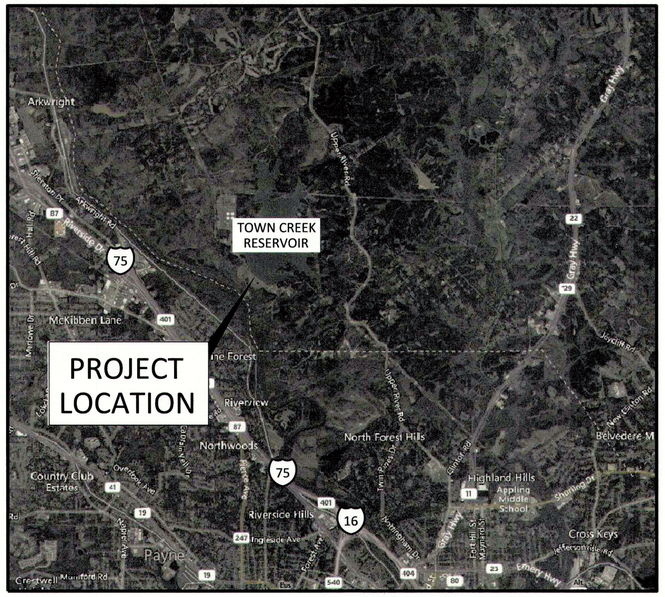
MACON WATER AUTHORITY



VICINITY MAP

0 5000 10000

SCALE IN FEET

TOTAL PROJECT AREA: 0.58 AC
TOTAL DISTURBED AREA: 0.58 AC
ADDITIONAL IMPERVIOUS AREA: 0.00 AC

CONSTRUCTION EXIT COORDINATES:
LAT 32.902096N
LON: 83.660951W

Macon Water Authority

CONSTRUCTION DRAWINGS FOR

TOWN CREEK RESERVOIR DAM ABUTMENT DRAIN

GA STATE ID: 084-043-04724
NID NO: GA04542

FINAL

2/14/2025

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
G-0	COVER
G-1	GENERAL NOTES
G-2	OVERALL EXISTING SITE PLAN
G-3	EXISTING SITE PLAN
CIVIL	
C-1	PROPOSED SITE PLAN
C-2	PROPOSED SITE PLAN DETAILED
C-3	PROFILE AND SECTIONS
C-4	DETAILS
C-5	EROSION AND SEDIMENT CONTROL DETAILS

PROJECT LOCATION:
TOWN CREEK RESERVOIR DAM
AMERSON WATER TREATMENT PLAN
DR LEE RD.
MACON, GA 31211

PROJECT NARRATIVE:
THESE PLANS SHOW THE EXTENSION OF A GRANULAR SOIL FILTER DRAIN ON THE RIGHT ABUTMENT OF THE TOWN CREEK RESERVOIR DAM.

OWNER:
MACON WATER AUTHORITY
MICHEL WANNA
ASSISTANT EXECUTIVE DIRECTOR & VICE PRESIDENT
MWANNA@MACONWATER.ORG

24-HOUR EMERGENCY CONTACT:
JARAD ZELLNER
DIRECTOR, WATER OPERATIONS
JZELLNER@MACONWATER.ORG
(478)464-5600

FREESE AND NICHOLS
360 INTERSTATE NORTH PARKWAY
SUITE 250
ATLANTA, GEORGIA 30339
PHONE - (404) 334-4310
WWW.FREESE.COM

MWA24201

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NOTE: CONTRACTOR MUST COORDINATE WORK WITH UTILITY PROVIDERS TO MAINTAIN UTILITY SERVICE AND A SAFE WORK SITE.

GSWCC Georgia Soil and Water Conservation Commission
MAXWELL BLOOM
Level II Certified Design Professional
CERTIFICATION NUMBER 0000079755
ISSUED: 7/01/2021 EXPIRES: 7/01/2027

GEORGIA REGISTERED No. PE047313 PROFESSIONAL ENGINEER MAXWELL ELI BLOOM
2/14/25

ENGINEER OF RECORD:
MAXWELL BLOOM
FREESE AND NICHOLS, INC.
MAX.BLOOM@FREESE.COM
(404) 334-4310

Freese and Nichols, Inc.
Georgia Registered Engineering Firm PEF-004433
Expires 6/30/2026

PLOT DATE: 2/10/2025 1:26 PM PLOT BY: 08521 FILENAME: N:\WRD\Drawings\GN-COVER-SEEP.dwg

UNLESS OTHERWISE INDICATED IN THE CONTRACT DOCUMENTS, NO SEPARATE PAY ITEMS ARE PROVIDED FOR THE REQUIREMENTS IN THESE GENERAL NOTES, WHICH SHALL BE INCIDENTAL TO CONSTRUCTION.

1. BEFORE BEGINNING CONSTRUCTION, CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN DRAWINGS AND/OR FIELD DIMENSIONS.
2. CONTRACTOR TO PROVIDE ENGINEER SUFFICIENT TIME TO NOTIFY GA SAFE DAMS PROGRAM 10 DAYS PRIOR TO THE START OF CONSTRUCTION
3. PLANS HAVE BEEN REVIEWED AND APPROVED BY THE GEORGIA SAFE DAMS PROGRAM. AS SUCH, THE PLANS SHALL NOT BE SUBSTANTIALLY OR MATERIALLY ALTERED WITHOUT PRIOR WRITTEN APPROVAL OF THE MANAGER OF THE GEORGIA SAFE DAMS PROGRAM (GA-SDP). ANY WORK PERFORMED UNDER A PROPOSED CHANGE PRIOR TO GA-SDP APPROVAL OR WITHOUT THE CONSENT OF THE ENGINEER WILL BE PERFORMED AT THE CONTRACTOR'S OWN RISK.
4. THE GEOGRAPHIC COORDINATE SYSTEM IS NAD83 GEORGIA STATE PLANE, WEST ZONE. THE VERTICAL DATUM IS NAVD 88. TOPOGRAPHIC CONTOURS SHOWN ON THIS PLAN WERE DERIVED FROM STATEWIDE LIDAR FLOWN IN 2020 AND PROCESSED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AT A RESOLUTION OF 1M. THE ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THIS DATA. THE CONTRACTOR SHALL FIELD-VERIFY SITE TOPOGRAPHY AS NECESSARY TO COMPLETE THE WORK.
5. CONSTRUCTION SURVEYING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR INCLUDING BUT NOT LIMITED TO LIMITS OF CONSTRUCTION, CENTERLINE, ETC. THE CONTRACTOR SHALL VERIFY ALL CONTROL MONUMENTATION AND NOTIFY OWNER OF ANY DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION.
6. CONTRACTOR'S OPERATIONS MUST STAY WITHIN THE LIMITS OF DISTURBANCE (LOD) DESIGNATED ON THE DRAWINGS. CONTRACTOR SHALL STAKE THE LIMITS OF CONSTRUCTION PRIOR TO BEGINNING WORK. ENGINEER SHALL REVIEW THE SURVEYED LIMITS OF WORK AND MAY MODIFY BASED ON FIELD CONDITIONS. CONTRACTOR SHALL MAINTAIN STAKES UNTIL WORK IS COMPLETE.
7. THE CONTRACTOR MAY ACQUIRE ADDITIONAL TEMPORARY CONSTRUCTION EASEMENTS AT THEIR OWN COST. IF THE CONTRACTOR ACQUIRES ADDITIONAL TEMPORARY EASEMENTS, THEY SHALL PROVIDE COPIES OF THE WRITTEN AGREEMENT TO THE OWNER. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR ANY DAMAGES AS A RESULT OF USE OF ADDITIONAL TEMPORARY EASEMENTS.
8. CONTRACTOR MAY USE EXISTING PUBLIC ROADS FOR TRANSPORTING MATERIALS AND EQUIPMENT. CONTRACTOR SHALL FOLLOW THE LAWS FOR ROAD WEIGHT RESTRICTIONS. DAMAGE CAUSED BY CONSTRUCTION VEHICLES IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. CONTRACTOR SHALL PROVIDE APPROPRIATE SIGNAGE, BARRICADES, FLAGMEN, ETC. REQUIRED TO MAINTAIN SAFE TRAFFIC FLOW AT ALL TIMES FOR ANY WORK ACTIVITY ON OR ADJACENT TO ANY CITY, COUNTY OR GDOT ROADWAY. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH GDOT'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS ADJACENT TO THE PROJECT SITE FREE OF MUD, TRASH, AND CONSTRUCTION DEBRIS.
11. MAXIMUM SPEED LIMIT ON THE PROJECT SITE SHALL BE 20 M.P.H.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING GENERAL SAFETY, INCLUDING THE PERSONAL SAFETY OF THE CONSTRUCTION STAFF AND THE GENERAL PUBLIC WHILE THEY ARE WITHIN THE DISRUPTED PROPERTY LIMITS AND FOR THE SAFETY OF PUBLIC AND PRIVATE PROPERTY.
13. NO FIREARMS SHALL BE ALLOWED ON THE PROJECT SITE.
14. IN ACCORDANCE WITH GEORGIA STATE LAW, AT LEAST 3 DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING A THE GEORGIA UTILITY PROTECTION CENTER, GEORGIA 811 TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT IF IT IS NECESSARY TO CHANGE OR MOVE THE UTILITY, THE PROGRESS OF THE WORK WILL NOT BE DELAYED. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
15. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF ALL POWER AND TELEPHONE POLES AND GUY WIRES WITHIN 15 FEET OF WORK AREAS. REPAIR DAMAGED POLES AND GUY WIRES OR RELOCATE POLES AND GUY WIRES AS REQUIRED BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER. MARK OR SHIELD ANY OVERHEAD POWER LINES ON SITE THAT ARE LESS THAN 30 FT. FROM THE GROUND SURFACE.
16. VARIOUS LOCATIONS OF THE WORK ARE SUBJECT TO FLOODING OR STANDING WATER DURING WET WEATHER PERIODS. CONTRACTOR SHALL PLAN THIS WORK FOR DRY WEATHER PERIODS OR PROVIDE DEWATERING AND OTHER WET WEATHER PROVISIONS IN ACCORDANCE WITH THE CARE OF WATER PLAN.
17. CONTRACTOR SHALL LEAVE EXCAVATIONS IN SECURE AND STABLE CONDITION AT THE END OF EACH DAY.
18. THE CONTRACTOR SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS. PROPER SAFETY PROCEDURES ARE OF SPECIAL CONCERN ON THE PROJECT CONSIDERING THAT WORKERS MAY BE WORKING IN TRENCH EXCAVATIONS.
19. IN DISTURBED AREAS OUTSIDE THE FOOTPRINT OF THE PROPOSED STRUCTURES, AND OUTSIDE OF THE PROPOSED NORMAL POOL, RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL RESTORE GROUND THROUGHOUT THE WARRANTY PERIOD WHERE SETTLEMENT HAS CREATED STORM WATER PONDING.
20. UNLESS WRITTEN PERMISSION IS PROVIDED OTHERWISE, TEMPORARY FILLS IN WATER BODIES SHALL BE REMOVED IN THEIR ENTIRETY AND THE AFFECTED AREAS RETURNED TO PRE-CONSTRUCTION ELEVATIONS.
21. ALL EXCESS SOIL AND ROCK MATERIAL THAT IS UNSUITABLE FOR THE EMBANKMENT FILL SHALL BE REMOVED FROM THE PROJECT SITE AT THE CONTRACTOR'S EXPENSE. ALL WASTE RUBBLE AND TRASH IS TO BE REMOVED FROM THE PROJECT SITE.
22. ALL REFERENCES TO EXISTING GROUND IN SECTIONS AND DETAILS REFER TO THE GROUND LEVEL AFTER CLEARING, GRUBBING, TOPSOIL STRIPPING, AND FOUNDATION PREPARATION. THIS IS TO BE SURVEYED AS NEEDED BY THE CONTRACTOR TO ESTABLISH PROJECT QUANTITIES.

ABUTMENT DRAIN CONSTRUCTION NOTES:

1. DURING THE INSTALLATION OF THE DRAIN, THE ENGINEER OR THEIR REPRESENTATIVE WILL BE ON SITE AT STAGES APPROPRIATE TO VARIOUS PROJECT INTERVALS TO DOCUMENT THE CONSTRUCTION EFFORT AND TO VERIFY THAT THE NEWLY INSTALLED DRAIN MEETS THE INTENT OF THE DESIGN.
2. FINE DRAIN FILL/SAND
   a. FINE DRAIN FILL FOR THE SUBSURFACE DRAINS SHALL CONFORM TO GRADATIONS PROVIDED IN ASTM C-33 FOR FINE AGGREGATE.
   b. THE MATERIAL SHALL NOT BE PRODUCED FROM CRUSHING OPERATIONS NOR BE COMPRISED OF LIMESTONE MATERIAL OR OTHER MATERIALS HAVING EITHER CEMENTIOUS OR SOLUTIONING PROPERTIES.
   c. THE MATERIAL SHALL BE NATURAL RIVER-RUN SAND.
   d. COMPACTION SHALL BE ACHIEVED BY HAND TAMPING.
3. COARSE DRAIN FILL/STONE
   a. COARSE DRAIN FILL FOR THE SUBSURFACE DRAINS TO BE ASTM #89 STONE .
   b. THE MATERIAL SHALL BE COMPOSED OF TOUGH, HARD, AND DURABLE PARTICLES AND SHALL BE REASONABLY FREE OF FLAT OR ELONGATED PIECES AND SHALL CONTAIN NO ORGANIC MATTER OR SOFT FRIABLE PARTICLES.
   c. THE MATERIAL SHALL NOT CONTAIN LIMESTONE.
   d. COMPACTION SHALL BE ACHIEVED BY HAND TAMPING.
4. PVC PIPES
   a. ALL DRAIN PIPES, SLOTTED AND SOLID, SHALL BE SCHEDULE 80 RIGID PVC.
   b. PIPE FITTINGS AND COUPLINGS SHALL BE OF LIKE MATERIAL AS THE PIPE AND INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
   c. PIPE SHALL BE CLEANED AND KEPT FREE OF DIRT, MUD, ICE, GREASE, AND OIL BEFORE AND DURING ASSEMBLY AND INSTALLATION.
   d. SLOTTED DRAIN PIPES ARE TO BE INSTALLED WITH A POSITIVE SLOPE TOWARD THE SOLID OUTLET PIPE.
   e. INSTALL 6" STAINLESS STEEL ANIMAL GUARD AT THE DRAIN OUTLET.
5. EARTH FILL
   a. DEPTH OF SOIL BACKFILL OVER THE DRAIN PIPE SHALL BE A MINIMUM OF 12 INCHES. EXCESS SOIL IS TO BE DISPOSED OF OFF SITE AT THE CONTRACTOR'S EXPENSE.
   b. SOIL BACKFILL OVER THE DRAIN TO BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY, WITH A MOISTURE CONTENT OF BETWEEN OPTIMUM AND OPTIMUM +4% AS DETERMINED BY ASTM D698. TO WITHIN 4 INCHES OF GROUND SURFACE. UPPER FOUR INCHES TO BE TOPSOIL (STRIPPED AND SALVAGED FROM THE DRAIN EXCAVATION) STABILIZED WITH TURF GRASS.

SOIL COMPACTION NOTES:

1. BACKFILL SHALL BE OBTAINED FROM AN APPROVED BORROW SOURCE AND OF TYPE ML, CL, SM, OR SC ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM.
2. A STANDARD PROCTOR TEST SHALL BE OBTAINED FOR EACH PROPOSED BORROW SOURCE TO DETERMINE THE MAXIMUM DRY DENSITY (MDD) AND OPTIMUM MOISTURE CONTENT OF THE PROPOSED BACKFILL MATERIAL.
3. BACKFILL SHALL HAVE A DRY UNIT WEIGHT GREATER THAN 90 LBS AS OBTAINED FROM THE STANDARD PROCTOR TEST.
4. BACKFILL SHALL BE PLACED IN LOOSE LIFTS BETWEEN 4 AND 6 INCHES IN THICKNESS AND COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY, WITH A MOISTURE CONTENT BETWEEN OPTIMUM AND OPTIMUM + 4% AS DETERMINED BY ASTM D698. COMPACTION SHALL BE ACHIEVED BY EITHER A WALK BEHIND SHEEPS FOOT ROLLER OR A HAND HELD JUMPING JACK.
5. THE PREVIOUS LAYER OF COMPACTED BACKFILL SHALL BE SCARIFIED AND/OR MOISTURE CONDITIONED TO AFFECT A GOOD BOND WITH THE SUCCESSIVE LAYER.
6. THE MAXIMUM PARTICLE SIZE SHALL NOT EXCEED TWO-THIRDS OF THE LIFT THICKNESS AND SHALL CONTAIN LESS THAN ONE PERCENT BY WEIGHT OF ORGANICS.
7. COMPACTION SHALL BE ACHIEVED BY USE OF A WALK BEHIND COMPACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE ENGINEER.

LINETYPES

—— xx —— xx —— xx ——	SILT FENCE (DOUBLE ROW)
—— LOD —— LOD ——	LIMITS OF DISTURBANCE
— — — — — — — —	HAND SEEPAGE AREA
———— 500 ————	EXISTING CONTOUR
———— 500 ————	PROPOSED CONTOUR
—— X —— X ——	EXISTING FENCE

APPROVED
STATE OF GEORGIA
DEPT OF NATURAL RESOURCES
MAR 10 2025
Environmental Protection Division
Safe Dams Program

FINAL

Freese and Nichols, Inc.
Georgia Registered Engineering Firm PEF-004433

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE047313 MAXWELL ELI BLOOM 3/11/25

FREESE AND NICHOLS
360 Interstate North Parkway,
Suite 250
Atlanta, GA 30339
Phone - (404) 334-4310
Web - www.freese.com

MACON WATER AUTHORITY
TOWN CREEK RESERVOIR DAM
ABUTMENT DRAIN
CIVIL
GENERAL NOTES

NO.	ISSUE	BY	DATE

F&N JOB NO. MWA24201
DATE 2/14/2025
DESIGNED PJW
DRAWN AVR
REVISED
CHECKED MEB
FILE NAME GN-NOTES-SEEP.dwg

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SHEET G-1
SEQ. ----

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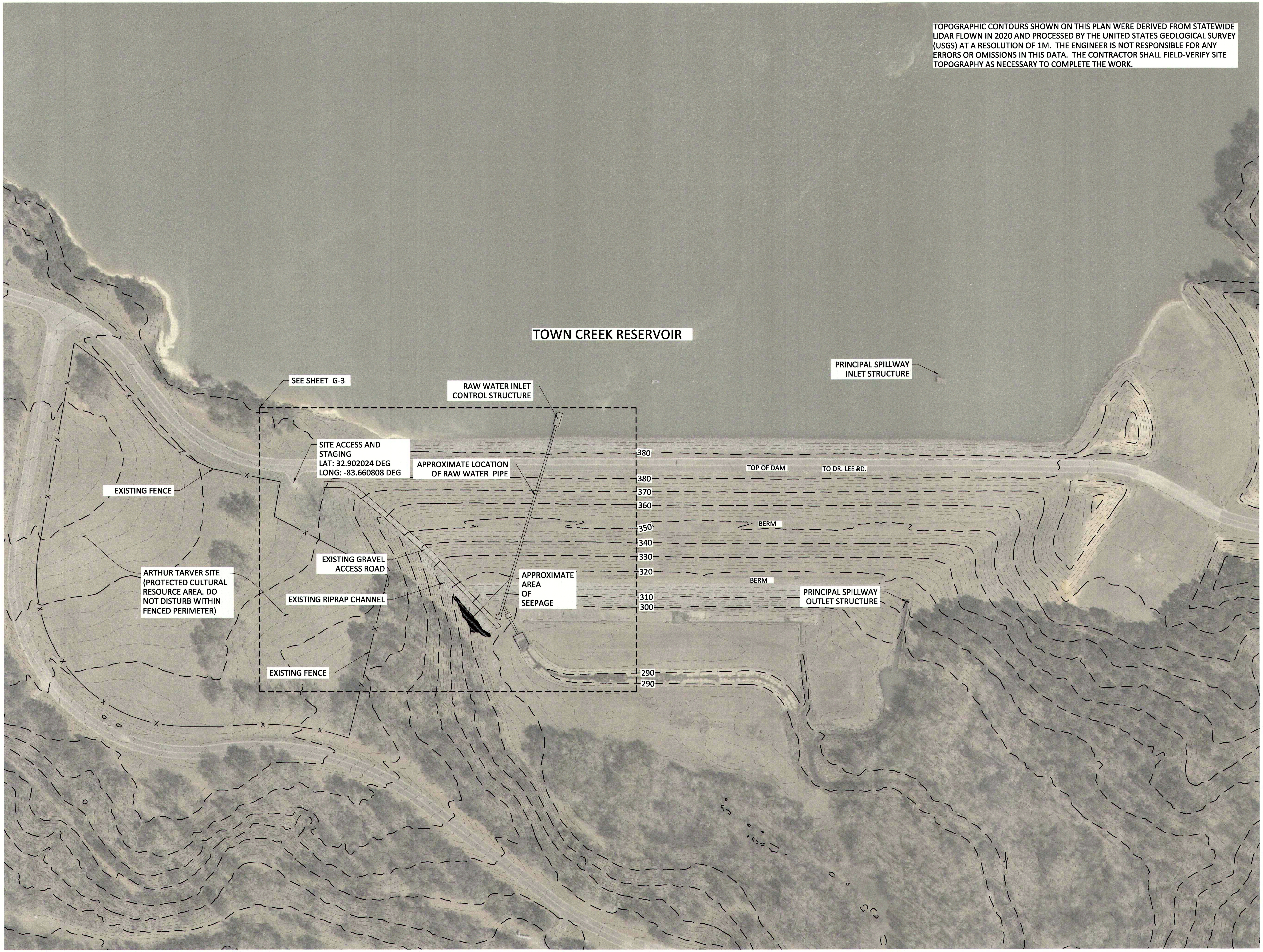
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TOWN CREEK RESERVOIR
PRINCIPAL SPILLWAY INLET STRUCTURE
SEE SHEET G-3
RAW WATER INLET CONTROL STRUCTURE
SITE ACCESS AND STAGING LAT: 32.902024 DEG LONG: -83.660808 DEG
APPROXIMATE LOCATION OF RAW WATER PIPE
EXISTING FENCE
TOP OF DAM
TO DR. LEE RD.
BERM
EXISTING GRAVEL ACCESS ROAD
ARTHUR TARVER SITE (PROTECTED CULTURAL RESOURCE AREA. DO NOT DISTURB WITHIN FENCED PERIMETER)
EXISTING RIPRAP CHANNEL
APPROXIMATE AREA OF SEEPAGE
BERM
PRINCIPAL SPILLWAY OUTLET STRUCTURE
EXISTING FENCE
380
380
370
360
350
340
330
320
310
300
290
290

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MAR 10 2025
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NORTH

0 10' 20' 30' 60'
SCALE IN FEET

FINAL

Freese and Nichols, Inc.
Georgia Registered Engineering Firm PEF-004433
Expires 6/30/2026

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3/11/25

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360 Interstate North Parkway,
Suite 250
Atlanta, GA 30339
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MACON WATER AUTHORITY
TOWN CREEK RESERVOIR DAM ABUTMENT DRAIN
CIVIL
OVERALL EXISTING SITE PLAN

NO.	ISSUE	BY	DATE

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CHECKED MEB
FILE NAME GN-EX-SITE-SEEP.dwg

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SHEET G-2
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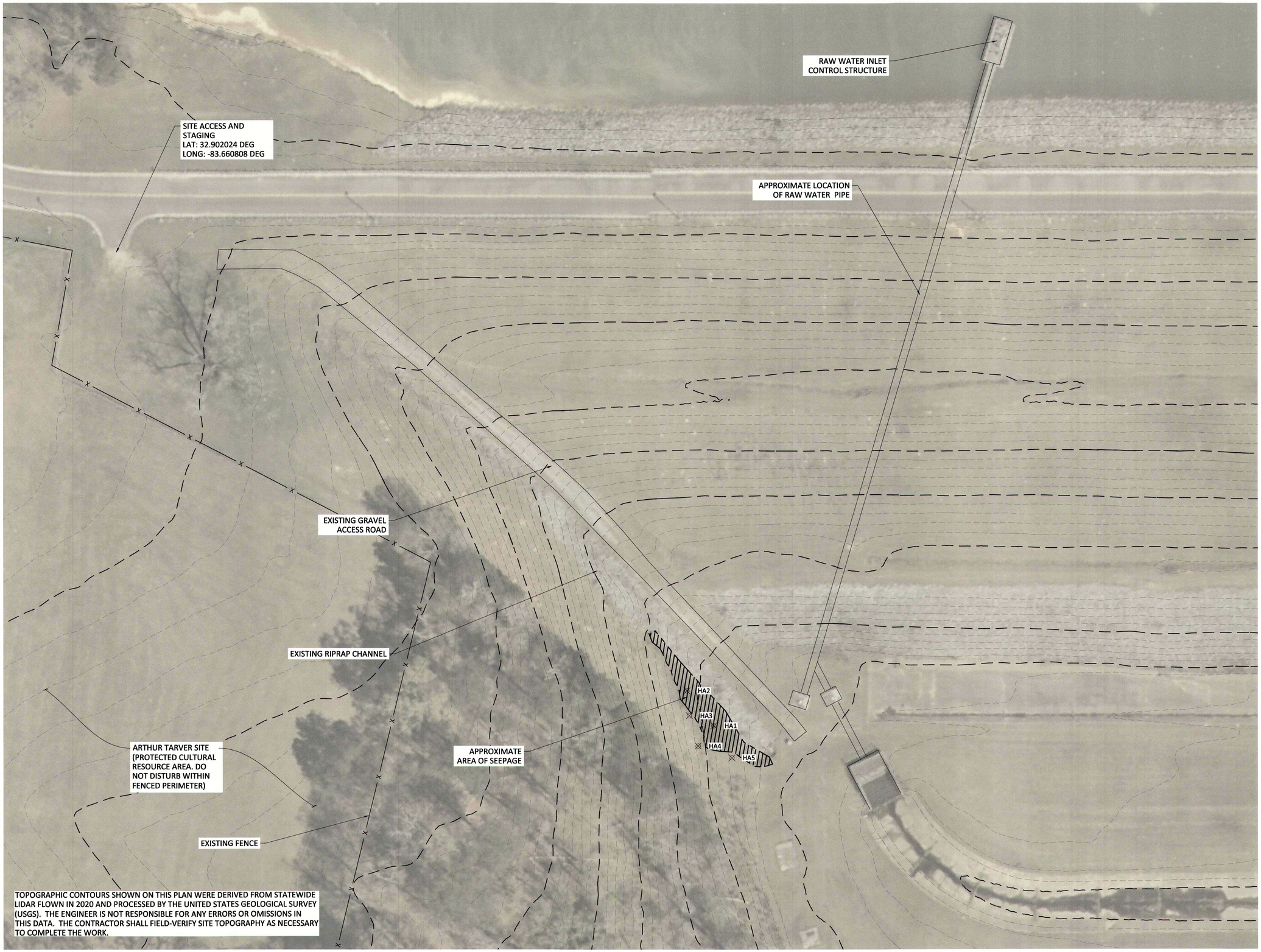

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NORTH

0 10' 20' 30' 60'
SCALE IN FEET

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GEORGIA
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SHEET G-3
SEQ. ----

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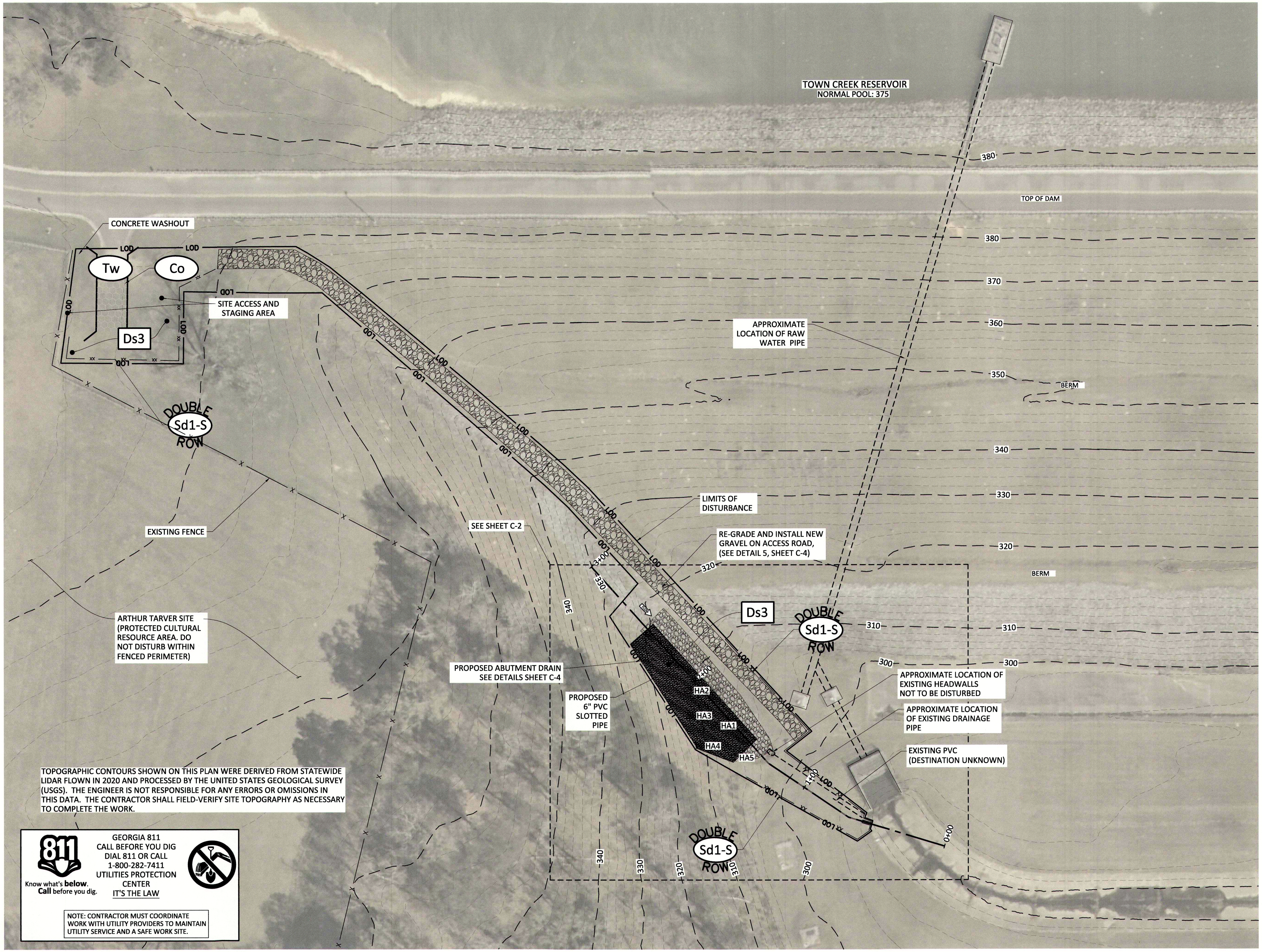

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CIVIL
PROPOSED SITE PLAN

F&N JOB NO.	
DATE	2/14/2025
DESIGNED	PJW
DRAWN	AVR
REVISED	
CHECKED	MEB
FILE NAME	CV-PR-SITE-SEEP.dwg

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GSWCC Georgia Soil and Water Conservation Commission
MAXWELL BLOOM
Level II Certified Design Professional
Certification Number 0000079755
Issued: 7/01/2021 Expires: 7/01/2027

NORTH

0 10' 20' 30' 60'
SCALE IN FEET

FINAL

SHEET C-1

SEQ. ----

LIMITS OF DISTURBANCE

RE-GRADE AND INSTALL NEW GRAVEL ON ACCESS ROAD, (SEE DETAIL 5, SHEET C-4)

Ds3

DOUBLE ROW Sd1-S

FLOW

6"PVC CLEANOUT
END 6"PVC PIPE
STA= 2+45.18
(AB-2 CO-3)

REMOVE AND REPLACE EXISTING RIPRAP AS NEEDED TO INSTALL ABUTMENT DRAIN

SL-3 C-3

PROPOSED ABUTMENT DRAIN
SEE DETAILS SHEET C-4

PROPOSED 6" PVC SLOTTED PIPE

HA1

HA2

HA3

HA4

HA5

SL-2 C-3

SL-1 C-3

APPROXIMATE LOCATION OF EXISTING HEADWALL

APPROXIMATE LOCATION OF EXISTING DRAINAGE PIPE

NOTE TO CONTRACTOR:

LOCATION OF EXISTING UTILITY CROSSINGS IN THIS AREA ARE UNKNOWN. COORDINATE WITH OWNER AND UTILITY LOCATE PROVIDER PRIOR TO THE START OF CONSTRUCTION. PROCEED WITH INCREASED CAUTION DURING EXCAVATION.

TRANSITION 6"PVC SOLID PIPE
TO 6" PVC SLOTTED PIPE
STA= 1+31.58
(AB-2 CO-2)

6"PVC 22.5° ELBOW AND CLEANOUT
STA= 1+28.13

EXISTING PVC
(DESTINATION UNKNOWN)

BEGIN 6"PVC PIPE
STA= 0+55.42
(AB-2 HW)

DOUBLE ROW Sd1-S

PROPOSED 6"PVC
SOLID PIPE

6"PVC 45° ELBOW AND CLEANOUT
STA= 0+65.35
(AB-2 CO-1)

REINFORCED CONCRETE HEADWALL
(SEE DETAIL 6, C-4)

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MAXWELL BLOOM
Level II Certified Design Professional
Certification Number 0000079755
Issued: 7/01/2021 Expires: 7/01/2027

NORTH

0 10' 20'
SCALE IN FEET

FINAL

Freese and Nichols, Inc.
Georgia Registered Engineering Firm PEF-004433
Expires 6/30/2026

GEORGIA REGISTERED No. PE047213 PROFESSIONAL ENGINEER MAXWELL ELI BLOOM
3/11/25

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Suite 250
Atlanta, GA 30339
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MACON WATER AUTHORITY
TOWN CREEK RESERVOIR DAM
ABUTMENT DRAIN
CIVIL
PROPOSED SITE PLAN DETAILED

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VERIFY SCALE 0 1"

SHEET C-2
SEQ. ----

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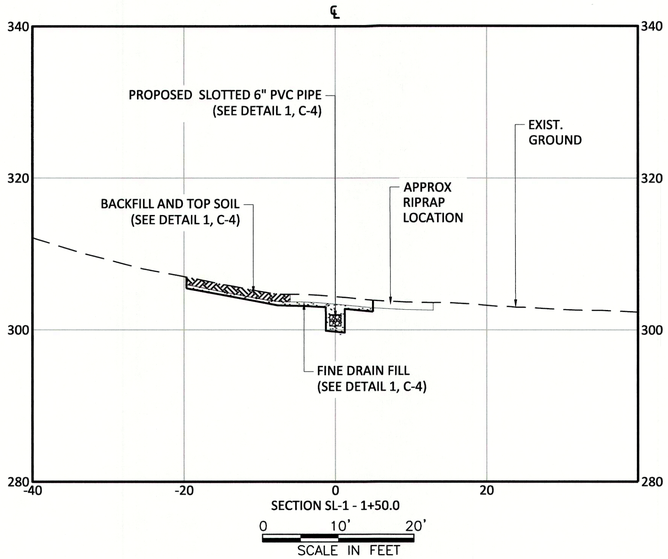

SECTION SL-1 - 1+50.0

0 10' 20'

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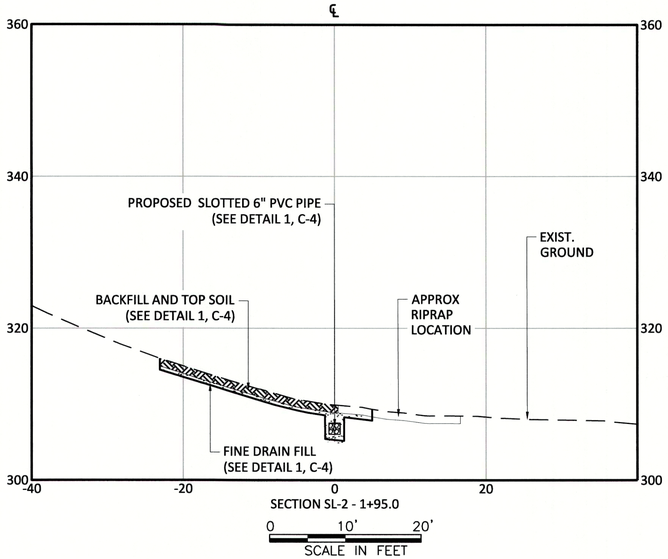

SECTION SL-2 - 1+95.0

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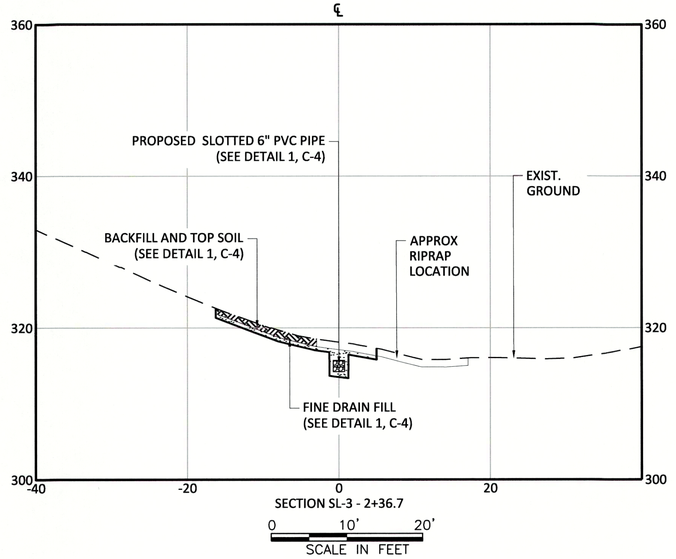
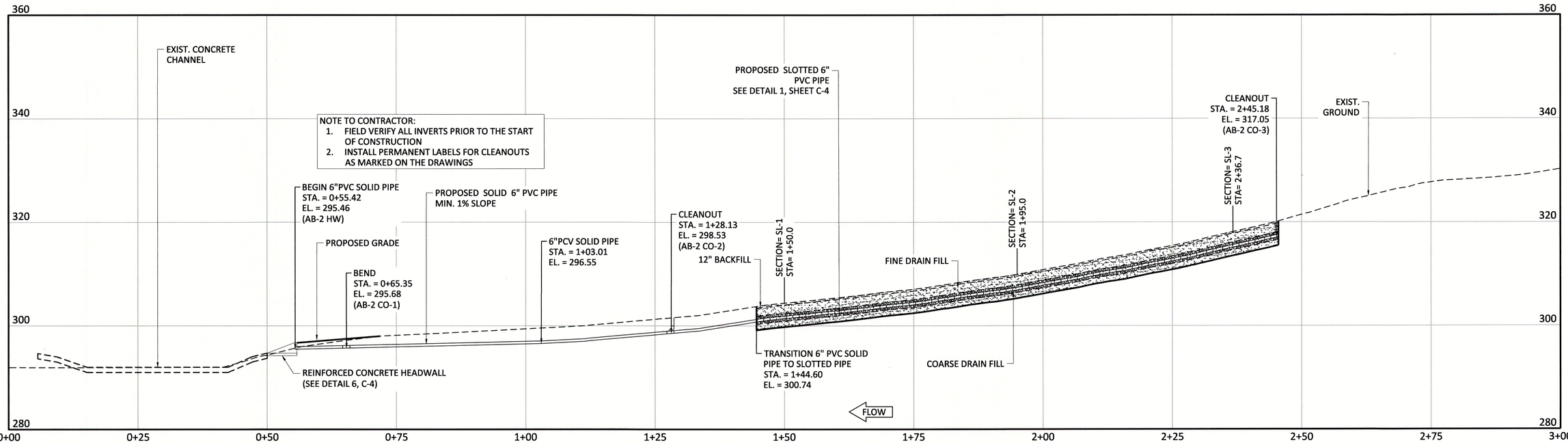


SECTION SL-3 - 2+36.7

0 10' 20'

SCALE IN FEET

NOTE:
RESTORE FINAL GRADES TO MATCH EXISTING SLOPE



SEEPAGE 6"PVC DRAIN

0 10' 20'

SCALE IN FEET

APPROVED
STATE OF GEORGIA
DEPT OF NATURAL RESOURCES
MAR 10 2025
Environmental Protection Division
Safe Dams Program

GSWCC Georgia Soil and Water Conservation Commission
MAXWELL BLOOM
Level II Certified Design Professional
Certification Number 0000079755
Issued: 7/01/2021 Expires: 7/01/2027

FINAL

Freese and Nichols, Inc.
Georgia Registered Engineering Firm PEF-004433
Expires 6/30/2025

GEORGIA REGISTERED No. PE047338 PROFESSIONAL ENGINEER MAXWELL ELI BLOOM
3/11/25

FREESE NICHOLS
360 Interstate North Parkway,
Suite 250
Atlanta, GA 30339
Phone - (404) 394-4310
Web - www.freese.com

MACON WATER AUTHORITY

TOWN CREEK RESERVOIR DAM
ABUTMENT DRAIN

CIVIL

PROFILE AND SECTIONS

NO.	ISSUE	BY	DATE

F&N JOB NO.
DATE 2/14/2025
DESIGNED PJW
DRAWN AVR
REVISED
CHECKED MEB
FILE NAME CV-PR-SITE-SEEP.dwg

VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.
0 1"

SHEET C-3
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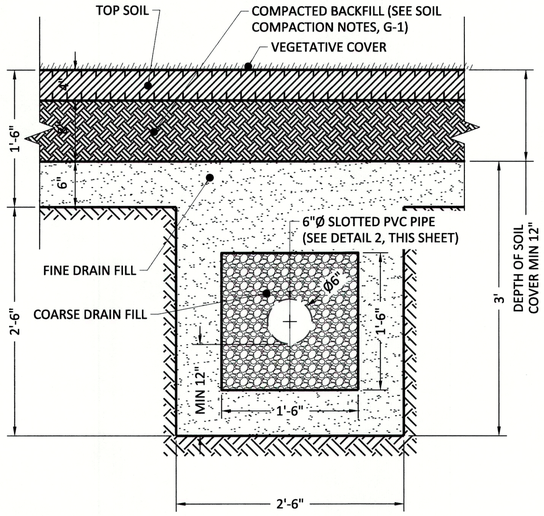
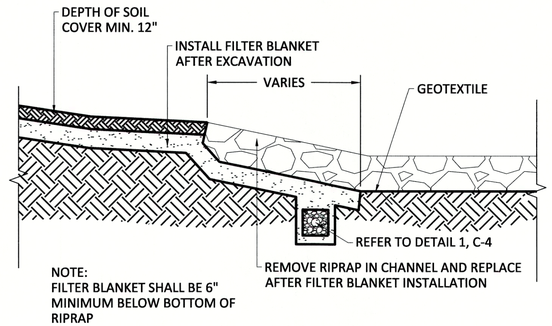


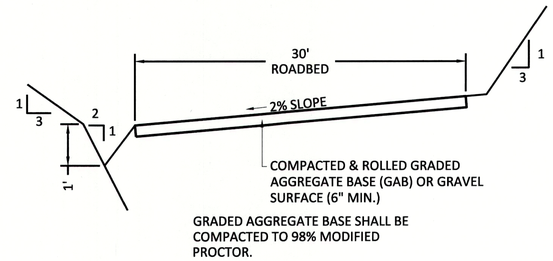
1 C-4 **TYPICAL DRAIN BLANKET SECTION**

NTS



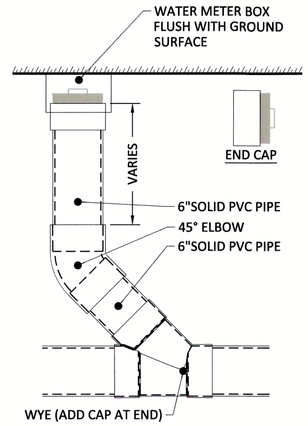
3 C-4 **FILTER BLANKET UNDER RIPRAP**

NTS



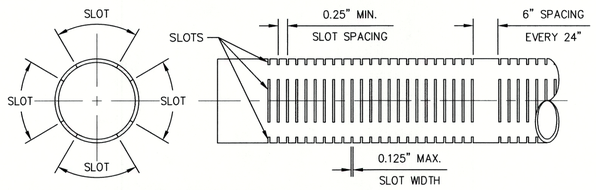
5 C-4 **DAM ACCESS ROAD**

NTS



4 C-4 **CLEANOUT**

NTS



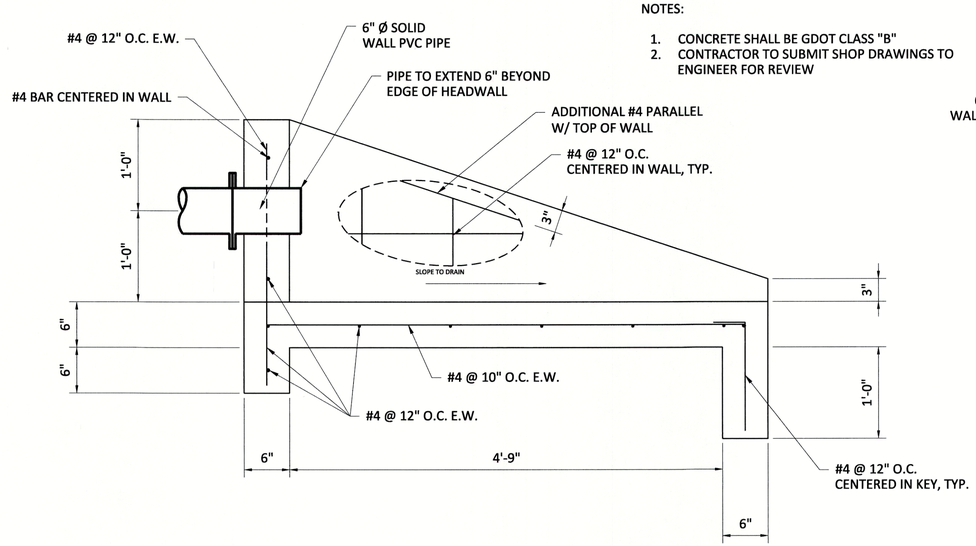
SLOTTED PVC PIPE NOTES:

THE SLOTTED PVC PIPE SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THE MINIMUM REQUIREMENTS ARE AS FOLLOWS:

1. ALL PVC PIPE AND FITTING SHALL MEET THE REQUIREMENTS OF ASTM D1784 AND ASTM D2241.
2. THE SLOT WIDTH SHALL NOT EXCEED 0.125".
3. THE SLOT SPACING SHALL BE A MINIMUM OF 0.25"
4. SLOTS SHALL BE PLACED IN NO MORE THAN FOUR (4) ROWS SYMMETRICALLY ABOUT THE PIPE CENTERLINE, UNLESS APPROVED OTHERWISE.
5. SLOTTED PIPE SHALL PROVIDE A MINIMUM OF FOUR (4) SQUARE INCHES OF OPEN AREA PER LINEAR FOOT OF PIPE.

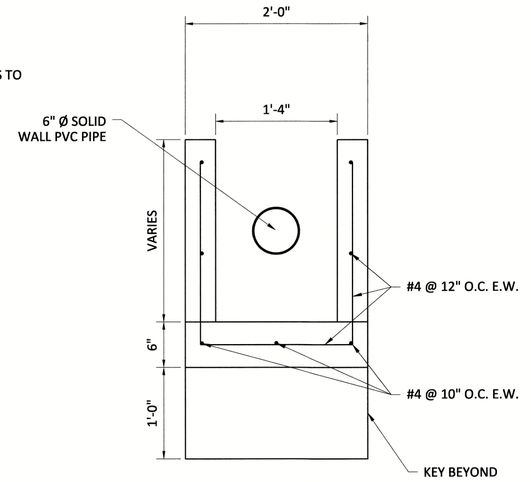
2 C-4 **SLOTTED PVC PIPE DETAIL**

NTS



NOTES:

1. CONCRETE SHALL BE GDOT CLASS "B"
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW



6 C-4 **REINFORCED CONCRETE HEADWALL**

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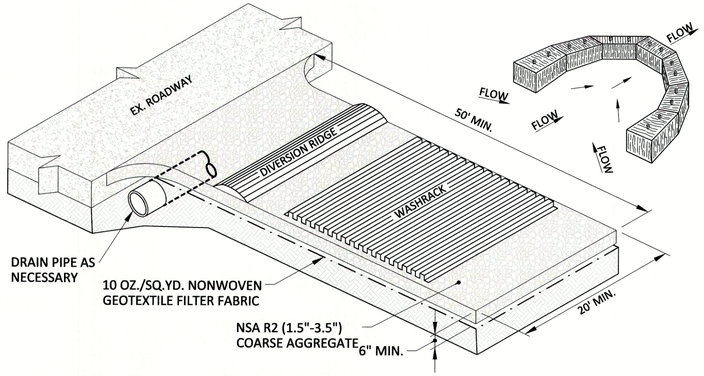


1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5" - 3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WIT CRUSTED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHER MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCES. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVES MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW FOR MUD ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CELANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

Co CONSTRUCTION EXIT WITH TIRE WASH STATION Tw

NOTE: TIRE WASH (TW) INSTALLATION AT CONSTRUCTION ENTRANCE/EXIT IS OPTIONAL.
INSTALL TO PREVENT TRACKING OF DIRT ON TO OFF SITE ROADS AS NEEDED.

Ss

HYDRAULIC EROSION CONTROL PRODUCTS (HECP)
HECP SHALL UTILIZE STRAW, COTTON, WOOD OR OTHER NATURAL BASED FIBERS HELD TOGETHER BY A SOIL BINDING AGENT THAT WORKS TO STABILIZE SOIL PARTI CLES. PAPER MULCH SHOULD NOT BE USED FOR EROSION CONTROL.

CRITERIA

HYDRAULIC EROSION CONTROL PRODUCTS (HECPS):
•APPLICATION RATES FOR THE HECPS SHALL CONFORM TO MANUFACTURER'S GUIDELINES FOR APPLICATION

MATERIALS – HECP

HYDRAULIC EROSION CONTROL PRODUCTS SHALL BE PREPACKAGED FROM THE MANUFACTURER. FIELD MIXING OF PERFORMANCE ENHANCING ADDITIVES WILL NOT
BE ALLOWED. FIBEROUS COMPONENTS SHOULD BE ALL NATURAL OR BIODEGRADABLE.

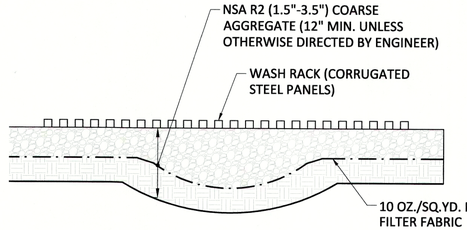
PRODUCTS SHALL BE DETERMINED TO BE NON-TOXIC IN ACCORDANCE WITH EPA-821-R-02-012.

Ds3 TEMPORARY & PERMANENT GRASSING

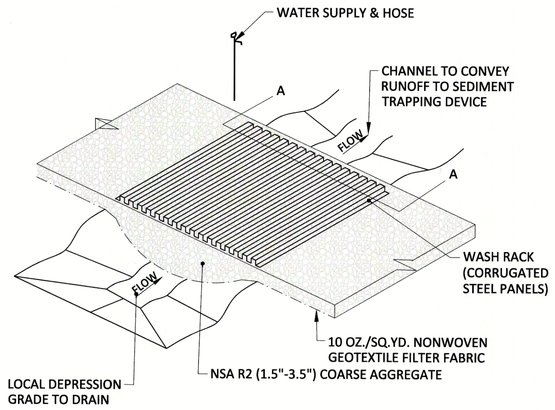
VEGETATIVE COVERS

	MONTH	TEMPORARY SEED	RATE/ACRE	RATES/1,000 SQ. FT. FERTILIZER	RATES/1,000 SQ. FT. LIME STONE	PERMANENT SEED	RATE/ACRE	RATES/1,000 SQ. FT. FERTILIZER	RATES/1,000 SQ. FT. LIME STONE	MAINTENANCE
1)	JANUARY	ANNUAL RYEGRASS	40 - 50 LB.	12 LB (10-10-10)	45 LB.	UNHULLED BERMUDA	10 LB.	12 LB (10-10-10)	45 LB.	10 LB (10-10-10)
2)	FEBRUARY	ANNUAL RYEGRASS	40 - 50 LB.	12 LB (10-10-10)	45 LB.	UNHULLED BERMUDA FESCUE	10 LB. 200 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
3)	MARCH	RYE	2 - 3 BU.	12 LB (10-10-10)	45 LB.	UNHULLED BERMUDA FESCUE	10 LB. 200 LB.	12 LB (10-10-10) 12 LB (10-10-10)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
4)	APRIL	RYE BROWN TOP MILLET SUDAN ANNUAL	2 - 3 BU. 30 - 40 LB. 35 LB.	12 LB (10-10-10) 12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB. 45 LB.	HULLED BERMUDA BAHIA	40 LB. 40 - 60 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
5)	MAY	SUDAN GRASS BROWN TOP MILLET	35 LB. 30 - 40 LB.	35 LB (6-12-12) 12 LB (10-10-10)	45 LB. 45 LB.	HULLED BERMUDA BAHIA	40 LB. 40 - 60 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
6)	JUNE	SUDAN GRASS BROWN TOP MILLET	35 LB. 30 - 40 LB.	35 LB (6-12-12) 12 LB (10-10-10)	45 LB.	HULLED BERMUDA BAHIA	40 LB. 40 - 60 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
7)	JULY	SUDAN GRASS BROWN TOP MILLET	35 LB. 30 - 40 LB.	35 LB (6-12-12) 12 LB (10-10-10)	45 LB.	HULLED BERMUDA BAHIA	40 LB. 40 - 60 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
8)	AUGUST	ANNUAL RYEGRASS	40 - 50 LB.	12 LB (10-10-10)	45 LB.	HULLED BERMUDA BAHIA	40 LB. 40 - 60 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
9)	SEPTEMBER	ANNUAL RYEGRASS TALL FESCUE	40 - 50 LB. 30 - 50 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB.	TALL FESCUE	200 LB.	35 LB (6-12-12)	45 LB.	10 LB (10-10-10)
10)	OCTOBER	WHEAT	2 - 3 BU.	12 LB (10-10-10)	45 LB.	UNHULLED BERMUDA FESCUE	10 LB. 200 LB.	12 LB (10-10-10) 35 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10) 10 LB (10-10-10)
11)	NOVEMBER	WHEAT	2 - 3 BU.	12 LB (10-10-10)	45 LB.	UNHULLED BERMUDA FESCUE	10 LB. 200 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)
12)	DECEMBER	RYE ANNUAL RYEGRASS WHEAT	2 - 3 BU. 40 - 50 LB. 2 - 3 BU.	12 LB (10-10-10) 12 LB (10-10-10) 12 LB (10-10-10)	45 LB. 45 LB. 45 LB.	UNHULLED BERMUDA FESCUE	10 LB. 200 LB.	12 LB (10-10-10) 35 LB (6-12-12)	45 LB. 45 LB. 45 LB.	10 LB (10-10-10) 10 LB (10-10-10)

THE ABOVE SEEDING CHART LISTS ALL POTENTIAL OPTIONS. CONTRACTOR IS TO SUBMIT THE SCHEDULE AND PROPOSED SEED MIXTURE FOR THIS PROJECT FOR ENGINEER'S APPROVAL PRIOR TO SEEDING.

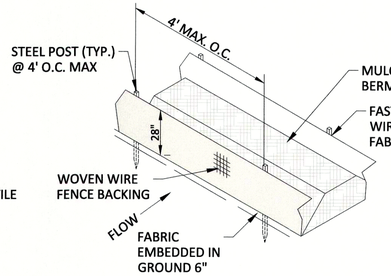


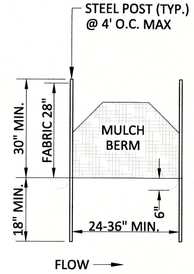
SECTION A-A



Tw TIRE WASH

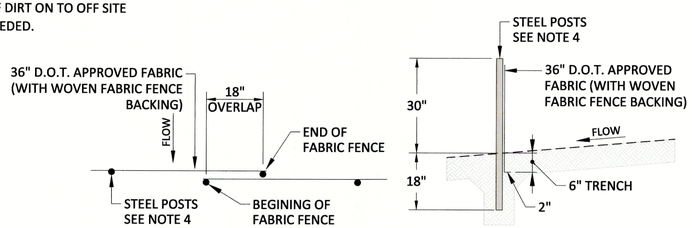
NOTE: TIRE WASH (TW) INSTALLATION AT CONSTRUCTION ENTRANCE/EXIT IS OPTIONAL. INSTALL TO PREVENT TRACKING OF DIRT ON TO OFF SITE ROADS AS NEEDED.





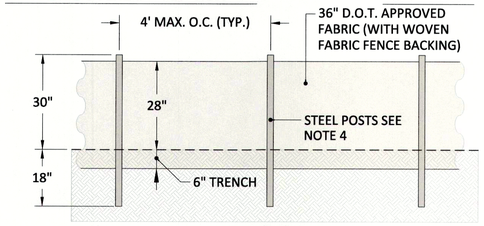
1. SILT FENCE TO BE TYPE C, DOUBLE -ROW AND USE STEEL STAKES.
2. AREA BETWEEN ROWS TO BE FILLED WITH MULCH 18-INCHES HIGH.
3. HAYBALES MAY BE USED IN LIEU OF MULCH.
4. WHEN SEDIMENT FILLS THE AREA BEHIND THE SILT FENCE TO 1/2 THE HEIGHT OF THE SILT FENCE, THE CONTRACTOR SHALL REMOVE THE SEDIMENT AND PLUGGED MULCH/HAYBALES AND RESHAPE THE BERM WITH CLEAN MULCH AS NEEDED.

DOUBLE Sd1-S ROW SEDIMENT BARRIER TYPE SENSITIVE (DOUBLE ROW)



FABRIC OVERLAP - TOP VIEW

SIDE VIEW



FRONT VIEW
(FACING UPSTREAM)

1. SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER.

2. SEDIMENT BARRIERS SHALL BE REPLACED WHENEVER THEY HAVE DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE PRODUCT IS REDUCED (APPROXIMATELY SIX MONTHS) OR THE HEIGHT OF THE PRODUCT IS NOT MAINTAINING 80% OF ITS PROPERLY INSTALLED HEIGHT.

3. TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

4. POSTS SHALL BE STEEL OR AS SPECIFIED ON EROSION, SEDIMENT & POLLUTION CONTROL PLAN.

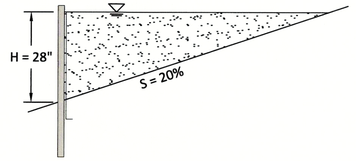
Sd1-S SEDIMENT BARRIER TYPE SENSITIVE

CALCULATION OF PROVIDED SEDIMENT STORAGE

TOTAL DISTURBED AREA (DA) 0.58 acres

REQUIRED SEDIMENT STORAGE, Vs = DA (acres) * 67 cubic yards/acre
REQUIRED SEDIMENT STORAGE, Vs = 39 cubic yards

SEDIMENT STORAGE PROVIDED BEHIND SILT FENCE.



VOLUME PROVIDED (V,prov) = 0.5*H*(H/S)*L

SILT FENCE CROSS SECTION HEIGHT, H = 28 in
MAXIMUM SLOPE, S = 0.2 ft
SILT FENCE PLANVIEW LENGTH, L = 274 FT

V, prov = 3,723 cf 138 cy
V, prov 138 > Vs 39

1 C-5 SEDIMENT STORAGE
NTS

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