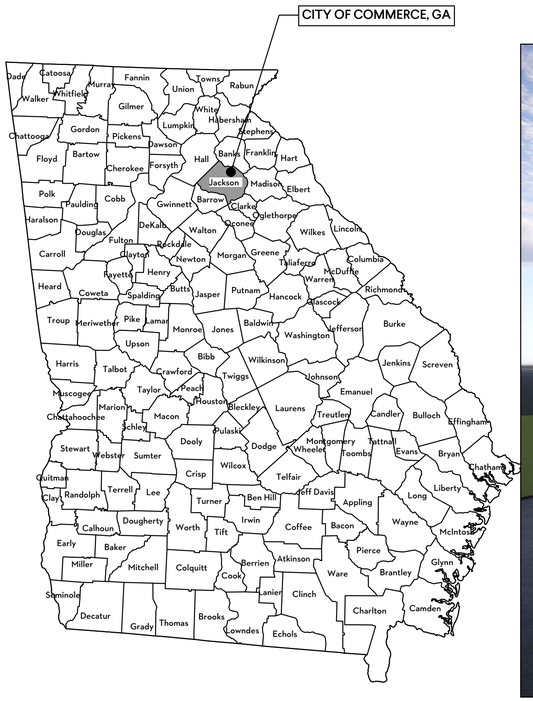
GROVE CREEK WPCP

CITY OF COMMERCE, GA
GMC PROJECT # CATL230033

CITY OF COMMERCE, GA



LOCATION MAP



MARCH 2025

BID SET

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CLIENT PROJECT TEAM

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KEITH BURCHETT	MAYOR PRO-TEM
MATTHEW HAILEY	CITY MANAGER
JOSH ALLISON	WATER & SEWER SUPERINTENDENT
TADD EDMONDSON	WASTEWATER SUPERINTENDENT

DESIGN PROJECT TEAM

GOODWYN MILLS CAWOOD, LLC	CIVIL, PROCESS, ARCHITECTURAL
BFIELD ENGINEERING	ELECTRICAL, MECHANICAL, PLUMBING
DAY STRUCTURES	STRUCTURAL

I CERTIFY THAT I HAVE BEEN IN RESPONSIBLE CHARGE OF THE DESIGN OF THIS PROJECT IN ACCORDANCE WITH THE RULES OF THE GEORGIA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS. I FURTHER CERTIFY, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THESE PLANS AND SPECIFICATION WERE PREPARED IN ACCORDANCE WITH CURRENT STANDARD ENGINEERING PRACTICES AND ACCURATELY REFLECT THE DESIGN DEVELOPMENT REPORT (DDR) PREVIOUSLY REVIEWED AND CONCURRED IN BY EPD. I FURTHER CERTIFY THAT THE SYSTEM AS DESIGNED CAN REASONABLY BE EXPECTED TO CONSISTENTLY MEET ALL CURRENTLY APPLICABLE PERMIT LIMITS, CONDITIONS, AND REGULATORY REQUIREMENTS, PROVIDED THE FACILITY IS CONSTRUCTED AS DESIGNED AND PROPERLY OPERATED AND MAINTAINED.

ENGINEER'S SIGNATURE Graham S. Sizemore

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6120 Powers Ferry Road NW, Suite 200
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STATE OF GEORGIA
GOODWYN MILLS CAWOOD LLC
No. PE000718SB
Exp.06.30.2026
CERTIFICATION

1" 0" 1" .5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
ENGINEER
GRAHAM S. SIZEMORE
03.19.2025

TITLE SHEET

G-001

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SHT #	SHEET TITLE
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G-005	GENERAL NOTES, LEGENDS, & SYMBOLS
G-006	PROCESS FLOW DIAGRAM
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SHT #	SHEET TITLE
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C-609	ES & PC STANDARD DETAILS
C-610	ES & PC STANDARD DETAILS
C-611	ES & PC STANDARD DETAILS
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STATE OF GEORGIA — GOODWYN MILLS CAWOOD LLC — No. PE000718SS — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

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COMMERCE 2.0 MGD
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COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

DRAWING INDEX

G-002

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E-404	RAS/WAS PUMP STATION ELECTRICAL SCHEMATIC
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E-902	ADMIN BUILDING ELECTRICLA PLAN
E-903	ADMIN BUILDING ELECTRICAL SCHEMATIC

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STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL
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No. PE0007886
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DRAWING INDEX

G-003

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COMMON ABBREVIATIONS

A	AIR	DISTR	DISTRIBUTION	HP	HORSEPOWER	OD	OUTSIDE DIAMETER	RR	RAILROAD	VERT	VERTICAL
AB	ANCHOR BOLT	DL	DEAD LOAD	HR	HOUR	OF	OUTSIDE FACE OR OVERFLOW	RTN	RETURN	VP	VENT PIPE
AC	AIR CONDITIONING	DMJ	DUCTILE MECHANICAL JOINT	HS	HIGH STRENGTH	OPNG	OPENING	SALV	SALVAGE	VTR	VENT THROUGH ROOF
ACP	ASPHALTIC CONCRETE PAVING	DN	DOWN	HVAC	HEATING, VENTILATION, AIR CONDITIONING	OPP	OPPOSITE	SCFM	STANDARD CUBIC FEET PER MINUTE	W/	WITH
ADDL	ADDITIONAL	DWG	DRAWING	HW	HOT WATER	OPT	OPTIONAL	SCH	SCHEDULE	W/O	WITHOUT
ADDM	ADDENDUM	EA	EACH	HWL	HIGH WATER LEVEL	PC	POINT OF CURVE OF PORTLAND CEMENT	SCN	SCREENINGS	WC	WATER CLOSET
ADJ	ADJUSTABLE	ECC	ECCENTRIC	HWY	HIGHWAY	P&C	PIN AND CAP	SDR	STANDARD DIMENSION RATIO	WCO	WALL CLEANOUT
AFF	ABOVE FINISHED FLOOR	EF	EACH FACE OR ELECTRICAL FAN	HYD	HYDRANT	PCO	PRESSURE CLEAN OUT	SECT	SECTION	WD	WIDTH OR WOOD
AFS	AIR FLOW SWITCH	EJ	EXPANSION JOINT	ID	INSIDE DIAMETER	PCP	PROGRESSIVE CAVITY PUMP	SHLDR	SHOULDER	WDW	WINDOW
AHU	AIR HANDLING UNIT	EL	ELEVATION	IF	INSIDE FACE	PCR	POINT OF CURVE RETURN	SHT	SHEET	WF	WIDE FLANGE
AL	ALUMINUM	ELEC	ELECTRICAL	INCL	INCLUDED	PE	PLAIN END	SIM	SIMILAR	WH	WALL HYDRANT
ALT	ALTERNATE	ENGR	ENGINEER	INCR	INCREASER	PERM	PERMANENT	SOTE	STANDARD OXYGEN TRANSFER EFFICIENCY	WL	WIND LOAD
APPROX	APPROXIMATE	EOA	EDGE OF ASPHALT	INF	INFLUENT	PERP	PERPENDICULAR	SP	SPACE (ING)	WP	WEIR PLATE
ARCH	ARCHITECT(URAL)	EOP	EDGE OF PAVEMENT	INSTL	INSTALLATION	PI	POINT OF INTERSECTION	SPEC	SPECIFICATION	WS	WETTED SURFACE
ARV	AIR RELIEF VALVE	EQ	EQUAL	INSTR	INSTRUMENT	PL	PLATE OR PROPERTY LINE	SQ	SQUARE	WT	WEIGHT
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS	EQUIP	EQUIPMENT	INSUL	INSULATION	PLBG	PLUMBING	SQ FT	SQUARE FOOT	WWF	WELDED WIRE FABRIC
ASPH	ASPHALT	EQUIV	EQUIVALENT	INV	INVERT	PLYWD	PLYWOOD	SQ IN	SQUARE INCH	WWTP	WASTEWATER TREATMENT PLANT
ASSY	ASSEMBLY	ESMT	EASEMENT	INT	INTERIOR	PNT	PAINT	SQ YD	SQUARE YARD	X SECT	CROSS SECTION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	EST	ESTIMATE	INV EL	INVERT ELEVATION	POC	POINT ON VERTICAL CURVE	SRT	SOLIDS RETENTION TIME	XMR	TRANSFORMER
ATM	ATMOSPHERE	EUH	ELECTRIC UNIT HEATER	ISA	INSTRUMENT SOCIETY OF AMERICA	POLY	POLYETHYLENE	SST	STAINLESS STEEL	YCO	YARD CLEANOUT
ATS	AUTOMATIC TRANSFER SWITCH	EW	EACH WAY	JST	JOIST	PPM	PARTS PER MILLION	SST BT	STAINLESS STEEL BOLT	YH	YARD HYDRANT
AUTO	AUTOMATIC	EWS	EQUIPMENT WATER STATION	JTS	JOINTS	PREFAB	PREFABRICATED	ST	STREET		
AVS	AUTOMATIC VALVE STATION	EXP JT	EXPANSION JOINT	KO	KNOCKOUT	PREFIN	PREFINISHED	STA	STATION		
AWG	AMERICAN WIRE GAGE	EXST	EXISTING	KWY	KEYWAY	PRELIM	PRELIMINARY	STD	STANDARD		
BE	BELL END	EXST GR	EXISTING GRADE	L	LEFT OR LITER	PREP	PREPARATION	STL	STEEL		
BF	BOTTOM FACE	EXT	EXTERIOR	LAB	LABORATORY	PROJ	PROJECT	STL JST	STEEL JOIST		
BFD	BUTTERFLY DAMPER	F/F	FACE TO FACE	LAV	LAVATORY	PROP	PROPERTY	STL PL	STEEL PLATE		
BFV	BUTTERFLY VALVE	FA	FOUL AIR	LB(S)	POUND(S)	PRS	PRESSURE REDUCING STATION	STRUCT	STRUCTURAL		
BLDG	BUILDING	FAD	FOUL AIR DUCT	LEL	LOW EXPLOSIVE LIMIT	PRV	PRESS. REDUCING VALVE OR PRESS. RELIEF VALVE	SV	SOLENOID VALVE		
BLK	BLOCK	FCA	FLANGE COUPLING ADAPTER	LF	LINEAR FOOT	PS	PIPE SUPPORT	SVC	SERVICE		
BLM	BUREAU OF LAND MANAGEMENT	FCS	FLUSH CONTROL STATION	LL	LIVE LOAD OR LOOSE LINTEL	PSF	POUNDS PER SQUARE FOOT	SWD	SIDE WATER DEPTH		
BM	BENCH MARK	FD	FLOOR DRAIN	LOC	LOCATION	PSI	POUNDS PER SQUARE INCH	SYMM	SYMMETRICAL		
BOD	BIOCHEMICAL OXYGEN DEMAND	FDN	FOUNDATION	LP	LOW PRESSURE OR LIGHT POLE	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	SYS	SYSTEM		
BOT	BOTTOM	FES	FLARED END SECTION	LR	LONG RADIUS	PSIG	POUNDS PER SQUARE INCH GAGE	T&B	TOP AND BOTTOM		
BU	BELL UP	FF EL	FINISH FLOOR ELEVATION	LS	LICENSED SURVEYOR	PSV	PRESSURE SUSTAINING VALVE	T&G	TONGUE AND GROOVE		
BV	BALL VALVE	FH	FIRE HYDRANT	LT	LIGHT	PT	POINT OR POINT OF TANGENCY	T&P	TEMPERATURE AND PRESSURE		
C/C	CENTER TO CENTER	FIN	FINISH	LT WT	LIGHTWEIGHT	PV	PLUG VALVE	T	TEE		
CCP	CONCRETE CYLINDER PIPE	FIN FL	FINISH FLOOR	LWL	LOW WATER LEVEL	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVE	TB	TOP OF BEAM		
CCW	COUNTER CLOCKWISE	FIN GR	FINISH GRADE	MAINT	MAINTENANCE	PVG	PAVING	TBM	TEMPORARY BENCH MARK		
CFM	CUBIC FEET PER MINUTE	FL	FLANGE	MAN	MANUAL	PVI	POINT OF VERTICAL CURVE INTERSECTION	TE	TOP ELEVATION		
CHKV	CHECK VALVE	FLR	FLOOR	MATL	MATERIAL	PVMT	PAVEMENT	TEMP	TEMPORARY		
CIP	CAST IRON PIPE	FPM	FEET PER MINUTE	MAX	MAXIMUM	Q AVG	AVERAGE DAILY FLOW	TFA	TO FLOOR ABOVE		
CISP	CAST IRON SOIL PIPE	FPS	FEET PER SECOND	MCC	MOTOR CONTROL CENTER	Q MAX	MAXIMUM DAILY FLOW	TFB	TO FLOOR BELOW		
CJ	CONSTRUCTION JOINT	FRP	FIBERGLASS REINFORCED PLASTIC	MECH	MECHANICAL	Q PEAK	PEAK HOUR FLOW	TFF	TOP OF FINISH FLOOW		
CL	CENTER LINE OR CHAIN LINK	FT	FEET	MED	MEDIUM	QTR	QUARTER	TH	TEST HOLE		
CLR	CLEAR	FTG	FOOTING OR FITTING	MFM	MAGNETIC FLOW METER	QTY	QUANTITY	THD	THREAD (ED)		
CMP	CORRUGATED METAL PIPE	G	GAS	MFR	MANUFACTURER	RAD	RADIUS	THK	THICK		
CMU	CONCRETE MASONRY UNIT	GA	GAUGE	MG	MILLION GALLONS OR MILLIGRAMS	RC	REINFORCED CONCRETE	TJ	TOP OF JOIST		
CO	CLEAN OUT	GAL	GALLON	MGD	MILLION GALLONS PER DAY	RCP	REINFORCED CONCRETE PIPE	TOA	TOP OF ASPHALT		
CONC	CONCRETE	GALV	GALVANIZED	MGMT	MANAGEMENT	RD	ROOF DRAIN	TOC	TOP OF CONCRETE OR TOP OF CURB		
CONN	CONNECTION	GND	GROUND	MH	MANHOLE	RECT	RECTANGULAR	TOE	THREADED ONE END		
CONSTR	CONSTRUCTION	GPD	GALLONS PER DAY	MIN	MINIMUM	RED	REDUCER	TOF	TOP OF FOOTING		
CONT	CONTINUOUS(ATION)	GPM	GALONS PER MINUTE	MISC	MISCELLANEOUS	RE:	REFER TO	TOS	TOP OF STEEL		
COR	CORNER	GR	GRIT	MJ	MECHANICAL JOINT	REF	REFERENCE	TOW	TOP OF WALL		
CPLG	COUPLING	GRC	GALVANIZED RIGID CONDUIT	MNPT	MALE NATIONAL PIPE THREAD	REHAB	REHABILITATION	TP	TOP OF PAVEMENT		
CPVC	CHLORINATED POLYVINYL CHLORIDE	GSP	GALVANIZED STEEL PIPE	MO	MASONRY OPENING	REINF	REINFORCE (D) (ING) (MENT)	TSL	TOP OF SLAB		
CTR	CENTER	GV	GATE VALVE	MRGB	MOISTURE RESISTANT GYPSUM WALL BOARD	REQD	REQUIRED	TSS	TOTAL SUSPENDED SOLIDS		
CV	CHECK VALVE	GW	GROUNDWATER	MTG	MOUNTING	RESIL	RESILIENT	TYP	TYPICAL		
CW	COLD WATER	GWB	GYPSUM WALL BOARD	NA	NOT APPLICABLE	RFCA	RESTRAINED FLANGED COUPLING ADAPTER	UBC	UNIFORM BUILDING CODE		
CY	CUBIC YARDS	GYP	GYPSUM	NIC	NOT IN CONTRACT	RH	RIGHT HAND	UGE	UNDERGROUND ELECTRIC		
DBIO	DEWATERED BIOSOLIDS	HB	HOSE BIBB	NPL	NAMEPLATE	RM	ROOM	ULT	ULTIMATE		
DEMO	DEMOLITION	HDWL	HEADWALL	NPT	NATIONAL PIPE THREAD	RO	ROUGH OPENING	UN	UNION		
DIA	DIAMETER	HNDRL	HAND RAIL	NRS	NON-RISING STEM	ROW	RIGHT OF WAY	UNGD	UNDERGROUND		
DIM	DIMENSION	HNDWL	HAND WHEEL	NTS	NOT TO SCALE	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	VB	VALVE BOX		
DIP	DUCTILE IRON PIPE	HORIZ	HORIZONTAL	OC	ON CENTER	RPM	REVOLUTIONS PER MINUTE	VCP	VITRIFIED CLAY PIPE		

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STATE OF GEORGIA
GOODWYN MILLS CAWOOD, LLC
NA.PE000.7.LLC
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION
NOT VALID WITHOUT RAISED SEAL

1" 0" 5" 1"

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Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL 03.19.2025 ENGINEER GRAHAM S. SIZEMORE

ABBREVIATIONS

G-004

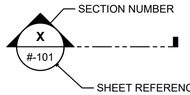
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GRAPHICS LEGEND

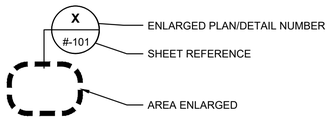
ELEVATION INDICATOR



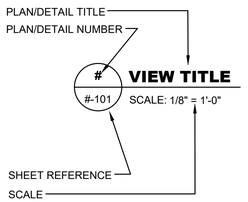
SECTION INDICATOR



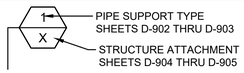
ENLARGED PLAN/DETAIL INDICATOR



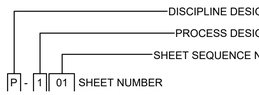
DRAWING TITLE



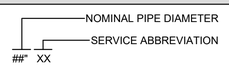
PIPE SUPPORT INDICATOR



SHEET NUMBERING



PIPE LINE IDENTIFICATION



PROCESS DESIGNATORS

PROCESS SHEETS (WASTEWATER)	DESIGNATOR
NOTES, LEGEND, ABBREVIATIONS, DEMOLITION, EXISTING CONDITIONS, ETC.	0
PRELIMINARY TREATMENT	1
PRIMARY TREATMENT	2
BIOLOGICAL TREATMENT	3
SECONDARY TREATMENT	4
TERTIARY TREATMENT	5
DISINFECTION AND EFFLUENT PUMPING	6
SLUDGE STORAGE AND PROCESSING	7
MISCELLANEOUS SYSTEMS	8
DETAILS / SCHEDULES	9

CIVIL DESIGNATORS

CIVIL	DESIGNATOR
NOTES, LEGEND, ABBREVIATIONS, DEMOLITION, EXISTING CONDITIONS, ETC.	0
SITE PLAN AND GEOMETRIC CONTROLS	1
GRADING AND DRAINAGE	2
UTILITIES/YARD PIPING	3
ROAD PLAN AND PROFILES (IF REQUIRED)	4
ROAD CROSS SECTIONS (IF REQUIRED)	5
SEDIMENT AND EROSION CONTROL	6
RESERVED	7
RESERVED	8
DETAILS / SCHEDULES	9

OWNER

DESCRIPTION	NAME	PHONE NUMBER	EMAIL ADDRESS
CITY MANAGER	MATTHEW HAILEY	706.423.5125	MHAILEY@COMMERCEGA.GOV
WWTP SUPERINTENDENT	TAD EDMONSON	770.374.3288	TEDMONSON@COMMERCEGA.GOV

CONTRACTOR

DESCRIPTION	NAME	PHONE NUMBER	EMAIL ADDRESS
PROJECT MANAGER	TBD		
SUPERINTENDENT	TBD		

ENGINEER

DESCRIPTION	NAME	PHONE NUMBER	EMAIL ADDRESS
PROJECT MANAGER	CHARLES WELCH	770.952.2481 EXT. 103	CHARLES.WELCH@GMCNETWORK.COM
ENGINEER	GRAHAM SIZEMORE, PE	770.952.2481 EXT. 143	GRAHAM.SIZEMORE@GMCNETWORK.COM
INSPECTOR	TONY VAN DE RYT	770.952.2481 EXT. 110	TONY.VANDERYT@GMCNETWORK.COM

PIPE SYMBOLS

DESCRIPTION	SINGLE LINE	DOUBLE LINE
EXISTING BURIED PIPE		
EXISTING ABOVE GRADE PIPE		
NEW BURIED PIPE		
NEW ABOVE GRADE PIPE		
WELDED JOINT		
FLANGED JOINT		
FLANGED ADAPTOR		
FLANGED COUPLING		
MECHANICAL JOINT		
JOINT		
EXPANSION JOINT		

HATCHING LEGEND

DESCRIPTION	EXISTING	PROPOSED
ASPHALT PAVING (PLAN)		
ALUMINUM GRATING		
CONCRETE (ELEVATION)		
CONCRETE (PLAN)		
CONCRETE (SECTION)		
CRUSHED STONE (SECTION)		
EARTH OR BACKFILL (SECTION)		
GRAVEL DRIVE (PLAN)		
GROUT FILL (PLAN & SECTION)		
LAKE, RIVER OR POND (PLAN)		
REMOVAL OR DEMOLITION (PLAN & SECTION)		
UNPAVED DRIVE (PLAN)		

DISCIPLINE DESIGNATORS

DISCIPLINE	DESIGNATOR
GENERAL	G
HAZARDOUS MATERIALS	H
INSTRUMENTATION	I
DEMOLITION	X
SURVEY/MAPPING	V
GEOTECHNICAL	B
CIVIL	C
LANDSCAPE	L
STRUCTURAL	S
ARCHITECTURAL	A
FIRE PROTECTION	F
MECHANICAL	M
PLUMBING	P
PROCESS	D
ELECTRICAL	E

GENERAL NOTES

1. THE CONTRACTOR IS EXPECTED TO CAREFULLY EXAMINE THE PLANS, PROPOSAL AND SITE OF THE WORK. THEREFORE, IT WILL BE ASSUMED THAT THE BIDDER HAS SATISFIED HIMSELF AS TO THE CONDITIONS TO BE ENCOUNTERED IN REGARDS TO THE CHARACTER, QUALITY, AND QUANTITIES OF WORK TO BE PERFORMED AND MATERIALS TO BE FURNISHED, AND AS TO THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND CONTRACT. THE SUBMISSION OF A PROPOSAL BY A BIDDER WILL BE CONSIDERED PRIMA FACIE EVIDENCE THAT THE BIDDER HAS MADE SUCH AN EXAMINATION.
2. THE CONTRACTOR IS REQUIRED TO MAINTAIN AN AS-BUILT SET OF DRAWINGS DURING PROJECT CONSTRUCTION. THE COMPLETE AS-BUILT MAP WILL CONTAIN ALL INSTALLED ELECTRICAL, STRUCTURAL ENTITIES, LINES, VALVES, METERS, AND CONNECTIONS WITH REFERENCE DISTANCES TO PERMANENT ABOVE GROUND STRUCTURES.
3. ALL EXISTING UTILITIES SHOWN ABOVE AND BELOW GROUND ARE APPROXIMATE AND ARE NOT NECESSARILY ALL THAT EXIST. THE DETERMINATION OF THE EXISTENCE, LOCATION, AND DEPTH OF ALL UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED BY CONTRACTOR FOR ONE YEAR AFTER ACCEPTANCE BY THE OWNER PER SPECIFICATION 1030.
5. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE CIVIL DRAWINGS AND THE ARCHITECTURAL/STRUCTURAL DRAWINGS, THE ARCHITECTURAL/STRUCTURAL DRAWINGS SHALL HAVE PRECEDENCE. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF ANY CONFLICT IN THE PLANS/SPECS FOR CLARIFICATION PRIOR TO BID. SHOULD CONFLICTING DOCUMENTS NOT BE CLARIFIED AT THE REQUEST OF THE BIDDING CONTRACTOR, THE MORE COSTLY ALTERNATIVE AS IDENTIFIED IN THE PLAN & SPECS SHALL BE INCLUDED IN THE PRICE BID.
6. ALL HAZARDOUS SUBSTANCES USED FOR THIS PROJECT, INCLUDING, BUT NOT LIMITED TO, PAINT, OIL, GREASE, AND OTHER PETROLEUM PRODUCTS SHALL BE STORED IN ACCORDANCE WITH "SPILL PREVENTION, CONTROL & COUNTERMEASURE" REGULATIONS. THESE SUBSTANCES SHALL BE STORED AWAY FROM STORM DRAINS, DITCHES, AND GUTTERS IN WATERTIGHT CONTAINERS. DISPOSAL OF THESE SUBSTANCES SHALL BE IN ACCORDANCE WITH STATE & FEDERAL AGENCY REGULATIONS. CONTRACTOR SHALL PROVIDE ADEQUATE TRASH CONTAINERS ON SITE FOR THE DISPOSAL OF CONSTRUCTION MATERIALS WASTE. CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING ANY TRASH OR OTHER POLLUTANTS FROM ENTERING STORM DRAINS & WATERS OF THE STATE.

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STATE OF GEORGIA — GOODWYN MILLS CAWOOD — NAPPO07.1865 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION NO.

1" 0" 5" 1"

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Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

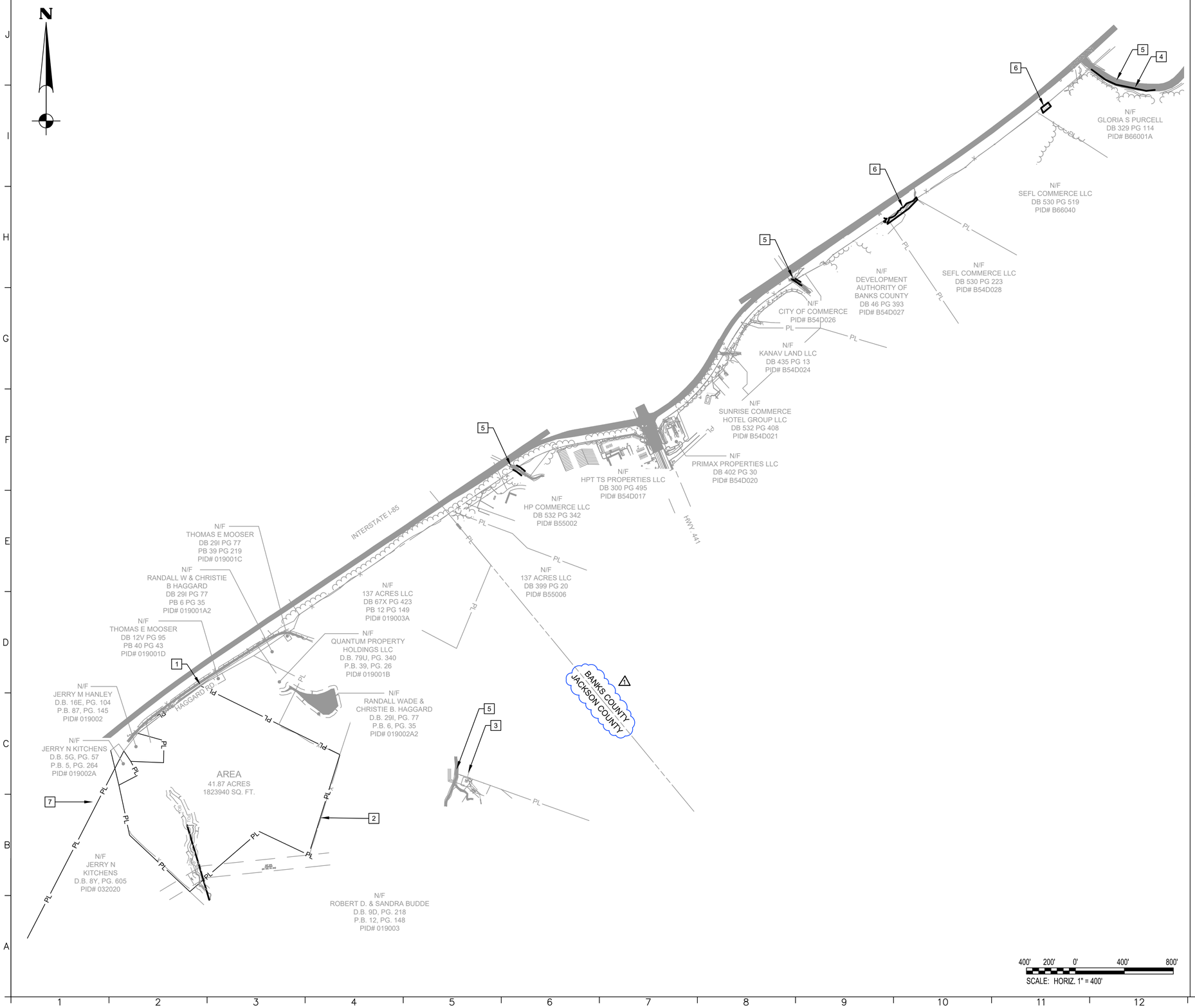
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

GENERAL NOTES, LEGENDS, & SYMBOLS

G-005

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SITE NOTES:

1. THE CONTRACTOR SHALL ADHERE TO THE LOCATIONS AND GEOMETRIC SHAPES FOR CONCRETE PADS OTHER THAN THE BUILDING AS SHOWN ON THE SITE PLAN UNLESS SPECIFIC DETAILS ARE PROVIDED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
2. ANY PROPERTY CORNERS OR PERMANENT SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED SURVEYOR AT CONTRACTORS EXPENSE.
3. ANY PAVEMENT OR CURBING DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AND RESTORED TO LIKE OR BETTER CONDITION.
4. SITE SECURITY AND EQUIPMENT STORAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. PROPERTY OWNERSHIP INFORMATION IS SHOWN FOR GENERAL INFORMATION ONLY AND MAY NOT BE THE MOST RECENT OWNERSHIP ON RECORD.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND RESET FENCING TO ORIGINAL CONDITION WHERE REQUIRED AT NO ADDITIONAL COST.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR AND GRUB AS NECESSARY
8. CONTRACTOR SHALL MINIMIZE THE DISTURBANCE TO ANY EXISTING LANDSCAPING AND TREES, UNLESS APPROVED BY THE ENGINEER AND OWNER.
9. ANY LANDSCAPING (SHRUBS, FLOWERS, ORNAMENTAL GRASS, ETC.) DISTURBED DURING PROJECT CONSTRUCTION ACTIVITIES SHALL BE REPLACED AND OR TRANSPLANTED TO THE SATISFACTION OF THE OWNER TO PRE-CONSTRUCTION CONDITION. THIS MAY INCLUDE SOD REPLACEMENT AS DEEMED NECESSARY BY THE OWNER. ALL RELATED COSTS FOR SUCH WORK SHALL BE INCLUDED IN THE BID PRICE.
10. THE CONTRACTOR MUST ADJUST ALL VALVE BOXES, COVERS, METERS, FIRE HYDRANTS, AND OTHER WATER SERVICE APPURTENANCES, TO FINAL GRADE. THE COST OF THESE ADJUSTMENTS SHALL BE INCLUDED IN THE PRICE BID.

KEY NOTES: [#]

1. BENCHMARK T.B.M. NAIL ELEV. 783.52
2. WPCP SITE
3. EXISTING BECK ROAD PUMP STATION SITE
4. EFFLUENT DISCHARGE SITE
5. WATERS OF THE STATE
6. DELINEATED WETLANDS
7. SEE SHT. CU-401 FOR LIMITS OF WATER MAIN EXTENSION

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STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL
GOODWYN MILLS CAWOOD, LLC
No. PE051452
Exp.06.30.2026
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Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
BECK GROVE CREEK WPCP
COMMERCE, GA

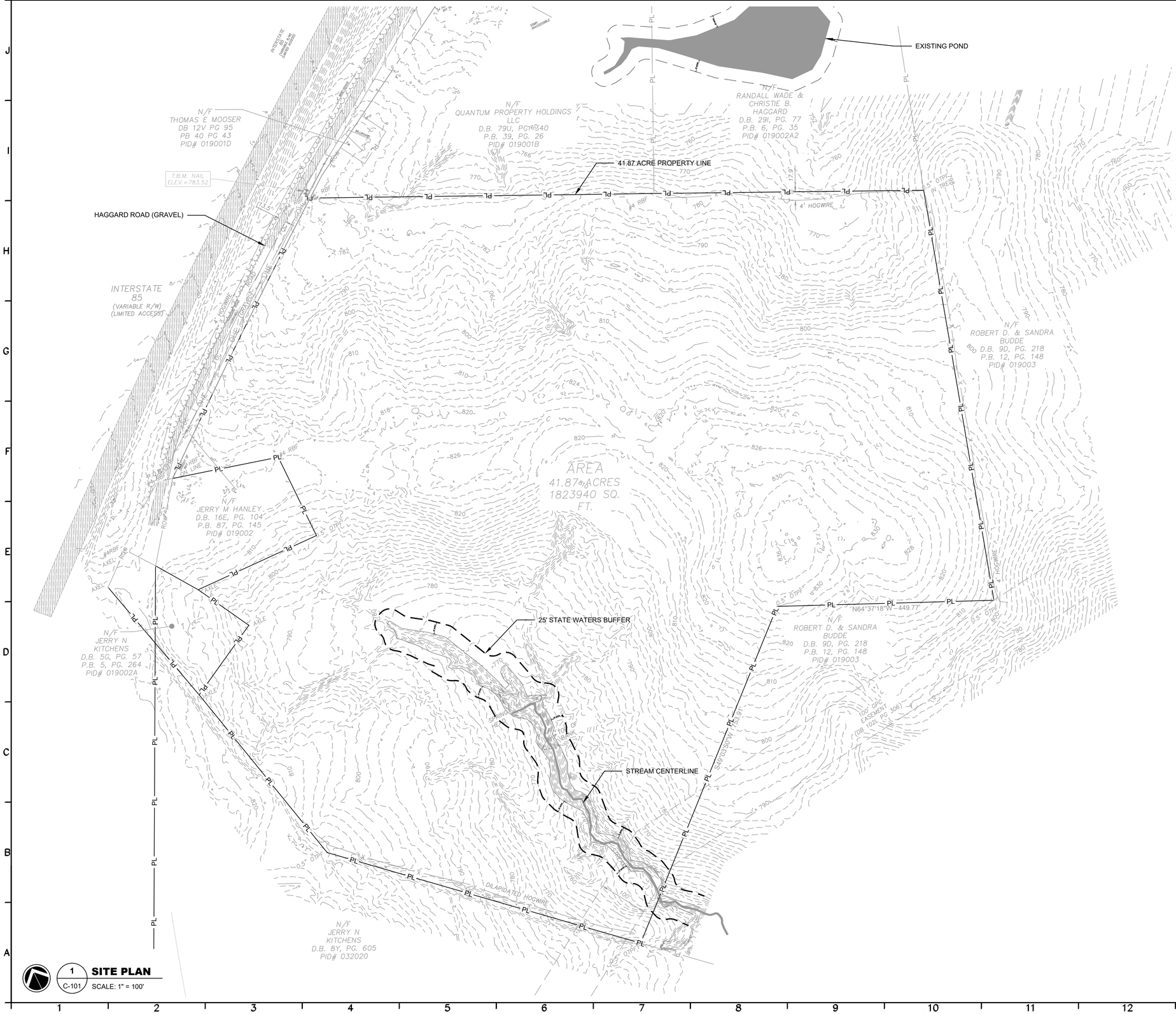
CATL230033

GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
ENGINEER
GRAHAM S. SIZEMORE
03.19.2025

CIVIL SITE PLAN - EXISTING CONDITIONS [9]

C-001

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1 C-101 **SITE PLAN**
SCALE: 1" = 100'

NOTES:

1. THE CONTRACTOR SHALL ADHERE TO THE LOCATIONS AND GEOMETRIC SHAPES FOR CONCRETE PADS OTHER THAN THE BUILDING AS SHOWN ON THE SITE PLAN UNLESS SPECIFIC DETAILS ARE PROVIDED IN THE DRAWINGS.
2. ANY PROPERTY CORNERS OR PERMANENT SURVEY MARKERS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED SURVEYOR AT CONTRACTORS EXPENSE.
3. ANY PAVEMENT OR CURBING DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AND RESTORED TO LIKE OR BETTER CONDITION.
4. SITE SECURITY AND EQUIPMENT STORAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. PROPERTY OWNERSHIP INFORMATION IS SHOWN FOR GENERAL INFORMATION ONLY AND MAY NOT BE THE MOST RECENT OWNERSHIP ON RECORD.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE AND RESET FENCING TO ORIGINAL CONDITION WHERE REQUIRED AT NO ADDITIONAL COST.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAR AND GRUB AS NECESSARY.
8. CONTRACTOR SHALL MINIMIZE THE DISTURBANCE TO ANY EXISTING LANDSCAPING AND TREES, UNLESS APPROVED BY THE ENGINEER AND OWNER.
9. ANY LANDSCAPING (SHRUBS, FLOWERS, ORNAMENTAL GRASS, ETC.) DISTURBED DURING PROJECT CONSTRUCTION ACTIVITIES SHALL BE REPLACED AND OR TRANSPLANTED TO THE SATISFACTION OF THE OWNER TO PRE-CONSTRUCTION CONDITION. THIS MAY INCLUDE SOD REPLACEMENT AS DEEMED NECESSARY BY THE OWNER. ALL RELATED COSTS FOR SUCH WORK SHALL BE INCLUDED IN THE BID PRICE.
10. THE CONTRACTOR MUST ADJUST ALL VALVE BOXES, COVERS, METERS, FIRE HYDRANTS, AND OTHER WATER SERVICE APPURTENANCES, TO FINAL GRADE. THE COST OF THESE ADJUSTMENTS SHALL BE INCLUDED IN THE PRICE BID.

LEGEND

- PROPERTY LINE — PL
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- MAJOR CONTOUR
- MINOR CONTOUR
- WATERBODY
- STREAM CENTERLINE
- STATE WATERS BUFFER

GMC
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STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — NOI YA'A ACHUKMA — CERTIFICATE OF AUTHORIZATION — Exp. 06.30.2026

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

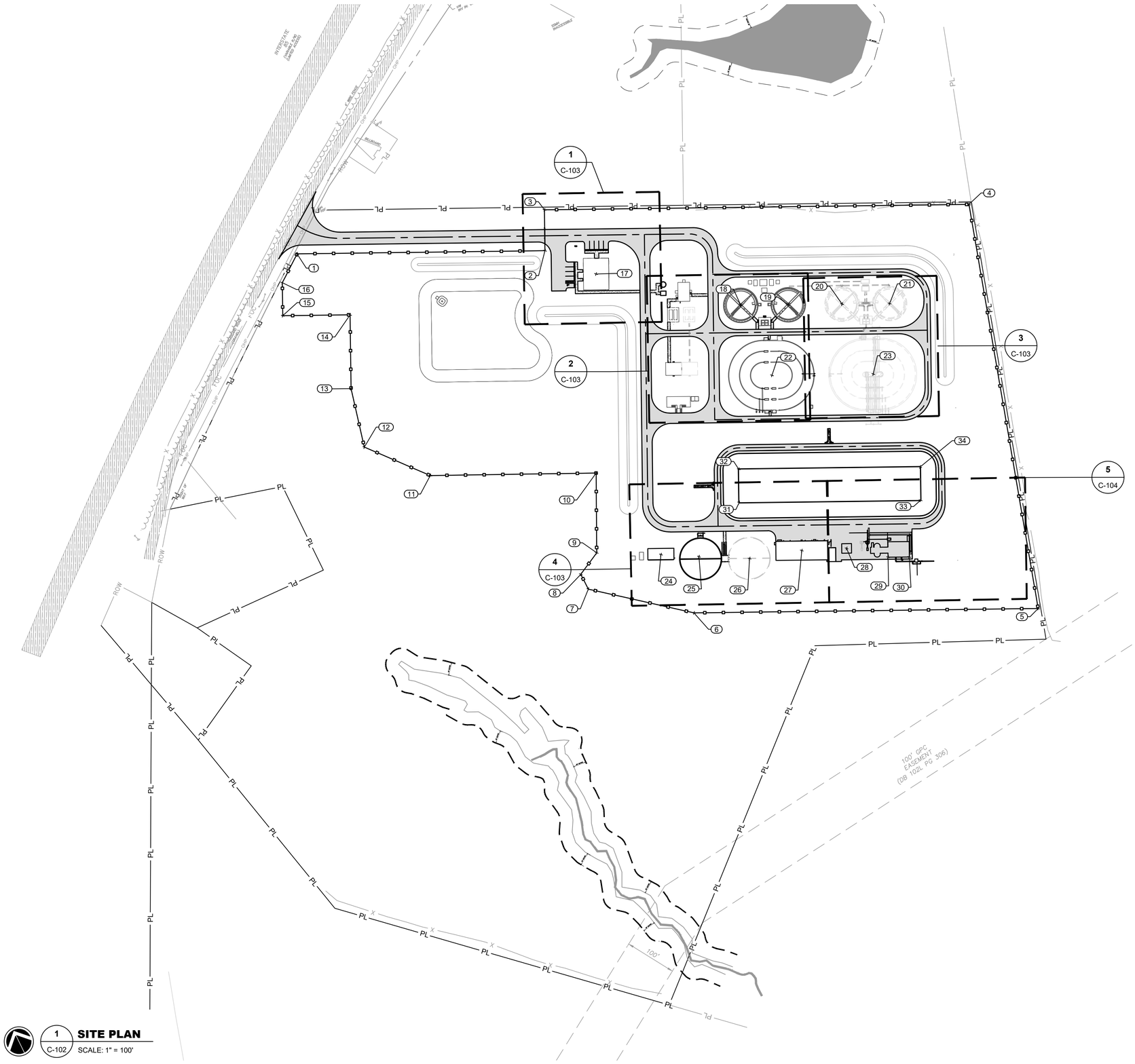
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN
EXISTING CONDITIONS

C-101

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1 C-102 **SITE PLAN**
SCALE: 1" = 100'

POINT TABLE			
NAME	NORTHING	EASTING	DESCRIPTION
1	1545903.44	2505630.42	FEN
2	1545690.11	2506062.66	FEN
3	1545761.40	2506097.84	FEN
4	1545396.07	2506838.05	FEN
5	1544634.73	2506601.16	FEN
6	1544930.94	2506000.98	FEN
7	1545065.37	2505838.97	FEN
8	1545097.66	2505838.97	FEN
9	1545120.93	2505885.53	FEN
10	1545259.62	2505955.00	FEN
11	1545401.70	2505665.42	FEN
12	1545509.19	2505576.28	FEN
13	1545622.37	2505604.90	FEN
14	1545750.96	2505668.37	FEN
15	1545808.91	2505550.95	FEN
16	1545866.41	2505579.33	FEN
17	1545604.57	2506130.54	CEN
18	1545422.48	2506353.60	CEN
19	1545381.61	2506436.40	CEN
20	1545335.29	2506530.25	CEN
21	1545294.42	2506613.05	CEN
22	1545273.76	2506345.90	CEN
23	1545186.58	2506522.56	CEN
24	1545061.11	2505995.24	CEN
25	1545023.95	2506059.23	CEN
26	1544975.98	2506145.27	CEN
27	1544943.78	2506242.78	CEN
28	1544907.96	2506322.34	CEN
29	1544856.06	2506386.38	CRNR
30	1544837.74	2506423.36	CRNR
31	1545082.26	2506176.66	CEN
32	1545140.39	2506205.35	CEN
33	1544926.10	2506493.05	CEN
34	1544984.24	2506521.74	CEN

LEGEND

- PROPERTY LINE — PL
- PERIMETER FENCE
- RETENTION POND
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
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STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
NAM PE001788
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

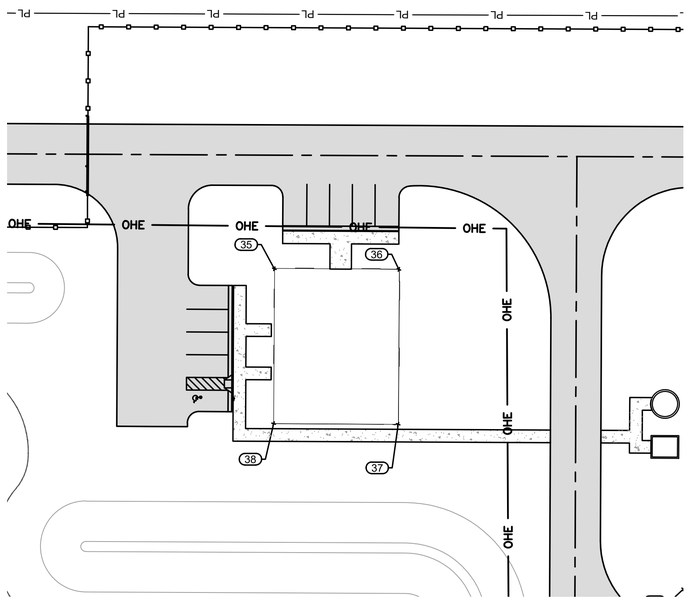
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GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

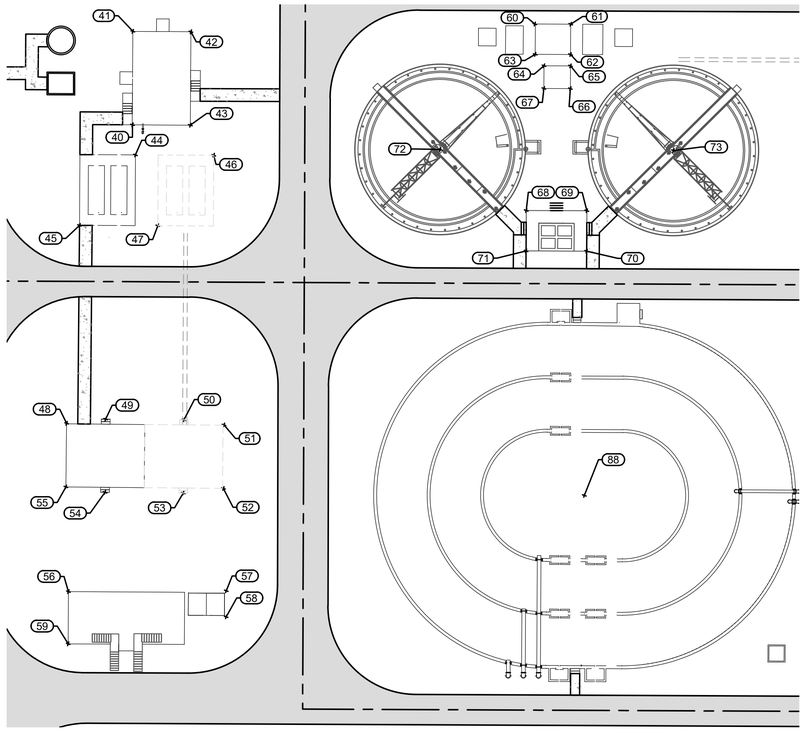
CIVIL SITE PLAN - GEOMETRIC CONTROLS

C-102

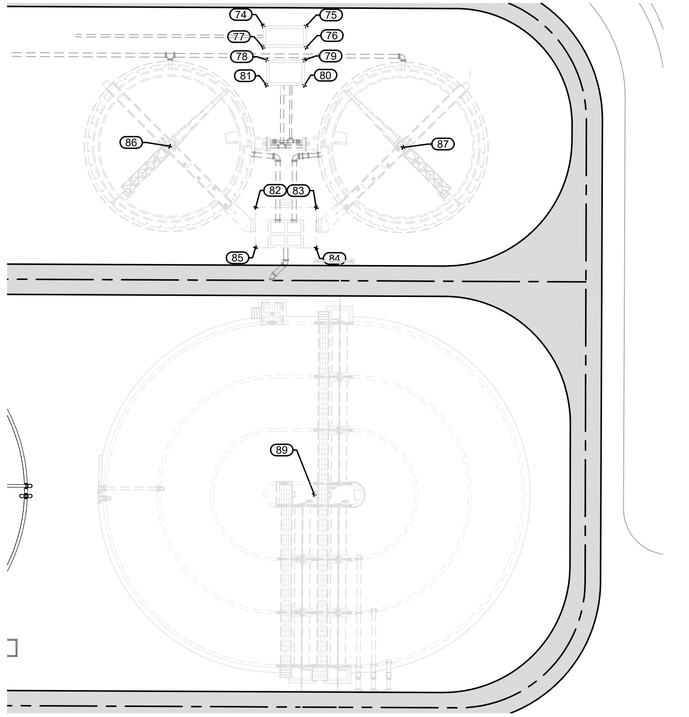
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1 C-103 **SITE PLAN**
SCALE: 1" = 30'



2 C-103 **SITE PLAN**
SCALE: 1" = 30'



3 C-103 **SITE PLAN**
SCALE: 1" = 30'

4 C-103 **SITE PLAN**
SCALE: 1" = 30'

POINT TABLE			
NAME	NORTHING	EASTING	DESCRIPTION
35	1545642.98	2506122.01	CRNR
36	1545621.16	2506166.22	CRNR
37	1545566.16	2506139.07	CRNR
38	1545587.98	2506094.86	CRNR
40	1545484.66	2506248.36	CRNR
41	1545517.85	2506264.71	CRNR
42	1545507.64	2506285.31	CRNR
43	1545474.49	2506268.88	CRNR
44	1545473.44	2506244.20	CRNR
45	1545458.07	2506212.08	CRNR
46	1545459.73	2506271.99	CRNR
47	1545444.35	2506239.86	CRNR
48	1545389.86	2506173.11	CRNR
49	1545384.61	2506187.75	CRNR
50	1545370.76	2506215.48	CRNR
51	1545361.98	2506228.84	CRNR
52	1545339.47	2506217.61	CRNR
53	1545344.81	2506202.52	CRNR
54	1545358.66	2506174.79	CRNR
55	1545367.37	2506161.82	CRNR
56	1545329.66	2506144.54	CRNR
57	1545302.59	2506200.88	CRNR
58	1545293.33	2506196.31	CRNR
59	1545311.13	2506135.40	CRNR
60	1545450.69	2506409.03	CRNR
61	1545444.40	2506421.78	CRNR
62	1545433.64	2506416.45	CRNR
63	1545439.84	2506403.90	CRNR
64	1545434.26	2506405.04	CRNR
65	1545429.61	2506414.45	CRNR
66	1545421.55	2506410.47	CRNR
67	1545426.19	2506401.05	CRNR
68	1545385.83	2506373.61	CRNR
69	1545375.21	2506395.14	CRNR
70	1545360.86	2506388.05	CRNR
71	1545371.49	2506366.53	CRNR
72	1545422.48	2506353.60	CEN
73	1545381.61	2506436.40	CEN
74	1545361.94	2506584.44	CRNR
75	1545354.41	2506599.69	CRNR
76	1545346.79	2506595.92	CRNR
77	1545354.31	2506580.68	CRNR
78	1545349.19	2506579.76	CRNR
79	1545342.56	2506593.21	CRNR
80	1545333.59	2506588.78	CRNR
81	1545340.23	2506575.33	CRNR
82	1545298.65	2506550.27	CRNR
83	1545288.02	2506571.79	CRNR
84	1545273.68	2506564.71	CRNR
85	1545284.30	2506543.19	CRNR
86	1545335.29	2506530.25	CEN
87	1545294.42	2506613.05	CEN
88	1545274.36	2506344.83	CEN
89	1545186.30	2506521.28	CEN
90	1545081.07	2505977.02	CRNR
91	1545058.79	2506022.16	CRNR
92	1545041.16	2506013.45	CRNR
93	1545063.43	2505968.32	CRNR

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STATE OF GEORGIA
GOODWYN MILLS CAWOOD, LLC
NO. PE051452
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION NO.

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

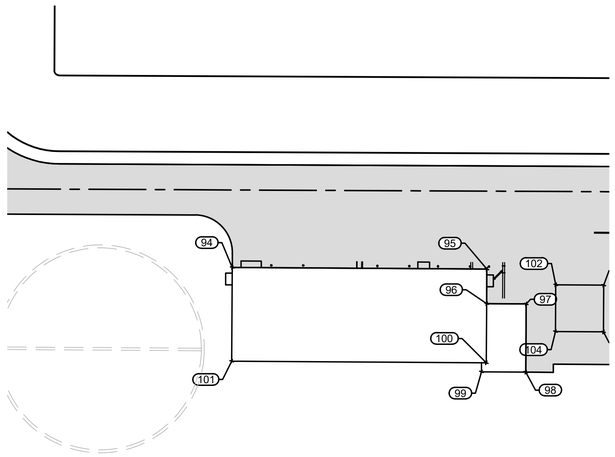
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

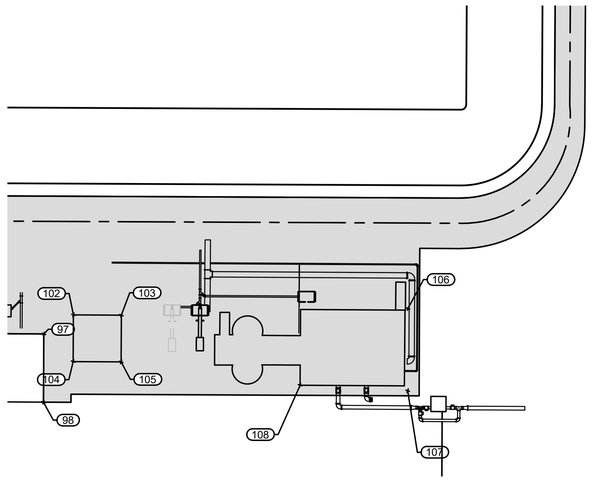
CIVIL SITE PLAN - ENLARGED GEOMETRIC CONTROLS

C-103

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5 C-104 **SITE PLAN**
SCALE: 1" = 30'



6 C-104 **SITE PLAN**
SCALE: 1" = 30'

POINT TABLE			
NAME	NORTHING	EASTING	DESCRIPTION
94	1544982.78	2506205.86	CRNR
95	1544938.05	2506296.17	CRNR
96	1544925.75	2506290.08	CRNR
97	1544918.80	2506304.10	CRNR
98	1544894.61	2506292.12	CRNR
99	1544902.39	2506276.41	CRNR
100	1544904.79	2506279.69	CRNR
101	1544949.52	2506189.38	CRNR
102	1544920.46	2506317.94	CRNR
103	1544912.03	2506334.96	CRNR
104	1544903.88	2506309.72	CRNR
105	1544895.45	2506326.75	CRNR
106	1544864.67	2506438.12	CRNR
107	1544835.45	2506423.70	CRNR
108	1544856.06	2506386.38	CRNR

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STATE OF GEORGIA
GOODWYN MILLS CAWOOD, LLC
NA.PE000.7.1605
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

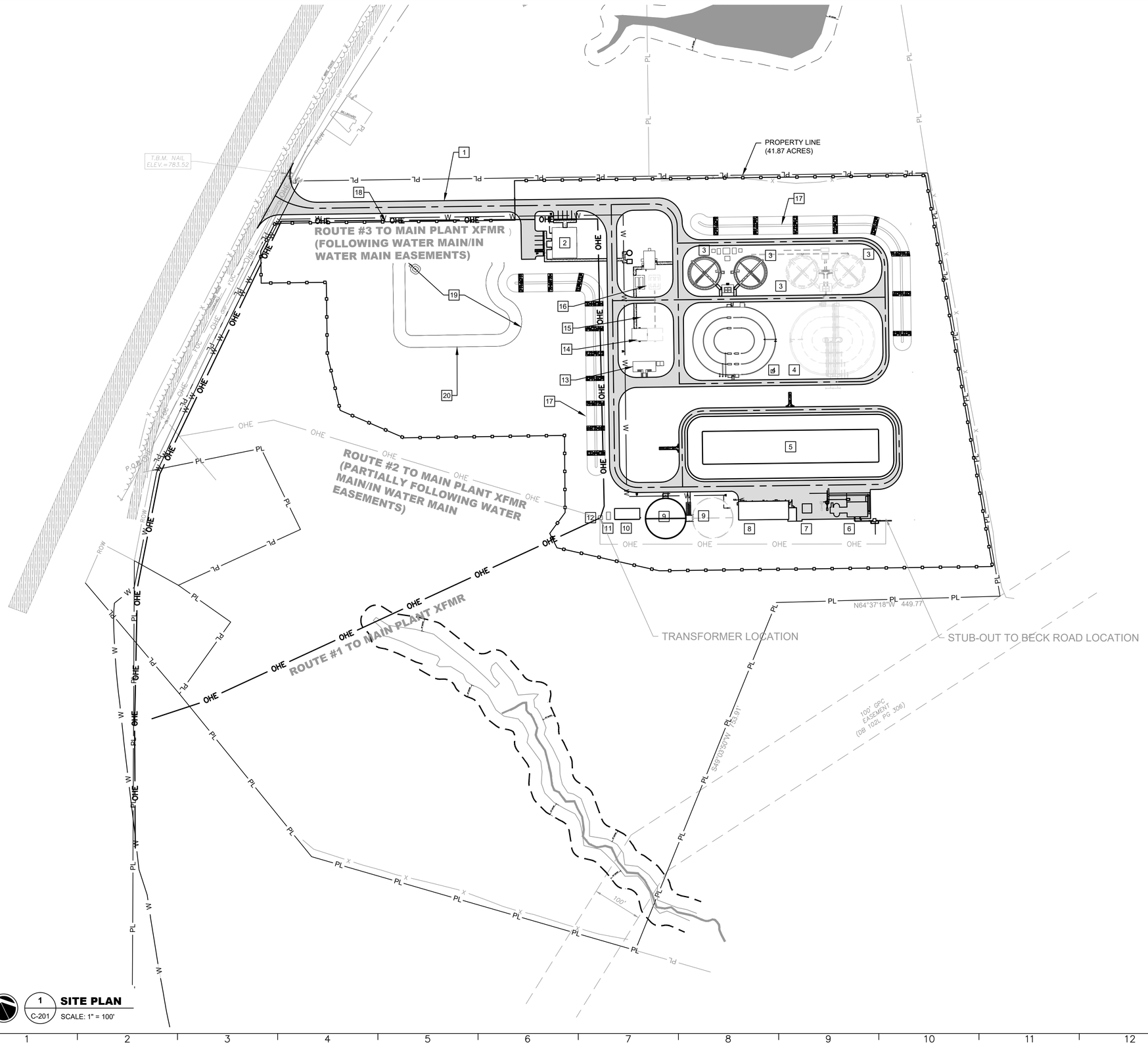
GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
03.19.2025
ENGINEER
GRAHAM S. SIZEMORE

CATL230033

CIVIL SITE PLAN - ENLARGED GEOMETRIC CONTROLS

C-104

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1 SITE PLAN
C-201 SCALE: 1" = 100'

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL SERVICE AND UTILITY LINES ON THE SITE AND WITHIN THE PROJECT CORRIDOR PRIOR TO BEGINNING EXCAVATION. UTILITIES LOCATED WITHIN THE FOOTPRINT OF THE PROPOSED UTILITY SHALL BE RELOCATED AS REQUIRED AND THE COST OF RELOCATION SHALL BE PART OF THE CONTRACT.
2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS.
3. GRADE AREAS ADJACENT TO STRUCTURE LINES TO DRAIN AWAY FROM STRUCTURES TO PREVENT PONDING.
4. WHEN FINISHED GRADING MEETS OR ABUTS CURBS, WALKS OR PAVEMENT, UPHILL GRADES SHALL BE SLIGHTLY HIGHER THAN PAVEMENT TO PERMIT PROPER DRAINAGE.
5. FIELD ADJUSTMENTS IN GRADE MUST BE APPROVED BY THE ENGINEER.
6. NO FILL MATERIAL IS TO BE STORED ON CONCRETE, ASPHALT OR PERVIOUS ROADS WITHIN SITE.
7. CONTRACTOR SHALL REFERENCE SPECIFICATIONS FOR CLEARING, GRUBBING, AND STOCK PILING SOIL.

EROSION CONTROL NOTE:

1. SEE ALSO CIVIL DRAWINGS FOR EROSION CONTROL PLANS.

KEY NOTES: [#]

1. 24' WIDE ACCESS ROAD
2. ADMINISTRATION AND LAB BUILDING
3. CLARIFIER
4. ORBAL AERATION BASIN
5. EQUALIZATION BASIN
6. HEADWORKS
7. SEPTIC RECEIVING
8. DEWATERING BUILDING
9. DIGESTER
10. BLOWER BUILDING
11. ELECTRICAL ROOM
12. GENERATOR
13. CHEMICAL TANK FARM
14. TERTIARY FILTER
15. ULTRAVIOLET DISINFECTION
16. PARSHALL FLUME
17. PERIMETER SWALE
18. PERIMETER FENCING
19. RETENTION POND
20. EMERGENCY SPILLWAY

LEGEND

- PROPERTY LINE — PL
- PERIMETER FENCE
- RETENTION POND
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

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GOODWYN MILLS CAWOOD, LLC
NAM000178
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

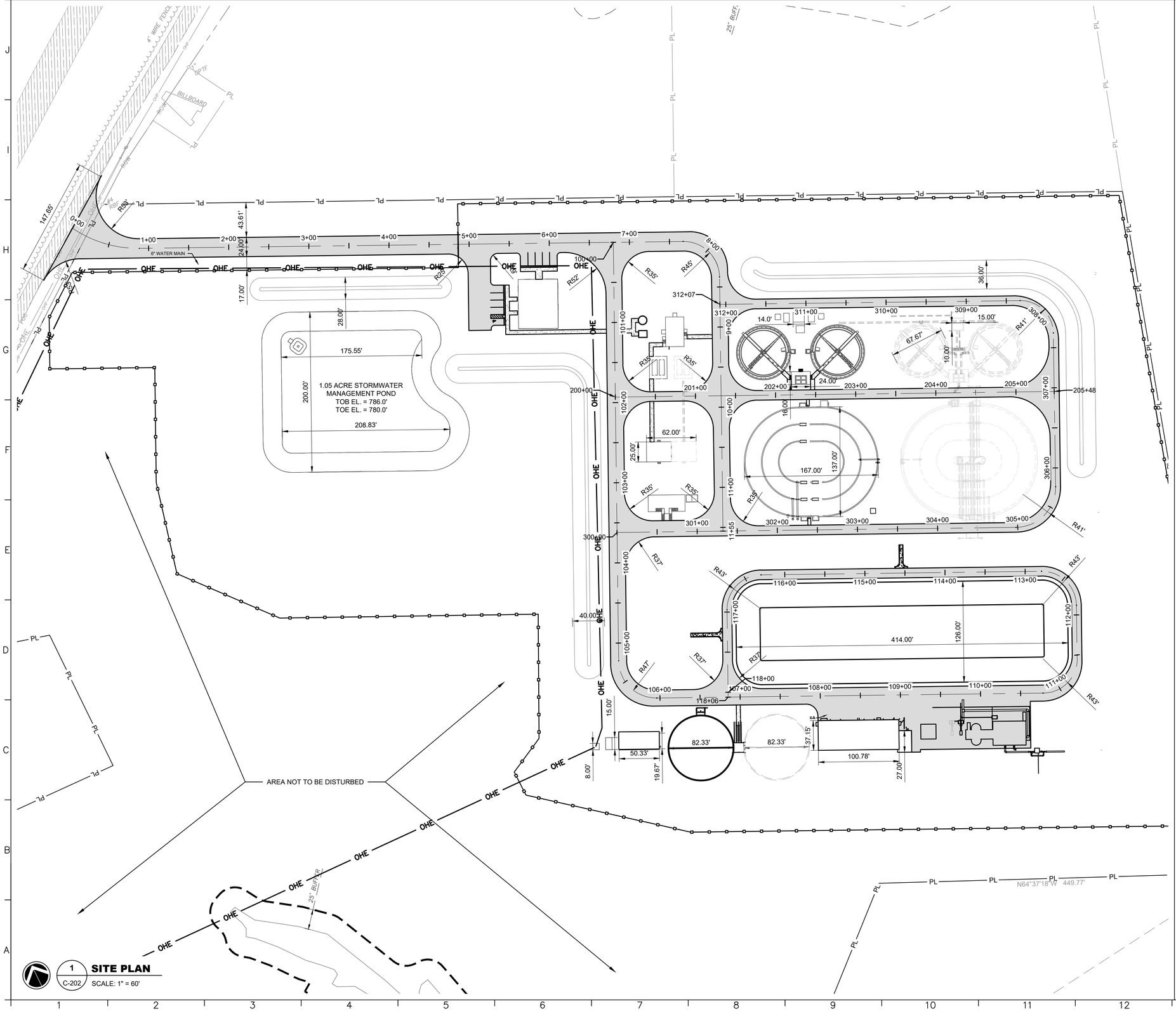
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - SITE LAYOUT

C-201

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1 **SITE PLAN** (C-202) SCALE: 1" = 60'

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL SERVICE AND UTILITY LINES ON THE SITE AND WITHIN THE PROJECT CORRIDOR PRIOR TO BEGINNING EXCAVATION. UTILITIES LOCATED WITHIN THE FOOTPRINT OF THE PROPOSED UTILITY SHALL BE RELOCATED AS REQUIRED AND THE COST OF RELOCATION SHALL BE PART OF THE CONTRACT.
2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS.
3. GRADE AREAS ADJACENT TO STRUCTURE LINES TO DRAIN AWAY FROM STRUCTURES TO PREVENT PONDING.
4. WHEN FINISHED GRADING MEETS OR ABUTS CURBS, WALKS OR PAVEMENT, UPHILL GRADES SHALL BE SLIGHTLY HIGHER THAN PAVEMENT TO PERMIT PROPER DRAINAGE.
5. FIELD ADJUSTMENTS IN GRADE MUST BE APPROVED BY THE ENGINEER.
6. NO FILL MATERIAL IS TO BE STORED ON CONCRETE, ASPHALT OR PERVIOUS ROADS WITHIN SITE.
7. CONTRACTOR SHALL REFERENCE SPECIFICATIONS FOR CLEARING, GRUBBING, AND STOCK PILING SOIL.

EROSION CONTROL NOTE:

1. SEE ALSO CIVIL DRAWINGS FOR EROSION CONTROL PLANS.

LEGEND

- PROPERTY LINE — PL
- PERIMETER FENCE
- DITCH BOTTOM
- ASPHALT ROAD
- ROAD CENTERLINE
- EXISTING ROAD
- OFFSITE PROPERTY — PL
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW

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GOODWYN MILLS CAWOOD, LLC
GA.PE000718G
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

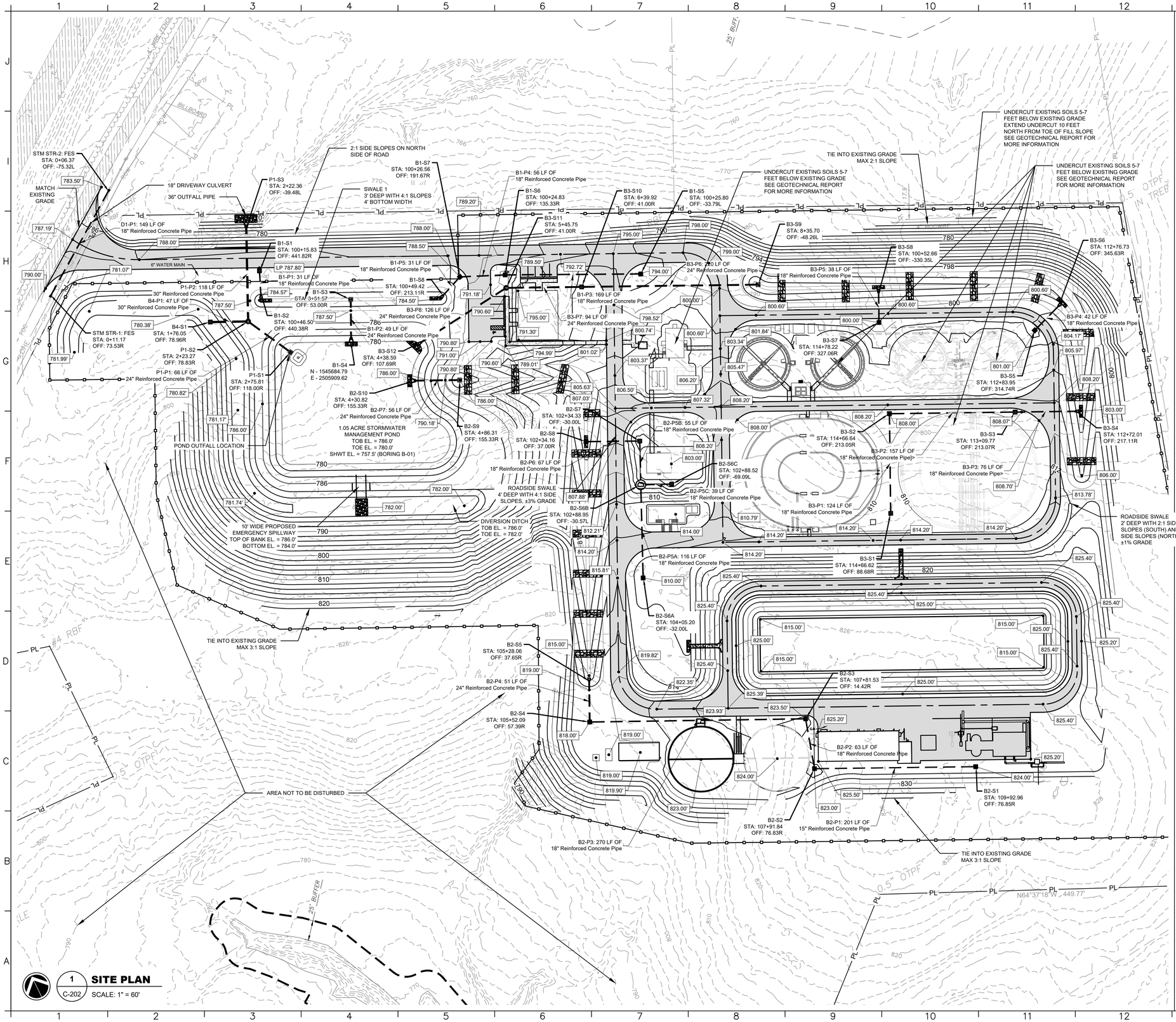
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

CIVIL SITE PLAN - ALIGNMENT PLAN

C-202

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1 SITE PLAN
C-202 SCALE: 1" = 60'

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL SERVICE AND UTILITY LINES ON THE SITE AND WITHIN THE PROJECT CORRIDOR PRIOR TO BEGINNING EXCAVATION. UTILITIES LOCATED WITHIN THE FOOTPRINT OF THE PROPOSED UTILITY SHALL BE RELOCATED AS REQUIRED AND THE COST OF RELOCATION SHALL BE PART OF THE CONTRACT.
2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT-OF-WAYS.
3. GRADE AREAS ADJACENT TO STRUCTURE LINES TO DRAIN AWAY FROM STRUCTURES TO PREVENT PONDING.
4. WHEN FINISHED GRADING MEETS OR ABUTS CURBS, WALKS OR PAVEMENT, UPHILL GRADES SHALL BE SLIGHTLY HIGHER THAN PAVEMENT TO PERMIT PROPER DRAINAGE.
5. FIELD ADJUSTMENTS IN GRADE MUST BE APPROVED BY THE ENGINEER.
6. NO FILL MATERIAL IS TO BE STORED ON CONCRETE, ASPHALT OR PERVIOUS ROADS WITHIN SITE.
7. CONTRACTOR SHALL REFERENCE SPECIFICATIONS FOR CLEARING, GRUBBING, AND STOCK PILING SOIL.
8. CONTRACTOR TO FIELD VERIFY DEPTH OF ANY UNDERCUTS DURING CONSTRUCTION. AREAS REQUIRING UNDERCUT TO BE THOROUGHLY PROOF-ROLLED ONCE SUB-GRADE IS ACHIEVED AND PRIOR TO FILL PLACEMENT.

EROSION CONTROL NOTE:

1. SEE ALSO CIVIL DRAWINGS FOR EROSION CONTROL PLANS.

Cut/Fill Report

Generated:	2025-03-13 09:24:16
By user:	marcher
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Volume Summary

Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
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Totals

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Total	731735.37	123973.89	112900.10	11073.79<Cut>

* Value adjusted by cut or fill factor other than 1.0

LEGEND

- PROPERTY LINE — PL
- P. MAJOR CONTOUR
- P. MINOR CONTOUR
- PERIMETER FENCE
- DITCH BOTTOM
- ASPHALT ROAD
- ROAD CENTERLINE
- EXISTING ROAD
- OFFSITE PROPERTY — PL
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- WATERBODY
- STREAM CENTERLINE

GMC
6120 Powers Ferry Road NW, Suite 200
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T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER
GOODWYN MILLS CAWOOD, LLC
NAM000.1846
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION
STATE OF GEORGIA

1" 0" 1" 5"

ISSUE	DATE	
30% Submittal	05.30.2024	CW
60% Submittal	08.29.2024	GS
90% Submittal	11.27.2024	GS
Bid Set	03.19.2025	

Project Manager:
Engineer:
Designer:
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - GRADING AND DRAINAGE

C-203

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STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
P1-S3 30" Flared End Section	RIM = 775.40 INV IN = 771.00	P1-P2, 30" REINFORCED CONCRETE PIPE, INV IN =771.00	
B4-S1 48" x 48" Catch Basin	RIM = 780.00 INV IN = 775.76	B4-P1, 30" REINFORCED CONCRETE PIPE, INV IN =775.76	
B2-S10 24" Flared End Section	RIM = 782.25 INV IN = 780.00	B2-P7, 24" REINFORCED CONCRETE PIPE, INV IN =780.00	
B3-S12 24" Flared End Section	RIM = 782.25 INV IN = 780.00	B3-P8, 24" REINFORCED CONCRETE PIPE, INV IN =780.00	
B1-S4 24" Flared End Section	RIM = 782.25 INV IN = 780.00	B1-P2, 24" REINFORCED CONCRETE PIPE, INV IN =780.00	
P1-S1 60" x 60" Catch Basin	RIM = 783.50 INV OUT = 777.08		P1-P1, 24" REINFORCED CONCRETE PIPE, INV OUT =777.08
B1-S8 18" Flared End Section	RIM = 786.21 INV IN = 784.50	B1-P5, 18" REINFORCED CONCRETE PIPE, INV IN =784.50	
B1-S2 18" Flared End Section	RIM = 786.21 INV IN = 784.50	B1-P1, 18" REINFORCED CONCRETE PIPE, INV IN =784.50	
B1-S3 36" x 36" Catch Basin	RIM = 786.50 INV OUT = 780.25		B1-P2, 24" REINFORCED CONCRETE PIPE, INV OUT =780.25
P1-S2 48" x 48" Junction Box	RIM = 786.79 INV IN = 775.76 INV OUT = 776.23 INV OUT = 775.76	P1-P1, 24" REINFORCED CONCRETE PIPE, INV IN =775.76	B4-P1, 30" REINFORCED CONCRETE PIPE, INV OUT =776.23 P1-P2, 30" REINFORCED CONCRETE PIPE, INV OUT =775.76
B1-S1 36" x 36" Catch Basin	RIM = 788.00 INV OUT = 784.66		B1-P1, 18" REINFORCED CONCRETE PIPE, INV OUT =784.66
B1-S7 36" x 36" Catch Basin	RIM = 788.50 INV IN = 784.65 INV OUT = 784.66	B1-P4, 18" REINFORCED CONCRETE PIPE, INV IN =784.65	B1-P5, 18" REINFORCED CONCRETE PIPE, INV OUT =784.66
B3-S11 48" Junction Box	RIM = 788.95 INV IN = 781.27 INV OUT = 781.27	B3-P7, 24" REINFORCED CONCRETE PIPE, INV IN =781.27	B3-P8, 24" REINFORCED CONCRETE PIPE, INV OUT =781.27
B1-S6 36" x 36" Catch Basin	RIM = 789.50 INV IN = 784.95 INV OUT = 784.95	B1-P3, 18" REINFORCED CONCRETE PIPE, INV IN =784.95	B1-P4, 18" REINFORCED CONCRETE PIPE, INV OUT =784.95
B2-S9 48" x 48" Catch Basin	RIM = 789.50 INV OUT = 781.68		B2-P7, 24" REINFORCED CONCRETE PIPE, INV OUT =781.68
B1-S5 36" x 36" Catch Basin	RIM = 794.00 INV OUT = 788.35		B1-P3, 18" REINFORCED CONCRETE PIPE, INV OUT =788.35
B3-S10 36" x 36" Catch Basin	RIM = 796.30 INV IN = 785.07 INV OUT = 785.07	B3-P6, 24" REINFORCED CONCRETE PIPE, INV IN =785.07	B3-P7, 24" REINFORCED CONCRETE PIPE, INV OUT =785.07
B3-S8 18" Flared End Section	RIM = 797.05 INV IN = 795.34	B3-P5, 18" REINFORCED CONCRETE PIPE, INV IN =795.34	
B3-S9 36" x 36" Catch Basin	RIM = 798.00 INV OUT = 791.70		B3-P6, 24" REINFORCED CONCRETE PIPE, INV OUT =791.70
B3-S6 18" Flared End Section	RIM = 799.14 INV IN = 796.50	B3-P4, 18" REINFORCED CONCRETE PIPE, INV IN =796.50	
B3-S7 36" x 36" Catch Basin	RIM = 800.00 INV OUT = 795.53		B3-P5, 18" REINFORCED CONCRETE PIPE, INV OUT =795.53
B2-S7 36" x 36" Catch Basin	RIM = 801.00 INV IN = 788.44 INV OUT = 788.44	B2-P5B, 18" REINFORCED CONCRETE PIPE, INV IN =788.44	B2-P6, 18" REINFORCED CONCRETE PIPE, INV OUT =788.44
B3-S5 36" x 36" Catch Basin	RIM = 801.00 INV OUT = 796.70		B3-P4, 18" REINFORCED CONCRETE PIPE, INV OUT =796.70
B2-S6C 36" x 36" Catch Basin	RIM = 801.50 INV OUT = 792.20		B2-P5C, 18" REINFORCED CONCRETE PIPE, INV OUT =792.20
B2-S8 36" x 36" Catch Basin	RIM = 803.08 INV IN = 786.00	B2-P6, 18" REINFORCED CONCRETE PIPE, INV IN =786.00	
B2-S6B 48" Junction Box	RIM = 804.53 INV IN = 790.64 INV IN = 790.64 INV OUT = 790.64	B2-P5C, 18" REINFORCED CONCRETE PIPE, INV IN =790.64 B2-P5A, 18" REINFORCED CONCRETE PIPE, INV IN =790.64	B2-P5B, 18" REINFORCED CONCRETE PIPE, INV OUT =790.64
B3-S4 18" Flared End Section	RIM = 804.71 INV IN = 803.00	B3-P3, 18" REINFORCED CONCRETE PIPE, INV IN =803.00	
B3-S3 36" x 36" Catch Basin	RIM = 808.00 INV IN = 803.50 INV OUT = 803.50	B3-P2, 18" REINFORCED CONCRETE PIPE, INV IN =803.50	B3-P3, 18" REINFORCED CONCRETE PIPE, INV OUT =803.50
B3-S2 36" x 36" Catch Basin	RIM = 808.00 INV IN = 804.25 INV OUT = 804.25	B3-P1, 18" REINFORCED CONCRETE PIPE, INV IN =804.25	B3-P2, 18" REINFORCED CONCRETE PIPE, INV OUT =804.25
B3-S1 36" x 36" Catch Basin	RIM = 809.00 INV OUT = 805.00		B3-P1, 18" REINFORCED CONCRETE PIPE, INV OUT =805.00
B2-S6A 36" x 36" Catch Basin	RIM = 810.00 INV OUT = 795.32		B2-P5A, 18" REINFORCED CONCRETE PIPE, INV OUT =795.32
B2-S5 24" Flared End Section	RIM = 816.13 INV IN = 805.50	B2-P4, 24" REINFORCED CONCRETE PIPE, INV IN =805.50	
B2-S4 36" x 36" Catch Basin	RIM = 818.00 INV IN = 806.80 INV OUT = 806.80	B2-P3, 18" REINFORCED CONCRETE PIPE, INV IN =806.80	B2-P4, 24" REINFORCED CONCRETE PIPE, INV OUT =806.80
B2-S2 36" x 36" Catch Basin	RIM = 823.00 INV IN = 815.15 INV OUT = 815.15	B2-P1, 15" REINFORCED CONCRETE PIPE, INV IN =815.15	B2-P2, 18" REINFORCED CONCRETE PIPE, INV OUT =815.15
B2-S3 36" x 36" Catch Basin	RIM = 823.50 INV IN = 813.55 INV OUT = 813.55	B2-P2, 18" REINFORCED CONCRETE PIPE, INV IN =813.55	B2-P3, 18" REINFORCED CONCRETE PIPE, INV OUT =813.55
B2-S1 36" x 36" Catch Basin	RIM = 824.00 INV OUT = 817.17		B2-P1, 15" REINFORCED CONCRETE PIPE, INV OUT =817.17

PIPE TABLE

PIPE NAME	LENGTH	SIZE	SLOPE	MATERIAL
B1-P1	31	18	0.52%	Concrete Pipe
B1-P2	49	24	0.52%	Concrete Pipe
B1-P3	169	18	2.01%	Concrete Pipe
B1-P4	56	18	0.53%	Concrete Pipe
B1-P5	31	18	0.51%	Concrete Pipe
B2-P1	201	15	1.00%	Concrete Pipe
B2-P2	63	18	2.53%	Concrete Pipe
B2-P3	269	18	2.50%	Concrete Pipe
B2-P4	51	24	2.53%	Concrete Pipe
B2-P5A	116	18	4.03%	Concrete Pipe
B2-P5B	55	18	4.03%	Concrete Pipe
B2-P5C	39	18	4.05%	Concrete Pipe
B2-P6	67	18	3.64%	Concrete Pipe
B2-P7	55	24	3.03%	Concrete Pipe
B3-P1	124	18	0.60%	Concrete Pipe
B3-P2	157	18	0.48%	Concrete Pipe
B3-P3	76	18	0.66%	Concrete Pipe
B3-P4	42	18	0.47%	Concrete Pipe
B3-P5	37	18	0.51%	Concrete Pipe
B3-P6	220	24	3.01%	Concrete Pipe
B3-P7	94	24	4.04%	Concrete Pipe
B3-P8	126	24	1.01%	Concrete Pipe
B4-P1	47	30	1.00%	Concrete Pipe
P1-P1	66	24	2.01%	Concrete Pipe
P1-P2	118	30	4.02%	Concrete Pipe

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STATE OF GEORGIA
GOODWYN MILLS CAWOOD, LLC
No. PE051452
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION

1" 5" 0" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
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Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

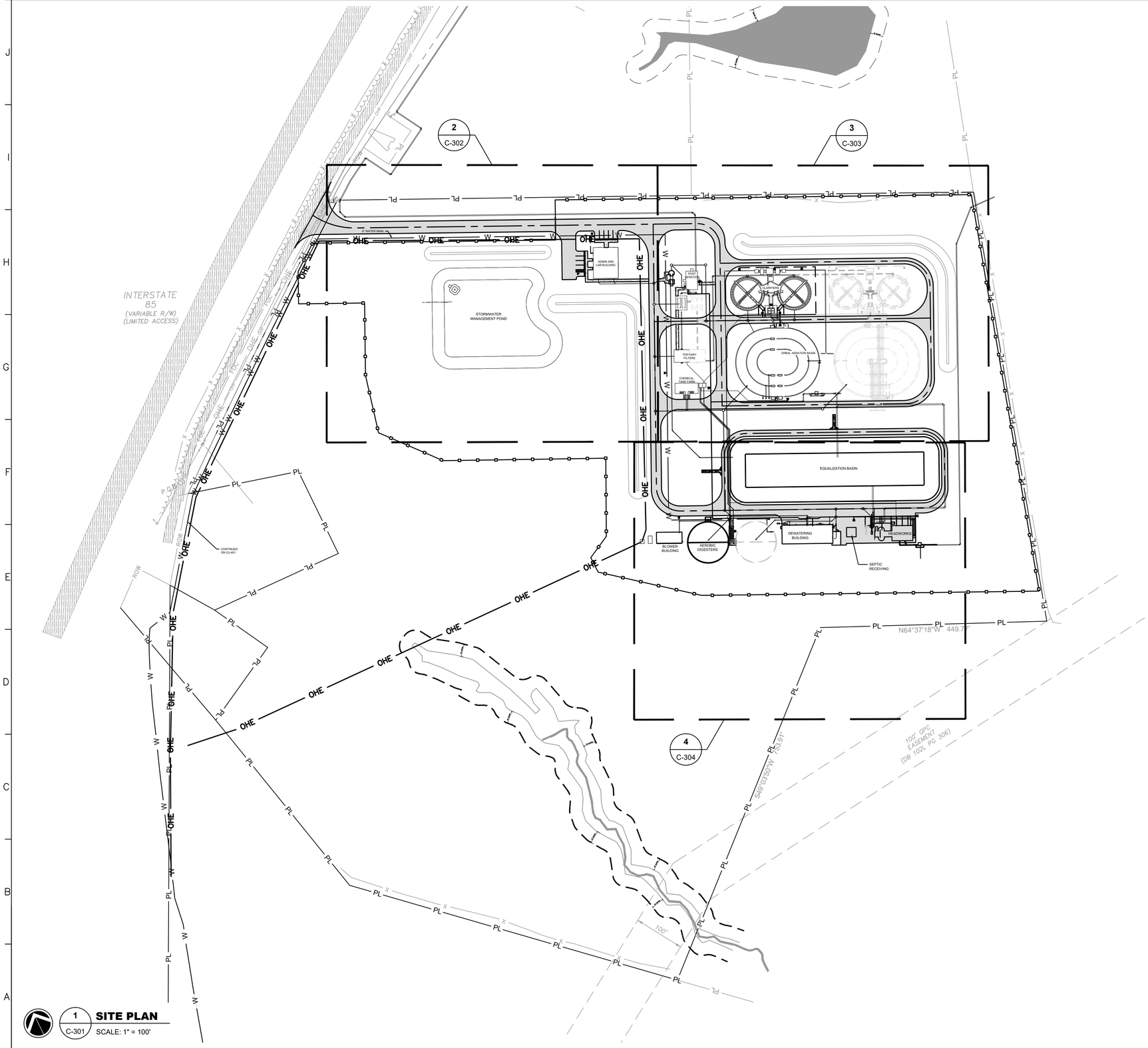
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE
03.19.2025

CIVIL SITE PLAN - PIPE AND STRUCTURE TABLE

C-204

This drawing is and shall remain the property of Goodwyn, Mills and Cawood, Inc. (GMC) and Goodwyn Mills Cawood LLC (GMC). Unauthorized use of any kind including use on other projects is prohibited. In the event that a conflict arises between the sealed drawings and the electronic files, the sealed drawings will govern.



1 C-301 **SITE PLAN**
SCALE: 1" = 100'

PIPING NOTES:

1. CONTRACTOR SHALL INCLUDE ANY REQUIRED BENDS TO AVOID ANY PIPING CONFLICTS DUE TO LIMITED AREA OF CONSTRUCTION AND UNFAVORABLE GRADE.
2. ALL BURIED PIPE MUST HAVE MINIMUM COVER DEPTH OF 30" OR AS OTHERWISE INDICATED IN THE SPECIFICATIONS OR DETAILS.
3. ALL NECESSARY APPURTENANCES REQUIRED TO MAKE THE PROCESS PIPING FULLY FUNCTIONAL SHALL BE PROVIDED BY THE CONTRACTOR. THIS INCLUDES BUT NOT LIMITED TO MIXING RINGS, INJECTORS, SPARGERS, TAPS, FLANGE ADAPTERS, COUPLINGS, PIPE SUPPORTS, ETC.
4. CONTRACTOR SHALL VERIFY VALVE LOCATIONS AND INTENDED USE AS REQUIRED BY THE PROCESS MANUFACTURER. IF VALVE RELOCATION IS DESIRED, IT SHALL BE AT THE ENGINEER'S DISCRETION.
5. ELECTRICAL CONDUIT AND YARD PIPING CONFLICTS SHALL BE RESOLVED IN THE FIELD BY THE INSPECTOR/ENGINEER.
6. CONTRACTOR SHALL PROVIDE HEAT TRACING, INSULATION AND ELECTRICAL APPURTENANCES FOR ALL EXTERIOR ABOVE GROUND PIPING AND POLYETHYLENE TANKS PER SPECIFICATION GOVERNING WATER AND SEWER PIPING. AIR PIPING IS EXCLUDED FROM THIS REQUIREMENT.
7. CONTRACTOR SHALL REFER TO EROSION CONTROL AND GRADING PLANS FOR SEQUENCING REQUIRED BY DISTURBANCE.
8. VALVES, PIPES, MOTORS, ELECTRICAL PANELS, ETC. SHALL BE POSITIONED SO THAT THEY DO NOT INTERFERE WITH PEDESTRIAN TRAFFIC.

LEGEND

- YARD PIPING
- PROPERTY LINE — PL
- PERIMETER FENCE
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

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STATE OF GEORGIA — NOT FOR CONSTRUCTION — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
NAM PE051452
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
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90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

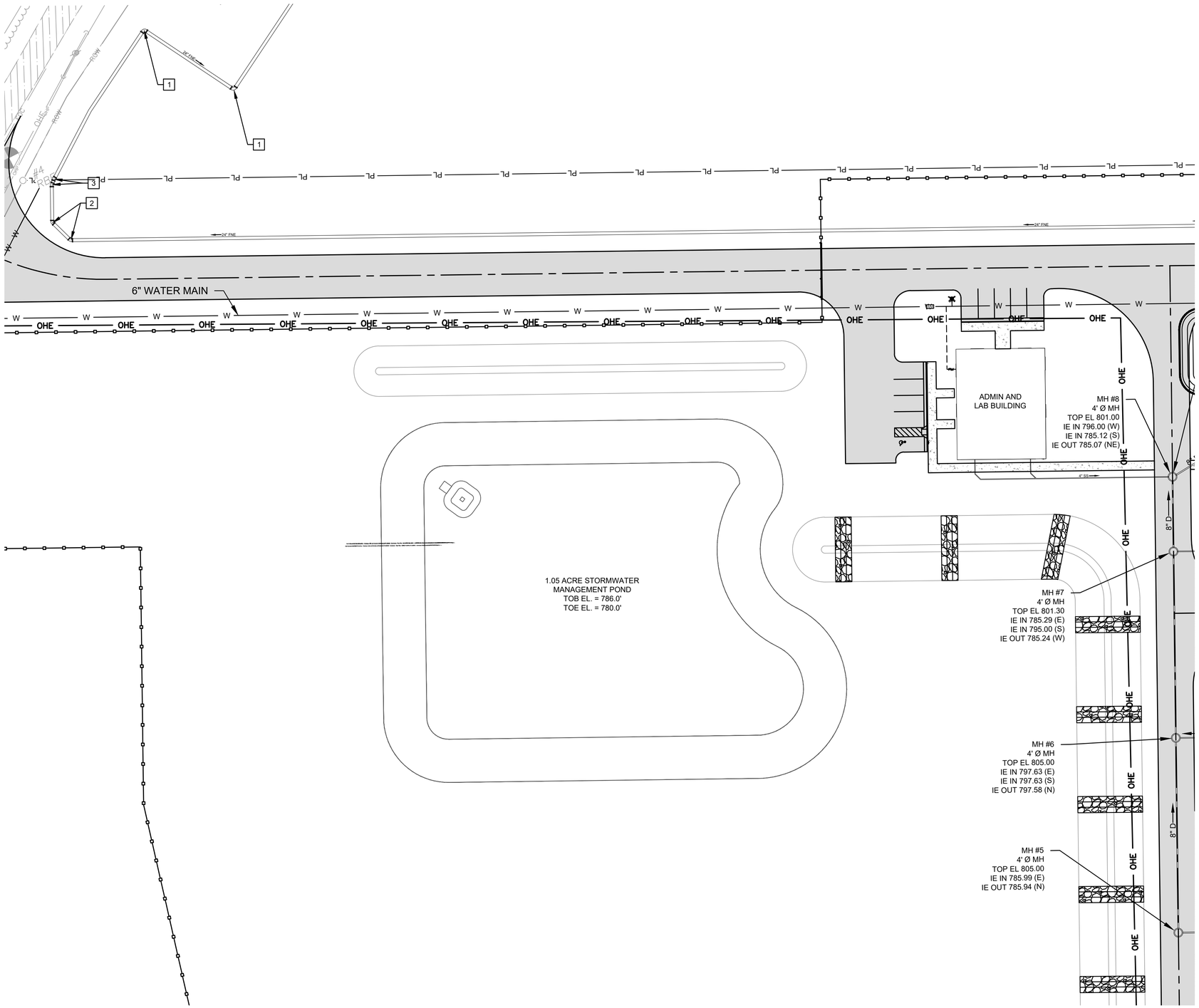
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

CIVIL SITE PLAN - YARD PIPING

C-301

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KEY NOTES: [#]

1. 90° MJ BEND
2. 45° MJ BEND
3. 11.25° MJ BEND
4. 22.5° MJ BEND
5. MJ TEE

LEGEND

- YARD PIPING
- PROPERTY LINE — PL
- PERIMETER FENCE
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

2 C-302 **SITE PLAN**
SCALE: 1" = 30'

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND SEALED — GOODWYN MILLS CAWOOD LLC — NAM.FIRM.0001886 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

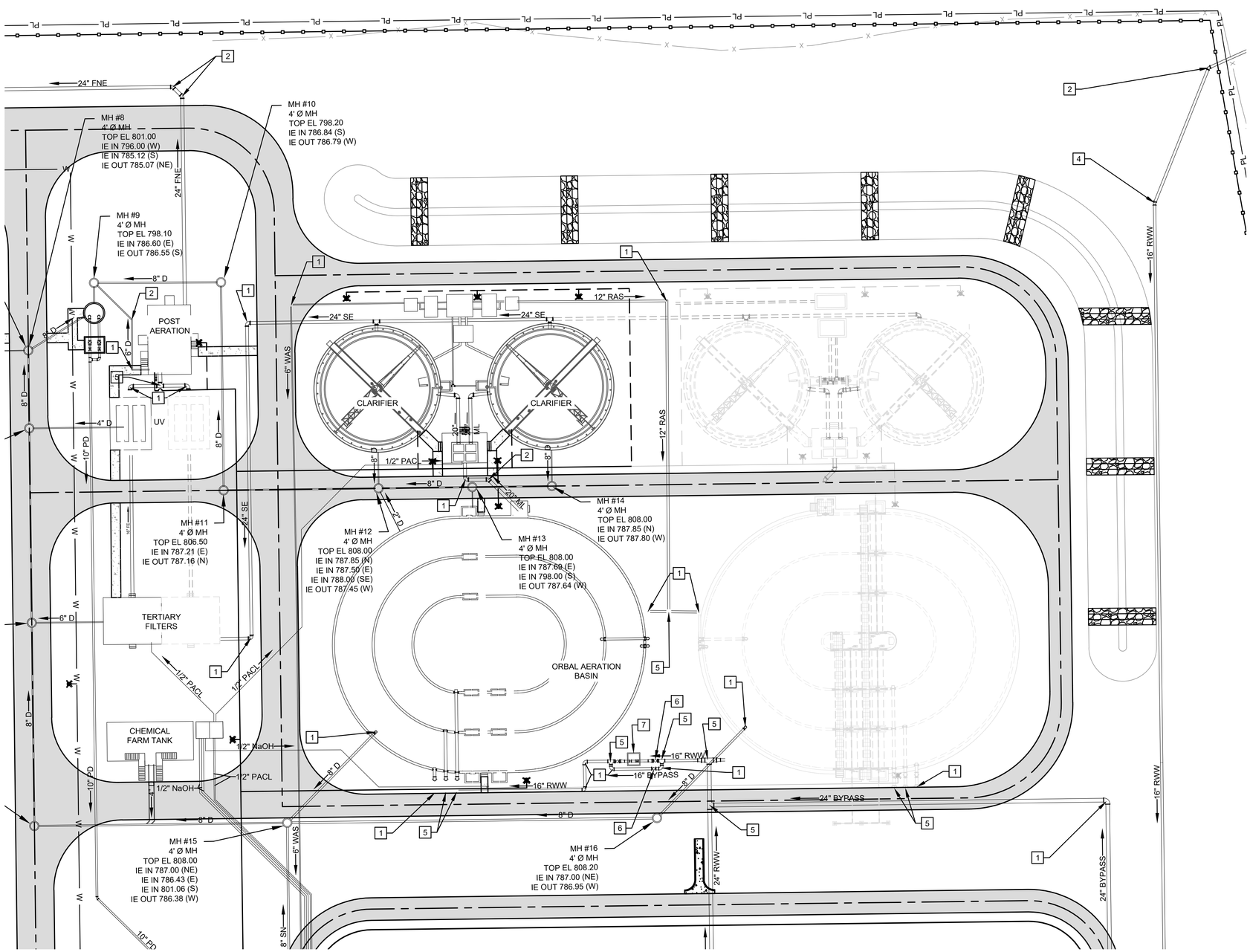
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SYZEMORE 03.19.2025

CIVIL SITE PLAN - ENLARGED YARD PIPING

C-302

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3 C-303 **SITE PLAN**

SCALE: 1" = 30'

KEY NOTES: #

1. 90° MJ BEND
2. 45° MJ BEND
3. 11.25° MJ BEND
4. 22.5° MJ BEND
5. MJ TEE
6. MJ PLUG VALVE
7. EQ BASIN FLOW CONTROL VAULT

LEGEND

- YARD PIPING
- PROPERTY LINE — PL
- PERIMETER FENCE
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

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T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
NA.PE000.7.1845
Exp.06.30.2026

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
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90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

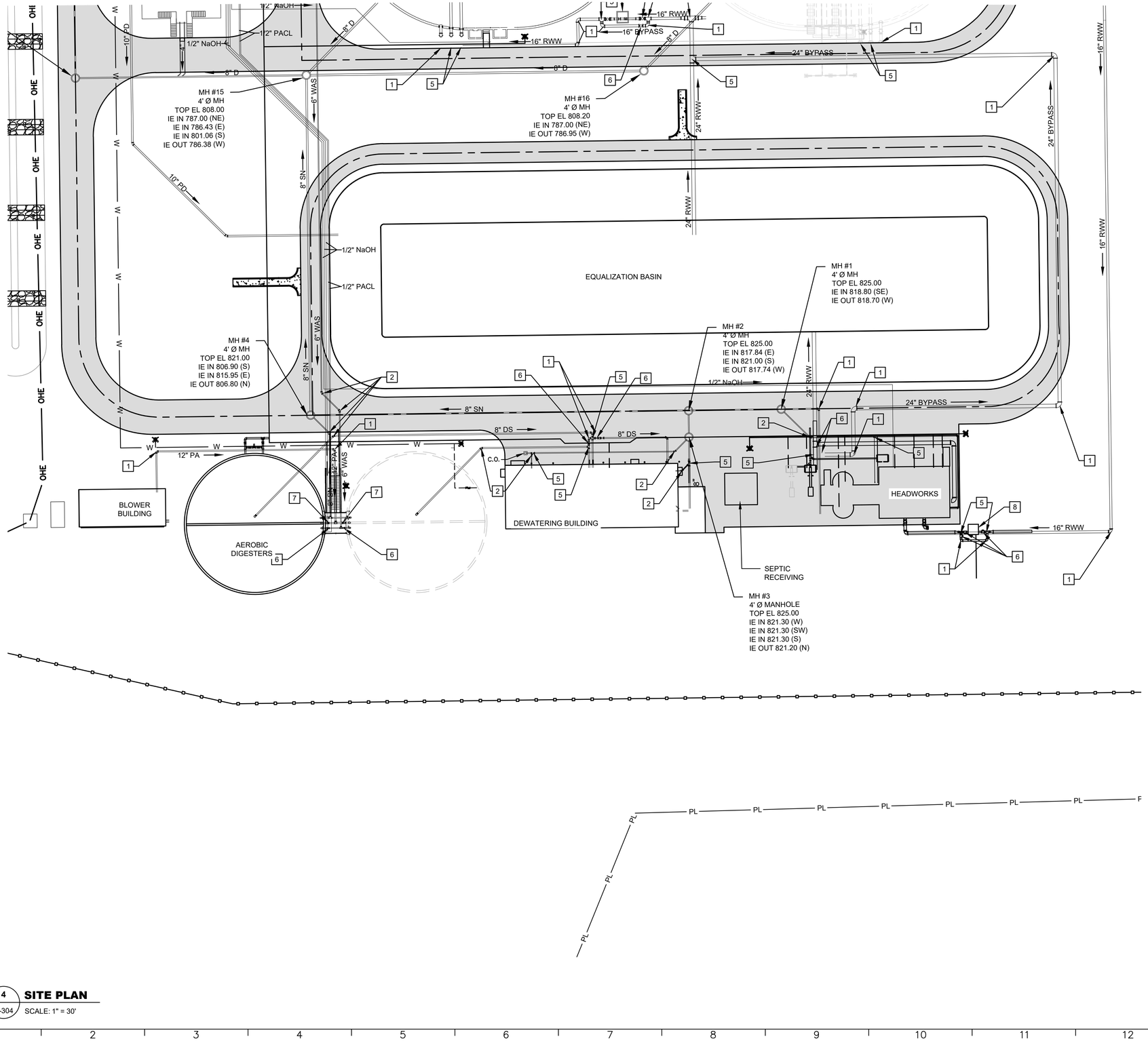
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - ENLARGED YARD PIPING

C-303

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KEY NOTES: [#]

1. 90° MJ BEND
2. 45° MJ BEND
3. 11.25° MJ BEND
4. 22.5° MJ BEND
5. MJ TEE
6. MJ PLUG VALVE
7. BUTTERFLY VALVE
8. INFLUENT FLOW METER AND VAULT
9. FLG TEE

LEGEND

- YARD PIPING
- PROPERTY LINE — PL
- PERIMETER FENCE
- ASPHALT ROAD
- ROAD CENTERLINE
- OFFSITE PROPERTY — PL
- EXISTING ROAD
- FENCE — X
- TREELINE
- OVERHEAD ELECTRIC — OHE
- RIGHT OF WAY — ROW
- EASEMENT
- WATERBODY
- STREAM CENTERLINE

4 / C-304 **SITE PLAN**
SCALE: 1" = 30'

GMC
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STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — No. PE000710 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
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Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - ENLARGED YARD PIPING

C-304

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THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES

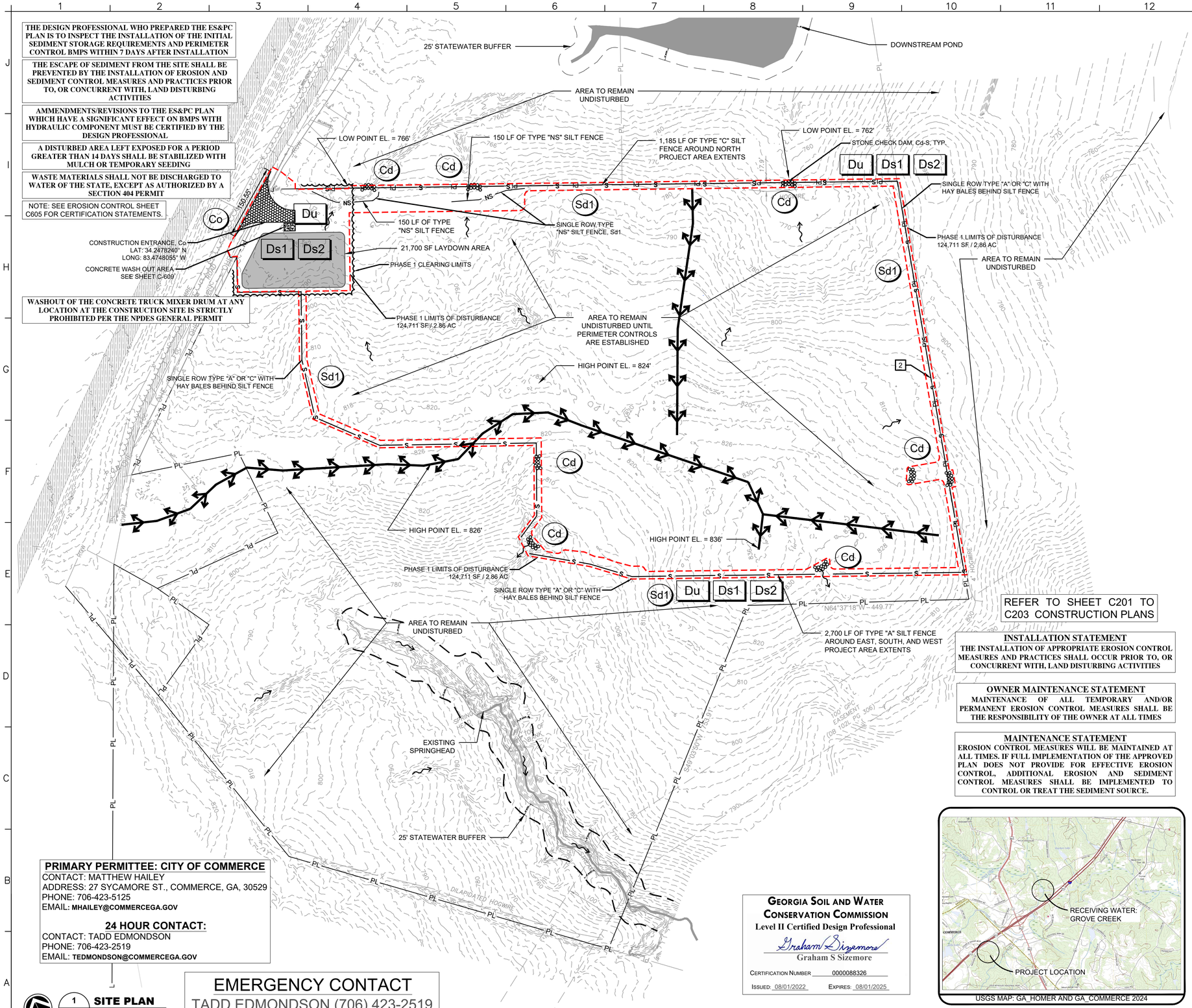
AMMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL

A DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATER OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

NOTE: SEE EROSION CONTROL SHEET C605 FOR CERTIFICATION STATEMENTS.

WASHOUT OF THE CONCRETE TRUCK MIXER DRUM AT ANY LOCATION AT THE CONSTRUCTION SITE IS STRICTLY PROHIBITED PER THE NPDES GENERAL PERMIT



PRIMARY PERMITTEE: CITY OF COMMERCE
CONTACT: MATTHEW HAILEY
ADDRESS: 27 SYCAMORE ST., COMMERCE, GA, 30529
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24 HOUR CONTACT:
CONTACT: TADD EDMONDSON
PHONE: 706-423-2519
EMAIL: **TEDMONDSON@COMMERCEGA.GOV**

EMERGENCY CONTACT
TADD EDMONDSON (706) 423-2519

1 / C-601 **SITE PLAN**
SCALE: 1" = 100'

GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Level II Certified Design Professional
Graham S Sizemore
CERTIFICATION NUMBER 0000088326
ISSUED: 08/01/2022 EXPIRES: 08/01/2025

USGS MAP: GA_HOMER AND GA_COMMERCE 2024

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

EROSION CONTROL NOTES:

1. LIMITS OF DISTURBANCE WILL BE A MINIMUM OF WHAT IS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. A MAXIMUM CLEARING LIMIT SHALL BE RIGHT OF WAY AND PROPERTY LINES. IN AREAS WHERE THIS IS NECESSARY, CONTRACTOR SHALL KEEP ALL CLEARING TO ABSOLUTE MINIMUM REQUIRED.

2. MATTING AND BLANKETING REQUIRED ON ALL DISTURBED SLOPES GREATER THAN 3:1. FLOCCULANTS AND COAGULANTS SHALL ALSO BE USED IN AREAS SUSCEPTIBLE TO HIGH EROSION AND IN AREAS ADJACENT TO CREEKS OR STREAMS.

3. DOUBLE ROW OF TYPE "S" SENSITIVE SILT FENCE WITH HAYBALES IN BETWEEN ROWS REQUIRED AT ALL CREEK OR STREAM CROSSINGS.

4. SEE SHEETS C604 THROUGH C612 FOR MORE INFORMATION.

5. REFER TO SHEETS C-606 THROUGH C-607 FOR BMP LEGEND AND DESCRIPTION

Ds1 – Ds2 – Ds3 – Ds4 – Du

REQUIRED ON ALL DISTURBED AREAS WHERE APPLICABLE

EROSION CONTROL SEQUENCING NOTES:

PHASE-1: CONSTRUCTION ENTRANCE, LAYDOWN AREA, CONCRETE WASH OUT AND PERIMETER CONTROLS SHALL BE INSTALLED.

PHASE-2: CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS SHALL BE MAINTAINED. SEDIMENT BASINS, SEDIMENTS TRAPS AND ALL ADDITIONAL EROSION BMPS SHALL BE INSTALLED AS CONSTRUCTION PROCEEDS.

PHASE-3: CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS SHALL BE MAINTAINED. AS SITE GRADING PROCEEDS, TEMPORARY SEDIMENT BASINS ARE TO BE REMOVED.

PHASE-4: ALL DISTURBED AREAS ARE TO BE SODDED AND STABILIZED AT THE CONCLUSION OF CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE REMOVED ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

FOR EROSION CONTROL MEASURES OUTSIDE OF THE TREATMENT PLANT FENCE SEE CU-311- CU-324.

EXISTING SITE DESCRIPTION:

THE EXISTING SITE CONSISTS OF PARCEL ID 019 002C IN JACKSON COUNTY, GEORGIA. THE PARCEL IS 41.87 ACRES IN SIZE AND IS ZONED AGRICULTURAL. THE PARCEL IS BORDERED BY PARCEL 019 001B AND 019 001A2 TO THE NORTHEAST, PARCEL 019 003 TO THE EAST, PARCEL 032 020 TO THE SOUTH, AND PARCEL 019 002A AND 019 002, AND HAGGARD ROAD TO THE WEST. THE EXISTING SITE IS ACCESSED FROM HAGGARD ROAD AT LAT: 34.2478240° N, LONG 83.4748055° W. THE SITE IS PRIMARILY FORESTED AND CONTAINS NO EXISTING INFRASTRUCTURE. AN EAST-WEST RIDGE SPLITS DRAINAGE OF THE SITE ROUGHLY IN TWO WITH RUNOFF TO THE NORTH FLOWING TO AN OFFSITE CATTLE POND AND RUNOFF TO THE SOUTH FLOWING TO A STREAM THAT LEAVES THE SOUTHEAST CORNER OF THE SITE BEFORE FLOWING TO CROOKED CREEK AND ULTIMATELY GROVE CREEK. AN 100' WIDE EASEMENT IS ALSO LOCATED IN THE SOUTHEAST CORNER OF THE PROPERTY.

LEGEND

- TYPE "S" SILT FENCE — S — S —
- TYPE "NS" SILT FENCE — NS —
- CHECK DAM
- FLOW ARROW
- LIMITS OF DISTURBANCE
- CLEARING LIMITS
- PROPERTY LINE — PL —
- OFFSITE PROPERTY — PL —
- EXISTING ROAD
- FENCE — X —
- TREELINE
- OVERHEAD ELECTRIC — OHE —
- RIGHT OF WAY — ROW —
- EASEMENT
- WATERBODY
- STREAM CENTERLINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- DRAINAGE DIVIDE

PROJECT OVERALL TOTALS:

1. TOTAL DISTURBED AREA = 20.73 ACRES

INSTALLATION STATEMENT
THE INSTALLATION OF APPROPRIATE EROSION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES

OWNER MAINTENANCE STATEMENT
MAINTENANCE OF ALL TEMPORARY AND/OR PERMANENT EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE OWNER AT ALL TIMES

MAINTENANCE STATEMENT
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.

REFER TO SHEET C201 TO C203 CONSTRUCTION PLANS

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER
GOODWYN MILLS CAWOOD, LLC
NO. PE051452
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION NO. PEPF007
STATE OF GEORGIA

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

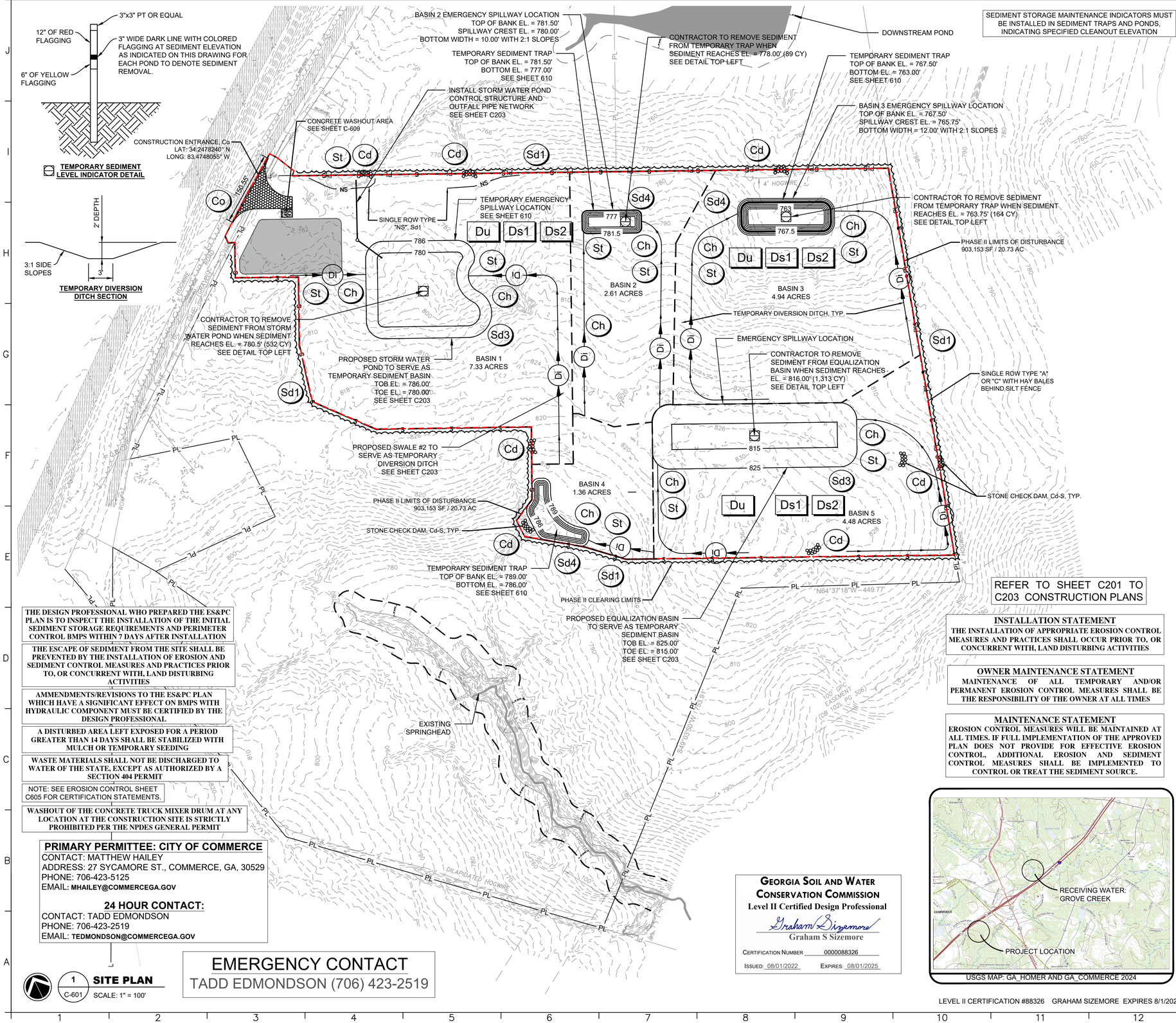
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - PHASE I - EROSION & SEDIMENT CONTROL PLAN

C-601

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THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES

AMMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL

A DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATER OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

NOTE: SEE EROSION CONTROL SHEET C605 FOR CERTIFICATION STATEMENTS.

WASHOUT OF THE CONCRETE TRUCK MIXER DRUM AT ANY LOCATION AT THE CONSTRUCTION SITE IS STRICTLY PROHIBITED PER THE NPDES GENERAL PERMIT

PRIMARY PERMITTEE: CITY OF COMMERCE
CONTACT: MATTHEW HAILEY
ADDRESS: 27 SYCAMORE ST., COMMERCE, GA, 30529
PHONE: 706-423-5125
EMAIL: **MHAILEY@COMMERCEGA.GOV**

24 HOUR CONTACT:
CONTACT: TADD EDMONDSON
PHONE: 706-423-2519
EMAIL: **TEDMONDSON@COMMERCEGA.GOV**

EMERGENCY CONTACT
TADD EDMONDSON (706) 423-2519

1 C-601 **SITE PLAN**
SCALE: 1" = 100'

GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Level II Certified Design Professional
Graham S Sizemore
CERTIFICATION NUMBER 0000088326
ISSUED: 08/01/2022 EXPIRES: 08/01/2025

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

INSTALLATION STATEMENT
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USGS MAP: GA_HOMER AND GA_COMMERCE 2024

EROSION CONTROL NOTES:

1. LIMITS OF DISTURBANCE WILL BE A MINIMUM OF WHAT IS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. A MAXIMUM CLEARING LIMIT SHALL BE RIGHT OF WAY AND PROPERTY LINES. IN AREAS WHERE THIS IS NECESSARY, CONTRACTOR SHALL KEEP ALL CLEARING TO ABSOLUTE MINIMUM REQUIRED.

2. MATTING AND BLANKETING REQUIRED ON ALL DISTURBED SLOPES GREATER THAN 3:1. FLOCCULANTS AND COAGULANTS SHALL ALSO BE USED IN AREAS SUSCEPTIBLE TO HIGH EROSION AND IN AREAS ADJACENT TO CREEKS OR STREAMS.

3. DOUBLE ROW OF TYPE "S" SENSITIVE SILT FENCE WITH HAYBALES IN BETWEEN ROWS REQUIRED AT ALL CREEK OR STREAM CROSSINGS.

4. SEE SHEETS C604 THROUGH C612 FOR MORE INFORMATION.

5. REFER TO SHEETS C-606 THROUGH C-607 FOR BMP LEGEND AND DESCRIPTION

Ds1 - Ds2 - Ds3 - Ds4 - Du

REQUIRED ON ALL DISTURBED AREAS WHERE APPLICABLE

EROSION CONTROL SEQUENCING NOTES:

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FOR EROSION CONTROL MEASURES OUTSIDE OF THE TREATMENT PLANT FENCE SEE CU-311- CU-324.

LEGEND

- TYPE "S" SILT FENCE — S — S —
- TYPE "NS" SILT FENCE — NS —
- CHECK DAM
- DIVERSION DITCH — Di —
- BASIN LINE
- CLEARING LIMITS
- SEDIMENT LEVEL INDICATOR
- PROPERTY LINE — PL —
- OFFSITE PROPERTY — PL —
- EXISTING ROAD
- FENCE — X —
- TREELINE
- OVERHEAD ELECTRIC — OHE —
- RIGHT OF WAY — ROW —
- EASEMENT
- WATERBODY
- STREAM CENTERLINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR

PROJECT OVERALL TOTALS:

1. TOTAL DISTURBED AREA = 20.73 ACRES

GMC
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Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOI PURCHASER — CERTIFICATE OF AUTHORIZATION — GOODWYN MILLS CAWOOD, LLC — NA-PE000746 — Exp.06.30.2026

1" 0" 1" 5"

ISSUE	DATE
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90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

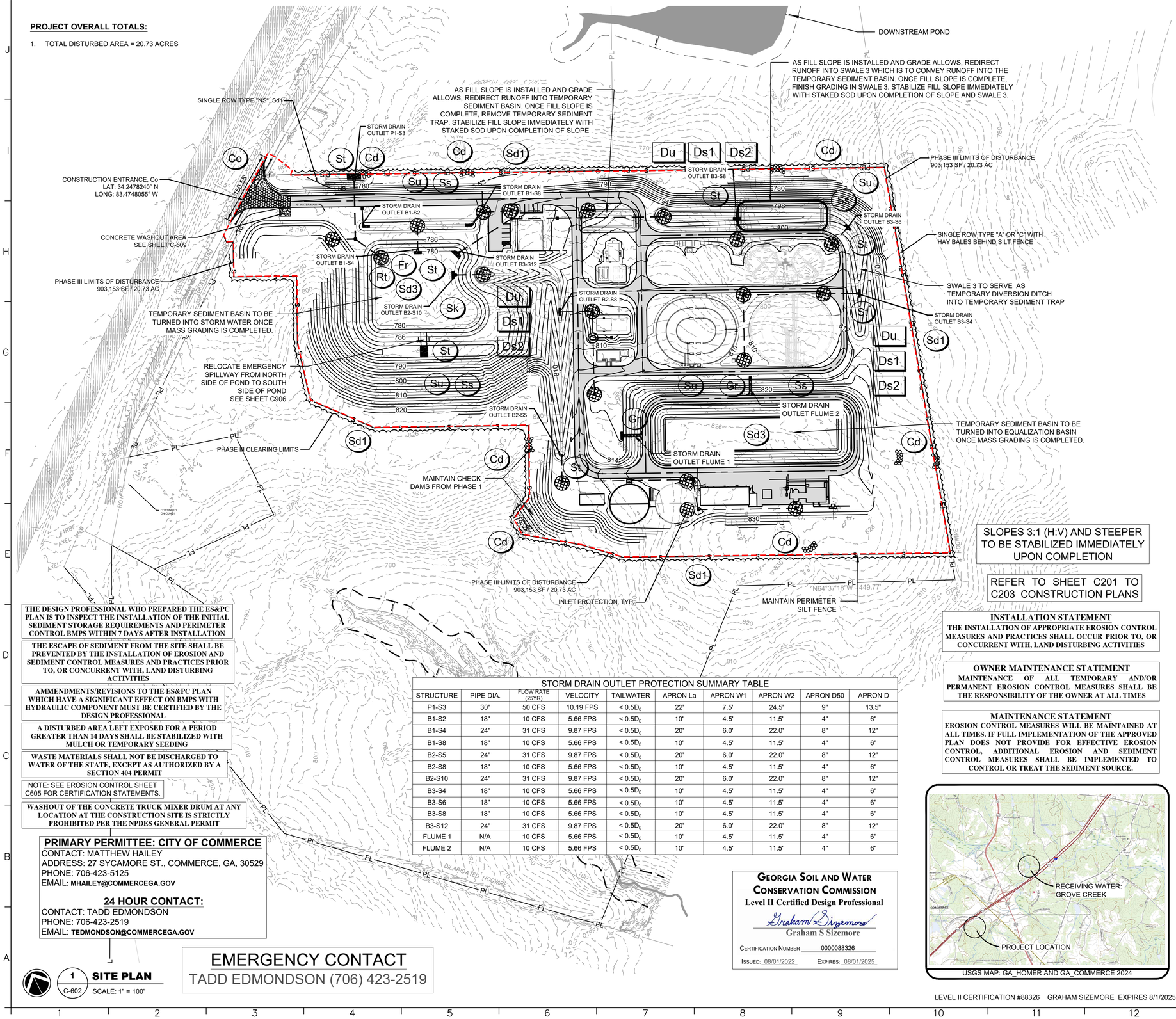
CIVIL SITE PLAN - PHASE II - EROSION & SEDIMENT CONTROL PLAN

C-602

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PROJECT OVERALL TOTALS:

1. TOTAL DISTURBED AREA = 20.73 ACRES



STORM DRAIN OUTLET PROTECTION SUMMARY TABLE									
STRUCTURE	PIPE DIA.	FLOW RATE (25YR)	VELOCITY	TAILWATER	APRON La	APRON W1	APRON W2	APRON D50	APRON D
P1-S3	30"	50 CFS	10.19 FPS	< 0.5D_0	22'	7.5'	24.5'	9"	13.5"
B1-S2	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B1-S4	24"	31 CFS	9.87 FPS	< 0.5D_0	20'	6.0'	22.0'	8"	12"
B1-S8	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B2-S5	24"	31 CFS	9.87 FPS	< 0.5D_0	20'	6.0'	22.0'	8"	12"
B2-S8	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B2-S10	24"	31 CFS	9.87 FPS	< 0.5D_0	20'	6.0'	22.0'	8"	12"
B3-S4	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B3-S6	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B3-S8	18"	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
B3-S12	24"	31 CFS	9.87 FPS	< 0.5D_0	20'	6.0'	22.0'	8"	12"
FLUME 1	N/A	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"
FLUME 2	N/A	10 CFS	5.66 FPS	< 0.5D_0	10'	4.5'	11.5'	4"	6"

SLOPES 3:1 (H:V) AND STEEPER TO BE STABILIZED IMMEDIATELY UPON COMPLETION

REFER TO SHEET C201 TO C203 CONSTRUCTION PLANS

INSTALLATION STATEMENT

THE INSTALLATION OF APPROPRIATE EROSION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES

OWNER MAINTENANCE STATEMENT

MAINTENANCE OF ALL TEMPORARY AND/OR PERMANENT EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE OWNER AT ALL TIMES

MAINTENANCE STATEMENT

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.

USGS MAP: GA_HOMER AND GA_COMMERCE 2024

THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES

AMMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL

A DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING

WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATER OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT

NOTE: SEE EROSION CONTROL SHEET C605 FOR CERTIFICATION STATEMENTS.

WASHOUT OF THE CONCRETE TRUCK MIXER DRUM AT ANY LOCATION AT THE CONSTRUCTION SITE IS STRICTLY PROHIBITED PER THE NPDES GENERAL PERMIT

PRIMARY PERMITTEE: CITY OF COMMERCE
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EMERGENCY CONTACT
TADD EDMONDSON (706) 423-2519

1 C-602 **SITE PLAN**
SCALE: 1" = 100'

GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Level II Certified Design Professional
Graham Sizemore
Graham S Sizemore
CERTIFICATION NUMBER 0000088326
ISSUED: 08/01/2022 EXPIRES: 08/01/2025

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

EROSION CONTROL NOTES:

1. LIMITS OF DISTURBANCE WILL BE A MINIMUM OF WHAT IS REQUIRED TO INSTALL PROPOSED IMPROVEMENTS. A MAXIMUM CLEARING LIMIT SHALL BE RIGHT OF WAY AND PROPERTY LINES. IN AREAS WHERE THIS IS NECESSARY, CONTRACTOR SHALL KEEP ALL CLEARING TO ABSOLUTE MINIMUM REQUIRED.

2. MATTING AND BLANKETING REQUIRED ON ALL DISTURBED SLOPES GREATER THAN 3:1. FLOCCULANTS AND COAGULANTS SHALL ALSO BE USED IN AREAS SUSCEPTIBLE TO HIGH EROSION AND IN AREAS ADJACENT TO CREEKS OR STREAMS.

3. DOUBLE ROW OF TYPE "S" SENSITIVE SILT FENCE WITH HAYBALES IN BETWEEN ROWS REQUIRED AT ALL CREEK OR STREAM CROSSINGS.

4. SEE SHEETS C604 THROUGH C612 FOR MORE INFORMATION.

5. REFER TO SHEETS C-606 THROUGH C-607 FOR BMP LEGEND AND DESCRIPTION

Ds1 - Ds2 - Ds3 - Ds4 - Du

REQUIRED ON ALL DISTURBED AREAS WHERE APPLICABLE

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PHASE-1: CONSTRUCTION ENTRANCE, LAYDOWN AREA, CONCRETE WASH OUT AND PERIMETER CONTROLS SHALL BE INSTALLED.

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PHASE-3: CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS SHALL BE MAINTAINED. AS SITE GRADING PROCEEDS, TEMPORARY SEDIMENT BASINS ARE TO BE REMOVED.

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FOR EROSION CONTROL MEASURES OUTSIDE OF THE TREATMENT PLANT FENCE SEE CU-311- CU-324.

KEY NOTES: [#]

1. CO CONSTRUCTION ENTRANCE/EXIT
   LAT: 34.2478240° N
   LONG: 83.4748055° W
2. Sd1 SINGLE ROW TYPE "A" OR "C" WITH HAY BALES BEHIND SILT FENCE. SEE SHEET C601
3. Sd1 SINGLE ROW TYPE "NS"
4. Cd-S STONE CHECK DAM
5. INLET PROTECTION
6. Sd3 SEDIMENT POND SEE EROSION DETAILS
8. STORM DRAIN OUTLET PROTECTION
9. PHASE III LIMITS OF DISTURBANCE 903,153 SF / 20.73 AC
10. PHASE III CLEARING LIMITS
11. CONCRETE WASHOUT AREA. SEE SHEET C609.

LEGEND

TYPE "S" SILT FENCE	S
TYPE "NS" SILT FENCE	NS
CHECK DAM	
FLOW ARROW	
INLET PROTECTION	
LIMITS OF DISTURBANCE	
CLEARING LIMITS	
P. MAJOR CONTOUR	
P. MINOR CONTOUR	
PROPERTY LINE	PL
OFFSITE PROPERTY	PL
EXISTING ROAD	
FENCE	X
TREELINE	
OVERHEAD ELECTRIC	OHE
RIGHT OF WAY	ROW
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WATERBODY	
STREAM CENTERLINE	
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Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - PHASE III - EROSION & SEDIMENT CONTROL PLAN

C-603

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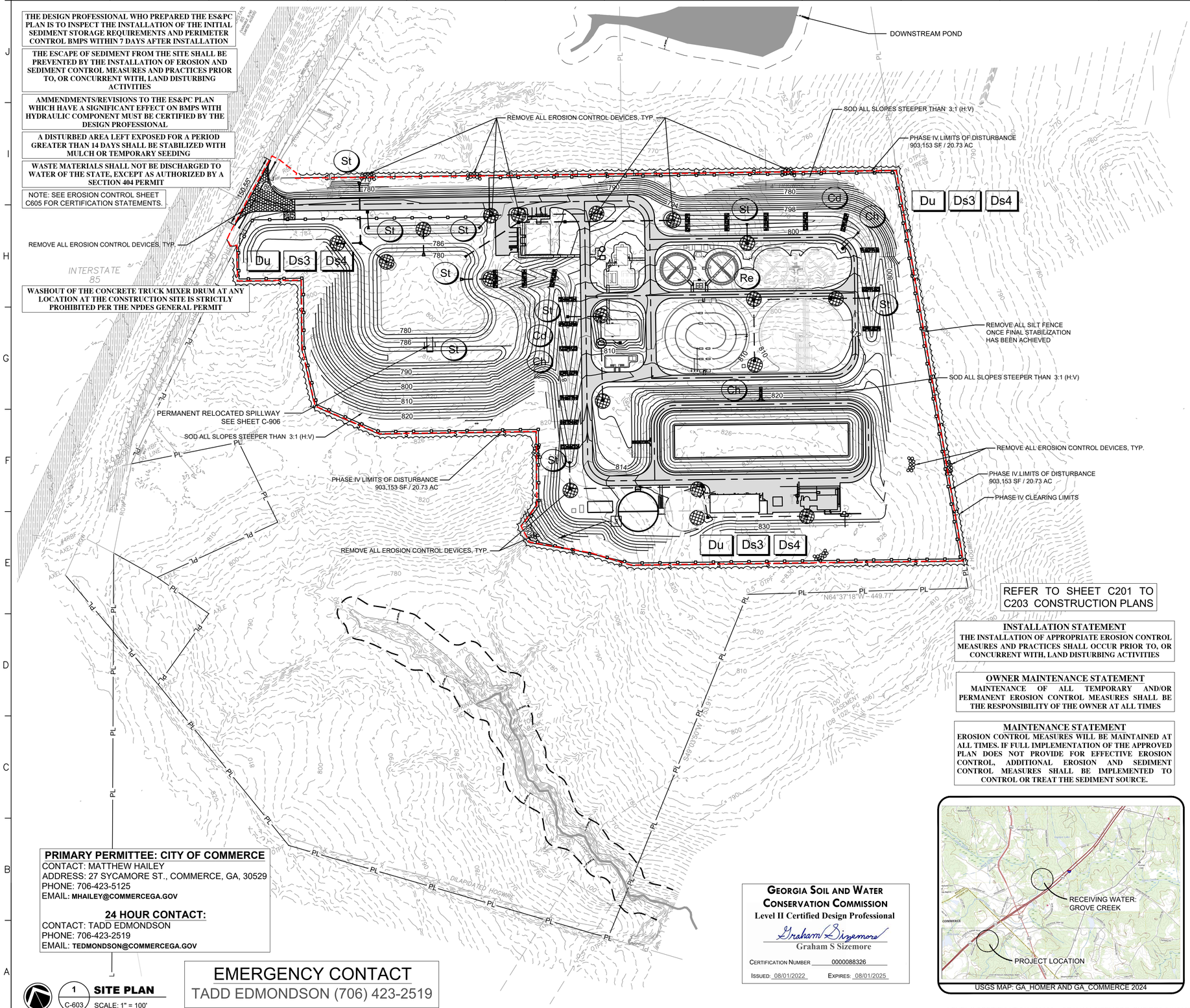
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NOTE: SEE EROSION CONTROL SHEET C605 FOR CERTIFICATION STATEMENTS.

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REFER TO SHEET C201 TO C203 CONSTRUCTION PLANS

INSTALLATION STATEMENT

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USGS MAP: GA_HOMER AND GA_COMMERCE 2024

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EMERGENCY CONTACT
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1 / C-603 **SITE PLAN**
SCALE: 1" = 100'

GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Level II Certified Design Professional
Graham S Sizemore
CERTIFICATION NUMBER 0000088326
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PHASE-1: CONSTRUCTION ENTRANCE, LAYDOWN AREA, CONCRETE WASH OUT AND PERIMETER CONTROLS SHALL BE INSTALLED.

PHASE-2: CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS SHALL BE MAINTAINED. SEDIMENT BASINS, SEDIMENTS TRAPS AND ALL ADDITIONAL EROSION BMPS SHALL BE INSTALLED AS CONSTRUCTION PROCEEDS.

PHASE-3: CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS SHALL BE MAINTAINED. AS SITE GRADING PROCEEDS, TEMPORARY SEDIMENT BASINS ARE TO BE REMOVED.

PHASE-4: ALL DISTURBED AREAS ARE TO BE SODDED AND STABILIZED AT THE CONCLUSION OF CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE REMOVED ONCE FINAL STABILIZATION HAS BEEN ACHIEVED.

FOR EROSION CONTROL MEASURES OUTSIDE OF THE TREATMENT PLANT FENCE SEE CU-311- CU-324.

LEGEND

- TYPE "S" SILT FENCE — S — S —
- TYPE "NS" SILT FENCE — NS —
- CHECK DAM
- FLOW ARROW
- INLET PROTECTION
- LIMITS OF DISTURBANCE
- CLEARING LIMITS
- P. MAJOR CONTOUR
- P. MINOR CONTOUR
- PROPERTY LINE — PL —
- OFFSITE PROPERTY — PL —
- EXISTING ROAD
- FENCE — X —
- TREELINE
- OVERHEAD ELECTRIC — OHE —
- RIGHT OF WAY — ROW —
- EASEMENT
- WATERBODY
- STREAM CENTERLINE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EROSION CONTROL BLANKET

PROJECT OVERALL TOTALS:

1. TOTAL DISTURBED AREA = 20.73 ACRES

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — NA.PE051452.1566 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL SITE PLAN - PHASE IV - EROSION & SEDIMENT CONTROL PLAN

C-604

This drawing is and shall remain the property of Goodwyn, Mills and Cawood, Inc. (GMC) and Goodwyn Mills Cawood LLC (GMC). Unauthorized use of any kind including use on other projects is prohibited. In the event that a conflict arises between the sealed drawings and the electronic files, the sealed drawings will govern.

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST STAND–ALONE CONSTRUCTION PROJECTS

SWCD: R2 Oconee River

Project Name: GROVE CREEK WPCP Address: SEE PLAN SET

Local Issuing Authority: JACKSON COUNTY, GA Date on Plans: FEBRUARY, 2025

Name & email of person filling out checklist: graham.sizemore@gmcnetwork.com

Plan Page #	Included Y/N		TO BE SHOWN ON ES&PC PLAN
C-605	Y	1.	The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land–disturbing activity was permitted. The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed. Permit IV.D.1. pg 27
C-606	Y	2.	Level II certification number issued by the Commission, signature and seal of the certified design professional. Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed. The Level II certification must be issued to the Design Professional, after completion of a GSWCC approved course, and whose signature and seal are on the Plan.
C-601 - 604 & CU -312 -324	Y	3.	Limits of disturbance shall be less than 50 acres at any one time without prior written authorization from the GAEPD District Office. If GAEPD approves the request to disturb 50 acres or more at any one time, the Plan must include the GAEPD approval letter and completed Appendix 1 of this checklist with at least 4 of the chosen BMPs. * A copy of the written approval by GAEPD must be attached to the Plan for the Plan to be reviewed. Permit IV.D.3. pg 28
C-601 - 604	Y	4.	The name and phone number of the 24–hour contact responsible for erosion, sedimentation and pollution controls.
C-601 - 604	Y	5.	Provide the name, address, email address, and phone number of Primary Permittee.
C-601 - 604 & CU -312 -324	Y	6.	Note total and disturbed acreages of the project or phase under construction.
C-601 - 603	Y	7.	Provide the GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees
C-607	Y	8.	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
C-606	Y	9.	Descriptions of the nature of construction activity and existing site conditions.
C-607	Y	10.	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
C-601-614	Y	11.	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
C-606	Y	12.	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on Part IV page 20 of the permit.
C-606	Y	13.	Design professional's certification statement and signature that the Permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on Part IV page 20 of the permit. *
C-606	Y	14.	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect and certify the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation." *
C-606	Y	15.	Clearly note the statement that "Non–exempt activities shall not be conducted within the 25 or 50–foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25–feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."
C-606	Y	16.	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
C-606	Y	17.	Clearly note the statement that "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." *
C-606	Y	18.	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *
C-606	Y	19.	Clearly note statement that "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."
C-606	Y	20.	Clearly note statement that "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."
C-606	Y	21.	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
C-605	Y	22.	Any construction activity which discharges storm water into a Biota Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as any portion of a Biota Impaired Stream Segment, must comply with Part III.C. of the permit. Include the completed Appendix 1 of this checklist with at least 4 of the chosen BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment. *
C-605	Y	23.	If a TMDL Implementation Plan for sediment has been finalized for the Biota Impaired Stream Segment (identified in Item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site–specific conditions or requirements included in the TMDL Implementation Plan. *
C-609	Y	24.	BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Include statement that washout of the drum at the construction site is prohibited. *
C-609	Y	25.	Provide BMPs for the remediation of all petroleum spills and leaks.
C-606, 609	Y	26.	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *
C-606	Y	27.	Description of practices to provide cover for building materials and building products on site. *
C-606	Y	28.	Description of the practices that will be used to reduce the pollutants in storm water discharges. *
C-606	Y	29.	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, grading, infrastructure, temporary and final stabilization).
C-614-615	Y	30.	Provide complete requirements of Inspections and record keeping by the Primary Permittee. *
C-614-615	Y	31.	Provide complete requirements of Sampling Frequency and Reporting of sampling results. *
C-614-615	Y	32.	Provide complete details for Retention of Records as per Part IV.F. of the permit. *
C-614-615	Y	33.	Description of analytical methods to be used to collect and analyze the samples from each location. *
C-614-615	Y	34.	Appendix B rationale for NTU values at all outfall sampling points where applicable. *
C-615	Y	35.	Delineate all sampling locations on all phases of the Plan, and perennial and intermittent streams and other water bodies into which storm water is discharged. *
C-606-613	Y	36.	A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial sediment storage requirements and initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all BMPs into a single phase plan. *
C-601-604 & CU -312 -324	Y	37.	Graphic scale and North arrow.
C-601-604 & CU -312 -324	Y	38.	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Map Scale	Ground Slope	Contour Intervals, ft
1 inch = 100ft or larger scale	Flat 0–2% Rolling 2–8% Steep 8%+	0.5 or 1 1 or 2 2, 5 or 10

-	N	39.	Use of Alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.
-	N	40.	Use of Alternative BMP for application to the Equivalent BMP List. Refer to Appendix A–2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *
CU -312 -324	Y	41.	Delineation of the applicable 25–foot or 50–foot undisturbed buffers adjacent to State Waters and any additional buffers as required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
C-601-604 & CU -312 -324	Y	42.	Delineation of all State Waters and wetlands located on or within 200 feet of the project site.
C-615	Y	43.	Delineation and acreage of contributing drainage basins on the project site.
REPORT ATTACHED	Y	44.	Provide hydrology study and maps of drainage basins for both the pre– and post–developed conditions. *
C-615	Y	45.	Estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed. For solar farm projects, post–construction impervious area shall be calculated as 70% of total solar panel square footage.
REPORT ATTACHED	Y	46.	Storm–drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate at all storm water discharge points.
C-615 & 616	Y	47.	Soil series for the project site and their delineation.
C-601-604 & CU -312 -324	Y	48.	The limits of disturbance for each phase of construction.
C-606	Y	49.	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, Permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan.
C-601-604 & CU -312 -324	Y	50.	Location of Best Management Practices that are consistent with, and no less stringent than, the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual Chapter 6, with legend.
C-608-613	Y	51.	Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
C-608	Y	52.	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.

*If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream the * checklist items would be N/A.

Effective January 1, 2025

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA NOT VALID WITHOUT ORIGINAL SIGNATURE GOODWYN MILLS CAWOOD, LLC GA.PE051452.LLC Exp.06.30.2026 CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
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Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST

C-605

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GENERAL NOTES:

1. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT MAY NOT BE ABSOLUTELY CORRECT. THERE MAY BE OTHER IMPROVEMENTS, UTILITIES, ETC. WHICH ARE WITHIN THE PROJECT AREA AND WHICH HAVE BEEN INSTALLED AND CONSTRUCTED SINCE THE PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) AFFECTING HIS WORK. IN ADDITION TO CONTACTING THE LOCAL UTILITY AGENCIES, THE CONTRACTOR SHALL GIVE THREE WORKING DAYS NOTICE TO THE UTILITIES PROTECTION CENTER AT 1-800-282-7411 PRIOR TO ANY EXCAVATION.
2. THE INFORMATION PROVIDED IN THESE PLANS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY MAY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED.
3. CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT, REPAIR, REMOVE AND/OR RELOCATE ANY UTILITIES DURING CONSTRUCTION WITH LIKE MATERIALS AND CONSTRUCTION METHODS AS APPROVED BY THE ENGINEER AND THE OWNER AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ANY UTILITY RELOCATION AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION AND SHALL USE WHATEVER MEANS NECESSARY TO MANAGE STORM WATER SUCH THAT IMPACT TO CONSTRUCTION IS MINIMIZED.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH EXISTING STATE, COUNTY, AND CITY DESIGN AND CONSTRUCTION STANDARDS UNLESS THOSE STANDARDS CONFLICT WITH THESE CONTRACT DOCUMENTS IN WHICH CASE THESE CONTRACT DOCUMENTS SHALL GOVERN. SUCH CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.
7. DEWATERING SHALL BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH PROJECT SPECIFICATIONS AS NECESSARY TO INSTALL/CONSTRUCT THE WORK PROPERLY. DEWATERING DISCHARGE SHALL BE IN ACCORDANCE WITH APPLICABLE REGULATIONS AND REQUIREMENTS OF AGENCIES HAVING JURISDICTION.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS FOR EXCAVATIONS (29 CFR PART 1926-OCT 1989) AND TO ABIDE BY THEM. SAFETY IN, ON OR ABOUT THE SITE IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR ALONE.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH THE 1992 GEORGIA HIGH VOLTAGE SAFETY ACT AND TO NOTIFY THE UTILITIES PROTECTION CENTER AT 1-800-282-7411 BEFORE WORKING WITHIN 10 FEET OF OVERHEAD POWER
   LINES OF 750 VOLTS OR MORE.
10. THE OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS AND TO WAIVE ANY INFORMALITY IN BIDS RECEIVED WHENEVER SUCH REJECTION OR WAIVER IS IN ITS INTEREST.
11. A PRECONSTRUCTION CONFERENCE WITH THE ENGINEER IS REQUIRED PRIOR TO BEGINNING WORK.
12. ANY CHANGES IN THE APPROVED PLANS MUST BE COORDINATED WITH THE ENGINEER AND MUST BE APPROVED PRIOR TO PROCEEDING.
13. MATERIAL AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF THE GDOT STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS, (GDOTSS) LATEST EDITION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL SHRUBBERY, TREES, OR STRUCTURES WITHIN THE WORKING AREA THROUGHOUT THE COURSE OF CONSTRUCTION. ANY TREES, SHRUBS, OR STRUCTURES DAMAGED OR DISTURBED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
15. PORTIONS OF THE PROJECT DO LIE WITHIN ZONE A 100 YEAR FLOOD PLAIN PER FEMA MAPS 13011CO140A AND 13157C0155C BOTH DATED DEC. 17, 2010.
16. DESIGN PROFESSIONAL QUALIFICATIONS: GSWCC LEVEL II CERTIFICATION #88326
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD STAKING.
18. 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.
19. 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.
20. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
21. THE CONTRACTOR SHALL ALSO PREVENT POLLUTION OF THE ADJOINING STREAMS BY NOT CONDUCTING ANY ACTIVITIES IN THE BUFFER ZONE THAT ARE NOT ABSOLUTELY NECESSARY. FORBIDDEN ACTIVITIES IN THE BUFFER ZONE INCLUDED, BUT NOT LIMITED TO INCLUDE
    A. VEHICLE REFUELING AND MAINTENANCE
    B. DEPOSITING OF TRASH, WASTE, CONSTRUCTION DEBRIS, EXTRA CONCRETE AND ASPHALT, AND RESIDUE FROM EQUIPMENT CLEANING.
22. CONTRACTOR SHALL STORE AND PROTECT PRODUCTS IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS. STORE WITH SEALS AND LABELS INTACT AND LEGIBLE. STORE SENSITIVE PRODUCTS IN WEATHER TIGHT, CLIMATE CONTROLLED, ENCLOSURES IN AN ENVIRONMENT FAVORABLE TO PRODUCT. FOR EXTERIOR STORAGE OF FABRICATED PRODUCTS, PLACE ON SLOPED SUPPORTS ABOVE GROUND. COVER PRODUCTS SUBJECT TO DETERIORATION WITH IMPERVIOUS SHEET COVERING. PROVIDE VENTILATION TO PREVENT CONDENSATION AND DEGRADATION OF PRODUCTS. PROVIDE EQUIPMENT AND PERSONNEL TO STORE PRODUCTS BY METHODS TO PREVENT SOILING, DISFIGUREMENT, OR DAMAGE. ARRANGE STORAGE OF PRODUCTS TO PERMIT ACCESS FOR INSPECTION. PERIODICALLY INSPECT TO VERIFY PRODUCTS ARE UNDAMAGED AND ARE MAINTAINED IN ACCEPTABLE CONDITION. CONTRACTOR SHALL NOT LEAVE ANY WASTE PRODUCTS ON THE GROUND, BUT SHALL REMOVE AND DISPOSE OF THEM PROMPTLY AND IN APPROVED LOCATIONS.
23. VEHICLE FUELING AND MAINTENANCE SHALL TAKE PLACE ONLY IN AREAS DESIGNATED BY THE OWNER.
24. PHASED EROSION CONTROL (INITIAL, INTERMEDIATE & FINAL) PLANS ARE SHOWN FOR THE TREATMENT PLANT SITE ALONG WITH SEDIMENT PONDS HOWEVER THESE ITEMS ARE NOT PRACTICAL FOR THE LINEAR PORTION OF THE PROJECT SINCE UTILITY INSTALLATION, BACKFILL, COMPACTION AND GRASSING OCCURS TYPICALLY WITHIN 5 DAYS. THE USE OF SEDIMENT PONDS ARE NOT PRACTICAL FOR LINEAR PROJECTS WITHIN THE EXIST. ROAD R/W OR EASEMENTS. THE BMP'S USED FOR THE PROJECT WILL CONTAIN THE SEDIMENT RUN OFF.
25. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
26. THERE ARE 3 CREEK CROSSINGS FOR THIS PROJECT WHICH ARE PERPENDICULAR AND THEREFORE EXEMPT AND A HORIZONTAL DIRECTIONAL DRILL UNDER A WETLAND AREA ALONG THE INFLUENT AND EFFLUENT FORCE MAIN A BUFFER ENCROACHMENT IS REQUIRED AT ONE LOCATION NO VARIANCES ARE REQUIRED.
27. SANITARY SEWER IS BEING INSTALLED FOR THIS PROJECT NO SEPTIC TANKS ARE BEING INSTALLED.
28. WASHOUT OF CONCRETE DRUMS AND EQUIPMENT AT THE CONSTRUCTION SITE IS PROHIBITED.
29. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TEMPORARY HOLDING OF POWER/GUY POLES AND/OR GUY WIRES. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS OF INSTALLING NEW POWER/GUY POLES AND/OR GUY WIRES AT PROPOSED SITE. POWER COMPANY IS RESPONSIBLE FOR ALL COSTS TO BRING POWER TO THE SITE

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

1. THE PROJECT IS LOCATED NORTHWEST OF THE CITY OF COMMERCE IN JACKSON COUNTY GEORGIA AS SHOWN IN THE PLAN SET. THE PROJECT INVOLVES THE CONSTRUCTION OF A NEW WASTEWATER POLLUTION CONTROL PLANT (WPCP).
2. THE MAIN UTILITY RESPONSIBLE FOR THE PROJECT IS THE CITY OF COMMERCE 24 HR. CONTACT:
   JOSH ALLISON PH. (706) 335-5202 EMAIL: JALLISON@COMMERCEGA.GOV
3. 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.
4. THE CONSTRUCTION PAD SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC STREETS.
5. SILT FENCES AND HAY BALE BARRIERS SHALL BE CLEANED OR REPLACED AND MAINTAINED IN FUNCTIONAL CONDITION UNTIL PERMANENT EROSION CONTROL MEASURES ARE ESTABLISHED.
6. SILT FENCE FABRIC SHALL BE COMPRISED OF GA. DOT QUALIFIED PRODUCTS LIST 36, FOR SILT FENCE FABRIC.
7. ALL GRASSING SHALL BE IN ACCORDANCE WITH CHAPTER 6, SECTION III "VEGETATIVE PRACTICES" OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
8. ALL OTHER WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
9. THE CONTRACTOR SHALL FURNISH APPROPRIATE AUTHORITY OR DEPT. WITH A SCHEDULE OF ANTICIPATED STARTING AND COMPLETION DATES FOR EACH SEQUENCE OF LAND DISTURBING ACTIVITY LISTED IN ITEMS FOUR THROUGH EIGHT ABOVE.
10. EROSION CONTROL DEVICES WILL BE IN PLACE BEFORE SITE DISTURBANCE AND WILL BE PERIODICALLY INSPECTED AND REPAIRED OR RESTORED AS NEEDED TO FUNCTION PROPERLY UNTIL PERMANENT MEASURES ARE ESTABLISHED AND PROJECT IS COMPLETE, I.E.: CONSTRUCTION EXITS AND SILT FENCES SHALL BE RETOPPED OR CLEANED AS SILT REDUCES THEIR EFFECTIVENESS.
11. ANY ADDITIONAL CONSTRUCTION OTHER THAN SHOWN ON THIS PLAN WILL REQUIRE SEPARATE AND ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AND APPROVAL.
12. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDINGS.
13. ALL DISTURBED AREAS WILL BE PERMANENTLY LANDSCAPED AND GRASSED AS SOON AS CONSTRUCTION PHASES PERMIT.
14. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATION OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
15. ADDITIONAL MEASURES MAY BE REQUIRED TO CONTROL EROSION AS DETERMINED NECESSARY BY INSPECTORS.
16. CUT AND FILL SLOPES NOT TO EXCEED 2H:1V.
17. NOTIFY WATER & SEWER INSPECTOR PRIOR TO START OF CONSTRUCTION.
18. SEDIMENTATION & EROSION CONTROL MEASURES TO BE INSPECTED DAILY.
19. 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. PRACTICES WILL BE CHECKED DAILY.
20. THERE ARE STATE WATERS LOCATED WITHIN 200 FEET OF THE PROJECT SITE.
21. THE PROJECT DOES IMPACT/DISTURB STATE WATERS, OR STREAMS.
22. THE PROJECT DOES IMPACT/DISTURB WETLAND AREAS.
23. ADJACENT PROPERTIES TO THE PROPOSED CONSTRUCTION ROUTE ARE COMPRISED OF RESIDENTIAL AND COMMERCIAL PROPERTIES.
24. EXISTING LAND USE ALONG PROJECT LENGTH FALLS UNDER RESIDENTIAL ZONING, THE EXISTING AREA BETWEEN THE EDGE OF PAVEMENT AND THE RIGHT-OF-WAY CONSISTS TYPICALLY OF A GRASSED AREA COMPOSED OF DIFFERENT TYPES OF TREES, SHRUBS, AND ORNAMENTAL FEATURES ALONG THE RIGHT-OF-WAY LINE.
25. THE DRAINED AREA FOR THE PROJECT IS 33.2 ACRES. SILT STORAGE REQUIRED IS 33.2 AC. TIMES 67 CY/AC = 2224.4 CY. INSTALLATION OF SEDIMENT PONDS AND 4,185 LF OF NON-SENSITIVE TYPE "NS" AND SENSITIVE TYPE "S" SILT FENCE WILL CONTAIN 3.42 SF (1/2 FULL SILT FENCE) X 4,185 LF / 27 CF/CY = 530.1 CY OF SILT BASED ON A 5:1 SLOPE WHICH EXCEEDS REQUIRED MINIMUM.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE EROSION CONTROL MEASURES FOR THE ENTIRE LENGTH OF THE PROJECT AND SHALL ADD ADDITIONAL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION RUN-OFF FROM THE DISTURBED AREAS.
27. CONSTRUCTION EXIT WIDTHS MAY BE MODIFIED TO FIT THE WIDTH OF THE LIMITS OF DISTURBANCE (LOD) FOR THIS PROJECT.
28. THE CONTRACTOR MUST COMPLY WITH NPDES GENERAL PERMIT NO. 100002 - EFFECTIVE AUGUST 1, 2018.
29. NARRATIVE POLLUTION PREVENTION PRACTICES:
    THE FOLLOWING ARE POTENTIAL SOURCES OF STORM WATER POLLUTION EXPECTED TO BE PRESENT ON THE SITE AND AN EXPLANATION OF HOW THE POLLUTANTS WILL BE MINIMIZED IN THE STORM WATER DISCHARGES:RUNOFF FROM DISTURBED/UNDISTURBED AREAS TO BE MINIMIZED THROUGH THE INSTALLATION OF Sd1 SILT FENCE, Ds1 MULCH, Ds2 TEMPORARY SEEDING AND Ds3 PERMANENT VEGETATION.

ANTICIPATED ACTIVITY SCHEDULE

	MONTHS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	START DATE																								
1	BEGIN PROJECT	■	■	■																					
2	INSTALL SEDIMENT CONTROLS	■	■	■	■	■	■	■	■																
3	CLEARING		■	■	■	■	■	■	■	■	■	■	■												
4	GRASS & MULCH (TEMP.) (PERM.)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
5	UTILITY, STRUCTURE INSTALLATION		■	■	■	■	■	■	■	■	■	■	■												
6	MAINTAIN EROSION CONTROL	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
7	CLEAN UP																						■	■	■
8	FINAL STABILIZATION																■	■	■	■	■	■	■	■	■

NOTE: THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

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 STORMWATER 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. GAR100001.

GRAHAM SIZEMORE
LEVEL II CERTIFICATION #88326
EXPIRES 08/01/2025 Graham Sizemore

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.

Graham Sizemore — 1/16/2025
Signed — Date

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 NOT PROPOSED TO BE SAMPLED, I HAVE DETERMINED IN MY PROFESSIONAL JUDGMENT, UTILIZING THE FACTORS REQUIRED IN THE GENERAL NPDES PERMIT NO. GAR100001, 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.

GRAHAM SIZEMORE
LEVEL II CERTIFICATION #88326
EXPIRES 08/01/2025 Graham Sizemore

I CERTIFY UNDER PENALTY OF LAW THAT THIS REPORT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT CERTIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

Graham Sizemore — 1/16/2025
Owner — Date

GEORGIA811 www.Georgia811.com

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

NOTICE OF CERTIFICATE OF COVERAGE — GEORGIA — GOODWYN MILLS CAWOOD, LLC — No. GEC0003588 — Exp.06.30.2026 — CERT. IF CONT. OF COVERAGE

1" 6" 0" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drown By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL Graham Sizemore 03.19.2025 ENGINEER GRAHAM S. SIZEMORE

ES & PC GENERAL NOTES, LEGENDS & SCHEDULE

C-606

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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.
Dl	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, sectional 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 drainageways.
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/drains 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.
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	TOPSOILING			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	COASTAL DUNE STABILIZATION (WITH VEGETATION)		Cs	Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	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)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)		Ds4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Co	FLOCCULANTS AND COAGULANTS		Fl-Co	Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM VEGETATION)		Sb	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		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS		Tac	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

EROSION LEGEND

CONSTRUCTION ENTRANCE — Co

SILT FENCE TYPE "NS" — Sd1 — NS

SILT FENCE DOUBLE ROW TYPE "S" — Sd1 — S

STONE CHECK DAM — Cd

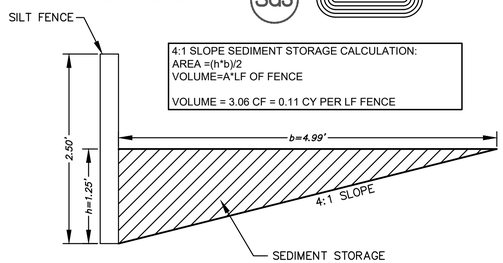
INLET SEDIMENT TRAP — Sd2

SLOPE STABILIZATION (RECP) — Ss

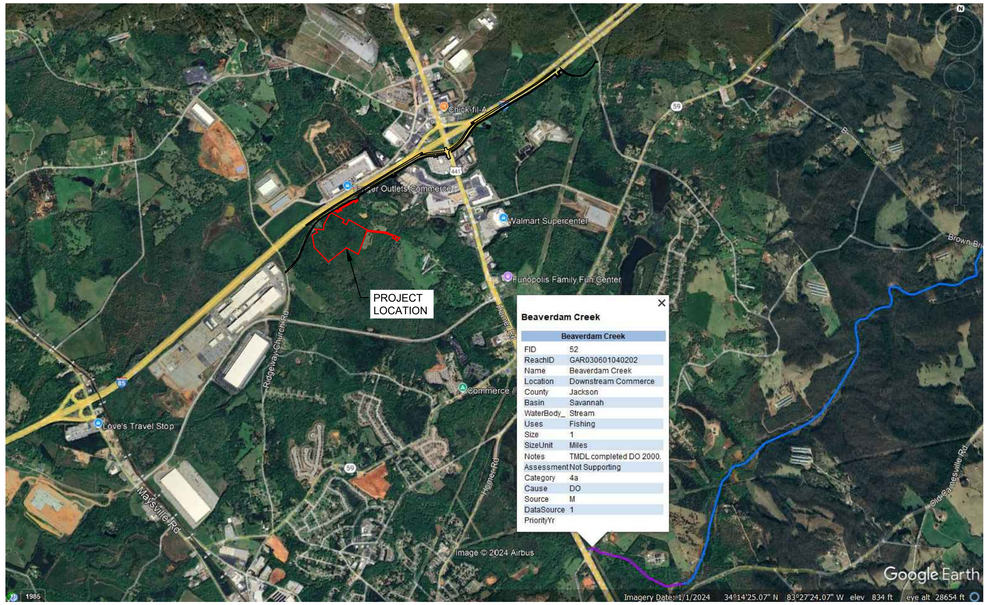
STORM DRAIN OUTLET PROTECTION — St

SLOPE STABILIZATION — Ss

TEMPORARY SEDIMENT TRAP — Sd3



SILT FENCE SEDIMENT STORAGE
N.T.S.



VICINITY MAP
N.T.S.

THERE ARE NO IMPAIRED STREAM SEGMENTS WITHIN 1 LINEAR MILE OF THE PROJECT.

NOTE: THE CLOSEST IMPAIRED STREAM SEGMENT IS A SECTION OF BEAVERDAM CREEK LOCATED APPROXIMATELY 8370' SOUTHEAST OF THE PROJECT AREA. IT IS A NON-SUPPORTING STREAM DO IMPAIRED. NO ADDITIONAL BMPs ARE REQUIRED.

OWNER CITY OF COMMERCE, GA

DESCRIPTION	NAME	PHONE NUMBER	EMAIL ADDRESS
CITY MANAGER	MATTHEW HAILEY	706.423.5125	MHAILEY@COMMERCEGA.GOV
WATER & SEWER SUPERINTENDANT	JOSH ALLISON (24 HOUR CONTACT)	706.335.5202	JALLISON@COMMERCEGA.GOV

PIPELINE AND PUMP STATION ENGINEER - GMC

DESCRIPTION	NAME	PHONE NUMBER	EMAIL ADDRESS
SENIOR CLIENT MANAGER	CHARLES WELCH	770.952.2481 EXT. 103	CHARLES.WELCH@GMCNETWORK.COM
ENGINEER	CURTIS BARBER, PE	770.952.2481 EXT. 111	CURTIS.BARBER@GMCNETWORK.COM
ENGINEER	GRAHAM SIZEMORE, PE	770.952.2481 EXT. 143	GRAHAM.SIZEMORE@GMCNETWORK.COM
SENIOR DESIGNER	DAVID SMITH	770.952.2481 EXT. 104	DAVID.SMITH@GMCNETWORK.COM

	PLAN REVISIONS AND DESCRIPTION		REVIEWS/PERMITS/ESM'T	SUBMIT	STATUS
1.	PERMITTING REVIEW COMMENTS	1.	EASEMENTS	12/24/24	TO BE SUBMITTED
2.		2.	GDOT PERMIT	12/24/24	TO BE SUBMITTED
3.		3.	LAND DISTURBING ACTIVITY PERMIT	12/24/24	TO BE SUBMITTED
4.					

PRIMARY PERMITTEE:

THE CITY OF COMMERCE, GA
27 SYCAMORE STREET
COMMERCE, GA 30549
PH. 706-335-3164

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID FOR CONSTRUCTION UNLESS SIGNED AND SEALED — GOODWYN MILLS CAWOOD, LLC — No. PEF001746 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

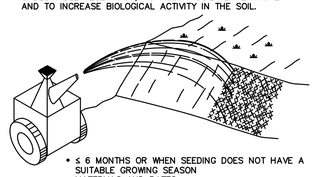
ES & PC
STANDARD DETAILS

C-607

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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A TEMPORARY COVER OVER BASE AREAS TO PREVENT EROSION AND REDUCE RUNOFF; TO CONSERVE MOISTURE; TO PREVENT SURFACE COMPACTION OR CRUSTING; TO CONTROL UNDESIRABLE VEGETATION; TO MODIFY SOIL TEMPERATURE AND TO INCREASE BIOLOGICAL ACTIVITY IN THE SOIL.



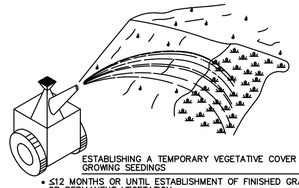
* ≤ 6 MONTHS OR WHEN SEEDING DOES NOT HAVE A SUITABLE GROWING SEASON

MATERIALS AND RATES:

MATERIAL	RATE
STRAW OR HAY	2" to 4" DEEP
WOOD WASTE, CHIPS, SAWDUST OR BARK	2"–3" DEEP (ABOUT 6 TO 9 TONS/ACRE.)
POLYETHYLENE FILM	COMPLETELY COVER AREA

* MAY BE NECESSARY TO ANCHOR

Ds1 (Ds1) DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)



ESTABLISHING A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS

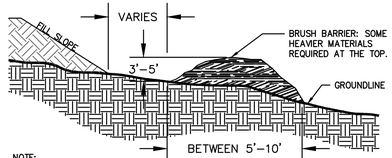
* ≤12 MONTHS OR UNTIL ESTABLISHMENT OF FINISHED GRADE OR PERMANENT VEGETATION
* SITE PREPARATION
  * GRADING AND SHAPING
  * SEED BED PREPARATION
  * APPLY LIME AND FERTILIZER
  * PLANT SEEDING, SELECT SPECIES BY SEASON AND REGION
  * APPLY MULCHING MATERIAL IF NEEDED
  * IRRIGATE IF NEEDED BUT NOT AT A RATE TO CAUSE EROSION
* PLANTING DATES DEPEND ON SPECIES AND REGION (MOUNTAIN, PIEDMONT OR COASTAL)

PLANTING RATES AND PLANTING DATES FOR TEMPORARY COVER

SPECIES	RATE PER 1,000 SQ. FT.	RATE PER ACRE	PLANTING DATES		
			MOUNTAINS	PIEDMONT	COASTAL
RYE	3.9 LB.	3 BU. (168 LBS)	8/15–10/31	9/15–11/30	10/1–12/31
RYEGRASS ANNUAL	0.9 LB.	40 LBS.	8/15–11/15	9/1–12/15	9/15–12/31
ANNUAL LESPEDEZA	0.9 LB.	40 LBS.	3/1–3/31	3/1–3/31	2/1–2/28
WEEPING LOVEGRASS	0.1 LB.	4 LBS.	4/1–5/31	4/1–5/31	3/1–5/31
SUDANGRASS	1.4 LB.	60 LBS.	5/1–7/31	5/1–7/31	4/1–7/31
BROWNTOP MILLET	0.9 LB.	40 LBS.	4/15–6/15	4/15–6/30	4/15–6/30
WHEAT	4.1 LB.	3 BU. (180 LBS)	9/15–11/30	10/1–12/15	10/15–12/31

UNUSUAL SITE CONDITIONS MAY REQUIRE HEAVIER SEEDING RATES. SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND LOCAL CONDITIONS.

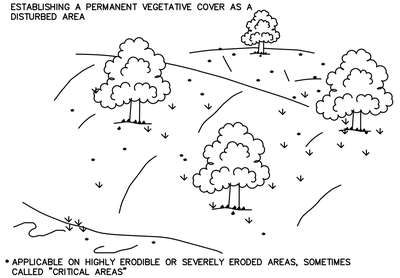
Ds2 (Ds2) DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDINGS)



NOTE:
1. INTERMINGLE BRUSH, LOGS, ETC. SO AS TO NOT FORM A SOLID DAM.
2. BRUSH SHOULD BE WIND–ROWED ON THE CONTOUR AS CLOSE AS POSSIBLE.
3. MINIMUM BASE WIDTH FOR BARRIER SHALL BE 5 FEET AND SHOULD BE NO WIDER THAN 10 FEET. THE HEIGHT OF THE BARRIER SHOULD BE BETWEEN 3' AND 5'.
4. A COMMERCIALLY AVAILABLE FILTER FABRIC MAY BE PLACED ON THE SIDE OF THE BRUSH BARRIER RECEIVING SEDIMENT–LADEN RUNOFF FOR ADDED FILTER CAPACITY (LOWER EDGE MUST BE BURIED IN A 6 INCH DEEP TRENCH AND THE UPPER EDGE MUST BE FASTENED TO THE BRUSH BARRIER).

Sd1 SEDIMENT BARRIER (Sd1–BB) BRUSH BARRIER

ESTABLISHING A PERMANENT VEGETATIVE COVER AS A DISTURBED AREA



* APPLICABLE ON HIGHLY ERODIBLE OR SEVERELY ERODED AREAS, SOMETIMES CALLED "CRITICAL AREAS" INCLUDING:
  * CUT OR FILL SLOPES
  * EARTH SPILLWAYS
  * BORROW AREAS
  * CHANNEL BANKS
  * BERMS
  * ROADSIDES
  * SPOIL AREAS
  * GULLIED LANDS
* GRADING AND SHAPING REQUIRED WHERE FEASIBLE AND PRACTICAL
* SEED BED PREPARATION
  * NOT REQUIRED IF USING HYDRAULIC SEEDING AND FERTILIZING
  * WHEN REQUIRED

SLOPE	SEED BED
3:1 OR FLATTER	≥4" DEEP
2:1 TO 3:1	1" TO 4" DEEP
2:1 OR STEEPER	DEPRESSIONS EVERY 6" TO 8" APART WITH HAND TOOL

* HAVE SOIL ANALYZED FOR LIME AND FERTILIZER RATE
* MULCH SHALL BE APPLIED TO COVER 90% OF THE SOIL SURFACES.
* ANCHOR MULCH IMMEDIATELY

PERMANENT GRASSING

GRASS SEED ON LEVEL OR SLIGHTLY SLOPING GROUND SHALL CONSIST OF THE FOLLOWING FOR THE PLANTING DATES SPECIFIED:

(A)	MARCH 1 TO JUNE 30	
	COMMON BERMUDA (HULLED)	10 LBS/ACRE
	TALL FESCUE	50 LBS/ACRE
(B)	AUGUST 1 TO NOVEMBER 1	
	TALL FESCUE	50 LBS/ACRE
	COMMON BERMUDA (UNHULLED)	10 LBS/ACRE
(C)	NOVEMBER 1 TO MARCH 1	
	COMMON BERMUDA (UNHULLED)	10 LBS/ACRE

PERMANENT GRASSING

GRASS SEED ON LEVEL OR SLOPES 3:1 OR STEEPER AND INFREQUENTLY MOWED AREAS SHALL CONSIST OF THE FOLLOWING FOR THE PLANTING DATES SPECIFIED:

(A)	MARCH 1 TO JUNE 15	
	WEEPING LOVEGRASS	4 LBS/ACRE
	SERICEA LESPEDEZA (SCARIFIED)	60 LBS/ACRE
(B)	AUGUST 1 TO NOVEMBER 1	
	TALL FESCUE	50 LBS/ACRE
	SERICEA LESPEDEZA (UNSCARIFIED)	75 LBS/ACRE
(C)	NOVEMBER 1 TO MARCH 1	
	COMMON BERMUDA (UNHULLED)	10 LBS/ACRE
	SERICEA LESPEDEZA (UNSCARIFIED)	75 LBS/ACRE

WHEN AS DIRECTED BY THE ENGINEER, SEED OF AN APPROVED QUICK GROWING SPECIES OF GRASS, SUCH AS RYE, ITALIAN RYE, MILLET OR OTHER CEREAL GRASS, SHALL BE APPLIED AT A RATE OF 30 LBS/ACRE IN CONJUNCTION WITH AND IN ADDITION TO THE SEED MIXTURE SPECIFIED ABOVE ABOVE.

FERTILIZER

COMMERCIAL FERTILIZER SHALL COMPLY WITH THE STATE FERTILIZER LAWS AND SHALL BE OF AN ACCEPTED AND APPROVED COMMERCIAL BRAND. FERTILIZER SHALL BE A READY MIXED MATERIAL CONTAINING THE SOIL NUTRIENTS AS SPECIFIED AND IN A SUITABLE FORM COMPATIBLE WITH THE EQUIPMENT USED TO ACHIEVE UNIFORM DISTRIBUTION OF THE FERTILIZER. THE FERTILIZER MIXTURE SHALL CONTAIN THE FOLLOWING NUTRIENTS EXPRESSED IN PERCENT OF THE TOTAL WEIGHT: 6% NITROGEN 12% AVAILABLE PHOSPHORIC ACID, AND 12% WATER SOLUBLE POTASH (6–12–12) ANALYSIS. CONTAINER TAGS SHALL HAVE THE NAME AND ADDRESS OF THE MANUFACTURER, THE BRAND NAME, NET WEIGHT, AND CHEMICAL COMPOSITION OF ANALYSIS. FERTILIZER SHALL BE APPLIED AT THE RATE OF 1,500 LBS PER ACRE AT THE TIME OF SEEDING.

LIME

AGRICULTURAL DOLOMETIC LIME SHALL BE A PULVERIZED LIMESTONE HAVING A CALCIUM CARBONATE EQUIVALENT CONTENT OF NOT LESS THAN 90% OF THE TOTAL MATERIAL SHALL PASS A 10–MESH SIEVE AND AT LEAST 25% SHALL PASS A 100–MESH SIEVE. LIME SHALL BE APPLIED AS INDICATED BY THE SOIL TEST. OR THE RATE OF 1 TO 2 TONS PER ACRE.

WATER

THE WATER USED IN THE GRASSING OPERATIONS MAY BE OBTAINED FROM ANY APPROVED SPRING, POND, LAKE, STREAM, OR MUNICIPAL WATER SYSTEM. THE WATER SHALL BE FREE OF EXCESS AND HARMFUL CHEMICALS, ACIDS, ALKALIZES, OR ANY SUBSTANCE WHICH MIGHT BE HARMFUL TO PLANT GROWTH.

WATERING MAINTENANCE AND RESEEDING

CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPER MOISTURE CONTENT OF THE SOIL TO INSURE ADEQUATE PLANT GROWTH UNTIL A SATISFACTORY STAND OF GRASS IS OBTAINED. WATERING SHALL BE PERFORMED TO MAINTAIN AN ADEQUATE WATER CONTENT IN THE SOIL.

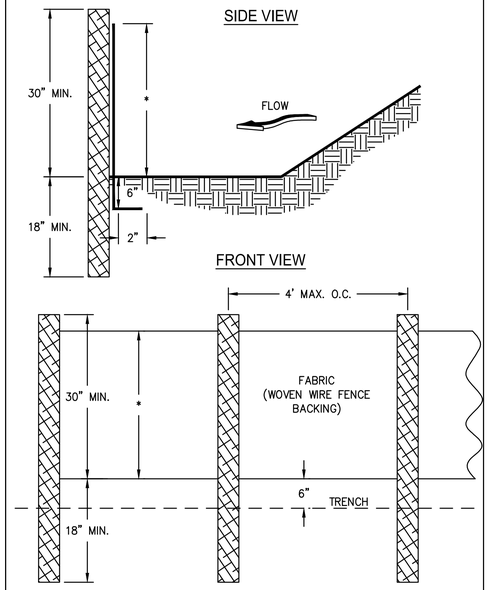
THE CONTRACTOR SHALL MOW AND MAINTAIN ALL SEEDED AREAS WITHOUT ADDITIONAL PAYMENT UNTIL FINAL ACCEPTANCE OF THE WORK BY THE OWNER, AND ANY REGRADING, REFERTILIZING, RELIMING, RESEEDING OR REMULCHING SHALL BE DONE AT HIS OWN EXPENSE. SEEDING WORK SHALL BE REPEATED ON DEFECTIVE AREAS UNTIL A SATISFACTORY UNIFORM STAND OF GRASS IS ACCOMPLISHED. DAMAGE RESULTING FROM EROSION, GULLIES, WASHOUTS, OR OTHER CAUSES SHALL BE REPAIRED BY FILLING WITH TOPSOIL, COMPACTING, AND PREPARING THE SEEDING WORK AT HIS EXPENSE.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL WILL BE INSTALLED IF DEEMED NECESSARY BY ON–SITE INSPECTION.

THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.

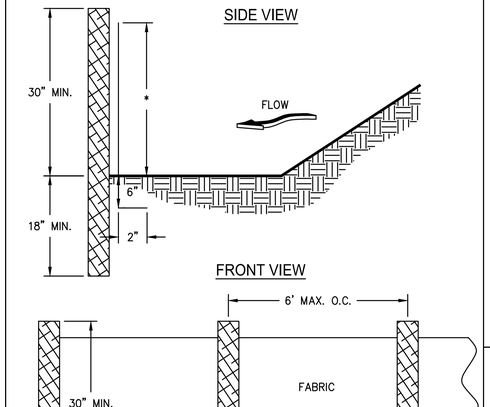
Ds3 (Ds3) DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

SILT FENCE - TYPE SENSITIVE



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

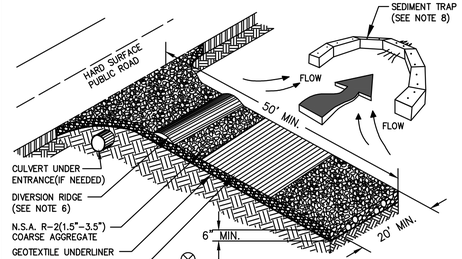
SILT FENCE - TYPE NON-SENSITIVE



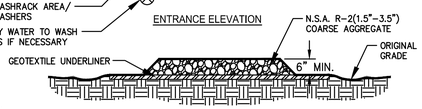
NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

Sd1 SEDIMENT BARRIER (Sd1–S) TYPE SENSITIVE (Sd1–NS) TYPE NON–SENSITIVE

EXIT DIAGRAM



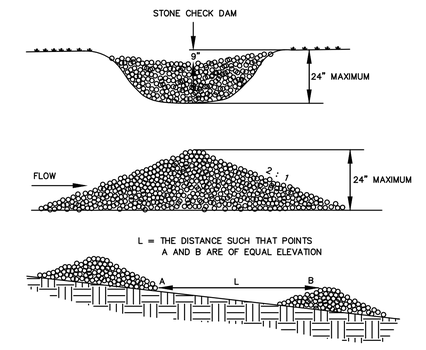
ENTRANCE ELEVATION



NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R–2 (1.5"–3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED 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).
9. 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.
10. 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.

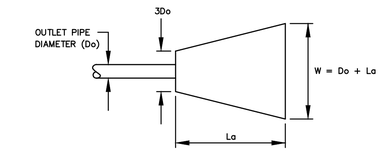
Co TEMPORARY CONSTRUCTION EXIT

TO PREVENT EROSION BY REDUCING THE VELOCITY OF STORM WATER IN AREAS OF CONCENTRATED FLOW



Cd–S (Cd–S) STONE CHECK DAM

1. La is the length of the riprap apron.
2. D = 1.5 times the maximum stone diameter but not less than 6".
3. In a well–defined channel extend the apron up the channel banks to an elevation of 6' above the maximum tailwater depth or to the top bank, whichever is less.
4. A filter blanket or filter fabric should be installed between the riprap and soil foundation.
5. The median sized stone for riprap, d(50), shall be determined from curves provided in the latest edition of the "Manual For Erosion and Sediment Control In Georgia".



d(50) = Median sized riprap

St STORM DRAIN OUTLET PROTECTION

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER — No. PE051452 — GRAHAM S. SIZEMORE — 03.19.2025

GOODWYN MILLS CAWOOD, LLC — Exp. 06.30.2026

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

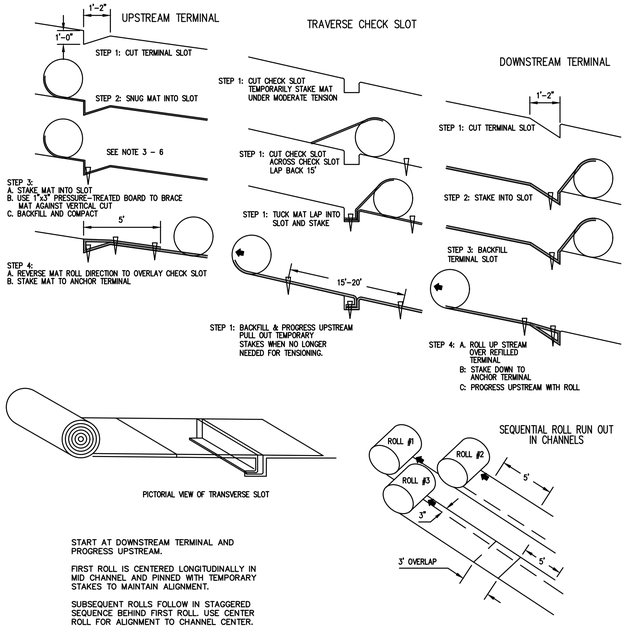
COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

ES & PC
STANDARD DETAILS

C-608

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Ss SLOPE STABILIZATION

Temporary Erosion Control Blankets

This includes temporary "combination" blankets (rolled erosion control blankets–RECB) consisting of a plastic netting which covers and is intertwined with a natural organic or manmade mulch; or, a jute mesh which is typically homogeneous in design and can act alone as a soil stabilization blanket.

Temporary blankets as a minimum shall be used to stabilize concentrated flow areas with a velocity less than 5 ft/sec and slopes 2:5:1 or steeper with a height of 10 feet or greater. Because temporary blankets will deteriorate in a short period of time, they provide no enduring reduction in erosion protection.

Benefits of using erosion control blankets include the following:

1. Protection of the seed and soil from raindrop impact and subsequent displacement.
2. Thermal consistency and moisture retention for seedbed area.
3. Stronger and faster germination of grasses and legumes.
4. Planing off excess stormwater runoff.
5. Prevention of sloughing of topsoil added to steeper slopes.

Permanent Erosion Control Matting

Consists of a permanent non–degradable, three–dimensional plastic structure which can be filled with soil prior to planting. These mats are also known as permanent soil reinforcing mats (turf reinforcement matting). Roots penetrate and become entangled in the matrix, forming a continuous anchorage for surface growth and promoting enhanced energy dissipation. Matting shall be used when a vegetative lining is desired in stormwater conveyance channels where the velocity is between five and ten per second.

Benefits of using erosion control matting include the following:

1. All benefits gained from using erosion control blankets.
2. Causes soil to drop out of stormwater and fill matrix with fine soils which become the growth medium for the development of roots.
3. Acts with the vegetative root system to form an erosion resistant cover which resists hydraulic lift and shear forces when embedded in the soil within stormwater channels.

Materials

All blanket and matting materials shall be on the Georgia Department of Transportation Qualified Products List (QPL #62 for blankets, QPL #49 for matting).

All blankets shall be nontoxic to vegetation and to the germination of seed and shall not be injurious to the unprotected skin of humans. At a minimum, the plastic netting shall be intertwined with the mulching material/fiber to maximize strength and provide for ease of handling.

Temporary Blankets

Machine produced temporary combination blankets shall have a consistent thickness with the organic material evenly distributed over the entire blanket area. All combination blankets shall have a minimum width of 48 inches. Machine produced combination blankets include the following:

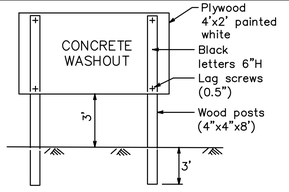
1. Straw blankets are combination blankets that consist of weed–free straw from agricultural crops formed into a blanket. Blankets with a top side of photodegradable plastic mesh with a maximum mesh size of 5/16 x 5/16 inch and sewn to the straw with biodegradable thread is appropriate for slopes. The blanket shall have a minimum thickness of 3/8 inch and minimum dry weight of 0.5 pounds per square yard.
2. Excelsior blankets are combination blankets that consist of curled wood excelsior (80% of fibers are six inches or longer) formed into a blanket. The blanket shall have clear markings indicating the top– side of the blanket and be smolder resistant. Blankets shall be photodegradable plastic mesh having a maximum mesh size of 1 1/2 x 3 inches. The blanket shall have a minimum thickness of 1/4 of an inch and a minimum dry weight of 0.8 pounds per square yard. Slopes require excelsior matting with the topside of the blanket covered in the plastic mesh, and for waterways, both sides of the blanket require plastic mesh.
3. Coconut fiber blankets are combination blankets that consist of 100% coconut fiber formed into a blanket. The minimum thickness of the blanket shall be 1/4 of an inch with a minimum dry weight of 0.5 pounds per square yard. Blankets shall have photodegradable plastic mesh, with a maximum mesh size of 5/8 x 5/8 inch and sewn to the fiber with a breakdown resistant synthetic yarn. Plastic mesh is required on both sides of the blanket is used in waterways. A maximum of two inches is allowable for the stitch pattern and row spacing.
4. Wood fiber blankets are combination blankets that consist of reprocessed wood fibers that do not possess or contain any growth or germination inhibiting factors. The blanket shall have a photodegradable plastic mesh, with a maximum mesh size of 5/8 x 3/4 inch, securely bonded to the top of the mat. The blanket shall have a minimum dry weight of 0.35 pounds per square yard. A maximum of two inches is allowable for the stitch pattern and row spacing. This practice shall be applied only to slopes.
5. Jute Mesh can be applied to slopes. Jute mesh with a 48 inch width shall show between 76 and 80 warpings and a one yard length shall show between 39 to 43 weftings. The woven mesh shall be at least 45 inches wide. Yarn shall have a unit weight of at least 0.9 pounds per square yard, but not more than 1.5 pounds per square yard.

Permanent Matting

Permanent matting shall consist of a lofty web of mechanically or melt bonded polymer nettings, monofilaments or fibers which are entangled to form a strong and dimensionally stable matrix. Polymer welding, thermal of polymer fusion, or the placement of fibers between two high strength, biaxially oriented nets bound securely together by parallel lock stitching with polyolefin, nylon or polyester threads are all appropriate bonding methods. Mats shall maintain their shape before, during, and after installation, under dry or water saturated conditions. Mats must be stabilized against ultraviolet degradation and shall be inert to chemicals normally encountered in a natural soil environment.

The mat shall conform to the following physical properties:

Property	Minimum Value
Thickness	0.5 inch
Weight	0.6 PSY
Roll Width	38 inches
Tensile Strength	
Length (50% elongation)	15 lbs./in.
Length (ultimate)	20 lbs./in.



CONCRETE WASHOUT SIGN DETAIL

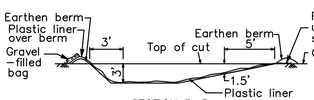
NOTES

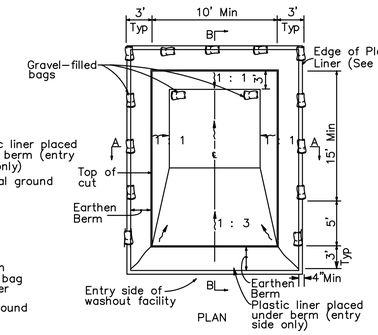
1. The concrete washout sign shall be installed within 30' of the temporary concrete washout facility.
2. 10 Mil Plastic liner shall be anchored w/ gravel–filled bags for below grade concrete washout facility.



TYPICAL SECTION
EARTHEN BERM

–CONCRETE TOOLS, MIXER CHUTES, HOPPERS & THE REAR OF VEHICLES ARE TO BE WASHED DOWN IN TEMPORARY WASH DOWN FACILITY ONLY.
–WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.





CONCRETE WASH OUT DETAIL

N.T.S

Best Management Practices (BMPs) Heavy Equipment & Earth-Moving Activities

Heavy Equipment Operation Problems

Soil excavation and grading operations often contribute to urban runoff pollution. By loosening large amounts of soil and sediment, earth-moving activities can cause sediment to flow into gutters, storm drains and streams. Sediment is the most common pollutant washed from worksites, creating multiple problems once it enters the stream. Sediment clogs the gills of fish, blocks light transmission and increases stream water temperature, all of which harm life, disturbing the food chain upon which both fish and people depend upon.

Sediment also carries with it other worksite pollutants such as pesticides, cleaning solvents, cement wash, asphalt and car fluids like motor oil, grease and fuel. Thus, poorly maintained vehicles and heavy equipment leaking fuel and oil at the construction site, also contribute to ocean pollution.

Solutions
Best Management Practices (BMPs) such as handling, storing, and disposing of materials properly can prevent pollutants from entering the storm drains.

General Business Practices
Schedule excavation and grading work for dry weather.
Use as little water as possible for dust control.

Clean Up Spills
Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled.
Use dry cleanup methods
(sawdust, kitty litter, and/or rags) and dispose of properly.
Sweep up dry spilled materials immediately. Never attempt to bury them or "wash them away" with water.
Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
Report significant spills to the appropriate spill response agencies immediately.

Vehicle & Equipment Maintenance

Maintain all vehicle and heavy equipment in good working order and inspect frequently for leaks.
Conduct all vehicle/equipment maintenance and refueling at one location--away from storm drains.
Perform major maintenance, repair jobs and vehicle/equipment washing off-site.
Use gravel approaches where truck traffic is frequent, to reduce soil compaction and limit the tracking of sediment into streets.
Use drip pans or drop cloths to catch drips and spills if you drain and replace motor oil, radiator coolant
or other fluids on site. Collect all used fluids, store in separate containers and recycle whenever possible; otherwise make certain they are disposed of properly.
Do not use diesel oil to lubricate equipment or parts.
Washout of the drum at the construction site is prohibited.

Erosion Prevention
After clearing, grading or excavating, exposed soil poses a clear and immediate danger for stormwater pollution. Revegetation (permanent or temporary) is an excellent form of erosion control for any site.
Avoid excavation and grading activities during wet weather.
Construct diversion dikes to channel runoff around the site.
Line channels with grass or roughened pavement to reduce runoff velocity.
Cover stockpiles and excavated soil with secured tarps or plastic sheeting.
Remove existing vegetation only when absolutely necessary. Large projects should be conducted in phases.
Consider planting temporary vegetation for erosion control on slopes or where construction is not immediately planned.
Plant permanent vegetation as soon as possible, once excavation and grading activities are complete.

Vehicle fueling

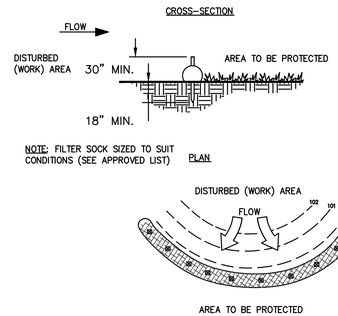
Description and Purpose
Vehicle equipment fueling procedures and practices are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.
Suitable Applications
These procedures are suitable on all construction sites where vehicle and equipment fueling takes place.
Limitations
Onsite vehicle and equipment fueling should only be used where it is impractical to send vehicles and equipment offsite for fueling. Sending vehicles and equipment offsite should be done in conjunction with Co, Stabilized Construction Entrance/ Exit.
Implementation
.. Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
.. Discourage "topping-off" of fuel tanks.
Spill Response Agencies
GA EPD - 912-264-7284
NRC - 800-424-8802

Concrete Waste Management

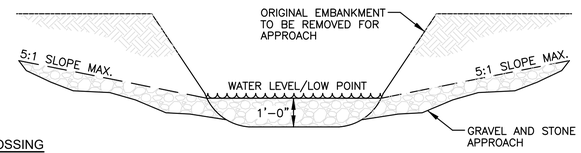
Description and Purpose
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

Suitable Applications
These procedures are suitable on all construction sites where concrete work takes place.

Implementation
< Store dry and wet materials under cover, away from drainage areas.
< Avoid mixing excess amounts of fresh concrete or cement on-site.
< Perform washout of concrete trucks off-site or in designated areas only.
< Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
< Do not allow excess concrete to be dumped on-site, except in designated areas.
< When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area.
< Train employees and subcontractors in proper concrete waste management.
< Washout of the drum at the construction site is prohibited.



Sd1 SEDIMENT BARRIER
(Sd1–FS) COMPOSITE FILTER SOCK



FORD CROSSING

DESIGN CRITERIA

1. THE CROSSING SHALL BE CONSTRUCTED OF NATURAL ROCK EXCAVATED DURING CONSTRUCTION NO LARGER THAN 6" IN DIAMETER, OR OTHER DURABLE INORGANIC MATERIAL APPROVED BY ENGINEER. RECYCLED ASPHALT OR CONSTRUCTION RUBBLE IS NOT ALLOWED.

2. THE APPROACH SHALL BE GRADED TO A FINISHED SLOPE NOT STEEPER THAN 5 TO 1 HORIZONTAL TO VERTICAL, AND ALL GRADED BANKS ARE TO BE SEEDED AND MULCHED TO PREVENT EROSION AND SEDIMENTATION.

3. GRADE REVERSAL SHALL BE A MINIMUM OF 12" ABOVE HIGH WATER LINE ON BOTH EMBANKMENTS.

Ford FORD CROSSING

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL
GOODWYN MILLS CAWOOD, LLC
No. 000001056
Exp.06.30.2026
CERT. OF AUTHORIZATION

1" 0" .5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

ES & PC
STANDARD DETAILS

C-609

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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CONSTRUCTION SPECIFICATIONS

Cut Slopes Steeper than 3:1

Cut slopes with a gradient steeper than 3:1 should not be mowed. They shall be stair–step graded or grooved.

1. Stair–step grading may be carried out on any material soft enough to be ripped with a bulldozer. Slopes consisting of soft rock with some subsoil are particularly suited to stair–step grading.

The ratio of the vertical cut distance to the horizontal distance shall be less than 1:1 and the horizontal portion of the "step" shall slope toward the vertical wall.
Individual vertical cuts shall not be more than 30 inches on soft soil material and not more than 40 inches in rocky materials.

2. Grooving consists of using machinery to create a series of ridges and depressions which run perpendicular to the slope (on the contour).

Grooves may be made with any appropriate implement which can be safely operated on the slope and which will not cause undue compaction. Suggested implements include disc, tillers, spring harrows, and the teeth on a front–end loader bucket. Such grooves shall not be less than 3 inches deep nor further than 15 inches apart.

Fill slopes Steeper than 3:1

Fill slopes with a gradient steeper than 3:1 should not be mowed. They shall be grooved or allowed to remain rough as they are constructed. Method (1) or (2) below may be used.

1. Groove according to #2 of "Cut Slopes Steeper than 3:1".
2. As lifts of the fill are constructed, soil and rock material may be allowed to fall naturally onto the slope surface.

Colluvial materials (soil deposits at the base of slopes or from old stream beds) shall not be used in fills as they flow when saturated.

Cuts, Fills, and Graded Areas Which Will Be Mowed (less than 3:1)

Mowed slopes should not be steeper than 3:1. Excessive roughness is undesirable where mowing is planned.

These areas may be roughened with shallow grooves such as remain after tilling, discing, harrowing, raking, or use of a multipacker–seeder. The final pass of any such tillage implement shall be on the contour (perpendicular to the slope).

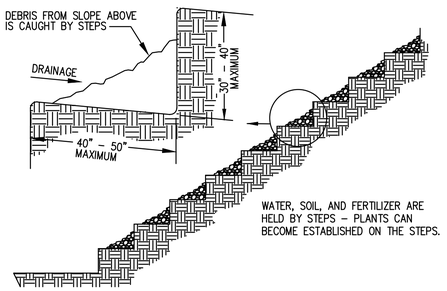
Grooves formed by such implements shall not be less than one inch deep and not further than 12 inches apart.

Fill slopes which are left rough as constructed may be smoothed with a dragline or pickchain to facilitate mowing.

Roughening With Tracked Machinery

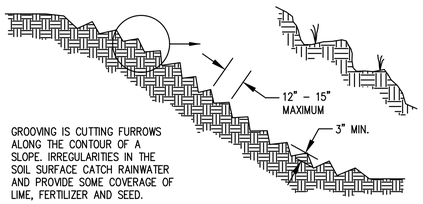
Roughening with tracked machinery on clayed soils is not recommended unless no alternatives are available. Undue compaction of surface soil results from this practice. Sandy soils do not compact severely may be tracked. In no case is tracking as effective as the other roughening methods described.

When tracking is the chosen surface roughening technique, it shall be done by operating tracked machinery up and down the slope to leave horizontal depressions in the soil. As few passes of the machinery as possible should be made to minimize compactions.

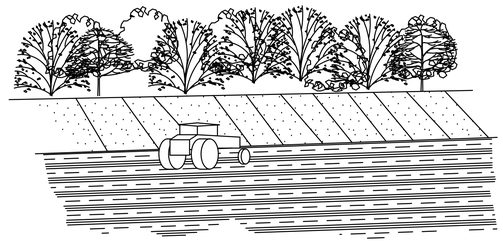


STAIR STEPPING CUT SLOPES

CUT SLOPES STEEPER THAN 3:1

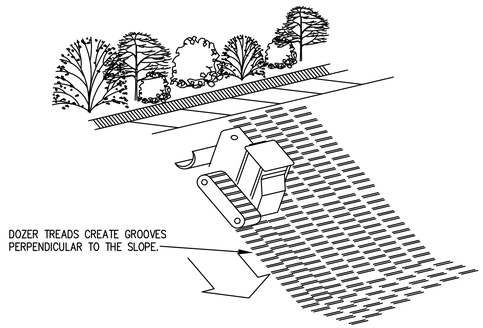


GROOVING SLOPES



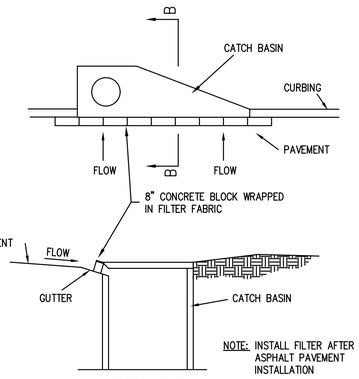
EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.

FILL SLOPE TREATMENT



TRACKING

Su SURFACE ROUGHENING
CUT SLOPES STEEPER THAN 3:1 AND FILL SLOPES STEEPER THAN 3:1



SECTION B–B

CONSTRUCTION SPECIFICATIONS

Once pavement has been installed, a curb inlet filter shall be installed on inlets receiving runoff from disturbed areas. This method of inlet protection shall be removed if a safety hazard is created.

One method of curb inlet protection uses "pigs–in–a–blanket" – 8–inch concrete blocks wrapped in filter fabric. Another method uses gravel bags constructed by wrapping DOT #57 stone with filter fabric, wire, plastic mesh, or equivalent material.

A gap of approximately 4 inches shall be left between the inlet filter and the inlet to allow for overflow and prevent hazardous ponding in the roadway. Proper installation and maintenance are crucial due to possible ponding in the roadway, resulting in a hazardous condition.

MAINTENANCE

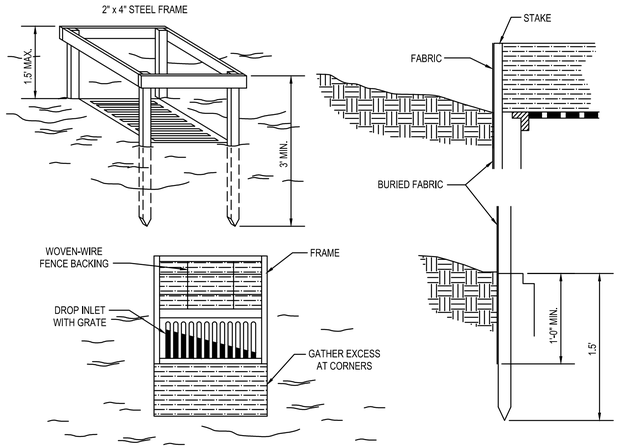
The trap shall be inspected daily and after each rain and repairs made as needed.

Sediment shall be removed when the sediment has accumulated to one–half the height of the trap. Sediment shall be removed from curb inlet protection immediately. For excavated inlet sediment traps, sediment shall be removed when one–half of the sediment storage capacity has been lost to sediment accumulation. Sod inlet protection shall be maintained as specified in Ds4–Disturbed Area Stabilization (with sodding).

Sediment shall not be washed into the inlet. It shall be removed from the sediment trap and disposed of and stabilized so that it will not enter the inlet, again.

When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

Sd2-P INLET SEDIMENT TRAP
CURB INLET FILTER "PIGS IN A BLANKET"



CONSTRUCTION SPECIFICATIONS

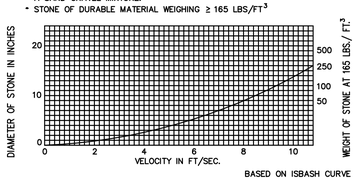
This method of inlet protection is applicable where the inlet drains a relatively flat area (slope no greater than 5 %) and shall not apply to inlets receiving concentrated flows, such as in street or highway medians. Type C silt fence supported by steel posts shall be used. The stakes shall be spaced evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely driven into the ground, approximately 18 inches deep. The fabric shall be entrenched 12 inches and backfilled with crushed stone or compacted soil. Fabric and wire shall be securely fastened to the posts, and fabric ends must be overlapped a minimum of 18 inches or wrapped together around a post to provide a continuous fabric barrier around the inlet.

MAINTENANCE

The trap shall be inspected daily and after each rain and repairs made as needed. Sediment shall be removed when the sediment has accumulated to one–half the height of the trap. Sediment shall be removed from curb inlet protection immediately. For excavated inlet sediment traps, sediment shall be removed when one–half of the sediment storage capacity has been lost to sediment accumulation. Sod inlet protection shall be maintained as specified in Ds4–Disturbed Area Stabilization (with sodding). Sediment shall not be washed into the inlet. It shall be removed from the sediment trap and disposed of and stabilized so that it will not enter the inlet, again. When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

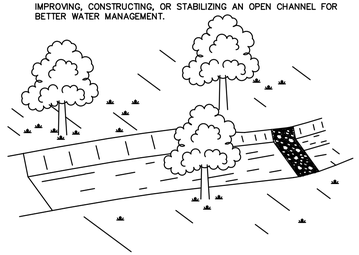
Sd2-F INLET SEDIMENT TRAP
FILTER FABRIC WITH SUPPORTING FRAME

- USE GADOT TYPE 1, 3 OR NSA R–1 THRU R–7 RIPRAP, ROCK SHALL BE INSTALLED ACCORDING TO STANDARDS SPECIFIED IN **RIPRAP, APPENDIX C** OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
- ROCK RIPRAP LINING SHOULD BE USED WHEN VELOCITIES ARE BETWEEN 5 AND 10 FT/SEC.
- DUMPED AND MACHINE PLACE RIPRAP SHOULD NOT BE PLACED ON SLOPES STEEPER THAN 1–1/2 HORIZONTAL TO 1 VERTICAL.
- WHERE CHANNEL VELOCITIES EXCEED SAFE VELOCITIES, THE CHANNEL MAY BE STABILIZED BY USING ROCK RIPRAP OR CONCRETE LINING OR GRADE STABILIZATION STRUCTURE.
- A BLANKET OF FILTER MATERIAL IS PLACED UNDER RIPRAP UNLESS BANK IS A SAND GRAVEL MIXTURE.
- STONE OF DURABLE MATERIAL WEIGHING ≥ 165 LBS/FT^3

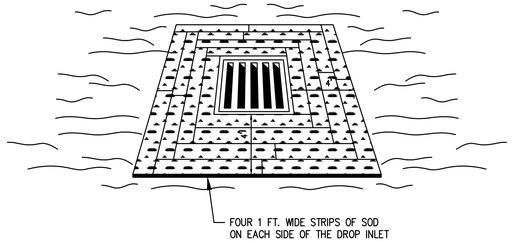


BASED ON ISBASH CURVE

IMPROVING, CONSTRUCTING, OR STABILIZING AN OPEN CHANNEL FOR BETTER WATER MANAGEMENT.



Ch-Rp (Ch) CHANNEL STABILIZATION
WITH GRADED RIPRAP



CONSTRUCTION SPECIFICATIONS

This method of inlet protection is applicable only at the time of permanent seeding, to protect the inlet from sediment and mulch material until permanent vegetation has become established. The sod shall be placed to form a turf mat covering the soil for a distance of 4 feet from each side of the inlet structure. Sod strips shall be staggered so that adjacent strip ends are not aligned.

MAINTENANCE

The trap shall be inspected daily and after each rain and repairs made as needed.

Sediment shall be removed when the sediment has accumulated to one–half the height of the trap. Sediment shall be removed from curb inlet protection immediately. For excavated inlet sediment traps, sediment shall be removed when one–half of the sediment storage capacity has been lost to sediment accumulation. Sod inlet protection shall be maintained as specified in Ds4–Disturbed Area Stabilization (with sodding).

Sediment shall not be washed into the inlet. It shall be removed from the sediment trap and disposed of and stabilized so that it will not enter the inlet, again.

When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

Sd2-S INLET SEDIMENT TRAP
SOD INLET PROTECTION

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER
GRAHAM S. SIZEMORE
No. PE051452
03.19.2025
CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
No. PEC002988
Exp.06.30.2026

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

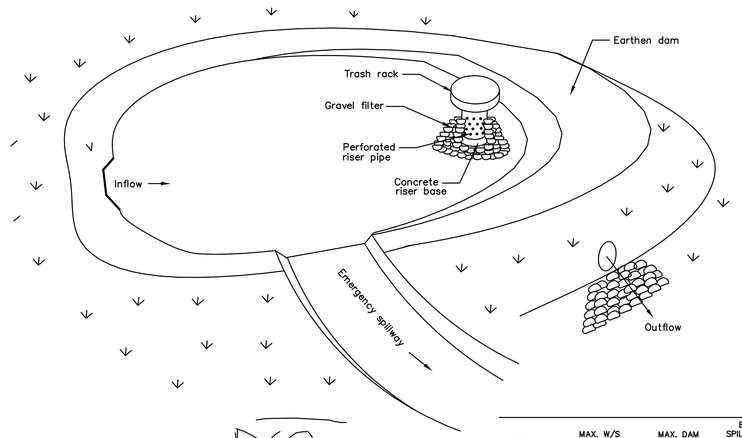
GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE051452
03.19.2025
GRAHAM S. SIZEMORE

ES & PC STANDARD DETAILS

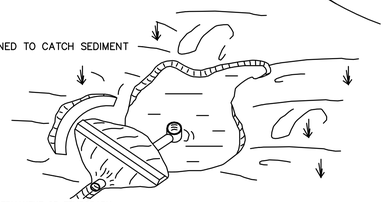
C-610

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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A POND DESIGNED TO CATCH SEDIMENT



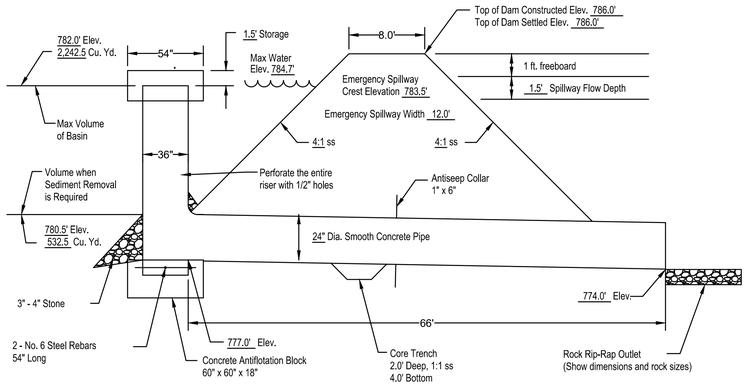
- MAY BE PERMANENT OR TEMPORARY
- DESIGN FOR GREATEST EASE OF CLEANOUT
- TEMPORARY STRUCTURES
  - REMOVED WITHIN 18 MONTHS
  - DRAINAGE AREA ≤ 150 ACRES
  - FAILURE WOULD NOT RESULT IN LOSS OF LIFE OR INTERRUPT USE OF PUBLIC UTILITIES
- DESIGN CRITERIA, TEMPORARY STRUCTURES

TYPE	MAX. W/S SIZE (AC.)	MAX. DAM HEIGHT (FT.)	EMERGENCY SPILLWAY DESIGN STORM FREQUENCY
1	20	7	10 YR.
2	20	10	10 YR.
3	150	15	25 YR.

TYPE	FREEBOARD (FT.)	SIDE SLOPE
1		2:1
2	0.5	2:1
3	0.5	2 1/2:1
	1.0	

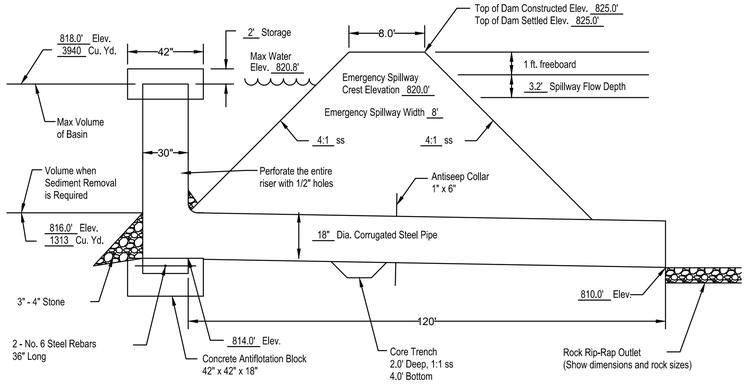
- PERMANENT STRUCTURES OR THOSE EXCEEDING TYPE 3 MUST BE DESIGNED BY CRITERIA FOR PERMANENT STRUCTURE SUCH AS SOIL CONSERVATION SERVICE TECHNICAL GUIDES OR OTHER WHICH CONFORM TO SOUND CONSERVATION AND ENGINEERING PRACTICES
- STORAGE = 67 YD³/ACRE DRAINAGE AREA. TOP 1/2 RISER SHOULD BE PERFORATED WITH 1/2" DIAMETER HOLES SPACED 8" VERTICALLY AND 10"– 12" HORIZONTALLY
- PRINCIPAL SPILLWAY, EMERGENCY SPILLWAY, CUT OFF TRENCH, AND ANTI–SEEP COLLARS DESIGN REQUIRED
- TRASH RACK, ANTI–VORTEX DEVICE AND RISER BASE (TO PREVENT FLOATATION) REQUIRED
- PROTECT AGAINST SCOUR AT DISCHARGE OF PIPE SPILLWAY
- EXCEPT FOR TYPE 1 BASINS, EMERGENCY SPILLWAY MUST NOT BE ON FILL MATERIAL
- FENCE TO PROHIBIT TRESPASSING
- CLEAN OUT REQUIRED WHEN STORAGE CAPACITY REDUCED TO 27 YD³/ACRE OR SEDIMENT LEVEL IS WITHIN 1 FOOT OF PRINCIPAL SPILLWAY. KEEP TRASH RACK AND ANTI–VORTEX DEVICE CLEAR OF DEBRIS

Sd3 SEDIMENT BASIN



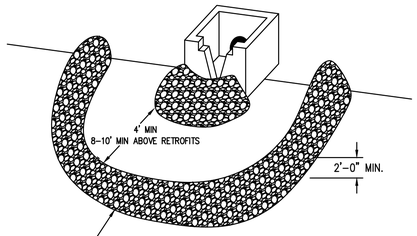
Sd3 SEDIMENT BASIN NO.1

Permanent Sediment Basin Cross Sectional Detail



Sd3 SEDIMENT BASIN NO. 2

Temporary Sediment Basin Cross Sectional Detail



STONE RIP–RAP
1) IF INLET DIA. < 12", RIP–RAP : 3–5" MIN (15–30 LBS)
2) IF INLET DIA. > 12", RIP–RAP : 10–15" MIN (50–100 LBS)

CONSTRUCTION SPECIFICATIONS

Mechanical or hand placement of stone shall be required to uniformly surround the structure to be supplemented. Refer to rock riprap specifications shown within these plans.

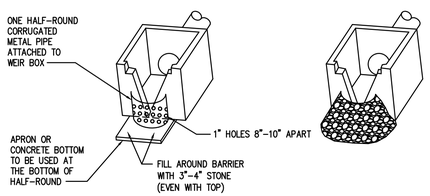
The filter ring may be constructed on natural ground surface, on an excavated surface, or on machine compacted fill. The filter ring shall surround all sides of the structure receiving runoff from disturbed areas.

A common failure of filter rings is caused by their placement too close or too high above the structure it is enhancing. When utilized below a storm drain outlet, it shall be placed such that it does not create a condition causing water to back–up into the storm drain and inhibit the function of the storm drain system.

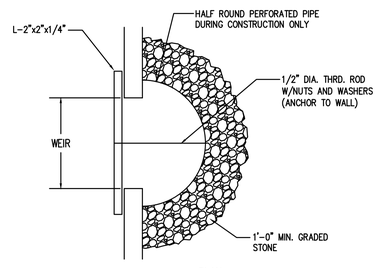
MAINTENANCE

The filter ring must be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removal when one–half full. Structures are temporary and should be removed when the land–disturbing project has been stabilized.

Fr FILTER RING

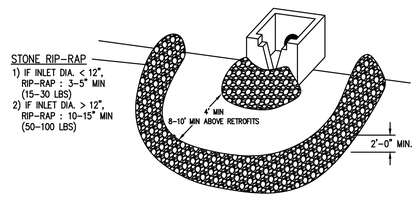


ISOMETRICS

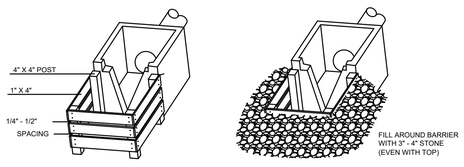


PLAN

Rt–P PERFORATED HALF–ROUND PIPE WITH STONE FILTER



STONE FILTER RING



Rt–B SLOTTED BOARD DAM WITH STONE FILTER

MAINTENANCE

Retrofit structures shall be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removal when one–third of the sediment storage capacity has been lost. Structures are temporary and shall be removed when disturbed areas have been permanently stabilized.

Rt RETROFITTING

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION GOODWYN MILLS CAWOOD, LLC No. PEC008888 Exp.06.30.2026

ISSUE	DATE
30% Submittal	05.30.2024
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90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

ES & PC STANDARD DETAILS

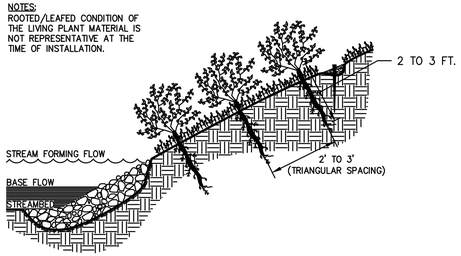
C-611

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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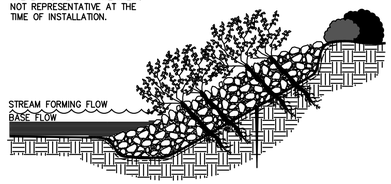
LIVE STAKING CROSS-SECTION

NOTES:
ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE AT THE TIME OF INSTALLATION.

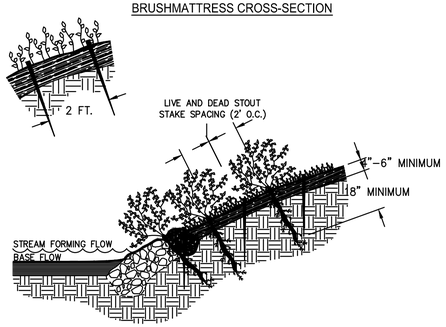


JOINT PLANTING CROSS SECTION

NOTES:
ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE AT THE TIME OF INSTALLATION.

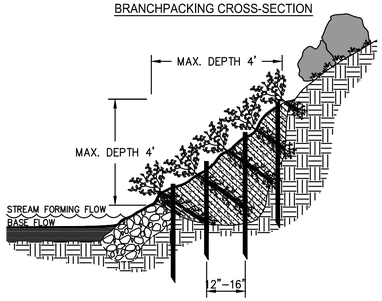


BRUSHMATTRESS CROSS-SECTION



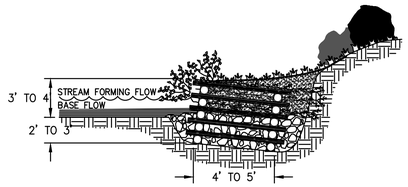
NOTES:
1. ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE AT THE TIME OF INSTALLATION.
2. LAYERS SHALL BE COMPRISED OF LIVE QUICK-ROOTING SPECIES. SEE CONTRACT DOCUMENTS.
3. FILL MATTRESS WITH SOIL AND EVENLY DISTRIBUTE TO APPROXIMATELY 4" MIN. IN DEPTH AND HAND TAMP.
4. PLACE STAKES EVENLY OVER THE GRADED FACE USING 2' SQUARE SPACING. IF LIVE STAKES ARE SPECIFIED, ALTERNATE EVERY OTHER ONE WITH A DEAD STOUT STAKE.
5. STRETCH 16 GAUGE GALVANIZED WIRE DIAGONALLY FROM ONE STAKE TO ANOTHER BY TIGHTLY WRAPPING WIRE AROUND STAKES, NO CLOSER THAN 6" FROM THE TOP OF STAKE. WIRE SHALL NOT BE ATTACHED TO LIVE STAKES. POUND STAKES TO COMPRESS MATTRESS.
6. LIVE FASCINES AND LIVE STAKES ARE INSTALLED WHEN AND WHERE DIRECTED ON THE PLAN SHEET.

BRANCHPACKING CROSS-SECTION



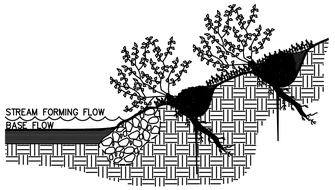
NOTES:
1. ROOT/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE OF THE TIME OF INSTALLATION.
2. STARTING AT THE LOWEST POINT, DRIVE THE WOODEN POSTS VERTICALLY 3' TO 4' INTO THE GROUND AND SET THEM 12"-16" APART.
3. A LAYER OF LIVING BRANCHES (4"-6" THICK) IS PLACED IN THE BOTTOM OF THE HOLE, BETWEEN THE VERTICAL POSTS. THEY SHALL BE PLACED IN A CRISSCROSS CONFIGURATION.
4. THE FINAL INSTALLATION SHALL MATCH THE EXISTING SLOPE. BRANCHES SHOULD PROTRUDE ONLY SLIGHTLY FROM THE FILLED FACE.
5. EACH LAYER OF BRANCHES SHALL BE FOLLOWED BY A 12" LAYER OF SOIL HAND TAMPED TO ENSURE CONTACT WITH THE BRANCH CUTTINGS.
6. THE SOIL SHALL BE MOIST OR MOISTENED TO ENSURE THAT LIVE BRANCHES DO NOT DRY OUT.
7. WHERE SPECIFIED, LIVE STAKES SHALL BE USED IN PLACE OF POSTS.

LIVE CRIBWALL CROSS-SECTION



NOTES:
1. ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE OF THE TIME OF INSTALLATION.
2. EACH COURSE SHALL BE SECURED TO THE PRECEDING COURSE WITH SPIKES OR REBARS (SIZE VARIES ACCORDING TO PROJECT).
3. BACKFILL IN AND AROUND TIMBER CRIB WITH RIPRAP FROM BOTTOM OF EXCAVATION TO THE LOWER GROUND LEVEL (OR WHEN IN STREAM CHANNEL UP TO BASEFLOW).
4. EACH TRANSVERSE LOG COURSE CONTAINS LIVE CUTTINGS FOLLOWED BY A LAYER OF TAMPED BACKFILL.
5. EACH FACE LOG COURSE (FRONT AND REAR), AND THE AREA BEHIND THE STRUCTURE SHALL BE BACKFILLED AND HAND TAMPED.

LIVE FASCINE CROSS-SECTION DETAIL



FASCINE BUNDLE DETAIL



NOTES:
1. ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE OF THE TIME OF INSTALLATION.
2. LIVE FASCINES SHALL BE PREPARED FROM FRESHLY CUT DORMANT PLANTS AND INSTALLED WITHIN 8 HOURS OF THE TIME THE MATERIAL IS HARVESTED, UNLESS PROPERLY STORED.
3. LIVE FASCINE SHALL BE OBTAINED FROM SOURCES APPROVED BY ENGINEER.
4. LIVE FASCINES SHALL BE 4"-8" IN DIAMETER WITH MINIMUM 8' LENGTH.
5. BEGINNING AT THE BASE OF THE SLOPE, A TRENCH SHALL BE DUG LARGE ENOUGH TO CONTAIN THE LIVE FASCINES. THE LIVE FASCINES SHALL BE PLACED IN THE TRENCH. WHERE ENDS MEET IN THE TRENCH, THE FASCINES SHALL OVERLAP BY 18".
6. THE TRENCH SHALL BE BACKFILLED WITH MOIST SOIL AND HAND TAMPED. THE TOP OF THE FASCINE SHALL BE SLIGHTLY EXPOSED WHEN THE INSTALLATION IS COMPLETE AS SHOWN ON CROSS SECTION.
7. SEED OR OTHER EROSION CONTROL MATERIAL SHALL BE USED BETWEEN THE FASCINE ROWS, AS SPECIFIED IN THE CONTRACT DOCUMENTS.
8. LIVE FASCINE TRENCHES SHALL BE FROM 3' TO 8' APART, ACCORDING TO SLOPE AND/OR CONTRACT DOCUMENTS.

DEFINITION

THE USE OF READILY AVAILABLE NATIVE PLANT MATERIALS TO MAINTAIN AND ENHANCE STREAMBANKS, OR TO PREVENT, OR RESTORE AND REPAIR SMALL STREAMBANK EROSION PROBLEMS.

PURPOSE

-LESSEN THE IMPACT OF RAIN DIRECTLY ON THE SOIL.
-TRAP SEDIMENT FROM ADJACENT LAND.
-FORM A ROOT MAT TO STABILIZE AND REINFORCE THE SOIL ON THE STREAMBANK.
-PROVIDE WILDLIFE HABITAT.
-ENHANCE THE APPEARANCE OF THE STREAM.
-LOWER SUMMERTIME WATER TEMPERATURES FOR A HEALTHY AQUATIC POPULATION.

NOTE: CAREFUL THOUGHT, PLANNING AND EXECUTION IS REQUIRED TO ASSURE THAT THE STREAMBANK STABILIZATION PROJECT IS DONE EFFICIENTLY AND CORRECTLY. PLEASE REFER TO SSWCC's GUIDELINES FOR STREAMBANK RESTORATION AND CHAPTERS 16 AND 18 OF THE NRCS ENGINEERING FIELD HANDBOOK FOR MORE DETAILED INFORMATION.

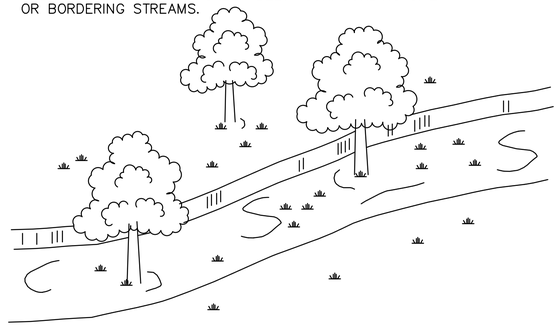
SELECTED MEASURES

REVEGETATION INCLUDES SEEDING AND SODDING OF GRASSES, SEEDING IN COMBINATION WITH EROSION CONTROL FABRICS, AND THE PLANTING OF WOODY VEGETATION (SHRUBS AND TREES). REFER TO Ds3 – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION), Ds4 – DISTURBED AREA STABILIZATION (WITH SODDING), AND Bf – BUFFER ZONE.

USE JUTE MESH AND OTHER GEOTEXTILES TO AID IN SOIL STABILIZATION AND REVEGETATION. REFER TO Ss – SLOPE STABILIZATION

Sb STREAMBANK STABILIZATION USING PERMANENT VEGETATION

UNDISTURBED STRIP OR "GREEN BELT" SURROUNDING SITE OR BORDERING STREAMS.

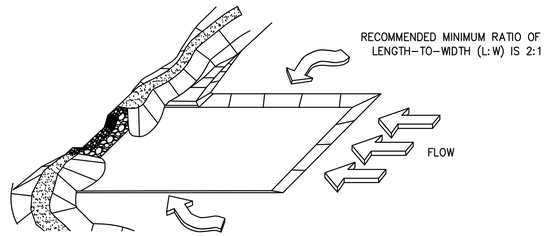


- REDUCES RUNOFF VELOCITIES
- FILTERS SEDIMENT FROM RUNOFF
- ACTS AS A SCREEN FOR "VISION POLLUTION"
- REDUCES CONSTRUCTION NOISE
- IMPROVES AESTHETICS OF LAND DISTURBED

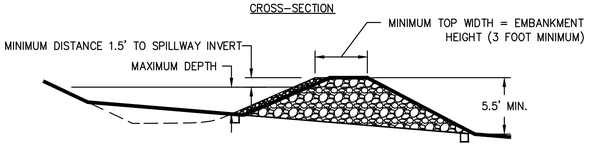
Bf (Bf) BUFFER ZONE

TEMPORARY SEDIMENT TRAP

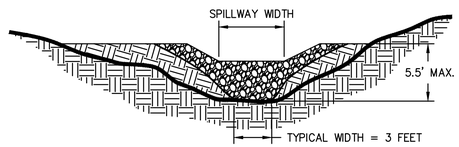
ROCK OUTLET



CROSS-SECTION



PROFILE THROUGH EMBANKMENT



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1" 0" .5" 1"

ISSUE	DATE
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60% Submittal	08.29.2024
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CATL230033

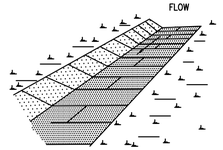
GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

ES & PC STANDARD DETAILS

C-612

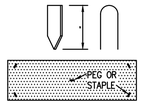
LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

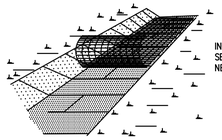
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LAY SOD ACROSS THE DIRECTION OF FLOW.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY - AT THE ENDS OF STRIPS AND THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.





IN CRITICAL AREAS SECURE SOD WITH NETTING. USE STAPLES.

CONSTRUCTION SPECIFICATIONS INSTALLATION

Soil Preparation:

Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.

Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.

Mix fertilizer into soil surface. Fertilize based on soil tests or the table below.

Fertilizer Requirements for Soil Surface Application			
Fertilizer Type	Fertilizer Rate (lbs./acre)	Fertilizer Rate (lbs./sq.ft.)	Season
10–10–10	1000	.025	Fall

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation:

Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod.

On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.

Irrigate sod and soil to a depth of 4" immediately after installation.

Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2–3 weeks.

Materials:

Sod selected should be certified. Sod grown in the general area of the project is desirable.

1. Sod should be machine cut and contain 3 /4" (+ or – 1/4") of soil, not including shoots or thatch.

Sod Planting Requirement		
Grass	Varieties	Growing Season
Bermudagrass	Common Tifway Tifgreen Tifdwarf	Warm Weather
Bahiagrass	Pensacola	Warm Weather
Centipede	–	Warm Weather
Zoysia	Emerald Myer	Warm Weather
Tall Fescue	Kentucky 31	Cool Weather

MAINTENANCE:

Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly. Grass height should not be cut less than 2" –3" or as specified (See table above).

Apply one ton of agricultural lime as indicated by soil test or every 4 –6 years. Fertilize grasses in accordance with the soil tests or the below table.

Fertilizer Requirements for Sod

Types Of Species	Planting Year	Fertilizer (N–P–K)	Rate (lbs./acre)	Nitrogen Top Dressing Rate (lbs./acre)
Cool Season Grasses	First Second Maintenance	6–12–12 6–12–12 10–10–10	1500 1000 400	50–100 – 30
Warm Season Grasses	First Second Maintenance	6–12–12 6–12–12 10–10–10	1500 800 400	50–100 50–100 30

Streambank Erosion Protection Measures
Relative Costs and Complexity

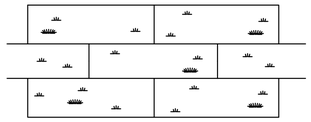
Measure	Relative Cost	Relative Complexity
Live Stake Joint planting Live Fascine Bushmatress	Low Low* Moderate Moderate	Simple Simple* Moderate Moderate to Complex
Live cribwall Branchpacking	High Moderate	Complex Moderate to Complex
Conventional Vegetation	Low to Moderate	Simple to Moderate
Conventional Bank armoring (riprap)	Moderate to High	Moderate to Complex

MAINTENANCE:

Check banks after every high water event, fixing gaps in the vegetative cover at once with structural materials or new plants, and mulching if necessary. Fresh cuttings from other plants may be used for repairs.

When fertilizer is applied on the surface, it is best to apply about one –half at planting, one–fourth when new growth is about to inches tall, and one–fourth about six weeks later.

Ds4 DISTURBED AREA STABILIZATION (WITH SODDING)



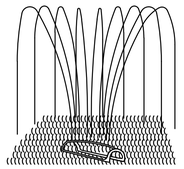
LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER. DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.



BUTTING – ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.



ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.

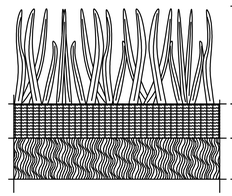


WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.



MOW WHEN THE SOD IS ESTABLISHED – IN 2–3 WEEKS. SET THE MOWER HIGH (2"–3").

APPEARANCE OF GOOD SOD



SHOOTS OR GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"–3" CUTTING HEIGHT.

THATCH – GRASS CLIPPING AND DEAD LEAVES, UP TO 1/2" THICK.

ROOT ZONE – SOIL AND ROOTS SHOULD BE 1/2"–3/4" THICK. WITH DENSE ROOT MAT FOR STRENGTH.

Ds4 SODDING

PURPOSE: 1. TO PREVENT THE MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES

2. PREVENT THE MOVEMENT OF AIRBORNE SUBSTANCES THAT MAY BE HARMFUL TO HEALTH.

INSTALLATION: 1. APPLY ACCORDINGLY TO APPROVED PLAN, IF SHOWN.

2. MULCH DISTURBED AREAS AND TACKIFY WITH RESINS SUCH AS ASPHALT, CURASOL OR TERRATACK ACCORDING TO MANUFACTURERS RECOMMENDATIONS

3. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT VEGETATION.

4. IRRIGATE DISTURBED AREAS UNTIL SURFACE IS WET.

5. COVER SURFACES WITH CRUSHED STONE OR GRAVEL.

6. APPLY CALCIUM CHLORIDE AT A RATE TO KEEP SURFACE MOIST.

7. APPLY SPRAY-ON ADHESIVES TO MINERAL SOILS (NOT MUCK SOILS) AS DESCRIBED IN TABLE 1

TABLE 1

ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN-IN-WATER EMULSION	4:1	FINE SPRAY	300

MAINTENANCE: 1. PROHIBIT TRAFFIC ON SURFACE AFTER SPRAYING.

2. SUPPLEMENTAL SURFACE COVERING AS NEEDED.

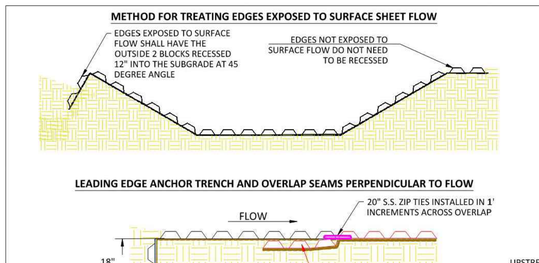
REFERENCES: 1. Ds1

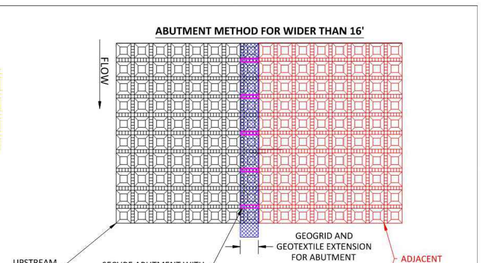
2. Ds2

2. Ds3

2. Ds4

Du DUST CONTROL ON DISTURBED AREAS





FLEXAMAT 10NW CHANNEL - LAYOUT PARALLEL TO FLOW

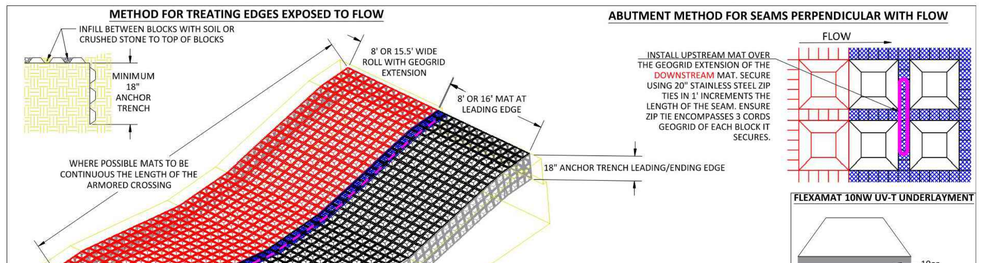
CONSTRUCTION NOTES:

1. AN ENGINEER OR MANUFACTURES REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. GRADE CHANNEL SO THAT WATER WILL FLOW DOWN CENTER OF THE CHANNEL AND BE CONTAINED TO THE CHANNEL. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
3. INSTALL FLEXAMAT 10NW ROLLS, USING THE WIDEST ROLLS POSSIBLE TO AVOID SEAMS.
   - 3.1. FOR CHANNELS THAT ARE WIDER THAN 16', INSTALL FLEXAMAT 10NW ROLLS THAT INCLUDE GEOGRID EXTENSIONS WITH 10NW GEOTEXTILE UNDERLAYMENT EXTENSIONS. THESE SEAMS ARE PARALLEL WITH FLOW, THE ADJACENT MAT INSTALLED OVER THE EXTENSIONS. ENSURE GEOGRID AND 10NW UNDERLAYMENT EXTENSIONS ARE LAYING FLAT ON SUBGRADE PRIOR TO INSTALLING ADJACENT MAT.
   - 3.2. SECURE THE ABUTMENT PARALLEL WITH FLOW BY INSTALLING 20" STAINLESS STEEL ZIP TIES IN 1' INCREMENTS THROUGH THE EXTENSION OVERLAP.
   - U ANCHORS OR ZIP TIES TO BE INSTALLED PERPENDICULAR TO FLOW. ZIP TIES SHALL ENCOMPASS 3 CORDS OF GEOGRID FROM EACH MAT.
4. FOR ADDITIONAL SECTIONS OF MAT, SECURE SEAM PERPENDICULAR WITH FLOW BY OVERLAPPING THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24". EXCAVATE 2.25"" OF SOIL 18" FROM END OF UPSTREAM MAT. DOWNSTREAM SECTION IS LAID IN THE SHALLOW TRENCH. FLIP END OF UPSTREAM MAT OVER THE INITIAL LEADING EDGE OF DOWNSTREAM MAT.
   - 4.1. SECURE OVERLAPS PERPENDICULAR TO FLOW BY INSTALLING 20" STAINLESS STEEL ZIP TIES IN 1' INCREMENTS THROUGH THE OVERLAP. ZIP TIES SHALL ENCOMPASS 3 CORDS OF GEOGRID FROM EACH MAT.
5. AT THE INITIAL LEADING EDGE OF THE FLEXAMAT 10NW ARMORED CHANNEL, EMBED THE MAT 18" IN A VERTICAL ANCHOR TRENCH. FILL AND COMPACT ANCHOR TRENCH WITH SUITABLE FILL. AT ENDING EDGE OF PROTECTION, EMBED THE MAT 18" IN A TERMINATION TRENCH. THE TRENCH SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL, AS DETERMINED BY THE ENGINEER OF RECORD.

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Flexamat PERMANENT EROSION CONTROL

REV - 1



SUBGRADE THICKNESS OF CRUSHED STONE

SITE SOIL TYPE	LIGHT LOAD VEHICLES: CARS/PICKUP TRUCKS	HEAVY LOAD VEHICLES: LARGE TRUCKS, RV'S, DELIVERY VEHICLES
GRAVEL AND SAND, COURSE WELL DRAINED SOILS	BASE: 3.5-7.5" OF CRUSHED STONE	BASE: 7.5" OF CRUSHED STONE
SILTY SOILS, FINE GRAIN SOILS, POOR DRAINAGE	BASE: 7.5" OF CRUSHED STONE	BASE: 9.5" OF CRUSHED STONE
CLAY SOILS FINE TO VERY FINE	BASE: 6-9.5" OF CRUSHED STONE	BASE: 10" OF CRUSHED STONE

FLEXAMAT 10NW - LOW WATER CROSSING ARMORING

CONSTRUCTION NOTES:

1. AN ENGINEER OR MANUFACTURES REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH (CLEAR ALL STICKS, ROOTS AND ANY OTHER ORGANIC MATTTER).
3. FLEXAMAT 10NW ROLLS ARE AVAILABLE IN STANDARD WIDTHS OF 16' FOR LOW WATER CROSSINGS. FOR CROSSINGS WIDER THAN THE 16' INCLUDING ANCHOR TRENCHES, INSTALL A 15.5' WIDE MAT WITH A GEOGRID EXTENSION AND FABRIC UNDERLAYMENT EXTENSION. COMPLETE THE REMAINDER OF THE CHANNEL WIDTH WITH A 8', OR 16' MAT. IT IS THE MANUFACTURERS RECOMMENDATION TO UTILIZE THE WIDEST MATS POSSIBLE. THE PARALLEL ABUTMENT SEAM SHALL BE IN THE CENTER OF THE CROSSING TO MINIMIZE DRIVING ON ABUTMENT SEAM.
4. FLEXAMAT 10NW ROLLS SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE CROSSING.
   - 4.1. WHEN CROSSING EXCEEDS 100' IN WIDTH OR WHEN SITE CONDITIONS PREVENT THE USE OF A CONTINUOUS MAT, INSTALL SHORTER ROLLS AND ABUT PARALLEL ABUTMENT SEAMS TIGHTLY. SECURE PARALLEL ABUTMENT SEAMS WITH STAINLESS STEEL ZIP TIES IN 1' INCREMENTS WITH STAINLESS STEEL ZIP TIES. ZIP TIES SHALL ENCOMPASS 3 CORDS OF GEOGRID ON EACH MAT.
   - 4.2. WHEN INSTALLING SHORTER ROLLS, THE PARALLEL ABUTMENT SEAMS SHOULD NOT BE IN THE CHANNEL BOTTOM. WHENEVER POSSIBLE PARALLEL SEAMS SHALL BE ABOVE THE THE NORMAL LOW WATER ELEVATION.
5. AT LEADING AND ENDING EDGES PERPENDICULAR TO THE CHANNEL EMBED THE FLEXAMAT 10NW INTO A 18" VERTICAL ANCHOR TRENCH.
   - 5.1. AT THE CROSSING TRANSITION TO THE ACCESS DRIVE, TRANSITION THE FLEXAMAT 10NW TO THE EXISTING GRADE. IF CONCENTRATED FLOW IS ANTICIPATED EMBED FLEXAMAT 10NW INTO A 18" VERTICAL ANCHOR TRENCH.
6. FOR CROSSINGS WIDER THAN 16' INSTALL THE DOWNSTREAM MAT WITH THE GEOGRID AND UNDERLAYMENT EXTENSIONS FIRST. ENSURE EXTENSIONS ARE LAYING FLAT PRIOR TO PLACEMENT OF THE UPSTREAM MAT.
   - 6.1. INSTALL THE UPSTREAM MAT OVER THE DOWNSTREAM MAT EXTENSIONS. INSTALL STAINLESS STEEL ZIP TIES IN 1' INCREMENTS THE LENGTH OF THE LONGITUDINAL SEAM. ZIP TIES SHALL ENCOMPASS 3 CORDS OF GEOGRID ON EACH MAT.

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Flexamat PERMANENT EROSION CONTROL

REV - 1

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GOODWYN MILLS CAWOOD, LLC
Certificate of Authorization No. 002401
Exp. 06.30.2026

ISSUE	DATE
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Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE051452
GRAHAM S. SIZEMORE
03.19.2025

ES & PC
STANDARD DETAILS

C-613

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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FOR BASIN #2

109

TEMPORARY SEDIMENT TRAP

COURTESY OF CITY OF KNOXVILLE BMP EROSION AND SEDIMENT

ROCK OUTLET

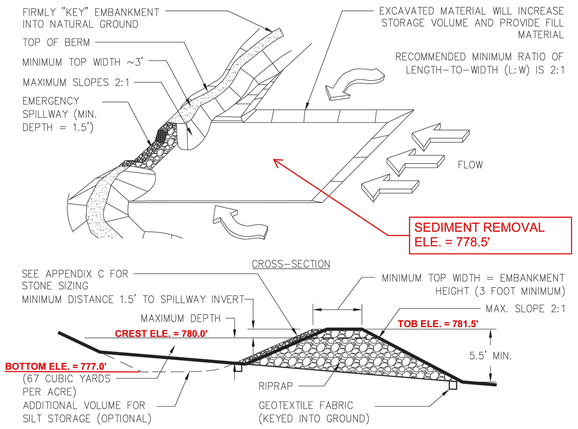


Figure 6-30.3

FOR BASIN #3

112

TEMPORARY SEDIMENT TRAP

COURTESY OF CITY OF KNOXVILLE BMP EROSION AND SEDIMENT

ROCK OUTLET

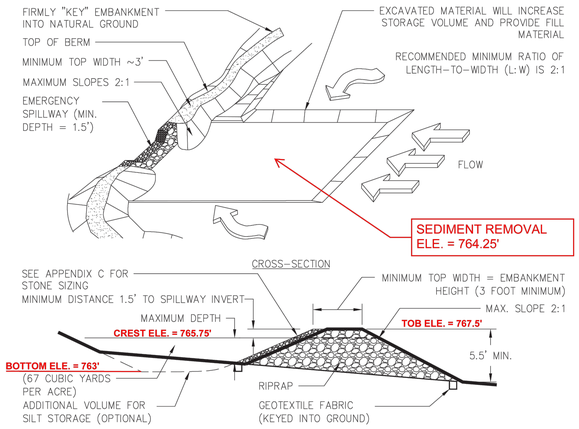


Figure 6-30.3

FOR BASIN #4

115

TEMPORARY SEDIMENT TRAP

COURTESY OF CITY OF KNOXVILLE BMP EROSION AND SEDIMENT

ROCK OUTLET

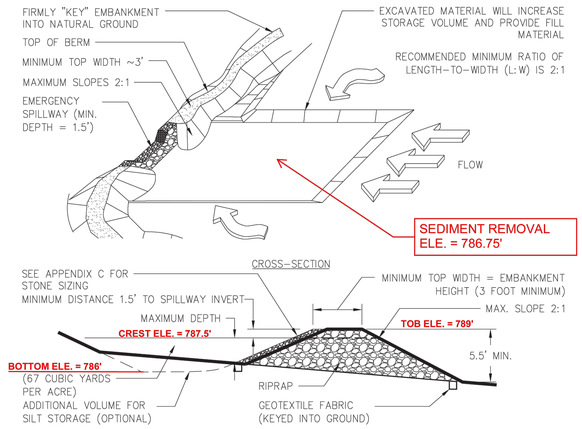


Figure 6-30.3

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GEORGIA LICENSURE OF SECRETARY OF ENGINEERING AND LAND SURVEYING CERTIFICATE OF AUTHORIZATION GOODWYN MILLS CAWOOD, LLC No. 000002188 Exp. 06.30.2026

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COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

ES & PC STANDARD DETAILS

C-614

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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CMP SAMPLING METHODS & PROCEDURES
GENERAL PERMIT No. GAR 100001 – EFFECTIVE AUGUST 1, 2018

REPRESENTATIVE SAMPLING ON STAND ALONE CONSTRUCTION PROJECT

Receiving water samples and storm water discharge samples will be collected by "grab samples", as specified in Part IV.D.6 of the GAR 100001 permit. All "grab samples" will be collected using the following methods and procedures.

SAMPLING REQUIREMENTS:

SAMPLING FREQUENCY:

(1). The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within forty–five (45) minutes or as soon as possible.

(2). 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.

(3). Sampling by the permittee shall occur for the following qualifying events:

(a). For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit. after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the representative sampling location;

(b). In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in this permit either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the representative sampling location, whichever comes first;

(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall 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;

(d). Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and

(e). 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 (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.

*Note that the Permittee may choose to meet the requirements of (a) and above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

INSPECTIONS:

(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect: (a) 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 (b) 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.

(2). Measure and record rainfall within disturbed areas of the site that have not met final stabilization once every 24 hours except any non–working Saturday, non–working Sunday and non–working Federal holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. 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.

(3). Certified personnel (provided by the Primary Permittee) shall inspect the following at least once every seven (7) calendar days: (a) disturbed areas of the Primary Permittee's construction site; (b) areas used by the Primary Permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the Primary Permittee's site shall be observed to ensure that they are operating correctly. Certified personnel shall also conduct inspections within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM 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). Post–rain inspections will reset the 7–day inspection frequency requirement. 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.(4). These inspections must be conducted until a Notice of Termination is submitted.

INSPECTIONS CONTINUED:

(4). Certified personnel (provided by the primary permittee) 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).

(5). 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 not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6). 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.(5). 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 any incidents, 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.

REPORTING:

1. The applicable permittees are required to submit the sampling results to the EPD 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 stormwater 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. Sampling reports must be submitted to EPD using the electronic submittal service provided by EPD. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.

2. All sampling reports shall include the following information:

a. The rainfall amount, date, exact place and time of sampling or measurements;
b. The name(s) of the certified personnel who performed the sampling and measurements;
c. The date(s) analyses were performed;
d. The time(s) analyses were initiated;
e. The name(s) of the certified personnel who performed the analyses;
f. References and written procedures, when available, for the analytical techniques or methods used;
g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;
h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and
i. Certification statement that sampling was conducted as per the Plan.

3. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate EPD District Office or delivery receipt email to the appropriate EPD District Office resource mailbox according to the schedule in Appendix A of this permit. The permittee 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.

RETENTION OF RECORDS:

1. The primary permittee shall retain 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. A copy of all Notices of Intent submitted to EPD;
b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
d. A copy of all sampling information, results, and reports required by this permit;
e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;
f. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and
g. Daily rainfall information collected in accordance with Part IV.D.4.a.(2). of this permit.

2. 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 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 or at a designated alternative location 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.

GMC
6120 Powers Ferry Road NW, Suite 200
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T 770.952.2481

STATE OF GEORGIA
GOODWYN MILLS CAWOOD, LLC
No.PE000...1845
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION

1" 0" .5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

COMPREHENSIVE MONITORING PROGRAM GENERAL NOTES

C-615

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES:

The method used to collect and analyze the water samples shall be in accordance with the following procedures:

- All samples shall be grab samples.
- Analysis of 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.
- Sample containers should be labeled prior to collecting the samples.
- Samples should be well mixed before transferring to a secondary container.
- Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.
- Manual or automatic 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. Samples are not required to be cooled. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter.
- Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in the permit must be reported to EPD as specified in Part IV.E of the permit.
- 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 but downstream of any other storm water discharges not associated with the permitted activity.
- 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 but upstream of any other storm water discharge not associated with the permitted activity.
- Samples should be taken from the horizontal and vertical center of the receiving water(s) or the storm water outfall channel(s).
- Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall storm water channel.
- The sampling container should be held so that the opening faces upstream.
- The samples should be kept free from floating debris.

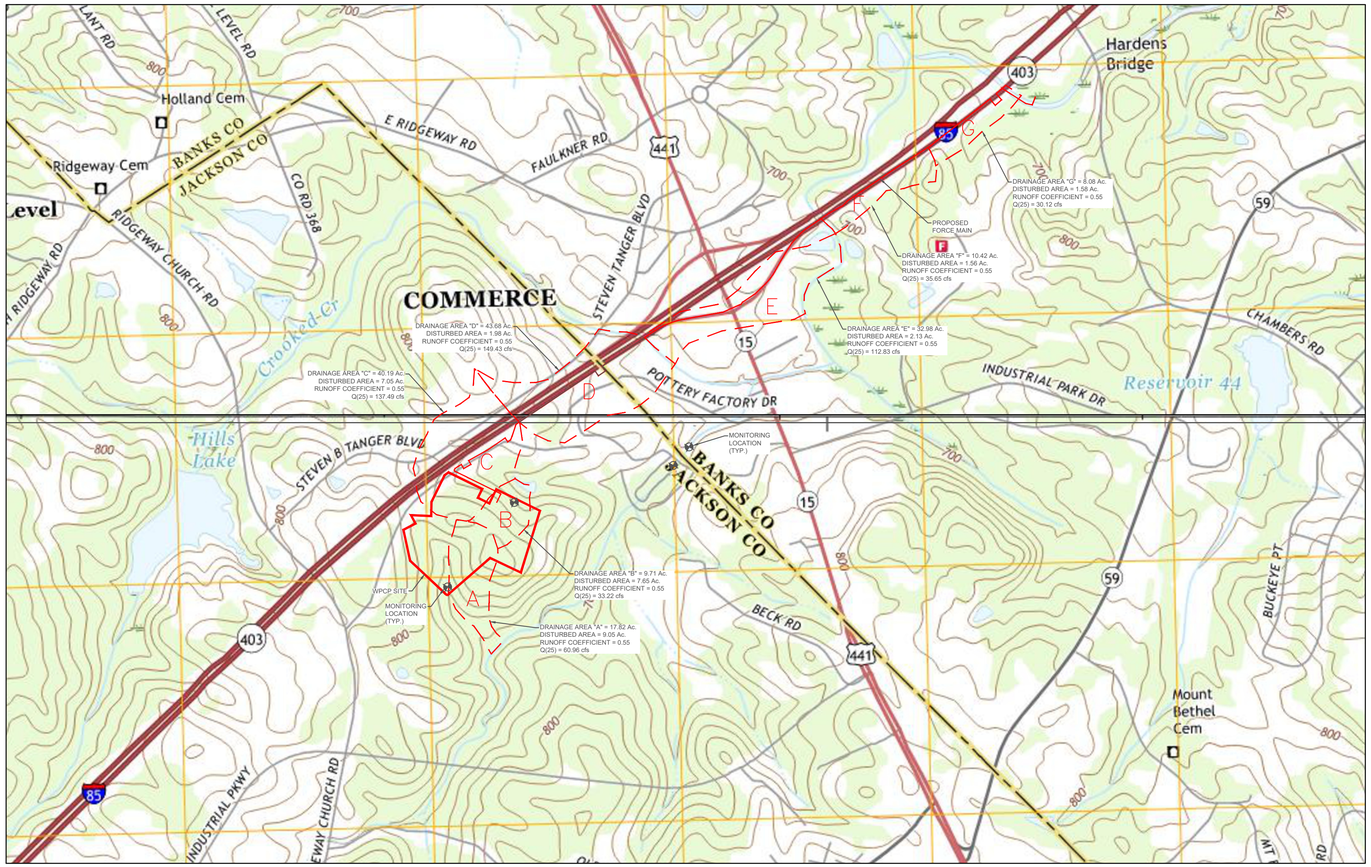
Deviations from these methods and procedures shall be documented by the primary permittee.

Sampling must be done in such a way as to accurately reflect whether storm water runoff from the site is in compliance with the standard set forth in the permit.

Measurement of rainfall must be recorded daily (once each twenty-four hour period) at the site.

The primary permittee must sample all perennial and intermittent streams and other water bodies or all outfalls into such streams and other water bodies as indicated on the map referenced in the permit.

For infrastructure construction projects, monitoring obligations shall cease for any phase of the project that has been stabilized in accordance with Part IV.D.6.c.(1).(g).



WATERSHED, SITE MONITORING LOCATIONS AND DRAINAGE AREA MAP

SCALE: 1" = 1000'

SAMPLING POINTS:

For this project a multiple representative outfalls will be sampled for the Stand Alone construction in accordance with current NPDES General Permit No. GAR 100001.

The project is located northwest of the City of Commerce in Jefferson County, GA as indicated on the vicinity map and plan sheets. Based on the existing terrain of the project area, the site drains to three (x) locations prior to going offsite. The total drainage area for the analyzed area is xx.xx acres with a project area of x.x acres. All runoff ultimately converges at xxxx Creek. Due to all runoff through the project area exiting via sheet flow and the stream not within the project area and/or property limits, sampling is not able to be attained.

Drainage Basin (Ac)	Disturbed Area (Ac)	Monitoring Station Location
"A" = 17.82 (0.028 SQ. MI.)	9.05	N/A
"B" = 9.71 (0.015 SQ. MI.)	7.65	N/A

The aforementioned tributaries are continuously flowing streams.

Permanent/Final Stabilization is defined as 100% cover with 70% density of the disturbed soil surface uniformly covered in permanent vegetation or equivalent permanent stabilization measures (such as the use of rip rap, gabions, permanent mulches or geotextiles) have been employed.

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STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — NO. PEO001886 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" .5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
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Project Manager: CW
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Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

WATERSHED MAP, DRAINAGE AREA & MONITORING LOCATIONS

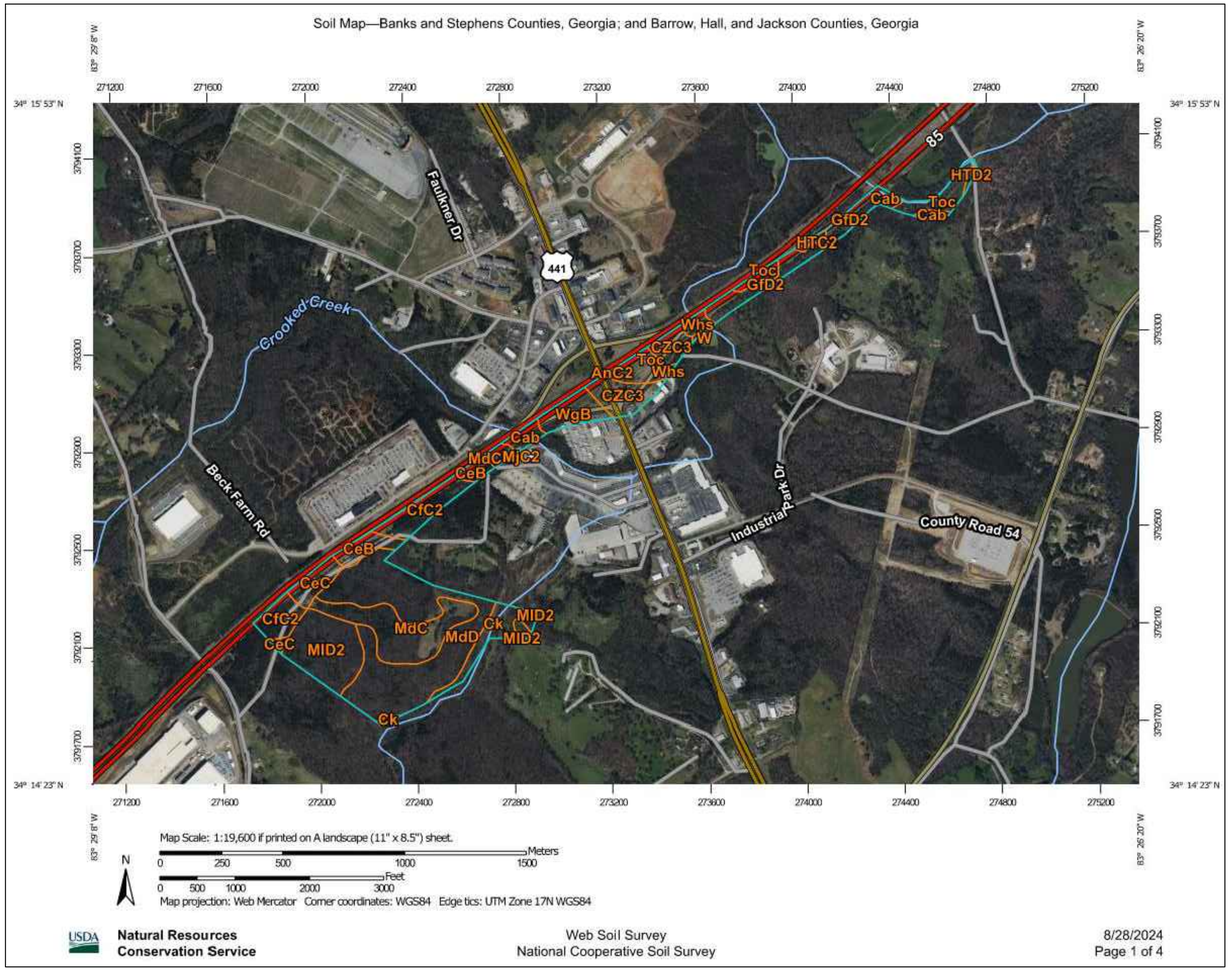
C-616

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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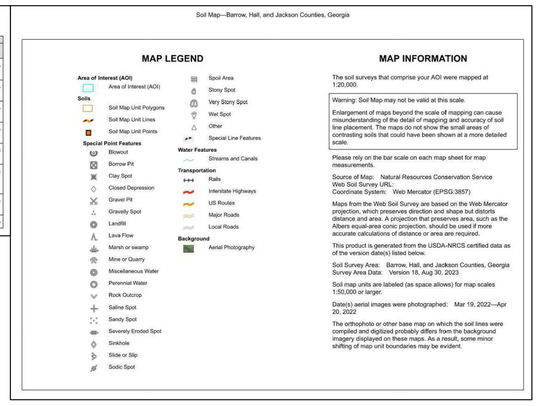
Banks and Stephens Counties, Georgia

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
AnC2—Appling sandy clay loam, 2 to 10 percent slopes, eroded														
Appling	100	B	0-9	Sandy clay loam	Cl, Cl-ML, SC, SC-SM	A-4, A-6	0- 0- 0	0- 3- 5	95-98-100	85-93-100	70-83- 95	40-55- 70	20-30 -40	########
			Sep-35	Sandy clay, clay loam, clay	CL, MH, ML	A-7	0- 0- 0	0- 3- 5	95-98-100	90-95-100	70-83- 95	51-66- 80	41-58 -74	15-23-30
			35-46	Sandy clay, clay loam, sandy clay loam	CL, SC	A-4, A-6, A-7	0- 0- 0	0- 3- 5	95-98-100	85-93-100	70-80- 90	40-58- 75	25-35 -45	########
			46-65	Sandy clay loam, clay loam, sandy loam	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	0- 0- 0	0- 0- 0	80-90-100	70-85-100	60-70- 80	30-45- 60	20-37 -54	########
Cab—Cartecay loam, 0 to 2 percent slopes, occasionally flooded														
Cartecay, occasionally flooded	95	A/D	0-9	Fine sandy loam, loam, sandy loam, loamy sand	ML, CL, CL-ML	A-4, A-6	0- 0- 0	0- 0- 0	95-97-100	90-93-100	72-84- 99	47-64- 77	25-35 -40	########
			Sep-40	Sandy loam, fine sandy loam, loam, loamy sand, gravelly sandy loam	SM, SC, SC-SM	A-2, A-4, A-2-4	0- 0- 0	0- 0- 0	90-95-100	68-83-100	49-63- 82	23-32- 44	17-25 -30	2/8/2012
			40-80	Loamy sand, sand, sandy loam, sandy loam, loamy sand, silt loam, sandy clay loam, silty clay loam, loam, very gravelly sandy loam	SC-SM, SP-SM	A-1, A-3, A-2, A-2-4	0- 0- 0	0- 0- 0	86-92-100	39-84-100	24-64- 94	########	0-22 -45	NP-6 -25
CZC3—Cecil sandy clay loam, 6 to 10 percent slopes, severely eroded														
Cecil	100	B	0-7	Sandy clay loam	Cl, ML, SC, SM	A-4, A-6	0- 0- 0	0- 3- 5	75-88-100	75-88-100	68-82- 95	38-60- 81	21-28 -35	########
			11-Jul	Sandy clay loam, clay loam	Cl, ML, SC, SM	A-4, A-6	0- 0- 0	0- 3- 5	75-88-100	75-88-100	68-82- 95	38-60- 81	21-28 -35	########
			Nov-50	Clay, clay loam	CH, MH, ML	A-5, A-7	0- 0- 0	0- 3- 5	97-99-100	92-96-100	72-86-100	55-75- 95	41-61 -80	########
			50-75	Clay loam, sandy clay loam, sandy loam	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	0- 1- 1	0- 1- 2	80-90-100	70-85-100	60-70- 80	30-45- 60	20-28 -35	########
GfD2—Gwinnett sandy loam, 10 to 15 percent slopes, eroded														
Gwinnett	100	B	0-8	Sandy loam	ML, SC, SC-SM, SM	A-2, A-4, A-6	0- 0- 0	0- 2- 3	95-98-100	85-93-100	65-78- 90	30-45- 60	15-24 -32	NP-6 -12
			Aug-35	Clay, sandy clay, clay loam	CH, CL, MH, ML	A-6, A-7	0- 0- 0	0- 2- 4	95-98-100	90-95-100	75-85- 95	51-66- 80	38-52 -65	16-23-30
			35-50	Sandy clay loam, clay loam, loam	CL, ML, SC	A-4, A-6	0- 0- 0	0- 3- 6	90-95-100	85-93-100	80-85- 90	35-58- 80	25-33 -40	########
			50-53	Weathered bedrock	—	—	—	—	—	—	—	—	—	—
HTD2—Hiwassee clay loam, 10 to 15 percent slopes, eroded														
Hiwassee	100	B	0-7	Clay loam	Cl, CL-ML, SC, SC-SM	A-4, A-6	0- 0- 0	0- 0- 0	94-97-100	84-92-100	75-85- 95	40-55- 70	25-33 -40	########
			12-Jul	Clay loam	CL	A-6	0- 0- 0	0- 0- 0	96-98-100	90-95-100	75-85- 95	50-63- 75	25-33 -40	########
			Dec-53	Clay	CH, CL, MH, ML	A-6, A-7	0- 0- 0	0- 0- 0	96-98-100	95-98-100	85-93-100	65-75- 85	35-50 -65	########
			53-72	Clay, clay loam, sandy clay loam	CL, MH, ML	A-4, A-6, A-7	0- 0- 0	0- 0- 0	95-98-100	90-95-100	75-88-100	50-68- 85	20-43 -65	########
MjC2—Madison fine sandy loam, 6 to 10 percent slopes, eroded														
Madison	100	B	0-6	Fine sandy loam	ML, SM, SC-SM	A-2, A-4	0- 0- 0	0- 2- 3	85-93-100	80-90-100	60-75- 90	26-41- 55	15-25 -35	NP-4 -8
			30-Jun	Clay, clay loam, sandy clay	MH, ML	A-7	0- 0- 0	0- 2- 3	90-95-100	85-93-100	75-88-100	57-71- 85	43-59 -75	########
			30-35	Clay loam, sandy clay loam, loam	CL	A-6, A-4	0- 0- 0	0- 2- 3	90-95-100	85-93-100	70-83- 95	50-65- 80	20-30 -40	########
			35-66	Fine sandy loam, sandy loam, loam	ML, SM	A-4, A-2	0- 0- 0	0- 3- 5	85-93-100	80-90-100	60-75- 90	26-41- 55	15-25 -35	NP-4 -7
Toc—Toccoa sandy loam, 0 to 2 percent slopes, occasionally flooded														
Toccoa, occasionally flooded	100	A	0-5	Sandy loam, loam	SC-SM, SM	A-4, A-2-4	0- 0- 0	0- 0- 0	91-95-100	77-87-100	53-69- 87	23-37- 54	0-24 -30	NP-6 -9
			May-48	Sandy loam, loam	SM, SC, SC-SM	A-4, A-2-4	0- 0- 0	0- 0- 0	95-96-100	85-91-100	58-71- 88	24-37- 56	0-22 -30	NP-6 -12
			48-80	Sandy loam, loam, loamy sand	Cl-ML, SM, CL	A-4	0- 0- 0	0- 0- 0	95-96-100	85-91-100	66-79-100	38-55- 77	16-21 -31	2/6/2013
WgB—Wickham sandy loam, 2 to 6 percent slopes														
Wickham	95	B	0-7	Sandy loam	CL, SC-SM, CL-ML, SC	A-6, A-4	0- 0- 0	0- 0- 0	100-100-100	84-98-100	54-76-100	26-40- 77	20-27 -30	########
			Jul-40	Sandy clay loam, clay loam, loam	CL, SC	A-7-6, A-7, A-6	0- 0- 0	0- 0- 0	100-100-100	75-96-100	55-84-100	30-49- 81	28-36 -44	########
			40-60	Gravelly sandy loam	SC-SM, SC	A-2-4	0- 0- 0	0- 0- 0	77-80-100	69-75-100	45-59-100	21-31- 76	19-22 -26	4/7/2009
Whs—Wehadkee soils, 0 to 2 percent slopes, frequently flooded														
Wehadkee, frequently flooded	95	B/D	0-8	Sandy clay loam, silt loam, sandy loam, loam	CL	A-6	0- 0- 0	0- 0- 0	100-100-100	100-100-100	75-92-100	55-78-100	16-35 -41	########
			14-Aug	Loam, sandy loam, silt loam	CL-ML	A-4	0- 0- 0	0- 0- 0	100-100-100	100-100-100	75-87- 99	48-62- 75	15-20 -27	2/4/2008
			14-35	Silt loam, loam, sandy clay loam, clay loam, silty clay loam, sandy loam	CL	A-5, A-4, A-6	0- 0- 0	0- 0- 0	100-100-100	100-100-100	81-98-100	51-72-100	0-35 -45	NP-17-22
			35-80	Loam, sand, sandy clay loam, clay loam, sandy loam, sandy clay, loamy sand	SM, ML, SC	A-6, A-4, A-5, A-7-6	0- 0- 0	0- 0- 0	100-100-100	100-100-100	76-94-100	31-47- 77	0-30 -44	NP-17-25



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC	Cecil sandy loam, 6 to 10 percent slopes	15.9	14.5%
CfC2	Cecil sandy clay loam, 6 to 10 percent slopes, eroded	9.7	8.8%
Ck	Chewacla loam, frequently flooded	6.7	6.1%
MdC	Madison sandy loam, 6 to 10 percent slopes	17.8	16.1%
MdD	Madison sandy loam, 10 to 15 percent slopes	29.4	26.7%
MID2	Madison sandy clay loam, 10 to 15 percent slopes, moderately eroded	29.6	26.9%
PuD2	Pacolet soils, 10 to 15 percent slopes, eroded	1.0	0.9%
Totals for Area of Interest		**110.0**	**100.0%**



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SOILS MAP

C-617

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CeC	Cecil sandy loam, 6 to 10 percent slopes	4.2	62.7%
CfC2	Cecil sandy clay loam, 6 to 10 percent slopes, eroded	2.5	37.3%
Totals for Area of Interest		**6.7**	**100.0%**

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barrow, Hall, and Jackson Counties, Georgia
Survey Area Data: Version 19, Sep 2, 2024

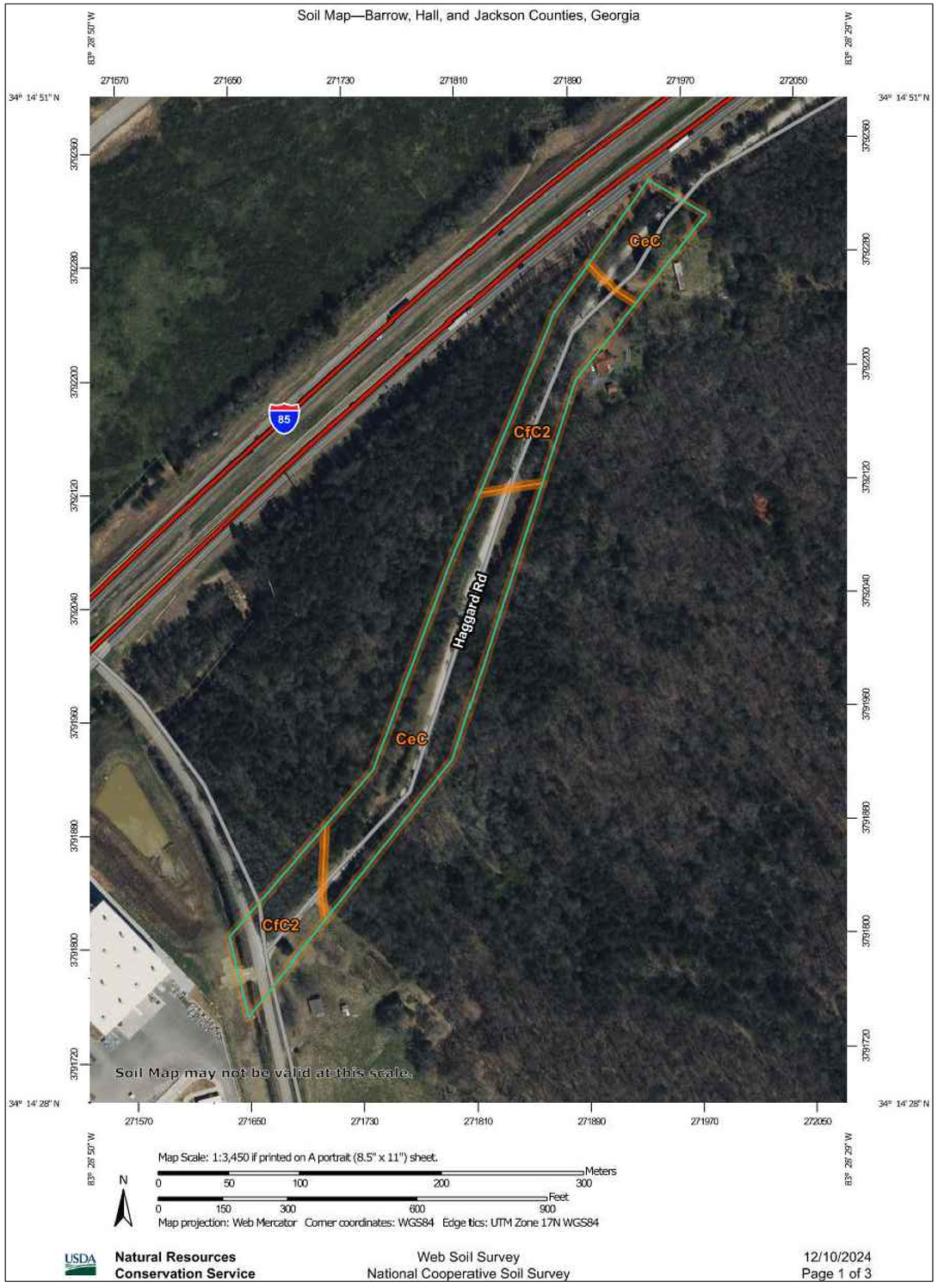
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 19, 2022—Apr 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Barrow, Hall, and Jackson Counties, Georgia

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification Unified	Classification AASHTO	Pct Fragments >10 inches	Pct Fragments 3-10 inches	Percentage passing sieve number— 4	10	40	200	Liquid limit	Plasticity index
			In				L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H	L-R-H
CeC—Cecil sandy loam, 6 to 10 percent slopes														
Cecil	100	B	0-8	Sandy loam	SC-SM, SC	A-2-4, A-4	0- 0- 0	0- 0- 0	95-97-100	87-92-100	63-70- 80	28-35- 44	21-24 -32	6/8/2013
			Aug-42	Clay, clay loam, sandy clay	CH, SC	A-7-6	0- 0- 0	0- 0- 0	95-97-100	86-91-100	70-78- 97	45-53- 77	42-58 -74	24-38-51
			42-60	Sandy loam, loam, sandy clay loam	SC-SM, CL	A-4, A-6	0- 0- 0	0- 0- 0	95-97-100	87-92-100	70-82- 93	42-57- 67	20-28 -35	########
CfC2—Cecil sandy clay loam, 6 to 10 percent slopes, eroded														
Cecil	100	B	0-7	Sandy clay loam	CL, ML, SC, SM	A-4, A-6	0- 0- 0	0- 3- 5	75-88-100	75-88-100	68-82- 95	38-60- 81	21-28 -35	3/9/2015
			11-Jul	Sandy clay loam, clay loam	CL, ML, SC, SM	A-4, A-6	0- 0- 0	0- 3- 5	75-88-100	75-88-100	68-82- 95	38-60- 81	21-28 -35	3/9/2015
			Nov-50	Clay, clay loam	CH, MH, ML	A-5, A-7	0- 0- 0	0- 3- 5	97-99-100	92-96-100	72-86- 99	55-75- 95	41-61 -80	########
			50-75	Sandy loam, fine sandy loam, loam, gravelly sandy loam	SC-SM, SM	A-2-4, A-4	0- 1- 1	0- 1- 2	80-90-100	70-85-100	60-75- 90	25-38- 50	########	NP-3 -6



GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA REGISTERED PROFESSIONAL ENGINEER
No. PE051452
GRAHAM S. SIZEMORE
03.19.2025
CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
NAFCO0007886
Exp.06.30.2026
STATE OF GEORGIA

ISSUE	DATE
30% DRAWINGS:	05.30.2024
60% DRAWINGS:	08.29.2024
90% DRAWINGS:	11.27.2024
BIDDING PERMIT SET	DEC. 2024 19.2025

Project Manager:		CW
Engineer:		GS
DESIGNED BY:	GS	GS
DRAWN BY:	DS/MRA	

1" 0" 1" .5"

COMMERCE 210 GOLD
ROAD EXTENSION
COMMERCE, GA
GMC PROJECT NO. CATL230033

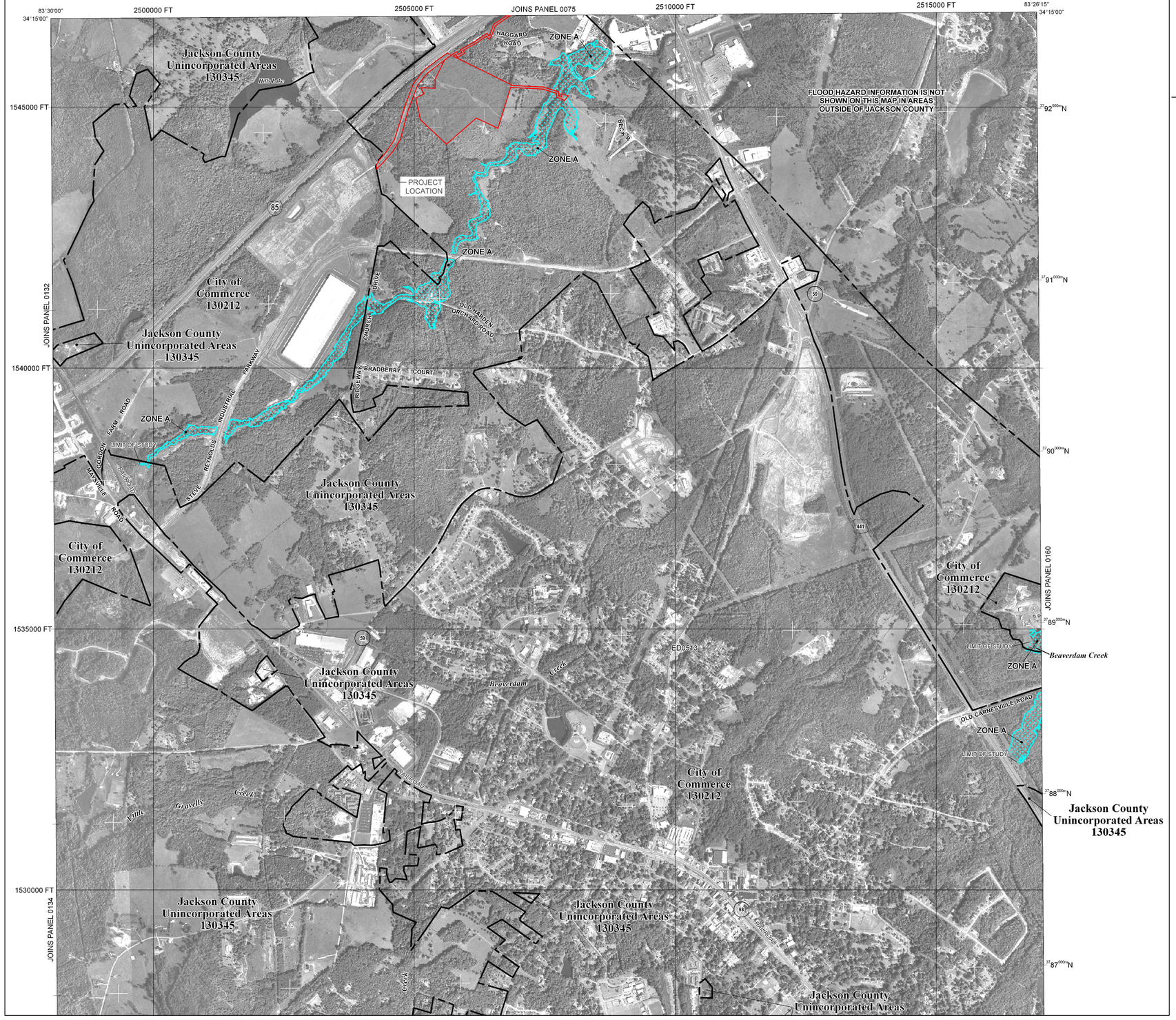
NOT - RELEASED FOR CONSTRUCTION

SOILS MAP

C-618

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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N

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0155C

FIRM

FLOOD INSURANCE RATE MAP

JACKSON COUNTY, GEORGIA
AND INCORPORATED AREAS

PANEL 155 OF 352
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
COMMERCE, CITY OF	130212	0155	C
JACKSON COUNTY	130345	0155	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
13157C0155C

EFFECTIVE DATE
DECEMBER 17, 2010

Federal Emergency Management Agency

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3976000mN — 1000-meter Universal Transverse Mercator grid values, zone 17
- 600000 FT — 5000-foot grid values: Georgia State Plane coordinate system, West zone (FIPSZONE 1002), Transverse Mercator projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

GEORGIA — CERTIFICATE OF AUTHORIZATION — GOODWYN MILLS CAWOOD, LLC — NO. PEF007186 — Exp.06.30.2026

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

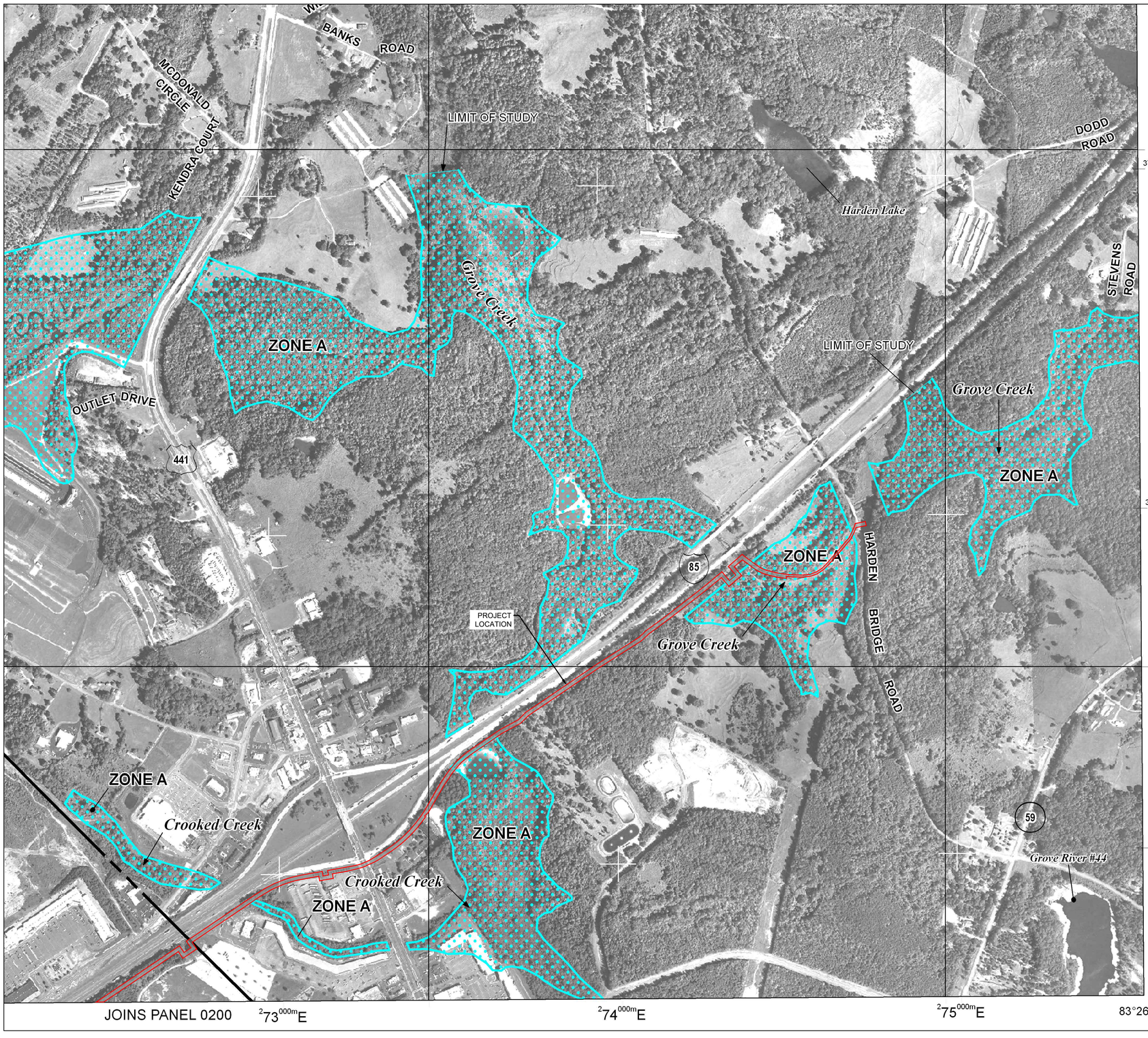
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

FEMA FLOODPLAIN MAP

C-619

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NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0140A

FIRM

FLOOD INSURANCE RATE MAP

BANKS COUNTY, GEORGIA
AND INCORPORATED AREAS

PANEL 140 OF 225
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BANKS COUNTY	130560	0140	A

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
13011C0140A

EFFECTIVE DATE
DECEMBER 17, 2010

Federal Emergency Management Agency

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet* / Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- (A)—(A) — Cross section line
- (23)---(23) — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3976 000m N — 1000-meter Universal Transverse Mercator grid values, zone 17
- 600000 FT — 5000-foot grid values: Georgia State Plane coordinate system, West zone (FIPSZONE 1002), Transverse Mercator projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT EMBOSSED SEAL — GOODWYN MILLS CAWOOD, LLC — NA.PE051452 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 1" .5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

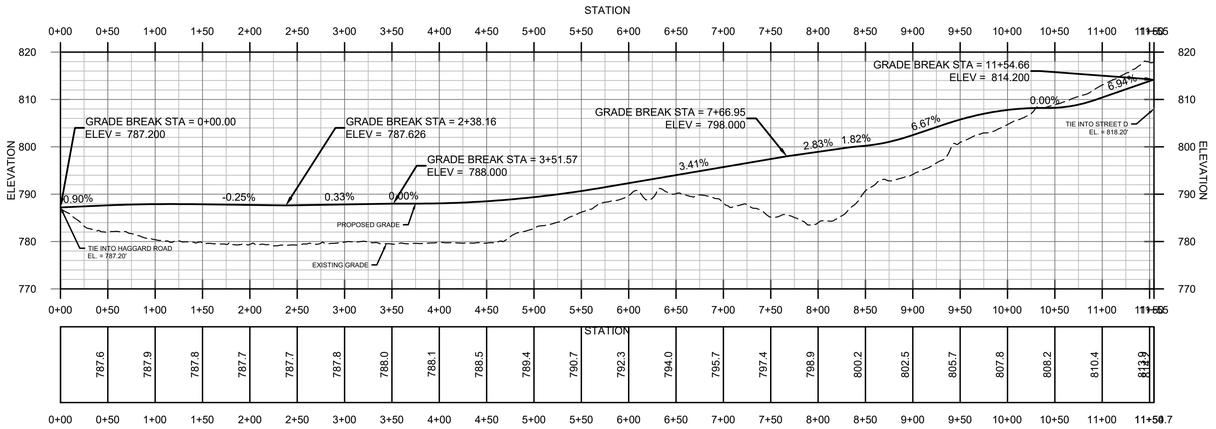
GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

FEMA FLOODPLAIN MAP

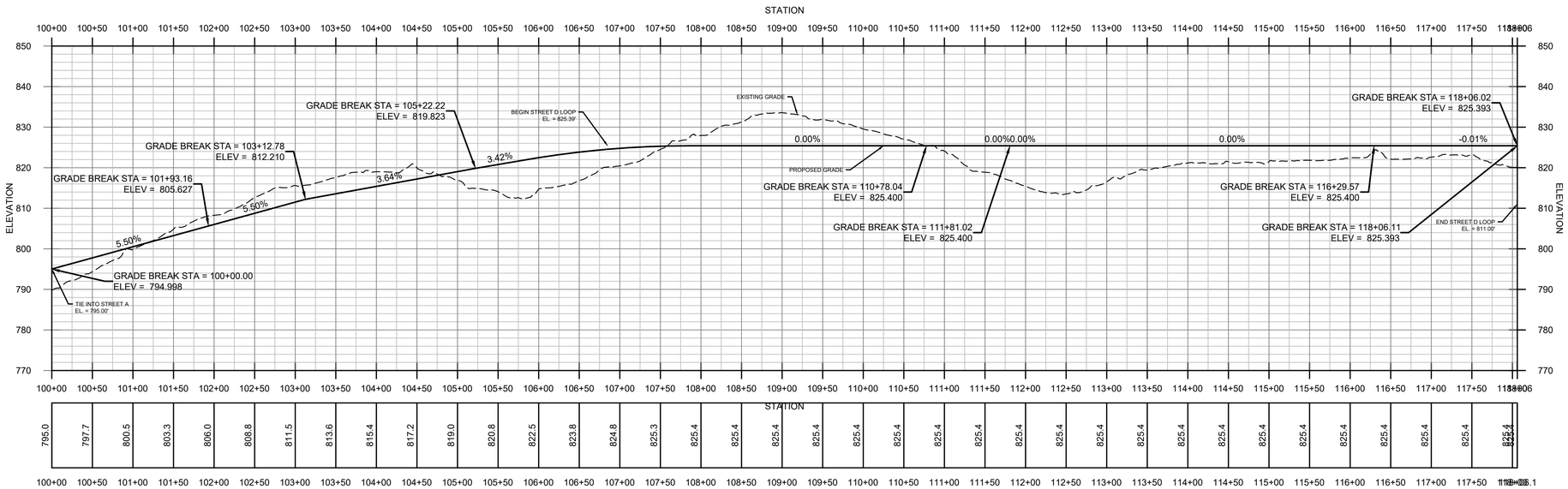
C-620

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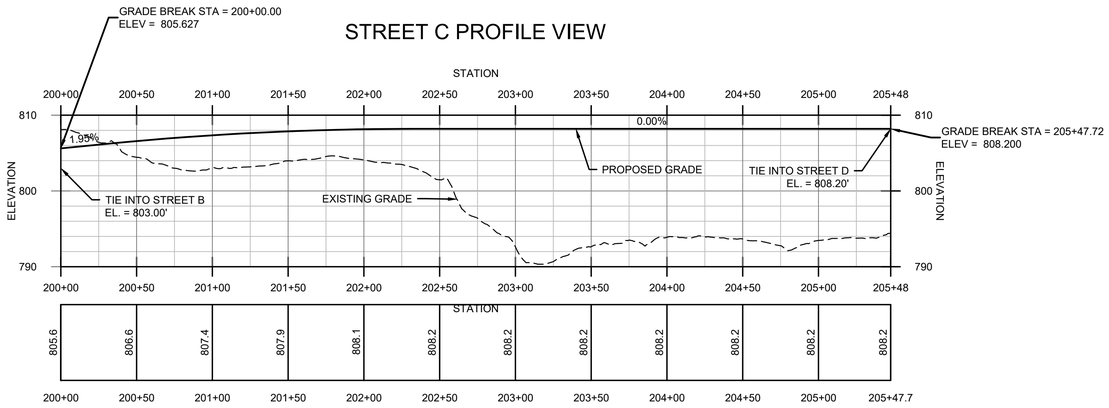
STREET A PROFILE VIEW



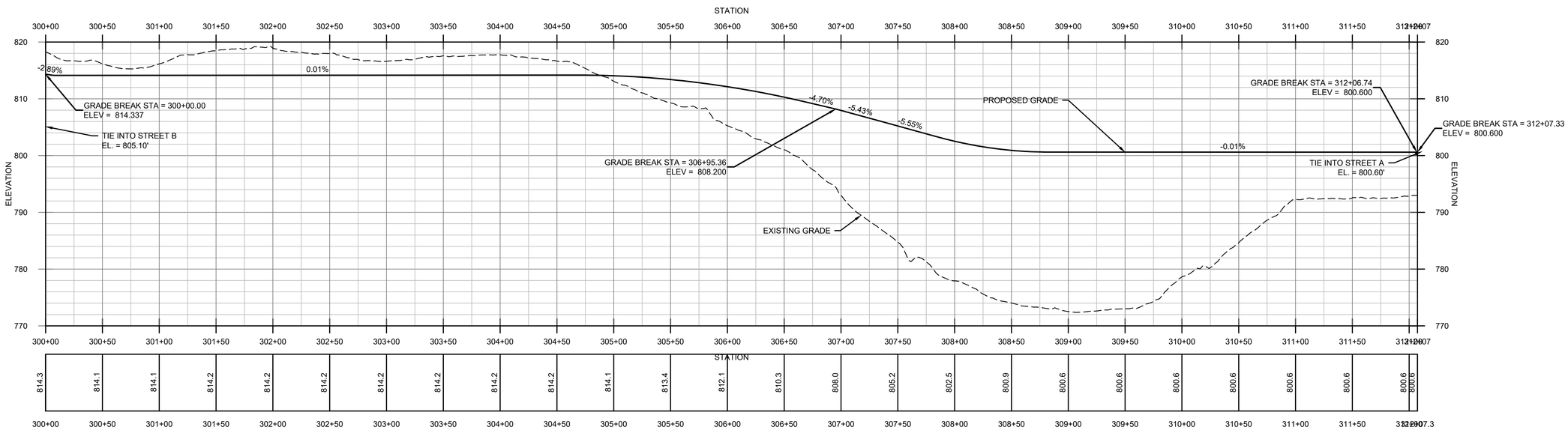
STREET B PROFILE VIEW


STATION
ELEVATION
GRADE BREAK STA = 100+00.00
ELEV = 794.998
GRADE BREAK STA = 101+93.16
ELEV = 805.627
GRADE BREAK STA = 103+12.78
ELEV = 812.210
GRADE BREAK STA = 105+22.22
ELEV = 819.823
GRADE BREAK STA = 110+78.04
ELEV = 825.400
GRADE BREAK STA = 111+81.02
ELEV = 825.400
GRADE BREAK STA = 116+29.57
ELEV = 825.400
GRADE BREAK STA = 118+06.02
ELEV = 825.393
GRADE BREAK STA = 118+06.11
ELEV = 825.393
TIE INTO STREET A
EL. = 795.00'
BEGIN STREET D LOOP
EL. = 825.39'
END STREET D LOOP
EL. = 811.00'
EXISTING GRADE
PROPOSED GRADE
5.50%
5.80%
3.64%
3.42%
0.00%
0.00%
0.00%
0.00%
-0.01%
795.0
797.7
800.5
803.3
806.0
808.8
811.5
813.6
815.4
817.2
819.0
820.8
822.5
823.8
824.8
825.3
825.4
825.4
825.4

STREET C PROFILE VIEW



STREET D PROFILE VIEW



GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
NA.PE007.1.000
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

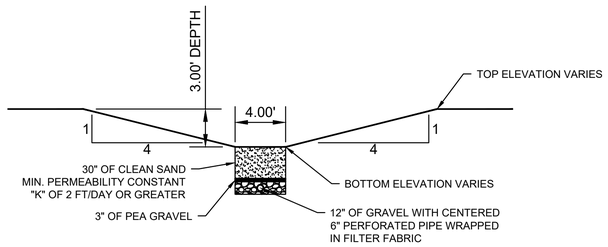
CATL230033



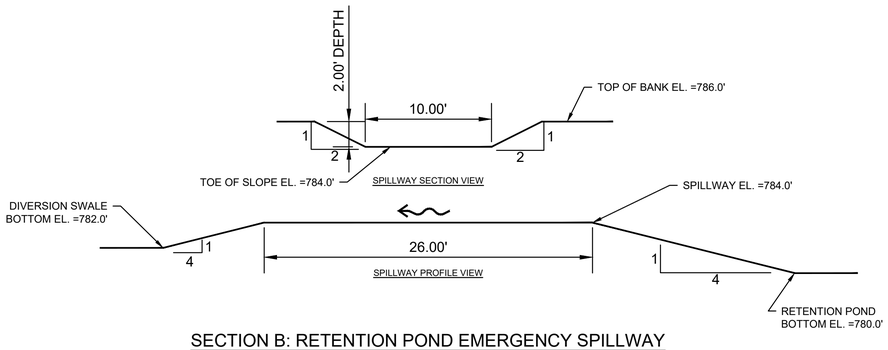
CIVIL - CIVIL SITE DETAILS

C-905

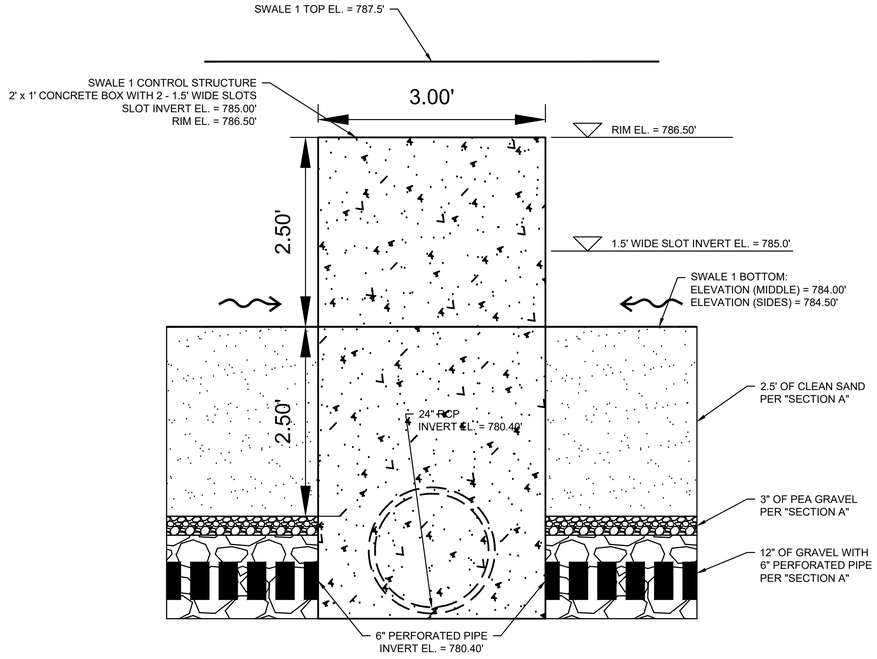
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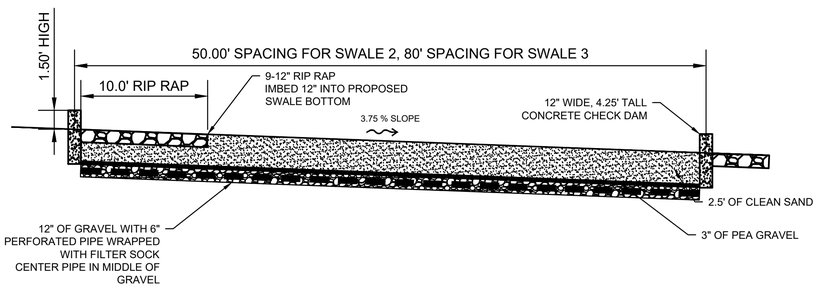
SECTION A: TYPICAL SWALE DETAIL



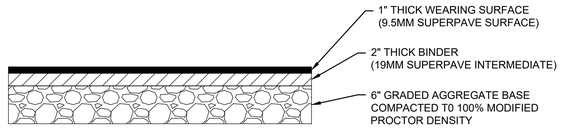
SECTION B: RETENTION POND EMERGENCY SPILLWAY



SECTION D: SWALE 1 CONTROL STRUCTURE DETAIL

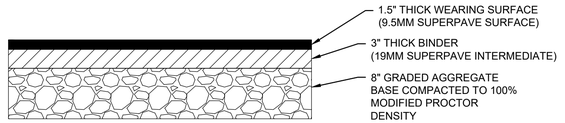


SECTION C: SWALE CHECK DAM DETAIL



TYPICAL LIGHT DUTY ASPHALT PAVEMENT SECTION

1" = 1' @ 22" x 34"



TYPICAL HEAVY DUTY ASPHALT PAVEMENT SECTION

1" = 1' @ 22" x 34"

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW,
Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA
NOT VALID FOR CONSTRUCTION UNLESS CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
GA.PE000.7.1486
Exp.06.30.2026

1" 0" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

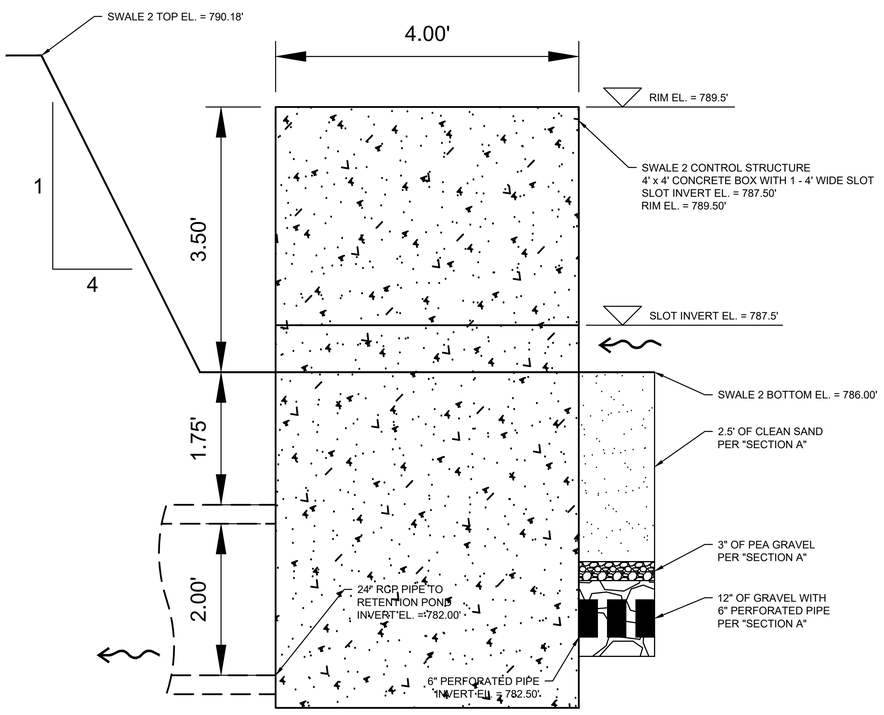
CATL230033

GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
03.19.2025
ENGINEER
GRAHAM S. SIZEMORE

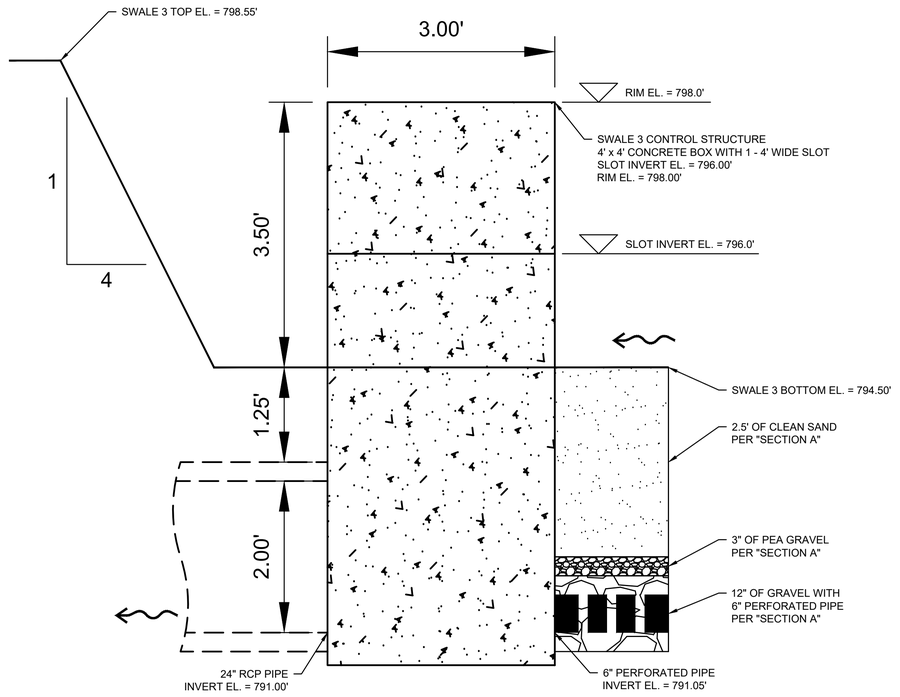
CIVIL -
CIVIL SITE DETAILS

C-906

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SECTION E: SWALE 2 CONTROL STRUCTURE DETAIL



SECTION F: SWALE 3 CONTROL STRUCTURE DETAIL

GMC
6120 Powers Ferry Road NW,
Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE AND SEAL
GOODWYN MILLS CAWOOD, LLC
NA.PE000.7.1486
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
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Project Manager:	CW
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Designer:	GS
Drawn By:	

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

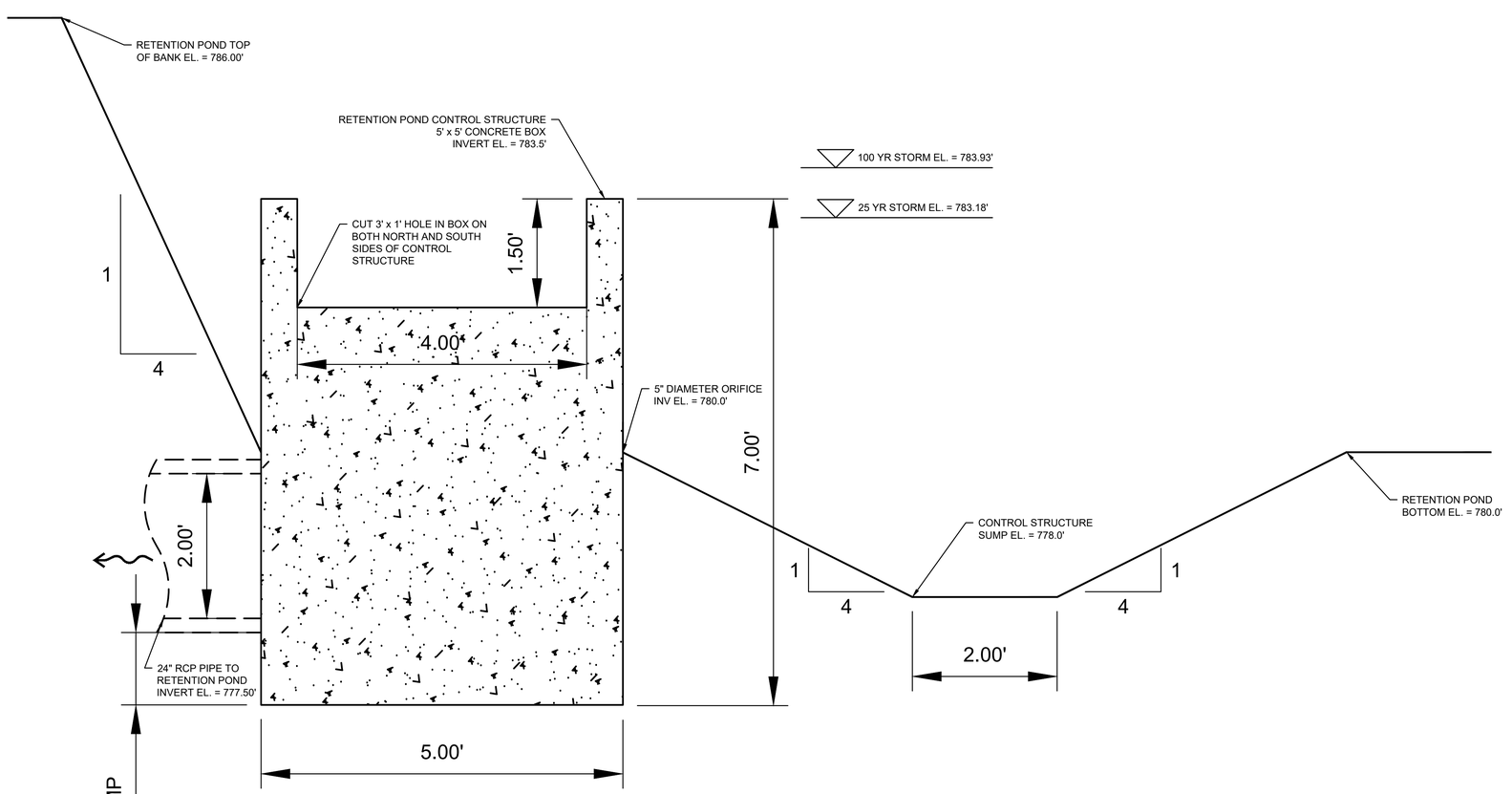
GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
ENGINEER
GRAHAM S. SIZEMORE
03.19.2025

CIVIL -
CIVIL SITE DETAILS

C-907

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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SECTION G: RETENTION POND CONTROL STRUCTURE DETAIL

GMC
6120 Powers Ferry Road NW,
Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
No. PEO07186
Exp.06.30.2026

1" 0" 1" .5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager:	CW
Engineer:	GS
Designer:	GS
Drawn By:	GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

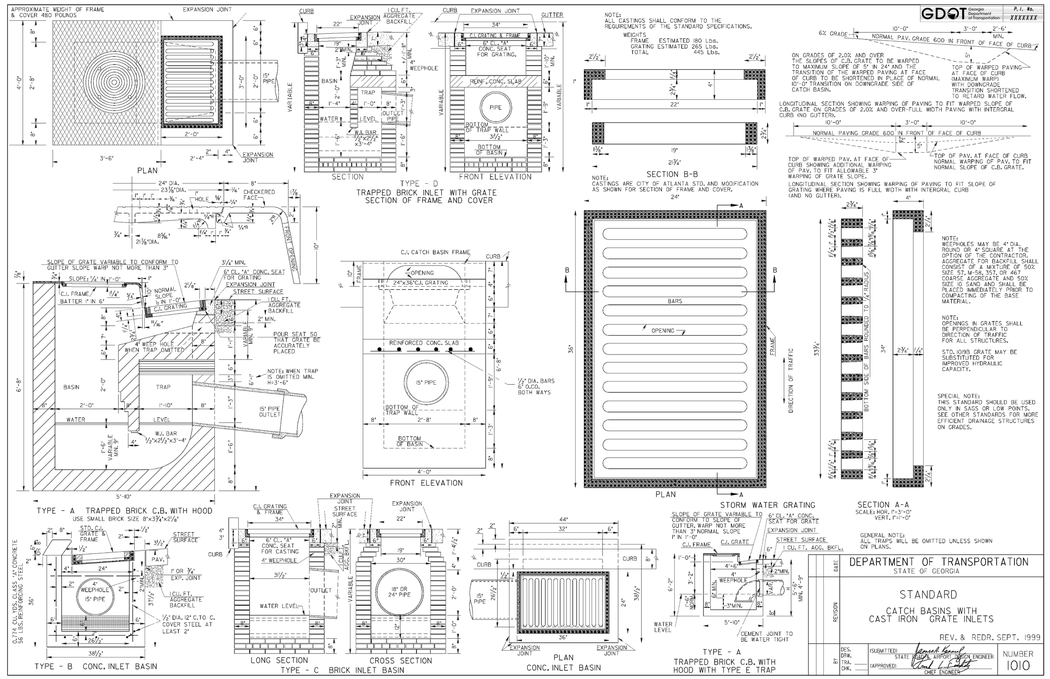
GEORGIA REGISTERED
No. PE051452
PROFESSIONAL
03.19.2025
ENGINEER
GRAHAM S. SIZEMORE

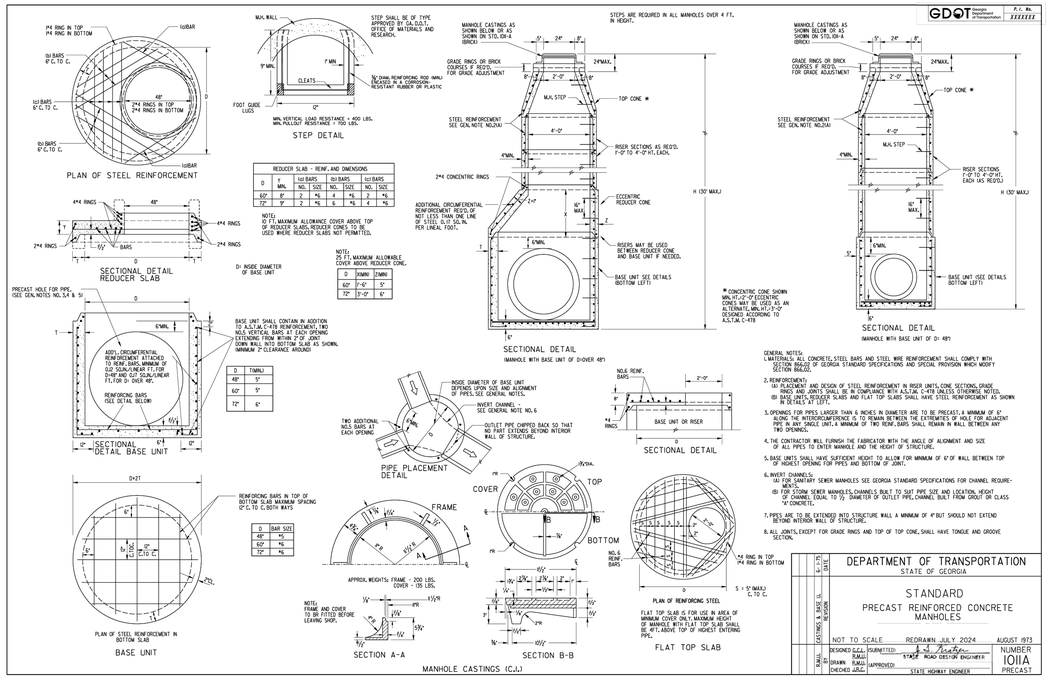
CIVIL -
CIVIL SITE DETAILS

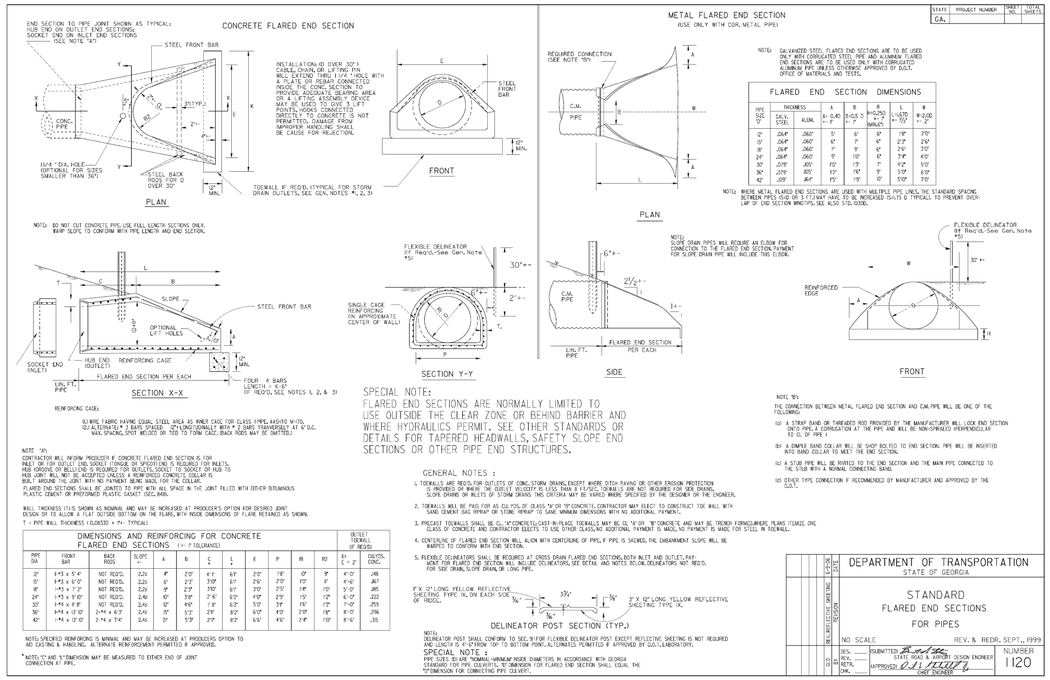
C-908

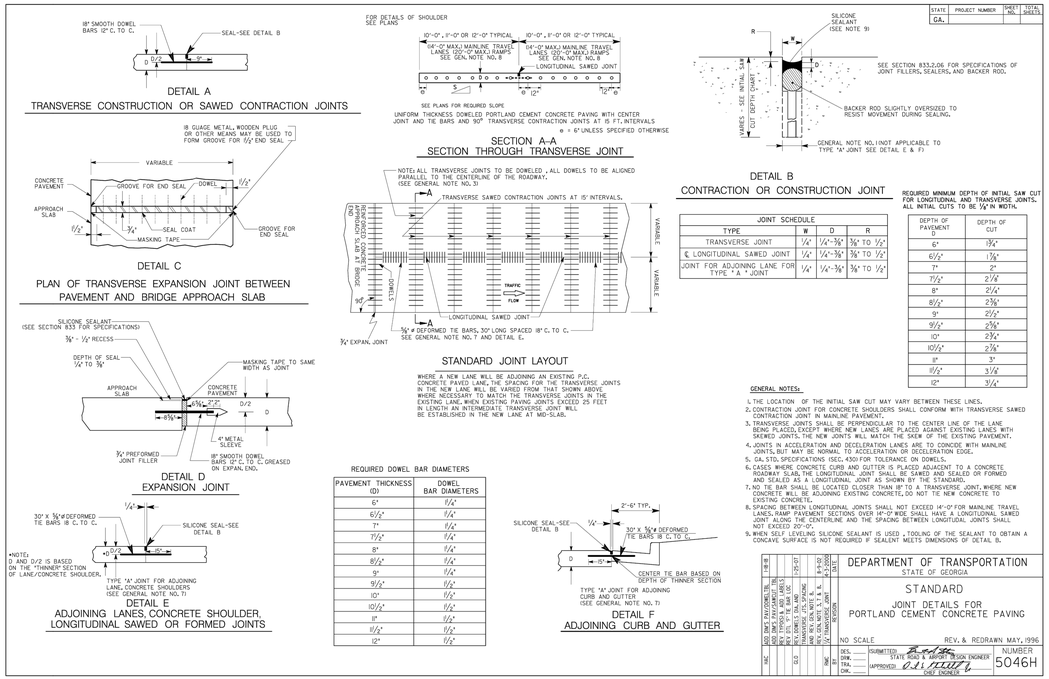
LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — CERTIFICATE OF AUTHORIZATION
GOODWYN MILLS CAWOOD, LLC
No. PE051452
PROFESSIONAL ENGINEER
GRAHAM S. SIZEMORE
03.19.2025
Exp.06.30.2026

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

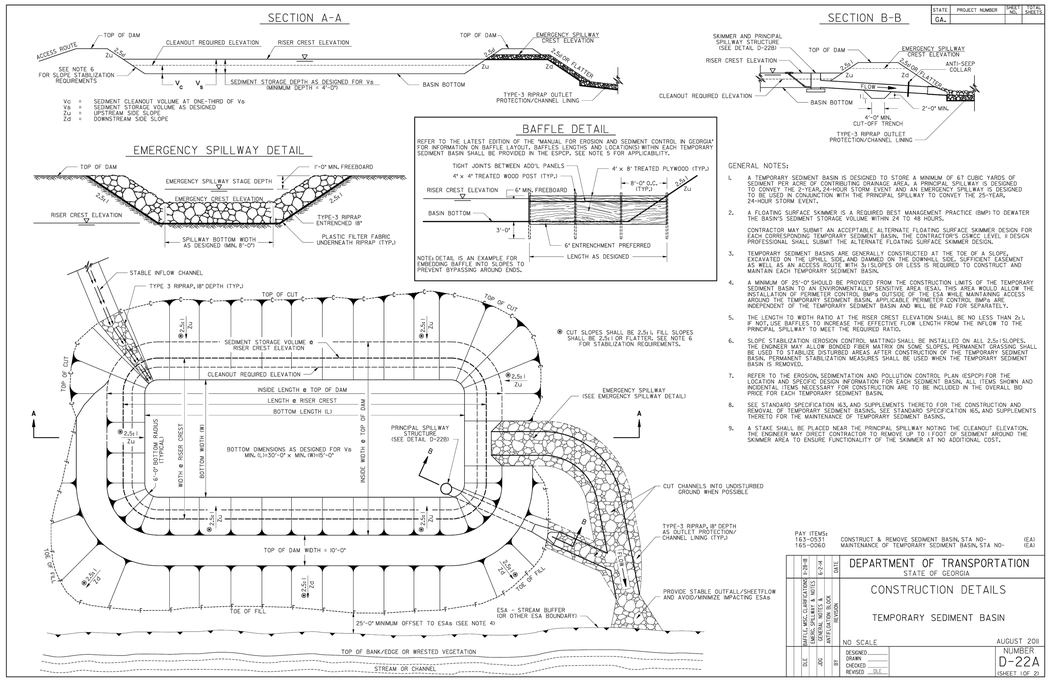
CATL230033

CIVIL - CIVIL SITE DETAILS

C-909

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

PAY ITEMS:
163-0531 CONSTRUCT & REMOVE SEDIMENT BASIN, STA NO- (EA)
165-0060 MAINTENANCE OF TEMPORARY SEDIMENT BASIN, STA NO- (EA)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

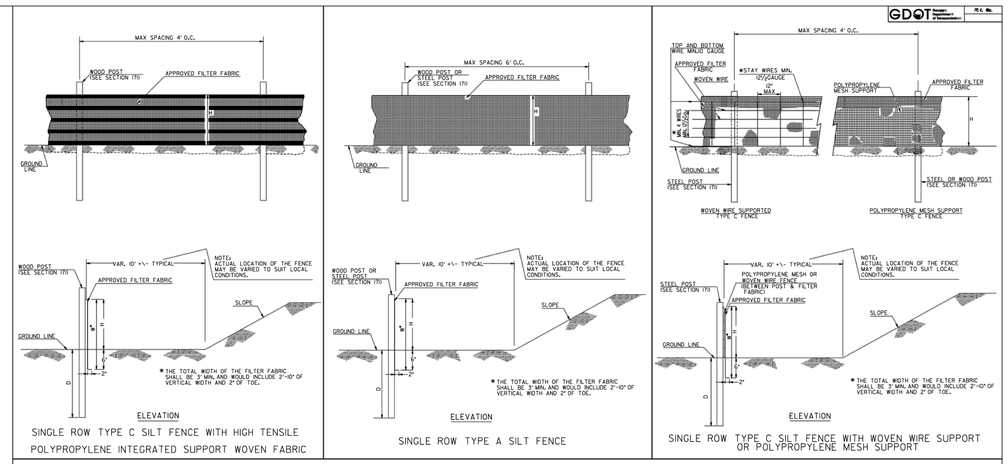
CONSTRUCTION DETAILS

TEMPORARY SEDIMENT BASIN

NO SCALE — AUGUST 2011

DESIGNED
DRAWN
CHECKED
REVISED — DLC

NUMBER D-22A
(SHEET 1 OF 2)



FENCE TYPE	POST LENGTH	H	D	W*	TYPICAL USES
TYPE "A"	4 FT.	2'-4"	1'-6"	3'-0"	
TYPE "C"	4 FT.	2'-4"	1'-6"	3'-0"	AT BRIDGE END ROLLS, DOUBLE ROW ALONG STREAMS, WETLANDS AND ENVIRONMENTALLY SENSITIVE AREAS. FOR USE OF THIS MATERIAL IN 9 FABRIC CHECKDAMS SEE D-24D.

NOTES:
1. WIRE STAPLES SHALL BE AT LEAST 17 GAUGE, WITH LEGS AT LEAST ½ INCHES LONG, AND A CROWN AT LEAST ¾ INCHES WIDE. NAILS SHALL BE AT LEAST 14 GAUGE, 1 INCH LONG, WITH BUTTON HEADS AT LEAST ⅜ INCHES WIDE.
2. SEE SECTION 171 FOR PLACEMENT OF NAILS OR STAPLES FOR TYPE A AND TYPE C FENCES.
3. THE VERTICAL WIRES FOR THE WOVEN WIRE SUPPORT FENCE SHALL HAVE A MAXIMUM SPACING OF 12 INCHES. THE TOP AND BOTTOM WIRES SHALL BE AT LEAST 12 GAUGE AND ALL OTHER WIRES SHALL BE AT LEAST 12½ GAUGE.
4. TEMPORARY SILT FENCE INSTALLATION IS DIFFERENT THAN THE SILT RETENTION BARRIER INSTALLATION.
5. SEE SECTION 171 FOR SILT FENCE SPECIFICATIONS.
6. SEE SECTION 894 FOR FENCING SPECIFICATIONS.
7. SEE DPL-36 FOR A LIST OF APPROVED SILT FENCE FABRIC.
8. TEMPORARY SILT FENCE SHALL NOT BE PLACED WITHIN STATE WATERS UNLESS PERMITTED.

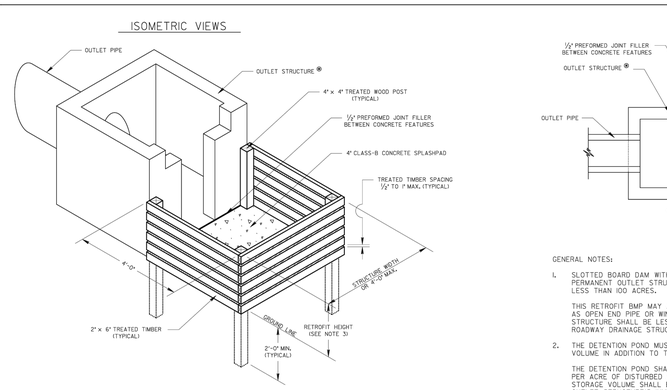
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

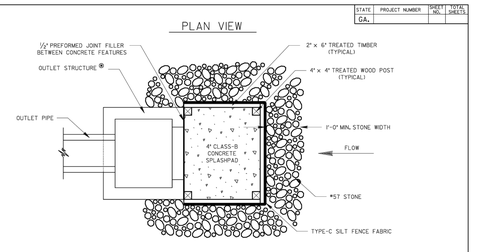
CONSTRUCTION DETAIL

TEMPORARY SILT FENCE

JANUARY 2011 — NO SCALE

NUMBER D-24A





GENERAL NOTES:
1. SLOTTED BOARD DAM WITH STONE FILTER MAY BE TEMPORARILY PLACED ON A DETENTION POND'S PERMANENT OUTLET STRUCTURE. THE TOTAL DRAINAGE AREA TO THE DETENTION POND SHALL BE LESS THAN 100 ACRES.
THIS RETROFIT BMP MAY ALSO BE TEMPORARILY PLACED ON ROADWAY DRAINAGE STRUCTURES SUCH AS OPEN END PIPE OR WINGED HEADWALLS. THE TOTAL DRAINAGE AREA TO THE ROADWAY DRAINAGE STRUCTURE SHALL BE LESS THAN 30 ACRES. HOWEVER, THIS RETROFIT BMP SHALL NOT BE USED ON ROADWAY DRAINAGE STRUCTURES CONVEYING FLOWING STREAMS.
2. THE DETENTION POND MUST BE CAPABLE OF TEMPORARILY STORING THE REQUIRED SEDIMENT STORAGE VOLUME IN ADDITION TO THE REQUIRED STORMWATER VOLUME.
THE DETENTION POND SHALL BE LARGE ENOUGH TO TEMPORARILY STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DISTURBED AREA WITHIN IN THE CONTRIBUTING DRAINAGE AREA. THE REQUIRED SEDIMENT STORAGE VOLUME SHALL BE ACHIEVED BY EITHER EXCAVATING THE DETENTION POND OR RAISING THE OUTLET STRUCTURE'S INVERT. THE SEDIMENT STORAGE VOLUME ELEVATION SHALL BE MARKED ON THE OUTLET STRUCTURE OR BY SETTING A MARKED POST NEAR THE OUTLET STRUCTURE.
3. THE HEIGHT OF THE RETROFIT SHOULD BE APPROXIMATELY ONE-HALF THE HEIGHT OF THE DETENTION POND'S OUTLET STRUCTURE. FOR A ROADWAY DRAINAGE STRUCTURE, THE RETROFIT HEIGHT SHALL BE APPROXIMATELY TWO-THIRDS OF THE INSIDE PIPE DIAMETER (2 FEET MINIMUM HEIGHT).
4. ATTACH TYPE-C SILT FENCE FABRIC TO THE TREATED TIMBERS FROM THE GROUND LINE TO THE FULL RETROFIT HEIGHT PRIOR TO PLACEMENT OF NO. 57 STONE.
5. SEE STANDARD SPECIFICATION 163, AND SUPPLEMENTS THERETO FOR THE CONSTRUCTION AND REMOVAL OF RETROFITS. SEE STANDARD SPECIFICATION 165, AND SUPPLEMENTS THERETO FOR THE MAINTENANCE OF RETROFITS. SEDIMENT SHALL BE REMOVED WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY, NOT THE TOTAL DETENTION POND CAPACITY, IS LOST TO SEDIMENT ACCUMULATION.

PAY ITEMS:
163-0539 CONSTRUCT & REMOVE RETROFIT-SLOTTED BOARD DAM W/STONE FILTER (EA)
165-0096 MAINTENANCE OF RETROFIT-SLOTTED BOARD DAM W/STONE FILTER (EA)

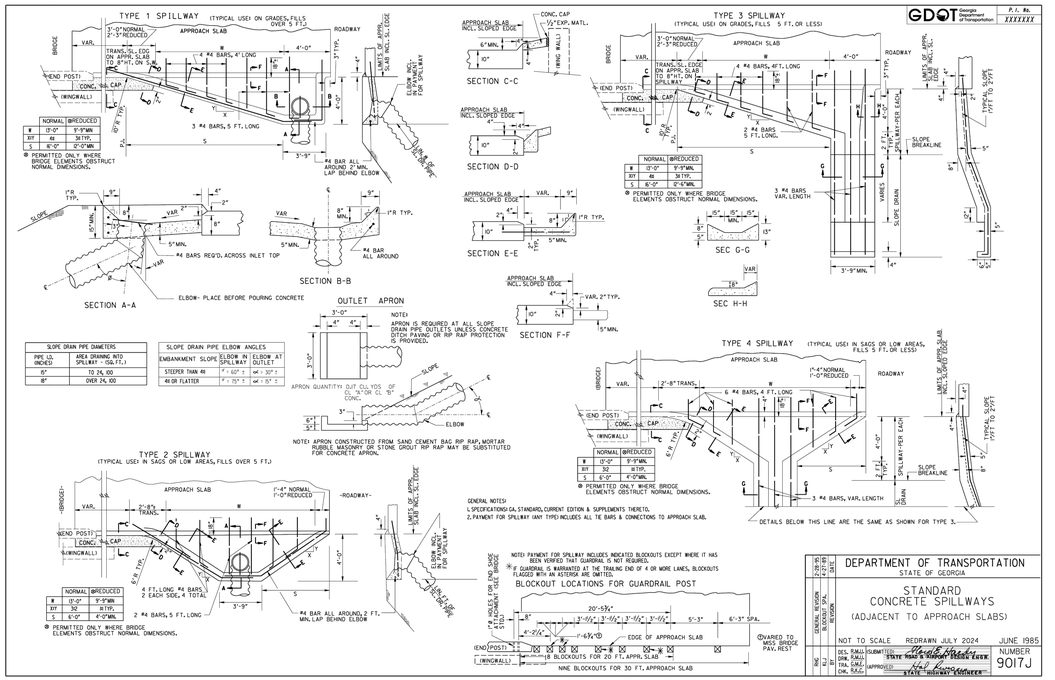
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS
RETROFITTING STRUCTURE FOR TEMPORARY SEDIMENT FILTER
SLOTTED BOARD DAM WITH STONE FILTER

NO SCALE — MAY 2008

DESIGNED
DRAWN
TRACED
CHECKED

NUMBER D-45



GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — NO.PEO01452 — Exp.06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

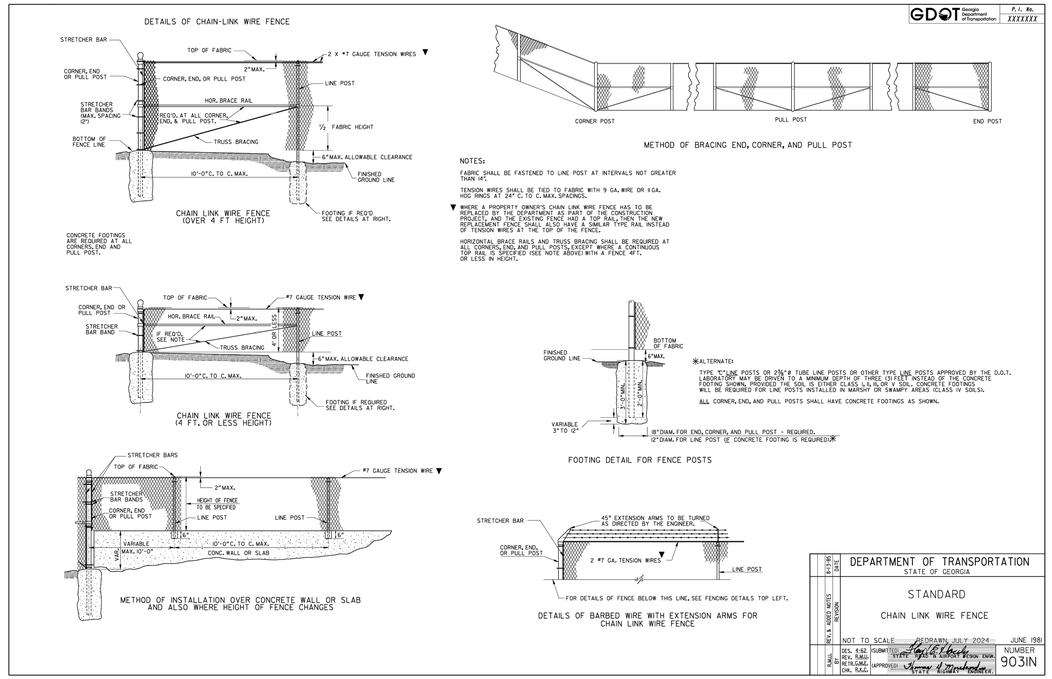
GEORGIA REGISTERED — No. PE051452 — PROFESSIONAL — 03.19.2025 — ENGINEER — GRAHAM S. SIZEMORE

CIVIL -
CIVIL SITE DETAILS

C-910

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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GDOT Georgia Department of Transportation — P.I. No. XXXXXXX

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
CHAIN LINK WIRE FENCE

NOT TO SCALE — REDRAWN JULY 2024 — JUNE 1981

DES. F.S.E. SUBMITTED: Hugh E. Eberhardt
DRW. R.A.C. STATE DESIGN ENGR.
CK. R.A.C. APPROVED: Thomas A. Moorhead
STATE MAINTENANCE ENGINEER

NUMBER 903IN

REVISION: REVISED NOTES — DATE: 8-1-95; RETAILGING — 1-1-96

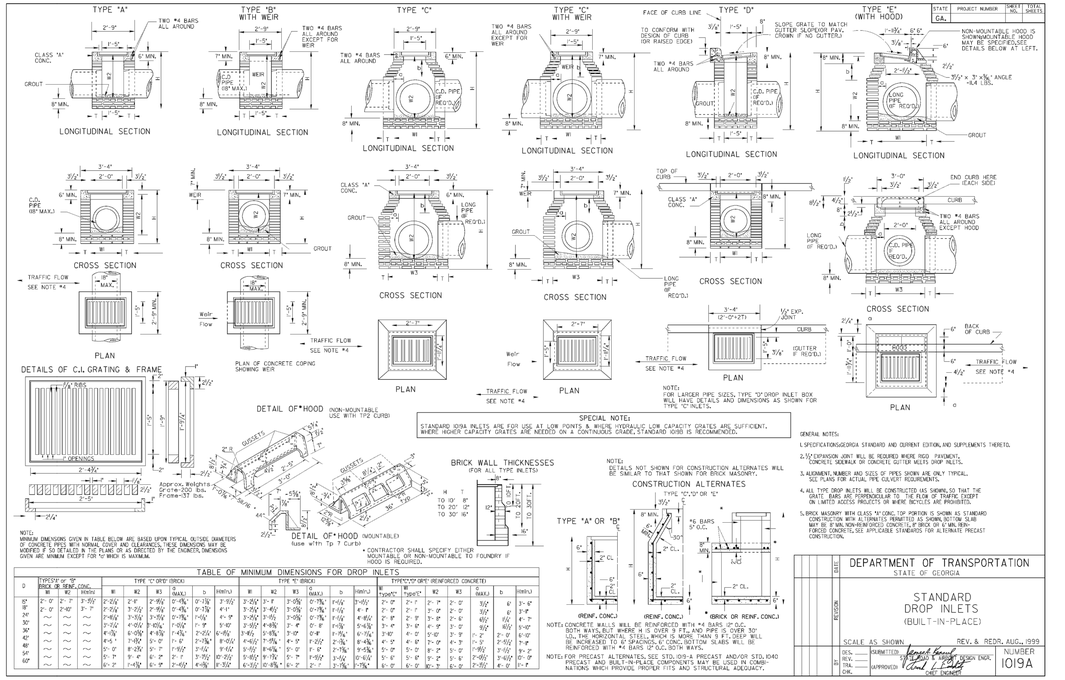


TABLE OF MINIMUM DIMENSIONS FOR DROP INLETS

D	TYPE"A" or "B" BRICK OR REINF. CONC.					TYPE "C" GRD" (BRICK)					TYPE "C" (BRICK)					TYPE "C" GRT" (REINFORCED CONCRETE)				
	W	W2	W3	Slab(L)	b	Hole(L)	W	W2	W3	Slab(L)	b	Hole(L)	Wcon'c	W2	W3	Slab(L)	b	Hole(L)
15"	2'-0"	2'-7"	3'-5½"	2'-5½"	2'-6"	3'-0⅞"	2'-6"	3'-5⅛"	3'-8"	3'-0⅞"	2'-7"	1'-6⅛"	1'-11½"	2'-0"	2'-7"	3'-0"	2'-7"	3'-5½"
18"	2'-3½"	3'-0"	3'-7"	2'-8½"	3'-0½"	3'-3⅝"	2'-9"	3'-7½"	3'-11"	3'-3⅝"	2'-10"	1'-9⅝"	2'-0"	2'-3"	2'-10"	3'-3"	2'-10"	3'-7½"
24"					3'-0"	0'-6"	4'-3½"	5'-0"	3'-0"	2'-3"	4'-4"	3'-0"	2'-3"	3'-0"	4'-4"	5'-3"		
30"					3'-6"	0'-9"	4'-9½"	5'-7"	3'-6"	2'-9"	4'-10"	3'-6"	2'-9"	3'-6"	4'-10"	5'-10"		
36"					4'-0"	1'-0"	5'-3½"	6'-2"	4'-0"	3'-3"	5'-4"	4'-0"	3'-3"	4'-0"	5'-4"	6'-5"		
42"					4'-6"	1'-3"	5'-9½"	6'-9"	4'-6"	3'-9"	5'-10"	4'-6"	3'-9"	4'-6"	5'-10"	7'-0"		
48"					5'-0"	1'-6"	6'-3½"	7'-4"	5'-0"	4'-3"	6'-4"	5'-0"	4'-3"	5'-0"	6'-4"	7'-7"		
54"					5'-6"	1'-9"	6'-9½"	7'-11"	5'-6"	4'-9"	6'-10"	5'-6"	4'-9"	5'-6"	6'-10"	8'-2"		
60"					6'-0"	2'-0"	7'-3½"	8'-5"	6'-0"	5'-3"	7'-4"	6'-0"	5'-3"	6'-0"	7'-4"	8'-9"		

NOTE:
CONCRETE WALLS WILL BE REINFORCED WITH #4 BARS 12" O.C. BOTH WAYS, BUT WHERE H IS OVER 9'-6", AND PIPE IS OVER 30" DIAMETER, OR WHERE WALL THICKNESS IS MORE THAN 1'-6", DEEP WILL BE INCREASED TO #5 SPACING 9" O.C. CONC. BOTTOM SLABS WILL BE REINFORCED WITH #4 BARS 12" O.C. BOTH WAYS.

NOTE:
FOR PRECAST ALTERNATES, SEE STD. 1019-A PRECAST AND/OR STD. 1040 PRECAST AND BUILT-IN-PLACE COMPONENTS MAY BE USED IN COMBINATIONS WHICH PROVIDE PROPER FITS AND STRUCTURAL ADEQUACY.

NOTE:
DETAILS NOT SHOWN FOR CONSTRUCTION ALTERNATES WILL BE SIMILAR TO THAT SHOWN FOR BRICK MASONRY.

SPECIAL NOTE:
STANDARD 1019A INLETS ARE FOR USE AT LOW POINTS & WHERE HYDRAULIC LOW CAPACITY GRATES ARE SUFFICIENT. WHERE HIGHER CAPACITY GRATES ARE NEEDED ON A CONTINUOUS GRADE, STANDARD 1019B IS RECOMMENDED.

GENERAL NOTES:
1. SPECIFICATIONS GEORGIA STANDARD AND CURRENT EDITION, AND SUPPLEMENTS THERETO.
2. ½" EXPANSION JOINT WILL BE REQUIRED WHERE ROD PAVEMENT, CONCRETE SIDEWALK OR CONCRETE GUTTER MEETS DROP INLETS.
3. ALIGNMENT, NUMBER AND SIZES OF PIPES SHOWN ARE ONLY TYPICAL. SEE PLANS FOR ACTUAL PIPE CULVERT REQUIREMENTS.
4. ALL TYPE DROP INLETS WILL BE CONSTRUCTED (AS SHOWN) SO THAT THE GRATE BARS ARE PERPENDICULAR TO THE FLOW OF TRAFFIC EXCEPT ON LIMITED ACCESS PROJECTS OR WHERE BICYCLES ARE PROHIBITED.
5. BRICK MASONRY WITH CLASS "A" CONC. TOP PORTION IS SHOWN AS STANDARD CONSTRUCTION WITH ALTERNATE PERMITTED AS SHOWN. SLAB MAY BE 8" MIN. NON-REINFORCED CONCRETE, IF BRICK OR 8" MIN. REINFORCED CONCRETE, SEE APPLICABLE STANDARDS FOR ALTERNATE PRECAST CONSTRUCTION.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

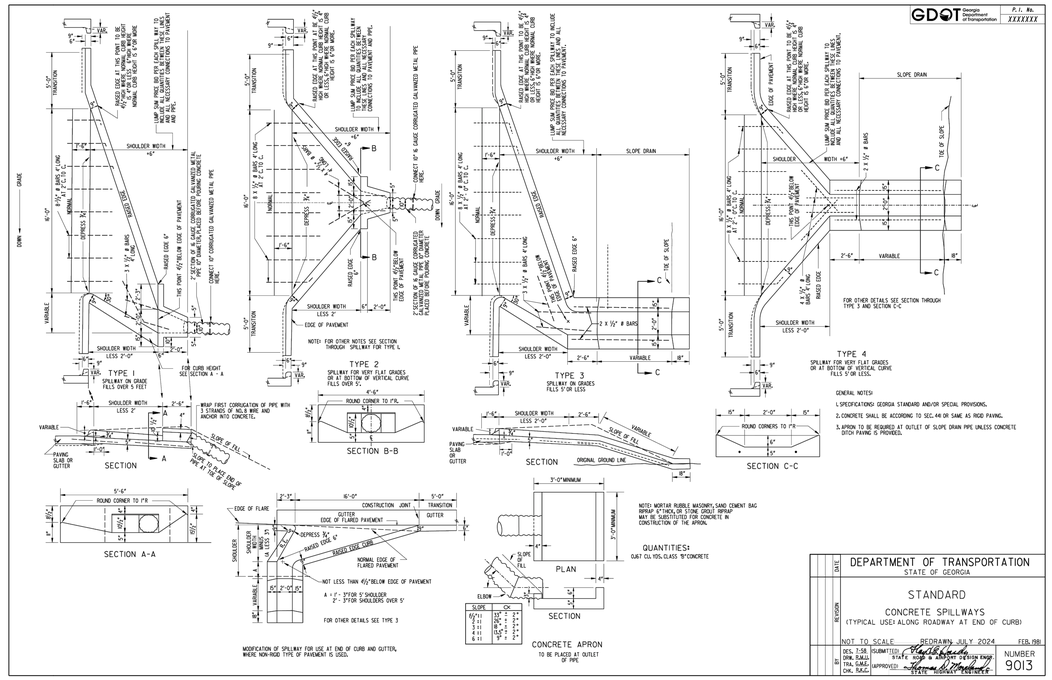
STANDARD
DROP INLETS
(BUILT-IN-PLACE)

SCALE AS SHOWN: — REV. & REDR. AUG., 1999

DES. — SUBMITTED: Hugh E. Eberhardt
REV. — STATE DESIGN ENGR.
TRA. — APPROVED: Thomas A. Moorhead
CHK. — CHIEF ENGINEER

NUMBER 1019A

REVISION: REVISED NOTES — DATE: 8-1-95; REVISED — 1-1-96



GDOT Georgia Department of Transportation — P.I. No. XXXXXXX

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

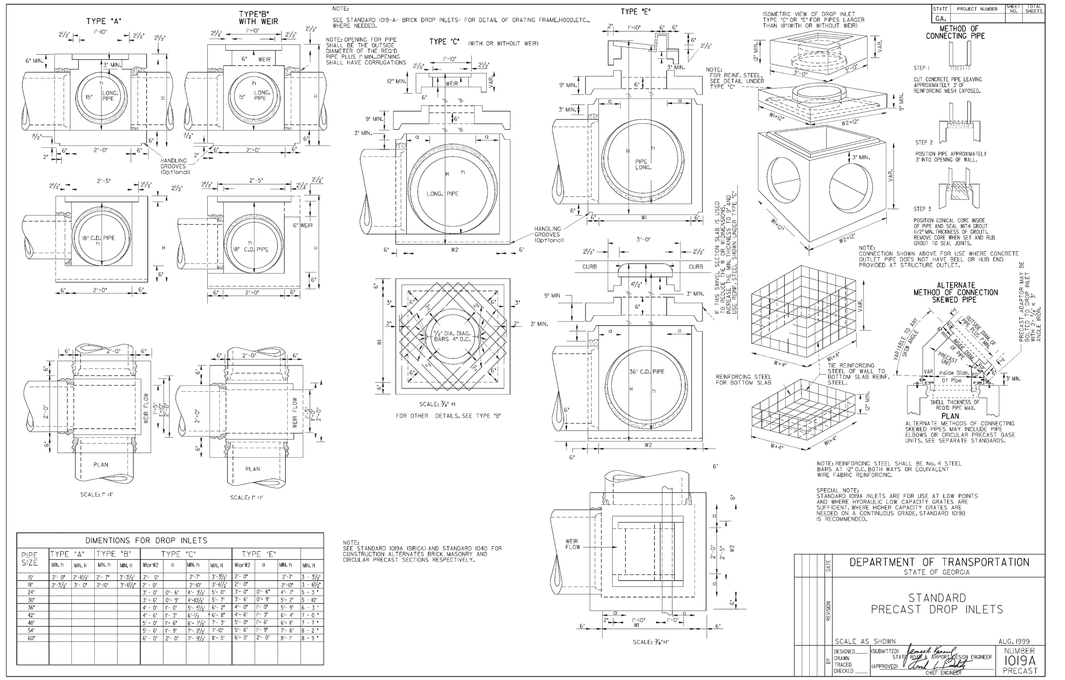
STANDARD
CONCRETE SPILLWAYS
(TYPICAL USE) ALONG ROADWAY AT END OF CURB)

NOT TO SCALE — REDRAWN JULY 2024 — FEB. 1981

DES. T.S.B. SUBMITTED: Hugh E. Eberhardt
DRW. R.A.C. STATE DESIGN ENGR.
TRA. R.A.C. APPROVED: Thomas A. Moorhead
CHK. R.A.C. STATE MAINTENANCE ENGINEER

NUMBER 9013

REVISION: REVISED NOTES — DATE: 8-1-95; REVISED — 1-1-96



DIMENTIONS FOR DROP INLETS

PIPE SIZE	TYPE "A"		TYPE "B"		TYPE "C"				TYPE "E"			
	MIN. "I"	MIN. H	MIN. "I"	MIN. H	Wcon'c2	O	MIN. "I"	MIN. H	Wcon'c2	O	MIN. "I"	MIN. H
15"	2'-0"	2'-6½"	2'-7"	3'-3½"	2'-0"		2'-7"	3'-3½"	2'-0"		2'-7"	3'-5½"
18"	2'-3½"	3'-0"	2'-10"	3'-6½"	2'-0"		2'-10"	3'-6½"	2'-0"		2'-10"	3'-8½"
24"					3'-0"	0'-6"	4'-3½"	5'-0"	3'-0"	0'-6"	4'-7"	5'-3"
30"					3'-6"	0'-9"	4'-9½"	5'-7"	3'-6"	0'-9"	5'-2"	5'-10"
36"					4'-0"	1'-0"	5'-3½"	6'-2"	4'-0"	1'-0"	5'-9"	6'-5"
42"					4'-6"	1'-3"	5'-9½"	6'-9"	4'-6"	1'-3"	6'-4"	7'-0"
48"					5'-0"	1'-6"	6'-3½"	7'-4"	5'-0"	1'-6"	6'-9"	7'-7"
54"					5'-6"	1'-9"	6'-9½"	7'-11"	5'-6"	1'-9"	7'-3"	8'-2"
60"					6'-0"	2'-0"	7'-3½"	8'-5"	6'-0"	2'-0"	8'-1"	8'-9"

NOTE:
SEE STANDARD 1019A (GRDCK) AND STANDARD 1040 FOR CONSTRUCTION ALTERNATES BRICK MASONRY AND CIRCULAR PRECAST SECTIONS RESPECTIVELY.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
PRECAST DROP INLETS

SCALE AS SHOWN: — AUG., 1999

DESIGNED — SUBMITTED: Hugh E. Eberhardt
DRAWN — STATE DESIGN ENGINEER
TRACED — APPROVED: Thomas A. Moorhead
CHECKED — CHIEF ENGINEER

NUMBER 1019A PRECAST

REVISION: REVISED NOTES — DATE: 8-1-95; REVISED — 1-1-96

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NON-TRANSFERABLE — GOODWYN MILLS CAWOOD, LLC — No. PE051452 — Exp. 06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 1" 5"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

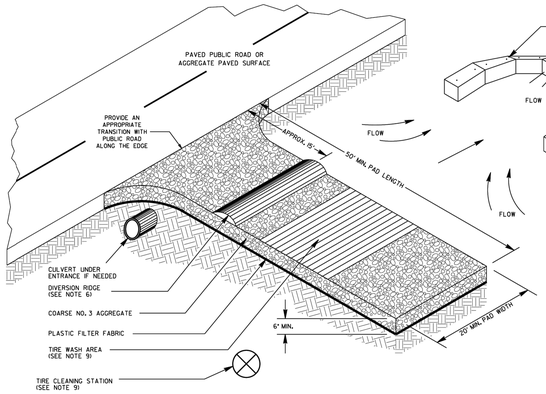
CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL Graham S. Sizemore 03.19.2025 ENGINEER GRAHAM S. SIZEMORE

CIVIL -
CIVIL SITE DETAILS

C-911

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GENERAL NOTES:

1. AVOID LOCATING CONSTRUCTION EXITS ON STEEP SLOPES OR AT SHARP CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA AND GRADE FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE COARSE NO. 3 AGGREGATE WITH 0.0% PASSING THE 1.06 INCH U.S. STANDARD SIEVE.
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES AND PLACED ON APPROVED PLASTIC FILTER FABRIC.
5. GRAVEL PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. PROVIDE A TRAVERSABLE DIVERSION RIDGE CONSTRUCTED OF AGGREGATE 6 INCHES TO 8 INCHES HIGH WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL CULVERT UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. TIRE WASH AREA INCLUDES SEDIMENT TRAP OR OTHER ACCEPTABLE SEDIMENT STORAGE DEVICE AND SHALL BE CONSTRUCTED EVEN IF CONSTRUCTION EXIT TIRE CLEANING STATION IS NOT USED.
9. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD DOES NOT SUFFICIENTLY REMOVE THE MUD PRIOR TO ENTERING PUBLIC ROADS THUS DICTATING ADDITIONAL TIRE CLEANING MEASURES, THE CONTRACTOR SHALL ADD A CONSTRUCTION EXIT TIRE CLEANING STATION TO AN EXISTING CONSTRUCTION EXIT OR WHEN DIRECTED BY THE ENGINEER. THE CONSTRUCTION EXIT TIRE CLEANING STATION INCLUDES: WATER SOURCE, LABOR AND ALL MATERIALS NECESSARY TO PERFORM TASK. THIS WILL BE PAID FOR AS SHOWN IN SECTION 163.

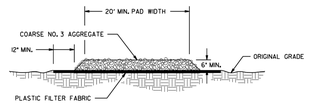
   THE WASHING SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE THAT DRAINS INTO A SEDIMENT TRAP OR OTHER ACCEPTABLE SEDIMENT STORAGE DEVICE, DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE CONSTRUCTION EXIT TO THE SEDIMENT CONTROL DEVICE. ACCEPTABLE SEDIMENT STORAGE DEVICE EXAMPLES INCLUDE TEMPORARY SEDIMENT TRAPS, HAY BALES OR STONE FILTER RING WITH THE SEDIMENT STORAGE SIZED FOR 67 CUBIC YARDS PER ACRE OF DRAINAGE. TIRE WASHING SHALL BE DONE MANUALLY OR BY EQUIPMENT SUITABLE FOR TRUCK TRAFFIC THAT REMOVES MUD AND DIRT.
10. AGGREGATE SHALL BE KEPT LOOSE OR SCARIFIED WHEN AGGREGATE BECOMES CONSOLIDATED.
11. CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR, AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. MAINTENANCE OF CONSTRUCTION EXIT MAY BE PAID WITH OR WITHOUT THE MAINTENANCE OF CONSTRUCTION EXIT TIRE WASH AREA, WHEN DIRECTED BY THE ENGINEER. ALL MUD AND DEBRIS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

   SEE SECTION 163 FOR THE CONSTRUCTION AND REMOVAL OF CONSTRUCTION EXITS. SEE SECTION 165 FOR THE MAINTENANCE OF CONSTRUCTION EXITS.

PAY ITEMS

163-0301	CONSTRUCT AND REMOVE CONSTRUCTION EXITS	(EA)
165-0101	MAINTENANCE OF CONSTRUCTION EXIT	(EA)
165-0310	MAINTENANCE OF CONSTRUCTION EXIT TIRE WASH AREA	(EA)
PAY ITEMS	**FOR FIELD USE ONLY ACCORDING TO SECTION 163**	
163-0310	CONSTRUCTION EXIT TIRE CLEANING STATION	(DAY)

ENTRANCE ELEVATION



DATE	05.30.2024	08.29.2024	11.27.2024	03.19.2025
REVISION	REV. PER SCS/ESC/EPD REVIEW COMMENTS	REV. PER 404 PERMIT REVIEW COMMENTS	REV. PER NOI & SWPPP REVIEW COMMENTS	REV. PER COMMENTS
BY	DLC	DLC	DLC	DLC

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS

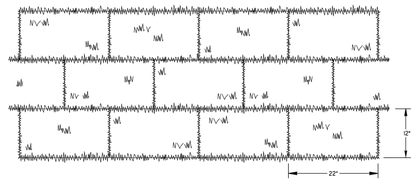
CONSTRUCTION EXIT

NO SCALE — FEBRUARY 2001

DESIGNED ___ DRAWN DLC TRACED ___ CHECKED ___

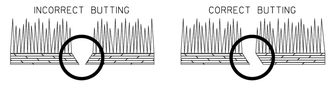
NUMBER D-41

SOD LAYOUT

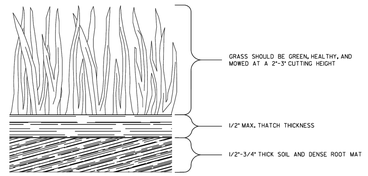


NOTE: SOD MAY BE EITHER 12" WIDE BY 22" LONG BLOCKS OR 21" WIDE BY 52" LONG ROLLS.

ABUTTING SOD



SOD APPEARANCE



GENERAL NOTES:

1. SOD SHALL MEET SECTIONS 700 AND 890 OF THE STANDARD SPECIFICATIONS AND SUPPLEMENTS THERETO. SOD SHALL BE CUT INTO 12"Wx22"L BLOCKS OR 21"Wx52"L ROLLS.
2. PLACE SOD IN A STAGGERED PATTERN ENSURING FIRM CONTACT WITH THE SOIL. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER WITH THE AUTOMATIC SOD CUTTER ANGLES CORRECTLY MATCHED WITHOUT SPACES OR OVERLAP.
3. PLACE THE LONG SIDE OF SOD PERPENDICULAR TO DRAINAGE FLOW IF INSTALLED IN DITCHES.
4. STAKE SOD PLACED IN DITCHES OR SLOPES STEEPER THAN 2:1 OR ANY OTHER AREAS WHERE SOD SLIPPING MAY OCCUR, USE WOOD STAKES THAT ARE A MINIMUM OF 8" LONG AND A MAXIMUM OF 1" WIDE. DRIVE STAKES FLUSH WITH THE TOP OF SOD AND USE A MINIMUM OF 8 STAKES PER SQUARE YARD TO HOLD SOD IN PLACE.
5. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL.
6. WATER THE SOD IMMEDIATELY AFTER INSTALLATION AND WATER TO A DEPTH OF 4" AS NEEDED.
7. MOW ESTABLISHED SOD TO A HEIGHT NOT LESS THAN 2"-3" AS NECESSARY.

PAY ITEMS
700-9300 SOD (SY)

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS

SOD INSTALLATION

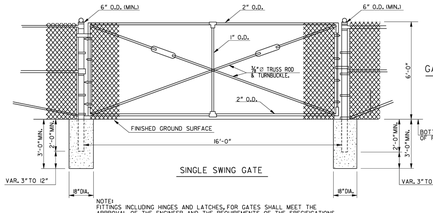
NO SCALE — 4-22-2016

DESIGNED ___ DRAWN DLC TRACED ___ CHECKED ___

NUMBER D-54

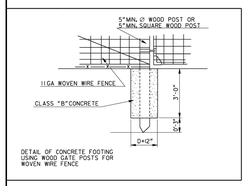
GDOT Georgia Department of Transportation — P.I. No. XXXXXX

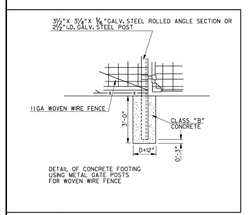
NOTE: WHERE CHAIN LINK WIRE FENCE HAS BARBED WIRE, GATE SHALL ALSO REQUIRE BARBED WIRE BUT WITH VERTICAL EXTENSION ARMS ON THE GATE AND GATE POST UNLESS SPECIFIED OTHERWISE.

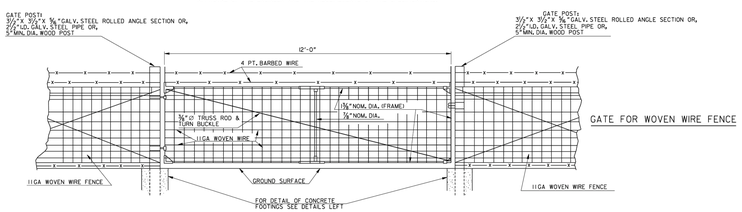


GATE FOR CHAIN LINK FENCE

NOTE: FITTINGS INCLUDING HINGES AND LATCHES, FOR GATES SHALL MEET THE APPROVAL OF THE ENGINEER AND THE REQUIREMENTS OF THE SPECIFICATIONS.







GATE FOR WOVEN WIRE FENCE

12 FT. SINGLE SWING GATE TO BE USED WITH WOOD POSTS OR METAL POSTS

GATE (WOVEN WIRE FENCE)

1- 1¾" NOM. DIAMETER GALV. STEEL FRAME (12"X47")
2- ¾" NOM. DIAMETER GALV. STEEL CENTER BRACE
3- ⅜" O GALV. TRUSS-ROD & TURNBUCKLE
4- FABRIC IS TO BE WRAPPED AND TIED AROUND ENDS OF FRAME AND ATTACHED TOP AND BOTTOM WITH APPROVED FABRIC FASTENERS.
5- FITTINGS INCLUDING HINGES AND LATCHES, FORGATES SHALL MEET THE APPROVAL OF THE ENGINEER AND THE REQUIREMENTS OF THE MATERIAL SPECIFICATIONS.

GATE POSTS (WOVEN WIRE FENCE)

1- 3½" x 3½" x ¼" GALV. STEEL ROLLED ANGLE SECTION OR 2½" I.D. GALV. STEEL PIPE OR 5" MIN. DIAMETER (WOOD) OR 5" MIN. SQUARE (WOOD)
2- TYPE OF GATE POSTS TO BE USED IS SELECTED BY CONTRACTOR. WOOD GATE POSTS ARE TO BE USED IF CONTRACTOR ELECTS TO USE WOOD FENCE POSTS, METAL GATE POSTS IF CONTRACTOR ELECTS TO USE METAL FENCE POSTS.
3- GATE REMAINS AS SHOWN ON DETAIL FOR FENCE WITH WOOD POST OR FENCE WITH METAL POSTS.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAIL

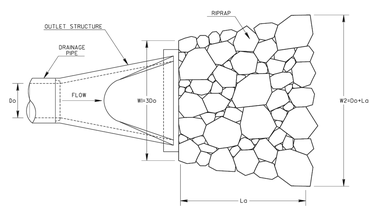
GATE DETAILS

FOR CHAIN LINK & WOVEN WIRE FENCE

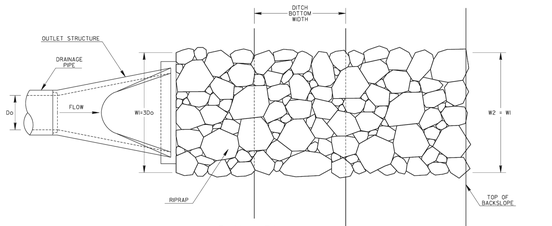
JANUARY 1988 — NOT TO SCALE

NUMBER F-02

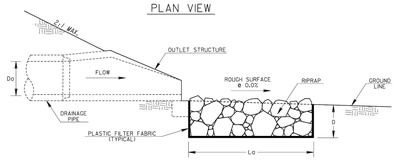
OUTLET TO FLAT AREA



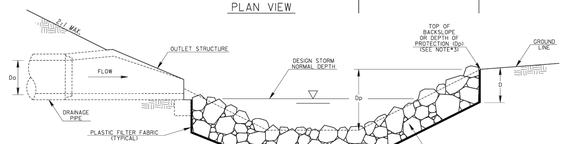
OUTLET PERPENDICULAR TO WELL-DEFINED CHANNEL



PLAN VIEW



PLAN VIEW



PROFILE VIEW

PROFILE VIEW

GENERAL NOTES:

1. RIPRAP OUTLET PROTECTION SHOULD BE USED TO REDUCE A DRAINAGE STRUCTURE'S DISCHARGE VELOCITY. RIPRAP OUTLET PROTECTION IS SHOWN FOR GEORGIA STANDARD 820, BUT IS INSTALLED SIMILARLY FOR OTHER DRAINAGE OUTLET STRUCTURES.
2. RIPRAP OUTLET PROTECTION SHALL BE DESIGNED IN ACCORDANCE WITH THE 'MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA'. THE DESIGNER SHALL PROVIDE THE FOLLOWING IN THE PLANS: PIPE DIAMETER (Do), FLOW RATE OF DESIGN STORM (Q), VELOCITY (V), TAILWATER CONDITION (Tw), APRON LENGTH (La), APRON WIDTH AT DRAINAGE STRUCTURE (W), APRON WIDTH DOWNSTREAM (W2), AVERAGE STONE DIAMETER (d50), INSTALLATION DEPTH (D), AND TYPE OF RIPRAP WITH QUANTITY.

   THE MINIMUM DESIGN FOR RIPRAP OUTLET PROTECTION SHALL BE THE 25-YEAR STORM EVENT, BUT LARGER STORMS ARE RECOMMENDED.
3. THE APRON WIDTHS SHALL BE THE SAME WHEN THE DRAINAGE STRUCTURE DISCHARGES PERPENDICULAR INTO A WELL-DEFINED CHANNEL. THE LENGTH SHALL EXTEND ACROSS THE CHANNEL AND UP TO THE TOP OF THE CHANNEL BACKSLOPE OR 1-FOOT ABOVE THE NORMAL DEPTH OF THE CHANNEL'S DESIGN STORM (WHICHEVER IS LESS). THE DESIGNER SHALL PROVIDE THE DEPTH OF PROTECTION (Do) IF THE APRON DOES NOT EXTEND TO THE TOP OF THE BACKSLOPE.
4. IF THE OUTLET HYDRAULICS REQUIRE A d50<0.70 FEET, TYPE-3 RIPRAP MAY BE USED. IF THE OUTLET HYDRAULICS REQUIRE A d50>1.20 FEET, TYPE-1 RIPRAP SHOULD BE USED. IF THE OUTLET HYDRAULICS REQUIRE A d50>1.20 FEET, THE DESIGNER SHALL DESIGN AND PROVIDE A SPECIAL DETAIL FOR APPROPRIATE OUTLET PROTECTION.
5. PLASTIC FILTER FABRIC IS REQUIRED UNDERNEATH RIPRAP APRON.
6. PAYMENT FOR RIPRAP SHALL BE MEASURED IN SQUARE YARDS FOR SPECIFIED INSTALLATION DEPTH. PAYMENT FOR PLASTIC FILTER FABRIC SHALL BE MEASURED IN SQUARE YARDS CONSISTENT WITH RIPRAP QUANTITY AND PAID FOR SEPARATELY.

Do = PIPE DIAMETER
Q = DESIGN STORM FLOW RATE
V = DESIGN STORM VELOCITY
Tw = TAILWATER CONDITION/DESIGN STORM NORMAL DEPTH
La = APRON LENGTH
Wi = APRON WIDTH UPSTREAM
W2 = APRON WIDTH DOWNSTREAM
d50 = AVERAGE STONE DIAMETER
D = INSTALLATION DEPTH
Dp = DEPTH OF PROTECTION

RIPRAP TYPE	REQUIRED d50 (FT)	MIN. DEPTH "D" (IN)
1	≤1.20	36
3	≤0.67	18

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS

RIPRAP OUTLET PROTECTION (SHEET 1 OF 2)

NO SCALE — 4-22-2016

DESIGNED DLC DRAWN DLC TRACED ___ CHECKED ___

NUMBER D-55A

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NON-TRANSFERABLE — GOODWYN MILLS CAWOOD, LLC — No. PE051452 — Exp. 06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE

30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer:
Drawn By: GS

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED PROFESSIONAL ENGINEER — No. PE051452 — GRAHAM S. SIZEMORE — 03.19.2025

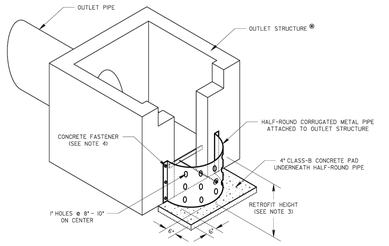
CIVIL - CIVIL SITE DETAILS

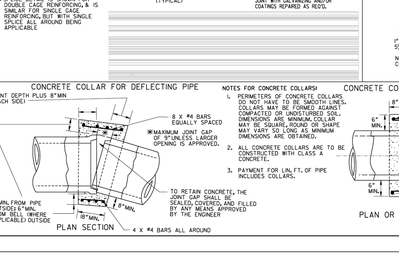
C-912

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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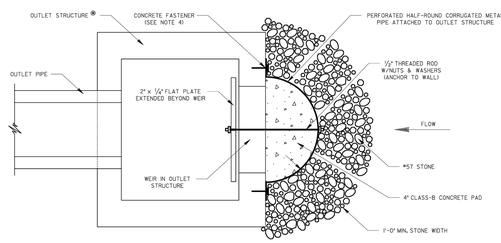
ISOMETRIC VIEWS





✱ A BOXED OUTLET STRUCTURE WITH A WEIR IS SHOWN, HOWEVER, THE OUTLET STRUCTURE WILL VARY AS ASSIGNED FOR THE DETENTION POND, DUE TO STRUCTURAL INTEGRITY INDEPENDENT OF THE RETROFIT, SEE GENERAL NOTE 1 FOR ADDITIONAL REQUIREMENTS.

PLAN VIEW



GENERAL NOTES:

1. PERFORATED HALF-ROUND PIPE WITH STONE FILTER MAY BE TEMPORARILY PLACED ON A DETENTION POND'S PERMANENT OUTLET STRUCTURE BUT SHALL NOT BE USED ON EXPOSED PIPE ENDS OR WINGED HEADWALLS. THE TOTAL DRAINAGE AREA TO THE DETENTION POND SHALL BE LESS THAN 30 ACRES.
2. THE DETENTION POND MUST BE CAPABLE OF TEMPORARILY STORING THE REQUIRED SEDIMENT STORAGE VOLUME IN ADDITION TO THE REQUIRED STORMWATER VOLUME.

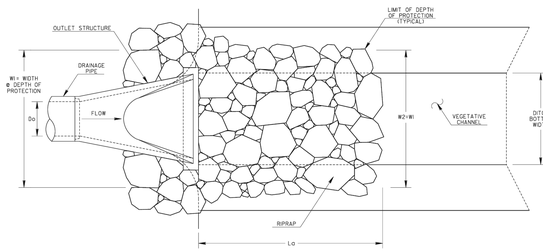
   THE DETENTION POND SHALL BE LARGE ENOUGH TO TEMPORARILY STORE 67 CUBIC YARDS OF SEDIMENT PER ACRE OF DISTURBED AREA WITHIN IN THE CONTRIBUTING DRAINAGE AREA. THE REQUIRED SEDIMENT STORAGE VOLUME SHALL BE ACHIEVED BY EITHER EXCAVATING THE DETENTION POND OR RAISING THE OUTLET STRUCTURE'S INVERT. THE SEDIMENT STORAGE VOLUME ELEVATION SHALL BE MARKED ON THE OUTLET STRUCTURE OR BY SETTING A MARKED POST NEAR THE OUTLET STRUCTURE.
3. THE HEIGHT OF THE RETROFIT SHOULD BE APPROXIMATELY ONE-HALF THE HEIGHT OF THE OUTLET STRUCTURE. THE DIAMETER OF THE HALF-ROUND PIPE SHOULD BE 1.5 TIMES THE DIAMETER OF THE OUTLET PIPE OR WIDER THAN THE WEIR WITHIN THE OUTLET STRUCTURE.
4. ATTACH HALF-ROUND PIPE SECURELY TO OUTLET STRUCTURE USING ½" x 3" CORROSION-RESISTANT CONCRETE FASTENERS. REPAIR FASTENER HOLES WITH GROUT OR OTHER METHODS APPROVED BY THE ENGINEER AFTER THE RETROFIT IS REMOVED.
5. SEE STANDARD SPECIFICATION 163, AND SUPPLEMENTS THERETO FOR THE CONSTRUCTION AND REMOVAL OF RETROFITS. SEE STANDARD SPECIFICATION 165, AND SUPPLEMENTS THERETO FOR THE MAINTENANCE OF RETROFITS. SEDIMENT SHALL BE REMOVED WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY, NOT THE TOTAL DETENTION POND CAPACITY, IS LOST TO SEDIMENT ACCUMULATION.

PAY ITEMS:
163-0540 CONSTRUCT & REMOVE RETROFIT, STA NO- (EA)
165-0095 MAINTENANCE OF RETROFIT, STA NO- (EA)

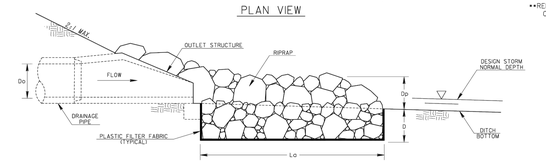
DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA		
CONSTRUCTION DETAIL		
RETROFITTING STRUCTURE FOR TEMPORARY SEDIMENT FILTER PERFORATED HALF-ROUND PIPE WITH STONE FILTER		
NO SCALE	MAY 2008	
DESIGNED —— DRAWN —— TRACED —— CHECKED ——	NUMBER D-44	

DETAIL CLARIFICATIONS: STATE | PROJECT NUMBER | SHEET NO. | TOTAL SHEETS | GA.

OUTLET PARALLEL TO WELL-DEFINED CHANNEL



PLAN VIEW



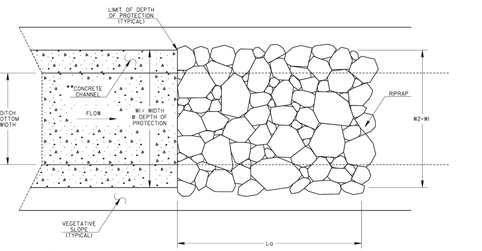
PROFILE VIEW

GENERAL NOTES:

1. RIPRAP OUTLET PROTECTION SHOULD BE USED TO REDUCE A DRAINAGE STRUCTURE'S DISCHARGE VELOCITY. RIPRAP OUTLET PROTECTION IS SHOWN FOR GEORGIA STANDARD 120, BUT IS INSTALLED SIMILARLY FOR OTHER DRAINAGE OUTLET STRUCTURES. RIPRAP OUTLET PROTECTION IS SHOWN FOR A CONCRETE DITCH, BUT IS INSTALLED SIMILARLY TO TRANSITION FROM OTHER CHANNEL LININGS.
2. RIPRAP OUTLET PROTECTION SHALL BE DESIGNED IN ACCORDANCE WITH THE 'MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA', THE DESIGNER SHALL PROVIDE THE FOLLOWING IN THE PLANS: PIPE DIAMETER (Do), FLOW RATE OF DESIGN STORM (Q), VELOCITY (V), TAILWATER CONDITION (Tw), APRON LENGTH (La), APRON WIDTH AT DRAINAGE STRUCTURE (W1), APRON WIDTH DOWNSTREAM (W2), AVERAGE STONE DIAMETER (d50), INSTALLATION DEPTH (D), AND TYPE OF RIPRAP WITH QUANTITY.

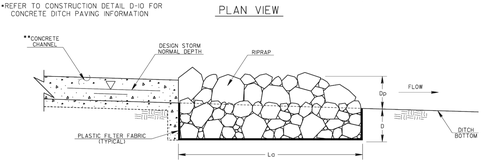
   THE MINIMUM DESIGN FOR RIPRAP OUTLET PROTECTION SHALL BE THE 25-YEAR STORM EVENT, BUT LARGER STORMS ARE RECOMMENDED.
3. THE APRON WIDTHS SHALL BE THE SAME WHEN THE DRAINAGE STRUCTURE DISCHARGES PARALLEL INTO A WELL-DEFINED CHANNEL. THE APRON WIDTHS IN THIS CASE SHALL REPRESENT THE WIDTH AT THE DEPTH OF PROTECTION. THE RIPRAP SHALL BE INSTALLED TO THE TOP OF CHANNEL, OR 1-FOOT ABOVE THE NORMAL DEPTH OF THE CHANNEL'S DESIGN STORM (WHICHEVER IS LESS). THE DESIGNER SHALL PROVIDE THE DEPTH OF PROTECTION (Dp). IF THE RIPRAP SHOULD NOT BE INSTALLED TO THE TOP OF THE CHANNEL, RIPRAP SHOULD ALSO BE INSTALLED TO ARMOR CHANNEL CORNER AT THE OUTLET STRUCTURE.
4. IF THE OUTLET HYDRAULICS REQUIRE A d50<=0.70 FEET, TYPE-1 RIPRAP MAY BE USED.
   IF THE OUTLET HYDRAULICS REQUIRE A d50<=1.20 FEET, TYPE-1 RIPRAP SHOULD BE USED.
   IF THE OUTLET HYDRAULICS REQUIRE A d50=1.20 FEET, THE DESIGNER SHALL DESIGN AND PROVIDE A SPECIAL DETAIL FOR APPROPRIATE OUTLET PROTECTION.
5. PLASTIC FILTER FABRIC IS REQUIRED UNDERNEATH RIPRAP APRON.
6. PAYMENT FOR RIPRAP SHALL BE MEASURED IN SQUARE YARDS FOR SPECIFIED INSTALLATION DEPTH. PAYMENT FOR PLASTIC FILTER FABRIC SHALL BE MEASURED IN SQUARE YARDS CONSISTENT WITH RIPRAP QUANTITY AND PAID FOR SEPARATELY.

CONCRETE CHANNEL TO RIPRAP TRANSITION



**REFER TO CONSTRUCTION DETAIL D-10 FOR CONCRETE DITCH PAVING INFORMATION

PLAN VIEW



PROFILE VIEW

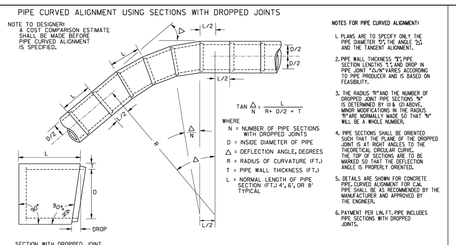
Do = PIPE DIAMETER
Q = DESIGN STORM FLOW RATE
V = DESIGN STORM VELOCITY
Tw = TAILWATER CONDITION/DESIGN STORM NORMAL DEPTH
La = APRON LENGTH
W1 = APRON WIDTH UPSTREAM AT DEPTH OF PROTECTION
W2 = APRON WIDTH DOWNSTREAM AT DEPTH OF PROTECTION
d50 = AVERAGE STONE DIAMETER
D = INSTALLATION DEPTH
Dp = DEPTH OF PROTECTION

RIPRAP TYPE	REQUIRED d50 (FT)	MIN. DEPTH "D" (IN)
1	≤1.20	36
3	≤0.67	18

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA		
CONSTRUCTION DETAILS		
RIPRAP OUTLET PROTECTION (SHEET 2 OF 2)		
NO SCALE	4-22-2016	
DESIGNED DLF DRAWN DLF TRACED —— CHECKED ——	NUMBER D-55B	

REVISION: DATE

PIPE CURVED ALIGNMENT USING SECTIONS WITH DROPPED JOINTS



NOTE TO DESIGNER:
A COST COMPARISON ESTIMATE SHALL BE MADE BEFORE PIPE CURVED ALIGNMENT IS SPECIFIED.

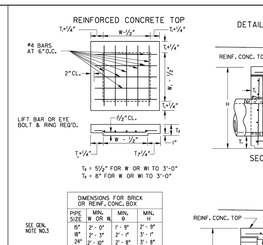
$$\text{TAN}\ \frac{\Delta}{N} = \frac{L}{R + D/2 + T}$$

WHERE
N = NUMBER OF PIPE SECTIONS WITH DROPPED JOINTS
D = INSIDE DIAMETER OF PIPE
Δ = DEFLECTION ANGLE, DEGREES
R = RADIUS OF CURVATURE (FT.)
T = PIPE WALL THICKNESS (FT.)
L = NORMAL LENGTH OF PIPE SECTION (FT.), 4', 6', OR 8' TYPICAL

NOTES FOR PIPE CURVED ALIGMENT:

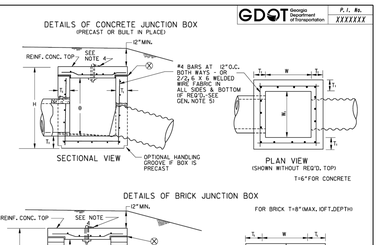
1. PLANS ARE TO SPECIFY ONLY THE PIPE DIAMETER "D", THE ANGLE "Δ", AND THE TANGENT ALIGNMENT.
2. PIPE WALL THICKNESS "T", PIPE SECTION LENGTHS "L", AND DROP IN PIPE JOINT "D/N" VARIES ACCORDING TO PIPE MANUFACTURER AND IS BASED ON FEASIBILITY.
3. THE RADIUS "R" AND THE NUMBER OF DROPPED JOINT PIPE SECTIONS "N" IS DETERMINED BY 0 & 1) ABOVE, WHERE ADJUSTMENTS IN THE RADIUS, "R", AND/OR ANGLE "Δ" MAY BE THAT "N" WILL BE A WHOLE NUMBER.
4. PIPE SECTIONS SHALL BE ORIENTED SUCH THAT THE PLANE OF THE DROPPED JOINT IS AT RIGHT ANGLES TO THE THEORETICAL CIRCULAR CURVE. THE TOP OF SECTIONS ARE TO BE MARKED SO THAT THE DEFLECTION ANGLE IS PROPERLY ORIENTED.
5. DETAILS ARE SHOWN FOR CONCRETE PIPE. CURVED ALIGNMENT FOR CAL. PIPE SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
6. PAYMENT PER LIN.FT. PIPE INCLUDES PIPE SECTIONS WITH DROPPED JOINTS.

REINFORCED CONCRETE TOP



DETAILS OF CONCRETE JUNCTION BOX

(PRECAST OR BUILT IN PLACE)



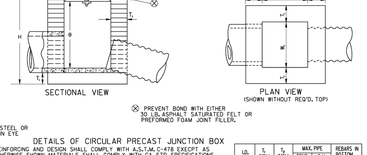
T=6" FOR CONCRETE

DIMENSIONS FOR BRICK OR REINF. CONC. BOX			
PIPE SIZE IN OR IN.	MIN. W	MIN. H	
8"	2'-0"	1'-9"	2'-9"
18"	2'-6"	2'-1"	3'-1"
24"	3'-0"	2'-5"	3'-5"
30"	3'-6"	2'-9"	4'-1"
36"	4'-0"	3'-0"	4'-4"
42"	4'-6"	4'-1"	5'-5"
48"	5'-0"	4'-5"	6'-0"

SEE GEN. NOTE NO.3

DETAILS OF BRICK JUNCTION BOX

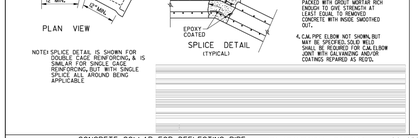
(2" MIN.)



FOR BRICK T=8" MAX. (OFT_DEPTH)

※ PREVENT BOND WITH EITHER 30 LB. ASPHALT SATURATED FELT OR PREFORMED FOAM JOINT FILLER.

PIPE ELBOW SECTION (PRE-FABRICATED)

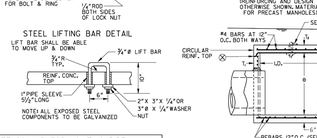


NOTES SPLICE DETAIL IS SHOWN FOR DOUBLE CAGE REINFORCING & IS SIMILAR FOR SINGLE CAGE REINFORCING, BUT WITH SINGLE SPLICE ALL AROUND BEING APPLICABLE

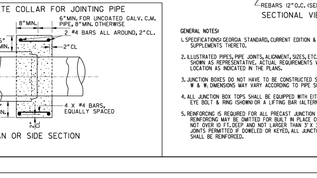
NOTES FOR PIPE ELBOW

1. PAYMENT FOR LIN.FT. OF PIPE INCLUDES ELBOWS.
2. ELBOW ANGLE Δ SHALL VARY ACCORDING TO NEED, BUT SHALL NOT BE CREATED THAN 45°. THE CONTRACTOR SHALL INFORM PRODUCER AS TO ANGLE REQUIRED.
3. (a) CONCRETE PIPE SHALL BE CUT BEFORE BEING CURED AND STEEL EXPOSED FROM EACH SIDE OF CUT. (b) PROVIDE ADDITIONAL RODS OR REINFORCING FILLER RODS AT LEAST EQUAL TO RODS IN PIPE SHALL BE ADDED AS NEEDED FOR HANDLING STRENGTH & TO HOLD GROUT. (c) ALL VOIDS IN SPLICE SHALL BE PACKED WITH GROUT MORTAR RICH ENOUGH TO GIVE STRENGTH AT LEAST EQUAL TO REMOVED CONCRETE WITH INSIDE SMOOTHED OUT.
4. C.M. PIPE ELBOW NOT SHOWN, BUT MAY BE SPECIFIED, SOLID WELD SHALL BE REQUIRED FOR CAL ELBOW JOINT WITH GALVANIZING AND/OR COATINGS REPAIRED AS REQ'D.

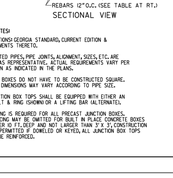
BOLT, RING & WASHER DETAILS



STEEL LIFTING BAR DETAIL



DETAILS OF CIRCULAR PRECAST JUNCTION BOX



REINFORCING AND DESIGN SHALL COMPLY WITH A.S.T.M. C-478 EXCEPT AS OTHERWISE SHOWN. MATERIALS SHALL COMPLY WITH GA. STD. SPECIFICATIONS FOR PRECAST MANHOLES.

PIPE SIZE	MIN. Ø	MIN. H
12"	1'-6"	2'-0"
18"	2'-0"	3'-0"
24"	2'-5"	3'-9"
30"	3'-0"	4'-4"
36"	4'-0"	5'-3"
42"	4'-5"	5'-9"
48"	5'-2"	6'-4"

La	Ls	MAX. PIPE CONC.	CAL.	REBARS IN BOTTOM
5'-0"	5'-0"	18"	22"	#5
6'-0"	5'-0"	24"	28"	#5
7'-0"	5'-0"	30"	34"	#5
8'-0"	5'-0"	42"	54"	#6

NOTE: OPENINGS SHALL BE PRECAST FOR BOTH INLET AND OUTLET

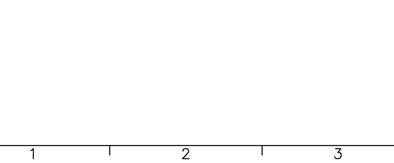
ADD'L. #5 BARS - 2 PER OPENING

MIN. INSERT INLET PIPE 5" EACH SIDE

A.S.T.M. C-478 REINF.

PLAN SECTION

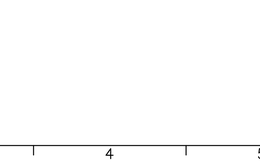
CONCRETE COLLAR FOR DEFLECTING PIPE



NOTES FOR CONCRETE COLLARS:

1. PERIMETERS OF CONCRETE COLLARS DO NOT HAVE TO BE SMOOTH LINES. COLLARS MAY BE FORMED AGAINST COMPACTED OR UNDISTURBED SOIL. COLLARS MAY BE CAST-IN-PLACE AND MAY BE SQUARE, ROUND OR SHAPE MAY VARY SO LONG AS MINIMUM DIMENSIONS ARE OBTAINED.
2. ALL CONCRETE COLLARS ARE TO BE CONSTRUCTED WITH CLASS A CONCRETE.
3. PAYMENT FOR LIN.FT. OF PIPE INCLUDES COLLARS.

CONCRETE COLLAR FOR JOINTING PIPE



GENERAL NOTES:

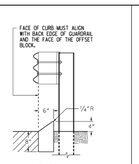
1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERETO.
2. ILLUSTRATED PIPES, PIPE JOINTS, ALIGNMENT, SIZES, ETC. ARE SHOWN AS REPRESENTATIVE, ACTUAL REQUIREMENTS VARY PER LOCATION AS INDICATED IN THE PLANS.
3. JUNCTION BOXES DO NOT HAVE TO BE CONSTRUCTED SQUARE. W & W DIMENSIONS MAY VARY ACCORDING TO PIPE SIZE.
4. ALL JUNCTION BOX TOPS SHALL BE EQUIPPED WITH EITHER AN EYE BOLT & RING SHOWN OR A LIFTING BAR ALTERNATE.
5. REINFORCING IS REQUIRED FOR ALL PRECAST JUNCTION BOXES. REINFORCING MAY BE OMITTED FOR BUILT IN PLACE CONCRETE BOXES NOT OVER 10 FT. DEEP AND NOT LARGER THAN 3' X 3'; CONSTRUCTION JOINTS PROVIDED BY DOWELED OR KEYED ALL JUNCTION BOX TOPS SHALL BE REINFORCED.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA		
STANDARD		
PRECAST OR BUILT IN PLACE JUNCTION BOXES PIPE COLLARS, PIPE ELBOW & PIPE CURVED ALIGNMENT		
NOT TO SCALE	REDRAWN: JULY 2024	JULY 1985
DES. —— DRWN. —— TRA. —— CHK. ——	SUBMITTED: STATE BUREAU OF DESIGN ENGR. APPROVED: STATE HIGHWAY ENGINEER	NUMBER 9031IU

REVISION: DATE

GDOT Georgia Department of Transportation — P.I. No. XXXXXXX

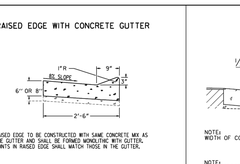
TYPE 8



TYPE 8 HEADER CURB IS USED IN CONJUNCTION WITH GUARDRAIL DOWNSTREAM OF CONCRETE BARRIER AS NOTED ON GA. STD. 4382.

CURB TYPE	h	d
1	3" OR 4"	6" min.
2	6"	8" min.
3	8"	10" min.
4	10"	12" min.
5	6"	7" min.
7	6"	8" min.
9	3" OR 4"	8" min.

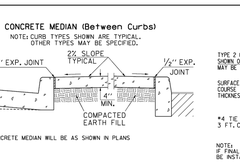
RAISED EDGE WITH CONCRETE GUTTER



RAISED EDGE TO BE CONSTRUCTED WITH SAME CONCRETE MIX AS THE GUTTER AND SHALL BE FORMED MONOLITHIC WITH GUTTER. JOINTS IN RAISED EDGE SHALL MATCH THOSE IN THE GUTTER.

CONCRETE MEDIAN (Between Curbs)

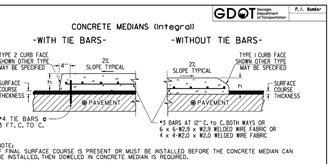
NOTE: CURB TYPES SHOWN ARE TYPICAL. OTHER TYPES MAY BE SPECIFIED.



NOTE:
WIDTH OF CONCRETE MEDIAN WILL BE AS SHOWN IN PLANS

CONCRETE MEDIANS (Integral)

-WITH TIE BARS- -WITHOUT TIE BARS-

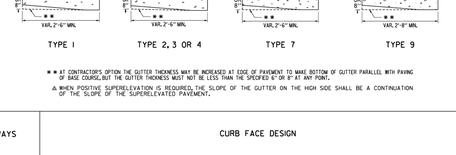


NOTES:
*4 TIE BARS @ 3' FT., TO TO' C.

NOTES:
IF FINAL SURFACE COURSE IS PRESENT OR MUST BE INSTALLED BEFORE THE CONCRETE MEDIAN CAN BE INSTALLED, THEN DOWELED IN CONCRETE MEDIAN IS REQUIRED.

NOTE:
IF CONCRETE MEDIAN INTERCEPTS PEDESTRIAN CROSSWALKS, WHEELCHAIR RAMPS (CONSTRUCTION DETAIL A-3 AND A-4) WILL BE REQUIRED.

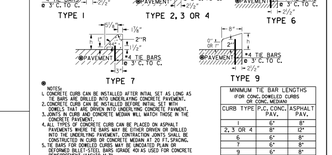
CONCRETE CURB & GUTTER



** AT CONTRACTOR'S OPTION THE GUTTER THICKNESS MAY BE INCREASED AT EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING OF BASE COURSE, BUT THE GUTTER THICKNESS MUST NOT BE LESS THAN THE SPECIFIED 6" OR 8" AT ANY POINT.

Δ WHEN POSITIVE SUPERELEVATION IS REQUIRED, THE SLOPE OF THE GUTTER ON THE HIGH SIDE SHALL BE A CONTINUATION OF THE SLOPE OF THE SUPERELEVATED PAVEMENT.

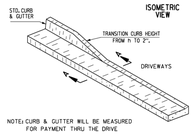
CONCRETE DOWELED INTEGRAL CURBS



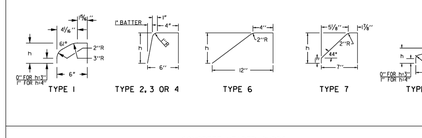
NOTES:
1. CONCRETE CURB CAN BE INSTALLED AFTER INITIAL SET AS LONG AS TIE BARS ARE DRILLED INTO UNDERLYING CONCRETE PAVEMENT.
2. CONCRETE CURB CAN BE INSTALLED AS INTEGRAL PART OF CONCRETE THAT ARE BEING PLACED INTO UNDERLYING CONCRETE PAVEMENT.
3. JOINTS IN CURB AND CONCRETE MEDIAN WILL MATCH THOSE IN THE CONCRETE PAVEMENT.
4. CONCRETE CURB AND GUTTER CAN BE PLACED ON ASPHALT PAVEMENT, WHERE TIE BARS MAY BE EITHER GROUTED OR DRILLED INTO THE UNDERLYING PAVEMENT. CONTRACTION JOINTS SHALL BE CONSTRUCTED IN CURB OR CONCRETE MEDIAN AT 20' FT. SPACING.
5. CURB TYPE 9 IS USED ON BRIDGES AND IS ALSO USED WITH DOUBLE FACED BULLET STEEL RAIL BARRIER. RAIL BARRIER AND AS USED FOR CONCRETE REINFORCEMENT, (AASHTO M-31)

MINIMUM TIE BAR LENGTHS (FOR CONCRETE CURBS CONSTRUCTED ON CONCRETE)			
CURB TYPE	P.C. CONC. PAV.	ASPHALT PAV.	
2, 3 OR 4	6"	8"	
6	6"	8"	
7	6"	8"	
9	6"	8"	

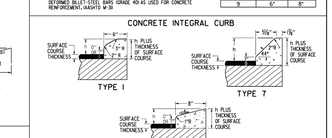
DETAILS OF RECESSED CURB FOR DRIVEWAYS



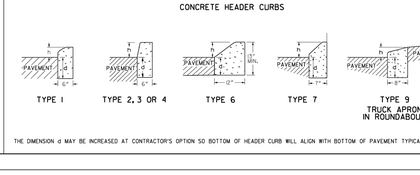
CURB FACE DESIGN



CONCRETE INTEGRAL CURB



CONCRETE HEADER CURBS



THE DIMENSION d MAY BE INCREASED AT CONTRACTOR'S OPTION SO BOTTOM OF HEADER CURB WILL ALIGN WITH BOTTOM OF PAVEMENT TYPICAL SECTION.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA		
STANDARD		
CONCRETE CURB & GUTTER CONCRETE CURBS, CONCRETE MEDIANS		
NOT TO SCALE	MAR. 2003	
DES. —— DRW. —— TRA. —— CHK. ——	SUBMITTED: STATE ROAD DESIGN ENGR. APPROVED: CHIEF ENGINEER	NUMBER 9032B

REVISION: DATE

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — GOODWYN MILLS CAWOOD, LLC — NO. PE051452 — EXP. 06.30.2026 — CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
60% Submittal	08.29.2024
90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

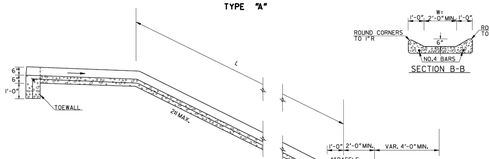
GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER 03.19.2025 GRAHAM S. SIZEMORE

CIVIL -
CIVIL SITE DETAILS

C-913

GDOT Georgia Department of Transportation | P.I. No. XXXXXXX

TYPE "A"



TYPE "A" FLUME QUANTITIES

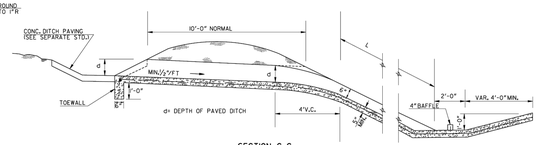
(FOR W=2'-0"): CU. YDS. CONCRETE = 2.41 + 0.0926 (L)
(FOR W=4'-0"): CU. YDS. CONCRETE = 2.59 + 0.1306 (L)

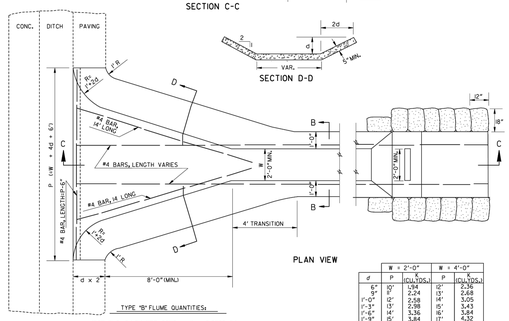
(FOR EITHER W): LBS. STEEL = 41 + 1.336 (L)

SAND CEMENT BAG RIP RAP: 14 BAGS X 0.667 SQ. YDS. /BAG = 2.333 SQ. YDS.

DETAILS OF 4" CONCRETE BAFFLE

TYPE "B"





TYPE "B" FLUME QUANTITIES:

(FOR W=2'-0"): CU. YDS. CONC. = K + 0.0926 (L)
(FOR W=4'-0"): CU. YDS. CONC. = K + 0.1306 (L)

(FOR EITHER W): LBS. STEEL = 55 + 0.667 (P) + 1.336 (L)

SAND CEMENT BAG RIP RAP: 14 BAGS X 0.667 SQ. YDS/BAG = 2.333 SQ. YDS

d	P	W = 2'-0" K (CU. YDS.)	P	W = 4'-0" K (CU. YDS.)
6"	10'	1.94	12'	2.08
9"	12'	2.32	13'	2.68
1'-0"	13'	2.58	14'	3.05
1'-3"	13'	2.98	15'	3.43
1'-6"	14'	3.36	16'	3.84
1'-9"	15'	3.84	17'	4.32
2'-0"	16'	4.35	18'	4.86
2'-3"	17'	4.92	19'	5.45
2'-6"	18'	5.56	20'	6.10

NOTES: P=FLUME OPENING
K=CONCRETE CONSTANT (SEE FORMULAS)

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO.
2. SIZE AND DIMENSIONS OF TYPE A OR TYPE B FLUMES MAY BE ADJUSTED FOR AN INDIVIDUAL SITE WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. AT LOCATIONS WHERE FLUME OUTLETS INTO AN INLET STRUCTURE, OMIT BAFFLE AND DOWNTURN END AND CONNECT FLUME TO THE INLET STRUCTURE.
4. SAND CEMENT BAG RIP RAP SHALL BE OMITTED IN PAVED DITCHES OR WHERE OTHER APPROVED EROSION CONTROL MATERIALS ARE USED.
5. POURED IN PLACE CONCRETE SHALL BE CLASS B MINIMUM. CLASS A CONCRETE SHALL BE USED FOR BAFFLES IF PRECAST.
6. BASIS OF PAYMENT:

CLASS B CONCRETE	--- CU. YDS.
BAR REINFORCEMENT STEEL	--- LB.
SAND CEMENT BAG RIP RAP, 6 IN. OR 8 IN.	--- SQ. YDS.

DATE	REVISION	BY

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
CONSTRUCTION DETAIL
CONCRETE FLUMES
TYPES "A" & "B"
OCTOBER 1983
NOT TO SCALE
NUMBER D-09

GMC
6120 Powers Ferry Road NW, Suite 200
Atlanta, GA 30339
T 770.952.2481

STATE OF GEORGIA — NOT VALID WITHOUT ORIGINAL SIGNATURE OR AUTHENTICATION
GOODWYN MILLS CAWOOD, LLC
No. PE051452
Exp.06.30.2026
CERTIFICATE OF AUTHORIZATION

1" 0" 5" 1"

ISSUE	DATE
30% Submittal	05.30.2024
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90% Submittal	11.27.2024
Bid Set	03.19.2025

Project Manager: CW
Engineer: GS
Designer: GS
Drawn By:

COMMERCE 2.0 MGD
GROVE CREEK WPCP
COMMERCE, GA

CATL230033

GEORGIA REGISTERED No. PE051452 PROFESSIONAL ENGINEER GRAHAM S. SIZEMORE 03.19.2025

CIVIL -
CIVIL SITE DETAILS

C-914

LEVEL II CERTIFICATION #88326 GRAHAM SIZEMORE EXPIRES 8/1/2025

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