



Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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September 27, 2019

VIA UPS

Application Support
New Jersey Department of Environmental Protection
Division of Land Use Regulation
501 E. State Street
Station Plaza Five, 2nd Floor
Trenton, NJ 08609

Re: Waterfront Development Individual Permit Application
Battin Road Boat Ramp Reconstruction
Terminus of Battin Road
Borough of Fair Haven, Monmouth County, NJ
MC Project No. 17004982B

Dear Sir/Madam:

On behalf of the applicant, the Borough of Fair Haven, Maser Consulting P.A. respectfully submits this application for a Waterfront Development Individual Permit for the reconstruction of Battin Road Boat Ramp and associated improvements at this waterfront access along the Navesink River. The project will occur within the municipally owned Battin Road Right-of-Way in the Borough of Fair Haven in Monmouth County, New Jersey.

The following items are enclosed for your consideration:

1. Executed DLUR Application Form;
2. Check No. 167197 for the application fee of \$3,000.00 made payable to "Treasurer, State of New Jersey";
3. Certified receipts as proof that a notification letter was sent to the Borough of Fair Haven Municipal Clerk, Borough of Fair Haven Planning Board, Borough of Fair Haven Environmental Commission, Borough of Fair Haven Construction Official, Monmouth County Planning Board, Monmouth County Soil Conservation District, and all property owners within 200 feet of the site; a copy of the notification letter; and a copy of the 200' property owners list;
4. UPS receipt as proof that a copy of the application was sent to the municipal clerk;



5. Three (3) copies of the “Waterfront Development Permit Compliance and Environmental Impact Statement for Battin Road Boat Ramp Reconstruction, Terminus of Battin Road at the Navesink River, Borough of Fair Haven, Monmouth County, New Jersey”, dated September 2019, including copies of the municipal tax map, up-to-date county road map, and USGS quad map with the site clearly outlined, site photographs, and the results of a Natural Heritage Program database search; and
6. Three (3) copies of the “Construction Plans for Bulkhead Replacement Grange Avenue & Hance Road Pocket Parks and Battin Road Boat Ramp Replacement” Sheets S-3.1, S-3.2, S-3.3, C-1, SE-1, ST-1 through ST-7 dated April, 2 2019, last revised July 23, 2019 and prepared by Maser Consulting P.A.

Please note a Sampling Plan was previously submitted to the office of Dredging and Sediment Technology.

Please let us know if you have any questions or require additional information. I can be reached at jlayton@maserconsulting.com or by telephone at (732) 383-1950.

Very truly yours,

MASER CONSULTING P.A.



Joseph P. Layton
Assistant Department Manager, Ecological Services

JPL/JMM/smk

Enclosures

cc: Borough of Fair Haven Municipal Clerk, w/enclosure

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State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation

Application Form for Permit(s)/Authorization(s)
501 E. State Street Mail Code 501-02A P.O. Box 420
Trenton, NJ 08625-0420

Phone #: (609) 777-0454 Web: www.nj.gov/dep/landuse



Please print legibly or type the following: Complete all sections and pages unless otherwise noted. Is this project a NJDOT Priority 1 Repair Project? Yes ☐ No ☒
Is this project a NJDOT Priority 2 Repair Project? Yes ☐ No ☒

1. Applicant Name: Mr./Ms./Mrs. Borough of Fair Haven E-Mail: _____
Address: 748 River Road Daytime Phone: _____ Ext. _____
City/State: Fair Haven, NJ Zip Code 07704 Cell Phone: _____
2. Agent Name: Mr./Ms./Mrs. Joseph P. Layton E-Mail: jlayton@maserconsulting.com
Firm Name: Maser Consulting P.A. Daytime Phone: 732-383-1950 Ext. 3363
Address: 331 Newman Springs Road, Suite 203 Zip Code 07701 Cell Phone: _____
City/State: Red Bank, NJ
3. Property Owner: Mr./Ms./Mrs. Borough of Fair Haven E-mail: _____
Address: 748 River Road Daytime Phone: _____ Ext. _____
City/State: Fair Haven, NJ Zip Code 07704 Cell Phone: _____
4. Project Name: Battin Road Boat Ramp Address/Location: Terminus of Battin Road
Municipality: Borough of Fair Haven County: Monmouth Zip Code 07704
Block(s): Battin Road R-O-W Lot(s): Battin Road R-O-W
N.A.D. 1983 State Plane Coordinates (feet) E (x): 619,731 N(y): 558,707 Not Longitude/Latitude
Watershed: Navesink R/Lower Shrewsbury R Subwatershed: Navesink R(belRt 35)/Lower Shrewsbury
Nearest Waterway: Navesink River
5. Project Description: The Borough is seeking to reconstruct the existing boat ramp, including bulkhead reconstruction and extension, and the addition of a dock, gangway, and floating dock.
The Borough also proposes dredging in the immediate vicinity of the boat ramp.

Provide if applicable: Previous LUR File # (s): _____ Waiver request ID # (s): _____

A. SIGNATURE OF APPLICANT (required):

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment. If the applicant is an organization such as a corporation, municipal entity, home-owners association etc., the party responsible for the application shall sign on behalf of the organization.

Signature of Applicant

Date

Theresa S. Casagrande, Borough Administrator

Print Name

Signature of Applicant

Date

Print Name

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby given to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement? Yes ☐ No ☒
(If answer is "Yes" – Signature/title of responsible party is required below)
2. Whether any part of the entire project will be located within property belonging to the State of New Jersey? Yes ☐ No ☒
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres? Yes ☐ No ☒
4. Whether this project requires a Section 106 (National Register of Historic Places) Determination as part of a federal approval? Yes ☐ No ☒

Signature of Owner

Date

Theresa S. Casagrande, Borough Administrator

Print Name

Signature of Owner/Easement Holder

Date

Print Name/Title

C. APPLICANT'S AGENT

I, Theresa S. Casagrande, the Applicant/Owner and _____, co-Applicant/Owner authorize to act as my agent/representative in all matters pertaining to my application the following person:

Joseph P. Layton

Name of Agent

Environmental consultant

Occupation/Profession of Agent

Signature of Applicant/Owner

Signature of co-Applicant/Owner

AGENT'S CERTIFICATION:

I agree to serve as agent for the above referenced applicant:

Signature of Agent

Maser Consulting P.A.

Name of Firm

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Richard C. Maloney, P.E.

Print Name

Discipline Leader, Maser Consulting P.A.

Position & Name of Firm

GE39023

Professional License #

Date

E. STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Joseph P. Layton

Print Name

Principal Associate, Maser Consulting P.A.

Position & Name of Firm

N/A

Professional License #
(If Applicable)

Date

FEE CALCULATION TIPS:

- Whenever the calculation requires an acreage figure (including the Stormwater calculations), you will need to round UP to the nearest whole number, for example: 0.25 acres gets rounded up to one (1) acre or 2.61 acres gets rounded up to three (3) acres.
- The maximum fee for a CAFRA Individual permit, an Upland Waterfront Development permit, or an In-Water Waterfront Development permit is \$30,000 per permit type. For example: if you are applying for both an upland and an in-water Waterfront Development the maximum fee is applied to each permit for a maximum total of \$60,000 plus any applicable stormwater review fee.
- The stormwater review fee is applied only one time per project, maximum of \$20,000, regardless of multiple applications.

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Coastal General Permits	Fee Amount	Fee Paid
☐	CZMGP1 Amusement Pier Expansion	\$1,000.00	
☐	CZMGP2 Beach/Dune Activities	\$1,000.00	
☐	CZMGP3 Voluntary Reconstruction Certain Residential/Commercial Dev.	\$1,000.00	
☐	CZMGP4 Development of one or two SFH or Duplexes	\$1,000.00	
☐	CZMGP5 Expansion or Reconstruction SFH/Duplex	\$1,000.00	
☐	CZMGP6 New Bulkhead/Fill Lagoon	\$1,000.00	
☐	CZMGP7 Revetment at SFH/Duplex	\$1,000.00	
☐	CZMGP8 Gabions at SFH/Duplex	\$1,000.00	
☐	CZMGP9 Support Facilities at a Marina	\$1,000.00	
☐	CZMGP10 Reconstruction of Existing Bulkhead	\$1,000.00	
☐	CZMGP11 Hazard Waste Clean-up	\$1,000.00	
☐	CZMGP12 Landfall of Utilities	\$1,000.00	
☐	CZMGP13 Recreation Facility at Public Park	\$1,000.00	
☐	CZMGP14 Bulkhead Construction & Fill Placement	\$1,000.00	
☐	CZMGP15 Construction of Piers/Docks/Ramps in Lagoons	\$1,000.00	
☐	CZMGP16 Minor Maintenance Dredging in Lagoons	\$1,000.00	
☐	CZMGP17 Eroded Shoreline Stabilization	\$1,000.00	
☐	CZMGP18 Avian Nesting Structures	\$1,000.00	
☐	CZMGP19 Modification of Electrical Substations	\$1,000.00	
☐	CZMGP20 Legalization of the Filling of Tidelands	\$1,000.00	
☐	CZMGP21 Construction of Telecommunication Towers	\$1,000.00	
☐	CZMGP22 Construction of Tourism Structures	\$1,000.00	
☐	CZMGP23 Geotechnical Survey Borings	\$1,000.00	
☐	CZMGP24 Habitat Creation, Restoration, Enhancement, Living Shorelines	No Fee	No Fee
☐	CZMGP25 1 to 3 Turbines < 200 Feet	\$1,000.00	
☐	CZMGP26 Wind Turbines < 250 Feet	\$1,000.00	
☐	CZMGP27 Dredge Lagoon (post storm event)	\$1,000.00	
☐	CZMGP28 Dredge post Bulkhead Failure	\$1,000.00	
☐	CZMGP29 Dredge Marina (post storm event)	\$1,000.00	
☐	CZMGP30 Aquaculture Activities	\$1,000.00	
☐	CZMGP31 Placement of Shell (shellfish areas)	\$1,000.00	
☐	CZMGP32 Application of Herbicide in Coastal Wetlands	\$1,000.00	
☐	CZM Permit-by-Certification (On-line application ONLY)	\$1000.00	

	Coastal Individual Permits	Fee Amount	Fee Paid
☐	CAFRA – IP SFH or Duplex	\$2,000	
☐	CAFRA – IP Residential not SFH/duplex	\$3,000 x _____ # of units	
☐	CAFRA – IP Commercial, Industrial or Public	\$3,000 x _____ acres of the site	
☐	WD – IP SFH or Duplex (Upland/Landward of MHWL)	\$2,000	
☐	WD – IP Residential not SFH/duplex (Upland/Landward of MHWL)	\$3,000 x _____ # of units	
☐	WD – IP Commercial, Industrial or Public Development (Upland/Landward of MHWL)	\$3,000 x _____ acres of the site	
☐	WD – IP SFH or Duplex (Waterward of MHWL)	\$2,000	
☐	WD – IP Residential not SFH/duplex (Waterward of MHWL)	\$3,000 x _____ acres of water area impacted	
☒	WD – IP Commercial, Industrial or Public Development (Waterward of MHWL)	\$3,000 x _____ acres of water area impacted	\$3,000
☐	CSW – IP SFH or Duplex	\$2,000	
☐	CSW – IP All Development not SFH/duplex	\$3,000 x _____ acres of wetlands disturbed	

	Additional Coastal Authorizations	Fee Amount	Fee Paid
☐	Modification of a Coastal GP	\$500	
☐	Minor Technical Modification of a Coastal Wetland Permit	\$500 x _____ # of items to be revised	
☐	Minor Technical Modification of a CAFRA IP	\$500 x _____ # of items to be revised	
☐	Minor Technical Modification of a Waterfront IP	\$500 x _____ # of items to be revised	
☐	Major Technical Modification of a Coastal Wetland Permit	0.30 x _____ original fee = Fee (Minimum \$500)	
☐	Major Technical Modification of a CAFRA IP	0.30 x _____ original fee = Fee (Minimum \$500)	
☐	Major Technical Modification of a Waterfront IP	0.30 x _____ original fee = Fee (Minimum \$500)	
☐	Zane Letter (Waterfront Development Exemption)	\$500	
☐	CAFRA Exemption Request	\$500	
☐	CZM General Permit Extension	\$240 x _____ # of GPs to be extended	
☐	Waterfront Development Individual Permit – Extension (Waterward of MHWL)	0.25 x _____ original fee = Fee (Maximum \$3,000)	
☐	Meadowlands District Water Quality Certificate	\$5,000 + (\$2,500 x _____ # acres regulated area disturbed)	
☐	Individual Permit Equivalency/CERCLA	No Fee	No Fee

	Consistency Determination	Fee Amount	Fee Paid
☐	Water Quality Certificate (NOTE: No fee required under the coastal program)	\$5,000 + (\$2,500 x _____ # acres regulated area disturbed)	
☐	Federal Consistency	No Fee	No Fee

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Freshwater Wetlands General Permits	Fee Amount	Fee Paid
☐	FWGP1 Main. & Repair Exist Feature	\$1,000.00	
☐	FWGP2 Underground Utility Lines	\$1,000.00	
☐	FWGP3 Discharge of Return Water	\$1,000.00	
☐	FWGP4 Hazard Site Invest/Cleanup	\$1,000.00	
☐	FWGP5 Landfill Closures	\$1,000.00	
☐	FWGP6 Filling of Non-Tributary Wetlands	\$1,000.00	
☐	FWGP6A TA Adj. to Non-Tributary Wetlands	\$1,000.00	
☐	FWGP7 Human-made Ditches/Swales in Headwaters	\$1,000.00	
☐	FWGP8 House Additions	\$1,000.00	
☐	FWGP9 Airport Sight-line Clearing	\$1,000.00	
☐	FWGP10A Very Minor Road Crossings	\$1,000.00	
☐	FWGP10B Minor Road Crossings	\$1,000.00	
☐	FWGP11 Outfalls / Intakes Structures	\$1,000.00	
☐	FWGP12 Surveying and Investigating	\$1,000.00	
☐	FWGP13 Lake Dredging	\$1,000.00	
☐	FWGP14 Water Monitoring Devices	\$1,000.00	
☐	FWGP15 Mosquito Control Activities	\$1,000.00	
☐	FWGP16 Creation/Restoration/Enhancement Habitat	No Fee	No Fee
☐	FWGP17 Trails / Boardwalks	\$1,000.00	
☐	FWGP17A Non-Motorized Multi-Use Paths	\$1,000.00	
☐	FWGP18 Dam Repairs	\$1,000.00	
☐	FWGP19 Docks and Piers	\$1,000.00	
☐	FWGP20 Bank Stabilization	\$1,000.00	
☐	FWGP21 Above Ground Utility Lines	\$1,000.00	
☐	FWGP22 Expansion Cranberry Growing (Pinelands)	No Fee	No Fee
☐	FWGP23 Spring Developments	\$1,000.00	
☐	FWGP24 Malfunctioning Individual Septic Systems	No Fee	No Fee
☐	FWGP25 Minor Channel / Stream Cleaning	\$1,000.00	
☐	FWGP26 Redevelop Previously Disturbed Site	\$1,000.00	
☐	FWGP27 Application of herbicide in wetlands	\$1,000.00	

	Highlands	Fee Amount	Fee Paid
☐	Pre-application Meeting	\$500.00	
☐	Resource Area Determination Presence/Absence	\$500.00	
☐	Resource Area Determination $\leq$ one acre	\$500.00	
☐	Resource Area Determination > one acre	\$750 + (\$100 x _____ # of acres of the site)	
☐	Resource Area Determination Extension	0.25 x _____ original fee (Minimum \$500)	
☐	HPAAGP 1/ Habitat Creation/Enhance	No Fee	No Fee
☐	HPAAGP 2 Bank Stabilization	\$500.00	
☐	Preservation Area Approval (PAA)		
☐	PAA with Waiver (Specify type below)		
	Waiver Type:		
☐	HPAA Extension	\$1,000	

	Freshwater Individual Permits	Fee Amount	Fee Paid
☐	FWW IP-SFH/Duplex-Wetlands	\$2,000	
☐	FWW IP-Wetlands (not SFH/Duplex)	\$5,000 + (\$2,500 x _____ # acres FWW disturbed)	
☐	FWW IP-SFH/Duplex-Open Water	\$2,000	
☐	FWW IP-Open Water (not SFH/Duplex)	\$5,000 + (\$2,500 x _____ # acres FWW disturbed)	

	Freshwater Wetlands Transition Area Waivers	Fee Amount	Fee Paid
☐	TAW Averaging Plan	With valid LOI \$1,000 + (\$100 x _____ # acres TA disturbed)	
☐	TAW Hardship Reduction		
☐	TAW Reduction per N.J.A.C. 7:7A-8.1(d)		
☐	TAW Special Activity Individual Permit		
☐	TAW Special Activity Linear Development	Without valid LOI \$1000 + (\$100 x _____ acres TA disturbed) + LOI Fee	
☐	TAW Special Activity Redevelopment		
☐	TAW Special Activity Stormwater		

	Letter of Interpretation	Fee Amount	Fee Paid
☐	LOI Presence Absence	\$1,000.00	
☐	LOI Footprint of Disturbance (3 Maximum)	\$1,000.00 each	
☐	LOI Delineation $\leq$ 1.00 Acres	\$1,000.00	
☐	LOI Verification	\$1,000 + (\$100 x _____ # of acres of the site)	
☐	LOI Partial Site Verification	\$1,000 + (\$100 x _____ # of acres of the site subject to LOI)	
☐	LOI Extension Presence/Absence, Footprint, Delineation < 1 acre (Re-Issuance)	\$500	
☐	LOI Extension Line Verification (Re-Issuance)	0.50 x _____ original fee (Minimum \$500)	

	Additional Freshwater Wetlands Authorizations	Fee Amount	Fee Paid
☐	FWGP Administrative Modification	No fee	No Fee
☐	FWGP Minor technical modification	\$500.00	
☐	FWGP Major technical modification	\$500.00	
☐	Individual Permit Administrative Modification	No Fee	No Fee
☐	Individual Permit Minor Technical Modification	\$500.00	
☐	Individual Permit Major Technical Modification	0.30 x _____ original fee (Minimum \$500)	
☐	TAW Administrative Modification	No Fee	No Fee
☐	TAW Minor Technical Modification	\$500.00	
☐	TAW Major Technical Modification	0.30 x _____ original fee (Minimum \$500)	
☐	FWGP Extension	\$500 x _____ # of items to be extended	
☐	Individual Permit/Open Water Permit Extension	0.30 x _____ original fee (Minimum \$500)	
☐	TAW Extension	\$500 x _____ # of items to be extended	
☐	Freshwater Wetlands Exemption	\$500.00	
☐	TAW Exemption	\$500.00	
☐	Permit Equivalency/CERCLA	No Fee	No Fee

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

	Flood Hazard Area General Permits	Fee Amount	Fee Paid
☐	FHAGP1 Channel Clean w/o Sediment Removal	No Fee	
☐	FHAGP1 Channel Clean w/Sediment Removal	No Fee	
☐	FHAGP2 Mosquito Control	\$1,000.00	
☐	FHAGP3 Scour Protection Bridges/Culverts	\$1,000.00	
☐	FHAGP4 Creation/Restoration/Enhancement of Habitat and Water Quality Values and Functions	No Fee	
☐	FHAGP5 Reconstruction and/or Elevation of Building in a Floodway	No Fee	
☐	FHAGP6 Construction of One SFH/Duplex and Driveway	\$1,000.00	
☐	FHAGP7 Relocation of Manmade Roadside Ditches for Public Roadway Improvements	\$1,000.00	
☐	FHAGP8 Placement of Storage Tanks	\$1,000.00	
☐	FHAGP9 Construction/Reconstruction of Bridge/Culvert Across Water < 50 Acres	\$1,000.00	
☐	FHAGP10 Construction/Reconstruction of Bridge/Culvert Across Water > 50 Acres	\$1,000.00	
☐	FHAGP11 Stormwater Outfall Along Regulated Water <50 Acres	\$1,000.00	
☐	FHAGP12 Construction of Footbridges	\$1,000.00	
☐	FHAGP13 Construction of Trails and Boardwalks	\$1,000.00	
☐	FHAGP14 Application of herbicide in riparian zone	\$1,000.00	

	Flood Hazard Area Individual Permits	Fee Amount	Fee Paid
☐	FHA - IP SFH and/or Accessory Structures	\$2,000	
☐	Individual Permit (Fee is calculated by adding the base fee to the specific elements below)	\$3,000 Base Fee	
	FHA - IP Utility*	+\$1,000 x ____ # of water crossings)	
	FHA - IP Bank/Channel (No Calculation Review) *	+\$1,000	
	FHA - IP Bank/Channel (With Calculation Review) *	+\$4,000 + (\$400 x ____ per 100 linear ft.)	
	FHA - IP Bridge/Culvert/Footbridge/Low Dam (No Calculation Review)*	+\$1,000 x ____ # of structures)	
	FHA - IP Bridge/Culvert/Footbridge/Low Dam (With Calculation Review) *	+\$4,000 x ____ # of structures)	
	FHA - Review of Flood Storage Displacement (net fill) Calculations*	+\$4,000	
	Total	IP Review Fee	

	Flood Hazard Area Verifications	Fee Amount	Fee Paid
☐	Verification-Delineation of Riparian Zone Only	\$1,000	
☐	Verification-Method 1 (DEP Delineation) *	\$1,000	
☐	Verification-Method 2 (FEMA Tidal Method) *	\$1,000	
☐	Verification-Method 3 (FEMA Fluvial Method) *	\$1,000	
☐	Verification-Method 4 (FEMA Hydraulic Method)	\$4,000 + (\$400 x ____ per 100 linear feet)	
☐	Verification-Method 5 (Approximation Method) *	\$1,000	
☐	Verification-Method 6 (Calculation Method)	\$4,000+(\$400 x ____ per 100 linear feet)	

*Fee not applicable to (1) SFH

	Additional Flood Hazard Area Authorizations	Fee Amount	Fee Paid
☐	FHA Hardship Exception Request	\$4,000	
☐	FHA GP Administrative Modification	No Fee	No Fee
☐	FHA GP Minor technical modification	\$500 x ____ # of project elements to be revised	
☐	FHA GP Major technical modification	0.30 x ____ original fee (Minimum \$500)	
☐	FHA Individual Permit Administrative Modification	No Fee	No Fee
☐	FHA Individual Permit Minor Technical Modification	\$500 x ____ # of project elements to be revised	
☐	FHA Individual Permit Major Technical Modification	0.30 x ____ original fee (Minimum \$500)	
☐	FHA Verification Administrative Modification	No Fee	No Fee
☐	FHA Verification Minor Technical Modification	\$500 x ____ # of project elements to be revised	
☐	FHA Verification Major Technical Modification	0.30 x ____ original fee (Minimum \$500)	
☐	FHA GP Extension	\$240	
☐	FHA Individual Permit Extension	0.25 x ____ original fee	
☐	FHA Verification Extension of Methods 1, 2, 3, 5, or Riparian Zone Only	\$240	
☐	FHA Verification Extension of Methods 4 or 6	0.25 x ____ original fee	
☐	FHA Individual Permit Equivalency/CERCLA	No Fee	No Fee
☐	FHA GP Administrative Modification	No Fee	No Fee

	Stormwater Review Fee (Maximum Fee = \$20,000)	Fee Amount (Round UP to the nearest whole number)	Fee Paid
☐	Stormwater Review (Fee is calculated by adding the base fee to the specific elements below)	\$3,000 Base Fee	
	Review of Groundwater Calculations	+\$250 x ____ # acres disturbed	
	Review of Runoff Quantity Calculations	+\$250 x ____ # acres disturbed	
	Review of Water Quality Calculations	+\$250 x ____ # acres impervious surface	
	Total	Stormwater Review Fee	

	Applicability Determination	Fee Amount	Fee Paid
☐	Coastal Applicability Determination	No Fee	No Fee
☐	Flood Hazard Applicability Determination	No Fee	No Fee
☐	Highlands Jurisdictional Determination	No Fee	No Fee
☐	Executive Order 215	No Fee	No Fee

TOTAL FEE:	\$3,000.00
CHECK NUMBER:	

*Fee not applicable to (1) SFH

APPLICANT NAME: Borough of Fair Haven

FILE # (if known): _____

APPLICATION FORM - APPENDIX I

Section 1: Please provide the following information for the overall project site. All area measurements shall be recorded **in acres to the nearest thousandth** (0.001 acres).

<u>PROPOSED:</u>	<u>PRESERVED</u>	<u>UNDISTURBED</u>	<u>DISTURBED</u>
RIPARIAN ZONE	_____	_____	_____
CZMRA FORESTED (CZMRA IP – Only)	_____	_____	_____
E & T HABITAT Endangered and/or Threatened	_____	_____	_____
FRESHWATER WETLANDS	_____	_____	_____

Section 2: Please provide the following information for each permit/authorization requested pursuant to the Freshwater Wetlands Protection Act. All area measurements shall be recorded **in acres to the nearest thousandth** (0.001 acres). Use additional sheets if necessary

PERMIT TYPE	WETLAND TYPE <i>Emergent, Forest, Shrub, Etc.</i>	RESOURCE CLASSIFICATION <i>Ordinary, Intermediate, Exceptional, EPA, Etc.</i>	
<u>PROPOSED DISTURBANCE:</u>	<u>WETLANDS</u>	<u>TRANSITION AREA</u>	<u>SOW</u>
FILLED			
EXCAVATED			
CLEARED			
TEMPORARY DISTURBANCE			

PERMIT TYPE	WETLAND TYPE <i>Emergent, Forest, Shrub, Etc.</i>	RESOURCE CLASSIFICATION <i>Ordinary, Intermediate, Exceptional, EPA, Etc.</i>	
<u>PROPOSED DISTURBANCE:</u>	<u>WETLANDS</u>	<u>TRANSITION AREA</u>	<u>SOW</u>
FILLED			
EXCAVATED			
CLEARED			
TEMPORARY DISTURBANCE			



Firm Mailing Book For Accountable Mail

Name and Address of Sender		Check type of mail or service		Affix Stamp Here (for additional copies of this receipt). Postmark with Date of Receipt.													
USPS Tracking/Article Number		Addressee (Name, Street, City, State, & ZIP Code™)		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee	
17004982B 1d907000001 0417 6885		River Rate Inc. Box 144 Fair Haven, NJ 07704		50	350												
2. 9 3 . . 6892		Hugo C. Franco & M C ReJano 116 Battin Road Fair Haven, NJ 07704		1	1												
3. 9 . . . 690B		Brian & Aida Murphy 108 Battin Road Fair Haven, NJ 07704															
4. . . 6915		Richard J. & Theresa A. Mitola 100 Battin Road Fair Haven, NJ 07704															
5. . . 6922		Bonnie Torcivia 115 Battin Road Fair Haven, NJ 07704															
6. . . 6939		David R. & Sarah T. Fischell 71 Riverlawn Drive Fair Haven, NJ 07704															
7. 1 9 4 6946		John Monninger Trustee 6665 N. Ocean Blvd. Ocean Ridge, FL 33435															
8. . . 6953		Judy Torcivia 117 Battin Road Fair Haven, NJ 07704															
Total Number of Pieces Listed by Sender: 8		Total Number of Pieces Received at Post Office: 8		Postmaster, Per (Name of receiving employee):													



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Name and Address of Sender		Check type of mail or service		Affix Stamp Here (for additional copies of this receipt). Postmark with Date of Receipt.													
USPS Tracking/Article Number		Addressee (Name, Street, City, State, & ZIP Code™)		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee	
1 17 0049 82 B 6960		NJ American Water Company C/o Scott Segal One Water Street Camden, NJ 08102		-50	350												
2. 2 2 2 6977		Borough of Red Bank Department of Public Utilities Joseph E. Buonacquisti 75 Chestnut Street Red Bank, NJ 07701															
3. 6984		JCP&L Manager-Real Estate 300 Madison Avenue Morristown, NJ 07962															
4. 7 7 7 1020		NJ Natural Gas Company Joan Purcara, ROW & Claims Rep POB 1464 Wall, NJ 07719															
5 1019 0700 0001 0425 2596		Monmouth County Planning Board Director POB 1255 Freehold, NJ 07728															
6. 1 2 1 2602		TRWRA 1 Highland Avenue Monmouth Beach, NJ 07757															
7. 1 1 1 2619		Municipal Clerk Borough of Fair Haven 748 River Road Fair Haven, NJ 07704															
8. 2 6 2 2626		Planning Board Borough of Fair Haven 748 River Road Fair Haven, NJ 07704															
Total Number of Pieces Listed by Sender: 8		Total Number of Pieces Received at Post Office: 8		Postmaster, Per (Name of receiving employee)													



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Name and Address of Sender		Check type of mail or service		Affix Stamp Here (for additional copies of this receipt). Postmark with Date of Receipt.													
USPS Tracking/Article Number		Addressee (Name, Street, City, State, & ZIP Code™)		Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee	
17 004982B		☐ Adult Signature Required	☐ Priority Mail Express														
		☐ Adult Signature Restricted Delivery	☐ Registered Mail														
		☒ Certified Mail	☒ Return Receipt for Merchandise														
		☐ Certified Mail Restricted Delivery	☐ Signature Confirmation														
		☐ Collect on Delivery (COD)	☐ Signature Confirmation Restricted Delivery														
		☐ Insured Mail															
		☐ Priority Mail															
16190700 0001 0425 2633	Environmental Commission Borough of Fair Haven 748 River Road Fair Haven, NJ 07704			\$0.35									280				
2. " " " " 2640	Construction Official Borough of Fair Haven 748 River Road Fair Haven, NJ 07704			1	1								1				
3. " " " " 2657	Freehold SCD 4000 Kozloski Road - PO Box 5033 Freehold, NJ 07728																
4.																	
5.																	
6.																	
7.																	
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Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per (Name of receiving employee)															



Engineers
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Corporate Headquarters
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
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F: 732.383.1984
www.maserconsulting.com

Waterfront Development Individual Permit Application Notice to Neighboring Landowners

Date: September 27, 2019

Re: Application submitted by: Borough of Fair Haven (MC Project No. 17004982B)

Regarding property at:

Battin Road Boat Ramp; Terminus of Battin Road at Navesink River

Borough of Fair Haven, Monmouth County, New Jersey

Dear Interested Party:

This letter is to provide you with legal notification that an application for Waterfront Development Individual Permit will be submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the development shown on the enclosed plan. A brief description of the proposed project follows: The applicant proposes the reconstruction of the existing boat ramp at the terminus of Battin Road, along with additional waterfront improvements to provide enhanced access to the Navesink River. Additional improvements include the construction of a sheetpile bulkhead on the southwestern side of the new ramp, construction of a 7' x 90' dock on the northeastern side of the new ramp with a 4' x 30' gangway leading to a 6' x 24' floating dock, sidewalk installation, placement of trash receptacles, and the installation of lighting on the existing jetty. The applicant also proposes the dredging of approximately 300 cubic yards of accumulated sediment waterward of the new boat ramp for better access.

The complete permit application package can be reviewed at either the municipal clerk's office in the municipality in which the site subject to the application is located, or by appointment at the Department's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Code 501-02A
Trenton, New Jersey 08625-0420
Attn: Borough of Fair Haven Supervisor



If you have questions about this application, please contact Joseph P. Layton of Maser Consulting P.A. (agent for the applicant) via one of the following:

Telephone: (732) 383-1950
In Writing: Maser Consulting P.A.
331 Newman Springs Road, Suite 203
Red Bank, New Jersey 07701

Very truly yours,

MASER CONSULTING P.A.

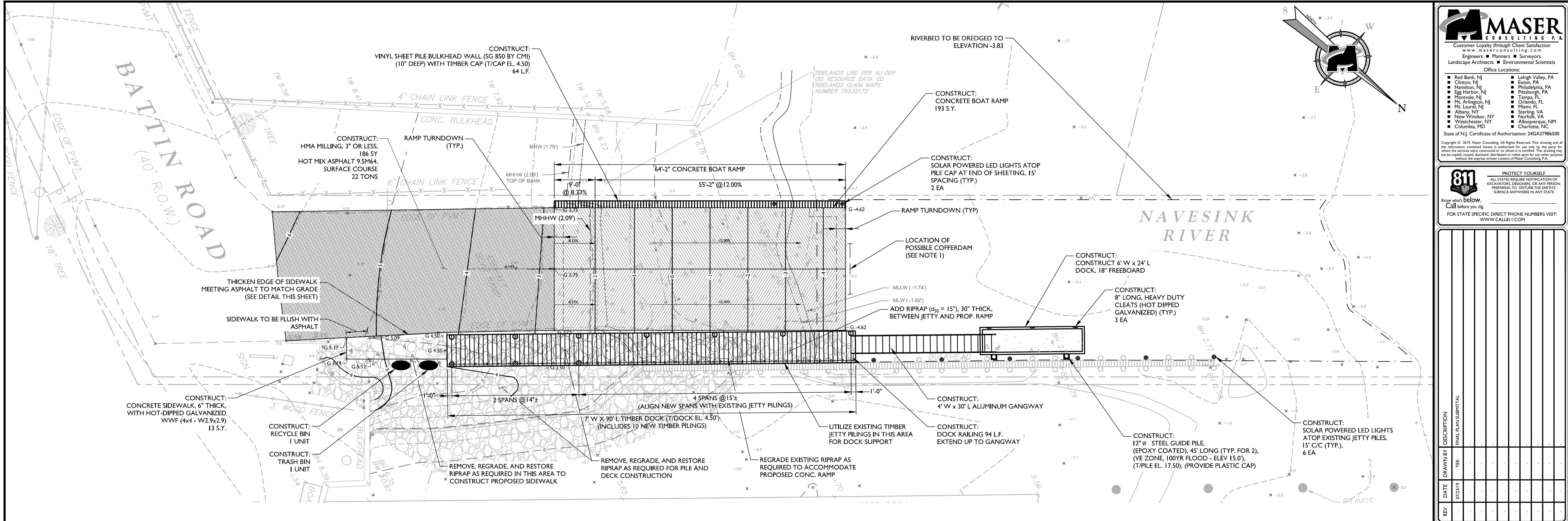
A handwritten signature in black ink, appearing to read 'Joe Layton', is written over the printed name and title.

Joseph P. Layton
Assistant Department Manager, Ecological Services

Agent for:
Borough of Fair Haven
748 River Road
Fair Haven, NJ 07704

JMM/
Enclosure

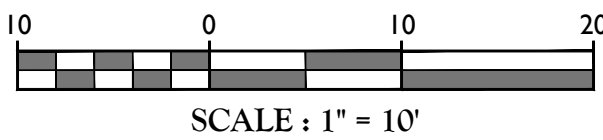
cc: Borough of Fair Haven Municipal Clerk
Borough of Fair Haven Planning Board
Borough of Fair Haven Environmental Commission
Borough of Fair Haven Construction Official
Monmouth County Planning Board
Freehold Soil Conservation District



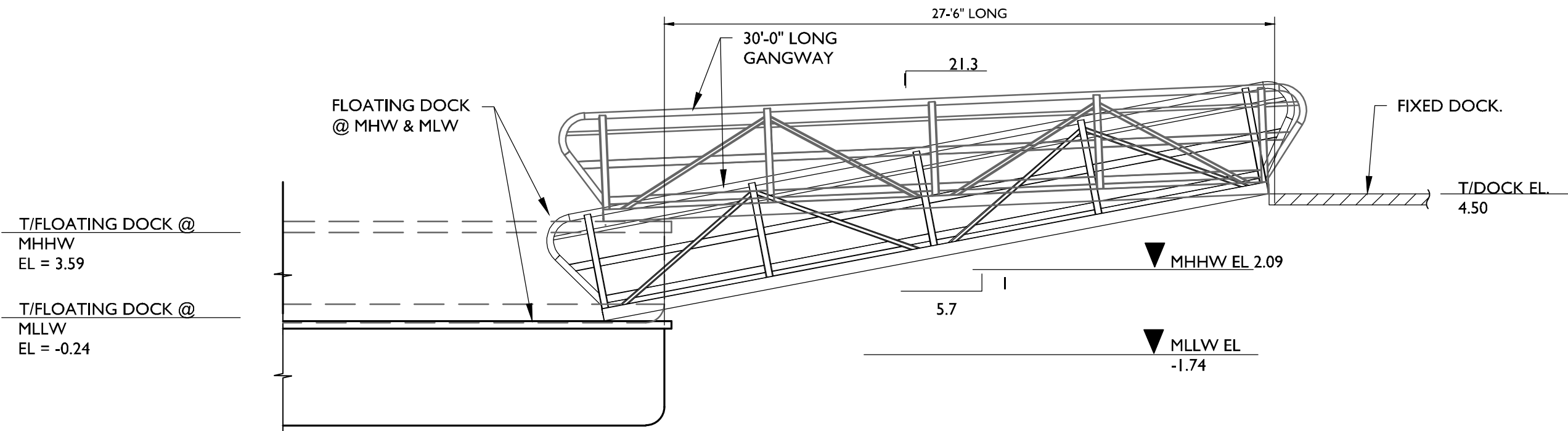
- NOTES:**
- ALL UPLAND PROJECT ACTIVITIES WITHIN 300' RIPARIAN ZONE.
 - ALL EXISTING TOPOGRAPHIC INFORMATION SHOWN REFERS TO NAD 1983/NGVD1988 DATUMS.
 - TIDAL INFORMATION OBTAINED FROM NOAA OCEANIC, NAVESINK RIVER, NJ, STATION ID 8531753.
 - AE, VE, AND WAVE ACTION ZONES ARE BASED ON PRELIMINARY FEMA FLOOD INSURANCE RATE MAP REVISED SEPTEMBER 25, 2009, MAP NUMBER 34025C0181F.
 - THE SITE IS LOCATED IN THE AE FLOOD ZONE EL. 9'.

BATTIN ROAD BOAT RAMP SITE AND GRADING PLAN

SCALE: 1" = 10"

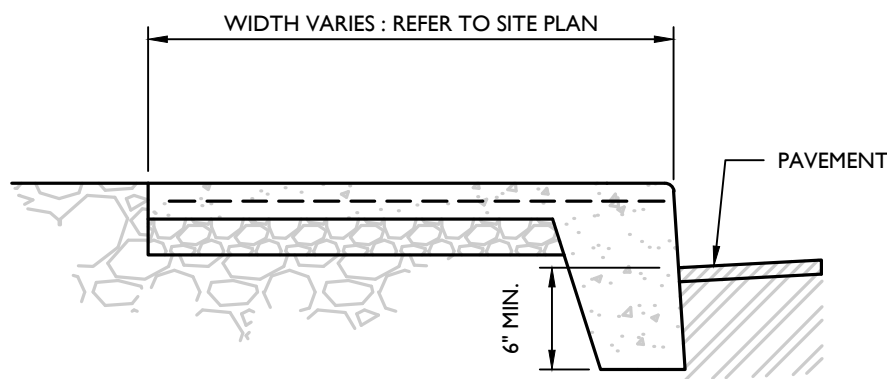


- BULKHEAD NOTES:**
- CONTRACTOR SHALL DRIVE VINYL SHEET PILE BULKHEAD ALONG SIDE OF RAMP AND CLOSE OFF RAMP CONSTRUCTION WITH COFFERDAM PRIOR TO ANY DISTURBANCE TO THE RIVERBED. COFFERDAM AND BULKHEAD SHALL ACT AS TURBIDITY BARRIER. COFFERDAM SHALL REMAIN IN PLACE UNTIL ALL DISTURBANCES BELOW MHHW ARE COMPLETE.



GANGWAY SLOPE DATA

SCALE: 3/16" = 1'-0"



THICKENED CONCRETE SIDEWALK DETAIL

NOT TO SCALE

LEGEND			
EXISTING	TRaverse LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	PROPOSED	
12+00	13+00	12+00	13+00
---	RIGHT OF WAY LINE	---	---
---	PROPERTY LINE	---	---
---	EDGE OF PAVEMENT	---	---
---	CURB	---	---
---	DEPRESSED CURB	---	---
---	SIDEWALK	---	---
---	FENCES	---	---
---	TREELINE	---	---
---	ROADWAY SIGNS	---	---
---	WETLAND LINE	---	---
---	MUNICIPAL BOUNDARY LINE	---	---
---	B' INLET	---	---
---	E' INLET	---	---
---	STORM MANHOLE	---	---
---	SANITARY MANHOLE	---	---
---	FLARED END SECTION	---	---
---	HEADWALL	---	---
---	HYDRANT	---	---
---	POLE MOUNTED LIGHT	---	---
---	CONTOURS	---	---
---	SPOT ELEVATION	---	---
---	DIRECTION OF OVERLAND FLOW	---	---
---	TOP OF CURB ELEVATION	---	---
---	BOTTOM OF CURB ELEVATION	---	---
---	TOP OF DEPRESSED CURB ELEVATION	---	---
---	MEAN HIGHER HIGH WATER LINE	---	---
---	MEAN HIGH WATER LINE	---	---
---	MEAN LOW WATER LINE	---	---
---	MEAN LOWER LOW WATER LINE	---	---

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- Lehigh Valley, PA
- Exton, PA
- Philadelphia, PA
- Pittsburgh, PA
- Tampa, FL
- Orlando, FL
- Miami, FL
- Sterling, VA
- Norfolk, VA
- Albuquerque, NM
- Charlotte, NC

State of NJ, Certificate of Authorization: 24GA27986500

811
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PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF ECA/CA/DO, BEFORE ANY WORK PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

REV	DATE	DRAWN BY	DESCRIPTION
1	07/28/19	TEK	FINAL PLAN SUBMITTAL

RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS FOR BULKHEAD REPLACEMENT GRANGE AVENUE & HANCE ROAD POCKET PARKS & BATTIN ROAD BOAT RAMP BOROUGH OF FAIR HAVEN MONMOUTH COUNTY NEW JERSEY

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/02/19	TEK	RCM
PROJECT NUMBER:	DRAWING NAME:		
170049828	CLAYT-BATT		

SITE & GRADING PLAN: BATTIN ROAD

SHEET NUMBER:	SHEET TITLE:
S-3.2	

BOROUGH OF FAIR HAVEN 200 FOOT LIST

DATE: August 08, 2019

TO: Suzanne M. Koegler
331 Newman Springs Road
Red Bank, NJ 07701

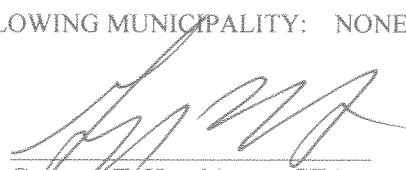
FROM : Gregory T. Hutchinson, CTA
ASSESSOR
BOROUGH OF FAIR HAVEN
748 RIVER ROAD
FAIR HAVEN, N J 07704

RE : FAIR HAVEN PROPERTY WITHIN 200 FEET OF
BATTIN AVE.
BOROUGH OF FAIR HAVEN

IN ACCORD WITH YOUR REQUEST, ENCLOSED PLEASE FIND A LIST OF
PROPERTIES WITHIN 200 FEET OF THE FOOT OF FAIR HAVEN ROAD, BOROUGH
OF FAIR HAVEN. THIS LIST CONSISTS OF 1 PAGE(S) AND CONTAINS
THE NAMES AND ADDRESSES FOR 8 PARCELS.

PLEASE NOTE THAT, APART FROM THE PARCELS NOTED ABOVE,
A LIST OF UTILITIES IS ALSO INCLUDED AND REQUIRES NOTIFICATION.

IN ADDITION, A REVIEW OF OUR TAX MAP INDICATES THAT YOU NEED
ADDITIONAL INFORMATION FROM THE FOLLOWING MUNICIPALITY: NONE



Gregory T. Hutchinson, CTA
Assessor

FEE \$10 PAID DUE

200' list Battin Road

1314-27-21	RIVER RATS INC	BOX 144	FAIR HAVEN N J	07704
1314-27-22	FRANCO HUGO C & REJANE M C	116 BATTIN RD	FAIR HAVEN N J	07704
1314-27-23	MURPHY BRIAN & AIDA	108 BATTIN ROAD	FAIR HAVEN NJ	07704
1314-27-24	MITOLA RICHARD J & THERESA A	100 BATTIN ROAD	FAIR HAVEN NJ	07704
1314-79-30	TORCIVIA BONNIE	115 BATTIN RD	FAIR HAVEN NJ	07727
1314-26-5	FISCHELL DAVID R & SARAH T	71 RIVERLAWN DR	FAIR HAVEN N J	07704
1314-26-6	MONNINGER JOHN TRUSTEE	6665 N. OCEAN BLVD	OCEAN RIDGE FL	33435
1314-79-31	TORCIVIA JUDY	117 BATTIN RD	FAIR HAVEN NJ	07704

1314-27-21
RIVER RATS INC
BOX 144
FAIR HAVEN N J 07704

1314-27-22
FRANCO HUGO C & REJANE M C
116 BATTIN RD
FAIR HAVEN N J 07704

1314-27-23
MURPHY BRIAN & AIDA
108 BATTIN ROAD
FAIR HAVEN NJ 07704

1314-27-24
MITOLA RICHARD J & THERESA A
100 BATTIN ROAD
FAIR HAVEN NJ 07704

1314-79-30
TORCIVIA BONNIE
115 BATTIN RD
FAIR HAVEN NJ 07727

1314-26-5
FISCHELL DAVID R & SARAH T
71 RIVERLAWN DR
FAIR HAVEN N J 07704

1314-26-6
MONNINGER JOHN TRUSTEE
6665 N. OCEAN BLVD
OCEAN RIDGE FL 33435

1314-79-31
TORCIVIA JUDY
117 BATTIN RD
FAIR HAVEN NJ 07704

Borough of Fair Haven Utilities list

Water - NJ American Water Company,

c/o Scott Segal.

One Water Street

Camden, NJ 08102

856-549-8606

Water - Borough of Red Bank, Department of Public Utilities,

Joseph E. Buonacquista

75 Chestnut Street,

Red Bank, NJ 07701 (people on Lake Avenue, Haddon Park, Harrison Avenue,

Chestnut Street, Beekman Place, etc are connected to the Red Bank water main)

Electric - JCP&L,

Manager- Real Estate

300 Madison Ave.

Morristown, NJ 07962

Gas - NJ Natural Gas Company,

Joan Purcara, Right of Way and Claims Representative

P.O. Box 1464

Wall, New Jersey 07719

Monmouth County Planning Board,

Director

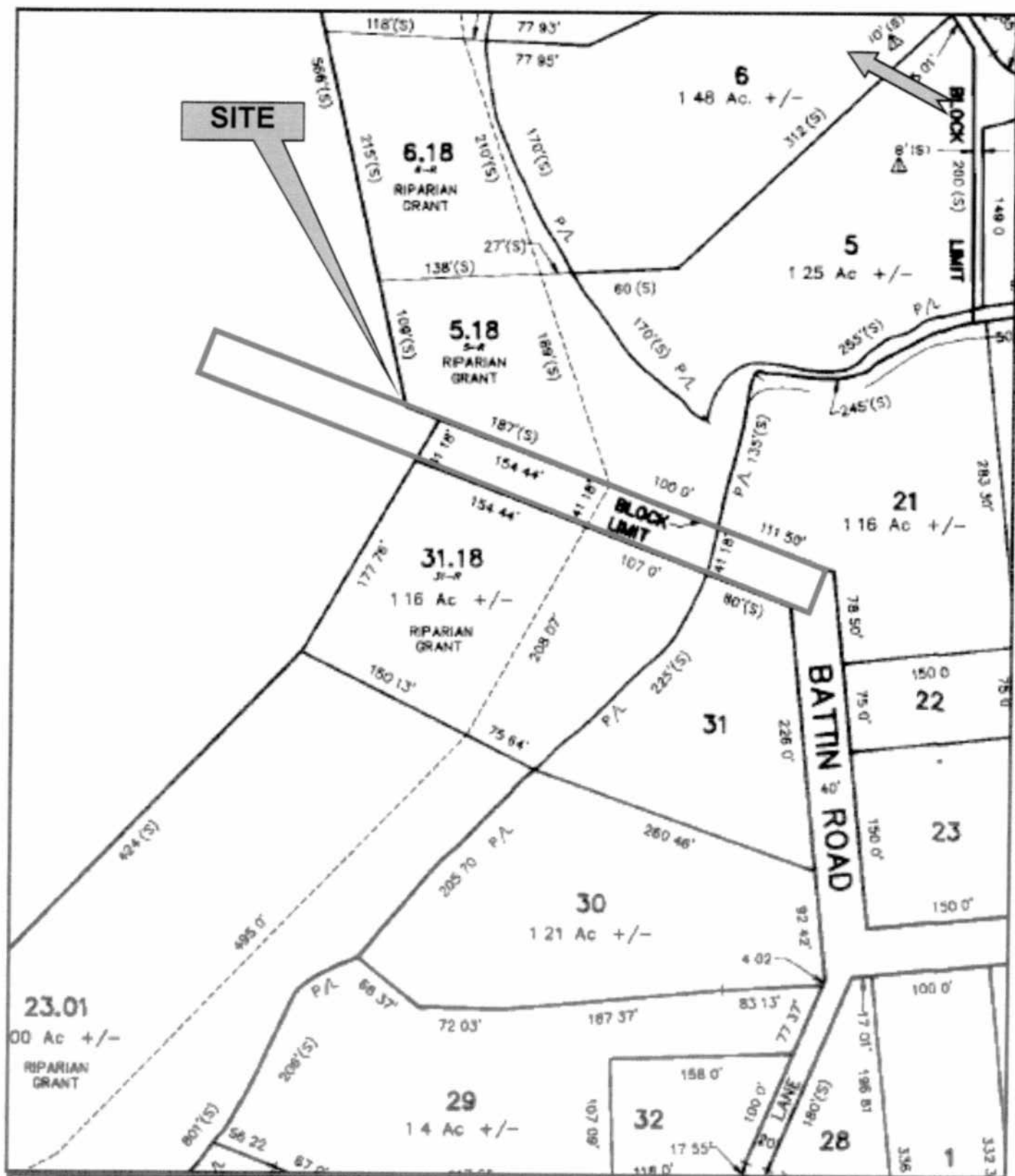
PO BOX 1255

Freehold, NJ 07728

Two Rivers Water Reclamation Authority

1 Highland Ave.

Monmouth Beach, NJ 07757



Corporate Headquarters
331 Newman Springs Road
Suite 203
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F: 732.383.1984
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Tax Map

Battin Road Boat Ramp
Fair Haven, Monmouth County, New Jersey

Source: Fair Haven Tax Map

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004983A

 Shipment Receipt

Transaction Date: 27 Sep 2019

Tracking Number:

1ZX997920396887085

1 ADDRESS INFORMATION**Ship To:**

Borough of Fair Haven
Municipal Clerk
748 River Road
FAIR HAVEN NJ 077043373

Ship From:

MASER CONSULTING PA
Suzanne M Koegler
331 NEWMAN SPRINGS RD
Suite 203
RED BANK NJ 07701
Telephone: 732-383-1950
email: skoegler@maserconsulting.com

Return Address:

MASER CONSULTING PA
Suzanne M Koegler
331 NEWMAN SPRINGS RD
Suite 203
RED BANK NJ 07701
Telephone: 732-383-1950 email: skoegler@maserconsulting.com

2 PACKAGE INFORMATION

	WEIGHT	DIMENSIONS / PACKAGING	DECLARED VALUE	REFERENCE NUMBERS
1.	1.0 lbs (1.0 lbs billable)	Other Packaging		Enter Reference Format: Project # / Org # / Phase - 17004982B reimb (jmm)

3 UPS SHIPPING SERVICE AND SHIPPING OPTIONS**Service:**

UPS Ground Service

Guaranteed By:

End of Day Monday, Sep 30, 2019

Shipping Fees Subtotal:

8.40 USD

Additional Shipping Options**Transportation**

7.85 USD

Quantum View Notify E-mail Notifications:

No Charge

Fuel Surcharge

0.55 USD

1 skoegler@maserconsulting.com: Exception, Delivery

4 PAYMENT INFORMATION**Bill Shipping Charges to:**

Shipper's Account X99792

Shipping Charges:	8.40 USD
Subtotal Shipping Charges:	8.40 USD
Total Charged:	8.40 USD

Note: This document is not an invoice. Your final invoice may vary from the displayed reference rates.

* For delivery and guarantee information, see the UPS Service Guide ({}). To speak to a customer service representative, call 1-800-PICK-UPS for domestic services and 1-800-782-7892 for international services.



Waterfront Development Permit Compliance & Environmental Impact Statement

FOR
Battin Road Boat Ramp Reconstruction
Terminus of Battin Road at the Navesink River
Borough of Fair Haven, Monmouth County, New Jersey

September 2019

Prepared For
Borough of Fair Haven
748 River Road
Fair Haven, NJ 07704

Prepared By
Maser Consulting P.A.
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
732.383.1950

MC Project No. 17004982B





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Appendix A: Site Location Maps

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1.0 STATUTORY REQUIREMENTS

The proposed project involves activity below the mean high water line of a tidal waterbody (Navesink River); therefore, the proposed boat ramp reconstruction and associated dock will require an In-Water Individual Waterfront Development Permit in accordance with the Coastal Zone Management Rules at N.J.A.C. 7:7. The Coastal Zone Management Rules (7:7-23.6) require the preparation of an Environmental Impact Statement (EIS) for all Waterfront Development Permit Applications. The purpose of the EIS is to assist the applicant and the Division of Land Use Regulation of the New Jersey Department of Environmental Protection in assessing the probable effects of a project on the natural resources and human activities at the project site and the surrounding region.

This application is being submitted in accordance with the Coastal Zone Management Rules. The application requirements for Waterfront Development Permit applications are outlined in N.J.A.C. 7:7 Subchapters 8 and 23. The EIS has been prepared in accordance with the guidelines for format, content, and preparation as set forth in N.J.A.C. 7:7-23.6.

2.0 ENVIRONMENTAL INVENTORY

2.1 SITE LOCATION

The applicant proposes the reconstruction of an existing boat ramp, the addition of a dock, and dredging in the Navesink River at a municipally owned boat ramp at the terminus of Battin Road in the Borough of Fair Haven, Monmouth County, New Jersey. The Borough of Fair Haven owns the Battin Road Right-of-Way. The project site is outlined on the municipal tax map, U.S.G.S. map, and road map/aerial photograph, all of which are contained within Appendix A.



2.2 LAND CHARACTER

2.2.1 *Mean High Water Line*

The reconstructed boat ramp, new dock, and additional associated improvements will be located in the Navesink River, a tidal waterway. The mean high water elevation is located at an elevation of approximately 1.79, as shown on the submitted plans.

2.2.2 *Topography and Slope*

The site is relatively level above the shoreline, with moderate slopes leading to the Navesink River. Topography along the shoreline is depicted on the “Existing Conditions & Demolition Plan, Construction Plans for Bulkhead Replacement Grange Avenue & Hance Road Pocket Parks & Battin Road Boat Ramp, Borough of Fair Haven, Monmouth County, New Jersey”, Sheet S-3.1, dated April 2, 2019, last revised July 23, 2019, prepared by Maser Consulting P.A and included in this application package.

2.2.3 *Bathymetry*

According to the bathymetric survey, the proposed dock extends from the shoreline to a point where the grade is approximately at sea level. The reconstructed boat ramp extends to elevation 2.5 feet below sea level, which is proposed to be dredged further to 3.8 feet below sea level. The depths to mean low water are depicted on the “Site & Grading Plan: Battin Road, Construction Plans for Bulkhead Replacement Grange Avenue & Hance Road Pocket Parks & Battin Road Boat Ramp, Borough of Fair Haven, Monmouth County, New Jersey”, Sheet S-3.2, dated April 2, 2019, last revised July 23, 2019, prepared by Maser Consulting P.A and included in this application package.

2.2.4 *Surface Water*

The existing boat ramp and proposed dock extend into the Navesink River. This river is delineated on the USGS map. The Navesink River is classified as a Category One (C-1) water. The Category One classification is assigned to certain waters for purposes of implementing the antidegradation policies set forth at N.J.A.C. 7:9B-1.5(d), for protection from measurable changes in water quality based on exceptional ecological significance, exceptional recreational



significance, exceptional water supply significance or exceptional fisheries resource(s) to protect their aesthetic value (color, clarity, scenic setting) and ecological integrity (habitat, water quality and biological functions).

The site is situated within the Navesink River/Lower Shrewsbury River Watershed. The HUC-14 Sub-watershed of the project site is Navesink River (below Route 35)/Lower Shrewsbury River.

2.3 LIVING RESOURCES

2.3.1 Vegetation

The proposed boat ramp, dock, and dredging is located in the open waters of the Navesink River and does not involve construction in a vegetated area.

2.3.2 Rare Species and Species of Special Concern

Rare species, including threatened and endangered species and species of special concern, have been identified within the vicinity of the site. Maser Consulting requested a search of the Natural Heritage Program database to identify threatened and/or endangered species and/or their habitat on the project site. Results are enclosed (Appendix C).

The Natural Heritage Program database search provided occurrences for several wildlife species or wildlife habitat on the subject property (Table 1).

Table 1. Rare Animal Species or Habitat mapped for the Project Site (NJDEP 2019).

<u>Species</u>	<u>Status</u>
Black skimmer (<i>Rynchops niger</i>) (foraging habitat)	State Endangered
Black-crowned night-heron (<i>Nycticorax nycticorax</i>) (foraging habitat)	State Threatened
Common Tern (<i>Sterna hirundo</i>) (foraging habitat)	Special Concern
Least tern (<i>Sternula antillarum</i>) (foraging habitat)	State Endangered
Osprey (<i>Pandion haliaetus</i>) (foraging habitat and nest)	State Threatened



All foraging habitats for the above-listed species are water dependent. Landscape Project 3.3, as depicted through NJ-GeoWeb (Appendix A), indicates that the open waters of the Navesink River are associated with the foraging habitats and nest for the above-listed species. Note: the classification of Species of Special Concern is assigned to species that warrant special attention because of some evidence of decline, inherent vulnerability to environmental deterioration, or habitat modification that would result in their becoming a threatened species. Such species are not yet protected as a threatened or endangered species in the State.

3.0 PROJECT DESCRIPTION

The applicant proposes the reconstruction of the existing boat ramp at the terminus of Battin Road, along with additional waterfront improvements to provide enhanced access to the Navesink River. Additional improvements include the construction of a sheetpile bulkhead on the southwestern side of the new ramp, construction of a 7' x 90' dock on the northeastern side of the new ramp with a 4' x 30' gangway leading to a 6' x 24' floating dock, sidewalk installation, placement of trash receptacles, and the installation of lighting on the existing jetty. The applicant also proposes the dredging of approximately 300 cubic yards of accumulated sediment waterward of the new boat ramp for better access.

4.0 COMPLIANCE WITH THE RULES ON COASTAL ZONE MANAGEMENT

4.1 COMPLIANCE ELEMENTS NOT APPLICABLE TO THE PROJECT

The following compliance elements have been determined to not be applicable to the proposed dock:

Subchapter 9 – Special Areas

7:7-9.3 Surf clam areas

7:7-9.4 Prime fishing areas

7:7-9.8 Canals

7:7-9.9 Inlets

7:7-9.11 Ports

7:7-9.12 Submerged infrastructure routes



- 7:7-9.13 Shipwreck and artificial reef habitats
- 7:7-9.14 Wet borrow pits
- 7:7-9.16 Dunes
- 7:7-9.17 Overwash areas
- 7:7-9.19 Erosion hazard areas
- 7:7-9.20 Barrier island corridor
- 7:7-9.21 Bay islands
- 7:7-9.22 Beaches
- 7:7-9.23 Filled water's edge
- 7:7-9.24 Existing lagoon edges
- 7:7-9.29 Coastal bluffs
- 7:7-9.30 Intermittent stream corridors
- 7:7-9.31 Farmland conservation areas
- 7:7-9.32 Steep slopes
- 7:7-9.33 Dry borrow pits
- 7:7-9.35 Specimen trees
- 7:7-9.39 Special hazard areas
- 7:7-9.40 Excluded Federal lands
- 7:7-9.41 Special urban areas
- 7:7-9.42 Pinelands National Reserve and Pinelands Protection Area
- 7:7-9.43 Hackensack Meadowlands District
- 7:7-9.44 Wild and scenic river corridors
- 7:7-9.46 Hudson River Waterfront Area
- 7:7-9.47 Atlantic City
- 7:7-9.49 Dredged material management areas

Subchapter 10 – Standards for Beach and Dune Activities

Subchapter 12 – General Water Areas

- 7:7-12.2 Shellfish aquaculture
- 7:7-12.4 Docks and piers for cargo and commercial fisheries
- 7:7-12.6 Maintenance dredging
- 7:7-12.8 Environmental dredging
- 7:7-12.9 Dredged material disposal
- 7:7-12.10 Solid waste or sludge dumping
- 7:7-12.11 Filling
- 7:7-12.13 Sand and gravel mining
- 7:7-12.14 Bridges
- 7:7-12.15 Submerged pipelines
- 7:7-12.16 Overhead transmission lines
- 7:7-12.17 Dams and impoundments
- 7:7-12.18 Outfalls and intakes
- 7:7-12.19 Realignment of water areas
- 7:7-12.20 Vertical wake or wave attenuation structures
- 7:7-12.21 Submerged cables
- 7:7-12.22 Artificial reefs



- 7:7-12.23 Living shorelines
- 7:7-12.24 Miscellaneous Uses

Subchapter 13 – Requirements for Impervious Cover and Vegetative Cover for General Land Areas and Certain Special Areas

Subchapter 14 – General Location Rules

- 7:7-14.1 Rule on location of linear development
- 7:7-14.2 Basic location rule
- 7:7-14.3 Secondary impacts

Subchapter 15 – Use Rules

- 7:7-15.2 Housing
- 7:7-15.3 Resort/recreational
- 7:7-15.4 Energy facility
- 7:7-15.5 Transportation
- 7:7-15.6 Public facility
- 7:7-15.7 Industry
- 7:7-15.8 Mining
- 7:7-15.9 Port
- 7:7-15.10 Commercial facility
- 7:7-15.11 Coastal engineering
- 7:7-15.12 Dredged material placement on land
- 7:7-15.13 National defense facilities use rule
- 7:7-15.14 High-rise structures

Subchapter 16 – Resource Rules

- 7:7-16.4 Surface water use
- 7:7-16.5 Groundwater use
- 7:7-16.6 Stormwater management
- 7:7-16.7 Vegetation
- 7:7-16.8 Air quality
- 7:7-16.10 Scenic resources and design
- 7:7-16.11 Buffers and compatibility of uses
- 7:7-16.12 Traffic
- 7:7-16.13 Subsurface sewage disposal systems
- 7:7-16.14 Solid and hazardous waste

4.2 COMPLIANCE ELEMENTS APPLICABLE TO THE PROJECT

The following compliance elements have been determined to be applicable to the proposed dock:

Subchapter 9 – Special Areas

- 7:7-9.2 Shellfish habitat
- 7:7-9.5 Finfish migratory pathways



- 7:7-9.6 Submerged vegetation habitat
- 7:7-9.7 Navigation routes
- 7:7-9.10 Marina moorings
- 7:7-9.15 Intertidal and subtidal shallows
- 7:7-9.18 Coastal high hazard areas
- 7:7-9.25 Flood hazard areas
- 7:7-9.26 Riparian zones
- 7:7-9.27 Wetlands
- 7:7-9.28 Wetlands buffers
- 7:7-9.34 Historic and archaeological resources
- 7:7-9.36 Endangered or threatened wildlife or plant species habitats
- 7:7-9.37 Critical wildlife habitats
- 7:7-9.38 Public open space
- 7:7-9.45 Geodetic control reference marks
- 7:7-9.48 Lands and waters subject to public trust rights

Subchapter 11 – Standards for Conducting and Reporting the Results of an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and/or Endangered or Threatened Wildlife Species Habitat Evaluation

Subchapter 12 – General Water Areas

- 7:7-12.3 Boat ramps
- 7:7-12.5 Recreational docks and piers
- 7:7-12.7 New dredging
- 7:7-12.12 Mooring

Subchapter 16 – Resource Rules

- 7:7-16.2 Marine fish and fisheries
- 7:7-16.3 Water quality
- 7:7-16.9 Public access

5.0 COMPLIANCE WITH SPECIAL AREA RULES (N.J.A.C. 7:7 SUBCHAPTER 9)

5.1 SHELLFISH HABITAT (N.J.A.C. 7:7-9.2)

*(a) Shellfish habitat is defined as an estuarine bay or river bottom which currently supports or has a history of production for hard clams (*Mercenaria mercenaria*), soft clams (*Mya arenaria*), eastern oysters (*Crassostrea virginica*), bay scallops (*Argopecten irradians*), or blue mussels (*Mytilus edulis*), or otherwise listed below in this section.*

(c) The water located under any boat mooring facility (including docks and associated structures) is automatically condemned and reduced to “prohibited” status pursuant to N.J.A.C. 7:12-2.1(a)1ii....In addition, the construction of a dock or pier or the one-time replacement or



reconstruction of a legally existing functioning bulkhead outshore of the existing bulkhead when located in waters that have been classified as prohibited for the purpose of harvesting shellfish is acceptable in accordance with N.J.A.C. 7:7-9.2 (d)2 and (i) below.

The project site is classified as shellfish habitat. The proposed reconstruction of a recreational boat ramp, the construction of a new fishing pier and dredging is acceptable and the proposed dock meets the requirements of N.J.A.C. 7:7-9.2(d)3i through v as follows:

The dock will be constructed of non-polluting materials and has been designed in a manner to reduce the size of the structure and limit the area of shellfish habitat condemned. The proposed fishing pier does not extend past the adjacent recreational docks. The proposed fishing pier will not moor more than two vessels. Any mooring is temporary for loading and unloading of boats at the boat ramp. Mitigation for the condemnation of shellfish habitat will be provided as part of the Waterfront Development Permit conditions.

5.2 FINFISH MIGRATION PATHWAYS (N.J.A.C. 7:7-9.5)

(a) Finfish migratory pathways are waterways (rivers, streams, creeks, bays and inlets) which can be determined to serve as passageways for diadromous fish to or from seasonal spawning areas, including juvenile anadromous fish which migrate in autumn and those listed by H.E. Zich (1977) "New Jersey Anadromous Fish Inventory" NJDEP Miscellaneous Report No. 41, and including those portions of the Hudson and Delaware Rivers within the coastal zone boundary.

- 1. Species of concern include: alewife or river herring (*Alosa pseudoharengus*), blueback herring (*Alosa sapidissima*), American shad (*Alosa aspidissima*), striped bass (*Monroesaxatilis*), Atlantic sturgeon (*Acipenser oxyrhynchus*), Shortnose sturgeon (*Acipenser brevirostrum*) and American eel (*Anguilla rostrata*).*

(b) Development, such as dams, dikes, spillways, channelization, tide gates and intake pipes, which creates a physical barrier to the movement of fish along finfish migratory pathways, is prohibited, unless acceptable mitigating measures such as fish ladders, erosion control, or oxygenation are used.

The waters of the Navesink River are tidal. The proposed boat ramp reconstruction, fishing pier, and dredging will not impede the movement of finfish along migratory pathways, nor does it lower water quality to such an extent as to interfere with the movement of fish along finfish migratory pathways.



5.3 SUBMERGED VEGETATION HABITATS (N.J.A.C. 7:7-9.6)

(a) A submerged vegetation habitat special area consists of water areas supporting or documented as previously supporting rooted, submerged vascular plants such as widgeon grass (*Ruppia maritima*), sago pondweed (*Potamogeton pectinatus*), horned pondweed (*Zannichellia palustris*), and eelgrass (*Zostera marina*). In New Jersey, submerged vegetation is most prevalent in the shallow portions of the Navesink, Shrewsbury, Manasquan, and Metedeconk Rivers, and in Barnegat, Manahawkin, and Little Egg Harbor Bays. Other submerged vegetation species in lesser quantities include, but are not limited to, the following: water weed (*Elodea nuttalli*), *Eriocaulon parkeri*, *Liaeopsis chinesis*, *Naja flexilis*, *Nuphar variegatum*, *Potamogeton crispus*, *Potamogeton epihydrus*, *Potamogeton perfoliatus*, *Potamogeton pusillus*, *Scirpus subterminalis*, and *Vallisneria americana*.

(b) Development in submerged vegetation habitat is prohibited except for the following:

6. Construction of a single noncommercial dock or pier provided that:
 - i. There are no practicable or feasible alternatives to avoid impacts to submerged vegetation habitat at the site;
 - ii. The width of the structure will not exceed four feet, except for that portion of the structure adjacent to the mooring area, where the width and length may not exceed six and 20 feet, respectively;
 - iii. The pier shall have no more than two designated slips. No boats may be moored at a non-designated pier/dock area;
 - iv. No more than one pier shall be placed for every building lot and each building lot shall have a forty foot or greater frontage on the water. Where more than one lot has been assembled for the purpose of building, only one pier will be allowed;
 - v. No dredging shall be performed in conjunction with the use of the dock or pier;
 - vi. A minimum water depth of four feet at mean low water must be present in the area where the boats will be moored; and
 - vii. There is no alternative mooring area at the site that would have less impact on the submerged aquatic vegetation;

The project location is not mapped as submerged vegetation habitat. A review of the SAV mapping indicates the area as mapped a “C10” or 10% coverage. No species are identified. The nearest mapped species are no vascular SAV species, therefore, the site is not considered SAV habitat under the CZM rules.

5.4 NAVIGATION ROUTES (N.J.A.C. 7:7-9.7)

(a) Navigation channels are tidal water areas including the Atlantic Ocean, inlets, bays, rivers and tidal guts with sufficient depth to provide safe navigation. Navigation channels include all areas between the top of the channel slopes on either side. These navigation channels are often marked with buoys or stakes. Major navigation channels are shown on NOAA/National Ocean Service Charts.



(b) Standards relevant to navigation channels are as follows:

- 1. Development which would cause terrestrial soil and shoreline erosion and siltation in navigation channels shall utilize appropriate mitigation measures;*
- 2. Development which would result in loss of navigability is prohibited;*
- 3. Any construction which would extend into a navigation channel is prohibited;*
- 4. The placement of structures within 50 feet of any authorized navigation channel is discouraged, unless it can be demonstrated that the proposed structure will not hinder navigation;*

A navigation channel is mapped in the Navesink on the NOAA Navigational Channel Mapper. The proposed fishing pier will not extend into, or within 50 feet of, the navigational channel. There will be no loss of navigability.

5.5 MARINA MOORINGS (N.J.A.C. 7:7-9.10)

(a) Marina moorings are areas of water that provide mooring, docking and boat maneuvering room as well as access to land and navigational channels for five or more recreational boats.

(b) Non-water dependent development in a marina mooring area is prohibited.

(c) Any use that would detract from existing or proposed recreational boating use in marina mooring areas is discouraged.

The proposed improvements to the existing public boat ramp extend from a municipally owned right-of-way and will not encroach upon the accessibility to mooring and docking areas for facilities in the vicinity.

5.6 INTERTIDAL AND SUBTIDAL SHALLOWS (N.J.A.C. 7:7-9.15)

(a) Intertidal and subtidal shallows means all permanently or temporarily submerged areas from the spring high water line to a depth of four feet below mean low water.

(b) Development, filling, new dredging, or other disturbance is discouraged but may be permitted in accordance with (c), (d), (e), (f), (g), and (h) below and with N.J.A.C. 7:7-12.2 through 12.24.

Intertidal and sub-tidal shallows are found in the shallow waters of the Navesink River. The proposed reconstructed boat ramp, new fishing pier/dock, and dredging will cause minimal



permanent disturbance at the project location, as the fishing pier is a permissible activity as further discussed below in the context of the Recreational docks and piers rule, N.J.A.C. 7:7-12.5.

5.7 COASTAL HIGH HAZARD AREAS (N.J.A.C. 7:7-9.18)

(a) Coastal high hazard areas are flood prone areas subject to high velocity waters (V zones) as delineated on FEMA flood mapping, and areas within 25 feet of oceanfront shore protection structures, which are subject to wave run-up and overtopping. The coastal high hazard area extends from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The inland limit of the V zone is defined as the V zone boundary line as designated on FEMA flood mapping or the inland limit of the primary frontal dune, whichever is most landward.

(b) Except as provided at (c), (d), (e), and (f) below, residential and commercial development is prohibited in coastal high hazard areas.

(e) Water dependent development and amusements are conditionally acceptable within coastal high hazard areas provided the development complies with the Federal flood reduction standards at 44 CFR Part 60 and the UCC.

The proposed improvements to the existing boat ramp are water dependent, are located primarily below the mean high water line, and are not subject to Flood Hazard Area design standards.

5.8 FLOOD HAZARD AREAS (N.J.A.C. 7:7-9.25)

(a) Flood hazard areas are areas subject to flooding from the flood hazard area design flood, as defined by the Department under the Flood Hazard Area Control Act rules at N.J.A.C. 7:13. Flood hazard areas include those areas mapped as such by the Department, areas defined or delineated as an A or a V zone by the Federal Emergency Management Agency (FEMA), and any unmapped areas subject to flooding by the flood hazard area design flood. Flood hazard areas are subject to either tidal or fluvial flooding and the extent of flood hazard areas shall be determined or calculated in accordance with the procedures at N.J.A.C. 7:13-3.

(b) In a tidal flood hazard area below the mean high water line, this section shall apply only to the following activities:

- 1. Development of habitable buildings; and*
- 2. Construction of railroads, roadways, bridges and/or culverts.*

As this permit application involves the reconstruction of a boat ramp, the construction of a fishing pier, and dredging- all of which are located primarily beyond the mean high water line, this section does not apply.



5.9 RIPARIAN ZONES (N.J.A.C. 7:7-9.26)

(a) A riparian zone is the land and vegetation within and adjacent to a regulated water. A riparian zone exists along both sides of every regulated water and includes the regulated water itself, except as provided in (b) below. The extent of a riparian zone is determined in accordance with (c), (d), and (e) below.

(b) There is no riparian zone within or along the following:

- 1. The Atlantic Ocean;*
- 2. The barrier island complex;*
- 3. Any lawfully existing manmade lagoon;*
- 4. Any lawfully existing stormwater management basin or wastewater treatment pond;*
- 5. Any segment of a regulated water enclosed within a lawfully existing pipe, culvert or bridge; and*
- 6. Any lawfully existing, manmade open channel that was created to convey stormwater, provided the channel is fully lined with manmade impervious material, such as a concrete low-flow channel within a stormwater basin or a ditch completely lined with concrete or asphalt.*

(h) Development in riparian zones shall conform with the requirements of the Flood Hazard Area Control Act Rules for a permit-by-rule at N.J.A.C. 7:13-6 and 7, a general permit-by-certification at N.J.A.C. 7:13-6 and 8, a general permit at N.J.A.C. 7:13-6 and 9, or an individual permit at N.J.A.C. 7:13-10, 11, and 12, as applicable.

The C-1 classification applied to this portion of the Navesink River imposes a riparian zone of 300 feet. There will be no disturbance to riparian zone vegetation as the project area is not vegetated.

5.10 WETLANDS (N.J.A.C. 7:7-9.27)

(a) Wetlands or wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

- 1. Wetlands areas are identified and mapped on the following:*
 - i. National Wetlands Inventory Maps produced by the U.S. Fish and Wildlife Service at a scale of 1:24,000 (generalized locations only);*
 - ii. Coastal wetland maps, pursuant to the Wetlands Act of 1970 (N.J.S.A. 13:9A-1 et seq.) prepared by the DEP at a scale of 1:2,400; and*
 - iii. Freshwater wetland maps prepared by DEP at a scale of 1:12,000 (generalized locations only).*



(b) Development in wetlands defined under the Freshwater Wetlands Protection Act is prohibited unless the development is found to be acceptable under the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A.

There are no mapped coastal wetlands or freshwater wetlands on or adjacent to the project site.

5.11 WETLANDS BUFFERS (N.J.A.C. 7:7-9.28)

(a) Wetlands buffer or transition area means an area of land adjacent to a wetland which minimizes adverse impacts on the wetlands or serves as an integral component of the wetlands ecosystem. Wider buffers than those noted below may be required to establish conformance with this chapter, including, but not limited to, N.J.A.C. 7:7-9.36 and 9.37.

- 1. A wetlands buffer or transition area of up to 150 feet in width shall be established adjacent to all wetlands defined and regulated under the Freshwater Wetlands Protection Act. (Refer to the Freshwater Wetland Protection Act Rules, N.J.A.C. 7:7A, for further guidance).*
- 2. For all other wetlands, including wetlands regulated under the Wetlands Act of 1970, a wetland buffer of up to 300 feet shall be established.*

(c) Development is prohibited in a wetlands buffer around all other wetlands, unless it can be demonstrated that the proposed development will not have a significant adverse impact and will cause minimum feasible adverse impact, through the use of mitigation where appropriate on the wetlands, and on the natural ecotone between the wetlands and surrounding upland. The precise geographic extent of the actual wetlands buffer required on a specific site shall be determined on a case-by-case basis using these standards.

There are no coastal or freshwater wetland buffers on or adjacent to the project site.

5.12 HISTORIC AND ARCHAEOLOGICAL RESOURCES (N.J.A.C. 7:7-9.34)

(a) Historic and archaeological resources include objects, structures, shipwrecks, buildings, neighborhoods, districts, and man-made or man-modified features of the landscape and seascape, including historic and prehistoric archaeological sites, which either are on or are eligible for inclusion on the New Jersey or National Register of Historic Places.

(b) Development that detracts from, encroaches upon, damages, or destroys the value of historic and archaeological resources is discouraged.

The project site is not included in the New Jersey and National Register of Historic Places in the Borough of Fair Haven, Monmouth County, as provided by the NJDEP Historic Preservation Office and last updated September 20, 2019. The proposed improvements to the existing boat ramp and waterfront access will have no impact on historic or archaeological resources.



5.13 ENDANGERED OR THREATENED WILDLIFE/PLANT SPECIES HABITATS (N.J.A.C. 7:7-9.36)

(a) *Endangered or threatened wildlife or plant species habitats are terrestrial and aquatic (marine, estuarine, or freshwater) areas known to be inhabited on a seasonal or permanent basis by or to be critical at any stage in the life cycle of any wildlife or plant identified as “endangered” or “threatened” species on official Federal or State lists of endangered or threatened species, or under active consideration for State or Federal listing. The definition of endangered or threatened wildlife or plant species habitats includes a sufficient buffer area to ensure continued survival of the population of the species as well as areas that serve an essential role as corridors for movement of endangered or threatened wildlife. Absence of such a buffer area does not preclude an area from being endangered or threatened wildlife or plant species habitat.*

(b) *Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an endangered or threatened wildlife or plant species impact assessment as described at N.J.A.C. 7:7-11, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected.*

Rare species, including threatened and endangered species and species of special concern, have been identified within the vicinity of the site. Maser Consulting requested a search of the Natural Heritage Program database to identify threatened and/or endangered species and/or their habitat on the project site. Results are enclosed (Appendix C).

The Natural Heritage Program database search provided occurrences for several wildlife species or wildlife habitat on the subject property (Table 2).

Table 2. Rare Animal Species or Habitat mapped for the Project Site (NJDEP 2019).

<u>Species</u>	<u>Status</u>
Black skimmer (<i>Rynchops niger</i>) (foraging habitat)	State Endangered
Black-crowned night-heron (<i>Nycticorax nycticorax</i>) (foraging habitat)	State Threatened
Common Tern (<i>Sterna hirundo</i>) (foraging habitat)	Special Concern
Least tern (<i>Sternula antillarum</i>) (foraging habitat)	State Endangered
Osprey (<i>Pandion haliaetus</i>) (foraging habitat and nest)	State Threatened

All foraging habitats for the above-listed species are water dependent. Landscape Project 3.3, as depicted through NJ-GeoWeb (Appendix A), indicates that the open waters of the Navesink



River are associated with the foraging habitats and nest for the above-listed species. While the new fishing pier will extend into the open waters of the Navesink River, it is located in a portion of the river bordered with single-family residential docks and a . The proposed dock will not adversely impact foraging habitat for such species, as much of the River will remain open.

5.14 CRITICAL WILDLIFE HABITATS (N.J.A.C. 7:7-9.37)

(a) Critical wildlife habitats are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating.

- 1. Rookeries for colonial nesting birds, such as herons, egrets, ibis, terns, gulls, and skimmers; stopovers for migratory birds, such as the Cape May Point region; and natural corridors for wildlife movement merit a special management approach through designation as a Special Area.*
- 2. Ecotones, or edges between two types of habitats, are a particularly valuable critical wildlife habitat. Many critical wildlife habitats, such as salt marsh water fowl wintering areas, and muskrat habitats, are singled out as water or water's edge areas.*
- 3. Definitions and maps of critical wildlife habitats are currently available only for colonial waterbird habitat in the 1979 Aerial Colony Nesting Waterbird Survey for New Jersey (NJDEP, Division of Fish and Wildlife). Until additional maps are available, sites will be considered on a case-by-case basis by the Division of Fish and Wildlife.*

(b) Development that would directly or through secondary impacts on the relevant site or in the surrounding region adversely affect critical wildlife habitats is discouraged, unless:

- 1. Minimal feasible interference with the habitat can be demonstrated;*
- 2. There is no prudent or feasible alternative location for the development; and*
- 3. The proposal includes appropriate mitigation measures.*

As discussed in the previous section, the project consists of a reconstructed boat ramp, proposed fishing pier into the Navesink River, and associated dredging, and does not involve expansion or encroachment into such critical wildlife habitat. Such wintering, breeding and migrating habitat has not been identified onsite.

5.15 PUBLIC OPEN SPACE (N.J.A.C. 7:7-9.38)

(a) Public open space constitutes land areas owned or maintained by State, Federal, county and municipal agencies or private groups (such as conservation organizations and homeowner's associations) and used for or dedicated to conservation of natural resources, public recreation, visual or physical public access or, wildlife protection or management. Public open space also includes, but is not limited to, State Forests, State Parks, and State Fish and Wildlife Management Areas, lands held by the New Jersey Natural Lands Trust (N.J.S.A. 13:1B-15.119 et seq.), lands held by the New Jersey Water Supply Authority (N.J.S.A. 58:1B-1 et seq.) and



designated Natural Areas (N.J.S.A. 13:1B-15.12a et seq.) within DEP-owned and managed lands.

(b) New or expanded public or private open space development is encouraged at locations compatible or supportive of adjacent and surrounding land uses.

(c) Development that adversely affects existing public open space is discouraged.

(d) Development within existing public open space is conditionally acceptable, provided that the development is consistent with the character and purpose of public open space, as described by the park master plan when such a plan exists.

(e) Development in Atlantic City is acceptable within existing public open space provided the public open space is a street right-of-way or the Boardwalk and the development meets the standards of N.J.A.C. 7:7-9.47(e) through (j).

(f) Provision of barrier free access to public open space is encouraged.

(g) All new development adjacent to public open space will be required to provide an adequate buffer area and to comply with the buffers and compatibility of uses rule, N.J.A.C. 7:7-16.11. The buffer required will be dependent upon adjacent land uses and potential conflicts between users of public open space and the proposed adjacent land use.

The proposed reconstructed boat ramp, new public fishing pier, and dredging will provided enhanced access to the Navesink River for the public on land owned by the Borough of Fair Haven.

5.16 GEODETIC CONTROL REFERENCE MARKS (N.J.A.C. 7:7-9.45)

(a) Geodetic control reference marks are traverse stations and benchmarks established or used by the New Jersey Geodetic Control Survey pursuant to P.L. 1934, c.116. They include the following types:

1. Monument-(Mon), Disk-(DK): A standard United States Coast and Geodetic Survey or New Jersey Geodetic Control Survey disk set in a concrete post, pavement, curb, ledge rock, etc., stamped with a reference number, and used for both horizontal and vertical control.
2. Point (Pt.): A State highway, tidelands (riparian), city, etc. survey marker represented by a chiseled cross, punch hole, brass plug, etc. used for horizontal and vertical control. These stations are not marked, but if there should be an enclosing box, the rim is stamped with a number.
3. Rivet-(Rv.): A standard metal rivet set by the New Jersey Geodetic Control Survey, used for vertical control.
4. Mark-(Mk.): Same as point, but used only for vertical control. In the description of such marks there should appear a mark number followed by an equality sign and then the



original name or elevation of the bench mark, and in parentheses the name of the organization which established the mark.

(b) The disturbance of a geodetic control reference mark is discouraged.

The National Geodetic Survey Data Explorer does not identify any geodetic control reference marks on the site. No geodetic control reference marks are known to be present on the site.

5.17 LANDS AND WATERS SUBJECT TO PUBLIC TRUST RIGHTS (N.J.A.C. 7:7-9.48)

(a) Lands and waters subject to public trust rights are tidal waterways and their shores, including both lands now or formerly below the mean high water line, and shores above the mean high water line. Tidal waterways and their shores are subject to the Public Trust Doctrine and are held in trust by the State for the benefit of all the people, allowing the public to fully enjoy these lands and waters for a variety of public uses. Public trust rights include public access which is the ability of the public to pass physically and visually to, from and along the ocean shore and other waterfronts subject to public trust rights and to use these lands and waters for activities such as navigation, fishing and recreational activities including, but not limited to, swimming, sunbathing, surfing, sport diving, bird watching, walking, and boating. Public trust rights also include the right to perpendicular and linear access.

(b) Public access to lands and waters subject to public trust rights shall be provided in accordance with the public access rule, N.J.A.C. 7:7-16.9. Development that does not comply with N.J.A.C. 7:7-16.9, Public access, is discouraged in lands and waters subject to public trust rights.

The project involves the reconstruction of a boat ramp, dredging, and the construction of a public fishing pier for recreational access to the Navesink River. The site is publicly owned and maintained.

6.0 COMPLIANCE WITH GENERAL WATER AREAS RULES (N.J.A.C. 7:7 SUBCHAPTER 12)

General water areas are all water areas which are located below either the spring high water line or the normal water level of non-tidal waters. General water areas are subject to this subchapter and to special area rules.

6.1 BOAT RAMPS (N.J.A.C. 7:7-12.3)

(a) Boat ramps are inclined planes, extending from the land into a water body for the purpose



of launching a boat into the water until the water depth is sufficient to allow the boat to float. Boat ramps are most frequently constructed of asphalt, concrete or crushed shell.

(b) Boat ramps are conditionally acceptable provided:

- 1. There is a demonstrated need that cannot be met by existing facilities;*
- 2. They cause minimal practicable disturbance to intertidal flats or subaqueous vegetation;*
- 3. Boat ramps shall be constructed of environmentally acceptable material, such as concrete or oyster shells; and*
- 4. Garbage cans are provided near the boat ramp.*

(c) Public use ramps shall have priority over restricted use and private ramps.

The project includes the reconstruction of a public boat ramp for enhanced public access to the Navesink River. The reconstruction of an existing ramp causes less disturbance than construction of a new ramp at another location in the municipality. The proposed ramp will be constructed with concrete and trash receptacles will be located near the ramp.

6.2 RECREATIONAL DOCKS AND PIERS (N.J.A.C. 7:7-12.5)

(a) Recreational and fishing docks and piers are structures supported on pilings driven into the bottom substrate, or floating on the water surface or cantilevered over the water, which are used for recreational fishing or for the mooring of boats or jet skis used for recreation or fishing, except for commercial fishing, and house boats.

(b) Recreational docks and piers, including jet ski ramps, and mooring piles, are conditionally acceptable provided:

- 1. There is a demonstrated need that cannot be satisfied by existing facilities;*

The owner and applicant proposes the construction of a fishing pier to provide recreational access to the Navesink River that is not currently available at the property.

- 2. The construction minimizes adverse environmental impact to the maximum extent feasible;*

The fishing pier has been designed to minimize adverse environmental impact to the maximum extent feasible. It will be located alongside an existing boat ramp that currently allows for public access to the River at this location. The widths of the proposed fixed pier, ramp, and floating dock have been limited to the minimum length possible while maintaining the functionality of the structure.

- 3. The docks and piers and their associated mooring piles are located so as to not conflict with overhead transmission lines;*



The fishing pier will not conflict with overhead transmission lines as there are none onsite.

4. *There is minimum feasible interruption of natural water flow patterns;*

There is minimum feasible interruption of natural water flow patterns.

5. *If the dock, pier, or boat mooring is associated with a lot that has frontage on both a manmade lagoon and a natural waterway, the dock, pier, or boat mooring shall be located on the man-made lagoon, unless locating the dock, pier, or boat mooring on the lagoon would not otherwise comply with this section or any other provisions of this chapter;*

The property only has frontage on the Navesink River.

6. *Space between horizontal planking is maximized and width of horizontal planking is minimized to the maximum extent practicable. Under normal circumstances, a minimum of 3/8 inch, 1/2 inch, 3/4 inch, or one inch space is to be provided for four inch, six inch, eight to 10 inch, or 12 inch plus wide planks, respectively. The Department may consider an alternative dock design that allows sunlight penetration equal or greater than that allowed by the spacing of planking described in this paragraph. Alternative designs include, for example, grate decking that is constructed of metal, wood, aluminum, or other similar materials that allow sunlight penetration through the grates within the dock or pier;*

Space between horizontal planking is maximized and width of horizontal planking is minimized to the maximum extent practicable.

7. *The width of the structure shall not exceed twice the clearance between the structure and the surface of the ground below or the water surface at mean high tide (measured from the bottom of the stringers), except for floating docks whose width shall not exceed eight feet. Under typical circumstances, the maximum width of the structure shall be eight feet over water and six feet over wetlands and intertidal flats, except as noted at (b)7iii below. For the purposes of this section, an intertidal flat is a low lying strip of land along a shoreline located between spring high and spring low tides. The height of the structure over wetlands shall be a minimum of four feet regardless of width;*
- i. A minimum of eight feet of open water shall be provided between any docks if the combined width of the docks over the water exceeds eight feet;*
 - ii. Construction and placement of the dock shall be a minimum of four feet from all property lines, for docks which are perpendicular to the adjacent bulkhead or shoreline; and*
 - iii. In man-made lagoons only, the maximum width of the structure shall be eight feet over water and six feet over wetlands; The height of the structure over wetlands shall be a minimum of four feet;*



The proposed fishing pier is more than four feet from all property lines. The floating dock is six feet in width. The fixed pier is seven feet wide and does not exceed twice the clearance between the structure and the surface below. There are no wetlands in the project site.

8. *In man-made lagoons only, the structure extends no more than 20 percent of the width of the lagoon from bank to bank; and*

N/A.

9. *The proposed structure and associated mooring piles do not hinder navigation or access to adjacent water areas. A hazard to navigation will apply to all potential impediments to navigation, including access to adjacent moorings, water areas and docks and piers.*

The proposed fishing pier will not hinder navigation or access to adjacent water areas. The subject property is located along the Navesink River.

6.3 NEW DREDGING (N.J.A.C. 7:7-12.7)

(a) New dredging is the removal of sediment that does not meet the definition of maintenance dredging at N.J.A.C. 7:7-12.6 or the definition of environmental dredging at N.J.A.C. 7:7-12.8. The temporary or permanent displacement or removal of sediment for the purpose of installing submerged pipelines and cables is considered new dredging.

(b) New dredging and the management of the dredged material shall be conducted in accordance with Appendix G.

(c) New dredging is conditionally acceptable in all general water areas for boat moorings, navigation channels, anchorages, or submerged cable or pipelines provided:

1. *There is a demonstrated need that cannot be satisfied by existing facilities;*
2. *The facilities served by the new dredging satisfy the location requirements for special water's edge areas;*
3. *The adjacent water areas are currently used for recreational boating, commercial fishing or marine commerce;*
4. *The dredge area causes no significant disturbance to special water or water's edge areas;*
5. *The adverse environmental impacts are minimized to the maximum extent feasible;*
6. *The dredge area is reduced to the minimum practical;*
7. *The maximum depth of the newly dredged area shall not exceed that of the connecting access or navigation channel necessary for vessel passage to the bay or ocean;*
8. *The new dredging will have no adverse impacts on groundwater resources;*



9. *No dredging shall occur within 10 feet of any wetlands. The proposed slope from this 10 foot buffer to the nearest edge of the dredged area shall not exceed three vertical to one horizontal; and*
10. *The new dredging shall be accomplished consistent with all of the following conditions, as appropriate to the dredging method:*
 - i. *An acceptable dredged material placement site with sufficient capacity will be used. (See N.J.A.C. 7:7-12.9, Dredged material disposal in water areas, and N.J.A.C. 7:7-15.12, Dredged material placement on land.). The Department will make an acceptable use determination for the beneficial use of dredged material in accordance with Appendix G;*
 - ii. *Pre-dredging chemical and physical analysis of the dredged material, including water quality predictive analyses for surface water and ground water may be required where the Department suspects contamination of sediments. Additional testing, such as bioaccumulation and bioassay testing of sediments, may also be required as needed to determine the acceptability of the proposed placement site for the dredged material. The results of these tests will be used to determine if contaminants may be resuspended at the dredging site and what methods may be needed to control their escape. The results will also be used to determine acceptability of the proposed dredged material placement method and site;*
 - iii. *Turbidity concentrations (that is, suspended sediments) and other water quality parameters at, downstream, and upstream of the dredging site, and discharges from dredged material management areas (see N.J.A.C. 7:7-9.49) shall meet applicable Surface Water Quality Standards at N.J.A.C. 7:9B. The Department may require the permittee to conduct biological, physical, and chemical water quality monitoring before, during, and after dredging and disposal operations to ensure that water quality standards are not exceeded;*
 - iv. *If predicted water quality parameters are likely to exceed Surface Water Quality Standards at N.J.A.C. 7:9B, or Ground Water Quality Standards at N.J.A.C. 7:9C, or if pre-dredging chemical analysis of dredged material, including surface water and ground water quality predictive analyses, reveals significant contamination, then the Department will work cooperatively with the applicant to fashion acceptable control measures and will impose seasonal restrictions under the specific circumstances identified at (b)10vii below;*
 - v. *For new dredging using mechanical dredges deploying silt curtains at the dredging site may be required, if feasible based on site conditions as provided in Appendix G. Where the use of silt curtains is infeasible, dredging using closed watertight buckets or lateral digging buckets may be required. The Department may also require the use of additional best management practices when highly contaminated sediments are to be dredged;*
 - vi. *For hydraulic dredges, specific operational procedures designed to minimize water quality impacts, such as removal of the cutter head, flushing of pipeline sections prior to disconnection, or limitations on depth of successive cuts, may be required;*



- vii. *The Department may authorize dredging on a seasonally restricted basis only, in waterways characterized by the following:*
- (1) Known spawning, wintering or nursery areas of shortnose sturgeon, winter flounder, Atlantic sturgeon, alewife, blueback herring, striped bass or blue crab;*
 - (2) Water bodies downstream of known anadromous fish spawning sites under N.J.A.C. 7:7-9.5, Finfish migratory pathways, where the predicted turbidity plume will encompass the entire cross-sectional area of the water body, thus forming a potential blockage to upstream migration;*
 - (3) Areas of contaminated sediments with high levels of fecal coliform and/or streptococcus bacteria, and/or hazardous substances adjacent to (upstream or downstream) State approved shellfishing waters and public or private bathing beaches; or*
 - (4) Areas within 1,000 meters or less of oyster beds as defined in N.J.A.C. 7:7-9.2; and*
- viii. *Side slopes shall not be steeper than three vertical to one horizontal adjacent to wetlands to prevent undermining and/or sloughing of the wetlands.*

(d) Propwash dredging, which is the movement of sediment by resuspending accumulated material by scouring the bottom with boat propellers or specially designed equipment with propellers, is prohibited.

The existing facilities do not currently provide sufficient depths for appropriate access for boating on the Navesink River. The adjacent water areas are currently used for recreational boating. The dredge area causes no significant disturbance to special water or water's edge areas and adverse environmental impacts are minimized to the maximum extent feasible. The dredge area is reduced to the minimum practical to allow for sufficient access to the boat ramp. The maximum depth of the newly dredged area will not exceed that of the connecting access or navigation channel necessary for vessel passage to the bay or ocean. The new dredging will have no adverse impacts on groundwater resources. No dredging shall occur within 10 feet of any wetlands, as there are none onsite. A Sampling Plan has been submitted to the Department for approval before proceeding with sampling of the dredge area. All dredge material will be disposed of in accordance with NJDEP requirements and based on the results of the sampling analysis.



6.4 MOORING (N.J.A.C. 7:7-12.12)

(a) A boat mooring is a temporary or permanently fixed or floating anchored facility in a water body for the purpose of attaching a boat.

(b) Temporary or permanent boat mooring areas are conditionally acceptable provided:

- 1. There is a demonstrated need that cannot be satisfied by existing facilities;*
- 2. Adverse environmental impacts are minimized to the maximum extent practicable; and*
- 3. The mooring area is adequately marked and is located so as not to hinder navigation. A hazard to navigation will apply to all potential impediments to navigation, including access to adjacent moorings, water areas, docks and piers.*

The proposed fishing pier will also allow for temporary mooring of boats that are using the public boat ramp for River access. An LED light will be added to the adjoining jetty for safety during navigation.

7.0 COMPLIANCE WITH RESOURCE RULES (N.J.A.C. 7:7 SUBCHAPTER 16)

In addition to satisfying the location and use rules, a proposed development must satisfy the requirements of this subchapter. This subchapter contains the standards the Department utilizes to analyze the proposed development in terms of its effects on various resources of the built and natural environment of the coastal zone, both at the proposed site as well as in its surrounding region.

7.1 MARINE FISH AND FISHERIES (N.J.A.C. 7:7-16.2)

(a) Marine fish are marine and estuarine animals other than marine mammals and birds. Marine fisheries means:

- 1. One or more stocks of marine fish which can be treated as a unit for the purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational and economic characteristics; and*
- 2. The catching, taking or harvesting of marine fish.*

(b) Any activity that would adversely impact on the natural functioning of marine fish, including the reproductive, spawning and migratory patterns or species abundance or diversity of marine fish, is discouraged. In addition, any activity that would adversely impact any New Jersey based marine fisheries or access thereto is discouraged, unless it complies with (c) below.



The proposed reconstructed boat ramp, dredging, and new fishing pier will not adversely impact the natural functioning of marine fish. The project activities occur in an existing point of public access to the River.

7.2 WATER QUALITY (N.J.A.C. 7:7-16.3)

(a) As required by Section 307(f) of the Federal Coastal Zone Management Act, 16 U.S.C. § 1451 et seq., Federal, State, and local water quality requirements established under the Federal Clean Water Act, 33 U.S.C. § 1251 et seq., shall be the water resource standards of the coastal management program. These requirements include not only the minimum requirements imposed under the Clean Water Act but also the additional requirements adopted by states, localities, and interstate agencies pursuant to Section 510 of the Clean Water Act and such statutes as the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. In the Delaware River Basin, the requirements include the prevailing “Basin Regulations-Water Quality” adopted by the Delaware River Basin Commission as part of its Comprehensive Plan. In the waters under the jurisdiction of the Interstate Environmental Commission in the New Jersey-New York metropolitan area, the requirements include the Interstate Environmental Commission’s Water Quality Regulations. Department rules related to water pollution control and applicable throughout the entire coastal zone include, for example, the Surface Water Quality Standards (N.J.A.C. 7:9B), the Ground Water Quality Standards (N.J.A.C. 7:9C), and the New Jersey Pollutant Discharge Elimination System rules (N.J.A.C. 7:14A).

(b) Coastal development which would violate the Federal Clean Water Act, or State laws, rules and regulations enacted or promulgated pursuant thereto, is prohibited. In accordance with N.J.A.C. 7:15 concerning the Water Quality Management Planning and Implementation process, coastal development that is inconsistent with an approved Water Quality Management (208) Plan under the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., is prohibited.

The proposed reconstructed boat ramp, dredging, and new public fishing pier do not violate the Federal Clean Water Act or State laws, rules and regulations pursuant to the Clean Water Act. Dock construction does not generate wastewater and is not subject to the Water Quality Management Plan. The proposed structures are an acceptable activity in the waters of the Navesink River to provide recreational access to the River.

7.3 PUBLIC ACCESS (N.J.A.C. 7:7-16.9)

(a) Public access to the waterfront is the ability of the public to pass physically and visually to, from, and along tidal waterways and their shores and to use such shores, waterfronts and waters for activities such as navigation, fishing, and recreational activities including, but not limited to, swimming, sunbathing, surfing, sport diving, bird watching, walking, and boating. Public



accessways and public access areas include streets, paths, trails, walkways, easements, paper streets, dune walkovers/walkways, piers and other rights-of way. No authorization or approval under this chapter shall be deemed to relinquish public rights of access to and use of lands and waters subject to public trust rights in accordance with N.J.A.C.7:7-9.48. Further, no authorization or approval under this chapter shall be considered a Tidelands approval or shall exempt an applicant from the obligation to obtain a Tidelands approval, if needed.

The project involves the construction of a public fishing pier, dredging, and the reconstruction of an existing boat ramp for recreational access to the Navesink River. The purpose of the project is to provide enhanced public access to the waterfront.



8.0 REFERENCES

- NOAA. 2014. Chart 12325 - Navesink And Shrewsbury Rivers, Harbor Chart <http://www.charts.noaa.gov/PDFs/12325.pdf>. Accessed October 2018
- NJDEP. 2011. *Surface Water Quality Standards (N.J.A.C. 7:9B)*. Trenton, NJ
- NJDEP. 2018. *Coastal Zone Management Rules (N.J.A.C. 7:7)*. Trenton, NJ
- NJDEP. 2018a. *Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A)*. Trenton, NJ
- NJDEP. 2018b. New Jersey and National Registers of Historic Places. NJDEP Historic Preservation Office (updated 09/13/2018). http://www.nj.gov/dep/hpo/1identify/nrsr_lists/Monmouth.pdf (Accessed October 2018)
- NJDEP. 2018c. NJ-GeoWeb. Available online at <http://www.nj.gov/dep/gis/geoweb splash.htm>. Accessed October 2018.
- NJDEP, Bureau of Shellfisheries. 1983. *Inventory of New Jersey's Estuarine Shellfish Resources*.
- NOAA. 2012. National Geodetic Survey Data Explorer. <http://www.ngs.noaa.gov/NGSDDataExplorer/>. Accessed November 2018.

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APPENDICES



APPENDIX A

SITE LOCATION MAPS



Corporate Headquarters
 331 Newman Springs Road
 Suite 203
 Red Bank, NJ 07701
 T: 732.383.1950
 F: 732.383.1984
www.maserconsulting.com

USGS Map

Battin Road Boat Ramp
 Fair Haven, Monmouth County, New Jersey

Source: Long Branch West Quadrangle

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004982B



Corporate Headquarters
331 Newman Springs Road
Suite 203
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Aerial Photograph
Battin Road Boat Ramp
Fair Haven, Monmouth County, New Jersey

Source: USFWS Wetlands Mapper

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004982B



Corporate Headquarters
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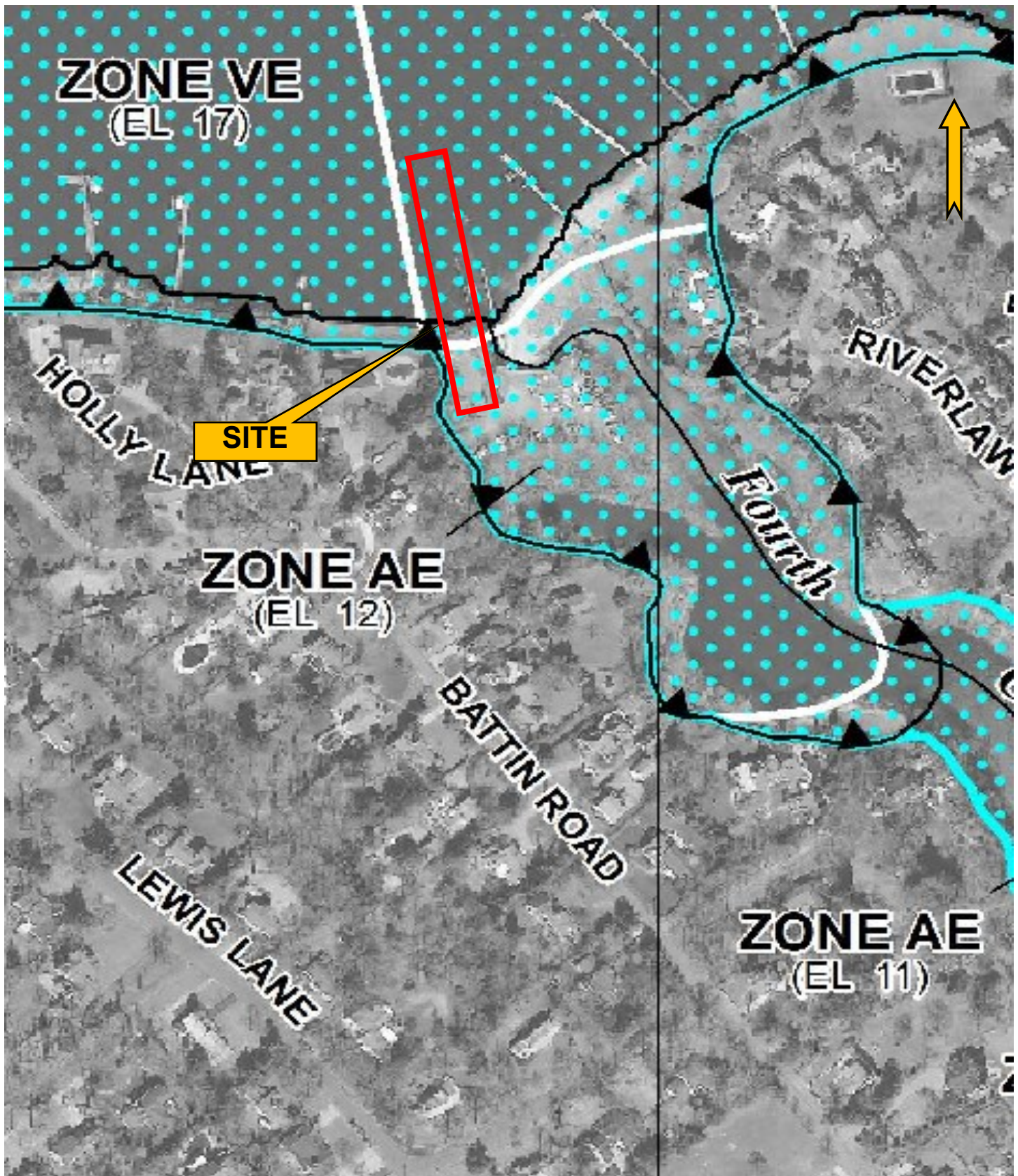
Soil Survey Map
Battin Road Boat Ramp
Fair Haven, Monmouth County, New Jersey

Source: Web Soil Survey

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004982B



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FEMA Flood Map
Battin Road Boat Ramp
Fair Haven, Monmouth County, New Jersey

Source: Map Number 34025C0181G
Revised Preliminary January 30, 2015

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004982B



APPENDIX B

SITE PHOTOGRAPHS



Site Photos
Battin Road Boat Ramp
Battin Road R-O-W, Borough of Fair Haven, Monmouth County, New Jersey
MC Project No. 17004983A



Photo view 1. Northerly view of termination of Battin Road at boat ramp.



Photo view 2. Northeasterly view of existing boat ramp and bulkhead.



Site Photos
Battin Road Boat Ramp
Battin Road R-O-W, Borough of Fair Haven, Monmouth County, New Jersey
MC Project No. 17004983A



Photo view 3. Northwesterly view of existing bulkhead/breakwater.



Photo view 4. Northerly view of boat ramp and adjoining bulkhead to the west.



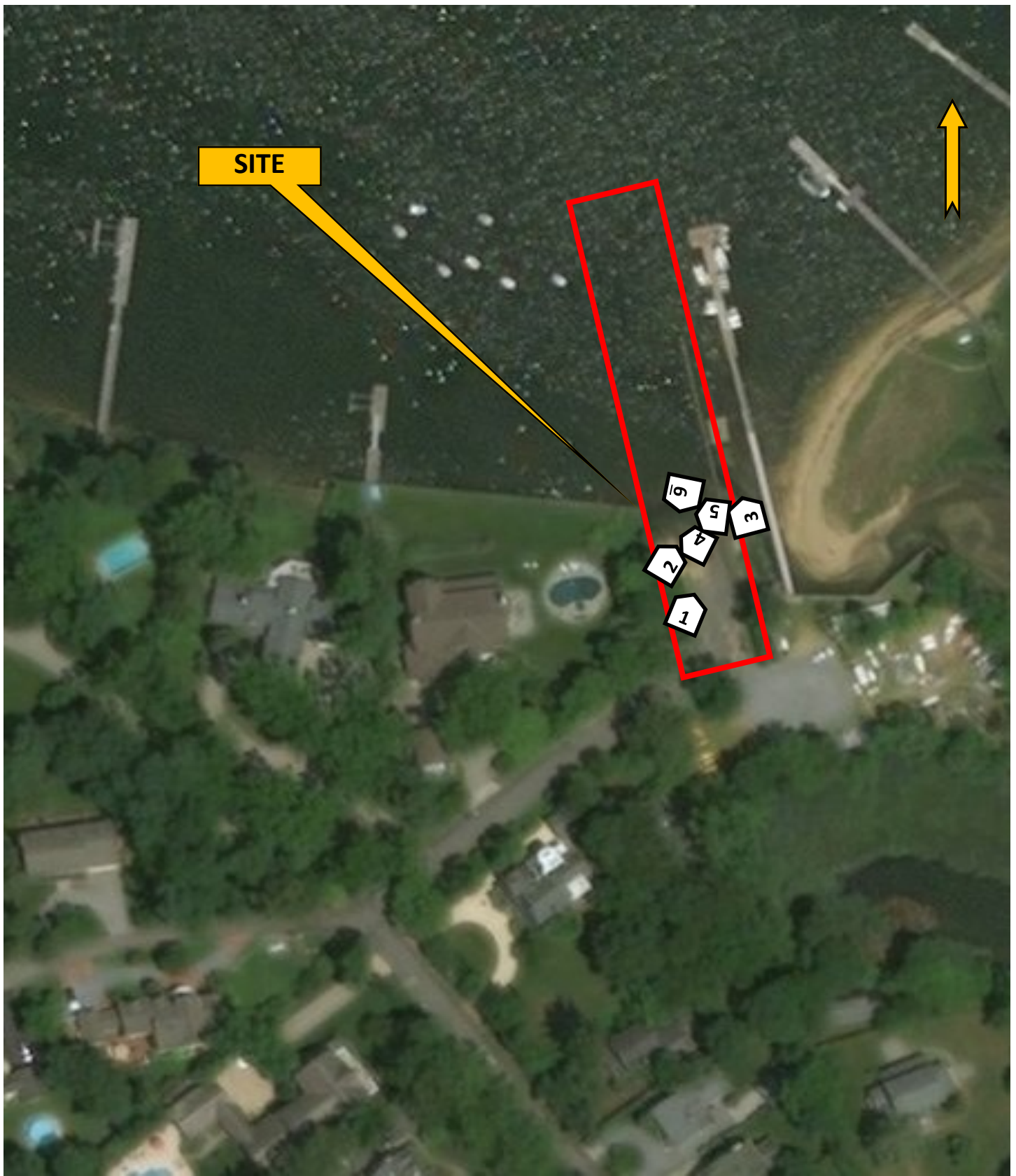
Site Photos
Battin Road Boat Ramp
Battin Road R-O-W, Borough of Fair Haven, Monmouth County, New Jersey
MC Project No. 17004983A



Photo view 5. Northwesterly view of Battin Road leading to boat ramp.



Photo view 6. Southwesterly view of boat ramp and adjoining bulkhead.



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Aerial Photograph
Battin Road Boat Ramp
Fair Haven, Monmouth County, New Jersey

Source: USFWS Wetlands Mapper

Scale: Not to Scale

Date: January 9, 2018

Project Number: 17004982B



APPENDIX C

NATURAL HERITAGE PROGRAM

DATABASE SEARCH RESULTS



State of New Jersey

MAIL CODE 501-04

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF PARKS & FORESTRY

NEW JERSEY FOREST SERVICE

OFFICE OF NATURAL LANDS MANAGEMENT

P.O. BOX 420

TRENTON, NJ 08625-0420

Tel. (609) 984-1339 Fax (609) 984-0427

PHILIP D. MURPHY

Governor

SHEILA Y. OLIVER

Lt. Governor

CATHERINE R. McCABE

Commissioner

August 22, 2019

Jacqueline M. McCort
Maser Consulting P.A.
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701

Re: Battin Road Boat Ramp (MC Project No. 17004982B)
Fair Haven Borough, Monmouth County

Dear Ms. McCort:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.3) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the topographic map(s) submitted with the Natural Heritage Data Request Form into our Geographic Information System. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

We have also checked the Landscape Project habitat mapping and Biotics Database for all occurrences of rare wildlife species or wildlife habitat within one mile of the referenced site. Please refer to Table 3 (attached) to determine if any rare wildlife species or wildlife habitat is documented within one mile of the project site. Detailed reports are provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on the project site.

For requests submitted in order to make a riparian zone width determination as part of a Flood Hazard Area Control Act (FHACA) rule application, we report records for all rare plant species and ecological communities tracked by the Natural Heritage Program that may be on, or in the immediate vicinity of, your project site. A subset of these plant species are also covered by the FHACA rules when the records are located within one mile of the project site. One mile searches for FHACA plant species will only report precisely located occurrences for those wetland plant species identified under the FHACA regulations as being critically dependent on the watercourse. Please refer to Table 3 (attached) to determine if any precisely located rare wetland plant species covered by the FHACA rules have been documented. Detailed reports are

NHP File No. 19-4007338-17365

provided for each category coded as 'Yes' in Table 3. These reports may include species that have also been documented on, or in the immediate vicinity of, the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1, 2 and 3 (attached) to determine if any priority sites are located on, in the immediate vicinity, or within one mile of the project site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from <http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html>. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from http://www.state.nj.us/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf.

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.3. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL, <https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=0e6a44098c524ed99bf739953cb4d4c7>, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at <http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html>.

PLEASE SEE 'CAUTIONS AND RESTRICTIONS ON NHP DATA', which can be downloaded from <http://www.state.nj.us/dep/parksandforests/natural/heritage/newcaution2008.pdf>.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,



Robert J. Cartica
Administrator

c: NHP File No. 19-4007338-17365

Mail Code 501-04
Department of Environmental Protection
New Jersey Forest Service
Office of Natural Lands Management
P.O. Box 420 Trenton, New Jersey 08625-0420
Tel. (609) 984-1339 Fax. (609) 984-1427

Invoice

Date	Invoice #
8/22/2019	17365

Bill to:
Maser Consulting P.A.
331 Newman Springs Road, Suite 203
Red Bank, NJ 07701

Make check payable to:
DEP - Office of Natural Lands Management

Forward with a copy of this statement to:
Mail Code 501-04
Office of Natural Lands Management
P.O. Box 420 Trenton, New Jersey 08625-0420

Quantity (hrs.)	Description	Rate (per hr.)	Amount
1	Natural Heritage Database search for locational information of rare species and ecological communities. Project: 19-4007338-17365	\$ 70.00	\$ 70.00
Jacqueline M. McCort Project Name: Battin Road Boat Ramp (MC Project No. 17004982B)		Total	\$ 70.00

Table 1: On Site Data Request Search Results (6 Possible Reports)

<u>Report Name</u>	<u>Included</u>	<u>Number of Pages</u>
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches
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Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
<i>Aves</i>								
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Foraging	4	NA	State Endangered	G4	S1B,S1N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N

Table 2: Vicinity Data Request Search Results (6 possible reports)

<u>Report Name</u>	<u>Included</u>	<u>Number of Pages</u>
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Strank
<i>Aves</i>								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Foraging	4	NA	State Endangered	G4	S1B,S1N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N

***Table 3: Within 1 Mile for Riparian Zone Width Determination
(6 possible reports)***

<u>Report Name</u>	<u>Included</u>	<u>Number of Pages</u>
1. Rare Plant Species Occurrences for Riparian Zone Width Determination (Flood Hazard Area Control Act Rule Application) - Within One Mile of the Project Site Based on Search of Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites for Riparian Zone Width Determination - Within One Mile of the Project Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species for Riparian Zone Width Determination - Within One Mile of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

Rare Wildlife Species or Wildlife Habitat for Riparian Zone Width Determination Within One Mile of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches
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Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Strank
<i>Aves</i>								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Least Tern	Sternula antillarum	Foraging	4	NA	State Endangered	G4	S1B,S1N
	Osprey	Pandion haliaetus	Foraging	3	NA	State Threatened	G5	S2B,S4N
	Osprey	Pandion haliaetus	Nest	3	NA	State Threatened	G5	S2B,S4N
	Wood Thrush	Hylocichla mustelina	Breeding Sighting	2	NA	Special Concern	G4	S3B,S4N



APPENDIX D

QUALIFICATIONS OF PREPARERS

JOSEPH P. LAYTON

Principal Associate/Assistant Department
Manager/Ecological Services

EDUCATION

- B.S. Environmental Planning and Natural Resource Management, Rutgers University, Cook College, 1992

PROFESSIONAL CERTIFICATIONS

- NJDEP Certified Subsurface Evaluator, License #229606
- NJDEP Certified Underground Storage Tank Closure
- Environmental Assessment Association - Certified Environmental Specialist
- Certified Remediation Specialist
- Radon Measurement Specialist #MES11066
- 40 Hr NJ/EPA Model Lead Inspector/Risk Assessor
- OSHA 40 Hr HAZWOPER Training
- 8-Hour OSHA HAZWOPER Refresher Training

PROFESSIONAL AFFILIATIONS

- Ecological Society of America
- Society of Wetland Scientists

EXPERIENCE

Mr. Layton is an Environmental Scientist with over 24 years of experience including an extensive background and expertise in environmental sciences. His expertise includes an emphasis on wetland delineation, regulatory permitting and compliance, environmental assessment, environmental impact analysis, and soil evaluation. His diversified experience also includes natural resource evaluations, ecological research, watershed management, subsurface explorations, underground storage tank exploration and removal, soil classification systems, and environmental sampling design and protocol in accordance with State and Federal regulations. He utilizes Geographic Information Systems (GIS) and Global Positioning Systems (GPS) in environmental sampling and studies, including site remediation design and sampling, groundwater and surface water quality monitoring and management, and lake rehabilitation/restoration.

As Assistant Department Manager, Mr. Layton has utilized the aforementioned experience and technical skills to successfully assist clients with litigation support and regulatory compliance and has been deemed an expert in the field by various Planning and Zoning Boards while providing testimony regarding the same. His proven dedication to client satisfaction has resulted in long standing professional relationships. His client base includes private development and redevelopment companies, municipalities, county governments, infrastructure authorities, daycare facilities, higher education institutions, financial institutions, utility companies, and law firms.

CONTINUING EDUCATION

- Methodology for Delineating Wetlands, Cook College.
- Vegetation Identification for Wetland Delineation, Cook College
- Hydrology of Wetlands, Cook College
- Endangered & Threatened Species of New Jersey, Cook College
- Lake Management, Cook College
- Soils and Site Evaluation for Septic Disposal Systems & Stormwater BMP's, Cook College
- Site Remediation Basics, Cook College
- Remedial Decision Making, Cook College
- Ecological Risk Management, Cook College



PROJECTS

Groundwater Quality Monitoring/ Management

Responsible for designing, implementing, and preparing groundwater monitoring and management plans. A sampling of representative projects includes the following:

- **New Jersey National Golf Club Groundwater Quality Monitoring Plan**
Township of Bernards, Somerset County, NJ
Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.
- **Leisure Glen Retirement Community**
Township of Manchester, Ocean County, NJ
Responsible for determining the location, depth and sampling parameters of groundwater monitoring wells in a 2,500-unit retirement and 18-hole golf course community widening, complete resurfacing of all 13 miles of existing roadway, safety improvements and implementation, as well as construction of IVHS systems in this corridor.
- **Trump National Hudson Valley Golf Club Groundwater Quality Monitoring Plan**
Township of Bernards, Somerset County, NJ
Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.

Watershed Management /Lake Restoration

Responsible for determining sources of non-point pollution using available mapping and field reconnaissance, determining watershed boundaries, and preparing best management practices manuals.

- **The Great Swamp National Wildlife Refuge Watershed Management Study**
Morris and Somerset Counties, NJ
- **Wemaconk Lake Restoration**
Borough of Englishtown, Monmouth County, NJ

Wetland Delineation

Involved in the identification and delineation of numerous freshwater and tidal wetlands (over 10,500 acres) in New Jersey and New York. The assessment of wetland value (resource classification) was involved for many of these wetlands.

- **Runyon Interceptor Trunk Sanitary Sewer Line Alignment**
Township of Old Bridge, Middlesex County, NJ
Determined alignment of two miles of sanitary sewer on a 400-acre+ site using aerial photography and site inspections minimizing impacts to numerous wetland communities.
- **Oakwood at Old Bridge**
Township of Old Bridge, Middlesex County, NJ
Delineated freshwater wetlands on a 235-acre site, half of which was wetlands.
- **Ashland/Former Hercules Plant**
Parlin, Middlesex County, NJ
Delineated freshwater wetlands on a 300-acre site formerly utilized as a munitions plant in 1930s-1960s.
- **MEC Power Generating Facility**
Sayreville Borough, Middlesex County, NJ
Delineated freshwater and tidal wetlands on a 40-acre site formerly utilized as a landfill. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.
- **Gates Landfill**
Jersey City, Hudson County, NJ
Delineated freshwater and tidal wetlands on a 60-acre site formerly utilized as a fly-ash landfill of a PSEG power generating facility. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.



Permit Applications

Prepared environmental permits for private residential, commercial and industrial projects. This has included U.S. Army Corps of Engineers Permits and New Jersey Department of Environmental Protection Freshwater Wetland Permits, Freshwater Wetland Transition Area Waivers, Individual Permits, Waterfront Development Permits, and CAFRA Permits.

- **National Lead Redevelopment**
Borough of Sayreville, Middlesex County, NJ
Prepared and obtained numerous Coastal and Land Use permits from the NJDEP-DLUR and USACE to effectuate remediation of the largest redevelopment project currently in the State of New Jersey. The redevelopment of the site also required a Freshwater Wetlands Individual Permit which was also approved for the project.
- **Transcontinental Gas Pipeline Armoring**
Township of Hopewell, Mercer County, NJ
Prepared and obtained an Individual Permit from the NJDEP-LURP to permanently disturb a stream and its associated wetland to construct armoring to protect a Transcontinental Gas Pipeline.
- **The Hills Development**
Township of Bernards, Somerset County, NJ
Prepared and obtained majority of wetland permitting for a 5,300 residential unit, 400,000 SF of commercial and professional office space and an 18-hole golf course planned development in an environmentally sensitive ecosystem.
- **Apple Cove Development**
Township of Middletown, Monmouth County, NJ
Prepared and obtained freshwater wetland and CAFRA permits for single-family, residential subdivision located along a tidally influenced watercourse.
- **Trump National Pine Hill Golf Club**
Pine Hill, Camden County, NJ
Prepared and obtained freshwater wetland Individual permits for redeveloping a former amusement park into a premier golf course. Rehabilitating/reconstructing the only remaining native Brook trout stream in southern New Jersey was required as part of permit approval.
- **Frenchtown Nishisakawick Creek Stream Bank Restoration**
Borough of Frenchtown, Hunterdon County, NJ
Through funding by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), the Borough of Frenchtown sought to restore and stabilize eroded streambanks along Nishisakawick Creek, a highly protected water in the state of New Jersey. Mr. Layton provided oversight and management of the ecological team. The scope included delineation of wetlands and open waters, restoration design oversight, and prepared applications to the NJDEP for a Freshwater Wetlands Individual Permit and Flood Hazard Area Individual Permit.

Environmental Assessments/Regulatory Compliance

Prepared and conducted Environmental Phase I Assessments for residential, commercial, and industrial property transfers in accordance with ASTM and Fannie Mae guidelines. Also prepared and conducted Preliminary Assessments, Site Investigations, Remedial Investigations, and Remedial Action Work Plans in accordance with N.J.A.C. 7:26E.

- **Heavenly Farms**
Township of East Brunswick, Middlesex County, NJ
Prepared and performed Preliminary Remedial Investigation/Action to obtain a "Letter of No Further Action" for a 230-acre farm with contaminated soils for development of recreational fields.
- **Marlboro Psychiatric State Hospital**
Marlboro Township, Monmouth County, NJ
Consultant to the Township of Marlboro regarding the municipality purchasing a 411-acre State-owned psychiatric hospital. Responsible for identifying areas of environmental concern, review of environmental investigation and remediation reporting generated by State contractors and making recommendations to the municipality regarding environmental concerns and purchase of the property.



- **Columbian Chemicals Mapico Iron Oxide Plant**
South Brunswick Township, Middlesex County, NJ
Prepared and performed preliminary assessment/site investigation, remedial investigation/action and Baseline Ecological Evaluation to obtain a "Letter of No Further Action" from the NJDEP to develop an 86-acre former chemical plant in a residential land use. Extensive soil and groundwater contamination was remediated.
- **The Villas at Shoregate**
City of South Amboy, Middlesex County, NJ
Prepared and performed Preliminary Assessment/Site investigation to obtain a "Letter of No Further Action" for a 16-acre, former dredge disposal area adjacent to the Raritan Bay.
- **Rolling Acres Subdivision**
Monroe Township, Middlesex County, NJ
Prepared and performed Preliminary Assessment, Site Investigation, and Remedial Investigation/Action to obtain a "Letter of No Further Action" for a 168-acre farm with contaminated soils.
- **Stewart International Airport**
Town of New Windsor, Orange County, NY
Consultant to potential leaseholders to the Port Authority New York and New Jersey to determine potential environmental areas of concern to development. This included Phase I and Phase II investigations in accordance with ASTM standards.

Subsurface Exploration/Evaluation

Capable of evaluating soils in accordance with NJDEP's Chapter 199 for subsurface sewage disposal systems. Able to establish depth of water tables, evaluate suitability of sites for subsurface disposal systems, perform percolation tests, basin flood tests, pit bail tests and tube permeameter tests. Capable of evaluating subsurface conditions utilizing the Burmister classification system, USDA Soil Taxonomy terminology and the Unified classification system.

Environmental Impact Assessment

Prepared numerous environmental impact statements and assessments for a wide variety of projects, including residential and commercial developments for both the public and private sector.

- **Taconic Homes Site Bog Turtle Survey and Wildlife Inventory**
Village of Pleasant Valley, Dutchess County, NY
Performed survey for bog turtle on a 76± acre tract using Phase II survey methods. Also performed a limited wildlife inventory during the spring season. This work was performed to satisfy lead agency requirements under the NY SEQRA.
- **Middlesex County Educational Services Commission Special Education Facility**
Borough of Sayreville, Middlesex County, NJ
Provided environmental services to conduct a Phase I environmental assessment associated with professional engineering services for a 65,000 SF special education facility with a pool, a future building, associated parking lot, and a playground. Tasks included a historical review of project site, industrial / commercial historical review, site visit to identify obvious visual signs of contamination and use of hazardous materials, project approval status review, review of existing, local, state and federal records, review of adjacent lands, preparation of site location map, and report preparation.
- **Capodagli Property Company Phase I Assessment**
North Arlington Borough, Bergen County, NJ
Provided environmental services to delineate wetlands, prepare an application for a Letter of Interpretation to the New Jersey Department of Environmental Protection, and prepare a Phase I Environmental Assessment for the property that is between .5 to 1.0 acres and adjacent to the Passaic River, and regulatory permitting (NJDEP upland waterfront development and waterfront development, NJDEP tidelands conveyance, and US Army Corps of Engineers Section 10 – installation of outfall structure).



- **New Gregory Elementary School (NJSCC Funded)**

- **City of Long Branch, Monmouth County, NJ**

- Provided site design, civil, and environmental engineering services for a proposed three-story, 45,000 SF elementary school to accommodate children from pre-kindergarten through 5th grade located on a six-acre tract of land. Environmental services included wetlands evaluation, preliminary assessment (PA), site investigation (SI), and environmental impact statement (EIS)/ EO 215, and environmental regulatory permitting (NJDEP statewide general, and NJDEP treatment and water works). The preliminary assessment (PA) report indicated four areas of Concern (AOC). Three UST's, waste piles (plastic bottles, plastic bags, aluminum cans, etc.), one pole mounted electrical transformer and capacitor, and a former railroad easement adjacent to property with inactive rail lines with possible polynuclear aromatic hydrocarbons (PAHs). A site investigation (SI) will be performed to evaluate the presence or absence of soil and groundwater impact associated with UST's and the former railroad easement. A report will be prepared containing all lab results and recommendations for further investigation and/or remedial action as well as projected cost estimates for remedial investigation and cleanup.

- **Diversified Developers, LLC – Retail Store and Day Care Facility**

- **Jackson Township, Ocean County, NJ**

- Provided environmental services to conduct a Phase I environmental assessment associated with the site design and civil engineering services associated with the development of a 35,000 SF retail facility including a day care facility along with typical appurtenant site improvements on approximately 3.8-acres of land. Services included historical review to evaluate past conditions of sites as they relate to existing and proposed uses, industrial/commercial historical review, site visit to identify all obvious visual signs of contamination and the use of hazardous materials, review existing local, State, and federal records, review of adjacent lands, prepared site location map depicting the approximate parcel boundaries, and an area of at least one-mile radius around the site.

- **Thomas Associates – Site Assessment Proposed School Site**

- **City of Bordentown, Burlington County, NJ**

- Provided environmental services for a Phase I Environmental Assessment for a 75-acre parcel of land previously historically farmed for a proposed new school facility. Services included preliminary assessment, SI & RI historical review, industrial and commercial historical review, review of existing local, state and federal records, review of adjacent lands, preparation site location map, preliminary soil screening, delineation of wetlands and LOI and regulatory permitting (stream encroachment, land use regulations freshwater wetlands and soil erosion and sediment control), Colonial Pipeline Crossing/Encroachment and Environmental Impact Statement (EIS).



JACQUELINE M. MCCORT

Associate/Senior Environmental Scientist

EXPERIENCE

EDUCATION

- M.S. Biology, Georgian Court University, 2011
- B.S. with Program Distinction, Environmental Studies, Richard Stockton College of New Jersey, 2001

PROFESSIONAL CERTIFICATIONS

- OSHA 40 Hr Health and Safety and 8 Hr Refresher

PROFESSIONAL AFFILIATIONS

- Society of Wetland Scientists

Ms. McCort is a Senior Environmental Scientist with over 14 years of experience in various facets of environmental science and policy. She specializes in coastal ecology, permitting and compliance, wetland assessment and delineation, habitat assessments, environmental impact analyses, violation resolution, and threatened and endangered wildlife of New Jersey.

As a Senior Environmental Scientist, Ms. McCort consistently and effectively directs projects through State and Federal permitting programs and uses her skills in mediation to resolve conflicts between property owners and the New Jersey Department of Environmental Protection. She is well-versed in coastal zone permitting and successfully obtains permits from the NJDEP and the U.S. Army Corps of Engineers. She has also been involved in numerous volunteer bog turtle studies and investigations using Phase I and Phase II survey techniques. Additionally, Ms. McCort previously served as an Adjunct Professor at both Monmouth University and Stockton University. At Monmouth University, she taught an introductory level Environmental Science class, and at Stockton, she conducted upper level coursework concentrating on Invasive Species Ecology.

PROJECTS

Rushmore Drive Project (16" Gas Main) City of Charlotte, Mecklenburg County, NC

As Senior Environmental Scientist, conducted sensitive resource surveys, permitting, and agency consultation. Project required a Pre-Construction Notification (PCN) for coverage under an USACE NWP-12 (CWS 404) and NCDEQ CWS 401 Water Quality Certification. Since the project has a federal nexus, consultation with the United States Fish and Wildlife Service (USFWS), and NC State Historic Preservation Office (SHPO) was required. Consultations warranted specie specific surveys and Phase 1 Archeological Survey.

T-021 Pipeline Replacement Project Cary and Morrisville, Wake County, NC

A confidential energy client was seeking to upgrade its transmission services in Wake County, NC. The replacement of approximately 3.59 miles of pipeline required the identification, delineation, and mapping of environmental resources such as wetlands, waters, man-made features, and potential federal and state-listed species habitats using Global Positioning System (GPS) technology. Ms. McCort also consulted with various federal agencies to confirm no adverse impacts were anticipated to various sensitive environmental resources as a result of the proposed replacement.



Line 363 M&R Station**City of Charlotte, Mecklenburg County, NC**

As Senior Environmental Scientist, conducted biological surveys and prepared the USACE §404/10 and North Carolina Department of Water Quality (NCDWQ) §401 Joint Permit authorization that included consultation and approval from the USFWS for Threatened and Endangered Species, and the North Carolina State Historic Preservation Office (NCSHPO). Project included replacing an existing M&R Station with a new relocated M&R Station and 180 LF of transmission piping in Charlotte. Services also included monitoring tree clearing and environmental compliance during construction.

Little Creek Relocation Project**Winston-Salem, Forsyth County, NC**

A confidential energy client's existing distribution line and valve had become exposed due to stream morphology, erosion, and incising. Project included the relocation of the line and valve, as well as using engineering controls to reduce erosion. Ms. McCort delineated wetlands and waters and is preparing the USACE §404/10 and North Carolina Department of Water Quality (NCDWQ) §401 Joint Permit authorization that includes consultation and approval from the USFWS for Threatened and Endangered Species, and the North Carolina State Historic Preservation Office (NCSHPO).

Albemarle Transmission Integrity Management Program (TIMP) & Distribution Integrity Management Program (DIMP)**City of Albemarle, Stanly County, NC**

A confidential energy client was seeking to upgrade its network throughout the Albemarle, NC community. The installation of approximately 26,000 LF of natural gas transmission lines and 31,900 LF of natural gas distribution lines requires a desktop analysis of environmental features and biological surveys. As Senior Environmental Scientist, Ms. McCort identified, delineated, and located environmental resources such as wetlands, waters, man-made features, and potential federal and state-listed species habitats using Global Positioning System (GPS) technology. If warranted by project design, Ms. McCort will prepare a Pre-Construction Notification for Nationwide Permit No. 12.

Old Bridge Solar**Old Bridge Township, Monmouth County, NJ**

As Senior Environmental Scientist, provided ecological and permitting services for a solar array which includes 30,722 solar panels with six inverter stations and one switch gear station on a 100+ acre site in Old Bridge Township for CEP Old Bridge, LLC. The project site is located in New Jersey's CAFRA (Coastal Area Facility Review Act) Zone and is constrained by freshwater wetlands, regulated waters, floodplains, historical/cultural resources, and historic fill, thus requiring a complex permitting approach. Ms. McCort successfully obtained a New Jersey Department of Environmental Protection CAFRA Individual Permit, Freshwater Wetlands General Permits, and Freshwater Wetlands Transition Area Waiver for the proposed solar energy facility.

DPMC Archery Park & Hunter Education Training Center**Union Township, Hunterdon County, NJ**

As Environmental Scientist, provided ecological and permitting services for the completion of a new Olympic-caliber indoor archery facility at the Clinton Wildlife Management Area in Union Township for the New Jersey Department of Property Management and Construction (DPMC). The project included the development of an indoor facility, outdoor archery range, and a large parking area for events. The selected project site has challenging permitting and environmental requirements, and Ms. McCort successfully obtained a New Jersey Department of Environmental Protection Highlands Preservation Area Approval for the proposed development.

Priority Repairs to Mill Road Bridge**City of Absecon, Atlantic County, NJ**

Provided permitting services as part of the bridge engineering and design for Atlantic County for priority repairs to Mill Road Bridge (A-04) over Absecon Creek in the City of Absecon. Ms. McCort secured an In-Water Waterfront Development Individual Permit and Freshwater Wetlands General Permit from the NJDEP, as well as a Tidelands License and U.S. Army Corps of Engineers Nationwide Permit authorization.



Lake Como Stormwater Outfall Improvements**Belmar, Spring Lake, and Lake Como Boroughs, Monmouth County, NJ**

As Environmental Scientist, provided permitting services for the installation of a new 60" drainage outfall for Lake Como into the Atlantic Ocean to reduce flooding and provide redundancy in the case of damage to the existing 30" outfall pipe. The project includes the construction of the approximately 700' long outfall pipe and associated control structures and required a NJDEP CAFRA Individual Permit, In-Water Waterfront Development Individual Permit, and Freshwater Wetlands General Permit, as well as a Tidelands License and U.S. Army Corps of Engineers authorization.

Cove on the Bay**Borough of Keansburg, Monmouth County, NJ**

Served as environmental consultant to RPM Development Group for the permitting of a 9-story high-rise mixed use redevelopment in the Borough of Keansburg, a first in this area of Monmouth County. Ms. McCort successfully obtained a CAFRA Individual Permit from NJDEP for the proposed 186 luxury apartments and retail space. Permitting services included an environmental impact statement.

Matrix Business Park at 6A**Burlington Township & Burlington City, Burlington County, NJ**

Provided environmental consulting services for a proposed 1,000,000+ SF warehouse distribution center with 110 loading docks, 900 parking spaces, and 200 trailer spaces adjacent to the Delaware River. Permitting services included obtaining approvals from NJDEP and U.S. Army Corps of Engineers for development in wetlands, tidal and navigable waters, flood hazard areas, and the Delaware River waterfront.

Proposed Cell Tower**Township of Manchester, Ocean County, NJ**

A significant portion of Manchester Township is located in the Pinelands Comprehensive Management Plan regulatory zone within the Pinelands National Reserve. Ms. McCort provided environmental consulting services to site a new cell tower in the Township that would be acceptable under the Pinelands Comprehensive Management Plan and prepared an application to the NJ Pinelands Commission. The NJ Pinelands Commission approved the construction of a new 150-foot local communication facility/tower.

The Point at Sayreville (Former National Lead Site)**Borough of Sayreville, Middlesex County, NJ**

Environmental Scientist tasked with obtaining permits required for capping the site and construction of the mixed-use development at the largest brownfield redevelopment project in the history of the State of New Jersey. This project entails the redevelopment of the former National Lead Site, which is a contaminated industrial brownfield site with complicated subsurface soil conditions. The project consists of a mixed-use waterfront development with more than 2.8 miles of waterfront; 3,000,000 SF of retail space; 1,250 hotel rooms; a government complex; 2,000 residential units; an entertainment complex; marina; and multiple digital media towers.

Blackberry Bay Park Boat Launch Rehabilitation**Borough of Oceanport, Monmouth County, NJ**

As Environmental Scientist, provided ecological services for the rehabilitation of the Blackberry Bay Park Boat Launch Facility in Oceanport. The project, which was partially funded through the Monmouth County Open Space Fund, included the removal and replacement of the existing boat launch and the construction of a new bulkhead. Responsibilities included delineating freshwater and coastal wetlands within 150 feet of the site and obtaining a Coastal General Permit, a Waterfront Development Permit, a Section 10 Permit from the Army Corps of Engineers, and an NJDEP Tidelands License.

Nishisakawick Creek Stream Bank Restoration**Borough of Frenchtown, Hunterdon County, NJ**

Through funding by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), the Borough of Frenchtown sought to restore and stabilize eroded streambanks along Nishisakawick Creek, a Category One water in the state of New Jersey, as well as remove accumulated sediment and debris that was obstructing flow in the stream. As the project environmental specialist, Ms. McCort delineated wetlands



and open waters, guided the restoration design, and prepared applications to the NJDEP for a Freshwater Wetlands Individual Permit and Flood Hazard Area Individual Permit.

City of Sea Isle Natural Resource Inventory**City of Sea Isle, Cape May County, NJ**

Natural Resource Inventories are a compilation of natural resource characteristics and environmental features within a municipality that typically consist of text, maps, photos and other visual elements representing existing environmental conditions. Ms. McCort served as an Environmental Specialist assisting in the preparation of a natural resource inventory report for the entire municipality to document biological resources of the City, particularly rare, threatened, and endangered species populations and habitats as previously documented by the New Jersey Department of Environmental Protection (NJDEP) and U.S. Fish and Wildlife Service. Services also included identification of wetland complexes present within the municipality. This inventory will become the basis for land use planning that protects local resources.

Pinnacle Communities**Borough of Oakland, Bergen County, NJ**

Ms. McCort served as an environmental consultant to The Pinnacle Companies for the proposed construction of 209 townhouses and single-family dwellings, including 28 affordable units. Services included preparation of an application for General Permits and Transition Area Waivers to the NJDEP, assessment of potential Barred Owl (*Strix varia*) habitat based on vegetative composition and structure, and delineation of various plant communities on the subject parcel.

Runyon Interceptor**Township of Old Bridge, Middlesex County, NJ**

The Old Bridge Municipal Utilities Authority (OBMUA) proposed the connection of approximately one mile of sanitary sewer main through vacant forested land within Old Bridge Township, with a portion of the work occurring in environmentally sensitive freshwater wetlands and open waters. As the environmental consultant for the project, Ms. McCort assisted in the delineation of freshwater wetlands, collection of data, and the securing of environmental approvals (Freshwater Wetlands Individual Permit, Flood Hazard Area Individual Permit) from the NJDEP.

Environmental Permitting for Various Bridge Reconstructions**Various Locations, NJ and NY**

Ms. McCort served as an environmental consultant for the proposed reconstruction of bridges and culverts in Sussex, Bergen, Passaic, Warren, Hunterdon, Morris, Somerset, Middlesex, Mercer, Monmouth and Gloucester Counties in New Jersey and in Rockland County, New York. Services included delineation of wetlands, assessment of environmental impacts due to reconstruction, and preparation and submission of applications to NJDEP, New York Department of Environmental Conservation (NYDEC) and the United States Army Corps of Engineers (USACE).

Sparkill Brook Stream Cleaning**Boroughs of Northvale and Rockleigh, Bergen County, NJ**

The Borough proposed the removal of debris and sediment from a half-mile stretch of Sparkill Brook to alleviate flooding in neighboring residences and businesses. Ms. McCort served as an environmental specialist to the Borough of Northvale through the NJDEP permitting process for the cleaning of Sparkill Brook. Ms. McCort prepared a Freshwater Wetlands Individual Permit and Flood Hazard Area Individual Permit application to the NJDEP for the cleaning project.

CONTINUING EDUCATION

Hydric Soils, Rutgers University.

Methodology for Delineating Wetlands, Rutgers University.

Freshwater Wetland Construction Techniques, Rutgers University.

Endangered and Threatened Species of Northern New Jersey, Rutgers University.



Vegetation Identification for Wetland Delineation – North, Rutgers University.

Field Course for Endangered and Threatened Species of Southern New Jersey, Rutgers University.

Field Course for Endangered and Threatened Species of Northern New Jersey, Rutgers University.

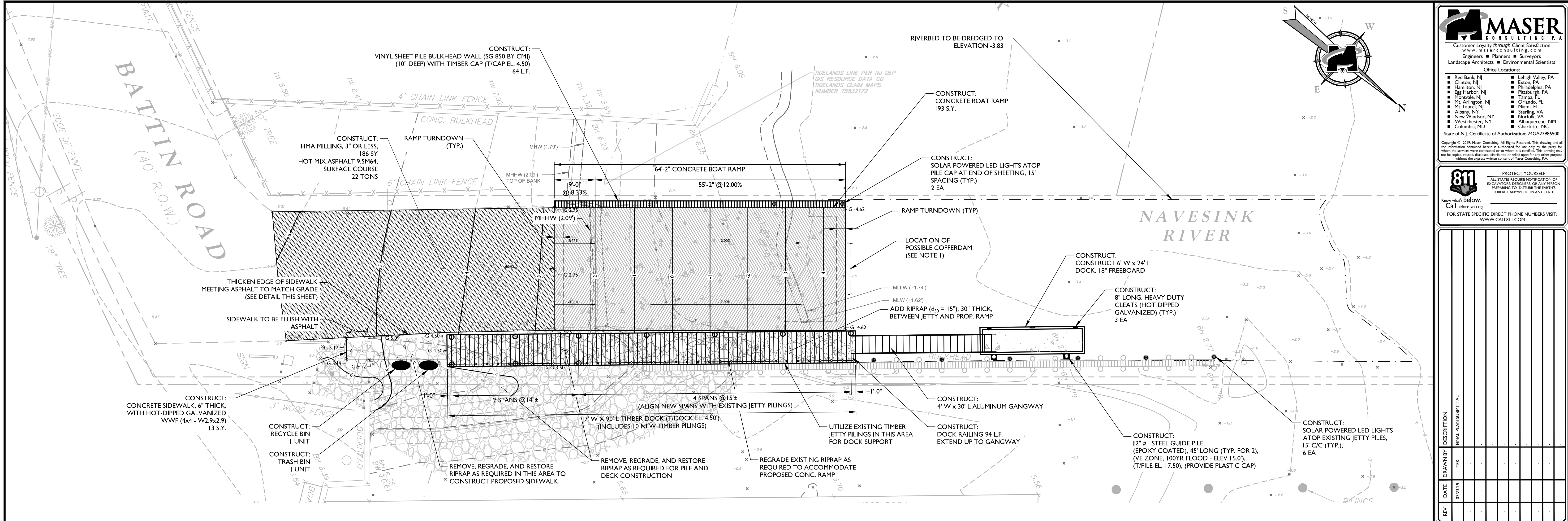
NJ Wetlands Manual Training Workshop, Rutgers University.

Vegetation Identification for Wetland Delineation – Winter, Rutgers University.

FERC Environmental Seminar, Marcellus Shale Coalition.

Basic Processes in Hydric Soils, North Carolina State University.

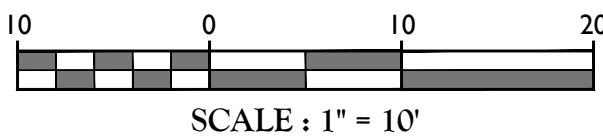




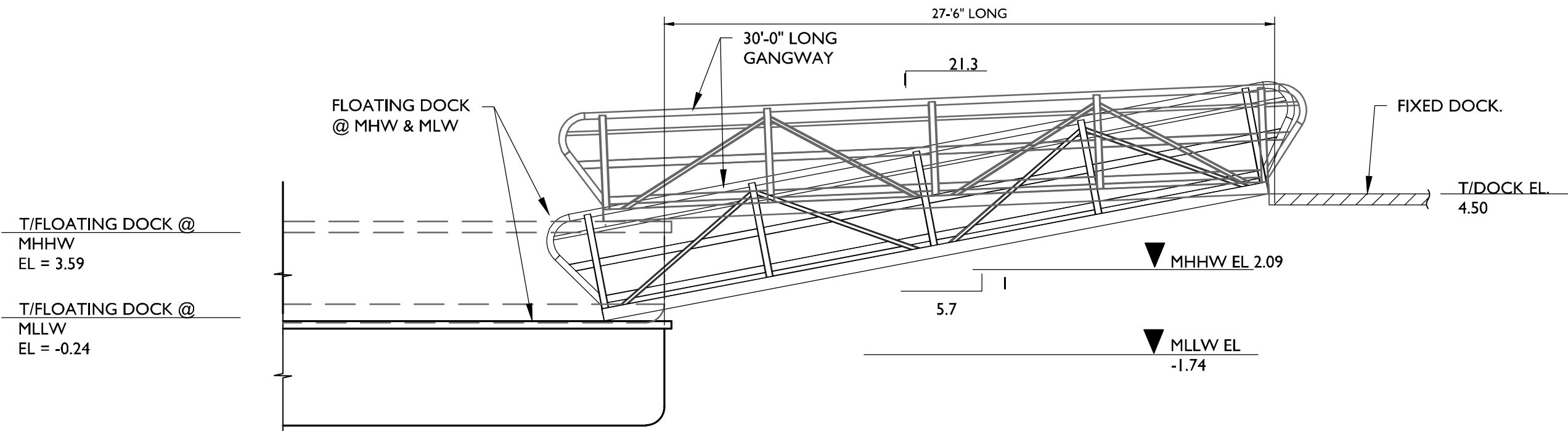
- NOTES:**
1. ALL UPLAND PROJECT ACTIVITIES WITHIN 300' RIPARIAN ZONE.
 2. ALL EXISTING TOPOGRAPHIC INFORMATION SHOWN REFERS TO NAD 1983/NGVD1988 DATUMS.
 3. TIDAL INFORMATION OBTAINED FROM NOAA OCEANIC, NAVESINK RIVER, NJ, STATION ID 8531753.
 4. AE, VE, AND WAVE ACTION ZONES ARE BASED ON PRELIMINARY FEMA FLOOD INSURANCE RATE MAP REVISED SEPTEMBER 25, 2009, MAP NUMBER 34025C0181F.
 5. THE SITE IS LOCATED IN THE AE FLOOD ZONE EL. 9'.

BATTIN ROAD BOAT RAMP SITE AND GRADING PLAN

SCALE: 1" = 10"

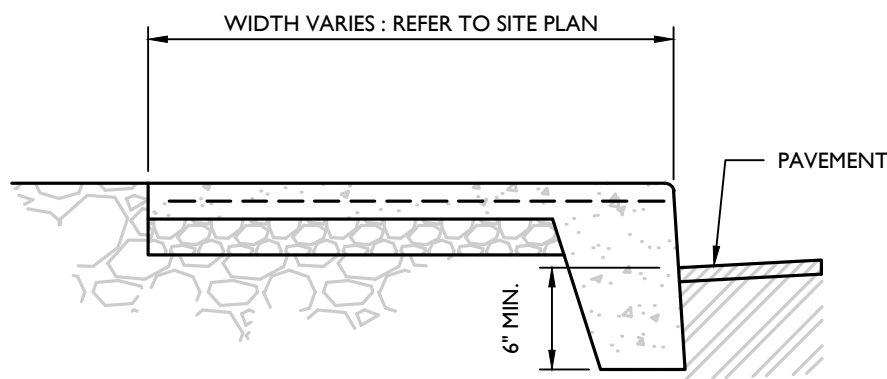


- BULKHEAD NOTES:**
1. CONTRACTOR SHALL DRIVE VINYL SHEET PILE BULKHEAD ALONG SIDE OF RAMP AND CLOSE OFF RAMP CONSTRUCTION WITH COFFERDAM PRIOR TO ANY DISTURBANCE TO THE RIVERBED. COFFERDAM AND BULKHEAD SHALL ACT AS TURBIDITY BARRIER. COFFERDAM SHALL REMAIN IN PLACE UNTIL ALL DISTURBANCES BELOW MHHW ARE COMPLETE.



GANGWAY SLOPE DATA

SCALE: 3/16" = 1'-0"



THICKENED CONCRETE SIDEWALK DETAIL

NOT TO SCALE

LEGEND			
EXISTING	TRaverse LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	PROPOSED	
12+00	12+00	12+00	13+00
---	RIGHT OF WAY LINE	---	---
---	PROPERTY LINE	---	---
---	EDGE OF PAVEMENT	---	---
---	CURB	---	---
---	DEPRESSED CURB	---	---
---	SIDEWALK	---	---
---	FENCES	---	---
---	TREELINE	---	---
---	ROADWAY SIGNS	---	---
---	WETLAND LINE	---	---
---	MUNICIPAL BOUNDARY LINE	---	---
---	B' INLET	---	---
---	E' INLET	---	---
---	STORM MANHOLE	---	---
---	SANITARY MANHOLE	---	---
---	FLARED END SECTION	---	---
---	HEADWALL	---	---
---	HYDRANT	---	---
---	POLE MOUNTED LIGHT	---	---
---	CONTOURS	---	---
---	SPOT ELEVATION	---	---
---	DIRECTION OF OVERLAND FLOW	---	---
---	TOP OF CURB ELEVATION	---	---
---	BOTTOM OF CURB ELEVATION	---	---
---	TOP OF DEPRESSED CURB ELEVATION	---	---
---	MEAN HIGHER HIGH WATER LINE	---	---
---	MEAN HIGH WATER LINE	---	---
---	MEAN LOW WATER LINE	---	---
---	MEAN LOWER LOW WATER LINE	---	---

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REV	DATE	DRAWN BY	DESCRIPTION
1	07/20/19	TEK	FINAL PLAN SUBMITTAL

RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS FOR BULKHEAD REPLACEMENT GRANGE AVENUE & HANCE ROAD POCKET PARKS & BATTIN ROAD BOAT RAMP BOROUGH OF FAIR HAVEN MONMOUTH COUNTY NEW JERSEY

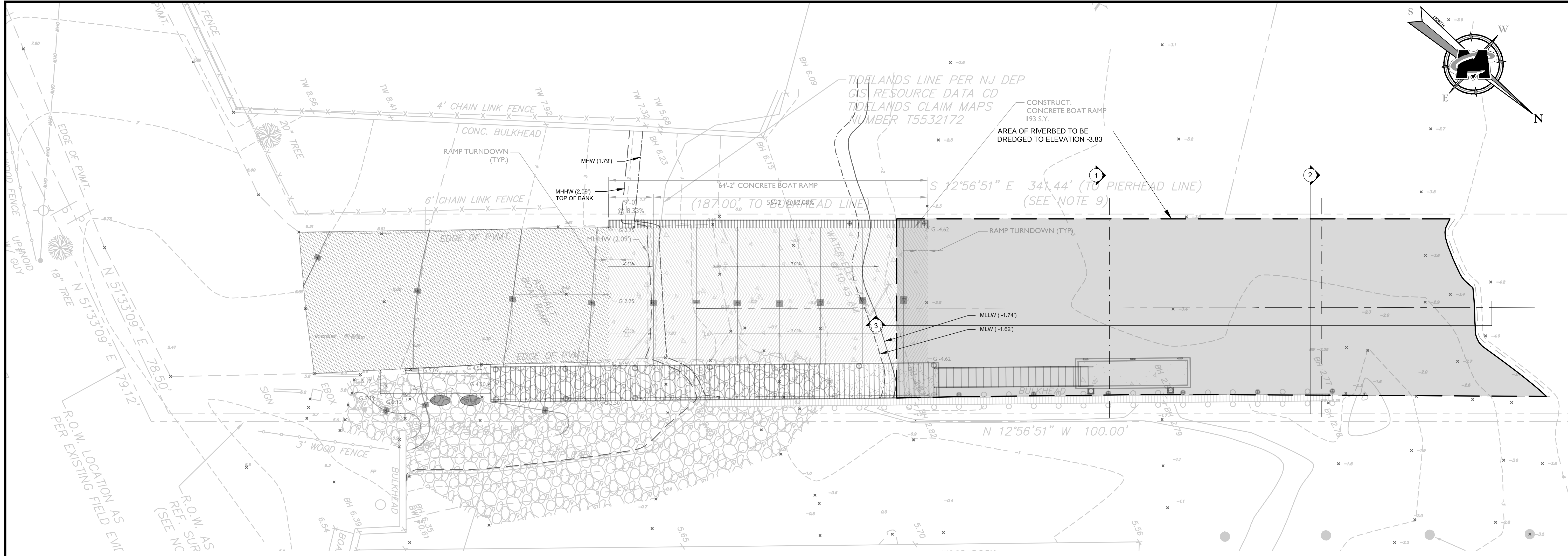
RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/02/19	TEK	RCM

PROJECT NUMBER:	DRAWING NAME:
170049828	CLAYT-BATT

SITE & GRADING PLAN: BATTIN ROAD

SHEET NUMBER:
S-3.2

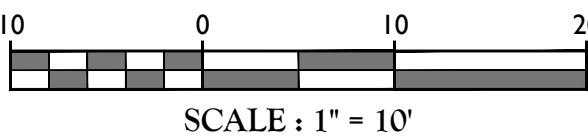


- NOTES:
- ALL UPLAND PROJECT ACTIVITIES WITHIN 300' RIPARIAN ZONE.
 - ALL EXISTING TOPOGRAPHIC/HYDROGRAPHIC INFORMATION SHOWN REFERS TO NAD 1983/NGVD 1988 DATUMS.
 - TIDAL INFORMATION OBTAINED FROM NOAA OCEANIC, NAVESINK RIVER, NJ, STATION ID 8531753.
 - AE VE AND WAVE ACTION ZONES ARE BASED ON PRELIMINARY FEMA FLOOD INSURANCE RATE MAP REVISED SEPTEMBER 25, 2009, MAP NUMBER 34025C0181F.
 - THE SITE IS LOCATED IN THE AE FLOOD ZONE EL. 9'.

TIDAL RANGE		
	NAVD	MLW
MHHW	2.09'	3.71'
MHW	1.79'	3.41'
MTL	0.9'	1.71'
NAVD88	0.00'	1.62'
MLW	-1.62'	0.00'
MLLW	-1.74'	-0.12'

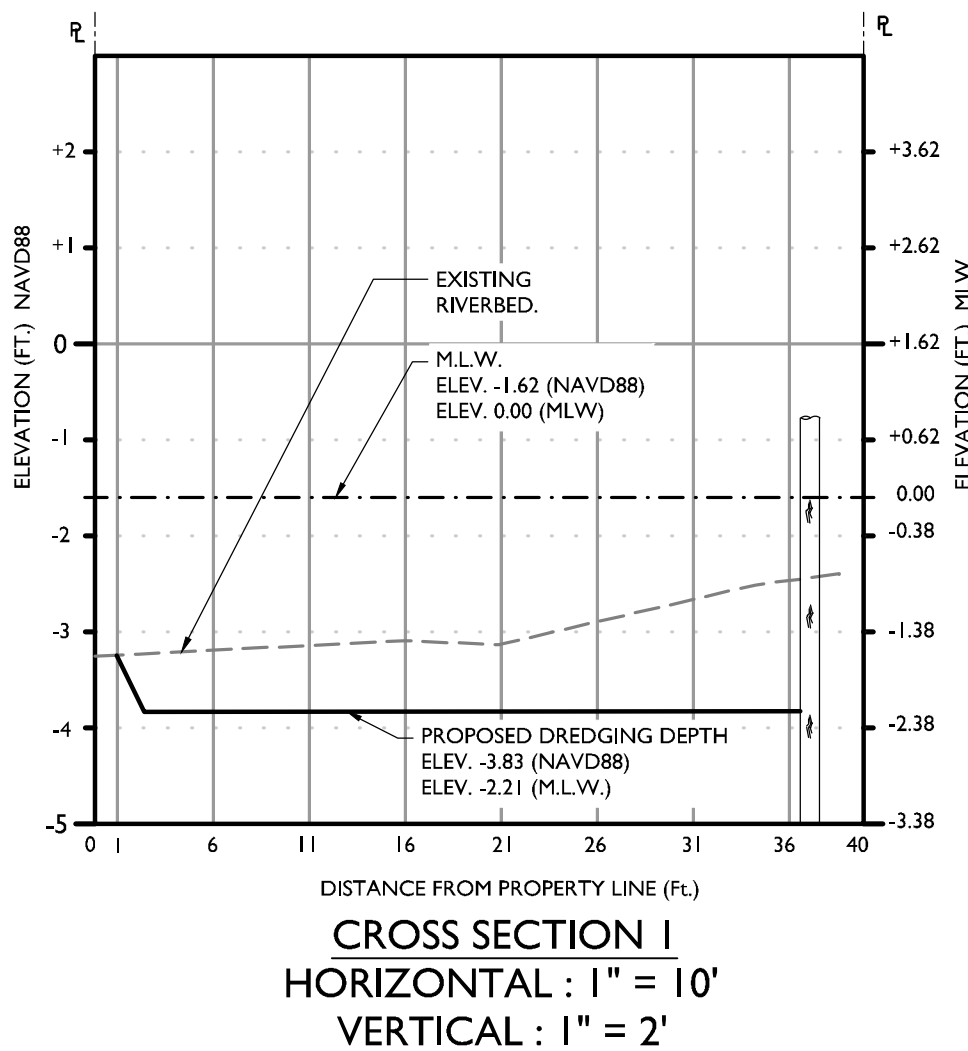
BATTIN ROAD BOAT RAMP DREDGING PLAN

SCALE: 1" = 10"

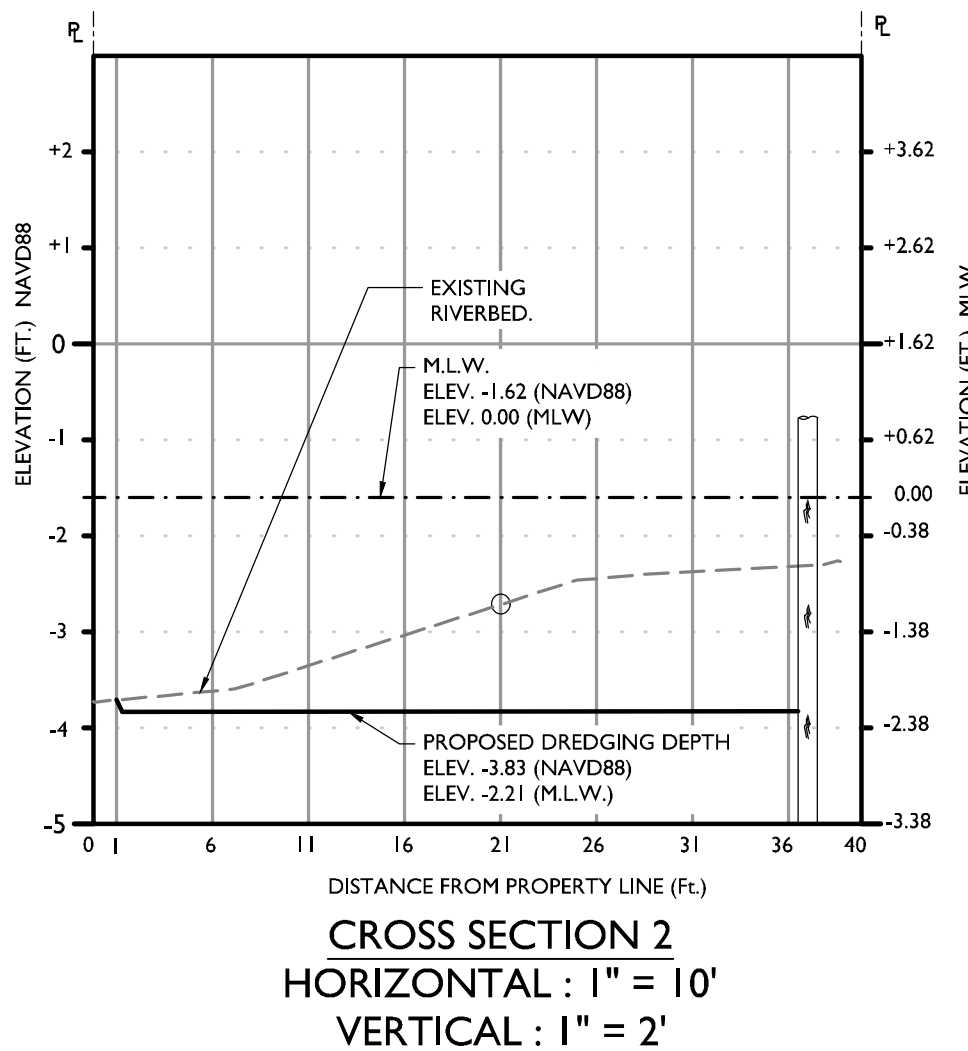
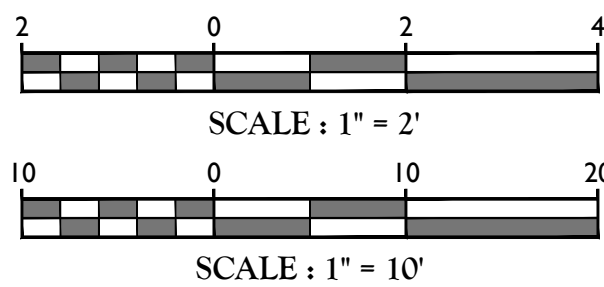


TOTAL DREDGING VOLUME = 300 CY*

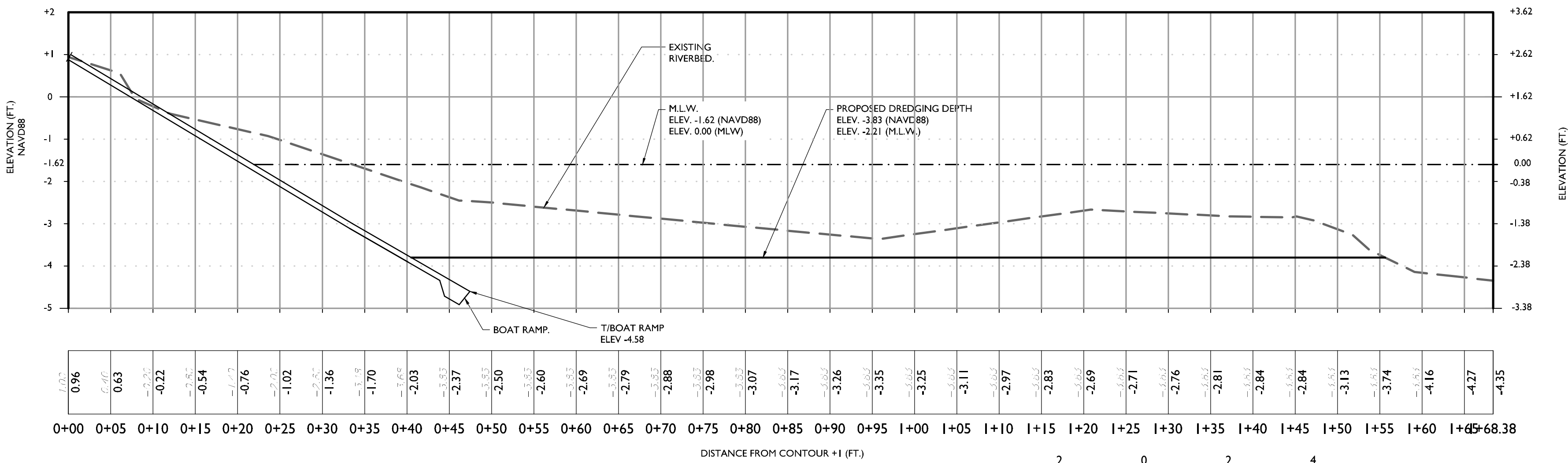
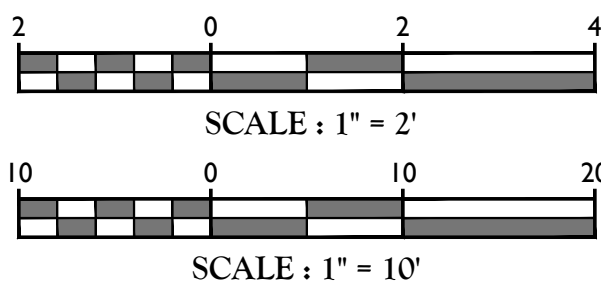
***DREDGE VOLUME BASED ON HYDRO SURVEY PERFORMED ON XX.XX.XX WITH CONSIDERATION FOR SEASONAL VARIATION. RIVERBED IN DREDGE AREAS VARIES SEASONALLY. CONTRACTOR SHALL INSPECT AREA PRIOR TO BID TO CONFIRM ACTUAL QUANTITIES AT TIME OF BID. PAYMENT FOR THIS ITEM WILL BE LUMP SUM FOR DREDGING DOWN TO ELEVATION -3.83 AS SHOWN ON PLAN.**



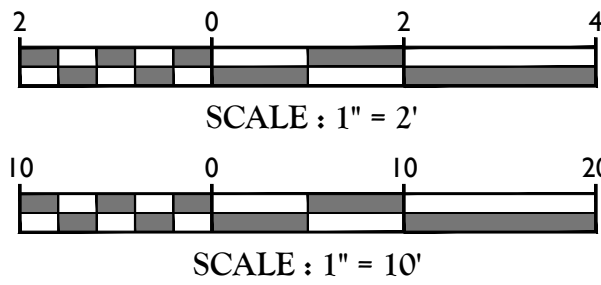
CROSS SECTION 1
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 2'



CROSS SECTION 2
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 2'



LONGITUDINAL SECTION 3
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 2'



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State of NJ, Certificate of Authorization: 24GA2798500

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1	07/28/19	TEK	FINAL PLAN SUBMITTAL

RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS
FOR
BULKHEAD
REPLACEMENT
GRANGE AVENUE &
HANCE ROAD
POCKET PARKS &
BATTIN ROAD BOAT
RAMP
BOROUGH OF FAIR HAVEN
MONMOUTH COUNTY
NEW JERSEY

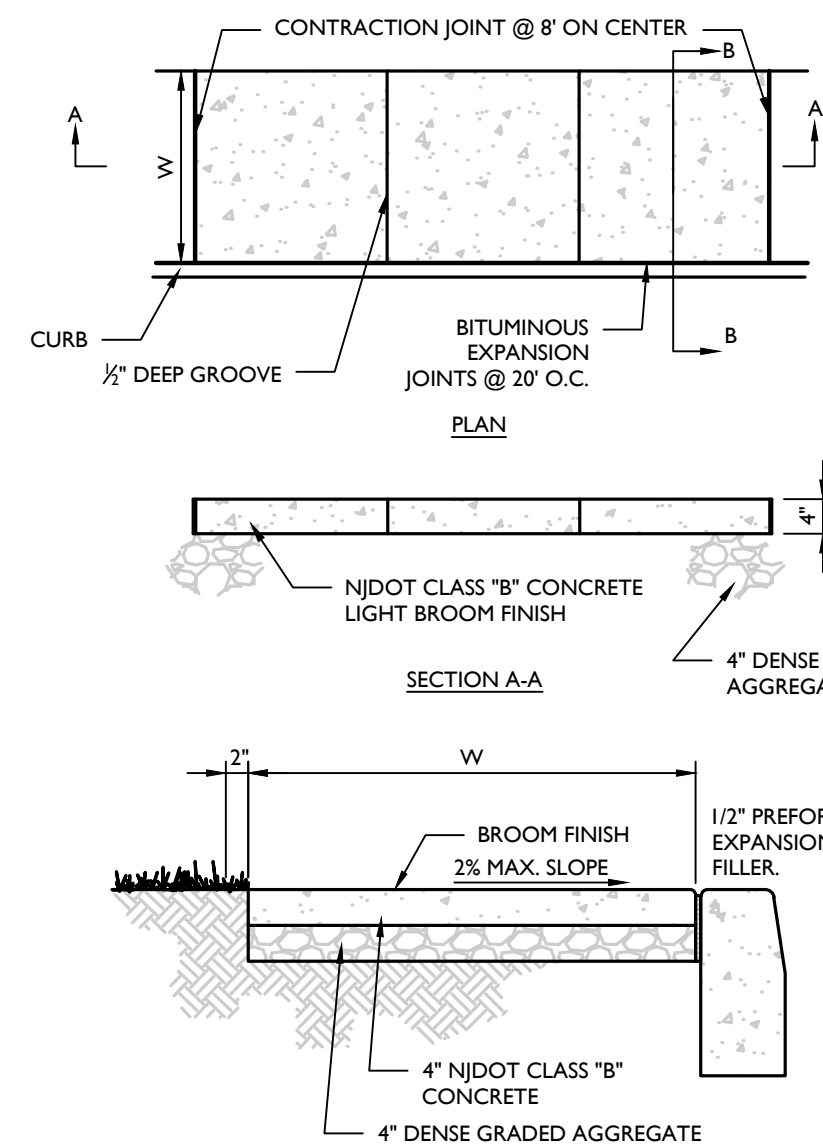
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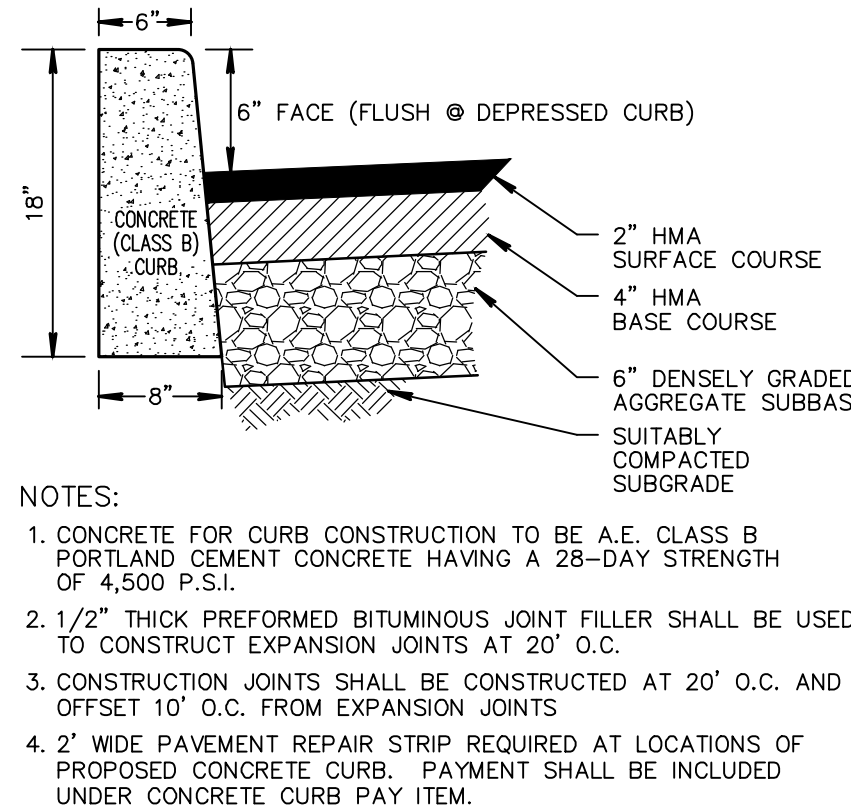
PROJECT NUMBER: 170049828
DRAWING NAME: C-DREDGE-BATT

SHEET TITLE:
DREDGE PLAN:
BATTIN ROAD

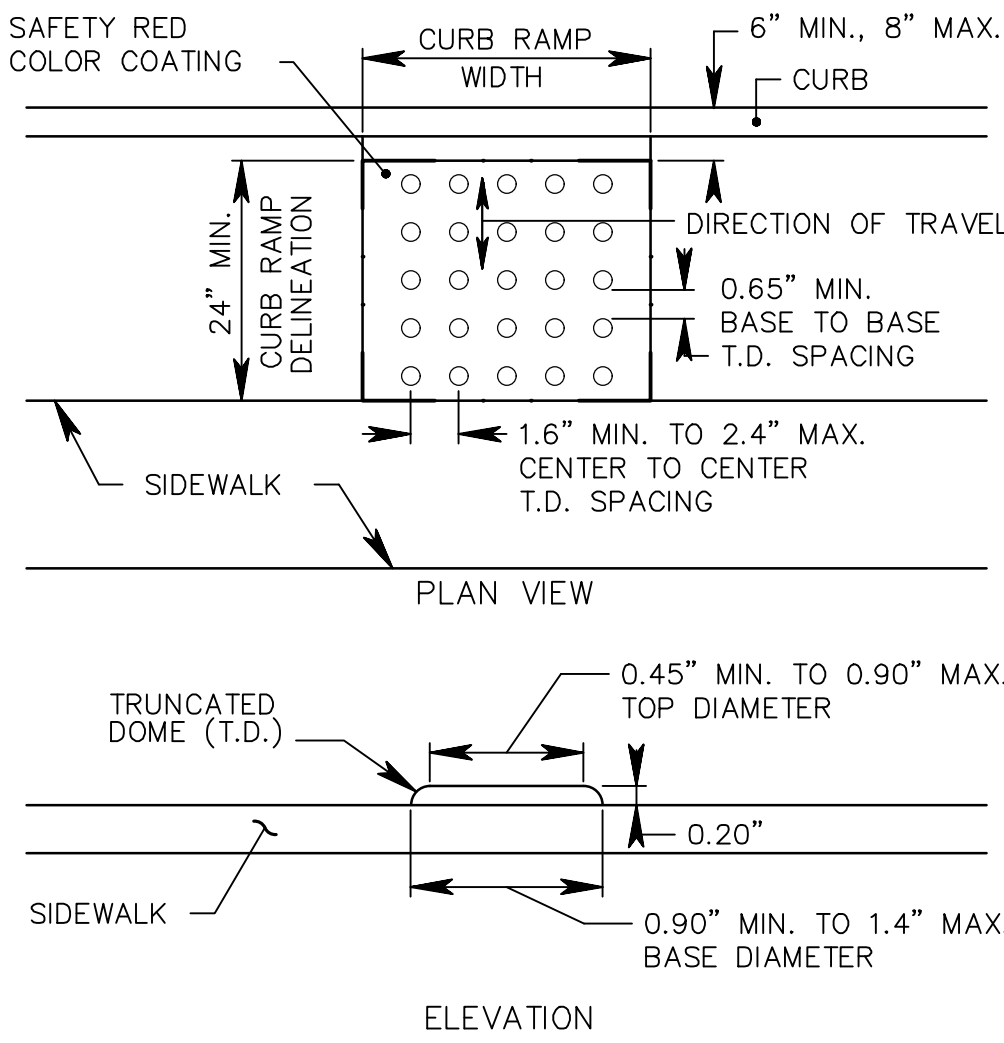
SHEET NUMBER:
S-3.3



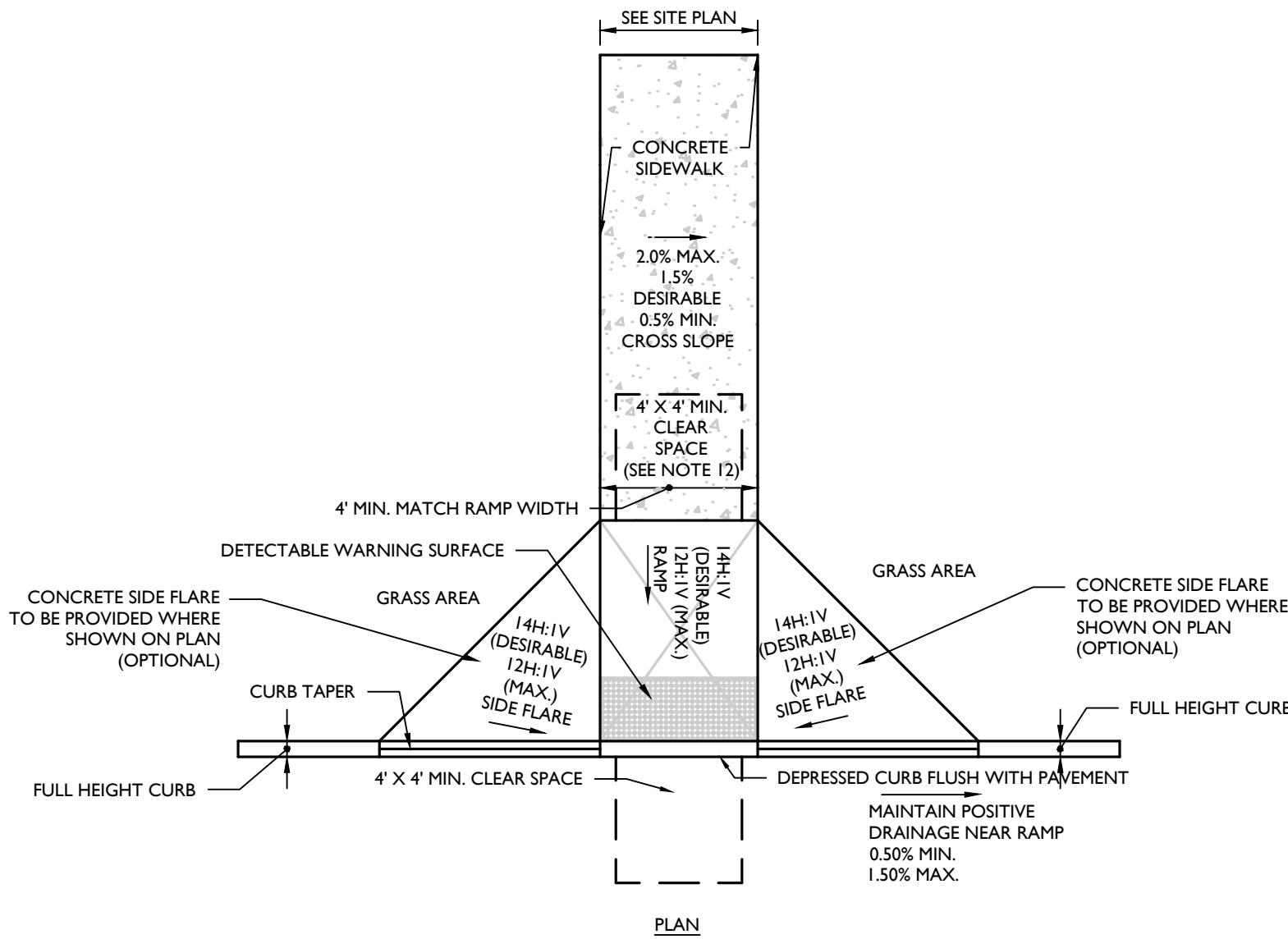
TYPICAL STANDARD PAVER SECTION DETAIL
NOT TO SCALE



PAVEMENT REPAIR
NOT TO SCALE



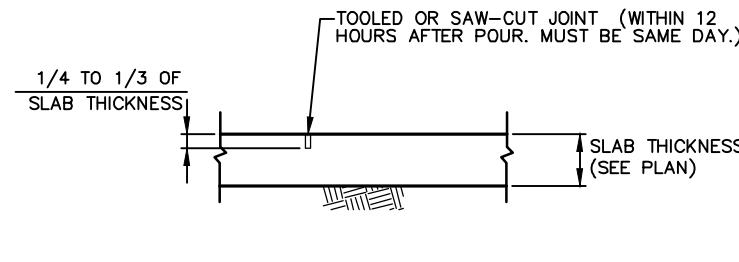
DETECTABLE WARNING SURFACE
MATERIALS SHALL BE IN ACCORDANCE WITH SECTION 606



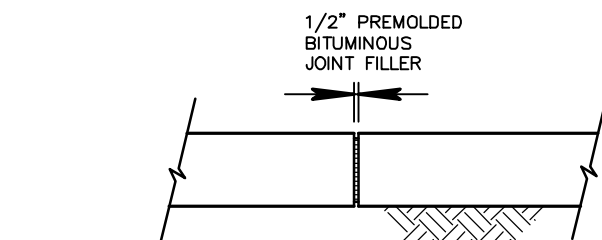
CURB RAMP TYPE 2 DETAIL
NOT TO SCALE

- NOTES:**
1. 1/2" EXPANSION JOINT FILLER INSTALLED BETWEEN THE CURB AND CONCRETE SIDEWALK AT 10' MAXIMUM SPACING. RECESS TO 1/4" FROM THE TOP OF SIDEWALK.
 2. 1/2" CONTRACTION JOINTS INSTALLED AT AN INTERVAL 24 TO 30 TIMES THE THICKNESS OF THE SLAB. TO A DEPTH OF 1/4 OF THE THICKNESS OF THE SLAB. RECESS TO 1/4" FROM THE TOP OF SIDEWALK. FOR THE FULL WIDTH OF THE SIDEWALK. SCORE A 1/4" GROOVED JOINT HALF WAY BETWEEN THE CONTRACTION JOINTS.
 3. JOINT FILLER SHALL CONFORM TO AASHTO M-33. SURFACE OF CONCRETE SHALL BE BROOM FINISH. ROUND EDGES USING AN EDGING TOOL WITH A 1/4" RADIUS.
 4. CONCRETE SIDEWALK SHALL BE CONSTRUCTED PER THE LATEST ADA REQUIREMENTS.

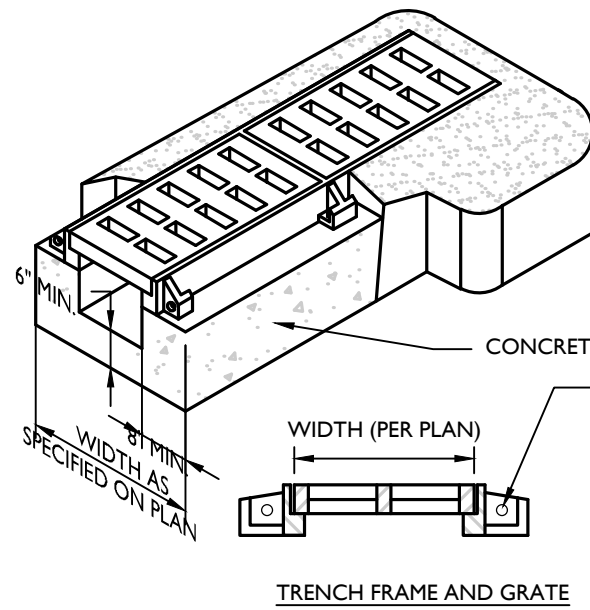
CONCRETE SIDEWALK (NEXT TO CURB) DETAIL
NOT TO SCALE



TYPICAL CONTROL JOINT DETAIL (SAWCUT)
NOT TO SCALE

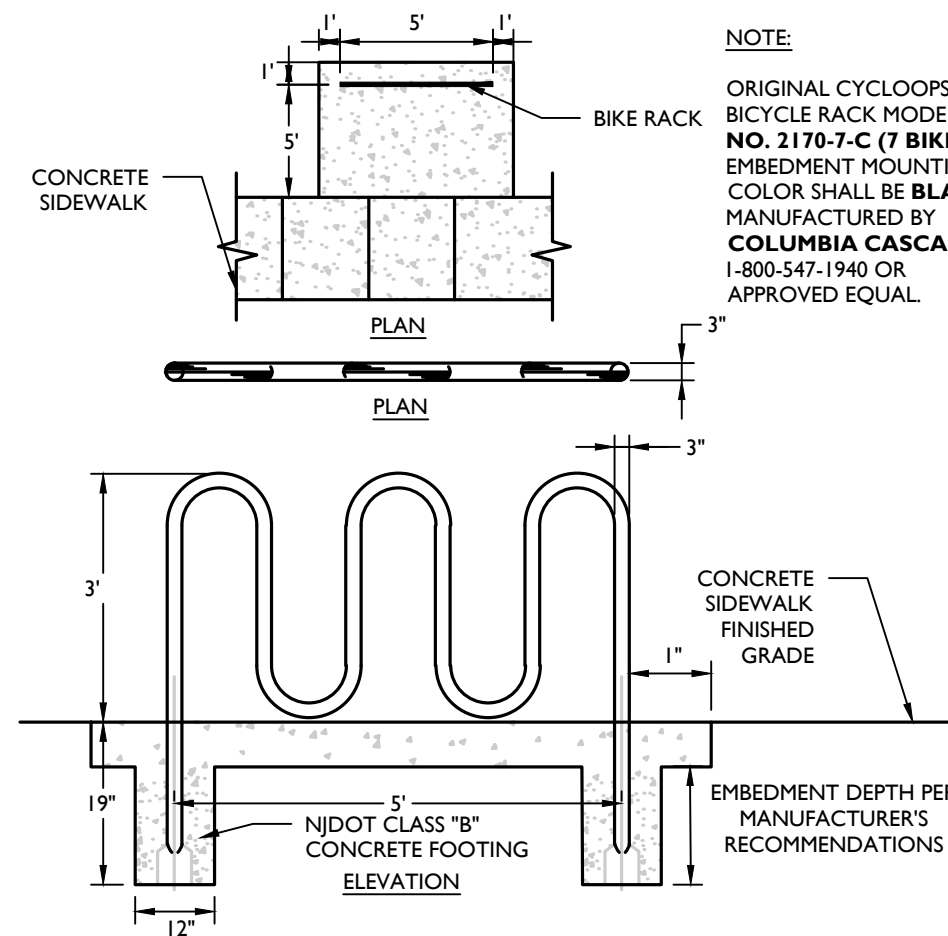


TYPICAL EXPANSION JOINT DETAIL
NOT TO SCALE

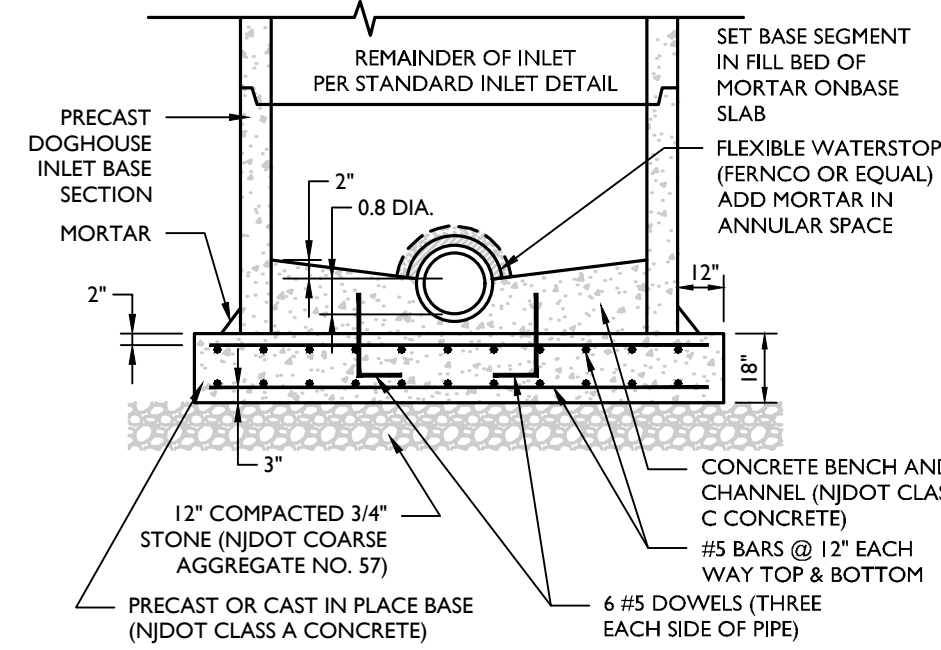


- NOTES:**
1. TRENCH DRAINS TO BE HEAVY DUTY CAST IRON TYPE AS MANUFACTURED BY CAMPBELL CORPORATION, PATTERN # 4504 (COVER) & # 4529 (GRATE) FOR H-20 LOADING OR APPROVED EQUAL.
 2. WIDTH, DEPTH AND BOTTOM SLOPE OF TRENCH AS SPECIFIED ON THE PLANS.
 3. MINIMUM BOTTOM SLOPE = 0.50%.

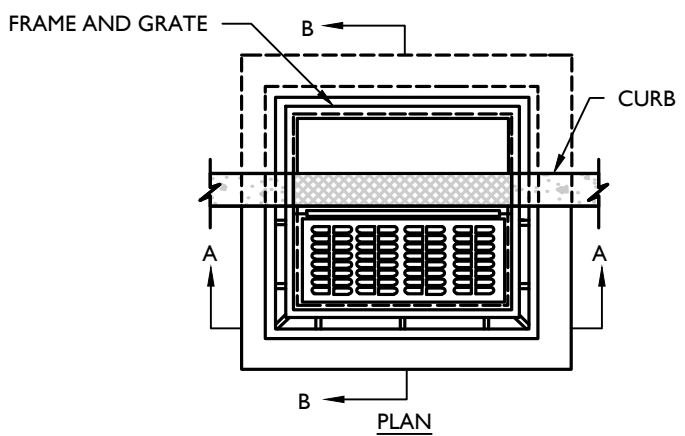
HEAVY DUTY TRENCH DRAIN DETAIL
NOT TO SCALE



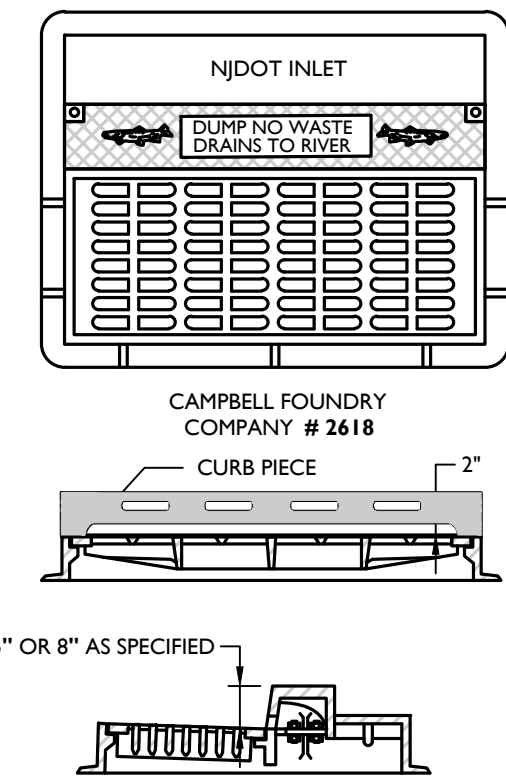
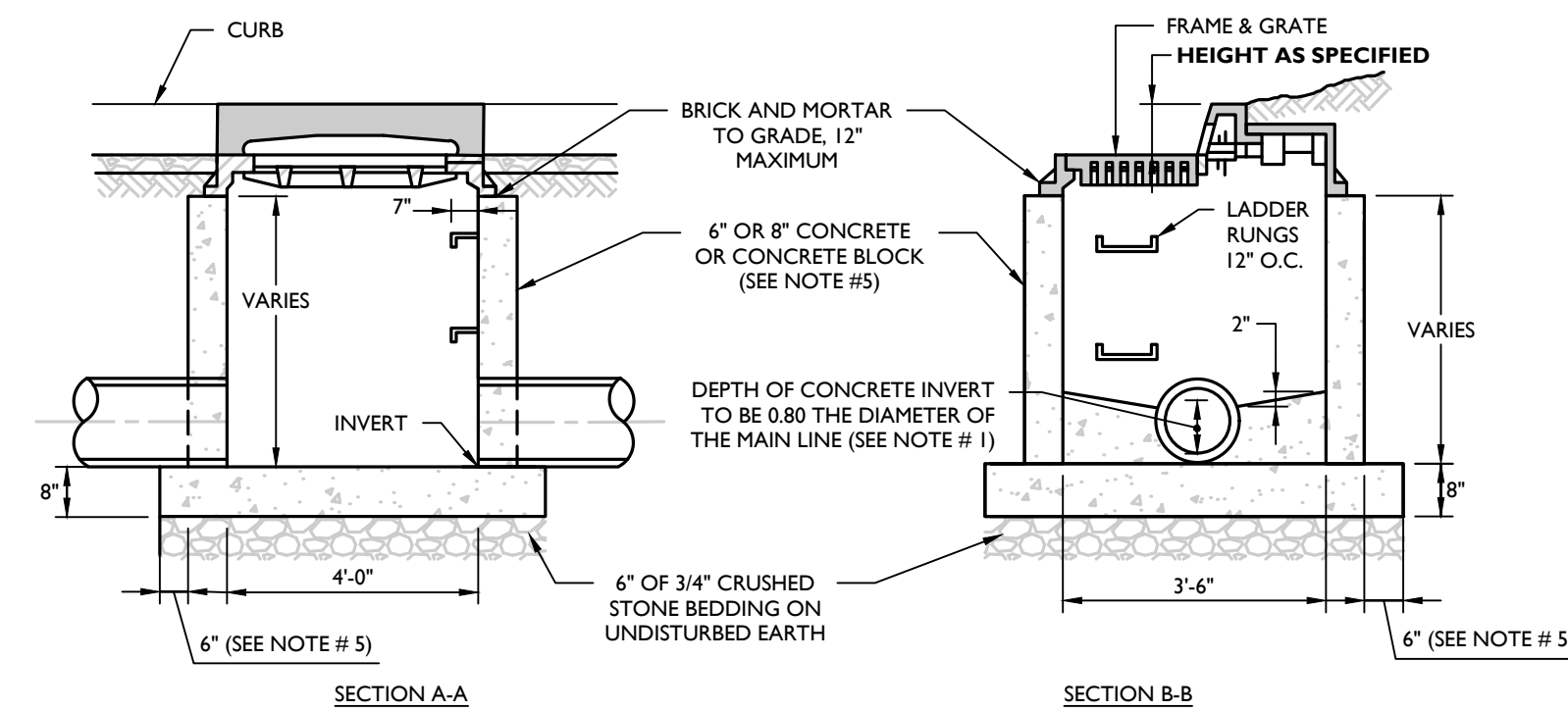
BICYCLE RACK DETAIL
NOT TO SCALE



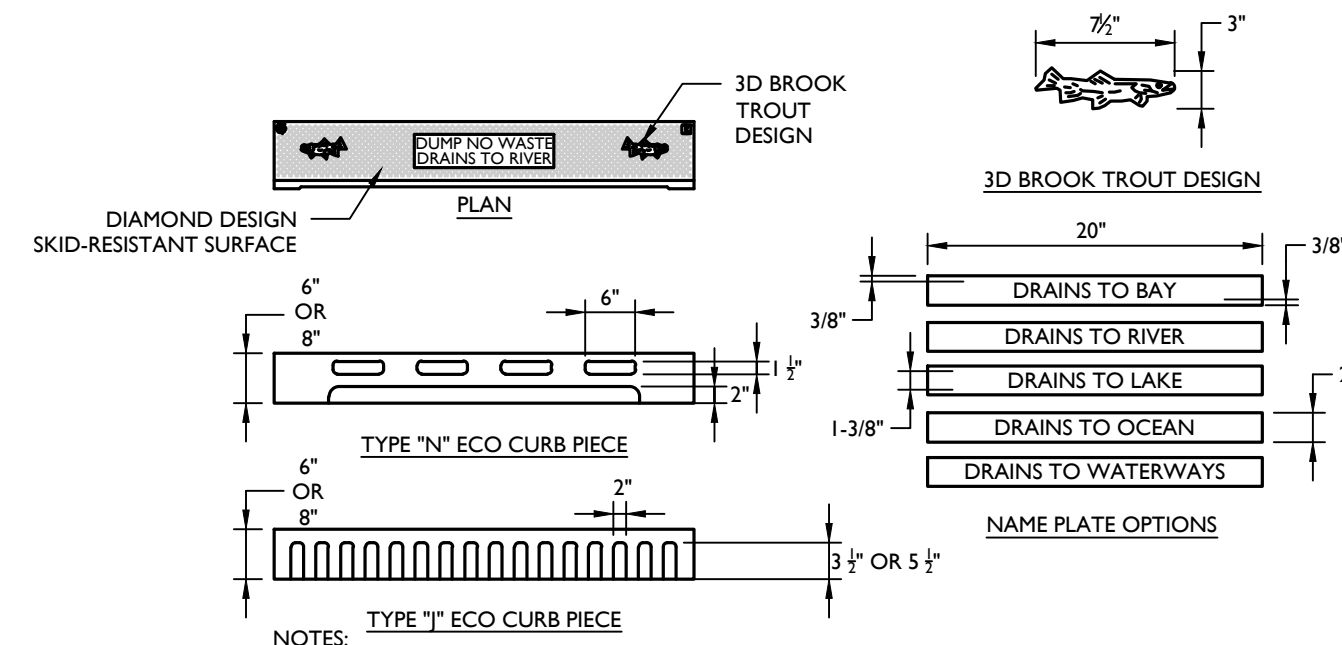
DOGHOUSE INLET
NOT TO SCALE



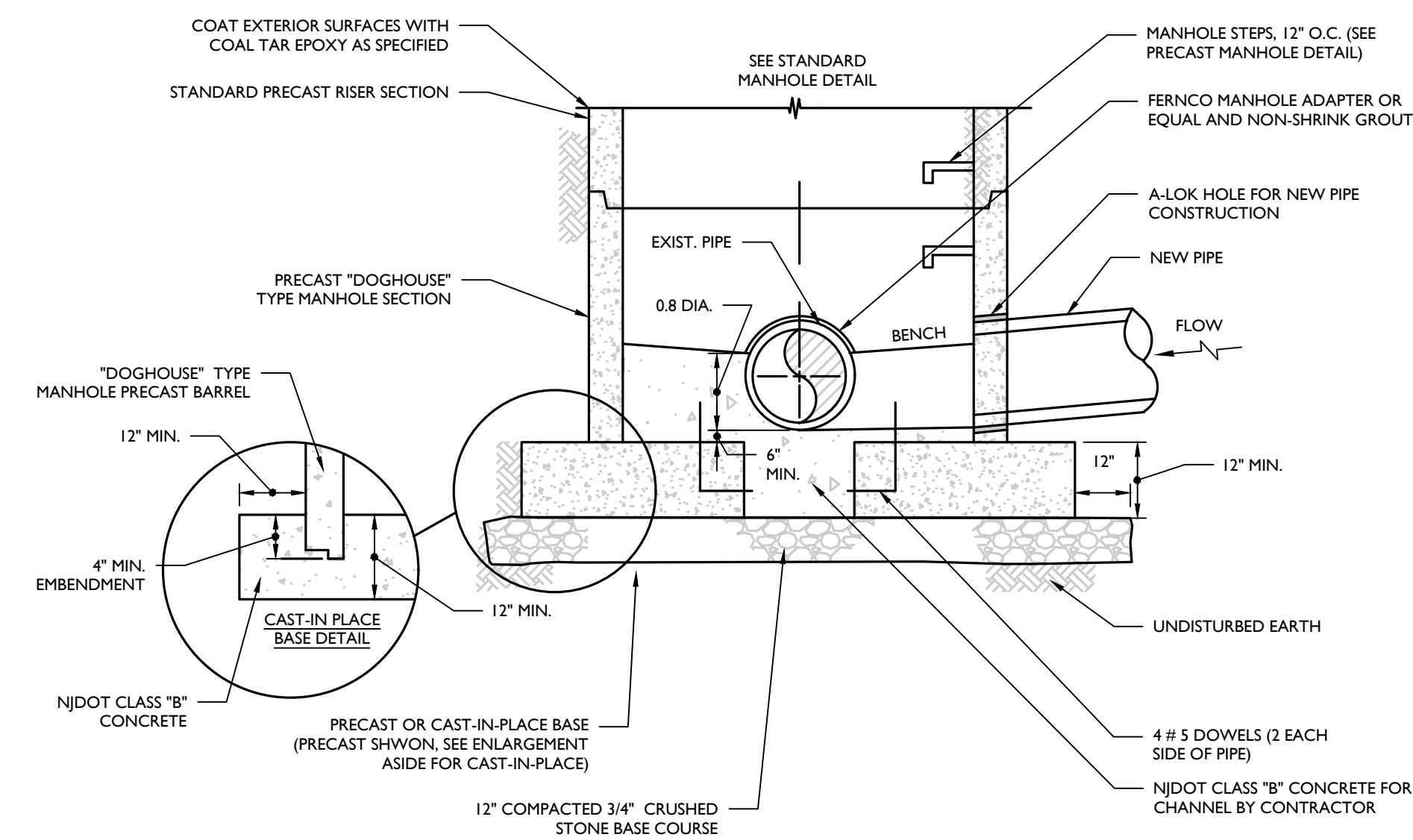
TYPE 'B' INLET DETAIL
NOT TO SCALE



NJDOT TYPE B INLET



ECO CURB PIECE DETAIL
NOT TO SCALE



DOGHOUSE MANHOLE DETAIL
NOT TO SCALE

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RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS FOR BULKHEAD REPLACEMENT GRANGE AVENUE & HANCE ROAD POCKET PARKS & BATTIN ROAD BOAT RAMP
BOROUGH OF FAIR HAVEN
MONMOUTH COUNTY
NEW JERSEY

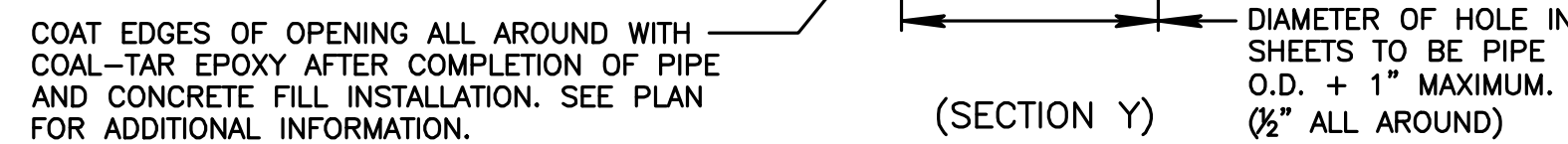
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Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/02/19	TEK	RCM

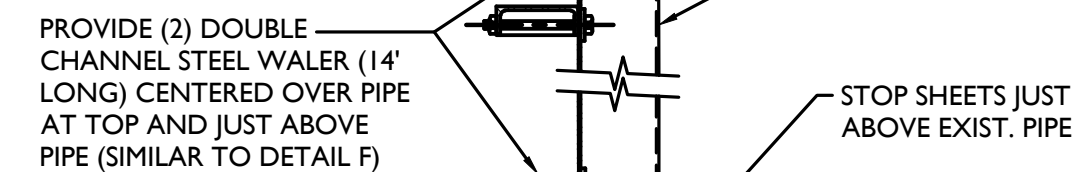
PROJECT NUMBER:	DRAWING NAME:
170049828	C-DTL5

SHEET TITLE:
CONSTRUCTION DETAILS

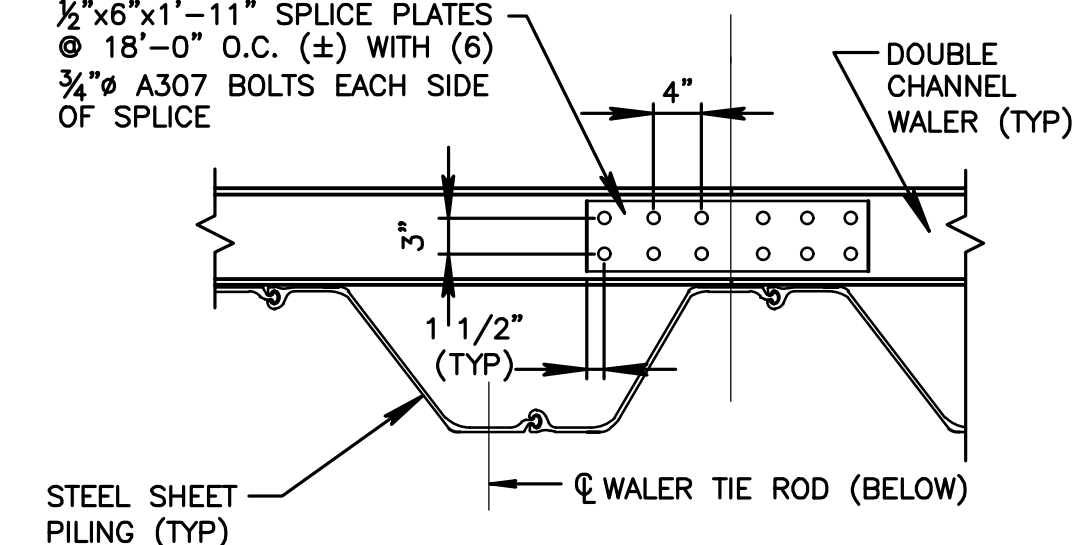
SHEET NUMBER:
C-1



TYPICAL STORM DRAIN PENETRATION DETAIL
NOT TO SCALE



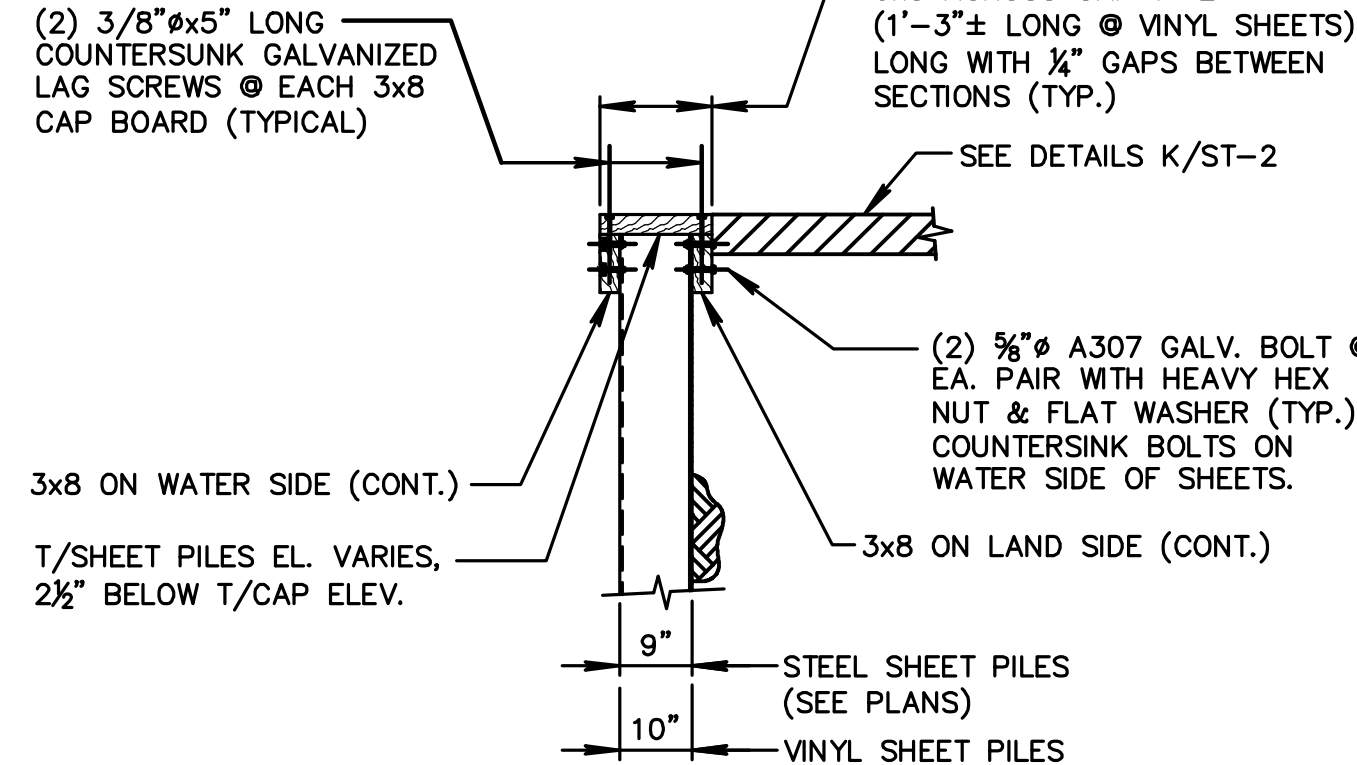
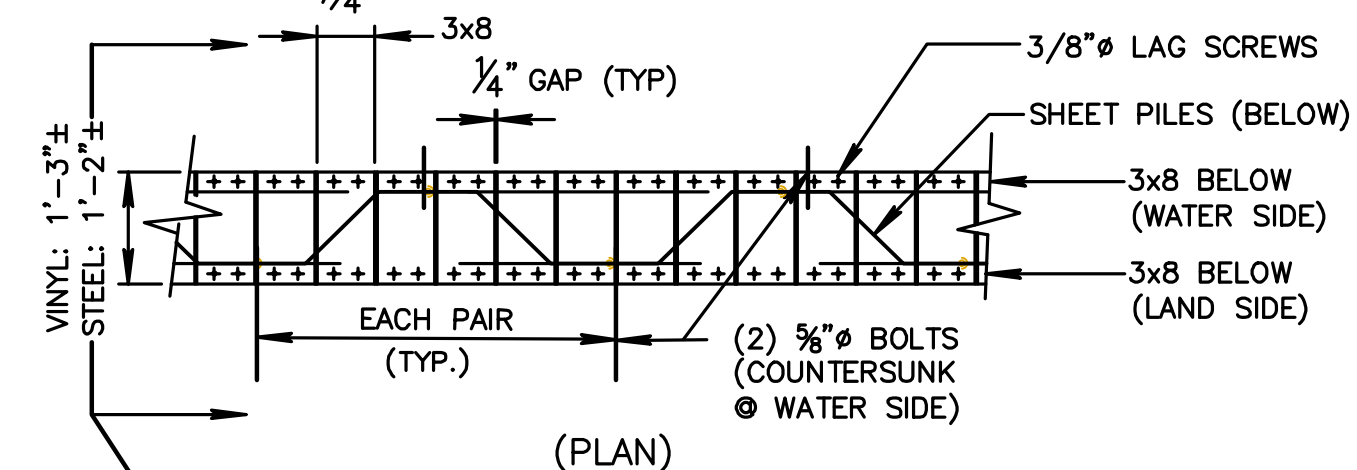
DETAIL B
WALER DETAIL AT HANCE
(SCALE: N.T.S.)



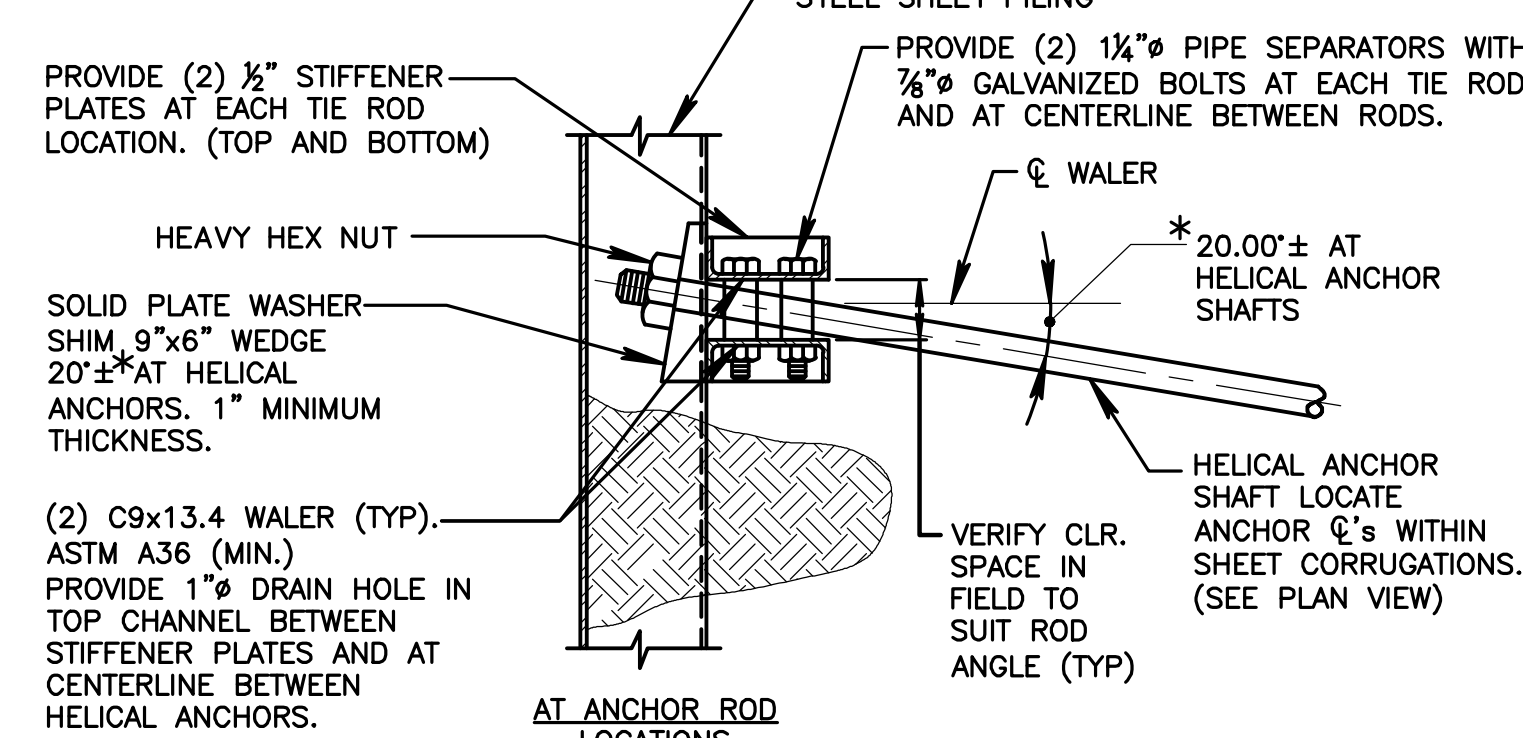
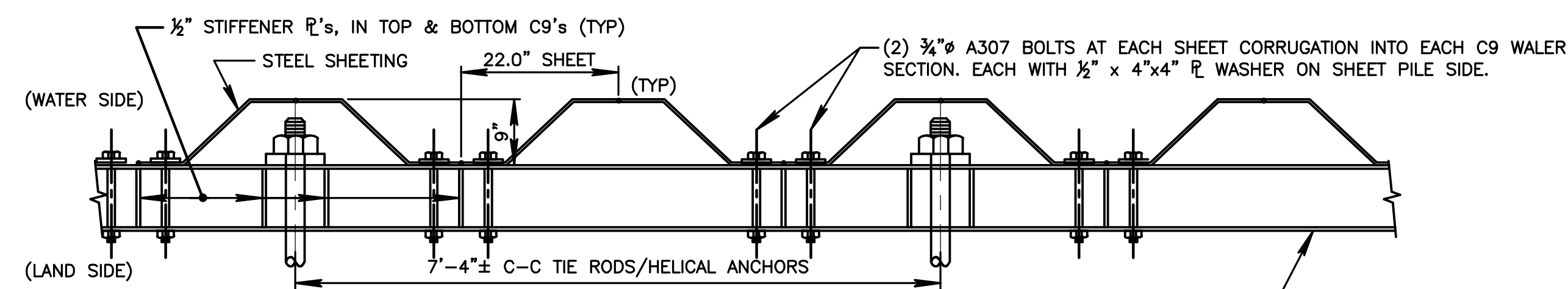
DETAIL C
TYPICAL WALER SPLICE PLATE DETAIL
(SCALE: 3/4" = 1'-0")



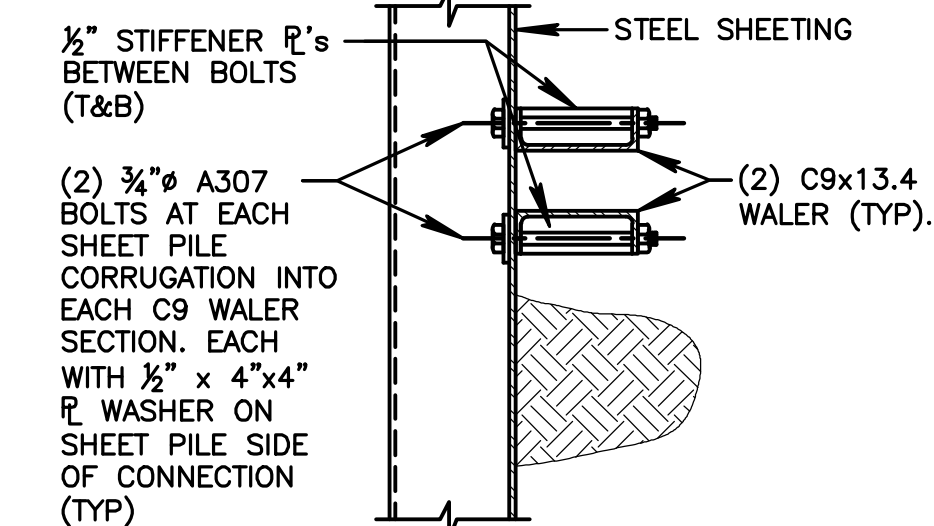
DETAIL D
TYPICAL SHEET PILE JET FILTER DETAIL
(NOT TO SCALE)



DETAIL E
TYPICAL TIMBER CAP AT BULKHEAD
(SCALE: 1/2" = 1'-0")

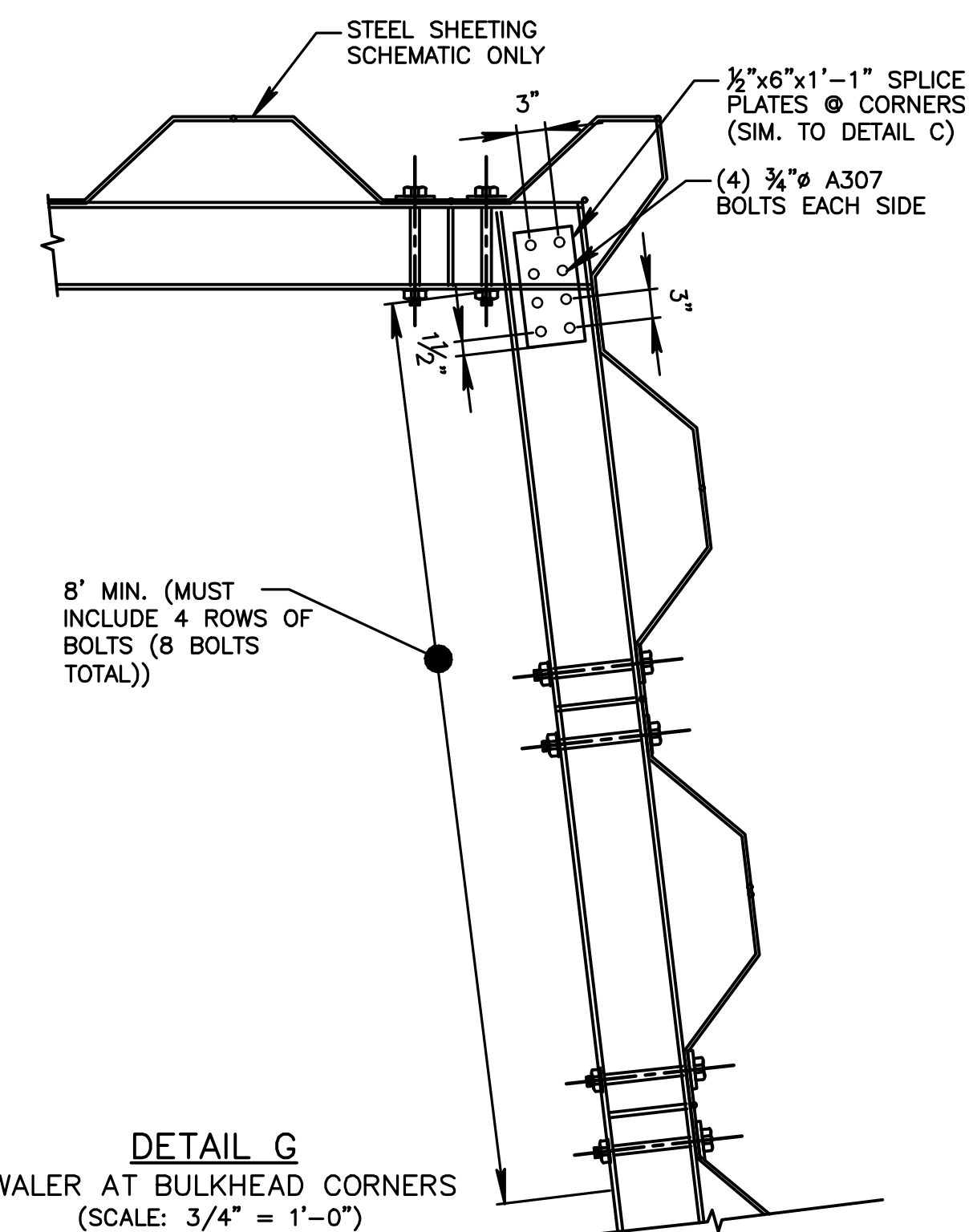


* VERIFY IN FIELD



DETAIL F
WALER & ANCHOR ROD DETAIL
(SCALE: 3/4" = 1'-0")

TIDAL RANGE		
	NAVD	MLW
MHHW	2.09'	3.71'
MHW	1.79'	3.41'
MTL	0.9'	1.71'
NAVD88	0.00'	1.62'
MLW	-1.62'	0.00'
MLLW	-1.74'	-0.12'



DETAIL G
WALER AT BULKHEAD CORNERS
(SCALE: 3/4" = 1'-0")

REV	DATE	DRAWN BY	DESCRIPTION
-	07/23/19	TEK	FINAL PLAN SUBMITTAL
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
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RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS
FOR
BULKHEAD
REPLACEMENT
GRANGE AVENUE &
HANCE ROAD
POCKET PARKS &
BATTIN ROAD BOAT
RAMP
BOROUGH OF FAIR HAVEN
MONMOUTH COUNTY
NEW JERSEY



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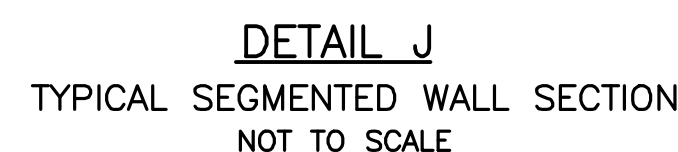
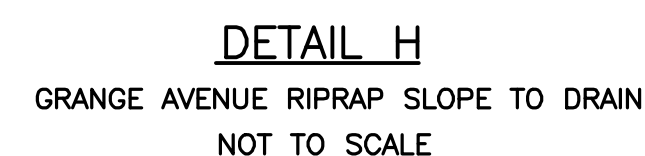
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PROJECT NUMBER: 17004982B		DRAWING NAME: C-DTLS	

SHEET TITLE:

BULKHEAD DETAILS

SHEET NUMBER:

ST-1



1. ALL NEW FILL, BACKFILL, & DISTURBED SOIL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST IN ACCORDANCE WITH ASTM D-1557. COMPLIANCE MUST BE SHOWN THROUGH TESTING PERFORMED BY A CERTIFIED COMPACTION TESTING PROVIDER. MINIMUM OF 2 TESTS MUST BE PERFORMED AT EACH LIFT. ALL TESTING MUST BE PROVIDED TO AND APPROVED OF BY ENGINEER PRIOR TO FURTHER LIFTS BEING INSTALLED. ALL TESTING IS AT CONTRACTORS EXPENSE.

[illegible]


RICHARD C. MALONEY
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CONSTRUCTION PLANS
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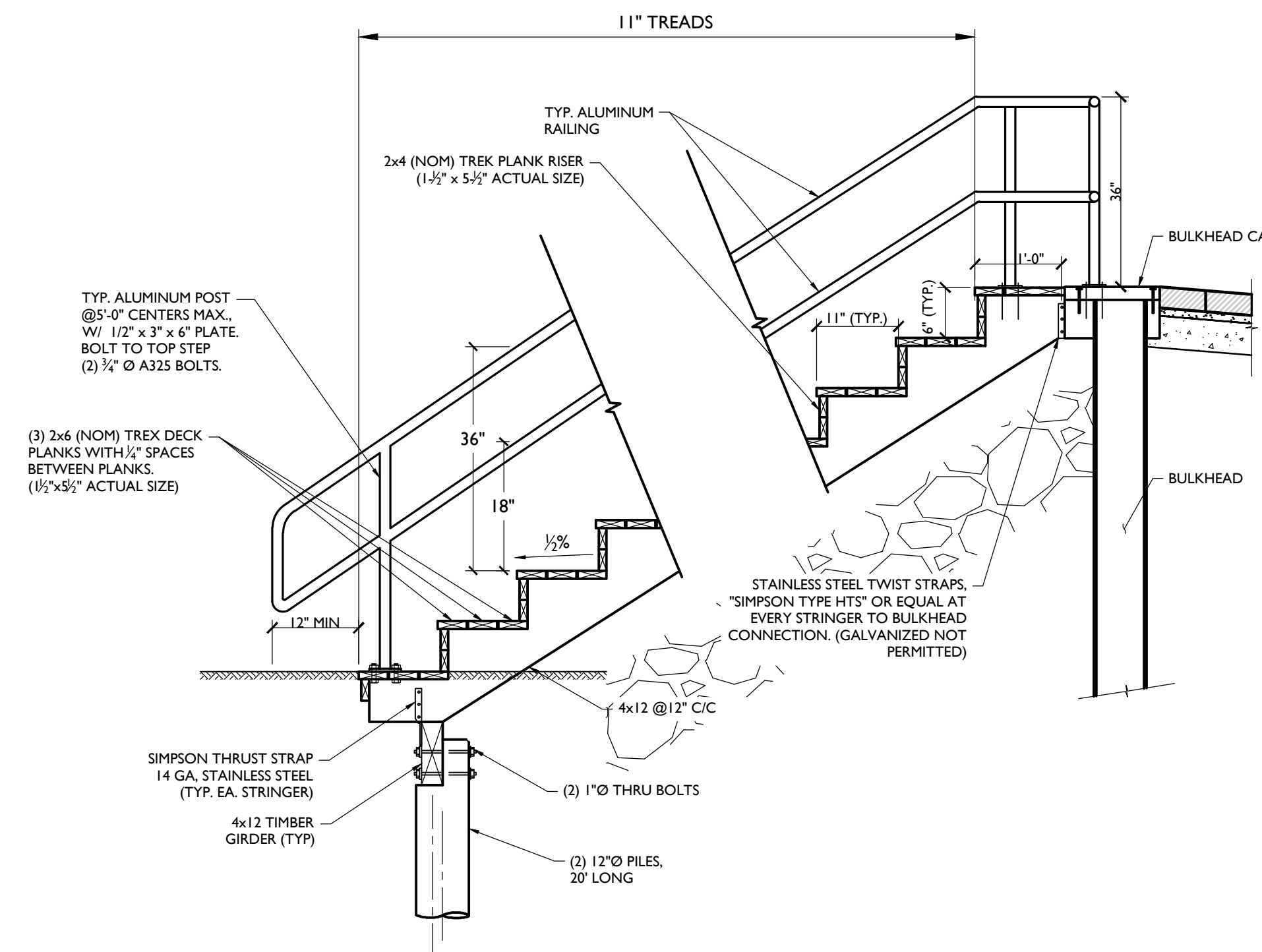
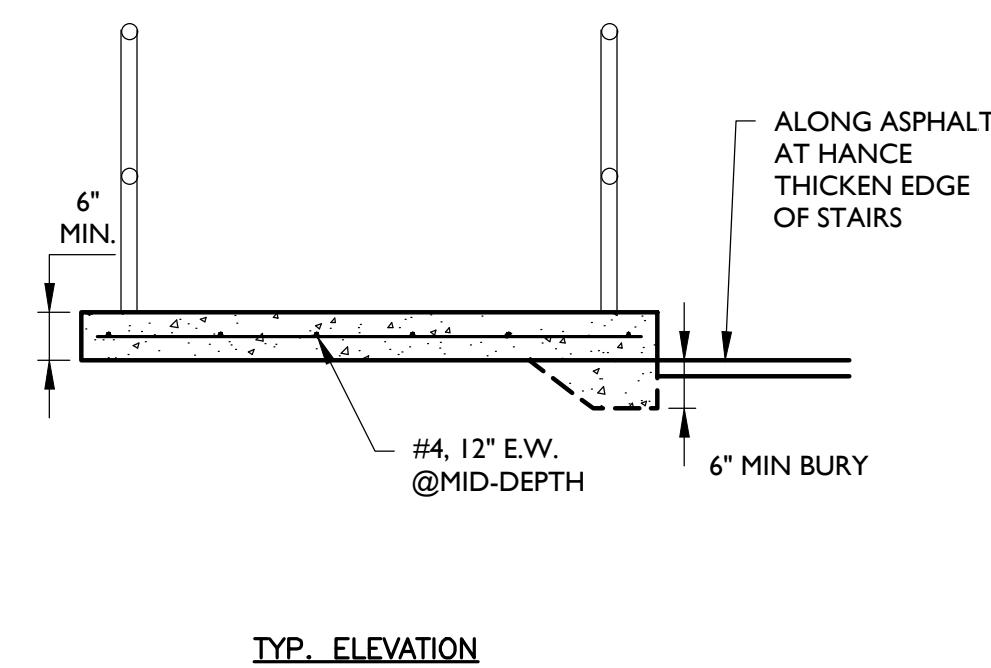
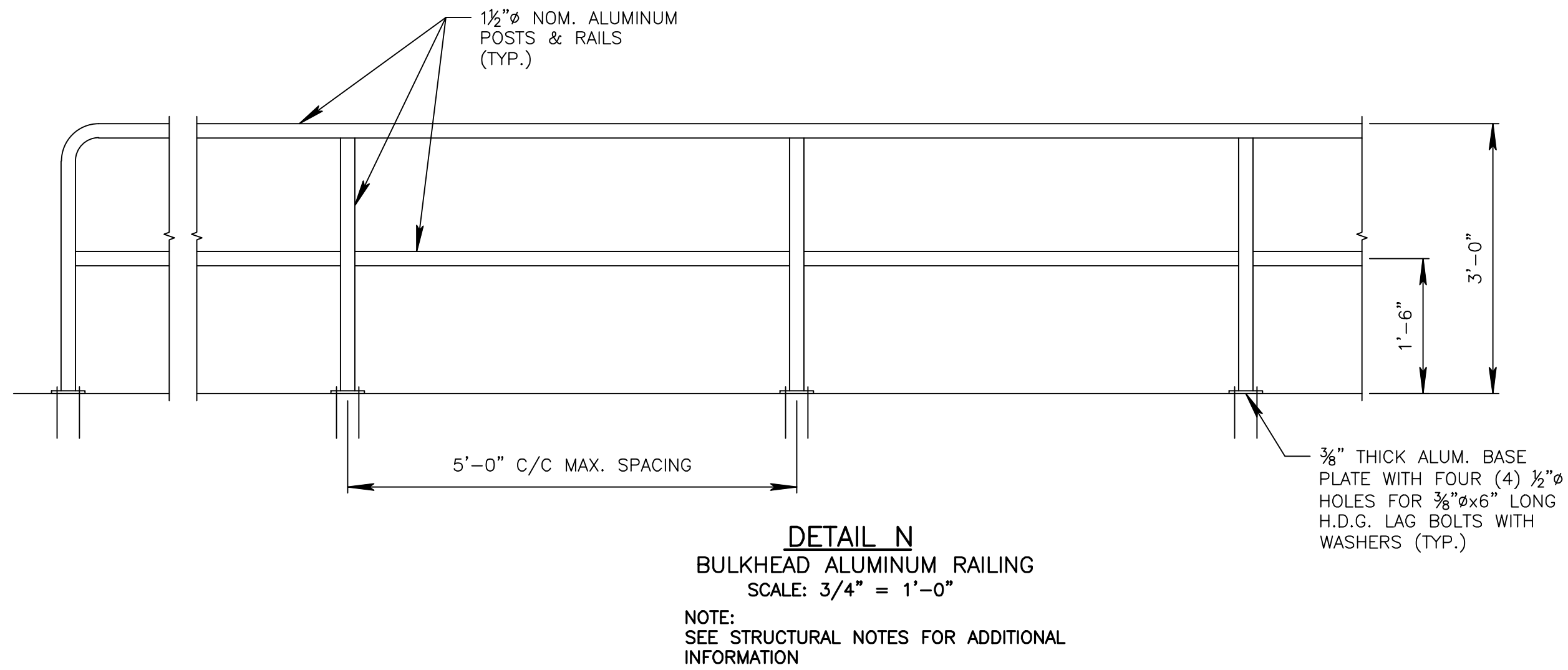
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SHEET TITLE:

**BULKHEAD SECTION &
DETAILS**

SHEET NUMBER: ST-2

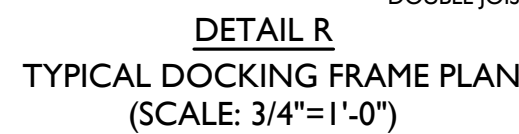
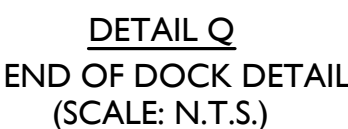
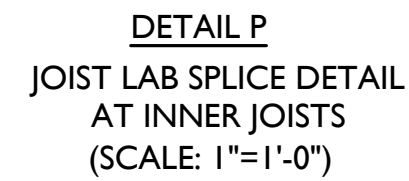


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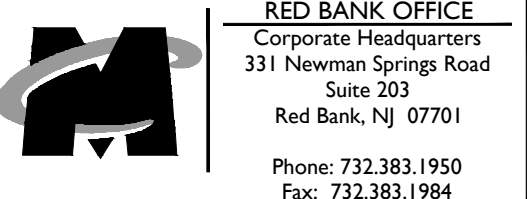
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RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

CONSTRUCTION PLANS
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BULKHEAD
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GRANGE AVENUE &
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POCKET PARKS &
BATTIN ROAD BOAT
RAMP
BOROUGH OF FAIR HAVEN
MONMOUTH COUNTY
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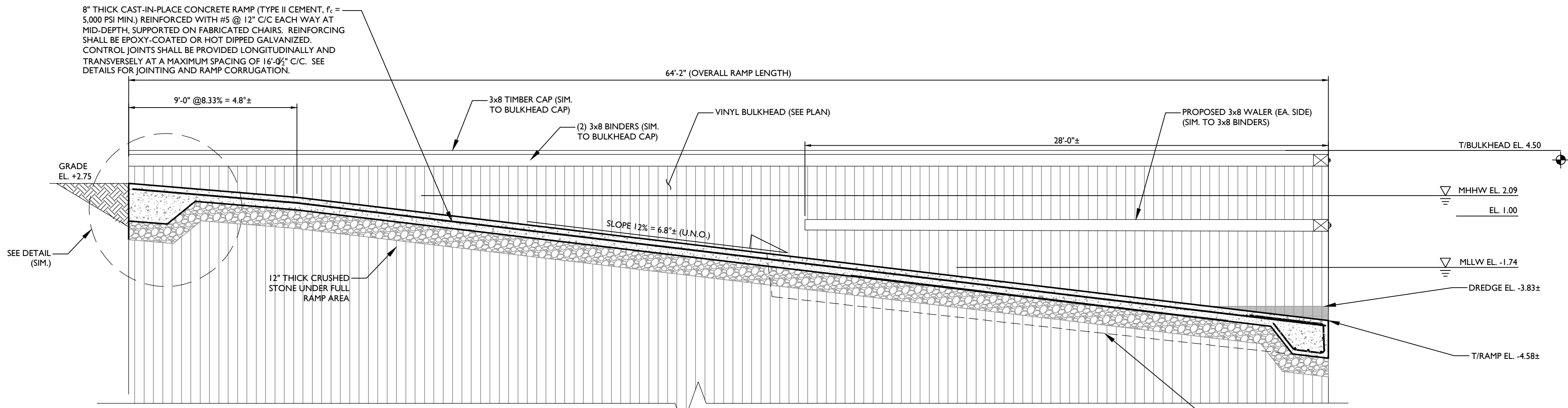


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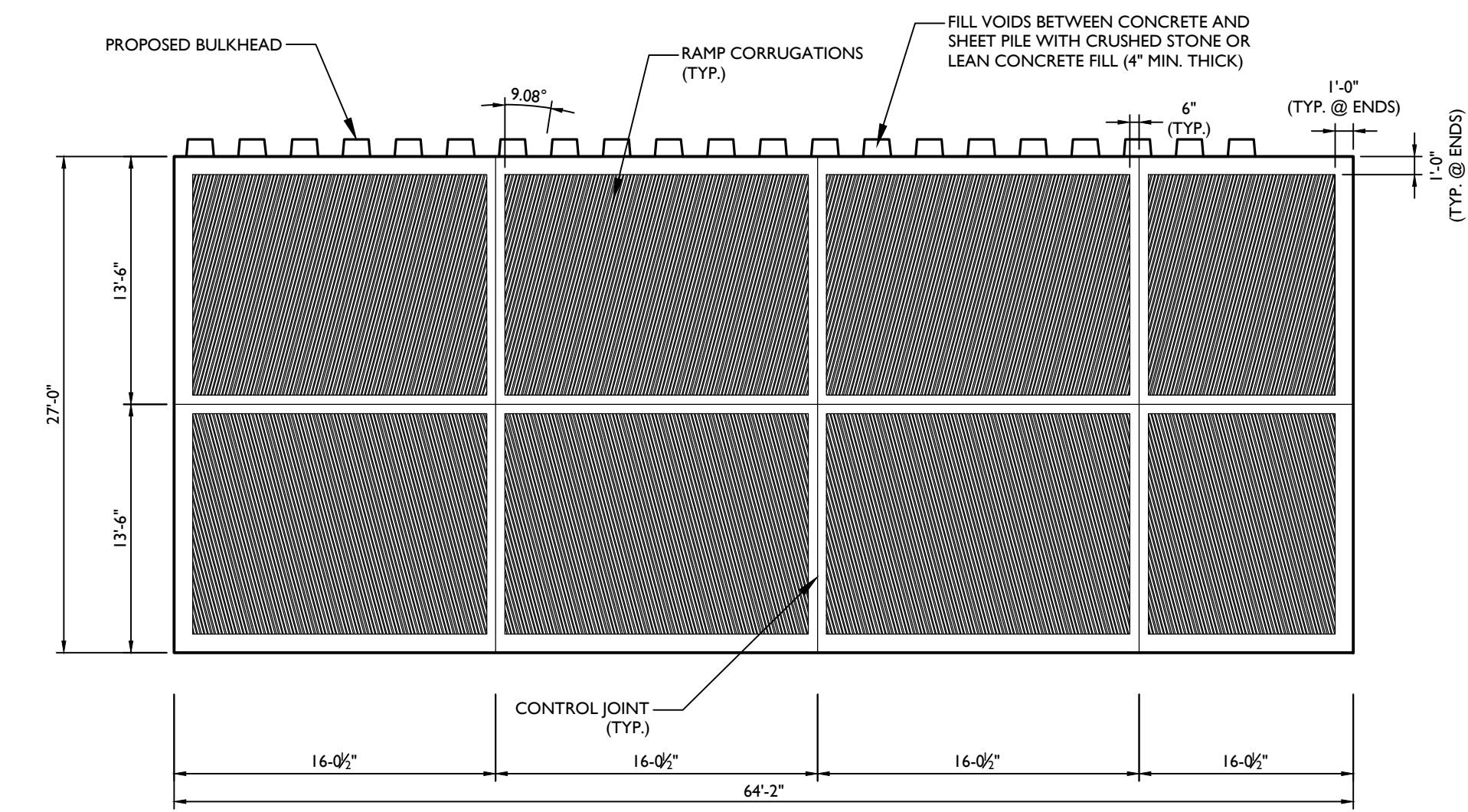
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FIXED DOCK DETAILS

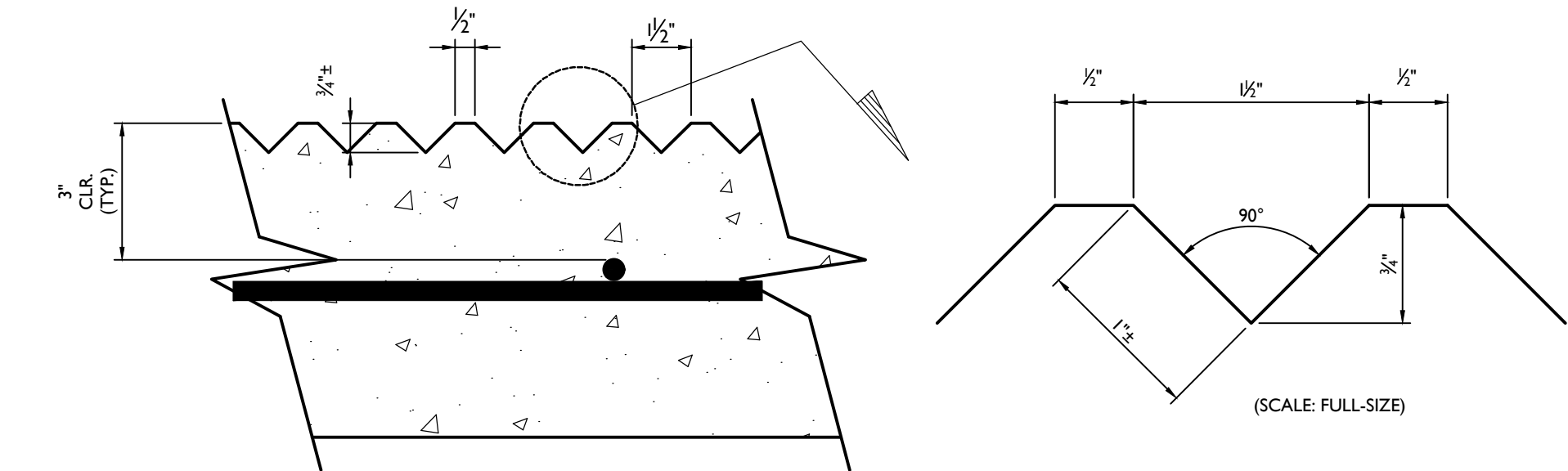
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BOAT RAMP CROSS SECTION
SCALE: 1/4" = 1'-0"

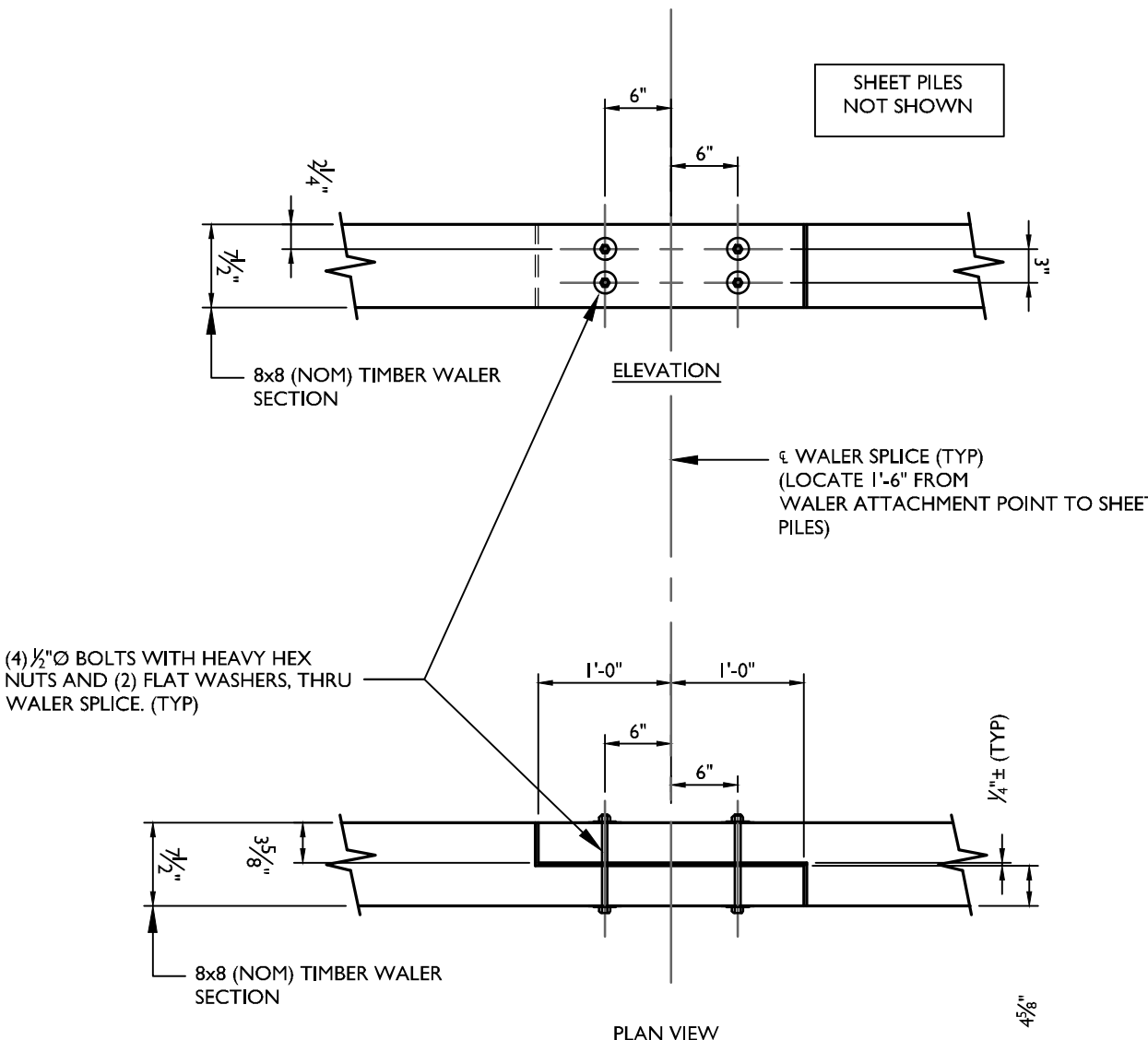


BOAT RAMP PLAN VIEW
SCALE: N.T.S.

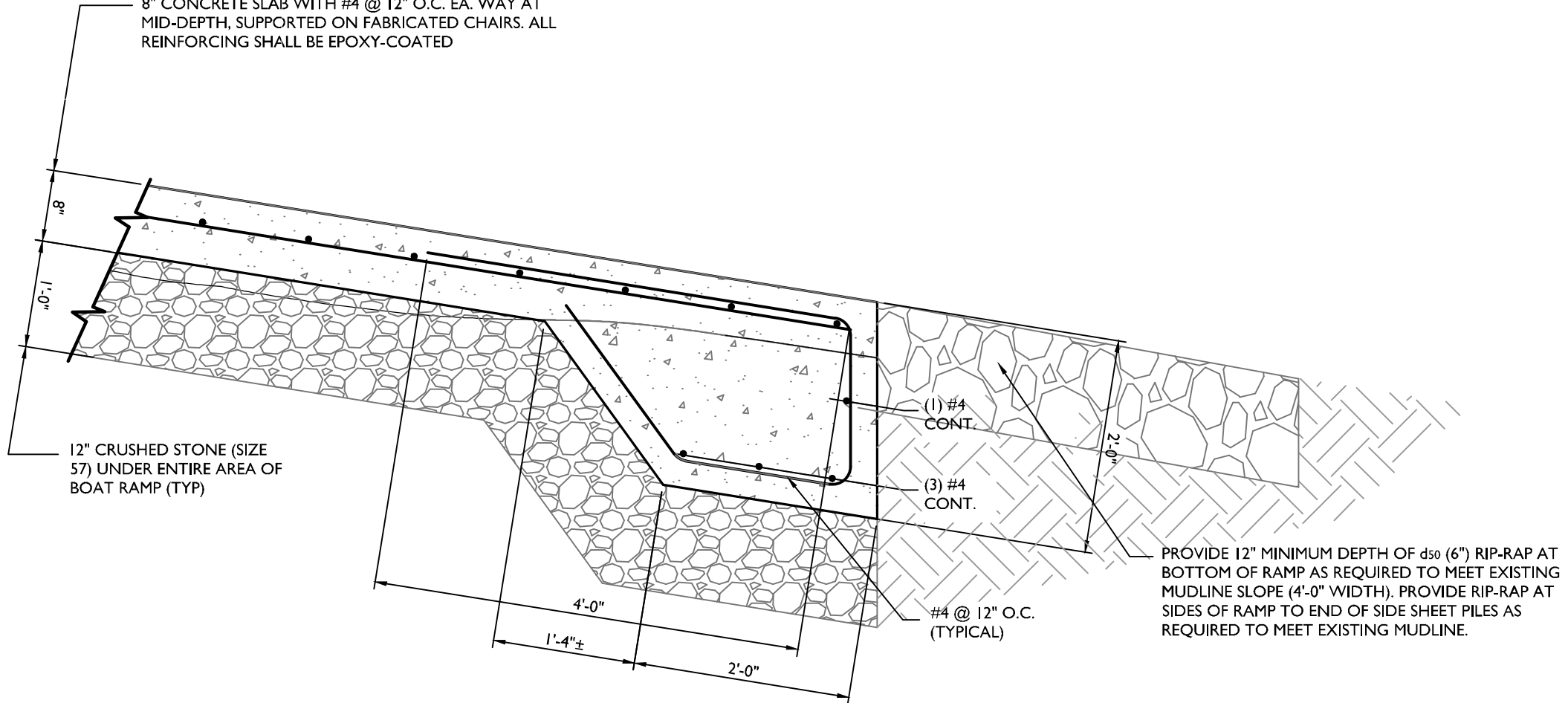


TYPICAL RAMP CORRUGATION DETAIL
SCALE: 3" = 1'-0"

NOTE:
PRIOR TO START OF RAMP CONSTRUCTION, CONTRACTOR SHALL SUBMIT TO ENGINEER FOR APPROVAL A SAMPLE OF THE SCREED PROPOSED FOR USE TO CREATE RAMP CORRUGATED SURFACE. CONTRACTOR SHALL PREPARE AT SITE A 6'-0"X6'-0" MIN. SAMPLE MOCK-UP OF CONCRETE SURFACE AS FORMED WITH SCREED FOR ENGINEER'S ACCEPTANCE AND APPROVAL, PRIOR TO POURING RAMP.

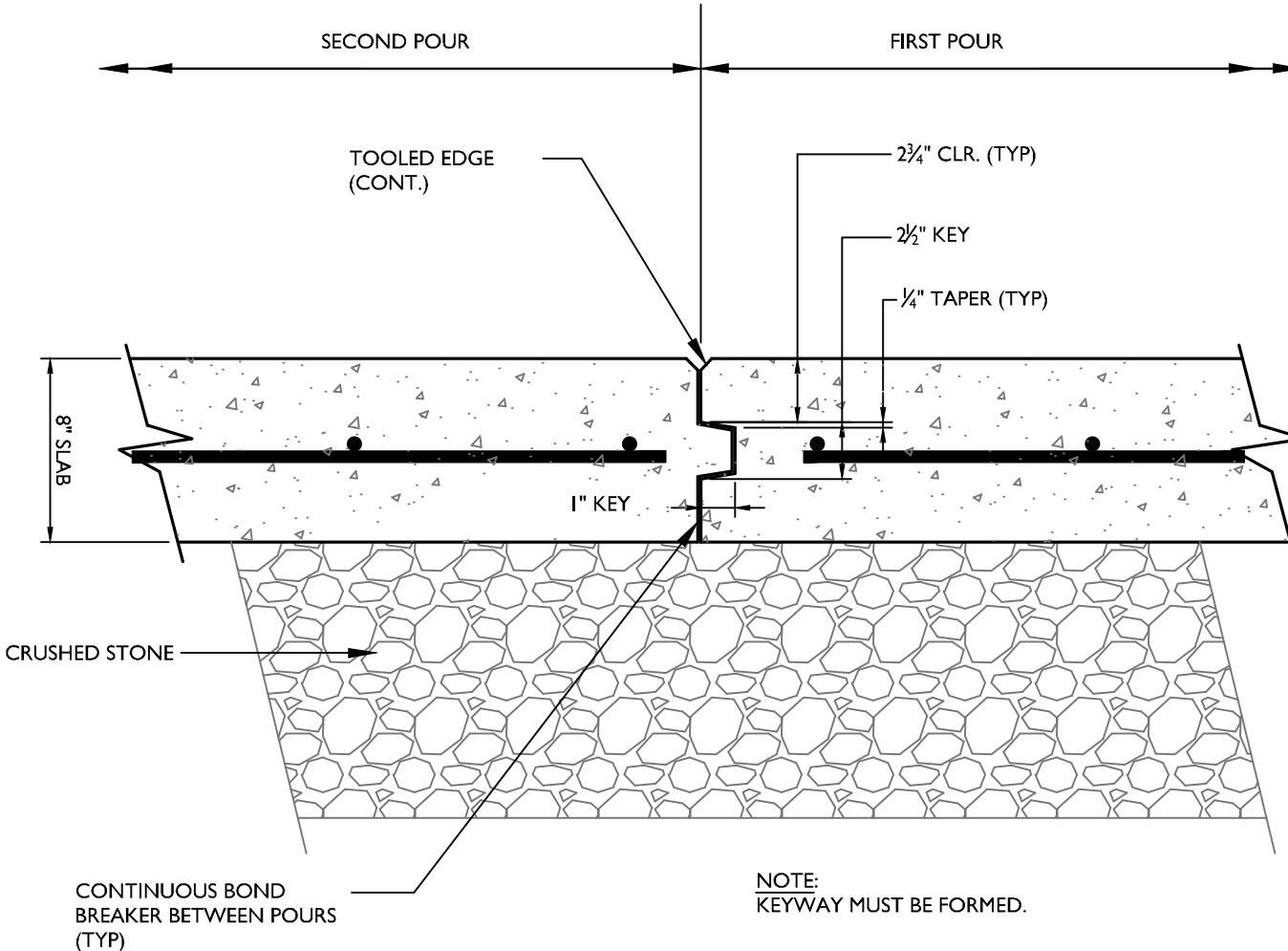


WALER SPICE DETAIL
SCALE: 3/4" = 1'-0"



RAMP TURNDOWN DETAIL
SCALE: 3/4" = 1'-0"

NOTE: TOP OF RAMP AND SIDES BEYOND BULKHEAD SIMILAR.



RAMP CONTROL JOINT DETAIL
SCALE: 1 1/2" = 1'-0"

NOTE:
ALL RAMP JOINTS ARE COLD JOINTS FROM 2 SEPARATE POURS. CONCRETE BOAT RAMP MAY BE POURED IN A CHECKER BOARD POUR SEQUENCE.

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RICHARD C. MALONEY
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ENGINEER - LICENSE NUMBER: GE39023

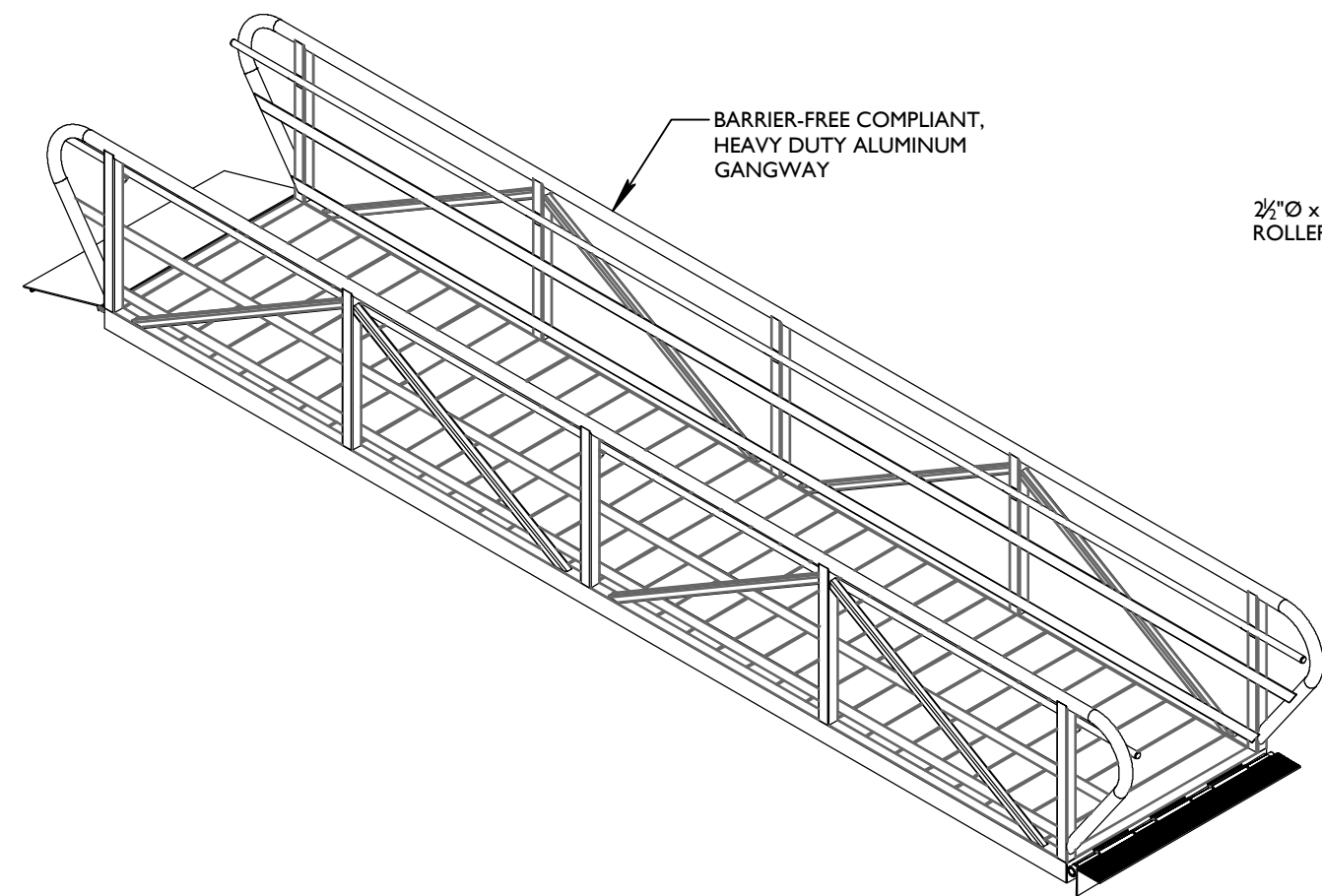
CONSTRUCTION PLANS
FOR
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GRANGE AVENUE &
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POCKET PARKS &
BATTIN ROAD BOAT
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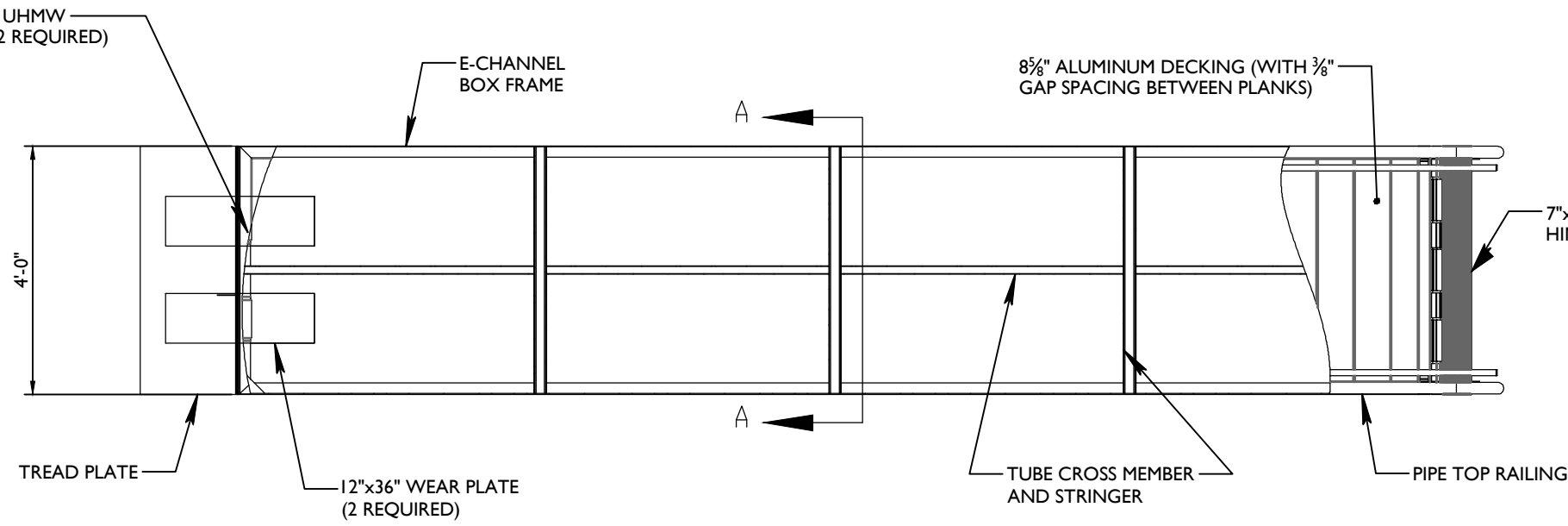
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PROJECT NUMBER:		DRAWING NAME:	
170049828		C-DTLS	

SHEET TITLE:
BOAT RAMP DETAILS

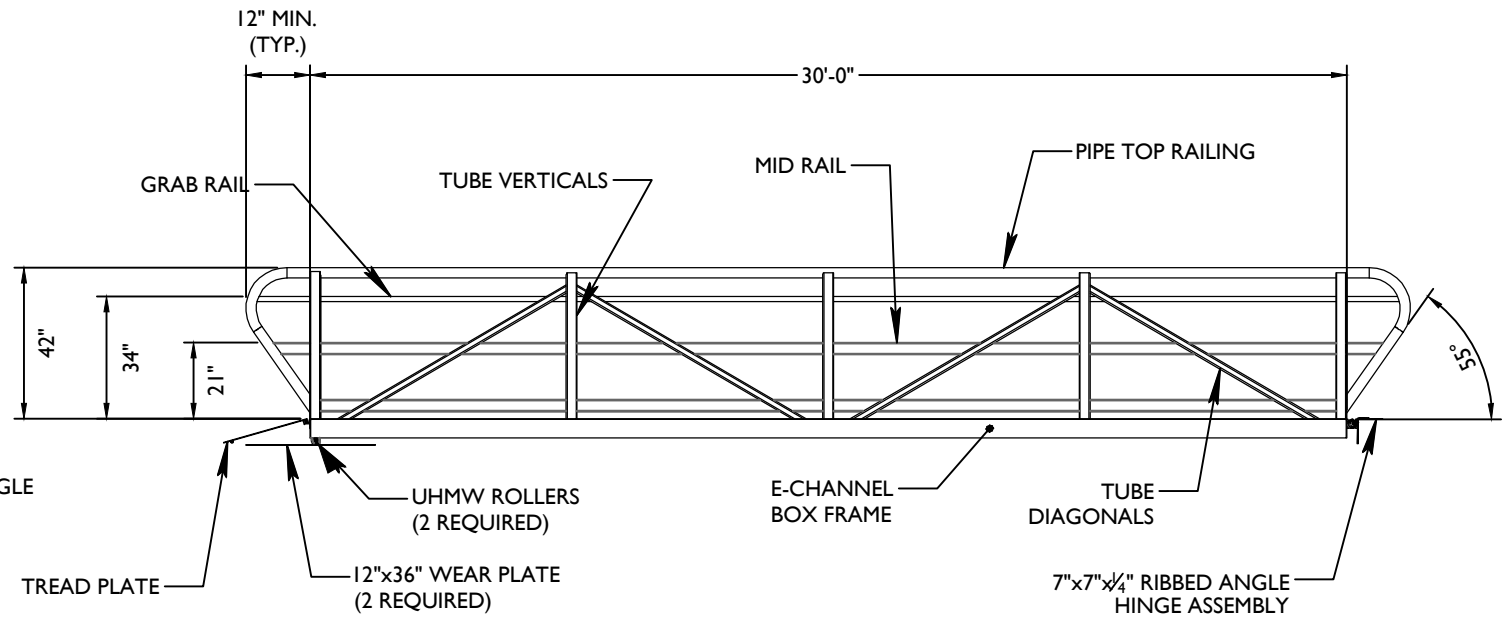
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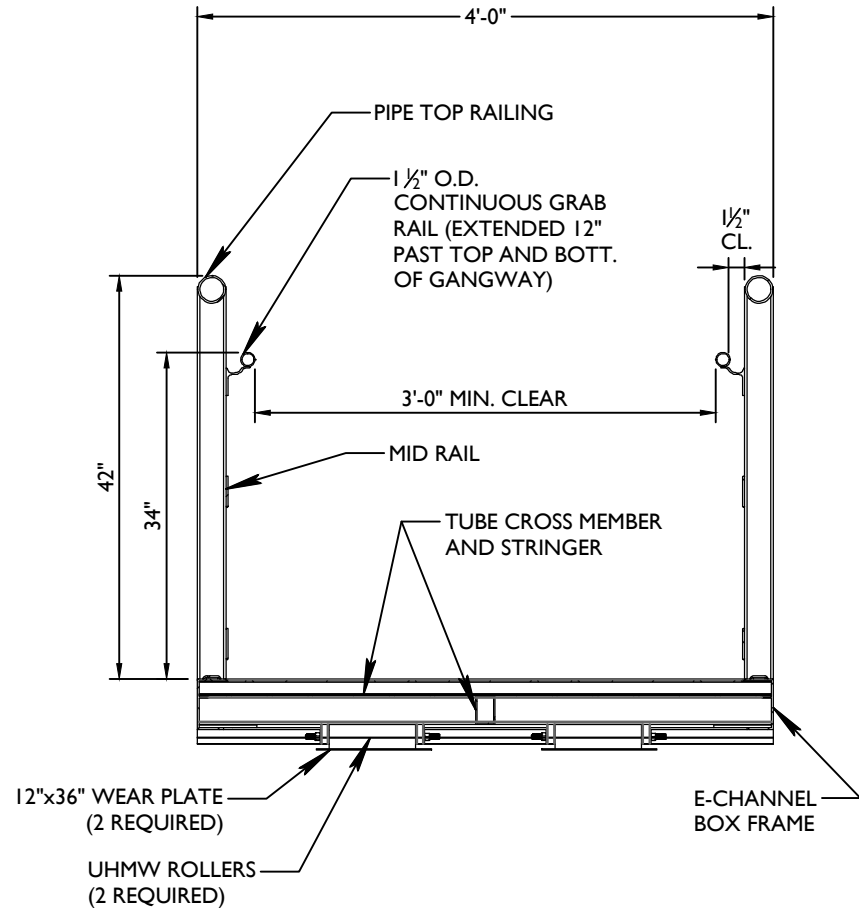
ALUMINUM GANGWAY ISOMETRIC VIEW
NOT TO SCALE



ALUMINUM GANGWAY PLAN VIEW
NOT TO SCALE

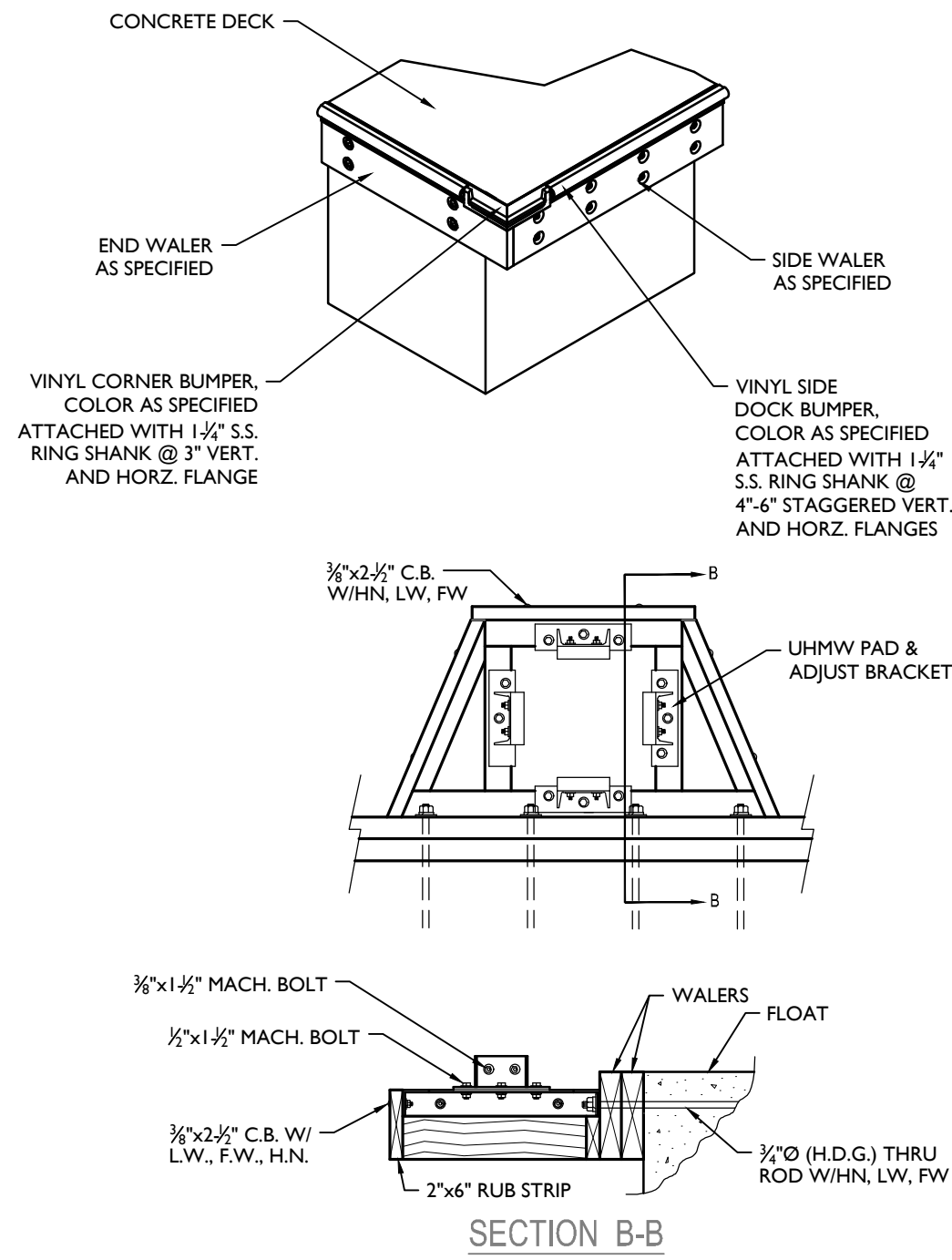


ALUMINUM GANGWAY ELEVATION
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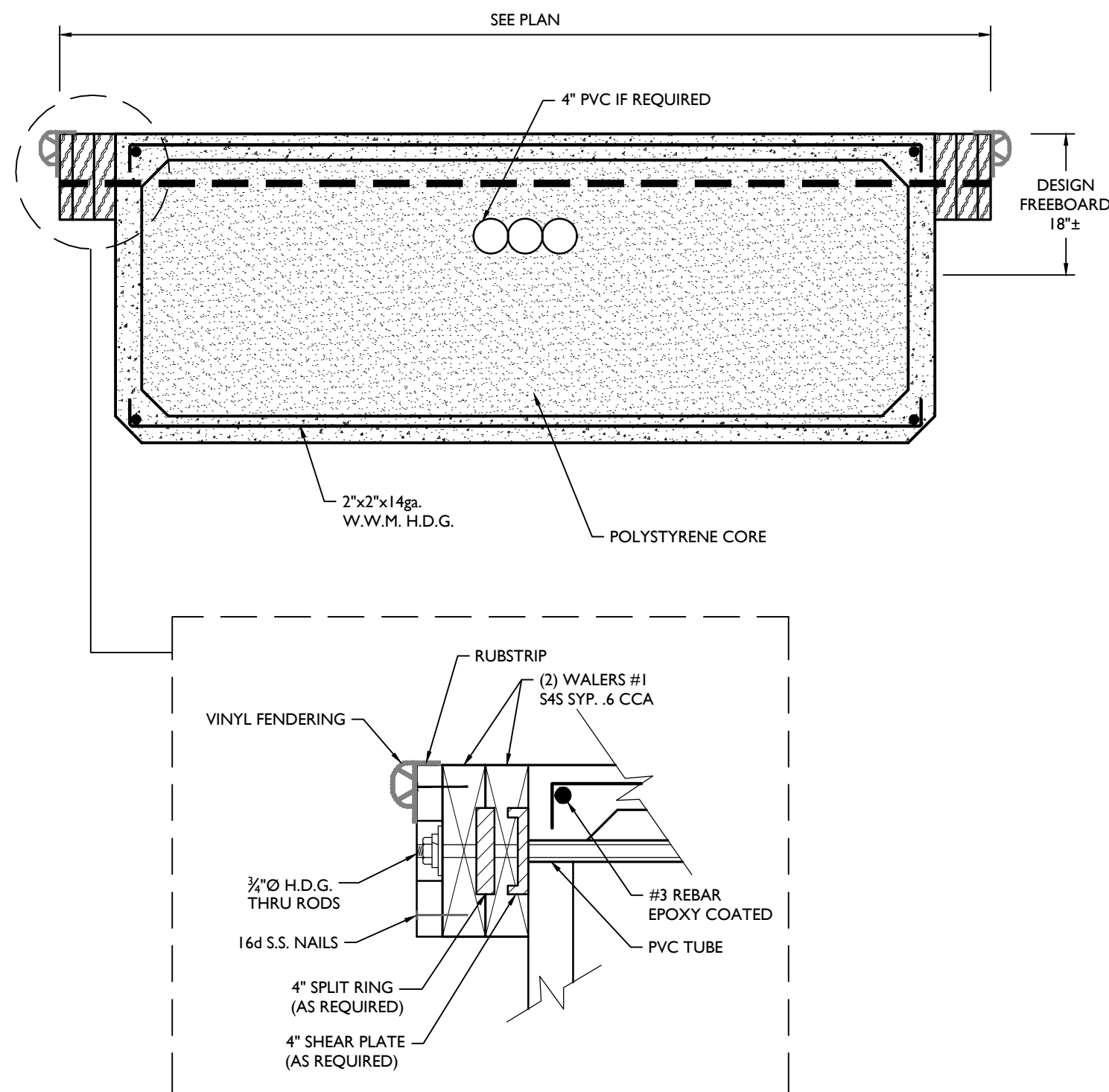


SECTION A-A
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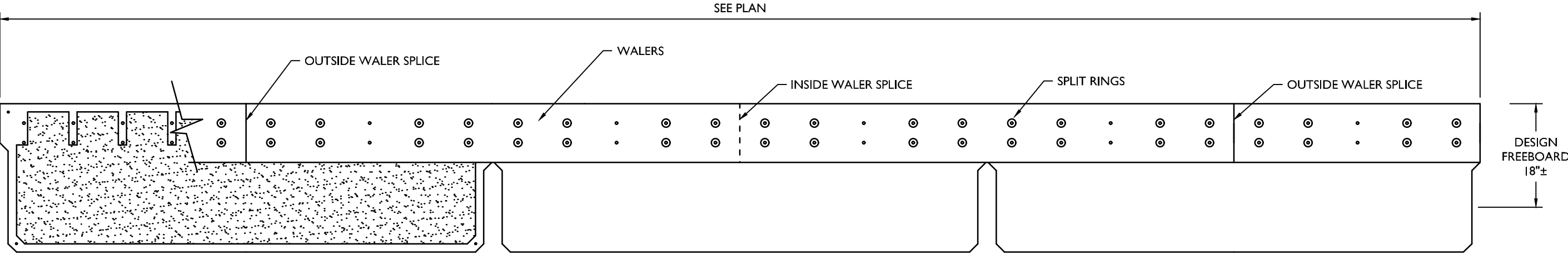
ALUMINUM GANGWAY DETAILS



SIDE PILE GUIDE W/ UHMW PADS
NOT TO SCALE



TYPICAL FLOATING DOCK SECTION
NOT TO SCALE



TYPICAL FLOATING DOCK LONGITUDINAL
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FLOATING DOCK TYPICAL DETAILS

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RICHARD C. MALONEY
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE79023

CONSTRUCTION PLANS
FOR
**BULKHEAD
REPLACEMENT
GRANGE AVENUE &
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POCKET PARKS &
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170049828		C-DTLS	

SHEET TITLE:
**GANGWAY AND FLOATING
DOCK DETAILS**

SHEET NUMBER:
ST-6

I. ALL WORK SHALL BE IN ACCORDANCE WITH THE NEW JERSEY UNIFORM CONSTRUCTION CODE (NJUCC), BASED ON IBC 2015, WHICH IS THE ADOPTED BUILDING CODE FOR THE PROJECT SITE, AND ITS REFERENCE DOCUMENT, ASCE 7-10, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".

5. CONTRACTOR SHALL SUBMIT FOR ENGINEER'S REVIEW, ERECTION DRAWINGS AND DETAILED SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS INCLUDING:
- A. SHEET PILE SECTIONS
 - B. SECTIONS AND FABRICATIONS
 - C. DATA SHEETS ON ALL STRUCTURAL MATERIALS, COATINGS, TREATMENTS, AND ADHESIVES
 - D. ALL SITE IMPROVEMENT ITEMS

I. ALL FOUNDATIONS SHALL BE FOUNDED ON FIRM, UNDISTURBED SOIL. ALL SOFT SPOTS OR OVER-EXCAVATION OF FOOTINGS SHALL BE FILLED WITH ACCEPTABLE FILL MATERIAL AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY. ALL FOOTING EXCAVATIONS SHALL BE FINISHED BY HAND.

- ## FILTER FABRIC FOR BULKHEAD CONSTRUCTION

- ## SOLAR DECK LIGHTS

1. LIGHT FIXTURE ALONG DOCK SHALL BE SOLAR-POWERED DECK LIGHTS, SUITABLE FOR MARINE EXPOSURES.
2. FIXTURE SHALL BE "SOLAR DECK LIGHTS "LL-SDL-DECK-W" BY LAKE LITE SOLAR TECHNOLOGY, (www.lakelite.com), OR EQUAL AS APPROVED BY THE ENGINEER.
3. LIGHT COLOR SHALL BE WHITE.
4. LIGHTS SHALL BE AFFIXED TO THE DOCK USING STAINLESS STEEL MOUNTING SCREWS AS DIRECTED BY THE MANUFACTURER.

1. LIGHT FIXTURE ALONG STAIRS SHALL BE SOLAR-POWERED STAINLESS STEEL DECK LIGHTS.
2. FIXTURE SHALL BE "SOLAR POWER 5 3/4"W STAINLESS STEEL DECK LIGHTS" STYLE #6V956" BY LAPS PLUS. (www.lampsplus.com), OR EQUAL AS APPROVED BY THE ENGINEER.
3. LIGHTS SHALL BE AFFIXED TO THE STEPS USING STAINLESS STEEL MOUNTING SCREWS AS DIRECTED BY THE MANUFACTURER.

REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON ALL
STRUCTURAL MATERIALS. IF ANY CONFLICTS EXIST BETWEEN PLANS AND SPECIFICATIONS,
THE MORE STRINGENT SHALL GOVERN.

1. TIMBER PILES SHALL BE SOUTHERN YELLOW PINE MATERIAL, IN ACCORDANCE WITH ASTM D25, CLASS B.
2. TIMBER PILES SHALL BE AIR-SEASONED PRIOR TO KILN DRYING.
3. TIMBER PILES SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH AWP STANDARD U1-05, AS FOLLOWS:
 - A. AWP USE CATEGORY: UC5B (SALT WATER EXPOSURE)
 - B. COMMODITY (U1-05, TABLE 3-1): PILES, ROUND
 - C. TREATMENT CHEMICAL: CCA
 - D. MINIMUM RETENTION: 2.5 PCF (TABLE 3.0)
 - E. TREATMENT WITH CCA SHALL INCLUDE POST-TREATMENT FIXATION PROCESS.
4. TIMBER PILES SHALL HAVE MINIMUM TIP DIAMETER OF 8" AND BUTT DIAMETER OF 12" IN ALL LOCATIONS UNLESS OTHERWISE NOTED.
5. LENGTH OF PILES SHALL BE AS REQUIRED TO ATTAIN TOP ELEVATIONS AS SHOWN ON THE DRAWINGS.
6. TIMBER PILES SHALL HAVE THE FOLLOWING MINIMUM LOAD CAPACITIES:
 - A. VERTICAL: 4-TON (8000 LB5)
7. TIMBER PILES SHALL BE DRIVEN TO THE DEPTHS NOTED ON THE PLANS.

8. ALL PILES SHALL BE DRIVEN BY AN APPROVED GRAVITY, STEAM, OR DIESEL HAMMER. PILE DRIVING HAMMER SHALL HAVE RATED ENERGY OF 15,000 FOOT-POUNDS PER BLOW (MINIMUM). JETTING OF PILES IS NOT PERMITTED. IF EXTREMELY HARD DRIVING MATERIALS EXIST AND CONDITIONS PERSIST, CONTRACTOR SHALL CONTACT THE ENGINEER TO DETERMINE POSSIBLE LIMITED USE OF JETTING.
9. APPROPRIATE PILE CUSHIONING SHALL BE PROVIDED DURING PILE DRIVING, IN ACCORDANCE WITH THE PILE SUPPLIER'S RECOMMENDATIONS, AND AS APPROVED BY THE ENGINEER.
10. PILES SHALL BE DRIVEN VERTICALLY (PLUMB). CONTRACTOR SHALL USE PILING GUIDE AS NECESSARY TO ENSURE PILING IS INSTALLED PLUMB.
11. TOLERANCE FOR PILE SETTING AND HORIZONTAL LOCATION SHALL BE $\pm 2"$ IN ANY DIRECTION. TOLERANCE FOR PLUMBNESS OF PILES SHALL BE 1" PER 10' OF PILE LENGTH.
12. PILE DRIVING LOGS SHALL BE MAINTAINED BY QUALIFIED PERSONNEL AND SUBMITTED TO THE ENGINEER.

I. ALL ASPECTS OF TIMBER CONSTRUCTION SHALL BE IN COMPLETE ACCORDANCE WITH THE REQUIREMENTS OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (NDS), LATEST EDITION, AS PUBLISHED BY THE AMERICAN FOREST & PAPER ASSOCIATION AND THE AMERICAN WOOD COUNCIL.

5. MATERIALS:
- A. TIMBER - SOUTHERN YELLOW PINE, No.2 GRADE OR BETTER FOR ALL TIMBER FRAMING, INCLUDING PIERS, STAIRS, AND BULKHEAD CAP. ALL TIMBER FRAMING SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH NOTE #3, BELOW.
- B. HARDWARE - ALL STUDS, BOLTS, NUTS, AND WASHERS FOR TIMBER FRAMING SHALL BE ASTM A307, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 UNLESS OTHERWISE NOTED. PLATES, STRAPS, AND ANGLES SHALL BE ASTM A36 STEEL, HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123, UNLESS OTHERWISE NOTED.
3. ALL TIMBER FRAMING SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH "AMERICAN WOOD PRESERVERS ASS'N. (AWPA) STANDARDS 2005", STANDARD U-05, AS FOLLOWS:
- A. ALL TIMBER FRAMING AT BULKHEAD CAPS, PIERS, AND STAIRS EXCEPT AS SPECIFICALLY NOTED IN "B", BELOW:
- (1) AFWPA USE CATEGORY: UC-5B
(SALT WATER EXPOSURE)
- (2) COMMODITY (U-I-05, TABLE 3-1): LUMBER / TIMBERS
- (3) CCA PRESERVATIVE TREATMENT WITH A RETENTION OF 2.5 LBS./CUFT SHALL BE PROVIDED PER U-I-05, TABLE 3.0
- (4) NO SUBSTITUTIONS OF OTHER TREATMENTS SHALL BE PERMITTED.
- B. TIMBER CAP TOP PLANK SECTIONS AT BULKHEAD AND ALL WALKING SURFACE PLANKS AT PIERS AND STAIRS:
- (1) AFWPA USE CATEGORY: UC-4B
(SALT WATER SPRAY)
- (2) COMMODITY (U-I-05, TABLE 3-1): LUMBER / TIMBERS
- (3) CCA PRESERVATIVE TREATMENT WITH A RETENTION OF 0.6 LBS./CUFT SHALL BE PROVIDED PER U-I-05, TABLE 3.0
- (4) NO SUBSTITUTIONS OF OTHER TREATMENTS SHALL BE PERMITTED.
4. ALL FIELD CUTS SHALL BE FIELD-TREATED WITH PRESERVATIVE TREATMENT IN ACCORDANCE WITH APPLICABLE AFWPA STANDARDS AND PROCEDURES.
5. ALL STEEL HARDWARE, NAILS, SCREWS AND BOLTS SHALL BE OF SUFFICIENT LENGTH FOR THEIR INTENDED USE. ALL BOLTS SHALL INCLUDE FLAT WASHERS AND HEAVY HEX NUTS.
6. ALL STEEL FASTENERS, BOLTS, WASHERS, NUTS, LAG BOLTS, PLATES, ANGLES AND OTHER CONNECTION HARDWARE SHALL BE HOT-DIP GALVANIZED PER ASTM STANDARDS A123 OR A153, WITH 20 OZ. OF ZINC PER SQUARE FOOT, UNLESS OTHERWISE SPECIFIED TO BE STAINLESS STEEL.
7. ALL LAG BOLTS SHALL BE INSTALLED USING PILOT AND CLEARANCE HOLES IN CONNECTED TIMBER ELEMENTS IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF NDS SECTION 11.1.3. (G = 0.55)
8. ALL SCREWS SHALL BE STAINLESS STEEL, SIZES AS SHOWN, OR SUITABLE FOR THE CONNECTED ELEMENTS.
9. PREFABRICATED TIMBER CONNECTORS:
- A. CONTRACTOR SHALL SUBMIT COMPLETE DATA ON ALL PREFABRICATED TIMBER CONNECTORS FOR REVIEW BY THE ENGINEER. SUBMITTED DATA SHALL INCLUDE ALL CAPACITIES FOR ALL CONNECTORS.
- B. CONNECTOR SIZES AND TYPES SHALL BE AS SHOWN ON THE DESIGN DRAWINGS AND DETAILS.
- C. CONNECTORS SHALL BE INSTALLED USING ALL FASTENERS AS RECOMMENDED BY THE MANUFACTURER FOR THE PUBLISHED LOAD CAPACITIES.
- D. TWIST STRAPS FOR CONNECTION OF PIER JOISTS TO GIRDERS SHALL BE 1/4" THICK, 304 STAINLESS STEEL, TYPE 304. MANUFACTURER'S STANDARD ELECTRO-GALVANIZED OR HOT-DIP GALVANIZED CONNECTORS WILL NOT BE ACCEPTED.
- (1) AT CONTRACTOR'S OPTION, AND WITH SPECIFIC APPROVAL OF THE ENGINEER, 1/4" THICK X 1 1/2" WIDE HOT-DIP GALVANIZED STEEL TWIST STRAPS MAY BE SUBSTITUTED FOR PREFABRICATED STAINLESS STEEL STRAPS.
- (a) STRAPS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM STANDARD A123.
- (b) HOT-DIP GALVANIZED TWIST STRAPS SHALL BE SECURED WITH A TOTAL OF (4) 3/8" X 2" LAG BOLTS, (2) INTO EACH WOOD MEMBER. LAG BOLTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM STANDARD A153.
10. BOLTS LOCATED TOWARDS THE WATER SHALL BE RECESSED OR OTHERWISE PROTECTED AND SHALL NOT BE EXPOSED OR EXTEND PAST THE FACES OF THE TIMBER FRAMING TO REDUCE THE POSSIBILITY OF DAMAGE TO BOATS. SEE STRUCTURAL DETAILS FOR RECESSES AND BOLT PROTECTION.

1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI 318 AND "SPECIFICATIONS FOR CONCRETE BUILDINGS" ACI 301, LATEST EDITIONS.
2. ALL CONCRETE SHALL HAVE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI. UNLESS OTHERWISE NOTED. CONCRETE BOAT RAMP TO BE 5,000 PSI. CONCRETE SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI STANDARDS. MAXIMUM SLUMP SHALL BE 4 INCHES. ALL CONCRETE SHALL BE NORMAL WEIGHT, U.N.O.
3. ALL REINFORCING STEEL FOR CONCRETE AND MASONRY CONSTRUCTION SHALL CONFORM WITH ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE HOT DIPPED GALVANIZED OR EPOXY-COATED IN ACCORDANCE WITH ASTM A775.
4. ALL REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 40 BAR DIAMETERS. ALL REINFORCING BARS SHALL BE CONTINUOUS AROUND CORNERS.
5. WELDED WIRE FABRIC (WWF) SHALL CONFORM WITH ASTM A185. WIRE FABRIC SHALL BE TIED WITH WIRE AND OVERLAPPED TWO SQUARES AT EDGES. ALL WWF SHALL BE HOT DIPPED GALVANIZED OR EPOXY-COATED IN ACCORDANCE WITH ASTM A894.

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCEMENT, UNLESS OTHERWISE NOTED ON THE DRAWINGS:
 - A. CONCRETE CAST AGAINST EARTH: 3 INCHES
 - B. CONCRETE EXPOSED TO EARTH OR WEATHER: 2 INCHES
 - C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER: 1 INCH
7. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND SUPPORTED IN FORMS AND SPACED WITH ACCESSORIES FOLLOWING THE REQUIREMENTS OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315. PLACING OF BARS SHALL CONFORM TO THE LATEST CRSI RECOMMENDED PRACTICES FOR PLACING REINFORCING BARS.
8. NO ADMIXTURE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE USE OF CALCIUM CHLORIDE IS PROHIBITED.
9. AFTER CONCRETING HAS STARTED, IT SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL PLACING OF A PANEL OR SECTION, AS DEFINED BY ITS BOUNDARIES OR PREDETERMINED JOINTS, IS COMPLETED.
10. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY SUITABLE MEANS SUCH AS MECHANICAL VIBRATION DURING PLACEMENT AND THOROUGHLY WORKED AROUND REINFORCEMENT.
11. FINISH CONCRETE IN ACCORDANCE WITH "FINISHING OF FORMED SURFACES", OF ACI 301. FOUNDATION WALL SHALL BE SMOOTH-FORMED FINISH, UNLESS OTHERWISE NOTED. SEE NOTE #14, BELOW.
12. GROUT SHALL BE A NON-SHRINK, NON-METALLIC, CEMENTITIOUS GROUT, AS APPROVED BY THE ENGINEER.
13. ALL BOLTS, SLEEVES, AND OTHER EMBEDDED ITEMS SHALL BE SET BEFORE CONCRETE IS PLACED. SEE MECHANICAL, ELECTRICAL, AND VENDORS' DRAWINGS FOR SIZES AND LOCATIONS.

1. PROPER CURING OF CONCRETE IS OF THE UTMOST IMPORTANCE. BEGINNING IMMEDIATELY AFTER PLACEMENT, CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY AND SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS. RELATIVE HUMIDITY OF THE AIR SHALL BE AT LEAST 7 DAYS, THE MATERIALS AND METHODS OF CURING SHALL BE SUBJECT TO ACCEPTANCE BY THE ENGINEER. UNSATISFACTORY FINISHED CONCRETE THAT RESULTS FROM FAILURE TO FOLLOW THE SPECIFIED CURING PROCEDURES MAY BE REQUESTED BY THE OWNER OR CONTRACTOR TO BE REMOVED AND REPLACED. ALL COSTS ASSOCIATED WITH REMOVAL AND REPLACEMENT OF CONCRETE WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

2. **SLABS -**
IT IS MANDATORY THAT 7 DAYS OF WET CURING ON ALL MAT SLABS AND FORMED SLABS BE PERFORMED. USE SOAKER HOSE, WET BURLAP AND PLASTIC SHEETS OVER BURLAP ON ALL EXPOSED SURFACES FOR 7 DAYS MINIMUM.
3. **COLD WEATHER -**
WHEN THE MEAN DAILY OUTDOOR TEMPERATURE IS LESS THAN 40°F, THE TEMPERATURE OF THE CONCRETE SHALL BE MAINTAINED BETWEEN 50°F AND 70°F FOR THE REQUIRED CURING PERIOD. WHEN NECESSARY, ARRANGEMENTS FOR HEATING, COVERING, INSULATING, OR HOUSING THE CONCRETE WORK SHALL BE MADE IN ADVANCE OF PLACEMENT AND SHALL BE ADEQUATE TO MAINTAIN THE REQUIRED TEMPERATURE WITHOUT INJURY TO THE CONCRETE DUE TO CONCENTRATION OF HEAT.
4. **HOT WEATHER -**
WHEN NECESSARY, PROVISION FOR WINDBREAKS, SHADING, AND/OR CURING WITH A LIGHT-COLORED MATERIAL SHALL BE MADE IN ADVANCE OF CONCRETE PLACEMENT. SUCH PROTECTIVE MEASURES SHALL BE TAKEN AS QUICKLY AS CONCRETE HARDENING AND FINISHING OPERATIONS WILL ALLOW. TEMPERATURE OF CONCRETE AT PLACEMENT SHALL NOT EXCEED 85°F.

1. MATERIALS:
SHEETING: VINYL SHEETING SERIES SHALL BE SERIES SG-850 AS MANUFACTURED BY CMI OR EQUAL.
HARDWARE: STUDS, BOLTS, NUTS AND WASHERS: ASTM A307
PLATES, STRAPS AND ANGLES: ASTM A36
2. ALL PILES SHALL BE DRIVEN BY AN APPROVED GRAVITY, STEAM OR DIESEL HAMMER. JETTING IS NOT PERMITTED.
3. PILES SHALL BE DRIVEN VERTICALLY (PLUMB). CONTRACTOR SHALL USE PILING GUIDE AS NECESSARY TO ENSURE PILING IS INSTALLED PLUMB.
4. TOLERANCE FOR PILE SETTING AND HORIZONTAL LOCATION SHALL BE 2 INCHES.
5. ALL STEEL HARDWARE AND BOLTS SHALL BE OF SUFFICIENT LENGTH FOR THEIR INTENDED USE. ALL BOLTS SHALL CONTAIN WASHERS, OGEES WASHERS AND HEAVY HEX NUTS. USE CARRIAGE BOLTS WHERE EXPOSED.
6. ALL STEEL FASTENERS, BOLTS, WASHERS, NUTS, PLATES, ANGLES, AND HARDWARE TO BE HOT DIPPED GALVANIZED PER ASTM A153 WITH 20 OUNCES OF ZINC PER SQUARE FOOT.
7. SHEETING SHALL BE DRIVEN WITH THE BALL EDGE LEADING. WHEN THE SOCKET END MUST LEAD, A BOLT OR SIMILAR OBJECT SHALL BE PLACED IN THE OPEN SPACE AT THE BOTTOM END TO MINIMIZE CLOGGING.

STEEL SHEET PILING FROM NUCOR COMPANY SKYLINE STEEL OR EQUAL SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PZ-22:

SHEET WIDTH (SINGLE) =	22.0 IN.
SHEET CORRUGATION HEIGHT =	9.0 IN.
SHEET THICKNESS =	0.375 IN.

PZ-35:

SHEET WIDTH (SINGLE) =	22.6 IN.
SHEET CORRUGATION HEIGHT =	14.9 IN.
SHEET THICKNESS =	0.500 IN.

- ALL STEEL SHEET PILING SHALL BE SHOP COATED WITH THE FOLLOWING COATING SYSTEM BY PPG OR EQUAL:
- 2.1. THE FIRST/SECOND COAT SHALL BE TWO COATS OF AMERCOAT 240 (MINIMUM 10-12mils PER COAT.
- 2.2. THE THIRD COAT SHALL BE ONE COAT OF AMERCOAT 450H (MINIMUM 3mils PER COAT).
- AFTER BULKHEAD INSTALLATION, COAT TOP 6" OF ALL SHEETS (FRONT, TOP & REAR) WITH MINIMUM OF 16MIL BITUMINOUS COATING OVER EXISTING COATING.
- REPAIR ALL OTHER AREAS OF COATING THAT WERE DAMAGED DURING DELIVERY AND INSTALLATION AT ALL PENETRATIONS AND BOLT HOLES IN SHEETING WITH ORIGINAL COATING SYSTEM (3 COATS).
- ALL STEEL SHEET PILING SHALL BE ASTM A572 GRADE 50 STEEL ($F_y = 50$ KSI MINIMUM).
- ALL STEEL SHEET PILING SHALL BE HOT ROLLED.
- CONTRACTOR SHALL USE A DRIVING TEMPLATE FOR DRIVING STEEL SHEET PILING.
- DRIVING OF PILES IN PAIRS IS RECOMMENDED TO FACILITATE DRIVING AND HELP MAINTAIN VERTICALITY OF PILES.
- PILING SHOULD BE DRIVEN WITH THE BALL EDGE LEADING WHERE POSSIBLE, TO AVOID CLOGGING OF SOCKET END DURING DRIVING. WHEN CONDITIONS REQUIRE THAT SOCKET END LEAD, A BOLT OR SIMILAR OBJECT SHOULD BE PLACED IN BOTTOM OF SOCKET TO MINIMIZE CLOGGING.
- CUT OFF EXCESS MATERIAL ALONG TOP OF DRIVEN SHEET PILE AFTER INSTALLATION. HANDLING HOLES MUST BE IN THE TOP 8" OF SHEET IN AREAS WHERE A CAP IS SPECIFIED. IN AREAS WITHOUT A CAP, HOLES SHALL BE COVERED WITH A WELDED 1/4" THICK PLATE COAT W/ 16mils BITUMINOUS COATING.
- SHEET PILE ANCHORAGE SYSTEMS:

- A. SHEET PILE ANCHORAGE SYSTEM SHALL INCLUDE STEEL CHANNEL, WALER SECTIONS LOCATED BEHIND THE SHEET PILES (LANDWARD SIDE), ANCHOR TIE RODS AND HELICAL ANCHORS SHALL BE LOCATED TO OCCUR WITHIN THE CORRUGATIONS OF THE SELECTED SHEET PILE PROFILE. SEE DESIGN DRAWINGS FOR ADDITIONAL INFORMATION AND CONNECTION DETAILS.
- B. TIE RODS FROM SHEET PILE WALERS TO HELICALS:
- a. TYPICAL BULKHEAD TIE RODS SHALL BE 1"Ø THREAD BAR TIE-RODS, GRADE 150 STEEL.
 - b. EACH ROD (TYPICAL RODS OR DIAGONALS) SHALL INCLUDE A THREAD ADAPTER FOR TENSIONING AND ADJUSTMENT OF ROD AFTER INSTALLATION. ADAPTER AND INNER AND OUTER ROD SECTIONS, SHALL BE PROVIDED WITH OPPOSITE-HAND THREADS TO PERMIT TENSIONING AND ADJUSTMENT USING ADAPTER.
 - c. ALL ELEMENTS OF TIE ROD SYSTEM, INCLUDING BUT NOT LIMITED TO RODS, ADAPTERS, WASHERS, HEX NUTS, SHIMS AND OTHER HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 & A153 AS APPLICABLE, WITH 20 OUNCES OF ZINC PER SQUARE FOOT, MINIMUM. AFTER GALVANIZING, ALL ELEMENTS AS NOTED ABOVE SHALL ALSO BE FULLY COATED WITH COAL-TAR
- C. THREADED ELEMENTS SHALL BE COATED WITH COAL-TAR EPOXY IN FIELD ONLY AFTER FINAL ADJUSTMENT AND TIGHTENING OF PARTS IS COMPLETED. SEE NOTES THIS SHEET FOR DETAILS OF COAL-TAR EPOXY COATING.
- DRILLED-IN HELICAL SOIL ANCHORS
- A. DESIGN LENGTH OF HELICAL ANCHORS FROM FACE OF BULKHEAD SHEET PILES SHALL BE 50'-0" MINIMUM, AS SHOWN IN THE DESIGN DRAWINGS.
- B. HELICAL ANCHOR INSTALLATION ANGLE SHALL BE 20° FROM HORIZONTAL. ANCHORS SHALL BE PERPENDICULAR TO THE LINE OF THE BULKHEAD IN PLAN.
- C. ENTIRE HELICAL ANCHOR SYSTEM SHALL BE SUPPLIED FROM THE SAME MANUFACTURER, INCLUDING SHAFTS, HELICES, AND ALL HARDWARE.
- D. ALL DETAILS OF HELICAL ANCHOR INSTALLATION SHALL BE IN COMPLETE ACCORDANCE WITH THE DESIGN DRAWINGS, AND WITH THE MANUFACTURER'S RECOMMENDATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
- a. ANCHOR LENGTH, LOCATION, INSTALLATION ANGLE AND SPACING ON BULKHEAD.
 - b. ANCHOR HELIX MATERIAL, DIAMETERS, THICKNESSES, AND SPACING ALONG SHAFT. NOMINAL SPACING BETWEEN HELIX PATES SHALL BE FIVE TIMES THE DIAMETER OF THE LARGER HELIX. HELIX MATERIAL SHALL BE IN ACCORDANCE WITH ASTM A936 HOT-ROLLED HIGH STRENGTH LOW ALLOW STEEL SHEET, ASTM A656 HOT-ROLLED STRUCTURAL STEEL PLATE, OR MANUFACTURER'S STANDARD AS REQUIRED TO OBTAIN THE DESIGN LOAD CAPACITY. HELICES SHALL BE FORMED BY MATCHING METAL DISCS.
 - c. ANCHOR SHAFT SIZE, CONNECTIONS, AND MATERIAL. SHAFT MATERIAL SHALL BE IN ACCORDANCE WITH ASTM A29, OR MANUFACTURER'S STANDARD AS REQUIRED TO OBTAIN THE DESIGN LOAD CAPACITY.
- E. ALL HELICAL ANCHOR HELICES, DRIVE SHAFTS, ADAPTERS, RODS, NUTS, BOLTS, WASHERS, PLATE WASHERS, PIPE SPACERS, AND OTHER HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 & A153 AS APPLICABLE, WITH 20 OUNCES OF ZINC PER SQUARE FOOT, MINIMUM. AFTER GALVANIZING, ALL EXPOSED ELEMENTS AT ADAPTER CONNECTION SHALL ALSO BE FULLY COATED WITH COAL-TAR EPOXY. SEE NOTES THIS SHEET FOR DETAILS OF COAL-TAR EPOXY COATING.
- F. HELICAL ANCHORS SHALL HAVE THE FOLLOWING CAPACITIES:
- a. ANCHOR DESIGN LOAD: 33.5 KIPS
 - b. ANCHOR ULTIMATE CAPACITY: 67.0 KIPS
- G. INSTALLATION OF HELICAL ANCHORS SHALL BE PERFORMED BY A CONTRACTOR EXPERIENCED IN DRILLED HELICAL SOIL ANCHOR INSTALLATION, AND AS APPROVED BY THE ANCHOR MANUFACTURER.
- H. HELICAL ANCHORS SHALL BE LOAD TESTED IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS, ALL ASPECTS OF ANCHOR TESTING SHALL BE IN COMPLETE ACCORDANCE WITH THE MFR'S RECOMMENDATIONS, INCLUDING NUMBER/FREQUENCY OF ANCHOR TESTS, TEST PROCEDURES, MAGNITUDE OF TEST LOADS, METHOD OF TEST LOAD APPLICATION, AND DURATION OF TEST LOAD APPLICATION. CONTRACTOR SHALL WAIT MINIMUM OF TWO DAYS AFTER INSTALLATION TO CONDUCT LOAD TESTING ON ANY ANCHOR.
- I. HELICAL ANCHOR DESIGN & SHOP DRAWINGS SHALL BE SUBMITTED FOR ENGINEER APPROVAL. DESIGN AND SHOP DRAWINGS SHALL BE NEW JERSEY SIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN", LATEST EDITION.
2. ALL STRUCTURAL STEEL "W" SHAPES SHALL CONFORM TO ASTM A992 OR A572, GRADE 50. ALL STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE "E" OR "S", GRADE B. ALL OTHER SHAPES AND PLATES SHALL CONFORM TO ASTM A36 OR A572, GRADE 50, AS NOTED. ALL PIPE SIZES ARE NOMINAL DIAMETER.
3. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING WELDS OR STANDARD, UNFINISHED BOLTS. CONNECTION MATERIALS SHALL BE AS FOLLOWS:
 - A. BOLTS SHALL CONFORM TO ASTM A325 OR EQUIVALENT.

6. WELDS SHALL BE IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY (AWS) SPECIFICATIONS. ALL WELDING ELECTRODES SHALL BE E70 SERIES, UNLESS OTHERWISE NOTED.
4. SHOP AND FIELD WELDING SHALL BE PERFORMED BY WELDERS WHO ARE CERTIFIED(AWS "STANDARD CERTIFICATION PROCEDURE") TO PERFORM THE TYPE OF WORK REQUIRED. WELDS SHALL CONFORM TO AWS D.1, "STRUCTURAL WELDING CODE - STEEL", LATEST EDITION. PROVIDE MINIMUM WELD SIZES PER TABLE J.2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9th EDITION, WHEN WELD SIZES ARE NOT SHOWN.
5. STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
6. THE DRAWINGS REPRESENT THE PERMANENT FRAMING AND FINAL DETAILS WHERE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, TEMPORARY BRACING, SHORING, AND RECOMMENDED ERECTION PROCEDURES.
7. PAINTING:
 - A. STEEL SHAPES, PLATES, AND FABRICATIONS SHALL BE COATED WITH COAL-TAR EPOXY IN ACCORDANCE WITH SSPC PAINT-16 AND THE U.S. ARMY CORPS OF ENGINEERS FORMULA C-200. ALL DETAILS OF SURFACE PREPARATION AND COATING APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
 - B. ALL HARDWARE (NUTS, BOLTS, WASHERS, ANCHOR PLATES, TIERODS, TURNBUCKLES, ETC.) SHALL BE HOT-DIP GALVANIZED AND THEN COATED WITH COAL-TAR EPOXY AS NOTED ABOVE, FIELD-INSTALLED AFTER INSTALLATION, TIGHTENING, AND ADJUSTMENT OF HARDWARE. EXPOSED TIE ROD END, NUT & WASHER SHALL NOT BE COATED WITH COAL-TAR. THESE ITEMS SHALL BE COATED WITH 1 PRIME & 2 COAT MARINE PRIME PAINT COATING (PPG OR SIMILAR) DESIGNED TO BE APPLIED OVER GALVANIZED STEEL. COLOR TO MATCH BULKHEAD COATING.
8. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. ALL STEEL PARTS OF BULKHEAD ANCHORAGE SYSTEM SHALL BE COATED WITH COAL-TAR EPOXY COATING. (SHEET PILES SHALL NOT RECEIVE COAL-TAR EPOXY COATING. SEE NOTES THIS SHEET FOR STEEL SHEET PILE COATING SYSTEM.)
2. THREADED PORTIONS OF THE RODS, TURNBUCKLES, AND SIMILAR ELEMENTS SHALL BE COATED WITH COAL-TAR EPOXY IN FIELD, AFTER FINAL TIGHTENING AND ADJUSTMENT OF ANCHORAGE SYSTEM. ALL OTHER PORTIONS OF BULKHEAD ANCHORAGE SYSTEM SHALL BE SHOP-COATED.
3. COAL-TAR EPOXY SHALL BE IN COMPLETE ACCORDANCE WITH THE REQUIREMENTS OF THE US ARMY CORPS OF ENGINEERS FORMULA C-200, AND STEEL STRUCTURES PAINTING COUNCIL (SSPC) STANDARD "PAINT 16".
4. MINIMUM (NOT AVERAGE) DRY FILM THICKNESS (DFT) OF 16 mils IS REQUIRED ON ALL COATED ELEMENTS.
5. COAL-TAR EPOXY COATING MATERIAL SHALL BE A HIGH-BUILD, BLACK, GLOSS-FINISH SELF-PRIMING PRODUCT, WITH SOLIDS CONTENT OF 74% $\pm$ 2% BY VOLUME.
6. COAL-TAR EPOXY MATERIAL SHALL MEET OR EXCEED THE FOLLOWING PERFORMANCE REQUIREMENTS:

A. ASTM D4060 (ABRASION):	130mg MAX LOSS AFTER 1000 CYCLES
B. ASTM D4541 (ADHESION):	1443 psi MINIMUM
C. ASTM D2794 (IMPACT):	100 in-lbs
D. ASTM B117 (SALT FOG):	NO BLISTERING, RUSTING OR DELAMINATION AFTER 2000 HRS.
7. ALL ASPECTS OF COATING APPLICATION, INCLUDING PRODUCT STORAGE & HANDLING, SURFACE PREPARATION, MIXING, PRODUCT APPLICATION, CURING AND PROTECTION SHALL BE IN COMPLETE ACCORDANCE WITH THE COATING MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

I. GANGWAY TO BE ALUMINUM AND CONFORM TO BARRIER FREE COMPLIANCE REQUIREMENTS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

I. FLOATING DOCK AS SHOWN ON PLANS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1. ALL ALUMINUM MATERIALS AND FABRICATION SHALL COMPLY WITH THE REQUIREMENTS OF THE ALUMINUM DESIGN MANUAL 2005, AND WITH THE ALUMINUM ASSOCIATION, INC.
2. ALUMINUM MATERIALS SHALL BE TYPE 6063-T6, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ASTM B 221 AND B 308, AS APPLICABLE.
3. WELDING OF ALUMINUM SHALL COMPLY WITH THE REQUIREMENTS OF AMERICAN WELDING SOCIETY (AWS) STANDARD D1.2, "STRUCTURAL WELDING CODE - ALUMINUM". WELDING ELECTRODES FOR 6061 ALUMINUM SHALL BE ER4043, U.N.O.
4. ALL RAILING SHALL BE WELDED AND SHALL CONSIST OF ANODIZED ALUMINUM SCHEDULE 40 PIPE, 1½" NOMINAL (1.90" O.D.) IN ACCORDANCE WITH ASTM B 241, TYPE 6063-T6. ALL PICKETS SHALL BE ANODIZED ALUMINUM SCHEDULE 40 PIPE, ½" NOMINAL (0.84" O.D.) IN ACCORDANCE WITH ASTM B 241, TYPE 6063-T6.
5. WELDING IS TO BE CONDUCTED PRIOR TO ANODIZING.
6. HANDRAILS SHALL BE DESIGNED TO WITHSTAND THE LOADS AS SPECIFIED IN NJUCC SECTION 1607.7.1.
7. HANDRAILS SHALL BE FABRICATED IN THE LARGEST SECTIONS PRACTICAL FOR SHIPPING AND HANDLING IN FIELD FOR INSTALLATION.
8. HANDRAIL EXTENSIONS AT TOP, BOTTOM, TURNS AND SWITCHBACKS SHALL BE IN ACCORDANCE WITH THE HANDRAIL REQUIREMENTS OF ANSI A117.1.
9. POST TO BE MOUNTED TO 4½"x4½"x½" THICK ALUMINUM BASE PLATE. UTILIZE FOUR (4) ¾"Ø HOT-DIPPED GALVANIZED LAG SCREWS (6" LONG) AND RE-DRILL ALL HOLES.
10. RAILING CONTRACTOR SHALL ADD TWO (2) 3x10 BLOCKING BETWEEN OUTER JOISTS AT ALL POST LOCATIONS. PROVIDE FOUR (4) 16d TOE NAILS EACH SIDE AT EACH END OF BLOCKING (16 TOTAL PER BLOCKING).



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RICHARD C. MALONEY

NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE39023

**CONSTRUCTION PLANS
FOR
BULKHEAD
REPLACEMENT
GRANGE AVENUE &
HANCE ROAD
POCKET PARKS &
BATTIN ROAD BOAT
RAMP
BOROUGH OF FAIR HAVEN
MONMOUTH COUNTY
NEW JERSEY**

	RED BANK OFFICE Corporate Headquarters 331 Newman Springs Road Suite 203 Red Bank, NJ 07701 Phone: 732.383.1950 Fax: 732.383.1984				
SCALE		DATE	DRAWN BY	CHECKED BY	
AS SHOWN		4/03/19	TEK	KCH	
PROJECT NUMBER:		DRAWING NAME			
170049828		C-DTLS			
SHEET TITLE:					
STRUCTURAL NOTES					
SHEET NUMBER:					
ST-7					