OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

FOR

CITY OF BROOKHAVEN, GEORGIA

LAND LOTS 240, 241, & 274 OF THE 18th DISTRICT

BWSC

APRIL 2017
PROJECT No.
36115-00

PROJECT INFORMATION

PROJECT NAME: OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE 1
PROJECT ADDRESS: 2798 OSBORNE ROAD
CLIENT NAME: CITY OF BROOKHAVEN, GEORGIA
PHONE # (404) 637-0528
PLANS PREPARED BY: BARGE, WAGGONER, SUMNER & CANNON, INC.
PHONE # (678) 515-9411

UTILITY CONTACTS:

811CALL BEFORE YOU DIG - (800) 282-7411. www.call811.com
ELECTRIC: GEORGIA POWER - 888-891-0938. www.georgiapower.com
WATER/SEWER: DEKALB WATERSHED MANAGEMENT - 770-621-7200. www.dekalbwatershed.com
GAS: ATLANTA GAS LIGHT - 770-994-1946. www.atlantagaslight.com
TELECOMM: AT&T - 404-896-3880, Option 5. www.att.com
COMCAST - 800-266-2278. www.comcast.com

OSBORNE ROAD
DESIGN SPEED: 35 MPH AASHTO 2011
CLASSIFICATION: MINOR COLLECTOR / COMMUNITY CONNECTORS

GROVE STREET
DESIGN SPEED: 25 MPH AASHTO 2011
CLASSIFICATION: LOCAL ROAD

PROJECT AREA: TOTAL AREA: 0.86 ACRES
DISTURBED AREA: 0.50 ACRES

OWNER

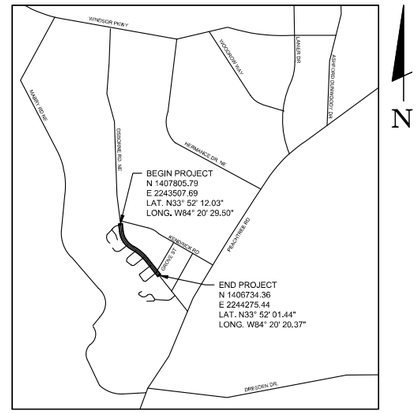
CITY OF BROOKHAVEN, GEORGIA
4362 PEACHTREE ROAD
BROOKHAVEN, GA 30319
PHONE: (404) 637-0528
CONTACT: GREGORY ANDERSON, P.E.
EMAIL: gregory.anderson@brookhavenga.gov

ENGINEER

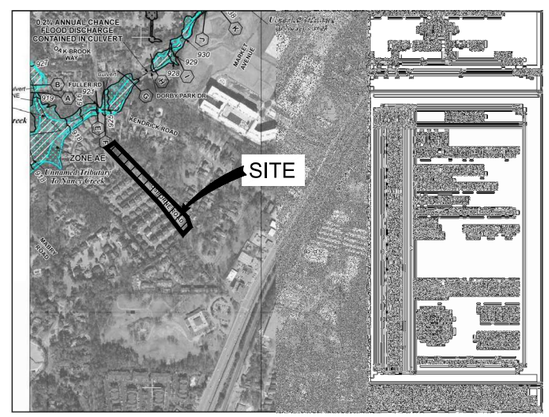
BARGE, WAGGONER, SUMNER & CANNON, INC.
5445 TRIANGLE PKWY, SUITE 240
PEACHTREE CORNERS, GA 30092
PHONE: (678) 515-9430
CONTACT: JUAN ACOSTA, P.E.
GSWCC LEVEL II CERT. NO. 7281
EMAIL: juan.acosta@bwsc.net

24-HOUR CONTACT

CONTACT: GREGORY ANDERSON, P.E.
PHONE: (404) 637-0528
EMAIL: gregory.anderson@brookhavenga.gov



LOCATION MAP
NOT TO SCALE



FEMA FIRM MAP NO. 13089C0052J
SCALE: AS SHOWN

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NOTES

NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS, 2001 EDITION AND SUPPLEMENTS THERETO, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. THE DATA TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE DRAWINGS, OR IN ANY WAY INDICATE THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY MANNER, ARE BASED ON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED AND DO NOT BIND THE CITY OF BROOKHAVEN IN ANY WAY. THE ATTENTION OF THE BIDDER IS SPECIFICALLY DIRECTED TO ARTICLES 102.04, 102.05 AND 104.0 OF THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA, CONSTRUCTION OF TRANSPORTATION SYSTEMS, AND ANY MODIFICATIONS THEREOF, WHICH WILL BE PART OF THIS CONTRACT.
3. THIS SITE IS NOT LOCATED WITHIN A ZONE A, AE, OR SHADED ZONE X AS DEFINED BY FIRM COMMUNITY PANEL NUMBER 13089C0052J FOR UNINCORPORATED DEKALB COUNTY, GEORGIA.

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I
FOR
CITY OF BROOKHAVEN, GEORGIA

C0.01

Call Before You Dig
(800) 282-7411

GEORGIA 811
Utilities Protection Center, Inc.
Know what's below. Call before you dig.

BWSC
BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy, Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 515-9411

This document originally issued and sealed by Juan Acosta (GA No. PE039482) on 4-06-2017. This medium shall not be considered a certified document.

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-05-2017	INITIAL SUBMITTAL

04/06/2017
10:51:07
JEAcosta

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EXISTING	NEW	
		EDGE OF PAVEMENT
		CURB AND GUTTER
		SIDEWALK
		CENTERLINE
		PROPERTY LINE
		EASEMENT
R / W	R / W	RIGHT OF WAY LINE
1		PARCEL IDENTIFICATION NUMBER
		RETAINING WALL
		LAND LOT LINE
		CREEK CENTERLINE
		ENVIRONMENTALLY SENSITIVE AREA
		GUARDRAIL
	C	CUT LIMIT
	F	FILL LIMIT
1000	1000	MAJOR TOPOGRAPHIC CONTOUR
1002	1002	INTERMEDIATE TOPOGRAPHIC CONTOUR
1001.2	1001.2	SPOT ELEVATION
		SPOIL PILE LIMIT
		LAYDOWN/FIELD OFFICE AREA
		DECORATIVE FENCE
X	X	FENCE
		TREE
		TREELINE
ST		STORM SEWER MANHOLE
		SINGLE WING CATCH BASIN
		DOUBLE WING CATCH BASIN
		WEIR INLET
		GRATE INLET
		FLARED END SECTION
		SAFETY SECTION
	18" RCP	HEADWALL
ST		STORM SEWER LINE
	CP#1	CONTROL POINT
	TBM#1	TEMPORARY BENCHMARK
	B-1	SOIL BORING LOCATION
NF		NAIL FOUND
		IRON PIN FOUND
		RIGHT-OF-WAY MONUMENT
		MAILBOX
		SIGN

EXISTING	NEW	
GAS	GAS	GAS VALVE
GAS	GAS	GAS METER
G	G	GAS LINE
SS	S	SANITARY SEWER MANHOLE
A	A	AIR RELEASE VALVE
CO	CO	CLEANOUT
8" PVC SS	8" PVC SS	SANITARY SEWER GRAVITY LINE
8" DIP FM	8" DIP FM	SANITARY SEWER FORCEMAIN
		FIRE HYDRANT
YH	YH	YARD HYDANT
		WATER VALVE
		BEND, CROSS, TEE, WYE, PLUG
IRR	IRR	IRRIGATION VALVE
WM	WM	WATER METER
8" DIP W	8" DIP W	WATER LINE
		UTILITY POLE
		GUY POLE
		GUY WIRE
		LIGHT POLE
		UTILITY POLE MOUNTED LIGHT
E	E	ELECTRICAL MANHOLE
T	T	TRANSFORMER
OP	OP	OVERHEAD POWER LINE
UP	UP	UNDERGROUND POWER LINE
C	C	TELECOMMUNICATIONS MANHOLE
UT	UT	UNDERGROUND TELECOM LINE
OT	OT	OVERHEAD TELECOM LINE
F O	UCTV	UNDERGROUND CABLE TV LINE
OCTV	OCTV	OVERHEAD CABLE TV LINE

	PERMANENT DRAINAGE EASEMENT
	PERMANENT SLOPE EASEMENT & UTILITY EASEMENT
	TEMPORARY CONSTRUCTION EASEMENT
	ASPHALT MILLING AND INLAY
	CONCRETE SIDEWALK, DRIVEWAY, CHANNEL, OR FLUME
	GRAVEL OR AGGREGATE SURFACE MATERIAL

ABBREVIATIONS, ACRONYMS, AND SYMBOLS

A - ALGEBRAIC DIFFERENCE
ACP - ASBESTOS CEMENT PIPE
ARV - AIR RELEASE VALVE
ASPH - ASPHALT
ATMS - AUTOMATED TRAFFIC MANAGEMENT SYSTEM
BB - BOTTOM OF BANK
BFSE - BEGIN FULL SUPERELEVATION
BFPR - BACK FACE PAVING REST
BFV - BUTTERFLY VALVE
BM - BENCHMARK
BOC - BACK OF CURB
BRC - BEGIN REMOVE CROWN
BSE - BEGIN SUPERELEVATION
BW - BOTTOM OF WALL
C&G - CURB AND GUTTER
CI - CAST IRON
CIP - CAST IN PLACE
CIP - CAST IRON PIPE
CJ - CONTRACTION JOINT
CNJ - CONSTRUCTION JOINT
CL - CLASS
CL - CENTERLINE
CO - CLEANOUT
CONC - CONCRETE
CP - CONTROL POINT
CV - CHECK VALVE
CY - CUBIC YARD
D - DEGREE OF CURVATURE
D - DEPTH
DB - DEED BOOK
DEG - DEGREE
Δ - CURVE DEFLECTION ANGLE
DIA - DIAMETER
DIP - DUCTILE IRON PIPE
DW - DRIVEWAY
DWCB - DOUBLE WING CATCH BASIN
e - SUPERELEVATION RATE
emax - MAXIMUM SUPERELEVATION RATE
E - EASTING
E - EXTERNAL DISTANCE ON CURVE
EA - EACH
EFSE - END FULL SUPERELEVATION
EJ - EXPANSION JOINT
ELEV - ELEVATION
EOP - EDGE OF PAVEMENT
ERC - END REMOVE CROWN
ESA - ENVIRONMENTALLY SENSITIVE AREA
ESE - END SUPERELEVATION
ESMT - EASEMENT
FES - FLARED END SECTION
FH - FIRE HYDRANT
FM - FORCEMAIN
FOC - FACE OF CURB
FT - FOOT
G - GRADE
GI - GATE INLET
GM - GAS METER
GV - GATE VALVE
H - HEIGHT
HGL - HYDRAULIC GRADE LINE
HP - HIGH POINT
HW - HEADWALL
HWE HEADWATER ELEVATION
IE - INVERT ELEVATION
IN - INCH
INT - INTERSECTION
IPF - IRON PIN FOUND
IPS - IRON PIN SET
IRR - IRRIGATION
K - RATE OF VERTICAL CURVATURE
L - LENGTH OF CURVE
LB - POUND
LF - LINEAR FOOT
LT - LEFT
LP - LOW POINT
LS - LUMP SUM
MB - MAILBOX
MH - MANHOLE
MJ - MECHANICAL JOINT
MM - MILLIMETER
N - NORTHING
NC - NORMAL CROWN
NO - NUMBER
OC - ON CENTER
OTP - OPEN TOP PIPE
PB - PULL BOX
PC - POINT OF CURVATURE
PCC - POINT OF COMPOUND CURVATURE
PCCP - PRESTRESSED CYLINDER CONCRETE PIPE
PDE - PERMANENT DRAINAGE EASEMENT
PG - PAGE
PGL - PROFILE GRADE LINE
PI - POINT OF INTERSECTION
PIV - POST INDICATING VALVE
PL - PROPERTY LINE
PRC - POINT OF REVERSE CURVATURE
PS - PUMP STATION
PSE - PERMANENT SLOPE EASEMENT
PT - POINT OF TANGENCY
PUE - PERMANENT UTILITY EASEMENT
PV - PLUG VALVE
PVC - POINT OF VERTICAL CURVATURE
PVC - POLYVINYL CHLORIDE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
Q - FLOW RATE
R - RADIUS
RBWC - REBAR WITH CAP
RCBC - REINFORCED CONCRETE BOX CULVERT
RCP - REINFORCED CONCRETE PIPE
RJ - RESTRAINED JOINT
RT - RIGHT
R/W - RIGHT OF WAY
SE - SUPERELEVATION
SES - SAFETY END SECTION
STA - STATION
STD - STANDARD
STL - STEEL
STM - STORM
SS - SANITARY SEWER
SSTL - STAINLESS STEEL
SW - SIDEWALK
SWCB - SINGLE WING CATCH BASIN
T - TANGENT ON CURVE
TB - TOP OF BANK
TBM - TEMPORARY BENCHMARK
TCE - TEMPORARY CONSTRUCTION EASEMENT
TF - TOP OF FOOTING
TN - TON
TP - TYPE
TW - TOP OF WALL
TWE - TAILWATER ELEVATION
TYP - TYPICAL
UP - UTILITY POLE
V - VELOCITY
VC - VERTICAL CURVE
VCP - VITRIFIED CLAY PIPE
WCR - WHEEL CHAIR RAMP
WI - WEIR INLET
WM - WATER MAIN
WM - WATER METER
WSEL - WATER SURFACE ELEVATION
YD - YARD
YH - YARD HYDRANT
YI - YARD INLET
YR - YEAR

STORMWATER MANAGEMENT NOTES:

1. SEE OSBORNE ROAD DRAINAGE STUDY AND FLOOD REMEDIATION REPORT PREPARED BY BARGE, WAGGONER, SUMNER & CANNON, INC. DATED JUNE 2015 FOR PROJECT DATA, STORMWATER MODELING AND RESULTS.
2. THE PROPOSED STORM DRAINAGE SYSTEM WILL MITIGATE FLOODING ON OSBORNE ROAD AND ADJACENT NEIGHBORHOOD ROADS FOR THE 25-YEAR, 24-HOUR DESIGN EVENT.

DOWNSTREAM ANALYSIS:

1. THE EXISTING 30" AND 36" STORM DRAIN LINEs WERE MODELED FOR THE 25-YEAR STORM AND THE PROPOSED IMPROVEMENTS WILL NOT HAVE AN ADVERSE AFFECT ON THESE STRUCTURES. THE OUTFALL VELOCITY AT THE END OF THE 36" RCP IS 8.04 ft/s.

SITE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIMENSIONAL LAYOUT SURVEYING.
2. THE CONTRACTOR SHALL RE- ESTABLISH CONTROL POINTS TO AN AREA OUTSIDE THE LIMITS OF DISTURBANCE FOR ANY CONTROL LOCATED IN CONSTRUCTION AREAS.
3. ALL PROPERTY LINES AND UTILITIES ARE APPROXIMATE ONLY. PRIOR TO ANY CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF PROPERTY LINE AND ALL UTILITIES ON SITE.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER, APPROPRIATE UTILITY AND ENGINEER PRIOR TO OR WITHIN 48 HOURS OF ANY DISRUPTION IN SERVICE. THE CONTRACTOR SHALL PROTECT AND ASSURE THERE ARE NO DISRUPTIONS TO ANY SERVICES PROVIDED TO THE CITY OF BROOKHAVEN BY GEORGIA POWER OUTSIDE OF THE PROJECT AREA THROUGHOUT THE COURSE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY GEORGIA POWER, OWNER, AND ENGINEER IMMEDIATELY UPON DISRUPTION OF ANY UTILITY SERVICE, AND RESTORE THE DISRUPTED SERVICE AS SOON AS POSSIBLE WITHOUT ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL PROVIDE ALL UTILITY COMPANIES WITH A 24 HOUR CONTACT PHONE NUMBER PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR DEMOLITION ACTIVITIES.
6. ALL PAVING, PAVING PRODUCTS, METHODS, ETC. ARE TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF TRANSPORTATION (GDOT) EXCEPT, THE VARIOUS SUBSECTIONS ENTITLED "BASIS FOR PAYMENT" SHALL NOT BE APPLICABLE.
7. ALL CONCRETE PERTAINING TO THE SITE PLAN AND RELATED EXTERIOR CONCRETE ITEMS SHALL BE F' = 4,000 PSI, AS DEFINED BY ACI STANDARDS, AIR ENTRAINED, OR AS NOTED OTHERWISE IN DETAILS. THE APPLICABLE PROVISIONS OF ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, SHALL ALSO APPLY.
8. CONTRACTOR TO PROVIDE TRAFFIC CONTROL, TEMPORARY OR PERMANENT, AS REQUIRED TO MEET WITH THE REQUIREMENTS OF GDOT, ALL TRAFFIC CONTROL AND DEVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT VERSION OF THE "MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES".
9. ALL STREETS SHALL REMAIN CLEAR OF OBSTRUCTIONS AT ALL TIMES. ALL CONSTRUCTION EQUIPMENT SHALL BE STORED WITHIN AN AREA OTHER THAN THE EXISTING DRIVEWAY, PARKING TO REMAIN, OR ROADWAY.

GRADING AND DRAINAGE NOTES:

1. ALL STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE, UNLESS OTHERWISE NOTED.
2. ALL STORM PIPE TO HAVE A MINIMUM SLOPE OF 0.50%, UNLESS OTHERWISE NOTED.
3. AT ALL TIMES, MAINTAIN THE PROJECT AREA IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REQUIREMENTS.
4. COMPACTION OF PAVEMENT AREAS, SLOPES, AND LANDSCAPED AREAS SHOULD BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. REFER TO THE GEOTECHNICAL ENGINEERING REPORT FOR ALL SUBGRADE PREPARATION AND FILL PLACEMENT REQUIREMENTS. REGARDLESS OF TEST RESULTS, IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ON-SITE COMPACTION REQUIREMENTS.
5. ANY AREAS OF YIELDING OR UNSTABLE MATERIAL SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER, AND THE EXTENT OF SUCH AREA MARKED ON THE CONTRACTORS RECORD SET OF DRAWINGS. SMOOTH GRADE ANY SURFACE UNDULATIONS TO MATCH ADJOINING GRADES.
6. PROVIDE TOPSOIL MATERIAL AS REQUIRED FOR LANDSCAPING REQUIREMENTS.
7. SEE EROSION CONTROL NOTES FOR TOPSOIL AND SEEDING REQUIREMENTS.
8. DURING THE GRADING PROCESS, IF CONTRACTOR ENCOUNTERS DISCOLORED OR MALODOROUS SOILS INDICATING POSSIBLE CONTAMINANTS, GRADING ACTIVITY SHALL CEASE AND THE OWNER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION (GSWCC) MANUAL FOR EROSION AND SEDIMENT CONTROL, 2016 EDITION.
2. INITIAL PHASE EROSION CONTROL MEASURES TO BE MAINTAINED UNTIL SOD, MULCH, AND VEGETATIVE GROUND COVER IS IN PLACE AND ESTABLISHED.
3. EROSION AND SEDIMENT CONTROL MEASURES, AS SHOWN IN THE EROSION CONTROL PLAN, WHICH IMPACT ANY WATERS LEAVING THE SITE, AND ALSO FORM THE REQUIRED BARRIER AROUND THE EXTERIOR OF THE SITE, SHALL BE INSTALLED PRIOR TO ANY ON-SITE GRADING OR DEMOLITION ACTIVITIES. PERIODIC CLEANING OF THE STREETS WILL BE REQUIRED, AND DUST CONTROL MAINTAINED ON THE SITE AT ALL TIMES. CARE MUST BE TAKEN DURING STREET CLEANING TO PREVENT SILT AND OTHER FOREIGN MATTER FROM ENTERING THE EXISTING STORMWATER INLETS AND PIPES. AS WORK PROGRESSES, ADDITIONAL CONTENTS MAY BE REQUIRED. MAINTENANCE OF ALL IN-PLACE BMP'S IS AN INTEGRAL PART OF THE PROGRAM AND SHALL BE AN ON-GOING EFFORT THROUGHOUT THE CONTRACT PERIOD.
4. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO ALL DISTURBED SOIL AREAS WITHIN 14 DAYS OF THE AREA'S WORK COMPLETION AND/OR FINAL GRADING. ALL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SILT FENCE SEDIMENT TRAPPING.
5. ALL DISTURBED AREAS, SHALL BE TOPSOILED, FERTILIZED, SODDED OR PLANTED, AND MULCHED. IF THE PLANTING IS LESS THAN 75% SUCCESSFUL, REWORK THE GROUND, RE-FERTILIZE, RE-PLANT AND RE-MULCH.
6. ON AND OFF-SITE DUST AND MUD ARE TO BE CONTROLLED AT ALL TIMES. THIS MAY REQUIRE PERIODIC ON-SITE WATERING OR OTHER METHODS FOR DUST CONTROL AND PERIODIC WASHING AS NECESSARY.
7. TEMPORARY EROSION CONTROL MEASURES ARE REQUIRED UNTIL PERMANENT VEGETATION IS ESTABLISHED ON DISTURBED SOIL AREAS.
8. SEDIMENT CONTROL DEVICES ARE TO BE PERIODICALLY CLEANED WHEN ACCUMULATION OF SILT IS WITHIN HALF THE HEIGHT OF THE CONTROL DEVICE. THE CONTRACTOR WILL KEEP A LOG OF ALL INSPECTIONS AND OF ALL REPAIR EFFORTS DURING THE CONSTRUCTION PERIOD.

UTILITIES NOTES:

1. UNDERGROUND UTILITIES AND THEIR LOCATIONS ARE SHOWN APPROXIMATELY BY AVAILABLE UTILITY MAPS AND VISIBLE APPURTENANCES AS MARKED BY OTHERS. ADDITIONAL UTILITIES MAY BE PRESENT AND ALL LOCATIONS SHOULD BE VERIFIED BY THE CONTRACTOR BEFORE EXCAVATION OR CONSTRUCTION.
2. UTILITIES SHOWN HEREON ARE TAKEN FROM SURVEY OF UTILITY APPURTENANCES FOUND IN THE FIELD.
3. THE CONTRACTOR SHALL COORDINATE ALL SCHEDULES FOR ANY UTILITIES DISCONNECT, DEMOLITION, AND SERVICES RECONNECT WITH THE OWNER THROUGHOUT THE PROJECT, AND SHALL MAINTAIN SERVICES TO THE EXISTING FACILITY DURING OPERATING HOURS.
4. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION BETWEEN SANITARY AND STORM OR WATER LINE, EXCEPT WHERE NOTED OTHERWISE.

BWSC
BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy., Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 513-5411

GENERAL NOTES AND LEGEND

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I
CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C0.02

FILE NO. 3611500

04/06/2017
10:51:15
JE.Acosta

F:\36\36115\3611500\04_CAD\CIVL\PLOT\3611500C002_General Notes and Legend.dwg

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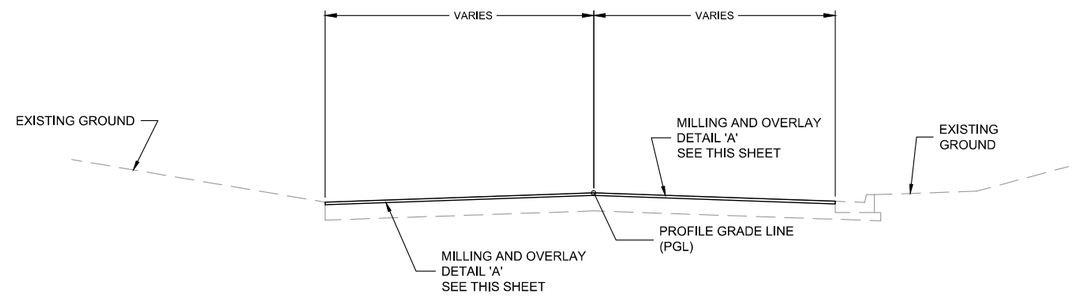
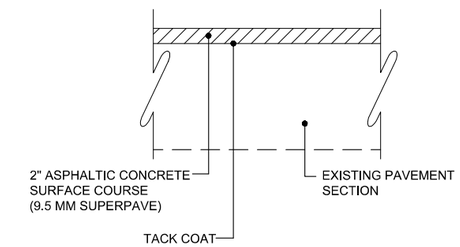
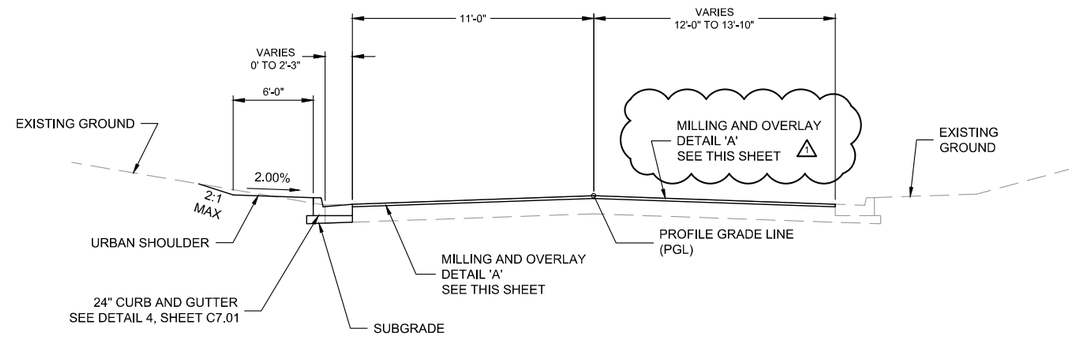


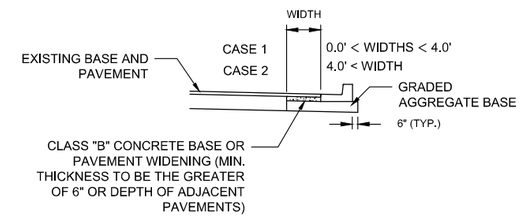
OSBORNE ROAD
MILLING AND OVERLAY 1
STA. 10+20 TO 11+30
STA. 21+48 TO 32+00
N.T.S.



DETAIL 'A'
MILLING AND OVERLAY ASPHALT
PAVEMENT SECTION
N.T.S.



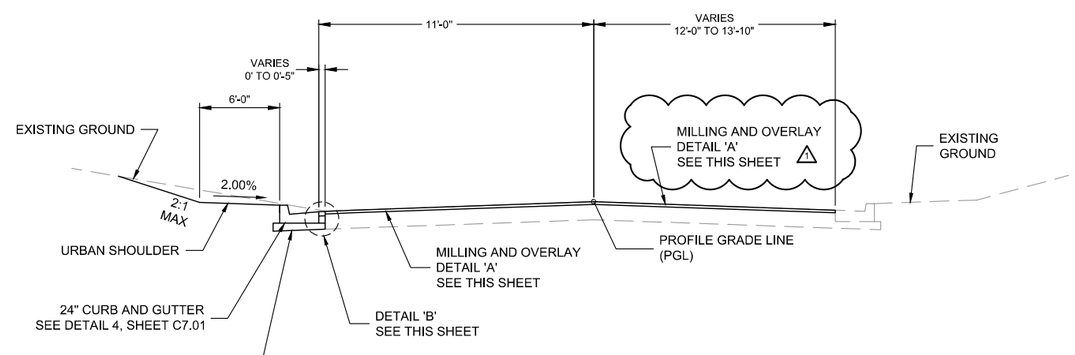
OSBORNE ROAD
24" CURB & GUTTER WITH
URBAN SHOULDER
STA. 11+30 TO 17+67
STA. 18+13 TO 21+48
N.T.S.



CASE 1: IN EXCAVATED AREAS BETWEEN THE EXISTING PAVING AND NEW EDGE OF PAVEMENT THAT ARE 4'-0" OR LESS IN WIDTH, CLASS "B" CONCRETE SHALL BE PLACED IN LIEU OF THE BASE AND PAVING SPECIFIED BY THE TYPICAL SECTION. PAYMENT WILL BE MADE UNDER "CLASS B CONCRETE: BASE AND PAVEMENT WIDENING."

CASE 2: IN EXCAVATED AREAS GREATER THAN 4'-0" IN WIDTH THE CONTRACTOR SHALL PLACE BASE AND PAVING AS SPECIFIED ON THE TYPICAL SECTION.

DETAIL 'B'
CLASS 'B' CONCRETE BASE FOR
PAVEMENT WIDENING
N.T.S.



OSBORNE ROAD
WIDENING WITH
URBAN SHOULDER
STA. 17+67 TO 18+13
N.T.S.

BWSC BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy, Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 515-5411

TYPICAL SECTIONS

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL
1	JEA	DK	04-24-2017	ADDRESSED CITY COMMENTS

C0.03

FILE NO. 3611500

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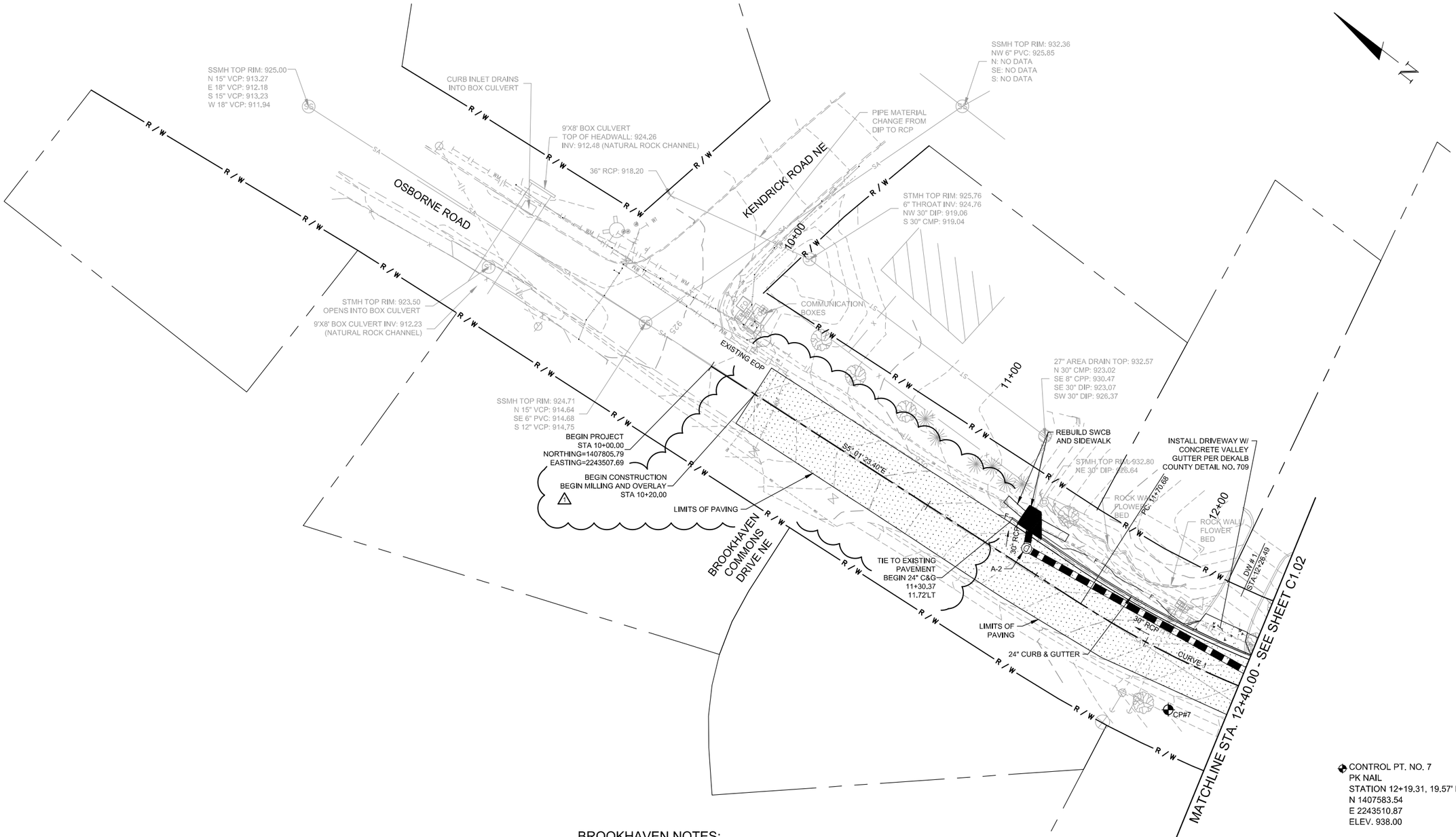

BROOKHAVEN NOTES:

1. NEW PAVEMENT / SURFACING IS REQUIRED ACROSS ALL PROPERTY FRONTAGES TO EXISTING CENTERLINE, TO BE INSTALLED PER BROOKHAVEN STANDARD DETAILS OR AS ADDITIONALLY DIRECTED BY BROOKHAVEN TRAFFIC ENGINEER:
2. ALL TRAFFIC CONTROL AND WARNING DEVICES MUST BE SHOWN AND PLACED PER MUTCD.
3. TEMPORARY TRAFFIC CONTROL AND WARNING DEVICES SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF ANY ROAD IMPROVEMENT WORK ON CITY ROADS AND SHALL REMAIN IN PLACE UNTIL THE CONCLUSION OF ALL SIGNING AND STRIPING WORK.
4. ALL SIGNS SHALL CONFORM TO THE MUTCD STANDARDS AND BROOKHAVEN FOR COLOR, SIZE, REFLECTIVITY, HEIGHT, AND PLACEMENT.
5. STRIPING (WHITE AND YELLOW) AND ARROW MARKING SHALL BE APPLIED USING GDOT STANDARDS FOR THERMOPLASTIC STRIPING.
6. WHEN NECESSARY, EXISTING STRIPING SHALL BE REMOVED BY GRINDING, UNLESS SPECIFIED BY BROOKHAVEN TRAFFIC ENGINEER.
7. ALL FINAL SIGNAGE MUST BE INSTALLED CONCURRENTLY WITH THE PERFORMANCE OF THE STRIPING WORK.
8. CONTACT THE BROOKHAVEN PUBLIC WORKS (678-382-6700) ONE WEEK PRIOR TO COMMENCEMENT OF ANY STRIPING WORK.

CONTROL PT. NO. 7
PK NAIL
STATION 12+19.31, 19.57' RT
N 1407583.54
E 2243510.87
ELEV. 938.00

CURVE 1		
P.I.	=	13+55.34
△	=	51.8347
D	=	15.0778
T	=	184.6604
L	=	343.7810
R	=	380.000
SE	=	MATCH EXIST.
P.I. N		1407451.82
P.I. E		2243538.81

20' 10' 0' 20' 40'
SCALE: 1 INCH = 20 FEET

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(800) 282-7411

GEORGIA 811 Utilities Protection Center, Inc.
Know what's below. Call before you dig.

04/24/2017
10:30:13
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BWSC BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy, Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 515-5411

ROADWAY PLAN

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL
1	JEA	DK	04-24-2017	ADDRESSED CITY COMMENTS

C1.01

FILE NO. 3611500

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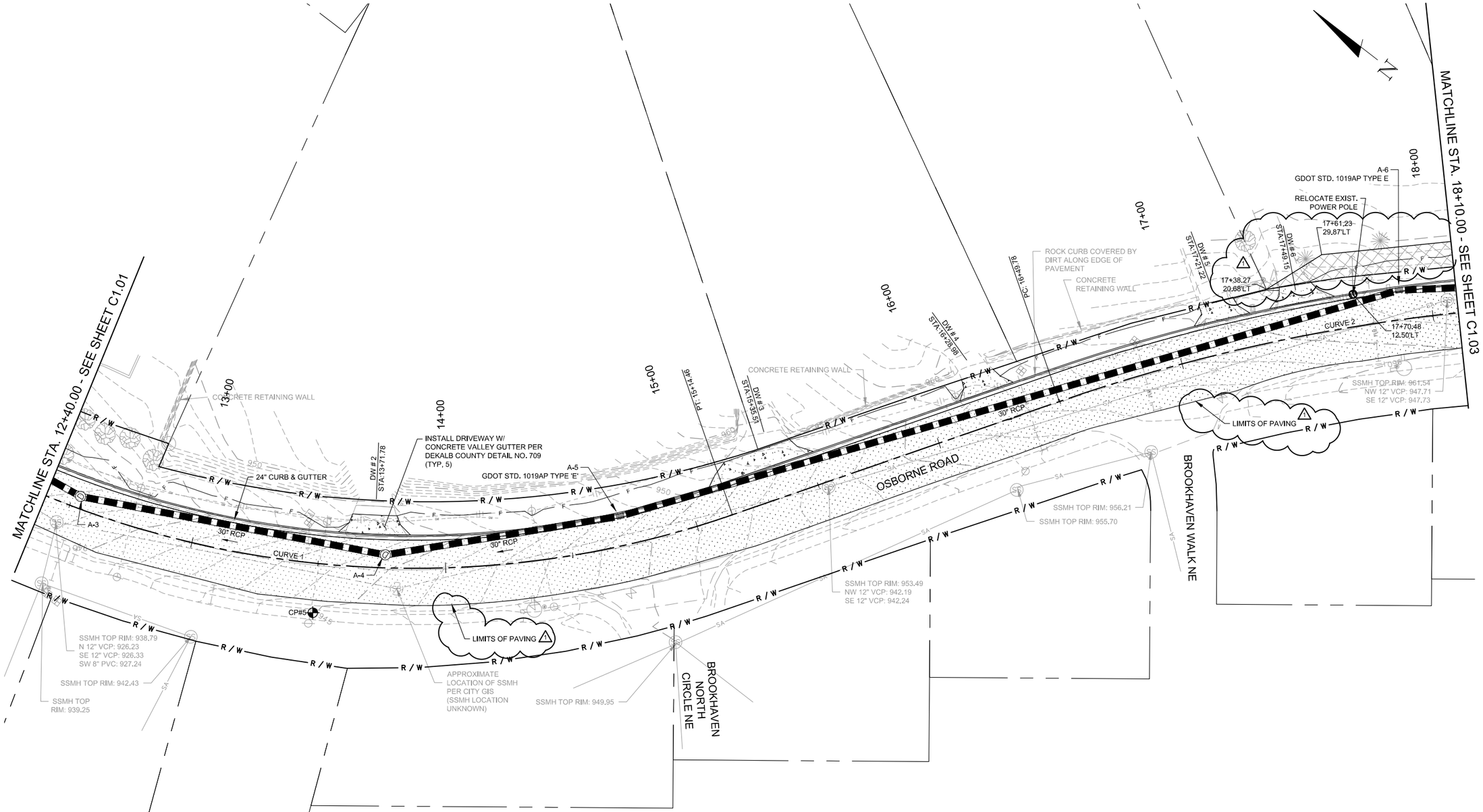

BROOKHAVEN NOTES:

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8. CONTACT THE BROOKHAVEN PUBLIC WORKS (678-382-6700) ONE WEEK PRIOR TO COMMENCEMENT OF ANY STRIPING WORK.

CONTROL PT. NO. 5
PK NAIL
STATION 13+49.95, 19.38' RT
N 1407457.08
E 2243562.69
ELEV. 944.84

CURVE 1		CURVE 2	
P.I.	= 13+55.34	P.I.	= 17+67.67
△	= 51.8347	△	= 19.1202
D	= 15.0778	D	= 8.1851
T	= 184.6604	T	= 117.8948
L	= 343.7810	L	= 233.5973
R	= 380.000	R	= 700.000
SE	= MATCH EXIST.	SE	= MATCH EXIST.
P.I. N	1407451.82	P.I. N	1407212.42
P.I. E	2243538.81	P.I. E	2243905.45

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PHONE (678) 515-5411

ROADWAY PLAN
OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I
CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL
1	JEA	DK	04-24-2017	ADDRESSED CITY COMMENTS

C1.02

FILE NO. 3611500

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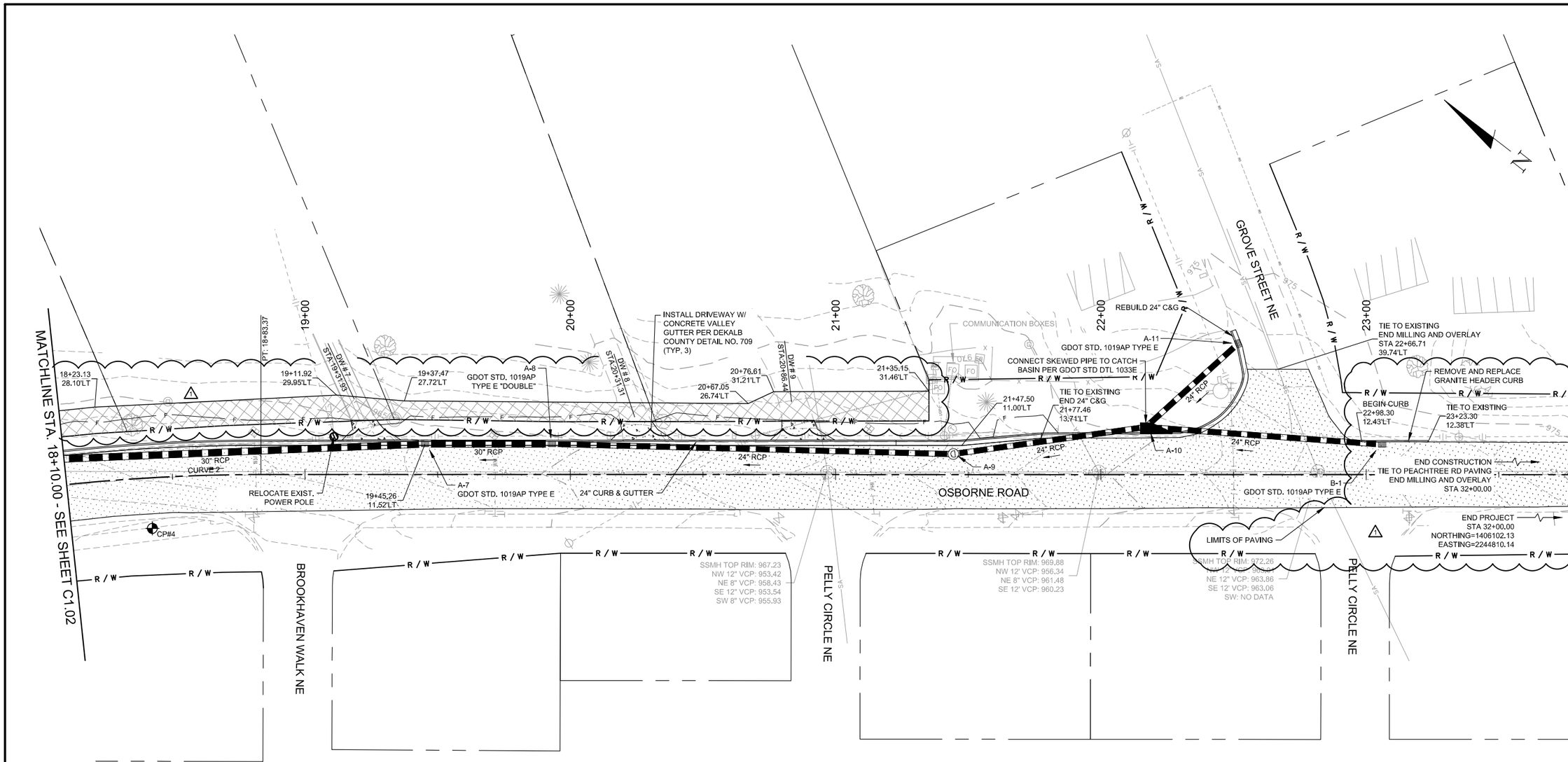

BROOKHAVEN NOTES:

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7. ALL FINAL SIGNAGE MUST BE INSTALLED CONCURRENTLY WITH THE PERFORMANCE OF THE STRIPING WORK.
8. CONTACT THE BROOKHAVEN PUBLIC WORKS (678-382-6700) ONE WEEK PRIOR TO COMMENCEMENT OF ANY STRIPING WORK.

CONTROL PT. NO. 4
PK NAIL
STATION 118+41.30, 19.12' RT
N 1407139.08
E 2243936.48
ELEV. 961.45

CURVE 2		
P.I.	=	17+67.67
△	=	19.1202
D	=	8.1851
T	=	117.8948
L	=	233.5973
R	=	700.000
SE	=	MATCH EXIST.
P.I. N		1407212.42
P.I. E		2243905.45

20' 10' 0' 20' 40'
SCALE: 1 INCH = 20 FEET

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ROADWAY PLAN
OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I
CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL
1	JEA	DK	04-24-2017	ADDRESSED CITY COMMENTS

C1.03
FILE NO. 3611500

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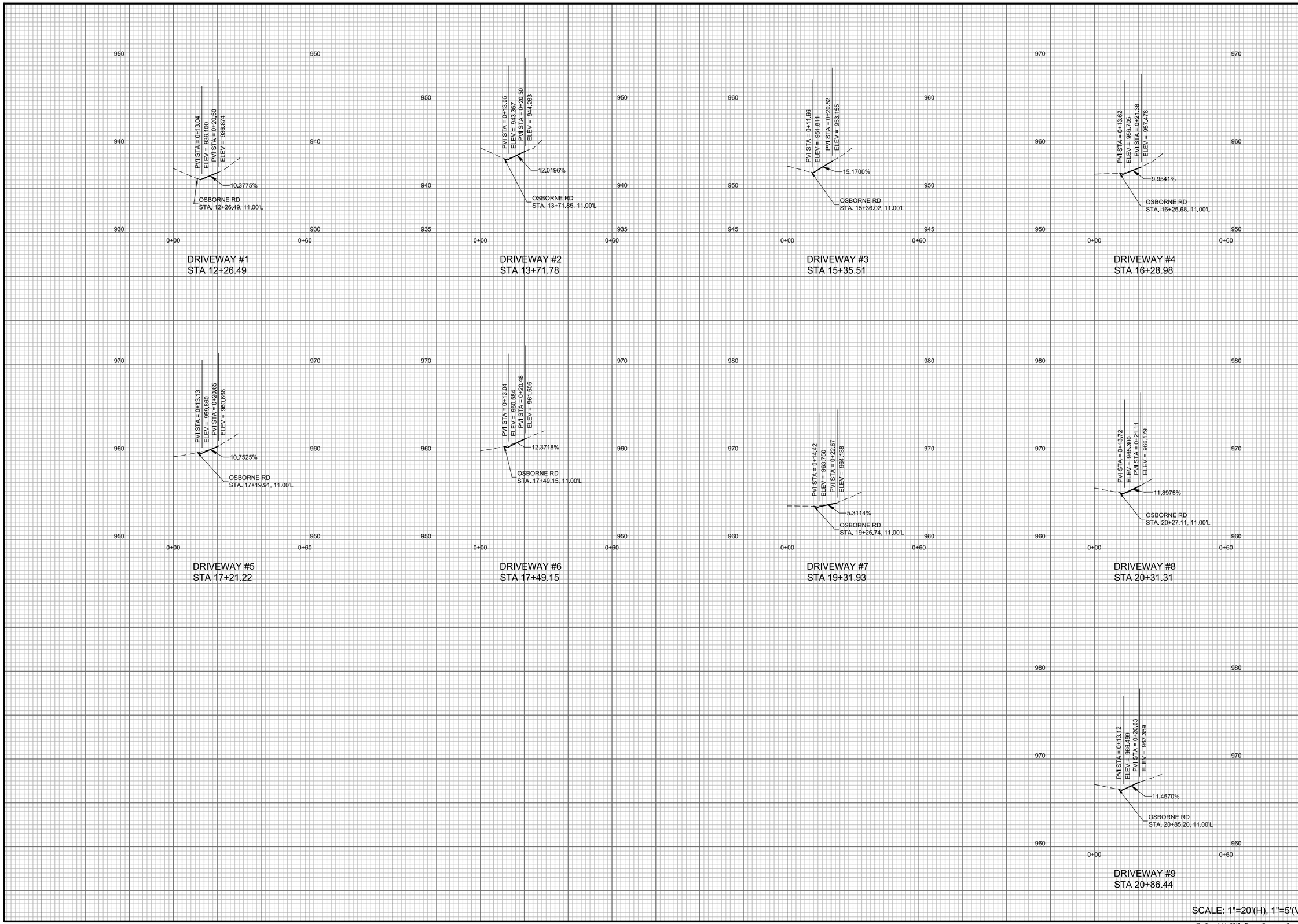

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DRIVEWAY PROFILES

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C1.21

FILE NO. 3611500

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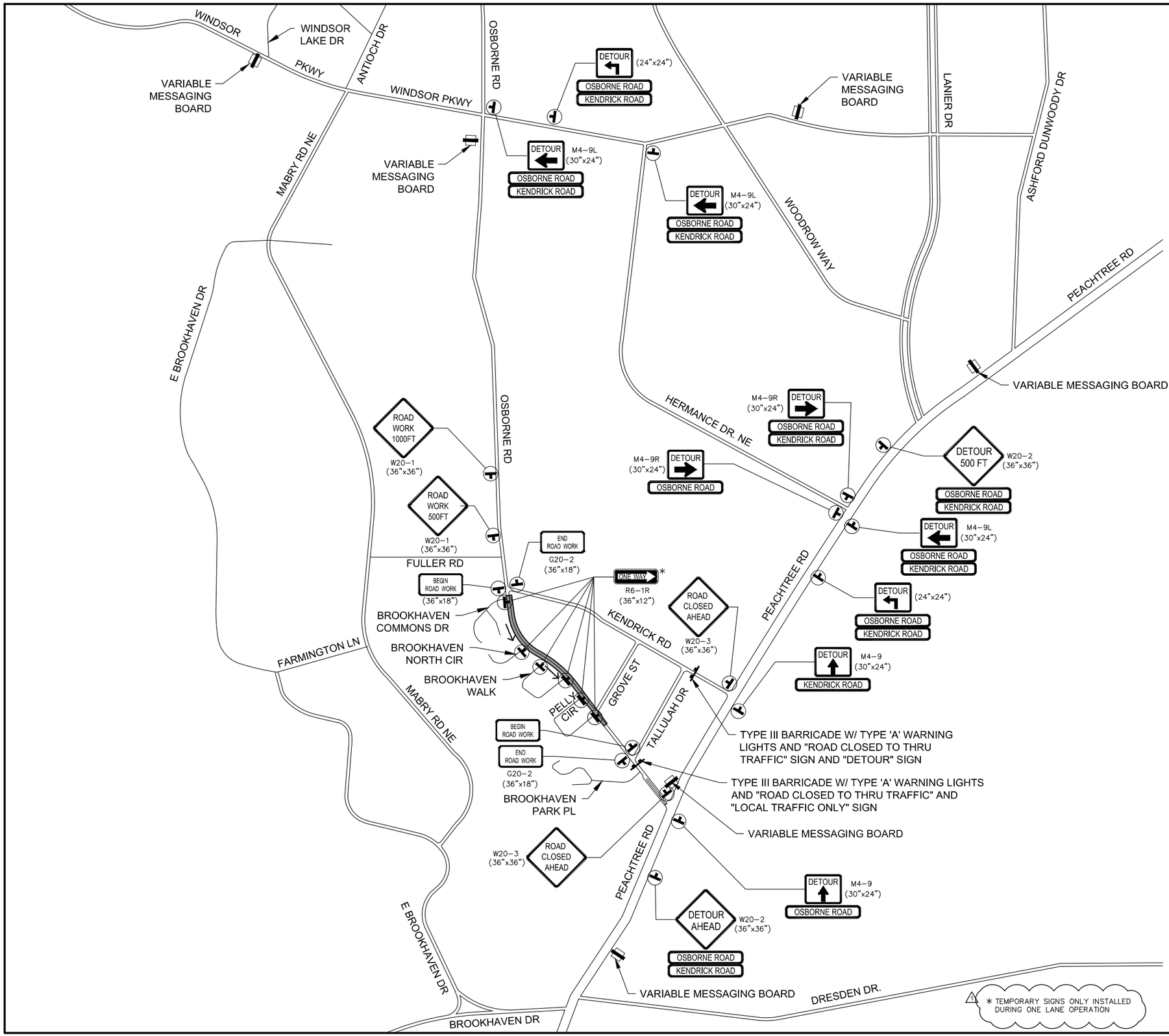

LEGEND:

- WORK SPACE
- SIGN
- BARRICADE
- VARIABLE MESSAGING BOARD
- DIRECTION OF TRAVEL

TRAFFIC CONTROL PLAN NOTES

1. SEE SECTION 6F.03, SIGN PLACEMENT, OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR INFORMATION ON PLACEMENT AND MOUNTING OF SIGNS.
2. NOTHING IN THIS PLAN IS INTENDED TO SUPERSEDE OR RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING THE APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
3. ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
4. SIDE STREET, DRIVEWAY ACCESS, AND SAFE PEDESTRIAN WAYS SHALL BE MAINTAINED AT ALL TIMES.
5. CONTRACTOR SHALL USE PLASTIC DRUMS WITH TYPE "A" WARNING LIGHTS TO SEPARATE TRAFFIC FROM THE CONSTRUCTION AREA.
6. CONTRACTOR SHALL COVER ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SIGNS OR DEVICES DURING CONSTRUCTION AND THEY SHALL REMAIN COVERED DURING CONSTRUCTION AND UNTIL SUCH TIME THAT NO CONFLICT EXISTS.
7. MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON OSBORNE ROAD DURING ACTIVE CONSTRUCTION. FLAGGERS MUST BE PRESENT AT ALL TIMES WHEN ONE LANE OPERATION IS ACTIVE.
8. CONTRACTOR SHALL COVER THE EXCAVATIONS WITH STEEL PLATES ANCHORED PROPERLY DURING NON-WORKING HOURS, AND ALLOW NORMAL TRAFFIC FLOW.
9. CONTRACTOR SHALL PROVIDE AND MAINTAIN NECESSARY FENCES, BARRICADES, LIGHTS, SIGNS, STEEL PLATES, AND OTHER TRAFFIC CONTROL MEASURES AS REQUIRED FOR THE PROTECTION AND SAFETY OF THE PUBLIC THROUGHOUT THE CONSTRUCTION ACTIVITIES ON THE SITE.
10. ALL TRAFFIC CONTROL SIGNS SHALL MEET THE MINIMUM RETROREFLECTIVITY LEVELS SPECIFIED IN THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
11. CONTRACTOR SHALL CONTACT ALL APPROPRIATE AGENCIES BEFORE CLOSING ANY ROADWAYS.
12. WHERE FLAGGERS ARE PROVIDED, CONTRACTOR SHALL MAINTAIN A MINIMUM OF TWO CERTIFIED FLAGGERS AT ALL TIMES.

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TRAFFIC CONTROL PLAN

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL
1	JEA	DK	04-24-2017	ADDRESSED CITY COMMENTS

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FILE NO. 3611500

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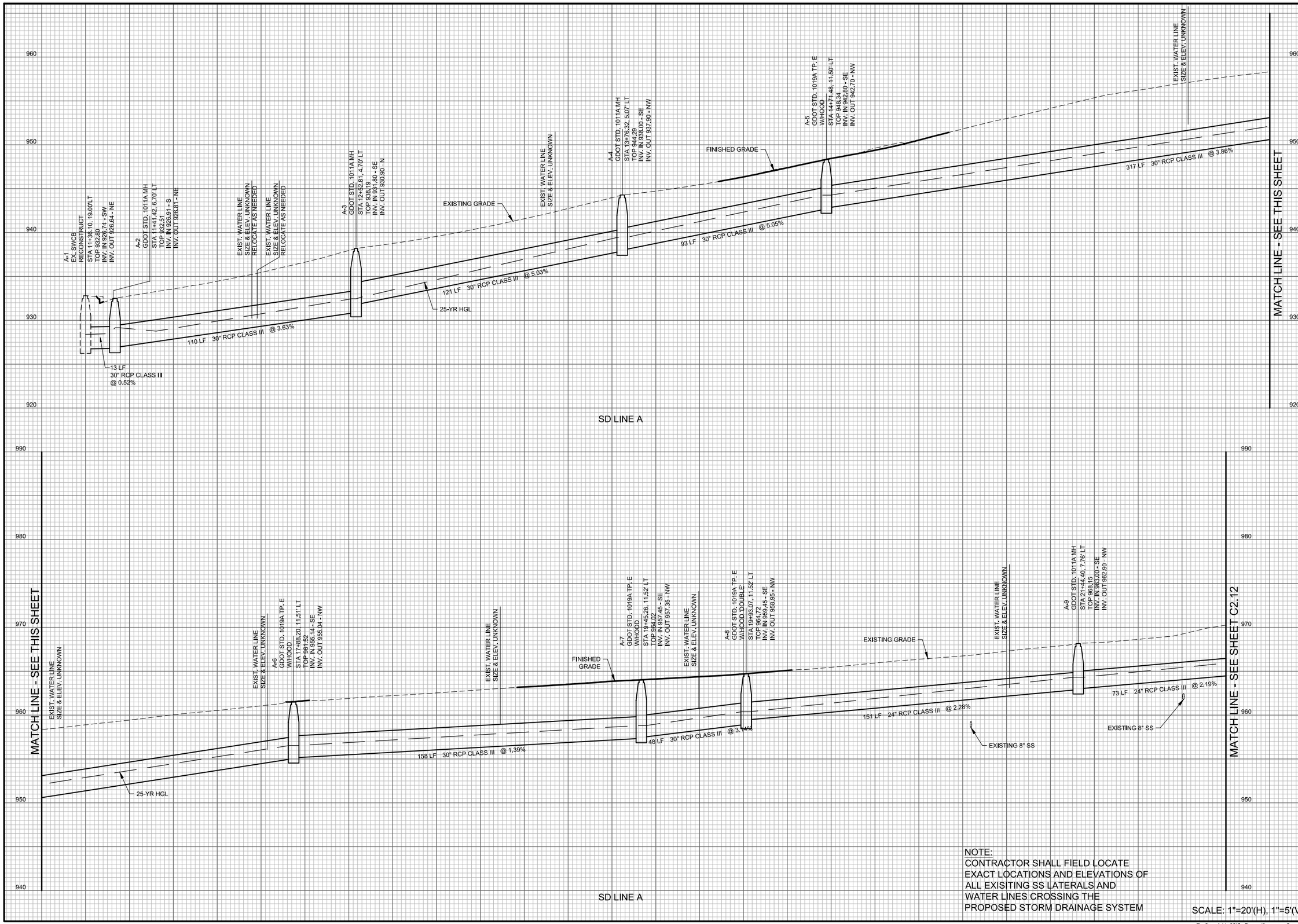

NOTE:
CONTRACTOR SHALL FIELD LOCATE
EXACT LOCATIONS AND ELEVATIONS OF
ALL EXISITING SS LATERALS AND
WATER LINES CROSSING THE
PROPOSED STORM DRAINAGE SYSTEM

SCALE: 1"=20'(H), 1"=5'(V)

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DRAINAGE PROFILES

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

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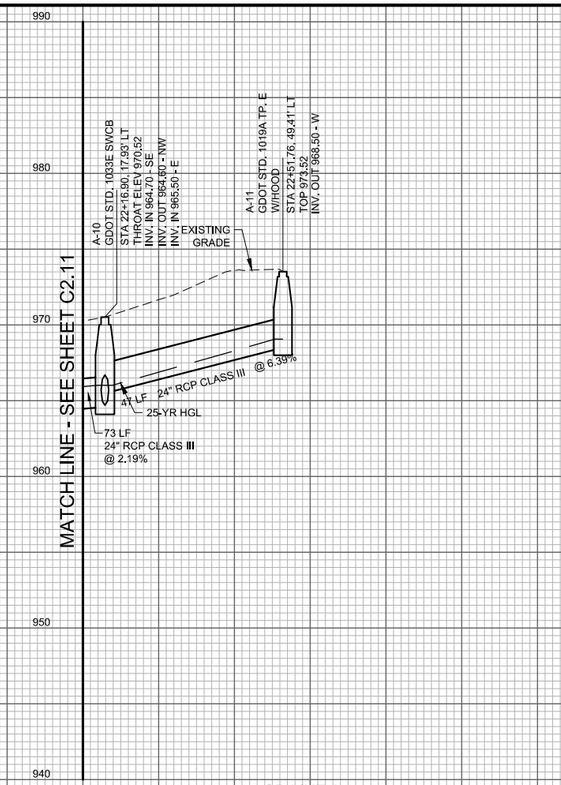
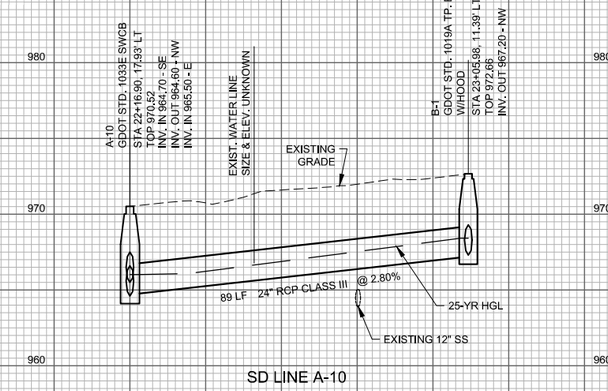
PIPE CHART - 25-YR

Line No.	Inlet ID	Line ID	Drainage Area (ac)	Total Area (ac)	Runoff Coeff (C)	Tc (min)	i Sys (in/hr)	Total Runoff (cfs)	Incr Q (cfs)	Line Length (ft)	Line Size (in)	Line Slope (%)	n-value Pipe	Capacity Full (cfs)	Vel Ave (ft/s)
1	A-2	A1-A2	0.97	8.79	0.60	20.8	4.74	23.59	3.81	13.404	30	0.52	0.013	29.64	6.76
2	A-3	A2-A3	0.00	7.82	0.00	20.3	4.78	21.04	0.00	109.946	30	3.63	0.013	78.13	5.53
3	A-4	A3-A4	0.00	7.82	0.00	19.8	4.83	21.26	0.00	121.390	30	5.03	0.013	91.94	10.90
4	A-5	A4-A5	0.87	7.82	0.60	19.5	4.88	21.44	3.42	93.063	30	5.05	0.013	92.17	6.88
5	A-6	A5-A6	0.50	6.95	0.55	18.1	5.03	19.51	2.20	317.106	30	3.86	0.013	80.57	6.42
6	A-7	A6-A7	0.21	6.45	0.57	17.4	5.13	18.45	0.98	158.462	30	1.39	0.013	48.43	6.38
7	A-8	A7-A8	0.77	6.24	0.70	17.2	5.15	17.94	3.90	47.813	30	3.14	0.013	72.64	6.39
8	A-9	A8-A9	0.00	5.47	0.00	16.7	5.23	15.37	0.00	151.376	24	2.28	0.013	34.15	8.53
9	A-10	A9-A10	0.68	5.47	0.50	16.4	5.26	15.47	1.92	73.209	24	2.19	0.013	33.44	6.79
10	B-1	A10-B1	4.09	4.09	0.53	16.0	5.32	11.53	11.53	89.321	24	2.80	0.013	37.84	5.51
11	A-11	A10-A11	0.70	0.70	0.62	12.0	6.04	2.62	2.62	46.961	24	6.39	0.013	57.17	3.84





NOTE:
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SCALE: 1"=20'(H), 1"=5'(V)

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DRAINAGE PROFILES

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C2.12

FILE NO. 3611500

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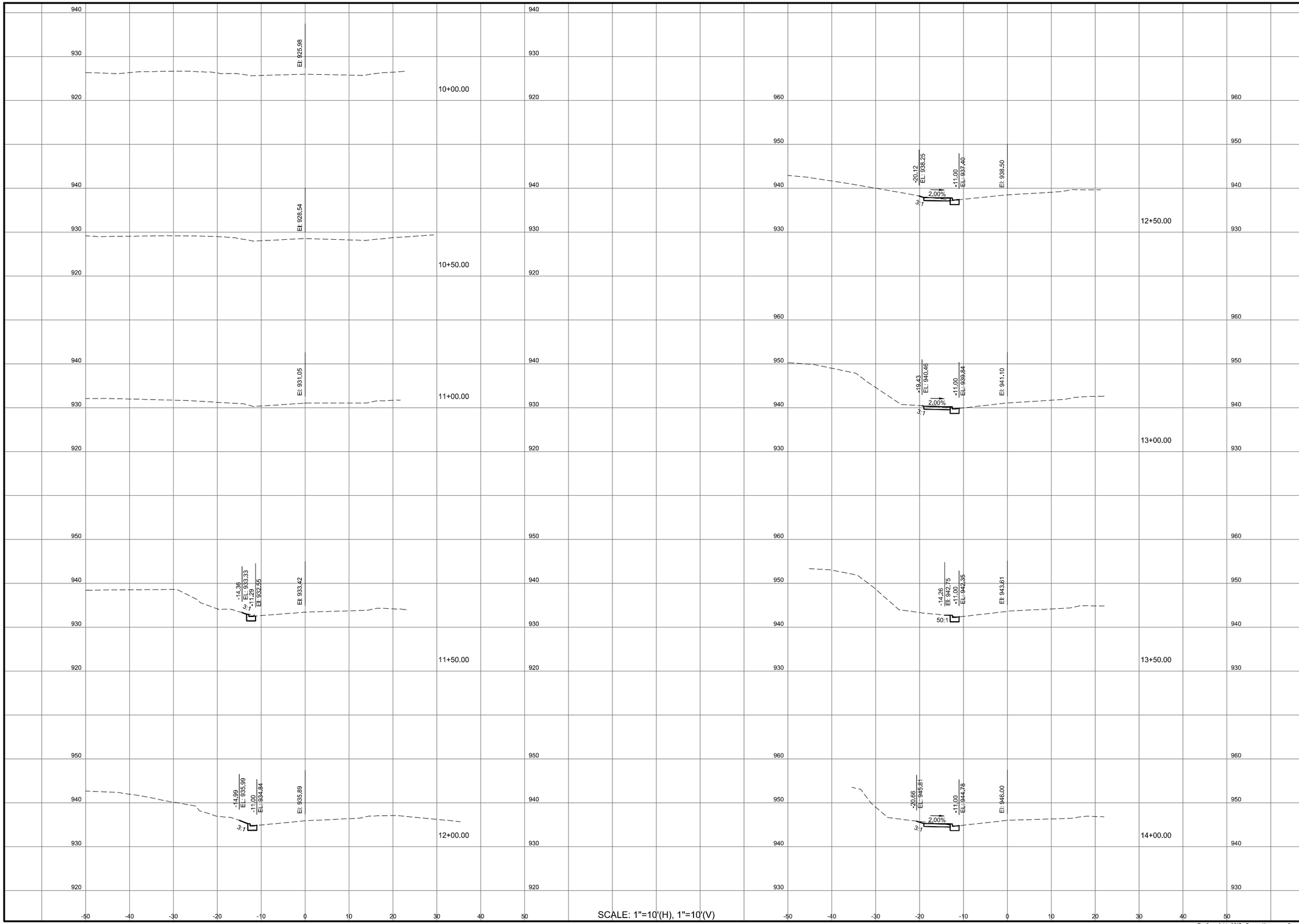

BWSC BARGE WAGGONER SUMNER & CANNON, INC.

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PHONE (678) 515-9411

EARTHWORK CROSS SECTIONS STA. 10+00.00 TO STA 14+00.00

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C2.21

FILE NO. 3611500

04/06/2017
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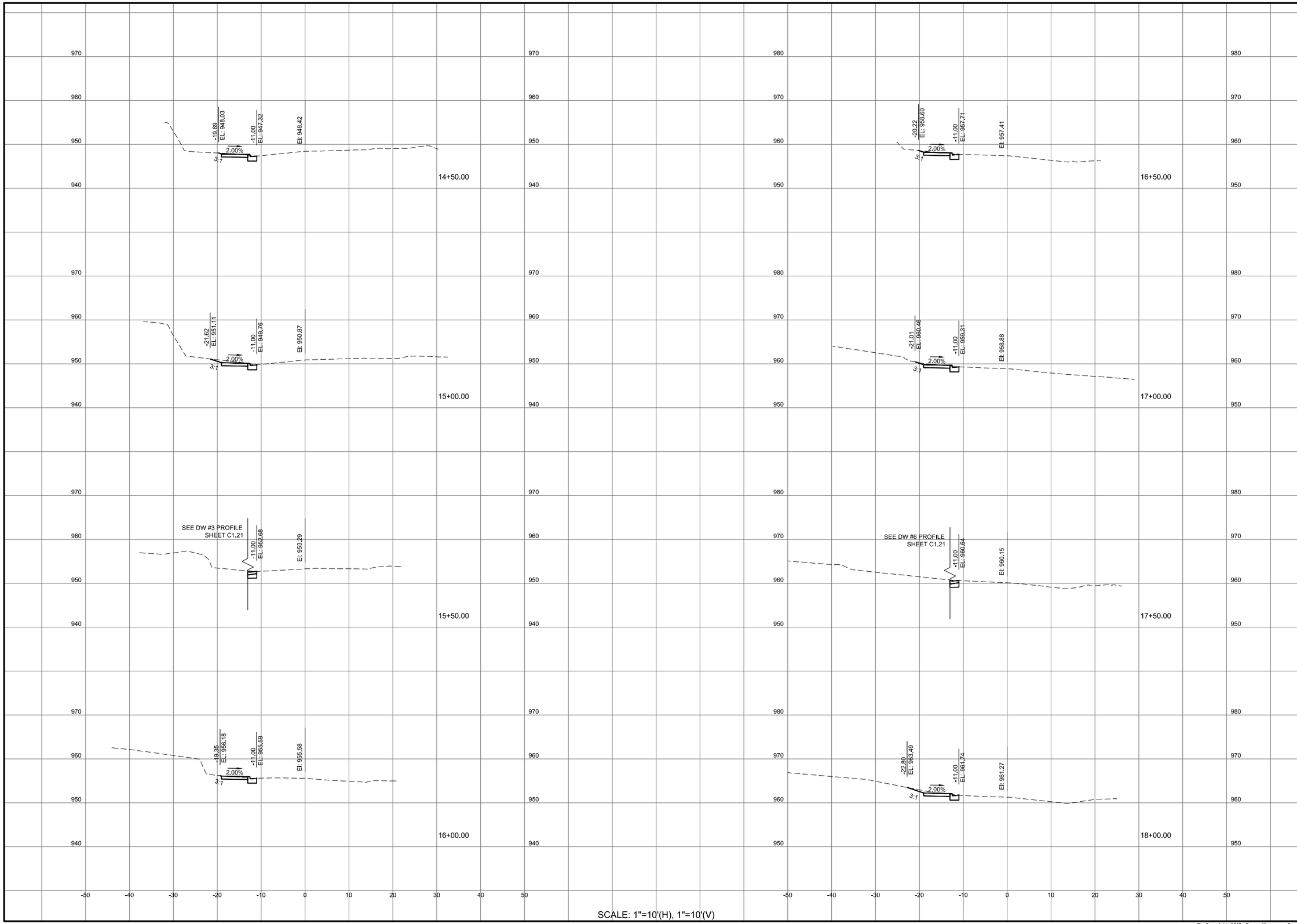

SCALE: 1"=10'(H), 1"=10'(V)

BWSC
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EARTHWORK CROSS SECTIONS
STA. 14+50.00 TO STA 18+00.00

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C2.22

FILE NO. 3611500

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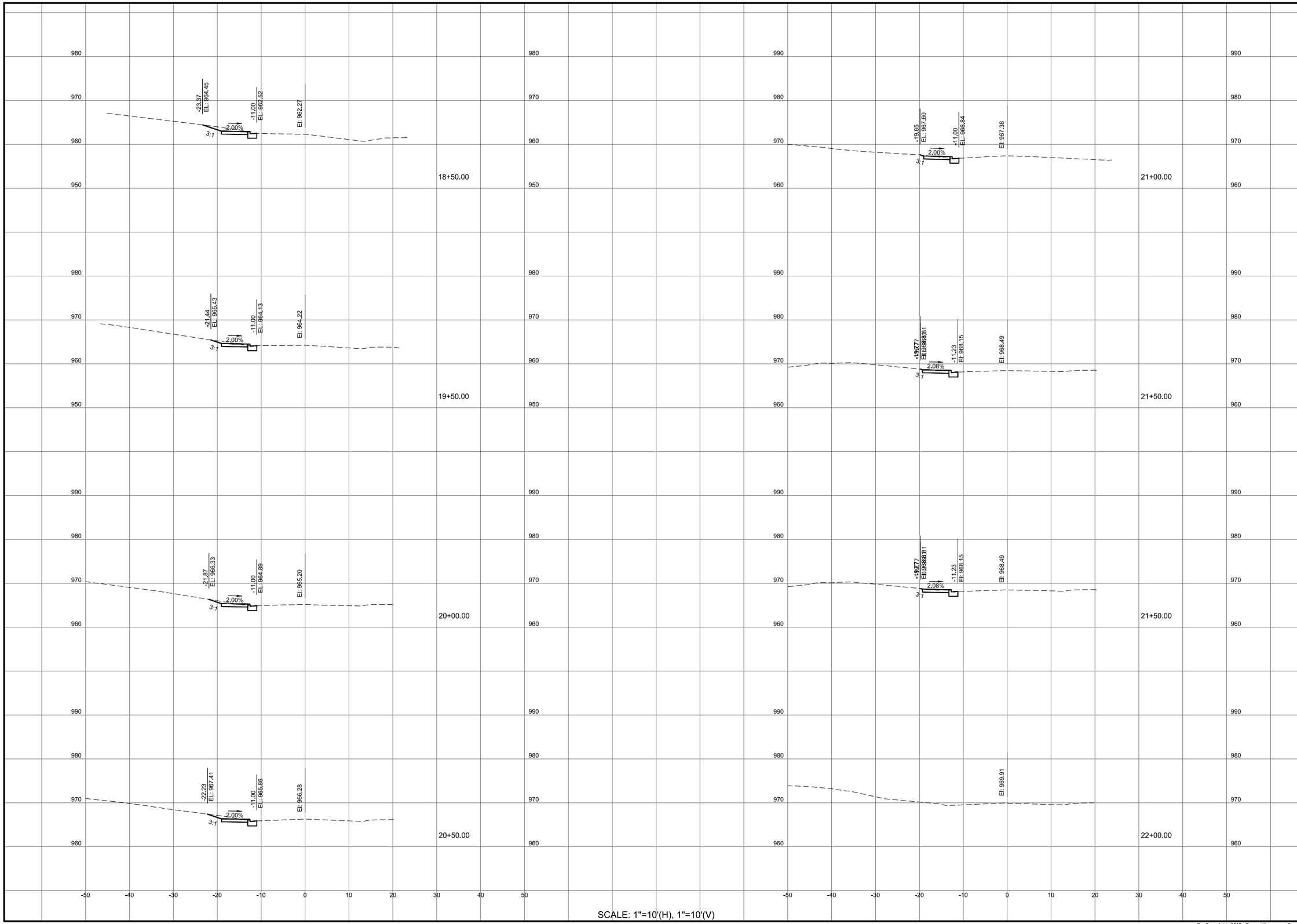

SCALE: 1"=10'(H), 1"=10'(V)

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EARTHWORK CROSS SECTIONS
STA. 18+50.00 TO STA 22+00.00

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

C2.23

FILE NO. 3611500

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PROJECT DESCRIPTION
THIS PROJECT HAS A TOTAL AREA OF **0.86 ACRES** & THE EXPECTED DISTURBED AREA IS **0.50 ACRES**. THE TOTAL AREA IS THE AREA OF RIGHT-OF-WAY & EASEMENTS.

THE PROPOSED IMPROVEMENTS WILL CONSIST OF THE INSTALLATION OF STORM DRAINAGE PIPING AND STRUCTURES, CURB AND GUTTER, AND CONCRETE DRIVEWAYS. CONSTRUCTION ASSOCIATED WITH THIS SITE WILL INVOLVE THE INSTALLATION OF CONCRETE PAVEMENT, ASPHALT MILLING AND PAVING, RELOCATING UNDERGROUND AND ABOVE GROUND UTILITIES, AND GRADING. THE RANGE OF SLOPE OF THE SITE WILL REMAIN THE SAME.

THE ADJACENT AREAS TO THE SITE ARE RESIDENTIAL. TOPOGRAPHY HAS LAND SLOPES RANGING FROM ROLLING (LESS THAN 5%) TO HILLY (7%-11%) TO VERY STEEP (UP TO 50%).

THERE ARE NO STREAMS LOCATED WITHIN 200 FEET OF THE SITE AND THE SITE IS NOT LOCATED WITHIN A 100 YEAR FLOOD ZONE ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 13089C0052J MAP DATED MAY 16, 2013.

RECEIVING WATERS:
UNNAMED TRIBUTARY TO NANCY CREEK

24-HOUR CONTACT
CONTACT: GREGORY ANDERSON, P.E.
PHONE: (404) 637-0528

ESPCP GENERAL NOTES
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.

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.

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.

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

AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

SEQUENCE OF MAJOR ACTIVITIES
THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING THE CONSTRUCTION SCHEDULE FOR THE PROJECT.

THE PROJECT BUDGET INCLUDES SUFFICIENT FUNDS FOR THE PAYMENT OF CONSTRUCTION EXITS. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AT LEAST ONE (1) CONSTRUCTION EXIT PER THE SPECIFICATIONS OF THE CONSTRUCTION EXIT DETAIL INCLUDED IN THIS ESPCP. TO FACILITATE PROJECT LOGISTICS, THE CONTRACTOR IS ALSO RESPONSIBLE FOR SELECTING THE LOCATION(S) OF THE CONSTRUCTION EXIT(S).

INITIAL EROSION CONTROL CONSISTS OF ALL MEASURES REQUIRED FROM THE START OF CONSTRUCTION TO THE TIME WHEN THE PROPOSED GRADING IS UNDERWAY IN A SPECIFIC AREA SUFFICIENT ENOUGH TO ALTER THE DRAINAGE PATTERN WITHIN THAT AREA, OR WHEN INITIAL EROSION CONTROL MEASURES PROHIBIT REQUIRED GRADING OPERATIONS.

INITIAL BMP INSTALLATION SHALL CONSIST OF INSTALLING PERIMETER CONTROLS PRIOR TO CLEARING AND GRUBBING THE SITE TO ENSURE SEDIMENT REMAINS ON SITE AND IS TREATED PROPERLY. INITIAL PERIMETER CONTROLS SHALL CONSIST OF INSTALLING SILT FENCE AS SHOWN ON THE INITIAL EROSION CONTROL PLANS. CONSTRUCTION EXISTS WITH WASH-DOWN PITS SHALL BE IN PLACE PER PLANS PRIOR TO CLEARING.

INTERMEDIATE/FINAL BMP INSTALLATION SHALL PREVENT EROSION AND SEDIMENTATION ON THE CONSTRUCTION SITE DURING AND AFTER GRADING ACTIVITIES. PERIMETER SILT FENCE SHALL BE ADDED OR REMOVED PER INTERMEDIATE/FINAL PLANS. INTERIOR EROSION CONTROL BMP'S SHALL BE REMOVED ONLY WHEN GRADING ACTIVITIES PROHIBIT THEIR ABILITY TO EFFECTIVELY PREVENT EROSION AND/OR TREAT SEDIMENT ON THE CONSTRUCTION SITE. UTILITIES AND STORM SEWER PIPES SHALL BE CONSTRUCTED DURING THIS PHASE OF CONSTRUCTION. INLET SEDIMENT TRAPS SHALL BE INSTALLED AT EACH DRAINAGE INLET STRUCTURE WITHIN THE PROJECT LIMITS. ALL GRADED AREAS NOT SUBJECT TO PAVING SHALL BE PERMANENTLY GRASSED. ALL OTHER AREAS SHALL BE TEMPORARILY GRASSED. GRASSING OF SIDE SLOPES STEEPER THAN 3:1 AND GREATER THAN 10 FEET IN HEIGHT AND WATERWAYS SHALL BE REINFORCED USING MATTING BLANKETS.

INTERMEDIATE/FINAL EROSION CONTROL BMP INSTALLATION SHALL PROTECT THE SITE DURING ROAD BED PREPARATION AND PAVING. CONSTRUCTION EXISTS SHALL BE REMOVED FOLLOWING COMPLETION OF THE WORK. ALL PREEXISTING SILT FENCE, AND INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE INSPECTOR DEEMS THAT FINAL STABILIZATION HAS BEEN ACHIEVED.

PLAN ALTERATIONS
THE EROSION SEDIMENTATION AND POLLUTION CONTROL PLAN (ESPCP) IS PROVIDED BY THE DEPARTMENT. IT ADDRESSES THE STAGED CONSTRUCTION OF THE PROJECT BASED ON COMMON CONSTRUCTION METHODS AND TECHNIQUES. IF THE CONTRACTOR ELECTS TO ALTER THE STAGE CONSTRUCTION FROM THAT SHOWN IN THE PLANS OR UTILIZE CONSTRUCTION TECHNIQUES THAT RENDER THIS PLAN INEFFECTIVE, THE CONTRACTOR SHALL REVISE THE PLANS IN ACCORDANCE TO SPECIAL PROVISION 161 OF THE CONTRACT.

THE CONTRACTOR, THE CERTIFIED DESIGN PROFESSIONAL AND THE WECS SHALL CAREFULLY EVALUATE THIS PLAN PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES. AMENDMENTS/REVISIONS TO THE ESPCP WHICH HAVE A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

MAINTENANCE AND STABILIZATION MEASURES
SEE SPECIAL PROVISION 161 AND 700 AND OTHER CONTRACT DOCUMENTS FOR MAINTENANCE AND STABILIZATION MEASURES.

VEGETATION AND PLANTING SCHEDULE
ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES INCLUDING PLANT SPECIES, PLANTING DATES, SEEDING FERTILIZER, LIME AND MULCHING RATES FOR THIS PROJECT CAN BE FOUND IN SECTION 700 OF THE CURRENT EDITION OF THE DEPARTMENT'S SPECIFICATIONS AND OTHER APPLICABLE CONTRACT DOCUMENTS, SPECIAL PROVISIONS, OR LANDSCAPING PLANS.

SILT FENCE INSTALLATIONS WITH J-HOOKS AND SPURS
SILT FENCE SHOULD NEVER BE RUN CONTINUOUSLY. THE SILT FENCE SHOULD TURN BACK INTO THE FILL OR SLOPE TO CREATE SMALL POCKETS THAT TRAP SILT AND FORCE STORMWATER TO FLOW THROUGH THE SILT FENCE. THIS TECHNIQUE, OR CONFIGURATION, IS COMMONLY REFERRED TO AS J HOOKS OR SPURS. THE J HOOKS SHALL BE UTILIZED ON ALL SILT FENCES THAT ARE LOCATED AROUND THE PERIMETER OF THE PROJECT AND ALONG THE TOE OF EMBANKMENTS OR SLOPES. THE J HOOKS SHALL BE SPACED IN ACCORDANCE WITH CONSTRUCTION DETAIL D-24C. THE MAXIMUM SPACING OF J HOOKS IS REACHED WHEN THE TOP OF THE ADJACENT DOWNGRADIENT J HOOK IS AT THE SAME ELEVATION AS THE BOTTOM OF THE ADJACENT UPGRADIENT J HOOK. J HOOKS SHALL BE PAID FOR AS SILT FENCE ITEMS PER FOOT. ALL COSTS AND OTHER INCIDENTAL ITEMS ARE INCLUDED IN COST OF INSTALLING AND MAINTAINING THE SILT FENCE.

WASTE DISPOSAL
WHERE ATTAINABLE, LOCATE WASTE COLLECTION AREAS, DUMPSTERS, TRASH CANS AND PORTABLE TOILETS AT LEAST 50 FEET AWAY FROM STREETS, GUTTERS, WATERCOURSES AND STORM DRAINS. SECONDARY CONTAINMENT SHALL BE PROVIDED AROUND LIQUID WASTE COLLECTION AREAS TO MINIMIZE THE LIKELIHOOD OF CONTAMINATED DISCHARGES. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE STORAGE AND DISPOSAL REGULATIONS AND OBTAIN ALL NECESSARY PERMITS. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

OTHER CONTROLS
THE CONTRACTOR SHALL FOLLOW THIS ESPCP AND ENSURE AND DEMONSTRATE COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

THE CONTRACTOR SHALL CONTROL DUST FROM THE SITE IN ACCORDANCE WITH SECTION 161 OF THE CURRENT EDITION OF THE DEPARTMENT'S SPECIFICATIONS.

PETROLEUM STORAGE, SPILLS AND LEAKS
THESE PLANS EXPRESSLY DELEGATE THE RESPONSIBILITY OF ON-SITE HAZARDOUS MATERIAL MANAGEMENT TO THE CONTRACTOR. THE CONTRACTOR SHALL AT A MINIMUM PROVIDE AN ACTION PLAN AND KEEP THE NECESSARY MATERIALS ON SITE FOR THE CAPTURE, CLEAN UP, AND DISPOSAL OF ANY PETROLEUM PRODUCT, OR OTHER HAZARDOUS MATERIAL, LEAKS OR SPILLS ASSOCIATED WITH THE SERVICING, REFUELING OR OPERATION OF ANY EQUIPMENT UTILIZED AT THE SITE. A COPY OF THE ACTION PLAN SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND MAINTAINED ON THE PROJECT SITE. ALL PERSONNEL OPERATING OR SERVICING EQUIPMENT SHALL BE FAMILIAR WITH THE ACTION PLAN. THE CONTRACTOR SHALL NOT PARK, REFUEL, OR MAINTAIN EQUIPMENT WITHIN STREAM BUFFERS.

IF THE CONTRACTOR ELECTS TO STORE PETROLEUM PRODUCTS ON SITE, THE CONTRACTOR SHALL PREPARE AN ESPCP ADDENDUM THAT ADDRESSES THE ADDITIONAL BMPS NEEDED FOR ONSITE STORAGE AND SPILL PREVENTION FOR PETROLEUM PRODUCTS. THIS PLAN SHALL BE PREPARED BY A CERTIFIED DESIGN PROFESSIONAL AS REQUIRED BY GAR100002 FOR INCLUSION WITH THESE PLANS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO STANDARD SPECIFICATION 107-LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC FOR ADDITIONAL REQUIREMENTS.

POST-CONSTRUCTION BMP'S
ALL PERMANENT, POST-CONSTRUCTION BMP'S ARE SHOWN IN THE CONSTRUCTION PLANS AND IN THE ESPCP PLAN. THE POST-CONSTRUCTION BMP'S FOR THIS PROJECT CONSIST OF PERMANENT GRASSING, RIPRAP AT PIPE OUTLETS FOR VELOCITY DISSIPATION AND OUTLET STABILIZATION, VEGETATED AND PAVED DITCHES, AND DITCH STABILIZATION WITH TURF REINFORCING MATS. THE POST-CONSTRUCTION BMP'S WILL PROVIDE PERMANENT STABILIZATION OF THE SITE AND PREVENT ACCELERATED TRANSPORTATION OF SEDIMENT AND POLLUTANTS INTO RECEIVING WATERS.

READY MIX CHUTE WASH-DOWN
THE WASHING OF READY-MIX CONCRETE DRUMS AND DUMP TRUCK BODIES USED IN THE DELIVERY OF PORTLAND CEMENT CONCRETE IS PROHIBITED ON THIS SITE.

IN ACCORDANCE WITH STANDARD SPECIFICATION 107: LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC, ONLY THE DISCHARGE CHUTE UTILIZED IN THE DELIVERY OF PORTLAND CEMENT CONCRETE MAY BE RINSED FREE OF FRESH CONCRETE REMAINS. THE CONTRACTOR SHALL EXCAVATE A PIT OUTSIDE OF STATE WATER BUFFERS, AT LEAST 25 FEET FROM ANY STORM DRAIN AND OUTSIDE OF THE TRAVELLED WAY, INCLUDING SHOULDERS, FOR A WASH-DOWN PIT. THE PIT SHALL BE LARGE ENOUGH TO STORE ALL WASH-DOWN WATER WITHOUT OVERTOPPING. IMMEDIATELY AFTER THE WASH-DOWN OPERATIONS ARE COMPLETED AND AFTER THE WASH-DOWN WATER HAS SOAKED INTO THE GROUND, THE PIT SHALL BE FILLED IN, AND THE GROUND ABOVE IT SHALL BE GRADED TO MATCH THE ELEVATION OF THE SURROUNDING AREAS. ALTERNATE WASH-DOWN PLANS MUST BE APPROVED BY THE PROJECT ENGINEER.

WASH-DOWN PLANS DESCRIBE PROCEDURES THAT PREVENT WASH-DOWN WATER FROM ENTERING STREAMS AND RIVERS. NEVER DISPOSE OF WASH-DOWN WATER DOWN A STORM DRAIN. ESTABLISH A WASH-DOWN PIT THAT INCLUDES THE FOLLOWING: (1) A LOCATION AWAY FROM ANY STORM DRAIN, STREAM, OR RIVER, (2) ACCESS TO THE VEHICLE BEING USED FOR WASH DOWN, (3) SUFFICIENT VOLUME FOR WASH-DOWN WATER, AND (4) PERMISSION TO USE THE AREA FOR WASH DOWN.

ON SITES WHERE PERMISSION OR ACCESS TO EXCAVATE A WASH-DOWN PIT IS UNAVAILABLE, THE CONTRACTOR MAY HAVE TO WASH-DOWN INTO A SEALABLE 55-GALLON DRUM OR OTHER SUITABLE CONTAINER AND THEN TRANSPORT THE CONTAINER TO A PROPER DISPOSAL SITE. FOR ADDITIONAL INFORMATION, REFER TO THE GEORGIA SMALL BUSINESS ENVIRONMENTAL ASSISTANCE PROGRAM'S "A GUIDE FOR READY MIX CHUTE/HOPPER WASH-DOWN".

NATURE OF CONSTRUCTION ACTIVITY
THE NATURE OF THE CONSTRUCTION ACTIVITY CONSISTS OF EXCAVATION AND FILL OF EARTHEN MATERIAL FOR CONSTRUCTION OF A ROADWAY, STORM WATER DRAINAGE SYSTEMS, AND OTHER UTILITIES. THE SITE SHALL BE CLEARED OF VEGETATION AND EXISTING STRUCTURES ENCROACHING WITHIN THE LIMITS OF CONSTRUCTION.

STRUCTURAL BMP CONSTRUCTION, MAINTENANCE, AND REMOVAL SHALL COMPLY WITH GDOT SPECIAL PROVISIONS 161, 163, 165, AND 171. ADDITIONAL MEASURES REQUIRED BY THE ENGINEER AND/OR THE ON-SITE INSPECTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

MATTING BLANKET INSTALLATION SHALL COMPLY WITH GDOT STANDARD SPECIFICATION 716.

POLYACRYLAMIDE SHALL BE APPLIED PER GDOT SPECIAL PROVISION 895.

POST-CONSTRUCTION BEST MANAGEMENT PRACTICES:

ALL PERMANENT, POST-CONSTRUCTION BMP'S ARE SHOWN IN THE CONSTRUCTION PLANS AND IN THE ESPCP PLAN. THE POST-CONSTRUCTION BMP'S FOR THIS PROJECT CONSIST OF PERMANENT GRASSING.

SITE RUNOFF COEFFICIENT:
BEFORE CONSTRUCTION - CN = 74 SCS RUNOFF COEFFICIENT
AFTER CONSTRUCTION - CN = 74 SCS RUNOFF COEFFICIENT

SOIL SERIES INFORMATION:

THE FOLLOWING IS A SUMMARY OF THE SOILS THAT ARE EXPECTED TO BE FOUND ON THE PROJECT SITE:

SYMBOL	SOIL NAME	HYDROLOGIC SOIL GROUP
CuC	CECIL-URBAN LAND COMPLEX	B
PfC	PACOLET SANDY LOAM	B
PuE	PACOLET-URBAN LAND COMPLEX	B
Ud	URBAN LAND	N/A

CERTIFICATION STATEMENTS:

"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 DIRECT SUPERVISION."

04-06-17
JUAN E. ACOSTA, P.E. GSWCC LEVEL II CERT. NO. 7281 DATE
EXPIRES: 02/20/2018

EROSION AND SEDIMENTATION CONTROL SYMBOLS

Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
Ds4	DISTURBED AREA STABILIZATION (WITH SODDING)
Du	DUST CONTROL ON DISTURBED AREAS
Ss	SLOPE STABILIZATION
Ss-R	SLOPE STABILIZATION-ROLLED
Tac	TACKIFIERS
Cd	CHECK DAM
Cd-S	STONE CHECK DAM
Cd-Hb	STRAW-BALE CHECK DAM
Cd-Fs	COMPOST FILTER SOCK
Ch	CHANNEL STABILIZATION
Ch-1	CHANNEL STABILIZATION - CATEGORY 1
Ch-2	CHANNEL STABILIZATION - CATEGORY 2
Ch-3	CHANNEL STABILIZATION - CATEGORY 3
Co	CONSTRUCTION EXIT
Cr	CONSTRUCTION ROAD STABILIZATION
Dc	STREAM DIVERSION CHANNEL
Dc-A	STREAM DIVERSION CHANNEL
Tc	TURBIDITY CURTAIN
Tc-F	FLOATING TURBIDITY CURTAINS
Tc-S	STAKED TURBIDITY CURTAINS
Tp	TOPSOILING
Tr	TREE PROTECTION
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL
Dc-B	STREAM DIVERSION CHANNEL
Dc-C	STREAM DIVERSION CHANNEL
Di	DIVERSION
Dn1	TEMPORARY DOWNDRAIN STRUCTURE
Dn2	PERMANENT DOWNDRAIN STRUCTURE
Fr	FILTER RING
Ga	GABION
Gr	GRADE STABILIZATION STRUCTURE
Lv	LEVEL SPREADER
Rd	ROCK FILTER DAM
Re	RETAINING WALL
Sd1	SEDIMENT BARRIER
Sd1-S	TYPE S SEDIMENT BARRIER (SENSITIVE)
Sd1-NS	TYPE NS SEDIMENT BARRIER (NON-SENSITIVE)
Sd1-BB	BRUSH BARRIER
Sd2	INLET SEDIMENT TRAP
Sd2-B	BAFFLE BOX
Sd2-Bg	BLOCK AND GRAVEL DROP INLET PROTECTION
Sd2-F	FILTER FABRIC WITH SUPPORTING FRAME
Sd2-G	GRAVEL DROP INLET PROTECTION
Sd2-P	CURB INLET PROTECTION
Sd2-S	SOD INLET PROTECTION
Sd3	TEMPORARY SEDIMENT BASIN
Sd4	TEMPORARY SEDIMENT TRAP
Sk	FILTER SURFACE SKIMMER
St	STORM DRAIN OUTLET PROTECTION
Su	SURFACE ROUGHENING

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EROSION, SEDIMENTATION AND POLLUTION CONTROL NOTES

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I
CITY OF BROOKHAVEN, GEORGIA

REV	DR	CHK	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

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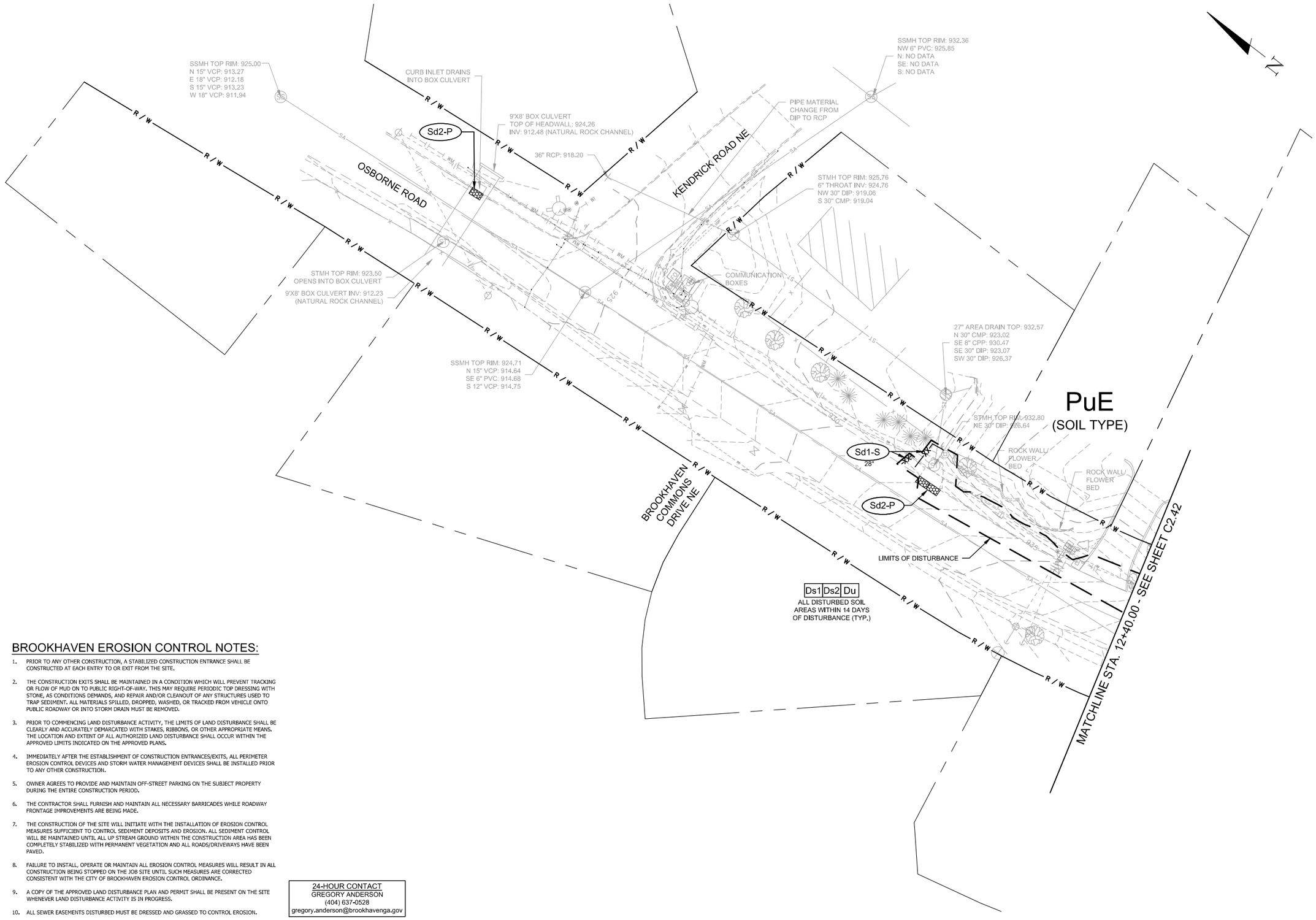

BROOKHAVEN EROSION CONTROL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE.
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
4. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
5. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
6. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
7. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
8. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED CONSISTENT WITH THE CITY OF BROOKHAVEN EROSION CONTROL ORDINANCE.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.

24-HOUR CONTACT
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EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN - INITIAL PHASE

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR	CHK	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

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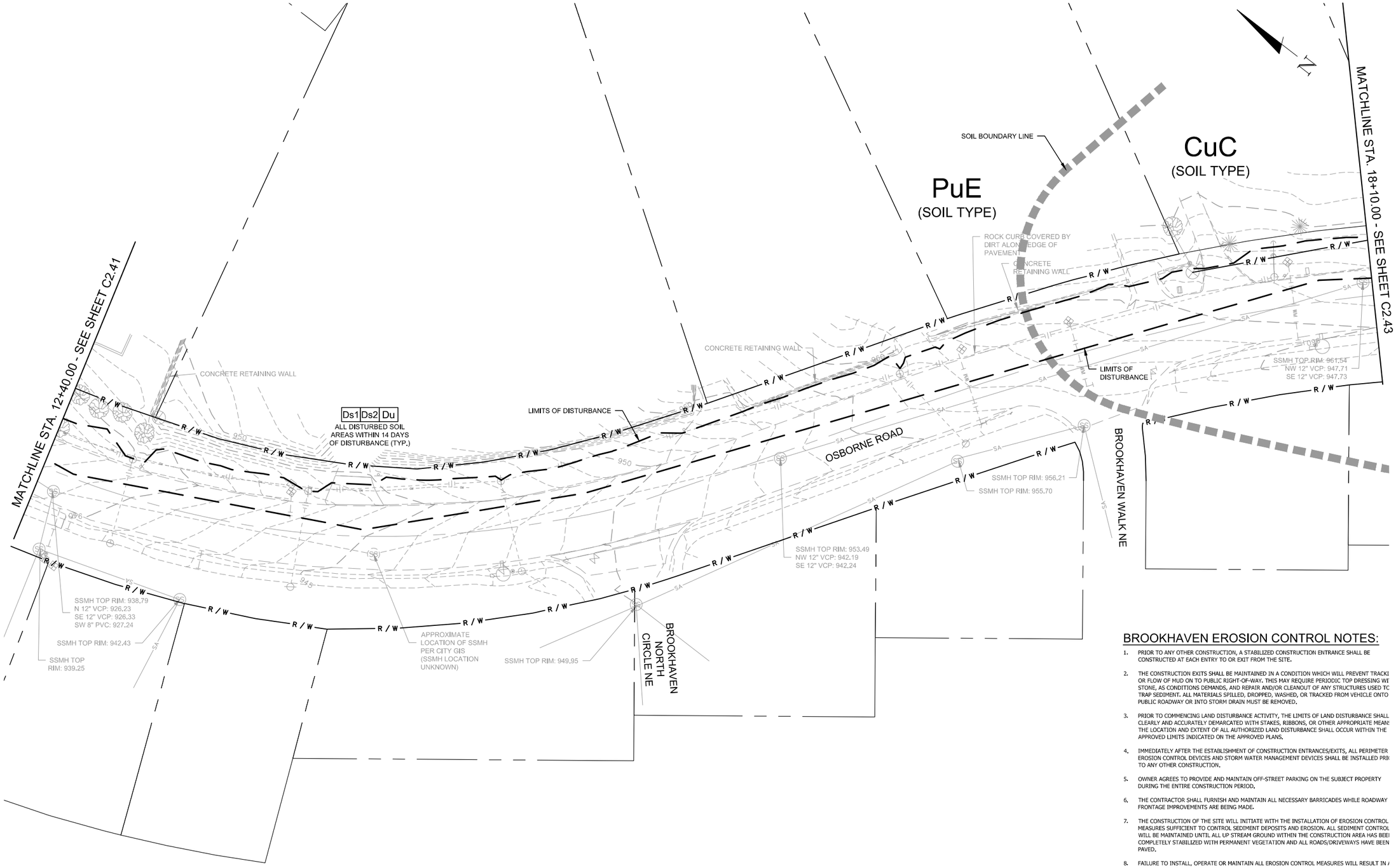

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SCALE: 1 INCH = 20 FEET

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EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN - INITIAL PHASE

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

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FILE NO. 3611500

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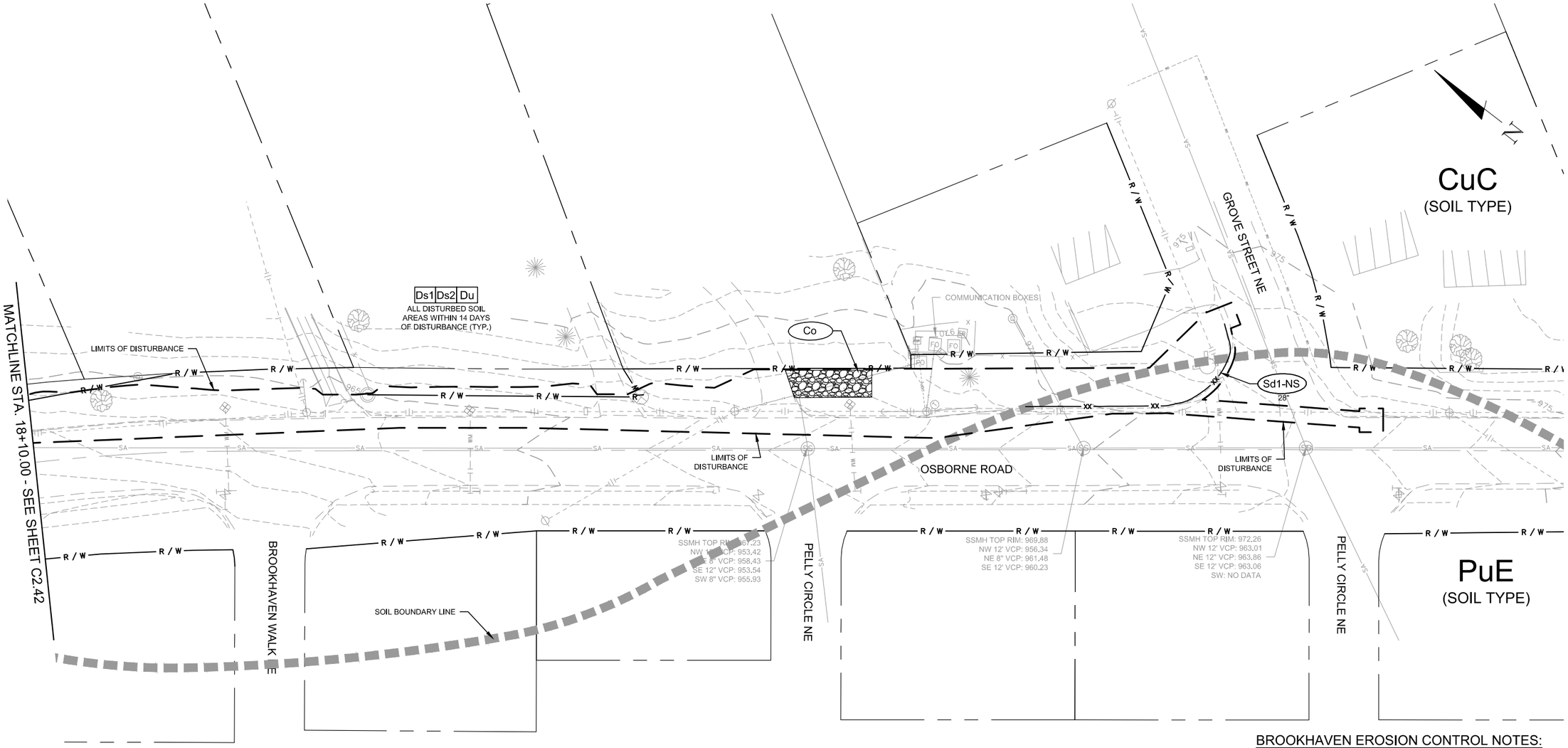

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OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
0	JEA	JM	04-06-2017	INITIAL SUBMITTAL

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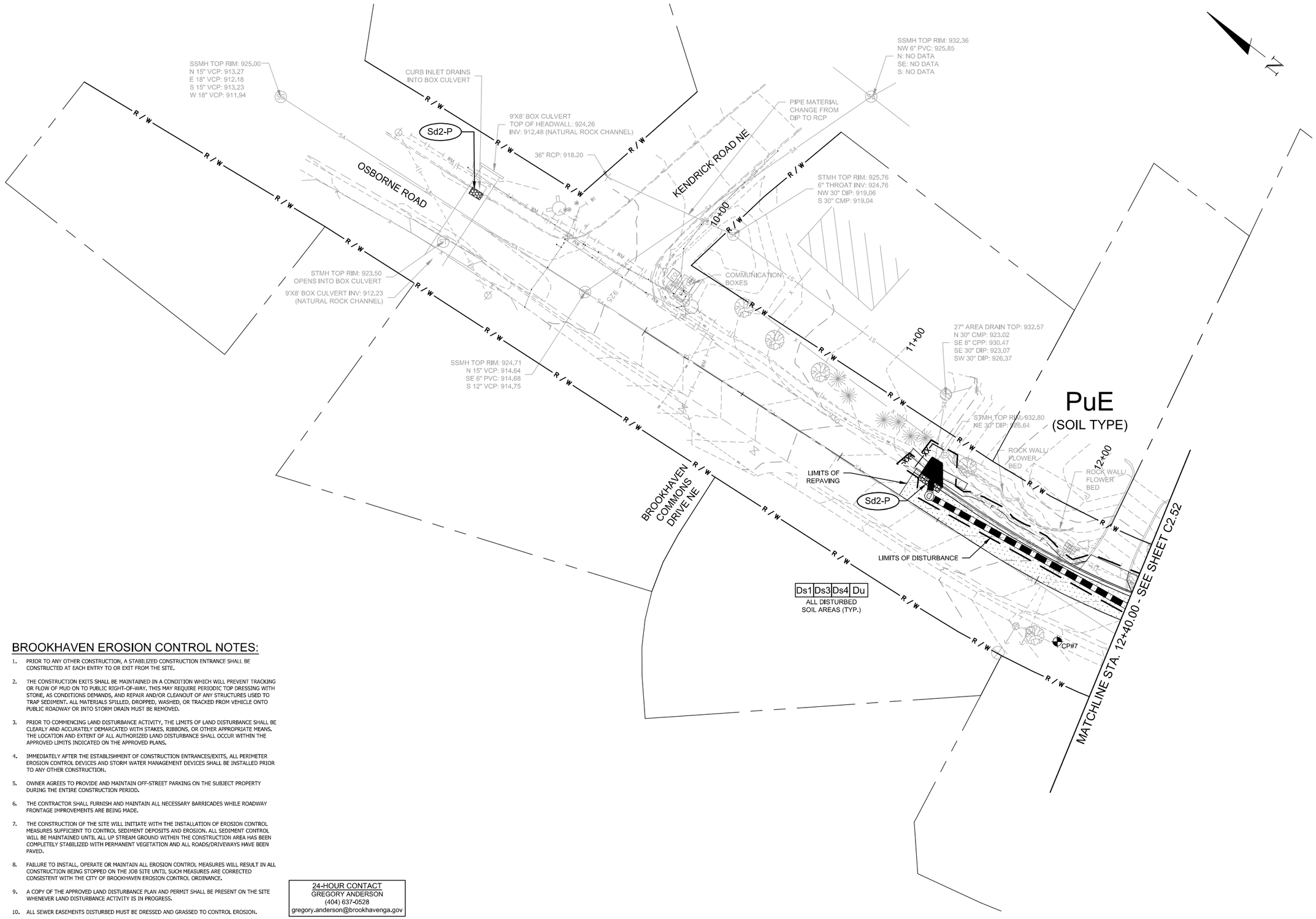

BROOKHAVEN EROSION CONTROL NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE.
2. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMANDS, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
4. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
5. OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
6. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
7. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UP STREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
8. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED CONSISTENT WITH THE CITY OF BROOKHAVEN EROSION CONTROL ORDINANCE.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.
10. ALL SEWER EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION.

24-HOUR CONTACT
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EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN - INTERMEDIATE & FINAL PHASE

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

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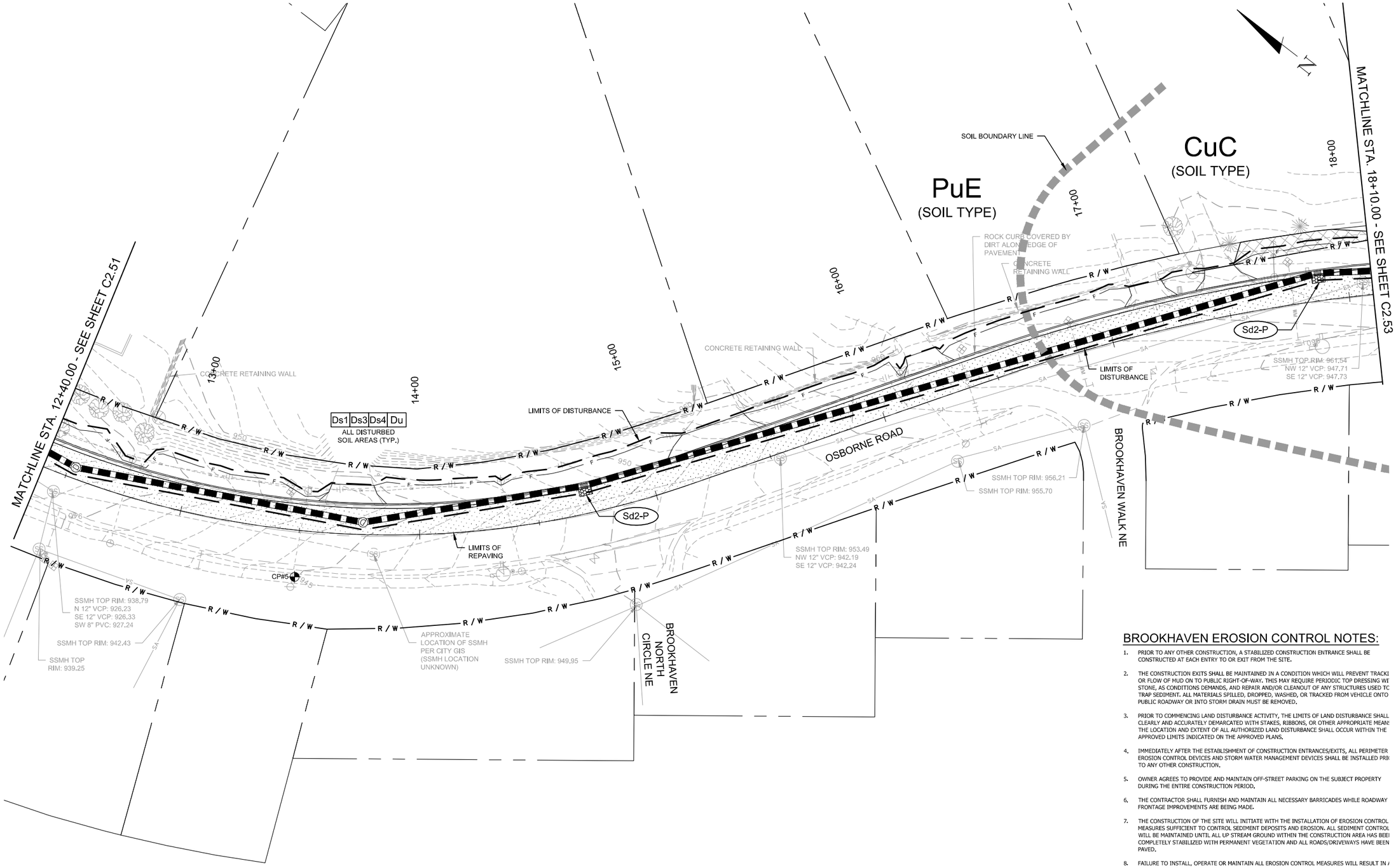

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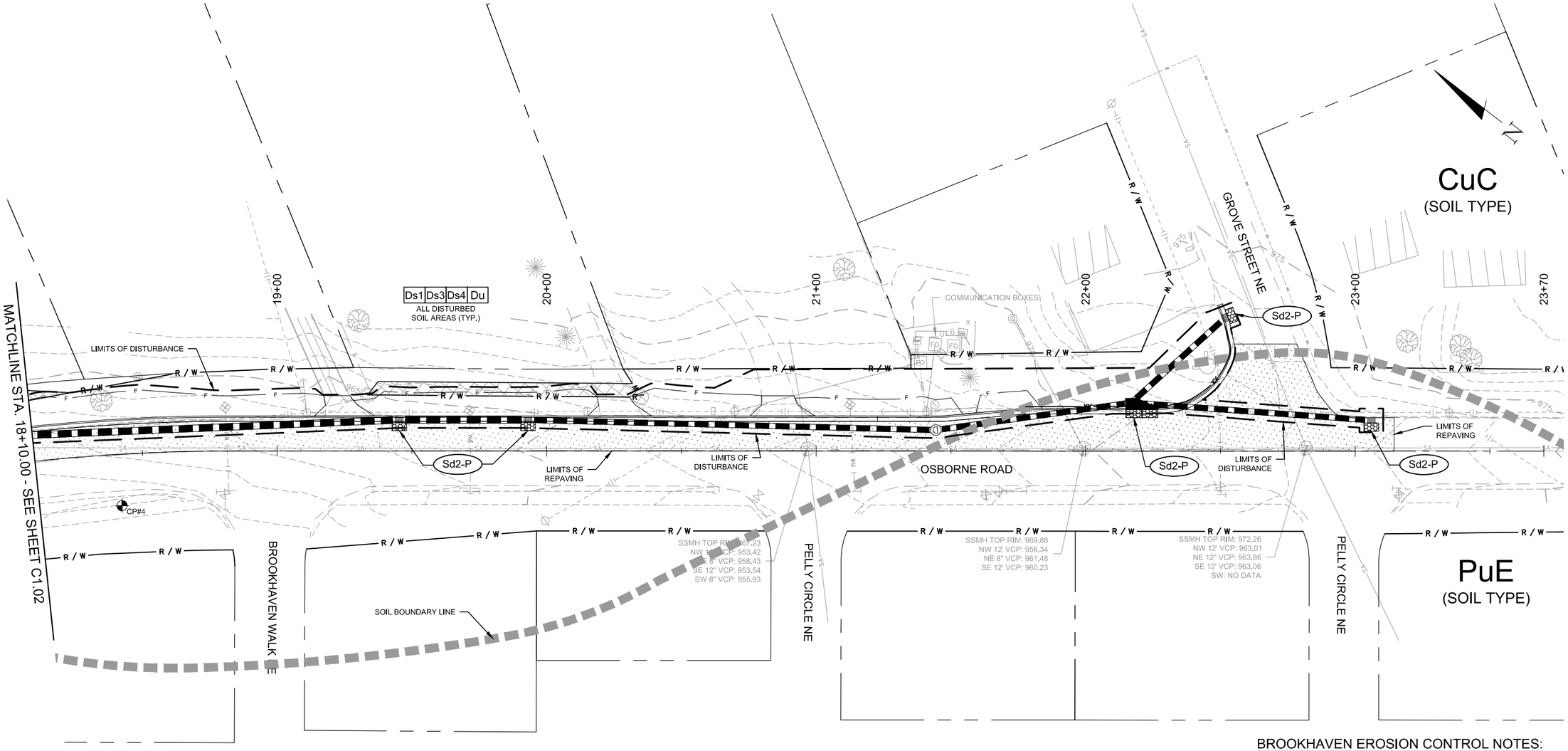

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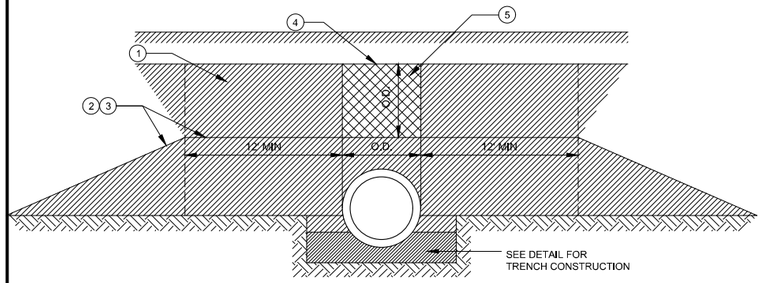
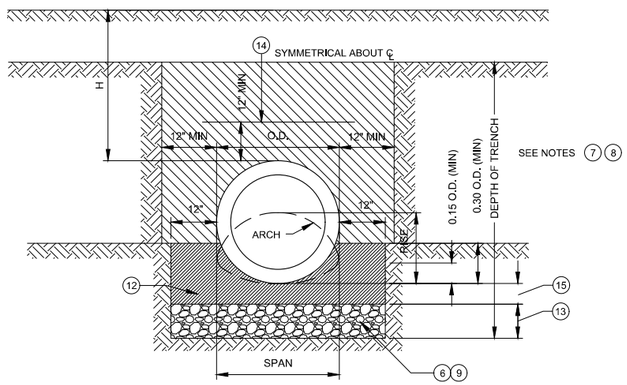
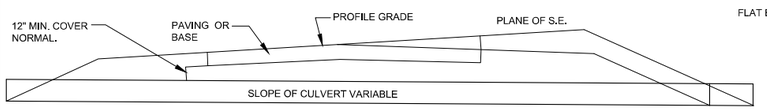


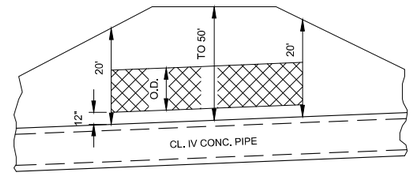
LONGITUDINAL SECTION OF IMPERFECT TRENCH BACKFILL AND BACKFILL METHODS



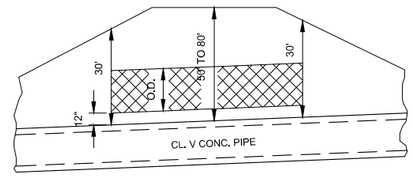
TRENCH CONSTRUCTION FOR STORM DRAIN



DETAIL SHOWING MINIMUM COVER FOR PIPE CULVERTS



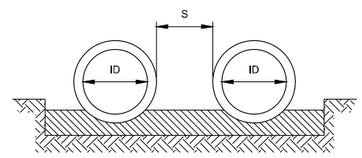
DETAIL "A"



DETAIL "B"

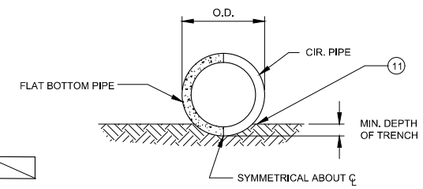
CROSS HATCHED AREA SHOW LIMITS OF CONSTRUCTION & MEASUREMENT FOR STRUCTURE EXCAVATION & IMPERFECT TRENCH BACKFILL MATERIAL, TYPE III

CROSS SECTIONS OF IMPERFECT TRENCH BACKFILL



S=1 INSIDE DIAMETER OF PIPE OR 3', WHICHEVER IS SMALLER. FOR PIPE-ARCH CULVERTS, SUBSTITUTE SPAN FOR INSIDE FOR INSIDE DIAMETER.

MULTIPLE PIPE CULVERT SPACING

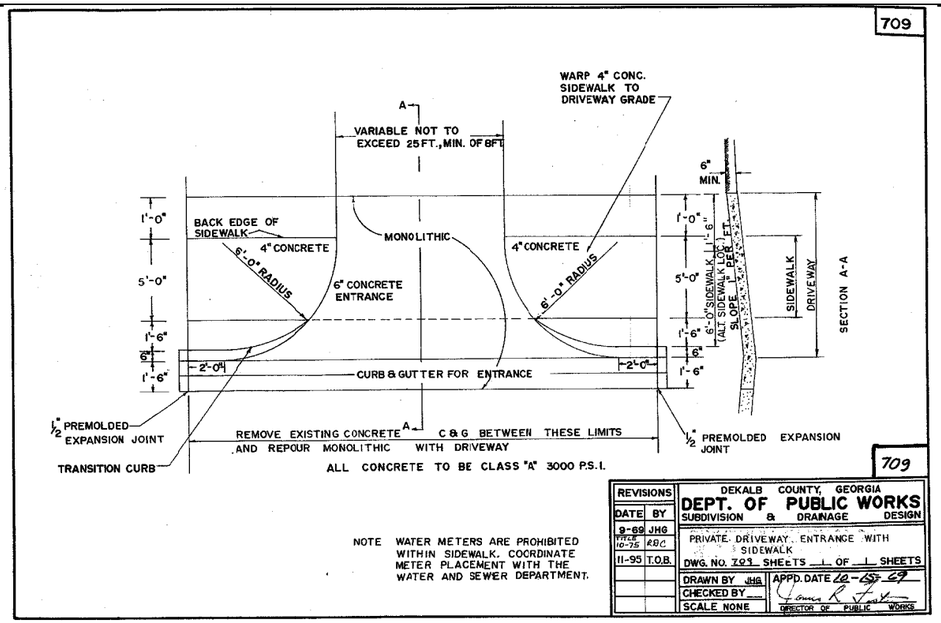


TRENCH CONSTRUCTION FOR LONGITUDINAL OR SIDE DRAIN

NOTES:

1. BACKFILL, AS SHOWN BY DENSELY HATCHED SECTIONS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH TRENCH EXCAVATION AND BACKFILL SPECIFICATIONS.
2. NORMAL EMBANKMENT SHALL BE PLACED A MIN. OF 12' WIDE ON EACH SIDE OF THE PIPE AND AT LEAST THE MIN. COVER OVER THE PIPE AND COMPACTED TO THE REQ'D DENSITY BEFORE EQUIPMENT IS ALLOWED TO CROSS.
3. AFTER BACKFILL HAS BEEN COMPACTED, THE BALANCE OF THE FILL UP TO THE GRADE LINE SHALL BE CONSTRUCTED IN ACCORDANCE WITH EMBANKMENT SPECIFICATIONS.
4. EMBANKMENT TO BE PLACED TO THIS ELEVATION BEFORE TRENCH FOR IMPERFECT BACKFILL IS EXCAVATED.
5. IMPERFECT BACKFILL SHALL BE USED WITH CONCRETE PIPE WHERE SPECIFIED ON THE DRAWINGS.
6. FOUNDATION BACKFILL MATERIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH TRENCH EXCAVATION AND BACKFILL SPECIFICATIONS.
7. PIPE SHALL BE BEDDED IN A FOUNDATION SHAPED TO FIT THE LOWER PART OF THE PIPE EXTERIOR.
8. BELL HOLES SHALL BE PROVIDED IN BEDDING IF PIPE HAS BELL AND SPIGOT JOINTS.
9. WHEN AN INCOMPRESSIBLE FOUNDATION EXISTS, EXCAVATE AN ADDITIONAL 6" WHERE AN UNSTABLE FOUNDATION MATERIAL IS ENCOUNTERED. EXCAVATED ON ADDITIONAL DEPTH AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER.
10. FOR MULTIPLE LINES OF CORRUGATED METAL PIPE WITH METAL FLARED END SECTIONS MAY BE INCREASED ENOUGH TO AVOID OVERLAP OF END SECTION WINGTIPS. LOCATION OF METAL END SECTION SHOULD BE DETERMINED BEFORE PLACEMENT OF PIPE.
11. THE PIPE SHALL BE ADDED TO LINE AND GRADE IN A FIRM FOUNDATION SHAPED TO FIT THE LOWER PART OF THE PIPE EXTERIOR, WHERE ROCK EXISTS. EXCAVATE AND BACKFILL WITH COMPRESSABLE MATERIAL (UNCLASSIFIED EXCAVATION) A MIN. OF 6" INCH BELOW THE PIPE.
12. CLASS C BEDDING AND HAUNCHING UNLESS SPECIFIED OTHERWISE ELSEWHERE ON THE DRAWINGS.
13. FOUNDATION BACKFILL MATERIAL WHERE SPECIFIED ON THE DRAWINGS.
14. MINIMUM COVER TO BE 12 INCHES OR 1/2 INSIDE DIAMETER OF THE PIPE, WHICHEVER IS GREATER, WHERE USED UNDER ROADWAYS.
15. 8" FOR PIPE WITH I.D. </= 21" AND 12" FOR PIPE WITH I.D. > 21".

1 C7.01 STORM DRAIN TRENCH DETAILS
N.T.S.



2 C7.01 PRIVATE DRIVEWAY ENTRANCE
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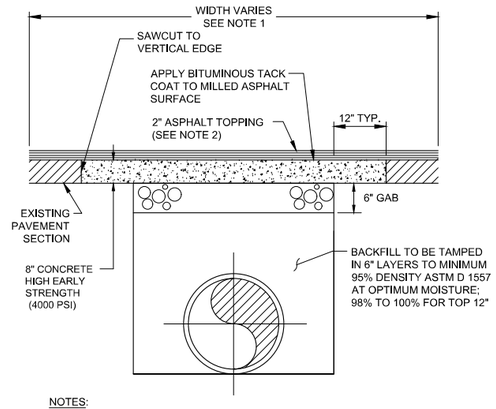
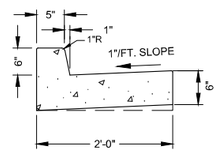


NOTES:

1. MILL AND INLAY TO THE LIMITS INDICATED ON THE DRAWINGS.
2. TOPPING COURSE SHALL BE 9.5 MM

3 C7.01 ASPHALT PAVEMENT REPLACEMENT
N.T.S.



4 C7.01 CONCRETE CURB AND GUTTER
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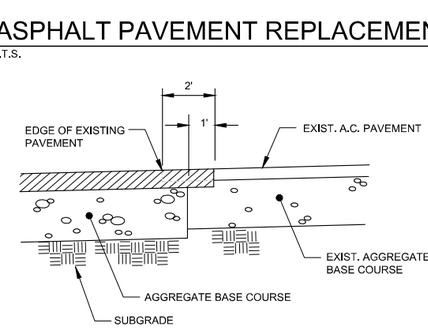

5 C7.01 ASPHALT PAVEMENT CONNECTION
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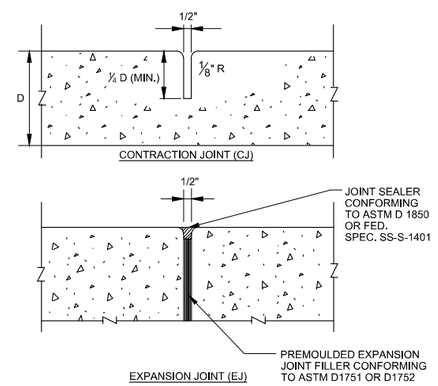

6 C7.01 CONTRACTION/ EXPANSION JOINTS
N.T.S.

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DETAILS

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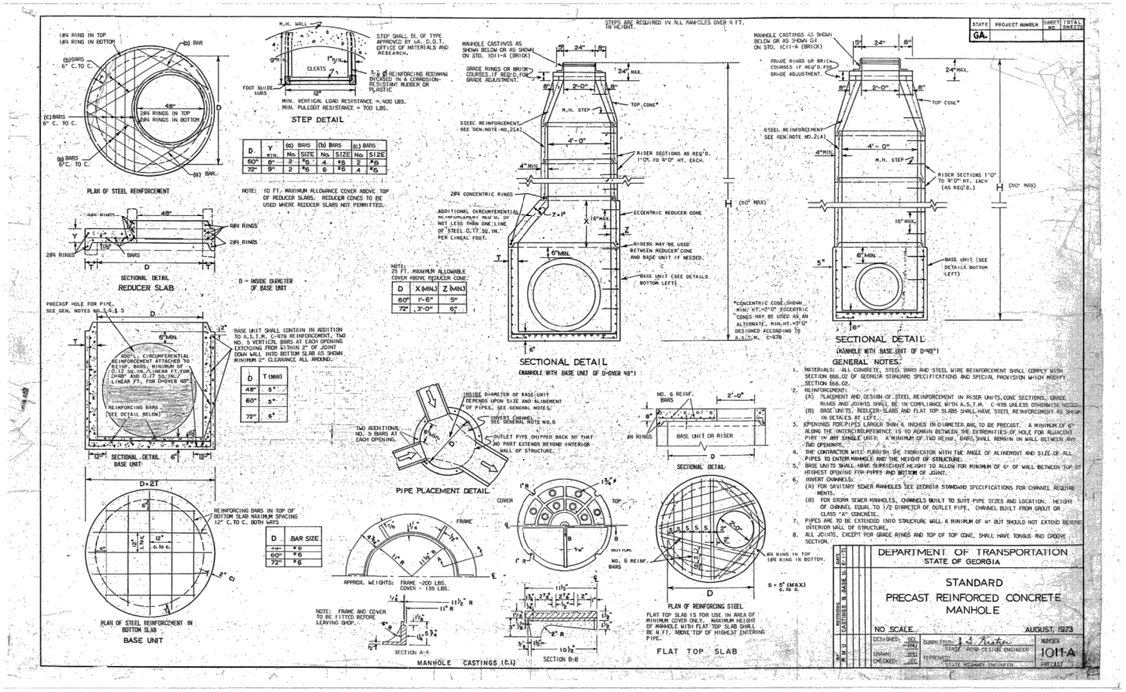

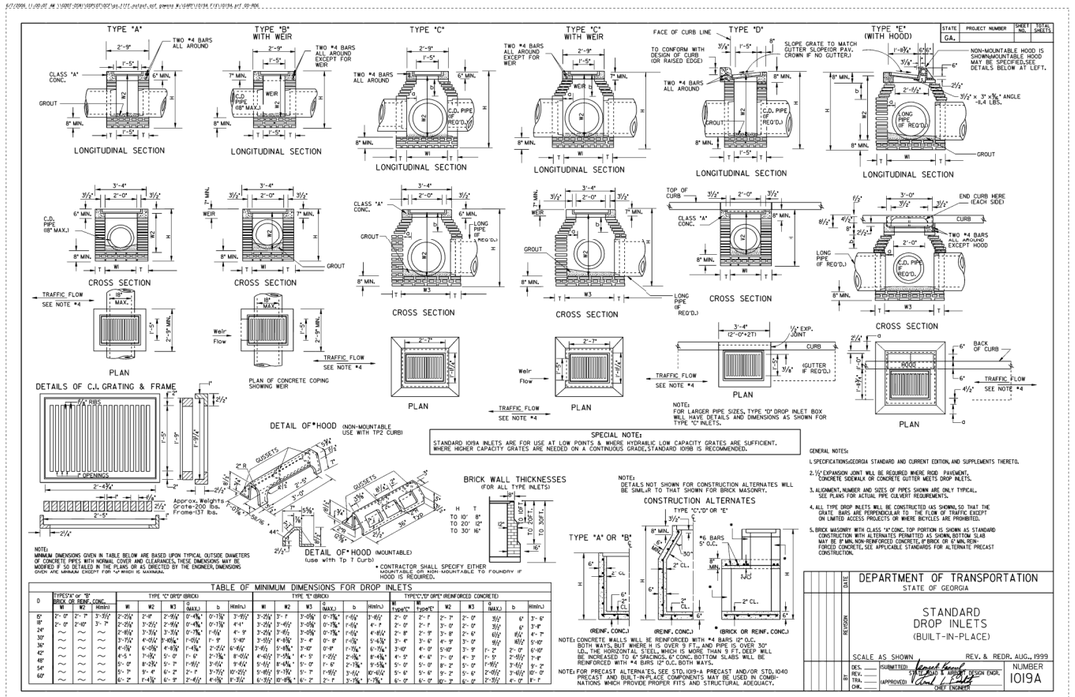

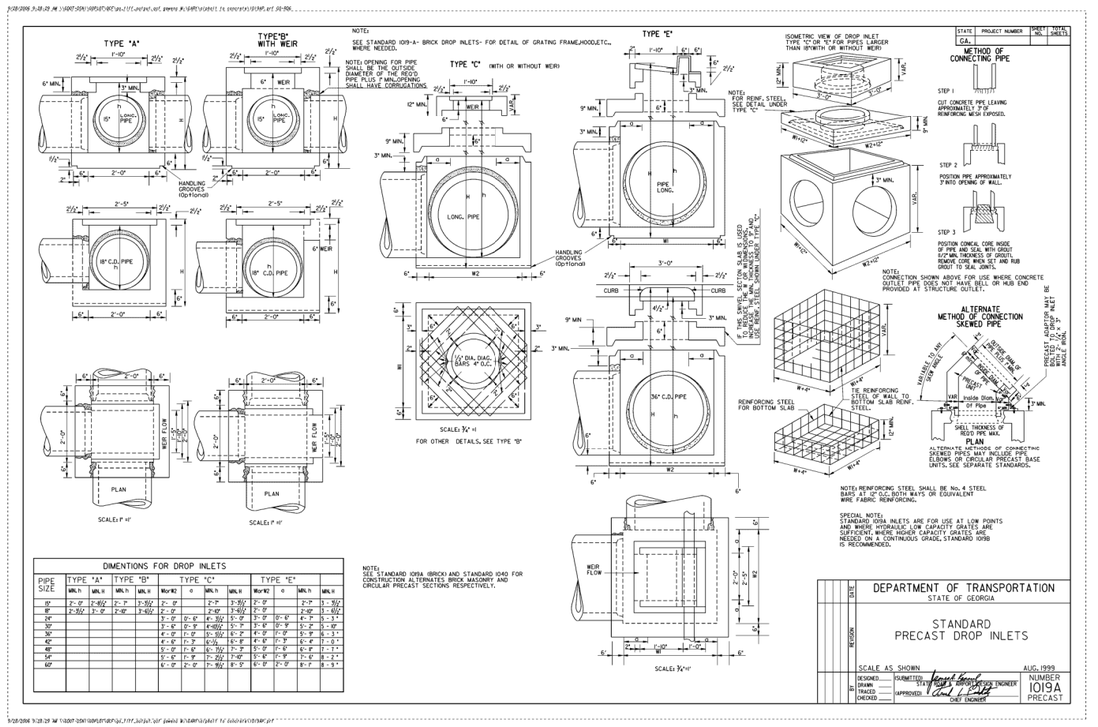

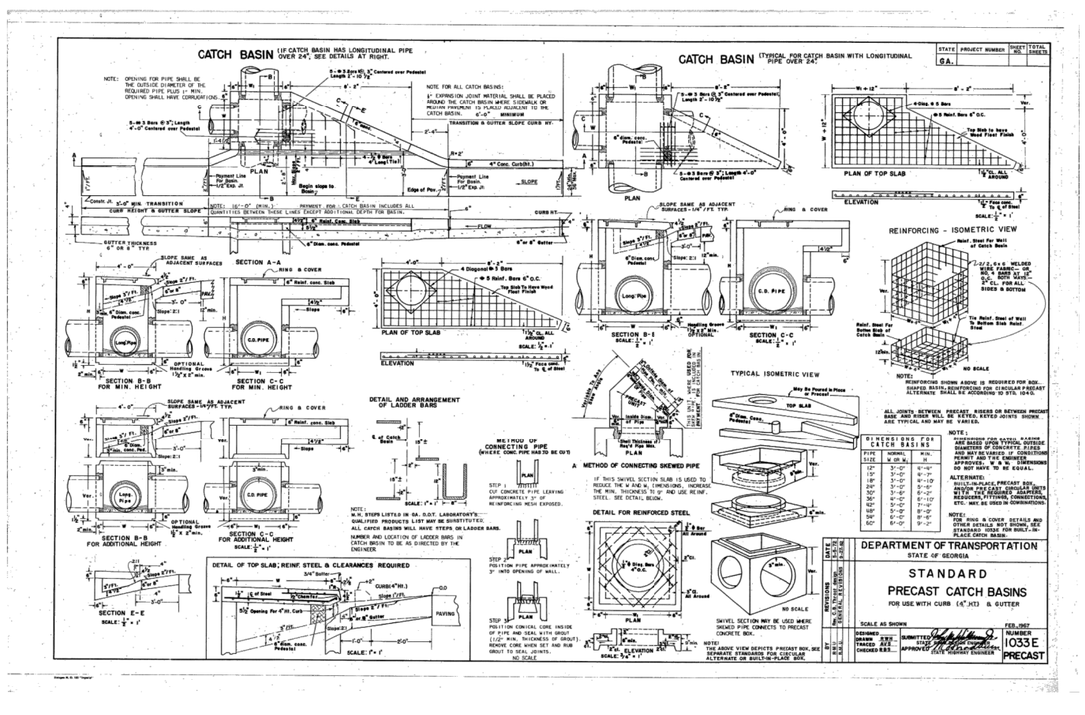

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SPECIFICATIONS:

TEMPORARY METHODS

1. MULCHES - SEE STANDARD Ds1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIALS. REFER TO SPECIFICATION Tac - TACHIFIERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURES RECOMMENDATIONS.
2. VEGETATIVE COVER - SEE SPECIFICATION Ds2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
3. SPRAY-ON ADHESIVES - USE ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREA. REFER TO SPECIFICATION Tac - TACKIFIERS.
4. TILLAGE - USE AS AN EMERGENCY METHOD BEFORE WIND EROSION BEGINS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE APPROPRIATE EQUIPMENT TO PRODUCE DESIRED EFFECT.
5. IRRIGATION - USE AS AN EMERGENXY TREATMENT. SPRINKLE SITE WITH WATER UNTIL SURFACE IS WET. REPEAT AS NEEDED.
6. BARRIERS - SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY, AND SIMILAR MATERIALS MAY BE USED TO CONTROL SIR CURRENTS AND SOIL BREWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF APPROXIMATELY 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.
7. CALCIUM CHLORIDE - APPLY AT RATE WHICH KEEPS SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

1. PERMANENT VEGETATION - SEE SPECIFICATION Ds3 - DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVER SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE SPECIFICATION - Tp TOPSOILING.
3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE SPECIFICATION Cr - CONSTRUCTION ROAD STABILIZATION.

Du DUST CONTROL

N.T.S.

SPECIFICATIONS

MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATION TECHNIQUES SHALL BE EMPLOYED. REFER TO Ds2 - DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING), Ds3 - DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING), AND Ds4 - DISTURBED AREA STABILIZATION (WITH SODDING).

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

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

APPLYING MULCH:
MULCHING RATE: MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20-30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH:
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK". DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER-TYPE EQUIPMENT MAY BE ANCHORED. TACKIFIERS, BINDERS, AND HYDRAULIC MULCH WITH TACKIFIER SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION Tac - TACKIFIERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

Ds1 DISTURBED AREA STABILIZATION

MULCHING
N.T.S.

SPECIFICATIONS

GRADING AND SHAPING
- EXCESSIVE WATER RUNOFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS, AND OTHERS.

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

LIME AND FERTILIZER
- AGRICULTURAL LIME IS NOT REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE.
- APPLY AGRICULTURAL LIME AT A RATE DETERMINED BY SOIL TEST FOR pH
- APPLY FERTILIZER BEFORE LAND PREPARATION AND DISK, RIP, OR CHISEL TO INCORPORATE.
- ON SLOPED TO STEEP FOR, OR INACCESSIBLE TO EQUIPMENT, APPLY FERTILIZER HYDRAULICALLY, PREFERABLY IN THE FIRST PASS WITH SEED AND SOME HYDRAULIC MULCH, THEN TOPPED WITH THE REMAINING REQUIRED APPLICATION RATE

SEEDING
- SELECT A GRASS OR GRASS-LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTI-PACKER-SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER-SEEDERS SHOULD NORMALLY PLACE SEED ONE-HALF TO ONE INCH DEEP. IF SEEDED BY HAND, SOIL SHOULD BE 'RAKED' LIGHTLY TO COVER SEED WITH SOIL.

MULCHING
- TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH, PROVIDED THERE IS LITTLE TO NO EROSION POTENTIAL. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. SEE DS1 - DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION
- IF WATER IS APPLIED, IT MUST BE AT A RATE NOT CAUSING RUNOFF AND EROSION. THOROUGHLY WET THE SOIL TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

* REVISED FEB 2014 PER 6TH EDITION OF MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA.

SPECIES	BROADCAST RATES (2) - PLS (3) PER ACRE	BROADCAST RATES (2) - PLS (3) PER 1000 SF	RESOURCE AREA	PLANTING RATES BY RESOURCE AREA PLANTING DATES (▬ OPTIMUM, — PERMISSIBLE BUT MARGINAL) J F M A M J J A S O N D
MILLETT, PEARL (PENNESETUM GLAUCUM)			M-L	
			P	
ALONE	50 LBS	1.1 LB	C	
RYEGRASS, ANNUAL (LOLIUM TEMULENTUM)			M-L	
			P	
ALONE	40 LBS	0,9 LB	C	
SUDANGRASS SORGHUM SUDANESE)			M-L	
			P	
ALONE	60 LBS	1,4 LB	C	
MILLETT, BROWNTOP (PANICUM FASCICULATUM)			M-L	
			P	
ALONE	40 LBS	0,9 LB	C	
IN MIXTURES	10 LBS	0.2 LB		

SPECIES	REMARKS
MILLETT, PEARL (PENNESETUM GLAUCUM)	88,000 SEED PER POUND. QUICK DENSE COVER. MAY REACH 5 FEET IN HEIGHT. NOT RECOMMENDED FOR MIXTURES.
RYEGRASS, ANNUAL (LOLIUM TEMULENTUM)	227,000 SEED PER POUND. DENSE COVER. VERY COMPETITIVE VERY COMPETITIVE AND IS NOT TO BE USED IN MIXTURES
SUDANGRASS (SORGHUM SUDANESE)	55,000 SEED PER POUND. GOOD ON DROUGHTY SITES. NOT RECOMMENDED FOR MIXTURES.
MILLETT, BROWNTOP (PANICUM FASCICULATUM)	137,000 SEED PER POUND. QUICK DENSE COVER. WILL PROVIDE TOO MUCH COMPETITION IN MIXTURES IF SEEDED AT HIGH RATES.

Ds2 DISTURBED AREA STABILIZATION

TEMPORARY SEEDING
N.T.S.

SPECIES	BROADCAST RATES (2) - PLS (3) PER ACRE	BROADCAST RATES (2) - PLS (3) PER 1000 SF	RESOURCE AREA	PLANTING RATES BY RESOURCE AREA PLANTING DATES (▬ OPTIMUM, — PERMISSIBLE BUT MARGINAL) J F M A M J J A S O N D
BERMUDA, COMMON (CYNODON DACTYLON) HULLED SEED			P	
			C	
ALONE	10 LBS	0.2 LB		
WITH OTHER PERENNIALS	6 LBS	0.1 LB		
BERMUDA, COMMON (CYNODON DACTYLON) UNHULLED SEED			P	
			C	
WITH TEMPORARY COVER	10 LBS	0.2 LB		
WITH OTHER PERENNIALS	6 LBS	0.1 LB		
CENTIPEDE (EREMOCHLOA OPHIUROIDES)	BLOCK SOD ONLY		P	
			C	
FESCUE, TALL (FESTUCA ARUNDINACEA)			M-L	
			P	
ALONE	50 LBS	1.1 LB		
WITH OTHER PERENNIALS	30 LBS	0.7 LB		
LESPEDEZA, SERICEA (LESPEDEZA CUNEATA)				
SCARIFIED	60 LBS	1.4 LB	M-L	
			P	
			C	
UNSCARIFIED	75 LBS	1.7 LB	M-L	
			P	
			C	
SEED-BEARING HAY	3 TONS	138 LB	M-L	
			P	
			C	
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA)			M-L	
			P	
			C	
ALONE	4 LBS	0.1 LB		
WITH OTHER PERENNIALS	2 LBS	0.05 LB		

SPECIES	REMARKS
BERMUDA, COMMON (CYNODON DACTYLON) HULLED SEED	1,787,000 SEED PER POUND. QUICK COVER. LOW GROWING AND SOD FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
BERMUDA, COMMON (CYNODON DACTYLON) UNHULLED SEED	PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE.
CENTIPEDE (EREMOCHLOA OPHIUROIDES)	DROUGHT TOLERANT. FULL SUN OR PARTIAL SHADE. EFFECTIVE ADJACENTTO CONCRETE AND IN CONCENTRATED FLOW AREAS. IRRIGATION AS NEEDED UNTIL FULLY ESTABLISHED. DO NOT PLANT NEAR PASTURES. WINTERHARDY AS FAR NORTH AS ATHENS AND ATLANTA.
FESCUE, TALL (FESTUCA ARUNDINACEA)	227,000 SEED PER POUND. USE ALONE ONLY ON BETTER SITES. NOT FOR DROUGHTY SOILS. MIX WITH PERENNIAL LESPEDEZAS OR CROWNVETCH. APPLY TOPDRESSING IN SPRING FOLLOWING FALL PLANTINGS. NOT FOR HEAVY USE AREAS OR ATHLETIC FIELDS.
LESPEDEZA, SERICEA (LESPEDEZA CUNEATA)	
SCARIFIED	350,000 SEED PER POUND, WIDELY ADAPTED, LOW MAINTENANCE. MIX WITH WEEPING LOVEGRASS, COMMON BERMUDA, BAHIA, OR TALL FESCUE. TAKES 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED. EXCELLENT ON ROAD BANKS. INOCULATE SEED WITH EL INOCULANT.
UNSCARIFIED	MIX WITH TALL FESCUE OR WINTER ANNUALS.
SEED-BEARING HAY	CUT WHEN SEED IS MATURE. BUT BEFORE IT SHATTERS. TALL FESCUE OR WINTER ANNUALS.
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA)	1,500,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS.

Ds3 DISTURBED AREA STABILIZATION

WITH SEEDING
N.T.S.

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST	6-12-12	1500 LBS./AC.	50-100 LBS./AC. 1/
	SECOND	6-12-12	1000 LBS./AC.	2/
	MAINTENANCE	10-10-10	400 LBS./AC.	-
				30
2. COOL SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500 LBS./AC.	0-50 LBS./AC. 1/
	SECOND	0-10-10	1000 LBS./AC.	-
	MAINTENANCE	0-10-10	400 LBS./AC.	-
3. GROUND COVERS	FIRST	10-10-10	1300 LBS./AC.3/	-
	SECOND	10-10-10	1300 LBS./AC.3/	-
	MAINTENANCE	10-10-10	1100 LBS./AC.	-
4. PINE SEEDLINGS	FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	-
5. SHRUB LESPEDEZA	FIRST	0-10-10	700 LBS./AC.	-
	MAINTENANCE	0-10-10	700 LBS./AC. 4/	
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500 LBS./AC.	30 LBS./AC. 5/
7. WARM SEASON GRASSES	FIRST	6-12-12	1500 LBS./AC.	50-100 LBS./AC. 2/
	SECOND	6-12-12	800 LBS./AC.	6/
	MAINTENANCE	10-10-10	400 LBS./AC.	50-100 LBS./AC. 2/
				30 LBS./AC.
8. WARM SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500 LBS./AC.	50 LBS./AC. 6/
	SECOND	0-10-10	1000 LBS./AC.	
	MAINTENANCE	0-10-10	400 LBS./AC.	

FERTILIZER REQUIREMENTS

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

SPECIFICATION:

A. GRADING & SHAPING
- GRADING AND SHAPING IS NOT NORMALLY REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.

B. SEEDBED PREPARATION
- SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED.
- WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:
  BROADCAST PLANTING:
  TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPATION;INCORPORATE LIME AND FERTILIZER; SMOOTH AND FIRM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.

C. LIME AND FERTILIZER - RATES AND ANALYSIS
1. WHERE PERMANENT VEGETATION IS TO BE ESTABLISHED, AGRICULTURAL LIME SHALL BE APPLIED AS INDICATED BY SOIL TEST OR AT THE RATE OF 1 TO 2 TONS PER ACRE. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.
2. LIME SPREAD BY CONVENTIONAL EQUIPMENT WILL BE "GROUND LIMESTONE". GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THT 90 PERCENT OF THE MATERIAL WILL PASS THROUGH A 10-MESH SIEVE AND NOT LESS THAN 25 PERCENT WILL PASS THROUGH A 100-MESH SIEVE.
3. AGRICULTURAL LIME SPREAD BY HYDRAULIC SEEDING EQUIPMENT WILL BE "FINELY GROUND LIMESTONE." FINELY GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 98 PERCENT OF THE MATERIAL WILL PASS THROUGH A 20-MESH SIEVE AND NOT LESS THAN 70 PERCENT WILL PASS THROUGH A 100-MESH SIEVE.

D. LIME AND FERTILIZER - APPLICATION
1. WHEN HYDRAULIC SEEDING EQUIPMENT IS USED:
   THE INITIAL FERTILIZER WILL BE MIXED WITH SEED, INOCULANT (IF NEEDED) AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE SLURRY WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER. FINELY GROUND LIMESTONE WILL BE MIXED WITH WATER AND APPLIED IMMEDIATELY AFTER MULCHING IS COMPLETED OR IN COMBINATION WITH THE TOP DRESSING.
2. WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER WILL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS:
   A. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION; OR,
   B. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS; OR,
   C. BROADCAST AFTER STEEP SURFACES AND SCARIFIED, PITTED OR TRENCHED.
   D. A FERTILIZER PELLET WILL BE PLACED AT ROOT DEPTH.

* REVISED 7/01 PER 5TH EDITION OF MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA.

Ds3 DISTURBED AREA STABILIZATION

WITH SEEDING
N.T.S.

BWSC BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy, Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 515-9411

EROSION, SEDIMENTATION AND POLLUTION CONTROL DETAILS

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR	CHK	DATE	DESCRIPTION
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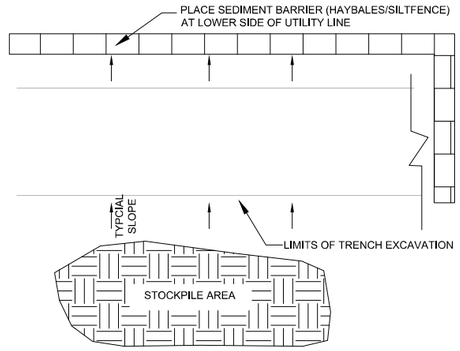
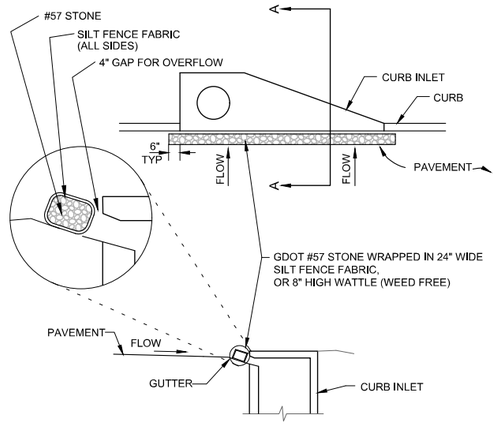


NOTES:
1. BACKFILL OF THE EXCAVATED AREA SHALL OCCUR NOT MORE THAN 72 HOURS AFTER START.
2. ASPHALT PAVING SHALL OCCUR IMMEDIATELY AFTER BACKFILLING.
3. FOR STOCKPILE AREAS OUTSIDE OF PAVED AREAS, PROVIDE SILT FENCE (Sd1-S) AROUND STOCKPILE.

TYPICAL UNDERGROUND UTILITY CONSTRUCTION STAGING

Sd1-Hb N.T.S.

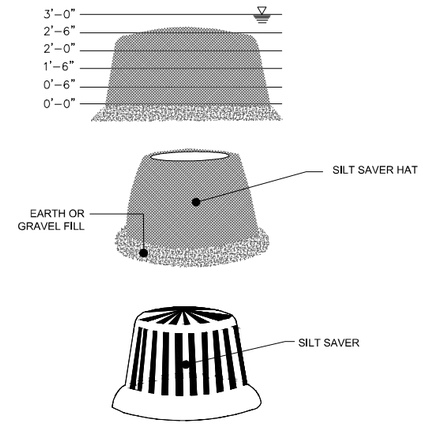


SECTION A - A

NOTE:
Sd2-P SHALL BE USED ON ALL INLETS AFTER BASE PAVING IS ESTABLISHED, AND SHALL BE REMOVED ONCE CONSTRUCTION ACTIVITIES HAVE CEASED, AND FINAL STABILIZATION IS ACHIEVED

CURB INLET FILTER

Sd2-P N.T.S.



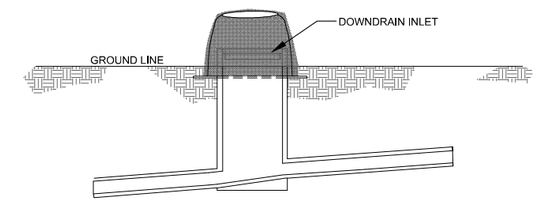
NOTE:
TO BE CONVERTED TO Sd2-P ON ALL ROAD INLETS AFTER BASE PAVING IS ESTABLISHED

SILT SAVER (SS-100A) FRAME & FILTER DISCHARGE ANALYSIS

ORIFICE ONLY FLOW CALCULATIONS

OPENING	FILTER	FILTER	FRAME	FILTERED	
HEAD (ft)	AREA (sf)	AREA (sf)	FLOW (cfs)	FLOW (cfs)	FLOW (cfs)
0.5	2.1	6.0	2.0	7.0	2.0
1.0	3.9	12.0	3.0	19.0	3.0
1.5	7.0	18.0	5.0	41.0	5.0
2.0	8.0	24.0	7.0	54.0	7.0
2.5	9.2	30.0	9.0	70.0	9.0
3.0	9.2			77.0	77.0

NOTES:
1. DUE TO NARROW SLOT, A TRANSITION WILL OCCUR BETWEEN WEIR AND ORIFICE CONDITIONS.
2. ORIFICE FLOW WILL PROVIDE A MORE CONSERVATIVE ESTIMATE OF FLOW, THEREFORE THE LESSER OF THE ORIFICE AND WEIR FLOWS WILL BE USED FOR EACH STAGE CALCULATION.
3. FILTER MATERIAL ALLOWS 129 gpm/sf OR 0.29 cfs/SF
   ORIFICE EQUATION (O)=Q=0.6A(2gh)^0.5
   P= FEET PERIMETER — Q= CAPACITY IN CFS
   h= HEAD IN FEET — A= FREE OPEN AREA OF FRAME
   g= 32.2 FEET PER SECOND PER SECOND

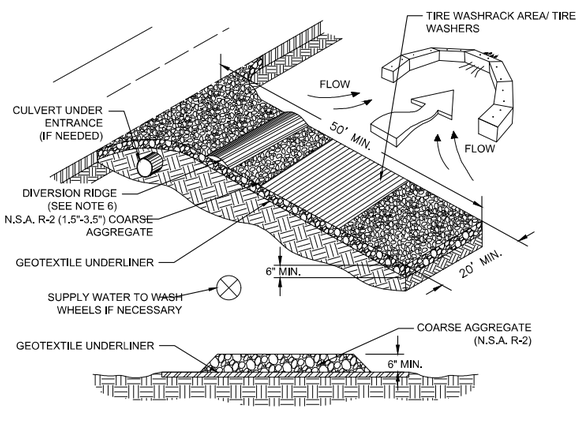


SILT SAVER (NON-EXCAVATED) SEDIMENT TRAP DETAIL

Sd2-Alt N.T.S.

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. 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.



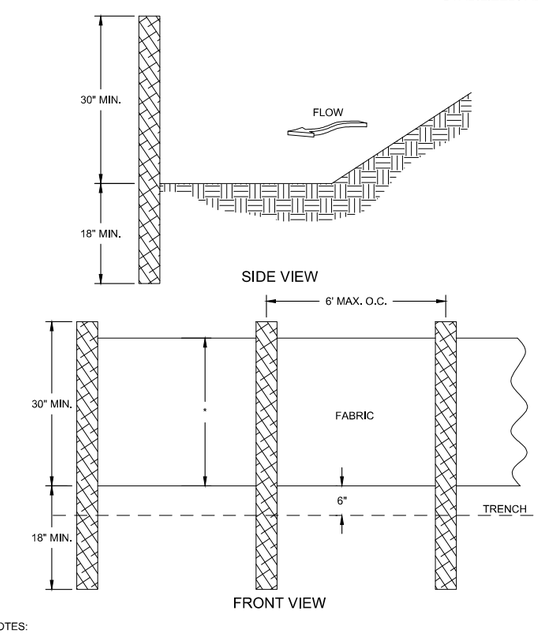
ENTRANCE ELEVATION

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.

CONSTRUCTION EXIT

Co N.T.S.



NOTES:

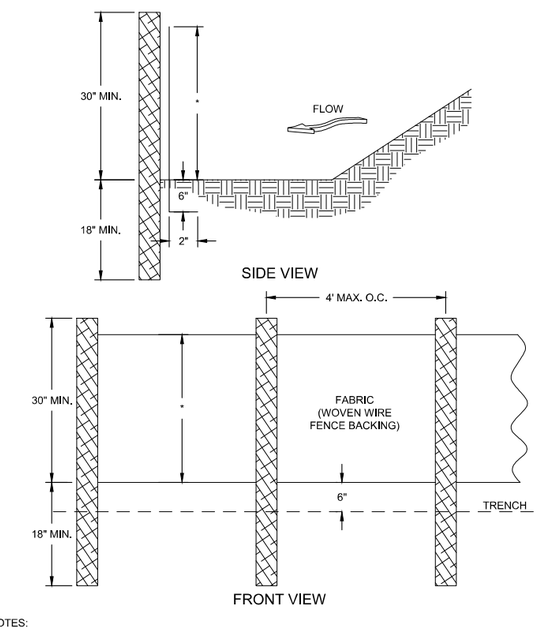
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

MAINTENANCE:

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

TYPE 'NS' SILT FENCE

Sd1-NS N.T.S.



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.

MAINTENANCE:

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS). TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

TYPE 'S' SILT FENCE

Sd1-S N.T.S.

BWSC BARGE WAGGONER SUMNER & CANNON, INC.
5445 Triangle Pkwy, Suite 240, Peachtree Corners, Georgia 30092
PHONE (678) 515-5411

EROSION, SEDIMENTATION AND POLLUTION CONTROL DETAILS

OSBORNE ROAD DRAINAGE IMPROVEMENTS PHASE I

CITY OF BROOKHAVEN, GEORGIA

REV	DR.	CHK.	DATE	DESCRIPTION
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