

# FACILITIES MASTER PLAN - ENABLING PROJECTS

ELECTRIC BOAT CORPORATION, NORTH YARD · GROTON · CONNECTICUT

## PROPANE TANK

JUNE 5, 2018

REVISED AUGUST 31, 2018



**FUSS & O'NEILL**

146 HARTFORD ROAD  
MANCHESTER, CONNECTICUT 06040  
860.646.2469  
www.fando.com

PREPARED BY

PREPARED FOR

**ELECTRIC BOAT CORPORATION**  
75 EASTERN POINT ROAD  
GROTON, CT

### SHEET INDEX

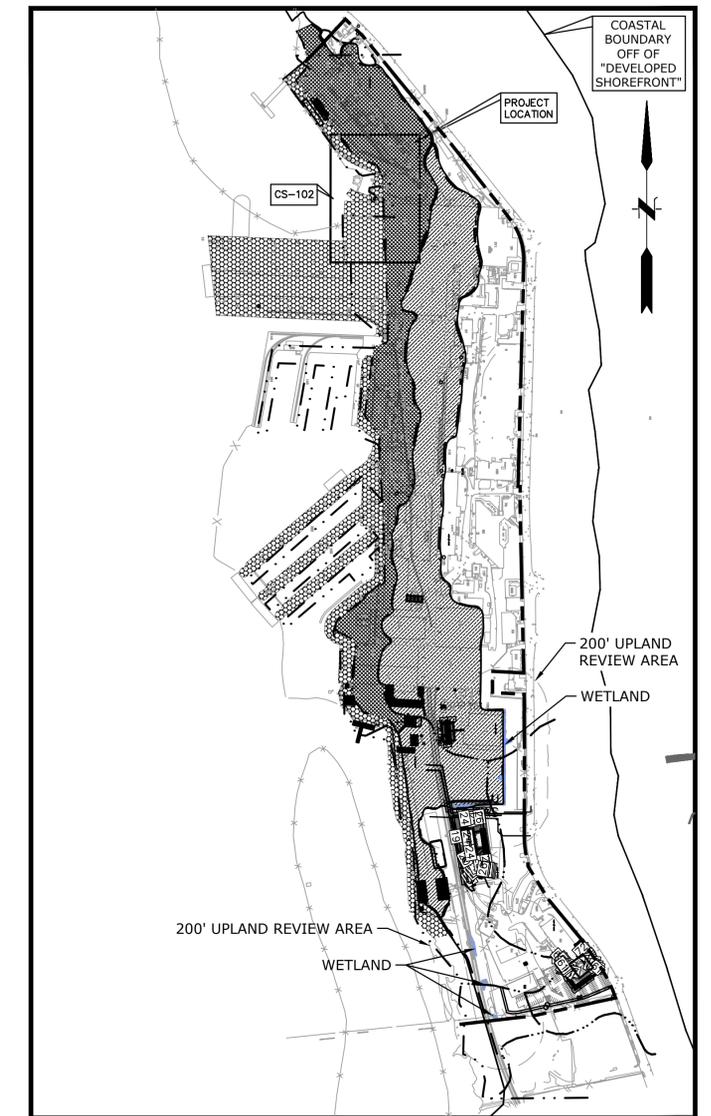
SHEET No.	SHEET TITLE
GI-001	COVER SHEET
GEN-01	GENERAL NOTES
CS-101	REMOVED
CS-102	SITE GRADING AND DRAINAGE PLAN PROPANE TANK
CD-501 TO CD-502	DETAILS

1. All plans must have signature block for Chairman signature
2. The intent of comment #3 was to ensure that the stairs on the site plan are accurately represented with the correct number of treads to ensure the platform is at an appropriate and safe height to access the fill cap. Please note rise and run of treads, landing elevation and bottom of stair elevation.
3. Fill cap location is not shown to confirm safe access can be provided.
4. Show fill cap elevation on plan in relation to finished grade of the stair platform.
5. How will the stair platform be installed, what are the foundations? The installation must demonstrate it conforms with 5.3.J.3. The structural design must be provided.
3. Refer to 9.3.g for additional requirements - i.e. add letter of approval to plans, four paper copies and one mylar all with approval block shall be provided
- 4.



PROPERTY LOCATION MAP

SCALE: 1" = 2500'



PROJECT LOCATION MAP

SCALE: 1" = 400'

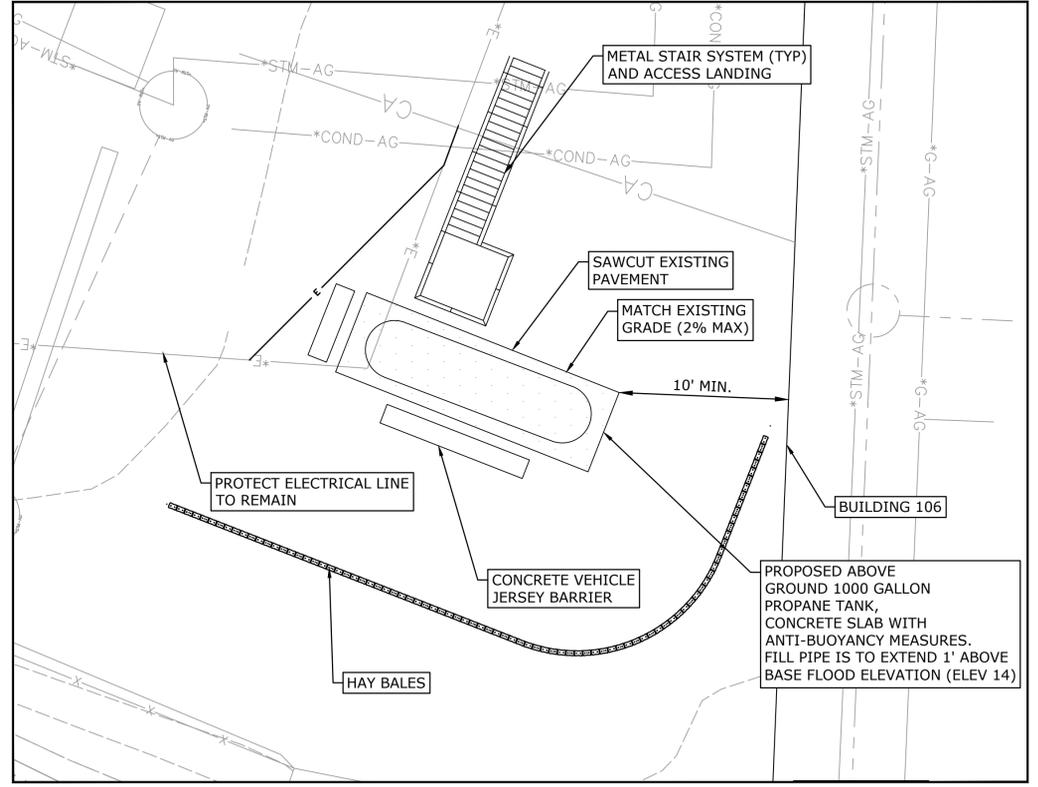
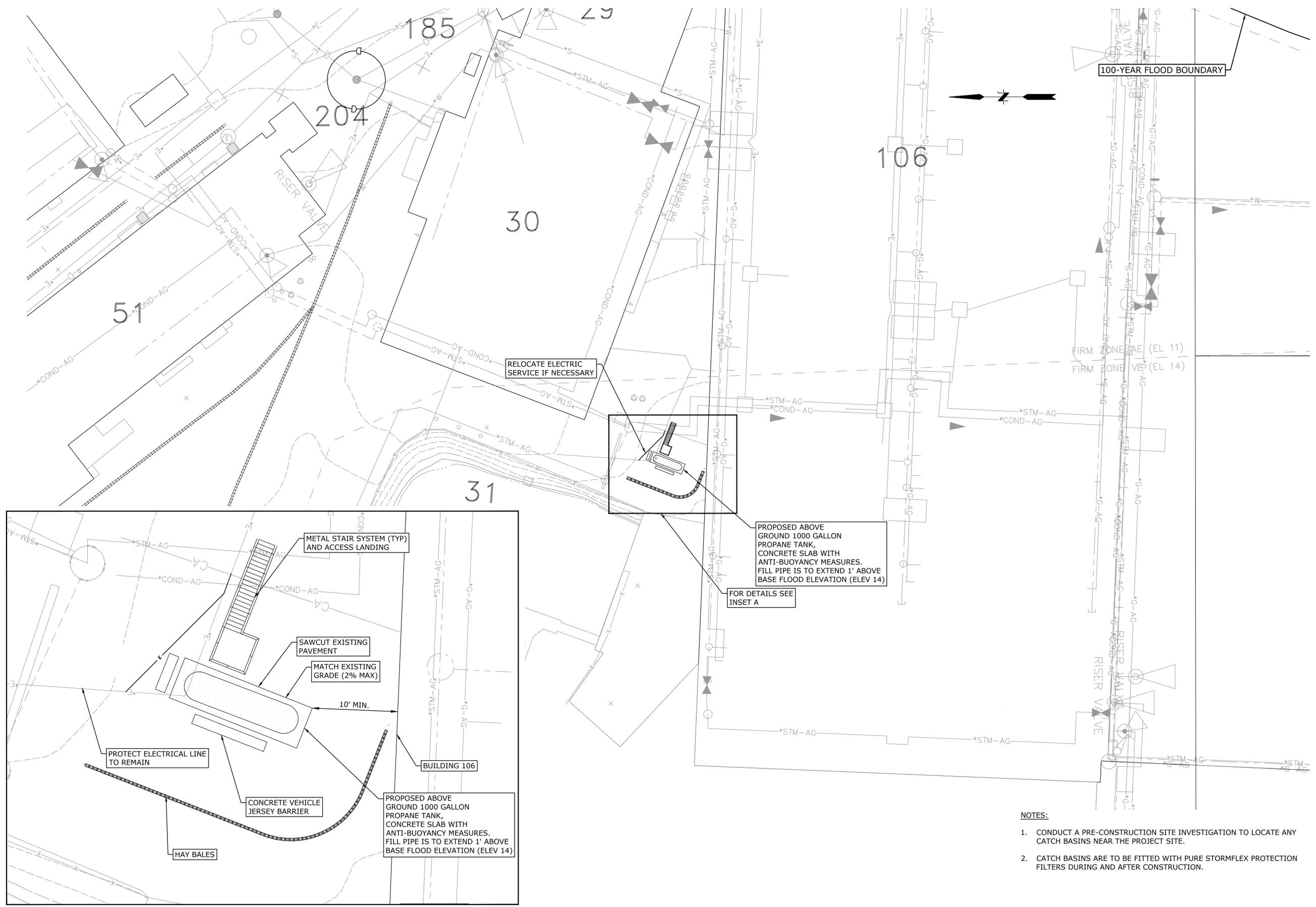
NOT FOR CONSTRUCTION

PROJ. No.: 1997570.A11  
DATE: JUNE 2018

GI-001



File Path: J:\DWG\97570A11\Civil\Plan\North Yard Projects\19970570A11\_GRN01-N.dwg Layout: CS-102 Plotted: Fri, September 07, 2018 - 1:47 PM User: Imello  
 MS VIEW: LAYER STATE: PLOTTER: DWG TO PDF.PC3 CTB File: FO.STB



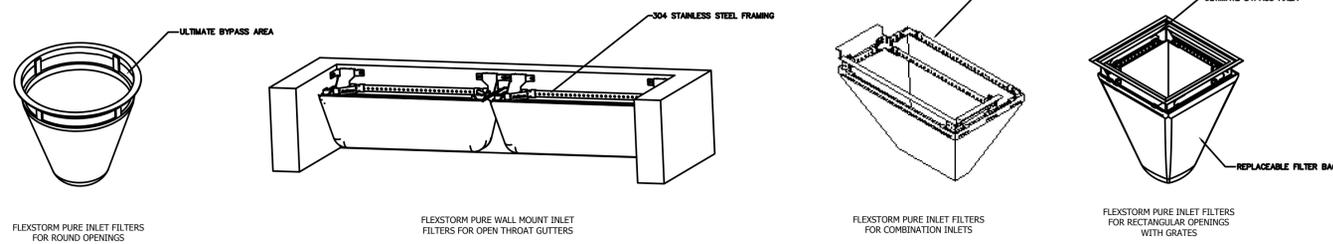
**INSERT A**  
 SCALE: 1" = 5'

- NOTES:**
1. CONDUCT A PRE-CONSTRUCTION SITE INVESTIGATION TO LOCATE ANY CATCH BASINS NEAR THE PROJECT SITE.
  2. CATCH BASINS ARE TO BE FITTED WITH PURE STORMFLEX PROTECTION FILTERS DURING AND AFTER CONSTRUCTION.

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<p><b>FUSS &amp; O'NEILL</b>          146 HARTFORD ROAD          NORTH HAVEN, CONNECTICUT 06460          860.646.2460          www.fuss.com</p>																
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<p>PROJ. No.: 1997570.A11          DATE: JUNE 5, 2018</p>																
<p><b>CS-102</b></p>																
<p>SCALE: HORZ.: 1" = 20'          VERT.:          DATUM:          HORZ.:          VERT.:          20 10 0 20          GRAPHIC SCALE</p>	<table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DESIGNER</th> <th>REVIEWER</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>8/21/2018</td> <td>STAFF COMMENTS</td> <td>LMM</td> <td>KS</td> </tr> <tr> <td>2.</td> <td>8/31/2018</td> <td>P&amp;Z COMMENTS</td> <td>LMM</td> <td>KS</td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION	DESIGNER	REVIEWER	1.	8/21/2018	STAFF COMMENTS	LMM	KS	2.	8/31/2018	P&Z COMMENTS	LMM	KS
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**FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION  
PRODUCT SELECTION AND SPECIFICATION DRAWING**



For Round Openings with Grates		Minimum Bypass Flow Rates (CFS)* Based on Nominal Frame Size with minimum 2" Bypass flow gap		For Open Throat Curb Inlets - Mounted to Wall Beneath Curb Opening			For Rectangular/Square Openings with Grates			Minimum Bypass Flow Rates (CFS)* Based on Nominal Frame Size with minimum 2" Bypass flow gap	
Drop Thru Opening Size Dia	Flexstorm Frame P/N			Curb Opening Size	Flexstorm Frame P/N	Clear Drop Thru Opening Size (not grate or seat size)	Flexstorm Frame P/N	Combination P/N			
Small: 10.0" - 18.0"	62SHDR		1.6	Up to 4" curb openings (1 Filter)	62HDWM1	Small: 12" x 12" up to 18" x 18" (or 64" max perimeter)	62SHD	62SHDCB		2.4	
Medium: 18.1" - 24.0"	62MHR		2.7	Between 4" and 8" curb openings (2 Filters)	62HDWM2	Medium: 18" x 18" up to 24" x 24" (or 96" max perimeter)	62MHD	62MDCB		3.5	
Large: 24.1" - 36.0"	62LDR		3.8	Between 8" and 12" curb openings (3 Filters)	62HDWM3	Large: 26" x 26" up to 30" x 30" (or 120" max perimeter)	62LHD	62LDCB		5.0	
				Between 12" and 16" curb openings (4 Filters)	62HDWM4	XL: 32" x 32" up to 48" x 48" (or 192" max perimeter) typ 2 pc set	62XLHD	62XLDCB		7.2	

**CREATE YOUR ADS FLEXSTORM PART NUMBER BY COMBINING FRAME P/N AND BAG P/N**

1. IDENTIFY YOUR FLEXSTORM FRAME PART NUMBER FROM TABLES ABOVE

2. SELECT YOUR BAG PART NUMBER BASED ON APPLICATION NEEDS

FLEXSTORM FILTER BAGS	(22" depth) STD Bag P/N	(12" depth) Short Bag P/N	Clean Water Flow Rate (GPM/SqFt)	Min A.O.S. (US Sieve)
FX: Standard Woven Bag	FX	FX-S	200	40
FX+: Woven w/ MyCelx	FXP	FXP-S	200	40
FXO: Woven w/ Oil Boom	FXO	FXO-S	200	40
PC: Post Construction Bag	PC	PC-S	137	140
PC+: PC Bag w/ MyCelx	PCP	PCP-S	137	140
LL: Litter and Leaf Bag	LL	LL-S	High	3.5
IL: IDOT Non-Woven Bag	IL	IL-S	145	70

**SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL BAG / FRAME SIZE**

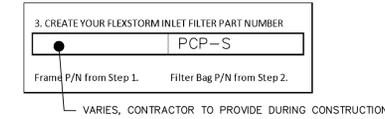
Nominal Bag Size Matched to Frame Size	Solids Storage (CuFt)	Filtered Flow Rate at 50% Max (CFS)	* PC Oil Retention (Oz)	**PC+ Oil Retention (Oz)	**FX+ Oil Retention (Oz)
Small	1.6	1.2	0.8	0.9	79
Medium	2.1	1.7	1.2	1.3	115
Large	3.8	2.7	1.8	1.9	173
XL	4.2	3.6	2.4	2.6	230

Filtration Efficiency: 82% (Large scale 3rd party testing per ASTM D 7351 using 7% concentration USDA Sandy Loam)

TSS (total suspended solids rem): NA (Large Scale testing at 90 GPM using US Silica OK-110 sand at 1750 mg/L measuring TSS per SM 2540D)

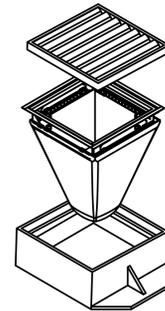
TPH (tot petroleum hydrocarbons): NA (Large Scale testing at 90 GPM with used motor oil at 243 mg/L measuring per EPA Method 1664A)

\* PC filter bag at 50% max adsorption capacity  
\*\* PC filter bag at 50% capacity and MyCelx skimmer at 100% capacity



- NOTES:**
- ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING
  - TOTAL BYPASS CAPACITY: BYPASS CAPACITY WILL VARY WITH EACH SIZE DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
  - UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALONE IS NOT SUFFICIENT.
  - FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT [WWW.INLETFILTERS.COM](http://WWW.INLETFILTERS.COM)

- INSTALLATION:**
- REMOVE GRATE
  - DROP FLEXSTORM INLET FILTER ONTO LIP BEARING LIP OF CASTING OR CONCRETE STRUCTURE
  - REPLACE GRATE



**OPERATION & MAINTENANCE PLAN**

**INSTALLATION INSTRUCTIONS:**

- REMOVE GRATE FROM THE DRAINAGE STRUCTURE.
- CLEAN STONE AND DIRT FROM LEDGE (LIP) OF DRAINAGE STRUCTURE
- DROP THE FLEXSTORM INLET FILTER THROUGH THE CLEAR OPENING SUCH THAT THE HANGERS REST FIRMLY ON THE LIP OF THE STRUCTURE.
- REPLACE THE GRATE AND CONFIRM IT IS NOT ELEVATED MORE THAN 1/8", THE THICKNESS OF THE STEEL HANGERS.

**FREQUENCY OF INSPECTIONS:**

- INSPECTION OF FILTERS AND STRUCTURES SHOULD OCCUR FOLLOWING ANY RAIN EVENT >1/2" DURING CONSTRUCTION.
- POST CONSTRUCTION INSPECTIONS SHOULD OCCUR 4 TIMES PER YEAR. IN SNOWFALL AFFECTED REGIONS ADDITIONAL INSPECTIONS SHOULD TAKE PLACE BEFORE AND AFTER SNOWFALL SEASON.
- INDUSTRIAL APPLICATION SITE INSPECTIONS (LOADING RAMPS, WASH RACKS, MAINTENANCE FACILITIES) SHOULD OCCUR ON A REGULARLY SCHEDULED BASIS NO LESS THAN 3 TIMES/YEAR.

**MAINTENANCE GUIDELINES:**

- EMPTY THE SEDIMENT BAG IF MORE THAN HALF FILLED WITH SEDIMENT AND DEBRIS, OR AS DIRECTED.
- REMOVE THE GRATE, ENGAGE THE LIFTING BARS WITH THE FLEXSTORM REMOVAL TOOL, AND LIFT FROM DRAINAGE STRUCTURE.
- DISPOSE OF SEDIMENT OR DEBRIS AS DIRECTED BY THE ENGINEER OR MAINTENANCE CONTRACT.
- AN INDUSTRIAL VACUUM CAN BE USED TO COLLECT SEDIMENT.

PURE STORMFLEX PROTECTION FILTER  
NOT TO SCALE

- REMOVE CAKED ON SILT FROM SEDIMENT BAG AND FLUSH WITH MEDIUM SPRAY WITH OPTIMAL FILTRATION.
- REPLACE BAG IF TORN OR PUNCTURED TO >1/2" DIAMETER ON LOWER HALF OF BAG.

**POST CONSTRUCTION PC BAG MAINTENANCE:**

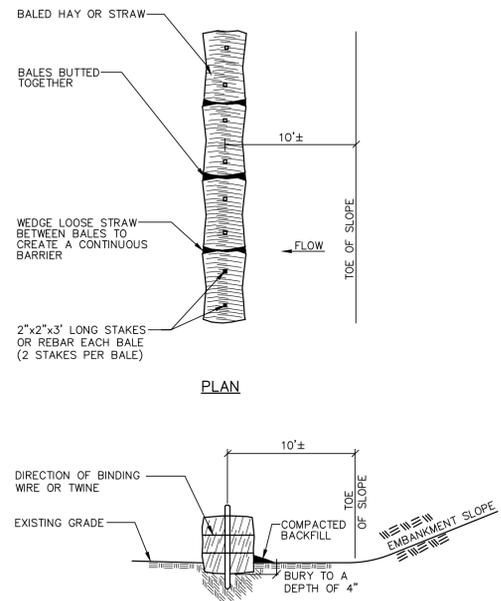
- AT 50% SATURATION THE AVERAGE 2'X2' ADSORB-IT LINED PC FILTER WILL RETAIN APPROXIMATELY 75 OZ (4.2 LBS) OF OIL AND SHOULD BE SERVICED. TO RECOVER THE OILS THE FILTER CAN BE CENTRIFUGED OR PASSED THROUGH A WRINGER.
- OIL SKIMMER POUCHES START TO TURN BLACK WHEN SATURATED, INDICATING TIME FOR REPLACEMENT. EACH CLEARTEC RUBBERIZER POUCH WILL ABSORB ~62OZ (4 LBS) OF OIL BEFORE NEEDING REPLACEMENT.
- DISPOSE OF ALL OIL CONTAMINATED PRODUCTS IN ACCORDANCE WITH EPA GUIDELINES. CLEARTEC RUBBERIZER, SINCE A SOLIDIFIER, WILL NOT LEACH UNDER PRESSURE AND CAN BE DISPOSED OF IN MOST LANDFILLS, RECYCLED FOR INDUSTRIAL APPLICATIONS, OR BURNED AS FUEL.

**SEDIMENT BAG REPLACEMENT:**

- REMOVE THE BAG BY LOOSENING OR CUTTING OFF CLAMPING BAG.
- TAKE NEW SEDIMENT BAG AND SECURE WORM DRIVE CLAMPING BAND TO THE FRAME CHANNEL.
- ENSURE BAG IS SECURE AND THERE IS NO SLACK AROUND PERIMETER.

**EROSION & SEDIMENT CONTROL NOTES**

- CONSTRUCTION STANDARDS- CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MOST RECENT EDITION OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (CT DEP BULLETIN 34). ALL MEASURES SHALL BE MAINTAINED AND UPGRADED TO ACHIEVE PROPER SEDIMENT CONTROL DURING CONSTRUCTION.
- PLAN IMPLEMENTATION- IMPLEMENT THIS EROSION AND SEDIMENT CONTROL PLAN. THIS IMPLEMENTATION INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES UNTIL PERMANENT AND VEGETATIVE STABILIZATION IS ACHIEVED, INFORMING ALL SUBCONTRACTORS OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER MUNICIPAL AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN TO THE NEW OWNER IF THE TITLE OF THE LAND IS TRANSFERRED PRIOR TO ACHIEVING PERMANENT STABILIZATION.
- INSTALLATION SCHEDULE - INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO CONSTRUCTION. INSTALL ADDITIONAL CONTROL MEASURES DURING THE CONSTRUCTION PERIOD, IF DEEMED NECESSARY BY THE OWNER, HIS AGENTS OR AGENTS OF THE MUNICIPALITY.
- FUGITIVE DUST - CONTROL FUGITIVE DUST USING WATER SPRAYS ON SOIL SURFACES, SWEEPING PAVED AREAS, TEMPORARY WINDBREAKS OR NON-ASPHALTIC SOIL TACKIFIERS.
- CATCH BASINS- PROTECT CATCH BASINS WITH PURE STORMFLEX FILTERS THROUGHOUT THE CONSTRUCTION PERIOD. PURE FLEXSTORM FILTER FABRICS ARE TO BE REPLACES WHEN ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED. PURE STORMFLEX FILTERS ARE TO REMAIN AS PERMANENT STORMWATER TREATMENT SYSTEMS AFTER CONSTRUCTION.
- STOCKPILES- DO NOT STOCKPILE. DIRECT LOAD EXCESS MATERIAL, AS NECESSARY.
- TOE OF SLOPE - ESTABLISH AN EROSION CONTROL BARRIER (SILT FENCE AND HAY BALE BARRIER) APPROXIMATELY 5 TO 10 FEET FROM THE PROPOSED TOE OF THE CUT OR FILL AREA PRIOR TO BEGINNING EARTHWORK.
- SEDIMENT REMOVAL - SEDIMENT REACHING 1/2 THE HEIGHT OF THE EROSION CONTROL BARRIER SHALL BE REMOVED. REMOVE AND DISPOSE OF SEDIMENT IN A MANNER CONSISTENT WITH THE INTENT OF THE PLAN.
- SOIL STABILIZATION SCHEDULE - APPLY PERMANENT SOIL STABILIZATION MEASURES TO ALL GRADED AREAS WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE. APPLY TEMPORARY SOIL STABILIZATION MEASURES IF FINAL GRADING IS TO BE DELAYED MORE THAN 30 DAYS.
- TEMPORARY SEEDING - TEMPORARILY SEED ERODIBLE SOILS THAT WILL BE EXPOSED GREATER THAN 1 BUT LESS THAN 12 MONTHS WITHIN THE FIRST 7 DAYS OF SUSPENDING GRADING OPERATIONS. APPLY LIME AT A RATE OF 90 LBS/1000 SQ. FT. APPLY 10-10-10 FERTILIZER AT A RATE OF 7 1/2 LBS/1000 SQ. FT. APPLY PERENNIAL RYE GRASS AT A RATE OF 2 LBS/1000 SQ. FT. TO A DEPTH OF 1/2 INCH. OPTIMUM SEEDING DATES ARE MARCH 15 TO JULY 1 AND AUGUST 1 TO OCTOBER 15. MULCH FOR SEED APPLIED WITHIN THE OPTIMUM SEEDING DATES SHALL BE APPLIED EVENLY SUCH THAT IT PROVIDES 80%-95% SOIL COVERAGE. MULCH FOR SEED APPLIED OUTSIDE OF THE OPTIMUM SEEDING DATES SHALL BE APPLIED EVENLY SUCH THAT IT PROVIDES 95%-100% COVERAGE.
- INSPECTION - THE OWNER SHALL SECURE THE SERVICES OF A SOIL SCIENTIST OR PROFESSIONAL ENGINEER TO VERIFY IN THE FIELD THAT THE CONTROLS REQUIRED BY THIS PLAN ARE PROPERLY INSTALLED AND MAINTAINED. THESE INSPECTIONS SHALL NOT BE LESS FREQUENTLY THAN WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM HAVING A RAINFALL AMOUNT OF 1/2 INCH OR GREATER. MARIE MARTIN PROJECT MANAGER - ELECTRIC BOAT CORPORATION. 860-433-2710 SHALL BE CONTACTED FOR EROSION CONTROL INQUIRIES.



**NOTE:**  
1. NO STAKE REQUIRED IN PAVEMENT AREAS.

HAY BALES  
NOT TO SCALE

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	8/17/2018	STAFF COMMENTS	LMM	KS
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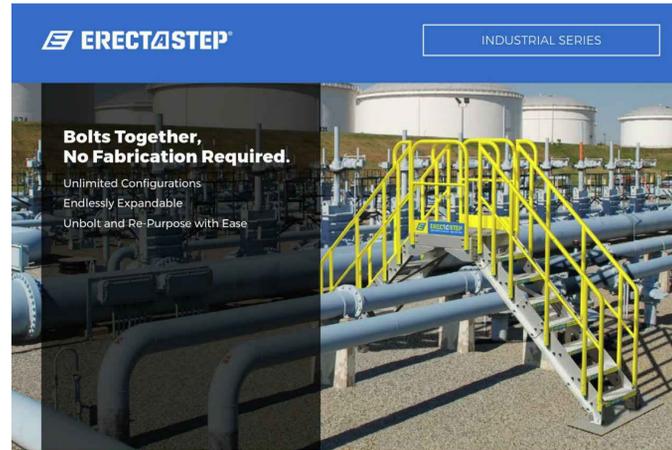
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FACILITIES MASTER PLAN - ENABLING PROJECTS  
DETAILS  
NORTH YARD  
ENABLING PROJECTS  
CONNECTICUT  
GROTON

PROJ. No.: 1997570.A11  
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CD-501

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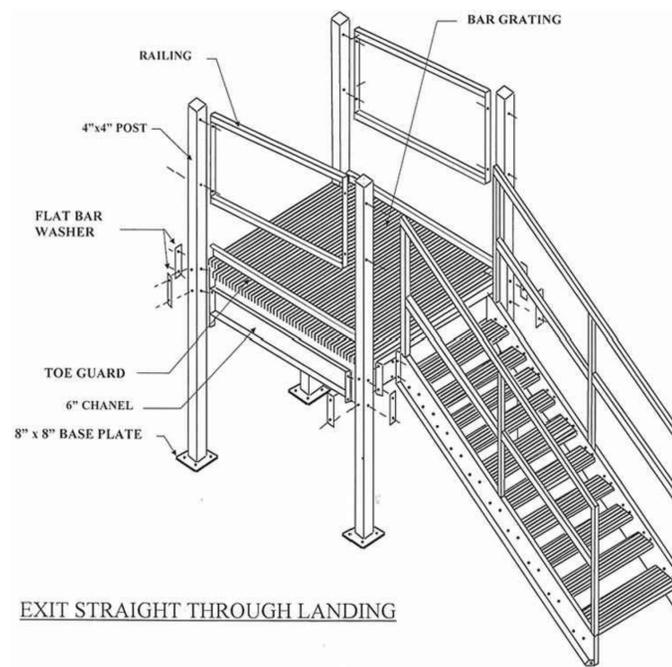
**Pre-Engineered Commercial Stair Systems In Stock and Ready to Ship!**

ErectaStep's line of metal stairs and industrial maintenance work platforms, feature modular, lightweight aluminum components that are as easy to reconfigure as they are to assemble. Installation only takes a few hours and requires little more than a wrench. That means no boom truck or heavy crane, most installations take little more than a hand truck and two installers.

Plus, our team of experienced professionals support you from start to finish. We visit your site to identify goals and challenges to ensure the job is done right. And because we utilize a state-of-the-art custom configurator tool, you're able to view accurate quotes and detailed drawings in minutes... letting you see exactly what your project will look like once it's installed.

**Features**

- Quoted In Minutes - Installs in minutes
- Unbolt, Reconfigure and Relocate in a snap
- No welding, special tools or cranes
- Always OSHA Compliant



METAL STAIR SYSTEM AND ACCESS LANDING  
 NOT TO SCALE



**Popular Configurations**

ErectaStep crossover stairs quickly configures to gain safe access over pipes, dike walls, or other obstructions. Three platforms can be bolted together in a series without tower supports, providing up to 9' of linear clearance.

**Patented Design. Complete Compliance.**

Improve workplace safety and increase productivity across all industries.

Need additional clearance? 4 platforms can be bolted together by simply adding a tower support to each end. To design, simply measure your height clearance required, your length clearance, and download an ErectaStep catalog to refer to the chart for which stair model will best suit your needs.

**5 Components. Unlimited Configurations**

- Universal Platform
- Handrails
- Metal Stairs
- Tower Support
- Ladder



**We Install Too!**  
 Let us install your stair system today.

Call to get a quote for our professional installation services.



**NOTES:**

1. PROVIDE ERECTASTEP STAIR OR APPROVED EQUAL.
2. COORDINATE PLATFORM, HANDRAIL, STAIR, TOWER SUPPORT, AND/OR LADDER REQUIREMENTS WITH MANUFACTURER PRIOR TO CONSTRUCTION.

No.	1.	8/21/2018	STAFF COMMENTS	DESCRIPTION	DESIGNER	REVIEWER
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