

***South Shore Coastal Infrastructure Inventory
and Assessment Demonstration Project
Coastal Hazards Commission***

Town of Marshfield

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Boston, MA

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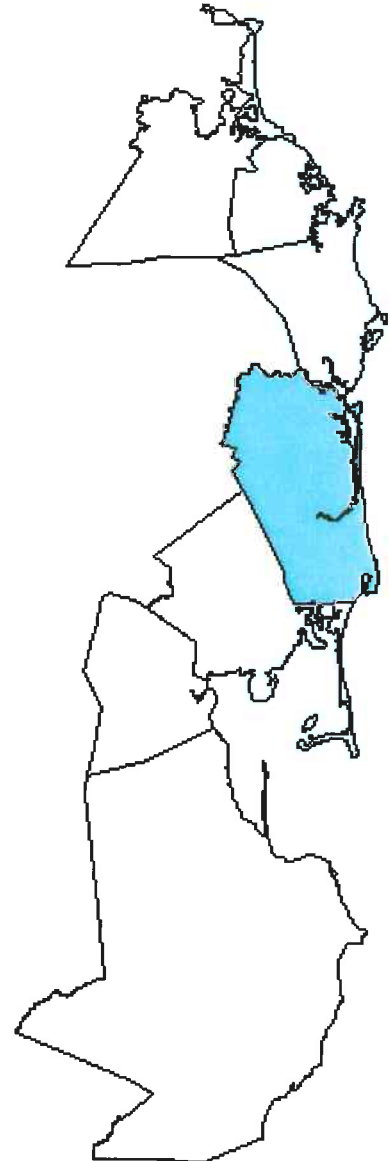


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Section I

Town of Marshfield

Coastal Hazards Infrastructure and Assessment Program

***South Shore Coastal Infrastructure
Inventory and Assessment Demonstration 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 region included in the demonstration project was identified as the South Shore and included the eight communities of Hingham, Hull, Cohasset, Scituate, Marshfield, Duxbury, Kingston and Plymouth.

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, research and field assessments. Assisting **BCE** was Applied Coastal Research and Engineering, Inc. of Mashpee, MA who was responsible for field assessments and GIS data conversion. Alpha Land Surveying and Engineering of Middleboro, MA also supported the Team with field GPS survey.

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 is the performance of a demonstration project for coastal structures located on the South Shore. The demonstration project will identify existing structures, their general conditions, ability to provide coastal protection and the probable cost for repairs. The information collected and developed will be incorporated into the MassGIS system to allow use for developing a 20 Year Coastal Infrastructure Plan.

As this is a demonstration project, it will serve as the basis for development of a statewide inventory and assessment of all Commonwealth coastal structures and the needs for their maintenance and/or repair. Incorporated into this project will be the identification of issues and limitations of the investigation and



assessment to achieve the overall goals and what should be included in future investigations/assessments of coastal structures for the other regions.

Goals of Study

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

- To be used as the model to go forward for assessment of coastal structures for the remainder of the coastal regions
- To identify areas of research and/or assessment that need to be modified for future phases that were not included within the demonstration project
- Complete the study with the final report by November 15, 2006 for submission to the Coastal Hazards Commission
- To identify all the coastal structures the state either owns or has responsibility to maintain for the eight communities 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.
 - Federal structures were identified but no assessment of conditions or priority was performed.
 - 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. No investigation of state archives was performed. Research at MA DEP Chp 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-PPP-BBB-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 state.

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 determined 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.

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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 were 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 is 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 is 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.

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- **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.

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

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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	E
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	\$1,686
		Over 15 Feet	\$0	\$247	\$1,234	\$2,468	\$2,666
GROIN	STONE	Under 5 Feet	\$0	\$157	\$664	\$1,328	\$1,480
		5 To 10 Feet	\$0	\$157	\$1,201	\$2,402	\$2,600
		10 To 15 Feet	\$0	\$157	\$1,564	\$3,128	\$3,392
		Over 15 Feet	\$0	\$157	\$2,468	\$4,937	\$5,333

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

Section II

Town of Marshfield

Community Findings

Section II – Community Findings – Town of Marshfield

COMMUNITY DESCRIPTION

The Town of Marshfield consists of a land area of 28.5 square miles out of a total area of 31.7 square miles and had a population of 24,324 in the 2000 census. The Town is located on the South 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 12.0 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 Marshfield, there were 32 publicly owned structures identified which provide significant coastal protection. The location of the structures can be seen in Sheets 1 through Sheet 3 in Section III 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 Marshfield

Primary Structure (1)	Total		Structure Condition Rating				Total Length (feet)
	Structures	A	B	C	D	F	
Bulkhead / Seawall	18		3	11	4		14820
Revetment	8		1	6	1		3390
Groin / Jetty	6		1	4	1		2640
Coastal Dune							
Coastal Beach							
	32		5	21	6		20850

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 Marshfield's case there are a total of 32 structures which would require approximately \$22.4 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 \$12.0 million would be required to upgrade the Town's coastal protection.

STRUCTURE REPAIR / RECONSTRUCTION COST - Town of Marshfield

Primary Structure (1)	Total Structures	Structure Condition Rating				F	Total Cost
		A	B	C	D		
Bulkhead / Seawall	18		\$668,976	\$5,332,552	\$ 10,309,385		\$ 16,310,913
Revetment	8		\$ 21,622	\$2,535,377	\$ 203,346		\$ 2,760,345
Groin / Jetty	6		\$ 73,828	\$1,808,136	\$ 1,489,488		\$ 3,371,452
Coastal Dune							\$ -
Coastal Beach							\$ -
	32	\$-	\$764,426	\$9,676,065	\$ 12,002,219	\$ -	\$22,442,710

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 Marshfield the breakdown of structures by assumed ownership is as follows:

STRUCTURE OWNERSHIP / REPAIR COST - Town of Marshfield

Primary Structure (1)	Total Structures	Structure Condition Rating				F	Total Cost
		A	B	C	D		
Town Owned	32		\$764,426	\$9,676,065	\$ 12,002,219		\$22,442,710
Commonwealth of Massachusetts							\$ -
Federal Government Owned							\$ -
Unknown Ownership							\$ -
	32	\$-	\$764,426	\$9,676,065	\$ 12,002,219	\$ -	\$22,442,710

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 which contains Structure Assessment Reports for each individual structure found.

SUMMARY

The enclosed reports and associated documents reflects the Town of Marshfield'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

Town of Marshfield

Structure Assessment Reports



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARSHFIELD

SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT DEMONSTRATION PROJECT

AUGUST 2006

0 200
SCALE: 1" = 200'

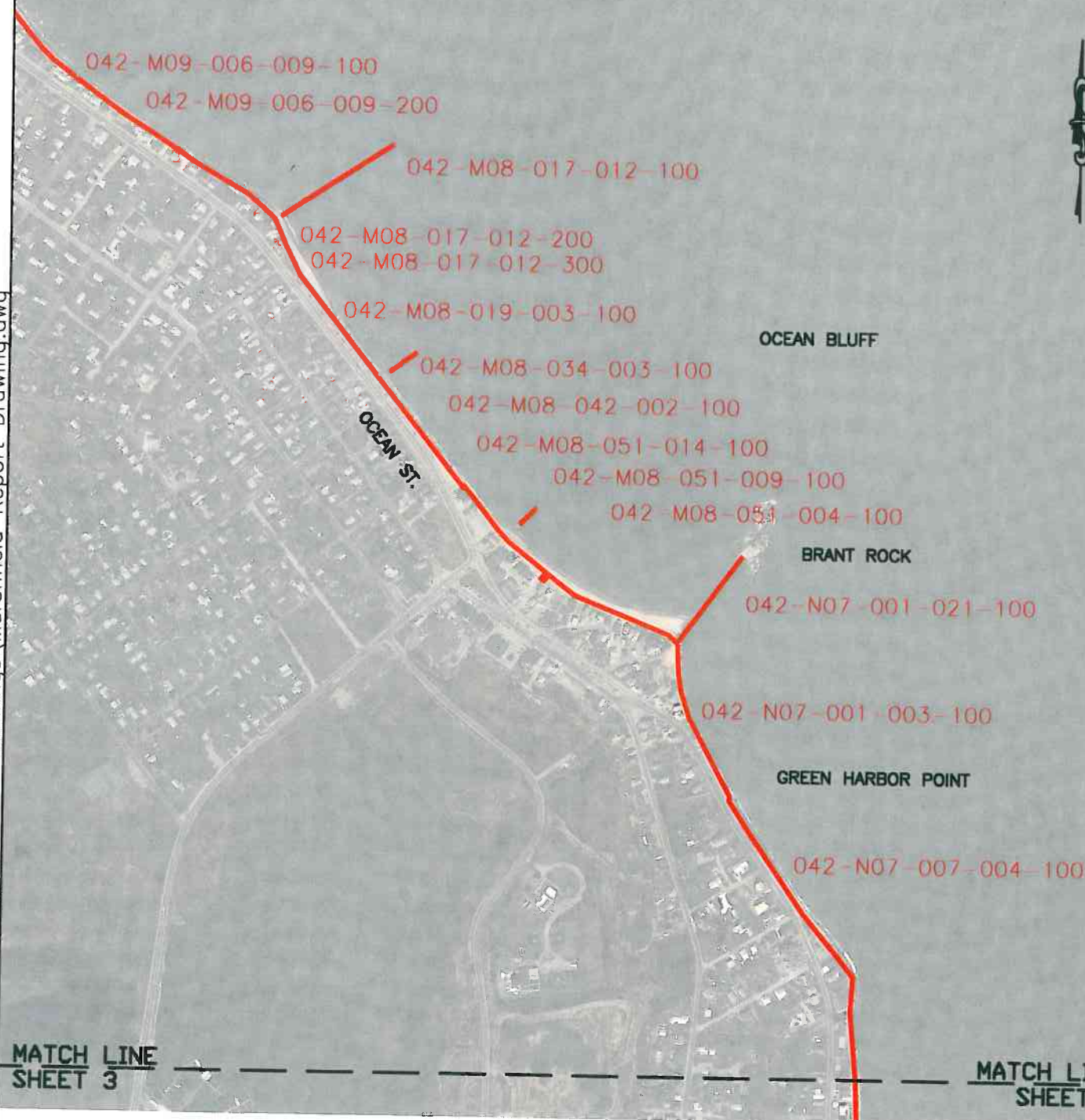
BCE Bourne Consulting Engineering
104 West Colonial Street
Framingham, MA 01901
TEL (508) 888-8200 FAX (508) 888-8071

SHEET 1 OF 3

File: X:\26600-26637\Final Town Report Ortho Drawings\Marshfield Report Drawing.dwg

MATCH LINE
SHEET 1

MATCH LINE
SHEET 1



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARSHFIELD

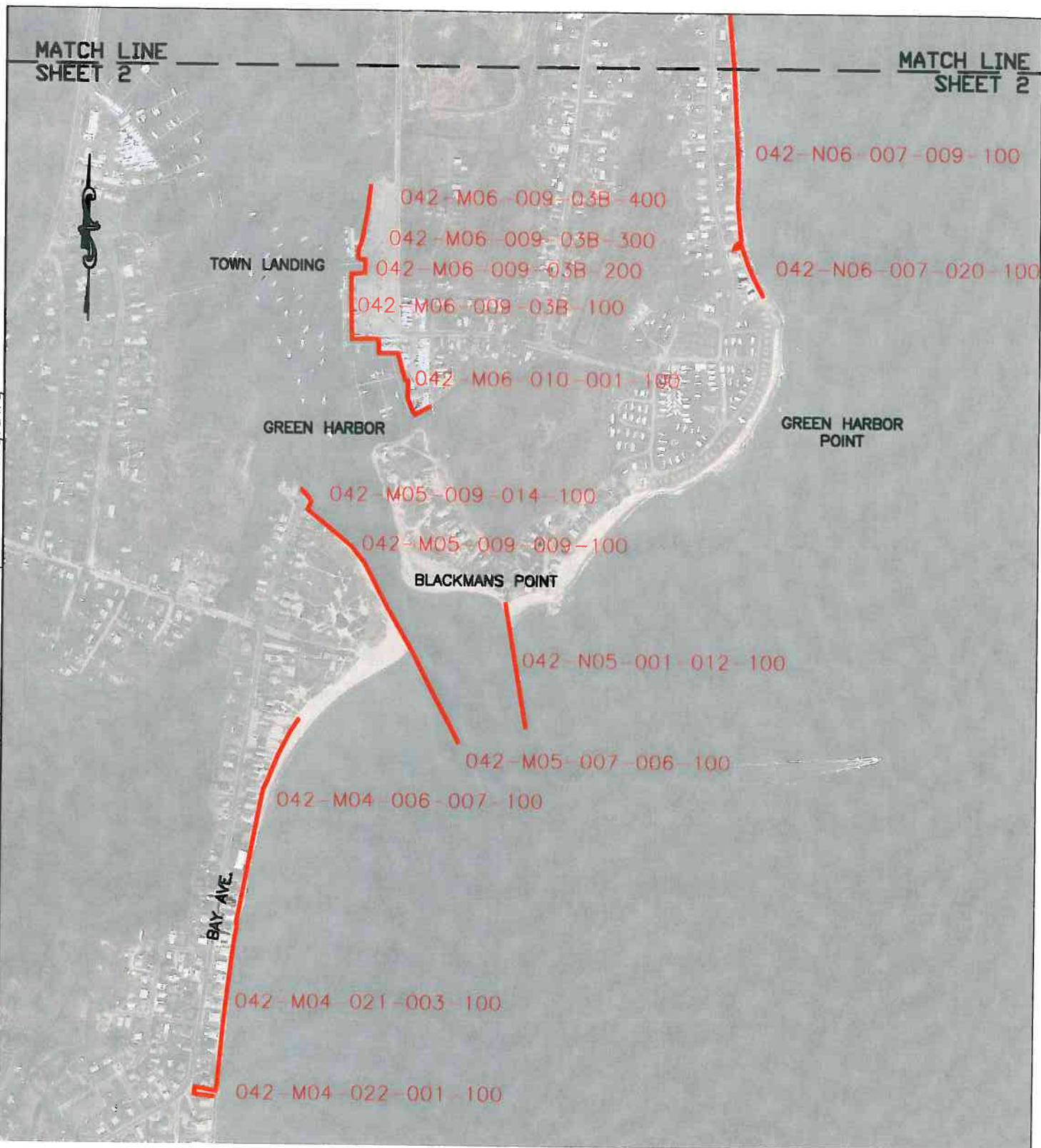
SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT DEMONSTRATION PROJECT

AUGUST 2006

0 200
SCALE: 1" = 200'

BCE Bourne Consulting Engineering
100 West Central Street
Providence, RI 02903
TEL (401) 886-0450 FAX (401) 886-0571

SHEET 2 OF 3



COASTAL STRUCTURE LOCATION PLAN

TOWN OF MARSHFIELD

SOUTH SHORE COASTAL INFRASTRUCTURE INVENTORY
AND ASSESSMENT DEMONSTRATION PROJECT

AUGUST 2006

0 200
SCALE: 1" = 200'

BCE Bourne Consulting Engineering
101 West Central Street
Providence, RI 02903
TEL: (401) 885-0200 FAX: (401) 885-0271

SHEET 3 OF 3

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-L09-024-005-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Foster Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

USACE - Permits

Owner Name:

Marshfield

Earliest Structure Record:

1996

Estimated Reconstruction/Repair Cost:

\$120,384.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
380	13	VE	22
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:

Under 5 Feet



Structure Summary :

This is a concrete seawall with random placed stone along the toe. Small amounts of physical erosion of the wall is evident along the toe of the wall, presumably due to abrasion from the armor stones. The crest and face of the wall appear almost as new.

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:

042-L09-024-005-100-PHO1A.jpg

042-L09-024-005-100-PHO1B.jpg

Structure Documents:

MARSHFIELD D

MAY 1999

SEAWALL

042-L09-024-005-100-TWN1A

MARSHFIELD D

MAY 2000

ASBUILT SEAWALL

042-L09-024-005-100-TWN1B

Town of Marshfield

DEC 1996

100-138 Foster Ave,

042-L09-024-005-100-COE1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-L10-023-005-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Foster Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1930

Estimated Reconstruction/Repair Cost:

\$6,451,500.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
4250	13	VE	22
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 :

This is a concrete seawall with slab, concrete abutments perpendicular to the wall at approximately 50 foot spacing. There is severe cracking and spalling throughout the crest and face of the wall. Large areas of surface repair are evident along the crest and face. White discoloration and staining is evident along the face of the wall for much of its length.

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

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:

042-L10-023-005-100-PHO1A.jpg

042-L10-023-005-100-PHO1B.jpg

042-L10-023-005-100-PHO1C.jpg

042-L10-023-005-100-PHO1D.jpg

Structure Documents:

MA DPW

AUGUST 19

PROPOSED

042-L10-023-005-100-DCR1A

MA DPW

SEPT 1930

PROPOSED PILE

042-L10-023-005-100-DCR1B

MA DPW

SEPT. 1939

PROPOSED

042-L10-023-005-100-DCR1C

MA DPW

SEPT 1930

PROPOSED PILE

042-L10-023-005-100-TWN1A

MARSHFIELD D

AUGUST 20

SEAWALL &

042-L10-023-005-100-TWN1B

MARSHFIELD D

MAY 1998

SEAWALL

042-L10-023-005-100-TWN1C

MDPW

MAY 1932

PROPOSED

042-L10-023-005-100-TWN1D

MDPW

SEP 1931

EXTENTION OF

042-L10-023-005-100-TWN1E

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-L10-023-005-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Foster Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1931

Estimated Reconstruction/Repair Cost:

\$829,145.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
380	13	VE	22
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:

Under 5 Feet

Structure Summary :

This structure is continuation of the adjacent struture, but now has riprap along the toe. This concrete seawall also exhibits major cracking, spalling and deterioration. The crest has been repaired for most of the length however major issues remain with the face of the wall.

*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***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:

042-L10-023-005-200-PHO2A.jpg

Structure Documents:

MA DPW	AUGUST 19	PROPOSED	042-L10-023-005-200-DCR2A
MA DPW	SEPT 1931	PROPOSED PILE	042-L10-023-005-200-DCR1B
MA DPW	SEPT 1939	PROPOSED	042-L10-023-005-200-DCR2C
MA DPW	SEPT 1931	PROPOSED PILE	042-L10-023-005-200-TWN2A
MARSHFIELD D	AUGUST 20	SEAWALL &	042-L10-023-005-200-TWN2B
MARSHFIELD D	MAY 1999	SEAWALL	042-L10-023-005-200-TWN2C

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M04-021-003-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bay Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1947

Estimated Reconstruction/Repair Cost:

\$614,790.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
810	10	VE	20
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:



Structure Summary :

This structure is a concrete seawall with a toe wall and rip rap along the front. There is significant cracking and spalling along the base of the wall, above the toe 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:

042-M04-021-003-100-PHO1A.jpg

042-M04-021-003-100-PHO1B.jpg

Structure Documents:

MA DPW

JAN.. 1947

PROPOSED

042-M04-021-003-100-DCR1A

MA DPW

OCT 1965

GREEN HARBOR,

042-M04-021-003-100-DCR1B

DEP CH.91

NOV 16 199

PLAN

042-M04-021-003-100-LIC1A

MDPW

OCT 1965

PROPOSED SHORE

042-M04-021-003-100-TWN1A

MA DPW

JAN. 1947

PROPOSED

042-M4-021-003-100-TWN1B

USACE

JUL 2005

80 Bay Ave, Seawall

042-M04-021-003-100-COE1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M04-022-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bay Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1965

Estimated Reconstruction/Repair Cost:

\$78,170.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
235	10	VE	20
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Concrete

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a concrete access ramp to the beach. There is major cracking in places, some of which has been repaired with grout.

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:

042-M04-022-001-100-PHO1A.jpg

Structure Documents:

MA DPW

OCT 1965

GREEN HARBOR,

042-M04-022-001-100-DCR1A

DEP CH.91

NOV 16 199

PLAN

042-M04-022-001-100-LIC1A

MDPW

OCT 1965

PROPOSED SHORE

042-M04-022-001-100-TWN1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M05-006-007-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Bay Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1957

Estimated Reconstruction/Repair Cost:

\$789,360.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1040	10	VE	20
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:



Structure Summary :

This structure is a concrete seawall with a concrete toe wall with rip rap along the front. There is cracking and spalling evident especially along the wall crest.

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:

042-M05-006-007-100-PHO1A.jpg

Structure Documents:

MA DPW	NOV. 1957	PROPOSED SHORE	042-M05-006-007-100-DCR1A
MA DPW	OCT 1965	GREEN HARBOR,	042-M05-006-007-100-DCR1B
MARSHFIELD D	NOV 1978	PROPOSED	042-M05-006-007-100-TWN1A
MDPW	NOV 1957	PROPOSED SHORE	042-M05-006-007-100-TWN1B
MDPW	OCT 1965	PROPOSED SHORE	042-M05-006-007-100-TWN1c

Structure Assessment FormTown: **Marshfield**Structure ID: **042-M05-007-006-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Breakwater

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1949

Estimated Reconstruction/Repair Cost:

\$864,864.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
720	7	VE	20
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:

**Structure Summary :**

This structure is a stone jetty along the south of the entrance to Green Harbor. There are some sections of armor stone which have come unraveled. There is a large failed section along the trunk which prevents safe access to the jetty head.

*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:**042-M05-007-006-100-PHO1A.jpg****042-M05-007-006-100-PHO1B.jpg****Structure Documents:****MA DPW****OCT. 1947****PROPOSED****042-M05-007-006-100-DCR1A****MA DPW****APRIL 1949****PROPOSED****042-M05-007-006-100-DCR1B**

Structure Assessment Form

Town: **Marshfield**

Structure ID: 042-M05-009-009-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Breakwater

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1974

Estimated Reconstruction/Repair Cost:

\$273,672.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
635	9	VE	17
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Wood

Primary Height:

Under 5 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:



Structure Summary :

This structure is a timber bulkhead with a stone revetment along the base. Some boards along the crest of the wall are split and cracked. Sections of some boards are missing completely. Some of the bolts in the wall are also missing. The revetment exhibits some minor slumping but is generally in good 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:

042-M05-009-009-100-PHO1A.jpg

Structure Documents:

MA DEQE

AUG. 1974

PROPOSED SHORE

042-M05-009-009-100-DCR1A

MA DPW

AUG. 1974

PROPOSED SHORE

042-M5-009-009-100-TWN1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M05-009-014-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Breakwater

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

Property Ownership

Owner Name:

Marshfield

Earliest Structure Record:

0

Estimated Reconstruction/Repair Cost:

\$39,917.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
120		VE	17
Feet	Feet NAVD 88		Feet NGVD

Primary Type:	Primary Material:	Primary Height:
Revetment	Stone	Under 5 Feet
Secondary Type:	Secondary Material:	Secondary Height:



Structure Summary :

This structure is a small stone revetment. The armor stone has shifted and become unraveled.

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:

042-M05-009-014-100-PHO1A.jpg

Structure Documents:

Structure Assessment FormTown: **Marshfield**Structure ID: **042-M06-009-03B-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Town Landing

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

Property Ownership

Owner Name:

Marshfield

Earliest Structure Record:

0

Estimated Reconstruction/Repair Cost:

\$182,160.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
120	4	AE	10
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:

**Structure Summary :**

This structure is a concrete seawall with stone revetment serving as a foundation. This wall lies behind the main wooden pier. The wall shows significant cracking and spalling especially along the toe where the concrete and stone meet.

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:

042-M06-009-03B-100-PHO1A.jpg

Structure Documents:

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M06-009-03B-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Town Landing

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

Property Ownership

Owner Name:

Marshfield

Earliest Structure Record:

Estimated Reconstruction/Repair Cost:

\$21,622.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
180		AE	10
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Revetment

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is the concrete town boat ramp. The ramp and sidewalls show minor weathering and are generally in good 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:

042-M06-009-03B-200-PHO2A.jpg

Structure Documents:

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M06-009-03B-300**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Town Landing

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1959

Estimated Reconstruction/Repair Cost:

\$21,120.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
250	10	AE	10
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 :

This structure is a small concrete seawall topped with timber wale. This wall lies behind the main pier. There is minor spalling evident.

*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:

042-M06-009-03B-300-PHO3A.jpg

Structure Documents:

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M06-009-03B-400**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Town Landing

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1955

Estimated Reconstruction/Repair Cost:

\$141,372.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
425	10	AE	10
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 :

This structure is a small stone revetment alongside a marsh. This fronts the north end of the parking lot for the town boat ramp. The stone in the revetment is severely weathered and the structure has come unraveled for most of its length.

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:

042-M06-009-03B-400-PHO4A.jpg

Structure Documents:

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M06-010-001-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Town Landing

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1959

Estimated Reconstruction/Repair Cost:

\$425,040.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
560	10	AE	10
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 :

This structure is a seawall constructed of stacked concrete blocks. The blocks along the water line show spalling and erosion. Some blocks appear to have shifted and become displaced.

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:

042-M06-010-001-100-PHO1A.jpg

042-M06-010-001-100-PHO1B.jpg

Structure Documents:

MA DPW

FEB 1959

PROPOSED

042-M06-010-001-100-DCR1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-017-012-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1940

Estimated Reconstruction/Repair Cost:

\$696,696.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
580	19	VE	22
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This is a stone groin. The sideslopes and crest are unraveled for a majority of the length of the structure. The head of the groin is completely unraveled.

*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:

042-M08-017-012-100-PHO1A.jpg

Structure Documents:

MA DPW**NOV. 1940****PROPOSED SHORE****042-M08-017-012-100-DCR1A**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-017-012-200**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

Property Ownership

Owner Name:

Marshfield

Earliest Structure Record:

0

Estimated Reconstruction/Repair Cost:

\$87,087.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
145	19	VE	22
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 :

This structure is a stone revetment fronted by a groin and cobble beach. The sideslopes are mostly intact while the armor stone exhibits strong weathering.

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:

042-M08-017-012-200-PHO2A.jpg

Structure Documents:

Structure Assessment FormStructure ID: **042-M08-017-012-300**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1940

Estimated Reconstruction/Repair Cost:

\$55,255.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
130	19	VE	22
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 fronted by cobble beach. There is cracking and spalling and some stone missing from the crest. Toe is buried. There is some stones above the crest. The crest is covered with vegetation.

*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:

042-M08-017-012-300-PHO3A.jpg

Structure Documents:

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-019-003-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1946

Estimated Reconstruction/Repair Cost:

\$417,450.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
550	14	VE	20
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 :

This structure is a concrete seawall fronted by a cobbly beach. The north end of the wall is covered to the crest by the beach while the south end has no fronting beach and the toe of the wall is exposed. There is cracking and spalling along the wall and the base of the wall is eroded. The south end of the wall would benefit from a cobbly nourishment.

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:

042-M08-019-003-100-PHO1A.jpg

042-M08-019-003-100-PHO1B.jpg

Structure Documents:

MA DPW

MAY 1940

PROPOSED

042-M08-019-003-100-DCR1A

MA DPW

SEPT 1941

PROPOSED RAMP,

042-M08-019-003-100-DCR1B

MA DPW

OCT. 1943

REPAIRS TO

042-M08-019-003-100-DCR1C

MA DPW

OCT. 1946

PROPOSED SHORE

042-M08-019-003-100-DCR1D

MDPW

SEP 1941

PROPOSED STEP

042-M08-019-003-100-TWN1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-034-003-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1946

Estimated Reconstruction/Repair Cost:

\$180,180.00

Length:

150

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

VE

FIRM Map Elevation:

20

Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This is a short stone groin. The sideslopes along the base are coming unraveled. Otherwise the structure 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***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:

042-M08-034-003-100-PHO1A.jpg

Structure Documents:

MA DPW**OCT. 1946****PROPOSED SHORE****042-M08-034-003-100-DCR1E**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-042-002-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1945

Estimated Reconstruction/Repair Cost:

\$466,785.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
615	14	VE	20
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

5 to 10 Feet

Secondary Type:

Other

Secondary Material:

Stone

Secondary Height:



Structure Summary :

This structure is a concrete seawall. There is grouted armor stone along the base of the wall. The exhibits only minor cracking and is generally in good physical condition. However, the toe of the wall is becoming exposed along a large section.

*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:

042-M08-042-002-100-PHO1A.jpg

Structure Documents:

MA DPW	FEB. 1945	PROPOSED	042-M08-042-002-100-DCR1A
MA DPW	MAY 1952	PROPOSED SHORE	042-M08-042-002-100-DCR1B
MA DPW	JAN. 1956	PROPOSED SHORE	042-M08-042-002-100-DCR1C
MA DEQE	MARCH 198	PROPOSED SHORE	042-M08-042-002-100-DCR1D
MDPW	MAR 1976	PROPOSED SHORE	042-M08-042-002-100-TWN1A
MADPW	FEB 1956	Proposed Sand Fill,	042-M08-042-002-100-COE1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-051-004-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1930

Estimated Reconstruction/Repair Cost:

\$910,800.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1200	14	VE	20
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 :

The structure is a concrete seawall fronted by a cobble beach. There is cracking and spalling evident and some large cracks which have been sealed. The toe is well buried.

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:

042-M08-051-004-100-PHO1A.jpg

042-M08-051-004-100-PHO1B.jpg

Structure Documents:

MA DPW

MAY 1932

PROPOSED

042-M08-051-004-100-DCR1A

DEP CH.91

SEPT 20 19

PLANS

042-M08-051-004-100-LIC1A

MARSHFIELD D

AUG 1995

SEAWALL REPAIR

042-M08-051-004-100-TWN1A

MDPW

MAR 1976

PROPOSED SHORE

042-M08-051-004-100-TWN1B

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-051-009-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1946

Estimated Reconstruction/Repair Cost:

\$66,396.00

Length:

100

Feet

Top Elevation:

Feet NAVD 88

FIRM Map Zone:

VE

FIRM Map Elevation:

20

Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a short stone groin. The sideslopes and crest are mostly unraveled.

*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:

042-M08-051-009-100-PHO1A.jpg

Structure Documents:

MA DPW**OCT. 1946****PROPOSED SHORE****042-M08-051-009-100-DCR1A**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M08-051-014-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1952

Estimated Reconstruction/Repair Cost:

\$68,970.00

Length:

55

Feet

Top Elevation:

14

Feet NAVD 88

FIRM Map Zone:

VE

FIRM Map Elevation:

20

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a concrete seawall with a wave return face. There is major cracking and some spalling along the face. Previous repairs are evident.

*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:

042-M08-051-014-100-PHO1A.jpg

Structure Documents:

MA DPW**MAY 1952****PROPOSED SHORE****042-M08-051-014-100-DCR1A****MDPW****MAR 1976****PROPOSED SHORE****042-M08-051-014-100-TWN1C**

Structure Assessment FormStructure ID: **042-M09-001-007-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Foster Ave.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DEP - Ch 91 License

Owner Name:

Marshfield

Earliest Structure Record:

1970

Estimated Reconstruction/Repair Cost:

\$527,472.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1665	19	VE	17
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:

Under 5 Feet**Structure Summary :**

This is a concrete seawall with a wave return face and stone revetment along the toe. The wall and revetment at toe appear recently constructed. There has been backfill placed behind the crest which appears stable. There is minor erosion along the toe of the wall presumably due to impact from shifting armor stones at toe.

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:**042-M09-001-007-100-PHO1A.jpg****042-M09-001-007-100-PHO1B.jpg****Structure Documents:****MA DEQE****SEPT. 1970****PROPOSED SHORE****042-M09-001-007-100-DCR1A****MARSHFIELD D****MAY 2001****SEAWALL****042-M09-001-007-100-TWN1A****MDPW****SEP 1970****PROPOSED****042-M09-001-007-100-TWN1B****USACE****DEC 2002****Foster Ave****042-M09-001-007-100-COE1A**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-M09-006-009-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1930

Estimated Reconstruction/Repair Cost:

\$203,346.00

Length: 130 Feet Top Elevation: 13 Feet NAVD 88 FIRM Map Zone: VE FIRM Map Elevation: 22 Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

10 to 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a stone revetment. There is significant movement of the armor stone evident. Some armor stones are displaced and there are voids evident within the armor layer.

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

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:

042-M09-006-009-100-PHO1A.jpg

Structure Documents:

MA DPW	NOV 1930	PROPOSED	042-M09-006-009-100-DCR1A
MA DPW	AUGUST 19	PROPOSED RIP	042-M09-006-009-100-DCR1B
MA DPW	APRIL 1954	PROPOSED SHORE	042-M09-006-009-100-DCR1C
MA DPW	APRIL 1958	PROPOSED SHORE	042-M09-006-009-100-DCR1D
MA DPW	DEC. 1967	PROPOSED SHORE	042-M09-006-009-100-DCR2E
MARSHFIELD D	NOV 1978	PROPOSED	042-M09-006-009-100-TWN1C
MARSHFIELD D	NOV 1992	SEAWALL	042-M09-006-009-100-TWN1E
MARSHFIELD D	NOV 1978	PROPOSED STONE	042-M09-006-009-100-TWN1F
MA DPW	DEC 1967	PROPOSED SHORE	042-M09-006-009-100-TWN1A
MARSHFIELD D	JUL 2001	SEAWALL REPAIR	042-M09-006-009-100-TWN1B

Structure Assessment Form

Town: Marshfield

Structure ID: 042-M09-006-009-100

Key: community-map-block-parcel-structure

USACE	DEC 2002	Foster Ave	042-M09-006-009-100-COE1A
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Structure Assessment Form

Town: **Marshfield**

Structure ID: 042-M09-006-009-200

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Ocean St.

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1930

Estimated Reconstruction/Repair Cost:

\$812,698.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
1040	13	VE	22
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 :

This is a stone revetment. There is some movement of the armor layer and displaced armor 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

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:

042-M09-006-009-200-PHO2A.jpg

Structure Documents:

MA DPW	NOV 1930	PROPOSED	042-M09-006-009-100-DCR2A
MA DPW	AUGUST 19	PROPOSED RIP	042-M09-006-009-100-DCR1B
MA DPW	APRIL 1954	PROPOSED SHORE	042-M09-006-009-100-DCR2C
MA DPW	APRIL 1958	PROPOSED SHORE	042-M09-006-009-100-DCR2D
MA DPW	DEC. 1967	PROPOSED SHORE	042-M09-006-009-100-DCR2E

Structure Assessment Form

Structure ID: 042-N05-001-012-100

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Blackmans Point

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR - Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1931

Estimated Reconstruction/Repair Cost:

\$1,489,488.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
620	7	VE	20
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

5 to 10 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a stone jetty which is along the north side of the inlet to Green Harbor. The armor stone is slumped and unraveled along the base of the jetty. There are at least two large areas along the jetty trunk which are slumped and failing. The head of the jetty is in fair condition.

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

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:

042-N05-001-012-100-PHO1A.jpg

Structure Documents:

MA DPW	APRIL 1931	PROPOSED JETTY	042-N05-001-012-100-DCR1A
MA DPW	DEC 932	PROP RIP RAP	042-N05-001-012-100-DCR1B
MADPW	MAR 1931	Proposed Jetty	042-N05-001-012-100-COE1A

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-N06-007-009-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Point

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1930

Estimated Reconstruction/Repair Cost:

\$2,846,580.00

Length:

1135

Feet

Top Elevation:

9

Feet NAVD 88

FIRM Map Zone:

VE

FIRM Map Elevation:

20

Feet NGVD

Primary Type:

Bulkhead/ Seawall

Primary Material:

Concrete

Primary Height:

10 to 15 Feet

Secondary Type:

Revetment

Secondary Material:

Stone

Secondary Height:



Structure Summary :

This structure is a concrete seawall with a wave return face. There is a stone revetment along the toe. There is spalling and cracking for the length of the structure. Some sections show severe cracking and major areas of repairs.

*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***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:

042-N06-007-009-100-PHO1A.jpg**042-N06-007-009-100-PHO1B.jpg**

Structure Documents:

MA DPW**NOV. 1931****PROPOSED****042-N06-007-009-100-DCR1A****MA DPW****NOV 1931****PROPOSED****042-N06-007-009-100-TWN1A****MARSHFIELD D****NOV 1978****PROPOSED****042-N06-007-009-100-TWN1B****MARSHFIELD D****NOV 1978****PROPOSED STONE****042-N06-007-009-100-TWN1C**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-N06-007-020-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Point

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

Property Ownership

Owner Name:

Marshfield

Earliest Structure Record:

0

Estimated Reconstruction/Repair Cost:

\$413,820.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
330	9	VE	23
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:



Structure Summary :

This structure is a concrete seawall with a fronting toe revetment. There is surface spalling and cracking throughout.

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:

042-N06-007-020-100-PHO1A.jpg

Structure Documents:

Structure Assessment FormStructure ID: **042-N07-001-003-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Point

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1933

Estimated Reconstruction/Repair Cost:

\$896,610.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
715	14	VE	20
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:

**Structure Summary :**

This structure is a concrete seawall with a wave return face. There is armor stone placed along the toe of the wall. The wall exhibits some cracking and spalling. The foundation is visible in some southern sections but is not undermined.

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:**042-N07-001-003-100-PHO1A.jpg****Structure Documents:**

MA DPW	APRIL 1933	PROPOSED	042-N07-001-003-100-DCR1A
MARSHFIELD D	AUG 1995	SEAWALL REPAIR	042-N07-001-003-100-TWN1A
MARSHFIELD D	NOV 1978	PROPOSED	042-N07-001-003-100-TWN1B
MDPW	AUG 1947	PROPOSED	042-N07-001-003-100-TWNC

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-N07-001-021-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Brant Rock

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1940

Estimated Reconstruction/Repair Cost:

\$73,828.00

Length:	Top Elevation:	FIRM Map Zone:	FIRM Map Elevation:
470		VE	20
Feet	Feet NAVD 88		Feet NGVD

Primary Type:

Groin/ Jetty

Primary Material:

Stone

Primary Height:

Under 5 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a stone groin with the outer portion surrounded by a natural rock outcropping. The sideslopes and crest are in good condition with only minor weathering of the armor 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***II***Rating***Low Priority***Action***Future Project Consideration***Description*

Inshore Structures Present with Limited potential for Significant Infrastructure Damage

Structure Images:

042-N07-001-021-100-PHO1A.jpg

Structure Documents:

MA DPW**NOV. 1940****PROPOSED SHORE****042-N07-001-021-100-DCR1A**

Structure Assessment Form

Town: **Marshfield**Structure ID: **042-N07-007-004-100**

Key: community-map-block-parcel-structure

Property Owner:

Local

Location:

Green Harbor Point

Date:

8/16/2006

Presumed Structure Owner:

Local

Based On Comment:

DCR – Contract Drawings

Owner Name:

Marshfield

Earliest Structure Record:

1967

Estimated Reconstruction/Repair Cost:

\$1,376,133.00

Length:

1115

Feet

Top Elevation:

19

Feet NAVD 88

FIRM Map Zone:

VE

FIRM Map Elevation:

20

Feet NGVD

Primary Type:

Revetment

Primary Material:

Stone

Primary Height:

Over 15 Feet

Secondary Type:

Secondary Material:

Secondary Height:



Structure Summary :

This structure is a rubble mound revetment. The armor stone has shifted along much of the structure and some stones are broken. There are no areas of major failure.

*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:

042-N07-007-004-100-PHO1A.jpg

Structure Documents:

MA DPW	MARCH 196	PROPOSED SHORE	042-N07-007-004-100-DCR1A
MA DPW	MAR 1967	PROPOSED SHORE	042-N07-007-004-100-TWN1A
MARSHFIELD D	AUG 1995	SEAWALL REPAIR	042-N07-007-004-100-TWN1B
MARSHFIELD D	NOV 1978	PROPOSED	042-N07-007-004-100-TWN1C
MDPW	OCT 1965	PROPOSED SHORE	042-N07-007-004-100-TWN1D

Section IV

Town of Marshfield

Structure Photographs

TOWN: MARSHFIELD
SOURCE: BCE - FIELD PHOTOGRAPHS
LOCATION: Bourne Consulting Engineering
DATE OF RESEARCH: AUGUST 2006

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
042-L08-024-005-100	042-L08-024-005-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L08-024-005-100	042-L08-024-005-100-PHO1B.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L10-023-005-100	042-L10-023-005-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L10-023-005-100	042-L10-023-005-100-PHO1B.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L10-023-005-100	042-L10-023-005-100-PHO1C.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L10-023-005-100	042-L10-023-005-100-PHO1D.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-L10-023-005-200	042-L10-023-005-200-PHO2A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M04-021-003-100	042-M04-021-003-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M04-021-003-100	042-M04-021-003-100-PHO1B.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M04-022-001-100	042-M04-022-001-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M05-008-007-100	042-M05-008-007-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M05-007-006-100	042-M05-007-006-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M05-007-006-100	042-M05-007-006-100-PHO1B.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M05-008-008-100	042-M05-008-008-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M05-008-014-100	042-M05-008-014-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-008-038-100	042-M08-008-038-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-008-038-200	042-M08-008-038-200-PHO2A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-008-038-300	042-M08-008-038-300-PHO3A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-010-001-100	042-M08-010-001-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-010-001-100	042-M08-010-001-100-PHO1B.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-017-012-100	042-M08-017-012-100-PHO1A.jpg		Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

TOWN: MARSHFIELD
SOURCE: BCE - FIELD PHOTOGRAPHS
LOCATION: Bourne Consulting Engineering
DATE OF RESEARCH: AUGUST 2006

042-M08-017-012-200	042-M08-017-012-200-PHO2A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-017-012-300	042-M08-017-012-300-PHO3A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-019-003-100	042-M08-019-003-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-019-003-100	042-M08-019-003-100-PHO1B.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-034-003-100	042-M08-034-003-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-042-002-100	042-M08-042-002-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-051-004-100	042-M08-051-004-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-051-004-100	042-M08-051-004-100-PHO1B.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-051-009-100	042-M08-051-009-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-051-014-100	042-M08-051-014-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-001-007-100	042-M08-001-007-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-001-007-100	042-M08-001-007-100-PHO1B.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-006-008-100	042-M08-006-008-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-M08-006-008-200	042-M08-006-008-200-PHO2A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N05-001-012-100	042-N05-001-012-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N06-007-009-100	042-N06-007-009-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N06-007-009-100	042-N06-007-009-100-PHO1B.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N06-007-020-100	042-N06-007-020-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N07-001-003-100	042-N07-001-003-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N07-001-021-100	042-N07-001-021-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey
042-N07-007-004-100	042-N07-007-004-100-PHO1A.jpg	Bourne Consulting Engineering	MARSHFIELD	August 2006	DIGITAL IMAGE	1	Structure Location	Structure Condition Photo at Time of Survey

South Shore Coastal Infrastructure Inventory and Assessment



042-M04-022-001-100-PHO1A.jpg



042-M06-010-001-100-PHO1A.jpg



042-M06-009-03B-400-PHO4A.jpg



042-M06-009-03B-300-PHO3A.jpg



042-M06-009-03B-200-PHO2A.jpg



042-M06-009-03B-100-PHO1A.jpg

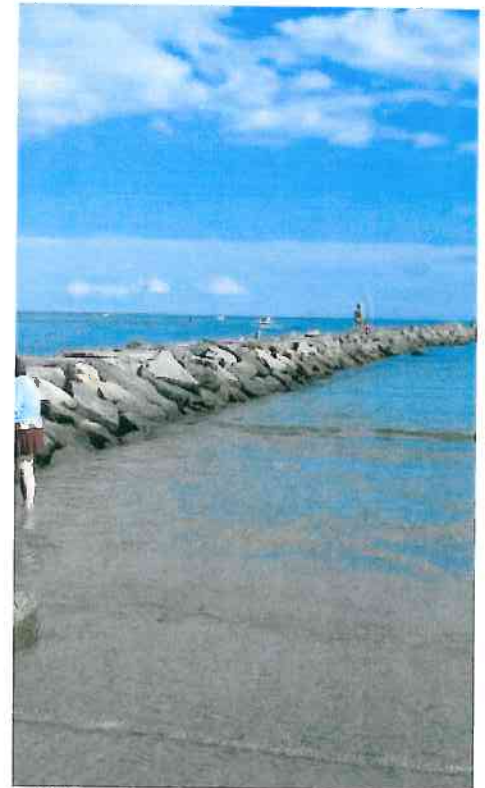
South Shore Coastal Infrastructure Inventory and Assessment



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042-M05-009-009-100-PHO1A.jpg



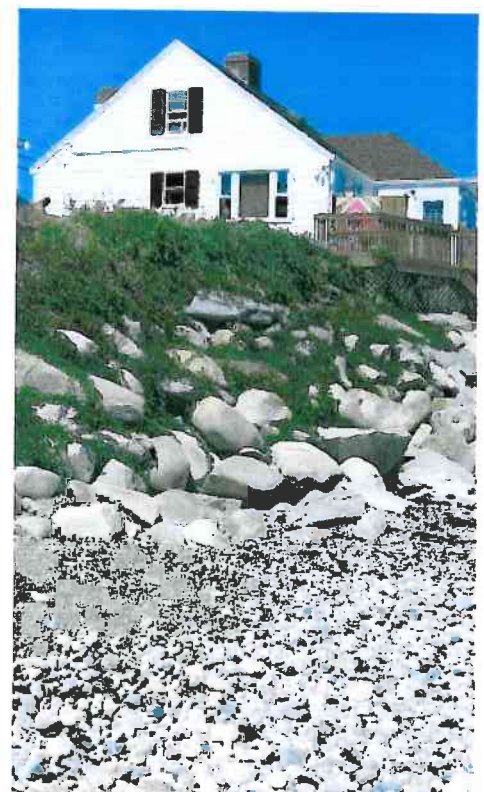
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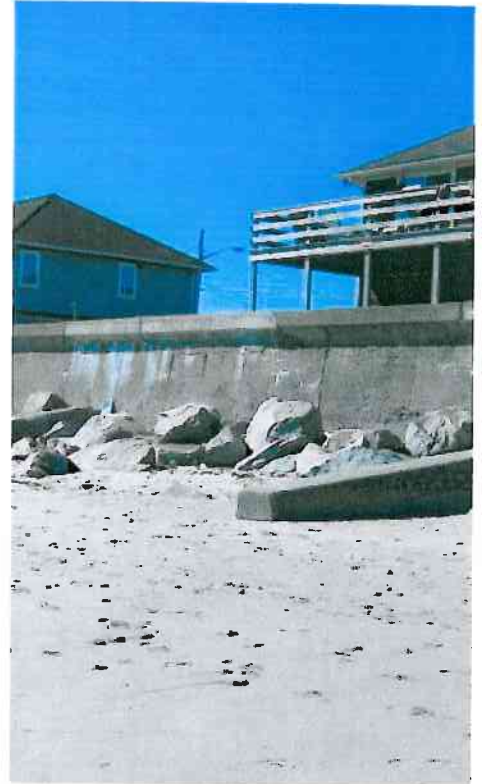
South Shore Coastal Infrastructure Inventory and Assessment



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042-L10-023-005-100-PHO1D.jpg



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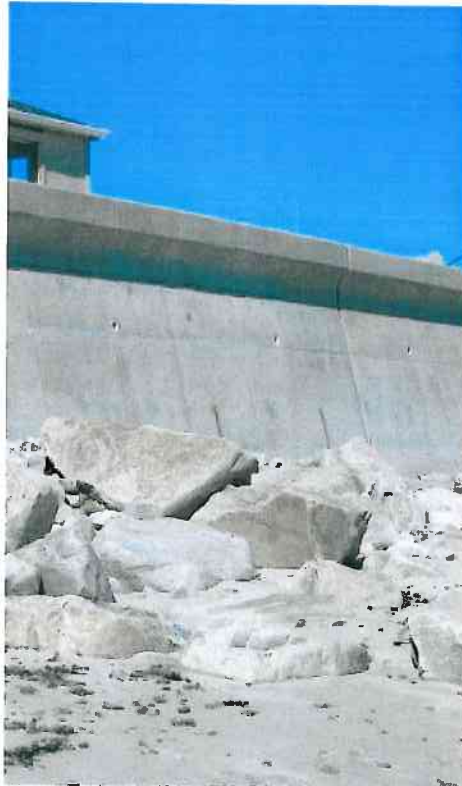


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South Shore Coastal Infrastructure Inventory and Assessment



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042-L09-024-005-100-PHO1B.jpg



042-M05-007-006-100-PHO1A.jpg



042-M08-051-014-100-PHO1A.jpg



042-N07-001-021-100-PHO1A.jpg



042-N07-001-003-100-PHO1A.jpg

South Shore Coastal Infrastructure Inventory and Assessment



042-N06-007-020-100-PHO1A.jpg



042-N06-007-009-100-PHO1B.jpg



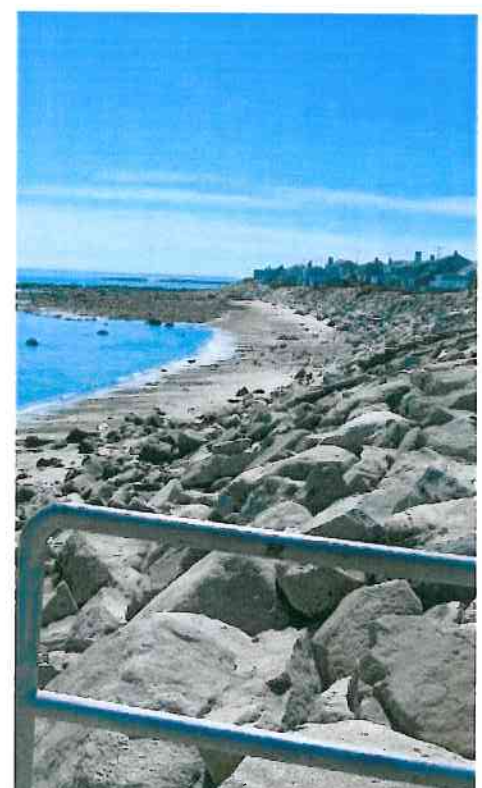
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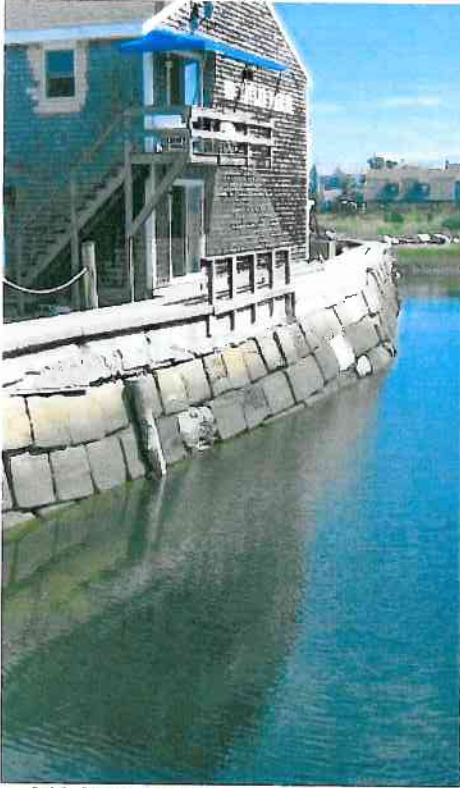


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042-M09-006-009-100-PHO1A.jpg

South Shore Coastal Infrastructure Inventory and Assessment



042-M06-010-001-100-PHO1B.jpg



042-M09-001-007-100-PHO1A.jpg



042-M08-017-012-100-PHO1A.jpg



042-M08-051-009-100-PHO1A.jpg



042-M08-051-004-100-PHO1B.jpg



042-M08-051-004-100-PHO1A.jpg

South Shore Coastal Infrastructure Inventory and Assessment



042-M08-042-002-100-PHO1A.jpg



042-M08-034-003-100-PHO1A.jpg



042-M08-019-003-100-PHO1B.jpg



042-M08-019-003-100-PHO1A.jpg

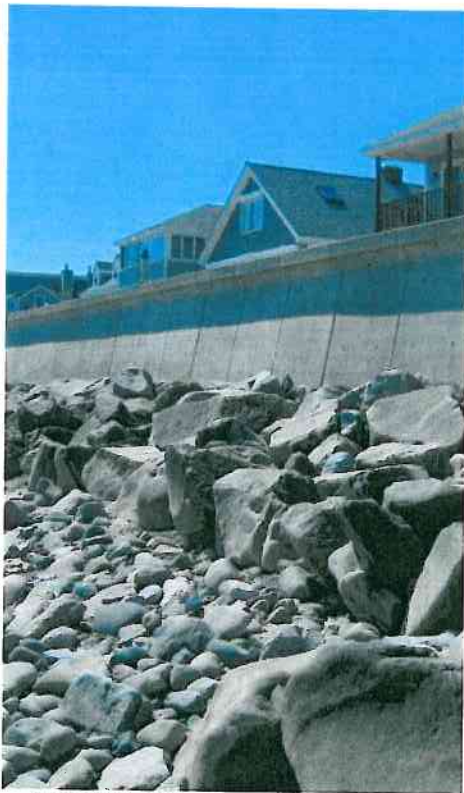


042-M08-017-012-300-PHO3A.jpg



042-N07-007-004-100-PHO1A.jpg

South Shore Coastal Infrastructure Inventory and Assessment



042-M09-001-007-100-PHO1B.jpg

Section V

Town of Marshfield

Structure Research

TOWN DOCUMENT LIST

MA DCR - DOCUMENT LIST

MA DEP – Chp 91 DOCUMENT LIST

- Copies of License Documents

USACE – PERMIT DOCUMENT LIST

- Copies of Permit Documents

TOWN: MARSHFIELD

SOURCE: TOWN OF MARSHFIELD

LOCATION: MARSHFIELD MA

DATE OF RESEARCH: AUGUST 2006

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
042-L-09-024-005-100	042-L-09-024-005-100-TWN1A		MARSHFIELD DPW	MARSHFIELD	MAY 1989	SEAWALL RECONSTRUCTION, 100-138 FOSTER AVE	3	BETWEEN 1ST AND 3RD AVE	
042-L-09-024-005-100	042-L-09-024-005-100-TWN1B		MARSHFIELD DPW	MARSHFIELD	MAY 2000	ASBUILT SEAWALL, 100-138 FOSTER AVE	3	BETWEEN 1ST AND 3RD AVE	
042-L-10-023-005-100	042-L-10-023-005-100-TWN1A	316	MA DPW	MARSHFIELD	SEPT 1930	PROPOSED PILE FOUNDATION FOR MARSHFIELD SEAWALL	1	FOSTER AVENUE	
042-L-10-023-005-100	042-L-10-023-005-100-TWN1B	#2005-05	MARSHFIELD DPW	MARSHFIELD	AUGUST 2004	SEAWALL & STAIRWAY RECONSTRUCTION PROJECT CONTRACT 2005-05	6	BROOK ST. TO #100 FOSTER AVE., FARRAGUT, HARTFORD AND 11TH ROADS, 7TH AND 5TH ROADS,	PROPOSED WORK PLAN / DETAILS AND SECTIONS / STAIRWAY IMPROVEMENT PLAN / SITE PLAN / PROPOSED WORK PLAN / TYPICAL SECTIONS / EXISTING/PROPOSED SECTIONS
042-L-10-023-005-100	042-L-10-023-005-100-TWN1C		MARSHFIELD DPW	MARSHFIELD	MAY 1998	SEAWALL RECONSTRUCTION PROJECT, 100-138 FOSTER AVENUE, MARSHFIELD, MA	3	100-138 FOSTER AVENUE	
042-L-10-023-005-100	042-L-10-023-005-100-TWN1D	373	MDPW	MARSHFIELD	MAR 1932	PROPOSED RUBBLE CONCRETE STEPS, BRANT ROCK	1	STEPS FROM CONSTELLATION AVE TO 3RD AVE	
042-L-10-023-005-100	042-L-10-023-005-100-TWN1E	208	MDPW	MARSHFIELD	SEP 1931	EXTENSION OF PROPOSED SEAWALL	1	FROM REXAME AVE TO FARRAGUT AVE	
042-L-10-023-005-200	042-L-10-023-005-200-TWN2A	316	MA DPW	MARSHFIELD	SEPT 1931	PROPOSED PILE FOUNDATION FOR MARSHFIELD SEAWALL	1	FOSTER AVENUE	
042-L-10-023-005-200	042-L-10-023-005-200-TWN2B	#2005-05	MARSHFIELD DPW	MARSHFIELD	AUGUST 2004	SEAWALL & STAIRWAY RECONSTRUCTION PROJECT CONTRACT 2005-06	6	BROOK ST. TO #100 FOSTER AVE., FARRAGUT, HARTFORD AND 11TH ROADS, 7TH AND 5TH ROADS,	PROPOSED WORK PLAN / DETAILS AND SECTIONS / STAIRWAY IMPROVEMENT PLAN / SITE PLAN / PROPOSED WORK PLAN / TYPICAL SECTIONS / EXISTING/PROPOSED SECTIONS
042-L-10-023-005-200	042-L-10-023-005-200-TWN2C		MARSHFIELD DPW	MARSHFIELD	MAY 1999	SEAWALL RECONSTRUCTION PROJECT, 100-138 FOSTER AVENUE, MARSHFIELD, MA	3	100-138 FOSTER AVENUE	
042-M04-021-003-100	042-M04-021-003-100-TWN1A	2502	MDPW	MARSHFIELD	OCT 1965	PROPOSED SHORE PROTECTION, STONE REVETMENT & SEAWALL REPAIR, GREEN HARBOR	1	BOG AVE. SOUTH OF JETTY TO DUXBERRY TOWN LINE	
042-M04-021-003-100	042-M04-021-003-100-TWN1B	962	MA DPW	MARSHFIELD	JAN. 1947	PROPOSED SEAWALL AND WALL REPAIRS, GREEN HARBOR	1	BAY AVENUE FROM BAY STREET TO JACKSON STREET	
042-M04-022-001-100	042-M04-022-001-100-TWN1A	2502	MDPW	MARSHFIELD	OCT 1965	PROPOSED SHORE PROTECTION, STONE REVETMENT & SEAWALL REPAIR, GREEN HARBOR	1	BOG AVE. SOUTH OF JETTY TO DUXBERRY TOWN LINE	
042-M05-006-007-100	042-M05-006-007-100-TWN1A		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	
042-M05-006-007-100	042-M05-006-007-100-TWN1B	1882	MDPW	MARSHFIELD	NOV 1957	PROPOSED SHORE PROTECTION, CONCRETE SEAWALL, GREEN HARBOR	1	LAST 500' OF WALL SOUTH OF BEACH STERET	NEW CONCRETE SEAWALL
042-M05-006-007-100	042-M05-006-007-100-TWN1C	2502	MDPW	MARSHFIELD	OCT 1965	PROPOSED SHORE PROTECTION, STONE REVETMENT & SEAWALL REPAIR, GREEN HARBOR	1	BOG AVE. SOUTH OF JETTY TO DUXBERRY TOWN LINE	
042-M05-009-009-100	042-M05-009-009-100-TWN1A	2911	MA DPW	MARSHFIELD	AUG. 1974	PROPOSED SHORE PROTECTION, WOOD BULKHEAD AND STONE REVETMENT, BAY AVE.	1	OCEAN ENTRANCE TO GREEN HARBOR	***REFERENCE***NO ACTUAL PLANS AVAILABLE
042-M08-019-003-100	042-M08-019-003-100-TWN1A		MDPW	MARSHFIELD	SEP 1941	PROPOSED STEP REPAIRS, BRANT ROCK	1	OCEAN AVE. OPPOSITE PURITAN ST	
042-M08-042-002-100	042-M08-042-002-100-TWN1A	2942	MDPW	MARSHFIELD	MAR 1976	PROPOSED SHORE PROTECTION, OCEAN STREET, OCEAN BLUFF	1	NORTH OF DIKE ROAD	REPAIR STAIRS, INSTALL DRAINS TRRU WALL, REMOVE AND REPACE GROUT
042-M08-051-004-100	042-M08-051-004-100-TWN1A		MARSHFIELD DPW	MARSHFIELD	AUG 1985	SEAWALL REPAIR PROJECT, BRANT ROCK	2	BRANT ROCK- 1800' SOUTH OF DIKE RD, 300' NORTH OF DIKE RD	
042-M08-051-004-100	042-M08-051-004-100-TWN1B	2942	MDPW	MARSHFIELD	MAR 1976	PROPOSED SHORE PROTECTION, OCEAN STREET, OCEAN BLUFF	1	NORTH OF DIKE ROAD	REPAIR STAIRS, INSTALL DRAINS TRRU WALL, REMOVE AND REPACE GROUT
042-M08-051-014-100	042-M08-051-014-100-TWN1C	2942	MDPW	MARSHFIELD	MAR 1976	PROPOSED SHORE PROTECTION, OCEAN STREET, OCEAN BLUFF	1	NORTH OF DIKE ROAD	REPAIR STAIRS, INSTALL DRAINS TRRU WALL, REMOVE AND REPACE GROUT
042-M09-001-007-100	042-M09-001-007-100-TWN1A	#2002-03	MARSHFIELD DPW	MARSHFIELD	MAY 2001	SEAWALL RECONSTRUCTION PROJECT, #28 TO #76 FOSTER AVENUE	3	FOSTER AVENUE BETWEEN BROOK STREET AND SEKONNET AVE	SITE PLAN / PROFILE /
042-M09-001-007-100	042-M09-001-007-100-TWN1B	2711	MDPW	MARSHFIELD	SEP 1970	PROPOSED SEAWALL RECONSTRUCTION/CINICITY OF BROOK STREET	2	EXTENDS OVER 2 LOTS BOTH NORTH AND SOUTH OF BROOK STREET	SEAWALL REPAIR - REMOVE AND REPLACE GROUT
042-M09-006-009-100	042-M09-006-009-100-TWN1A	2585	MA DPW	MARSHFIELD	DEC 1987	PROPOSED SHORE PROTECTION, STONE MOUND AND REVETMENT, OCEAN BLUFFS	4	FOSTER AVE AND OCEAN STREET	***REFERENCE***NO ACTUAL PLANS AVAILABLE
042-M09-006-009-100	042-M09-006-009-100-TWN1B		MARSHFIELD DPW	MARSHFIELD	JUL 2001	SEAWALL REPAIR PROJECT 28-76 FOSTER AVE	3		
042-M09-006-009-100	042-M09-006-009-100-TWN1C		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	
042-M09-006-009-100	042-M09-006-009-100-TWN1D	1981	MDPW	MARSHFIELD	APR 1954	PROPOSED SHORE PROTECTION, STONE REVETMENT, OCEAN BLUFF	2	SOUTH OF INTERSECTION OF FOSTER AVE AND RT 139	NEW STONE REVETMENT
042-M09-006-009-100	042-M09-006-009-100-TWN1E		MARSHFIELD DPW	MARSHFIELD	NOV 1992	SEAWALL REPAIRS, 72-100 FOSTER AVE	2	NORTH AND SOUTH OF BROOK STREET	
042-M09-006-009-100	042-M09-006-009-100-TWN1F		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED STONE REVETMENT, BRANT ROCK AND OCEAN BLUFF	8	BRANT ROCK- SOUTH 1800 FEET, OCEAN BLUFF- FROM SHAWMET AVE SOUTH TO JETTY	
042-N08-007-008-100	042-N08-007-008-100-TWN1A	302	MA DPW	MARSHFIELD	NOV 1931	PROPOSED SEAWALL AND RIPRAP, SOUTH OF OCEAN BLUFF	1	OCEAN STREET BETWEEN SOUTHERN TERMINUS AND JERSEY	
042-N08-007-008-100	042-N08-007-008-100-TWN1B		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	
042-N08-007-008-100	042-N08-007-008-100-TWN1C		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED STONE REVETMENT, BRANT ROCK AND OCEAN BLUFF	8	BRANT ROCK- SOUTH 1800 FEET, OCEAN BLUFF- FROM SHAWMET AVE SOUTH TO JETTY	
042-N08-007-024-100	042-N08-007-024-100-TWN1A	302	MA DPW	MARSHFIELD	NOV 1931	PROPOSED SEAWALL AND RIPRAP, SOUTH OF BRANT ROCK	1	OCEAN STREET BETWEEN SOUTHERN TERMINUS AND JERSEY STREET	
042-N08-007-024-100	042-N08-007-024-100-TWN1B		MARSHFIELD DPW	MARSHFIELD	NOV 1981	SEAWALL REPAIR, 24 OCEAN STREET	2	100' NORTH OF WAVE STREET	
042-N08-007-024-100	042-N08-007-240-100-TWN1C		MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	

TOWN: MARSHFIELD
 SOURCE: TOWN OF MARSHFIELD
 LOCATION: MARSHFIELD MA
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042-N07-001-003-100	042-N07-001-003-100-TWN1A	MARSHFIELD DPW	MARSHFIELD	AUG 1995	SEAWALL REPAIR PROJECT, BRANT ROCK	2	BRANT ROCK- 1800' SOUTH OF DIKE RD, 300' NORTH OF DIKE RD	
042-N07-001-003-100	042-N07-001-003-100-TWN1B	MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	
042-N07-001-003-100	042-N07-001-003-100-TWNC	MDPW	MARSHFIELD	AUG 1947	PROPOSED SEAWALL REPAIRS, BRANT ROCK	1	OCEAN AVE, 100' SOUTH OF BRANT ROCK	***REFERENCE***NO ACTUAL PLANS AVAILABLE
042-N07-004-100	042-N07-007-004-100-TWN1A	MA DPW	MARSHFIELD	MAR 1987	PROPOSED SHORE PROTECTION, CONCRETE SEAWALL- STONE REVETMENT, BRANT ROCK		OCEAN STREET BETWEEN SOUTH STREET AND REED STREET	
042-N07-007-004-100	042-N07-007-004-100-TWN1B	MARSHFIELD DPW	MARSHFIELD	AUG 1995	SEAWALL REPAIR PROJECT, BRANT ROCK	2	BRANT ROCK- 1800' SOUTH OF DIKE RD, 300' NORTH OF DIKE RD	
042-N07-007-004-100	042-N07-007-004-100-TWN1C	MARSHFIELD DPW	MARSHFIELD	NOV 1978	PROPOSED SEAWALL RECONSTRUCTION AND SHORE PROTECTION	14	GREEN HARBOR- SOUTH OF THE JETTY, BRANT ROCK-NORTH OF GREEN HARBOR POINT TO DIKE RD, OCEAN BLUFF-NORTH OF JETTY AND OCEAN STREET	
042-N07-007-004-100	042-N07-007-004-100-TWN1D	MDPW	MARSHFIELD	OCT 1995	PROPOSED SHORE PROTECTION, STONE REVEITEMENT & SEAWALL REPAIR, GREEN HARBOR	1	BOG AVE, SOUTH OF JETTY TO DUXBERRY TOWN LINE	

TOWN: MARSHFIELD

SOURCE: MA-DCR - OFFICE OF WATERWAYS

LOCATION: MA-DCR - OFFICE OF WATERWAYS, HINGHAM, MA

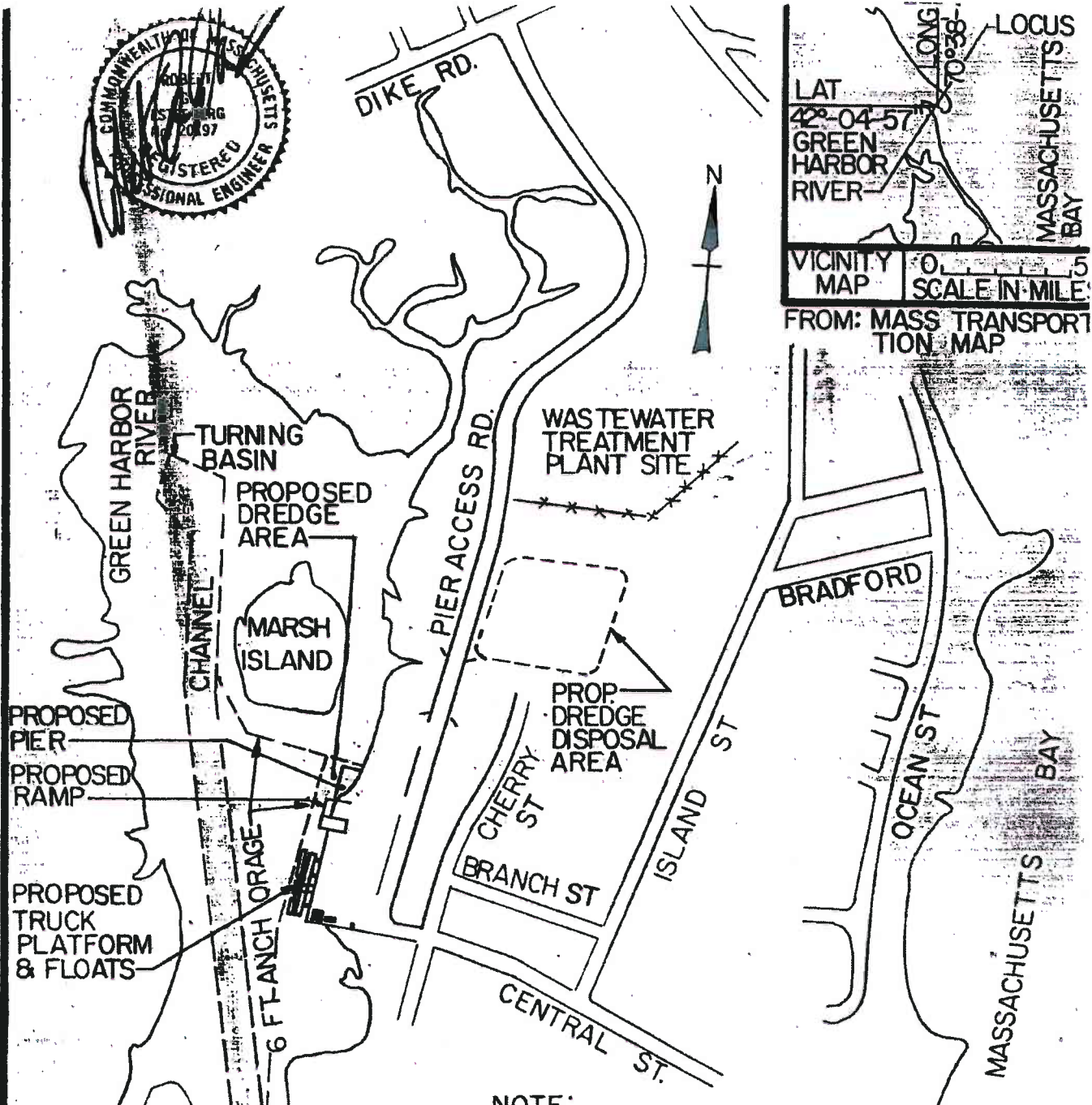
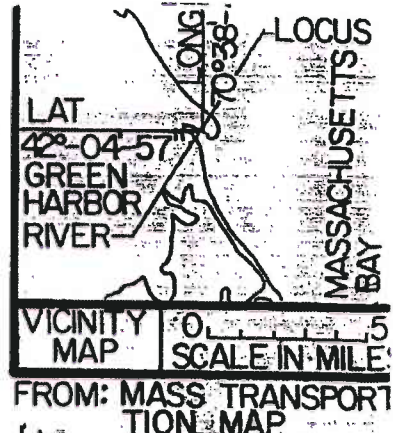
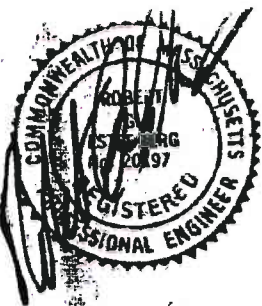
DATE OF RESEARCH: AUGUST 2006

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
042-L10-023-005-100	042-L10-023-005-100-DCR1A	290	MA DPW	MARSHFIELD	AUGUST 1931	PROPOSED SEAWALL, MARSHFIELD	2	FOSTER AVENUE	ORIGINAL CONSTRUCTION, INCLUDES GROINS
042-L10-023-005-100	042-L10-023-005-100-DCR1B	316	MA DPW	MARSHFIELD	SEPT 1930	PROPOSED PILE FOUNDATION FOR MARSHFIELD SEAWALL	3	FOSTER AVENUE	
042-L10-023-005-100	042-L10-023-005-100-DCR1C	808	MA DPW	MARSHFIELD	SEPT. 1939	PROPOSED CONCRETE FENCE, BRANT ROCK	1	OCEAN AVE BETWEEN 8TH AND 10TH STREETS	ORIG. CONST.
042-L10-023-005-200	042-L10-023-005-200-DCR2A	290	MA DPW	MARSHFIELD	AUGUST 1931	PROPOSED SEAWALL, MARSHFIELD	2	FOSTER AVENUE	ORIGINAL CONSTRUCTION, INCLUDES GROINS
042-L10-023-005-200	042-L10-023-005-200-DCR1B	316	MA DPW	MARSHFIELD	SEPT 1931	PROPOSED PILE FOUNDATION FOR MARSHFIELD SEAWALL	3	FOSTER AVENUE	
042-L10-023-005-200	042-L10-023-005-200-DCR2C	808	MA DPW	MARSHFIELD	SEPT 1939	PROPOSED CONCRETE FENCE, BRANT ROCK	2	OCEAN AVE BETWEEN 8TH AND 10TH STREETS	ORIG. CONST.
042-M04-021-003-100	042-M04-021-003-100-DCR1A	982	MA DPW	MARSHFIELD	JAN. 1947	PROPOSED SEAWALL AND WALL REPAIRS, GREEN HARBOR	1	BAY AVENUE FROM BAY STREET TO JACKSON STREET	
042-M04-021-003-100	042-M04-021-003-100-DCR1B	2502	MA DPW	MARSHFIELD	OCT 1965	GREEN HARBOR, PROPOSED SHORE PROTECTION, STONE REVETMENT SEAWALL REPAIRS.	1	FROM DUXBURY TOWN LINE NORTH 2000 FEET	
042-M04-022-001-100	042-M04-022-001-100-DCR1A	2502	MA DPW	MARSHFIELD	OCT 1965	STONE REVETMENT SEAWALL REPAIRS.	1	FROM DUXBURY TOWN LINE NORTH 2000 FEET	
042-M05-006-007-100	042-M05-006-007-100-DCR1A	1882	MA DPW	MARSHFIELD	NOV. 1957	PROPOSED SHORE PROTECTION, CONCRETE SEAWALL, GREEN HARBOR	1	BAY ROAD, OPPOSITE JACKSON STREET	
042-M05-006-007-100	042-M05-006-007-100-DCR1B	2502	MA DPW	MARSHFIELD	OCT 1965	GREEN HARBOR, PROPOSED SHORE PROTECTION, STONE REVETMENT SEAWALL REPAIRS.	1	FROM DUXBURY TOWN LINE NORTH 2000 FEET	
042-M05-007-006-100	042-M05-007-006-100-DCR1A	1008	MA DPW	MARSHFIELD	OCT. 1947	PROPOSED RECONSTRUCTION OF WEST JETTY, GREEN HARBOR	1	OCEAN ENTRANCE TO GREEN HARBOR	
042-M05-007-006-100	042-M05-007-006-100-DCR1B	1087	MA DPW	MARSHFIELD	APRIL 1949	PROPOSED RECONSTRUCTION OF WEST JETTY, GREEN HARBOR	1	OCEAN ENTRANCE TO GREEN HARBOR	
042-M05-008-009-100	042-M05-008-009-100-DCR1A	2811	MA DEQE	MARSHFIELD	AUG. 1974	PROPOSED SHORE PROTECTION, WOOD BULKHEAD AND STONE REVETMENT, BAY AVE.	2	OCEAN ENTRANCE TO GREEN HARBOR	
042-M08-008-003B-100	042-M08-009-003B-100-DCR1A	2034	MA DPW	MARSHFIELD	FEB 1959	PROPOSED HARBOR DEVELOPMENT TIMBER PIER AND SEAWALL, GREEN HARBOR	2	TOWN PIER	
042-M08-008-003B-300	042-M08-009-003B-300-DCR1B	2034	MA DPW	MARSHFIELD	FEB 1959	PROPOSED HARBOR DEVELOPMENT TIMBER PIER AND SEAWALL, GREEN HARBOR	2	TOWN PIER	
042-M08-010-001-100	042-M08-010-001-100-DCR1A	2034	MA DPW	MARSHFIELD	FEB 1959	PROPOSED HARBOR DEVELOPMENT TIMBER PIER AND SEAWALL, GREEN HARBOR	2	TOWN PIER	
042-M08-017-003-100	042-M08-017-003-100-DCR1A	1578	MA DPW	MARSHFIELD	JAN. 1958	PROPOSED SHORE PROTECTION, STONE APRON AND STEEL PILING REVETMENT, BRANT ROCK	1	OCEAN AVE BETWEEN SAMOSET AVE AND FRANKLIN STREET	
042-M08-017-012-100	042-M08-017-012-100-DCR1A	721	MA DPW	MARSHFIELD	NOV. 1940	PROPOSED SHORE PROTECTION, BRANT ROCK, MARSHFIELD	1	ADJACENT OCEAN AVE BETWEEN SHAWMUT AND SAMOSET AVE	ORIG. CONST.
042-M08-018-003-100	042-M08-018-003-100-DCR1A	688	MA DPW	MARSHFIELD	MAY 1940	PROPOSED CONCRETE FENCES	1	OPPOSITE PURITAN STREET	ORIG. CONST.
042-M08-018-003-100	042-M08-018-003-100-DCR1B	723	MA DPW	MARSHFIELD	SEPT 1941	PROPOSED RAMP, BRANT ROCK, MARSHFIELD	1	OPPOSITE PURITAN STREET	***BOAT RAMP*** ORIG. CONST.
042-M08-019-003-100	042-M08-019-003-100-DCR1C	784	MA DPW	MARSHFIELD	OCT. 1943	REPAIRS TO SEAWALL, BRANT ROCK.	1		
042-M08-019-003-100	042-M08-019-003-100-DCR1D	945	MA DPW	MARSHFIELD	OCT. 1946	PROPOSED SHORE PROTECTION, BRANT ROCK, MARSHFIELD	1	OCEAN AVENUE SOUTH OF SAMOSET AVE	2 JETTIES AND REVETMENT NEW CONST. JETTIES, RIPRAP REPAIR
042-M08-034-003-100	042-M08-034-003-100-DCR1E	945	MA DPW	MARSHFIELD	OCT. 1948	PROPOSED SHORE PROTECTION, BRANT ROCK, MARSHFIELD	1	OCEAN AVENUE ACROSS WEBSTER AVE	2 JETTIES AND REVETMENT NEW CONST. JETTIES, RIPRAP REPAIR
042-M08-042-002-100	042-M08-042-002-100-DCR1A	819	MA DPW	MARSHFIELD	FEB. 1945	PROPOSED REPAIRS TO SEAWALL, BRANT ROCK	1	OCEAN AVENUE AT HANCOCK STREET	
042-M08-042-002-100	042-M08-042-002-100-DCR1B	1236	MA DPW	MARSHFIELD	MAY 1952	PROPOSED SHORE PROTECTION, MARSHFIELD MA, BEACH IMPROVEMENTS, BRANT ROCK	1	OCEAN STREET BY COAST GUARD STATION	
042-M08-042-002-100	042-M08-042-002-100-DCR1C	1578	MA DPW	MARSHFIELD	JAN. 1958	PROPOSED SHORE PROTECTION, STONE APRON AND STEEL PILING REVETMENT, BRANT ROCK	1	OCEAN AVE BETWEEN SAMOSET AVE AND FRANKLIN STREET	
042-M08-042-002-100	042-M08-042-002-100-DCR1D	2842	MA DEQE	MARSHFIELD	MARCH 1980	PROPOSED SHORE PROTECTION, SEAWALL REPAIRS, OCEAN STREET, OCEAN BLUFFS, MARSHFIELD	2	328 OCEAN STREET 580 FEET NORTHERLY	
042-M08-051-004-100	042-M08-051-004-100-DCR1A	335	MA DPW	MARSHFIELD	MAY 1932	PROPOSED CONCRETE SEAWALL, BRANT ROCK	1	OCEAN AVE BETWEEN SOUTH STREET AND FRANKLIN STREET	
042-M08-051-008-100	042-M08-051-008-100-DCR1A	845	MA DPW	MARSHFIELD	OCT. 1948	PROPOSED SHORE PROTECTION, BRANT ROCK, MARSHFIELD	1	OCEAN AVENUE BETWEEN THISTLE AND NORTH STREET	2 JETTIES AND REVETMENT NEW CONST. JETTIES, RIPRAP REPAIR
042-M08-051-014-100	042-M08-051-014-100-DCR1A	1236	MA DPW	MARSHFIELD	MAY 1952	PROPOSED SHORE PROTECTION, MARSHFIELD MA, BEACH IMPROVEMENTS, BRANT ROCK	1	OCEAN STREET BY COAST GUARD STATION	
042-M08-001-007-100	042-M08-001-007-100-DCR1A	2711	MA DEQE	MARSHFIELD	SEPT. 1970	PROPOSED SHORE PROTECTION, SEAWALL RECONSTRUCTION, VICINITY OF BROOK STREET OCEAN BLUFF MARSHFIELD	2	BROOK STREET, OCEAN BLUFF	
042-M08-008-008-100	042-M08-008-008-100-DCR1A	287	MA DPW	MARSHFIELD	NOV 1930	PROPOSED RIPRAP AT BRANT ROCK	1	NORTH OF BRANT ROCK	
042-M08-008-008-100	042-M08-008-008-100-DCR1B	291	MA DPW	MARSHFIELD	AUGUST 1931	PROPOSED RIP RAP EAST OF OCEAN AVENUE BRANT ROCK	1	EAST OF OCEAN AVENUE BRANT ROCK	
042-M08-008-008-100	042-M08-008-008-100-DCR1C	1388	MA DPW	MARSHFIELD	APRIL 1954	PROPOSED SHORE PROTECTION, RIP RAP REVETMENT, OCEAN BLUFFS, MARSHFIELD	1	OCEAN STREET ACROSS SATUCKET STREET	REPAIRS
042-M08-008-008-100	042-M08-008-008-100-DCR1D	1881	MA DPW	MARSHFIELD	APRIL 1958	PROPOSED SHORE PROTECTION, STONE REVETMENT, OCEAN BLUFF, MARSHFIELD	2	BETWEEN 488 OCEAN AVENUE AND 28 FOSTER AVENUE	
042-M08-008-008-100	042-M08-008-008-100-DCR2E	2595	MA DPW	MARSHFIELD	DEC. 1987	PROPOSED SHORE PROTECTION, STONE MOUND AND REVETMENT, OCEAN BLUFFS	4	FOSTER AVE AND OCEAN STREET	
042-M08-008-009-200	042-M08-008-009-100-DCR2A	257	MA DPW	MARSHFIELD	NOV 1930	PROPOSED RIPRAP AT BRANT ROCK	1	NORTH OF BRANT ROCK	
042-M08-008-009-200	042-M08-008-009-100-DCR1B	291	MA DPW	MARSHFIELD	AUGUST 1931	PROPOSED RIP RAP EAST OF OCEAN AVENUE BRANT ROCK	1	EAST OF OCEAN AVENUE BRANT ROCK	
042-M08-008-009-200	042-M08-008-009-100-DCR2C	1388	MA DPW	MARSHFIELD	APRIL 1954	PROPOSED SHORE PROTECTION, RIP RAP REVETMENT, OCEAN BLUFFS, MARSHFIELD	1	OCEAN STREET ACROSS SATUCKET STREET	REPAIRS
042-M08-008-009-200	042-M08-008-009-100-DCR2D	1881	MA DPW	MARSHFIELD	APRIL 1958	PROPOSED SHORE PROTECTION, STONE REVETMENT, OCEAN BLUFF, MARSHFIELD	2	BETWEEN 488 OCEAN AVENUE AND 28 FOSTER AVENUE	

TOWN: MARSHFIELD
 SOURCE: MA-DCR - OFFICE OF WATERWAYS
 LOCATION: MA-DCR - OFFICE OF WATERWAYS, HINGHAM, MA
 DATE OF RESEARCH: AUGUST 2006

042-M09-006-009-200	042-M09-006-009-100-DCR2E	2595	MA DPW	MARSHFIELD	DEC. 1987	PROPOSED SHORE PROTECTION, STONE MOUND AND REVETMENT, OCEAN BLUFFS	4	FOSTER AVE AND OCEAN STREET	
042-N05-001-012-100	042-N05-001-012-100-DCR1A	267	MA DPW	MARSHFIELD	APRIL 1931	PROPOSED JETTY REPAIRS, GREEN HARBOR	1	OCEAN ENTRANCE TO GREEN HARBOR	
042-N05-001-012-100	042-N05-001-012-100-DCR1B	344	MA DPW	MARSHFIELD	DEC 932	PROP RIP RAP NEAR NORTHERLY END OF EAST JETTY, GREEN HARBOR	1	EAST JETTY, ENTRANCE TO GREEN HARBOR	
042-N06-007-009-100	042-N06-007-009-100-DCR1A	302	MA DPW	MARSHFIELD	NOV. 1931	PROPOSED SEAWALL AND RIPRAP, SOUTH OF BRANT ROCK	3	OCEAN STREET BETWEEN SOUTHERN TERMINUS AND JERSEY STREET	
042-N06-007-024-100	042-N06-007-024-100-DCR1A	302	MA DPW	MARSHFIELD	NOV. 1931	PROPOSED SEAWALL AND RIPRAP, SOUTH OF BRANT ROCK	3	OCEAN STREET BETWEEN SOUTHERN TERMINUS AND JERSEY STREET	
042-N07-001-003-100	042-N07-001-003-100-DCR1A	356	MA DPW	MARSHFIELD	APRIL 1933	PROPOSED CONCRETE SEAWALLS, BRANT ROCK, MARSHFIELD	1	OCEAN AVE, IMMEDIATELY SOUTH OF BRANT ROCK	ORIG. CONST.
042-N07-001-021-100	042-N07-001-021-100-DCR1A	721	MA DPW	MARSHFIELD	NOV. 1940	PROPOSED SHORE PROTECTION, BRANT ROCK, MARSHFIELD	1	OCEAN AVENUE, END OF SOUTH STREET	ORIG. CONST.
042-N07-007-004-100	042-N07-007-004-100-DCR1A	2560	MA DPW	MARSHFIELD	MARCH 1987	PROPOSED SHORE PROTECTION, CONCRETE SEAWALL, STONE REVETMENT, BRANT ROCK	2	OCEAN STREET BETWEEN SOUTH STREET AND REED STREET	

BCE Structure No	Document No	Contract/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
042-M04-021-003-100	042-M04-021-003-100-LIC1A	2441	DEP CH.91	MARSHFIELD	NOV 16 1990	PLAN ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO RE-CONSTRUCT A PORTION OF SEA WALL AND CLOSE EXISTING OPENING ALONG THE ATLANTIC OCEAN, OCEAN STREET AND WAVE STREET. MARSHFIELD	4	INTERSECTION OF OCEAN STREET AND WAVE STREET	
042-M04-022-001-100	042-M04-022-001-100-LIC1A	2441	DEP CH.91	MARSHFIELD	NOV 16 1990	PLAN ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO RE-CONSTRUCT A PORTION OF SEA WALL AND CLOSE EXISTING OPENING ALONG THE ATLANTIC OCEAN, OCEAN STREET AND WAVE STREET. MARSHFIELD	4	INTERSECTION OF OCEAN STREET AND WAVE STREET	
042-M06-009-003B-100	042-M06-009-003B-100-LIC1A	2492	DEP CH.91	MARSHFIELD	FEB 15 1991	PLANS ACCOMPANYING PETITION OF THE TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD	13	TOWN PIER, GREEN HARBOR, ADJACENT CHERRY STREET	
042-M06-009-003B-200	042-M06-009-003B-200-LIC2A	2492	DEP CH.91	MARSHFIELD	FEB 15 1991	PLANS ACCOMPANYING PETITION OF THE TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD	13	TOWN PIER, GREEN HARBOR, ADJACENT CHERRY STREET	
042-M06-009-003B-300	042-M06-009-003B-300-LIC3A	2492	DEP CH.91	MARSHFIELD	FEB 15 1991	PLANS ACCOMPANYING PETITION OF THE TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD	13	TOWN PIER, GREEN HARBOR, ADJACENT CHERRY STREET	
042-M06-009-003B-300	042-M06-009-003B-300-LIC3B	4858	DEP CH.91	MARSHFIELD	AUG 19 1984	PLAN ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO DISPOSE OF DREDGING MATERIAL FROM SITE OF MASS DEPT OF PUBLIC WORKS CONTRACT #2408 ON PROPERTY OWNED BY TOWN OF MARSHFIELD IN GREEN HARBOR	1	TOWN PIER, GREEN HARBOR, ADJACENT CHERRY STREET	
042-M06-009-003B-400	042-M06-009-003B-400-LIC4A	2492	DEP CH.91	MARSHFIELD	FEB 15 1991	PLANS ACCOMPANYING PETITION OF THE TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD	13	TOWN PIER, GREEN HARBOR, ADJACENT CHERRY STREET	
042-M06-051-004-100	042-M06-051-004-100-LIC1A	377	DEP CH.91	MARSHFIELD	SEPT 20 1977	PLANS ACCOMPANYING PETITION OF THE TOWN OF MARSHFIELD TO CONSTRUCT AND MAINTAIN A 32" PRESSURE TYPE POLYETHYLENE OCEAN OUTFALL WITH THRUST BLOCKS AND RIP-RAP	3		SHEETS 2 AND 3 MISSING



NOTE:
1. CONTOURS AND ELEVATIONS ARE REFERENCED TO MEAN LOW WATER EL. OF
2. APPROXIMATELY 6700 CY OF SAND AND SILT TO BE DREDGED AND DISPOSED OF AT THE TOWN DREDGE DISPOSAL AREA.

LOCATION PLAN

PLANS ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD, MASSACHUSETTS
JUNE, 1989
TEC ASSOCIATES
SOUTH PORTLAND, MAINE

SHEET 1 OF 13

LICENSE PLAN NO. 2492
Approved by Department of Environmental Protection
MASSACHUSETTS
[Signature] COMMISSIONER
[Signature] SECTION CHIEF
RECEIVED 1001

042-M6-9-3B-400/300/200-100
001-400-150-800-400
042-M6-9-3B-400/300/200-100

LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

Date: FEB 15 1991

PIER ACCESS RD

NOTE: THE DIVISION OF
WATERWAYS PERFORMED
WORK IN GREEN HARBOR
WITHOUT ISSUING ITSELF
A M.D.P.W. PERMIT AS
FOLLOWS:

NO./SYMBOL	YEAR	CONTRACT	ACC.
1	1931	263	01051
2	1953	1354	03162
3	1957	1734	03688
4	1958	1917	
5	"	1944	
6	1959	2034	04082
7	1966	2517	04499
8	1967	41PA	
9	1977	2843	
10	NO PERMIT INFORMATION		

GREEN
HARBOR

FLOOD
EBB

EXIST. SEAWALL, 7 (TO BE RELOCATED)

EXIST. CONC. PAD
(TO BE REMOVED) 7

EXIST. BOAT
RAMP, 7

EXIST. CONC. PAD, 7

EXIST.
SEAWALL, 7

PRIVATE FLOATS AND PILES
(NO PERMIT FOUND) 10

EXIST. PIER TO BE REPAIRED, 6
EXIST. SEAWALL & STONE BASE, 6
PARKING AREA 7, 8

EXIST. PIER, 3

EXIST. SEAWALL & STONE BASE, 3

TRUCK DOCK TO BE EXPANDED, 9

TRUCK DOCK TO BE REMOVED, 3

HARBOR MASTER'S HEAD-
QUARTERS (TO BE REMOVED), 10

SNACK BAR TO BE REMOVED, 10

SHED TO BE REMOVED, 10

ARMY
CORPS
ANCHORAGE
AREA
DREDGED
TO -6'

GANGWAYS, 7

EXIST SEWER
CONNECTION, 7

EXIST.
FLOATS, 7

EXIST. FENDER
PILES, 7

TOWN OF
MARSHFIELD

EDWARD P. JOYCE
42 BRICK KILN ROAD
BRIDGEWATER, MA

WILLIAM M. &
JOHN W. TAYLOR
48 WOODLAWN CIR
MARSHFIELD, MA

REV. 6/29/90

REV. 8/23/90

REV. 12/13/90

CENTRAL S

WILLIAM M. &
JOHN W. TAYLOR

EXISTING CONDITION PLAN

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS

JUNE, 1989

TEC ASSOCIATES

LICENCE
INFORMATION

1935-44 M.D.P.W. 2070
BK. 1789 Pg. 290

1931-77 SEE NOTE

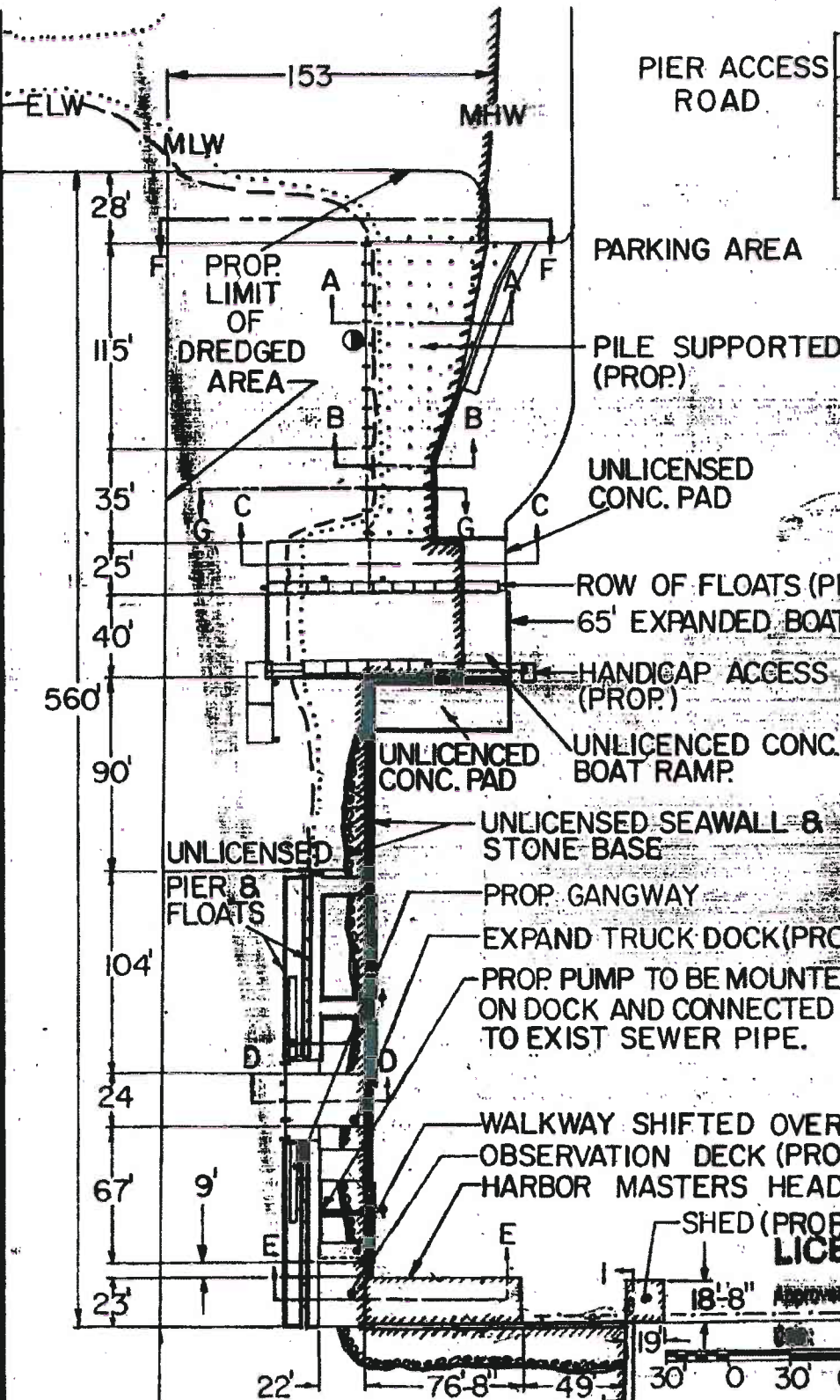
ABOVE



20197

FILE SCHEDULE

LOCATION	NO
COMMERCIAL PIER	108
EXISTING PIER	27
BOAT RAMP	7



COMMERCIAL PIER

LEGEND

● SEDIMENT SAMPLE 1988 SHALLOW

● SEDIMENT SAMPLE 1984

RAMP (PROP.)

FLOATS

NOTE: SEE SHEET 2 OF 13 FOR PERMIT INFO.
NOTE: THE ENTIRE SITE IS ON FILLED TIDELANDS.

QUARTERS (PROP.)

LICENSE PLAN NO. 299

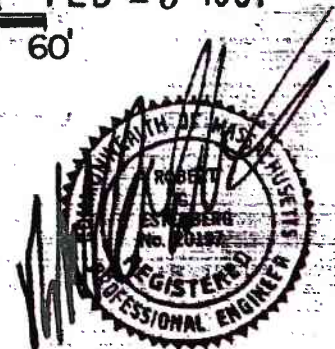
Approved by Department of Environmental Protection

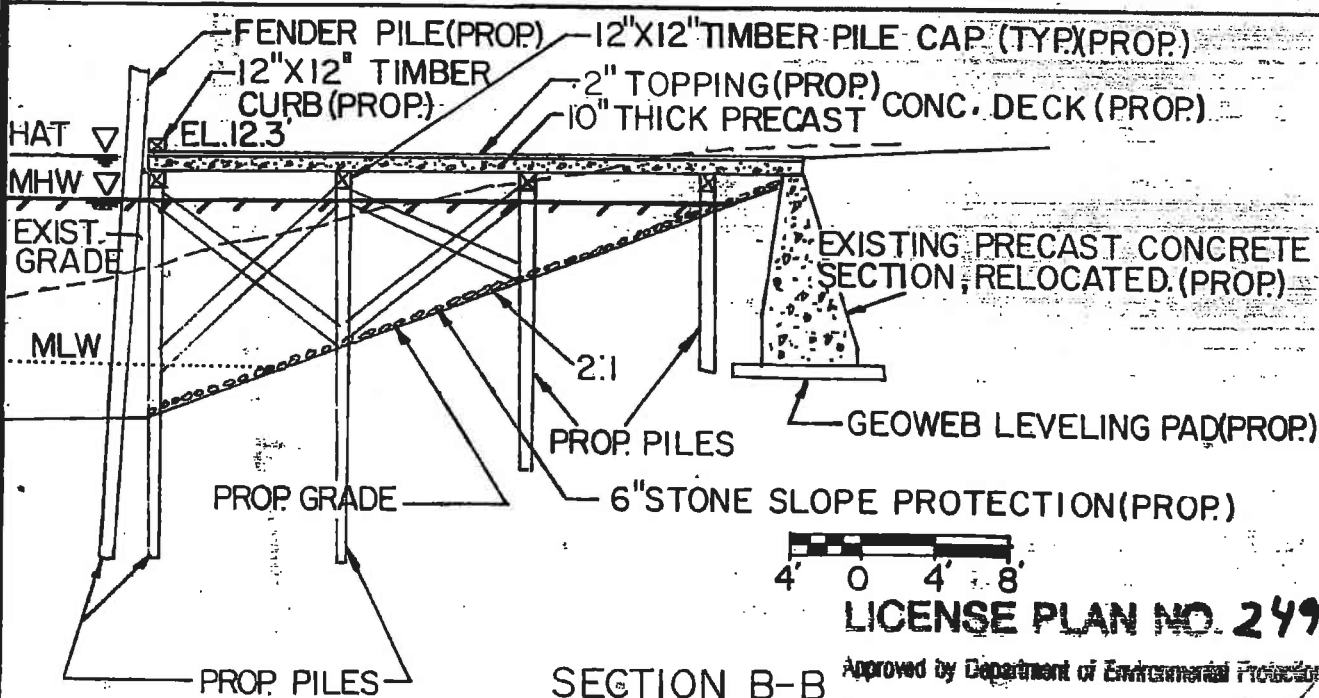
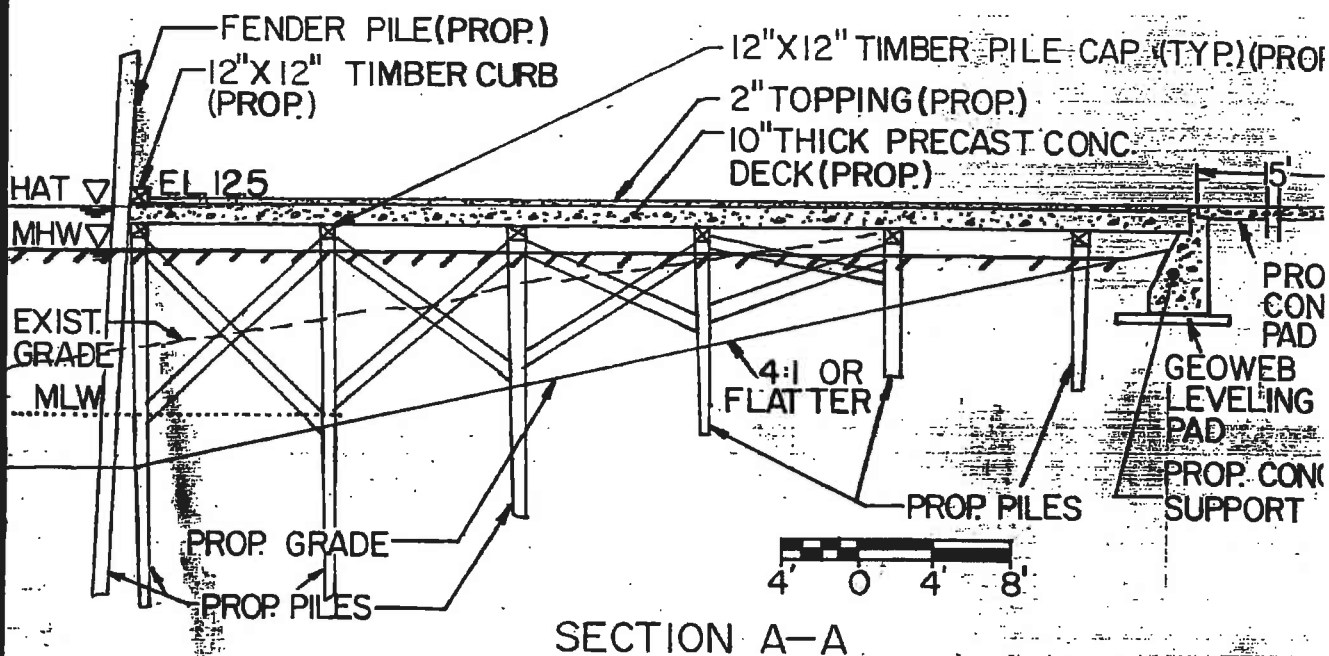
FEB 15 1991

SITE PLAN

PLANS ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO CONSTRUCT, MAINTAIN & REHABILITATE TOWN PIER AND DREDGE IN GREEN HARBOR RIVER MARSHFIELD, MASSACHUSETTS
JUNE, 1989
TEC ASSOCIATES

REV. 12/13/90
REV. 8/23/90
REV. 6/29/90





LICENSE PLAN NO. 249

Approved by Department of Environmental Protection

Date: FEB 15 1991

CROSS SECTIONS

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN PIER
AND DREDGE IN GREEN HARBOR RIVER
MARSHFIELD, MASSACHUSETTS
JANUARY, 1990

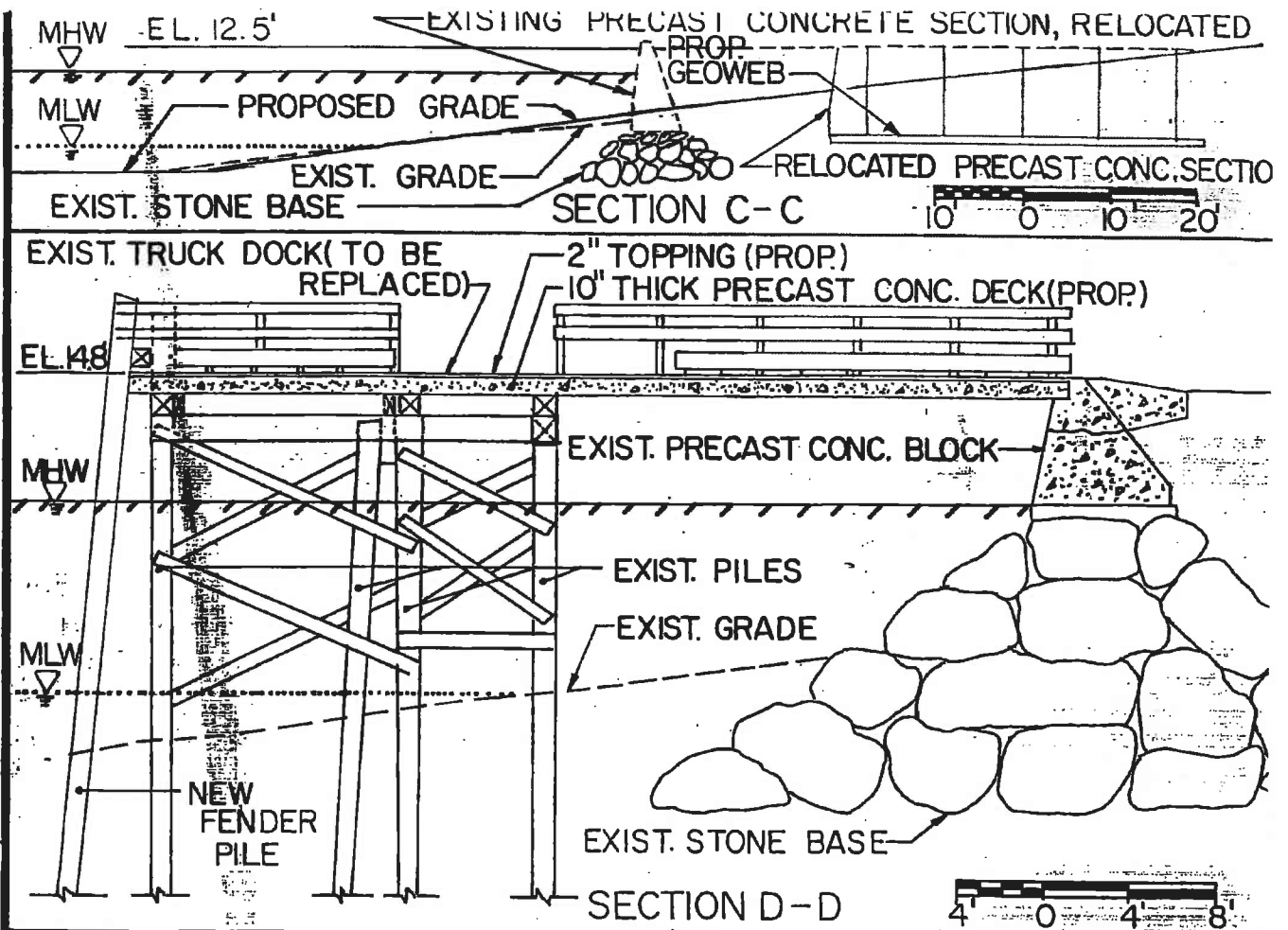
TEC ASSOCIATES
SOUTH PORTLAND, MAINE



REV. 4/23/90

SHEET 4 OF 13

042-M6-9-35-2000
001



LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

Date: FEB 15 1991

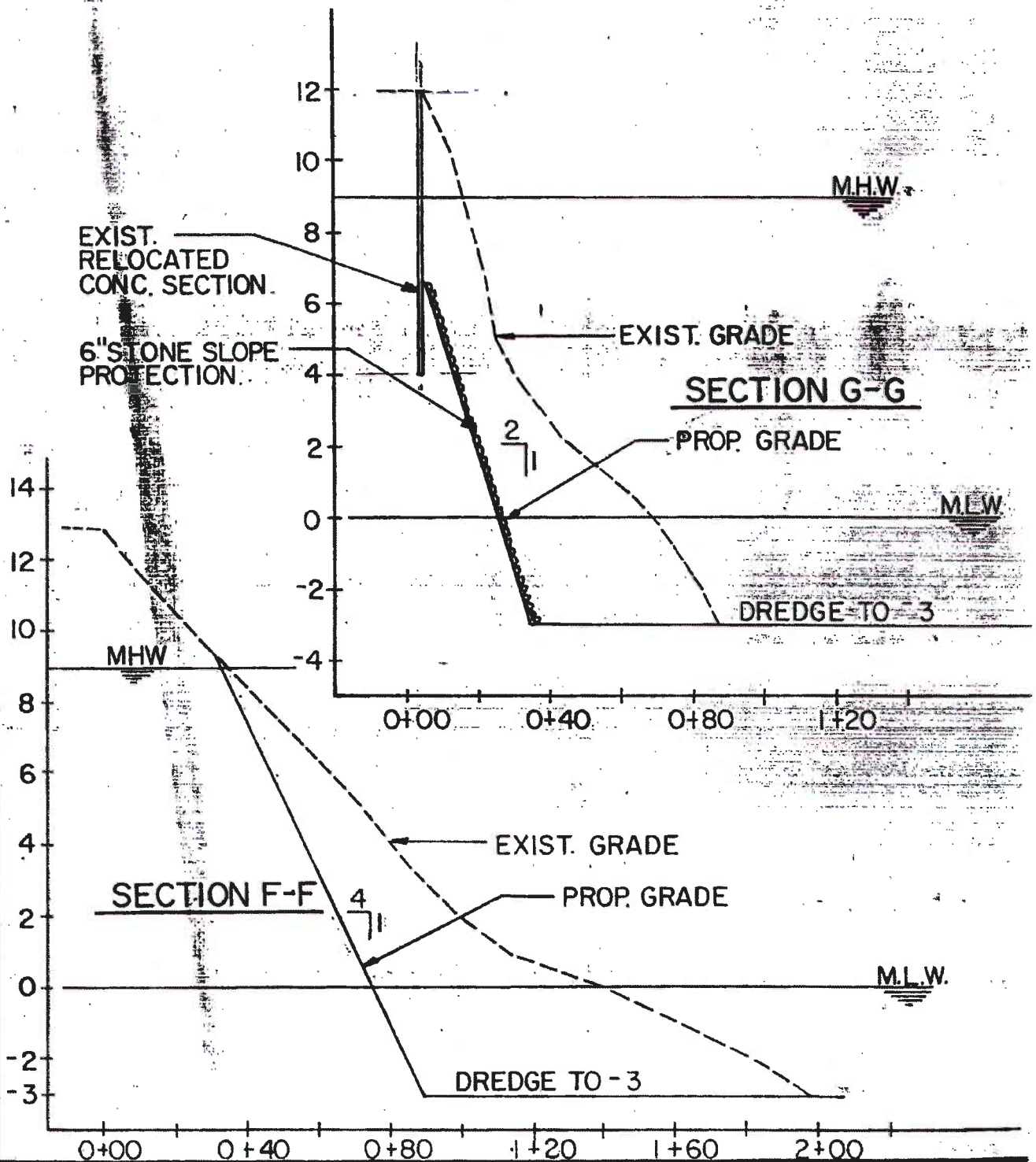
CROSS SECTION

REV. 6/29/90

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD, MASSACHUSETTS
JANUARY, 1990

TEC ASSOCIATES
SOUTH PORTLAND, MAINE





CROSS SECTIONS DREDGE AREA

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT
MAINTAIN & REHABILITATE TOWN PIER
AND DREDGE IN GREEN HARBOR RIVER
MARSHFIELD, MASSACHUSETTS
FEB, 1990

TEC ASSOCIATES
169 FRONT ST.
SOUTH PORTLAND, MAINE

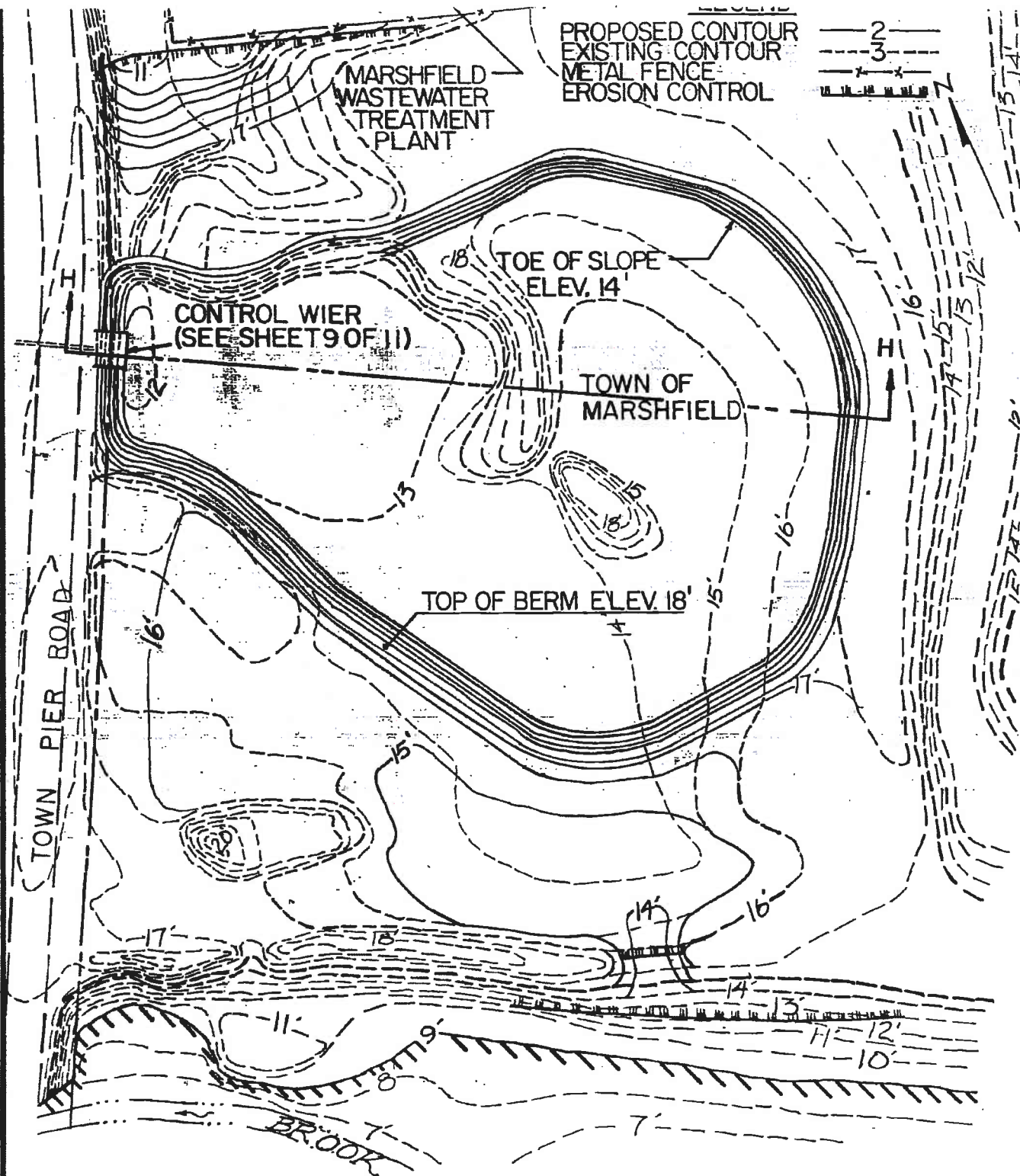
LICENSE PLAN NO. 2492 REV. 4/23/90

Approved by Department of Environmental Protection

FEB 15 1991



60913



PROPOSED DREDGE DISPOSAL AREA

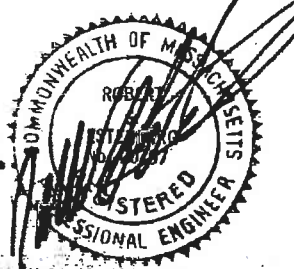
PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS
JUNE, 1989

TEC ASSOCIATES

LICENSE PLAN NO. 2492

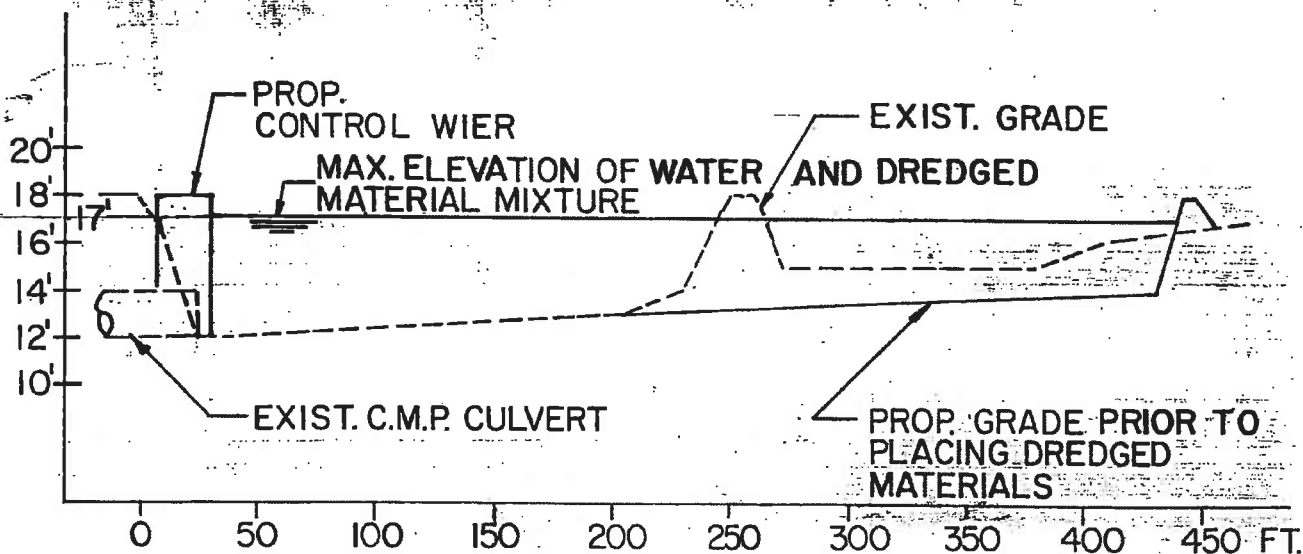
Approved by Department of Environmental Protection

Date FEB 15 1991



70F13

042-M6-9-3B-
100
200
300
400



SECTION H-H

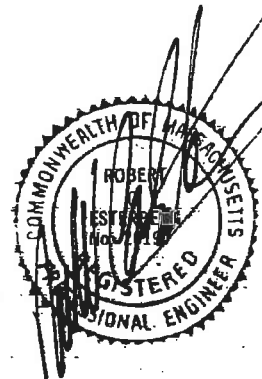
LICENSE PLAN NO. 2492

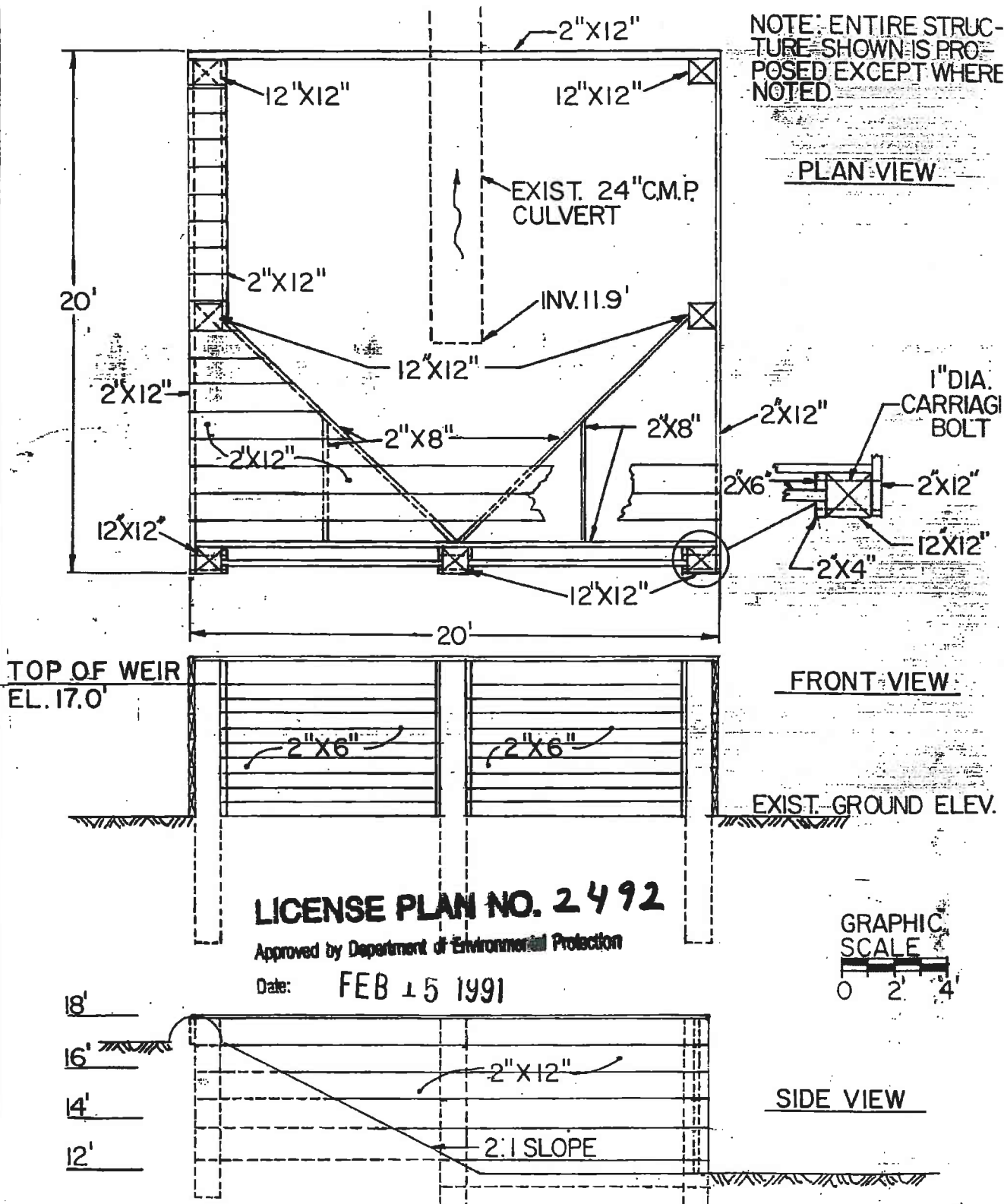
Approved by Department of Environmental Protection

Date: FEB 15 1991

CROSS SECTION PROPOSED
DREDGE DISPOSAL AREA

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS
MARCH, 1990
TEC ASSOCIATES
SOUTH PORTLAND, MAINE

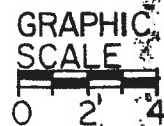




LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

Date: FEB 15 1991



CONTROL WIER

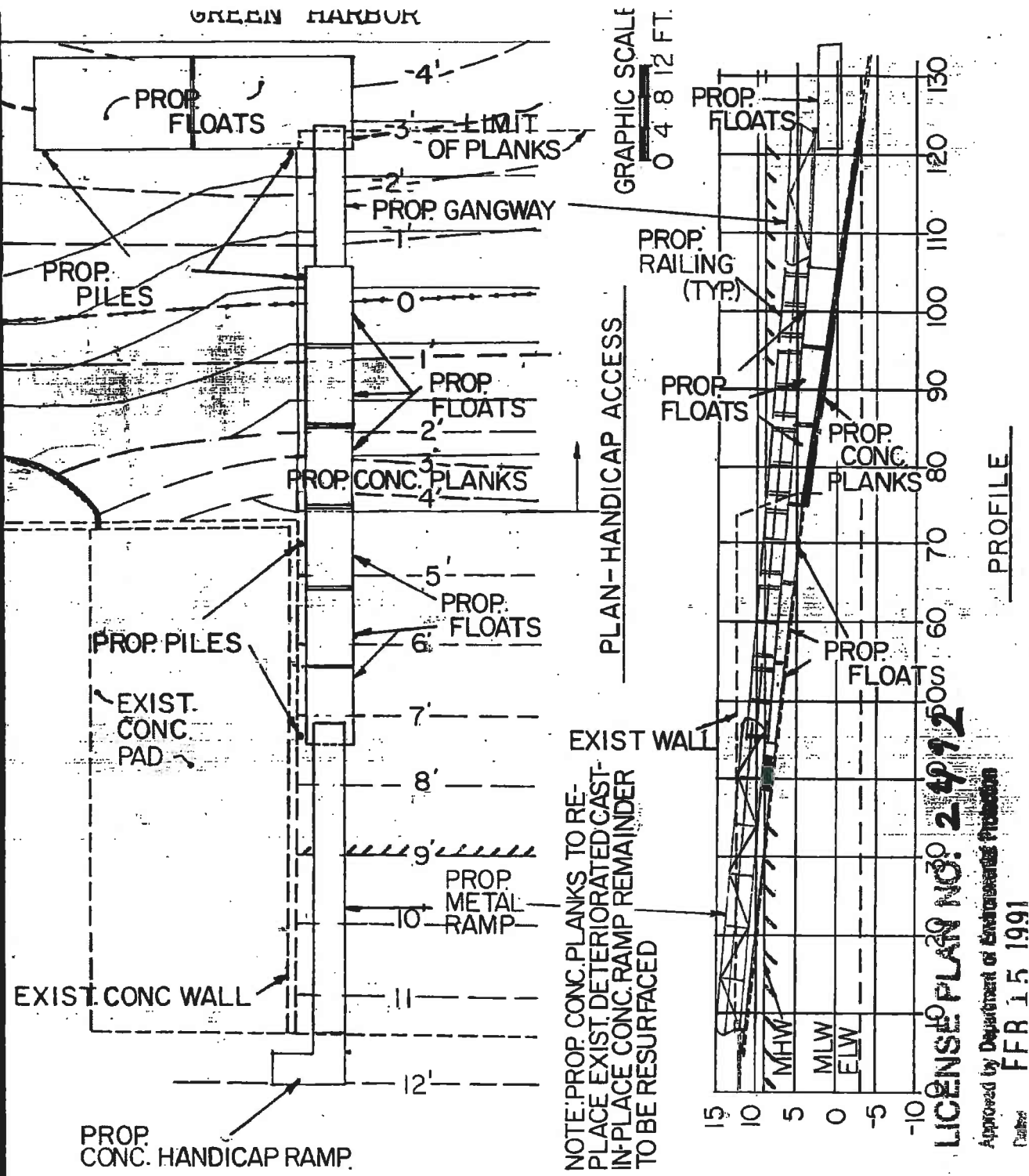
PLANS ACCOMPANYING PETITION
OF TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN PIER AND
DREDGE IN GREEN HARBOR RIVER MARSHFIELD,
MASSACHUSETTS JANUARY, 1990

TEC ASSOCIATES
SOUTH PORTLAND, ME.



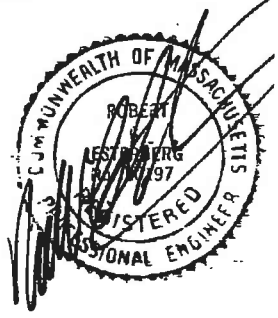
042-116 9-2-5
-100
-200
-300
-400

042-116-9-3B-300
100
200
300
400



HANDICAP ACCESS

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS
FEBRUARY, 1990
TEC ASSOCIATES
169 FRONT ST.
SOUTH PORTLAND, MAINE



LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

DATE: FEB 15 1991

INTER-TIDAL AREA

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS
MARCH, 1990
TEC ASSOCIATES
SOUTH PORTLAND, MAINE

EXIST. EDGE OF PAVEMENT

PROPOSED CONC. PAD

PROPOSED PARKING AREA

PROP. PRECAST CONC. WALL

RELOCATED PRE-CAST CONC. SECTIONS (PROP.)

PROP. COMMERCIAL PIER

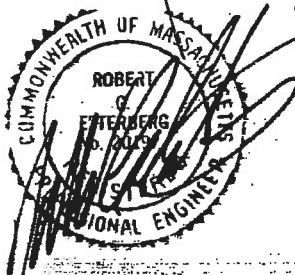
PROP. 6" SLOPE PROTECTION IN 2:1 SLOPE AREA

INTER-TIDAL AREA OUTER BOUNDARY WITHIN PROPOSED DREDGE AREA APPROX. 15,435 SQ-FT

GRAPHIC SCALE
0 10' 20' 30'

REV. 4/23/90

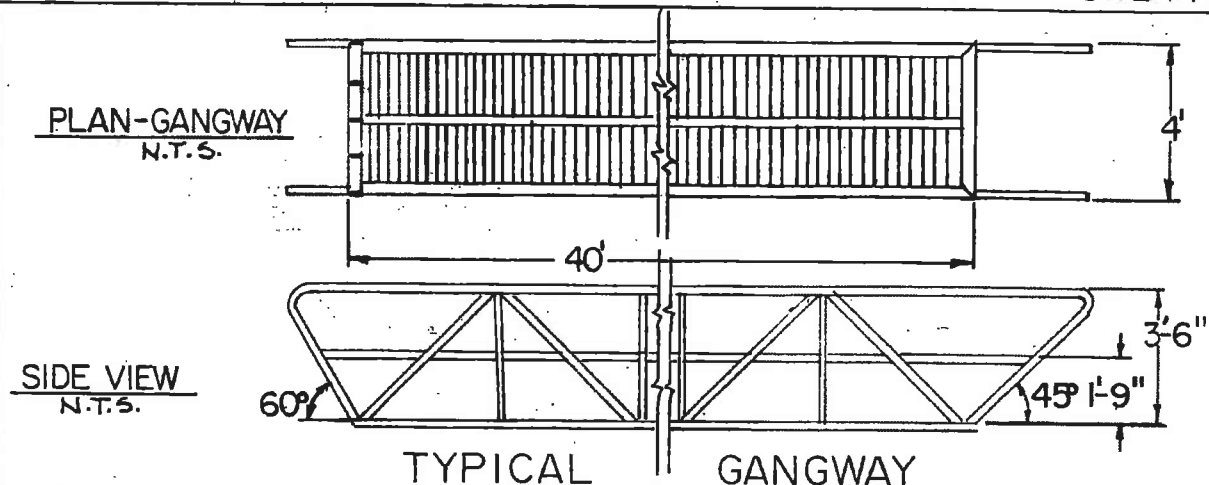
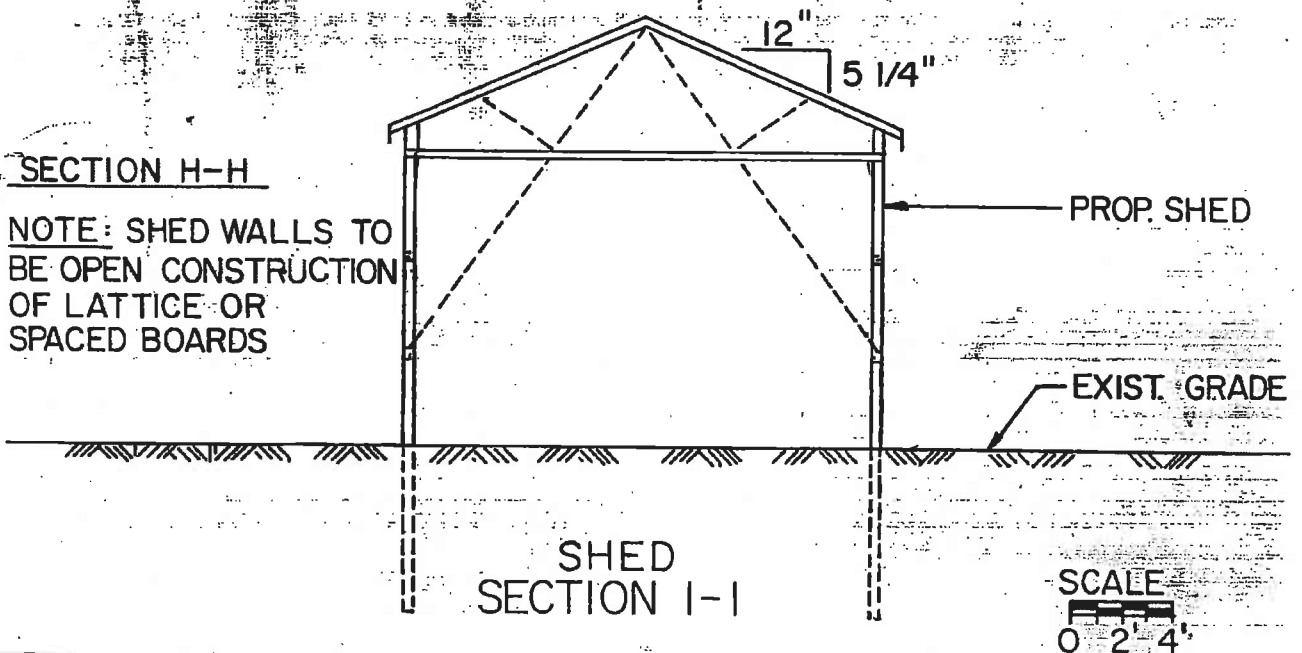
SHEET II OF 13



LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

Date: FEB 15 1991



CROSS SECTION & TYPICAL GANGWAY

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT,
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD,
MASSACHUSETTS
4/23/90
TEC ASSOCIATES
SOUTH PORTLAND MAINE



LICENSE PLAN NO. 2492

Approved by Department of Environmental Protection

Date: FEB 15 1991

EXIST. HARBOR MASTER'S HEADQUARTERS (TO BE REMOVED)
PROP. HARBOR MASTER'S HEADQUARTERS
ROOF EL. 53.04'

F.F. EL. 39.12' - THIRD FLOOR

F.F. EL. 27.25' - SECOND FLOOR
PROP. OBSERVATION PLATFORM
EL. 17.9'

F.F. EL. 17.71'

F.F. EL. 15.62'

SNACK BAR (TO BE REMOVED)

MHW

MLW

EXIST. PILES

EXIST. STONE BASE

EXIST. CONC. SEAWALL

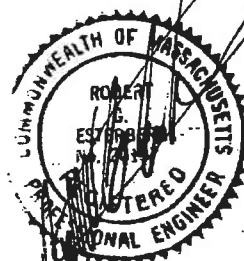
SECTION E-E

10' 0 10' 20'

CROSS SECTION

PLANS ACCOMPANYING PETITION OF
TOWN OF MARSHFIELD TO CONSTRUCT
MAINTAIN & REHABILITATE TOWN
PIER AND DREDGE IN GREEN HARBOR
RIVER MARSHFIELD, MASSACHUSETTS
JANUARY, 1990

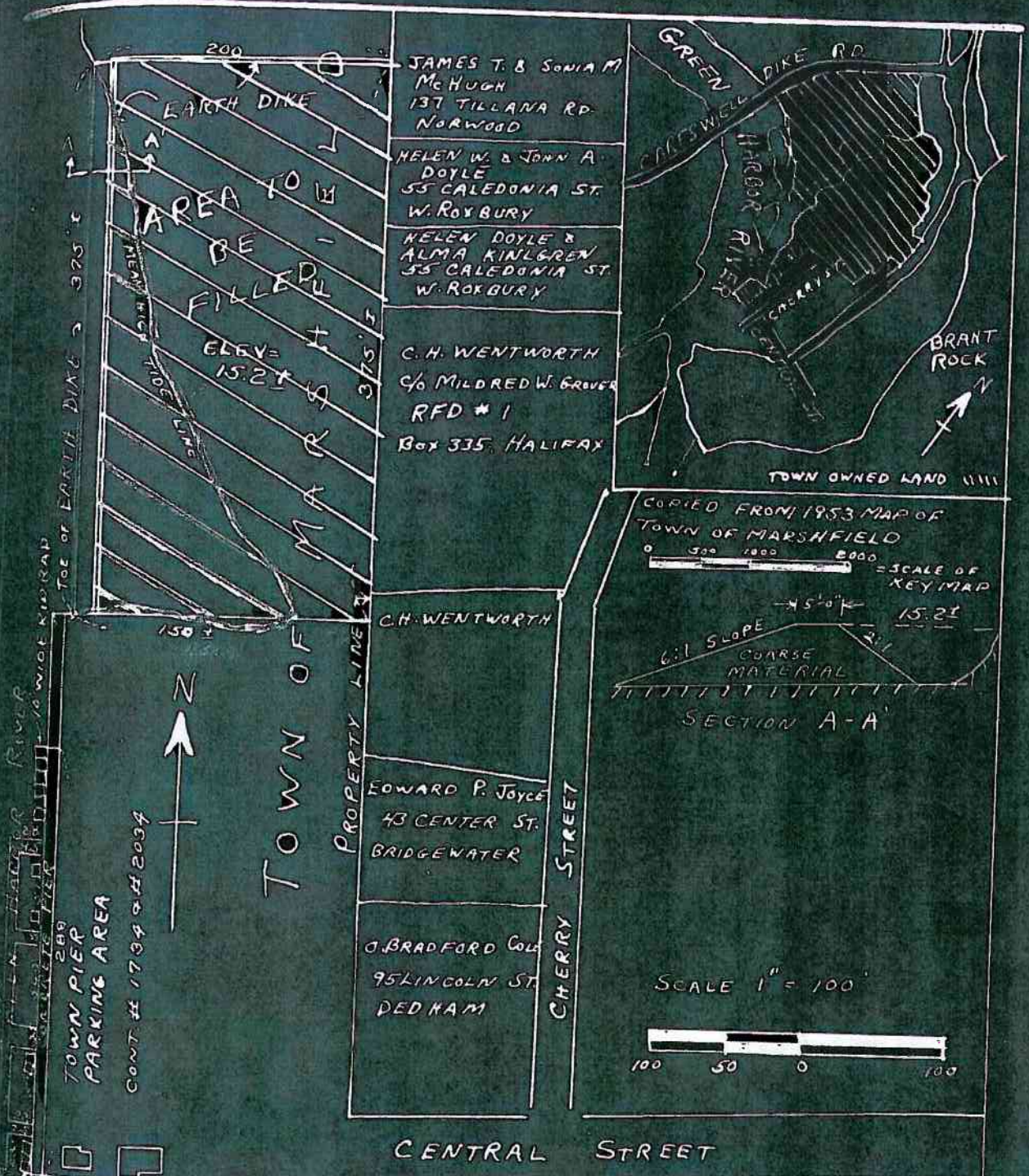
TEC ASSOCIATES
SOUTH PORTLAND, MAINE



REV. 6/29/9

SHEET 13 OF 13

042-116-9-3B-100
-100
-200
-300
-400



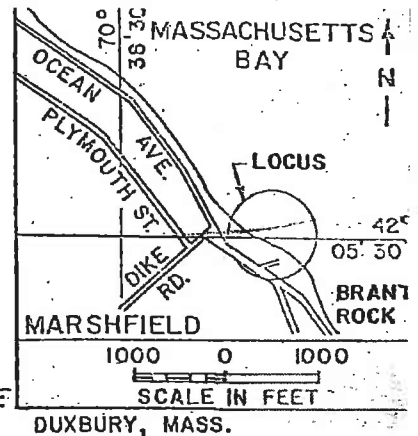
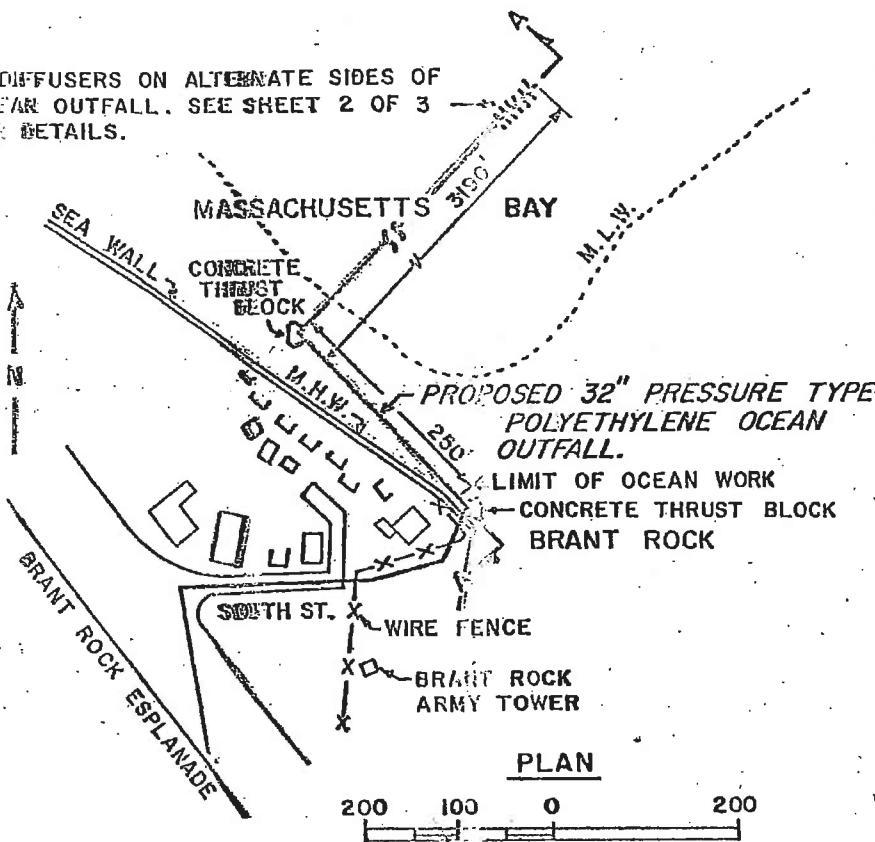
PLAN ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO DISPOSE OF DREDGING MATERIAL FROM STATE OF MASS. DEPT. OF PUBLIC WORKS CONTRACT #2408 ON PROPERTY OWNED BY TOWN OF MARSHFIELD IN GREEN HARBOR

LICENCE PLAN NO. 4858
APPROVED BY COMMISSIONER OF PUBLIC WORKS OF MASSACHUSETTS
AUGUST 19, 1964
COMMISSIONER - DEPT. OF PUBLIC WORKS
ASSOCIATE COMMISSIONERS

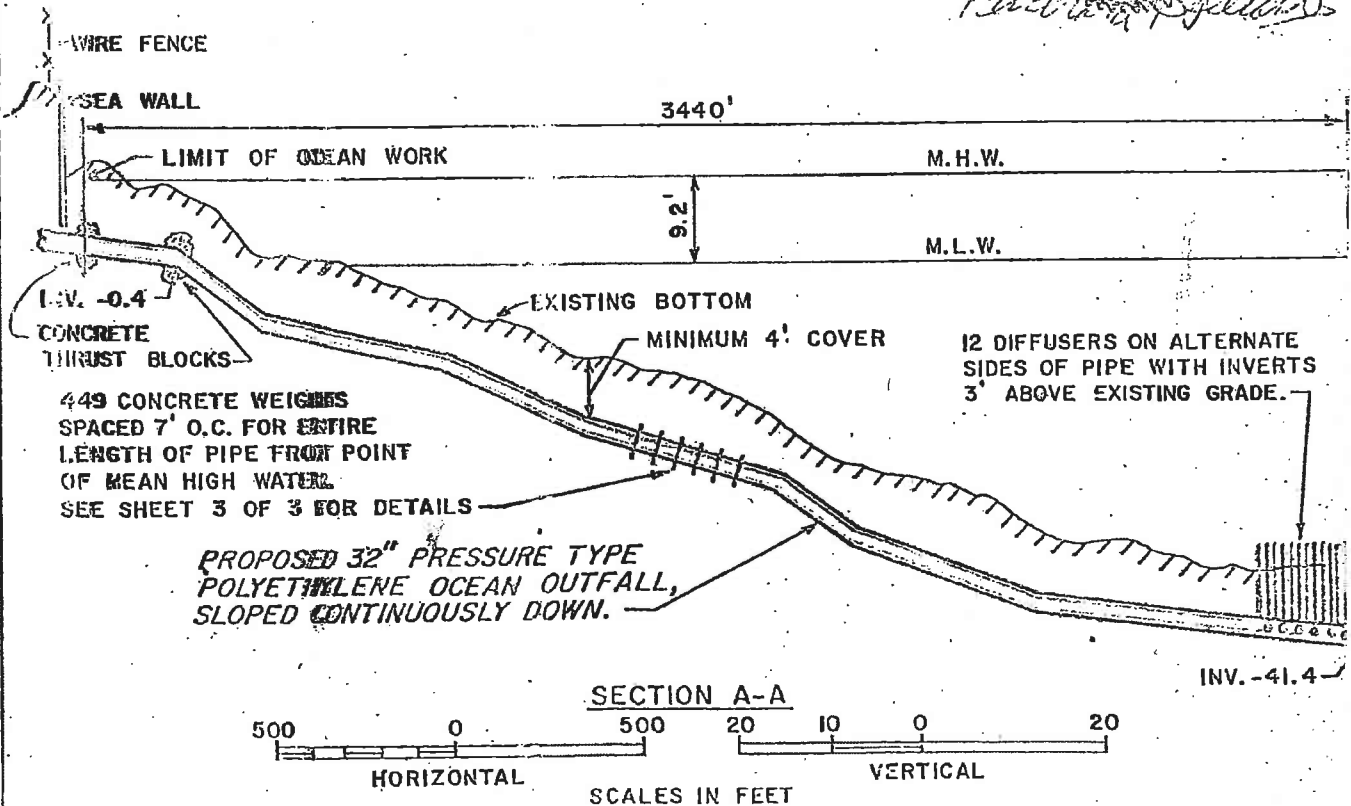
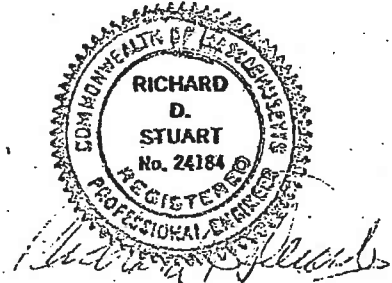
Handwritten signatures and stamps are present over the official text.

042-M6-9-3B-300

12 DIFFUSERS ON ALTERNATE SIDES OF OCEAN OUTFALL. SEE SHEET 2 OF 3 FOR DETAILS.



NOTE
SOUNDINGS AND ELEVATIONS A
IN FEET AND TENTHS AND REFER
TO THE PLANE OF MEAN LOW
WATER.

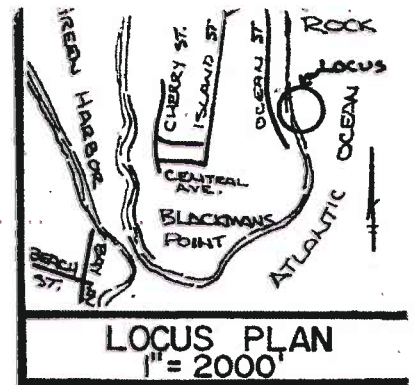
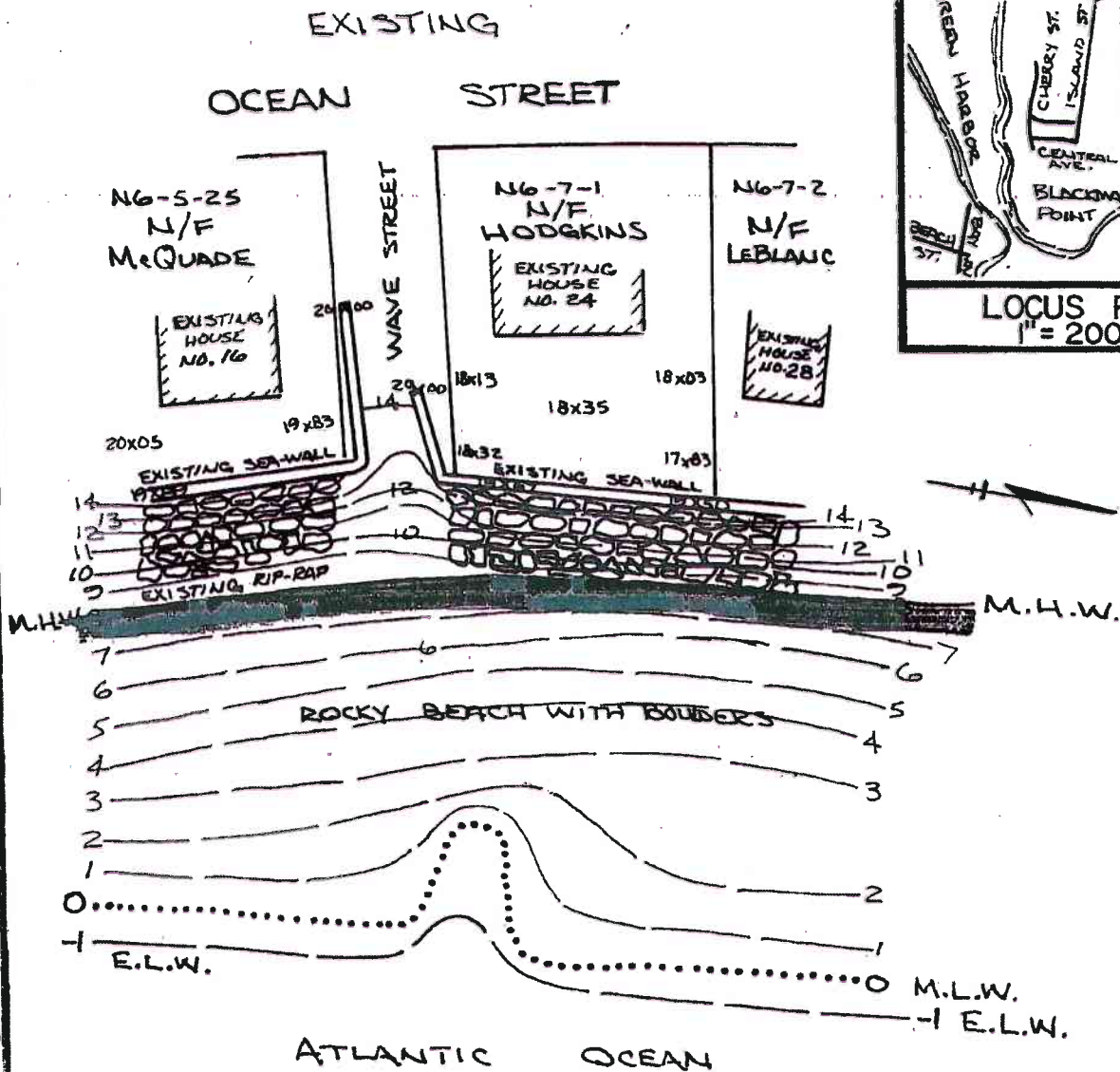


PLANS ACCOMPANYING PETITION OF THE
TOWN OF MARSHFIELD
TO CONSTRUCT AND MAINTAIN A
32" PRESSURE TYPE POLYETHYLENE
OCEAN OUTFALL WITH THRUST BLOCKS
AND RIP-RAP.
MASSACHUSETTS BAY
MARSHFIELD, MASSACHUSETTS

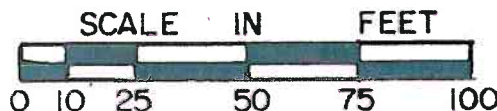
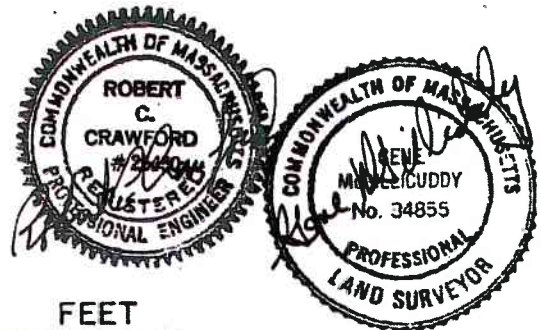
LICENSE PLAN NO. 377
Approved by Department of Environmental Quality Engineering
of Massachusetts. September 20, 1977
COMMISSIONER
CHIEF ENGINEER

042-M8-5-4-100

042-14-22-1-100 042-14-21-3-100



ALL ELEVATIONS ARE BASED UPON MEAN LOW WATER



PLAN ACCOMPANYING PETITION OF TOWN OF MARSHFIELD TO RE-CONSTRUCT A PORTION OF SEA WALL AND CLOSE EXISTING OPENING ALONG THE ATLANTIC OCEAN OCEAN ST. & WAVE ST. MARSHFIELD MARCH 1990

SCALE 1"=40'

SHEET 1 OF 4

LICENSE PLAN NO. 2441

Approved by Department of Environmental Protection

Christy F. Smith

COMMISSIONER

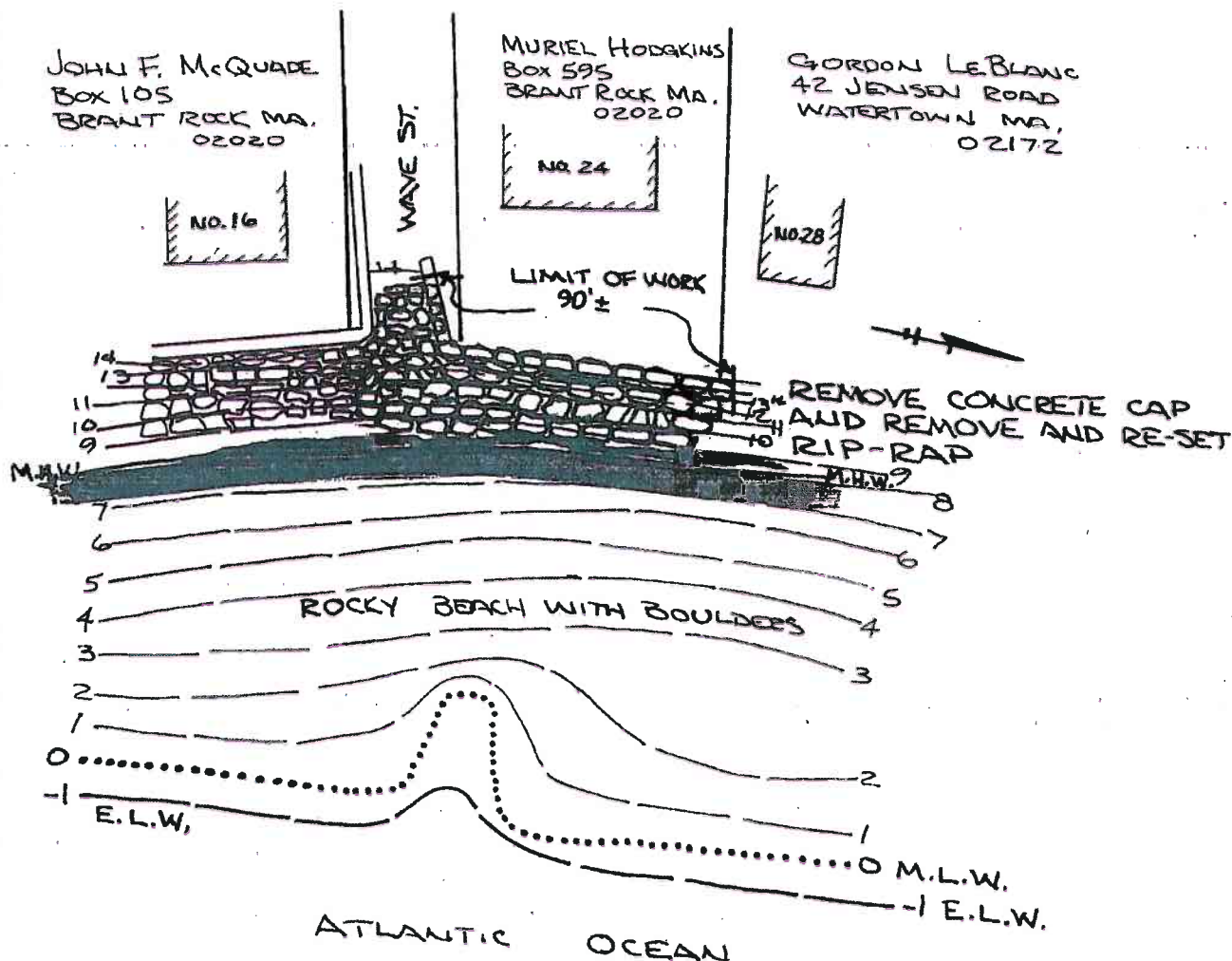
SECTION CHIEF

OCEAN STREET

JOHN F. McQUADE
BOX 105
BRANT ROCK MA.
02020

MURIEL HODGKINS
BOX 595
BRANT ROCK MA.
02020

GORDON LE BLANC
42 JENSEN ROAD
WATERTOWN MA,
02172

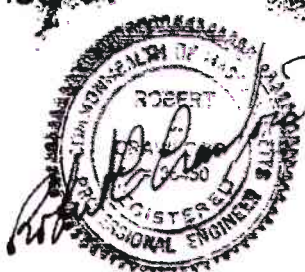


ALL ELEVATIONS ARE BASED
UPON MEAN LOW WATER

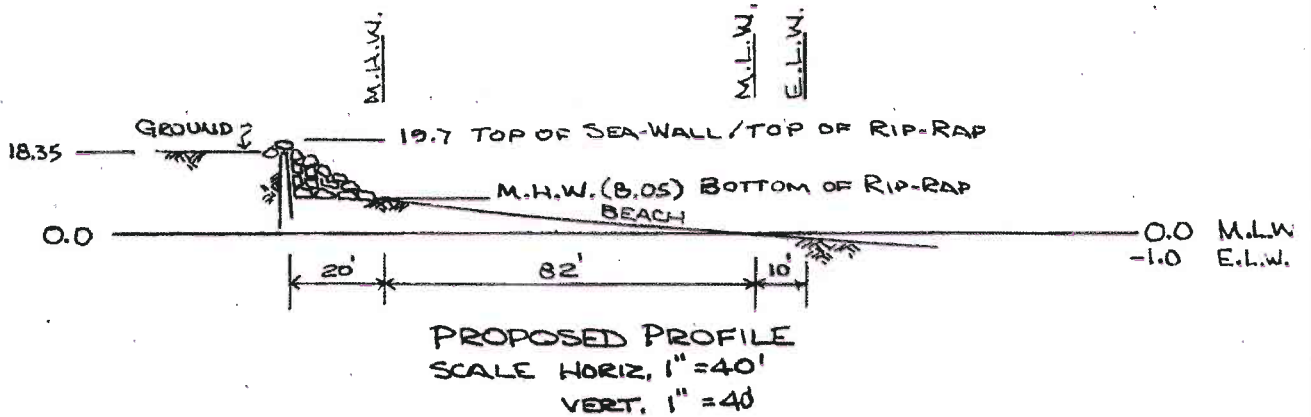
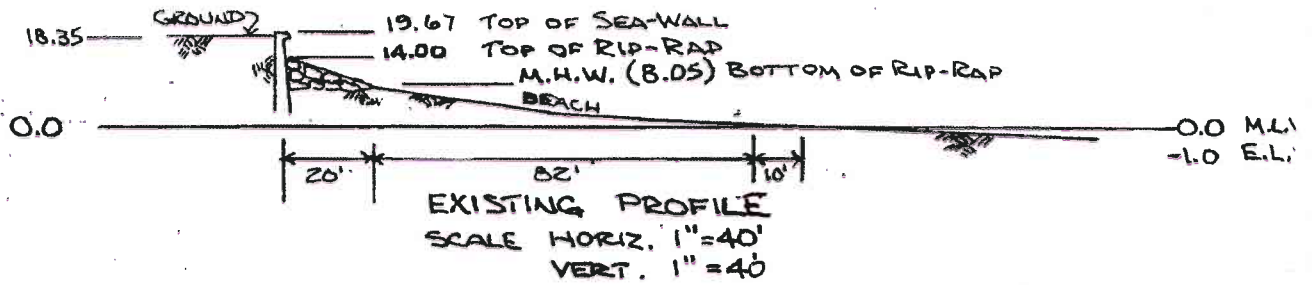
LICENSE PLAN NO. 2441

Approved by Department of Environmental Protection

NOV 16 1990



2044



042-1141-22-100

ALL ELEVATIONS ARE BASED
UPON MEAN LOW WATER.

LICENSE PLAN NO. 2441

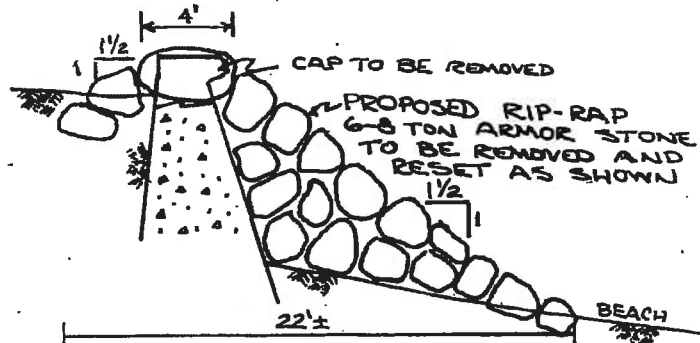
APPROVED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOV 16 1990

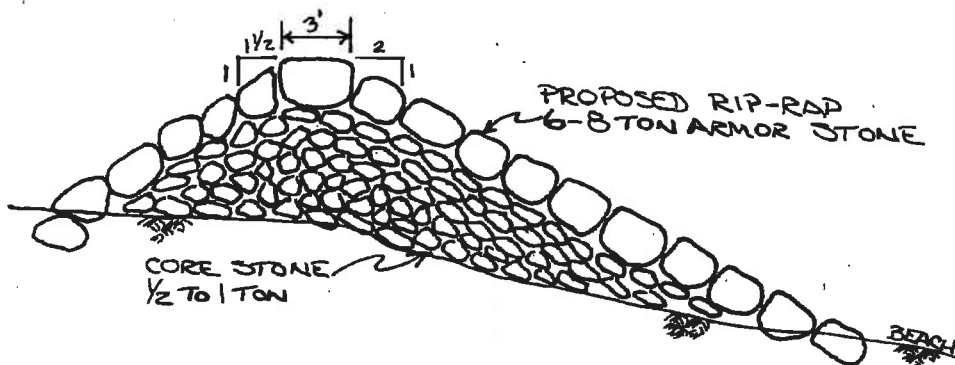


3 of 4

042-M41-21-3-100



SEA WALL DETAILS
REMOVE AND RESET
EXISTING RIP-RAP
SCALE 1"=8' HORIZ & VERT.

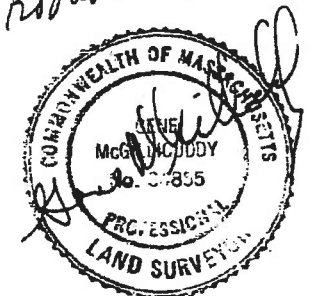
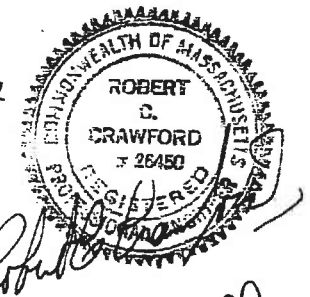
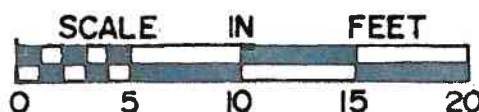


RIP-RAP DETAILS TO CLOSE
R.O.W. (WAVE STREET)
SCALE 1"=8' HORIZ. & VERT.

LICENSE PLAN NO. 2441

Approved by Department of Environmental Protection

Date: NOV 16 1990



TOWN: MARSHFIELD

SOURCE: U.S. - ARMY CORPS OF ENGINEERS

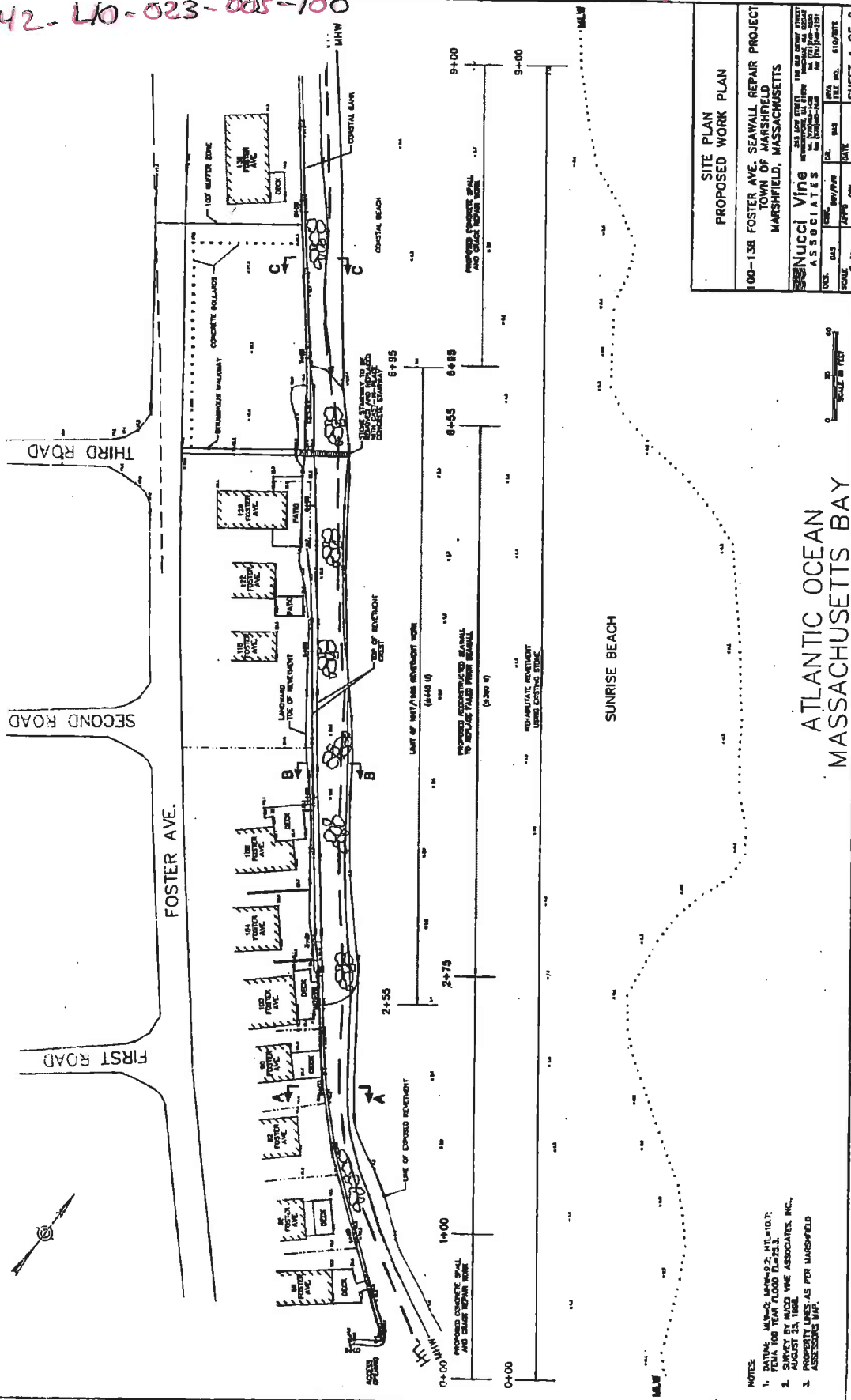
LOCATION: U.S.A.C.E. - NEW ENGLAND DISTRICT, CONCORD, MA

DATE OF RESEARCH: AUGUST 2006

BCE Structure No	Document No	Permit/ Drawing Number	Entity	Municipality	Date	Title	Sheets	Location	Description
042-L08-024-005-100	042-L08-024-005-100-COE1A	NAE-CO-199803637	Town of Marshfield	Marshfield	DEC 1996	100-138 Foster Ave, Seawall Repair Project	2	Foster Ave., I Front of First, Second and Third Roads	
042-L10-024-005-100	042-L10-024-005-100-COE1B	NAE-CO-199803637	Town of Marshfield	Marshfield	DEC 1996	100-138 Foster Ave, Seawall Repair Project	2	Foster Ave., I Front of First, Second and Third Roads	
042-M04-021-003-100	042-M04-021-003-100-COE1A	NAE-20052821	USACE	Marshfield	JUL 2005	80 Bay Ave, Seawall and Revetment Repair	5		
042-M05-009-003B-100	042-M05-009-003B-100-COE1A	NEDNP-57-159	MADPW	Marshfield	APR 1957	Proposed Timber Pier and Seawall, Green Harbor	3	Town pier at Cherry Street	
042-M06-042-002-100	042-M06-042-002-100-COE1A	NEDNP-58-65	MADPW	Marshfield	FEB 1956	Proposed Sand Fill, Stone Apron& Steel Piling Revetment, Brant Rock Shore	2	Ocean Ave.	Concrete Seawall Reinforcement
042-M09-001-007-100	042-M09-001-007-100-COE1A	CENED -R- 200300009, CENED -R- 2001101477	USACE	Marshfield	DEC 2002	Foster Ave Revetment, Seawall and Ramp Reconstruction	9	Foster Ave., North of Brook Street	
042-M09-008-009-100	042-M09-008-009-100-COE1A	CENED -R- 200300009	USACE	Marshfield	DEC 2002	Foster Ave Revetment, Seawall and Ramp Reconstruction	9	Foster Ave., North of Brook Street	
042-N05-001-012-100	042-N05-001-012-100-COE1A	NEDNP-31-127	MADPW	Marshfield	MAR 1931	Proposed Jetty Repairs and Proposed Dredging and Solid Fill, Green Harbor	1	East Jetty, Green Harbor	

042-410-023-005-100

NAE-CO-199803637



NOTES:

1. DATE: 11/10/02; TIME: 10:15; AREA: 100 YD FLOOD DIST. 3.
2. SURVEY BY: MICO VME ASSOCIATES, INC. AUGUST 23, 1988.
3. PROPERTY LINES: AS PER MARSHFIELD ASSESSORS MAP.

100-138 FOSTER AVE. SEAWALL REPAIR PROJECT TOWN OF MARSHFIELD MARSHFIELD, MASSACHUSETTS	334 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201		100 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201
SITE PLAN PROPOSED WORK PLAN	Nucci Vine ASSOCIATES	334 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201	100 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201
	NO. 1 DATE 10/1/87	334 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201	100 CAS STREET MARSHFIELD, MA 01946 TEL: (508) 463-1200 FAX: (508) 463-1201

POSTING SECTION A-A
TYPICAL STATION 0+00 TO 3+75

~~PROPOSED SECTION A-A
TYPICAL STATION 0+00 TO 2+75~~

PROCESSED PARTIAL RETURN
TYPICAL STATION 2475 TO 8465

EXISTING SECTION B-B
TYPICAL STATION 2+75 TO 6+55

~~PROPOSED SECTION 9-3
TYPICAL STATION 9+05 TO 9+06~~

PROPOSED FULL REBUILD
TYPICAL STATION 2+75 TO 6+85

DO-6 DL CR-9 NOISES TYPICAL
C-3 NOISES CR1509

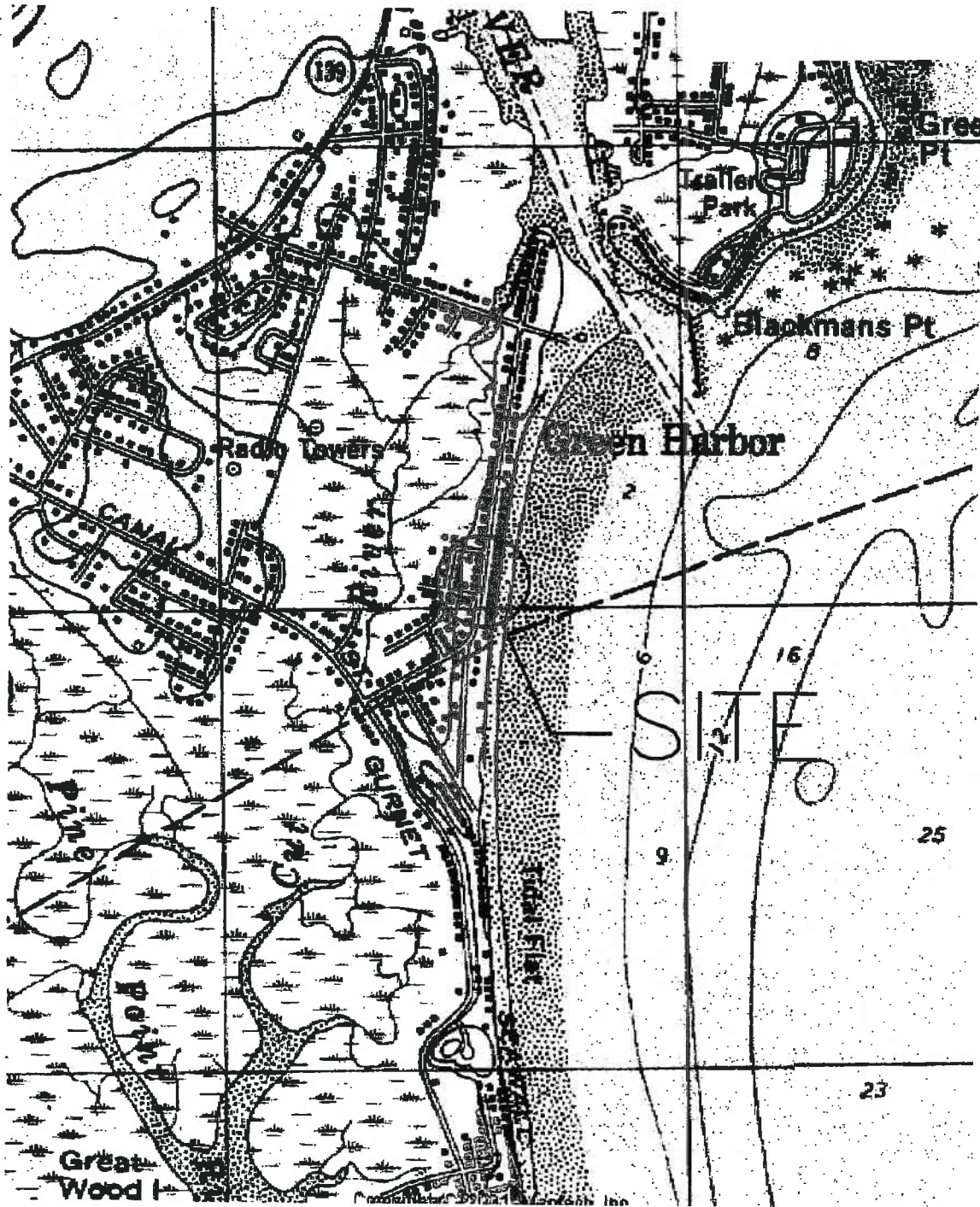
EXISTING/PROPOSED SECTIONS

100-138 FOSTER AVE. SEAWALL REPAIR PROJECT
TOWN OF MARSHFIELD
MARSHFIELD, MASSACHUSETTS

Nucnel Vine ASSOCIATES		273 LOW STREET SEVENTH FLOOR NEW YORK, N.Y. 10014 (212) 691-1400		180 OLD DUNNY STREET SEVENTH FLOOR NEW YORK, N.Y. 10014 (212) 691-1400	
DOCS.	DALS	CHRG.	REV/PRI	OR.	DALS
SCALE	APPRO	DATE	DATE	DATE	DATE
1-1	1-1	1-1	1-1	1-1	1-1

042-OMK 4-021-003-100

NAC 2005 2621



DATUM: MLW = 0.0
MHW = 9.2
AHT = 11.5

LOCUS PLAN
BAY AVENUE
MARSHFIELD, MA

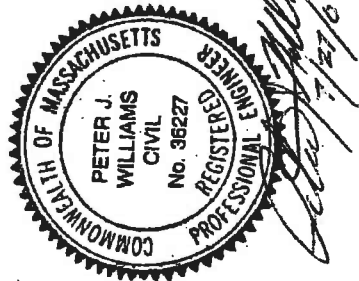
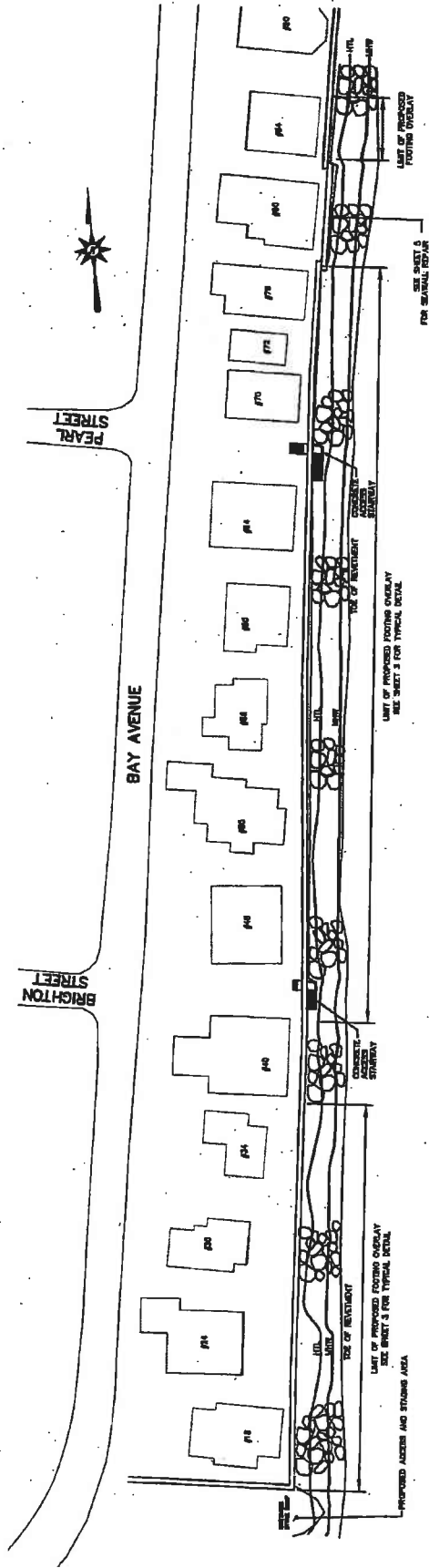
AT: ATLANTIC OCEAN
MARSHFIELD, MA
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

JULY 2005

SHEET 1 OF 5

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS

USACE 2005 2621



DATUM:
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MHW = 9.2
AHT = 11.5

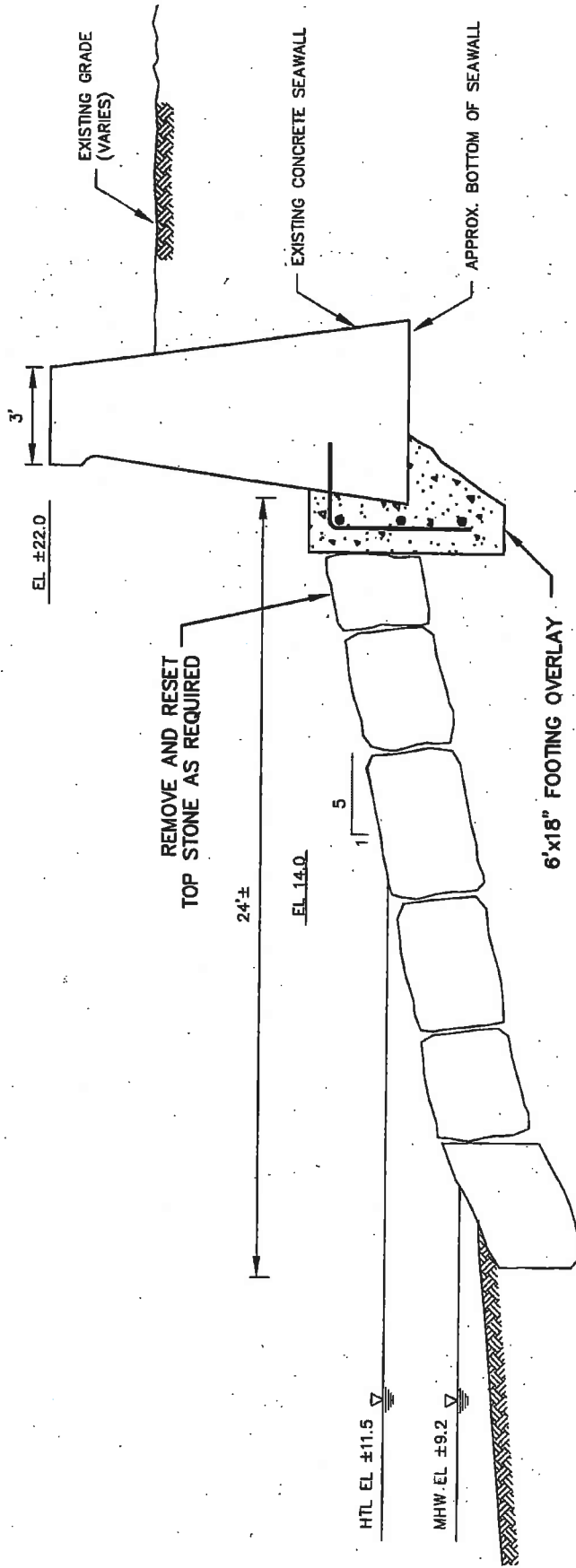


**SITE PLAN
BAY AVENUE
MARSHFIELD, MA**

AT: ATLANTIC OCEAN
MARSHFIELD, MA
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

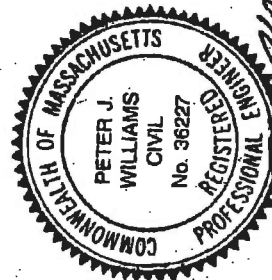
REV.:
DATE: JULY 2005
SHEET 2 OF 5

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



TYPICAL SECTION-PROPOSED FOOTING OVERLAY

SCALE 1"=5'



DATUM:
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MHW = 9.2
AHT = 11.5

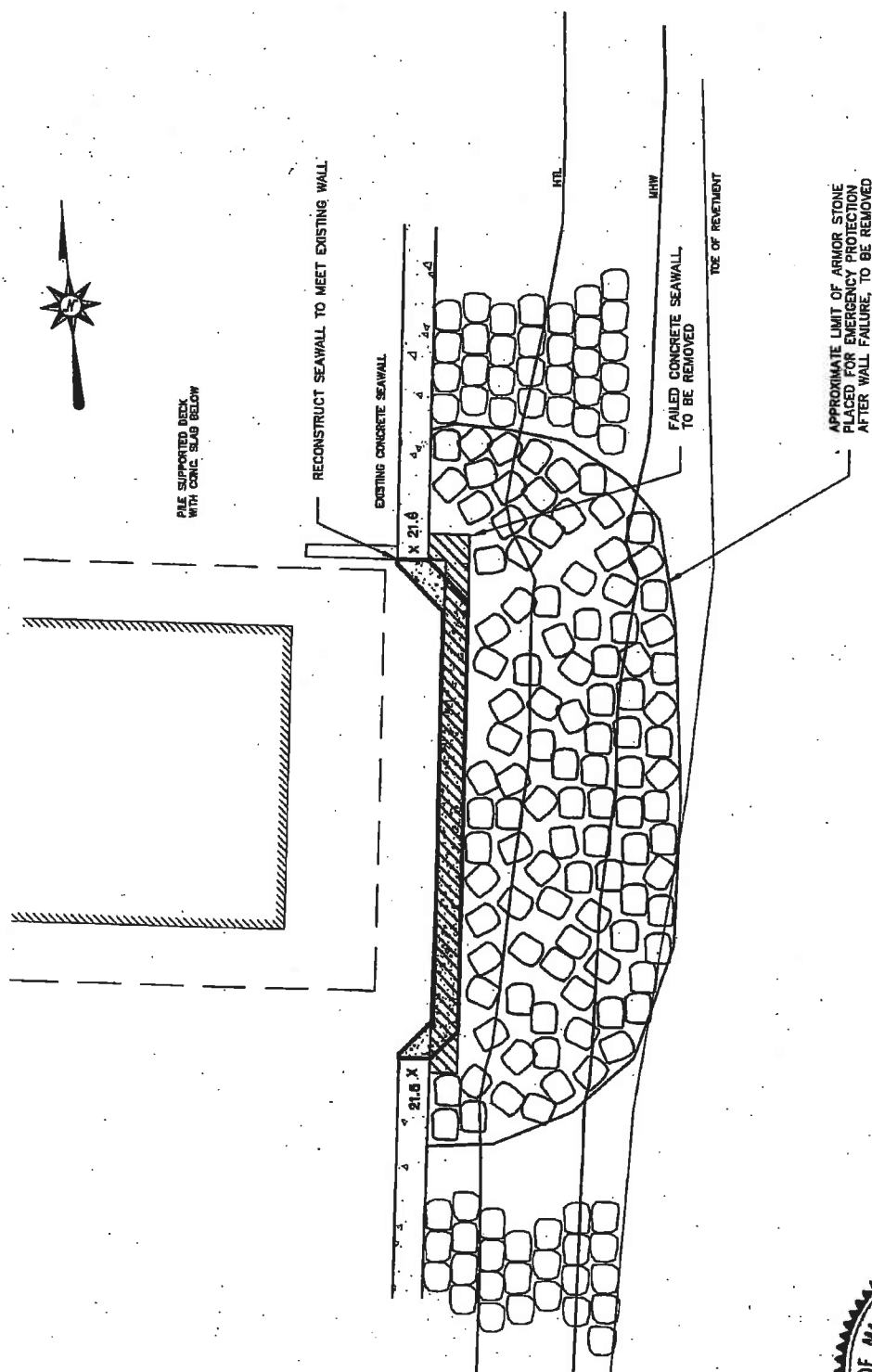


TYPICAL SECTION
PROPOSED
FOOTING OVERLAY

AT: ATLANTIC OCEAN
MARSHFIELD, MA
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA
REV: DATE: JULY 2005

SHEET 3 OF 5

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS

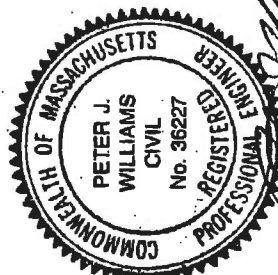


AT: ATLANTIC OCEAN
MARSHFIELD, MA
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA
REV.:
DATE: JULY 2005

**PROPOSED SEAWALL
REPAIR PLAN
#80 BAY AVENUE**

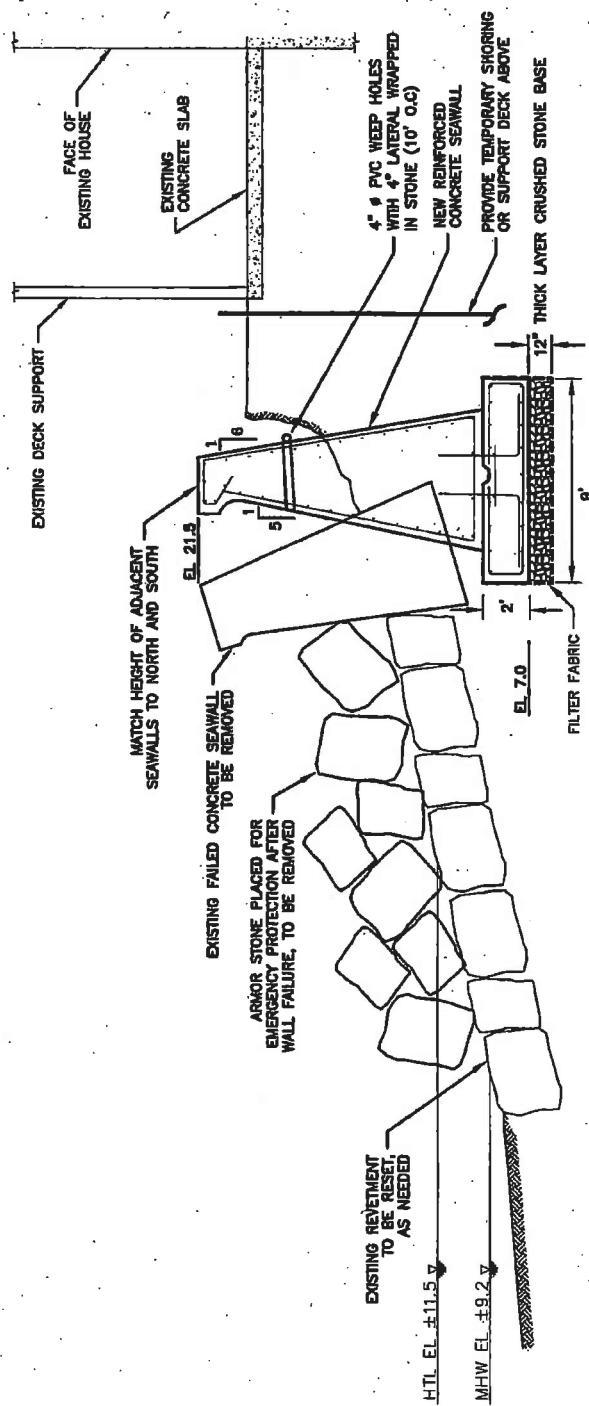
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AHT = 11.5

0' 10' 20'



Signature
7/27/05

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



**TYPICAL SECTION
SEAWALL REPAIR
#80 BAY AVENUE**

DATUM:
MLW = 0.0
MHW = 9.2
AHT = 11.5



AT: ATLANTIC OCEAN
MARSHFIELD, MA
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

REV.:
DATE: JULY 2005 SHEET 5 OF 5

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS

042-0m6-009.
- 03B-100

USACU
NWPDP 57-159

0810130



SECTION AA

SCALE - FEET - BOTH SECTIONS



SECTION BB

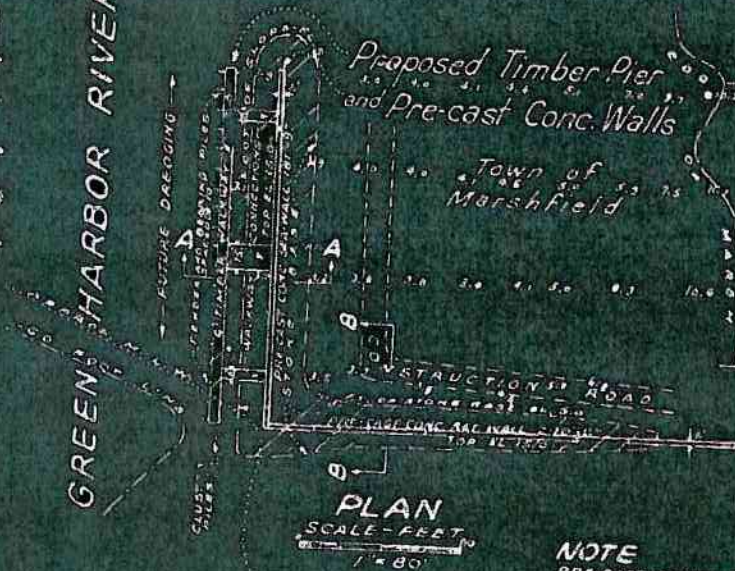


LOCATION PLAN

SCALE - FEET

SEE U.S. GEOL. SURV. DUXBURY QUAD.

GREEN HARBOR RIVER



PLAN

SCALE - FEET
1" = 80'

NOTE

PRE-CAST ENDS TO BE SUITABLY NOTCHED TO RECEIVE TIMBER STRINGERS FOR RUNWAY CONNECTIONS.

NOTE

ELEVATIONS ARE IN FEET AND TENTHS ABOVE PLANE 2 MEAN LOW WATER. TOP OF ALL BE AND PILES AT EL. 5.70. ALL FASTENING HARDWARE NUTS ETC ARE TO BE WROUGHT IRON OR OTHERWISE JUST PROOF TWO CONSTRUCTION PROCEEDURE IN ACCORD WITH CURRENT ACCEPTED PRACTICE INCLUDING MAINTENANCE TREATMENT FOR TIMBER. FUTURE DREDGING IN EXON OF PIER WILL BENEFIT THE STRUCTURE TO A FULLEST ADVANTAGE. APPROX. EXISTING GROUND SHOWN WITH LOCATION OF PROPOSED WORK SHOWN IN RED. LONGITUDINAL 349 BRACING DIAGONALLY BETWEEN UPPER AND LOWER CHAINS OF ALTERNATE (20 FOOT) SPANS.

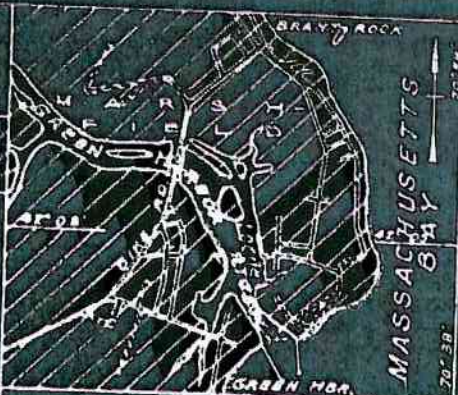
PROPOSED TIMBER PIER & SEA WALL GREEN HARBOR MARSHFIELD, MASS.

APPLICATION BY
DEPARTMENT OF PUBLIC WORKS - MASSACHUSETTS
DIVISION OF WATERWAYS
APRIL 1957

Robert B. MacKinnon
CHIEF WATERWAYS ENGINEER

ACC. 03688

1024



PROPOSED
TIMBER PIER & SEA WALL
GREEN HARBOR
MARSHFIELD - MAGE
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS - MASSACHUSETTS
DIVISION OF WATERWAYS
JANUARY - 1960

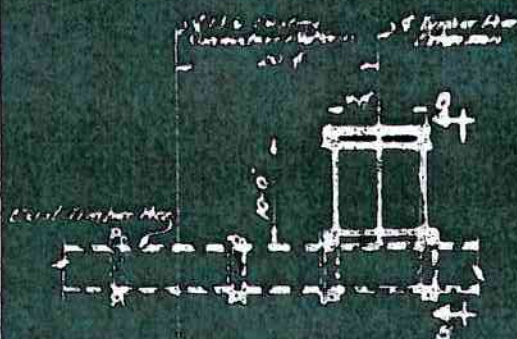
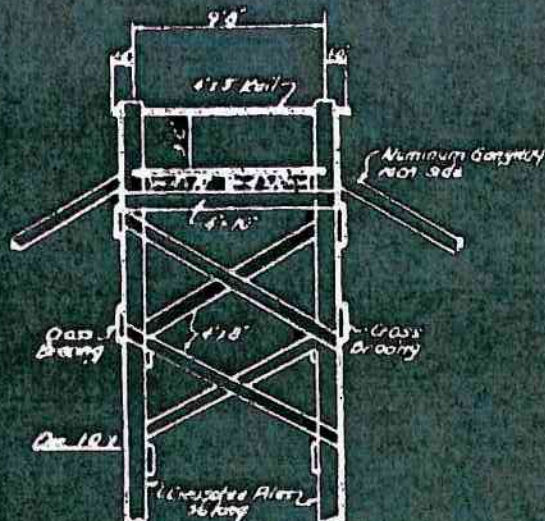
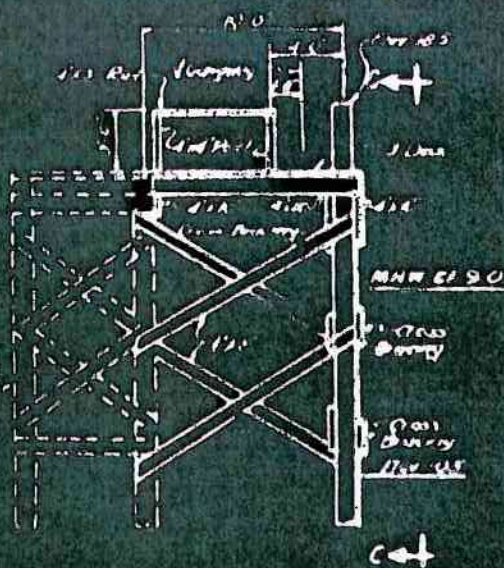
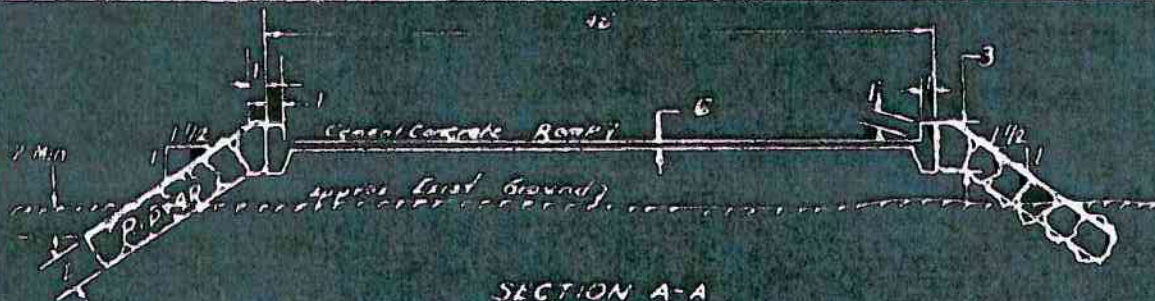
R.B. MacKinnon
CHIEF WATERWAYS ENGINEER

ACC. 04082

2074

051 1598

Sheet 2 of 2



DETAILED DRAWING PLAN
Scale 1"=10'

PUBLIC ACCESS RAMP AND FACILITIES
GREEN HARBOR
MARSHFIELD MASS.

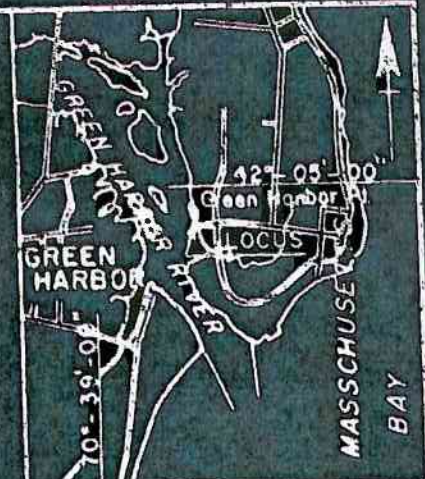
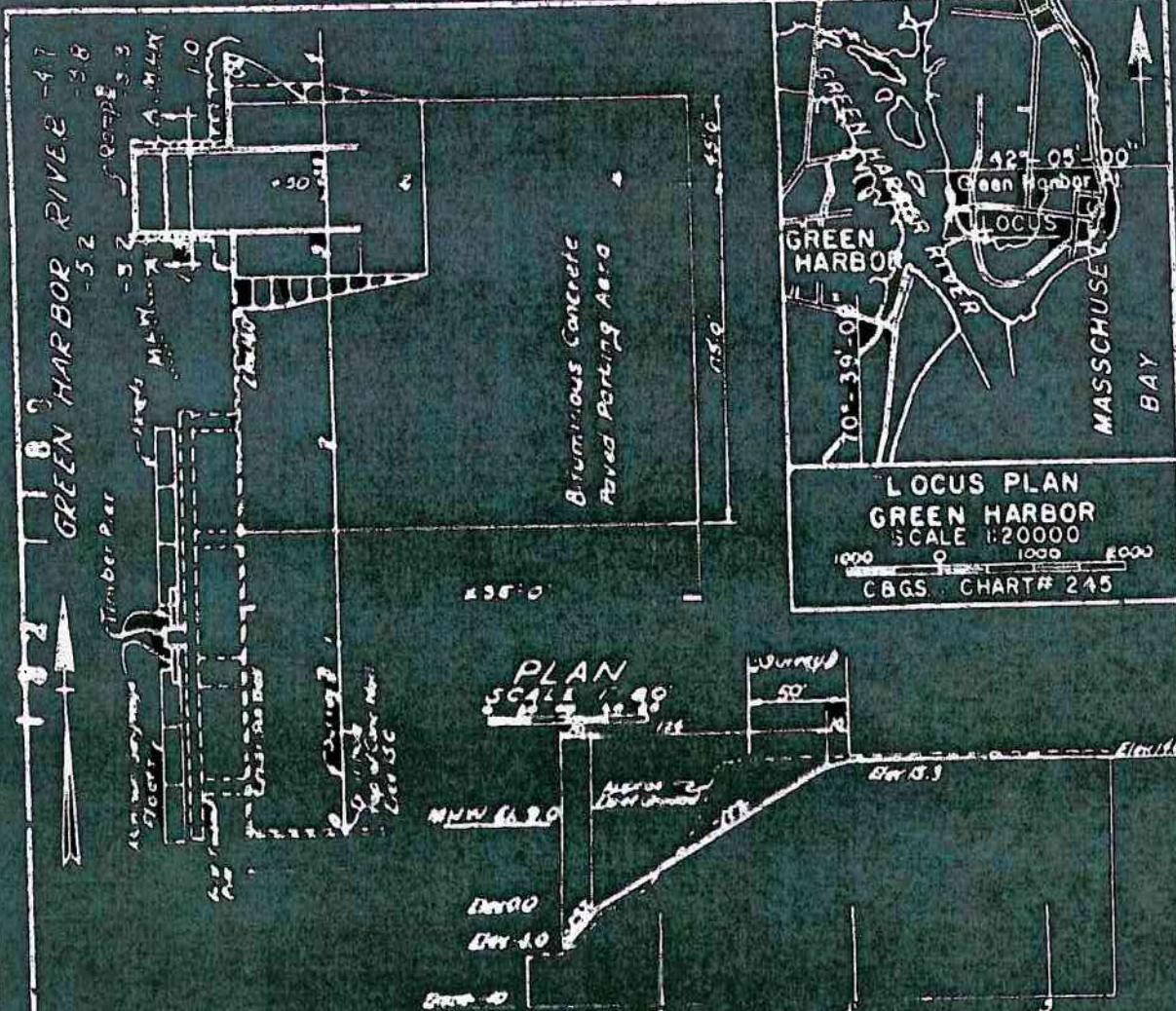
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS
DIVISION OF WATERWAYS
FEBRUARY 1970

Edward Chase
Acting DEPUTY CHIEF ENGINEER-WATERWAYS

Acc 04807-B

054 1597

Sheet 1 of 2



PLAN
SCALE 1" = 40'

50'



PROFILE RAMP
Scale Horiz 1" = 40'
Vert 1" = 16'

NOTE
ELEVATIONS ARE IN FEET AND
TENTHS ABOVE PLANE OF MEAN
LOW WATER MINUS FIGURES SHOW
DEPTHS BELOW THAT SAME PLANE

LOCATION OF PROPOSED
WORK SHOWN IN RED

PUBLIC ACCESS RAMP AND FACILITIES
GREEN HARBOR
MARSHFIELD MASS.

APPLICATION BY
DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS

DIVISION OF WATERWAYS
FEBRUARY 1970

Edward Chase
Acting DEPUTY CHIEF ENGINEER - WATERWAYS

ACC 04807-A

4084

0 8 8 4 3 4

SHEET 1 OF 2

MASSACHUSETTS

OCEAN BLUFF

GREEN ISLAND

WILLOW

PROPOSED STONE APRON

PROPOSED STEEL SHEETING SAND FILL

LOCATION MAP

SCALE - FEET 1:31,620

SEE U.S. GEOL. SURV. DUXBURY QUAD

PLAN

SCALE - FEET 1:100

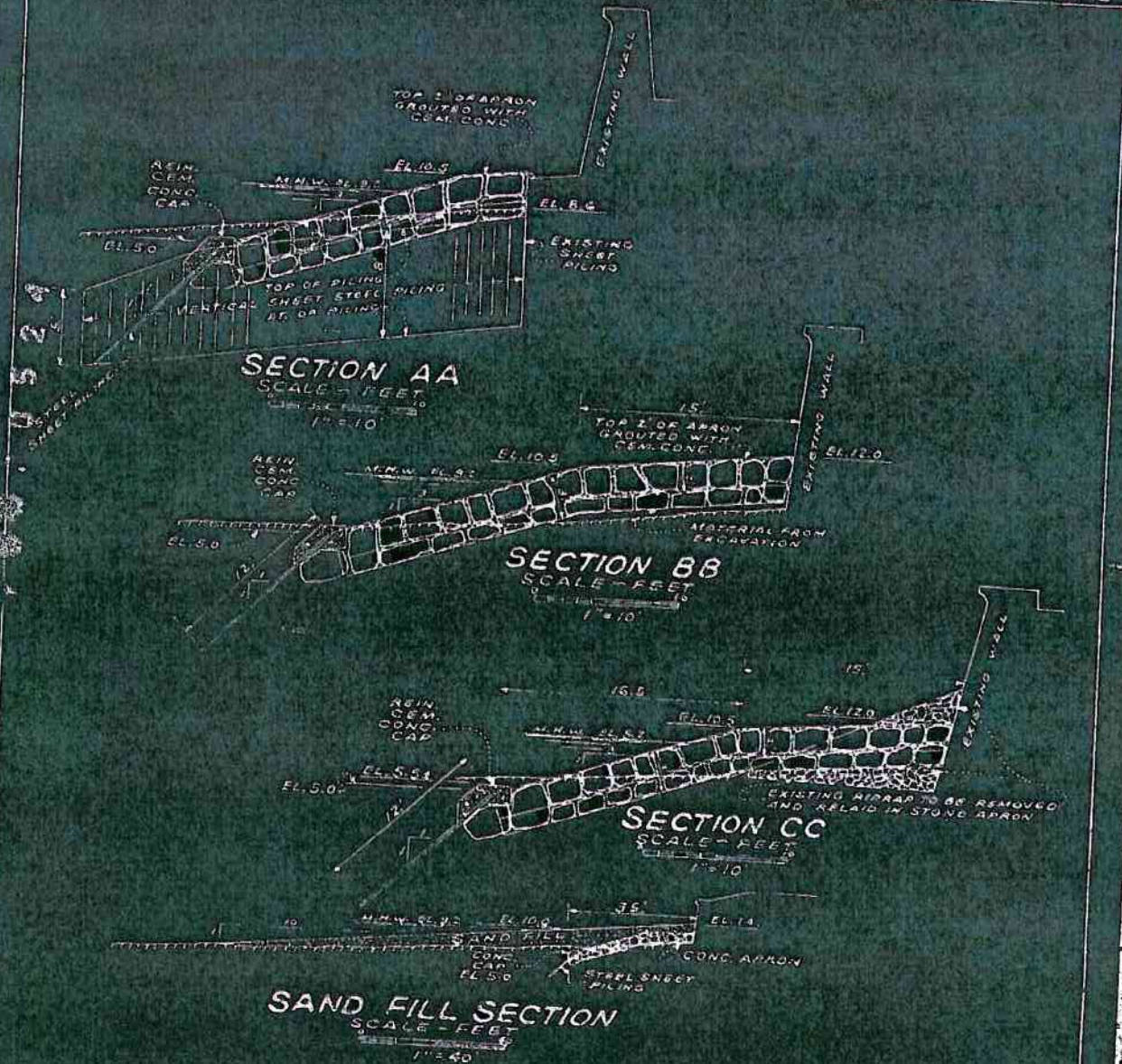
ELEVATIONS ARE IN FEET AND TENTHS ABOVE PLANE OF MEAN LOW WATER. MINUS FIGURES SHOW DEPTHS BELOW THE SAME PLANE. LOCATION OF PROPOSED WORK IS SHOWN IN RED.

MARSHFIELD, MASS.
 DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS
 DIVISION OF WATERWAYS
 FEBRUARY 1956
 Robert B. MacInnon
 DISTRICT WATERWAYS ENGINEER

ACC.03508-A

080485

SHEET 2 OF 2



NOTE

APRON, EXISTING GROUND SHOWN THUS
SHEET PILING TO BE 12' LONG AND A MINIMUM
OF 24 COUNDS PER SQUARE FOOT OF WALL.
ALL CONCRETE TO BE CLASS "A" AIR-
ENTRAINED.
CONCRETE CAP IS TO BE REINFORCED BY 8"
STEEL RODS SPACED IN ACCORDANCE WITH
ACCEPTED STANDARD PRACTICE

PROPOSED
SAND FILL, STONE APRON
& STEEL PILING REVETMENT
BRANT ROCK SHORE
MASSACHUSETTS BAY

MARSHFIELD, MASS.

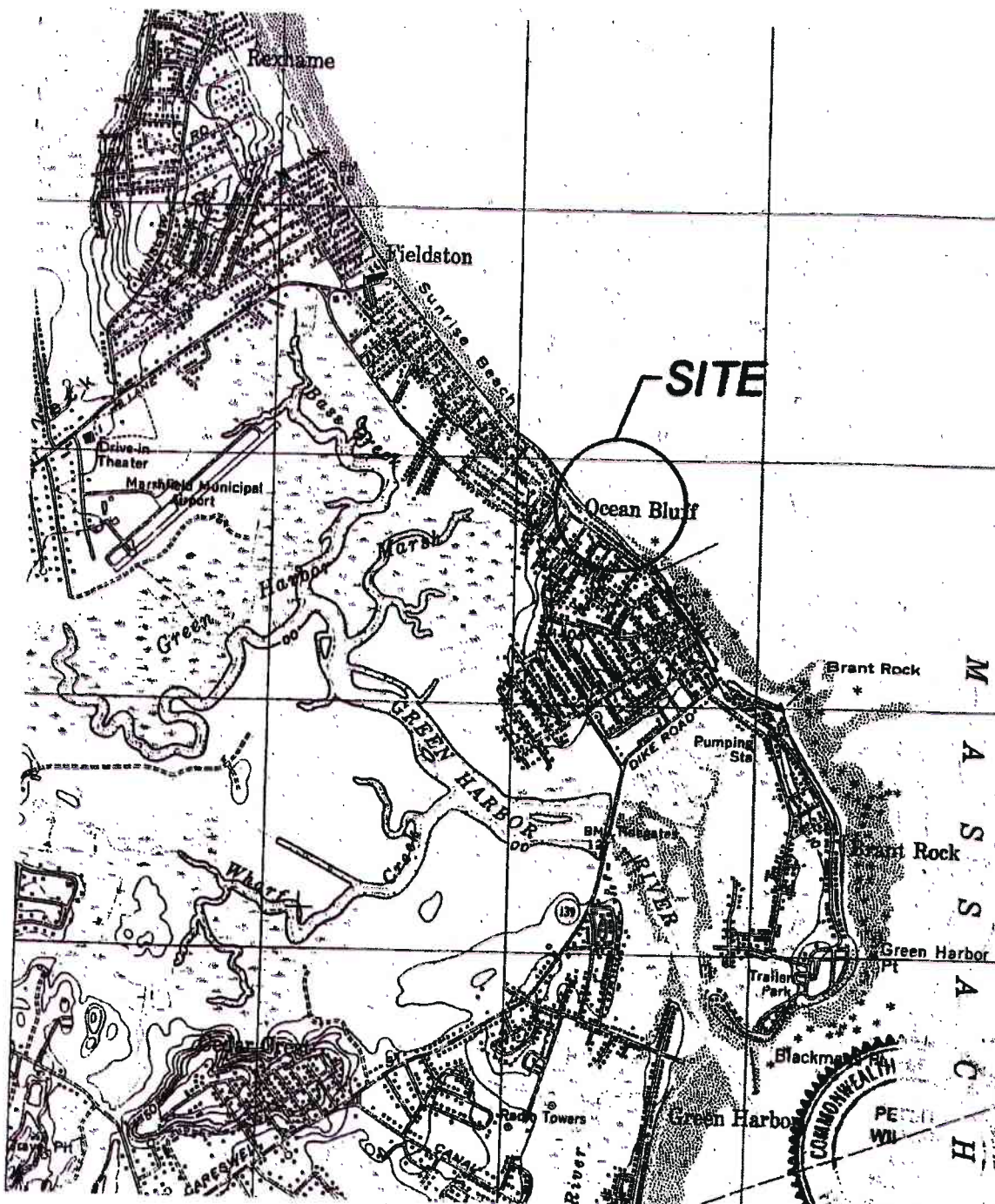
APPLICATION BY
DEPARTMENT OF PUBLIC WORKS, MASSACHUSETTS
DIVISION OF WATERWAYS
FEBRUARY 1956

Robert W. MacKenzie
DISTRICT WATERWAYS ENGINEER

ACC.03508-B

042-049-001-007-100

CCNAE -R-200300000



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HTL = 11.2

SCALE: 1=25,000

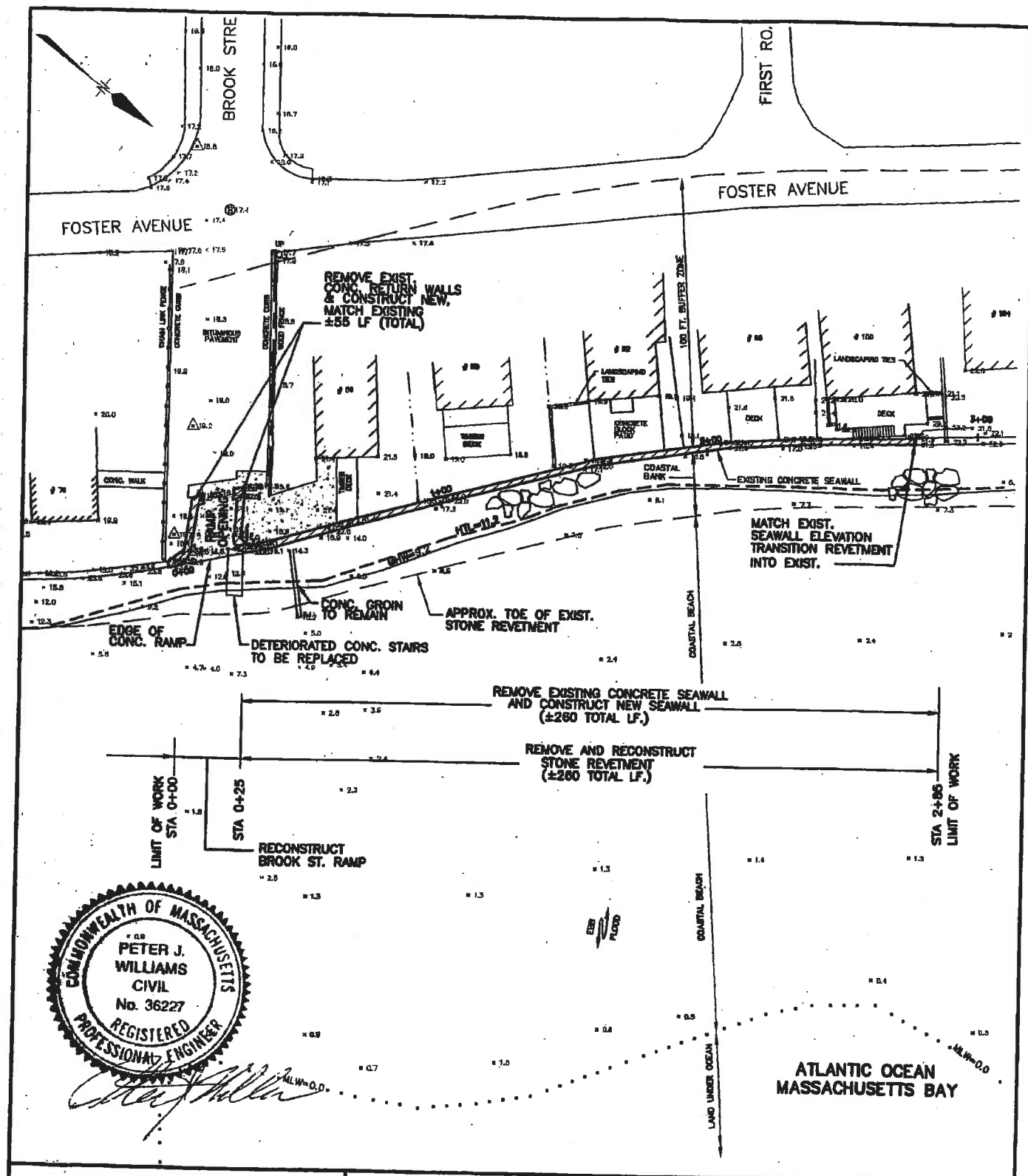


LOCUS PLAN

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 1 OF 9



DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

0 50 100
SCALE IN FEET

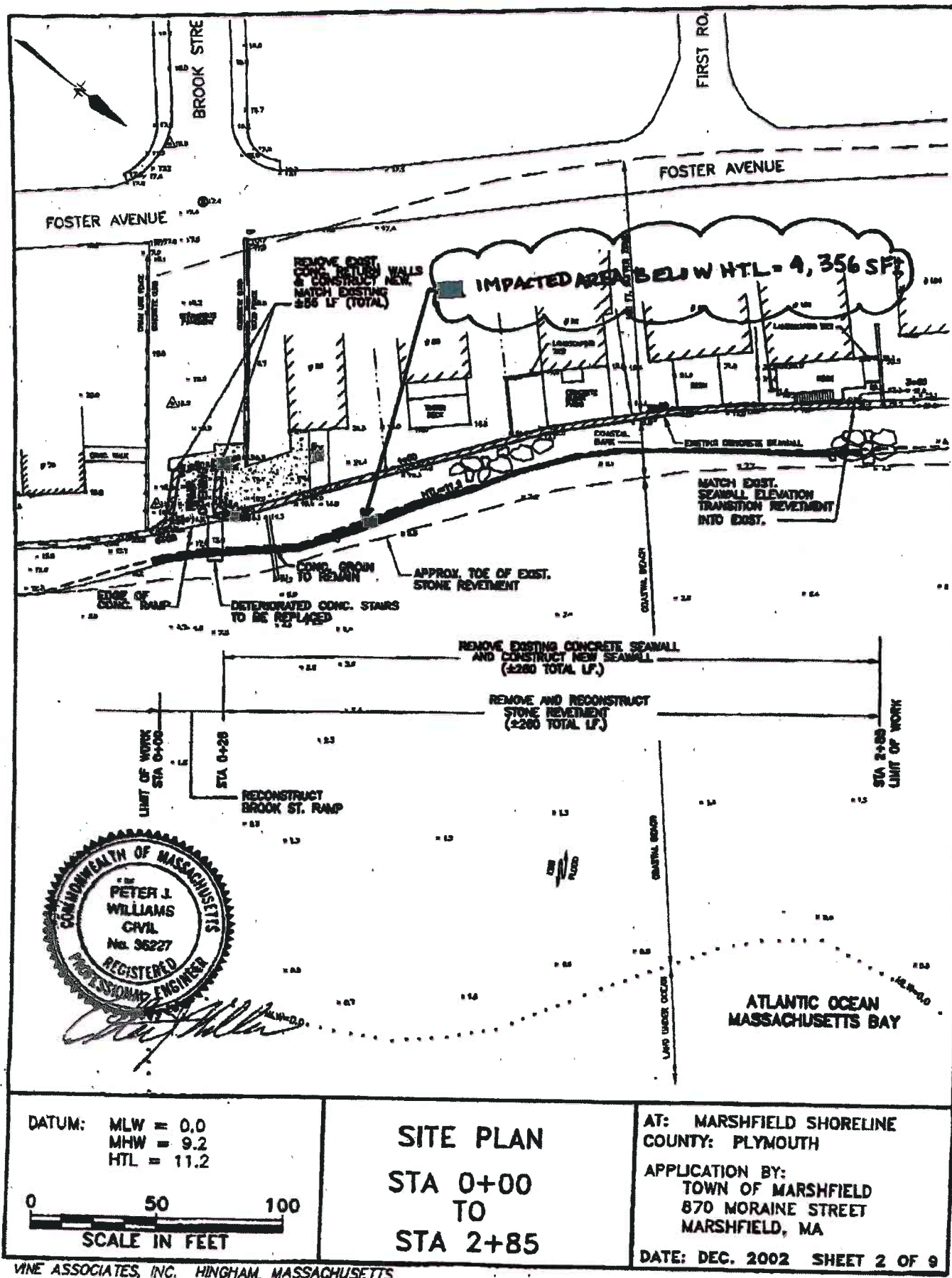
SITE PLAN
STA 0+00
TO
STA 2+85

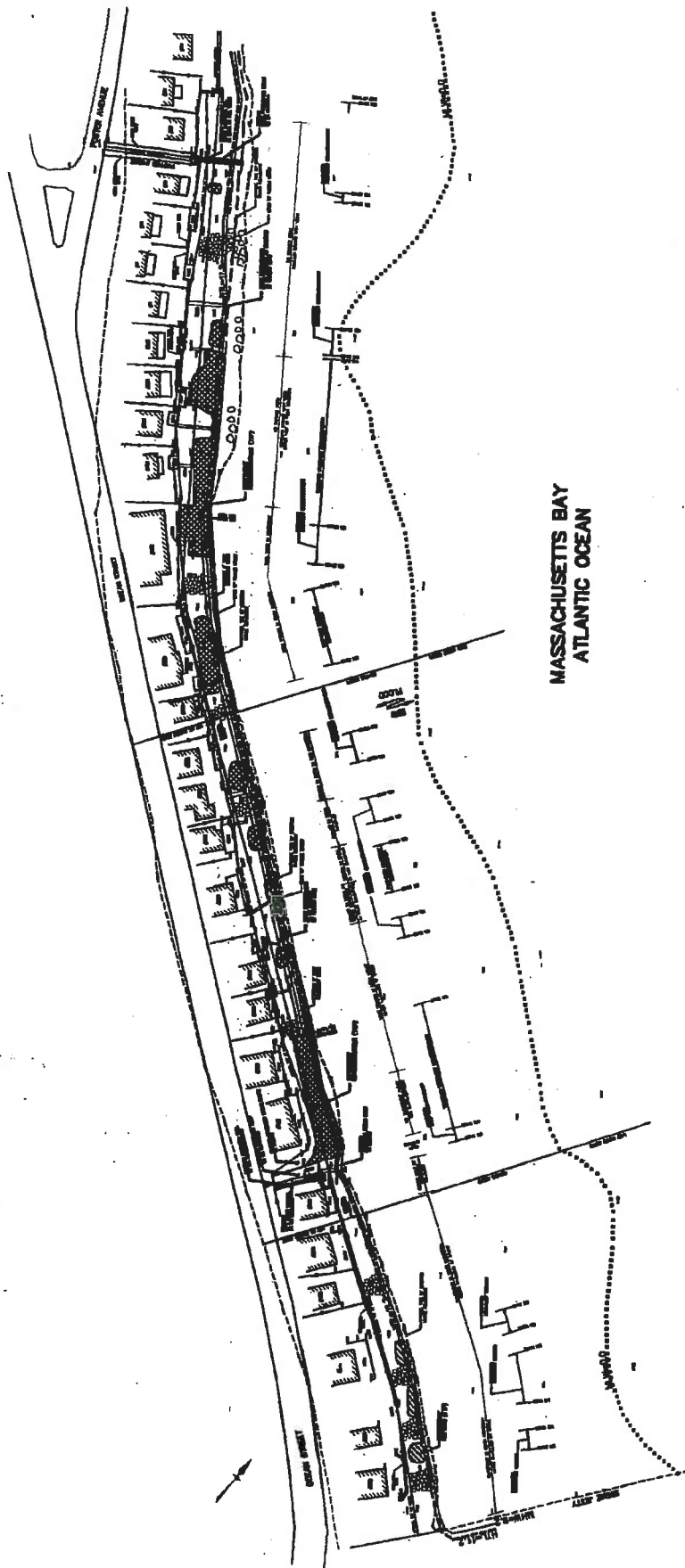
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

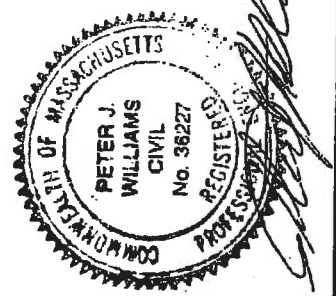
DATE: DEC. 2002 SHEET 2 OF 9

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS





MASSACHUSETTS BAY
ATLANTIC OCEAN



DATUM: MLW = 0.0
 MHW = 9.2
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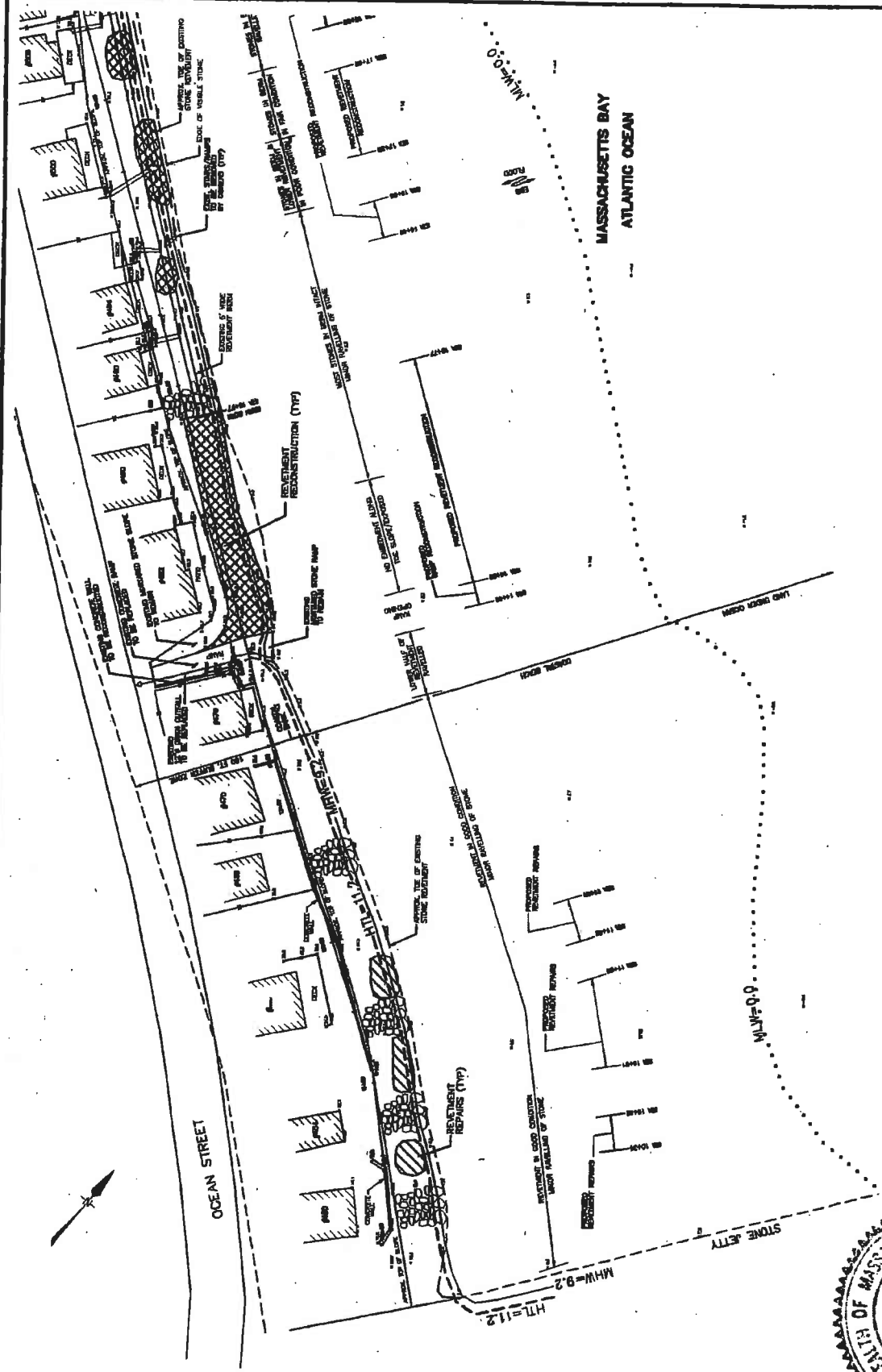


SITE PLAN
 STA 10+00 TO STA 27+71

AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH
 APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

DATE: DEC. 2002 SHEET 3 OF 9

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS

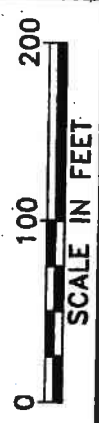


AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH
 APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORRIS STREET
 MARSHFIELD, MA

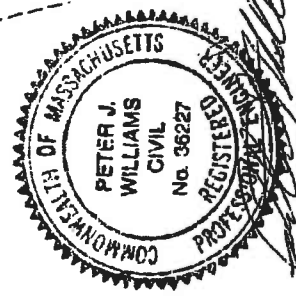
SITE PLAN

STA 10+00 TO STA 18+50

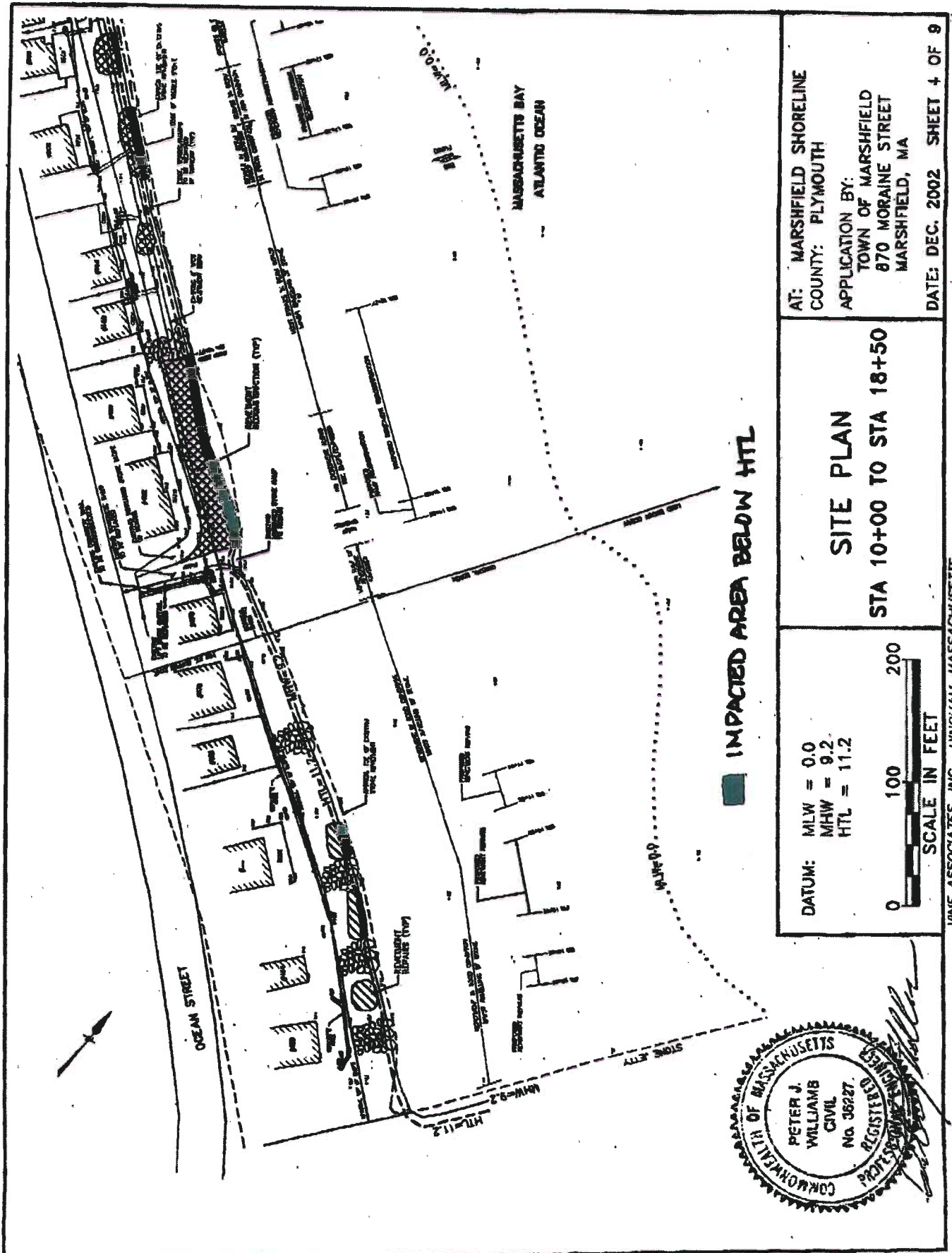
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DATE: DEC. 2002 SHEET 4 OF 9



VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS

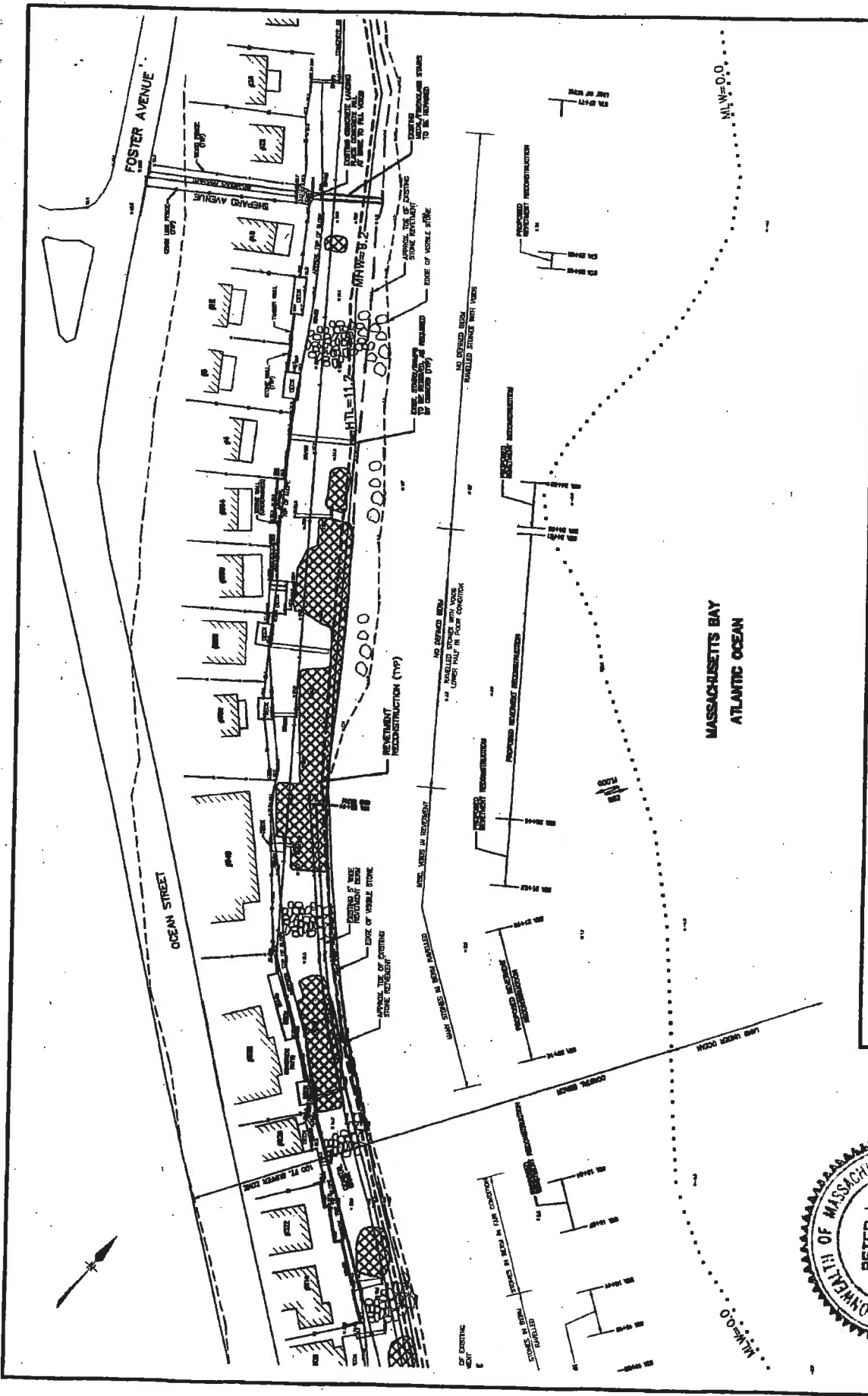


AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA
DATE: DEC. 2002 SHEET 4 OF 9

SITE PLAN
STA 10+00 TO STA 18+50

DATUM: MLW = 0.0
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HTL = 11.2
SCALE IN FEET
0 100 200

VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



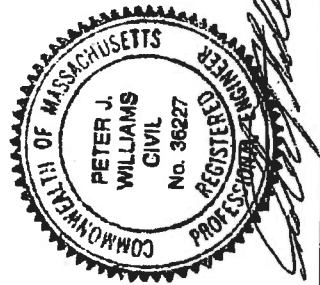
AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH
 APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

DATE: DEC. 2002 SHEET 5 OF 9

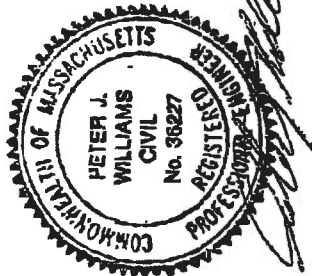
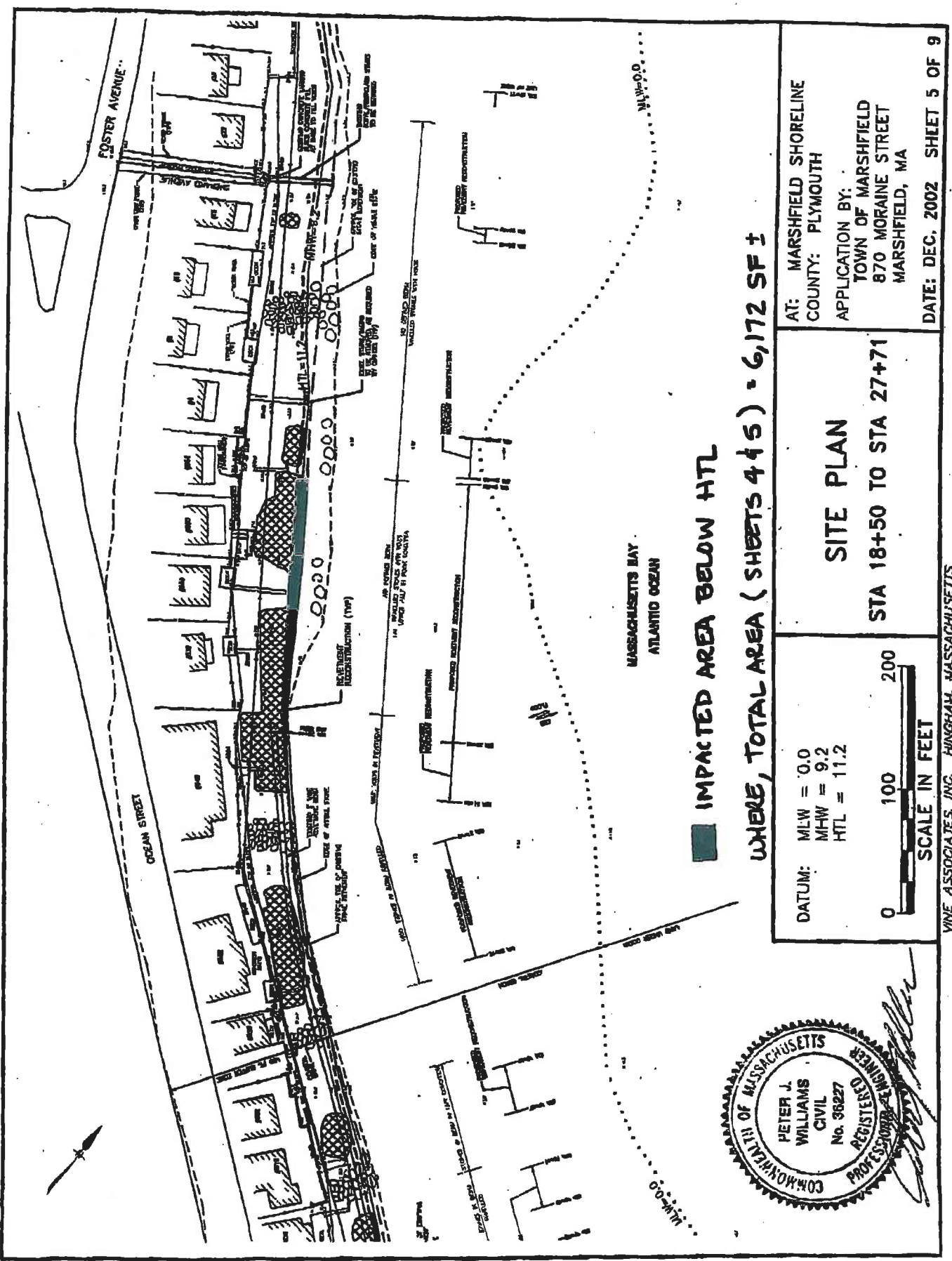
SITE PLAN

STA 18+50 TO STA 27+71

DATUM: MLW = 0.0
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VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



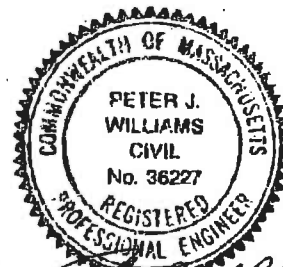
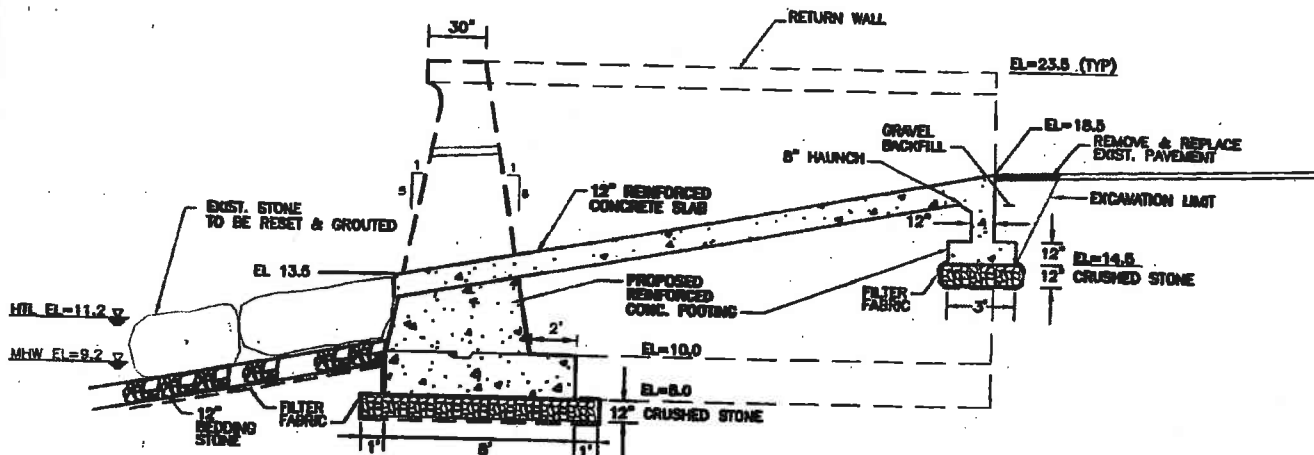
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HTL = 11.2

SCALE IN FEET
0 100 200

SITE PLAN
STA 18+50 TO STA 27+71

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORRIS STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 5 OF 9



DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

0 8
SCALE IN FEET

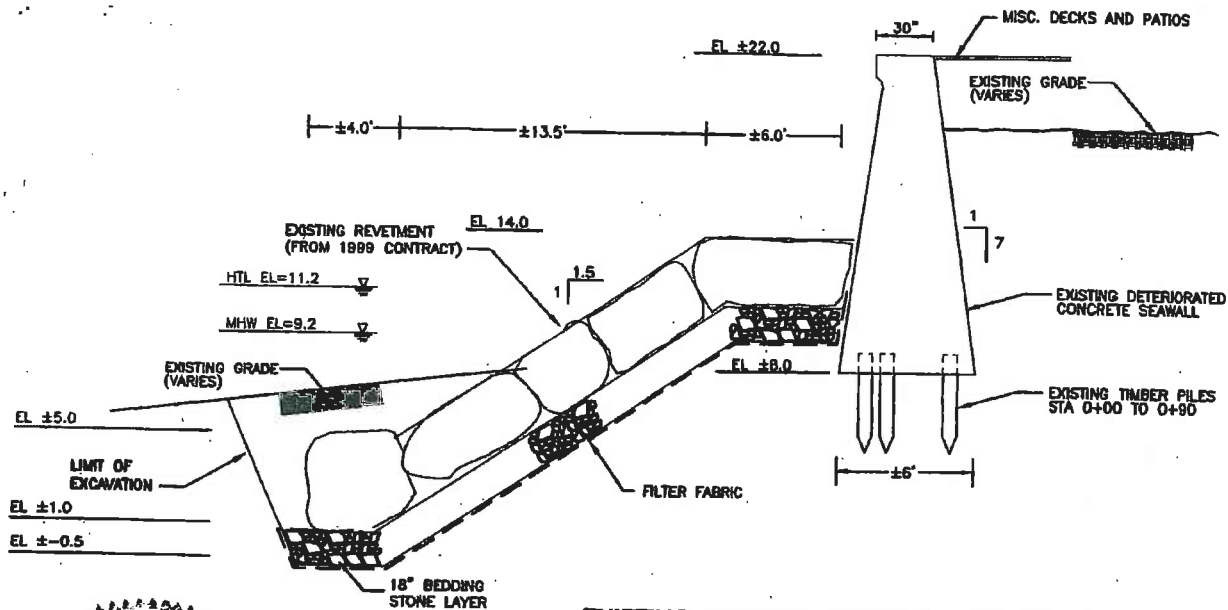
PROPOSED RAMP RECONSTRUCTION (TYPICAL)

STA 0+00 TO STA 0+25
STA 14+03 TO STA 14+20

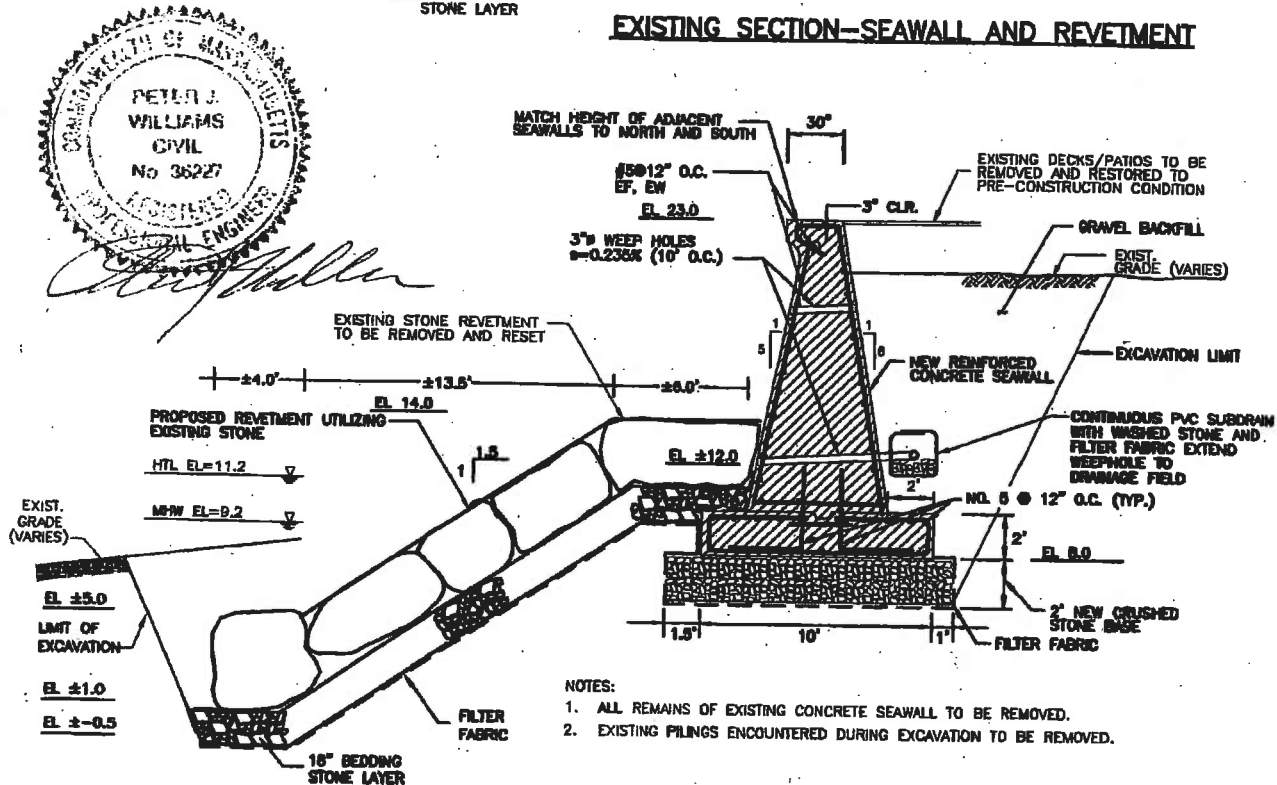
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 6 OF 9



EXISTING SECTION-SEAWALL AND REVETMENT



NOTES:

1. ALL REMAINS OF EXISTING CONCRETE SEAWALL TO BE REMOVED.
2. EXISTING PILING ENCOUNTERED DURING EXCAVATION TO BE REMOVED.

PROPOSED SECTION-SEAWALL AND REVETMENT RECONSTRUCTION

DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

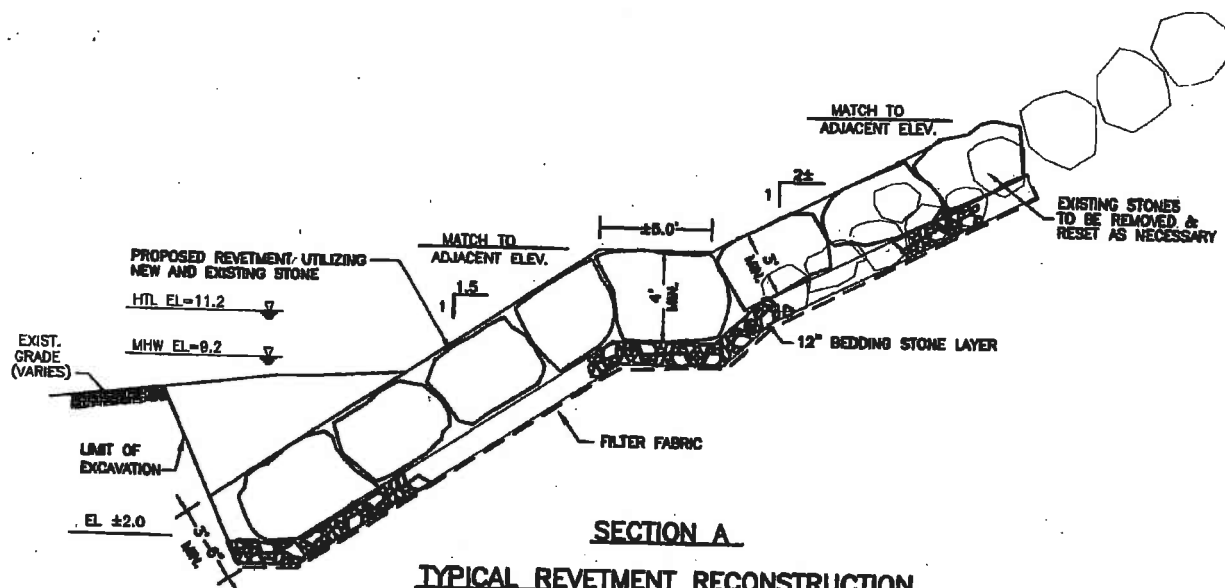
0 8
SCALE IN FEET

**TYPICAL
SEAWALL SECTION**
STA 0+00 TO STA 2+85

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

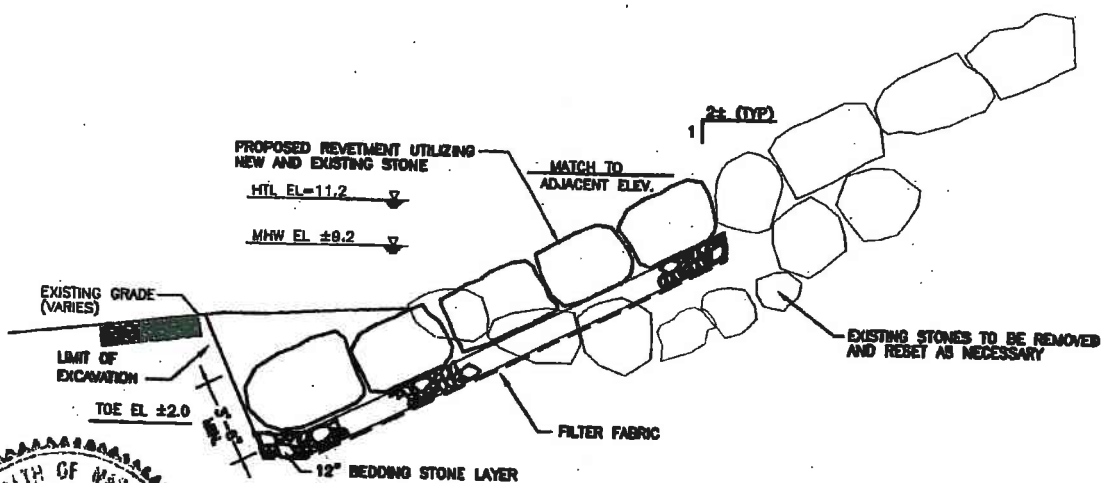
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 7 OF 9



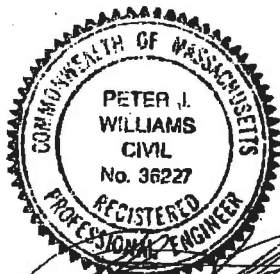
SECTION A
TYPICAL REVETMENT RECONSTRUCTION
WITH TOE AND/OR BERM REPAIRS

SCALE: 1" = 8'



SECTION B
TYPICAL REVETMENT RECONSTRUCTION
WITH TOE REPAIR

SCALE: 1" = 8'



DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

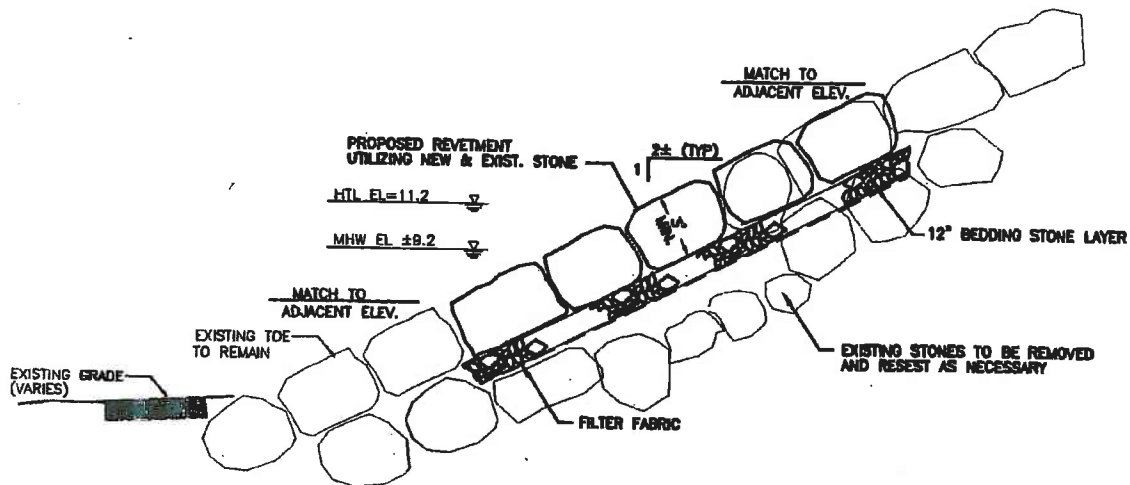
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SCALE IN FEET

**PROPOSED
REVETMENT
RECONSTRUCTION**

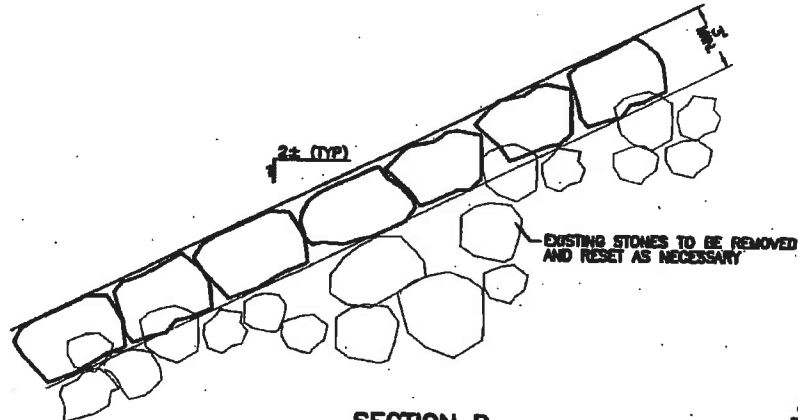
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

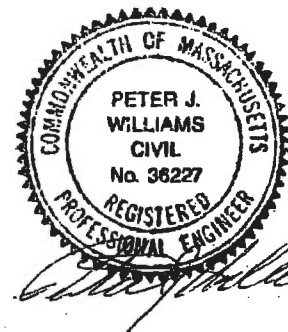
DATE: DEC. 2002 SHEET 8 OF 9



SECTION C
TYPICAL REVETMENT RECONSTRUCTION
 SCALE: 1" = 8'



SECTION D
TYPICAL MISCELLANEOUS REVETMENT REPAIRS
 SCALE: 1" = 8'



DATUM: MLW = 0.0
 MHW = 9.2
 HTL = 11.2

0 8
 SCALE IN FEET

PROPOSED REVETMENT RECONSTRUCTION AND REPAIRS

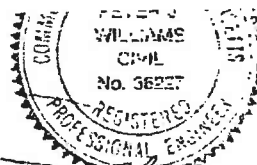
AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH

APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

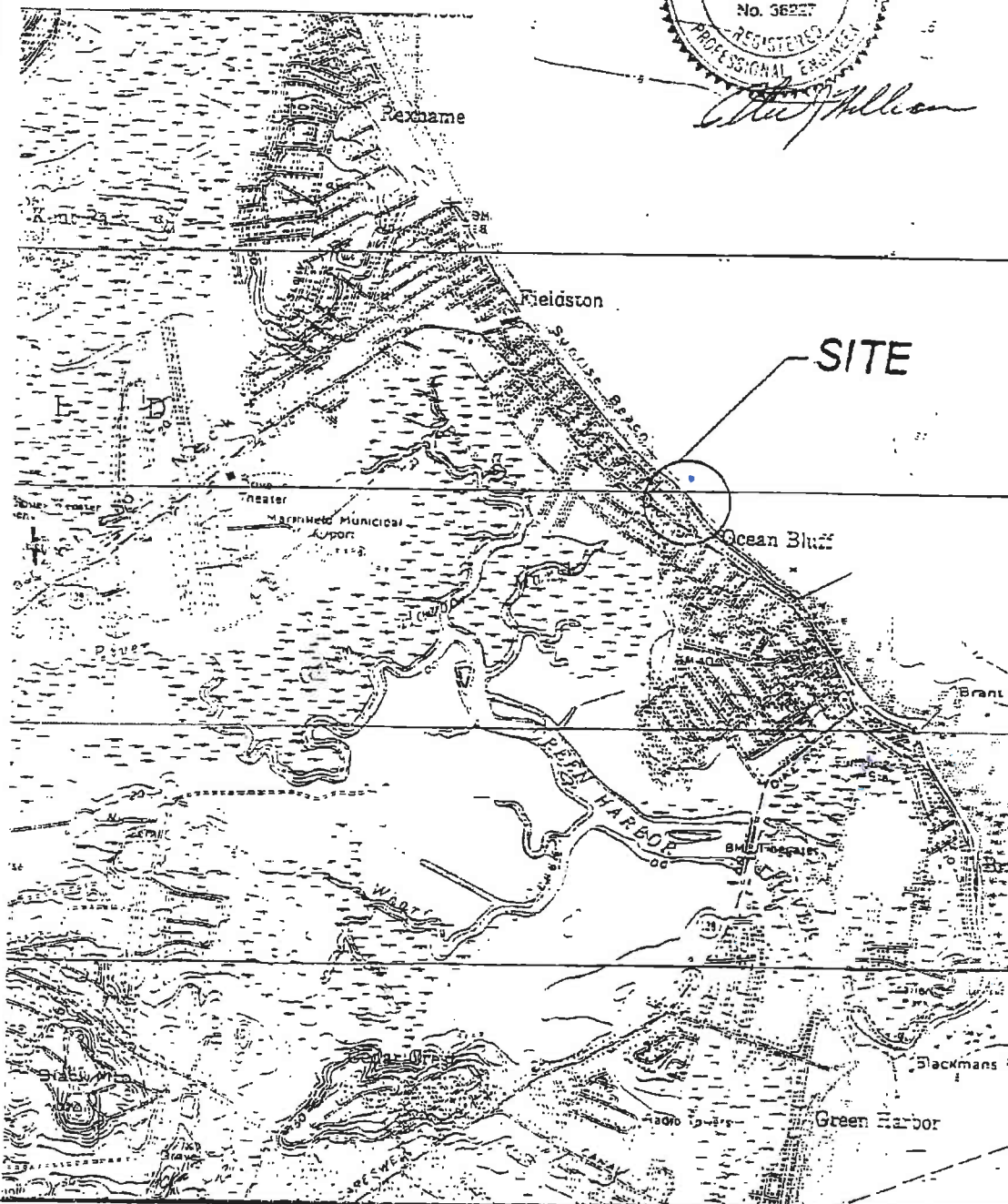
DATE: DEC. 2002 SHEET 9 OF 9

042-OM 9-001-007-100

USACOM
CENAF-N-200101477



Robert Williams



DATUM: MLW = 0.0
MHW = 9.4
HTL = 12.0

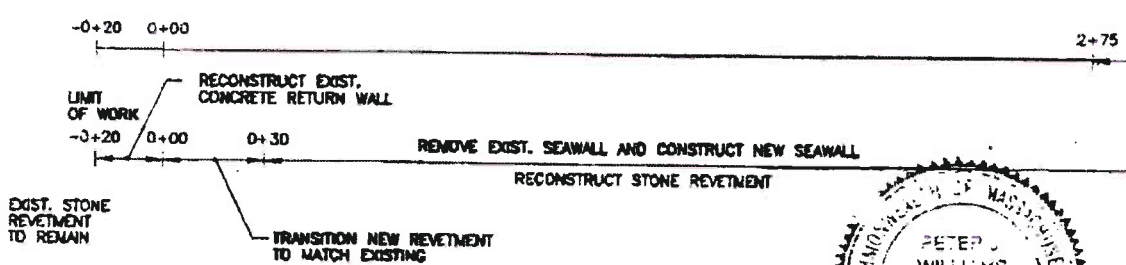
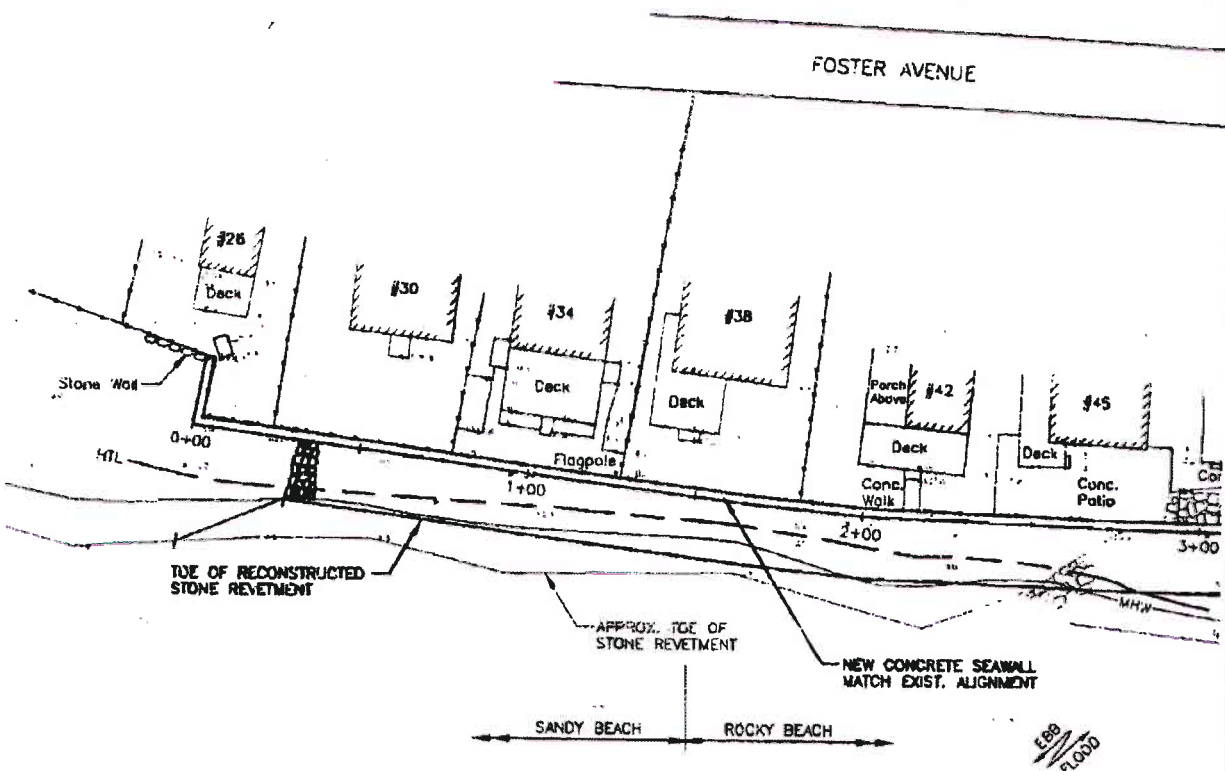
0 .25 .5
SCALE IN MILES

LOCUS PLAN

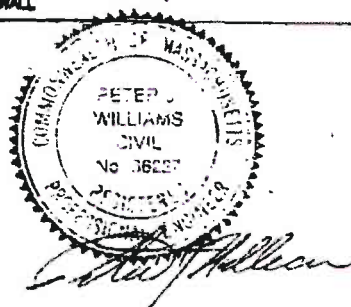
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: JUNE 2001 SHEET 1 OF 6



MASSACHUSETTS BAY
ATLANTIC OCEAN



DATUM: MLW = 0.0
MHW = 9.4
HTL = 12.0

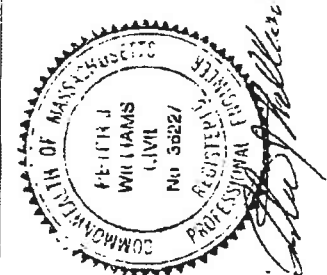
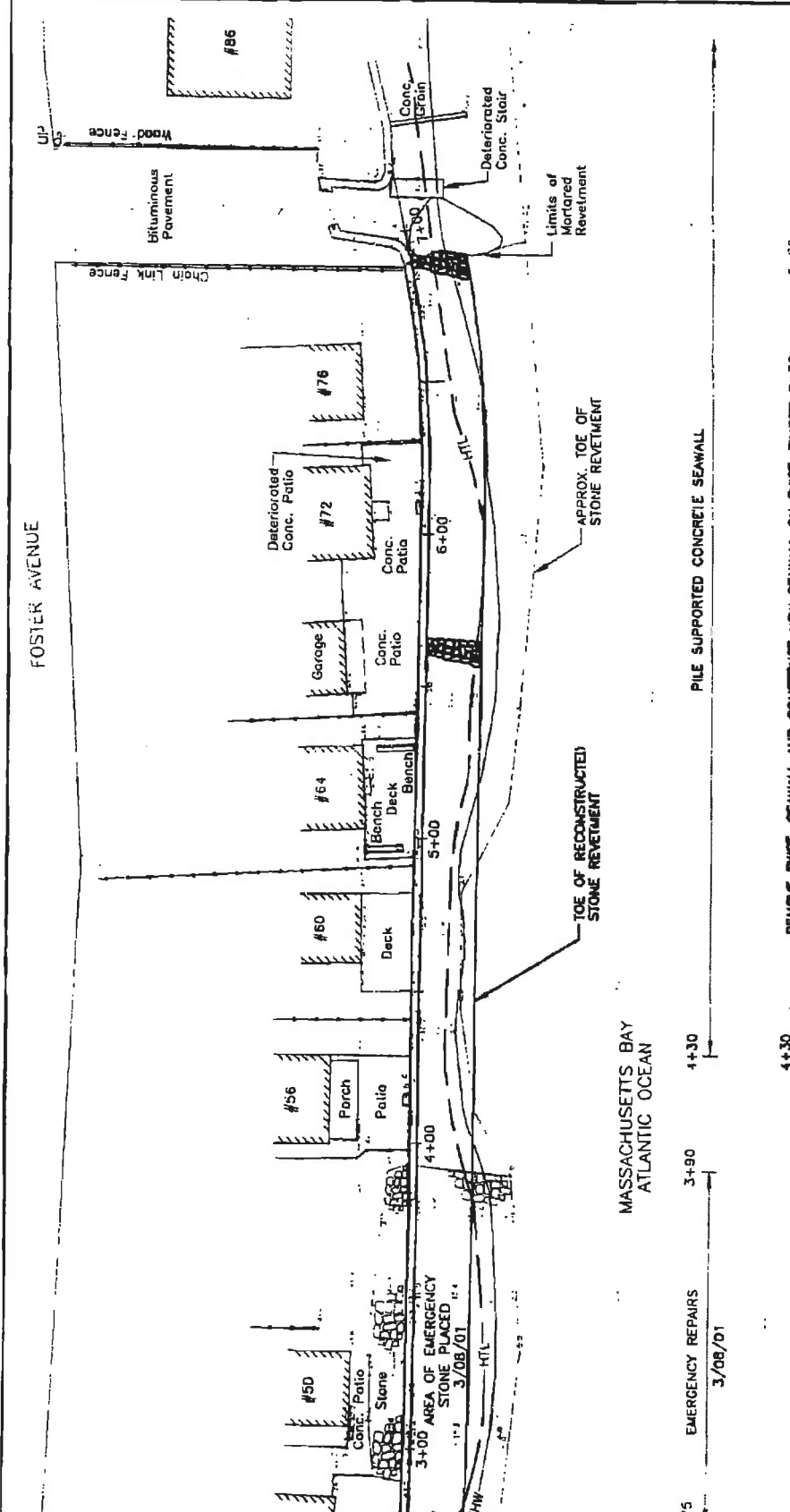
0 50 100
SCALE IN FEET

SITE PLAN STA 0+00 TO 3+00

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

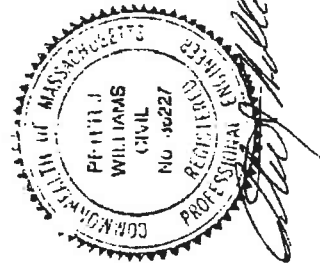
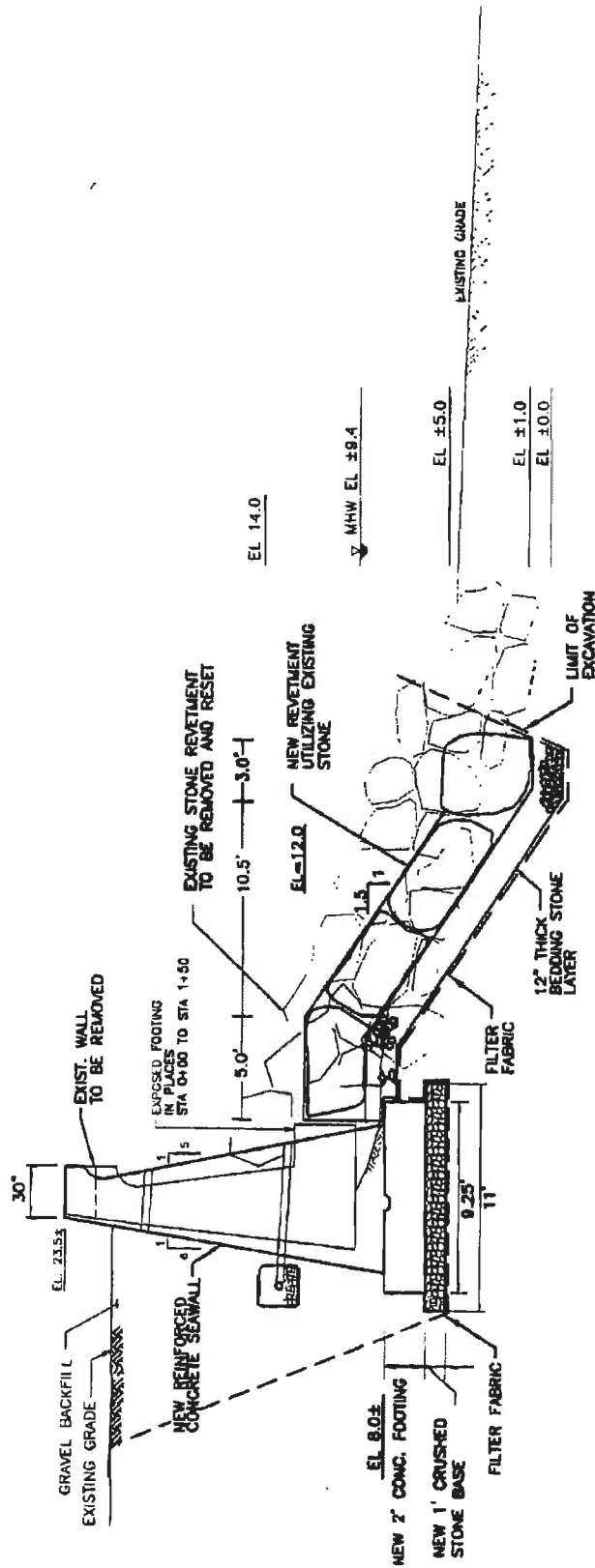
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: JUNE 2001 SHEET 2 OF 6

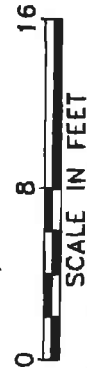


<p>DATUM: MLW = 0.0 MHW = 9.4 HTL = 12.0</p> <p>SCALE IN FEET</p> <p>0 50 100</p>	<p align="center">SITE PLAN</p> <p align="center">STA 3+00 TO 7+00</p>	<p>AT: MARSHFIELD SHORELINE COUNTY: PLYMOUTH</p> <p>APPLICATION BY: TOWN OF MARSHFIELD 870 MORRIS STREET MARSHFIELD, MA</p> <p>DATE: JUNE 2001 SHEET 3 OF 6</p>
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PHILIP J. WILLIAMS ASSOCIATES, INC. BURLINGTON, MASSACHUSETTS



DATUM:
MLW = 0.0
MHW = 9.4
HTL = 12.0



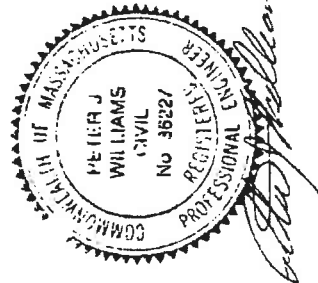
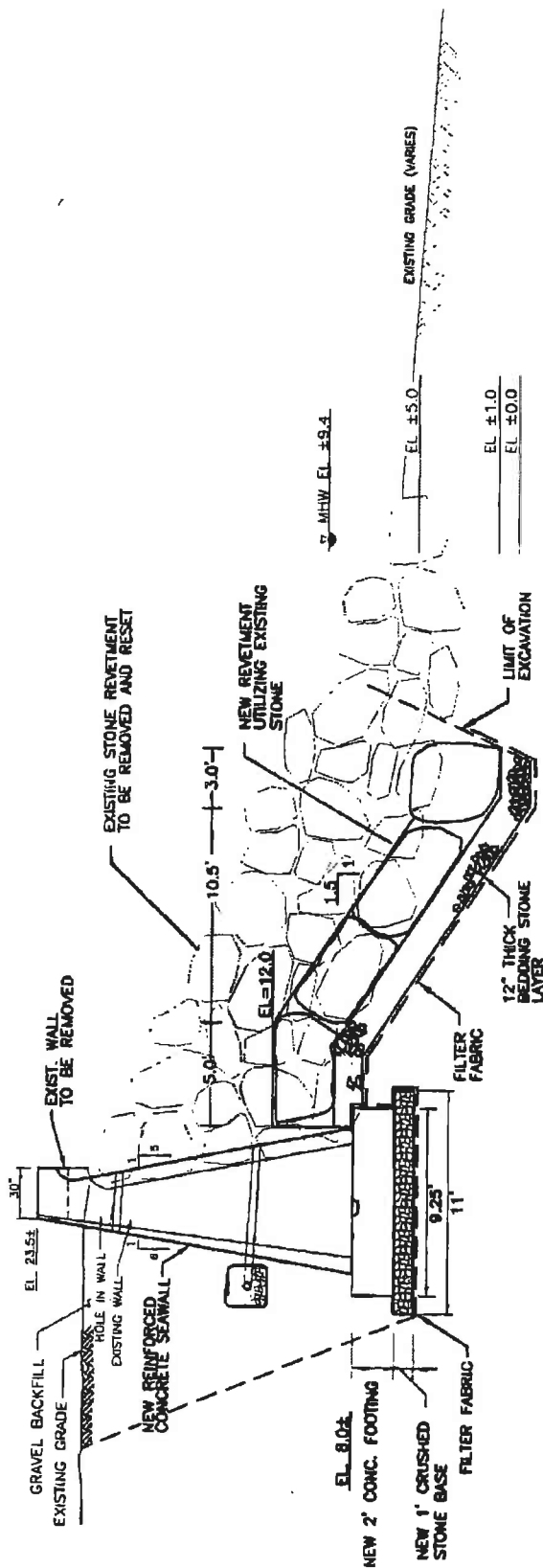
TYPICAL SEAWALL SECTION STA 0+00 TO 2+75

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORRIS STREET
MARSHFIELD, MA

DATE: JUNE 2001 SHEET 4 OF 6

NOT TO BE USED FOR ANY OTHER PROJECTS WITHOUT THE WRITTEN CONSENT OF THE ENGINEER



AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

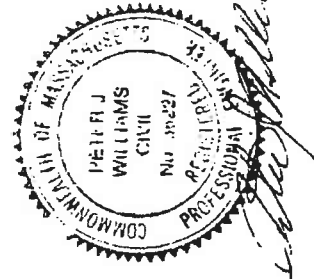
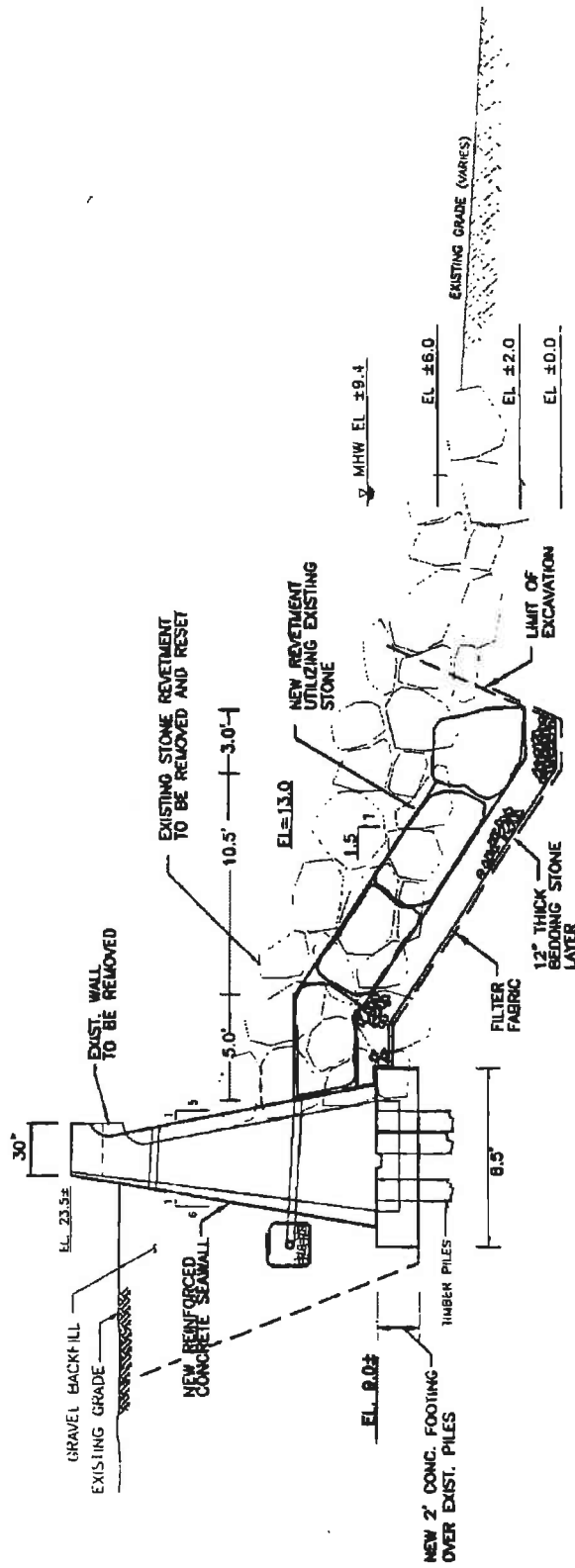
TYPICAL SEAWALL SECTION STA 2+75 TO 3+90

DATUM: MLW = 0.0
MHW = 9.4
HTL = 12.0



DATE: JUNE 2001 SHEET 5 OF 6

NOTE: SEE PLANS, ELEVATIONS, AND DETAILS FOR ADDITIONAL INFORMATION.



DATUM: MLW = 0.0
 MHW = 9.4
 HTL = 12.0



TYPICAL SEAWALL SECTION STA 3+90 TO 6+98

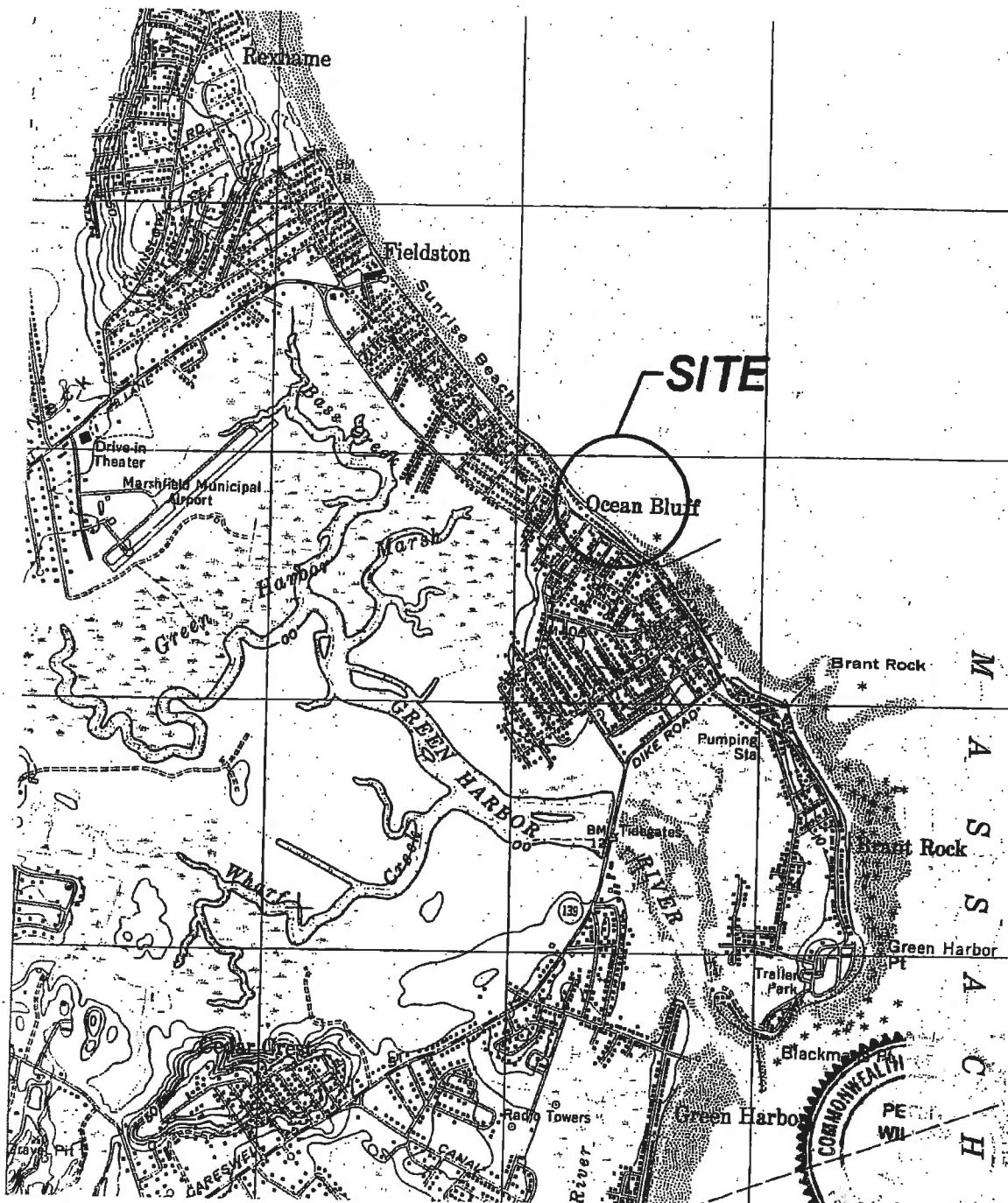
AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH
 APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

DATE: JUNE 2001 SHEET 6 OF 6

DESIGNED BY: [Signature] ENGINEER, MASSACHUSETTS

042-0M9-006-009-100

CENAK-1L-200300006



DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

SCALE: 1=25,000



LOCUS PLAN

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 1 OF 9



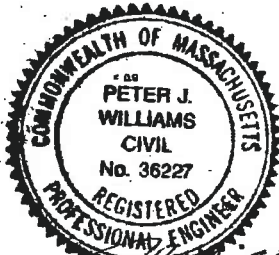
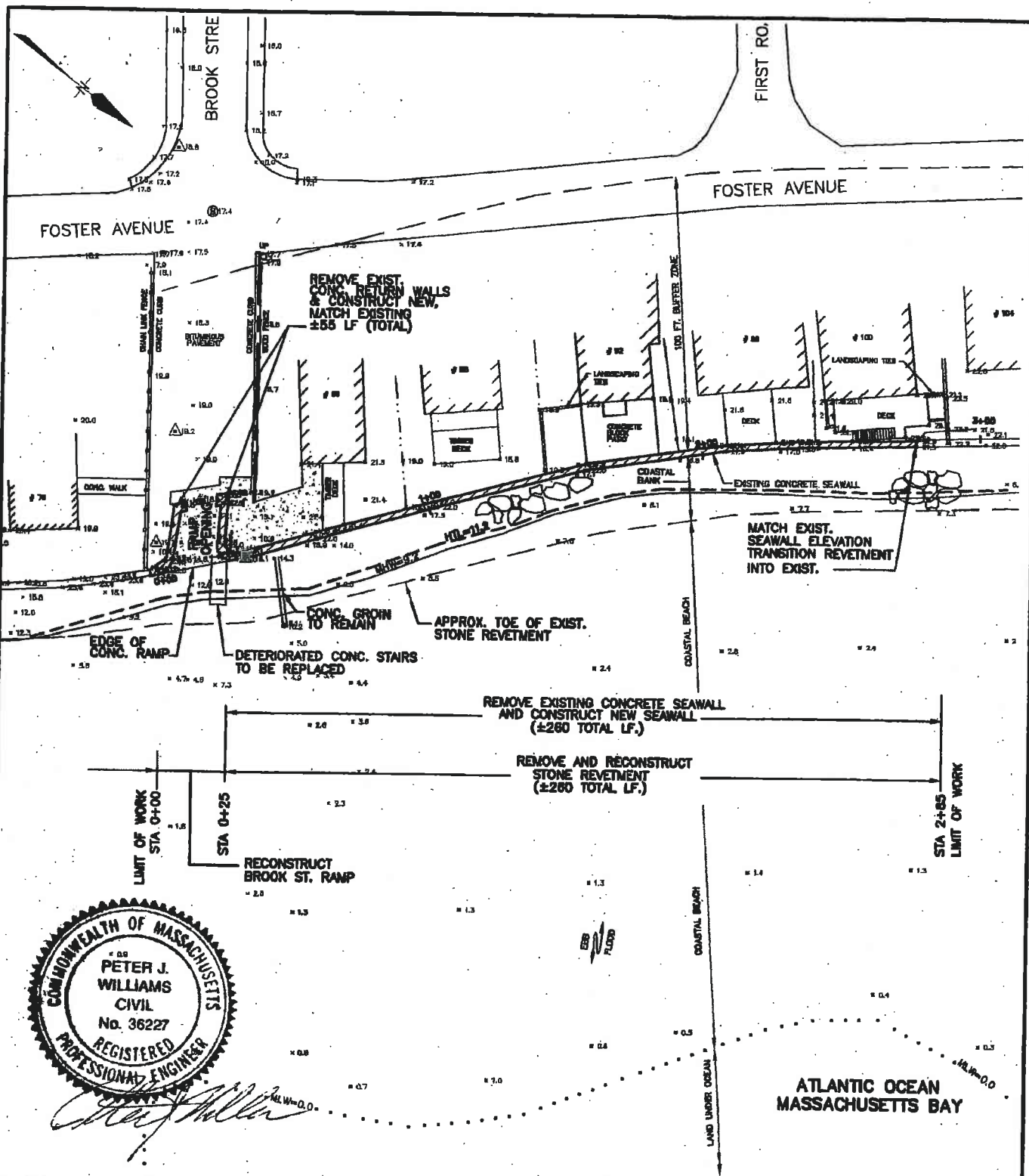
A horizontal scale bar with markings at 0, 50, and 100. Below the bar is the text "SCALE IN FEET".

SITE PLAN
STA 0+00
TO
STA 2+85

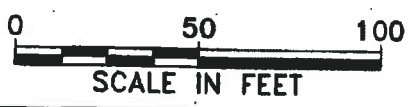
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 2 OF 9



DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2



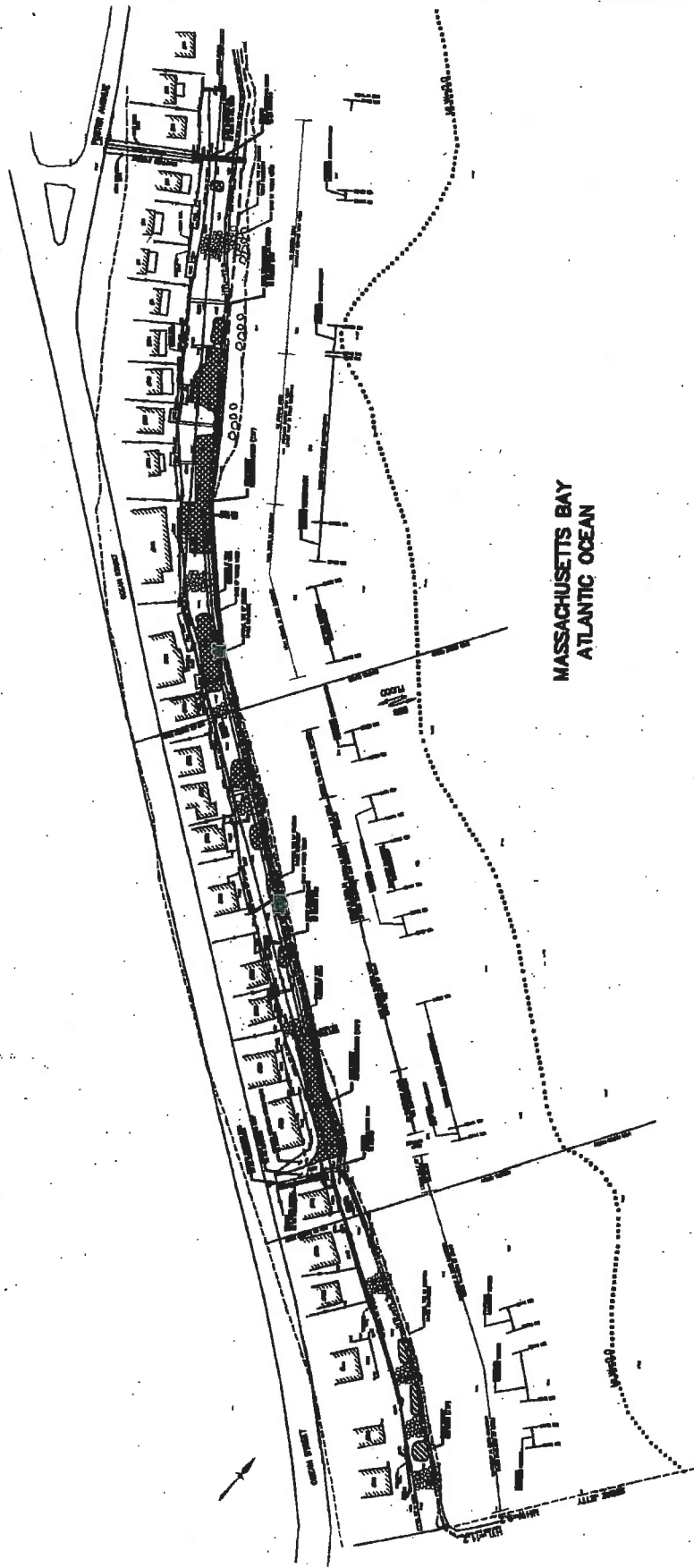
SITE PLAN

STA 0+00 TO STA 2+85

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 2 OF 9



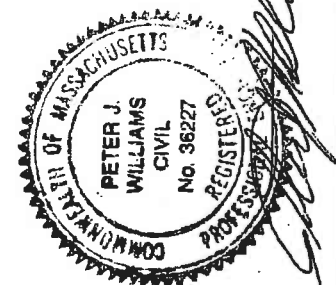
AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH
 APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

DATE: DEC. 2002 SHEET 3 OF 9

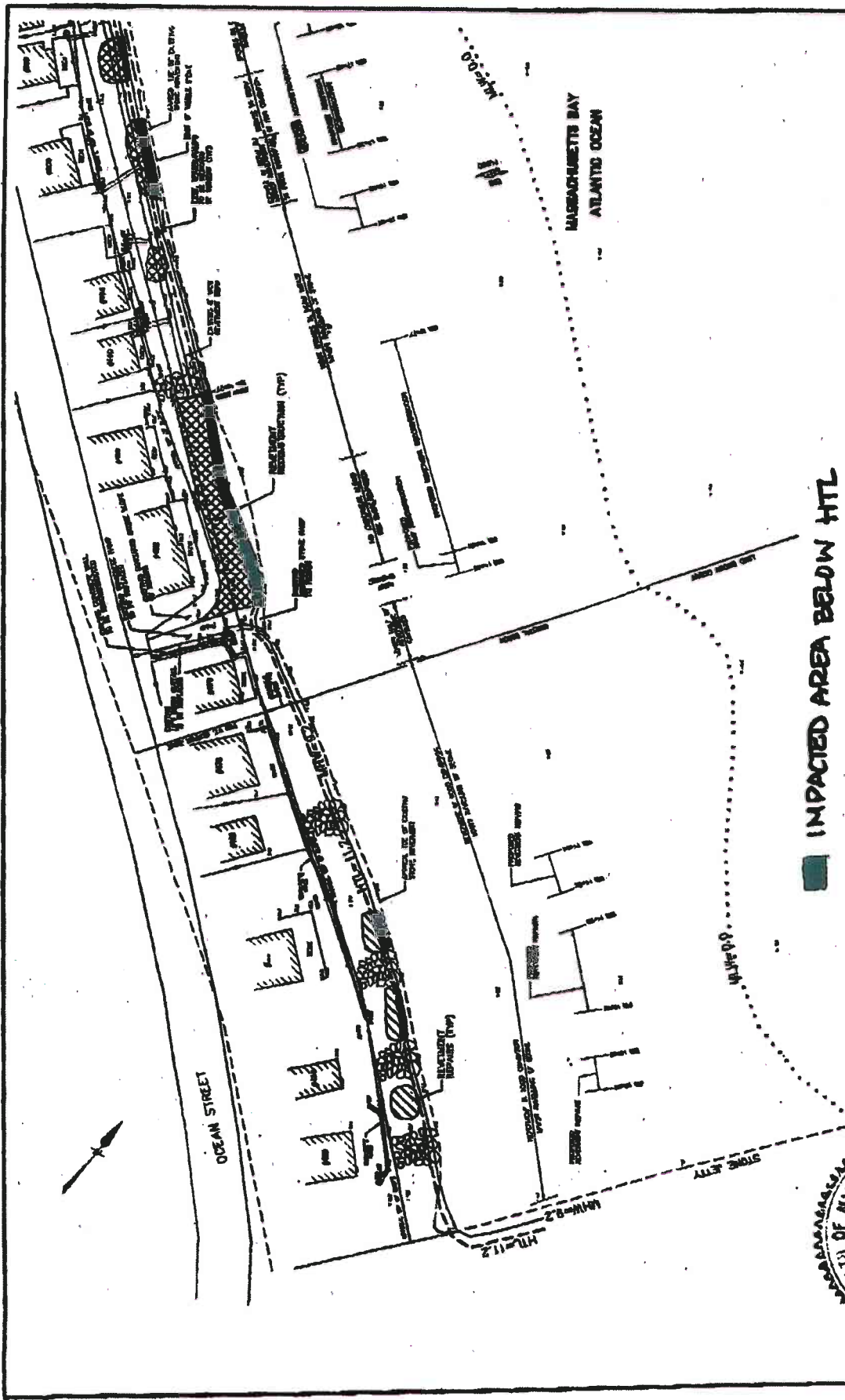
SITE PLAN

STA 10+00 TO STA 27+71

DATUM: MLW = 0.0
 MHW = 9.2
 HTL = 11.2



VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



IMPACTED AREA BELOW HTL

DATUM:
MLW = 0.0
MHW = 9.2
HTL = 11.2



SCALE IN FEET

SITE PLAN

STA 10+00 TO STA 18+50

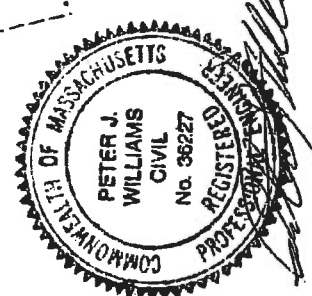
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORRIS STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 4 OF 9



VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



DATUM:
MLW = 0.0
MHW = 9.2
HTL = 11.2

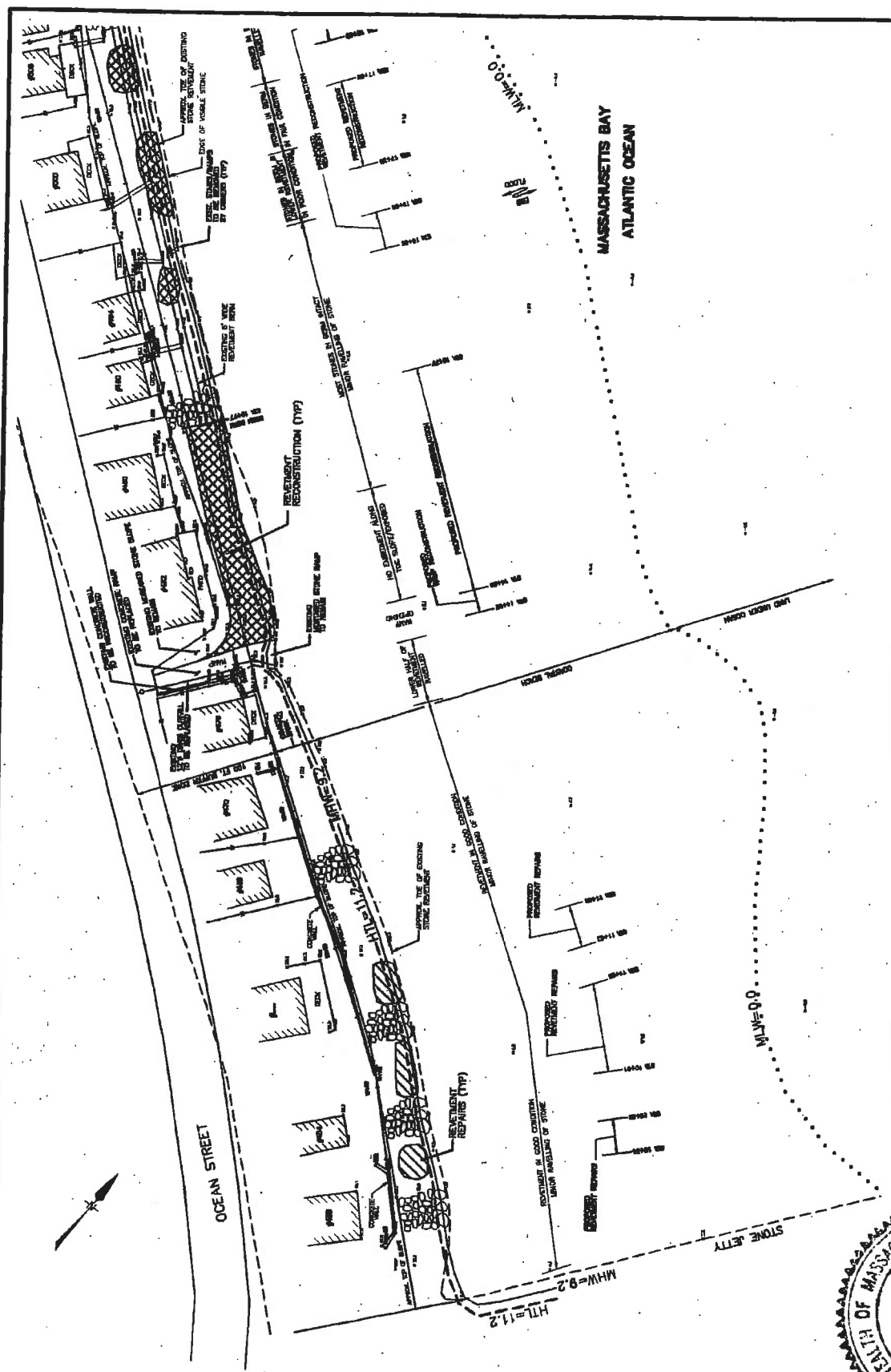


SITE PLAN

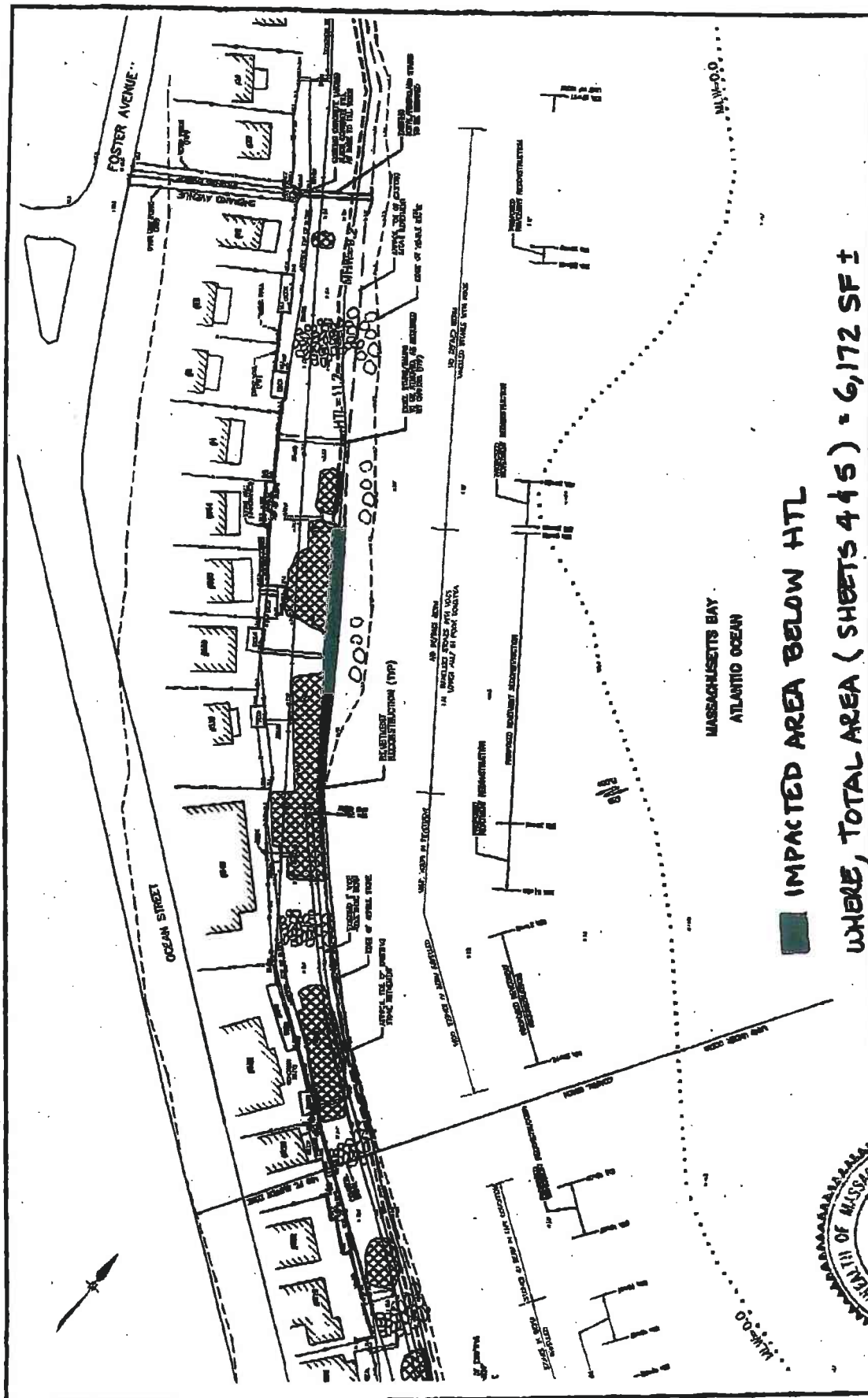
STA 10+00 TO STA 18+50

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 4 OF 9



VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



DATE: MLW = 0.0
 MHW = 9.2
 HTL = 11.2

SITE PLAN

STA 18+50 TO STA 27+71

AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH

APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORRIS STREET
 MARSHFIELD, MA

DATE: DEC. 2002 **SHEET 5 OF 9**

IMPACTED AREA BELOW HTL

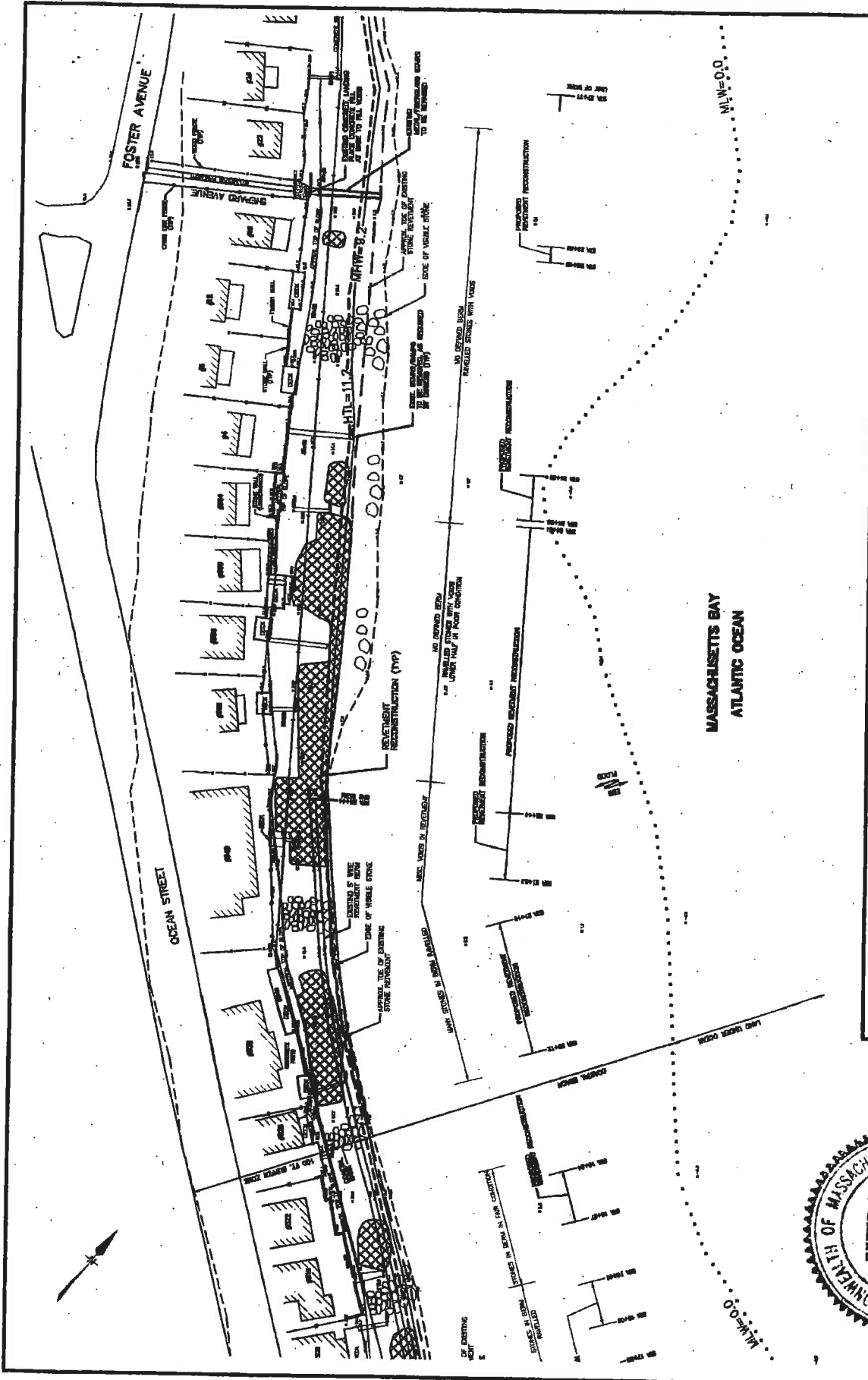
WHERE, TOTAL AREA (SHEETS 4+5) = 6,172 SF ±

SCALE IN FEET

0 100 200

PROFESSIONAL SEAL:

PETER J. WILLIAMS
 CIVIL
 No. 36227
 REGISTERED PROFESSIONAL ENGINEER



AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

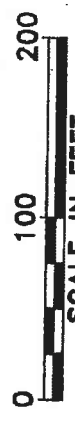
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 5 OF 9

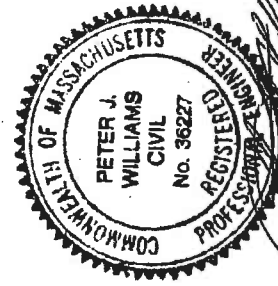
SITE PLAN

STA 18+50 TO STA 27+71

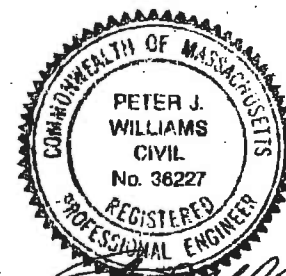
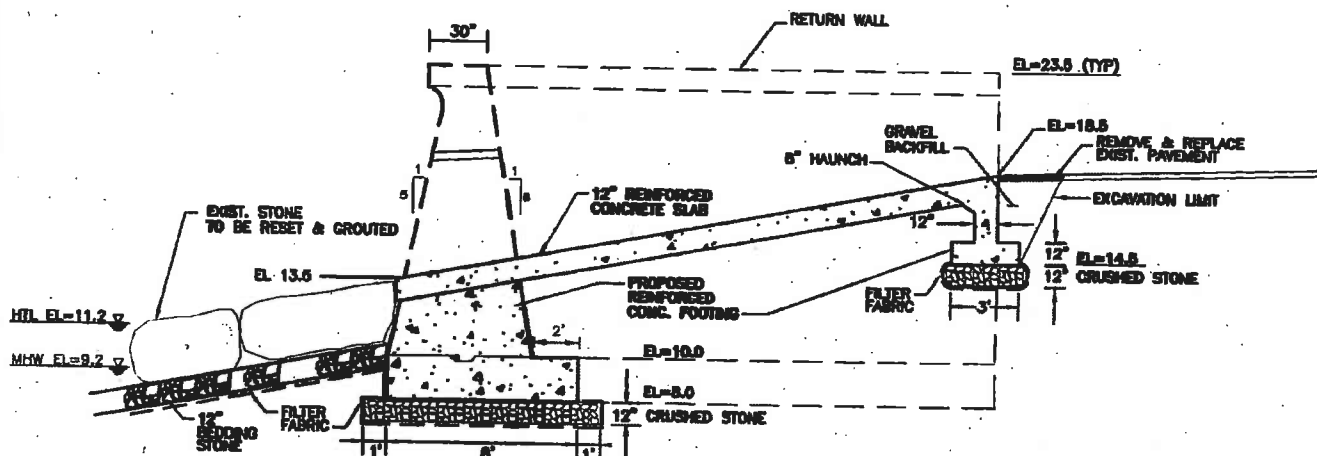
DATUM:
MLW = 0.0
MHW = 9.2
HTL = 11.2



SCALE IN FEET



VINE ASSOCIATES, INC. HINGHAM, MASSACHUSETTS



[Handwritten Signature]

DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

0 8
SCALE IN FEET

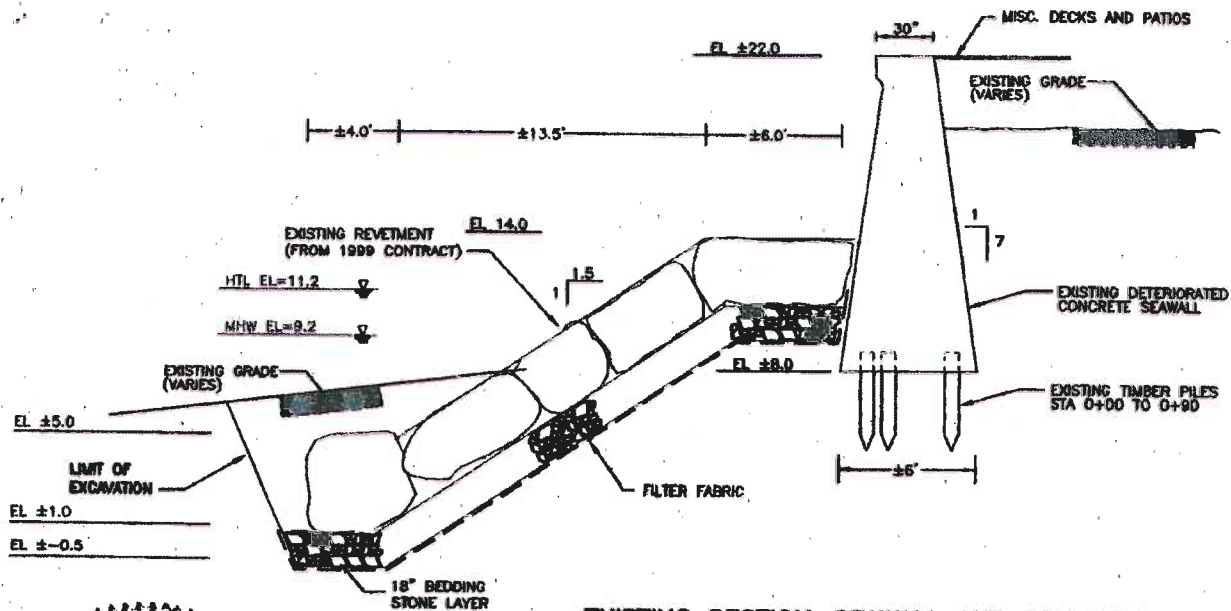
PROPOSED RAMP RECONSTRUCTION (TYPICAL)

STA 0+00 TO STA 0+25
STA 14+03 TO STA 14+20

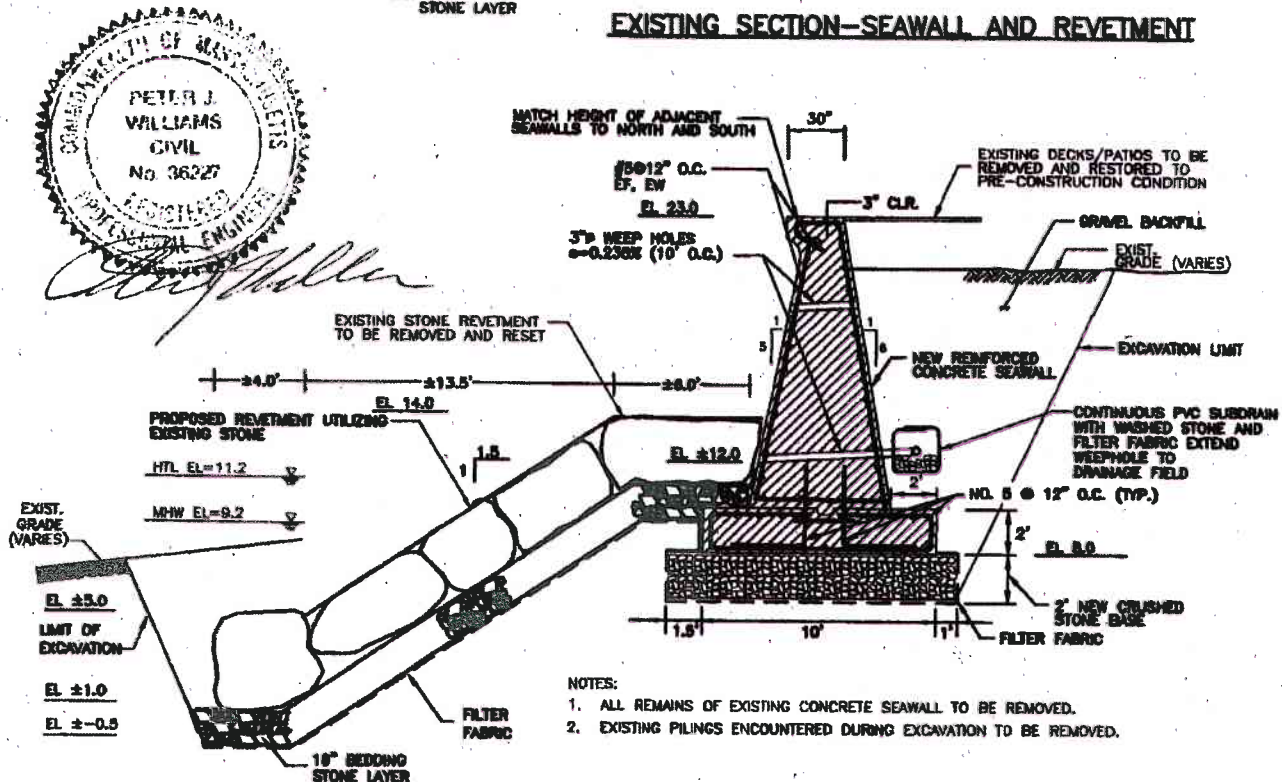
AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 6 OF 9



EXISTING SECTION-SEAWALL AND REVETMENT



PROPOSED SECTION-SEAWALL AND REVETMENT RECONSTRUCTION

DATUM: MLW = 0.0
MHW = 9.2
HTL = 11.2

0 8
SCALE IN FEET

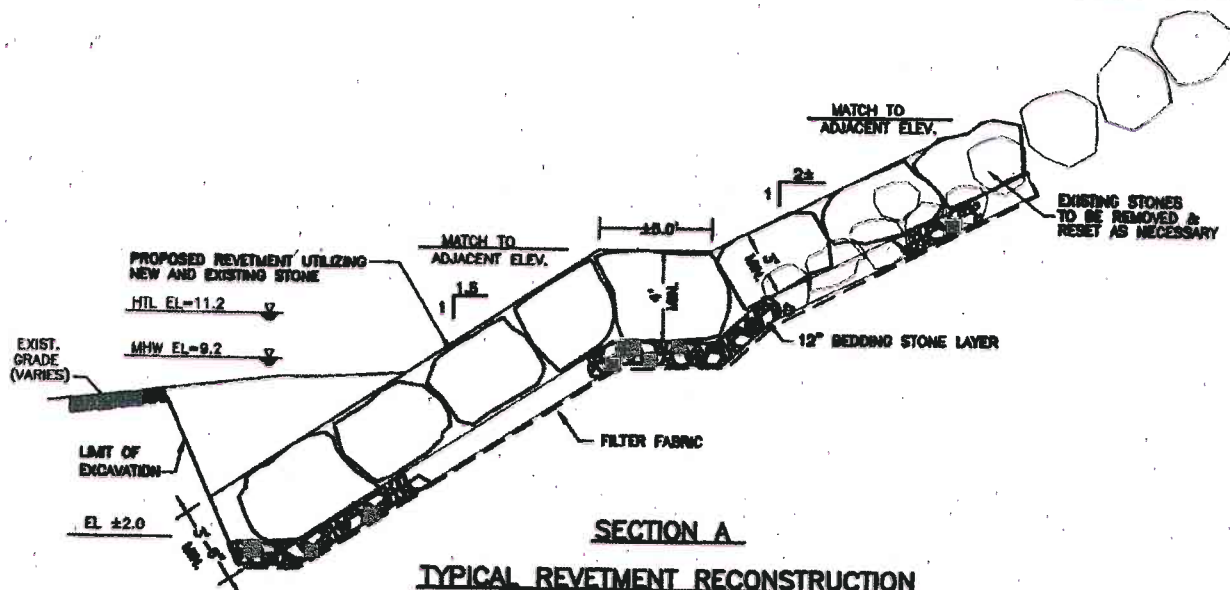
TYPICAL SEAWALL SECTION

STA 0+00 TO STA 2+85

AT: MARSHFIELD SHORELINE
COUNTY: PLYMOUTH

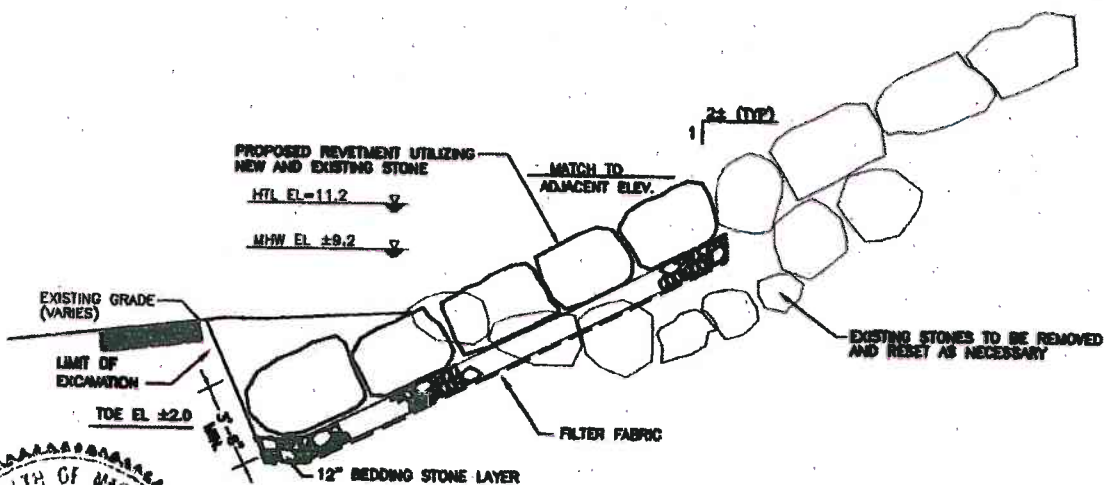
APPLICATION BY:
TOWN OF MARSHFIELD
870 MORaine STREET
MARSHFIELD, MA

DATE: DEC. 2002 SHEET 7 OF 9



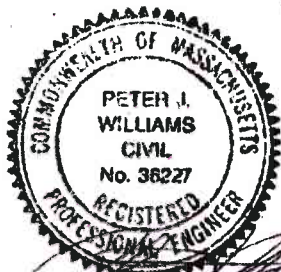
SECTION A
TYPICAL REVETMENT RECONSTRUCTION
WITH TOE AND/OR BERM REPAIRS

SCALE: 1" = 8'



SECTION B
TYPICAL REVETMENT RECONSTRUCTION
WITH TOE REPAIR

SCALE: 1" = 8'



DATUM: MLW = 0.0
 MHW = 9.2
 HTL = 11.2

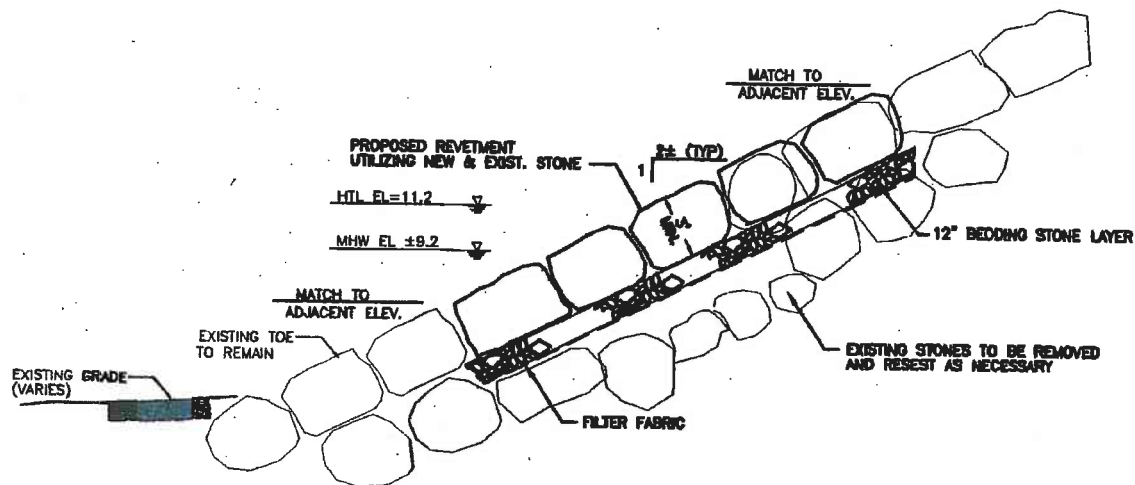
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 SCALE IN FEET

PROPOSED
REVETMENT
RECONSTRUCTION

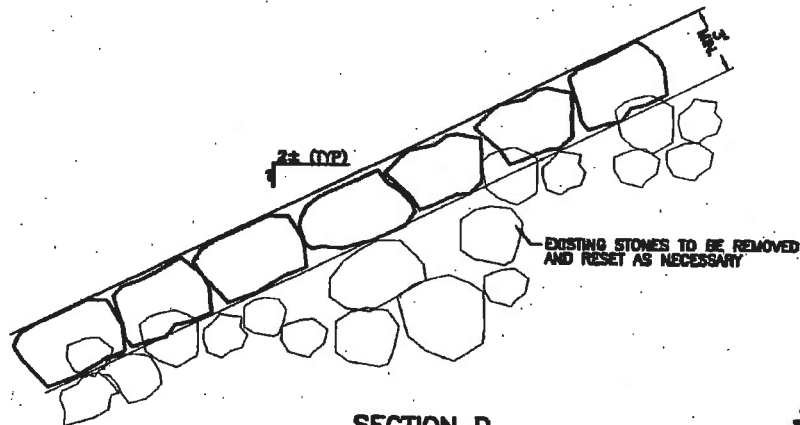
AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH

APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

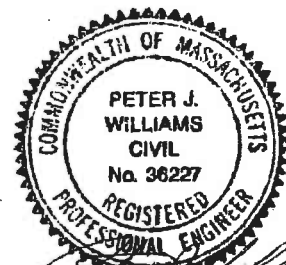
DATE: DEC. 2002 SHEET 8 OF 9



SECTION C
TYPICAL REVETMENT RECONSTRUCTION
 SCALE: 1" = 8'



SECTION D
TYPICAL MISCELLANEOUS REVETMENT REPAIRS
 SCALE: 1" = 8'



DATUM: MLW = 0.0
 MHW = 9.2
 HTL = 11.2

0 8
 SCALE IN FEET

PROPOSED REVETMENT RECONSTRUCTION AND REPAIRS

AT: MARSHFIELD SHORELINE
 COUNTY: PLYMOUTH

APPLICATION BY:
 TOWN OF MARSHFIELD
 870 MORaine STREET
 MARSHFIELD, MA

DATE: DEC. 2002 SHEET 9 OF 9

127 4/30/31

042-ONS-001-012
-100

USACV
31-127

