



**US Army Corps
of Engineers®**
New England District
696 Virginia Road
Concord, MA 01742-2751

PUBLIC NOTICE

Comment Period Begins: June 26, 2018

Comment Period Ends: July 26, 2018

File Number: NAE-2016-01061

In Reply Refer To: Joshua Helms

Phone: (978) 318-8211

E-mail: joshua.m.helms@usace.army.mil

The District Engineer has received a permit application to conduct work and place fill in the waters of the United States from the Town of Dennis, 685 Route 134, Dennis, Massachusetts 02660.

The work involves the selective dredging of multiple navigation and mooring basins within multiple waterways in the Towns of Dennis and Yarmouth. Suitable dredged material will be used as nourishment on multiple town-owned beaches in Dennis while material that is not deemed suitable for beach nourishment will be disposed of at Cape Cod Bay Disposal Site and at the South Dennis Landfill.

Dredging is proposed in Sesuit Harbor, Swan Pond River, and the Bass River by mechanical and/or hydraulic means. Dredging and nourishment is proposed in both previously dredged and nourished areas as well as new areas. Previous dredging has been completed within Sesuit Harbor and the Swan Pond River; however the majority of the proposed areas within the Bass River have never been dredged. The specific locations of the work can be seen on the attached plans and attached tables. The purpose of this permit review is to bring all of the Town's dredging and beach nourishment maintenance activities under one comprehensive permit. This will give the Town the flexibility they need to dredge and nourish the highest priority areas and allow for effective and efficient use of Town resources. The Town is requesting to dredge approximately 434,310 cubic yards (CY) from portions of these waterways over ten years. This encompasses an approximately 96.03 acre area. All areas of Bass River and Sesuit Harbor will be dredged to a depth of -6 mean low water (MLW) and the Swan Pond River will be dredged to -4 MLW. Approximately 175,000 CY of dredged material will be used as nourishment on Cape Cod Bay and Nantucket Sound beaches, encompassing approximately 4 acres. Approximately 70,000 CY of material will be disposed of at the Cape Cod Bay Disposal Site and another 190,000 CY will be disposed of at the South Dennis Landfill

The proposed project footprint including all proposed dredge and nourishment areas can be seen on the attached plans and tables; however, more detailed plans are available upon request. Please contact the Corps of Engineers if you would like to view the entire plan set entitled "10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT," on seventy-two sheets, and dated "05/30/2018."

The Town of Dennis is working to avoid, minimize and mitigate impacts to aquatic resources. The Town of Dennis has limited the proposed dredging to 5 of 17 basins within Bass River based on feedback from the Town residents, Shellfish Constables, and other environmental factors. Additionally, the proposed Swan Pond River channel dredging envelope has been modified to simply maintain the historically permitted 60-foot wide channel to a depth of -4 feet MLW rather than deepen the channel to -6 MLW and widen the proposed channel to 100 feet.

CENAE-R
FILE NO. NAE-2016-01061

The Town has proposed to incorporate the following Best Management Practices into the project design in order to avoid and minimize impacts to aquatics resources, including fish and wildlife:

- The applicant has proposed that the Corps incorporate the following time-of-year restrictions into the permit for dredging and nourishment in the Bass River and Swan Pond River:
 - Winter Flounder and Diadromous Species (Jan 15th – May 31st)
 - Horseshoe Crab (May 1st – July 31st)
 - Anadromous Fish Run (April 1st to June 15th)
 - State/Federally listed shorebirds (April 1st to August 31st)
- The applicant has proposed to incorporate the following time-of-year restrictions into the permit for dredging in Sesuit Inner Harbor and the Inner Mooring Basin:
 - Winter Flounder and Diadromous Species (February 1- June 30)
 - Anadromous Fish Run (April 1st to June 15th)
 - State/Federally listed shorebirds (April 1st to August 31st)
- For all beaches located within Massachusetts Natural Heritage Endangered Species Program (NHESP) Priority Habitat (PH) and Estimated Habitat (EH) for state-listed shorebird species, the maximum nourishment slope has been revised from 1V:6H to 1V:10H based on continued coordination with NHESP. Per NHESP request, additional beach transects were added to the plan set. These include transects located at Metcalf Memorial, Haigis Beach, South Village Beach & Town owned sites west of Swan Pond River, Harbor View, Howes Street Beach and Corporation Beach.
- Prior to undertaking any annual dredging under this comprehensive permit, the town will undertake a Tier 2 submerged aquatic vegetation (SAV) survey to document that no dredging is proposed within 75 feet of SAV resources.
- The proposed dredge envelope was designed to maintain a minimum 25-foot setback from the top of the 3:1 dredge excavation to the edge of salt marsh.
- All beach nourishment material is proposed to be placed above the MHW line. The proponent has stated that placing this material higher on the beach facilitates a more gradual distribution of sediment, allowing mobile organisms to avoid the area of impact and burrowing organisms to respond to a smaller sediment load and will help to minimize potential eelgrass burial and mortality.
- The Town will undertake a beach monitoring/maintenance plan to document conditions before and after initial nourishment, seasonally during the first year and annually for next two years to evaluate the reworking of the beach profile and overall performance. The data will consist of photographic surveys along with a series of shore perpendicular control transects along the length of the nourishment areas.
- The town will implement shorebird monitoring as prescribed by the Massachusetts Natural Heritage and Endangered Species Program and the United States Fish and Wildlife Service.

Finally, the town has proposed the following mitigation measures in order to offset any impacts to aquatic resources as well as possible impacts to fish and wildlife in the project area:

- For the 10-Year Comprehensive Dredge and Beach Nourishment Project, the Harbormaster Office will make annual contributions to the local Shellfish Mitigation Fund based on a formula of \$0.33 per CY dredged in any given year. Additional shellfish sampling conducted by a qualified professional to demonstrate the lack of shellfish habitat can be provided to the Shellfish Constable to consider adjusting the formula in the future. Monies collected as mitigation for this Project would primarily be used for the purchase of shellfish seed. Monies collected as mitigation for dredging with Sesuit Harbor will also be used to purchase an upweller to grow out seed more cost effectively.

- The town will implement a Salt Marsh Pilot Restoration Project within the lower reaches of Bass River at Stage Island and West Dennis Beach. Approximately 400 SF of salt marsh is proposed to be restored on Stage Island and West Dennis Beach. The project was authorized by the Corps of Engineers, NAE-2017-01709, in August 2017 and can be seen on the attached plan set entitled "Plans Accompanying Petition of the Town of Dennis and Town of Yarmouth to Authorize and Maintain Dredged Material Cells as Saltmarsh Restoration at Stage Island and Behind West Dennis Beach Along the Bass River, Dennis, Massachusetts," on five sheets, and dated, June, 2017.

A final mitigation plan has not been approved at this time; however, the proponent is working with the Corps and other regulatory agencies to determine how best to mitigate for the new dredging and nourishment impacts associated with the project.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act.

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers, New England District (Corps), is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. The Corps will consider all comments received to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972, as amended.

Dredged Material Disposal Mitigation Discussion:

The alternatives considered in the dredged material disposal analysis fall into four general categories: beneficial use, upland disposal, confined disposal, and open-water disposal. The feasibility of disposal alternatives was analyzed relative to the physical and chemical quality of the dredged material, the volume of material to be dredged, the availability of suitable disposal and beneficial use sites, and the cost of disposal.

Based on the characteristics of the dredged material and the costs, the most feasible, practical, cost-effective and environmentally acceptable alternatives for the disposal of dredged materials from the proposed dredging is a combination of beach nourishment, upland beneficial re-use, and unconfined open water disposal at the requested disposal site.

The dredged material has undergone physical and chemical analysis. It is our preliminary determination that the material is acceptable for disposal at this disposal site.

Cape Cod Bay Disposal Site

The Cape Cod Bay Disposal Site was first used in 1971 for the disposal of sediments dredged from Wellfleet Harbor. It has been infrequently used since then for disposal of dredged material from the coasts of Cape Cod Bay. This disposal site is monitored and managed by the Massachusetts Department of Environmental Management. Studies show that the site is a low energy environment such that sediment deposited at this location will remain within the site's boundaries. Levels of metals in the sediments within the disposal site are slightly above background levels, indicative of the influence of the earlier dredge disposal at the site. Previous research has shown that areas outside the disposal site have not been found to be affected by sediment deposited within the site.

The disposal site is located within the identified limits of the Right Whale Critical Habitat Area.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

The dredging portion of this project will impact approximately 96.03 acres of EFH. Habitat at this site can be described as sand and mud. Loss of this habitat may adversely affect species that use these waters and substrate. However the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

Dredged material disposal is proposed for Cape Cod Bay and Nantucket Sound Beaches. This project will impact 4 acres of Essential Fish Habitat (EFH). This habitat consists of sand. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

Additional dredged material disposal is proposed for Cape Cod Bay. This is an open water site, which provides EFH. Habitat at this site can be described as silty. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s).

ENDANGERED SPECIES CONSULTATION

The Corps has reviewed the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. We are coordinating with the NMFS and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The states of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved Coastal Zone Management Programs. Where applicable, the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

- (x) Permit, license or assent from State.
- (x) Permit from local wetland agency or conservation commission.
- (x) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

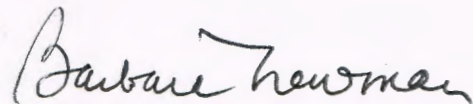
COMMENTS

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Joshua Helms at (978) 318-8211, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.



Barbara Newman
Chief, Permits & Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____

ADDRESS: _____

PHONE: _____



| Type | Label ID | Dredge Area Location | Channel Width (FT) | Channel Length (FT) | Mooring Basin Size (AC) | Dredge Type ¹ | Beach Nourishment Options | Dewatering Options | -6 FT MLW Design Dredge Volume (CY) | 1 FT Overdredge Volume (CY) | Total (Pay) Volume (CY) -6 ft MLW w/ 1 ft Overdredge |
|-----------------------------|----------|----------------------------------|--------------------|---------------------|-------------------------|--------------------------|--|--|-------------------------------------|-----------------------------|--|
| | BRS6.2 | Horsefoot Cove Channel 2 | 60 | 598 | - | I | W. Dennis | Bass River Park Sites | 5,432 | 1,897 | 7,329 |
| | BRS7.1 | Grand Cove Spur Channel (w/ 7.2) | 60 | 3,477 | - | I | - | Wilbur/Grand Cove 1 | 29,521 | 8,193 | 37,714 |
| | BRS7.2 | Cove Road Landing Spur | 60 | 113 | - | I | - | Wilbur/Grand Cove 1 | 0 | 0 | 0 |
| | BRS8 | Wilbur Cove Channel | 60 | 1,110 | - | I | - | Wilbur/Grand Cove 1 | 9,164 | 2,470 | 11,634 |
| | BRS9 | Kelleys Bay Spur | 60 | 331 | - | I | - | Fish House Landing Site | 1,767 | 816 | 2,583 |
| Mooring Basins - Bass River | MBR1 | Stage Island | - | - | 10.83 | I | W. Dennis/ South Village | - | 32,202 | 11,315 | 43,517 |
| | MBR2.1 | Wrinkle/Uncle Freemans 1 | - | - | 5.81 | I | W. Dennis | - | 11,821 | 5,241 | 17,061 |
| | MBR2.3 | Wrinkle/Uncle Freemans 3 | - | - | 2.98 | I | W. Dennis | - | 2,257 | 4,077 | 6,334 |
| | MBR3 | Capt Harding-Ferry St | - | - | 2.91 | M | W. Dennis | Bass River Park Sites | 5,102 | 6,739 | 11,841 |
| | MBR4 | Aunt Julia Anns | - | - | 7.90 | I | W. Dennis | Aunt Julie Annes Landing | 12,440 | 7,307 | 19,747 |
| Mooring Basins - Sesuit | MSH1 | Sesuit Outer Basin | - | - | 2.72 | M | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | Sesuit East & West/Cold Storage/Harbor View Lots | 26,685 | 3,375 | 30,060 |
| | MSH2 | Sesuit Inner Basin | - | - | 4.71 | I | - | Sesuit East & West/Cold Storage/Harbor View Lots | 17,993 | 6,316 | 24,309 |
| Federal Channel | SH1.1 | Sesuit Harbor Channel 1 | 100 | 1,610 | - | M | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - | 546 | 1,309 | 1,855 |



| Type | Label ID | Dredge Area Location | Channel Width (FT) | Channel Length (FT) | Mooring Basin Size (AC) | Dredge Type ¹ | Beach Nourishment Options | Dewatering Options | -6 FT MLW Design Dredge Volume (CY) | 1 FT Overdredge Volume (CY) | Total (Pay) Volume (CY) -6 ft MLW w/ 1 ft Overdredge |
|---------------------|----------|-------------------------|--------------------|---------------------|-------------------------|--------------------------|--|--|-------------------------------------|-----------------------------|--|
| | SH1.2 | Sesuit Harbor Channel 2 | 100 | 696 | - | M | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - | 414 | 413 | 827 |
| | SH1.3 | Sesuit Harbor Channel 3 | 80 | 422 | - | M | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - | 0 | 0 | 0 |
| Navigation Channel | SH3 | Sesuit Inner Harbor | - | - | 8.64 | M/I | - | Sesuit East & West/Cold Storage/Harbor View Lots | 19,460 | 10,381 | 29,841 |
| Habitat Improvement | SPR1 | Swan Pond River Channel | 60 | 983 | - | I | South Village, Haigis, Glendon Rd., Sea St., Raycroft, Depot, Inman Rd., Metcalfe Memorial | - | 6,103 | 4,835 | 10,938 |
| | SPR2 | Swan Pond River Channel | 60 | 299 | - | M | South Village, Haigis, Glendon Rd., Sea St., Raycroft, Depot, Inman Rd., Metcalfe Memorial | - | 2,088 | 977 | 3,065 |
| | | | | | | | | | 283,231 | 113,145 | 396,376 |

¹ M = Maintenance dredging, I = Improvement dredging


10-Year Comprehensive Dredge and Beach Nourishment Project

Dennis and Yarmouth, Massachusetts

SHEET INDEX

Engineer's certification is for permitting purposes only.

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|---|---|---|
| | TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | IN: DENNIS AT: DENNIS COUNTY: BARNSTABLE STATE: MA |
|  | PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT | APPLICATION BY: TOWN OF DENNIS, MA |
| APPENDIX A SHEET: 1 OF 72 DATE: 05/30/2018 | | |

GENERAL NOTES:

1. RESULTS OF HYDROGRAPHIC SURVEY FROM CR ENVIRONMENTAL, INC. (OCTOBER-DECEMBER 2014). ELEVATIONS AND SOUNDINGS ARE IN FEET AND TENTHS, AND REFER TO THE MLW DATUM.
2. THE HORIZONTAL DATUM SHOWN HEREON IS THE NORTH AMERICAN DATUM OF 1983 (NAD-83) MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, FEET.
3. THE ESTIMATED TIDAL RANGE (MEAN HIGH WATER - MEAN LOW WATER) AS SHOWN ON PLANS.
4. THE INFORMATION DEPICTED ON THESE PLANS REPRESENTS THE RESULTS OF HYDROGRAPHIC SURVEYS AND LIDAR PERFORMED ON THE DATES SHOWN, AND CAN ONLY BE CONSIDERED AS INDICATING THE SEABED OR SHORELINE CONDITIONS AT THAT TIME. INTERPOLATED INFORMATION FROM BETWEEN SOUNDING RUNS IS NOT GUARANTEED. SHOALS, OBSTRUCTIONS OR OTHER DIFFERING CONDITIONS MAY EXIST BETWEEN THESE RUNS. NO SURVEYS WERE CONDUCTED TO LOCATE PROPERTY LINES, CHANNEL LIMITS, EASEMENTS, UTILITIES, GEOTECHNICAL FEATURES, SHORELINES, STRUCTURES, HABITATS OR ANY OTHER PHYSICAL FEATURES RELATING TO THE PROJECT SITE.
5. PROPOSED DREDGE VOLUMES SHOWN ARE APPROXIMATE. PROJECT OBJECTIVE IS TO DREDGE TO -6 FEET MEAN LOW WATER.
6. BEACH NOURISHMENT BASE MAPPING FROM LIDAR SOURCE: MASSGIS 2013-2014. ELEVATIONS REFER TO NAVD 1988 DATUM.
7. PROPERTY LINES, FEMA FLOOD ZONES AND NHESP ESTIMATED & PRIORITY HABITATS ARE APPROXIMATE AND ARE BASED ON MOST RECENT DATA AVAILABLE FROM THE MASSGIS DATABASE.


SEDIMENTATION & EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES, AS MAY BE NECESSARY FOR DEWATERING, AS SPECIFIED ON THE DRAWINGS AND AS REQUIRED BY THE PERMITS.
2. CONTRACTOR TO NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES. ALL SOIL AND EROSION CONTROLS SHALL BE CHECKED AND REPAIRED AS NECESSARY BY THE CONTRACTOR.
3. TEMPORARY STOCKPILES OF DREDGED MATERIAL SHALL BE LOCATED ON-SITE, WITHIN THE DESIGNATED AREAS. ANY MATERIAL NOT RE-USED FOR BEACH NOURISHMENT SHALL BE TRUCKED TO THE UPLAND BENEFICIAL REUSE SITE.

4. TRUCKED MATERIAL SHALL BE CONTROLLED IN ACCORDANCE WITH THE SPECIFICATIONS AND ORDER OF CONDITIONS.
5. THE CONTRACTOR SHALL PHASE DREDGING OPERATIONS TO MINIMIZE THE AREA DISTURBED OR OPEN TO THE ELEMENTS AT ANY GIVEN TIME.
6. THE WORK SITE SHALL BE LEFT IN A STABLE CONDITION AT THE CLOSE OF EACH DAY.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO EXCAVATION IN ACCORDANCE WITH STATE OF MASSACHUSETTS, GENERAL LAWS C39-1.2.
2. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES AND UTILITY COMPANIES, IN WRITING, 48 HOURS PRIOR TO ANY WORK WITHIN 15 FEET OF A UTILITY LINE.
3. THE CONTRACTOR SHALL, UNDER THE DIRECTION OF THE ENGINEER, ESTABLISH "CONSTRUCTION LIMITS" ON THE SITE BY ACCEPTABLE VISIBLE MARKERS. ALL WORK AND EQUIPMENT SHALL BE CONFINED TO WITHIN THESE LIMITS, UNLESS OTHERWISE SPECIFICALLY AUTHORIZED.
4. NO CHANGES ARE TO BE MADE UNLESS AUTHORIZED BY ENGINEER AND/OR OWNER.
5. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY CODES, REGULATIONS, LEGAL REQUIREMENTS, PERMIT CONDITIONS, ETC.
6. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, STREETS, PAVEMENTS, HIGHWAY GUARDS, CURBING, EDGING, TREES, PLANTINGS, STRUCTURES, PIPES, ETC. ON OR OFF THE PREMISES, AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AT HIS/HER OWN EXPENSE AS REQUIRED BY THE ENGINEER OR OWNER ANY ITEMS DAMAGED AS A RESULT OF THE CONTRACTOR'S WORK.
7. THE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND DEBRIS IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL LEAVE THE PROJECT SITE IN SAFE AND CLEAN CONDITION UPON COMPLETION OF DREDGING OPERATIONS.
8. DREDGING SEQUENCE SHALL BE COORDINATED TO MINIMIZE DISTURBANCE OF EXISTING CONDITIONS AND OPERATIONS.
9. DREDGING SHALL TAKE PLACE WITHIN APPROVED WORK WINDOWS.

| | | |
|---|---|--|
|  | TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | IN: DENNIS AT: DENNIS COUNTY: BARNSTABLE STATE: MA |
| | PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT | APPLICATION BY: TOWN OF DENNIS, MA |

Inventory of Proposed Dredge Locations with Beach Nourishment and Dewatering Site Options

| Type | Dredge Area Location | Channel Width (FT) | Channel Length (FT) | Mooring Basin Size (AC) | Beach Nourishment Options | Dewatering Options |
|----------------------------------|----------------------------------|--------------------|---------------------|-------------------------|---------------------------|--|
| Navigation Channels - Bass River | Bass River Channel Mid-River 1 | 60 | 2,847 | - | W. Dennis | Aurt Julie Annes Landing |
| | Bass River Channel Mid-River 2 | 60 | 6,772 | - | - | Wilbur/Grand Cove 1 |
| | Blue Rock Channel | 60 | 2,913 | - | - | Wilbur/Grand Cove 1/Fish House Landing 1 |
| | Indian Land Channel | 40 | 1,820 | - | - | Fish House Landing Site 1 |
| | Kelleys Bay Channel | 60 | 1,520 | - | - | Fish House Landing Site 1 |
| | The Narrows Channel | 60 | 3,571 | - | - | Follins Pond/Fish House Landing Sites |
| | Old Field Channel 2 | 60 | 714 | - | W. Dennis/ South Village | W. Dennis Beach Cul De Sac/Parking Lot |
| | Weir Creek Channel | 60 | 1,980 | - | W. Dennis/ South Village | - |
| | Follins Pond Landing Spur | 60 | 1,006 | - | - | Follins Pond Landing Site 1 - Dewatering |
| | Wrinkle Point Channel | 60 | 1,411 | - | W. Dennis/ South Village | West Dennis Beach Cul De Sac |
| | Ferry Street Landing Spur | 60 | 205 | - | W. Dennis | Bass River Park Sites |
| | Horsefoot Cove Channel 1 | 60 | 961 | - | W. Dennis | Bass River Park Sites |
| | Horsefoot Cove Channel 2 | 60 | 598 | - | W. Dennis | Bass River Park Sites |
| | Grand Cove Spur Channel (w/ 7.2) | 60 | 3,477 | - | - | Wilbur/Grand Cove 1 |
| | Cove Road Landing Spur | 60 | 113 | - | - | Wilbur/Grand Cove 1 |
| Wilbur Cove Channel | 60 | 1,110 | - | - | Wilbur/Grand Cove 1 | |
| Kelleys Bay Spur | 60 | 331 | - | - | Fish House Landing Site | |

| | | | |
|---|--|--|----------------|
| TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | | IN: DENNIS AT: DENNIS COUNTY: BARNSTABLE STATE: MA | |
| PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT | | APPLICATION BY: TOWN OF DENNIS, MA | |
| | | APPENDIX A | SHEET: 3 OF 72 |
| | | DATE: 05/30/2018 | |




**Inventory of Proposed Dredge Locations with
Beach Nourishment and Dewatering Site Options (Cont.)**

| Type | Dredge Area Location | Channel Width (FT) | Channel Length (FT) | Mooring Basin Size (AC) | Beach Nourishment Options | Dewatering Options |
|-----------------------------|--------------------------|--------------------|---------------------|-------------------------|--|--|
| Mooring Basins - Bass River | Stage Island | - | - | 10.83 | W. Dennis/ South Village | - |
| | Wrinkle/Uncle Freemans 1 | - | - | 5.81 | W. Dennis | - |
| | Wrinkle/Uncle Freemans 3 | - | - | 2.98 | W. Dennis | - |
| | Capt Harding-Ferry St | - | - | 2.91 | W. Dennis | Bass River Park Sites |
| | Aunt Julia Anns | - | - | 7.90 | W. Dennis | Aunt Julie Annes Landing |
| Mooring Basins - Sesuit | Sesuit Outer Basin | - | - | 2.72 | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | Sesuit East & West/Cold Storage/Harbor View Lots |
| | Sesuit Inner Basin | - | - | 4.71 | - | Sesuit East & West/Cold Storage/Harbor View Lots |
| Federal Channel | Sesuit Harbor Channel 1 | 100 | 1,610 | - | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - |
| | Sesuit Harbor Channel 2 | 100 | 696 | - | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - |
| | Sesuit Harbor Channel 3 | 80 | 422 | - | Corporation, Howes St., Harbor View, Cold Storage, and Sea St. | - |
| Navigation Channel | Sesuit Inner Harbor | - | - | 8.64 | - | Sesuit East & West/Cold Storage/Harbor View Lots |
| Habitat Improvement | Swan Pond River Channel | 60 | 983 | - | South Village, Halgis, Glendon Rd., Sea St., Raycroft, Depot, Inman Rd., Metcalfe Memorial | - |
| | Swan Pond River Channel | 60 | 299 | - | South Village, Halgis, Glendon Rd., Sea St., Raycroft, Depot, Inman Rd., Metcalfe Memorial | - |

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|-----------------|---|--|
| TITLE: | 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | IN: DENNIS AT: DENNIS COUNTY: BARNSTABLE STATE: MA |
| PURPOSE: | DREDGE AND BEACH NOURISHMENT PROJECT | APPENDIX A SHEET: 4 OF 72 |
| APPLICATION BY: | TOWN OF DENNIS, MA | DATE: 05/30/2018 |





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|---|---|--|
| | <p>TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT</p> | <p>IN: NANTUCKET SND & CC BAY AT: DENNIS COUNTY: BARNSTABLE STATE:</p> |
|  | <p>PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT</p> | <p>APPLICATION BY: TOWN OF DENNIS, MA</p> |
| <p>APPENDIX A SHEET: 5 OF 72 DATE: 05/16/2018</p> | | |

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Drawing Date: 10/19/2017

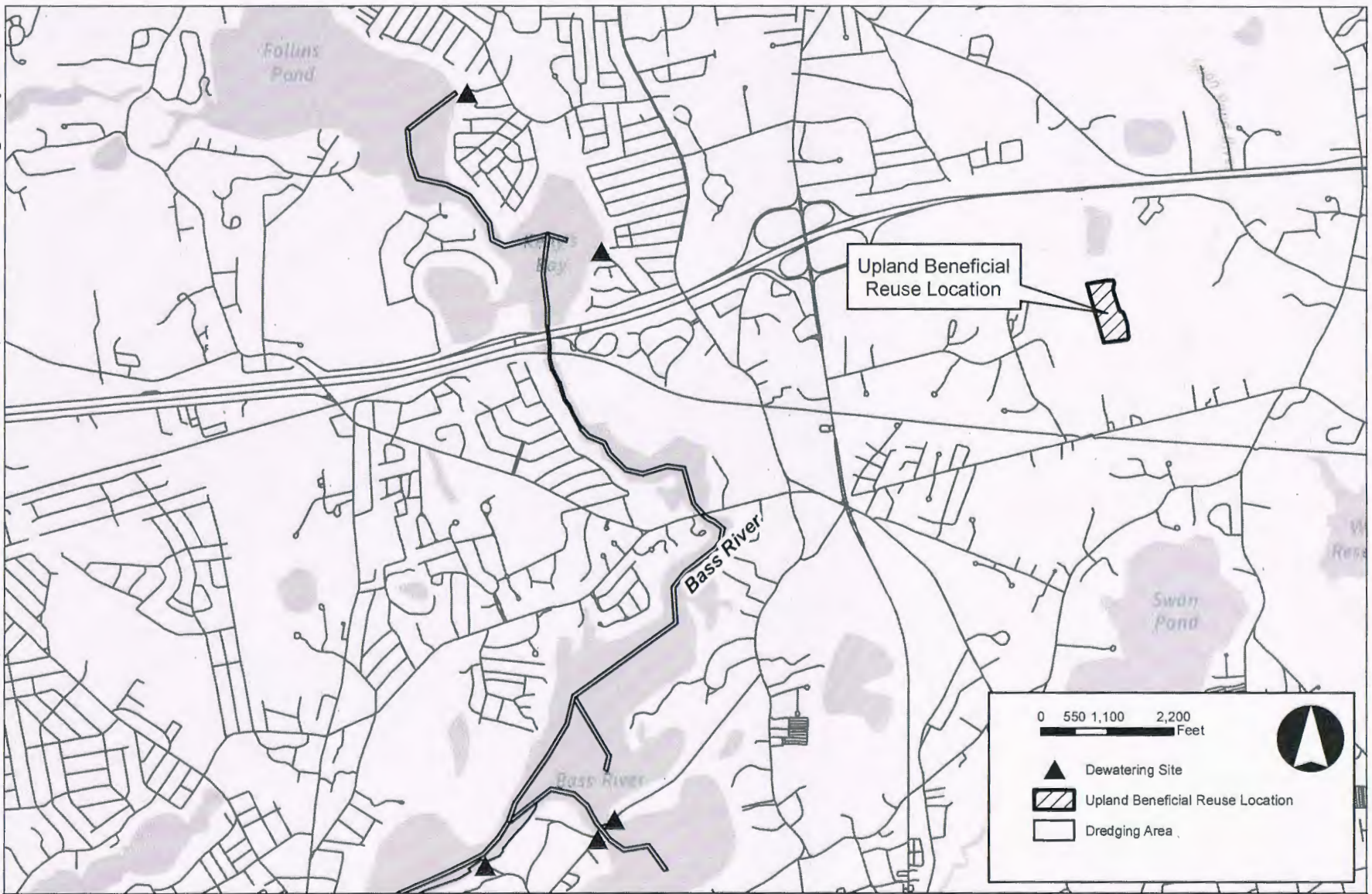



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| <p>TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT</p> | <p>IN: NANTUCKET SND & CC BAY AT: DENNIS COUNTY: BARNSTABLE STATE:</p> |
| <p>PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT</p> | <p>APPLICATION BY: TOWN OF DENNIS, MA</p> |
| <p>APPENDIX A SHEET: 6 OF 72 DATE: 05/16/2018</p> | |

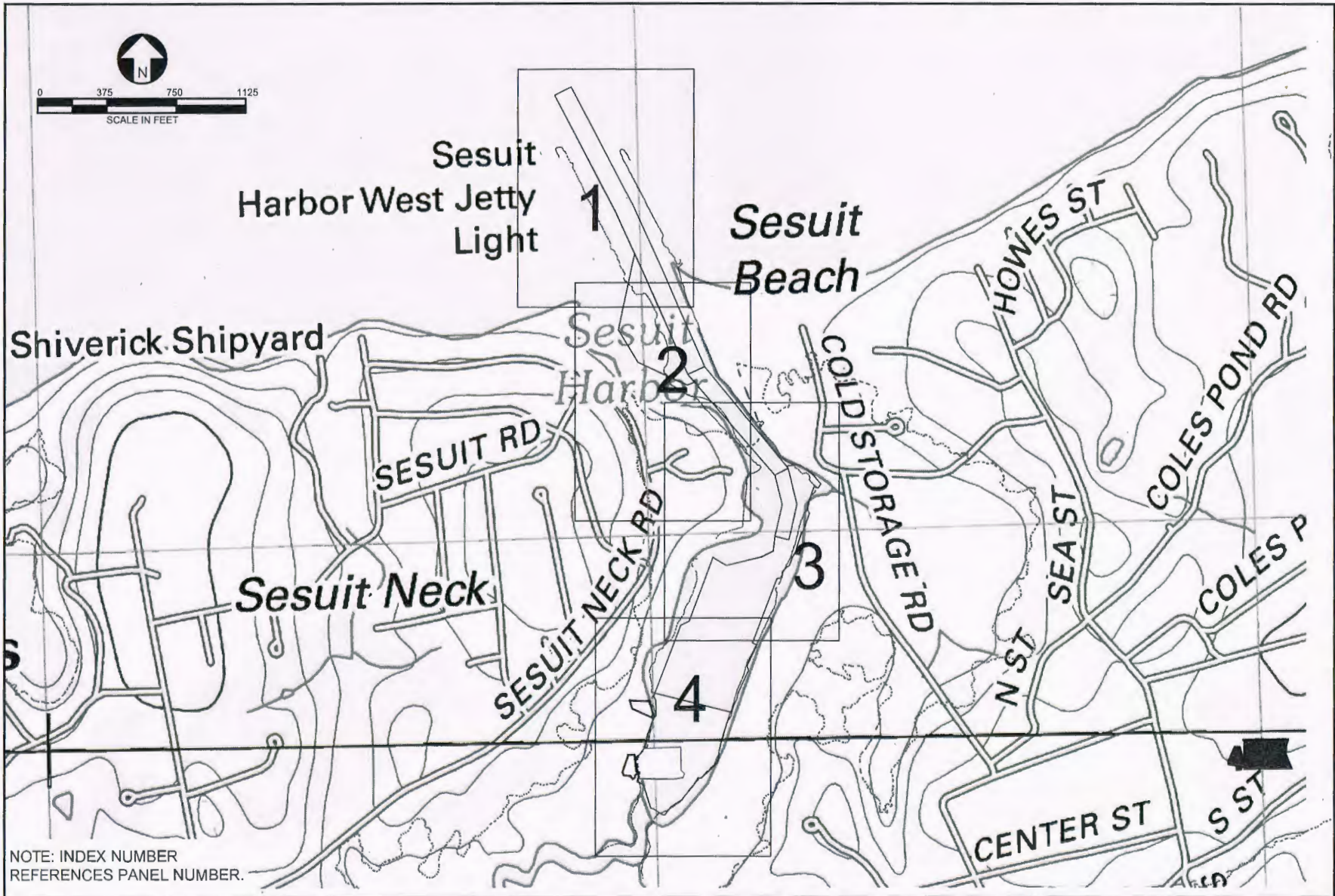
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Drawing Date: 10/19/2017



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|---|---|--|---|--|
|  | TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | | IN: NANTUCKET SND & CC BAY AT: DENNIS COUNTY: BARNSTABLE STATE: | |
| | PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT | APPLICATION BY: TOWN OF DENNIS, MA | | APPENDIX A SHEET: 7 OF 72 DATE: 05/16/2018 |



NOTE: INDEX NUMBER
REFERENCES PANEL NUMBER.

100 YR. FLOOD: 19.5 FT NAVD88: 5.5 FT
HTL: 12.4 FT MLW: 0.0 FT
MHW: 9.7 FT

TITLE:
10 YEAR COMPREHENSIVE DREDGE AND
BEACH NOURISHMENT PROJECT

IN: SESUIT HARBOR
AT: DENNIS
COUNTY: BARNSTABLE STATE: MA




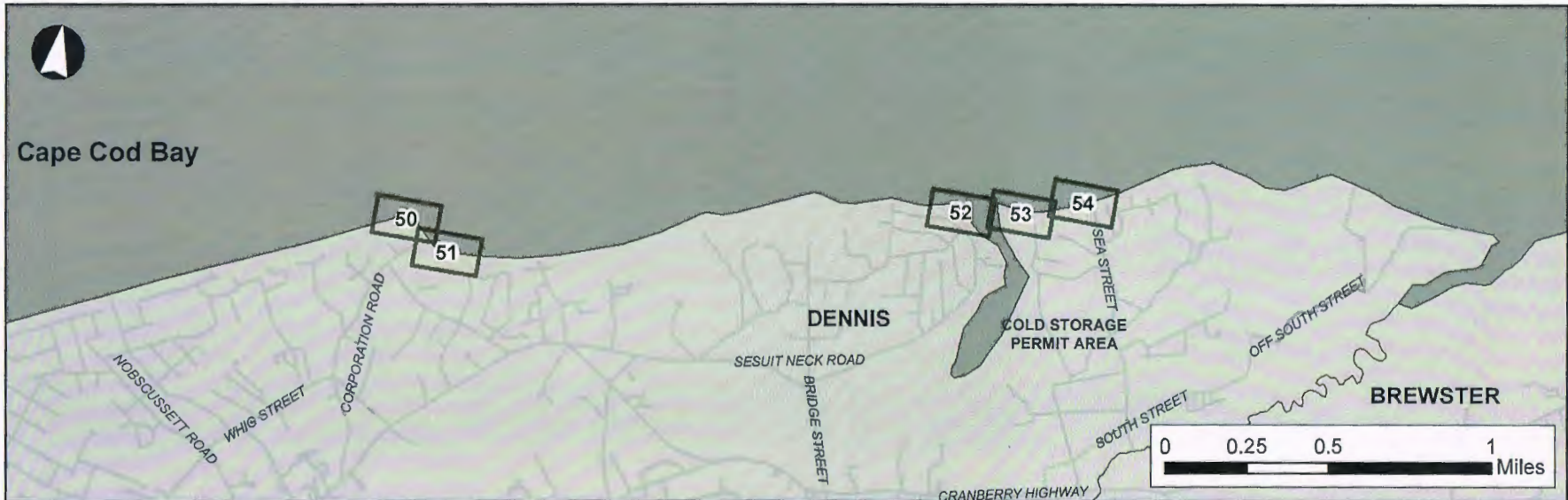
PURPOSE:
DREDGE AND BEACH
NOURISHMENT PROJECT

APPLICATION BY:
TOWN OF DENNIS, MA

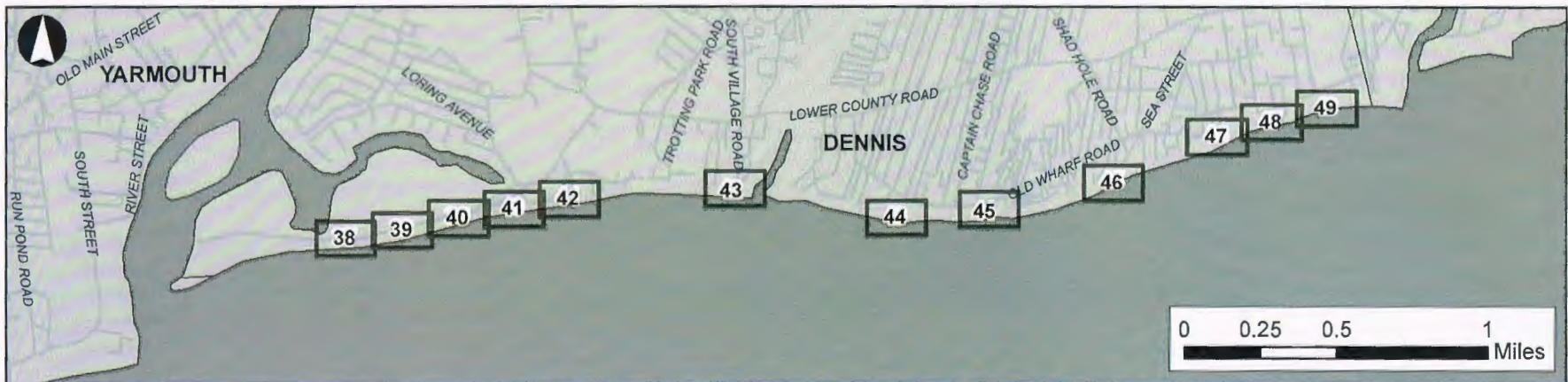
APPENDIX A SHEET: 8 OF 72
DATE: 05/30/2018




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|---|---|---|
| | TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT | IN: BASS RIVER AT: DENNIS COUNTY: BARNSTABLE STATE: MA |
|  | PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT | APPLICATION BY: TOWN OF DENNIS, MA |
| APPENDIX A SHEET: 9 OF 72 DATE: 05/30/2018 | | |



Nantucket Sound Index Map



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|---|---|--|---|
| <p>Note: Index number references sheet number</p> | <p>TITLE: 10 YEAR COMPREHENSIVE DREDGE AND BEACH NOURISHMENT PROJECT</p> | | <p>IN: NANTUCKET SND & CC BAY AT: DENNIS COUNTY: BARNSTABLE STATE: MA</p> |
|  | <p>PURPOSE: DREDGE AND BEACH NOURISHMENT PROJECT</p> | <p>APPLICATION BY: TOWN OF DENNIS, MA</p> | <p>APPENDIX A SHEET: 37 OF 72 DATE: 05/16/2018</p> |