BlueShore
ENGINEERING L.L.C.
Richard W. Gilbert, P.E.

REQUEST FOR PROPOSAL

June 2016

Project Name: Nyack Marina Dredging
Project Location: Nyack Municipal Marina, Nyack, NY
BlueShore Project No.: 130221

Documents Provided:

A	Site Photos	BlueShore Engineering LLC	Sheets 1-4	03/30/16
B	Construction Drawings	BlueShore Engineering LLC	Sheets G00, C00-C04	06/09/16
C	FEMA Grant	FEMA	Sheets 1-3	12/02/14
D	Sediment Sampling Results	AKRF	Sheets 1-9	11/05/15

Project Description: The scope of work for this project will consist of dredging an estimated 2,500 cubic yards of material over an approximate 55,500 square foot area at Nyack Municipal Marina.

Permits: Contractor shall review and comply with all permit conditions.

Price and Schedule Proposal: Offerors are requested to submit a lump sum proposal to include all equipment, materials, labor, and taxes to complete the described scope of work. Contractor shall provide a unit price (per cubic yard) for final quantity variance from base bid quantity. Proposals shall include an estimated time required for project completion upon final award.

Proposal Due Date: June 29, 2016, 4pm.

Proposal Acceptance Period: 60 calendar days from receipt of offer. Offerors must be willing to hold their proposed price for this period at a minimum.

Instructions for Submitting Questions Regarding Solicitation: If an offeror has any questions regarding this RFP, questions shall be submitted to Catherine Hanna, EIT of BlueShore Engineering LLC, via email at channa@blueshorellc.com. The deadline for submitting questions is 3 business days prior to the Proposal Due Date.

Site Inspections: Offerors are encouraged to visit the site prior to bidding, however there is no scheduled pre-bid walkthrough planned.

Scope of Work: The scope of work is entirely described in the referenced drawings. Schedule of values will be required for pay application. Payment will be based on volumes calculated from pre-dredge and post-dredge surveys. The Marina shall be dredged to an elevation of -3.0' re: MLW, with an allowable overdredge of 1.0'.

1029 Teaneck Road 2nd Floor, Teaneck, NJ 07666 tel. (201) 817-2001 rwg@blueshorellc.com
blueshorellc.com

Attachment A

Site Photos

March 30, 2016

Site Photos:

Photo 1. Nyack Municipal Marina from the western-most corner, looking southeast

Photo 2. Nyack Municipal Marina from the western-most corner, looking east

Photo 3. Nyack Municipal Marina from the western-most corner, looking northeast

Photo 4. Nyack Municipal Marina from slightly southeast of the western-most corner, looking north

Photo 5. Nyack Municipal Marina from the riprap revetment, looking northwest

Photo 6. Nyack Municipal Marina from the riprap revetment, looking west

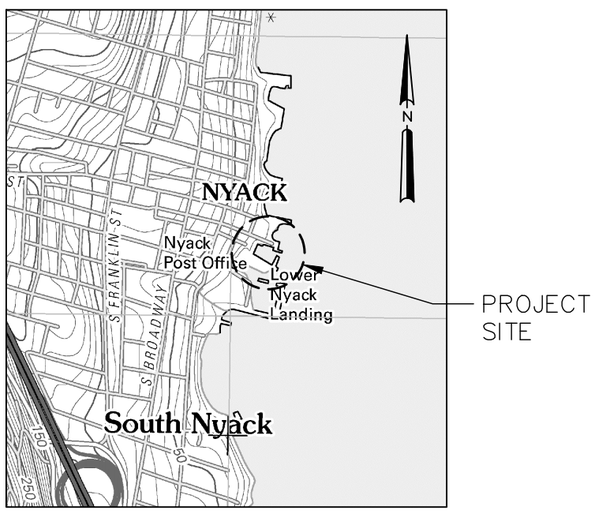
Photo 7. Nyack Municipal Marina from the riprap revetment, looking southwest

Attachment B

Construction Drawings

PROJECT:
NYACK MUNICIPAL MARINA
SEDIMENT REMOVAL
FOOT OF BURD STREET
NYACK, NY 10960

OWNER:
VILLAGE OF NYACK
9 NORTH BROADWAY
NYACK, NEW YORK 10960



LOCATION MAP, NYACK, NY

VICINITY MAP, MUNICIPAL MARINA

DRAWING LIST

G-00	COVER SHEET
C-00	GENERAL NOTES
C-01	EXISTING SITE PLAN
C-02	PROPOSED SITE PLAN
C-03	SECTIONS
C-04	DETAILS

MARK	DESCRIPTION	DATE	DES	CHK

STATE OF NEW YORK
RICHARD W GILBERT
85154
LICENSED PROFESSIONAL ENGINEER
6.15.16

BlueShore ENGINEERING L.L.C.
1029 Teaneck Rd Fl2, Teaneck, NJ 07666
(201) 817-2001 info@blueshorellc.com

CODE: IBC2015 | DATUM: MLW
PLOT DATE: 2016-06-15
SIZE: ANSI B | PROJECT: 130221
SCALE: AS NOTED

Village of Nyack
9 North Broadway
Nyack, NY 10960
DATE: 06/15/2016

COVER SHEET

Foot of Burd Street
Nyack, NY 10960

Sediment Removal
Nyack Municipal Marina

SHEET ID
G-00

PERMIT REQUIREMENTS & ENVIRONMENTAL CONTROLS

1. Bidders shall be furnished a copy of environmental permits from the USACE and NYSDEC. The contractor shall review and comply with all permit conditions.
2. The contractor shall prevent trash or construction debris from entering the watercourse, and shall recover any items that enter the watercourse immediately.
3. The contractor shall install and keep in place a contaminant boom and turbidity curtain during all portions of in–water work.

REFERENCE DATUM

Elevations shown on drawings are relative to MLW unless noted otherwise. Datum conversions shall refer to the table on this sheet. Horizontal coordinates are NAD83 State Plane 3101: New York East zone.

GENERAL REQUIREMENTS

1. The contractor shall visit the site prior to bidding.
2. The contractor shall review record drawings of the facility prior to bidding.
3. The contractor is responsible for providing all labor, materials and equipment necessary to accomplish the completed construction shown in these documents, based upon their review of existing conditions and record drawings.
4. The contractor shall provide all field surveys necessary to complete construction in accordance with these drawings by a NY licensed surveyor.
5. The contractor shall field verify existing conditions as needed to provide a complete installation in accordance with these plans.
6. The contractor is responsible for means, methods, and safety of the work.
7. The contractor shall observe all safety, operation, and scheduling limitations dictated by the owner during the performance of this work.
8. The contractor shall coordinate all work with the owner's field representative to prevent or minimize any interruption to facility operations.
9. Alternates to specifications contained herein must have prior approval of engineer.
10. The contractor shall provide chain of custody submittals for the disposal of dredge spoils.

SUBMITTALS

1. Provide all listed submittals to the Engineer of Record for review and approval.
2. The contractor shall submit at least 1 week prior to needing the approved submittal to allow sufficient time for review and revision, should any be required.

DREDGING

1. The total estimated material to be removed is 2500 cubic yards. Payment will be based on volumes calculated from pre–dredge and post–dredge surveys.
2. Dredge spoils are primarily fine sands, which shall be dewatered on–site, with drainage only allowed to the river within a turbidity curtain.
3. Material will be disposed as allowed by sediment testing.
4. The Engineer of Record shall perform pre–dredge and post–dredge hydrographic surveys to verify contract dredge depths have been obtained. The engineer shall coordinate hydrographic surveys with contractor.
5. Dredging operations shall comply with all environmental permits and permit conditions, including, at a minimum:
   - 5.1. Deployment of silt/turbidity curtain with ballast chain during all phases of dredging.
6. Submittals:
   - 6.1. Silt curtain manufacturer data, use and installation specifications.
   - 6.2. Dredging plan describing all equipment and procedures to be used during the dredging operation.
   - 6.3. Spoil disposal site location(s).

Datum Conversion Chart (ft)

Datum	MLW	NGVD29	NAVD88
FEMA AE 100–yr	8.48	8.00	7.01
MHHW	3.51	3.03	2.04
MHW	3.23	2.75	1.76
NAVD88	1.47	0.99	0.00
NGVD29	0.48	0.00	–0.99
MLW	0.00	–0.48	–1.47
MLLW	–0.17	–0.65	–1.64

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SIZE: ANSI B | PROJECT: 130221
SCALE: AS NOTED

Village of Nyack
9 North Broadway
Nyack, NY 10960

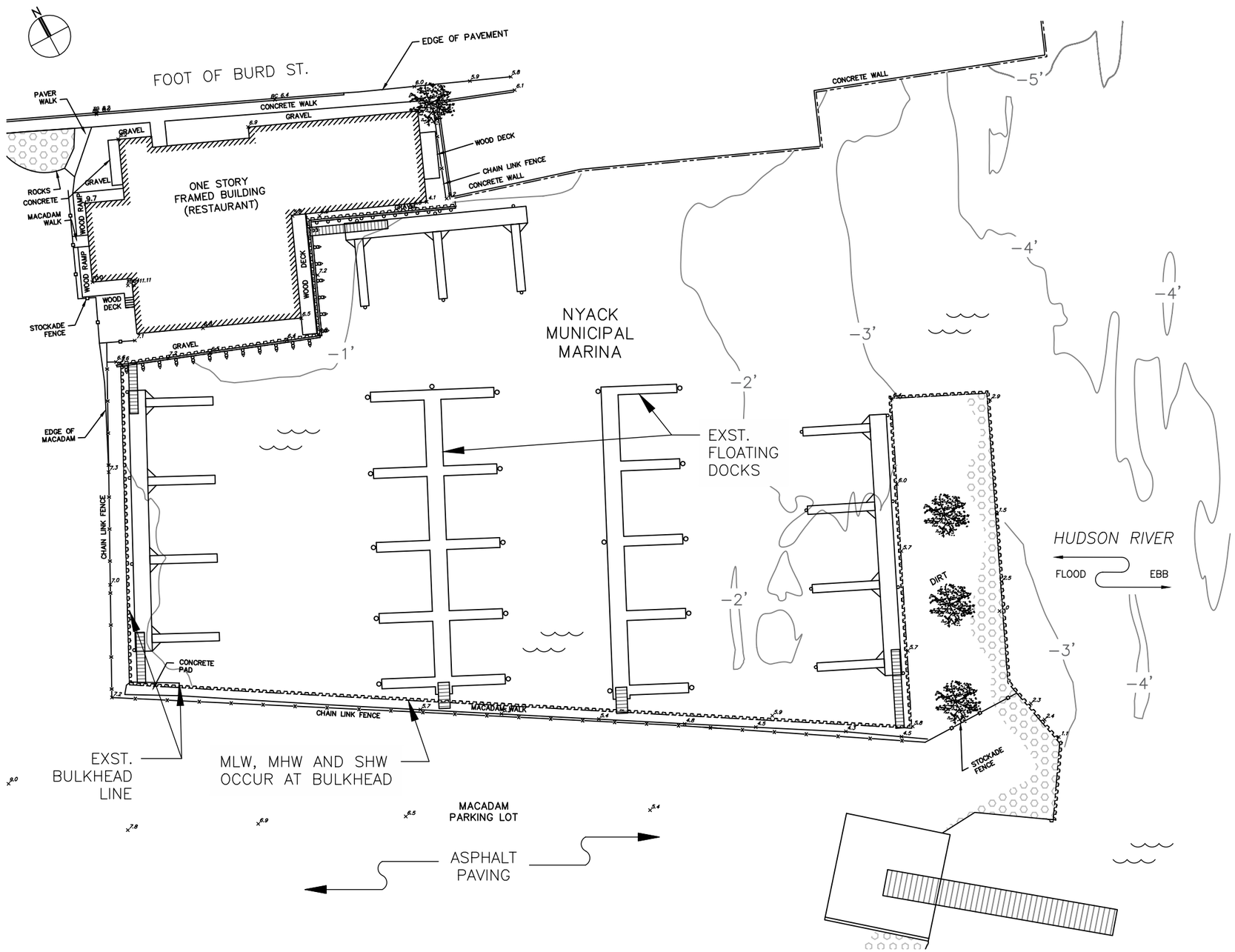
DATE: 06/15/2016

GENERAL NOTES

Foot of Burd Street
Nyack, NY 10960

Sediment Removal
Nyack Municipal Marina

SHEET ID
C-00



NOTES

1. Hydrographic survey performed by Hydrographic Surveys (3/19/15).
2. Topographic survey performed by Brooker Engineering PLLC (2/27/06).
3. Hydrographic contours reference MLW, while topographic spot elevations reference the NGVD29 datum.

1 EXISTING SITE CONDITIONS

0 40' 80'

1" = 40'

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Village of Nyack
9 North Broadway
Nyack, NY 10960

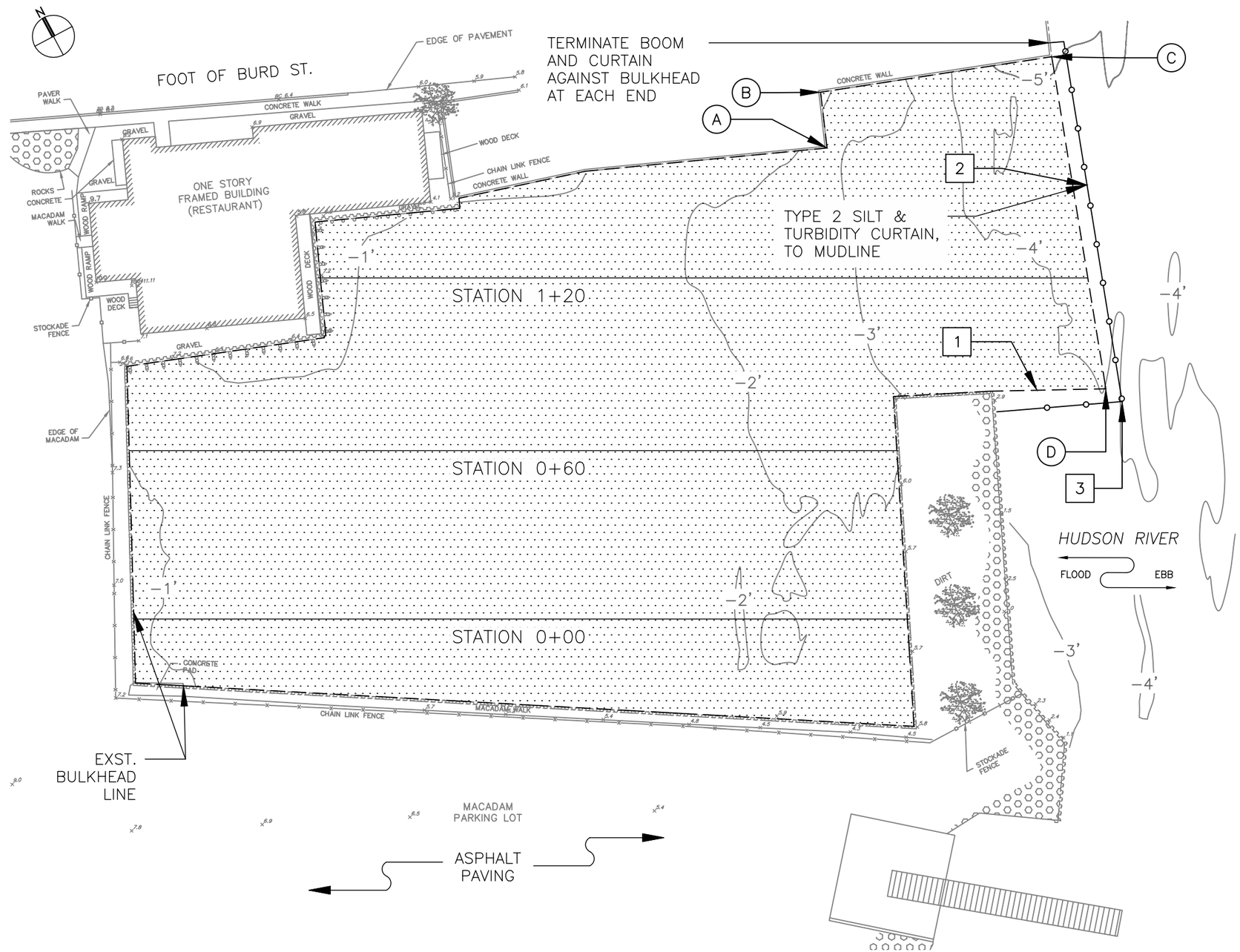
DATE: 06/15/2016

SITE PLAN
EXISTING

Foot of Burd Street
Nyack, NY 10960

Sediment Removal
Nyack Municipal Marina

SHEET ID
C-01



1 PROPOSED DREDGING PLAN

0 40' 80'

1" = 40'

KEYNOTES

1. Dredge existing marina basin to elevation −3.0' re: MLW. Approximately 2500 cubic yards. Allowable overdredge of 1.0'. Limits of dredging are indicated.
2. The contractor shall install and keep in−place a contaminant boom and turbidity curtain during all portions of in−water work.
3. Shape to be maintained (at the specified location) by either hanging an anchor or using a corner of the barge.

NOTES

1. At end of dredging, restore area to match pre−dredging conditions in terms of grade and turf.

DREDGE BASIN COORDINATES (FT)		
Point	Northing	Easting
A	653513.92	822275.66
B	653520.17	822294.67
C	653600.14	822271.69
D	653568.25	822156.27

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Village of Nyack
9 North Broadway
Nyack, NY 10960

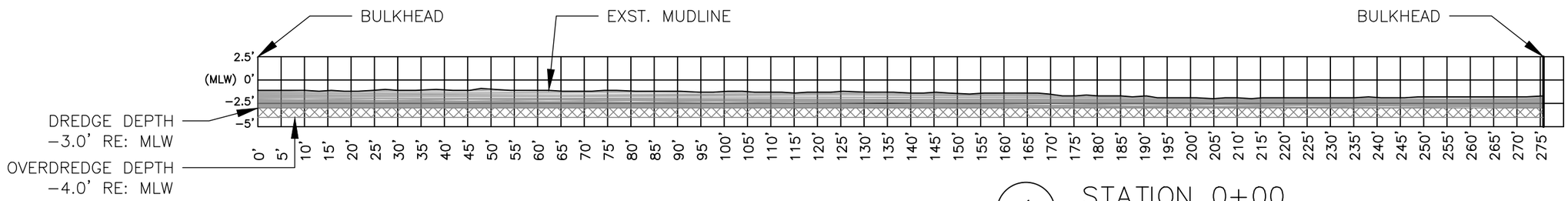
DATE: 06/15/2016

SITE PLAN PROPOSED

Foot of Burd Street
Nyack, NY 10960

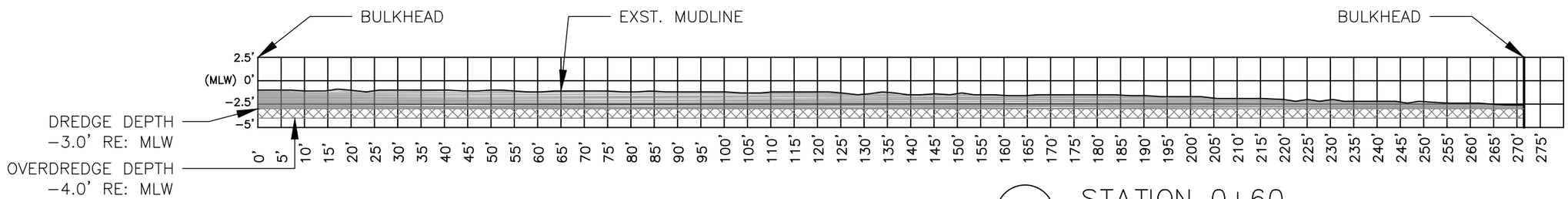
Sediment Removal
Nyack Municipal Marina

SHEET ID
C-02



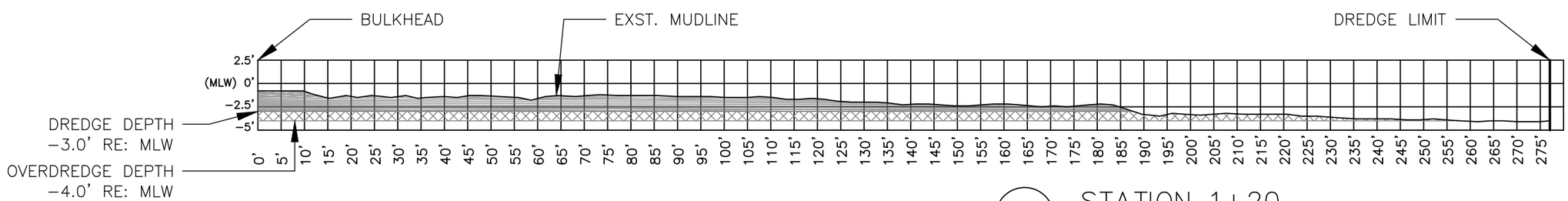
1 STATION 0+00

2:1 VERT. SCALE EXAGGERATION 1" = 25' HOR. 2" = 25' VERT.



2 STATION 0+60

2:1 VERT. SCALE EXAGGERATION 1" = 25' HOR. 2" = 25' VERT.



3 STATION 1+20

2:1 VERT. SCALE EXAGGERATION 1" = 25' HOR. 2" = 25' VERT.

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Village of Nyack
9 North Broadway
Nyack, NY 10960

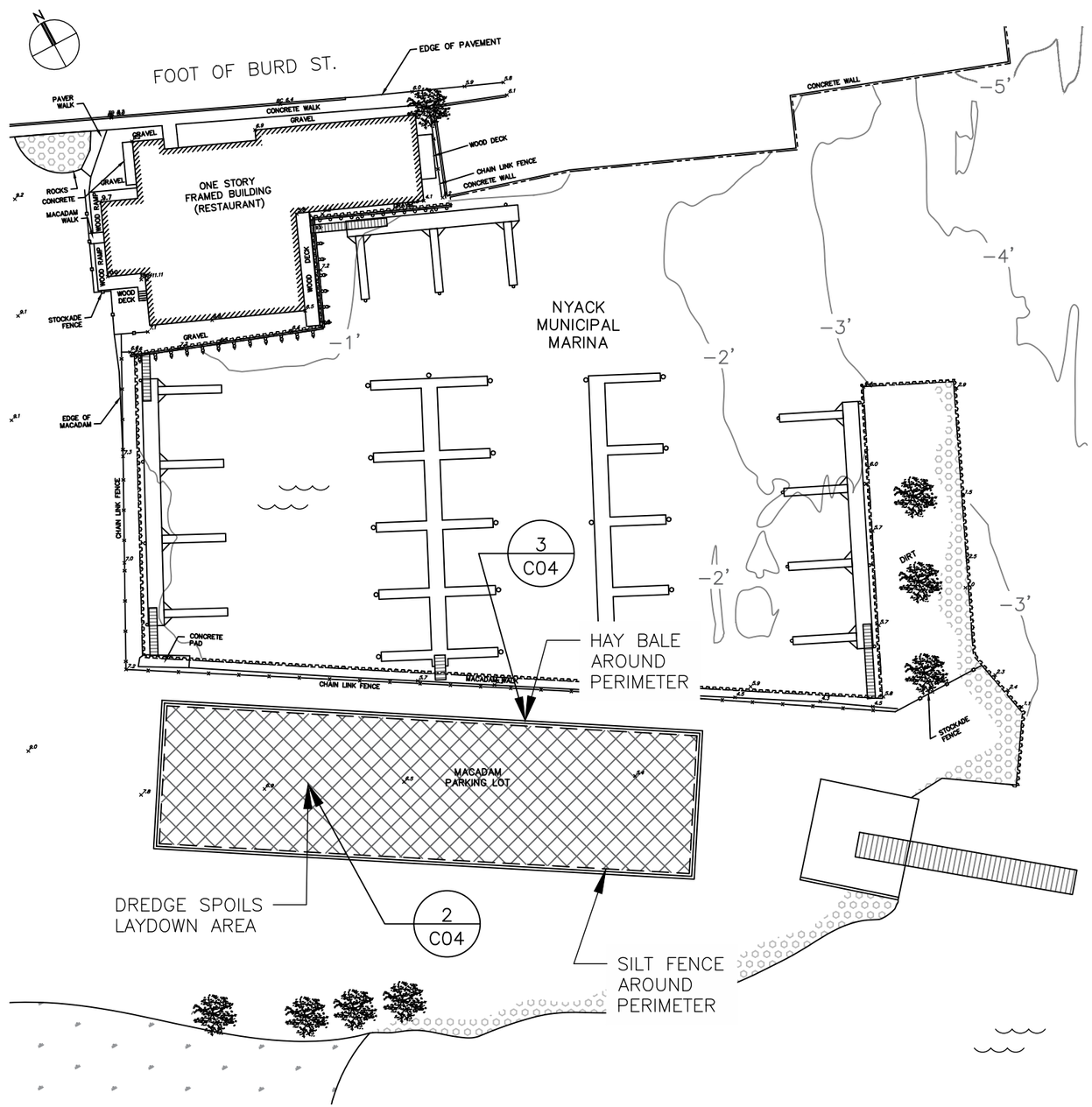
DATE: 06/15/2016

SECTIONS

Foot of Burd Street
Nyack, NY 10960

Sediment Removal
Nyack Municipal Marina

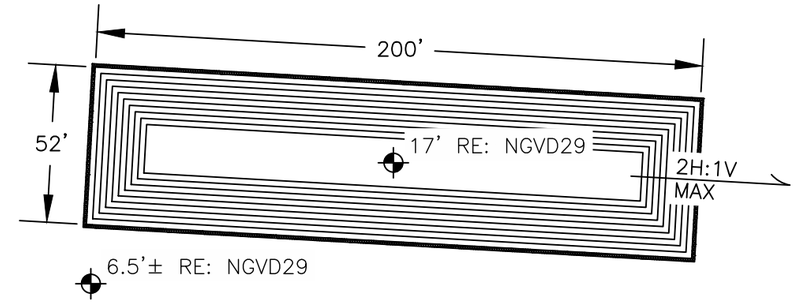
SHEET ID
C-03



1 DREDGE SPOILS LAYDOWN PLAN

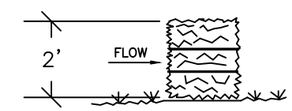
1" = 50'

0 50' 100'



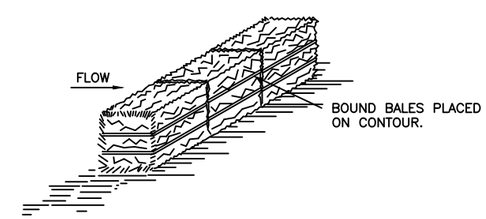
2 LAYDOWN GRADING PLAN

1" = 50'



BEDDING DETAIL
NOT TO SCALE

DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.



ANCHORING DETAIL
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE, SUCH THAT BALES ARE FORCED TOGETHER.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

3 HAY BALE DETAIL

N.T.S.

MARK	DESCRIPTION	DATE	DES	CHK

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10.15.16

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Village of Nyack
9 North Broadway
Nyack, NY 10960

DATE: 06/15/2016

DETAILS

Foot of Burd Street
Nyack, NY 10960

Sediment Removal
Nyack Municipal Marina

SHEET ID
C-04

Attachment C

FEMA Grant

PA-02-NY-4085-PW-03387(0) P	
Applicant Name:	Application Title:
NYACK	5410004 - A - Sediment Removal from the marina
Period of Performance Start:	Period of Performance End:
10-30-2012	04-30-2013

Bundle Reference # (Amendment #)	Date Awarded

Subgrant Application - FEMA Form 90-91

Note: The Effective Cost Share for this application is 90%

FEDERAL EMERGENCY MANAGEMENT AGENCY
PROJECT WORKSHEET

DISASTER	PROJECT NO.	PA ID NO.	DATE	CATEGORY
FEMA 4085 - DR -NY	5410004	087-54100-00	10-22-2013	A

APPLICANT: NYACK	WORK COMPLETE AS OF: 08-01-2013 : 0 %

Site 1 of 1

DAMAGED FACILITY: Nyack Marina	COUNTY: Rockland

LOCATION:	LATITUDE:	LONGITUDE:
Current Version: Nyack Marina located at the foot of Burd Street. GPS Coordinates: 41.08927 -73.91581	41.08927	-73.91581

DAMAGE DESCRIPTION AND DIMENSIONS:

Current Version:

During the incident period of October 27, 2012 through November 8, 2012, the Hurricane Sandy storm surge deposited 7,460 CY of mud debris into the Village of Nyack Marina, leaving the marina in a non-operational status. The municipally owned and operated marina rents docking space to the public at 36 boat slips at this facility and was operating normally up to the date of the storm event.

Marina was divided into 8 subareas (A-H):
Area A is 60 ft. x 140 ft. = 8400 sq.ft.
Area B is 60 ft. x 122 ft. = 7320 sq.ft.
Area C is 60 ft. x 122 ft. = 7320 sq.ft.
Area D is 60 ft. x 140 ft. = 8400 sq.ft.
Area E is irregular shaped = 3203 sq.ft.
Area F is irregular shaped = 4571 sq.ft.
Area G is irregular shaped = 6046 sq.ft.
Area H is irregular shaped = 3935 sq.ft.
- See Project Notes for volume calculations.

Due to the quantity (7460 CY) of mud that was washed into the marina, the average mud-line elevation (depth) of the marina was reduced from -3.6 ft. (3.1 ft. below Mean Low Water (MLW)) to an average post storm elevation of +0.1 (0.6 ft. above MLW). Average depth of silt is 3.7 ft. As the marina enclosed area is now above water for part of every day, the facility is unusable for its intended purpose. (See project note for methodology explanation.)

SCOPE OF WORK:

Current Version:

WORK TO BE COMPLETED

Applicant will CONTRACT with dredging contractor to remove 7,460 CY of mud and silt debris from the marina enclosed area. The

estimated cost for this dredging process is $54.12 per CY = $403,735.20, (assuming clean sediment).
A tug boat will bring in two barges (barge carrying excavator equipment and hopper barge, measuring 190 ft. x 35 ft. wide x 12 ft. depth). The excavated debris will be placed into the hopper. If the sediment is clean, the contractor will have the hopper barge towed to an approved disposal site, according to regulations governing the disposal of clean sediment. If the sediment is contaminated, the contractor will follow the disposal regulations governing contaminated sediment, which will incur additional costs.
Costs will include mobilization and demobilization of equipment, labor and the disposal of clean sediment. The applicant has submitted historical data regarding the cost of marina dredging ranging from $34.00 per CY to $378.00 per CY. (See attachment).
Total Estimated Cost for work to be completed: $403,735.20

PROJECT NOTES:
Debris volume survey methods: On 7/19/2013, Mr. Lukman Osi, EIT, of BlueShore Engineering, visited the site to measure the current post storm marina bathymetry. Soundings were taken by lead line along the perimeter of the marina. Mudline elevations were converted to NGVD29 for comparison with prior surveys of the site. Prior surveyed elevations were obtained from a survey by Donald R. Stedge, LS, PC, dated 3/29/1999. Based on a comparison of the survey conducted on 7/19/2013 and the previous conducted on 3/29/1999, the marina basin extending to the outer edge of the marina access channel at the Hudson River has an area of 1.25 acres, with an average depth change of 3.7 ft. The average pre-storm mudline elevation was -3.6 ft. (3.1 ft. below MLW). The average post storm elevations is +.1 (0.6 ft. above MLW). Average depth of silt is 3.7 ft.

Dimensions-Volume and Dredging Calculations:
The enclosed area of the marina was broken into eight zones for volume calculation purposes (see attached map for A-H area descriptions). Areas A-D measurements taken in the field, areas E-H surface area numbers were derived from CAD plans. PS was able to verify total area and some sub-areas as well as the total volume using the average depth and independent total area calculations.

Volume for Areas A-D = average the depth from all four corners of the subarea and multiply by the area.
Volume for Areas E-H = used an average depth and subarea total surface area.

Volume A: (4.4 + 1.75 + 5.1 + 3.6)/4 x 60 x 140 = 31,185 cu.ft./27 = 1,155 cu.yd.
Volume B: (2.7 + 4.4 + 6.0 + 5.1)/4 x 60 x 122 = 33,306 cu.ft./27 = 1,233 cu.yd.
Volume C: (5.0 + 0.5 + 4.0+ 5.1)/4 x 60 X 122 = 26,718 cu.ft./27 = 990 cu.yd.
Volume D: (4.0 + 5.1 + 4.9 + 3.6)/4 x 60 x 140 = 36,960 cu.ft./27 = 1,368 cu.yd.
Volume E: Area E x depth = 3,203 x (2.2) = 7,046 cu.ft./27 = 261 cu.yd.
Volume F: Area F x depth = 4,571 x (2.7) = 12,341 cu.ft./27 = 457 cu.yd.
Volume G: Area G x depth = 6,046 x (5.4) = 32,650 cu.ft./27 = 1,209 cu.yd.
Volume H: Area H x depth = 3,935 x (5.4) = 21,249 cu.ft./27 = 787 cu.yd.

Total Volume = 1,155 cu.yd.(Area A) + 1,233 cu.yd.(Area B) + 990 cu.yd.(Area C) + 1,368 cu.yd.(Area D) + 261 cu.yd.(Area E) + 457 cu.yd.(Area F) + 1,207 cu.yd.(Area G) + 787 cu.yd (Area H) = 7,460 CY of mud and silt debris.

LACK OF PREVIOUS DAMAGE: The applicant has provided the necessary documents proving that previous storms like Hurricane Lee, Irene and other events did not contribute to the marina being in non-operational status and was operating during the normal 2012 season until the advent of Super storm Sandy. See attached maps showing depths in the marina at various dates.

RECORD RETENTION: Complete records and cost documents for all approved work must be maintained for at least 3 years from the date the last project was completed or from the date final payment was received, whichever is later. Applicant is responsible for retention of all documentation associated with this project.

SUPPORTING DOCUMENTATION: 20% or more of the documentation to support this project has been reviewed and verified by the Applicant and Project Specialist for eligibility and correctness.

PROCUREMENT: The applicant is required to adhere to State Government Procurement rules and regulations and maintain adequate records to support the basis for all purchasing of goods and materials and contracting services for projects approved under the Public Assistance program, as stated in 44 CFR 13.36. The applicant has advised they have/will follow their normal procurement procedures.

DEBRIS REMOVAL RESPONSIBILITY: The applicant is responsible for ensuring that applicant managed debris removal work (either force account or contract) being funded through Public Assistance grants is eligible in accordance with Public Assistance Guidelines. Public Assistance applicants should monitor debris removal operations and document eligible quantities and reasonable expenses to ensure that the work is eligible for Public Assistance grant funding. Failure to do so may jeopardize this funding.

PERMITS: The PA Project Specialist has advised the Applicant that it is their responsibility to obtain all applicable local, state and federal permits prior to any construction or debris disposal activity referenced on this project. Applicant has also been advised that the lack of obtaining and maintaining these documents may jeopardize funding.

INSURANCE: The applicant is aware that all projects are subject to an insurance review as stated in 44 C.F.R. Sections 206.252 and 206.253.If applicable an insurance determination will be made either as anticipated proceeds or actual proceeds in accordance with the applicant's insurance policy that may affect the total amount of the project.

DAC: The Sub-grantee is requesting DIRECT ADMINISTRATIVE COSTS that are directly chargeable to this specific project. Associated eligible work is related to administration of the PA project only and in accordance with 44 CFR §13.22. These costs are treated consistently and uniformly as direct costs in all federal awards and other Sub-grantee activities are not included in any approved indirect cost rates.

SANDY RECOVERY IMPROVEMENT ACT (SRIA): Funds obligated pursuant to this Project Worksheet (PW) are subject to expenditure time limits imposed under Section 904(c) of the Disaster Relief Appropriations Act, 2013, P. L. 113–2, and are required to be expended by the grantee or sub-grantee (paid as an outlay of money in furtherance of the grant purpose) within 730 days of the date FEMA obligates

the funds for this PW in its financial system. Any funds not expended by the grantee or sub-grantee within 730 days will be de-obligated by FEMA within 30 days from the end of this 730 day period and any funds withdrawn and not expended must be returned to FEMA within 30 days from the end of the 730 day period, ceasing FEMA's financial liability.

Does the Scope of Work change the pre-disaster conditions at the site? ☐ Yes ☑ No	Special Considerations included? ☑ Yes ☐ No
Hazard Mitigation proposal included? ☐ Yes ☑ No	Is there insurance coverage on this facility? ☑ Yes ☐ No

PROJECT COST

ITEM	CODE	NARRATIVE	QUANTITY/UNIT	UNIT PRICE	COST
		*** Version 0 ***			
1	0000	Work to be Completed	0/LS	$ 0.00	$ 0.00
		Work Completed			
2	3510	Engineering And Design Services	8/HR	$ 115.00	$ 920.00
3	9901	Direct Administrative Costs (Subgrantee)	8/HR	$ 60.98	$ 487.84
		Work To Be Completed			
4	1010	Debris (Sediments, Concentrated)	7460/CY	$ 54.12	$ 403,735.20
				TOTAL COST	$ 405,143.04

PREPARED BY HENRY WALKER	TITLE PAC Crew Leader	SIGNATURE
APPLICANT REP. James Politi	TITLE Village Administrator	SIGNATURE

Attachment D

Sediment Sampling Laboratory Results

AKRF, Inc.
Environmental Planning Consultants
7250 Parkway Drive
Suite 210
Hanover, MD 21076
tel: 410 712-4848
fax: 410 712-4966
www.akrf.com

November 5, 2015

Catherine Hanna
BlueShore Engineering LLC
1029 Teaneck Road, 2nd Floor
Teaneck, NJ 07666

Re: Nyack Municipal Marina Sediment Data Package

Dear Catherine:

ARKF, Inc. received the following sediment data from Princeton Hydro:

- Grain size, total organic carbon, and volatile organic compounds were received on August 7, 2015.
- Semi volatile organic compounds, PCBs, pesticides/herbicides, and metals from the composited A and B layers were received on September 1, 2015.
- Mirex was analyzed separately and received on September 4, 2015.
- AKRF determined that the C layer should be analyzed for a select number of compounds. In addition, it was confirmed that dioxin had not analyzed; therefore, Princeton Hydro requested a TIC analysis from the lab to determine presence/absence of dioxin. These data were received on September 28, 2015.
- AKRF identified certain VOC analytes that were listed in the Sediment Sampling Plan, but not included in the first data report. Princeton Hydro provided the missing data on October 15, 2015.
- AKRF determined that arsenic should have also been analyzed in the C layer and requested this from Princeton Hydro. It was received on October 30, 2015.

The data reports from Princeton Hydro were amended with each submittal, so we've provided just the final data package that contains all data described in the Sediment Sampling Plan. Please let me know if you would like any additional information.

Sincerely,

Christy Stoll
Technical Director

cc: Sandy Collins
Emma Powell

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Princeton Hydro, LLC
Project: NYACK MARINA
Lab Case No.: E15-06682

Lab ID:	**06682-001**			**06682-002**			**06682-003**			**06682-004**		
Client ID:	**A-COMP**			**B-COMP**			**C-COMP**			**1-A**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
Acetone	~		~	~		~	~		~	0.174	D	0.0078
Methylene chloride	~		~	~		~	~		~	0.074	CD	0.022
Tetrachloroethene	~		~	~		~	~		~	0.040	D	0.00554
Total Xylenes	~		~	~		~	~		~	0.013	DJ	0.00899
n-Propylbenzene	~		~	~		~	~		~	ND		0.00543
1,3,5-Trimethylbenzene	~		~	~		~	~		~	ND		0.0052
tert-Butylbenzene	~		~	~		~	~		~	ND		0.00637
1,2,4-Trimethylbenzene	~		~	~		~	~		~	0.00963	DJ	0.00483
sec-Butylbenzene	~		~	~		~	~		~	ND		0.00754
n-Butylbenzene	~		~	~		~	~		~	ND		0.00662
TOTAL VO's:	~		~	~		~	~		~	0.311	CDJ	
TOTAL TIC's:	~		~	~		~	~		~	ND		
TOTAL VO's & TIC's:	~		~	~		~	~		~	0.311	CDJ	
General Analytical (Units)												
Total Organic Carbon (TOC)(mg/Kg)	26300		588	22100		588	21000		588	~		~
Particle Size (%) (Units)	***%***			***%***			***%***			***%***		
Particle Size	0.00		NA	0.00		NA	0.00		NA	~		~
on #4 screen	0		NA	0		NA	0		NA	~		~
on #10 screen	0		NA	0.63		NA	0.67		NA	~		~
on #40 screen	42.43		NA	43.02		NA	41.75		NA	~		~
on #200 screen	27.47		NA	29.93		NA	32.07		NA	~		~
% fines	29.95		NA	26.28		NA	25.41		NA	~		~
Particle Size (%) (Units)	***%***			***%***			***%***			***%***		
% Gravel	0		NA	0		NA	0		NA	~		~
% Coarse Sand	0		NA	0.63		NA	0.67		NA	~		~
% Medium Sand	42.43		NA	43.02		NA	41.75		NA	~		~
% Fine Sand	27.47		NA	29.93		NA	32.07		NA	~		~
% Silt & Clay	29.95		NA	26.28		NA	25.41		NA	~		~

~ = Sample not analyzed for
ND = Analyzed for but Not Detected at the MDL
J = Concentration detected at a value below the RL and above the MDL for target compounds. For non-target compounds (i.e. TICs), qualifier indicates estimated concentrations.
D = The compound was reported from the Diluted analysis
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.
C = Common Laboratory and/or Bottle Contaminant.
N = Presumptive evidence of a compound from the use of GC/MS library search.
Subcontracted Results for Mirex (Method 8081A) by EMSL are available in the Subcontracted Report section

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Princeton Hydro, LLC
Project: NYACK MARINA
Lab Case No.: E15-06682

Lab ID:	**06682-005**			**06682-006**			**06682-007**			**06682-008**		
Client ID:	**1-B**			**2-A**			**2-B**			**3-A**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (Units)	*(mg/Kg)*			*(mg/Kg)*			*(mg/Kg)*			*(mg/Kg)*		
Acetone	0.090	D	0.00645	0.148	D	0.0079	0.199	D	0.00744	0.118	D	0.0079
Methylene chloride	0.063	CD	0.018	0.072	CD	0.023	0.074	CD	0.021	0.067	CD	0.023
2-Butanone (MEK)	ND		0.00693	0.027	D	0.00848	0.042	D	0.00799	0.018	D	0.00848
Tetrachloroethene	0.034	D	0.00458	0.042	D	0.00561	0.047	D	0.00529	0.035	D	0.00561
Total Xylenes	0.011	DJ	0.00744	0.013	DJ	0.00911	0.012	DJ	0.00858	0.014	DJ	0.00911
n-Propylbenzene	ND		0.00449	ND		0.0055	ND		0.00518	ND		0.0055
1,3,5-Trimethylbenzene	ND		0.00431	ND		0.00527	ND		0.00497	0.00565	DJ	0.00527
tert-Butylbenzene	ND		0.00527	ND		0.00645	ND		0.00608	ND		0.00645
1,2,4-Trimethylbenzene	0.00945	D	0.004	0.018	D	0.0049	0.012	D	0.00461	0.020	D	0.0049
sec-Butylbenzene	ND		0.00624	ND		0.00764	ND		0.0072	ND		0.00764
n-Butylbenzene	ND		0.00548	ND		0.00671	ND		0.00632	ND		0.00671
TOTAL VO's:	0.207	CDJ		0.320	CDJ		0.387	CDJ		0.277	CDJ	
TOTAL TIC's:	ND			ND			ND			ND		
TOTAL VO's & TIC's:	0.207	CDJ		0.320	CDJ		0.387	CDJ		0.277	CDJ	

Lab ID:	**06682-009**			**06682-010**			**06682-011**			**06682-012**		
Client ID:	**3-B**			**A-COMP**			**B-COMP**			**C-COMP**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Volatiles (Units)	*(mg/Kg)*			*(mg/Kg)*			*(mg/Kg)*			*(mg/Kg)*		
Acetone	0.154	D	0.0074	~		~	~		~	~		~
Carbon disulfide	0.011	D	0.00607	~		~	~		~	~		~
Methylene chloride	0.062	CD	0.021	~		~	~		~	~		~
2-Butanone (MEK)	0.029	D	0.00794	~		~	~		~	~		~
Tetrachloroethene	0.046	D	0.00526	~		~	~		~	~		~
Total Xylenes	0.012	DJ	0.00853	~		~	~		~	~		~
n-Propylbenzene	ND		0.00515	~		~	~		~	~		~
1,3,5-Trimethylbenzene	ND		0.00494	~		~	~		~	~		~
tert-Butylbenzene	ND		0.00604	~		~	~		~	~		~
1,2,4-Trimethylbenzene	0.012	D	0.00459	~		~	~		~	~		~
sec-Butylbenzene	ND		0.00716	~		~	~		~	~		~
n-Butylbenzene	ND		0.00629	~		~	~		~	~		~
TOTAL VO's:	0.325	CDJ		~		~	~		~	~		~
TOTAL TIC's:	ND			~		~	~		~	~		~
TOTAL VO's & TIC's:	0.325	CDJ		~		~	~		~	~		~

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N = Presumptive evidence of a compound from the use of GC/MS library search.
Subcontracted Results for Mirex (Method 8081A) by EMSL are available in the Subcontracted Report section

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Princeton Hydro, LLC
Project: NYACK MARINA
Lab Case No.: E15-06682

Lab ID:	**06682-009**			**06682-010**			**06682-011**			**06682-012**		
Client ID:	**3-B**			**A-COMP**			**B-COMP**			**C-COMP**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Semivolatiles - BNA (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
Naphthalene	~		~	ND		0.049	0.058	J	0.043	~		~
Acenaphthylene	~		~	0.098		0.057	0.149		0.050	~		~
Acenaphthene	~		~	ND		0.062	0.062	J	0.054	~		~
Fluorene	~		~	0.070	J	0.049	0.085		0.043	~		~
Phenanthrene	~		~	0.745		0.049	0.583		0.043	~		~
Anthracene	~		~	0.222		0.049	0.240		0.043	~		~
Carbazole	~		~	0.083		0.049	0.052	J	0.043	~		~
Fluoranthene	~		~	2.03		0.049	1.45		0.043	~		~
Pyrene	~		~	1.75		0.049	1.47		0.043	~		~
Benzo[a]anthracene	~		~	0.923		0.049	0.806		0.043	~		~
Chrysene	~		~	1.01		0.049	0.865		0.043	~		~
Bis(2-ethylhexyl) phthalate	~		~	0.347		0.049	0.175		0.043	~		~
Benzo[b]fluoranthene	~		~	0.969		0.049	0.744		0.043	~		~
Benzo[k]fluoranthene	~		~	0.500		0.049	0.466		0.043	~		~
Benzo[a]pyrene	~		~	0.749		0.049	0.701		0.043	~		~
Indeno[1,2,3-cd]pyrene	~		~	0.533		0.072	0.439		0.063	~		~
Dibenz[a,h]anthracene	~		~	0.266		0.049	0.236		0.043	~		~
Benzo[g,h,i]perylene	~		~	0.594		0.049	0.497		0.043	~		~
TOTAL BNA'S:	~		~	10.9	J		9.08	J		~		~
TOTAL TIC's & Dioxin:	~		~	49.4	JN		60.7	JN		~		~
TOTAL BNA'S & TIC's:	~		~	60.3	JN		69.8	JN		~		~
PCB's (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
Aroclor-1016	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1221	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1232	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1242	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1248	~		~	0.251		0.019	0.240		0.016	~		~
Aroclor-1254	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1260	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1262	~		~	ND		0.019	ND		0.016	~		~
Aroclor-1268	~		~	ND		0.019	ND		0.016	~		~
PCBs	~		~	0.251		0.019	0.240		0.016	~		~

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Subcontracted Results for Mirex (Method 8081A) by EMSL are available in the Subcontracted Report section

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Princeton Hydro, LLC
Project: NYACK MARINA
Lab Case No.: E15-06682

Lab ID:	**06682-009**			**06682-010**			**06682-011**			**06682-012**		
Client ID:	**3-B**			**A-COMP**			**B-COMP**			**C-COMP**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Pesticides (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
alpha-BHC	~		~	ND		0.00574	ND		0.00508	~		~
beta-BHC	~		~	ND		0.00574	ND		0.00508	~		~
gamma-BHC (Lindane)	~		~	ND		0.00574	ND		0.00508	~		~
delta-BHC	~		~	ND		0.00574	ND		0.00508	~		~
Heptachlor	~		~	ND		0.00574	ND		0.00508	~		~
Aldrin	~		~	ND		0.00574	ND		0.00508	~		~
Heptachlor epoxide	~		~	ND		0.00574	ND		0.00508	~		~
Endosulfan I	~		~	ND		0.00574	ND		0.00508	~		~
4,4'-DDE	~		~	ND		0.00574	0.00665	DJ	0.00508	ND		0.00391
Dieldrin	~		~	ND		0.00574	ND		0.00508	~		~
Endrin	~		~	ND		0.00574	ND		0.00508	~		~
Endosulfan II	~		~	ND		0.00574	ND		0.00508	~		~
4,4'-DDD	~		~	ND		0.00574	0.0068	DJ	0.00508	ND		0.00391
Endrin aldehyde	~		~	ND		0.00574	ND		0.00508	~		~
Endosulfan sulfate	~		~	ND		0.00574	ND		0.00508	~		~
4,4'-DDT	~		~	ND		0.00574	ND		0.00508	ND		0.00391
Endrin ketone	~		~	ND		0.00574	ND		0.00508	~		~
Methoxychlor	~		~	ND		0.00574	ND		0.00508	~		~
alpha-Chlordane	~		~	ND		0.00574	ND		0.00508	~		~
gamma-Chlordane	~		~	ND		0.00574	ND		0.00508	~		~
Toxaphene	~		~	ND		0.069	ND		0.061	~		~
Endosulfan (I and II)	~		~	ND		0.00574	ND		0.00508	~		~
Chlordane (alpha and gamma)	~		~	ND		0.00574	ND		0.00508	~		~
Herbicides (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
Dalapon	~		~	ND		0.016	ND		0.014	~		~
Dicamba	~		~	ND		0.016	ND		0.014	~		~
2,4-D	~		~	ND		0.016	ND		0.014	~		~
2,4,5-TP (Silvex)	~		~	ND		0.016	ND		0.014	~		~
2,4,5-T	~		~	ND		0.016	ND		0.014	~		~
2,4-DB	~		~	ND		0.016	ND		0.014	~		~
Dinoseb	~		~	ND		0.016	ND		0.014	~		~

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INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: Princeton Hydro, LLC
Project: NYACK MARINA
Lab Case No.: E15-06682

Lab ID:	**06682-009**			**06682-010**			**06682-011**			**06682-012**		
Client ID:	**3-B**			**A-COMP**			**B-COMP**			**C-COMP**		
Matrix:	**Soil**			**Soil**			**Soil**			**Soil**		
Sampled Date	**7/28/15**			**7/28/15**			**7/28/15**			**7/28/15**		
PARAMETER(Units)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
Metals (Units)	***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***			***(mg/Kg)***		
Aluminum	~		~	15900		1.34	20200		1.16	~		~
Antimony	~		~	0.912	J	0.668	2.06		0.579	~		~
Arsenic	~		~	8.00		0.668	15.0		0.579	22.3		0.529
Barium	~		~	74.4		1.34	132		1.16	~		~
Beryllium	~		~	0.877	J	0.534	1.16	J	0.464	~		~
Cadmium	~		~	1.31	J	0.334	3.38		0.290	~		~
Calcium	~		~	3890		13.4	6370		11.6	~		~
Chromium	~		~	67.1		1.34	116		1.16	~		~
Cobalt	~		~	11.7		1.34	15.2		1.16	~		~
Copper	~		~	87.9		1.34	160		1.16	~		~
Iron	~		~	30100		13.4	38700		11.6	~		~
Lead	~		~	118		1.34	355		1.16	283		1.06
Magnesium	~		~	6320		13.4	8300		11.6	~		~
Manganese	~		~	466		0.668	567		0.579	~		~
Mercury	~		~	0.483		0.0063	2.34		0.0064	1.06		0.0054
Nickel	~		~	28.9		1.34	39.3		1.16	~		~
Potassium	~		~	3020		13.4	3640		11.6	~		~
Selenium	~		~	ND		1.34	3.15		1.16	~		~
Silver	~		~	2.08		0.334	4.22		0.290	~		~
Sodium	~		~	2130		13.4	2120		11.6	~		~
Thallium	~		~	1.90		0.334	0.763	J	0.290	~		~
Vanadium	~		~	35.3		1.34	48.3		1.16	~		~
Zinc	~		~	218		1.34	380		1.16	~		~
General Analytical (Units)												
Hexavalent Chromium(mg/Kg)	~		~	ND		0.413	ND		0.361	~		~
Cyanide, Total(mg/Kg)	~		~	ND		1.11	ND		0.974	~		~

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ND = Analyzed for but Not Detected at the MDL
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INTEGRATED ANALYTICAL LABORATORIES, LLC.

Semivolatile Organics TIC Summary

CAS #:TIC Name	Conc	Q	RTime
Lab ID: 06682-010			
000243-17-4:11H-Benzo[b]fluorene	0.399	JN	6.99
000541-02-6:Cyclopentasiloxane, de	0.334	JN	3.85
001746-01-6:Dioxin (2,3,7,8_TCDD	ND		NA
010544-50-0:Cyclic octaatomic sulfu	48.7	JN	6.31
Lab ID: 06682-011			
000192-97-2:Benzo[e]pyrene	0.723	JN	8.59
000243-17-4:11H-Benzo[b]fluorene	0.340	JN	6.99
001746-01-6:Dioxin (2,3,7,8_TCDD	ND		NA
010544-50-0:Cyclic octaatomic sulfu	59.6	JN	6.31

Conc = Estimated Concentration
RTime = Retention Time
D = Dilution required for this compound
J = Estimated concentration for TICs
N = Presumptive evidence of a compound from the use of GC/MS library search

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Evan D. Manganaro**
Integrated Analytical Laboratories
PO Box 8026
Parsippany, NJ 07054

Phone: (973) 361-4252
Fax: (973) 989-5288

8/25/2015

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 8/17/2015. The results are tabulated on the attached data pages for the following client designated project:

E15-06682

The reference number for these samples is EMSL Order #011504698. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Reviewed and Approved By:

Julie Smith - Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367

The samples were received outside of the method hold time.

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

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EMSL Order:	011504698
CustomerID:	INAN50
CustomerPO:	
ProjectID:	

Attn: **Evan D. Manganaro**
Integrated Analytical Laboratories
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Phone: (973) 361-4252
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Received: 08/17/15 10:25 AM

Project: **E15-06682**

Analytical Results

Client Sample Description E15-06682-010 ***Collected:*** 7/28/2015 ***Lab ID:*** *0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
SM 2540G	Total Solids	42	N/A	%	8/19/2015	TD	8/19/2015	TD
8081B	Mirex	ND	3.9	µg/Kg	8/21/2015	TC	8/24/2015	TL

Client Sample Description E15-06682-011 ***Collected:*** 7/28/2015 ***Lab ID:*** *0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
SM 2540G	Total Solids	50	N/A	%	8/19/2015	TD	8/19/2015	TD
8081B	Mirex	ND	3.3	µg/Kg	8/21/2015	TC	8/25/2015	TL

Definitions:

ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit