

May 18, 2021

Eastham Conservation Commission c/o Mr. Charles Katuska, Conservation Agent 2500 State Highway Eastham, MA 02642

Re: Revised Plan – Rock Harbor Harbormaster Building and Site Revitalization Project 631 Dyer Prince Road, Eastham, Massachusetts MassDEP File No. SE-019-1796; NHESP Tracking No. 3-32126

Dear Members of the Eastham Conservation Commission:

On behalf of the Applicant, the Town of Eastham, the Horsley Witten Group, Inc. (HW) is submitting the enclosed revised site plan resulting from an additional survey at the site. Specifically, this revised plan incorporates a finger-like projection of upper salt marsh that is located off-site to the north, as well as the adjusted buffer zones.

The potential additional area of salt marsh was brought to the attention of the Project Team by the Conservation Agent, Chuck Katuska, on May 5, 2021.

HW met on site with Mr. Katuska and Ms. Shana Brogan on May 11, 2021 to review existing conditions and discuss the resource areas. It was agreed that a small finger of upper salt marsh extends within the adjacent property in a configuration parallel to the northern boundary of the site. As there is also presence of filled tidelands in this vicinity, HW used a combination of factors to determine the extent of salt marsh in this location, including the definition of salt marsh, the presence of salt-tolerant species, the soil substrate, and the wrack line. HW placed eleven temporary flagging stations along the salt marsh boundary and survey-located these prior to removing all flagging. HW also confirmed the delineation with Mr. Katuska on site prior to finalizing our field survey.

The results of the field survey include this additional area of salt marsh along with additional salt marsh buffer zone that extends onto the project site. Subsequent design changes include relocating the septic system leaching field outside of the 100-foot buffer zone to this newly delineated salt marsh. The leaching field is now proposed to be located beneath the entrance of the existing paved parking lot. A minor adjustment to the location of the distribution box location has also been made. The Project Team has coordinated with the Town Staff, including the DPW Director, and the Town is supportive of placement of the leaching field in this location. A copy of this revised plan will be submitted to the Board of Health for reevaluation and permit approval.

Enclosed please find three full-sized copies of the revised site plan along with seven copies for Commission members (10 total).





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Copies of all submittal materials will be forwarded to the Massachusetts Department of Environmental Protection (MassDEP), Southeast Regional Office and to the Massachusetts Natural Heritage and Endangered Species Program (NHESP).

Thank you for your continued review of this project. Please do not hesitate to contact HW at (508) 833-6600 with any questions.

Sincerely,

Horsley Witten Group, Inc.

Amy M. Ball, PWS, CWS Senior Ecologist

Enclosures

cc: MassDEP, Southeast Regional Office Emily Holt, MA NHESP Shana Brogan, Rock Harbor Capital Projects Committee Scott Richards, Harbormaster Rob Marcalow, AIA, NCARB, Kuth Ranieri Architects

GE	NERAL CONSTRUCTION NOTES:	<u>DE</u>	WATERING NOTES:
2.	ALL SITE WORK TO COMPLETE THIS PROJECT AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.		A. DEVELOP A SUBSTAN B. PREVENT DAMAGE TO
5.	DRAWINGS IS REQUIRED. UTILIZE ALL PRECAUTIONS AND MEASURES TO ENSURE THE SAFETY OF THE PUBLIC, ALL PERSONNEL AND PROPERTY DURING CONSTRUCTION IN ACCORDANCE WITH OSHA STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY FEMALING, RAPPICADES, SAFETY LIGHTING, CONES, POLICE DETAIL		 C. RETAIN ALL SEDIMEN D. PREVENT SEDIMENT E. PREVENT LOSS OF FI F. MAINTAIN STABILITY
	ACCORDANCE WITH OSHA STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY FENCING BARRICADES, SAFETY LIGHTING, CONES, POLICE DETAIL AND/OR FLAGMEN AS DETERMINED NECESSARY BY THE TOWN OF EASTHAM. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF POLICE DETAIL AND FOR COORDINATING WITH THE LOCAL OR STATE POLICE DEPARTMENT FOR ALL REQUIRED POLICE DETAIL.	2.	LOCATE DEWATERING FACILIT
	MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES INCLUDING POLICE DETAILS AND POST ALL BONDS, IF NECESSARY, ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE OWNER AND THE ENGINEER.	3.	MODIFY DEWATERING EQUIPM AREAS NOT WITHIN THE LIMIT
	ALL EXISTING CONDITIONS SHOWN ARE APPROXIMATE AND ARE BASED ON THE BEST INFORMATION AVAILABLE. PRIOR TO THE START CONSTRUCTION VERIFY THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED. NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE SITE WORK WHICH WOULD BE	4.	PRIOR TO INSTALLATION OF T SCHEDULE AND PROCEDURES MINIMUM THE FOLLOWING INF
	AFFECTED. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ON THE DRAWINGS ARE BASED ON RECORDS OF VARIOUS UTILITY		A. THE PROPOSED TYPI B. ARRANGEMENT, LOC
	COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY IN THE TOWN, AND "DIGSAFE" (1-888-344-7233) AT LEAST THREE BUSINESS		C. COMPLETE DESCRIP PROCEDURES; D. TYPES AND SIZES OF
	DAYS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR MUST RESOLVE CONFLICTS BETWEEN THE PROPOSED UTILITIES AND FIELD-LOCATED UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED, INCOMPLETELY OR INACCURATELY SHOWN. THE CONTRACTOR MUST		F. PROVISIONS AND ME G. ALL PERMITS REQUIF
	MAINTAIN ACCURATE RECORDS OF THE LOCATION AND ELEVATION OF ALL WORK INSTALLED AND EXISTING UTILITIES FOUND DURING CONSTRUCTION FOR THE PREPARATION OF THE AS-BUILT PLAN.	5.	FURNISH ALL MATERIAL/PROD UTILITIES, AND/OR RESOURCE
	COORDINATE AND MAKE ALL CONNECTION ARRANGEMENTS WITH UTILITY COMPANIES, AS REQUIRED. THE CONTRACTOR MUST MAINTAIN ALL EXISTING UTILITIES IN WORKING ORDER AND FREE FROM DAMAGE DURING THE ENTIRE DURATION OF THE PROJECT.	6.	INTERCEPT AND DIVERT SURF OTHER APPROVED MEANS.
	CONTRACTOR IS RESPONSIBLE FOR ALL COST RELATED TO THE REPAIR OF UTILITIES. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES MUST BE DONE BY HAND.	7. 8.	IF PUMPS ARE USED, THE PUM PROVIDE AND MAINTAIN HOLD
	COORDINATE ALL TRENCHING WORK WITHIN ROADWAYS WITH THE PROPER LOCAL & STATE AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY INCLUDING ANY LOCAL AND/OR STATE PERMITS REQUIRED FOR THE TRENCH WORK. IF THIS WORK IS REQUIRED TO OCCUR OUTSIDE THE AGREED UPON HOURS OF OPERATION FOR THE FACILITY, THE CONTRACTOR MUST PLAN ACCORDINGLY.		SEEPAGE FROM ENTERING TH AMOUNT OF FINE PARTICLES I BECOMES BLOCKED DUE TO D
).	SAWCUT ALL TRENCH WORK WITHIN EXISTING PAVEMENT AS INDICATED ON THE DRAWINGS. BACKFILL AND COMPACT TRENCH WORK AS INDICATED ON THE DRAWING AND IN THE SPECIFICATIONS. IF SETTLEMENT OCCURS DUE TO INADEQUATE COMPACTION, AS DETERMINED BY THE ENGINEER, WITHIN THE		ARE THE SOLE RESPONSIBILIT
	WARRANTY PERIOD, CONTRACTOR IS REQUIRED TO REMOVE, PATCH AND REPAVE AFTER ONE COMPLETE 12-MONTH CYCLE.		OF ANY CHANGES REQUIRED RESUBMIT THE INFORMATION
2.	IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH AND MAINTAIN ALL CONTROL POINTS AND BENCHMARKS DURING CONSTRUCTION INCLUDING BENCHMARK LOCATIONS AND ELEVATIONS AT CRITICAL AREAS. COORDINATE WITH THE ENGINEER THE LOCATION OF ALL CONTROL POINTS AND		A. PERFORM DEWATER FOR THE PROSECUTI
8.	BENCHMARKS. SITE LAYOUT SURVEY REQUIRED FOR CONSTRUCTION MUST BE PROVIDED BY THE CONTRACTOR AND PERFORMED BY A MASSACHUSETTS' REGISTERED		B. MAINTAIN DEWATERI STRUCTURES, AND T
4.	PROFESSIONAL LAND SURVEYOR. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE SURVEYOR FOR ALL SITE SURVEY WORK. MAINTAIN ALL GRADE STAKES SET BY THE SURVEYOR. GRADE STAKES ARE TO REMAIN UNTIL A FINAL INSPECTION OF THE ITEM HAS BEEN COMPLETED BY		TO REMOVE PROMPT IS COMPLETED.
).	THE ENGINEER. RE-STAKING OF PREVIOUSLY SURVEYED SITE FEATURES IS THE RESPONSIBILITY (INCLUDING COST) OF THE CONTRACTOR. UNLESS OTHERWISE INDICATED ON THE DRAWINGS AND/OR IN THE SPECIFICATIONS, ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE MOST RECENT VERSION OF THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (THE COMMONWEALTH		D. DO NOT DISCHARGEE. DO NOT LAY PIPE AN
	OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR HIGHWAY AND BRIDGES 2020 EDITION, AND THE SUPPLEMENTAL SPECIFICATIONS DATED JUNE 30, 2020).		AFTER INSTALLATION PIPE OR STRUCTURE
	PROVIDE ALL CONSTRUCTION SERVICE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING NOISE, VIBRATION, DUST, SEDIMENTATION CONTAINMENT, AND TRENCH WORK.	<u>ST</u>	CONTRACTOR IS DESDONISION
	COLLECT SOLID WASTES AND STORE IN A SECURED DUMPSTER. THE DUMPSTER MUST MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS.	DUR	ING CONSTRUCTION AND UNTIL
	DISTURBED BY CONSTRUCTION IN THEIR ORIGINAL CONDITION AFTER CONSTRUCTION IS COMPLETE PER SPECIFICATIONS. LEAVE ALL AREAS NOT DISTURBED BY CONSTRUCTION IN THEIR NATURAL STATE. TAKE CARE TO PREVENT DAMAGE TO SHRUBS, TREES, OTHER LANDSCAPING AND/OR NATURAL FEATURES. WHEREAS THE PLANS DO NOT SHOW ALL LANDSCAPE FEATURES, EXISTING CONDITIONS MUST BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF THE WORK.	2.	PRIOR TO THE OWNER'S ACCE REMOVE AND DISPOSE ALL SE
	CONSTRUCT ALL WHEELCHAIR RAMPS IN ACCORDANCE WITH MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS AND CONSTRUCTION AND TRAFFIC STANDARD DETAILS DRAWING NUMBER 107.1.0 AND 107.2.0. CONSTRUCT RAMPS WITH AN 8% MAX. SLOPE AND 2% CROSS SLOPE	3.	REFER TO THE STORMWATER OPERATION AND MAINTENANC
	PROVIDE A UNIT PRICE COST IN CUBIC YARD MEASURE FOR LEDGE AND/OR BOULDER REMOVAL. LEDGE AND/OR BOULDERS LESS THAN 1 CUBIC YARD IN SIZE BASED ON THE AVERAGE DIMENSIONS WILL NOT BE CONSIDERED PAYABLE ROCK. PROVIDE UNIT PRICES FOR BOTH ON AND OFF SITE DISPOSAL. IF	4.	AT A MINIMUM INSPECT MONTH THE CONSTRUCTION PROJECT
	ADDITIONAL FILL MATERIAL IS REQUIRED INCLUDE THE COST OF ALL FILL MATERIAL. REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE.	5.	A. DRAINAGE STRUCTUR
	ALL TRUCKS LEAVING THE SITE MUST BE COVERED.		STRUCTURES FOR PI THE STRUCTURES (IN
	DO NOT WASH ANY CONCRETE TRUCKS ONSITE. REMOVE BY HAND ANY CEMENT OR CONCRETE DEBRIS LEFT IN THE DISTURBED AREA. BURIAL OF ANY STUMPS, SOLID DEBRIS, AND/OR STONES/BOULDERS ONSITE IS PROHIBITED. DO NOT USE ROAD SALT OR OTHER DE-ICING CHEMICALS ON		C. BIORETENTION SYSTI
	THE ACCESS ROADWAY. AT THE END OF CONSTRUCTION, REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE [AS INDICATED IN THE SPECIFICATIONS].		WEIR WALLS, DRAINA DURING INSPECTION PLANTS, REMOVE SEI
_	SITE.		D. ROUTINE MAINTENAN
⊑ IS	PLAN SET DOES NOT INCLUDE DETAILS & SPECIFICATIONS FOR ALL DEMOLITION WORK REQUIRED WITHIN THE PROPOSED CONSTRUCTION LIMITS. IT IS THE		DRAINAGE SYSTEM.
	TRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER, PROJECT ARCHITECT, MECHANICAL ENGINEERS AND OTHER PROJECT ENGINEERS INVOLVED I THE PROPOSED NEW CONSTRUCTION TO DEVELOP A SUITABLE DEMOLITION PLAN, WHICH WILL ALLOW THE FACILITIES TO REMAIN IN OPERATION DURING ENTIRETY OF CONSTRUCTION.	<u>WA</u>	TER & SEWER INSTA
	UNLESS OTHERWISE NOTED, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION, DEMOLITION, REMOVAL AND DISPOSAL, IN A LOCATION APPROVED BY ALL GOVERNING AUTHORITIES, OF ALL EXISTING SITE ELEMENTS AND STRUCTURES INCLUDING, BUT NOT LIMITED TO, BUILDINGS, ROADWAYS, PARKING	1.	UTILITY TYPE
	AREAS, PARKING ISLANDS, BITUMINOUS CONCRETE, CEMENT CONCRETE, GRAVEL, CURBS, WALKWAYS, SIDEWALKS, BERMS, FENCES, BOLLARDS, POSTS, PLANTING BEDS, TREES, SHRUBS, UTILITIES, DRAINAGE STRUCTURES AND ALL OTHER STRUCTURES SHOWN AND NOT SHOWN WITHIN CONSTRUCTION LIMITS, AND WHERE NEEDED, TO ALLOW FOR NEW CONSTRUCTION. ALL FACILITIES TO BE REMOVED ARE TO BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER SPECIFICATIONS.		
	REMOVE ALL DEBRIS FROM THE SITE AND DISPOSE OF THE DEBRIS IN A PROPER AND LEGAL MANNER.		GRAVITY FORCEMAIN WATER MAIN
	OBTAIN ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.	2.	INSULATE SANITARY FORCE MAI
	COMPANIES CONCERNING PORTIONS OF THE WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.	3.	INSULATION: 2" THICK POLYURET
	REFER TO MECHANICAL AND STEPLANS AND SPECIFICATIONS FOR ALL WORK WHICH REQUIRES UTILITIES TO BE REMOVED, RELOCATE OR ABANDONED AND LEFT IN PLACE.	4.	WATER AND SEWER SEPARATIO SITE CONDITIONS REQUIRE LESS
	BEFORE PROCEEDING WITH THE WORK. MAINTAIN CONTINUOUS ACCESS AND OPERATION FOR SURROUNDING FACILITIES, AS DEEMED BY THE OWNER, AT ALL TIMES DURING DEMOLITION OF THE	<u>W</u> A	
	EXISTING FACILITIES. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.	1.	ASSOCIATED FEES AS REQUIRED
	SIC CONSTRUCTION SEQUENCE:	3.	APPROVED BY THE ENGINEER.
5	FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GENERAL GUIDELINE. COORDINATE WITH THE OWNER, ENGINEERS, AND LANDSCAPE HITECT AND SUBMIT A PROPOSED CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.	4.	TO WHICH THE MATERIAL IS MAN GATE VALVES: MUELLER (A 2360
	SURVEY AND STAKE THE PROPOSED LIMIT OF DISTURBANCE AND LIMIT OF SEDIMENTATION BARRIERS. PLACE SEDIMENTATION BARRIERS AS INDICATED ON DRAWINGS AND STAKED OUT IN THE FIELD. UNDER NO CIRCUMSTANCES IS THE LIMIT OF WORK TO	5.	PROVIDE GATE VALVES ON ALL F RUST PROOF STEEL.
	EXTEND BEYOND THE SEDIMENTATION BARRIERS/LIMIT OF DISTURBANCE AS INDICATED ON DRAWINGS AS APPROVED BY THE LOCAL CONSERVATION COMMISSION AND DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP).	6.	CLEAR ALL NEWLY INSTALLED W TESTING IS ALLOWED WITHOUT
	BEGIN CLEARING THE SITE AS REQUIRED. SURVEY AND STAKE THE PROPOSED PARKING LOT, STORMWATER MANAGEMENT AREAS, AND DRAINAGE LINES.	7.	CONTRACTOR IS RESPONSIBLE INSPECTOR OR THE ENGINEER. PRESSURE AND DISINFECTION T
	EXCAVATE AND ROUGH GRADE THE PROPOSED STORMWATER MANAGEMENT AREAS AND ANY ADDITIONAL TEMPORARY BASINS NECESSARY TO CONTROL SITE RUNOFF AND SEDIMENTS. TEMPORARILY STABILIZE/SEED PERMANENT STORMWATER MANAGEMENT AREAS AS NECESSARY TO REDUCE SIDE SLOPE EROSION AND SEDIMENT ACCUMULATION.	8.	INSTALL AND REMOVE ALL NECE
	BEGIN CLEARING AND GRUBBING THE AREAS OF PARKING LOT AND STORMWATER MANAGEMENT AREAS. TOPSOIL IS TO BE STRIPPED FROM THE AREA OF THE PROPOSED PARKING LOT AND STORMWATER MANAGEMENT AREAS AND STOCKPILED IN APPROVED LOCATIONS. TOPSOIL STOCKPILES MUST BE	9. 10.	COLLECT ALL BACTERIOLOGICAL MAINTAIN UP-TO-DATE AS-BUILT
	PROTECTED BY A SEDIMENT BARRIER. BEGIN ROUGH GRADING AREAS FOR ROADS, PARKING AND BUILDING. BRING ROUGH GRADING TO PROPER ELEVATIONS AS SOON AS PRACTICABLE.	ER	AS-BUILT DRAWINGS AND NOTES
	COORDINATE WORK TO MINIMIZE TIME SOILS ARE UN-STABILIZED. BEGIN UTILITY CONSTRUCTION. THE CONTRACTOR IS FREE TO INSTALL THE UTILITIES IN THE SEQUENCE HE/SHE CHOOSES. IMMEDIATELY REPAIR, REPLACE	1.	DESIGNATE THE SITE CONSTR SEDIMENT AND EROSION CON
	AND STABILIZE ANY EROSION CONTROL DEVICES DISTURBED DURING THE UNDERGROUND UTILITY CONSTRUCTION. MODIFY TEMPORARY CONVEYANCE DEVICES, AS NECESSARY, TO CONVEY RUNOFF TO TREATMENT AREAS.	2.	THE SITE.
	THE STORMWATER MANAGEMENT AREA(S) AND DRAINAGE NETWORK ARE TO BE PROTECTED FROM SEDIMENTATION UNTIL ALL UN-STABILIZED AREAS ARE STABILIZED WITH STONE SUB-BASE OR VEGETATION. INSTALL SEDIMENT BARRIERS AT ALL POINTS OF ENTRY INTO THE DRAINAGE NETWORK. TAKE PARTICULAR CARE TO PROTECT THE UNDERGROUND STRUCTURES FROM SEDIMENT		ENGINEER BEFORE ANY CONS DURING THE ENTIRE CONSTRU- ALL PERSONNEL WORKING ON THE CONSTRUCTION DESIGN
	PERMANENTLY SEED ALL DISTURBED AREAS OUTSIDE OF THE AREA TO BE PAVED.	3.	MAINTAIN A MINIMUM SURPLU
	UPON COMPLETION OF UNDERGROUND UTILITIES INSTALLATION, PLACE COMPACTED GRAVEL FOUNDATION AND ROUGH GRADE THE PARKING AREAS IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS AS SOON AS POSSIBLE.	4.	PROTECT THE ADJACENT RES CONFORMANCE WITH THE OR
	BEGIN ROAD AND PARKING CONSTRUCTION PER SITE PLANS AND IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS. PARKING AREAS ARE NOT TO BE PAVED UNTIL THE ENTIRE PERMANENT DRAINAGE SYSTEM HAS BEEN INSTALLED AND ALL PIPE CONNECTIONS COMPLETE.	5.	SINCE A FORMAL CONSTRUCT ENGINEER APPROVAL LOCATION
	FINISH PERMANENT STABILIZATION. COMPLETE PERMANENT STORMWATER MANAGEMENT AREA SEEDING AND PLANTING AFTER THE CONTRIBUTING AREA TO THE BASIN HAS REACHED A MINIMUM OF 80% STABILIZATION AND IS NO LONGER REQUIRED AS A CONSTRUCTION SEDIMENTATION BASIN.	6.	KEEP THE LIMIT OF CLEARING MANNER TO MINIMIZE AREAS UNDER CONSTRUCTION. PRO
	SWEEP PAVED AREAS WITHIN AND IMMEDIATELY ADJACENT TO THE PROJECT OF ANY SEDIMENT/DEBRIS. THE ROADWAY TO REMOVE ALL SEDIMENTS. REPAIR DRAINAGE OUTLETS AND BASINS AS REQUIRED. CLEAN AND FLUSH THE DRAINAGE STRUCTURES AND PIPES AT THE END OF CONSTRUCTION AND	7.	MONITOR LOCAL WEATHER RE
	REMOVE ALL ACCUMULATED SEDIMENTS IN THE STORMWATER MANAGEMENT AREAS. CONTRACTOR MUST INSPECT THE DRAINAGE NETWORK AND REPAIR ANY DAMAGE IMMEDIATELY.		PRACTICES WHEN SCHEDULIN PROPERLY TO MINIMIZE EROS
	ENGINEER TO APPROVE THE REMOVAL OF ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS AND DETERMINE WHEN THE CONTRIBUTING AREA HAS REACHED A MINIMUM OF 80% STABILIZATION.	8.	INSPECT EROSION AND SEDIM GREATER. REPAIR IDENTIFIE REPLACE MATERIALS AS REQU
=	ALL CUT AND FILL SLOPES SHALL BE 3'1 OR FLATTER UNLESS OTHERWISE NOTED	9.	SURROUND THE PERIMETER O DETERMINED NECESSARY.
	EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.	10.	DISTURBED AREAS AND SLOP PROVIDE APPROPRIATE STAB
	PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT. ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.		CONSTRUCTION ACTIVITY IN T 4:1 WITH EROSION BLANKETS NECESSARY IN THE FIELD BY
	PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS. IMMEDIATELY NOTIFY THE ENGINEER IF POSITIVE DRAINAGE CANNOT BE PROVIDED.	11.	SMALL SEDIMENTATION BASIN SEDIMENT. IT WILL BE THE RE
	REFER TO ARCHITECTURAL PLAN AND SPECIFICATIONS FOR EARTHWORK AND COMPACTION REQUIREMENTS FOR ALL SLABS AND BUILDING FOUNDATIONS.	12.	CONTAIN ALL SEDIMENT ONSI
	ALL EARTHWORK AND SITE PREPARATION MUST BE DONE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF ANY SUBSURFACE INVESTIGATION OR	13.	REMOVE ACCUMULATED SEDI
	ALL DRAINAGE STRUCTURES AND PIPES MUST BE CONNECTED TO THE DRAINAGE SYSTEM PRIOR TO THE INSTALLATION OF ANY PAVEMENT. PAVING WILL NOT BE ALLOWED IF THE DRAINAGE SYSTEM FOR THE PROPOSED BAVED AREA IS NOT COMPLETELY AND PROPERTY INITIAL FOR THE INCLUSION THE	14.	PROVIDE ON SITE OR MAKE RETTHE PROJECT TO ENSURE ALL MANNER. IF SITE WORK IS SU
	STABILIZATION OF ALL DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND SIDE SLOPES		ON SITE OR READILY AVAILAE

OVE ACCUMULATED SEDIMENT FROM ALL TEMPORARY PRACTICES AND DISPOSE OF IN A PRE-APPROVED LOCATION. IDE ON SITE OR MAKE READILY AVAILABLE THE NECESSARY EQUIPMENT AND SITE PERSONNEL DURING CONSTRUCTION HOURS FOR THE DURATION OF PROJECT TO ENSURE ALL EROSION AND SEDIMENTATION CONTROL DEVICES ARE PROPERLY MAINTAINED AND REPAIRED IN A TIMELY AND RESPONSIBLE IER. IF SITE WORK IS SUSPENDED DURING THE WINTER MONTHS THE CONTRACTOR MUST CONTINUE TO PROVIDE PERSONNEL AND EQUIPMENT EITHER TE OR READILY AVAILABLE TO PROPERLY MAINTAIN AND REPAIR ALL EROSION AND SEDIMENTATION CONTROL DEVICES IN A TIMELY AND RESPONSIBLE

ERING NOTES:

LY THE DEWATERING SYSTEMS TO: DEVELOP A SUBSTANTIALLY DRY AND STABLE SUBGRADE FOR THE PROPOSED WORK; PREVENT DAMAGE TO ADJACENT PROPERTIES, BUILDINGS, STRUCTURES, UTILITIES AND RESOURCES AREAS;

RETAIN ALL SEDIMENTS ON-SITE WITHIN THE WORK AREA. PREVENT SEDIMENT DISCHARGE AND DEGRADATION OF THE RESOURCE AREA;. PREVENT LOSS OF FINES, QUICK CONDITION, OR SOFTENING OF FOUNDATION SUBGRADE; AND

MAINTAIN STABILITY OF SIDES AND BOTTOMS OF EXCAVATIONS AND TRENCHES.

TE DEWATERING FACILITIES WHERE THEY WILL NOT INTERFERE WITH CONSTRUCTION WORK OR ABUTTING RESOURCES.

FY DEWATERING EQUIPMENT AND PROCEDURES WHEN OPERATIONS THREATEN TO CAUSE DAMAGE TO NEW OR EXISTING FACILITIES OR ADJACENT S NOT WITHIN THE LIMIT OF WORK.

R TO INSTALLATION OF THE DEWATERING SYSTEM, PROVIDE THE ENGINEER WITH A SCHEDULE OF DEWATERING PROCEDURES. DEWATERING DULE AND PROCEDURES ARE SUBJECT TO THE CONSERVATION COMMISSION AND ENGINEER'S REVIEW AND APPROVAL AND SHALL INCLUDE AT A IUM THE FOLLOWING INFORMATION:

THE PROPOSED TYPES OF DEWATERING SYSTEMS;

ARRANGEMENT, LOCATION AND DEPTHS OF SYSTEM COMPONENTS; COMPLETE DESCRIPTION OF EQUIPMENT AND INSTRUMENTATION TO BE USED INCLUDING INSTALLATION, OPERATION AND MAINTENANCE PROCEDURES:

TYPES AND SIZES OF FILTERS (IF APPLICABLE);

DESIGN CALCULATIONS DEMONSTRATING ADEQUACY OF THE PROPOSED SYSTEM AND EQUIPMENT; AND PROVISIONS AND METHODS OF SEDIMENT REMOVAL AND DISPOSAL OF WATER.

ISH ALL MATERIAL/PRODUCTS REQUIRED TO ADEQUATELY PROVIDE DEWATERING WITHOUT DAMAGE TO SURROUNDING PROPERTIES, EXISTING

ALL PERMITS REQUIRED FOR THE WORK, IF NECESSARY

TIES, AND/OR RESOURCE AREA. SUBMIT ALL PRODUCTS AND MATERIALS TO THE ENGINEER FOR REVIEW AND APPROVAL. CEPT AND DIVERT SURFACE WATER RUNOFF AWAY FROM EXCAVATIONS THROUGH THE USE OF DIKES, CURB WALLS, DITCHES, PIPES, SUMPS OR

MPS ARE USED, THE PUMP INTAKE LINE SHOULD NOT BE ALLOWED TO SETTLE TO THE BOTTOM OF THE EXCAVATION OR DEWATERING SUMP. IDE AND MAINTAIN HOLDING AREAS/TEMPORARY SETTLING BASINS OF ADEQUATE SIZE TO COLLECT AND PREVENT SURFACE AND SUBSURFACE WATER AGE FROM ENTERING THE EXCAVATIONS. DIVERT THE WATER TO SETTLING BASINS OR OTHER APPROVED EQUIPMENT REQUIRED TO REDUCE THE NT OF FINE PARTICLES BEFORE DISCHARGE INTO DRAINAGE PIPES AND NATURAL WATER COURSES. IF A DRAINAGE SYSTEM OR WATER COURSE MES BLOCKED DUE TO DEWATERING OPERATION, IT MUST BE CLEANED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ANY

RCEMENT ACTIONS OR FINES RESULTING FROM IMPROPER DEWATERING AND/OR DISCHARGE OF TURBID WATER AND SEDIMENT TO PROTECTED AREAS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. MPLISH DEWATERING IN ACCORDANCE WITH THE MEANS AND METHODS SUBMITTED AND APPROVED BY THE ENGINEER. KEEP THE ENGINEER ADVISED

IY CHANGES REQUIRED TO ACCOMMODATE FIELD CONDITIONS AND, ON COMPLETION OF THE DEWATERING SYSTEM INSTALLATION, REVISE AND BMIT THE INFORMATION REQUIRED TO SHOW THE INSTALLED SYSTEM.

PERFORM DEWATERING OPERATIONS TO LOWER THE GROUNDWATER LEVEL IN EXCAVATIONS AS REQUIRED TO PROVIDE A STABLE, DRY SUBGRADE FOR THE PROSECUTION OF THE PROPOSED WORK.

MAINTAIN DEWATERING OPERATIONS IN A MANNER THAT PREVENTS BUILDUP OF EXCESSIVE HYDROSTATIC PRESSURE AND DAMAGE TO STRUCTURES, AND THE SUBGRADE.

DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES TO REMOVE PROMPTLY, AND TO DISPOSE OF PROPERLY, ALL WATER ENTERING EXCAVATIONS AND TO KEEP THEM DRY UNTIL THE PROPOSED WORK

DO NOT DISCHARGE WATER TO PROTECTED ENVIRONMENTAL RESOURCES WITHOUT TREATMENT TO REMOVE SUSPENDED SOLIDS AND SEDIMENTS. DO NOT LAY PIPE AND/OR MASONRY IN WATER. DO NOT ALLOW WATER TO INUNDATE NEW CONCRETE AND NEW BRICK MASONRY WITHIN 48 HOURS AFTER INSTALLATION. PLACE BACKFILL PROMPTLY OR IMPLEMENT OTHER APPROVED METHODS TO PREVENT THE POSSIBILITY OF FLOTATION OF PIPE OR STRUCTURES AFTER INSTALLATION.

WATER FACILITY OPERATION & MAINTENANCE

RACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW INSTRUCTION AND UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED BY THE OWNER AND THE ENGINEER.

CT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, STORMWATER MANAGEMENT AREAS AS DESCRIBED BELOW OF SEDIMENT AND DEBRIS R TO THE OWNER'S ACCEPTANCE.

VE AND DISPOSE ALL SEDIMENT AND DEBRIS TO A PRE-APPROVED LOCATION. TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). IF APPLICABILE, FOR ADDITIONAL INFORMATION PERTAINING TO STORMWATER FACILITY

ATION AND MAINTENANCE REQUIREMENTS. MAINTAIN A WORKING COPY OF THE SWPPP ON SITE AT ALL TIMES. MINIMUM INSPECT MONTHLY AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO 1" OF RAINFALL AS NECESSARY FOR THE ENTIRE DURATION OF CONSTRUCTION PROJECT AND THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION.

IFIC MAINTENANCE REQUIRED DURING CONSTRUCTION:

TURES (INLETS, MANHOLES, CATCHBASINS): MONITOR AND REGULARLY INSPECT ALL EXISTING AND PROPOSED DRAINAGE STRUCTURES FOR PROPER OPERATION, COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. CLEAN AND REMOVE SEDIMENT FRO THE STRUCTURES (INCLUDING SUMPS) AS NECESSARY, AND REPAIR WHEN REQUIRED.

SEDIMENT FOREBAY. REGULARLY INSPECT TO ENSURE PROPER FUNCTION. REMOVE SEDIMENT BUILD-UP ON THE FLOOR OF THE FOREBAY AND PROPERLY DISPOSE , AS NECESSARY, TO LIMIT CLOGGING. CLEAN SEDIMENT FOREBAYS PRIOR TO COMPLETION OF CONSTRUCTION. BIORETENTION SYSTEMS: REGULARLY INSPECT TO ENSURE PROPER FUNCTION. MONITOR AND INSPECT STRUCTURAL COMPONENTS, INCLUDING

WEIR WALLS, DRAINAGE INLETS, OUTLET STRUCTURES AND SPILLWAYS, FOR PROPER FUNCTION. CLEAN AND REPAIR ANY CLOGGED STRUCTURES DURING INSPECTIONS. PRIOR TO THE COMPLETION OF CONSTRUCTION. REMOVE AND REPLACE ILL-ESTABLISHED. DEAD OR SEVERELY DISEASED PLANTS, REMOVE SEDIMENT BUILD-UP AS NEEDED, AND REPLACE SOIL WHEN NECESSARY. IF SEDIMENT OR ORGANIC DEBRIS BUILD-UP LIMITS THE INFILTRATION CAPABILITIES, REMOVE THE TOP 6" OR GREATER AND SURFACE ROTO-TILLED TO A DEPTH OF 12".

ROUTINE MAINTENANCE: OTHER ROUTINE MAINTENANCE INCLUDES THE REMOVAL OF TRASH AND LITTER FROM PAVED AND PERIMETER AREAS, AND STREET AND PARKING LOT SWEEPING UPON COMPLETION OF CONSTRUCTION TO AVOID EXCESSIVE ACCUMULATION OF SEDIMENT IN THE DRAINAGE SYSTEM. INSPECT THE PIPES AND STRUCTURES FOR SEDIMENT ACCUMULATION AND PROPER FLOW.

& SEWER INSTALLATION NOTES

SEWER AND WATER MAINS ACCORDING TO THE FOLLOWING GUIDELINES TO PREVENT FREEZING OF THE MAIN OR SEWER:

PE MIN	I. COVER OVER	MIN. HORIZONTAL DISTANCE
T	OP OF PIPE	TO DRAIN STRUCTURE
ORCEMAIN	5'	3'
DRCEMAIN	4'	2'
N	5'	2'

ATE SANITARY FORCE MAINS, WATER MAINS, HYDRANT PIPING AND DEAD END WATER LINES S WHERE SOIL COVER OR HORIZONTAL SEPARATION TO PRECAST CTURES IS LESS THAN THE DISTANCE SPECIFIED ABOVE AND/OR WHERE SHOWN ON PLANS.

ATION: 2" THICK POLYURETHANE INSULATION WITH PVC JACKET PLACED AROUND PIPE OR DESIGNER APPROVED EQUAL.

R AND SEWER SEPARATION IS TYPICALLY 10-FEET MINIMUM HORIZONTAL AND 18-INCHES VERTICAL WITH SEWER MAINS BELOW THE WATER MAINS (SEE DETAIL). IF CONDITIONS REQUIRE LESS, THEN INSTALL UTILITIES AS INDICATED ON DETAILS.

SYSTEM INSTALLATION NOTES:

TRUCT THE WATER MAIN AND ITS APPURTENANCE IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT'S STANDARDS AND SPECIFICATIONS AND PAY FOR ALL CIATED FEES AS REQUIRED BY THE WATER DEPARTMENT.

ROPOSED WATER MAIN 4-INCHES AND GREATER IN DIAMETER ARE DUCTILE IRON CLASS 52. ONLY USE HDPE 3408 OR AS INDICATED ON DRAWINGS OR AS IVED BY THE ENGINEER.

LY TWO COPIES OF SWORN CERTIFICATES TO PROVE THAT ALL PIPES AND FITTINGS ARE INSPECTED AND TESTED AS REQUIRED BY THE STANDARD SPECIFICATIONS

HICH THE MATERIAL IS MANUFACTURED.

VALVES: MUELLER (A 2360 SERIES), CLOW (AWWA STANDARD C509 SERIES), AMERICAN DARLING (RESILIENT WEDGE) OR APPROVED EQUAL. DE GATE VALVES ON ALL HYDRANT BRANCHES AND WATER MAIN. THE GATE VALVE TO TURN TO THE RIGHT TO OPEN (CLOCKWISE). ALL BOLTS AND NUTS MUST BE

PROOF STEEL RALL NEWLY INSTALLED WATER SYSTEM COMPONENTS OF ALL FOREIGN MATERIALS SUCH AS DIRT AND MISCELLANEOUS DEBRIS PRIOR TO SYSTEM TESTING. NO NG IS ALLOWED WITHOUT REMOVAL OF ALL FOREIGN MATERIALS.

RACTOR IS RESPONSIBLE FOR CONDUCTING A PRESSURE TEST AND DISINFECTION TEST OF ALL WATER MAINS. THE TESTS MUST WITNESSED BY THE APPROVED CTOR OR THE ENGINEER. THE CONTRACTOR MUST PROVIDE A MINIMUM OF 48-HOUR ADVANCE NOTICE TO THE LOCAL WATER DEPARTMENT PRIOR TO THE URE AND DISINFECTION TESTS. THE CONTRACTOR MUST PROVIDE ALL NECESSARY EQUIPMENT AND CHEMICALS TO PROPERLY CONDUCT THE TESTS.

L AND REMOVE ALL NECESSARY BLOWOFFS REQUIRED FOR THIS PROJECT AT NO EXTRA COST TO THE OWNER. ECT ALL BACTERIOLOGICAL SAMPLES AND PAY FOR ALL RELATED LABORATORY FEES.

TAIN UP-TO-DATE AS-BUILT DRAWINGS AND NOTES INDICATING THE HORIZONTAL AND VERTICAL LOCATION WITH TWO TIES OF ALL SYSTEM COMPONENTS INSTALLED. IILT DRAWINGS AND NOTES WILL BE UTILIZED BY THE ENGINEER FOR THE PREPARATION OF RECORD PLANS.

N & SEDIMENT CONTROL NOTES

SNATE THE SITE CONSTRUCTION FOREMAN AS THE ON-SITE PERSONNEL RESPONSIBLE FOR THE DAILY INSPECTION AND MAINTENANCE OF ALL ENT AND EROSION CONTROLS AND IMPLEMENTATION OF ALL NECESSARY MEASURES TO CONTROL EROSION AND PREVENT SEDIMENT FROM LEAVING

L ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES AS INDICATED ON DRAWINGS IN CONSULTATION WITH THE CONSERVATION AGENT, AND EER BEFORE ANY CONSTRUCTION ACTIVITIES BEGIN. INSPECT, MAINTAIN REPAIR AND REPLACE EROSION CONTROL MEASURES, AS NECESSARY, G THE ENTIRE CONSTRUCTION PERIOD OF THE PROJECT. THE SITE PERIMETER EROSION CONTROLS ARE THE DESIGNATED LIMIT OF WORK. INFORM ERSONNEL WORKING ON THE PROJECT SITE THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT

TAIN A MINIMUM SURPLUS OF 100 FEET OF EROSION CONTROL BARRIER (SILT SOCK) ONSITE AT ALL TIMES.

ECT THE ADJACENT RESOURCE AREA FROM SEDIMENTATION DURING PROJECT CONSTRUCTION UNTIL ACCEPTANCE BY THE OWNER & IN ORMANCE WITH THE ORDER OF CONDITIONS.

A FORMAL CONSTRUCTION ENTRANCE/EXIT IS NOT PROPOSED, THE CONTRACTOR WILL BE RESPONSIBLE FOR WASHING VEHICLES WITHIN AN VEER APPROVAL LOCATION AS TO NOT TRACK SEDIMENT OFFSITE.

THE LIMIT OF CLEARING, GRADING AND DISTURBANCES TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. PHASE THE SITE WORK IN A IER TO MINIMIZE AREAS OF EXPOSED SOIL. IF TREES ARE TO BE CUT ON THE ENTIRE SITE, CLEAR AND GRUB ONLY THOSE AREAS WHICH ARE ACTIVELY R CONSTRUCTION. PROPERLY INSTALL THE SEDIMENTATION CONTROLS PRIOR TO BEGINNING ANY LAND CLEARING ACTIVITY AND/OR OTHER TRUCTION RELATED WORK.

OR LOCAL WEATHER REPORTS DURING CONSTRUCTION AND PRIOR TO SCHEDULING EARTHMOVING OR OTHER CONSTRUCTION ACTIVITIES WHICH LARGE DISTURBED AREAS UNSTABILIZED. IF INCLEMENT WEATHER IS PREDICTED. USE BEST PROFESSIONAL JUDGEMENT AND GOOD CONSTRUCTION TICES WHEN SCHEDULING CONSTRUCTION ACTIVITIES AND ENSURE THE NECESSARY EROSION CONTROL DEVICES ARE INSTALLED AND FUNCTIONING ERLY TO MINIMIZE EROSION FROM ANY IMPENDING WEATHER EVENTS.

CT EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZED SLOPES ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT OF .25 INCH OR TER. REPAIR IDENTIFIED PROBLEMS WITHIN 24 HOURS TO ENSURE EROSION AND SEDIMENT CONTROLS ARE IN GOOD WORKING ORDER. RESET OR ACE MATERIALS AS REQUIRED.

OUND THE PERIMETER OF SOIL STOCKPILES WITH SILT SOCK, SILT FENCE, STRAWBALES, OR A COMBINATION OF SILT FENCE WITH STRAWBALE, AS RMINED NECESSARY

IRBED AREAS AND SLOPES MUST NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON. IDE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN 14 DAYS AFTER THE TRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, REINFORCE TEMPORARY AREAS HAVING A SLOPE GREATER THAN TH EROSION BLANKETS OR APPROVED EQUAL UNTIL THE SITE IS PROPERLY STABILIZED. TEMPORARY SWALES MAY ALSO BE REQUIRED IF DETERMINED

SSARY IN THE FIELD BY THE ENGINEER. SEDIMENTATION BASINS MAY BE CONSTRUCTED ON AN AS-NEEDED BASIS DURING CONSTRUCTION TO AID IN THE CAPTURE OF SITE RUNOFF AND

IENT. IT WILL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR, IN CONSULTATION WITH THE ENGINEER, TO SIZE AND CREATE THESE BASINS IN OPRIATE LOCATIONS

AIN ALL SEDIMENT ONSITE. SWEEP ALL EXITS FROM THE SITE AS NECESSARY INCLUDING ANY SEDIMENT TRACKING. SWEEP PAVED AREAS AS NEEDED EMOVE SEDIMENT AND POTENTIAL POLLUTANTS ACCUMULATED DURING SITE CONSTRUCTION.

	PARTIALLY CONSTRUCTED BIORETENTION AREAS. THIS ALLOWS PRIOR TO MEDIA/FABRIC INSTALLATION.
16.	CONTROL DUST BY WATERING OR OTHER APPROVED METHODS
17.	THE CONTRACTOR IS RESPONSIBLE FOR THE INSPECTION AND M AFFECTED BY THE PROJECT. REMOVE SEDIMENT OR DEBRIS CO ACCEPTANCE.
BIC	RETENTION CONSTRUCTION SEQUENCE
THE	FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GEN
ARC	HITECTS AND SUBMIT A PROPOSED CONSTRUCTION SEQUENCE F
1.	CONDUCT A PRE-CONSTRUCTION MEETING.
2.	CHECK FOR EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
3.	CLEAR AND GRUB THE PROPOSED BIORETENTION AREA
4.	ROUGH GRADE THE BIORETENTION AREA DURING GENERAL CON
5.	EXCAVATE PRETREATMENT CELLS AND/OR SEDIMENT FOREBAYS
6.	DO NOT CONSTRUCT THE BIORETENTION AREA UNTIL ALL DISTUR
	STABILIZED.
7.	INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS TO DI
8.	EXCAVATE THE BIORETENTION FACILITY TO THE BOTTOM INVERT
	CONSTRUCTION PROVIDE A SURFACE ELEVATION AT A MINIMUM
	SCHEDULE. THIS ALLOWS FOR AN OVER-DIG OF THE ACCUMULA
	INSTALLATION

10. INSTALL THE FILTER FABRIC ALONG THE EXCAVATION SIDE WALLS. ENGINEER FIELD VISIT AND REPORT REQUIRED SEE NOTE (3) BELOW.

11. RIP THE BOTTOM SOILS TO A DEPTH OF SIX INCHES TO PROMOTE GREATER INFILTRATION. . INSTALL THE OVERFLOW OUTLET STRUCTURE AS SPECIFIED IN THE DRAWINGS.

- 14. INSTALL PEA GRAVEL LAYER AS INDICATED ON DRAWINGS.
- 15. DELIVER APPROVED BIORETENTION SOIL AND STORE ON ADJACENT IMPERVIOUS AREA OR PLASTIC SHEETING. 16. BACKFILL WITH APPROVED BIORETENTION SOIL TO THE DESIGN GRADE (UN-COMPACTED) AS INDICATED ON DRAWINGS. THE CONTRACTOR MUST SUBMIT A
- SOIL SAMPLE (2 LBS) TO THE ENGINEER PRIOR TO SOIL DELIVERY TO THE SITE
- 18. ARE STABILIZED.
- D THE SITI
- NOTES
- (1.) SEE GENERAL CONSTRUCTION NOTES FOR OVERALL CONSTRUCTION SEQUENCE. (2.) SEE GENERAL NOTES/SPECIFICATIONS/CONSTRUCTION DETAILS FOR DETAILED CONSTRUCTION REQUIREMENTS.

CONSTRUCTION NOTES

EXAM	INATION
A	VERIFY LAYOUT AND ORIENTATION OF BIORETENTION AREA
В	. VERIFY EXCAVATION BASE IS READY TO RECEIVE WORK AND
PREP	ARATION
А	. CALL DIGSAFE AT 1-888-DIG-SAFE (1-888-344-7233) NOT LESS
B	. REQUEST UNDERGROUND UTILITIES TO BE LOCATED AND MA
C	. IDENTIFY REQUIRED LINES, LEVELS, CONTOURS, AND DATUM
D	CLEAR AND GRUB THE PROPOSED BIORETENTION AREA.
EXCA	
P	
D	DESIGN DEPTH AND DIMENSIONS USE EXCAVATIONS ON BACKHO
	BIORETENTION AREA. IF APPLICABLE AND PER THE ENGINEE
	BASINS, WHEREBY THE BASIN IS SPLIT INTO 500 TO 1000 SQU
-	THAT CELLS CAN BE EXCAVATED FROM THE SIDE.
C	2. EXCAVATE AND SEAL ANY PRETREATMENT CELLS AND/OR SE
D	UNDERDRAIN BOTTOM.
E	IF THE BIORETENTION AREA IS TO BE USED AS A TEMPORARY
	SI OPES TO MINIMIZE EXCESSIVE SEDIMENTATION OF THE BI
COMP	
A	MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETEI
	CONTRIBUTE TO DESIGN FAILURE.
В	. USE EXCAVATOR OR BACKHOES TO EXCAVATE THE BIORETE
C	. IF THE BIORETENTION AREA IS EXCAVATED USING A LOADER
	CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED IN
D	COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIOF
	RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE PE
	SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINE
_	COMPACTION FROM HEAVY EQUIPMENT.
	DO NOT COMPACT BIORETENTION SOIL WITH MECHANICAL E
	INTIMENT/DERMITIEL
INSTA	LLATION
<u>A</u>	. DO NOT CONSTRUCT THE BIORETENTION AREA UNTIL ALL DIS
	STABILIZED.
В	. REMOVE SEDIMENT ACCUMULATED ALONG THE EXCAVATION
	FACILITY CONSTRUCTION.
C	FORM BOTTOM OF EXCAVATION TO CORRECT ELEVATION.
D	. IF INFILTRATION IS PROMOTED, THEN RIP THE BOTTOM SOILS
E	INSTALL THE FILTER FABRIC ALONG THE EXCAVATION SIDE W
F	INSTALL ANY TEMPORARY EROSION AND SEDIMENT CONTROL
	CONSTRUCTION AND UNTIL IT IS COMPLETED. SPECIAL PROT
	PROTECT VULNERABLE SIDE SLOPES FROM EROSION DURING
G	B. ESTABLISH ELEVATIONS AND PIPE INVERTS FOR INLETS AND
Н	I. INSTALL THE OVERFLOW OUTLET STRUCTURE AS INDICATED
Ι.	INSTALL UNDERDRAIN, INCLUDING 4 INCH PERFORATED PIPE
	DRAWINGS. PLACE GRAVEL AROUND THE UNDERDRAIN PIPE
	BE PROVIDED (SEE PLANS FOR LOCATION).
J	
BACK	ELLIVER AFFROVED DIORETENTION SOIL AND STORE ON AD
R	PLACE SOIL IN 12 INCH LIFTS UNTIL DESIRED TOP FLEVATION
Ľ	BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED ARC
	CHECK FOR SETTLEMENT, AND ADD ADDITIONAL MEDIA AS N
C	DO NOT COMPACT BIORETENTION SOIL WITH MECHANICAL FO

DO NOT COMPACT BIORETENTION SOIL WITH MECHANICAL EQUIPMENT INDICATED ON DRAWINGS. 8. PLANTING

- A. PLANT BIORETENTION AREA IN ACCORDANCE WITH PLANTING PLANS AND SPECIFICATIONS B. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. DO NOT ADD FERTILIZERS OR OTHER SOIL
- ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. D. DO NOT PLANT BEFORE THE REMAINING DISTURBED AREAS SURROUNDING THE FACILITY ARE STABILIZED.
- E. REMOVE SEDIMENT ACCUMULATED IN THE BIORETENTION AREA DURING THE PLANTING PHASE.
- A DEPTH OF APPROXIMATELY 4 INCHES TO HELP FOSTER A HIGHLY ORGANIC SURFACE LAYER.
- CONDUCT FINAL CONSTRUCTION INSPECTION WITH ENGINEER. CLEAN UF

MATERIAL SPECIFICATIONS

- **BIORETENTION SOIL** COMPLIANCE WITH THE FOLLOWING PARAMETER:
- B. PROVIDE USDA UNIFIED SOIL CLASSIFICATION: LOAMY SAND
- 85-88% SAND (< 10% COARSE SAND) 8-12% SILT AND CLAY (< 2% CLAY) D. ORGANIC MATTER: 3%
- WELL AGED (6-12 MONTHS), WELL AERATED, LEAF COMPOST OR APPROVED EQUIVALENT E. PROVIDE A SOIL TEST OF THE BIORETENTION SOIL FOR CONFORMANCE TO THE FOLLOWING CRITERIA:
- PH RANGE: 5.2-7.0. MAGNESIUM: MINIMUM 32 PPM. PHOSPHOROUS (P2O5): NOT TO EXCEED 69 PPM.
- MINIMUM 78 PPM. POTASSIUM (K2O): SOLUBLE SALTS: NOT TO EXCEED 500 PPM.
- ENGINEER REVIEW AND APPROVAL PRIOR TO DELIVERY TO THE PROJECT SITE. F. VOLUME OF FILTER MEDIA BASED ON 110% OF PLAN VOLUME TO ACCOUNT FOR SETTLING OR COMPACTION.
- THE PLANTING MAINTENANCE OR OPERATIONS WITHIN THE BIORETENTION AREA.
- 2. FILTER FABRIC B. NON-WOVEN GEOTEXTILE FABRIC WITH FLOW RATE OF > 110 GALLON/MINUTES/SQUARE FOOT. C. CLASS "C" APPARENT OPENING SIZE (ASTM-D-4751).
- D. GRAB TENSILE STRENGTH (ATSM-D-4632) BURST STRENGTH (ASTM-D-4833). PEA GRAVEL
- A. 3/8" WASHED STONE UNDERDRAIN GRAVEL
- A. 3/4" CRUSHED WASHED STONE, CLEAN AND FREE OF ALL FINES AND MEETING AASHTO M-43 6. <u>PIPE</u>
- A. UNDERDRAIN UNDERDRAIN CONFIGURATION INDICATED ON DRAWING.
- B. CONNECTIONS TO STORM DRAIN SYSTEM. C. UNDERDRAIN CLEANOUTS NON PERFORATED SCHEDULE 40 PVC PIPE, PVC ELBOW, CAP, AND ALL ASSOCIATED FITTINGS.
- EROSION CONTROL BLANKET (3:1 SIDE SLOPES ONLY) A. WOVEN, 100% BIODEGRADABLE JUTE FIBER 7.70 LBS/1000 SQFT. BIONET S150BN OR APPROVED EQUIVALENT. 8. PLANTS
- A. AS INDICATED ON DRAWINGS. SEED (SIDE SLOPES ONLY)
- A. NEW ENGLAND CONSERVATION/WILDLIFE/MIX OR APPROVED EQUIVALENT. B. APPLICATION RATE 25 LBS/ ACRES OR PER SEED MANUFACTURER'S REQUIREMENTS. OUTLET STRUCTURE

A. SIZE AS INDICATED ON DRAWINGS.

15 PRIOR TO THE INSTALLATION OF FILTER FABRIC AND MEDIA. WITHIN THE BIORETENTION AREAS, REMOVE AND PROPERLY DISPOSE OF SEDIMENT ACCUMULATED IN ANY PARTIALLY CONSTRUCTED OR TEMPORARY BIORETENTION/DRAINAGE AREA USED FOR SEDIMENT CONTROL DURING CONSTRUCTION. PROVIDE A SURFACE ELEVATION AT A MINIMUM 1-FOOT ABOVE THE BOTTOM OF MEDIA ELEVATION AS SHOWN IN THE BIORETENTION SCHEDULE FOR /S FOR AN OVER-DIG OF THE COLLECTED SEDIMENT FROM WITHIN THE BIORETENTION AREA

AS NECESSARY, OR AS DIRECTED BY THE ENGINEER.

MAINTENANCE DURING CONSTRUCTION OF ALL STORMWATER FACILITIES INSTALLED OR OLLECTED WITHIN THESE FACILITIES FROM THE PROJECT WORK PRIOR TO THE OWNER'S

NERAL GUIDELINE. COORDINATE WITH THE OWNER, ENGINEERS, AND LANDSCAPE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

ISTRUCTION S PRIOR TO BIORETENTION CONSTRUCTION.

JRBED AREAS WITHIN THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN GRADED AND DIVERT STORMWATER AWAY FROM THE BIORETENTION AREA. T OF THE SUBDRAIN SYSTEM. IF USED FOR TEMPORY STORMWATER MANAGEMENT DURING 1-FOOT ABOVE THE BOTTOM OF UNDERDRAIN ELEVATION AS SHOWN IN THE BIORETENTION

ATED SEDIMENT FROM WITHIN THE BIORETENTION AREA PRIOR TO MEDIA/FABRIC PRIOR TO THE INSTALLATION OF FILTER FABRIC AND MEDIA WITHIN THE BIORETENTION AREAS, REMOVE AND PROPERLY DISPOSE OF SEDIMENT ACCUMULATED IN ANY PARTIALLY CONSTRUCTED OR TEMPORARY BIORETENTION/DRAINAGE AREA USED FOR SEDIMENT CONTROL DURING CONSTRUCTION.

13. INSTALL UNDERDRAIN AS INDICATED ON DRAWINGS. ENGINEER FIELD VISIT AND REPORT REQUIRED PRIOR TO COVERING THE UNDERDRAIN. SEE NOTE (3)

STABILIZE ALL REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/OR EROSION CONTROL BLANKETS AS INDICATED ON DRAWINGS. ENGINEER FIELD VISIT AND REPORT REQUIRED SEE NOTE (3) BELOW. INSTALL BIORETENTION PLANTINGS AS INDICATED ON DRAWINGS. DO NOT PLANT BEFORE THE REMAINING DISTURBED AREAS SURROUNDING THE FACILITY INSTALL MULCH LAYER AS INDICATED ON DRAWINGS. THE CONTRACTOR MUST SUBMIT A MULCH SAMPLE (1 GALLON) TO THE ENGINEER PRIOR TO DELIVERY CONDUCT FINAL CONSTRUCTION INSPECTION WITH ENGINEER. ENGINEER FIELD VISIT AND REPORT REQUIRED SEE NOTE (3) BELOW.
 REMOVE REMAINING EROSION AND SEDIMENT CONTROLS ONLY AFTER SURROUNDING DISTURBED AREAS HAVE BEEN PROPERLY STABILIZED.

(3.) MANDATORY NOTIFICATION/APPROVAL OF THE PROJECT ENGINEER IS REQUIRED PRIOR TO PROCEEDING WITH NEXT STAGE. CALL THE ENGINEER (HORSLEY WITTEN GROUP, INC.) AT 508-833-6600 PRIOR TO 12:00 NOON THE PROCEEDING DAY TO ARRANGE FOR ANY REQUESTED FIELD

AREA AND CONNECTIONS.

K AND EXCAVATIONS, DIMENSIONS, AND ELEVATIONS ARE AS INDICATED ON DRAWINGS. LESS THAN THREE BUSINESS DAYS BEFORE PERFORMING WORK. ND MARKED WITHIN AND SURROUNDING CONSTRUCTION AREAS.

H GENERAL NOTES AND SPECIFICATIONS.

ACKHOES FROM THE SIDES TO EXCAVATE THE BIORETENTION AREA TO ITS APPROPRIATE QUIPMENT WITH ADEQUATE REACH SO THEY DO NOT WORK IN THE FOOTPRINT OF THE GINEERS DIRECTION USE A CELL CONSTRUCTION APPROACH IN LARGER BIORETENTION 00 SQUARE FOOT TEMPORARY CELLS WITH A 10 TO 15 FOOT EARTH BRIDGE IN BETWEEN, SO

/OR SEDIMENT FOREBAYS FIRST AND SEALED TO TRAP SEDIMENTS PER THE DRAWINGS. ERAL CONSTRUCTION. EXCAVATE THE BIORETENTION FACILITIES TO WITHIN 1 FOOT OF

ORARY DRAINAGE STORAGE BASIN DURING THE EARLY STAGES OF PROJECT CONSTRUCTION, ED AND SILT FENCE INSTALLED ALONG THE TOE OF THE ROUGH GRADED BIORETENTION THE BIORETENTION FLOOR.

DRETENTION AREA AND THE REQUIRED BACKFILL. COMPACTION WILL SIGNIFICANTLY DRETENTION AREA

DADER, USE ONLY WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES CED INFILTRATION RATES AND STORAGE VOLUMES AND IS NOT ACCEPTABLE. E BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, ARE PERFORMED TO REFRACTURE THE SOIL PROFILE THROUGH THE 12-IN COMPACTION ZONE. NGINEER. ROTOILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF CAL EQUIPMENT.

TH SPECIFICATIONS AND AS INDICATED ON DRAWINGS.

ALL DISTURBED AREAS WITHIN THE CONTRIBUTING DRAINAGE AREAS HAVE BEEN GRADED AND ATION FLOOR DURING SITE CONSTRUCTION PRIOR TO CONTINUING WITH THE BIORETENTION

I SOILS TO A DEPTH OF SIX INCHES TO PROMOTE GREATER INFILTRATION. SIDE WALLS AS SPECIFIED IN THE DRAWINGS. IF FILTER FABRIC IS TO BE INSTALLED PLACE ON AREA WITH A MINIMUM SIX INCH OVERLAP AT ALL JOINTS. NTROLS TO DIVERT STORMWATER AWAY FROM THE BIORETENTION AREA DURING FINAL PROTECTION MEASURES SUCH AS EROSION CONTROL FABRICS MAY BE NEEDED TO

DURING THE CONSTRUCTION PROCESS. S AND OUTLETS AS INDICATED ON DRAWINGS CATED ON DRAWINGS. D PIPE, GRAVEL AND FILTER FABRIC ON TOP OF THE UNDERDRAIN GRAVEL AS INDICATED ON

I PIPE AS INDICATED IN THE DETAILS. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST

ON ADJACENT IMPERVIOUS AREA OR PLASTIC SHEETING. E DESIGN GRADE AS SPECIFIED IN THE DRAWINGS.

ATION OF BIORETENTION SOIL IS ACHIEVED. DO NOT USE HEAVY EQUIPMENT WITHIN THE ED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. WAIT 3 DAYS TO A AS NEEDED

D. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS. E. STABILIZE ALL REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/OR EROSION CONTROL BLANKETS AS

AMENDMENTS TO THE BIORETENTION SOILS UNLESS INSTRUCTED BY THE ENGINEER. THE PLANTING SOIL SPECIFICATIONS PROVIDE ENOUGH INSTALL BIORETENTION PLANTINGS AS INDICATED ON DRAWINGS. WATER DURING WEEKS OF NO RAIN FOR THE FIRST TWO MONTHS.

F. IF SUITABLE VEGETATIVE COVER HAS NOT BEEN ESTABLISHED ALONG THE BIORETENTION SIDE SLOPES PRIOR TO PLANTING, INSTALL A SILT FENCE PERIMETER AT THE TOE OF THE BIORETENTION SLOPES AND LEAVE IN PLACE UNTIL AN APPROVED VEGETATIVE COVER HAS BEEN ESTABLISHED.

G. INSTALL MULCH LAYER AS INDICATED ON DRAWINGS. MIX APPROXIMATELY HALF OF THE SPECIFIED MULCH LAYER INTO THE BIORETENTION SOIL TO H. REMOVE REMAINING EROSION AND SEDIMENT CONTROLS ONLY AFTER SURROUNDING DISTURBED AREAS HAVE BEEN PROPERLY STABILIZED.

A. AFTER COMPLETION OF THE WORK, REMOVE AND PROPERLY DISPOSE ALL DEBRIS, CONSTRUCTION MATERIALS, RUBBISH, EXCESS SOIL, ETC., FROM THE PROJECT SITE. REPAIR PROMPTLY ANY IDENTIFIED DEFICIENCIES AND LEAVE THE PROJECT SITE IN A CLEAN AND SATISFACTORY CONDITION.

SUBMIT SOIL SAMPLE (2LBS) AND TESTING ANALYSIS RESULTS BY A QUALIFIED SOIL TESTING LABORATORY INDICATING AND INTERPRETING TEST RESULTS FOR A. UNIFORM SOIL MIX, FREE OF NOXIOUS WEEDS AND STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 1 INCH. C. PROVIDE A TEXTURAL ANALYSIS INCLUDING THE GRADATION AND PERCENTAGES OF SAND, SILT, AND CLAY CONTENT

IF THE SOIL PH IS NOT WITHIN THE ACCEPTABLE RANGE, AMEND WITH LIME TO RAISE THE PH OR WITH IRON SULFATE TO LOWER THE PH, AS NECESSARY. ALL TESTING SHOULD BE PERFORMED BY THE SAME TESTING FACILITY TO MAINTAIN CONSISTENT RESULTS. SUBMIT THE SOIL SAMPLE RESULTS TO THE

G. DO NOT MIX, DUMP OR STORE ANY OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO

 $1\frac{1}{2}$ " X $12\frac{1}{2}$ " ADS ADVANEDGE OBLONG CORRUGATED PIPE, WITH $1\frac{1}{8}$ " X $\frac{1}{8}$ " PERFORATIONS. MEETING ASTM D7001. T'S AND Y'S FITTINGS AS REQUIRED FOR THE

B. FIBERGLASS REINFORCED PLASTIC MANHOLES OF SIZE INDICATED ON DRAWINGS.

PROPOSED LEGEND:

GENERAL		SYMBOLS	3
	BERM	\bigcirc	DRAIN MANHOLE
S S	BUILDING	\bigcirc	CATCHBASIN
			BIORETENTION OUTLET
44 50	CONTOUR - MINOR	×	EXISTING SPOT GRADE
	CURB	EL:98.45	
	EDGE OF PAVEMENT	+ EL:95.00	SPOT GRADE
	LIMIT OF WORK	S	SEWER MANHOLE
	PATHWAY	\ \	
808080808080	STONE	°	SIGN
	SIDEWALK	Ŀ.	HANDICAP SYMBOL
	STORMWATER AREA	(10)	NUMBER OF PARKING SPACES
	TREE LINE	-	
	CONCRETE		
	CROSSWALK/PAVEMENT STRIPING POROUS SHELL PAVING		
UTILITIES			
	DRAIN PIPE		
G	GAS LINE		
ОНW	OVERHEAD WIRE		
s	SANITARY SEWER		
FM	SEWER FORCE MAIN		
———— E/T/C ————	UNDERGROUND E/T/C		
UGE	UNDERGROUND ELEC.		
c	CABLE LINE		
т	TELEPHONE LINE		
w	WATER LINE		
ROSION & SEDIMENT CONTROL			

SILT SOCK _____ SS _____ INVASIVE SPECIES MANAGEMENT





SURVEY NOTES

1. THE TOPOGRAPHY AND EXISTING SITE CONDITIONS DEPICTED HEREON ARE THE RESULT OF AN ON THE GROUND FIELD SURVEY CONDUCTED BY THE HORSLEY WITTEN GROUP, INC. JULY 24, 2020 AND JULY 30, 2020

- 2. HORIZONTAL DATUM IS MASS STATE PLANE COORDINATE SYSTEM. DATUM ESTABLISHED BY GPS-RTK.
- 3. THE ELEVATIONS DEPICTED HEREON WERE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
- 4. THE PROPERTY LINES AND RIGHTS OF WAYS DEPICTED HAVE BEEN ESTABLISHED BY FIELD SURVEY AND DEEDS AND PLANS OF RECORD. 5. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND WHEREVER POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY IN THE TOWN OF EASTHAM, AND "DIGSAFE" (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK IN PREVIOUSLY UNALTERED AREAS TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
- 6. THE PROPERTY IS LOCATED WITHIN F.I.R.M ZONE AE (EL 14 FEET) AS SHOWN ON COMMUNITY PANEL NO, 25001C0417J DATED JULY 16TH, 2014. 7. THE WETLAND DELINEATION SHOWN HEREON WAS CONDUCTED BY THE HORSLEY WITTEN GROUP, INC. ON JULY 24, 2020
- 8. REFERENCE PLANS: BARNSTABLE COUNTY REGISTRY OF DEEDS LAND COURT PLAN #28883A.
- 9. FILLED TIDELAND AREAS, NHESP RARE SPECIES HABITAT, BARRIER BEACH, AND FLOODZONE LINES SCALED FROM MASS GIS.



SOIL TEST PIT DATA



PERFORMED BY:M. LEHMAN, HORSLEY WITTEN GROUP, INC WITNESSED BY: S. BARKER, ASSISTANT HEALTH AGENT

0"	TP-4		0"	TP-5		0"	TP-6	0 0	0"	TP-7
0	Ao 10 YR 6/1 LOAMY SAND	0.0	0	Ae 10 YR 7/2 LOAMY SAND	0.0	0	Ae 10 YR 3/3 LOAMY SAND	9.0	0	Ae 10 YR 2 LOAMY S
15"-		7.3	10"—		8.0	10"		8.2	5"—	
	HTM 10 YR 5/4 SANDY LOAM			B 10 YR 6/3 LOAMY SAND			B 10 YR 6/3 LOAMY SAND			HTM 10 YR 5 LOAMY S
36"—		- 5.6	24"		6.8	24"		7.0	15"—	
	HTM 10 YR 3/2 SANDY LOAM			1C 10 YR 5/4 MEDIUM SAND			1C 10 YR 5/6 MEDIUM SAND			HTM 10 YR 6 MEDIUM 5
84"		-1.6	42"		-5.3	48"			48"	
	MUCK 10 YR 2/2 MUCKY SAND			Ab' 10 YR 3/4 MEDIUM SAND			Ab' 10 YR 3/4 MEDIUM SAND			MUCH 10 YR 3 MUCKY S
96"	C 10 YR 3/4 MEDIUM SAND	0.6	64"—	2C' 10 YR 3/6 COARSE SAND	3.5	64"	2C' 10 YR 3/6 COARSE SAND	3.7	72"—	C 10 YR COARSE S
132		⊥2.4	102		⊥0.3	102		<u>↓</u> 0.5	120	
VVE	EPING AT 84" (EL. 1	.0)	VVE	EPING AT 102" (EL. (ESHGW EL. 2.1	J.3)	VVE	EPING AT 102" (EL. ESHGW EL. 2.3	0.5)	VVE	EPING AT 12

GRAPHIC SCALE

42"—

54"-

(in feet) 1 INCH = 30 FEET



7.2

-3.8





AREA TO BE PROTECTED Mal/







<u>N</u>

∽ IE 5/17/202-



