

**FISH DETERRENT SYSTEM
FIELD INSPECTION and SURVEY REPORT:
WEEK OF 5/1/2013-5/7/2013**

**In Accordance With The:
FISH DETERRENT PLAN**

**New Bedford Marine Commerce Terminal,
New Bedford South Terminal, New Bedford, MA**



Prepared on behalf of:



Massachusetts Clean Energy Center
as Part of Regulatory Compliance

Prepared by:



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**OPERATIONS REPORT:
REGULATORY COMPLIANCE ACTIVITIES
OR-RC-FDP-FISR01-050713**

Version: 01

Date: 5/7/13

Fish Deterrent System

Field Inspection and Survey Report

Week: 05-01-13 through 05-07-13
New Bedford Marine Commerce Terminal (NBMCT)

This Field Inspection and Survey Report was prepared as part of the implementation of the “Fish Deterrent Plan”, which is part of “Water Quality Performance Standards” for the NBMCT (South Terminal Project) referenced in the USEPA “EPA Final Determination for the South Terminal Project” (November, 2012).

1. Introduction:

The Water Quality Standards included in the USEPA Final Determination for the South Terminal Project includes a “Fish Deterrent Plan” (FDP) that describes fish deterrent activities and fish barrier systems that the project proponent (the Commonwealth of Massachusetts) agreed to install and operate (in certain portions of the Harbor) in order to reduce the potential impact to fish (i.e. a “Fish Deterrent System,” or FDS). The FDP indicates that fish deterrent activities shall be conducted during the period from January 15 through June 15 of any year if there is to be construction related to the New Bedford Marine Commerce Terminal (NBMCT) during that period in those areas. The purpose of the FDS is “to reduce the impact to fish by excluding them from a proposed area”; in this case the work areas associated with the construction of CAD Cell #3 and the area around the proposed South Terminal bulkhead extension and berthing channel at the NBMCT. The deployment and operation of the Fish Deterrent System (FDS) is to take place between January 15 and June 15 of any year within areas shallower than –5 meters MLLW if any work that could disrupt spawning or other activities associated with certain fish species is undertaken. The FDP also calls for regular weekly inspections of the system and an assessment as to the presence or absence of fish within the FDS work areas, coupled with actions that should be taken to remove fish from the FDS work areas if they are encountered (using a “Fish Startle System”).

This Field Inspection Report represents the sixteenth Report associated with the installation, inspections, and maintenance of the “Fish Deterrent System” that has been deployed in New Bedford Harbor to meet the 2013 Water Quality Performance Standards in the EPA Final Determination for this Project. This sixteenth Report for the Fish Deterrent Plan activities includes:

- Field Inspection Form for the Fish Monitoring Survey undertaken during the week of May 1, through May 7, 2013; including Fish Startle Activities undertaken; and
- Field Inspection Form for the weekly inspection of the Fish Deterrent System for the week of May 1, through May 7, 2013; and
- Field Maintenance Form for activities that have been undertaken to maintain and improve the FDS system during the week of May 1, through May 7, 2013.

Form : **FDS-FIF-02**
Inspection Completion
Date: 5/6

NBMCT
SOUTH TERMINAL
CONSTRUCTION
MONITORING SURVEY
FORM (MSF)



Doc #: RCF-FDS-04

Location of Inspection:

CAD Cell

Work Performed:

Standard Weekly Inspection
 Special Inspection:

Personnel:

Jonathan Potts
David Cangarl
Erin Grenert
Scott Magilton
Ward McIntyre

Description of Inspection Work Performed Today (List any activities associated with work inspection):

All transect surveys in the CAD Cell location were performed via surface-supplied-air dive operations. The reason for this survey mode was a result of the ongoing dredging operations, which limited underwater visibility and increased the levels of suspended and potentially contaminated sediment in the water column. The dive survey utilized a 250-Ft long umbilical consisting of an airline and hard-wired top-side to diver communications. The diver was outfitted with a KM57 dive helmet, mated to a vulcanized rubber dry suit in order to deter any possible exposure to sediment and water column contaminants.

Tasks Completed:

CAD Cell #3 Area

Monitoring Survey: ~~Yes~~ / No

Sonar: ~~Yes~~ / No Video: ~~Yes~~ / No

Results of Inspection:

1. Flat Fish Observations:

None Encountered
 Flat Fish Encountered (please note # below)

0 Number of Individuals
0 Number of Schools (3 or more fish)

2. Fin Fish Observations:

None Encountered
 Fin Fish Encountered (please note # below)

10+ Number of Individuals
0 Number of Schools (3 or more fish)

Fish Removal Activities (CAD Cell Area):

No Action Required = No Fish Detected (during inspection)

Fish Startle System:

Light Bar:

Sound System:

Tactile System:

Other: (Description:_____)

(Description of Fish Startle Activities Undertaken):_____

Other:

(Description):_____

Recommendations

Recs. to Improve Survey Methodology:

(Description)

Underwater visibility associated with survey operations in the CAD Cell location is negatively impacted from the current 24-Hr dredging operations. As a result, while dredging operations occur, survey operations can only be performed via diver operations. The surveys will also need to be performed over a two day period. Day one of the two day survey period will make use of an outgoing tide and survey the northern portion of the CAD Cell, day two of the survey will make use of an incoming tide and survey the southern portion of the CAD Cell. Utilizing the tide cycles in this manner will enhance the underwater visibility of the dive operations by flushing the suspended sediments away from the underwater dive surveyor.

Recs. to Improve Service System:

(Description)

Recs. to Improve General System Performance:

(Description)

Other (Description)

Fish viewed during the dive transect survey included over 10 juvenile fin fish. The diver was unable to determine the specie due to limited visibility. All fish were viewed in the northwest corner section of the Cad Cell, and less than 2 inches in size. Fish were found in proximity to each but were not part of one individual school.

Form : FDS-FIF-03

Date: 5/7/13

**NBMCT
SOUTH TERMINAL
CONSTRUCTION
FIELD INSPECTION FORM
(FIF)**



Doc #: RCF-FDS-03

Location of Inspection:

- CAD Cell
- S. Terminal Area
- Other

Work Performed:

- Weekly Inspection Silt Barrier
- Weekly Inspection Fish Weir
- Special Inspection:

Personnel:

Josh Ray
Chris Stillman
Jeff Frishman

Description of Inspection Work Performed Today (List any activities associated with work inspection):

Completed field inspection of South Terminal and CAD Cell #3 exclusion area's fish weir and silt barrier using a pole mounted underwater camera with a remote display on board the survey vessel. The survey vessel navigated along the length of fish deterrent system looking for damages to anchor lines, silt barrier brackets, and silt barrier sewn grommets. The vessel navigated along the fish weir as inspectors looked for anchor tears, tightness (which affects weir height), and bottom chain/weir separation. There are damages to the entrance gate at the southwest corner of the CAD Cell #3 exclusion area.

Tasks Completed:

CAD Cell #3 Area

- Weir Inspection
- Silt Barrier Inspection

South Terminal Area

- Offline
- Silt Barrier Inspection

Silt Barrier and Weir Inspection:

CAD Cell #3 Area

Section#	G	S	L	C	A	W	D	Section#	G	S	L	C	A	W	D
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	21	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
9	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	22	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26	<input checked="" type="checkbox"/>	<input type="checkbox"/>					

**G= Good S=Split Seam L=Lifted From Bottom C=Cut / Ripped A=Anchor
Lost W=Weir Misaligned / Damaged D=Anchor Dragged**

South Terminal Area

Section#	O	S	L	C	A	W	D	Section#	O	S	L	C	A	W	D
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18	<input checked="" type="checkbox"/>	<input type="checkbox"/>										
6	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
7	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
8	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
9	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
10	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
11	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
12	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
13	<input checked="" type="checkbox"/>	<input type="checkbox"/>													

**O= Offline S=Split Seam L=Lifted From Bottom C=Cut / Ripped A=Anchor
Lost W=Weir Misaligned / Damaged D=Anchor Dragged**

Recommendations

Recs. to Improve Survey Methodology (**CAD Cell / South Terminal** [circle one/both]): (Description)

Recs. to Improve Service / System (**CAD Cell / South Terminal** [circle one/both]): (Description)

Future replacement sections of Silt Barrier are to include a 2' strip of geotextile installed below the upper floatation with greater permeability to reduce the effect of wind lift and thereby reduce maintenance requirements.

Recs. to Improve General System Performance (**CAD Cell / South Terminal** [circle one/both]): (Description)

None

Other (Description) _____ South_Terminal_bubble_curtain_has_been_taken_offline.____

Form : FDS-FMF-01

Date: 5/7/2013

NBMCT
SOUTH TERMINAL
CONSTRUCTION
FIELD MAINTENANCE FORM
(FMF)



Doc #: RCF-FDS-02

Location of Maintenance:

- CAD Cell
- S. Terminal Area
- Other

Work Performed:

- Silt Barrier Maintenance
- Fish Weir Maintenance:
- Bubble Curtain Maintenance:

Personnel:

Josh Ray
Chris Stillman
Jeff Frishman

Description of Maintenance Work Performed During this Maintenance Period (List any activities associated with maintenance).

One section of damaged silt curtain at south west corner of CAD Cell #3 exclusion area repaired.

Tasks Completed:

CAD Cell #3 Area

- Weir Realignment / Maintenance
- Silt Barrier Realignment/ Maintenance
- Anchor Alignment / Maintenance

South Terminal Area

- Weir Realignment / Maintenance
- Silt Barrier Realignment/ Maintenance
- Anchor Alignment / Maintenance
- Bubble Curtain Maintenance

Summary of Maintenance Performed (Cad Cell #3 Area):

___ Replaced one section of ripped silt curtain located at the south west corner entrance to the CAD Cell #3 fish exclusion area.

Summary of Maintenance Performed (South Terminal Area):

___ No maintenance completed.

Silt Barrier and Weir Maintenance:

CAD Cell #3 Area

Section#	S	B	R	A	W	P	Section#	S	B	R	A	W	P
1	<input type="checkbox"/>	14	<input type="checkbox"/>										
2	<input type="checkbox"/>	15	<input type="checkbox"/>										
3	<input type="checkbox"/>	16	<input type="checkbox"/>										
4	<input type="checkbox"/>	17	<input type="checkbox"/>										
5	<input type="checkbox"/>	18	<input type="checkbox"/>										
6	<input type="checkbox"/>	19	<input type="checkbox"/>										
7	<input type="checkbox"/>	20	<input type="checkbox"/>										
8	<input type="checkbox"/>	21	<input type="checkbox"/>										
9	<input type="checkbox"/>	22	<input type="checkbox"/>										
10	<input type="checkbox"/>	23	<input type="checkbox"/>										
11	<input type="checkbox"/>	24	<input type="checkbox"/>										
12	<input type="checkbox"/>	25	<input type="checkbox"/>										
13	<input type="checkbox"/>	26	<input type="checkbox"/>										

**S=Seam Laced B=Ballast Added/Corrected R=Repaired/Replaced A=Anchor Added
W=Weir Repaired / Realigned P=Dragged Anchor Placed in Correct Location**

South Terminal Area

Section#	O	B	R	A	W	P	Section#	O	B	R	A	W	P
1	<input type="checkbox"/>	14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
2	<input type="checkbox"/>	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
3	<input type="checkbox"/>	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
4	<input type="checkbox"/>	17	<input checked="" type="checkbox"/>	<input type="checkbox"/>									
5	<input type="checkbox"/>	18	<input checked="" type="checkbox"/>	<input type="checkbox"/>									
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10	<input type="checkbox"/>												
11	<input type="checkbox"/>												
12	<input type="checkbox"/>												
13	<input type="checkbox"/>												

**O=Bubble Curtain Offline B=Ballast Added/Corrected R=Repaired/Replaced
A=Anchor Added W=Weir Repaired / Realigned P=Dragged Anchor Placed in Correct Location**