PUBLIC NOTICE

US Army Corps of Engineers ®
New England District
Maine Project Office
675 Western Avenue #3
Manchester, Maine 04351

Comment Period Begins: 02-Nov-2010
Comment Period Ends: 16-Nov-2010
File Number: NAE-2010-01292
In Reply Refer To: LeeAnn B. Neal
Phone: (207) 623-8367 ext. 2
E-mail: LeeAnn.Neal@usace.army.mil

15 Day Comment Period

The District Engineer has received a permit application from the applicant below to **conduct work in waters of the United States** as described below.

APPLICANT: Greater Augusta Utility District, 12 Williams Street, Augusta, Maine 04330

ACTIVITY: To place approximately 36,110SF (0.829acres) of fill below the high tide line of Bond Brook, its tributaries and in adjacent wetlands at Augusta, Maine in conjunction with the construction of a new sewer interceptor, installation of a storage conduit pipe, pump station replacement, and construction of a new sewer force main associated with a combined sewer overflows project as shown on the attached plans entitled "Greater Augusta Utility District, Bond Brook CSO Abatement Project" in 17 sheets dated "09/15/2010".

A detailed description and plans of the activity are attached.

WATERWAY AND LOCATION OF THE PROPOSED WORK
This work is proposed in Bond Brook and adjacent wetlands at Mt. Vernon Avenue, Bond Street, Northern Avenue, and Water Street at Augusta, Maine. The proposed location on the USGS AUGUSTA quadrangle sheet; is at coordinates Lat/Long 44.3302263°N -69.7877866°W (begin), 44.3165952°N -69.7729317°W (end).

AUTHORITY
Permits are required pursuant to:
__X_ Section 10 of the Rivers and Harbors Act of 1899
__X_ Section 404 of the Clean Water Act
_____ Section 103 of the Marine Protection, Research and Sanctuaries Act).

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH).

This project will impact 0.209 acres of Essential Fish Habitat (EFH) for Atlantic salmon (*Salmo salar*) and/or shortnose sturgeon (*Acipenser brevirostrum*). This habitat consists of intertidal/subtidal area consisting of mixed coarse and fine sediments. Temporary loss of this habitat may adversely affect the Atlantic salmon and/or shortnose sturgeon associated with temporary turbidity in the water column during construction and restoration efforts in the stream bed. Impacts to these species are expected to be minimal with appropriate erosion control measures, in stream work windows, and other best management practices. The proposed project is expected to have only short-term impacts on fish. However the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

SECTION 106 COORDINATION

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

a. The permit area has been extensively modified by previous work.
b. The permit area has been recently created.
c. The proposed activity is of limited nature and scope.
d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s)

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the proposed project site during the construction and subsequent operation/use period sought by the applicant. We have undertaken a Biological Assessment (BA) of the potential for interactions and adverse impacts to Atlantic salmon and shortnose sturgeon. Consultation has been initiated with National Marine Fisheries Service pursuant to Section 7 of the Endangered Species Act since salmon in this location are part of a distinct population segment listed by the Services as endangered.

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved **Coastal Zone Management Programs**. Where applicable the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

(X) Permit, License or Assent from State.
(X) Permit from Local Wetland Agency or Conservation Commission.
(X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact LeeAnn B. Neal at (207) 623-8367 extension 2.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

In accordance with 33 CFR 325.2(a)(8), we publish monthly a list of permits issued or denied during the previous month at www.nae.usace.army.mil/reg, under the heading "Monthly General and Individual Permit Authorizations." Relevant environmental documents and the SOFs or RODs are available upon written request and, where applicable, upon the payment of administrative fees. Also visit www.nae.usace.army.mil for more information on the New England District Corps of Engineers programs.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

Frank J. Del Giudice
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____

PROPOSED WORK AND PURPOSE

1.) The work includes work in waters of the United States associated with the replacement of the Bond Brook-Mt. Vernon Avenue interceptor, the construction of an in-line storage conduit, and the addition of a combined wet weather/dry weather pumping station with associated force main in order to control Combined Sewer Overflows in Bond Brook and the Kennebec River.

2.) Approximately 36,110 SF (0.828acres) of fill is to be placed below the high tide line of Bond Brook, its tributaries and in adjacent wetlands at Augusta, Maine resulting in approximately 25,032SF (0.574acres) of temporary freshwater wetland impact, 6,153SF (0.141acres) of temporary stream/brook bottom impact, and 4,925 SF (0.113acres) permanent stream/brook bottom impact.

3.) To compensate for the project's unavoidable impacts to wetlands and waterways, the applicant proposes onsite mitigation to restore all freshwater wetland impact associated with project access areas to original grade; restore disturbed vegetated areas with loam and seed, and stabilize embankments with vegetated riprap per plans provided. All in stream work areas will be restored to the existing grade and characteristics. In summary the applicant proposes to enhance the Bond Brook and Kennebec River by replacing the aged Combined Sewer Overflow (CSO) structures, to eliminate all CSO discharges in to Bond Brook, and to stabilize the bank along portions of Bond Brook to prevent further erosion into the stream. Approximately 4,925SF of fill will be placed below the high tide line in conjunction with the installation of riprap to stabilize the bank.

4.) The work is described on the enclosed plans entitled "Greater Augusta Utilities District, Bond Brook CSO Abatement Project," on 17 sheets, and dated "September 15, 2010."

Summary of Essential Fish Habitat (EFH) Designations

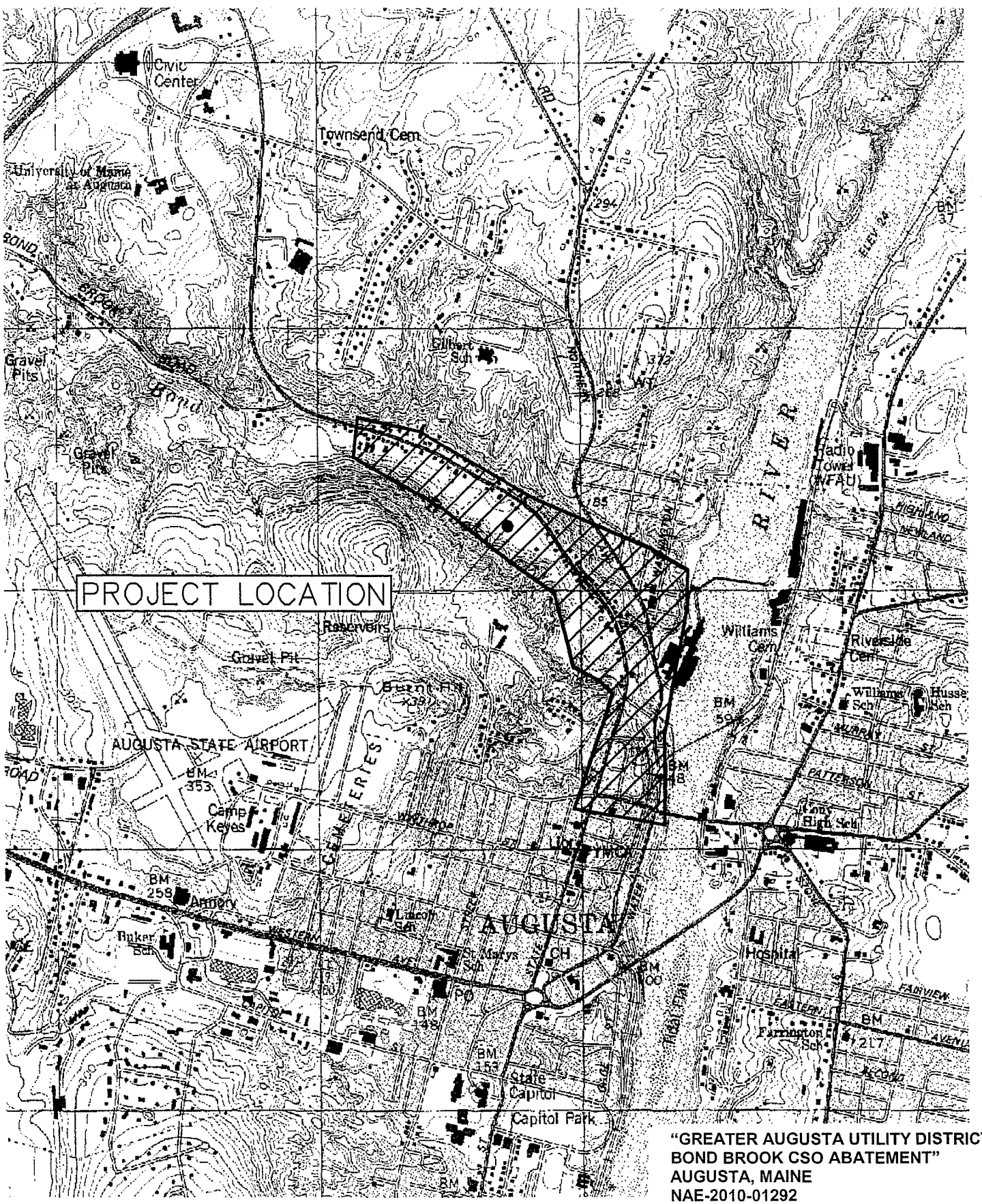
Name of Estuary/ Bay/ River: Kennebec / Androscoggin Rivers, Maine

10' x 10' latitude and longitude squares included in this bay or estuary or river (southeast corner boundaries):

4350/6950; 4350/6940; 4340/6940

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Atlantic salmon *(Salmo salar)*	F	F	F,M,S	F,M,S	F
Atlantic cod *(Gadus morhua)*			S	S	
haddock *(Melanogrammus aeglefinus)*					
pollock *(Pollachius virens)*			M,S		
whiting *(Merluccius bilinearis)*			M,S	M,S	
offshore hake *(Merluccius albidus)*					
red hake *(Urophycis chuss)*			M,S	M,S	
white hake *(Urophycis tenuis)*			M,S	M,S	
redfish *(Sebastes fasciatus)*	n/a				
witch flounder *(Glyptocephalus cynoglossus)*					
winter flounder *(Pleuronectes americanus)*	M,S	M,S	M,S	M,S	M,S
yellowtail flounder *(Pleuronectes ferruginea)*	S	S			
windowpane flounder *(Scopthalmus aquosus)*	M,S	M,S	M,S	M,S	M,S
American plaice *(Hippoglossoides platessoides)*	S	S	M,S	S	S
ocean pout *(Macrozoarces americanus)*	S	S	S	S	S
Atlantic halibut *(Hippoglossus hippoglossus)*	S	S	S	S	S
Atlantic sea scallop *(Placopecten magellanicus)*					

Atlantic sea herring *(Clupea harengus)*		M,S	M,S	M,S	
monkfish *(Lophius americanus)*					
bluefish *(Pomatomus saltatrix)*			M,S	M,S	
long finned squid *(Loligo pealei)*	n/a	n/a			
short finned squid *(Illex illecebrosus)*	n/a	n/a			
Atlantic butterfish *(Peprilus triacanthus)*					
Atlantic mackerel *(Scomber scombrus)*			M,S	M,S	
summer flounder *(Paralicthys dentatus)*					
scup *(Stenotomus chrysops)*					
black sea bass *(Centropristus striata)*					
surf clam *(Spisula solidissima)*	n/a	n/a			
ocean quahog *(Artica islandica)*	n/a	n/a			
spiny dogfish *(Squalus acanthias)*	n/a	n/a			
tilefish *(Lopholatilus chamaeleonticeps)*					



"GREATER AUGUSTA UTILITY DISTRICT
BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 1 OF 17 "SEPTEMBER 15, 2010"

= PROJECT AREA

WOODARD & CURRAN
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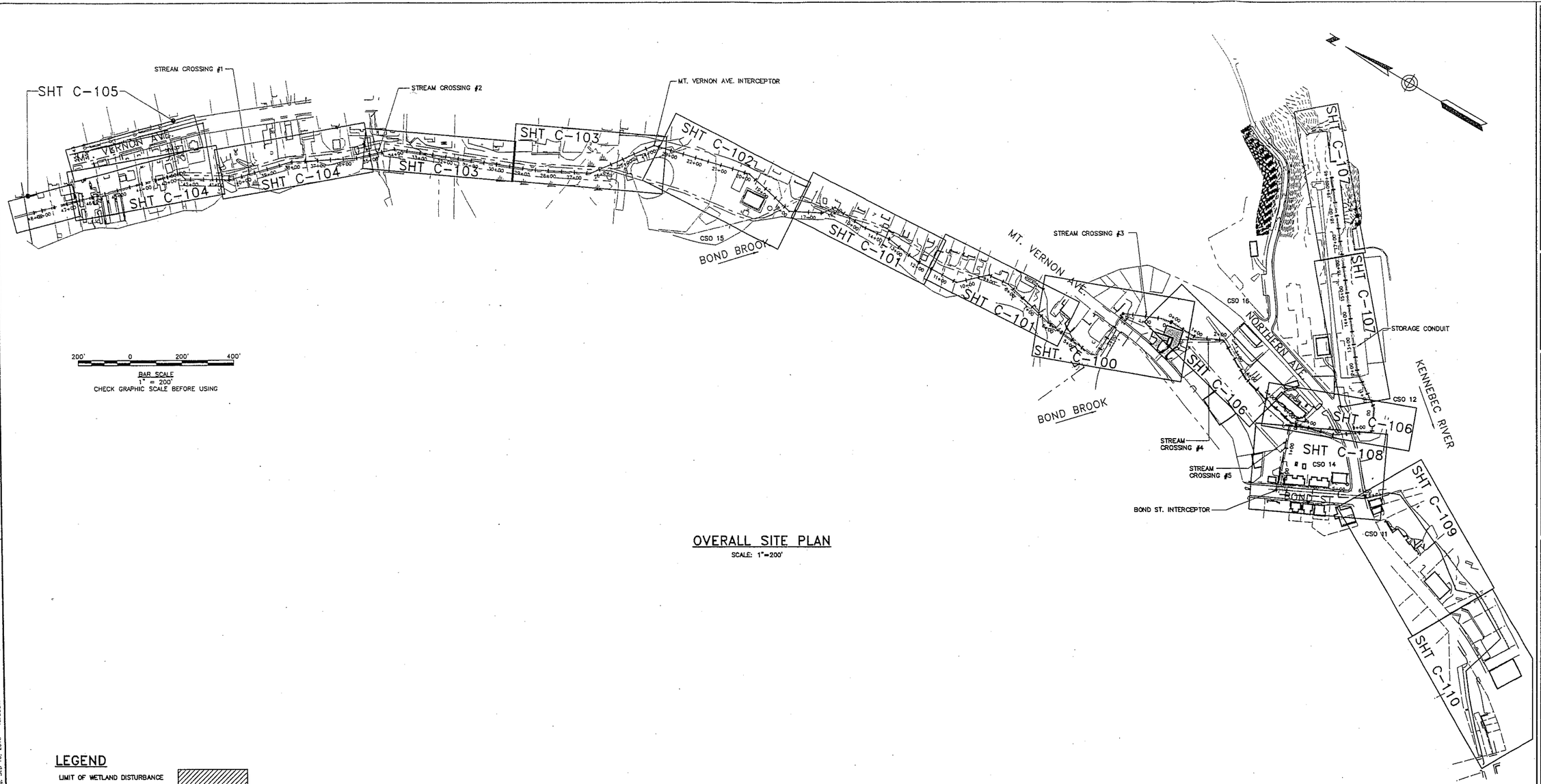
COMMITMENT & INTEGRITY DRIVE RESULTS

SITE LOCATION MAP	GREATER AUGUSTA UTILITY DISTRICT AUGUSTA, MAINE	JOB NO: 219480.02	
		DATE: FEB. 2010	
		SCALE: NTS	
DESIGNED BY: N/A	CHECKED BY: DLC	BOND BROOK CSO ABATEMENT	FIG. 1
DRAWN BY: BCM	Drawing1.dwg		



OVERALL SITE PLAN

SCALE: 1"=200'

LEGEND

- LIMIT OF WETLAND DISTURBANCE
- LIMIT OF BANK STABILIZATION
- PROPOSED PAVEMENT
- TEMPORARY COFFER DAM
- HIGH MEAN WATER (5.6')
- LOW MEAN WATER (4.7')
- FLOOD PLAIN LIMIT
- SILT FENCE LOCATION
- PROPOSED FORCE MAIN
- PROPERTY LINE
- EXIST. INDEX CONTOUR
- EXIST. INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- EXIST. EASEMENT
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- WETLAND

SHEET INDEX

SHT.	TITLE
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C-101	SITE PLAN 6+50 – 11+50 & SITE PLAN 11+50 – 17+50
C-102	SITE PLAN 17+50 – 23+50
C-103	SITE PLAN 23+50 – 29+50 & SITE PLAN 29+50 – 32+25
C-104	SITE PLAN 32+25 – 40+50 & SITE PLAN 40+50 – 46+75
C-105	SITE PLAN 50+75 – 55+43 & SITE PLAN 46+75 – 48+32
C-106	SITE PLAN 0+00 – 5+25 & SITE PLAN 5+25 – 10+50
C-107	SITE PLAN 10+50 – 16+25 & SITE PLAN 16+25 – 19+46
C-108	SITE PLAN 0+00 – 6+04
C-109	SITE PLAN – FORCE MAIN 1
C-110	SITE PLAN – FORCE MAIN 2
D-200	STREAM CROSS SECTIONS
D-201	BANK RESTORATION DETAILS
D-202	EROSION CONTROL DETAILS
D-203	EROSION CONTROL NOTES

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"GREATER AUGUSTA UTILITY DISTRICT BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 2 OF 17 "SEPTEMBER 15, 2010"

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STATE OF MAINE MICHAEL L. STEIN 6844 LICENSED PROFESSIONAL ENGINEER

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BCM | 219480.20 C10X mpa.dwg

OVERALL SITE PLAN

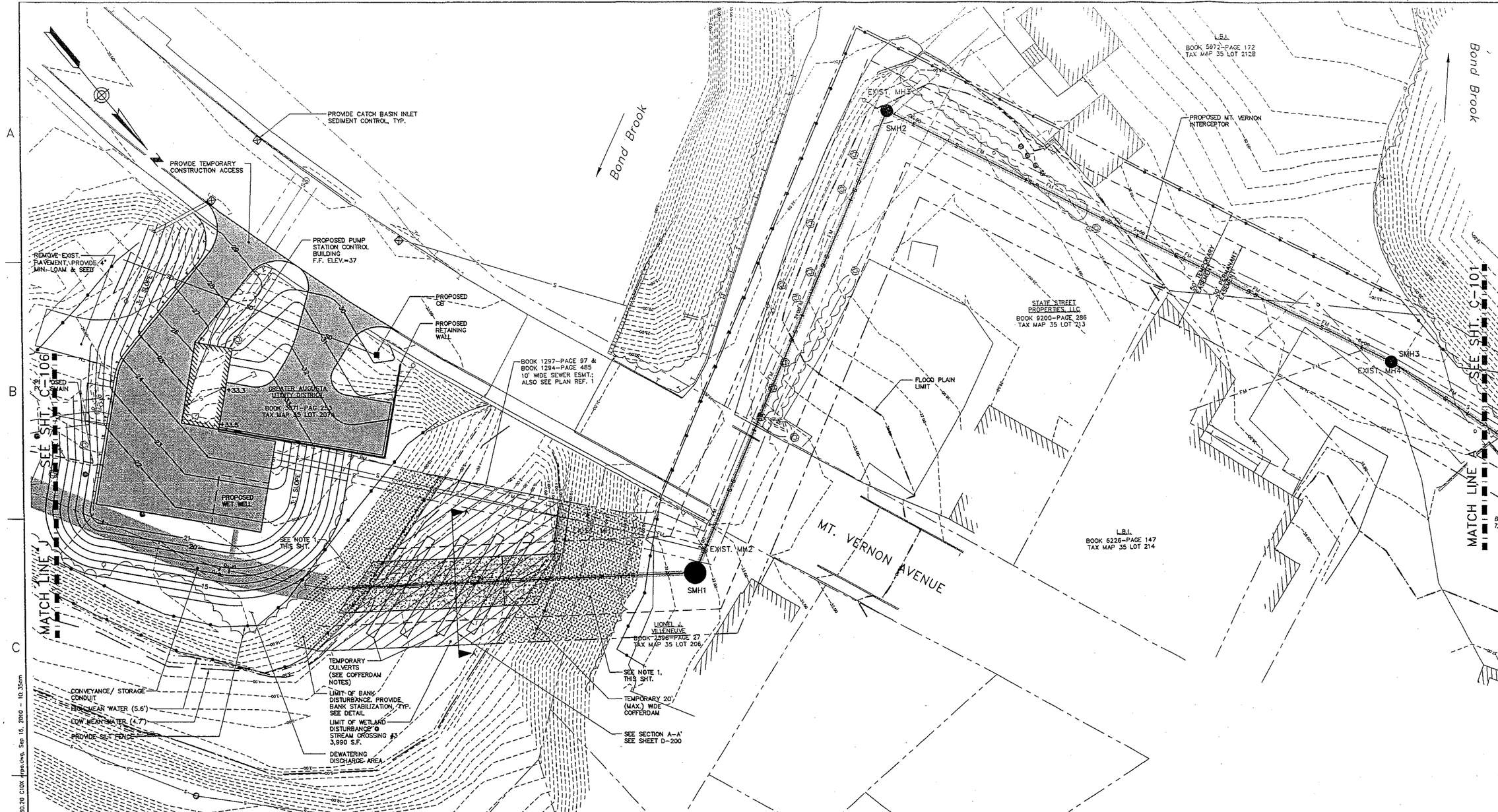
GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=200'
SHEET: 1 OF 16

C-001

O:\219480 Greater Augusta Utility District\wp\DRAWINGS\Bond Brook\219480.20 C10X mpa.dwg, Sep 16, 2010 – 10:35am



SITE PLAN

SCALE: 1"=20'

COFFERDAM NOTES:

1. RESTORE RIVER BANK TO ORIGINAL GRADE ONCE UTILITY CROSSING IS COMPLETE. PROVIDE RIPRAP AND PLANTINGS AT DISTURBED AREAS OF THE STREAM BANK PER TYPICAL STREAM BANK STABILIZATION DETAIL, SHEET D-201.
2. TEMPORARY CULVERTS SHALL BE SUFFICIENT SIZE AND QUANTITY TO CONVEY STREAM FLOW ACROSS WORK AREA WITHOUT CREATING SIGNIFICANT DIFFERENCE BETWEEN UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. VELOCITY OF STREAM FLOW SHALL BE MAINTAINED SO AS TO NOT CREATE SCOUR OR EROSION OF STREAMBED. INVERTS OF TEMPORARY CULVERTS SHALL BE INSTALLED AT OR SLIGHTLY BELOW EXISTING STREAM BED ELEVATION.
3. CONTRACTOR OPTION: AS A SUBSTITUTE TO THE TEMPORARY CULVERTS AND WORK PLATFORM, CONTRACTOR MAY ELECT TO INSTALL COFFERDAM ACROSS A PORTION OF BOND BROOK AND REDIRECT STREAM FLOW AROUND CONSTRUCTION AREA. OVERALL STREAM DISTURBANCE MAY NOT EXCEED AREA SHOWN ON PLANS.
4. CONSTRUCTION ACTIVITIES WITHIN THE TIDAL WATERS OF BOND BROOK MAY ONLY BE CONDUCTED BETWEEN JUNE 1ST AND OCTOBER 1ST.
5. COFFERDAM ELEVATION TO BE A MINIMUM OF 2 FEET ABOVE WATER LEVEL. CONTRACTOR TO ADJUST HEIGHT AS NECESSARY BASED UPON SITE CONDITIONS.

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 3 OF 17 "SEPTEMBER 15, 2010"

BAR SCALE
1" = 20'
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STATE OF MAINE MICHAEL D. CURRAN 6844 LICENSED PROFESSIONAL ENGINEER
09/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BCM | 219480.20 C106 rpo.dwg

SITE PLAN 0+00 – 6+50

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 2 OF 5

C-100

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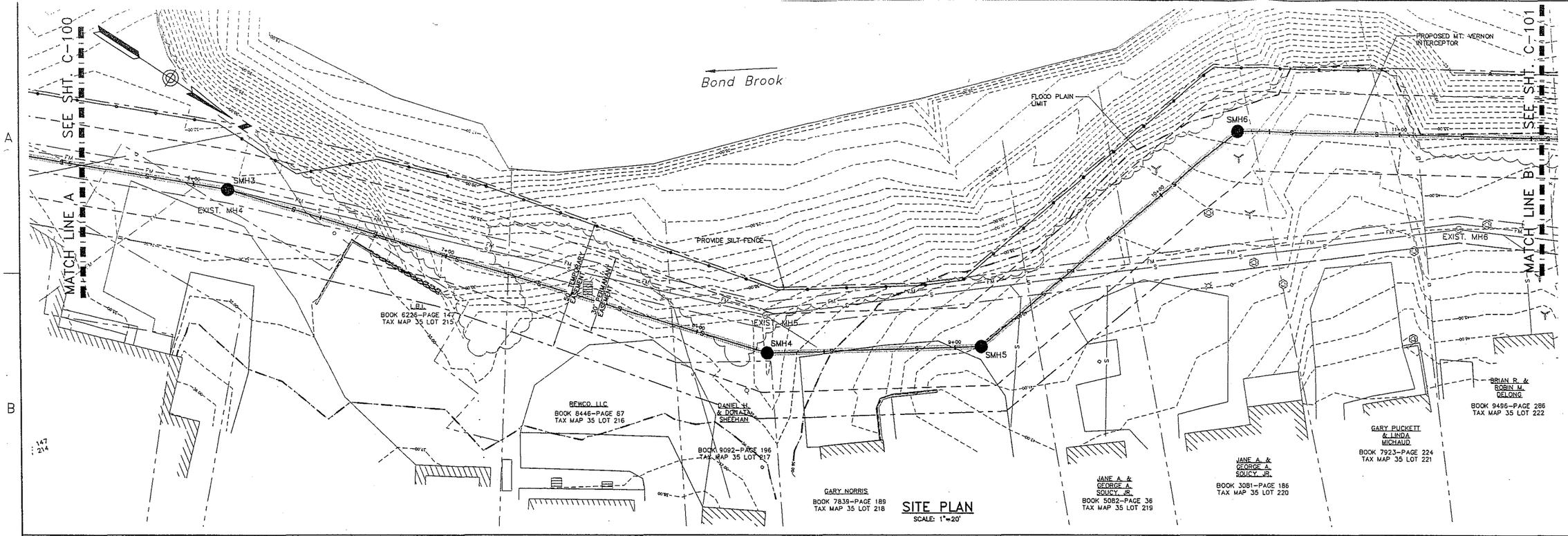
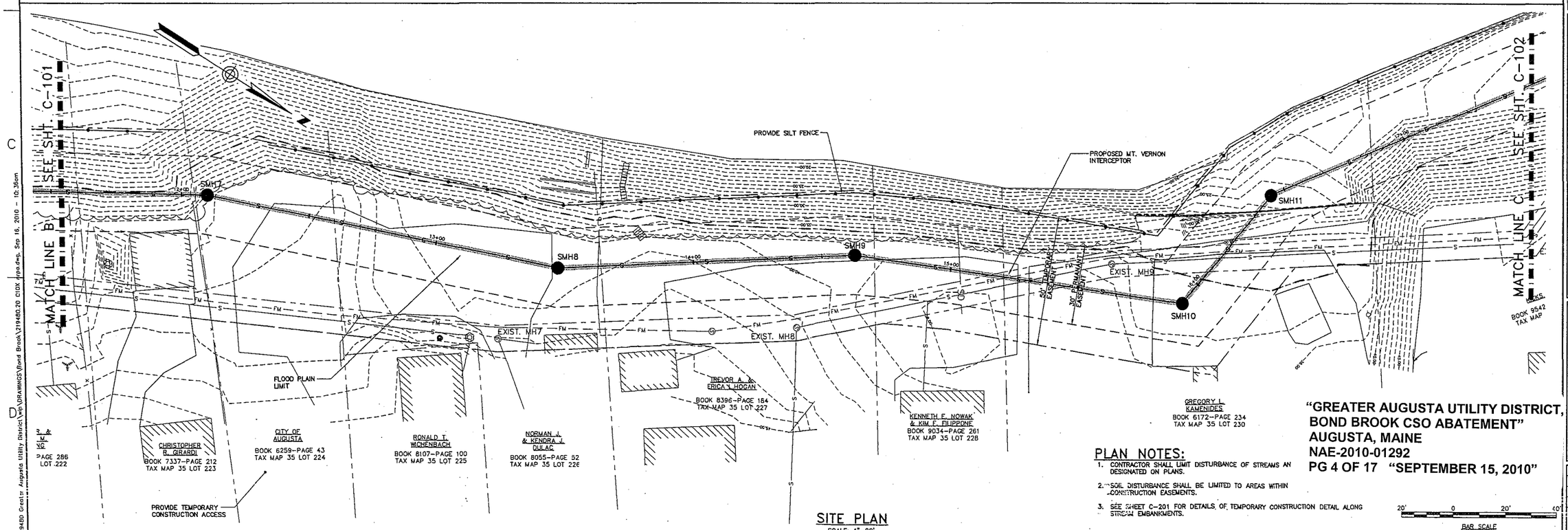


SITE PLAN
SCALE: 1"=20'



SITE PLAN
SCALE: 1"=20'

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AN DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 4 OF 17 "SEPTEMBER 15, 2010"

20' 0 20' 40'
BAR SCALE
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9/15/2010

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SITE PAN 6+50 – 11+50
SITE PLAN 11+50 – 17+50

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 3 OF 16

C-101

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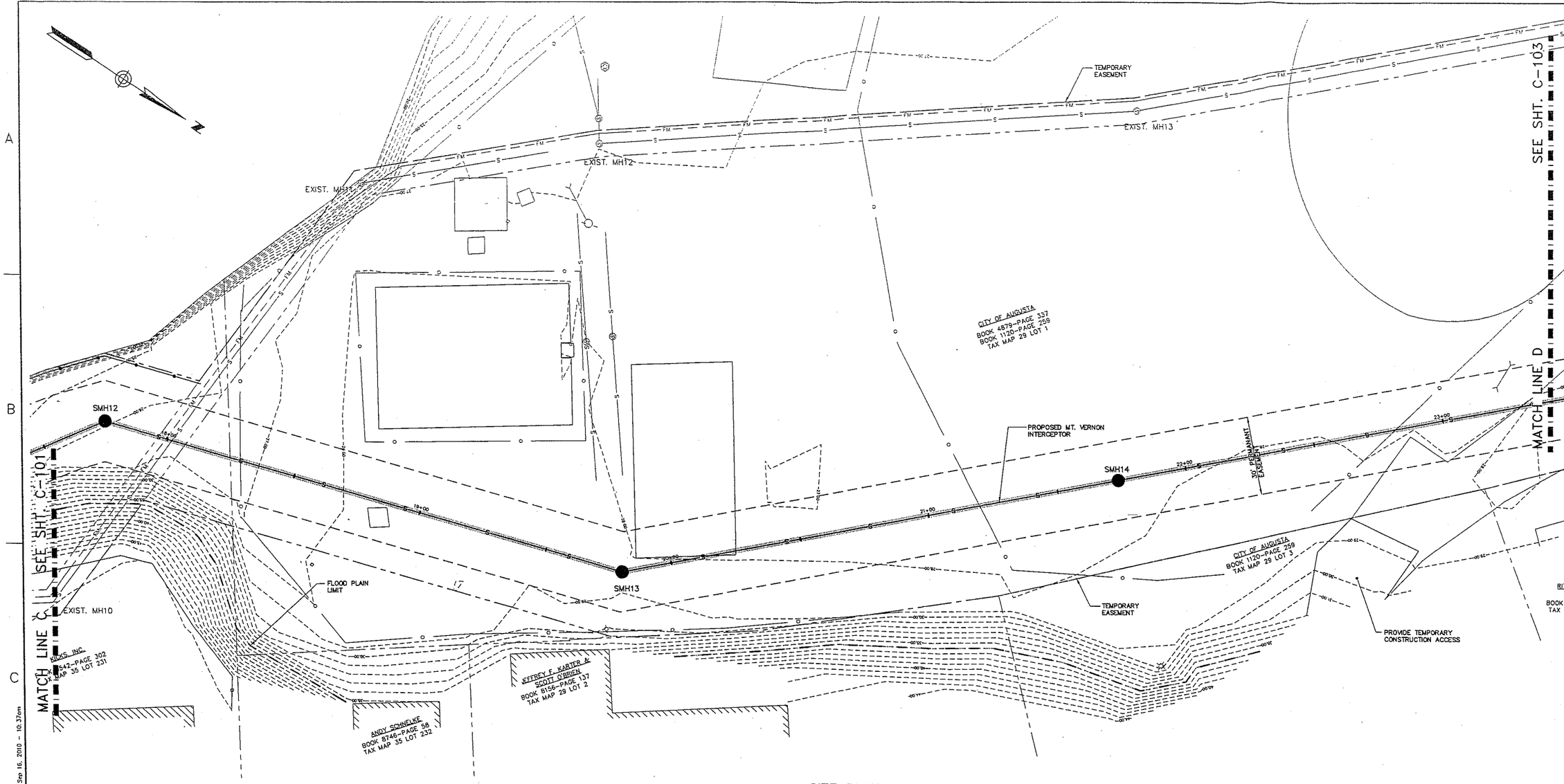

SITE PLAN
SCALE: 1"=20'

PLAN NOTES:

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"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 5 OF 17 "SEPTEMBER 15, 2010"

20' 0 20' 40'
BAR SCALE
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STATE OF MAINE MICHAEL A. CURRAN 6864 LICENSED PROFESSIONAL ENGINEER

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SITE PLAN 17+50 – 23+50

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 4 OF 16

C-102

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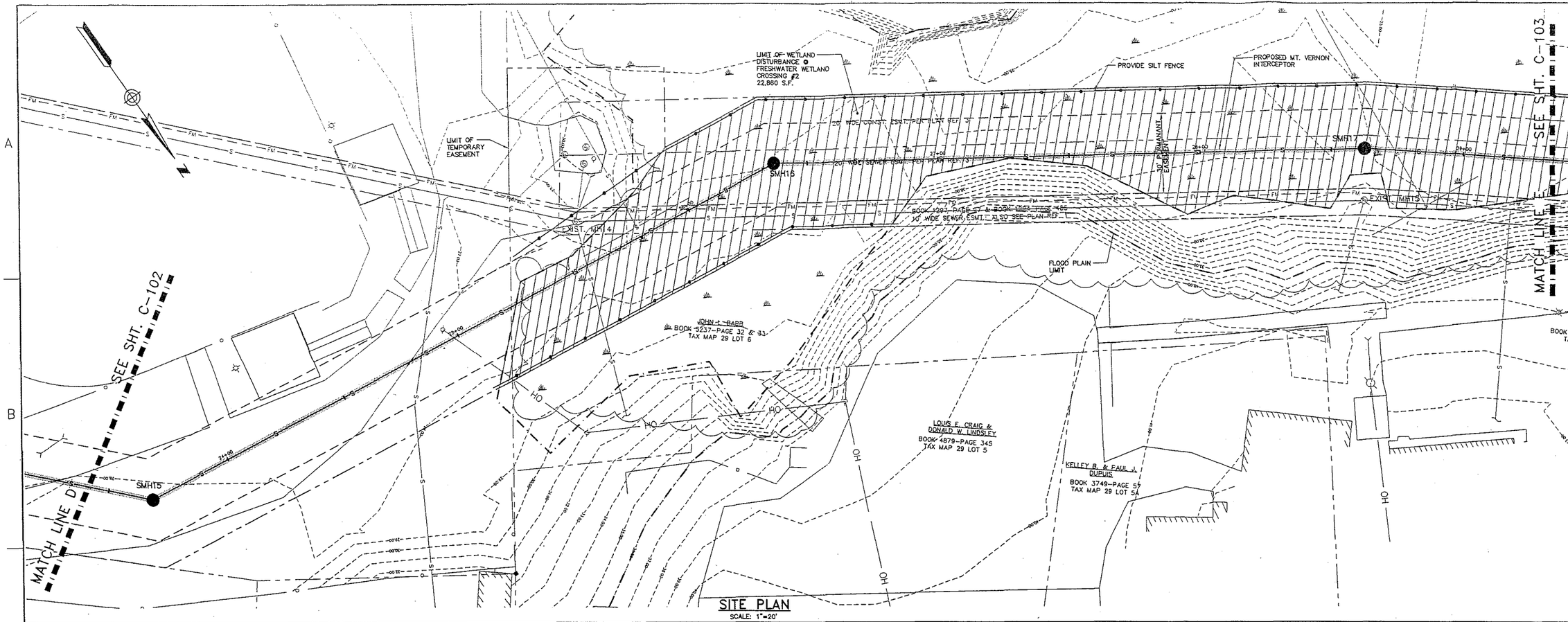
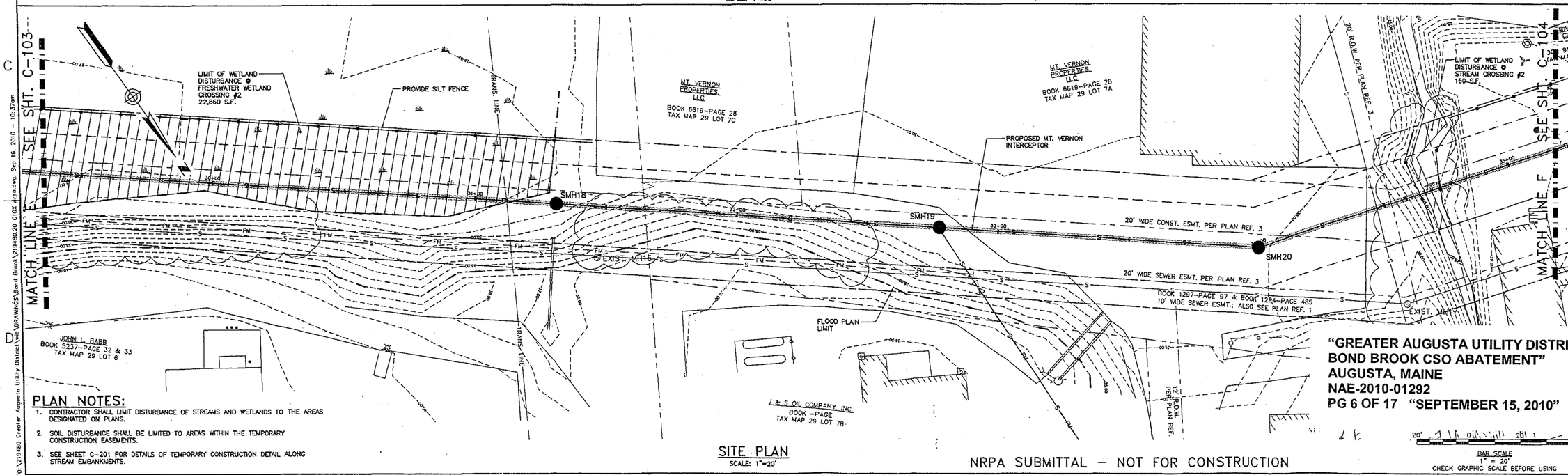


SITE PLAN
SCALE: 1"=20'



SITE PLAN
SCALE: 1"=20'

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1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

"GREATER AUGUSTA UTILITY DISTRICT BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 6 OF 17 "SEPTEMBER 15, 2010"

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9/15/2010

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SITE PLAN 23+50 – 29+50
SIE PLAN 29+50 – 35+25

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 5 OF 16

C-103

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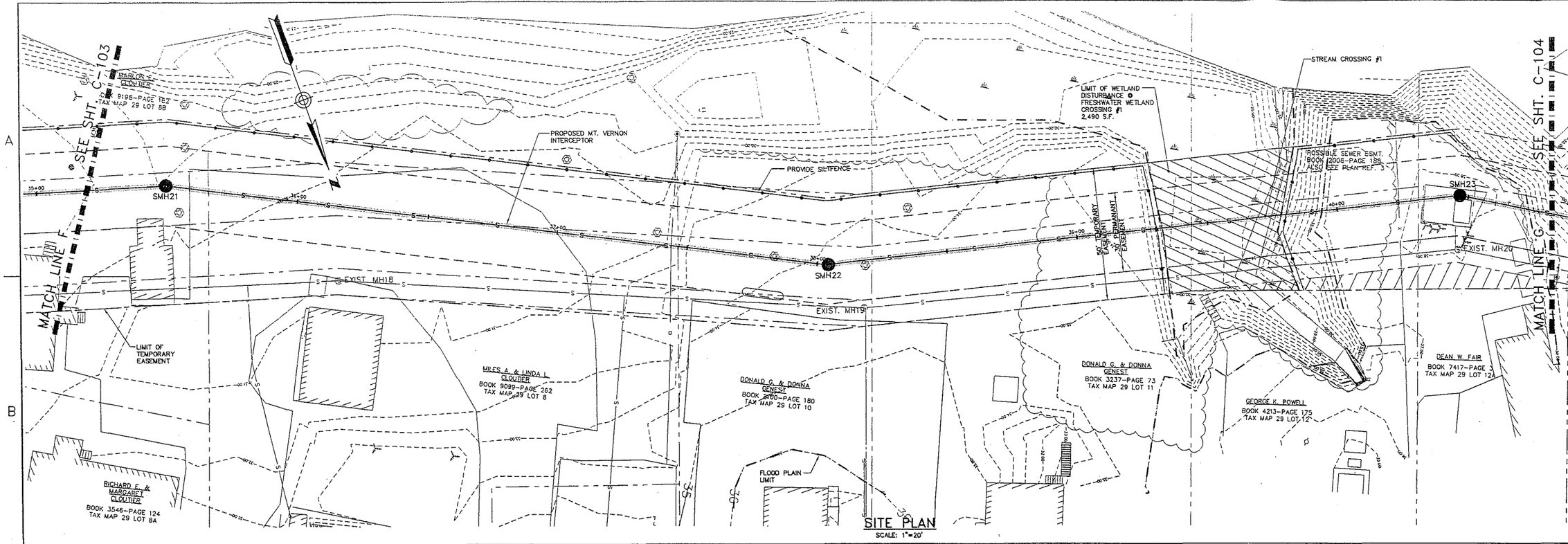

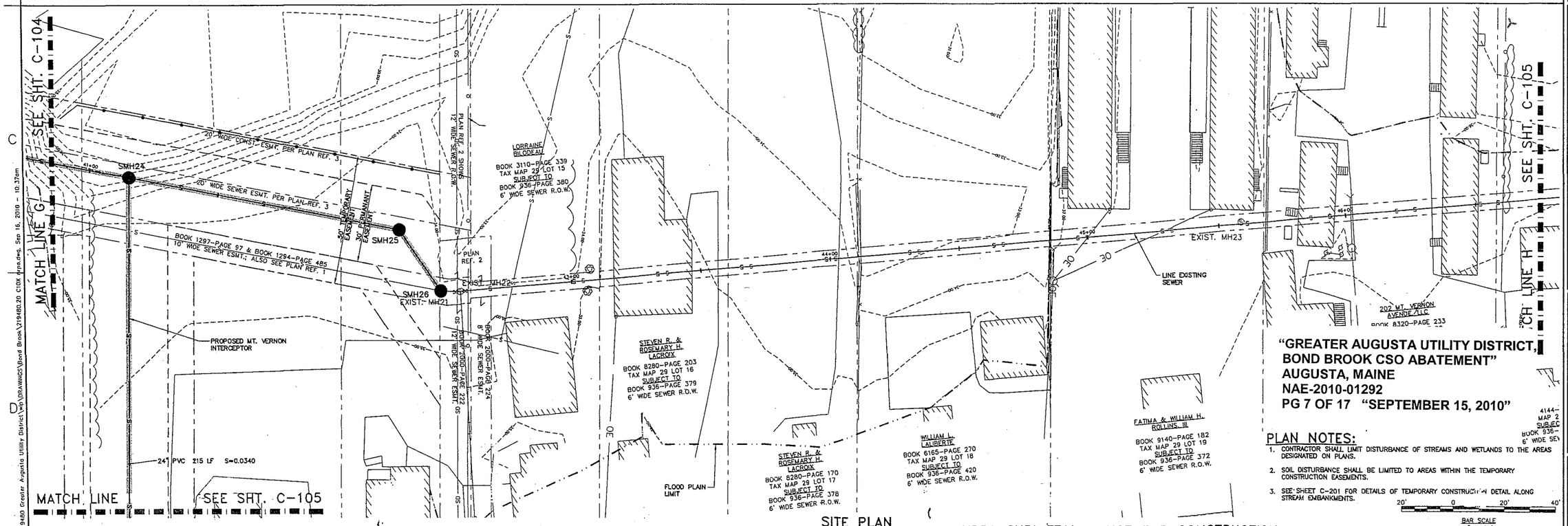

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 7 OF 17 "SEPTEMBER 15, 2010"

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

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STATE OF MAINE MICHAEL R. MCCARTHY 9364 LICENSED PROFESSIONAL ENGINEER
9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BGM | 219480.20 C10X wpp.dwg

SITE PLAN 35+25 – 40+50
SITE PLAN 40+50 – 46+75

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 6 OF 16

C-104

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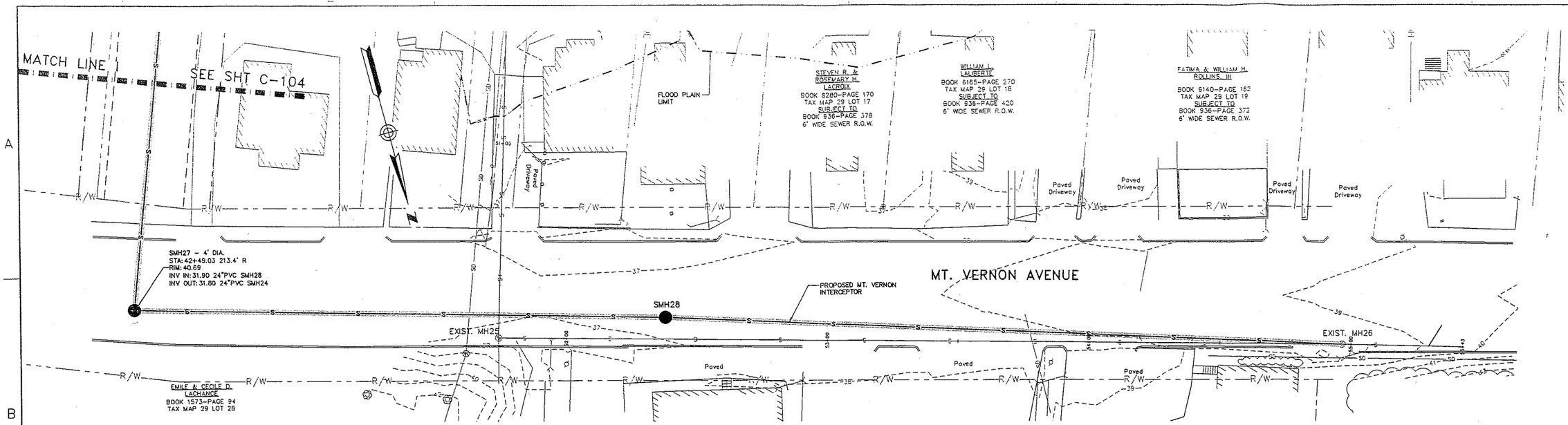
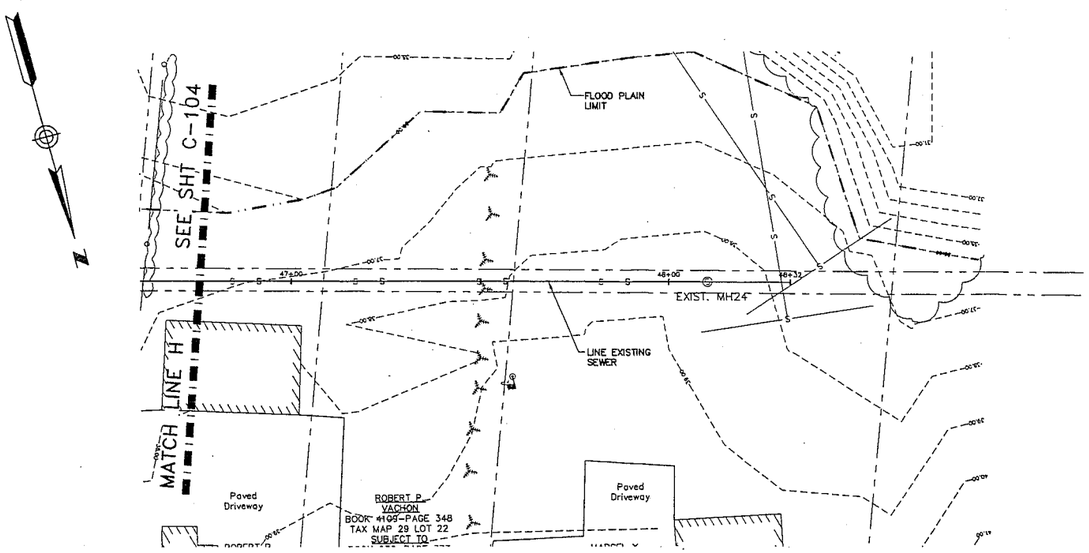


SITE PLAN
SCALE: 1"=20'



SITE PLAN
SCALE: 1"=20'

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

" GREATER AUGUSTA UTILITY DISTRICT
BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 8 OF 17 "SEPTEMBER 15, 2010"

BAR SCALE
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STATE OF MAINE MICHAEL A. SEWEN 6834 LICENSED PROFESSIONAL ENGINEER

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BCM | 219480.20 C105.dwg

SITE PLAN 50+75 – 55+43
SITE PLAN 46+75 – 48+32

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 7 OF 16

C-105

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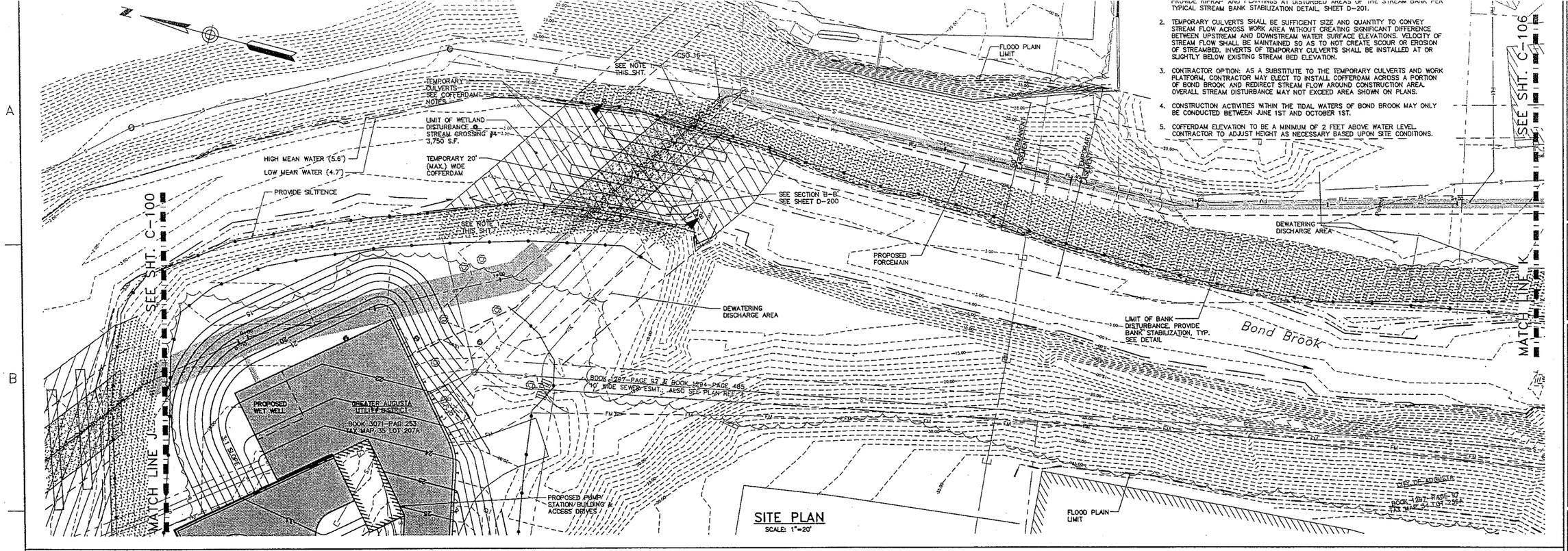
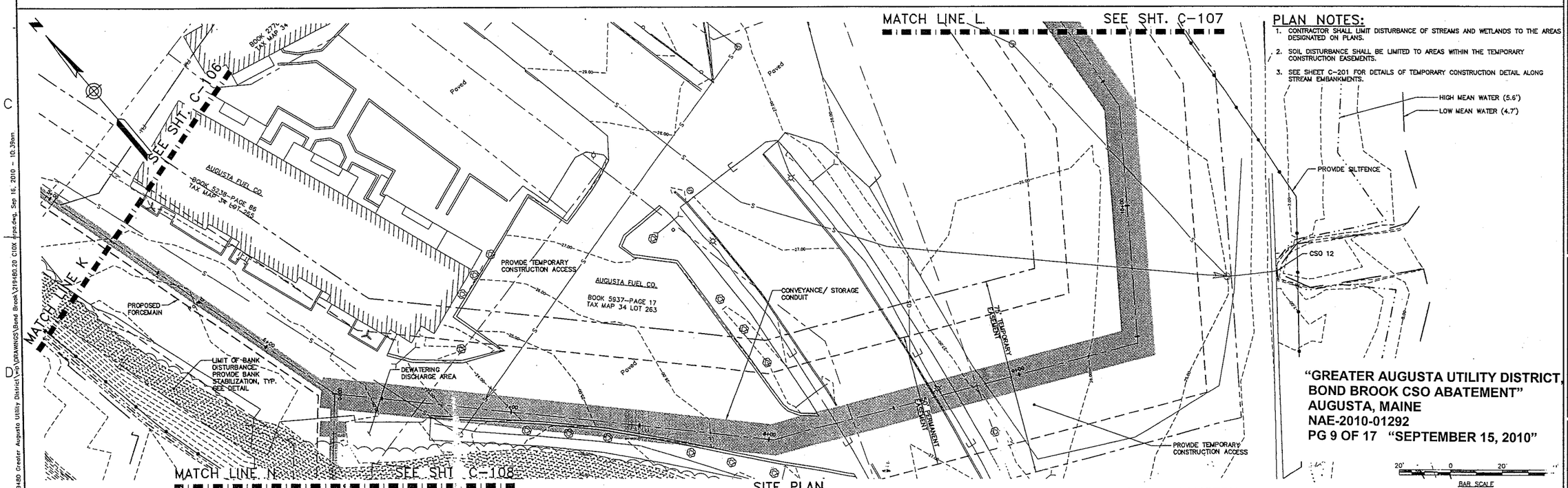


SITE PLAN
SCALE: 1"=20'

1. CONTRACTOR SHALL PROVIDE RIPRAP AND FASTENINGS AT DISTURBED AREAS OF THE STREAM BANK PER TYPICAL STREAM BANK STABILIZATION DETAIL SHEET D-201.
2. TEMPORARY CULVERTS SHALL BE SUFFICIENT SIZE AND QUANTITY TO CONVEY STREAM FLOW ACROSS WORK AREA WITHOUT CREATING SIGNIFICANT DIFFERENCE BETWEEN UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. VELOCITY OF STREAM FLOW SHALL BE MAINTAINED SO AS TO NOT CREATE SCOUR OR EROSION OF STREAMBED. INVERTS OF TEMPORARY CULVERTS SHALL BE INSTALLED AT OR SLIGHTLY BELOW EXISTING STREAM BED ELEVATION.
3. CONTRACTOR OPTION: AS A SUBSTITUTE TO THE TEMPORARY CULVERTS AND WORK PLATFORM, CONTRACTOR MAY ELECT TO INSTALL COFFERDAM ACROSS A PORTION OF BOND BROOK AND REDIRECT STREAM FLOW AROUND CONSTRUCTION AREA. OVERALL STREAM DISTURBANCE MAY NOT EXCEED AREA SHOWN ON PLANS.
4. CONSTRUCTION ACTIVITIES WITHIN THE TIDAL WATERS OF BOND BROOK MAY ONLY BE CONDUCTED BETWEEN JUNE 1ST AND OCTOBER 1ST.
5. COFFERDAM ELEVATION TO BE A MINIMUM OF 2 FEET ABOVE WATER LEVEL. CONTRACTOR TO ADJUST HEIGHT AS NECESSARY BASED UPON SITE CONDITIONS.



SITE PLAN
SCALE: 1"=20'

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 9 OF 17 "SEPTEMBER 15, 2010"

BAR SCALE
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STATE OF MAINE MICHAEL A. SWEEN 6844 LICENSED PROFESSIONAL ENGINEER

REV	DESCRIPTION	DATE

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SITE PLAN 0+00 – 5+25
SIE PLAN 5+25 – 10+50

GREATER AUGUSTA UTILITY DISTRICT AUGUSTA, MAINE

PHASE III CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 8 OF 16

C-106

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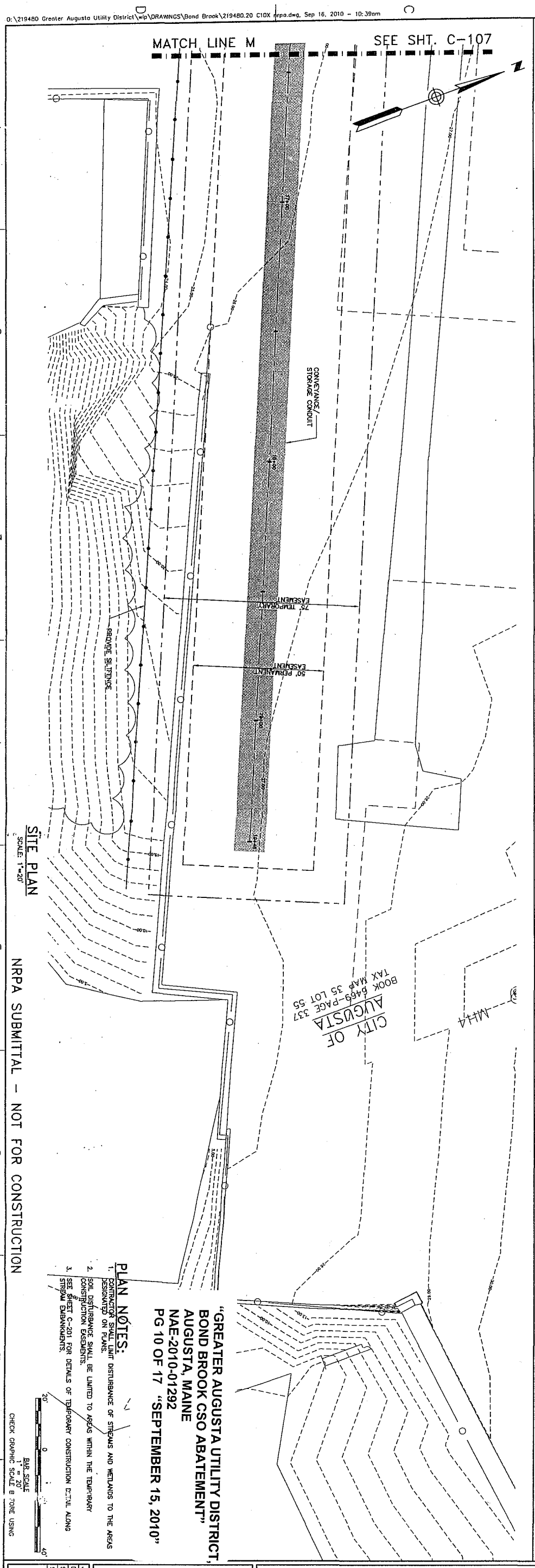
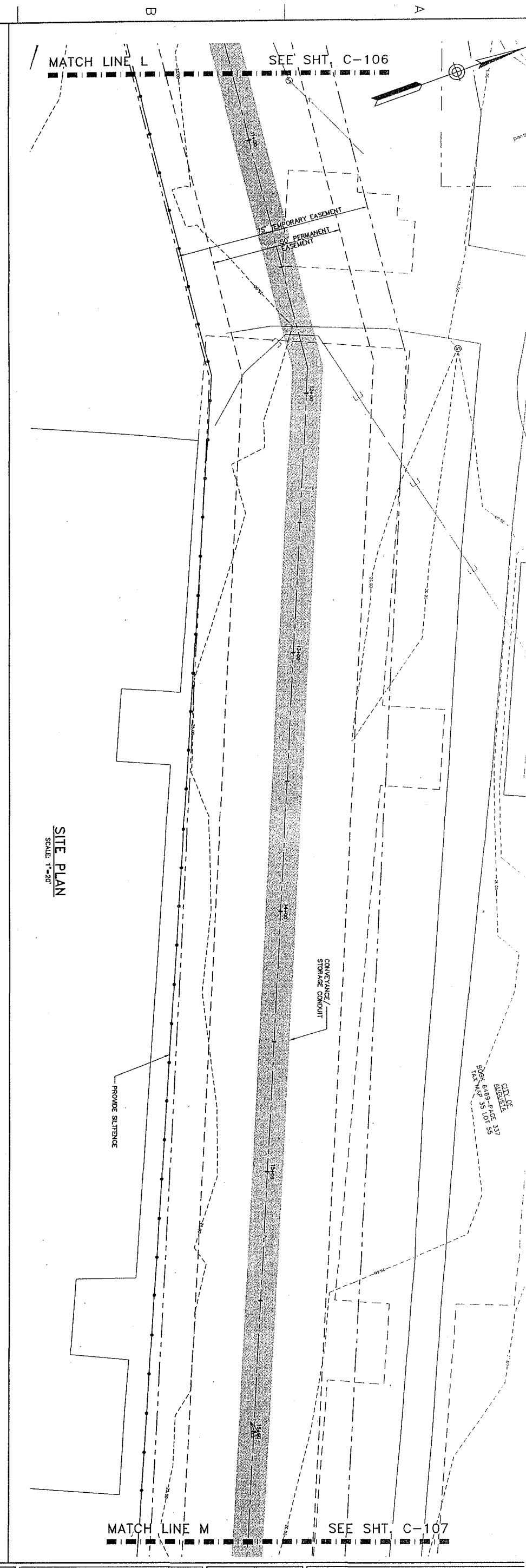


SITE PLAN
SCALE: 1"=20'



SITE PLAN
SCALE: 1"=20'

NRPA SUBMITTAL - NOT FOR CONSTRUCTION

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 10 OF 17 "SEPTEMBER 15, 2010"

PLAN NOTES:
1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

BAR SCALE 1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

C-107	JOB NO.: 219480.04 DATE: SEPTEMBER 2010 SCALE: 1"=20' SHEET: 9 OF 16	GREATER AUGUSTA UTILITY DISTRICT AUGUSTA, MAINE PHASE III CSO LONG TERM CONTROL PLAN

SITE PLAN 10+50 - 16+25
SITE PLAN 16+25 - 19+46

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BCM | 219480.20 C10X nrpa.dwg

STATE OF MAINE
MICHAEL A. STEIN
6844
LICENSED PROFESSIONAL ENGINEER
9/15/2010

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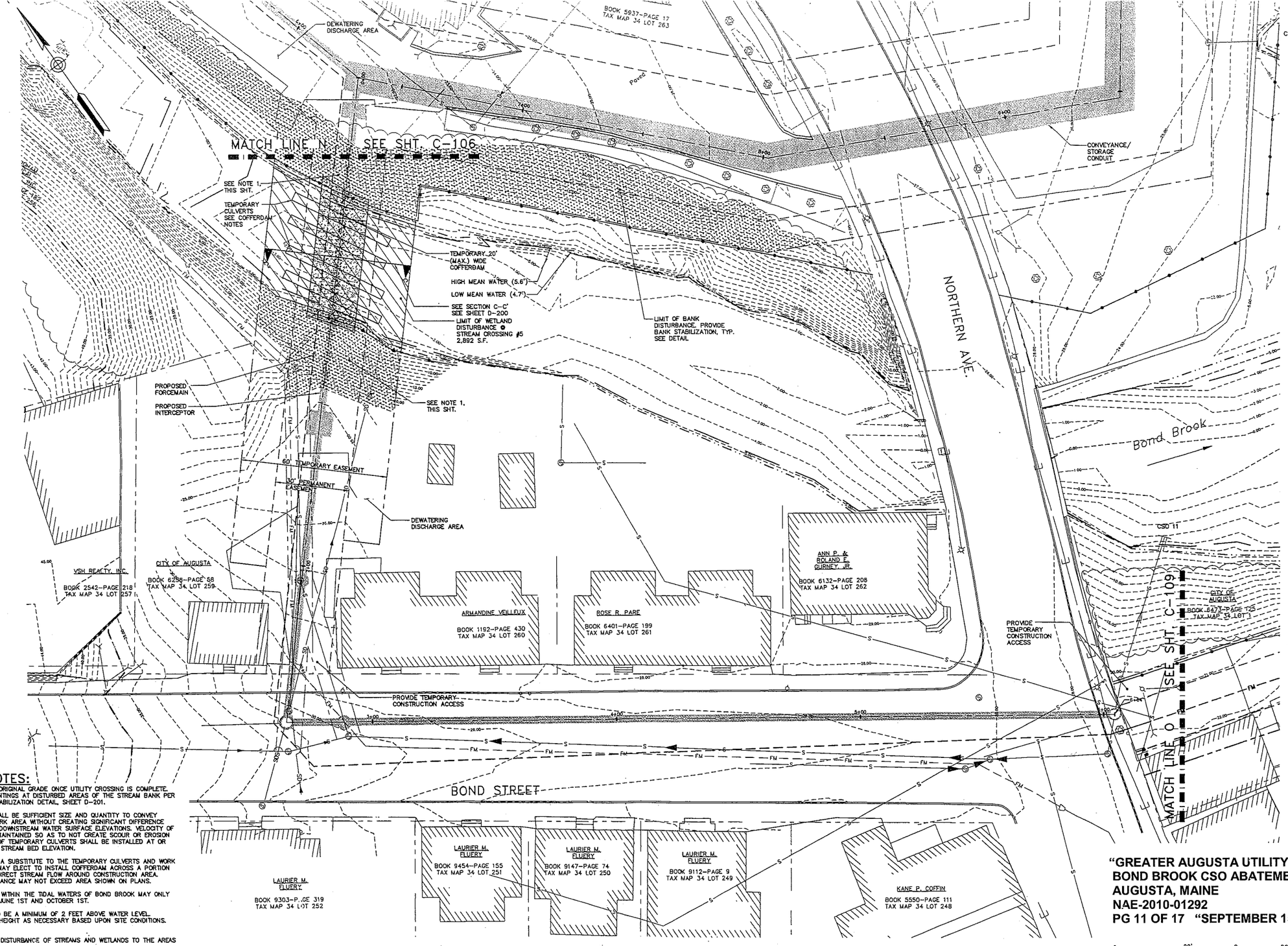

COFFERDAM NOTES:

1. RESTORE RIVER BANK TO ORIGINAL GRADE ONCE UTILITY CROSSING IS COMPLETE. PROVIDE RIPRAP AND PLANTINGS AT DISTURBED AREAS OF THE STREAM BANK PER TYPICAL STREAM BANK STABILIZATION DETAIL, SHEET D-201.
2. TEMPORARY CULVERTS SHALL BE SUFFICIENT SIZE AND QUANTITY TO CONVEY STREAM FLOW ACROSS WORK AREA WITHOUT CREATING SIGNIFICANT DIFFERENCE BETWEEN UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. VELOCITY OF STREAM FLOW SHALL BE MAINTAINED SO AS TO NOT CREATE SCOUR OR EROSION OF STREAMBED. INVERTS OF TEMPORARY CULVERTS SHALL BE INSTALLED AT OR SLIGHTLY BELOW EXISTING STREAM BED ELEVATION.
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5. COFFERDAM ELEVATION TO BE A MINIMUM OF 2 FEET ABOVE WATER LEVEL. CONTRACTOR TO ADJUST HEIGHT AS NECESSARY BASED UPON SITE CONDITIONS.

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

SITE PLAN
SCALE: 1"=20'

NRPA SUBMITTAL – NOT FOR CONSTRUCTION

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 11 OF 17 "SEPTEMBER 15, 2010"

20' 0 20'
BAR SCALE
1" = 20'
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STATE OF MAINE MICHAEL A. SEGUIN LICENSED PROFESSIONAL ENGINEER 9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC | CHECKED BY: MAS
DRAWN BY: BCM | 219480.20 C108.dwg+dwg

SITE PLAN 0+00 – 6+04

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 10 OF 16

C-108

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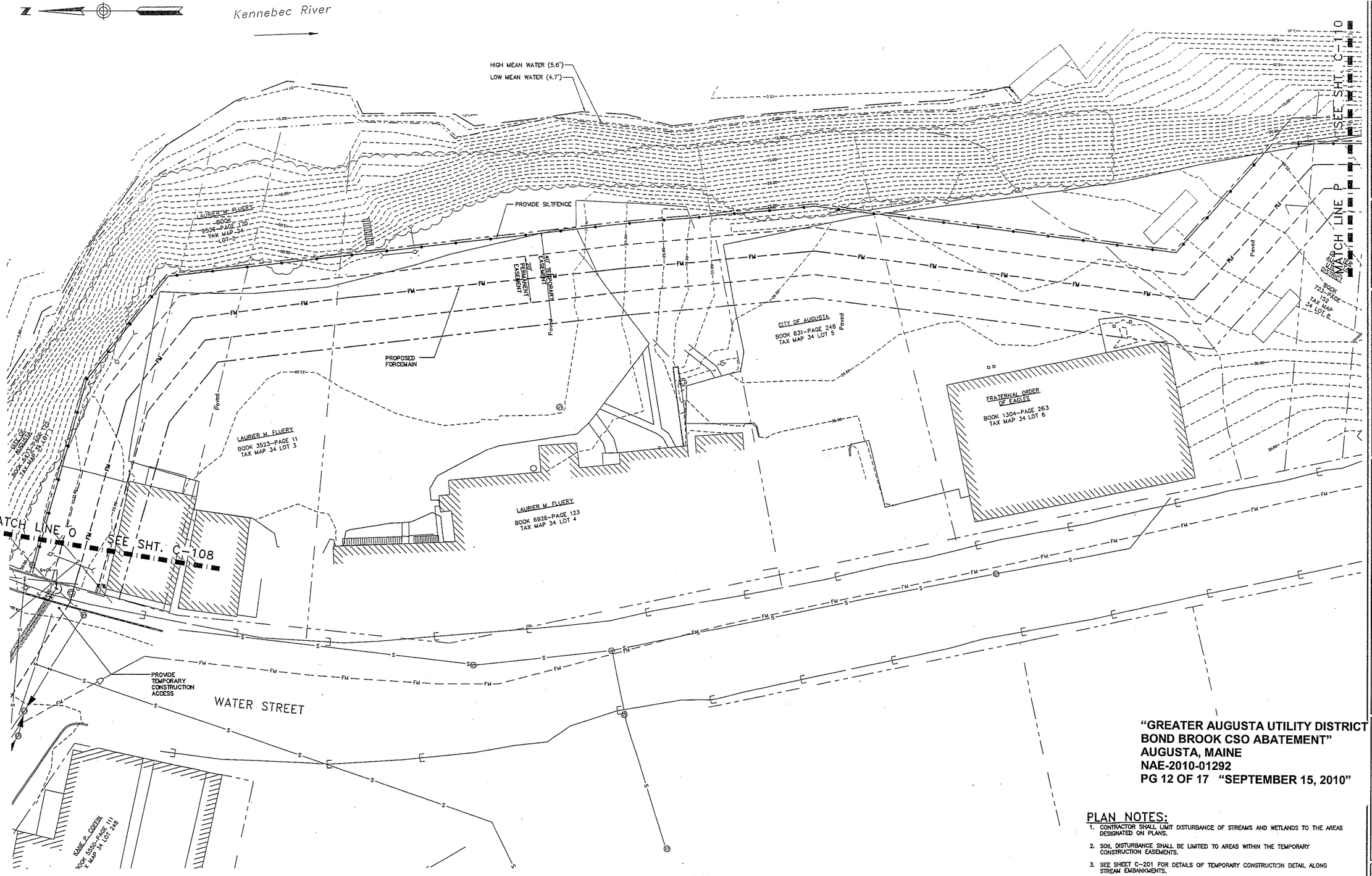

SITE PLAN

SCALE: 1"=20'

"GREATER AUGUSTA UTILITY DISTRICT BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 12 OF 17 "SEPTEMBER 15, 2010"

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

20' 0 20' 40'
FULL SCALE 1" = 20"
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STATE OF MAINE
MICHAEL A. SCHWARTZ
9864
LICENSED PROFESSIONAL ENGINEER
9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC
DRAWN BY: BCM
CHECKED BY: MAS
219480.20 C101K sgnl.dwg

SITE PLAN – FORCE MAIN 1

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 11 OF 16

C-109

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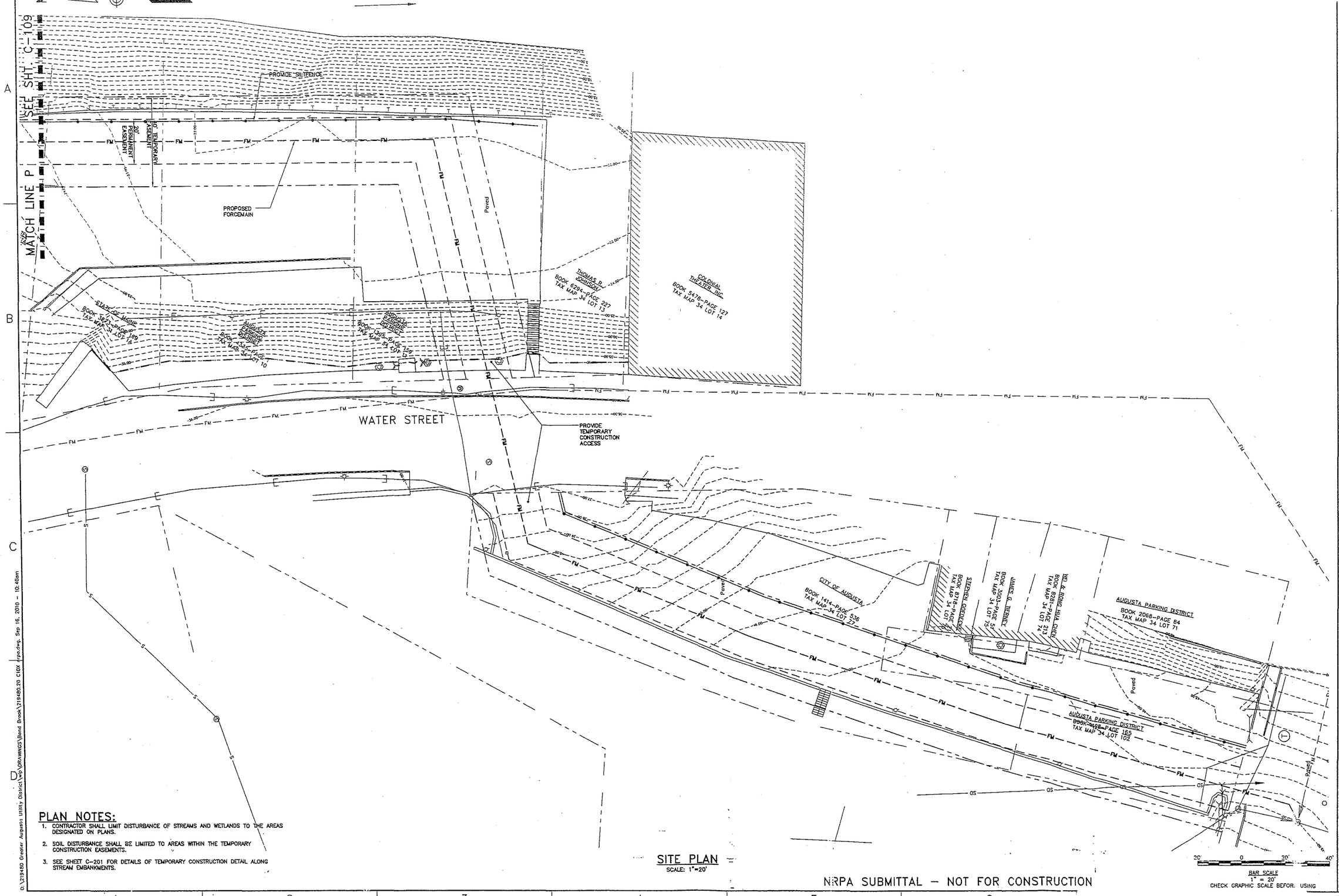

PLAN NOTES:

1. CONTRACTOR SHALL LIMIT DISTURBANCE OF STREAMS AND WETLANDS TO THE AREAS DESIGNATED ON PLANS.
2. SOIL DISTURBANCE SHALL BE LIMITED TO AREAS WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS.
3. SEE SHEET C-201 FOR DETAILS OF TEMPORARY CONSTRUCTION DETAIL ALONG STREAM EMBANKMENTS.

SITE PLAN
SCALE: 1"=20'

NRPA SUBMITTAL – NOT FOR CONSTRUCTION

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STATE OF MAINE
MICHAEL R. SPEEN
6844
LICENSED PROFESSIONAL ENGINEER
9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC
DRAWN BY: BCM
CHECKED BY: MAS
219480.20 C10X nrpa.dwg

SITE PLAN – FORCE MAIN 2

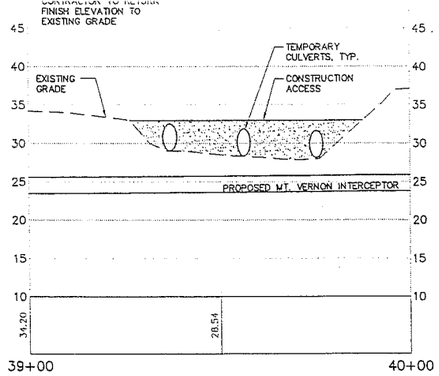
GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: 1"=20'
SHEET: 12 OF 16

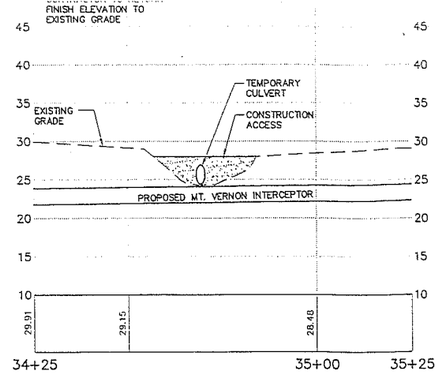
C-110

"GREATER AUGUSTA UTILITY DISTRICT,
BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 13 OF 17 "SEPTEMBER 15, 2010"



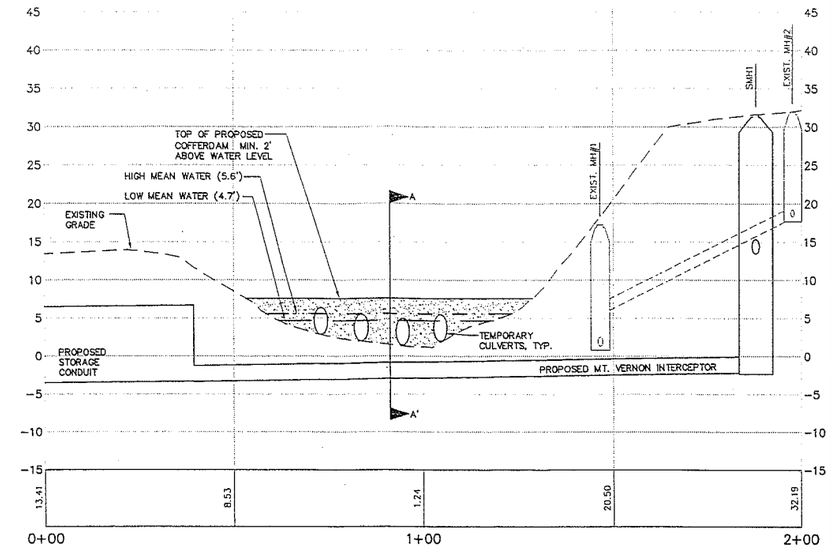
STREAM CROSSING #1

SCALE: HORIZ. 1"=20'
VERT. 1"=10'



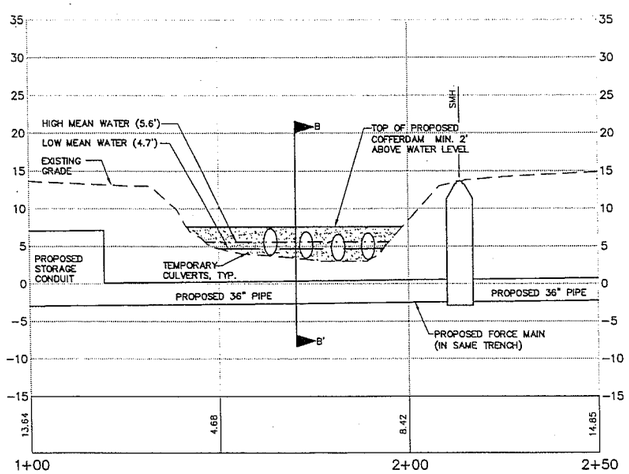
STREAM CROSSING #2

SCALE: HORIZ. 1"=20'
VERT. 1"=10'



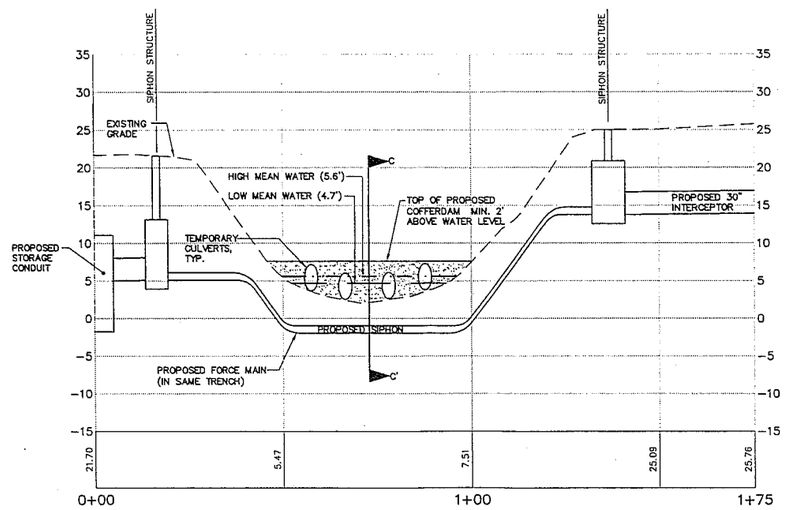
STREAM CROSSING #3

SCALE: HORIZ. 1"=20'
VERT. 1"=10'



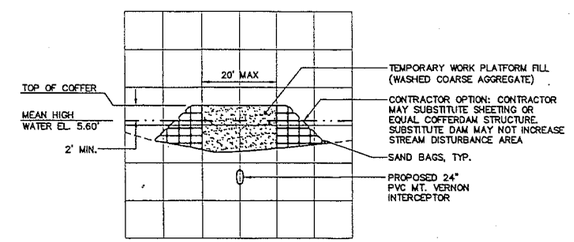
STREAM CROSSING #4

SCALE: HORIZ. 1"=20'
VERT. 1"=10'



STREAM CROSSING #5

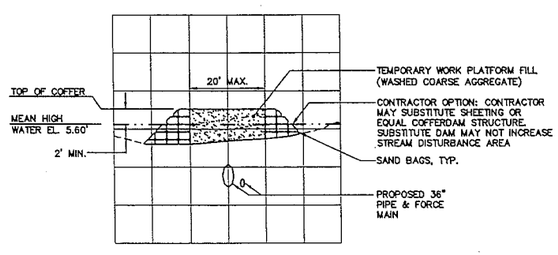
SCALE: HORIZ. 1"=20'
VERT. 1"=10'



SEE STREAM DIVERSION NOTES, SHEET D-203 FOR ADDITIONAL REQUIREMENTS

SECTION A-A' (STA. 0+91)

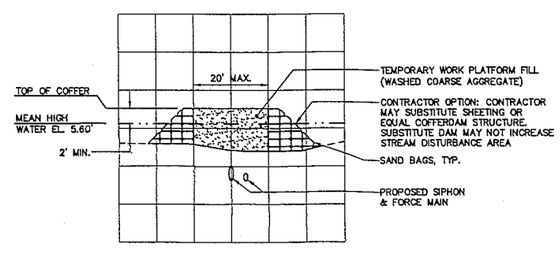
SCALE: HORIZ. 1"=20'
VERT. 1"=10'



SEE STREAM DIVERSION NOTES, SHEET D-203 FOR ADDITIONAL REQUIREMENTS

SECTION B-B' (STA. 1+70)

SCALE: HORIZ. 1"=20'
VERT. 1"=10'



SEE STREAM DIVERSION NOTES, SHEET D-203 FOR ADDITIONAL REQUIREMENTS

SECTION C-C' (STA. 0+78)

SCALE: HORIZ. 1"=20'
VERT. 1"=10'

COFFERDAM NOTES:

1. RESTORE RIVER BANK TO ORIGINAL GRADE ONCE UTILITY CROSSING IS COMPLETE. PROVIDE RIPRAP AND PLANTINGS AT DISTURBED AREAS OF THE STREAM BANK PER TYPICAL STREAM BANK STABILIZATION DETAIL, SHEET D-201.
2. TEMPORARY CULVERTS SHALL BE SUFFICIENT SIZE AND QUANTITY TO CONVEY STREAM FLOW ACROSS WORK AREA WITHOUT CREATING SIGNIFICANT DIFFERENCE BETWEEN UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. VELOCITY OF STREAM FLOW SHALL BE MAINTAINED SO AS TO NOT CREATE SCOUR OR EROSION OF STREAMBED. INVERTS OF TEMPORARY CULVERTS SHALL BE INSTALLED AT OR SLIGHTLY BELOW EXISTING STREAM BED ELEVATION.
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4. CONSTRUCTION ACTIVITIES WITHIN THE TIDAL WATERS OF BOND BROOK MAY ONLY BE CONDUCTED BETWEEN JUNE 1ST AND OCTOBER 1ST.
5. COFFERDAM ELEVATION TO BE A MINIMUM OF 2 FEET ABOVE WATER LEVEL. CONTRACTOR TO ADJUST HEIGHT AS NECESSARY BASED UPON SITE CONDITIONS.

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

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STATE OF MAINE MICHAEL A. SHEPHERD 6844 LICENSED PROFESSIONAL ENGINEER

REV	DESCRIPTION	DATE

DESIGNED BY: DLC
DRAWN BY: BCM
CHECKED BY: MAS
219480.20 C100 drpa.dwg

STREAM CROSS SECTIONS & DETAILS

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: AS NOTED
SHEET: 13 OF 14

D-200

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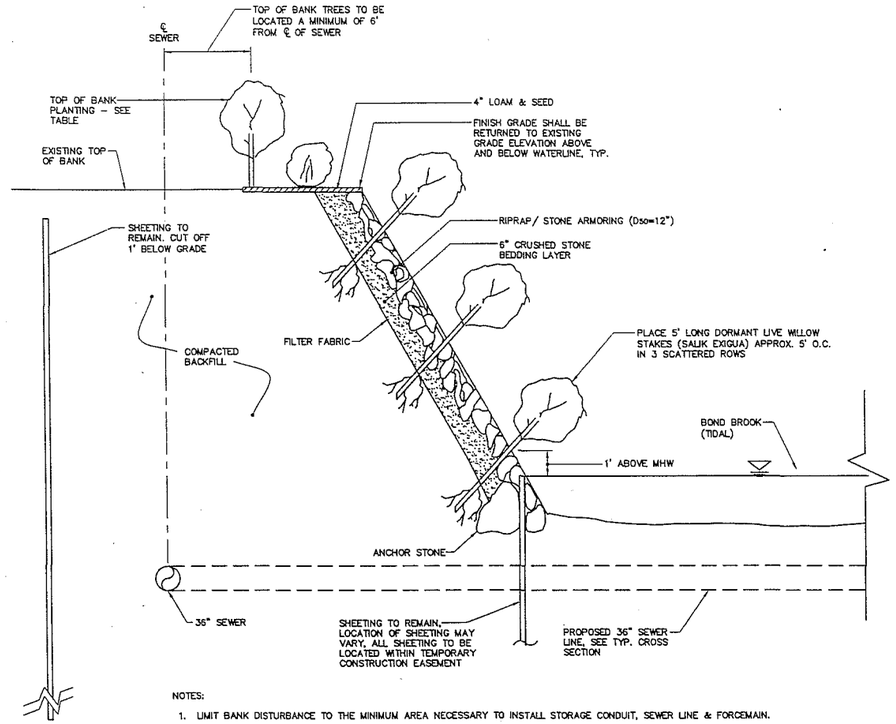
"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 14 OF 17 "SEPTEMBER 15, 2010"



NOTES:

1. LIMIT BANK DISTURBANCE TO THE MINIMUM AREA NECESSARY TO INSTALL STORAGE CONDUIT, SEWER LINE & FORCEMAIN.
2. IF EROSION OF THE SLOPE IS OBSERVED, CONTRACTOR SHALL MITIGATE THE PROBLEM & RESTORE THE DAMAGED AREA AS DIRECTED BY ENGINEER. MITIGATION MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, THE USE OF STRAW, JUTE, VEGETATED RIPRAP, SILT FENCING & STRAW BALES.

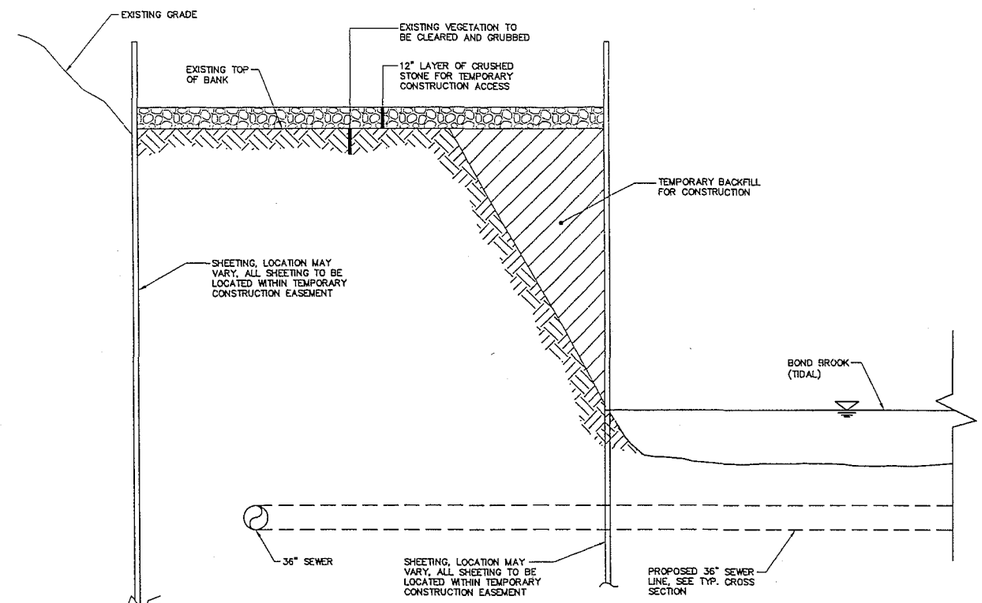
TOP OF BANK PLANTING TABLE

QTY.	COMMON NAME	SCIENTIFIC NAME	SIZE
60	QUAKING ASPEN	POPULUS TREMULOIDES	5' TO 6'
60	BOX ELDER	ACER NEGUNDO	3' TO 4'
60	SWEET FERN	COMPTONIA	2 GAL
60	STAGHORN SUMAC	RHUSTYPHINA	1 1/2 GAL

*BANK PLANTINGS TO BE PLACED IN CLUSTERS OF 3 TO 5 IN SCATTERED ROWS

TYPICAL STREAM BANK STABILIZATION DETAIL

N.T.S.



TYPICAL STREAM BANK TEMPORARY CONSTRUCTION DETAIL

N.T.S.

20' 0 20' 40'
BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

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STATE OF MAINE
MICHAEL J. STEIN
6844
LICENSED PROFESSIONAL ENGINEER
9/15/10

REV	DESCRIPTION	DATE

DESIGNED BY: DLC
DRAWN BY: BCM
CHECKED BY: MAS
219480.20 C10X nrpa.dwg

BANK RESTORATION DETAILS

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: AS NOTED
SHEET: 14 OF 16

D-201

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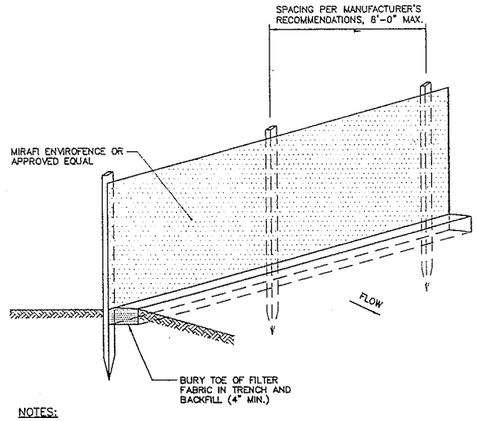
"GREATER AUGUSTA UTILITY DISTRICT,
BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 15 OF 17 "SEPTEMBER 15, 2010"



NOTES:

- INSTALL FABRIC ON UPHILL SIDE OF SUPPORT POSTS
- INSTALL SILT FENCE ACROSS SLOPES
- SILT FENCE SHALL NOT BE USED IN DRAINAGE WAYS

MAINTENANCE: INSPECT FOR TEARS IN THE FABRIC OR DAMAGE TO SUPPORTS. REPAIR AS NECESSARY. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES A DEPTH OF SIX-INCHES OR LESS.

REMOVAL: WHEN UPSLOPE AREAS ARE STABILIZED, THE STRUCTURE AND ANY ACCUMULATED SEDIMENT WILL BE REMOVED.

SILTATION FENCE DETAIL

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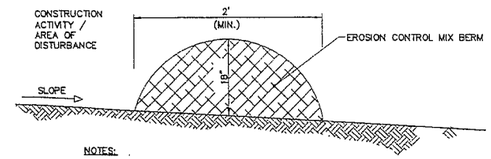

NOTES:

Erosion Control Mix Berms

Erosion control mix can be manufactured on or off the project site. It must consist primarily of organic material and may include: shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.

Composition

Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth. The mix composition shall meet the following standards:

- The organic matter content shall be between 80 and 100%, dry weight basis.
- Particle size by weight shall be 100 % passing a 6" screen and a minimum of 70%, maximum of 85%, passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content shall be < 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

EROSION CONTROL MIX BERM

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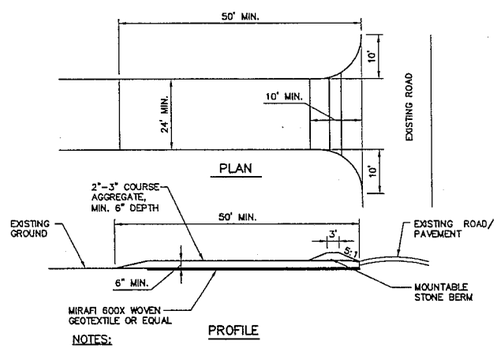


NOTES:

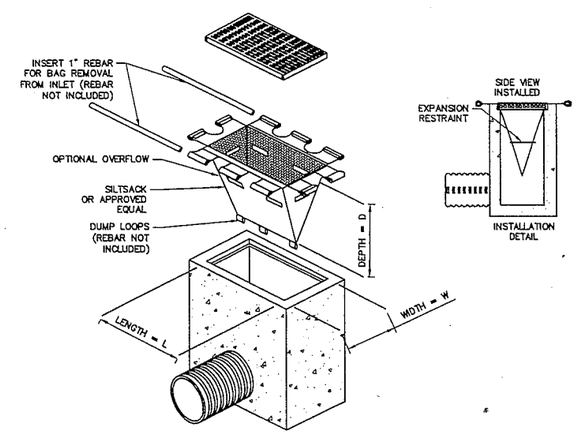
- CONSTRUCTION ENTRANCES MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
- WHEEL WASH PITS MAY ALSO BE USED, IF APPROVED.

MAINTENANCE: INSPECT FOR EFFECTIVE REMOVAL OF SOIL FROM VEHICLES PRIOR TO LEAVING THE SITE. SWEEP ANY SOIL FROM ADJACENT ROADWAYS.

REMOVAL: AT LEAST ONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL ALL AREAS OF THE SITE ARE STABILIZED.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.



CATCH BASIN INLET SEDIMENT CONTROL DETAIL

N.T.S.

2

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STATE OF MAINE MICHAEL A. SEGAN LICENSED PROFESSIONAL ENGINEER 9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC
DRAWN BY: BCM
CHECKED BY: MAS
219480.20 C10X.dwg

EROSION CONTROL DETAILS

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: AS NOTED
SHEET: 15 OF 18

D-202

"GREATER AUGUSTA UTILITY DISTRICT, BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
PG 16 OF 17 "SEPTEMBER 15, 2010"

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Temporary Erosion Control:

Contractor shall prepare and submit a soil erosion and water pollution control plan to engineer in accordance with specifications.

Measure	Dates For Use	Timing, Activity, and Location
Sedimentation Barrier	ALL	Before soil disturbance, install downhill of areas to be disturbed and around material stockpiles.
Up-slope Diversion	ALL	Before soil disturbance, install uphill of areas to be disturbed and material stockpiles.
Catch Basin Protection	ALL	Before soil or pavement disturbance, install ACF Environmental, Inc. High Flow Siltsack, Siltsaver Inlet Filter. or equal, installed per manufacturer's requirements.
Dust Control	ALL	During dry weather, apply water and calcium chloride to control dust.
Temporary Seeding	April 15 to Oct. 1	Soil stockpiles that are not covered and disturbed areas that will not be disturbed again within 14 days. If grass growth provides less than 95% soil coverage by Nov. 1, apply mulch and anchor with erosion control blanket.
Mulch	April 15 to Sept. 15	On all areas of exposed soil prior to rain events or every 30 days, apply 100–150 lbs (2.5 bales) per 1,000 sq ft. by mechanical blower.
Winter Mulch	Sept. 16 to Oct. 31	On all areas of exposed soil prior to precipitation or every 7 days, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. by mechanical blower. Erosion control blanket may be used as a substitute for winter mulch.
	Nov. 1 to April 14	On all areas of exposed soil, apply 150 to 170 lbs. mulch (4 bales) per 1,000 sq. ft. and anchor with netting <u>at the end of each working day.</u> Erosion control blanket may be used as a substitute for winter mulch.
Inspections	Until site is permanently stabilized	Inspect the erosion and sedimentation control measures daily, and maintain and repair as necessary.

Permanent Erosion Control:

Measure	Dates For Use	Timing, Activity, and Location
Pavement – Base Course – Final Course	When no frost is in ground	Install only in areas shown on the plan, shortly after pavement base is brought to final grade. Install near completion of project.
Permanent Seeding	April 15 to Sept. 15	On final grade areas, within 7 days of grade preparation, prepare topsoil, followed by seed and mulch application.
Dormant Seeding	Sept. 16 to April 15	On final grade areas, with prepared topsoil. Apply seed at double the specified rate on bare soil, and follow with an application of winter mulch.
Ground Cover, Trees, Shrubs	April 15 to Nov. 1	Install with final landscaping.
Permanent Mulch	ALL	Install with final landscaping.

Inspections:

Regular inspections of all erosion and sedimentation controls shall be made at least weekly and prior to and following storm events. Minimum inspections shall be made as listed in the table below.

Inspected Item	Look For
Mulched Surfaces	Thin mulch or inadequate application. Wind movement.
Seeded Surfaces	Poor seed germination. Loss of mulch. Development of rivulets.
Sediment Barrier	Sediment build-up to one half the height of the barrier. Undermining of the barrier. Supporting stakes loose, toppled, or unmarked. Breaks in barrier.
Perimeter Diversion	Discharge is to stabilized area. Erosion or breaks in barrier. Supporting stakes loose, toppled or unmarked.
Catch Basin Protection	Sediment build-up and structure blockages. Slow flow/Ponding water. Breaks in fabric or voids in barrier.
Dewatering Filter	Breaks in fabric or supporting structure. Slow flow, indicating high sediment build-up.
Construction Entrance	Sedimentation of roadways. Off-site dust complaints.

TEMPORARY EROSION CONTROL MEASURES MAY INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, HYDRAULIC MULCH, HAY AND STRAW MULCH, EROSION CONTROL BLANKET, TURF REINFORCED MATTING, RIPRAP AND TEMPORARY [illegible] CONTROL MIX BERMS, PLUNGE POOLS, CHECK DAMS, SEDIMENT TRAPS, CATCHBASIN SEDIMENT COLLECTION BAGS AND GEOTEXTILE FILTER BAGS. PERMANENT MEASURES INCLUDE THE USE OF RIPRAP AT EXPOSED STORMDRAIN AND CULVERT INLETS AND OUTLETS, ARMORED SWALES AND SLOPES AND PERMANENT VEGETATION.

GENERAL

A. THE PROJECT SHALL CONFORM WITH THE STANDARDS OF THE MAINE CONSTRUCTION GENERAL PERMIT, IF APPLICABLE.

B. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK PUBLISHED BY THE MAINE DEP UNLESS OTHERWISE NOTED IN THESE PLANS. HTTP://MAINE.GOV/DEP/BLWQ/DOCSTAND/ESCBMPS/

C. ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, GREATER AUGUSTA UTILITY DISTRICT, DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.

D. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.

E. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE SITE WHENEVER POSSIBLE WHILE ALLOWING PROPER SITE DEVELOPMENT.

F. CONSTRUCTION STAGING SHALL BE CONDUCTED IN A WAY TO MINIMIZE THE POTENTIAL FOR STORMWATER RUN-ON TO DISTURBED AREAS.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ENGINEER. DESCRIPTIONS OF PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

i. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS THAT 90% OF THE DISTURBED AREA IS COVERED WITH REASONABLY THICK UNIFORM STAND OF PERMANENT GRASS SPECIES, FREE FROM SIZABLE THIN OR BARE SPOTS.
ii. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THAT COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE OFF.
iii. FOR MULCHED AREAS, PERMANENT STABILIZATION MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
iv. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE. STONE MUST BE SIZED APPROPRIATELY AND IN ACCORDANCE WITH SECTION E-6 OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.
v. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE ASPHALT BINDER COURSE.

H. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, AND WILL NOT BE BUILT ON, THEN IMMEDIATELY PROVIDE PERMANENT STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD OR THROUGH THE USE OF PERMANENT MULCH OR RIPRAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED, OVERLY-COMPACTED SUBSOIL WITH TOPSOIL OR COMPOST AND LIGHTLY TILL 2-3" OF SOIL AMENDMENTS INTO THE TOP 8" OF SOIL.

I. PERMANENT SEEDING SPECIFICATION: IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOCK WINTER RYE OR MULCHED AT SPECIFIED RATES. SEE WINTER SEEDING AND MULCHING SPECIFICATIONS FOR STABILIZATION AFTER NOVEMBER 1.

vi. APPLY TOPSOIL TO A DEPTH OF 4 INCHES. IN COMPACTED AREAS TILL 2-3" OF COMPOST INTO UPPER 6" OF DISTURBED SOIL AND THEN APPLY 4 INCHES OF TOPSOIL.
ii. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 33 LBS PER 1000 SQUARE FEET AND GRANULAR, COMMERCIAL-GRADE FERTILIZER 10-10-10 AT A RATE OF 18 LBS PER 1000 SQUARE FEET.
iii. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2.5 BALES PER 1000 SQUARE FEET AND ANCHOR AS NECESSARY.
iv. THE SEED MIXTURE FOR LAWN AREAS SHALL BE MDOT METHOD #1, AND PROPORTIONED BY WEIGHT AS FOLLOWS:
1. 45% CREEPING RED FESCUE
2. 25% KENTUCKY BLUEGRASS
3. 15% CHEWINGS FESCUE
4. 10% PERENNIAL RYEGRASS
5. 5% ANNUAL RYEGRASS

vi. THE SEED MIXTURE FOR NON-LAWN AREAS WITH LOW-MAINTENANCE SHALL BE MDOT METHOD #2, AND PROPORTIONED BY WEIGHT AS FOLLOWS:
1. 50% CREEPING RED FESCUE
2. 25% SHEEP FESCUE
3. 10% ANNUAL RYEGRASS
4. 10% WHITE CLOVER
5. 5% RED TOP

J. PROTECT ALL SEEDED AREAS WITH MULCH OR EROSION CONTROL BLANKET IN AREAS OF SHEET OR CONCENTRATED FLOWS. MULCH ALL AREAS SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE. SCHEDULE SEEDING OR SODDING TO AVOID FAILURE DUE TO SUMMER DROUGHT AND FALL FROST. NEWLY SEEDED AREAS SHOULD BE PROTECTED FROM VEHICLE TRAFFIC, PEDESTRIAN TRAFFIC AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE OR SURFACE EROSION IS EVIDENT.

K. DITCH LININGS AND RIPRAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF THE CULVERT.

L. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (WETLANDS AND WATER RESOURCES). EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN S150BN OR APPROVED EQUAL. EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

M. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURE UPON STABILIZATION OF PROJECT AREA & COST SHALL BE INCIDENTAL TO CONTRACT.

WINTER CONDITIONS

A. WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 1. IF AREAS WITHIN THE CONSTRUCTION AREA ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15 THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS.

GOOD HOUSEKEEPING AND POLLUTION PREVENTION

A. SPILL PREVENTION CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER RUNOFF AND APPROPRIATE SPILL PREVENTION, CONTAINMENT AND RESPONSE PLANNING AND IMPLEMENTATION.

B. DURING CONSTRUCTION, PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUND OR SURFACE WATERS MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO INFILTRATION AREAS. AN "INFILTRATION AREA" IS ANY ARE OF THE SITE THAT BY DESIGN, OR AS A RESULTS OF SOIL AND TOPOGRAPHY, ACCUMULATES RUNOFF THAT INFILTRATES IN THE SOIL. DIKES, BERMS, SUMPS AND OTHER FORMS OF TEMPORARY SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

C. LOCATE ALL MATERIAL STOCKPILES WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

D. TAKE ALL REASONABLE MEASURES TO MINIMIZE DUST RESULTING FROM THE PROJECT. OIL MAY NOT BE USED FOR DUST CONTROL.

E. LOCATE ALL LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS WITH CONSIDERATION FOR STORMWATER DRAINAGE PATTERNS AND INFRASTRUCTURE.

F. TRENCH OR FOUNDATION DE-WATERING MUST BE SPREAD THROUGH SUFFICIENT NATURAL BUFFERS THAT HAVE CAPACITY TO INFILTRATE THE PUMPED WATER OR SHOULD BE PUMPED TO DESIGNED CONSTRUCTION DEWATERING DEVICES AS DESCRIBED IN THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK.

G. SEDIMENTS AND SOIL MATERIALS SHOULD BE SWEPT FROM PAVED SURFACES AT THE END OF EACH WORKDAY OR PRIOR TO RAIN EVENTS, WHENEVER POSSIBLE.

INSPECTION AND MAINTENANCE

A. A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT, THE MAINE EROSION AND SEDIMENT CONTROL BMPS HANDBOOK OR ANY MUNICIPAL REQUIREMENTS MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF ADDITIONAL BMPS OR MODIFICATIONS TO BMPS ARE NECESSARY, THE MODIFICATIONS MUST BE IMPLEMENTED WITH 7 CALENDAR DAYS OR PRIOR TO ANY PRECIPITATION EVENT. ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

B. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT BY THE CONTRACTOR, SUMMARIZING THE SCOPE OF THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO THE OPERATION OF EROSION AND SEDIMENT CONTROL BMPS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS TO THE CONSTRUCTION AREA. THE INSPECTION LOG SHOULD BE DELIVERED TO THE PROPERTY OWNER OR RESPONSIBLE CONTRACTING ENTITY UPON COMPLETION OF THE PROJECT.

TEMPORARY STREAM DIVERSION

A. STREAM DIVERSION SHALL COMPLY WITH THE RECOMMENDATIONS OF THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL AND SECTION 7 OF THE NRPA APPLICATION.

B. THE CONSTRUCTION OF THE TEMPORARY STREAM DIVERSION SHALL NOT CAUSE SIGNIFICANT WATER LEVEL DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. THE VELOCITY OF THE STREAM FLOW SHALL BE MAINTAINED SO AS TO NOT CREATE SCOUR OR EROSION OF THE STREAM BED AND BANK.

C. WORK WITHIN LOWER BOND BROOK SHALL BE CONDUCTED DURING THE MONTHS OF JANUARY AND FEBRUARY.

D. ALL TEMPORARY STREAM DIVERSIONS SHALL BE REMOVED WITHIN 2 CALENDAR DAYS AFTER THE STRUCTURE IS NO LONGER NEEDED.

E. THERE SHALL BE NO EARTH, SANDS, SILTS, CLAYS, OR ORGANIC MATERIAL USED FOR CONSTRUCTION WITHIN THE WATERWAY CHANNEL. WASHED COARSE AGGREGATE (3/4 INCH TO 4 INCHES) REFERENCED AS AASHTO DESIGNATION NO. 1 SHALL BE THE MINIMUM ACCEPTABLE AGGREGATE SIZE FOR TEMPORARY STREAM DIVERSION STRUCTURES. LARGER CLEAN AGGREGATES WILL ALSO BE ALLOWED.

F. SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRA-VIOLET RADIATION, TEARING AND PUNCTURE, AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.

G. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED OUTSIDE OF THE FLOODPLAIN AND TEMPORARILY STABILIZED TO PREVENT RE-ENTRY INTO THE STREAM CHANNEL.

H. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN OR SEDIMENT CONTROL DEVICE PRIOR TO REENTERING THE STREAM.

I. SURPLUS EXCAVATION MATERIALS SHALL BE PROPERLY DISPOSED OUTSIDE OF THE FLOOD PLAIN AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

J. THE PROCESS OF EXCAVATION AND STABILIZATION SHALL BE CONTINUOUS AND UNINTERRUPTED UNLESS CONTAMINATED MATERIAL IS ENCOUNTERED.

K. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PERFORMED AS NEEDED TO ENSURE THAT THE DIVERSION, STREAMBED, AND STREAMBANKS ARE MAINTAINED AND NOT DAMAGED. MAINTENANCE SHALL INCLUDE REMOVAL AND DISPOSAL OF ANY TRAPPED SEDIMENT OR DEBRIS. SEDIMENT SHALL BE DISPOSED OF OUTSIDE OF THE FLOOD PLAIN AND STABILIZED.

L. CONTRACTOR SHALL BE PREPARED TO IMPLEMENT EMERGENCY MEASURES IN CASE OF MAJOR STORMS OR FLOODING EVENTS. IF A MAJOR EVENT IS PREDICTED, EMERGENCY MEASURES MUST BE TAKEN TO MINIMIZE DAMAGE.

CONSTRUCTION DEWATERING

A. CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN ALL NECESSARY MATERIAL AND EQUIPMENT USED TO KEEP EXCAVATIONS FREE OF STANDING OR FLOWING WATER AND TO TRANSPORT WATER TO A SUITABLE DISCHARGE POINT. WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

B. THE CONTRACTOR SHALL MINIMIZE THE SUSPENDED SOLIDS CONTENT IN THE WATER BY LINING THE EXCAVATION COLLECTION AREA WITH CRUSHED STONE AND PLACING THE PUMP INTAKE IN A PERFORATED BUCKET.

C. WATER WITH VISIBLE SHEEN SHALL NOT BE DISCHARGED WITHOUT PRE-TREATMENT. CONTRACTOR SHALL UTILIZE SPILL PADS TYPICAL OF HYDROPHOBIC PADS BY SPC SORBENT PRODUCTS COMPANY OR APPROVED EQUAL TO SOAK VISIBLE SHEENS OFF THE SURFACE OF THE WATER.

D. CHANNELS DUG FOR DISCHARGING WATER FROM THE EXCAVATED AREA SHALL BE STABLE. IF FLOW VELOCITIES CAUSE EROSION WITHIN THE CHANNEL THEN A DITCH LINING SHALL BE INSTALLED.

E. EXCAVATION DEWATERING SHALL BE DISCHARGED TO A SEDIMENT REMOVAL BASIN OR SEDIMENT CONTROL DEVICE, IN ACCORDANCE WITH MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL.

F. SEDIMENT BASINS SHALL CONTAIN SPLASH PADS OF RIPRAP UNDERLAIN WITH GEOTEXTILE TO PREVENT SCOURING.

G. SEDIMENT REMOVAL BASINS SHALL DISCHARGE VIA SHEET FLOW TO A WELL VEGETATED BUFFER, WHENEVER POSSIBLE. THE DISTANCE BETWEEN THE DISCHARGE AREA AND NEARBY WATER RESOURCES SHALL BE MAXIMIZED.

H. CONTRACTOR SHALL INSPECT DEWATERING FACILITY FREQUENTLY DURING DEWATERING ACTIVITIES. THE DISCHARGE AND BUFFER AREAS SHALL BE INSPECTED FOR SIGNS OF EROSION OR CONCENTRATION OF FLOW. CONTRACTOR SHALL REGULARLY OBSERVE THE QUALITY OF THE EFFLUENT, AND PROVIDE ADDITIONAL CONTROL MEASURES IF THE EFFLUENT IS TURBID.

SPILL PREVENTION, RESPONSE AND NOTIFICATION

A. ALL CONTRACTOR AND SUBCONTRACTOR PERSONNEL SHALL TAKE MEASURES TO PREVENT SPILLS AND RELEASES OF HAZARDOUS SUBSTANCES.

B. THE CONTRACTOR WILL RESPOND TO ANY SPILLS OF HAZARDOUS SUBSTANCES OR HAZARDOUS WASTE ON SITE. ONLY PROPERLY TRAINED PERSON[illegible] WILL BE ALLOWED TO PERFORM SPILL RESPONSE DUTIES. CONSTRUCTION PERSONNEL THAT HAVE BEEN TRAINED TO DO SO MAY TAKE STEPS TO CONTAIN THE REL[illegible]SE OF A SPILLED MATERIAL. ALL PERSONNEL WILL BE MADE AWARE OF THE LOCATION(S) OF SPILL CONTAINMENT AND CLEAN-UP MATERIALS. THE CONTRACTOR [illegible]LL PROVIDE SPILL RESPONSE MATERIALS INCLUDING, BUT NOT LIMITED TO: CONTAINERS, ADSORBENT, SHOVELS, AND PERSONAL PROTECTIVE EQUIPMENT. SPILL RESP[illegible]SE MATERIALS WILL BE AVAILABLE AT ALL TIME IN WHICH HAZARDOUS SUBSTANCES/WASTES ARE BEING HANDLED OR TRANS[illegible]ORTED. SPILL RESPONSE MATE[illegible]S WILL BE COMPATIBLE WITH THE MATERIAL BEING HANDLED..

C. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GREATER AUGUSTA UTILITY DISTRICT AND THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (PHONE: 1-800-482-0777) IF ANY RELEASE OF PETROLEUM, OILY WATER, OR OTHER HAZARDOUS SUBSTANCES OCCURS.

..RPA SUBMITTAL – NOT FOR CONSTRUCTION

WOODARD & CURRAN
41 Hutchins Drive
Portland, Maine 04102
800.426.4262 | www.woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RE[illegible]

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STATE OF MAINE — MICHAEL [illegible] 6844 — LICENSED PROFESSIONAL ENGINEER — 9/15/2010

REV	DESCRIPTION	DATE

DESIGNED BY: DLC — CHECKED BY: MAS
DRAWN BY: BCM — 219480.20 C10X nrpa.dwg

EROSION CONTROL DETAILS

GREATER AUGUSTA UTILITY DISTRICT
AUGUSTA, MAINE

PHASE III
CSO LONG TERM CONTROL PLAN

JOB NO.: 219480.04
DATE: SEPTEMBER 2010
SCALE: AS NOTED
SHEET: 16 OF 16

D-203

O:\219480 Greater Augusta Utility District\wip\DRAWINGS\Bond Brook\219480.20 C10X nrpa.dwg, Sep 16, 2010 - 10:42am

"GREATER AUGUSTA UTILITY DISTRICT
BOND BROOK CSO ABATEMENT"
AUGUSTA, MAINE
NAE-2010-01292
 "SEPTEMBER 15, 2010"