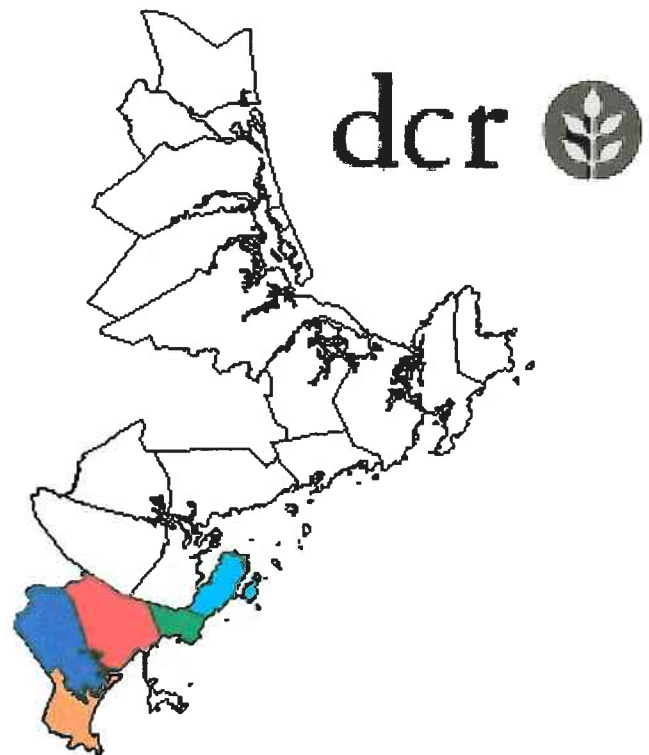


*Massachusetts Coastal Infrastructure
Inventory and Assessment Project
Massachusetts Department of Conservation and Recreation
Office of Waterways*

North Shore - South

Marblehead
Swampscott
Lynn
Saugus
Revere



July 6, 2009

Prepared for:

**Massachusetts Department of
Conservation and Recreation
Hingham, Massachusetts**

Presented by:

**Bourne Consulting Engineering
Franklin, Massachusetts**

In Association With:

Waterfront Engineers



North Shore - South

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Section I

Coastal Hazards Infrastructure and Assessment Program

INTRODUCTION

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DEVELOPMENT OF MassGIS DATABASE ATTRIBUTES

DEVELOPMENT OF REPAIR / RECONSTRUCTION COSTS

Massachusetts Coastal Infrastructure Inventory and Assessment Project Coastal Hazards Commission

Section I – Coastal Hazards Infrastructure and Assessment Program

INTRODUCTION

The Project and Client

The Commonwealth of Massachusetts has initiated a Coastal Hazards Commission (CHC) to identify the vulnerability of the state to coastal hazards. As one of five working groups working under the CHC, the 20-Yr Infrastructure Plan was to establish a prioritization for the repair of coastal structures. The focus areas of the Working Group include:

- Publicly owned infrastructure
- Infrastructure for which State is responsible
- Inventory of public hazards infrastructure
- Evaluation on conditions
- Development for a prioritization of work
- Estimation of capital and maintenance costs

The 20-Yr Infrastructure Working Group is led by Representative Frank Hynes with CZM as the lead State Agency overseeing the management of the project. The Massachusetts coastline has been broken up into 4 major regions consisting of the North Shore, Boston, South Coast, and the Cape and Islands. The South Shore (the Towns of Hull, Cohasset, Seekonk, Hingham, Plymouth, Kingston, Scituate and Duxbury) was previously evaluated by Bourne Consulting Engineering as a demonstration project in 2006.

Consultant Team

The consultant team that performed the demonstration project was led by Bourne Consulting Engineering (**BCE**) of Franklin, MA who was responsible for overall project management, specified areas of field assessments, and research. Assisting **BCE** was Applied Coastal Research and Engineering Inc. of Mashpee, MA, Childs Engineering Corporation, of Medfield, MA., and Waterfront Engineer LLC of Stratham, NH.

PURPOSE

Study Purpose

CZM seeks to identify the capacity of Massachusetts coastal structures to resist major coastal storms and prevent storm damage. In working toward this goal, CZM has initiated a program to perform an assessment of Commonwealth owned and/or maintained coastal structures. The first phase of this program was the performance of a demonstration project for coastal structures located on the South Shore. The demonstration project identified existing structures, their general conditions, ability to provide coastal protection and the probable cost for repairs. The information collected and developed has been incorporated into the MassGIS system to allow use for developing a 20 Year Coastal Infrastructure Plan.

The demonstration project served as a basis for the current statewide inventory assessment of all Commonwealth coastal structures and the needs for their maintenance and/or repair.

Goals of Study

The goals of the Massachusetts Coastal Infrastructure Inventory and Assessment Project include:

- To identify all the coastal structures the state either owns or has responsibility to maintain for the 4 regions included within the study
- Of the structures identified, determine the structure location and characteristics, the structure condition relative to providing coastal protection and the structure importance in relation to what it is protecting.
- To the degree possible, identify the structure elevation and the FIRM mapping flood elevation and category.
- To the degree possible, identify structure owner and available documents from local, state and federal agencies.
- To establish an estimated cost to rehabilitate the coastal structures to provide the level of project established in the structure's original design.
- Provide the information in a format compatible for incorporation into the MassGIS system

Limit of Study

Due to the time constraints and the amount of effort necessary to collect, process and compile the information, the following are identified as limitations of the information presented:

- All property ownership was taken as presumed. No legal investigation of ownership was performed during the project. Property ownership is based on town assessor maps. Where structures were located outshore of assessor map defined property lines, it was assumed to be Town land unless other information indicated otherwise. Where structures were located outshore of Mean Low Water, property is assumed to be State owned.
- The structure ownership was based on assessor maps and research at the local, state and federal levels. Where there was indication of public work on a structure on Town land or on private property, the structure was presumed to be Town owned. Where the structure was on state property, the structure was presumed to be state owned. Where ownership of the structure was not clear but was located on private property, the structure ownership was defined as unknown.
- The study included town and state owned structures as it was assumed that most town owned structures received state funding at some level for construction and/or maintenance.
 - Structures that were determined to be private were not included.
 - Undocumented structures considered to be on private land, but having the potential to have been publicly built and/or maintained, were identified as having an "unknown ownership".
- The prioritizing of structures was based primarily on risk to general infrastructure and density of housing. Infrastructure included was buildings. The study did not consider all infrastructure issues including:
 - No consideration on utility impacts – water, electrical, sewer, gas
 - No consideration of roadway and bridge protection
 - Evacuation routes were not considered within the investigation
 - Location of Emergency Shelters were not included in priority assessments
- Research was performed at the local, state and federal levels. The local research was limited to location and documenting available coastal structure contract drawings. Research at DCR was restricted to available historic construction plans for coastal structures at the MA-DCR Waterways office in Hingham, MA, and MA-DCR Division of Urban Parks and Recreation in

Boston, MA. No investigation of state archives was performed. Research at MA DEP Chapter 91 and USACE was limited to recorded permits and licenses found in their files. No investigation was performed at the Registry of Deeds.

DEVELOPMENT OF MassGIS DATABASE ATTRIBUTES

The specific attributes that would be incorporated into the MassGIS system were developed based on the scope of work and the goals to be achieved. The following was established to standardize the data collection and presentation and to allow total flexibility for sorting by attributes in the final GIS database. The attributes identified below were input into a MS Access database which was used to manage the data from all eight communities within a single file.

Database Attributes

- Attribute Descriptions/Definitions

Structure Number: A unique structure number was given to each coastal structure. The number was based on existing numbering systems that include the State Department of Environmental Protection community number followed by the local community assessor's parcel numbering system. The last three digits of the number represent the structure within the parcel. Where structures extend over several parcels, the structure is referenced to a parcel that is approximately in the center of the structure. Where Town assessor's references include letters, those are also included within the structure number. Some communities have block numbering within their numbering system and these are included. Communities without block numbering still have the block numbering included but these are illustrated as all zeros for that specific segment.

Structures that are on Town property, which would otherwise not have a parcel number, are referenced to a parcel that is in the immediate vicinity of the coastal structure.

On this basis, the following is the general numbering convention:

CCC-MMM-BBB-PPP-SSS

Where:	CCC	DEP Community Number
	MMM	Community Map Number
	BBB	Block Number (000 if no block numbering system)
	PPP	Community Parcel Number
	SSS	Structure Number

Property Ownership: All property ownership was on a "presumed" basis as no legal verification of ownership was performed. The ownership of the property was classified under four basic areas which were private ownership (Private), Town ownership (Local), Commonwealth of Massachusetts ownership (State), federal government ownership (Federal) or unknown. Property ownership was based on Town assessor's maps. Where the location was located above Mean Low Water, and not within a defined parcel, the property ownership was presumed to be the Town unless documentation was found to indicate otherwise. Where a structure was located offshore of Mean Low Water, the property ownership was presumed to be the federal.

Structure Ownership: The ownership of all structures is presumed as no verification of ownership was performed. Ownership of the structure was determined by research into historic state and federal

permits and the entity indicated on the permits as the applicant. Where no other information was found, the following was utilized:

- Structures located on private land but appearing to be significant structures were identified as owned by the Town or as “Unknown”. Unknown was used where there was a question of local or private ownership.
- Structures on Town property were assumed to be owned by the Town
- Structures that were located off-shore were presumed to be federally owned
- Structures that were identified as being privately owned were eliminated from the database

Basis of Ownership: The basis of structure ownership was provided to give rationale to the structure ownership and identified the research resource that identified the ownership or the methodology otherwise used. The responses utilized were limited to the following:

- DPW – DPW Employee Interview
- DCR - Contract Drawings
- DEP – Ch 91 License
- USACE – Permits
- Property Ownership
- Offshore Structure

Structure Owner's Name: Ownerships names reflect the presumed owner of publicly owned structures. As this was for public structures only, the ownership was restricted to the community name, the state agency or the federal agency.

Earliest Structure Record: The year of the oldest document located for the structure. The information is determined from the document research performed on the structure from local, state and federal agencies. If no documents could be found than this entry is denoted as “Unknown”. Where documentation of the structure could be found, the date from the oldest document was utilized.

Primary Structure / Secondary Structure: Many of the coastal structures consisted of combined structures which were rated separately. It was typically found that one structure was significantly more predominant (Ex. Bulkhead/Seawall) and was therefore identified as the Primary Structure while a smaller structure might exist in front (ex. Revetment) of it. The type, height and material of each structure are identified separately. The condition of each structure was based on the Primary Structure. Where there was no secondary structure, the fields were left blank.

Structure Type: The structure type was categorized into five basic coastal structure categories which were Bulkhead/Seawall, Revetment, Coastal Beach, Coastal Dune, and Jetty/Groin.

Structure Material: The identification of the coastal structure’s material of construction was performed and represents the primary material. Stone structures consisted of both mortared and non-mortared conditions.

Structure Height: Each type of structure was categorized by its visible height in feet which was broken into four specific ranges which are:

< 5 feet 5 to 10 feet 10 to 15 feet >15 feet

Structure Condition: A preliminary assessment of the condition for each structure was performed by the field teams. This was by visual observation only and no detailed investigation was performed. The condition assessments were based on a predefined five level rating system that ranged from Rating A for Excellent Condition to Rating F for Critical Condition. A detailed listing of the conditions and their definitions can be seen in Exhibit A.

Priority Rating: In order to account for the need for protection at any one site, a five level priority rating system was established. This allowed for consideration of public infrastructure protection, density of residential housing for development of structure overall importance for coastal protection. The ratings range from Level 1 for no infrastructure or residence protection to Level 5 for critical inshore infrastructure protection and/or high density residential. The detailed listing and definitions for the priority categories can be seen in Exhibit B.

Structure Repair / Reconstruction Cost: A preliminary estimation of construction costs to maintain or repair structures was made based on the preliminary field assessment of the structures. A Repair Cost Matrix was developed based on structure type, condition, height and material and can be seen in Exhibit C. Once each structure's type, height, and material classifications were determined, the cost per foot for the structure was determine from the Repair Cost Matrix and multiplied by the length of the structure to obtain the estimated repair/restoration cost. The cost matrix repair costs include a 20 percent construction cost contingency as well as 10 percent costs for engineering and permitting.

Structure Length: The length of each structure is provided and utilized in the development of the repair/reconstruction costs. The lengths are given to the nearest foot and taken as the linear distance along the structure, as determined by the GPS location, which takes into account structure angles and curvature.

Structure Elevation: The elevation of structures was determined in feet from existing information where available. The datum used is NAVD 88 and elevations are to the nearest foot. From a previous study much of the south shore coastal structures had elevations defined based on LIDAR mapping data. Where available structure documentation with elevations was found, in areas with no LIDAR data, the information was included within the structure information. Where there was no LIDAR information or existing documentation, the item has been left blank.

LIDAR (Light Detection and Ranging) is technology that is currently being used for high-resolution topographic mapping by mounting a LIDAR sensor, integrated with Global Positioning System (GPS) and inertial measurement unit (IMU) technology, to the bottom of aircraft and measuring the pulse return rate to determine surface elevations.

FEMA Zone and Elevation: For each structure the FEMA Flood Insurance Rate Maps (FIRM) were researched for their Flood Zone designation and their Base Flood Elevation from the most recent FIRM maps for the specific Town. The elevations are provided in feet on the same datum as the FIRM maps (NGVD) with no adjustments or conversions.

Structure Comments: The engineering team provided a brief description and comment on the structure at the time of the field assessments which is provided in support of the condition rating that was given for the structure.

Pictures: At the time of the field assessments, digital photographs were taken to provide a general overview of the structure. The number of pictures was limited to a maximum of six. The first photograph for each structure is shown on the Structure Assessment Form. The list of all photographs is provided on the form.

Town Documents: Town documents represent the structure information that could be found in the Town's DPW/Engineering Department records. Where particular records could be found, a table of document information was developed and included within the database with limited descriptions.

MA - DCR Documents: MA-DCR documents represent the structure information that could be found within DCR – Waterways office in Hingham. Where particular records could be found, a table of document information was developed and included within the database with limited descriptions.

MA - DEP Chp. 91 Licenses: MA-DEP Chapter 91 license documents represent the structure information that could be found within MA-DEP Chp 91 records in Boston. Where particular records could be found, they were scanned as pdf files and attached to the structure through the GIS database information. In addition, a table of license document information was developed and included within the database with limited descriptions.

USACE Permits: USACE Permits represent the structure information that could be found within the Army Corp of Engineers regulatory office in Concord, MA. Where particular records could be found, they were scanned as pdf files and attached to the structure through the GIS database information. In addition, a table of license document information was developed and included within the database with limited descriptions.

DEVELOPMENT OF REPAIR / RECONSTRUCTION COSTS

A matrix to be used within the database has been developed to assess likely rehabilitation/repair costs to restore the coastal structures to their original design condition. No attempt was made to assess the level of exposure and associated level of protection that might be required to meet current design standards for these structures. These costs are only an estimation to bring these structures back to their original design intent based on 2006 construction costs.

The development of the cost matrix is based on the following:

Structure Condition Ratings – The condition of the coastal structures was determined in the field by the survey crew which was led by an engineer with waterfront structure assessment and design experience. The definitions of the rating criteria utilized for the assessments are presented elsewhere.

The cost implications for each rating condition are as follows:

- **A Rating** Structures not requiring any maintenance, repair or rehabilitation cost and would not be expected to experience damage if subject to a major coastal storm event
- **B Rating** Structures requiring limited or no repair and would be expected to experience only minor damage if subject to a major coastal storm event. The value of these maintenance costs is assumed to be 10 percent of the construction cost.
- **C Rating** Structures requiring moderate to significant level of repair or reconstruction and would be expected to experience significant damage if subject to a major coastal storm event. The structure is presumed to be effective under a major storm event. The value of the repair costs is assumed to be 50 percent of the construction cost.
- **D Rating** Structures requiring significant level of rehabilitation or total reconstruction and would be expected to experience significant damage or possibly fail if subject to a major coastal storm event. The value of the repair costs is assumed to be 100 percent of the construction cost.

- **F Rating** Structures requiring complete reconstruction and would expect to provide little or no protection from a major coastal storm event. The value of the repair costs is assumed to be 100 percent of the construction cost plus a cost for removal/disposal of the original structure.

Height of Structure – Height of a structure is a major factor in the structure cost and therefore was identified as a significant factor in assessing rehabilitation/repair construction costs. The structures were broken down into four major categories which were:

< 5'	Structures that were less than five feet in height
5'-10'	Structures five to 10 feet in height
10'-15'	Structures over 10 feet to 15 feet in height
> 15'	Structures greater than 15 feet in height – assumed 20 feet typical

Length of Structure – Length is based on field GPS location with measurements rounded to the nearest foot.

Bulkhead / Seawall Structures – These structures are assumed to be constructed out of concrete, steel, stone or wood with each having its own criteria for establishing costs. For each structure type the following was assumed:

- **Concrete Seawalls** – These walls were assumed to be gravity structures with the volume of concrete used based on the bottom width being one-half of the structure height. Costs of construction were based on a per cubic yard estimate that varied from \$350 to \$630 per cubic yard depending on the structure height. Values for excavation and demolition of existing structure were also included.
- **Stone Seawalls** – These walls were treated the same as concrete seawalls and assumed to be gravity structures with the volume of the structure based on the bottom width being one-half of the structure height. Costs of construction were based on a per cubic yard estimate that varied from \$350 to \$630 per cubic yard depending on the structure height. Values for excavation and demolition of existing structure were also included.
- **Steel Bulkheads** – Steel bulkheads were presumed to be constructed with steel sheet piling. Tie back systems were presumed for structures 10 feet or greater in height. Shorter walls were assumed to have a cantilever design. The total depth of sheeting was presumed to be two times the exposed height. The cost for construction varied from \$40 per square foot to \$60 per square foot plus the cost of excavation and demolition.
- **Timber Bulkheads** – Timber bulkheads were presumed to be constructed with timber piles at eight foot on center, horizontal wales and vertical four inch sheathing. The unit costs for installed materials used were \$1,500 per pile and \$7.50 per bfm.

Revetment Structures – Revetment structures were presumed to be constructed of dry placed (no concrete) stone with a two on one slope and a horizontal toe and crown equal to the thickness layer established for each height condition. The total thickness of the revetment layers varied from six to ten feet with the cost of armor and under-layer stone assumed to be \$50 per ton and the crushed stone base to be \$15 per ton.

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Groins and Jetties – Groins and jetties were assumed to be the same materials and construction as the revetment structures but would have two sides and therefore double the quantities.

Coastal Beaches – Costs for restoration of Coastal beaches presumed the placement of beach renourishment sands at a 1-on-20 slope over the existing beach conditions. The cost for deposition of sand assumed relatively close source of material and utilized \$20 per cubic yard for the material installed.

Coastal Dunes – Restoration of coastal dunes assumed a cross section of renourished sand with a one-on-four slope on one side of a 25 foot width at the defined dune height. The cost for deposition of sand assumed relatively close source of material and utilized \$20 per cubic yard for the material installed.

Contingency – A contingency of 20 percent was added to all costs to reflect the unknowns associated with this level of rehabilitation/repair estimating.

Engineering and Regulatory Approvals – A ten percent increase to the cost matrix prices was assessed to represent the engineering design and regulatory approval requirements for the restoration of these structures.

EXHIBIT A

Structure Condition Table – 5 Level Rating System

Preliminary Condition Assessment		Definition Based Upon Perceived Immediacy of Action and Potential to Cause Damage if Not Corrected	Level of Action Required
A	Excellent	Like new condition. Structure expected to withstand major coastal storm without damage. Stable landform (beach, dune or bank). Adequate system exists to provide protection from major coastal storm	None
B	Good	Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure	Minor
C	Fair	Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide additional material for full protection and extended life	Moderate
D	Poor	Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	Major
F	Critical	Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity. Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.	Immediate

EXHIBIT B

Priority Rating System - 5 Level Rating System

Preliminary Priority Level Assessment		Level Based Upon Perceived Immediacy of Action and Presence of Potential Risk to Inshore Structures if Not Corrected	Level of Action Required
I	None	No Inshore Structures or Residential Dwelling Units Present	Long Term Planning Considerations
II	Low Priority	Inshore Structures Present with Limited potential for Significant Infrastructure Damage	Future Project Consideration
III	Moderate Priority	Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)	Consider for Active Project Improvement Listing
IV	High Priority	High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)	Consider for Next Project Construction Listing
V	Immediate / Highest Priority	Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Conditions of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)	Consider For Immediate Action Due to Public Safety and Welfare Issues

**MASSACHUSETTS COASTAL INFRASTRUCTURE
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CZM SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY AND ASSESMENT PROJECT

EXHIBIT C

September 14, 2006

REPAIR / REHABILITATION COSTING DATA

Cost per linear foot of structure

STRUCTURE TYPE	STRUCTURE MATERIALS	STRUCTURE HEIGHT	STRUCTURE CONDITION RATING				
			A	B	C	D	F
BULKHEAD/ SEAWALL	CONCRETE	Under 5 Feet	\$0	\$84	\$425	\$850	\$983
		5 To 10 Feet	\$0	\$152	\$759	\$1,518	\$1,782
		10 To 15 Feet	\$0	\$251	\$1,254	\$2,508	\$2,970
		Over 15 Feet	\$0	\$396	\$1,980	\$3,960	\$4,752
	STEEL	Under 5 Feet	\$0	\$54	\$273	\$546	\$680
		5 To 10 Feet	\$0	\$165	\$825	\$1,650	\$1,848
		10 To 15 Feet	\$0	\$251	\$1,254	\$2,508	\$2,772
		Over 15 Feet	\$0	\$343	\$1,716	\$3,432	\$3,795
	STONE	Under 5 Feet	\$0	\$84	\$425	\$850	\$983
		5 To 10 Feet	\$0	\$152	\$759	\$1,518	\$1,782
		10 To 15 Feet	\$0	\$251	\$1,254	\$2,508	\$2,970
		Over 15 Feet	\$0	\$396	\$1,980	\$3,960	\$4,752
	WOOD	Under 5 Feet	\$0	\$86	\$431	\$862	\$994
		5 To 10 Feet	\$0	\$127	\$632	\$1,265	\$1,463
		10 To 15 Feet	\$0	\$161	\$804	\$1,608	\$1,872
		Over 15 Feet	\$0	\$202	\$1,008	\$2,017	\$2,380
COASTAL BEACH	SAND	Under 5 Feet	\$0	\$26	\$132	\$264	\$264
		5 To 10 Feet	\$0	\$127	\$634	\$1,267	\$1,267
		10 To 15 Feet	\$0	\$224	\$1,122	\$2,244	\$2,244
		Over 15 Feet	\$0	\$396	\$1,980	\$3,960	\$3,960
COASTAL DUNE	SAND	Under 5 Feet	\$0	\$18	\$93	\$186	\$186
		5 To 10 Feet	\$0	\$48	\$238	\$476	\$476
		10 To 15 Feet	\$0	\$79	\$395	\$790	\$790
		Over 15 Feet	\$0	\$132	\$660	\$1,320	\$1,320
REVETMENT	STONE	Under 5 Feet	\$0	\$66	\$333	\$664	\$730
		5 To 10 Feet	\$0	\$120	\$601	\$1,201	\$1,300
		10 To 15 Feet	\$0	\$157	\$781	\$1,564	\$1,696
		Over 15 Feet	\$0	\$247	\$1,234	\$2,468	\$2,666
GROIN	STONE	Under 5 Feet	\$0	\$132	\$664	\$1,328	\$1,460
		5 To 10 Feet	\$0	\$240	\$1,201	\$2,402	\$2,600
		10 To 15 Feet	\$0	\$314	\$1,564	\$3,128	\$3,392
		Over 15 Feet	\$0	\$494	\$2,468	\$4,937	\$5,333

NOTE: Repair / Rehabilitation Costs include 10% for engineering and regulatory approvals and 20 % construction contingency.

Section II

Marblehead

Section II – Community Findings – Town of Marblehead

COMMUNITY DESCRIPTION

The Town of Marblehead consists of a land area of 4.33 square miles out of a total area of 19.63 square miles and had a population of 20,377 in the 2000 census. The Town is located on the North Shore of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline that is directly exposed to open ocean waves is 7 miles with the remaining shoreline semi-protected by offshore structures or landforms. The Town is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the Town were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the Town of Marblehead, there were 37 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 6 in Section II-B of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

STRUCTURE TYPE AND QUANTITY - Town of Marblehead

Primary Structure (1)	Total Structures	Structure Condition Rating				F	Total Length
		A	B	C	D		
Bulkhead / Seawall	32	2	11	15	4		8010
Revetment	5		2	3			525
Breakwater							
Groin / Jetty							
Coastal Dune							
Coastal Beach							
	37	2	13	18	4		8535

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the Town of Marblehead's case there are a total of 35 structures which would require approximately \$ 10.7 million to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event. To reconstruct these structures, identified in the preliminary survey as being in poor condition, an estimated \$ 6.8 million would be required to upgrade the Town's coastal protection.

STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Marblehead

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Bulkhead / Seawall	32		\$ 734,072	\$ 2,884,180	\$ 6,823,753		\$ 10,442,005
Revetment	5		\$ 24,684	\$ 255,255			\$ 279,939
Breakwater							\$ -
Groin / Jetty							\$ -
Coastal Dune							\$ -
Coastal Beach							\$ -
	37	\$ -	\$ 758,756	\$ 3,139,435	\$ 6,823,753	\$ -	\$ 10,721,944

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the Town of Marblehead, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Marblehead

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Town Owned	37		\$ 758,756	\$ 3,139,435	\$ 6,823,753		\$ 10,721,944
Commonwealth of Massachusetts							\$ -
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	37	\$ -	\$ 758,756	\$ 3,139,435	\$ 6,823,753	\$ -	\$ 10,721,944

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section II-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the Town of Marblehead's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.

Section II - Marblehead

Part B

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARBLEHEAD
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



SCALE: 1" = 150'-0"



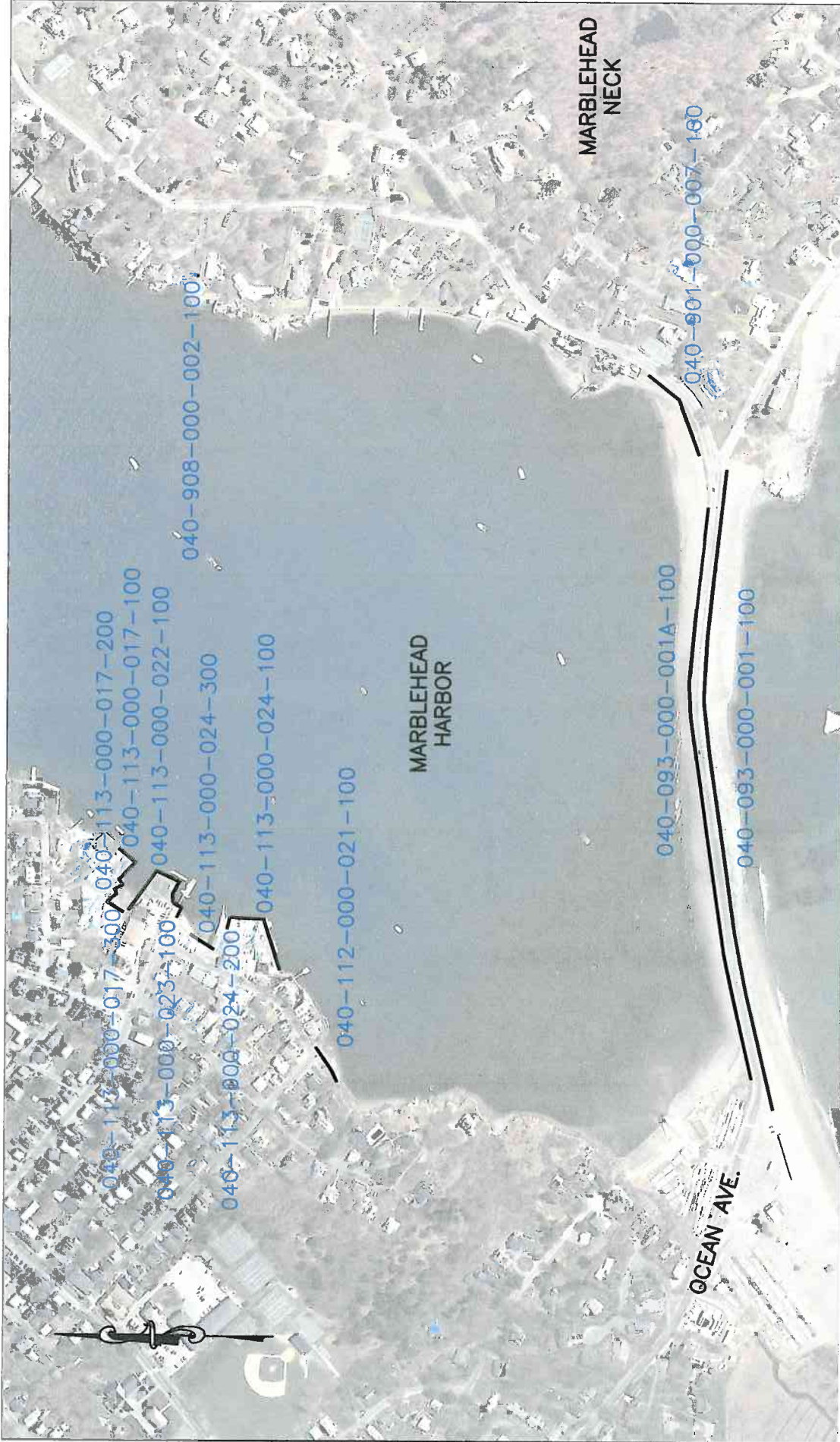


COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARBLEHEAD
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007

0 150
SCALE: 1" = 150'-0"





COASTAL STRUCTURE LOCATION PLAN

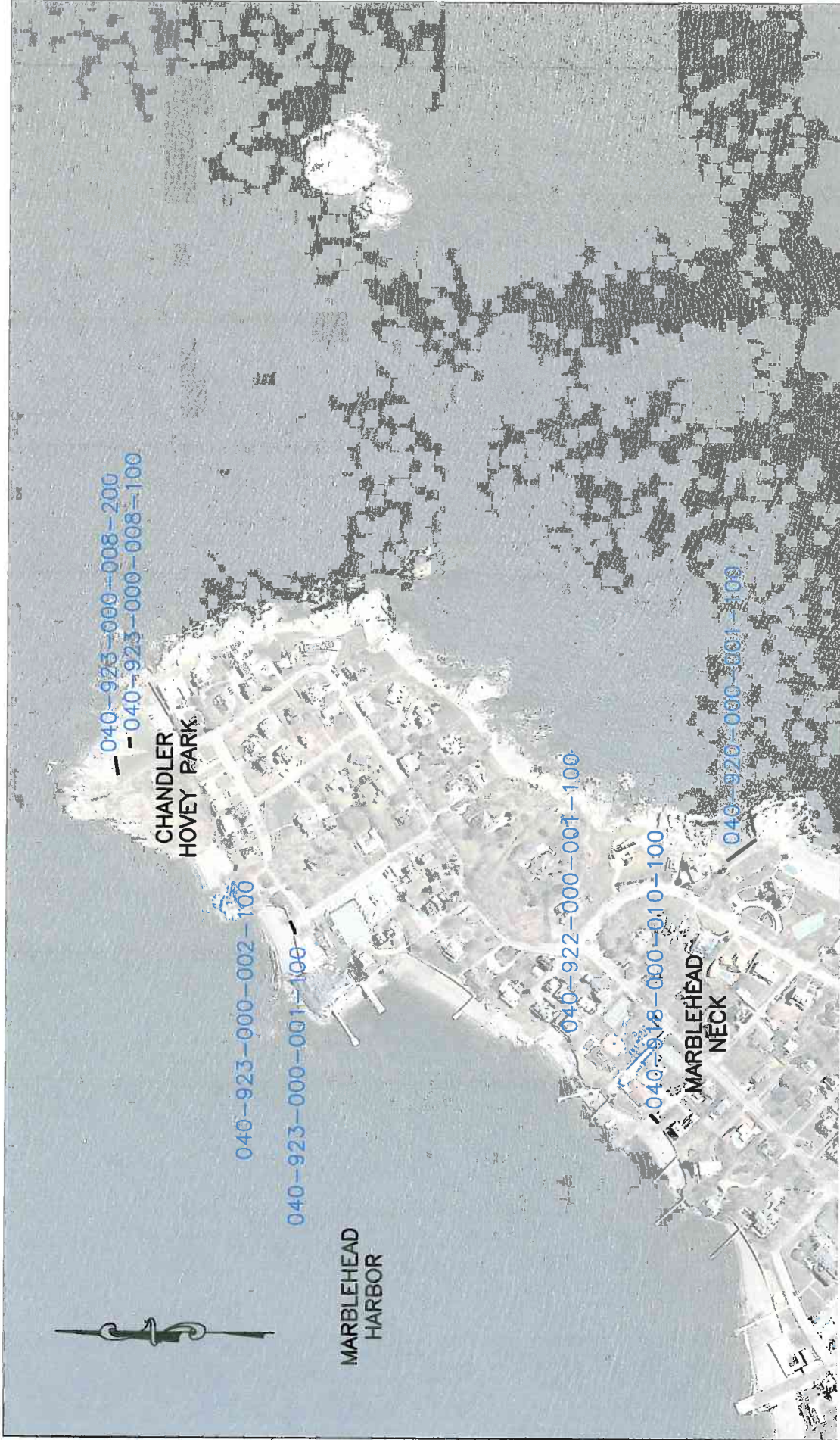
TOWN OF MARBLEHEAD
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT

DECEMBER 2007



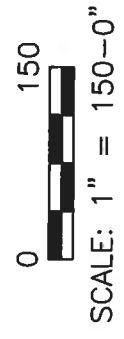
SCALE: 1" = 150'-0"





COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARBLEHEAD
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



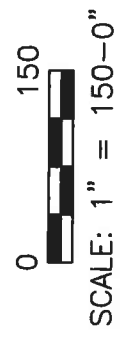
**BCE**

Bourne Consulting Engineering
300 Main Street
Marblehead, MA 01945
TEL (978) 552-4000 FAX (978) 552-4000



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARBLEHEAD
 COASTAL INFRASTRUCTURE INVENTORY
 AND ASSESSMENT PROJECT
 DECEMBER 2007





BCE

Bourne Consulting Engineering

1000 Main Street
 Suite 200
 Marblehead, MA 01947
 TEL: (617) 852-8888 FAX: (617) 852-8888



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARBLEHEAD
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



SCALE: 1" = 150'-0"



Structure Assessment Form

Town: **Marblehead**Structure ID: **040-008-000-027-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Surf Street

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$20,493.00

Length:

135

Feet

Top Elevation:

25

Feet NAVD 88

FIRM Map Zone:

V2

FIRM Map Elevation:

25

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A concrete over stone wall in satisfactory condition. There are stone gabions behind in one area and stone wall behind the walkway on bedrock.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

040-008-000-027-100-PHO1A.JPG

040-008-000-027-100-PHO1B.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-028-000-012-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Crown Way

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$68,310.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
90	10	V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A concrete seawall with the top surface repaired. The concrete face is deteriorating. It is functionally sound, but has overtopping erosion. The wall is mass concrete construction.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

040-028-000-012-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-093-000-001-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

The Causeway - Ocean Avenue

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$5,941,452.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
2185	14	V2	17
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

5 to 10 Feet



Structure Summary :

A concrete seawall with stone toe protection. There are large longitudinal cracks in concrete wall, previously patched, but cracks have reopened. The wall is intact, but deteriorated with significant concrete problems. The toe stone is unraveled with large gaps between armor stones.

Condition

D

Rating

Poor

Level of Action

Major

Description

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

Priority

V

Rating

Immediate / Highest Priority

Action

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

040-093-000-001-100-PHO1A.JPG

040-093-000-001-100-PHO1B.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-093-000-001A-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

The Causeway - Ocean Avenue

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$489,060.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1950	8	V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A reinforced concrete cap over large granite block wall that is generally sound and in good condition. There are a few cap spalls with exposed rebar.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

V

Rating

Immediate / Highest Priority

Action

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

040-093-000-001A-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-104-000-024-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Village Street

Date:

6/29/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1969

Estimated Reconstruction/Repair Cost:

\$2,112.00

Length:

25

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A granite block wall at a pier that is approximately 1.5 feet high in satisfactory condition. At the end of a road with houses in the vicinity.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

040-104-000-024-100-PHO1A.JPG

Structure Documents:

MA-DCR**September 1****Proposed Harbor****040-104-000-024-100-DCR1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-112-000-021-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cliff and Chestnut Street

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$11,827.00

Length:

140

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared rubble stone wall above a bedrock outcrop that is high up above water in satisfactory condition. It is well above expected flood levels.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-112-000-021-100-PHO1A.JPG**040-112-000-021-100-PHO1B.JPG**

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-017-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Parkers Boat Yard

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$831,600.00

Length:

210

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A dry set stone wall with mortared stone cap in fair condition that has some overlay concrete repairs. The area above the seawall is boat storage.

Condition

D

Rating

Poor

Level of Action

Major

Description

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-017-100-PHO1A.JPG

040-113-000-017-100-PHO1B.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-017-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Parker's Yacht Yard

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$30,030.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
50		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A dumped stone revetment in poor condition. There is stone movement and erosion behind the dumped stone. There is an adjacent building.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-017-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-113-000-017-300

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Parker's Yacht Yard

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$0.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
70		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Concrete	5 to 10 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

A cast in place concrete wall in good condition. Near the Electric Light Company and the area behind the wall used for boat storage.

<i>Condition</i>	A
<i>Rating</i>	Excellent
<i>Level of Action</i>	None
<i>Description</i>	Like new condition. Structure expected to withstand major coastal storm without damage. Stable landform (beach, dune or bank). Adequate system exists to provide protection from major coastal storm.

<i>Priority</i>	II
<i>Rating</i>	Low Priority
<i>Action</i>	Future Project Consideration
<i>Description</i>	Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-017-300-PHO3A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-022-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Marblehead Electric Light

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1962

Estimated Reconstruction/Repair Cost:

\$653,400.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
330		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Stone	Over 15 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

A dry set granite block wall with open joints in fair condition. Only a short inland section is immediately adjacent to the power company building and the rest of the seawall has a park just behind the wall.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***V***Rating***Immediate / Highest Priority***Action*

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

040-113-000-022-100-PHO1A.JPG**040-113-000-022-100-PHO1B.JPG**

Structure Documents:

USACE**April 1962****Proposed Wharf****040-113-000-022-100-COE1A**

Structure Assessment FormStructure ID: **040-113-000-023-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cliff & Commercial

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1962

Estimated Reconstruction/Repair Cost:

\$138,600.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
70		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Stone	Over 15 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

A granite block seawall with the upper joints mortared. The joints are in poor condition and there is apparent block movement and loss of chinking.

Condition
Rating
Level of Action
Description

C
Fair
Moderate
Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority
Rating
Action
Description

II
Low Priority
Future Project Consideration
Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-023-100-PHO1A.JPG**040-113-000-023-100-PHO1B.JPG**

Structure Documents:

USACE**April 1962****Proposed Wharf -****040-113-000-023-100-COE1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-024-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cliff Street Boat Yard

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1995

Estimated Reconstruction/Repair Cost:

\$603,900.00

Length:

305

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A dry rubble wall with granite block cap in tact and in fair condition. There are sinkholes and pavement subsidence at west end. There are typical open joints at east end of wall which is 8 feet beyond the last GPS point, under building/deck.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***III***Rating***Moderate Priority***Action*

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

040-113-000-024-100-PHO1A.JPG**040-113-000-024-100-PHO1B.JPG**

Structure Documents:

DEP**March 1995****Plans Accompanying****040-113-000-024-100-LIC1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-024-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cliff Street Boat Yard

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$24,024.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
40		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A riprap revetment with dumped stone under yacht club deck in fair condition. There is some apparent movement with stones and pavement patching repairs.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-024-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-113-000-024-300**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cliff Street Boat Yard

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1995

Estimated Reconstruction/Repair Cost:

\$29,344.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
95		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

10 to 15 Feet

Structure Summary :

A dry set rubble stone wall with cast in place cap partial length and stone revetment toe protection in satisfactory condition. There is an access drive behind and southern end is adjacent to yacht club building.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-113-000-024-300-PHO3A.JPG

Structure Documents:

DEP**March 1995****Plans Accompanying****040-113-000-024-300-LIC3A**

Structure Assessment FormStructure ID: **040-132-000-060-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Crocker Park

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$56,925.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
75		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Stone	5 to 10 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

A mortared rubble stone seawall on bedrock with concrete cap in fair condition. It is elevated and is a low priority park with no buildings and a bedrock shoreline.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

040-132-000-060-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-140-000-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Jersey Street

Date:

6/29/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1958

Estimated Reconstruction/Repair Cost:

\$35,897.00

Length:

35

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

13

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Revetment

Secondary Material:

Concrete

Secondary Height:

5 to 10 Feet

Structure Summary :

A cast in place concrete seawall with concrete slope paving above in fair condition. The wall has a vertically wide crack and face scaling. The slope paving has wide cracks and voids under slope paving. There are spalls in the concrete. At the end of a road with houses in the vicinity.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-140-000-001-100-PHO1A.JPG

Structure Documents:

MA-DCR**September 1****Proposed Shore****040-140-000-001-100-DCR1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-148-000-060-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

State Street Landing

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1966

Estimated Reconstruction/Repair Cost:

\$77,220.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
195		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A granite block wall with mortared joints near the top in satisfactory condition. The concrete cap is okay with some minor defects. A park area behind the wall with some nearby buildings.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-148-000-060-100-PHO1A.JPG

Structure Documents:

USACE	April 1966	Proposed Harbor	040-148-000-060-100-COE1A
USACE	September 1	Proposed Harbor	040-148-000-060-100-COE1B
MA-DCR	February 1	Proposed Harbor	040-148-000-060-100-DCR1A

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-148-000-077-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Tucker's Wharf

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1995

Estimated Reconstruction/Repair Cost:

\$0.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
345		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A granite block wall with concrete cap in generally good condition. There is a sink hole and minor cap damage at the south end. There are some open joints and a concrete patch at the east corner. There are some small sinkholes at east end behind the wall. The Harbor Master office building is just inshore of this wall.

*Condition***A***Rating***Excellent***Level of Action***None***Description*

Like new condition. Structure expected to withstand major coastal storm without damage. Stable landform (beach, dune or bank). Adequate system exists to provide protection from major coastal storm.

*Priority***V***Rating***Immediate / Highest Priority***Action*

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

040-148-000-077-100-PHO1A.JPG

Structure Documents:

DEP**June 1995****Plan Accompanying****040-148-000-077-100-LIC1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-166-000-050-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Lovis Cove

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$53,130.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
70		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared stone seawall adjacent to Front Street with some mortar deterioration but still functional.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

III

Rating

Moderate Priority

Action

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

040-166-000-050-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-167-000-024-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Fort Beach

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1958

Estimated Reconstruction/Repair Cost:

\$616,777.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
565		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

Under 5 Feet

Structure Summary :

A mortared rubble stone wall with concrete cap (some cap damage) adjacent to Front Street. Some mortar is deteriorating but in fair condition. The revetment is unravelled and in poor condition. First GPS point 15 feet northeast of building end wall.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***III***Rating***Moderate Priority***Action*

Consider for Active Project Improvement Listing

Description

Inshore Structures with potential for Infrastructure Damage and/or Limited Residential Dwellings (<1 dwelling impacted / 100 feet of shoreline)

Structure Images:

040-167-000-024-100-PHO1A.JPG

Structure Documents:

MA-DCR**September 1****Proposed Shore****040-167-000-024-100-DCR1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-167-000-025-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Front Street

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unkown

Estimated Reconstruction/Repair Cost:

\$422.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
5		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Concrete	Under 5 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

A concrete wall 5 feet long between buildings (buildings 5 feet apart), in satisfactory condition.

Condition
Rating
Level of Action
Description

B
Good
Minor
Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority
Rating
Action
Description

II
Low Priority
Future Project Consideration
Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-167-000-025-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-168-000-011-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Fort Seawall Lane

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1958

Estimated Reconstruction/Repair Cost:

\$468,402.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
235		V2	25
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

Over 15 Feet

Structure Summary :

A concrete seawall with concrete filled stone revetment. One section has mortared stone infill as a repair to the wall. It is in fair condition. A few voids in revetment, also in fair condition. This is a park area.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

040-168-000-011-100-PHO1A.JPG

Structure Documents:

MA-DCR**September 1****Proposed Shore****040-168-000-011-100-DCR1A**

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-168-000-011-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Fort Sewall

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$9,900.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
25		V2	30
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall between bedrock outcrops with some weathering and deterioration. It is in park location and in satisfactory condition.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-168-000-011-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-186-000-011-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Dolliber Cove

Date:

6/29/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unkown

Estimated Reconstruction/Repair Cost:

\$23,529.00

Length:

155

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

A4

FIRM Map Elevation:

11

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall with top of footing exposed in satisfactory condition. There is minor scaling of the concrete surface.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-186-000-011-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-186-000-017-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Harding Lane

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$4,250.00

Length: Top Elevation:

10

Feet

Feet NAVD 88

FIRM Map Zone:

A4

FIRM Map Elevation:

11

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A short low dry set stone wall with granite steps and irregular configuration in fair condition. At end of lane with some houses in the vicinity.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

040-186-000-017-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-187-000-008-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Beacon Street

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$5,914.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
70		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall in good condition. It is adjacent to a boat ramp at southern end and adjacent to building at northern end.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

040-187-000-008-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-187-000-008-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Beacon Street Ramp

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$23,377.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
55		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared stone wall that was built from granite curbing. There is some missing mortar, one missing cap stone but in fair condition. There is a small park behind the wall.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

040-187-000-008-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-188-000-007-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Grace Olivers Beach

Date:

6/29/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$64,251.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
295	10	V2	13
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

Under 5 Feet



Structure Summary :

A rubble stone wall with mortared joints in satisfactory condition. Some mortar is cracked and some toe of wall mortar is missing. The stone toe protection is unravelled but in fair condition.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-188-000-007-100-PHO1A.JPG

040-188-000-007-100-PHO1B.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-901-000-007-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Drain Outfall Near Flint Street

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$201,201.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
335	5	V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A quarry stone revetment above a cobble beach facing harbor in fair condition. There is some erosion and gaps at west end adjacent to the causeway.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-901-000-007-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-908-000-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Parker Lane

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$15,180.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
20	55	V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared rubble stone wall in fair condition. Some stones at the stairs have shifted and there is some mortar broken. There are wooden stairs with a drain outfall under them.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-908-000-002-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-918-000-010-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Harvard Street

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

1960

Estimated Reconstruction/Repair Cost:

\$17,002.00

Length:

40

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A 2 foot high rubble mortared wall in fair condition. It is missing five small cap stones and has a few cracks with stone stairs recently repaired.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-918-000-010-100-PHO1A.JPG

Structure Documents:

MA-DCR**July 1960****Proposed Seawall****040-918-000-010-100-DCR1A**

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-920-000-001-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Castle Rock Wall

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$91,080.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
120		V2	30
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared stone wall at a town park in good condition. There are no immediate inshore structures. It is elevated above the ocean.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-920-000-001-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-922-000-001-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Peabody Lane

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$12,751.00

Length:

15

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A 2 foot high rubble stone wall with concrete stairs. There is erosion of the soil below the wall at the south end that is 3 foot wide by 5 feet high and the bedrock is exposed.

Condition

D

Rating

Poor

Level of Action

Major

Description

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-922-000-001-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-923-000-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Nahant Street

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$37,950.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
50		V4	14
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared rubble stone wall with granite block cap in generally satisfactory condition with the exception of some cap damage and minor soil erosion at the drain pipe.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

040-923-000-001-100-PHO1A.JPG

Structure Documents:

Structure Assessment FormStructure ID: **040-923-000-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cove Lane

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$37,950.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
25		V2	25
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A dry rubble stone wall in poor condition with minimal risk to structures. At the base there are missing stones at the bedrock interface.

*Condition***D***Rating***Poor***Level of Action***Major***Description*

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-923-000-002-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**

Structure ID: 040-923-000-008-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Chandler Hovey Park

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unkown

Estimated Reconstruction/Repair Cost:

\$8,639.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
35		V2	33
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A quarry stone revetment between bedrock outcrops in generally good condition. There is one rotated stone.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-923-000-008-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Marblehead**Structure ID: **040-923-000-008-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Chandler Hovey Park

Date:

6/5/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Marblehead

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$16,045.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
65		V2	33
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A quarry stone revetment between bedrock outcrops in good condition. There is minor toe unravelling west end of structure.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

040-923-000-008-200-PHO2A.JPG

Structure Documents:

Section II- Marblehead

Part C

Structure Photographs

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
040-008-000-027-100	040-008-000-027-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-008-000-027-100	040-008-000-027-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-028-000-012-100	040-028-000-012-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-093-000-001-100	040-093-000-001-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-093-000-001-100	040-093-000-001-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-093-000-001A-100	040-093-000-001A-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-104-000-024-100	040-104-000-024-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-112-000-021-100	040-112-000-021-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-112-000-021-100	040-112-000-021-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-017-100	040-113-000-017-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-017-100	040-113-000-017-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-017-200	040-113-000-017-200-PHO2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-017-300	040-113-000-017-300-PHO3A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-022-100	040-113-000-022-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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040-113-000-024-100	040-113-000-024-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-024-100	040-113-000-024-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-113-000-024-200	040-113-000-024-200-PHO2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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040-132-000-060-100	040-132-000-060-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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040-148-000-060-100	040-148-000-060-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-148-000-077-100	040-148-000-077-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-166-000-050-100	040-166-000-050-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-167-000-024-100	040-167-000-024-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-167-000-025-100	040-167-000-025-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-168-000-011-100	040-168-000-011-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-168-000-011-200	040-168-000-011-200-PHO2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-186-000-011-100	040-186-000-011-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-186-000-017-100	040-186-000-017-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-187-000-008-100	040-187-000-008-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-187-000-008-200	040-187-000-008-200-PHO2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-188-000-007-100	040-188-000-007-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-188-000-007-100	040-188-000-007-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-501-000-007-100	040-501-000-007-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-508-000-002-100	040-508-000-002-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-918-000-010-100	040-918-000-010-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-920-000-001-100	040-920-000-001-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-922-000-001-100	040-922-000-001-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-923-000-001-100	040-923-000-001-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-923-000-002-100	040-923-000-002-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
040-923-000-008-100	040-923-000-008-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
040-923-000-008-200	040-923-000-008-200-PHC2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



040-008-000-027-100-PHO1A



040-008-000-027-100-PHO1B



040-028-000-012-100-PHO1A



040-093-000-001-100-PHO1A



040-093-000-001-100-PHO1B



040-093-000-001A-100-PHO1A



040-104-000-024-100-PHO1A



040-112-000-021-100-PHO1A



040-112-000-021-100-PHO1B

Massachusetts Coastal Infrastructure and Assessment



040-113-000-017-100-PHO1A



040-113-000-017-100-PHO1B



040-113-000-017-200-PHO2A



040-113-000-017-300-PHO3A



040-113-000-022-100-PHO1A



040-113-000-022-100-PHO1B



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040-113-000-024-100-PHO1A

Massachusetts Coastal Infrastructure and Assessment



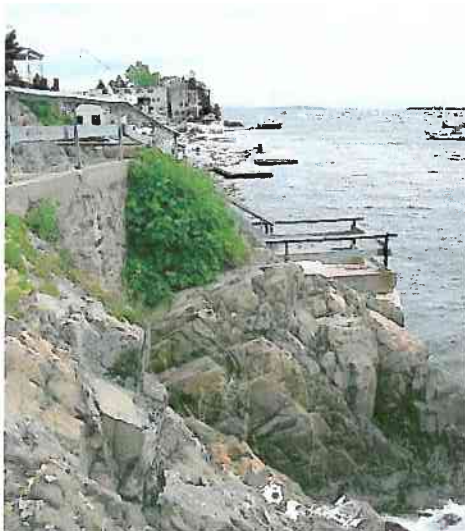
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040-113-000-024-300-PHO3A



040-132-000-060-100-PHO1A



040-140-000-001-100-PHO1A



040-148-000-060-100-PHO1A



040-148-000-077-100-PHO1A



040-166-000-050-100-PHO1A



040-167-000-024-100-PHO1A

Massachusetts Coastal Infrastructure and Assessment



040-167-000-025-100-PHO1A



040-168-000-011-100-PHO1A



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040-186-000-011-100-PHO1A



040-186-000-017-100-PHO1A



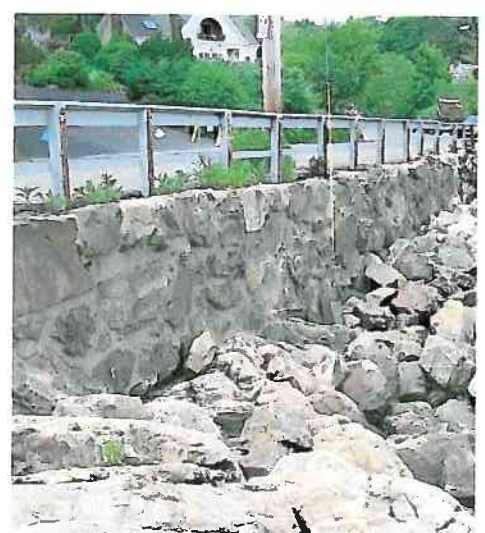
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040-188-000-007-100-PHO1A



040-188-000-007-100-PHO1B

Massachusetts Coastal Infrastructure and Assessment



040-901-000-007-100-PHO1A



040-908-000-002-100-PHO1A



040-918-000-010-100-PHO1A



040-920-000-001-100-PHO1A



040-922-000-001-100-PHO1A



040-923-000-001-100-PHO1A



040-923-000-002-100-PHO1A



040-923-000-008-100-PHO1A



040-923-000-008-200-PHO2A

Section II - Marblehead

Part D

Structure Documents

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

TOWN: MARBLEHEAD
SOURCE: Town of Marblehead
LOCATION: TOWN
DATE OF RESEARCH: JULY 2007

NO TOWN DOCUMENTS FOR THE TOWN OF MARBLEHEAD

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
040-104-000-024-100	040-104-000-024-100-DCR1A	2665	MA-DCR	Marblehead	September 1969	Proposed Harbor Improvements - Pier Gangway and Floats - Salem Harbor - Vicinity of Village Street Landing - Marblehead - Prepared for the DPW of Massachusetts - Division of Waterways	3	Village Street Landing	Riprap
040-140-000-001-100	040-140-000-001-100-DCR1A	1970	MA-DCR	Marblehead	September 1958	Proposed Shore Protection at Front Street, Fort Scawall, Town Pier and Jersey Street - Marblehead	4	Front Street, Fort Scawall, Town Pier and Jersey Street	Riprap
040-148-000-060-100	040-148-000-060-100-DCR1A	2495	MA-DCR	Marblehead	February 1966	Proposed Harbor Improvements - Seawall and Timber Pier - Town Landing - Marblehead - Prepared for the DPW of Massachusetts - Division of Waterways	4	Town Landing - Front Street	Seawall and Timber Pier
040-167-000-024-100	040-167-000-024-100-DCR1A	1970	MA-DCR	Marblehead	September 1958	Proposed Shore Protection at Front Street, Fort Scawall, Town Pier and Jersey Street - Marblehead	4	Front Street, Town Pier, Fort Scawall and Jersey Street	Riprap
040-168-000-011-100	040-168-000-011-100-DCR1A	1970	MA-DCR	Marblehead	September 1958	Proposed Shore Protection at Front Street, Fort Scawall, Town Pier and Jersey Street - Marblehead	4	Front Street, Fort Scawall, Town Pier and Jersey Street	Riprap
040-918-000-010-100	040-918-000-010-100-DCR1A	2151	MA-DCR	Marblehead	July 1960	Proposed Seawall Reconstruction - Harvard Street - Marblehead - Prepared for the DPW of Massachusetts - Division of Waterways	2	Foster Street and Harvard Street	Seawall

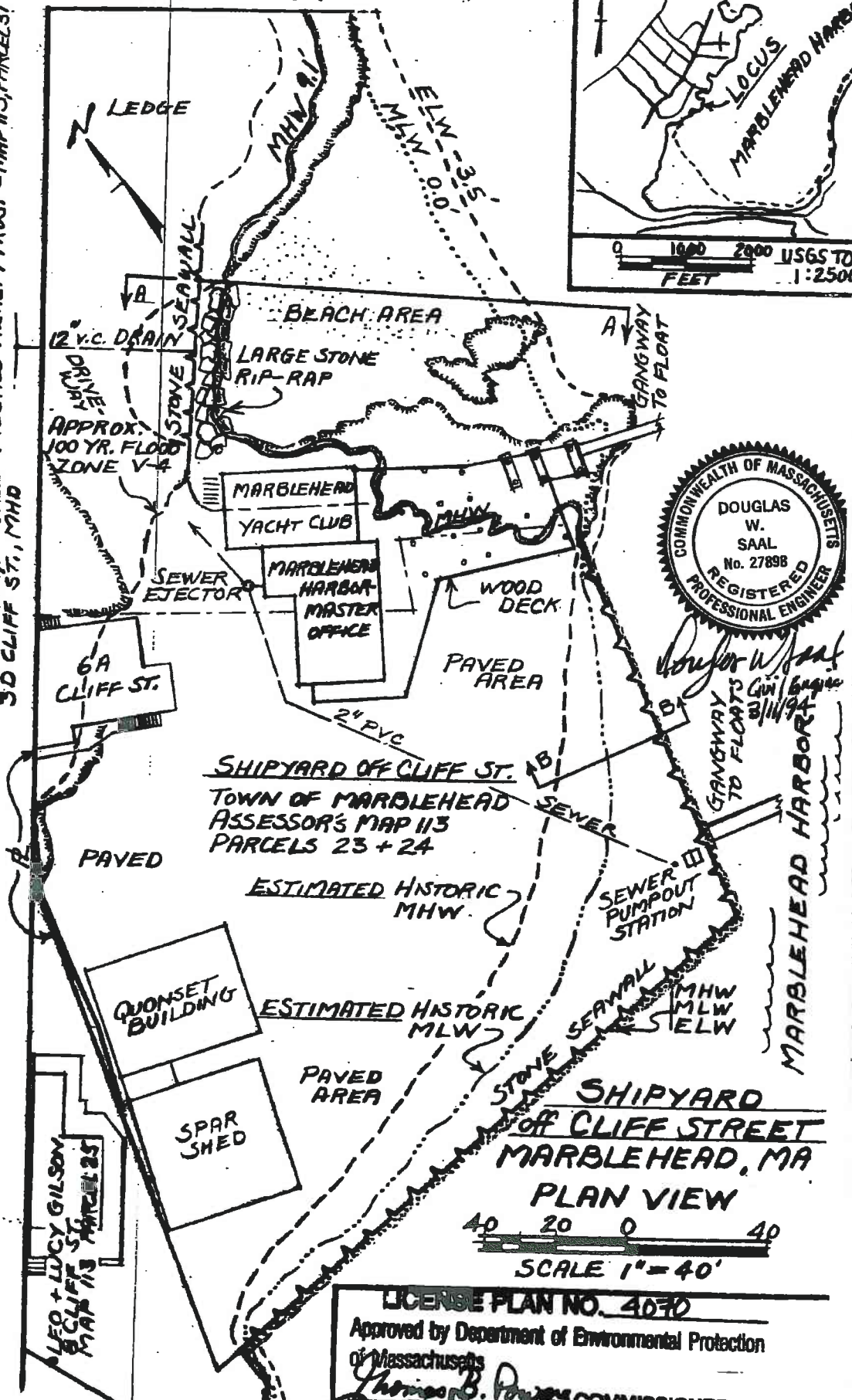
BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
040-113-000-024-100	040-113-000-024-100-LIC1A	4070	DEP	Marblehead	March 1995	Plans Accompanying Petition of Marblehead Harbors and Waters Board - Shipyard Off Cliff Street - Marblehead Harbor	2	Cliff Street	Seawall and Riprap
040-113-000-024-300	040-113-000-024-300-LIC3A	4070	DEP	Marblehead	March 1995	Plans Accompanying Petition of Marblehead Harbors and Waters Board - Shipyard Off Cliff Street - Marblehead Harbor	2	Cliff Street	Seawall and Riprap
040-148-000-077-100	040-148-000-077-100-LIC1A	5634	DEP	Marblehead	June 1995	Plan Accompanying Petition of the Town of Marblehead, MA - For Existing Seawalls, Ramps, Floats, Fill and Appurtenant Works on Marblehead Harbor	2	Ferry Lane	Existing Seawall

040-113-000-024-100
040-113-020-024-300

• RONALD H. HARRIS - 3A+5 CLIFF ST. • KEVIN M. KOSHY
9 CLIFF ST. 10534 MIDWAY AVE MAP113 PARCEL 31 1 CLIFF ST.
MAP113 PARCEL 30 CERRITOS, CA 90701 MAP113 PARCEL 32
• STEPHEN + MARCIA DECATUR - 3B CLIFF ST., MAP113 PARCEL 31
33 GREGORY ST., MHD.
• KATHRYN KALLAS-COYLE - 3C CLIFF ST., MAP113 PARCEL 31
5 STACEY COURT, MHD.
• SUSAN FINK, TRUSTEE - PICCALO REALTY TRUST - MAP113, PARCEL 31
3D CLIFF ST., MHD

CLIFF STREET

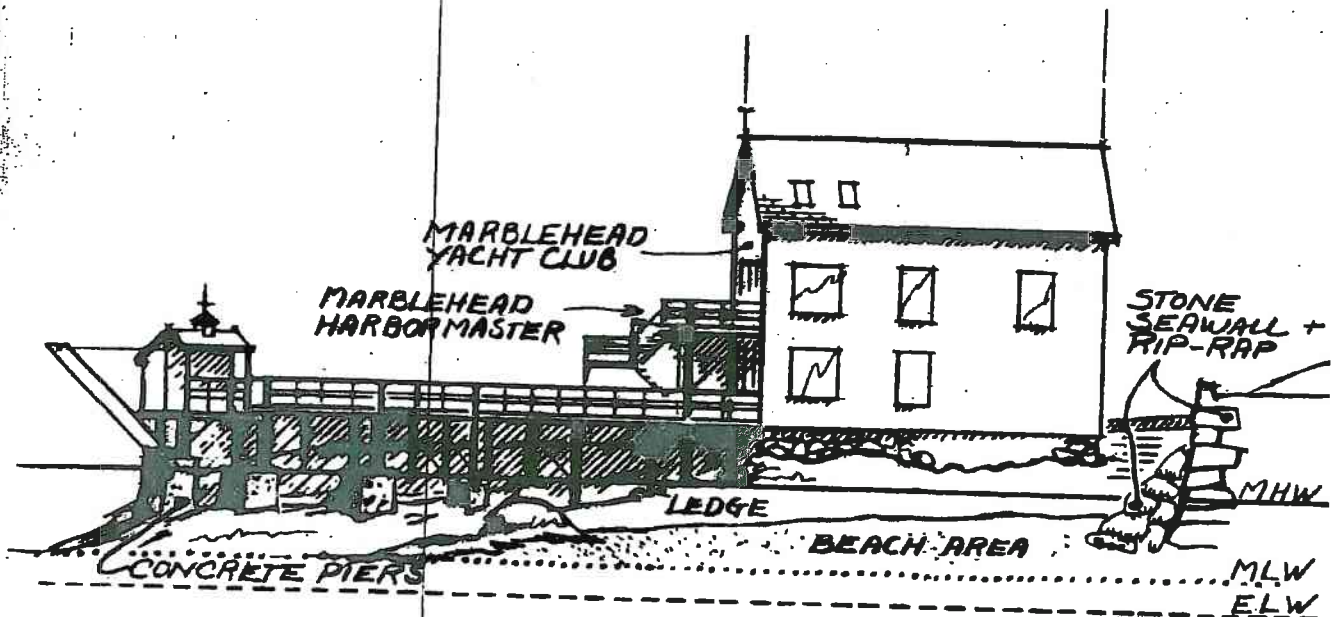
COMMERCIAL STREET



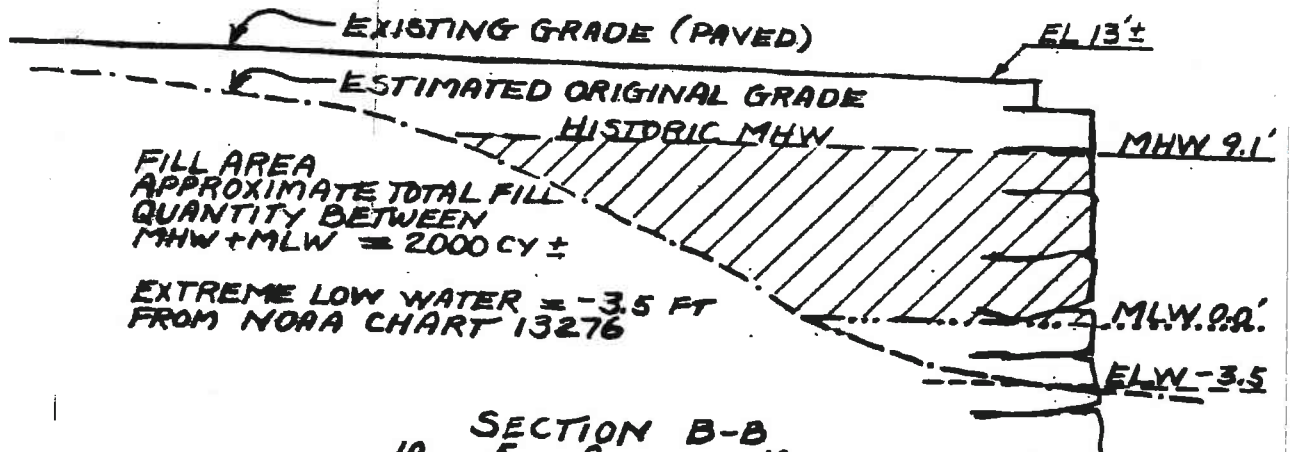
PLANS ACCOMPANYING PETITION OF
MARBLEHEAD HARBORS + WATERS BOARD
SHIPYARD OFF CLIFF STREET
MARBLEHEAD HARBOR

LICENSE PLAN NO. 4070
Approved by Department of Environmental Protection
of Massachusetts
Thomas B. Powers COMMISSIONER
DIVISION DIRECTOR
SECTION CHIEF
MAR 8 1995

040-113-000-024-100
040-113-000-024-300



NE ELEVATION A-A
20 15 10 0 20
SCALE 1" = 20'



SECTION B-B
10 5 0 10
SCALE 1" = 10'



Douglas W. Saal
Civil Engineer
3/11/94

LICENSE PLAN NO. 4070

Approved by Department of Environmental Protection
Date: MAR 8 1995

SHIPYARD
OF CLIFF STREET
MARBLEHEAD, MA.

ELEVATION A-A
SECTION B-B

MARCH 1994

Am

040-148-000-077-100



FRONT

ABUTTING OWNERS

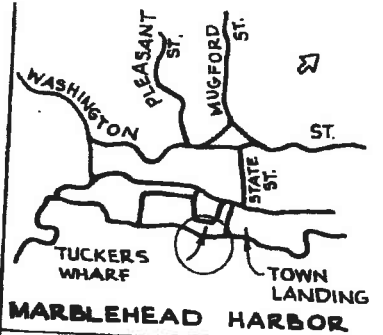
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MACINTYRE FAMILY
TRUST
23 WILLOW ST.
WESTWOOD, MA 02090

[61] = TUCKERS WHARF
LIMITED PARTNERSHIP
P.O. BOX 65
MARBLEHEAD MA 01945

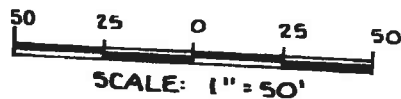
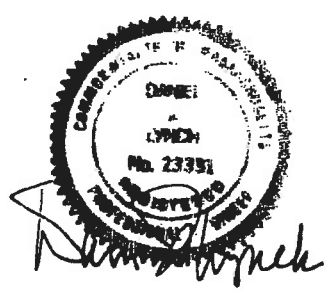
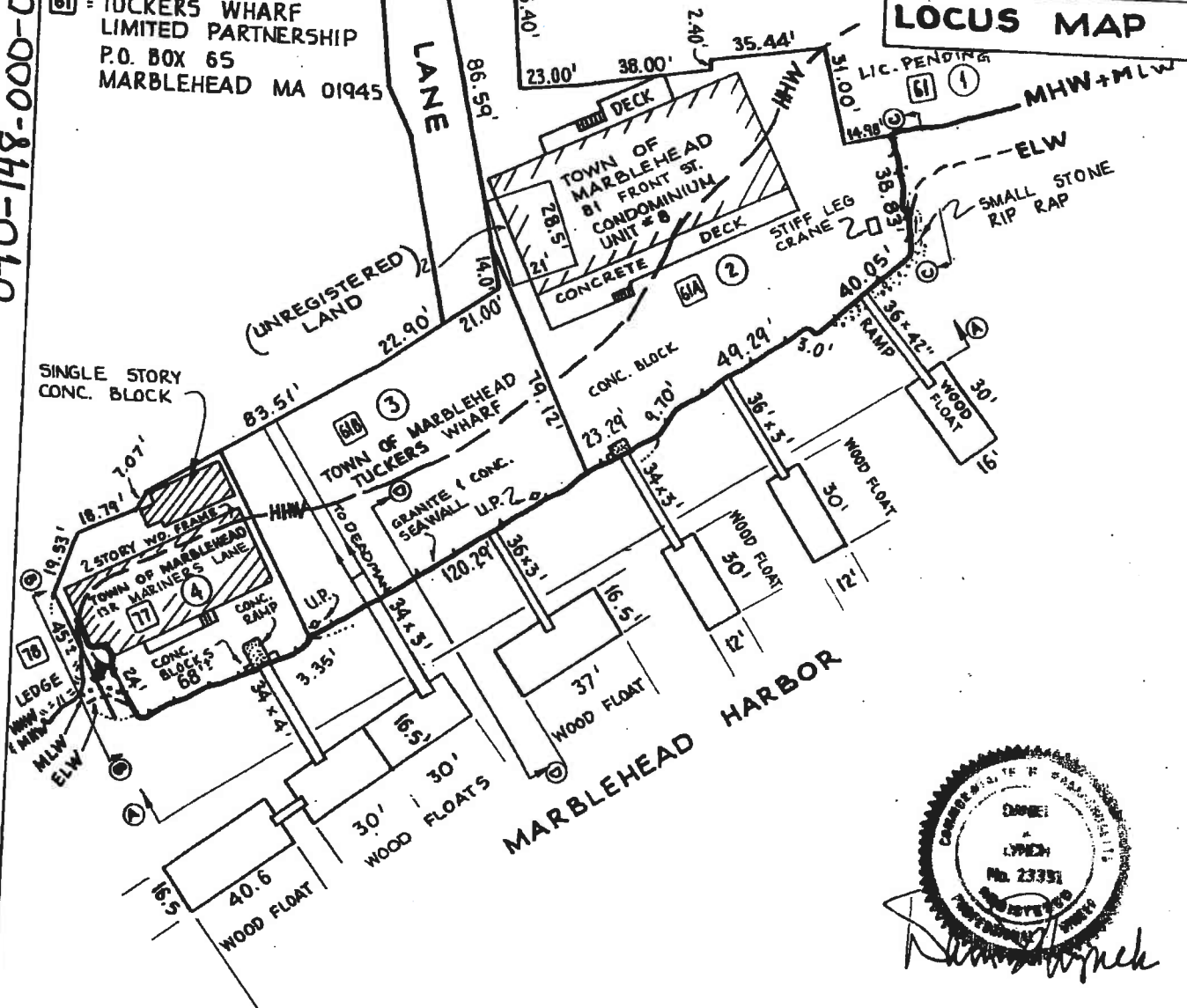
NOTE: THIS PLAN WAS NOT
MADE FROM AN INSTRUMENT
SURVEY AND CANNOT BE USED
TO DETERMINE EXACT PROPERTY
LINES.

[61] = ASSESSOR'S PARCEL NO.
MAP 148

① = LOT # FROM PLAN AT ESSEX
SOUTH REGISTRY OF DEEDS
PL.BK. 179 PL. 1 (SUBDIVISION
OF L.C. CASE 532A)



LOCUS MAP



PLAN ACCOMPANYING PETITION OF
THE TOWN OF MARBLEHEAD, MA
FOR EXISTING SEAWALLS, RAMPS, FLOATS,
FILL & APPURTENANT WORKS
ON MARBLEHEAD HARBOR

JUNE 7, 1995

D.J. LYNCH ENGINEERS & LAND SURVEYORS
P.O. BOX 1303 ~ MARBLEHEAD, MA 01945

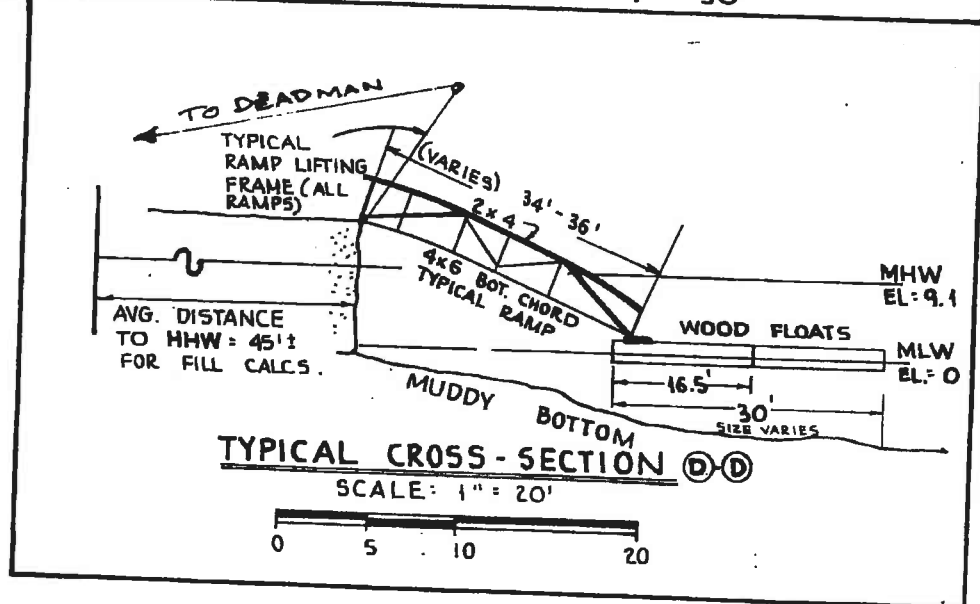
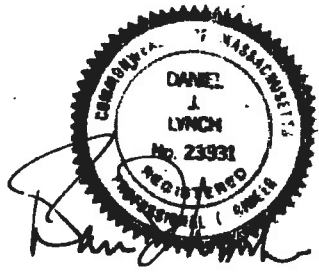
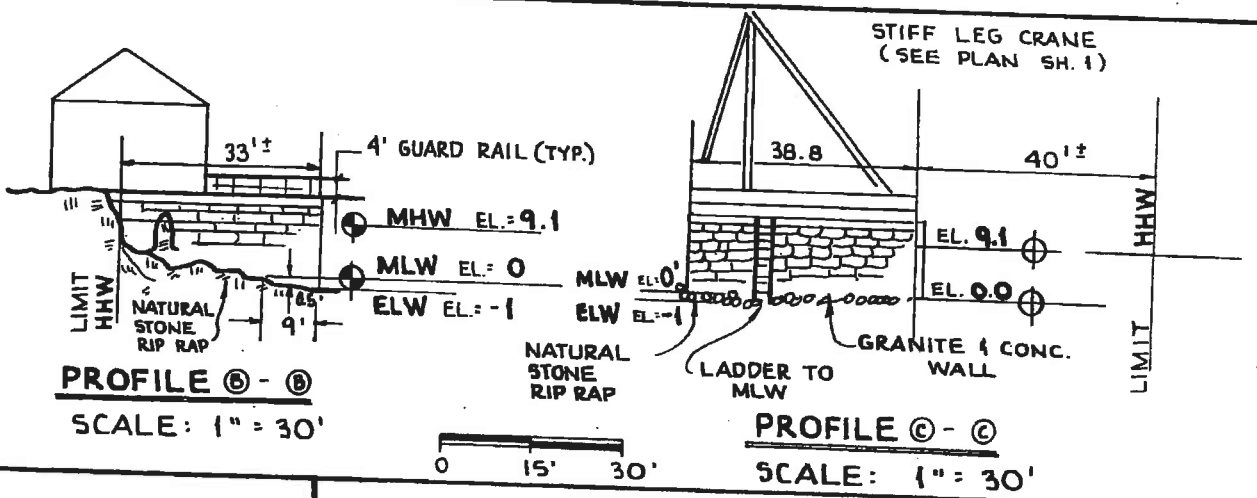
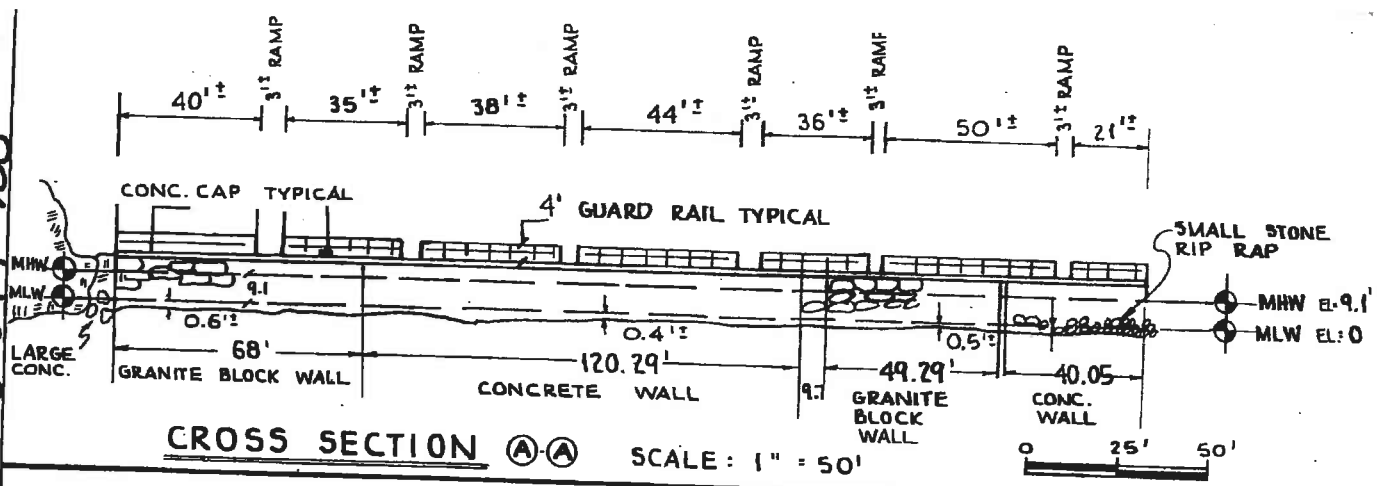
SHEET 1 OF 2

PLANNING 5634

Department of Environmental Protection

John W. Lynch
JUL 01 1996

040-148-000-841-040
001-470-000-77-100



ESTIMATED VOLUME OF FILL (TO HHW)=

$$\left(\frac{45' \times 9.1'}{2} \right) \times (295') \div 27 = \text{ABT. } 2,237 \text{ CY} \pm$$
SHEET 2 OF 2

PLAN ACCOMPANYING PETITION OF
 THE TOWN OF MARBLEHEAD, MA
 FOR EXISTING SEAWALLS, RAMPS,
 FLOATS, FILL AND APPERTENANT WORKS
 ON MARBLEHEAD HARBOR
 JUNE 7, 1995
 D.J. LYNCH ENGINEERS & LAND SURVEYORS
 P.O. BOX 1303 ~ MARBLEHEAD, MA 01945

USE PLAN 5634
 JUL 01 1996

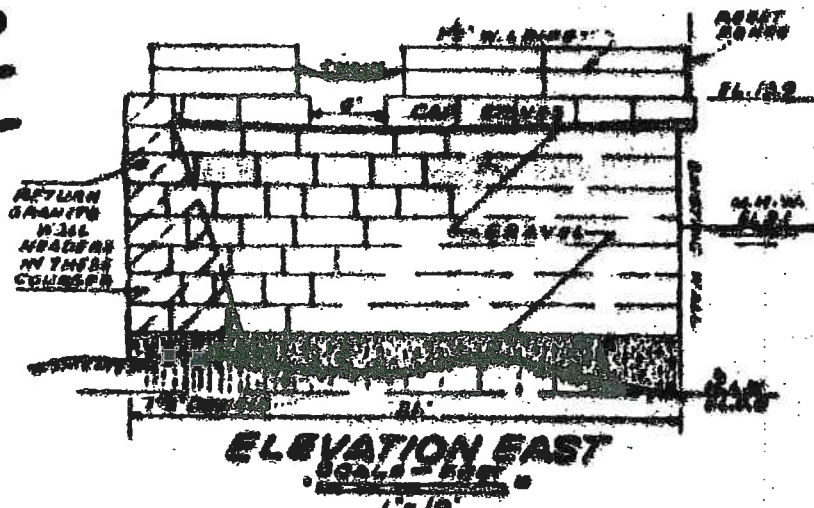
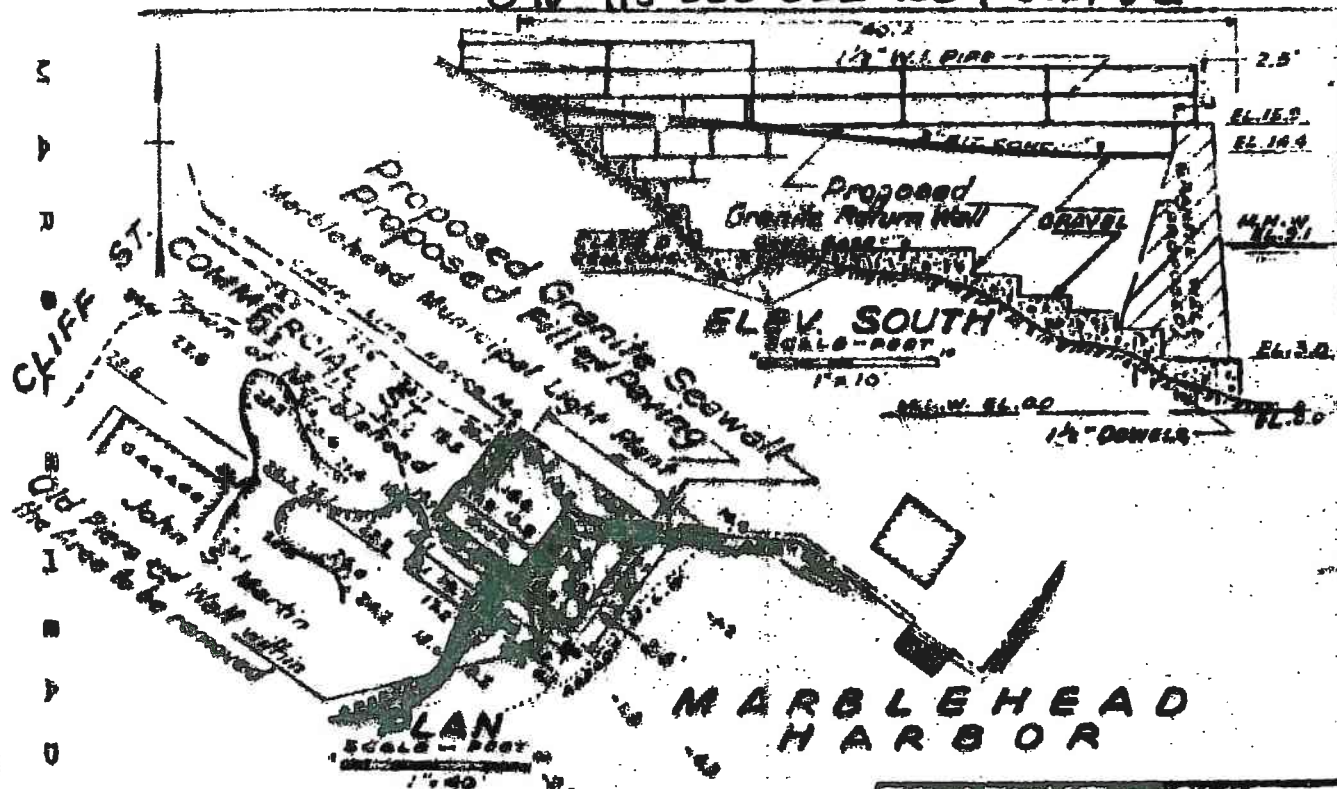
BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
040-113-000-022-100	040-113-000-022-100-COE1A	62-162	USACE	Marblehead	April 1962	Proposed Wharf Commercial Street - Marblehead Harbor - Marblehead, Mass. - Application by DPW of Massachusetts - Division of Waterways	1	Commercial Street	Wharf
040-113-000-023-100	040-113-000-023-100-COE1A	62-162	USACE	Marblehead	April 1962	Proposed Wharf - Commercial Street - Marblehead Harbor - Marblehead, MA - Application by DPW of Massachusetts - Division of Waterways	1	Commercial Street	Wharf
040-148-000-060-100	040-148-000-060-100-COE1A	66-126	USACE	Marblehead	April 1966	Proposed Harbor Improvements - Seawall and Timber Piers - Town Landing - Marblehead, Massachusetts - Application by DPW of Massachusetts - Division of Waterways	2	Front Street	Seawall
040-148-000-060-100	040-148-000-060-100-COE1B	75-186	USACE	Marblehead	September 1974	Proposed Harbor Improvements - Seawall and Timber Pier - Town Landing - Marblehead, Massachusetts - Application by the DPW of Massachusetts - Division of Waterways	2	Front Street	Seawall

070 616

A-MHEN-62-162

040-113-000-023-100

040-113-000-022-1009 JULY 62



NOTE

ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO PLANE OF MEAN LOW WATER. MINUS FIGURES SHOW DEPTHS BELOW THE SAME PLANE. JOINTS IN STONE-WORK TO BREAK WITHIN MINIMUM OF 6 INCHES. USE OF HEADERS AND OTHER INTERLOCKING METHODS TO BE MADE WHERE POSSIBLE. PIPE RAIL FENCE, DOWEL INSTALLATION IN CEMENT CONC. BASE, BIT. CONC. HAVING DRAINAGE, TO BE ACCORDING TO CURRENT STANDARD PRACTICE AND USE. LOCATION OF BRIDGE WORK SHOWN IN S&D

**PROPOSED WHARF
COMMERCIAL STREET
MARBLEHEAD HARBOR**

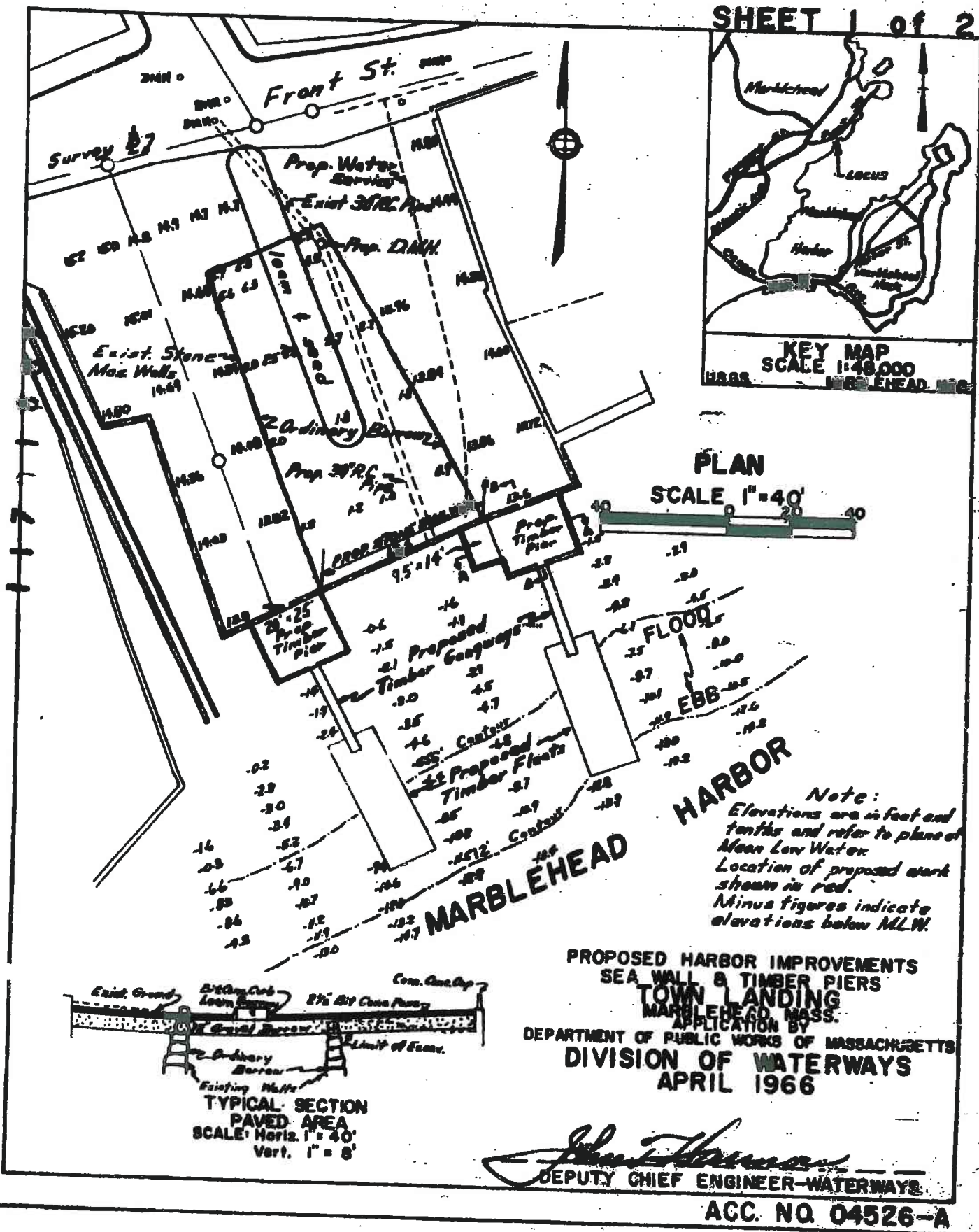
MARBLEHEAD, MASS.
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS, MASSACHUSETTS
DIVISION OF WATERWAYS
APRIL 1962

Robert B. McKinnon
CHIEF ENGINEER

0 3 9 0 7 4 1

040-148-000-060-100

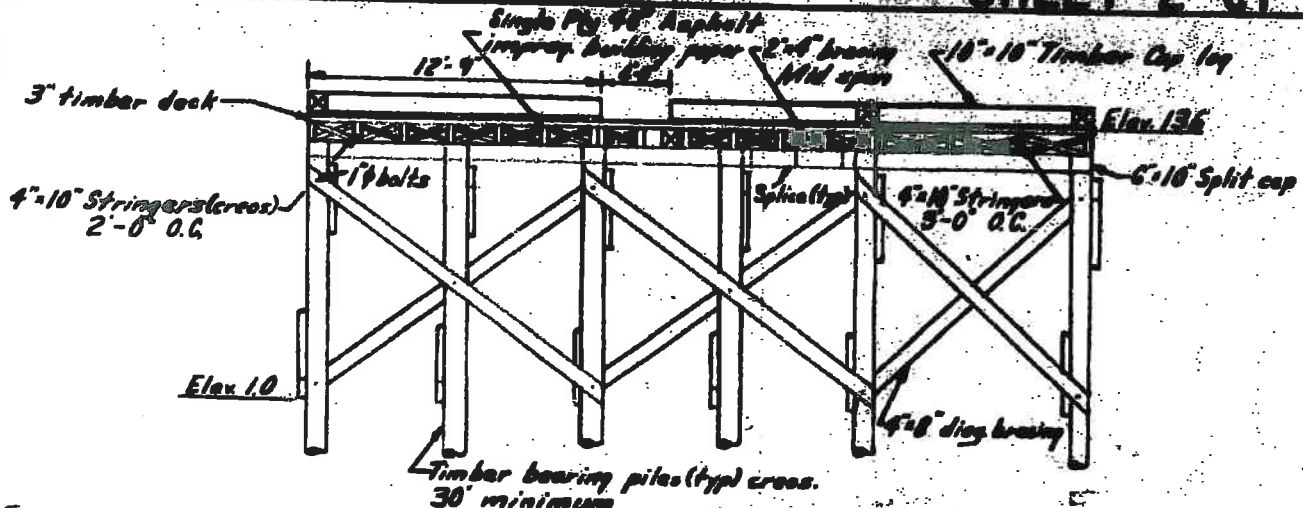
SHEET 1 of 2



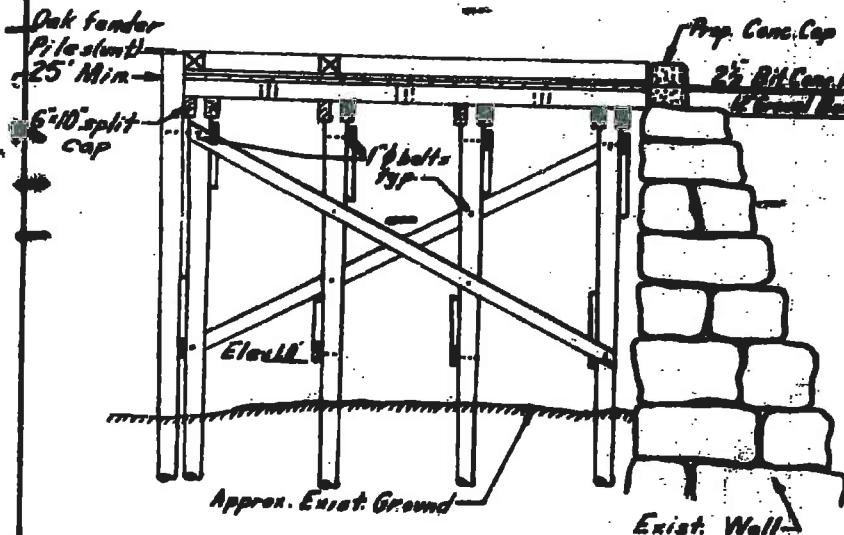
0 6 9 0 7 4 2

040-148-000-060-100

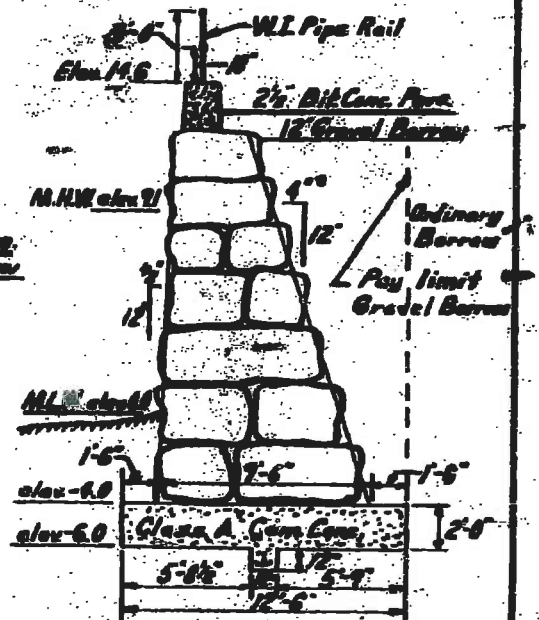
SHEET 2 of 2



SECTION A-A
SCALE 1/8" = 1'-0"



SECTION B-B
SCALE 1/8" = 1'-0"



TYPICAL SECTION
PROPOSED WALL
SCALE 1/8" = 1'-0"

PROPOSED HARBOR IMPROVEMENTS
SEA WALL & TIMBER PIERS

TOWN LANDING
MARBLEHEAD, MASS.

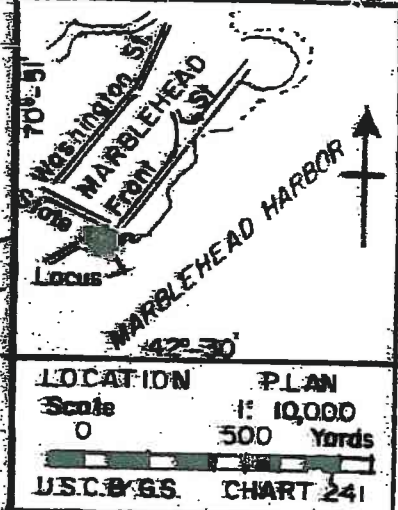
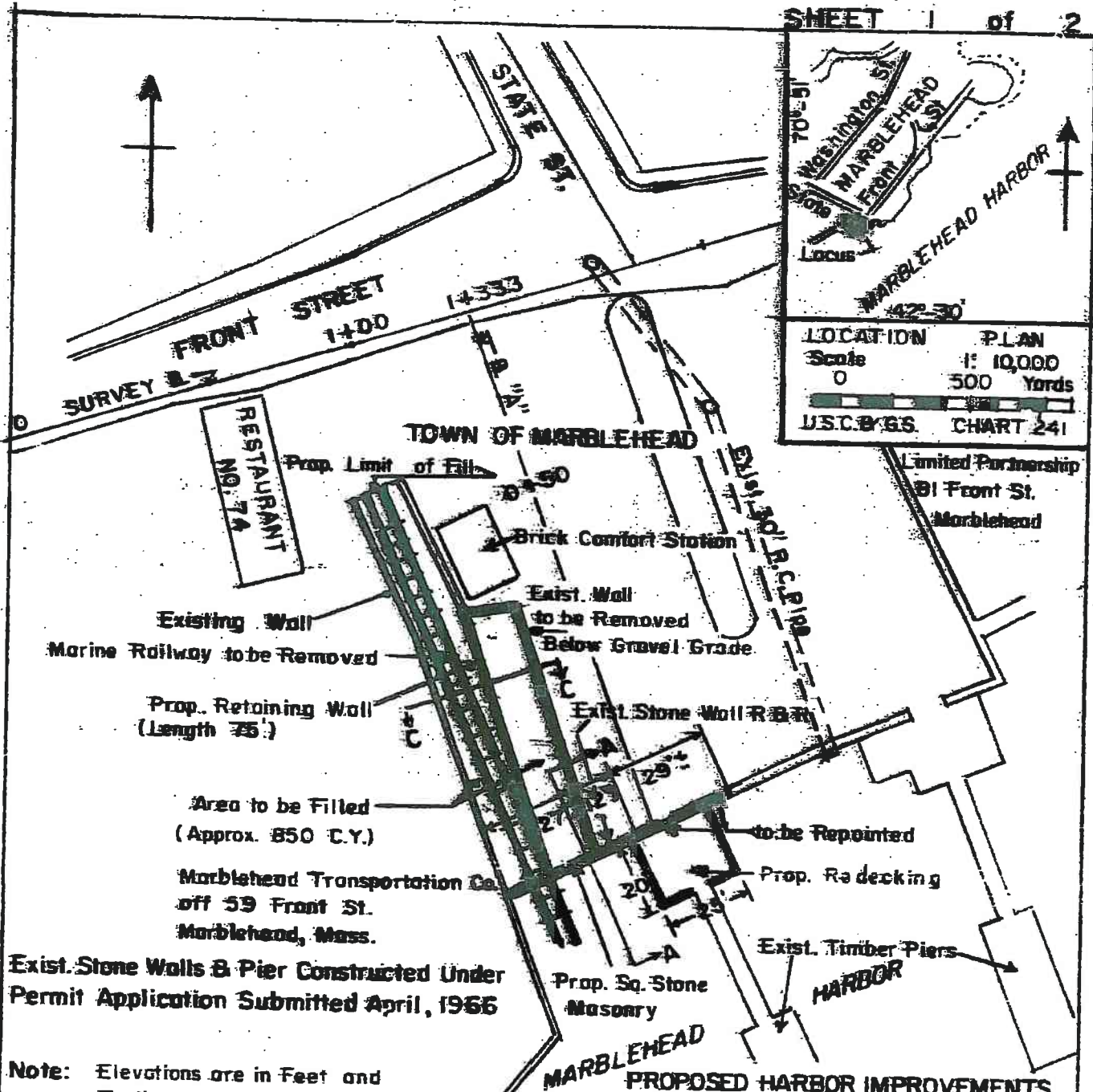
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS

DIVISION OF WATERWAYS
APRIL 1966

John T. Thomas
DEPUTY CHIEF ENGINEER - WATERWAYS

040-148-000-060-100

SHEET 1 of 2



Exist. Stone Walls & Pier Constructed Under Permit Application Submitted April, 1966

Note: Elevations are in Feet and Tenths and Refer to Plane of Mean Low Water.
Location of Proposed Work Shown in Red.
Minus Figures Indicate Elevations Below M.L.W.

PLAN SCALE: 1" = 40'

**PROPOSED HARBOR IMPROVEMENTS
SEA WALL & TIMBER PIER
TOWN LANDING**

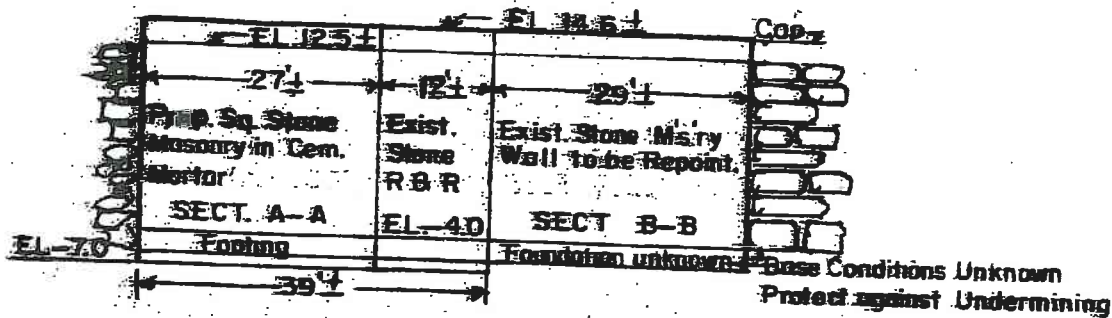
MARBLEHEAD, MASS.
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS
DIVISION OF WATERWAYS
SEPTEMBER 1974

Norman L. Diogoli
ACTING DEPUTY CHIEF ENGINEER-WATERWAYS

ACC NO 000000

040-148-000-060-100

SHEET 2 of 2

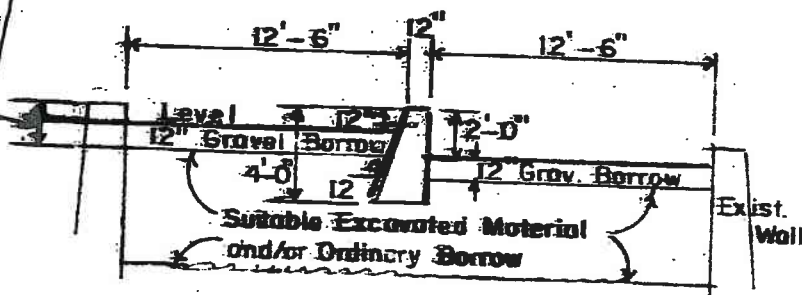


FRONT VIEW OF WALL

SCALE: HOR. 1" = 20'-0"

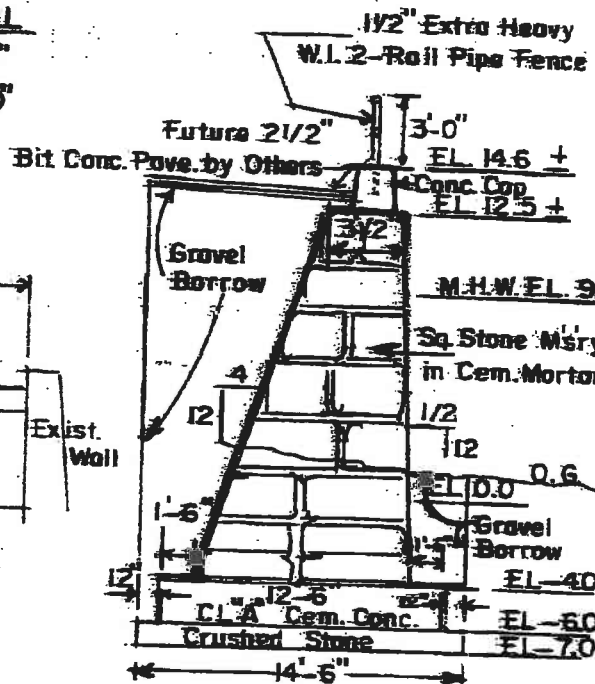
VERT. 1" = 15'-0"

Remove Exist. Wall to Gravel Grade



SECTION C-C

SCALE 1/8" = 1'-0"



SECTION A-A

TYPICAL WALL SECTION

PROPOSED WALL & WALL R.B.R.

SCALE: 1/8" = 1'-0"

PROPOSED HARBOR IMPROVEMENTS

SEA WALL & TIMBER PIER

TOWN LANDING

MARBLEHEAD, MASS.

APPLICATION BY

DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS

DIVISION OF WATERWAYS

SEPTEMBER 1974

Norman L. Diogoli
ACTING DEPUTY CHIEF ENGINEER-WATERWAYS

ACC. NO. 05021-B

Section III

Swampscott

Section III – Community Findings – Town of Swampscott

COMMUNITY DESCRIPTION

The Town of Swampscott consists of a land area of 3.05 square miles out of a total area of 6.74 square miles and had a population of 14,412 in the 2000 census. The Town is located on the North Shore of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline that is directly exposed to open ocean waves is 5 miles with the remaining shoreline semi-protected by offshore structures or landforms. The Town is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the Town were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the Town of Swampscott, there were 9 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 4 in Section III-B of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

STRUCTURE TYPE AND QUANTITY - Town of Swampscott

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Length
		A	B	C	D	F	
Bulkhead / Seawall	9		2	5	1	1	3830
Revetment							
Breakwater							
Groin / Jetty							
Coastal Dune							
Coastal Beach							
	9		2	5	1	1	3830

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the Town of Swampscott's case there are a total of 9 structures which would require approximately \$ 5.9 million to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event. To reconstruct these structures, identified in the preliminary survey as being in poor condition, an estimated \$ 1.1 million would be required to upgrade the Town's coastal protection.

STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Swampscott

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Bulkhead / Seawall	9		\$ 62,238	\$ 4,913,277	\$ 761,376	\$ 260,601	\$ 5,997,492
Revetment							\$ -
Breakwater							\$ -
Groin / Jetty							\$ -
Coastal Dune							\$ -
Coastal Beach							\$ -
	9	\$ -	\$ 62,238	\$ 4,913,277	\$ 761,376	\$ 260,601	\$ 5,997,492

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the Town of Swampscott, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Swampscott

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Town Owned	9		\$ 62,238	\$ 4,913,277	\$ 761,376	\$ 260,601	\$ 5,997,492
Commonwealth of Massachusetts							\$ -
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	9	\$ -	\$ 62,238	\$ 4,913,277	\$ 761,376	\$ 260,601	\$ 5,997,492

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section III-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the Town of Swampscott's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.

Section III - Swampscott

Part B

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

TOWN OF SWAMPSCOTT
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



**BCE**

Bourne Consulting Engineering
3 And Over
Dorchester, MA 01922
TEL (617) 552-0000 FAX (617) 552-0000



COASTAL STRUCTURE LOCATION PLAN

TOWN OF SWAMPSCOTT
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT

DECEMBER 2007



SCALE: 1" = 150'-0"



COASTAL STRUCTURE LOCATION PLAN

TOWN OF SWAMPSCOTT
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE Bourne Consulting Engineering
1 Paul Davis Ave.
Beverly, MA 01915
TEL: (978) 683-0000 FAX: (978) 683-0000

Structure Assessment Form

Town: SwampscottStructure ID: 071-001-000-188-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Kings Beach

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$2,999,040.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
<u>1420</u>		<u>V2</u>	<u>14</u>
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
<u>Bulkhead/ Seawall</u>	<u>Concrete</u>	<u>Over 15 Feet</u>
Secondary Type:	Secondary Material:	Secondary Height:
<u>Coastal Beach</u>	<u>Sand</u>	<u>Under 5 Feet</u>



Structure Summary :

A cast in place concrete seawall with wave return face. The beach in front of wall was previously nourished. There are cracks in cap, cracks and spalling of face. The top of footing is exposed (typical). The seawall is adjacent to the road.

*Condition***C***Rating*

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***II***Rating*

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-001-000-188-100-PHO1A.JPG071-001-000-188-100-PHO1B.JPG

Structure Documents:

DEPOctober 31,Plan Accompanying071-001-000-188-100-LIC1A

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-019-000-278A-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Blaney Beach - West Wall

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$930,600.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
470		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall of varying height. There are some cracks and a few spalls but in fair condition. It is adjacent to the road.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-019-000-278A-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-019-000-278A-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Blaney Beach - Center Wall

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$41,745.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
275		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A mortared rubble stone seawall at the top of the beach, with concrete cap in satisfactory condition. Some missing mortar but no signs of stone movement. Adjacent to a park.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-019-000-278A-200-PHO2A.JPG

Structure Documents:

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-019-000-278A-300**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Blaney Beach - East Wall

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unkown

Estimated Reconstruction/Repair Cost:

\$99,884.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
235		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A low mortared rubble stone seawall at a parking lot. There is some stone movement at boat ramp corner and some missing mortar but in fair condition.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-019-000-278A-300-PHO3A.JPG

Structure Documents:

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-021-000-036-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Whales Beach

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$280,830.00

Length:

370

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V2

FIRM Map Elevation:

14

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall with cap overlay repair. Some spalling of the face and two spalls on the cap and a few cap cracks, but functionally okay. A park is located behind the wall. There is minor erosion due to overtopping west end. It is in fair condition.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

071-021-000-036-100-PHO1A.JPG**071-021-000-036-100-PHO1B.JPG**

Structure Documents:

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-021-000-038-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

East Lincoln House Avenue

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$20,493.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
135		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A cast in place concrete seawall at the top edge of the beach. Some overtopping erosion at east end, and a park behind wall. It is in good condition with very minor scaling.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-021-000-038-100-PHO1A.JPG

Structure Documents:

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-021-000-040-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Cassidy Park

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$602,923.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
380		V2	13
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

Under 5 Feet

Structure Summary :

A mortared stone seawall with concrete cap and partial length concrete face overlay. There are a few sinkholes in sidewalk behind the wall and road. There is a hole through wall at a larger sinkhole location, but the wall is in generally fair condition. The toe of the stone revetment is unravelled and in poor condition.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

071-021-000-040-100-PHO1A.JPG

Structure Documents:

DEP**N/A****Plan Accompanying****071-021-000-040-100-LIC1A**

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-030-000-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean Avenue - Phillips Beach

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

1956

Estimated Reconstruction/Repair Cost:

\$260,601.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
265		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

A failed concrete seawall. The locating of points was based on a visible footing. The backfill is gone and wall is collapsed. The area has no nearby buildings.

*Condition***F***Rating***Critical***Level of Action***Immediate***Description*

Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity. Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity. Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

071-030-000-002-100-PHO1A.JPG**071-030-000-002-100-PHO1B.JPG**

Structure Documents:

MA-DCR**July 1956****Proposed Seawall****071-030-000-002-100-DCR1A**

Structure Assessment Form

Town: **Swampscott**Structure ID: **071-031-000-011-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Atlantic Avenue at Town Line

Date:

6/18/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Swampscott

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$761,376.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
280		V2	18
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

5 to 10 Feet

Structure Summary :

A concrete seawall with 2 sections collapsed with large armor stone behind the wall. A beach in front of the wall, with a park behind.

*Condition***D***Rating***Poor***Level of Action***Major***Description*

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description***No Inshore Structures or Residential Dwelling Units Present**

Structure Images:

071-031-000-011-100-PHO1A.JPG

Structure Documents:

Section III - Swampscott

Part C

Structure Photographs

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
071-001-000-188-100	071-001-000-188-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-001-000-188-100	071-001-000-188-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-019-000-278A-100	071-019-000-278A-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-019-000-278A-200	071-019-000-278A-200-PHO2A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-019-000-278A-300	071-019-000-278A-300-PHO3A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-021-000-036-100	071-021-000-036-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-021-000-036-100	071-021-000-036-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-021-000-038-100	071-021-000-038-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-021-000-040-100	071-021-000-040-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-030-000-002-100	071-030-000-002-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-030-000-002-100	071-030-000-002-100-PHO1B.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
071-031-000-011-100	071-031-000-011-100-PHO1A.JPG		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



071-001-000-188-100-PHO1A



071-001-000-188-100-PHO1B



071-019-000-278A-100-PHO1A



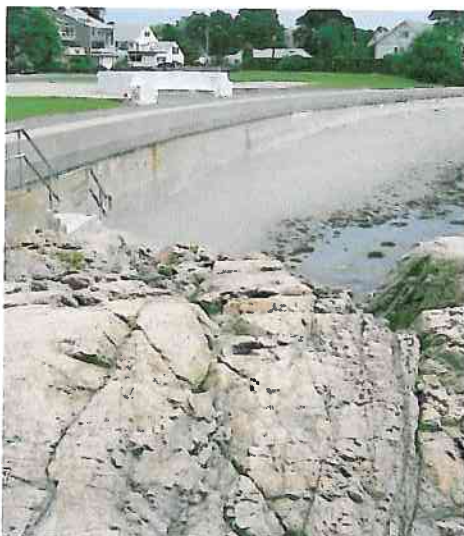
071-019-000-278A-200-PHO2A



071-019-000-278A-300-PHO3A



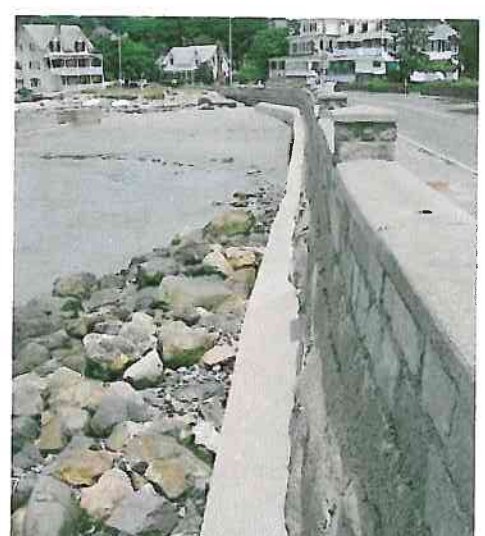
071-021-000-036-100-PHO1A



071-021-000-036-100-PHO1B



071-021-000-038-100-PHO1A



071-021-000-040-100-PHO1A

Massachusetts Coastal Infrastructure and Assessment



071-030-000-002-100-PHO1A



071-030-000-002-100-PHO1B



071-031-000-011-100-PHO1A

Section III - Swampscott

Part D

Structure Documents

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

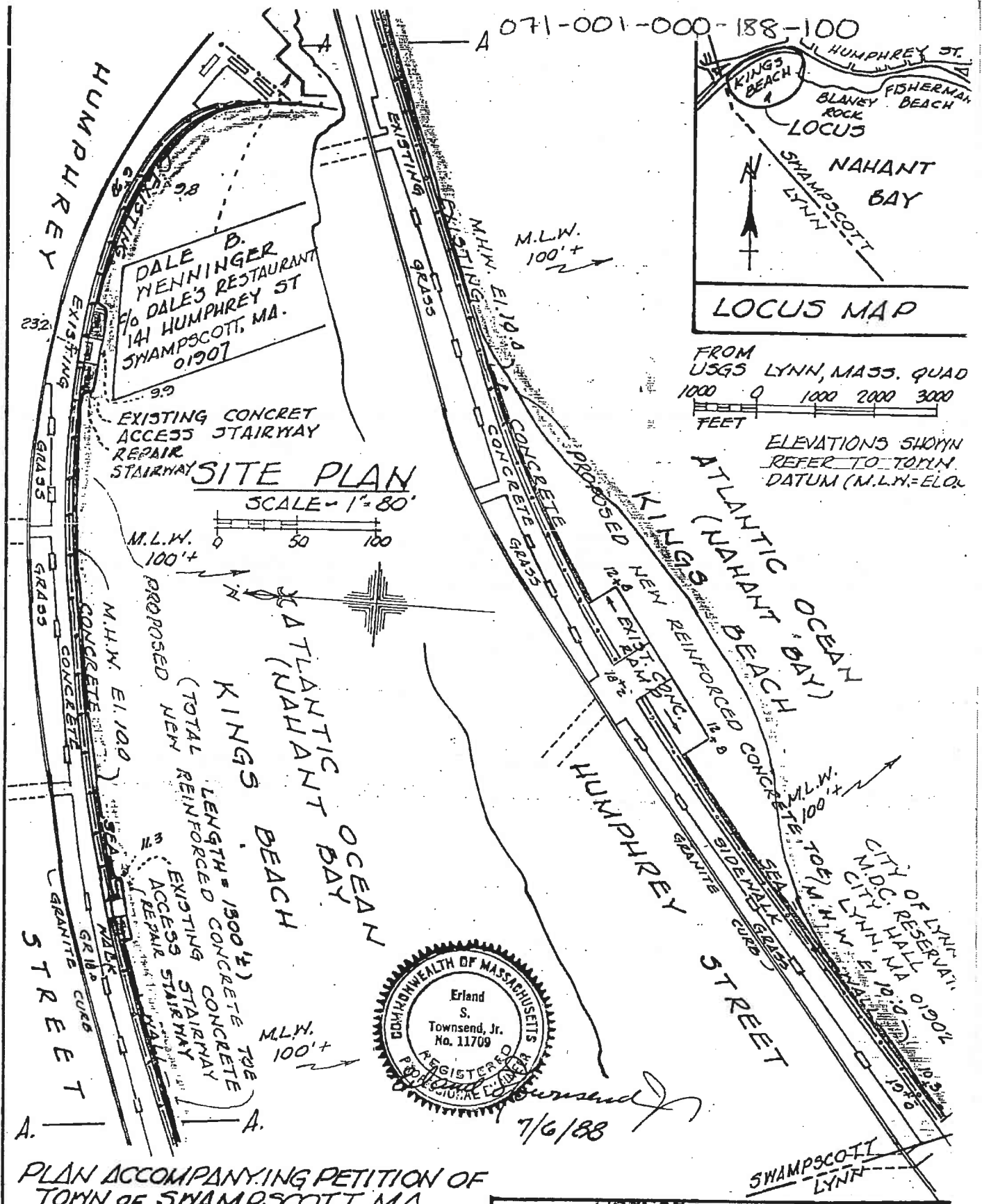
TOWN: SWAMPSCOTT
SOURCE: Town of Swampscott
LOCATION: TOWN
DATE OF RESEARCH: JULY 2007

No Town Documents for the Town of Swampscott

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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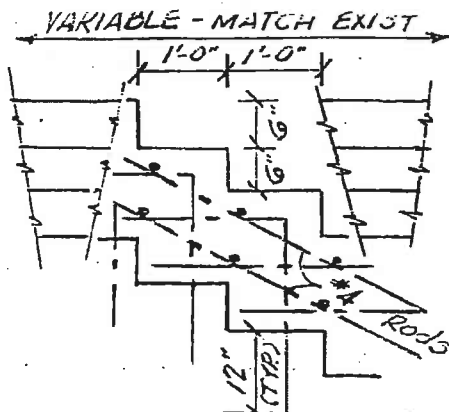
BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
071-030-000-002-100	071-030-000-002-100-DOR1A	1616	MA-DCR	Swampscott	July 1956	Proposed Seawall Repairs - Phillips Beach - Swampscott, Massachusetts - Prepared for the DPW of Massachusetts - Division of Waterways	1	Phillips Beach	Seawall

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
071-001-000-188-100	071-001-000-188-100-LIC1A	2121	DEP	Swampscott	October 31, 1989	Plan Accompanying Petition of Town of Swampscott, Ma. To Construct and Maintain Seawall Repairs In Nahant Bay	2	Nahant Bay	Seawall
071-021-000-040-100	071-021-000-040-100-LIC1A	2024	DEP	Swampscott	N/A	Plan Accompanying Petition of Town of Swampscott, MA - To Construct and Maintain Seawall Repairs In Nahant Bay - Swampscott - County of Essex - Massachusetts	2	Blaney Beach	Seawall



PLAN ACCOMPANYING PETITION OF
TOWN OF SWAMPSCOTT, MA.
TO CONSTRUCT AND MAINTAIN
SEAWALL REPAIRS
IN
NAHANT BAY
SWAMPSCOTT - COUNTY OF ESSEX - MASS
SCALES - AS NOTED
T & M ENGR. ASSOC., INC.
83 PINE ST. - PEABODY, MA. Sheet 1 of 2

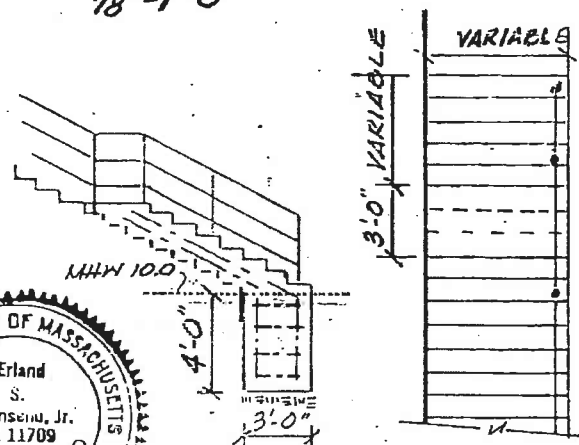
LICENSE PLAN NO. 2121
Approved by Department of Environmental Protection
of Massachusetts
COMMISSIONER
SECTION CHIEF
DATE
OCT 31 1988



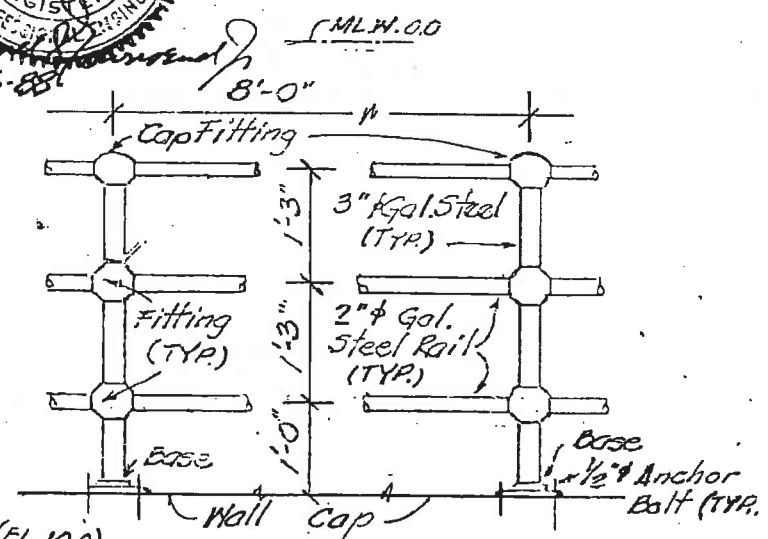
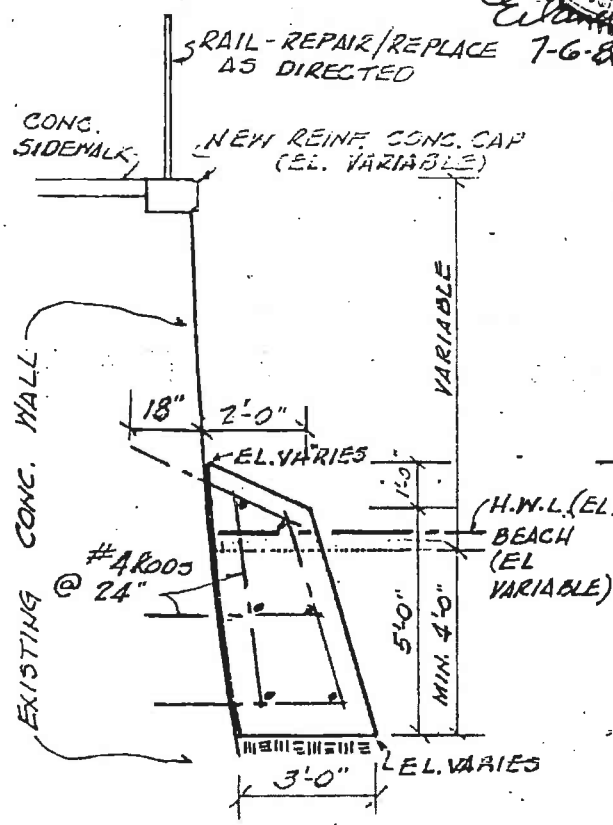
TYPICAL SECT.
CONC. STAIRWAY
 $\frac{1}{2}" = 1'-0"$

071-001-000-188-100

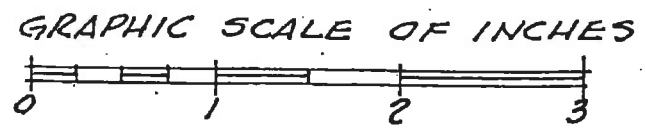
TYPICAL DETAILS
CONCRETE STAIRWAY
REPAIRS
 $\frac{1}{8}" = 1'-0"$



TYPICAL DETAIL
CONCRETE TOE
 $\frac{1}{4}" = 1'-0"$



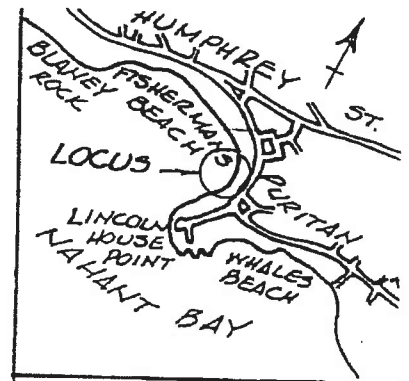
TYPICAL RAIL DETAIL
 $\frac{1}{2}" = 1'-0"$



PLAN ACCOMPANYING PETITION OF
TOWN OF SHAMPSCOTT, MA.
TO CONSTRUCT AND MAINTAIN
SEAWALL REPAIRS
IN
NAHANT BAY
SHAMPSCOTT - COUNTY OF ESSEX - MASS.
SCALES - AS NOTED
T&M ENGR. ASSOC., INC.
83 DINE ST., DEARBODY MA. 01938

LICENSE PLAN NO. 2121
Approved by Department of Environmental Protection
Date: OCT 31 1989

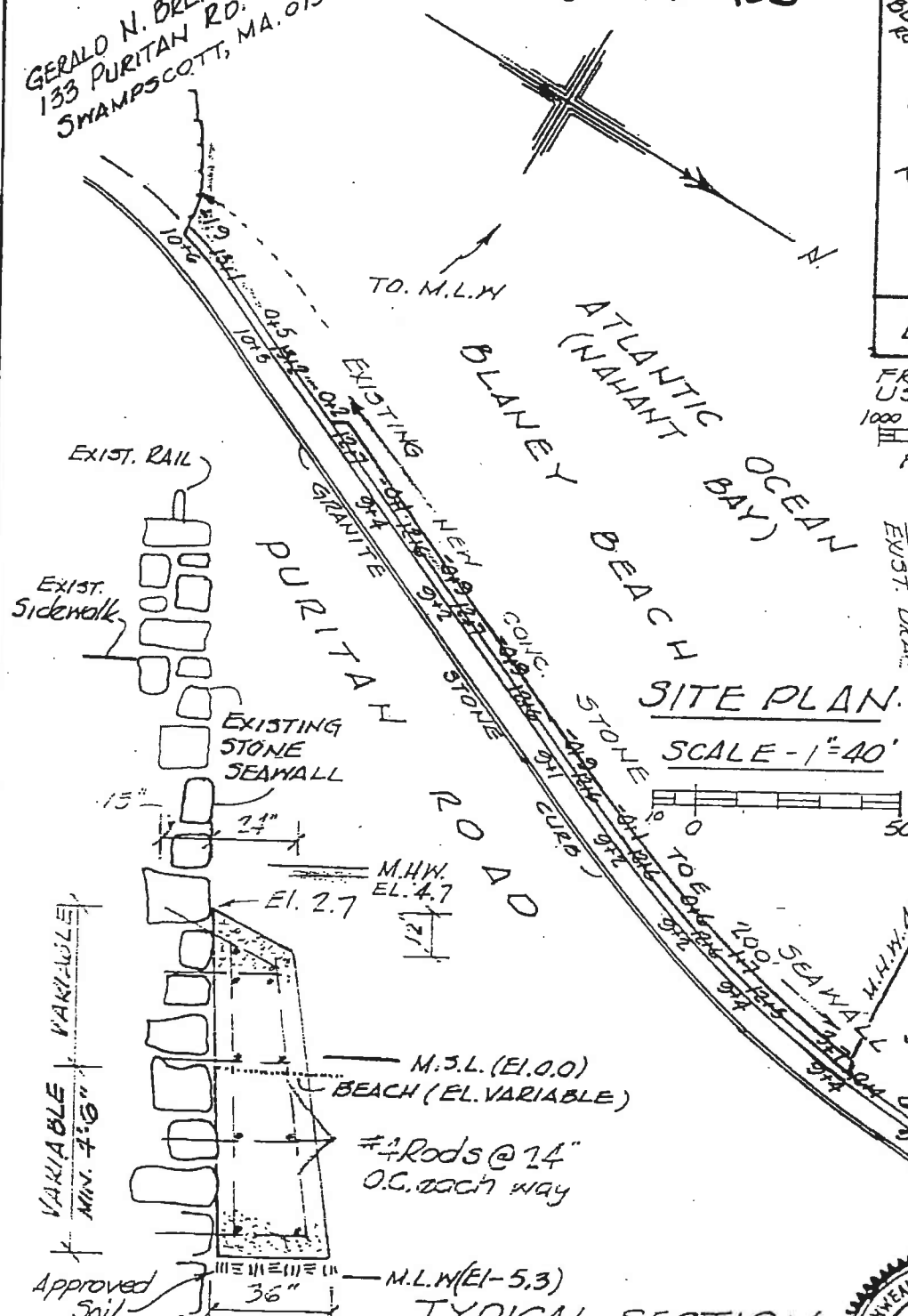
GERALD N. BRENNER
133 PURITAN RD.
SWAMPSCOTT, MA. 01907 071-021-000-040-100



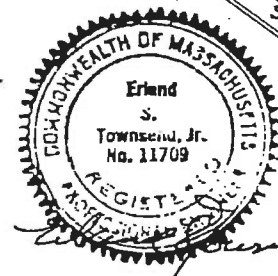
LOCUS MAP

FROM USGS - LYNN, MASS. QUAD
1000 0 1000 2000 3000
FEET

ELEVATIONS SHOWN
REFER TO USGS
DATUM (MSL-EL.0.0)



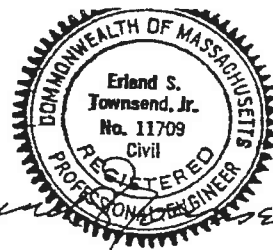
TYPICAL SECTION
CONCRETE TOE
SCALE - 1/4"=1'-0"



PLAN ACCOMPANYING PETITION OF
TOWN OF SWAMPSCOTT, MA.
TO CONSTRUCT AND MAINTAIN
SEAWALL REPAIRS
IN
NAHANT BAY
SWAMPSCOTT - COUNTY OF ESSEX - MASS.
T&M ENGR. ASSOC., INC.

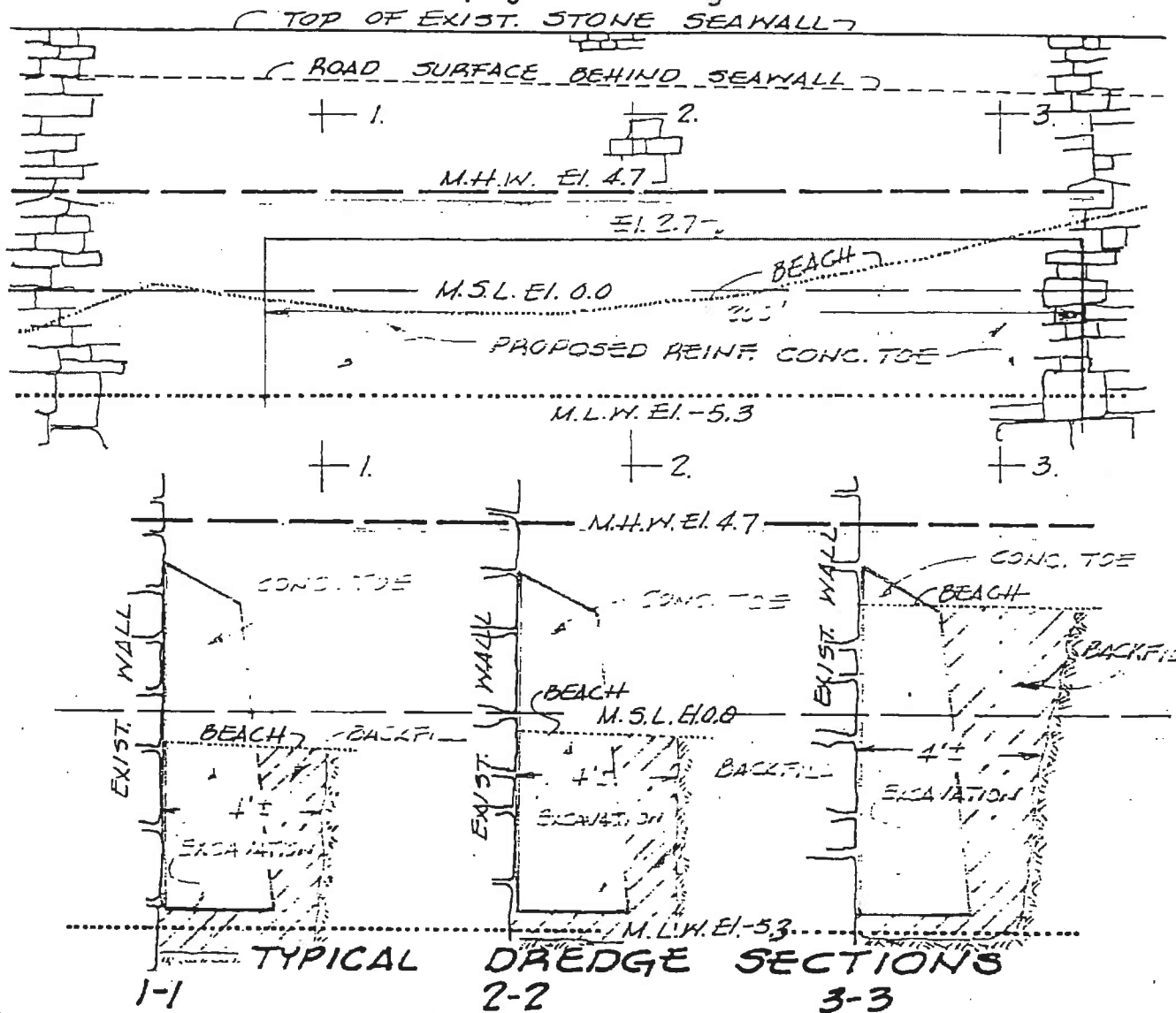
LICENSE PLAN NO. 2024
Approved by Department of Environmental Quality Engineering
of Massachusetts
COMMISSIONER
DIVISION DIRECTOR
SECTION CHIEF

071-021-000-040-100



ELEVATION & PROFILE SEA WALL & CONCRETE TOE

SCALES: 10 0 50 HOR. 1"=40'
1 0 5 VERT. 1"=4'-0"



PLAN ACCOMPANYING PETITION OF
TOWN OF SYCAMPOSCOTT, MA.
TO CONSTRUCT AND MAINTAIN
SEAWALL REPAIRS
IN
NAHANT BAY
SYCAMPOSCOTT-COUNTY OF ESSEX-MASS.
SCALES - AS NOTED.

LICENSE PLAN NO. 2024
Approved by Department of Environmental Quality Engineer
FEB 19 1990

TOWN: SWAMPSCOTT
SOURCE: US ACOE
LOCATION: CONCORD, MA
DATE OF RESEARCH: AUGUST 2007

No USACE Permits for the Town of Swampscott

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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Section IV

Lynn

Section IV – Community Findings – City of Lynn

COMMUNITY DESCRIPTION

The City of Lynn consists of a land area of 10.81 square miles out of a total area of 13.5 square miles and had a population of 89,050 in the 2000 census. The City is located on the North Shore of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline that is directly exposed to open ocean waves is 4 miles with the remaining shoreline semi-protected by offshore structures or landforms. The City is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the City were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the City of Lynn, there were 11 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 5 in Section IV-B of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

STRUCTURE TYPE AND QUANTITY - City of Lynn

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Length
		A	B	C	D	F	
Bulkhead / Seawall	7		3	2		2	9730
Revetment	4		1	1	2		4505
Breakwater							
Groin / Jetty							
Coastal Dune							
Coastal Beach							
	11		4	3	2	2	14235

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the City of Lynn's case there are a total of 11 structures which would require approximately \$ 24.7 million to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event. To reconstruct these structures, identified in the preliminary survey as being in poor condition, an estimated \$ 14 million would be required to upgrade the City's coastal protection.

**MASSACHUSETTS COASTAL INFRASTRUCTURE
INVENTORY AND ASSESSMENT PROJECT**

STRUCTURE REPAIR / RECONSTRUCTION COST - City of Lynn

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Bulkhead / Seawall	7		\$ 941,754	\$ 8,814,135		\$ 7,340,850	\$ 17,096,739
Revetment	4		\$ 308,662	\$ 445,421	\$ 6,884,783		\$ 7,638,866
Breakwater							\$ -
Groin / Jetty							\$ -
Coastal Dune							\$ -
Coastal Beach							\$ -
	11	\$ -	\$ 1,250,416	\$ 9,259,556	\$ 6,884,783	\$ 7,340,850	\$ 24,735,605

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the City of Lynn, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - City of Lynn

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Town Owned	11		\$ 1,250,416	\$ 9,259,556	\$ 6,884,783	\$ 7,340,850	\$ 24,735,605
Commonwealth of Massachusetts							\$ -
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	11	\$ -	\$ 1,250,416	\$ 9,259,556	\$ 6,884,783	\$ 7,340,850	\$ 24,735,605

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section IV-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

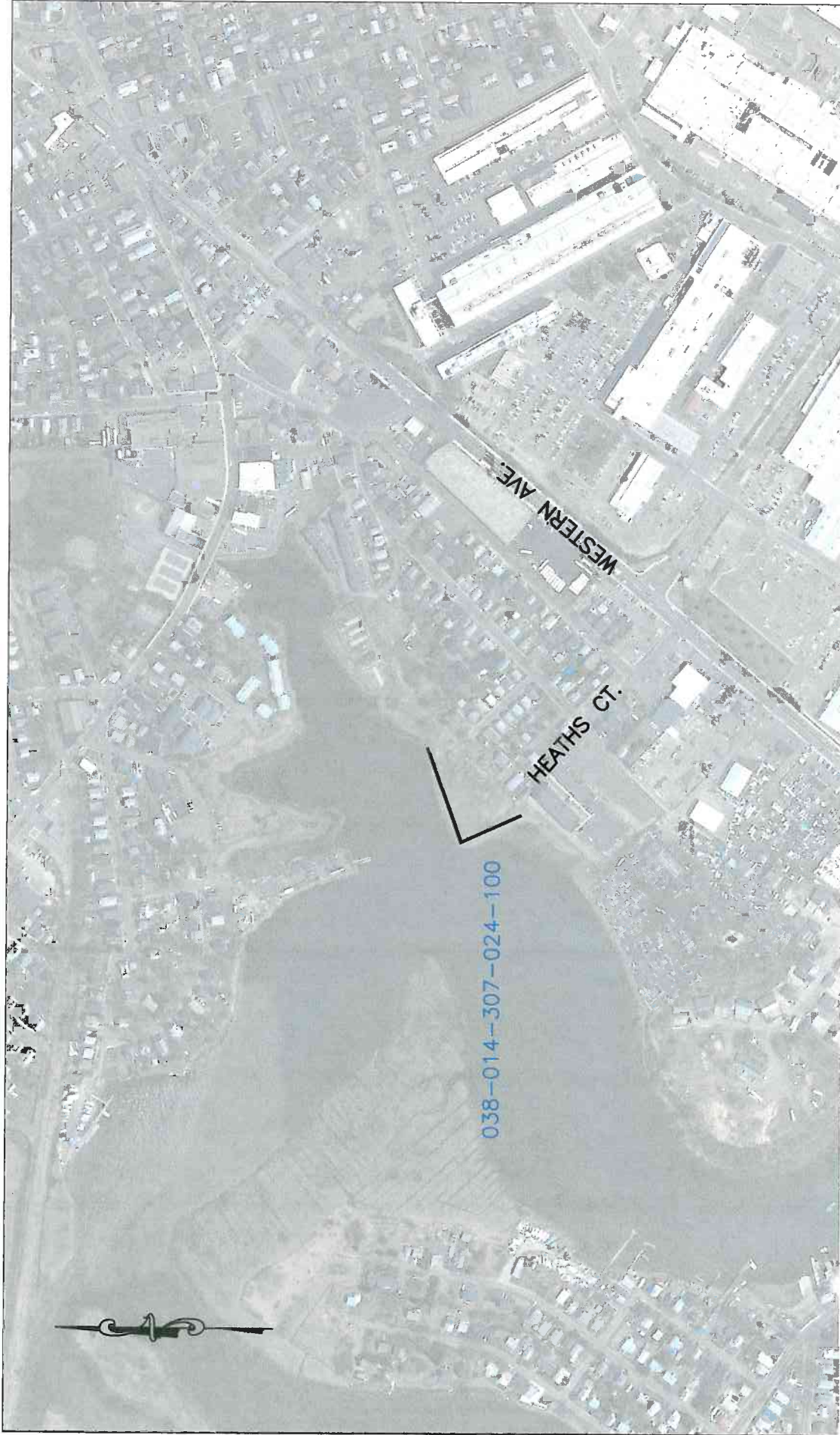
The enclosed reports and associated documents reflects the City of Lynn's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.

Section IV - Lynn

Part B

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

CITY OF LYNN
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



SCALE: 1" = 150'-0"

**BCE**

Bourne Consulting Engineering
3 Paul Street
Lynn, MA 01905
TEL (978) 555-4000 FAX (978) 555-4000



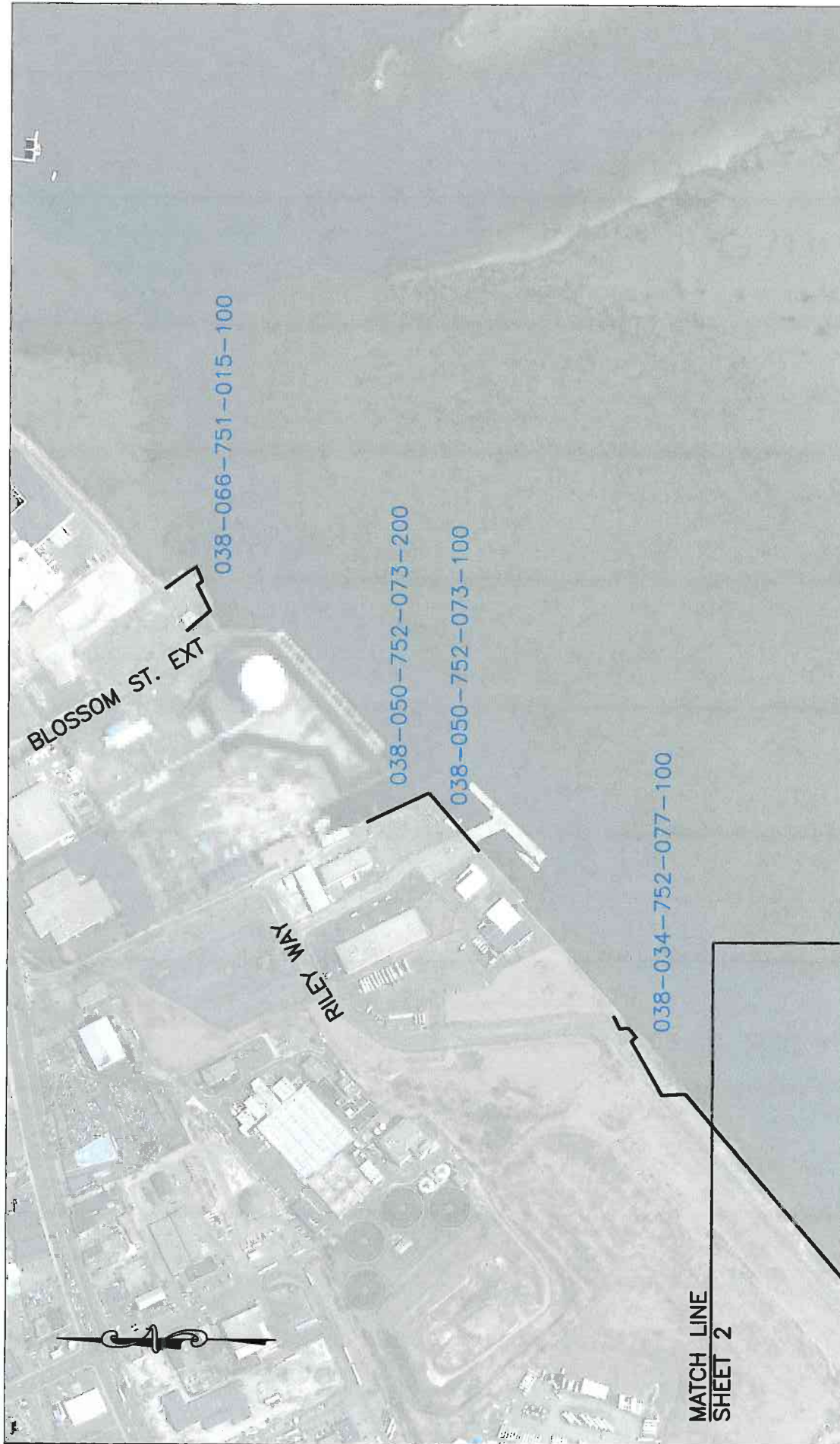
COASTAL STRUCTURE LOCATION PLAN

CITY OF LYNN
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



**BCE**

Bourne Consulting Engineering
3 Paul Drive
Bourne, MA 01939
TEL (508) 533-0000 FAX (508) 533-0000



MATCH LINE
SHEET 2

COASTAL STRUCTURE LOCATION PLAN

CITY OF LYNN
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



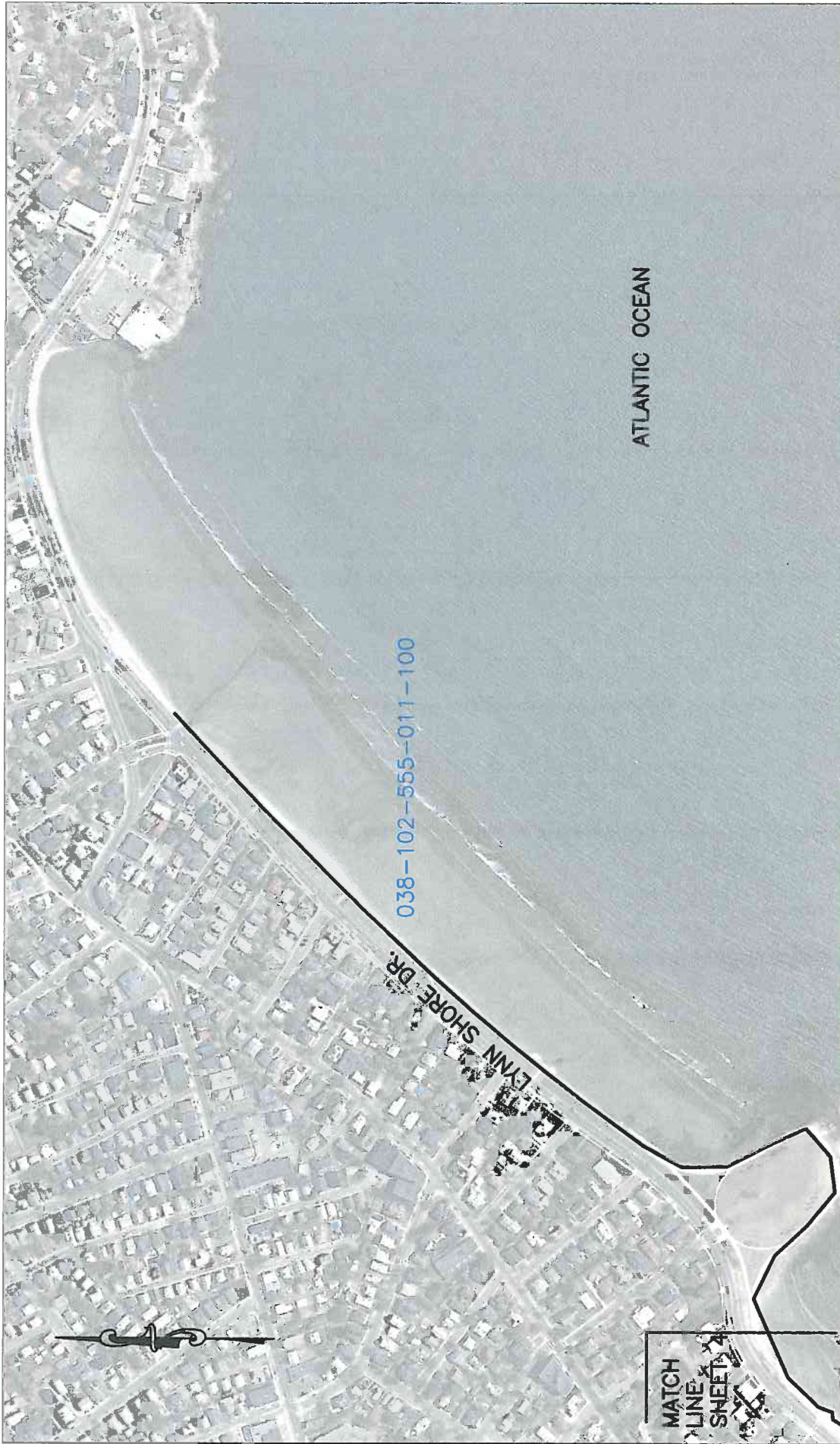
SCALE: 1" = 150'-0"

**Bourne Consulting Engineering**
2 Acad Street
Lynn, MA 01902
TEL: (978) 552-6000 FAX: (978) 552-6000

CITY OF LYNN
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE *Bourne Consulting Engineering*
 3 West Street
 Franklin, MA 01832
 TEL (603) 652-0000 FAX (603) 652-0000



COASTAL STRUCTURE LOCATION PLAN

CITY OF LYNN
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



SCALE: 1" = 150'-0"

BCE *Bourne Consulting Engineering*
Professional Seal
DEC 10 2007
DEC 10 2007
DEC 10 2007

Structure Assessment Form

Town: **Lynn**Structure ID: **038-019-307-024-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bates Street

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$375,137.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
565		A2	8
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Dumped stone and concrete debris. The slope is 1 vertical to 3 horizontal. Stone size ranges from 2 inch crushed stone to 500 pound stone. Erosion of slope and land inshore. Loose, jumbled stones throughout. Vacant lot inshore.

*Condition***D***Rating***Poor***Level of Action***Major***Description*

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-019-307-024-100-PHO1A.jpg**038-019-307-024-100-PHO1B.jpg****038-019-307-024-100-PHO1C.jpg****038-019-307-024-100-PHO1D.jpg****038-019-307-024-100-PHO1E.jpg**

Structure Documents:

Structure Assessment Form

Town: Lynn

Structure ID: 038-034-752-077-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Riley Way Extension

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$6,509,646.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1405		V4	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Bulkhead/ Seawall

Secondary Material:

Steel

Secondary Height:

Over 15 Feet



Structure Summary :

Former timber bulkhead is completely gone. The revetment consists of stone and concrete debris dumped along the eroded shoreline. Stone size ranges from 10 to 2000 pounds. The steel bulkhead has a concrete cap constructed for a small section. The revetment is dumped around the bulkhead.

Condition

D

Rating

Poor

Level of Action

Major

Description

Structure exhibits advanced levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure has strong risk of significant damage and possible failure during a major coastal storm. Structure should be monitored until repairs/reconstruction can be initiated. Actions taken to reconstruct structure to regain full capacity to resist a major coastal storm. Landform eroded, stability threatened. Landform not adequate to provide protection during major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-034-752-077-100-PHO1A.jpg

038-034-752-077-100-PHO1B.jpg

038-034-752-077-100-PHO1C.jpg

038-034-752-077-100-PHO1D.jpg

038-034-752-077-100-PHO1E.jpg

038-034-752-077-100-PHO1F.jpg

Structure Documents:

Structure Assessment Form

Town: Lynn

Structure ID: 038-034-752-077-200

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Riley Way Extension

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$5,116,914.00

Length: 2150 Feet
 Top Elevation: Feet NAVD 88
 FIRM Map Zone: V4
 FIRM Map Elevation: 15 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Wood

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Failed timber bulkhead with timber deadman piles. Severe erosion inshore. Inshore, the local road is closed to access.

Condition

F

Rating

Critical

Level of Action

Immediate

Description

Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity. Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity. Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-034-752-077-200-PHO2A.jpg

038-034-752-077-200-PHO2B.jpg

038-034-752-077-200-PHO2C.jpg

038-034-752-077-200-PHO2D.jpg

038-034-752-077-200-PHO2E.jpg

038-034-752-077-200-PHO2F.jpg

Structure Documents:

Structure Assessment FormTown: LynnStructure ID: 038-034-752-077-300

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Riley Way Extension

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$445,421.00

Length:

570

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

V4

FIRM Map Elevation:

15

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The placed revetment is comprised of 500 to 2000 pound stones and cut granite blocks. Moderate erosion inshore of slope.

*Condition***C***Rating***Fair***Level of Action***Moderate***Description*

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-034-752-077-300-PHO3A.jpg038-034-752-077-300-PHO3B.jpg

Structure Documents:

Structure Assessment Form

Town: Lynn

Structure ID: 038-050-752-073-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Riley Way

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$514,800.00

Length: 260 Feet Top Elevation: FIRM Map Zone: V4 FIRM Map Elevation: 15 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The mortared stone block seawall is in front of a parking lot. A concrete pier extends offshore. Moderate to severe fill loss occurring inshore of wall. There are voids in the wall at joints. Some concrete filling is visible.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-050-752-073-100-PHO1A.jpg

038-050-752-073-100-PHO1B.jpg

038-050-752-073-100-PHO1C.jpg

038-050-752-073-100-PHO1D.jpg

038-050-752-073-100-PHO1E.jpg

Structure Documents:

Structure Assessment Form

Town: Lynn

Structure ID: 038-050-752-073-200

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Riley Way

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$78,936.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
230		V4	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Steel

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Steel sheetpile bulkhead driven outshore of stone block wall. No cap on bulkhead. Paved parking lot inshore.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-050-752-073-200-PHO2A.JPG

Structure Documents:

Structure Assessment FormTown: **Lynn**Structure ID: **038-066-751-015-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Blossom Street Extension

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

1973

Estimated Reconstruction/Repair Cost:

\$2,223,936.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
405		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Steel

Primary Height:

Over 15 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

10 to 15 Feet**Structure Summary :**

The steel bulkhead is in poor condition. The revetment is adjacent to the bulkhead and begins to slope out from it. The revetment is a combination of dumped and placed stone. Moderate erosion inshore of bulkhead and riprap. There is visible heaving, corrosion, and section loss of the bulkhead.

*Condition***F***Rating***Critical***Level of Action***Immediate***Description*

Conditions of structure/landform may warrant emergency stabilization as failure may result in potential loss of property and/or life. Landform eroded, loss of integrity. Structure exhibits critical levels of deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure provides little or no protection from a major coastal storm. Actions taken to totally reconstruct structure to regain full capacity. Landform stability is severely compromised, rate of erosion/material loss may be increasing, and landform does not provide adequate protection from a major coastal storm. Actions taken to recreate landform to adequate limits for full protection from a major coastal storm.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:**038-066-751-015-100-PHO1A.jpg****038-066-751-015-100-PHO1B.jpg****Structure Documents:**

USACE	May 1973	Plan Accompanying	038-066-751-015-100-COE1A
DEP	March 13, 19	Plan Accompanying	038-066-751-015-100-LIC1A
DEP	May 17, 197	Plan Accompanying	038-066-751-015-100-LIC1B
DEP	September 1	Proposed	038-066-751-015-100-LIC1C
DEP	July 11, 199	Plan Accompanying	038-066-751-015-100-LIC1D
DEP	October 18,	Plans Accompanying	038-066-751-015-100-LIC1E

Structure Assessment Form

Town: Lynn

Structure ID: 038-067-749-110-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Lynnway Drive and Washington Street

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

1954

Estimated Reconstruction/Repair Cost:

\$21,318.00

Length: 85 Feet Top Elevation: FIRM Map Zone: V2 FIRM Map Elevation: 15 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The 12 inch wide concrete retaining wall has a chain link fence on top, and a park and local road inshore. There are holes behind the wall which appear to have been dug. No sign of fill loss throughout the wall.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

I

Rating

None

Action

Long Term Planning Considerations

Description

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

038-067-749-110-100-PHO1A.jpg

038-067-749-110-100-PHO1B.jpg

Structure Documents:

USACE June 14, 198 Proposed Site 038-067-749-110-100-COE1A

USACE November 2 Proposed Boat Basin 038-067-749-110-100-COE1B

MA-DCR September 1 Lynn Heritage State 038-067-749-110-100-DCR1A

MA-DCR January 198 Lynn Heritage State 038-067-749-110-100-DCR1B

DEP January 18, Plan Accompanying 038-067-749-110-100-LIC1A

DEP February 17, Plan Accompanying 038-067-749-110-100-LIC1B

DEP December 2 Plan Accompanying 038-067-749-110-100-LIC1C

DEP February 25, Plan Accompanying 038-067-749-110-100-LIC1D

DEP Aug 21, 194 City of Lynn 038-067-749-110-100-LIC1E

Structure Assessment Form

Town: Lynn

Structure ID: 038-067-749-110-200

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Lynnway Drive and Washington Street

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

1954

Estimated Reconstruction/Repair Cost:

\$308,662.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1965		V2	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The placed riprap slope has a headwall at the top of the slope. Headwall material is granite curb for southern section (south of timber pier). It is a concrete headwall where timber pier is present. Northern half of structure has no headwall. Minor erosion directly inshore of slope. Multi-story apartment building inshore.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

038-067-749-110-200-PHO2A.jpg

038-067-749-110-200-PHO2B.jpg

038-067-749-110-200-PHO2C.jpg

038-067-749-110-200-PHO2D.jpg

038-067-749-110-200-PHO2E.jpg

038-067-749-110-200-PHO2F.jpg

Structure Documents:

USACE

June 14, 198

Proposed Site

038-067-749-110-200-COE2A

USACE

November 2

Proposed Boat Basin

038-067-749-110-200-COE2B

MA-DCR

September 1

Lynn Heritage State

038-067-749-110-200-DCR2A

MA-DCR

January 198

Lynn Heritage State

038-067-749-110-200-DCR2B

DEP

January 18,

Plan Accompanying

038-067-749-110-200-LIC2A

DEP

February 17,

Plan Accompanying

038-067-749-110-200-LIC2B

DEP

December 2

Plan Accompanying

038-067-749-110-200-LIC2C

DEP

February 25,

Plan Accompanying

038-067-749-110-200-LIC2D

Structure Assessment Form

Town: Lynn

Structure ID: 038-081-575-028-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Beach Road

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

1905

Estimated Reconstruction/Repair Cost:

\$841,500.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
2125	10	V4	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Concrete seawall with wave break face has a 3 feet wide cap with steel railing. Wall toe steps out and is heavily weathered. The toe has been repaired previously by pouring concrete to widen and deepen. Concrete sidewalk, local road and dense residential directly inshore. 200 feet section near southern end is mortared stone block wall with concrete cap and toe. (Primarily stair access to beach.)

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

038-081-575-028-100-PHO1A.jpg

038-081-575-028-100-PHO1B.jpg

038-081-575-028-100-PHO1C.jpg

038-081-575-028-100-PHO1D.jpg

038-081-575-028-100-PHO1E.jpg

038-081-575-028-100-PHO1F.jpg

Structure Documents:

MA-DCR 7/19/09 Lynn Shore 038-081-575-028-100-DCR1A

MA-DCR 3/27/1905 Lynn Shore 038-081-575-028-100-DCR1B

MA-DCR 3/15/1907 Lynn Shore 038-081-575-028-100-DCR1C

MA-DCR 4/6/1907 Plan Showing 038-081-575-028-100-DCR1D

MA-DCR 8/13/36 Lynn Shore 038-081-575-028-100-DCR1E

MA-DCR 6/18/37 Lynn Shore 038-081-575-028-100-DCR1F

MA-DCR 5/6/41 Lynn Shore 038-081-575-028-100-DCR1G

MA-DCR 10/16/41 Lynn Shore 038-081-575-028-100-DCR1H

MA-DCR 12/17/41 Lynn Shore 038-081-575-028-100-DCR1I

MA-DCR 8/14/45 Lynn Shore 038-081-575-028-100-DCR1J

Structure Assessment FormTown: **Lynn**Structure ID: **038-081-575-028-100**

Key: community-map-block-parcel-structure

MA-DCR	5/27/49	Shore Line	038-081-575-028-100-DCR1K
MA-DCR	7/29/53	Lynn Shore	038-081-575-028-100-DCR1L
MA-DCR	5/23/60	Lynn Shore	038-081-575-028-100-DCR1M
MA-DCR	5/23/60	Lynn Shore	038-081-575-028-100-DCR1N
MA-DCR	5/3/61	Lynn Shore	038-081-575-028-100-DCR1O
MA-DCR	5/2/62	Lynn Shore	038-081-575-028-100-DCR1P
MA-DCR	January 196	Lynn Shore	038-081-575-028-100-DCR1Q
MA-DCR	November 1	Lynn Shore	038-081-575-028-100-DCR1R
MA-DCR	October 197	Lynn Shore	038-081-575-028-100-DCR1S
MA-DCR	December 1	Construction Plans of	038-081-575-028-100-DCR1T
MA-DCR		Lynn Shore Drive	038-081-575-028-100-DCR1U

Structure Assessment Form

Town: Lynn

Structure ID: 038-102-555-011-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Lynnshore Drive

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Lynn

Earliest Structure Record:

1905

Estimated Reconstruction/Repair Cost:

\$8,299,335.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
4475	15	V4	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

10 to 15 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

5 to 10 Feet



Structure Summary :

Concrete seawall with wave break face has a 3 feet wide cap with steel railing. Wall toe embedded into coastal sand beach outshore. Concrete sidewalk and local road directly inshore. Dense residential across road. Minor scour and spalling on top of wall footing that has damaged wall face for 100 feet section near center of structure. Several previous repairs have been made to the wall toe along sections of the entire wall.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

038-102-555-011-100-PHO1A.jpg

038-102-555-011-100-PHO1B.jpg

038-102-555-011-100-PHO1C.jpg

038-102-555-011-100-PHO1D.jpg

038-102-555-011-100-PHO1E.jpg

038-102-555-011-100-PHO1F.jpg

Structure Documents:

MA-DCR 3/27/1905 Lynn Shore 038-102-555-011-100-DCR1A

MA-DCR 4/6/1907 Plan Showing 038-102-555-011-100-DCR1B

MA-DCR 7/19/1909 Lynn Shore 038-102-555-011-100-DCR1C

MA-DCR 7/18/1916 King's Beach 038-102-555-011-100-DCR1D

MA-DCR 4/27/1929 King's Beach 038-102-555-011-100-DCR1E

MA-DCR 8/13/1936 Lynn Shore 038-102-555-011-100-DCR1F

MA-DCR 6/18/1937 Lynn Shore 038-102-555-011-100-DCR1G

MA-DCR 9/3/1943 Lynn Shore 038-102-555-011-100-DCR1H

MA-DCR 6/14/1944 Lynn Shore 038-102-555-011-100-DCR1I

MA-DCR 8/14/1945 Lynn Shore 038-102-555-011-100-DCR1J

Structure Assessment FormTown: **Lynn**Structure ID: **038-102-555-011-100**

Key: community-map-block-parcel-structure

MA-DCR	5/27/1949	Shore Line	038-102-555-011-100-DCR1K
MA-DCR	7/29/1953	Lynn Shore	038-102-555-011-100-DCR1L
MA-DCR	5/23/1960	Lynn Shore	038-102-555-011-100-DCR1M
MA-DCR	5/3/1961	Lynn Shore	038-102-555-011-100-DCR1N
MA-DCR	5/2/1962	Lynn Shore	038-102-555-011-100-DCR1O
MA-DCR	2/18/1966	Lynn Shore	038-102-555-011-100-DCR1P
MA-DCR	November 1	Lynn Shore	038-102-555-011-100-DCR1Q
MA-DCR	October 197	Lynn Shore	038-102-555-011-100-DCR1R
MA-DCR	Dec. 1994	Construction Plans of	038-102-555-011-100-DCR1S
MA-DCR		Lynn Shore Drive	038-102-555-011-100-DCR1T

Section IV - Lynn

Part C

Structure Photographs

CITY: LYNN
 SOURCE: BCE - FIELD PHOTOGRAPHS
 LOCATION: Bourne Consulting Engineering
 DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-019-307-024-100	038-019-307-024-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-019-307-024-100	038-019-307-024-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-019-307-024-100	038-019-307-024-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-019-307-024-100	038-019-307-024-100-PHO1D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-019-307-024-100	038-019-307-024-100-PHO1E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-100	038-034-752-077-100-PHO1F.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-200	038-034-752-077-200-PHO2F.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-300	038-034-752-077-300-PHO3A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-034-752-077-300	038-034-752-077-300-PHO3B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-050-752-073-100	038-050-752-073-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-050-752-073-100	038-050-752-073-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-050-752-073-100	038-050-752-073-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-050-752-073-100	038-050-752-073-100-PHO1D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-050-752-073-100	038-050-752-073-100-PHO1E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-050-752-073-200	038-050-752-073-200-PHO2A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-066-751-015-100	038-066-751-015-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-066-751-015-100	038-066-751-015-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-100	038-067-749-110-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-100	038-067-749-110-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-200	038-067-749-110-200-PHO2A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-200	038-067-749-110-200-PHO2B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-200	038-067-749-110-200-PHO2C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-067-749-110-200	038-067-749-110-200-PHO2D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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038-081-575-028-100	038-081-575-028-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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038-102-555-011-100	038-102-555-011-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-102-555-011-100	038-102-555-011-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-102-555-011-100	038-102-555-011-100-PHO1D.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-102-555-011-100	038-102-555-011-100-PHO1E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
038-102-555-011-100	038-102-555-011-100-PHO1F.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



038-019-307-024-100-PHO1A



038-019-307-024-100-PHO1B



038-019-307-024-100-PHO1C



038-019-307-024-100-PHO1D



038-019-307-024-100-PHO1E



038-034-752-077-100-PHO1A



038-034-752-077-100-PHO1B



038-034-752-077-100-PHO1C



038-034-752-077-100-PHO1D

Massachusetts Coastal Infrastructure and Assessment



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038-034-752-077-100-PHO1F



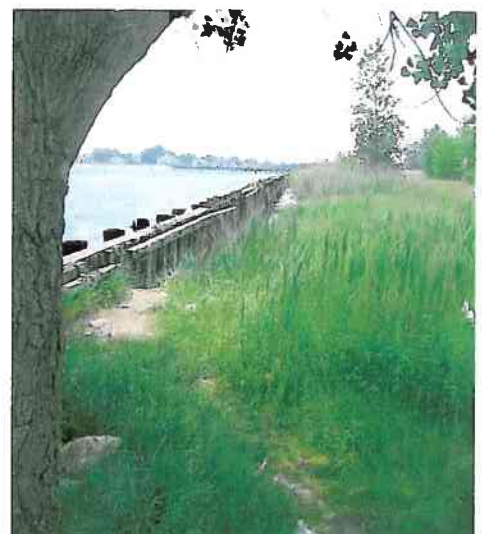
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038-034-752-077-200-PHO2E



038-034-752-077-200-PHO2F



038-034-752-077-300-PHO3A

Massachusetts Coastal Infrastructure and Assessment



038-034-752-077-300-PHO3B



038-050-752-073-100-PHO1A



038-050-752-073-100-PHO1B



038-050-752-073-100-PHO1C



038-050-752-073-100-PHO1D



038-050-752-073-100-PHO1E



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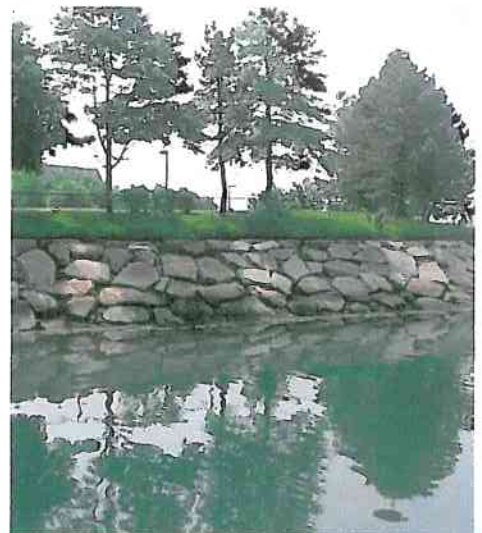
Massachusetts Coastal Infrastructure and Assessment



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038-067-749-110-200-PHO2A



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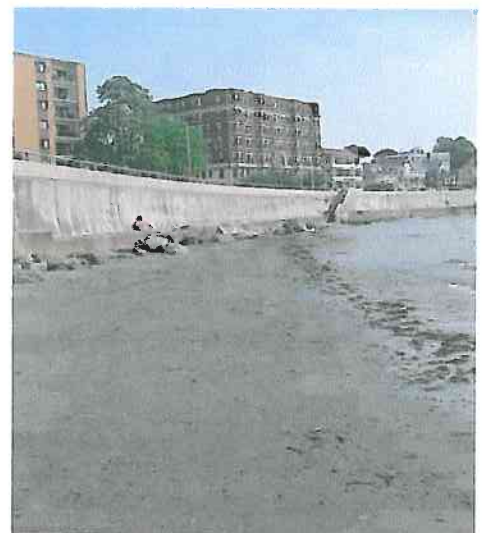
Massachusetts Coastal Infrastructure and Assessment



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038-102-555-011-100-PHO1C



038-102-555-011-100-PHO1D

Massachusetts Coastal Infrastructure and Assessment



038-102-555-011-100-PHO1E



038-102-555-011-100-PHO1F

Section IV - Lynn

Part D

Structure Documents

CITY DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

CITY: LYNN
SOURCE: City of Lynn
LOCATION: TOWN
DATE OF RESEARCH: JULY 2007

No City Documents for the City of Lynn

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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CITY: LYNN
 SOURCE: MA-DCR
 LOCATION: MA-DCR BOSTON and HINGHAM, MA
 DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-067-749-110-100	038-067-749-110-100-DCR1A	82-2	MA-DCR	Lynn	September 1982	Lynn Heritage State Park Phase 3B - Lynn, MA	19	Lynnway and Washington Street	
038-067-749-110-100	038-067-749-110-100-DCR1B	84-71	MA-DCR	Lynn	January 1983	Lynn Heritage State Park Phase 3B - Lynn, MA	10	Lynnway and Washington Street	Shows Existing Riprap
038-067-749-110-200	038-067-749-110-200-DCR2A	82-2	MA-DCR	Lynn	September 1982	Lynn Heritage State Park Phase 3B - Lynn, MA	19	Lynnway and Washington Street	
038-067-749-110-200	038-067-749-110-200-DCR2B	84-71	MA-DCR	Lynn	January 1983	Lynn Heritage State Park Phase 3B - Lynn, MA	10	Lynnway and Washington Street	Shows Existing Riprap
038-081-575-028-100	038-081-575-028-100-DCR1A	7770	MA-DCR	Lynn	7/19/09	Lynn Shore Reservation - Sections Showing Proposed Repairs to Seawall	1		
038-081-575-028-100	038-081-575-028-100-DCR1B	5426	MA-DCR	Lynn	3/27/1905	Lynn Shore Reservation - Construction Plans - Nahant Street to Humphrey Street	9	Nahant Street to Humphrey Street	
038-081-575-028-100	038-081-575-028-100-DCR1C	6375	MA-DCR	Lynn	3/15/1907	Lynn Shore Reservation - Construction Plans - Nahant Beach Parkway to Red Rock	15	Nahant Beach Parkway to Red Rock	
038-081-575-028-100	038-081-575-028-100-DCR1D	6497	MA-DCR	Lynn	4/6/1907	Plan Showing Proposed Seawall - Lynn Shore Reservation - Lynn			
038-081-575-028-100	038-081-575-028-100-DCR1E	23285	MA-DCR	Lynn	8/13/36	Lynn Shore Reservation - Lynn and Swampscott - Plan of Repairs to Shore Protection - Washington Street to Humphrey Street	1	Washington Street to Humphrey Street	
038-081-575-028-100	038-081-575-028-100-DCR1F	23849	MA-DCR	Lynn	6/18/37	Lynn Shore Reservation - Lynn and Swampscott - Repairs to Portions of Shore Protection - Washington Street to Humphrey Street	1	Washington Street to Humphrey Street	
038-081-575-028-100	038-081-575-028-100-DCR1G	26164-CD	MA-DCR	Lynn	5/6/41	Lynn Shore Reservation - Plan of Repairs to Seawall and Location of Riprap - Nahant Street to Red Rock	1	Nahant Street to Red Rock	
038-081-575-028-100	038-081-575-028-100-DCR1H	26377	MA-DCR	Lynn	10/16/41	Lynn Shore Reservation - Proposed Repairs to Seawall Near Nahant and Wave Street - Lynn	1		
038-081-575-028-100	038-081-575-028-100-DCR1I	26438	MA-DCR	Lynn	12/17/41	Lynn Shore Reservation - Proposed Repairs to Stairs and Seawall - Wave Street, Lynn	1	Wave Street	
038-081-575-028-100	038-081-575-028-100-DCR1J	27058	MA-DCR	Lynn	8/14/45	Lynn Shore Reservation - Lynn and Swampscott - Proposed Repairs to Seawall and Construction of Ramps - Humphrey Street to Nahant/Lynn Line	3	Humphrey Street to Nahant/Lynn Line	
038-081-575-028-100	038-081-575-028-100-DCR1K	48F-115-2	MA-DCR	Lynn	5/27/49	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
038-081-575-028-100	038-081-575-028-100-DCR1L	31787	MA-DCR	Lynn	7/29/53	Lynn Shore Reservation - Lynn and Swampscott Repairs to Seawall - Humphrey Street, Swampscott to Washington Street, Lynn	1	Humphrey Street to Washington Street	
038-081-575-028-100	038-081-575-028-100-DCR1M	38911X	MA-DCR	Lynn	5/23/60	Lynn Shore Reservation - Lynn and Swampscott - Proposed Seawall Repairs	2	Washington Street to Redington Avenue	
038-081-575-028-100	038-081-575-028-100-DCR1N	38912X	MA-DCR	Lynn	5/23/60	Lynn Shore Reservation - Lynn and Swampscott - Proposed Seawall Repairs	2	Nahant/Lynn Line to King Beach Road	
038-081-575-028-100	038-081-575-028-100-DCR1O	39735	MA-DCR	Lynn	5/3/61	Lynn Shore Reservation - Lynn and Swampscott - Proposed Repairs to Seawall and Walks - Nahant - Lynn Line to Swampscott	1	Redington Street to Prescott Road	
038-081-575-028-100	038-081-575-028-100-DCR1P	40411	MA-DCR	Lynn	5/2/62	Lynn Shore Reservation - Lynn/Nahant - Proposed Storm Damage Repairs	2		
038-081-575-028-100	038-081-575-028-100-DCR1Q	41914	MA-DCR	Lynn	January 1964	Lynn Shore Reservation - Proposed Cap Wall - Wave Street to Westerly 900' +/-	1	Surfside Road to Wave Street	
038-081-575-028-100	038-081-575-028-100-DCR1R	46742	MA-DCR	Lynn	November 1970	Lynn Shore Reservation - Lynn/Nahant - Proposed Repairs to Seawall and Other Improvements	13	Washington Street to Ocean Street	
038-081-575-028-100	038-081-575-028-100-DCR1S	N/A	MA-DCR	Lynn	October 1973	Lynn Shore Reservation - Proposed Repairs on Seawall and Other Improvements	1		
038-081-575-028-100	038-081-575-028-100-DCR1T	-85-1341-C	MA-DCR	Lynn	December 1994	Construction Plans of Reconstruction/Rehabilitation of Lynn Shore Drive	125	prty South of Lynn/Nahant Circle to Eastern Avenue	
038-081-575-028-100	038-081-575-028-100-DCR1U	C-2-6	MA-DCR	Lynn		Lynn Shore Drive Seawall Profile	5		

CITY: LYNN
SOURCE: MA-DCR
LOCATION: MA-DCR BOSTON and HINGHAM, MA
DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-102-555-011-100	038-102-555-011-100-DCR1A	5426	MA-DCR	Lynn	3/27/1905	Lynn Shore Reservation - Construction Plans - Nahant Street to Humphrey Street	9	Nahant Street to Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1B	6487	MA-DCR	Lynn	4/6/1907	Plan Showing Proposed Seawall - Lynn Shore Reservation			
038-102-555-011-100	038-102-555-011-100-DCR1C	7770	MA-DCR	Lynn	7/19/1909	Lynn Shore Reservation - Sections Showing Proposed Repairs to Seawall	1		
038-102-555-011-100	038-102-555-011-100-DCR1D	11410	MA-DCR	Lynn	7/18/1916	King's Beach Reservation - Record Construction Plan Along Humphrey Street	1	Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1E	17966	MA-DCR	Lynn	4/27/1929	King's Beach Reservation - Construction Plan of Extension of Seawall Near Monument Square	1	Monument Square	
038-102-555-011-100	038-102-555-011-100-DCR1F	23285	MA-DCR	Lynn	8/13/1936	Lynn Shore Reservation - Lynn and Swampscott - Plan of Repairs to Shore Protection - Washington Street to Humphrey Street	1	Washington Street to Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1G	23849	MA-DCR	Lynn	6/18/1937	Lynn Shore Reservation - Lynn and Swampscott - Repairs to Portions of Shore Protection - Washington Street to Humphrey Street	1	Washington Street to Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1H	26779	MA-DCR	Lynn	9/3/1943	Lynn Shore Reservation - Lynn and Swampscott - Plan of Repairs to Shore Protection and Steps - Red Rock to Humphrey Street	1	Red Rock to Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1I	26896	MA-DCR	Lynn	6/14/1944	Lynn Shore Reservation - Lynn and Swampscott - Proposed Repairs to Seawall and Construction of Ramps - Red Rock to Humphrey Street	4	Red Rock to Humphrey Street	
038-102-555-011-100	038-102-555-011-100-DCR1J	27058	MA-DCR	Lynn	8/14/1945	Lynn Shore Reservation - Lynn and Swampscott - Proposed Repairs to Seawall and Construction of Ramps - Humphrey Street to Nahant/Lynn Line	3	Humphrey Street to Nahant/Lynn Line	
038-102-555-011-100	038-102-555-011-100-DCR1K	48F-15-2	MA-DCR	Lynn	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
038-102-555-011-100	038-102-555-011-100-DCR1L	31787	MA-DCR	Lynn	7/29/1953	Lynn Shore Reservation - Lynn and Swampscott - Repairs to Seawall - Humphrey Street, Swampscott	1		
038-102-555-011-100	038-102-555-011-100-DCR1M	38911X	MA-DCR	Lynn	5/23/1960	Lynn Shore Reservation - Lynn and Swampscott - Proposed Seawall Repairs	2	Washington Street to Redington Avenue	
038-102-555-011-100	038-102-555-011-100-DCR1N	39735	MA-DCR	Lynn	5/3/1961	Lynn Shore Reservation - Lynn and Swampscott - Proposed Repairs to Seawall and Walks - Nahant-Lynn	1	Redington Street to Prescott Road	
038-102-555-011-100	038-102-555-011-100-DCR1O	40411	MA-DCR	Lynn	5/2/1962	Lynn Shore Reservation - Lynn-Nahant - Proposed Storm Damage Repairs	2		
038-102-555-011-100	038-102-555-011-100-DCR1P	44041	MA-DCR	Lynn	2/18/1966	Lynn Shore Reservation - Lynn and Swampscott - Construction and Repairs to Ramp, Wall, and Stairs	3	g Beach Road to 100 Feet East of Eastern Avenue	
038-102-555-011-100	038-102-555-011-100-DCR1Q	46742	MA-DCR	Lynn	November 1970	Lynn Shore Reservation - Lynn and Nahant - Proposed Repairs to Seawall and Other Improvements	13	Washington Street to Ocean Street	
038-102-555-011-100	038-102-555-011-100-DCR1R		MA-DCR	Lynn	October 1973	Lynn Shore Reservation - Proposed Repairs on Seawall and Other Improvements	1		
038-102-555-011-100	038-102-555-011-100-DCR1S	-85-1341-C	MA-DCR	Lynn	Dec. 1994	Construction Plans of Reconstruction/Rehabilitation of Lynn Shore Drive	125	only South of Lynn/Nahant Circle to Eastern Avenue	
038-102-555-011-100	038-102-555-011-100-DCR1T	C-2-6	MA-DCR	Lynn		Lynn Shore Drive Seawall Profile	5		

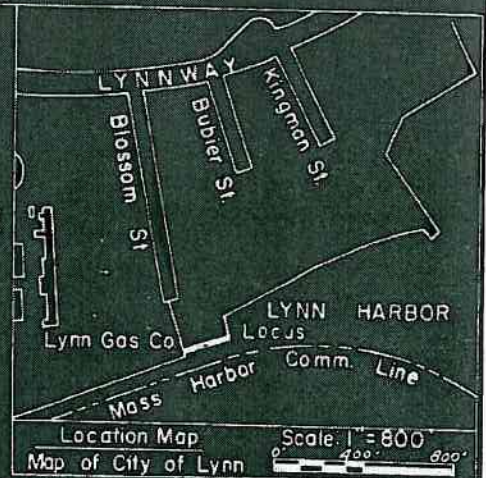
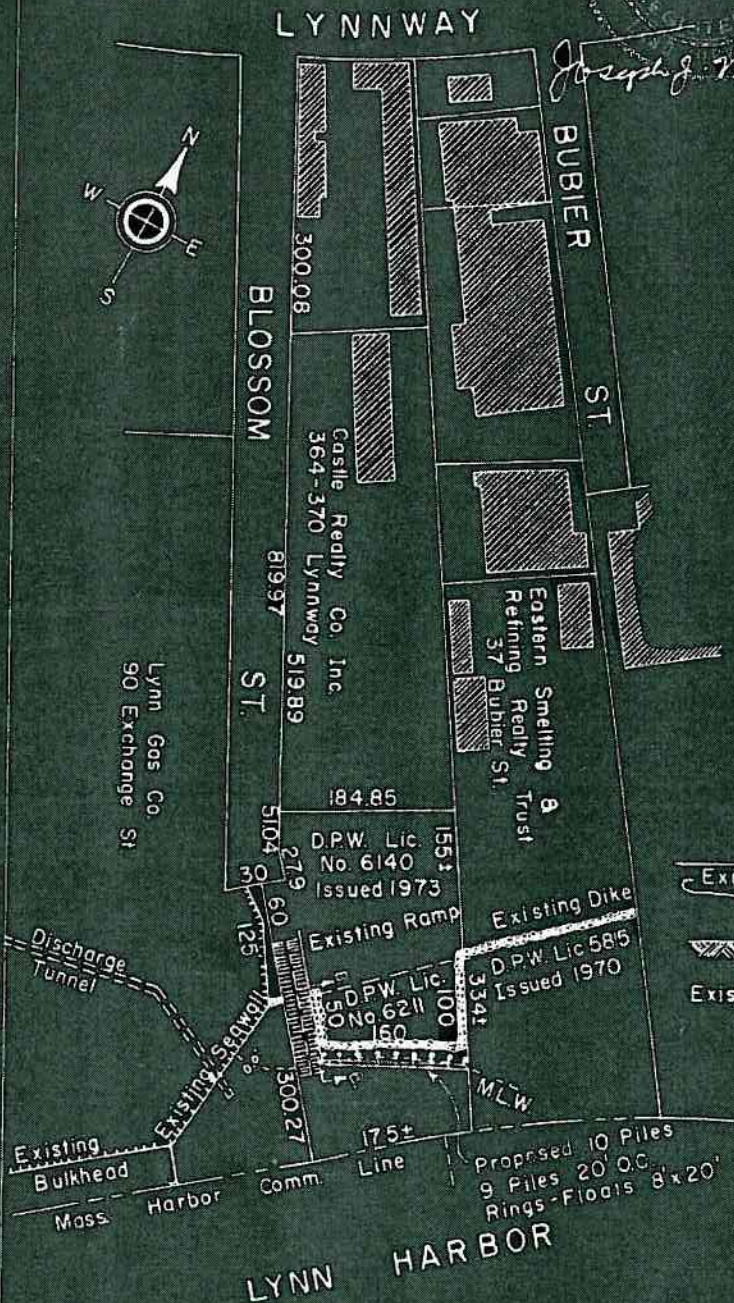
CITY: LYNN
SOURCE: DEP
LOCATION: BOSTON, MA
DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-066-751-015-100	038-066-751-015-100-LIC1A	6211	DEP	Lynn	March 13, 1974	Plan Accompanying Petition of City of Lynn to Place and Maintain a Stone Dyke and Fill In and Over Tidewater in Lynn Harbor, Lynn, Massachusetts	1	Blossom Street	Construct and Maintain Stone Dyke and Fill
038-066-751-015-100	038-066-751-015-100-LIC1B	128	DEP	Lynn	May 17, 1976	Plan Accompanying Petition of City of Lynn to Place and Maintain	1	Blossom Street	Shows Existing Riprap Dyke
038-066-751-015-100	038-066-751-015-100-LIC1C	368	DEP	Lynn	September 12, 1977	Proposed Modification Plans Accompanying Petition of City of Lynn to D.P.W. License #6211 By Placing and Maintaining Bulkhead in Lynn Harbor, Lynn, Massachusetts	2	Blossom Street	Construct and Maintain Bulkhead
038-066-751-015-100	038-066-751-015-100-LIC1D	6140	DEP	Lynn	July 11, 1995	Plan Accompanying Petition of City of Lynn to Place and Maintain a Stone Dyke and Concrete ramp and Fill In and Over Tidewater in Lynn Harbor, Lynn, Massachusetts	1	Blossom Street	Construct and Maintain Stone Dyke and Concrete Boat Ramp and Fill
038-066-751-015-100	038-066-751-015-100-LIC1E	4812	DEP	Lynn	October 18, 1995	Plans Accompanying Petition of City of Lynn to Maintain Existing Piles, Riprap, Bulkhead, Boat Ramp and Pipe - To Install and Maintain Riprap, Floating Docks, Gangway and Mooring Piles in Lynn Harbor, Lynn, Massachusetts - Essex County	4	Blossom Street	Maintain Existing Riprap, Bulkhead, and Boat Ramp and to Construct and Maintain Proposed Riprap
038-067-749-110-100	038-067-749-110-100-LIC1A	3604	DEP	Lynn	January 18, 1954	Plan Accompanying Petition of Commonwealth of Massachusetts Metropolitan District Commission for Proposed Retaining Wall, Dredging and Fill with Riprap Slopes - Lynn Harbor at Lynn, Massachusetts	3	Lynnway at Broad Street and Carroll Highway	Retaining Wall and Riprap
038-067-749-110-100	038-067-749-110-100-LIC1B	1747	DEP	Lynn	February 17, 1988	Plan Accompanying Petition of Lynn Harbor Development, Lynn Parkway to Construct and Maintain a Residential Development, Walkbridge, Float, Boardwalk and Riprap at Harborside Landing in Lynn Harbor, City of Lynn, County of Essex, Massachusetts	11	Lynnway at Broad Street and Carroll Highway	Riprap
038-067-749-110-100	038-067-749-110-100-LIC1C	4183	DEP	Lynn	December 22, 1858	Plan Accompanying Petition of Commonwealth of Massachusetts Metropolitan District Commission To Maintain Solid Fill and Riprap	3	Lynn Harbor	Riprap
038-067-749-110-100	038-067-749-110-100-LIC1D	959	DEP	Lynn	February 25, 1983	Plan Accompanying Petition of City of Lynn To construct and maintain a Wharf Reinforced Concrete Retaining Wall, 72" Accomp and Riprap in Lynn Harbor, City of Lynn, County of Essex, Massachusetts	4	Lynn Harbor	Riprap
038-067-749-110-100	038-067-749-110-100-LIC1E	2225	DEP	Lynn	Aug 21, 1940	City of Lynn Proposed Stone Dyke and Fill	2	Lynn Harbor	Stone Dyke and Fill
038-067-749-110-200	038-067-749-110-200-LIC2A	3604	DEP	Lynn	January 18, 1954	Plan Accompanying Petition of Commonwealth of Massachusetts Metropolitan District Commission for Proposed Retaining Wall, Dredging and Fill with Riprap Slopes - Lynn Harbor at Lynn, Massachusetts	3	Lynnway at Broad Street and Carroll Highway	Retaining Wall and Riprap
038-067-749-110-200	038-067-749-110-200-LIC2B	1747	DEP	Lynn	February 17, 1988	Plan Accompanying Petition of Lynn Harbor Development, Lynn Parkway to Construct and Maintain a Residential Development, Walkbridge, Float, Boardwalk and Riprap at Harborside Landing in Lynn Harbor, City of Lynn, County of Essex, Massachusetts	11	Lynnway at Broad Street and Carroll Highway	Riprap
038-067-749-110-200	038-067-749-110-200-LIC2C	4183	DEP	Lynn	December 22, 1858	Plan Accompanying Petition of Commonwealth of Massachusetts Metropolitan District Commission to Maintain Solid fill and Riprap	3	Lynn Harbor	Riprap
038-067-749-110-200	038-067-749-110-200-LIC2D	959	DEP	Lynn	February 25, 1983	Plan Accompanying Petition of City of Lynn To Construct and Maintain a Wharf Reinforced Concrete Retaining Wall, 72" Accomp and Riprap in Lynn Harbor City of Lynn, County of Essex, Massachusetts	4	Lynn Harbor	Riprap

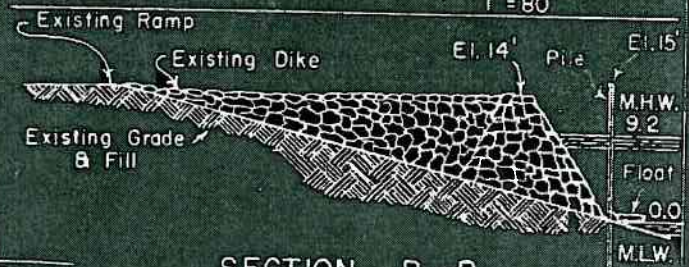
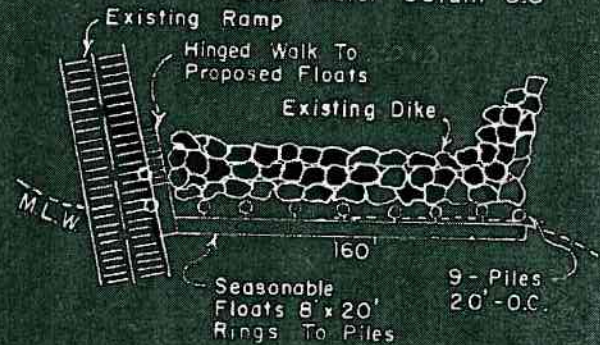
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PLAN

Scale 1" = 200'



Note: Elevations are in Feet & Tenths and Refer To Mean Low Water Datum 0.0'

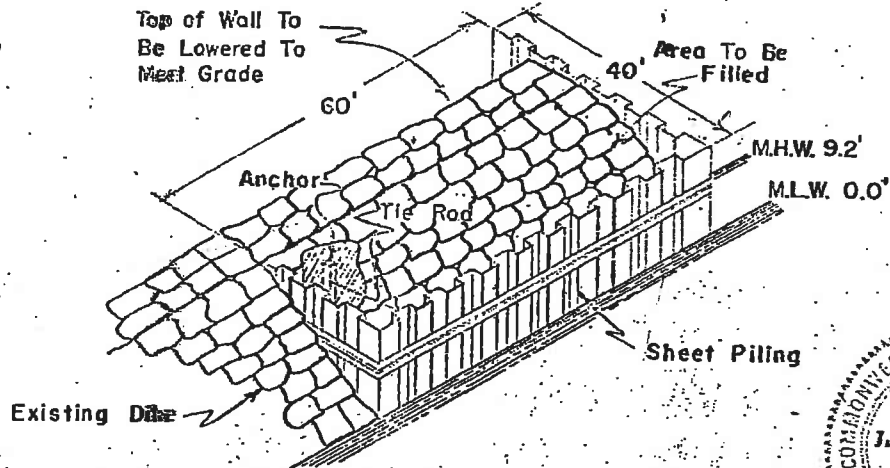


PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO PLACE AND MAINTAIN PILES &
FLOATS IN & OVER TIDEWATER
IN
LYNN HARBOR
LYNN, MASSACHUSETTS
SEPT - 1974

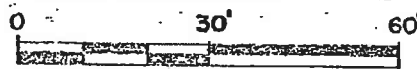
LICENSE PLAN NO. 128
ISSUED BY DEPARTMENT OF CONSERVATION & RECREATION
OF MASSACHUSETTS
MAY 17, 1976

OCT - 1974

038-066-751-015-100



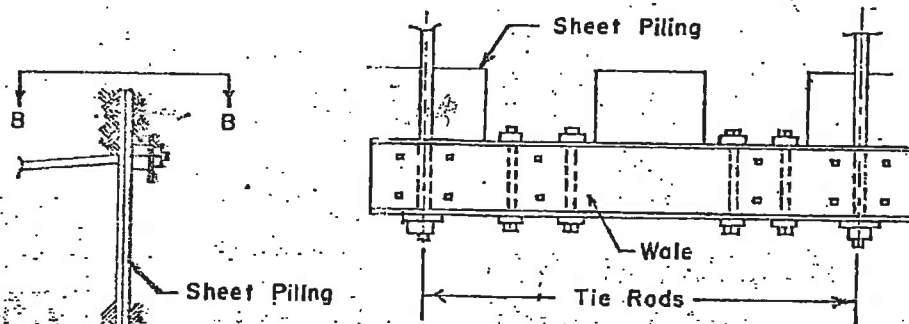
PLAN VIEW



Scale of Feet 1" = 30'



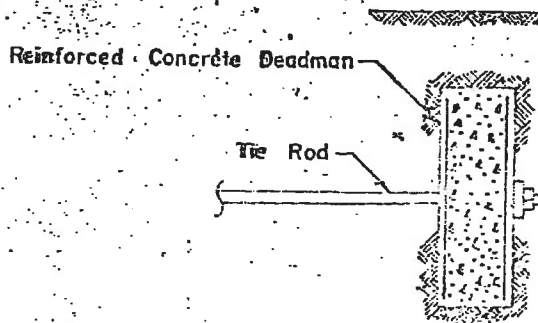
Joseph J. Macaione



SECTION B-B

DETAIL OF SHEET PILING

NOT TO SCALE



DETAIL OF CONCRETE DEADMAN

NOT TO SCALE

Sheet 2 of 2

September 12, 1977

LICENSE PLAN NO. 368

Approved by Department of Environmental Quality Engineering

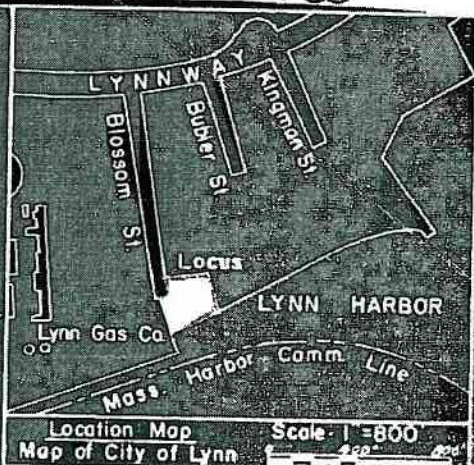
038-066-751-015-100

PLAN

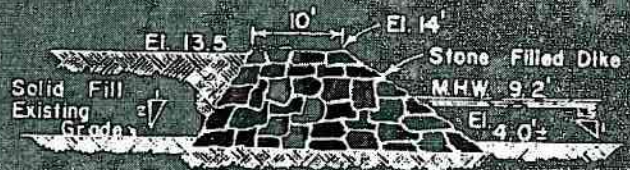
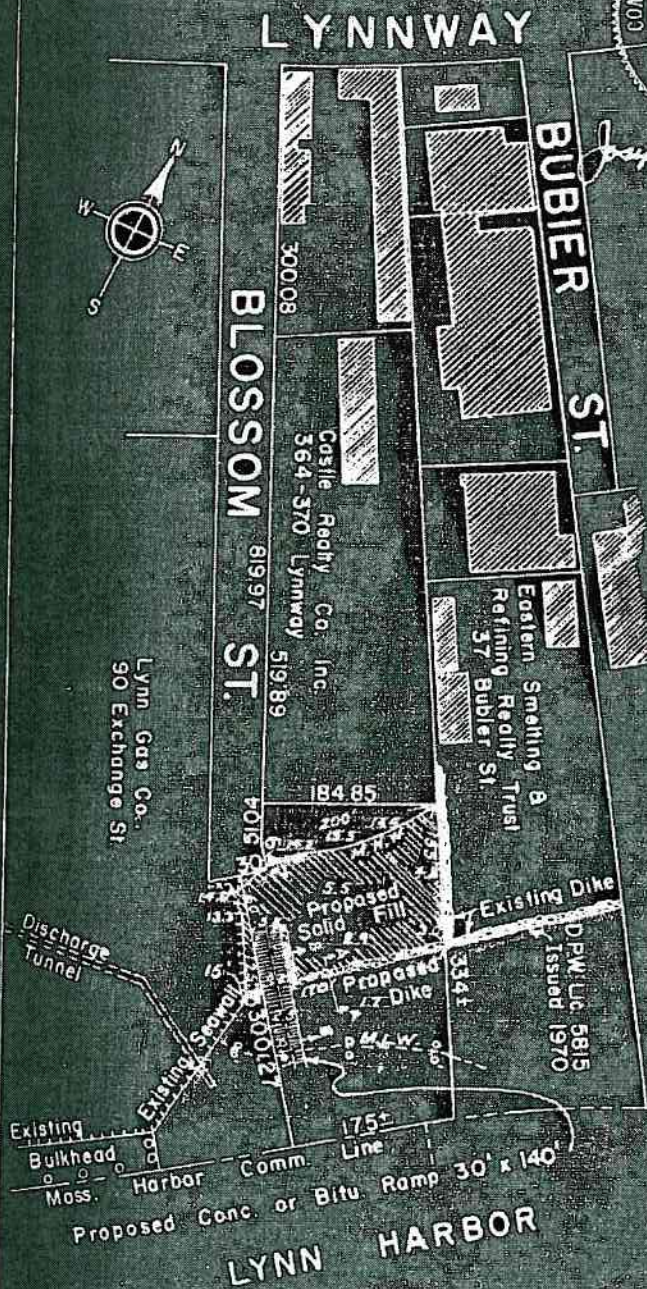
Scale 1"=200'



Joseph J. Macaione

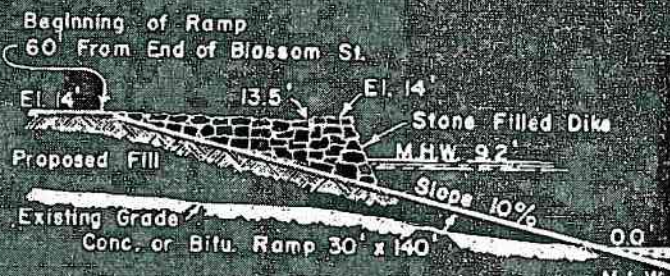


Note: Elevations are in Feet & Tenths and Refer To Mean Low Water Datum 0.0



SECTION A-A

Scale of Feet - 0' 10' 20'
1"=20'



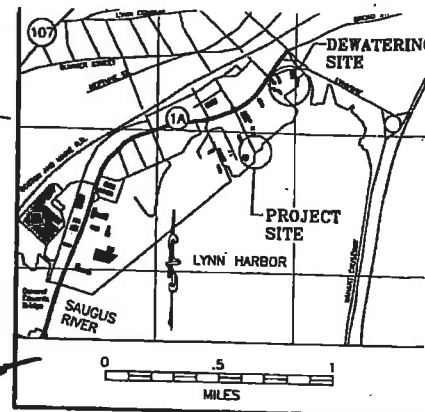
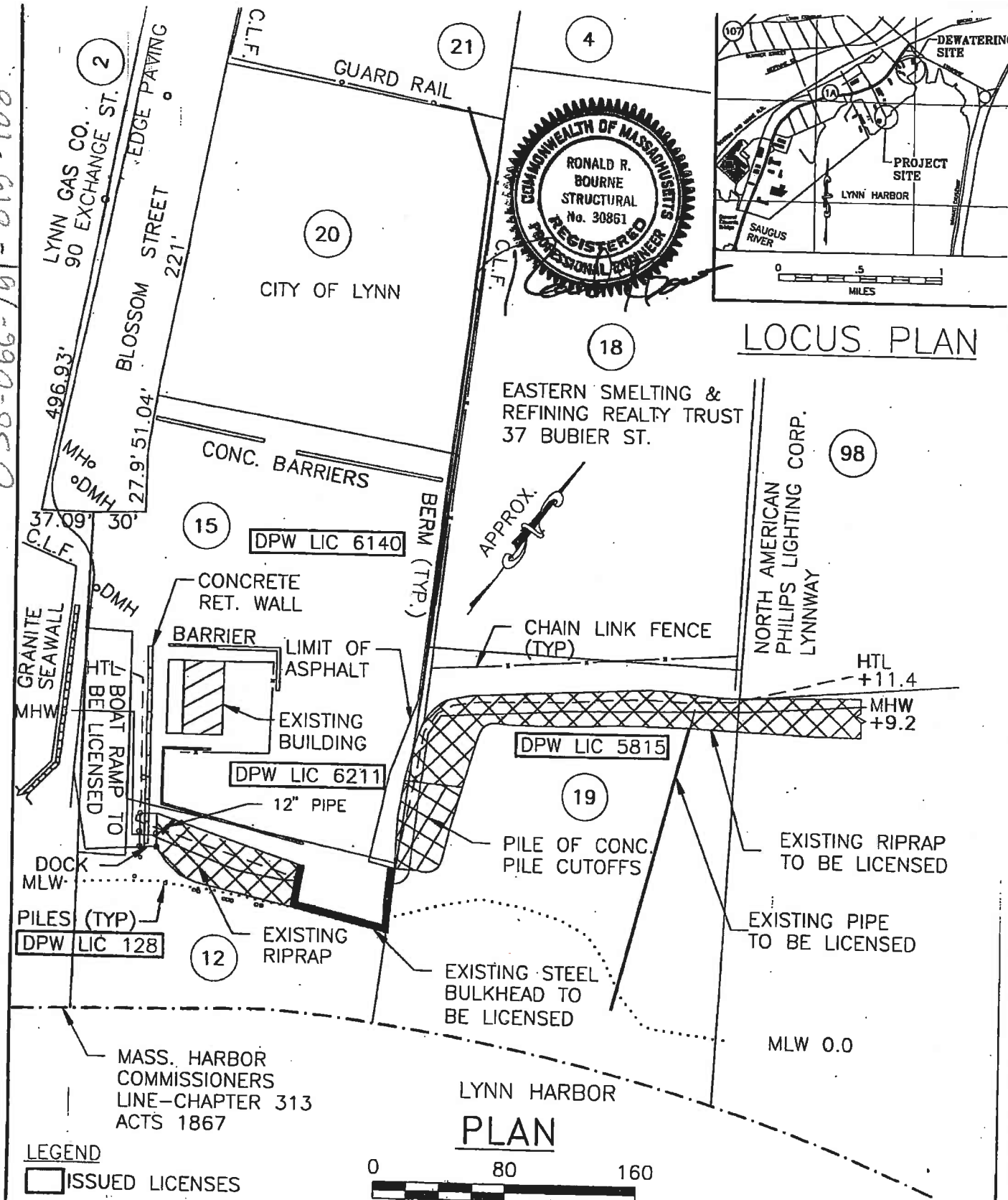
SECTION B-B

Scale of Feet - 0' 25' 50'
Hor. 1"=50'
Scale of Feet - 0' 10' 20'
Vert 1"=20'

PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO PLACE AND MAINTAIN A STONE DIKE &
CONC. RAMP & FILL IN & OVER TIDEWATER
IN
LYNN HARBOR
LYNN, MASSACHUSETTS
MARCH 1972

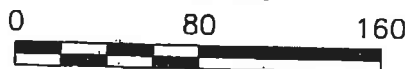
LICENSE PLAN NO. 6140
APPROVED BY DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS
JULY 11, 1973
Bone Campbell
Malcolm E. Hrd
Lee S. Sordato
James J. Linn
John G. Wood
COMMISSIONER, DEPT. OF PUBLIC WORKS
ASSOCIATE COMMISSIONERS

038-066-751-015-100



LEGEND

ISSUED LICENSES



SCALE: 1" = 80'-0"

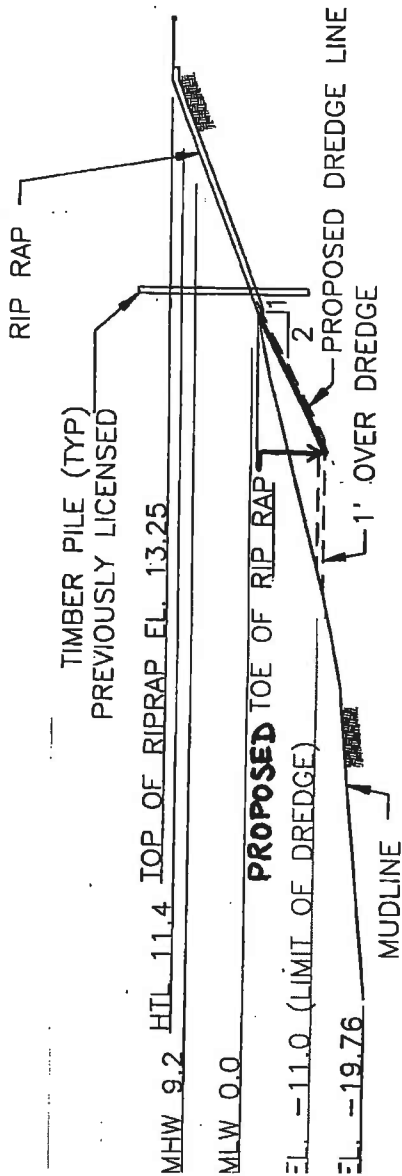
SHEET 1 OF 4

PLANS ACCOMPANYING PETITION OF CITY OF LYNN TO MAINTAIN EXISTING PILES RIP RAP, BULKHEAD, BOAT RAMP AND PIPE. TO INSTALL AND MAINTAIN RIPRAP, FLOATING DOCKS, GANGWAY AND MOORING PILES. IN LYNN HARBOR LYNN MA, ESSEX COUNTY MARCH, 1995

LICENSE PLAN NO. 4812

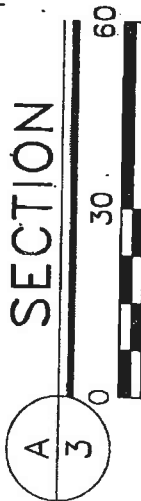
Approved by Department of Environmental Protection of Massachusetts

[Signature] COMMISSIONER
[Signature] DIVISION DIRECTOR
[Signature] SECTION CHIEF
 OCT 18 1995

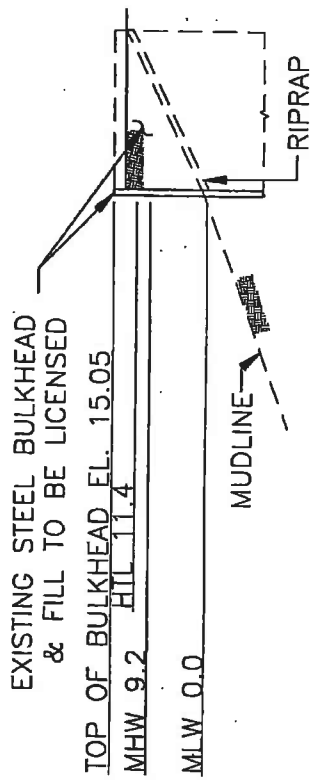


REVISED 9-13-1995

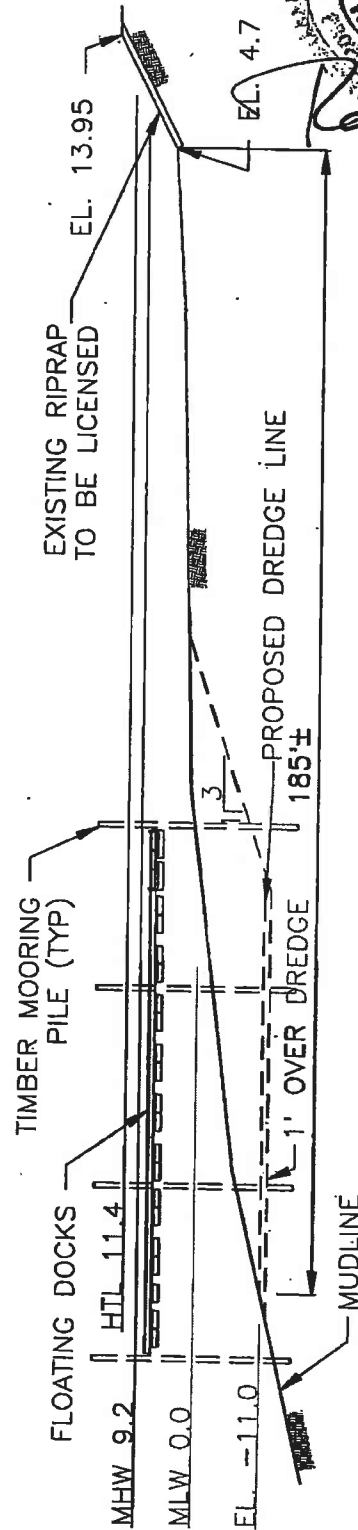
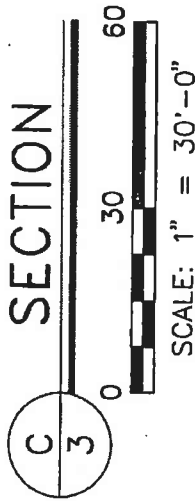
SECTION A



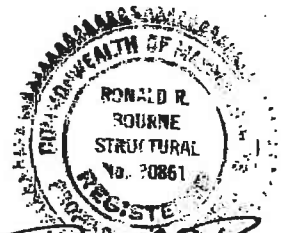
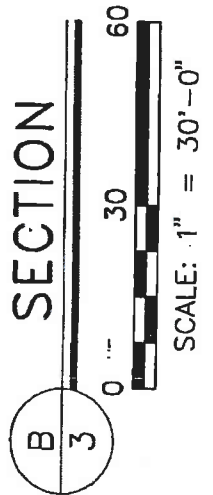
NOTE: REMOVE RIP RAP WITHIN DREDGE AREA.
AFTER DREDGING REINSTALL RIP RAP AND
INSTALL NEW RIP RAP (BELOW MLW)
TO NEW MUDLINE.



SECTION C

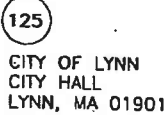


SECTION B

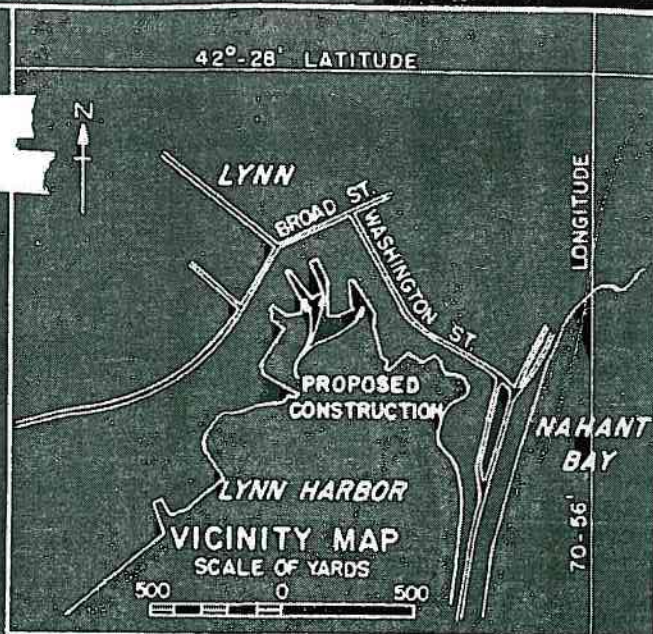


Ronald R. Bourne

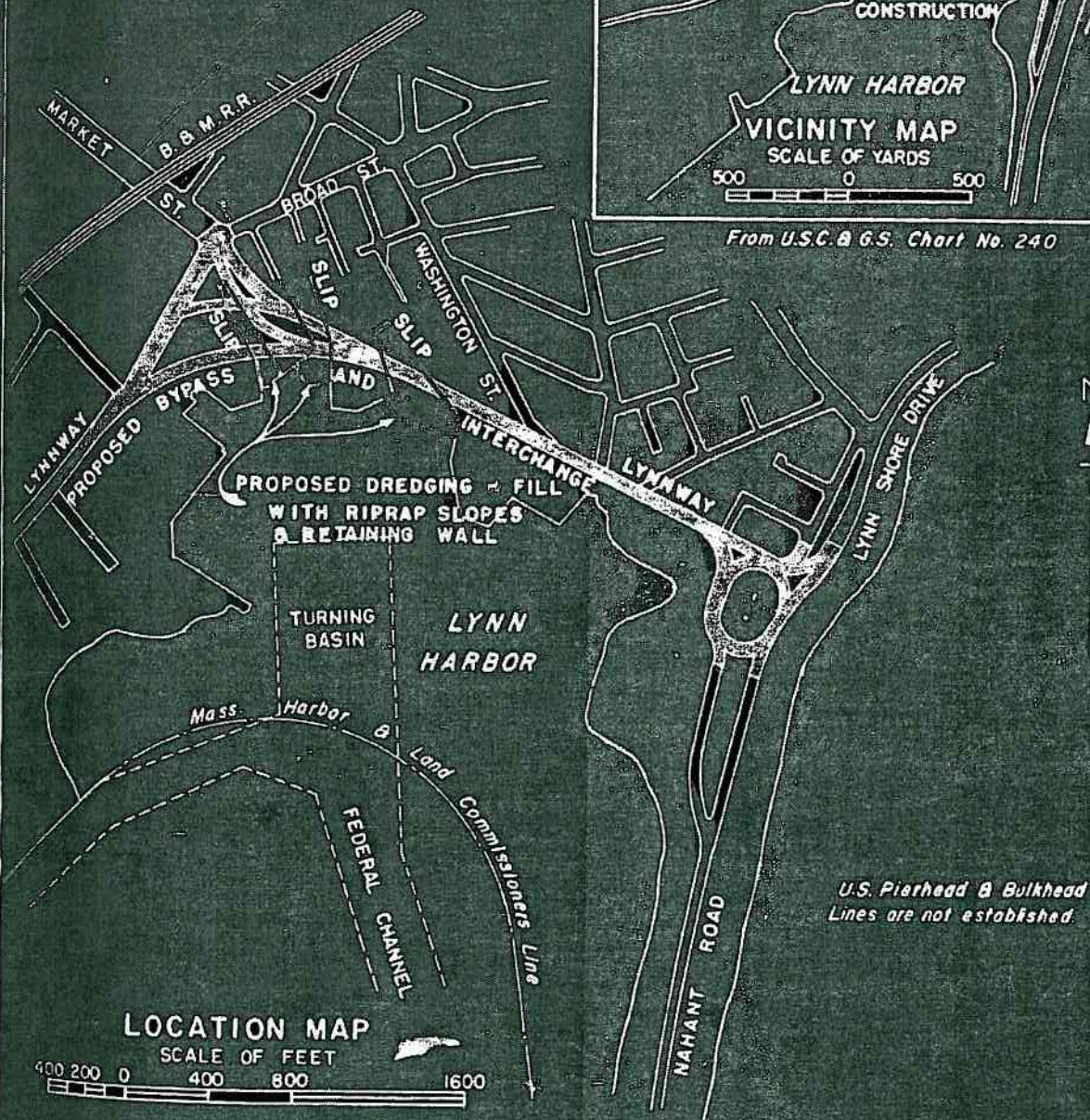
LICENSE PLAN NO. 4812
Approved by Department of Environmental Protection
OCT 18 1995



038-067-749-110-100
038-067-749-110-200



From U.S.C. & G.S. Chart No. 240



PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
FOR PROPOSED RETAINING WALL, DREDGING
AND FILL WITH RIPRAP SLOPES
LYNN HARBOR AT LYNN

NO. 3604
APPROVED BY DEPARTMENT OF PUBLIC WORKS
JANUARY 18, 1954

Edward B. Fole

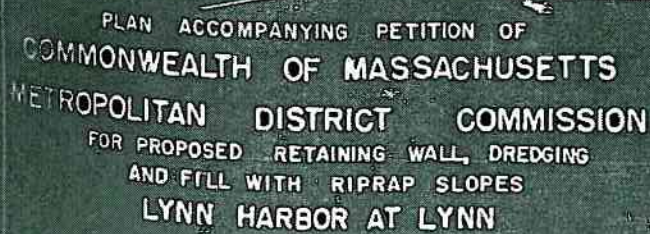
COMMISSIONER OF
PUBLIC WORKS

Armen Matosian

ASSOCIATE
COMMISSIONERS

Rodolph G. Benoit

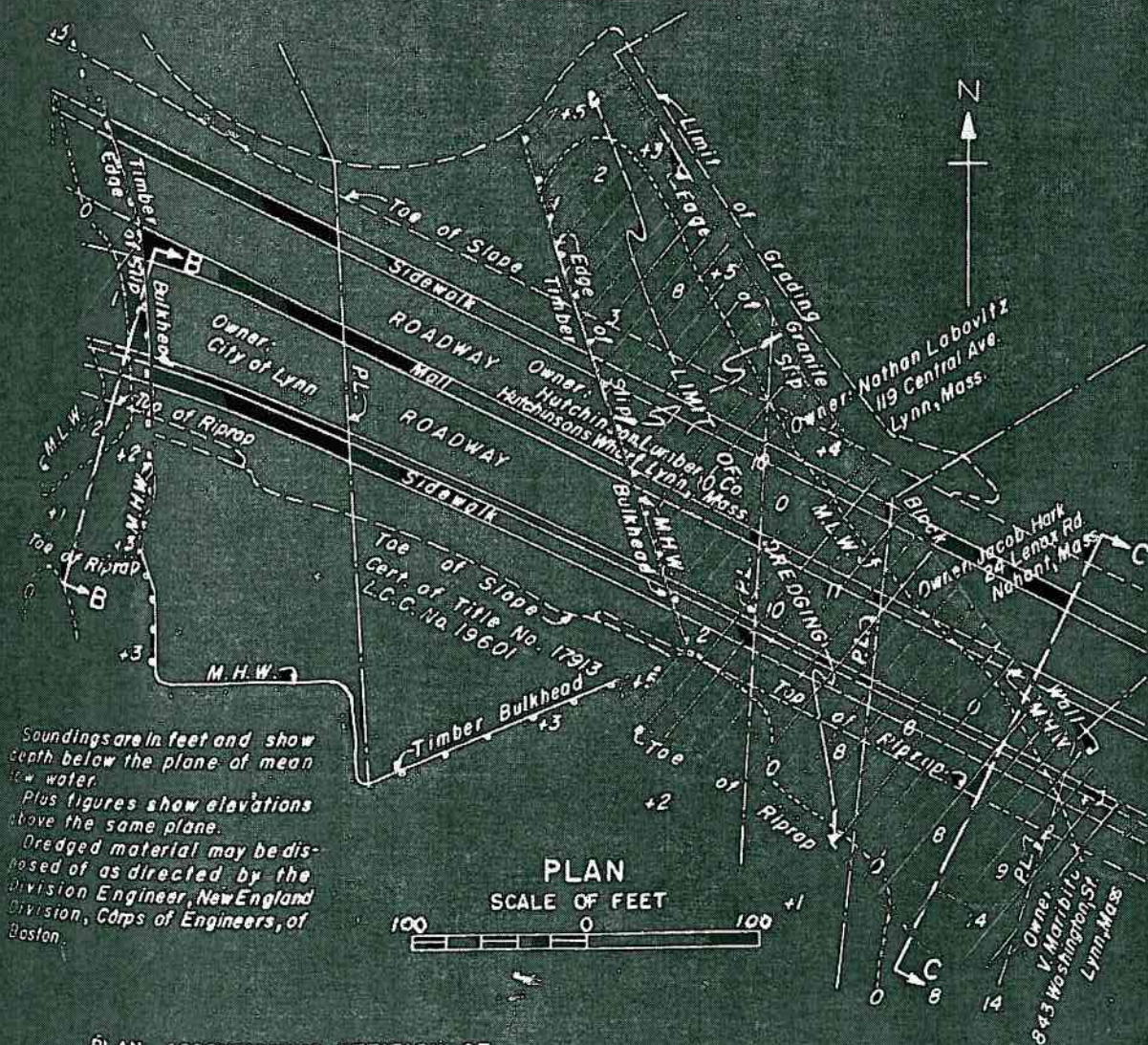
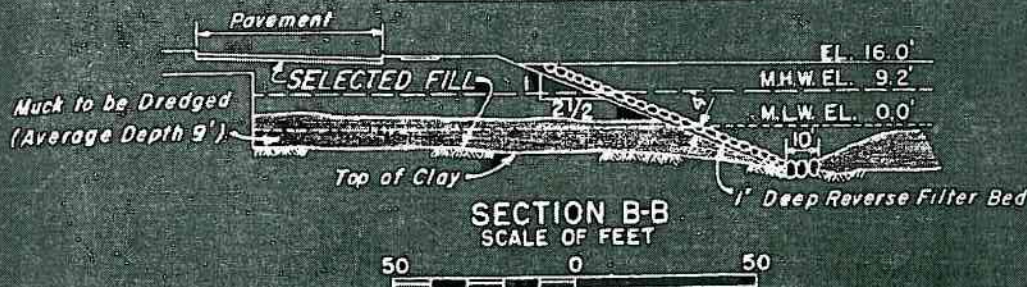
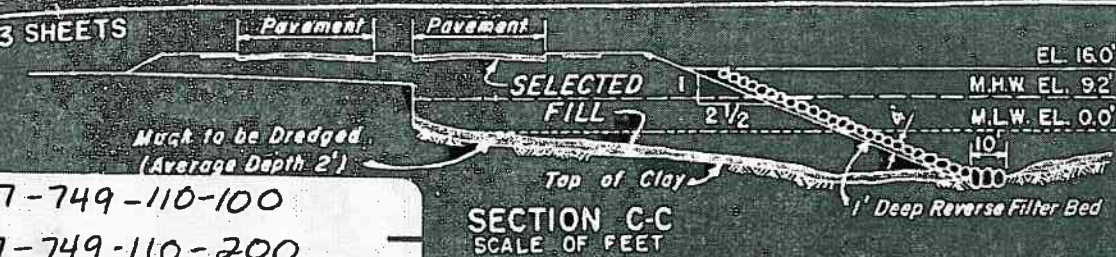
DIRECTOR-DIVISION
OF WATERWAYS



LICENSE PLAN NO. 3604
APPROVED - JANUARY 18, 1954

SHEET 3 OF 3 SHEETS

038-067-749-110-100
038-067-749-110-200



PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
FOR PROPOSED RETAINING WALL, DREDGING
AND FILL WITH RIPRAP SLOPES
LYNN HARBOR AT LYNN

LICENSE PLAN NO. 3604
APPROVED - JANUARY 18, 1954

FOUND

113

3604

BROAD ST

CARROLL HIGHWAY

CONC. HEADWALL
GRANITE WALL
CONC. WALL

421/2870

4943

4942

**GRANITE
WALL—**

1345

-RIPRAP

-MHW EL. 9.2

MLW EL.0.0

-TIMBER!
BULKHEAD

MLWS EL.-1.0

TIMBER BARGES

1373

NORELCO
NORTH AMERICAN
PHILIPS LIGHTING CORP.
C/O M. MARSHAL ST. CLAIR
100 EAST 42ND ST.
NEW YORK NY 10028

PAST LICENSES

Δ **113** EXTENSION OF WHARF BY 250 FEET

Δ 421 EXTEND WHARF 400 FEET

Δ 1373 BUILD AND MAINTAIN A WHARF AND PILE
PLATFORM ABOUT 100 FEET BY 270 FEET.

Δ 1345 BUILD TIMBER BULKHEAD AND FILL

Δ **[2870]** BUILD BULKHEAD AND PILE PLATFORM
ABOUT 185 FEET BY 70 FEET

* **3604** DREDGE AND FILL THREE SLIPS

*[4942] CONSTRUCT RIPRAP FACED DIKE AND FILL

* **4943** CONSTRUCT RIPRAP FACED DIKE AND FILL

* **5735** FILL AND MAINTAIN SOLID FILL

ISSUED BY HARBOR & LANDS COMMISSION
*ISSUED BY DEPARTMENT OF PUBLIC WORKS
PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT, L.P.
TO CONSTRUCT AND MAINTAIN A
RESIDENTIAL DEVELOPMENT,
WALKBRIDGE, FLOAT, BOARDWALK AND
RIP RAP AT HARBORSIDE LANDING
IN LYNN HARBOR, CITY OF LYNN,
COUNTY OF ESSEX, MASSACHUSETTS.

REVISÉ JANUARY 1988

REVISÉ JULY 1987

NOVEMBER 1986

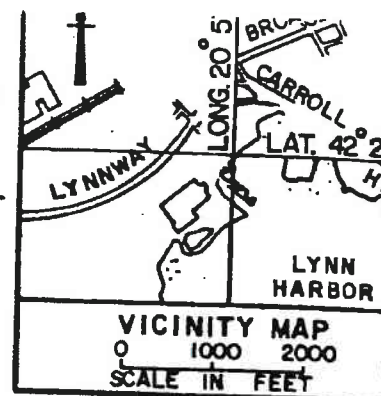
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

COMMISSIONER
DIVISION DIRECTOR
SECTION CHIEF
DATE

FFR 17 1988



FROM: USGS QUAD SHEET (LYNN M

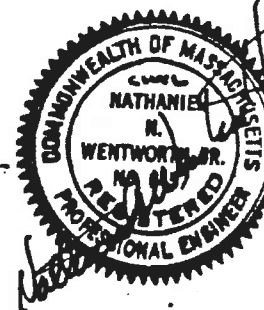
LYNN HERITAGE
STATE PARK

EDIC
ONE MARKET
LYNN MA. 0190

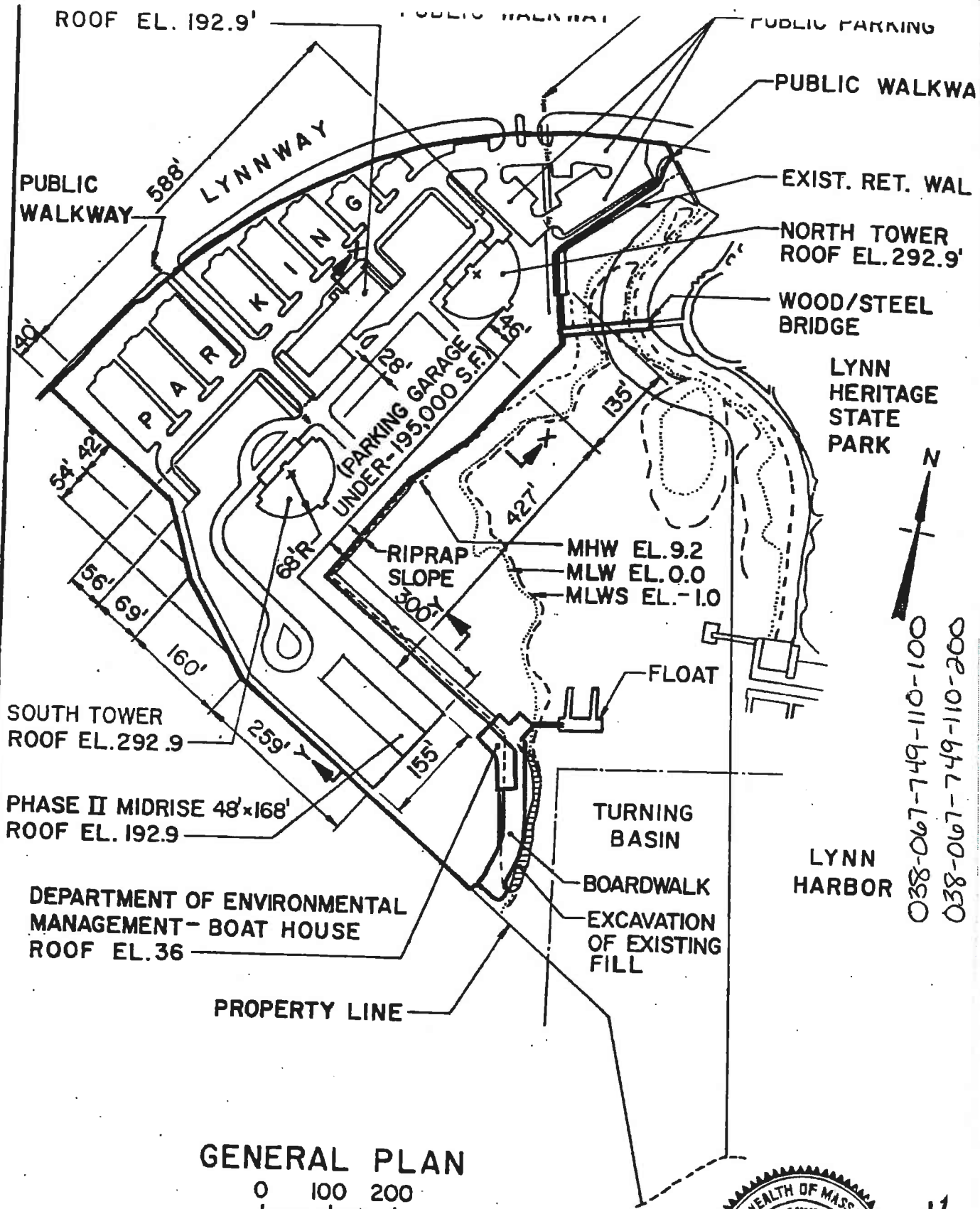
LYNN
HARBOR

PLAN

0 100 200
SCALE IN FEET



SHEET 1 OF 1



GENERAL PLAN

0 100 200
 SCALE IN FEET

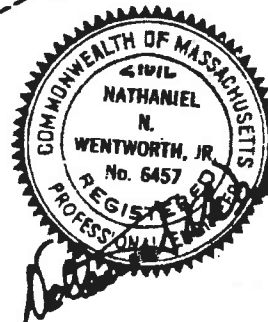
LICENSE PLAN NO. 1747

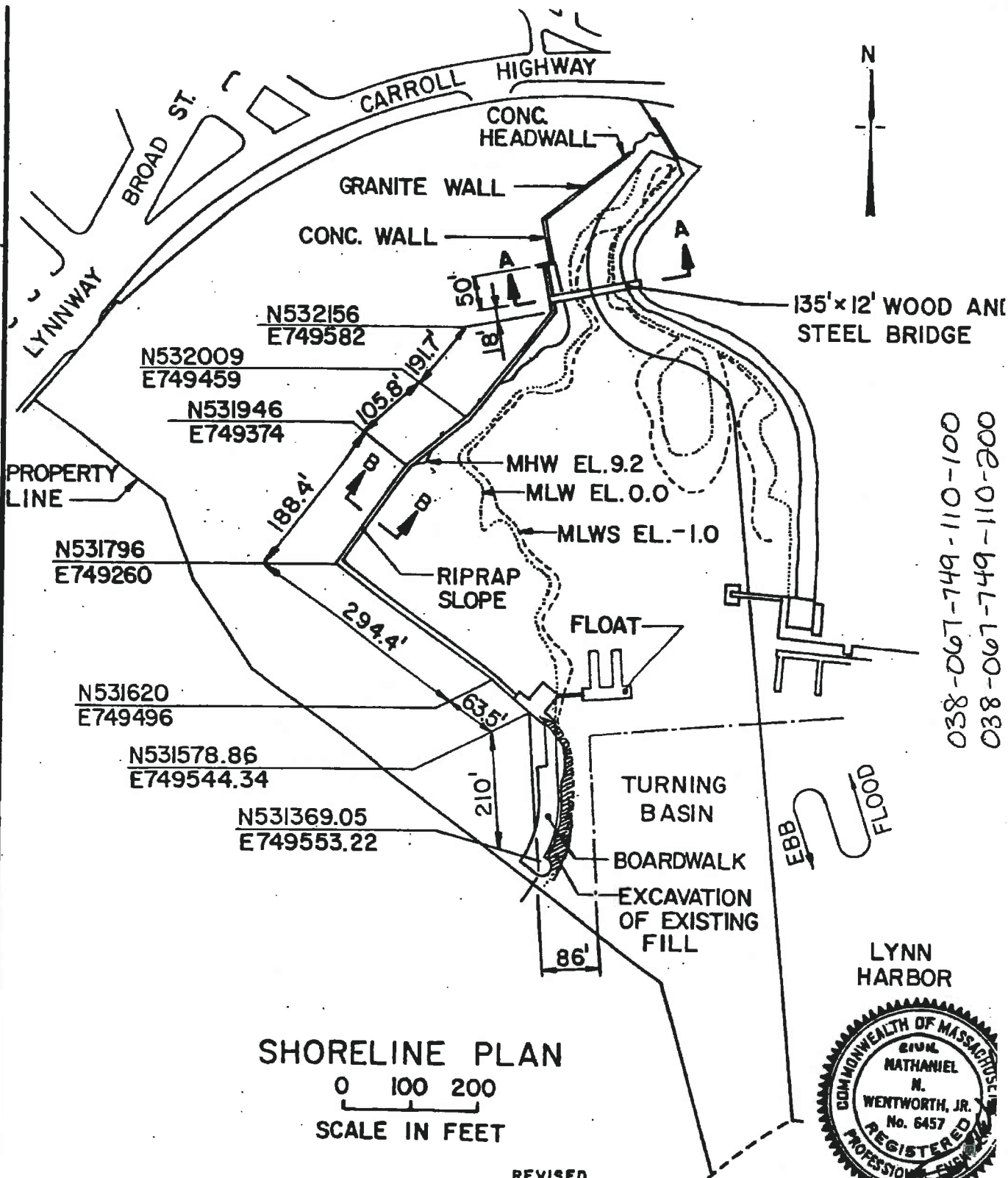
Approved by Department of Environmental Quality Engineering
 FEB 17 1980

PLAN ACCOMPANYING PETITION OF

JANUARY, 1980

SHEET 2 OF 11



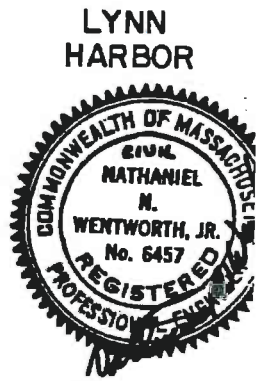


SHORELINE PLAN
0 100 200
SCALE IN FEET

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED
JANUARY 1988
OCTOBER 1987

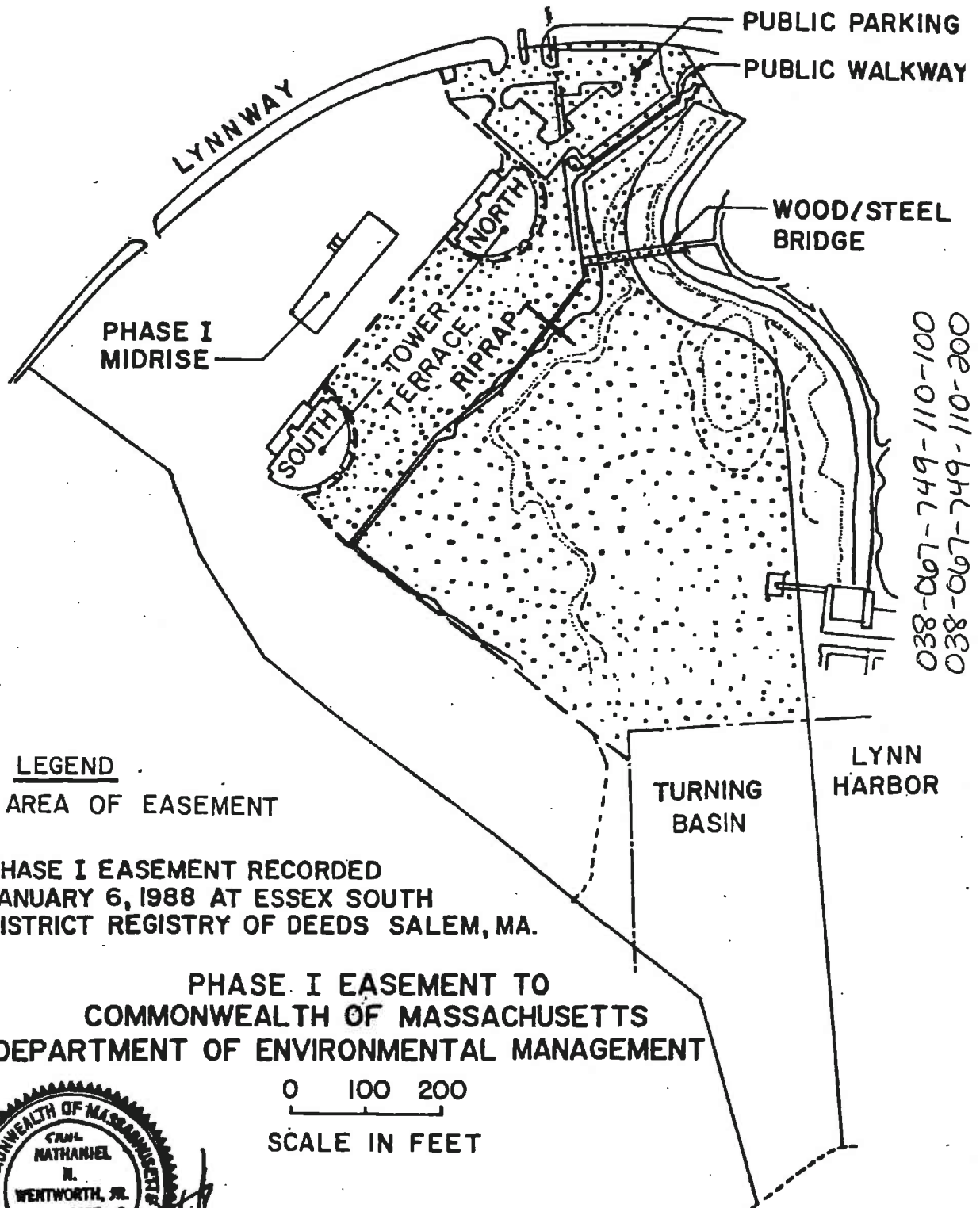
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA



SHEET 3 OF

LICENSE PLAN NO. 1747
Approved by Department of Environmental Quality Engineer
Date FEB 17 1988

038-067-749-110-100
038-067-749-110-200



LEGEND



AREA OF EASEMENT

NOTE: PHASE I EASEMENT RECORDED
JANUARY 6, 1988 AT ESSEX SOUTH
DISTRICT REGISTRY OF DEEDS SALEM, MA.

PHASE I EASEMENT TO
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

0 100 200

SCALE IN FEET



PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED JANUARY 1988
OCTOBER 1987

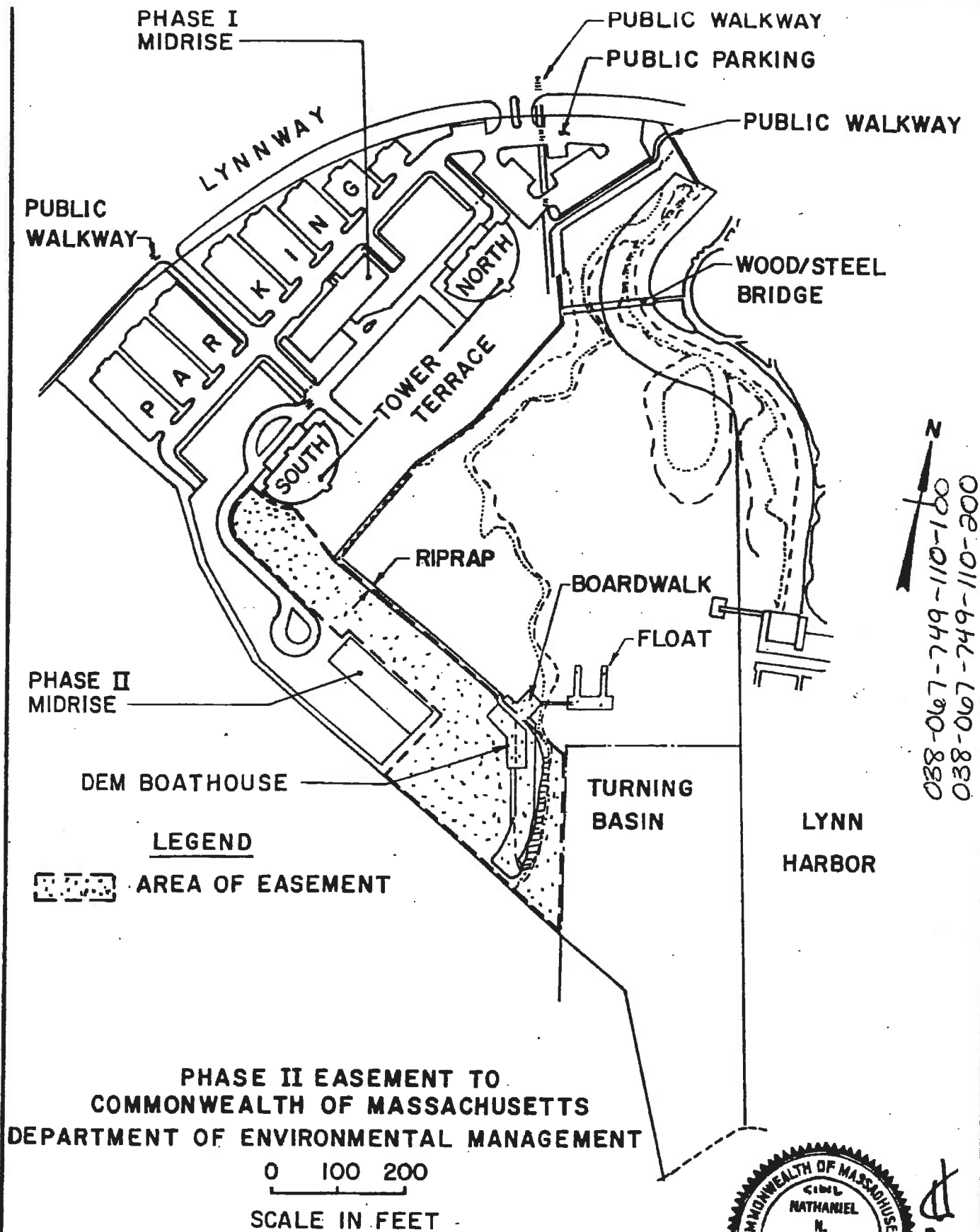
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

SHEET 4 OF 1

LICENSE PLAN NO. 1747

Approved by, Department of Environmental Quality Engineer

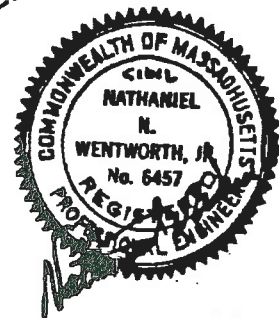
Date: FEB 17 1988

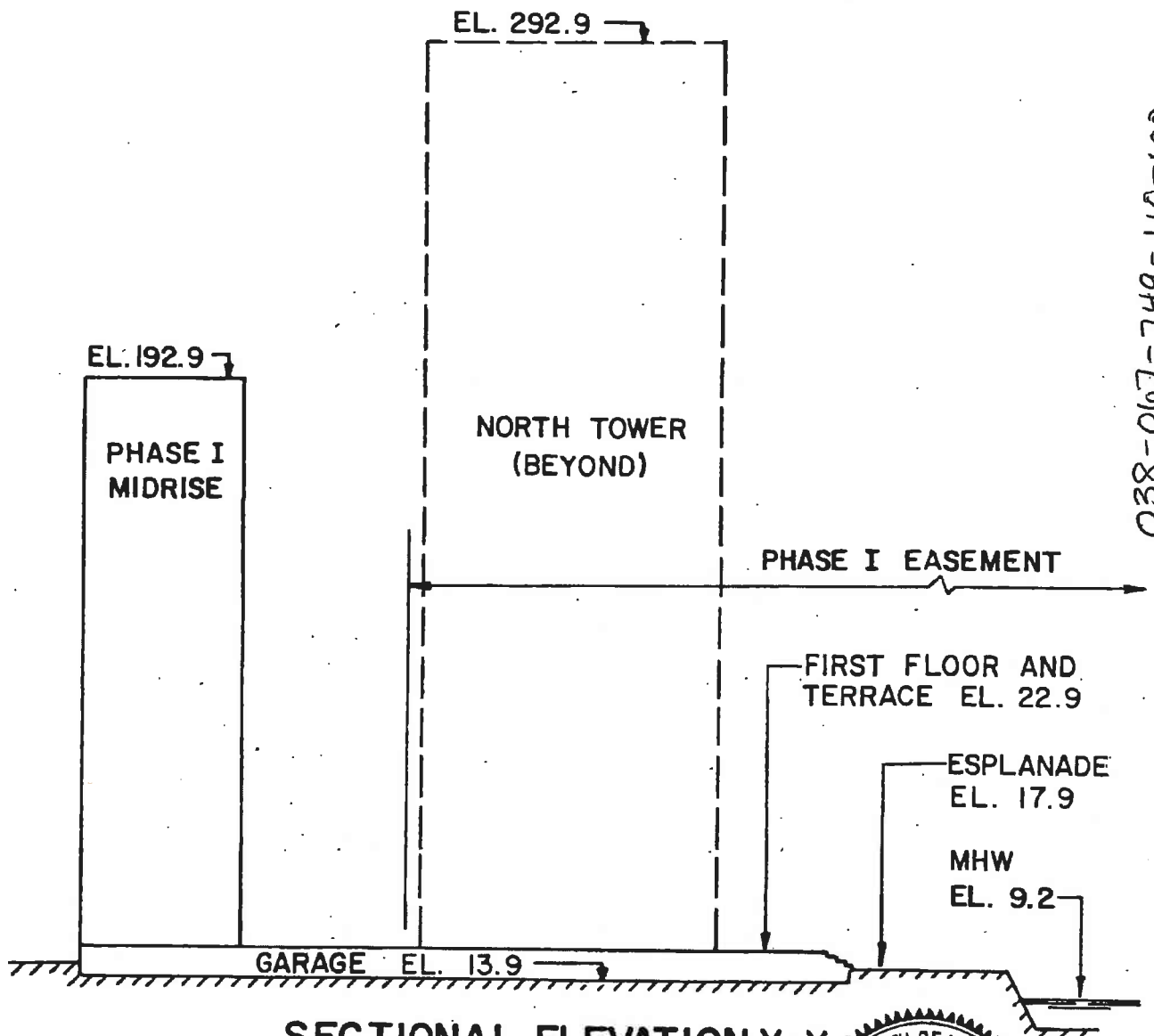


LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

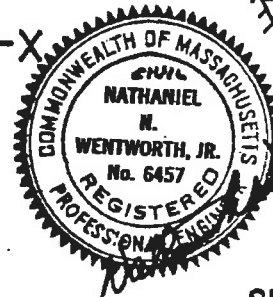
Date: FEB 17 1988





SECTIONAL ELEVATION X-X

0 25 50
SCALE IN FEET



REVISED
JANUARY 1988
OCTOBER 1987

FAY, SPOFFORD & THORNDIKE, INC. LEXINGTON, M

SHEET 6 OF

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

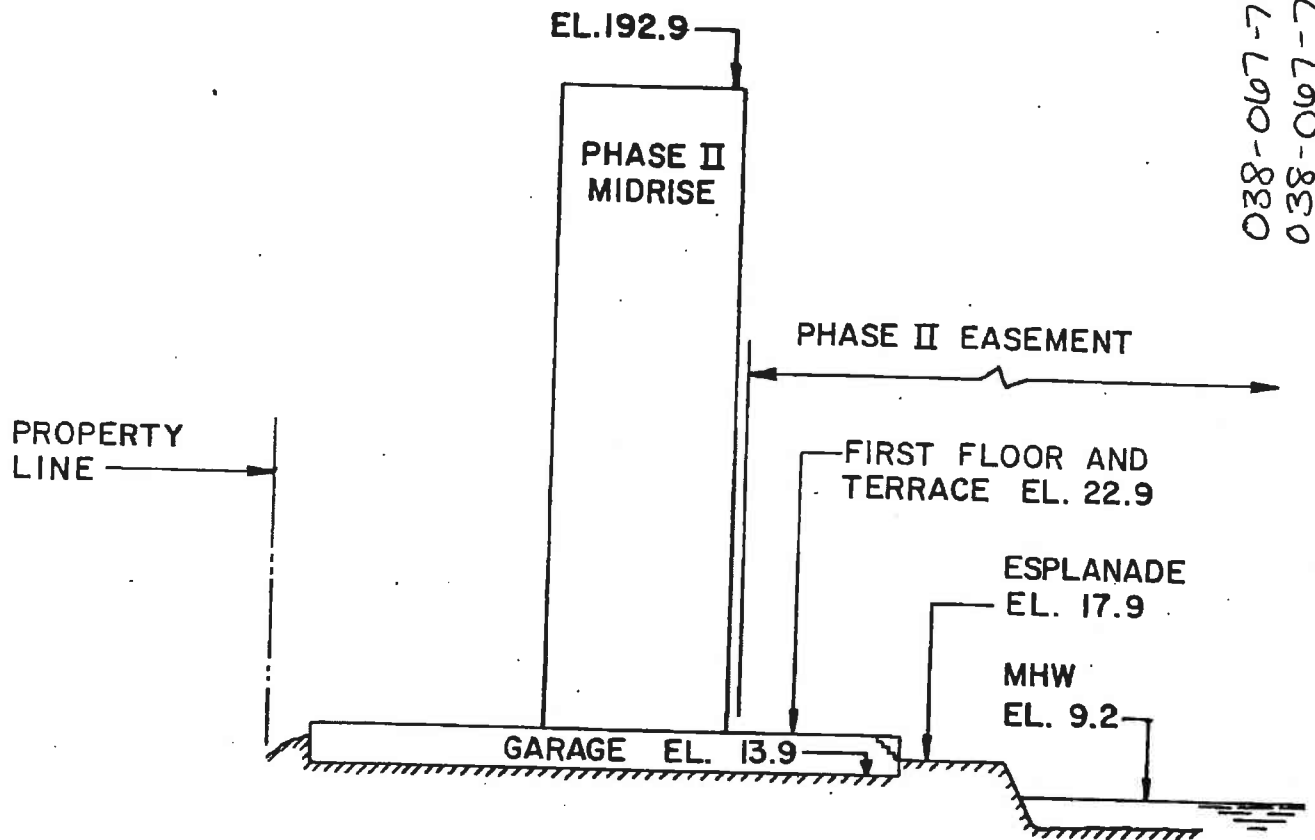
LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineer:

Date: FEB 17 1988

038-067-749-110-100
038-067-749-110-200

038-067-749-110-100
038-067-749-110-200



SECTIONAL ELEVATION Y-Y

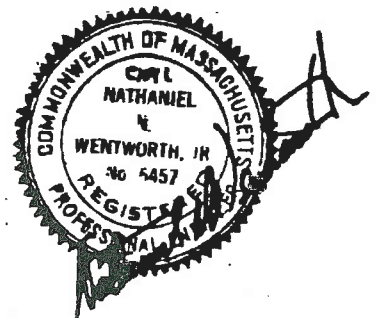
0 25 50

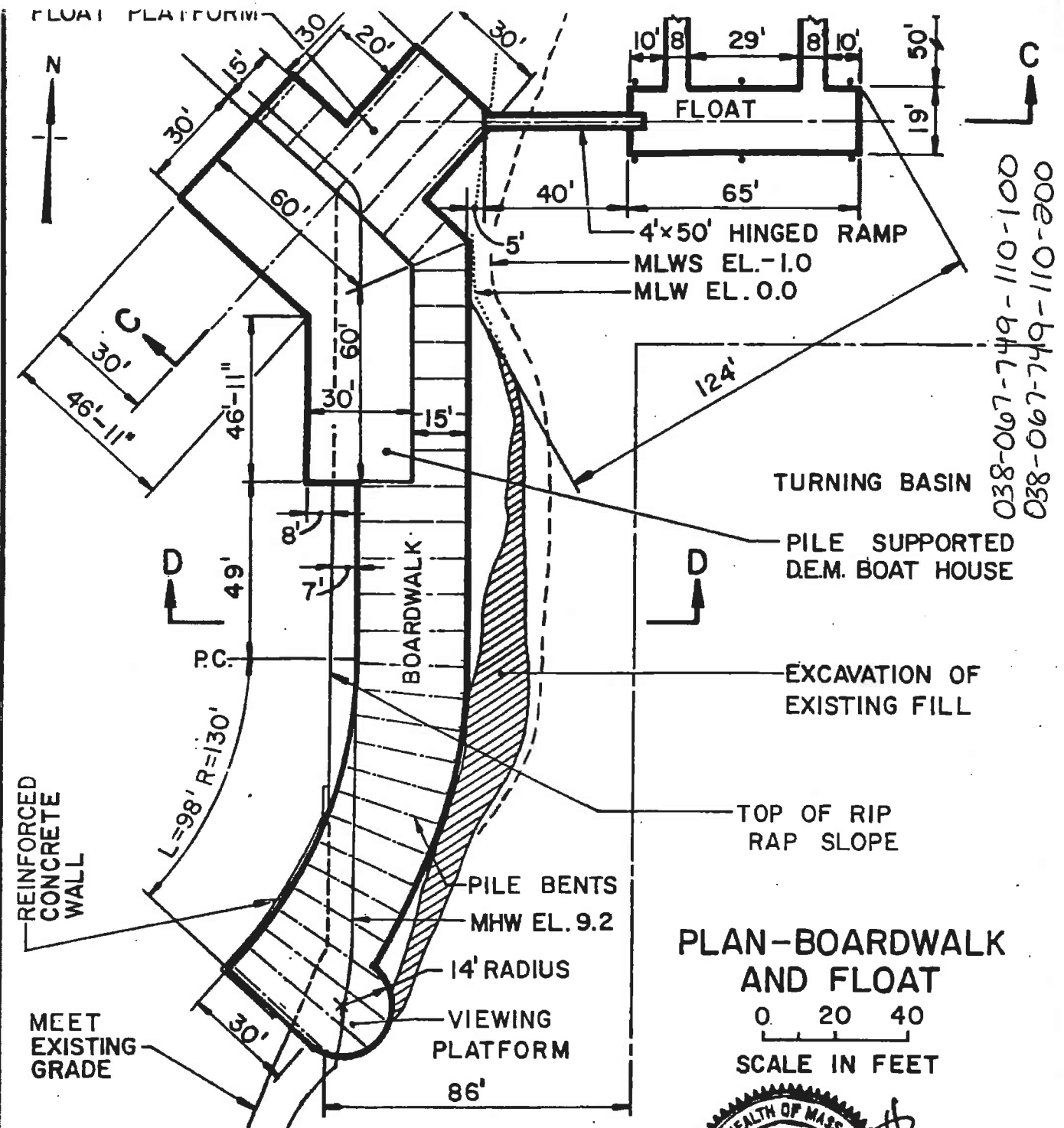
SCALE IN FEET

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

Date: FEB 17 1988





038-067-749-110-100
 038-067-749-110-200



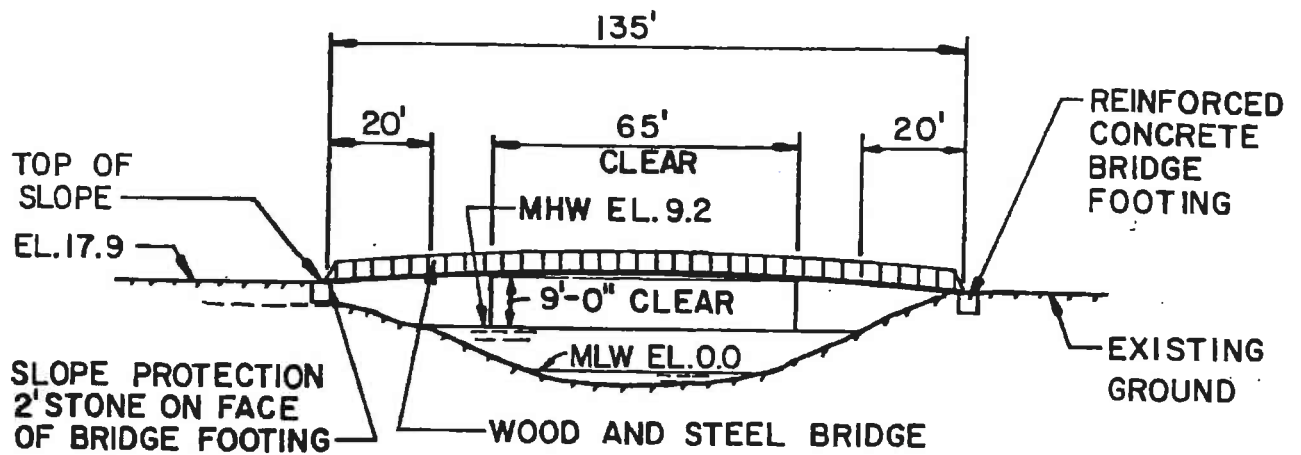
REVISED
 JANUARY 1988
 REVISED
 JULY 1987
 NOVEMBER 1986
 FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

SHEET 8 OF 1

PLAN ACCOMPANYING PETITION OF
 LYNN HARBOR DEVELOPMENT L.P.

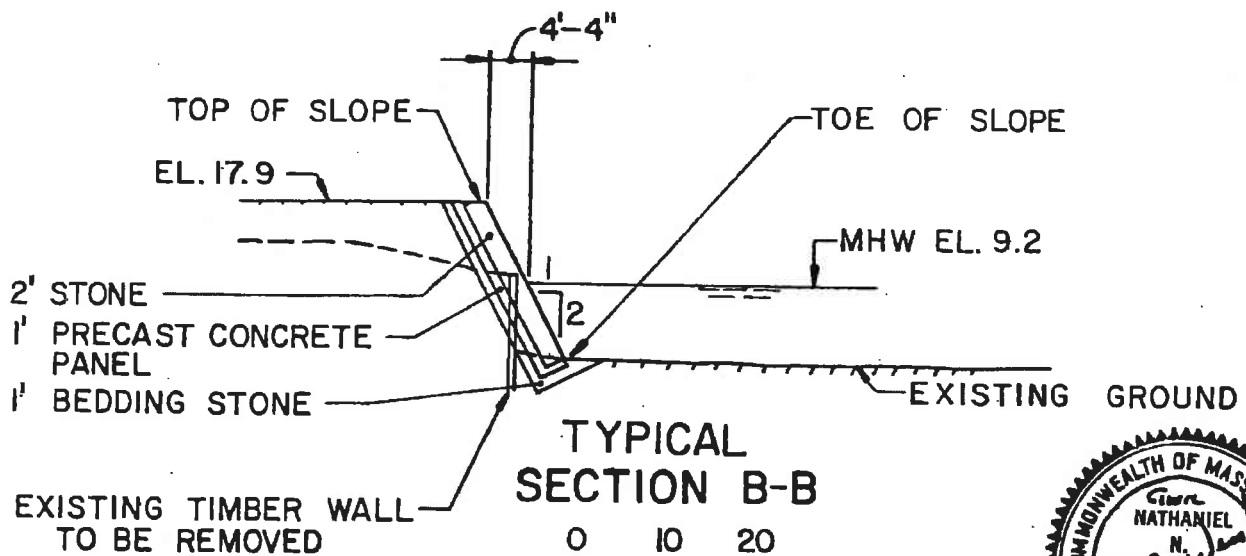
LICENSE PLAN NO. 1747
 Approved by Department of Environmental Quality Engines
 Date: FEB 17 1988

86W-200



SECTION A-A

0 20 40
SCALE IN FEET



TYPICAL SECTION B-B

0 10 20
SCALE IN FEET

NOTE:

1. APPROX. 500 CU. YDS. OF FILL BELOW MHW EL. 9.2
2. APPROX. 2500 CU. YDS. OF STONE AND CONCRETE SLOPE PROTECTION

86W-200

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

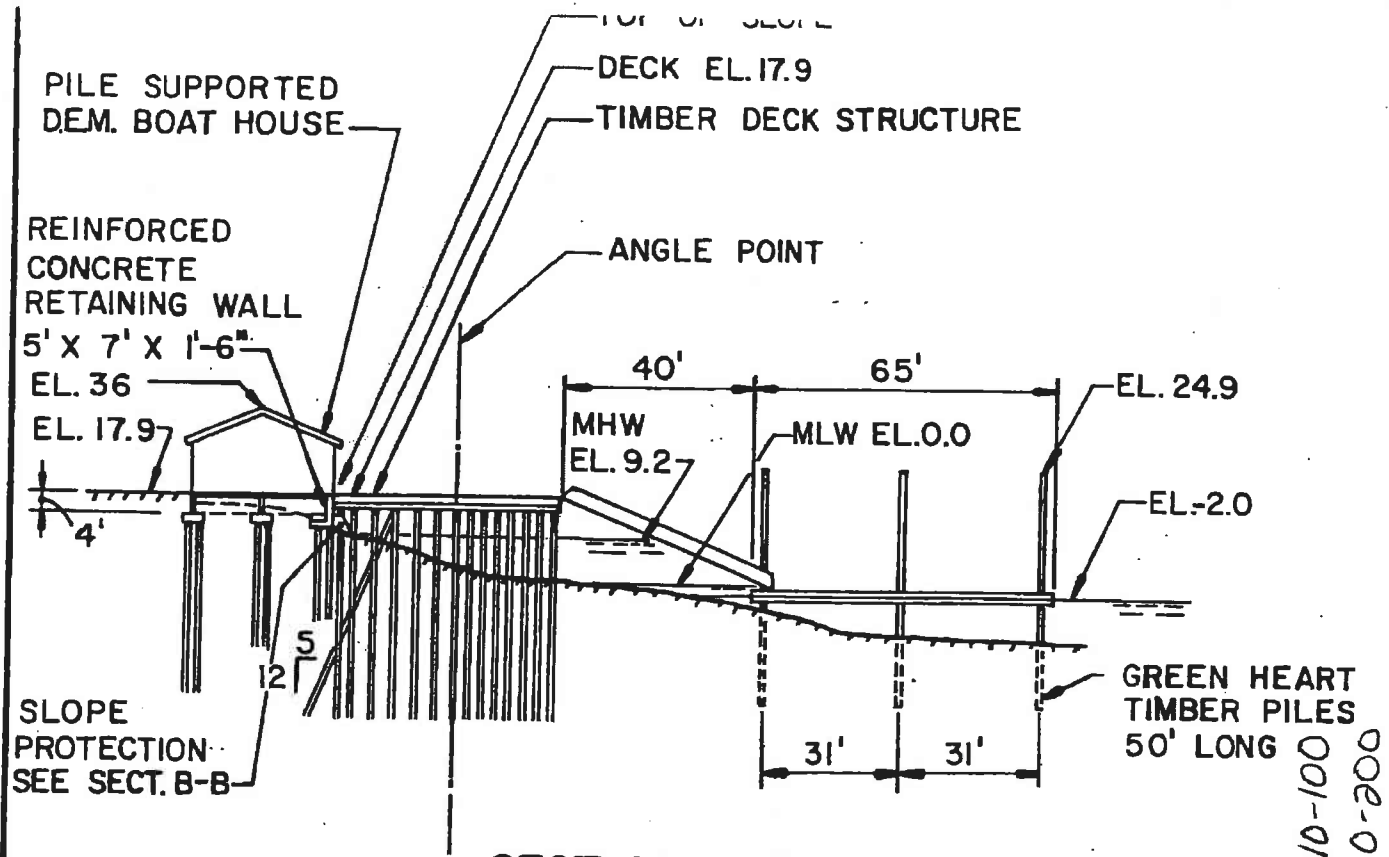
SHEET 9 OF 1

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineer:
Date: FEB 17 1988



038-067-749-110-100
038-067-749-110-200



SECTION C-C

0 20 40
SCALE IN FEET

PILE SCHEDULE	
LOCATION	NUMBER
FLOAT	10
FLOAT PLATFORM	41
BOARDWALK	254
VIEWING PLATFORM	22
DEM. BOAT HOUSE	120

86W-200

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED
JANUARY 1986
REVISED JULY 1987
NOVEMBER 1986

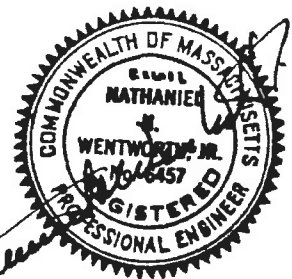
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

SHEET 10 OF 11

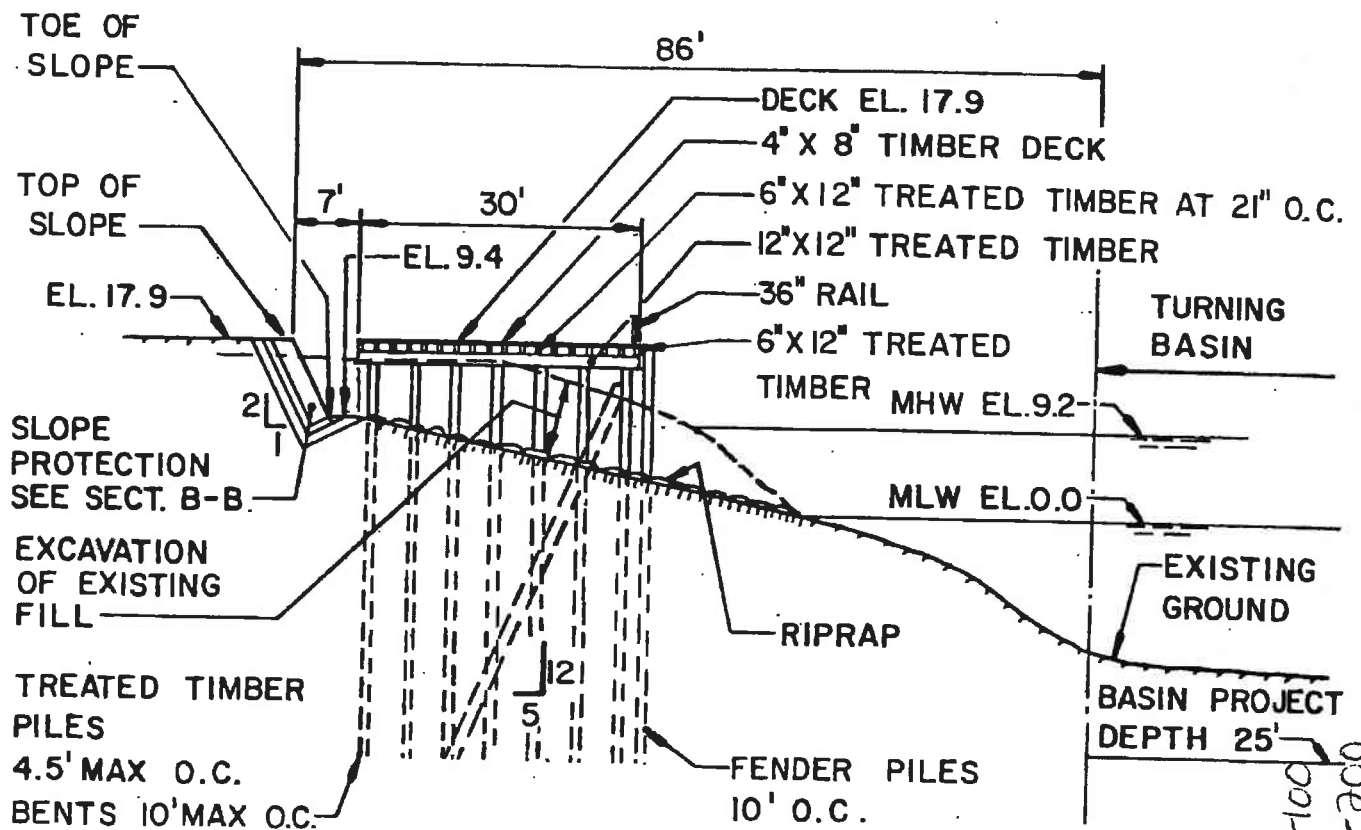
LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineerin

Date: FEB 17 1988



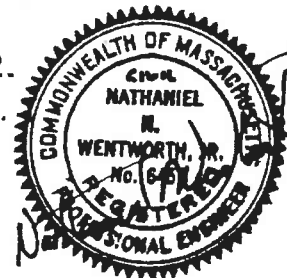
038-067-749-110-100
038-067-749-110-200



TYPICAL
SECTION D-D

0 10 20
SCALE IN FEET

NOTE: APPROXIMATELY 120 CU. YDS. OF EXISTING STONE RIPRAP AND 400 CU. YDS. OF EXISTING FILL IS TO BE EXCAVATED SEAWARD OF MHW EL. 9.2. APPROXIMATELY 400 CU. YDS. OF STONE RIPRAP WILL BE PLACED ON EXCAVATED BOTTOM.



REVISED JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986

FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, M.

SHEET II OF I

86W-200
PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

LICENSE PLAN NO. 1747

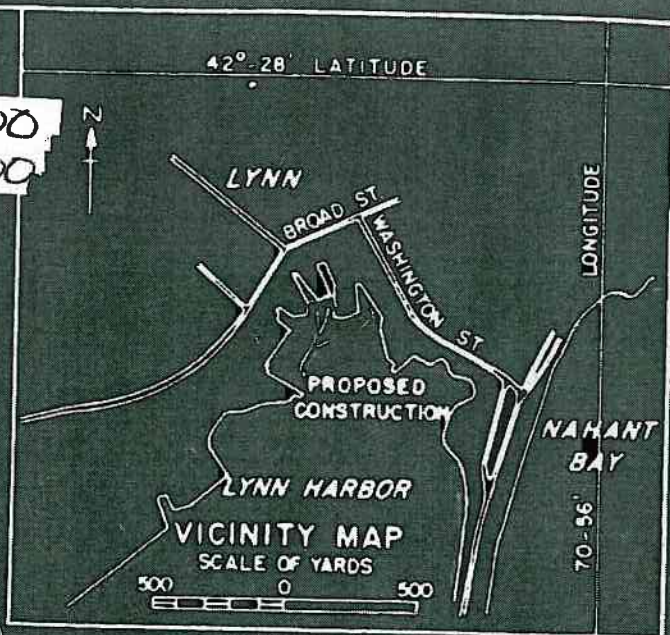
Approved by Department of Environmental Quality Engineerin
Date: FEB 17 1988

038-067-749-110-100
038-067-749-110-200

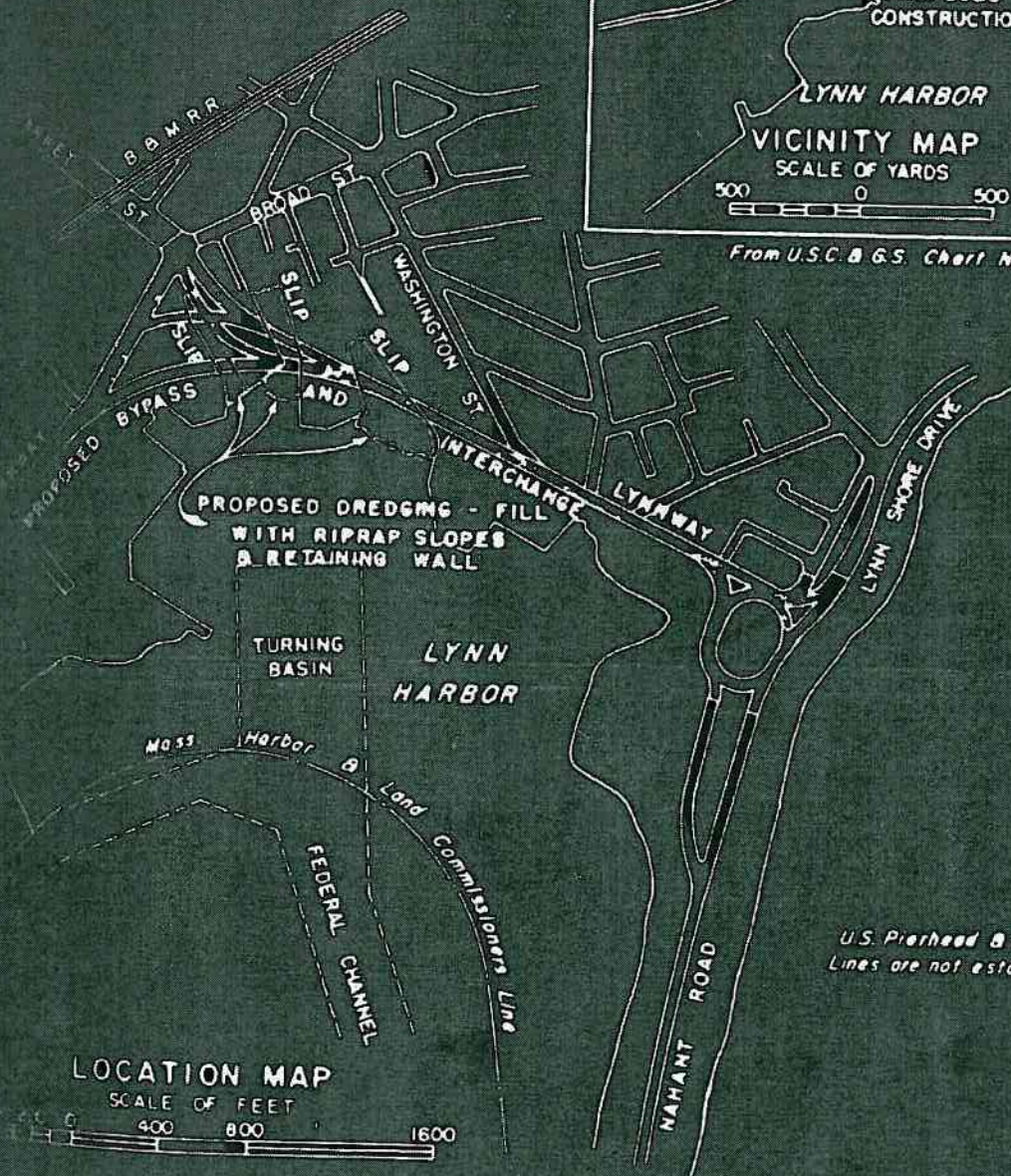
OF 3 SHEETS

038-067-749-110-100
038-067-749-110-200

42°-28' LATITUDE



From U.S.C. & G.S. Chart No. 240



LOCATION MAP

SCALE OF FEET

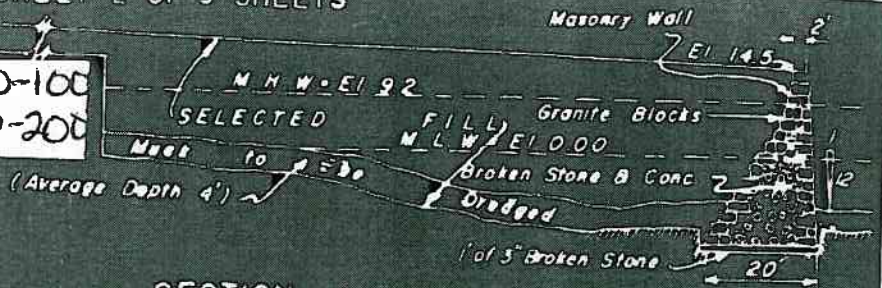
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PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO 4183
APPROVED BY DEPARTMENT OF PUBLIC WORKS
DECEMBER 22, 1958

[Signature] COMMISSIONER OF PUBLIC WORKS
[Signature] ASSOCIATE COMMISSIONERS
[Signature] DIRECTOR-DIVISION OF WATERWAYS

038-067-749-110-100
038-067-749-110-200

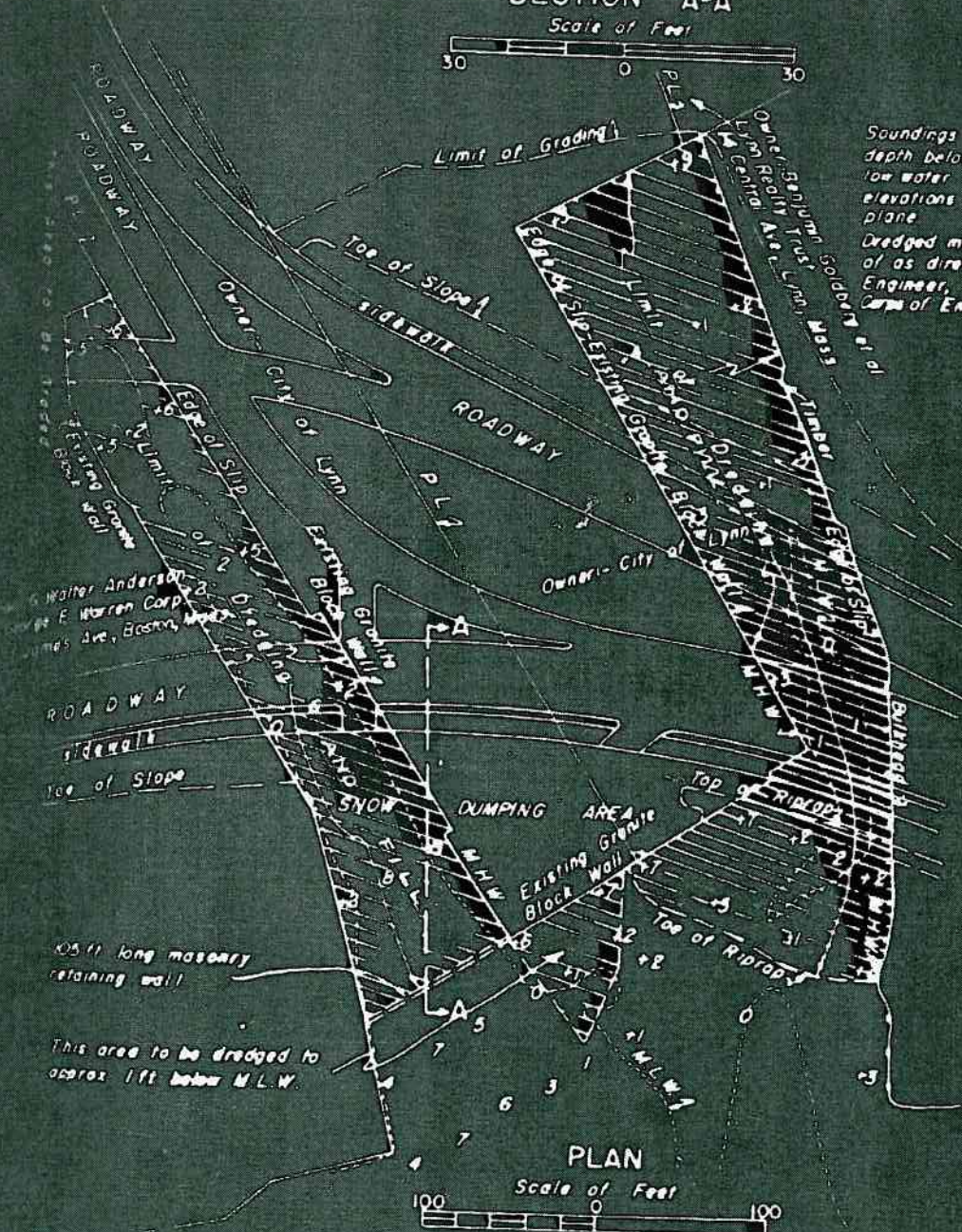


SECTION A-A

Scale of Feet



Soundings are in feet and show depth below the plane of mean low water. Plus figures show elevations above the same plane.
Dredged material may be disposed of as directed by the Division Engineer, New England Division, Corps of Engineers, of Boston.

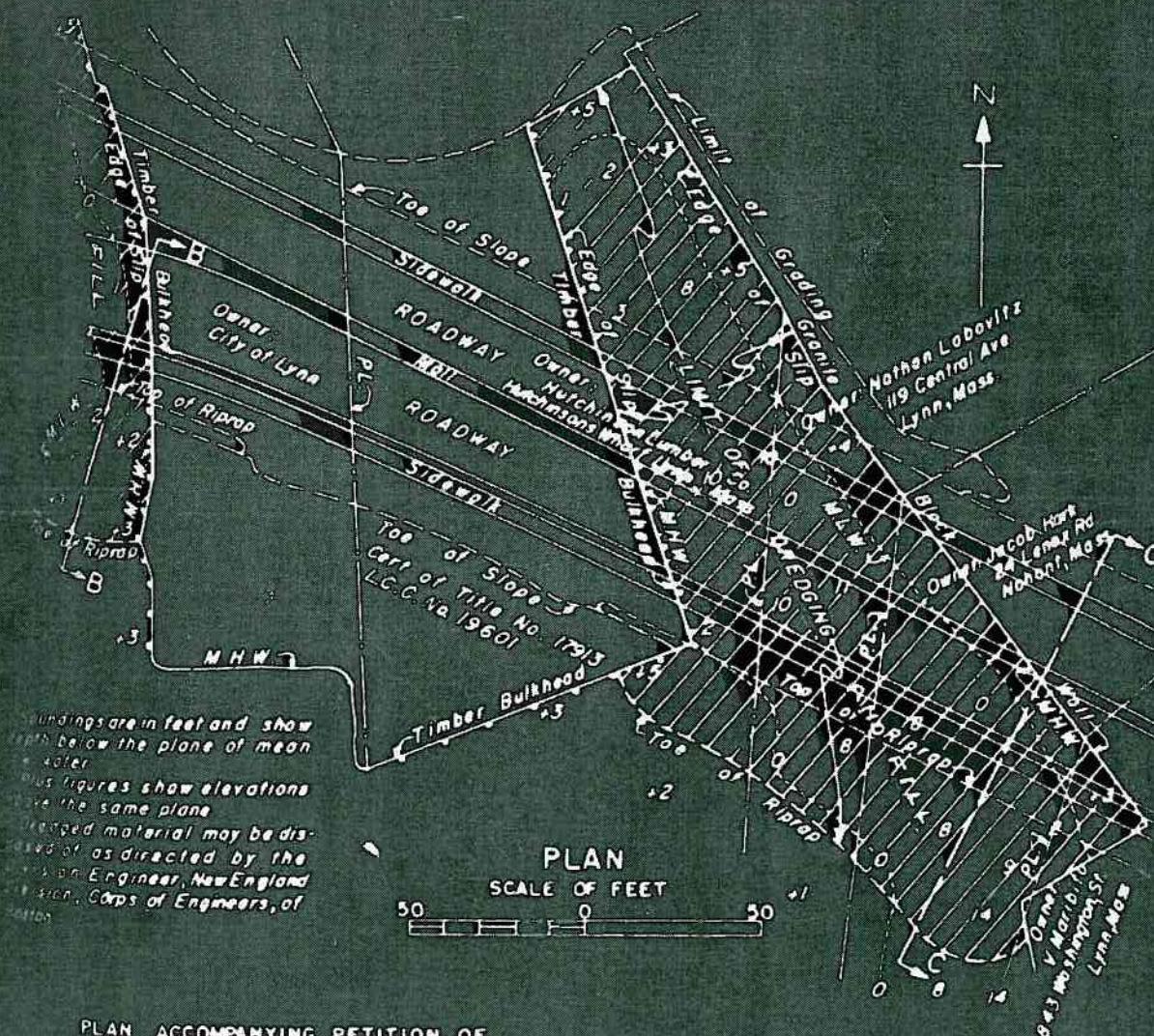
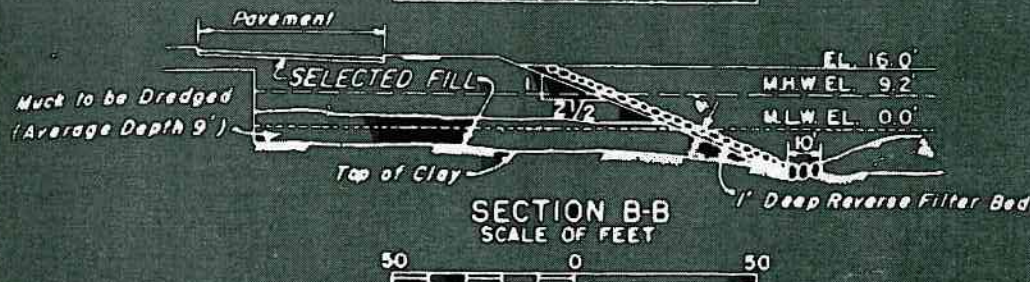
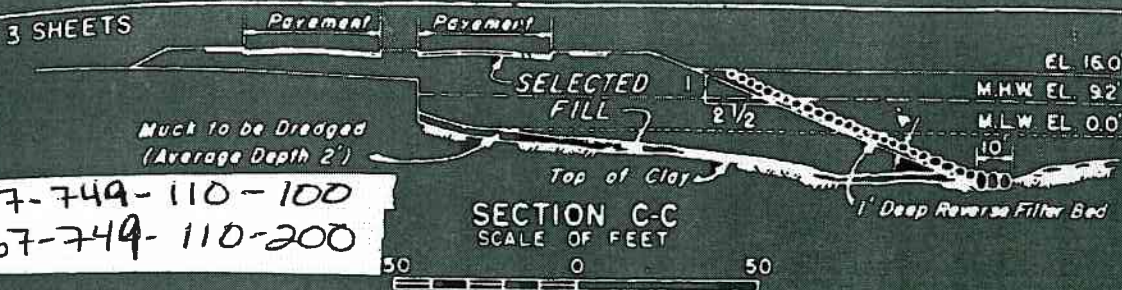


PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO. 4-183
APPROVED - DECEMBER 22, 1958

3 OF 3 SHEETS

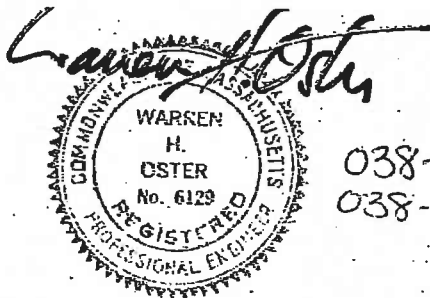
038-067-749-110-100
038-067-749-110-200



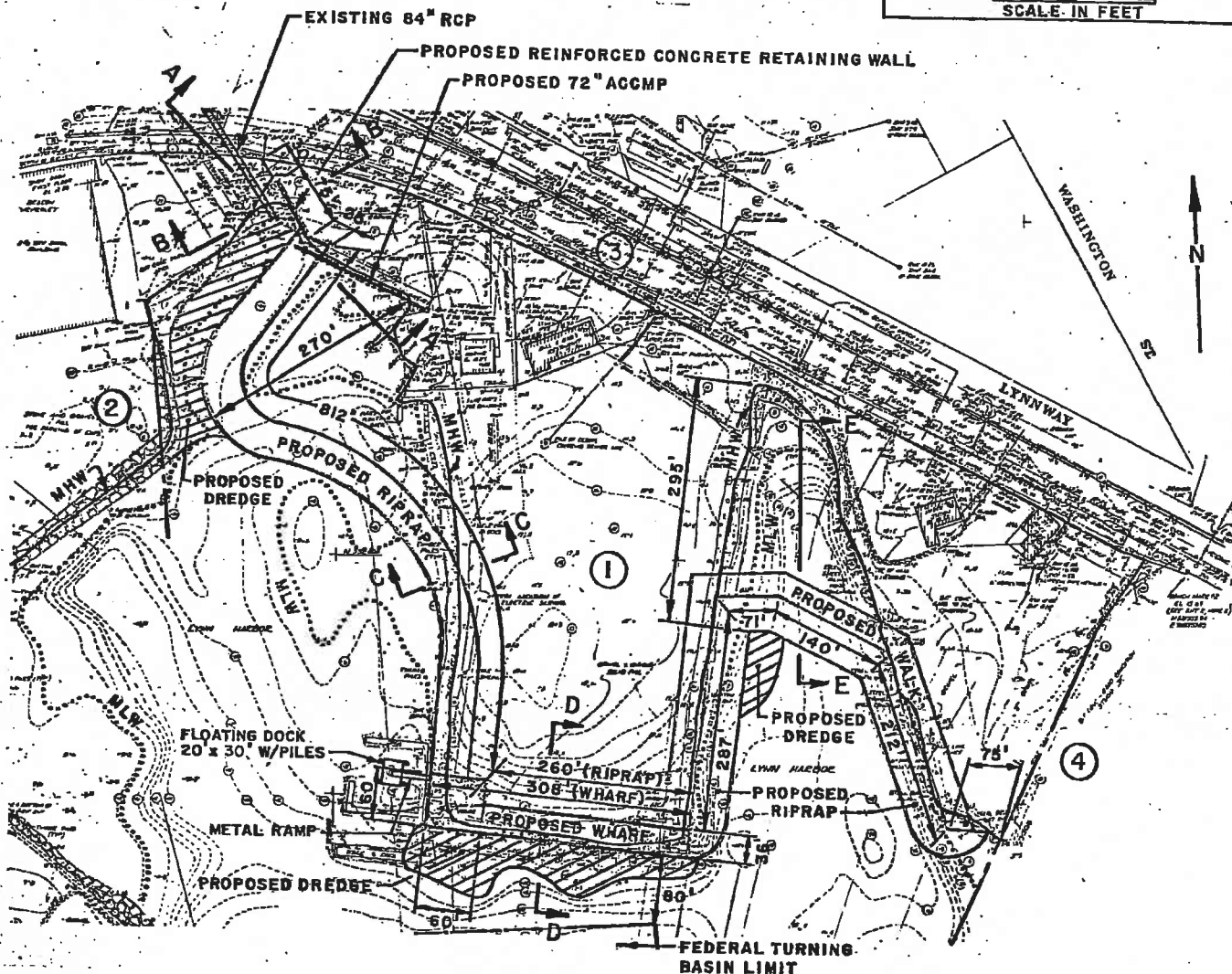
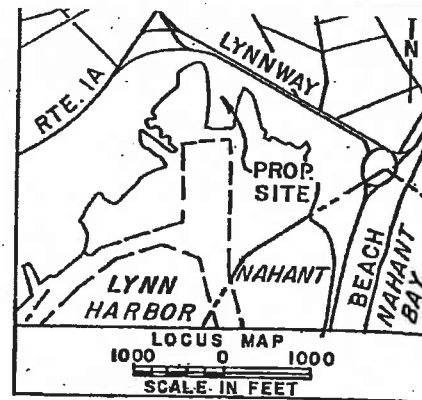
Soundings are in feet and show depth below the plane of mean water. Plus figures show elevations above the same plane. Dredged material may be disposed of as directed by the Engineer, New England Division, Corps of Engineers, of Boston.

PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO 4183
APPROVED - DECEMBER 22, 1958



038-067-749-110-100
038-067-749-110-200



NOTES:

1. PROPOSED ELEVATIONS MEAN LOW WATER (MLW) = 0.0
2. EXISTING CONTOUR INFORMATION MLW = -4.5 (NGVD)

PLAN
SCALE: 1"=200'

- LOT 1 EDIC OF LYNN
LOT 2 LLOYD ASSOC. INC.
STRATHAM HEIGHTS RD.
STRATHAM, NH
LOT 3 METROPOLITAN DISTRICT
COMMISSION
LOT 4 HARBORSIDE DEVELOPMENT ASSOC.
23 CENTRAL AVE.
LYNN, MA.

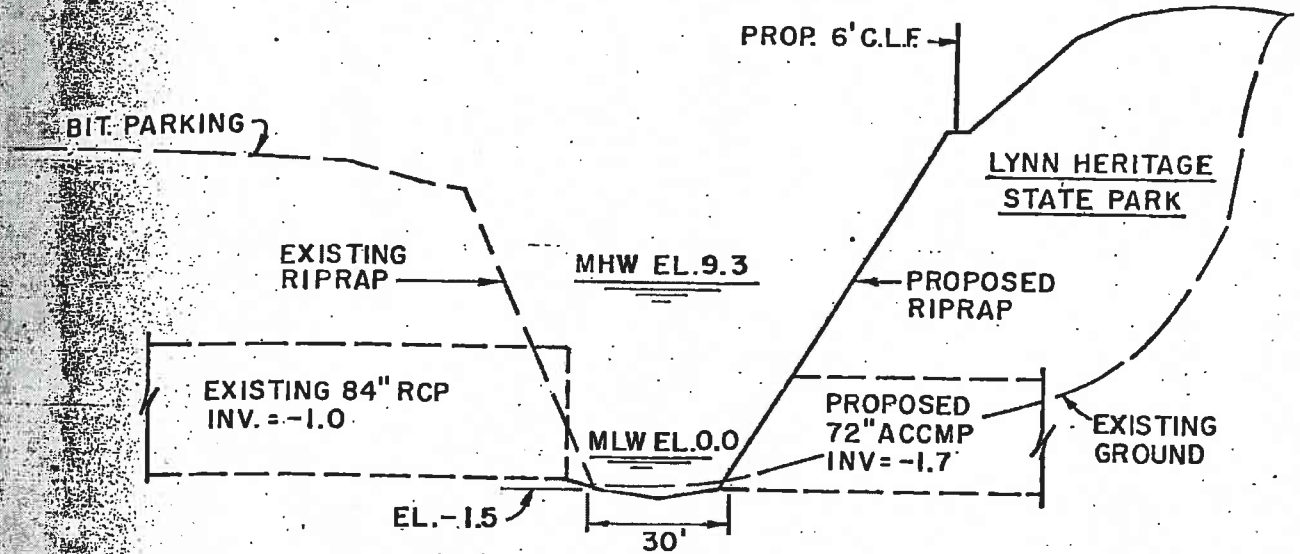
82w-082

**PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO CONSTRUCT AND MAINTAIN A WHARF
REINFORCED CONCRETE RETAINING WALL,
72" ACCMP AND RIPRAP IN LYNN HARBOR, CITY
OF LYNN, COUNTY OF ESSEX, MASSACHUSETTS**

SHEET NO. 1 OF 4

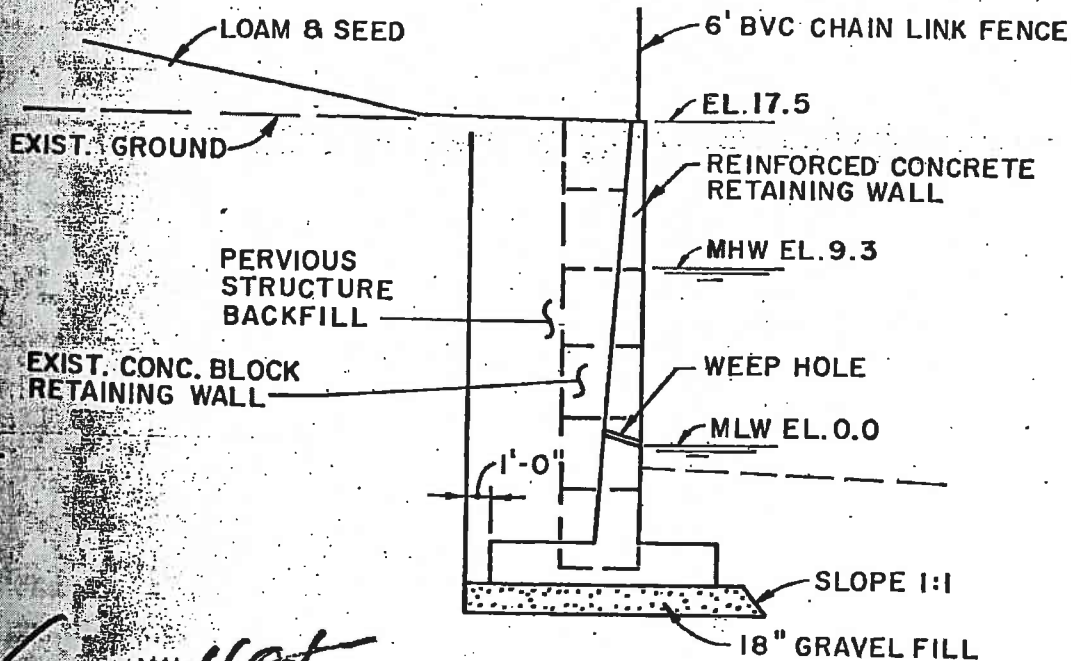
LICENSE PLAN NO. 959
Approved by Department of Environmental Quality Engineer
of Massachusetts **FEBRUARY 25, 1983**
John J. Sullivan COMMISSIONER
CHIEF ENGINEER

038-067-749-110-100
038-067-749-110-200



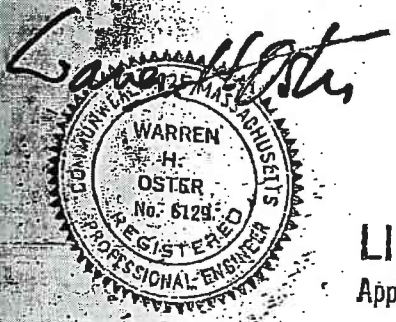
SECTION A-A

SCALE: HOR. 1" = 40'
VERT. 1" = 10'



SECTION B-B

SCALE: 1" = 10'

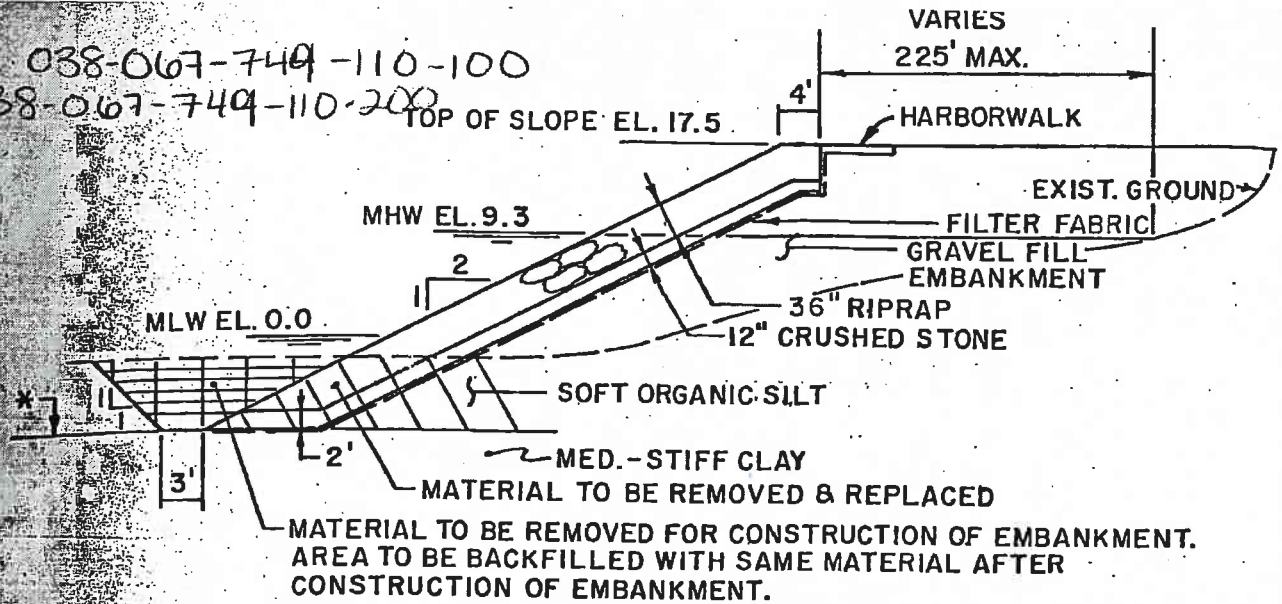


LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering
FEBRUARY 25, 1983

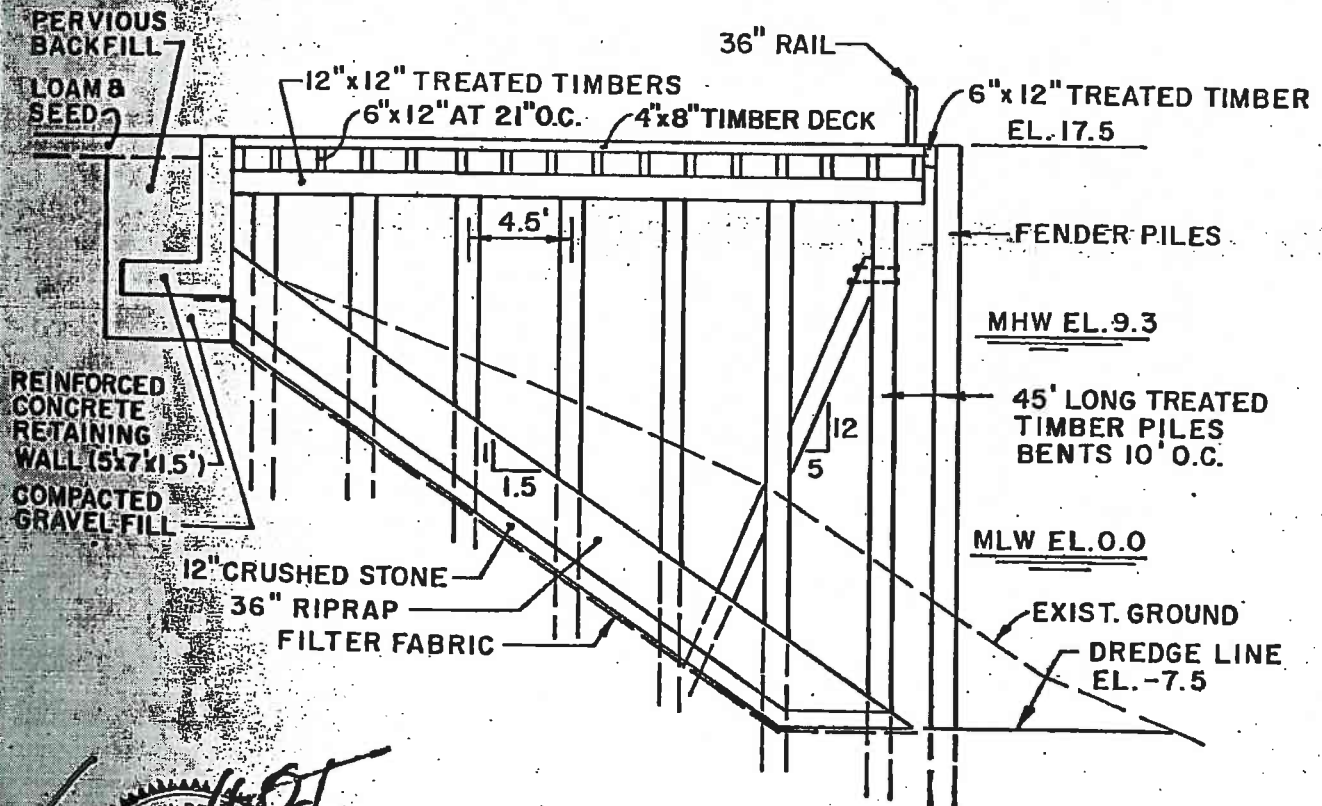
82w-082
SHEET NO. 2 OF 4

038-067-749-110-100
038-067-749-110-200



SECTION C-C

SCALE: 1" = 16'



SECTION D-D

SCALE: 1" = 8'

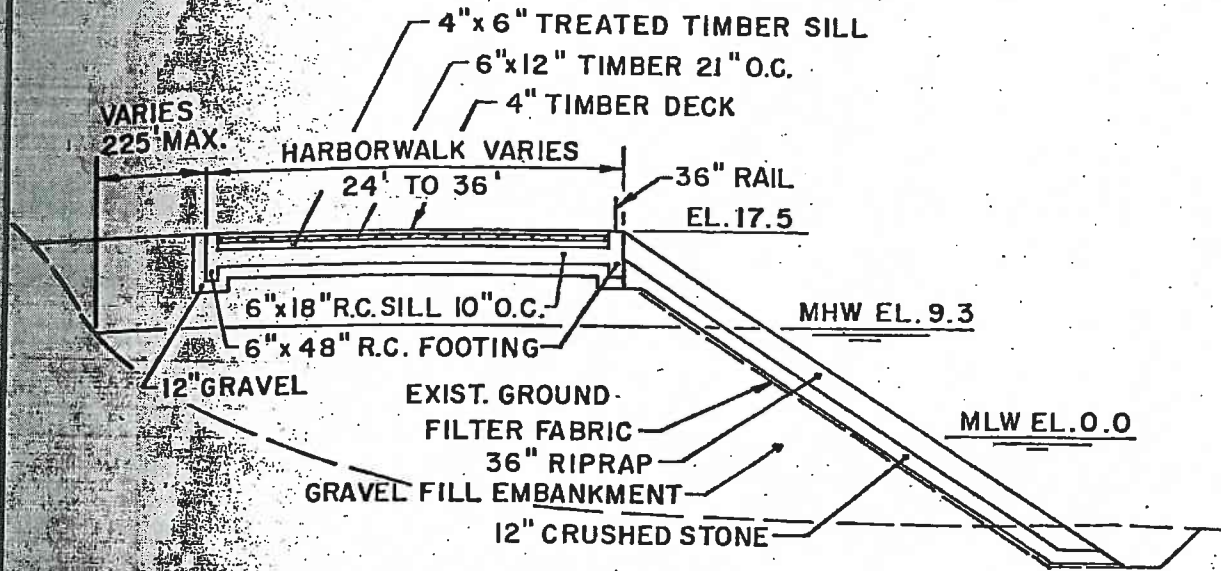


LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering
FEBRUARY 25, 1983

B2W-082
SHEET NO. 3 OF 4

038-067-749-110-100
038-067-749-110-200



SECTION E-E

SCALE: 1" = 16'



LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering

FEBRUARY 25, 1983

82W-082

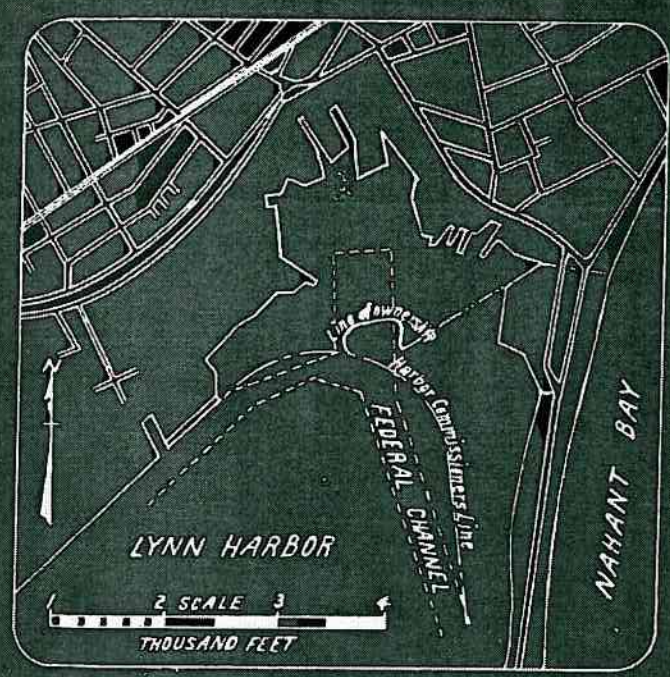
SHEET NO. 4 OF 4

038-067-749-110-100

CITY OF LYNN

PROPOSED STONE DYKE & FILL LYNN HARBOR LYNN, MASS.

JULY, 1940

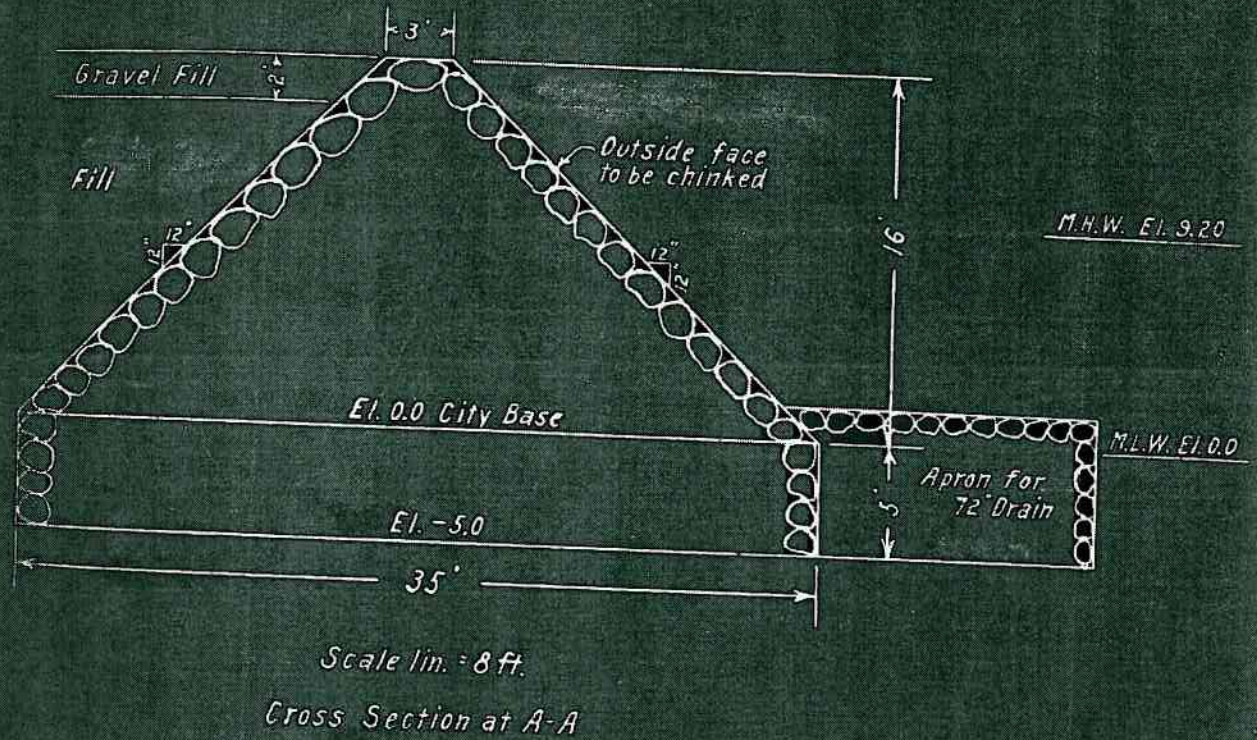
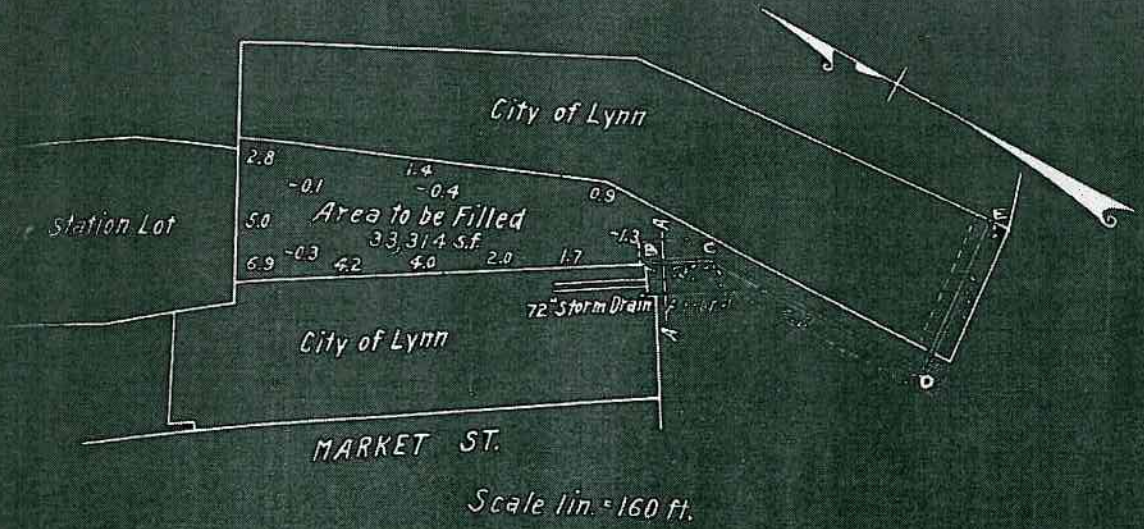


Traced from U.S.C. & G. Chart No 240

NO. 2225
APPROVED BY DEPARTMENT OF PUBLIC WORKS
AUG 21, 1940

[Signature] COMMISSIONER OF PUBLIC WORKS
[Signature] ASSOCIATE COMMISSIONERS
[Signature] DIRECTOR-DIVISION

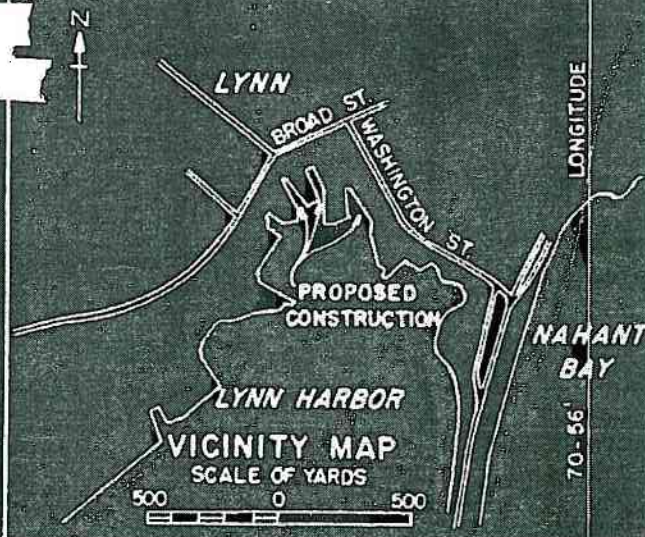
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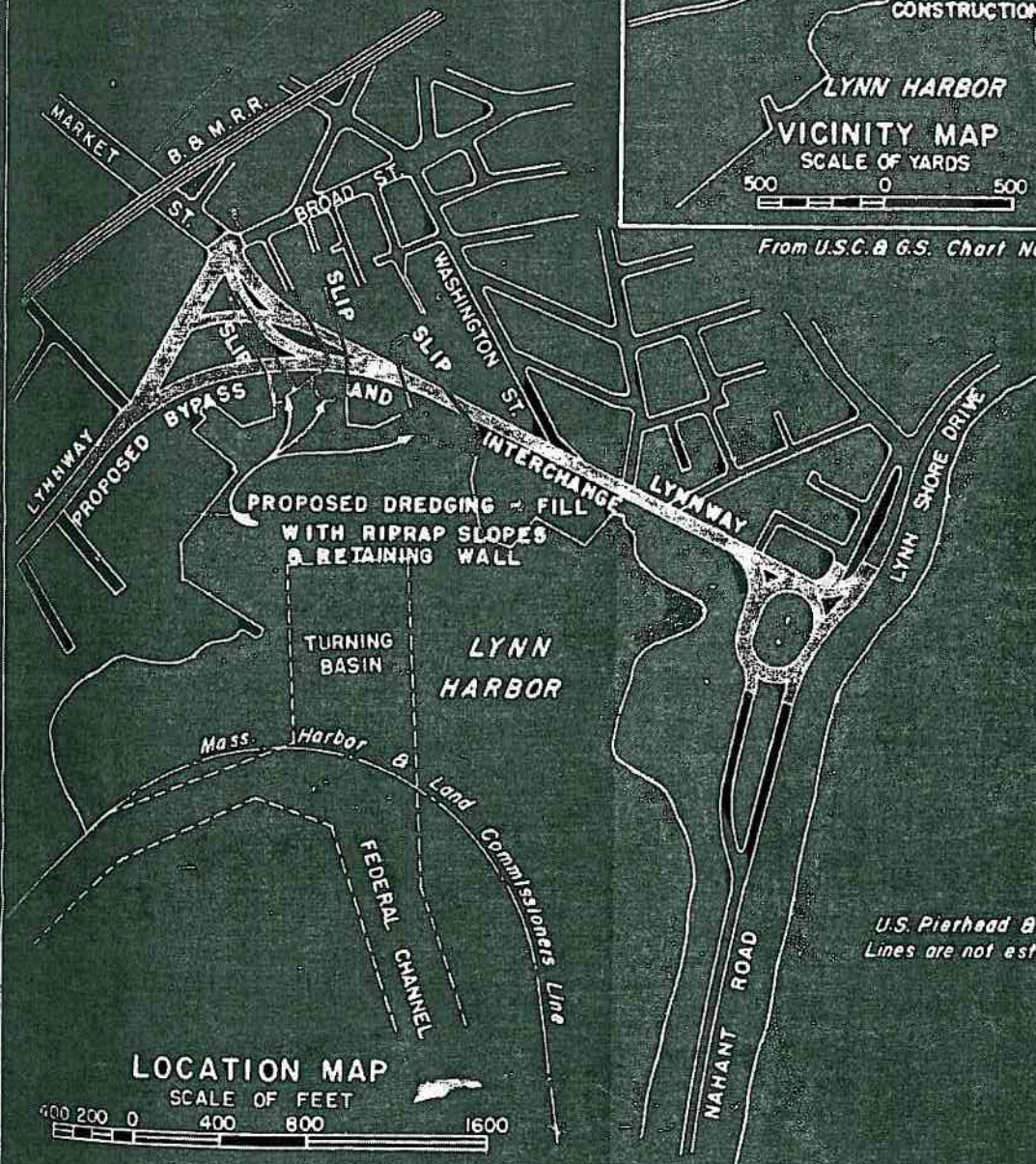
LICENSE PLAN NO. 2225
APPROVED AUG. 21, 1940
CITY OF LYNN
PROPOSED STONE DYKE & FILL
LYNN HARBOR LYNN, MASS.
JULY, 1940

038-067-749-110-100
038-067-749-110-200

42°-28' LATITUDE



From U.S.C. & G.S. Chart No. 240



PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
FOR PROPOSED RETAINING WALL, DREDGING
AND FILL WITH RIPRAP SLOPES
LYNN HARBOR AT LYNN

NO. 3604
APPROVED BY DEPARTMENT OF PUBLIC WORKS
JANUARY 18, 1954

Edward B. Fole

COMMISSIONER OF
PUBLIC WORKS

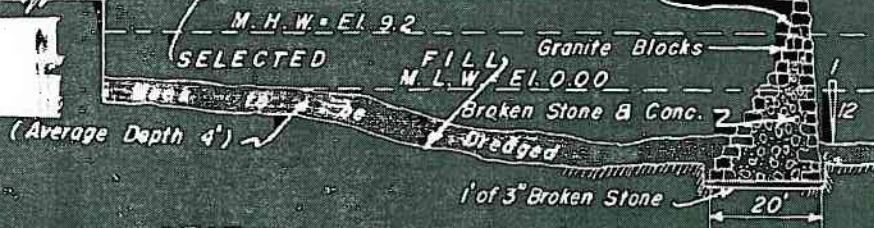
Armen Matrosian

ASSOCIATE
COMMISSIONERS

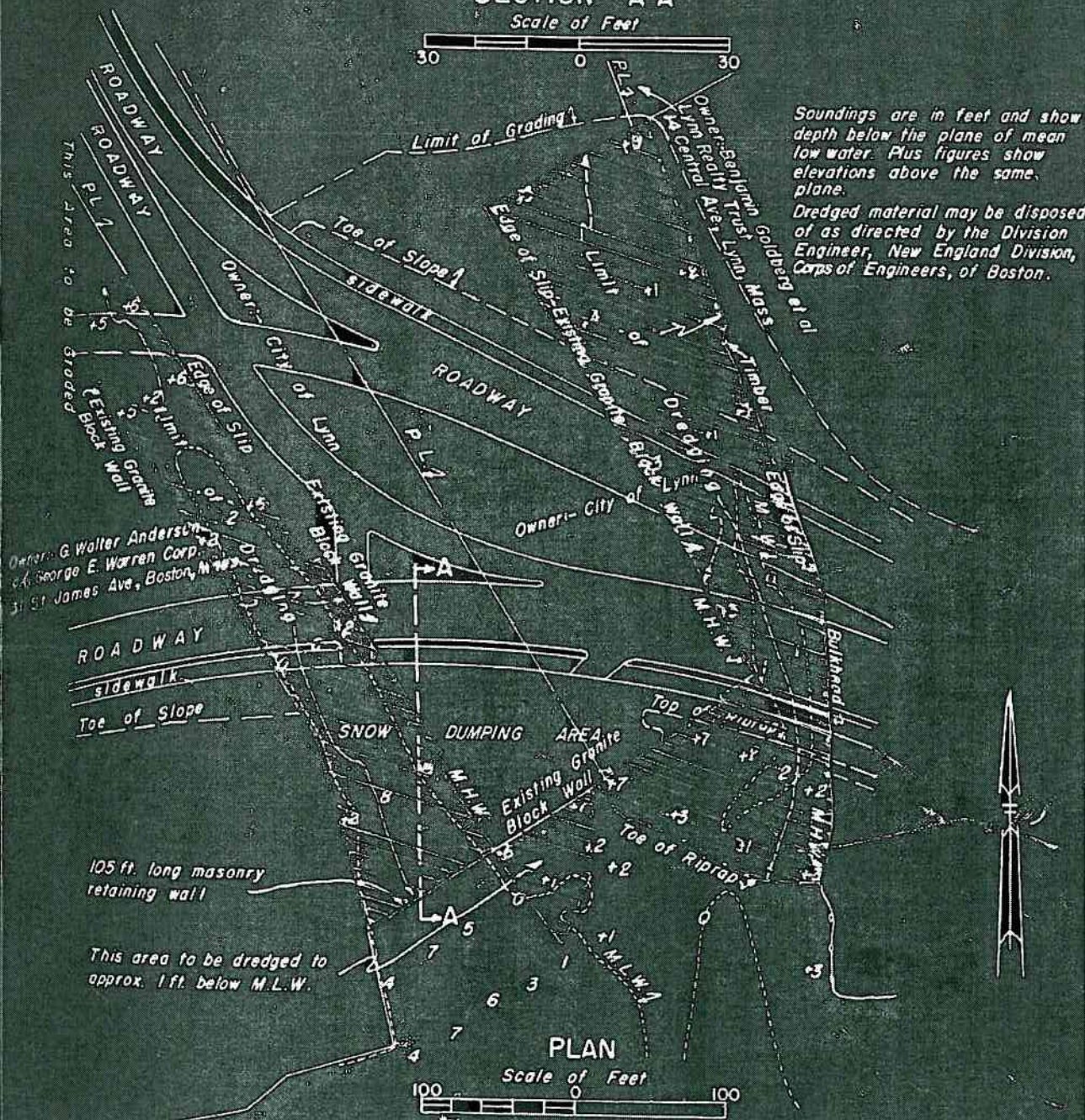
Rodolphe G. Brault

DIRECTOR-DIVISION
OF WATERWAYS

038-067-749-100
038-067-749-200



SECTION A-A
Scale of Feet



Soundings are in feet and show depth below the plane of mean low water. Plus figures show elevations above the same plane.
Dredged material may be disposed of as directed by the Division Engineer, New England Division, Corps of Engineers, of Boston.

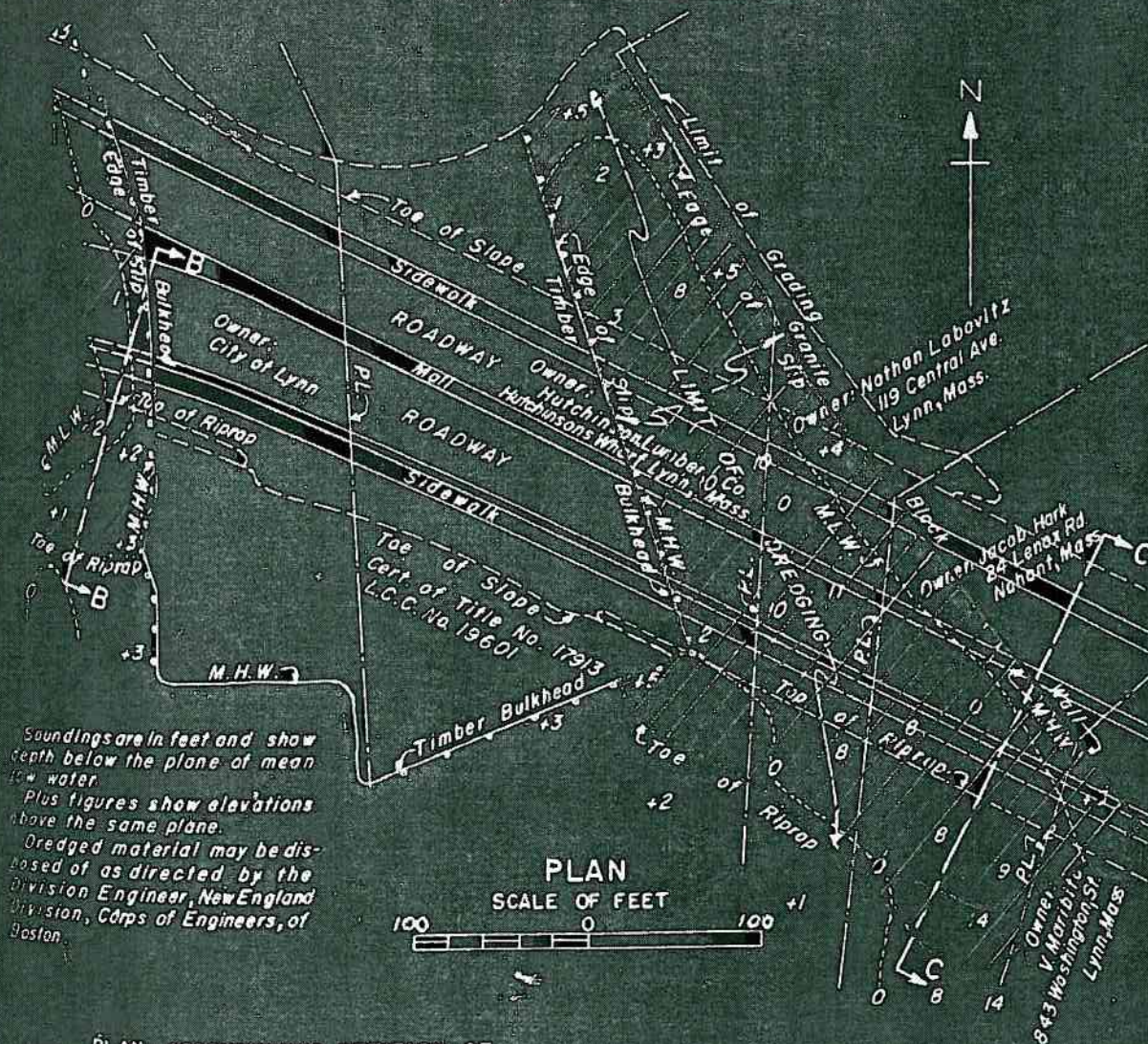
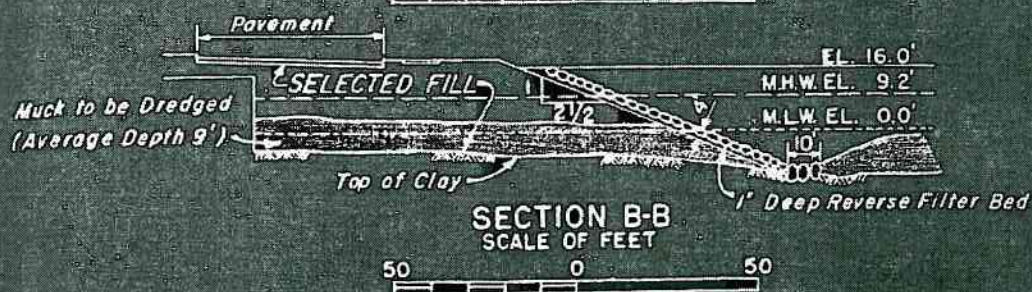
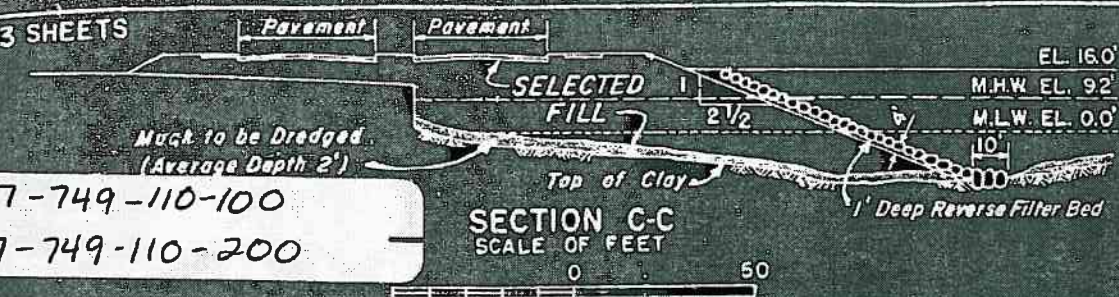
PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
FOR PROPOSED RETAINING WALL, DREDGING
AND FILL WITH RIPRAP SLOPES
LYNN HARBOR AT LYNN

LICENSE PLAN NO. 3604
APPROVED - JANUARY 18, 1954

SHEET 3 OF 3 SHEETS

038-067-749-110-100

038-067-749-110-200



Soundings are in feet and show depth below the plane of mean low water. Plus figures show elevations above the same plane. Dredged material may be disposed of as directed by the Division Engineer, New England Division, Corps of Engineers, of Boston.

PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
FOR PROPOSED RETAINING WALL, DREDGING
AND FILL WITH RIPRAP SLOPES
LYNN HARBOR AT LYNN

LICENSE PLAN NO. 3604
APPROVED - JANUARY 18, 1954

20 SOMERSET STREET
BOSTON MA. 02114

FOUND

CARROLL HIGHWAY

113

3604

BROAD ST.

CONC. HEADWALL
GRANITE WALL
CONC. WALL

421/2870

4943

GRANITE WALL

4942

RIPRAP

1345

MHW EL. 9.2

MLW EL. 0.0

TIMBER BULKHEAD

MLWS EL. -1.0

TIMBER BARGES

1373

RIPRAP

5735

TURNING BASIN

LYNN HERITAGE
STATE PARK

EDIC
ONE MARKET
LYNN MA. 01901

LYNN
HARBOR

NORELCO
NORTH AMERICAN
PHILIPS LIGHTING CORP.
C/O M. MARSHAL ST. CLAIR
100 EAST 42ND ST.
NEW YORK NY 10028

PAST LICENSES

- Δ 113 EXTENSION OF WHARF BY 250 FEET
- Δ 421 EXTEND WHARF 400 FEET
- Δ 1373 BUILD AND MAINTAIN A WHARF AND PILE PLATFORM ABOUT 100 FEET BY 270 FEET.
- Δ 1345 BUILD TIMBER BULKHEAD AND FILL
- Δ 2870 BUILD BULKHEAD AND PILE PLATFORM ABOUT 185 FEET BY 70 FEET

- * 3604 DREDGE AND FILL THREE SLIPS
- * 4942 CONSTRUCT RIPRAP FACED DIKE AND FILL
- * 4943 CONSTRUCT RIPRAP FACED DIKE AND FILL
- * 5735 FILL AND MAINTAIN SOLID FILL

Δ ISSUED BY HARBOR & LANDS COMMISSION
* ISSUED BY DEPARTMENT OF PUBLIC WORKS
PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT, L.P.
TO CONSTRUCT AND MAINTAIN A
RESIDENTIAL DEVELOPMENT,
WALKBRIDGE, FLOAT, BOARDWALK AND
RIP RAP AT HARBORSIDE LANDING
IN LYNN HARBOR, CITY OF LYNN,
COUNTY OF ESSEX, MASSACHUSETTS.

REVISED JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986

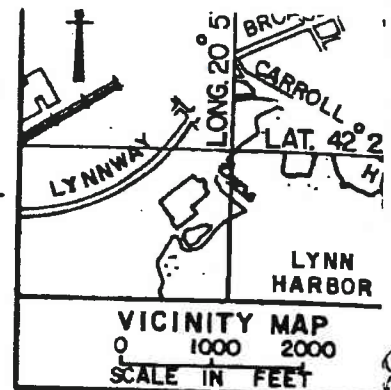
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, N

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering
of Massachusetts

Charles J. Clanton
Charles J. Clanton
FEB 1 1988

COMMISSIONER
DIVISION DIRECTOR
SECTION CHIEF
DATE



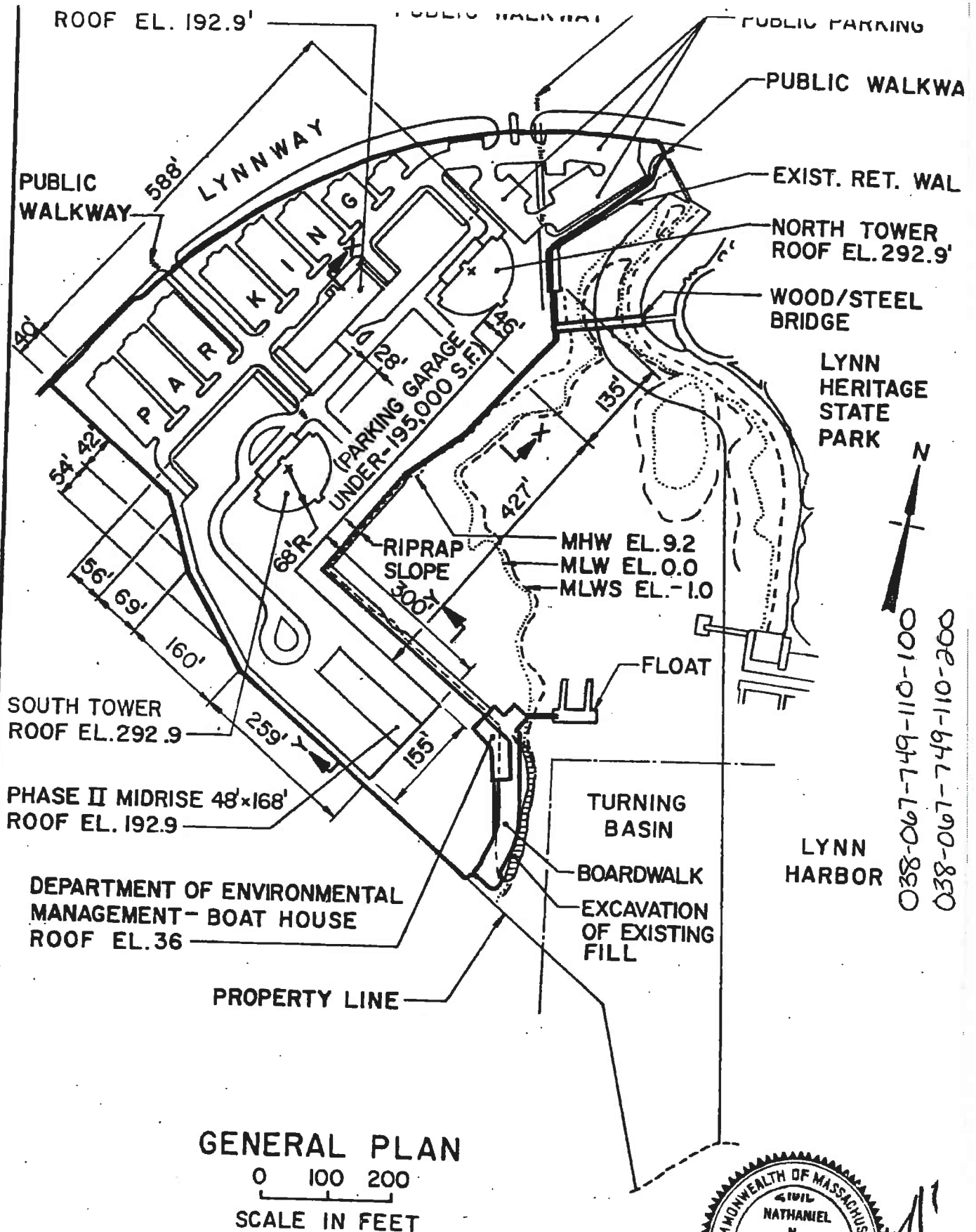
FROM: USGS QUAD SHEET LYNN N

PLAN
0 100 200
SCALE IN FEET



SHEET 1 OF 1

038-067-749-110-1607 038-067-749-110-1607



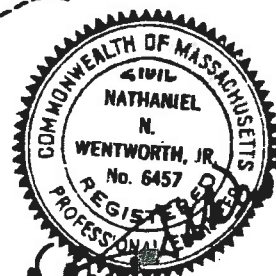
LICENSE PLAN NO. 1747

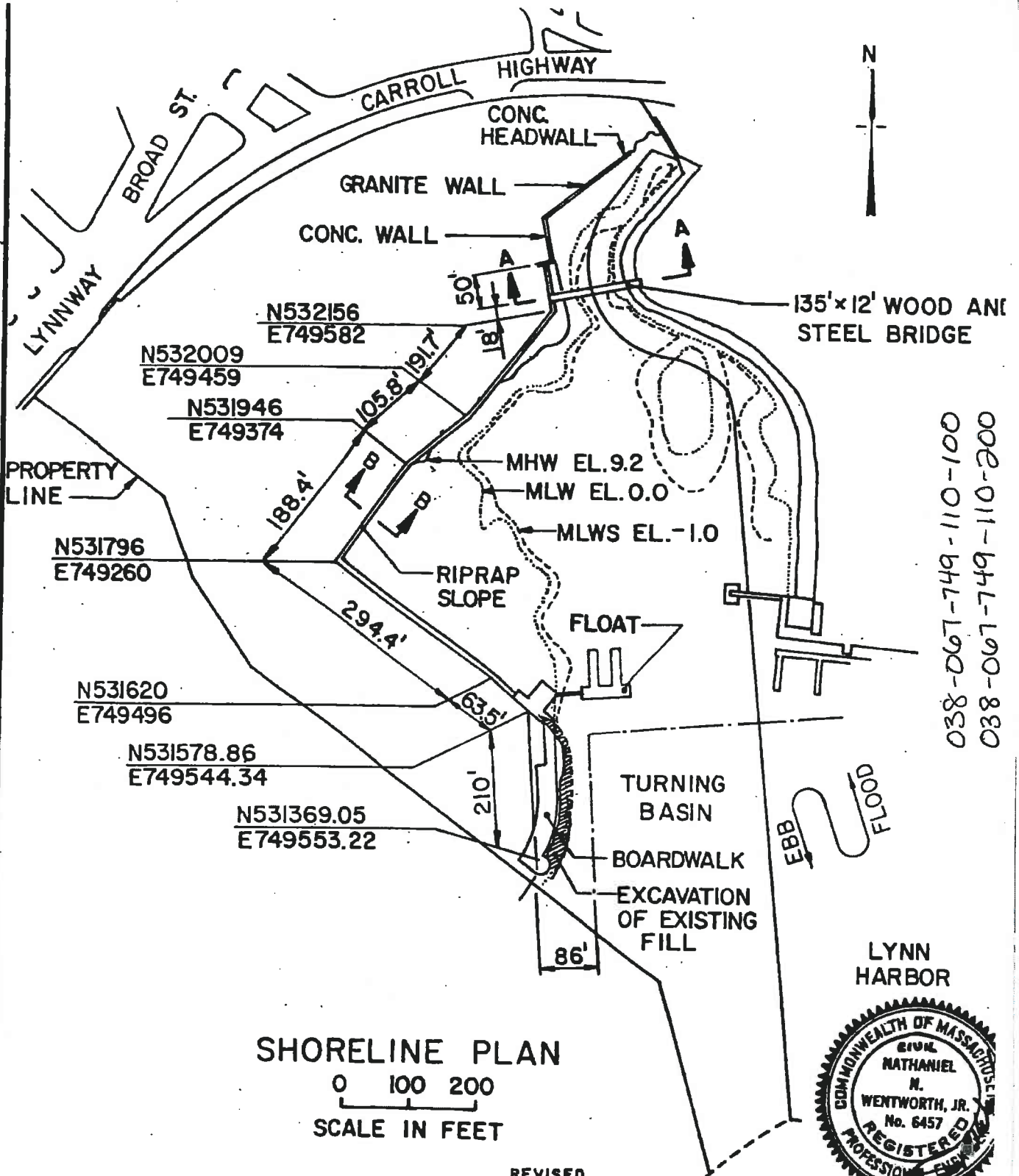
Approved by Department of Environmental Quality Engineering
 Date FEB 17 1988

PLAN ACCOMPANYING PETITION OF

JANUARY, 1988

SHEET 2 OF 11





PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED
JANUARY 1988
OCTOBER 1987

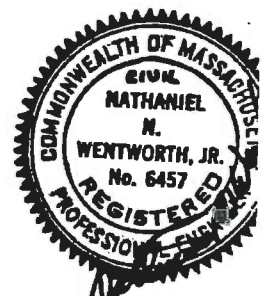
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

SHEET 3 OF

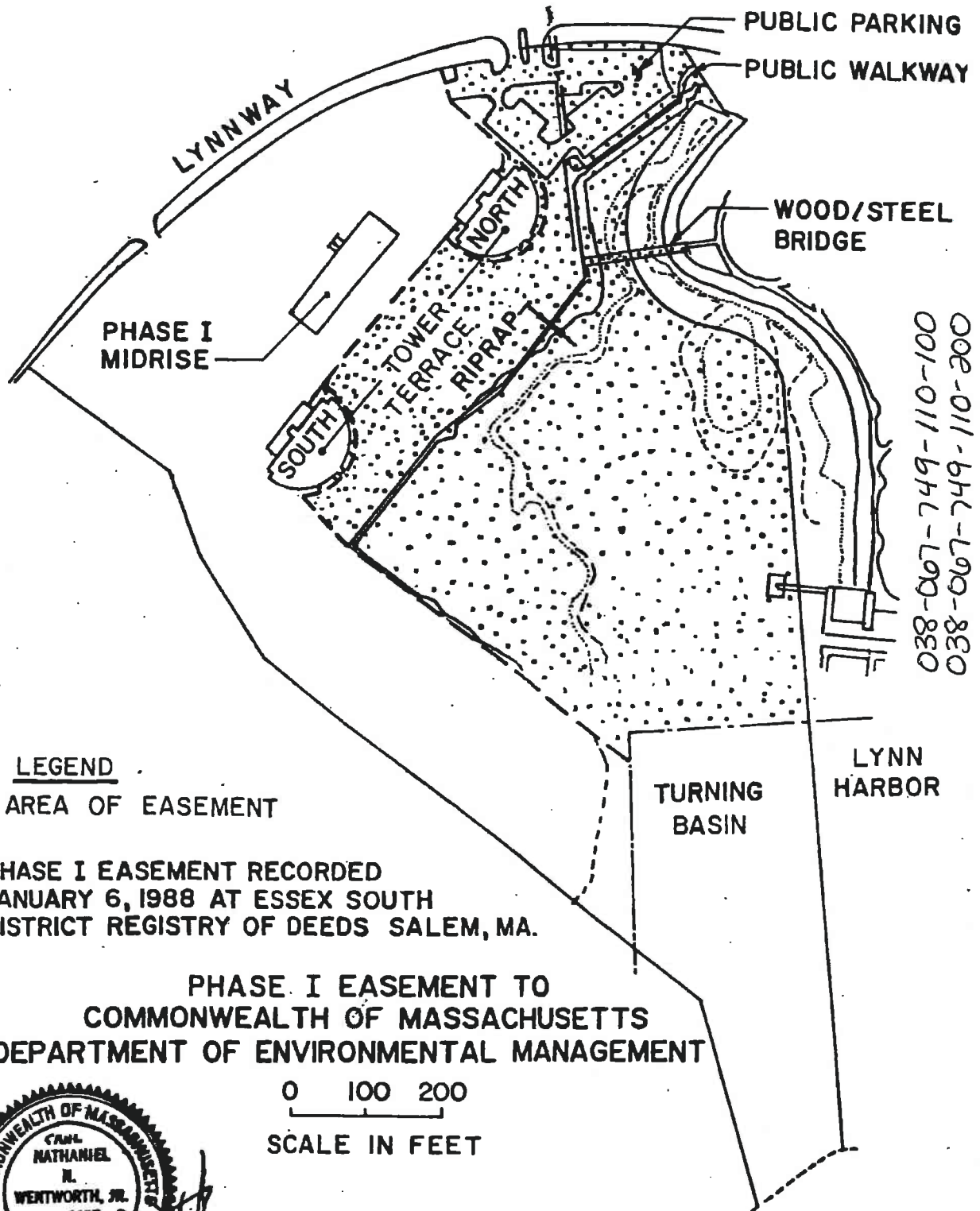
LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

Date FEB 17 1988



038-067-749-110-100
038-067-749-110-200



LEGEND



AREA OF EASEMENT

NOTE: PHASE I EASEMENT RECORDED
JANUARY 6, 1988 AT ESSEX SOUTH
DISTRICT REGISTRY OF DEEDS SALEM, MA.

**PHASE I EASEMENT TO
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

0 100 200

SCALE IN FEET



PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED JANUARY 1988
OCTOBER 1987

FAY, SPOFFORD & THORNDIKE, INC.,

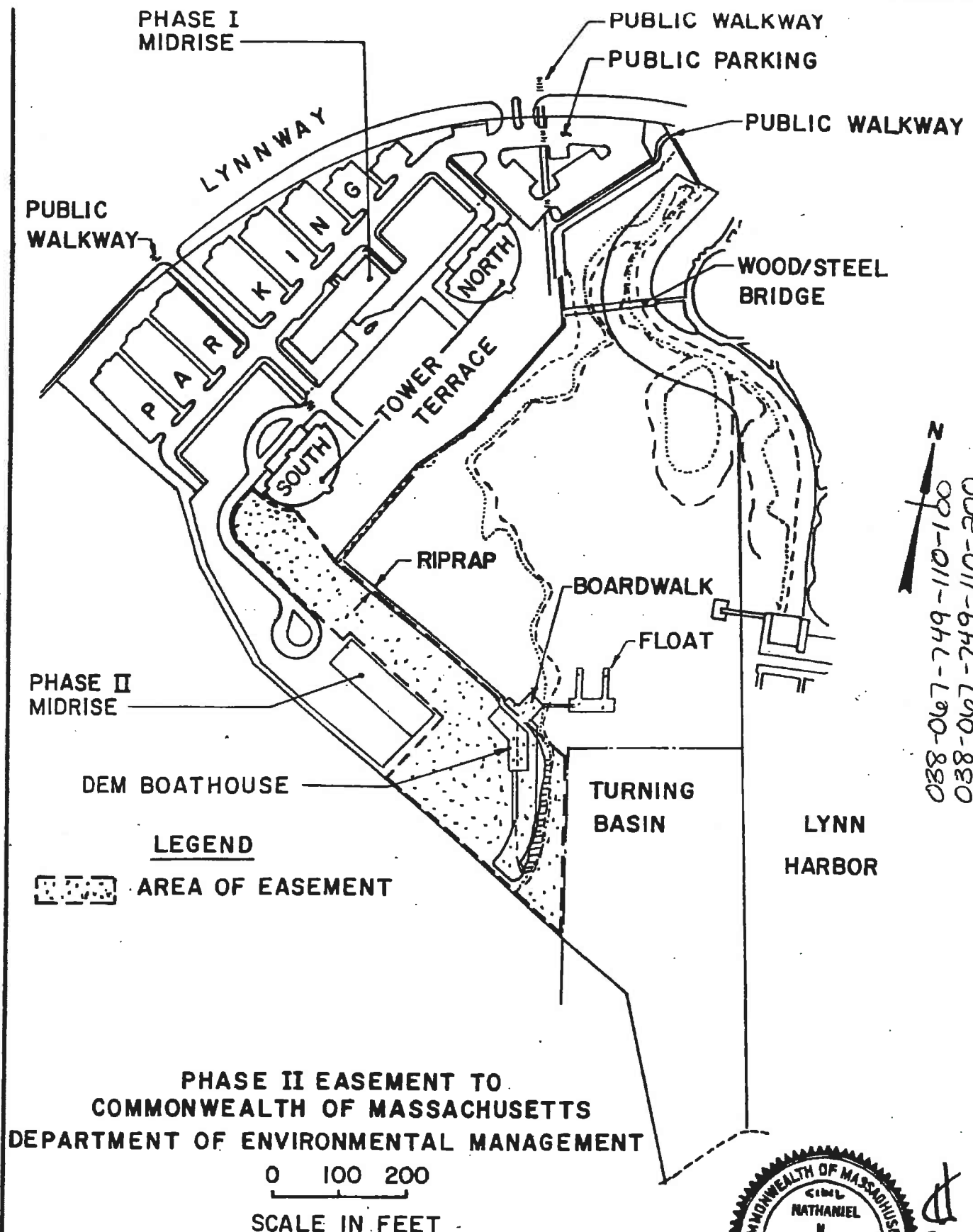
SHEET 4 OF 1

LEXINGTON, MA

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

Date: FEB 17 1988

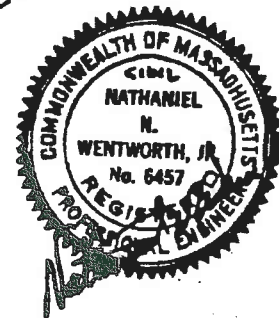


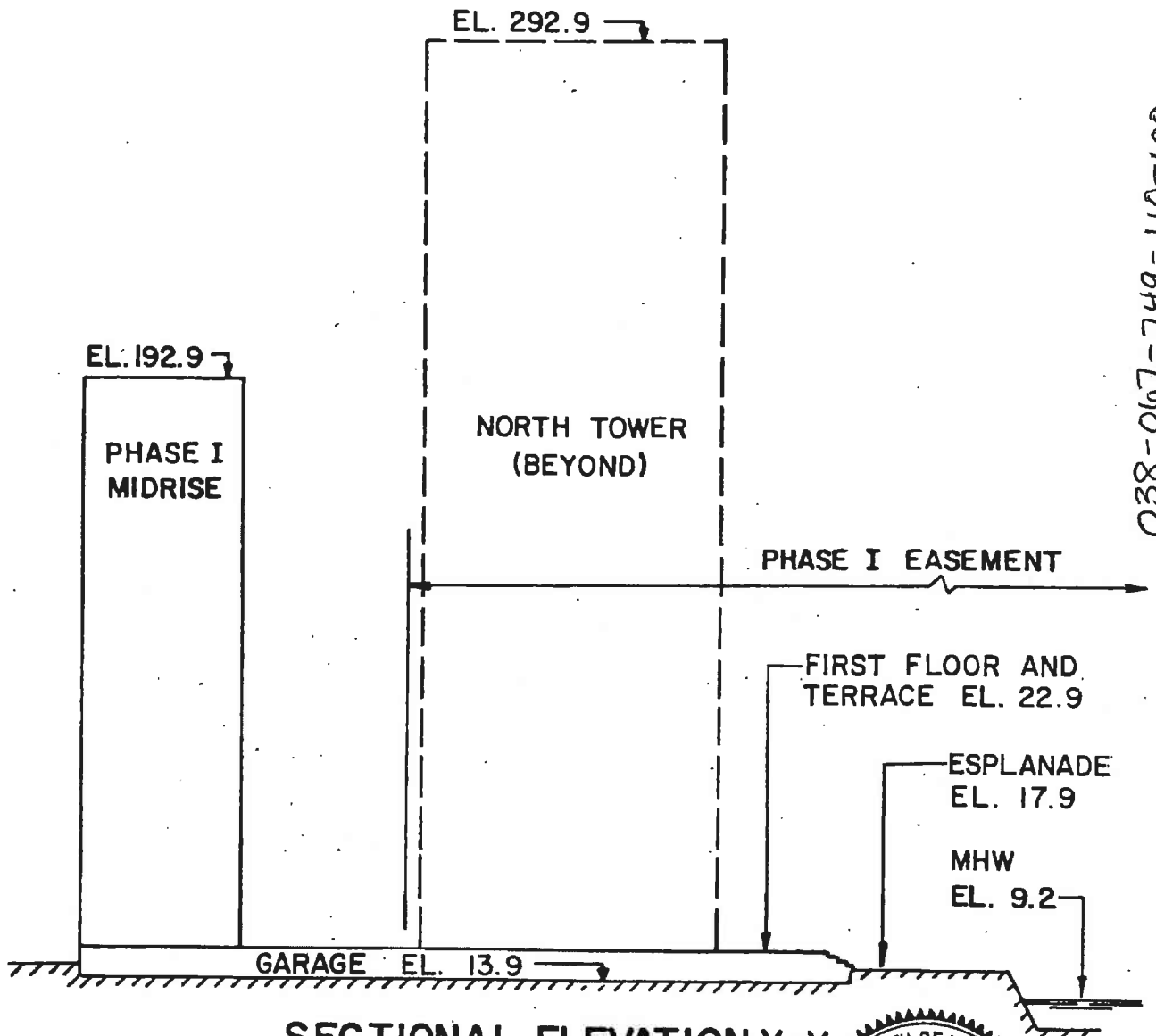
038-067-749-110-100
 038-067-749-110-200

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

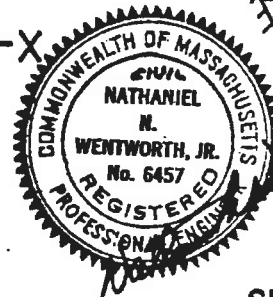
Date: FEB 17 1988





SECTIONAL ELEVATION X-X

0 25 50
SCALE IN FEET



REVISED
JANUARY 1988
OCTOBER 1987

FAY, SPOFFORD & THORNDIKE, INC. LEXINGTON, M

SHEET 6 OF

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

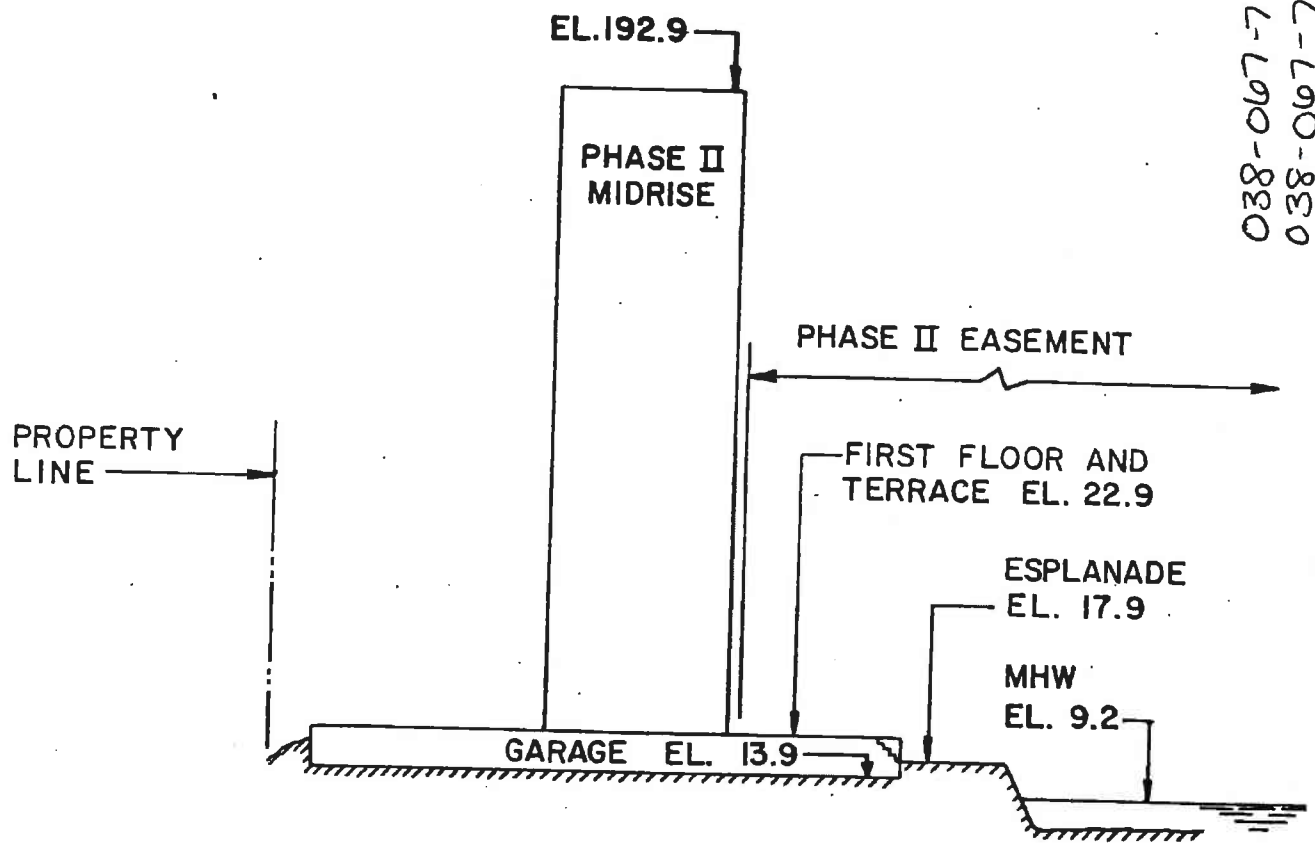
LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineer:

Date: FEB 17 1988

038-067-749-110-100
038-067-749-110-200

038-067-749-110-100
038-067-749-110-200



SECTIONAL ELEVATION Y-Y

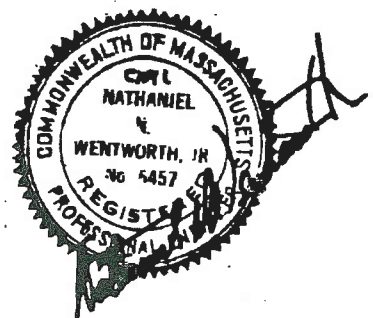
0 25 50

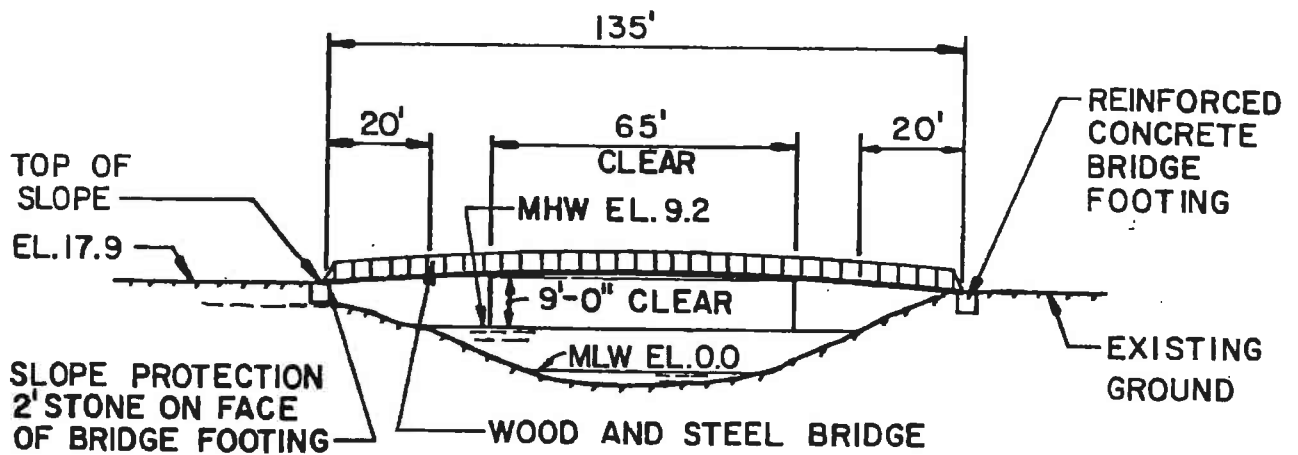
SCALE IN FEET

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineering

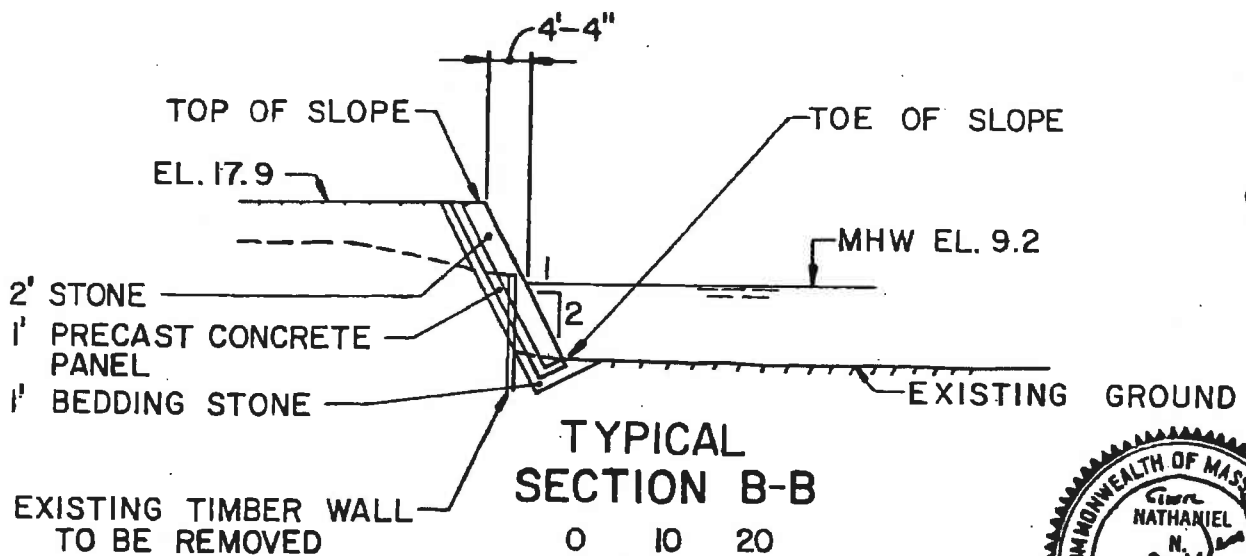
Date: FEB 17 1988





SECTION A-A

0 20 40
SCALE IN FEET



TYPICAL SECTION B-B

0 10 20
SCALE IN FEET

NOTE:

1. APPROX. 500 CU. YDS. OF FILL BELOW MHW EL. 9.2
2. APPROX. 2500 CU. YDS. OF STONE AND CONCRETE SLOPE PROTECTION

86W-200

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986

FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA

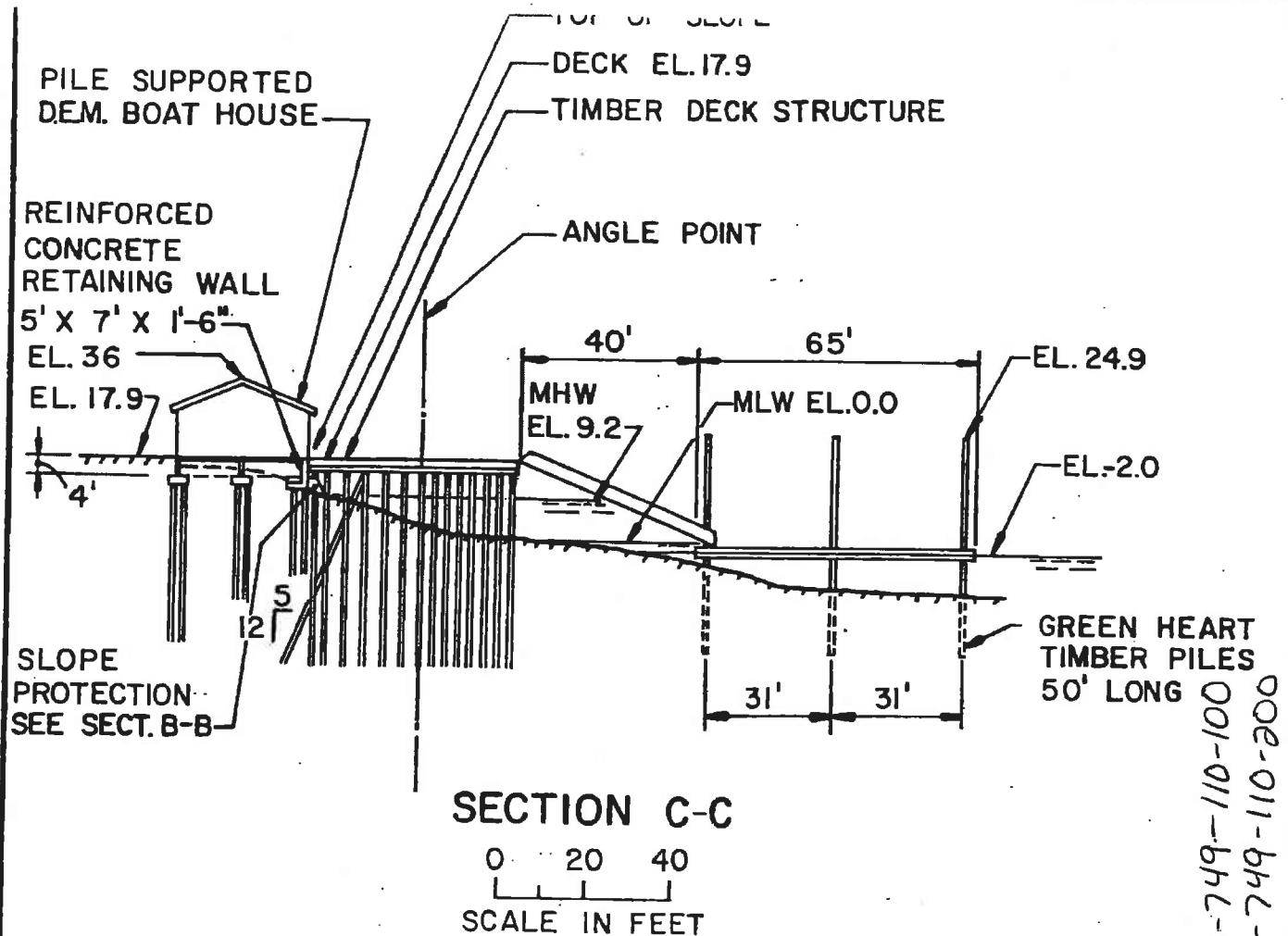
SHEET 9 OF 1

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineer:
Date: FEB 17 1988



038-067-749-110-100
038-067-749-110-200



PILE SCHEDULE	
LOCATION	NUMBER
FLOAT	10
FLOAT PLATFORM	41
BOARDWALK	254
VIEWING PLATFORM	22
DEM. BOAT HOUSE	120

86W-200

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

REVISED
JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, MA



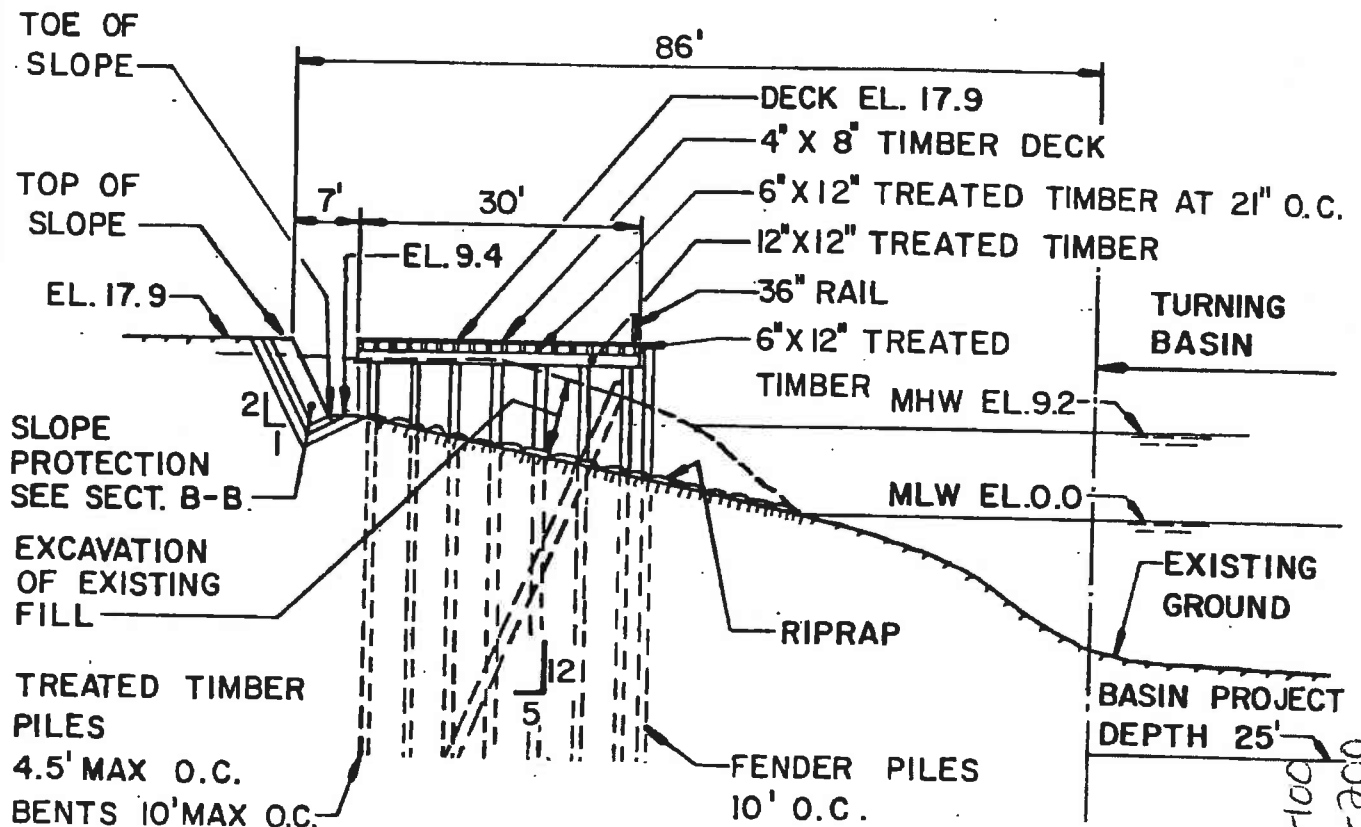
SHEET 10 OF 11

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineerin

Date: FEB 17 1988

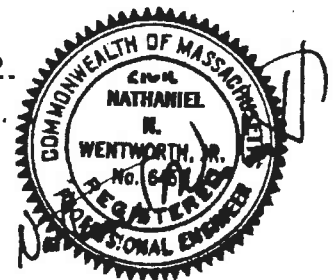
038-067-749-110-100
038-067-749-110-200



TYPICAL
SECTION D-D

0 10 20
SCALE IN FEET

NOTE: APPROXIMATELY 120 CU. YDS. OF EXISTING STONE RIPRAP AND 400 CU. YDS. OF EXISTING FILL IS TO BE EXCAVATED SEAWARD OF MHW EL.9.2. APPROXIMATELY 400 CU. YDS. OF STONE RIPRAP WILL BE PLACED ON EXCAVATED BOTTOM.



REVISED JANUARY 1988
REVISED JULY 1987
NOVEMBER 1986
FAY, SPOFFORD & THORNDIKE, INC., LEXINGTON, M.

SHEET II OF I

PLAN ACCOMPANYING PETITION OF
LYNN HARBOR DEVELOPMENT L.P.

LICENSE PLAN NO. 1747

Approved by Department of Environmental Quality Engineerin
Date: FEB 17 1988

038-067-749-110-100
038-067-749-110-200

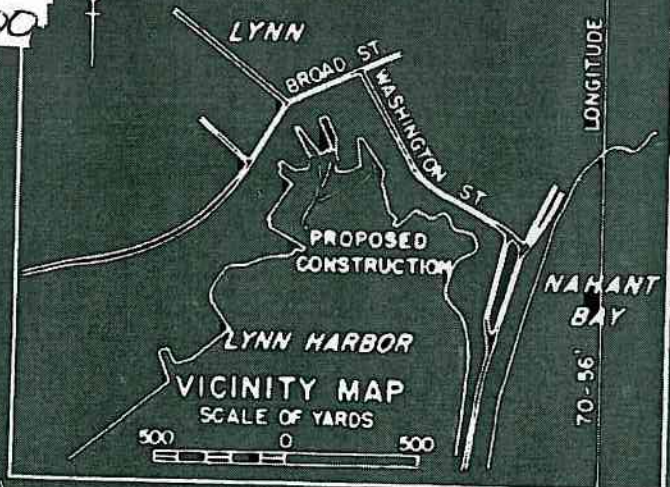
86W-200

OF 3 SHEETS

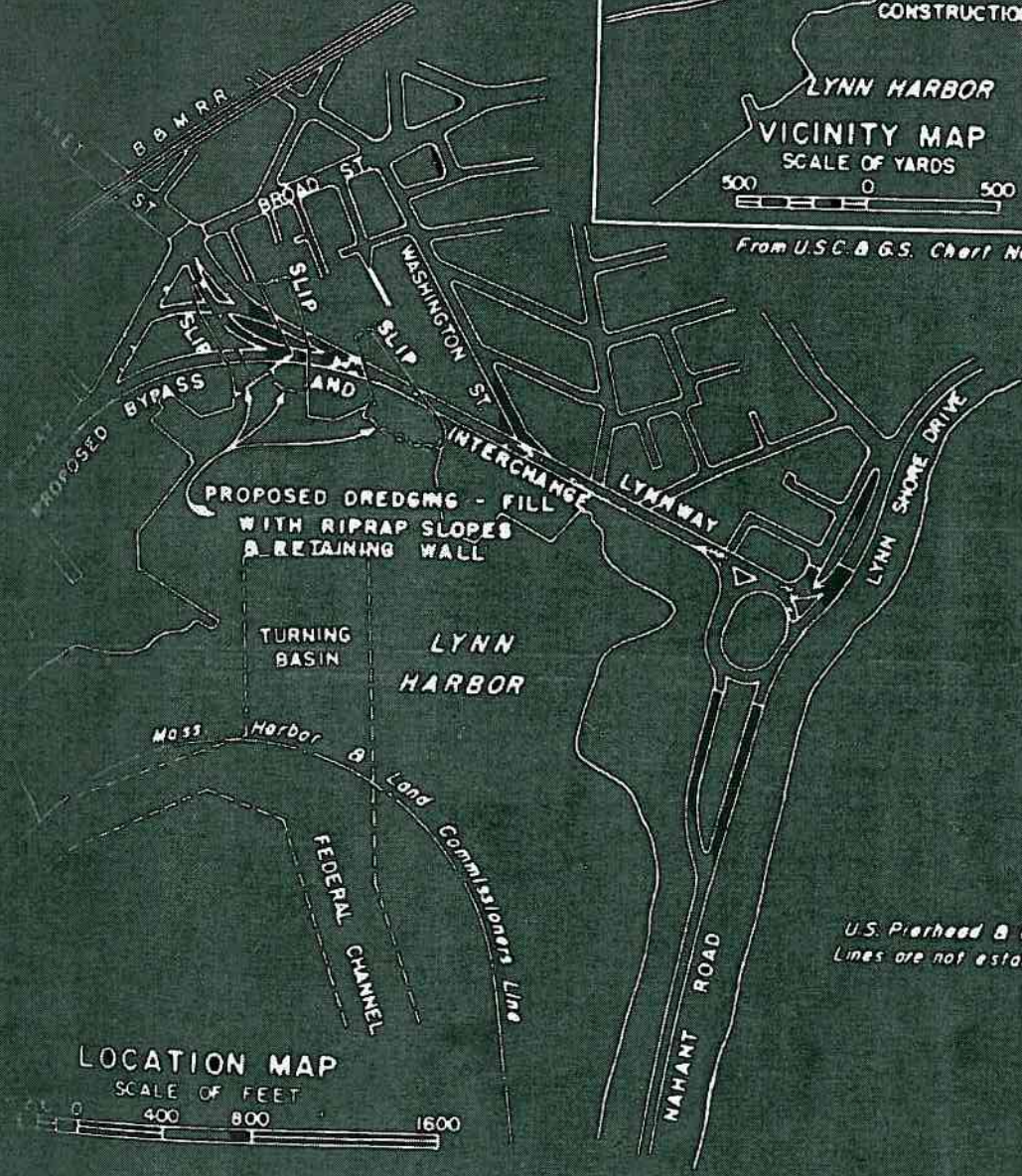
038-067-749-110-100
038-067-749-110-200

42°-28' LATITUDE

LONGITUDE
70°-56'



From U.S.C. & G.S. Chart No 240



LOCATION MAP

SCALE OF FEET

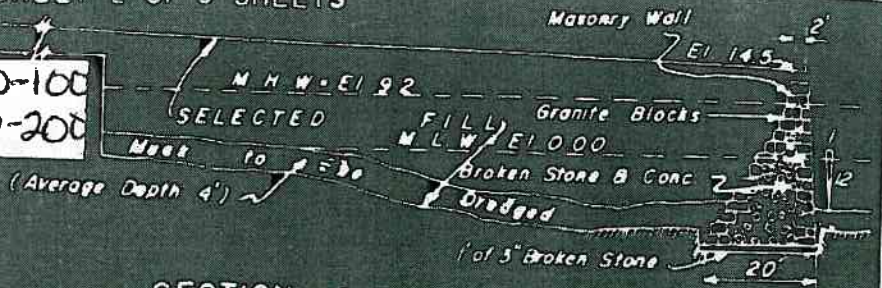


PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO 4183
APPROVED BY DEPARTMENT OF PUBLIC WORKS
DECEMBER 22, 1958

[Signature] COMMISSIONER OF PUBLIC WORKS
[Signature] ASSOCIATE COMMISSIONERS
[Signature] DIRECTOR-DIVISION OF WATERWAYS

038-067-749-110-100
038-067-749-110-200

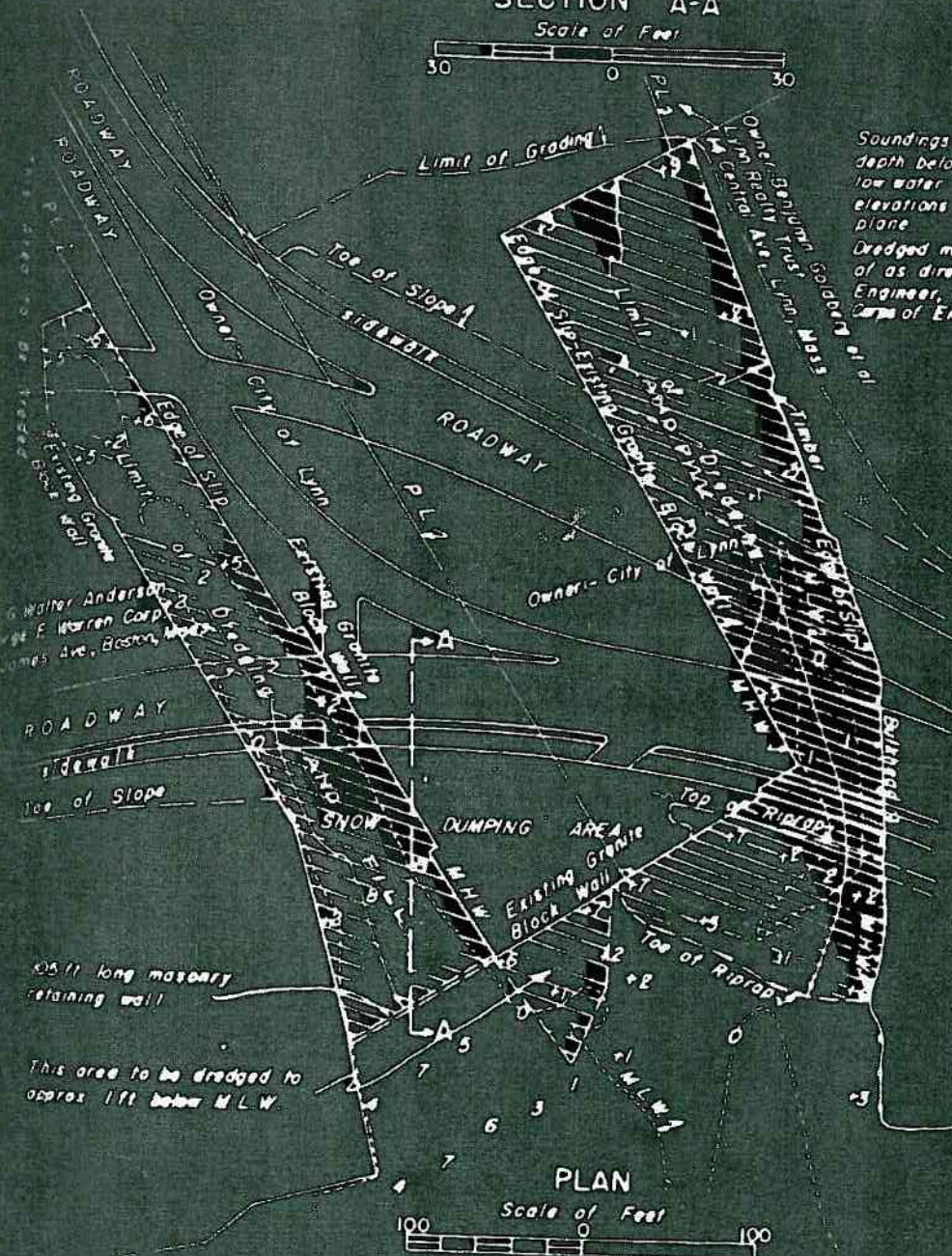


SECTION A-A

Scale of Feet



Soundings are in feet and show depth below the plane of mean low water. Plus figures show elevations above the same plane.
Dredged material may be disposed of as directed by the Division Engineer, New England Division, Corps of Engineers, of Boston.

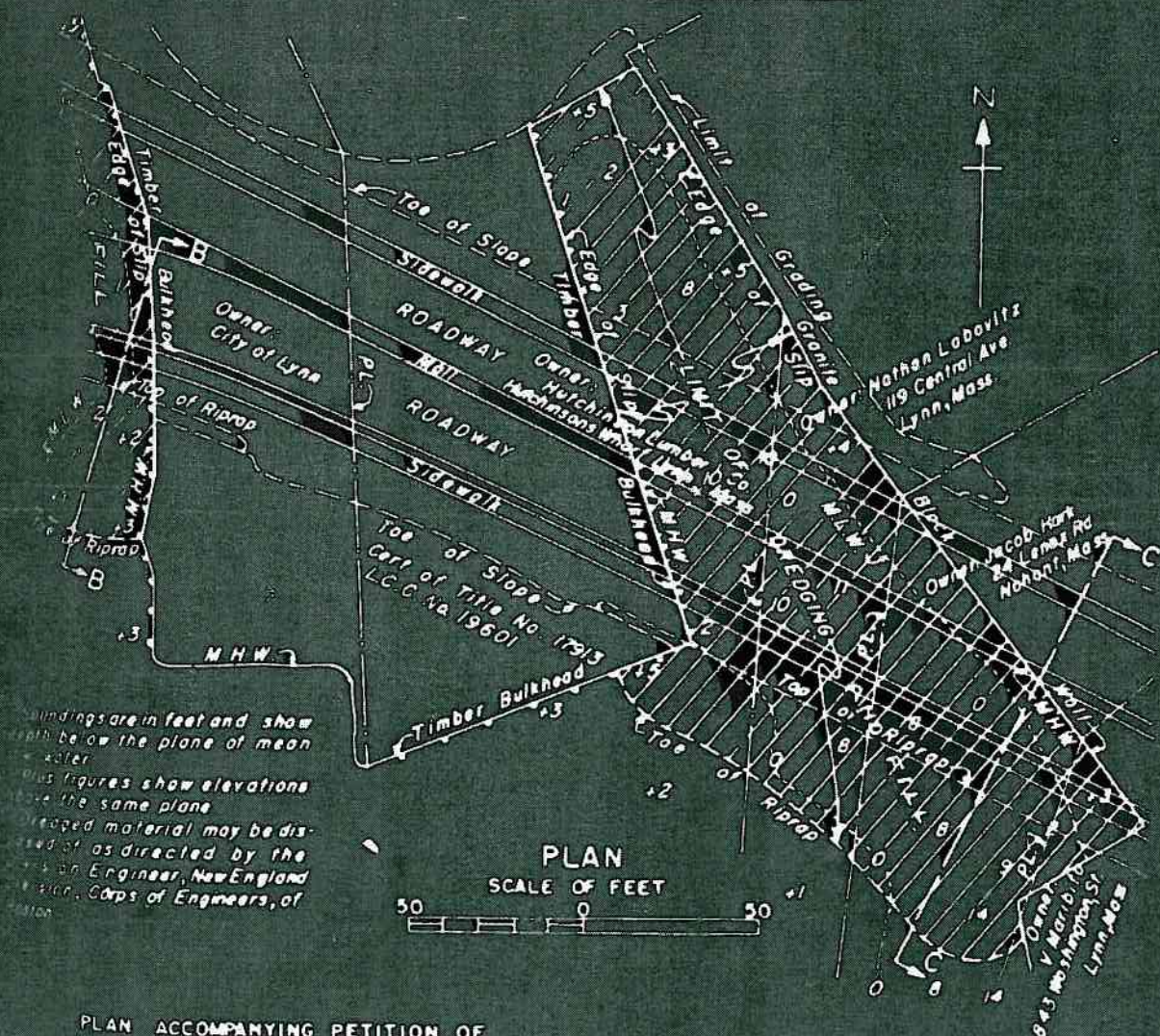
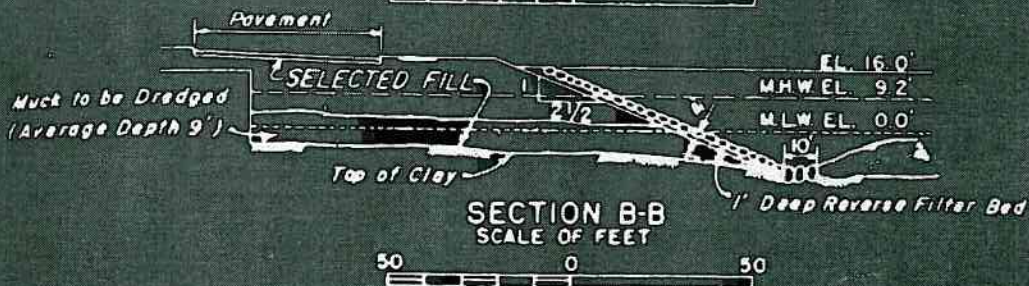
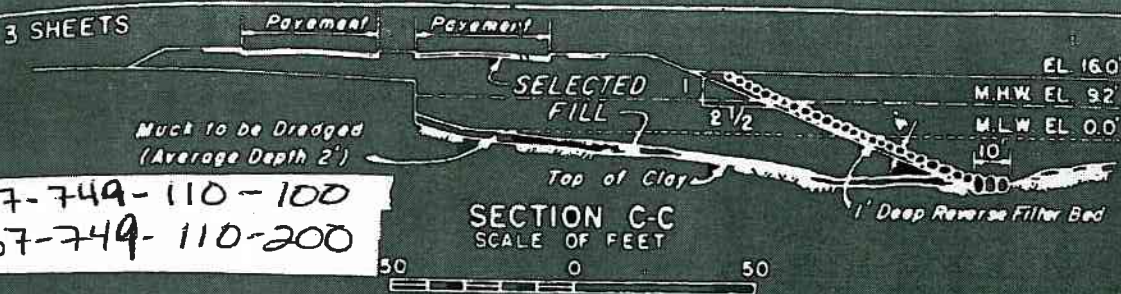


PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
POPULITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO. 4183
APPROVED - DECEMBER 22, 1958

038-067-749-110-100
038-067-749-110-200

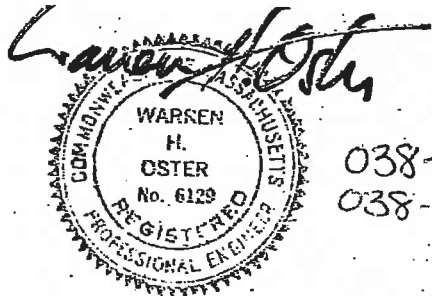
OF 3 SHEETS



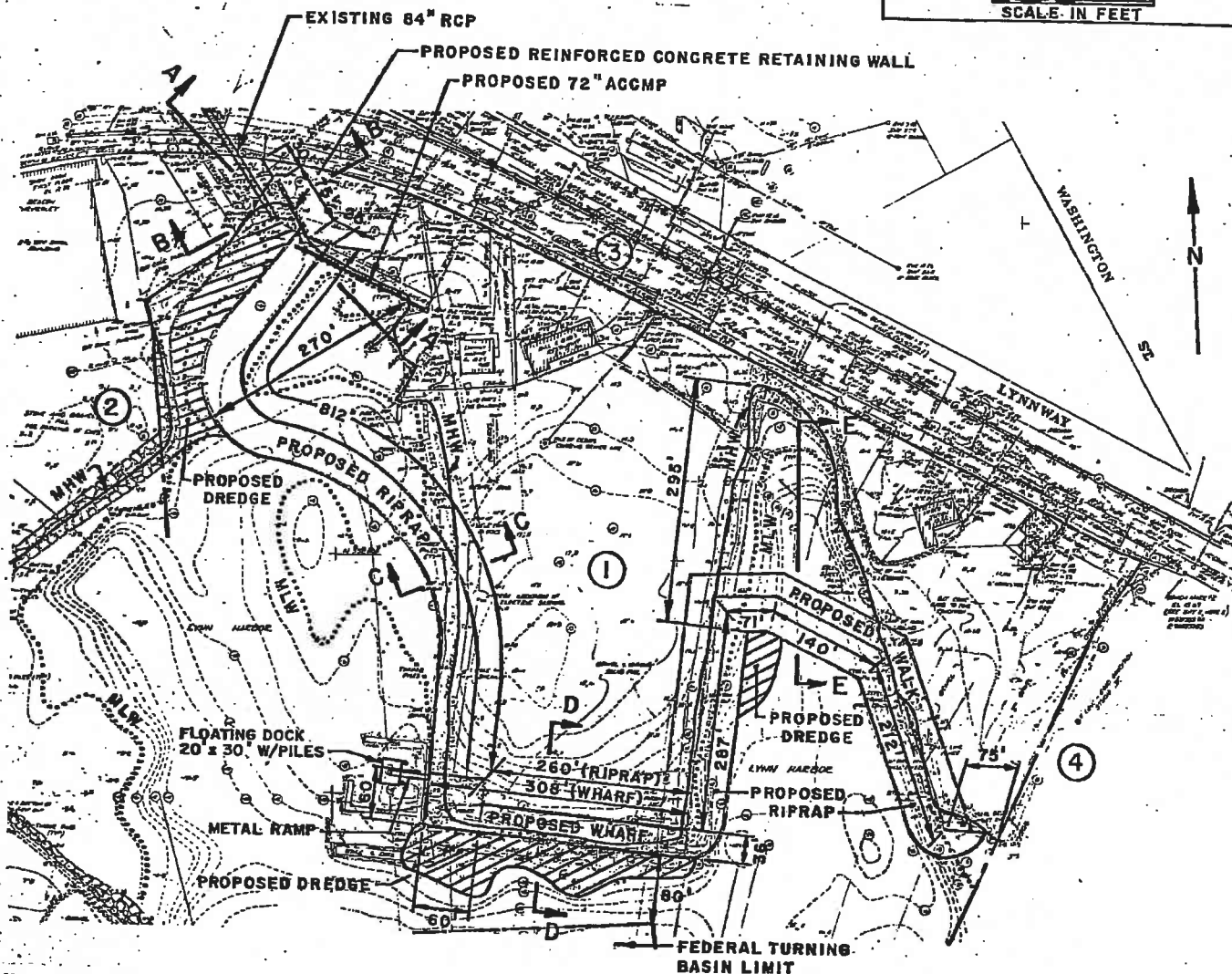
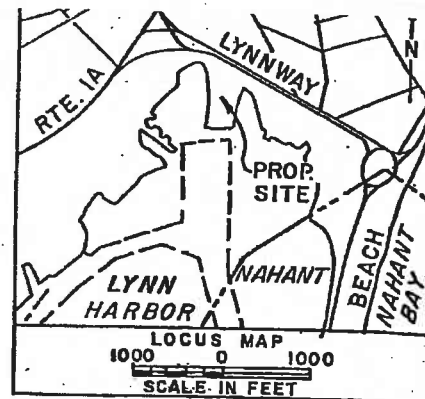
Soundings are in feet and show depth below the plane of mean water.
Plus figures show elevations above the same plane.
Dredged material may be disposed of as directed by the District Engineer, New England Division, Corps of Engineers, of Boston.

PLAN ACCOMPANYING PETITION OF
COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN DISTRICT COMMISSION
TO MAINTAIN SOLID FILL AND RIPRAP IN
LYNN HARBOR AT LYNN

LICENSE PLAN NO 4183
APPROVED - DECEMBER 22, 1958



038-067-749-110-100
038-067-749-110-200



NOTES:

1. PROPOSED ELEVATIONS MEAN LOW WATER (MLW) = 0.0
2. EXISTING CONTOUR INFORMATION MLW = -4.5 (NGVD)

PLAN
SCALE: 1"=200'

- LOT 1 EDIC OF LYNN
LOT 2 LLOYD ASSOC. INC.
STRATHAM HEIGHTS RD.
STRATHAM, NH
LOT 3 METROPOLITAN DISTRICT
COMMISSION
LOT 4 HARBORSIDE DEVELOPMENT ASSOC.
23 CENTRAL AVE.
LYNN, MA.

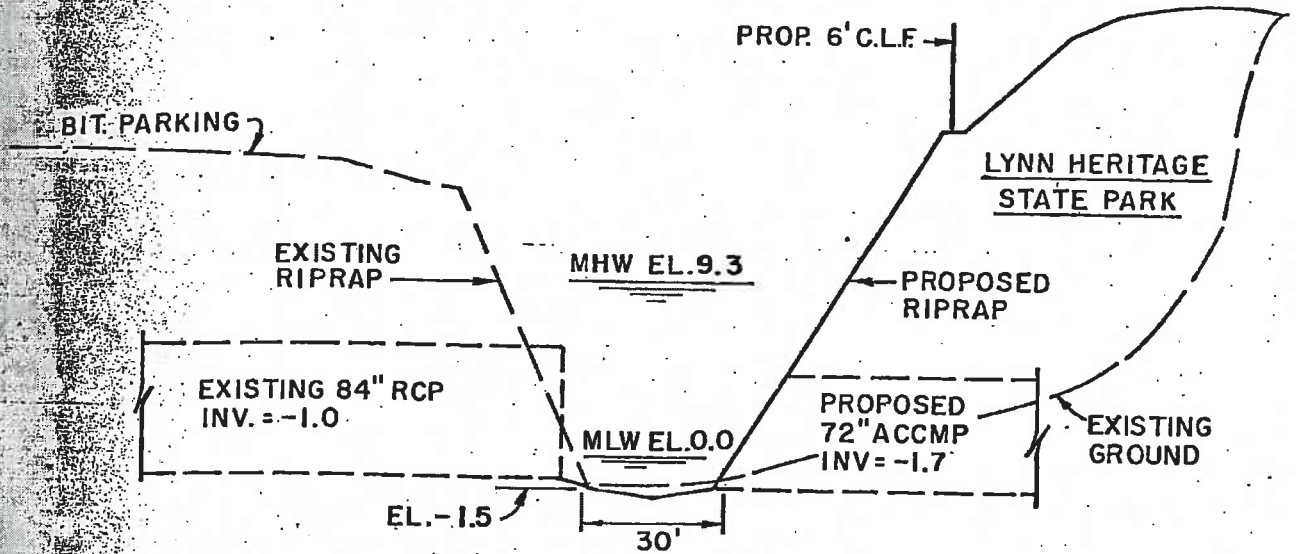
82W-082

**PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO CONSTRUCT AND MAINTAIN A WHARF
REINFORCED CONCRETE RETAINING WALL,
72" ACCMP AND RIPRAP IN LYNN HARBOR, CITY
OF LYNN, COUNTY OF ESSEX, MASSACHUSETTS**

SHEET NO. 1 OF 4

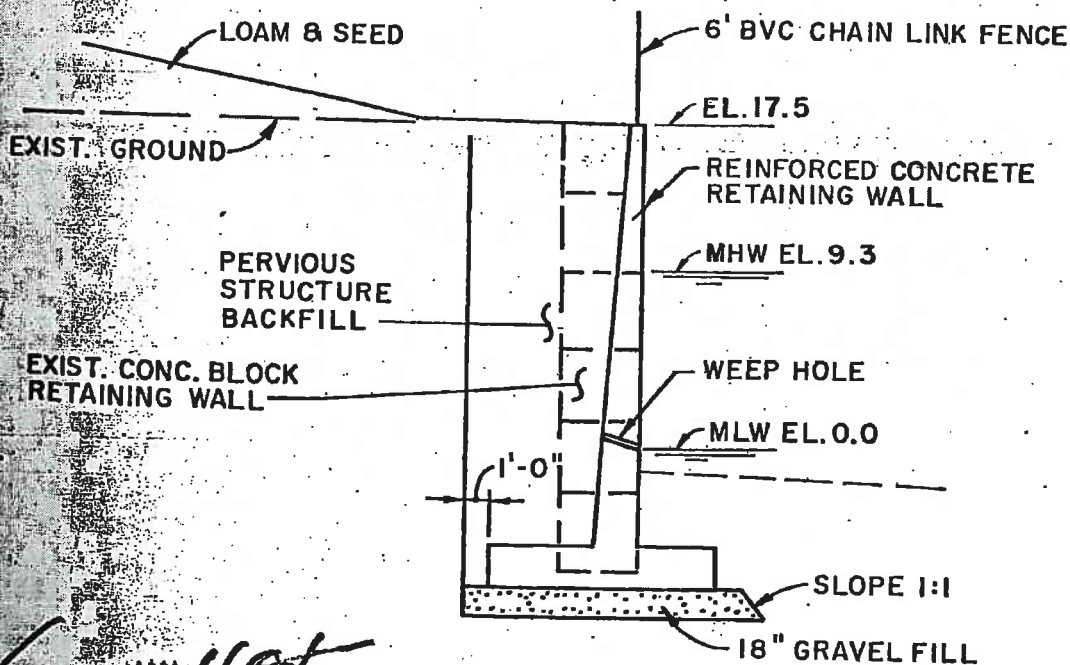
LICENSE PLAN NO. 959
Approved by Department of Environmental Quality Engineer
of Massachusetts **FEBRUARY 25, 1983**
John J. Sullivan
COMMISSIONER
CHIEF ENGINEER

038-067-749-110-100
038-067-749-110-200



SECTION A-A

SCALE: HOR. 1" = 40'
VERT. 1" = 10'



SECTION B-B

SCALE: 1" = 10'

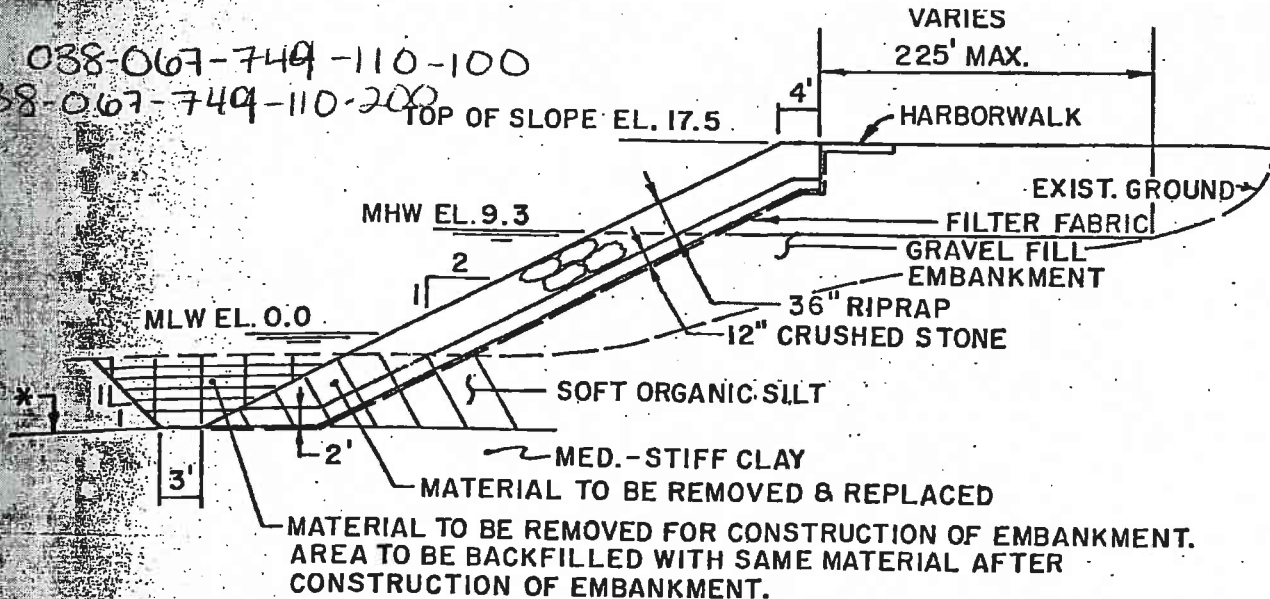


LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering
FEBRUARY 25, 1983

82w-082
SHEET NO. 2 OF 4

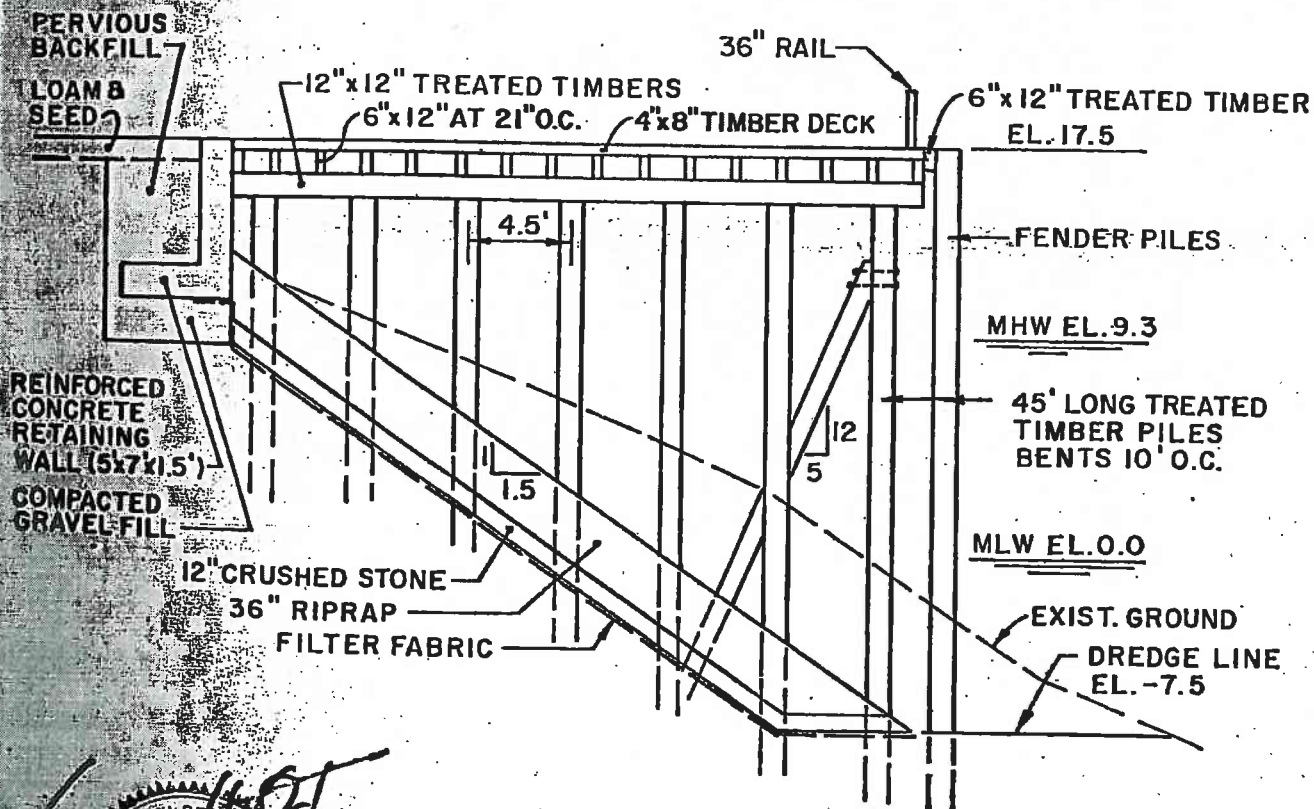
038-067-749-110-100
038-067-749-110-200



* EXCAVATION TO TOP OF MED.-STIFF CLAY (EL. -5.5 TO -9.5)

SECTION C-C

SCALE: 1" = 16'



SECTION D-D

SCALE: 1" = 8'

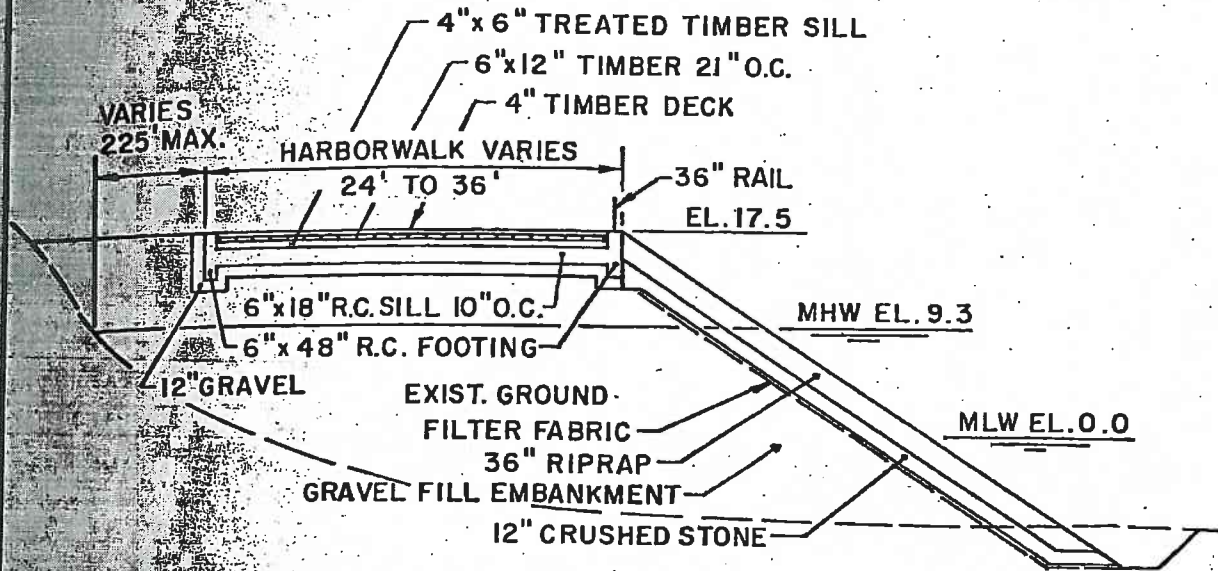


LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering
FEBRUARY 25, 1983

B2W-082
SHEET NO. 3 OF 4

038-067-749-110-100
038-067-749-110-200



SECTION E-E

SCALE: 1" = 16'



LICENSE PLAN NO. 959

Approved by Department of Environmental Quality Engineering

FEBRUARY 25, 1983

82w-082

SHEET NO. 4 OF 4

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
038-066-751-015-100	038-066-751-015-100-COE1A	74-82	USACE	Lynn	May 1973	Plan Accompanying Petition of City of Lynn to Place and Maintain a Stone Dike and Fill in and Over Tidewater in Lynn Harbor, Lynn, Massachusetts	2	End of Blossom Street	Stone Dike
038-067-749-110-100	038-067-749-110-100-COE1A	83-140	USACE	Lynn	June 14, 1983	Proposed Site Construction in Lynn Harbor at Lynn, Massachusetts, County of Essex	4	Lynnway Between Market Street and Washington Street	Riprap
038-067-749-110-100	038-067-749-110-100-COE1B	83-252	USACE	Lynn	November 23, 1983	Proposed Boat Basin and Dredging in Lynn Harbor at Lynn, County of Essex, Massachusetts	3	Lynnway Between Market Street and Washington Street	Riprap
038-067-749-110-200	038-067-749-110-200-COE2A	83-140	USACE	Lynn	June 14, 1983	Proposed Site Construction in Lynn Harbor at Lynn, Massachusetts, County of Essex	4	Lynnway Between Market Street and Washington Street	Riprap
038-067-749-110-200	038-067-749-110-200-COE2B	83-252	USACE	Lynn	November 23, 1983	Proposed Boat Basin and Dredging in Lynn Harbor at Lynn, County of Essex, Massachusetts	3	Lynnway Between Market Street and Washington Street	Riprap

034 0007

038-066-751-015-100

SCALE: 1"=1000'



LYNNWAY

BUDIER ST.

BLOSSOM ST.

Locus

FLATS

LYNN
HARBOR

FEDERAL
CHANNEL

Nahant Beach

OUTFALL
SEWER

OUTGOING TIDE
INCOMING TIDE

18FT FOR MIDDLE WIDTH OF 150FT 1970

SHEET 2 of 2

153 0007

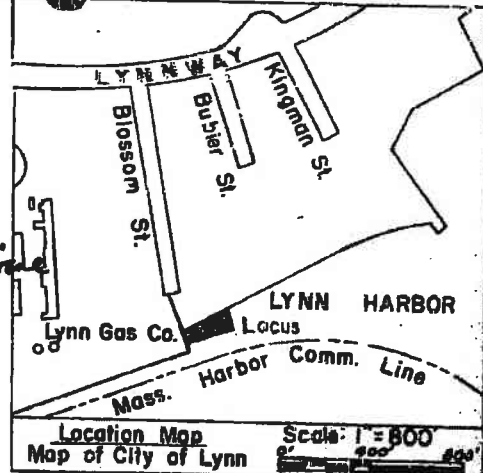
0 3 4

0 0 0 8

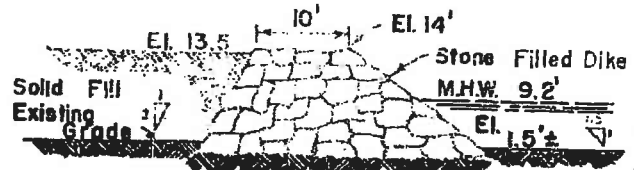
038-066-751-015-100

PLAN

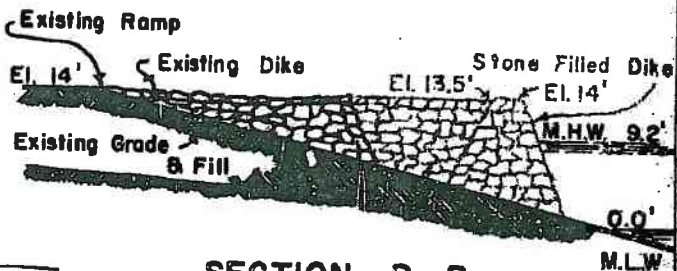
Scale 1"=200'

*Joseph J. Macaione*

Note: Elevations are in Feet & Tenths and Refer To Mean Low Water Datum 0.0'

**SECTION A-A**

Scale of Feet - 0' 10' 20'
1"=20'

**SECTION B-B**

Scale of Feet - 0' 25' 50'
Hor. 1"=50'

Scale of Feet - 0' 10' 20'
Vert. 1"=20'

SHEET 1 of 2

**PLAN ACCOMPANYING PETITION OF
CITY OF LYNN**

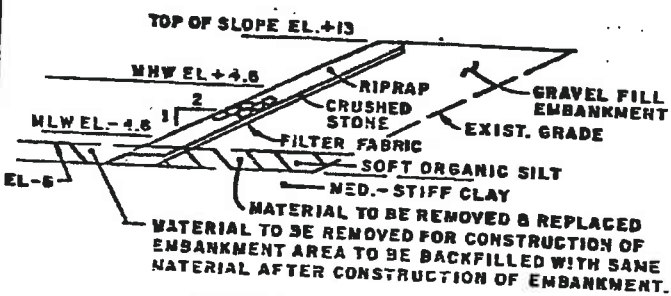
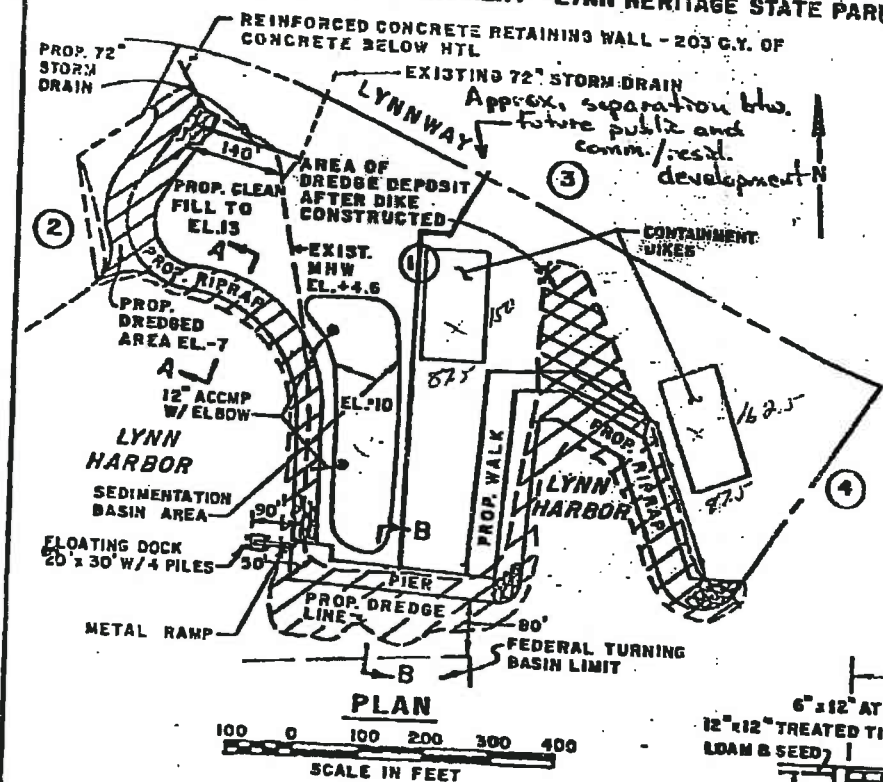
TO PLACE AND MAINTAIN A STONE
DIKE & FILL IN & OVER TIDEWATER
IN

LYNN HARBOR
LYNN, MASSACHUSETTS
MAY — 1973

038-067-749-110-100
038-067-749-110-200

APPROXIMATELY 20,146 C.Y. ARE TO BE DREDGED AND TO BE USED ON SITE AS FILL.
APPROXIMATELY 98,173 C.Y. OF BANK RUN GRAVEL TO BE USED TO PREPARE SLOPES FOR RIPRAP AND FOR FILL.
APPROXIMATELY 12,347 C.Y. OF 1 TON (AVERAGE STONE) RIPRAP.
APPROXIMATELY 38,160 C.Y. OF EMBANKMENT BELOW HTL.

PURPOSE: WATERFRONT DEVELOPMENT - LYNN HERITAGE STATE PARK

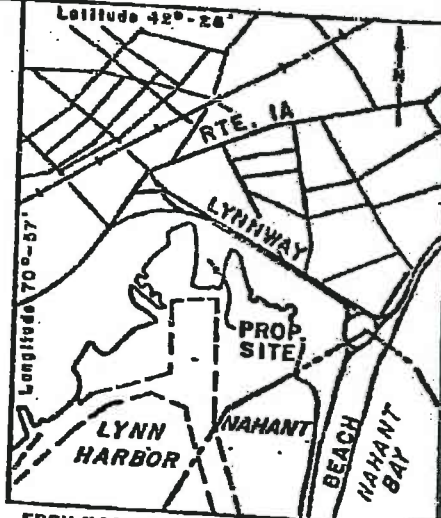


SECTION A-A
SCALE IN FEET

NOTES:

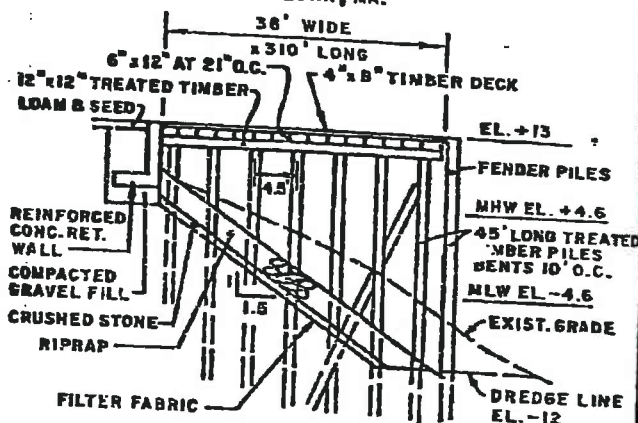
RANGE OF DREDGE = +2.5' TO -23' MLW
ELEVATIONS ARE IN FEET AND REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929

- DREDGE AREA
- DREDGE PLACEMENT AREA



FROM USGS QUAD SHEET (LYNN, MASS.)
LOCATION MAP

- LOT 1 EDIC OF LYNN
- LOT 2 LLOYD ASSOC. INC. STRATHAM HEIGHTS RD. STRATHAM, NH
- LOT 3 METROPOLITAN DISTRICT COMMISSION
- LOT 4 HARBORSIDE DEVELOPMENT ASSOC. 23 CENTRAL AVE. LYNN, MA.

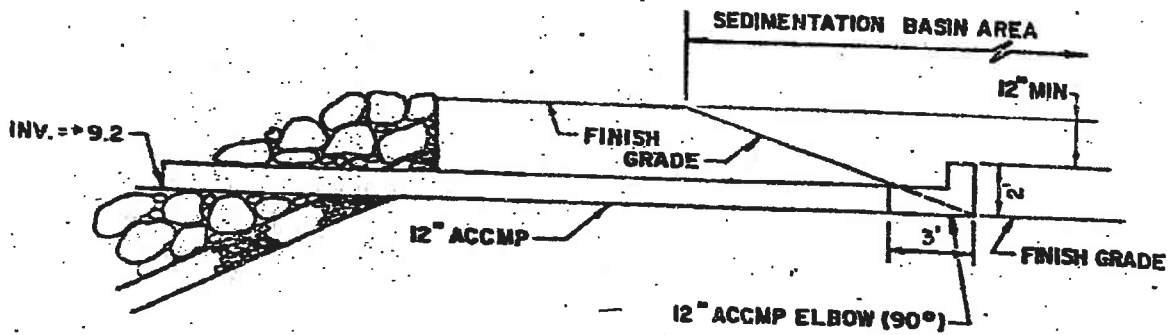


SECTION B-B

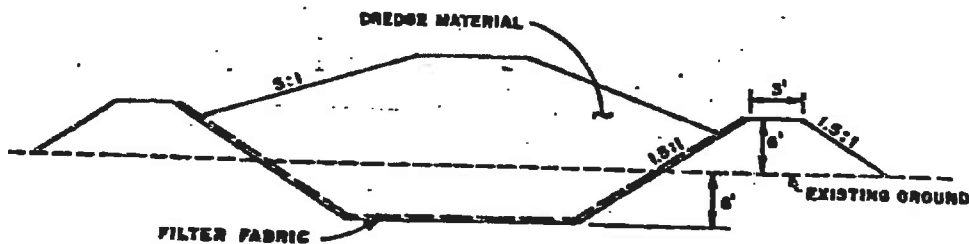
SCALE IN FEET

Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 1 of 3 Date 16 JUNE 1982

038-067-749-110-100
038-067-749-110-200



**DRAINAGE OUTLET FOR
SEDIMENTATION BASIN**
(NTS)

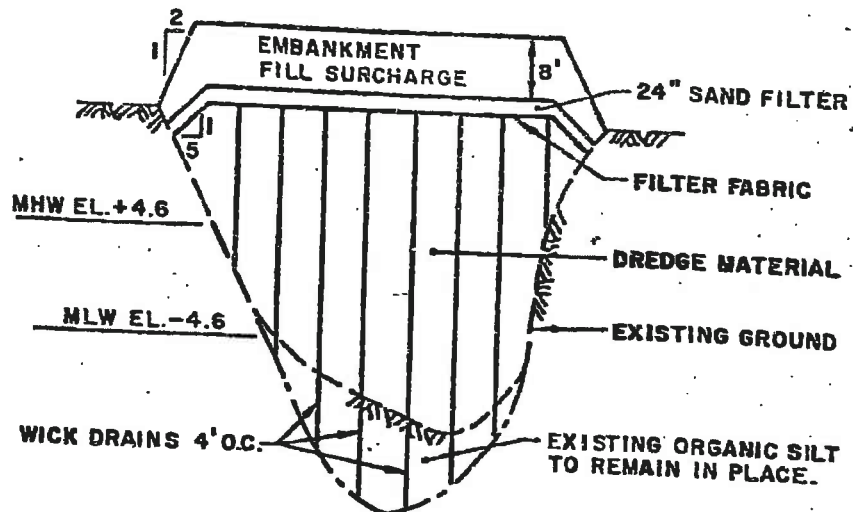


CONTAINMENT DIKE
(NTS)

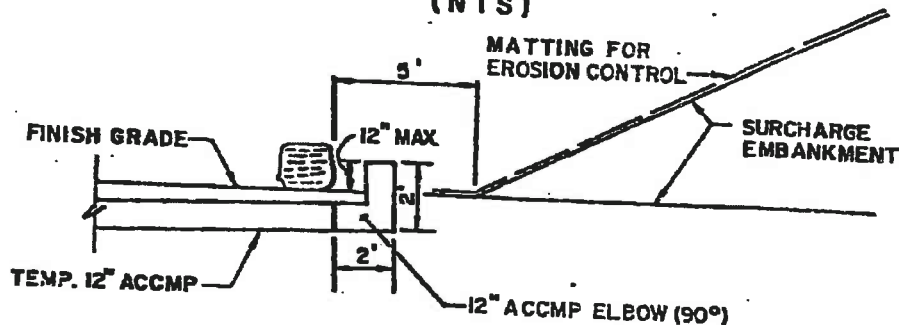
Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 2 of 3 Date 16 JUNE 1982

916 1292

038-067-749-110-100
038-067-749-110-200



DREDGE DISPOSAL SECTION (NTS)

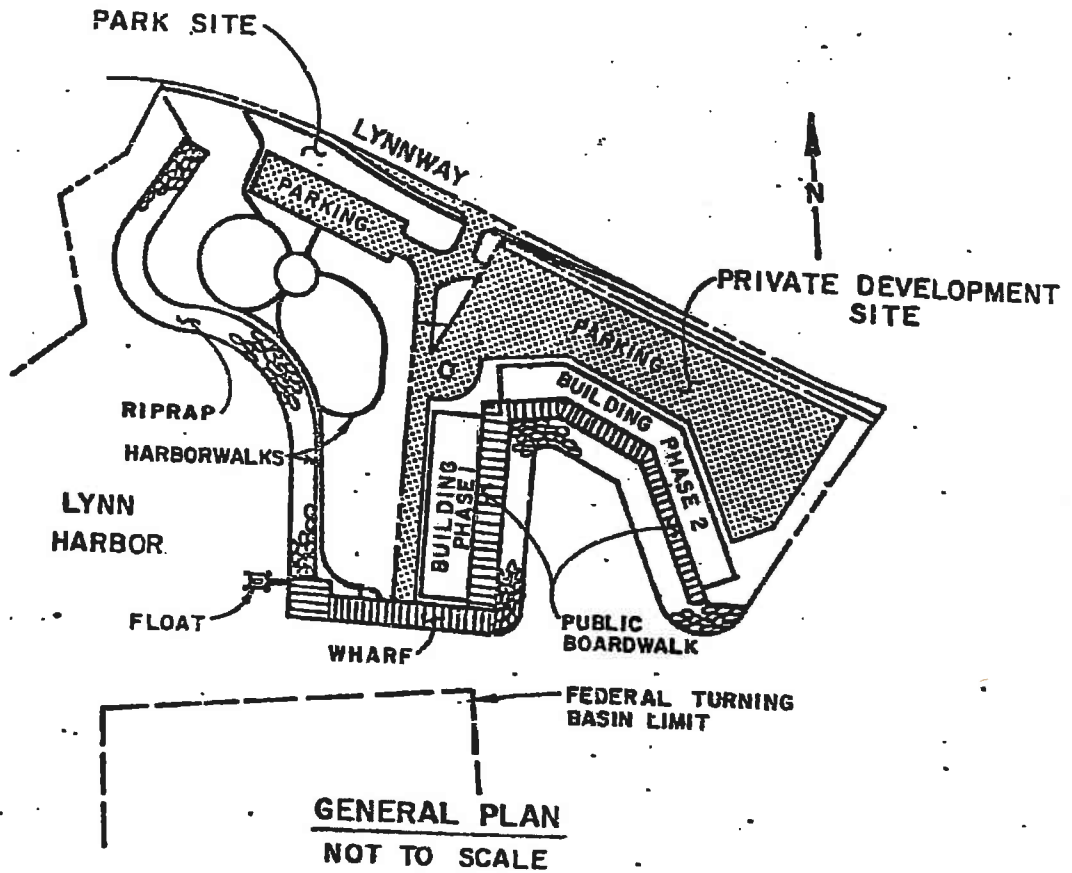


DRAINAGE OUTLET FOR SURCHARGE EMBANKMENT (NTS)

Proposed Site Construction
on LYNN HARBOR
of LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 3 of 3 Date 16 AUG. 1982

916 1293

038-067-749-110-100
038-067-749-110-200

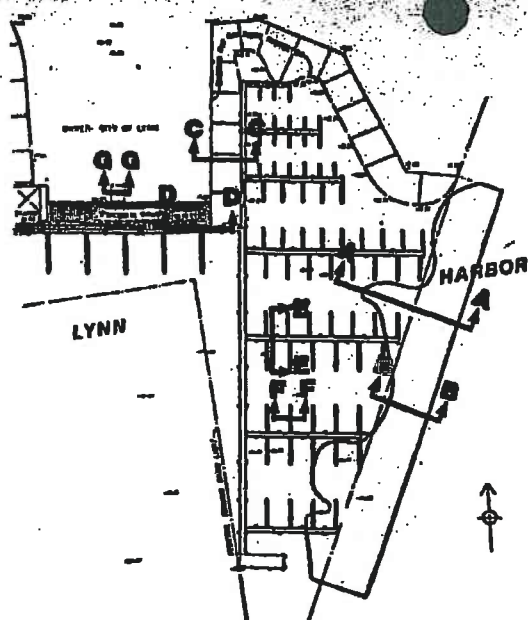


Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 4 of 4 Date FEB. 1983

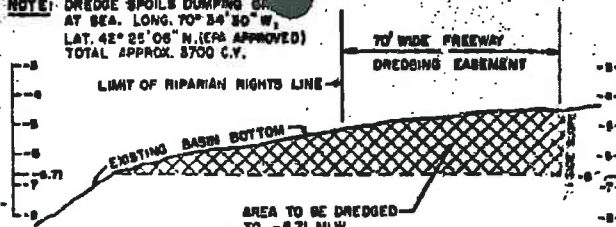
038-067-749-110-100

038-067-749-110-200

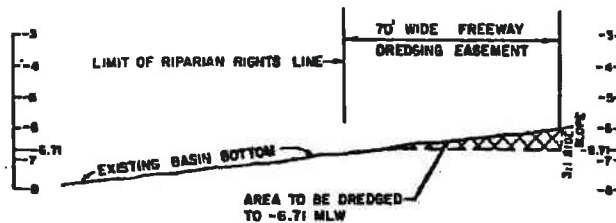
NOTE: DREDGE SPOILS DUMPING SITE
AT SEA. LONG. 70° 34' 30" W,
LAT. 42° 25' 06" N. (EPA APPROVED)
TOTAL APPROX. 3700 C.Y.



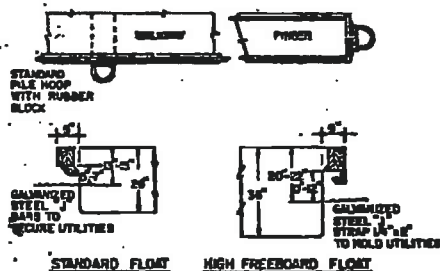
PLAN
SCALE IN FEET



SECTION A-A DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0
SCALE IN FEET



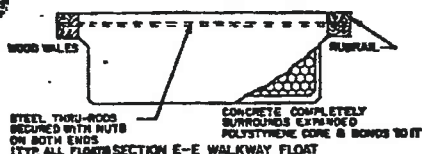
SECTION B-B DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0
SCALE IN FEET



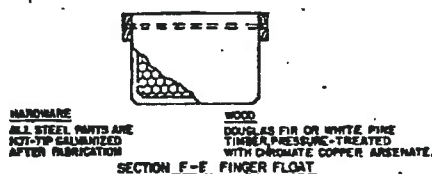
STANDARD FLOAT HIGH FREEBOARD FLOAT



ATTACHMENT OF PILE GUIDES AND UTILITIES
N.T.S.

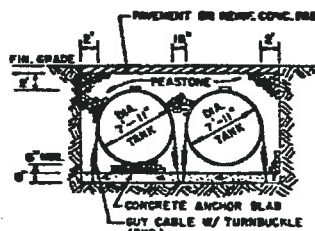


SECTION E-E WALKWAY FLOAT

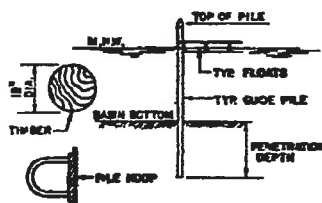


SECTION F-F FINGER FLOAT

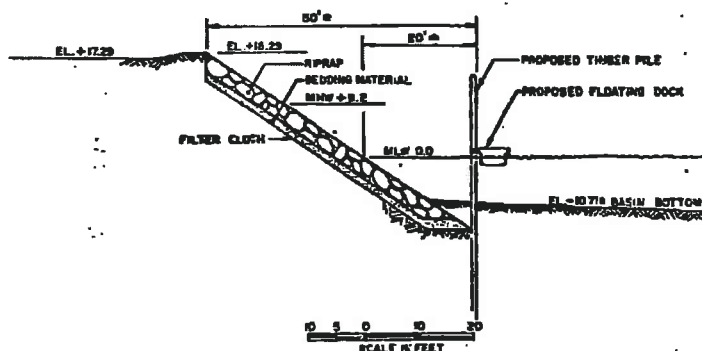
MODULES WITH WALES ATTACHED
N.T.S.



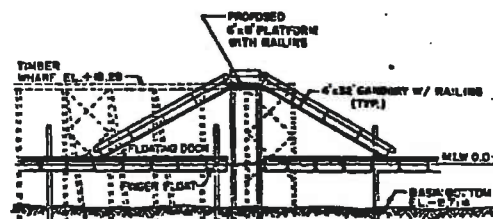
SECTION G-G BURIED FUEL TANKS
N.T.S.



TYPICAL GUIDE PILE FOR FLOATING DOCKS
N.T.S.



SECTION C-C



SECTION D-D AT GANGWAYS - N.T.S.

82w-131

Maurice Freed

SHEET 2 OF 2.

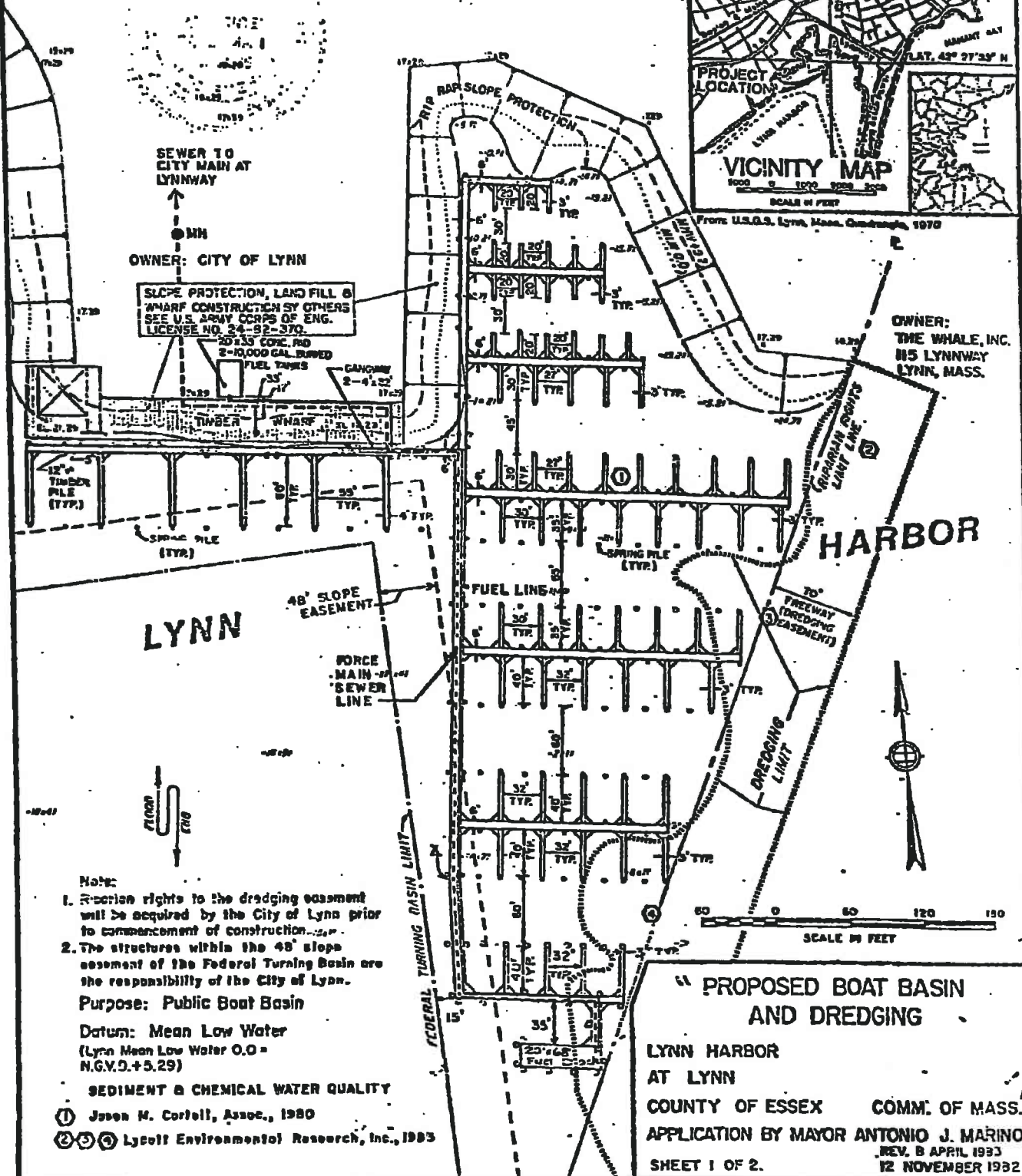
12 NOVEMBER 1982

PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO CONSTRUCT AND MAINTAIN
BOAT BASIN

LICENSE PLAN NO. 1029

Approved by Department of Environmental Quality Engineering

038-067-749-110-200
 Maurice Freed 038-067-749-110-200



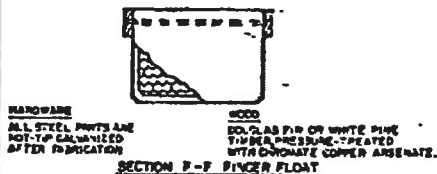
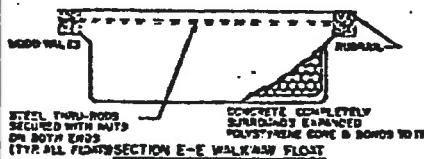
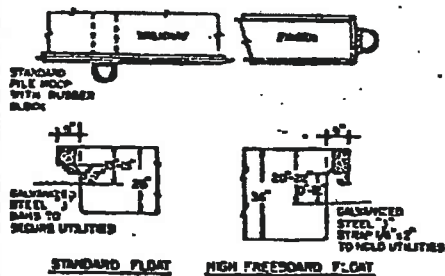
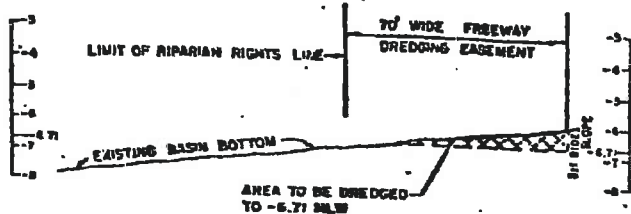
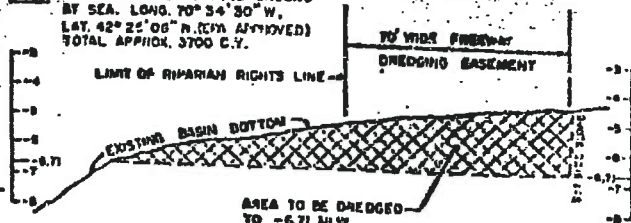
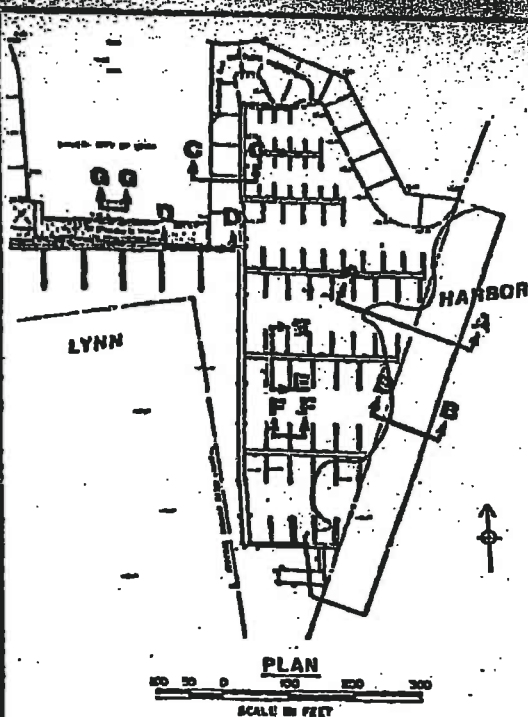
Note:
 1. Easement rights to the dredging easement will be acquired by the City of Lynn prior to commencement of construction.
 2. The structures within the 48' slope easement of the Federal Turning Basin are the responsibility of the City of Lynn.
Purpose: Public Boat Basin
Datum: Mean Low Water
 (Lynn Mean Low Water O.O. = N.G.V. 5.29)

SEDIMENT & CHEMICAL WATER QUALITY
 ① Jason M. Cortell, Assoc., 1980
 ②③④ Lyeall Environmental Research, Inc., 1983

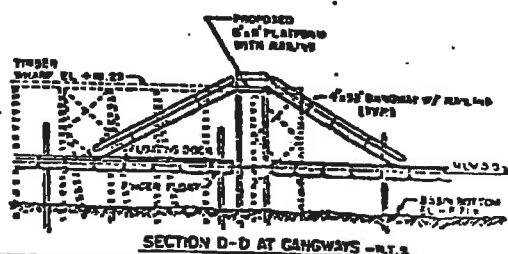
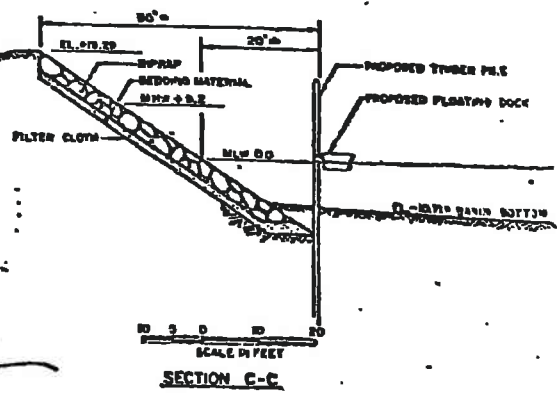
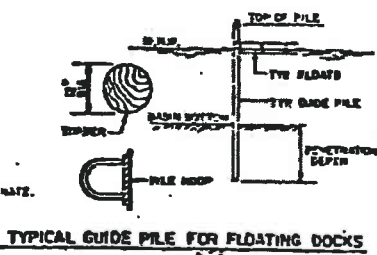
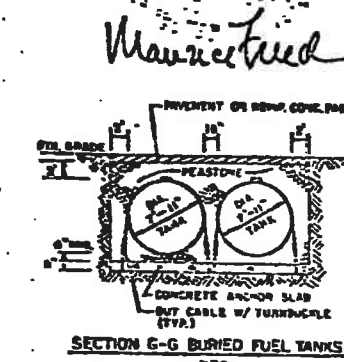
" PROPOSED BOAT BASIN AND DREDGING "
 LYNN HARBOR
 AT LYNN
 COUNTY OF ESSEX COMM. OF MASS.
 APPLICATION BY MAYOR ANTONIO J. MARINO
 REV. 8 APRIL 1993
 SHEET 1 OF 2.
 12 NOVEMBER 1992

038-067-749-110-100
038-067-749-110-200

NOTE: DREDGE SPOILS DUMPING GROUND
BY SEA. LONG. 70° 54' 30" W,
LAT. 42° 25' 08" N. (CITY APPROVED)
TOTAL APPROX. 3700 C.Y.



MODULES WITH MALES ATTACHED

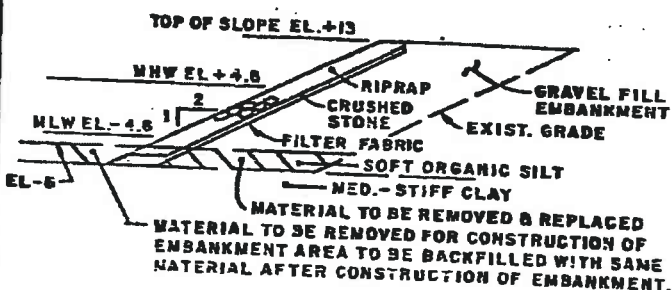
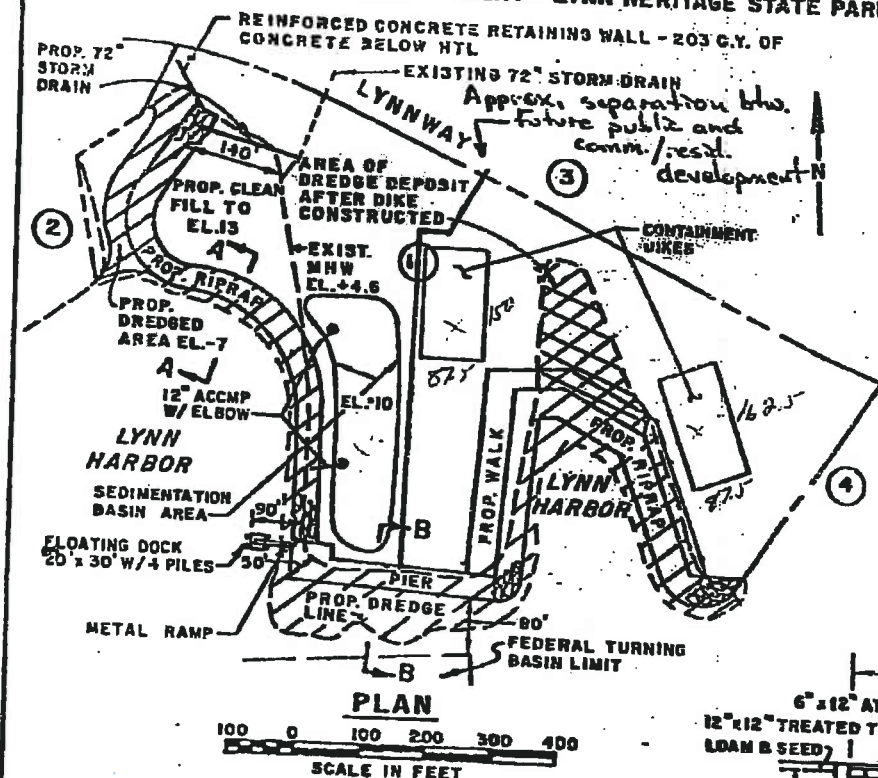


PROPOSED BOAT BASIN AND DREDGING
LYNN HARBOR
AT LYNN
COUNTY OF ESSEX
COMM. OF MASS.
APPLICATION BY MAYOR ANTONIO J. MARINO
REV. 8 APRIL 1983
SHEET 2 OF 2.
12 NOVEMBER 1982

038-067-749-110-100
038-067-749-110-200

APPROXIMATELY 20,146 C.Y. ARE TO BE DREDGED AND TO BE USED ON SITE AS FILL.
APPROXIMATELY 98,173 C.Y. OF BANK RUN GRAVEL TO BE USED TO PREPARE SLOPES FOR RIPRAP AND FOR FILL.
APPROXIMATELY 12,347 C.Y. OF 1 TON (AVERAGE STONE) RIPRAP.
APPROXIMATELY 38,160 C.Y. OF EMBANKMENT BELOW HTL.

PURPOSE: WATERFRONT DEVELOPMENT - LYNN HERITAGE STATE PARK



SECTION A-A



NOTES:

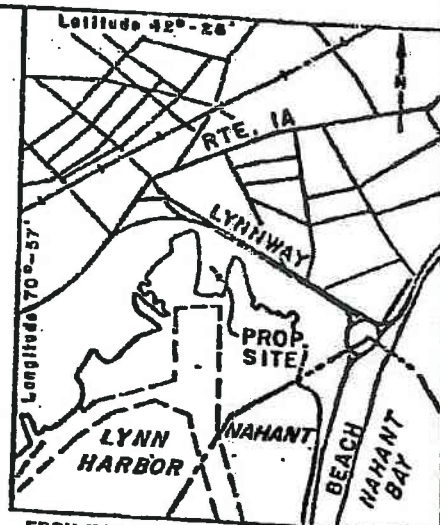
RANGE OF DREDGE = +2.5' TO -23' MLW
ELEVATIONS ARE IN FEET AND REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929



DREDGE AREA



DREDGE PLACEMENT AREA

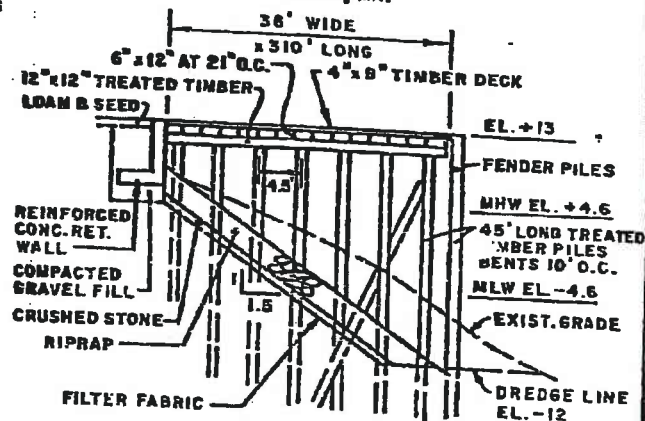


FROM USGS QUAD SHEET (LYNN, MASS.)

LOCATION MAP



- LOT 1 EDIC OF LYNN
- LOT 2 LLOYD ASSOC. INC. STRATHAM HEIGHTS RD. STRATHAM, NH
- LOT 3 METROPOLITAN DISTRICT COMMISSION
- LOT 4 HARBORSIDE DEVELOPMENT ASSOC. 23 CENTRAL AVE. LYNN, MA.



SECTION B-B



Proposed Site Construction

on LYNN HARBOR

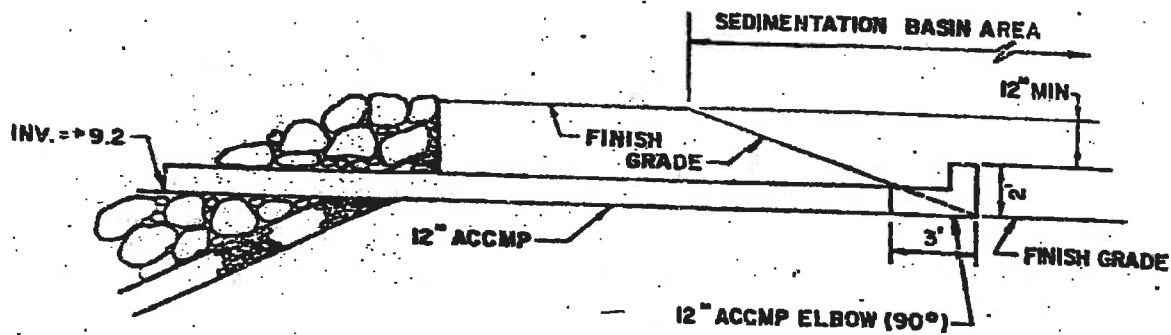
at LYNN MASSACHUSETTS

County of ESSEX State MA.

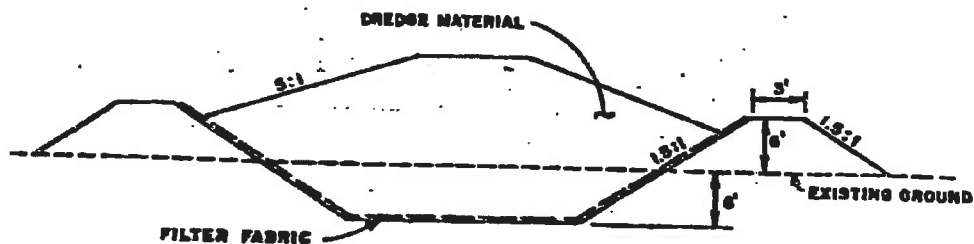
Application by CITY OF LYNN

Sheet No. 1 of 3 Date 16 JUNE 1982

038-067-749-110-100
038-067-749-110-200



**DRAINAGE OUTLET FOR
SEDIMENTATION BASIN**
(NTS)

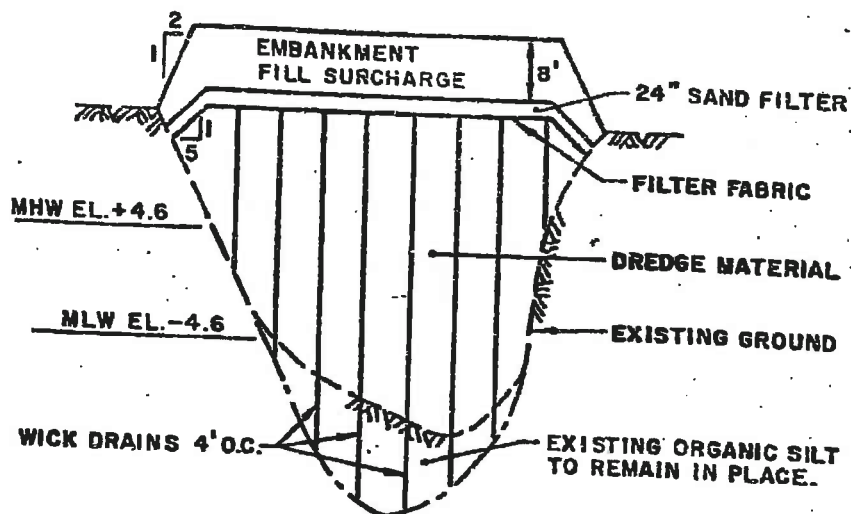


CONTAINMENT DIKE
(NTS)

Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 2 of 3 Date 16 JUNE 1982

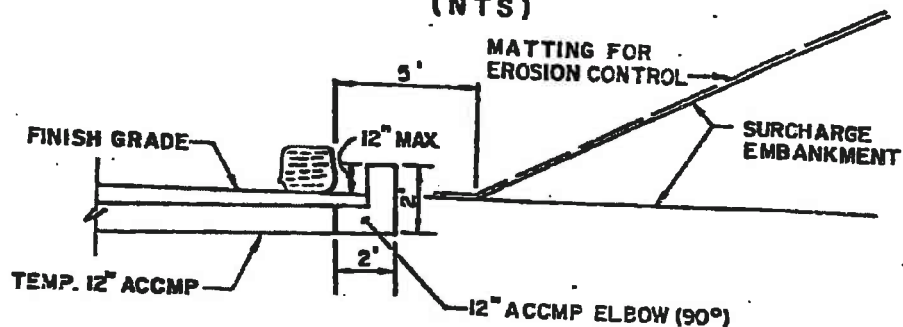
916 1292

038-067-749-110-100
038-067-749-110-200



DREDGE DISPOSAL SECTION

(NTS)

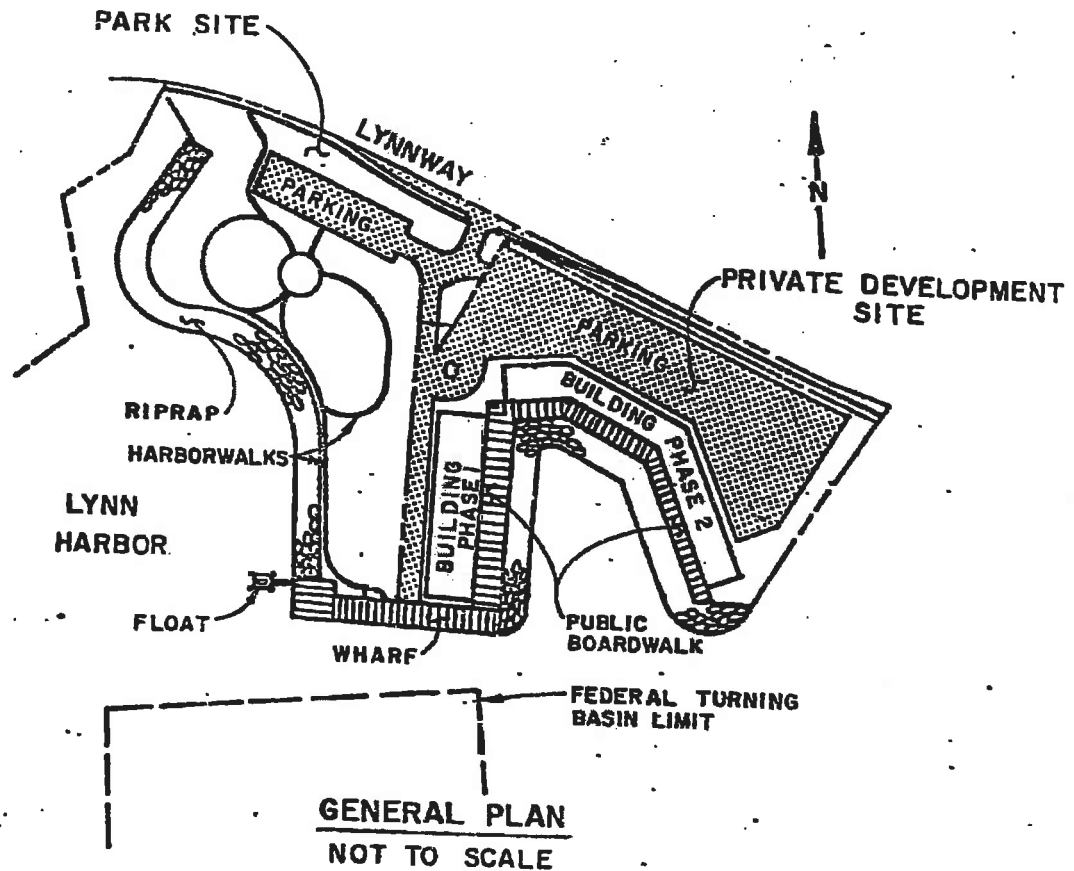


DRAINAGE OUTLET FOR SURCHARGE EMBANKMENT

(NTS)

Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 3 of 3 Date 16 AUG. 1982

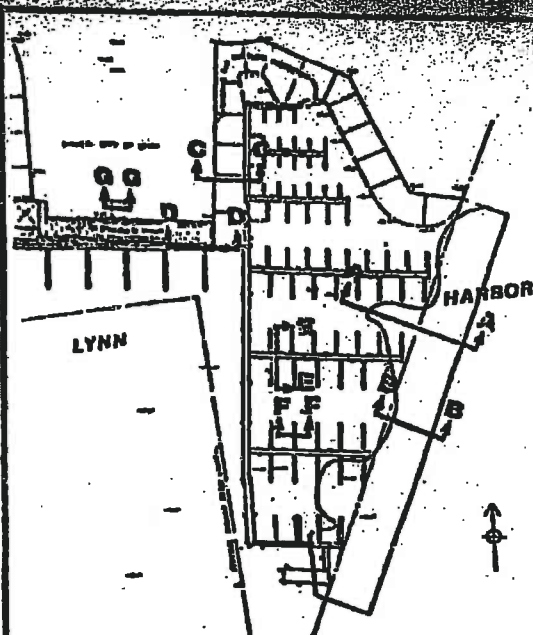
038-067-749-110-100
038-067-749-110-200



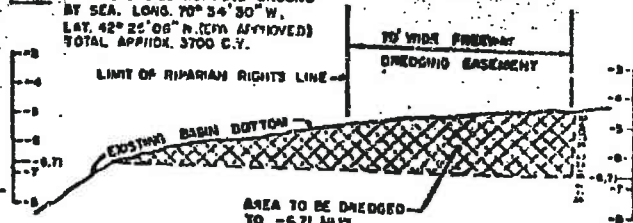
Proposed Site Construction
on LYNN HARBOR
at LYNN MASSACHUSETTS
County of ESSEX State MA.
Application by CITY OF LYNN
Sheet No. 4 of 4 Date FEB. 1983

038-067-749-110-100
038-067-749-110-200

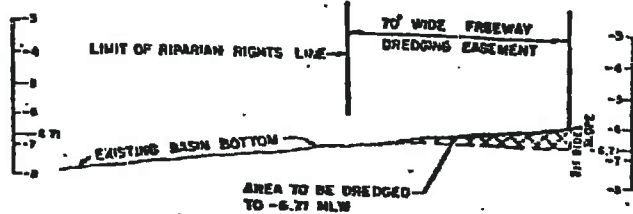
NOTE: DREDGE SPILLS DUMPING GROUND
BY SEA. LONG. 70° 54' 30" W.
LAT. 42° 25' 08" N. (CPM. APPROVED)
TOTAL APPROX. 3700 C.Y.



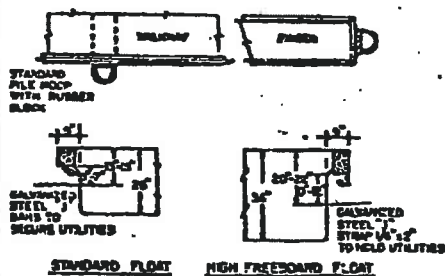
PLAN
SCALE IN FEET



SECTION A-A DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0 1 2 3
SCALE IN FEET



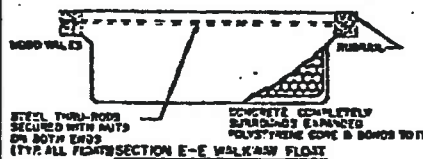
SECTION B-B DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0 1 2 3
SCALE IN FEET



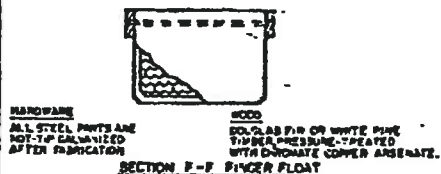
STANDARD FLOAT HIGH FREEBOARD FLOAT



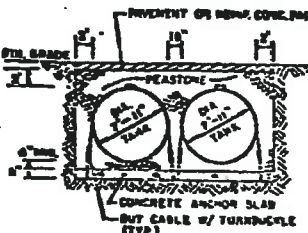
ATTACHMENT OF PILE GUIDES AND UTILITIES
N.T.S.



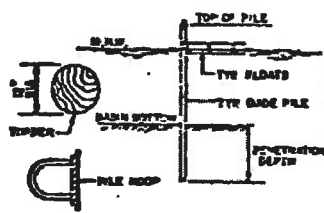
STEEL THUD-RODS SECURED WITH NUTS ON BOTH ENDS
(TYP. ALL FOUR) SECTION E-E WALKWAY FLOAT



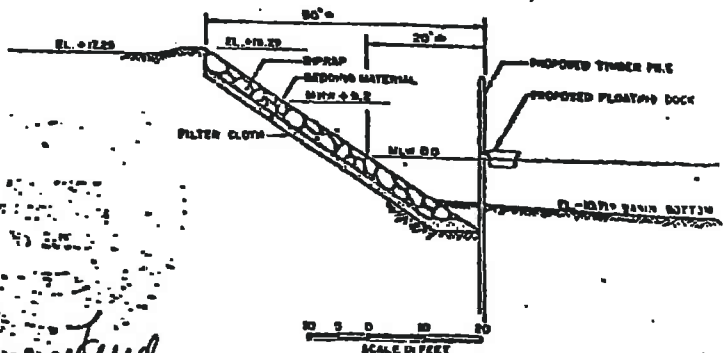
MODULES WITH WALES ATTACHED



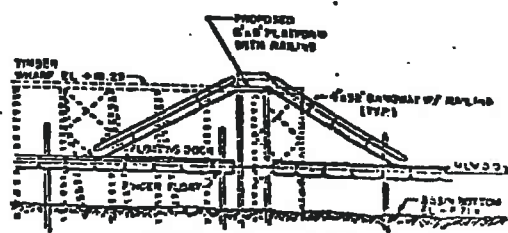
SECTION G-G BURIED FUEL TANKS
N.T.S.



TYPICAL GUIDE PILE FOR FLOATING DOCKS



SECTION C-C



SECTION D-D AT GANGWAYS - N.T.S.

PROPOSED BOAT BASIN AND DREDGING

LYNN HARBOR
AT LYNN

COUNTY OF ESSEX

COMM. OF MASS.

APPLICATION BY MAYOR ANTONIO J. MARINO

SHEET 2 OF 2.

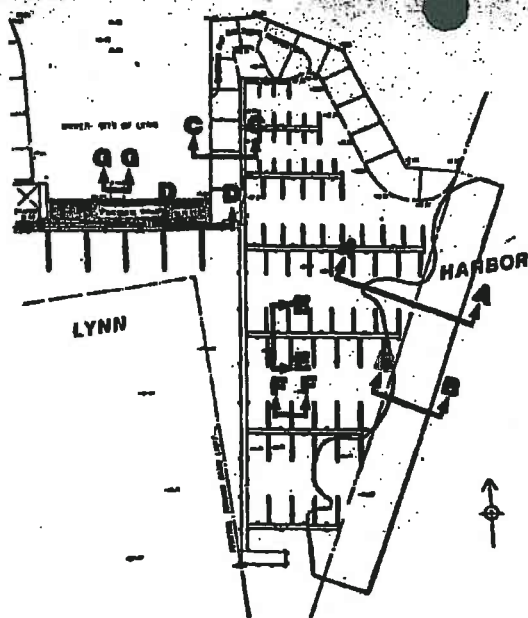
REV. 8 APRIL 1983
12 NOVEMBER 1982

Sasaki Associates, Inc., 84 Pleasant Street, Watertown, MA 02172

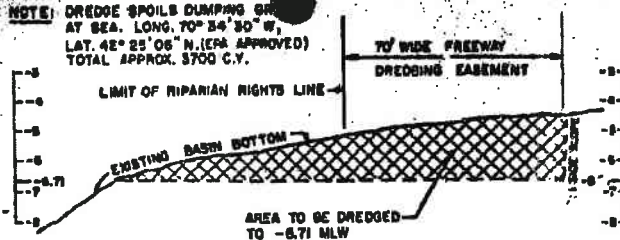
921 2162

038-067-749-110-100
038-067-749-110-200

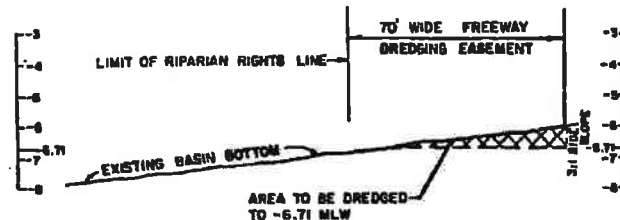
NOTE: DREDGE SPOILS DUMPING ON
AT SEA. LONG. 70° 54' 30" W,
LAT. 42° 25' 06" N. (CMA APPROVED)
TOTAL APPROX. 3700 C.Y.



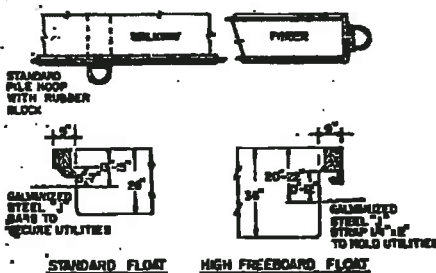
PLAN
SCALE IN FEET



SECTION A-A DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0 1 2 3
SCALE IN FEET



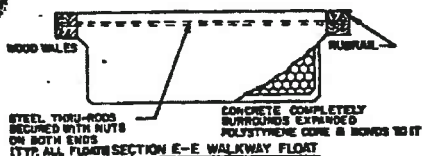
SECTION B-B DREDGING
HORIZ. 30 20 10 0 10 20 30
VERT. 3 2 1 0 1 2 3
SCALE IN FEET



STANDARD FLOT HIGH FREEBOARD FLOT

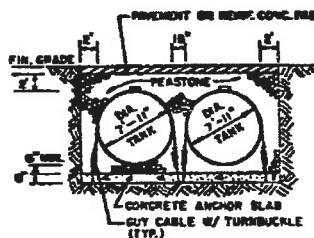


ATTACHMENT OF PILE GUIDES AND UTILITIES
N.T.S.

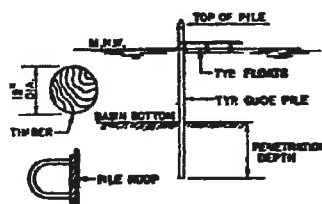


SECTION E-E WALKWAY FLOT
SECTION F-F FINGER FLOT

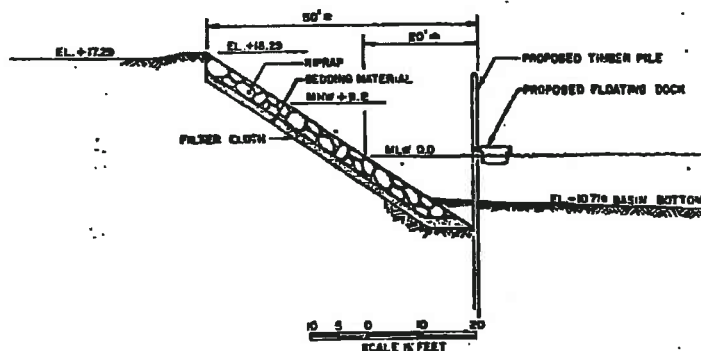
MODULES WITH WALES ATTACHED
N.T.S.



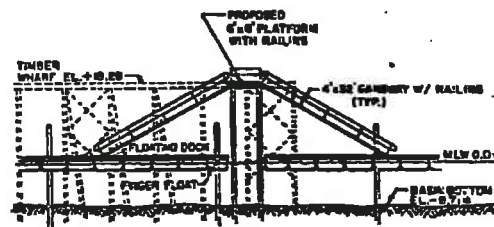
SECTION G-G BURIED FUEL TANKS
N.T.S.



TYPICAL GUIDE PILE FOR FLOATING DOCKS
N.T.S.



SECTION C-C



SECTION D-D AT GANGWAYS - N.T.S.

82w-131

Wesley Fred

SHEET 2 OF 2.

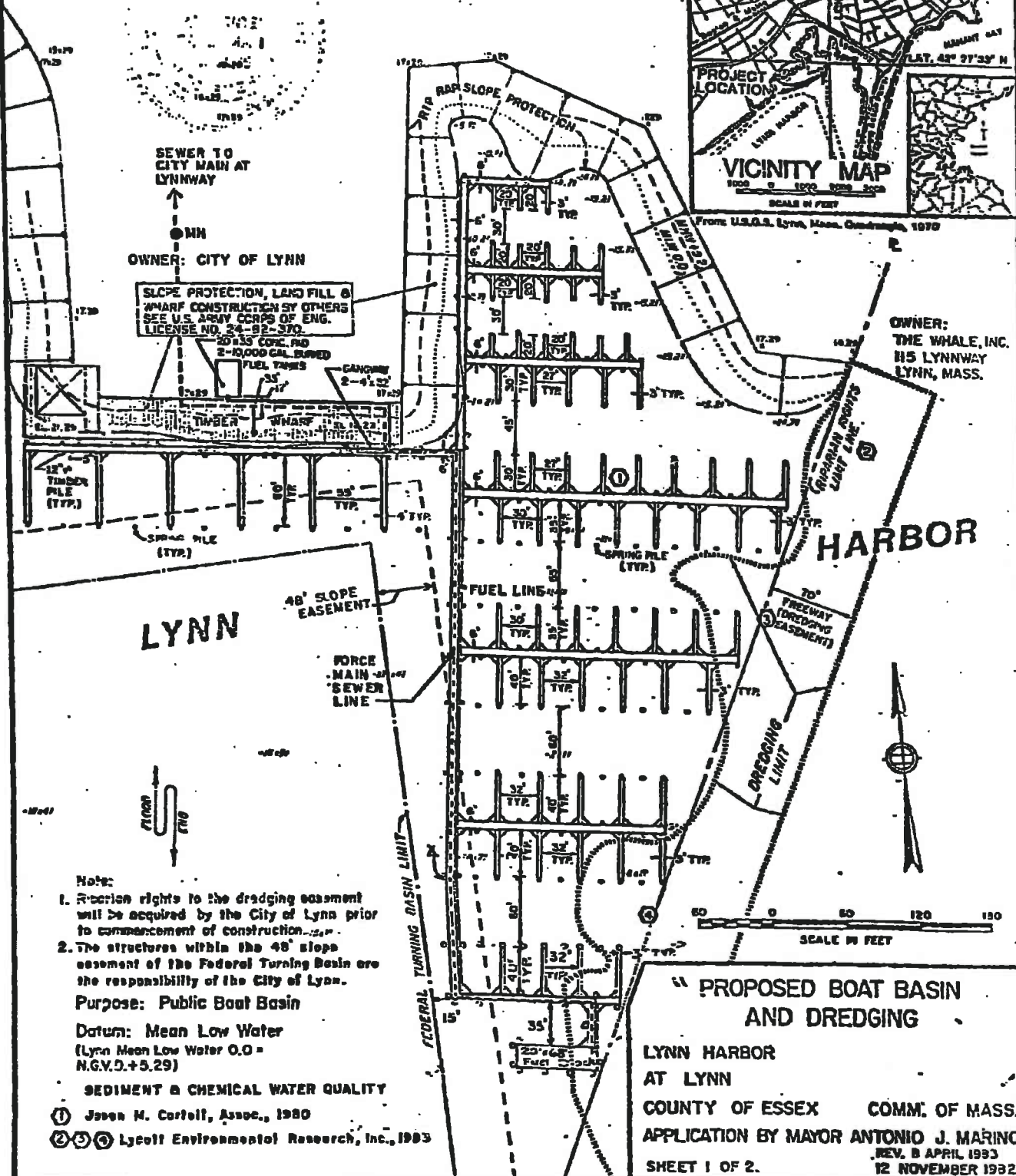
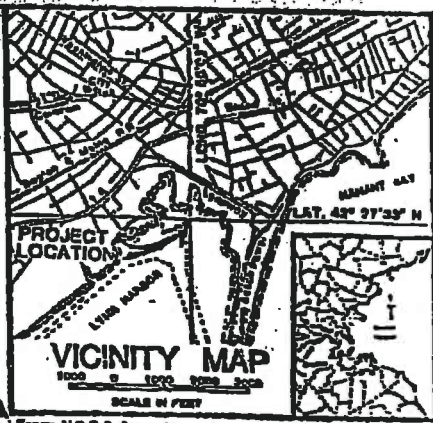
12 NOVEMBER 1982

PLAN ACCOMPANYING PETITION OF
CITY OF LYNN
TO CONSTRUCT AND MAINTAIN
BOAT BASIN

LICENSE PLAN NO. 1029

Approved by Department of Environmental Quality Engineering

038-067-749-110-100
 Maurice Freed 038-067-749-110-200



Section V

Saugus

Section V – Community Findings – Town of Saugus

COMMUNITY DESCRIPTION

The Town of Saugus consists of a land area of 10.99 square miles out of a total area of 11.75 square miles and had a population of 26,078 in the 2000 census. The Town is located on the North Shore of Massachusetts and its location can be seen on this report's cover. The shoreline of Saugus is protected by Revere. The Town is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the Town were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the Town of Saugus, there were 3 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen on Sheet 1 in Section V-B of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

STRUCTURE TYPE AND QUANTITY - Town of Saugus

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Length
		A	B	C	D	F	
Bulkhead / Seawall							
Revetment	3		1	2			625
Breakwater							
Groin / Jetty							
Coastal Dune							
Coastal Beach							
	3		1	2			625

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the Town of Saugus's case there are a total of 3 structures which would require approximately \$ 229,000 to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event, of which Saugus has none.

STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Saugus

Primary Structure (1)	Total Structures	Structure Condition Rating					F	Total Cost
		A	B	C	D			
Bulkhead / Seawall								\$ -
Revetment	3		\$ 36,637	\$ 192,192				\$ 228,829
Breakwater								\$ -
Groin / Jetty								\$ -
Coastal Dune								\$ -
Coastal Beach								\$ -
	3	\$ -	\$ 36,637	\$ 192,192	\$ -	\$ -	\$ -	\$ 228,829

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the Town of Saugus, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Saugus

Primary Structure (1)	Total Structures	Structure Condition Rating					F	Total Cost
		A	B	C	D			
Town Owned	3		\$ 36,637	\$ 192,192				\$ 228,829
Commonwealth of Massachusetts								\$ -
Federal Government Owned								\$ -
Unknown Ownership								\$ -
	3	\$ -	\$ 36,637	\$ 192,192	\$ -	\$ -	\$ -	\$ 228,829

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section V-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the Town of Saugus's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.

Section V - Saugus

Part B

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

TOWN OF SAUGUS
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007

0 150



SCALE: 1" = 150'-0"



Structure Assessment Form

Town: **Saugus**Structure ID: **067-0H5-000-005-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Vitale Memorial Park

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Saugus

Earliest Structure Record:

1986

Estimated Reconstruction/Repair Cost:

\$36,637.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
305		A2	10
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Dumped riprap slope comprised of 50 to 800 pound stones. Well interlocked stones. Parking area and storage building inshore. Minor erosion at top of slope.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***I***Rating***None***Action***Long Term Planning Considerations***Description*

No Inshore Structures or Residential Dwelling Units Present

Structure Images:

067-0H5-000-005-100-PHO1A.jpg**067-0H5-000-005-100-PHO1B.jpg**

Structure Documents:

USACE**September 8****Proposed Public****067-0H5-000-005-100-COE1A****DEP****January 21,****Plan Accompanying****067-0H5-000-005-100-LIC1A****Saugus****02/12/1992****Vitale Memorial****067-0H5-000-005-100-TWN1A**

Structure Assessment Form

Town: SaugusStructure ID: 067-015-000-002-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Route 107

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Saugus

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$96,096.00

Length:

160

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

A2

FIRM Map Elevation:

10

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Dumped riprap slope comprised of 100 to 1000 pound stone. The slope is 1 vertical to 2 horizontal slope. Protects edge of Route 107 as approaches bridge.

*Condition***C***Rating*

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

*Priority***II***Rating*

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

067-015-000-002-100-PHO1A.jpg067-015-000-002-100-PHO1B.jpg

Structure Documents:

Structure Assessment Form

Town: **Saugus**Structure ID: **067-015-000-02LC-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Route 107

Date:

6/1/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Saugus

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$96,096.00

Length:

160

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

A2

FIRM Map Elevation:

10

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Dumped riprap slope comprised of 100 to 2000 pound stones. The slope is 1 vertical to 3 horizontal. Moderate erosion at top of slope. Protects edge of Route 107 as approaches bridge.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

067-015-000-02LC-100-PHO1A.jpg

067-015-000-02LC-100-PHO1B.jpg

Structure Documents:

Section V - Saugus

Part C

Structure Photographs

TOWN: SAUGUS
 SOURCE: BCE - FIELD PHOTOGRAPHS
 LOCATION: Bourne Consulting Engineering
 DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
067-015-000-005-100	067-015-000-005-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
067-015-000-005-100	067-015-000-005-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
067-015-000-002-100	067-015-000-002-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
067-015-000-002-100	067-015-000-002-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
067-015-000-02LC-100	067-015-000-02LC-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
067-015-000-02LC-100	067-015-000-02LC-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



067-0H5-000-005-100-PHO1A



067-0H5-000-005-100-PHO1B



067-0I5-000-002-100-PHO1A



067-0I5-000-002-100-PHO1B



067-0I5-000-02LC-100-PHO1A



067-0I5-000-02LC-100-PHO1B

Section V - Saugus

Part D

Structure Documents

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

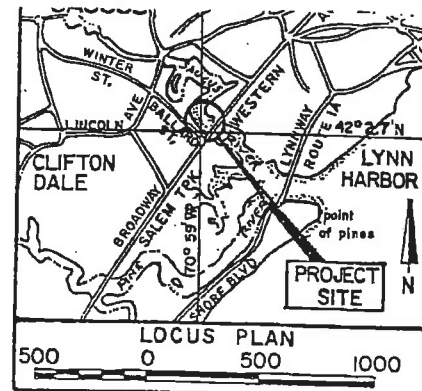
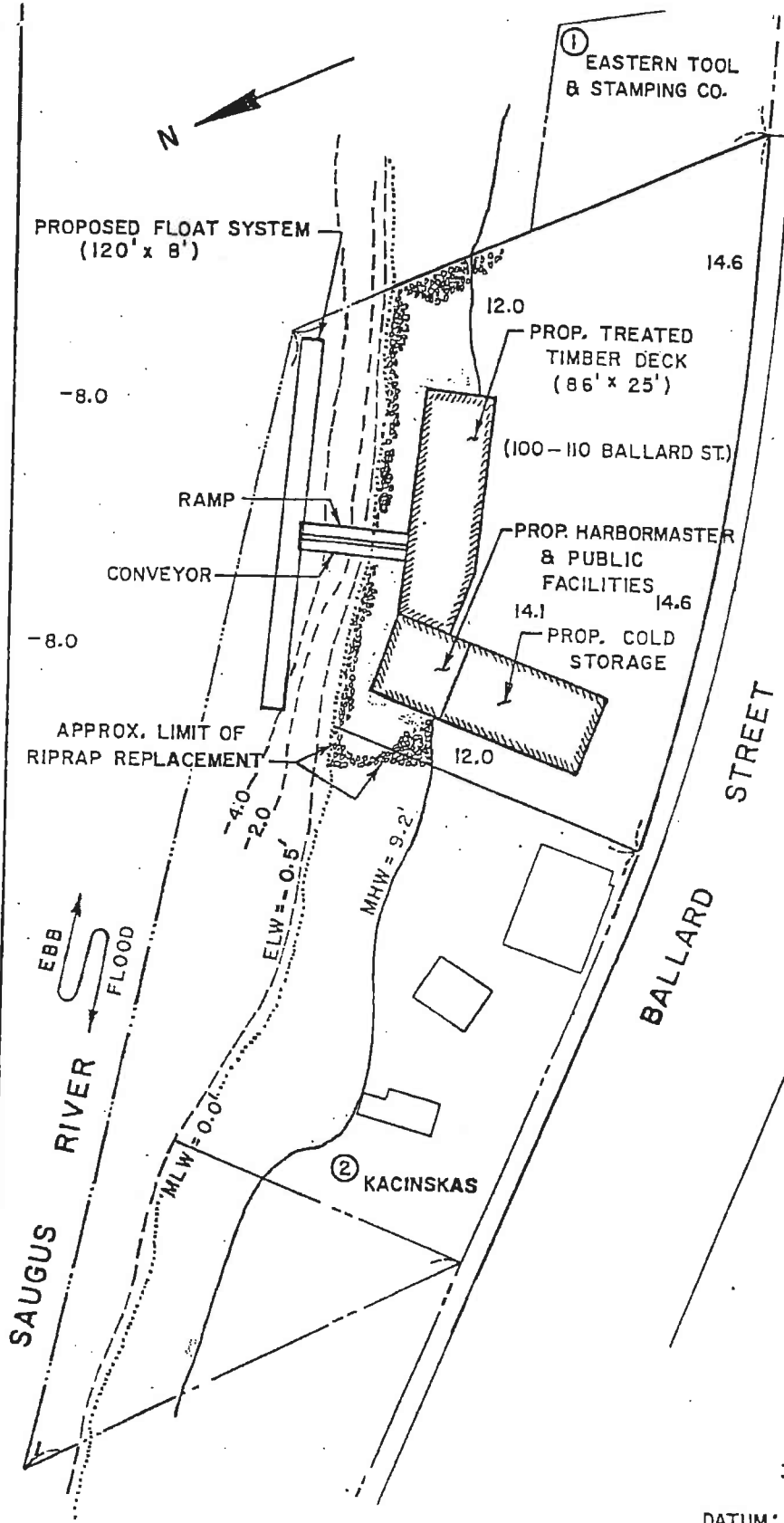
USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
067-0H5-000-005-100	067-0H5-000-005-100-TWN1A	10	Saugus	Saugus	02/12/1992	Vitale Memorial Park - Plan View	1-1	Vitale Memorial Park	Plan View

BCE Structure No	Document No	Contract/ Drawing Number	Ently	Municipality	Date	Title	Sheets	Location	Description
------------------	-------------	--------------------------------	-------	--------------	------	-------	--------	----------	-------------

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
067-0HS-000-005-100	067-0HS-000-005-100-LIC1A	1589	DEP	Saugus	January 21, 1987	Plan Accompanying Petition of Town of Saugus to Construct and Maintain a Lobster Landing in the Tidewaters of the Saugus River, Town of Saugus, County of Essex, State of Massachusetts	2	Ballard Street	Riprap

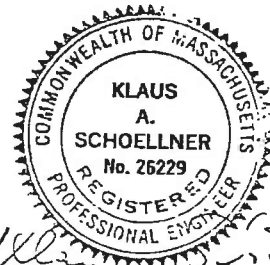


NOAA/NOS CHART # 13275

067-045-000-005-100

LIST OF ABUTTERS

1. EASTERN TOOL & STAMPING CO.
112 BALLARD ST.
2. BENJAMIN KACINSKAS
92-96 BALLARD ST.

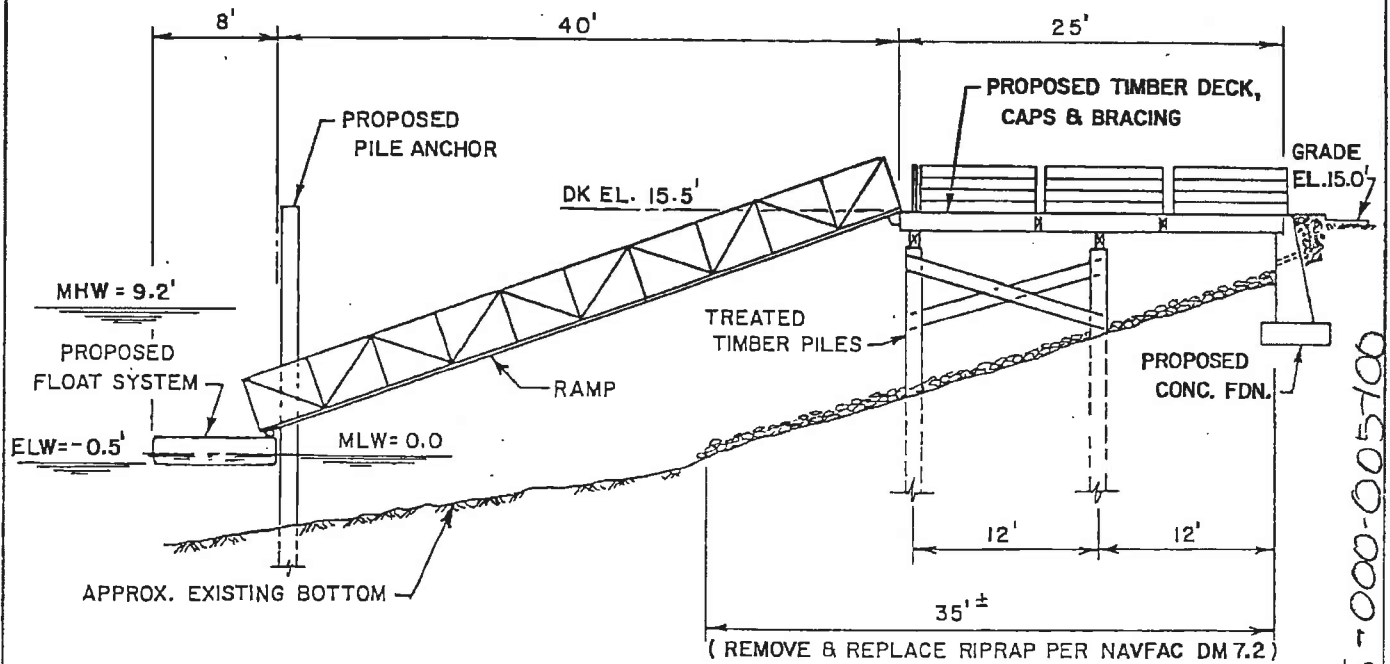


DATUM: MEAN LOW WATER (MLW) = 0.0

PLAN ACCOMPANYING PETITION OF:
TOWN OF SAUGUS
TO CONSTRUCT & MAINTAIN A LOBSTER LANDING
IN THE TIDEWATERS OF THE SAUGUS RIVER,
TOWN OF SAUGUS
COUNTY OF ESSEX,
STATE OF MASSACHUSETTS

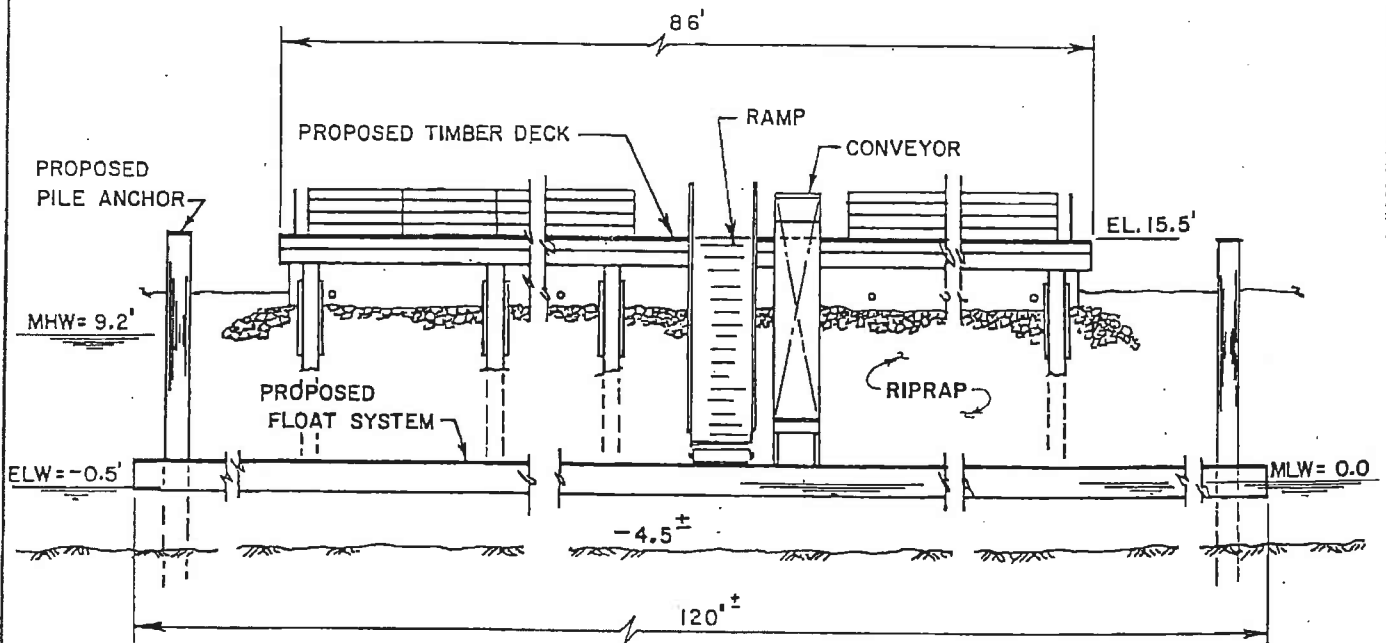
Rev Date: 01-21-87

1589
Gary R. Clayton
Commissioner
Division Director



TYPICAL CROSS SECTION

0 6 12 FEET



ELEVATION

0 6 12 FEET



BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
067-0H5-000-005-100	067-0H5-000-005-100-COE1A	87-028	USACE	Saugus	September 8, 1986	Proposed Public Facility-Dockage - To Construct and Maintain a Public Lobster Landing Facility in Saugus River, Saugus, Massachusetts	3	Ballard Street	R/rap

N/F BENJAMIN KACINSKAS

106'±

1-STY W/F HUT-
TO BE REMOVED

+13.5' MLW

248.44'

BALLARD ST.

EXISTING CONC. FND

+15' MLW

130'±

54'±

54'±

414.48'

SAUGUS RIVER

EXISTING FLOATS,
CHAIN MOORINGS,
GANGWAY, FIXED PIERS
AND DECKS TO BE
REMOVED

TOP OF BANK

APPROX. LIMIT OF RIP RAP

4' MLW FLOOD

1' MLW EBB

1' MLW

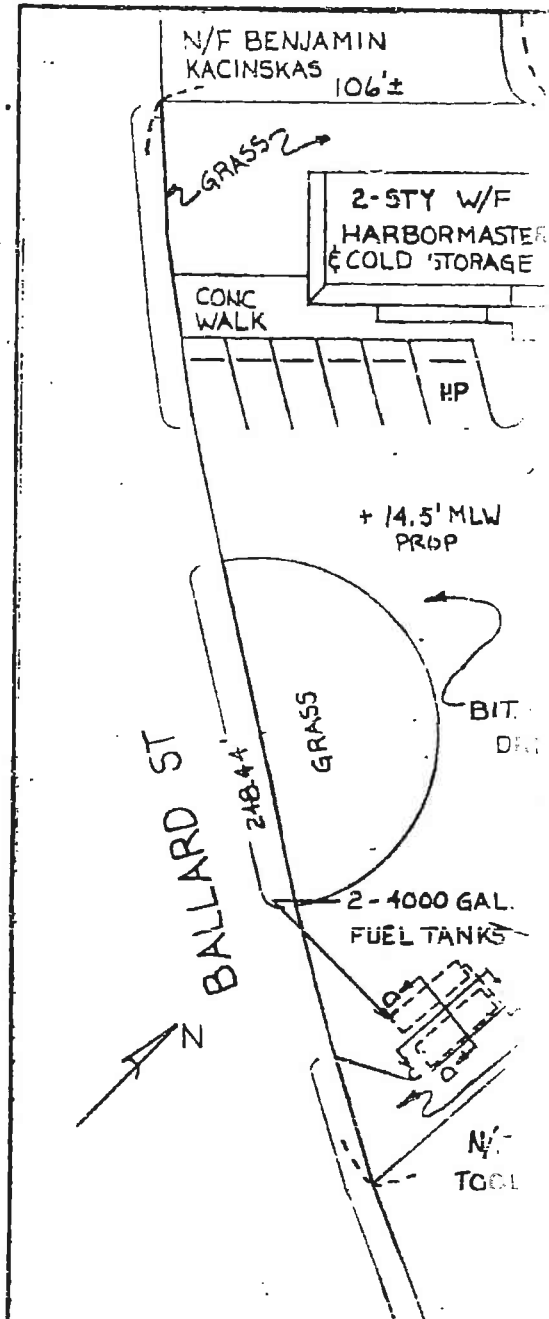
N

N/F EASTERN
TOOL & STAMP CO.

ADJACENT PROPERTY OWNERS:
BENJAMIN KACINSKAS
EASTERN TOOL & STAMP CO.

SHEET 1 OF 5 DATE 9-8-86

067-OH5-000-005-100

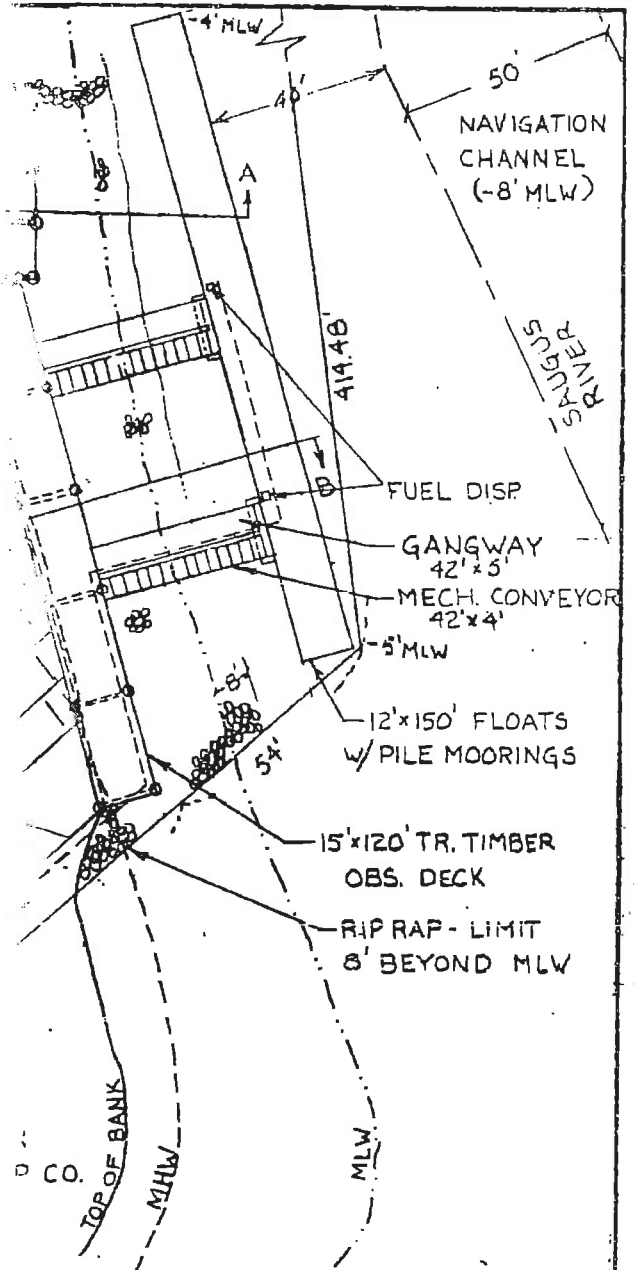


PURPOSE: TO CONSTRUCT & MAINTAIN
A PUBLIC LOBSTER LANDING
FACILITY

ADJACENT PROPERTY OWNERS
SEE SHEET 1 .

F.
2

COMM.



NEW
LANDING

40 FT

STERING FACILITY
SAUGUS
RIVER

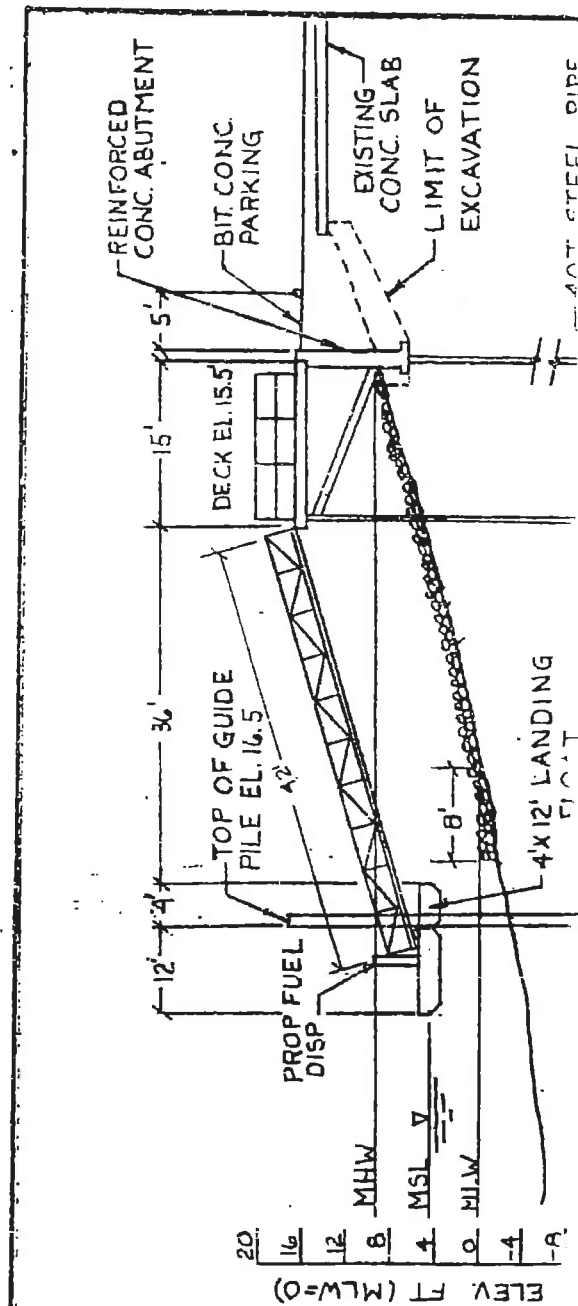
PROPOSED PUBLIC FACILITY-DOCKAGE

IN: SAUGUS RIVER
AT: SAUGUS

COUNTY OF: ESSEX, STATE: MA.
APPLICATION BY: TOWN OF SAUGUS

SHEET 2 OF 5 DATE 9-8-86

007-045-000-005-100



SECTION B-B

NOTES ON RIP-RAP:

AVE SIZE: 12"
 MAX WEIGHT: 500 lbs
 AVE DEPTH: 18"
 FILTER: 6" CR. STONE

PURPOSE: TO CONSTRUCT & MAINTAIN
 A PUBLIC LOBSTER LANDING
 FACILITY

ADJACENT PROPERTY OWNERS
 SEE SHEET 1

SEC

COMMERCIAL
 TOWN
 3

N VIEW

16 FT

PROPOSED PUBLIC FACILITY-DOCKAGE

IN: SAUGUS RIVER

AT: SAUGUS

COUNTY OF: ESSEX, STATE: MA.

APPLICATION BY: TOWN OF SAUGUS

SHEET 4 OF 5 DATE: 9-12-84

Section VI

Revere

Section VI – Community Findings – City of Revere

COMMUNITY DESCRIPTION

The City of Revere consists of a land area of 5.92 square miles out of a total area of 10.03 square miles and had a population of 47,283 in the 2000 census. The City is located on the North Shore of Massachusetts and its location can be seen on this report's cover. The estimated length of shoreline that is directly exposed to open ocean waves is 5 miles with the remaining shoreline semi-protected by offshore structures or landforms. The City is protected from major coastal storms by both natural and man-made shoreline structures that require maintenance to insure the long term protection of its coastline. The man-made and publicly owned structures that protect the City were investigated for their ability to provide adequate protection from major coastal storms. Structures have been identified as publicly owned, including coastal dunes and beaches, based on evidence of investment of public funds made to create/enhance/maintain these structures. The assessment did not include floating or pile supported structures as they are assumed not to provide any significant coastal protection from major storm events.

STRUCTURE INVENTORY

Within the City of Revere, there were 15 structures which had public or unknown ownership which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 7 in Section VI-B of this report. The structures were categorized by their type and by their structural condition based on a preliminary field assessment. The distribution of structures by type and condition can be seen in the following table:

STRUCTURE TYPE AND QUANTITY - City of Revere

Primary Structure (1)	Total Structures	Structure Condition Rating				Total Length
		A	B	C	D	
Bulkhead / Seawall	11		9	2		21565
Revetment	3		1	2		2600
Breakwater	1			1		2725
Groin / Jetty						
Coastal Dune						
Coastal Beach						
	15		10	5		26890

Within the above table, the total length of each type of structure is also provided. The structures are listed by the type which is providing the primary coastal protection. Many sites have multiple structure types at the same location (i.e. revetment in front of seawall). These secondary structures, although not identified within these tables, are included in the development of repair/rehabilitation costs.

The development of repair costs has been included by structure type and by condition. In the City of Revere's case there are a total of 15 structures which would require approximately \$ 14 million to bring all the coastal structures to "A" Rating. Most critical will be the structures in the "D" and "F" classifications as those are assumed to undergo some level of damage or failure during the next major coastal storm event of which Revere has none.

STRUCTURE REPAIR / RECONSTRUCTION COST - City of Revere

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Bulkhead / Seawall	11		\$ 4,524,882	\$ 3,709,200			\$ 8,234,082
Revetment	3		\$ 669,695	\$ 879,879			\$ 1,549,574
Breakwater	1			\$ 4,261,900			\$ 4,261,900
Groin / Jetty							\$ -
Coastal Dune							\$ -
Coastal Beach							\$ -
	15	\$ -	\$ 5,194,577	\$ 8,850,979	\$ -	\$ -	\$ 14,045,556

Based on the limited research within the scope of this project research, the presumed ownership of the structures was established on an initial basis and would be subject to more intense review in future tasks. Structures identified as being owned privately were excluded from further consideration. Although ownership of the land on which the structure was located was a factor, the structure ownership was treated as a separate issue from land ownership. For the City of Revere, the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - City of Revere

Primary Structure (1)	Total Structures	Structure Condition Rating					Total Cost
		A	B	C	D	F	
Town Owned	6		\$ 1,905,981	\$ 5,141,779			\$ 7,047,760
Commonwealth of Massachusetts	9		\$ 3,288,596	\$ 3,709,200			\$ 6,997,796
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	15	\$ -	\$ 5,194,577	\$ 8,850,979	\$ -	\$ -	\$ 14,045,556

The identification of presumed ownership was not based on the investigation of legal documents but relied on property ownership and from construction and regulatory documents that were found. A more detailed investigation of legal documents and agreements would be required where structure ownership is disputed. A more detailed identification of structure type, length, condition and location can be found in Section VI-B which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the City of Revere's coastal structure information that will eventually be input into a state-wide GIS database and will be accessible through MassGIS. This data, when compiled state-wide, will be critical in the development of both short term and long term planning for maintaining and improving Massachusetts coastal protection.

This database will also provide relatively quick access to identify available documentation for these structures as well as the ability to be updated as coastal structure improvements are made.

Section VI - Revere

Part B

Structure Assessment Reports

Structure Assessment Form

Town: **Revere**Structure ID: **061-001-31A-001-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Winthrop Parkway

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

DCR

Earliest Structure Record:

1981

Estimated Reconstruction/Repair Cost:

\$2,911,722.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1570		VE	18
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Concrete	10 to 15 Feet
Secondary Type:	Secondary Material:	Secondary Height:
Revetment	Stone	5 to 10 Feet



Structure Summary :

The concrete seawall has a 2 foot concrete cap on it. There is a main roadway with houses across the road directly behind. There is cracking and spalling throughout. Some sections of the wall have a small wave return wall in front of it. The stones along the wall are 3 feet by 2 feet by 2 feet on average. The revetment is at a 1 on 5 slope.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-001-31A-001-100-PHO1A.jpg

061-001-31A-001-100-PHO1B.jpg

061-001-31A-001-100-PHO1C.jpg

Structure Documents:

MA-DCR

April 1981

Emergency Project -

061-001-31A-001-100-DCR1A

Structure Assessment Form

Town: **Revere**Structure ID: **061-002-066-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Roughan's Point

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

1936

Estimated Reconstruction/Repair Cost:

\$669,695.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1135		VE	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Revetment	Stone	Over 15 Feet
Secondary Type:	Secondary Material:	Secondary Height:
Bulkhead/ Seawall	Steel	Over 15 Feet



Structure Summary :

The revetment is at a 1 on 2 slope with a 5 foot crest. The stones are well placed, but some stones along the crest are loose. The toe is visible at low tide. There is a deteriorating steel bulkhead that the revetment was built over visible at points. This structure was built by the Army Corps of Engineers.

<i>Condition</i>	B
<i>Rating</i>	Good
<i>Level of Action</i>	Minor
<i>Description</i>	Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

<i>Priority</i>	IV
<i>Rating</i>	High Priority
<i>Action</i>	Consider for Next Project Construction Listing
<i>Description</i>	High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-002-066-002-100-PHO1A.jpg

061-002-066-002-100-PHO1B.jpg

Structure Documents:

MA-DCR	1936	Proposed Seawall	061-002-066-002-100-DCR1A
MA-DCR	May 1938	Proposed Riprap	061-002-066-002-100-DCR1B
MA-DCR	August 1978	Proposed Shore	061-002-066-002-100-DCR1C
MA-DCR	July 1997	Water Resources	061-002-066-002-100-DCR1D
DEP	May 27, 199	Roughans Point	061-002-066-002-100-LIC1A

Structure Assessment Form

Town: **Revere**Structure ID: **061-002-066-002-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Roughan's Point

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$8,448.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
100		VE	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The concrete seawall is inshore of the revetment that covers the northern coast of Roughan's Point. The wall is 2 feet wide and in good condition. Houses directly behind. This structure was built by the Army Corps of Engineers.

*Condition***B***Rating***Good***Level of Action***Minor***Description*

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

*Priority***IV***Rating***High Priority***Action***Consider for Next Project Construction Listing***Description*

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-002-066-002-200-PHO2A.jpg

Structure Documents:

DEP**May 27, 199****Roughans Point****061-002-066-002-200-LIC2A**

Structure Assessment Form

Town: **Revere**Structure ID: **061-002-066-002-300**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Roughan's Point

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$4,261,900.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
2725		VE	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Breakwater

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stone breakwater is not visible at high tide. At low tide however, it is accessible from shore. The stones are coming unraveled at the toe. The breakwater protects Revere Beach. This structure was built by the Army Corps of Engineers.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

II

Rating

Low Priority

Action

Future Project Consideration

Description

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

061-002-066-002-300-PHO3A.jpg

061-002-066-002-300-PHO3B.jpg

Structure Documents:

Structure Assessment Form

Town: **Revere**Structure ID: **061-002-066-002-400**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Roughan's Point

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

1958

Estimated Reconstruction/Repair Cost:

\$1,227,838.00

Length: **2220** Feet
 Top Elevation: **16** Feet NAVD 88
 FIRM Map Zone: **VE**
 FIRM Map Elevation: **16** Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Over 15 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:

10 to 15 Feet



Structure Summary :

The concrete wall is 3 feet wide with a newly constructed 2 foot concrete cap. The wall is in good condition. The revetment stones are approximately 2 feet by 2 feet by 3 feet. There are loose stones and debris throughout. This structure was built by the Army Corps of Engineers.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

V

Rating

Immediate / Highest Priority

Action

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-002-066-002-400-PHO4A.jpg

061-002-066-002-400-PHO4B.jpg

Structure Documents:

MA-DCR

July 1958

Proposed Wall

061-002-066-002-400-DCR4A

MA-DCR

October 195

Proposed

061-002-066-002-400-DCR4B

MA-DCR

July 1997

Water Resources

061-002-066-002-400-DCR4C

MA-DCR

N/A

Proposed Storm

061-002-066-002-400-DCR4D

DEP

May 27 1998

Roughans Point

061-002-066-002-400-LIC4A

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$3,052,896.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
14455		AE	11
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Coastal Beach

Secondary Material:

Sand

Secondary Height:

5 to 10 Feet



Structure Summary :

The wall appears to be 2 feet high from ground level and 1.5 feet wide. There is minor spalling. The beach is made of medium-coarse brown sand at a 1 on 50 slope. There are restaurants, houses, and a main road directly behind.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-100-PHO1A.jpg
061-009-166A-001-100-PHO1B.jpg
061-009-166A-001-100-PHO1C.jpg
061-009-166A-001-100-PHO1D.jpg
061-009-166A-001-100-PHO1E.jpg
061-009-166A-001-100-PHO1F.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-100-DCR1A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-100-DCR1B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-100-DCR1C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-100-DCR1D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-100-DCR1E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-100-DCR1F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-100-DCR1G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-100-DCR1H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-100-DCR1I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-100-DCR1J

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-100**

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-100-DCR1K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-100-DCR1L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-100-DCR1M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-100-DCR1N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-100-DCR1O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-100-DCR1P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-100-DCR1Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-100-DCR1R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-100-DCR1S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-100-DCR1T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-100-DCR1U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-100-DCR1V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-100-DCR1W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-100-DCR1X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-100-DCR1Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-100-DCR1Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-100-DCR1Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-100-DCR1Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-100-DCR1Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-100-DCR1Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-100-DCR1Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-100-DCR1Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-100-DCR1Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-100-DCR1Z-16
MA-DCR		Improvements in	061-009-166A-001-100-DCR1Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-100-DCR1Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-100-DCR1Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-100-DCR1Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-100-DCR1Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-100-DCR1Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-100-DCR1Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-100-DCR1Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-100-DCR1Z-9
DEP	May 1989	Plan Accompanying	061-009-166A-001-100-LIC1A

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-200**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$13,939.00

Length: 165 Top Elevation: VE FIRM Map Zone: VE FIRM Map Elevation: 15
 Feet Feet NAVD 88 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The 2 feet high concrete wall has a 0.5 foot high concrete cap. There is minor weathering on the wall. Restaurants, houses and main road behind.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-200-PHO2A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-200-DCR2A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-200-DCR2B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-200-DCR2C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-200-DCR2D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-200-DCR2E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-200-DCR2F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-200-DCR2G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-200-DCR2H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-200-DCR2I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-200-DCR2J

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-200

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-200-DCR2K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-200-DCR2L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-200-DCR2M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-200-DCR2N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-200-DCR2O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-200-DCR2P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-200-DCR2Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-200-DCR2R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-200-DCR2S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-200-DCR2T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-200-DCR2U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-200-DCR2V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-200-DCR2W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-200-DCR2X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-200-DCR2Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-200-DCR2Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-200-DCR2Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-200-DCR2Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-200-DCR2Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-200-DCR2Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-200-DCR2Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-200-DCR2Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-200-DCR2Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-200-DCR2Z-16
MA-DCR		Improvements in	061-009-166A-001-200-DCR2Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-200-DCR2Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-200-DCR2Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-200-DCR2Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-200-DCR2Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-200-DCR2Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-200-DCR2Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-200-DCR2Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-200-DCR2Z-9

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-300

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$51,533.00

Length: 610 Feet Top Elevation: FIRM Map Zone: VE FIRM Map Elevation: 16 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The stepped concrete seawall creates a pavilion on Revere Beach. The concrete has minor weathering but appears to be in tact.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-300-PHO3A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-300-DCR3A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-300-DCR3B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-300-DCR3C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-300-DCR3D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-300-DCR3E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-300-DCR3F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-300-DCR3G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-300-DCR3H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-300-DCR3I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-300-DCR3J

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-300

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-300-DCR3K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-300-DCR3L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-300-DCR3M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-300-DCR3N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-300-DCR3O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-300-DCR3P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-300-DCR3Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-300-DCR3R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-300-DCR3S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-300-DCR3T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-300-DCR3U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-300-DCR3V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-300-DCR3W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-300-DCR3X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-300-DCR3Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-300-DCR3Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-300-DCR3Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-300-DCR3Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-300-DCR3Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-300-DCR3Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-300-DCR3Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-300-DCR3Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-300-DCR3Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-300-DCR3Z-16
MA-DCR		Improvements in	061-009-166A-001-300-DCR3Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-300-DCR3Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-300-DCR3Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-300-DCR3Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-300-DCR3Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-300-DCR3Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-300-DCR3Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-300-DCR3Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-300-DCR3Z-9

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-400**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$52,800.00

Length: 625 Top Elevation: FIRM Map Zone: VE FIRM Map Elevation: 15
 Feet Feet NAVD 88 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The 2 feet high concrete wall has a 1.5 high concrete cap. The wall extends outshore from the seawall that extends along all of Revere Beach creating a pavilion with benches behind.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-400-PHO4A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-400-DCR4A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-400-DCR4B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-400-DCR4C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-400-DCR4D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-400-DCR4E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-400-DCR4F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-400-DCR4G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-400-DCR4H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-400-DCR4I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-400-DCR4J

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-400**

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-400-DCR4K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-400-DCR4L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-400-DCR4M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-400-DCR4N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-400-DCR4O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-400-DCR4P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-400-DCR4Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-400-DCR4R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-400-DCR4S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-400-DCR4T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-400-DCR4U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-400-DCR4V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-400-DCR4W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-400-DCR4X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-400-DCR4Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-400-DCR4Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-400-DCR4Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-400-DCR4Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-400-DCR4Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-400-DCR4Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-400-DCR4Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-400-DCR4Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-400-DCR4Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-400-DCR4Z-16
MA-DCR		Improvements in	061-009-166A-001-400-DCR4Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-400-DCR4Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-400-DCR4Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-400-DCR4Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-400-DCR4Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-400-DCR4Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-400-DCR4Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-400-DCR4Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-400-DCR4Z-9

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-500

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$52,378.00

Length: 620 Feet Top Elevation: FIRM Map Zone: VE FIRM Map Elevation: 15 Feet NGVD
 Feet Feet NAVD 88

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The step concrete seawall is in good condition. It creates a pavilion on Revere Beach with benches behind it.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-500-PHO5A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-500-DCR5A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-500-DCR5B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-500-DCR5C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-500-DCR5D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-500-DCR5E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-500-DCR5F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-500-DCR5G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-500-DCR5H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-500-DCR5I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-500-DCR5J

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-500

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-500-DCR5K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-500-DCR5L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-500-DCR5M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-500-DCR5N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-500-DCR5O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-500-DCR5P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-500-DCR5Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-500-DCR5R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-500-DCR5S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-500-DCR5T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-500-DCR5U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-500-DCR5V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-500-DCR5W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-500-DCR5X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-500-DCR5Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-500-DCR5Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-500-DCR5Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-500-DCR5Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-500-DCR5Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-500-DCR5Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-500-DCR5Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-500-DCR5Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-500-DCR5Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-500-DCR5Z-16
MA-DCR		Improvements in	061-009-166A-001-500-DCR5Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-500-DCR5Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-500-DCR5Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-500-DCR5Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-500-DCR5Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-500-DCR5Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-500-DCR5Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-500-DCR5Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-500-DCR5Z-9

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-600**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$52,378.00

Length: **620** Top Elevation: **VE** FIRM Map Zone: **VE** FIRM Map Elevation: **14**
 Feet Feet NAVD 88 Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Concrete seawall creates a pavillion on Revere Beach. There are benches, restaurants and a main road behind the seawall.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-600-PHO6A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-600-DCR6A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-600-DCR6B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-600-DCR6C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-600-DCR6D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-600-DCR6E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-600-DCR6F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-600-DCR6G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-600-DCR6H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-600-DCR6I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-600-DCR6J

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-600**

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-600-DCR6K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-600-DCR6L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-600-DCR6M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-600-DCR6N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-600-DCR6O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-600-DCR6P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-600-DCR6Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-600-DCR6R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-600-DCR6S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-600-DCR6T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-600-DCR6U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-600-DCR6V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-600-DCR6W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-600-DCR6X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-600-DCR6Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-600-DCR6Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-600-DCR6Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-600-DCR6Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-600-DCR6Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-600-DCR6Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-600-DCR6Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-600-DCR6Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-600-DCR6Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-600-DCR6Z-16
MA-DCR		Improvements in	061-009-166A-001-600-DCR6Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-600-DCR6Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-600-DCR6Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-600-DCR6Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-600-DCR6Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-600-DCR6Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-600-DCR6Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-600-DCR6Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-600-DCR6Z-9

Structure Assessment Form

Town: **Revere**Structure ID: **061-009-166A-001-700**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Revere Beach

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

1896

Estimated Reconstruction/Repair Cost:

\$12,672.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
150		VE	15
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

The bathhouse has a concrete footing that provides protection to the buildings and roads inshore. The footing slopes out at a 1 on 5 slope.

Condition

B

Rating

Good

Level of Action

Minor

Description

Structure observed to exhibit very minor problems, superficial in nature. Minor erosion to landform is present. Structure / landform adequate to provide protection from a major coastal storm with no damage. Actions taken to prevent / limit future deterioration and extend life of structure.

Priority

IV

Rating

High Priority

Action

Consider for Next Project Construction Listing

Description

High Value Inshore Structures with Potential for Infrastructure Damage and/or Moderate Density Residential Dwellings (1-10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-009-166A-001-700-PHO7A.jpg

Structure Documents:

MA-DCR	11/30/1896	Revere Beach	061-009-166A-001-700-DCR7A
MA-DCR	7/27/1896	Construction Plans -	061-009-166A-001-700-DCR7B
MA-DCR	9/26/1904	Revere Beach	061-009-166A-001-700-DCR7C
MA-DCR	3/15/1910	Revere Beach	061-009-166A-001-700-DCR7D
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-700-DCR7E
MA-DCR	7/2/1912	Revere Beach	061-009-166A-001-700-DCR7F
MA-DCR	7/2/1914	Revere Beach	061-009-166A-001-700-DCR7G
MA-DCR	7/28/1914	Revere Beach	061-009-166A-001-700-DCR7H
MA-DCR	7/30/1914	Revere Beach	061-009-166A-001-700-DCR7I
MA-DCR	8/12/1915	Revere Beach	061-009-166A-001-700-DCR7J

Structure Assessment Form

Town: **Revere**

Structure ID: 061-009-166A-001-700

Key: community-map-block-parcel-structure

MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-700-DCR7K
MA-DCR	11/25/1918	Revere Beach	061-009-166A-001-700-DCR7L
MA-DCR	3/4/1919	Revere Beach	061-009-166A-001-700-DCR7M
MA-DCR	3/30/1923	Revere Beach	061-009-166A-001-700-DCR7N
MA-DCR	2/23/1928	Location Plan	061-009-166A-001-700-DCR7O
MA-DCR	10/26/1931	Revere Beach	061-009-166A-001-700-DCR7P
MA-DCR	8/31/1933	Revere Beach	061-009-166A-001-700-DCR7Q
MA-DCR	1/19/1944	Revere Beach	061-009-166A-001-700-DCR7R
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-700-DCR7S
MA-DCR	5/27/1949	Beach Erosion	061-009-166A-001-700-DCR7T
MA-DCR	5/27/1949	Shore Line	061-009-166A-001-700-DCR7U
MA-DCR	3/7/1952	Revere Beach	061-009-166A-001-700-DCR7V
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-700-DCR7W
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-700-DCR7X
MA-DCR	11/28/1952	Improvements in	061-009-166A-001-700-DCR7Y
MA-DCR	1/22/1954	Revere Beach	061-009-166A-001-700-DCR7Z
MA-DCR	9/27/1957	Revere Beach	061-009-166A-001-700-DCR7Z-1
MA-DCR	6/10/1970	Revere Beach	061-009-166A-001-700-DCR7Z-10
MA-DCR	4/18/1972	Revere Beach	061-009-166A-001-700-DCR7Z-11
MA-DCR	7/11/1972	Revere Beach	061-009-166A-001-700-DCR7Z-12
MA-DCR	November 1	Conceptual Study -	061-009-166A-001-700-DCR7Z-13
MA-DCR	5/11/1977	Plan Number Revere	061-009-166A-001-700-DCR7Z-14
MA-DCR	January 199	Revere Beach	061-009-166A-001-700-DCR7Z-15
MA-DCR	July 1990	Beach Erosion	061-009-166A-001-700-DCR7Z-16
MA-DCR		Improvements in	061-009-166A-001-700-DCR7Z-17
MA-DCR	5/16/1960	Revere Beach	061-009-166A-001-700-DCR7Z-2
MA-DCR	6/22/1961	Repairs to Ramps	061-009-166A-001-700-DCR7Z-3
MA-DCR	October 196	Revere Beach -	061-009-166A-001-700-DCR7Z-4
MA-DCR	April 1962	Revere Beach	061-009-166A-001-700-DCR7Z-5
MA-DCR	3/20/1963	Revere Beach	061-009-166A-001-700-DCR7Z-6
MA-DCR	May 1963	Revere Beach	061-009-166A-001-700-DCR7Z-7
MA-DCR	3/21/1967	Revere Beach	061-009-166A-001-700-DCR7Z-8
MA-DCR	7/8/1968	Revere Beach	061-009-166A-001-700-DCR7Z-9

Structure Assessment Form

Town: **Revere**Structure ID: **061-012-190C-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

North Shore Road

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$150,150.00

Length:

250

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

AE

FIRM Map Elevation:

9

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

11 inches of crushed stone and broken up concrete is used as a revetment to prevent erosion and protect the major road behind it.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

V

Rating

Immediate / Highest Priority

Action

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-012-190C-002-100-PHO1A.jpg

Structure Documents:

Structure Assessment Form

Town: **Revere**Structure ID: **061-012-190C-002-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

North Shore Road

Date:

6/12/2007

Presumed Structure Owner:

Local

Based On Comment:

Owner Name:

Revere

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$729,729.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1215		AE	9
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

Crushed stone 12 inches down and broken up concrete is used as a revetment to protect the major road behind it. There are drainage pipes and flood gates coming out of the stones.

Condition

C

Rating

Fair

Level of Action

Moderate

Description

Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

Priority

V

Rating

Immediate / Highest Priority

Action

Consider For Immediate Action Due to Public Safety and Welfare Issues

Description

Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-012-190C-002-200-PHO1A.jpg

Structure Documents:

Structure Assessment Form

Town: **Revere**Structure ID: **061-013-191-262-100**

Key: community-map-block-parcel-structure

Property Owner:

State

Location:

Raymond Carney Memorial Traffic Circle

Date:

6/12/2007

Presumed Structure Owner:

State

Based On Comment:

Owner Name:

MA-DCR

Earliest Structure Record:

Unknown

Estimated Reconstruction/Repair Cost:

\$797,478.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
430		AO	-2
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Bulkhead/ Seawall	Concrete	10 to 15 Feet
Secondary Type:	Secondary Material:	Secondary Height:
Revetment	Stone	5 to 10 Feet



Structure Summary :

The cast in place seawall is 2.5 feet wide by 3.5 feet high inshore and 6 feet by 15 feet outshore. The wall abuts the Revere Beach wall. Many large areas of cracking, spalling, and exposed rebar. The riprap in front is made up of stones that are approximately 3 feet by 2 feet by 2 feet in size. There is a sandy beach in front and a traffic circle and apartment building behind the structure.

<i>Condition</i>	C
<i>Rating</i>	Fair
<i>Level of Action</i>	Moderate
<i>Description</i>	Structure is sound but may exhibit minor deterioration, section loss, cracking, spalling, undermining, and/or scour. Structure adequate to withstand major coastal storm with little to moderate damage. Actions taken to reinforce structure to provide full protection from major coastal storm and for extending life of structure. Moderate wind or wave damage to landform exists. Landform may not be sufficient to fully protect shoreline during a major coastal storm. Actions taken to provide addition material for full protection and extended life.

<i>Priority</i>	V
<i>Rating</i>	Immediate / Highest Priority
<i>Action</i>	Consider For Immediate Action Due to Public Safety and Welfare Issues
<i>Description</i>	Critical Inshore Structures Present with Potential for Infrastructure Damage and/or High Density Residential Dwellings Condition of structure may warrant emergency stabilization as failure may result in potential loss of property and/or life. (>10 dwellings impacted / 100 feet of shoreline)

Structure Images:

061-013-191-262-100-PHO1A.jpg

061-013-191-262-100-PHO1B.jpg

Structure Documents:

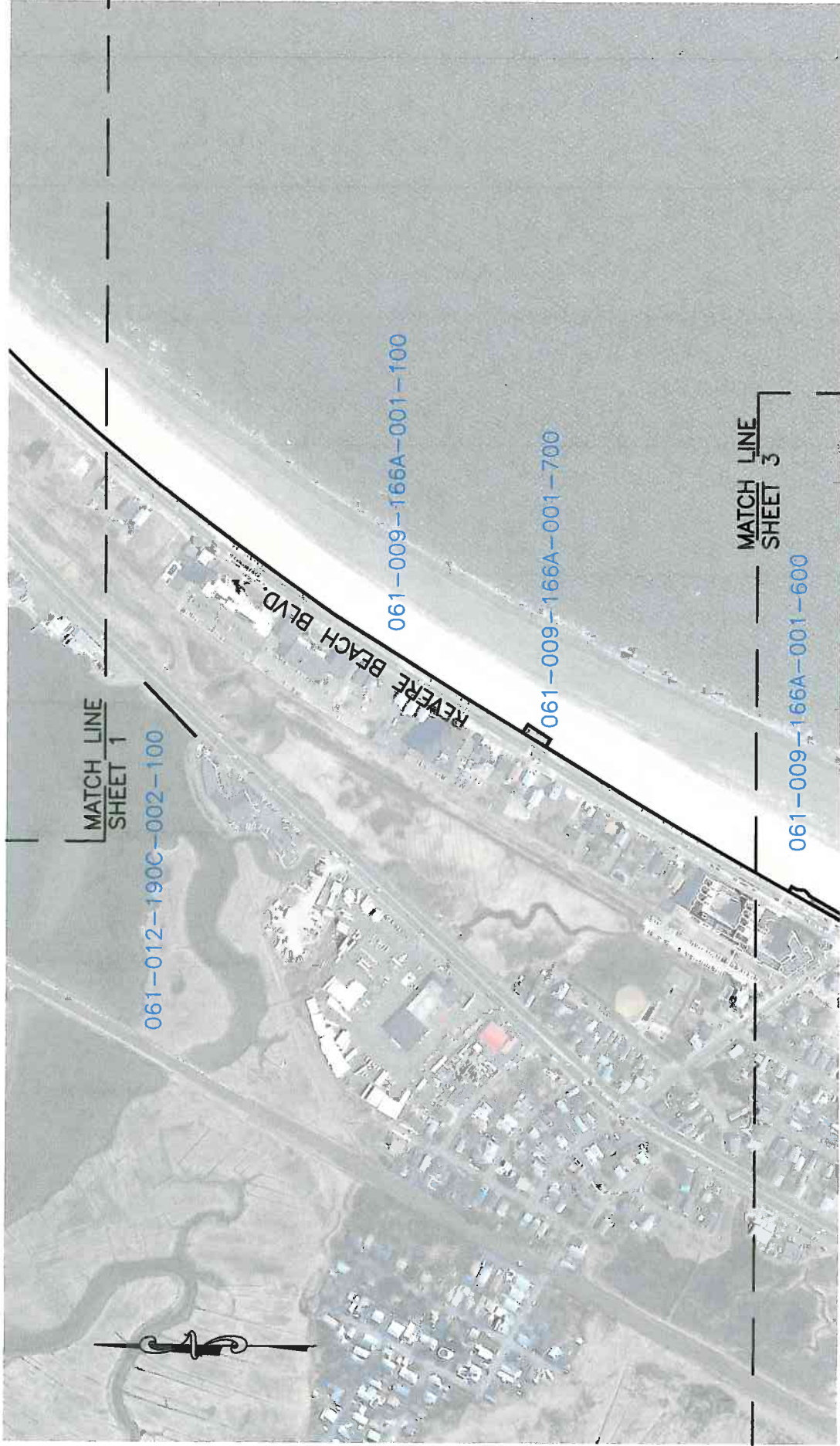


COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007

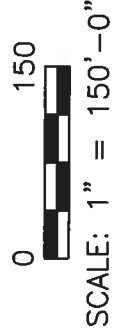


BCE *Bourne Consulting Engineering*
3 And Over
Plymouth, MA 01959
TEL: (508) 833-0000 FAX: (508) 833-0000



COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE Bourne Consulting Engineering
3 Paul Street
Framingham, MA 01901
TEL: (508) 853-4000 FAX: (508) 853-4000



COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007

0 150



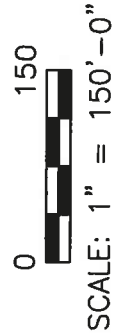
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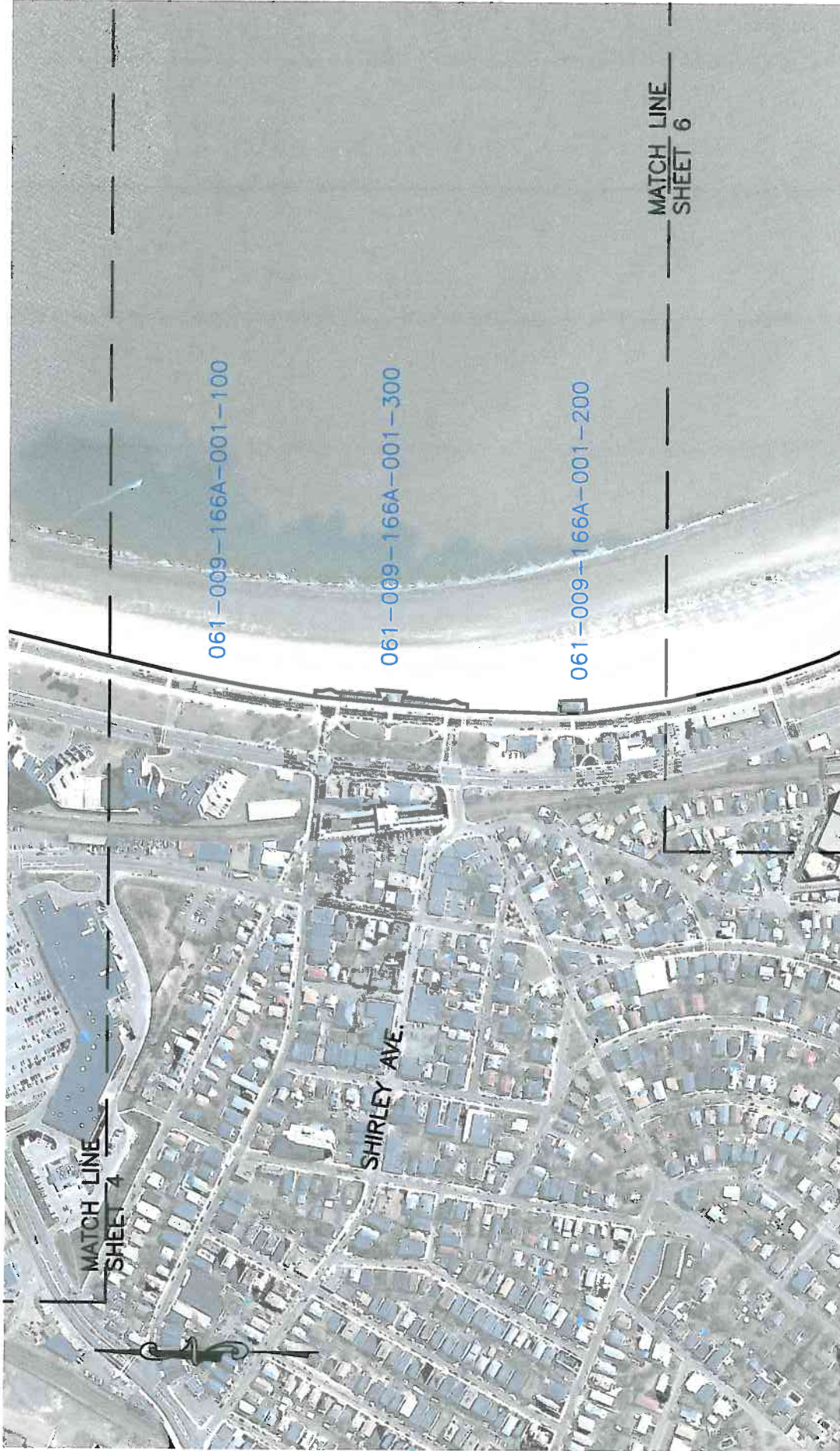


COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE Bourne Consulting Engineering
3 Acad Street
Beverly, MA 01915
TEL: (978) 683-4000 FAX: (978) 683-4000



COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE *Bourne Consulting Engineering*
1000 Main Street
Bourne, MA 01939
TEL: (508) 833-4400 FAX: (508) 833-4400



COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007





COASTAL STRUCTURE LOCATION PLAN

CITY OF REVERE
COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT PROJECT
DECEMBER 2007



BCE *Bourne Consulting Engineering*
2 Pond Street
Bourne, MA 01939
TEL: (508) 633-0000 FAX: (508) 633-0000

Section VI - Revere

Part C

Structure Photographs

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-001-31A-001-100	061-001-31A-001-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-001-31A-001-100	061-001-31A-001-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-001-31A-001-100	061-001-31A-001-100-PHO1C.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-100	061-002-066-002-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-100	061-002-066-002-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-200	061-002-066-002-200-PHO2A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-300	061-002-066-002-300-PHO3A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-300	061-002-066-002-300-PHO3B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-400	061-002-066-002-400-PHO4A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-002-066-002-400	061-002-066-002-400-PHO4B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-100	061-009-166A-001-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-100	061-009-166A-001-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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061-009-166A-001-100	061-009-166A-001-100-PHO1E.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
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061-009-166A-001-300	061-009-166A-001-300-PHO3A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-400	061-009-166A-001-400-PHO4A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-500	061-009-166A-001-500-PHO5A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-600	061-009-166A-001-600-PHO6A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-009-166A-001-700	061-009-166A-001-700-PHO7A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-012-190C-002-100	061-012-190C-002-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-012-190C-002-200	061-012-190C-002-200-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-013-191-262-100	061-013-191-262-100-PHO1A.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
061-013-191-262-100	061-013-191-262-100-PHO1B.jpg		Bourne Consulting Engineering		October 2007	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

Massachusetts Coastal Infrastructure and Assessment



061-001-31A-001-100-PHO1A



061-001-31A-001-100-PHO1B



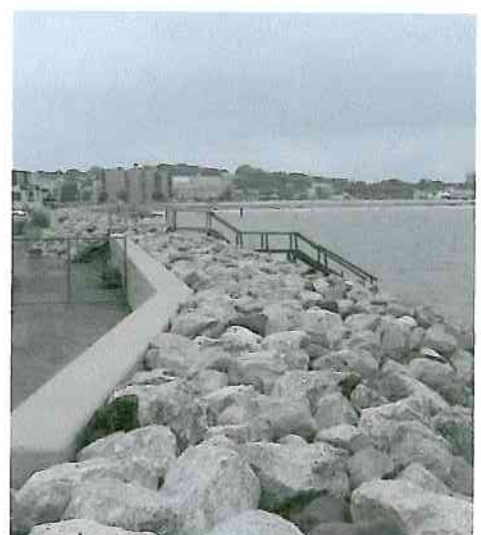
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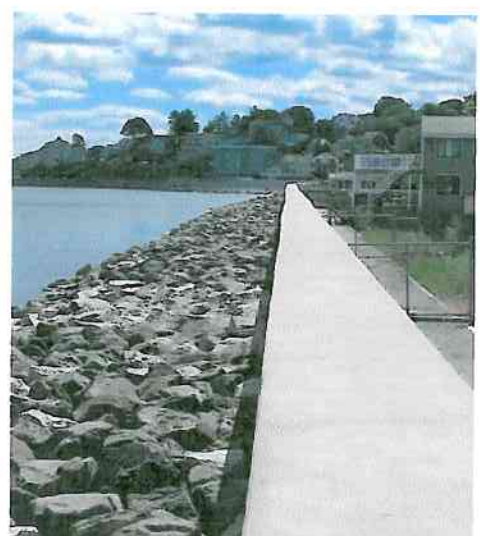
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061-002-066-002-300-PHO3B



061-002-066-002-400-PHO4A

Massachusetts Coastal Infrastructure and Assessment



061-002-066-002-400-PHO4B



061-009-166A-001-100-PHO1A



061-009-166A-001-100-PHO1B



061-009-166A-001-100-PHO1C



061-009-166A-001-100-PHO1D



061-009-166A-001-100-PHO1E



061-009-166A-001-100-PHO1F



061-009-166A-001-200-PHO2A



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Massachusetts Coastal Infrastructure and Assessment



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061-009-166A-001-500-PHO5A



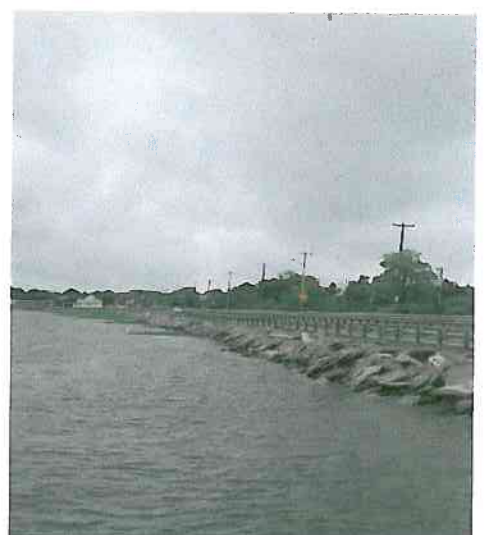
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061-012-190C-002-200-PHO1A



061-013-191-262-100-PHO1A



061-013-191-262-100-PHO1B

Section VI - Revere

Part D

Structure Documents

CITY DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Ch 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

CITY: REVERE
SOURCE: City of Revere
LOCATION: CITY
DATE OF RESEARCH: JULY 2007

No City Documents for the City of Revere

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-001-31A-001-100	061-001-31A-001-100-DCR1A	2980	MA-DCR	Revere	April 1981	Emergency Project - Beachmont Section - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	1	Winthrop Parkway	Revelment
061-002-066-002-100	061-002-066-002-100-DCR1A	479	MA-DCR	Revere	1936	Proposed Seawall Roughens Point Revere - Authorized Under Chapter 358 Acts of 1936 - Prepared for DPW of Massachusetts - Division of Waterways	3	Roughens Point	Sheetpile Seawall
061-002-066-002-100	061-002-066-002-100-DCR1B	527	MA-DCR	Revere	May 1938	Proposed Riprap Wall and Repairs to Stone Steps - Roughens Point - Revere - Authorized Under Chapter 358 Acts of 1936 - Prepared for the DPW of Massachusetts - Division of Waterways	1	Ocean Avenue	Riprap Wall
061-002-066-002-100	061-002-066-002-100-DCR1C	2897	MA-DCR	Revere	August 1978	Proposed Shore Protection - Stone Mound Reconstruction - Beachmont Area - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	2	Pier View Avenue	Stone Mound
061-002-066-002-100	061-002-066-002-100-DCR1D	N/A	MA-DCR	Revere	July 1997	Water Resources Development Project - Roughens Point - Coastal Flood Damage Reduction Project - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	29	Roughens Point	Revelments
061-002-066-002-400	061-002-066-002-400-DCR4A	1938	MA-DCR	Revere	July 1998	Proposed Wall Maintenance - Bituminous Concrete Paving and Drainage - Roughens Point Seawall - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	1	Spray Avenue	Wall Maintenance
061-002-066-002-400	061-002-066-002-400-DCR4B	2060	MA-DCR	Revere	October 1999	Proposed Maintenance - Paving, Drainage and Seawall Repairs - Concrete Seawall - Roughens Point - Revere	1	Broad Sound Avenue	Seawall
061-002-066-002-400	061-002-066-002-400-DCR4C	N/A	MA-DCR	Revere	July 1997	Water Resources Development Project - Roughens Point - Coastal Flood Damage Reduction Project - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	29	Roughens Point	Revelments
061-002-066-002-400	061-002-066-002-400-DCR4D	3280	MA-DCR	Revere	N/A	Proposed Storm Damage Repairs of Seawall Apron - At Roughens Point - Revere - Prepared for the DPW of Massachusetts - Division of Waterways	1	Broad Sound Avenue to Pebble Avenue	Seawall
061-009-166A-001-100	061-009-166A-001-100-DCR1A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-100	061-009-166A-001-100-DCR1B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-100	061-009-166A-001-100-DCR1C	5222	MA-DCR	Revere	9/26/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-100	061-009-166A-001-100-DCR1D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1J	10650	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-100	061-009-166A-001-100-DCR1K	2528/C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-100	061-009-166A-001-100-DCR1L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-100	061-009-166A-001-100-DCR1M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-100	061-009-166A-001-100-DCR1N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-100	061-009-166A-001-100-DCR1P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Proposed Shore Protection	3	Revere Street to Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	5		
061-009-166A-001-100	061-009-166A-001-100-DCR1R	26824	MA-DCR	Revere	1/19/1944	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	1	Elliot Circle to Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-100	061-009-166A-001-100-DCR1T	48F-15-3	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	3		
061-009-166A-001-100	061-009-166A-001-100-DCR1U	48F-15-2	MA-DCR	Revere	5/27/1949	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	4		
061-009-166A-001-100	061-009-166A-001-100-DCR1V	30656	MA-DCR	Revere	3/7/1952	Improvements in Revere Beach Reservation	2		
061-009-166A-001-100	061-009-166A-001-100-DCR1W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-100	061-009-166A-001-100-DCR1X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings and Location Plan
061-009-166A-001-100	061-009-166A-001-100-DCR1Y	32267	MA-DCR	Revere	11/28/1952	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z	32144	MA-DCR	Revere	1/22/1954	Revere Beach Reservation - Repairs to Shore Protection	1		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-1	35316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	3		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	1	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	2		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-12	47734	MA-DCR	Revere	7/11/1972	Conceptual Study - Revere Beach Reservation	5	Oak Street to Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-13	N/A	MA-DCR	Revere	November 1976	Plan Number Revere Beach - 5 of Land in Revere to be Acquired Under Chapter 841 Acts of 1975	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-14	63734	MA-DCR	Revere	5/11/1977	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavilions and Bandstand	1	Shirley Avenue to West Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-15	52327	MA-DCR	Revere	January 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	86		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Improvements in Revere Beach Reservation	18		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-17	31361X	MA-DCR	Revere		Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach - Cross Sections and Elevations - Boston City Base	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-3	39862	MA-DCR	Revere	6/22/1961	Revere Beach Reservation - Storm Damage Repairs	1	Chester Avenue to Sagamore Street	
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach Reservation - Constructing and Extending Protective Wall	13		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	1		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-6	41224	MA-DCR	Revere	3/20/1963		1		
061-009-166A-001-100	061-009-166A-001-100-DCR1Z-7	41303	MA-DCR	Revere	May 1963		2		

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-100	061-009-166A-001-100-DCR12-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-100	061-009-166A-001-100-DCR12-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-200	061-009-166A-001-200-DCR2A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-200	061-009-166A-001-200-DCR2B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-200	061-009-166A-001-200-DCR2C	5222	MA-DCR	Revere	9/26/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-200	061-009-166A-001-200-DCR2D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-200	061-009-166A-001-200-DCR2F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-200	061-009-166A-001-200-DCR2G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-200	061-009-166A-001-200-DCR2K	2528(C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	
061-009-166A-001-200	061-009-166A-001-200-DCR2L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-200	061-009-166A-001-200-DCR2M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-200	061-009-166A-001-200-DCR2N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-200	061-009-166A-001-200-DCR2P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	3	Revere Street to Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Proposed Shore Protection	5		
061-009-166A-001-200	061-009-166A-001-200-DCR2R	26824	MA-DCR	Revere	1/19/1944	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	1	Elliot Circle to Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR2S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-200	061-009-166A-001-200-DCR2T	48F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		
061-009-166A-001-200	061-009-166A-001-200-DCR2U	48F-15-2	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
061-009-166A-001-200	061-009-166A-001-200-DCR2V	30656	MA-DCR	Revere	3/7/1952	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	2		
061-009-166A-001-200	061-009-166A-001-200-DCR2W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-200	061-009-166A-001-200-DCR2X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Boatings and Location Plan
061-009-166A-001-200	061-009-166A-001-200-DCR2Y	32267	MA-DCR	Revere	11/28/1952	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	Boatings
061-009-166A-001-200	061-009-166A-001-200-DCR2Z	32144	MA-DCR	Revere	1/22/1954		1		

CITY: REVERE
SOURCE: MA-DCR
LOCATION: MA-DCR BOSTON and HINGHAM, MA
DATE OF RESEARCH: JULY 2007

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-200	061-009-166A-001-200-DCR22-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Repairs to Shore Protection	3		
061-009-166A-001-200	061-009-166A-001-200-DCR22-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	1	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-200	061-009-166A-001-200-DCR22-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	2		
061-009-166A-001-200	061-009-166A-001-200-DCR22-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR22-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-200	061-009-166A-001-200-DCR22-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land In Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-200	061-009-166A-001-200-DCR22-15	52327	MA-DCR	Revere	January 1990	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavilions and Bandstand	86		
061-009-166A-001-200	061-009-166A-001-200-DCR22-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-200	061-009-166A-001-200-DCR22-17	31361X	MA-DCR	Revere		Improvements In Revere Beach Reservation	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-200	061-009-166A-001-200-DCR22-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-200	061-009-166A-001-200-DCR22-3	39662	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Coping	1	Chester Avenue to Sagamore Street	
061-009-166A-001-200	061-009-166A-001-200-DCR22-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-200	061-009-166A-001-200-DCR22-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-200	061-009-166A-001-200-DCR22-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-200	061-009-166A-001-200-DCR22-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		
061-009-166A-001-200	061-009-166A-001-200-DCR22-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-200	061-009-166A-001-200-DCR22-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-300	061-009-166A-001-300-DCR3A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-300	061-009-166A-001-300-DCR3B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-300	061-009-166A-001-300-DCR3C	5222	MA-DCR	Revere	9/26/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-300	061-009-166A-001-300-DCR3D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3I	10328	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-300	061-009-166A-001-300-DCR3K	2528/C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-300	061-009-166A-001-300-DCR3L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynmway		Revere Beach Parkway to Lynmway	
061-009-166A-001-300	061-009-166A-001-300-DCR3M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-300	061-009-166A-001-300-DCR3N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-300	061-009-166A-001-300-DCR3P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Proposed Shore Protection	3	Revere Street to Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	5		
061-009-166A-001-300	061-009-166A-001-300-DCR3R	26824	MA-DCR	Revere	1/19/1944	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	1	Elliot Circle to Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-300	061-009-166A-001-300-DCR3T	48F-15-3	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	3		
061-009-166A-001-300	061-009-166A-001-300-DCR3U	48F-15-2	MA-DCR	Revere	5/27/1949	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	4		
061-009-166A-001-300	061-009-166A-001-300-DCR3V	30656	MA-DCR	Revere	3/7/1952	Improvements in Revere Beach Reservation	2		
061-009-166A-001-300	061-009-166A-001-300-DCR3W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-300	061-009-166A-001-300-DCR3X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings and Location Plan
061-009-166A-001-300	061-009-166A-001-300-DCR3Y	32267	MA-DCR	Revere	11/28/1952	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z	32144	MA-DCR	Revere	1/22/1954	Revere Beach Reservation - Repairs to Shore Protection	1		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	3	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	1		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	2		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land in Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-15	52327	MA-DCR	Revere	January 1980	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavilions and Bandstand	86		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1980	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-17	31361X	MA-DCR	Revere		Improvements in Revere Beach Reservation	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-3	39862	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Coping	1	Revere Street to Sagamore Street	
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-300	061-009-166A-001-300-DCR3Z-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-400	061-009-166A-001-400-DCR32-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR32-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-400	061-009-166A-001-400-DCR4A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-400	061-009-166A-001-400-DCR4B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-400	061-009-166A-001-400-DCR4C	5222	MA-DCR	Revere	9/26/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-400	061-009-166A-001-400-DCR4D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-400	061-009-166A-001-400-DCR4F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-400	061-009-166A-001-400-DCR4G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-400	061-009-166A-001-400-DCR4K	2528/C-4-5	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	
061-009-166A-001-400	061-009-166A-001-400-DCR4L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-400	061-009-166A-001-400-DCR4M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-400	061-009-166A-001-400-DCR4N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-400	061-009-166A-001-400-DCR4P	20449	MA-DCR	Revere	10/28/1931	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	3	Revere Street to Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Proposed Shore Protection	5		
061-009-166A-001-400	061-009-166A-001-400-DCR4R	26824	MA-DCR	Revere	1/19/1944	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	1	Elliot Circle to Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-400	061-009-166A-001-400-DCR4T	48F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		
061-009-166A-001-400	061-009-166A-001-400-DCR4U	48F-15-2	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
061-009-166A-001-400	061-009-166A-001-400-DCR4V	30656	MA-DCR	Revere	3/7/1952	Revere Beach Reservation - Repairs to Shore Protection - Ramp A: Opposite Chester Avenue - Ramp B: Opposite MDC Police Station	2		
061-009-166A-001-400	061-009-166A-001-400-DCR4W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-400	061-009-166A-001-400-DCR4X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings and Location Plan
061-009-166A-001-400	061-009-166A-001-400-DCR4Y	32267	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings
061-009-166A-001-400	061-009-166A-001-400-DCR4Z	32144	MA-DCR	Revere	1/22/1954	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Repairs to Shore Protection	3		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	1	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	2		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land In Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-15	52327	MA-DCR	Revere	January 1990	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavilions and Bandstand	86		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-17	31361X	MA-DCR	Revere		Improvements In Revere Beach Reservation	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-3	39862	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Coping	1	Chester Avenue to Sagamore Street	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-400	061-009-166A-001-400-DCR4Z-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-500	061-009-166A-001-500-DCR5A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-500	061-009-166A-001-500-DCR5B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-500	061-009-166A-001-500-DCR5C	5222	MA-DCR	Revere	9/28/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-500	061-009-166A-001-500-DCR5D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-500	061-009-166A-001-500-DCR5K	2528/C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-500	061-009-166A-001-500-DCR5L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-500	061-009-166A-001-500-DCR5M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-500	061-009-166A-001-500-DCR5N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5O	16953	MA-DCR	Revere	2/23/1928	Location Plan	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-500	061-009-166A-001-500-DCR5P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	3	Revere Street to Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Proposed Shore Protection	5		
061-009-166A-001-500	061-009-166A-001-500-DCR5R	26824	MA-DCR	Revere	1/19/1944	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	1	Elliot Circle to Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-500	061-009-166A-001-500-DCR5T	48F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		
061-009-166A-001-500	061-009-166A-001-500-DCR5U	48F-15-2	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
061-009-166A-001-500	061-009-166A-001-500-DCR5V	30656	MA-DCR	Revere	3/7/1952	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	2		
061-009-166A-001-500	061-009-166A-001-500-DCR5W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-500	061-009-166A-001-500-DCR5X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Drillings and Location Plan
061-009-166A-001-500	061-009-166A-001-500-DCR5Y	32267	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings
061-009-166A-001-500	061-009-166A-001-500-DCR5Z	32144	MA-DCR	Revere	1/22/1954	Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Repairs to Shore Protection	3		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	1	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	2		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land in Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-15	52327	MA-DCR	Revere	January 1990	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavilions and Bandstand	86		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-17	31361X	MA-DCR	Revere		Improvements in Revere Beach Reservation	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-3	39862	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Capping	1	Chester Avenue to Sagamore Street	
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-500	061-009-166A-001-500-DCR5Z-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		

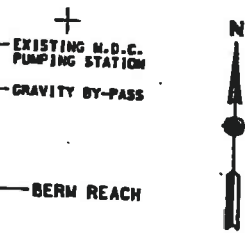
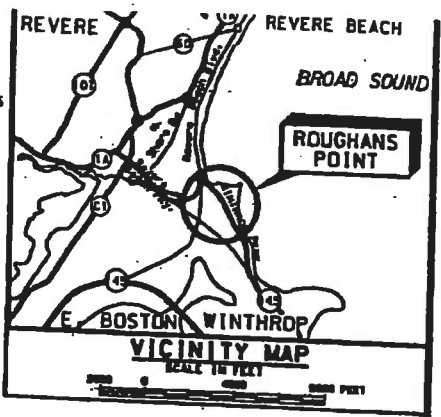
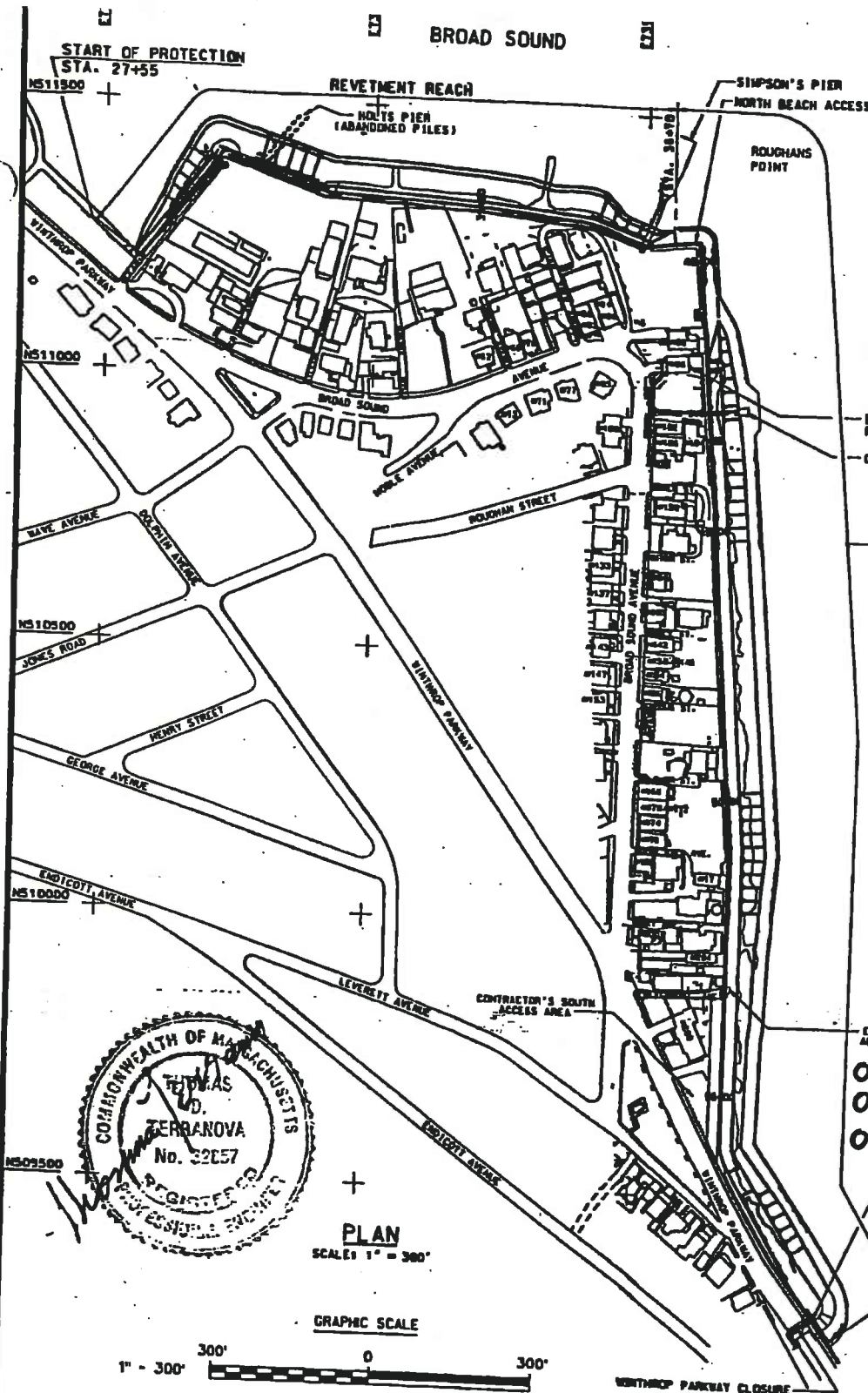
BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-600	061-009-166A-001-600-DCR5Z-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR5Z-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-600	061-009-166A-001-600-DCR6A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-600	061-009-166A-001-600-DCR6B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-600	061-009-166A-001-600-DCR6C	5222	MA-DCR	Revere	9/26/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-600	061-009-166A-001-600-DCR6D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-600	061-009-166A-001-600-DCR6F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-600	061-009-166A-001-600-DCR6G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-600	061-009-166A-001-600-DCR6K	2528/C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	
061-009-166A-001-600	061-009-166A-001-600-DCR6L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-600	061-009-166A-001-600-DCR6M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-600	061-009-166A-001-600-DCR6N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-600	061-009-166A-001-600-DCR6P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	3	Revere Street to Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Proposed Shore Protection	5		
061-009-166A-001-600	061-009-166A-001-600-DCR6R	26824	MA-DCR	Revere	1/19/1944	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	1	Elliot Circle to Northern Circle	Typical Cross Section through the Beach
061-009-166A-001-600	061-009-166A-001-600-DCR6S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		
061-009-166A-001-600	061-009-166A-001-600-DCR6T	48F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		
061-009-166A-001-600	061-009-166A-001-600-DCR6U	48F-15-2	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	4		
061-009-166A-001-600	061-009-166A-001-600-DCR6V	30656	MA-DCR	Revere	3/7/1952	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	2		
061-009-166A-001-600	061-009-166A-001-600-DCR6W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-600	061-009-166A-001-600-DCR6X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings and Location Plan
061-009-166A-001-600	061-009-166A-001-600-DCR6Y	32267	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Borings
061-009-166A-001-600	061-009-166A-001-600-DCR6Z	32144	MA-DCR	Revere	1/22/1954	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Repairs to Shore Protection	3		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	1	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	2		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land In Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-15	52327	MA-DCR	Revere	January 1990	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavillions and Bandstand	86		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-17	31361X	MA-DCR	Revere		Improvements in Revere Beach Reservation	1	Cove Street to Revere Street	Yachity Map
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-3	39862	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Coping	1	Chester Avenue to Sagamore Street	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-600	061-009-166A-001-600-DCR6Z-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	
061-009-166A-001-700	061-009-166A-001-700-DCR7A	428	MA-DCR	Revere	11/30/1896	Revere Beach Reservation	5	Elevations	
061-009-166A-001-700	061-009-166A-001-700-DCR7B	265	MA-DCR	Revere	7/27/1896	Construction Plans - Revere Beach Reservation	11		
061-009-166A-001-700	061-009-166A-001-700-DCR7C	5222	MA-DCR	Revere	9/28/1904	Revere Beach Reservation - Construction Plans for Revere Street to Northern Circle	1	Revere Street to Northern Circle	Concrete Seawall Shown
061-009-166A-001-700	061-009-166A-001-700-DCR7D	8154	MA-DCR	Revere	3/15/1910	Revere Beach Reservation - Construction Plan for Seawall Near Charles Elliot Circle	1	Elliot Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7E	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7F	9340	MA-DCR	Revere	7/2/1912	Revere Beach Reservation - Proposed Construction of Bulkhead Between Revere Street and Oak Island Street	1	Revere Street to Oak Island Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7G	10306	MA-DCR	Revere	7/2/1914	Revere Beach Reservation - Plan Showing Details for Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7H	10325	MA-DCR	Revere	7/28/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7I	10326	MA-DCR	Revere	7/30/1914	Revere Beach Reservation - Plan Showing Proposed Shore Protection Near Northern Circle	1	Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7J	10850	MA-DCR	Revere	8/12/1915	Revere Beach Reservation - Construction Plan Showing Details for Shore Protection From Bath House Shelter to Revere Beach Shelter	1	Bath House Shelter to Revere Beach Shelter	
061-009-166A-001-700	061-009-166A-001-700-DCR7K	2528/C-4-6	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway	1	Revere Beach Parkway to Lynnway	

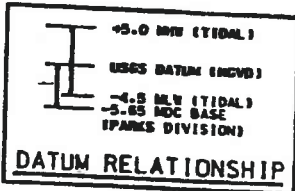
BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-700	061-009-166A-001-700-DCR7L	12528	MA-DCR	Revere	11/25/1918	Revere Beach Reservation - Record Construction Plans - Revere Beach Parkway to Lynnway		Revere Beach Parkway to Lynnway	
061-009-166A-001-700	061-009-166A-001-700-DCR7M	12562	MA-DCR	Revere	3/4/1919	Revere Beach Reservation - Plan Showing Details for Shore Protection Between Shirley Avenue and Chester Avenue	1	Shirley Avenue to Chester Avenue	
061-009-166A-001-700	061-009-166A-001-700-DCR7N	14215	MA-DCR	Revere	3/30/1923	Revere Beach Reservation - Construction Plan for Repairs to Seawall at Northern Circle	1	Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7O	16953	MA-DCR	Revere	2/23/1928	Revere Beach Reservation - Concrete Shore Protection Between Revere Street and Northern Circle	1	Revere Beach by Ocean Avenue	Section Through Back Wall
061-009-166A-001-700	061-009-166A-001-700-DCR7P	20449	MA-DCR	Revere	10/26/1931	Revere Beach Reservation - Proposed Shore Protection	3	Revere Street to Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7Q	21716	MA-DCR	Revere	8/31/1933	Revere Beach Reservation - Location of Proposed Permeable Groins - Elliot Circle to Northern Circle	5		
061-009-166A-001-700	061-009-166A-001-700-DCR7R	26824	MA-DCR	Revere	1/19/1944	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	1	Elliot Circle to Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7S	50F-15-3	MA-DCR	Revere	5/27/1949	Beach Erosion Study - Comparative Profiles and Proposed Sand Fill	3		Typical Cross Section through the Beach
061-009-166A-001-700	061-009-166A-001-700-DCR7T	48F-15-3	MA-DCR	Revere	5/27/1949	Shore Line Changes - Lynn, Nahant and Revere Beaches	3		
061-009-166A-001-700	061-009-166A-001-700-DCR7U	48F-15-2	MA-DCR	Revere	5/27/1949	Revere Beach Reservation - Repairs to Shore Protection - Ramp A : Opposite Chester Avenue - Ramp B : Opposite MDC Police Station	4		
061-009-166A-001-700	061-009-166A-001-700-DCR7V	30656	MA-DCR	Revere	3/7/1952	Improvements in Revere Beach Reservation	2		
061-009-166A-001-700	061-009-166A-001-700-DCR7W	31362X	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		
061-009-166A-001-700	061-009-166A-001-700-DCR7X	31361	MA-DCR	Revere	11/28/1952	Improvements in Revere Beach Reservation	1		Boilings and Location Plan
061-009-166A-001-700	061-009-166A-001-700-DCR7Y	32267	MA-DCR	Revere	11/28/1952	Revere Beach Reservation - Repairs to Shore Protection between Bath House and Revere Street	1	Between the Bath House and Revere Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z	32144	MA-DCR	Revere	1/22/1954	Revere Beach Reservation - Repairs to Shore Protection	1		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-1	36316	MA-DCR	Revere	9/27/1957	Revere Beach Reservation - Proposed Protective Reconstruction for Playgrounds at the Corner of Revere Street and Revere Beach Reservation	3	Corner of Revere Street and Revere Beach Reservation	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-10	46507	MA-DCR	Revere	6/10/1970	Revere Beach Reservation - Repairs to Shore Protection and Other Improvements	1		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-11	47482	MA-DCR	Revere	4/18/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	2		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-12	47734	MA-DCR	Revere	7/11/1972	Revere Beach Reservation - Storm Damage Repairs and Other Improvements Oak Street to Northern Circle	5	Oak Street to Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-13	N/A	MA-DCR	Revere	November 1976	Conceptual Study - Revere Beach Reservation	3	Elliot Circle to Revere Street	Landscape Section
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-14	63734	MA-DCR	Revere	5/11/1977	Plan Number Revere Beach - 5 of Land in Revere to be Acquired Under Chapter 841 Acts of 1975	1	Shirley Avenue to West Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-15	52327	MA-DCR	Revere	January 1990	Revere Beach Reservation - Repair of Seawalls and Restoration of Pavillions and Bandstand	86		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-16	B.E. Mass - 63	MA-DCR	Revere	July 1990	Beach Erosion Control Project - Sandfill plan - Revere Beach	18		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-17	31361X	MA-DCR	Revere		Improvements in Revere Beach Reservation	1	Cove Street to Revere Street	Vacinity Map
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-2	38888X	MA-DCR	Revere	5/16/1960	Revere Beach Reservation - Proposed Seawall Improvements Revere Street to a Point Approximately 900 Feet South of Shirley Avenue - Plan and Details	3	Revere Street to a Point Approximately 900 Feet South of Shirley Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-3	39862	MA-DCR	Revere	6/22/1961	Repairs to Ramps and Coping	1	Chester Avenue to Sagamore Street	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-4	46357	MA-DCR	Revere	October 1961	Revere Beach - Cross Sections and Elevations - Boston City Base	13		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-5	40374	MA-DCR	Revere	April 1962	Revere Beach Reservation - Storm Damage Repairs	1		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-6	41224	MA-DCR	Revere	3/20/1963	Revere Beach Reservation - Constructing and Extending Protective Wall	1		
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-7	41303	MA-DCR	Revere	May 1963	Revere Beach Reservation - Resanding Beach and Making Repairs to Shore Protection	2		

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-8	44588	MA-DCR	Revere	3/21/1967	Revere Beach Reservation - Improvements to Seawall Along Revere Beach Boulevard, Elliot Circle to Northern Circle	4	Revere Beach Boulevard from Elliot Circle to Northern Circle	
061-009-166A-001-700	061-009-166A-001-700-DCR7Z-9	45428	MA-DCR	Revere	7/8/1968	Revere Beach Reservation - Proposed Shore Protection Along Revere Beach Between Oak Island Street and Point of Pines	1	Between Oak Island Street and Point of Pines	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
061-002-066-002-100	061-002-066-002-100-LIC1A	7167	DEP	Revere	May 27, 1998	Roughans Point Coastal Flood Damage Reduction Project	6	Roughans Point	Revetment
061-002-066-002-200	061-002-066-002-200-LIC2A	7167	DEP	Revere	May 27, 1998	Roughans Point Coastal Flood Damage Reduction Project	6	Roughans Point	Bulkhead/ Seawall
061-002-066-002-400	061-002-066-002-300-LIC4A	7167	DEP	Revere	May 27, 1998	Roughans Point Coastal Flood Damage Reduction Project	6	Roughans Point	Bulkhead/ Seawall
061-009-166A-001-100	061-009-166A-001-100-LIC1A	2103	DEP	Revere	May 1999	Plan Accompanying Petition of Metropolitan District Commission For Sandfill at Revere Beach (Broad Sound)	15	Rever Beach (Broad Sound)	Bulkhead



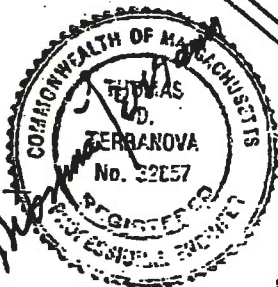
BROAD SOUND



EXISTING BEACH ACCESS STAIRWAY
 061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

SOUTH BEACH ACCESS STAIRWAY

END OF PROTECTION
 STA. 60+50



PLAN
 SCALE: 1" = 300'

GRAPHIC SCALE



GENERAL NOTE:
 THE COORDINATES ARE BASED ON MASSACHUSETTS COORDINATE SYSTEM.

Revere

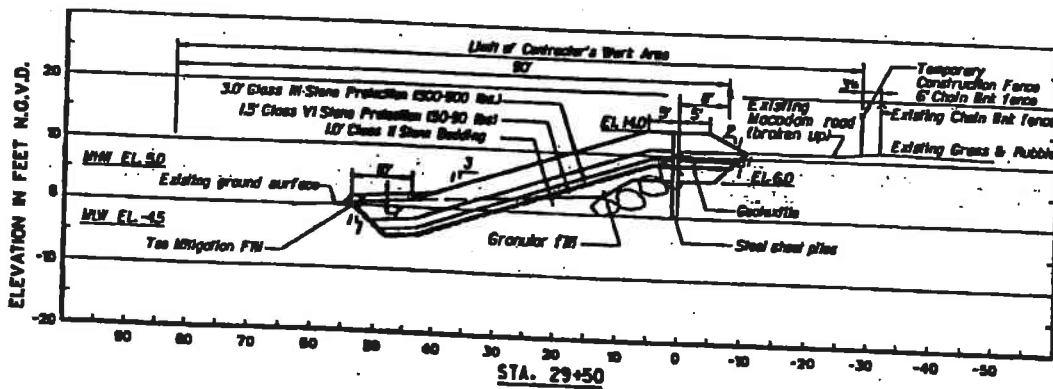
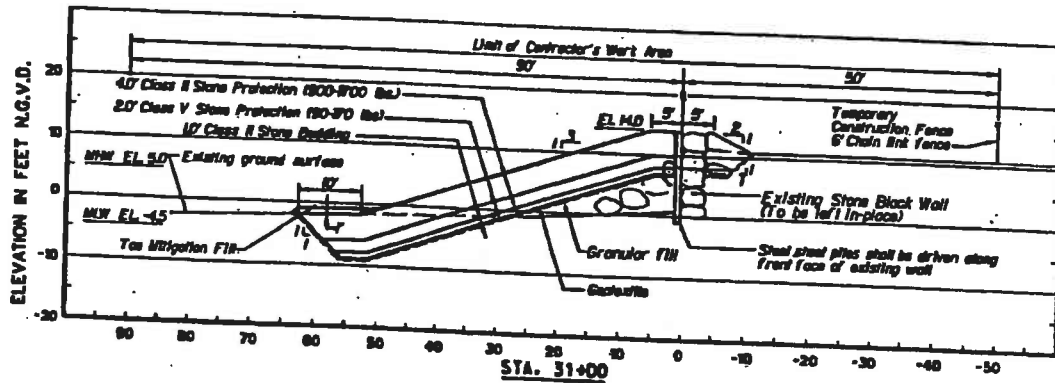
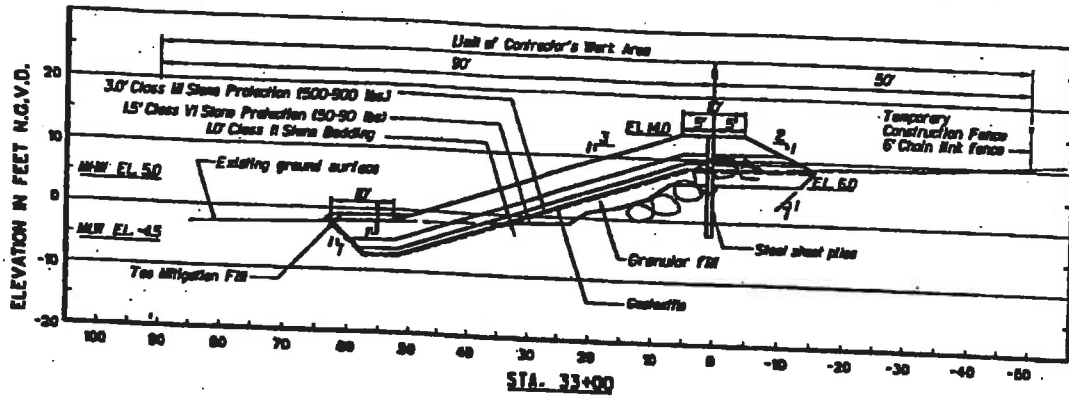
U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

**ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT**

REVERE MASSACHUSETTS
 DRAWING NO. ROU-1

LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 of Massachusetts
 MAY 27 1998
James A. [Signature]

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



REVELMENT SECTIONS SCALE: 1" = 30'

GRAPHIC SCALE



LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date: MAY 27 1998



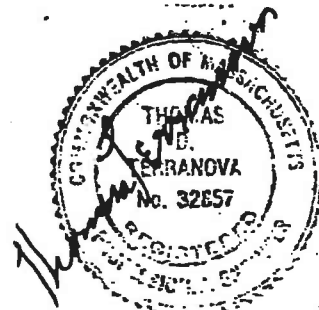
U.S. ARMY CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

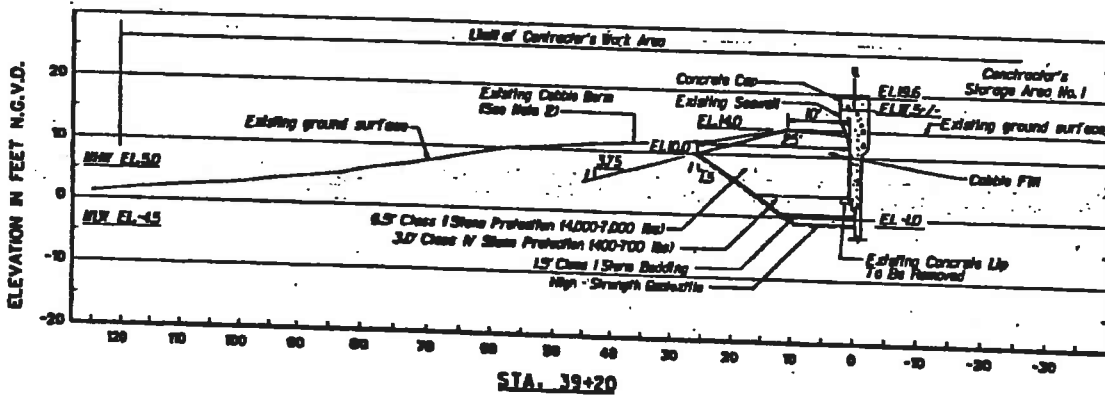
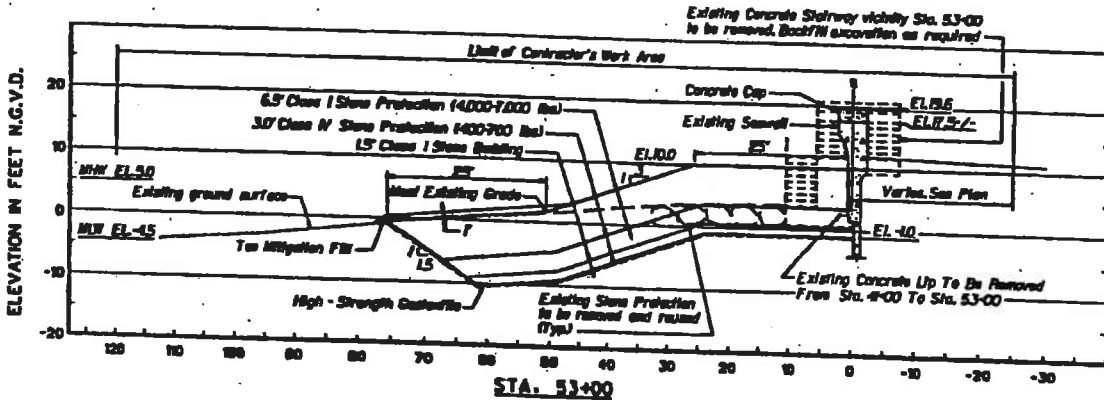
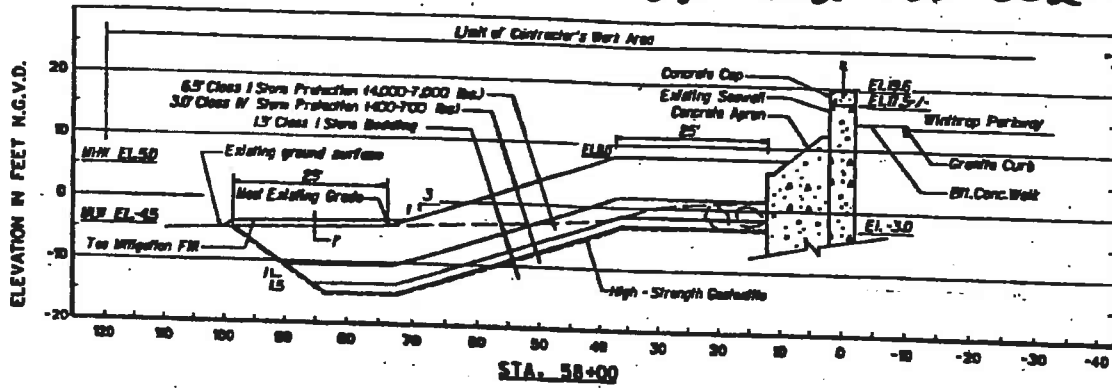
REVERE

MASSACHUSETTS

DRAWING NO. 801.1



061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



BERM SECTIONS

SCALE: 1" = 30'

GRAPHIC SCALE



U.S. ARMY CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

REVERSE

MASSACHUSETTS



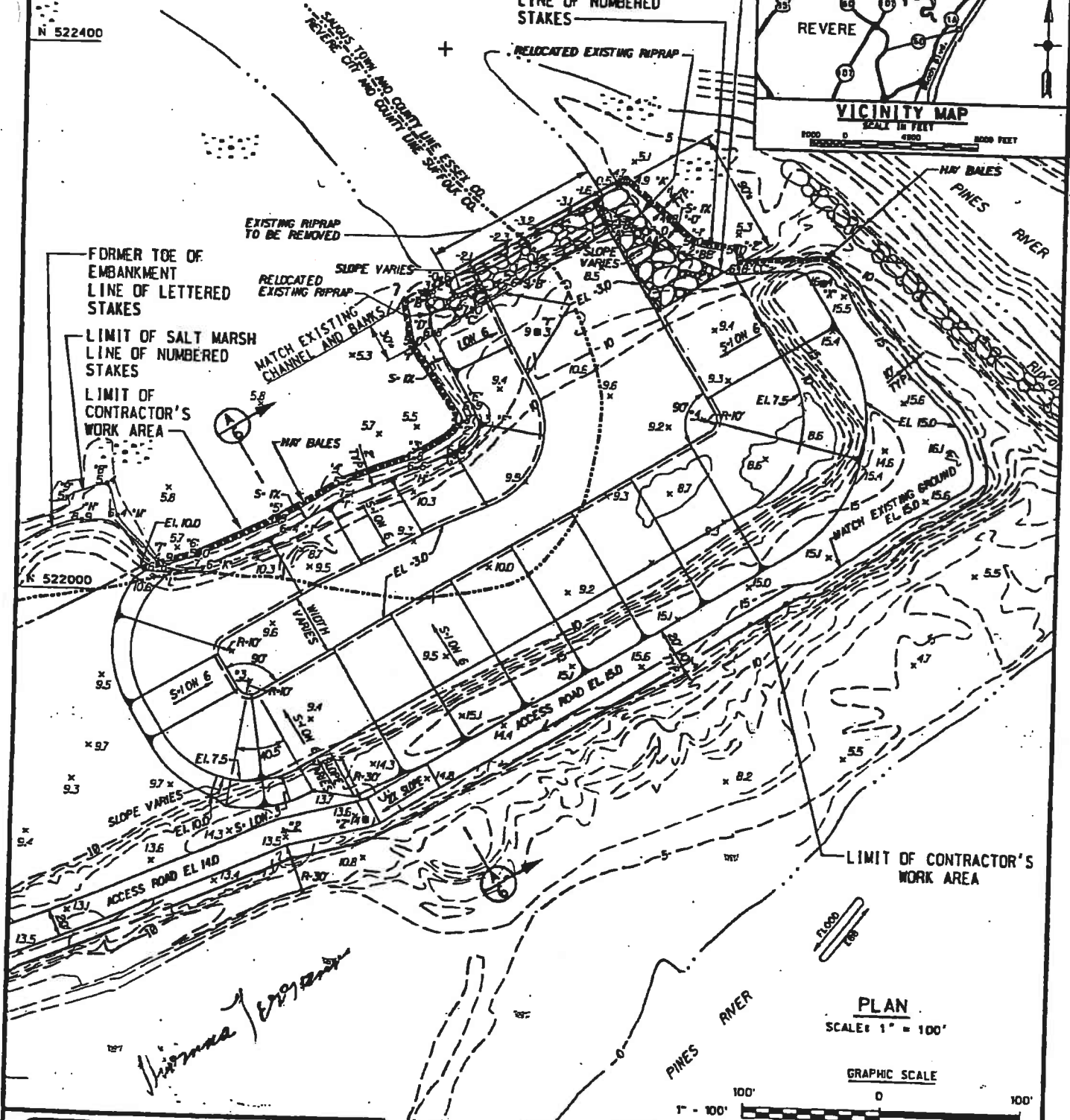
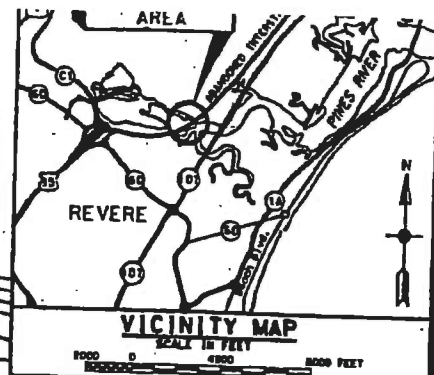
LICENSE PLAN NO. 7167

Approved by Department of Environmental Protection
 Date: MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

FORMER TOE OF
 EMBANKMENT
 LINE OF LETTERED
 STAKES

LIMIT OF SALT MARSH
 LINE OF NUMBERED
 STAKES



Thomas J. [Signature]

PLAN
 SCALE: 1" = 100'

GRAPHIC SCALE



U.S. ARMY CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

REVERE MASSACHUSETTS
 DRAWING NO. ROU-1
 FILENAME: FERMT2A.DGN JULY 1997 SH. 4 OF 6

LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

N 522400

N 522000

PLANTING PLAN

SCALE: 1" = 100'

GRAPHIC SCALE



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT COASTAL FLOOD DAMAGE REDUCTION PROJECT

REVERE

MASSACHUSETTS

DRAWING NO. ROU-1

FILE NAME: REVERE.dwg JULY 1997 SH. 5 OF 6

N 521500

LICENSE PLAN NO. 7167

Approved by Department of Environmental Protection

Date MAY 27 1998

LEGEND



PLANT SALT MARSH CORD GRASS

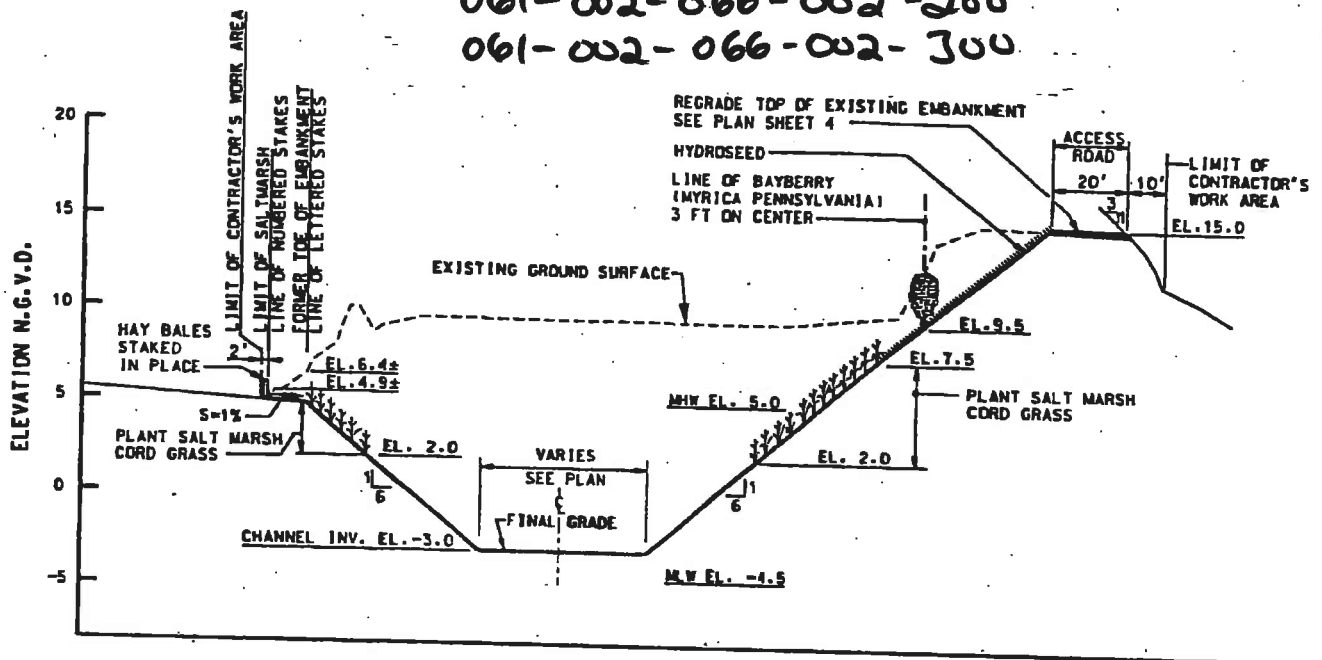


HYDROSEED



LINE OF BAYBERRY
 (MYRTICA PENNSYLVANIA)
 3 FT ON CENTER

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

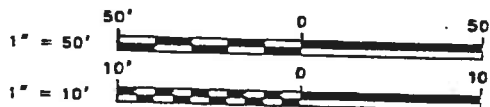


SECTION



SCALE: HOR. 1" = 50'
 VERT. 1" = 10'

GRAPHIC SCALES



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

REVERE

MASSACHUSETTS

DRAWING NO. ROU-1

FILE NAME: 000000000000 JULY 1997 SH. 6 OF 6

LICENSE PLAN NO. 7167

APPROVED BY Department of Environmental Protection

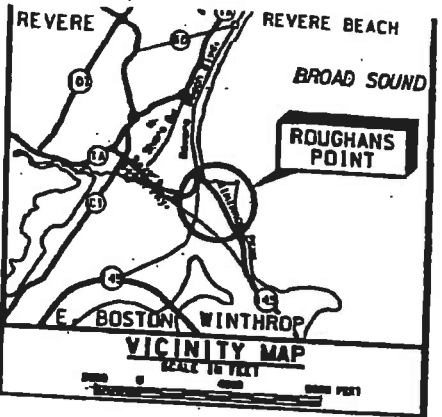
Date

MAY 27 1998

Thomas J. Ferraro

START OF PROTECTION
STA. 27+55

BROAD SOUND



EXISTING M.D.C.
PUMPING STATION
GRAVITY BY-PASS

BERM REACH

BROAD SOUND

+5.0 MTD (TIDAL)
USGS DATUM (MGVD)
-4.5 MTD (TIDAL)
-5.65 MDC BASE
IPARKS DIVISION
DATUM RELATIONSHIP

EXISTING BEACH
ACCESS STAIRWAY
061-002-066-002-100
061-002-066-002-200
061-002-066-002-300

SOUTH BEACH ACCESS STAIRWAY

END OF PROTECTION
STA. 60+50

GENERAL NOTE:

THE COORDINATES ARE BASED ON MASSACHUSETTS COORDINATE SYSTEM.

LICENSE PLAN NO. 7167
Approved by Department of Environmental Protection
of Massachusetts
MAY 27 1998
James A. Brague



PLAN

SCALE: 1" = 300'

GRAPHIC SCALE

1" = 300' 300' 0 300'

REVERE



U.S. ARMY, CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
WALTHAM, MASSACHUSETTS

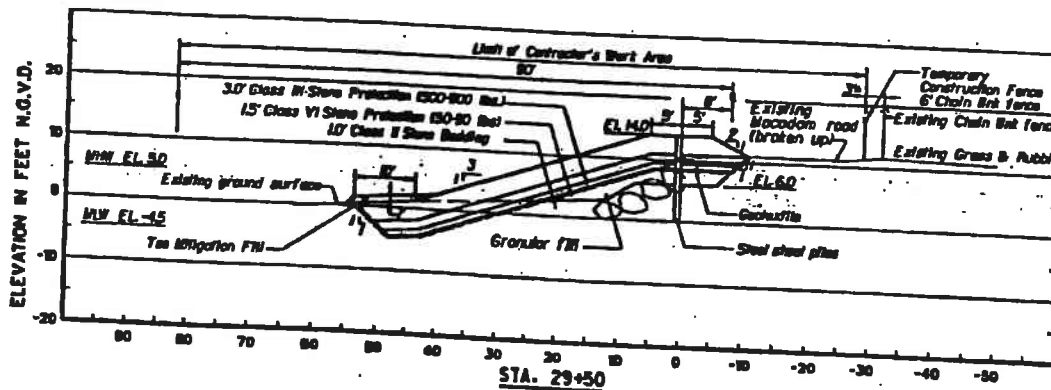
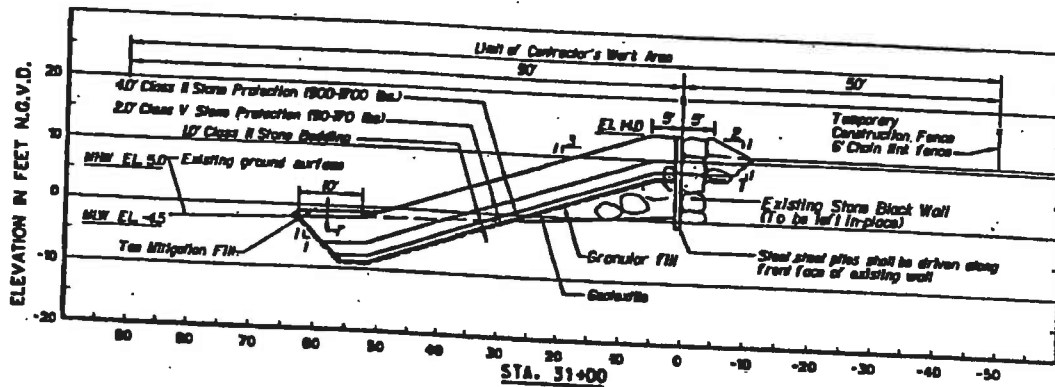
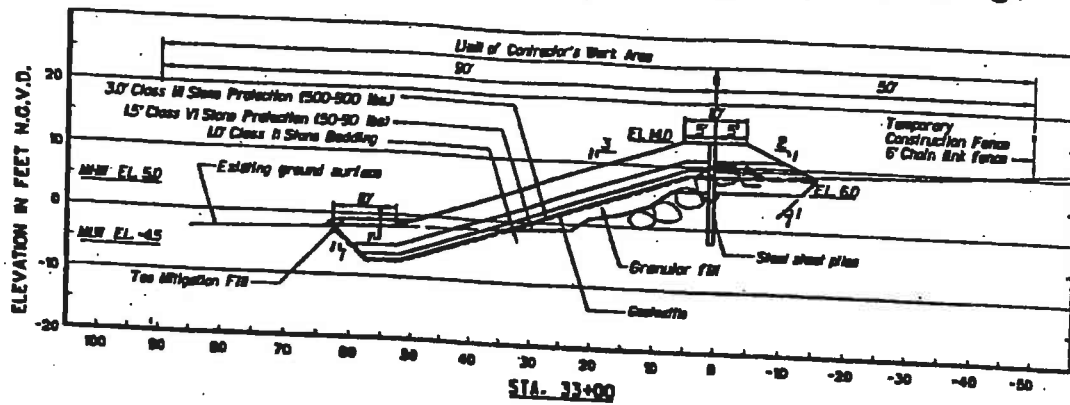
ROUGHANS POINT
COASTAL FLOOD DAMAGE
REDUCTION PROJECT

REVERE

MASSACHUSETTS

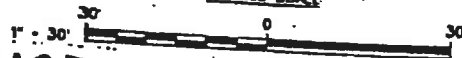
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061-002-066-002-100
 061-002-066-002-200
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REVETMENT SECTIONS
 SCALE: 1" = 30'

GRAPHIC SCALE



LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date MAY 27 1998



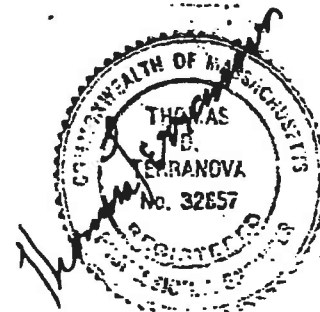
U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

**ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT**

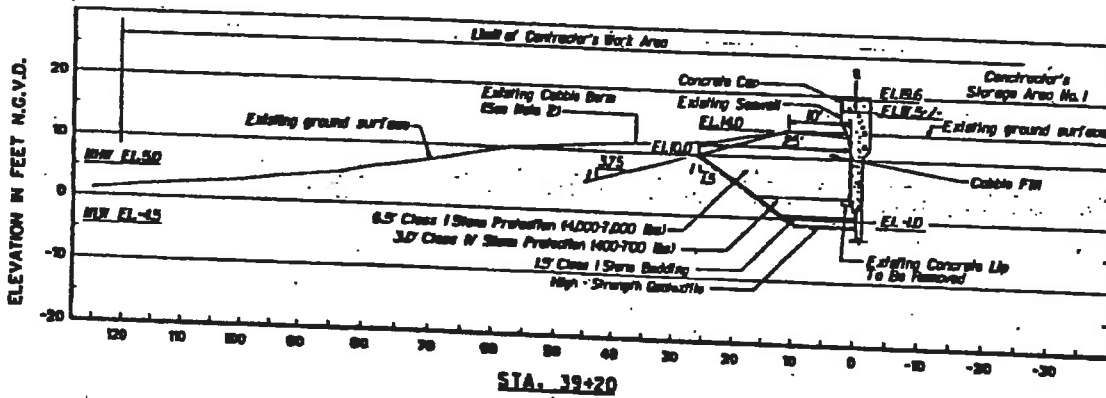
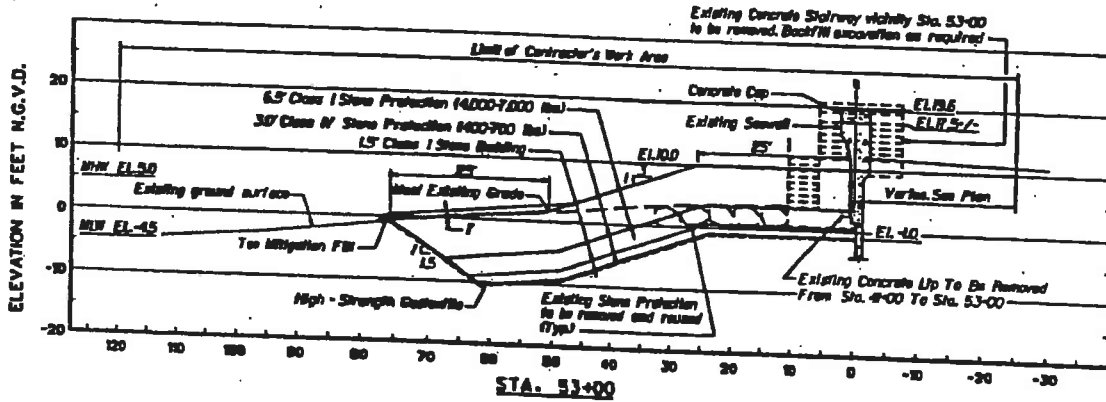
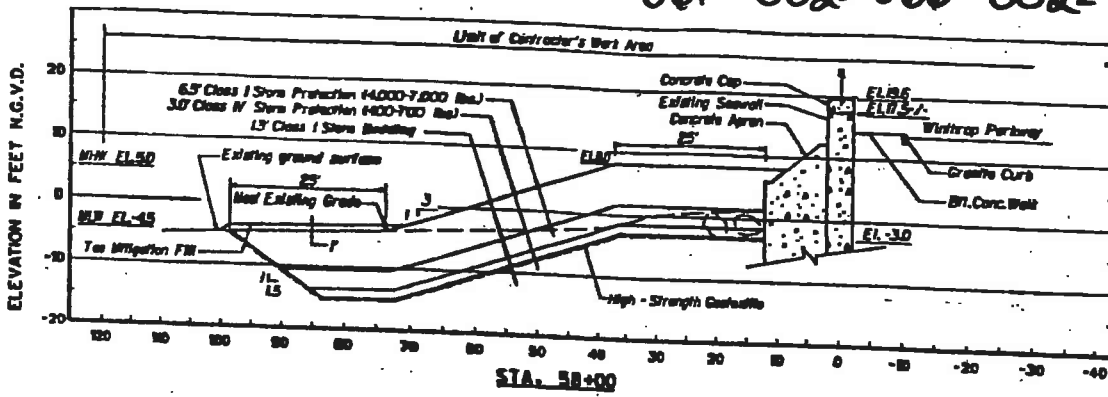
REVERSE

MASSACHUSETTS

DRAWING NO. 001.1



061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



BERM SECTIONS

SCALE: 1" = 30'

GRAPHIC SCALE



U.S. ARMY CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

REVERE

MASSACHUSETTS



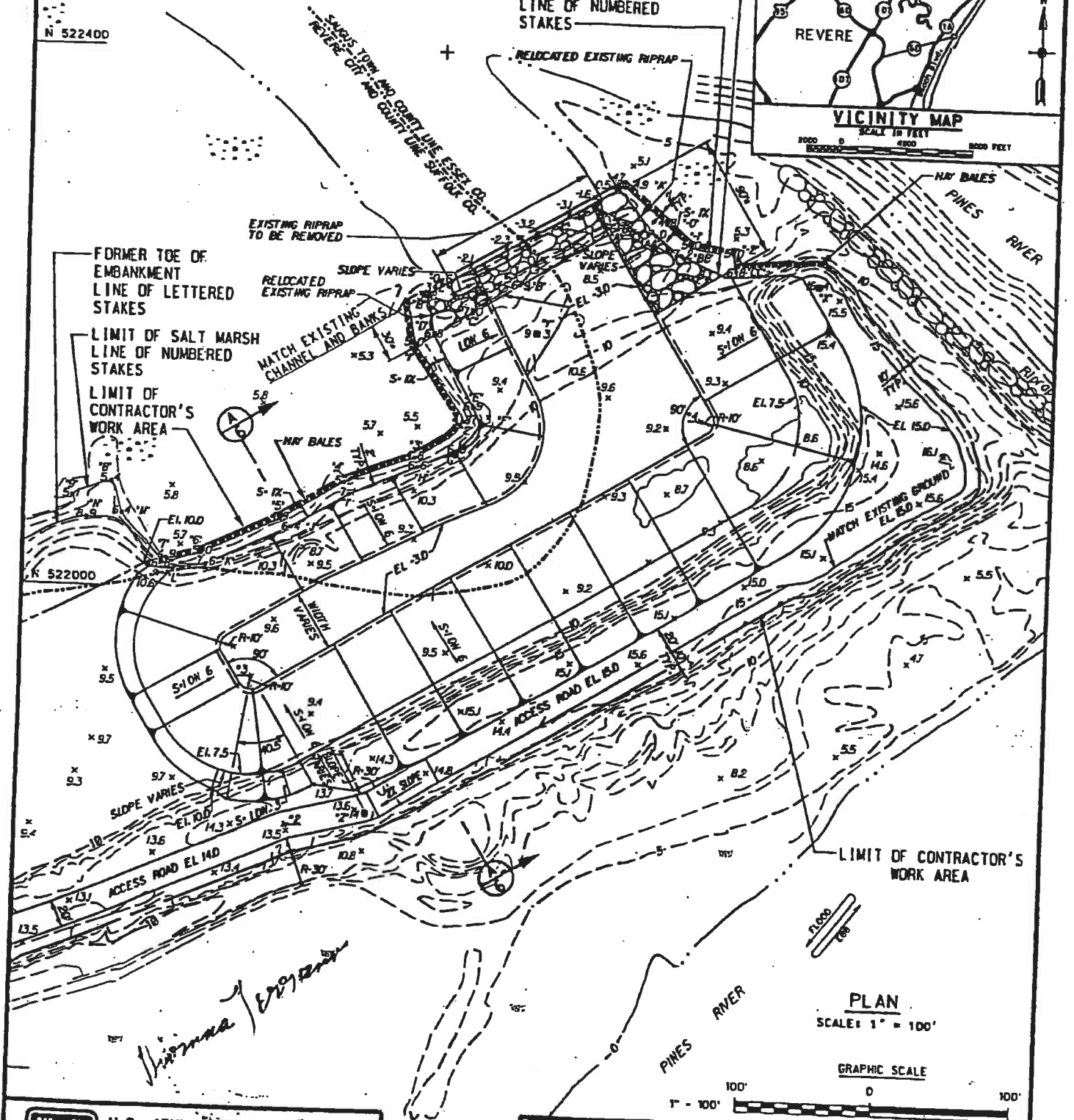
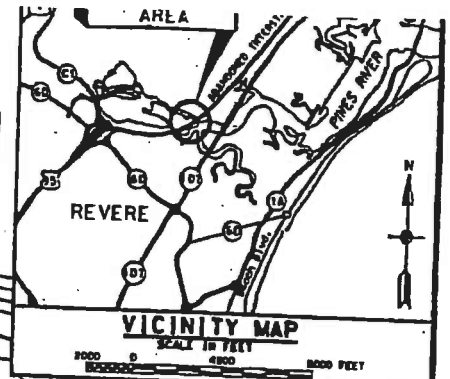
LICENSE PLAN NO. 7167

Approved by Department of Environmental Protection
 Date MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

FORMER TOE OF
 EMBANKMENT
 LINE OF LETTERED
 STAKES

LIMIT OF SALT MARSH
 LINE OF NUMBERED
 STAKES



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT COASTAL FLOOD DAMAGE REDUCTION PROJECT

REVERE

MASSACHUSETTS

DRAWING NO. ROU-1

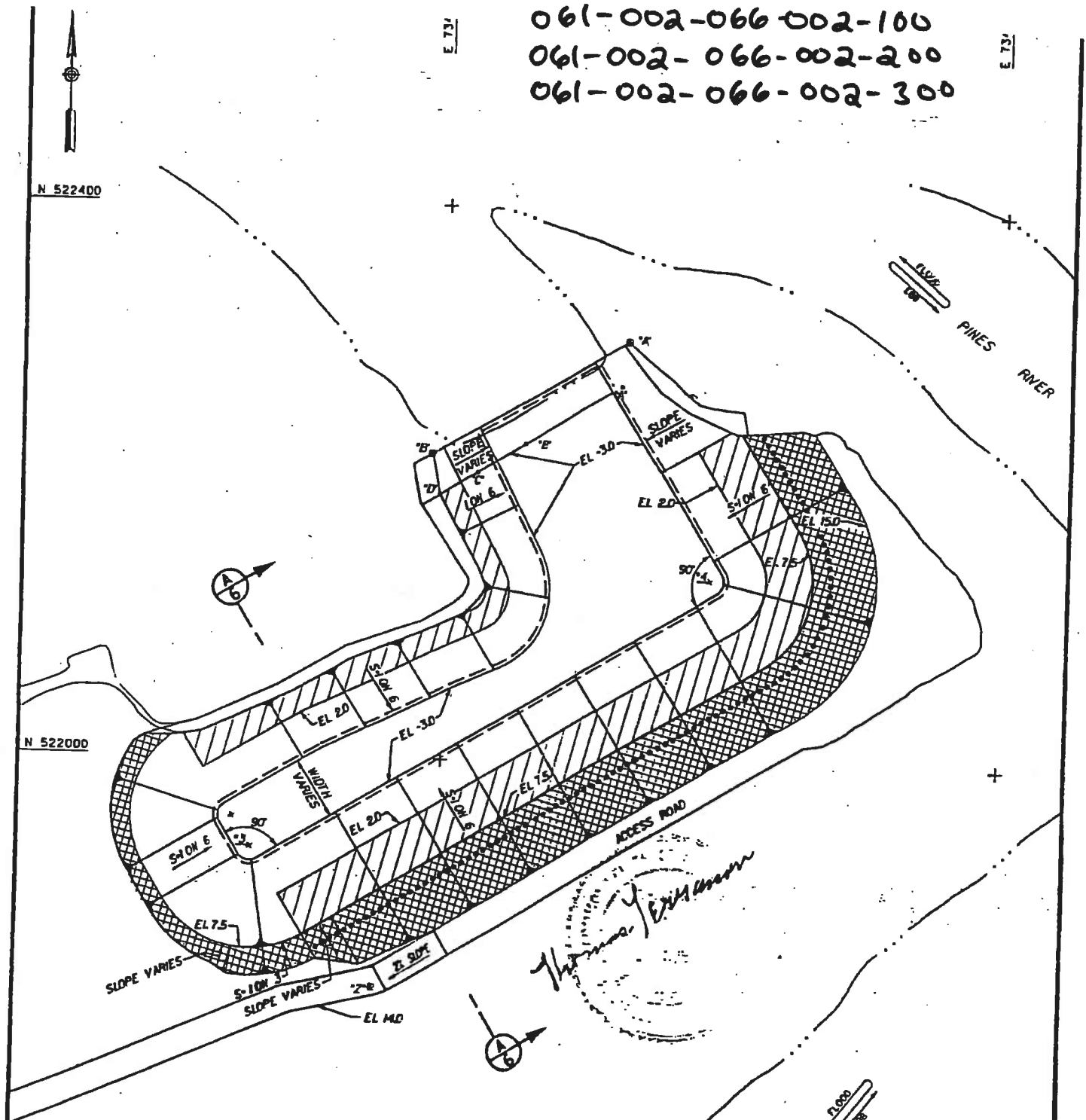
FILENAME: PERMT2A.DGN

JULY 1997 SH. 4 OF 6

LICENSE PLAN NO. 7167

Approved by Department of Environmental Protection
 MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



PLANTING PLAN
 SCALE: 1" = 100'

GRAPHIC SCALE



LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date **MAY 27 1998**



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT COASTAL FLOOD DAMAGE REDUCTION PROJECT

REVERE

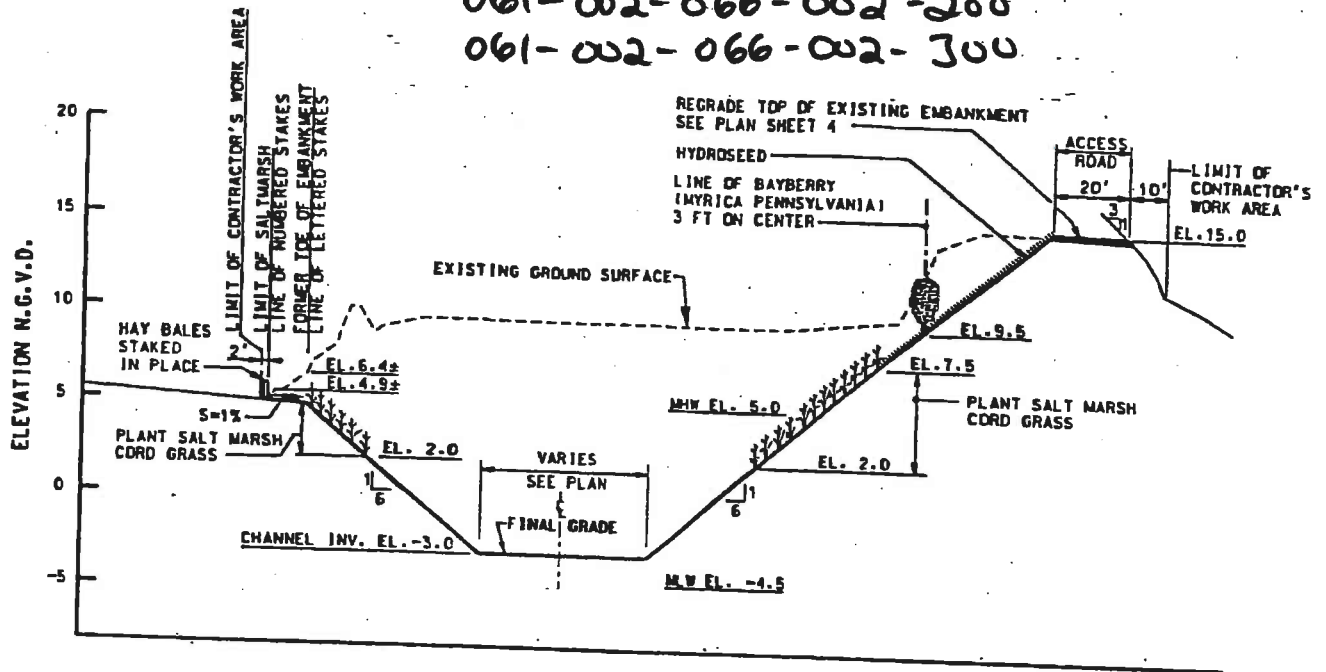
MASSACHUSETTS

DRAWING NO. ROU-1

FILE NAME: R050730.dwg JULY 1997 SH. 5 OF 6

LEGEND	
	PLANT SALT MARSH CORD GRASS
	HYDROSEED
	LINE OF BAYBERRY (MYRICA PENNSYLVANIA) 3 FT ON CENTER

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



SECTION



SCALE: HOR. 1" = 50'
 VERT. 1" = 10'

GRAPHIC SCALES



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

**ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT**

REVERE

MASSACHUSETTS

DRAWING NO. RDU-1

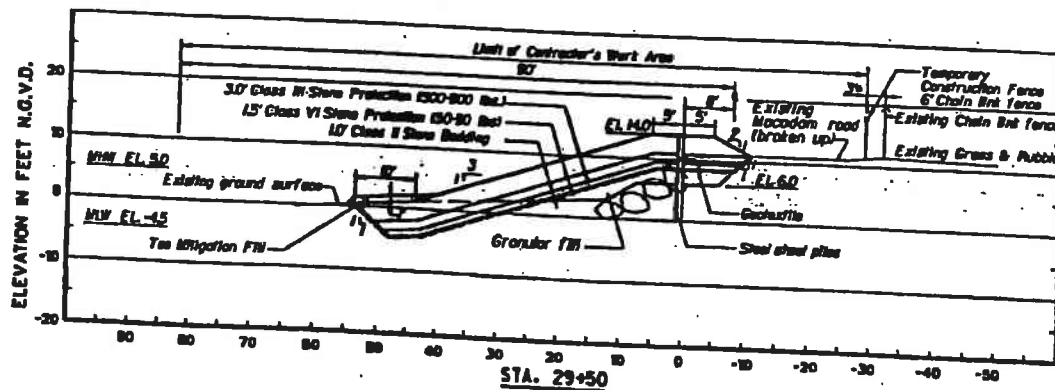
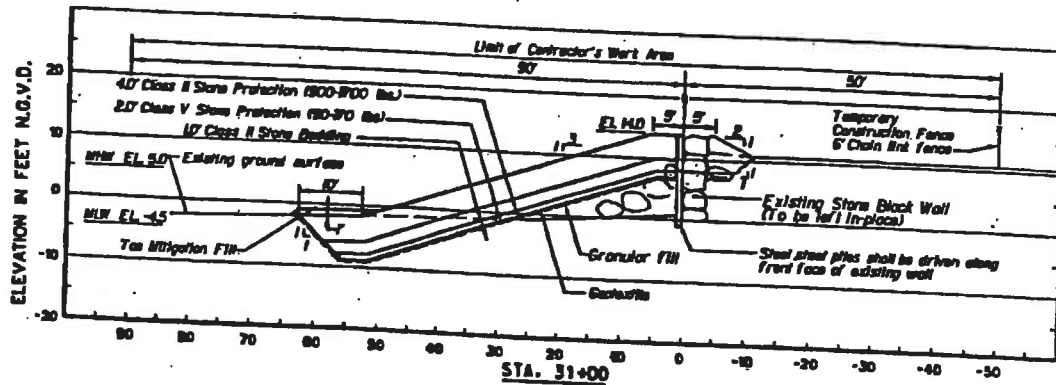
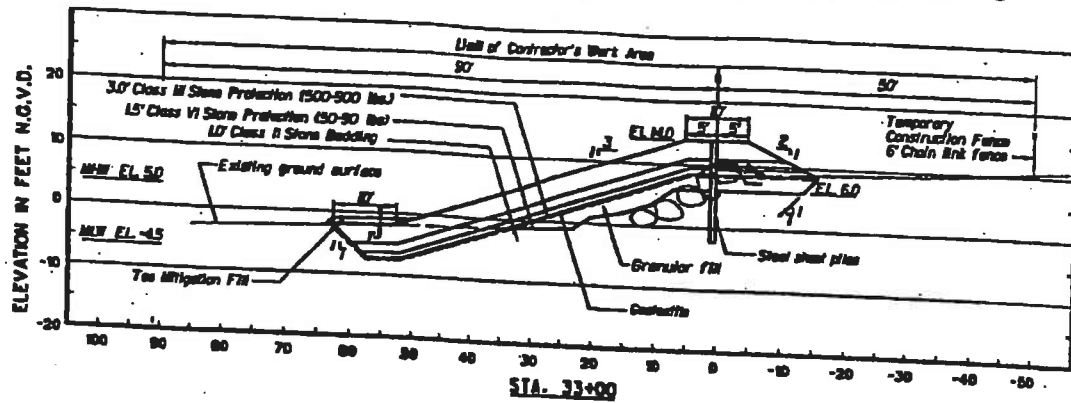
FILE NAME: RDU-1 JULY 1997 SH. 6 OF 6

LICENSE PLAN NO. 7167

APPROVED BY: Department of Environmental Protection
 Date: MAY 27 1998

1111 Y 1007 SU 1 25 2

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300



REVETMENT SECTIONS
 SCALE: 1" = 30'

GRAPHIC SCALE



LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date: MAY 27 1998



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT

REVERE

MASSACHUSETTS

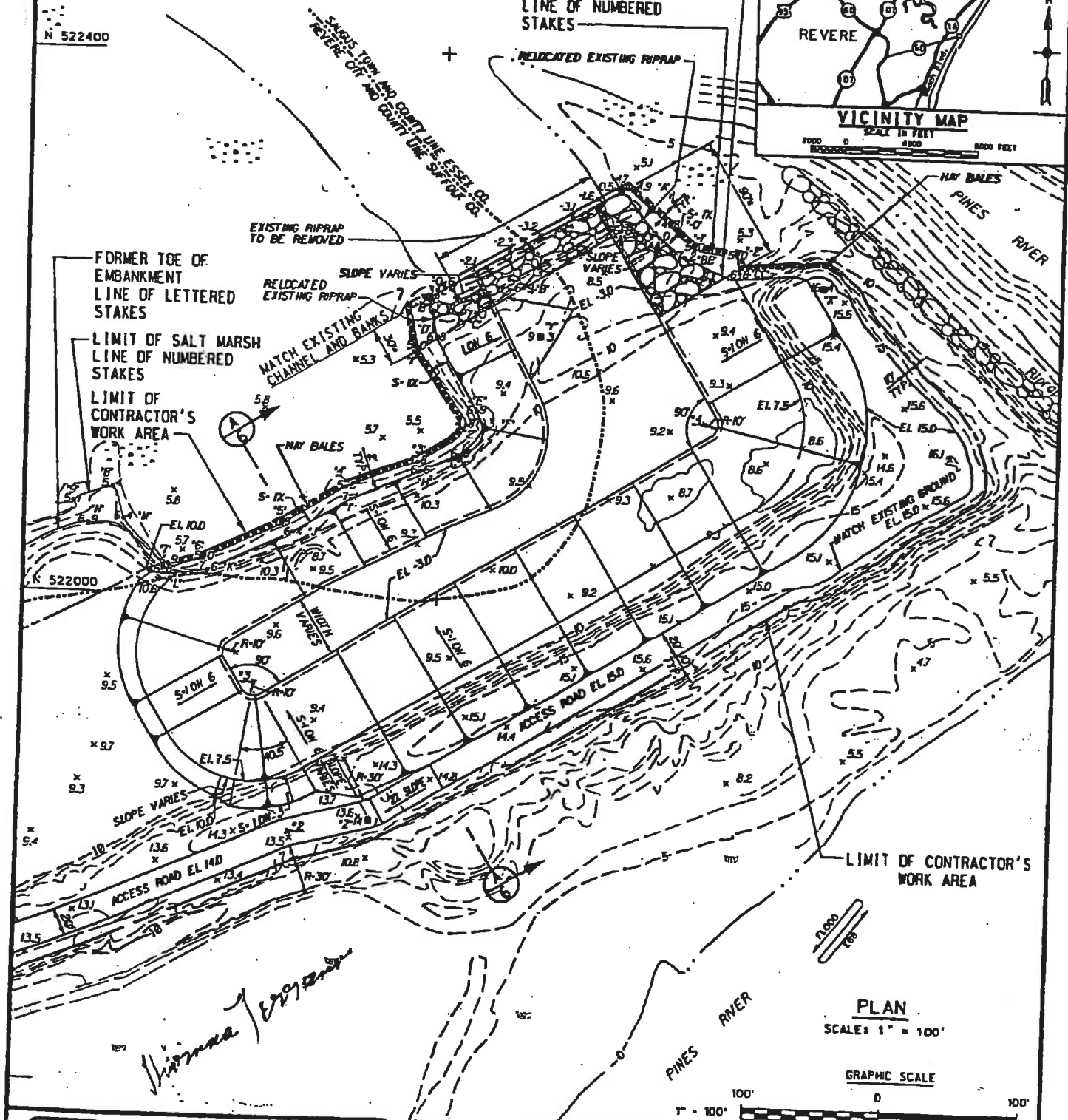
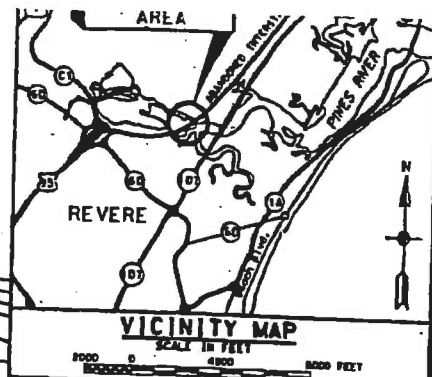


Approved by Department of Environmental Protection
Date: MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

FORMER TOE OF
 EMBANKMENT
 LINE OF LETTERED
 STAKES

LIMIT OF SALT MARSH
 LINE OF NUMBERED
 STAKES



GRAPHIC SCALE



U.S. ARMY CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT COASTAL FLOOD DAMAGE REDUCTION PROJECT

REVERE

MASSACHUSETTS

DRAWING NO. ROU-1

FILENAME: PERMT2A.DGN

JULY 1997 SH. 4 OF 6

LICENSE PLAN NO. 7167

Approved by Department of Environmental Protection
 MAY 27 1998

061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

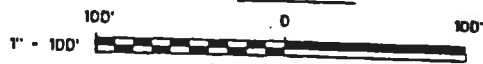
N 522400

N 522000

PLANTING PLAN

SCALE: 1" = 100'

GRAPHIC SCALE



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

**ROUGHANS POINT
 COASTAL FLOOD DAMAGE
 REDUCTION PROJECT**

REVERE MASSACHUSETTS
 DRAWING NO: ROU-1
 FILE NAME: REVERE.DWG JULY 1997 SH. 5 OF 6

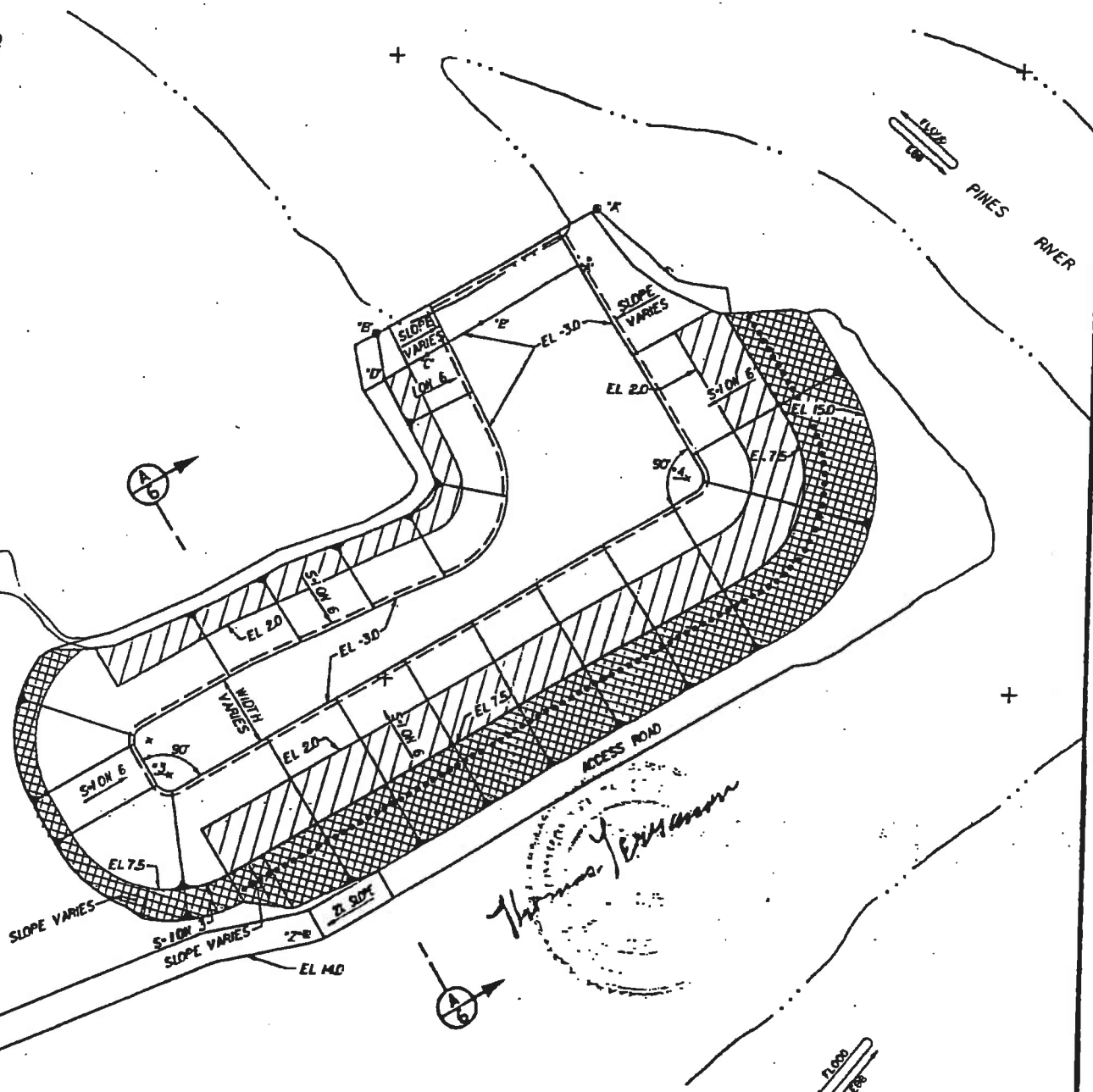
N 521500

LEGEND

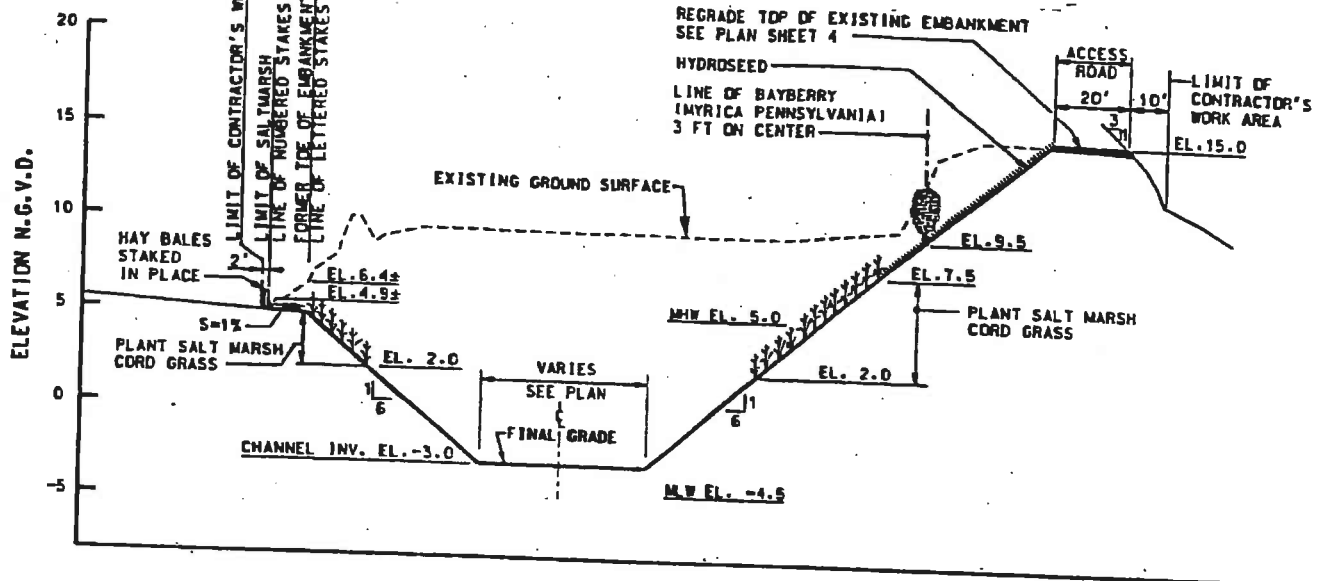
- PLANT SALT MARSH CORD GRASS
- HYDROSEED
- LINE OF BAYBERRY (MYRICA PENNSYLVANIA) 3 FT ON CENTER

LICENSE PLAN NO. 7167
 Approved by Department of Environmental Protection
 Date **MAY 27 1998**

Thomas J. [Signature]



061-002-066-002-100
 061-002-066-002-200
 061-002-066-002-300

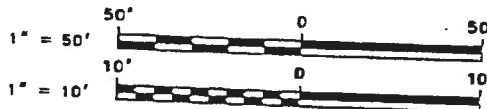


SECTION



SCALE: HOR. 1" = 50'
 VERT. 1" = 10'

GRAPHIC SCALES



U.S. ARMY, CORPS OF ENGINEERS
 NEW ENGLAND DISTRICT
 WALTHAM, MASSACHUSETTS

ROUGHANS POINT COASTAL FLOOD DAMAGE REDUCTION PROJECT

REVERE

MASSACHUSETTS

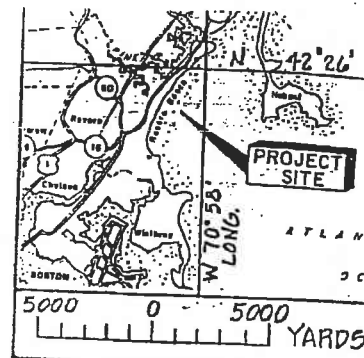
DRAWING NO. RDU-1

FILE NAME: RDU-1 JULY 1997 SH. 6 OF 6

LICENSE PLAN NO. 7167

APPROVED BY: Department of Environmental Protection
 Date: MAY 27 1998

061-009-166A-001-100

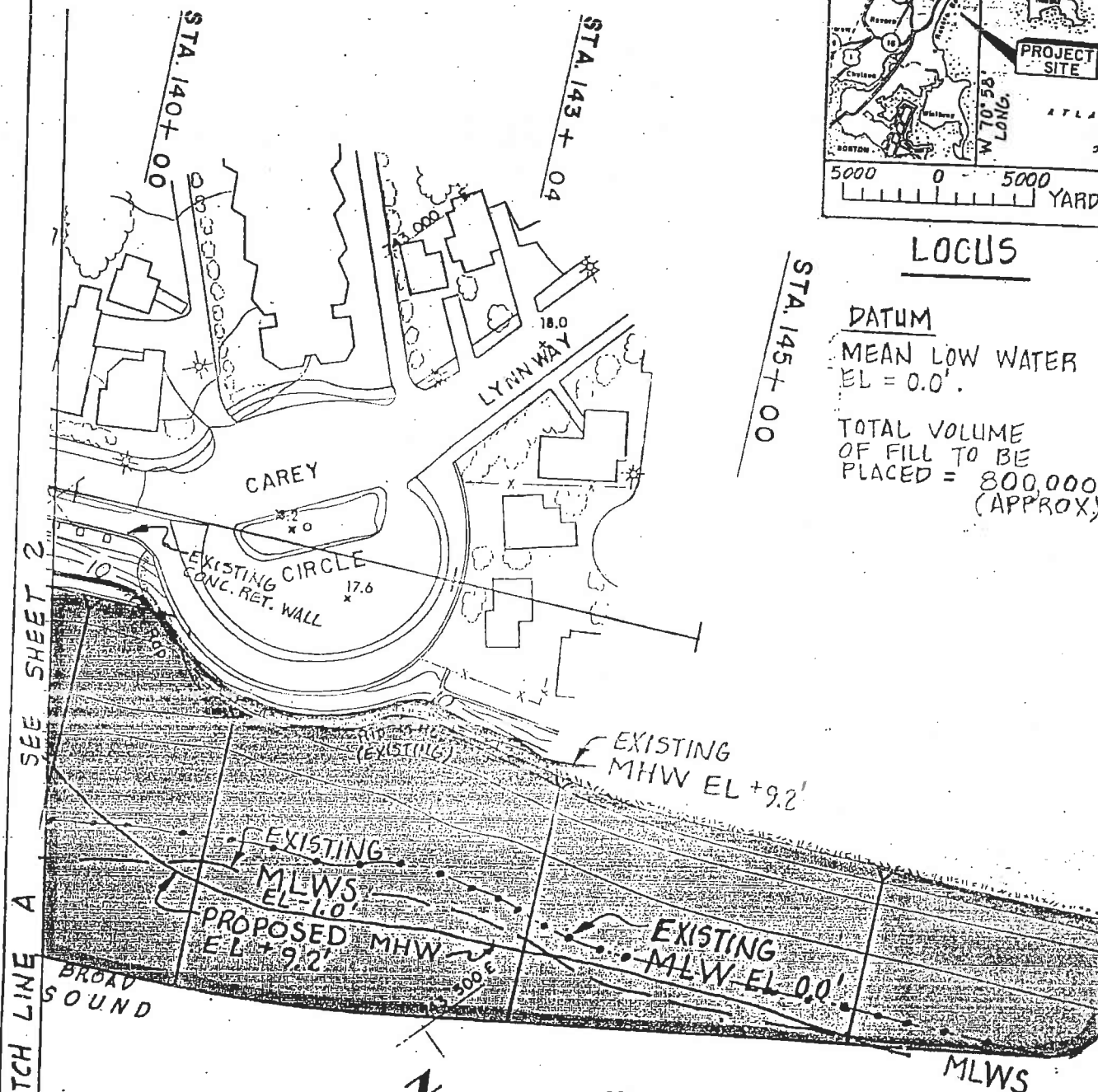


LOCUS

DATUM

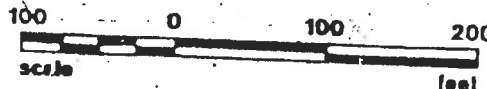
MEAN LOW WATER
EL = 0.0'

TOTAL VOLUME
OF FILL TO BE
PLACED = 800,000 (APPROX)

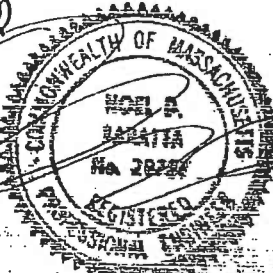


MATCH LINE A SEE SHEET 2

BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT



SHEET 1 OF 15



PLAN ACCOMPANYING PETITION OF
METROPOLITAN DISTRICT COMMISSION
FOR SANDFILL AT REVERE BEACH (BROAD SOUND)
REVERE, MASSACHUSETTS COUNTY OF SUFFOLK
MAY 1989

LICENSE PLAN NO. **2103**
Approved by Department of Environmental **PROTECTION**
of Massachusetts
[Signature] COMMISSIONER
[Signature] DIVISION DIRECTOR
[Signature] SECTION CHIEF
NOV 14 1989

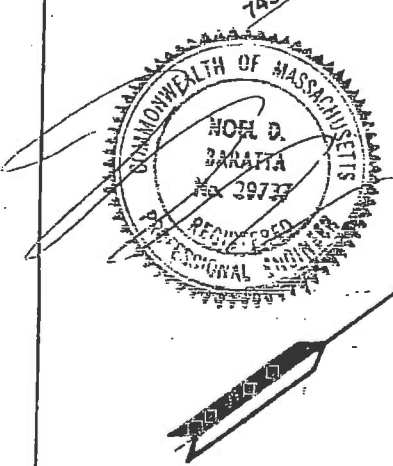
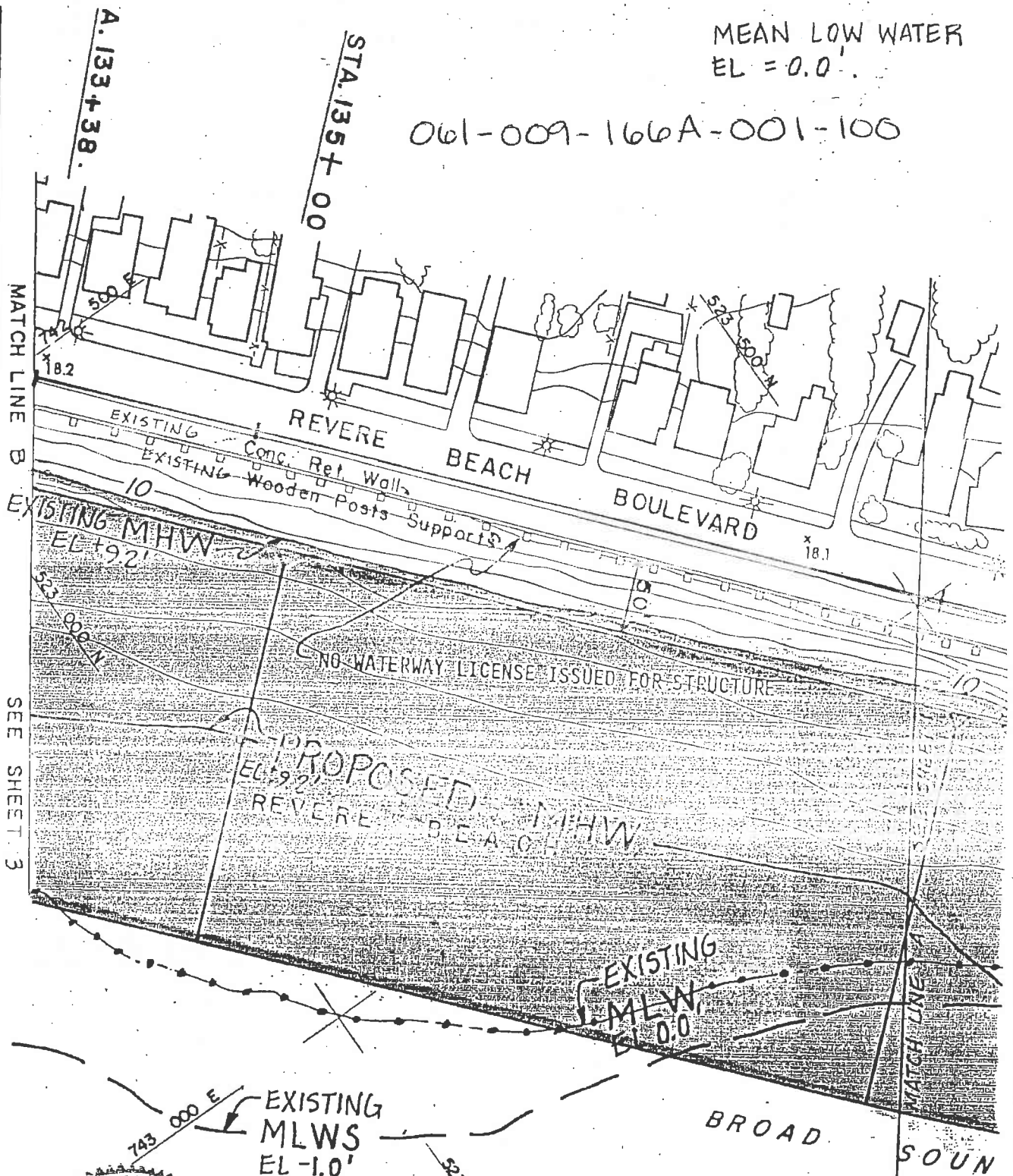
MEAN LOW WATER
EL = 0.0'

061-009-166A-001-100

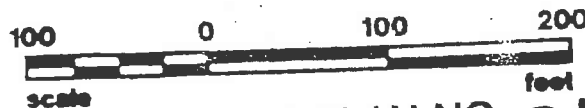
MATCH LINE B

SEE SHEET 3

MATCH LINE A



BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT



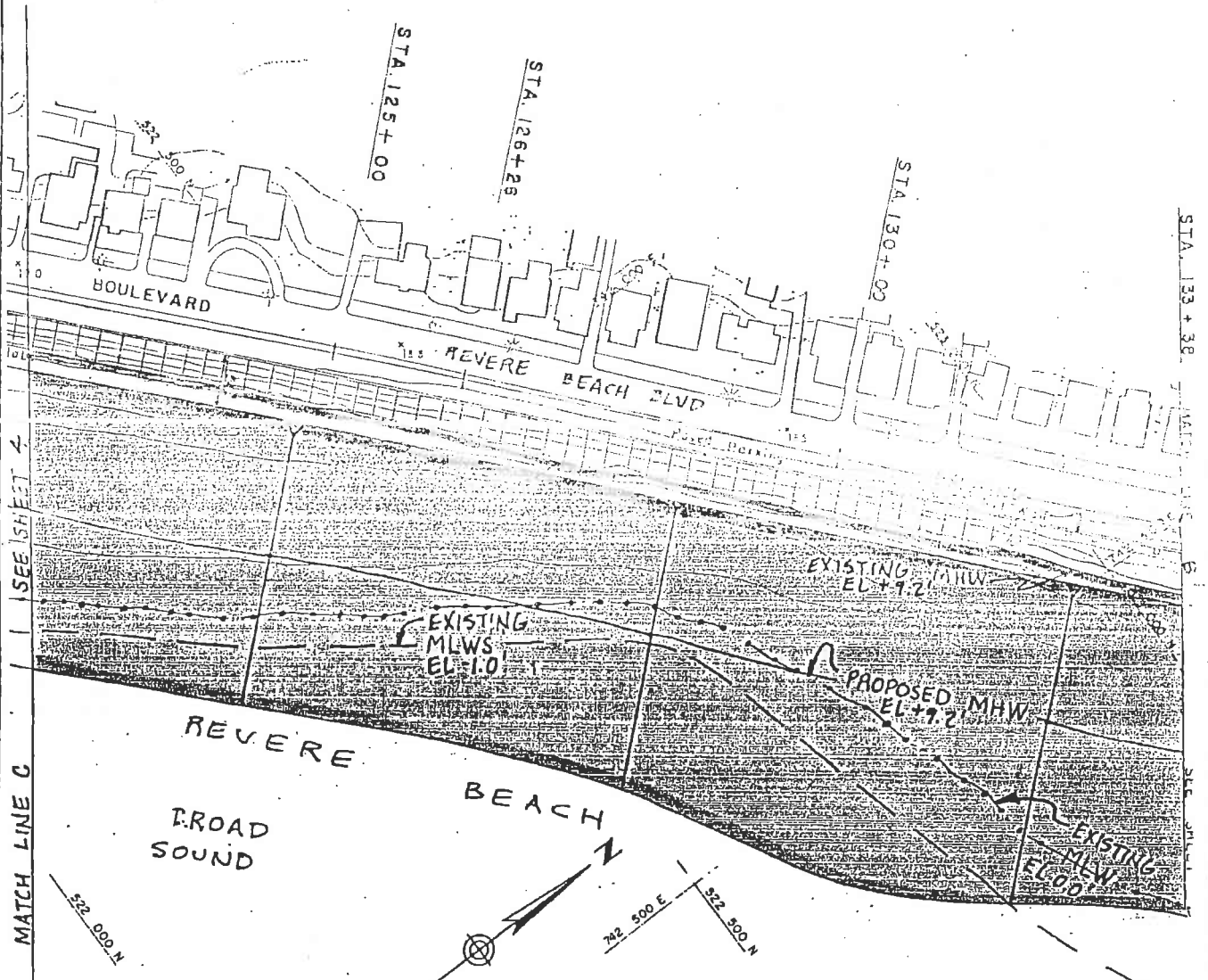
LICENSE PLAN NO. 2103

Approved by Department of Environmental PROTECTION
Date: NOV 14 1989

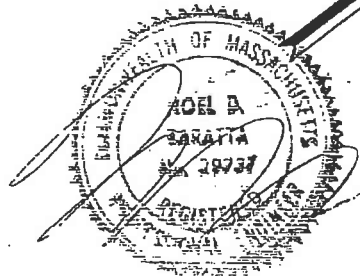
SHEET 2 OF 12

MEAN LOW WATER
EL = 0.0'

061-009-166A-001-100



SEE SHEET 4
MATCH LINE C

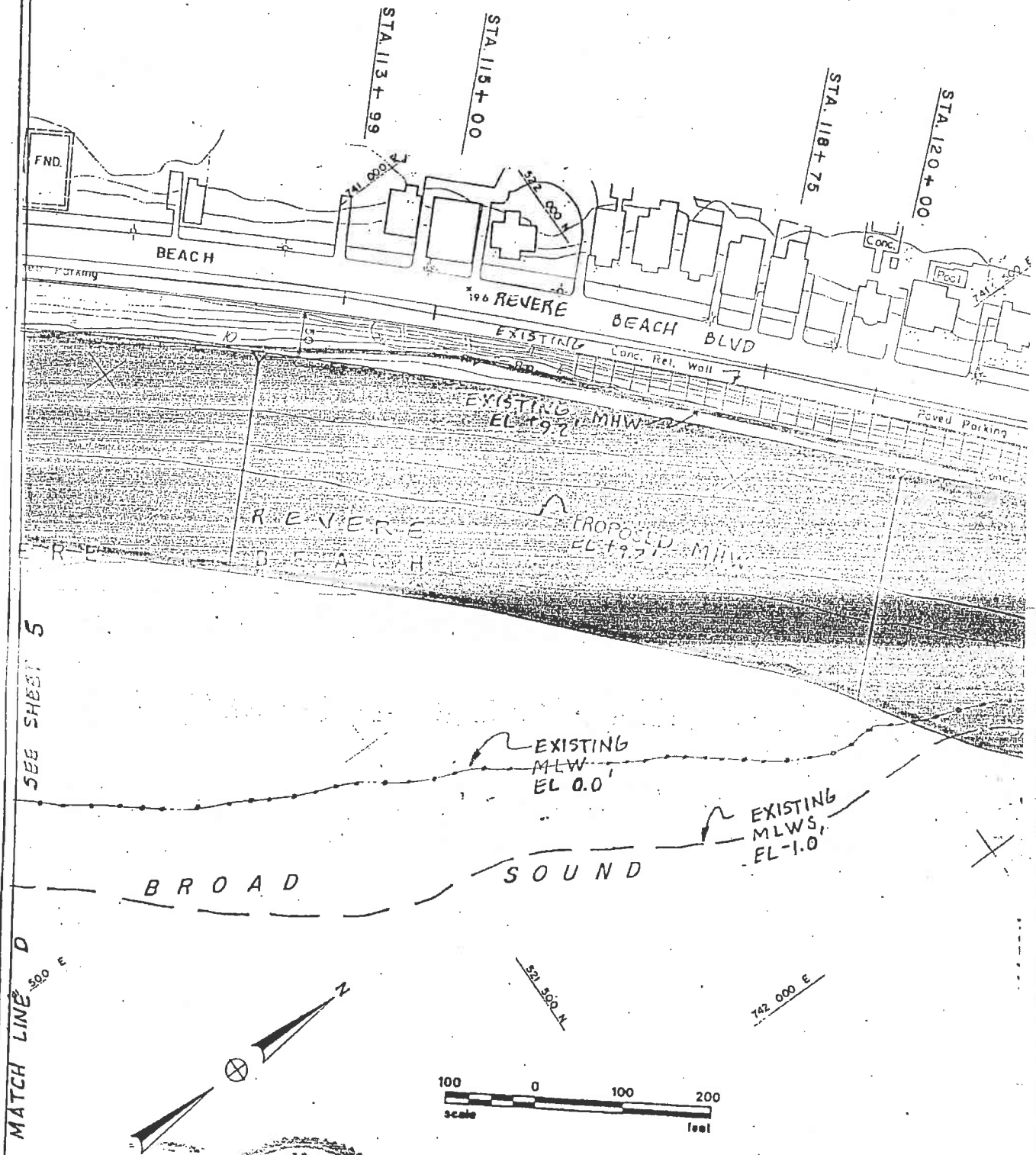


BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT

LICENSE PLAN NO. 2103

Approved by Department of Environmental Protection
Date: **NOV 14 1989**

061-009-106A-001-100 MEAN-LOW WATER
EL = 0.0'



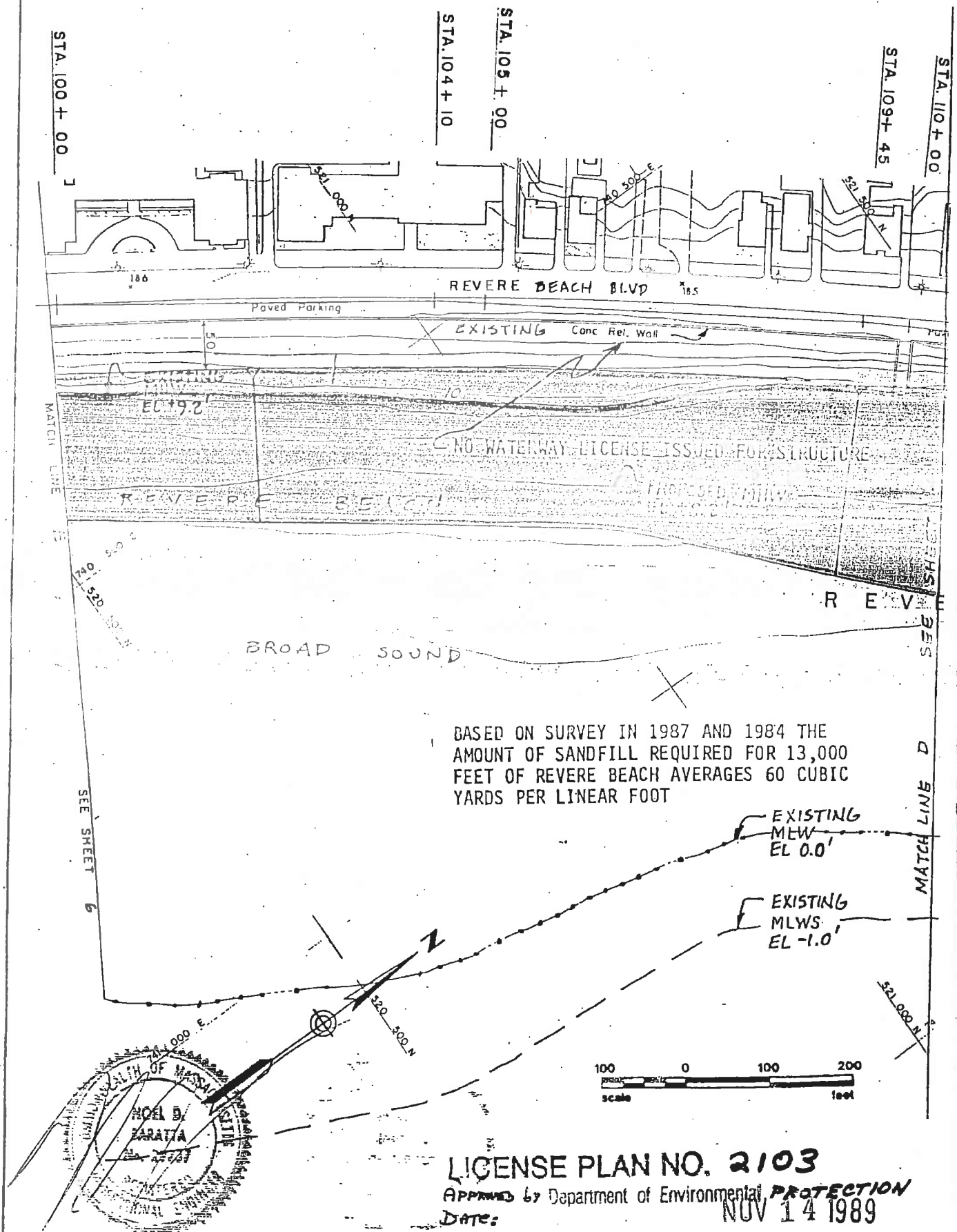
BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT.

LICENSE PLAN NO. 2103

APPROVED by Department of Environmental PROTECTION
Date NOV 14 1989

SHEET 4 OF 15

061-009-166A-001-100 EL = 0.0'



LICENSE PLAN NO. 2103

APPROVED by Department of Environmental PROTECTION

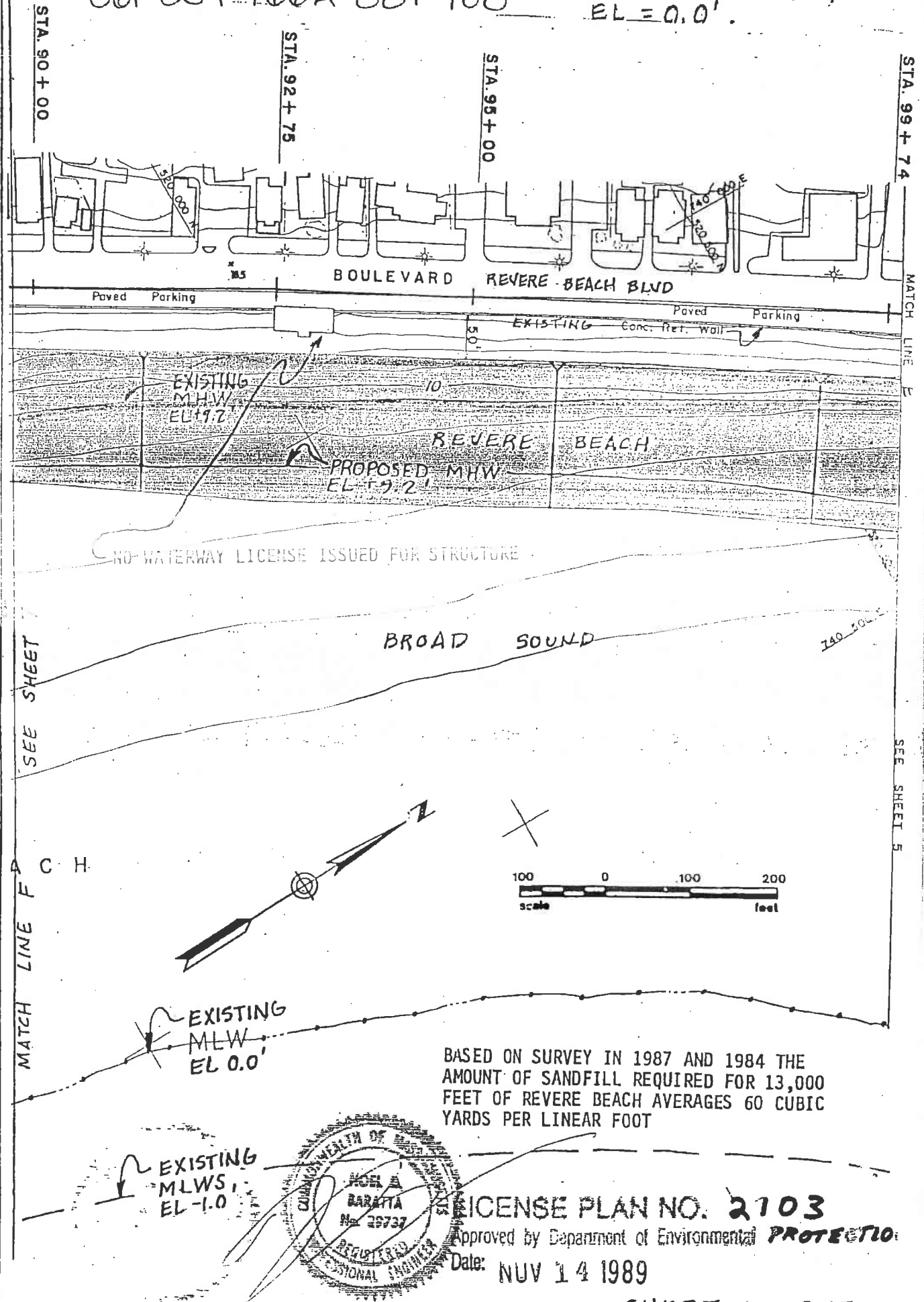
DATE:

NOV 14 1989

SHEET 5 OF 15

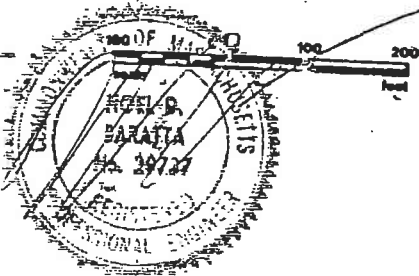
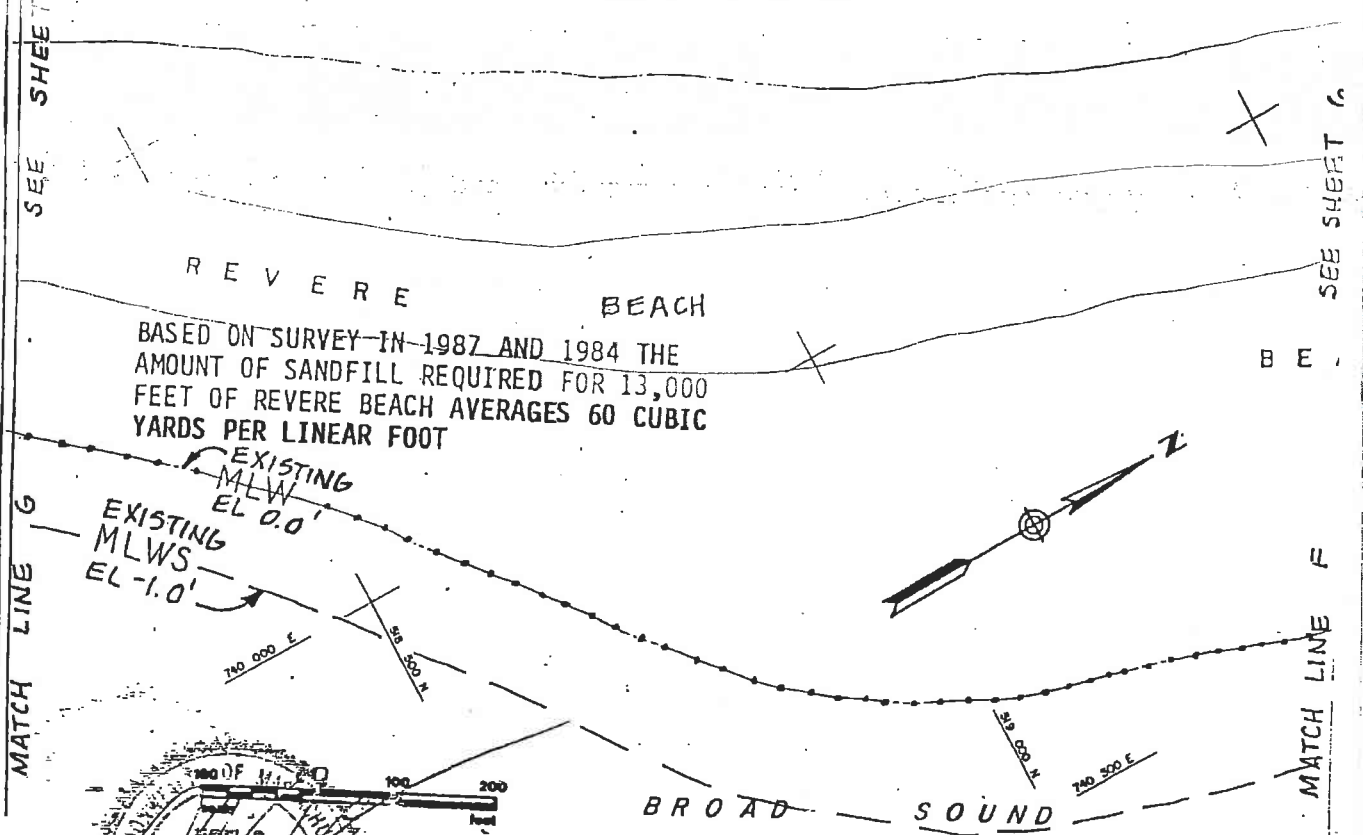
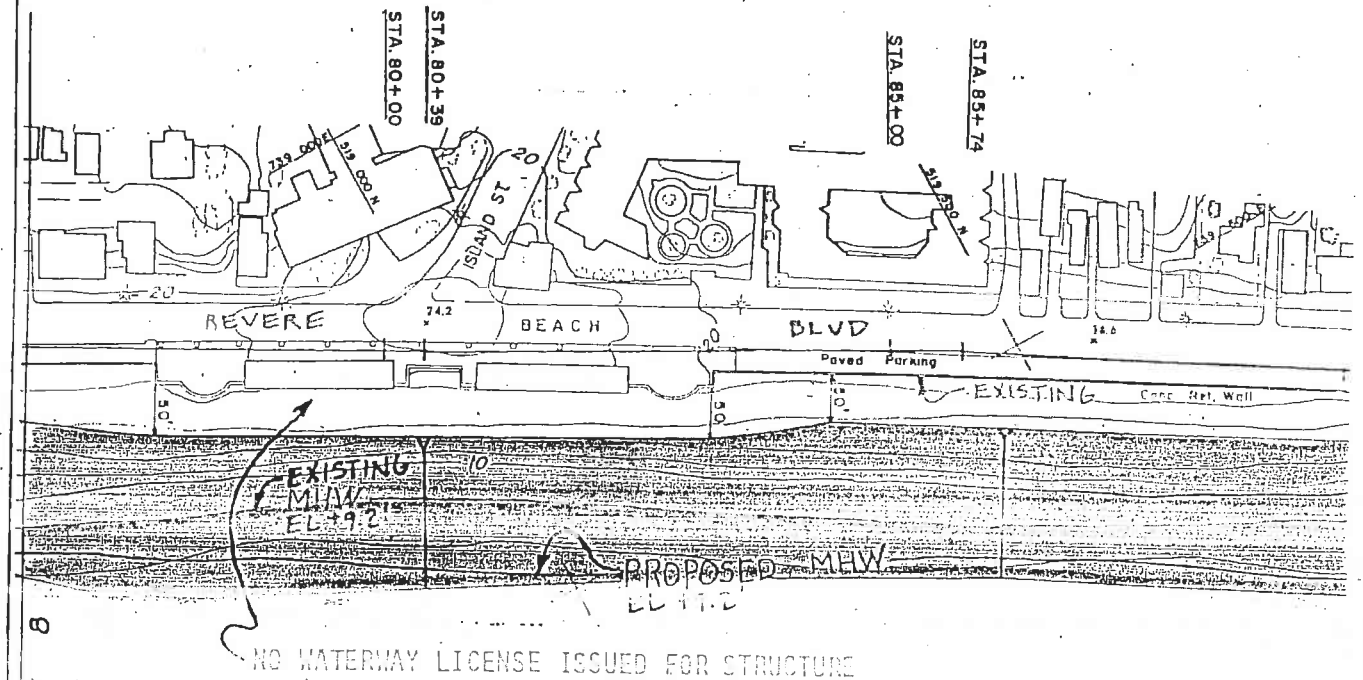
061-009-166A-001-100

MEAN LOW WATER
EL = 0.0'



061-009-166A-001-100

MEAN LOW WATER
EL = 0.0'

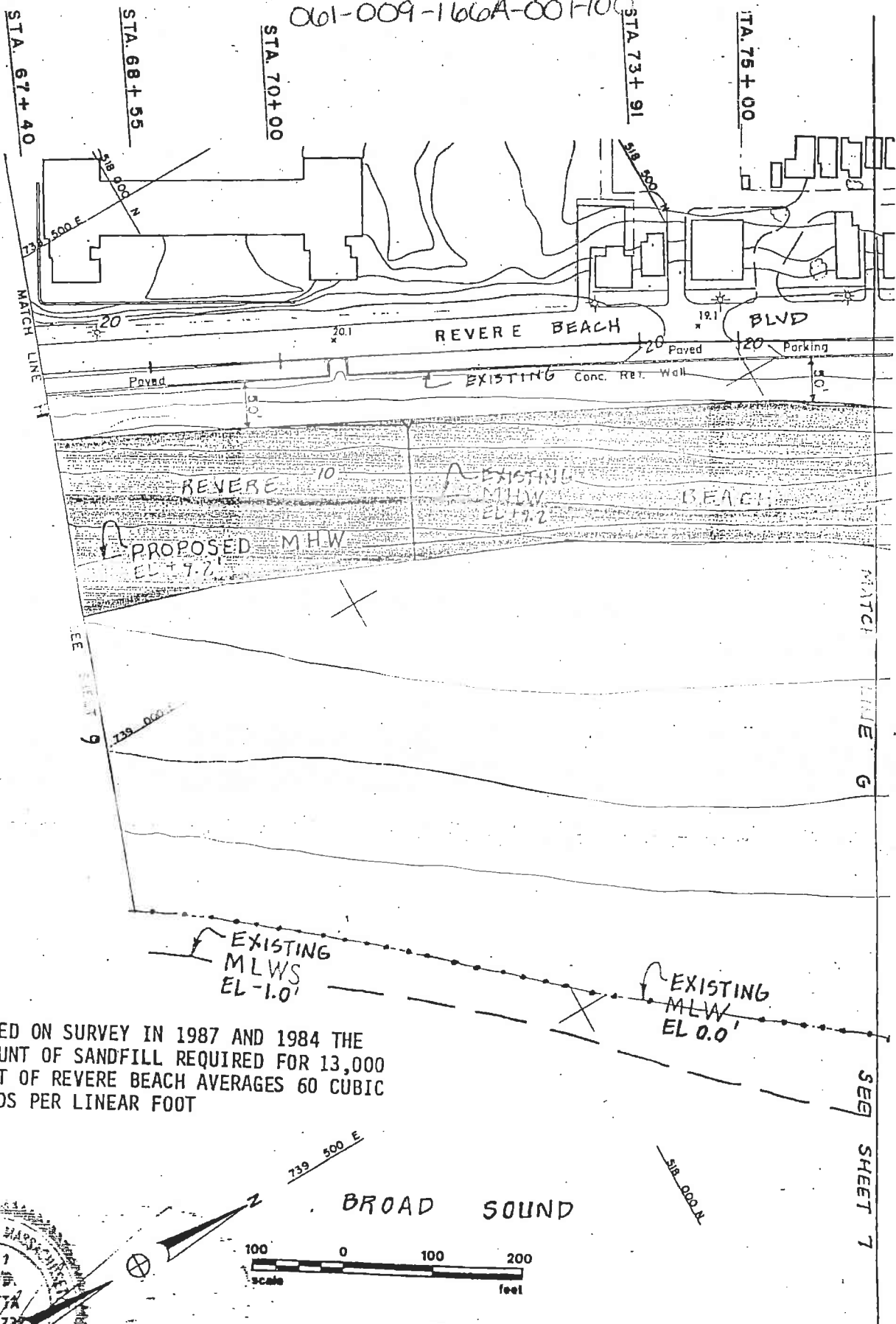


LICENSE PLAN NO. 2103

Approved by: [Signature] **PROTECTION**
Date: NOV 14 1989

SHEET 7 OF 15

001-009-166A-001-100



BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT

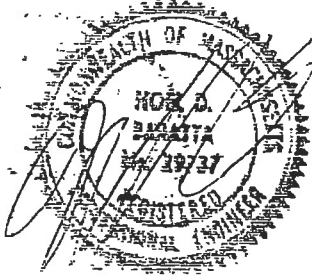
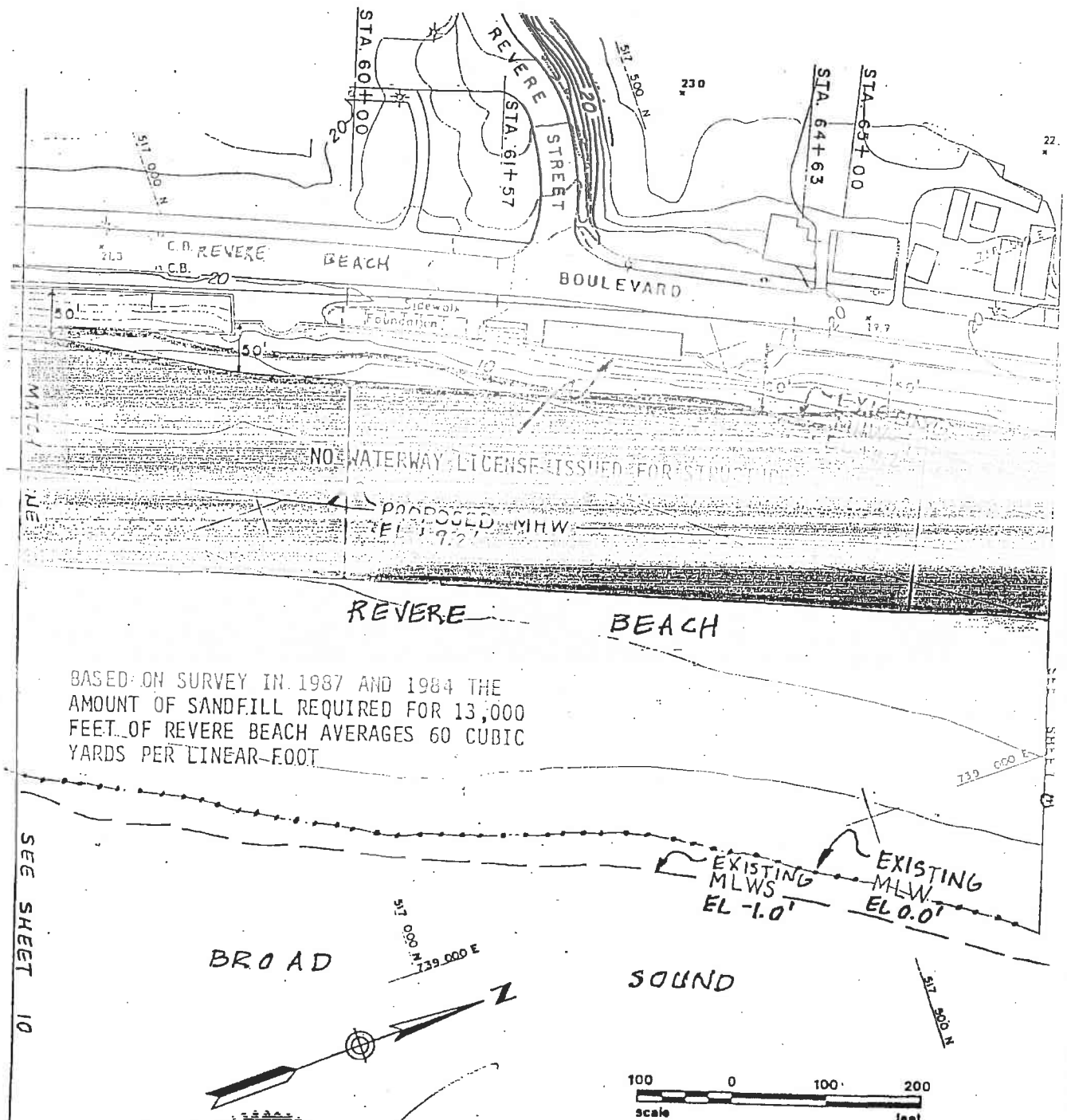


DATUM
MEAN LOW WATER
EL = 0.0'

LICENSE PLAN NO. 2103
Approved by Department of Environmental PROTECTION
Date: NOV 14 1989

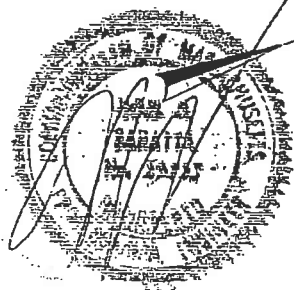
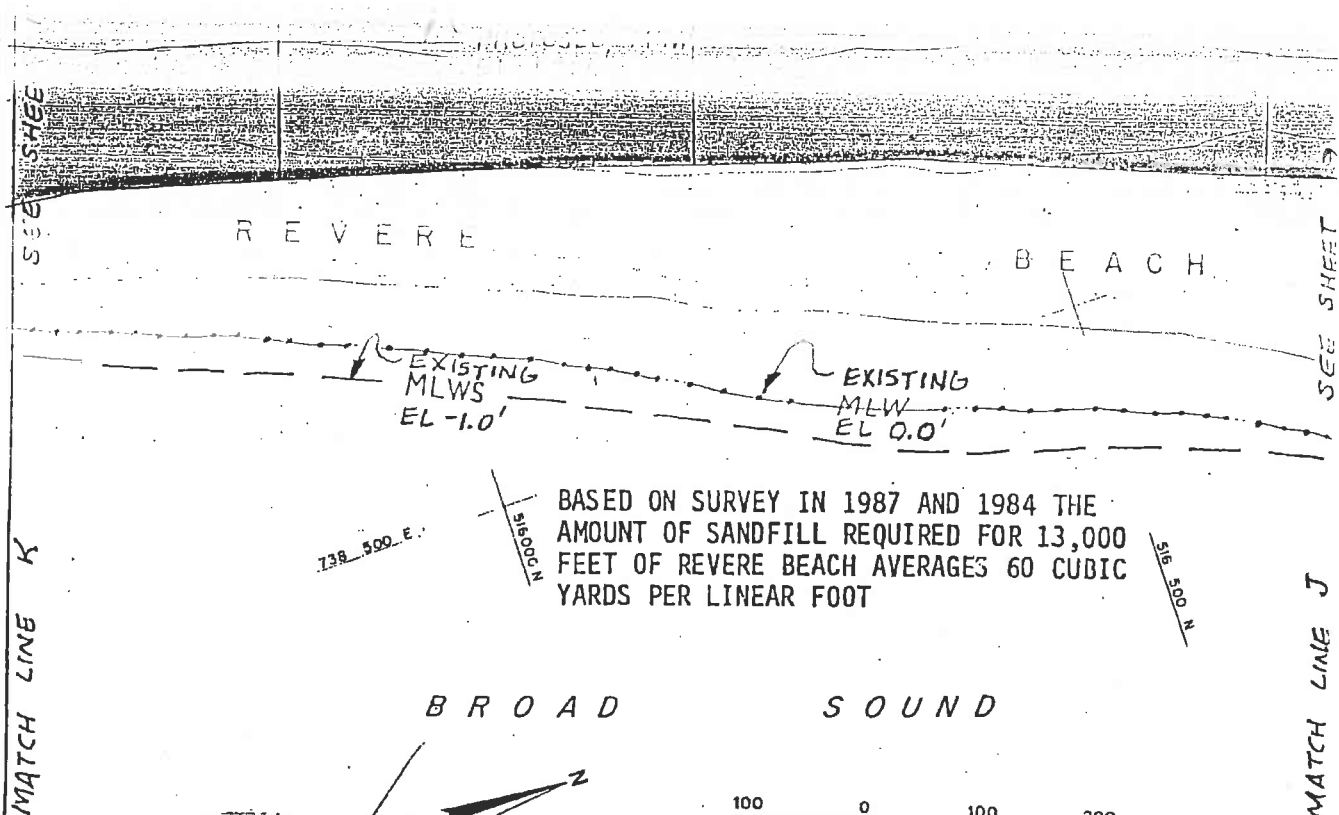
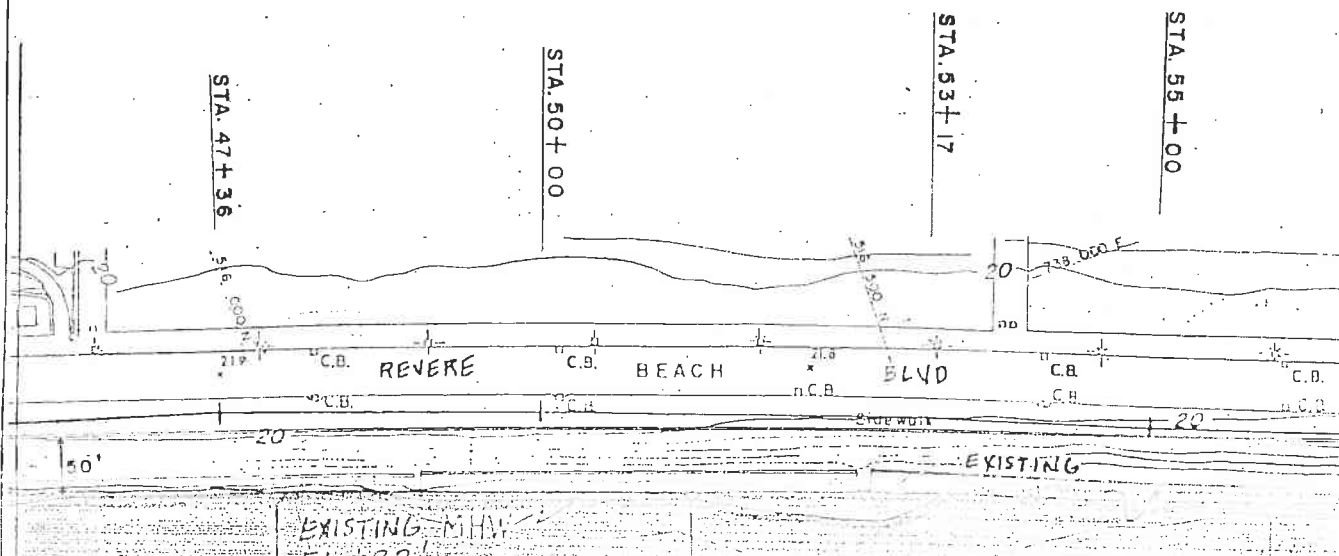
061-009-166A-001-100

MEAN LOW WATER
EL = 0.0'



LICENSE PLAN NO. 2103
Approved by Department of Environmental Protection
Date: NOV 14 1989

MEAN LOW WATER
EL = 0.0'



LOANEE PLAN NO. 2103

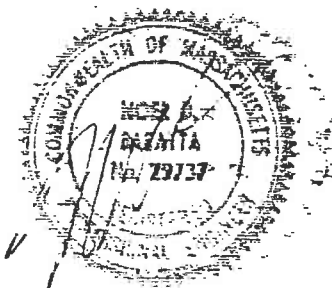
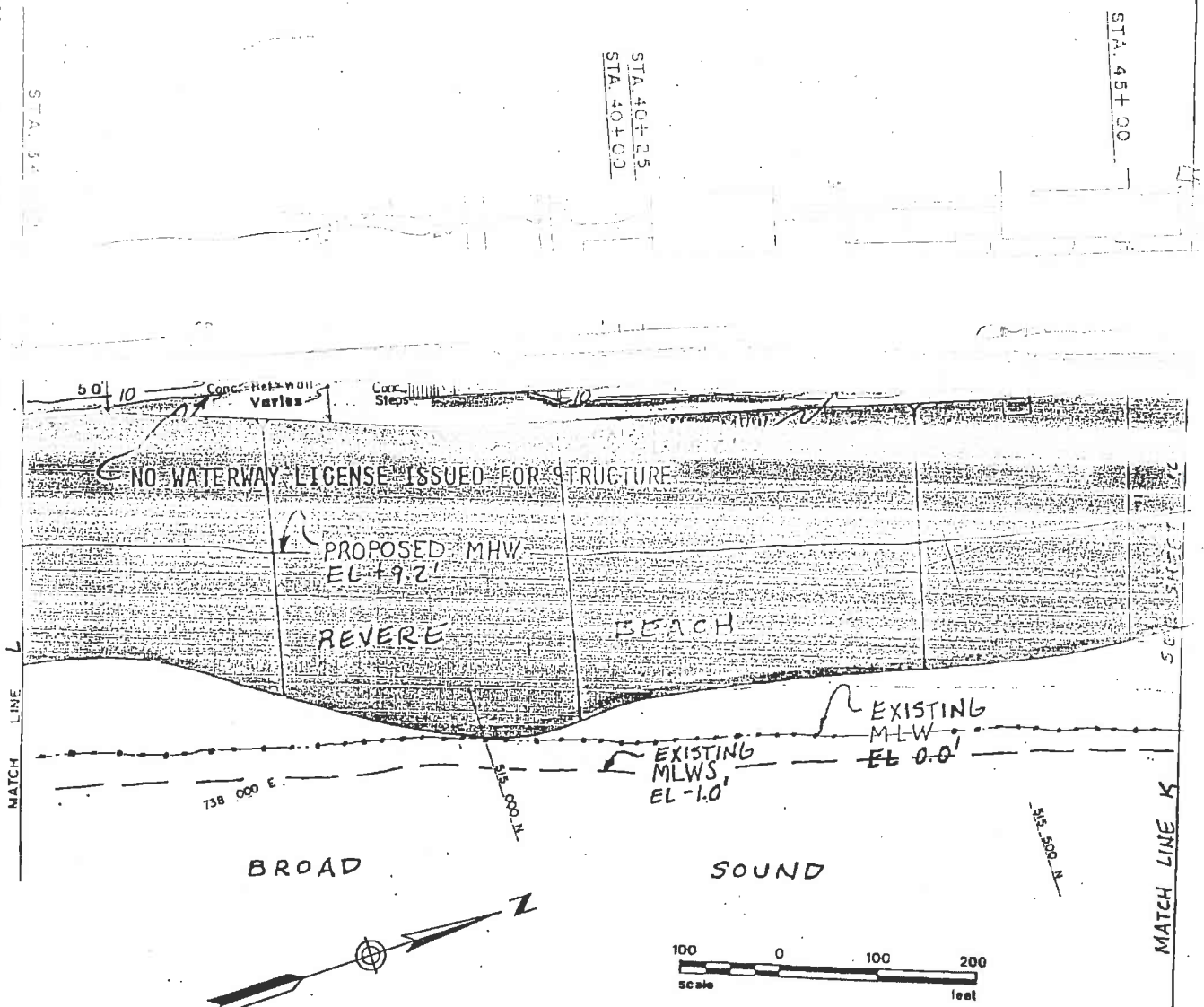
Approved by Department of Environmental Protection

NOV 14 1989

SHEET 10 OF 15

061-009-166A-001-100

MEAN LOW WATER
EL = 0.0'



BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT

LICENSE PLAN NO. 2103

Issued by Department of Environmental Protection

NOV 14 1989

SHEET 11 OF 15

061-009-166A-001-100

MEAN LOW WATER
EL = 0.0'

MATCH

STA. 28+00

STA. 29+00

STA. 30+00

REVERSE

Conc. Ret. Wall

EL. 7.2

REVERSE

PROPOSED MLW
EL. 7.2

EXISTING
MLW
EL. 0.0'

EXISTING
MLWS
EL. -1.0'

Scale
0 100 200
feet

BROAD SOUND

BASED ON SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERSE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT



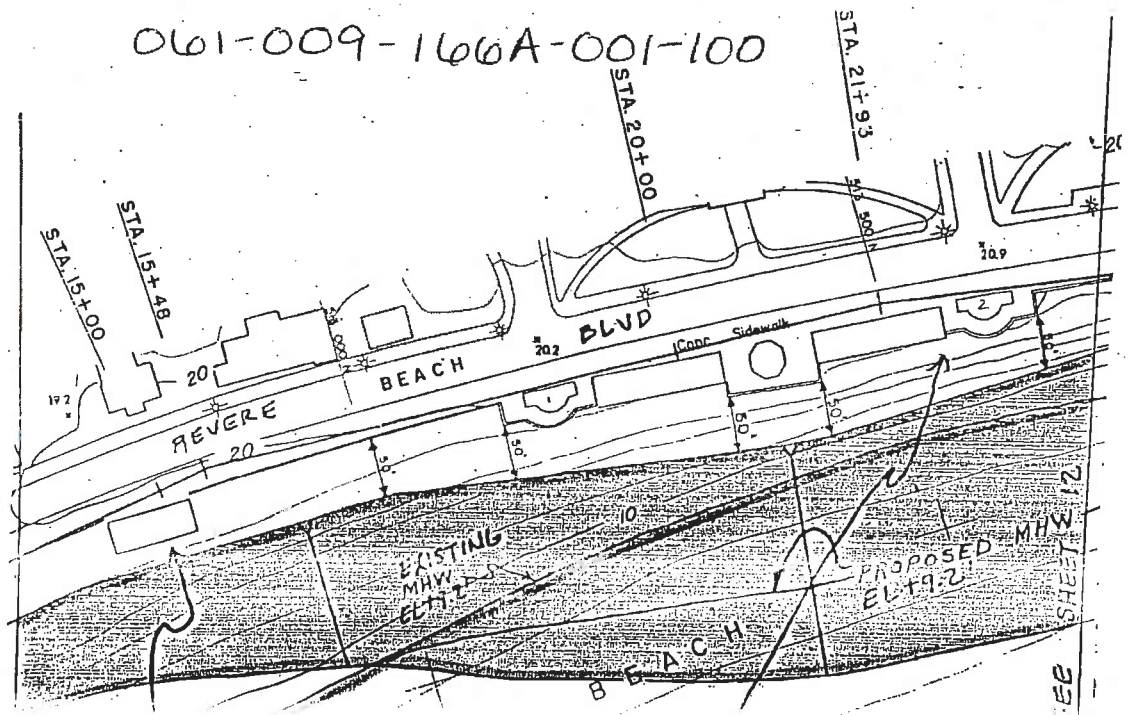
LICENSE PLAN NO. 2103

Approved by Department of Environmental Protection

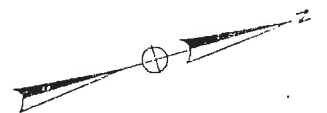
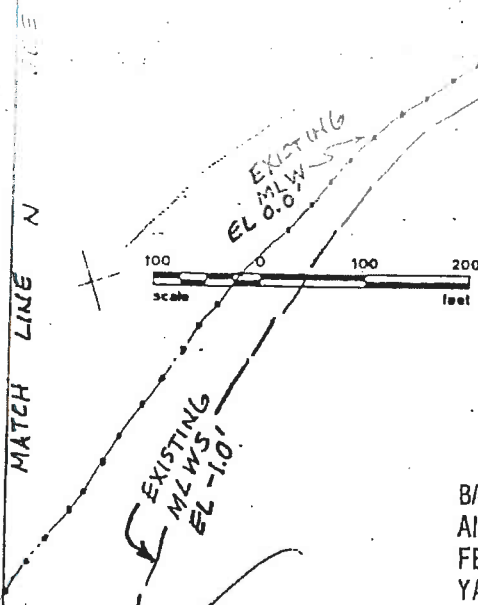
Date: NOV 14 1989

SHEET 12 OF 15

061-009-166A-001-100

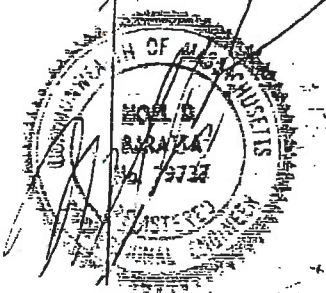


WATERWAY LICENSE ISSUED FOR DREDGING



B R O A D
S O U N D

BASED N SURVEY IN 1987 AND 1984 THE
AMOUNT OF SANDFILL REQUIRED FOR 13,000
FEET OF REVERE BEACH AVERAGES 60 CUBIC
YARDS PER LINEAR FOOT



DATUM

MEAN LOW WATER
EL = 0.0'

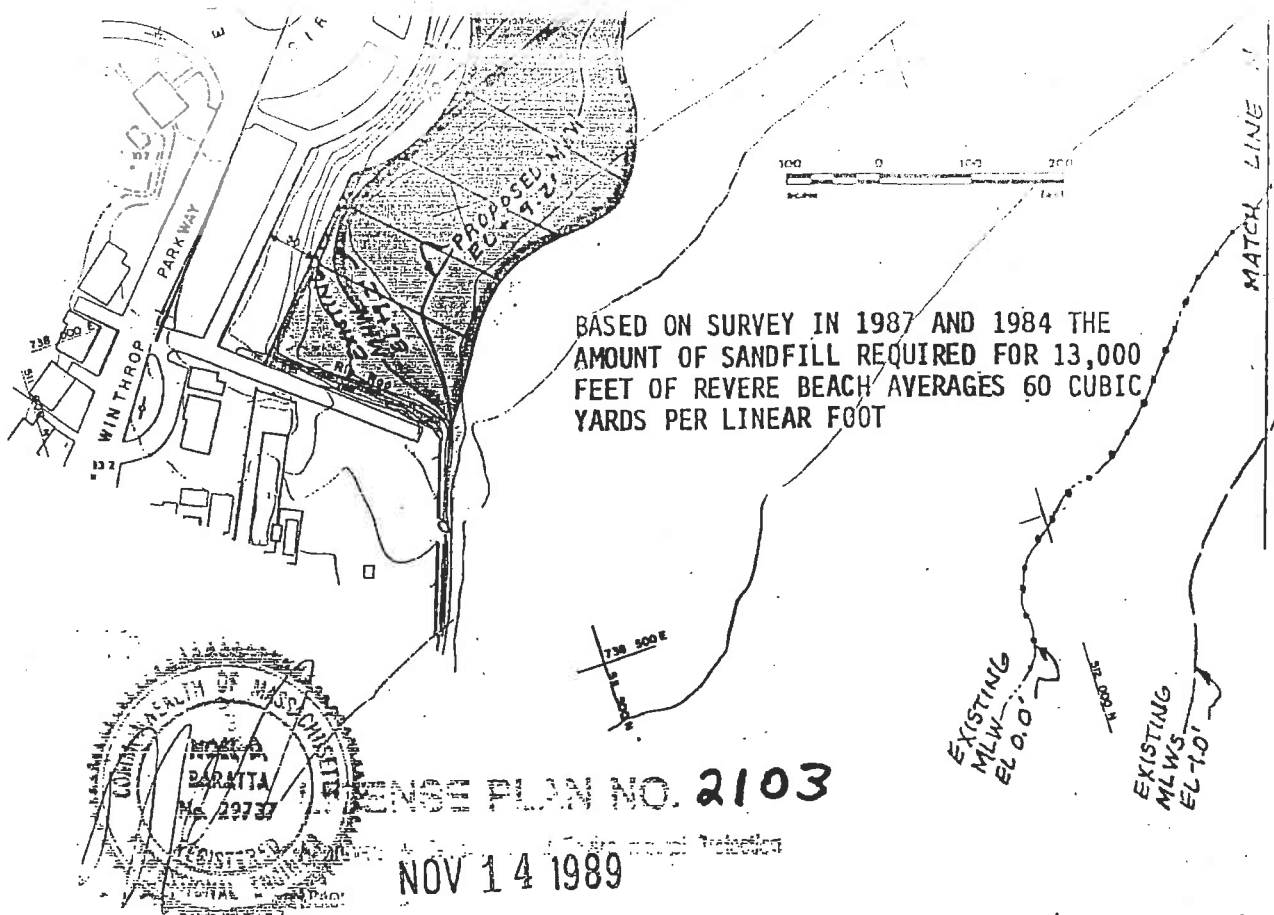
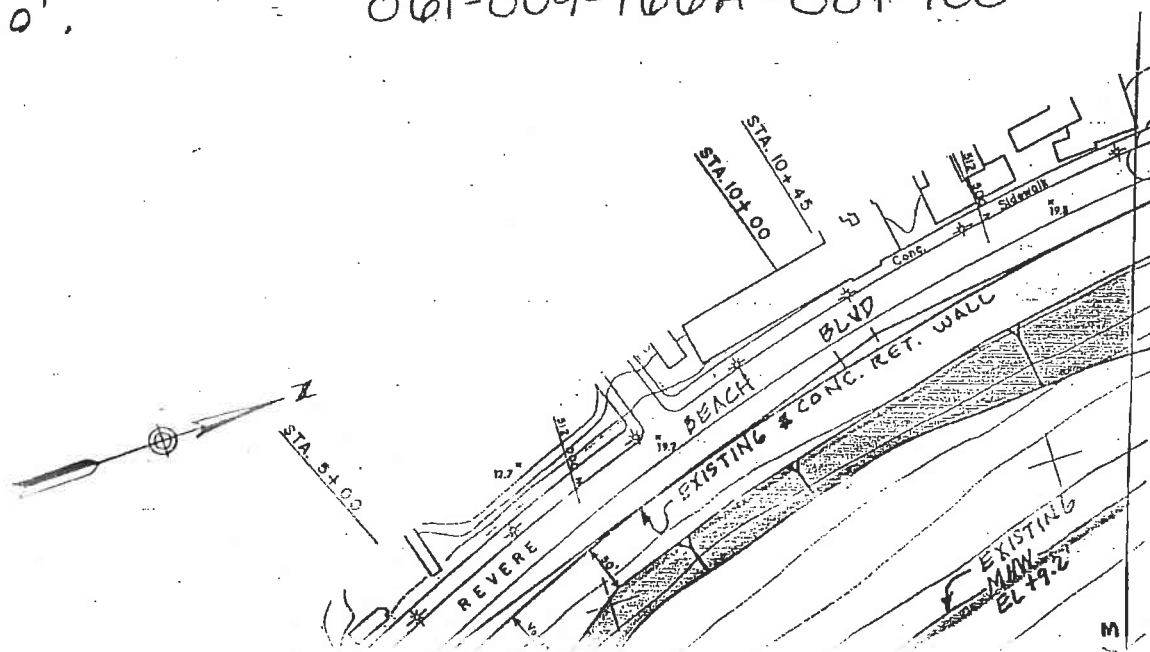
LICENSE PLAN NO. 2103

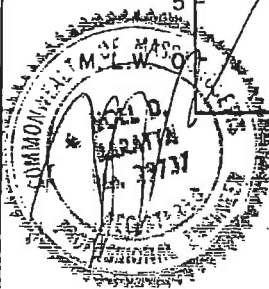
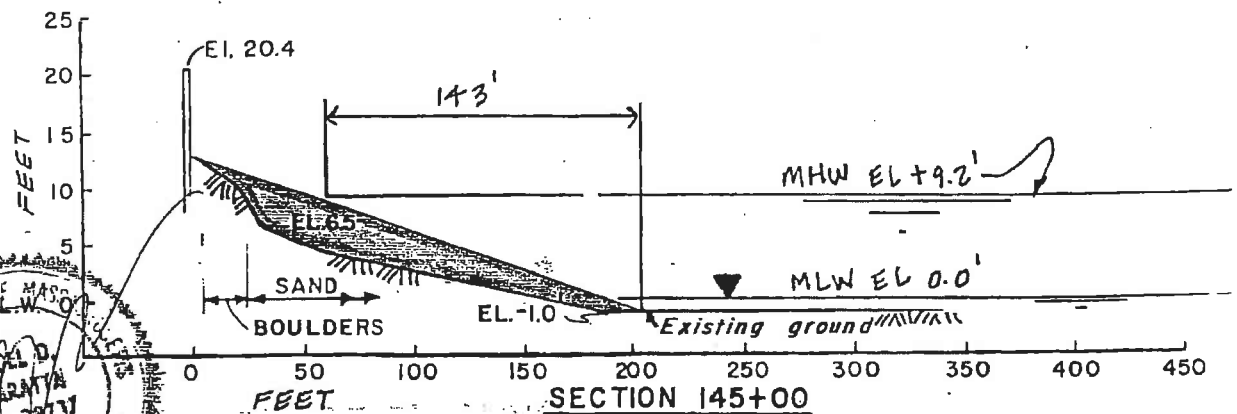
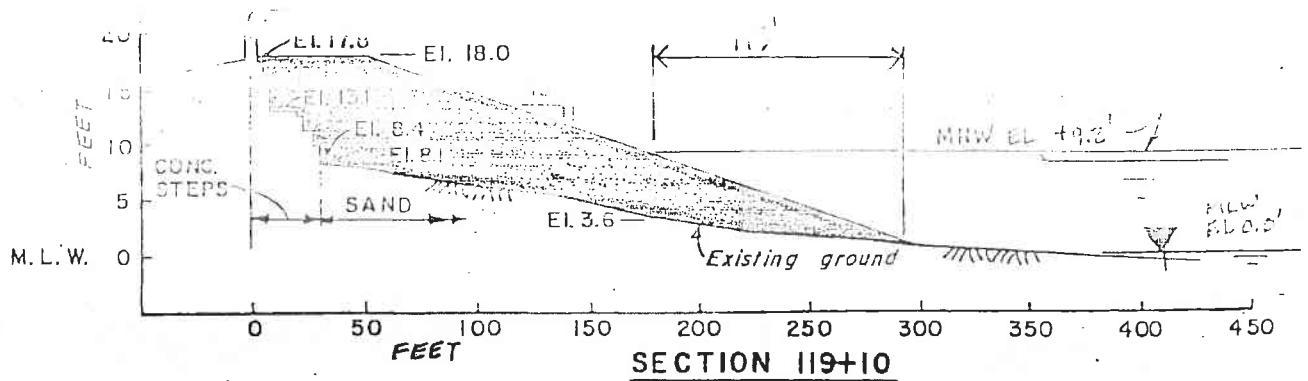
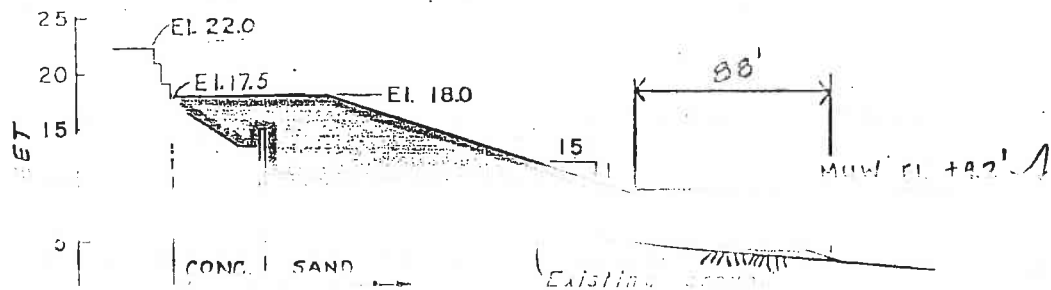
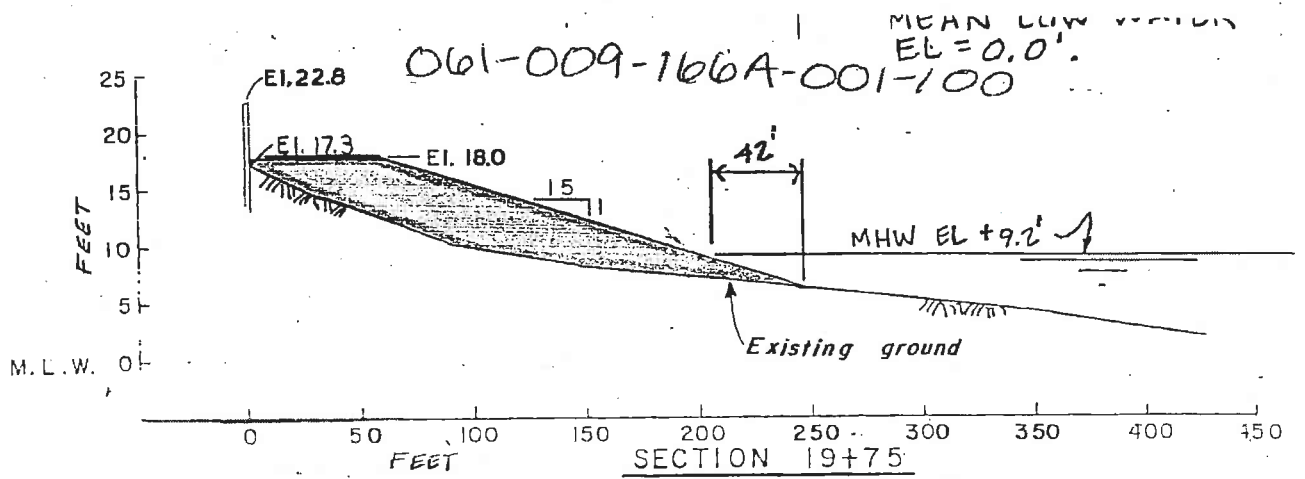
Approved by Department of Environmental Protection

Date: **NOV 14 1989**

SHEET 13 OF 15

061-009-166A-001-100





NOV 14 1989

SHEET 15 OF 15

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
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