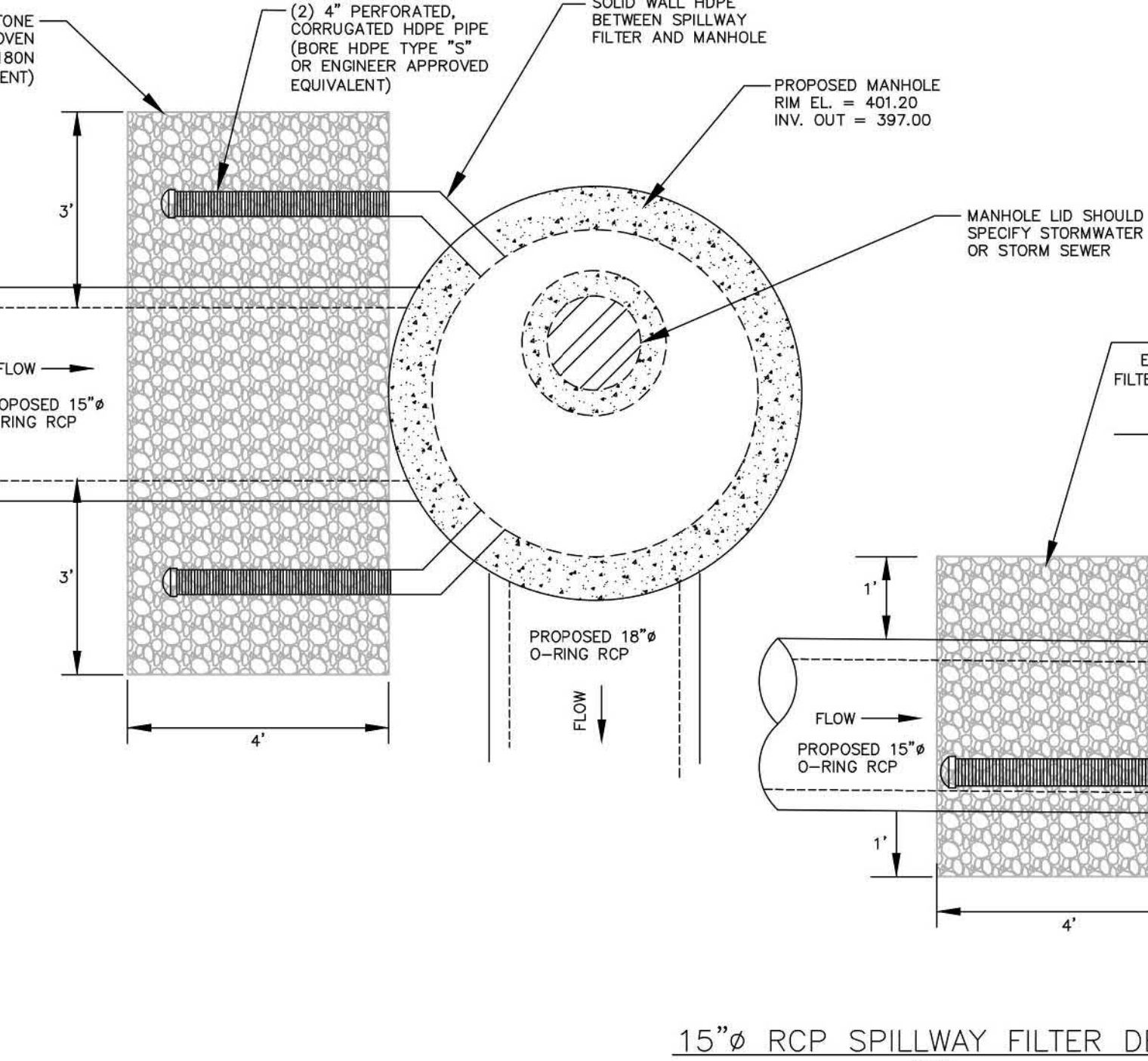
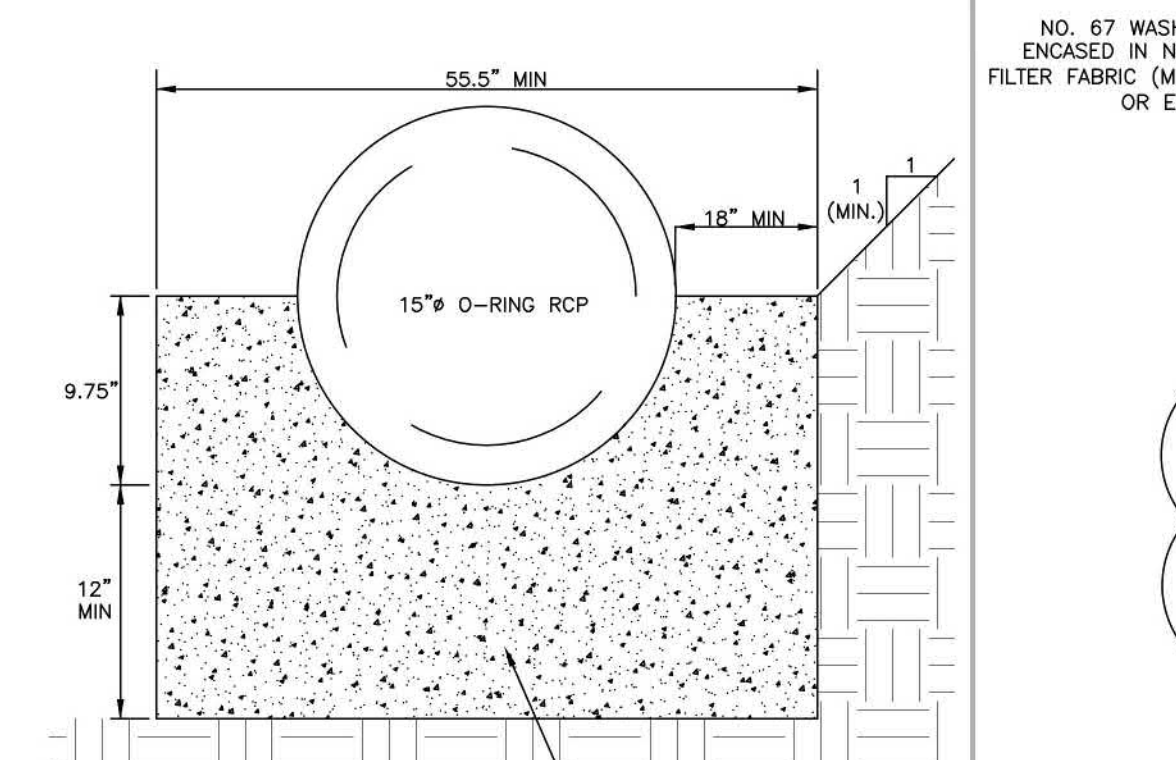
- NOTES:**
- ALL REINFORCING STEEL IN RISER ANTI-FLOTATION BLOCK TO BE GRADE 60 #6 BARS FOR HORIZONTAL CROSSING AND GRADE 60 #4 BARS FOR VERTICAL CONNECTIONS.
 - INSIDE OF RISER BOTTOM TO BE FORMED WITH NON-SHRINK GROUT TO INVERT ELEVATION OF BARREL.
 - ALL PIPE PENETRATIONS THROUGH THE CONCRETE RISER STRUCTURE SHALL BE MADE WATER-TIGHT.



- NOTES:**
- ALL REBAR TO BE #4 REBAR.
 - ALL REBAR AND ANGLES TO BE HOT-DIPPED GALVANIZED AND BE PROVIDED WITH AN EPOXY COATING.
 - THE HOT-DIPPED, GALVANIZED 2"x2"x1/4" ANGLES SHALL BE WELDED TO THE REBAR TRASH RACK. ONCE WELDED, THE ENTIRE ASSEMBLY SHALL BE PLACED ONTO THE RISER WITH ANGLES SITTING DIRECTLY ON TOP OF RISER.
 - TRASH RACK IS TO BE SECURELY FASTENED TO THE SPILLWAY RISER WITH A MINIMUM OF FOUR CORROSION-RESISTANT ANCHORS.
 - ACCESS HATCH SHALL ALIGN WITH STEPS IN RISER.



- NOTE:**
- CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5'-FT FROM THE RISER.
- BARREL PIPE CONCRETE CRADLE CONSTRUCTION SEQUENCE**
- IF OPTION A IS CHOSEN FROM NOTE 9 OF THE OUTLET STRUCTURE MATERIAL SPECIFICATIONS, THEN BRING GRADE OF DAM EMBANKMENT TO SPRINGLINE OF PIPE ELEVATION. IF OPTION B IS CHOSEN FROM NOTE 9 OF THE OUTLET STRUCTURE MATERIAL SPECIFICATIONS, THEN CONSTRUCT FORMWORK FOR CONCRETE CRADLE ON EXISTING GRADE.
 - IF OPTION A IS CHOSEN FROM NOTE 9 OF THE OUTLET STRUCTURE MATERIAL SPECIFICATIONS, THEN EXCAVATE TRENCH FOR CRADLE AND BARREL PER DIMENSIONS ON DRAWINGS. IF OPTION B IS CHOSEN FROM NOTE 9 OF THE OUTLET STRUCTURE MATERIAL SPECIFICATIONS, PROCEED TO STEP 3 BELOW.
 - PLACE BARREL PIPE ON CONCRETE BLOCKS TO GRADE. AT THIS STEP, CONTRACTOR SHALL WRAP A DOUBLE LAYER OF NON-WOVEN GEOTEXTILE FABRIC AROUND EACH JOINT OF THE 15" O-RING RCP BARREL IN 2" WIDE STRIPS CENTERED ON JOINT.
 - PLACE CONCRETE FOR CRADLE FOR EACH SECTION FROM ONE SIDE OF THE TRENCH. ALLOW CONCRETE TO FILL ENTIRE AREA UNDER PIPE AND PIPE HANGINGS AS TO LEAVE NO VOIDS UNDER THE PIPE BEFORE PLACING CONCRETE ON THE OPPOSITE SIDE OF THE TRENCH. PLACE ENTIRE CRADLE AS ONE LIFT (VERTICALLY) PER DRAWINGS.
 - ALLOW CRADLE TO CURE FOR A MINIMUM OF 7 DAYS BEFORE ANY VIBRATING COMPACTION EQUIPMENT IS USED IN THE VICINITY OF THE BARREL PIPE.
 - TRENCH TO BE BACKFILLED IN 5" LIFTS WHEN COMPACTION IS BY HAND. BACKFILL IS IN 8" LIFTS WHEN CONDUCTED BY MACHINE. MINIMUM OF 2 FEET COVER MUST BE PRESENT ON 15" RCP BEFORE DRIVING OVER WITH HEAVY EQUIPMENT.



15" CONCRETE CRADLE DETAIL N.T.S.

15" RCP SPILLWAY FILTER DETAIL N.T.S.

OBSERVATION WELL/CLEANOUT DETAIL N.T.S.

FINAL DRAWING - RELEASED FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
1	12.20.2022	ADDED SCM "P"

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	XXX-XXXXX-SW
CHECKED BY	DCW
DRAWN BY	JKD
SCALE	NTS
DATE	03.21.2022

STORMWATER CONTROL
MEASURE 'P' DETAILS
C9.01P

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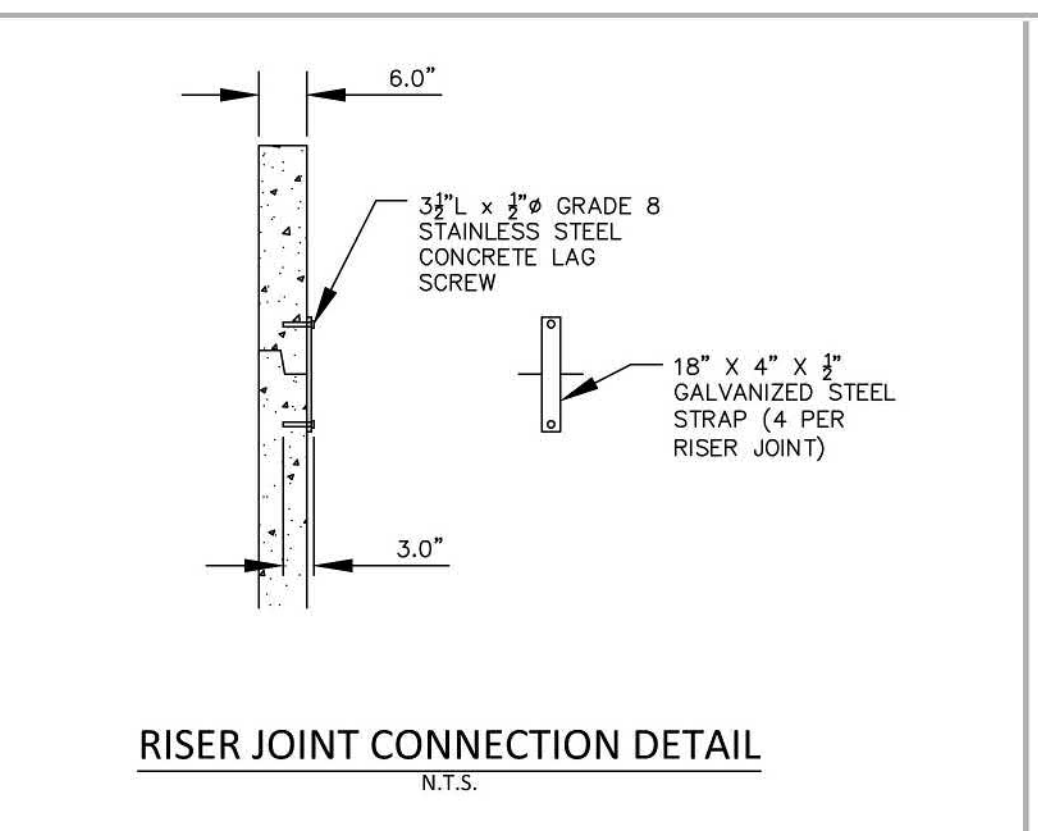
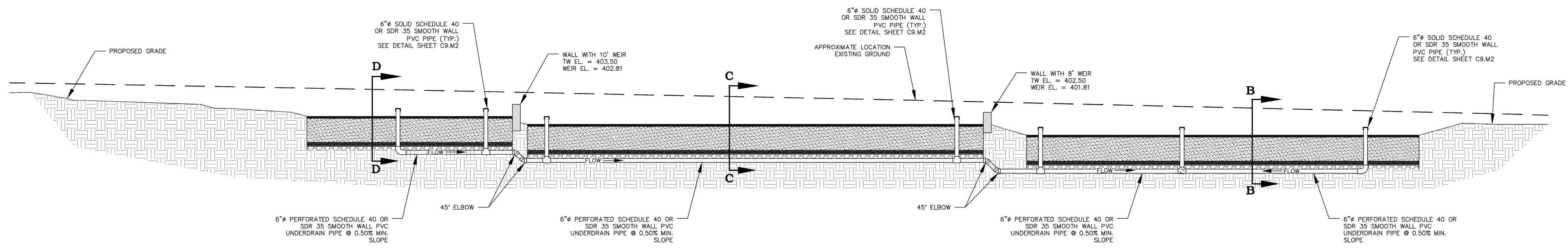
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REVISIONS

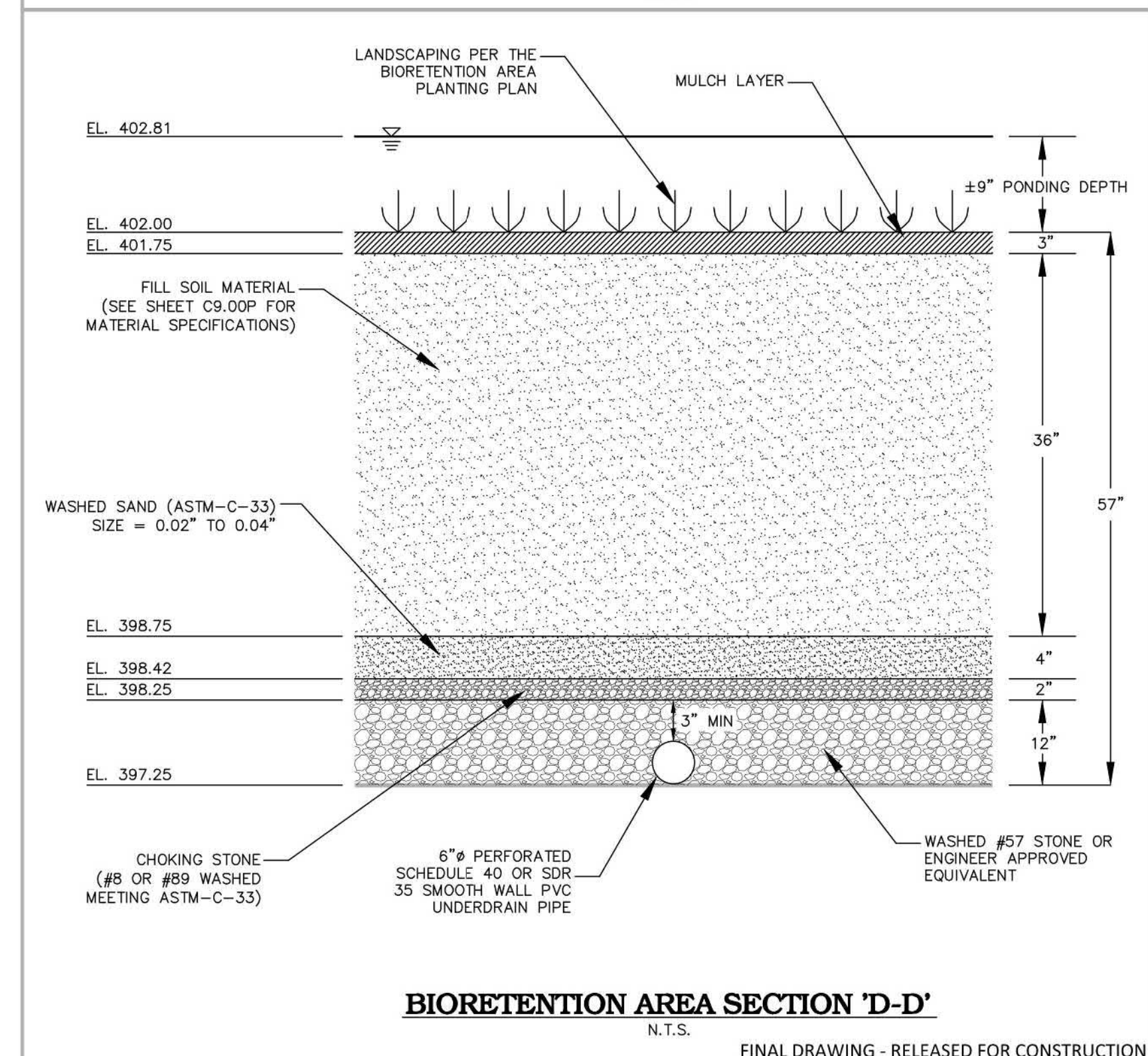
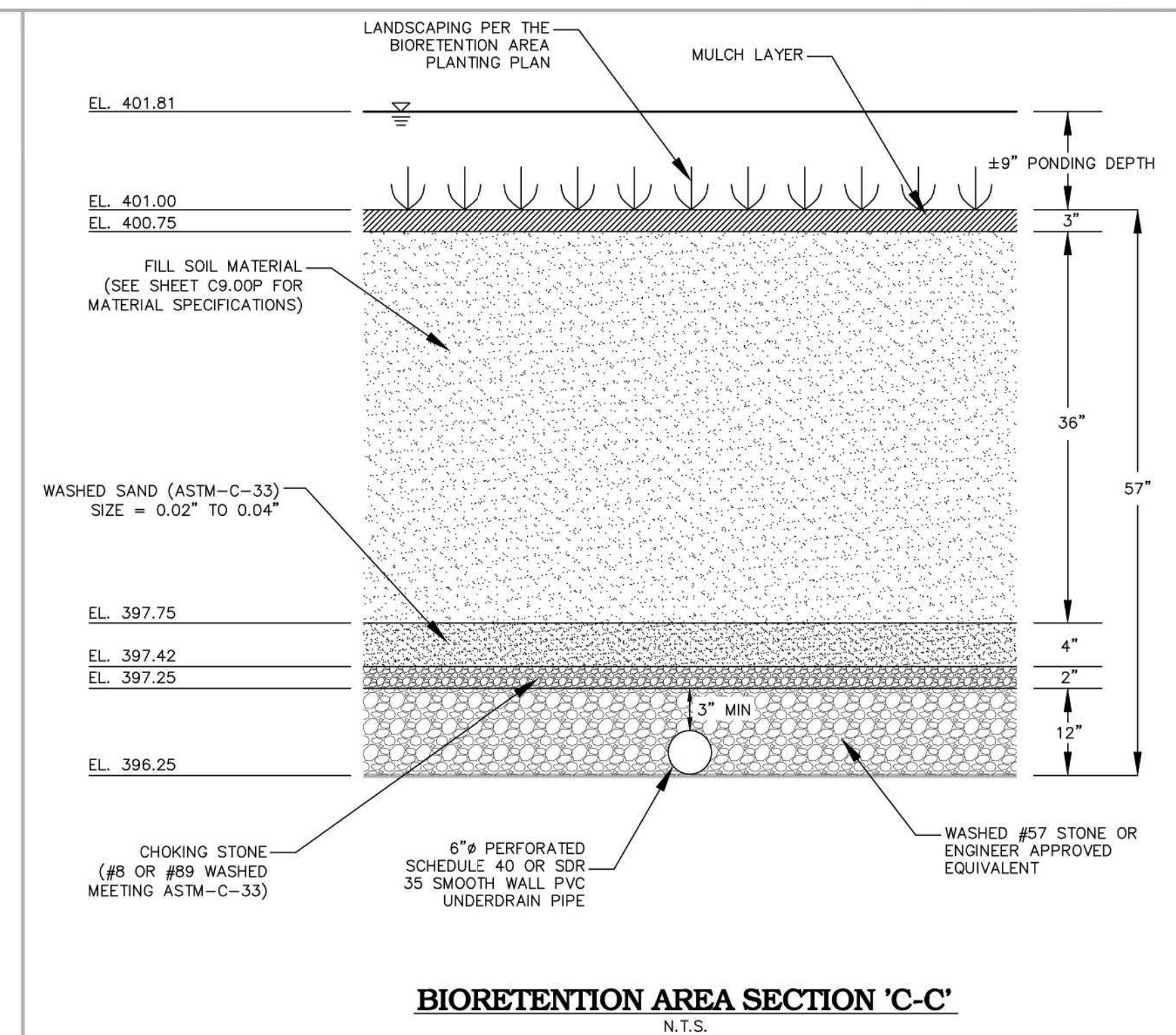
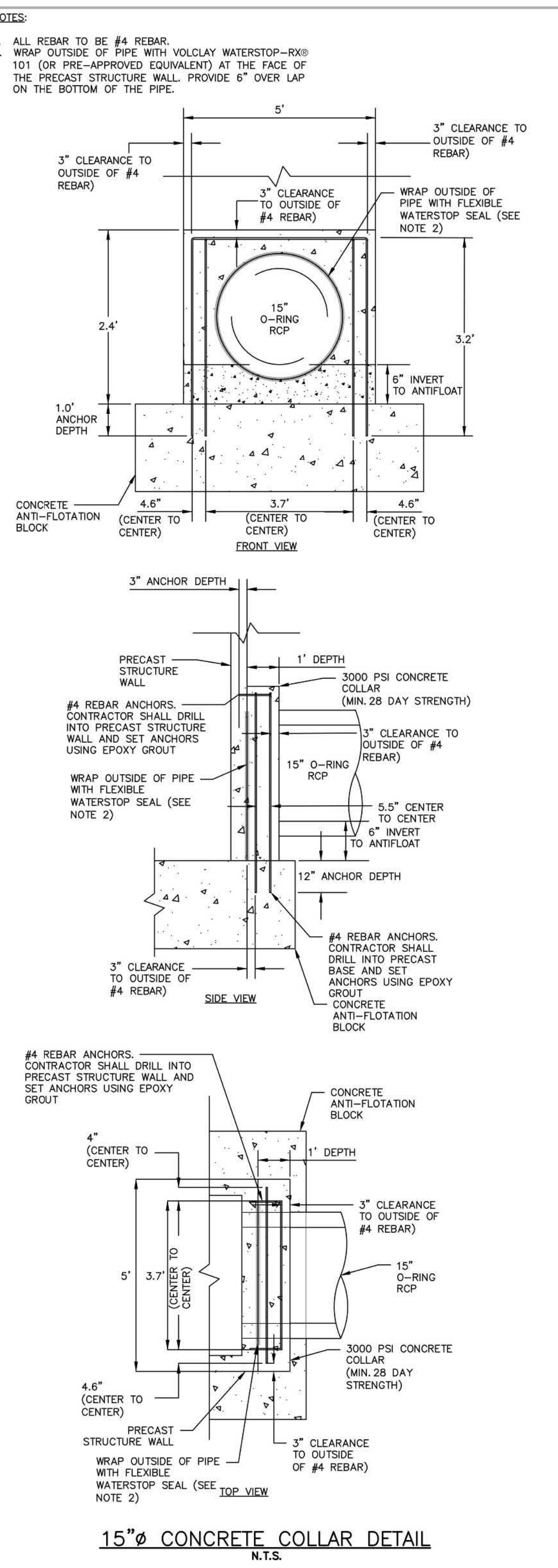
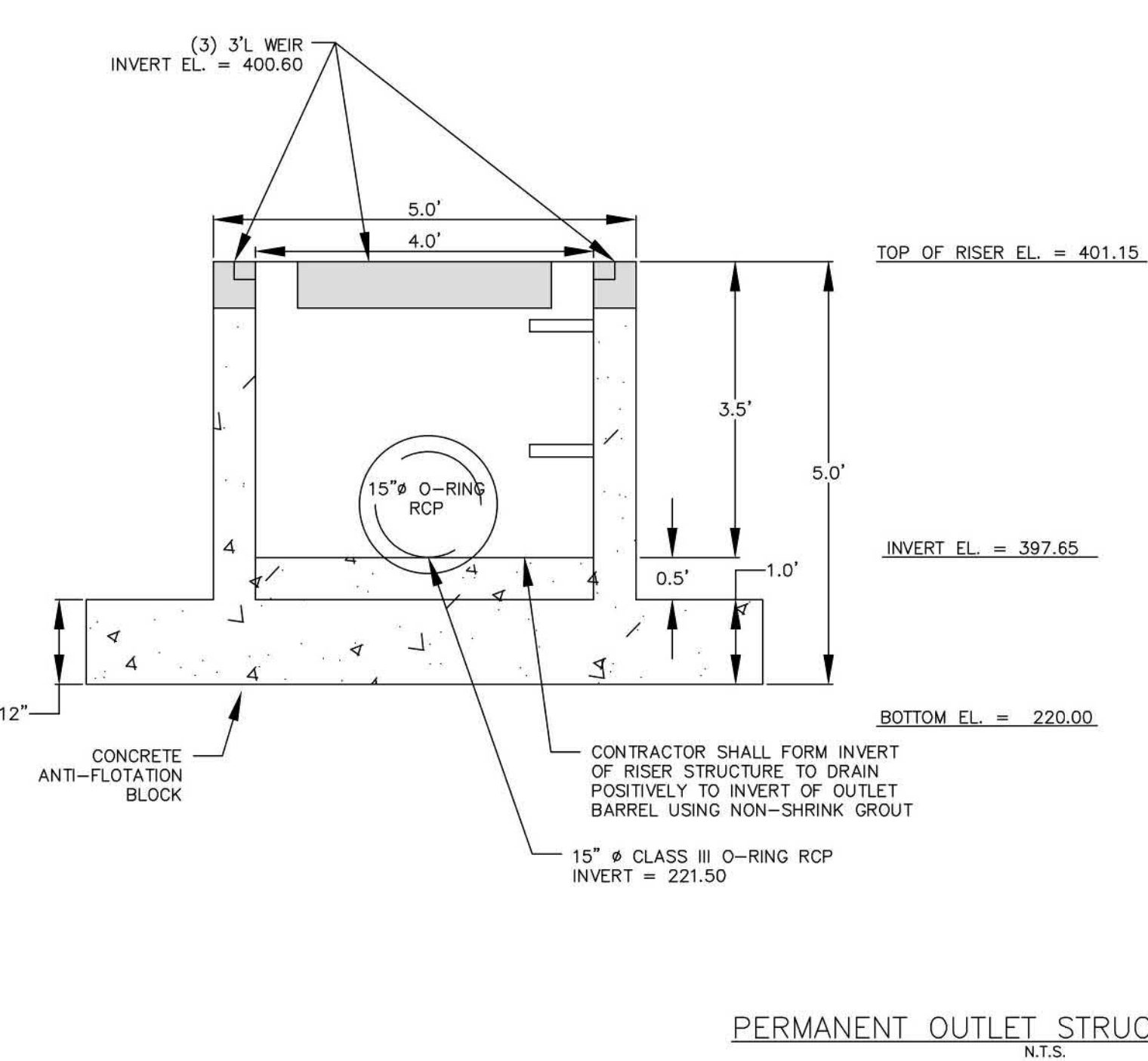
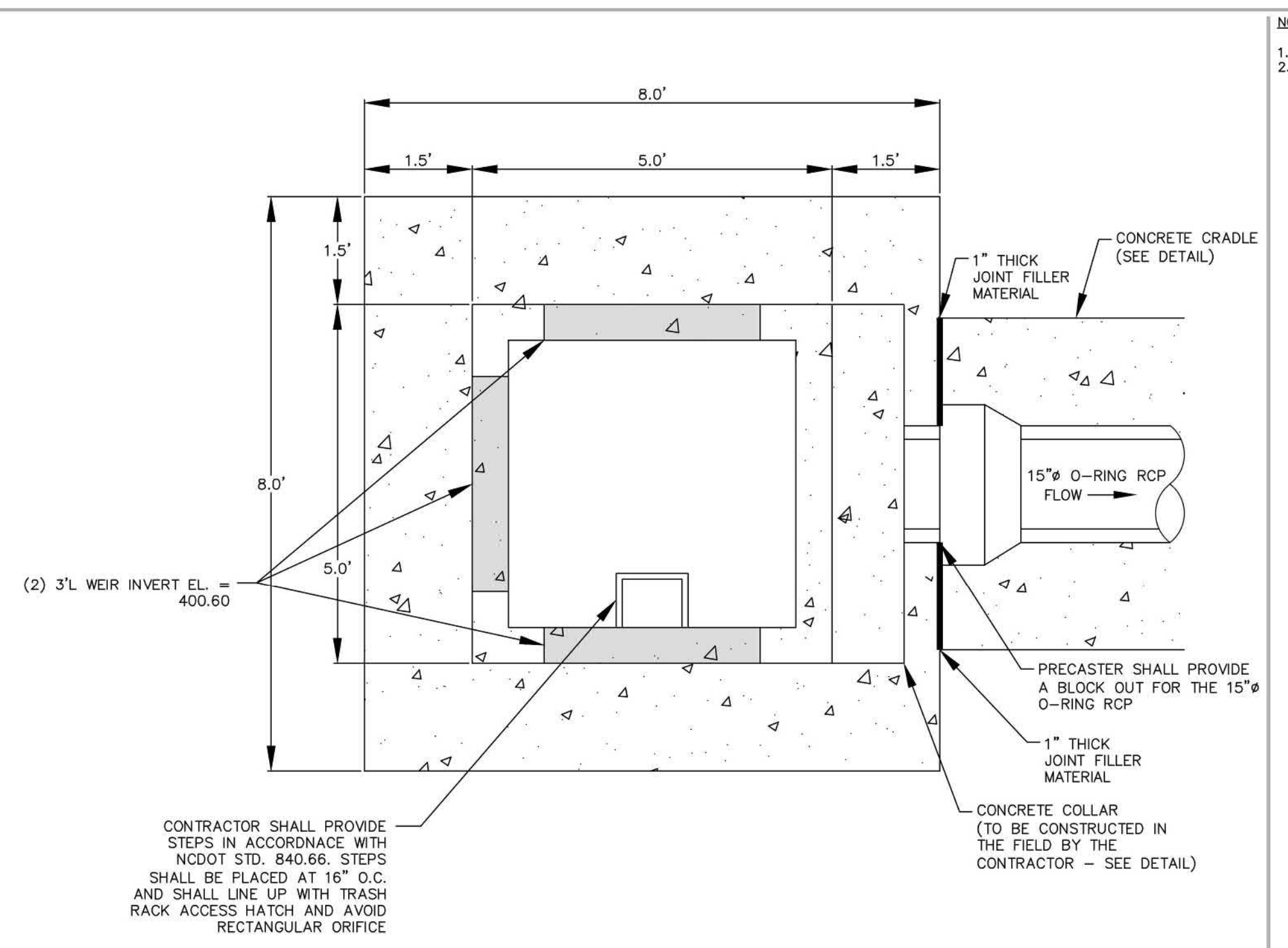
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2	12.20.2022	ADDED SCM "P"

PLAN INFORMATION
PROJECT NO. AWH-20000
FILENAME AWH20000 - BIORETENTION
CHECKED BY DCW
DRAWN BY TKD
SCALE NTS
DATE 03.21.2022

STORMWATER CONTROL
MEASURE 'P' DETAILS
C9.02P



- NOTES:
1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
 2. TRASH RACKS NOT SHOWN FOR CLARITY.
 3. THE NUMBER OF GUIDES FOR THE VALVE STEM SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE VALVE STEM MUST BE OPERABLE FROM THE TOP OF THE RISER VIA THE HANDWHEEL WITH AN INSIGNIFICANT AMOUNT OF PLAY IN THE VALVE STEM.
 4. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.



M:\Projects\AWH\AWH-20000\04-Production\Water Resources\South Side\Current Drawings\SCM\CD\AWH20000 - Bioretention.dwg, 12/20/2022 10:00:20 AM, Tommy Rabolt

FINAL DRAWING - RELEASED FOR CONSTRUCTION

BIORETENTION AREA PLANTING PLAN

PLANT SCHEDULE

CANOPY TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CAL	HEIGHT
	TDB	3	Bald Cypress	Taxodium distichum	2.5"	

SHRUBS	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	HEIGHT
	IGSH	62	Shamrock Inkberry Holly	Ilex glabra 'Shamrock'	3 Gal	18"
	IVAG	39	Afterglow Winterberry	Ilex verticillata 'Afterglow'	3 Gal	12" Min.
	IVMA	2	Male Winterberry	Ilex verticillata 'Male'	3 Gal	18"

GROUND COVERS	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	HEIGHT	SPACING
	AICC	244	Cinderella Swamp Milkweed	Asclepias incarnata 'Cinderella'	1 gal		18" o.c.
	CACS	478	Creek Sedge	Carex amphibola	1 gal		24" o.c.
	IVBF	400	Blue Flag Iris	Iris virginica	1 gal		15" o.c.

TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
MAY 1 - AUG 15	GERMAN MILLET	40 LBS/AC
AUG 15 - DEC 30	RYE (GRAIN)	120 LBS/AC

SOIL AMENDMENTS
 FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

MULCH
 APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

MAINTENANCE
 JAN 1 - AUG 15: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

AUG 15 - DEC 30: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

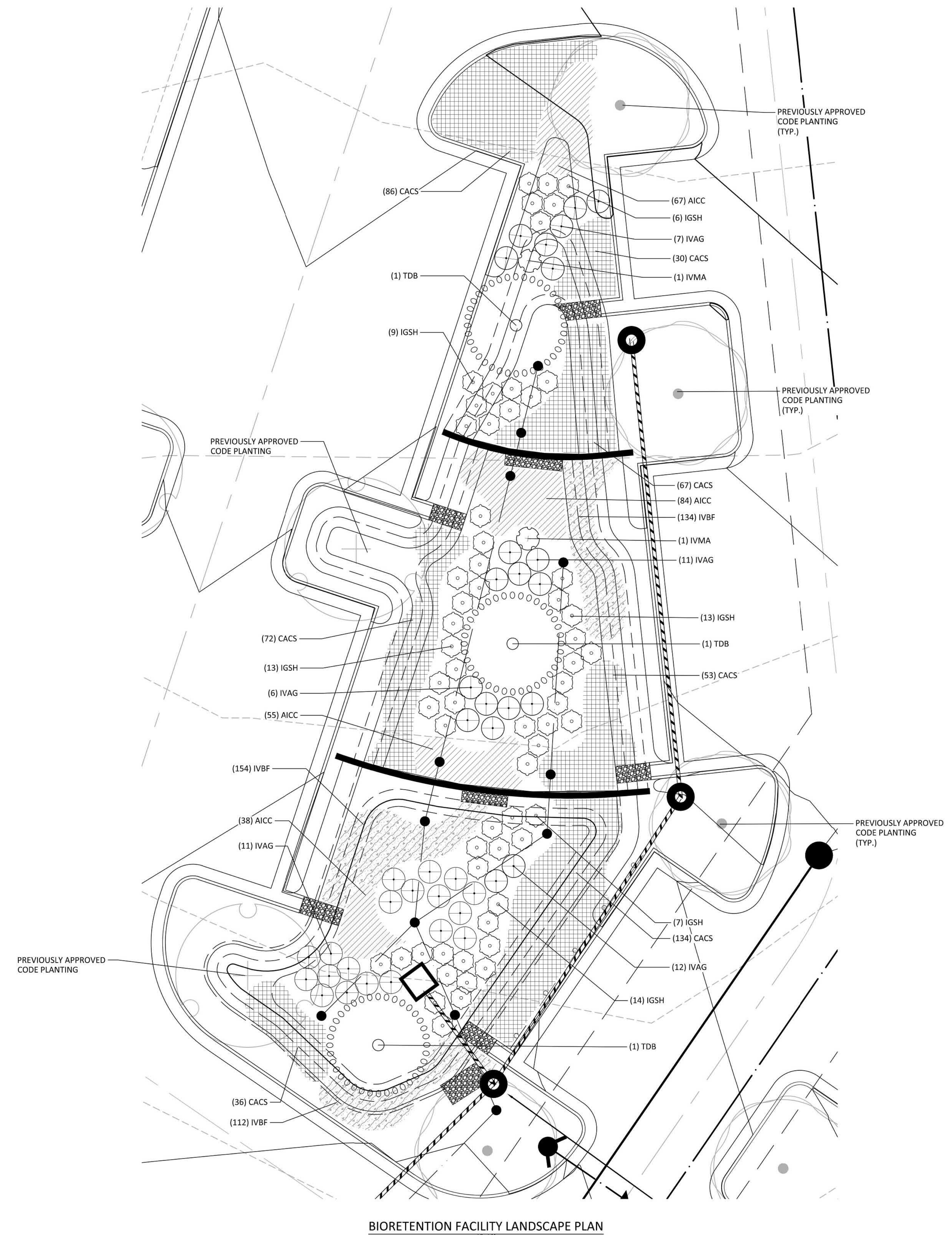
PLANTING INSTRUCTIONS

- PLANTING TECHNIQUES**
- INSURE THAT ROOTS, ONCE REMOVED FROM POT, ARE STRAIGHTENED AND FACE DOWNWARD.
 - CREATE PLANTING AREA FOR EACH PLANT AND EXCAVATE PIT.
 - PLACE PLANTS IN PIT INSURING ROOTS ARE FACING COMPLETELY DOWNWARD.
 - HEEL IN SOIL AROUND PLANT AND PROCEED TO NEXT PLANTING LOCATION.
 - NEWLY PLANTED PLANTS NEED TO BE FASTENED TO THE SUBSTRATE FOR THE ESTABLISHMENT OF NEW ROOTS.
 - ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY.
 - THE DIAMETER OF THE PITS FOR ALL VEGETATIVE STOCK SHALL BE AT LEAST THREE TIMES THE DIAMETER OF THE ROOT MASS. PLANT PIT WALL SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.
 - SET THE PLANTS UPRIGHT, IN THE CENTER OF THE PIT. THE BOTTOM OF THE ROOT MASS SHOULD BE RESTING ON UNDISTURBED SOIL.
 - PLACE THE BACKFILL AROUND THE BASE AND SIDES OF THE ROOT MASS, AND WORK EACH LAYER TO SETTLE BACKFILL AND TO ELIMINATE VOIDS AND AIR POCKETS. WHEN PIT IS APPROXIMATELY 2/3 FULL, WATER THOROUGHLY BEFORE PLACING REMAINDER OF THE BACKFILL. WATER AGAIN AFTER PLACING FINAL LAYER OF BACKFILL.
 - BROKEN OR DAMAGED PARTS WILL BE CUT BACK TO UNDAUNTED TISSUE, LEAVING AS MUCH GREEN BASAL TISSUE AS POSSIBLE ABOVE THE ROOTS. IF MORE THAN FIFTY PERCENT (50%) OF THE PLANT IS DAMAGED THEN CONTRACTOR SHALL REPLACE THE PLANT.

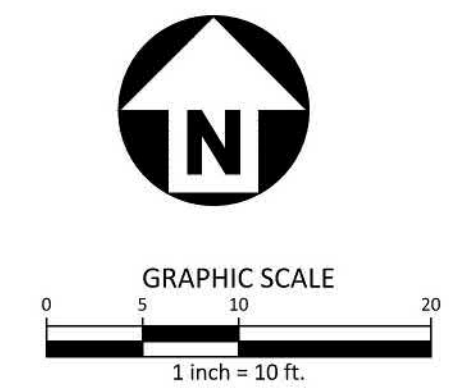
- CONTAINER STOCK**
- STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER ONCE REMOVED FROM THE CONTAINER.
 - CONTAINER PLANTS WILL NEED TO BE WATERED REGULARLY AND PLACED IN SHADY CONDITIONS UNTIL PLANTING OCCURS.

- PLANT LOCATIONS**
- NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON PLAN EXCEPT WHERE CHANGES HAVE BEEN MADE IN PROPOSED CONSTRUCTION.
 - NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

WATER
 WATER SHALL BE POTABLE AND SHALL NOT CONTAIN ELEMENTS TOXIC TO PLANT LIFE.



BIORETENTION FACILITY LANDSCAPE PLAN
 1"=10'



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 ASHTON RALEIGH RESIDENTIAL, LLC.
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 RALEIGH, NORTH CAROLINA 27609
 PHONE: 919. 422. 7663
 CONTACT: BOB MISHLER

ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

DocuSign

REVISIONS

NO.	DATE	ADDED SCM "P"
2	12.20.2022	ADDED SCM "P"

PLAN INFORMATION

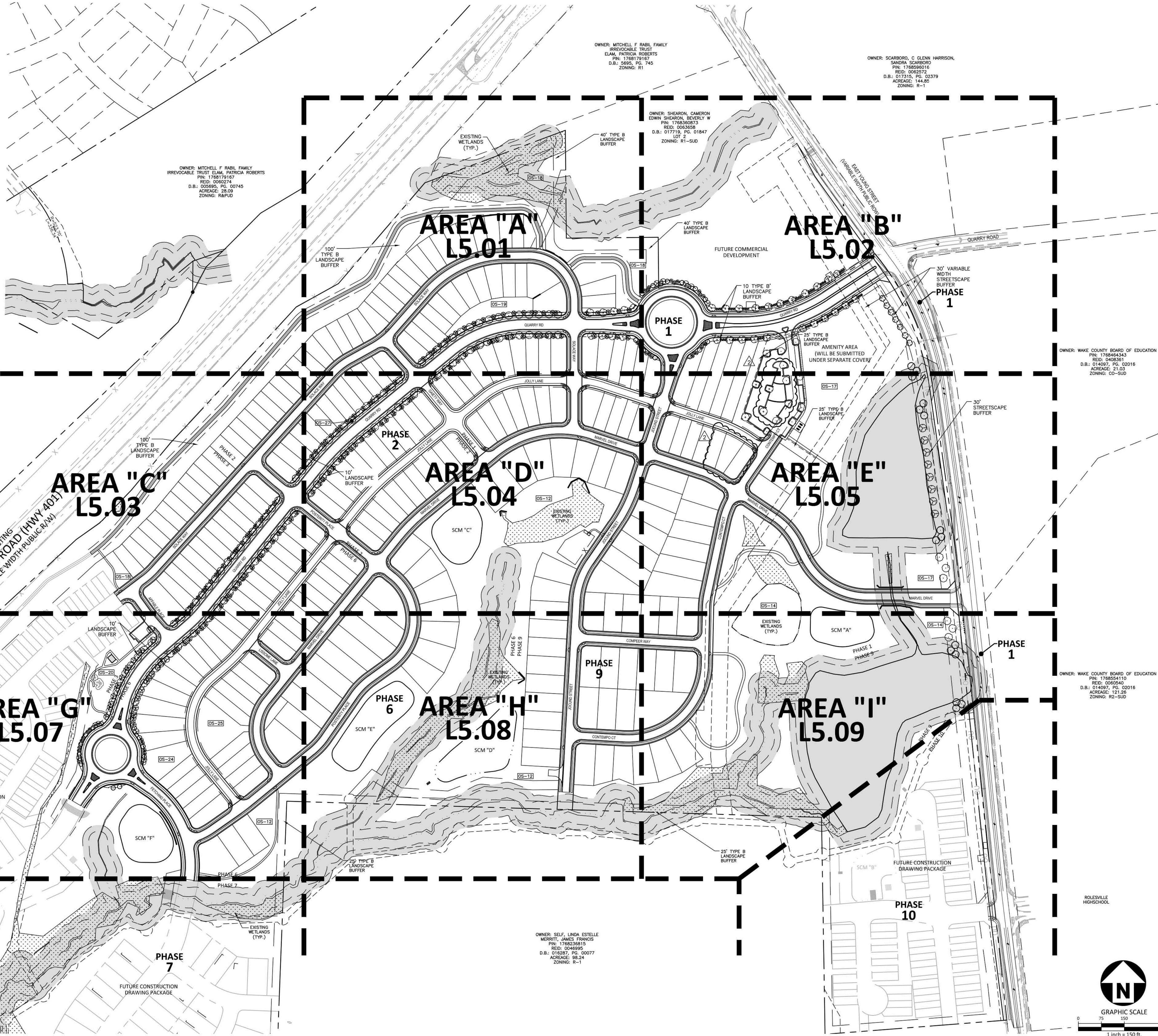
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FILENAME	AWH20000 - BIORETENTION
CHECKED BY	DCW
DRAWN BY	TKD
SCALE	1" = 10'
DATE	03.21.2022

STORMWATER CONTROL
MEASURE 'P' LANDSCAPE PLAN
C9.03P

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PLANT SCHEDULE

CANOPY TREE	CODE	COMMON NAME
	BNH	River Birch Multi-Trunk
	PFA	London Plane Tree
	QLA	Overcup Oak
	QNT	Nuttall Oak
	QPP	Pin Oak
	QPL	Willow Oak
	QRU	Regal Prince English Oak
	TDS	Bald Cypress
	UAE	American Elm
EVERGREEN UNDERSTORY	CODE	COMMON NAME
	IXL	Oak Leaf Holly
UNDERSTORY TREE	CODE	COMMON NAME
	ABS	Streetwise Trident Maple
	AAB	Downy Serviceberry
	CCR	Eastern Redbud
	CCK	Cherokee Princess Dogwood
	SJP	Japanese Snowbell



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CONTACT: BOB MISHLER



THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



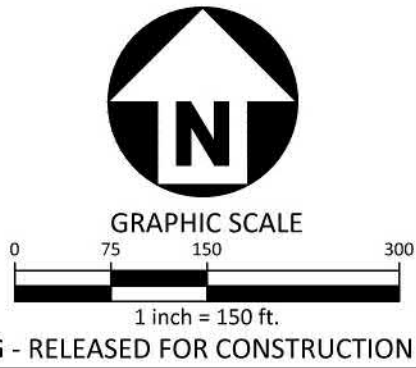
REVISIONS

NO.	DATE	DESCRIPTION
2	03.07.2023	AMENITY BIORETENTION AREA

PLAN INFORMATION

PROJECT NO.	AWH-20000
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CHECKED BY	SRD
DRAWN BY	JGY
SCALE	1"=150'
DATE	03.21.2022

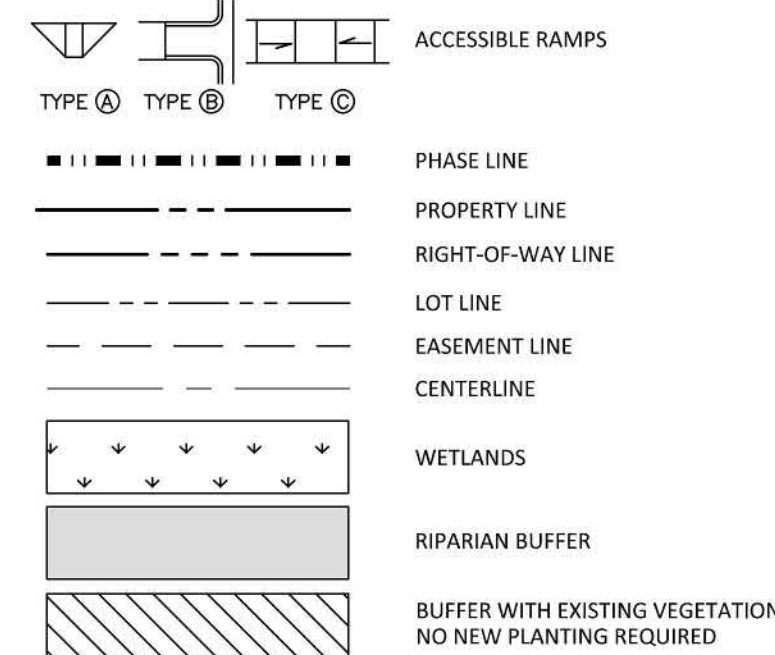
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OVERALL LANDSCAPE PLAN - PACKAGE 1
L5.00-1



FINAL DRAWING - RELEASED FOR CONSTRUCTION

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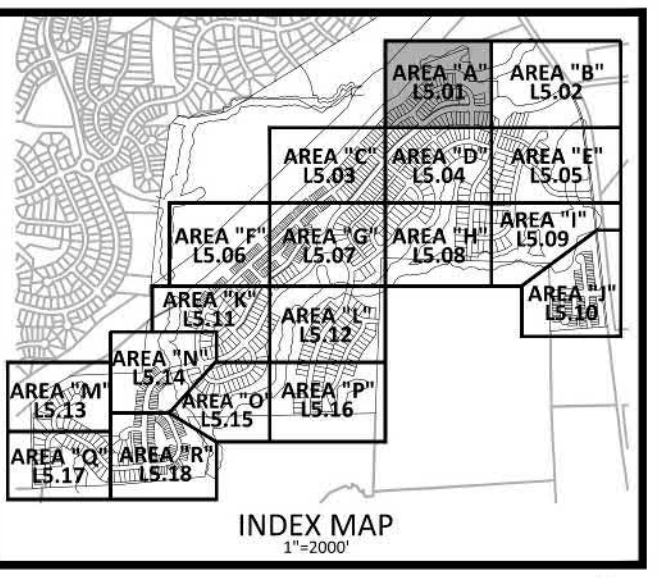
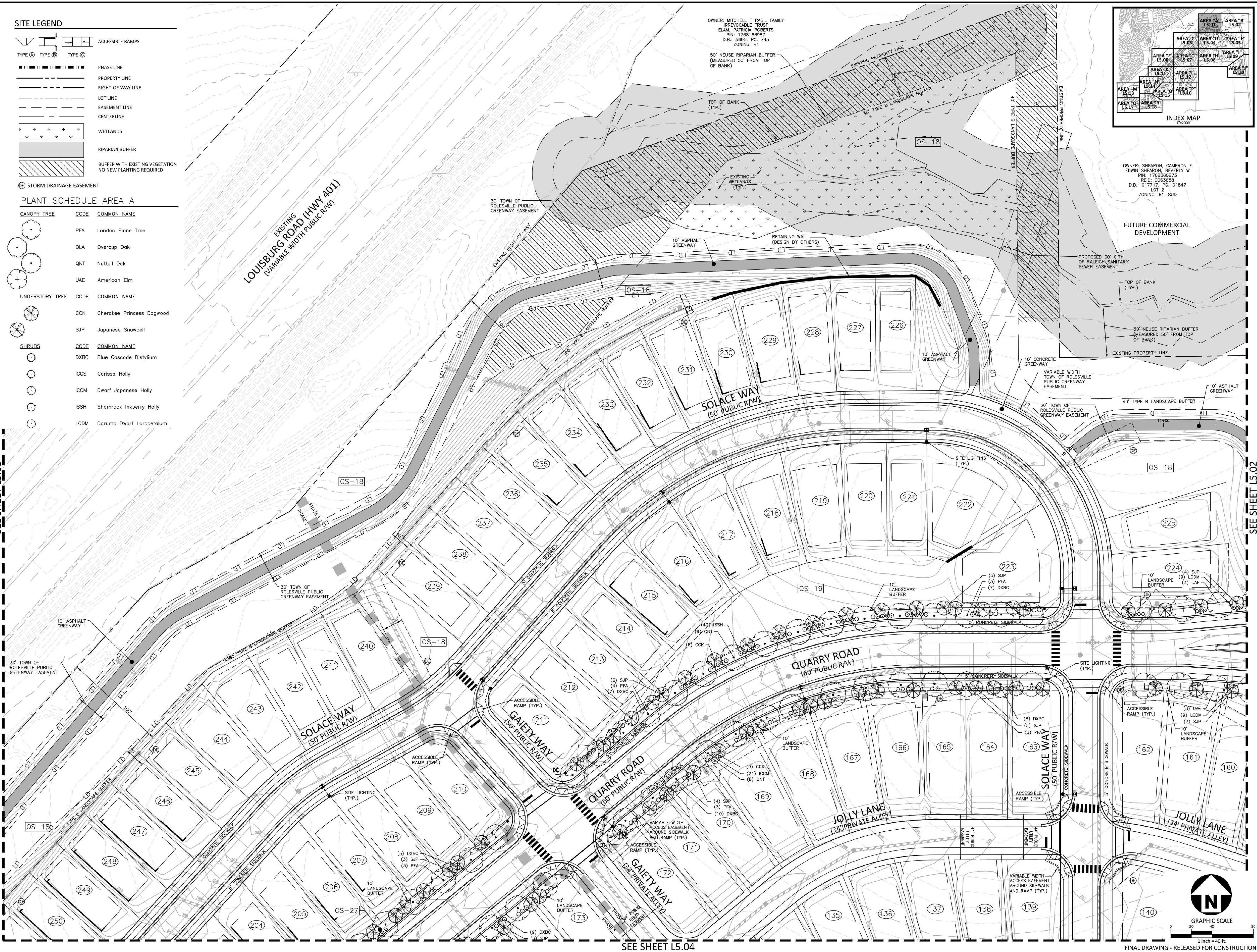


PLANT SCHEDULE AREA A

CANOPY TREE	CODE	COMMON NAME
	PFA	London Plane Tree
	QLA	Overcup Oak
	QNT	Nuttall Oak
	UAE	American Elm
UNDERSTORY TREE	CODE	COMMON NAME
	CCK	Cherokee Princess Dogwood
	SJP	Japanese Snowbell
SHRUBS	CODE	COMMON NAME
	DXBC	Blue Cascade Distylium
	ICCS	Carissa Holly
	ICCM	Dwarf Japanese Holly
	ISSH	Shamrock Inkberry Holly
	LCDM	Daruma Dwarf Loropetalum

SEE SHEET L5.03

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OWNER: MITCHELL F RABIL FAMILY
 IRREVOCABLE TRUST
 ELAM, PATRICIA ROBERTS
 PIN: 1768166987
 D.B.: 5695, PG. 745
 ZONING: R1

50' NEUSE RIPARIAN BUFFER
 (MEASURED 50' FROM TOP
 OF BANK)

OWNER: SHEARON, CAMERON E
 EDWIN SHEARON, BEVERLY W
 PIN: 1768360873
 REG: 0063658
 D.B.: 017717, PG. 01847
 LOT 2
 ZONING: RT-SUD

FUTURE COMMERCIAL
 DEVELOPMENT

PROPOSED 30' CITY
 OF RALEIGH SANITARY
 SEWER EASEMENT

50' NEUSE RIPARIAN BUFFER
 (MEASURED 50' FROM TOP
 OF BANK)

SEE SHEET L5.02

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 PHONE: 919. 232. 3695
 CONTACT: BOB MISHLER



THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

Julie Young & Young, Inc.
 Mar 29 2022 4:26 PM

REVISIONS

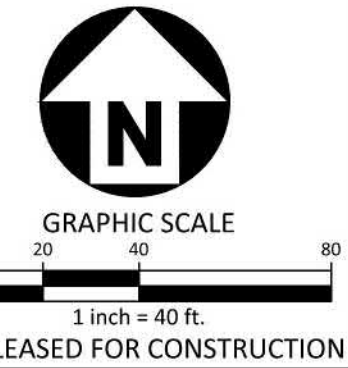
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PLAN INFORMATION

PROJECT NO. AWH-20000
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 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03. 21. 2022

SHEET
CODE LANDSCAPE PLAN
AREA "A"

L5.01



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PHONE: 919. 422. 7663
CONTACT: BOB MISHLER



**THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET**
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



REVISIONS

NO.	DATE	DESCRIPTION
2	03.07.2023	AMENITY BIORETENTION AREA

PLAN INFORMATION

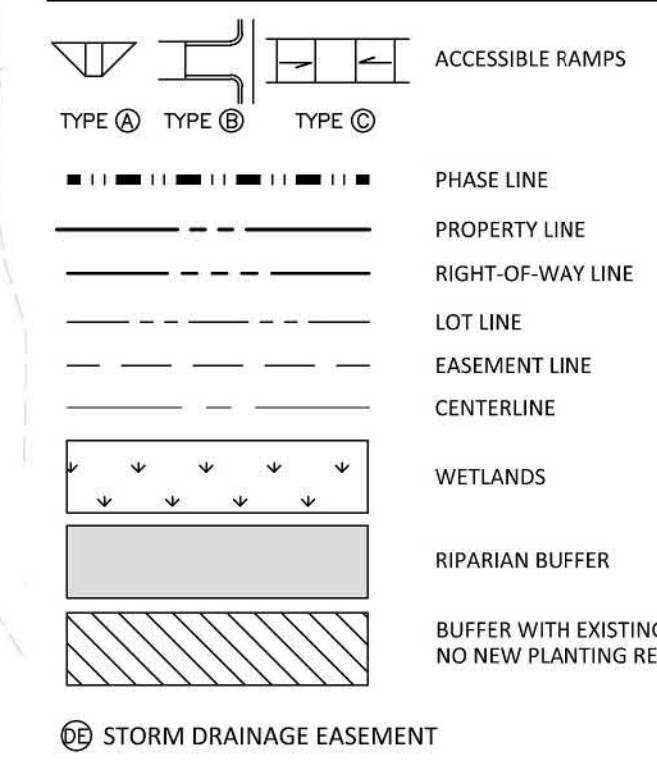
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 FILENAME AWH20000-CD-PKG-01-L51
 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03.21.2022

SHEET

**CODE LANDSCAPE PLAN
AREA "B"**

L5.02

SITE LEGEND



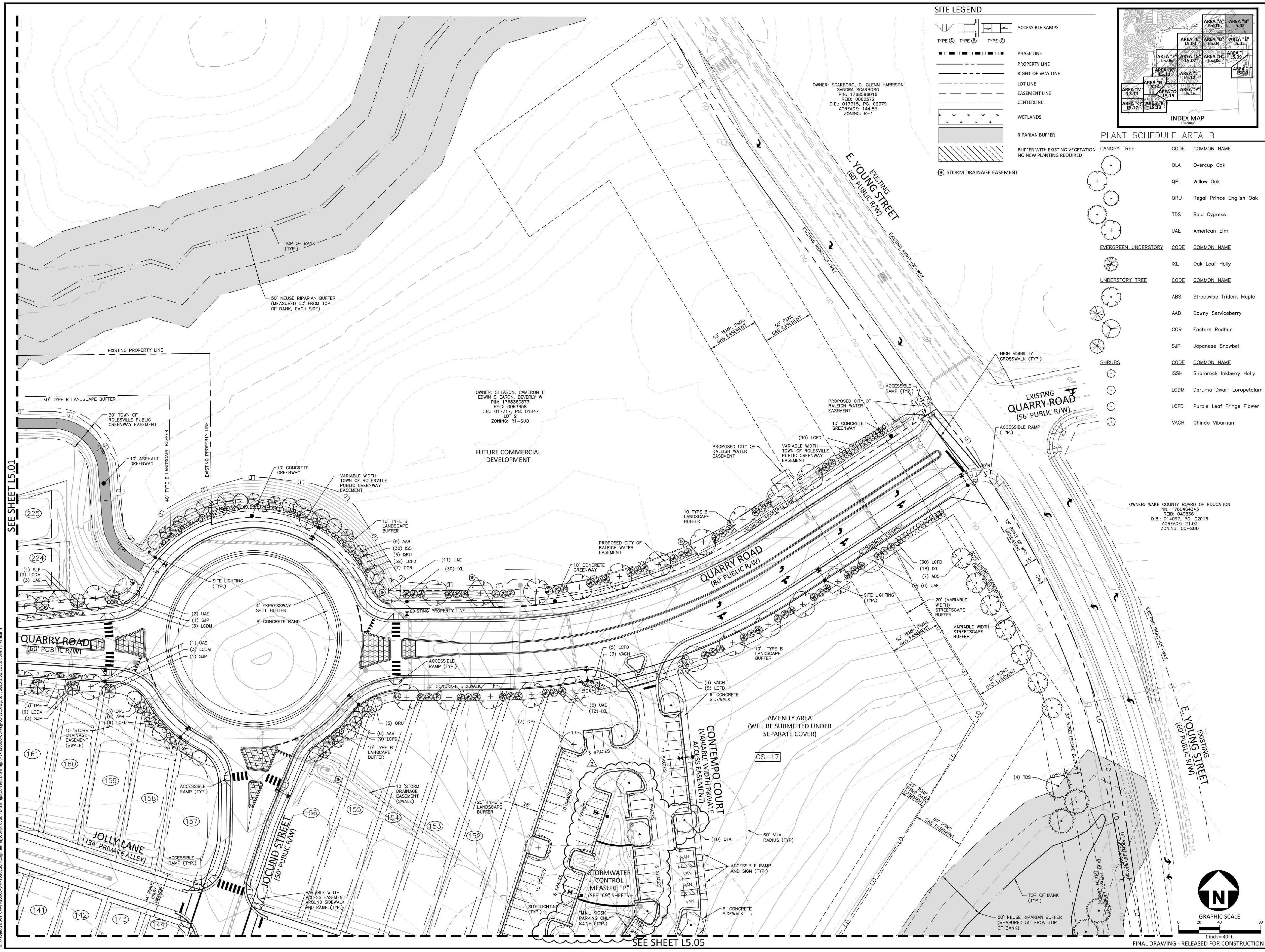
PLANT SCHEDULE AREA B

CANDY TREE	CODE	COMMON NAME
	QLA	Overcup Oak
	QPL	Willow Oak
	QRU	Regal Prince English Oak
	TDS	Bald Cypress
	UAE	American Elm

EVERGREEN UNDERSTORY	CODE	COMMON NAME
	IKL	Oak Leaf Holly

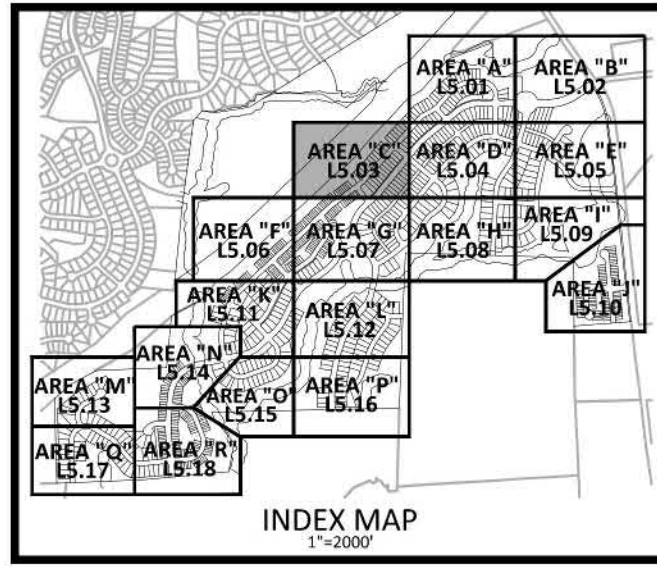
UNDERSTORY TREE	CODE	COMMON NAME
	ABS	Streetwise Trident Maple
	AAB	Downy Serviceberry
	CCR	Eastern Redbud
	SJP	Japanese Snowbell
	ISSH	Shamrock Inkberry Holly
	LCDM	Daruma Dwarf Loropetalum
	LCFD	Purple Leaf Fringe Flower
	VACH	Chindo Viburnum

SHRUBS	CODE	COMMON NAME
	ISSH	Shamrock Inkberry Holly
	LCDM	Daruma Dwarf Loropetalum
	LCFD	Purple Leaf Fringe Flower
	VACH	Chindo Viburnum

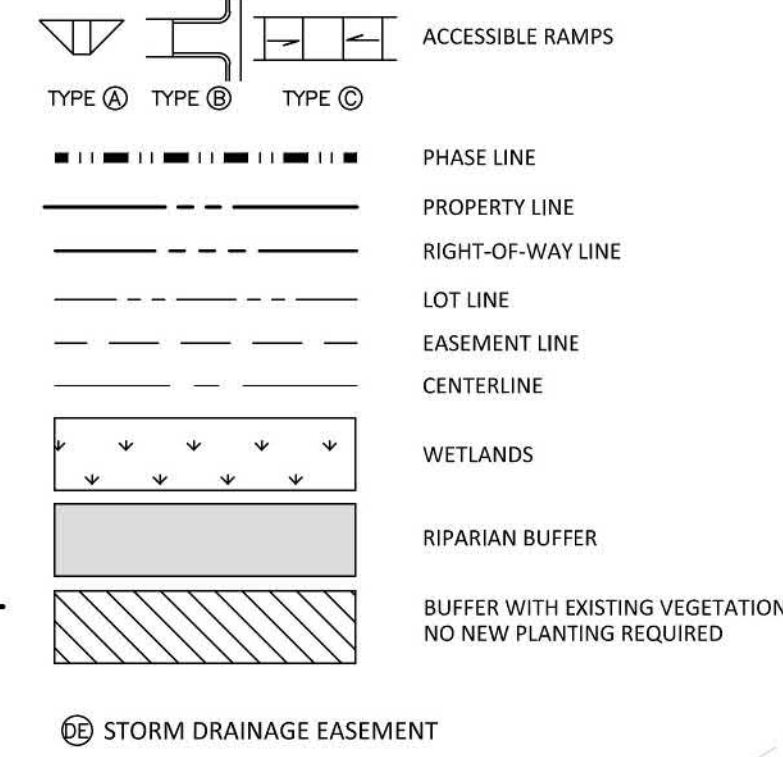


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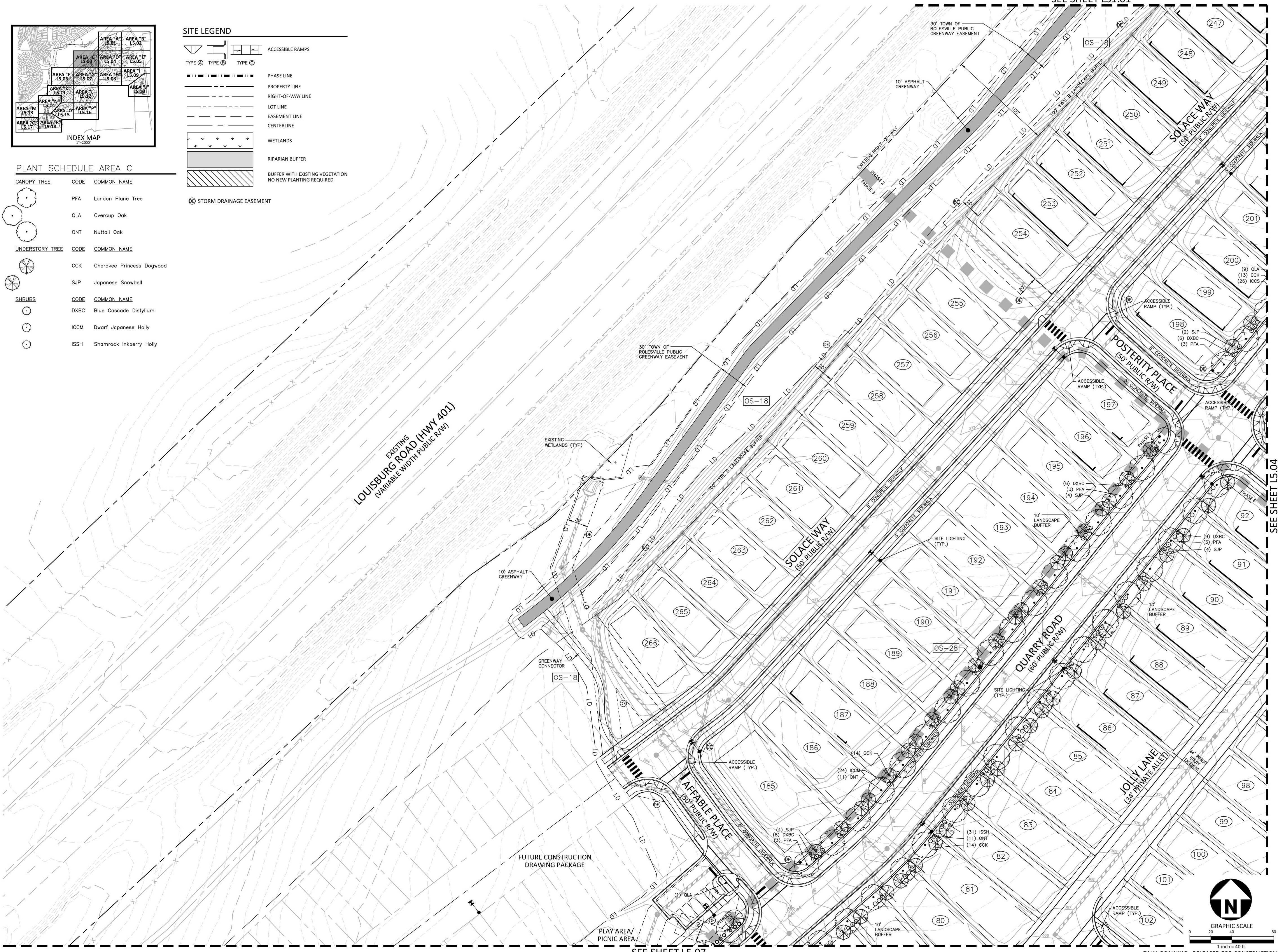


SITE LEGEND



PLANT SCHEDULE AREA C

CANOPY TREE	CODE	COMMON NAME
	PFA	London Plane Tree
	QLA	Overcup Oak
	QNT	Nuttall Oak
UNDERSTORY TREE	CODE	COMMON NAME
	CCK	Cherokee Princess Dogwood
	SJP	Japanese Snowbell
SHRUBS	CODE	COMMON NAME
	DXBC	Blue Cascade Distylium
	ICCM	Dwarf Japanese Holly
	ISSH	Shamrock Inkberry Holly



SEE SHEET LS1.01

SEE SHEET LS.04

SEE SHEET L5.07

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CONTACT: BOB MISHLER

ASHTON WOODS.

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

Julie Young
Mar 29 2022 4:27 PM

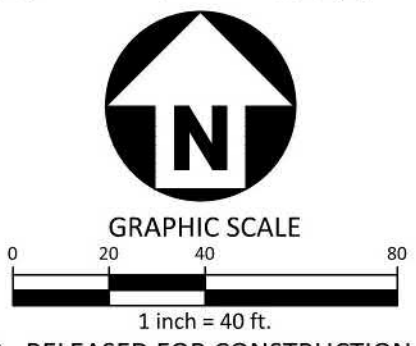
REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000-CD-PKG-01-LS1
CHECKED BY	SRD
DRAWN BY	JGY
SCALE	1"=40'
DATE	03.21.2022

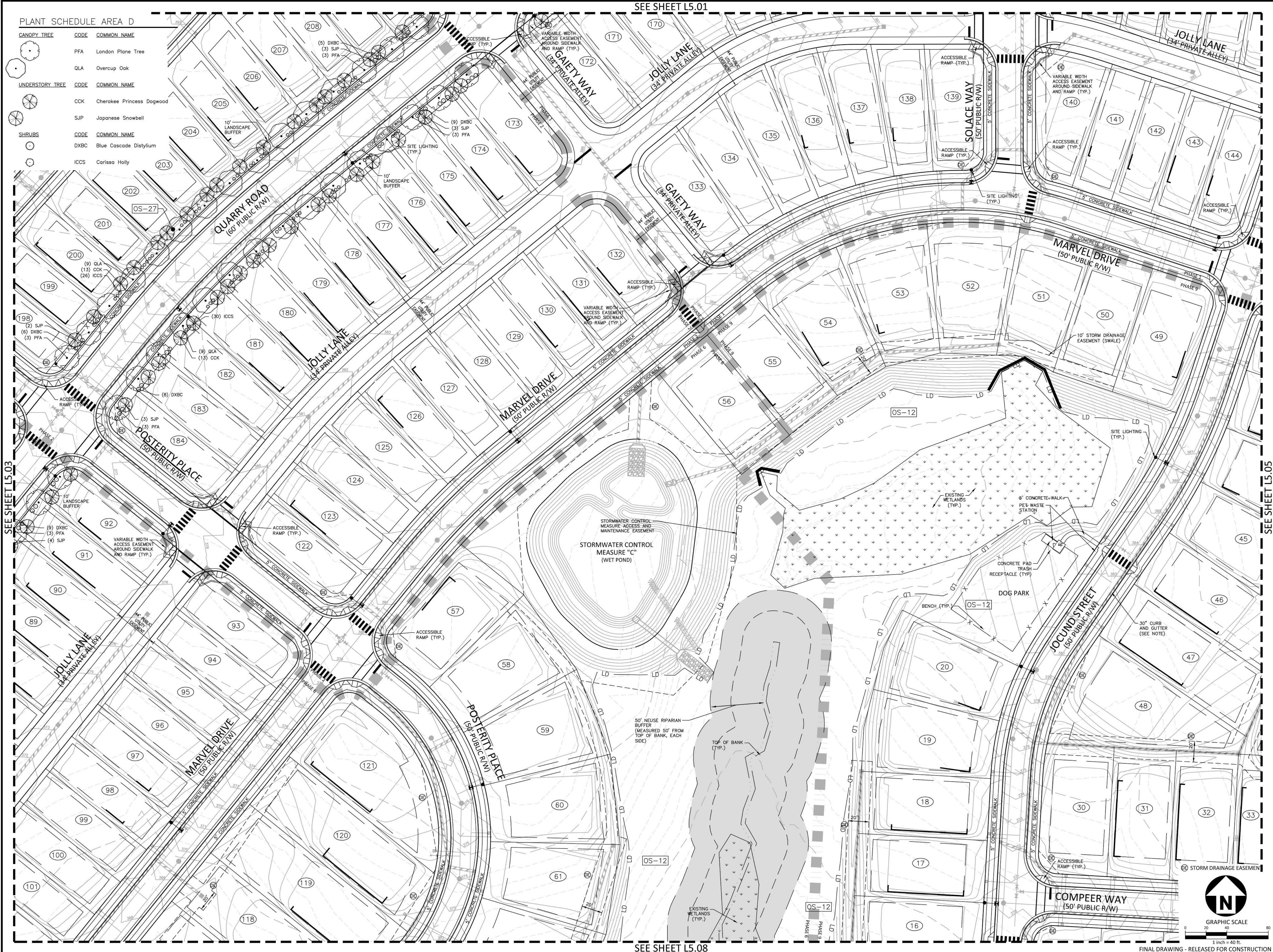
SHEET
CODE LANDSCAPE PLAN
AREA "C"
L5.03



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PLANT SCHEDULE AREA D

CANOPY TREE	CODE	COMMON NAME
	PFA	London Plane Tree
	QLA	Overcup Oak
UNDERSTORY TREE	CODE	COMMON NAME
	CCK	Cherokee Princess Dogwood
	SJP	Japanese Snowbell
SHRUBS	CODE	COMMON NAME
	DXBC	Blue Cascade Distylium
	ICCS	Carissa Holly



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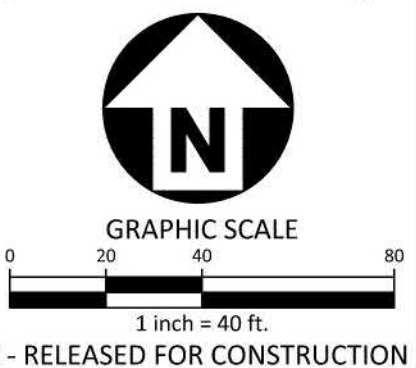
THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

Julie Young & Young
 Mar 29 2022 4:28 PM

REVISIONS
 NO. DATE

PLAN INFORMATION
 PROJECT NO. AWH-20000
 FILENAME AWH20000-CD-PKG-01-L51
 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03. 21. 2022

SHEET
CODE LANDSCAPE PLAN
AREA "D"
L5.04

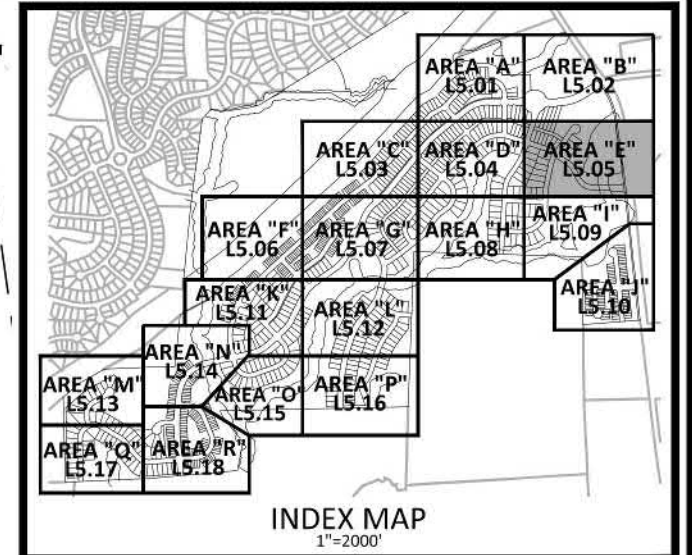
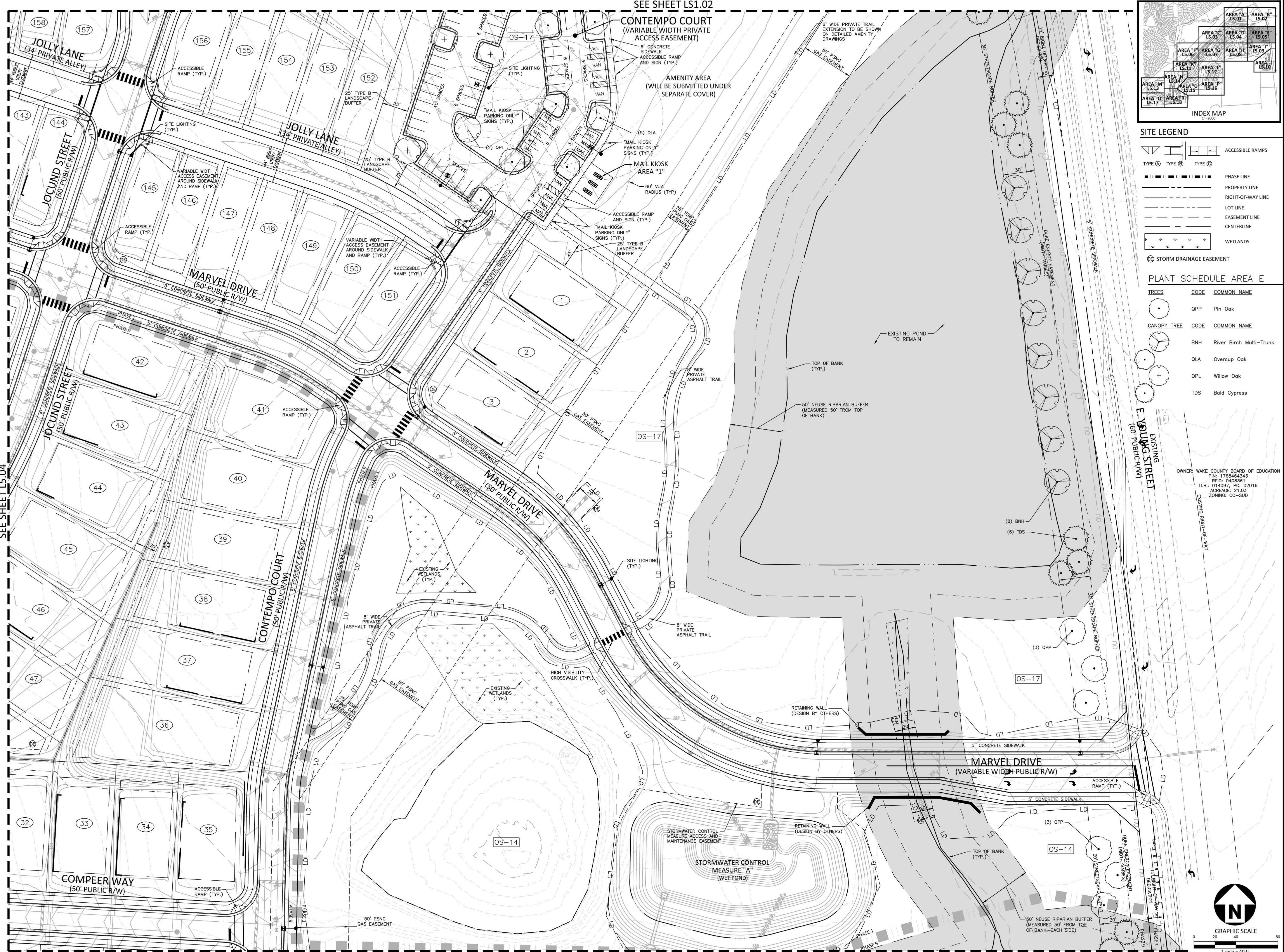


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SEE SHEET LS1.02

CONTEMPO COURT
(VARIABLE WIDTH PRIVATE
ACCESS EASEMENT)

AMENITY AREA
(WILL BE SUBMITTED UNDER
SEPARATE COVER)



SITE LEGEND

TYPE @	TYPE @	TYPE @	ACCESSIBLE RAMPS
---	---	---	PHASE LINE
---	---	---	PROPERTY LINE
---	---	---	RIGHT-OF-WAY LINE
---	---	---	LOT LINE
---	---	---	EASEMENT LINE
---	---	---	CENTERLINE
---	---	---	WETLANDS
---	---	---	STORM DRAINAGE EASEMENT

PLANT SCHEDULE AREA E

TREES	CODE	COMMON NAME
	QPP	Pin Oak
CANOPY TREE	CODE	COMMON NAME
	BNH	River Birch Multi-Trunk
	QLA	Overcup Oak
	QPL	Willow Oak
	TDS	Bald Cypress

OWNER: WAKE COUNTY BOARD OF EDUCATION
 PIN: 1785454343
 REID: 0408361
 D.B.: 014597, PG. 02016
 ACRES: 21.03
 ZONING: CO-SUD

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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

Julie Young
 Julie Young & Young
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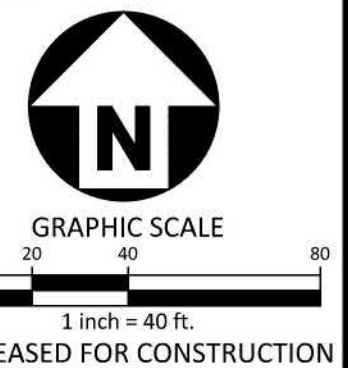
REVISIONS

NO.	DATE
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PLAN INFORMATION

PROJECT NO. AWH-20000
 FILENAME AWH20000-CD-PKG-01-LS1
 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03.21.2022

SHEET
CODE LANDSCAPE PLAN
AREA "E"
L5.05



SEE SHEET L5.09

FINAL DRAWING - RELEASED FOR CONSTRUCTION

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SITE LEGEND

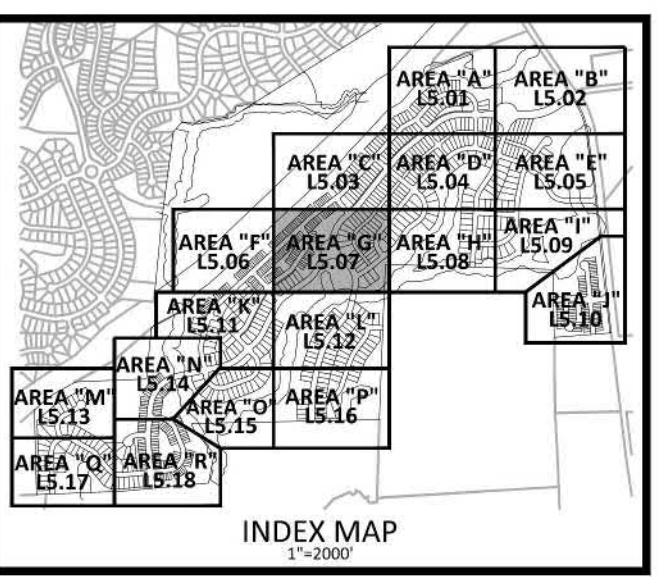
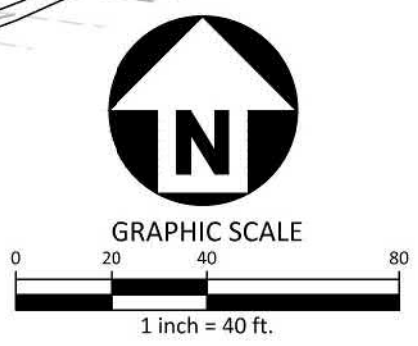
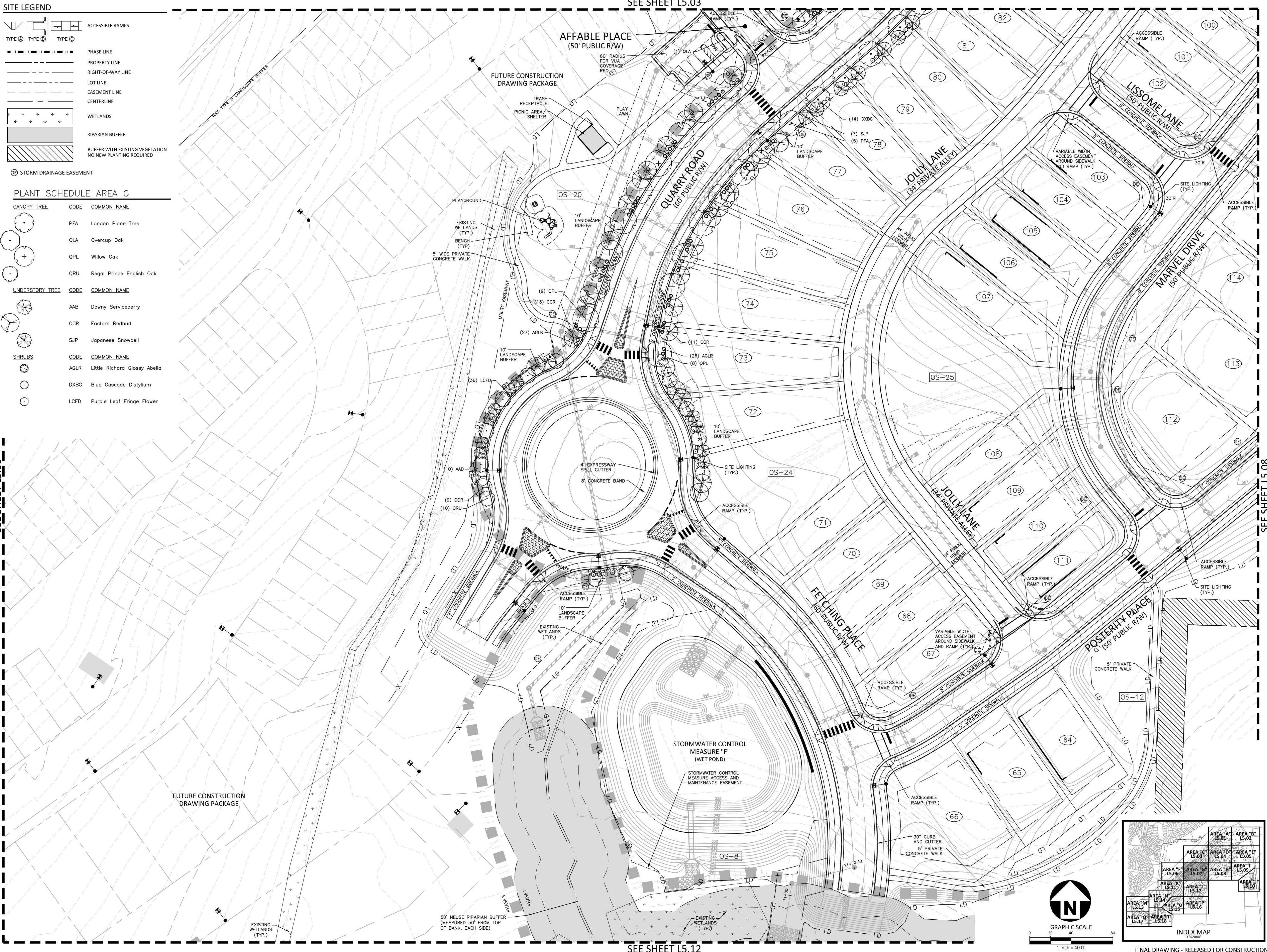
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TYPE A TYPE B TYPE C	
	PHASE LINE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	LOT LINE
	EASEMENT LINE
	CENTERLINE
	WETLANDS
	RIPARIAN BUFFER
	BUFFER WITH EXISTING VEGETATION NO NEW PLANTING REQUIRED
	STORM DRAINAGE EASEMENT

PLANT SCHEDULE AREA G

CANOPY TREE	CODE	COMMON NAME
	PFA	London Plane Tree
	QLA	Overcup Oak
	QPL	Willow Oak
	QRU	Regal Prince English Oak
UNDERSTORY TREE	CODE	COMMON NAME
	AAB	Downy Serviceberry
	CCR	Eastern Redbud
	SJP	Japanese Snowbell
SHRUBS	CODE	COMMON NAME
	AGLR	Little Richard Glossy Abelia
	DXBC	Blue Cascade Distylium
	LCFD	Purple Leaf Fringe Flower

SEE SHEET L5.06

\\Project\AWH\20000\04-Production\Engineering\Construction Drawings\AWH20000-CD-Pkg-01-L5.07.dwg, 3/29/2022, 1:55:53 PM, Julie Young



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PHONE: 919. 232. 3695
CONTACT: BOB MISHLER

ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA

Julie Young & Young
Mar 29 2022 4:31 PM

REVISIONS

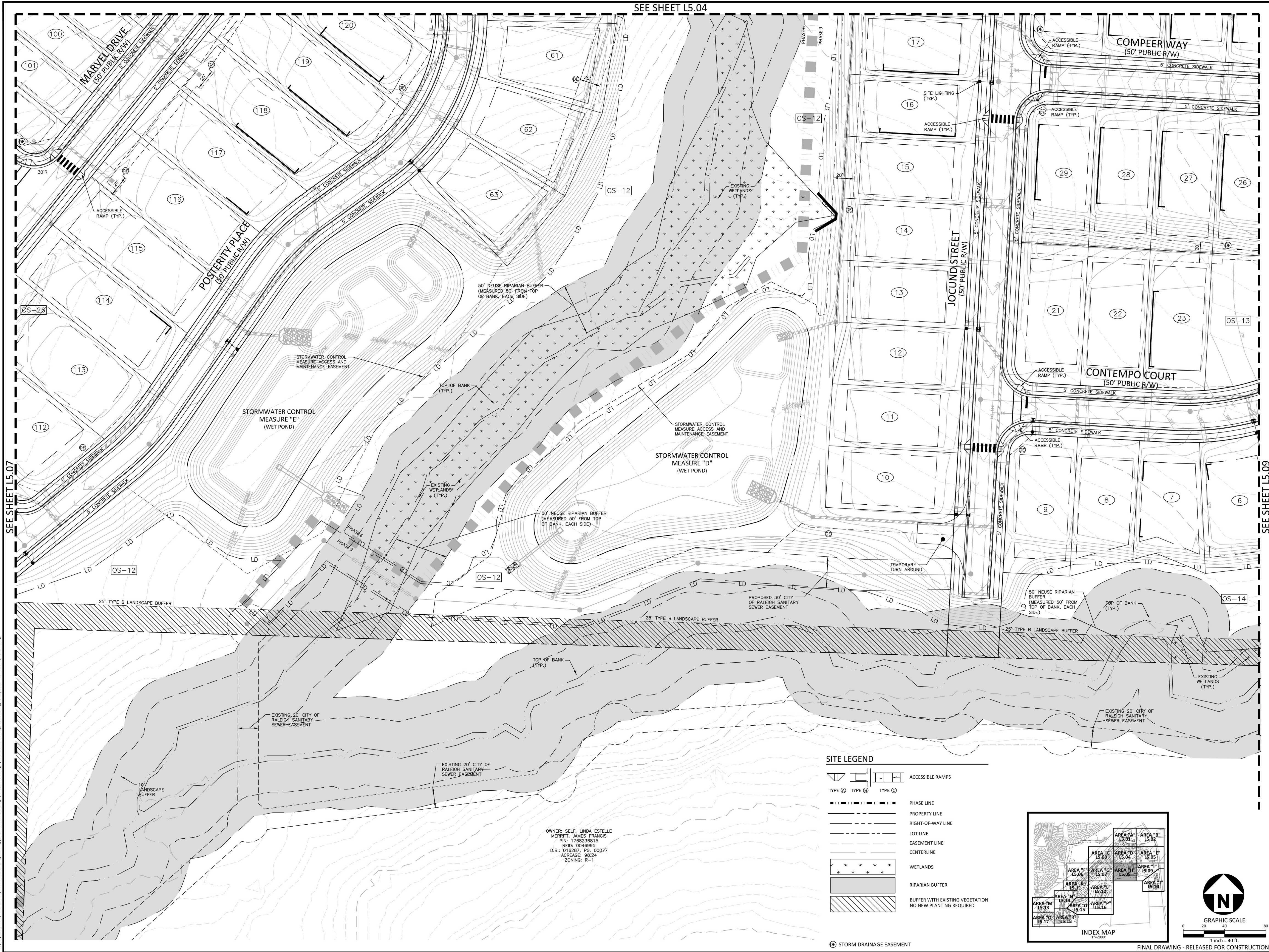
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PLAN INFORMATION

PROJECT NO.	AWH-20000
FILENAME	AWH20000-CD-PKG-01-L5.07
CHECKED BY	SRD
DRAWN BY	JGY
SCALE	1"=40'
DATE	03. 21. 2022

CODE LANDSCAPE PLAN
AREA "G"
L5.07

SEE SHEET L5.04



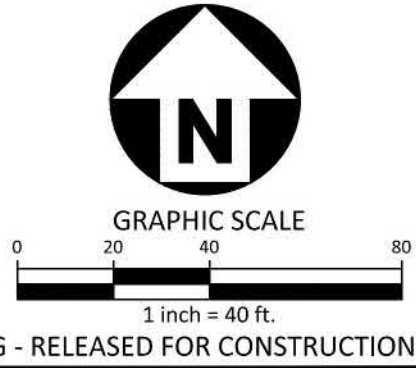
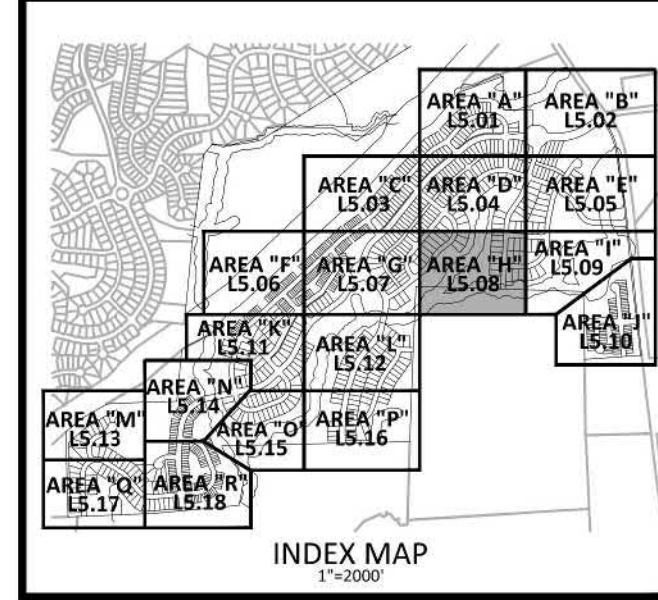
SEE SHEET L5.07

SEE SHEET L5.09

OWNER: SELF, LINDA ESTELLE
 MERRITT, JAMES FRANCIS
 PIN: 1768236815
 REID: 0046995
 D.B.: 016287, PG. 00077
 ACRAGE: 99.24
 ZONING: R-1

SITE LEGEND

- ACCESSIBLE RAMPS
 TYPE (A) TYPE (B) TYPE (C)
- PHASE LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- LOT LINE
- EASEMENT LINE
- CENTERLINE
- WETLANDS
- RIPARIAN BUFFER
- BUFFER WITH EXISTING VEGETATION
 NO NEW PLANTING REQUIRED
- STORM DRAINAGE EASEMENT



FINAL DRAWING - RELEASED FOR CONSTRUCTION




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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA


 Julie Young, P.E.
 Mar 29 2022 4:31 PM

REVISIONS
 NO. DATE

PLAN INFORMATION
 PROJECT NO. AWH-20000
 FILENAME AWH20000-CD-PKG-01-L51
 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03.21.2022

SHEET
CODE LANDSCAPE PLAN
AREA "H"
L5.08

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THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
 EAST YOUNG STREET
 WAKE COUNTY, NORTH CAROLINA

Julie Young
 164
 Julie Young
 Mar 29 2022 4:32 PM

REVISIONS

NO.	DATE

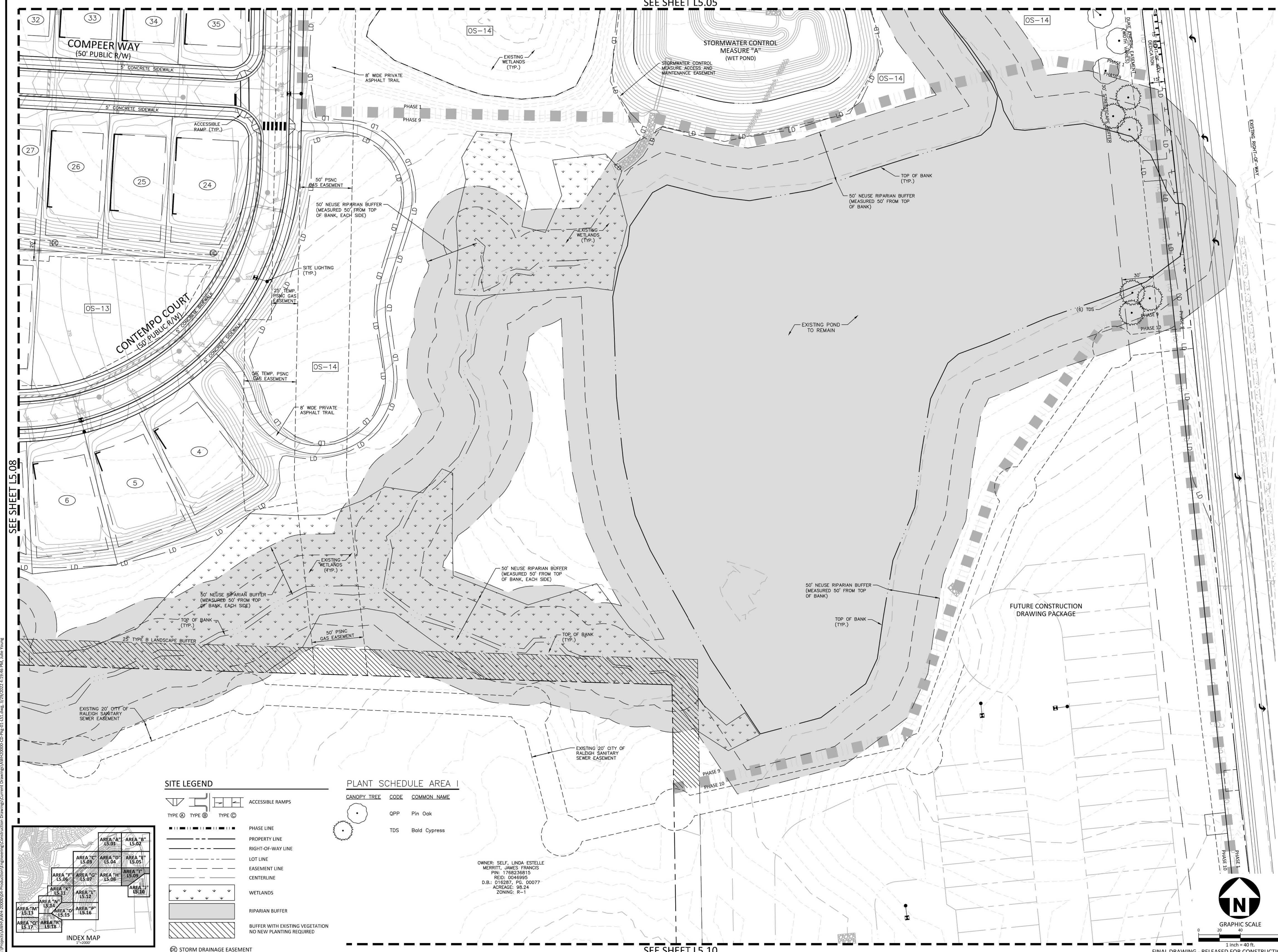
PLAN INFORMATION

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 CHECKED BY SRD
 DRAWN BY JGY
 SCALE 1"=40'
 DATE 03.21.2022

SHEET

CODE LANDSCAPE PLAN
AREA "I"

L5.09



SEE SHEET L5.08

SEE SHEET L5.10

FINAL DRAWING - RELEASED FOR CONSTRUCTION

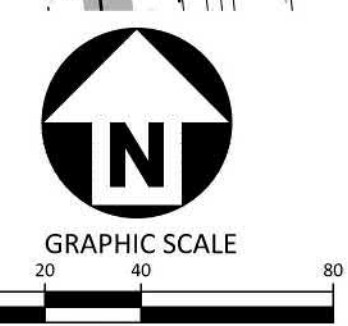
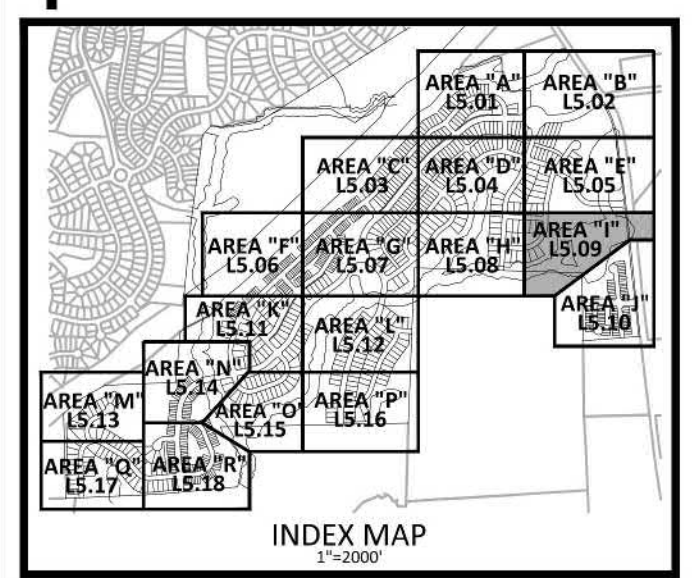
SITE LEGEND

	ACCESSIBLE RAMPS
TYPE (A) TYPE (B) TYPE (C)	
	PHASE LINE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	LOT LINE
	EASEMENT LINE
	CENTERLINE
	WETLANDS
	RIPARIAN BUFFER
	BUFFER WITH EXISTING VEGETATION NO NEW PLANTING REQUIRED
	STORM DRAINAGE EASEMENT

PLANT SCHEDULE AREA I

CANOPY TREE	CODE	COMMON NAME
	QPP	Pin Oak
	TDS	Bald Cypress

OWNER: SELF, LINDA ESTELLE
 MERRITT, JAMES FRANCIS
 PIN: 1768236815
 REID: 00469995
 D.B.: 018287, PG. 00077
 ACREAGE: 98.24
 ZONING: R-1



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LANDSCAPE CALCULATIONS

STREETSCAPE BUFFERS

F YOUNG STREET - 30' STREETSCAPE BUFFER 1410 LF
1550 TOTAL LF SUBTRACTING 140 LF DRIVEWAY

CANOPY TREES
REQUIRED: 35 (1/40 LF)
PROVIDED: 35

QUARRY RD - 10' TYPE B LANDSCAPE BUFFER 1250 LF
FROM YOUNG STREET TO ENTRY ROUNDABOUT, AND ALONG FUTURE COMMERCIAL

REQUIRED: PROVIDE A SEMI-OPAQUE VEGETATED BUFFER FROM THE GROUND TO AT LEAST THREE FEET WITH AT LEAST 50% EVERGREEN SPECIES.

QUARRY RD - 10' LANDSCAPE BUFFER 4340 LF
FROM ENTRY ROUNDABOUT TO SECOND ROUNDABOUT (TOTAL EXCLUDES EASEMENTS)

PLANTING REQUIREMENTS PER PRELIMINARY PLAT PLANS

CANOPY TREES
REQUIRED: 130 (3/100 LF)
PROVIDED: 132

UNDERSTORY TREES
REQUIRED: 173 (4/100 LF)
PROVIDED: 173

SHRUBS
REQUIRED: 347 (8/100 LF) - 100% EVERGREEN
PROVIDED: 384

LANDSCAPE BUFFERS

WESTERN PROPERTY (NC 401 LIMITED CONTROLLED ACCESS HWY) 1640 LF
100' TYPE B LANDSCAPE BUFFER

REQUIRED: PROVIDE AND MAINTAIN A VEGETATED BUFFER ALONG LIMITED CONTROLLED ACCESS HIGHWAYS.

PROVIDED: SEE TYPICAL BUFFER PLANTING DETAILS THIS SHEET FOR PLANTINGS. EXISTING VEGETATION TO COUNT TOWARD BUFFER REQUIREMENT AS INDICATED ON PLAN (280 LF). ALL EXISTING VEGETATION TO REMAIN UNDISTURBED WHERE APPLICABLE.

SOUTHERN PROPERTY (ABUTTING SELF/MERRITT PROPERTY) 2250 LF
25' TYPE B LANDSCAPE BUFFER

REQUIRED: PROVIDE A SEMI-OPAQUE VEGETATED BUFFER FROM THE GROUND TO AT LEAST THREE FEET WITH AT LEAST 50% EVERGREEN SPECIES.

PROVIDED: EXISTING VEGETATION TO COUNT TOWARD BUFFER REQUIREMENT (ENTIRE BUFFER LENGTH). ALL EXISTING VEGETATION TO REMAIN UNDISTURBED IN BUFFER AREAS.

NORTHERN PROPERTY (ABUTTING FUTURE COMMERCIAL) 1185 LF
40' TYPE B LANDSCAPE BUFFER

REQUIRED: PROVIDE A SEMI-OPAQUE VEGETATED BUFFER FROM THE GROUND TO AT LEAST THREE FEET WITH AT LEAST 50% EVERGREEN SPECIES.

PROVIDED: SEE TYPICAL BUFFER PLANTING DETAILS THIS SHEET FOR PLANTINGS. EXISTING VEGETATION TO COUNT TOWARD BUFFER REQUIREMENT AS INDICATED ON PLAN (700 LF). ALL EXISTING VEGETATION TO REMAIN UNDISTURBED WHERE APPLICABLE.

MAIN AMENITY LANDSCAPE BUFFER 510 LF
25' TYPE B LANDSCAPE BUFFER

REQUIRED: PROVIDE A SEMI-OPAQUE VEGETATED BUFFER FROM THE GROUND TO AT LEAST THREE FEET WITH AT LEAST 50% EVERGREEN SPECIES.

PROVIDED: SEE TYPICAL BUFFER PLANTING DETAILS THIS SHEET FOR PLANTINGS.

VEHICLE USE AREAS

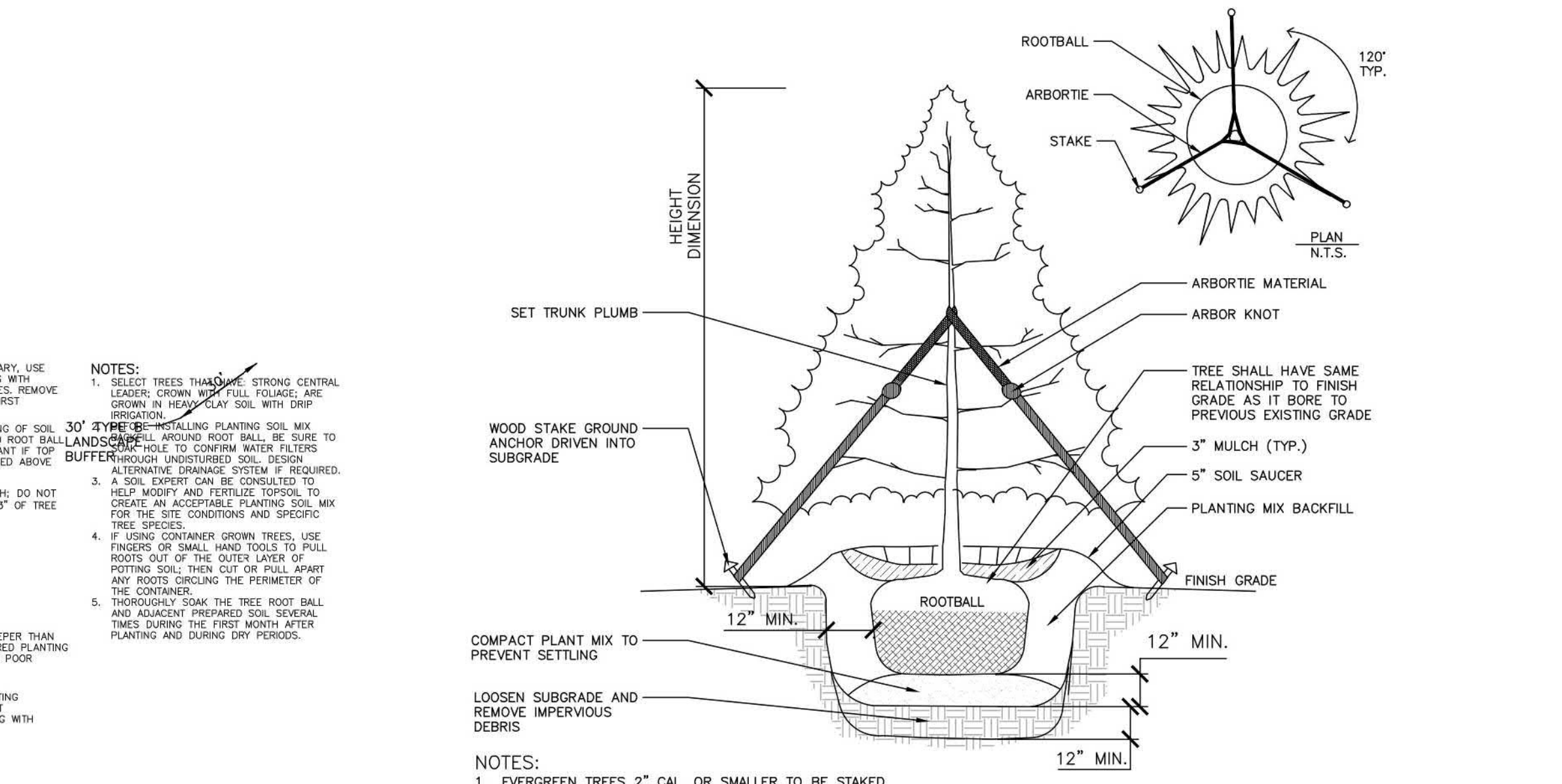
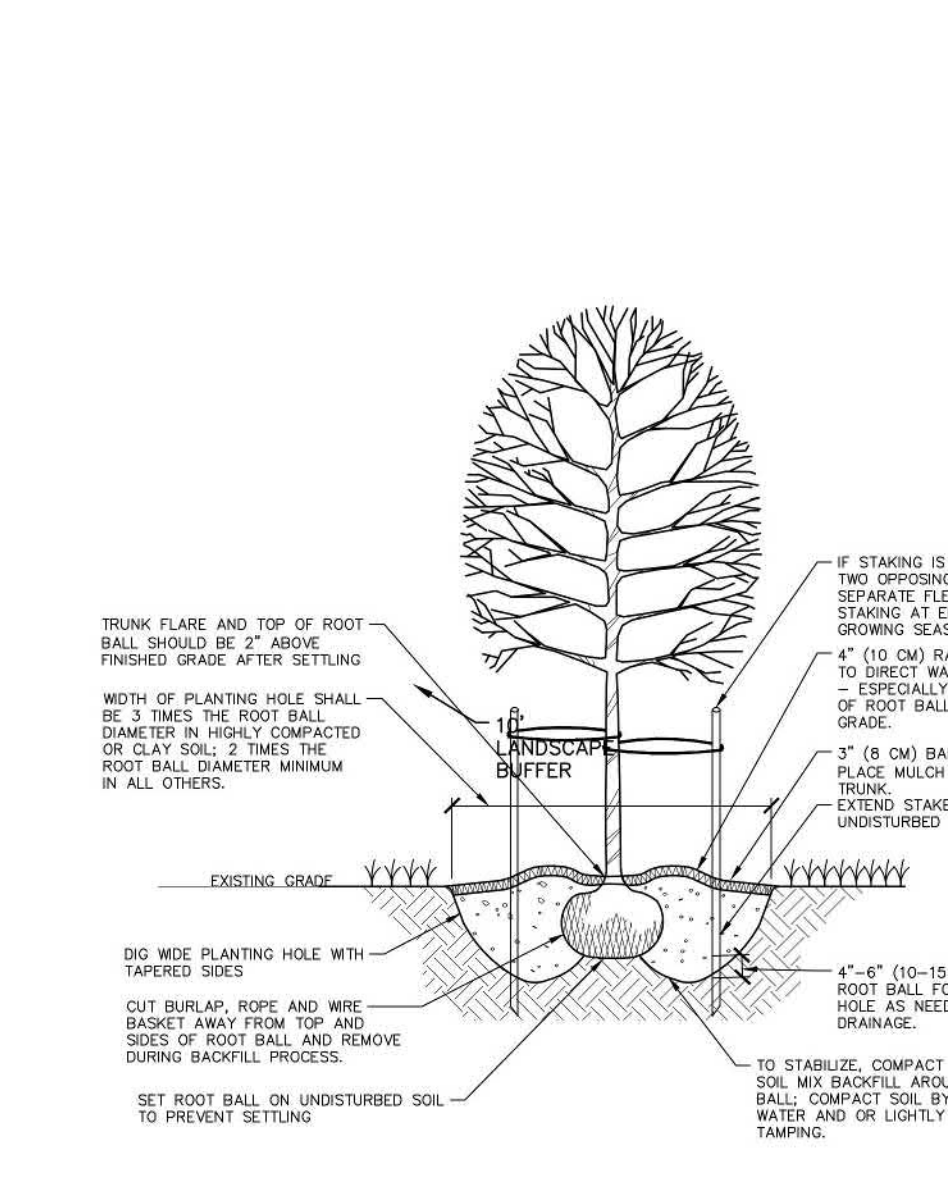
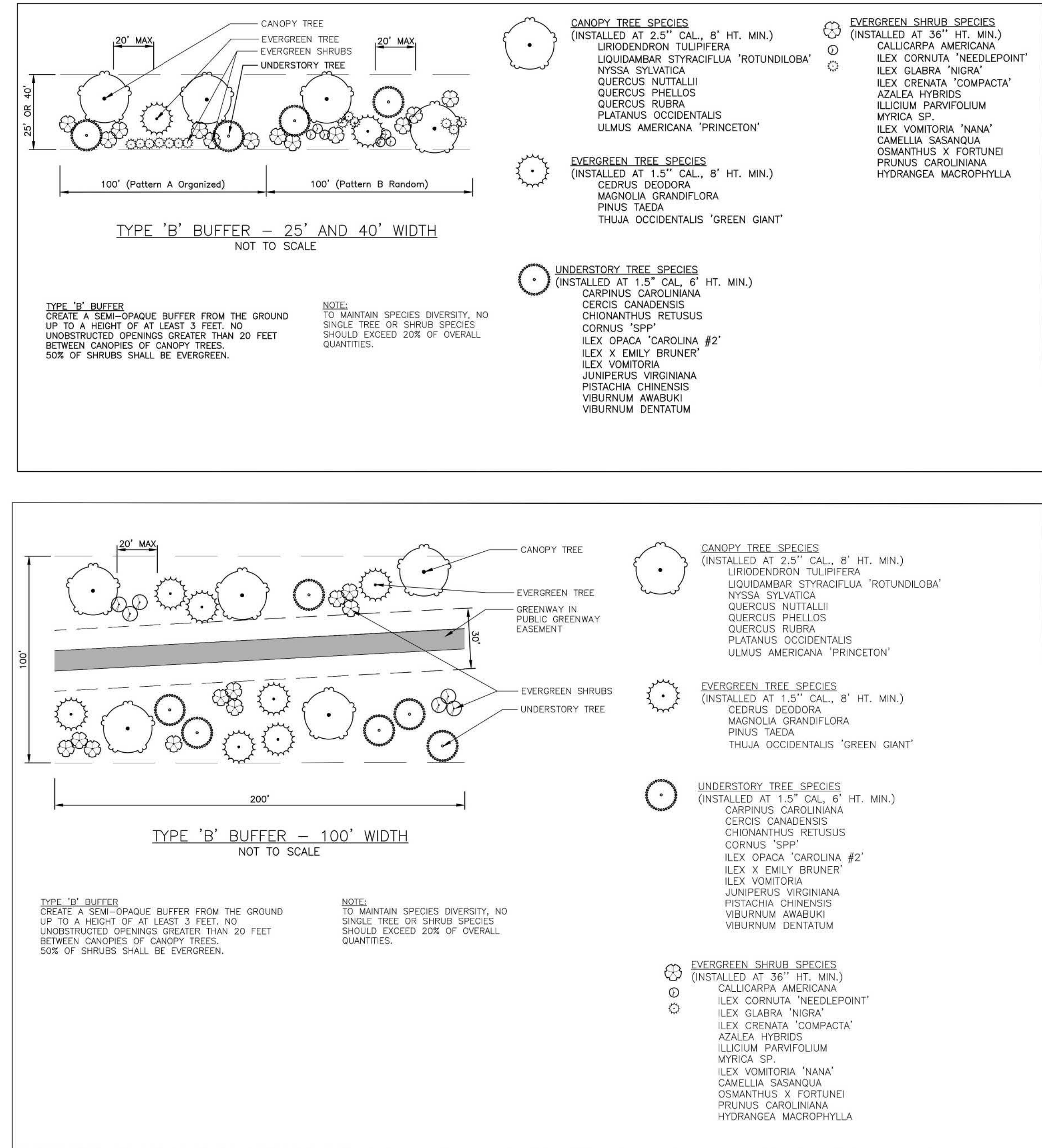
MAIN AMENITY/MAIL KIOSK PARKING AREA 79 SPACES

CANOPY TREES
REQUIRED: ALL SPACES WITHIN 60' FROM PLANTED TREE
PROVIDED: 15

OPEN SPACE 20 PARKING AREA 5 SPACES

CANOPY TREES
REQUIRED: ALL SPACES WITHIN 60' FROM PLANTED TREE
PROVIDED: 1 (TREE IN LANDSCAPE BUFFER TO FULFILL REQUIREMENT)

TYPICAL BUFFER PLANTING



PLANT SCHEDULE

CANOPY TREE	CODE	QTY	COMMON NAME	BOTANICAL NAME	CAL	HEIGHT	CONT	REMARKS
	BNH	8	River Birch Multi-Trunk	Betula nigra	2.5"	8' min		Multi-Stem
	PFA	39	London Plane Tree	Platanus x acerifolia 'Exclamation'	2.5"	8' min		
	QLA	29	Overcup Oak	Quercus lyrata	2.5"	8' min		
	QNT	39	Nuttall Oak	Quercus nuttallii	2.5"	8' min		
	QPP	6	Pin Oak	Quercus palustris	2.5"	8' min		
	QPL	22	Willow Oak	Quercus phellos	2.5"	8' min		
	QRU	24	Regal Prince English Oak	Quercus robur 'Regal Prince'	2.5"	8' min		
	TDS	15	Bald Cypress	Taxodium distichum 'Shawnee Brave' TM	2.5"	8' min		
	UAE	31	American Elm	Ulmus americana 'Princeton'	2.5"	8' min		
EVERGREEN UNDERSTORY	CODE	QTY	COMMON NAME	BOTANICAL NAME	CAL	HEIGHT	CONT	REMARKS
	IXL	60	Oak Leaf Holly	Ilex x 'Oak Leaf'	-	6' min		
UNDERSTORY TREE	CODE	QTY	COMMON NAME	BOTANICAL NAME	CAL	HEIGHT	CONT	REMARKS
	ABS	7	Streetwise Trident Maple	Acer buergerianum 'Streetwise' TM	1.5"	6' min		
	AAB	31	Downy Serviceberry	Amelanchier arborea	1.5"	6' min		Multi-Stem
	CCR	39	Eastern Redbud	Cercis canadensis	1.5"	6' min		
	CCK	71	Cherokee Princess Dogwood	Cornus kousa 'Cherokee Princess'	1.5"	6' min		
	SJP	59	Japanese Snowbell	Styrax japonicus	1.5"	6' min		
SHRUBS	CODE	QTY	COMMON NAME	BOTANICAL NAME	HEIGHT	SPACING	CONT	REMARKS
	AGLR	53	Little Richard Glassy Abelia	Abelia x grandiflora 'Little Richard'	24"		Cont.	
	DXBC	97	Blue Cascade Distylium	Distylium x 'PIDIST-II' TM	24"		Cont.	
	ICCS	56	Carissa Holly	Ilex cornuta 'Carissa'	24"		Cont.	
	ICCM	45	Dwarf Japanese Holly	Ilex crenata 'Compacta'	24"		Cont.	
	ISSH	101	Shamrock Inkberry Holly	Ilex glabra 'Shamrock'	24"		Cont.	
	LCDM	24	Daruma Dwarf Loropetalum	Loropetalum chinense 'Daruma'	24"		Cont.	
	LCFD	156	Purple Leaf Fringe Flower	Loropetalum chinense rubrum 'Fire Dance'	24"		Cont.	
	VACH	6	Chindo Viburnum	Viburnum owabuki 'Chindo'	24"			

MAINTENANCE NOTES:

- WARRANTY: INSTALLER SHALL REPAIR OR REPLACE ANY PLANTINGS THAT FAIL IN MATERIALS, WORKMANSHIP, OR GROWTH WITHIN ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE, NEGLIGENCE, ABUSE BY OWNER, OR INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL.
 - STRUCTURAL FAILURES INCLUDING PLANTINGS FALLING OR BLOWING OVER.
- THE OWNER OF THE PROPERTY AND THEIR AGENTS, HEIRS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, PRESERVATION AND MAINTENANCE OF ALL PLANTINGS AND PHYSICAL FEATURES ON THIS PLAN. FAILURE TO MAINTAIN ALL PLANTINGS IN ACCORDANCE WITH THIS PLAN MAY CONSTITUTE A VIOLATION OF THIS ORDINANCE AND MAY RESULT IN FINES. THE OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE VEGETATION, INCLUDING BUT NOT LIMITED TO:
 - PRUNING WITHIN LIMITS
 - PEST CONTROL
 - MULCHING
 - MOWING
 - PROTECTION OF THE ROOT ZONES FROM EQUIPMENT, CONSTRUCTION AND RELATED MATERIALS, ETC.
 - METHOD OF IRRIGATION
 - OTHER CONTINUING MAINTENANCE OPERATIONS

GENERAL LANDSCAPE NOTES:

- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ROLESVILLE AND THE STATE OF NORTH CAROLINA STANDARDS AND SPECIFICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR THE SITE INSPECTION BEFORE LANDSCAPE CONSTRUCTION AND INSTALLATION IN ORDER TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE BEGINNING DEMOLITION OR INSTALLATION.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE NOTES, SPECIFICATIONS, DRAWINGS OR SITE CONDITIONS FOR RESOLUTION PRIOR TO INSTALLATION.
- ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- VERIFICATION OF TOTAL PLANT QUANTITIES AS SHOWN IN THE PLANT SCHEDULE SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.
- SUBSTITUTIONS OF SPECIFIC PLANTS CAN ONLY OCCUR WITH PRIOR WRITTEN PERMISSION OF BOTH OWNER AND LANDSCAPE ARCHITECT.
- CONTRACTOR TO ENSURE PROPER STABILIZATION AND SEEDING OF THE SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
- LANDSCAPE MATERIAL SHALL BE WELL FORMED, VIGOROUS, GROWING SPECIMENS WITH GROWTH TYPICAL OF VARIETIES SPECIFIED AND SHALL BE FREE FROM DAMAGE, INSECTS AND DISEASES. MATERIAL SHALL EQUAL OR SURPASS #1 QUALITY AS DEFINED IN THE CURRENT ISSUE OF 'AMERICAN STANDARD FOR NURSERY STOCK' AS PUBLISHED BY AMERICAN HORT - AMERICANHORT.ORG.
- ALL PLANT MATERIAL IS TO BE CAREFULLY HANDLED BY THE ROOT BALL, NOT THE TRUNK, BRANCHES AND/OR FOLIAGE OF THE PLANT. MISHANDLED PLANT MATERIAL MAY BE REJECTED BY THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL IS TO BE WELL ROOTED, NOT ROOT BOUND, SUCH THAT THE ROOT BALL REMAINS INTACT THROUGHOUT THE PLANTING PROCESS. DEFICIENT PLANT MATERIAL MAY BE REJECTED BY THE LANDSCAPE ARCHITECT OR OWNER.
- ALL PLANTS TO BE A MINIMUM OF WHAT IS SPECIFIED IN THE PLANT SCHEDULE. ANY CHANGES OR SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT AND GOVERNING JURISDICTION PRIOR TO ANY HOLE BEING DUG.
- ALL TREES MUST BE PLANTED AFTER OCTOBER 1 AND BEFORE MARCH 31.
- CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT TO ESTABLISH THE EXTENTS OF MULCH/SEED/SOIL IF NOT SPECIFICALLY SHOWN ON PLANS.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN ALL PLANTING AREAS.
- PROPOSED TREES TO BE PLANTED A MINIMUM 15 FEET FROM ANY LIGHT POLE AS MEASURED FROM TRUNK OF THE TREE TO THE POLE.
- PROPOSED TREES TO BE PLANTED A MINIMUM 5 FEET FROM ANY FIRE HYDRANT AS MEASURED FROM TRUNK OF THE TREE TO THE HYDRANT.
- ALL TREE PLANTINGS SHALL BE MULCHED WITH 3 INCHES OF SHREDDED BARK OR 4 INCHES OF PINE STRAW IN A 3 FOOT RADIUS AROUND THE TREE, OR TO THE DRILLLINE, WHICHEVER IS GREATER. THE MULCH SHALL BE FREE OF TRASH AND MAINTAINED FREE THEREAFTER. MULCH SHALL NOT COVER THE ROOT COLLAR.

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ASHTON WOODS

THE POINT
PHASES 1, 2, 6 AND 9
CONSTRUCTION DRAWINGS - PACKAGE 1
EAST YOUNG STREET
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

Julie Young
Mar 24 2022 8:52 AM

REVISIONS

NO.	DATE

PLAN INFORMATION

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FILENAME	AWH20000-CD-PKG-01-L51
CHECKED BY	SRD
DRAWN BY	JGY
SCALE	1"=40'
DATE	03.21.2022

SHEET

CODE LANDSCAPE NOTES

L5.20

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