BLUE ECONOMY SUPPORT DOCKS & BOAT RAMP BLUE ECONOMY, SUPPORT DOCKS & BOAT RAMP, **AND DREDGING THE PORT OF DAVISVILLE** NORTH KINGSTOWN, RHODE ISLAND **CONTRACT NO: 2023-006**



VICINITY MAP

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ABBREVIATIONS:

& ± @ ¢ Ø ° = "	AND APPROXIMATELY AT CENTERLINE DIAMETER DEGREES EQUALS INCHES, SECONDS FEET, MINUTES
ACI AISC ANSI APPROX ARCH. ASTM AWS	AMERICAN CONCRETE INSTITUTE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN NATIONAL STANDARDS INSTITUTE APPROXIMAT (E, LY) ARCHITECT (URAL) ASTM INTERNATIONAL AMERICAN WELDING SOCIETY
BLDG	BUILDING
BOT	BOTTOM
BRG	BEARING
CIP	CAST IN PLACE
CG	CENTER OF GRAVITY
CJ	CONSTRUCTION JOINT
CJP	COMPETE JOINT PENETRATION
CLR	CLEAR (ANCE)
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
DIA, Ø	DIAMETER
DIR	DIRECTION
DWG(S)	DRAWING (S)
E	EAST
EA	EACH
EF	EACH FACE
EL, ELEV	ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL (LY)
EST	ESTIMATE(D)
EW	EACH WAY
EXP JT	EXPANSION JOINT
f'c	28 DAY COMPRESSIVE STRENGTH
FF	FRONT FACE
FIN	FINISHED
FT	FEET, FOOT
FOC	FACE OF CONCRETE
FS	FACTOR OF SAFETY
fy	YIELD STRENGTH
GPS	GLOBAL POSITIONING SYSTEM
GR	GRADE
HDG	HOT DIP GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
HSS	HOLLOW STRUCTURAL SECTION
HORIZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
IN	INCH (ES)
ID	IDENTIFICATION
JT	JOINT
KIP,KIPS	KILOPOUND (S)
LB, LBS	POUND (S)
LOC	LOCATION
LT	LEFT

MAX MAXIMUM MECH MECHANICAL MHW MEAN HIGH WATER MHHW MEAN HIGHER HIGH WATER MIN MINIMUM MJ MECHANICAL JOINT MLW MEAN LOW WATER MLLW MEAN LOWER LOW WATER MSL MEAN SEA LEVEL NORTH NAD NORTH AMERICAN DATUM NAVD NORTH AMERICAN VERTICAL DATUM NATIONAL OCEANIC AND ATMOSPHERIC NOAA ADMINISTRATION NOM NOMINAL OC ON CENTER OD OUTSIDE DIAMETER OVER HEAD, OPPOSITE HAND OH OPP OPPOSITE P/C PRECAST PERP PERPENDICULAR PLATE P/S PRESTRESSED PSF POUNDS PER SQUARE FEET PSI POUNDS PER SQUARE INCH PVC POLY VINYL CHLORIDE RADIUS RCSC RESEARCH COUNCIL OF STRUCTURAL CONNECTIONS REINFORC (E, ED, ING, MENT) REINF REQ'D REQUIRED SOUTH SEC SECONDS SCHED SCHEDULE SHT SHEET (PILE) SIM SIMILAR SPA SPACE SPECS SPECIFICATIONS SPP STEEL PIPE PILE SQ SQUARE SS STAINLESS STEEL STIFF STIFFENER SYMM SYMMETRICAL METRIC TONNE(S) T&B TOP & BOTTOM TEMP TEMPORARY THRU THROUGH TOD TOP OF DECK T/P WAVE PERIOD TRANSV TRANSVERSE TYP TYPICAL UHMW-PE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE UNLESS NOTED OTHERWISE UNO WEST W/ WITH W/O WITHOUT

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SYMBOLS:





GENERAL NOTES THE SITE IS LOCATED IN NORTH KINGSTOWN, RHODE ISLAND. THIS PROJECT IS PRIVATELY OWNED AND FUNDED. THEREFORE. SOME OF THE REFERENCES AND TERMINOLOGY OF THE STANDARD SPECIFICATIONS MAY SEEM OUT OF PLACE. THE OWNER IS THE QUONSET DEVELOPMENT CORPORATION (QDC). THE ENGINEER FOR THIS PROJECT IS WSP USA, INC. (WSP). THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION IS NOT A PARTY TO THE PROJECT. NOTES BELOW ARE NOT INTENDED TO REPLACE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY OWNER/ENGINEER OF ANY DISCREPANCIES 5. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS. ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND INSTALLATION OF MATERIAL IS THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, LAWS AND REGULATIONS THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE CONSTRUCTION SITE AND THE AREAS OF WORK WHILE PERFORMING THE WORK OF THIS CONTRACT. CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION SITE ON A DAILY BASIS. NO BURNING OF DEBRIS SHALL BE PERMITTED. BLUE ECONOMY PIER AND BOAT RAMP ARE ADJACENT TO AN OPERATIONAL AUTO TERMINAL AND WILL 9 BE STORING NEW AUTOS NEAR THE PROJECT SITE. KEEP DUST DOWN AT ALL TIMES, INCLUDING

- DURING NONWORKING PERIODS. USE VACUUMING. WET MOPPING. WET SANDING. OR WET POWER BROOMING. AIR BLOWING WILL BE PERMITTED ONLY FOR CLEANING NONPARTICULATE DEBRIS SUCH AS STEEL REINFORCING BARS. ONLY WET CUTTING WILL BE PERMITTED FOR CUTTING CONCRETE BLOCKS, CONCRETE, AND BITUMINOUS CONCRETE. DO NOT UNNECESSARILY SHAKE BAGS OF CEMENT, CONCRETE MORTAR, OR PLASTER. USE WIND SCREENS OR OTHER MEANS TO DECREASE THE CHANCE OF DUST AND/OR DEBRIS FROM SETTLING ON AUTOS. CONTRACTOR IS RESPONSIBLE FOR ANY ACCUMULATION ON AUTOS COMING FROM CONSTRUCTION SITE.
- 10. THE BATHYMETRIC DATA AND DREDGE FOOTPRINT SHOWN ON THIS PLAN REFLECTS DATA GATHERED BETWEEN JANUARY 14, 2021 AND DECEMBER 9, 2021. THE CONTRACTOR WILL NEED TO COLLECT ADDITIONAL TOPOGRAPHIC OR BATHYMETRIC DATA TO ACCURATELY DEPICT THE BLUE ECONOMY SHORELINE INTERFACE.
- 11. THE PROJECT IS SITUATED IN A FEMA FLOOD ZONE 'VE' (EL.: 15 NAVD 88, EL.: 18.05 QVD) AND IN A ZONE 'X' (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS DESIGNATED ON THE "NATIONAL FLOOD INSURANCE PROGRAM, FIRM FLOOD INSURANCE RATE MAP WASHINGTON COUNTY, RHODE ISLAND (ALL JURISDICTIONS) PANEL 106 OF 368, TOWN OF NORTH KINGSTOWN MAP NUMBER 44009C0106J MAP REVISED: OCTOBER 16, 2013, FEDERAL EMERGENCY MANAGEMENT AGENCY."
- 12. THE PORT OF DAVISVILLE IS AN ACTIVE PORT, AND OPERATIONS WILL CONTINUE THROUGHOUT THE DURATION OF THIS PROJECT. THE WORK SHALL BE CONDUCTED AND COORDINATED IN A MANNER THAT WILL MINIMIZE INTERRUPTIONS TO THE DAILY OPERATIONS OF THE PORT. THE ASSOCIATED TERMINAL AREAS. AND OTHER INFRASTRUCTURE PROJECTS IN AND AROUND THE PORT.
- 13. RIGHT-OF-WAY LINES, LEASE LINES, AND EASEMENT LINES, WHEN SHOWN ON THESE DRAWINGS, ARE CONSIDERED APPROXIMATE AND WERE OBTAINED FROM A DRAWING TITLED "LITTLE ALLENS HARBOR AREA - RT GROUP" PROVIDED BY THE QUONSET DEVELOPMENT CORPORATION (QDC).
- 14. WATER ELEVATIONS AT THE SITE ARE TIDAL AND ARE EXPECTED TO VARY.
- 15. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. SAFETY PROVISIONS SHALL COMPLY WITH OSHA AND OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. THESE REQUIREMENTS SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
- 16. STANDARD SPECIFICATIONS, WHEN REFERENCED IN THESE DRAWINGS, SHALL MEAN THE RIDOT 2022 EDITION "STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" INCLUDING ALL APPROVED COMPILATION OF SPECIFICATIONS; AND RIDOT 2022 "STANDARD DETAILS" INCLUDING ALL REVISIONS. ALL PROJECT SITE IMPROVEMENTS SHALL CONFORM TO THESE REGULATIONS AND THE SUB-REFERENCES INCORPORATED THEREIN, WHERE SPECIFICALLY REFERENCED. IN CASE OF A DISCREPANCY BETWEEN THE STANDARD SPECIFICATIONS AND THE REQUIREMENTS STATED WITHIN THE DRAWINGS, THE REQUIREMENTS STATED WITHIN THE DRAWINGS SHALL PREVAIL.
- CONSTRUCTION WILL BE SUBJECT TO INSPECTION BY THE OWNER, OWNER'S REPRESENTATIVES, AND 17. SPECIAL INSPECTORS.
- 18. THE CONTRACTOR SHALL MAINTAIN IN THE FIELD UP-TO-DATE AS-BUILT DRAWINGS OF ALL GRADING. DRAINAGE, AND UTILITY WORK. UPON COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE THE CONTRACTOR SHALL PROVIDE A FULL-SIZE SET OF RED-LINED AS-BUILT DRAWINGS TO QDC AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATING ITS WORK WITH THE TELEPHONE, 19. CABLE TV, ELECTRIC AND GAS COMPANIES. THE OWNER WILL NOT BE RESPONSIBLE FOR ANY LOST TIME BY THE CONTRACTOR IN DELAYS IN THE CONTRACTOR'S WORK CAUSED BY CONSTRUCTION ACTIVITIES OF THE TELEPHONE, ELECTRIC, OR GAS COMPANIES.
- 20. CONTRACTOR SHALL CONTACT DIG SAFE A MINIMUM OF THREE (3) BUSINESS DAYS PRIOR TO CONSTRUCTION AT PHONE NO. 1-888-DIG-SAFE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES BOTH UNDERGROUND AND OVERHEAD BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH THE "DIG SAFE LAW" ENACTED BY R.I. LEGISLATURE BILL NO. 79S-291. WHICH BECAME EFFECTIVE JULY 1, 1979 AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY APPLICABLE CITY, TOWN, STATE OR FEDERAL AGENCY. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE DIG SAFE PROGRAM. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES AND ENSURE THAT ALL UTILITIES HAVE BEEN MARKED PRIOR TO COMMENCING THEIR WORK. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD. OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANY. SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER.

LAYOUT:

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VERTICAL DATUM NOTES:

TIDAL DATA IS PER NOAA AVERAGES BASED ON 1983-2001 TIDAL EPOCH AND NOT GUARANTEED TO REPRESENT CONDITIONS WHICH MAY OCCUR DURING CONSTRUCTION, ACTUAL TIDES WILL VARY FROM LEVELS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN ESTIMATES OF TIDES WHICH MAY OCCUR DURING CONSTRUCTION. VARIATION OF TIDAL LEVELS FROM THOSE INDICATED OR CONTRACTOR'S ESTIMATION OF TIDAL LEVELS SHALL NOT BE CONSIDERED AS A CLAIM FOR ADDITIONAL COMPENSATION OR DELAY OF THE WORK.

GENERAL NOTES CONT:

21. ALL EXISTING PAVEMENT DISTURBED DURING CONSTRUCTION SHALL BE IMMEDIATELY REPAIRED WITH TEMPORARY PAVEMENT. PERMANENT PAVEMENT SHALL MEET RIDOT REQUIREMENTS AND SPECIFICATIONS AS DETAILED IN THE CONTRACT DOCUMENTS

22. ALL EXISTING CURBING, SIDEWALK AND OTHER PAVEMENT DISTURBED BY THE CONTRACTOR SHALL BE REPLACED AND RESTORED, IN KIND AT NO ADDITIONAL COST TO THE OWNER.

23. CONTRACTOR SHALL INSTALL AND MAINTAIN SHEETING AND BRACING OR OTHER SUITABLE TRENCH PROTECTION AS NECESSARY TO PROTECT WORKERS AND THE PUBLIC ON OR NEAR THE SITE. THE CONTRACTOR SHALL PREVENT INJURIOUS CAVING OR EROSION, OR LOSS OF GROUND AND MAINTAIN AT ALL TIMES PEDESTRIAN AND VEHICULAR TRAFFIC, AND PROTECT ADJACENT STRUCTURES.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEYS, LAYOUTS AND TESTING INCLUDING LAYOUT OF WORK, HORIZONTAL AND VERTICAL CONTROL, MATERIAL TESTING, AND SHOP DRAWINGS.

25. THE CONTRACTOR SHALL GIVE NOTICE AND COMPLY WITH ALL PERMITS, LAWS, ORDINANCES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF THE WORK AS DRAWN AND SPECIFIED.

26. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE ORDERING ANY MATERIAL. COMMENCING ANY FABRICATION. OR PERFORMING ANY WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER. IN WRITING, OF ANY CONDITIONS OR DIMENSIONS WHICH VARY FROM THOSE SHOWN IN THE DRAWINGS AND INCORPORATE SUCH VARIATIONS IN THE CONSTRUCTION AS APPROVED BY THE ENGINEER.

27. CONTRACTOR SHALL NOTIFY THE QDC OF ANY DESIRED OPERATIONS REQUIRED FOR THE WORK OF THIS CONTRACT. THIS DIRECTIVE SHALL INCLUDE THE COORDINATION OF ALL EXISTING SEWER SHUTDOWNS (AS APPLICABLE) FOR PURPOSES OF PERFORMING CONNECTIONS FOR THE NEW WORK SAID SHUTDOWNS WILL BE PERFORMED IN A MANNER AND AT A TIME ACCEPTABLE TO THE QDC AND PERFORMED UNDER QDC SUPERVISION.

28. DUE TO THE POSSIBILITY OF IGNITION FROM ESCAPING GAS DURING CONSTRUCTION AND PRESENCE OF OTHER TYPES OF POTENTIALLY HAZARDOUS GASES, ETC., SMOKING AND OPEN FLAMES SHALL BE PROHIBITED IN ALL OPEN TRENCHES AND OTHER UNDERGROUND SPACES. IN ADDITION THE CONTRACTOR SHALL HAVE ON HAND AND SHALL UTILIZE GAS DETECTION DEVICES TO CHECK AND MONITOR ALL SUCH SPACES BEFORE AND DURING WORKING IN THESE AREAS. GAS DETECTION DEVICES SHALL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR SHALL DEMONSTRATE EXTREME CARE WHEN CLEANING AND FLUSHING PIPES AND STRUCTURES SO AS NOT TO DAMAGE THE EXISTING STRUCTURE.

30. CONTRACTOR SHALL PROTECT, ABANDON OR REMOVE AND DISPOSE EXISTING UTILITIES AS SHOWN ON DRAWINGS.

31. DISPOSAL OF DEMOLISHED AND/OR EXCAVATED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE COORDINATED WITH QDC PRIOR TO LEAVING THE SITE.

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING MONITORING WELLS DURING CONSTRUCTION. ANY DAMAGE TO THE MONITORING WELLS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

THE HORIZONTAL CONTROL DATUM FOR THIS PROJECT IS NAD 83.

THE VERTICAL CONTROL DATUM FOR THIS PROJECT IS QVD (QUONSET VERTICAL DATUM).

LANDSIDE CONTOURS AND SPOT ELEVATIONS SHOWN ON THESE PLANS ARE REFERENCED TO QVD, UNLESS NOTED OTHERWISE. WATERSIDE CONTOURS SHOWN ON THESE PLANS ARE REFERENCED TO

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL LAYOUT WORK FROM THE CONTROL MONUMENTATION PROVIDED



PERMITS:

PERMITS FOR THE WORK:

TERMINAL 5 PIER

RI COASTAL RESOURCES MANAGEMENT COUNCIL - A2022-08-059 US ARMY CORPS OF ENGINEERS - NAE-2022-02044 **RI DEPT. OF ENVIRONMENTAL MANAGEMENT - NONE REQUIRED**

BLUE ECONOMY BOAT RAMP AND DOCKS

RI COASTAL RESOURCES MANAGEMENT COUNCIL - PENDING US ARMY CORPS OF ENGINEERS - PENDING RI DEPT. OF ENVIRONMENTAL MANAGEMENT - PENDING

PORT OF DAVISVILLE DREDGING

RI COASTAL RESOURCES MANAGEMENT COUNCIL - A2023-02-038 US ARMY CORPS OF ENGINEERS - NAE-2022-02044 RI DEPT. OF ENVIRONMENTAL MANAGEMENT - DP-23-197/WQC 23-039

QDC HAS OBTAINED OR IS IN THE PROCESS OF OBTAINING THE FOLLOWING

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AVAILABLE SUBSURFACE INFORMATION:

- IT IS INTENDED THAT SUBSURFACE INFORMATION, AS NOTED ABOVE, BE USED ONLY AS AN INDICATION OF POSSIBLE SUBSURFACE CONDITIONS, AND THAT UPON THE CONTRACTOR'S REVIEW, FURTHER SUBSURFACE EXPLORATIONS MAY BE WARRANTED. SUCH EXPLORATIONS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
- 2. THE CONTRACTOR SHALL USE THE INFORMATION PROVIDED AT ITS OWN RISK AND SHALL COMPLETELY HOLD HARMLESS THE QDC AND WSP FROM ALL CONSEQUENCES AND/OR FAULT ARISING FROM ITS USE.
- 3. A SITE-SPECIFIC GEOTECHNICAL INVESTIGATION WAS COMPLETED BY GZA GEO ENVIRONMENTAL, INC. (GZA) OF PROVIDENCE, RI. THE RESULTS OF THIS INVESTIGATION ARE PROVIDED IN THE GEOTECHNICAL DATA REPORT, INFRASTRUCTURE IMPROVEMENTS PIER 1 AND TERMINAL 5 (GZA, JULY 20, 2021), ADDITIONAL HISTORIC BORINGS WERE COMPLETED BY THE RHODE ISLAND ECONOMIC DEVELOPMENT CORP. AND THE QDC IN 1999 AND 2019, REPECTIVELY. THESE ARE PROVIDED AS PART OF THE DESIGN-BUILD SOLICITATION PREPARED FOR THIS PROJECT.
- 4. EXISTING SHEET PILING, TIE-RODS, AND LANDSIDE PILE LOCATIONS ARE BASED ON RECORD DRAWINGS, ACTUAL CONDITIONS MAY VARY.
- 5. UTILITY LOCATIONS, WHEN SHOWN ON THESE DRAWINGS, ARE CONSIDERED APPROXIMATE AND WERE OBTAINED FROM A DRAWING TITLED "LITTLE ALLENS HARBOR AREA - RT GROUP" PROVIDED BY THE QUONSET DEVELOPMENT CORPORATION (QDC). THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THAT SHOWN AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL UTILITIES, GRADES, AND DIMENSIONS PRIOR TO STARING WORK.
- 6. LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND PIPES, CONDUITS, AND STRUCTURES, AS SHOWN, ARE APPROXIMATE ONLY, BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL PERFORM, AT ITS EXPENSE, TEST PITS, TO DETERMINE THE EXACT LOCATIONS OF UTILITIES AND STRUCTURES ESPECIALLY FOR CONNECTIONS TO EXISTING UTILITIES. ANY EXPENSE AND/OR DELAY CAUSED BY UTILITIES AND STRUCTURES, OR DAMAGE THERETO, INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ANY AND ALL STRUCTURES DESIGNATED FOR REMOVAL SHALL BE DISPOSED OF OFF-SITE, BY THE CONTRACTOR.

ENVIRONMENTAL PROTECTION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING PREVENTATIVE MEASURES TO AVOID ANY ENVIRONMENTAL IMPACTS. THESE MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO:

1. NO FUEL SHALL BE STORED ON SITE. ALL FUEL SHALL BE BROUGHT TO THE SITE AS REQUIRED.

- 2. ALL HOSES AND FUEL TRANSFER OPERATIONS SHALL BE CONDUCTED IN AN EFFICIENT AND SAFE MANNER IN ACCORDANCE WITH THE CONTRACTOR'S OPERATION MANUAL, AND AT A MINIMUM OF 100 FEET AWAY FROM ANY WATER BODIES.
 - OIL ABSORBENT PADS SHALL BE PLACED UNDER ALL MACHINERY DURING FUELING OPERATIONS.
- 4. ALL HYDRAULIC EQUIPMENT SHALL HAVE VEGETABLE OIL BASED, NON-TOXIC, NON-POLLUTING, HYDRAULIC FLUID.
 - EQUIPMENT SHALL BE PROPERLY MAINTAINED AND RECORDED IN WEEKLY LOGS AS TO REQUIREMENTS FOR AND ACTUAL MAINTENANCE COMPLETED.
- 6. A SPILL KIT OR ABSORBENT MATERIALS AND A MINIMUM OF 500 FEET OF USCG APPROVED OIL CONTAINMENT BOOM SHALL BE ON-SITE AT ALL TIMES URING CONSTRUCTION OPERATIONS.
- 7. THE CONTRACTOR SHALL IMPLEMENT AND ADHERE TO ANY PROVISIONS REQUIRED BY ANY PERMITS ISSUED FOR THE WORK.

GENERAL EXECUTION:

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- 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT CONSTRUCTION ACTIVITIES PROCEED IN A SMOOTH LOGICAL SEQUENCE AND IN A MANNER THAT WILL NOT CAUSE ANY DAMAGE TO OR CREATE EXCESSIVE STRESSES, LOADS, OR VIBRATIONS ON EXISTING OR PROPOSED STRUCTURES.
 - THE CONTRACTOR SHALL PROVIDE ADEQUATE FENCING, BARRICADES, AND SIGNS TO ENSURE SAFETY.
 - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A LEVEL AND STABLE SURFACE ON WHICH EQUIPMENT WILL OPERATE.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING ITS OWN PICK/LIFT PROCEDURES INCLUDING, BUT NOT LIMITED TO SAFE PICKING RADII, LIFTING DEVICES AND SLINGS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE WEIGHT OF EACH LIFT AND FOR ENSURING THE STABILITY OF EACH LIFT DURING ALL PHASES OF WORK.
- 7. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO LOCATE AND PROTECT EXISTING UTILITIES IN THE AREA AS REQUIRED. OVERHEAD POWER LINES ADJACENT TO WORK AREAS ARE TO BE SHUT DOWN DURING OPERATIONS WHEN THE CONTRACTOR BELIEVES THEY MAY INTERFERE, OR ARE TOO CLOSE TO THE WORK. WHEN POWER LINES IN THE WORK AREA CAN NOT BE DEENERGIZED, THE CONTRACTOR SHALL MAINTAIN A SAFE DISTANCE AS DETERMINED BY OSHA. ALL UTILITIES SHALL BE LOCATED AND MARKED IN ACCORDANCE WITH OSHA STANDARDS.

TURBIDITY CURTAIN:

- 1. A FLOATING TURBIDITY BARRIER, FIGURE SHOWN BELOW, SHALL BE DEPLOYED AROUND AND/OR IMMEDIATELY ADJACENT TO THE WORK AREA DURING EACH CONSTRUCTION PHASE THAT IS EXPECTED TO PRODUCE DEBRIS AND/OR SEDIMENT IN 600 FOOT (MAX) LENGTHS. TURBIDITY CURTAINS ARE NOT EXPECTED TO BE REQUIRED DURING PILE DRIVING.
- 2. FIGURE IS FOR REFERENCE ONLY. TURBIDITY CURTAIN SHALL BE SUBMITTED FOR APPROVAL.
- 3. ANCHOR CURTAIN ENDS AT BULKHEAD FACE OR ALONG SHORELINE, AS RQUIRED.
- 4. ANCHOR CURTAIN AT INTERMEDIATE POINTS WITH CONCRETE ANCHOR BOLTS OR SUITABLE ANCHORAGE ACCEPTED BY THE OWNER.





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INDICATES BORING DRILLED BY NEW ENGLAND BORING CONTRACTORS BETWEEN APRIL 6, 2021 AND JUNE 3, 2021 AND OBSERVED BY GZA PERSONNEL.
INDICATES BORING DRILLED BY DEERE & AULT CONSULTING INC. IN JANUARY AND FEBRUARY 2007.
INDICATES BORING DRILLED BY JENKS & BALLOU ARCHITECTS & ENGINEERS BETWEEN MAY 1953 AND NOVEMBER 1955.
INDICATES BORINGS EXCLUDED FROM THIS DRAWING PACKAGE. REFER TO THE TERMINAL 5 CONSTRUCTION DRAWINGS FOR ADDITIONAL INFORMATION.





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				_	_			en 1 5 mart 1 han 188 6 1 (mart 1990) O'D'O'M (mart 1990)							
	19-21	S-1	4	5	24	20		Saho, me coarse grant, race grave, trace-intermes, losse, well, gray, Sriom (upper 10). Sit plastic firm (PP = $0.5, 0.5, 0.5, 0.6$ tsf), wet, orav, ML/MH (lower 10").							
		014	2				1								
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	ł						1								
	24-26	S-1	8	13	24	18	2	Sand, fine-medium grain, no gravel, trace fines, medium dense, wet, gray, SP.							
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	29-31	S-1	11-9	18	24	18	2	Sand, fine grain, no gravel, trace fines, medium dense, wet, gray, SP.							
-			9-10	the too		মানন		At 11 am water at 10.3' below the top of the buildhard							
as A	it 8am wal Willing peri	erat 7.3 formed v	s3' DelOW uith ∆" es	r the top (asing w/tr	or the Icone	blt at	iead. Id wa	At many water at 10.5 below the top of the buildhead. ter/mud (Cetco Varifle QD guick dispersing Guar Gum). Standard Penetration Testing used to take							
5	plit spean	samples	s (S-#) w	/ trip cath	nead.	CME	Drill	Rig.							
Ĺ	Na	me (intr	iliboni, c	er, predo	minar	it), Gi	adatio	n and/or Plasilicity, Density or Consistency, Moisture, Color, Structure, Local Name, USC Symbol							
r: F	ines Cont	ent frac	e (tr) = 1	-10%, lift	te (If)	= 10-) v loor	20%, 	some (sm) = 20-35%, and (α) = 35-50% = 0.4 (losse (t) = 4-10, medium dense (mi) = 10-30, dense (d) = 30-50, very dense (vd) = 50+							
_			L LDT SITU	THOWS/R	. v⊖⊑	γ ευθέ	»с (VI)	- o al looco bla tol novani analo find - in antantana (a) on an lana lana (a) - on .							

Standarder Steint Load Device Home Guined Lowersemant Standarder Steint 61 Cet 64 <th></th> <th>ioneo</th> <th>49.55</th> <th>415346</th> <th></th> <th>Wea</th> <th>e ther</th> <th></th> <th>30'sF, overcast, no wind</th>		ioneo	49.55	415346		Wea	e ther		30'sF, overcast, no wind
and Depth of Tion 41 Evet 24 Mo 22 E0052 11 02 1102 1102 1102 1102 (200 02 100 200 000 0	Fou	ndwater De	epth	tidal	feet *	Proj	ect Na	me	Quonset Development
Bight b (box) A. I. low of the product of the second set of th	otal	Depth of H	lole	61	feet	Job	No		CLE 06052.100 & DAC 193.010.00
Baye Dop/D Tool Baye State R B-A (Descriptions 64 feet)ept(to Rock		- <u>N.E.</u>	1691	Load	er ied By	,	Joel Q, Kantola (979-886-4550), Drill Rig Foreman - Tim Tucker (508-958-4091), Drill hand - Mike
No. Yes Harm Descr. Processor		Denth		<u> </u>	Sample	1		<u> </u>	Soil & Rock Descriptions
det det <td></td> <td>orpri</td> <td>Тура</td> <td>Blaws</td> <td>RCD or</td> <td>Pen.</td> <td>Rec.</td> <td>5 8</td> <td></td>		orpri	Тура	Blaws	RCD or	Pen.	Rec.	5 8	
ext No. P <td></td> <td></td> <td>æ</td> <td>per</td> <td>Blow</td> <td>Ι.</td> <td></td> <td>athe</td> <td></td>			æ	per	Blow	Ι.		athe	
0.5.2.3 S-1 30 46 24 12 1 Scinct feer grady, trace-files gravely, trace fires, dense, dry, letwor, 5P 4.6 5.4 12 36 26 9 1 Scinct feer grady, trace-files gravel, trace fires, dense, dry, letwor, SP 4.6 5.4 12 36 26 9 1 Scind, fire grady, fire grady, fire grady, fire gravel, trace fires, dense, dense, model, brow, SP (au) grady 9.11 5.1 5 15 24 15 1 Sand, fire coarse gradin, no gravel, lace fines, modum dense, ver, brown, SP (au) grady 9.11 5.4 5 15 24 15 1 Sand, fire coarse gradin, no gravel, lace fines, inedum dense, ver, brown, SW (over P). 9.11 5.4 5 15 24 15 1 Sand, fire coarse gradin, no gravel, lace fines, hoold in dense, ver, brown, SW (over P). 9.11 5.4 7 6 24 15 1 Sand, fine coarse gradin, no gravel, lace fines, hoose, wel, brown, SW. 14.16 6.4 7 6 24 15 1 Sand, fine coarse gradin, no gravel, face f	feet	feet.	No.	6"	Count	1 (0)	In	$ \leq \alpha$	
4.6 S.4 12 36 24 9 1 Sand, fine coarse grain (nootly fire), trace fires, darse, molet, brown, SP (cop grade), 13 9.11 S.4 15 15 24 15 1 Sand, fine coarse grain (nootly fire), trace fires, darse, wet, brown, SP (cop grade), 13 9.11 S.4 5 15 24 15 1 Sand, fine coarse grain, lace grade, fine coarse, wet, brown, SP (topor 7). 9 0 - - - - - - 14.45 S.1 7 6 24 15 1 Band, fine coarse grain, lace grade, face fines, base, wet, brown, SP (town, SP (t		0.5-2.5	S-1	30	46	24	12	1	Sand, fine grain, trace-little gravel, trace fines, dense, dry, brown, SP.
4.6 5.4 12 36 24 9 1 Sand, fine coarse grain (modify fine), lince gravel, trace fines, dense, molet, brown, SP (gap grade 9-11 5.1 5 15 24 15 1 Sand, fine coarse grain (modify fine), lince gravel, trace fines, dense, molet, brown, SP (gap grade 9-11 5.1 5 15 24 15 1 Sand, fine coarse grain, ince gravel, trace fines, modum danse, wet, brown, SP (space 7). 9 8 - - - - - - 14-18 3-1 7 6 24 15 1 Sand, fine grave, incegravel, trace fines, bosts, wet, brown, SP (space 7). 14-18 3-1 7 6 24 15 1 Sand, fine grave, ino gravel, trace fines, bosts, wet, prown, SW 19-21 S-1 7 5 24 15 1 Sand, fine grave, ino gravel, trace fines, bosts, wet, grave, SP. 24-26 3-1 2 - - - - - 2 2 - - - - -		375 MIS	23					Note 6" below asphait looked like SW.	
4.0 S-1 12 36 24 9 1 Sign, fine-coarse grain (mostly line), large grave, large lines, dense, molst, larger, SP (sep grade 9.11 S-1 13 13 13 14 15 15 21 15 1 Sand, fine grain, no gravel, large grave, large lines, wei, brown, SP (spece 7%, Sind, fine-coarse grain, fines gravel, trace fines, medium darse, wei, brown, SW (sower 7). 9.11 S-1 7 6 24 15 1 Sand, fine grave, large grave, trace fires, medium darse, wei, brown, SW (sower 7). 9.11 S-1 7 6 24 15 1 Sand, fine coarse grave, trace fires, larger, large				23				1	
4.6 3-1 12 56 24 9 1 Sand, fine-coarse grain (modify fine), tance gravel, tance fines, donse, model, brown, SP (app grade) 9-11 3.1 5 15 24 15 15 24 15 15 24 15 15 3and, fine-coarse grain, tangerowel, trace fines, modelsh donse, wei, thrown, SP (app grade) 9-11 3.1 5 15 24 15 1 Sand, fine-coarse grain, loog gravel, trace fines, modelsh donse, wei, thrown, SW (lower PT) 9 8 9 1 Sand, fine-coarse grain, loog gravel, trace fines, modelsh donse, wei, thrown, SW (lower PT) 9 8 9 1 Sand, fine-coarse grain, loog gravel, trace fines, modelsh donse, wei, brown, SW (lower PT) 9 8 9 1 Sand, fine-coarse grain, no gravel, trace fines, loose, wei, grave, swit, brown, SW 14-10 9-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, loose, wei, grave, swit, brown, SW 19-21 S-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, loose, wei, grave, swit, brown, swit, swit, swit, fine,				23					
4.6 5-1 12 36 24 9 1 Sand, line coarse grain (modify line), trace gravel, trace lines, dense, molist, brown, SP (gep gride 9.11 5-1 5 15 24 15 1 Sand, fine grain, no gravel, trace lines, modum dense, wet, brown, SP (topper 77). 9.11 5-1 5 15 24 15 1 Sand, fine coarse grain, race gravel, trace lines, modum dense, wet, brown, SW (lower 37). 9 3 5 15 24 15 1 Sand, fine coarse grain, race gravel, trace fines, modum dense, wet, brown, SW (lower 37). 14.16 S-1 7 6 24 15 1 Sand, fine coarse grain, no gravel, trace fines, hoose, wet, brown, SW. 19.21 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, brown, SW. 2 2 2 2 2 2 2 2 19.21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, brow, fine, gray, SP. 2 2 3 1									
46 S-1 12 36 24 9 1 30,000 1 100000000000000000000000000000000000									and fine arrive and frequencies fine) from arrival trans fines dance majet brown SP (and grade
9-11 51 5 15 24 15 1 Sand, fine grain, no gravel, trace fines, medium dense, wei, brown, SP (upper 77). 52 6 3 5		4-6	S-1	12	36	24	9	1	(Sand, the-coarse grain (mosuly line), trace gravel, trace titles, dense, most, prown, or (geb grade)
0.11 S.1 5 15 24 15 1 Send, fine grain, no gravel, hace fines, meditan donse, wet, brown, SP (bapet 7). 3 9 8				18		 			
9-11 S-1 S 15 24 15 1 Sand, fine grain, no gravel, laco fines, imadium dones, wei, brown, SP (upper 7). 9 9 9 9 9 9 9 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, focus gravel, trace fines, instrum dones, wei, brown, SW (over 87). 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, focus gravel, trace fines, base, wei, brown, SW. 19-21 S-1 7 6 24 15 1 Sand, fine coarse grain, no gravel, trace fines, base, wei, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, base, wei, gray, SP. 24-26 S-1 1 2 2 1 Sit, plastic, firm (pp = 0.75, 0.75, 1.19), war, gray, MLAH (upper 4 ⁻). 24-26 S-1 1 2 2 1 Sit, plastic, firm (pp = 0.75, 0.75, 1.19), war, gray, MLAH (upper 4 ⁻). 24-26 S-1 15.2 1 Sit, plastic, firm (pp = 0.75, 0.75, 1.19), war, gray, MLA				18					······································
9-11 5-1 5 15 24 15 1 Band, fine grain, no gravel, trace fines, modium dense, wel, brown, SP (tipper 7*). 9 9 8 9 9 9 9 14-16 5-1 7 6 24 16 1 Band, fine correse grain, frace gravel, trace fines, toose, wet, brown, SW (dower 8*). 14-16 5-1 7 6 24 16 1 Band, fine correse grain, no gravel, trace fines, toose, wet, brown, SW. 19-21 5-1 7 5 24 15 1 Band, fine grain, no gravel, trace fines, toose, wet, gray, SP. 24-25 5-1 1 2 24 24 15 1 Sand, fine grain, no gravel, trace fines, toose, wet, gray, SP. 2 24-25 5-1 1 2 24 24 15 Sand, fine grain, no gravel, trace fines, toose, wet, gray, SP. 2 23-31 5-1 15-26 61 24 19 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 2 23-31 5-1		ł							han an a
9-11 C-1 5 15 24 15 1 Band, fine grain, no gravel, trace fines, modium dansa, wet, brown, SP (upper 7). 9 9 9 9 9 9 9 9 14-16 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, modium danse, wet, brown, SW (brever 8). 14-16 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, brown, SW. 14-16 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, grav, SW. 19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, grav, SP. 24-25 S-1 1 2 2 1 Sand, fine grain, no gravel, trace fines, loose, wet, grav, SP. 24-25 S-1 1 2 2 1 Sand, fine grain, no gravel, some fines, loose, wet, grav, SM (lower 19 24-26 S-1 1 2 2 1 Sand, fine grain, no gravel, trace fines,									
9-11 S-1 5 15 24 15 1 Sand, fine grain, no gravel, trace lines, medium dense, wet, brown, SP (upper 7'). 9 9 9 9 9 9 9 9 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, incer gravel, trace fines, medium dense, wet, brown, SW (lower 8'). 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine coarse grain, no gravel, trace fines, loose, wet, gray, SP. 19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 2 1 Sit, pleatic, firm (p = 0.75, 0.75, 1.15), wet, gray, ML/MH (upper 4'). 24-26 S-1 1 2 2 1 Sand, fine grain, no gravel, toce fines, Vet, gray, SL/ML/MH (upper 4'). Sand, fine grain, no gravel, toce fines, Vet, gray, SL/ML/MH (upper 4'). Sand, fine grain, no gravel, toce fines, Vet, gray, SL/M					Ĭ		-		
9-11 S-1 5 15 24 15 1 Sand, fine grain, no gravel, lace fines, madum dense, wet, brown, SP (upper 7). 9 8 9 8 9 9 9 9 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, lace gravel, trace fines, madum dense, wet, brown, SW (dower 8'). 14-16 S-1 7 6 24 15 1 Sand, fine coarse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 2 1 Sitt, plasife, firm (op = 0.75, 0.75, 1.15), wet, gray, ML/M#1 (upper 4''). Sand, fine-madum grain, no gravel, some fines (fast dilatancy), very toose, wet, gray, SM (lower 19 24-26 S-1 1 2 24 24 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 3 24-26 S-1 1 2 24 1									
9.11 S-1 3 15 24 15 1 Sand, the gain, the gain, the gain, the grave, trace three, medium conset, well, brown, SW (lower 9'). 14.16 S-1 7 6 24 15 1 Sand, the gains, tage grave, trace three, medium conset, well, brown, SW (lower 9'). 14.16 S-1 7 6 24 15 1 Sand, the gains, tage grave, trace three, medium conset, well, brown, SW. 14.16 S-1 7 6 24 15 1 Sand, fine coarse grain, the gravel, trace three, loose, well, brown, SW. 19-21 S-1 7 6 24 15 1 Sand, fine grain, the gravel, trace three, loose, well, grav, SP. 24-25 S-1 7 6 24 15 1 Sand, fine grain, the gravel, trace three, loose, well, grav, SP. 24-25 S-1 1 2 2 1 Sand, fine grain, the gravel, trace three, loose, well, grav, SP. 23-31 S-1 15-26 61 24 1 Sand, fine grain, no gravel, trace three, very danse, well, grav, SP. 23-31 S-1 15-26 61 24 1 Sand, fine grain, no gravel, trace three,		(15		45	4	Cond Goo grain no gravel trace [nest modify a danse wat brawn SP (upper 7")
14.15 S-1 7 6 24 15 1 Sard, fine coarse grain, no gravel, trace fines, toose, wet, brown, SW. 19-21 S-1 7 6 24 15 1 Sard, fine coarse grain, no gravel, trace fines, toose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sard, fine grain, no gravel, trace fines, toose, wet, gray, SP. 19-21 S-1 7 5 24 15 1 Sard, fine grain, no gravel, trace fines, toose, wet, gray, MLAM4 (apper 4*). 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 te/), wet, gray, MLAM4 (apper 4*). 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 te/), wet, gray, MLAM4 (apper 4*). 29-31 S-1 15 2 1 Sand, fine medium grain, no gravel, some fines (sat diatance), very forse, wet, gray, SM (lower 19 29-31 S-1 15.76 61 24 19 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 29-31 S-1	ł	9-11	S-1 S-2	5	15	24	10	ſ	Sand, fine-grain, ho gravel, race much modulan dense, wel, drown, or topper y in Sand, fine-coarse grain, trace gravel, trace fines, medium dense, wet, brown, SW (lower 8").
14.16 S-1 7 6 24 15 1 Sand, fine coarse grain, no gravel, trace fines, loose, wet, brown, GW. 19-21 S-1 7 6 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 2 1 Sin, gravin, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 22 1 Sin, gravin, fine grain, no gravel, some fines, toose, wet, gray, SM (lower 18 24-26 S-1 1 2 24 22 1 Sin, gravin, no gravel, some fines, toose, wet, gray, SM (lower 19 3-3 5 1 2 24 22 1 Sin, gravin, no gravel, trace fines, very dense, wet, gray, SM (lower 19 2-3-31 S-1 15-26 61 24 19 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 2 2-3-31 S-1 15-				9	· · · · · · · · · · · ·				
14.16 S-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, bose, wet, brown, SW. 19.21 S-1 7 5 24 15 1 Sand, fine-grain, no gravel, trace fines, bose, wet, gray, SP. 19.21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, bose, wet, gray, SP. 24.26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 te), wet, gray, ML/MH (upper 4*). 24.26 S-1 1 2 24 22 1 24.26 S-1 1 2 24 22 1 31 5 1 2 24 22 1 24.26 S-1 1 2 24 22 1 32 1 5 1 2 24 22 1 24.27 1 2 24 24 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3				8					
14.16 S-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, bose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, bose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 2 24-26 S-1 1 2 24 22 1 Sill, plastic, firm (pp = 0.75, 0.75, 1 isf), wet, gray, MU/MH (upper 4'). Sand, fine-medium grain, no gravel, some fines (fast dilatancy), very foose, wet, gray, SM (owar 13 1 5 1 Sand, fine-grain, no gravel, trace fines, very danse, wet, gray, SM (owar 13 24-26 S-1 1 2 24 22 1 3 1 2 24 22 1 Sand, fine-medium grain, no gravel, some fines (fast dilatancy), very foose, wet, gray, SM (owar 13 24-26 S-1 15.26 61 24 19 1 Sand, fine grain, no gravel, trace fines, very danse, wet, gray, SM (owar 14 24-26 S-1 15.28									······································
14.16 S-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, toose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-grain, no gravel, trace fines, toose, wet, gray, SP. 19-21 S-1 7 5 24 15 1 Sand, fine-grain, no gravel, trace fines, toose, wet, gray, SP. 24-26 S-1 1 2 2 1 Site, plastic, firm (pp = 0.75, 0.75, 11s), wet, gray, ML/MH (upper 4 ⁺). 24-26 S-1 1 2 24 22 1 Site, plastic, firm (pp = 0.75, 0.75, 11s), wet, gray, ML/MH (upper 4 ⁺). Sand, fine-medium grain, no gravel, some fines (fast dialancy), very toose, wet, gray, SM (lower 13 24-26 S-1 1 2 24 22 1 Site, plastic, firm (pp = 0.75, 0.75, 11s), wet, gray, ML/MH (upper 4 ⁺). Sand, fine-medium grain, no gravel, tace fines, very dense, vert, gray, SM (lower 13 24-26 S-1 1 2 24 1 1 Sand, fine-grain, no gravel, tace fines, very dense, vert, gray, SM (lower 13 1 1 1 23-31 S-1 15-26 61 24<									
14.16 S-1 7 6 24 15 1 Sand, fine-coorse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-coorse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 tsf), wet, gray, ML/MH (upper 4"). 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 tsf), wet, gray, ML/MH (upper 4"). 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 tsf), wet, gray, ML/MH (upper 4"). 24-26 S-1 1 2 24 22 1 Sit, plastic, firm (pp = 0.75, 0.75, 1 tsf), wet, gray, ML/MH (upper 4"). 24-26 S-1 1 2 24 15 1 3 24-27 1 5 1 2 24 12 1 1 24-26 S-1 1 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
14.16 S-1 7 6 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-coarse grain, no gravel, trace fines, loose, wet, brown, SW. 19-21 S-1 7 5 24 15 1 Sand, fine-grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 22 1 Silt, plastic, firm (pp = 0.75, 0.75, 1.1st), wet, gray, ML/MH (upper 4'). Sand, fine-medium grain, no gravel, trace fines, loose, wet, gray, SM (ower 19 5 1 Sand, fine-grain, no gravel, trace fines, loose, wet, gray, SM (ower 19 24-26 S-1 1 2 24 1 Silt, plastic, firm (pp = 0.75, 0.75, 1.1st), wet, gray, ML/MH (upper 4'). Sand, fine-medium grain, no gravel, trace fines, very dense, wet, gray, SM (ower 19 1 1 1 29-31 S-1 15-26 61 24 19 1 1 29-31 S-1 15-26 61 24 19 1 1 2 1 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>ĺ</td> <td></td>								ĺ	
14.16 S-1 7 6 24 15 1 Odds, me down print to gravel, tere from the first down print to gravel. 29-31 S-1 16.26 S-1 24 19<			D (~	04	4.5	1	Sond fina coorse grate no gravel trace fines loose wet brown SW.
19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wet, gray, SP. 24-26 S-1 1 2 24 22 1 Silt, plastic, firm (pp = 0.75, 0.75, 11st), wet, gray, ML/MH (upper 4*). 24-26 S-1 1 2 24 22 1 Silt, plastic, firm (pp = 0.75, 0.75, 11st), wet, gray, ML/MH (upper 4*). Sand, fine-medium grain, no gravel, some fines (fast dialancy), very loose, wet, gray, SM (lower 19 5 1 5 24 1 5		14-16	S-1	1	ю	24	10		
19-21 S-1 7 5 24 15 1 19-21 S-1 7 5 24 15 1 24-26 S-1 1 2 24 22 1 24-26 S-1 1 2 24 22 1 Silt, plastic, firm (pp = 0.75, 0.75, 11st), wet, gray, ML/MH (upper 4'). Sand, fine-medium grain, no gravel, some fines (fast dilatancy), very losse, wet, gray, SM (lowar 18 29-31 S-1 15 29-31 S-1 15.2 5 1 29-31 S-1 15.2 6 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SM (lowar 18 29-31 S-1 15.2 6 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 29-31 S-1 15.2 6 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 29-31 S-1 15.2 7.30 am water 6.5 fi balow the top of the bulkhead. At 11 am water at 10' below the top of the bulkhead. Drilling performed with 4'' casing withcome bit and water/mud (Catoo Varifo CD quick dispersing Guar Gun). Standard Penetration Tasting used to take split spoon samples (5-fi) with to eatherd. CME Orli Ng. Name (intro, modifier, predominann). Gradation and/or Plasticity, Densit				3					
19-21 S-1 7 5 24 15 1 Sand, fine grain, no gravel, trace fines, loose, wei, gray, SP. 24-26 S-1 1 2 24 22 1 Sill, plastic, firm (pp = 0.75, 0.75, 1 isf), wei, gray, ML/MH (upper 4*). 24-26 S-1 1 2 24 22 1 Sill, plastic, firm (pp = 0.75, 0.75, 1 isf), wei, gray, ML/MH (upper 4*). 24-26 S-1 1 2 24 22 1 Sill, plastic, firm (pp = 0.75, 0.75, 1 isf), wei, gray, ML/MH (upper 4*). 29-31 S-1 15.26 61 24 19 1 Sand, fine grain, no gravel, some fines (fast dilatancy), very loose, wet, gray, SM (lower 18 29-31 S-1 15.26 61 24 19 1 Sand, fine grain, no gravel, trace fines, very dense, wet, gray, SP. 29-31 S-1 15.26 61 24 19 1 Sand, fine grain, no gravel, trace fines, Very dense, wet, gray, SP. 29-31 S-1 15.26 61 24 19 1 Sand, fine grain, no gravel, trace fines, Very dense, wet, gray, SP. 29-31 S-1 15.26 61 24 19 1<				2					
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Driling period win 4 casing windone of and valuement (period value de quint dependent depende	esA	t 7:30 am	water {	3.5 ft belo	w the top	of th	e bulk bit an	head www	, At 11am water at 10 below the top of the bulkness. Formul (Cetro Varific OD nulck dispersing Guar Gum). Standard Penetration Testing used to take
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y: Fines Content: trace (tr) = 1-10%, little (it) = 10-20%, some (sm) = 20-35%, and (8) = 35-50%		Nords ted	sample me finti	is (<i>s-ar)</i> M 10. modifi	iar, predo	minar	ul), Gr	adatio	on and/or Plasiticity, Density or Consistency, Moisture, Color, Structure, Local Name, USC Symbol
	5	1.1.1				·····	en in con-		

SAND FILE B FIRM FINE SAND -26.9 12 FIRM FINE SAND -31.9 -32.4 -32.4 1/1 ÷-----15 GRAVEL FILL ZM MEDIUM

CLE- 5 1 of 2 31-Jan-07			
30's, breeze Quonset Development CLE 06052.100 & DAC 193.010.00			NICET
Geo Logic (508) 384-4434, Chris DeVillars (PM), Dig Safe Number 20070403255 Joel Q. Kantola (978-886-4550), Drill Rig Foreman - Tim Tucker (508-958-4091), Drill hand - Mike Soll & Rock Descriptions			IN JE I HENT CORPORATION
Note: startad hale with mud left over from CLE-4.		Developr	nent Services
Asphalt = 0.2'. Sand, fine grain, no gravel (except for one blocking tip), trace fines, very dense, dry, brown, SP.		95 Cripe S North King	stown, RI 02852
		Tel: (403 (403	L) 295-0044 L) 268-9885
Sand, fine grain, trace gravel, trace fines, dense, dry, brown, SP.			
Sand, fine-coarse grain, trace gravel, trace fines, medium dense, wet, brown, SW,			
		ETABLISHED Manaf	ort Brothers
		Incorp	orated
		ORPORAL	
Sand, fine-coarse grøin, trace gravel, trace fines, loose, wet, brown, SW.			WSP USA Inc. 100 Summer Street
			Boston, MA 02110 TEL: (617) 426-7330
Sand, medlum-coarse grain, trace gravel, no-trace fines, loose, wet, gray, SP/SW.			
22-23": losing circulation to formation (using mud).			
Note: drill bit coated in silt (about 6" thick layer - H2S smell). Sand, fine grain, no gravel, trace fines, medium dense, wet, gray, seashell observed, SP.			
Lost hole: advancing casing past the lost circulation area.			
Sur, plastic, tim(PP = 0.5, 0.5 tsi), wet, gray, mL/MH.			
ler/mud (Cerco Varitio OD guick dispersing Guar Gum). Standard Penetration Testing used to take Rig. m and/or Plasiticity, Density or Consistency, Moisture, Color, Structure, Local Name, USC Symbol			
some (sm) = 20-35%, and (&) = 35-50% = 0-4, loose (I) = 4-10, medium dense (md) = 10-30, dense (d) = 30-50, very dense (vd) = 50+ , soft (s) = 2-4, firm (f) = 4-8, stiff (st) = 8-15, very stiff (vs) = 15-30, hard (h) > 30			
n = onve, og = orange, of = black moderately plastic, hp = highly plastic, vhp = very highly plastic			
		NO. REVISION	DATE
		DESIGN BY ###	
		DRAWN BY ###	ENGINEER ###
		SCALE	PROJECT NO.
		CONTRACT NO. 2023-006	
		FILE NAME: B-500.DWG	
		APPROVED	
		GREGORY J. COREN, P.E.	
		DATE: 05-10-2024	JINLENING
		BLUE EC	ONOMY
		SUPPORT	DOCKS &
		BOAT	KAMP
		BODTNO	
			1 003 =
C/2c/SC JUSTIN DATE APPROVAL			
ARDS & POCKS BOSTON MASS. & ENGR S.			
ION CENTER		Gateway	District
PERMIT SUBMISSION		SHEET NO.	DRAWING NO.
NOT FOR CONSTRUCTIO	N	B-500	26875
MAY 10, 2024			

GZ		GZA GeoE	Environn vers and Sc	nenta ientist	al, In	с.	Que QDC In F	onset Developmen provement to Pic Port of Davisville,	nt Corpor er 1 and T Quonset,	ation erminal 5 RI	EXPLORA SHEET: PROJECT REVIEWEI	TION NC 1 of NO: 348) BY: Jir	0.: G 3 98 n Ma	Z-SB-23 Irsland	
Logg Drillii Forei	ied By: ng Co. man:	Erne New Norn	sto Pena England B nan Studda	Boring ard	Contra	actors	Type of Rig Mod Drilling Drive & V	Rig: ATV lel: Diedrich D-50 Method: Wash	Boring L Ground Final Bo Date Sta	ocation: Surface E ring Depti rt - Finish	See Plan lev. (ft.): -4.8 n (ft.): 76 4/12/2021 - 4	/16/2021		H. Datum: V. Datum:	NAD 83 QVD
Hamı	mer Tv	pe:	Auto	matic	Hamm	er	Sampler	Type: SS			Grour	dwater	Dept	h (ft.)	
Hamı Hamı Auge	mer We mer Fa er or Ca	eight II (in.) asing	(Ib.): 140): 30 O.D./I.D C)ia (in	.) 5,4a	ind 3	Sampler Sampler Rock Co	O.D. (in.): 2 Length (in.): 24 Dre Size: NX		Date Not Measure	Time S	tab. Tim	ie	Water	Casir
Depth	Core Rate	No	Depth	Sa Pen.	mple Rec.	Blows	SPT	(Moc	Stratum	Descriptio	n ification)	•	emark	fiStra de tiDesc	atum
(11)	(min)	NO. S-1	(ft.) 0.0-2.0	(in) 24	(in) 2	(per 6 i 1 1	n.) Value 4	S-1: Very loose, da	rk gray, fine	SAND, som	e Silt, trace Sh	ells			· Ц
- - 5		S-2	5.0-7.0	24	9	3 5 WOH 7 6 7	1 7	S-2: Loose, brown/g to coarse Gravel	gray, fine to	medium SA	ND, some Silt,	trace fine			
- - 10 _ - -		S-3	10.0-12.0	24	7	14 78	11	S-3: Medium dense Gravel, little Silt	, brown/gra	y, fine to me	dium SAND, litt	le fine			
- 15 -		S-4	15.0-17.0	24	5	2 5 6 9	11	S-4: Medium dense Gravel	, olive/brow	n, fine SANI), some Silt, tra	ice fine		SILTY	' SAND
- 20 -		S-5	20.0-22.0	24	11	2 2 4 4	6	S-5: Loose, gray, fil	ne SAND, lit	tle Silt					
- 25		S-6	25.0-27.0	24	12	2 4 5 5	9	S-6: Loose, gray, fii	ne SAND, lit	tle Silt					
30	- This	boring	g was drille	d fron	n a floa	ting barg	je.								
See L appro	_og Ker oximate made	y for e boun	exploration idaries bet times and	of sar ween undei	nple de soil an	escriptior d bedroc onditions	n and iden k types. A stated. Fli	tification procedure ctual transitions muctuations of group	es. Stratific ay be grad	cation lines lual. Water	represent level reading	gs have	E	Exploratio	on No.

									TEST BORIN	IG LOG								
GZ		GZA GeoE	Environn eers and Sc	nenta vientist	al, In	с.	Q	Quo DC Im P	onset Developme provement to Pie ort of Davisville,	nt Corpor er 1 and T Quonset,	ration erminal 5 RI	EX SH PF RE	(PLORAT HEET: ROJECT EVIEWED	ΓΙΟΝ Ν(1 ο ΝΟ: 348) ΒΥ: Ji	D.: G f 3 898 m Ma	Z-SB-25		
Logg Drillii Forei	led By: ng Co. man:	Billy New Norm	Carias England E nan Studda	Boring ard	Contra	actors	Ty Rig Dri	pe of I g Mode illing N ve & V	Rig: ATV el: Diedrich D-50 Method: Vash	Boring L Ground Final Bo Date Sta	ocation: Surface E ring Depth rt - Finish	See lev. h (ft. 5/5/2	Plan (ft.): -5 .): 88.5 2021 - 5/7	7/2021		H. Datum: V. Datum:	NAD 83 QVD	
Hamı	mer Tv	pe:	Auto	matic	Hamm	her	Sa	mpler	Type: SS				Groun	dwater	Dept	th (ft.)		
Hami	mer We	eight	(lb.): 140	matio			Sa	mpler	O.D. (in.): 2		Date	_	Time S	tab. Tin	ne	Water	Casing	
Auge	er or Ca	asing	0.D./I.D E	Dia (in	.) 5 and	14	Ro	ck Co	re Size: NX		Measure	d						
Depth	Core		1 5 <i>4</i>	Sai	mple					Stratum	Descriptic	on I		1	lark	Stra	atum si 🦳	
(ft)	Rate (min)	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 i	s n.)	SPT Value	(Mod	ified Burm	nister Class	sifica	ation)		Ren			
_		S-1	0.0-2.0	24	0	WOR WOR WOR	OR	0	S-1: NO RECOVER	Y					1	ORGANIC S	II T AND SAN	
-		S-2	2.0-4.0	24	9	WOR WO WOR W	OR OR	0	S-2: Gray/black, fine Roots	e SAND and	ORGANIC	SILT	۲, trace She	ells, trace		2	<u> </u>	
5		S-3	5.0-7.0	24	5	56 89		14	S-3: Medium dense	, tan, fine S	AND, trace S	Silt						
- - 10 -		S-4	10.0-12.0	24	12	33 32		6	S-4: Loose, tan, fine	e SAND, soi	me Silt					SAND TO SILTY SANE		
- 15 -		S-5	15.0-17.0	24	15	4 5 8 8		13	S-5: Medium dense	, tan, fine S	AND, trace S	Silt						
- 20 -		S-6	20.0-22.0	24	1	34 66		10	S-6: Tan, fine SANE	D, little Silt					2	18 19BOU	<u>-23.0</u> JLDER <u>24.0</u>	
- - 25 _ - -		S-7	25.0-27.0	24	17	38 59		13	S-7: Medium dense	, tan, fine S	AND, some	Silt				SILTY	Y SAND	
30 1 2 m	- This - The o nudline	boring driller	y was drille indicated t	ed from	n a floa e used	ating barg the roller	ge. rbit te	o proc	eed through an ap	proximate	ly 1-foot-th	nick I	boulder a	pproxim	ately	18 feet belo	ow the	
See L appro been	_og Key oximate made	/ for e boun at the	exploration daries bet times and t at the time	of sar ween under	nple d soil ar	escriptior d bedroc onditions	n and k typ state	d ident pes. A ed. Flu	tification procedure ctual transitions ma uctuations of grour de	es. Stratific ay be grac ndwater m	cation lines dual. Water ay occur de	s rep r lev ue to	oresent el reading o other fac	gs have ctors	E	Exploratio GZ-SB	on No.: 3-25	

									TEST BORING LOG						
G		GZA GeoE Engine	nvironn ers and Sc	nenta ientist	al, In	c.	QI	Quo DC Im P	onset Development Corpor provement to Pier 1 and T ort of Davisville, Quonset,	ation erminal 5 RI	EXPLORAT SHEET: PROJECT N REVIEWED	ION NC 2 of NO: 348 BY: Jii	D.: G f 3 98 m M	Z-SB-23 arsland	
Logo Drilli Fore	jed By: ng Co. man:	Erne: New Norm	sto Pena England B aan Studda	oring ard	Contra	actors	Typ Rig Dril Driv	De of I Mode Iling M /e & V	Rig: ATV Bel: Diedrich D-50 Method: Vash Date Sta	ocation: Surface E ring Deptl rt - Finish	See Plan lev. (ft.): -4.8 n (ft.): 76 4/12/2021 - 4/	16/202 ²	1	H. Datum: V. Datum:	NAD 83 QVD
Ham	mer Tv	pe:	Auto	matic	Hamm	her	Sar	npler	Type: ss		Ground	dwater	Dep	th (ft.)	
Ham Ham	mer We mer Fa	eight (II (in.)	(Ib.) : 140 : 30				Sar Sar	npler npler	O.D. (in.): 2 Length (in.): 24	Date Not	Time St	ab. Tin	ne	Water	Casing
Auge	er or Ca	asıng	0.D./I.D L	via (in	.) 5,4 a	and 3	Roo	ck Co	re Size: NX	weasure	u				
Depth	Core		Dawth	Sai	mple	Diam		0.07	Stratum	Descriptio	n		lark	E Stra	atum
(ft)	(min)	No.	(ft.)	Pen. (in)	Rec.	per 6 i	s n.) v	SP1 Value	(Modified Burm	ister Class	sification)		Ren		
-		S-7	30.0-32.0	24	5	6 11 16 17		27	S-7: Medium dense, gray, fine S	SAND, some	e Silt, trace fine (Gravel			
- 35 _ -		S-8	35.0-37.0	24	0	3 4 8 15		12	S-8: NO RECOVERY					SILTY	Ý SAND
40		S-9	39.0-41.0	24	22	12 24 53 59		77	S-9: Top 19": Gray, fine SAND, Bottom 3": Dark gray, SILT and	some Silt fine SAND			2	40 41GLAC 42_COBBLES	4 <u>4.8</u> IAL TILL_4 <u>5.8</u> S/BOULD5 <u>68.8</u>
- 45 _ -		S-10	44.0-46.0	24	19	12 19 29 64		48	S-10: Top 5": Gray, fine SAND, Middle 10": Brown/gray, fine to Bottom 4": Gray, SILT, some fir	some Silt medium SA ne Sand, trac	ND, little Silt ce fine Gravel				
- 50 -		S-11	49.0-51.0	24	16	11 20 20 26	i	40	S-11: Dense, dark gray, CLAY	& SILT, trac	e fine Sand			GLAC	IAL TILL
- - 55 -		S-12	54.0-56.0	24	12	15 23 30 33		53	S-12: Very dense, dark gray, C	layey SILT, I	ittle fine Sand				
- 	2 - Incre	S-13 ased	59.0-61.0 difficulty in	24 drillin	14 ng obse	15 25 erved fror	n ap	60 proxin	S-13: Very dense, gray, Clayey nately 41 to 42 feet below th	SILT, trace	fine to medium	Sand Ilder.			
REMARKS															

O			
TEST BORIN	See app bee tha	e Log Key for exploration of sample description and identification procedures. Stratification lines represent proximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings have an made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors n those present at the times the measurements were made.	Exploration No.: GZ-SB-23

									TEST BORIN	IG LOG						
GZ		GZA GeoE Engine	nvironn bers and Sc	nent: vientist	al, In	c.	QI	Quo DC Im P	onset Developme provement to Pie ort of Davisville,	nt Corpor er 1 and T Quonset,	ation erminal 5 RI	EXPLORA SHEET: PROJECT REVIEWEI	TION NO 2 o NO: 348 2 BY: Ji	D.: G f 3 398 m Ma	Z-SB-25 arsland	
Logo Drilli Fore	jed By: ng Co. man:	Billy New	Carias England E van Studda	Boring	Contra	actors	Typ Rig Dril	be of Mode llina I	Rig: ATV el: Diedrich D-50 Method:	Boring L Ground Final Bo	ocation: Surface E ring Dept	See Plan lev. (ft.): -5 h (ft.): 88 5			H. Datum:	NAD 83 OVD
		Nom					Driv	/e & V	Vash	Date Sta	rt - Finish	5/5/2021 - 5/	7/2021		V. Dutum.	
Ham	mer Ty	pe:	Auto	matic	Hamm	ner	Sar	npler	Type: SS		- Dete	Grour	ndwater	Dept	th (ft.)	Casing
Ham Ham Auge	mer We mer Fa er or Ca	eight II (in.) asing	(Ib.): 140): 30 O.D./I.D [Dia (in	.) 5 and	14	Sar Sar Roc	npler npler ck Co	O.D. (in.): 2 Length (in.): 24 re Size: NX		Not Measure	ed Ime s		ne	vvater	ousing
Depth	Core			Sa	mple	1				Stratum	Descriptio	on		lark		atum zin
(ft)	Rate (min)	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 i	s n.)	SPT Value	(Mod	lified Burm	ister Class	sification)		Rem	late Desc	ription ⊕ ₽
-		S-8	30.0-31.3	16	16	7 11 100 /4	t.	>100	S-8: Tan, fine SANI spoon)	D, little Silt (l	ittle fine to o	coarse Gravel i	n tip of	3	SILT\ 31.5 COE	∕ SAND 36.5
- - 35 _		50	35.0.37.0	24	19	20.42		63	S-9 [,] Very dense, ar	av fine SAN	JD and fine	to coarse GRA	VFL som		<u>33.5</u>	<u>38.5</u>
-		2-9	35.0-37.0	24	10	20 42	2	03	Silt	ay, ine ori			VEL, SOIT			
40 - -		S-10	40.0-42.0	24	14	12 19 26 37	,	45	S-10: Dense, gray,	SILT, little fi	ne Sand					
- 45 -		S-11	45.0-47.0	24	17	11 19 26 47	7	45	S-11: Dense, gray,	SILT, little fi	ne Sand				GLAC	IAL TILL
- 50 -		S-12	50.0-52.0	24	18	8 13 22 29)	35	S-12: Dense, gray,	SILT, trace	fine Sand					
- 55 _ - -		S-13	55.0-57.0	24	19	16 26 36 44	ŀ	62	S-13: Very dense, g	gray, Clayey	SILT, trace	fine Sand				
60 3 5	- The	driller	indicated t	hat he	e used	the roller	rbit to	proc	eed through a laye	er of cobbl	es from ap	proximately (31.5 to 3	3.5 fe	eet below the	e mudline.

0		
TEST BORIN	s a tl	See Log Key for exploration of sample description and identification procedures. Stratification lines represent approximate boundaries between soil and bedrock types. Actual transitions may be gradual. Water level readings been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other facto han those present at the times the measurements were made.

s have tors **Exploration No.: GZ-SB-25**

GZ		GZA GeoE Engine	nvironn ers and Sc	nenta ientist	al, In	с.	Q	Quo DC Im P	onset E iprovei fort of I
Logg Drilli Fore	ed By: ng Co. man:	Erne: New: Norm	sto Pena England E nan Studda	Boring ard	Contra	actors	Ty Rig Dri Dri	pe of I g Mode illing N ive & V	Rig: A1 el: Die Method Vash
Hami Hami Hami Auge	mer Ty mer We mer Fa er or Ca	pe: eight (II (in.) asing	Auto (Ib.): 140 : 30 O.D./I.D D	matic Dia (in	Hamm .)5 , 4 a	ier and 3	Sa Sa Sa Ro	mpler mpler mpler ock Co	Type: O.D. (Lengt re Size
Depth	Core		D (1	Sai	nple	-		0.07	
(ft)	Rate (min)	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 ii	; 1.)	SPT Value	
1						35 30			
-									
-									
-		S-14	64.0-64.8	10	8	24 100)	R	S-14: 1
65 _						/4"			Bottom
-	3.33	C-1	66.0-70.0	48	17				C-1: H
-	2.75								gray, S
-	3.5								
70 _	2.67								
	6.25	C-2	70.0-74.0	48	40				C-2: H
	9.5								gray, c
-	8								
_	9		74 0 70 0						<u>с 2. ц</u>
75 _	9.5 8	0-3	74.0-76.0	24	24				gray, S
-									End of
-									
-									
-									
00									
-									
-									
85 _									
-									
-									
-									
-									
90 2	- Incro	acod .	difficulty in	drillin		arved from	n or		nately
REMARKS	- IIICI e	aseu	uniculty in	i driini	g obse		11 a	рюл	natery
See l appro	Log Ker	y for e boun	xploration daries bet	of sar ween	nple d soil an	escription d bedroc	i an k ty	d ideni pes. A	tificatio

	U	Z		GZA GeoE	nvironn ers and Sc	nenta ientist	al, In	с.	Q	Quo DC Im P	TES onset Do provem ort of D
	Log Dri Foi	gg Ilir rer	ed By: ng Co. nan:	Billy (New: Norm	Carias England E aan Studda	Boring ard	Contra	actors	Ty Rig Dri Dri	pe of I g Mode illing N ve & V	Rig: AT el: _{Diec} Method: Vash
	Ha Ha Ha Au	mr mr mr ge	ner Ty ner Wo ner Fa r or Ca	pe: eight (II (in.) asing	Auto (Ib.): 140 : 30 O.D./I.D D	matic)ia (in	Hamm •) 5 and	ler	Sa Sa Sa Ro	mpler mpler mpler ck Co	Type: O.D. (ir Length re Size:
	Dep	th	Core		D "	Sai	nple	5.		0.07	
	(ft)		Rate (min)	No.	Depth (ft.)	Pen. (in)	Rec.	Blows (per 6 in	i 1.)	SPT Value	
		-	<u> </u>	S-14	60.0-61.9	23	16	10 20 28 100/	5"	48	S-14: D
VAL 1 AND 5.GPJ	65			S-15	65.0-67.0	24	17	12 23 32 35		55	S-15: Ve
ROVEMENT TO TERMIN	70	-		S-16	70.0-72.0	24	15	21 26 32 32		58	S-16: Ve some Si
ABASES\34898_QDC IMPF	75	-		S-17	75.0-76.3	16	14	18 29 100 /4		R	S-17: Ve to coars
:12 - J:\GINT PROJECT DAT	80		4 4 5.5 4	C-1	80.0-85.0	60	60				C-1: Ha degree t grained,
3-20-18.GDT - 7/16/21 10	85		5.75 3.75 4.67 5.33	C-2	84.5-88.5	48	48				C-2: Ver fracture SCHIST
ATE 0		-	5.5								End of e
VG - GZA PLOG DATA TEMPL		4 5 6	- Incre - Incre - The	ased o ased o driller	difficulty in difficulty in indicated i	drillin drillin ncreas	l g obse g obse sed dri	erved fror erved at a illing resis	n ap ippr stan	proxin oximat ce on l	nately 6 ely 74 fe ikely we
TEST BORIN	See app bee tha	e L pro en n t	og Ker ximate made hose p	y for e boun at the presen	xploration daries bet times and t at the tim	of sar ween under ies the	nple de soil an the co e meas	escription d bedroc onditions surement	an k ty stat	d ident pes. A ed. Flu ere ma	ification ctual tra ictuatior de.

evelopment Corponent to Pier 1 and	oration Terminal 5 t RI	EXPLORAT SHEET:	ION NO.: (3 of 3	3Z-SB-23			
V Boring	Location: Se	REVIEWED	BY: Jim N	larsland H. Datum	n: NAD 83		NSET
Final Book Date St	oring Depth (art - Finish4/	(ft.): 76 12/2021 - 4/	16/2021	V. Datum	1: QVD	DEVELOPA	IENT CORPORATION
SS 1.): 2 1 (in.): 24	Date Not	Ground Time St	dwater Dej ab. Time	oth (ft.) Water	Casing	Developr 95 Cripe S	nent Services Street
NX Stratur	Measured				tratum si 🔿	North King Tel: (40	Jstown, RI 02852 1) 295-0044
(Modified Bur	mister Classifi	ication)	Rem	a ∉ Des O	scription 👜 🖽	(401	L) 268-9885
				GLA	CIAL TILL		
op 6": Gray, Clayey Sl	LT and fine SAN	ND, trace fine (Gravel	65	60 5		
2": WEATHERED RO	CK ered, moderately	/ fractured, fine	3 e grained	66 WEATH	IERED RO <u>CK</u>		
_ATE (RQD=0%)						STORI BROTT	
rd, moderately weathe	ered, moderately	/ fractured, fine	e grained.				ort Brothers
_ATE (RQD=65%)				BE	DROCK	RORPORIALS	
rd, moderately weathe	ered, moderately	/ fractured, fine	e grained.				WSP USA Inc. 100 Summer Street
ATE (RQD=75%)				76	-80.8		13th Floor Boston, MA 02110
							TEL: (617) 426-7330
5 to 66 feet below t	he mudline or	likely weath					
		Thirdy would					
procedures. Stratif nsitions may be gra	fication lines re adual. Water le	epresent evel readings	s have	Explorat	ion No.:		
	G						
nent to Pier 1 and Davisville, Quonset	Terminal 5 t, RI	EXPLORAT SHEET: PROJECT N REVIEWED	3 of 3 3 Of 3 10: 34898 BY: Jim N	JZ-5B-25			
V Boring drich D-50 Ground	Location: Se	ee Plan v. (ft.): -5		H. Datum	1: NAD 83		
Date St	art - Finish5/	(π.): 88.5 5/2021 - 5/7/ Ground	/2021 dwater Dej	V. Datum pth (ft.)	1: QVD		
55 n.): 2 n (in.): 24	Date Not Measured	Time St	ab. Time	Water	Casing		
Stratur	m Description	in etien)	mark		tratum ; ; ;	NO. REVISION	DATE
ense, gray, SILT		icalion)				DESIGN BY ###	CHECKED BY ###
						DRAWN BY ###	ENGINEER ###
						SCALE	PROJECT NO.
ery dense, gray, SILT,	, trace fine Sand	1				CONTRACT NO. 2023-006	
				GLA	CIAL TILL	FILE NAME: B-501.DWG	
ery dense, gray, fine S ilt	SAND and fine to	coarse GRA	VEL,				
						GREGORY J. COREN, P.E. QDC MANAGER OF EN	GINEERING
any danage arrest f	o modium CANT)	5			DATE: <u>05-10-2024</u>	
ery dense, gray, fine to e Gravel	o meaium SANE	ر, some Silt, so	ome tine 6	76.5	<u>81.5</u>	BLUE FC	ONOMY
				78		SUPPORT	DOCKS &
rd, very slightly weathe	ered, moderately	y fractured, 30 n joint surfaces	l' to 60' s, fine			BOAT	RAMP
, gray, SCHIST (RQD=	=97%)						
ry hard, very slightly w	veathered, slight	ly fractured, ve	ertical		DIXUGK		
d angle, Fe staining or 「(RQD=100%)	n joint surfaces,	fine grained, g	gray,				2 OF 3
exploration at 88.5 feet	t				-93.5		
9 to 70 feet below t	the mudline. ine.						
eathered bedrock at	t approximatel	ly 76.5 feet b	below the n	nudline.		Gateway	/ District
procedures. Stratif nsitions may be gra ns of groundwater n	fication lines re adual. Water le nay occur due	epresen evel reading. e to other fac	s nave tors	i) p orat GZ-S	B-25	SHEET NO.	DRAWING NO.
		TON	- F- 0	H-C	UNS	▶ ∥ <i>B-501</i>	26875
			Ν	ЛАҮ	10, 2		

GZN	GZA Geol Engin	Environr	nenta	al, In	c.	QI	Quo DC Im	onset Developme provement to Pie	nt Corporer 1 and T	ration erminal 5			
		eers und se	ientist	s			P	ort of Davisville,	Quonset,	RI			
Logged E Drilling C Foreman	by: Billy o.: New	Carias / England E man Studda	Boring ard	Contra	actors	Typ Rig Dril Driv	De of I Mode Iling N /e & V	Rig: ATV el: Diedrich D-50 /lethod: //ash	Boring L Ground Final Bo Date Sta	ocation: Surface Ele ring Depth rt - Finish5			
Hammer Hammer Hammer Auger or	Type: Weight Fall (in Casing	Auto (Ib.): 140 .): 30 J O.D./I.D [matic Dia (in	Hamm .) 5	ier	Sar Sar Sar Roc	npler npler npler ck Co	Type: SS O.D. (in.): 2 Length (in.): 24 re Size: NX		Date Not Measured			
Depth Cor	e —	Denth	Sa	nple Rec	Blows	,	SDT		Stratum	Description			
(ff) (mir	n) No.	(ft.)	(in)	(in)	(per 6 ii	n.)	Value	PT (Modified Burmister C alue					
	3-1	0.0-2.0	24	13	WOR WO	OR	0	Bottom 10": Black, f	ine SAND a	and ORGANI			
-	S-2	5.0-7.0	24	7	5 15 6 7		21	S-2: Medium dense, coarse Gravel	brown, fine	e SAND, som			
	S-3	10.0-12.0	24	10	55 77		12	S-3: Medium dense, fine to coarse Grave	brown/ligh I, trace Silt	t brown, fine			
15 - - -	S-4	15.0-17.0	24	12	18 30 42 41		72	S-4: Very dense, fin	e to coarse	GRAVEL, lit			
20	S-5	20.0-22.0	24	14	14 24 28 26	i	52	S-5: Very dense, fin Sand, some Silt	e to coarse	GRAVEL, so			
25	S-6	25.0-27.0	24	11	6 17 39 62		56	S-6: Very dense, lig coarse GRAVEL, sc	ht brown/gr me Silt	ay, fine to co			
30 2 - Th 2 - Th 3 - Th 4 - Th	is borin e driller e driller e driller e driller	g was drille indicated t indicated t indicated t	d from hat he hat he	n a floa e used e used e used	ating barg the roller the roller the roller	je. bit to bit to	o proce o proce o proce	eed through a bou eed through a bou eed through a bou	lder/cobbl lder/cobbl lder from	es from ap es from ap approximat			

C		GZA GeoF	nvironn	nente	al. In	C.	Q	Quo DC Im	TEST BORIN	IG LOG nt Corpor er 1 and T	ation erminal 5
Log Dri Foi	gged By lling Co. reman:	: Billy : New Norm	Carias England E nan Studda	<i>ientist</i> Boring ard	Contra	actors	Ty Rig Dri	P pe of l g Mode illing N ve & V	Yort of Davisville, Rig: ATV el: Diedrich D-50 Method: Vash	Quonset, Boring L Ground Final Bo Date Sta	RI .ocation: g Surface Ele ring Depth rt - Finish5
Ha Ha Ha Au	mmer Ty mmer W mmer Fa ger or C	rpe: eight (III (in.) asing	Auto (Ib.): 140 :: 30 O.D./I.D D	matic Dia (in	Hamm	ner	Sa Sa Sa Ro	mpler mpler mpler ck Co	Type: SS O.D. (in.): 2 Length (in.): 24 re Size: NX		Date Not Measured
Dep (ft)	th Rate	No	Depth	Sai Pen.	mple Rec.	Blows	5	SPT	(Mod	Stratum	Description
65	- - - -	S-11	(ft.) 60.0-62.0	24	24	12 13 17 21	<u>n.)</u>	Value 30	S-11: Dense, gray,	Clayey SILT	Γ, trace fine S
70	- - - - - -	S-12	70.0-72.0	24	18	19 25 35 42	<u>!</u>	60	S-12: Very dense, ç	ıray, Clayey	SILT, little fir
75	-										
80	-										
85											
REMARKS	5 - The 6 - The 7 - The	driller driller driller	indicated t indicated t indicated t	hat he hat he	e used e used e used	the roller the roller the roller	bit t bit t bit t	o proc o proc o proc	eed through a bou eed through a bou eed through a bou	Ider/cobbl Ider from a Ider/cobbl	es from app approximate es from app
Sec app bee tha	e Log Ke proximate en made n those p	y for e boun at the presen	xploration daries bet times and t at the tim	of sar ween under nes the	nple d soil ar r the c e meas	escriptior nd bedroc onditions surement	n an k ty stat s we	d ident pes. A ed. Flu ere ma	tification procedure ctual transitions m uctuations of grour ide.	es. Stratific ay be grac ndwater ma	cation lines dual. Water ay occur du

									TEST BORIN	IG LOG						
G		GZA GeoE Engine	E nvironn eers and Sc	nenta ientist	al, In	c.	Q	Quo DC Im P	onset Developme provement to Pie ort of Davisville,	nt Corpor er 1 and T Quonset,	ration erminal 5 RI	EXPLORAT SHEET: PROJECT REVIEWED	FION NC 2 of NO: 348) BY: Jir	0.: G2 54 98 m Ma	Z-SB-31 Irsland	
Log Drill Fore	ged By ling Co. eman:	: Billy : New Norn	Carias England B nan Studda	Boring ard	Contra	actors	Ty Rig Dri Dri	pe of g Mod illing I ive & V	Rig: ATV el: Diedrich D-50 Method: Vash	Boring L Ground Final Bo Date Sta	ocation: Surface Ele ring Depth	See Plan ev. (ft.): -6.8 (ft.): 105 /26/2021 - 5	/28/2021		H. Datum: V. Datum:	NAD 83 QVD
Han Han	nmer Ty nmer W	vpe: eight	Auto (Ib.): 140	matic	Hamm	ner	Sampler Type: SS Groundwater Depth (ft.) Sampler O.D. (in.): 2 Date Time Stab. Time Water							Casing		
Han Aug	nmer Fa jer or C	III (in.) asing): 30 O.D./I.D D)ia (in	.)5		Sa Ro	mpler ock Co	Length (in.): ₂₄ re Size: NX		Not Measured	I				
Depth (ft)	Core Rate (min)	No.	Depth (ft.)	Sai Pen. (in)	mple Rec. (in)	Blows (per 6 i	s n.)	SPT Value	(Mod	Stratum ified Burm	n Description hister Classi	า fication)		Remark	Hang G G G G Stra Descr Descr	atum > (; ription = =
35 _	-	S-7 S-8	30.0-32.0 35.0-37.0	24 24	3	6 13 15 24 7 11 12 23		28	S-7: Medium dense S-8: Medium dense	, light browr , gray, fine †	n, fine SAND, to coarse SAM	little Silt ND and GRAV	EL, trace			
40 _	-	S-9	40.0-42.0	24	18	3 4 6 10		10	S-9: Medium dense	, gray, fine :	SAND, trace :	Silt			SAND TO S	SILTY SAND
45 <u>-</u> 50 <u>-</u>	-	S-10	50.0-52.0	24	17	14 22 40 48	3	62	S-10: Top 13": Gray Bottom 4": Gray, fin	∕, fine SANE e SAND an	D, little Silt d Clayey SIL⊺	r			<u>50</u>	<u> </u>
REMARKS	-														GLACI	AL TILL
See app bee thar	Log Ke roximate n made n those p	y for e bour at the preser	exploration idaries betw times and it at the tim	of sar ween under ies the	nple d soil ar the c e mea	escriptior nd bedroc onditions surement	n an k ty stat	d ident pes. A ed. Flu ere ma	tification procedure ctual transitions m uctuations of groun ide.	es. Stratific ay be grac idwater m	cation lines dual. Water ay occur du	represent level reading e to other fa	gs have ctors	E	Exploratio GZ-SB	on No.: -31

									TEST BORIN	IG LOG						
G		GZA GeoE Engine	E nvironn eers and Sc	nenta vientist	al, In	с.	Quonset Development Corporation QDC Improvement to Pier 1 and Terminal 5 Port of Davisville, Quonset, RI REVIEWED BY:						FION NC 4 of NO: 348 BY: Jir).: G 4 98 n Ma	Z-SB-31	
Log Drill	ged By ing Co.	: Billy :New	Carias England E	3oring	Contra	actors	Ty Rig	pe of g Mod	Rig: ATV el: Diedrich D-50	Boring L Ground	ocation: s	See Plan ev. (ft.): -6.8			H. Datum:	NAD 83
Fore	eman:	Norn	nan Studda	ard			Dri Dri	ve & V	Vethod: Vash	Final Bo Date Sta	ring Depth rt - Finish5	(ft.): 105 5/26/2021 - 5	/28/2021		V. Datum:	QVD
Ham	nmer Ty mer W	vpe:	Auto	matic	Hamm	ier	Sa	mpler	Type: SS		Date	Groun Time S	dwater tab. Tim	Dept ie	th (ft.) Water	Casing
Ham	mer Fa	ill (in.) asing	(15.). 140): 30 00/100)ia (in	1)5		Sa	mpler	Length (in.): 24		Not Measured	1				
	Core			Sa	mple					Stratum	Description			ark	fin Stra	ntum sin
(ft)	Rate (min)	No.	Depth (ft.)	Pen. (in)	Rec. (in)	Blows (per 6 i	s n.)	SPT Value	(Mod	lified Burn	ister Class	fication)		Rema		ription a t
	-	S-13	92.0-93.2	14	10	54 50 50 /2'		>100	S-13: Very dense, <u>c</u> SAND, some Silt	gray, fine to	coarse GRA\	/EL and fine to	coarse		COBBLES 92 GLACI	/BOULDER <u>98.8</u> AL TILL
1 95 -	5.75 4.25 5 4.5	C-1	95.0- 100.0	60	60				C-1: Hard, slightly w degree fracture ang gray, SCHIST (RQI	veathered, e Jles, Fe stair D=77.1%)	extremely to s ning on fractu	lightly fracture re surfaces, fir	d, 45 to 6 ne grainec	0 1,	<u>95 </u>	<u> </u>
MPROVEMENT 10 LEKM	5.2 2.8 3.2 3.25 3.75	C-2	100.0- 105.0	60	60				C-2: Hard, fresh, ve angles, fine grained	ery slightly fr I, gray, SC⊦	actured, 45 to IIST (RQD=8	o 60 degree fra 8.8%)	icture		BEDF	ROCK
105 _	4.67														105	-111.8
- 62A PLOG DATA TEMPLATE 03-20-18.GDI - 7/16/21 10:12 - 4:/GINT PROJECT DATABASES/3488 REMARKS 0 - -									End or exploration a							
See Appr S S S S S S S S S S S S S S S S S S	Log Ke oximate n made those p	y for e boun at the presen	exploration idaries bet times and it at the tim	of sar ween under nes th	mple d soil ar r the c e mea	escriptior d bedroc onditions surement	n an k typ stat	d ident pes. A ed. Flu ere ma	tification procedure ctual transitions m uctuations of grour ide.	es. Stratific ay be grac ndwater m	cation lines dual. Water ay occur du	represent level reading le to other fa	js have ctors	E	Exploratio GZ-SB	on No.: -31

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MAY 10, 2024

NOTE:

- 1. THE BATHYMETRIC DATA REFLECTS DATA GATHERED BETWEEN JANUARY 14, 2021, AND DECEMBER 9, 2021.
- . FILE TITLES 20220107_QDC_DVILLE_MERGED_3XA_MLLW REFLECTS A 3'X3' AVERAGE DATA SET REPRESENTED IN MEAN LOWER LOW WATER (MLLW).
- REFER TO SHEET G-100 FOR ADDITIONAL BATHYMETRIC SURVEY NOTES.

CODES, STANDARDS AND REFERENCES

1. RELEVANT CODES, STANDARDS AND REFERENCES ARE DETAILED IN THE BLUE ECONOMY SUPPORT PIERS AND BOAT RAMP BASIS OF DESIGN REPORT DATED APRIL 12, 2024.

REINFORCEMENT

- 1. ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A615, GRADE 60 EXCEPT REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60. BAR SIZES SHALL CONFORM TO U.S. CUSTOMARY SIZES AS SHOWN. ALL REINFORCING BAR BEND DIMENSIONS SHOWN ARE OUT-TO-OUT.
- 2. WIRE FOR SPIRAL REINFORCEMENT SHALL CONFORM TO ASTM A82.
- 3. FOR ACTUAL REINFORCING DETAILING, REFER TO SHOP DRAWINGS. ALL REINFORCEMENT DETAILING SHALL BE PER LATEST VERSION OF ACI-318.
- 4. SPLICING OF LONGITUDINAL REINFORCEMENT OVER 40 FEET IN LENGTH, EXCEPT AS SPECIFICALLY NOTED ON THE DRAWINGS, SHALL BE PERMITTED. SPLICES SHALL BE STAGGERED WITH NO MORE THAN 50% OF THE BARS BEING SPLICED AT ANY ONE LOCATION. MINIMUM LENGTH OF LAP SPLICE SHALL BE 50 TIMES THE BAR DIAMETER. SPLICES SHALL BE INCREASED FOR TOP BAR CONDITIONS AS PER ACI 318. MINIMUM SPACING BETWEEN LAP SPLICES SHALL BE PER SPECIFICATIONS.
- 5. PROVIDE CORNER BARS AT ALL WALL, CURB, AND CURB WALL CORNERS. CORNER BARS SHALL MATCH THE NUMBER/SPACING AND DIAMETER OF ALL HORIZONTAL REINFORCEMENT AT THE CORNER. SPLICE CORNER BAR TO TERMINATED STRAIGHT BAR WITH A MINIMUM SPLICE LENGTH OF 50 BAR DIAMETERS.

CONCRETE

- 1. FOR CONCRETE MATERIAL REQUIREMENTS, REFER TO SPECIFICATIONS.
- 2. CONSTRUCTION JOINTS SHALL BE PROVIDED ONLY AS NOTED ON 1 DRAWINGS AND AS SPECIFICALLY PERMITTED BY THE DESIGNER.
- 3. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCHES UNLESS OTHERWISE.
- 4. PRECAST BEAMS AND DECK PANELS SHALL BE FULLY INTEGRATED AT THE ENDS WITH PLACEMENT OF A CLOSURE POUR PRIOR TO/BEFORE PLACEMENT OF SUBSEQUENT CONCRETE STAGES OR TOPPING CONCRETE.
- 5. CONCRETE COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

	MIN COMPRESSIVE
MEMBER	STRENGTH AT 28 DAYS (PSI)
A. PRECAST CONCRETE MEMBERS	6000
B. ALL OTHER CONCRETE	5000

- 7. CONCRETE CLEAR COVER REQUIREMENTS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE: A. BOTTOM OF PRECAST DECK PANELS AND BEAMS 3 IN
 - B. TOP AND SIDE SURFACES 3 IN C. SURFACES AGAINST WHICH FRESH CONC WILL BE PLACED 1 IN D. ALL OTHER LOCATIONS UNLESS SPECIFIED OTHERWISE 3 IN
- 8. THE CONTRACTOR MUST SATURATE SURFACE OF EXISTING CONCRETE WITH CLEAN, POTABLE WATER FOR A MINIMUM OF 12 HOURS PRIOR TO APPLICATION OF SUBSEQUENT POUR. SUBSTRATE SHALL BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING CONCRETE PLACEMENT.

GROUT

1. GROUT FOR DRILLED & BONDED STEEL DOWELS IN CONCRETE DECK AND CAST-IN-PLACE CONCRETE SHALL BE EPOXY ADHESIVE CONFORMING TO ASTM C881

PILES

-- INTERZONE 954 BY INTERNATIONAL MARINE COATINGS -- STRIPE COAT OVER ALL WELD SEAMS, BOLTS, SHARP OBJECTS, AND ANY IMPERFECTIONS (8 MILS) -- PRIMER COAT BRONZE (8 MILS) -- FINISH COAT BLACK (12 MILS)

-- MINIMUM COATING LENGTH OF 10'-0" BELOW MUDLINE

ΉE	1. WHERE APPLICAB REQUIREMENTS C	
S SHOWN	2.	WHERE APPLICABLE, W

TIMBER CONSTRUCTION

1.	ALL TIM

1. DRIVEN STEEL PILES SHALL BE INSTALLED BY THE CONTRACTOR PER THE MOST UPDATED VERSION OF THE DRIVEABILITY CRITERIA DOCUMENT DEVELOPED BY THE DESIGNER.

2. A PILE TESTING PROGRAM CONSISTING OF HIGH STRAIN PILE DYNAMIC TESTING ON SELECT PILES TO BE MUTUALLY DECIDED BETWEEN THE DESIGNER AND CONTRACTOR MAY BE IMPLEMENTED.

3. PILES SHALL BE SPLICED ONLY AS APPROVED BY THE DESIGNER.

4. ALL STEEL PIPE PILES SHALL CONFORM TO ASTM A252 GRADE 3 (MODIFIED TO 50 KSI) OR API 5L MIN X52 KSI OR APPROVED EQUIVALENT. REFER TO

5. JETTING OF PILES SHALL NOT BE ALLOWED.

6. TEST PILES (PDA PILES) SHALL BE DRIVEN PRIOR TO PLACING ORDER FOR PRODUCTION PILES.

7. MATERIALS, EXECUTION AND PDA TESTING PER SPECIFICATION 31 62 16.19 STEEL PIPE PILES SHALL BE DRIVEN TO THE MINIMUM BEARING CAPACITY SPECIFIED. PILES SHALL BE DRIVEN USING A HAMMER OF AN APPROVED TYPE, WITH A CAPACITY EQUAL TO THE HAMMER MANUFACTURER'S RECOMMENDATION FOR THE TOTAL WEIGHT OF THE PILE AND CHARACTERISTICS OF SUBSURFACE MATERIAL TO BE ENCOUNTERED.

8. COAT PILES AS FOLLOWS:

MISCELLANEOUS STEEL

STEEL PLATES AND BARS SHALL MEET THE STM A572, GRADE 50, UNLESS NOTED OTHERWISE.

NIDE FLANGE SHAPES SHALL MEET THE REQUIREMENTS OF ASTM A992M, GRADE 50, UNLESS NOTED OTHERWISE.

> PLICABLE, CHANNEL AND ANGLE SHAPES SHALL MEET THE ENTS OF ASTM A36 UNLESS NOTED OTHERWISE.

PPLICABLE, RECTANGULAR AND ROUND HSS SECTIONS SHALL TO ASTM A500, GRADE C, UNLESS OTHERWISE NOTED.

5. ALL MISC. STEEL SHALL HAVE A MINIMUM THICKNESS OF 1/2 INCHES UNLESS OTHERWISE NOTED.

6. REFER TO SPECIFICATIONS FOR BOLTS, NUTS, WASHERS AND STUD CONNECTIONS, WHEREVER APPLICABLE

REFER TO SPECIFICATIONS FOR COATING, WHERE APPLICABLE, FOR MISCELLANEOUS STEEL ELEMENTS.

IBER CONSTRUCTION SHALL CONFORM TO THE RECOMMENDATIONS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.

2. BOLTS AND NUTS SHALL CONFORM TO ASTM A 307 GALV, UON.

3. WASHERS SHALL BE GALVANIZED OGEE AND SHALL CONFORM TO ASTM A54.

4. TIMBER MATERIAL SHALL BE TREATED DENSE MARINE GRADE No.1 DOUGLAS FIR OR SOUTHERN YELLOW PINE.

PROVIDE PRESSURE TREATED DOUGLAS FIR OR SOUTHERN YELLOW PINE CLEAN-UP PEELED PILES CONFORMING TO ASTM D25. PILES MUST BE IN ONE PIECE. SPLICING IS NOT PERMITTED.

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G		Develop 95 Cripe S North Kin Tel: (40 (40	NSET MENT CORPORATION ment Services Street gstown, RI 02852 1) 295-0044 1) 268-9885
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		N0. REVISION	DATE
(WAVE SCREEN	DESIGN BY ### DRAWN BY ### SCALE	CHECKED BY ### ENGINEER ### PROJECT NO.
PILES AT 10'-0" (TYP.)	0.C.	CONTRACT NO. 2023-006 FILE NAME: S-101.DWG	
		APPROVED GREGORY J. COREN, P.E QDC MANAGER OF EN	IGINEERING
		DATE: <u>05-10-2024</u>	
TE: THE BATHYME JANUARY 14, 2 FILE TITLES 202 A 3'X3' AVERA	TRIC DATA REFLECTS DATA GATHERED BETWEEN 2021, AND DECEMBER 9, 2021. 220107_QDC_DVILLE_MERGED_3XA_MLLW REFLECTS GE DATA SET REPRESENTED IN MEAN LOWER LOW	BLUE EC SUPPORT BOAT	CONOMY DOCKS & RAMP
WATER (MLLW REFER TO SHEE NOTES.	/). ET G-100 FOR ADDITIONAL BATHYMETRIC SURVEY	SURFACE	FEATURES
CONTRACTOR ADJUSTMENT CONCRETE RET	SHALL GENTLY GRADE THE ASPHALT SURFACE, TO THE BOAT RAMP AND UPLAND FROM THE FAINING WALL. NOT SHOWN FOR CLARITY.	Gateway Quonset Bu	AN V District siness Park _®
30' 1" = 10'-0"	PERMIT SUBMISSION NOT FOR CONSTRUCTION MAY 10, 2024	sheet no. S-101	drawing no. 26875

				Develop 95 Cripe North Kin Tel: (40 (40	NSET ment CORPORATION ment Services Street gstown, RI 02852 1) 295-0044 1) 268-9885
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					WSP USA Inc. 100 Summer Street
					Boston, MA 02110 TEL: (617) 426-7330
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				SCALE	PROJECT NO.
				CONTRACT NO. 2023-006	
				APPROVED	
				GREGORY J. COREN, P.E QDC MANAGER OF EN	IGINEERING
				DATE: <u>05-10-2024</u>	
TE: THE BATHYMI JANUARY 14,	ETRIC DATA REFLECTS 2021, AND DECEMBEI	DATA GATHER ? 9, 2021.	ED BETWEEN	BLUE EC SUPPORT	CONOMY DOCKS &
FILE TITLES 20 A 3'X3' AVERA	220107_QDC_DVILLE	_MERGED_3XA ENTED IN MEA	_MLLW REFLECTS N LOWER LOW		
WATER (MLLV REFER TO SHE NOTES.	ET G-100 FOR ADDITI	ONAL BATHYM	ETRIC SURVEY	PILE	PLAN
CONTRACTOR ADJUSTMENT	SHALL GENTLY GRAD	E THE ASPHALT AND UPLAND F	SURFACE, ROM THE		
CONCRETE RE	TAINING WALL. NOT S	SHOWN FOR CL	ARITY.	Gateway Quonset Bu	y District siness Park _®
20' 30'	PERMI	T SUBM	ISSION	SHEET NO.	DRAWING NO.
1" = 10'-0"	NOT FOR	CONST	RUCTION)24	S-102	26875

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SECTION - OFFSHORE MIDSPAN FOR SUPPORT PIER AND BOAT RAMP SCALE: 3/16= 1'-0"

SECTION - OFFSHORE END OF SUPPORT PIER APPROACH AND BOAT RAMP SCALE: 3/16= 1'-0"

SECTION - INSHORE SUPPORT PIER TRANSITION D SLAB AND BOAT RAMP AT SSP RETAINING WALL S-101 SCALE: 3/16= 1'-0"

F SECTION - INSHORE BOAT RAMP TRANSITION S-101 SCALE: 3/16= 1'-0"

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MAY 10, 2024

- 1. SPLICE LOCATION ON PILE SHOWN FOR ILLUSTRATION PURPOSES ONLY. HORIZONTAL SPLICES TO BE INSTALLED IN AREA OF LOW MOMENT AND REQUIRE PRE-APPROVAL BY EOR.
- 2. REFER TO PILE SCHEDULE FOR DESIGN TIP ELEVATIONS.
- 3. INSIDE CUTTING SHOE (ASTM A148 90/60 HEAT TREATED SUCH AS ASSOCIATED PILE AND FITTING CORP.'S MODEL 0-14001-S OR APPROVED EQUAL)

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MAY 10, 2024

STIRR 6" SEAT (TYP) - #5 TIES - 6-#10 - 2-#6 EACH LAYER - 6-#10 SEAT (TYP) - #5 TIES		Developr 95 Cripe S North King Tel: (40) (40)	NSEC ENT CORPORATION nent Services istreet jstown, RI 02852 () 295-0044 () 268-9885
<u> </u>			
<u>~</u> 2-#6			
EACH LAYEF	2		
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		DESIGN BY ###	ENGINEED ###
SS TUBE FOR		SCALE	
UPPORTING N PILE			
		CONTRACT NO. 2023-006	
ECHON	_	ADDROVED	
		GREGORY J. COREN, P.E. QDC MANAGER OF EN	GINEERING
		DATE: <u>05-10-2024</u>	
		BLUE EC SUPPORT BOAT BOAT PRECAST I DETAILS OF Gateway	DOCKS & RAMP PILE CAP - SHEET 1 4 District
Γ			
	PERMIT SUBMISSION NOT FOR CONSTRUCTION MAY 10, 2024	SHEET NO. S-502	drawing no. 26875

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D 10'-0" 2'-6" 2'-6" 5'-0" #5 @ 6" STIRR & TIE -17 {₽\₽\₽ _} **| ↓ ↓ ↓** ↓ 4-#6 AT TWO LEVELS AT HOLE, TYP 1'-10" ^IHOLE, TYP € PILE **E** PILE **PC-3 SECTION** SCALE: 1/2" = 1'-0" $\begin{pmatrix} 1 \\ - \end{pmatrix}$ D 10'-0" 5'-0" 2'-6" 2'-6" 1'-10" HOLE, TYP **£** PILE **£** PILE **PC-3 TOP REINFORCEMENT PLAN** SCALE: 1/2" = 1'-0" 2 · - , D С 10'-0" 5'-0" 2'-6" 2'-6" 1'-10" HOLE, TYP **£** PILE **£** PILE **PC-3 BOTTOM REINFORCEMENT PLAN** SCALE: 1/2" = 1'-0" 3 - /

TIRR 6" SEAT (TYP) - #5 TIES - 6-#10 - 2-#6 EACH LAYEI - 6-#10		Develop 95 Cripe 3 North Kin Tel: (40 (40	NSP USA Inc. 100 Summer Street 13 PS-0044 1) 268-9885
TIRR <u>6''</u> SEAT (TYP) - #5 TIES			
~ 4-#10 ~ 2-#6			
EACH LAYEI	3	NO. REVISION	DATE
SS TUBE FOR JPPORTING N PILE		DESIGN BY ### DRAWN BY ### SCALE	CHECKED BY ### ENGINEER ### PROJECT NO.
ONNECT	ION	FILE NAME: S-504.DWG	
		GREGORY J. COREN, P.E QDC MANAGER OF EN DATE: <u>05-10-2024</u>	GINEERING
		BLUE EC SUPPORT BOAT PRECAST DETAILS O	CONOMY DOCKS & RAMP PILE CAP - - SHEET 3 = 4
1		Gatewa Quonset Bu	y District siness Park _®
	PERMIT SUBMISSION NOT FOR CONSTRUCTION MAY 10, 2024	sheet no. S-504	drawing no. 26875

NOTE:

SHOWN FOR CLARITY.

1. PRECAST PLANKS, TRANSITION SLAB, CIP TOPPING AND GRADE ELEVATION LINE NOT

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NOT FOR CONSTRUCTION

CONTRACTOR CONTRACTOR DEVELOPMENT CORPORATION Development Services 95 Cripe Street North Kingstown, RI 02852 Tel: (401) 295-0044 (401) 268-9885			
ESTABLISHED Manat	fort Bro	thers	
	orated		
	WSP USA 100 Sum 13th Floa Boston, TEL: (61	A Inc. Imer Street MA 02110 (7) 426-7330	
N0. REVISION		DATE	
DESIGN BY ###	CHECKED BY #	##	
DRAWN BY ###	PROJECT NO	##	
CONTRACT NO. 2023-006			
FILE NAME: S-506.DWG			
APPROVED			
GREGORY J. COREN, P.E. QDC MANAGER OF ENGINEERING			
DATE: <u>05-10-2024</u>			
BLUE ECONOMY SUPPORT DOCKS & BOAT RAMP CAST-IN-PLACE FOOTING - DETAILS - SHEET 1 OF 2			
Gateway Quonset Bu	y Distric siness I	t	
-	DRAWING NO.		

	LABEL	DIMENSIONS			NUMBER OF
		W	L	Н	PROJECTING STIRR LEGS
	P-1	8'-8"	17'-3"	1'-0"	8
	P-2	8'-8"	17'-3"	1'-0"	8
	P-3	10'-0"	17'-3"	1'-0"	8
	P-4	10'-0"	23'-6"	1'-0"	8
	P-5	12'-3"	23'-0"	1'-0"	0

DEVELOPMENT CORPORATION Development Services 95 Cripe Street North Kingstown, RI 02852 Tel: (401) 295-0044 (401) 268-9885 Manafort Brothers ncorporated WSP USA Inc. 100 Summer Street 13th Floor Boston, MA 02110 TEL: (617) 426-7330 DATE CHECKED BY ### ENGINEER ### PROJECT NO. GREGORY J. COREN, P.E. QDC MANAGER OF ENGINEERING **BLUE ECONOMY** SUPPORT DOCKS & BOAT RAMP PRECAST DECK PANEL DETAILS

Gateway District Quonset Business Park_®

DRAWING NO. 26875

BETWEEN BOTTOM OF WAVE SCREEN WERTICAL PLANKS AND MUDLINE

