



**US Army Corps  
of Engineers**  
Philadelphia District

Wanamaker Building  
100 Penn Square East  
Philadelphia, PA 19107-3390  
ATTN: CENAP-OP-R

# Public Notice

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Public Notice No.  
**CENAP-OP-R-2016-180**

Date

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Application No.  
**CENAP-OP-R-2016-180**

File No.

**CENAP-OP-R-2016-180-85**

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In Reply Refer to:  
**REGULATORY BRANCH**

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This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

**APPLICANT:** City of Rehoboth Beach  
229 Rehoboth Avenue  
Post Office Box 1163  
Rehoboth Beach, Delaware 19971

**AGENT:** Sean Snow  
GHD, Inc.  
16701 Melford Boulevard  
Suite 330  
Bowie, Maryland 20715

**WATERWAY:** Atlantic Ocean

**LOCATION:** 38 Henlopen Avenue Rehoboth Beach, Sussex County, Delaware  
Tax Map Parcels 3-34-14.09-215.00  
(Lat. 38.71368°N/Long.-75.0807°W).

**ACTIVITY:** The applicant, City of Rehoboth Beach, has applied for a Department of the Army permit to install a wastewater outfall pipeline and diffuser via directional drilling and mechanical or hydraulic dredging in the Atlantic Ocean east of Deauville Beach, Rehoboth Beach, Sussex County, Delaware. The proposed pipeline alignment begins at the existing Rehoboth Beach Waste Water Treatment Plant, follows the Lewes and Rehoboth canal north to Grove Park. The pipeline will then turn northeast to Henlopen Avenue and continue along Henlopen Avenue to the Deauville Beach parking area and terminate in the Atlantic Ocean, approximately 6,000 linear feet from the parking area. The twenty-four (24) inch high density polyethylene (HDPE) or polyvinyl chloride (PVC) pipeline would be directionally drilled approximately 3,000 linear feet, eight (8) feet below the ocean substrate. At this point, a mechanical or hydraulic dredge would excavate an eight (8) feet deep trench for the remaining 3,000 linear feet. Once the pipe is anchored in place with concrete collars, the trench would be backfilled with 2.5 feet of soil, 4 feet of ballast stone, followed by 1.5 feet of the native substrate. The terminus of the outfall pipe

will consist of a 120 linear feet diffuser comprised of 8 risers, 1.5 feet above the ocean substrate, with 4 ports per riser. The diffuser will be installed on pilings to ensure stability. The dimensions of the structures are indicated on the attached plans.

**PURPOSE:** The Rehoboth Beach Wastewater Treatment Plant (RBWWTP) currently discharges its treated effluent to the Lewes and Rehoboth Canal, which connects the Rehoboth Bay to the Delaware Bay. The RBWWTP currently receives wastewater from the City of Rehoboth and surrounding areas of Henlopen Acres and Dewey Beach. The original treatment plant was completed in 1989 and was upgraded in two phases, in 1994 and 1997, to reduce the nitrogen and phosphorus discharge as required. Minor upgrades were also implemented at the plant in 2002 to improve grit removal.

The RBWWTP is an advanced secondary treatment plant that produces an effluent of higher quality than that of a typical secondary treatment plant. It is currently meeting and achieving higher levels of treatment than required by the current existing National Pollutant Discharge Elimination System (NPDES) permit limits with effluent concentrations and loading well below the permitted amounts. The design capacity of the plant is considered adequate, and there are no plans to expand the capacity either now or in the future.

In 1996, Rehoboth Bay was listed as a “water quality limited” water body by the Delaware Department of Natural Resources and Environmental Control (DDNREC). Thus a consent order (Civil Action Number 98C-12-023-THG) was issued to the City of Rehoboth Beach to find another disposal method to eliminate discharge to Rehoboth Bay. Several alternatives were evaluated in the final Environmental Impact Statement (EIS) dated December 2012, and following the DDNREC Record of Decision (ROD) in January 2015, an ocean outfall was deemed the best option for the City. The ROD and EIS can be found at the following website: <http://www.dnrec.delaware.gov/wr/Services/Pages/Financial-Assistance-Branch-proposed-Rehoboth-ocean-outfall.aspx>.

Post construction of the ocean outfall, treated effluent from the RBWWTP will be diffused into the water 6,000 linear feet offshore. This effluent will have been treated through enhanced nutrient removal treatment with modelling predicting rapid dilution to background levels within 1,000 feet south of the diffuser assembly.

The RBWWTP will be permitted through the Environmental Protection Agency’s (EPA) NPDES in two phases. The first phase is to allow the plant to continue to discharge into the Lewes and Rehoboth Canal during construction. The second phase will take effect once the ocean outfall is complete, and will permit the plant to discharge through the diffuser in the Atlantic Ocean. The RBWWTP currently meets and will continue to meet NPDES regulations set forth for this particular treatment facility.

#### AVOIDANCE/MINIMIZATION/COMPENSATION STATEMENT:

On April 10, 2008, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency published a *Final Rule on Compensatory Mitigation for the Losses of Aquatic Resources* (33 CFR 325 and 332 and 40 CFR 230). The rule took effect on June 9, 2008. In accordance with 33 CFR Part 325.1(d)(7) of the rule, the applicant has stated that the proposed project has

been designed to avoid and minimize adverse effects on the aquatic environment to the maximum extent practicable, and has further documented that compensatory mitigation is not necessary. The following aspects and features of the project demonstrate the applicant's efforts in this regard.

The applicant has stated that they will perform the work utilizing best management practices to minimize impacts to aquatic resources. These best management practices include, but are not limited to using a hydraulic directional drill, vibratory pile driving utilizing a soft start method for installation of the diffuser, limiting pile driving activities to no more than 12 hours per day, operating shallow draft vessels to maximize navigational clearance for marine species and adhering to seasonal time of year restrictions. Furthermore, multiple alternatives were analyzed as part of the EIS with the ocean outfall diffuser system determined to be the practicable alternative available and capable of being done after taking into consideration environmental consequences, cost, existing technology, and logistics in light of overall project purposes.

A preliminary review of this application indicates that threatened or endangered species under the jurisdiction of the National Marine Fisheries Service (NMFS) may occur in the project area. Based on the Final EIS, ROD and analysis that all effects of the proposed action will be insignificant and/or discountable, and in consultation with the National Marine Fisheries Service, the proposed work is not likely to adversely affect listed species or their critical habitat pursuant to Section 7 of the Endangered Species Act as amended.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

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.

Comments on the proposed work should be submitted, in writing, within 30 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

Review of the National Register of Historic Places indicates that no registered properties or properties listed as eligible for inclusion therein are located within the permit area of the work. Based on a Phase 1 Archaeological Survey reviewed by the State Historic Preservation Office, the Philadelphia District has determined that no known historic properties, eligible for or listed in the National Register of Historic Places, will be affected by this project.

Essential Fish Habitat: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 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 effect Essential Fish Habitat (EFH).

Effects of the Project: The project is located in Essential Fish Habitat according to the Guide to Essential Fish Habitat Designations in the Northeastern United States. The following managed species of fish have been listed in the guide as occurring in the vicinity of the project: Atlantic cod (*Gadus morhua*), red hake (*Urophycis chuss*), winter flounder (*Pseudopleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), Atlantic sea herring (*Clupea harengus*), monkfish (*Lophius americanus*), bluefish (*Pomatomus saltatrix*), Atlantic butterflyfish (*Peprilus triacanthus*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristus striata*), surf clam (*Spisula solidissima*), spiny dogfish (*Squalus acanthias*), king mackerel (*Scomberomerus cavalla*), Spanish mackerel (*Scomberomerus maculatus*), cobia (*Rachycentron canadum*), sand tiger shark (*Carcharias taurus*), Atlantic angel shark (*Squatina dumerili*), Atlantic sharpnose shark (*Rhizopriondon terraenovae*), dusky shark (*Carcharhinus obscurus*), sandbar shark (*Carcharhinus plumbeus*) and scalloped hammerhead shark (*Sphyrna lewini*).

Analysis of the Effects: The proposed work which is the subject of this application would occur during the winter months in the Atlantic Ocean off the coast of Rehoboth Beach, Sussex County, Delaware. The proposed work area is an unlikely spawning or nursery area for the managed species. Consequently, concentrations of the sessile life stages (eggs and larva) of the listed species are not expected to be within the area under review. The pelagic adults and juveniles of the listed species are highly mobile and capable of avoiding such impacts as may be associated with the work. Additionally, the disturbance to the benthic community would be temporary and re-establish after completion of the project. Furthermore, the implementation of a seasonal restriction to prohibit any in-water work from May 1 through October 1 when these species normally occur in the project vicinity would minimize any adverse effects to these resource values.

Corps of Engineers View: Based upon the above analysis and in consultation with the NMFS Habitat Conservation Division, the Corps of Engineers has determined that the proposed project would not have substantial direct, indirect, site-specific, or habitat-wide impacts on EFH, or upon the managed species and their life stages listed in the above referenced EFH guide, either

individually, cumulatively or synergistically. The proposed project would not eliminate, diminish, nor disrupt the functions of EFH.

Proposed Mitigation: Impacts to aquatic resources resulting from the proposed project are expected to be temporary in nature. As such, no compensatory mitigation has been proposed.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

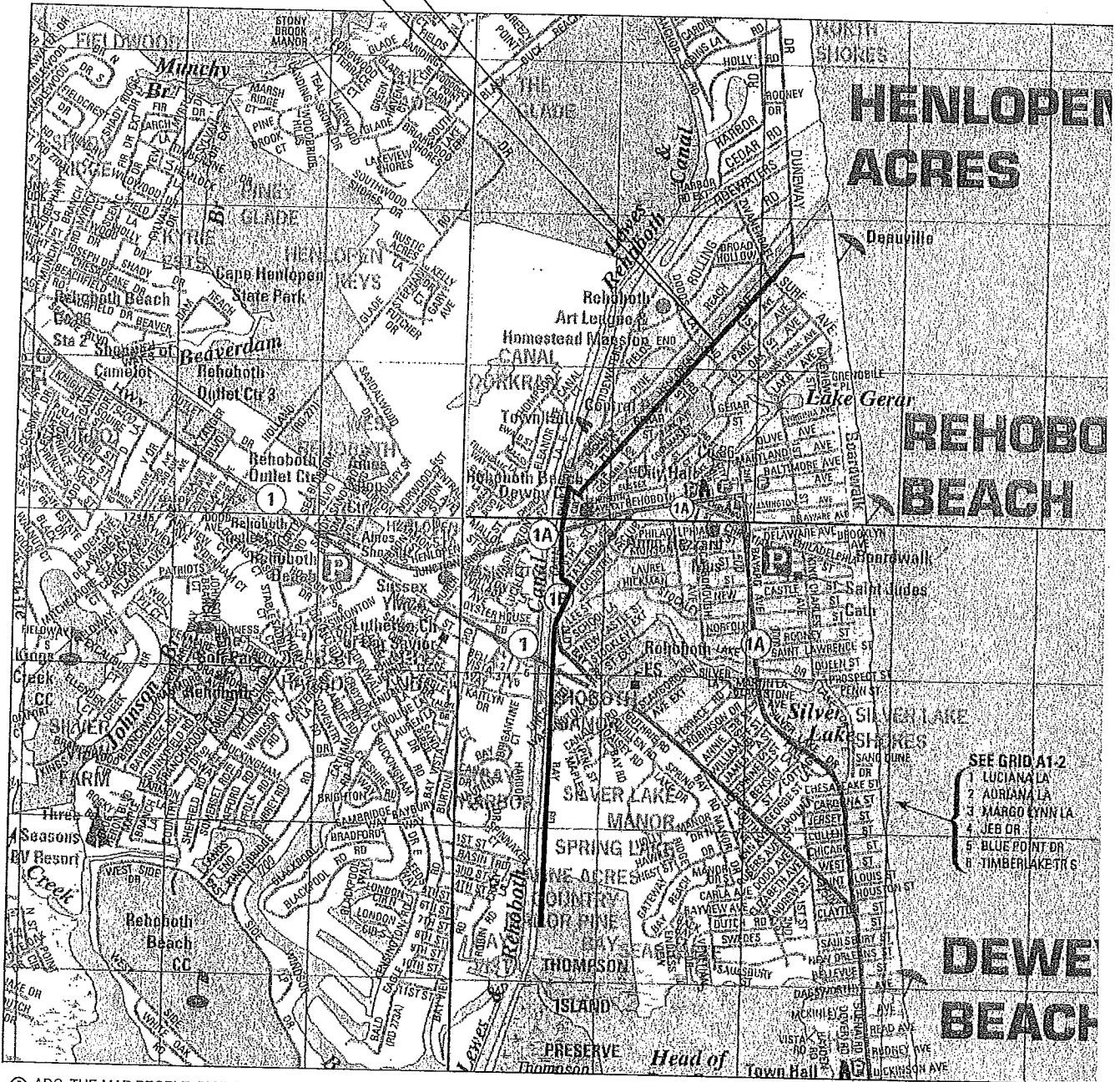
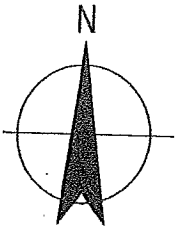
The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by calling Michael Yost at 302-736-9763, by email at michael.d.yost@usace.army.mil, or by writing this office at the above address.

Edward E. Bonner  
Chief, Regulatory Branch

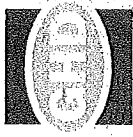
PIPE ALIGNMENT  
PROJECT LOCATION



© ADC, THE MAP PEOPLE, BY PERMISSION PUN # 09011200

## VICINITY MAP

NOT TO SCALE



# CITY OF REHOBOTH BEACH, DELAWARE OCEAN OUTFALL PROJECT

## PROJECT NUMBER: 2017-001 PERMIT SUBMITTAL

- CONTRACT:**
1. CITY OF REHOBOTH BEACH
  2. OWNER: CITY OF REHOBOTH BEACH
  3. STATE OF DELAWARE
  4. PROJECT NUMBER: 2017-001
  5. PROJECT NAME: OCEAN OUTFALL PROJECT
  6. PROJECT LOCATION: REHOBOTH BEACH, DE
  7. PROJECT DATE: 08/2017
  8. PROJECT STATUS: PRELIMINARY
  9. PROJECT TYPE: OCEAN OUTFALL PROJECT
  10. PROJECT DESCRIPTION: OCEAN OUTFALL PROJECT

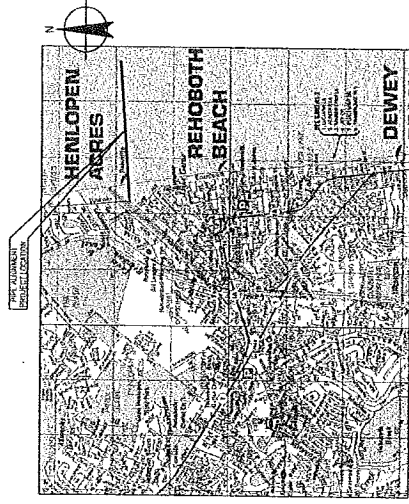
ALL PERMITS ARE SUBJECT TO THE PROVISIONS OF THE DELAWARE CONSTRUCTION PERMITTING ACT.

SUSSEX COUNTY ENGINEERING DEPARTMENT

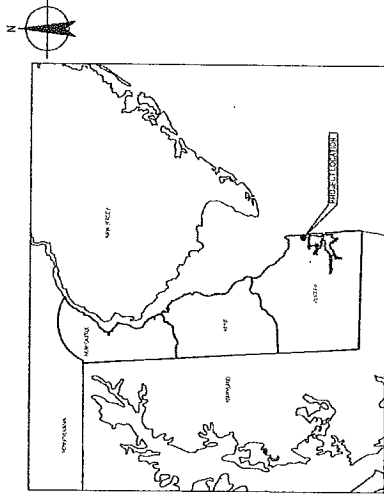
COUNTY NUMBER

DATE

FOR UTILITY LOCATIONS  
BEFORE BEGINNING CONSTRUCTION



VICINITY MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE

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|--|---|--|--|
| <p>FOR PERMIT SUBMITTAL<br/>NOT FOR CONSTRUCTION</p>   |   | <p>Client: CITY OF REHOBOTH BEACH, DELAWARE<br/>Project: OCEAN OUTFALL PROJECT<br/>Title: COVER SHEET</p>  |  |
| <p>City: Rehoboth Beach<br/>State: DE<br/>County: Sussex</p>   | <p>Design: JPM<br/>Check: JPM<br/>Approved: KSO<br/>Physical Division: 020202</p> | <p>Design: JPM<br/>Check: JPM<br/>Approved: KSO<br/>Physical Division: 020202</p>  | <p>Contract No.:<br/>Drawing No.: 86-18693-G001<br/>Drawing Title: Drawing No. 86-18693-G001</p> |
| <p>City of Rehoboth Beach, Delaware<br/>1000 Market Street, Suite 200, Rehoboth Beach, DE 19970<br/>T 302-206-8500 F 302-206-8511<br/>E info@rehabeach.com</p> |   | <p>City of Rehoboth Beach, Delaware<br/>1000 Market Street, Suite 200, Rehoboth Beach, DE 19970<br/>T 302-206-8500 F 302-206-8511<br/>E info@rehabeach.com</p> |  |

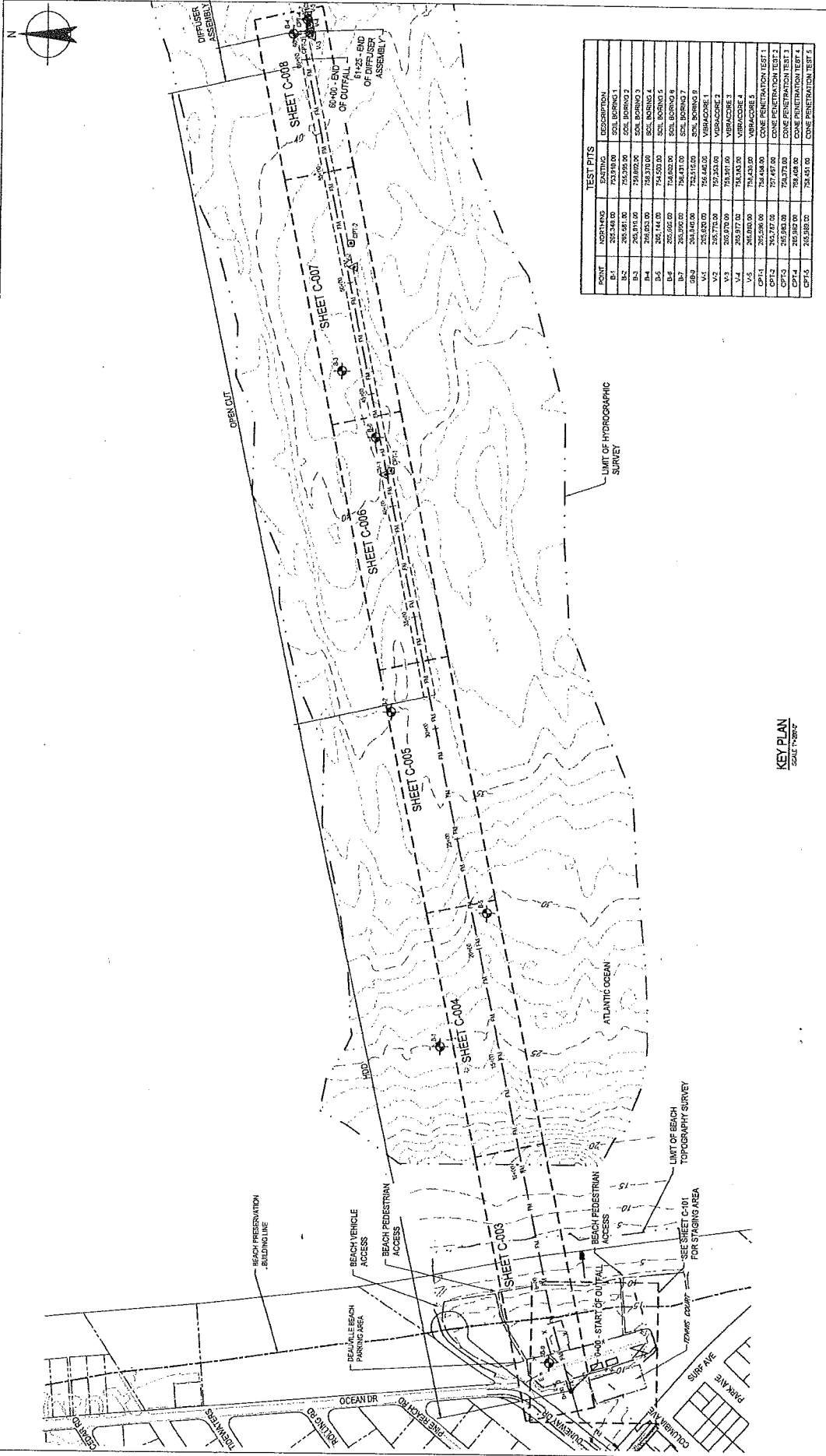
PRELIMINARY

Scale: AS NOTED









| POINT | NORTHING   | EASTING    | DESCRIPTION             |
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| B-03  | 252,344.00 | 754,352.00 | SOIL BORING 3           |
| B-04  | 252,344.00 | 754,352.00 | SOIL BORING 4           |
| B-05  | 252,344.00 | 754,352.00 | SOIL BORING 5           |
| B-06  | 252,344.00 | 754,352.00 | SOIL BORING 6           |
| B-07  | 252,344.00 | 754,352.00 | SOIL BORING 7           |
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| CPT-2 | 252,344.00 | 754,352.00 | CONE PENETRATION TEST 2 |
| CPT-3 | 252,344.00 | 754,352.00 | CONE PENETRATION TEST 3 |
| CPT-4 | 252,344.00 | 754,352.00 | CONE PENETRATION TEST 4 |
| CPT-5 | 252,344.00 | 754,352.00 | CONE PENETRATION TEST 5 |

KEY PLAN  
SCALE 1"=200'

### PRELIMINARY

## CITY OF REHOBOTH BEACH, DELAWARE

# OCEAN OUTFALL PROJECT

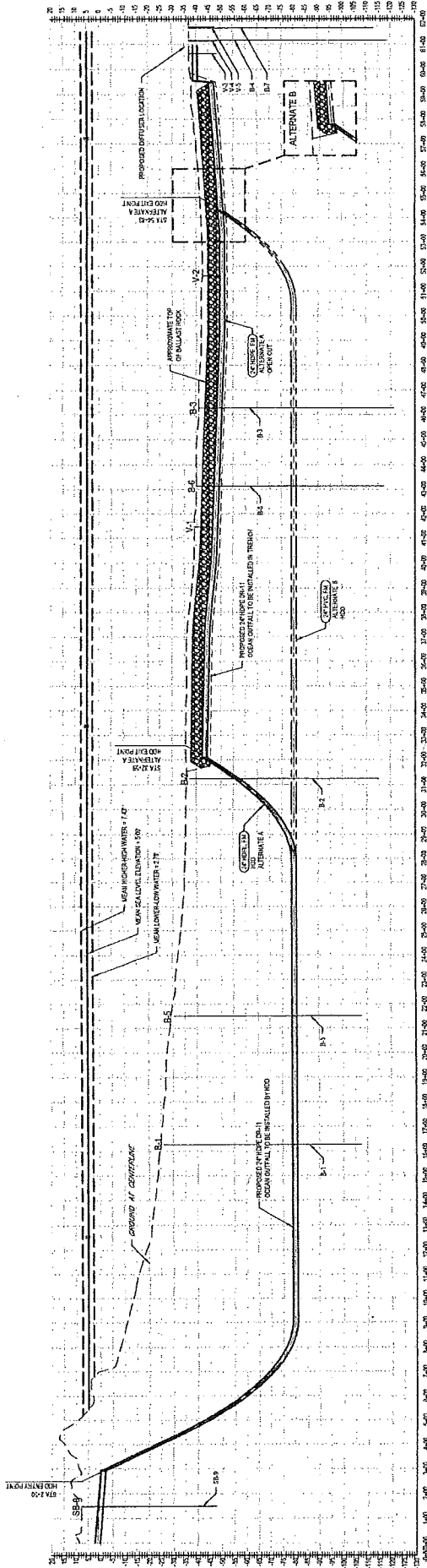
## OVERALL SITE AND KEY PLAN

|                  |                                  |                |                           |
|------------------|----------------------------------|----------------|---------------------------|
| Client           | City of Rehoboth Beach, Delaware | Contract No.   | 86-18693-C001             |
| Project          | Ocean Outfall Project            | Contract Title | Overall Site and Key Plan |
| Design Firm      | GRD, Inc.                        | Contract No.   | 86-18693-C001             |
| Project Director | John J. Gorman                   | Contract Title | Overall Site and Key Plan |
| Date             | 02/20/15                         | Contract No.   | 86-18693-C001             |
| Scale            | 1" = 200'                        | Contract Title | Overall Site and Key Plan |

FOR PERMIT SUBMITTAL  
NOT FOR CONSTRUCTION

City of Rehoboth Beach, Delaware  
111 S. DuPont Highway, Suite 200  
Rehoboth Beach, DE 19380-2000  
E: [info@grd.com](mailto:info@grd.com) W: [www.grd.com](http://www.grd.com)

|          |                  |      |    |
|----------|------------------|------|----|
| Revision | Description      | Date | By |
| A        | PERMIT SUBMITTAL |      |    |



**OCEAN OUTFALL OVERALL PROFILE**

NOTE: SEE PLAN SHEET FOR MORE DETAIL.

PRELIMINARY

CITY OF REHOBOTH BEACH, DELAWARE  
OCEAN OUTFALL PROJECT  
OVERALL PROFILE

Client: City of Rehoboth Beach  
Project: Ocean Outfall Project  
Design: J&S  
Drawn: J&S  
Checked: J&S  
Scale: AS NOTED

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Scale: 1" = 100'

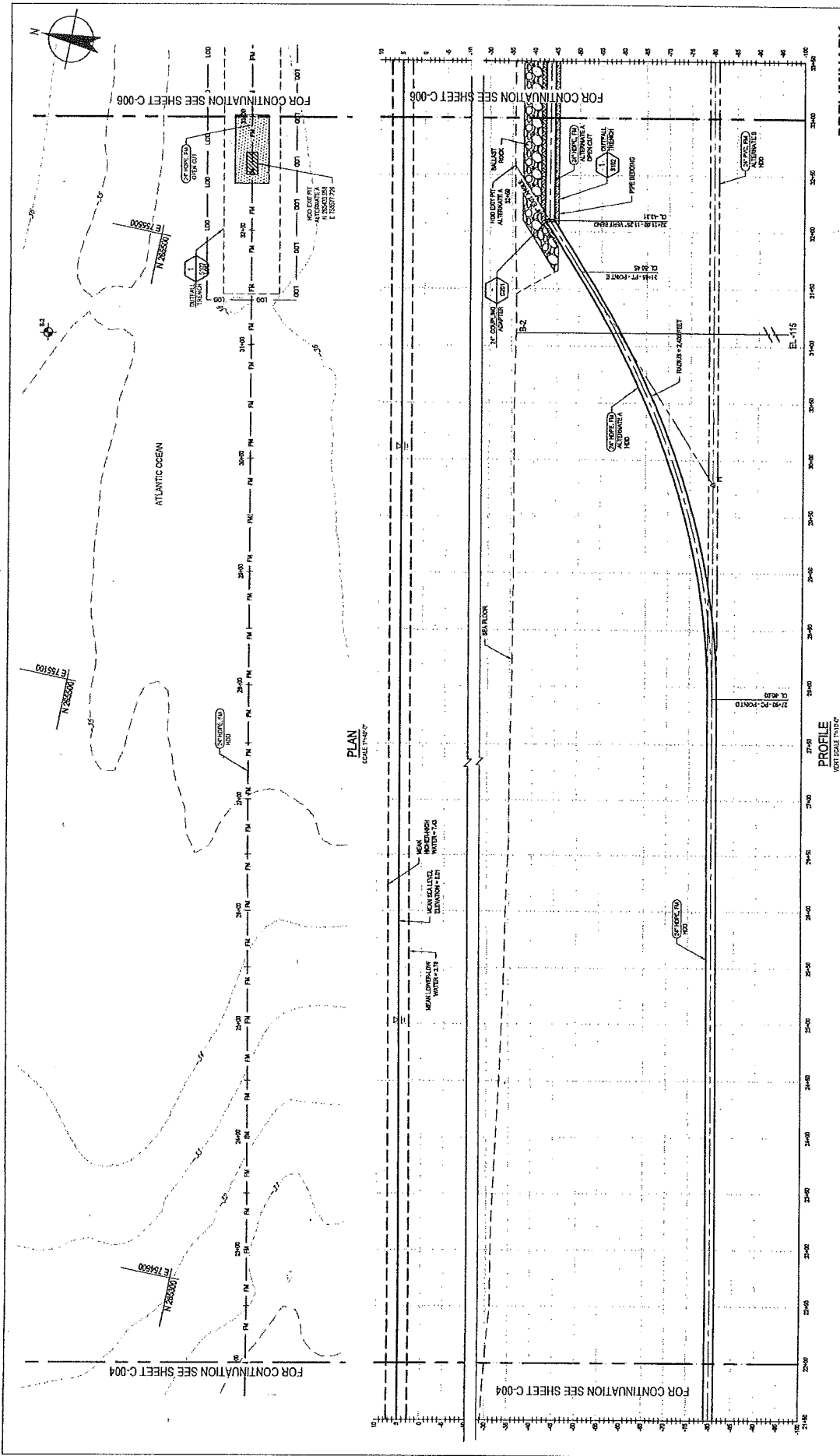
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| Delaware | Delaware | Delaware | Ocean Outfall Project | 001       | 11/11/2011 |

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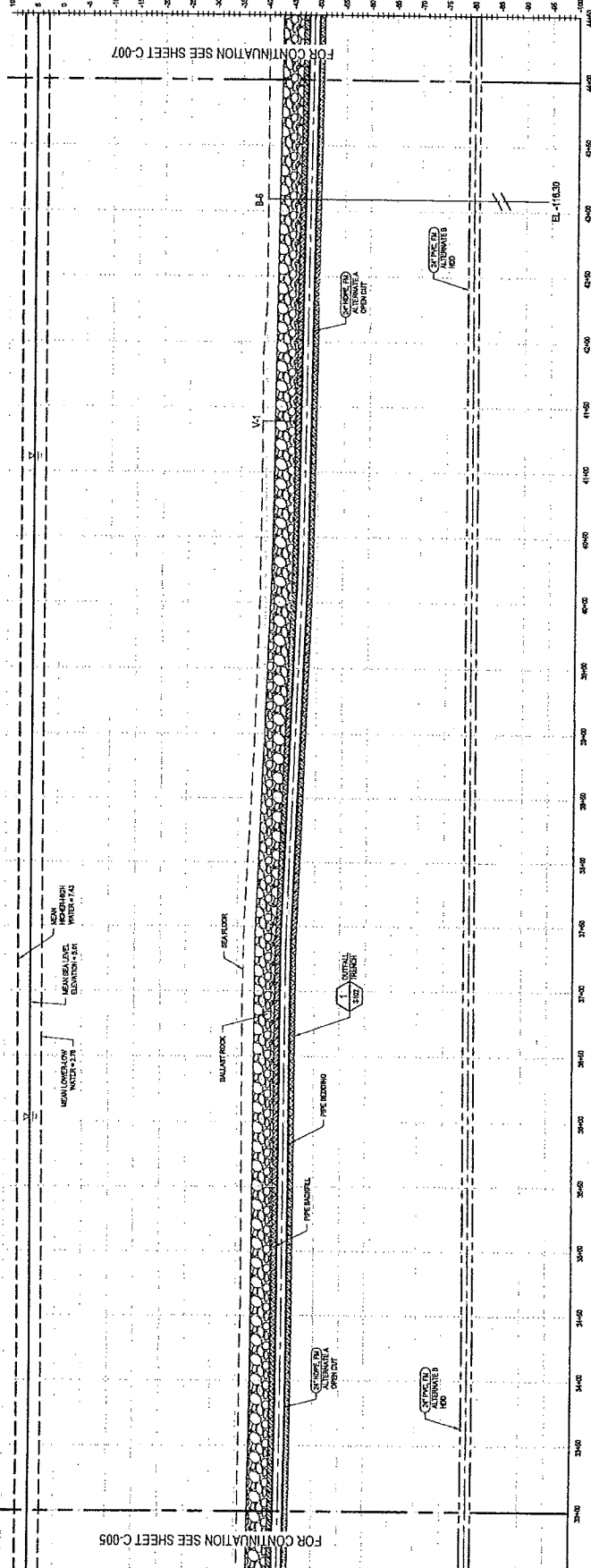
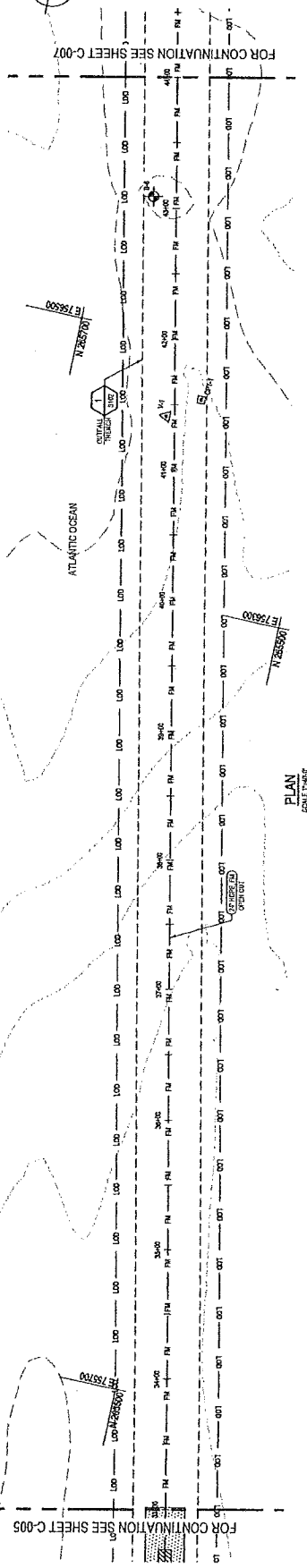
**PRELIMINARY**  
**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**PIPELINE PLAN AND PROFILE 3**

|          |                                  |                  |                       |       |          |
|----------|----------------------------------|------------------|-----------------------|-------|----------|
| Client   | City of Rehoboth Beach, Delaware | Project          | Ocean Outfall Project | Sheet | 3 of 3   |
| Designer | City of Rehoboth Beach           | Checked          | AS NOTED              | Scale | AS NOTED |
| Drawn    | AS NOTED                         | Approved         | AS NOTED              | Date  | 02/27/16 |
| Checked  | AS NOTED                         | Reviewed         | AS NOTED              | Drawn | AS NOTED |
| Approved | AS NOTED                         | Project Director | AS NOTED              | Scale | AS NOTED |
| Drawn    | AS NOTED                         | City Engineer    | AS NOTED              | Date  | 02/27/16 |

The City Engineer has approved this drawing for construction purposes. This approval is based on the information provided and does not constitute a warranty of any kind. The City of Rehoboth Beach, Delaware, is not responsible for any errors or omissions in this drawing.

City of Rehoboth Beach, Delaware  
 111 S. DuPont Highway, Rehoboth Beach, DE 19970  
 Phone: 302.325.4100 | Fax: 302.325.4101 | Email: info@cityofrehobothbeach.com

Drawing No: **86-18693-C005**  
 Date: 02/27/16  
 Scale: AS NOTED



**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**

**OCEAN OUTFALL PROJECT**

**PIPELINE PLAN AND PROFILE 4**

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**FOR PERMIT SUBMITTAL**  
NOT FOR CONSTRUCTION

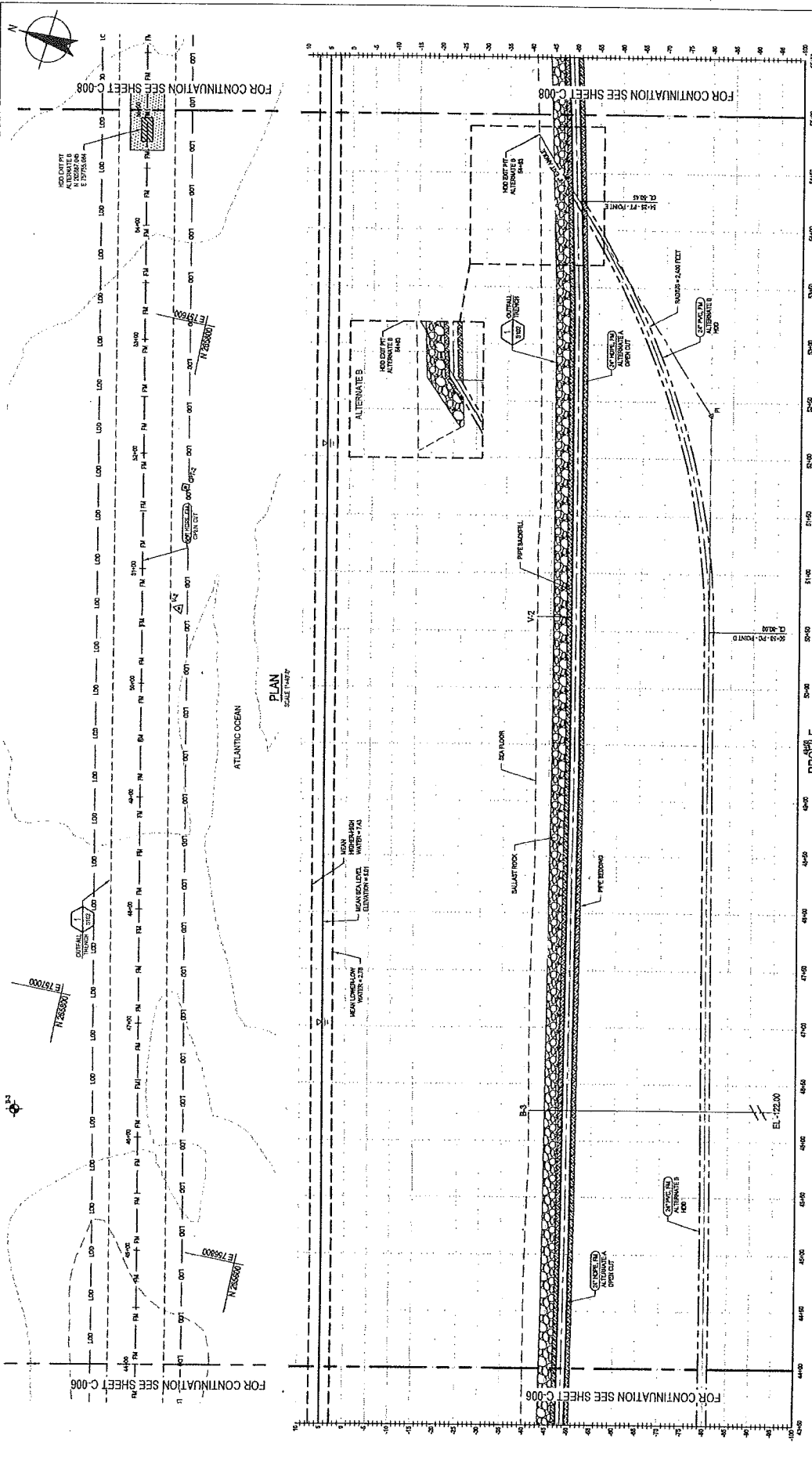
**SCALE: 1" = 10'**  
SCALE: 1" = 10' AT ORIGINAL SIZE

**SCALE: 1" = 10'**  
SCALE: 1" = 10' AT ORIGINAL SIZE

|             |               |
|-------------|---------------|
| Sheet No.   | 4             |
| Project No. | 86-18693-C006 |
| Revision    | Amendment     |
| Author      | AS NOTED      |
| Checked     | AS NOTED      |
| Date        | 02/20/19      |
| Scale       | AS NOTED      |

City of Rehoboth Beach, Delaware  
1100 S. DuPont Highway, Rehoboth Beach, DE 19970, USA  
Tel: 302.283.4177 Fax: 302.283.4171  
www.ci.rehobothbeach.de.us

Project No. 86-18693-C006  
Drawing No. 86-18693-C006  
Sheet No. 4 of 13  
Scale: 1" = 10'



**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**PIPELINE PLAN AND PROFILE 5**

|                  |                                  |         |                       |              |               |
|------------------|----------------------------------|---------|-----------------------|--------------|---------------|
| Client           | City of Rehoboth Beach, Delaware | Project | Ocean Outfall Project | Contract No. | 86-18693-C007 |
| Design           | CTP                              | Design  | JPM                   | Contract     | 10/23/14      |
| Drawn            | JPM                              | Checked | JPM                   | Scale        | AS NOTED      |
| Project Director | KCO                              | Scale   | AS NOTED              | Contract     | 10/23/14      |
| City             | DELCITE                          | Scale   | AS NOTED              | Contract     | 10/23/14      |
| Scale            | AS NOTED                         | Scale   | AS NOTED              | Contract     | 10/23/14      |

**PROFILE**  
 VERT SCALE 1"=10'  
 HORIZ SCALE 1"=20'

FOR PERMIT SUBMITTAL  
 NOT FOR CONSTRUCTION

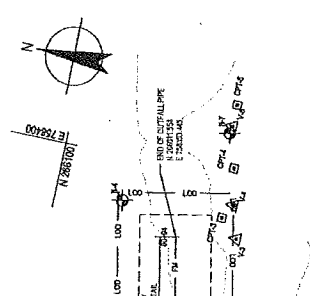
SCALE 1"=10' AT ORIGINAL SIZE

SCALE 1"=20' AT ORIGINAL SIZE

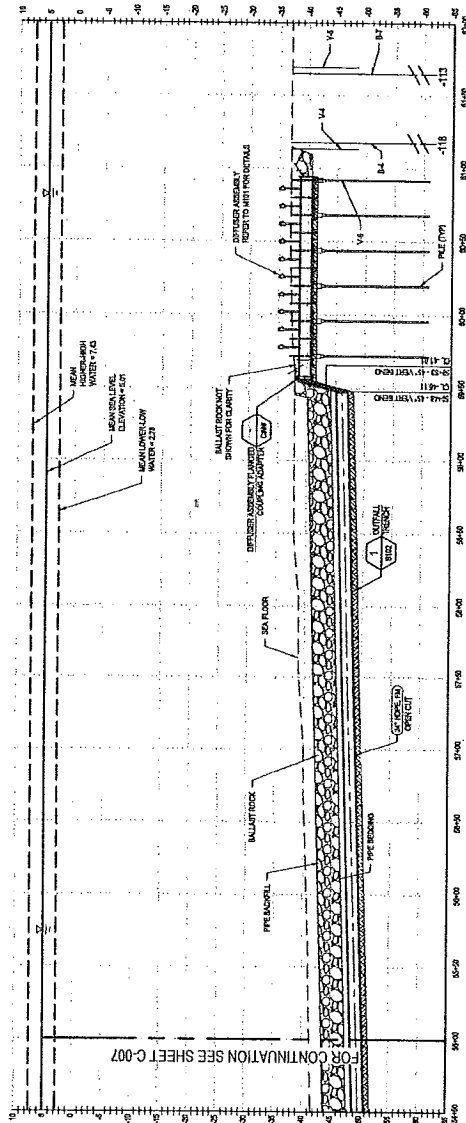
City of Rehoboth Beach, Delaware  
 1100 North DuPont Highway, Rehoboth Beach, DE 19970  
 Phone: 302.291.2311 Fax: 302.291.2312  
 E: [info@cityofrehoboth.com](mailto:info@cityofrehoboth.com) W: [www.cityofrehoboth.com](http://www.cityofrehoboth.com)

Drawing No: 86-18693-C007  
 Rev: A





PLAN  
SCALE 1/4"=50'



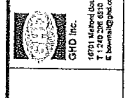
PROFILE  
VERTICAL SCALE 1/4"=4'  
HORIZONTAL SCALE 1/4"=50'

PRELIMINARY  
CITY OF REHOBOTH BEACH, DELAWARE  
OCEAN OUTFALL PROJECT  
PIPELINE PLAN AND PROFILE 6

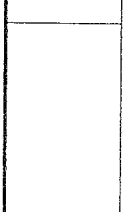
|       |     |         |     |        |    |
|-------|-----|---------|-----|--------|----|
| Drawn | CTF | Checked | JRN | Design | JM |
| Drawn | CTF | Checked | JRN | Design | JM |
| Drawn | CTF | Checked | JRN | Design | JM |
| Drawn | CTF | Checked | JRN | Design | JM |
| Drawn | CTF | Checked | JRN | Design | JM |

Scale: AS NOTED  
 Date: 02/20/16  
 Project: 86-18693-C008  
 Title: PIPELINE PLAN AND PROFILE 6

DESIGNER:  
 GHO INC.  
 1971 Market Gateway, Suite 200, Dover, DE 19719, USA  
 P: 302.686.8100 F: 302.686.8111  
 E: info@gho-inc.com Website: gho-inc.com

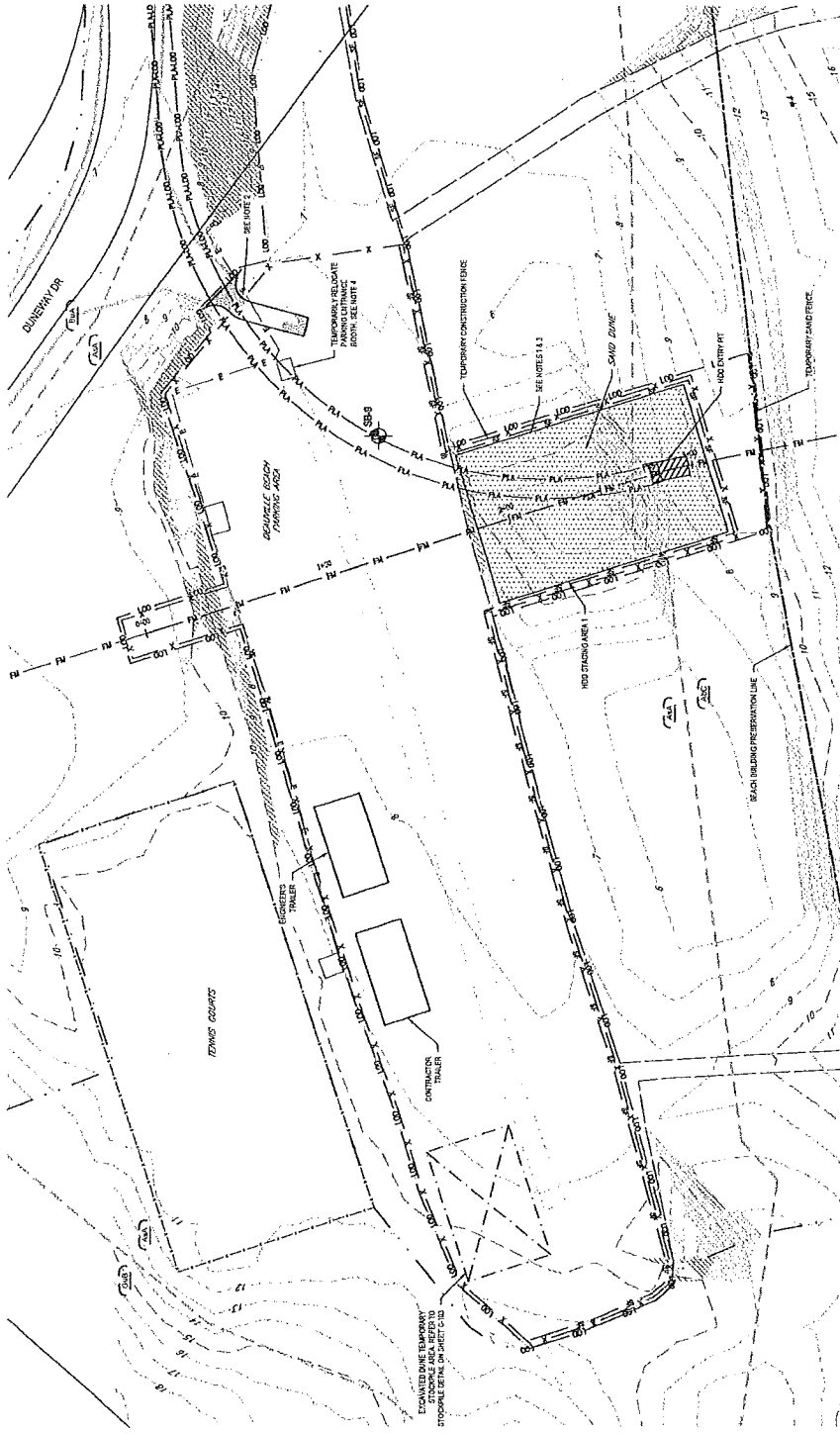
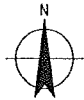


DESIGN QUANTITY:  
 NOT FOR CONSTRUCTION



|          |                   |
|----------|-------------------|
| DATE     | DESCRIPTION       |
| 02/20/16 | ISSUED FOR PERMIT |

A PERMIT SUBMITTAL  
 CTF: BMS JSS 0016  
 Date: 02/20/16  
 Project: 86-18693-C008  
 Title: PIPELINE PLAN AND PROFILE 6  
 Scale: AS NOTED  
 Date: 02/20/16



HDD STAGING/ STOCK PILE AREA, EROSION AND SEDIMENT CONTROL PARTIAL PLAN  
SCALE 1/32"

- LEGEND:**
- SOIL TYPE
  - 10% - 20% SLOPE
  - 20% SLOPE
  - LIMIT OF SETTLEMENT
  - SILT FENCE
  - EMPALED CONSTRUCTION ENTRANCE
  - EMPALED CONSTRUCTION ENTRANCE
1. CONTRACTOR SHALL REPAIR DAMAGE TO PRE-EXISTING GRADE AND REVEGETATE, REFER TO SHEET CDD010 FOR DETAILS.
  2. CONTRACTOR SHALL PROVIDE TEMPORARY GATE WITH DOUBLE PALISADES.
  3. ALL EXCAVATED MATERIAL FROM THIS AREA SHALL REMAIN ON SITE AND BE STORED AND PROTECTED TO PREVENT EROSION AND SEDIMENTATION. TO SAND PILES SHALL BE PROTECTED TO PREVENT EROSION AND SEDIMENTATION. TO SAND PILES SHALL BE PROTECTED TO PREVENT EROSION AND SEDIMENTATION.
  4. CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES AND CONDUITS UNLESS OTHERWISE NOTED. CONTRACTOR TO RETURN NORTH TO ORIGINAL LOCATION AND COVER WITHIN 10' OF ORIGINAL LOCATION.

**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**HDD STAGING AREA AND EROSION AND SEDIMENT CONTROL PARTIAL PLAN**

Client: City of Rehoboth Beach  
 Project: Ocean Outfall Project  
 Title: HDD Staging Area and Erosion and Sediment Control Partial Plan  
 Drawing No: 86-18693-C101  
 Date: 11/11/2011  
 Scale: 1" = 32'

|          |            |           |     |
|----------|------------|-----------|-----|
| Design   | CTF        | Developer | JM  |
| Checked  | JK         | Checked   | BJG |
| Drawn    | JK         | Checked   | BJG |
| Approved | MD         | Checked   | BJG |
| Date     | 11/11/2011 | Checked   | BJG |

1915 Market Boulevard, Suite 200, Newark, NJ 07102 USA  
 973-992-8800  
 225 Spring Street, Newark, NJ 07102 USA  
 973-992-8800

FOR PERMIT SUBMITTAL  
 NOT FOR CONSTRUCTION

|         |  |
|---------|--|
| City    | Rehoboth Beach   |
| County  | Delaware   |
| Project | Ocean Outfall Project  |
| Sheet   | HDD Staging Area and Erosion and Sediment Control Partial Plan |
| Date    | 11/11/2011   |
| Scale   | 1" = 32'   |

SCALE 1/32" AT ORIGINAL SIZE

|         |  |
|---------|--|
| City    | Rehoboth Beach   |
| County  | Delaware   |
| Project | Ocean Outfall Project  |
| Sheet   | HDD Staging Area and Erosion and Sediment Control Partial Plan |
| Date    | 11/11/2011   |
| Scale   | 1" = 32'   |

FOR PERMIT SUBMITTAL  
 NOT FOR CONSTRUCTION

86-18693-C101

**EROSION AND SEDIMENT CONTROL NOTES:**

1. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION WITHIN 90 DAYS OF COMPLETION OF CONSTRUCTION.
2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
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23. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
24. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.

**SEQUENCE OF OPERATIONS:**

1. PREPARE EROSION AND SEDIMENT CONTROL PLAN.
2. OBTAIN APPROVAL FROM THE DISTRICT ENGINEER.
3. CLEAR AND GRUB ALL AREAS NECESSARY FOR THE INSTALLATION OF EROSION CONTROL MEASURES.
4. INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLAN.
5. MAINTAIN EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
6. REMOVE EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION.
7. RESTORE DISTURBED AREAS TO ORIGINAL OR BETTER CONDITION.
8. OBTAIN FINAL APPROVAL FROM THE DISTRICT ENGINEER.

**PERMANENT SEEDING NOTES:**

1. APPLY TO DISTURBED AREAS NOT SUBJECT TO IMMEDIATE EROSION CONTROL MEASURES.
2. USE SEEDS SPECIFIED IN THE EROSION CONTROL PLAN.
3. MAINTAIN MOISTURE AND SOIL TEMPERATURE FOR SEED GERMINATION.
4. PROTECT SEEDS FROM EROSION AND ANIMALS.
5. WATER REGULARLY TO KEEP SOIL MOIST.
6. WEED DISTURBED AREAS TO PREVENT COMPETITIVE GROWTH.
7. MAINTAIN EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION IS ESTABLISHED.
8. OBTAIN APPROVAL FROM THE DISTRICT ENGINEER.

**TEMPORARY SEEDING NOTES:**

1. APPLY TO DISTURBED AREAS SUBJECT TO IMMEDIATE EROSION CONTROL MEASURES.
2. USE SEEDS SPECIFIED IN THE EROSION CONTROL PLAN.
3. MAINTAIN MOISTURE AND SOIL TEMPERATURE FOR SEED GERMINATION.
4. PROTECT SEEDS FROM EROSION AND ANIMALS.
5. WATER REGULARLY TO KEEP SOIL MOIST.
6. WEED DISTURBED AREAS TO PREVENT COMPETITIVE GROWTH.
7. MAINTAIN EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION IS ESTABLISHED.
8. OBTAIN APPROVAL FROM THE DISTRICT ENGINEER.

**OWNER DEVELOPER'S CERTIFICATION:**

I, THE UNDERSIGNED, AS OWNER/DEVELOPER OF THE PROJECT, HEREBY CERTIFY THAT THE EROSION AND SEDIMENT CONTROL PLAN IS A TRUE AND ACCURATE REPRESENTATION OF THE PROJECT AND THAT I HAVE REVIEWED AND APPROVED THE PLAN.

DATE: \_\_\_\_\_ OWNER'S SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ OWNER'S SIGNATURE: \_\_\_\_\_

**DESIGN CERTIFICATION:**

I, THE UNDERSIGNED, AS DESIGNER OF THE PROJECT, HEREBY CERTIFY THAT THE EROSION AND SEDIMENT CONTROL PLAN IS A TRUE AND ACCURATE REPRESENTATION OF THE PROJECT AND THAT I HAVE REVIEWED AND APPROVED THE PLAN.

DATE: \_\_\_\_\_ DESIGNER'S SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ DESIGNER'S SIGNATURE: \_\_\_\_\_

**GENERAL NOTES:**

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF THE DISTRICT ENGINEER.
2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
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**PRELIMINARY CITY OF REHOBOTH BEACH, DELAWARE OCEAN OUTFALL PROJECT EROSION AND SEDIMENT CONTROL NOTES**

Project No: 86-18693-C-102

City of Rehoboth Beach, Delaware  
 1000 North Beach Blvd, Rehoboth Beach, DE 19970  
 Phone: 302-325-2300  
 Fax: 302-325-2300

Contract No: \_\_\_\_\_  
 Date: \_\_\_\_\_

Permit No: \_\_\_\_\_  
 Date: \_\_\_\_\_

Scale: AS NOTED

Sheet No: \_\_\_\_\_ of \_\_\_\_\_

Revision: \_\_\_\_\_

Drawn by: \_\_\_\_\_  
 Checked by: \_\_\_\_\_  
 Approved by: \_\_\_\_\_

City Engineer: \_\_\_\_\_

City Seal: \_\_\_\_\_

### Standard Detail & Specifications Silt Fence

**Construction Notes:**

- Construct silt fence to be installed securely to fence posts with wire ties or staples.
- When two sections of filter fabric with other filter fabric are developed by an inlet and outlet.
- Filter fabric to be installed on a prepared and compacted subgrade.

**Materials:**

- Filter fabric: 100% polypropylene, 12 oz./sq. yd.
- Geotextile fabric: Type G-1.
- Filter fabric: 12 inch high, 12 inch wide, 12 inch high.
- Precasted concrete blocks, 12 inch high, 12 inch wide, 12 inch high.

Source: Adapted from: **DC-ESC-3.2.1** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Silt Fence

**Construction Notes:**

- Construct silt fence to be installed securely to fence posts with wire ties or staples.
- When two sections of filter fabric with other filter fabric are developed by an inlet and outlet.
- Filter fabric to be installed on a prepared and compacted subgrade.

**Materials:**

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- Geotextile fabric: Type G-1.
- Filter fabric: 12 inch high, 12 inch wide, 12 inch high.
- Precasted concrete blocks, 12 inch high, 12 inch wide, 12 inch high.

Source: Adapted from: **DC-ESC-3.2.1** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Construction Site Waste Mgt & Spill Control

**Notes:**

- The Construction Site Pollution Prevention Plan should include the following elements:
  - Approved inventory
  - Determine the scope and use of the following materials:
    - Concrete
    - Rebar
    - Block material and wood
    - Cracking products
    - Refrigerants
    - Paints
    - Automotive fluids
    - Automotive batteries
    - Asbestos
    - Asbestos abatement materials
    - Asbestos abatement equipment
    - Asbestos abatement personnel
    - Asbestos abatement materials
    - Asbestos abatement equipment
    - Asbestos abatement personnel
    - Asbestos abatement materials
    - Asbestos abatement equipment
    - Asbestos abatement personnel
- Waste management practices
  - Waste management plan
  - Waste management personnel
  - Waste management materials
  - Waste management equipment
  - Waste management personnel
  - Waste management materials
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  - Waste management materials
  - Waste management equipment
  - Waste management personnel

Source: Adapted from: **DC-ESC-3.1** Sheet 1 of 1 Date: 01/12/05

### Standard Detail & Specifications Construction Site Waste Mgt & Spill Control

**Notes (cont):**

- Waste management practices
  - Waste management plan
  - Waste management personnel
  - Waste management materials
  - Waste management equipment
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  - Waste management personnel
- Spill prevention practices
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  - Spill prevention materials
  - Spill prevention equipment
  - Spill prevention personnel

Source: Adapted from: **DC-ESC-3.1** Sheet 1 of 1 Date: 01/12/05

### Standard Detail & Specifications Construction Site Waste Mgt & Spill Control

**Notes (cont):**

- Contact information for reporting spills through the DNR's 24-hour 724-733-7333 (toll-free) should be prominently posted.
- Decontamination procedures for construction equipment and materials should be posted in a prominent location.
- Materials and equipment used for construction should be stored in a secure location.
- Materials and equipment used for construction should be stored in a secure location.

**CONTACT INFORMATION**

DNR's 24-Hour Toll-Free Number: 800-644-8122  
 DNR's 24-Hour Toll-Free Number: 724-733-7333

Source: Adapted from: **DC-ESC-3.1** Sheet 1 of 1 Date: 01/12/05

### Standard Detail & Specifications Soil Stockpile

**Construction Notes:**

- Stockpile to be constructed on a prepared and compacted subgrade.
- Stockpile to be constructed on a prepared and compacted subgrade.
- Stockpile to be constructed on a prepared and compacted subgrade.

Source: Adapted from: **DC-ESC-3.2.3** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Soil Stockpile

**Construction Notes:**

- Stockpile to be constructed on a prepared and compacted subgrade.
- Stockpile to be constructed on a prepared and compacted subgrade.
- Stockpile to be constructed on a prepared and compacted subgrade.

Source: Adapted from: **DC-ESC-3.2.3** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Sensitive Area Protection

**Materials:**

- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.

Source: Adapted from: **DC-ESC-3.2.2** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Sensitive Area Protection

**Construction Notes:**

- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.

Source: Adapted from: **DC-ESC-3.2.2** Sheet 1 of 2 Date: 01/12/05

### Standard Detail & Specifications Sensitive Area Protection

**Construction Notes:**

- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.
- Material: 100% polypropylene, 12 oz./sq. yd.

Source: Adapted from: **DC-ESC-3.2.2** Sheet 1 of 2 Date: 01/12/05

## PRELIMINARY

### CITY OF REHOBOTH BEACH, DELAWARE OCEAN OUTFALL PROJECT EROSION AND SEDIMENT CONTROL DETAILS 1

Drawing No: **86-18693-C-103** Date: 11/13/03 Rev: **A**

|                |                |   |               |
|----------------|----------------|---|---------------|
| Drawn: RKL     | Designer: JN   | Project: OUTFALL  | Sheet: 1 of 2 |
| Checked: JN    | Checked: BMO   | Yes   |               |
| Approved: KSD  | Approved: KSD  | Contract No:  |               |
| Date: 06/22/03 | Date: 06/22/03 | The Designer shall not be held responsible for construction details not shown for construction. |               |

**CH2M HILL**  
 16751 Market Street, Suite 200, Newark, MD 21154, USA  
 P: 301 206 6815 F: 301 206 6911  
 E: ch2m@ch2m.com www.ch2m.com

### Standard Detail & Specifications Vegetative Stabilization

VEGETATION ESTABLISHED BY NATURAL SEEDS AND CUTS

| Plant | Species | Planting Rate | Planting Method | Planting Date | Planting Depth | Planting Spacing | Planting Orientation | Planting Notes           |
|-------|---------|---------------|-----------------|---------------|----------------|------------------|----------------------|--------------------------|
| 1     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 2     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 3     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 4     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 5     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 6     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 7     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 8     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 9     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 10    | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |

1. Planting depth: 2" for grass, 4" for shrubs, 6" for trees.  
2. Planting spacing: 12" for grass, 24" for shrubs, 36" for trees.  
3. Planting orientation: Vertical for grass, horizontal for shrubs, diagonal for trees.  
4. Planting notes: Plant in rows 12" apart. Water plants after planting. Mow plants after establishment.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.3  
Sheet 1 of 4  
Date: 10/20/09

### Standard Detail & Specifications Vegetative Stabilization

VEGETATION ESTABLISHED BY NATURAL SEEDS

| Plant | Species | Planting Rate | Planting Method | Planting Date | Planting Depth | Planting Spacing | Planting Orientation | Planting Notes           |
|-------|---------|---------------|-----------------|---------------|----------------|------------------|----------------------|--------------------------|
| 1     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 2     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 3     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 4     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 5     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 6     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 7     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 8     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 9     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 10    | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |

1. Planting depth: 2" for grass, 4" for shrubs, 6" for trees.  
2. Planting spacing: 12" for grass, 24" for shrubs, 36" for trees.  
3. Planting orientation: Vertical for grass, horizontal for shrubs, diagonal for trees.  
4. Planting notes: Plant in rows 12" apart. Water plants after planting. Mow plants after establishment.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.3  
Sheet 2 of 4  
Date: 10/20/09

### Standard Detail & Specifications Vegetative Stabilization

VEGETATION ESTABLISHED BY NATURAL SEEDS

| Plant | Species | Planting Rate | Planting Method | Planting Date | Planting Depth | Planting Spacing | Planting Orientation | Planting Notes           |
|-------|---------|---------------|-----------------|---------------|----------------|------------------|----------------------|--------------------------|
| 1     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 2     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 3     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 4     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 5     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 6     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 7     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 8     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 9     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 10    | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |

1. Planting depth: 2" for grass, 4" for shrubs, 6" for trees.  
2. Planting spacing: 12" for grass, 24" for shrubs, 36" for trees.  
3. Planting orientation: Vertical for grass, horizontal for shrubs, diagonal for trees.  
4. Planting notes: Plant in rows 12" apart. Water plants after planting. Mow plants after establishment.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.3  
Sheet 3 of 4  
Date: 10/20/09

### Standard Detail & Specifications Vegetative Stabilization

VEGETATION ESTABLISHED BY NATURAL SEEDS

| Plant | Species | Planting Rate | Planting Method | Planting Date | Planting Depth | Planting Spacing | Planting Orientation | Planting Notes           |
|-------|---------|---------------|-----------------|---------------|----------------|------------------|----------------------|--------------------------|
| 1     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 2     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 3     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 4     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 5     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 6     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 7     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 8     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 9     | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |
| 10    | Grass   | 1000          | Hand            | 1/15/10       | 2"             | 12"              | Vertical             | Plant in rows 12" apart. |

1. Planting depth: 2" for grass, 4" for shrubs, 6" for trees.  
2. Planting spacing: 12" for grass, 24" for shrubs, 36" for trees.  
3. Planting orientation: Vertical for grass, horizontal for shrubs, diagonal for trees.  
4. Planting notes: Plant in rows 12" apart. Water plants after planting. Mow plants after establishment.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.3  
Sheet 4 of 4  
Date: 10/20/09

### Standard Detail & Specifications Stabilized Construct. Entrance

1. The entrance shall be stabilized with a 10' x 10' grid of vegetation.  
2. The entrance shall be stabilized with a 10' x 10' grid of vegetation.  
3. The entrance shall be stabilized with a 10' x 10' grid of vegetation.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.7  
Sheet 1 of 2  
Date: 10/20/09

### Standard Detail & Specifications Compost Filter Log

1. The log shall be made of compost and shall be used for erosion control.  
2. The log shall be made of compost and shall be used for erosion control.  
3. The log shall be made of compost and shall be used for erosion control.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.7  
Sheet 2 of 2  
Date: 10/20/09

### Standard Detail & Specifications Compost Filter Log

1. The log shall be made of compost and shall be used for erosion control.  
2. The log shall be made of compost and shall be used for erosion control.  
3. The log shall be made of compost and shall be used for erosion control.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.7  
Sheet 3 of 2  
Date: 10/20/09

### Standard Detail & Specifications Geotextile Dewatering Bag

1. The bag shall be made of geotextile and shall be used for dewatering.  
2. The bag shall be made of geotextile and shall be used for dewatering.  
3. The bag shall be made of geotextile and shall be used for dewatering.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.2  
Sheet 1 of 2  
Date: 10/20/09

### Standard Detail & Specifications Geotextile Dewatering Bag

1. The bag shall be made of geotextile and shall be used for dewatering.  
2. The bag shall be made of geotextile and shall be used for dewatering.  
3. The bag shall be made of geotextile and shall be used for dewatering.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.2  
Sheet 2 of 2  
Date: 10/20/09

### Standard Detail & Specifications Stabilized Construct. Entrance

1. The entrance shall be stabilized with a 10' x 10' grid of vegetation.  
2. The entrance shall be stabilized with a 10' x 10' grid of vegetation.  
3. The entrance shall be stabilized with a 10' x 10' grid of vegetation.

Source: Delaware DCE Handbook  
Detail No: DE-SC-3.1.7  
Sheet 1 of 2  
Date: 10/20/09

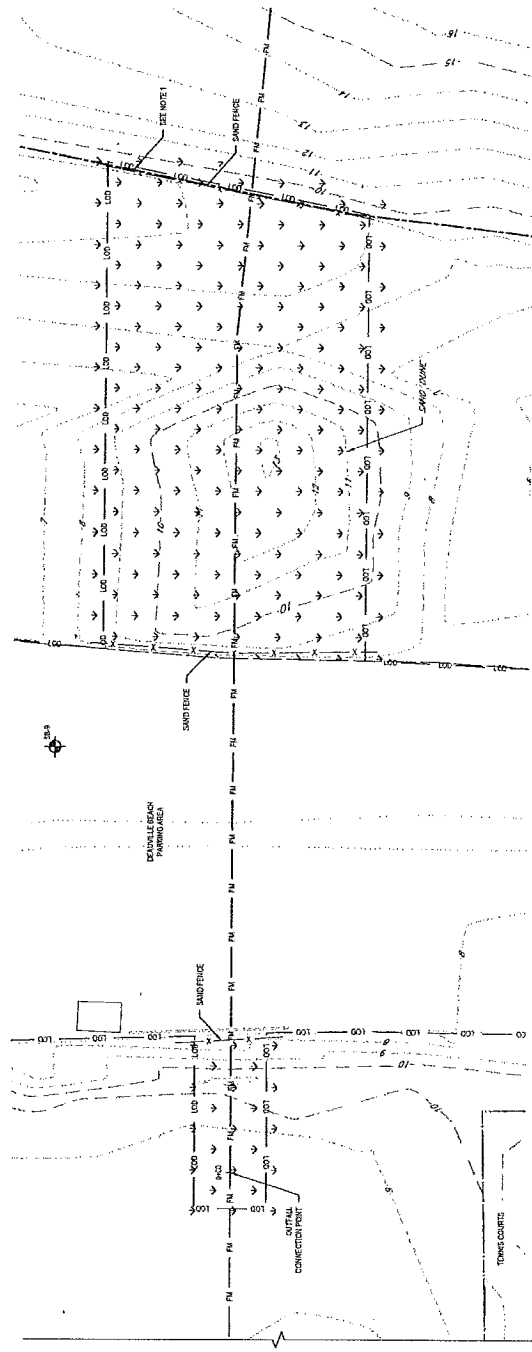
**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE  
OCEAN OUTFALL PROJECT  
EROSION AND SEDIMENT CONTROL DETAILS 2**

|          |                        |
|----------|------------------------|
| Client   | City of Rehoboth Beach |
| Project  | Ocean Outfall Project  |
| Drawn    | KUL                    |
| Checked  | JPN                    |
| Approved | KOS                    |
| Date     | 09/01/10               |
| Scale    | N/A                    |

1021 Laurel Boulevard, Suite 200, Dover, MD 20770 USA  
P: 240-205-6100 F: 240-205-6101  
E: info@ghdinc.com Website: ghdinc.com

Contract No: 86-18693-C104  
Drawing No: 86-18693-C104  
Rev: A



**PLANTING PLAN**  
SCALE 1/8" = 1'-0"

**BEACH DUNE PLANT LIST**

| REF. | BOTANICAL NAME | TYPE  | COMMON NAME | SPACING REMARKS |
|------|----------------|-------|-------------|-----------------|
| 1    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 2    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 3    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 4    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 5    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 6    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 7    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |
| 8    | FRAXINUS       | SHRUB | RED BUD     | SPACING REMARKS |

- NOTES**
1. CHECK FOR OBSTRUCTIONS AT THE EDGE OF THE DUNE OR IN THE SAND AND LANDWARD SIDES TO BLOCK ACCESS. POSTS TO BE PLACED AT THE SAND DUNE AND SAND FENCE LOCATIONS. THE POSTS SHOULD BE PLACED ON THE LANDWARD SIDE OF THE POST.
  2. HOW TO PLANT BEACHGRASS:
    - BEACHGRASS IS PLANTED IN ROWS OR CLUSTERS
    - CAUTION: BEACHGRASS IS A PERENNIAL AND WILL SURVIVE THE WINTER. PLANTING SHOULD BE SPACED BY 18 INCHES
    - PLANTS SHOULD BE SPACED BY 18 INCHES
    - THERE SHOULD BE 18 INCHES BETWEEN ROWS
    - THE ROWS SHOULD BE PLANTED TO PROVIDE MAXIMUM WIND EROSION CONTROL (EAST/WEST)
- STEP 1:**  
 1. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.  
 2. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.  
 3. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.  
 4. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.
- STEP 2:**  
 1. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.  
 2. PLANT BEACHGRASS WITH A POINTED TIP OF BEACHGRASS. PLANT BEACHGRASS WITH ROOTS POINTING DOWN.

**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**PLANTING PLANS, NOTES AND DETAILS**

Project Title: OCEAN OUTFALL PROJECT  
 Designer: JIM CHECK  
 Checker: BUD  
 Date: 02/20/18  
 Scale: 1" = 30'

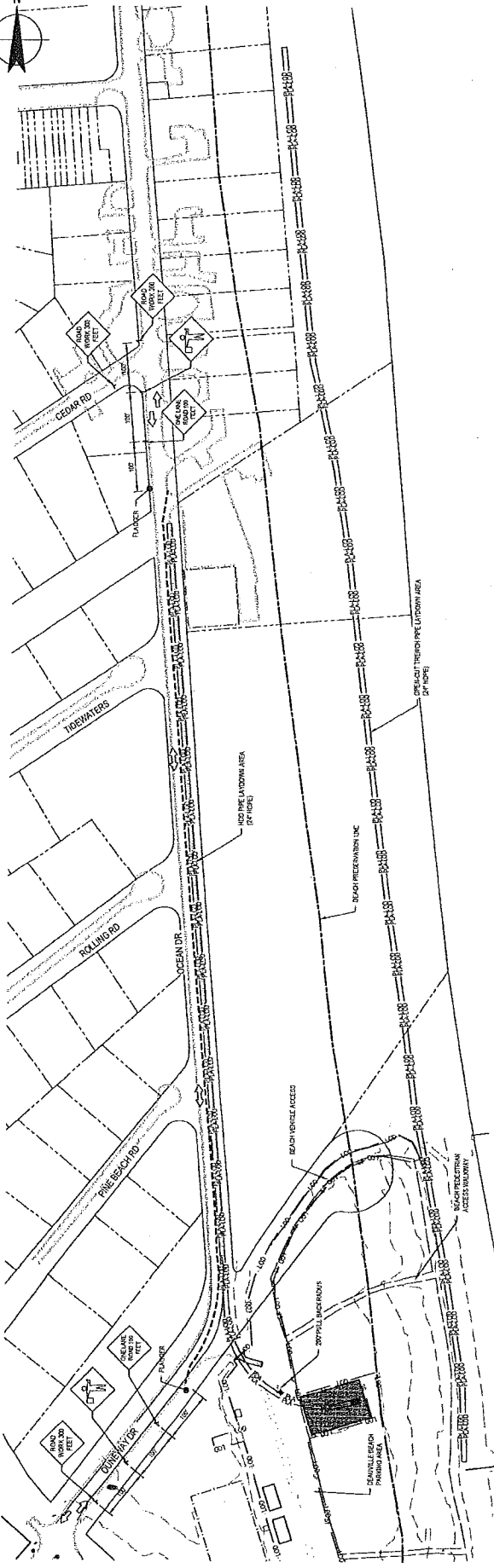
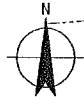
Contract No.: 86-18693-C105  
 Drawn By: JIM CHECK  
 Checked By: BUD  
 Date: 02/20/18  
 Scale: 1" = 30'

City of Rehoboth Beach, Delaware  
 900 E. Ocean Boulevard, Suite 303, Rehoboth Beach, DE 19971, USA  
 E: jim@jimcheck.com W: www.jimcheck.com

FOR PERMIT SUBMITTAL  
 NOT FOR CONSTRUCTION

SCALE 1/8" = 1'-0"

DATE: 10/01/2018 11:54 AM  
 FILE: 86-18693-C105-PLANTING.PLT



TRAFFIC CONTROL/PIPE LAYDOWN AREA PLAN 1  
SCALE 1"=100'

- KEY**
- CHANGELINE
  - ROAD SUPPORT
  - SURFACE
  - ⇨ DIRECTION OF TRAFFIC

- NOTES**
1. PRIOR TO CLOSING OF ROADWAY CONTRACTORS SHALL ESTABLISH OUTSIDE STORAGE AND SUPPORT FOR ALL MATERIALS AND EQUIPMENT TO BE REMOVED AFTER COMPLETION OF THE PIPE INSTALLATION.
  2. CONTRACTOR SHALL PROVIDE ACCESS FOR HOMES AND BUSINESSES ALONG OCEAN DRIVE DURING SHUTDOWN.

**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**TRAFFIC CONTROL AND PIPE LAYDOWN/STAGING AREA PLAN**

|                  |                  |                  |                  |
|------------------|------------------|------------------|------------------|
| Drawn: CTF       | Designer: JAT    | Project: BUC     | Sheet: BUC       |
| Checked: JPM     | Checked: JPM     | Checked: JPM     | Checked: JPM     |
| Approved: KSD    | Approved: KSD    | Approved: KSD    | Approved: KSD    |
| Color: 000016    | Color: 000016    | Color: 000016    | Color: 000016    |
| Scale: 1" = 100' | Scale: 1" = 100' | Scale: 1" = 100' | Scale: 1" = 100' |

**FOR PERMIT SUBMITTAL**  
NOT FOR CONSTRUCTION

**GRID INC.**  
18751 Midway Circle, Suite 208, Newark, NJ 07102 USA  
T: 201-238-8500 F: 201-238-8511  
B: 201-238-8500 www.gridinc.com

Sheet No. 86-18693-C-106

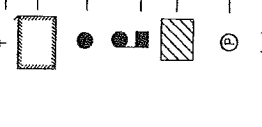
Scale: 1" = 100'

City of Rehoboth Beach, Delaware



**PLAN LEGEND**

- Construction Sign Control, by identification code
- ROAD
- CONES/TRIANGS
- FLAGGER
- WORK AREA
- TRAFFIC CONTROL
- TRUCK OFFICER
- TYPE III BARRICADE

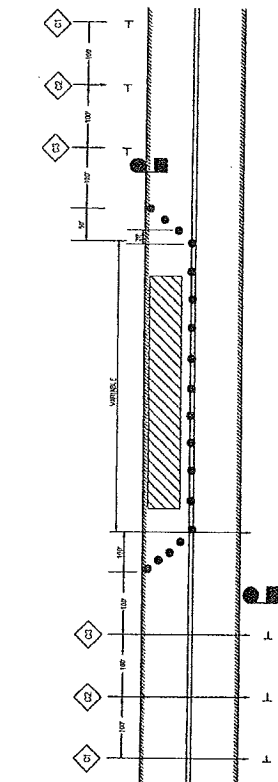


**TRAFFIC CONTROL SEQUENCE OF CONSTRUCTION**

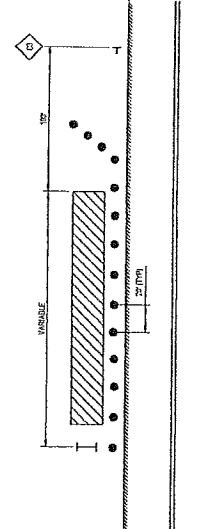
- STEP 1. ...
- STEP 2. ...
- STEP 3. ...
- STEP 4. ...

**TRAFFIC CONTROL NOTES**

1. CITY OF REHOBOTH BEACH SHALL BE ADVISED IN WRITING BY MAIL OR BY HAND TO ADVISE WHEN WORK IS BEING INITIATED.
2. ALL CONSTRUCTION AND MATERIALS FOR THE TRAFFIC CONTROL SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS CONTAINED IN THE LATEST EDITION OF THE STATE OF DELAWARE MANUAL ON STANDARD TRAFFIC CONTROL SIGNALS.
3. NO WORK SHALL BE CONDUCTED IN THE PROHIBITED ZONE BY THE MAINTENANCE DEPARTMENT.
4. RETROREFLECTIVE TRAFFIC SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
5. IF A SIGN OF HAZARDOUS SITUATION SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
6. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
7. IF A SIGN OF HAZARDOUS SITUATION SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
8. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
9. CONTRACTOR SHALL MAINTAIN SUFFICIENT STOCK INVENTORY OF ALL TRAFFIC CONTROL SIGNS AND MATERIALS AT ALL TIMES.
10. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
11. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
12. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
13. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
14. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
15. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
16. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
17. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
18. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
19. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.
20. ALL TRAFFIC CONTROL SIGNS SHALL BE USED AS CHANGING SPEEDS AT NIGHT ADAPTING THE CONSTRUCTION AREA.



**1. TRAFFIC CONTROL - TWO WAY, ONE LANE TRAFFIC (FLAGGER CONTROL)**  
NOT TO SCALE



**2. TRAFFIC CONTROL - TWO WAY, ONE LANE TRAFFIC SHOULDER CLOSURE (FLAGGER CONTROL)**  
NOT TO SCALE



**PRELIMINARY CITY OF REHOBOTH BEACH, DELAWARE OCEAN OUTFALL PROJECT TRAFFIC CONTROL NOTES AND DETAILS**

|          |          |            |                |
|----------|----------|------------|----------------|
| Drawn    | CTF      | Designated | JM             |
| Checked  | JPM      | Reviewed   | BMG            |
| Approved | KSS      | Project    | 86-18690-C-107 |
| Date     | 07/20/16 | Sheet No.  | 4 of 17        |

FOR PERMIT SUBMITTAL  
NOT FOR CONSTRUCTION

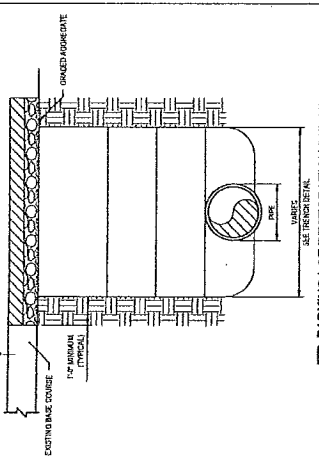
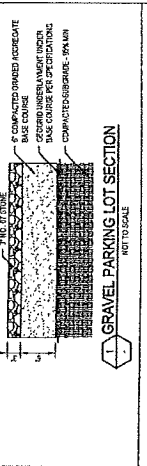
CHD INC.  
1870 Market Boulevard, Suite 300, Dover, MD 21913, USA  
P: 301-261-6111  
E: chd@chdinc.com  
www.chdinc.com

**A PERMIT SUBMITTAL**

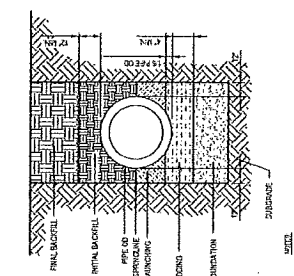
10. Revision: none -- changes represent an original issue of drawing or the revision of drawing.

Prep Date: 8 Aug 2016 - 2:18 PM

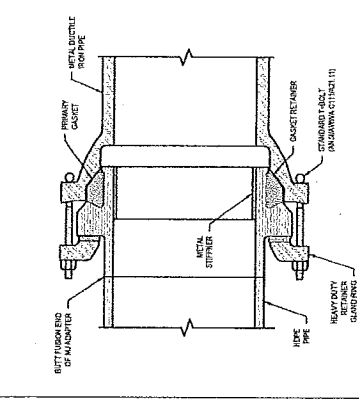
Drawn by: CTF/JPM



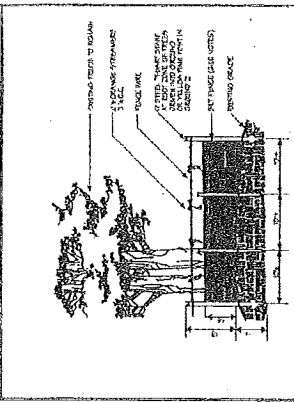
**2. PARKING LOT RESTORATION DETAIL**  
SEE TRENCH DETAIL  
NOT TO SCALE



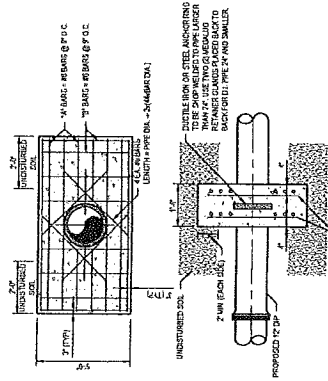
**3. TRENCH DETAIL**  
NOT TO SCALE



**4. MJ ADAPTER DETAIL DIP TO HDPE TRANSITION**  
NOT TO SCALE

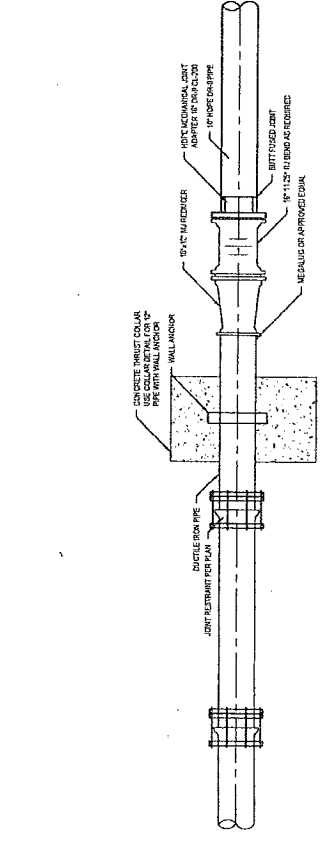


**5. STREET FENCE AND TREE PROTECTION**  
NOT TO SCALE



**6. CONCRETE THRUST COLLAR DETAIL**  
NOT TO SCALE

- NOTES:**
1. ALL REINFORCING SHALL BE WELDED OR SPLICED CORRECTLY.
  2. WELD OR SPLICING SHALL BE DONE BEFORE SETTING AND SHALL BE REINFORCED FOR 20 PSI WORKING PRESSURE AND 20 PSI TEST PRESSURE.
  3. PIPE SURFACE SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE CONCRETE COLLAR IS PLACED TO INSURE PROPER ADHESION TO PIPE AND COLLAR.
  4. CONCRETE SHALL BE 3000 PSI.
  5. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
  6. PLACE AND/OR BARS CENTERED IN ONE FULL JUMP OF PIPE.



**7. HDPE DIP CONNECTION DETAIL**  
NOT TO SCALE

**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**MISCELLANEOUS CIVIL DETAILS 1**

|                        |                       |          |          |                        |                        |
|------------------------|-----------------------|----------|----------|------------------------|------------------------|
| Client                 | Project               | City     | County   | Design                 | Drawn                  |
| City of Rehoboth Beach | Ocean Outfall Project | Delaware | Delaware | City of Rehoboth Beach | City of Rehoboth Beach |
| Contract No.           | Sheet No.             | Scale    | Notes    | Approved               | Checked                |
| 86-18693-C201          | ANAL D                | AS SHOWN | NOTES    | City Engineer          | City Engineer          |

FOR PERMIT SUBMITTAL  
NOT FOR CONSTRUCTION

City of Rehoboth Beach, Delaware  
1100 South Beach Blvd., Suite 200  
Rehoboth Beach, DE 19970  
Phone: 302-326-6111  
Fax: 302-326-6111  
www.rehobothbeach.gov

Date: 2 July 2019 2:31 PM  
Revision: 1  
Drawing No: 86-18693-C201  
Scale: AS SHOWN  
City: Rehoboth Beach, Delaware  
County: Delaware  
Design: City of Rehoboth Beach  
Drawn: City of Rehoboth Beach  
Checked: City of Rehoboth Beach  
Date: 2 July 2019 2:31 PM  
Drawing No: 86-18693-C201  
Scale: AS SHOWN  
City: Rehoboth Beach, Delaware  
County: Delaware  
Design: City of Rehoboth Beach  
Drawn: City of Rehoboth Beach  
Checked: City of Rehoboth Beach  
Date: 2 July 2019 2:31 PM

STRUCTURAL GENERAL NOTES

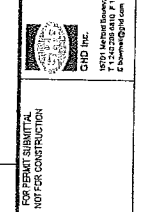
- A. GENERAL:
  1. THESE DRAWINGS ARE FOR INFORMATION ONLY. NO PERMITS OR CONSTRUCTION SHALL BE OBTAINED FROM ANY AGENCIES OR AGENCIES UNTIL ALL CONDITIONS OF RECORD DRAWING AND ALL CONTRACT DOCUMENTS FOR MATERIALS AND METHODS HAVE BEEN OBTAINED AND CHECKED FOR CONFORMANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
- B. CONCRETE:
  1. CONCRETE SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 308 AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
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  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
- C. REINFORCEMENT:
  1. REINFORCEMENT SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 308 AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
- D. WELDED CONNECTIONS:
  1. WELDED CONNECTIONS SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 308 AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
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  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
- E. OTHER:
  1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AGENCIES AND AGENCIES.

PRELIMINARY  
CITY OF REHOBOTH BEACH, DELAWARE  
OCEAN OUTFALL PROJECT  
STRUCTURAL GENERAL NOTES

|          |         |      |
|----------|---------|------|
| Client   | Project | Task |
| Designer | Checker | CL   |
| Drawn    | Checked | DATE |
| DATE     | DATE    | DATE |

|       |         |      |
|-------|---------|------|
| Drawn | Checked | DATE |
| DATE  | DATE    | DATE |

FOR PERMIT SUBMITTAL  
NOT FOR CONSTRUCTION

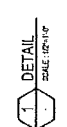
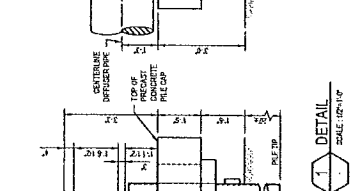
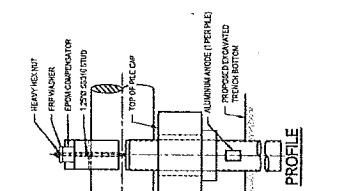
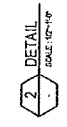
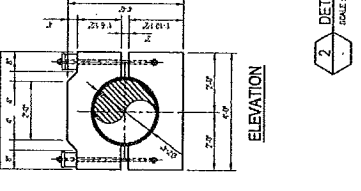
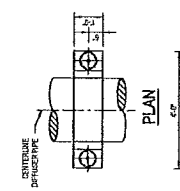
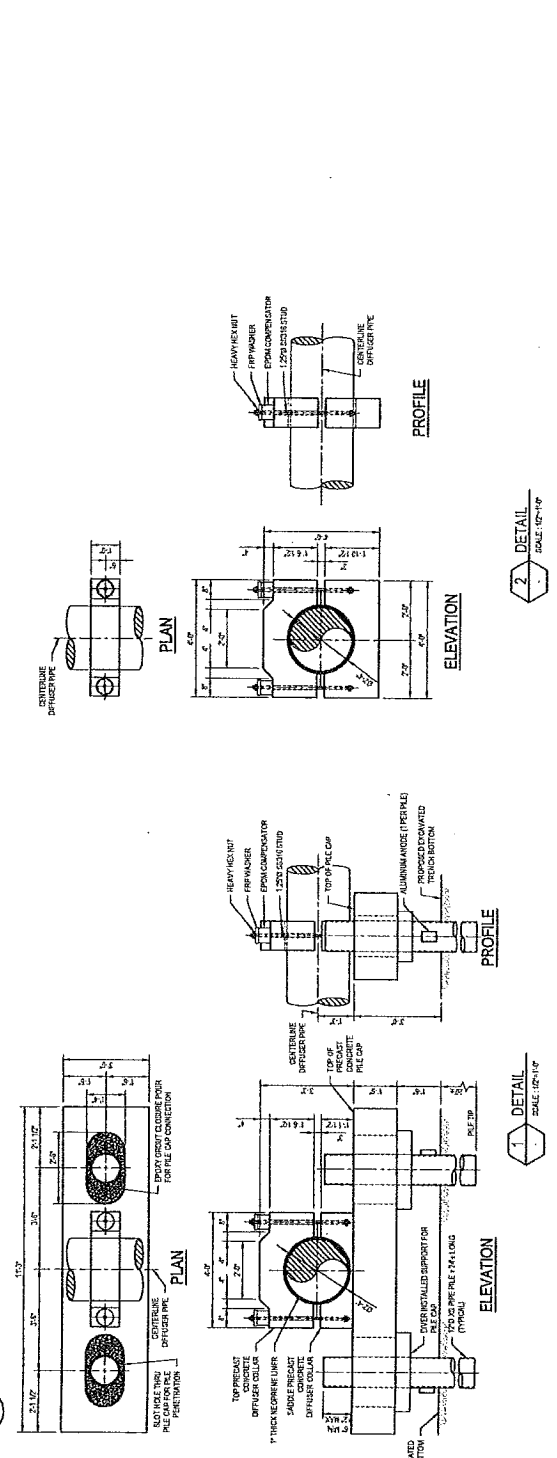
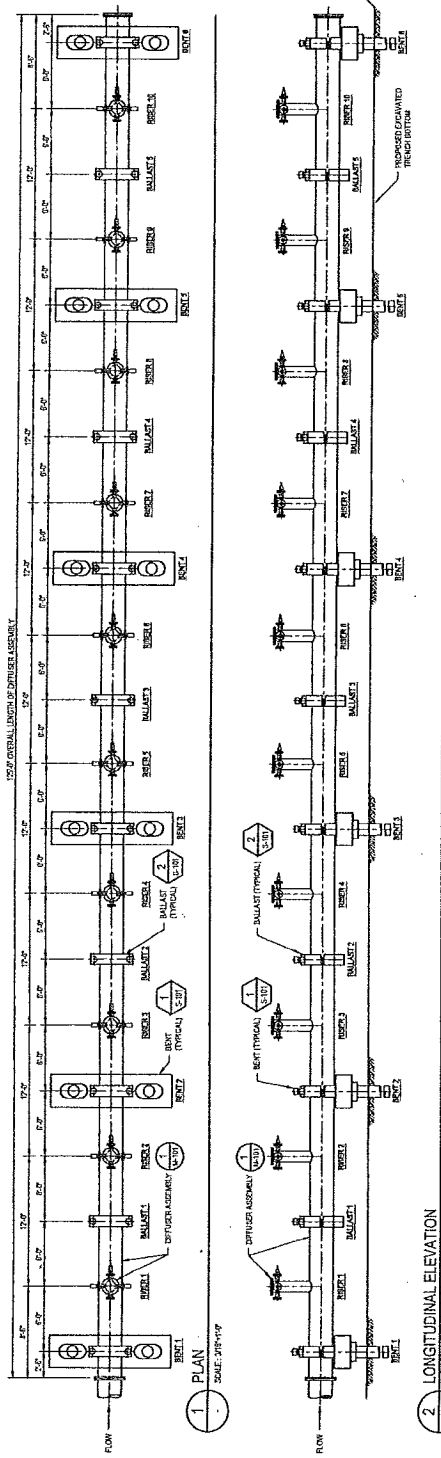
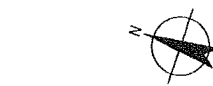


Contract No. 86-18693-S001  
Drawing No. 86-18693-S001

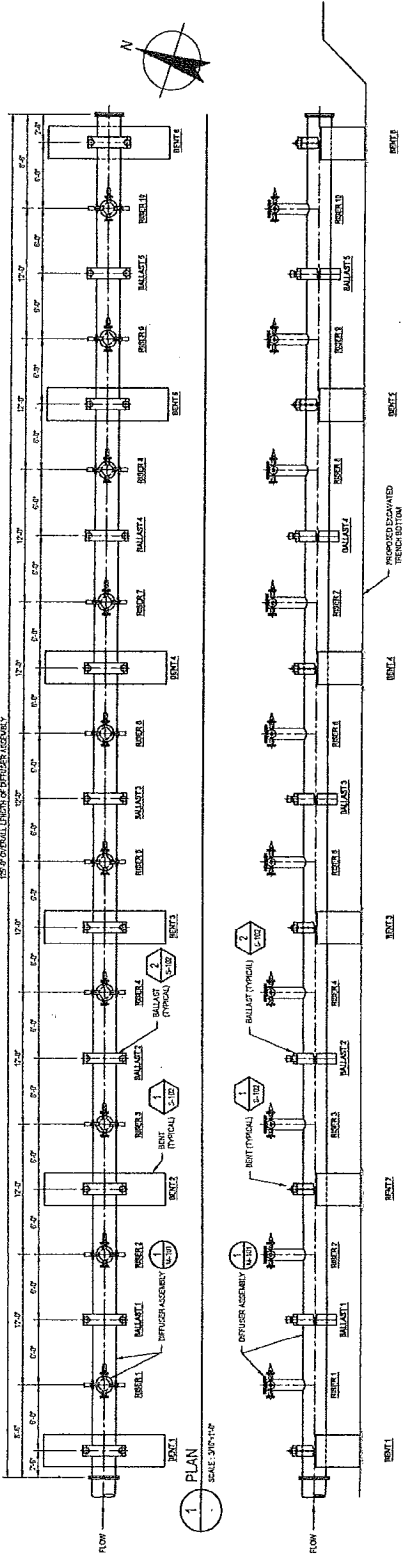
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|-------|------|
| Scale | None |
| Notes | None |

|        |         |      |
|--------|---------|------|
| Author | Checked | Date |
| DATE   | DATE    | DATE |

|        |         |      |
|--------|---------|------|
| Author | Checked | Date |
| DATE   | DATE    | DATE |

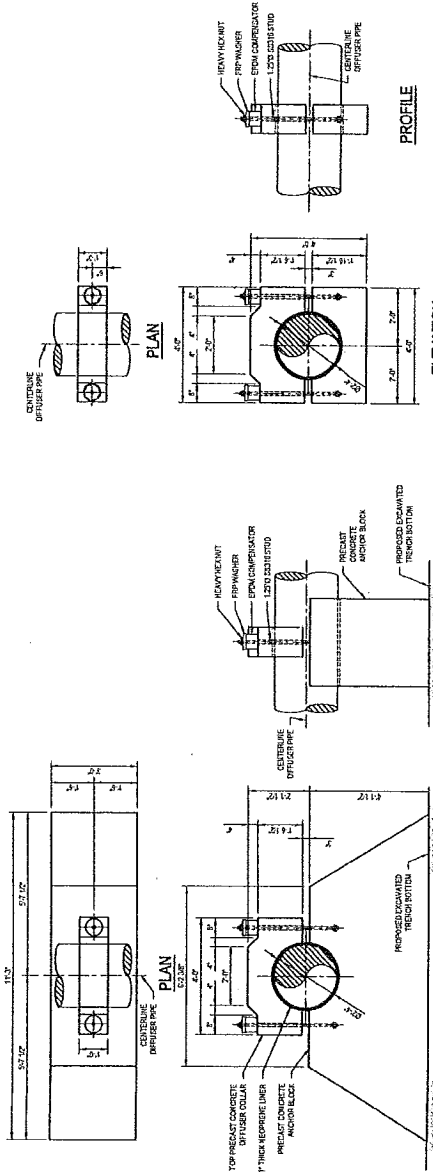


| PRELIMINARY  |         | CITY OF REHOBOTH BEACH, DELAWARE |    | OCEAN OUTFALL PROJECT |           | DIFFUSER SUPPORT STRUCTURE - ALTERNATE A |            | PLAN AND ELEVATION |            |
|--|---------|----------------------------------|----|-----------------------|-----------|--|------------|--------------------|------------|
| Client   | Project | Designer                         | CS | Drawn                 | PS        | Checked                                  | JK         | Approved           | MS         |
|  |         | Check                            | CL | Scale                 | AG-DROWAN | Scale                                    | 1/8"=1'-0" | Scale              | 1/8"=1'-0" |
| <p>FOR PERMIT SUBMITTAL<br/>NOT FOR CONSTRUCTION</p> <p>SCALE: 1/8"=1'-0"</p> <p>SCALE: 1/2"=1'-0"</p> <p>SCALE: 1/4"=1'-0"</p> <p>SCALE: 1/8"=1'-0"</p>                                     |         |                                  |    |                       |           |  |            |                    |            |
| <p>PERMIT SUBMITTAL</p> <p>DATE: 08/18/16</p> <p>SCALE: 1/8"=1'-0"</p> <p>SCALE: 1/2"=1'-0"</p> <p>SCALE: 1/4"=1'-0"</p> <p>SCALE: 1/8"=1'-0"</p>  |         |                                  |    |                       |           |  |            |                    |            |
| <p>CONTRACT NO. 86-18693-S101</p> <p>DRAWING NO. 86-18693-S101</p> <p>DATE: 08/18/16</p> <p>SCALE: 1/8"=1'-0"</p> <p>SCALE: 1/2"=1'-0"</p> <p>SCALE: 1/4"=1'-0"</p> <p>SCALE: 1/8"=1'-0"</p> |         |                                  |    |                       |           |  |            |                    |            |



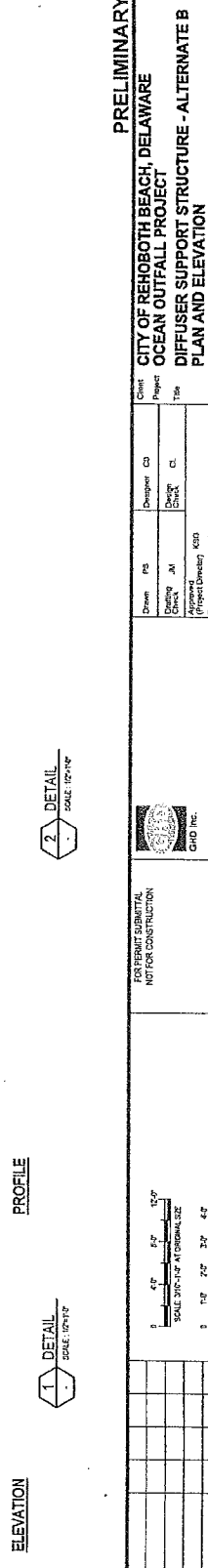
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2 LONGITUDINAL ELEVATION SCALE 3/8"=1'-0"



1 PLAN SCALE 3/8"=1'-0"

2 ELEVATION SCALE 3/8"=1'-0"



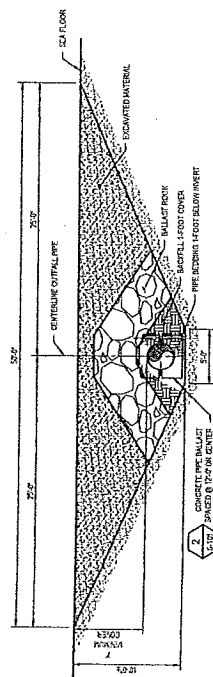
1 PLAN SCALE 3/8"=1'-0"

2 ELEVATION SCALE 3/8"=1'-0"

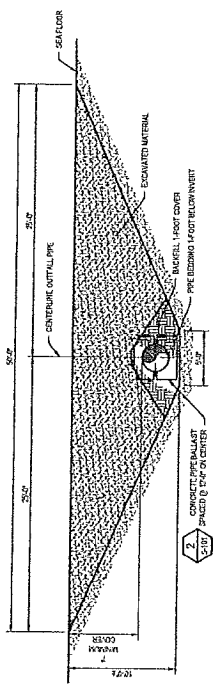
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|---|----------------------------------|
| <p>PRELIMINARY</p> <p>CITY OF REHOBOTH BEACH, DELAWARE</p> <p>OCEAN OUTFALL PROJECT</p> <p>DIFFUSER SUPPORT STRUCTURE - ALTERNATE B</p> <p>PLAN AND ELEVATION</p> |                                  |
| Client  | City of Rehoboth Beach, Delaware |
| Project   | Ocean Outfall Project            |
| Design  | AD SHOWN                         |
| Drawn   | AD SHOWN                         |
| Checked   | AD SHOWN                         |
| Approved  | AD SHOWN                         |
| Date  | AD SHOWN                         |
| Scale   | AD SHOWN                         |
| Sheet No.   | 86-18693-S102                    |
| Rev.  | A                                |

|     |                  |            |    |
|-----|------------------|------------|----|
| NO. | DESCRIPTION      | DATE       | BY |
| 1   | PERMIT SUBMITTAL | 10/15/2014 | AD |

10/15/2014



1. TYPICAL OUTFALL TRENCH SECTION - ALTERNATE A  
SCALE 3/8"=1'-0"



2. TYPICAL OUTFALL TRENCH SECTION - ALTERNATE B  
SCALE 3/8"=1'-0"

**PRELIMINARY**

**CITY OF REHOBOTH BEACH, DELAWARE  
OCEAN OUTFALL PROJECT  
STRUCTURAL DETAILS**

|        |          |   |       |          |          |
|--------|----------|---|-------|----------|----------|
| Client | Project  | Designer  | CD    | Project  | Title    |
|        |          | Design  | Check | CL       |          |
| Drawn  | PG       | Checked   | JM    | Approved | KSD      |
|        |          | Design  | Check | Drawn    | 02/20/15 |
| Scale  | AS SHOWN | This drawing shall not be used for construction without the written approval of the Designer. |       |          |          |

**OHID Inc.**  
10701 Market Boulevard, Suite 200, Rehoboth Beach, DE 19970, USA  
T 302-235-6119 F 302-235-6111  
E info@ohid.com

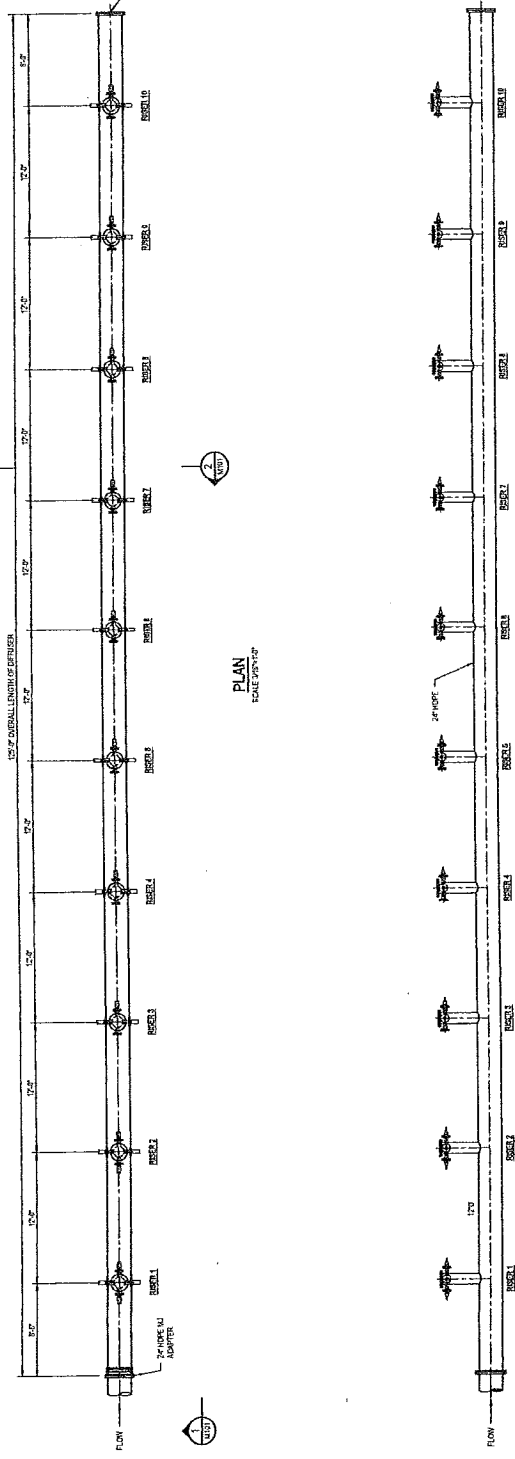
50% PERMIT SUBMITTAL  
80% FOR CONSTRUCTION

| Rev. | Description          | Date | By |
|------|----------------------|------|----|
| A    | PERMIT SUBMITTAL     |      |    |
| B    | 80% FOR CONSTRUCTION |      |    |

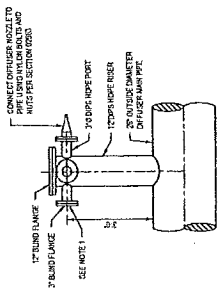
SCALE: 3/8"=1'-0"

Drawn by: **BMG**  
Checked by: **KNS**  
Project: **OHIS**  
Date: **02/20/15**

Drawing No: **86-18693-S103**      Rev: **A**

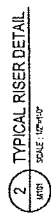


PLAN  
SCALE: 1/8"=1'-0"



ELEVATION

- TYPICAL RISER NOTES:
1. DIFFUSERS ARE TO BE INSTALLED IN THE FIELD AND SHALL BE ATTACHED TO ALL FOUR ADJACENT PORTS.
  2. DIFFUSER RISERS SHALL BE ATTACHED TO A HORIZONTAL SILL ORIENTATION AS SHOWN.



- DIFFUSER ASSEMBLY NOTES:
1. DIFFUSERS AND RISERS SHALL BE ASSEMBLED IN THE FIELD AND SHALL BE ATTACHED TO ALL FOUR ADJACENT PORTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS UNLESS OTHERWISE NOTED.
  2. DIFFUSERS AND RISERS SHALL BE ATTACHED TO A HORIZONTAL SILL ORIENTATION AS SHOWN.



1 SECTION  
SCALE: 3/8\"/>

**PRELIMINARY**  
**CITY OF REHOBOTH BEACH, DELAWARE**  
**OCEAN OUTFALL PROJECT**  
**DIFFUSER ASSEMBLY PLAN AND ELEVATION**

|         |                                  |         |                                      |              |               |
|---------|----------------------------------|---------|--------------------------------------|--------------|---------------|
| Client  | City of Rehoboth Beach, Delaware | Project | Ocean Outfall Project                | Design       | BMG           |
| Project | Ocean Outfall Project            | Title   | Diffuser Assembly Plan and Elevation | Checked      | BMG           |
| Drawn   | BMG                              | Checked | JPM                                  | Approved     | MSG           |
| Date    | 02/28/16                         | Scale   | AS SHOWN                             | Contract No. | 86-18693-M101 |

FOR PERMIT SUBMITTAL  
 NOT FOR CONSTRUCTION

City of Rehoboth Beach, Delaware  
 14015 Rehoboth Boulevard, Suite 300, Rehoboth Beach, DE 19718 USA  
 Phone: 302-645-2711  
 Fax: 302-645-2711  
 E-mail: info@cityofrehoboth.com

|     |                  |      |    |         |
|-----|------------------|------|----|---------|
| NO. | Revisions        | Date | By | Checked |
| A   | PERMIT SUBMITTAL |      |    |         |