



McAdams

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CLIENT

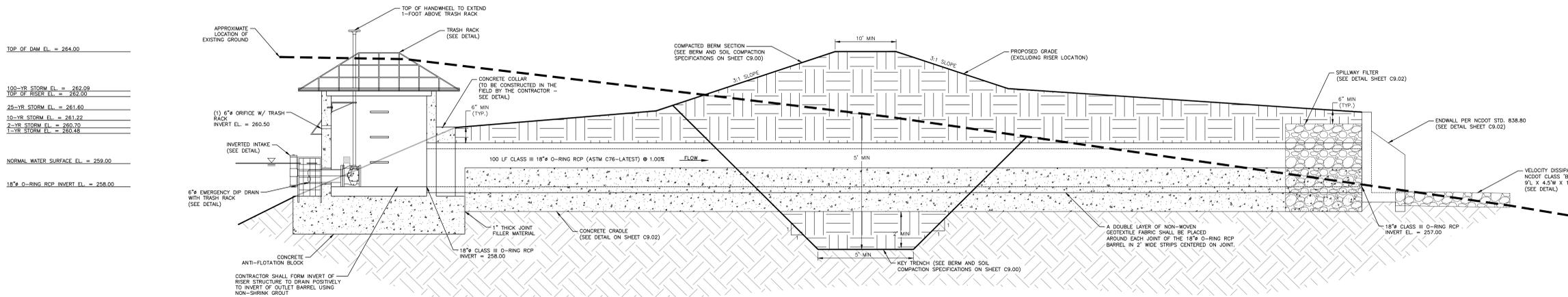
UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL
DEPARTMENT OF ATHLETICS
220 FINLEY GOLF COURSE ROAD
CHAPEL HILL, NORTH CAROLINA 27517



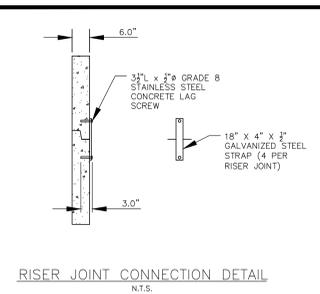
UNC CHAPEL HILL-GOLF
TRAINING FACILITY
SPECIAL USE PERMIT
500 FINLEY GOLF COURSE ROAD
CHAPEL HILL, NC 27514

NOTE:

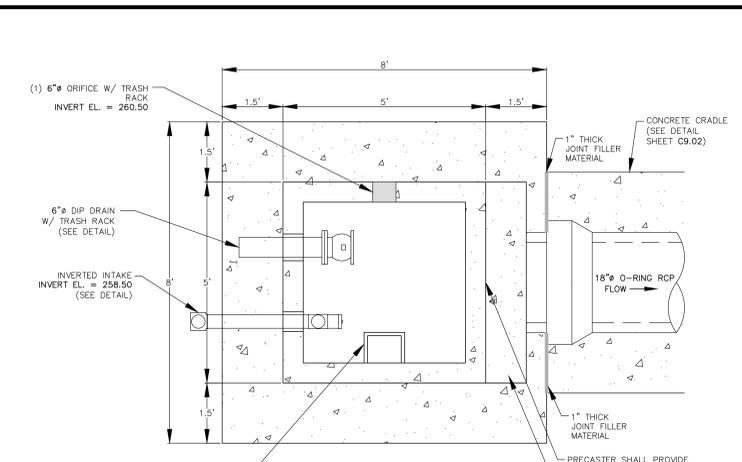
1. REMOVED TOPSOIL SHALL BE STOCKPILED FOR USE IN PLANTING (SEEDING) THE DAM EMBANKMENT ONCE FINAL GRADES (AS SHOWN ON THE GRADING PLAN) HAVE BEEN ESTABLISHED WITH COMPACTED FILL. PRIOR TO TOPSOIL INSTALLATION, THE CONTRACTOR SHALL SCARP THE TOP 2- TO 3-INCHES OF THE BERM SECTION TO PROMOTE BONDING OF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



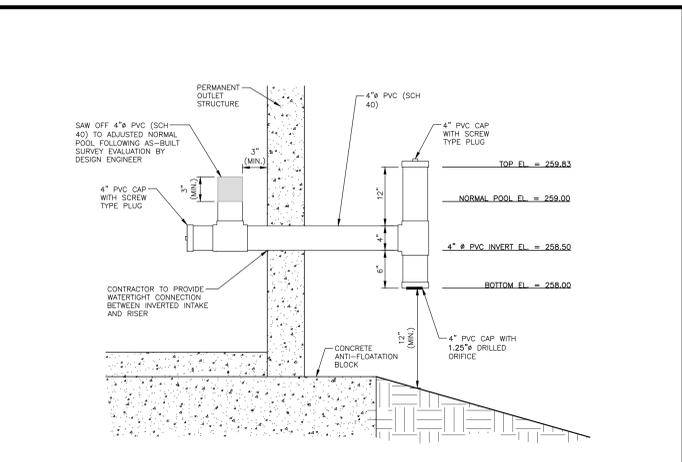
PERMANENT DAM CROSS SECTION
N.T.S.



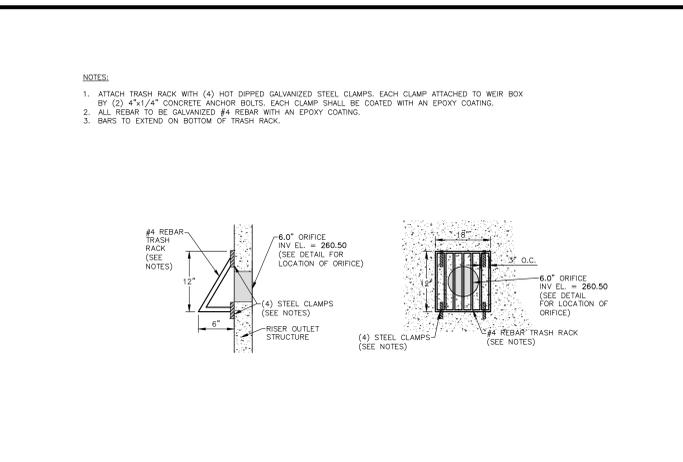
- NOTES:
1. CONCRETE ANTI-FLOTATION BLOCK TO BE PROVIDED WITH MINIMUM TEMPERATURE AND SHRINKAGE STEEL REINFORCEMENT.
2. TRASH RACKS NOT SHOWN FOR CLARITY.
3. THE NUMBER OF GUIDES FOR THE VALVE STEM SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE VALVE STEM MUST BE OPERABLE FROM THE TOP OF THE 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.



CONTRACTOR SHALL PROVIDE STEPS IN ACCORDANCE WITH NCDOT STD. 840.66. STEPS SHALL BE PLACED AT 16" O.C. AND SHALL LINE UP WITH TRASH RACK ACCESS HATCH

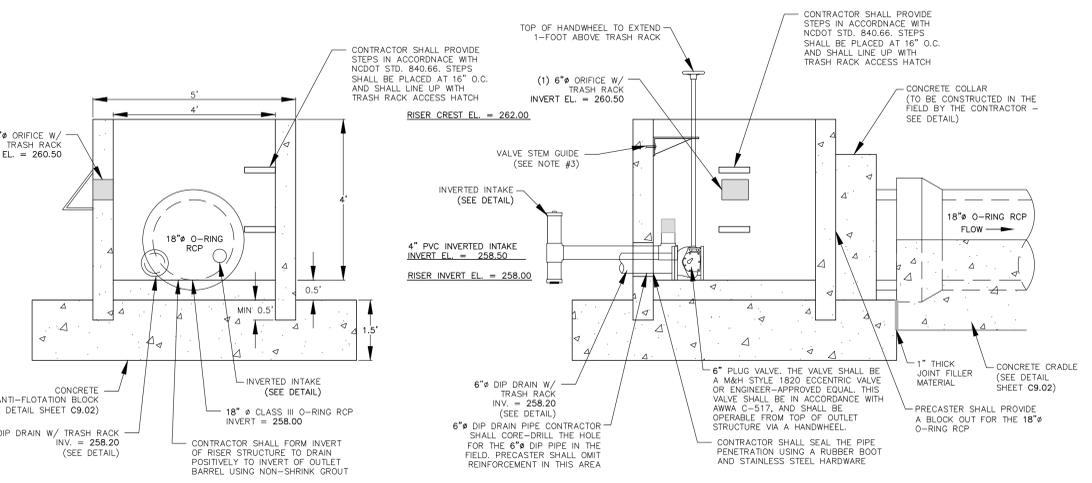


INVERTED INTAKE OUTLET DETAIL
N.T.S.

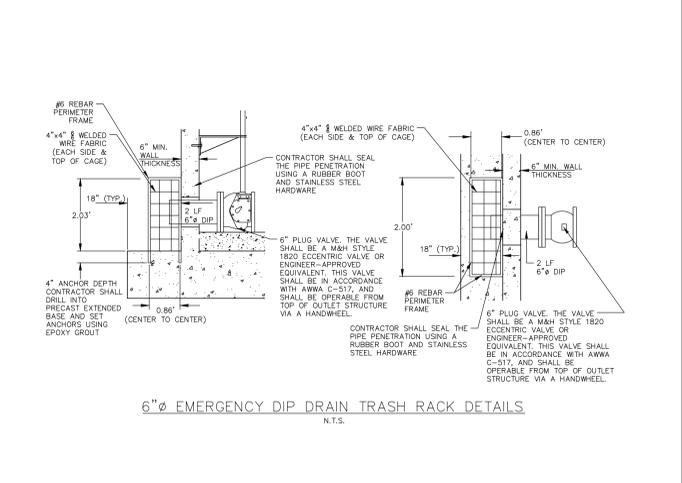


6" ORIFICE TRASH RACK DETAIL
N.T.S.

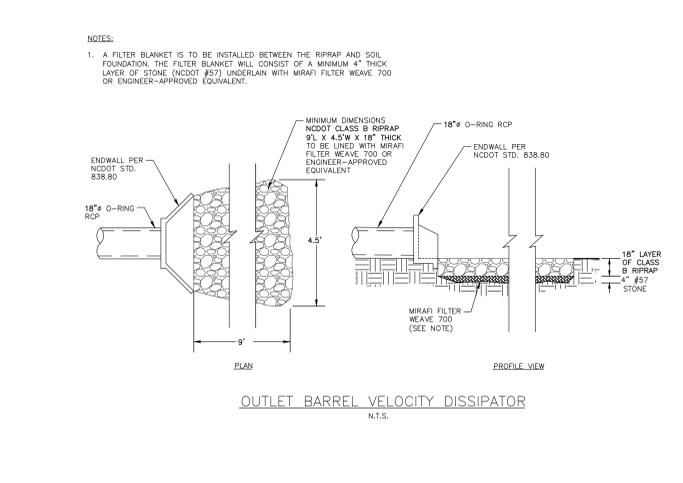
- NOTES:
1. ATTACH TRASH RACK WITH (4) HOT DIPPED GALVANIZED STEEL CLAMPS. EACH CLAMP ATTACHED TO WEIR BOX BY (2) 4"x1/4" CONCRETE ANCHOR BOLTS. EACH CLAMP SHALL BE COATED WITH AN EPOXY COATING.
2. ALL REBAR TO BE GALVANIZED #4 REBAR WITH AN EPOXY COATING.
3. BARS TO EXTEND TO BOTTOM OF TRASH RACK.



PERMANENT OUTLET STRUCTURE DETAILS
N.T.S.



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



OUTLET BARREL VELOCITY DISSIPATOR
N.T.S.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

REVISIONS

Table with columns for NO., DATE, and description of revisions.

PLAN INFORMATION

PROJECT NO. UNC-22005
FILENAME UNC22005-SCM
CHECKED BY MCT
DRAWN BY MMJ
SCALE N.T.S.
DATE 04.19.2024

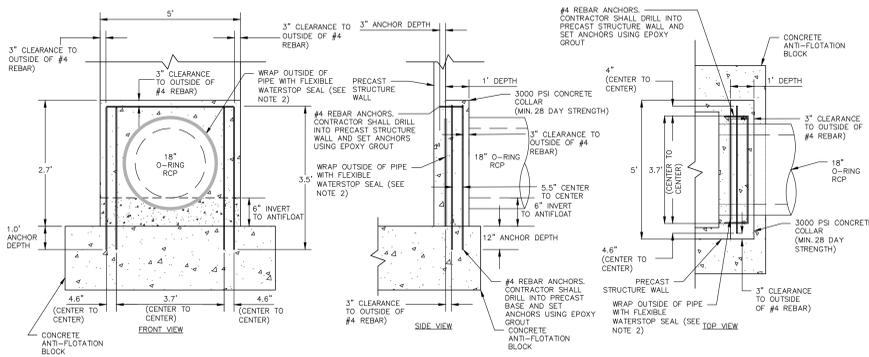
SHEET

SCM DETAILS
C9.01

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

NOTES:

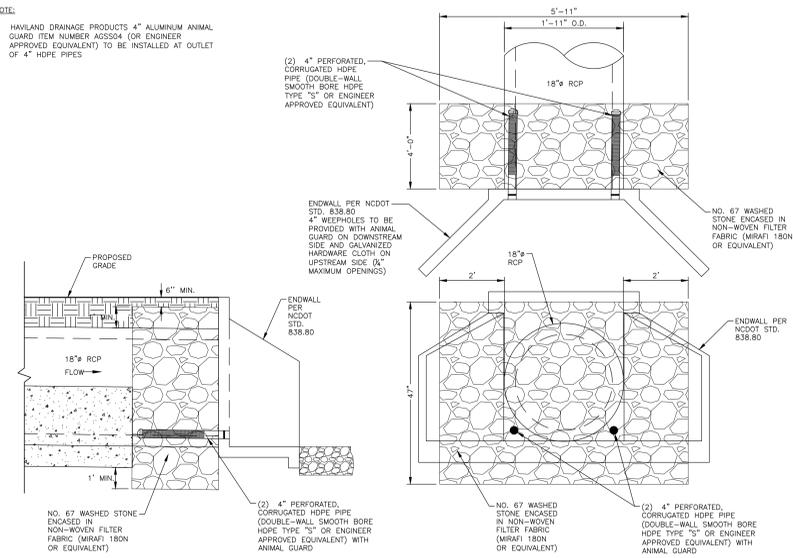
1. ALL REBAR TO BE #4 REBAR.
2. WRAP OUTSIDE OF PIPE WITH VOLICLAY WATERSTOP-RW 101 (OR PRE-APPROVED EQUIVALENT) AT THE FACE OF THE PRECAST STRUCTURE WALL. PROVIDE 6" OVER LAP ON THE BOTTOM OF THE PIPE.



18" CONCRETE COLLAR DETAIL
N.T.S.

NOTE:

1. HAYLAND DRAINAGE PRODUCTS 4" ALUMINUM ANIMAL GUARD ITEM NUMBER AG2504 (OR ENGINEER APPROVED EQUIVALENT) TO BE INSTALLED AT OUTLET OF 4" HOPE PIPES.



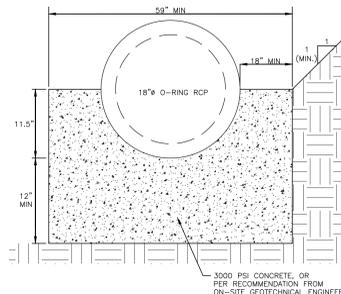
18" SPILLWAY FILTER DETAIL
N.T.S.

NOTE:

1. CONTRACTOR SHALL PROVIDE A JOINT IN THE OUTLET BARREL NO MORE THAN 5-FT FROM THE RISER.

BARREL PIPE-CONCRETE CRADLE CONSTRUCTION SEQUENCE

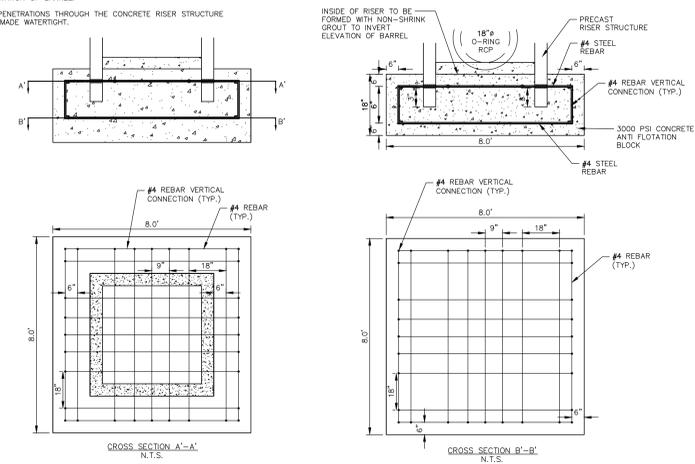
1. BRING GRADE OF D/M EMBANKMENT TO SPRINGLINE OF PIPE ELEVATION.
2. EXCAVATE TRENCH FOR CRADLE AND BARREL PER DIMENSIONS ON DRAWINGS.
3. PLACE BARREL PIPE ON CONCRETE BLOCKS TO GRADE. AT THIS STEP, CONTRACTOR SHALL WRAP A DOUBLE LAYER OF NON-WOVEN GEOTEXTILE FABRIC AROUND EACH JOINT OF THE 18" O-RING 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 FULLY CURE UNDER PIPE AND PIPE HANGERS 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. ALLOW CRADLE TO CURE FOR A MINIMUM OF 7 DAYS BEFORE ANY VIBRATING COMPACTION EQUIPMENT IS USED IN THE VICINITY OF THE BARREL PIPE.
6. 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 18" RCP BEFORE DRIVING OVER WITH HEAVY EQUIPMENT.



18" CONCRETE CRADLE DETAIL
N.T.S.

NOTES:

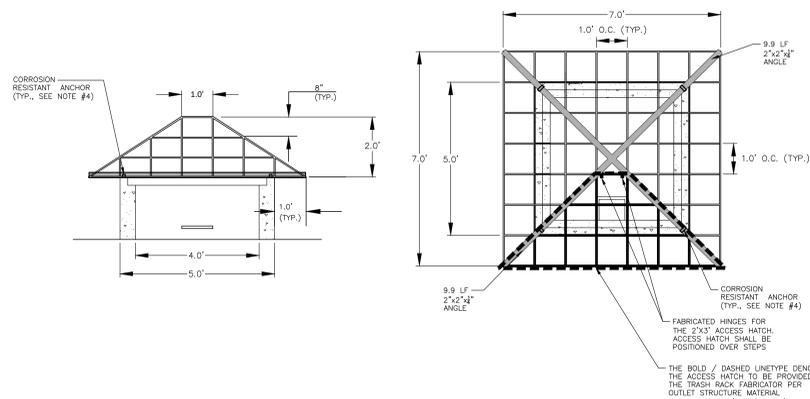
1. ALL REINFORCING STEEL IN RISER ANTI-FLOTATION BLOCK TO BE GRADE 60 #4 BARS FOR HORIZONTAL CROSSING AND GRADE 60 #4 BARS FOR VERTICAL CONNECTIONS.
2. INSIDE OF RISER BOTTOM TO BE FORMED WITH NON-SHRINK GROUT TO INVERT ELEVATION OF BARREL.
3. ALL PIPE PENETRATIONS THROUGH THE CONCRETE RISER STRUCTURE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



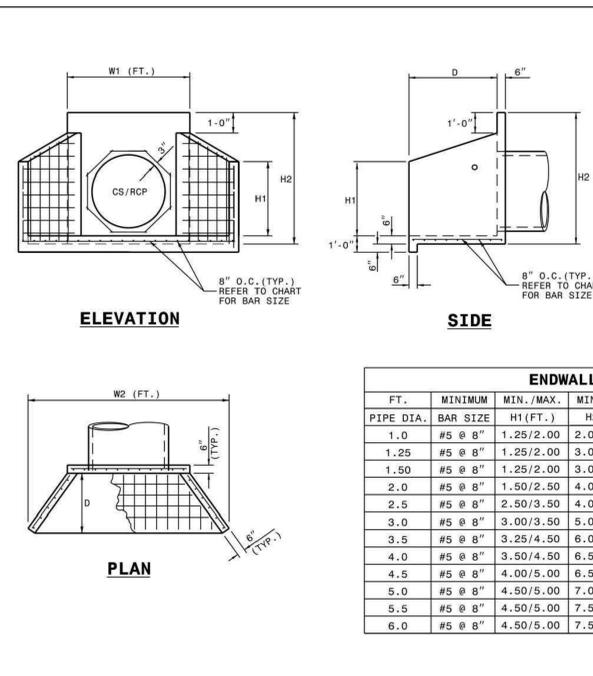
RISER/ANTI-FLOTATION BLOCK CONNECTION
N.T.S.

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.



4'x4' RISER TRASH RACK DETAIL
N.T.S.



NOTES:

- * THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838.01, 838.11, 838.21, 838.27, 838.33, 838.39, 838.51, 838.57, 838.63 AND 838.69.
- * INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 838.
- * USE 4000 PSI CONCRETE.
- * PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185 WITH 2" MIN. CLEARANCE.
- * PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- * PIPE TO BE GROUTED INTO HEADWALL AT JOB SITE BY CONTRACTOR.
- * ALL ELEMENTS PRECAST TO MEET ASTM C913.
- * WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- * CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

NOTE: THE MINIMUM BAR SIZE SHALL BE #5 BARS AT 8" O.C. THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.

ENDWALL DIMENSIONS						
FT.	MINIMUM	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.
PIPE DIA.	BAR SIZE	H1 (FT.)	H2 (FT.)	D (FT.)	W1	W2
1.0	#5 @ 8"	1.25/2.00	2.00/3.75	1.25/1.75	3.00/3.75	5.50/6.00
1.25	#5 @ 8"	1.25/2.00	3.00/3.75	1.25/2.00	3.50/3.75	6.50/6.75
1.50	#5 @ 8"	1.25/2.00	3.00/4.25	1.50/2.50	3.50/3.75	6.50/6.75
2.0	#5 @ 8"	1.50/2.50	4.00/4.75	1.75/2.50	4.00/4.25	7.50/8.25
2.5	#5 @ 8"	2.50/3.50	4.00/6.00	2.00/3.00	4.50/5.50	10.00/11.50
3.0	#5 @ 8"	3.00/3.50	5.00/6.00	2.75/3.50	5.25/5.75	11.50/11.75
3.5	#5 @ 8"	3.25/4.50	6.00/6.75	3.25/3.50	6.00/6.75	12.00/13.25
4.0	#5 @ 8"	3.50/4.50	6.50/7.00	3.25/3.50	6.50/6.75	13.00/13.25
4.5	#5 @ 8"	4.00/5.00	6.50/8.50	3.25/4.00	7.00/9.25	13.50/15.75
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/9.25	13.75/15.75
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/9.25	14.00/15.75
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/9.25	14.75/16.75

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 - 90° SKEW

SHEET 1 OF 1
838.80



REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	UNC-22005
FILENAME	UNC22005-SCM
CHECKED BY	MCT
DRAWN BY	MMJ
SCALE	N.T.S.
DATE	04.19.2024

SHEET

STORMWATER CONTROL MEASURE PLANTING PLAN SPECIFICATIONS

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SPACING
GROUND COVERS						
	AISM	87	Swamp Milkweed	Asclepias incarnata	4" pot	24" o.c.
	CTQS	361	Quill Sedge	Carex tenera	4" pot	12" o.c.
	CGWT	127	White Turtlehead	Chelone glabra	4" pot	24" o.c.
	LCCF	81	Cardinal Flower	Lobelia cardinalis	4" pot	24" o.c.
	LELL	102	Longleaf Lobelia	Lobelia elongata	4" pot	24" o.c.
	STSB	80	Softstem Bulrush	Schoenoplectus tabernaemontani	4" pot	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 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 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.

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 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 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.

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)

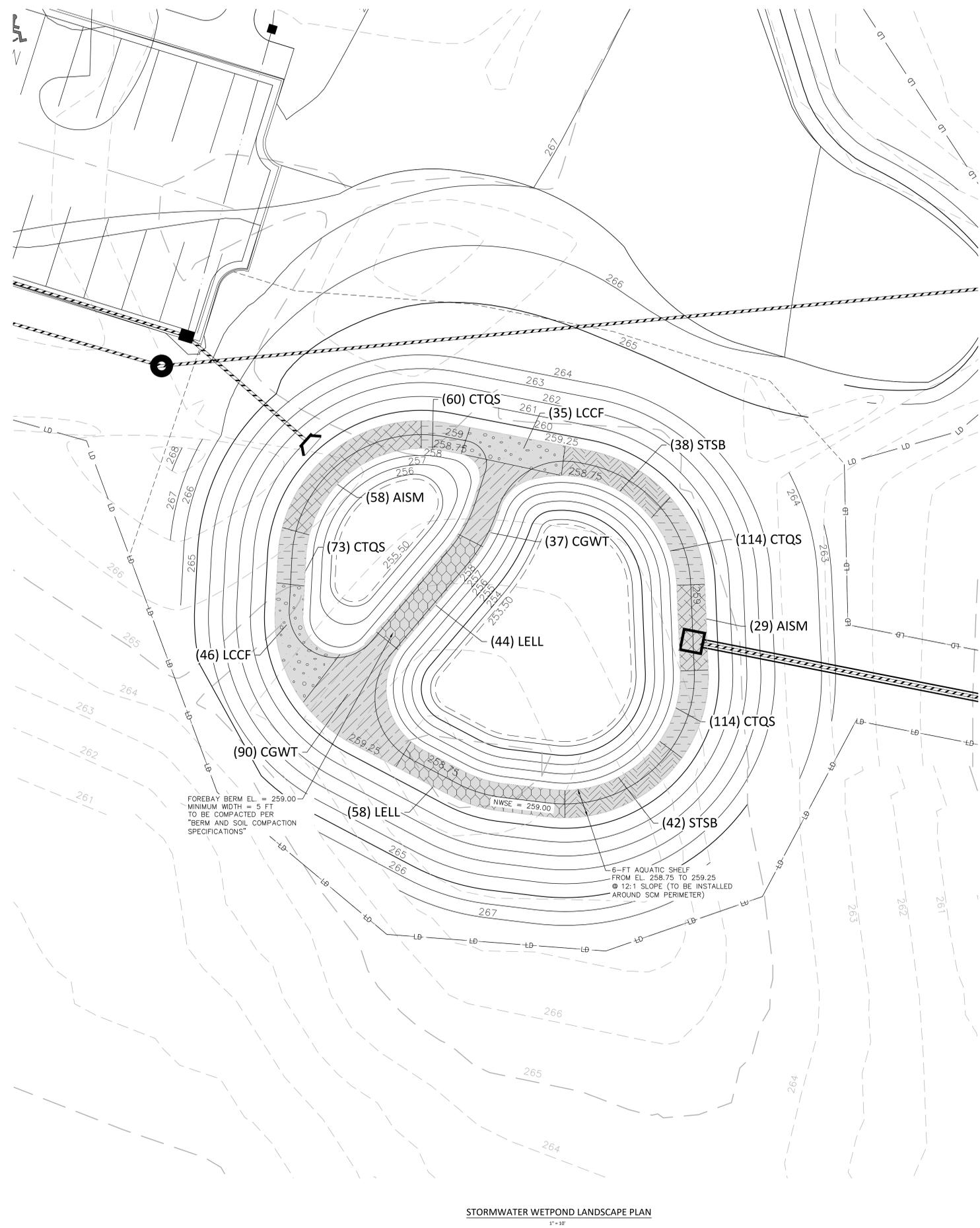
SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
AUG 25 - OCT (BEST)	TALL FESCUE	200 LBS/AC
FEB - APR 15 (POSSIBLE)		

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 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.

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



STORMWATER WETPOND LANDSCAPE PLAN
1" = 10'

McADAMS
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UNC CHAPEL HILL-GOLF TRAINING FACILITY
SPECIAL USE PERMIT
500 FINLEY GOLF COURSE ROAD
CHAPEL HILL, NC 27514



REVISIONS

NO.	DATE

PLAN INFORMATION

PROJECT NO.	UNC-22005
FILENAME	UNC22005-SCM
CHECKED BY	MCT
DRAWN BY	MMJ
SCALE	1" = 10'
DATE	04.19.2024

SHEET

SCM LANDSCAPE PLAN
C9.03

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