Town Of Manchester-by-the-Sea
Masconomo Park And
Morss Pier Improvements

Issued For Bidding
October 2018

Sheet Number	Sheet Title
–	Cover
2	General Notes and Location Plan
3	Special Inspections
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5	Existing Conditions Site Plan
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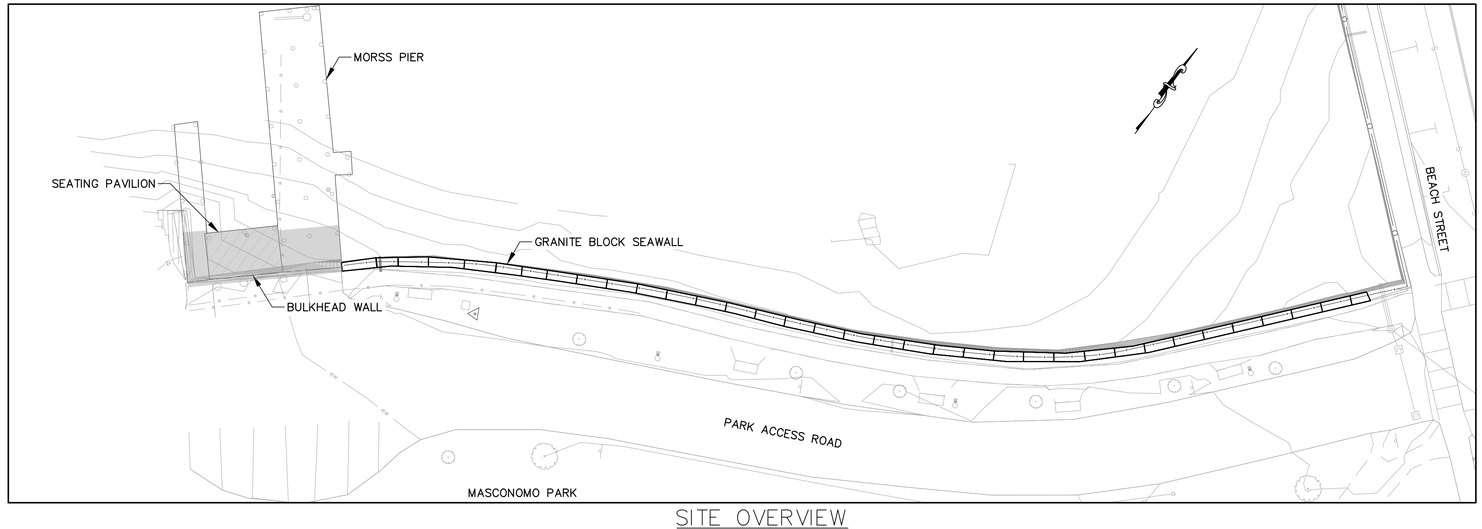
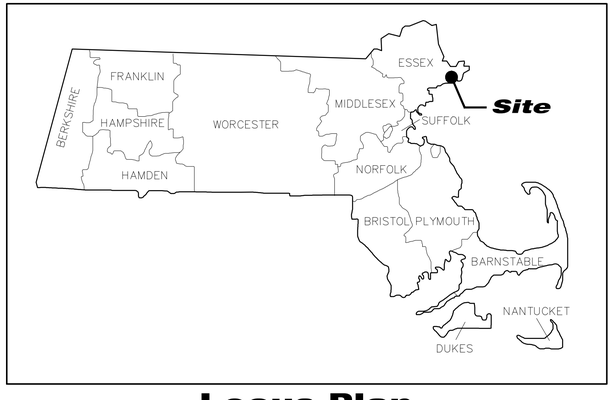
7	Sections And Details
8	Bulkhead Wall Section And Details



SITE OVERVIEW
0 20' 40'
Scale: 1" = 20'



Locus Plan

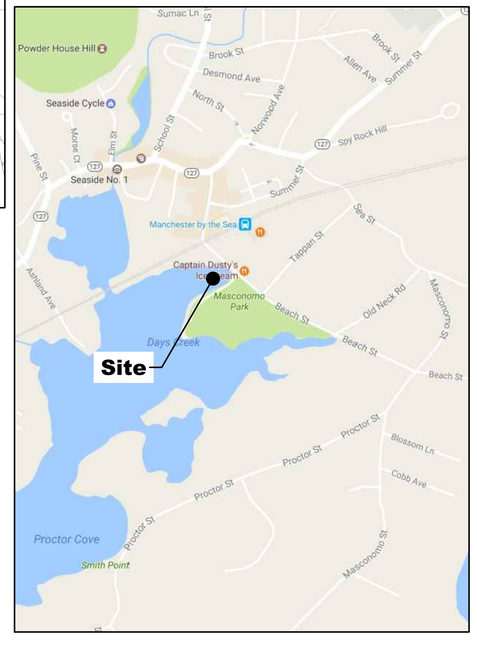
Prepared For:

Town of Manchester-by-the-Sea
Department of Public Works
10 Central Street
Manchester-by-the-Sea, MA 01944

Prepared By:

CMA ENGINEERS
CIVIL/ENVIRONMENTAL/STRUCTURAL
Portsmouth, NH 603/431-6196 • Manchester, NH 603/627-0708 • Portland, ME 207/541-4223
cmaengineers.com

COMMONWEALTH OF MASSACHUSETTS
DAVID L. BACON
STRUCTURAL
No. 32005
REGISTERED
PROFESSIONAL ENGINEER



Project Locations

General Notes:

1. EXISTING BENCHES AND SIGNS WITHIN THE LIMIT OF EXCAVATION SHALL BE MOVED AND SAFELY STORED ON SITE AS DIRECTED BY THE ENGINEER. EXISTING STREET LAMPS SHALL NOT BE REMOVED AND CARE SHALL BE TAKEN TO ENSURE STREET LAMP FOUNDATIONS ARE NOT DISTRUBED.
2. ALL CEMENT FOR CONCRETE AND MORTAR MIXED SHALL BE TYPE II WITH AIR-ENTRAINED CONTENT OF 7.0% ± 1.0%. THE MIX SHALL CONTAIN AN ADDITIONAL 10% OF CEMENT AND SHALL BE MIXED FOR A PERIOD OF TIME 50% MORE THAN THE TIME SPECIFIED IN SUBSECTION M4.02.10 OF THE MASSDOT STANDARD SPECIFICATIONS (LATEST EDITION).
3. CONTRACTOR SHALL NOT FULLY BLOCK THE PARK ACCESS ROAD. A MINIMUM OF A SINGLE LANE SHALL REMAIN OPEN SUCH THAT ACCESS TO THE PARKING AREA FOR MASCONOMO PARK, TO THE SOUTH OF THE WORK AREA, IS ACCESSIBLE TO THE PUBLIC AND TOWN SNOW MAINTENANCE EQUIPMENT.
4. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH AASHTO M284 (ASTM A775).
6. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.
7. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, DETAILS AND ANGLES SHOWN ON THESE PLANS TO ENSURE THAT CONSTRUCTION CAN PROCEED AS INTENDED.
8. CONTRACTOR SHALL STAGE EQUIPMENT AND MATERIALS IN THE NEARBY PARKING AREA, A MINIMUM OF 100' FROM THE TOP OF BANK AS INDICATED ON THE LAYDOWN AREA LOCATION PLAN ON THIS SHEET.
9. NO EXISTING TREES ARE TO BE CUT OR DAMAGED. TREES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE ENGINEER, AT NO COST TO THE OWNER.
10. LIMITS OF EXCAVATION SHALL BE AS INDICATED BY THESE DRAWINGS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. THE SITE WIDE VERTICAL LIMIT OF EXCAVATION IS EL 4.2' (NAVD88). NO DREDGE MATERIAL SHALL BE PRODUCED.
11. DRAWINGS ARE NOT INTENDED TO BE SCALED. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS, INCLUDING UTILITIES, PRIOR TO THE START OF CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES, CONSULT THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN QUESTION. UNDERGROUND ELECTRICAL SERVICE LOCATION IS APPROXIMATE AND IS BASED ON FIELD MEASUREMENTS BY CMA ENGINEERS AND PARTIAL UTILITY MARKINGS BY THE TOWN OF MANCHESTER-BY-THE-SEA.
12. SITE DEWATERING IS NOT PROPOSED FOR REPAIRS SHOWN IN THESE PLANS.
13. THE CONTRACTOR IS DIRECTED TO REVIEW THE PERMITTING DOCUMENTATION REGARDING IN WATER WORK, AS INCLUDED IN THE PROJECT SPECIFICATIONS.
14. CONTRACTOR SHALL NOTIFY DIG-SAFE AT 1-800-DIG-SAFE AT LEAST 72 HOURS PRIOR TO BEGINNING WORK TO CONFIRM THE LOCATION OF UNDERGROUND UTILITIES.
15. CONTRACTOR SHALL FIELD VERIFY INTERFERENCE BETWEEN EXISTING UTILITIES (WATER AND ELECTRIC) AND THE PROPOSED SHEET PILE WALL. ANY REQUIRED TEMPORARY RELOCATION OF UTILITIES SHALL BE SUBSIDIARY TO THE STEEL SHEETING PAY ITEM.

Erosion Control Notes:

1. PRIOR TO CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NECESSARY. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING CONSTRUCTION. WHEN LAND IS EXPOSED DURING CONSTRUCTION, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME. ANY DISTURBED AREAS WHICH ARE TO BE LEFT UN-STABILIZED LONGER THAN TWO WEEKS SHALL BE TEMPORARILY SEEDED AND MULCHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REMEDIAL WORK REQUIRED TO REPAIR AREAS WHICH ARE DAMAGED BY EROSION.
2. HAY BALE BARRIERS SHALL BE INSTALLED AND MAINTAINED AT DRAIN INLETS AND OUTLETS AND ALONG LIMITS OF WORK WHERE NECESSARY. HAYBALE BARRIERS SHALL NOT BE PLACED CLOSER THAN 25-FEET TO DRAIN INLETS AND OUTLETS. ADDITIONAL HAYBALES SHALL BE ADDED AS REQUIRED BY THE ENGINEER. HAY BALES WILL BE STAKED AND MAINTAINED PRIOR TO AND DURING CONSTRUCTION UNTIL DISTURBED AREAS HAVE A HEALTHY STAND OF GRASS.
3. ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TO TAKE PLACE SHALL BE TRACKED, SEEDED AND MULCHED. ALL SEED, LIME AND FERTILIZER PROGRAMS SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE SPECIFICATIONS.
4. ANY DISTURBED AREAS WHICH ARE TO BE LEFT LONGER THAN TWO WEEKS DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED AT THE RATE OF 2 TONS PER ACRE.
5. EROSION CONTROL FIBER ROLL SHALL BE INSTALLED AND MAINTAINED WHERE NECESSARY AND ADDITIONAL FIBER ROLL ADDED AS REQUIRED BY THE ENGINEER PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. GENERALLY, FIBER ROLL SHALL BE INSTALLED TO PREVENT MIGRATION OF THE SEDIMENT FROM THE WORK AREA. IT SHOULD BE MAINTAINED DURING AND AFTER CONSTRUCTION TO REMOVE SEDIMENT FROM NATURAL DRAINAGE WAYS. THE FIBER ROLL IS TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
6. EROSION CONTROL DEVICES DESCRIBED REPRESENT MINIMUM MEASURES. THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY MEASURES TO PREVENT TRANSPORT OF SEDIMENT BEYOND THE WORK AREA.
7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED AND ACCUMULATED SEDIMENT DISPOSED OF IN A LOCATION DESIGNATED BY THE OWNER.
8. BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS AND SHALL BE DRY.
9. EROSION CONTROL FIBER ROLL SHALL BE 12" FILTREXX® OR APPROVED EQUAL.
10. SEEDING, LIME, AND FERTILIZING OF ALL SLOPES AND DISTURBED AREAS TO BE CONDUCTED IN ACCORDANCE WITH SECTION 765 OF THE STANDARD SPECIFICATIONS.
11. ALL WORK SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS PERTAINING TO EROSION CONTROL, AND THE SITE SPECIFIC WPA FORM 3 – NOTICE OF INTENT CONDITIONSM AND WPA FORM 5 – ORDER OF CONDITIONS FOR THIS PROJECT.

Fence Removal/ Replacement:

1. EXISTING METAL FENCE MOUNTED TO TOP OF GRANITE BLOCK SEAWALL SHALL BE REMOVED, STORED, AND RESET ALONG THE SECTION OF SEAWALL BEING REPAIRED AS INDICATED BY THESE DRAWINGS.
2. BASED ON SITE OBSERVATIONS, METAL PIPE POSTS ARE WELDED INTO BASE CONNECTIONS WHICH ARE BOLTED TO THE TOP COURSE OF THE GRANITE BLOCK WALL. WORK UNDER THIS ITEM SHALL INCLUDE ANY REQUIRED DRILLING AN ANCHORING REQUIRED TO REMOVE AND REINSTALL FENCE POST BASE BRACKETS.
3. REMOVED FENCE COMPONENTS SHALL BE SAFELY STORED ON-SITE.

Removal, Storage and Replacement of Existing Pavilion:

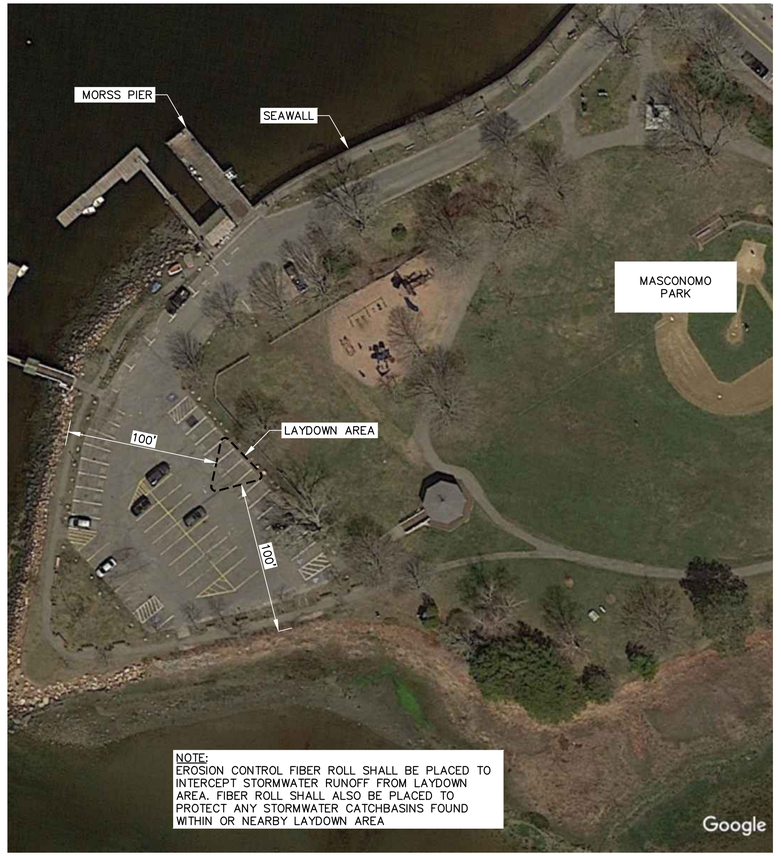
1. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN SPECIFIC TO THE PAVILION. THE PLAN SHALL OUTLINE, AT A MINIMUM, HOW THE PAVILION WILL BE REMOVED FROM THE PIER, HOW IT WILL BE MOVED, WHERE AND HOW IT WILL BE STORED, AND HOW IT WILL BE REINSTALLED ON THE RECONSTRUCTED PIER SECTION.
2. ALL COMPONENTS OF THE EXISTING TIMBER PAVILION ABOVE THE DECK BOARDS ARE TO BE REMOVED WITH CARE AND KEPT FOR RE-INSTALLATION ON RECONSTRUCTED PIER SECTION.
3. CONTRACTOR SHALL SUPPLY ALL TEMPORARY BRACING NEEDED TO TRANSPORT AND STORE THE PAVILION.
4. FULL DECONSTRUCTION OF THE PAVILION IS NOT PERMITTED. THE ROOF STRUCTURE, TIMBER FENCING/RAILS, AND BENCHES SHALL REMAIN IN AS LARGE OF SECTIONS AS IS POSSIBLE WHILE STILL FACILITATING TEMPORARY RELOCATION.
5. TIMBER MEMBERS SHALL NOT BE CUT DURING REMOVAL. SPLICING OF CUT MEMBERS DURING RECONSTRUCTION IS NOT APPROVED.
6. WHILE STORED, ALL COMPONENTS SHALL BE CRIBBED UP OFF THE GROUND AND SHALL BE COVERED. STORED COMPONENTS SHALL BE LOCATED WITHIN THE PERMITTED STAGING AREA AND SHALL BE PROTECTED FROM DAMAGE BY OTHER EQUIPMENT (E.G., SNOW REMOVAL EQUIPMENT).
7. THE PAVILION SHALL BE REINSTALLED IN APPROXIMATELY THE ORIGINAL LOCATION. LAYOUT OF PIER FRAMING MEMBERS SHALL BE DONE PER THESE DRAWINGS AND SUCH THAT STRINGER LOCATIONS ALIGN WITH SUPPORT POST LOCATIONS FOR THE PAVILION.

Hot-Dip Galvanizing Notes:

1. STEEL FABRICATIONS SHALL BE COATED WITH HOT-DIP GALVANIZING IN ACCORDANCE WITH ASTM A153 FOR HARDWARE. GALVANIZING BATH SHALL CONTAIN HIGH GRADE ZINC AND OTHER EARTHLY MATERIALS. IMMEDIATELY BEFORE GALVANIZING, THE STEEL SHALL BE IMMERSED IN A BATH OF ZINC AMMONIUM CHLORIDE. THE USE OF THE WET KETTLE PROCESS FOR GALVANIZING IS PROHIBITED.
2. PORTIONS OF STEEL MEMBERS THAT NEED TO BE MASKED FROM GALVANIZING TO FACILITATE WELDING, OR WHERE DAMAGE TO THE COATING HAS OCCURRED DURING CONSTRUCTION SHALL BE COATED WITH A 95% ZINC RICH ORGANIC COATING AFTER ALL WELDING AND OR REPAIRS HAVE BEEN COMPLETED. THE COATING SHALL BE "ZIRP" AS DISTRIBUTED BY DUNCAN GALVANIZING OR APPROVED EQUAL.

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT
1	MOBILIZATION, PROJECT SETUP AND DEMOLIZATION	1	LS
2	EROSION CONTROL	1	LS
3	MOVE, STORE, AND REINSTALL EXISTING PAVILION	1	LS
4	TIMBER DEMOLITION	1	LS
5	CONCRETE DEMOLITION	10	CY
6	SAWCUTTING ASPHALT PAVEMENT	60	LF
7	TEMPORARY WALL PATCHES	150	SF
8	CHAINLINK FENCE REMOVED AND RESET	80	LF
9	EARTH EXCAVATION	75	CY
10	STEEL SHEETING	38400	LB
11	4000 PSI, 3/4 IN. 610 CEMENT CONCRETE	15	CY
12	CONCRETE PENETRANT	480	SF
13	STEEL REINFORCEMENT FOR STRUCTURES – EPOXY COATED	660	LB
14	HOT MIX ASPHALT	10	TON
15	NEW TIMBER STRINGERS AND DECKING	1	LS
16	SUPPORT EXISTING 4" CONDUIT IN PLACE	1	LS
17	REMOVE AND RESET GRANITE BLOCKS	320	SF
18	GEOTEXTILE FABRIC FOR SEPARATION	65	SY
19	GRAVEL BORROW	55	CY
20	WALKWAY SURFACE AND SUBGRADE MATERIALS	30	CY
21	SITE RESTORATION	1	LS



Laydown Area Location Plan

0 100' 200'
Scale: 1" = 100'

no.	revision	date	by
0	ISSUED FOR BIDS	10/19/18	DLB

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Civil/Environmental/Structural
Portsmouth, NH • Manchester, NH • Portland, ME
603/431-6196 603/627-0708 207/541-4223
cmaengineers.com

DAVID L. BACON No. 20585 REGISTERED STRUCTURAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

designed by: TMA
drawn by: TMA
approved by: DLB
date: October 2018
project no: 1066
file name: 1066-Masconomo-Bid Plans.dwg
scale: 0 10' 20'

Town of Manchester-by-the-Sea
Department of Public Works

Masconomo Park and
Morss Pier Improvements

General Notes and
Location Plan

drawing no.
N-1

sheet: 2 of 8

SCHEDULE OF SPECIAL INSPECTIONS, C.A.S.E FORM–101

PROJECT: TOWN OF MANCHESTER–BY–THE–SEA, MASSACHUSETTS, MASCONOMO PARK AND MORSS PIER
LOCATION: MANCHESTER–BY–THE–SEA, MASSACHUSETTS
OWNER: TOWN OF MANCHESTER–BY–THE–SEA
OWNER'S ADDRESS: 10 CENTRAL STREET, MANCHESTER–BY–THE–SEA, MASSACHUSETTS 01944

ARCHITECT OF RECORD (AOR): N/A
STRUCTURAL ENGINEER OF RECORD (EOR): CMA ENGINEERS, INC./ DAVID BACON, P.E.

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION OF PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS OF THE MASSACHUSETTS STATE BUILDING CODE AND THE MASSACHUSETTS STATE AMENDMENTS TO THE 2009 INTERNATIONAL BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THIS PROJECT AS WELL AS THE NAME OF THE SPECIAL INSPECTORS AND THE IDENTITY OF OTHER APPROVED AGENCIES INTENDED TO BE RETAINED FOR CONDUCTING THESE SERVICES.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER AND ARCHITECT OF RECORD. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR.

A FINAL REPORT OF SPECIAL INSPECTIONS BY THE SPECIAL INSPECTOR(S) DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

THE SPECIAL INSPECTOR, WHO IS GENERALLY EMPLOYED BY THE PRIMARY TESTING AGENCY, MAY USE VARIOUS INSPECTORS WHO ARE FAMILIAR WITH EACH CATEGORY OF WORK. IF SPECIAL INSPECTIONS ARE ALSO PERFORMED BY AGENTS WHO ARE NOT EMPLOYED BY THE PRIMARY TESTING AGENCY, EACH OF THESE ADDITIONAL SPECIAL INSPECTORS SHALL ISSUE A FINAL REPORT FOR THEIR CATEGORY OF INSPECTION. ONLY AFTER THE FINAL REPORT(S) HAS(HAVE) BEEN ISSUED BY THE SPECIAL INSPECTOR(S) CAN THE AOR AND EOR ISSUE FINAL AFFIDAVITS FOR THE PROJECT COMPLETION.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

10/19/2018

DAVID L. BACON, P.E. DATE

SEAL

BUILDING OFFICIAL'S AUTHORIZATION:

SIGNATURE DATE

SIGNATURE DATE

SCHEDULE OF SPECIAL INSPECTION SERVICES

THE FOLLOWING TABLES COMPRISE THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOWS:
- CAST–IN–PLACE CONCRETE
- WOOD CONSTRUCTION
- PRECAST CONCRETE
- STEEL SHEET PILES

INSPECTION AGENT	FIRM	ADDRESS
1. SPECIAL INSPECTOR	TBD	TBD
2. TESTING LABORATORY	TBD	TBD
3. STRUCTURAL ENGINEER	CMA ENGINEERS, INC.	10 FREE STREET PORTLAND, ME 04101 (207) 541–4223
4. ARCHITECT	N/A	

NOTE: THE INSPECTION AND TESTING AGENT SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL PRIOR TO COMMENCING WORK.

QUALIFICATIONS OF INSPECTORS / TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTIONS ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION SHALL APPEAR BELOW THE AGENCY NUMBER ON THE SCHEDULE.

PE/SE STRUCTURAL ENGINEER – A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES.
PE/GE GEOTECHNICAL ENGINEER – A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS.
EIT ENGINEER–IN–TRAINING – A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION.

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION
ACI–CFTT CONCRETE FIELD TESTING TECHNICIAN – GRADE 1
ACI–CCI CONCRETE CONSTRUCTION INSPECTOR
ACI–LTT LABORATORY TESTING TECHNICIAN – GRADE 1 & 2
ACI–STT STRENGTH TESTING TECHNICIAN

AMERICAN SOCIETY OF NON–DESTRUCTIVE TESTING (ASNT) CERTIFICATION
ASNT NON–DESTRUCTIVE TESTING TECHNICIAN – LEVEL II OR III

INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION
ICC–SMSI STRUCTURAL MASONRY SPECIAL INSPECTOR
ICC–SWSI STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC–SFSI SPRAY–APPLIED FIREPROOFING SPECIAL INSPECTOR
ICC–PCSI PRESTRESSED CONCRETE SPECIAL INSPECTOR
ICC–RCSI REINFORCED CONCRETE SPECIAL INSPECTOR

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)
NICET–CT CONCRETE TECHNICIAN – LEVELS I, II, III & IV
NICET–ST SOIL TECHNICIAN – LEVELS I, II, III & IV
NICET–GET GEOTECHNICAL ENGINEERING TECHNICIAN – LEVELS I, II, III & IV

SOILS AND FOUNDATIONS

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1. STEEL SHEET PILES	3	VERIFY ELEMENT MATERIALS, SIZES, COATINGS, AND LENGTHS COMPLY WITH THE PROJECT REQUIREMENTS.
2. PILE DRIVING	1	OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT.
3. POST INSTALLATION	2	RECORD AS–DRIVEN CUTOFF ELECATION, PLUMBNESS AND ALIGNMENT OF PILES

CAST–IN–PLACE CONCRETE

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1. MIX DESIGN	2 ACI–CCI ICC–RCSI	REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN. VERIFY THAT WATER ADDED AT THE SITE DOES NOT EXCEED THAT ALLOWED BY THE MIX DESIGN. FREQUENCY – EACH MIX DESIGN
2. MATERIAL CERTIFICATION	3 PE	REVIEW FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS
3. REINFORCEMENT INSTALLATION	2 ACI–CCI ICC–RCSI	INSPECT SIZE, SPACING, COVER, POSITIONING AND GRADE OF REINFORCING STEEL. VERIFY THAT REINFORCING BARS ARE FREE OF FORM OIL OR OTHER DELETERIOUS MATERIALS. INSPECT BAR LAPS AND MECHANICAL SPLICES. VERIFY THAT BARS ARE ADEQUATELY TIED AND SUPPORTED ON CHAIRS OR BOLSTERS. INSPECTION FREQUENCY: –25% OF STRIP FOOTINGS, FROST WALLS AND SLABS ON GRADE –100% OF ISOLATED FOOTINGS, RETAINING WALLS, REINFORCED CONCRETE PIERS AND PUSH WALLS –50% OF ALL OTHERS
4. ANCHOR RODS & FORMWORK GEOMETRY	2 ACI–CCI ICC–RCSI	INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS. REVIEW FORMWORK GEOMETRY FOR COMPLIANCE WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS. FREQUENCY – 100% OF ALL ANCHOR RODS, 25% OF FORMWORK
5. CONCRETE PLACEMENT	2 ACI–CCI ICC–RCSI	INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED. FREQUENCY – 100% OF ALL FOOTING PLACEMENTS AND THOSE EXCEEDING 5 CUBIC YARDS PLACED ELSEWHERE. TEST SLUMP AND TEMPERATURE OF EACH BATCH. TEST AIR CONTENT WHEN COMPRESSIVE STRENGTH TEST SPECIMENS ARE MOLDED.
6. SAMPLING AND TESTING OF CONCRETE	2 ACI–CFTT ACI–STT	TEST CONCRETE COMPRESSIVE STRENGTH (ASTM C31 & C39), SLUMP (ASTM C143), AIR CONTENT (ASTM C231 OR C 173) AND TEMPERATURE (ASTM C1064). FAILURE OF ANY TEST LISTED ABOVE SHALL BE GROUNDS FOR REJECTION AS DETERMINED BY ENGINEER. OBTAIN ONE SET OF (4) STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST. TEST ONE (1) CYLINDER AT 7–DAYS AND TWO (2) AT 28–DAYS. THE FINAL CYLINDER IS TO BE RETAINED IN RESERVE FOR LATER TESTING, IF REQUIRED. TESTING FREQUENCY: (1) COMPRESSIVE STRENGTH TEST SHOULD BE PERFORMED FOR EVERY 50 YARDS OF CONCRETE POURED AND WHENEVER TESTING OR OBSERVATIONS INDICATE THE MIX HAS CHANGED. FIELD–CURED CYLINDERS – DURING COLD WEATHER CONCRETE OPERATIONS, PREPARE TWO (2) ADDITIONAL SETS OF TWO (2) STANDARD CYLINDERS TO BE CURED AT THE SITE, MAINTAINING CYLINDERS IN CONDITIONS AND AT TEMPERATURES OF THE IN–PLACE CONCRETE. PROTECT CYLINDERS FROM BEING HIT, DAMAGED AND FROM VIBRATION DURING INITIAL SET. PERFORM COMPRESSIVE STRENGTH TEST ON TWO (2) OF THE CYLINDERS AT 7–DAYS AND ON THE REMAINING TWO (2) CYLINDERS AT 28–DAYS.
7. CURING AND PROTECTION	2 ACI–CCI ICC–RCSI	INSPECT CURING, COLD WEATHER PROTECTION AND HOT WEATHER PROTECTION PROCEDURES.

WOOD CONSTRUCTION

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1. MATERIAL GRADING AND TREATMENTS	3 PE	REVIEW SUBMITTALS AND VERIFY DURING CONSTRUCTION.
2. CONNECTION CONFIGURATION AND HARDWARE	3 PE	REVIEW CONNECTIONS HARDWARE SUBMITTALS. PRIOR TO INSTALLATION OF DECKING, INSPECTION CONNECTIONS.
3. FRAMING AND DETAILS	3 PE	PRIOR TO INSTALLATION OF DECKING, INSPECT CONFIGURATION & WORKMANSHIP

NOTE: INSPECTION AGENTS TBD

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scale: 0 10' 20'

Town of Manchester-by-the-Sea
Department of Public Works
Masconomo Park and
Morss Pier Improvements
Special Inspections

drawing no. N-2

sheet: 3 of 8

F:\CADD\PROJECTS\1066 MBTS Morss Pier Seawall Eval\Production\1 – Bid Plans\1066–Masconomo–Bid Plans.dwg Date Plotted: Oct 22, 2018 – 8:32am Plotted By: LKALLOCH

Boring Log 1

Ward Geotechnical Consulting, PLLC

Project:	Seawall Reconstruction		Boring Log B1
Location:	Manchester-by-the-Sea, Massachusetts		
Client:	CMA Engineers, Inc.		
Project No.:	17150		Page 1 of 2
Contractor:	New England Boring Contractors	Groundwater Depth:	Date:
Logged By:	Craig Ward	not measured	
Drilling Dates:	5/10/2017	GS Elevation: 8 feet +/-	Boring Location:
Drill Rig:	Mobile B-48 Truck Rig	Datum: NAVD88	see Boring Location Plan

DEPTH FT.	SAMPLE TYPE & NO.	BLOWS per 6 IN.	PEN. IN.	REC. IN.	REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
					4" Case & Wash		~3.5" Asphalt Pavement	
	S1	10-9 33-9	24	12	Obstruction at ~1.8'.		S1: 0-8": **Sand with Silt & Gravel (SP-SM)** - fine to medium (some coarse) sand, 5%-15% nonplastic fines, 20%-30% subangular gravel & rock fragments to 1". brown. 8"-12": **Sandy Silt (ML)** - low plasticity fines, 10%-20% fine to medium sand, piece of wood near bottom of sample, olive with rust staining.	Fill ~4'
5	S2	5-3 2-5	24	13	Drilled ahead to 4', drove casing to ~2'. Casing deflected. Moved hole ~1' west. Drilled ahead to 2.5', drove casing to ~3', & drilled to 4'.		S2: **Sandy Silt (ML)** - low plasticity fines, 10%-20% fine to medium sand, occasional subangular gravel to 3/8", occasional fine roots, some black organic fines in upper ~3" of sample, vague stratification, olive.	Sandy Silt ~7.5'
					Used augers to clear obstruction, drove casing 9' and drilled.			
10	S3	4-8 11-13	24	22	Drilled ahead of casing to 14'. Very slow drilling to avoid plugging bit with clay.		S3: **Clay (CL)** - medium plastic fines, 5%-15% fine sand, vague lamination, light brown. Torvane: Su = 0.6 tsf.	
15	S4	3-3 5-7	24	24	Drilled ahead of casing to 19'. Very slow drilling to avoid plugging bit with clay.		S4: **Clay (CL)** - medium plastic fines, vague lamination, 3" silt lens, light brown. Torvane: Su = 0.6 tsf.	Brown Clay ~17.5'
20	S5	2-2 3-3	24	24	Drilled ahead to 21' for tube sample.		S5: **Clay (CL)** - medium plastic fines, laminated, gray. Torvane: Su = 0.68 tsf & 0.44 tsf.	
	U1	Push	24	24	Drilled ahead of casing to 24'. Very slow drilling to avoid plugging bit with clay.		U1 - **Clay (CL)** - similar to S4. Lab Testing: Su = 3.5 ksf & Su = 3.6 ksf (Vane Shear) LL = 33%, PI = 19%	Gray Clay ~23.5'
25	S6	6-5 7-9	24	22	Drilled ahead to 29'. Rig chattering on gravel at ~27.5'.		S6: **Sandy Silt (ML) & Silty Sand (SM) with Clay Lenses** - stratified. Sandy Silt consists of low plasticity fines with 25%-35% fine sand. Silty Sand consists of fine sand with 25%-35% nonplastic fines. Clay lenses (1/2" to 1.5" thick) at 2" to 6" spacings. Light brown & rust.	Sandy Silt & Silty Sand

Notes:

Abbreviations:
PEN - Penetration length of sampler or core barrel
REC - Recovery length of sample
S - Split Spoon Sample
C - Rock Core Sample
U - Undisturbed Tube Sample

Boring Log 1 (Continued)

Ward Geotechnical Consulting, PLLC

Project:	Seawall Reconstruction		Boring Log B1
Location:	Manchester-by-the-Sea, Massachusetts		
Client:	CMA Engineers, Inc.		
Project No.:	17150		Page 2 of 2
Contractor:	New England Boring Contractors	Groundwater Depth:	Date:
Logged By:	Craig Ward	not measured	
Drilling Dates:	5/10/2017	GS Elevation: 8 feet +/-	Boring Location:
Drill Rig:	Mobile B-48 Truck Rig	Datum: NAVD88	see Boring Location Plan

DEPTH FT.	SAMPLE TYPE & NO.	BLOWS per 6 IN.	PEN. IN.	REC. IN.	REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
30	B7	4-6 6-9	24	16			S7: **Sand (SP)** - fine to medium sand, light brown with rust staining.	Sand
							Bottom of Boring at 31'	
35								
40								
45								
50								

Notes:

Abbreviations:
PEN - Penetration length of sampler or core barrel
REC - Recovery length of sample
S - Split Spoon Sample
C - Rock Core Sample
U - Undisturbed Tube Sample

Boring Log 2

Ward Geotechnical Consulting, PLLC

Project:	Seawall Reconstruction		Boring Log B2
Location:	Manchester-by-the-Sea, Massachusetts		
Client:	CMA Engineers, Inc.		
Project No.:	17150		Page 1 of 1
Contractor:	New England Boring Contractors	Groundwater Depth:	Date:
Logged By:	Craig Ward	not measured	
Drilling Dates:	5/11/2017	GS Elevation: 8 feet +/-	Boring Location:
Drill Rig:	Mobile B-48 Truck Rig	Datum: NAVD88	see Boring Location Plan

DEPTH FT.	SAMPLE TYPE & NO.	BLOWS per 6 IN.	PEN. IN.	REC. IN.	REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
					2.25" Hollow-Stem Augers Skipped surface sample due to time constraints. Augered to 4'.			
5	S1	WOH/18"- 1/2"-3	24	23	Augered to 9'.		S1: **Organic Silt (OL)** - low plasticity organic fines, 10%-30% fine sand, occasional shells, dark gray.	Organic Silt
10	S2	WOH/18"- 3	24	23	Augered to 14'.		S2: **Organic Silt (OL)** - similar to S1. Sand in tip of spoon.	~11'
15	S3	8-14 8-12	24	24	Augered to 19'.		S3: 0-12": **Silty Sand (SM)** - fine to medium sand, 20%-30% nonplastic fines, dark gray. Transitioning to: 12"-24": **Sandy Silt (ML)** - low plasticity fines, 10%-20% fine sand, light brown-rust.	Silty Sand and Sandy Silt ~17.5'
20	S4	4-6 11-13	24	24			S4: **Silty Clay (CL)** - medium plastic fines, vague lamination, two sand lenses (1/2" and 1" thick), light brown-rust.	Brown Clay
							Bottom of Boring at 21'	
25								

Notes:

Abbreviations:
PEN - Penetration length of sampler or core barrel
REC - Recovery length of sample
S - Split Spoon Sample
C - Rock Core Sample
U - Undisturbed Tube Sample

Boring Log 3

Ward Geotechnical Consulting, PLLC

Project:	Seawall Reconstruction		Boring Log B3
Location:	Manchester-by-the-Sea, Massachusetts		
Client:	CMA Engineers, Inc.		
Project No.:	17150		Page 1 of 2
Contractor:	New England Boring Contractors	Groundwater Depth:	Date:
Logged By:	Craig Ward	not measured	
Drilling Dates:	5/10 & 5/11/2017	GS Elevation: 8 feet +/-	Boring Location:
Drill Rig:	Mobile B-48 Truck Rig	Datum: NAVD88	see Boring Location Plan

DEPTH FT.	SAMPLE TYPE & NO.	BLOWS per 6 IN.	PEN. IN.	REC. IN.	REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
	S1	2-1 1-2	24	17	4" Case & Wash Pushed casing with head to ~3.5' & drilled to 4'.		S1: **Topsoil: Sandy Silt (ML)** - nonplastic organic fines, 10%-20% fine sand, roots, organic fibers, dark brown.	Topsoil ~2'
5	S2	8-7 3-4	24	13	Drilled ahead to 9'. Drilled thru cobble ~4' - 4.5'.		S2: **Silt (ML)** - low plasticity fines (some organic), 5%-10% fine sand, dark gray and olive with pockets of black organic fines. Rock fragment at top of spoon.	Silt (with Organic Silt) ~7.5'
10	S3	WOH/9"- 1/3"-2-12	24	17	Drove casing to 9', then drilled ahead to 14'. O-silt chunks & shells in wash above ~11'. Rig chattering (wood?) ~11-11.5'. Wood fibers, shells, and, & silt in wash to 14'.		S3: **Organic Silt (OL)** - low plasticity fines, shells, occasional reeds, vague lamination, dark gray.	Organic Silt ~13'
15	S4	5-11 15-23	24	19	Drove casing to 14', then drilled ahead to 19'.		S4: **Silty Clay (CL)** - medium plastic fines, vague lamination, light brown-rust with some gray. Torvane: Su = 0.65 tsf & 0.65 tsf.	Brown Clay
20	S5	2-2 6-3	24	24	Drilled ahead to 21'.		S5: 0-4" & 12"-16": **Silty Clay (CL)** - similar to S4. Remainder of sample: **Clay (CL)** - medium plastic fines, vague lamination, gray. Torvane: Su = 0.3 tsf & 0.55 tsf (in gray clay)	~20'
	U1	Push	24	22.5			U1: top and bottom of tube: **Clay (CL)** - medium plastic fines, gray. Lab Testing: Su = 1.1 ksf, Su = 2.4 ksf (Vane Shear) Su = 1.6 tsf (CU Test) ϕ = 38° at 2% strain (CU Test) LL = 35%, PI = 18% PI = 18%	Gray Clay
25	S6	WOH/8"- 3/4"-4-5	24	24	Drilled ahead to 24'. Drilled ahead to 29'.		S6: **Clay (CL)** - medium plastic fines, vague lamination, gray. Torvane: Su = 0.55 tsf, 0.48 tsf, & 0.55 tsf.	

Notes:

Abbreviations:
PEN - Penetration length of sampler or core barrel
REC - Recovery length of sample
S - Split Spoon Sample
C - Rock Core Sample
U - Undisturbed Tube Sample

Boring Log 3 (Continued)

Ward Geotechnical Consulting, PLLC

Project:	Seawall Reconstruction		Boring Log B3
Location:	Manchester-by-the-Sea, Massachusetts		
Client:	CMA Engineers, Inc.		
Project No.:	17150		Page 2 of 2
Contractor:	New England Boring Contractors	Groundwater Depth:	Date:
Logged By:	Craig Ward	not measured	
Drilling Dates:	5/10 & 5/11/2017	GS Elevation: 8 feet +/-	Boring Location:
Drill Rig:	Mobile B-48 Truck Rig	Datum: NAVD88	see Boring Location Plan

DEPTH FT.	SAMPLE TYPE & NO.	BLOWS per 6 IN.	PEN. IN.	REC. IN.	REMARKS	GRAPHIC LOG	SOIL AND ROCK DESCRIPTIONS	
30	S7	WOH/6"- 4-4-5	24	24	Losing water - drove to 19' & washed to 34'.		S7: **Clay (CL)** - similar to S6.	Gray Clay ~35'
35	S8	3-4 6-6	24	24	Drilled ahead to 39'. Rig chattering on gravel at ~39'.		S8: 0-14": **Clay (CL)** - medium plastic fines, laminated, 1" thick silty sand lenses at about 4" spacings, gray. 14"-20": **Silty Sand (SM)** - fine sand, 30%-40% nonplastic fines, gray. 20"-24": **Sandy Silt (ML)** - low plasticity fines, 20%-30% fine sand, occasional thin clay lenses, gray.	Stratified Sand, Sand with Gravel, & Silty Sand
40	S9	7-10 8-7	24	15			S9: **Sand (SP, SW), Sand with Gravel (SW), and Silty Sand (SM)** - stratified, 2" to 4" layers of fine & fine to medium sand, fine to coarse sand with 15%-25% subangular gravel, and silty sand with 20%-30% nonplastic fines, brown with rust staining.	
							Bottom of Boring at 41'	
45								
50								

Notes:

Abbreviations:
PEN - Penetration length of sampler or core barrel
REC - Recovery length of sample
S - Split Spoon Sample
C - Rock Core Sample
U - Undisturbed Tube Sample

no.	revision	date	by
0	ISSUED FOR BIDS	10/19/18	DLB

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COMMONWEALTH OF MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. ACONE No. 49035 STRUCTURAL

designed by: TMA
drawn by: TMA
approved by: DLB
scale:
date: October 2018
project no: 1066
file name: 1066-Masconomo-Bid Plans.dwg

Town of Manchester-by-the-Sea
Department of Public Works
Masconomo Park and
Morss Pier Improvements
Borings

drawing no. B-1

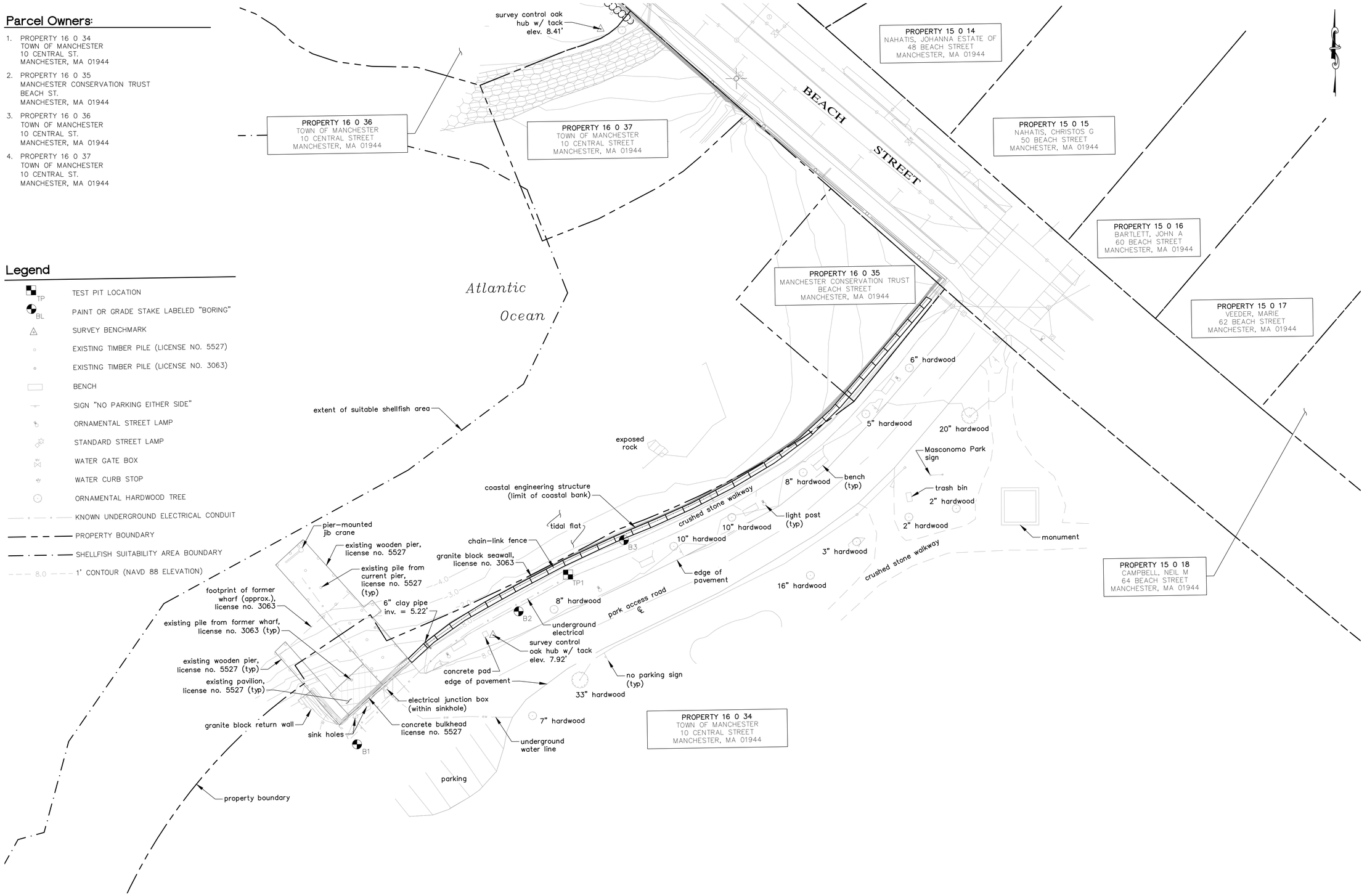
sheet: 4 of 8

Parcel Owners:

1. PROPERTY 16 0 34
   TOWN OF MANCHESTER
   10 CENTRAL ST.
   MANCHESTER, MA 01944
2. PROPERTY 16 0 35
   MANCHESTER CONSERVATION TRUST
   BEACH ST.
   MANCHESTER, MA 01944
3. PROPERTY 16 0 36
   TOWN OF MANCHESTER
   10 CENTRAL ST.
   MANCHESTER, MA 01944
4. PROPERTY 16 0 37
   TOWN OF MANCHESTER
   10 CENTRAL ST.
   MANCHESTER, MA 01944

Legend

- TP — TEST PIT LOCATION
- BL — PAINT OR GRADE STAKE LABELED "BORING"
- SURVEY BENCHMARK
- EXISTING TIMBER PILE (LICENSE NO. 5527)
- EXISTING TIMBER PILE (LICENSE NO. 3063)
- BENCH
- SIGN "NO PARKING EITHER SIDE"
- ORNAMENTAL STREET LAMP
- STANDARD STREET LAMP
- WATER GATE BOX
- WATER CURB STOP
- ORNAMENTAL HARDWOOD TREE
- KNOWN UNDERGROUND ELECTRICAL CONDUIT
- PROPERTY BOUNDARY
- SHELLFISH SUITABILITY AREA BOUNDARY
- 8.0 — 1' CONTOUR (NAVD 88 ELEVATION)



Existing Conditions

0 20' 40'

no.	revision	date	by
0	ISSUED FOR BIDS	10/19/18	DLB

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COMMONWEALTH OF MASSACHUSETTS — DAVID L. BUCKLEY — No. 52826 — REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL

designed by: TMA
drawn by: TMA
approved by: DLB
date: October 2018
project no: 1066
file name: 1066-Masconomo-Bid Plans.dwg
scale: 1" = 20'

Town of Manchester-by-the-Sea
Department of Public Works

Masconomo Park and
Morss Pier Improvements

Existing Conditions
Site Plan

drawing no. S-1

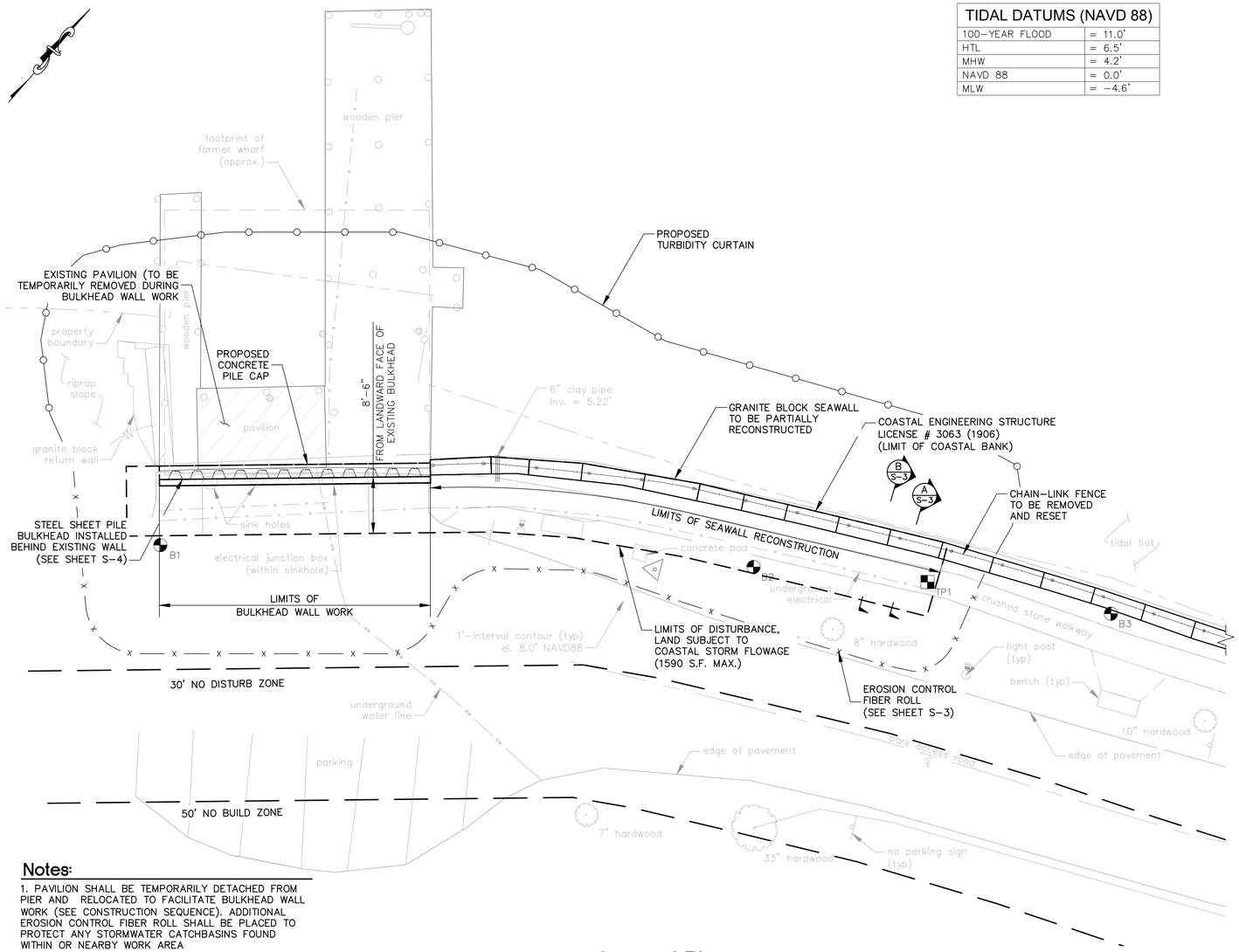
sheet: 5 of 8

TIDAL DATUMS (NAVD 88)	
100-YEAR FLOOD	= 11.0'
HTL	= 6.5'
MHW	= 4.2'
NAVD 88	= 0.0'
MLW	= -4.6'

RESOURCE AREA IMPACTS		
	TEMPORARY	PERMANENT
COASTAL BANK (INCLUDING FACES OF WALLS)	120 LF	0
TIDAL FLAT	0	0
LAND SUBJECT TO COASTAL STORM FLOWAGE	1590 SF	0
SHELLFISH BED	0	0

Construction Sequence:

- INSTALL EROSION AND DEBRIS CONTROL DEVICES
- REMOVE AND STACK STEEL PLATING AND TEMPORARY BARRICADES THAT ARE PROPERTY OF THE TOWN
- INSTALL WORK ZONE FENCING / BARRICADES AND CONSTRUCTION SIGNAGE
- VERIFY AND ESTABLISH PROJECT SURVEY CONTROL
- SAWCUT PAVEMENT TO BE REMOVED AND REPLACED ADJACENT TO PIER
- TEMPORARILY REMOVE HANDRAILS FROM FIRST SPAN OF PIER
- TEMPORARILY SUPPORT AND RELOCATE SEATING PAVILION AT PIER
- SAWCUT AND REMOVE PORTIONS OF TIMBER DECK, STRINGERS, AND CURBING TO BE REPLACED
- ATTACH TEMPORARY PATCHES TO FACE OF EXISTING BULKHEAD WALL
- EXCAVATE BEHIND EXISTING BULKHEAD WALL TO REMOVE UNSUITABLE MATERIALS
- INSTALL NEW SHEET PILE WALL BEHIND EXISTING BULKHEAD WALL
- REMOVE TEMPORARY PATCHES AND EXISTING BULKHEAD MATERIALS TO MUDLINE
- INSTALL CONCRETE CAP TO RECIEVE REPLACEMENT TIMBER STRINGERS AND DECKING
- INSTALL REPLACEMENT TIMBER DECKING, STRINGERS, AND CURBING AND RESET HANDRAILS AND PAVILION
- BACKFILL NEW BULKHEAD WALL
- REINSTALL PAVEMENT AND PAVEMENT MARKINGS
- EXCAVATE MATERIALS BEHIND EXISTING STONE MASONRY SEAWALL AT MASCONOMO PARK ACCESS ROAD
- REMOVE AND STACK CHAIN LINK FENCE FROM TOP OF SEAWALL
- REMOVE, AND RESET STONE MASONRY SEAWALL
- BACKFILL RECONSTRUCTED SEAWALL
- RESET CHAIN LINK FENCE ON TOP OF SEAWALL
- CONSTRUCT REPLACEMENT WALKWAY / PATH
- CLEAN AND RESTORE SITE INCLUDING LOAM AND SEED DISTURBED AREAS
- REMOVE EROSION CONTROL DEVICES

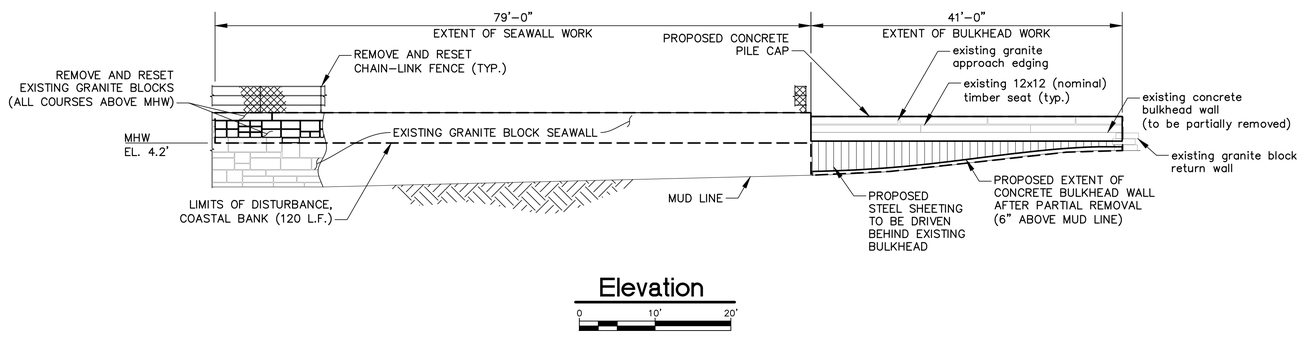


Notes:

1. PAVILION SHALL BE TEMPORARILY DETACHED FROM PIER AND RELOCATED TO FACILITATE BULKHEAD WALL WORK (SEE CONSTRUCTION SEQUENCE). ADDITIONAL EROSION CONTROL FIBER ROLL SHALL BE PLACED TO PROTECT ANY STORMWATER CATCHBASINS FOUND WITHIN OR NEARBY WORK AREA

General Plan

0 10' 20'



Elevation

0 10' 20'

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0	ISSUED FOR BIDS	10/19/18	DLB

COMMONWEALTH OF MASSACHUSETTS DAVID L. BLACKWOOD No. 37005 REGISTERED PROFESSIONAL STRUCTURAL ENGINEER

designed by: TMA
drawn by: TMA
approved by: DLB
date: October 2018
project no: 1066
file name: 1066-Masconomo-Bid Plans.dwg
scale: 10' 20' 0

Town of Manchester-by-the-Sea
Department of Public Works

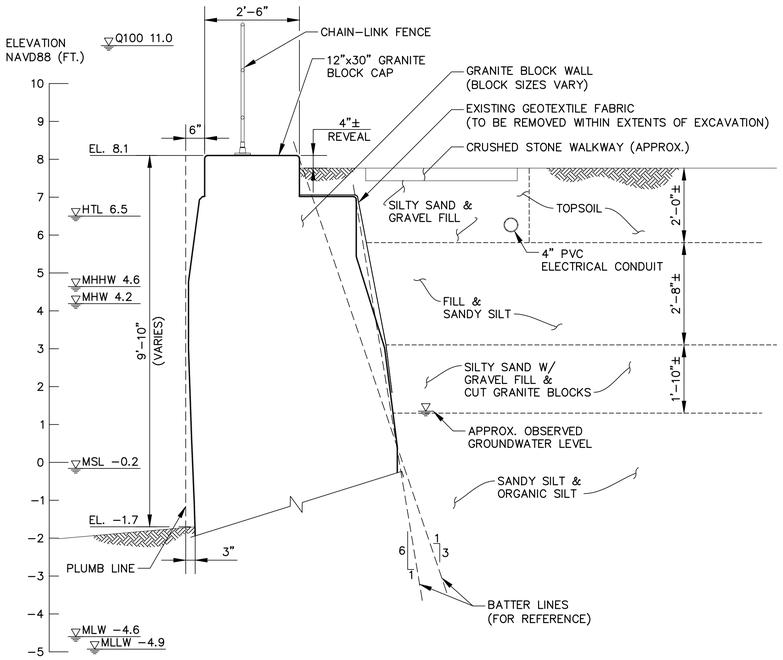
Masconomo Park and
Morss Pier Improvements

Proposed Conditions
Site Plan

drawing no.
S-2

sheet: 6 of 8

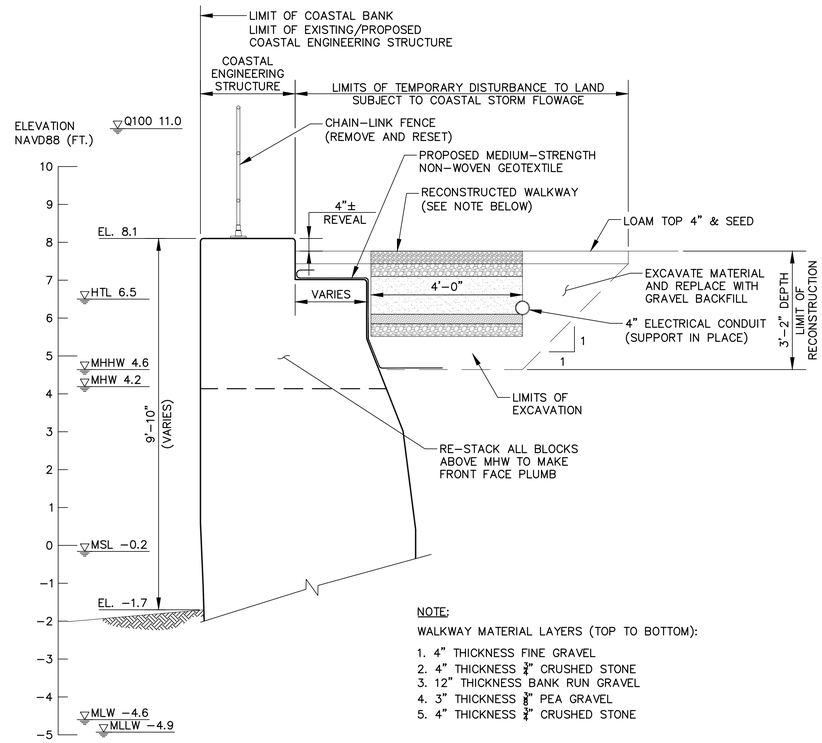
F:\CADD\PROJECTS\1066 MBTS Morss Pier Seawall Eval\Production\1 - Bid Plans\1066-Masconomo-Bid Plans.dwg Date Plotted: Oct 22, 2018 - 8:32am Plotted By: LKALLOCH



Existing Wall Typical Section

A
S-2

0 2' 4'



NOTE:

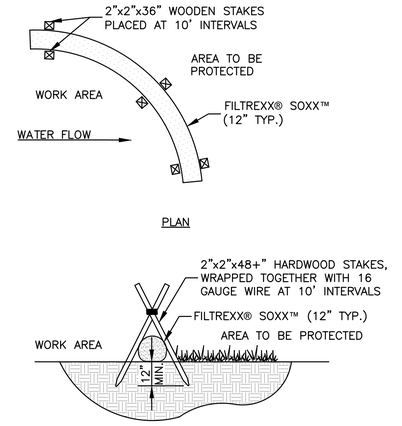
WALKWAY MATERIAL LAYERS (TOP TO BOTTOM):

1. 4" THICKNESS FINE GRAVEL
2. 4" THICKNESS ¾" CRUSHED STONE
3. 12" THICKNESS BANK RUN GRAVEL
4. 3" THICKNESS ⅜" PEA GRAVEL
5. 4" THICKNESS ¾" CRUSHED STONE

Proposed Reconstruction Typical Section

B
S-2

0 2' 4'

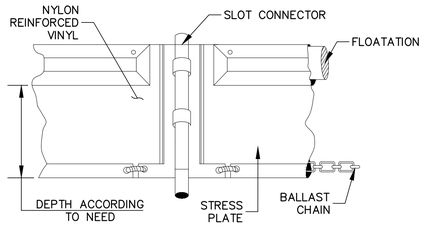


NOTES:

1. AT MINIMUM, FIBER ROLL IS TO BE INSTALLED TO PROTECT WETLAND AREAS, WATERWAYS, EXISTING AND PROPOSED DRAINAGE FEATURES, SLOPES, LAWNS AND PLANTINGS ADJACENT TO THE WORK.
2. ALL MATERIAL TO MEET FILTREXX® SPECIFICATIONS.
3. FILTER MEDIA™ FILL TO MEET APPLICATION REQUIREMENTS.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.
5. SANDBAGS ARE TO BE USED IN LIEU OF FIBER ROLL OVER IMPERVIOUS SURFACES.

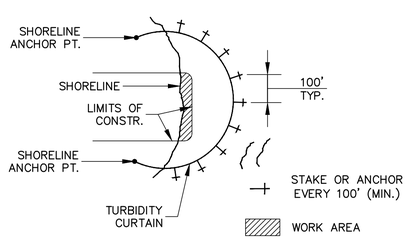
Erosion Control Fiber Roll

Not to Scale



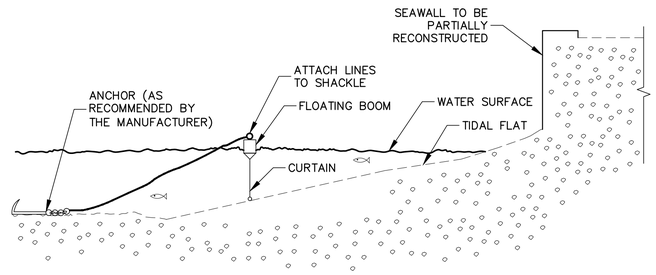
Turbidity Curtain Elevation

Not to Scale



Turbidity Curtain Layout

Not to Scale



Turbidity Curtain Section

Not to Scale

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0	10/19/18	DLB	ISSUED FOR BIDS

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COMMONWEALTH OF MASSACHUSETTS DAVID L. BACON No. 49033 REGISTERED PROFESSIONAL ENGINEER

designed by: TMA
drawn by: TMA
approved by: DLB
date: October 2018
project no: 1066
file name: 1066-Masconomo-Bid Plans.dwg
scale: AS NOTED

Town of Manchester-by-the-Sea
Department of Public Works

Masconomo Park and Morss Pier Improvements

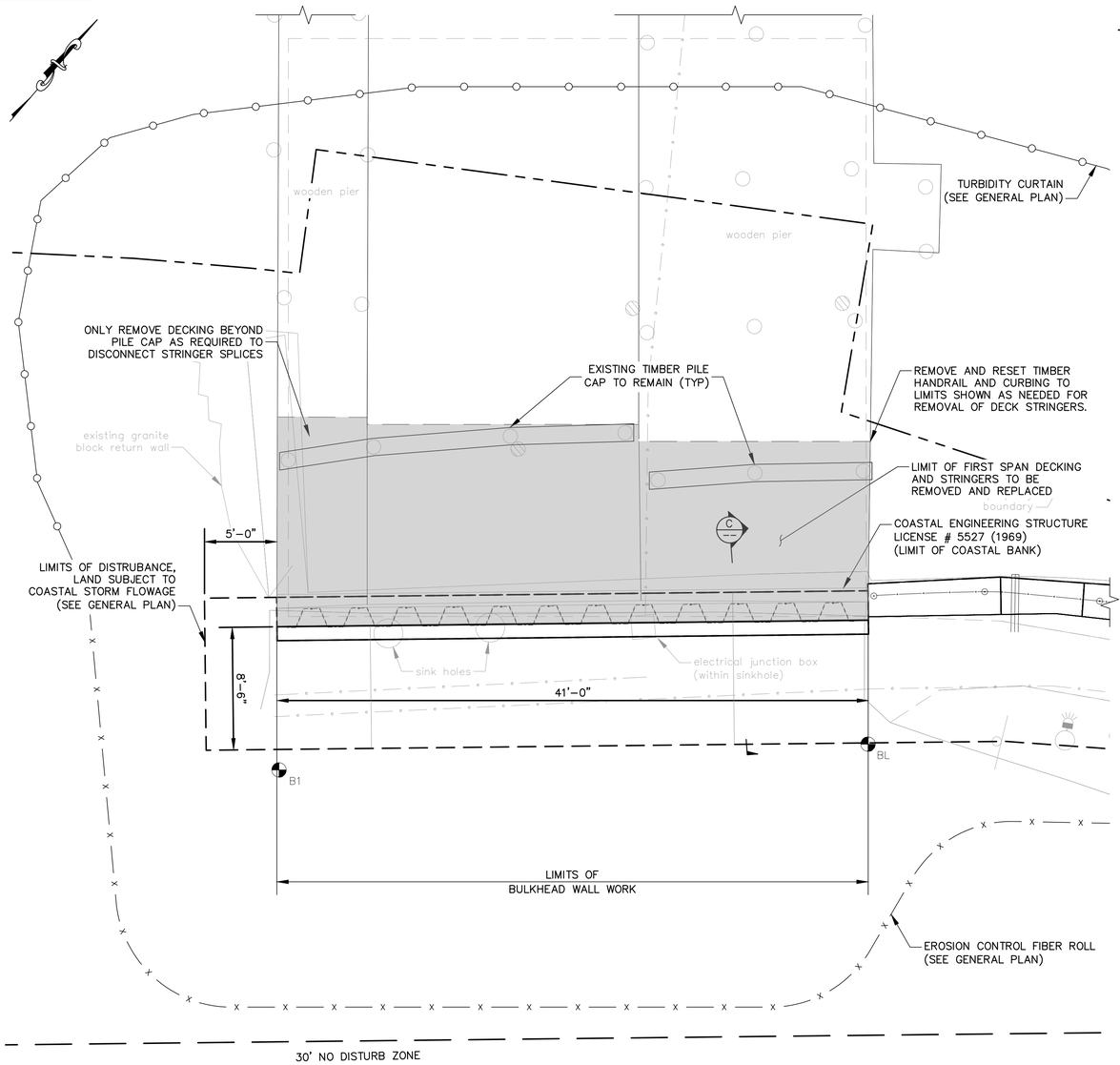
Sections and Details

drawing no. S-3

sheet: 7 of 8

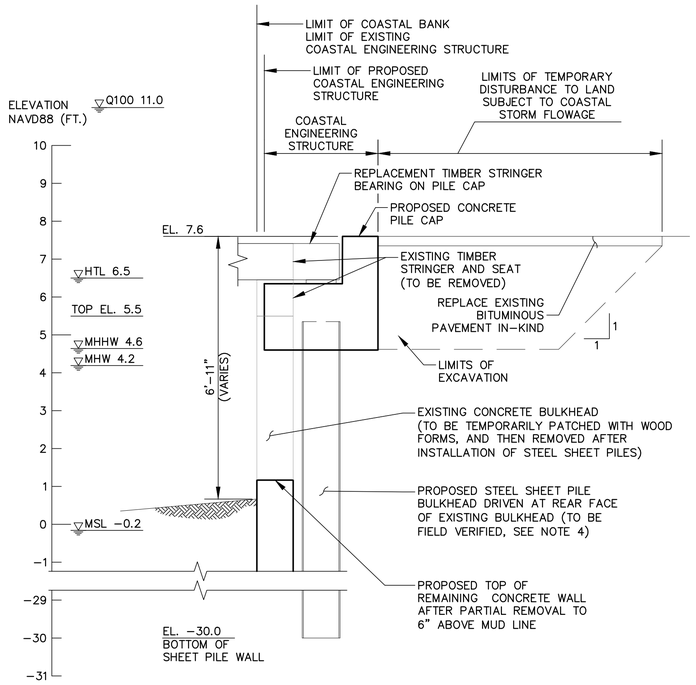
Notes

1. DECKING SHALL BE INSTALLED WITH FOUR (4) 30d (4.5" LONG) NAILS AT EACH SUPPORT. NAILS SHALL BE RING SHANK, SPIRAL SHANK, OR MULTI–PURPOSE SCREWS, AND SHALL BE GALVANIZED.
2. PROPOSED STRINGERS SHALL BE SPACED AT A MAXIMUM OF 18" O.C. WITH ADJUSTMENTS BEING MADE FOR PLACEMENT AROUND CONFLICTING STRINGERS FROM ADJACENT SPANS WHICH OVERLAP PILE BENT.
3. ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 36. ANCHOR BOLTS, WASHERS, AND NUTS SHALL BE HOT–DIPPED GALVANIZED.
4. CONTRACTOR SHALL EXCAVATE TEST PIT AND OR CONDUCT PROBINGS BEHIND STABLE PORTION OF BULKHEAD WALL TO DETERMINE BATTER OF LANDWARD FACE OF WALL. THIS WORK SHALL BE SUBSIDIARY TO ITEM 9–EARTH EXCAVATION.



Bulkhead Wall Plan

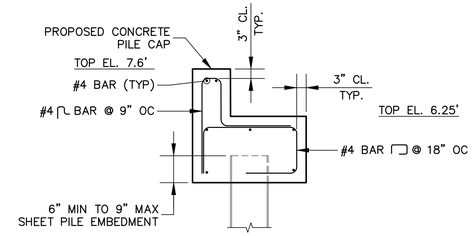
Scale: 1" = 5'



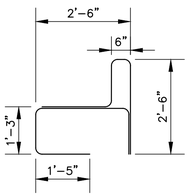
Proposed Bulkhead Typical Section

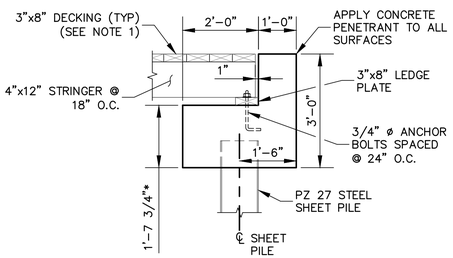
Scale: 1" = 2'

C

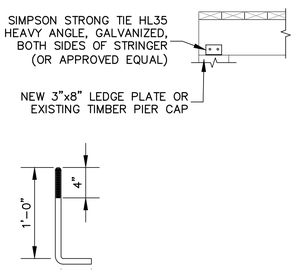


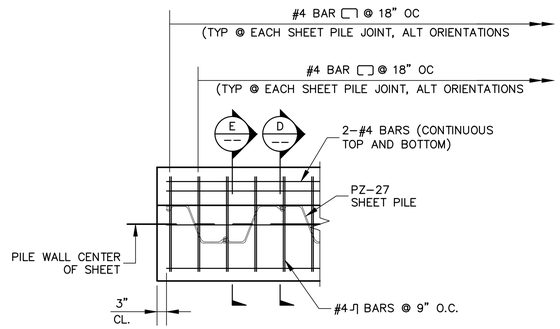
Section D





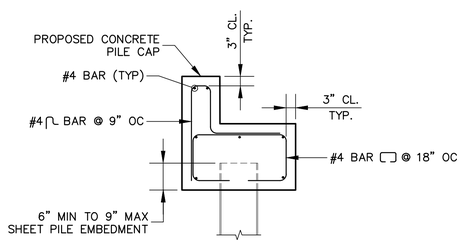
* DIMENSION ASSUMES 3"x8" ($2\frac{1}{2}$"x$7\frac{1}{4}$") DECKING & LEDGE PLATE AND 4"X12" ($3\frac{1}{2}$"x$11\frac{1}{4}$") STRINGER.



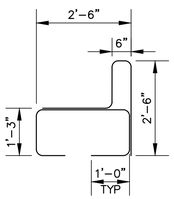


Proposed Bulkhead Typical Plan

Scale: 1" = 2'



Section E



Sheet Pile Concrete Cap

Scale: 1" = 2'

no.	revision	date	by
0	ISSUED FOR BIDS	10/19/18	DLB

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designed by: TMA	drawn by: TMA	approved by: DLB	
date: October 2018	project no: 1066	file name: 1066-Masconomo-Bid Plans.dwg	scale: AS NOTED

Town of Manchester-by-the-Sea
Department of Public Works

Masconomo Park and
Morss Pier Improvements

Bulkhead Wall Section and Details

drawing no. S-4

sheet: 8 of 8