

NOTES:

CONSTRUCTION WASTE AND/OR VEGETATIVE MATERIAL MAY NOT BE BURNED OR BURIED AND MUST BE TAKEN TO A STATE APPROVED LANDFILL.

PER UDC 10-1.13 OUTSIDE CONSTRUCTION SHALL BE LIMITED TO THE HOURS OF 7:00 AM AND 7:00 PM MONDAY TO FRIDAY; 8:00 AM TO 6:00 PM ON SATURDAY, AND THERE WILL BE NO OUTSIDE CONSTRUCTION ON SUNDAY.

ALL STRUCTURES WILL COMPLY WITH THE FIRE SEPARATION DISTANCE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE AS ADOPTED AND AMENDED BY THE GA DEPARTMENT OF COMMUNITY AFFAIRS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION FROM THE REQUIRED FIRE SEPARATION DISTANCES.

ALL UTILITY LINES SHALL BE INSTALLED UNDERGROUND

REQUIRED LANDSCAPING MUST BE IN PLACE PRIOR TO THE APPROVAL OF AN AS-BUILT.

AS-BUILT REQUIRED FOR C.O.'s ON COMMERCIAL PROJECT - PRIOR TO FINAL BUILDING CERTIFICATE OF OCCUPANCY.

NOTIFY FORSYTH COUNTY INSPECTOR 24 HOURS BEFORE THE BEGINNING PHASE OF CONSTRUCTION. (770) 781-2165



BID DOCUMENTS

SITE DEVELOPMENT PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

AUGUST, 2021

OWNER / PRIMARY PERMITTEE
FORSYTH COUNTY
DEPARTMENT OF WATER AND SEWER
110 E. MAIN ST., SUITE 150
CUMMING, GA 30040
PHONE: (770) 781-2160

DIRECTOR
BARRY LUCAS, P.E.

FORSYTH COUNTY BOARD OF COMMISSIONERS
MOLLY COOPER - DISTRICT 1
DENNIS BROWN - DISTRICT 2
TODD LEVENT - DISTRICT 3
CINDY JONES MILLS - DISTRICT 4
LAURA SEMANSON - DISTRICT 5

24 HOUR CONTACT
KYLE FIKES, PE
PROJECT MANAGER
678-455-8489

VOLUME I OF II

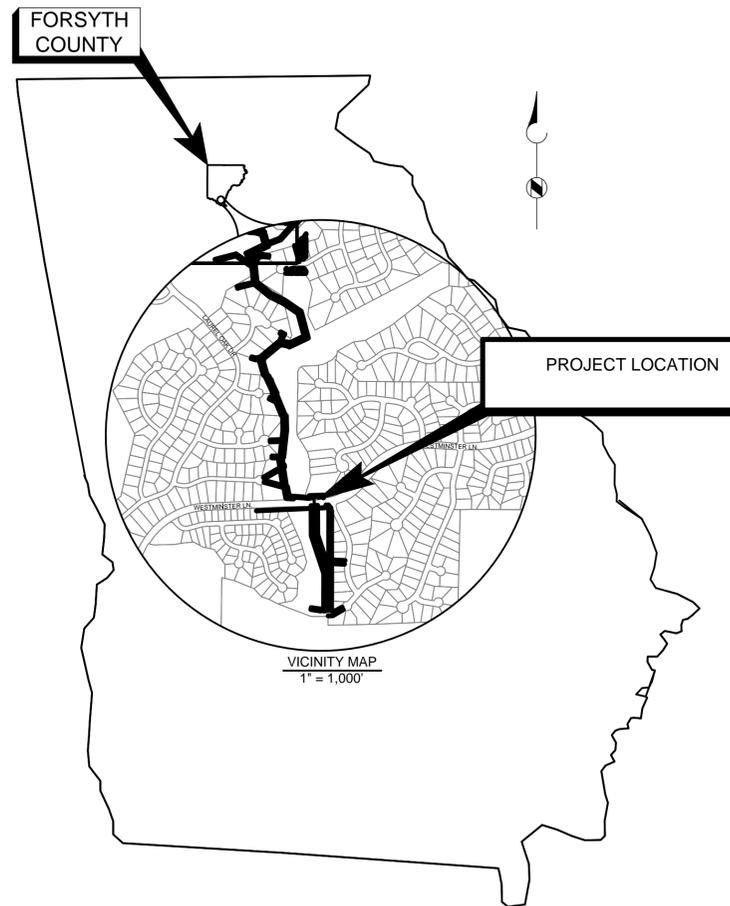
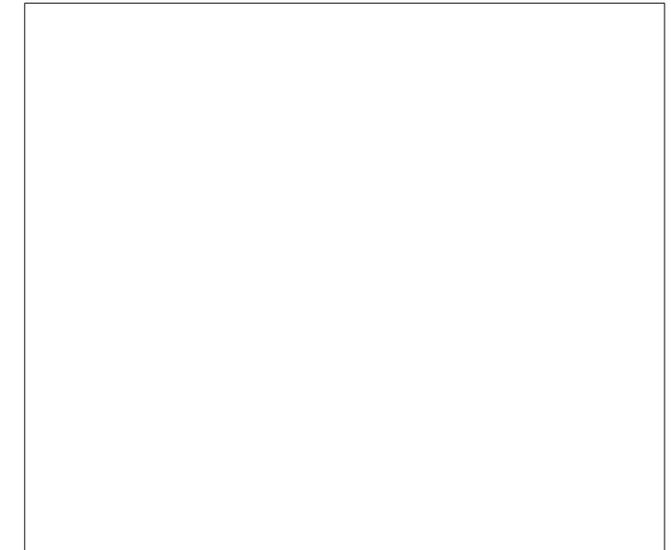
PREPARED BY:

Brown AND Caldwell

Environmental Engineers and Consultants
990 Hammond Drive, Suite 400, Atlanta, GA 30328
Phone: 770-394-2997 Fax: 770-396-9495

BC PROJECT NO. 150677

FOR COUNTY AND STATE REVIEWER'S STAMPS ONLY:



DISTRICT: 2
LAND LOTS: 1068, 1087, 1136
ZONING: CR1 AND RIGHT-OF-WAY
TOTAL DISTURBED AREA = 3.50 AC
TOTAL PROJECT AREA = 3.50 AC

ARTICLES II-V, UDC CHAPTER 21 OVERLAY DISTRICTS DO NOT APPLY.

THIS SITE CONTAINS WETLANDS. THE APPLICANT WILL FIRST OBTAIN A WETLAND ALTERATION SECTION 404 PERMIT FROM THE CORPS OF ENGINEERS PRIOR TO DISTURBING AND JURISDICTIONAL WETLANDS

PROJECT DESCRIPTION: REPLACEMENT OF APPROXIMATELY 4700 LF OF GRAVITY SEWER (PIPE SIZES RANGING FROM 8-INCH TO 12-INCH) WITH 18" DIP AND HDPE. THE EXISTING GRAVITY SEWER LINES ARE LOCATED WITHIN EASEMENTS BEHIND RESIDENTIAL HOMES, WITHIN A GOLF COURSE, AND PARTLY ALONG LAUREL SPRINGS PKWY RIGHT-OF-WAY. THE NORTH END OF THE PROJECT IS LOCATED BEHIND A RESIDENTIAL HOUSE AT THE REDCLIFF COURT CUL-DE-SAC AND FLOWS SOUTH TO WELWYN PUMP STATION.



GSWCC LEVEL II
CERTIFICATE # 0000020699

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FORSYTH COUNTY COMMERCIAL SITE PLAN CHECKLIST NOTES

- ALL IMPROVEMENTS TO CONFORM WITH FORSYTH COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS, LATEST EDITION.
- IRRIGATION SYSTEMS ARE PROHIBITED ON ALL EXISTING AND PROPOSED COUNTY RIGHT OF WAY AND CONSIDERED TO BE A VIOLATION OF THE COUNTY'S ORDINANCE PROHIBITING UNPERMITTED RIGHT-OF-WAY ENCROACHMENTS.
- FULL SERVICE DRIVES WILL REVERT TO RIGHT IN/RIGHT OUT DRIVES IF FORSYTH COUNTY DETERMINES THEY ARE CREATING TRAFFIC PROBLEMS AND/OR ACCIDENTS OR IF ROAD IS WIDENED TO A MULTI-LANE HIGHWAY WITH MEDIAN.
- NO STRUCTURES, FENCES OR OTHER OBSTRUCTIONS MAY BE LOCATED WITHIN A DRAINAGE OF ACCESS EASEMENT WITHOUT PRIOR APPROVAL BY THE FORSYTH COUNTY DEPARTMENT OF ENGINEERING.
- APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY FORSYTH COUNTY OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- A FLOODPLAIN EXISTS WITHIN THE PROJECT LIMITS (DELINEATED ON THE PLANS) PER FEMA MAP 13117C0232F DATED MARCH 4, 2013.
- APPROVAL OF THESE PLANS BY FORSYTH COUNTY IS SUBJECT TO, AND CONTINGENT UPON THE APPLICANT OBTAINING ANY AND ALL NECESSARY APPROVALS FROM ANY AND ALL APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO THE UNITED STATES ARMY CORPS OF ENGINEERS, THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE USDA-NRCS, GEORGIA DEPARTMENT OF NATURAL RESOURCES, GEORGIA ENVIRONMENTAL PROTECTION DIVISION, AND THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION.
- MAXIMUM CUT SLOPES SHALL BE 2 HORIZONTAL TO 1 VERTICAL. CONTINUOUS FILL SLOPES TEN (10) FEET IN HEIGHT OR LESS MAY BE 2 HORIZONTAL TO 1 VERTICAL. ALL CONTINUOUS FILL SLOPES THAT EXCEED TEN (10) FEET IN HEIGHT MUST BE 3 HORIZONTAL TO 1 VERTICAL UNLESS: (A) A MECHANICALLY ENGINEERED STABILIZED SLOPE IS APPROVED BY THE FORSYTH COUNTY DIRECTOR OF ENGINEERING; OR (B) THE DESIGNED AND CONSTRUCTED SLOPES ARE CERTIFIED BY A REGISTERED ENGINEER EXPERIENCED IN GEOTECHNICAL ENGINEERING AND LICENSED IN THE STATE OF GEORGIA.
- NO POOL BACKWASH, FOUNTAIN, SPA, DUMPSTER PAD DRAINS OR DRAIN LINES MAY DISCHARGE INTO THE STORMWATER SYSTEM.
- ALL UNDISTURBED BUFFERS SHALL BE IDENTIFIED WITH ORANGE, FOUR-FOOT TREE-SAVE FENCING PRIOR TO ANY LAND DISTURBANCE (UDC SEC. 18-10.1)

GENERAL NOTES

OWNER: FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER
 110 E. MAIN ST., SUITE 150
 CUMMING, GA 30040
 CONTACT: KYLE FIKES, P.E.
 PHONE: (678) 455-8489

ENGINEER: BROWN AND CALDWELL
 990 HAMMOND DRIVE, SUITE 400
 ATLANTA, GA 30328
 CONTACT: SCOTT ADAMS
 PHONE: (770) 394-2997

- THE NOTE IN THE TITLEBLOCK OF THIS DRAWING WHICH READS "TWO INCHES AT FULL SCALE" APPEARS ON DRAWINGS FOR IDENTIFICATION OF SCALE DISTORTIONS ON HALF SIZE DRAWINGS AND DRAWING REPRODUCTIONS. IT SHALL MEAN THAT THE DRAWING IS FULL SIZE AND THE DRAWING SCALES ACCURATE WHEN THE LENGTH OF THIS LINE IS TWO INCHES. IF THE LENGTH IS OTHER THAN TWO INCHES, DRAWING SCALES MUST BE ADJUSTED ACCORDINGLY.
- ALL WORK SHALL COMPLY WITH THE SPECIFICATIONS AND THE FCDWS REGULATIONS AND STANDARDS IN ADDITION TO APPLICABLE STATE, FEDERAL AND LOCAL CODES. ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS OWN EXPENSE UNLESS PREVIOUSLY OBTAINED BY FCDWS.
- CONTRACTOR SHALL IMMEDIATELY INFORM ENGINEER OF ANY DISCREPANCIES OR ERRORS THAT HE DISCOVERS IN THE PLANS.
- DEVIATION FROM THESE PLANS WITHOUT THE PRIOR CONSENT OF FCDWS OR HIS REPRESENTATIVE OR THE ENGINEER MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.
- SITE TOPOGRAPHY SURVEY WAS PROVIDED BY TERRAMARK LAND SURVEYING. REFERENCE DATUM IS NAD 83, GEORGIA STATE PLANE WEST ZONE.
- CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL BE RESPONSIBLE FOR MEETING ALL FORSYTH COUNTY DEPARTMENT OF TRANSPORTATION REQUIREMENTS AND STATE REGULATIONS.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES BY CONTRACTOR. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED BY CONTRACTOR IF DEEMED NECESSARY BY ON-SITE-INSPECTION.
- TYPE OF GRASS OR SOD USED WILL BE REQUIRED TO MATCH THE DISTURBED TYPE OF GRASS OR SOD WHICH IS IN PLACE PRIOR TO CONSTRUCTION. I.E. BERMUDA SOD FOR BERMUDA SOD, ZOYSIA FOR ZOYSIA, ETC., EXCEPT AREAS TO BE SEEDED SHALL BE SEEDED WITH KENTUCKY FESCUE.
- THE CONTRACTOR SHALL MAINTAIN ALL BENCHMARKS, MONUMENTS AND OTHER REFERENCE MARKERS. THE CONTRACTOR SHALL RE-ESTABLISH ANY REFERENCE OR CONTROL POINT THAT IS DISTURBED OR DESTROYED.
- THE CONTRACTOR SHALL ENSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED OR RE-GRADED AS REQUIRED BY THE ENGINEER. EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS IN THE PLANS AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE, NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS REQUIREMENT.
- ALL SPOIL MATERIALS, REFUSE, AND DEBRIS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF AT AN APPROPRIATE OFFSITE LOCATION BY CONTRACTOR. BURNING OF REFUSE, DEBRIS, OR SPOIL MATERIAL AT THE PROJECT SITE IS NOT ALLOWED.
- LOCATION OF LOT LINES, PROPERTY LINES, RIGHT-OF-WAY LINES, AND OTHER LAND DIVISION REFERENCES WERE OBTAINED FROM FORSYTH COUNTY GIS, FINAL PLATS, AND LAND USE OBSERVATIONS. THE LAND DIVISIONS WERE NOT FIELD CHECKED. THEREFORE, THEY MUST ONLY BE CONSIDERED TO APPROXIMATELY REPRESENT THE ACTUAL LAND DIVISIONS, PROPERTY AND/OR EASEMENTS.
- UTILITIES SHOWN HEREON ARE BASED ON UTILITY LOCATION MARKINGS, RECORD DRAWINGS AND ABOVE GROUND FIELD EVIDENCE. SIZE OF THE UTILITIES SHOWN ARE BASED ON RECORD INFORMATION. THERE MAY BE LATERALS OR SERVICE LINES THAT ARE NOT SHOWN.
- EXISTING UTILITIES, CONDUITS AND OTHER STRUCTURES SHOWN ON THESE DRAWINGS WERE TAKEN FROM AVAILABLE INFORMATION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE HORIZONTAL OR VERTICAL ACCURACY OF SAID UTILITIES OR THE POSSIBILITY THAT UNDERGROUND UTILITIES OTHER THAN THE ONES SHOWN MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION AND SIZE OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR WHO SHALL BE RESPONSIBLE TO SUPPORT AND PROTECT ALL PIPES, CONDUITS, AND OTHER STRUCTURES WHICH MAY BE ENCOUNTERED DURING THE CONSTRUCTION OF WORK. ANY DAMAGES TO EXISTING FACILITIES MUST BE REPAIRED WITHOUT DELAY AND THE COST OF SUCH REPAIRS SHALL BE PAID FOR BY THE CONTRACTOR.
- CONTRACTOR TO NOTIFY THE UTILITY PROTECTION AGENCY 72 HOURS PRIOR TO START OF WORK. PHONE 811.
- IF THE CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, HAVE REPLACED OR REPAIRED THE UTILITIES TO THEIR ORIGINAL OR BETTER CONDITION AND QUALITY, AS APPROVED BY THE REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.
- CONSTRUCTION OF THE SEWER LINE AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE FORSYTH COUNTY DEPARTMENT OF WATER AND SEWER STANDARDS AND DETAILS, LATEST EDITION.

- WHEN CONSTRUCTION INVOLVES THE REMOVAL OF FENCES, POLES, SIDEWALKS, CURBS, GUTTERS, DRIVES, TEMPORARY OR FIXED STRUCTURES: THE CONTRACTOR AT HIS EXPENSE SHALL PROVIDE FOR TEMPORARY SERVICE OR CONTAINMENT TO THE AFFECTED PROPERTY, AND SHALL REPLACE SUCH ITEMS WITH SIMILAR OR BETTER MATERIALS AS SOON AS PRACTICAL FOLLOWING UTILITY INSTALLATION AND PER COUNTY STANDARDS.
- THE CONTRACTOR SHALL RESTORE OR HAVE RESTORED, AT HIS EXPENSE, ALL EXISTING FACILITIES WHICH HAVE BEEN DAMAGED DUE TO HIS CONSTRUCTION ACTIVITIES, TO THE ORIGINAL OR BETTER CONDITION. THE CONTRACTOR SHALL UTILIZE THE SAME MATERIAL COMPOSITION AS EXISTING TO REPLACE THE EXISTING FACILITIES UNLESS APPROVED OTHERWISE BY THE OWNER
- WHEN CONSTRUCTION IS THROUGH A DEVELOPED AREA, ALL ORNAMENTAL PLANTINGS AND LANDSCAPING BUSHES, TERRACES, FENCES, ETC. SHALL BE PROTECTED AND/OR REMOVED AND REPLACED. ANY ORNAMENTAL PLANTINGS THAT HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT HIS EXPENSE. TRANSPLANTED AND/OR REPLACED ITEMS SHALL BE GUARANTEED FOR ONE YEAR AFTER WORK IS COMPLETED.
- CLEANUP SHALL BE ACCOMPLISHED AT THE END OF EACH WORK DAY WITH ACCESS TO ALL FACILITIES FULLY RESTORED.
- ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO PUBLIC RIGHTS-OF-WAYS AND AREAS SHOWN ON THE PLANS. IF ADDITIONAL CONSTRUCTION ACCESS OR STAGING AND STORAGE IS REQUIRED BY THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE FOR SUCH AT CONTRACTOR'S EXPENSE.
- CLEANUP AND GRASSING SHALL FOLLOW A MAXIMUM OF 500 FEET BEHIND PIPE INSTALLATION. THE CONTRACTOR SHALL NOT HAVE MORE THAN 500 FEET OF TRENCH OPEN AT ANY GIVEN TIME.
- CONTRACTOR SHALL PARK VEHICLES IN A SAFE MANNER AND SHALL NOT RESTRICT TRAFFIC FLOW OR SIGHT DISTANCE.
- CONTRACTOR MUST COMPLY WITH LOCAL NOISE ORDINANCE THAT MAY RESTRICT THE HOURS OF CONSTRUCTION ACTIVITY, AS WELL AS THE ALLOWABLE NOISE LEVELS EMITTED FROM EACH PIECE OF EQUIPMENT. VEHICLES AND MACHINERY MUST BE EFFECTIVELY MUFFLED TO REDUCE NOISE.
- THE CONTRACTOR MUST USE POLYETHYLENE ENCASMENT IN ALL AREAS WHERE THE SEWER LINE IS WITHIN 10 FEET OF AN EXISTING STEEL GAS MAIN.
- ALL BUFFERS AND TREE SAVE AREAS ARE TO BE CLEARLY IDENTIFIED WITH TREE PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE.
- TREES OUTSIDE OF THE LIMITS OF DISTURBANCE SHALL BE PROTECTED FROM DAMAGE.
- ALL TEMPORARY FILL SHALL BE REMOVED IN THEIR ENTIRETY.
- NO BURY PITS ARE ALLOWED.
- THE CONTRACTOR'S CONSTRUCTION MEANS AND METHODS SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL CONSTRUCTION AND SAFETY CODES.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL LAND DIVISIONS / PROPERTY LINES AND EASEMENTS, AND WORK WITHIN SITE PROPERTY AND RIGHT-OF-WAY AS INDICATED ON THE DRAWINGS.
- SEE ADDITIONAL GENERAL NOTES THROUGHOUT DRAWING SET.
- PIPE SHALL NOT BE STRUNG OUT MORE THAN 500 FEET BEYOND THE POINT WHERE PIPE IS BEING LAID
- ALL DISTURBED AREAS WILL BE RETURNED TO EXISTING GRADE AS SOON AS CONSTRUCTION PHASES PERMIT.

Brown AND Caldwell

990 HAMMOND DRIVE
 SUITE 400
 ATLANTA, GEORGIA

BID DOCUMENTS



BID DOCUMENTS PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. ADAMS
 DRAWN: C. MOSELY
 CHECKED: J. FUNTE
 CHECKED: S. ADAMS
 APPROVED: S. ADAMS
 FILENAME: G-001.DWG
 BC PROJECT NUMBER: 150677
 CLIENT PROJECT NUMBER: ---

GENERAL

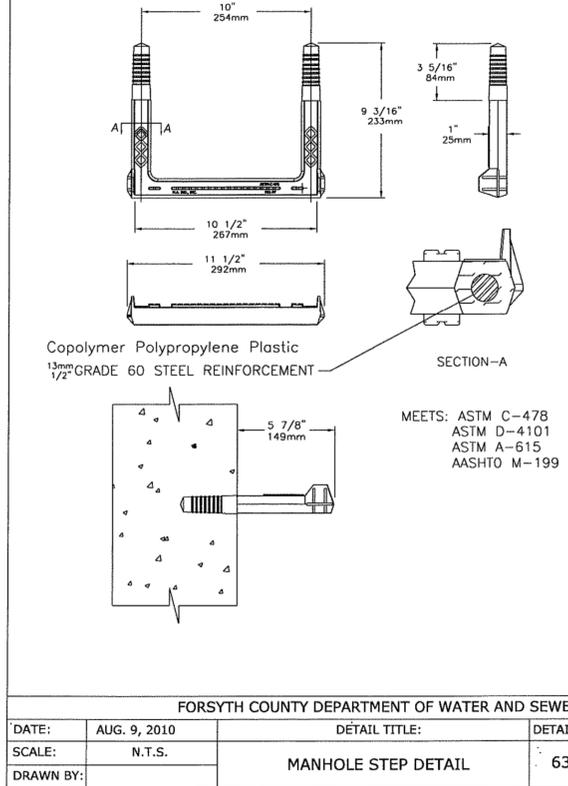
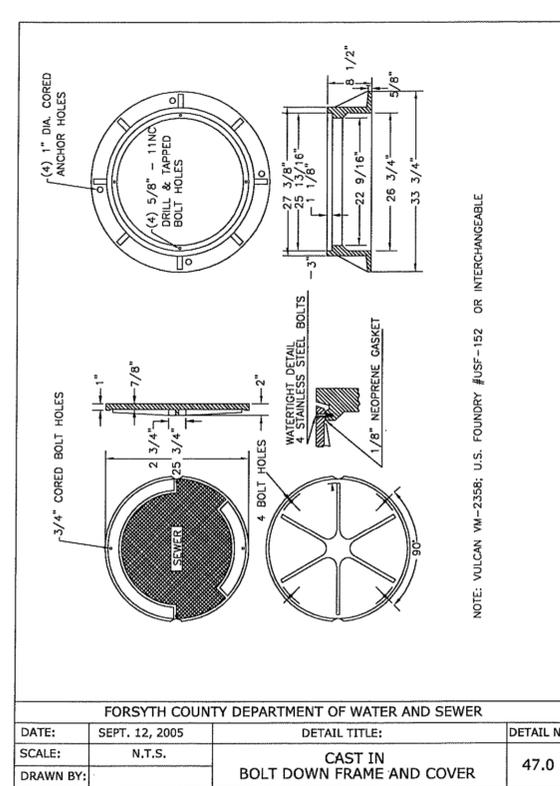
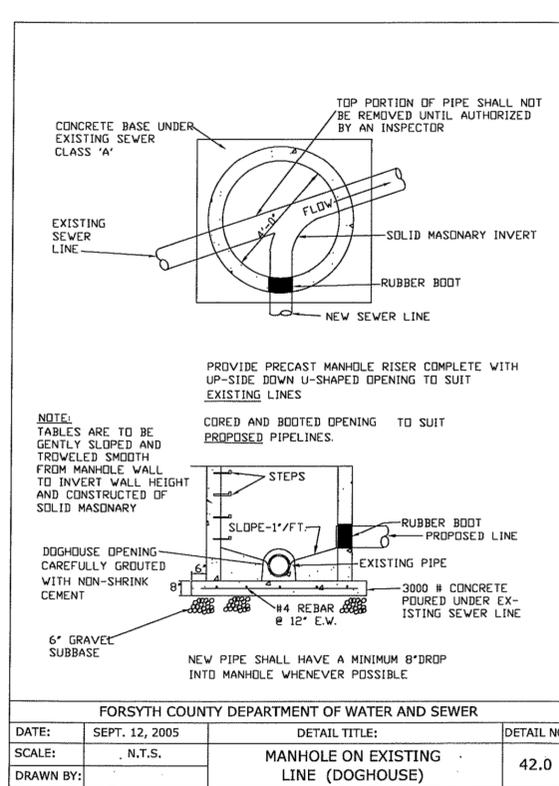
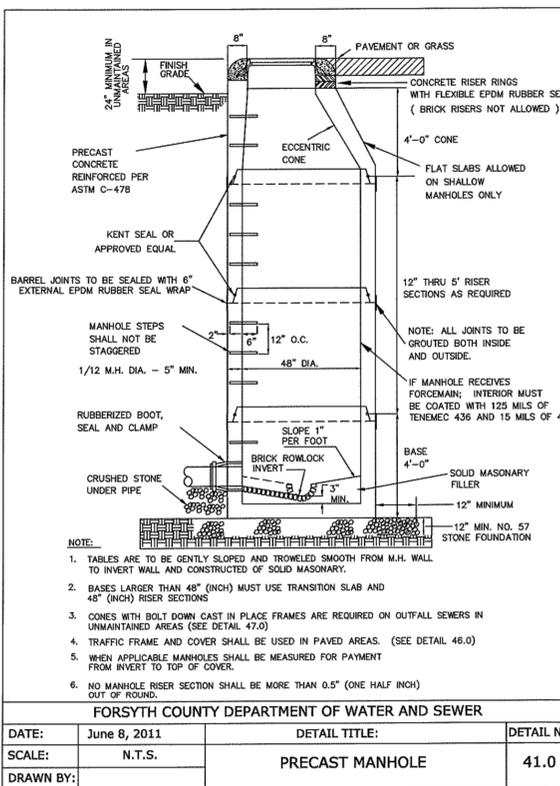
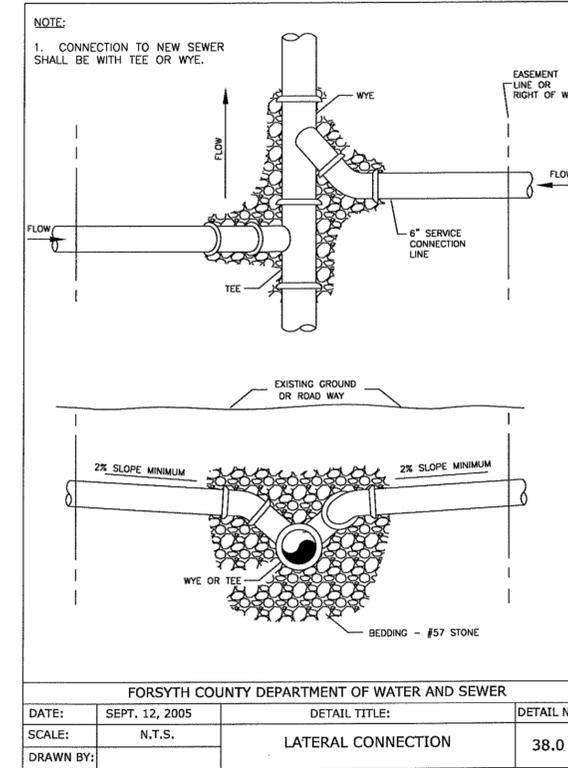
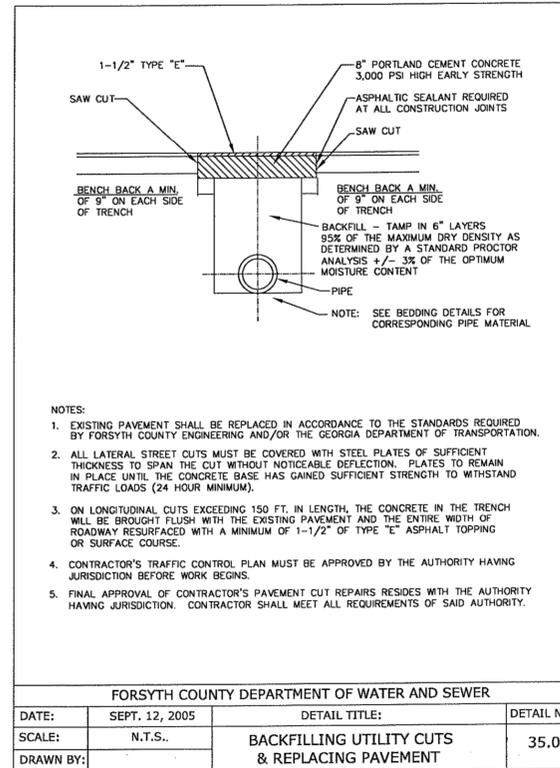
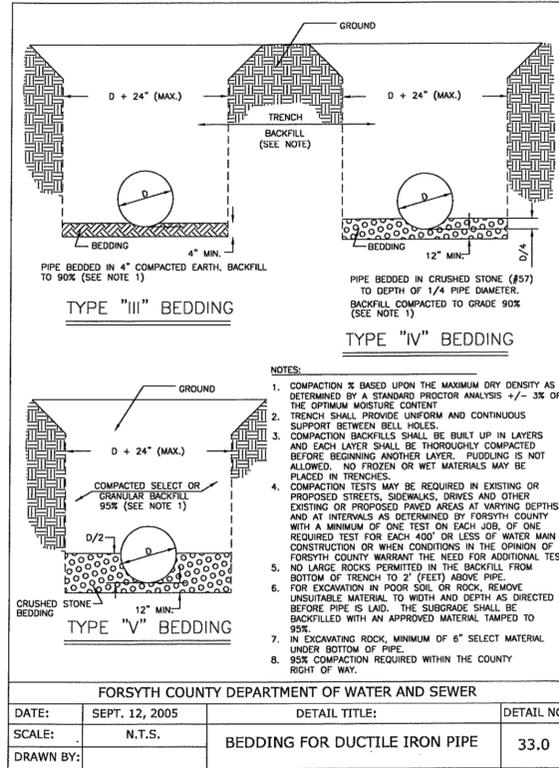
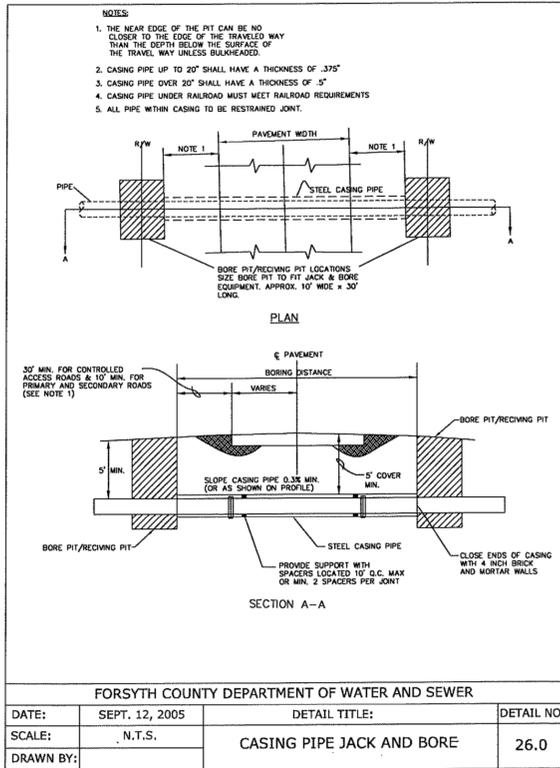
INDEX OF DRAWINGS AND GENERAL NOTES

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G-001

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BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

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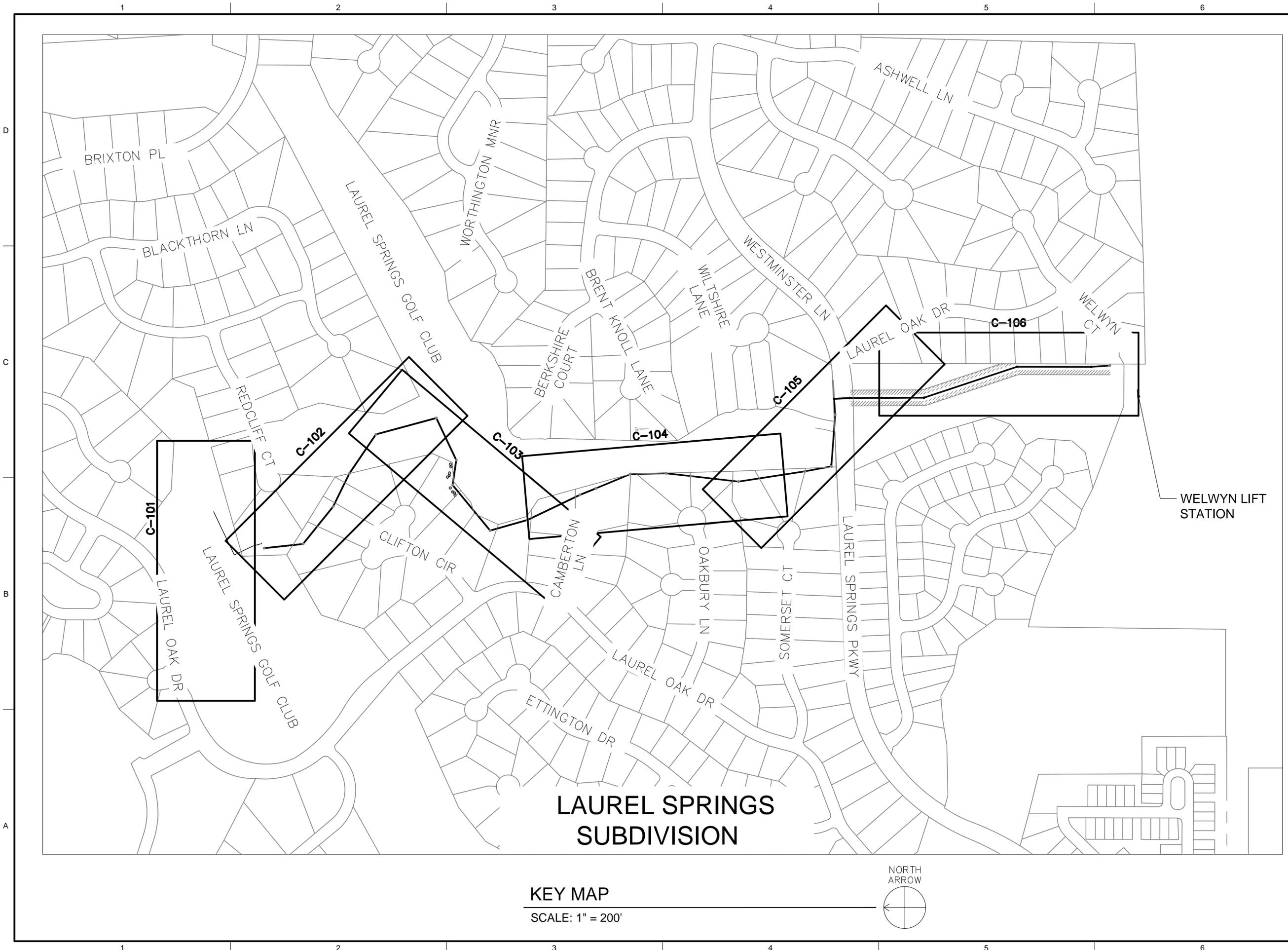
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CIVIL
CONSTRUCTION
DETAILS

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KEY MAP
 SCALE: 1" = 200'



990 HAMMOND DRIVE
 SUITE 400
 ATLANTA, GEORGIA

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GSWCC LEVEL II
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**BID DOCUMENTS
 PLANS FOR LAUREL
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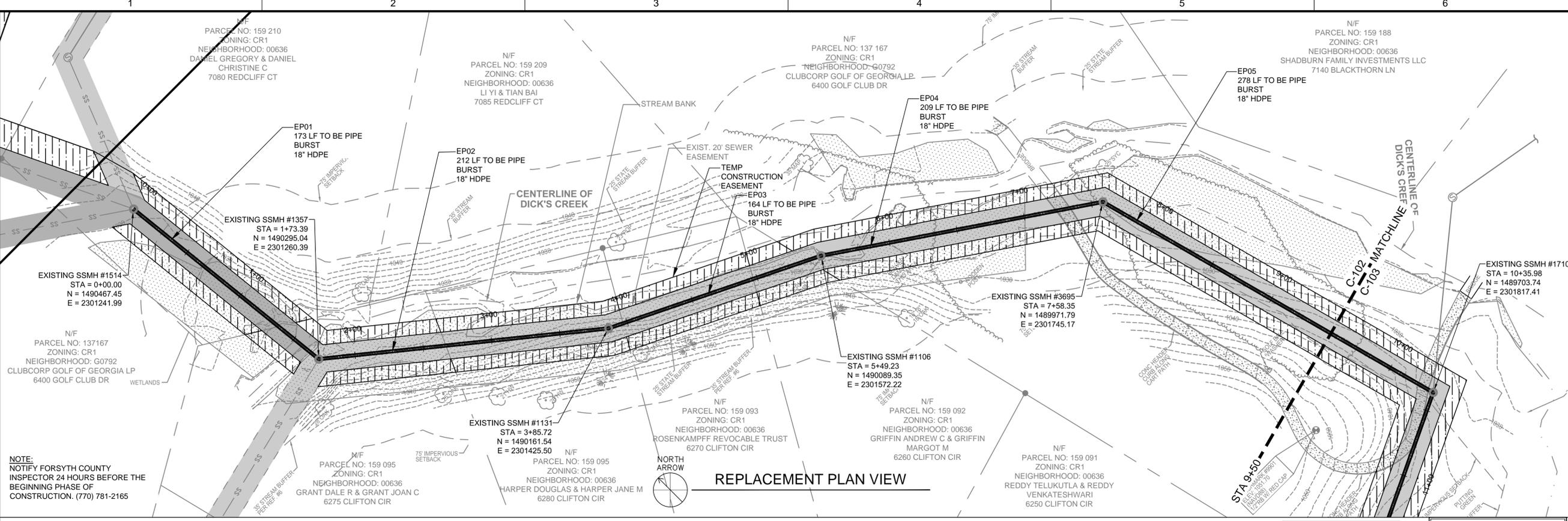
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**CIVIL
 KEY MAP**

DRAWING NUMBER
C-100

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LEGEND

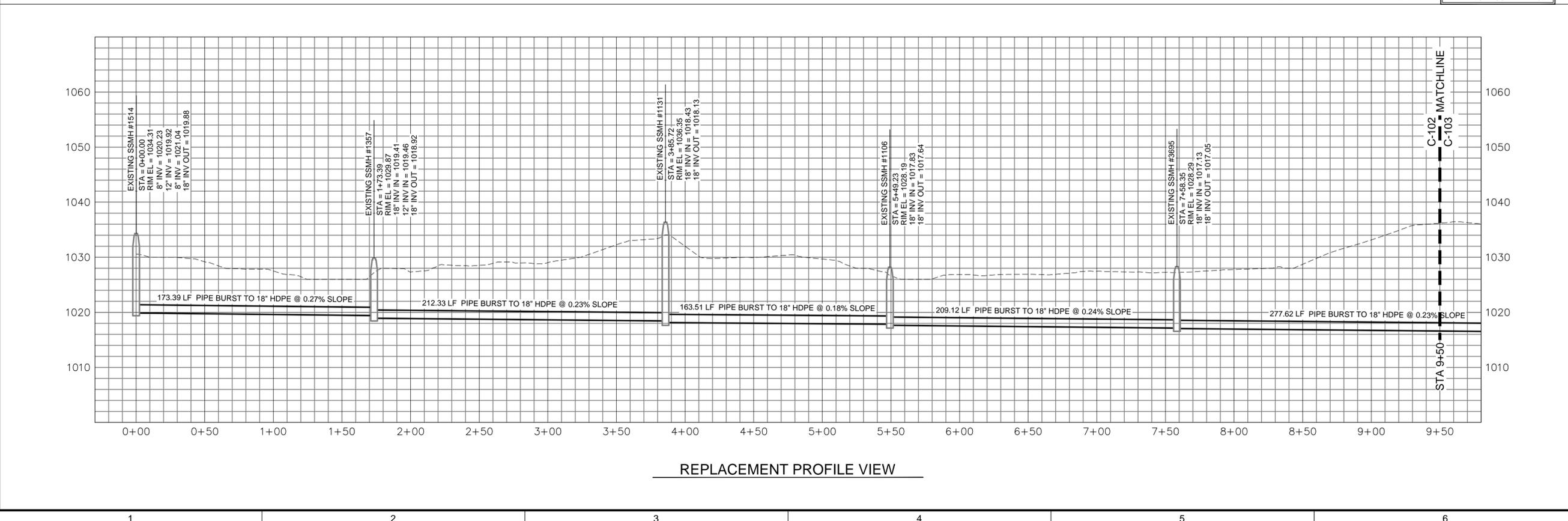
CURB AND GUTTER (C&G)	UNDERGROUND POWER LINE	PROPOSED SS PIPE	HEAD WALL (HW)	CLEAN OUT (CO)	FIRE DEPT. CONNECTION (FDC)	LIGHT POLE (LP)	TELEPHONE PEDESTAL	CROSSWALK SIGNAL	EXISTING SEWER EASEMENT
FENCE	CREEK CENTERLINE	UTILITY EASEMENT	CURB INLET (CI)	BENCHMARK	WATER VALVE MARKER	POWER POLE WITH LIGHT	COMMUNICATION BOX	X 1000.00	CONSTRUCTION EASEMENT
HANDRAIL	LAKE BOUNDARY	BUFFERS	FLARED END SECTION (FES)	IRRIGATION CONTROL VALVE (ICV)	TRANSFORMER BOX (TX)	UTILITY MANHOLE (UM)	TRAFFIC SIGNAL	RIP-RAP AREA	
STORM DRAIN LINE	OVERHEAD POWER LINE	CATCH BASIN (DWCB)	OUTLET CONTROL STRUCTURE	FIRE HYDRANT (FH)	AIR CONDITIONER (AC)	SPOTLIGHT	BOLLARD (BO)	BRICK AREA	
EXISTING SS PIPE	UNDERGROUND COMMUNICATION	CATCH BASIN (SWCB)	YARD DRAIN INLET	WATER VALVE (WV)	ELECTRIC METER (EM)	GAS METER (GM)	MAIL BOX	TREELINE	
WATER LINE	TOPOGRAPHIC CONTOUR	DROP INLET (DI)	JUNCTION BOX (JB)	SS MH EXISTING	ELECTRIC UTILITY	GAS VALVE (GV)	SIGN	CONCRETE AREA	
GAS LINE	PROPERTY LINE			WATER METER (WM)	GREASE TRAP (GT)	SS MH PROPOSED	TREE, DECIDUOUS	OVERHANG AREA	
							TREE, CONIFEROUS	WETLANDS	

COLOR CODES FOR UTILITY LOCATING

THREE WORKING DAYS BEFORE YOU DIG GEORGIA CALL
 Utilities Protection Center, Inc.
 811
 It's The Law.

PLAN VIEW
 SCALE IN FEET: 0, 40, 80

PROFILE VIEW
 HORIZONTAL SCALE 1:40
 VERTICAL SCALE 1:10



Brown AND Caldwell
 990 HAMMOND DRIVE SUITE 400
 ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
 No. 025402
 SCOTT H. ADAMS
 GSWCC LEVEL II
 CERTIFICATE # 0000020699

FORSYTH COUNTY, GEORGIA

BID DOCUMENTS PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

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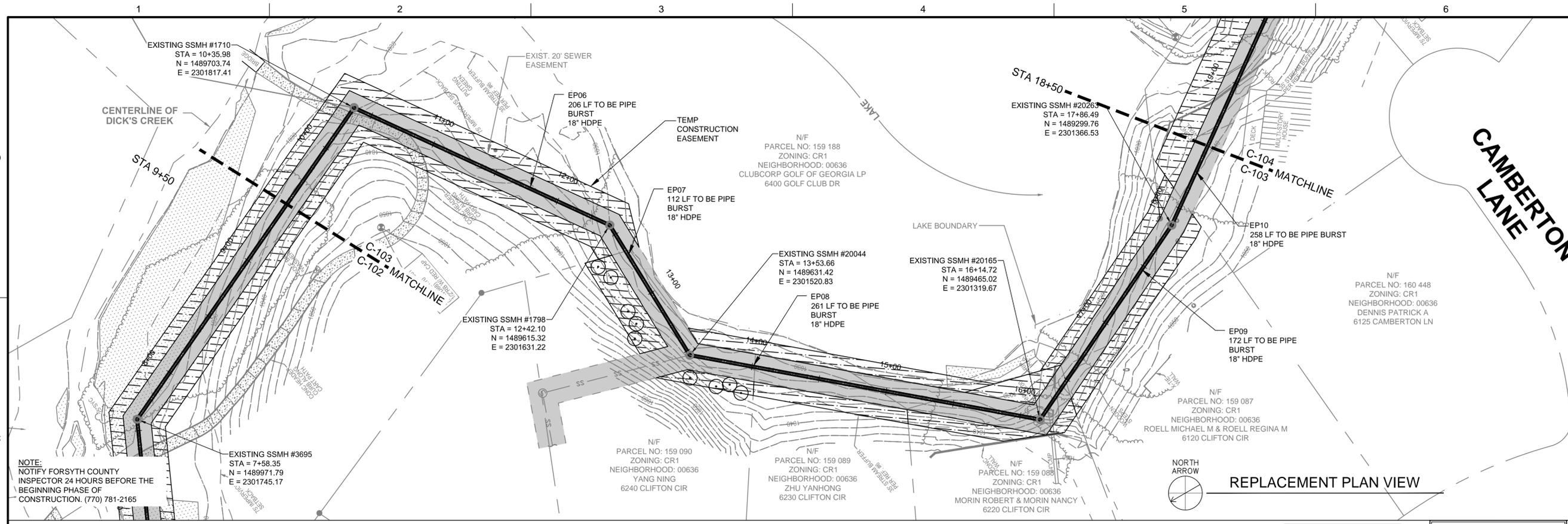
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CIVIL

PIPE PLAN AND PROFILE

DRAWING NUMBER: **C-102**

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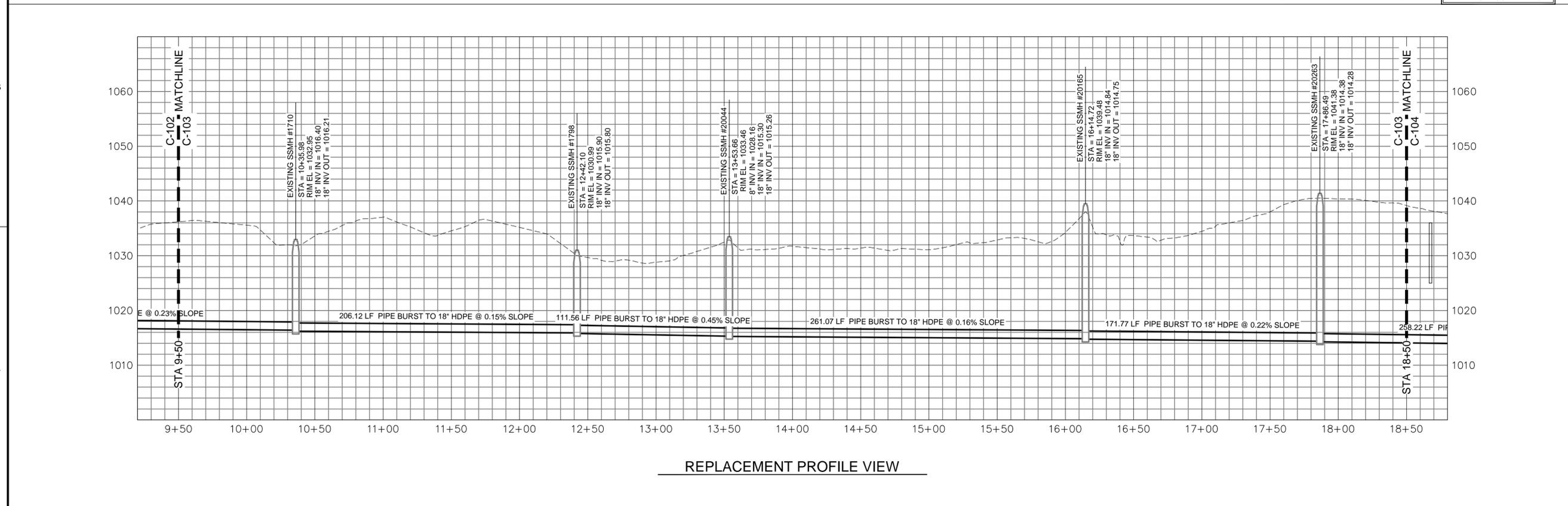
CURB AND GUTTER (C&G)	UNDERGROUND POWER LINE	PROPOSED SS PIPE	HEAD WALL (HW)	CLEAN OUT (CO)	FIRE DEPT. CONNECTION (FDC)	LIGHT POLE (LP)	TELEPHONE PEDESTAL	CROSSWALK SIGNAL	EXISTING SEWER EASEMENT
FENCE	CREEK CENTERLINE	UTILITY EASEMENT	CURB INLET (CI)	BENCHMARK	WATER VALVE MARKER	POWER POLE WITH LIGHT	COMMUNICATION BOX	X 1000.00	CONSTRUCTION EASEMENT
HANDRAIL	LAKE BOUNDARY	BUFFERS	FLARED END SECTION (FES)	IRRIGATION CONTROL VALVE (ICV)	AIR CONDITIONER (AC)	UTILITY MANHOLE (UM)	TRAFFIC SIGNAL	SPOT ELEVATION	CONCRETE AREA
STORM DRAIN LINE	OVERHEAD POWER LINE	CATCH BASIN (DWCB)	OUTLET CONTROL STRUCTURE	FIRE HYDRANT (FH)	ELECTRIC UTILITY	GAS METER (GM)	BOLLARD (BO)	BRICK AREA	OVERHANG AREA
EXISTING SS PIPE	UNDERGROUND COMMUNICATION	CATCH BASIN (SWCB)	YARD DRAIN INLET	WATER VALVE (WV)	ELECTRIC METER (EM)	GAS VALVE (GV)	MAIL BOX	TREELINE	WETLANDS
WATER LINE	TOPOGRAPHIC CONTOUR	DROP INLET (DI)	SS MH EXISTING	WATER METER (WM)	ELECTRIC UTILITY	SS MH PROPOSED	SIGN	WETLANDS	
GAS LINE	PROPERTY LINE	JUNCTION BOX (JB)					TREE, DECIDUOUS		
							TREE, CONIFEROUS		

COLOR CODES FOR UTILITY LOCATING

THREE WORKING DAYS BEFORE YOU DIG GEORGIA CALL
Utilities Protection Center, Inc.
811 It's The Law.

PLAN VIEW
 0 40 80
 SCALE IN FEET

PROFILE VIEW
 HORIZONTAL SCALE 1:40
 VERTICAL SCALE 1:10



Brown AND Caldwell
 990 HAMMOND DRIVE SUITE 400
 ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
 No. 025402
 SCOTT H. ADAMS
 GSWCC LEVEL II
 CERTIFICATE # 0000020699

FORSYTH COUNTY, GEORGIA

BID DOCUMENTS
 PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS		
REV	DATE	DESCRIPTION

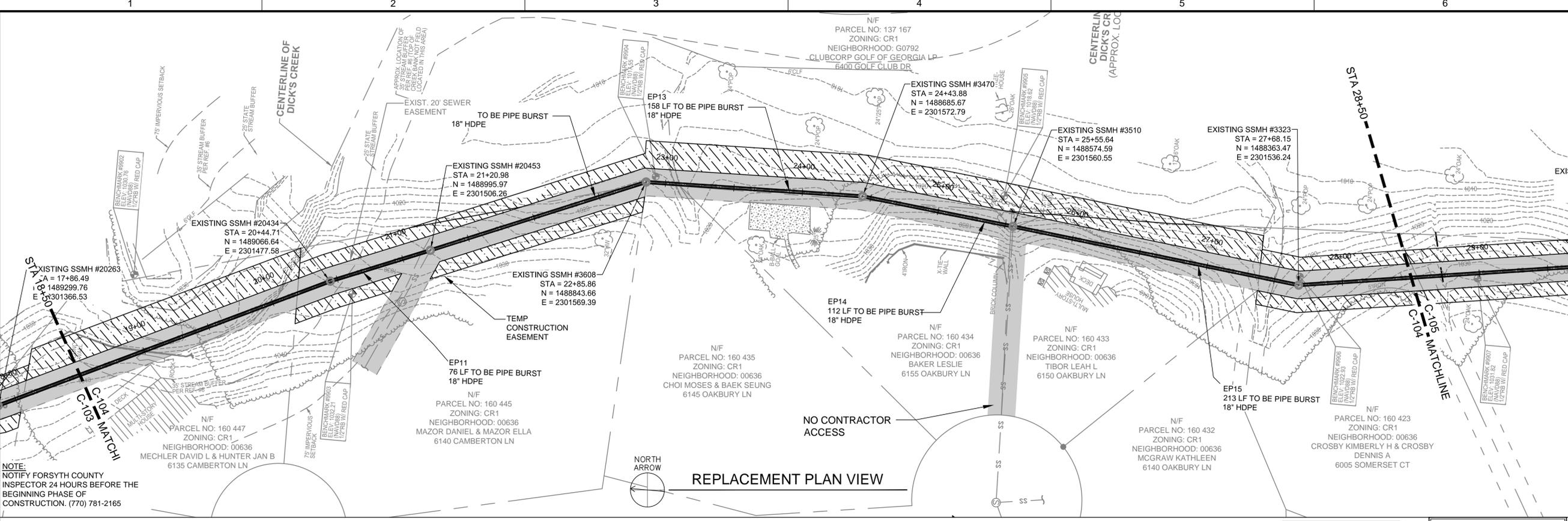
DESIGNED: S. ADAMS
 DRAWN: C. MOSELY
 CHECKED: J. FUNTE
 CHECKED: S. ADAMS
 APPROVED: S. ADAMS

FILENAME: C-100.DWG
 BC PROJECT NUMBER: 150677
 CLIENT PROJECT NUMBER: ---

CIVIL
PIPE PLAN AND PROFILE

DRAWING NUMBER
C-103

Path: C:\USERS\JFUNTE\ONE\DRIVE - BROWN AND CALDWELL\DESKTOP\LAUREL SPRINGS2-SHEETS\C-CIVIL FILENAME: C-100.DWG PLOT DATE: 3:41 PM CAD USER: JOSHUA FUNTE



LEGEND

CURB AND GUTTER (C&G)	UNDERGROUND POWER LINE	PROPOSED SS PIPE	HEAD WALL (HW)	CLEAN OUT (CO)	FIRE DEPT. CONNECTION (FDC)	LIGHT POLE (LP)	TELEPHONE PEDESTAL	CROSS SIGNAL	UTILITY LOCATING	THREE WORKING DAYS BEFORE YOU DIG GEORGIA CALL
FENCE	LAKE BOUNDARY	UTILITY EASEMENT	CURB INLET (CI)	BENCHMARK	WATER VALVE MARKER	POWER POLE WITH LIGHT	COMMUNICATION BOX	X 100.00	ELECTRIC	UTILITIES PROTECTION CENTER, INC.
HANDRAIL	OVERHEAD POWER LINE	BUFFERS	FLARED END SECTION (FES)	IRRIGATION CONTROL VALVE (ICV)	TRANSFORMER BOX (TX)	UTILITY MANHOLE (UM)	TRAFFIC SIGNAL	SPOT ELEVATION	GAS/OIL	811 It's The Law.
STORM DRAIN LINE	UNDERGROUND COMMUNICATION	CATCH BASIN (DWCB)	OUTLET CONTROL STRUCTURE	FIRE HYDRANT (FH)	AIR CONDITIONER (AC)	SPOTLIGHT	BOLLARD (BO)	X 100.00	WATER	
EXISTING SS PIPE	TOPOGRAPHIC CONTOUR	CATCH BASIN (SWCB)	WATER VALVE (WV)	WATER VALVE (WV)	ELECTRIC METER (EM)	GAS METER (GM)	MAIL BOX	CONCRETE AREA	SEWER	
WATER LINE	PROPERTY LINE	DROP INLET (DI)	SS MH EXISTING	WATER METER (WM)	ELECTRIC UTILITY	GAS VALVE (GV)	SIGN	OVERHANG AREA	IF YOU DIG GEORGIA CALL US FIRST	
GAS LINE		JUNCTION BOX (JB)		GREASE TRAP (GT)	SS MH PROPOSED	SS MH PROPOSED	TREE, DECIDUOUS	BRICK AREA		
							TREE, CONIFEROUS	TRIPLE LINE		
								WETLANDS		

Brown AND Caldwell
990 HAMMOND DRIVE SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
No. 025402
SCOTT H. ADAMS

GSWCC LEVEL II
CERTIFICATE # 0000020699

FORSYTH COUNTY, GEORGIA

BID DOCUMENTS
PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS

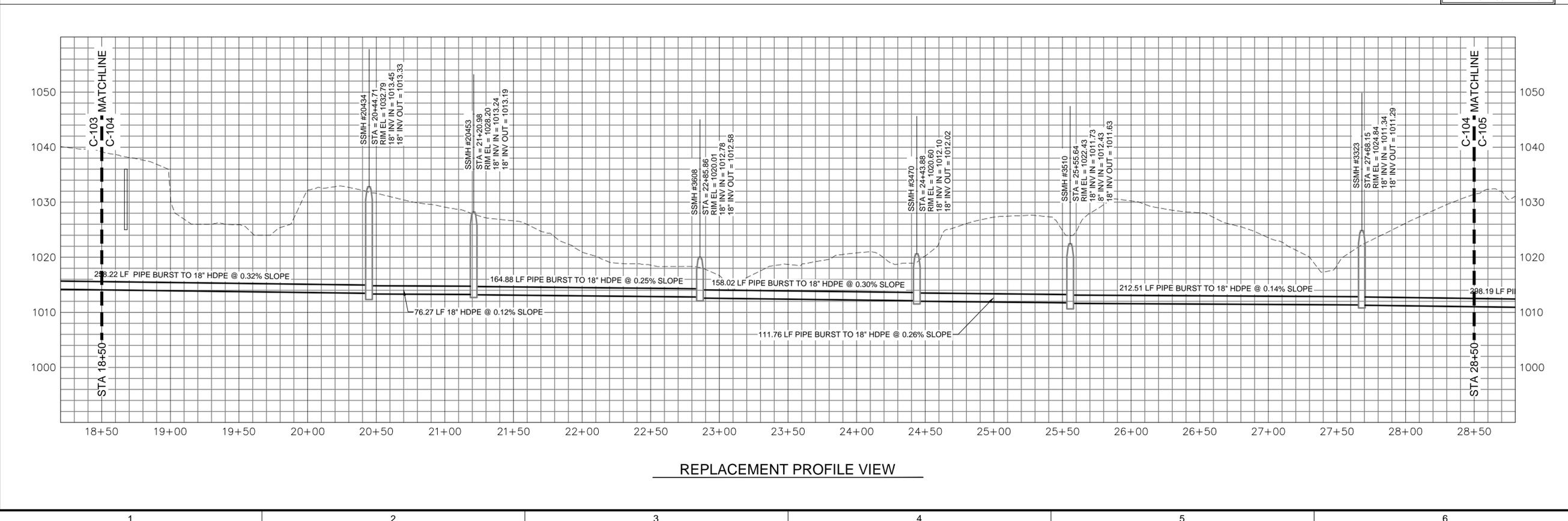
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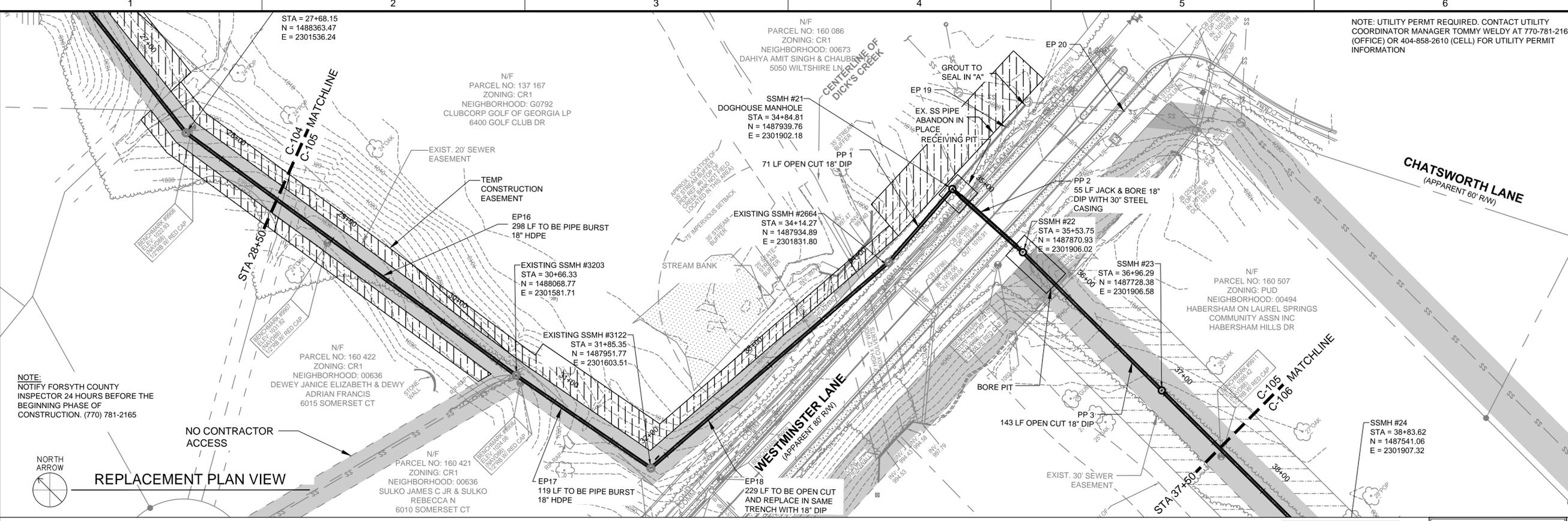
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BC PROJECT NUMBER: 150677
CLIENT PROJECT NUMBER: ---

CIVIL
PIPE PLAN AND PROFILE

DRAWING NUMBER
C-104



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LEGEND

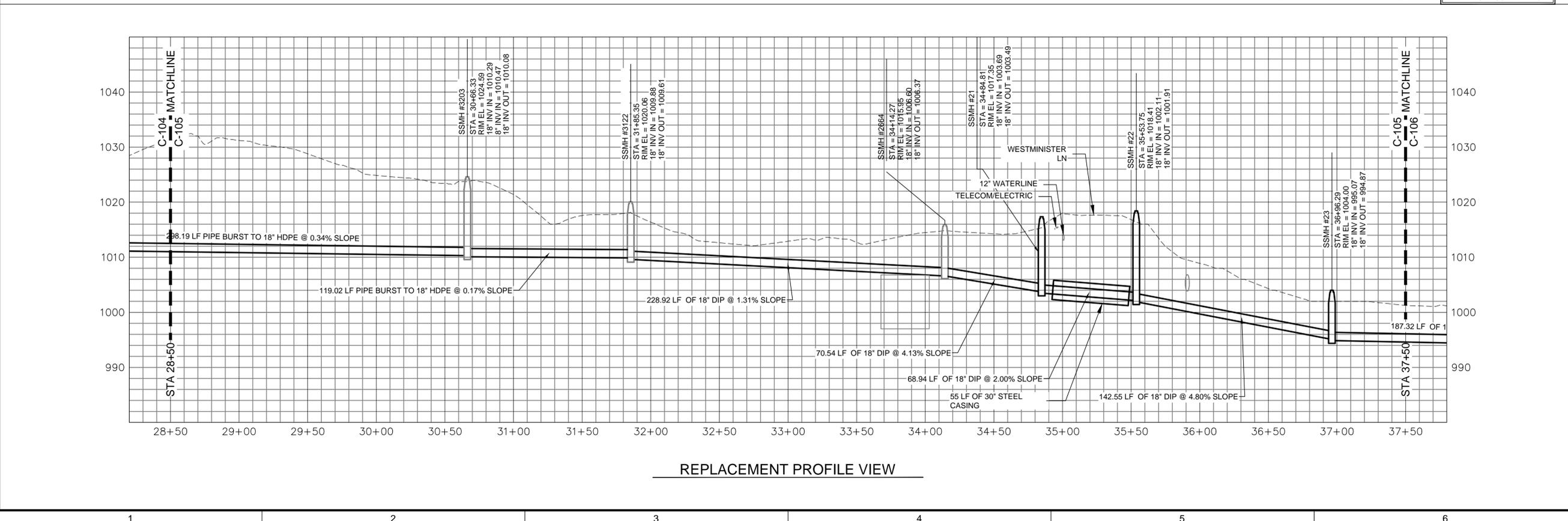
CURB AND GUTTER (C&G)	UNDERGROUND POWER LINE	PROPOSED SS PIPE	HEAD WALL (HW)	CLEAN OUT (CO)	FIRE DEPT. CONNECTION (FDC)	LIGHT POLE (LP)	TELEPHONE PEDESTAL	CROSSWALK SIGNAL	UTILITY LIGHTING	EXISTING SEWER EASEMENT
FENCE	CREEK CENTERLINE	UTILITY EASEMENT	CURB INLET (CI)	BENCHMARK	WATER VALVE MARKER	POWER POLE WITH LIGHT	COMMUNICATION BOX	X 100.00	RIE-RAP AREA	CONSTRUCTION EASEMENT
HANDRAIL	LAKE BOUNDARY	BUFFERS	FLARED END SECTION (FES)	IRRIGATION CONTROL VALVE (ICV)	AIR CONDITIONER (AC)	UTILITY MANHOLE (UM)	BOLLARD (BO)	SPOT ELEVATION	BRICK AREA	
STORM DRAIN LINE	OVERHEAD POWER LINE	CATCH BASIN (IWCB)	OUTLET CONTROL STRUCTURE	FIRE HYDRANT (FH)	ELECTRIC METER (EM)	SPOTLIGHT	MAIL BOX	CONCRETE AREA	TREELINE	
EXISTING SS PIPE	UNDERGROUND COMMUNICATION	CATCH BASIN (ISWCB)	WATER VALVE (WV)	WATER VALVE (WV)	ELECTRIC UTILITY	GAS METER (GM)	SIGN	OVERHANG AREA	WETLANDS	
WATER LINE	TOPOGRAPHIC CONTOUR	DROP INLET (DI)	SS MH EXISTING	WATER METER (WM)	GREASE TRAP (GT)	GAS VALVE (GV)	TREE, DECIDUOUS			
GAS LINE	PROPERTY LINE	JUNCTION BOX (JB)	SS MH PROPOSED			SS MH PROPOSED	TREE, CONIFEROUS			

COLOR CODES FOR UTILITY LOCATING

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PLAN VIEW
0 40 80
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PROFILE VIEW
HORIZONTAL SCALE 1:40
VERTICAL SCALE 1:10



990 HAMMOND DRIVE
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

DESIGNED: S. ADAMS
DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: S. ADAMS
APPROVED: S. ADAMS

FILENAME: C-100.DWG
BC PROJECT NUMBER: 150677
CLIENT PROJECT NUMBER: ---

CIVIL

PIPE PLAN AND PROFILE

DRAWING NUMBER
C-105

GEORGIA UNIFORM CODING SYSTEM FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, section conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainage ways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/draws water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	CONSTANT DUNE STABILIZATION (WITH VEGETATION)			Planting vegetation on dunes that are denuded artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)			Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)			Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)			Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (COCKING)			A permanent vegetative cover using sods on highly erodible or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fi-Cd	FLOCCULANTS AND COAGULANTS			Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)			The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION			A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKERS AND BINDERS			Substance used to anchor straw or hay mulch by causing the organic material to bind together.

- I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION.
SCOTT ADAMS, P.E.
GWSWC LEVEL II CERTIFICATION NO. 0000020699
- NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBING ACTIVITIES.**
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.**
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.**

- I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR THE MONITORING OF: (A) ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES SHOWN ON THE USGS TOPOGRAPHIC MAP AND ALL OTHER FIELD VERIFIED PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES, OR (B) WHERE ANY SUCH SPECIFIC IDENTIFIED PERENNIAL OR INTERMITTENT STREAM AND OTHER WATER BODY IS NO PROPOSED TO BE SAMPLED, I HAVE DETERMINED IN MY PROFESSIONAL JUDGEMENT, UTILIZING THE FACTORS REQUIRED IN THE GENERAL NPDES PERMIT NO. GAR 100002, THAT THE INCREASE IN THE TURBIDITY OF EACH SPECIFIC IDENTIFIED SAMPLED RECEIVING WATER WILL BE REPRESENTATIVE OF THE INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIFIED UN-SAMPLED RECEIVING WATER.
SCOTT ADAMS, P.E.
- I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL PUBLISHED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100002."
SCOTT ADAMS, P.E.
- THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS, PERIMETER CONTROL BMPS AND SEDIMENT BASINS IN ACCORDANCE WITH PART IV.A.5. WITHIN 7 DAYS AFTER INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE DESIGN PROFESSIONAL.
- AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
- WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
- NO PORTION OF THIS PROJECT DISCHARGES STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT.
- ALL BUILDING MATERIAL PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, AND OTHER MATERIALS STORED OR STAGED ON SITE SHALL BE COVERED WITH PLASTIC SHEETING.

BMPs FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS

SPILL CLEANUP AND CONTROL PRACTICES

- LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND PROCEDURES SHALL BE MADE AVAILABLE TO SITE PERSONNEL.
- MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREAS DURING THE CONSTRUCTION ACTIVITIES. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, OIL CONTAINMENT BOOMS, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
- SPILL PREVENTION PRACTICES AND PROCEDURES SHALL BE REVIEWED AFTER ANY SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
 - FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
 - FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
 - FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
 - FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

E. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. IF THIS OCCURS, THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN (SPCC PLAN) PREPARED BY THAT LICENSED PROFESSIONAL.

F. ALL POLLUTANTS FROM WASTE DISPOSAL PRACTICES, SOIL ADDITIVES, REMEDIATION OF SPILLS AND LEAKS OF PETROLEUM PRODUCTS, CONCRETE TRUCK WASHOUT, ETC., SHOULD ANY OF THESE OCCUR, SHALL BE CONTROLLED BY THE IMPLEMENTATION OF APPROPRIATE BEST MANAGEMENT PRACTICES. THE SITE SHALL BE IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

PRODUCT-SPECIFIC PRACTICES

- PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS SHALL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ONSITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS SHALL BE LOCATED AWAY FROM STATE WATER, NATURAL DRAINS AND STORMWATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS SHALL INCLUDE IMMEDIATE COLLECTION IN A SUITABLE CONTAINER, THE SPILL REPORTED, AND DISPOSAL AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
- PAINTS/FINISHES/SOLVENTS - ALL PRODUCTS SHALL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCTS SHALL NOT BE DISCHARGED TO THE STORMWATER COLLECTION SYSTEM. EXCESS PRODUCT MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS SHALL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- CONCRETE TRUCK WASHING - NO CONCRETE TRUCKS SHALL BE ALLOWED TO WASH OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.
- FERTILIZER/HERBICIDES - THESE PRODUCTS SHALL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS SHALL BE UNDER ROOF IN SEALED CONTAINERS.
- BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS SHALL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL SHALL BE DISPOSED OF WITH PROPER WASTE DISPOSAL PROCEDURES.

HAZARDOUS WASTE

A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. THE JOB SITE SUPERINTENDENT, WHO SHALL ALSO BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED, SHALL INSTRUCT SITE PERSONNEL IN THESE PRACTICES. MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE SHALL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS SHALL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED, AND ANOTHER COPY SHALL BE MAINTAINED IN THE ESPCP FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO MUST HANDLE HAZARDOUS PRODUCTS/SUBSTANCES SHALL BE INSTRUCTED ON THE USE OF MSDS'S AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

B. THE CONTRACTOR SHALL IMPLEMENT THE SPILL PREVENTION CONTROL & COUNTERMEASURES (SPCC) PLAN LISTED BELOW AND FOUND WITHIN THIS PLAN, AND SHALL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIALS OR HAZARDOUS WASTES SHALL BE ALLOWED TO COME INTO CONTACT WITH STORM WATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORM WATER DISCHARGE SHALL BE CONTAINED ON SITE UNTIL APPROPRIATE MEASURES ARE TAKEN IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS TO DISPOSE OF SUCH CONTAMINATED STORM WATER. IT SHALL BE THE RESPONSIBILITY OF THE JOB SITE SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC MEASURES.

SANITARY WASTE

A. NO RELEASE OF SANITARY WASTE TO THE ENVIRONMENT IS PERMISSIBLE. TEMPORARY SANITARY FACILITIES (PORTA-JOHNS) SHALL BE PROVIDED THROUGHOUT THE CONSTRUCTION PROJECT. A MINIMUM OF ONE PORTABLE SANITARY UNIT SHALL BE PROVIDED FOR EVERY TEN (10) WORKERS ON THE SITE. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS.

B. ALL SANITARY WASTE UNITS SHALL BE LOCATED IN ONE AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE. ADDITIONAL CONTAINMENT BMPS MUST BE IMPLEMENTED, SUCH AS GRAVEL BAGS OR SPECIALLY-DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASE, TO PREVENT WASTES FROM CONTRIBUTING TO STORM WATER DISCHARGES. THE LOCATION OF THE SANITARY WASTE UNITS MUST BE IDENTIFIED ON THE EROSION CONTROL PLAN GRADING PHASE BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED.

C. PERMANENT SANITARY SEWER SHALL BE ESTABLISHED AND PROVIDED BY THE LOCAL MUNICIPAL AUTHORITY, OR AS A SEPTIC SYSTEM, AS APPLICABLE FOR THE PROPOSED WORK AT THE COMPLETION OF THE PROJECT.

Brown AND Caldwell

990 HAMMOND DR
SUITE 400

ATLANTA, GEORGIA

BID DOCUMENTS



GWSWC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: S. ADAMS
DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: A. NARAYANAN
APPROVED: S. ADAMS
FILENAME
ESC-101 THRU 204.DWG
BC PROJECT NUMBER
150677
CLIENT PROJECT NUMBER

CIVIL STANDARD NOTES I

DRAWING NUMBER

ESC-101

Path: C:\USERS\FUNTE\ONE\DRIVE - BROWN AND CALDWELLEDKSTOPLAUREL SPRINGS2-SHEETS\CIVILESS SHEETS FILENAME: ESC-101 THRU 204.DWG PLOT DATE: 3:42 PM CAD USER: JOSHUA FUNTE

1. INSPECTIONS AND RECORD KEEPING (FOR THE PRIMARY PERMITTEE)

A. EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE CONTRACTOR SHALL INSPECT: (I) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT AND (II) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

B. CONTRACTOR SHALL MEASURE RAINFALL ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY UNTIL A NOTICE OF TERMINATION IS SUBMITTED. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.

C. CERTIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY FOURTEEN (14) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCH RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST):

(III). STRUCTURAL CONTROL MEASURES. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED BY THE CONTRACTOR TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(D). THESE INSPECTIONS MUST BE CONDUCTED BY THE CONTRACTOR UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

D. CERTIFIED PERSONNEL (PROVIDED BY THE CONTRACTOR) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS SUBMITTED TO EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).

E. BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE BY THE CONTRACTOR NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. THE PRIMARY PERMITTEE MUST AMEND THE PLAN IN ACCORDANCE WITH PART IV.D.4.B.(E) WHEN A SECONDARY PERMITTEE NOTIFIES THE PRIMARY PERMITTEE OF ANY PLAN DEFICIENCIES.

F. CONTRACTOR SHALL PROVIDE A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E. INITIAL, INTERMEDIATE OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(E) OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION PROJECT THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE NOT BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY AN INCIDENT, THE INSPECTION REPORT SHALL CONTAIN A STATEMENT THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT.

2. SAMPLING FREQUENCY

A. THE CONTRACTOR MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, SAMPLES MUST BE TAKEN WITHIN FORTY-FIVE (45) MINUTES OF: (I) THE ACCUMULATION OF THE MINIMUM AMOUNT OF RAINFALL FOR THE QUALIFYING EVENT, IF THE STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER OR FROM A MONITORED OUTFALL HAS BEGUN AT OR PRIOR TO THE ACCUMULATION, OR (II) THE BEGINNING OF ANY STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER OR FROM A MONITORED OUTFALL, IF THE DISCHARGE BEGINS AFTER THE ACCUMULATION OF THE MINIMUM AMOUNT OF RAINFALL FOR THE QUALIFYING EVENT.

B. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORM WATER DISCHARGE.

C. SAMPLING BY THE CONTRACTOR SHALL OCCUR FOR THE FOLLOWING EVENTS: (I). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING STREAM, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING DURING NORMAL BUSINESS HOURS* (MONDAY THRU FRIDAY, 8:00AM TO 5:00PM AND SATURDAY 8:00AM TO 5:00PM, EXCLUDING ALL NON-WORKING FEDERAL HOLIDAYS, WHEN CONSTRUCTION ACTIVITY IS BEING CONDUCTED BY THE CONTRACTOR) THAT OCCURS AFTER ALL CLEARING AND GRUBBING OPERATIONS HAVE BEEN COMPLETED IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION; (II) IN ADDITION TO (I) ABOVE, FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING STREAM, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING DURING NORMAL BUSINESS HOURS* THAT OCCURS EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST; (III) AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (I) AND (II) ABOVE, IF BMPs ARE FOUND TO BE PROPERLY DESIGNED, INSTALLED AND MAINTAINED, NO FURTHER ACTION IS REQUIRED. IF BMPs IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING STREAM ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPs ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED; AND (IV) EXISTING CONSTRUCTION ACTIVITIES, I.E., THOSE THAT ARE OCCURRING ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THAT HAVE MET THE SAMPLING REQUIRED BY (I) ABOVE SHALL SAMPLE IN ACCORDANCE WITH (II). THOSE EXISTING CONSTRUCTION ACTIVITIES THAT HAVE MET THE SAMPLING REQUIRED BY (II) ABOVE SHALL NOT BE REQUIRED TO CONDUCT ADDITIONAL SAMPLING OTHER THAN AS REQUIRED BY (III) ABOVE. *NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (I) AND (II) ABOVE BY COLLECTING TURBIDITY SAMPLES FROM ANY RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING AT ANY TIME OF THE DAY OR WEEK.

3. REPORTING

A. THE APPLICABLE CONTRACTOR IS REQUIRED TO SUBMIT THE SAMPLING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. BY THE FIFTEENTH DAY OF THE MONTH FOLLOWING THE REPORTING PERIOD. REPORTING PERIODS ARE MONTHS DURING WHICH SAMPLES ARE TAKEN IN ACCORDANCE WITH THIS PERMIT. SAMPLING RESULTS SHALL BE IN A CLEARLY LEGIBLE FORMAT. UPON WRITTEN NOTIFICATION, EPD MAY REQUIRE THE APPLICABLE PERMITTEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORM WATER DISCHARGE(S) OR THE RECEIVING WATER(S) BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED IN A SIMILAR MANNER TO THE EPD. THE SAMPLING REPORTS MUST BE SIGNED IN ACCORDANCE WITH PART V.G.2. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.

B. ALL SAMPLING REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:

-THE RAINFALL AMOUNT, DATE, EXACT PLACE AND TIME OF SAMPLING OR MEASUREMENTS;

- THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE SAMPLING AND MEASUREMENTS;

- THE DATE(S) ANALYSES WERE PERFORMED;

- THE TIME(S) ANALYSES WERE INITIATED;

- THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE ANALYSES;

- REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED;

- THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISKS OR TAPES, ETC., USED TO DETERMINE THESE RESULTS;

- RESULTS WHICH EXCEED 1000 NTU SHALL BE REPORTED AS "EXCEEDS 1000 NTU;" AND

- CERTIFICATION STATEMENT THAT SAMPLING WAS CONDUCTED AS PER THE PLAN.

C. ALL WRITTEN CORRESPONDENCE REQUIRED BY THIS PERMIT SHALL BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL (OR SIMILAR SERVICE) TO THE APPROPRIATE DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THIS PERMIT. THE APPLICABLE PERMITTEES SHALL RETAIN A COPY OF THE PROOF OF SUBMITTAL AT THE CONSTRUCTION SITE OR THE PROOF OF SUBMITTAL SHALL BE READILY AVAILABLE AT A DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI. IF AN ELECTRONIC SUBMITTAL IS PROVIDED BY EPD THEN THE WRITTEN CORRESPONDENCE MAY BE SUBMITTED ELECTRONICALLY; IF REQUIRED, A PAPER COPY MUST ALSO BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL OR SIMILAR SERVICE. COPIES OF ALL WRITTEN CORRESPONDENCE SHALL BE PROVIDED TO THE OWNER.

4. RETENTION OF RECORDS (FOR THE PRIMARY PERMITTEE)

A. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:

- A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;

- A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;

- THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THIS PERMIT;

- A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;

- A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THIS PERMIT;

- A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND

- DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(2). OF THIS PERMIT.

B. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT PROVIDED TO THE OWNER TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

5. SAMPLING REQUIREMENTS

A. SAMPLING REQUIREMENTS SHALL INCLUDE THE FOLLOWING:

(I). A USGS TOPOGRAPHIC MAP, A TOPOGRAPHIC MAP OR A DRAWING (REFERRED TO AS A TOPOGRAPHIC MAP) THAT IS A SCALE EQUAL TO OR MORE DETAILED THAN A 1:24000 MAP SHOWING THE LOCATION OF THE SITE OR THE COMMON DEVELOPMENT; (a) THE LOCATION OF ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES AS SHOWN ON A USGS TOPOGRAPHIC MAP, AND ALL OTHER PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES LOCATED DURING MANDATORY FIELD VERIFICATION, INTO WHICH THE STORM WATER IS DISCHARGED AND (b) THE RECEIVING WATER AND/OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITTEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION OF THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORM WATER(S) ENTERS THE RECEIVING WATER(S) TO THE POINT WHERE THE RECEIVING WATER(S) COMBINES WITH THE FIRST BLUE LINE STREAM SHOWN ON THE USGS TOPOGRAPHIC MAP;

THE RECEIVING WATER IS ONE THAT SUPPORTS WARM WATER FISHERIES. THE APPROPRIATE VALUE OF THE SAMPLING OF THE RECEIVING STREAM IS A DIFFERENCE BETWEEN THE UPSTREAM SAMPLE POINT AND THE DOWNSTREAM SAMPLE POINT TO BE NO MORE THAN 75 NTU.

(II). THE ANALYTICAL METHOD USED TO COLLECT AND ANALYZE THE SAMPLES INCLUDING QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION;

(III). WHEN THE PERMITTEE HAS DETERMINED THAT SOME OR ALL OUTFALLS WILL BE MONITORED, A RATIONALE MUST BE INCLUDED FOR THE NTU LIMIT(S) SELECTED FROM APPENDIX B. THIS RATIONALE MUST INCLUDE THE SIZE OF THE CONSTRUCTION SITE, THE CALCULATION OF THE SIZE OF THE SURFACE WATER DRAINAGE AREA, AND THE TYPE OF RECEIVING WATER(S) (I.E., TROUT STREAM OR SUPPORTING WARM WATER FISHERIES); AND

(IV). ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN. EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITTEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.

B. SAMPLE TYPE

ALL SAMPLING SHALL BE COLLECTED BY "GRAB SAMPLES" AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED IN ACCORDANCE WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PART 136 (UNLESS OTHER TEST PROCEDURES HAVE BEEN APPROVED); THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD.

(I). SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.

(II). SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.

(III). LARGE MOUTH, CLEAN AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.

(IV). MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLERS MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION, UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED USING A DIRECT READING, PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.

(V). SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

C. SAMPLING POINTS

FOR CONSTRUCTION ACTIVITIES THE CONTRACTOR MUST SAMPLE ALL RECEIVING WATER(S), OR ALL OUTFALL(S), OR A COMBINATION OF RECEIVING WATER(S) AND OUTFALL(S). SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATER(S) AND/OR THE STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:

(I). THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORM WATER DISCHARGES NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY VALUE.

(II). THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORM WATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL DOWNSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE DOWNSTREAM TURBIDITY VALUE.

(III). IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORM WATER OUTFALL CHANNEL(S).

(IV). CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER CHANNEL.

(V). THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.

(VI). THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.

(VII). CONTRACTOR DOES NOT HAVE TO SAMPLE SHEETFLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES AND AREAS LOCATED OUTSIDE THE WASTE DISPOSAL LIMITS OF A LANDFILL CELL THAT HAS BEEN CERTIFIED BY EPD FOR WASTE DISPOSAL, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIP RAP, GABIONS, PERMANENT MULCHES OR GEOTEXTILES) HAVE BEEN USED. PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES, A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE TIME OF YEAR AND REGION, OR A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION. FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION.

(VIII). ALL SAMPLING PURSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER STORM WATER RUNOFF FROM THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE STANDARD SET FORTH IN PARTS III.D.3. OR III.D.4., WHICHEVER IS APPLICABLE.



990 HAMMOND DR
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

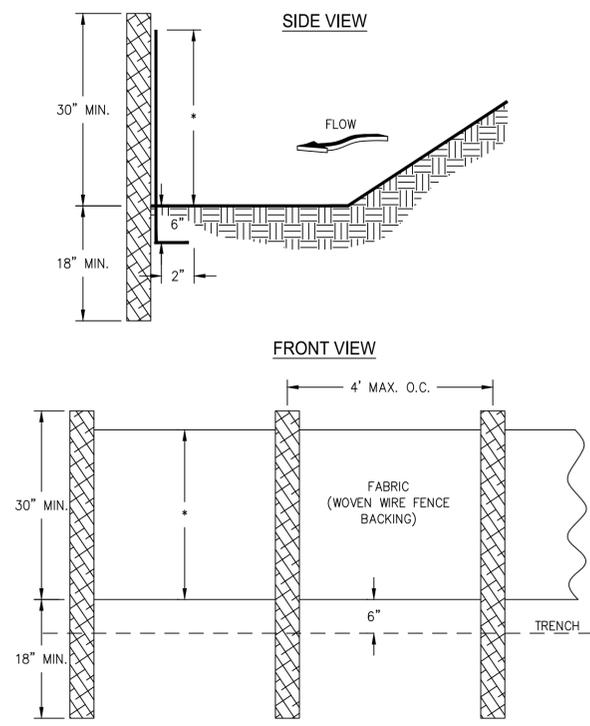
DESIGNED: S. ADAMS
DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: A. NARAYANAN
APPROVED: S. ADAMS
FILENAME
ESC-101 THRU 204.DWG
BC PROJECT NUMBER
150677
CLIENT PROJECT NUMBER

CIVIL
STANDARD NOTES
III

DRAWING NUMBER
ESC-103

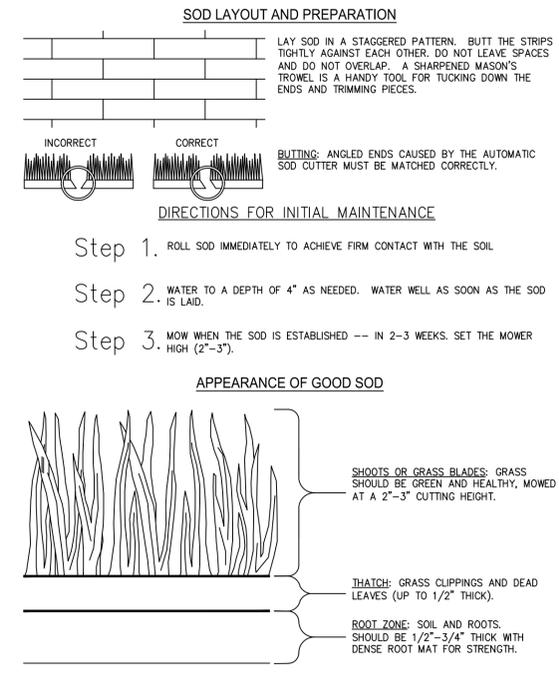
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SILT FENCE - TYPE SENSITIVE (Sd1-S)



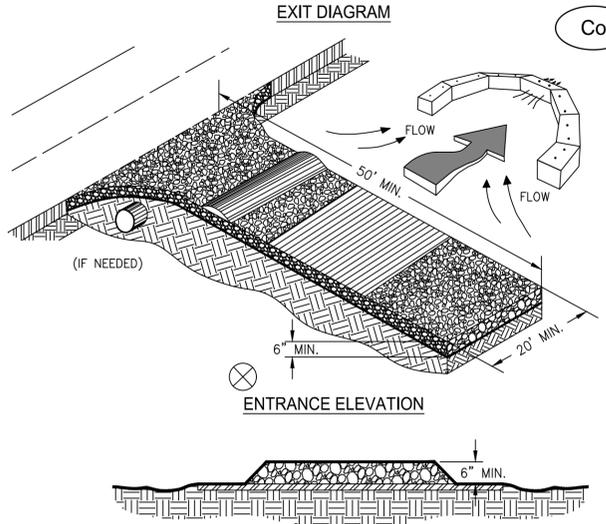
- NOTES:**
- USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 - HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SOD MAINTENANCE AND INSTALLATION



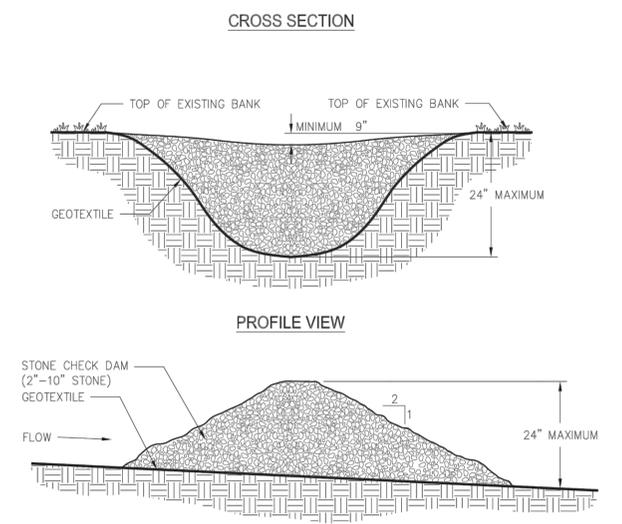
DISTURBED AREA STABILIZATION (SODDING) (Ds4)

CRUSHED STONE CONSTRUCTION EXIT (Co)



- NOTES:**
- AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
 - REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 - AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
 - GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
 - PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
 - A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
 - INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
 - WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED 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).
 - WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
 - MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

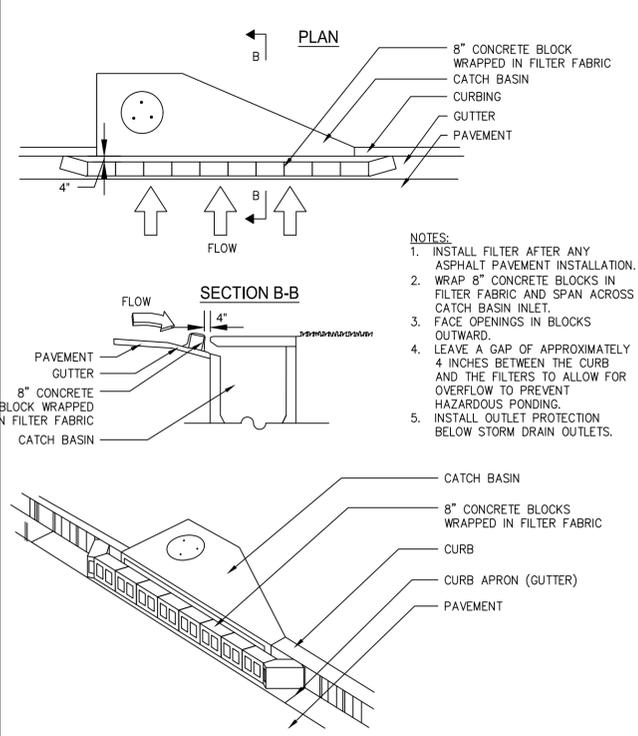
STONE CHECK DAM (Cd)



- NOTES:**
- CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
 - THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
 - THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
 - THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
 - THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
 - GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES (REFER TO AASHTO M288-96, SECTION 7.3, TABLE 3).

Figure 6-12.2

CURB INLET FILTER "PIGS IN BLANKET" (Sd2-P)



STREAM STABILIZATION (Sb)

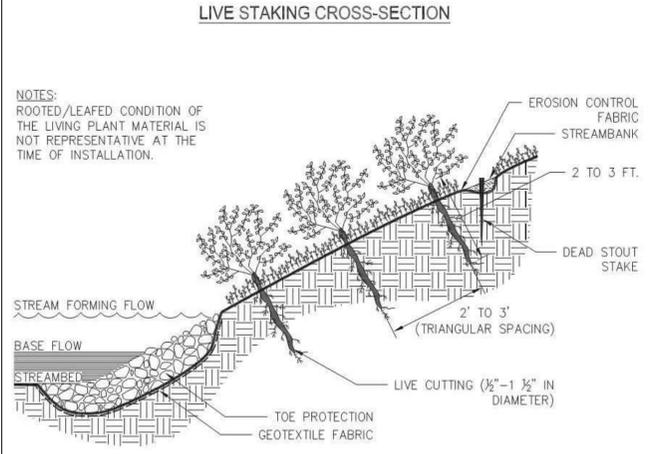
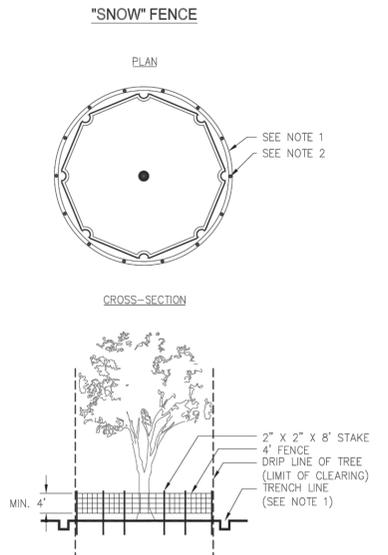


Figure 6-9.1 Illustration of a Live Stake

TREE PROTECTION "SNOW" FENCE



- NOTES:**
- USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"-5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
 - SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
 - MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
 - DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
 - FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

Figure 6-38.1

Brown AND Caldwell
 990 HAMMOND DR SUITE 400
 ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
 No. 025402
 SCOTT H. ADAMS
 GSWCC LEVEL II
 CERTIFICATE # 0000020699



BID DOCUMENTS
 PLANS FOR LAUREL
 SPRINGS GRAVITY
 SANITARY SEWER
 REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. ADAMS
 DRAWN: C. MOSELY
 CHECKED: J. FUNTE
 CHECKED: A. NARAYANAN
 APPROVED: S. ADAMS

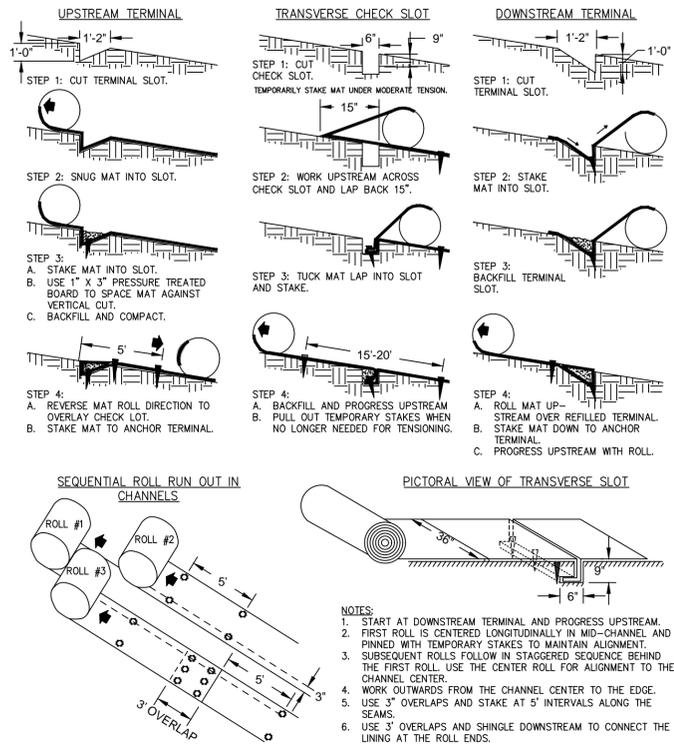
FILENAME: ESC-101 THRU 204.DWG
 BC PROJECT NUMBER: 150677
 CLIENT PROJECT NUMBER

CIVIL
 DETAILS I

DRAWING NUMBER
ESC-201

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS



REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 7 DAYS OF DISTURBANCE AND WITHIN 7 DAYS IF LEFT UNDISTURBED. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED. REFER TO DS2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING), DS3 - DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING), AND DS4 - DISTURBED AREA STABILIZATION (WITH SODDING).

SPECIFICATIONS
MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. CUTBACK ASPHALT (SLOW CURING) SHALL BE APPLIED AT 1200 GALLONS PER ACRE (OR 1/4 GALLON PER SQ.YD.).
4. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

APPLYING MULCH
WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. CUTBACK ASPHALT SHALL BE APPLIED UNIFORMLY. CARE SHOULD BE TAKEN IN AREAS OF PEDESTRIAN TRAFFIC DUE TO PROBLEMS OF "TRACKING IN" OR DAMAGE TO SHOES, CLOTHING, ETC.
4. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK." DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1). THE ASPHALT EMULSION SHALL BE SPRAYED ONTO THE MULCH AS IT IS EJECTED FROM THE MACHINE. USE 100 GALLONS OF EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. TACKIFIERS AND BINDERS CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TB-TACKIFIERS AND BINDERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

Ds1

TEMPORARY SEEDING (TYPE DS2)

1. MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. TEMPORARY GRASSING CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED.

2. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING ARE LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE.

3. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED. NOTE: SOME SPECIES OF TEMPORARY VEGETATION ARE NOT APPROPRIATE FOR COMPANION CROP PLANTINGS BECAUSE OF THEIR POTENTIAL TO OUT-COMPETE THE DESIRED SPECIES (E.G. ANNUAL RYEGRASS).

4. SEEDBED PREPARATION - SEEDBED PREPARATION IS NOT REQUIRED WHEN USING A HYDRAULIC SEEDER, OR FOR CONVENTIONAL OR HAND-SEEDING IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL. WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

5. LIME AND FERTILIZER - AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10-10-10 FERTILIZER OR THE EQUIVALENT PER ACRE SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

6. SEEDING - SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. REFER TO TEMPORARY COVER OR COMPANION CROPS TABLE ON THIS SHEET FOR MORE INFORMATION.

7. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTI-PACKER SEEDER, OR HYDRAULIC SEEDER. DRILL OR CULTI-PACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE-QUARTER TO ONE-HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED" LIGHTLY TO COVER SEED WITH SOIL IF SEEDS BY HAND.

8. IRRIGATION - DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL ENSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

TEMPORARY COVER OR COMPANION CROPS TABLE

Species	Broadcast Rates 2' - PLS 3' Per Acre		Resource Area 4/	Planting Dates by Resource Areas												Remarks
	PLS 3' Per 1000 sq.ft.	Per 1000 sq.ft.		Planting Dates (Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.)												
				J	F	M	A	M	J	J	A	S	O	N	D	
BARLEY (Hordeum vulgare)	3 bu. (144 lbs.)	C 3.3 lb.	M-L P													14,000 seed per pound. Winterhardy. Use on productive soils.
LESPEDeza ANNUAL (Lespedeza striata)	40 lbs.	0.9 lb.	M-L P C													200,000 seed per pound. May volunteer for several years. Use inoculant EL.
LOVEGRASS, WEEPING (Eragrostis curvula)	4 lbs.	0.1 lb.	M-L P C													1,500,000 seed per pound. May last for several years. Mix with Sericea lespedeza.
MILLET, BROWNTOP (Panicum fasciculatum)	40 lbs.	0.9 lb.	M-L P													137,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
MILLET, PEARL (Pennisetum glaucum)	50 lbs.	1.1 lb.	M-L P C													80,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
OATS (Avena sativa)	4 bu. (128 lbs.)	2.9 lb.	M-L P C													13,000 seed per pound. Use on productive soils. Not as winterhardy as rye or barley.
RYE (Secale cereale)	3 bu. (168 lbs.)	3.9 lb.	M-L P C													18,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
RYEGRASS, ANNUAL (Lolium temulentum)	1 bu. (24 lbs.)	0.6 lb.	M-L P													227,000 seed per pound. Dense cover. Very competitive and is not to be used in mixtures.
SUDANGRASS (Sorghum sudanese)	40 lbs.	C 0.9 lb.	M-L P C													55,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
TRITICALE (X-Triticosecace)	3 bu. (144 lbs.)	3.3 lb.	C													Use on lower part of Southern Coastal Plain and in Atlantic Coastal Flatwoods only.
WHEAT (Triticum Aestivum)	1/2 bu. (24 lbs.)	0.6 lb.	M-L P C													15,000 seed per pound.
	3 bu. (180 lbs.)	4.1 lb.	M-L P C													
	1/2 bu. (30 lbs.)	0.7 lb.														

DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)

Ds2 FOLLOW PIEDMONT SCHEDULE ("P")

Brown AND Caldwell
990 HAMMOND DR
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. ADAMS
DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: A. NARAYANAN
APPROVED: S. ADAMS
FILENAME: ESC-101 THRU 204.DWG
BC PROJECT NUMBER: 150677
CLIENT PROJECT NUMBER

EROSION CONTROL

DETAILS II

DRAWING NUMBER
ESC-202

Path: C:\USERS\FUNTE\ONE\DRIVE - BROWN AND CALDWELL\DESKTOP\LAUREL SPRINGS\2-SHEETS\CIVIL\ESC SHEETS FILENAME: ESC-101 THRU 204.DWG PLOT DATE: 3:42 PM CAD USER: JOSHUA FUNTE

DEFINITION

The planting of perennial vegetation such as trees, shrubs, vines, grasses, or legumes on exposed areas for final permanent stabilization. Permanent perennial vegetation shall be used to achieve final stabilization.

CONDITIONS

Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fills, dams, and other denuded areas.

SPECIFICATIONS

Grading and Shaping

Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation.

Concentrations of water that will cause excessive soil erosion shall be diverted to a safe outlet. Diversions and other treatment practices shall conform with the appropriate standards and specifications.

Seedbed Preparation

Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used. When conventional seeding is to be used, seedbed preparation will be done as follows:

Broadcast plantings

1. Tillage at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate lime and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a disk is to be used.
2. Tillage may be done with any suitable equipment.
3. Tillage should be done on the contour where feasible.

Ds3 DISTURBED AREA STABILIZATION
(WITH PERMANENT VEGETATION)

4. On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide two places 6 to 8 inches apart in which seed may lodge and germinate. Hydraulic seeding may also be used.

Individual Plants

1. Where individual plants are to be set, the soil shall be prepared by excavating holes, opening furrows, or dibble planting.
2. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
3. Where pine seedlings are to be planted, subsoil under the row 36 inches deep on the contour four to six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.

Planting

Hydraulic Seeding

Mix the seed (inoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.

Conventional Seeding

Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a cultipacker seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cultipacker or other suitable equipment.

No-Till Seeding

No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

Individual Plants

Shrubs, vines and sprigs may be planted with appropriate planters or hand tools. Pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots. Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery. The tips of vines and sprigs must be at or slightly above the ground surface. Where individual holes are dug, fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole.

Mulching

Mulch is required for all permanent vegetation applications. Mulch applied to seeded areas shall achieve 75% soil cover. Select the mulching material from the following and apply as indicated:

1. Dry straw or dry hay of good quality and free of weed seeds can be used. Dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre.
2. Wood cellulose mulch or wood pulp fiber shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Drystraw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
3. One thousand pounds of wood cellulose or wood pulp fiber, which includes a tackifier, shall be used with hydraulic seeding on slopes 3/4:1 or steeper.
4. Sericea lespedeza hay containing mature seed shall be applied at a rate of three tons per acre.
5. Pine straw or pine bark shall be applied at a thickness of 3 inches for bedding purposes. Other suitable materials in sufficient quantity may be used where ornamentals or other ground covers are planted. This is not appropriate for seeded areas.
6. When using temporary erosion control blankets or block sod, mulch is not required.
7. Bituminous treated roving may be applied on planted areas on slopes, in ditches or dry waterways to prevent erosion. Bituminous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet Georgia Department of Transportation specifications.

Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. The fibers shall contain a dye to allow visual metering and aid in uniform application during seeding.

Applying Mulch

Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or planting. The mulch may be spread by blower-type spreading equipment, other spreading equipment or by hand. Mulch shall be applied to cover 75% of the soil surface.

Wood cellulose or wood fiber mulch shall be applied uniformly with hydraulic seeding equipment.

Anchoring Mulch

Anchor straw or hay mulch immediately after application by one of the following methods:
1. Emulsified asphalt can be (a) sprayed uniformly onto the mulch as it is ejected from the blower machine or (b) sprayed on the mulch immediately following mulch application when straw or hay is spread by methods other than special blower equipment.

The combination of asphalt emulsion and water shall consist of a homogeneous mixture satisfactory for spraying. The mixture shall consist of 100 gallons of grade SS-1h or CSS-1h emulsified asphalt and 100 gallons of water per ton of mulch. Care shall be taken at all times to protect state waters, the public, adjacent property, pavements, curbs, sidewalks, and all other structures from asphalt discoloration.
2. Hay and straw mulch shall be pressed into the soil immediately after the mulch is spread. A special 'packer disk' or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
3. Synthetic tackifiers or binders approved by GDOT shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. Refer to Tac - Tackifiers and Binders.
4. Rye or wheat can be included with Fall and Winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one half bushel per acre.
5. Plastic mesh or netting with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to manufacturer's specifications.

Irrigation

Irrigation shall be applied at a rate that will not cause runoff.

SEEDING RATES FOR PERMANENT SEEDING

SPECIES	RATE Per 1,000 sq.ft.	RATE Per Acre *	PLANTING DATES **
BAHIA	1.4 POUNDS	60 LBS.	1/1-12/31
BERMUDA	0.2 POUND	10 LBS.	2/15-7/1
CENTIPEDE	BLOCK SOD ONLY	BLOCK SOD ONLY	4/1-7/1
LESPEDAZA	1.7 POUNDS	75 LBS.	1/1-12/31
WEEPING LOVE GRASS	0.1 POUND	4 LBS.	2/1-6/15
SWITCH GRASS	0.9 POUND	40 LBS.	3/15-6/1

* Unusual site conditions may require heavier seeding rates ** Seeding dates may need to be altered to fit temperature variations and conditions.



990 HAMMOND DR
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: S. ADAMS

DRAWN: C. MOSELY

CHECKED: J. FUNTE

CHECKED: A. NARAYANAN

APPROVED: S. ADAMS

FILENAME
ESC-101 THRU 204.DWG
BC PROJECT NUMBER
150677

CLIENT PROJECT NUMBER

EROSION CONTROL

DETAILS III

DRAWING NUMBER
ESC-203

PLANT, PLANTING RATE, AND PLANTING DATE FOR PERMANENT COVER (Ds3)

Species	Broadcast Rates		Resource Area ³	Planting Dates by Resource Area												Remarks
	Pure Live Seed (PLS) Rate Per Acre ² Per 1000 sqft			J	F	M	A	M	J	J	A	S	O	N	D	
Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.																
BAHIA, PENSACOLA <i>Paspalum notatum</i>	60 lbs	1.4 lbs	P													166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and awns. Mix with <i>Sericea lespedeza</i> or weeping lovegrass.
alone or with temporary cover																
with other perennials	30 lbs	0.7 lb	C													
BAHIA, WILMINGTON <i>Paspalum notatum</i>	60 lbs	1.4 lb	M-L													
alone or with temporary cover																
with other perennials	30 lbs	0.7 lb	P													Same as above.
BERMUDA, COMMON <i>Cynodon dactylon</i>																
Hulled seed alone	10 lbs	0.2 lb	P													1,787,000 seed per pound. Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.
with other perennials	6 lbs	0.7 lb	C													
BERMUDA, COMMON <i>Cynodon dactylon</i>																
Unhulled seed																
with temporary cover	10 lbs	0.2 lb	P													Plant with winter annuals.
with other perennials	6 lbs	0.1 lb	C													Plant with Tall Fescue
BERMUDA SPRIGS <i>Cynodon dactylon</i>	40 cu ft	0.9 cu ft														
Coastal, Common, Midland, or Tift 44	or sod plugs 3' x3'		M-L													A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs.
Coastal, Common, of Tift 44			P													Same as above.
Tift 78			C													Southern Coastal Plain only
CENTIPEDE <i>Eremochloa ophiuroides</i>																
Block sod only			P													
			C													Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far as north Athens and Atlanta
CROWNVETECH <i>Coronilla varia</i>																
with winter annuals or cool season grasses	15 lbs	0.3 lb	M-L													100,000 seed per pound. Dense growth. Drought tolerant and fire resistant. Attractive rose, pink and white blossoms spring to late fall. Mix with 30 pounds of Tall fescue or 15 pounds of rye. Inoculate see with M inoculant. Use from North Atlanta and Northward.
FESCUE, TALL <i>Festuca arundinacea</i>																
alone	50 lbs	1.1 lb	M-L													227,000 seed per pound. Use alone only on better sites. Mix with perennial lespedeza or Crownvetch. Apply topdressing in spring following fall plantings. Not for heavy use areas or athletic fields.
with other perennials	30 lbs	0.7 lb	P													
KUDZU <i>Pueraria thumbergiana</i>																
Plants or crowns	3' - 7' apart		ALL													Rapid and vigorous growth. Excellent in gully erosion control. Will climb. Good livestock forage.
LESPEDEZA SERICEA <i>Lespedeza cuneata</i>																
scarified	60 lbs	1.4 lb	M-L													350,000 seed per pound. Widely adapted. Low maintenance. Mix with Weeping lovegrass, Common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate seed with EL inoculant.
unscarified	75 lbs	1.7 lb	P													Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons	1338 lbs	M-L													Cut when seed mixture is mature, but before, it shatters. Add Tall fescue or winter annuals.

Species	Broadcast Rates		Resource Area ³	Planting Dates by Resource Area												Remarks
	Pure Live Seed (PLS) Rate Per Acre ² Per 1000 sqft			J	F	M	A	M	J	J	A	S	O	N	D	
Solid lines indicate optimum dates, dotted lines indicate permissible but marginal dates.																
LESPEDEZA <i>Ambro virgata</i> <i>Lespedeza virgata</i> DC or Appalow <i>Lespedeza cuneata</i> (Dumont) G. Don)																
scarified	60 lbs	1.4 lb	M-L													300,000 seed per pound. Height of growth is 18 to 24 inches. Advantageous in urban areas. Spreading-type growth. New growth has bronze coloration. Mix with weeping lovegrass, common bermuda, bahia, tall fescue or winter annuals. Do not mix with <i>Sericea lespedeza</i> . Slow to develop solid stands. Inoculate seed with EL inoculant.
unscarified	75 lbs	1.7 lb	P													
LESPEDEZA, SHRUB <i>Lespedeza bicolor</i> <i>Lespedeza thumbergii</i>																
plants	3' x3'		M-L													Provide wildlife food and cover.
LOVEGRASS, WEEPING <i>Eragrostis curvula</i>			P													
alone	4 lbs	0.1 lb	M-L													1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with <i>Sericea lespedeza</i> on roadbanks.
with other perennials	2 lbs	0.05 lb	P													
MAIDENCANE <i>Panicum hemitomon</i>																
sprigs	2' x 3' spacing	ALL														For very wet sites. May clog channels. Dig sprigs from local sources. Use along river banks and shorelines.
PANICGRASS, ATLANTIC COASTAL <i>Panicum amarum</i> var <i>amarukum</i>																
20 lbs	0.5 lb	P														Grows well on coastal sand dunes, borrow areas, and gravel pits. Provides winter cover for wildlife. Mix with <i>Sericea lespedeza</i> except on sand dunes.
REED CANARY GRASS <i>Phalaris arundinacea</i>																
alone	50 lbs	1.1 lb	M-L													
with other perennials	30 lbs	0.7 lb	P													Grows similar to Tall fescue
SUNFLOWER, 'AZTEC' MAXIMILLIAN <i>Helianthus maximiliani</i>																
10 lbs	0.2 lb	M-L														227,000 seed per pound. Mix with Weeping lovegrass or other low-growing grasses or legumes.

1 Reduce seeding rates by 50% when drilled
 2 PLS is an abbreviation for Pure Live Seed. Refer to Section V.E. of these specifications.
 3 M-L represents to Mountain, Blue Ridge, and Ridges and Valleys MLRAs
 P represents the Southern Piedmont MLRA
 C represents the Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRAs. See Figure 6-4.1



990 HAMMOND DR
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS



GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

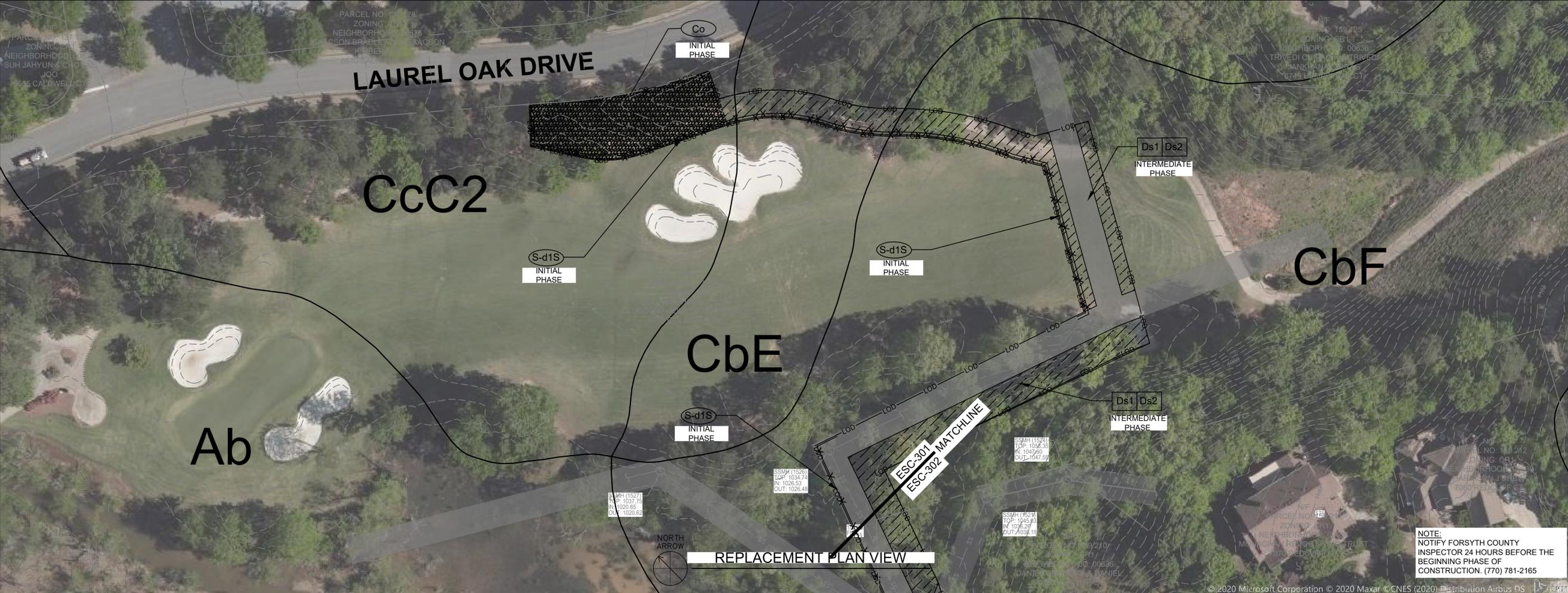
DESIGNED: S. ADAMS
 DRAWN: C. MOSELY
 CHECKED: J. FUNTE
 CHECKED: A. NARAYANAN
 APPROVED: S. ADAMS
 FILENAME
 ESC-101 THRU 204.DWG
 BC PROJECT NUMBER
 150677
 CLIENT PROJECT NUMBER

CIVIL
DETAILS IV

DRAWING NUMBER
ESC-204

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- Soils Series Legend**
- Ab** Alluvial land, moderately well drained
 - CaD3** Cecil clay loam, severely eroded sloping phase
 - CaE3** Cecil clay loam, severely eroded moderately steep phase
 - CbE** Cecil fine sandy loam, moderately steep phase
 - CcB2** Cecil sandy loam, 2 to 6 percent slopes, moderately eroded
 - CcC2** Cecil sandy loam, 6 to 10 percent slopes, moderately eroded
 - CcD2** Cecil sandy loam, eroded sloping phase
 - CcD** Cecil sandy loam, 10 to 15 percent slopes
 - CcD2** Cecil sandy loam, eroded sloping phase
 - EaC** Edgemont stony sandy loam, gently sloping phase
 - EaD2** Edgemont stony sandy loam, eroded sloping phase
 - EaE** Edgemont stony sandy loam, moderately steep phase
 - Ga** Gullied land, acid materials
 - HaD** Habersham stony fine sandy loam, sloping phase
 - HaE** Habersham stony fine sandy loam, severely eroded
 - HaD3** Habersham stony fine sandy loam, severely eroded
 - LbB2** Lloyd clay loam, severely eroded very gently sloping phase
 - TaB2** Thurmont and Braddock fine sandy loams, very gently sloping phases
 - TaD3** Thurmont and Braddock fine sandy loams, very gently sloping phases
 - MbB2** Madison fine sandy loam, eroded very gently sloping phase
 - MbC2** Madison fine sandy loam, eroded gently sloping phase
 - Sc** Starr loam
 - TaB** Thurmont and Braddock fine sandy loams, very gently sloping phases

- NOTES:**
1. SWAMP MATS OR APPROVED EQUAL SHOULD BE USED IN WETLANDS FOR EQUIPMENT ACCESS.
 2. Ds2 AND Ds3 SHALL BE USED TO STABILIZE ALL DISTURBED AREAS.
 3. SLOPE STABILIZATION (MATTING) REQUIRED ON SLOPE 2.5:1 OR GREATER.
- LEGEND**
- SILT FENCE
 - ORANGE BARRIER FENCE
 - LIMITS OF DISTURBANCE
 - CHECK DAM

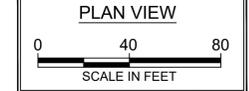
COLOR CODES FOR UTILITY LOCATING

- GAS/OIL
- TELEPHONE
- WATER
- OTHER

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Utilities Protection Center, Inc.

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NOTE:
NOTIFY FORSYTH COUNTY INSPECTOR 24 HOURS BEFORE THE BEGINNING PHASE OF CONSTRUCTION. (770) 781-2165

Brown AND Caldwell

990 HAMMOND DRIVE
SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
No. 025402
SCOTT H. ADAMS

GSWCC LEVEL II
CERTIFICATE # 0000020699



**BID DOCUMENTS
PLANS FOR LAUREL
SPRINGS GRAVITY
SANITARY SEWER
REPLACEMENT**

REVISIONS

REV	DATE	DESCRIPTION

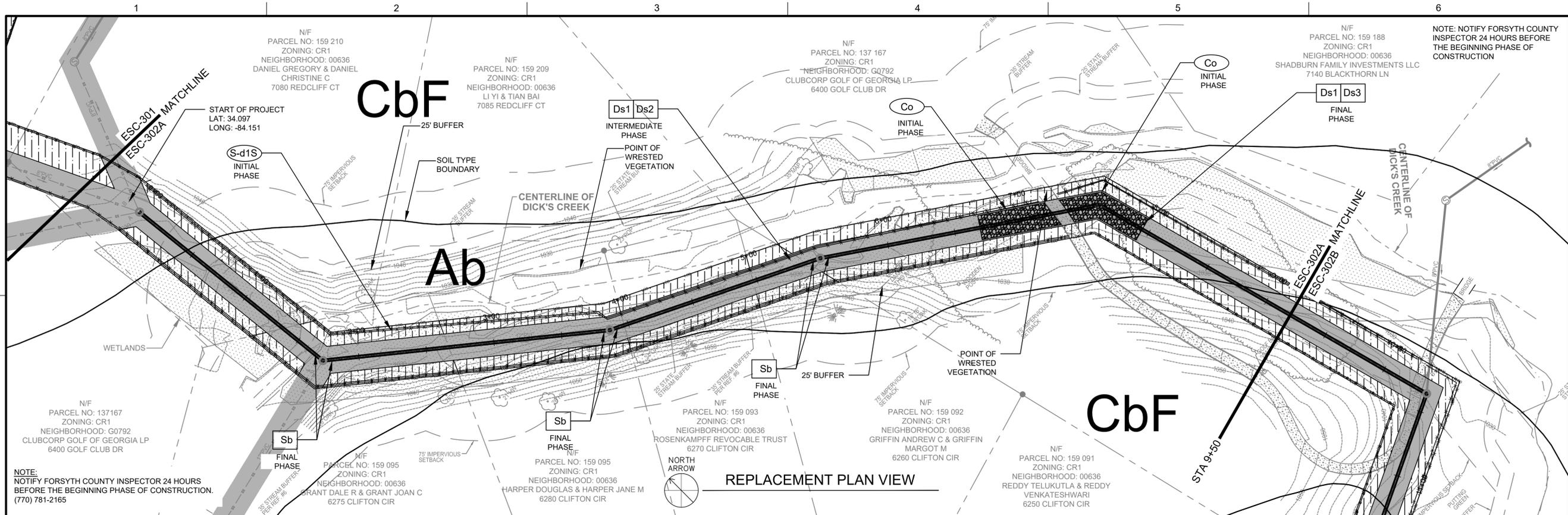
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DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: S. ADAMS
APPROVED: S. ADAMS

FILENAME: C-100.DWG
BC PROJECT NUMBER: 150677
CLIENT PROJECT NUMBER: ---

**CIVIL
EROSION CONTROL
PLAN**

DRAWING NUMBER
ESC-301

Path: C:\USERS\JFUNTE\ONE DRIVE - BROWN AND CALDWELL\DESKTOP\LAUREL SPRINGS2-SHEETS\C-CVILESS SHEETS FILENAME: ESC-301-303.DWG PLOT DATE: 3:51 PM CAD USER: JOSHUA FUNTE



Soils Series Legend

Ab Alluvial land, moderately well drained	CcC2 Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	EaD2 Edgemont stony sandy loam, eroded sloping phase	LbB2 Lloyd clay loam, severely eroded very gently sloping phase	TaB2 Thurmont and Braddock fine sandy loams, very gently sloping phases
CaD3 Cecil clay loam, severely eroded sloping phase	CcD2 Cecil sandy loam, eroded sloping phase	EaE Edgemont stony sandy loam, moderately steep phase	MbB2 Madison fine sandy loam, eroded very gently sloping phase	TaD3 Thurmont and Braddock fine sandy loams, very gently sloping phases
CaE3 Cecil clay loam, severely eroded moderately steep phase	CcD Cecil sandy loam, 10 to 15 percent slopes	Ga Gullied land, acid materials	MbC2 Madison fine sandy loam, eroded gently sloping phase	TaD3 Thurmont and Braddock fine sandy loams, very gently sloping phases
CbE Cecil fine sandy loam, moderately steep phase	CcD2 Cecil sandy loam, eroded sloping phase	HaD Habersham stony fine sandy loam, sloping phase	MbC2 Madison fine sandy loam, eroded gently sloping phase	TaB Thurmont and Braddock
CcB2 Cecil sandy loam, 2 to 6 percent slopes, moderately eroded	EaC Edgemont stony sandy loam, gently sloping phase	HaE Habersham stony fine sandy loam, severely eroded	Sc Starr loam	

LEGEND

SILT FENCE	—X—	CHECK DAM	—■—
ORANGE BARRIER FENCE	—□—		
LIMITS OF DISTURBANCE	—LOD—		

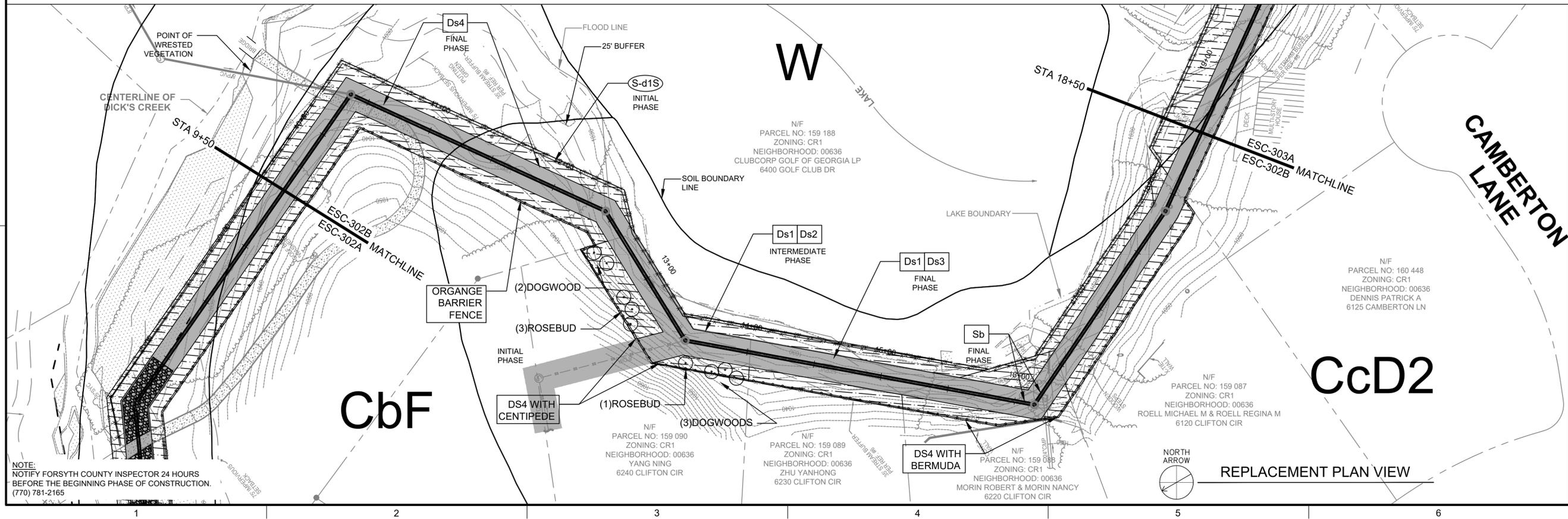
NOTES:

- SWAMP MATS OR APPROVED EQUAL SHOULD BE USED IN WETLANDS FOR EQUIPMENT ACCESS.
- Ds2 AND Ds3 SHALL BE USED TO STABILIZE ALL DISTURBED AREAS.
- SLOPE STABILIZATION (MATTING) REQUIRED ON SLOPE 2.5:1 OR GREATER.

COLOR CODING FOR UTILITY LOCATING:

RED	ELECTRIC
YELLOW	GAS/OIL
ORANGE	TELEPHONE
GREEN	WATER
BLUE	SEWER

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Brown AND Caldwell
990 HAMMOND DRIVE SUITE 400
ATLANTA, GEORGIA

BID DOCUMENTS

GEORGIA REGISTERED ENGINEER
No. 025402
SCOTT H. ADAMS
GSWCC LEVEL II
CERTIFICATE # 0000020699



BID DOCUMENTS
PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS

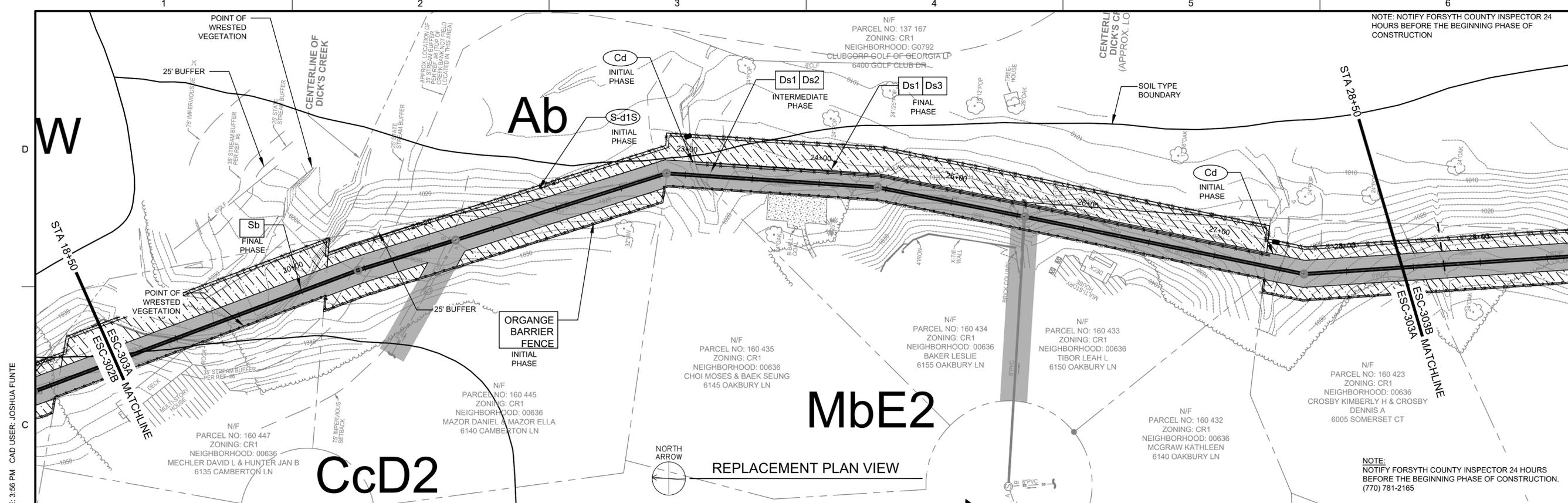
REV	DATE	DESCRIPTION

DESIGNED: S. ADAMS
DRAWN: C. MOSELY
CHECKED: J. FUNTE
CHECKED: S. ADAMS
APPROVED: S. ADAMS

FILENAME: ESC-301-303.DWG
BC PROJECT NUMBER: 150677
CLIENT PROJECT NUMBER: ---

EROSION CONTROL PLAN

DRAWING NUMBER
ESC-302



Soils Series Legend

Ab Alluvial land, moderately well drained	CcC2 Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	EaD2 Edgemont stony sandy loam, eroded sloping phase	LbB2 Lloyd clay loam, severely eroded very gently sloping phase	TaB2 Thurmont and Braddock fine sandy loams, very gently sloping phases
CdD3 Cecil clay loam, severely eroded sloping phase	CcD2 Cecil sandy loam, eroded sloping phase	EaE Edgemont stony sandy loam, moderately steep phase	MbB2 Madison fine sandy loam, eroded very gently sloping phase	TaD3 Thurmont and Braddock fine sandy loams, very gently sloping phases
CaE3 Cecil clay loam, severely eroded moderately steep phase	CcD Cecil sandy loam, 10 to 15 percent slopes	Ga Gullied land, acid materials	MbC2 Madison fine sandy loam, eroded gently sloping phase	Sc Starr loam
CbE Cecil fine sandy loam, moderately steep phase	CcD2 Cecil sandy loam, eroded sloping phase	HaD Habersham stony fine sandy loam, sloping phase	MbC2 Madison fine sandy loam, eroded gently sloping phase	TaB Thurmont and Braddock
CcB2 Cecil sandy loam, 2 to 6 percent slopes, moderately eroded	EaC Edgemont stony sandy loam, gently sloping phase	HaE Habersham stony fine sandy loam, severely eroded		

NOTES:
 1. SWAMP MATS OR APPROVED EQUAL SHOULD BE USED IN WETLANDS FOR EQUIPMENT ACCESS.
 2. Ds2 AND Ds3 SHALL BE USED TO STABILIZE ALL DISTURBED AREAS.
 3. SLOPE STABILIZATION (MATTING) REQUIRED ON SLOPE 2.5:1 OR GREATER.

LEGEND

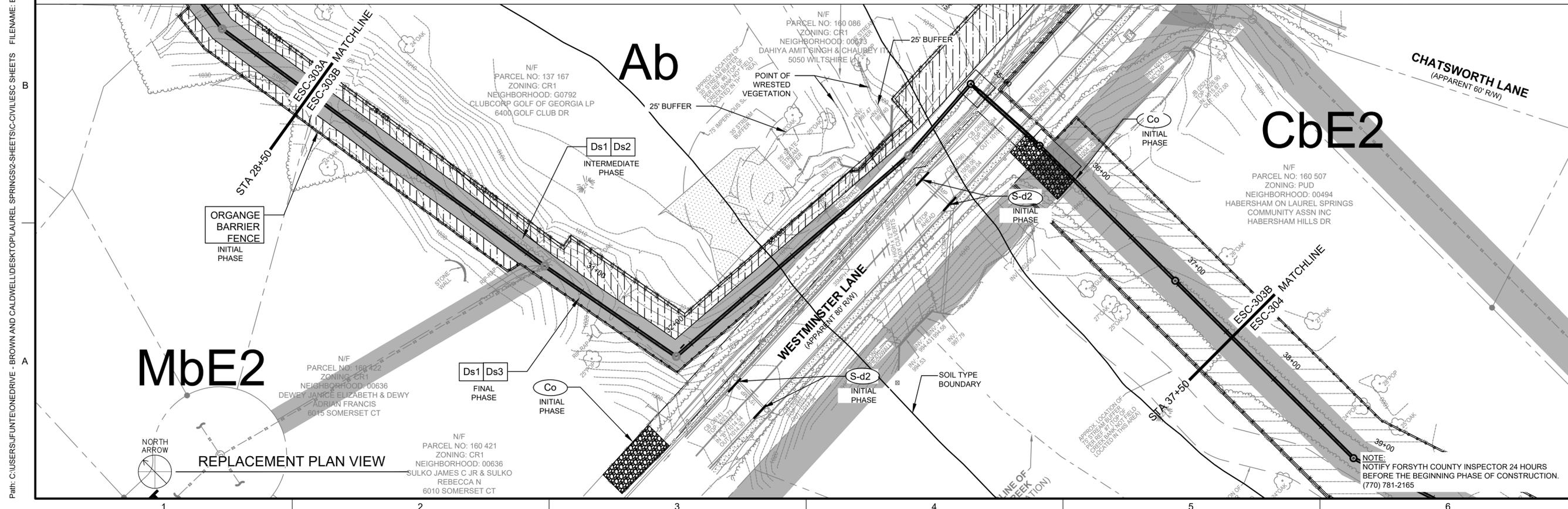
SILT FENCE	—X—	CHECK DAM	■
ORANGE BARRIER FENCE	—□—		
LIMITS OF DISTURBANCE	—LOD—		

COLOR CODES FOR UTILITY LOCATING

RED	ELECTRIC
YELLOW	GAS-OIL
ORANGE	TELEPHONE
BLUE	WATER
GREEN	SEWER

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PLAN VIEW
 0 40 80
 SCALE IN FEET



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BID DOCUMENTS



BID DOCUMENTS
 PLANS FOR LAUREL SPRINGS GRAVITY SANITARY SEWER REPLACEMENT

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE
 DESIGNED: S. ADAMS
 DRAWN: C. MOSELY
 CHECKED: J. FUNTE
 CHECKED: S. ADAMS
 APPROVED: S. ADAMS

FILENAME: ESC-301-303.DWG
 BC PROJECT NUMBER: 150677
 CLIENT PROJECT NUMBER: ---

EROSION CONTROL
 PLAN

DRAWING NUMBER
ESC-303

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