CONSTRUCTION PLANS

FOR

OLD AUGUSTA ROAD UTILITY EXTENSION

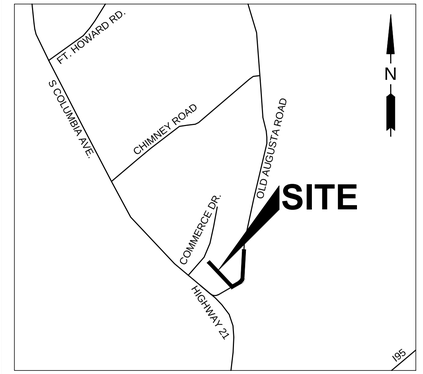
EFFINGHAM COUNTY, GEORGIA

MAY 2016

EMC PROJECT NO. 16-0004

DEVELOPER/RESPONSIBLE PARTY:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS
601 NORTH LAUREL STREET
SPRINGFIELD, GA, 31329
PHONE#: 912-754-2123

EMC ENGINEERING SERVICES, INC.
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ENVIRONMENTAL - MARINE - CIVIL - SURVEY



VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
POST OFFICE BOX 8101,
SAVANNAH, GA 31412
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
PHONE: (912) 232-6533
FAX (912) 233 - 4580
www.emc-eng.com

GENERAL NOTES

1. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ALL REQUIRED PERMITS ARE OBTAINED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

2. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH EFFINGHAM COUNTY SPECIFICATIONS.

3. PRIOR TO INSTALLATION OF ANY UTILITY LINES, THE CONTRACTOR SHALL GIVE THE UTILITY COMPANIES THREE (3) WORKING DAYS NOTICE TO ALLOW TIME FOR EXISTING UTILITIES TO BE STAKED. BEFORE CALLING (1-800-282-7411) THE CONTRACTOR SHALL HAVE THE FOLLOWING INFORMATION READY: COUNTY, TOWN, LOCATION, NEAREST STREET INTERSECTIONS, TYPE OF WORK (SEWER, WATER, PAVING, ETC.) YOUR COMPANY NAME, TELEPHONE NUMBER, OWNER'S NAME, DATE AND TIME YOU EXPECT TO COMMENCE CONSTRUCTION, AND WHERE AND HOW YOU CAN BE REACHED AND THE BEST TIME TO CONTACT YOU. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLAN OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANIES, AND THE CONTRACTOR SHALL COOPERATE WITH THEM DURING RELOCATION OPERATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY VARIANCES PRIOR TO COMMENCEMENT OF WORK OR PURCHASING ANY MATERIALS.

4. ALL KNOWN UTILITY FACILITIES ARE SHOWN SCHEMATICALLY ON THE PLANS AND ARE NOT NECESSARILY ACCURATE AS TO PLAN OR ELEVATION. UTILITY FACILITIES SUCH AS SERVICE LINES OR UNKNOWN FACILITIES NOT SHOWN ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES, EXCEPT AS NOTED BELOW. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGED UTILITY FACILITIES OTHER THAN SERVICE LINES FROM STREET MAINS TO ABUTTING PROPERTY WHEN SUCH FACILITIES ARE NOT SHOWN ON THE PLANS AND THEIR EXISTENCE IS UNKNOWN TO THE CONTRACTOR PRIOR TO THE DAMAGES OCCURRING PROVIDING THE ENGINEER DETERMINES THE CONTRACTOR HAS OTHERWISE FULLY COMPLIED WITH THE SPECIFICATIONS.

5. IT IS THE OBLIGATION OF THE CONTRACTOR TO MAKE HIS OWN INTERPRETATION OF ALL SURFACE AND SUBSURFACE DATA AS TO THE NATURE AND EXTENT OF THE MATERIALS TO BE EXCAVATED. THE INFORMATION SHOWN ON THESE PLANS AND SPECIFICATIONS DOES NOT IN ANY WAY GUARANTEE THE AMOUNT OR NATURE OF THE MATERIAL WHICH MAY BE ENCOUNTERED.

6. ALL REINFORCED CONCRETE PIPE (RCP) SHALL MEET THE REQUIREMENTS OF AASHTO:M170 (GDOT STANDARD SPECIFICATIONS - SECTION 843).

7. FILL MATERIAL SHALL BE CLEAN AND FREE OF ALL DEBRIS AND ORGANIC MATERIAL.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION AND FURNISHING THE BORROW MATERIAL NECESSARY FOR THE CONSTRUCTION OF THIS PROJECT.

9. ALL ITEMS REMOVED FROM THE PROJECT WHICH ARE NOT TO BE REUSED SHALL BE MOVED TO A LOCATION APPROVED BY THE OWNER.

10. DURING CONSTRUCTION IN THE AREA OF AN INTERSECTION, WORK WILL BE PERFORMED IN SUCH A MANNER AS TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE POSSIBLE. ADDITIONAL CHANNELIZATION AND SIGNING SHALL BE INSTALLED, AS DIRECTED BY THE ENGINEER, TO ALLOW TRAFFIC TO FLOW AS FREELY AS POSSIBLE. WHEN AN INTERSECTION IS INOPERABLE, FLAGGERS WILL BE UTILIZED TO CONTROL TRAFFIC.

11. ALL SIGNING SHALL BE PER DOT STANDARDS AND M.U.T.C.D.

12. ALL TREES TO REMAIN WITHIN THE CONSTRUCTION AREA ARE TO BE PROTECTED DURING CONSTRUCTION; SEE TREE PROTECTION DETAIL.

WATER MAIN NOTES

1. PIPES, FITTINGS, VALVES AND OTHER MATERIAL SHALL, UNLESS OTHERWISE DIRECTED, BE UNLOADED AT THE POINT OF DELIVERY, AND STORED WHERE THEY WILL BE PROTECTED AND WILL NOT BE HAZARDOUS TO TRAFFIC. THEY SHALL AT ALL TIMES BE HANDLED WITH CARE TO AVOID DAMAGE. THE INTERIOR OF ALL PIPE, FITTINGS AND OTHER ACCESSORIES SHALL BE KEPT FREE FROM ALL FOREIGN MATTER AT ALL TIMES.

2. ANY DEFECTIVE, DAMAGED, OR UNSOUND PIPES SHALL BE REJECTED. ALL FOREIGN MATTER SHALL BE REMOVED FROM THE INSIDE OF THE PIPE BEFORE IT IS LOWERED INTO ITS POSITION IN THE TRENCH AND IT SHALL BE KEPT CLEAN BY APPROVED MEANS DURING AND AFTER LAYING. CARE SHALL BE TAKEN TO PREVENT FOREIGN MATTER FROM ENTERING THE JOINT SPACE. AT TIMES WHEN PIPE LAYING IS NOT IN PROGRESS, THE OPEN ENDS OF THE PIPE SHALL BE PLUGGED OR COVERED BY APPROVED MEANS, AND NO TRENCH WATER SHALL BE PERMITTED TO ENTER THE PIPE.

3. ALL MATERIALS, WORKMANSHIP, AND TESTING FOR WATER SYSTEM CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE EFFINGHAM COUNTY STANDARD SPECIFICATIONS, LATEST EDITION.

4. ALL PHASES OF CONSTRUCTION SHALL COMPLY WITH THE GEORGIA RULES FOR SAFE DRINKING WATER, CHAPTER 391-3-5, THE GAEPD MINIMUM STANDARDS FOR PUBLIC WATER SYSTEMS, LATEST EDITION, THE AMERICAN WATER WORKS ASSOCIATION, AND ALL APPLICALBE FEDERAL, STATE, AND LOCAL REQUIREMENTS.

5. ALL MATERIALS USED AND THAT COME INTO CONTACT WITH DRINKING WATER DURING ITS DISTRIBUTION SHALL NOT ADVERSELY AFFECT DRINKING WATER QUALITY AND PUBLIC HEALTH AND MUST BE CERTIFIED FOR CONFORMANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE / NATIONAL SANITARY FOUNDATION STANDARD 61 (ANSI/NSF STANDARD 61).

6. END OF THE DAY STORAGE OF EXCAVATION EQUIPMENT ALONG THE PROJECT ROUTE WILL BE ALLOWED ONLY AS APPROVED BY EFFINGHAM COUNTY REPRESENTATIVE, OTHERWISE ALL EQUIPMENT SHALL BE STORED IN THE DESIGNATED MATERIALS STORAGE AREAS.

7. TEMPORARY FENCING SHALL BE USED AROUND OPEN EXCAVATIONS AT ALL TIMES, EXCEPT AS NECESSARY FOR IMMEDIATE CONSTRUCTION. WHEN WORK IS NOT IN PROGRESS, FENCING SHALL ENCLOSE EXCAVATED AREAS. UTILITY TRENCHES SHALL BE BACKFILLED TO GRADE AT THE END OF THE DAY, ALLOWING FOR A MAXIMUM OF 10' (FENCE-PROTECTED) TRENCH TO REMAIN OPEN.

8. THE MINIMUM HORIZONTAL AND VERTICAL SEPERATION BETWEEN WATER LINES, SEWER LINES, AND STORM DRAINS SHALL CONFORM TO THE LATEST GEORGIA EPD REQUIREMENTS.

9. MAXIMUM JOINT DEFLECTION AND BENDING OF PVC PIPE SHALL NOT EXCEED MANUFACTURER'S SPECIFICATIONS AND INSTALLATION RECOMMENDATIONS.

10. AFTER DISINFECTION IS COMPLETED THE CHLORINATED DISINFECTED WATER SHALL NOT BE DISCHARGED INTO THE STORM WATER SYSTEM.

SPECIAL NOTES:

1. MEGA-LUG JOINT RESTRAINTS TO BE USED WHERE MECHANICALLY RESTRAINED JOINTS ARE NEEDED FOR PIPES, FITTINGS, AND VALVES

2. ALL PVC PIPE TO BE CLASS 235 C905 DR 18.

3. MIN. COVER OF WATERMAIN SHALL BE 36" FROM FINISH GRADE.

4. MAINTAIN ACCESS TO PROPERTIES ALONG PROJECT ROUTE AT ALL TIMES DURING CONSTRUCTION.

5. ALL ITEMS DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THE THEIR ORIGINAL CONDITION.

CONSTRUCTION NOTES

A. COORDINATION WITH EFFINGHAM COUNTY - THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION WITH THE COUNTY ADMINISTRATOR SO AS TO MINIMIZE DISRUPTION TO THE RESIDENTS ALONG THE PROJECT ROUTE. TO THIS PURPOSE, THE CONTRACTOR WILL BE REQUIRED TO MAKE THE FOLLOWING ADJUSTMENTS TO THE PROJECT:

   1. TEMPORARY ACCESS: - THE CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTIES DURING CONSTRUCTION.

   2. ORDER OF CONSTRUCTION: - THE CONTRACTOR SHALL PROCEED IN A LINEAR FASHION ALONG THE PROJECT ROUTE UNLESS OTHERWISE APPROVED BY THE ENGINEER. PRIOR TO BEGINNING CONSTRUCTION CONTRACTOR WILL DEVELOP A STAGE CONSTRUCTION PLAN AND SUBMIT IT TO THE ENGINEER FOR APPROVAL.

   3. LIMITS OF CONSTRUCTION: - CONSTRUCTION SHALL BE LIMITED TO THE RIGHT-OF-WAY OR EASEMENT AREAS. CONTRACTOR SHALL STAY WITHIN THE PROJECT AREA WITH ALL HEAVY EQUIPMENT. CONTRACTOR SHALL CLEAR AND CUT ONLY TREES LOCATED WITHIN THE PROJECT CORRIDOR NEEDED FOR CONSTRUCTION OF THIS PROJECT. STUMPS SHALL BE REMOVED EITHER BY EXCAVATION OR GRINDING. CONTRACTOR SHALL WORK AROUND AND PROTECT TREES LOCATED OUTSIDE OF THE PROJECT AREA.

   4. MATERIAL STORAGE: - FIELD STORAGE OF MATERIALS NOT IN IMMEDIATE USE IS RESTRICTED TO AREAS DESIGNATED OR APPROVED BY EFFINGHAM COUNTY.

   5. EQUIPMENT STORAGE: - END OF THE DAY STORAGE OF EXCAVATION EQUIPMENT ALONG THE PROJECT ROUTE WILL BE ALLOWED ONLY AS APPROVED BY EFFINGHAM COUNTY, OTHERWISE ALL EQUIPMENT SHALL BE STORED IN THE DESIGNATED MATERIALS STORAGE AREAS.

   6. PROTECTION OF EXISTING UTILITIES: - THE PROJECT CORRIDOR MAY HAVE EXISTING TELEPHONE, FIBER, GAS, POWER, WATER, SEWER, AND STORM DRAINAGE SYSTEMS. THE CONTRACTOR SHALL BE AWARE OF THE PRESENCE OF THESE SYSTEMS AT ALL TIMES DURING CONSTRUCTION AND SHALL PROTECT THEM FROM DAMAGE. IF DAMAGED BY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL IMMEDIATELY REPAIR THESE SYSTEMS AT HIS OWN EXPENSE.

   7. PROTECTION OF EXCAVATED AREAS: - TEMPORARY FENCING SHALL BE USED AROUND OPEN EXCAVATIONS AT ALL TIMES, EXCEPT AS NECESSARY FOR IMMEDIATE CONSTRUCTION. WHEN WORK IS NOT IN PROGRESS, FENCING SHALL ENCLOSE EXCAVATED AREAS. UTILITY TRENCHES SHALL BE BACKFILLED TO GRADE AT THE END OF THE DAY, ALLOWING FOR A MAXIMUM OF 10' (FENCE-PROTECTED) TRENCH TO REMAIN OPEN.

   8. RESTORATION PROJECT: - THE CONTRACTOR SHALL RESTORE THE PROJECT AREA TO ITS EXISTING CONDITION AFTER PROJECT CONSTRUCTION IS COMPLETED.

B. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EXISTING WATER & SEWER SERVICE DURING THE CONSTRUCTION OF THIS PROJECT.

SURVEY CONTROL

	FOUND	SET
CONTROL NAIL	NF	NS
IRON PIPE	IPF	IPS
IRON REBAR	IRF	IRS
HUB & TACK	HTF	HTS
CONCRETE MONUMENT	CMF	CMS
RIGHT-OF-WAY MARKER	RWMF	RWMS
BENCHMARK	BMF	BMS

FENCE LINE

	EXISTING	PROPOSED
CHAIN LINK		
BARBED WIRE		
HOG WIRE		
WROUGHT IRON		
WOODEN		
SILT FENCE (SINGLE)		
SILT FENCE (DOUBLE)		

BUILDING

	EXISTING	PROPOSED
BUILDING LINE		
BUILDING OVERHANG		
FINISHED FLOOR ELEVATION	15.00	FF 15.00

GROUND/DITCH

	EXISTING	PROPOSED
SPOT ELEVATION	12.00	12.00
CONTOURS		12
CENTERLINE OF DITCH		
WATERS EDGE		

WATER

	EXISTING	PROPOSED
WATERMAIN LINE	W	12"W
BACKFLOW PREVENTER	BFP	BFP
BLOW-OFF	BO	BO
FIRE HYDRANT		
HOSE BIBB (SPIGOT)	HB	HB
WELL		
WATER METER	WM	WM
WATER MANHOLE	MH	MH
WATER VALVE	WV	

SANITARY SEWER

	EXISTING	PROPOSED
CLEANOUT	CO	CO
CENTER SANITARY MANHOLE		
GREASE TRAP	GT	GT
SANITARY SEWER LINE	SS	SS
FORCEMAIN LINE	FM	FM

STORM

	EXISTING	PROPOSED
PIPES	ST	
DRAINAGE MANHOLE		
FLARED END SECTION		
INVERT ELEVATION	IE 12.00	IE=12.00
CURB INLET TYPE A		
CURB INLET TYPE B		
CURB INLET TYPE C		
ROOF INLET		
GRATE INLET		
RIP RAP		

GAS

	EXISTING	PROPOSED
GAS LINE	GAS	GAS
GAS METER	GM	GM
GAS MANHOLE	MH	MH
GAS VALVE	GV	GV

ELECTRIC

	EXISTING	PROPOSED
POWER POLE	PP	PP
GUY POLE	GP	GP
LIGHT POLE	LP	LP
GROUND LIGHT	GL	GL
ELECTRICAL MANHOLE	MH	MH
ELECTRICAL CONTROL BOX	ECB	ECB
ELECTRICAL SERVICE METER	EM	EM
ELECTRICAL TRANSFORMER	TRANS	TRANS
UNDERGROUND POWER CABLE	UGP	UGP
OVERHEAD POWER CABLE	OHP	OHP

TELEPHONE

	EXISTING	PROPOSED
TELEPHONE BOOTH	TB	TB
TELEPHONE PEDISTAL	TELE PED	TP
TELEPHONE MANHOLE	MH	MH
UNDERGROUND TELEPHONE	UGT	UGT

ROADWAY

	EXISTING	PROPOSED
CENTERLINE OF ROAD		
EDGE OF ASPHALT		
CURB & GUTTER		
EDGE OF CONCRETE		
EDGE OF GRAVEL		
EDGE OF DIRT		
EDGE OF DRIVEWAY		
GUARDRAIL		

811 Know what's **below.** **Call** before you dig.

NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE30429 ALEC B. METZGER

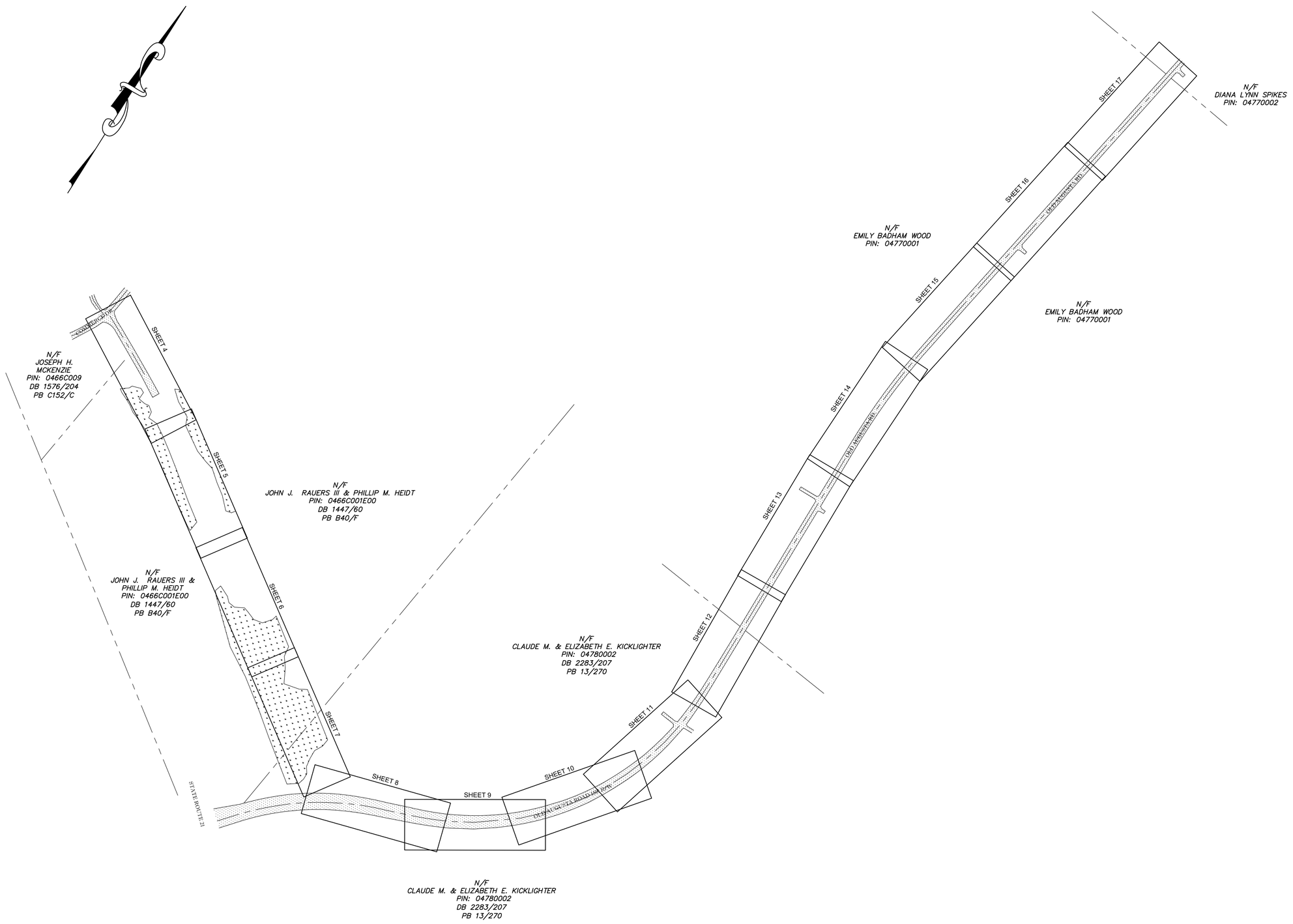
EMC ENGINEERING SERVICES, INC.
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-4580
www.emc-eng.com
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

GENERAL NOTES & LEGEND

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016



NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA
REGISTERED
No. PE30429
PROFESSIONAL
ENGINEER
ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-8533
FAX: (912) 232-4669
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

KEY MAP

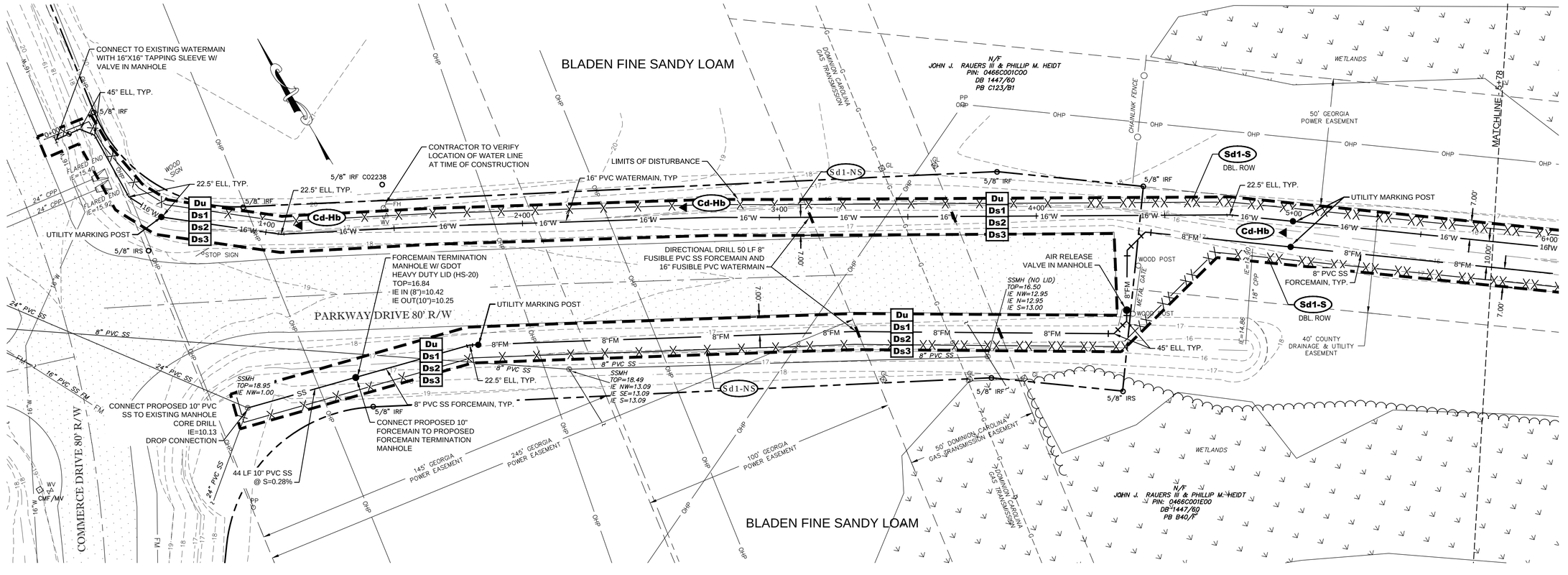
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

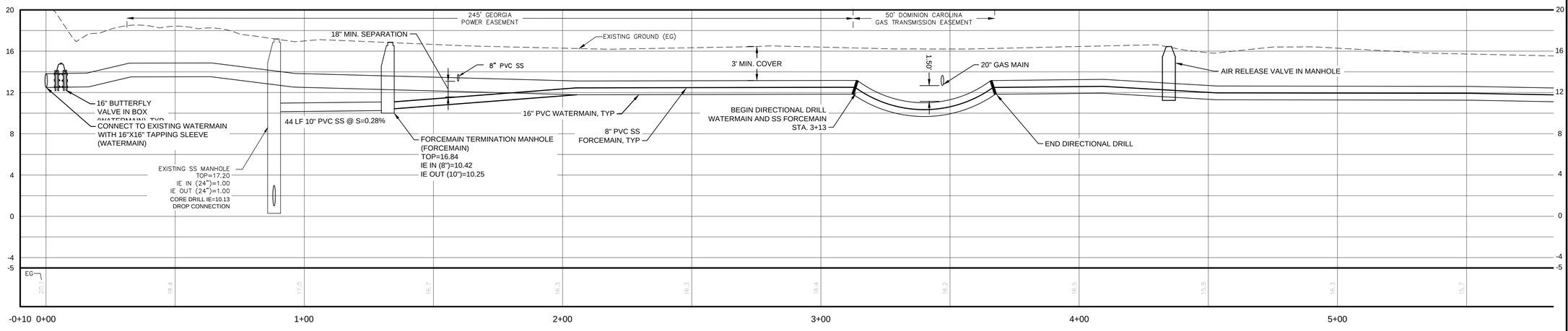
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

SHEET
3
OF 27

C:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004_C01.DWG 5/20/2016 12:15 PM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018
Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

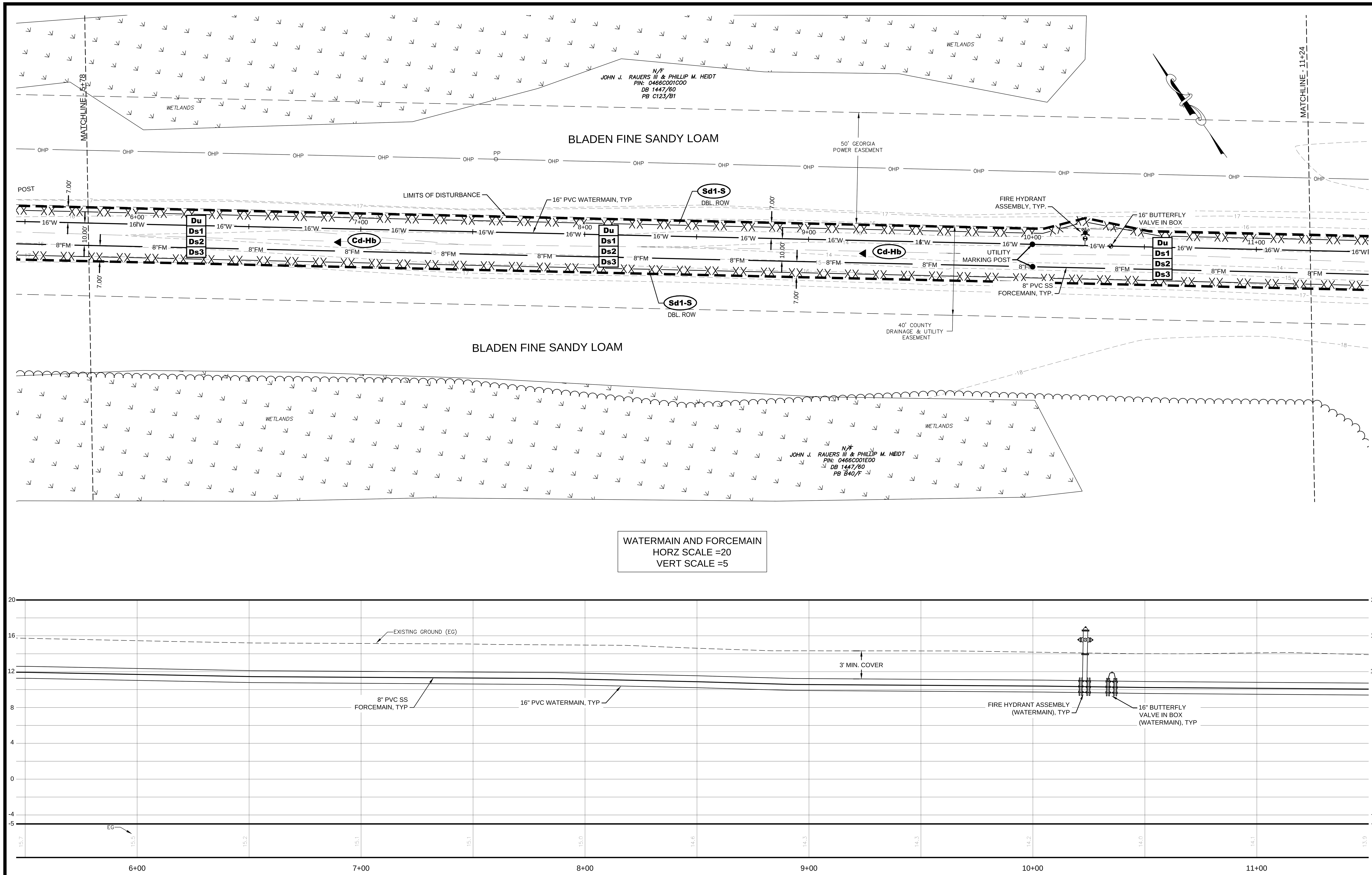
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
4
OF 27

G:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional

CERTIFICATION NUMBER 0000008757

ISSUED: 04/11/2015 EXPIRES: 04/11/2018

Signature: ______

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-4580
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

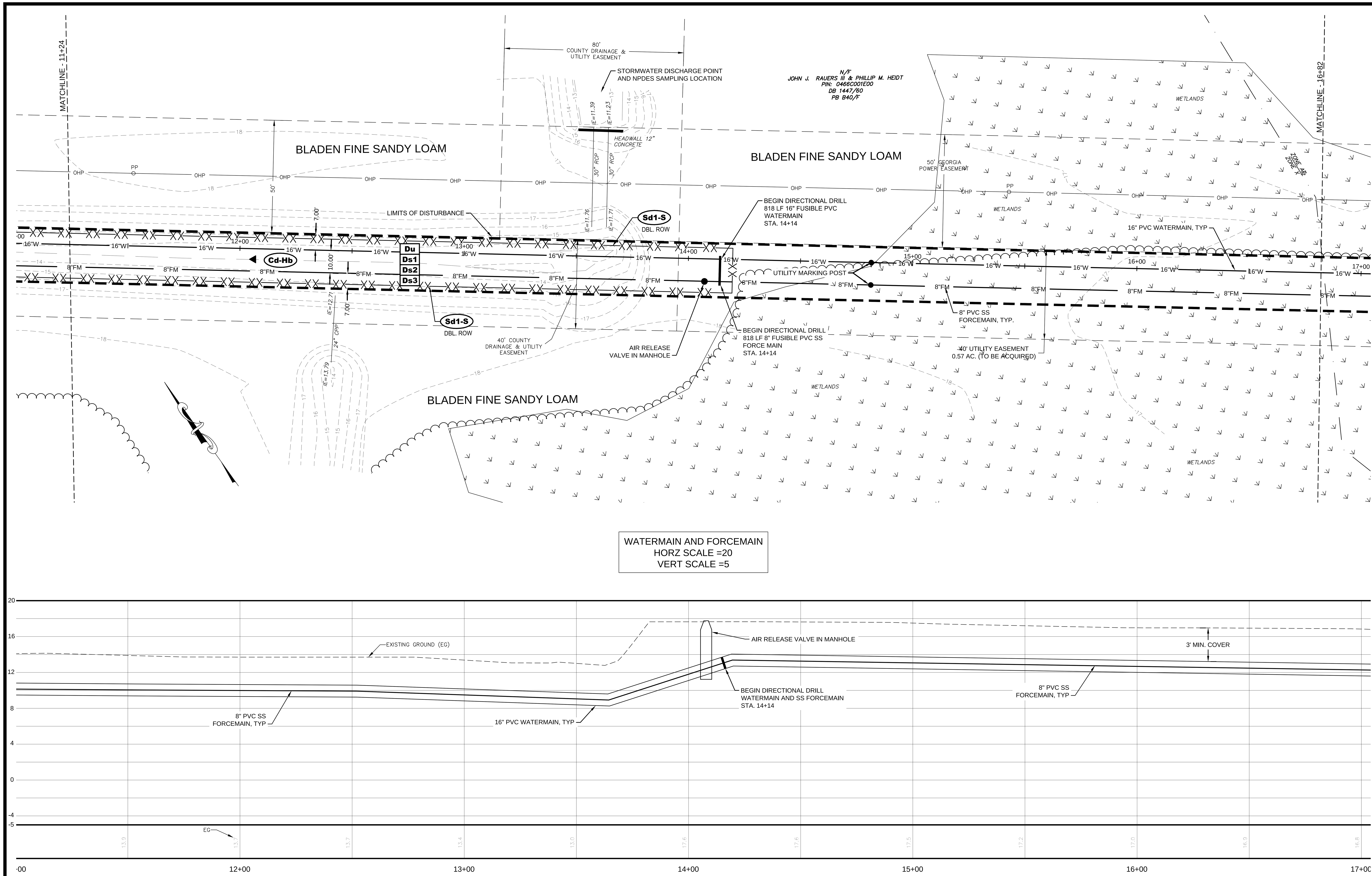
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC Georgia Soil and Water Conservation Commission
Alec B Metzger
Level II Certified Design Professional
Certification Number 0000008757
Issued: 04/11/2015 Expires: 04/11/2018
Signature:

GEORGIA REGISTERED PROFESSIONAL ENGINEER No. PE30429 ALEC B. METZGER

GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-4580
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

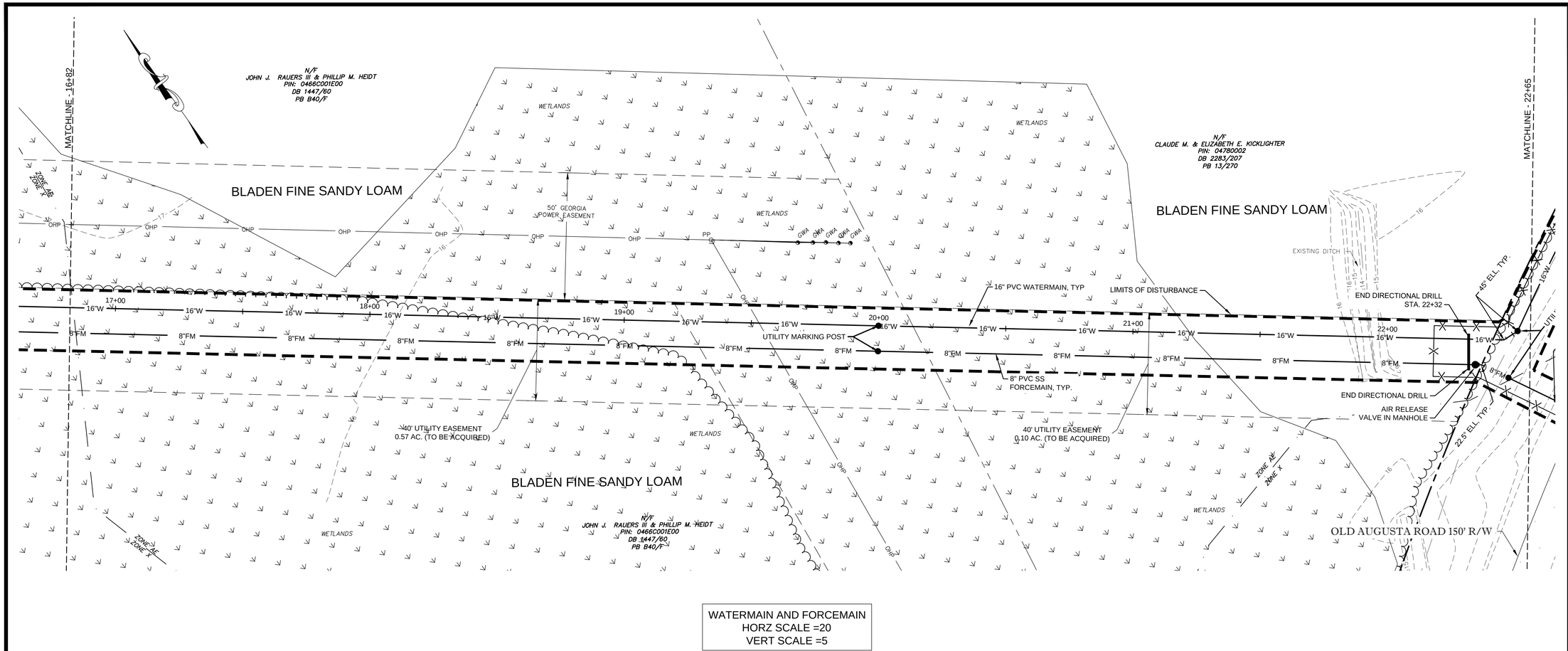
PLAN & PROFILE

OLD AUGUSTA ROAD UTILITY EXTENSION

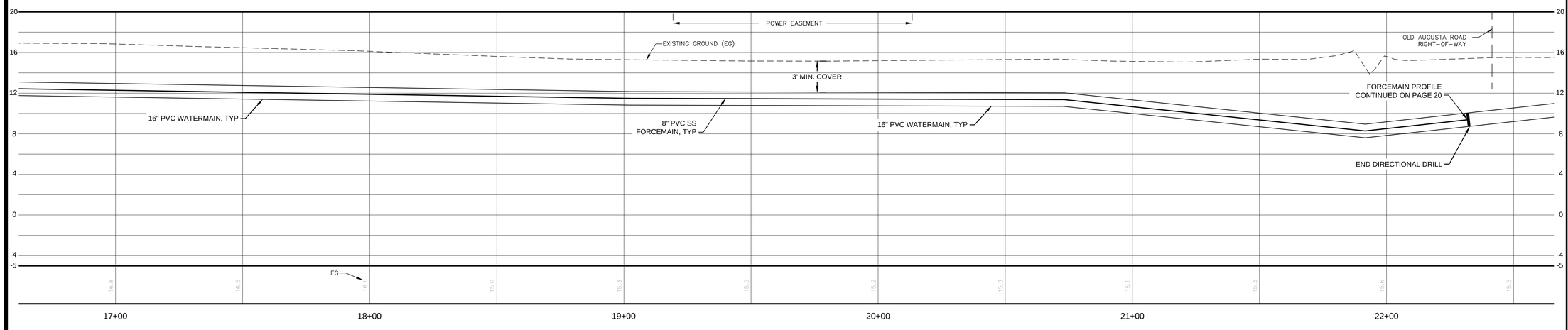
9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

PLAN & PROFILE

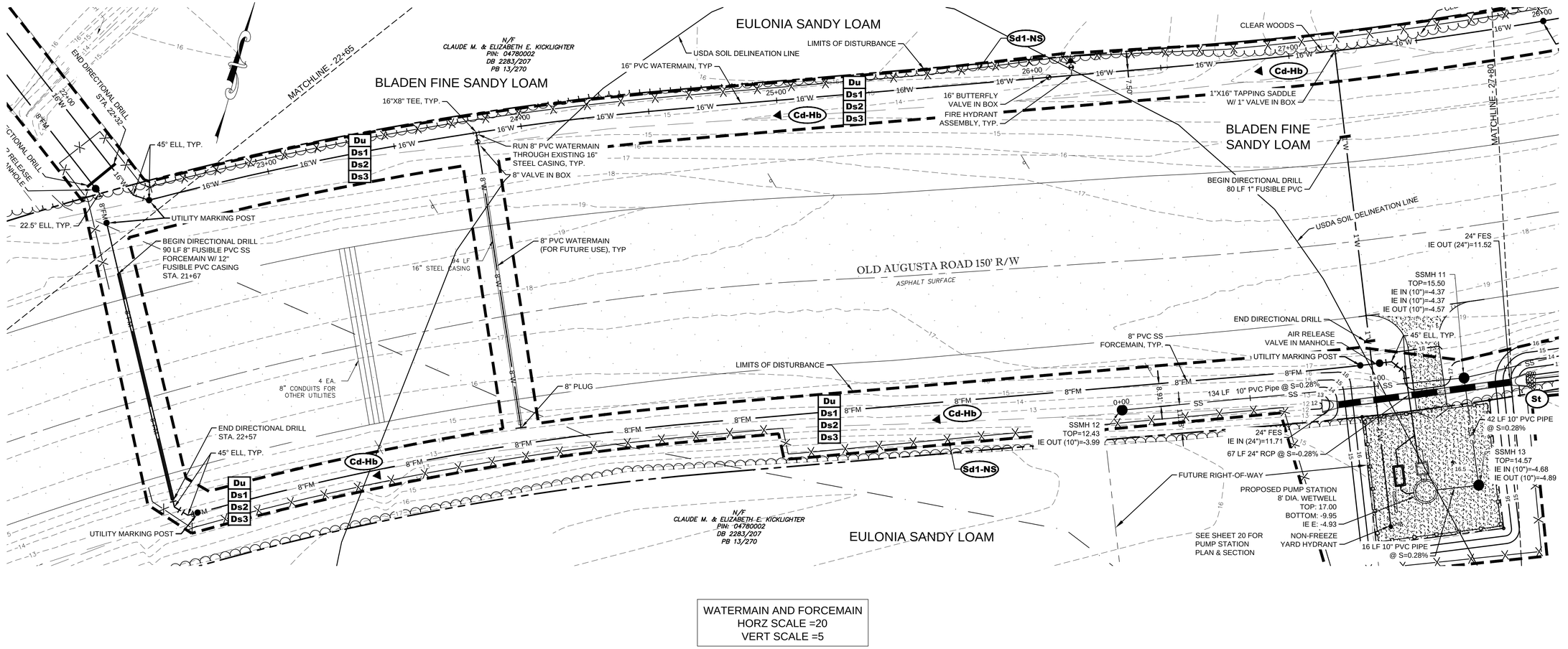
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

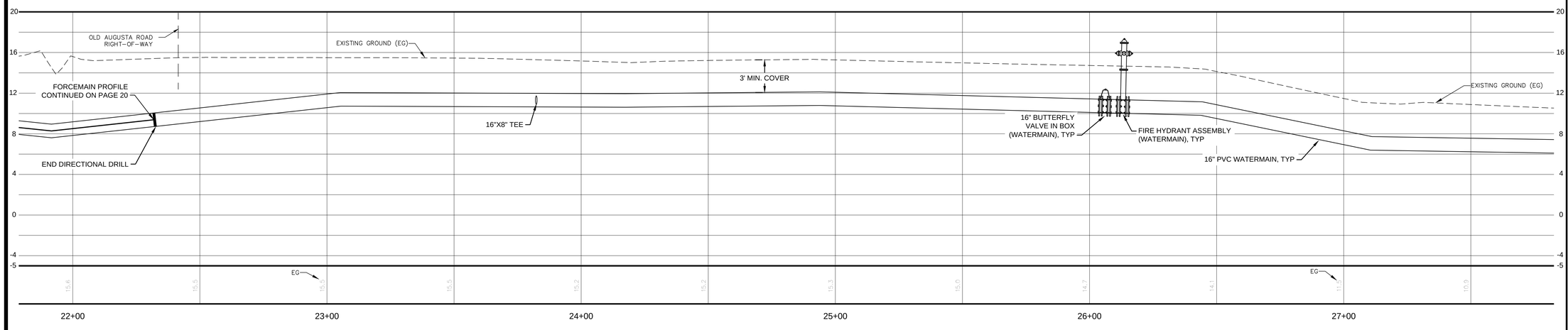
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET 7 OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018
Signature:

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

GRAPHIC SCALE: 1"=20'-0"
20' 10' 0' 20'

PLAN & PROFILE

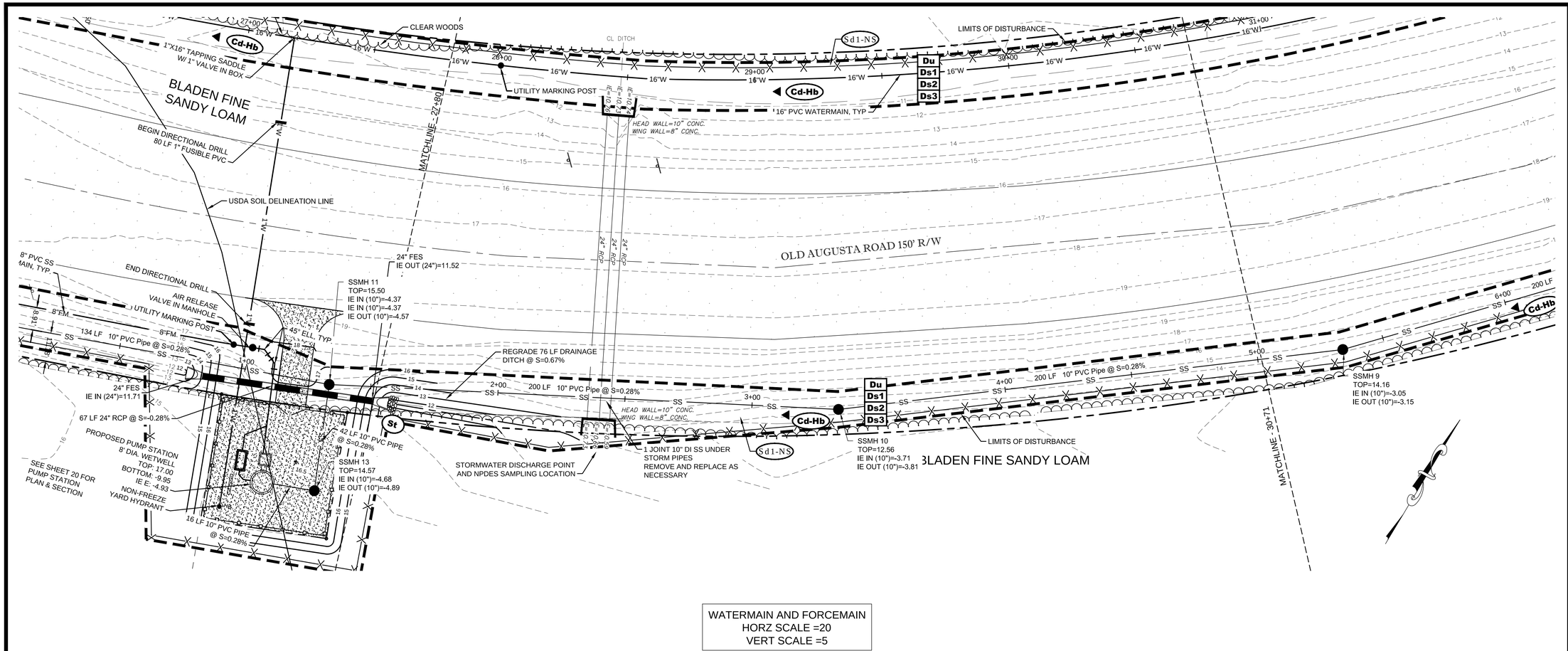
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

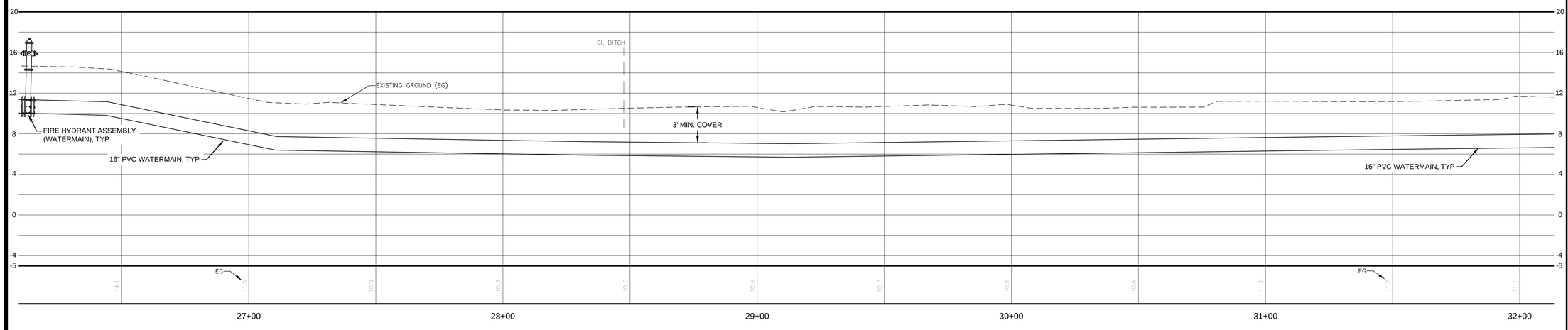
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
8
OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018
Signature:

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

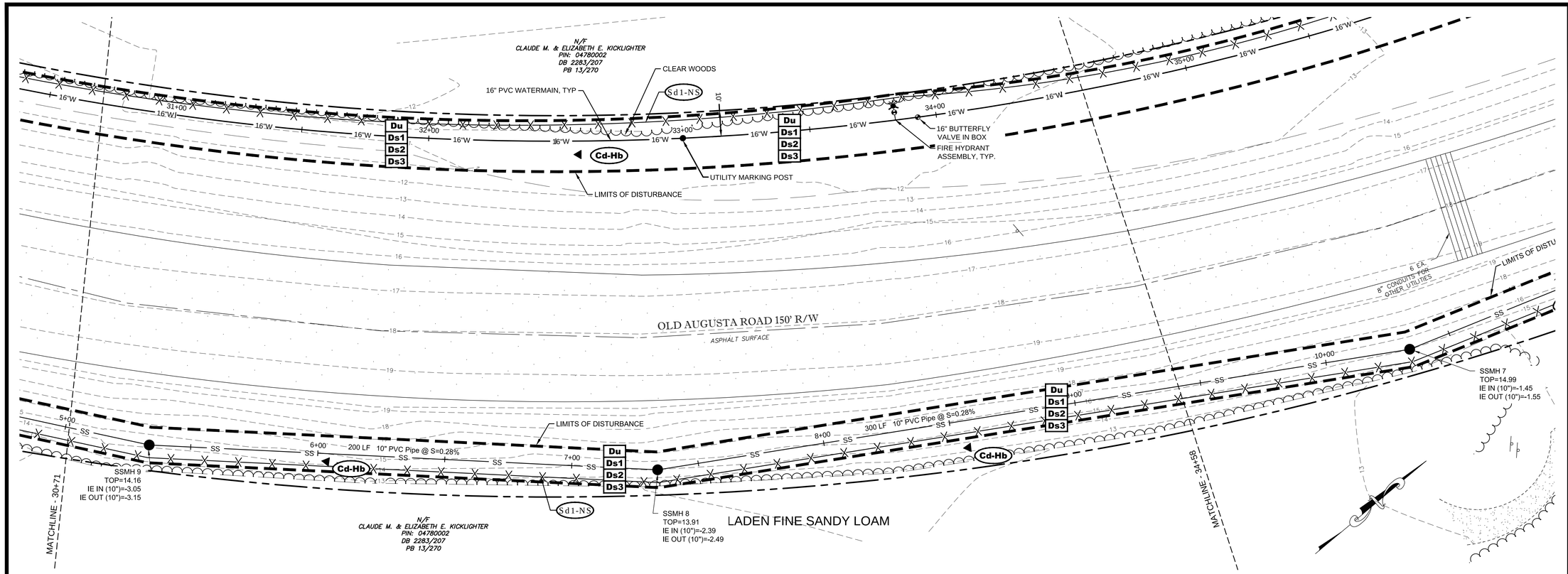
PLAN & PROFILE

OLD AUGUSTA ROAD UTILITY EXTENSION

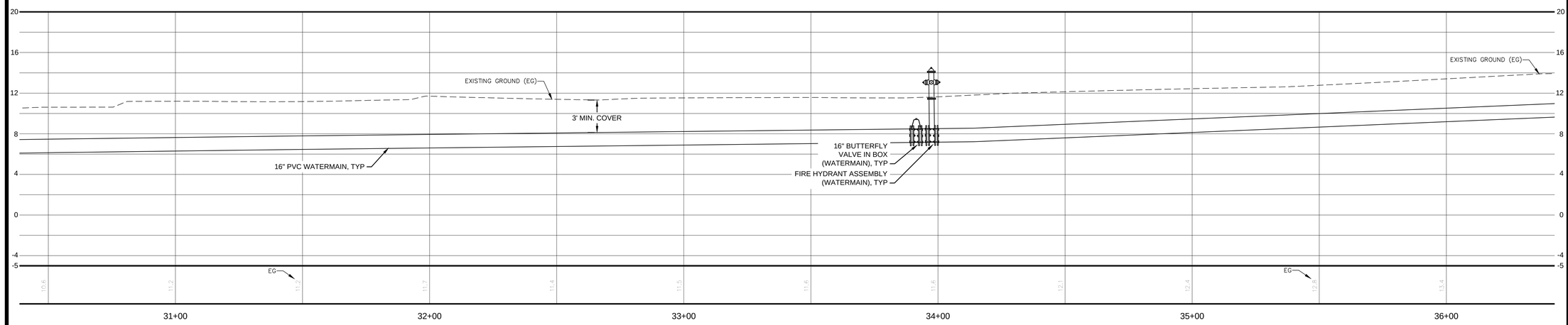
9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET 9 OF 27



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4980
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

PLAN & PROFILE

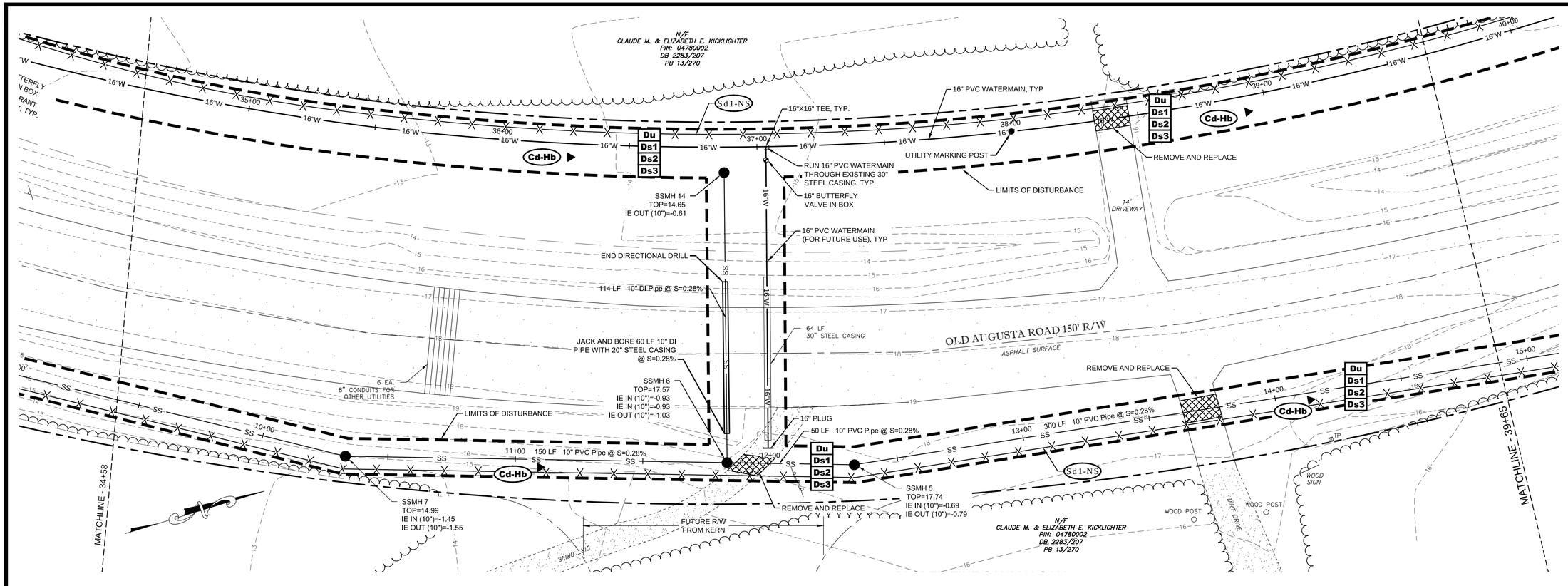
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

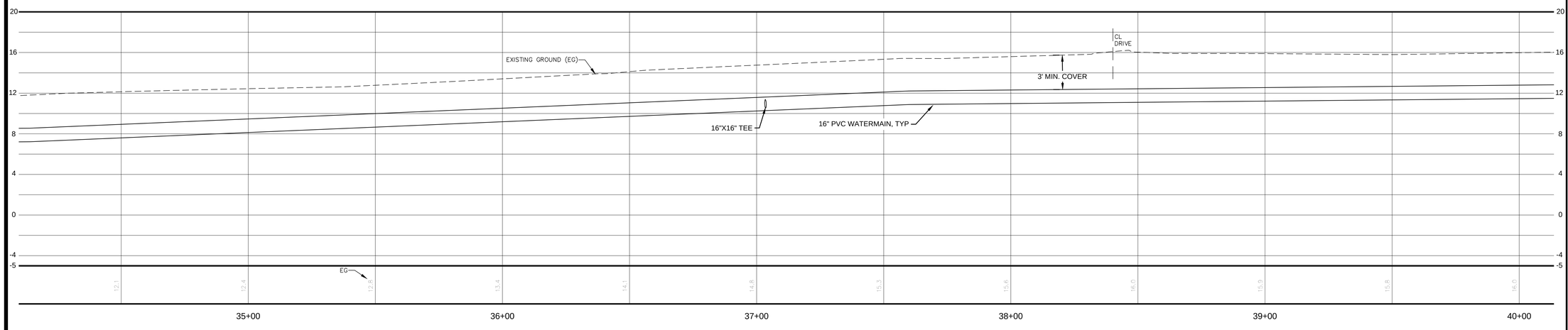
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET 10 OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
Certification Number 0000008757
Issued 04/11/2015 Expires 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 500, SAVANNAH
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4980
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

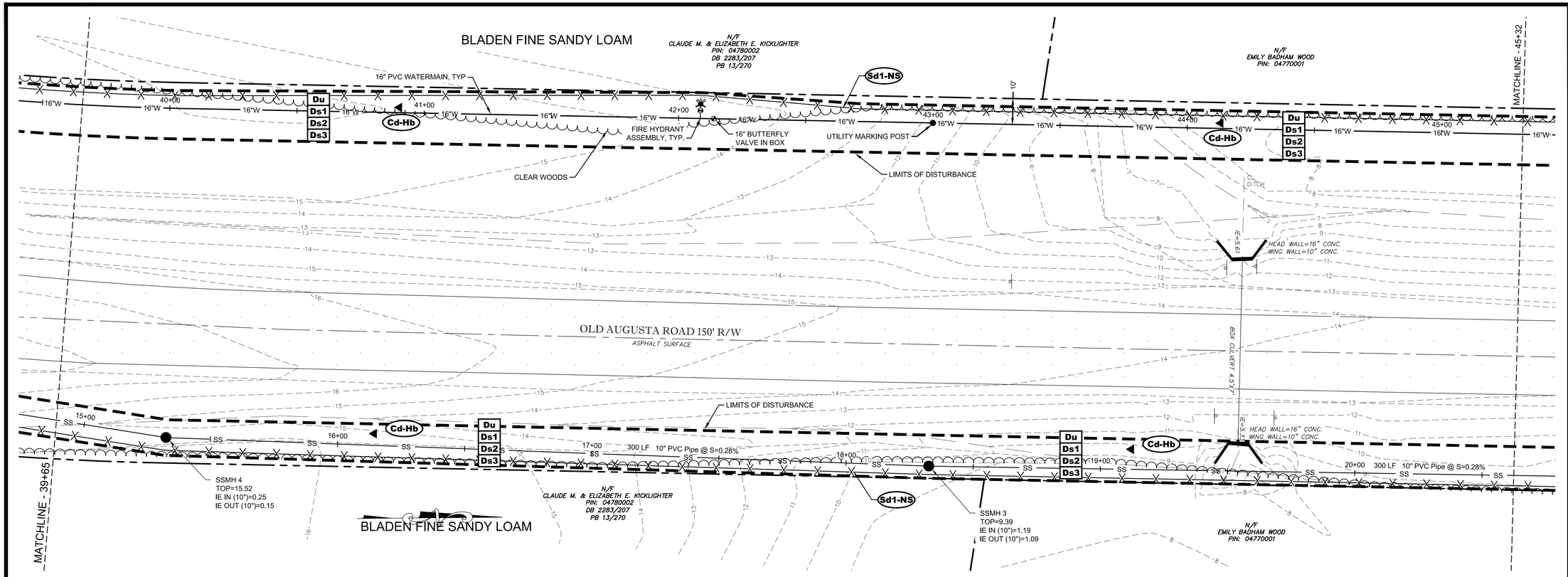
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

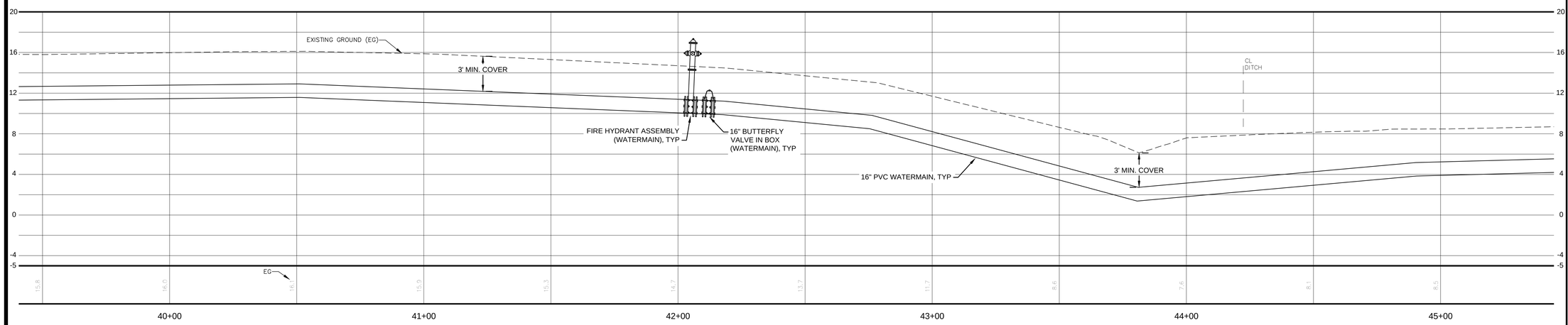
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
11
OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2016

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4980
www.emc-eng.com
CIVIL MARINE ENVIRONMENTAL SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

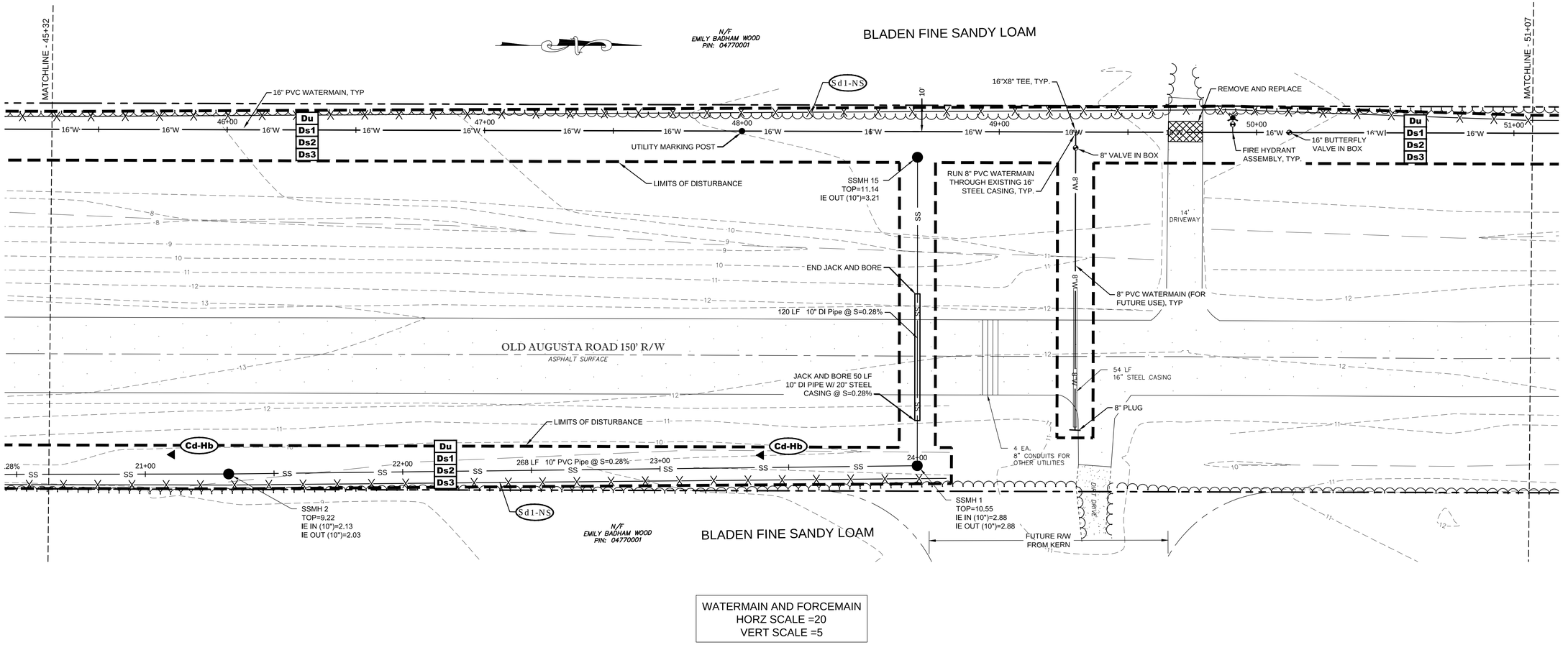
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

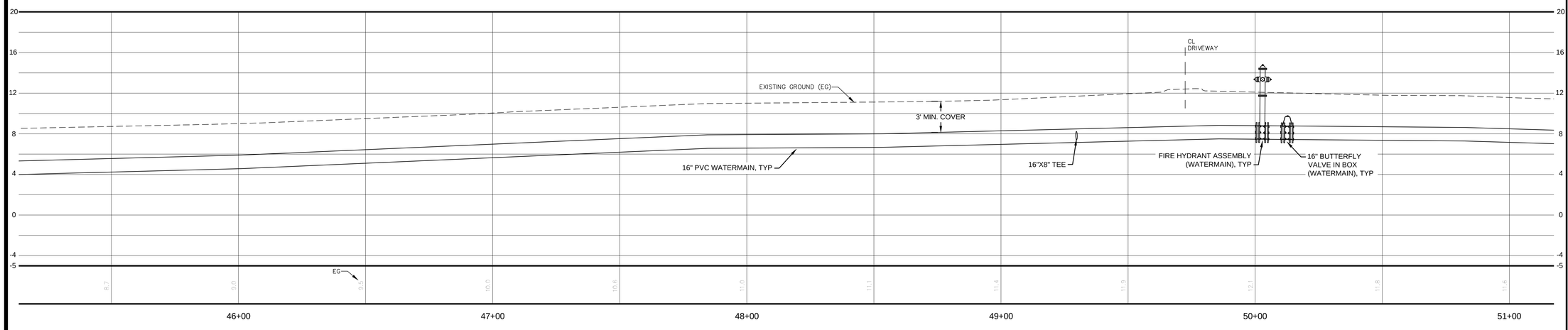
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET 12 OF 27

G:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional

CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4980
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

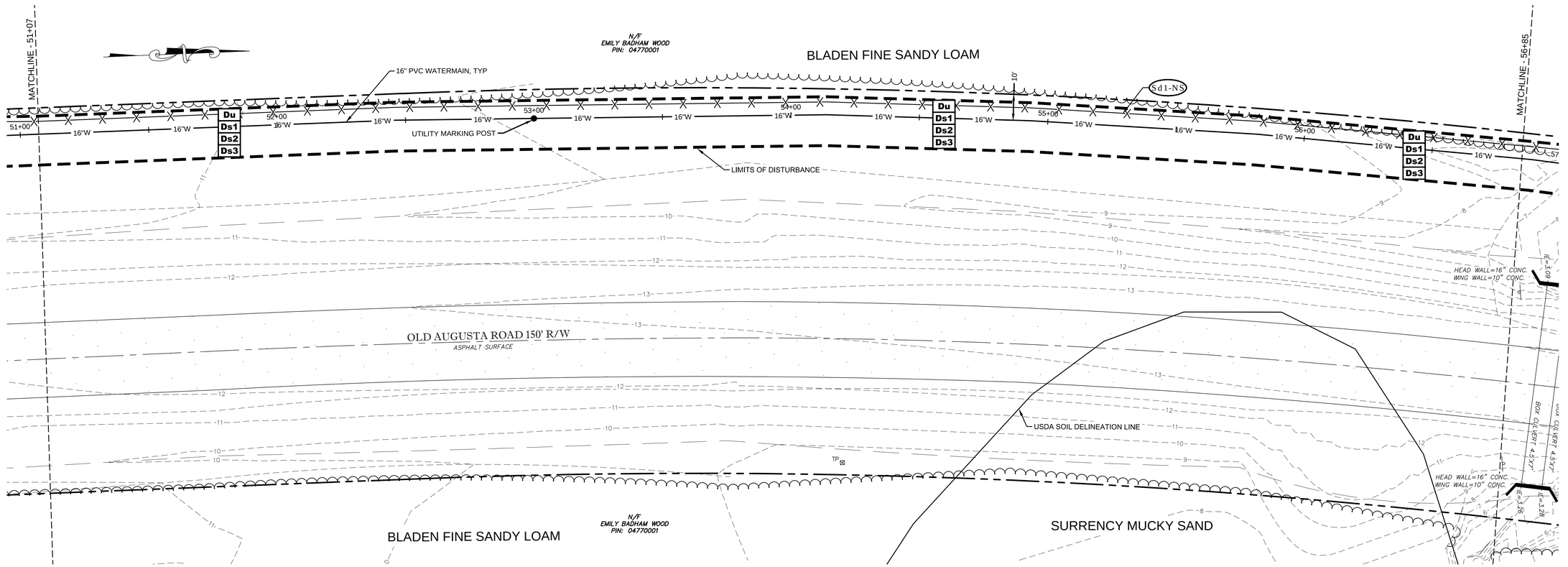
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

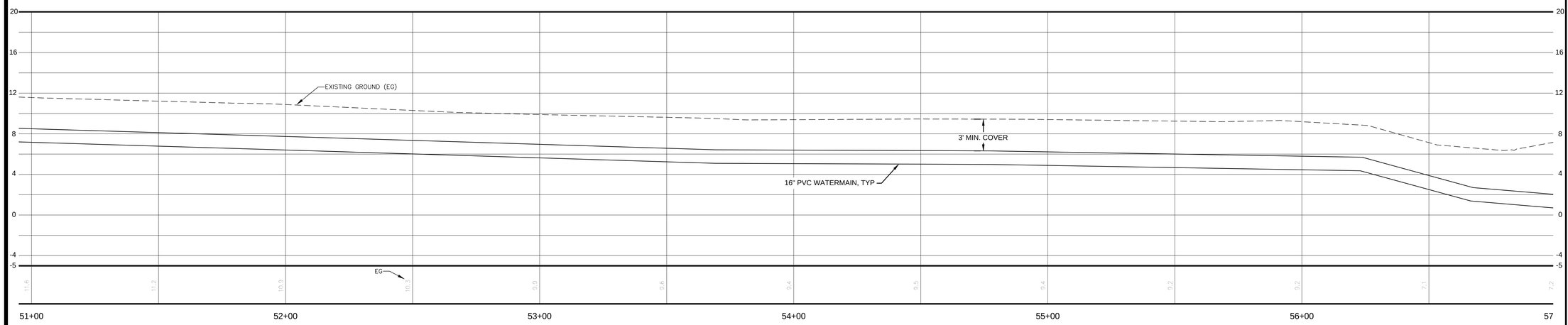
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
13
OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
Certification Number 0000008757
Issued 04/11/2015 Expires 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GEORGIA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

PLAN & PROFILE

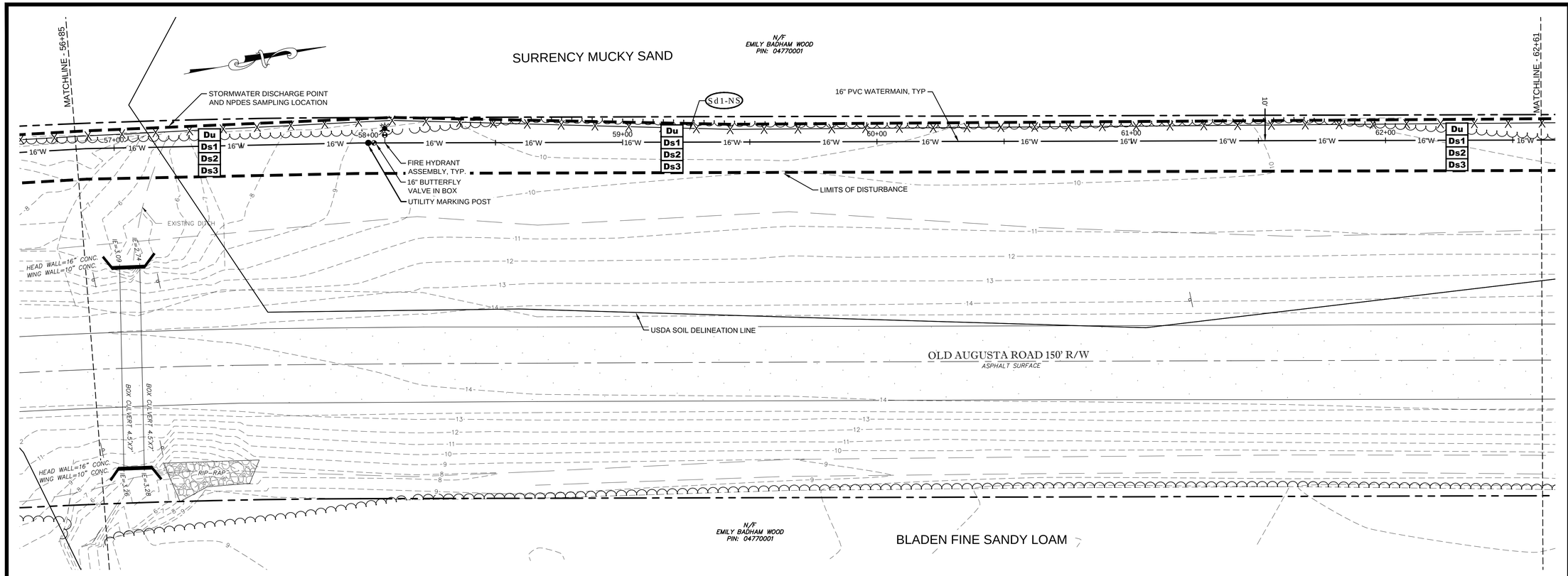
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

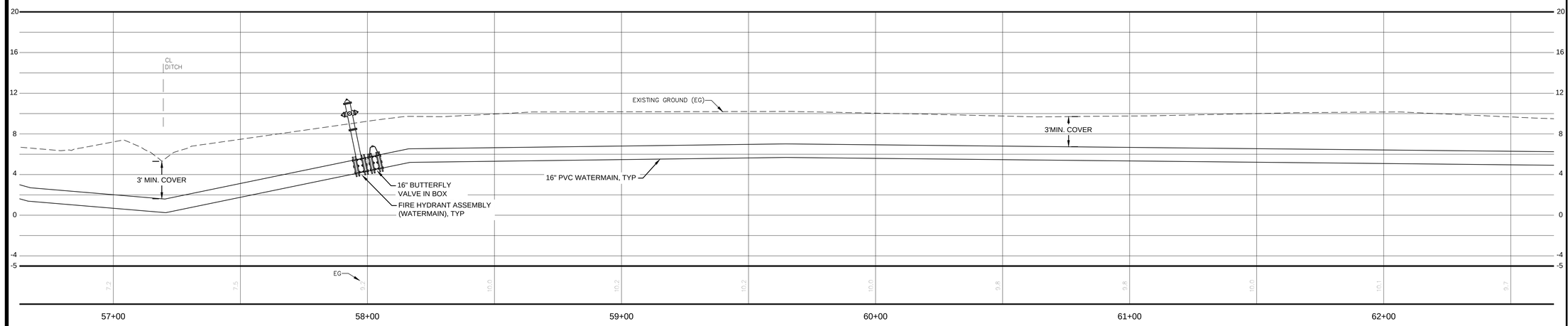
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
14
OF 27

G:\2016\F\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2016

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, - ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

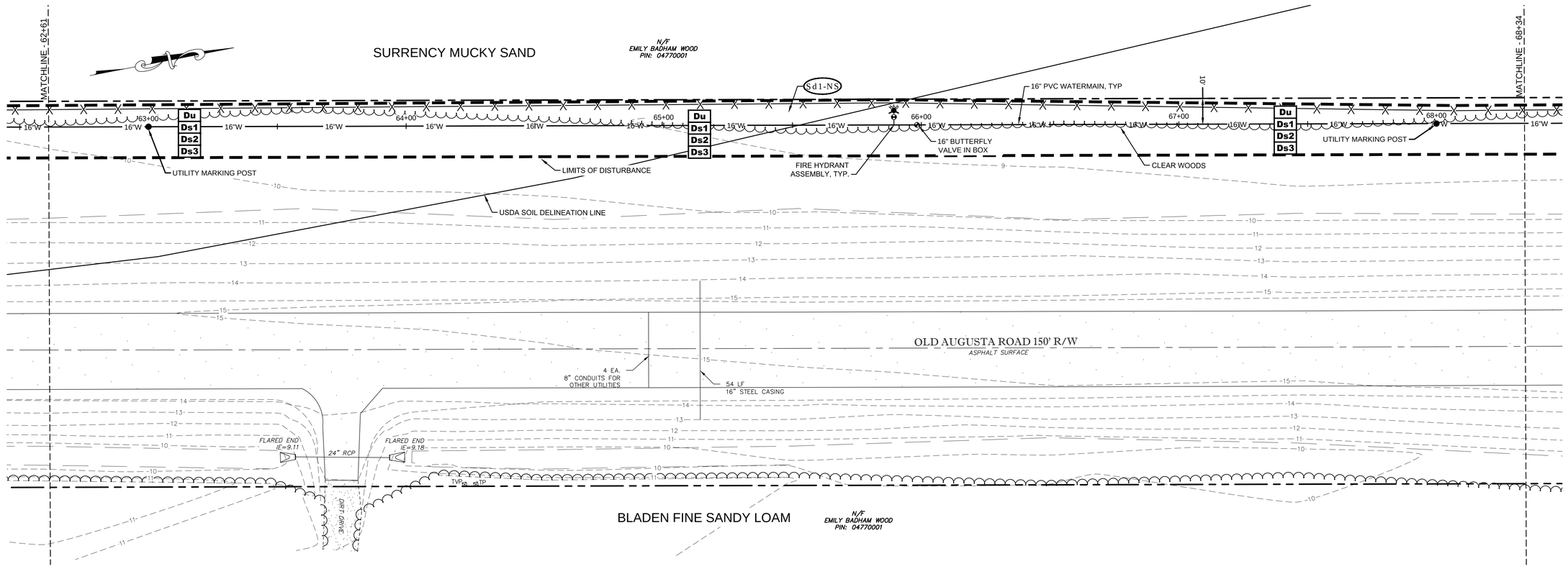
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

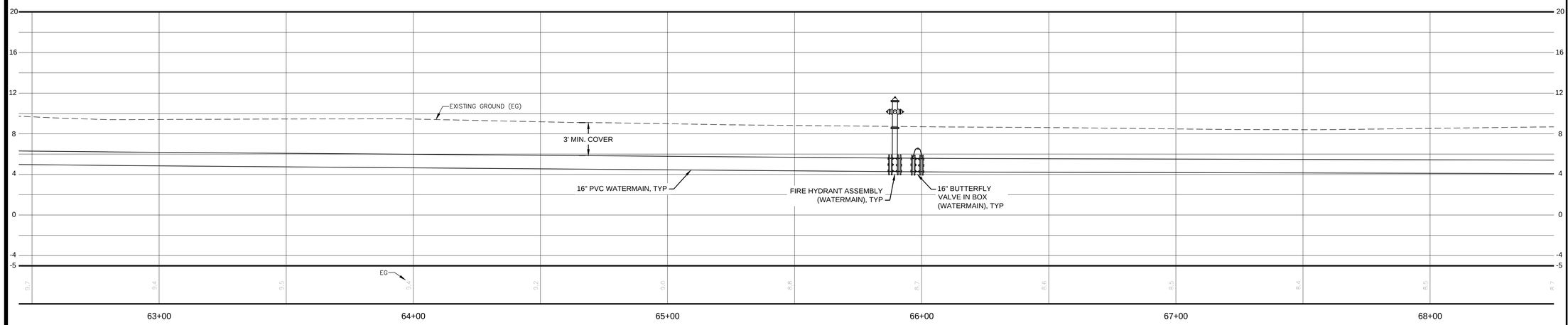
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
15
OF 27

G:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional

CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4980
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

PLAN & PROFILE

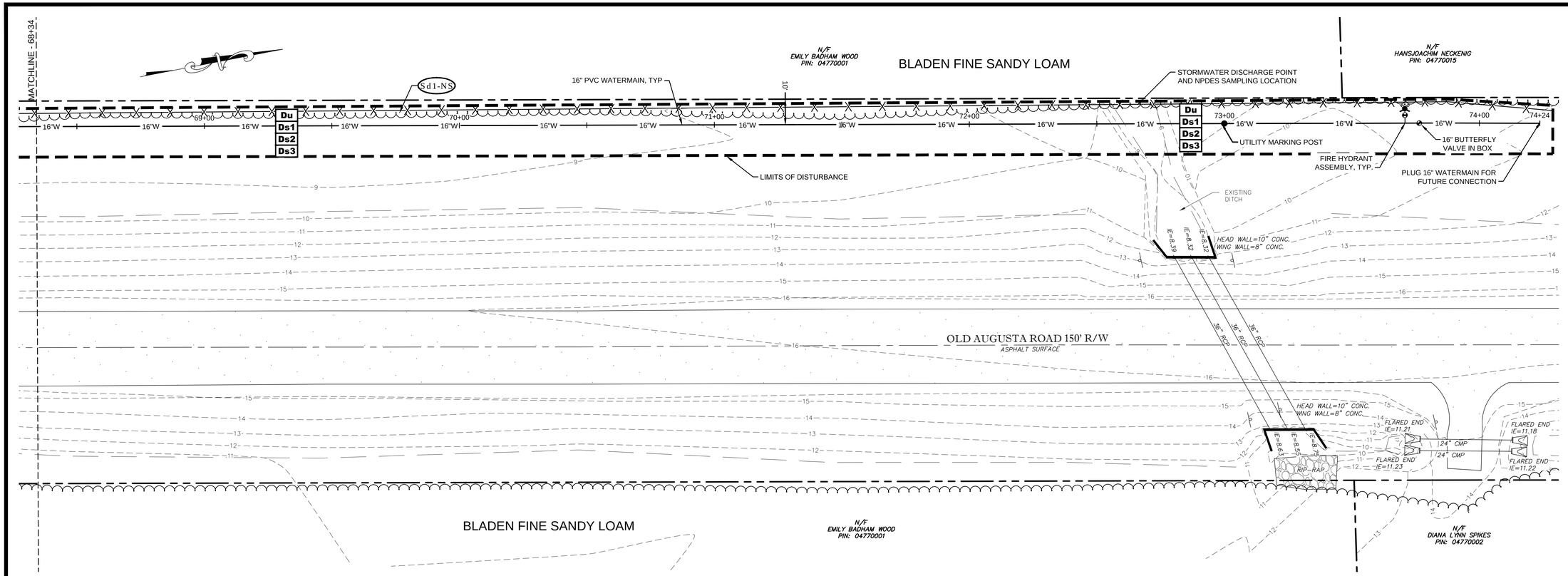
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

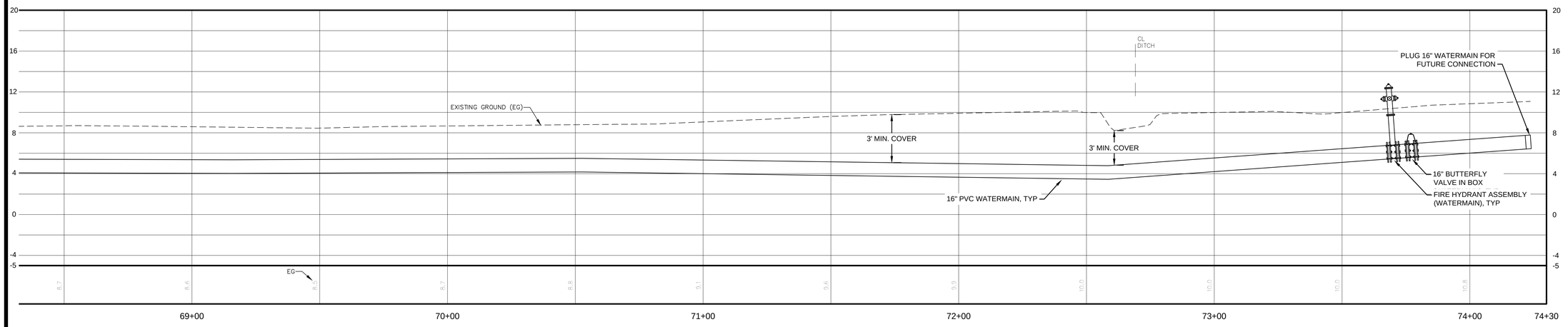
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
16
OF 27

G:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



WATERMAIN AND FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED 04/11/2015 EXPIRES 04/11/2018

Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PLAN & PROFILE

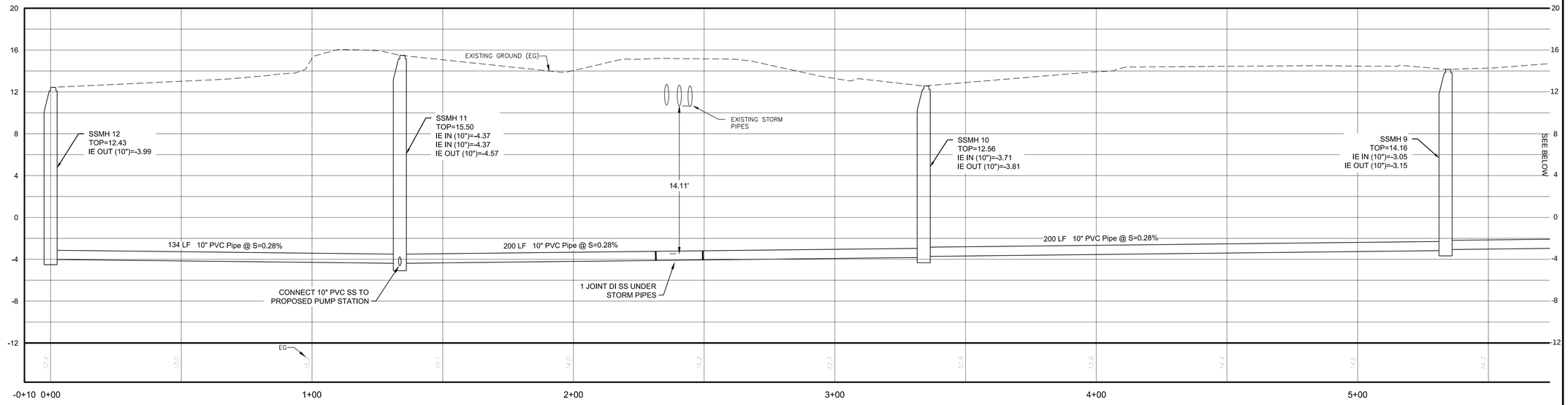
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

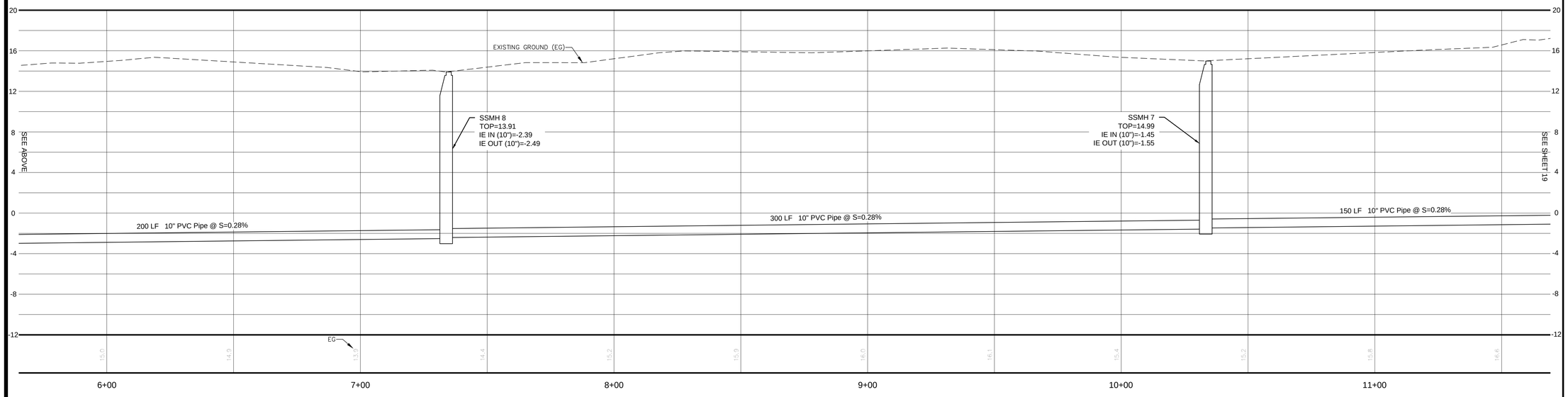
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
17
OF 27

SANITARY SEWER
HORZ SCALE =20
VERT SCALE =5



SANITARY SEWER
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-8533
FAX: (912) 234-4769
www.emc-eng.com

CIVIL
MARINE
ENVIRONMENTAL
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

SEWER PROFILES

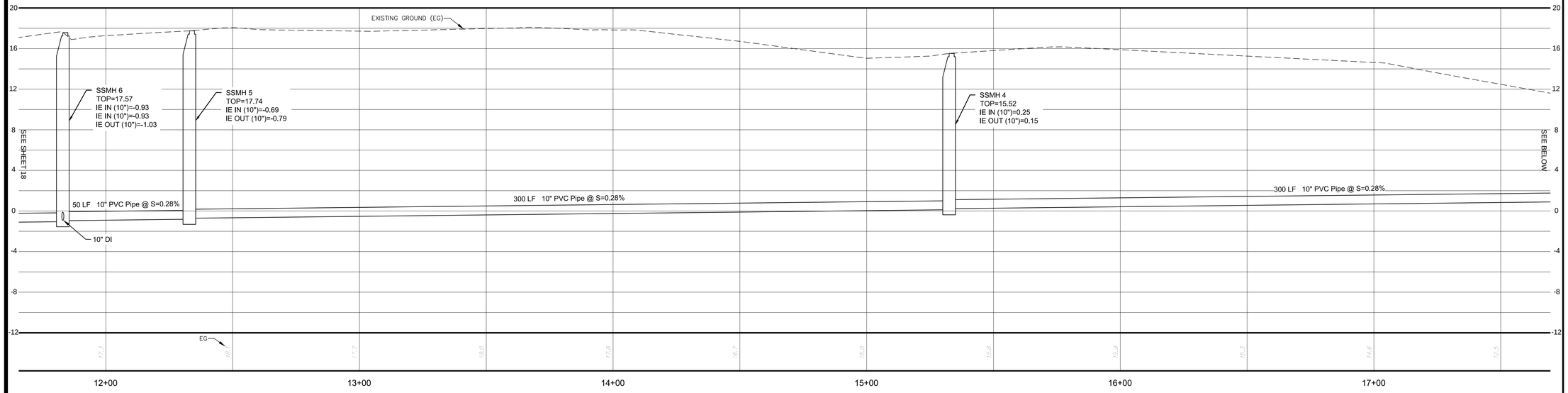
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

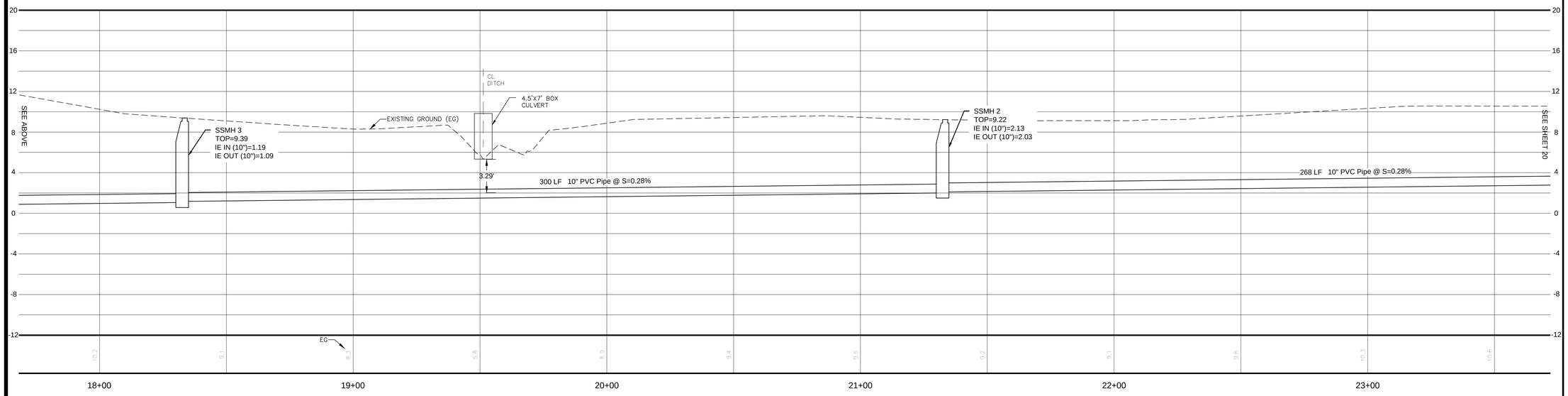
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
18
OF 27

SANITARY SEWER
HORZ SCALE =20
VERT SCALE =5



SANITARY SEWER
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED
No. PE30429
PROFESSIONAL ENGINEER
ALEC B. METZGER

20' 10' 0' 20'
GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-8533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

SEWER PROFILES

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT

EFFINGHAM COUNTY, GEORGIA

Prepared for:

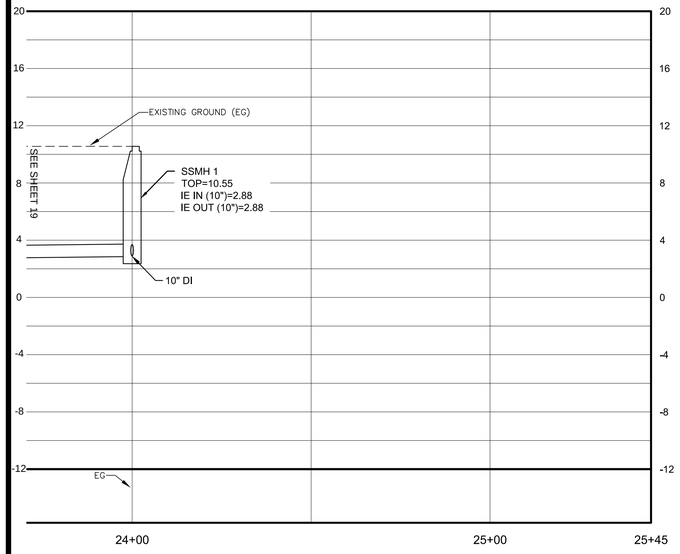
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

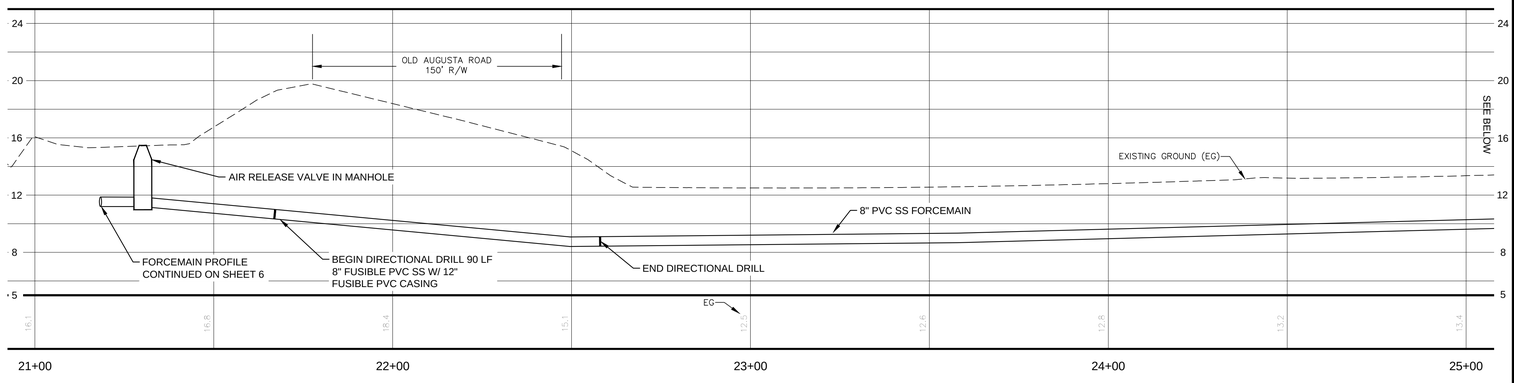
SHEET
19
OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM

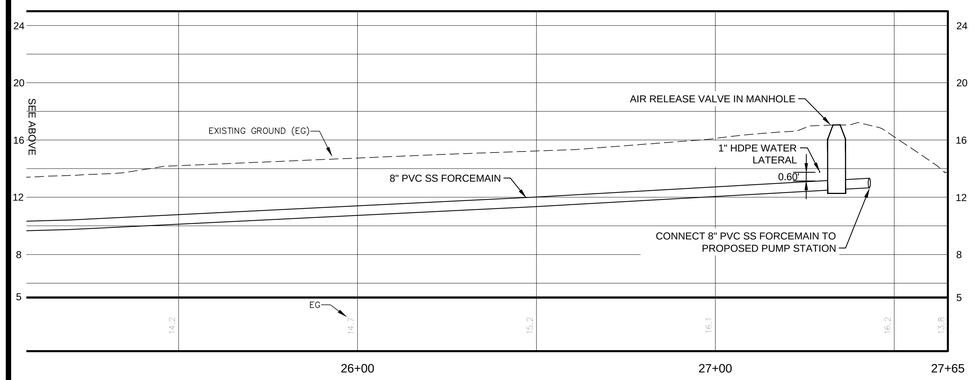
SANITARY SEWER
HORZ SCALE =20
VERT SCALE =5



FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



FORCEMAIN
HORZ SCALE =20
VERT SCALE =5



NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

GRAPHIC SCALE: 1"=20'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-8533
FAX: (912) 234-4660
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

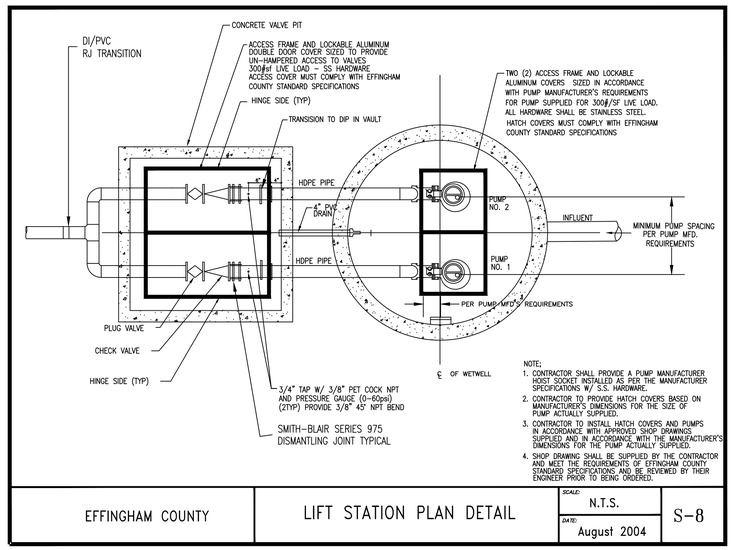
SEWER PROFILES

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

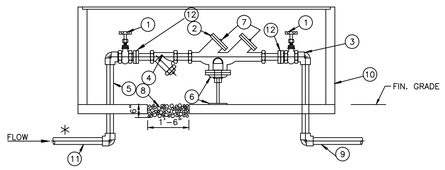
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=20'
DATE:	MAY 2016

SHEET
20
OF 27



NOTE;
1. CONTRACTOR SHALL PROVIDE A PUMP MANUFACTURER HOIST SOCKET INSTALLED AS PER THE MANUFACTURER SPECIFICATIONS W/ S.S. HARDWARE.
2. CONTRACTOR TO PROVIDE HATCH COVERS BASED ON MANUFACTURER'S DIMENSIONS FOR THE SIZE OF PUMP ACTUALLY SUPPLIED.
3. CONTRACTOR TO INSTALL HATCH COVERS AND PUMPS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS SUPPLIED AND IN ACCORDANCE WITH THE MANUFACTURER'S DIMENSIONS FOR THE PUMP ACTUALLY SUPPLIED.
4. SHOP DRAWING SHALL BE SUPPLIED BY THE CONTRACTOR AND MEET THE REQUIREMENTS OF EFFINGHAM COUNTY STANDARD SPECIFICATIONS AND BE REVIEWED BY THEIR ENGINEER PRIOR TO BEING ORDERED.

EFFINGHAM COUNTY	LIFT STATION PLAN DETAIL	SCALE: N.T.S.	S-8
		DATE: August 2004	



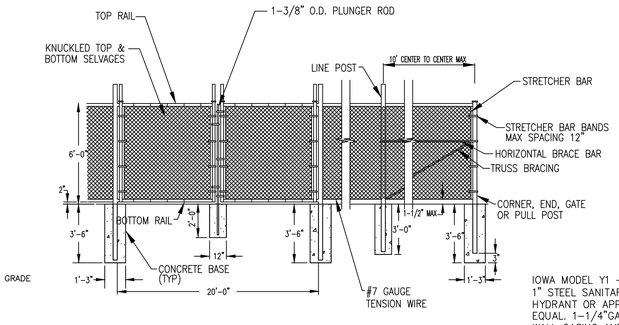
MATERIALS		
ITEM	QUAN.	DESCRIPTION
1	2	RESILIENT TYPE GATE VALVES OS&Y (FOR 2" & LARGER LESS THAN 2" BALL VALVE)
2	1	REDUCED PRESSURE ZONE DEVICE/DOUBLE CHECK VALVE
3	4	BRASS 90° (DOMESTIC MADE)
4	1	STRAINER
5	2	BRASS NIPPLE (DOMESTIC MADE)
6		MINIMUM 12" CLEARANCE
7	2	BRASS PLUGS INSERTED IN TEST COCKS
8		6" GRAVEL & DRAIN
9		POLYTHYLENE PIPE WITH COMPRESSION FITTINGS
10	*	COUNTY APPROVED ENCLOSURE WITH HATCH COVER FOR BFP
11		CUT BRASS (DOMESTIC MADE)
12		UNION

* RECOMMENDED FOR FREEZE PROTECTION

BACKFLOW PREVENTER DETAIL
3/4", 1", 1-1/2", 2"

BACKFLOW PREVENTER

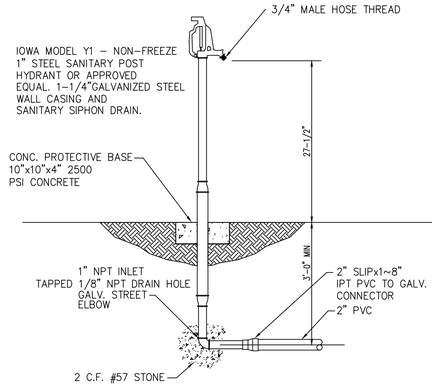
NOT TO SCALE:



NOTES:
1. FABRIC TO BE ATTACHED TO HORIZONTAL RAILS W/ TIE WIRES AT 16" MAX SPACING MADE ON INSIDE OF FENCE AND NOT ACCESSABLE FROM OUTSIDE
2. FABRIC TO BE ATTACHED TO TENSION WIRES W/ HOG RINGS AT 24" MAX SPACING
3. FABRIC TO BE ATTACHED TO LINE POSTS W/ SELF-LOCKING BANDS AT 12" MAX SPACING
4. TOP RAIL TO TOP OF FABRIC SHALL BE 2" MAX
5. GATE POST SHALL BE 6" MINIMUM GALVANIZED STEEL.
6. FABRIC SHALL BE 12 GAUGE.

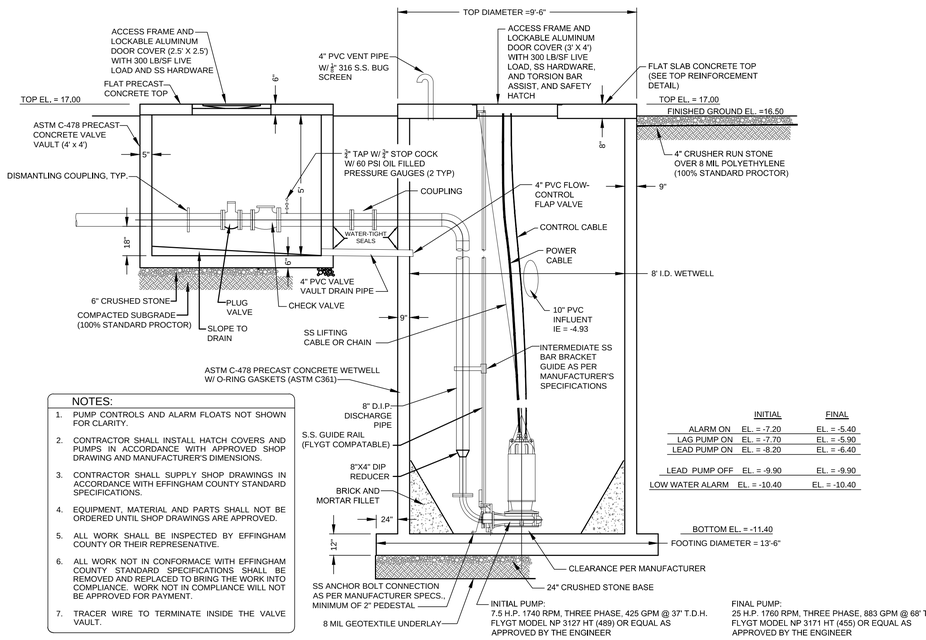
CHAIN LINK FENCE DETAIL

NOT TO SCALE:



NON FREEZE YARD HYDRANT DETAIL

NOT TO SCALE:

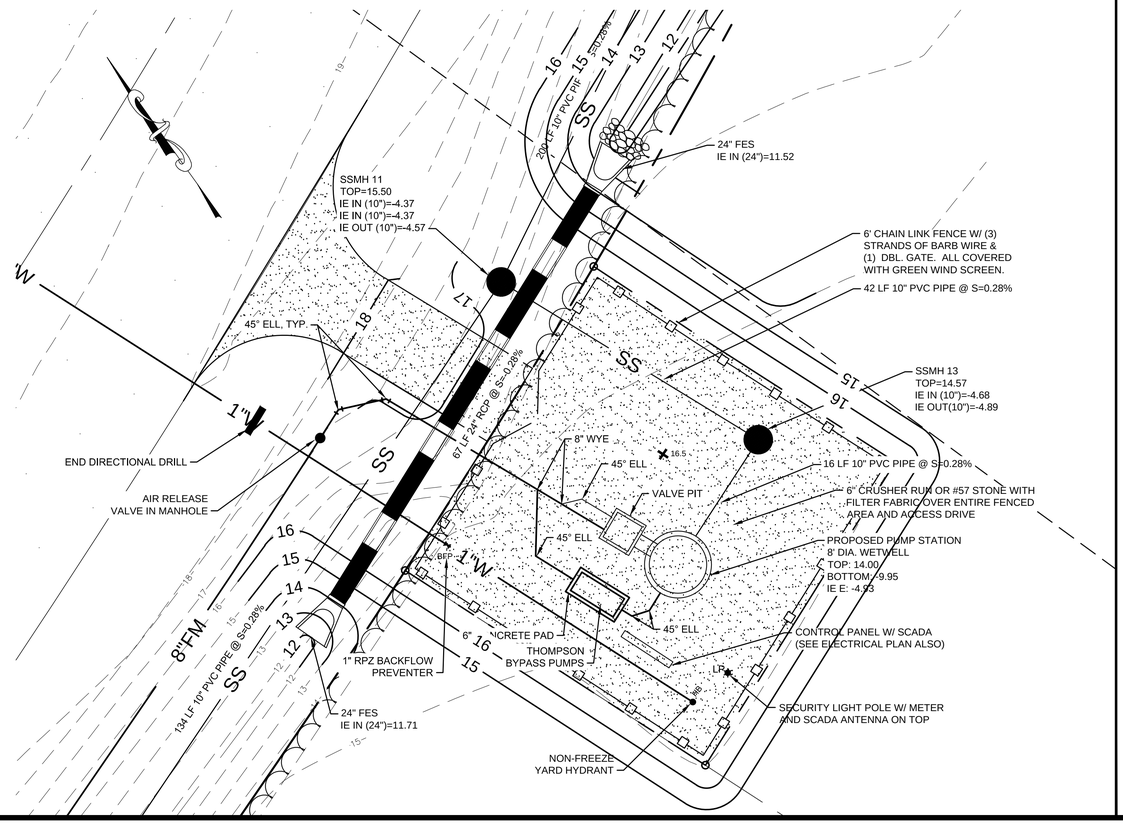


	INITIAL	FINAL
ALARM ON	EL. = -7.20	EL. = -5.40
LAG PUMP ON	EL. = -7.70	EL. = -5.90
LEAD PUMP ON	EL. = -8.20	EL. = -6.40
LEAD PUMP OFF	EL. = -9.90	EL. = -9.90
LOW WATER ALARM	EL. = -10.40	EL. = -10.40

NOTES:
1. PUMP CONTROLS AND ALARM FLOATS NOT SHOWN FOR CLARITY.
2. CONTRACTOR SHALL INSTALL HATCH COVERS AND PUMPS IN ACCORDANCE WITH APPROVED SHOP DRAWING AND MANUFACTURER'S DIMENSIONS.
3. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS IN ACCORDANCE WITH EFFINGHAM COUNTY STANDARD SPECIFICATIONS.
4. EQUIPMENT, MATERIAL AND PARTS SHALL NOT BE ORDERED UNTIL SHOP DRAWINGS ARE APPROVED.
5. ALL WORK SHALL BE INSPECTED BY EFFINGHAM COUNTY OR THEIR REPRESENATIVE.
6. ALL WORK NOT IN CONFORMACE WITH EFFINGHAM COUNTY STANDARD SPECIFICATIONS SHALL BE REMOVED AND REPLACED TO BRING THE WORK INTO COMPLIANCE. WORK NOT IN COMPLIANCE WILL NOT BE APPROVED FOR PAYMENT.
7. TRACER WIRE TO TERMINATE INSIDE THE VALVE VAULT.

DUPLEX SUBMERSIBLE SEWAGE PUMP STATION SECTION

NOT TO SCALE:



NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

10' 5' 0' 10'
GRAPHIC SCALE: 1"=10'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4569
www.emc-eng.com
CIVIL MARINE ENVIRONMENTAL SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PUMP STATION PLAN

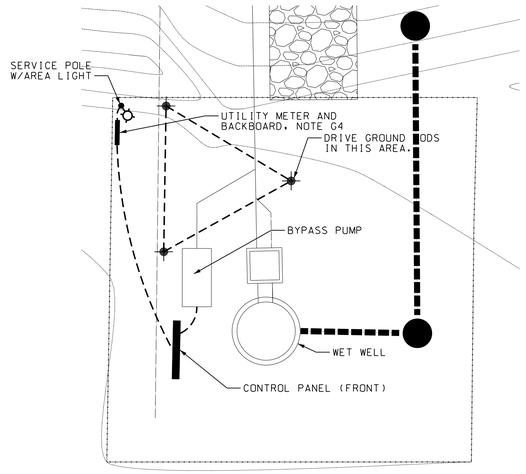
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

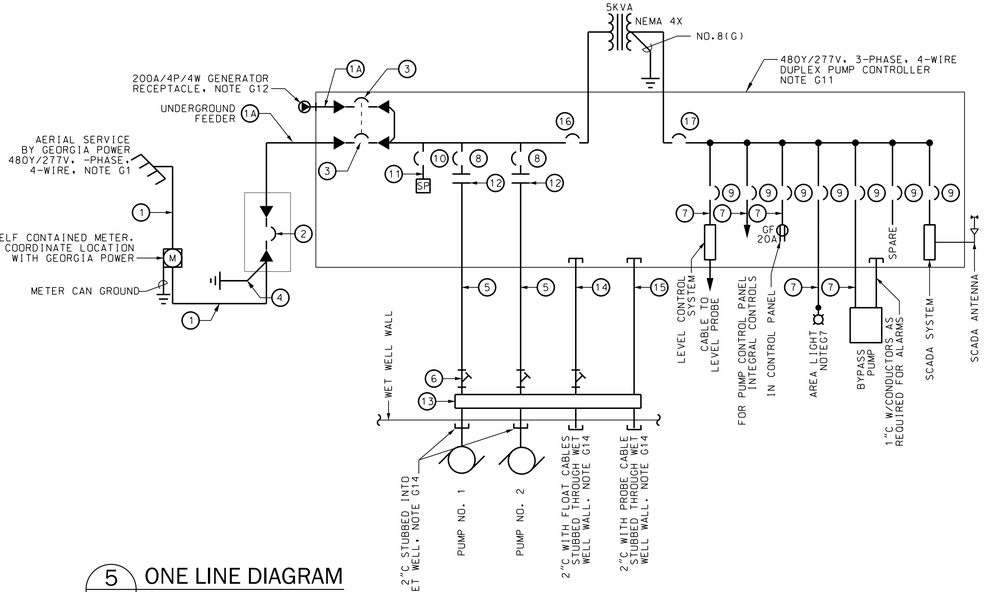
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	EMC
SURVEY DATE:	MARCH 2016
CHECKED BY:	ABM
SCALE:	1"=10'
DATE:	MAY 2016

SHEET 21 OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C_B01.DWG 5/20/2016 11:57 AM



1 SITE PLAN
E1 SCALE: 1" = 10'



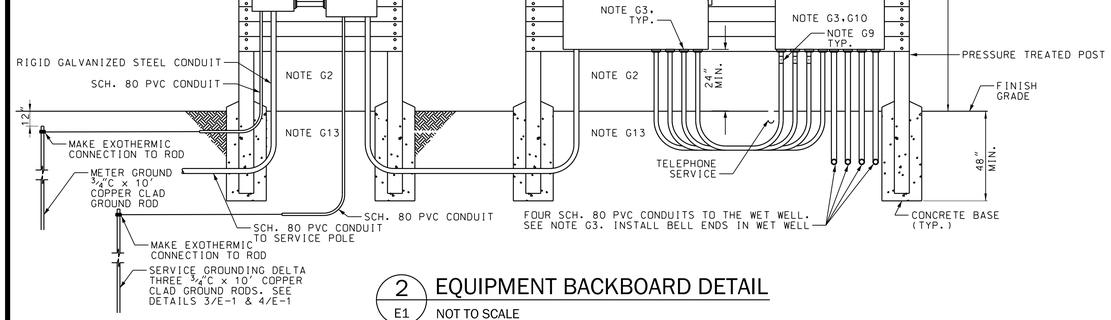
5 ONE LINE DIAGRAM
E1 NOT TO SCALE

DUPLEX PUMP STATION ONE LINE SCHEDULE

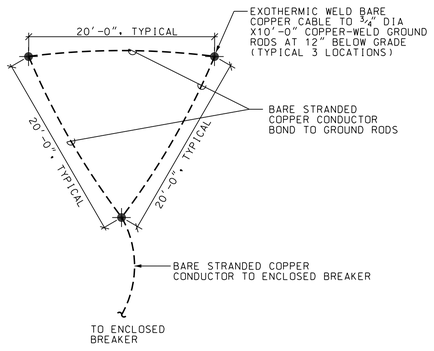
ITEM#	PUMPS 460V 3PH: 7.5HP 9.9FLA / 25HP 31FLA
1	2"C W/4NO.1
1A	2"C W/4NO.1, 1NO.8(G)
2	125A/3P MAIN CIRCUIT BREAKER W/ SERVICE LABEL. 18 000 MIN. A.I.C. @ 480V. LOCKABLE
3	125A/3P EMERGENCY CIRCUIT BREAKER W/ MECHANICAL WALKING BEAM INTERLOCK 18 000 MIN. A.I.C. @ 480V
4	3/4"C.W/ 1 NO. 6(G)
5	2"C W/3NO.8, 1NO.10(G), 4NO.12(CNTLS)
6	SEAL-OFF FITTING, C-H TYPE EYS. NOTE G9
7	3/4"C.W/2NO.12, 1NO.12(G)
8	25A/3P MOTOR CIRCUIT BREAKER 18 000 MIN. A.I.C. @ 480V. NOTE G15
9	20A/1P CIRCUIT BREAKER, 10 000 MIN. A.I.C. @ 120V
10	40A/3P CIRCUIT BREAKER 14 000 MIN. A.I.C. @ 480V.
11	3NO.8, 1NO.8(G), CONDUCTORS SHALL NOT EXCEED 18" IN LENGTH
12	REDUCED VOLTAGE SOLID STATE STARTER FOR 25HP 460V 3PH 31FLA MOTOR. NOTE G15
13	NEMA 4X STAINLESS STEEL JUNCTION BOX WITH POWER BLOCKS AND TERMINAL STRIPS AS REQUIRED SEE NOTE G10
14	2"C W/4NO.12, 1NO.12(G)
15	2"C W/LEVEL PROBE CABLE
16	15A/2P CIRCUIT BREAKER 14 000 MIN. A.I.C. @ 480V.
17	30A/2P CIRCUIT BREAKER 10 000 MIN. A.I.C. @ 240V.

LEGEND

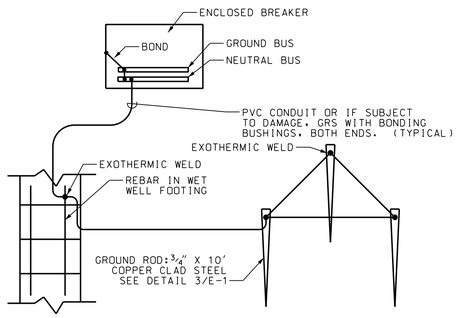
- EQUIPMENT AS NOTED
- MOTOR CIRCUIT BREAKER AND REDUCED VOLTAGE SOLID STATE STARTER
- 20A DUPLEX RECEPTACLE, NEMA 5-20R
- WP WEATHERPROOF
- GROUND TO GROUND ROD SYSTEM
- GF GROUND FAULT CIRCUIT INTERRUPTER PROTECTION
- AIC INTERRUPTING CAPACITY IN AMPS
- CONDUIT SYSTEM CONCEALED BELOW GRADE
- (10) PUMP MOTOR. HORSEPOWER INDICATED
- EMERGENCY GENERATOR RECEPTACLE, NOTE G12
- SEAL OFF FITTING, NOTE G9
- AREA LIGHT: LUMARK NAVION AREA LIGHT. NOTE G7,G11
- SP SURGE SUPPRESSION UNIT - APT MODEL TE-04-XDS-15-4X-A
- GROUND ROD LOCATION



2 EQUIPMENT BACKBOARD DETAIL
E1 NOT TO SCALE



3 SECONDARY ELECTRICAL GROUNDING
E1 NOT TO SCALE



4 PUMP STATION SERVICE GROUNDING
E1 NOT TO SCALE

GENERAL NOTES

G1. FIELD COORDINATE THE LOCATION OF THE SERVICE POLE WITH GEORGIA POWER CONTACT JOSHUA GWINN, DISTRIBUTION ENGINEER, (912)306-2631, AND OSMAN BHOLAT, AREA SALES EXECUTIVE, (912)306-2326.

G2. UNLESS NOTED OTHERWISE, ALL CONDUITS INSTALLED EXPOSED TO ATMOSPHERE SHALL BE RIGID GALVANIZED STEEL CONDUIT. ALL CONDUITS INSTALLED BELOW GRADE SHALL BE SCHEDULE 80 PVC. ALL ELBOWS BELOW GRADE TO BE RIGID GALVANIZED STEEL.

G3. SEAL BOTH ENDS OF EACH CONDUIT ENTERING THE CONTROL CABINET FROM THE WET WELL WITH ELECTRICAL DUCT SEAL. SEAL ALL CONDUITS ENTERING CONTROL PANEL FROM BELOW GRADE WITH DUCT SEAL.

G4. THE EXACT LOCATION OF THE METER AND SERVICE SHALL BE COORDINATED IN THE FIELD WITH THE UTILITY COMPANY AND WITH OTHER WORK ON THE PROJECT SITE.

G5. CIRCUIT BREAKER AND SWITCH OPERATING HANDLES SHALL BE A MAXIMUM OF 66" ABOVE FINISHED GRADE. LOCATE DUPLEX PUMP CONTROL PANEL AND ENCLOSED CIRCUIT BREAKER WHERE INDICATED.

G6. POSITION ELECTRICAL EQUIPMENT SO THAT ALARM LIGHT CAN BE SEEN FROM THE NEAREST ROAD. EXACT ORIENTATION AND LOCATION OF ELECTRICAL EQUIPMENT STRUCTURE SHALL BE DETERMINED IN FIELD FOR BEST VIEW OF ALARM LIGHT & ACCESS TO ELECTRICAL EQUIPMENT.

G7. MOUNT AREA LIGHT TO THE TOP OF THE SERVICE POLE. REFER TO DETAIL 6/E1, THIS SHEET.

G8. ALL ATTACHMENT HARDWARE SHALL BE HOT DIPPED GALVANIZED.

G9. PROVIDE TYPE EYS TYPE CONDUIT SEAL-OFF. SEAL WITH SEALING COMPOUND. MAKE POWER & FLOAT CONNECTIONS IN THE JUNCTION BOX. LEVEL PROBE SHALL EXTEND TO CONTROL PANEL WITHOUT SPLICES OR INTERMEDIATE TERMINATIONS.

G10. 18"H X 48"W X 8"D MINIMUM NEMA 4X S.S. JUNCTION BOX W/ GASKETED SCREW COVER AND ALUMINUM BACKPLATE.

G11. PROVIDE A LUMARK NAVION SERIES AREA LIGHT WITH A WOOD POLE BRACKET: CAT. NO. NAV-AE-O2-E-UNV-T4W-10K-PER-AP WITH OA/RA1014 AND WP218 BRACKET.

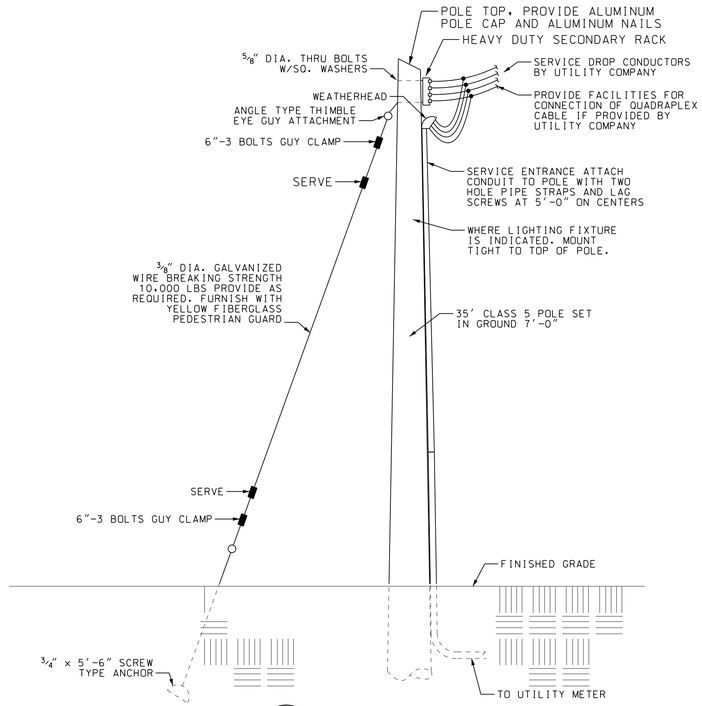
G12. THE CONTRACTOR SHALL FIELD COORDINATE THE EXACT CONFIGURATION OF THE GENERATOR RECEPTACLE WITH THE OWNER'S GENERATOR. THE SUBMITTAL SHALL INDICATE THE CONTRACTOR HAS COORDINATED THE RECEPTACLE PRIOR TO SUBMITTING SHOP DRAWINGS.

G13. ALL METALLIC CONDUITS BELOW GRADE AND/OR ENCASED IN CONCRETE SHALL BE PROTECTED AGAINST CORROSION. APPLY TWO COATS OF 3M SCOTCHRAP PIPE PRIMER, ALLOWING EACH COAT TO DRY BETWEEN APPLICATIONS. THEN APPLY TWO OVERLAPPING LAYERS OF 3M SCOTCHRAP 51 TAPE (20 MILS). CORROSION PROTECTION SHALL EXTEND FROM 6" ABOVE GRADE TO THE END OF THE METALLIC CONDUIT.

G14. 2" SCH. 80 PVC STUBBED INTO THE WET WELL. PROVIDE STAINLESS STEEL SUPPORT HOOK AND NON-CONDUCTIVE, CLOSED MESH, ARAMID FIBER CABLE SUPPORT GRIPS FOR ALL CABLES. GRIPS FOR FLOAT AND PROBE CABLES SHALL BE SINGLE WEAVE, SINGLE EYE TYPE; GRIPS FOR PUMP CABLES SHALL BE DOUBLE WEAVE DOUBLE EYE TYPE. COORDINATE GRIP SIZE WITH CABLES SUPPORTED. ATTACH GRIP WITH TWO HEAVY-DUTY PLASTIC ZIP TIES. PROVIDE PRODUCTS OF SLINGCO AMERICA, TYRONE, GA. NO SUBSTITUTIONS PERMITTED. CONTACT CAROLE SYPES, SALES ACCOUNT MANAGER, (888)685-9478.

G15. THE CONTROL PANEL SHALL BE PROVIDED WITH MOTOR CIRCUIT BREAKERS SIZED FOR THE INITIAL PUMPS (7.5 HP) AND SHALL ALLOW SPACE FOR FUTURE/BUILD-OUT CONDITION PUMPS (25 HP). THE REDUCED VOLTAGE SOLID STATE STARTER SHALL BE SIZED AND PROVIDED FOR THE BUILD-OUT CONDITION PUMPS.

G16. THE SCADA SYSTEM FOR THE STATION SHALL BE PROVIDED AS AN INTEGRAL PART OF THE CONTROL PANEL. SCADA EQUIPMENT SHALL BE PROVIDED AND TESTED BY SILVER LAKE AUTOMATION, RINCON, GA. CONTACT ROB LANHAM, GENERAL MANAGER, (912)826-9700. COORDINATE WITH SILVER LAKE AUTOMATION FOR PANEL CONTROL CONFIGURATION AND ANNUNCIATED ALARM POINTS. SCADA ANTENNA SHALL BE MOUNTED ON THE EQUIPMENT BACKBOARD.



6 SERVICE POLE DETAIL
E1 NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE

10' 5' 0' 10'
GRAPHIC SCALE: 1"=10'-0"

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR. SUITE 100, SAVANNAH, GA
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-8580
WEB: emcengr.com
CIVIL MARINE ENVIRONMENTAL SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

PUMP STATION ELECTRICAL PLAN

OLD AUGUSTA ROAD UTILITY EXTENSION
9TH G.M. DISTRICT
EFFINGHAM COUNTY, GEORGIA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CC
DESIGNED BY:	CC
SURVEYED BY:	N/A
SURVEY DATE:	N/A
CHECKED BY:	PM
SCALE:	1"=10'
DATE:	MAY 2016

SHEET
E1
OF 27

CADD PLOT
13-MAY-2016
17:05
CCOBB

E:\Eff. Co. Old Augusta Road PS.16040.01\E1.dgn

GENERAL ES&P CONTROL NOTES

PROJECT NAME: OLD AUGUSTA ROAD UTILITY EXTENSION ADDRESS: OLD AUGUSTA ROAD

CITY/COUNTY: EFFINGHAM COUNTY DATE ON PLANS: MAY 2016

1. STANDARDS AND SPECIFICATIONS: ALL DESIGNS WILL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE PUBLICATION ENTITLED, "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, 6TH EDITION".

2. EROSION CONTROL PROGRAM: CLEARING WILL BE KEPT TO AN ABSOLUTE MINIMUM. VEGETATION AND MULCH WILL BE APPLIED TO APPLICABLE AREAS IMMEDIATELY AFTER EXCAVATION IS COMPLETED. LAND-DISTURBING WILL BE SCHEDULED TO LIMIT EXPOSURE OF BARE SOILS TO EROSION ELEMENTS. STORM WATER MANAGEMENT STRUCTURES WILL BE EMPLOYED TO PREVENT EROSION IN AREAS OF CONCENTRATED WATER FLOWS.

3. SEDIMENT CONTROL PROGRAM: SEDIMENT CONTROL WILL BE ACCOMPLISHED BY INSTALLING BEST MANAGEMENT PRACTICES THAT ARE CONSISTENT WITH AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. PLANS HAVE BEEN PHASED INTO INITIAL SEDIMENT STORAGE AND PERIMETER CONTROL BMP'S, INTERMEDIATE GRADING AND DRAINAGE BMP'S AND FINAL BMP'S. ALL BMP'S HAVE BEEN LABELED ON PLANS USING THE UNIFORM CODING SYMBOLS FROM THE MANUAL. (SEE LEGEND)

4. MAINTENANCE PROGRAM: SEDIMENT AND EROSION CONTROL MEASURES WILL BE INSPECTED DAILY. ANY DAMAGES OBSERVED WILL BE REPAIRED BY THE END OF THAT DAY. CLEANOUT OF SEDIMENT CONTROL STRUCTURES WILL BE ACCOMPLISHED IN ACCORDANCE WITH THE SPECIFICATIONS AND SEDIMENT DISPOSAL ACCOMPLISHED BY SPREADING ON THE SITE. SEDIMENT BARRIERS WILL REMAIN IN PLACE UNTIL SEDIMENT CONTRIBUTING AREAS ARE STABILIZED. THE SEDIMENT BARRIERS WILL THEN BE REMOVED AND THE AREAS OCCUPIED BY THESE AREAS WILL THEN BE VEGETATED. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE OWNER.

CHECKLIST ES&P NOTES

PG 23 | YES — 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.

PG 23 | YES — 2. *LEVEL II CERTIFICATION NUMBER ISSUED BY THE COMMISSION, SIGNATURE AND SEAL OF THE CERTIFIED DESIGN PROFESSIONAL.*

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION

Alec B Metzger
Level II Certified Design Professional

CERTIFICATION NUMBER **0000008757**

ISSUED: **04/11/2015** EXPIRES: **04/11/2018**

Signature: ______________________

PG 23 | YES — 3. THE NAME AND PHONE NUMBER OF THE 24-HOUR LOCAL CONTACT RESPONSIBLE FOR EROSION, SEDIMENTATION AND POLLUTION CONTROLS.

24 HOUR CONTACT INFORMATION OF CIVIL SITE WORKER.
EMC ENGINEERING SERVICES, INC.
ALEC B. METZGER, PE
10 CHATHAM CENTER SOUTH, SUITE 100
SAVANNAH, GEORGIA 31412
(912) 232-6533

PG 23 | YES — 4. PROVIDE THE NAME, ADDRESS AND PHONE NUMBER OF PRIMARY PERMITTEE.

24 HOUR CONTACT INFORMATION OF OWNER/PRIMARY PERMITTEE.
EFFINGHAM COUNTY BOARD OF COMMISSIONERS
TOSS ALLEN
601 NORTH LAUREL STREET
SPRINGFIELD, GEORGIA 31329
(912) 727-2920

PG 23 | YES — 5. NOTE TOTAL AND DISTURBED ACREAGE OF THE PROJECT OR PHASE UNDER CONSTRUCTION.

THE TOTAL AREA OF THIS PROJECT IS ±4.72 ACRES.
THE TOTAL DISTURBED AREA FOR THIS PROJECT IS ±4.72 ACRES.

PG 23 | YES — 6. PROVIDE THE GPS LOCATIONS OF THE BEGINNING AND END OF THE INFRASTRUCTURE PROJECT. GIVE THE LATITUDE AND LONGITUDE IN DECIMAL DEGREES.

BEGINNING OF PROJECT	END OF PROJECT
LATITUDE: 32.24389	LATITUDE: 32.25222
LONGITUDE: 81.20167	LONGITUDE: 81.19083

PG 23 | YES — 7. INITIAL DATE OF THE PLAN AND THE DATES OF ANY REVISIONS MADE TO THE PLAN INCLUDING THE ENTITY WHO REQUESTED THE REVISIONS.

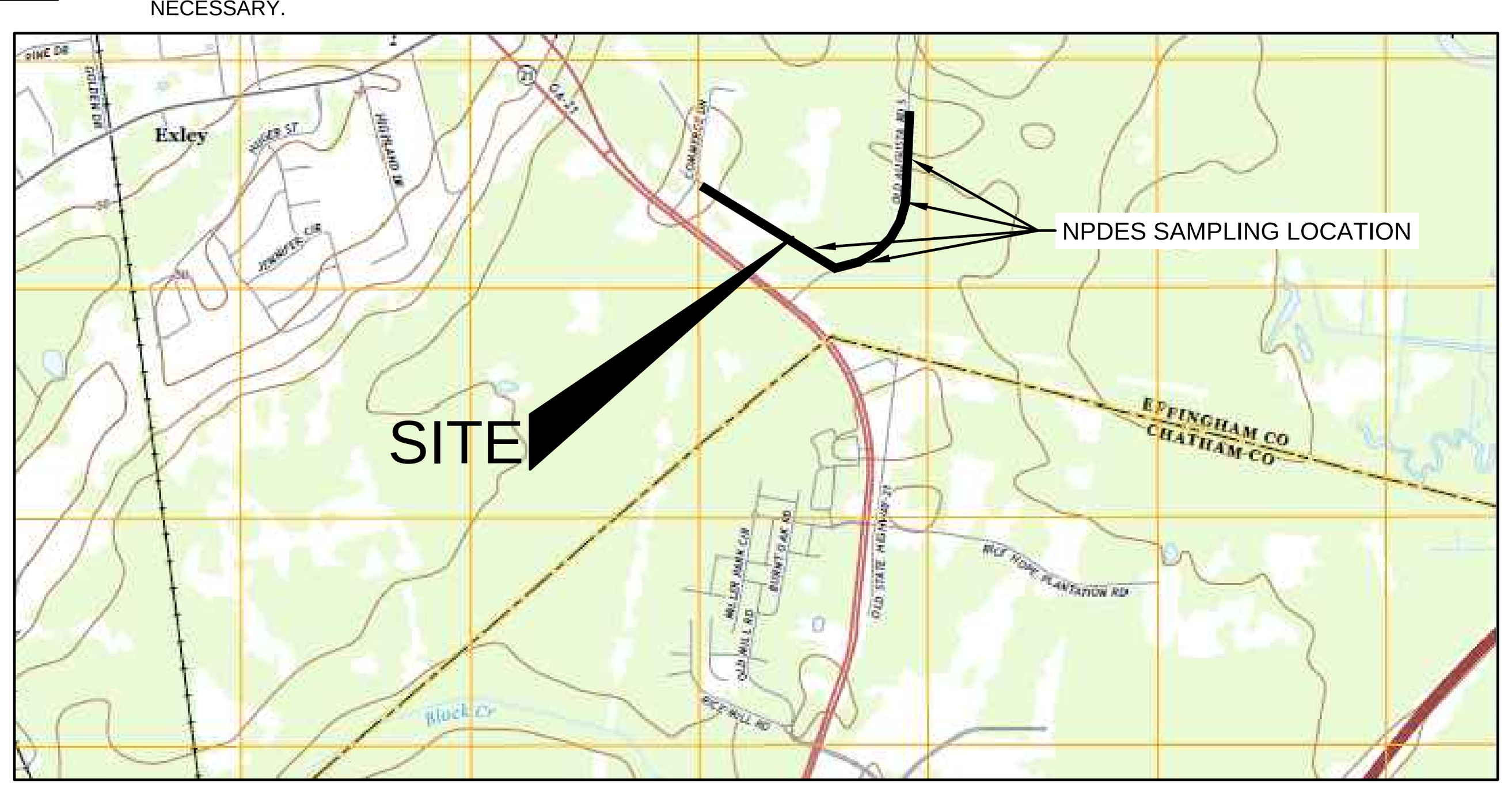
INITIAL DATE OF THE PLAN IS MAY. SEE INDIVIDUAL SHEET REVISION BLOCK FOR CHANGES.

PG 23 | YES — 8. DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY.

DESCRIPTION: THE PROJECT IS LOCATED ON OLD AUGUSTA ROAD BETWEEN HIGHWAY 21 AND ABERCORN ROAD IN EFFINGHAM COUNTY, GEORGIA. THE SITE IS CURRENTLY A PAVED ROAD WITH GRADED SHOULDER. IT IS THE INTENTION OF THE OWNER TO EXTEND A WATER MAIN, SEWER FORCE MAIN AND GRAVITY SEWER ALONG OLD AUGUSTA ROAD. THE OWNER ALSO INTENDS TO INSTALL A PUMP STATION ON OLD AUGUSTA ROAD TO SERVICE SEVERAL ADJACENT PROPERTIES.

VEGETATION: THE SITE CONSISTS OF SPARSE VARIOUS VEGETATION INCLUDING SOME TREES AND GRASSED AREAS IN FAIR CONDITION.

PG 23 | YES — 9. PROVIDE VICINITY MAP SHOWING SITE'S RELATION TO SURROUNDING AREAS. INCLUDE DESIGNATION OF SPECIFIC PHASE, IF NECESSARY.



VICINITY MAP
N.T.S.

PG 23 | YES — 10. IDENTIFY THE PROJECT RECEIVING WATERS AND DESCRIBE ALL SENSITIVE ADJACENT AREAS INCLUDING STREAMS, LAKES RESIDENTIAL AREAS WETLANDS, ETC. WHICH MAY BE AFFECTED.

RECEIVING WATERS: INITIAL RECEIVING WATER(S) IS THE SAVANNAH RIVER, WHICH SUPPORTS WARM WATER FISHERIES.

ADJACENT PROPERTY:
NORTH: N/F MILLIKEN FORESTRY
SOUTH: N/F CLAUDE M & ELIZABETH E KICKLIGHTER
EAST: N/F EMILY WOOD BADHAM
WEST: N/F EMILY WOOD BADHAM

PG 23 | YES — 11. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE SITE WAS VISITED PRIOR TO DEVELOPMENT OF THE ES&PC PLAN AS STATED ON PAGE 15 OF THE PERMIT.

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.

____
GSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL

PG 23 | YES — 12. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES FOR AND APPROPRIATE AND COMPREHENSIVE SYSTEM OF BMPS AND SAMPLING TO MEET PERMIT REQUIREMENTS AS STATED ON PAGE 15 OF THE PERMIT.*

I CERTIFY, THAT THE PERMITEE'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 SEDIMENTATION CONTROL IN GEORGIA," (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100002.

____
GSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL

PG 23 | YES — 13. DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES FOR REPRESENTATIVE SAMPLING AS STATED ON PAGE 26 OF THE PERMIT AS APPLICABLE.

I CERTIFY, THAT THE PERMITTEE'S ES&PC 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 JUDGEMENT, UTILIZING THE FACTORS REQUIRED IN THE GENERAL NPDES PERMIT NO. GAR 100002, THAT THE INCREASE IN 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.

____
GSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL

PG 23 | YES — 14. CLEARLY NOTE THE STATEMENT THAT "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."*

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.

DESIGN PROFESSIONAL 7 DAY CERTIFICATION.

DATE OF INSPECTION: ______________________

I CERTIFY THE SITE WAS IN COMPLIANCE WITH THE E,S,&PC PLAN ON THE DATE OF INSPECTION

____
GSWCC LEVEL II CERTIFIED DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&P CONTROL PLAN

____

____

THESE DISCREPANCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED. AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BYT HE DESIGN PROFESSIONAL.

PG 23 | YES — 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."

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN ANY REQUIRED 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS ACCORDING TO PART IV (i) AND (ii) OF THE GENERAL PERMIT.

N/A | NO — 16. PROVIDE A DESCRIPTION OF ANY BUFFER ENCROACHMENTS AND INDICATE WHETHER A BUFFER VARIANCE IS REQUIRED.

THERE ARE NO BUFFER ENCROACHMENTS ON THIS PROJECT.

PG 23 | YES — 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."*

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.

PG 23 | YES — 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."*

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

PG 23 | YES — 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."

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.

PG 23 | YES — 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."

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.

PG 23 | YES — 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."

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

N/A | NO — 22. ANY CONSTRUCTION ACTIVITY WHICH DISCHARGES STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III. C. OF THE PERMIT. INCLUDE THE COMPLETED APPENDIX 1 LISTING ALL THE BMPS THAT WILL BE USED FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO THE IMPAIRED STREAM SEGMENT.*

PROJECT DOES NOT DISCHARGE STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT

N/A | NO — 23. IF A TMDL IMPLEMENTATION PLAN FOR SEDIMENT HAS BEEN FINALIZED FOR THE IMPAIRED STREAM SEGMENT (IDENTIFIED IN ITEM 21 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.*

THIS DOES NOT APPLY TO THIS PROJECT.

PG 23 | YES — 24. BMPS FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF THE VEHICLES. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.*

CONCRETE WASHDOWN - NO CONCRETE TRUCKS, MIXER CHUTES, HOPPERS, TOOLS, NOR THE REAR OF VEHICLES WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.

PG 23 | YES — 25. PROVIDE BMP'S FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS.

SOIL CLEANUP AND CONTROL PRACTICES: LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO , BROOMS, DUSTPANS, MAPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATIONS. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NRC WILL BE CONTACTED WITH IN 24 HOURS AT 1-800-426-2675. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS. FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AN LOCATE AGENCIES WILL BE CONTACTED AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1,320 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY OF LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FORM STATE WATERS, NATURAL DRAINS AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS, AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.

PG 23 | YES — 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.*

POST CONSTRUCTION POLLUTANT CONTROL MEASURES: EROSION SEDIMENTATION AND POLLUTION CONTROL MEASURES INSTALLED DURING THE CONSTRUCTION PROCESS, SHALL SERVE TO CONTROL POLLUTANTS ENTERING INTO THE STORM WATER SYSTEM AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. THESE MEASURES SHALL INCLUDE RIP RAP OUTLET PROTECTION. THE STORM WATER RELEASED WILL MAINTAIN PRE-DEVELOPMENT RUN-OFF RATES AS WELL AS FLOW PATTERNS. RIP RAP, LOCATED AT ALL OUTFALLS, SHALL PROVIDE A NON-EROSIVE FLOW SO THAT THE NATURAL PHYSICAL AND BIOLOGICAL CHARACTERISTICS AND FUNCTIONS OF THE WATER COURSE ARE MAINTAINED AND PROTECTED (AS SUBJECT TO SECTION 404 OF THE FEDERAL CLEAN WATER ACT).

PG 23 | YES — 27. DESCRIPTION OF THE PRACTICES THAT WILL BE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES.*

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

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

SANITARY WASTES: A MINIMUM OF ONE PORTABLE SANITARY UNIT WILL BE PROVIDED FOR EVERY TEN (10) WORKERS ON THE SITE. ALL SANITARY WASTE UNITS WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS.

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

FERTILIZER/HERBICIDE - THESE PRODUCTS WILL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPEC. OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS.

PAINTS/FINISHES/SOLVENTS - ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED TO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS AND PRODUCT CONTAINERS WILL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

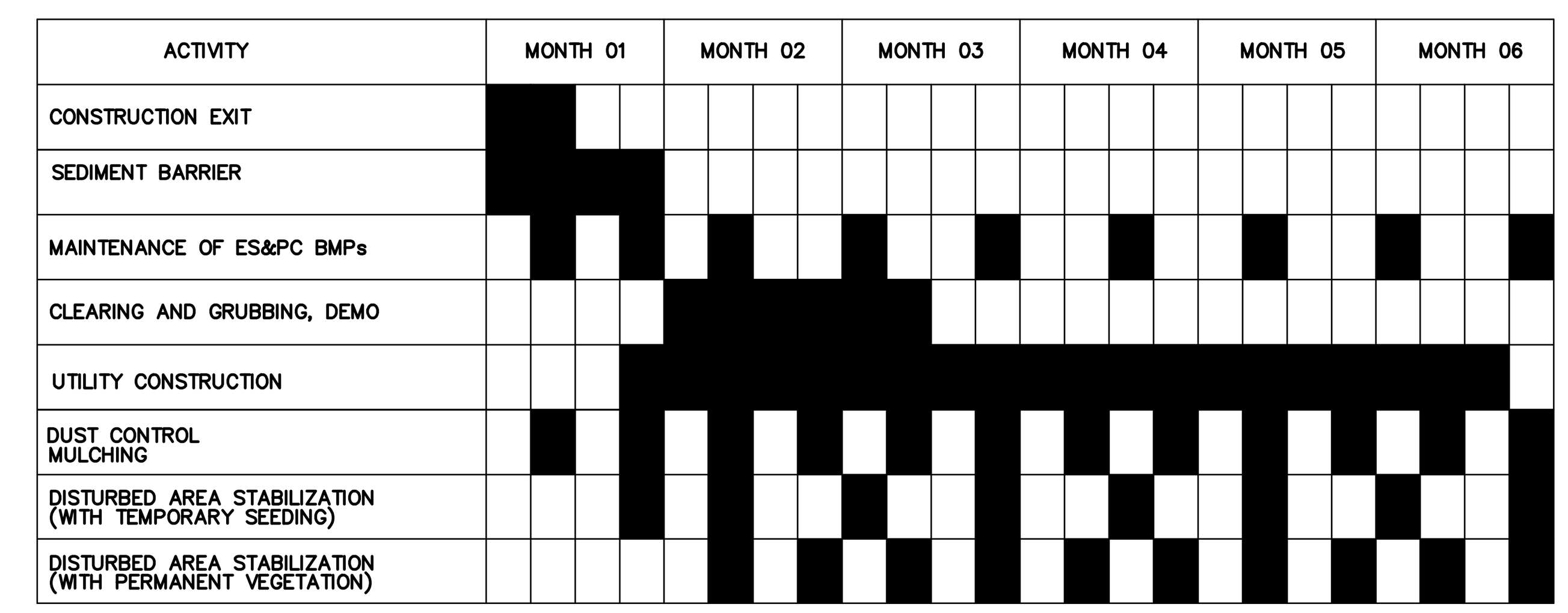
BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIALS WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

POLLUTION CONTROL PROGRAM: WASTE MATERIAL SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT. THE STORM WATER DETENTION FACILITY AND PERMANENT BMPS SHALL HELP PREVENT ANY POLLUTANTS, THAT MAY HAVE DISCHARGED INTO THE STORM DRAINAGE SYSTEM, FROM ESCAPING THE SITE.

WASTE MATERIALS - ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF ONCE PER WEEK OR MORE OFTEN IF NECESSARY AND TRASH WILL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE WILL BE BURIED ONSITE. ALL PERSONNEL WILL BE INSTRUCTED ON PROPER PROCEDURES FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES WILL BE POSTED AT THE JOBSITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

PG 23 | YES — 28. 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, TEMPORARY AND FINAL STABILIZATION).

TENTATIVE ACTIVITY SCHEDULE



PG 23 | YES — 29. PROVIDE COMPLETE REQUIREMENTS OF INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE.*

INSPECTIONS AND RECORD KEEPING: CONSTRUCTION ACTIVITIES WILL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS, RULES, AND REGULATIONS. CONSTRUCTION SITE MUST BE INSPECTED DAILY, WEEKLY, AND MONTHLY BY CERTIFIED PERSONNEL. RECORDS OF INSPECTIONS MUST BE KEPT IN ACCORDANCE WITH PART IV.D.4.A OF THE GENERAL PERMIT.

PERMITTEE REQUIREMENTS

A. EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKE 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.

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

C. CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (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. 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.

D. 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 RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).

E. BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE 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.

F. 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 CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PAR V.G.2. OF THIS PERMIT.

NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-4580
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

OLD AUGUSTA ROAD UTILITY EXTENSION
9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

PG 24 | YES

30. PROVIDE COMPLETE REQUIREMENTS OF SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS.

SAMPLING FREQUENCY:
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. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THE GENERAL 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.

SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:

A. FOR EACH AREA OF THE SITE THAT DISCHARGES INTO 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 THE GENERAL 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 THE GENERAL PERMIT EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO SUBMITTAL OF A NOTICE OF TERMINATION (NOT), IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRS;.

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 EVEN 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 (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 (B) 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.

REPORTING:

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

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 DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THE GENERAL 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 THE DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THE GENERAL PERMIT. IF AN ELECTRONIC SUBMITTAL IS PROVIDED BY EPD THEN THE WRITTEN CORRESPONDENCE MAY BE SUBMITTED ELECTRONICALLY; IF REQUIRED, A PAPER COPY MUST ALSO BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL OR SIMILAR SERVICE.

PG 24 | YES

31. PROVIDE COMPLETE DETAILS FOR RETENTION OF RECORDS AS PER PART IV.F OF THE PERMIT.

RETENTION OF RECORDS:
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 OF THE GENERAL PERMIT:

A. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
B. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THE GENERAL PERMIT;
C. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV. D.4.A. OF THIS PERMIT.
D. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THE GENERAL PERMIT;
E. A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THE GENERAL PERMIT.
F. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THE GENERAL PERMIT; AND
G. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A(2). OF THE GENERAL PERMIT.

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 PANS, 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 THE GENERAL 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.

PG 24 | YES

32. DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION.

SAMPLING REQUIREMENTS:
THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.

A. SAMPLING REQUIREMENTS SHALL INCLUDE THE FOLLOWING:

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

(2) A WRITTEN NARRATIVE OF SITE SPECIFIC ANALYTICAL METHODS USED TO COLLECT AND ANALYZE THE SAMPLES INCLUDING QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION;

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

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

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

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

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

(3.) 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.

(4.) MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLERS MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION, UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. IF AUTOMATIC SAMPLING IS UTILIZED AND THE AUTOMATIC SAMPLER IS NOT ACTIVATED DURING THE QUALIFYING EVENT, THE PERMITTEE MUST UTILIZE MANUAL SAMPLING OR RISING STAGE SAMPLING DURING THE NEXT QUALIFYING EVENT. DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.

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

C. SAMPLING POINTS

(1). FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE 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 ALL OUTFALLS INTO SUCH STREAMS AND OTHER WATER BODIES, OR A COMBINATION THEREOF. HOWEVER, PROVIDED FOR IN AND IN ACCORDANCE WITH PART IV.D.6.c.(2). OF THIS PERMIT, PRIMARY PERMITTEES ON AN INFRASTRUCTURE CONSTRUCTION PROJECT MAY SAMPLE THE REPRESENTATIVE PERENNIAL AND INTERMITTENT STREAMS, OTHER WATER BODIES OR OUTFALLS, OR A COMBINATION THEREOF. SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATER(S) AND/OR THE STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:

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

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

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

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

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

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

(F) PERMITTEES DO NOT HAVE TO SAMPLE SHEETFLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION). FOR INFRASTRUCTURE CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL OR SILVICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY STABILIZING THE DISTURBED LAND FOR ITS AGRICULTURAL OR SILVICULTURAL USE.

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

*NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (A) AND (B) 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.

PG 24 | YES

33. APPENDIX B RATIONALE FOR NTU VALUES AT ALL OUTFALL SAMPLING POINTS WHERE APPLICABLE.*

SAMPLE ANALYSIS:
STORM WATER IS TO BE SAMPLED FOR NEPHELOMETRIC TURBIDITY UNITS (NTU) OF THE OUTFALL LOCATION. A DISCHARGE OF STORM WATER RUNOFF FROM DISTURBED AREAS WHERE BEST MANAGEMENT PRACTICES HAVE NOT BEEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED SHALL CONSTITUTE A SEPARATE VIOLATION FOR EACH DAY ON WHICH SUCH CONDITION RESULTS IN THE TURBIDITY OF THE DISCHARGE EXCEEDING 75, THE VALUE THAT WAS SELECTED FROM APPENDIX B IN GENERAL PERMIT. THE NTU IS BASED UPON THE DISTURBED ACREAGE OF 4.72 ACRES FOR THE PROJECT SITE, THE SURFACE WATER DRAINAGE AREA OF 0.10-SQUARE MILES FOR THE DRAINAGE BASIN, AND THE RECEIVING WATER THE SAVANNAH RIVER, WHICH SUPPORTS WARM WATER FISHERIES.

PLAN | YES

34. DELINEATE ALL SAMPLING LOCATIONS, PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED.*

PLAN | YES

35. 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 PERIMETER CONTROL BMPS, INTERMEDIATE GRADING AND DRAINAGE BMPS, AND FINAL BMPS ARE THE SAME, THE PLAN MAY COMBINE ALL OF THE BMPS INTO A SINGLE PHASE.*

PLAN | YES

36. GRAPHIC SCALE AND NORTH ARROW.

PLAN | YES

37. EXISTING AND PROPOSED CONTOUR LINES WITH CONTOUR LINES DRAWN AT AN INTERVAL IN ACCORDANCE WITH THE FOLLOWING:

Existing Contours	USGS 1": 2000' Topographical Sheets
Proposed Contours	1" : 400' Centerline Profile

N/A | NO

38. 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 EPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE DOCUMENT FOUND AT WWW.GASWCC.ORG.

PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE DOCUMENT FOUND AT WWW.GASWCC.ORG.

N/A | NO

39. USE OF ALTERNATIVE BMP FOR APPLICATION TO THE EQUIVALENT BMP LIST. PLEASE REFER TO APPENDIX A-2 OF THE MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA 2016 EDITION.

PG 4-6 | YES

40. DELINEATION OF THE APPLICABLE 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS ADJACENT TO STATE WATERS AND ANY ADDITIONAL BUFFERS REQUIRED BY THE LOCAL ISSUING AUTHORITY. CLEARLY NOTE AND DELINEATE ALL AREAS OF IMPACT.

ALL STATE WATERS ON OR WITHIN 200 FEET FROM THE PROJECT SITE MUST BE DELINEATED ON ALL PHASES OF THE PLAN. ALL WETLANDS LOCATED WITHIN THE PROJECT SITE MUST BE DELINEATED.

PG 3-5 | YES

41. DELINEATION OF ON-SITE WETLANDS AND ALL STATE WATERS LOCATED ON AND WITHIN 200 FEET OF THE PROJECT SITE.

N/A | NO

42. DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE.

N/A | NO

43. DELINEATE ON-SITE DRAINAGE AND OFF-SITE WATERSHEDS USING USGS 1":2000' TOPOGRAPHICAL SHEETS.

N/A | NO

44. AN ESTIMATE OF THE RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED.

N/A | NO

45. STORM DRAIN PIPE AND WEIR VELOCITIES WITH APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION. IDENTIFY/DELINEATE ALL STORM WATER DISCHARGE POINTS.

PLAN | YES

46. SOIL SERIES FOR THE PROJECT SITE AND THEIR DELINEATION.

PLAN | YES

47. THE LIMITS OF DISTURBANCE FOR EACH PHASE OF CONSTRUCTION.

PG 24 | YES

48. 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 FEASABLE, A WRITTEN JUSTIFICATION EXPLAINING THIS DECISION MUST BE INCLUDED IN THE PLAN.

SEDIMENT STORAGE:

BASIN IS 4.72-ACRES. THE REQUIRED SEDIMENT STORAGE VOLUME FOR THIS ACREAGE IS 67 CY/AC * 4.72-ACRES = 317 CY. THE SEDIMENT WILL BE TRAPPED BY PERIMETER SILT FENCE AND ANY EXCESS WILL BE CAUGHT USING HAY BALE CHECK DAMS.
REQUIRED STORAGE < AVAILABLE STORAGE

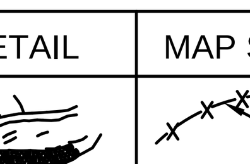
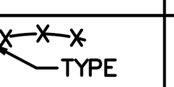
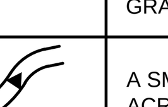
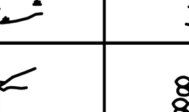
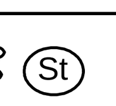
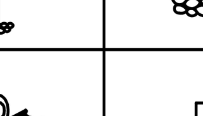
HAY BALE CHECK DAM STORAGE CALCULATION

1. DISTURBED AREA = 4.72 AC
2. REQUIRED SEDIMENT STORAGE = 67 CY/AC * DISTURBED AREA
   REQUIRED SEDIMENT STORAGE = 67 CY/AC * 4.72 AC
   REQUIRED SEDIMENT STORAGE = 317 CY = 8,559 CF
3. SEDIMENT TRAPPED BY SILT FENCE = 913 CY
   REMAINDER OF SEDIMENT TO BE STORED = 317 - 913 = 0 CY

PLAN | YES

49. 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.

VEGETATIVE MEASURES AND STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
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 SEDIMENT FENCE.
Cd-H	HAY BALE CHECK DAM			A SMALL TEMPORARY BARRIER FORMED BY HAY BALES CONSTRUCTED ACROSS A SWALE, DRAINAGE DITCH OR AREA OF CONCENTRATED FLOW.
St	STORM DRAIN OUTLET PROTECTION		 St	A PAVED OR SHORT SECTION OF RIPRAP CHANNEL AT THE OUTLET OF A STORM DRAIN SYSTEM PREVENTING EROSION FROM THE CONCENTRATED RUNOFF.
Du	DUST CONTROL ON DISTURBED AREAS		Du	CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRICTION SITE, ROADWAYS AND SIMILAR SITES.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	ESTABLISHING TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWNING SEASON TO PRODUCE AN EROSION RETARDING COVER.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)		Ds2	ESTABLISHING A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)		Ds3	ESTABLISHING PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREAS.

PG 25-27 | YES

50. 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.

PG 24 | YES

51. 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.

TEMPORARY AND PERMANENT SEEDING SCHEDULE

SEEDING RATES FOR TEMPORARY & PERMANENT COVER

MONTH	TEMPORARY COVER	RATE PER ACRE		PERMANENT COVER	RATE PER ACRE	
		SEEDED ALONE	ADDED TO MIX		SEEDED ALONE	ADDED TO MIX
JANUARY	RYEGRASS	40 LBS	–	UNHULLED BERMUDA	10 LBS	6 LBS
	RYE	3 BU	0.5 BU	SERLCEA LESPEDEZA (1)	75 LBS	–
FEBRUARY	ANNUAL LESPEDEZA	40 LBS	10 LBS	UNHULLED BERMUDA	10 LBS	6 LBS
	RYEGRASS	40 LBS	–	SERLCEA LESPEDEZA (1)	75 LBS	–
	RYE	3 BU	0.5 BU			
MAY	WEEPING LOVEGRASS	4 LBS	2 LBS	PENSACOLA BAHIA	60 LBS	30 LBS
	ANNUAL LESPEDEZA	40 LBS	10 LBS	HULLED BERMUDA	10 LBS	6 LBS
				SERLCEA LESPEDEZA (2)	60 LBS	–
MAY	WEEPING LOVEGRASS	4 LBS	2 LBS	PENSACOLA BAHIA	60 LBS	30 LBS
	SUDON GRASS	60 LBS	–	WEEPING LOVEGRASS	6 LBS	6 LBS
	BROWN TOP MILLET	40 LBS	10 LBS	HULLED BERMUDA	10 LBS	6 LBS
MAY	WEEPING LOVEGRASS	4 LBS	2 LBS	PENSACOLA BAHIA	60 LBS	30 LBS
	SUDON GRASS	60 LBS	–	WEEPING LOVEGRASS	6 LBS	6 LBS
	BROWN TOP MILLET	40 LBS	10 LBS	HULLED BERMUDA	10 LBS	6 LBS
	PEARL MILLET	50 LBS	–	SERLCEA LESPEDEZA (2)	60 LBS	–
JUNE	PEARL MILLET	50 LBS	–	PENSACOLA BAHIA	60 LBS	30 LBS
	SUDON GRASS	60 LBS	–	HULLED BERMUDA	10 LBS	6 LBS
	BROWN TOP MILLET	40 LBS	10 LBS			
JULY	PEARL MILLET	50 LBS	–	PENSACOLA BAHIA	60 LBS	30 LBS
	SUDON GRASS	60 LBS	–			
	BROWN TOP MILLET	40 LBS	10 LBS			
AUGUST	PEARL MILLET	50 LBS	–	PENSACOLA BAHIA	60 LBS	30 LBS
	RYE	3 BU	0.5 BU			
SEPTEMBER	RYEGRASS	40 LBS	–	SERLCEA LESPEDEZA (1)	75 LBS	–
	OATS	4 BU	1 BU			
	WHEAT	3 BU	0.5 BU			
OCTOBER	WHEAT	3 BU	0.5 BU	SERLCEA LESPEDEZA (1)	75 LBS	–
	RYEGRASS	40 LBS	–			
	RYE	3 BU	0.5 BU			
	BARLEY	3 BU	0.5 BU			
	OATS	4 BU	1 BU			
NOVEMBER	SAME AS OCTOBER			UNHULLED BERMUDA	10 LBS	6 LBS
DECEMBER	SAME AS OCTOBER			UNHULLED BERMUDA	10 LBS	6 LBS

1. UNSCARIFIED
2. SCARIFIED
3. CENTIPEDE SOD CAN BE USED AS PERMANENT COVER ANYTIME EXCEPT JUNE THRU OCTOBER.
4. LISTED IN THE ORDER OF PREFERENCE.
5. ALL PERMANENT GRASS PLANTINGS SHALL BE MULCHED.

NOTES:
1. FERTILIZING – APPLY 6-12-12 FERTILIZER AT THE RATE OF 35 POUNDS PER 1,000 SQUARE FEET, RAKING LIGHTLY INTO THE SOIL
2. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. THE AGRICULTURAL LIME SHALL MEET THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.
3. DRY STAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE AND DRY HAY SHALL BE APPLIED
4. AT A RATE OF 2.5 TONS PER ACRE.
5. WATER IMMEDIATLEY AFTER MULCHING.

SILT FENCE STORAGE CALCULATION

1. DISTURBED AREA = 4.72 AC
2. REQUIRED SEDIMENT STORAGE = 67 CY/AC * DISTURBED AREA
   REQUIRED SEDIMENT STORAGE = 67 CY/AC * 4.72 AC
   REQUIRED SEDIMENT STORAGE = 317 CY = 8,559 CF
3. ASSUME SEDIMENT DEPTH OF 9" AGAINST SILT FENCE TO DETERMINE REQUIRED SURFACE AREA
4. SAmin = REQUIRED SEDIMENT STORAGE/ SEDIMENT DEPTH
   SAmin = 8,559 CF/ 0.75 FT
   SAmin = 11,412 SF
5. DETERMINE IF ADEQUATE SEDIMENT STORAGE AREA ALONG SILT FENCE IS POSSIBLE.
   LENGTH OF SILT FENCE (L) = 10,958'
   DEPTH OF SEDIMENT (D) = 0.75'
   WIDTH OF SEDIMENT STORAGE AREA (W) = 3.0'

   L x D x W = 24,655 CF

   913 CY OF SEDIMENT STORAGE IS AVAILABLE IN THE SILT FENCE.

NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER 0000008757
ISSUED: 04/11/2015 EXPIRES: 04/11/2018

Signature: ______________

GEORGIA * REGISTERED * No. PE30429 PROFESSIONAL ENGINEER * ALEC B. METZGER

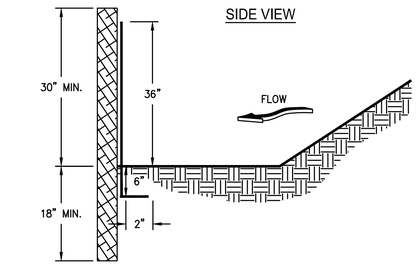
EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 233-4580
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

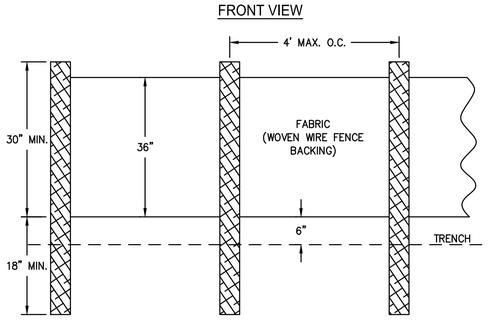
EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

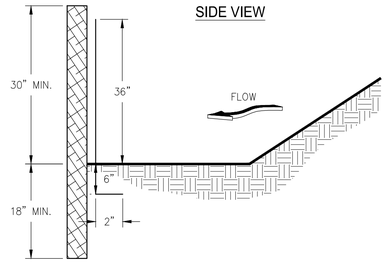
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

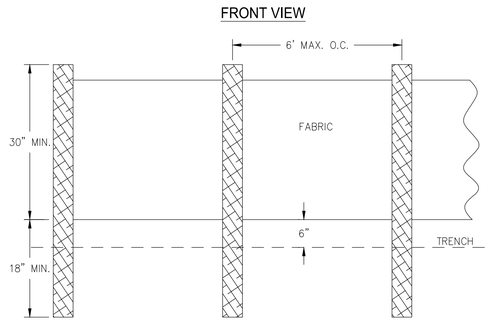




NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE - TYPE SENSITIVE
SCALE: NTS

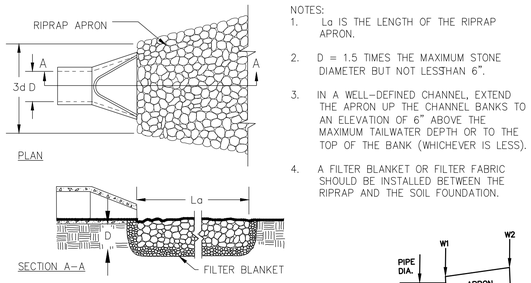




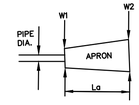
NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE - TYPE NON-SENSITIVE
SCALE: NTS

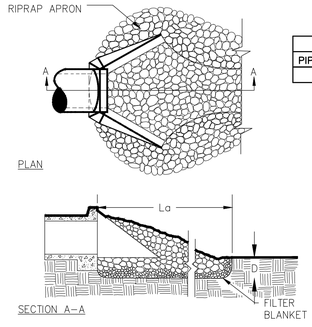
PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
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 OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

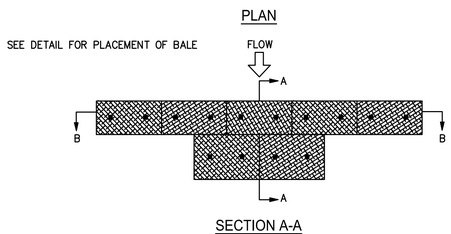


PIPE OUTLET TO WELL DEFINED CHANNEL



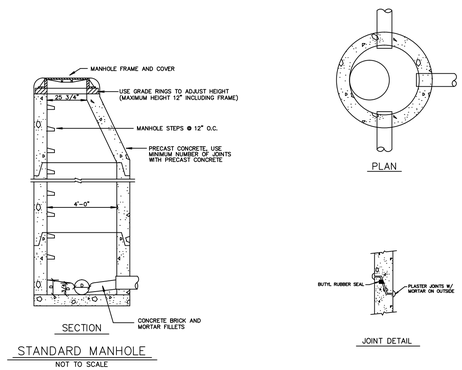
FLOW CHARACTERISTICS				OUTLET PROTECTION DIMENSIONS			
PIPE DIA.	FLOW RATE (CFS)	VELOCITY (FPS)	TAILWATER CONDITION	La	W1	W2	d50
24"	10.66	3.39	< 0.5 x (PIPE DIA.)	10	6.00	12.00	6"

RIP-RAP OUTLET PROTECTION
SCALE: NTS



NOTES:
1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

TYPICAL HAY BALE CHECK DAM
SCALE: NTS



STANDARD MANHOLE
NOT TO SCALE

EFFINGHAM COUNTY	STANDARD MANHOLE	SCALE: N.T.S.	S-1
		DATE: August 2004	

NO.	REVISION DESCRIPTION	BY	DATE

GSWCC GEORGIA SOIL AND WATER CONSERVATION COMMISSION
Alec B Metzger
Level II Certified Design Professional
CERTIFICATION NUMBER: 0000008757
ISSUED: 04/11/2015 EXPIRES: 04/11/2018
Signature: _____

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100 (31405)
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533
FAX: (912) 232-4667
www.emc-eng.com
CIVIL MARINE ENVIRONMENTAL SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

CONSTRUCTION DETAILS

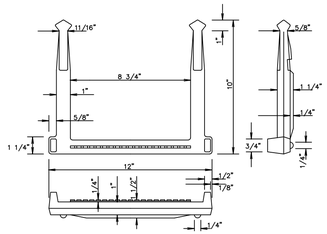
OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

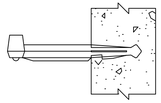
PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

SHEET 25 OF 27

O:\2016\PV16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004_C01.DWG 5/20/2016 12:22



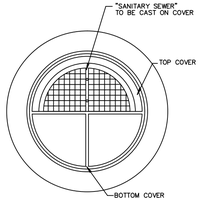
MANHOLE STEPS SHALL BE M.A. IND.,INC. MODEL NO. PS1 OR AN APPROVED EQUAL

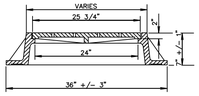


STEPS SHALL BE PLACED INTO WET CONCRETE WALL DURING MANUFACTURE, OR HAND DRIVEN INTO PREFORMED HOLES AFTER CONCRETE HAS CURED.

POLYPROPYLENE PLASTIC W/ NO. 3 DEFORMED STEEL ROD

EFFINGHAM COUNTY	MANHOLE STEP DETAIL	SCALE: N.T.S. / DATE: August 2004	S-2





NOTES:

1: CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE, DISTORTION OR OTHER DEFECTS THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOTBLASTING OR BY SOME OTHER APPROVED METHOD. CASTING SHALL NOT BE PAINTED.

2: MATERIALS USED IN THE MANUFACTURE OF CASTINGS SHOULD CONFORM TO AASHO M105/ASTM A48, CLASS 35B OR ASTM A48, CLASS 30, FOR GRAY IRON.

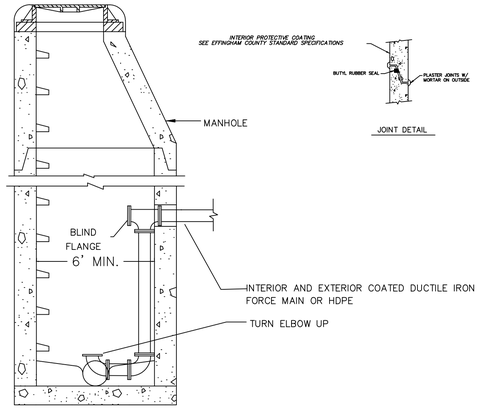
3: ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN: COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER, ROUND FRAMES AND COVERS SHALL BE OF NON-ROCKING DESIGN, OR SHALL HAVE MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING UNDER TRAFFIC. FRAME SHALL BE SUITABLE FOR CAST IRON OR STEEL RISER RING FOR UPWARD ADJUSTMENT OF COVER. CLEAR OPENING SHALL BE 24".

4: MANHOLE COVER SHALL BE 25-3/4" IN DIAMETER AND SHALL BE 2-INCHES THICK AT THE BEARING SURFACE.

5. CASTINGS SHALL BE PROVIDED WITH THE INSCRIPTION "SANITARY SEWER" CAST INTO THE COVER IN LETTERING AT LEST 2-INCHES HIGH. MANUFACTURER'S NAME , IF IT APPEARS ON THE COVER, SHALL BE CONFINED TO THE PERIPHERY.

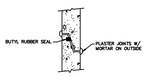
6. MANHOLE COVERS AND FRAMES SHALL BE USF 227, OR EQUAL AND SHALL BE THE TYPE SHOWN ON THIS DETAIL.

EFFINGHAM COUNTY	MANHOLE COVER & FRAME DETAIL	SCALE: N.T.S. / DATE: August 2004	S-3

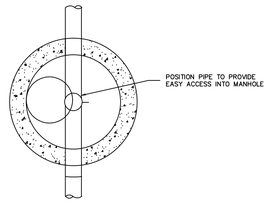


SECTION

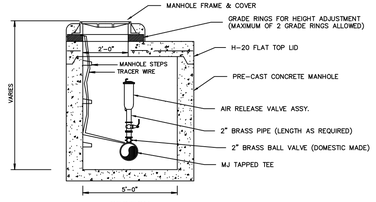
EFFINGHAM COUNTY	FORCEMAIN DROP INTO MANHOLE	SCALE: N.T.S. / DATE: August 2004	S-4



JOINT DETAIL



PLAN



SECTION

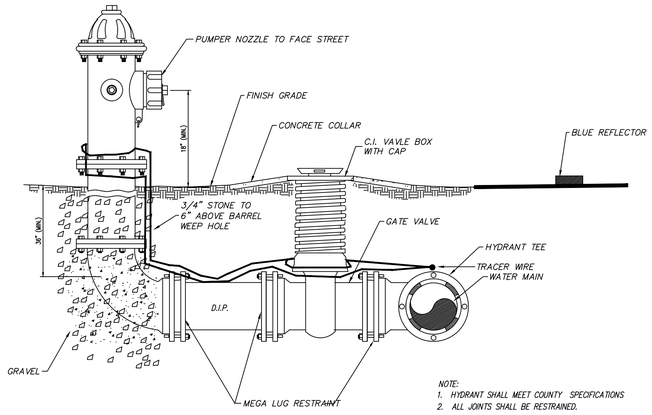
NOTE:
1. SET MANHOLE COVER 2" ABOVE NATURAL GRADE OR FLUSH WITH PAVING.

AIR RELEASE VALVE IN MANHOLE

NOT TO SCALE

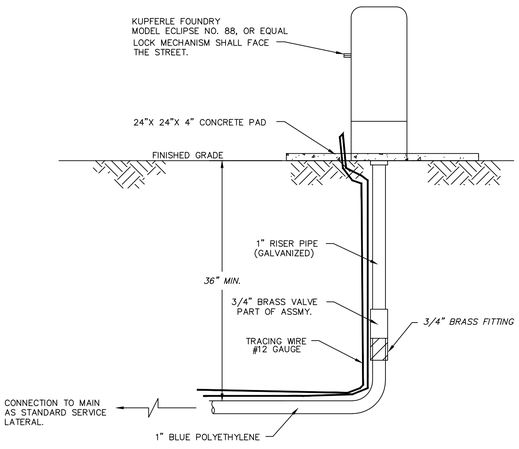
EFFINGHAM COUNTY	AIR RELEASE VALVE	SCALE: N.T.S. / DATE: August 2004	S-5

RAISED PAVEMENT MARKER SHALL COMPLY WITH GADOT SECTION 919, TYPE I, BLUE IN COLOR AND BE INSTALLED IN ACCORDANCE WITH SECTION 654. BLUE REFLECTOR SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE.

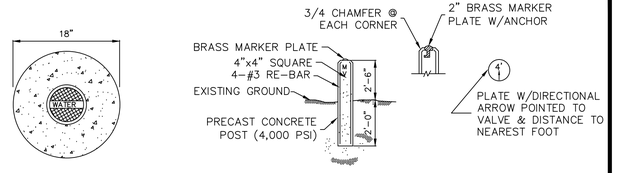


NOTE:
1. HYDRANT SHALL MEET COUNTY SPECIFICATIONS
2. ALL JOINTS SHALL BE RESTRAINED.

EFFINGHAM COUNTY	FIRE HYDRANT DETAIL	SCALE: N.T.S. / DATE: August 2004	W-3



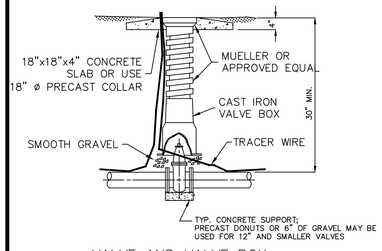
EFFINGHAM COUNTY	PERMANENT SAMPLING STATION	SCALE: N.T.S. / DATE: August 2004	W-11



CONCRETE VALVE MARKER

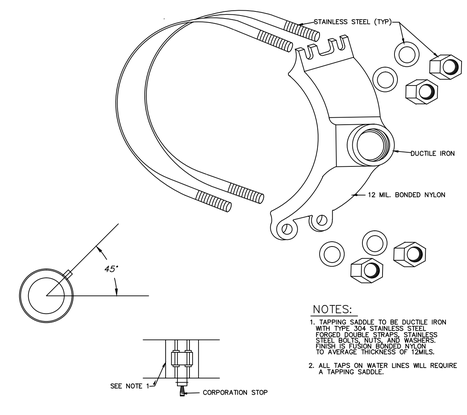
NOTE 1: WATER MAIN LINE VALVE MARKERS SHALL BE PAINTED FEDERAL SAFETY BLUE AND MARKED AS FOLLOWS:
MV – MAIN VALVE
AV – AIR RELEASE VALVE
PIPELINE – PIPELINE MARKER

NOTE 2: DO NOT WRAP WIRE AROUND VALVE NUT.



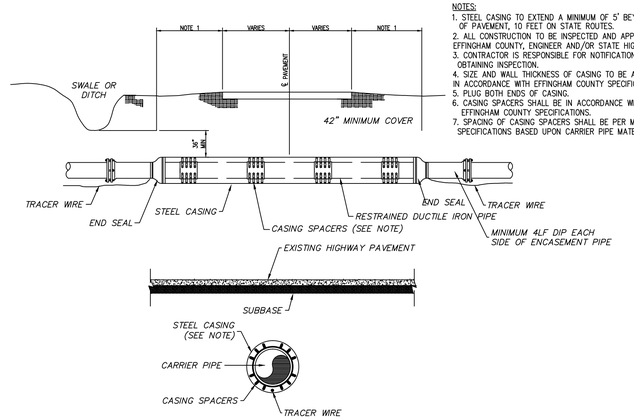
VALVE AND VALVE BOX

EFFINGHAM COUNTY	VALVE DETAIL	SCALE: N.T.S. / DATE: August 2004	W-2



NOTES:
1. TAPPING SADDLE TO BE DUCTILE IRON WITH TYPE 304 STAINLESS STEEL FORGED DOUBLE STRAPS, STAINLESS STEEL BOLTS, NUTS, AND WASHERS. PAINTED BY FUSION BONDED NYLON TO AVERAGE THICKNESS OF 12MILS.
2. ALL TAPS ON WATER LINES WILL REQUIRE A TAPPING SADDLE.

EFFINGHAM COUNTY	1" & 2" TAPPING SADDLE	SCALE: N.T.S. / DATE: August 2004	W-8



NOTES:
1. STEEL CASING TO EXTEND A MINIMUM OF 5' BEYOND EDGE OF PAVEMENT, 10 FEET ON STATE ROUTES.
2. ALL CONSTRUCTION TO BE INSPECTED AND APPROVED BY EFFINGHAM COUNTY, ENGINEER AND/OR STATE HIGHWAY DEPARTMENT.
3. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION AND OBTAINING INSPECTION.
4. SIZE AND WALL THICKNESS OF CASING TO BE APPROVED IN ACCORDANCE WITH EFFINGHAM COUNTY SPECIFICATIONS.
5. PLUG BOTH ENDS OF CASING.
6. CASING SPACERS SHALL BE IN ACCORDANCE WITH EFFINGHAM COUNTY SPECIFICATIONS.
7. SPACING OF CASING SPACERS SHALL BE PER MANUFACTURERS SPECIFICATIONS BASED UPON CARRIER PIPE MATERIAL.

TYPICAL ROADWAY BORE AND JACK DETAIL

EFFINGHAM COUNTY	JACK AND BORE DETAIL (WATER SYSTEM ONLY)	SCALE: N.T.S. / DATE: August 2004	W-6

NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR. SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101 SAVANNAH, GEORGIA 31412
PHONE: (912) 232-6533 FAX: (912) 232-4460
www.emc-eng.com
CIVIL MARINE ENVIRONMENTAL SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK, COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

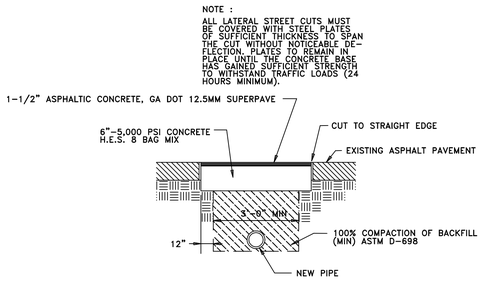
CONSTRUCTION DETAILS

OLD AUGUSTA ROAD UTILITY EXTENSION
9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

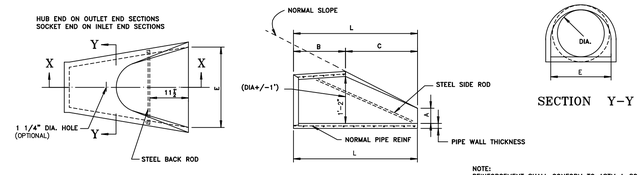
SHEET 26 OF 27

O:\2016\P\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004_C01.DWG 5/20/2016 12:22

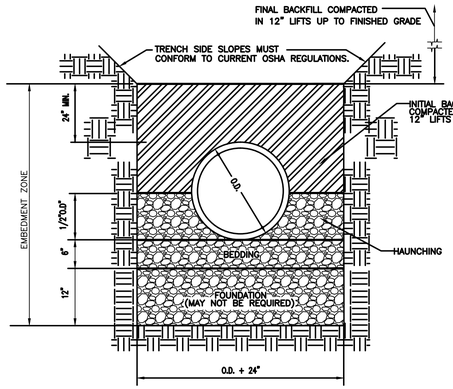


EFFINGHAM COUNTY	PAVEMENT REPLACEMENT	SCALE: N.T.S. / DATE: August 2004	P-13

FLARE REINFORCEMENT & DIMENSIONS (+/-1"TOLERANCE)									
PIPE DIA.	SIDE RODS	BACK RODS	FABRIC	SLOPE	A	B	C	L	E
12"	2-3X2'5"	NOT REQ'D	2"X8"6/9	2.2:1	4"	2'0"	4'1"	6'1"	2'0"
15"	2-3X2'11"	NOT REQ'D	2"X8"8/9	2.2:1	6"	2'3"	3'10"	6'1"	2'6"
18"	2-3X3'6"	NOT REQ'D	2"X8"8/9	2.2:1	9"	2'3"	3'10"	6'1"	3'0"
24"	2-3X5'0"	NOT REQ'D	2"X8"8/9	2.4:1	10"	3'8"	2'6"	6'2"	4'0"
30"	2-4X6'2"	NOT REQ'D	2"X8"8/9	2.4:1	12"	4'6"	1'8"	6'2"	5'0"
36"	2-4X7'5"	NOT REQ'D	2"X8"8/9	2.4:1	15"	5'3"	2'11"	8'2"	6'0"
42"	2-4X8'7"	NOT REQ'D	2"X8"8/9	2.4:1	21"	5'3"	2'11"	8'2"	6'6"

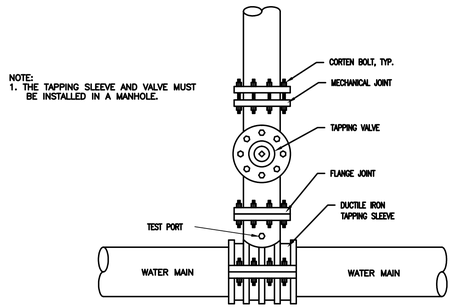


EFFINGHAM COUNTY	FLARED END SECTION DETAIL	SCALE: N.T.S. / DATE: August 2004	P-33



NOTES:
1. FOUNDATION, BEDDING AND HAUNCHING SHALL BE #57 STONE.
2. INITIAL BACKFILL FOR GRAVITY SEWER SHALL BE CLASS II OR BETTER SELECT COMMON FILL.
3. INITIAL BACKFILL FOR SANITARY FORCEMAIN SHALL BE CLASS III OR BETTER SELECT COMMON FILL.
4. FINAL BACKFILL SHALL BE CLASS III OR BETTER COMMON FILL.
5. SEE CITY OF SAVANNAH STANDARD SPECIFICATIONS SECTION 02554 PART 2.11 FOR MORE DETAILS.

STANDARD PIPE BEDDING DETAIL
SCALE: NTS



PLAN VIEW

TAPPING SLEEVE DETAIL
SCALE: NTS

NO.	REVISION DESCRIPTION	BY	DATE

GEORGIA REGISTERED No. PE30429 PROFESSIONAL ENGINEER ALEC B. METZGER

EMC ENGINEERING SERVICES, INC.
10 CHATHAM CENTER SOUTH DR.
SUITE 100, SAVANNAH, GA 31405
POST OFFICE BOX 8101
SAVANNAH, GEORGIA 31412
PHONE: (912) 232-8533
FAX: (912) 232-4669
www.emc-eng.com
CIVIL
MARINE
ENVIRONMENTAL
SURVEY
ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,
COLUMBUS, SAVANNAH STATESBORO & VALDOSTA

CONSTRUCTION DETAILS

OLD AUGUSTA ROAD UTILITY EXTENSION

9TH G.M. DISTRICT
EFFINGHAM COUNTY, GA
Prepared for:
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.:	16-0004
DRAWN BY:	CPR
DESIGNED BY:	ABM
SURVEYED BY:	
SURVEY DATE:	
CHECKED BY:	ABM
SCALE:	N/A
DATE:	MAY 2016

SHEET 27 OF 27