

**NORTHEASTERN UNIVERSITY
PROJECT #: 160276
NAHANT SEAWATER PUMPHOUSE**

MARINE SCIENCE CENTER
430 NAHANT RD.
NAHANT, MA 01908

NOTICE OF INTENT SUBMISSION

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**SITE PLAN
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PROJECT:
NAHANT SEAWATER PUMPHOUSE
430 NAHANT RD.
NAHANT MA 01908

NEU PROJECT#: 160276

ISSUE:
NOTICE OF INTENT SUBMISSION

NO. DATE REVISION

CONSULTANT:

SYMBOL LIST

	ROOM NAME AND NUMBER
	DOOR NUMBER
	WINDOW TYPE
	ROOM ELEVATION SYMBOL
	EXTERIOR ELEVATION
	DETAIL BUBBLE
	SECTION DETAIL
	SPOT ELEVATION
	RCP MATERIAL/ ELEVATION
	WALL TYPE
	DETAIL NOTE
	MATERIAL BREAK LINE
	REVISION BUBBLE
	CENTER LINE
	HANDICAP PARKING/ SEATING

ABBREVIATION LIST

ACT	ACOUSTICAL CEILING TILE	FOC	FACE OF CONCRETE	PGL	PLATE GLASS	W/	WITH
ADD	ADDITIONAL	FOF	FACE OF FINISH	PH	PARTIAL HEIGHT	WAP	WIRELESS ACCESS POINT
ADJ	ADJACENT	FOM	FACE OF MASONRY	PL	PLATE	WC	WATER CLOSET
AFF	ABOVE FINISH FLOOR	FOW	FACE OF WALL	PLAM	PLASTIC LAMINATE	WD	WOOD
AHU	AIR HANDLING UNIT	FSPC	FIRE STANDPIPE CABINET	PLUM	PLUMBING	WF	WIDE FLANGE
ALUM	ALUMINUM	FT	FOOT/ FEET	POR	PORCELAIN	WH	WALL HYDRANT
APX	APPROXIMATELY	FTG	FOOTING	PM	PRESSED METAL	WIN	WINDOW
AWDP	ACOUSTIC WOOD PANEL	FUB	FLOOR UTILITY BOX	PS	PROJECTION SCREEN	W/O	WITHOUT
AWP	ACOUSTIC WALL PANEL	FUR	FURNITURE	PTD	PAINTED	WP	WORK POINT
BD	BOARD	GA	GAUGE	PT	PAINT/ PRESSURE TREATED	WPR	WATER PROOFING
BIT	BITUMINOUS	GALV	GALVANIZED	PTN	PARTITION	WUB	WALL UTILITY BOX
BLDG	BUILDING	GC	GENERAL CONTRACTOR	PVC	POLYVINYL CHLORIDE	WWF	WELDED WIRE FABRIC
BLK	BLOCK	GL	GLASS	QT	QUARRY TILE		
BLKG	BLOCKING	GLAZ	GLAZING	QTY	QUANTITY		
BM	BEAM	GWB	GYPSUM WALL BOARD	R	RISER		
BOT	BOTTOM	GYP	GYPSUM	RA	RETURN AIR		
BUR	BUILT-UP ROOFING	HB	HOSE BIBB	RAD	RADIUS		
		HC	HANDICAP/ HANDICAP ACCESSIBLE	RD	ROOF DRAIN		
		HDW	HARDWARE	REG	REGISTER		
		HM	HOLLOW METAL	REQ	REQUIREMENT		
		HOR	HORIZONTAL	REQD	REQUIRED		
		HP	HIGH POINT	REV	REVISION/ REVERSE		
		HGT	HEIGHT	RS	ROLLER SHADE		
		HTR	HEATING, VENTILATION, & AIR CONDITIONING	RO	ROUGH OPENING		
		HVAC	HVAC	RSL	RESILIENT FLOORING		
		HW	HARDWARE	RUB	RUBBER		
				RWL	RAIN WATER LEADER		
		ID	INSIDE DIMENSION	SAB	SOUND ATTENUATION BOARD		
		IN	INCHES	SC	SOLID CORE		
		INCAN	INCANDESCENT	SEC	SECTION		
		INCL	INCLUDE/ INCLUDING/ INCLUDED	SECT	SECTION		
		INS	INSULATION	SFR	SAFETY RAIL		
		INT	INTERIOR	SHT	SHEET		
		J	JOINT (MASONRY)	SIM	SIMILAR		
		JAN	JANITOR	SOPH	SIMILAR OPPOSITE HAND		
		JB	JUNCTION BOX	SPEC	SPECIFICATION/ SPECIFICATIONS		
		JT	JOINT	SO	SQUARE		
		LCC	LEAD COATED COPPER	SS	STAINLESS STEEL		
		LP	LOW POINT	SSTL	STAINLESS STEEL		
		LAM	LAMINATED	STA	STATION		
		LAV	LAVATORY	STD	STANDARD		
		LINO	LINOLUM	STL	STEEL		
		LTG	LIGHTING	STOR	STORAGE		
		LVT	LUXURY VINYL TILE	SUSP	SUSPENDED		
				STRUCT	STRUCTURE/ STRUCTURAL		
		MAT	MATERIAL	T	TREAD		
		MAX	MAXIMUM	TBD	TACKBOARD		
		MB	MARKER BOARD	TD	TRENCH DRAIN		
		MECH	MECHANICAL	THK	THICK/ THICKNESS		
		MEMB	MEMBRANE	TEL	TELEPHONE		
		MFR	MANUFACTURER	TO	TOP OF		
		MIN	MINIMUM	TOC	TOP OF CONCRETE		
		MISC	MISCELLANEOUS	TOF	TOP OF FOOTING		
		MO	MASONRY OPENING	TOR	TOP OF RAIL		
		MTL	METAL	TOS	TOP OF STEEL		
		NIC	NOT IN CONTRACT	TOW	TOP OF WALL		
		NO	NUMBER	TRT	TREAT/ TREATED		
		NTS	NOT TO SCALE	TLT	TOILET		
		NUM	NUMBER	TS	TRANSITION STRIP		
				TYP	TYPICAL		
		OC	ON CENTER	UNO	UNLESS NOTED OTHERWISE		
		OD	OUTSIDE DIAMETER				
		OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	VCT	VINYL COMPOSITION TILE		
		OFDI	OWNER FURNISHED, OWNER INSTALLED	VER	VERTICAL		
		OHD	OVERHEAD DOOR	VIF	VERIFY IN FIELD		
		OHG	OVERHEAD GRILL	VP	VENEER PLASTER		
		OPH	OPPOSITE HAND	VVC	VINYL WALL COVERING		
		OPP	OPPOSITE				
		OPNG	OPENING				
		ORD	OVERFLOW ROOF DRAIN				
		PAV	PAVER				
		PC	PRECAST				

SHEET LIST

GENERAL	
A000	COVER SHEET
CIVIL	
C000	CIVIL NOTES, LEGEND & ABBREVIATIONS
C100	SITE UTILITY DEMOLITION PLAN I
C200	SITE EROSION & SEDIMENTATION CONTROL PLAN
C300	SITE UTILITY PLAN I
C301	SITE UTILITY PLAN II
C400	PROFILE PLAN I
C500	SITE EROSION & SEDIMENTATION CONTROL DETAILS I
C501	SITE EROSION & SEDIMENTATION CONTROL DETAILS II
C502	SITE DETAILS
C503	WATER & SEWER DETAILS
C504	SEWER PUMP STATION DETAIL
LANDSCAPE	
L1.0	LAYOUT GRADING AND MATERIALS PLAN
L2.0	PLANTING PLAN

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STAMP:

DATE:
11/22/2021

PROJECT NUMBER:
2004

SCALE:
NTS

DRAWING TITLE:

COVER SHEET

A000

GENERAL NOTES:

- TOPOGRAPHIC DATA, PROPERTY LINE INFORMATION, AND EXISTING SITE FEATURES WERE OBTAINED FROM A PLAN ENTITLED "EXISTING CONDITIONS SURVEY, NORTHEASTERN UNIVERSITY MARINE SCIENCE CENTER, 430 NAHANT ROAD, NAHANT, MASSACHUSETTS" (20 SHEETS), PREPARED BY NITSCH ENGINEERING, DATED NOVEMBER 2, 2017, REVISED THROUGH AUGUST 21, 2018.
- FLOODPLAIN INFORMATION WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAPS (FIRM) NOS. 25009C541G AND 25009C0542G, BOTH DATED JULY 16, 2014. THE FEMA SPECIAL FLOOD HAZARD AREAS REFLECT THE CURRENT INFORMATION AVAILABLE ON THE FEMA WEBSITE, WHICH WAS MOST RECENTLY UPDATED IN A LETTER OF MAP REVISION (CASE NO. 18-01-0243P) FOR THE TOWN OF NAHANT (COMMUNITY NO. 25009S). THE MAPS ARE EFFECTIVE AS OF DECEMBER 29, 2017. THE LOMR INCLUDES UPDATES TO THE FIRM MAP ISSUED ON JULY 16, 2014 AND A PREVIOUS LOMR (CASE NO. 16-01-2425P). THE SITE IS LOCATED IN ZONES X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AE (BASE FLOODPLAIN ELEVATIONS DETERMINED) AND VE (COASTAL FLOOD ZONE WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED)
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
- THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
- THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND NITSCH ENGINEERING. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL, THROUGHOUT CONSTRUCTION, TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS AND SITE DETAILS OUTSIDE OF THE LIMIT OF WORK AS DEFINED ON THE DRAWINGS AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND CONSTRUCTION DOCUMENTS TO DEVELOP A THOROUGH UNDERSTANDING OF THE PROJECT, INCLUDING ANY SPECIAL CONDITIONS AND CONSTRAINTS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PROJECT SITE AND TO VERIFY ALL CONDITIONS IN THE FIELD AND REPORT DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATION IMMEDIATELY.
- THE CONTRACTOR SHALL CONDUCT ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ESTABLISHMENT AND USE OF ALL VERTICAL AND HORIZONTAL CONSTRUCTION CONTROLS.
- ELEVATIONS REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL COMPLY WITH THE ORDER OF CONDITIONS DATED XXXX XX, XXXX AND ISSUED BY THE NAHANT CONSERVATION COMMISSION (DEP #XXX-XXX).
- FOR SOIL INFORMATION REFER TO GEOTECHNICAL REPORT ENTITLED, "GEOTECHNICAL DESIGN REPORT, NORTHEASTERN UNIVERSITY, COASTAL SUSTAINABILITY INSTITUTE (CSI), NU PROJECT NO. 170247, BOSTON, MASSACHUSETTS" DATED MAY 8, 2020, PREPARED BY HALEY & ALDRICH, INC.

UTILITY NOTES:

- ALL UTILITY CONNECTIONS ARE SUBJECT TO THE APPROVAL OF, AND GRANTING OF PERMITS BY, THE LOCAL MUNICIPALITY IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS RELATED TO UTILITY WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL PERMISSIONS FOR, AND FOR CONDUCTING ALL PREPARATIONS RELATED TO, WORK AFFECTING ANY UTILITIES WITHIN THE JURISDICTION OF ANY NON-MUNICIPAL UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, AND/OR GAS. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES, DEPARTMENTS, AND UTILITY COMPANIES, IN WRITING, AT LEAST 7 DAYS (OR PER UTILITY COMPANY REQUIREMENT) AND NOT MORE THAN 30 DAYS PRIOR TO ANY CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN UTILITIES SERVICING BUILDINGS AND FACILITIES WITHIN OR OUTSIDE THE PROJECT LIMIT UNLESS THE INTERRUPTION OF SERVICE IS COORDINATED WITH THE OWNER.
- ALL DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES OF NEW UTILITIES WITH GAS, TELECOMMUNICATION AND ELECTRICAL SERVICES.
- THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED AND/OR REMOVED & DISPOSED.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACKFILLING, AND SURFACE RESTORATION FOR GAS UTILITY SYSTEMS.
- ALL ONSITE UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
- ALL EXISTING AND PROPOSED MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, CASTINGS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL GRADING AND PAVING CONSTRUCTION.
- ALL GRATES IN WALKWAYS SHALL BE ADA COMPLIANT, IF APPLICABLE.

DEMOLITION NOTES:

- SITE PREPARATION AND DEMOLITION SHALL INCLUDE THOSE AREAS WITHIN THE LIMIT OF WORK LINE AS SHOWN ON THE CONTRACT DOCUMENTS.
- ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING DEMOLITION.
- THE CONTRACTOR SHALL COORDINATE SITE DEMOLITION EFFORTS WITH ALL TRADES THAT MAY BE AFFECTED BY THE WORK.
- ALL ITEMS REQUIRING REMOVAL SHALL BE REMOVED TO FULL DEPTH TO INCLUDE BASE MATERIAL AND FOOTINGS OR FOUNDATIONS AS REQUIRED TO FACILITATE CONSTRUCTION, AND LEGALLY DISPOSED OF OFFSITE BY CONTRACTOR.
- UTILITY PIPES DESIGNATED TO BE ABANDONED IN PLACE SHALL BE PLUGGED AT THEIR ENDS WITH WATERTIGHT BRICK MASONRY OR CEMENT MORTAR WITH A MINIMUM THICKNESS OF 8 INCHES.
- UTILITY PIPES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF THE ENTIRE LENGTH OF PIPE AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN THE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
- UTILITY STRUCTURES DESIGNATED TO BE ABANDONED IN PLACE SHALL HAVE THEIR CAST IRON CASTINGS REMOVED AND DISPOSED, INLET AND OUTLET PIPES PLUGGED, THE BOTTOM OF THE STRUCTURES SHALL BE BROKEN, THE VOID OF THE STRUCTURES SHALL BE BACKFILLED AND COMPACTED TO 95% WITH ORDINARY BORROW OR FLOWABLE FILL, AND THE TOP OF THE STRUCTURE SHALL BE REMOVED SO THAT IT IS AT LEAST 36 INCHES BELOW FINISH GRADE.
- UTILITY STRUCTURES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF CAST IRON CASTINGS, PLUGGING OF INLET AND OUTLET PIPES, REMOVAL OF THE STRUCTURE, AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN HE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
- ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFFSITE.
- AT ALL LOCATIONS WHERE EXISTING CURBING, CONCRETE PAVEMENT OR BITUMINOUS CONCRETE ROADWAY ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE.
- EXTEND DESIGNATED LIMIT OF WORK AS NECESSARY TO ACCOMPLISH ROUGH GRADING, EROSION CONTROL, TREE PROTECTION, AND SITE WORK AS REQUIRED BY THESE DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL RUBBISH AND DEBRIS FOUND THEREON. STORAGE OF SUCH MATERIALS ON THE PROJECT SITE WILL NOT BE PERMITTED. THE CONTRACTOR SHALL LEAVE THE SITE IN SAFE, CLEAN, AND LEVEL CONDITION UPON COMPLETION OF THE SITE DEMOLITION WORK.
- REMOVE AND STOCKPILE ALL EXISTING SITE LIGHTS, BENCHES, TRASH RECEPTACLES, TRAFFIC SIGNS, GRANITE CURB, AND OTHER SITE IMPROVEMENTS WITHIN LIMIT OF WORK LINE UNLESS OTHERWISE NOTED.
- ALL EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED AND MAINTAINED THROUGHOUT THE TIME OF CONSTRUCTION, AS SPECIFIED AND DIRECTED BY THE LANDSCAPE ARCHITECT.
- BEFORE ANY TREES OR SHRUBS ARE REMOVED, THE CONTRACTOR SHALL ARRANGE A CONFERENCE ON THE SITE WITH THE OWNER OR OWNER'S REPRESENTATIVE TO IDENTIFY TREES AND SHRUBS THAT ARE TO BE REMOVED, AS WELL AS THOSE WHICH ARE TO BE PROTECTED. DO NOT COMMENCE CLEARING OPERATIONS WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED.
- THE CONTRACTOR SHALL REMOVE FROM THE AREA OF CONSTRUCTION PAVEMENT, CONCRETE, CURBING, POLES AND FOUNDATIONS, ISLANDS, TREE BERMS AND OTHER FEATURES WITHIN THE LIMITS OF CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WHETHER SPECIFIED ON THE DRAWINGS OR NOT.

EROSION AND SEDIMENT CONTROL NOTES:

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" PREPARED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, AND THE CURRENT NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
- MEANS OF EROSION AND SEDIMENT PROTECTION AS NOTED ON THE DRAWINGS INDICATE MINIMUM RECOMMENDED PROVISIONS. THE CONTRACTOR IS RESPONSIBLE FOR FINAL SELECTION AND PLACEMENT OF EROSION AND SEDIMENTATION CONTROLS BASED ON ACTUAL SITE CONDITIONS AND CONSTRUCTION CONDITIONS. ADDITIONAL MEANS OF PROTECTION SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED FOR CONTINUED OR UNFORESEEN EROSION PROBLEMS, OR AS DIRECTED BY CONTROLLING MUNICIPAL AUTHORITIES, AT NO ADDITIONAL EXPENSE TO THE OWNER.
- AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS INDICATED IN THE PLAN PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS.
- SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF AND DURING ALL PHASES OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO AND IMMEDIATELY AFTER ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
- AFTER ANY SIGNIFICANT RAINFALL (GREATER THAN 0.25 INCHES OF RAINFALL WITHIN 24 HOURS), SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGE SHALL BE CORRECTED IMMEDIATELY.
- PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO ENSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SEDIMENT FROM ENTERING ANY STORM DRAINAGE SYSTEM AND FROM BEING CONVEYED TO ANY WETLAND RESOURCE AREA, PUBLIC WAYS, ADJUTING PROPERTY, OR OUTSIDE OF THE PROJECT LIMITS.
- THE CONTRACTOR SHALL PROTECT ALL DRAINAGE SWALES AND GROUND SURFACES WITHIN THE LIMIT OF WORK FROM EROSION CONDITIONS. STRAW BALE, CRUSHED STONE OR EQUIVALENT CHECK DAMS ARE TO BE PROVIDED AT A MAXIMUM OF TWO HUNDRED (200) FOOT SPACING, OR LESS AS SITE-SPECIFIC CONDITIONS WARRANT, WITHIN ALL DRAINAGE SWALES AND DITCHES AND AT UPSTREAM SIDES OF ALL DRAINAGE INLETS.
- ALL STOCK PILES SHALL BE PROTECTED AND LOCATED A MINIMUM OF 100' FROM EXISTING WETLAND RESOURCE AREAS & WITHIN THE LIMIT OF WORK.
- ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY.
- ALL SEDIMENT RETAINED BY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LEGALLY DISPOSED OF OFFSITE.
- TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS, AND ANY DENUDED SURFACE THAT WILL BE EXPOSED FOR A PERIOD OF 14 CALENDAR DAYS OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE STABILIZED/PROTECTED WITH APPROPRIATE EROSION CONTROL MATTING OR OTHER EROSION CONTROL METHODS.
- DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS DIRECTED BY THE PERMITTING AUTHORITY OR OWNER.
- THE CONTRACTOR SHALL USE TEMPORARY SEEDING, MULCHING, OR OTHER APPROVED STABILIZATION MEASURES TO PROTECT EXPOSED AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE. STOCKPILES THAT WILL BE EXPOSED FOR LONGER THAN 14 DAYS SHALL BE STABILIZED.
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS AT THE COMPLETION OF SITE CONSTRUCTION, BUT ONLY WHEN DIRECTED BY THE TOWN OF NAHANT CONSERVATION AGENT. STABILIZE OR SEED BARE AREAS LEFT AFTER EROSION CONTROL REMOVAL.

PROPOSED LEGEND

- LIMIT OF WORK
- EXISTING UTILITY TO BE ABANDONED, REMOVED AND DISPOSED IF IN CONFLICT WITH NEW SITE IMPROVEMENTS, OR AS INDICATED ON DRAWINGS
- EROSION CONTROL BARRIER (STAKED SILT FENCE WITH 12" Ø WATTLES)
- CONSTRUCTION FENCE
- DOMESTIC WATER PIPE
- FIRE PROTECTION PIPE
- SANITARY SEWER PIPE
- STORM DRAIN PIPE
- GAS PIPE
- ELECTRIC DUCTBANK
- TELECOM DUCTBANK
- OVERHEAD WIRE
- INLET PROTECTION
- CLEANOUT
- AREA DRAIN
- DRAIN MANHOLE
- WATER QUALITY STRUCTURE
- CATCH BASIN
- SEWER MANHOLE
- TELECOM MANHOLE
- ELECTRIC MANHOLE
- WATER VALVE
- FIRE HYDRANT
- TRANSFORMER
- GENERATOR
- SEWER PUMP STATION

ABBREVIATIONS

- AD AREA DRAIN
- CB CATCH BASIN
- CCB CAPE COD BERM
- CO CLEANOUT
- CP CARRIER PIPE
- CPP CORRUGATED POLYETHYLENE PIPE
- DI DUCTILE IRON PIPE CEMENT LINED
- DMH DRAIN MANHOLE
- EMH ELECTRIC HANDHOLE
- EMH ELECTRIC MANHOLE
- FFE FINISHED FLOOR ELEVATION
- HYD FIRE HYDRANT
- INV INVERT ELEVATION
- LF LINEAR FEET
- LOW LIMIT OF WORK
- M&P MAINTAIN AND PROTECT
- OCS OUTLET CONTROL STRUCTURE
- OHW OVERHEAD WIRE
- PERF PERFORATED
- PVC POLYVINYL CHLORIDE PIPE
- R&D REMOVE AND DISPOSE
- R&S REMOVE AND STOCKPILE
- RD ROOF DRAIN
- RIM RIM ELEVATION
- SMH SEWER MANHOLE
- THH TELECOM MANHOLE
- TMH TELECOM MANHOLE
- TYP TYPICAL
- VGC VERTICAL GRANITE CURB
- WQS WATER QUALITY STRUCTURE
- WV WATER VALVE



CLIENT:
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ISSUE:
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07/21/2021 PLANNING BOARD SUBMISSION
 07/15/2021 PEER REVIEW COMMENTS
 06/04/2021 PEER REVIEW COMMENTS
 NO. DATE REVISION

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- Civil Engineering
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- Transportation Engineering
- Structural Engineering
- Green Infrastructure
- Planning
- GIS

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STAMP:

NOVEMBER 22, 2021

DATE:
 11/22/2021

PROJECT NUMBER: 2004 SCALE: AS NOTED

DRAWING TITLE:
 CIVIL NOTES, LEGEND & ABBREVIATIONS

C000



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07/21/2021 PLANNING BOARD SUBMISSION
 07/15/2021 PEER REVIEW COMMENTS
 06/04/2021 PEER REVIEW COMMENTS

NO. DATE REVISION

CONSULTANT:

Nitsch Engineering
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 F: (617) 338-6472

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- Land Surveying
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- Structural Engineering
- Green Infrastructure
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- GIS

JONES ARCH
 Jones Architecture, INC
 10 Derby Square
 Salem, MA 01970
 978.744.5200
www.jonesarch.com

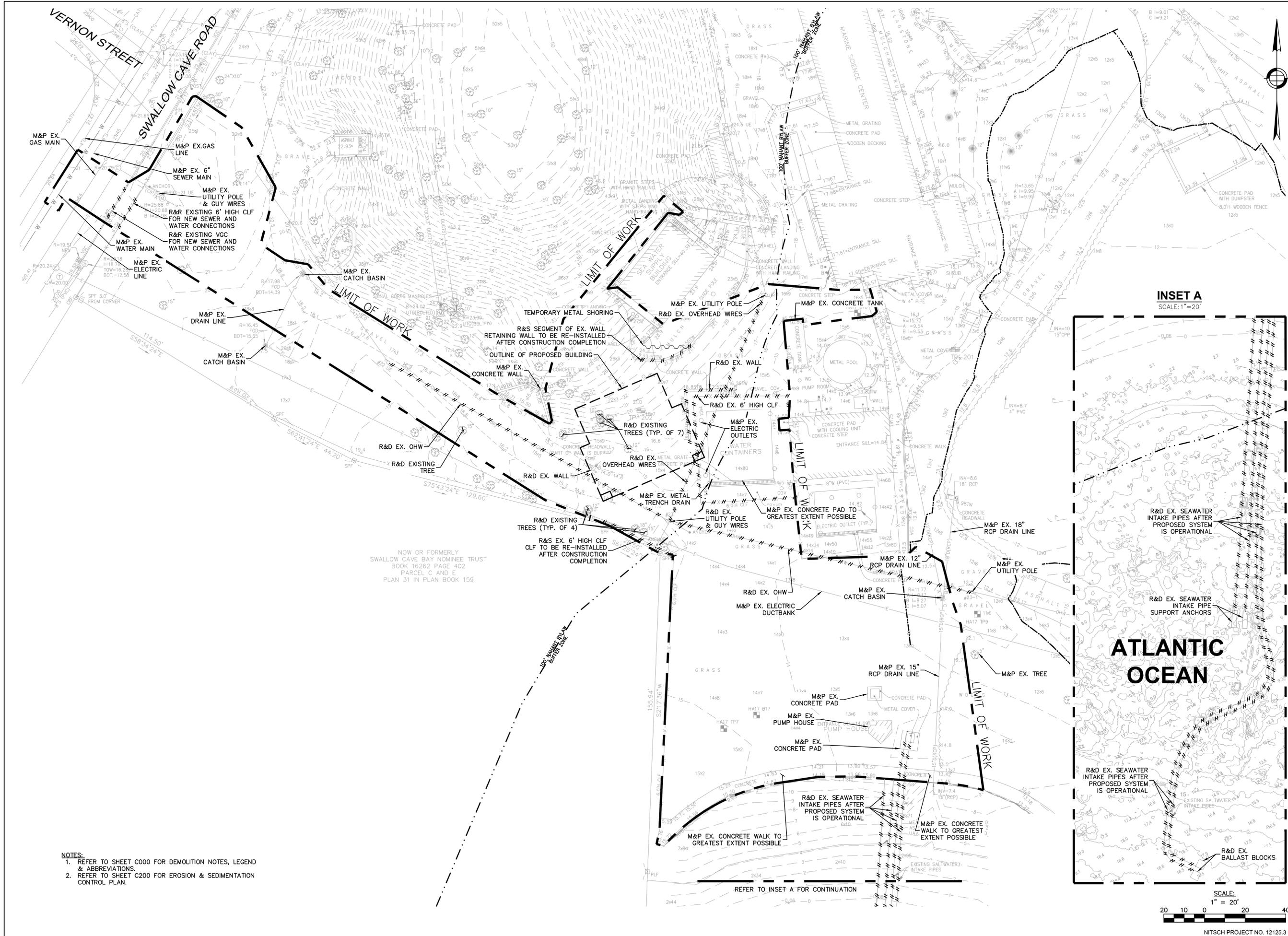
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NOVEMBER 22, 2021

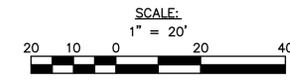
DATE: 11/22/2021
 PROJECT NUMBER: 2004
 SCALE: AS NOTED

DRAWING TITLE:
SITE UTILITY DEMOLITION PLAN I

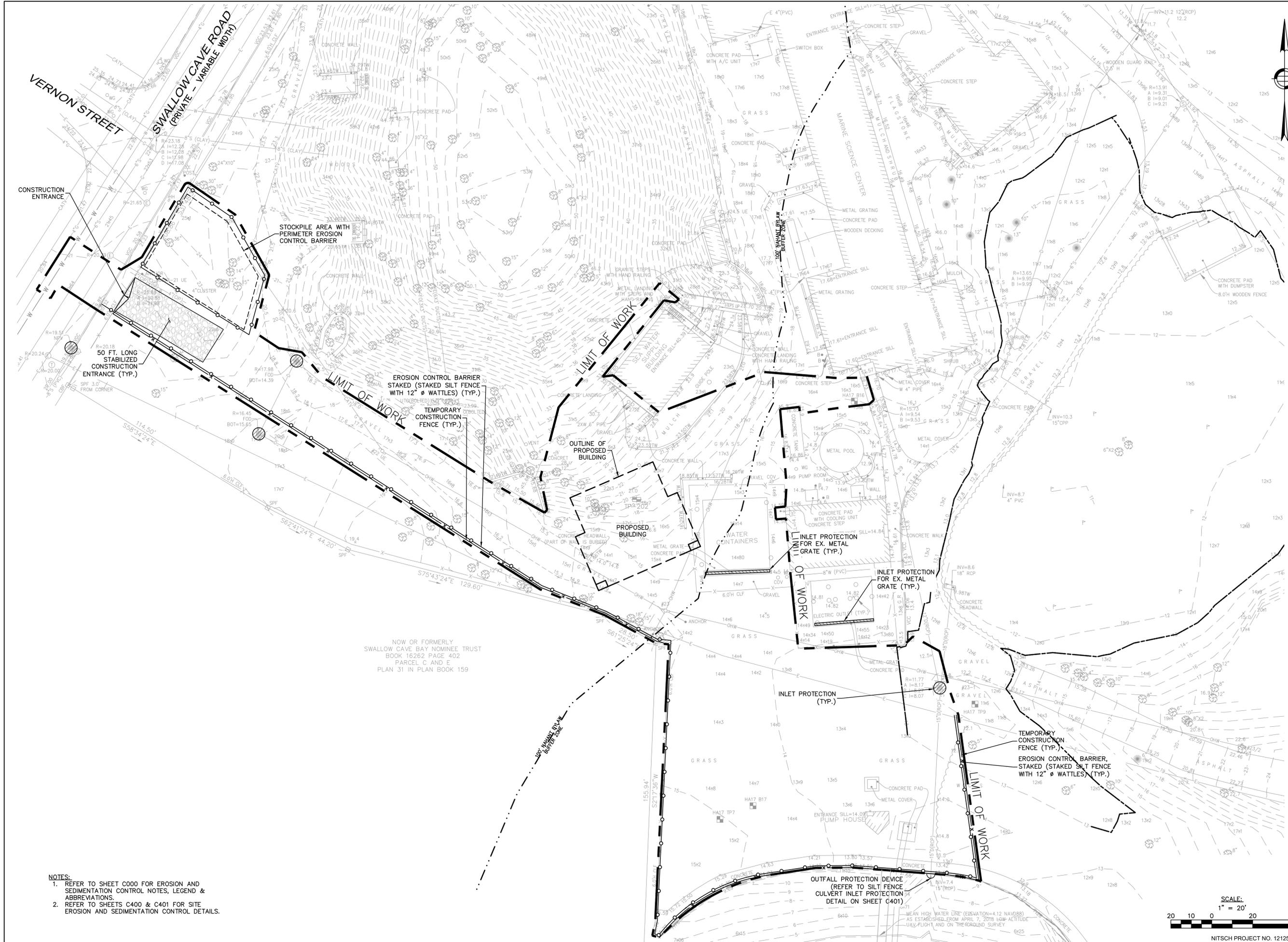
C100



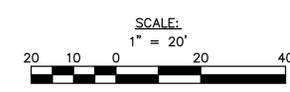
NOTES:
 1. REFER TO SHEET C000 FOR DEMOLITION NOTES, LEGEND & ABBREVIATIONS.
 2. REFER TO SHEET C200 FOR EROSION & SEDIMENTATION CONTROL PLAN.



NITSCH PROJECT NO. 12125.3



- NOTES:**
1. REFER TO SHEET C000 FOR EROSION AND SEDIMENTATION CONTROL NOTES, LEGEND & ABBREVIATIONS.
 2. REFER TO SHEETS C400 & C401 FOR SITE EROSION AND SEDIMENTATION CONTROL DETAILS.



NITSCH PROJECT NO. 12125.3



CLIENT:
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PROJECT:
NAHANT SEAWATER PUMPHOUSE
430 NAHANT RD.
NAHANT MA 01908

NEU PROJECT#: 160276

ISSUE:
NOTICE OF INTENT SUBMISSION

07/21/2021 PLANNING BOARD SUBMISSION
07/15/2021 PEER REVIEW COMMENTS
06/24/2021 PEER REVIEW COMMENTS

NO. DATE REVISION

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DATE:
11/22/2021

PROJECT NUMBER: 2004 SCALE: AS NOTED

DRAWING TITLE:
SITE EROSION & SEDIMENTATION CONTROL PLAN

C200



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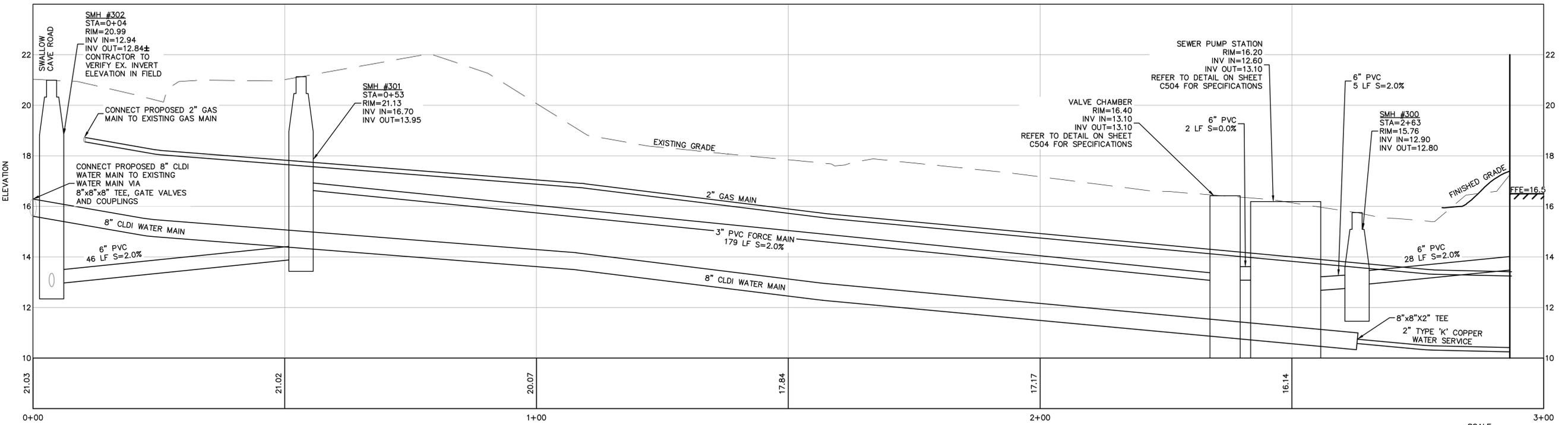
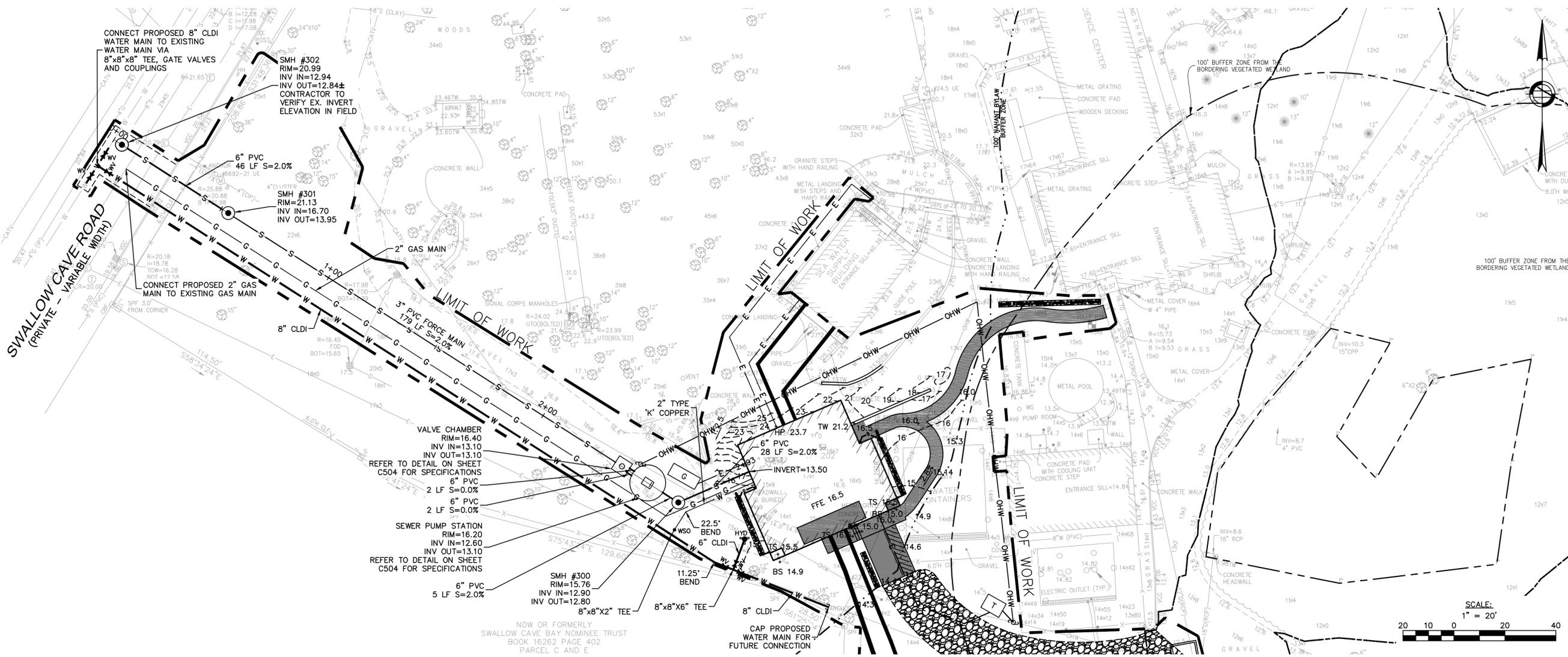
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NOVEMBER 22, 2021

DATE: 11/22/2021
 PROJECT NUMBER: 2004
 SCALE: AS NOTED

DRAWING TITLE: PROFILE PLAN I

C400



SANITARY SEWER PROFILE
 HORIZONTAL SCALE: 1"=10'
 VERTICAL SCALE: 1"=2'

SCALE:
 H: 1" = 10'
 V: 1" = 2'



CLIENT:
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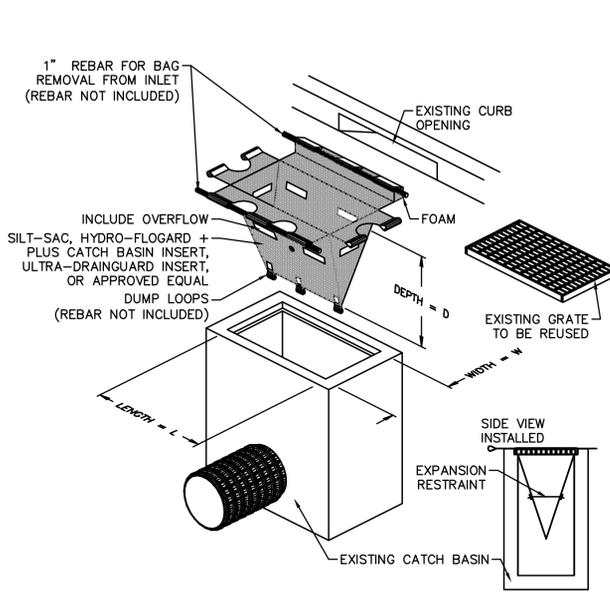


DATE: 11/22/2021

PROJECT NUMBER: 2004 SCALE: AS NOTED

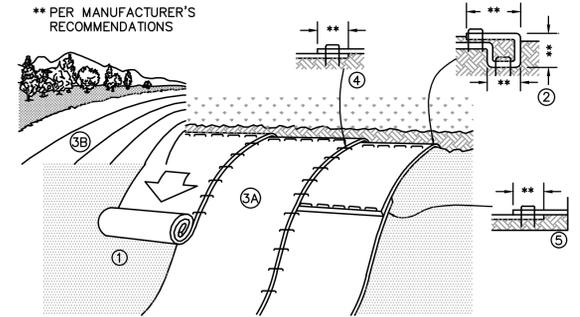
DRAWING TITLE:
SITE EROSION & SEDIMENTATION CONTROL DETAILS I

C500



THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS SHEET, OVERLAND OR CONCENTRATED FLOWS (NOT GREATER THAN 1 CFS). THE METHOD CAN DRAIN FLAT AREA TO STEEP SLOPES. INLET CAPACITY WILL BE DECREASED WITH THIS METHOD AND THE CONTRACTOR SHALL EXPECT PONDING DURING HIGH FLOW EVENTS.

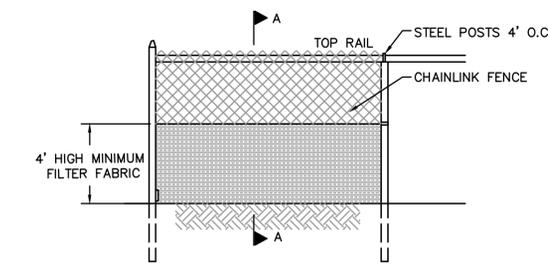
INLET PROTECTION CATCH BASIN W/ SILTATION SACK
 NOT TO SCALE



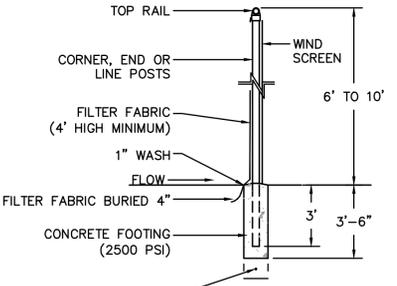
SLOPE INSTALLATION

- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING EROSION CONTROL BLANKETS (ECB's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE ECB'S IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING PORTION OF ECB'S BACK OVER SEED AND COMPACTED SOIL. SECURE ECB'S OVER COMPACTED SOIL WITH A ROW OF STAKES/STAPLES SPACED ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATIONS ACROSS THE WIDTH OF THE ECB'S.
 3. ROLL THE ECB'S DOWN (A) OR HORIZONTALLY (B) ACROSS THE SLOPE. ECB'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAKES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAKE/STAPLE PATTERN GUIDE.
 4. THE EDGES OF PARALLEL ECB'S MUST BE STAKED/STAPLED WITH OVERLAP DEPENDING ON ECB'S TYPE. SEE THE MANUFACTURER'S RECOMMENDATIONS.
 5. CONSECUTIVE ECB'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN OVERLAP (SEE THE MANUFACTURER'S RECOMMENDATIONS). STAKE/STAPLE THROUGH OVERLAPPED AREA, ACROSS ENTIRE ECB'S WIDTH PER MANUFACTURER'S RECOMMENDATIONS.
 6. IN LOOSE SOIL CONDITIONS, THE USE OF STAKE OR STAPLE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB'S.
 7. THE CONTRACTOR SHALL FOLLOW ALL INSTALLATION INSTRUCTIONS AS RECOMMENDED BY THE MANUFACTURER.

TEMPORARY EROSION CONTROL BLANKET FOR STEEP SLOPES DETAIL
 NOT TO SCALE



ELEVATION



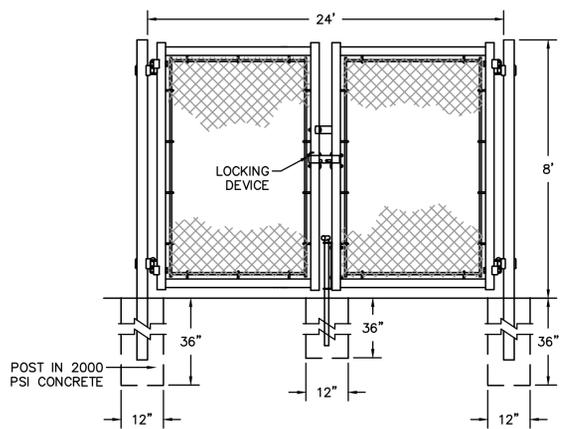
SECTION

1. CHAINLINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.
2. FILTER FABRIC SHALL BE FASTENED SECURELY TO CHAINLINK FENCE WITH TIES SPACED HORIZONTALLY 24" AS THE TOP AND MIDSECTION.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6"
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 50% OF THE HEIGHT OF THE FILTER FABRIC.
5. MAINTENANCE OF SILT FENCE SHALL BE RECORDED TO IN THE SWPPP

EROSION CONTROL BARRIER SUPER SILT FENCE
 NOT TO SCALE

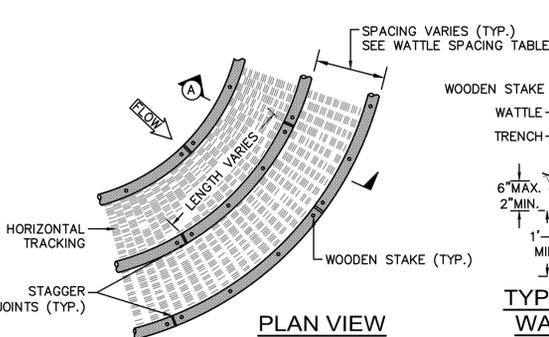


GATE PLAN

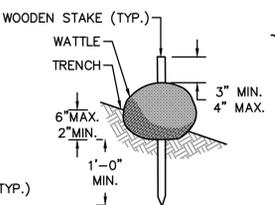


DOUBLE GATE ELEVATION

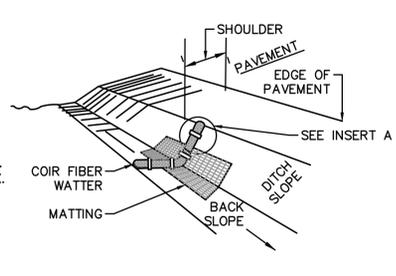
24' WIDE DOUBLE GATE
 NOT TO SCALE



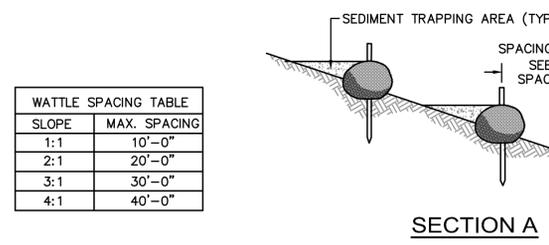
PLAN VIEW



TYPICAL SECTION WATTLE DETAIL



ISOMETRIC VIEW



SECTION A

WATTLE SLOPE PROTECTION NOTES:

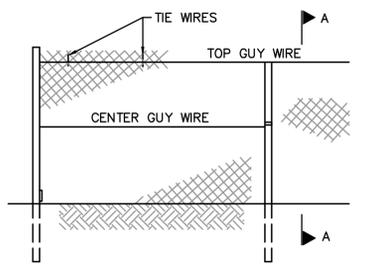
1. SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
2. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE
3. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
4. ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

- TYPES OF WATTLES**
- COIR (COCONUT FIBER)
 - COMPOST
 - STRAW

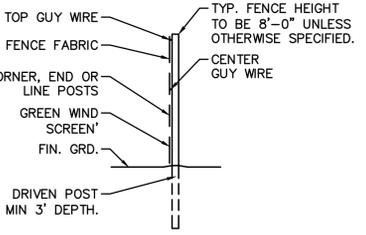
EROSION CONTROL BARRIER WATTLES - STEEP SLOPE PROTECTION
 NOT TO SCALE

CONSTRUCTION FENCE AND GATE NOTES

1. FABRIC SHALL BE 0.148" WIRE, WOVEN INTO APPROXIMATELY 2" DIAMOND MESH.
2. THE FENCE FABRIC SHALL BE ZINC COATED STEEL OR ALUMINUM COATED STEEL.
3. FENCE POSTS SHALL RECEIVE THE SAME COATING AND TREATMENT AS THE FENCE FABRIC (DESCRIBED ABOVE).
4. THE CONTRACTOR SHALL ADD A GREEN WIND SCREEN.
5. LINE POSTS SHALL BE 2 1/2" O.D. END OR CORNER POSTS SHALL BE 3" O.D.
6. THE CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION ONCE THE FENCE IS REMOVED.
7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY CONSTRUCTION FENCE AT THE CONCLUSION OF THE PROJECT.



ELEVATION

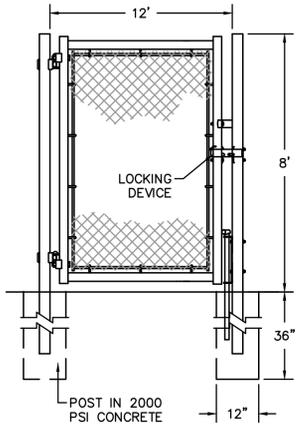


SECTION A-A

CHAIN LINK CONSTRUCTION FENCE
 NOT TO SCALE



GATE PLAN



SINGLE GATE ELEVATION

12' WIDE EMERGENCY GATE
 NOT TO SCALE



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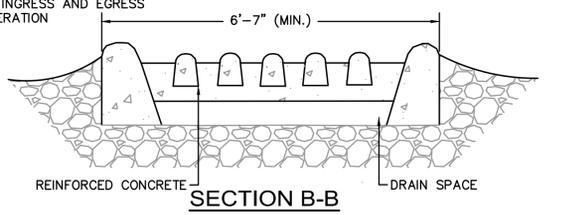
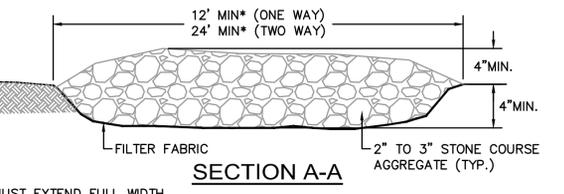
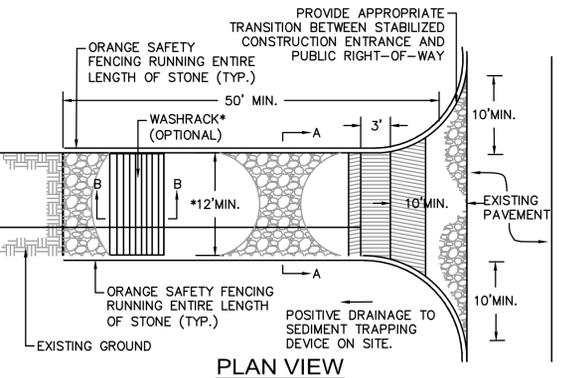
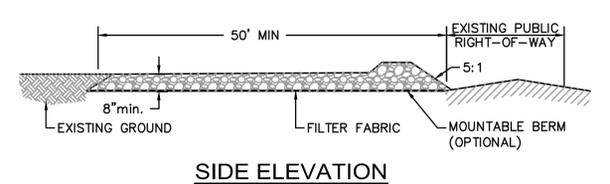
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 2004
 SCALE:
 AS NOTED

DRAWING TITLE:
SITE EROSION & SEDIMENTATION CONTROL DETAILS II

C501



CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

LENGTH - GREATER THAN OR EQUAL TO 50 FEET

WIDTH - TWELVE FOOT MINIMUM (ONE WAY), TWENTY FOUR FOOT MINIMUM (TWO WAY), BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.

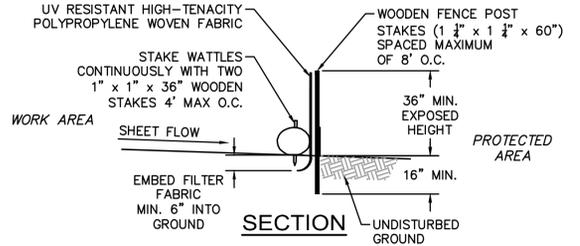
SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.

THICKNESS - 8"

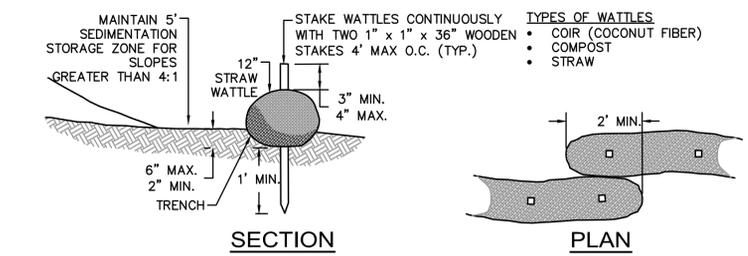
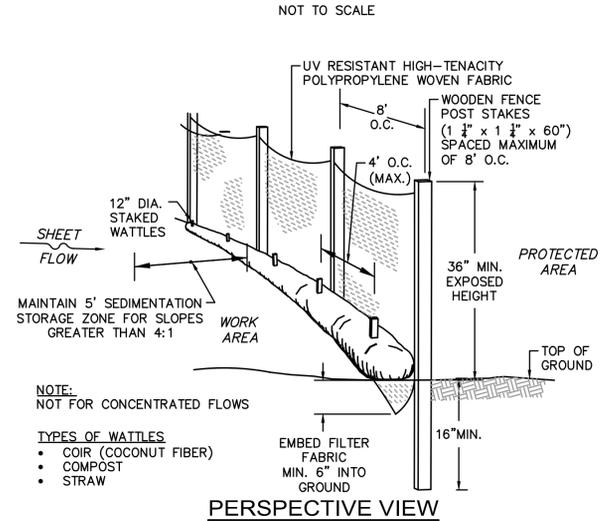
MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

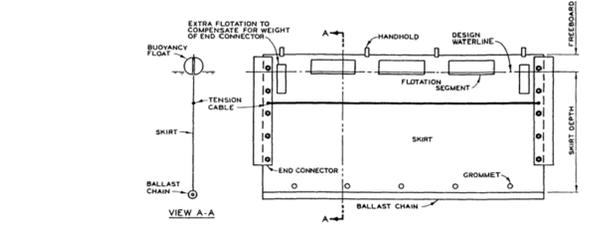
STABILIZED CONSTRUCTION ENTRANCE



PERIMETER PROTECTION BARRIER SILT FENCE DETAIL WITH WATTLES

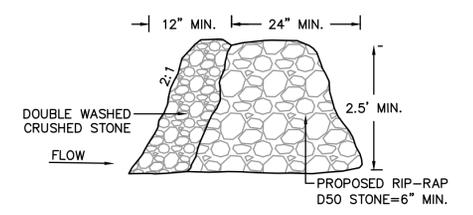


12" WATTLES - SLOPE PROTECTION FOR SLOPES LESS THAN 10:1

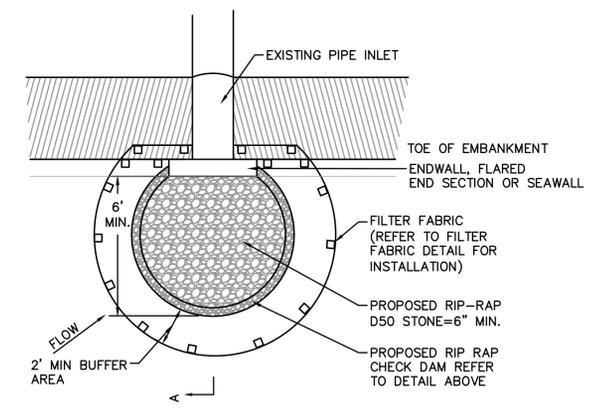
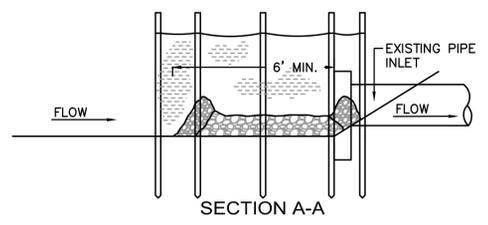


SILT CURTAIN DETAIL

NOT TO SCALE



RIP-RAP CHECK DAM



SILT FENCE CULVERT INLET PROTECTION



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STAMP:

WILLIAM R. MAHER
 CIVIL
 PROFESSIONAL ENGINEER
 NOVEMBER 22, 2021

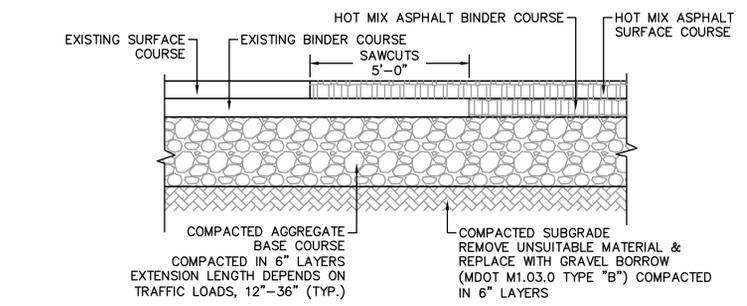
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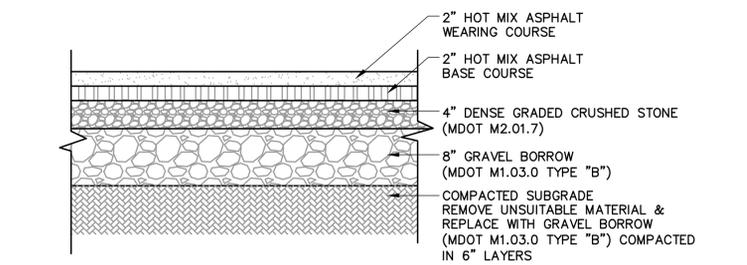
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 SITE DETAILS

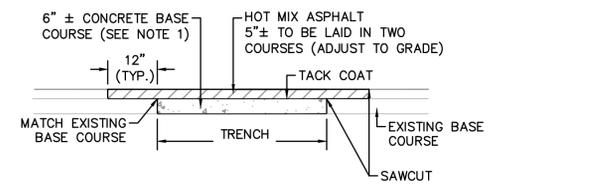
C502



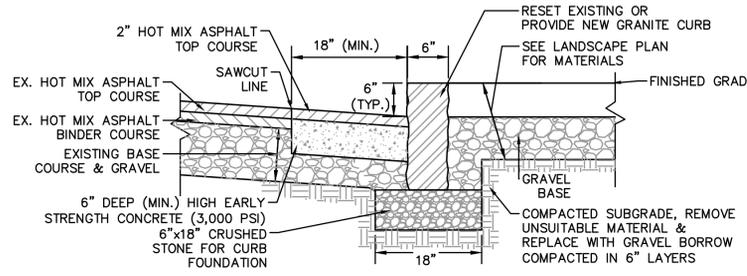
PAVEMENT MATCHING DETAIL
 NOT TO SCALE



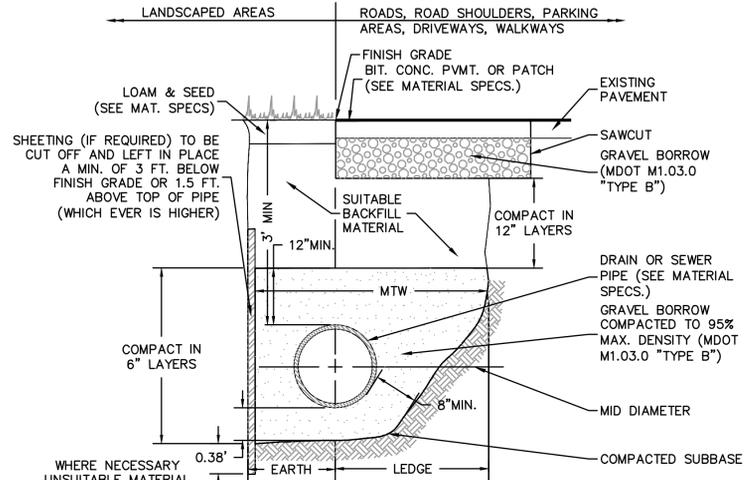
HOT MIX ASPHALT PAVING (TWO COURSES) DETAIL
 NOT TO SCALE



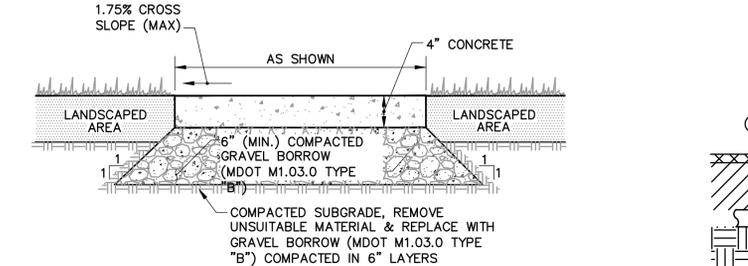
PAVEMENT RESTORATION OVER TRENCH DETAIL
 NOT TO SCALE



RESET VERTICAL GRANITE CURB DETAIL
 NOT TO SCALE

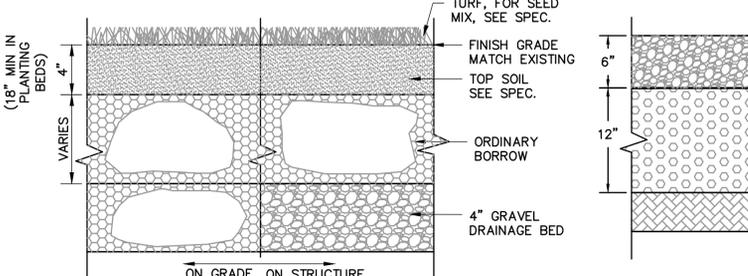


STANDARD TRENCH DETAIL FOR UTILITY PIPE
 NOT TO SCALE

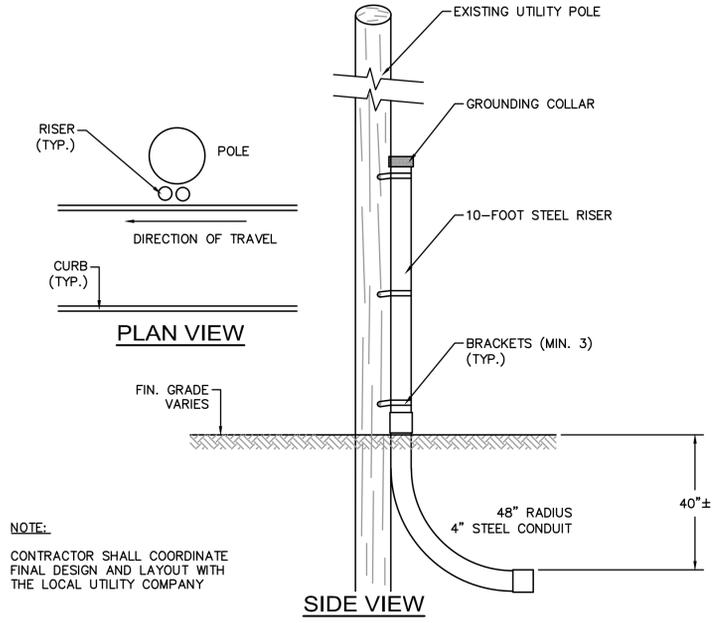


NOTES:
 1. CONTRACTOR SHALL INSTALL AN EXPANSION JOINT AT ALL BUILDINGS AND ALL SIDEWALK INTERSECTIONS OR AT START OF CURVED SECTIONS AND SHALL INSTALL LATERAL CONTROL JOINTS AS REQUIRED (8'-0" MAX. SPACING). SLOPE SIDEWALK AS SHOWN ON PLANS OR ROADWAY SECTIONS (MINIMUM SLOPE = 1%)
 2. CONCRETE SHALL BE 4000 PSI.

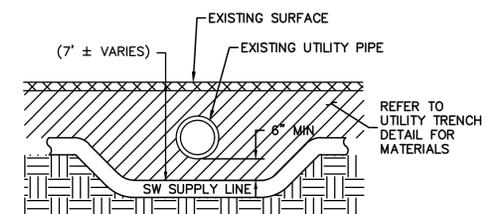
CONCRETE WALKWAY DETAIL
 NOT TO SCALE



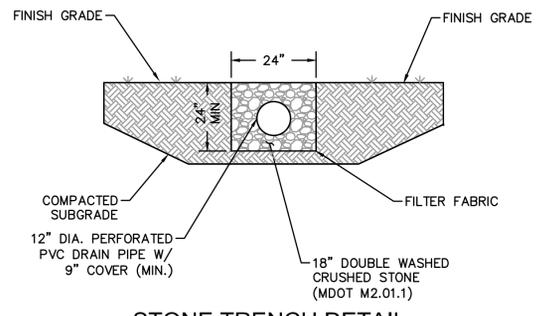
LOAM AND SEED DETAIL
 NOT TO SCALE



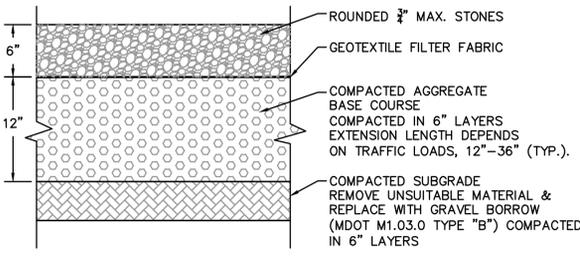
PRIMARY CONDUIT INSTALLATION ON RISER POLES DETAIL
 NOT TO SCALE



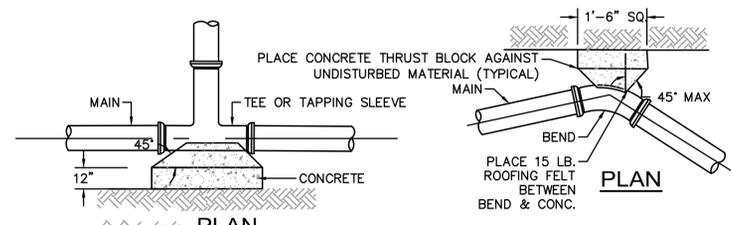
PROPOSED PIPE BELOW EXISTING UTILITY TYPICAL CROSS SECTION
 NOT TO SCALE



STONE TRENCH DETAIL
 NOT TO SCALE



GRAVEL DETAIL
 NOT TO SCALE



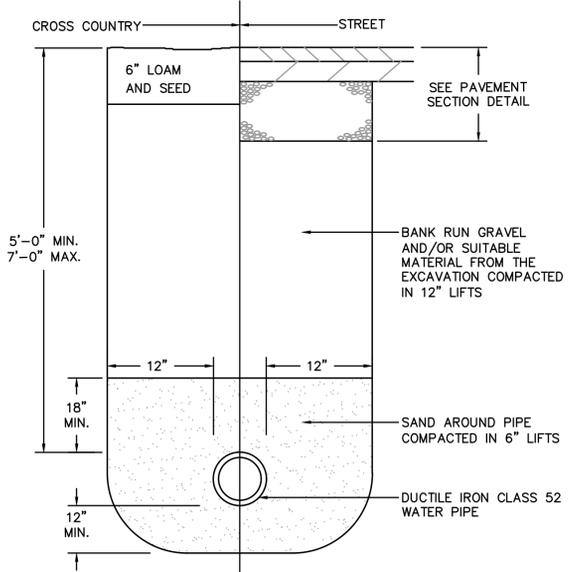
NOTES:

1. THRUST BLOCKS TO BE USED ON ALL PRESSURE PIPES AT HORIZONTAL AND VERTICAL BENDS GREATER OR EQUAL TO 45°, TEES AND DEAD ENDS.
2. FOR FITTINGS WITH LESS THAN 45° DEFLECTION USE BEARING AREAS FOR 45° BEND.
3. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 PSF AND A MINIMUM INTERNAL WATER PRESSURE OF 175 PSIG. JOINTS SHALL NOT BE ENCASED IN CONCRETE, BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND ROCK FACE.

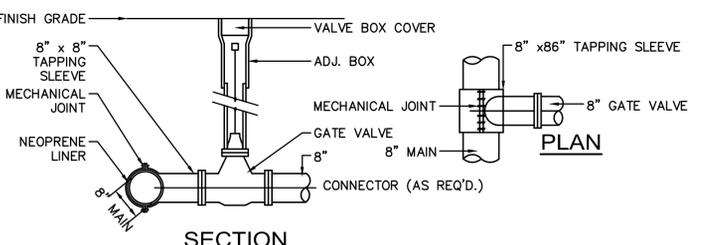
TABLE OF BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR FITTING. *

SIZE OF MAIN (INCHES)	90° BEND (S.F.)	45° BEND (S.F.)	DEAD END (S.F.)
4	2.3	1.3	1.6
6	4.7	2.5	3.3
8	8.0	4.5	6.0
12	17.0	9.5	12.0

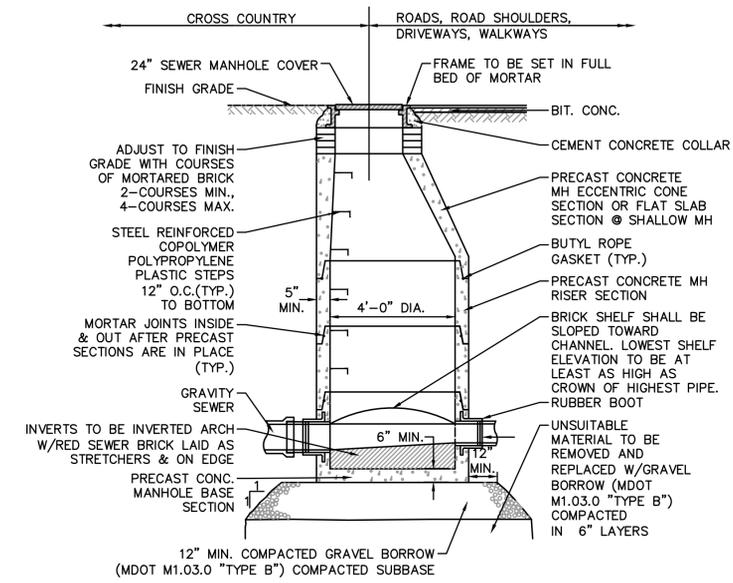
THRUST BLOCK DETAILS
NOT TO SCALE



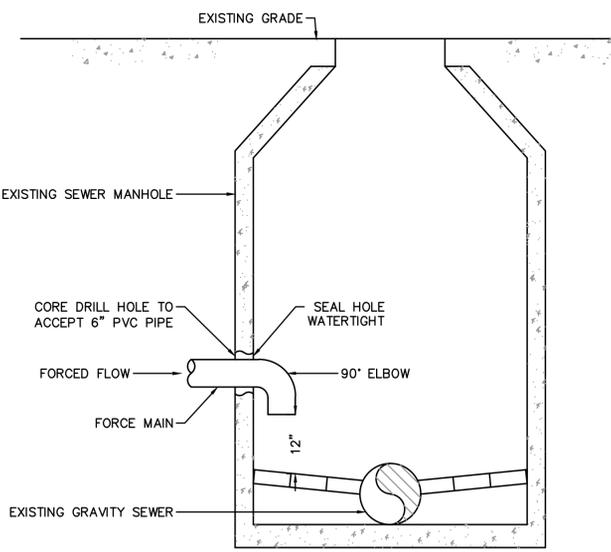
WATER TRENCH DETAIL
NOT TO SCALE



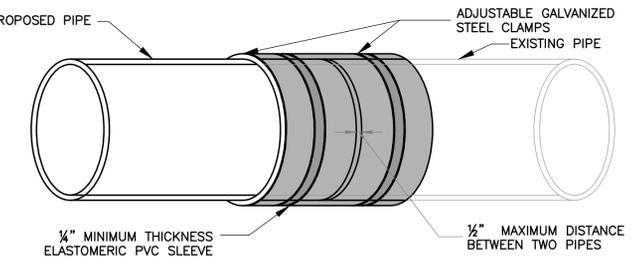
TAPPING SLEEVE, VALVE & BOX DETAIL
NOT TO SCALE



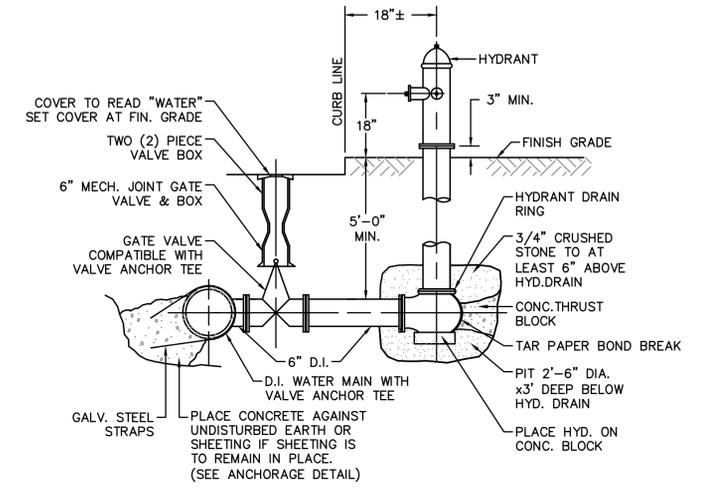
TYPICAL SEWER MANHOLE DETAIL
NOT TO SCALE



FORCE MAIN DISCHARGE DETAIL CROSS SECTION
NOT TO SCALE

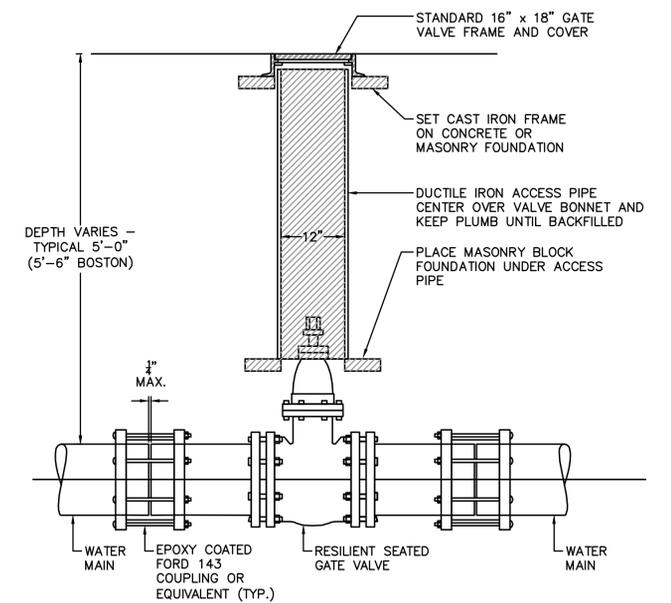


TYPICAL COUPLING DETAIL
NOT TO SCALE

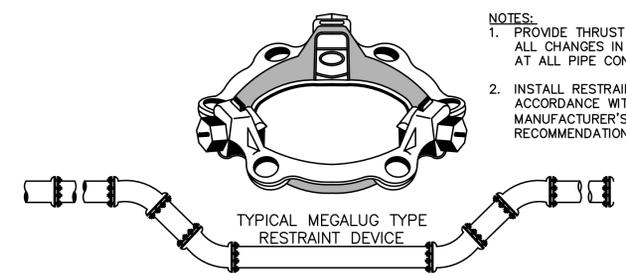


NOTE: ALL JOINTS ON HYDRANT BRANCH TO BE RESTRAINED JOINTS

FIRE HYDRANT DETAIL
NOT TO SCALE



GATE VALVE DETAIL
NOT TO SCALE



TYPICAL THRUST RESTRAINT MEGALUG TYPE JOINT DETAIL
NOT TO SCALE

- NOTES:**
1. PROVIDE THRUST RESTRAINT AT ALL CHANGES IN DIRECTIONS AND AT ALL PIPE CONNECTIONS.
 2. INSTALL RESTRAINTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.



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PROJECT:
NAHANT SEAWATER PUMPHOUSE
430 NAHANT RD.
NAHANT MA 01908

NEU PROJECT#: 160276

ISSUE:
NOTICE OF INTENT SUBMISSION

07/21/2021 PLANNING BOARD SUBMISSION
07/15/2021 PEER REVIEW COMMENTS
06/04/2021 PEER REVIEW COMMENTS
NO. DATE REVISION

CONSULTANT:

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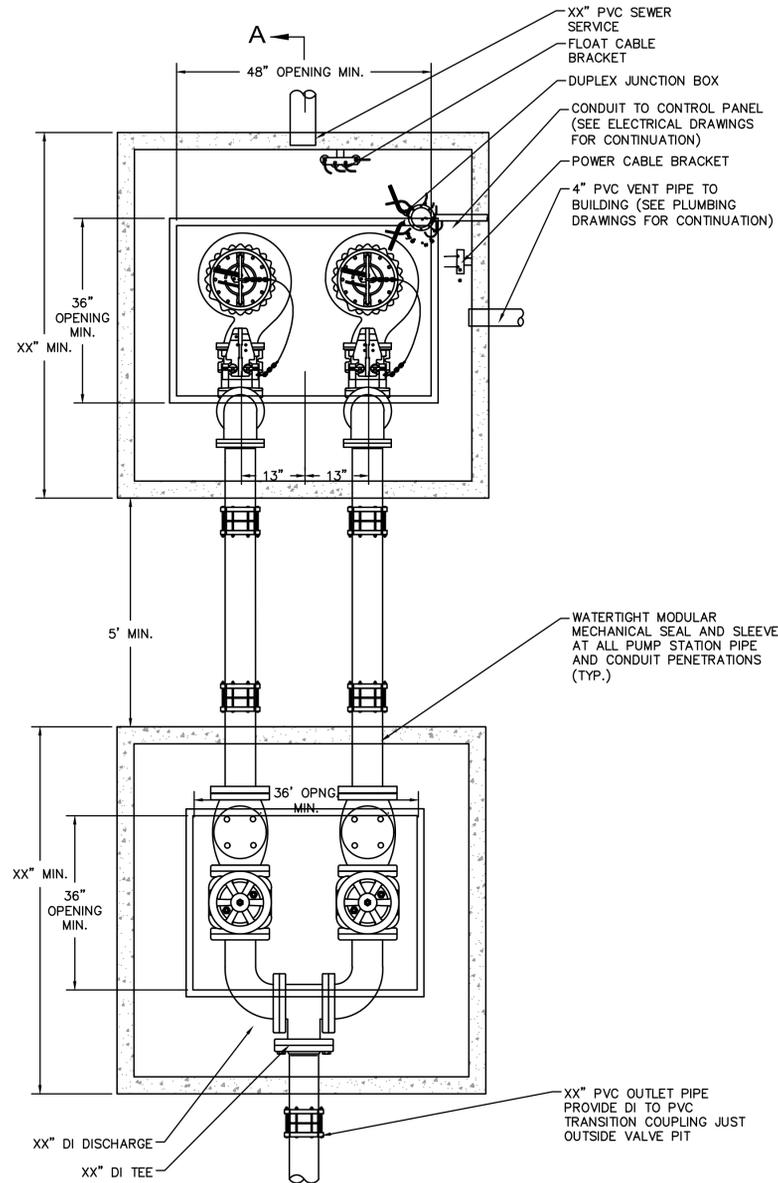
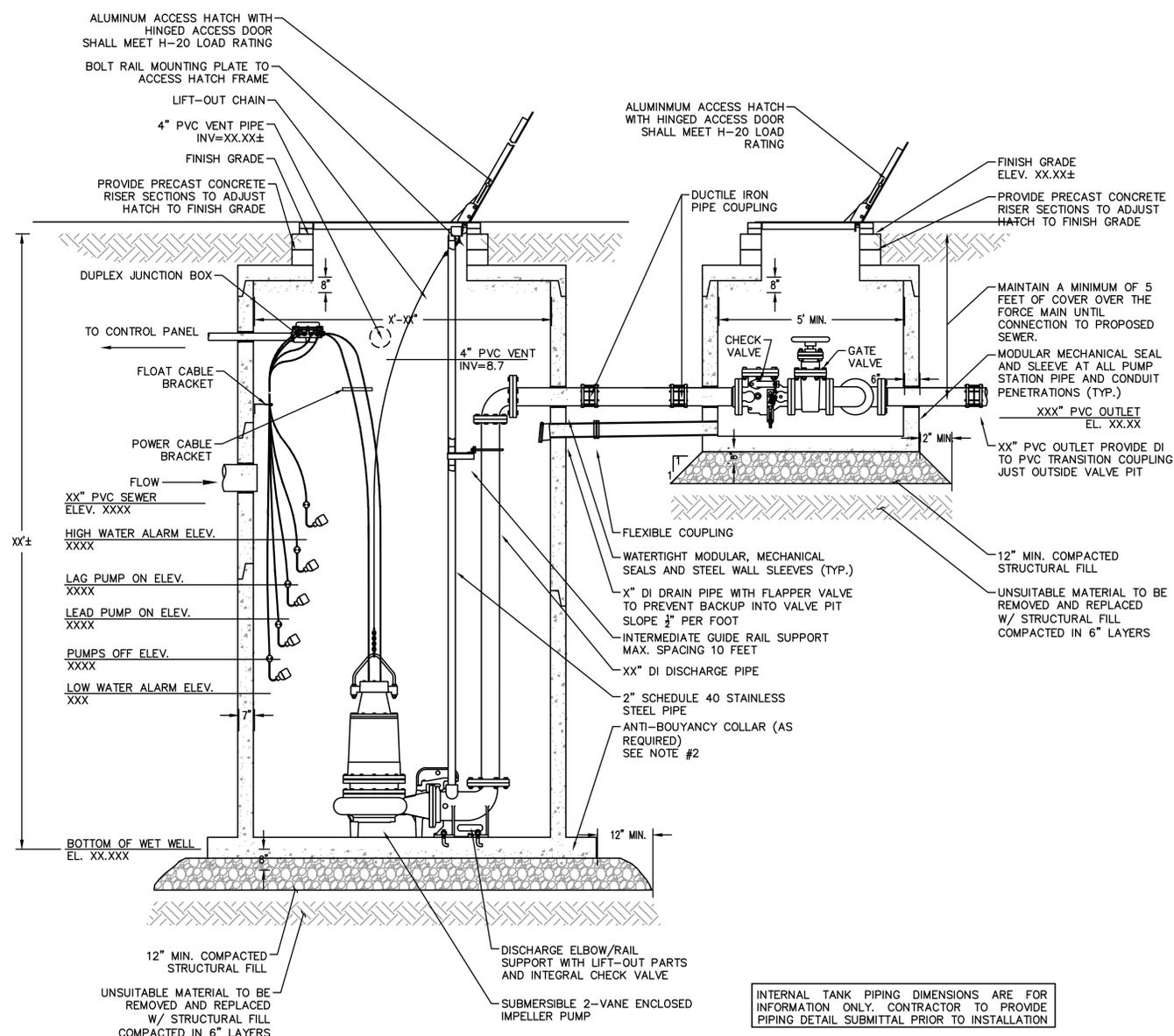
NOVEMBER 22, 2021

DATE: 11/22/2021

PROJECT NUMBER: 2004 SCALE: AS NOTED

DRAWING TITLE:
WATER & SEWER DETAILS

C503
NITSCH PROJECT NO. 12125.3



INTERNAL TANK PIPING DIMENSIONS ARE FOR INFORMATION ONLY. CONTRACTOR TO PROVIDE PIPING DETAIL SUBMITTAL PRIOR TO INSTALLATION.

NOTES:

- DESIGN LOADING - AASHTO HS-20-44 / CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
- THE CONTRACTOR SHALL SUBMIT BUOYANCY CALCULATIONS FOR SEWER PUMP STATION STRUCTURES. IF BUOYANCY IS AN ISSUE, THE STRUCTURE(S) SHALL BE MODIFIED TO PREVENT UPLIFT. ALL BUOYANCY CALCULATIONS AND SEWER PUMP STATION STRUCTURE DESIGNS SHALL BE PREPARED AND STAMPED BY THE PROFESSIONAL CIVIL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS. THE BUOYANCY CALCULATIONS SHALL BE PREPARED FOR THE CONDITIONS INDICATED WITHIN SPECIFICATION SECTION 333100, WASTEWATER COLLECTION.
- CONSTRUCTION OF PUMP CHAMBER CONFORMS WITH DEP TITLE 5 REGS, 310 CMR, SECTION 15.226.
- ALL REINFORCEMENT PER ASTM C1227-93.
- JOINT SEALED WITH BUTYL RESIN.
- NLET AND OUTLET PIPE CONNECTIONS SHALL BE MADE USING STEEL WALL SLEEVES AND WATERTIGHT MODULAR, MECHANICAL SEALS CONSISTING OF RUBBER LINKS.
- PUMPS, FLOATS AND PIPE INSTALLED IN CHAMBER.
- PROVIDE RISER AND FRAME WITH COVERS SET TO FINISH GRADE (SEE PROFILE)
- ALL INTERNAL PIPING FOR THE PUMP SYSTEM TO BE SCHEDULE FLANGED DUCTILE IRON WITH MINIMUM CLASS 53 THICKNESS.
- CONTRACTOR SHALL SUPPLY ALL NECESSARY FITTINGS TO TRANSITION FROM DUCTILE IRON PIPING TO PVC PIPING. ALL PIPE CONNECTIONS SHALL BE MADE USING MODULAR MECHANICAL SEALS AND STEEL WALL SLEEVES.
- THE CONTRACTOR SHALL SUBMIT BUOYANCY CALCULATIONS FOR SEWER PUMP STATION STRUCTURES. IF BUOYANCY IS AN ISSUE, THE STRUCTURE(S) SHALL BE MODIFIED TO PREVENT UPLIFT. ALL BUOYANCY CALCULATIONS AND SEWER PUMP STATION STRUCTURE DESIGNS SHALL BE PREPARED AND STAMPED BY THE PROFESSIONAL CIVIL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS. THE BUOYANCY CALCULATIONS SHALL BE PREPARED FOR THE CONDITIONS INDICATED WITHIN SPECIFICATION SECTION 333100, WASTEWATER COLLECTION.
- THE WET WELL AND VALVE VAULT SHALL EACH RECEIVE TWO HEAVY COATS OF BITUMINOUS DAMPPROOFING ON BOTH THE INSIDE AND OUTSIDE SURFACES OF THE STRUCTURES.
- WET WELL SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 4\"/>

- WET WELL SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE SPINDLES WITH MINIMUM CLEARANCES AS SHOWN FOR 4\"/>
- RESILIENT WEDGE GATE VALVES SHALL BE FLANGED, DUCTILE IRON BODY, RESILIENT SEALED TYPE.
- THRUST BLOCKS SHALL BE USED AT ALL EXTERNAL FORCE MAIN BENDS AND FITTINGS AS SHOWN ON THE THRUST BLOCK DETAILS AND AS INDICATED IN THE SPECIFICATIONS. IN THE EVENT THAT THE USE OF THRUST BLOCKS IS NOT PRACTICAL, THE CONTRACTOR SHALL PROVIDE AN ALTERNATE METHOD OF JOINT RESTRAINT, AT NO ADDITIONAL COST, AS APPROVED AND/OR AS DIRECTED BY THE ENGINEER.
- SEE SPECIFICATION SECTION 333100 FOR ALL PUMP STATION REQUIREMENTS.
- PUMPS SHALL BE:

MANUFACTURER/MODEL:	_____
IMPELLER:	_____
SPEED:	_____
DISCHARGE SIZE:	_____
VOLTAGE:	_____
PHASE:	_____
HORSEPOWER:	_____
MAX. SOLID SIZE:	_____
- OPERATING CONDITIONS SHALL BE xx GPM AT xx FEET TDH.
- ALL HARDWARE IN WET WELL TO BE STAINLESS STEEL WITH LIFTING CABLE.

SEWER PUMP STATION DETAIL
NOT TO SCALE



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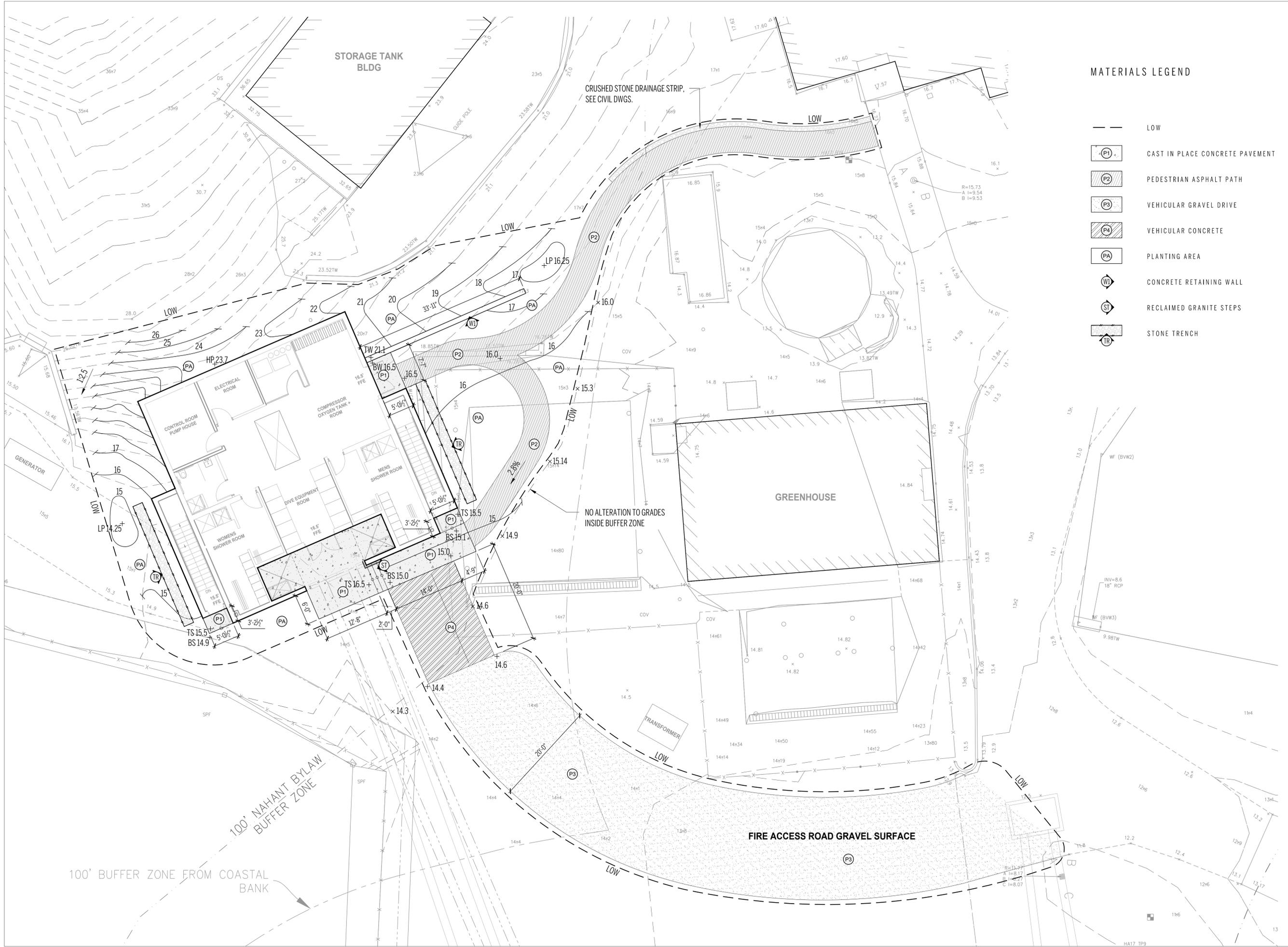
NOVEMBER 22, 2021

DATE:
11/22/2021

PROJECT NUMBER: 2004
SCALE: AS NOTED

DRAWING TITLE:
SEWER PUMP STATION DETAIL

C504



MATERIALS LEGEND

- LOW
- CAST IN PLACE CONCRETE PAVEMENT
- PEDESTRIAN ASPHALT PATH
- VEHICULAR GRAVEL DRIVE
- VEHICULAR CONCRETE
- PLANTING AREA
- CONCRETE RETAINING WALL
- RECLAIMED GRANITE STEPS
- STONE TRENCH



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PROJECT:
NAHANT SEAWATER PUMPHOUSE
 430 NAHANT RD,
 NAHANT MA 01908

BUILDING: EDWARDS LAB BUILDING
 NEU PROJECT#: 160276

ISSUE:
100% DESIGN DEVELOPMENT

NO. DATE REVISION

CONSULTANT:

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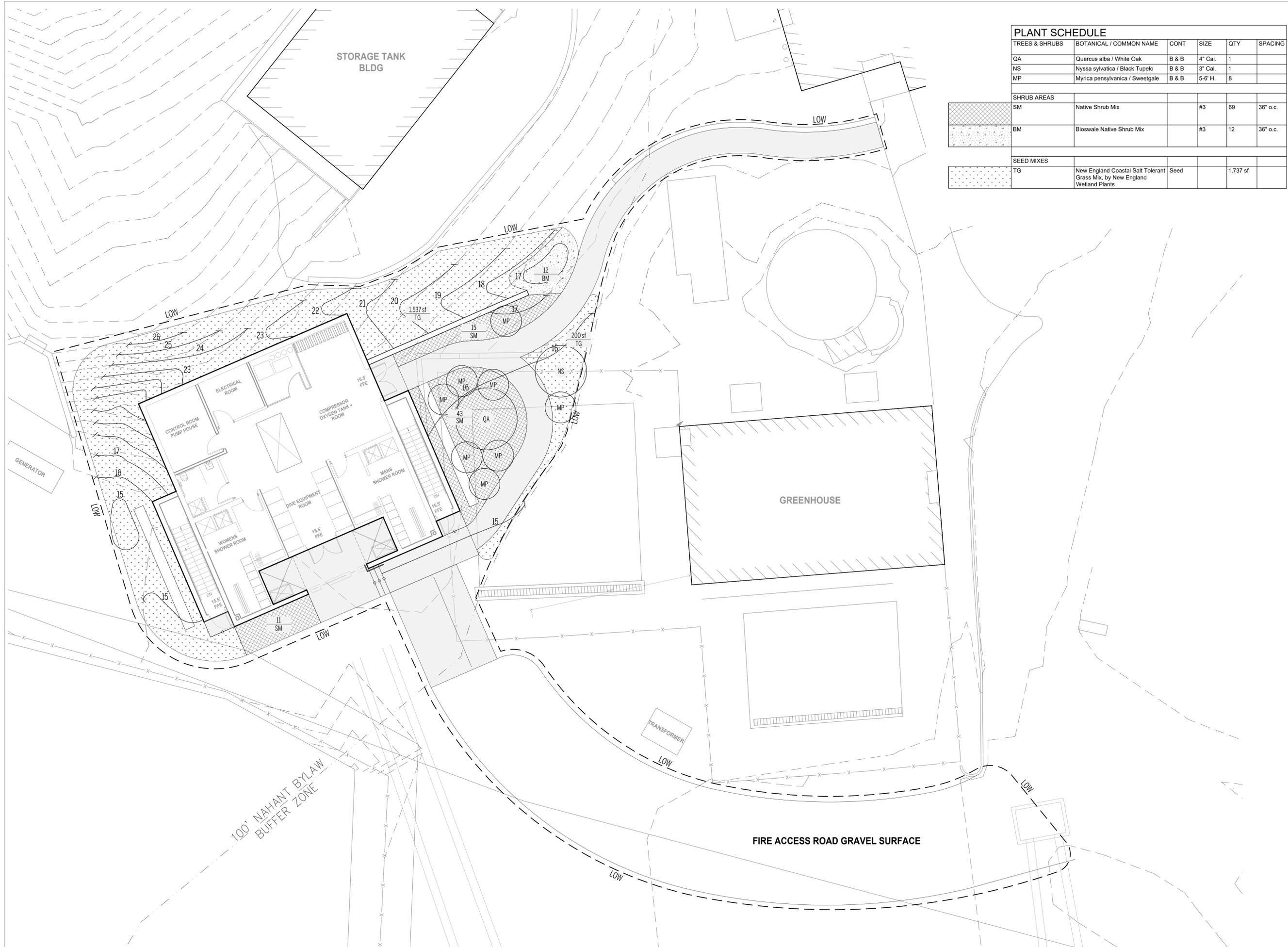
DATE:
11/22/2021

PROJECT NUMBER:
2004

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

DRAWING TITLE:
LAYOUT, GRADING AND MATERIALS PLAN

L1.0



PLANT SCHEDULE

TREES & SHRUBS	BOTANICAL / COMMON NAME	CONT	SIZE	QTY	SPACING
QA	Quercus alba / White Oak	B & B	4" Cal.	1	
NS	Nyssa sylvatica / Black Tupelo	B & B	3" Cal.	1	
MP	Myrica pensylvanica / Sweetgale	B & B	5-6' H.	8	

SHRUB AREAS					
	SM	Native Shrub Mix	#3	69	36" o.c.
	BM	Bioswale Native Shrub Mix	#3	12	36" o.c.

SEED MIXES					
	TG	New England Coastal Salt Tolerant Grass Mix, by New England Wetland Plants	Seed		1,737 sf



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PROJECT:
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 NAHANT MA 01908

NEU PROJECT#: 160276

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STAMP:

DATE:
 11/22/2021

PROJECT NUMBER:
 2004

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

DRAWING TITLE:
PLANTING PLAN

L2.0