TOWN OF NORTH KINGSTOWN, RHODE ISLAND

WICKFORD WATERFRONT IMPROVEMENTS

CONSTRUCTION DOCUMENTS

APRIL 2024

TOWN OF NORTH KINGSTOWN, RI

100 FAIRWAY DRIVE, NORTH KINGSTOWN, RI 02852

TOWN MANAGER

RALPH MOLLIS

PROJECT LOCATION

LOCATION MAP

1" = 250'-0"

PLAN INDEX

PREPARED BY:

BETA

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TODD M. WARZECKI 3/31/21 No. 9414 REGISTERED PROFESSIONAL ENGINEER CIVIL

NICOLE B. IANNUZZI No. 9724 REGISTERED PROFESSIONAL ENGINEER (CIVIL) 4-17-24

REGISTERED PROFESSIONAL

4-17-2024

DATE

LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CURB (TYPE AS NOTED)
		BERM
		EDGE OF PAVEMENT / LIMIT OF PAVEMENT
CB		CATCH BASIN (OR GUTTER INLET, DROP INLET, CATCH BASIN CURB INLET)
EHH	A	ELECTRIC HANDHOLE (NUMBER AS NOTED)
E	E	ELECTRIC MANHOLE
T	T	TELEPHONE MANHOLE (TYPE NOTED)
W	W	WATER MANHOLE (TYPE NOTED)
S	S	SEWER MANHOLE (TYPE NOTED)
D	D	DRAINAGE MANHOLE (TYPE NOTED)
GG	GG	GAS GATE / GAS SHUT OFF
WG	WG	WATER GATE / WATER SHUT OFF
HYD	HYD.	HYDRANT
FA	FAB	FIRE ALARM BOX
LP	LP	STREET LIGHT POLE
UP		UTILITY POLE
		SIGN
GUY	GUY	GUY POLE
12" RCP (AB)		ABANDONED UTILITY LINE (TYPE AS NOTED)
12" RCP D	10-12" RCP D	DRAIN PIPE (SIZE AND SLOPE AS NOTED)
12" CS S	10"-8" PVC S	SEWER MAIN (SIZE AS NOTED)
	S S	SEWER SERVICE LINE
E		ELECTRIC DUCT
G 4" HP	G	GAS MAIN (SIZE AS NOTED)
GS	G G	GAS SERVICE LINE
W 8" CI	W	WATER MAIN (SIZE AS NOTED)
WS	W W	WATER SERVICE LINE
T	T	TELEPHONE DUCT (SIZE AS NOTED)
MB		MAIL BOX
		WOOD GUARD RAIL STEEL BEAM GUARD, WOOD OR STEEL POSTS (TYPE AS NOTED)
		STEEL GUARD RAIL, STEEL POSTS (TYPE NOTED)
		STONE WALL
		RETAINING WALL (TYPE NOTED)
BND	BND	HIGHWAY/PROPERTY BOUND (TYPE AS NOTED)
E.S.H.L.		STATE HIGHWAY LAYOUT LINE (S.H.L.)
Boundary Name		CITY, TOWN, COUNTY OR STATE BOUNDARY LINE
		PROPERTY LINE
T.E.B.	T.E.B.	TEMPORARY EASEMENT LINE
P.E.B.	P.E.B.	PERMANENT EASEMENT LINE
	2+00	CONSTRUCTION BASELINE
N00°00'00"E 000.00'		SURVEY LINE
		RAILROAD OR STREET RAILWAY TRACKS WITH SIDELINES
		WHEELCHAIR RAMP
		TREE (SIZE AND TYPE AS NOTED)
		HEDGE
x x x	x x x	FENCE (SIZE AND TYPE AS NOTED)
WF-1		EDGE OF WETLAND W/ FLAGGED NUMBER
		EDGE OF RIVER/STREAM LINE
		50 FT. WETLAND BUFFER LIMIT
		100 FT. WETLAND BUFFER LIMIT
		100 FT. RIVER FRONT LIMIT
		200 FT. RIVER FRONT LIMIT
		WOODED AREA / LIMIT OF CLEARING
x 00.0	x 00.00	SPOT GRADE
		SAW CUT LINE
		COMPOST FILTER SOCK

EXISTING	PROPOSED	
		BUILDING
100	100	CONTOUR MAJOR
		CONTOUR MINOR
		DRIVEWAY DIRT
		DRIVEWAY PAVED
TP	TP	TEST PIT "QUALITY LEVEL A" DATA POINT
BH-15'		BORING
P-10'		PROBE
MW		MONITORING WELL
		CAP / PLUG PIPE

ABBREVIATIONS

GENERAL

ABAN.	ABANDON	RT.	RIGHT
ADJ.	ADJUST	ROW	RIGHT-OF-WAY
AADT	ANNUAL AVERAGE DAILY TRAFFIC	RD.	ROAD
APPROX.	APPROXIMATE	SHT.	SHEET
℄	BASELINE	SHLD.	SHOULDER
BM	BENCH MARK	SDWK.	SIDEWALK
BIT.	BITUMINOUS	SB	SOUTH BOUND OR STONE BOUND
BB	BITUMINOUS BERM	SHLL	STATE HIGHWAY LAYOUT LINE
BC	BITUMINOUS CURB	STA.	STATION
BOC	BOTTOM OF CURB	ST.	STREET
BOS	BOTTOM OF STEP	TAN	TANGENT
BOW	BOTTOM OF WALL	T	TANGENT DISTANCE OF CURVE/TRUCK PERCENTAGE
BD OR BND	BOUND	TEB	TEMPORARY EASEMENT BOUNDARY
BLDG.	BUILDING	TEMP.	TEMPORARY
CEM.	CEMENT	TOC	TOP OF CURB
C	CENTER LINE	TOS	TOP OF STEP
CLF	CHAIN LINK FENCE	TOW	TOP OF WALL
CONC.	CONCRETE	TP	TURNING POINT
CC	CONCRETE CURB	TYP.	TYPICAL
CONT.	CONTINUOUS	VAR.	VARIABLE
CONST.	CONSTRUCTION	VERT.	VERTICAL
CO.	COUNTY	VC	VERTICAL CURVE
CS	COMBINED SEWER PIPE	VGC	VERTICAL GRANITE CURB
D	DELTA ANGLE (CENTRAL ANGLE OF HORIZ. CURVE)	WB	WEST BOUND
DWP	DETECTABLE WARNING PANEL	WCR	WHEELCHAIR RAMP
DWY.	DRIVEWAY		
EB	EAST BOUND		
EP, EOP	EDGE OF PAVEMENT		
EL.	ELEVATION		
ETW	EDGE OF TRAVEL WAY		
EXIST.	EXISTING		
FLDSTN	FIELDSTONE		
FDN.	FOUNDATION		
GAR.	GARAGE		
GRAN.	GRANITE		
GC	GRANITE CURB		
GE	GRANITE EDGING		
GRAV.	GRAVEL		
GD	GROUND		
HOR.	HORIZONTAL		
HMA	HOT MIX ASPHALT		
HO	HOUSE		
IP	IRON PIPE		
JCT	JUNCTION		
LT.	LEFT		
LP	LOW POINT		
MB	MAIL BOX		
MAX.	MAXIMUM		
MIN.	MINIMUM		
NB	NORTH BOUND		
NTS	NOT TO SCALE		
OC	ON CENTER		
PVMT.	PAVEMENT		
L PGL	PROFILE GRADE LINE		
PROJ.	PROJECT		
P OR PROP. LINE	PROPERTY LINE		
PROP.	PROPOSED		
R	RADIUS OF CURVATURE		
RR	RAILROAD		
R&D	REMOVE & DISPOSE		
REM.	REMOVE		
REMOD.	REMODEL		
RET.	RETAINING		
R&R	REMOVE AND RESET		
R&S	REMOVE AND STACK		

UTILITIES

CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CL.	CLASS (PIPE, CONCRETE, EXCAVATION, ETC.)
COND.	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
CSP	CORRUGATED STEEL PIPE
CULV.	CULVERT
CI	CURB INLET
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
EL. (OR ELEV.)	ELEVATION
FM	FORCE MAIN
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GIP	GALVANIZED IRON PIPE
GG	GAS GATE
GI	GUTTER INLET
HDW	HEADWALL
HYD.	HYDRANT
INV.	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
PVC	POLY-VINYL-CHLORIDE PIPE
PWW	PAVED WATER WAY
R&D	REMOVE & DISPOSE
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
SMH	SEWER MANHOLE
SD	SUBDRAIN
TSV&B	TAPPING SLEEVE, VALVE AND BOX
TS	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
UP	UTILITY POLE
VCP	VITRIFIED CLAY PIPE
WG	WATER GATE
WM	WATER METER/WATER MAIN
WIP	WROUGHT IRON PIPE

PREPARED BY

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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

LEGEND & ABBREVIATIONS

NO.	REVISIONS	DATE

DRAWN BY:	CC
DESIGNED BY:	TD
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

NONE

SHEET NO.

2

GENERAL NOTES

1. ALL SURFACE AND NEAR SURFACE WORK SHALL CONFORM TO THE RHODE ISLAND STATE BUILDING CODE AND TO THE CONTRACT DOCUMENTS. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. THE STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION 2023 EDITION AND ALL APPROVED REVISIONS IN THE COMPILATIONS OF APPROVED SPECIFICATIONS, THE LATEST EDITION OF THE RHODE ISLAND STANDARD DETAILS WITH REVISIONS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z-60.1-1986) AND ALL AMENDMENTS WILL GOVERN.
3. CONTRACTOR SHALL REFER TO AND COORDINATE THE PROJECT REQUIREMENTS AS INDICATED ON THE GENERAL, CIVIL, AND STANDARD DETAIL DRAWINGS AND SPECIFICATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES AND PIPING AGAINST FLOODING, FLOTATION AND OTHER DAMAGE DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO ADJACENT AND NEARBY STRUCTURES DURING CONSTRUCTION. ALL DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE ENGINEER.
6. PRIOR TO CLOSING ANY ROADWAY (PARTIALLY OR COMPLETELY), THE TOWN OF NORTH KINGSTOWN, MUNICIPAL POLICE AND LOCAL FIRE OFFICIALS SHALL BE NOTIFIED BY THE CONTRACTOR. PUBLIC NOTIFICATIONS AND HEARINGS MAY BE REQUIRED. EACH PROPOSED CLOSING SHALL BE REQUESTED AT LEAST 4 WEEKS PRIOR TO CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY.
7. PRIOR TO ANY EXCAVATION, CONTRACTOR SHALL CALL "DIG SAFE" AT 1(888)-DIG-SAFE, AT LEAST 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) TO OBTAIN FIELD-MARKED UTILITY LOCATIONS.
8. CONTRACTOR IS APPRISED THAT SOME ENTITIES WITH UTILITY INFRASTRUCTURE WITHIN OR NEAR THE PROJECT AREA MAY NOT PARTICIPATE IN THE DIG-SAFE PROGRAM, AND MUST BE CONTACTED DIRECTLY TO HAVE THEIR UTILITIES FIELD-MARKED.
9. CONTRACTOR IS APPRISED THAT UTILITY PROVIDERS MAY NOT MARK ALL SUBSURFACE UTILITIES WITHIN THE PROJECT AREA, PARTICULARLY SERVICE CONNECTIONS AND/OR ABANDONED UTILITIES.
10. SEWER, WATER AND OTHER UTILITIES HAVE BEEN SHOWN ON THE SITE PLANS WHERE INFORMATION IS AVAILABLE. ALL ACTIVE SERVICE CONNECTIONS MUST BE MAINTAINED DURING CONSTRUCTION.
11. PIPING EXPOSED DURING EXCAVATION THAT IS NOT TO BE RELOCATED, ABANDONED, OR DEMOLISHED SHALL BE SUPPORTED IN-PLACE, BRACED, OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.
12. CONTRACTOR SHALL FIELD VERIFY EXISTING STRUCTURE ELEVATIONS AND LOCATIONS, AND EXISTING PIPE INVERT ELEVATIONS AND LOCATIONS PRIOR TO SUBMITTING SHOP DRAWINGS FOR CONNECTING STRUCTURES.
6. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SANITARY STRUCTURES AS NECESSARY FOR THE CHANGES IN GRADE, AND RESET ALL WATER, AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO M04.03.1.
7. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE TV, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES. ALL UTILITY CASTINGS AND FIRE ALARM BOXES SHALL BE ADJUSTED TO FINISHED GRADE BY THEIR RESPECTIVE OWNERS.
8. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE THE SPECIFICATIONS FOR THIS CONTRACT. SEE SPECIFICATIONS FOR OTHER REQUIREMENTS IN ADDITION TO THE GENERAL NOTES.
9. OTHER CONSTRUCTION UPON THIS SITE BY OTHER CONTRACTORS MAY OCCUR DURING THE COURSE OF THIS CONTRACT. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE HIS OPERATIONS WITH THOSE OF THE OTHER CONTRACTORS.
10. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE INDICATED LIMITS OF WORK AS SHOWN IN THE CONTRACT DRAWINGS. ALL SURFACES DAMAGED OUTSIDE THE INDICATED LIMITS SHALL BE REPLACED IN KIND AT CONTRACTOR'S EXPENSE.
11. DUST CONTROL, USING CALCIUM CHLORIDE, SHALL BE PROVIDED FOR ALL SURFACES OF BACK FILLED AREAS, ALL EQUIPMENT ACCESS ROADWAYS AND/OR AS OTHERWISE DIRECTED BY THE OWNER/ENGINEER.
12. SCHEDULE UTILITY SHUTDOWNS (INCLUDING BUT NOT LIMITED TO SEWER, WATER AND GAS) IN ADVANCE WITH THE RESPECTIVE UTILITY PROVIDERS, AND PROVIDE ADVANCE NOTIFICATION TO THOSE WHO WILL BE AFFECTED BY AN INTERRUPTION IN SEWER, WATER OR GAS SERVICE IN ACCORDANCE WITH THE NOTIFICATION REQUIREMENTS FOR EACH UTILITY.
13. PIPE REMOVAL EACH DAY SHALL BE LIMITED TO THE AMOUNT THAT CAN BE REPLACED ON THAT SAME DAY.
14. SERVICE CONNECTIONS SHALL BE COMPLETELY REESTABLISHED AT THE END OF EACH DAY.
15. SERVICE CONNECTION LOCATIONS ARE APPROXIMATE. CONNECTIONS SHALL BE LOCATED DURING EXCAVATION AND PROTECTED. TIME AND EXPENSE REQUIRED TO WORK IN THIS MANNER SHALL BE PART OF THE BID AND SHALL NOT BE THE BASIS FOR ANY CLAIM AGAINST THE OWNER.

MAPPING

1. DEPICTED BASE MAPPING AND TOPOGRAPHY HAVE BEEN PROVIDED BY GAROFALO & ASSOCIATES, DATED SEPTEMBER 2022. THE OWNER DOES NOT WARRANTY THE ACCURACY OR CURRENCY OF THE DEPICTED INFORMATION.
2. THE LOCATION, SIZE, AND MATERIAL OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES AND/OR UTILITIES SHOWN ON THESE PLANS ARE FROM THE BEST SOURCES AVAILABLE AT PRESENT AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES, UTILITIES OR STRUCTURES ARE SHOWN. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR IN FIELD.
3. EXISTING UTILITIES HAVE BEEN PLOTTED FROM THE BEST AVAILABLE DATA AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY ALL UTILITY COMPANIES (PUBLIC AND PRIVATE).
4. THE HORIZONTAL COORDINATE SYSTEM IS RHODE ISLAND STATE PLANE, NAD83. THE VERTICAL DATUM IS NAVD88.

TEST PITS

1. PRIOR TO THE START OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT TEST PITS AS SHOWN, AT LOCATIONS WHERE CONFLICTS BETWEEN EXISTING PIPING OR STRUCTURES AND PROPOSED PIPING MAY OCCUR, AND WHERE DIRECTED BY THE ENGINEER. CONDUCT TEST PITS TO FIELD VERIFY THE EXACT SIZE, MATERIAL, LOCATION, INVERT ELEVATION AND ALIGNMENT (VERTICAL AND HORIZONTAL) OF EXISTING UNDERGROUND PIPES AND STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN PROPOSED PIPING AND EXISTING PIPING PRIOR TO STARTING INSTALLATION OF THE PROPOSED PIPING. OTHER TEST PITS MAY BE REQUIRED DURING THE COURSE OF WORK.
2. ALL DIMENSIONS AND JOB RELATED CONDITIONS ARE TO BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES FOUND ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER AND PROPERLY RESOLVED BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. CONTINUATION WITH OTHER ASPECTS OF THE WORK SHALL PROCEED WITHOUT DELAY OR CAUSE FOR CLAIM.

EXISTING UTILITIES

1. EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED AND SUPPORTED AT ALL TIMES BY THE CONTRACTOR. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO INTERFERE AS LITTLE AS POSSIBLE WITH EXISTING UTILITIES. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION BY REASON OF DELAY AND/OR INCONVENIENCE IN ADAPTING HIS OPERATIONS ACCORDINGLY.
2. WHERE AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR THE RESOLUTION OF THE CONFLICT.
3. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION, RELOCATION AND ADJUSTMENT OF WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AS REQUIRED.
4. BACKFILL MATERIALS SHALL BE PLACED IN LAYERS NOT EXCEEDING 6 INCHES THICKNESS MEASURED PRIOR TO COMPACTION. UNLESS OTHERWISE INDICATED OR SPECIFIED, EACH LAYER SHALL BE COMPACTED TO 95% MAXIMUM RELATIVE DENSITY (MRD) IN ACCORDANCE WITH ASTM D1557. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SIEVE AND PROCTOR ANALYSIS FOR NEW AND IN-SITU MATERIAL.
5. BACKFILL WITH THE MATERIALS AND TO THE LIMITS INDICATED ON THE DRAWINGS.
6. BACKFILL MATERIALS AROUND THE PIPE SHALL BE COMPACTED TO A MINIMUM OF 90% MRD.
7. AS THE EXCAVATION APPROACHES PIPES, CONDUITS, OR OTHER UNDERGROUND STRUCTURES, DIGGING BY MACHINERY SHALL BE DISCONTINUED AND THE EXCAVATION SHALL BE DONE BY MEANS OF HAND TOOLS. SUCH MANUAL EXCAVATION WHEN INCIDENTAL TO NORMAL EXCAVATION SHALL BE INCLUDED IN THE WORK TO BE DONE UNDER ITEMS INVOLVING NORMAL EXCAVATION. DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. IF THE BOTTOM OF ANY EXCAVATION IS TAKEN OUT BEYOND THE LIMITS INDICATED OR PRESCRIBED, THE RESULTING VOID SHALL BE BACKFILLED AT THE CONTRACTOR'S EXPENSE WITH THOROUGHLY COMPACTED ¾" CRUSHED STONE.
9. IF MATERIAL UNSUITABLE FOR FOUNDATION AND/OR BACKFILLING (IN THE OPINION OF THE ENGINEER) IS FOUND AT OR BELOW THE GRADE TO WHICH EXCAVATION WOULD NORMALLY BE CARRIED IN ACCORDANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL REMOVE SUCH MATERIAL TO THE REQUIRED WIDTH AND DEPTH AND REPLACE IT WITH THOROUGHLY COMPACTED CRUSHED STONE, GRAVEL BORROW, FINE AGGREGATE OR CONCRETE AS DIRECTED.
10. EXCAVATE TRENCH TO DEPTHS PERMITTING THE PIPE TO BE LAID AT THE ELEVATIONS, SLOPES, OR DEPTHS OF COVER INDICATED ON THE DRAWINGS, AND AT UNIFORM SLOPES BETWEEN INDICATED ELEVATIONS.
11. LENGTH OF TRENCH OPEN AT ANY ONE TIME WILL BE CONTROLLED BY CONDITIONS, SUBJECT TO ANY LIMITS THAT MAY BE PRESCRIBED BY THE ENGINEER.
12. WHENEVER ANY TRENCH OBSTRUCTS PEDESTRIAN AND VEHICULAR TRAFFIC IN OR TO ANY PUBLIC STREET, PRIVATE DRIVEWAY OR PROPERTY ENTRANCE, OR ON PRIVATE PROPERTY, CONTRACTOR SHALL TAKE SUCH MEANS AS MAY BE NECESSARY TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC AND ACCESS.
13. STREETS AND PREMISES ARE TO BE KEPT FREE FROM UNNECESSARY OBSTRUCTIONS, DEBRIS AND ALL OTHER MATERIALS.
14. ALL OPEN EXCAVATIONS ARE TO BE COVERED AT THE END OF EACH DAY BY MEANS OF STEEL PLATES OR SOME OTHER SATISFACTORY COVER OF ADEQUATE SIZE AND STRENGTH SUITABLY HELD IN PLACE TO KEEP ALL TRAFFIC OUT OF EXCAVATIONS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR AND SECURING ANY AND ALL REQUIRED PERMITS FROM THIRD-PARTY UTILITY PROVIDERS (INCLUDING BUT NOT LIMITED TO SANITARY SEWER, WATER, GAS, TELEPHONE, OR ELECTRIC), AND SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED THEREWITH. WORK ON AND AROUND OTHER UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH ANY AND ALL APPLICABLE REQUIREMENTS OF THE PERMITS ISSUED BY THE UTILITY PROVIDERS.

SEWER AND DRAIN

1. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
2. WHERE EXISTING MATERIALS ARE ENCOUNTERED THAT, IN THE OPINION OF THE OWNER/ENGINEER ARE UNSUITABLE FOR BEDDING, BACK FILLING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SUITABLE GRAVEL BORROW, CRUSHED STONE AND/OR SELECTED BORROW, AS DIRECTED BY THE OWNER/ENGINEER AND PAID FOR UNDER THE APPROPRIATE BID ITEMS.
3. INVERTS AND DIRECTIONS OF PIPES AND CONDUITS ARE SHOWN FOR THE PURPOSE OF INDICATING THE BASIC PARAMETERS USED DURING THE DESIGN. HOWEVER, MINOR CHANGES IN HORIZONTAL AND VERTICAL LOCATIONS MAY BE REQUIRED DURING CONSTRUCTION AS FIELD CONDITIONS WARRANT. FINAL LOCATIONS OF OTHER PIPES AND/OR CONDUITS SHALL BE DETERMINED IN THE FIELD. ANY CHANGES SHALL BE APPROVED BY THE ENGINEER.
4. WHERE PIPING IS TO BE CONNECTED TO EXISTING PIPING OR STRUCTURES, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE (REQUIRED AS A RESULT OF CUTTING THE EXISTING PIPE BACK) TO COMPLETE THE CONNECTION AS REQUIRED.
5. SEWER AND DRAIN SERVICE CONNECTIONS ARE LOCATED FOR ESTIMATING PURPOSES ONLY, EXACT LOCATIONS TO BE DETERMINED IN FIELD.
6. UNLESS OTHERWISE STIPULATED, ALL DRAINAGE PIPE SHALL BE AS INDICATED ON THE DRAWINGS, AND UNLESS SPECIFICALLY APPROVED BY THE ENGINEER, MANHOLES OR CATCH BASINS SHALL BE SOLID BLOCK OR PRECAST CONCRETE STRUCTURES CONFORMING TO THE LATEST RIDOT STANDARDS.
7. ALL DRAINAGE STUBS FOR FUTURE CONNECTIONS SHALL BE PLUGGED OR CAPPED AND LEFT WATER-TIGHT.
8. ALL PROPOSED CATCH BASINS MUST HAVE 3-FOOT SUMPS AND WATER QUALITY HOODS (EJIW LEBARON FOUNDRY CO. MODEL NO. L203-000 OR APPROVED EQUAL).

SITE RESTORATION

1. EXCEPT WHERE NOTED BY PROPOSED CONTOUR LINES AND/OR SPOT ELEVATIONS, ALL FINAL CONTOUR LINE ELEVATIONS SHALL BE THE SAME AS EXISTING CONTOUR LINE ELEVATIONS.
2. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED.
3. ALL CURBING DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE RESET, RESTORED OR REPLACED IN KIND, IF DAMAGED, INCLUDING CEMENT CONCRETE, IN ACCORDANCE WITH THE NORTH KINGSTOWN AND RIDOT STANDARDS, REGARDLESS OF ITS PROXIMITY TO THE DRAIN OR SEWER, AS DIRECTED BY THE OWNER/ENGINEER. PAYMENT SHALL BE CONSIDERED PART OF AND PAID FOR UNDER THE APPROPRIATE PIPE ITEMS AS APPLICABLE UNLESS OTHERWISE INDICATED ON PLANS.
4. ALL SIDEWALK AND WHEELCHAIR RAMP AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IN CONFORMANCE TO THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS AND THE ARCHITECTURAL ACCESS BOARD (AAB) REQUIREMENTS.
5. THE CONTRACTOR SHALL REMOVE AND RESET ALL SIGNS DISTURBED DURING CONSTRUCTION, IN CONFORMANCE WITH THE RIDOT STANDARD SPECIFICATIONS AND CONSTRUCTION STANDARDS.
6. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

REMOVAL AND DISPOSAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS TO BE DISPOSED, INCLUDING BUT NOT LIMITED TO, MANHOLES, CATCH BASINS, PIPING, CONCRETE AND BITUMINOUS PAVEMENT, COBBLES, ROCK, TREES AND STUMPS, ETC. ALL GRIT AND DEBRIS FROM THE EXISTING STRUCTURES TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF AS INDICATED IN THE SPECIFICATIONS. ALL DEMOLITION MATERIAL INCLUDING CONCRETE, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE DISPOSED OF IN ACCORDANCE WITH RIDEM REQUIREMENTS.
2. NOTIFY APPROPRIATE UTILITY COMPANIES TO TURN OFF AFFECTED SERVICES PRIOR TO REMOVAL AND DISPOSAL. SEAL WATER, SEWER, DRAINAGE AND GAS UTILITIES AND SERVICES AT EXCAVATION LIMITS OR AS REQUIRED, USING PLUGS, CAPS OR SEALS AS NEEDED.
3. UNDERGROUND PIPING TO BE ABANDONED AND REMAIN SHALL BE PROPERLY CAPPED UNLESS IT INTERFERES WITH NEW STRUCTURES, PIPES OR AS INDICATED, SPECIFIED AND DIRECTED BY ENGINEER.
4. REMOVE AND DISPOSE OF ALL EXISTING BITUMINOUS CONCRETE AND CEMENT CONCRETE, AS REQUIRED.

GENERAL EXCAVATION

1. DESIGNATED WASHOUT FACILITIES: IN AREAS WHERE CONCRETE WILL BE POURED ON SITE, A CONTAINED WASHOUT FACILITY WILL BE CONSTRUCTED. ALL EXCESS CONCRETE AND CONCRETE WASHOUT SLURRIES GENERATED FROM THE CONCRETE MIXER TRUCKS AND CHUTES WASHING OPERATIONS SHALL BE DISCHARGED TO THE WASHOUT FACILITY. SIGNS SHALL BE POSTED MARKING THE LOCATION OF THE WASHOUT FACILITY. WHEN FILLED OR NO LONGER REQUIRED, THE HARDENED CONCRETE, ALONG WITH THE TEMPORARY FACILITY, SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE, AND THE AREA PERMANENTLY STABILIZED WITH 6" LOAM AND SEED.
2. ANY PLANTED TREE OR SHRUB SPECIES FOUND TO BE DEAD OR DYING AFTER THE FIRST GROWING SEASON SHALL BE REPLACED WITH ONE OF APPROXIMATELY THE SAME SIZE AND THE SAME SPECIES.

SITE SETUP

1. ESTABLISH PERIMETER CONTROLS AND SEDIMENT BARRIERS: SILT SOCK WILL BE INSTALLED AROUND THE PERIMETER OF THE SITE, EXCEPT AT CONSTRUCTION ENTRANCES.
2. RI STD 9.9.0 CONSTRUCTION ACCESS WILL BE INSTALLED AS DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL INSTALL TREE AND SHRUB PROTECTION (RI STD. 51.1.0 AND 51.2.0) ON ALL TREES AND SHRUBS IN CLOSE PROXIMITY TO THE WORK.

MAINTENANCE OF EXISTING FLOWS

1. FLOW IN ALL SANITARY SEWERS, COMBINED SEWERS AND DRAINS SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL PROVIDE BYPASS EQUIPMENT AS NECESSARY TO COMPLETE WORK. SEE SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EQUIPMENT, PIPING, FITTINGS AND APPURTENANCES NECESSARY TO COMPLETE THIS CONTRACT.
3. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY BYPASS-LINES UNTIL THE MODIFICATIONS AND CONSTRUCTION ARE COMPLETE.

DEWATERING

1. THE CONTRACTOR IS RESPONSIBLE FOR THE ADEQUATE DESIGN AND IMPLEMENTATION OF THE DEWATERING SYSTEM.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE STATE AND LOCAL AUTHORITIES REGARDING THE OPERATION AND DISCHARGE OF THE DEWATERING SYSTEM.
3. DISPOSE OF ALL PUMPED WATER IN ACCORDANCE WITH RIDEM REQUIREMENTS.
4. DISCHARGE WATER THROUGH SETTLING BASINS OR METHOD APPROVED BY THE ENGINEER.
5. OPERATE DEWATERING SYSTEMS TO LOWER THE GROUNDWATER LEVEL IN EXCAVATIONS AND MAINTAIN 2' BELOW SUBGRADE ALLOWING ALL SUBSEQUENT WORK TO BE DONE ON A STABLE DRY SUBGRADE.
6. MODIFY DEWATERING PROCEDURES WHICH CAUSE, OR THREATEN TO CAUSE, DAMAGE TO NEW OR EXISTING FACILITIES, TO PREVENT FURTHER DAMAGE. MODIFICATIONS TO BE MADE AT NO ADDITIONAL EXPENSE TO THE OWNER. REPAIR DAMAGED FACILITIES AT CONTRACTOR'S EXPENSE.
7. DISCHARGE WATER IN A MANNER THAT WILL NOT CAUSE EROSION, FLOODING, DAMAGE TO PUBLIC OR PRIVATE AREAS, COMPLETED WORK, IMPROVED OR OTHERWISE.
8. REMOVE ALL MATERIAL AND EQUIPMENT FROM THE SITE UPON COMPLETION OF DEWATERING OPERATIONS.
9. REMOVE ALL DEWATERING WELLS OR SUMPS UPON COMPLETION OF THE WORK.

TELEPHONE AND FIBER OPTIC LINE

1. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH APPLICABLE SERVICE PROVIDERS FOR RELOCATIONS OF TELEPHONE OR FIBER OPTIC LINES.

SOIL EROSION AND SEDIMENTATION CONTROL

1. ALL EROSION AND SEDIMENTATION (E&S) CONTROL MEASURES WILL BE INSTALLED AND INSPECTED PRIOR TO THE START OF CONSTRUCTION. THE E&S CONTROLS SHALL BE CLEANED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION OPERATIONS AND UNTIL ALL DISTURBED AREAS ARE STABILIZED AFTER CONSTRUCTION IS COMPLETE. E&S CONTROLS SHALL BE INSPECTED AND CLEANED AFTER ALL STORM EVENTS AND UPON THE REQUEST OF THE OWNER OR ENGINEER. CONTRACTOR WILL MAINTAIN AN ADEQUATE SUPPLY OF SILT SOCK ON SITE TO BE INSTALLED IN AREAS WHERE EXISTING E&S CONTROLS HAVE FAILED OR AS DETERMINED NECESSARY BY THE ENGINEER. NO WORK OR STORAGE OF CONSTRUCTION EQUIPMENT WILL BE PERMITTED OUTSIDE THE LIMIT OF DISTURBANCE ADJACENT TO THE WETLAND. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (SILT SOCKS, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED.
2. ALL CATCH BASINS SHALL BE PROTECTED WITH FILTER FABRIC INSERTS IN UNPAVED LOCATIONS AND PAVED OR OTHERWISE IMPERVIOUS AREAS FOR THE DURATION OF THE PROJECT.
3. CONSTRUCTION ENTRANCES CONSISTING OF STONE STABILIZED PAD SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR TO PREVENT TRACKING OF OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS.
4. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK", LATEST EDITION, WITH ALL SOIL CONSERVATION SERVICE, AND/OR THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
5. UPON COMPLETION AND ACCEPTANCE OF SITE PREPARATION AND INITIAL INSTALLATION OF EROSION, RUNOFF, AND SEDIMENT CONTROLS AND TEMPORARY POLLUTION PREVENTION MEASURES, THE OPERATOR SHALL INITIATE APPROPRIATE STABILIZATION PRACTICES DURING ALL PHASES OF CONSTRUCTION ON ALL DISTURBED AREAS AS SOON AS POSSIBLE, BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED.
6. ANY DISTURBED AREAS THAT WILL NOT HAVE ACTIVE CONSTRUCTION ACTIVITY OCCURRING WITHIN 14 DAYS MUST BE STABILIZED USING THE CONTROL MEASURES, SUCH AS EROSION CONTROL MATTING, AND IN ACCORDANCE WITH APPLICABLE MEASURES SPECIFIED IN THE *RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK* (AS AMENDED).
7. ONLY AREAS THAT CAN BE REASONABLY EXPECTED TO HAVE ACTIVE CONSTRUCTION WORK BEING PERFORMED WITHIN 14 DAYS OF DISTURBANCE WILL BE CLEARED/GRUBBED AT ANY ONE TIME. IT IS NOT ACCEPTABLE TO CLEAR AND GRUB THE ENTIRE CONSTRUCTION SITE IF PORTIONS WILL NOT BE ACTIVE WITHIN THE 14-DAY TIME FRAME. PROPER PHASING OF CLEARING AND GRUBBING ACTIVITIES SHALL INCLUDE TEMPORARY STABILIZATION TECHNIQUES FOR AREAS CLEARED AND GRUBBED THAT WILL NOT BE ACTIVE WITHIN THE 14-DAY TIME FRAME.
8. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN TWENTY FOUR HOURS AFTER AN EVENT WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY FOUR HOUR PERIOD. CLEANOUT OF ACCUMULATED SEDIMENT BEHIND THE SILT SOCK SHALL BE PERFORMED WHEN ½ THE ORIGINAL HEIGHT OF THE SILT SOCK BECOMES FILLED WITH SEDIMENT. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE HAS BEEN REMOVED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
9. VEGETATIVE PRACTICES ON DISTURBED SOILS, INCLUDING STOCKPILES, SHALL BEGIN AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER THE LAST ACTIVITY IN THAT AREA UNLESS ACTIVITY IS TO RESUME WITHIN 21 DAYS.
10. AREAS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V SHALL BE STABILIZED WITH EROSION CONTROL MATS OR BLANKETS IN COMBINATION WITH SEEDING, AS INDICATED ON THE DRAWINGS AND SPECIFIED.
11. EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF-SITE IN AN APPROPRIATE UPLAND LOCATION, OUTSIDE OF ALL REGULATED WETLAND AREAS. .

SIDEWALK AND PAVEMENT RESTORATION

1. ALL EXISTING PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED WITH TEMPORARY PAVEMENT AS DETAILED.TEMPORARY PAVEMENT SHALL BE INSTALLED WITHIN ALL DISTURBED PAVEMENT AREAS BY THE CLOSE OF WORK ON FRIDAY OF THE WEEK THE PAVEMENT WAS DISTURBED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. AT NO TIME WILL DISTURBED PAVEMENT AREAS BE ALLOWED OVER WEEKENDS, HOLIDAYS, OR DURING SEVERE WEATHER CONDITIONS. ALL WALKS SHALL HAVE A CROWN OR CROSS-SLOPE OF 1/8" PER FOOT MINIMUM.

TREE PRESERVATION

1. TREES WITHIN THE LIMITS OF GRADING SHALL NOT BE REMOVED UNLESS APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION PROTECT TREES WITHIN THE LIMIT OF DISTURBANCE BY INSTALLING WOOD FRAMING AROUND TREES, AS INDICATED IN THE CONTRACT DRAWINGS.
2. PRIOR TO CONSTRUCTION DETERMINE REQUIRED CLEARANCES AND CONTRACT LICENSED ARBORIST TO PRUNE TREES.
3. BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.
4. MAKE EVERY EFFORT TO MAINTAIN EXCAVATION ACTIVITIES OUTSIDE LIMITS OF THE TREE CANOPY.
5. ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.
6. STRIP AND SEGREGATE TOPSOIL PRIOR TO EXCAVATING IN UNPAVED AREAS. FOLLOWING BACKFILL OPERATIONS PLACE TOPSOIL BACK IN THE APPROPRIATE PLACE WITHOUT COMPACTION AND VERTICALLY MULCH ROOT SYSTEM. NO AMENDMENTS SHALL BE ADDED.
7. IMMEDIATELY FOLLOWING BACKFILL OPERATIONS PROVIDE DEEP WATERING OF THE ROOT SYSTEM, APPLICATION OF FERTILIZER, AND VERTICAL MULCHING.
8. MAINTAIN STORAGE OF EQUIPMENT AND MATERIALS A DISTANCE AT LEAST TWO (2) TIMES THE DISTANCE OF THE RADIUS OF THE TREE CANOPY.

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

GENERAL NOTES

NO.	REVISIONS	DATE

DRAWN BY:	CC
DESIGNED BY:	TD
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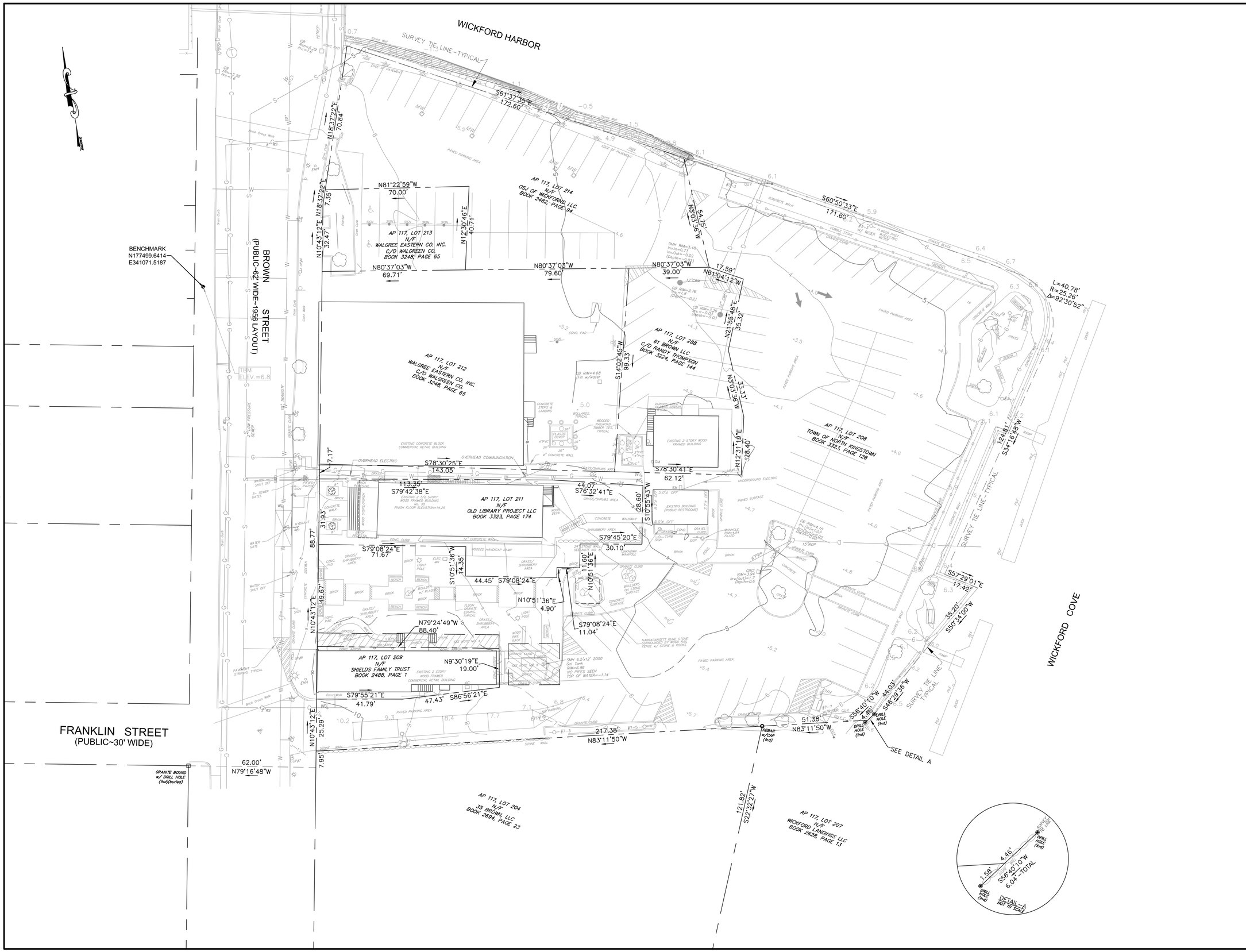
SCALE

NONE

SHEET NO.

3



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REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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EXISTING CONDITIONS PLAN

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SCALE

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SCALE IN FEET: 1"=20'

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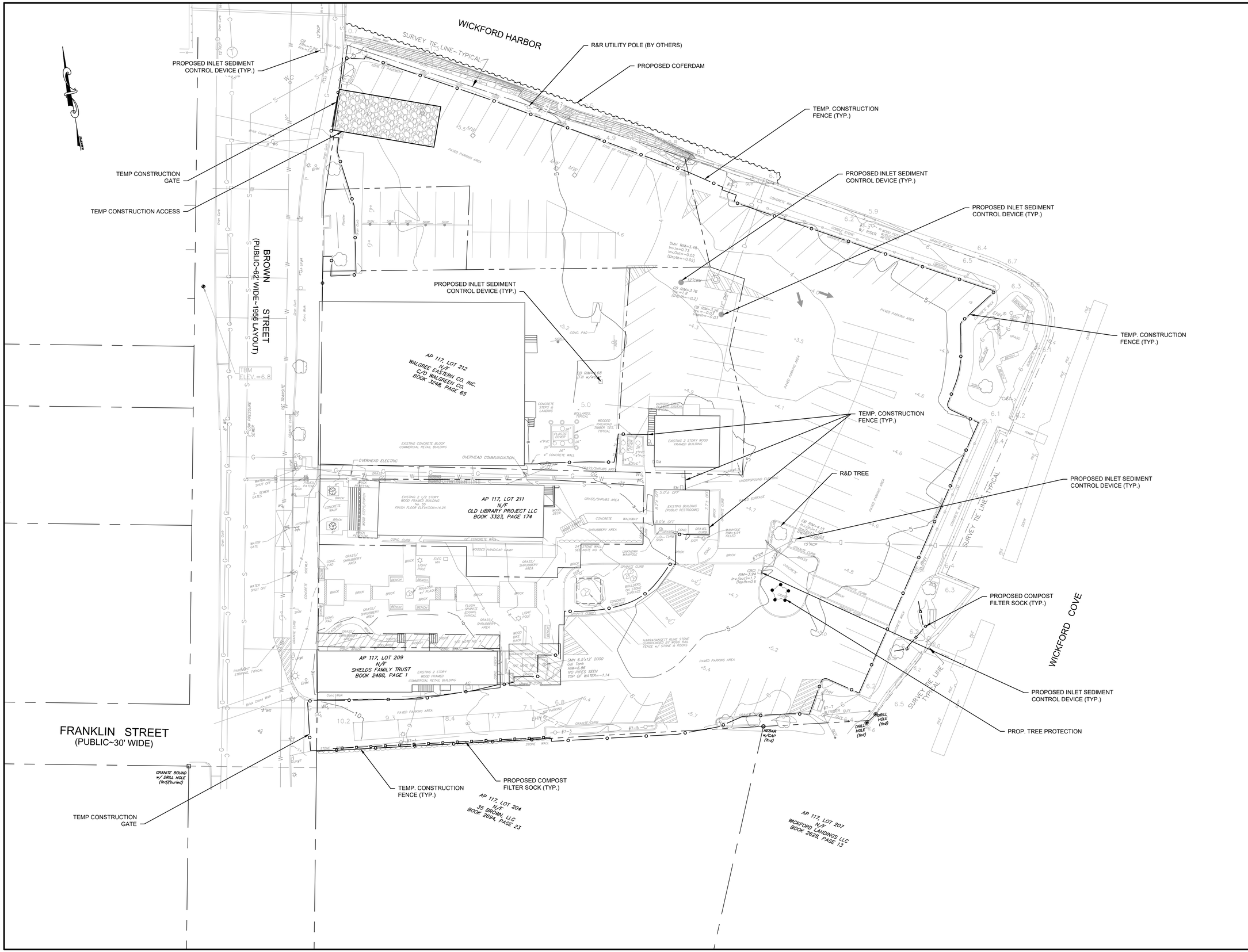

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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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SITE PREPARATION PLAN

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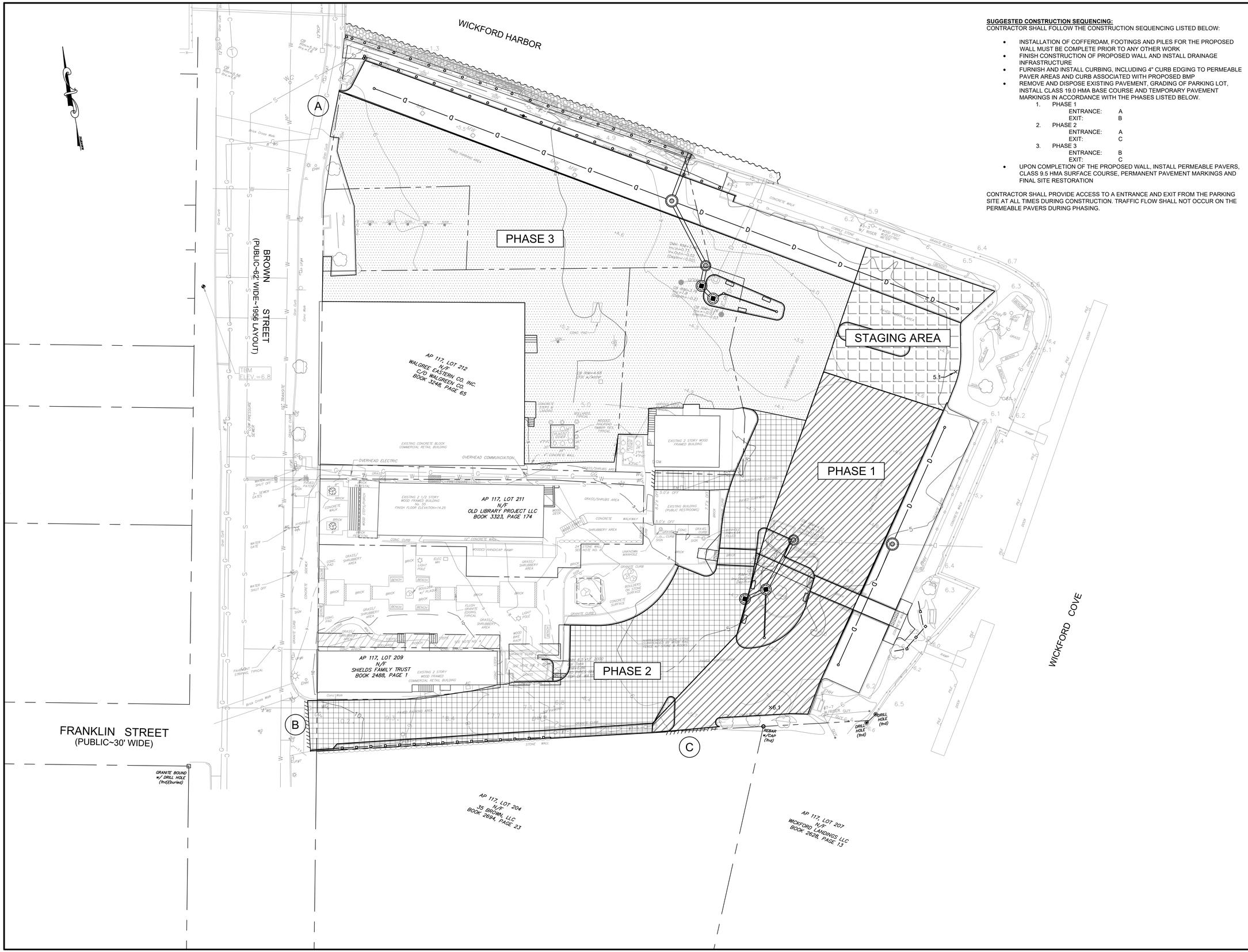

SUGGESTED CONSTRUCTION SEQUENCING:
CONTRACTOR SHALL FOLLOW THE CONSTRUCTION SEQUENCING LISTED BELOW:

- INSTALLATION OF COFFERDAM, FOOTINGS AND PILES FOR THE PROPOSED WALL MUST BE COMPLETE PRIOR TO ANY OTHER WORK
- FINISH CONSTRUCTION OF PROPOSED WALL AND INSTALL DRAINAGE INFRASTRUCTURE
- FURNISH AND INSTALL CURBING, INCLUDING 4" CURB EDGING TO PERMEABLE PAVER AREAS AND CURB ASSOCIATED WITH PROPOSED BMP
- REMOVE AND DISPOSE EXISTING PAVEMENT, GRADING OF PARKING LOT, INSTALL CLASS 19.0 HMA BASE COURSE AND TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH THE PHASES LISTED BELOW.
  1. PHASE 1
     ENTRANCE: A
     EXIT: B
  2. PHASE 2
     ENTRANCE: A
     EXIT: C
  3. PHASE 3
     ENTRANCE: B
     EXIT: C
- UPON COMPLETION OF THE PROPOSED WALL, INSTALL PERMEABLE PAVERS, CLASS 9.5 HMA SURFACE COURSE, PERMANENT PAVEMENT MARKINGS AND FINAL SITE RESTORATION

CONTRACTOR SHALL PROVIDE ACCESS TO A ENTRANCE AND EXIT FROM THE PARKING SITE AT ALL TIMES DURING CONSTRUCTION. TRAFFIC FLOW SHALL NOT OCCUR ON THE PERMEABLE PAVERS DURING PHASING.

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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

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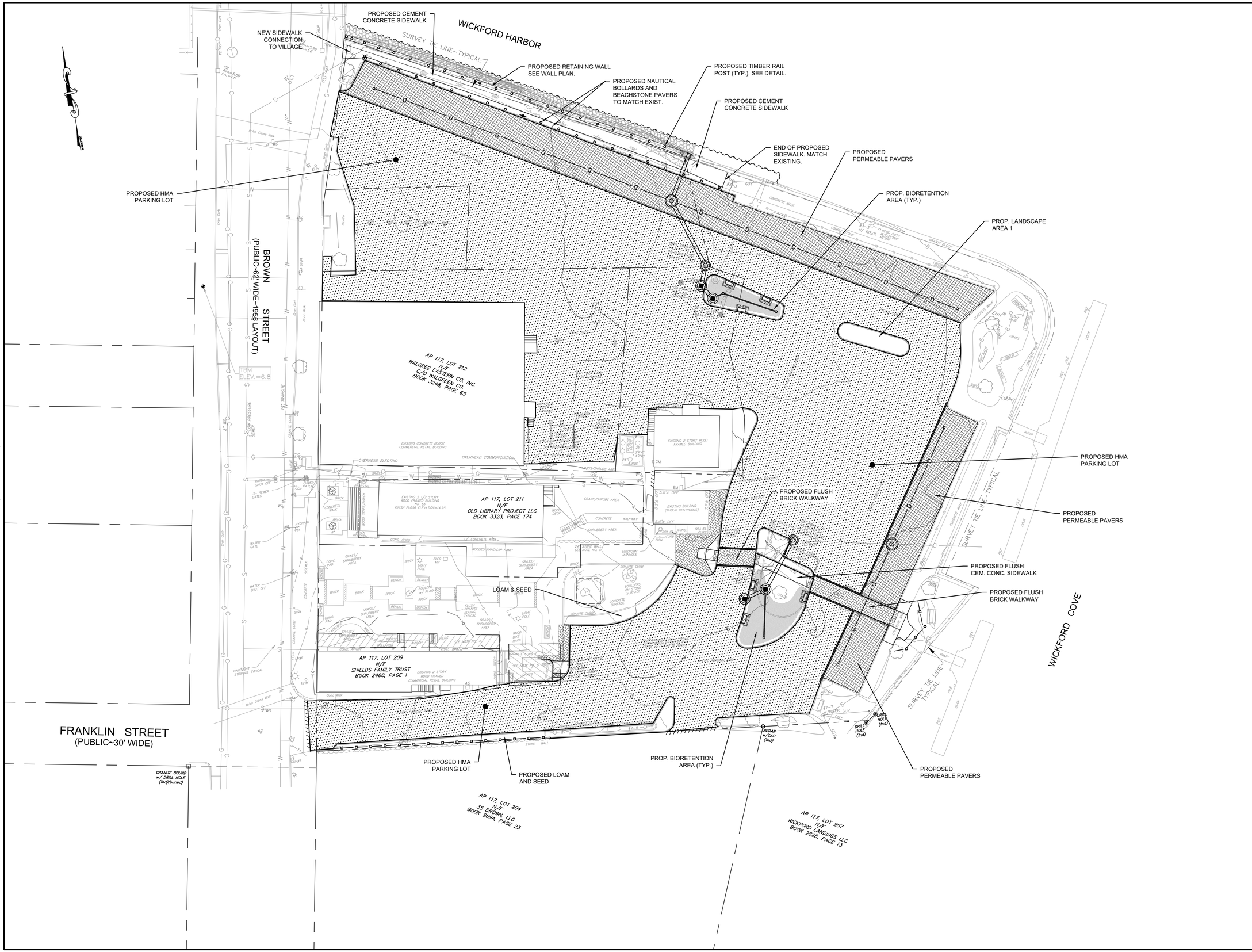

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www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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TITLE

MATERIALS PLAN

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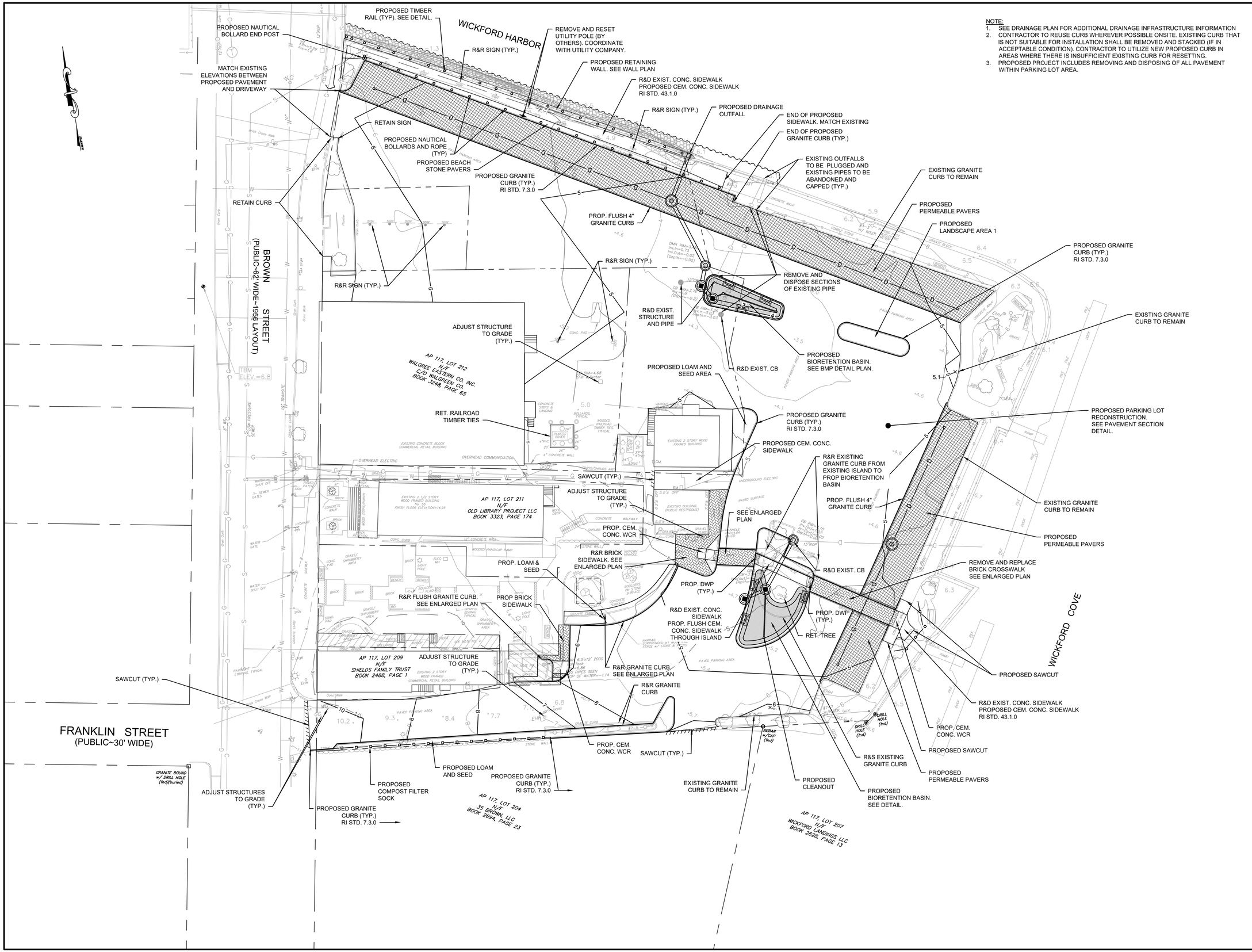
SHEET NO.

7

NOTE:
1. SEE DRAINAGE PLAN FOR ADDITIONAL DRAINAGE INFRASTRUCTURE INFORMATION
2. CONTRACTOR TO REUSE CURB WHEREVER POSSIBLE ONSITE. EXISTING CURB THAT IS NOT SUITABLE FOR INSTALLATION SHALL BE REMOVED AND STACKED (IF IN ACCEPTABLE CONDITION). CONTRACTOR TO UTILIZE NEW PROPOSED CURB IN AREAS WHERE THERE IS INSUFFICIENT EXISTING CURB FOR RESETTING.
3. PROPOSED PROJECT INCLUDES REMOVING AND DISPOSING OF ALL PAVEMENT WITHIN PARKING LOT AREA.



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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
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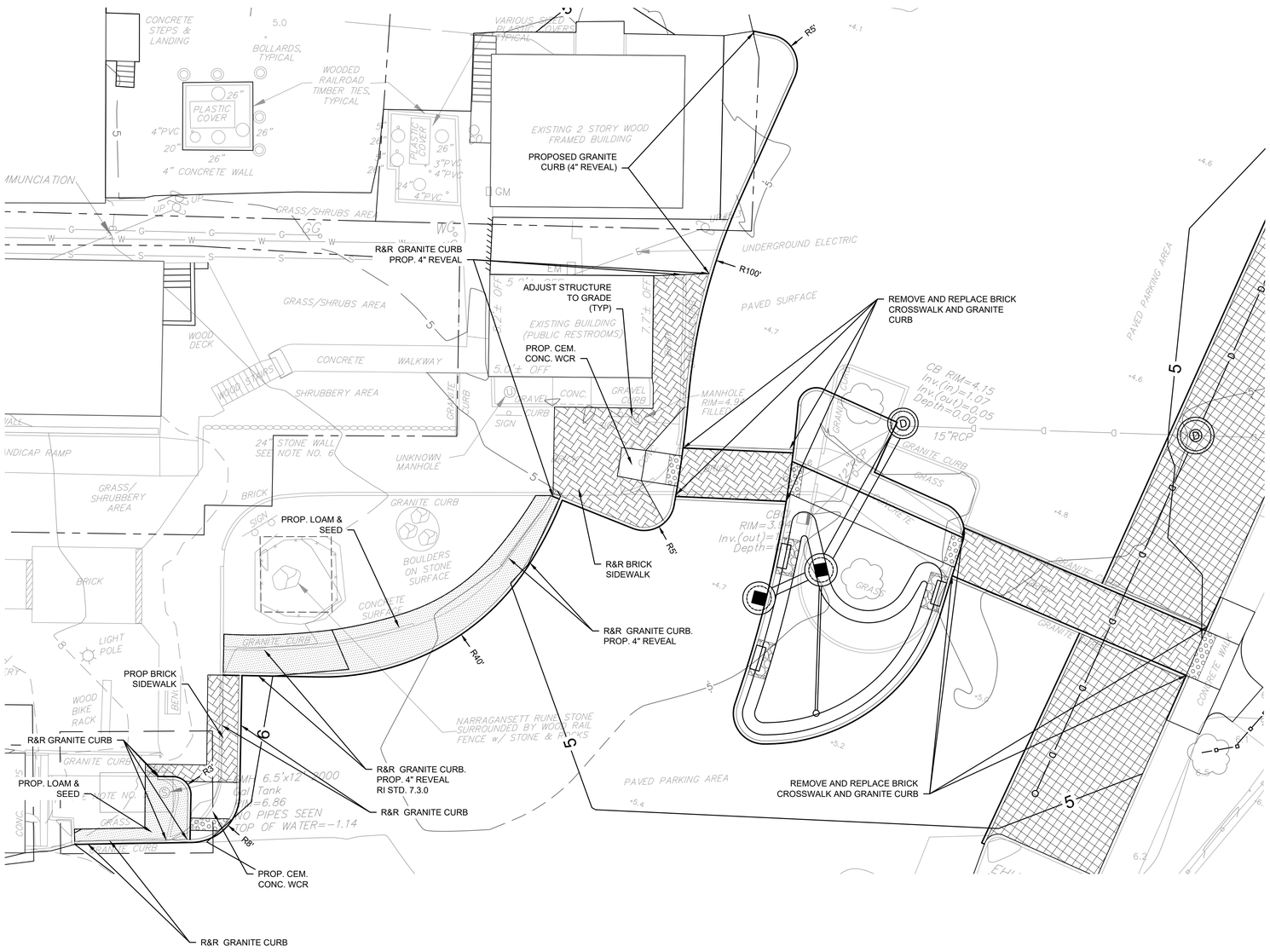
8

NOTE:
1. CONTRACTOR TO REUSE CURB WHEREVER POSSIBLE ONSITE. EXISTING CURB THAT IS NOT SUITABLE FOR INSTALLATION SHALL BE REMOVED AND STACKED (IF IN ACCEPTABLE CONDITION). CONTRACTOR TO UTILIZE NEW PROPOSED CURB IN AREAS WHERE THERE IS INSUFFICIENT EXISTING CURB FOR RESETTING.



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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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ENLARGED PLAN

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SCALE

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SCALE IN FEET: 1"=10'

SHEET NO.

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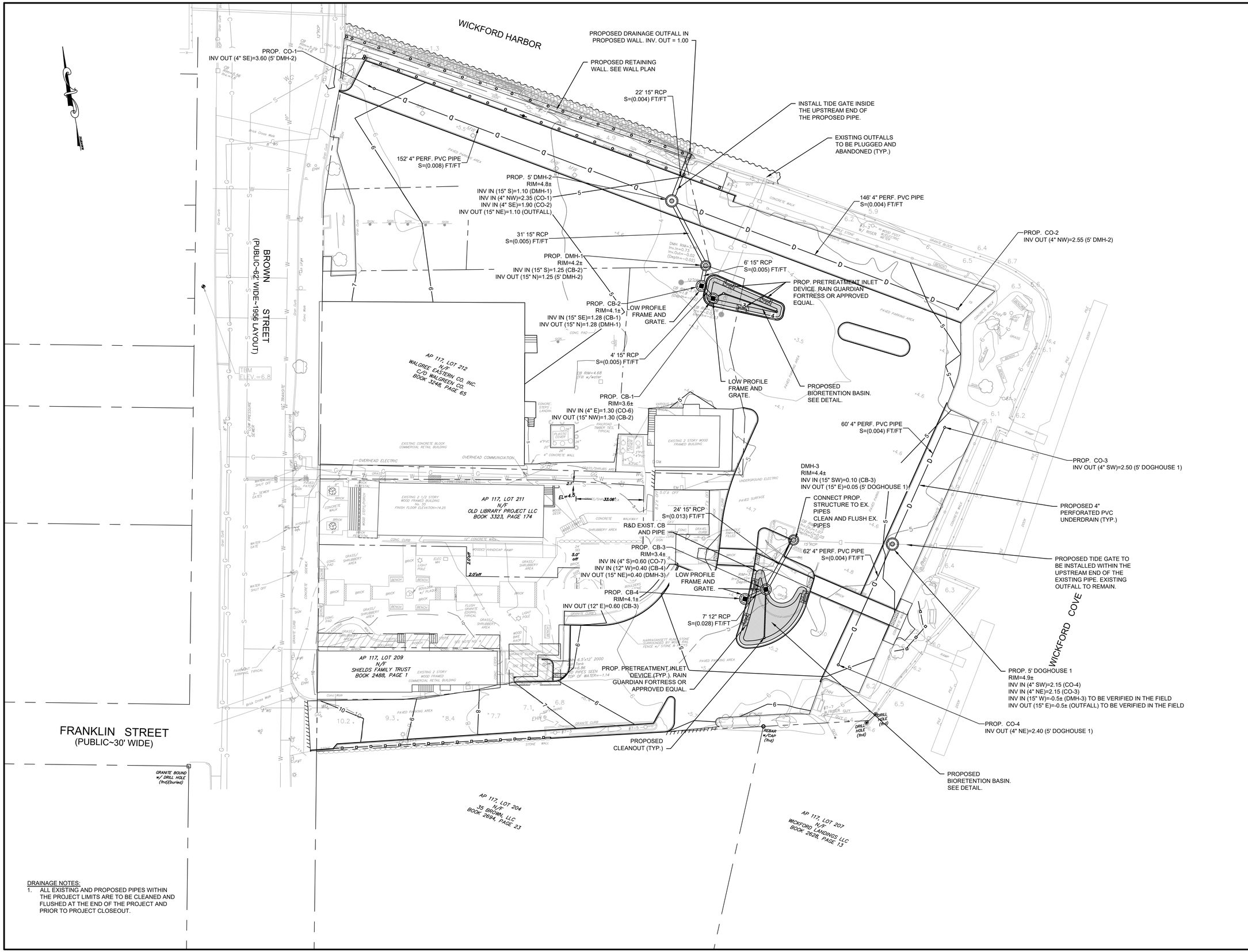

DRAINAGE NOTES:

1. ALL EXISTING AND PROPOSED PIPES WITHIN THE PROJECT LIMITS ARE TO BE CLEANED AND FLUSHED AT THE END OF THE PROJECT AND PRIOR TO PROJECT CLOSEOUT.

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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
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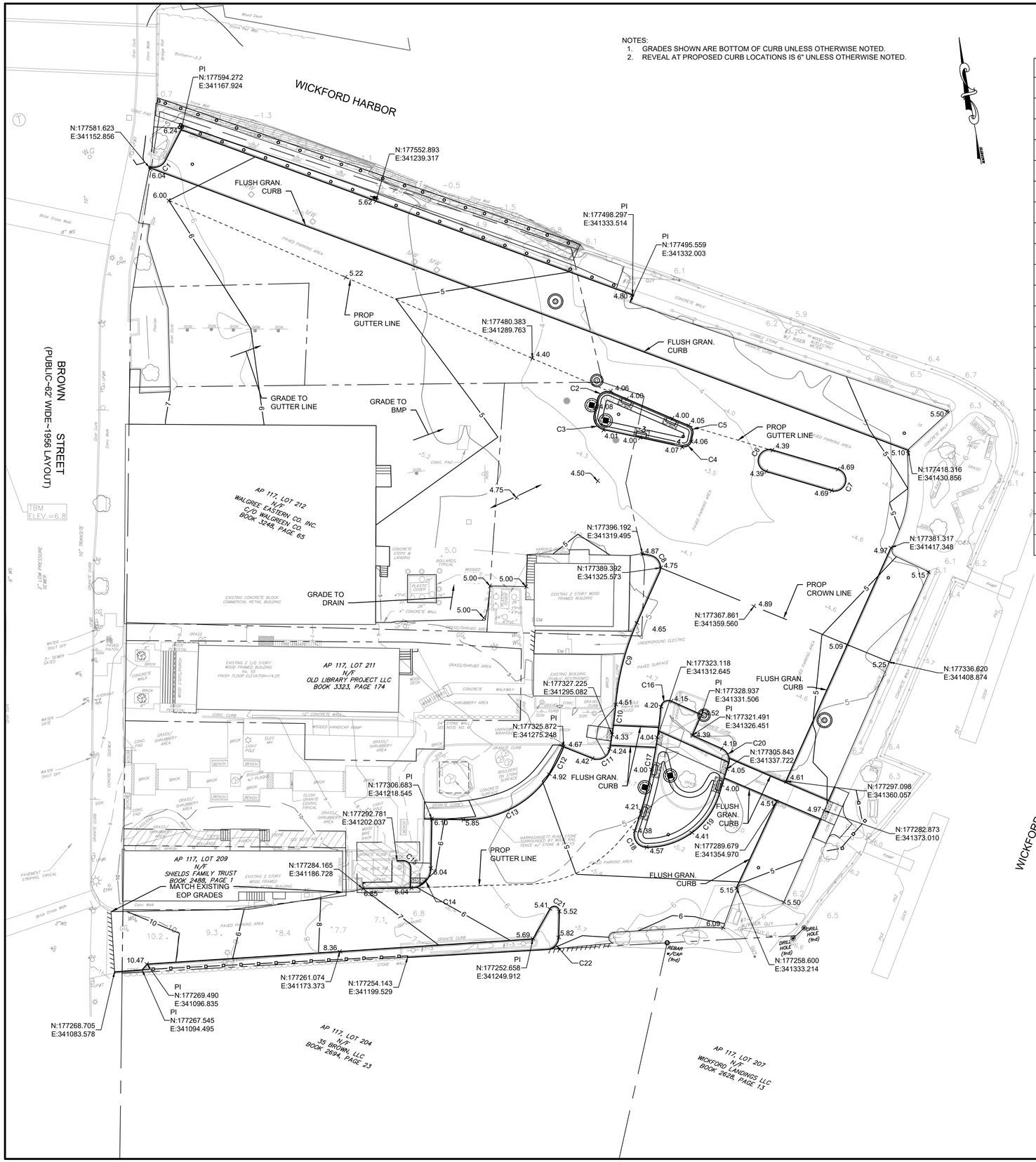
NOTES:
1. GRADES SHOWN ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.
2. REVEAL AT PROPOSED CURB LOCATIONS IS 6" UNLESS OTHERWISE NOTED.



Curve Table					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	5.000	7.223	S 78° 42' 49" W	(N:177583.3474,E:341159.5928)	(N:177582.0536,E:341153.1098)
C2	4.000	7.052	N 72° 46' 04" E	(N:177459.7664,E:341312.5263)	(N:177461.5954,E:341318.4229)
C3	5.000	7.854	N 22° 44' 27" W	(N:177447.5096,E:341312.9122)	(N:177454.0310,E:341310.1788)
C4	3.000	4.712	S 67° 15' 33" W	(N:177437.0282,E:341346.4404)	(N:177435.3882,E:341342.5276)
C5	3.000	4.136	S 17° 13' 56" E	(N:177443.2557,E:341346.3672)	(N:177439.6113,E:341347.4976)
C6	4.448	13.974	N 26° 20' 27" E	(N:177419.8595,E:341373.7092)	(N:177427.8320,E:341377.6565)
C7	4.448	13.974	S 26° 20' 27" W	(N:177415.8057,E:341401.9461)	(N:177407.8332,E:341397.9987)
C8	5.000	8.894	S 16° 47' 03" E	(N:177394.9404,E:341322.5527)	(N:177387.5046,E:341324.7955)
C9	100.000	33.730	S 24° 30' 34" W	(N:177369.3496,E:341312.4701)	(N:177338.8041,E:341298.5436)
C10	182.000	17.828	S 17° 39' 10" W	(N:177338.8041,E:341298.5436)	(N:177321.8221,E:341293.1393)
C11	5.000	8.842	S 71° 07' 21" W	(N:177321.8221,E:341293.1393)	(N:177319.3197,E:341285.8210)
C12	62.000	12.197	S 37° 25' 17" W	(N:177325.8716,E:341275.2480)	(N:177316.2007,E:341267.8482)
C13	40.000	40.514	S 72° 04' 23" W	(N:177316.2007,E:341267.8482)	(N:177304.2566,E:341230.9280)
C14	8.000	12.282	S 55° 04' 10" W	(N:177287.5080,E:341214.7870)	(N:177281.1462,E:341205.6780)
C15	3.000	4.743	N 34° 12' 29" W	(N:177288.8000,E:341206.8880)	(N:177292.3268,E:341204.4905)
C16	3.000	5.447	N 72° 09' 11" E	(N:177334.8750,E:341316.1224)	(N:177336.3244,E:341320.6242)
C17	200.000	50.514	N 21° 52' 48" E	(N:177288.1238,E:341297.3477)	(N:177334.8750,E:341316.1224)
C18	5.000	9.471	N 25° 09' 03" W	(N:177280.7760,E:341300.7976)	(N:177288.1238,E:341297.3477)
C19	30.000	38.532	S 63° 47' 17" W	(N:177296.6491,E:341333.0392)	(N:177280.7760,E:341300.7976)
C20	5.000	7.227	S 14° 25' 02" E	(N:177314.2608,E:341337.1001)	(N:177307.8546,E:341338.7470)
C21	2.000	5.306	S 64° 34' 56" E	(N:177263.2796,E:341258.6424)	(N:177261.6138,E:341262.1478)
C22	5.000	7.451	S 54° 06' 34" W	(N:177251.5456,E:341260.1148)	(N:177247.5704,E:341254.6214)

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REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CURB, TIE & GRADING PLAN

NO.	REVISIONS	DATE

DRAWN BY:	CC
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SCALE

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11

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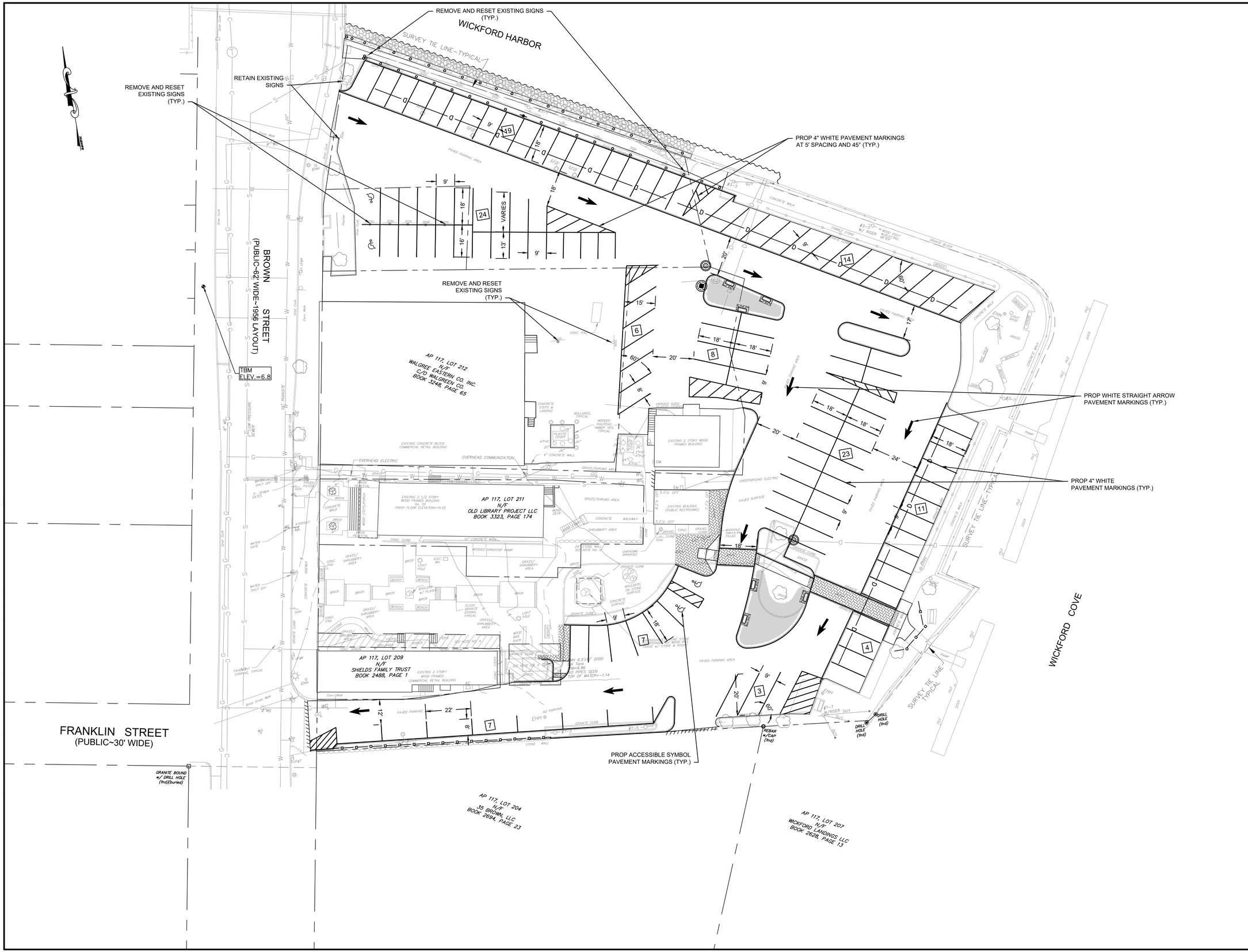

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STRIPING PLAN

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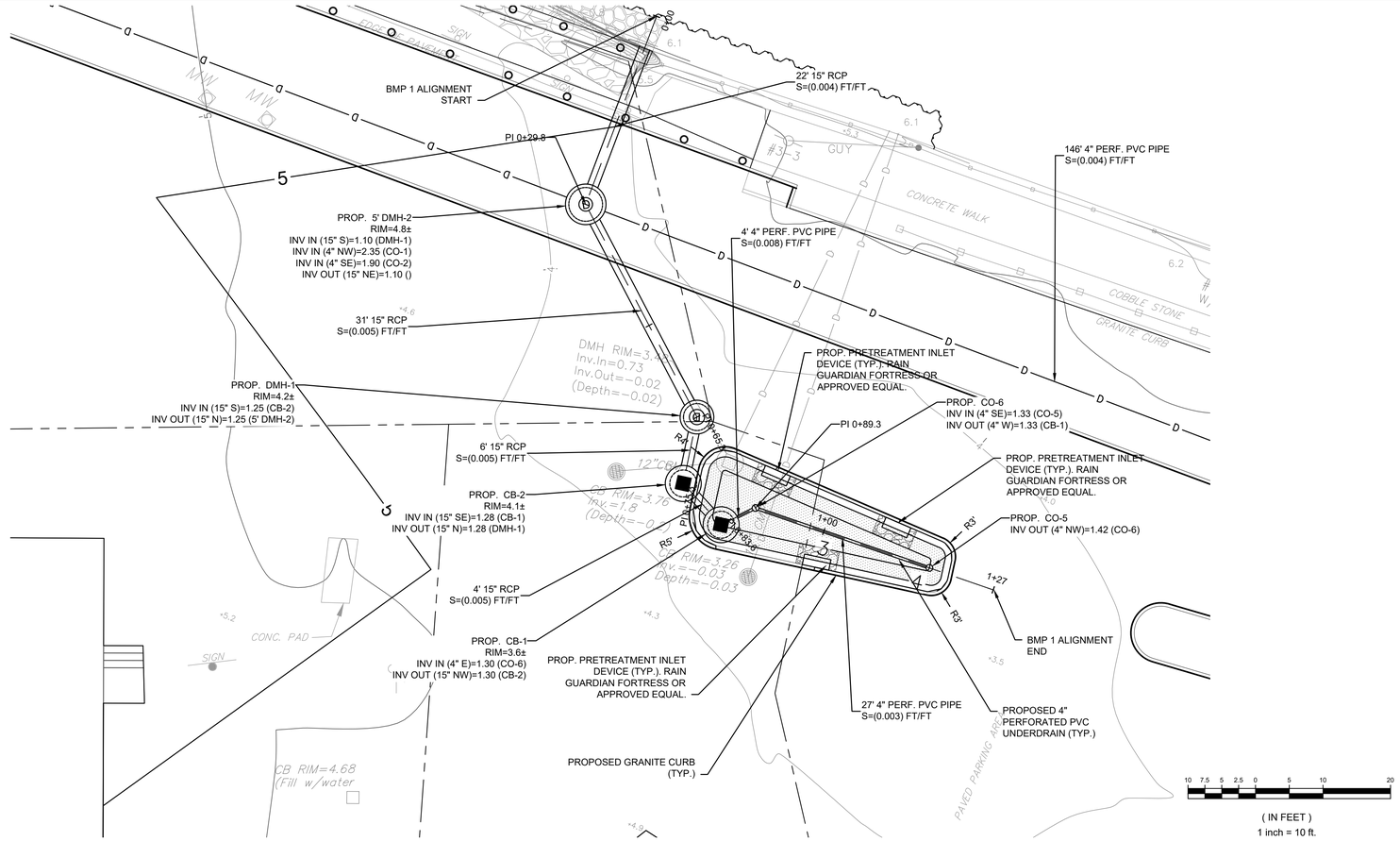
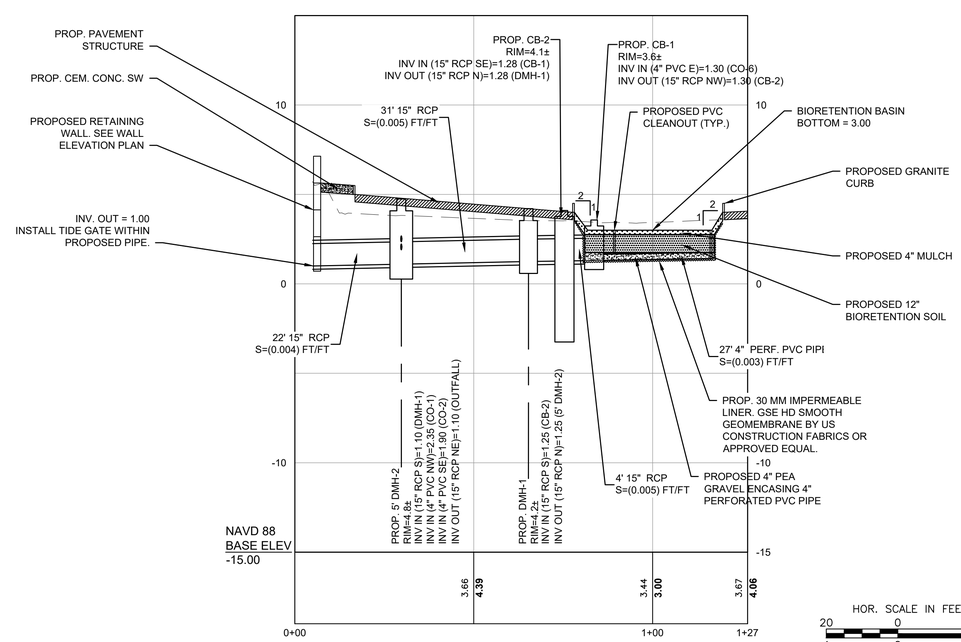
12

4/16/2024 4:11 PM G:\PLANNING LANDSCAPE\7000S\7038 - WICKFORD WATERFRONT IMPROVEMENTS\AUTOCAD FILES\PLAN SET\7038-STRIPING PLAN.DWG (BETA STB BW.STB)



BMP 1 PLAN



BMP 1 PROFILE

NOTES:

1. BIORETENTION SOIL SHALL BE FREE OF STONES, ROCKS, COBBLES, BRUSH, STUMPS, ROOTS, AND OTHER MATERIALS LARGER THAN TWO INCHES. THE SOIL SHALL CONSIST OF USDA LOAMY SAND TO SANDY LOAM CLASSIFICATION AND MEET THE FOLLOWING GRADATION:
   - 1.1. ASTM C-33 SAND = 68-72%
   - 1.2. SILT = 6-10%
   - 1.3. CLAY = 0-2%
   - 1.4. ORGANIC MATTER (IN THE FORM OF WELL AERATED LEAF COMPOST) = 20%
2. CONTRACTOR SHALL AVOID OVER COMPACTION OF SOILS WITH CONSTRUCTION VEHICLES WITHIN INFILTRATION AREAS.
3. MULCH MUST BE FINELY SHREDDED, WELL AGED ORGANIC HARDWOOD
4. PEA GRAVEL SHALL MEET THE GRADATION REQUIREMENTS SET FORTH IN SECTION M.01.09 TABLE 1 COLUMN III OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
5. IMPERMEABLE LINER SHALL BE A NONWOVEN, HIGH-DENSITY POLYETHYLENE (HDPE) LINER SPECIFICALLY DESIGNED FOR USE IN SUBSURFACE LINING/CONTAINMENT.

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

BMP 1 DETAILS

NO.	REVISIONS	DATE

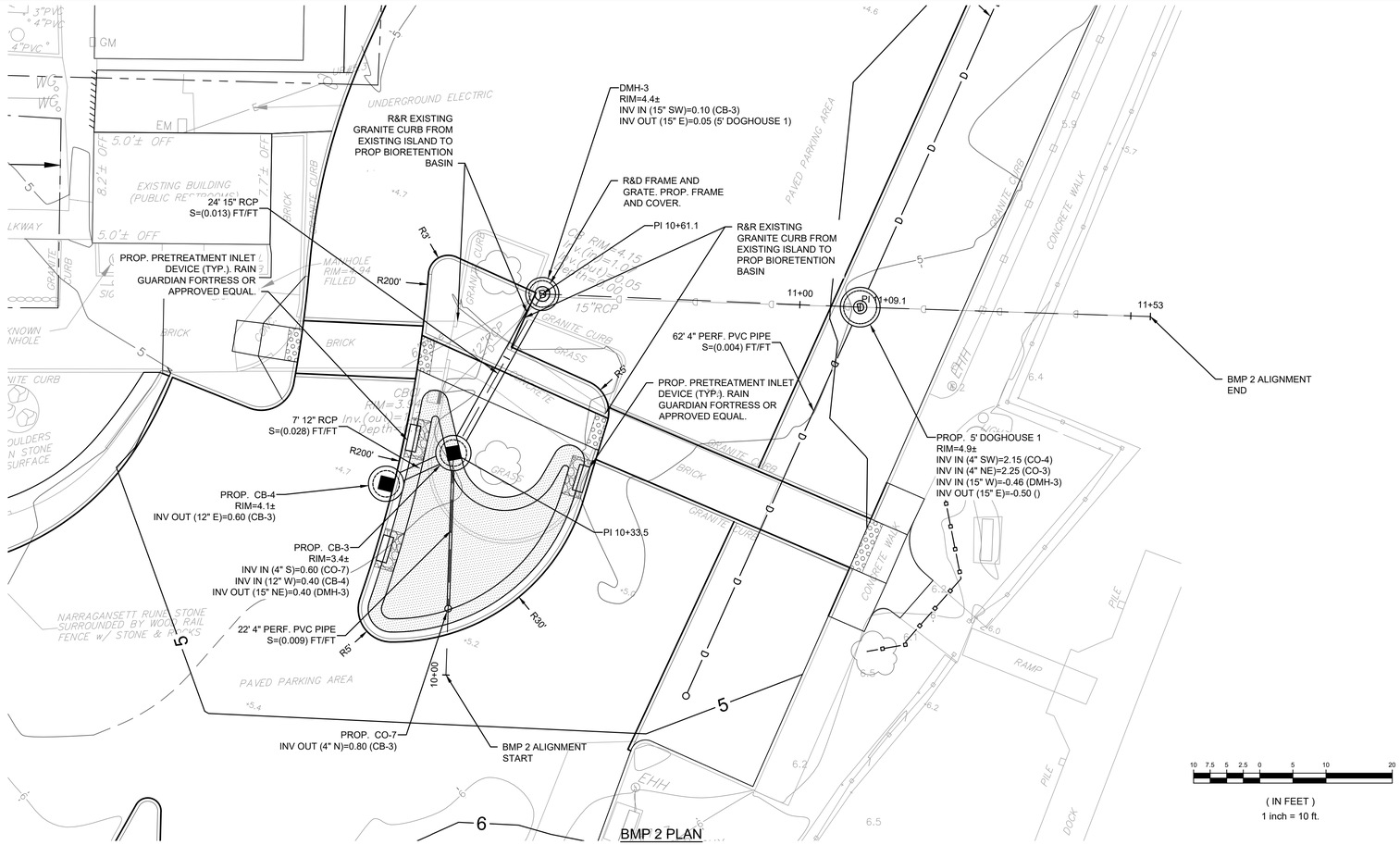
DRAWN BY:	CC
DESIGNED BY:	TD
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

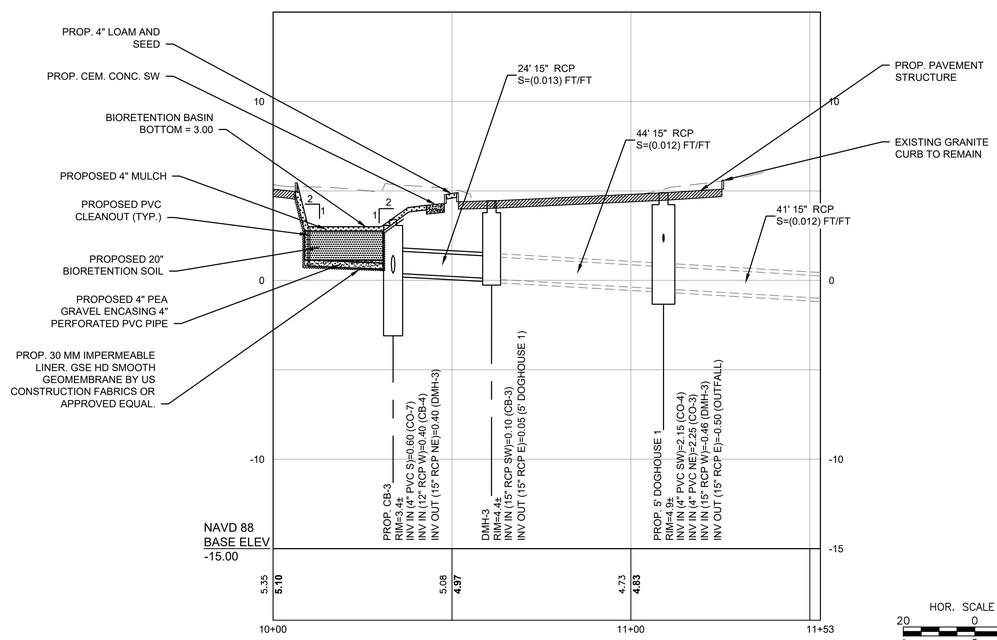
AS SHOWN

SHEET NO.

13



BMP 2 PLAN



BMP 2 PROFILE

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   - 1.2. SILT = 6-10%
   - 1.3. CLAY = 0-2%
   - 1.4. ORGANIC MATTER (IN THE FORM OF WELL AERATED LEAF COMPOST) = 20%
2. CONTRACTOR SHALL AVOID OVER COMPACTION OF SOILS WITH CONSTRUCTION VEHICLES WITHIN INFILTRATION AREAS.
3. MULCH MUST BE FINELY SHREDDED, WELL AGED ORGANIC HARDWOOD
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4-17-24

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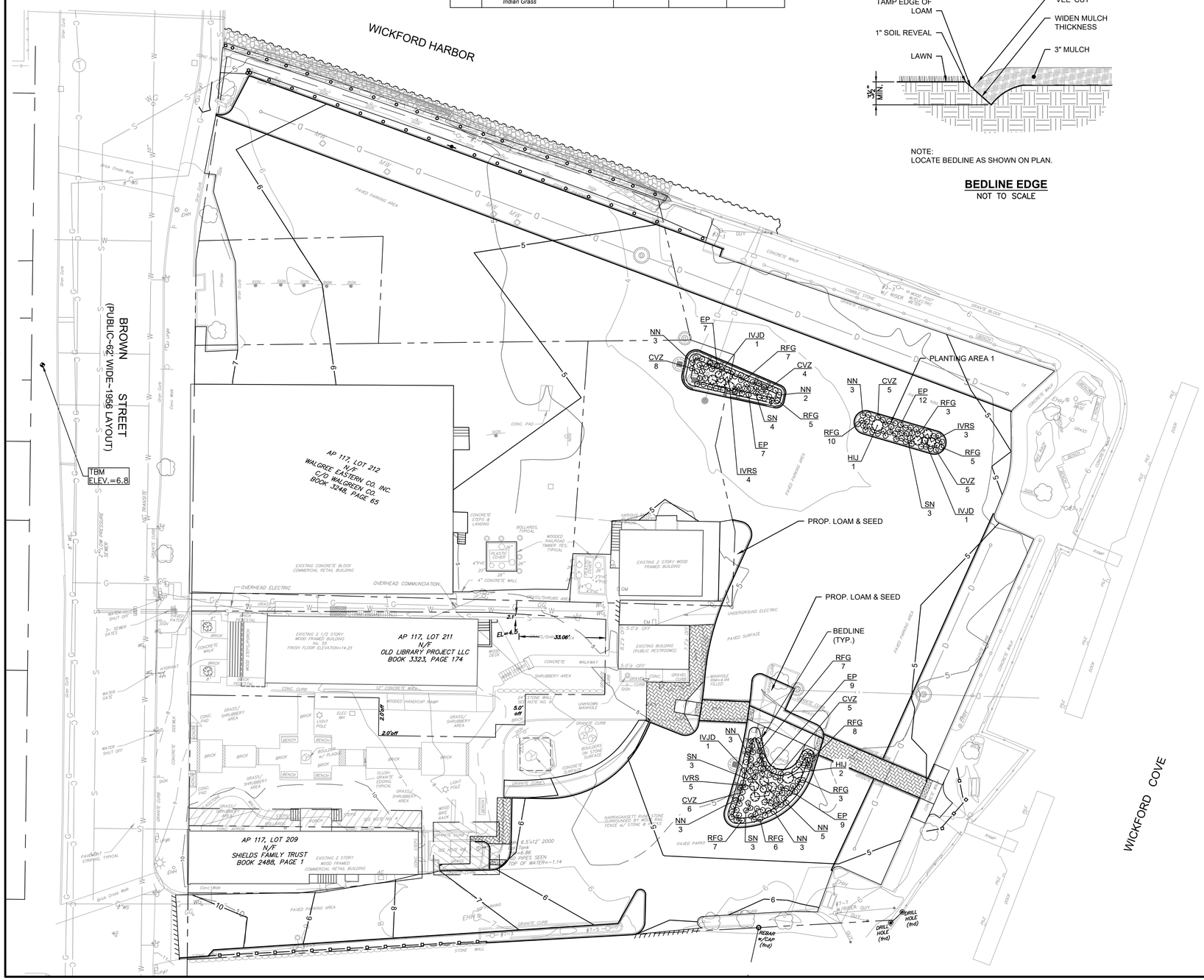
SCALE

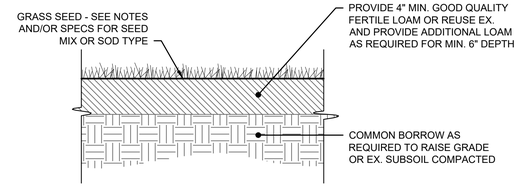
AS SHOWN

SHEET NO.

14

PLANT LIST				
Key	Botanical Name *Common Name*	Qty.	Size	Notes
SHRUBS				
HIJ	Hamemelis x intermedia 'Jelena' *Jelena Witchhazel*	3	24"-30"	Cont.
IVJD	Ilex vertivcillata 'Jim Dandy' *Jim Dandy Sparkleberry*	3	24"-30"	Cont.
IVRS	Ilex vertivcillata 'Red Sprite' *Red Sprite Winterberry*	12	18"-24"	Cont.
PERENNIALS & GRASSES				
CVZ	Coreopsis verticillata 'Zagreb' *Zagreb Threadleaf Coreopsis*	33	1 Gal.	Cont.
EP	Echinacea puroure *Purple Coneflower*	44	1 Gal.	Cont.
NN	Nipponanthemum nipponicum *Montauk Daisy*	22	1 Gal.	Cont.
RFG	Rudbeckia fulgida 'Goldstrum' *Goldstrum Coneflower*	61	1 Gal.	Cont.
SN	Sorghastrum nutans *Indian Grass*	10	2 Gal.	Cont.

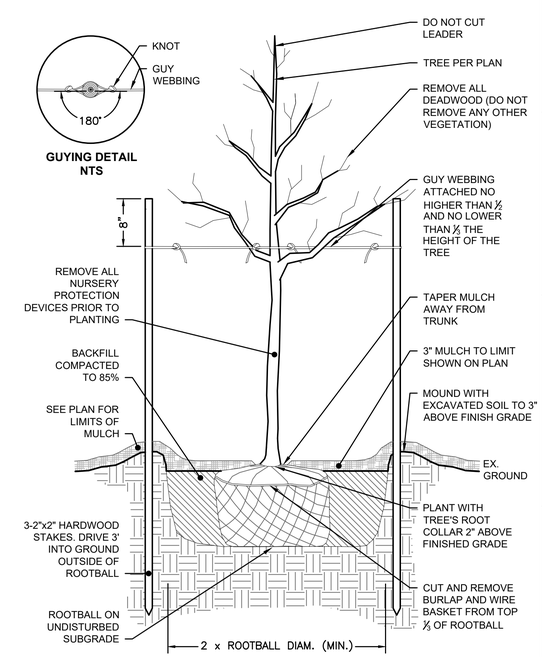




LOAM AND SEED
NOT TO SCALE

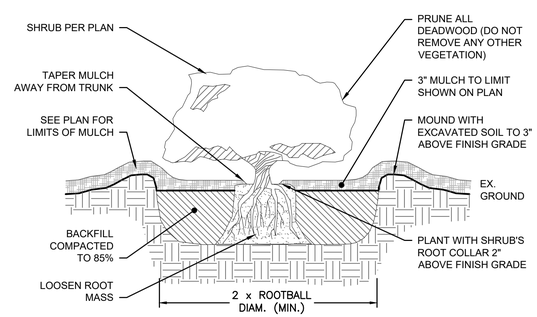
NOTE:
LOCATE BEDLINE AS SHOWN ON PLAN.

BEDLINE EDGE
NOT TO SCALE

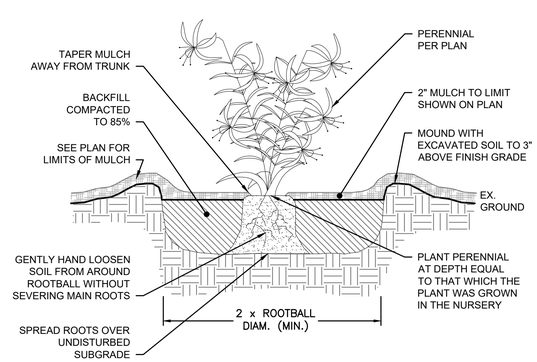


NOTE:
AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.

DECIDUOUS TREE STAKING & PLANTING
NOT TO SCALE



CONTAINER GROWN TREE & SHRUB PLANTING
NOT TO SCALE



PERENNIALS & GRASSES PLANTING
NOT TO SCALE

PREPARED BY

BETA
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SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

PLANTING PLAN

NO.	REVISIONS	DATE

DRAWN BY:	CC
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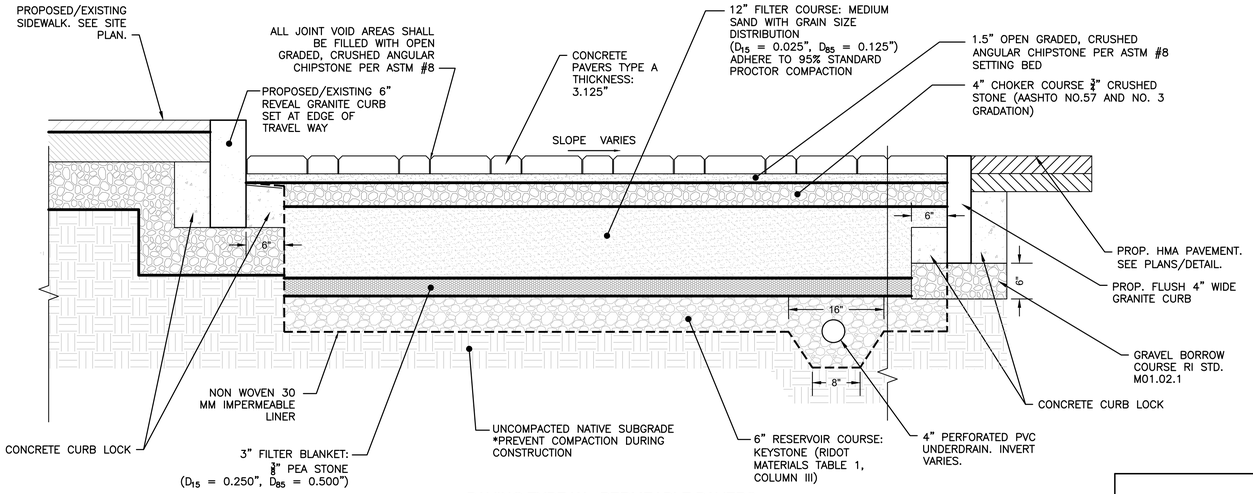
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

20 0 20 40
SCALE IN FEET: 1"=20'

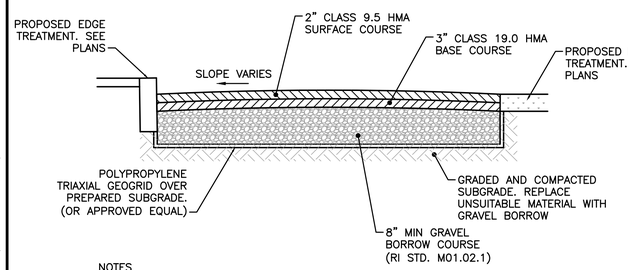
SHEET NO.
15

4/16/2024 4:11 PM G:\PLANNING LANDSCAPE\7000S\7038 - WICKFORD WATERFRONT IMPROVEMENTS\AUTOCAD FILES\PLAN SET\7038-PLANTPLAN.DWG (BETA STD BW.CTB)



PAVING TYPE 'A' - PERMEABLE PAVERS

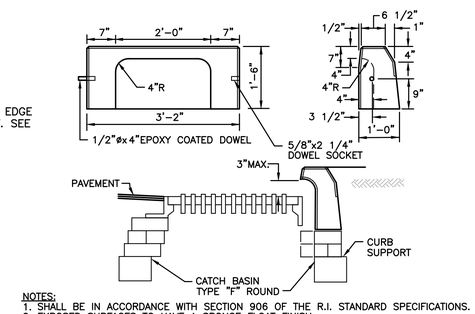
NOT TO SCALE



NOTES
1. MAXIMUM PAVEMENT THICKNESS PER COURSE NOT TO EXCEED 3 INCHES.

TYPICAL PAVEMENT SECTION

NOT TO SCALE

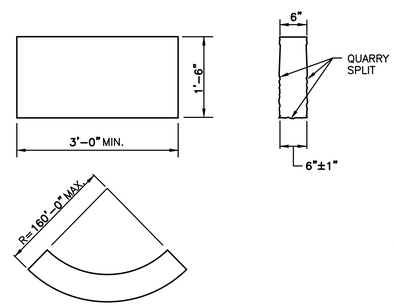


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
3. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

PRECAST CONCRETE APRON STONE (FOR ROUND CATCH BASIN)

NOT TO SCALE

R.I. STANDARD 7.1.8



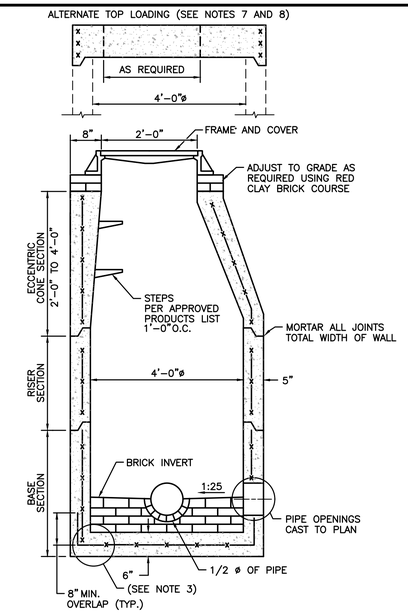
CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.
3. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR PIECES TO BE 3'-0".
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.

GRANITE CURB

NOT TO SCALE

R.I. STANDARD 7.3.0

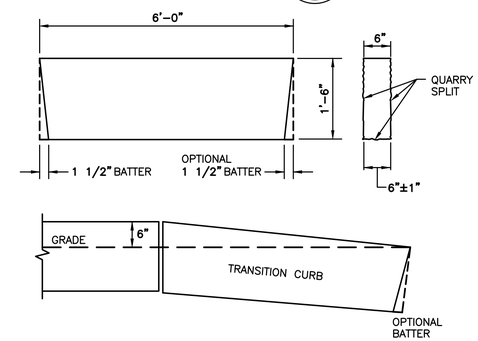


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED = 0.12 SQ. IN. / LIN. FT. MINIMUM.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN/LIN. FT. (BOTH WAYS).
4. ONE POUR MONOLITHIC BASE SECTION.
5. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
6. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
7. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
8. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
9. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

PRECAST 4'-0" ROUND MANHOLE

NOT TO SCALE

R.I. STANDARD 4.2.0

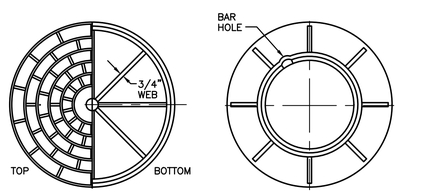


NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE CONTRACTOR MAY CUT EXISTING CURB SECTIONS AS REQUIRED TO MEET THIS DETAIL AND THE R.I. STANDARD SPECIFICATIONS, WHERE OLD CURBING IS BEING REUSED.
3. TOP SURFACE TO BE DRESSED BY SAW. REMAINDER TO BE QUARRY SPLIT.

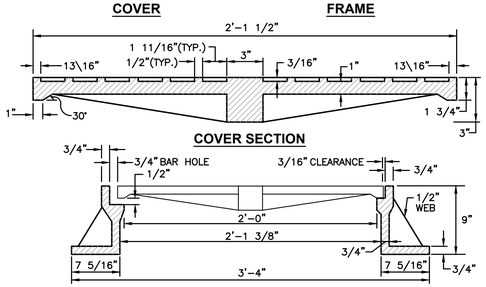
6'-0" GRANITE TRANSITION CURB

NOT TO SCALE

R.I. STANDARD 7.3.0



COVER FRAME



COVER SECTION

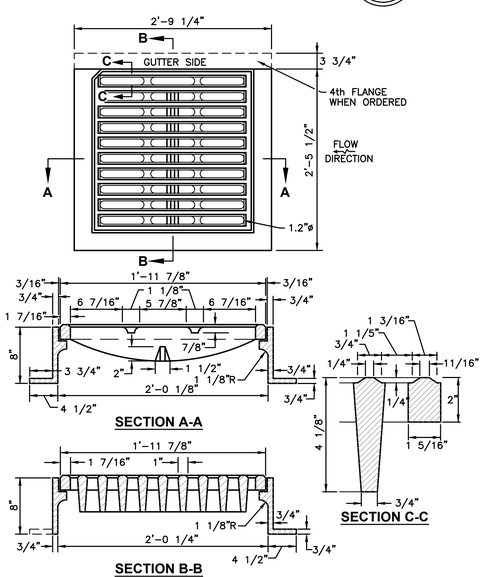
FRAME SECTION

NOTES:
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

HEAVY-DUTY ROUND FRAME AND COVER

NOT TO SCALE

R.I. STANDARD 6.2.1



SECTION A-A

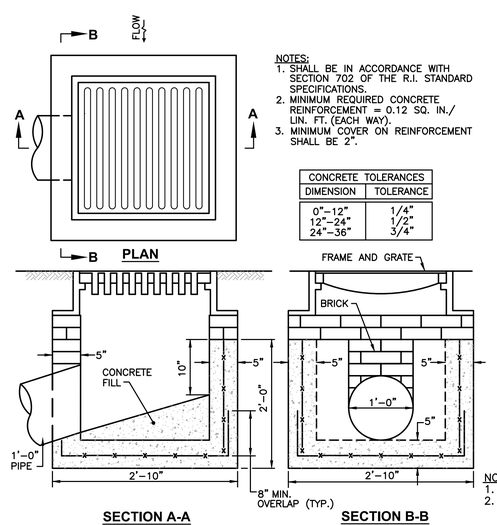
SECTION C-C

SECTION B-B

SQUARE FRAME AND GRATE (BICYCLE SAFE)

NOT TO SCALE

R.I. STANDARD 6.3.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM REQUIRED CONCRETE REINFORCEMENT = 0.12 SQ. IN./LIN. FT. (EACH WAY).
3. MINIMUM COVER ON REINFORCEMENT SHALL BE 2".

CONCRETE TOLERANCES	
DIMENSION	TOLERANCE
0"-12"	1/4"
12"-24"	1/2"
24"-36"	3/4"

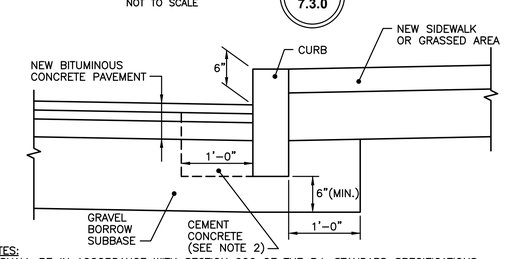
SECTION A-A

SECTION B-B

PRECAST CONCRETE DROP INLET

NOT TO SCALE

R.I. STANDARD 4.5.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND/OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

CURB SETTING DETAIL

NOT TO SCALE

R.I. STANDARD 7.6.0

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CONSTRUCTION DETAILS 1

NO.	REVISIONS	DATE

DRAWN BY:	CC
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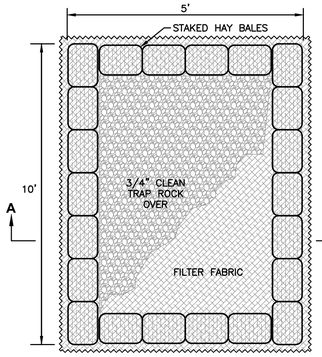
BETA JOB NO.:	7038

SCALE

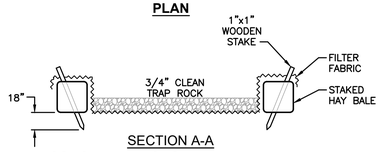
AS SHOWN

SHEET NO.

16



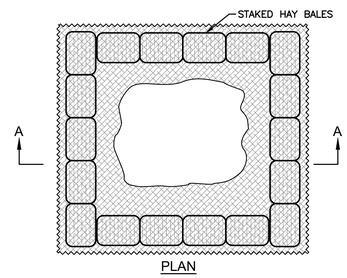
PLAN



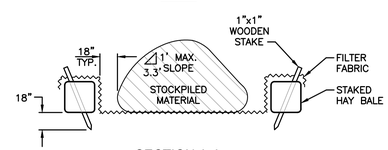
SECTION A-A

CONCRETE WASHOUT AREA DETAIL

NOT TO SCALE



PLAN

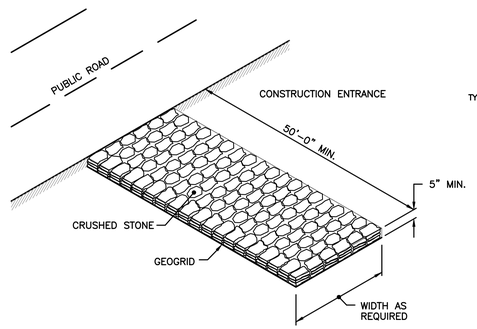


SECTION A-A

NOTE:
DIMENSIONS OF STOCKPILE AREA MAY VARY DEPENDING ON QUANTITY OF EXCAVATED MATERIAL. AVOID OVERTOPING OR SLOPES IN EXCESS OF 1:3.3.

PLAN OF TEMPORARY STOCKPILED AREA

NOT TO SCALE

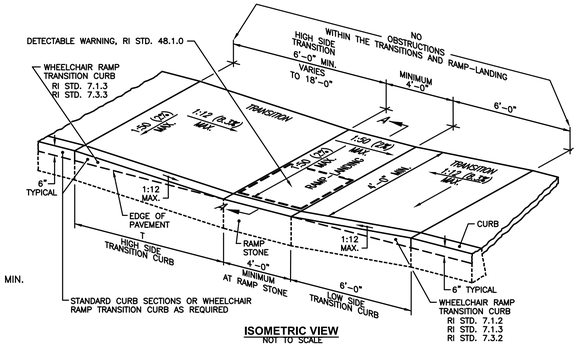


NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

CONSTRUCTION ACCESS

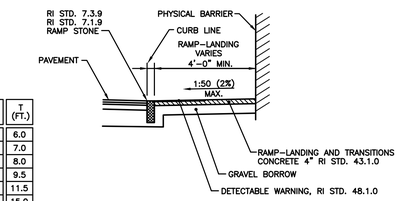
NOT TO SCALE

R.I. STANDARD 9.9.0



ISOMETRIC VIEW

NOT TO SCALE



SECTION A-A

NOT TO SCALE

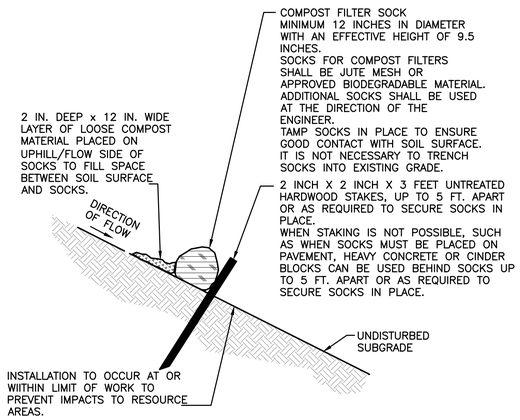
ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0
> 0.05	18.0

NOTES:
1. THIS DETAIL MAY BE USED WHEN A PHYSICAL BARRIER IS PRESENT AND THERE IS INSUFFICIENT ROOM TO PROPERLY CONSTRUCT AN ADA ACCESSIBLE RAMP AND LANDING; A TECHNICAL FEASIBILITY FINDING IS REQUIRED.
2. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
3. THE RAMP-LANDING AND TRANSITIONS SHAL BE FREE OF OBSTRUCTIONS.
4. LOCATION OF THE RAMP-LANDING IS AS SHOWN ON THE CONTRACT DRAWINGS.
5. AN UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE (PATH OF TRAVEL) WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
6. THE ENTRANCE OF THE RAMP-LANDING SHALL BE FLUSH WITH THE PAVEMENT.
7. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
8. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
9. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE R.I. STANDARD SPECIFICATIONS.

RAMP-LANDING FOR NARROW SIDEWALK

NOT TO SCALE

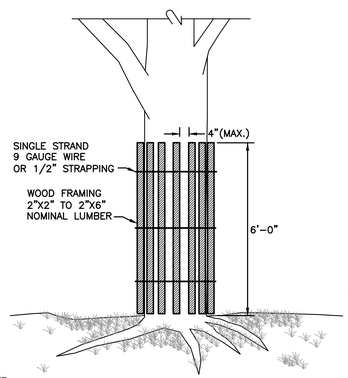
R.I. STANDARD 43.3.2



NOTES:
1. PROVIDE A MINIMUM SOCK DIAMETER OF 12 INCHES FOR SLOPES UP TO 50 FEET IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER SOCK DIAMETER OR ADDITIONAL COURSING OF FILTER SOCKS TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL SOCKS ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE SOCKS AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.

COMPOST FILTER SOCK

NOT TO SCALE

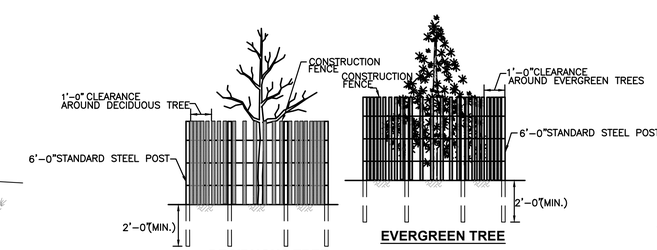


NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

TREE PROTECTION DEVICE

NOT TO SCALE

R.I. STANDARD 51.1.0



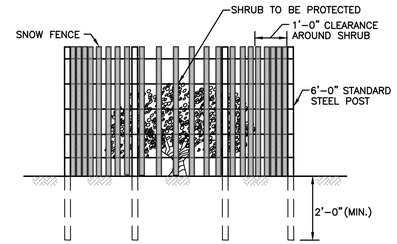
DECIDUOUS TREE **EVERGREEN TREE**

NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE R.I. STANDARD SPECIFICATIONS.

DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES

NOT TO SCALE

R.I. STANDARD 51.1.1

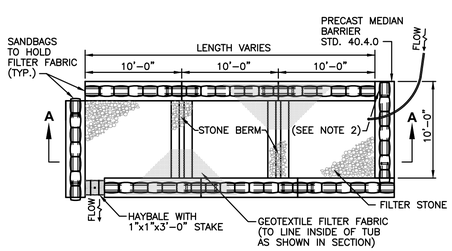


NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE R.I. STANDARD SPECIFICATIONS.

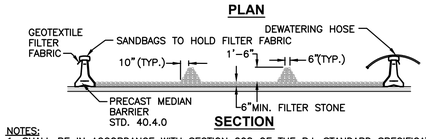
SHRUB PROTECTION DEVICE

NOT TO SCALE

R.I. STANDARD 51.2.0



PLAN



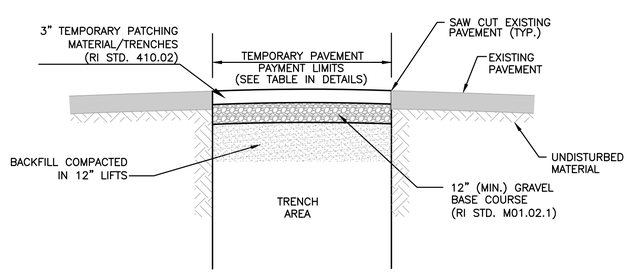
SECTION

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

DEWATERING BASIN

NOT TO SCALE

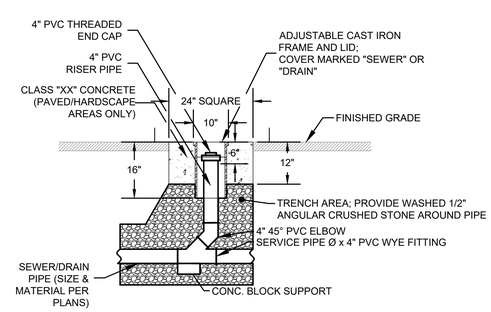
R.I. STANDARD 9.7.0



NOTE: CONTRACTOR TO VARY PAVEMENT THICKNESS TO MAINTAIN A MINIMUM CROSS SECTIONAL SLOPE EQUALING 0.02 FT/FT OR %.

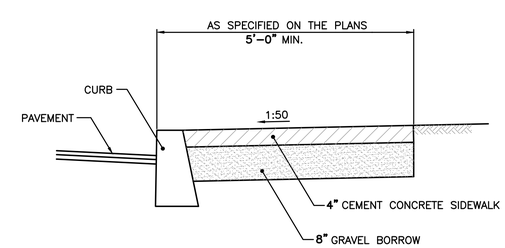
BITUMINOUS CONCRETE TEMPORARY PAVEMENT

NOT TO SCALE



TYPICAL SEWER/ROOF DRAIN CLEANOUT DETAIL

NOT TO SCALE



NOTES
1. SHALL BE IN ACCORDANCE WITH SECTION 904 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

CEMENT CONCRETE SIDEWALK

NOT TO SCALE

R.I. STANDARD 43.1.0

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CONSTRUCTION DETAILS 2

NO.	REVISIONS	DATE

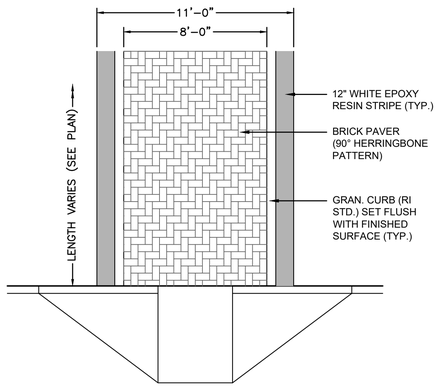
DRAWN BY:	CC
DESIGNED BY:	TD
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

AS SHOWN

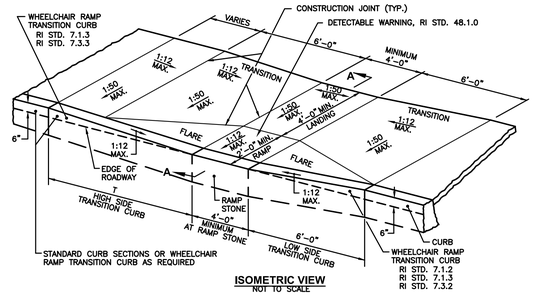
SHEET NO.

17



BRICK PAVER CROSSWALK DETAIL

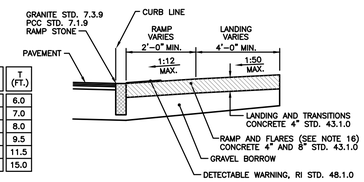
SCALE: $\frac{1}{4}$"=1'-0"



ISOMETRIC VIEW

NOT TO SCALE

ROADWAY PROFILE GRADE	T (FT.)
0.00	6.0
0.01	7.0
0.02	8.0
0.03	9.5
0.04	11.5
0.05	15.0



SECTION A-A

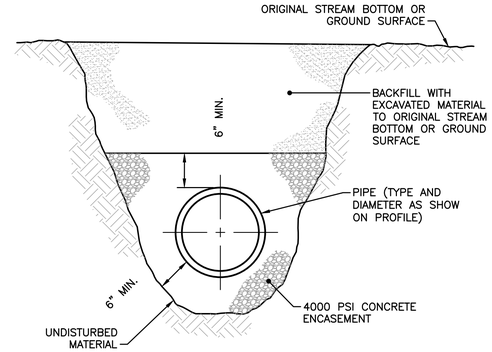
NOT TO SCALE

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP WILL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
3. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
4. DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
5. LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
6. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
7. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 4'-0" SHALL BE MAINTAINED.
8. THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT BE STEEPER THAN 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
9. WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
10. IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
11. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
12. THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
13. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
14. ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
15. DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE R.I. STANDARD SPECIFICATION.
16. 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS.

WHEELCHAIR RAMP

NOT TO SCALE

R.I. STANDARD 43.3.0



NOTES
1. THE PIPE SHALL BE PROPERLY SECURED TO PREVENT DISPLACEMENT DURING THE POURING OF CONCRETE ENCASEMENT.
2. LIMIT OF CONCRETE ENCASEMENT SHALL BE SHOWN ON THE PROFILE OR AS DIRECTED.

CONCRETE ENCASEMENT DETAIL

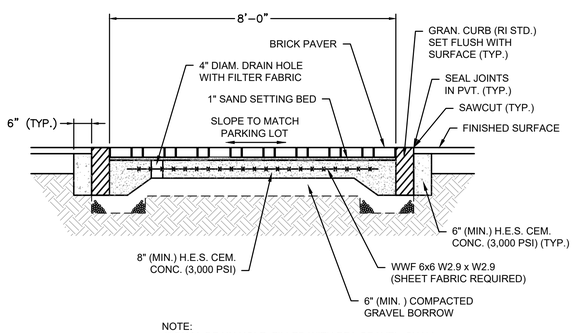
NOT TO SCALE

MAXIMUM PAYMENT LIMITS						
DIAMETER OF PIPE D IN INCHES	TRENCH WIDTH IN FEET		TEMPORARY TRENCH PAVEMENT WIDTH IN FEET		PERMANENT TRENCH PAVEMENT WIDTH IN FEET*	
	TRENCH DEPTH		TRENCH DEPTH		TRENCH DEPTH	
	< OR = 10'	> 10' TO 20'	< OR = 10'	> 10' TO 20'	< OR = 10'	> 10' TO 20'
12 AND SMALLER	5.00	6.00	6.00	7.00	8.00	9.00
15	5.25	6.25	6.25	7.25	8.25	9.25
18	5.50	6.50	6.50	7.50	8.50	9.50
21	5.75	6.75	6.75	7.75	8.75	9.75
24	6.00	7.00	7.00	8.00	9.00	10.00
27	6.25	7.25	7.25	8.25	9.25	10.25
30	6.50	7.50	7.50	8.50	9.50	10.50
36	7.00	8.00	8.00	9.00	10.00	11.00
42	7.50	8.50	8.50	9.50	10.50	11.50
48	8.00	9.00	9.00	10.00	11.00	12.00
54	8.50	9.50	9.50	10.50	11.50	12.50
60	9.00	10.00	10.00	11.00	12.00	13.00
66	9.50	10.50	10.50	11.50	12.50	13.50
72	10.00	11.00	11.00	12.00	13.00	14.00

NOTES
1. PERMANENT TRENCH PAVEMENT INCLUDES 1' CUT BACK OF TEMPORARY PAVEMENT ALONG EACH SIDE OF THE TRENCH
2. TRENCH DEPTH MEASURED FROM THE EXISTING GROUND SURFACE TO 6" BELOW THE BOTTOM OF THE CONSTRUCTED PIPE.
3. QUANTITIES FOR PAYMENT SHALL BE IN ACCORDANCE WITH THE ABOVE LIMITS OR THE ACTUAL WIDTHS, WHICHEVER IS LESS.

TRENCH WIDTH SCHEDULE

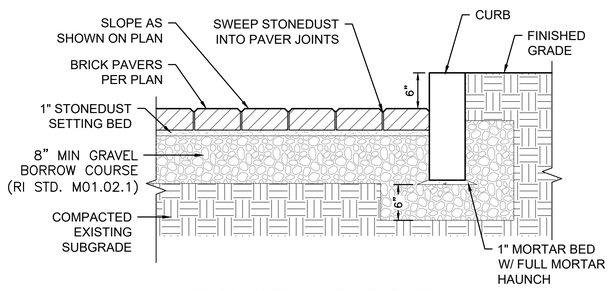
NOT TO SCALE



NOTE:
4" DIAM. DRAIN HOLE, FILLED WITH PEA GRAVEL, SHALL BE INSTALLED AS DETERMINED BY THE ENGINEER.

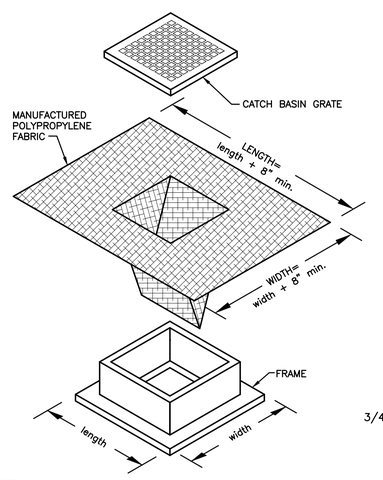
CROSS SECTION DETAIL FOR BRICK PAVER CROSSWALK

SCALE: $\frac{1}{2}$"=1'-0"



BRICK PAVER ON GRAVEL BASE

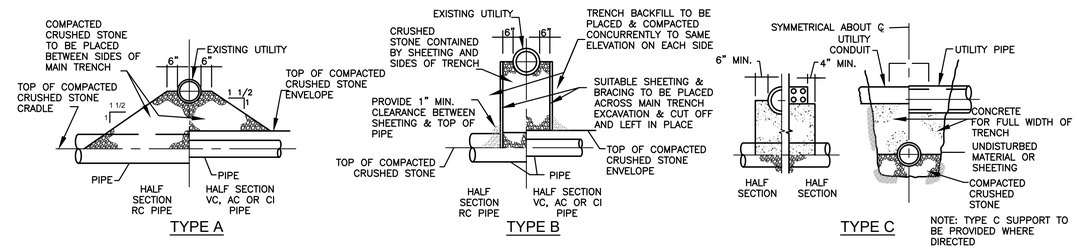
SCALE: 1"=1'-0"



NOTES
1. LENGTH AND WIDTH OF POLYPROPYLENE FABRIC MUST EXCEED EXISTING CATCH BASIN FRAME DIMENSIONS BY A MINIMUM OF 8".
2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.

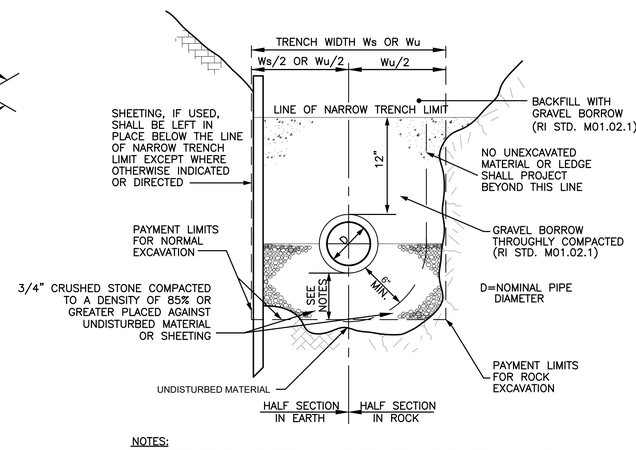
TYPICAL CATCH BASIN EROSION CONTROL PROTECTION

NOT TO SCALE



TYPICAL SUPPORTS FOR UTILITIES

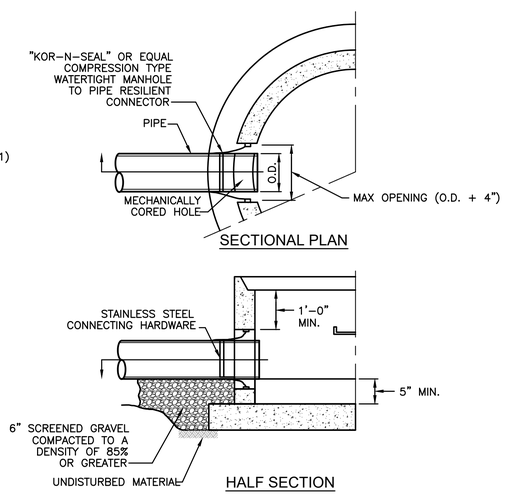
SCALE: NONE



NOTES:
1. IN STATE ROADS, THE BEDDING LIMIT FOR NORMAL EXCAVATION SHALL BE A MINIMUM DEPTH OF 12" BELOW DESIGN INVERT ELEVATIONS.
2. IN TOWN ROADS, THE BEDDING LIMIT FOR NORMAL EXCAVATION SHALL BE A MINIMUM DEPTH OF 6" BELOW DESIGN INVERT ELEVATIONS.

DRAIN TRENCH SECTION

NOT TO SCALE



CORED HOLE AND RESILIENT SEAL FOR CONNECTING PIPES TO EXISTING MANHOLES

NOT TO SCALE

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CONSTRUCTION DETAILS 3

NO.	REVISIONS	DATE

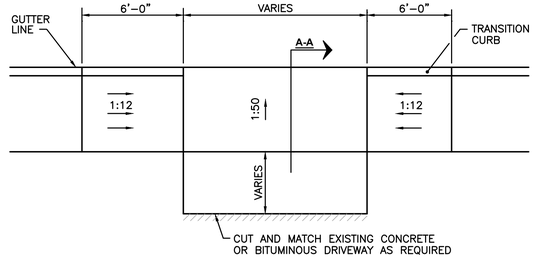
DRAWN BY:	CC
DESIGNED BY:	TD
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

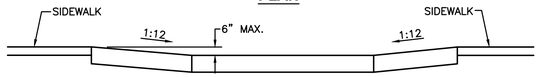
AS SHOWN

SHEET NO.

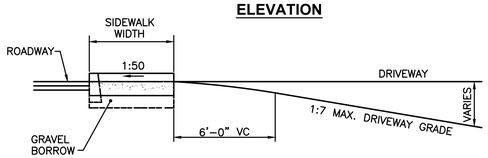
18



PLAN



ELEVATION



SECTION

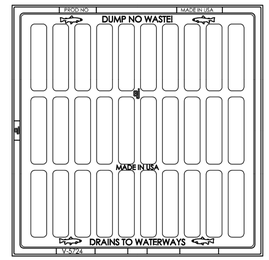
NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 904 OF THE R.I. STANDARD SPECIFICATIONS.

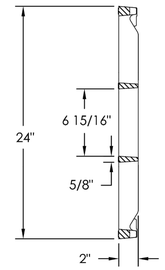
DRIVEWAY DEVELOPMENT FOR 6'-0" TRANSITION CURB

NOT TO SCALE

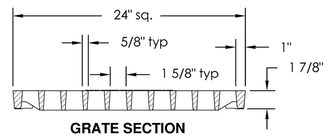
R.I. STANDARD 43.4.1

V5724 V5724-4 Assembly

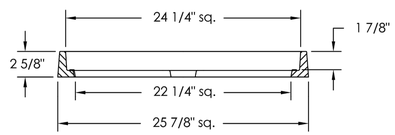




GRATE SECTION



GRATE SECTION



FRAME SECTION

LOW PROFILE FRAME AND GRATE

NOT TO SCALE

ej

Product Number
45724007

Design Features
-Materials
Frame
Gray Iron (CL35B)
Grate
Ductile Iron (70-50-05)

-Design Load
Heavy Duty
60,000 Lbs. Proof Load Rated
-Open Area
336 sq in
-Coating
Undipped
-√ Designates Machined Surface

Weight
153 lb

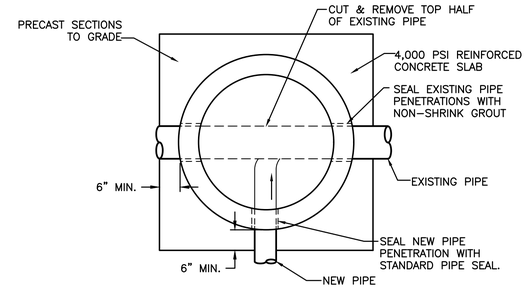
Certification
-
- ASTM A536
- ASTM A48
-Country of Origin: USA

Major Components
45724010
45724431

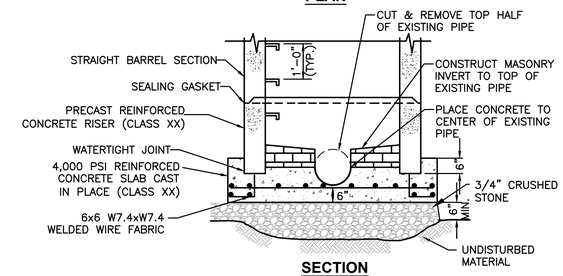
Drawing Revision
9/11/2008 Designer: GAD
4/20/2016 Revised By: MAH

Disclaimer
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

Contact
800 626 4653
ejco.com



PLAN



SECTION

NOTES:
1. FOR MANHOLES IN LOCATIONS REQUIRING CONTROLLED DENSITY FILL, PAYMENT LIMITS SHALL BE A MAXIMUM OF 2.25 CY PER VERTICAL FOOT OF MANHOLE.
2. SEE SPECIFICATION SECTION 02607 FOR MANHOLE COMPONENT REQUIREMENTS.
3. SEE SPECIFICATION SECTION 03300 FOR CONCRETE REQUIREMENTS.
4. CONSTRUCT TO SIZES (4' OR 5'ø) AS INDICATED ON PLANS.

TYPICAL "DOGHOUSE" MANHOLE OVER EXISTING PIPE

NOT TO SCALE

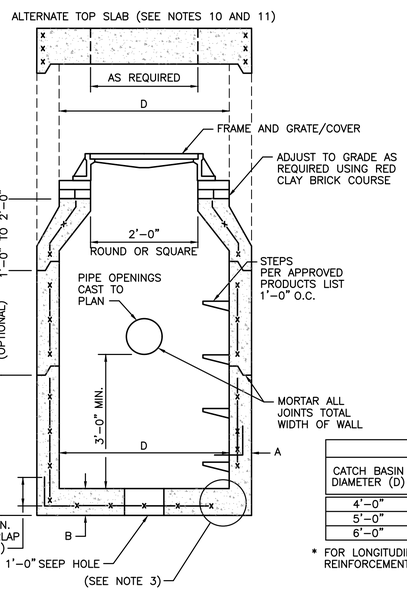
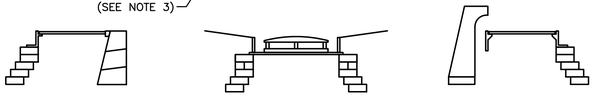


TABLE 1			
CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED *
4'–0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'–0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'–0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2



TYPE "D" **TYPE "R"** **TYPE "F"**

TYPE CATCH BASIN AS REQUIRED

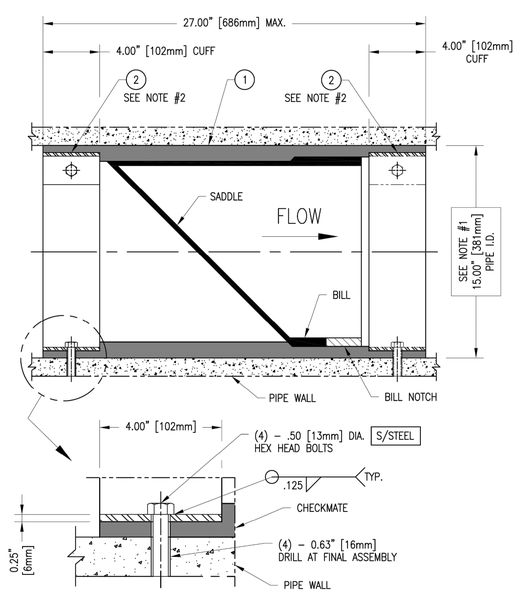
NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW–CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'–0"CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'–0" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H–25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.
13. PROVIDE A MINIMUM OF 12 INCHES OF COMPACTED GRAVEL BORROW AROUND THE STRUCTURE.

PRECAST 4'-0", 5'-0", OR 6'-0" ROUND CATCH BASIN

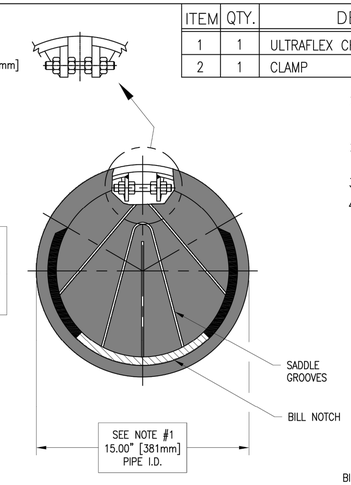
NOT TO SCALE

R.I. STANDARD 4.4.0

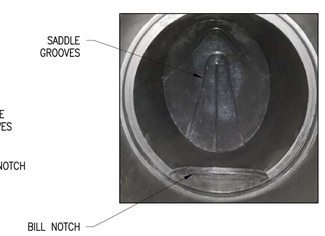
ITEM	QTY.	DESCRIPTION	MAT'L
1	1	ULTRAFLEX CHECKMATE CHECK VALVE	MUST BE SUPPLIED
2	1	CLAMP	MUST BE SUPPLIED



PIN PER NOTE #4
RECOMMENDED PINNING CONFIGURATION
(SUPPLIED BY CUSTOMER) (SEE I.O.M.)
NOT TO SCALE



NOTES:
1. PIPE INSIDE DIAMETER – MUST BE SUPPLIED
(MINIMUM ALLOWABLE PIPE DIAMETER – 14.50 INCHES)
2. CLAMP INSTALLED IN UPSTREAM OR DOWNSTREAM CUFF DEPENDING ON INSTALLATION ORIENTATION
3. MAXIMUM ALLOWABLE BACK PRESSURE – 62.0 FEET
4. IT IS RECOMMENDED TO BOLT OR PIN CHECKMATE TO PIPE AS SHOWN, 4 PLACES 90° APART



PRELIMINARY DRAWING
NOT FOR APPROVAL PURPOSES

* PATENT PENDING *

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Tideflex® Technologies
A Division of Red Valve Company, Inc.
600 N. BELL AVE.
CARNEGIE, PA. 15106
info@tideflex.com
412.279.0044
fax 412.279.5410

TT PRODUCT: 15" ULTRAFLEX CHECKMATE CHECK VALVE
TT PART No: CMCBUF–150–APPROVAL
DR. BY: TLM DATE: 9–18–18 | CHKD. BY: DATE:
CAD SCALE: FULL | REV
PLOT SCALE: 1 = 1 | DWG No: TTS–XXXX

TIDE GATE DETAIL (OR APPROVED EQUAL)

NOT TO SCALE

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CONSTRUCTION DETAILS 4

NO.	REVISIONS	DATE

DRAWN BY:	CC
DESIGNED BY:	TD
CHECKED BY:	NBI
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

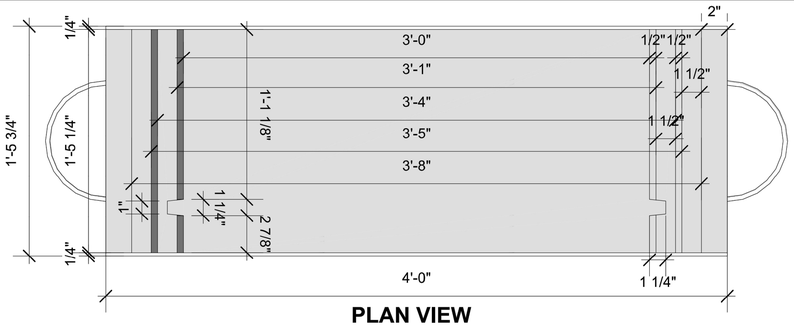
AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

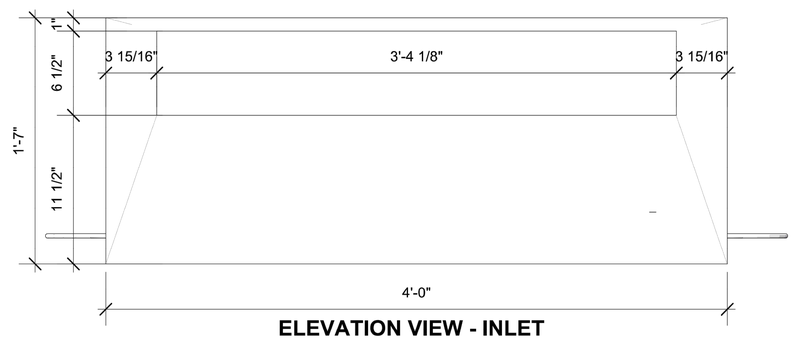
SHEET NO.

19

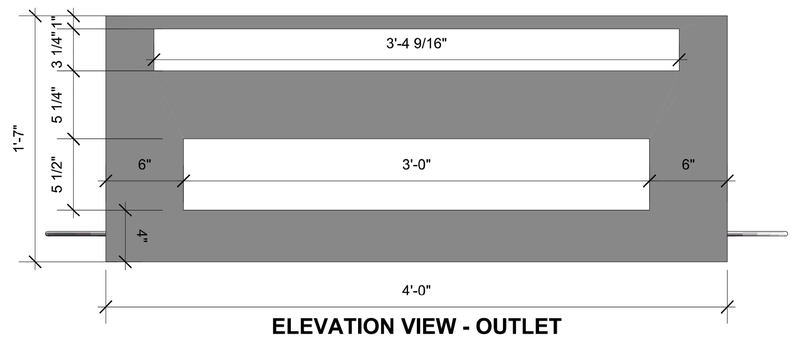
4/16/2024 4:12 PM G:\PLANNING\LANDSCAPE\7000S\7038 - WICKFORD WATERFRONT IMPROVEMENTS\AUTOCAD FILES\PLAN SET\7038-CONST DETAILS.DWG (BETA STD BW.CTB)



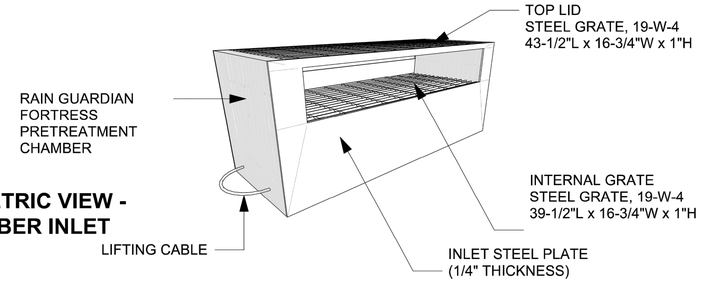
PLAN VIEW



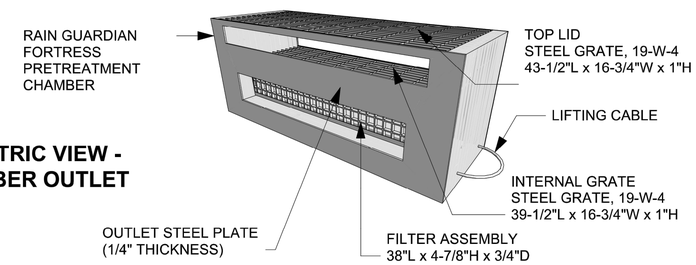
ELEVATION VIEW - INLET



ELEVATION VIEW - OUTLET



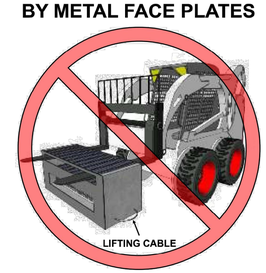
ISOMETRIC VIEW - CHAMBER INLET



ISOMETRIC VIEW - CHAMBER OUTLET

HANDLING INSTRUCTIONS

DO NOT LIFT FORTRESS BY METAL FACE PLATES



LIFT ONLY BY CABLES WITH SPREADER BAR

SPECIFICATIONS

1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURE (3.26 CF CONCRETE, 499 LBS, 1.36 CF STORAGE VOLUME), CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (5% TO 8.5% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. TWO-POINT PICK (EMBEDDED LIFTING CABLES)
3. INTERNAL GRATE - STEEL GRATE (25 LBS/PIECE, 1" THICK), 361 LB CONCENTRATED LOAD OR 206 LB/SQ-FT UNIFORM LOAD
4. TOP LID - STEEL GRATE (27 LBS/PIECE, 1" THICK), 361 LB CONCENTRATED LOAD OR 206 LB/SQ-FT UNIFORM LOAD
5. STEEL FACE PLATE (INLET AND OUTLET) - A36 1/4" THICKNESS
6. REMOVABLE FILTER ASSEMBLY (FIBERGLASS GRATE WITH FILTER AND ALUMINUM CHANNEL)

INSTALLATION NOTES

1. EXCAVATE AN AREA WITH DIMENSIONS OF AT LEAST 4'-6"L X 2'-0"W FOR THE RAIN GUARDIAN. THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN. POSITION RAIN GUARDIAN SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. THE EXCAVATION DEPTH SHOULD BE 1'-7" BELOW THE GUTTERLINE ELEVATION AT THE RAIN GARDEN INLET TO ACCOMMODATE THE 6" AGGREGATE BASE, 4" RAIN GUARDIAN BASE, AND 9" PONDING DEPTH.
2. INSTALL AN AGGREGATE BASE, COMPACTED TO 95% STANDARD PROCTOR, WITH DIMENSIONS OF AT LEAST 4'-6"L X 2'-0"W X 6"D. FINISHED TOP ELEVATION OF AGGREGATE TO BE PRECISELY 1'-1" BELOW THE GUTTER LINE ELEVATION AT THE RAIN GARDEN INLET.
3. SET RAIN GUARDIAN ON THE PREPARED AGGREGATE BASE. THE RAIN GUARDIAN INLET WILL BE 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN.
4. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN ON THE BIORETENTION SIDE.
5. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN AND CONCRETE INLET BEFORE POURING INLET.
6. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
7. INSTALL REMOVABLE FILTER. THE FILTER SHOULD BE INSTALLED IN THE CHANNEL AT THE RAIN GUARDIAN OUTLET WITH THE FILTER FABRIC FACING THE RAIN GUARDIAN INLET.
8. INSTALL INTERNAL GRATE AND THEN TOP LID.

RAIN GUARDIAN
U.S. PATENT NOS. 8,501,016 AND 8,858,804
PRETREATMENT FOR BIORETENTION
Rain Gardens • Swales • Filtration Basins • Infiltration Basins
www.RainGuardian.biz

RAIN GUARDIAN FORTRESS PRETREATMENT CHAMBER BIORETENTION PONDING DEPTH: 9" TYPICAL DETAIL

REVISION HISTORY

REV	BY	DATE	DESCRIPTION
A	MDH	11/16/22	FORTRESS
SCALE		VARIABLE	
U.S. PATENT NOS.		8,501,016 AND 8,858,804	

DEVELOPED BY:
ANOKA CONSERVATION DISTRICT

MANUFACTURED BY:
Stoneworks
ARCHITECTURAL PRECAST / CAST STONE
NATIONAL PRECAST CONCRETE ASSOCIATION CERTIFIED PLANT

PREPARED BY
BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL
NICOLE B. IANNUZZI
No. 9724
REGISTERED PROFESSIONAL ENGINEER (CIVIL)
4-17-24

SUBCONSULTANT

PROJECT
Wickford Waterfront Improvements
Wickford, RI

TITLE
CONSTRUCTION DETAILS 5

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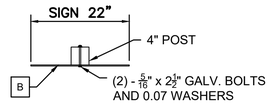
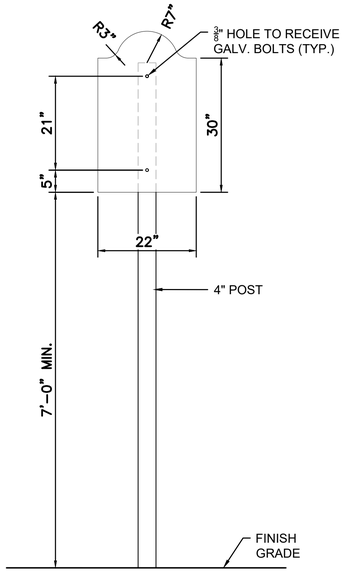
SCALE
AS SHOWN

SHEET NO.
20



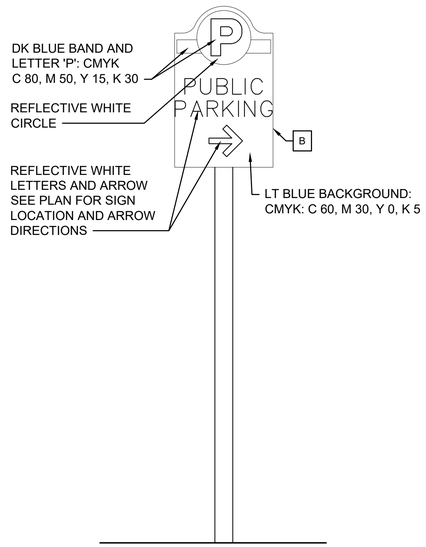
PLAN VIEW



BACK ELEVATION

PARKING TRAIL BLAZER

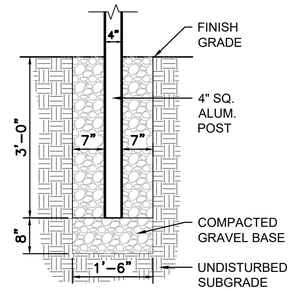
SCALE: 1"=1'-0"



FRONT ELEVATION RENDERING

PARKING TRAIL BLAZER

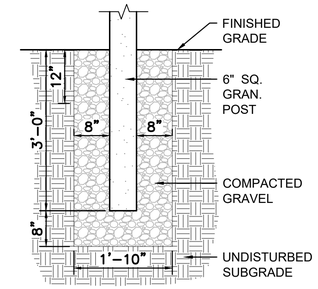
SCALE: 1"=1'-0"



NOTE:
DETAIL FOR PARKING ID AND DESTINATION ID SIGNS ONLY.

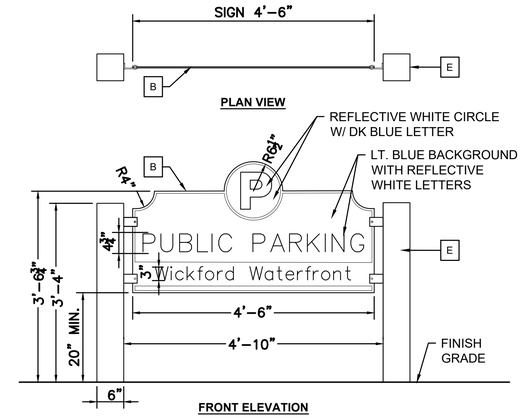
A - ALUMINUM POST INSTALLATION DETAIL

NOT TO SCALE



E - GRANITE POST INSTALLATION DETAIL

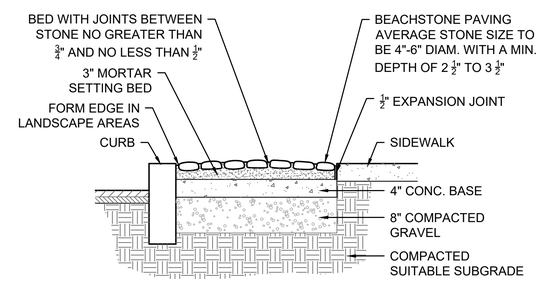
NOT TO SCALE



FRONT ELEVATION

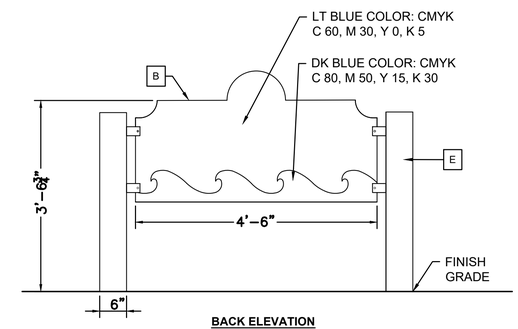
DESTINATION ID SIGNS

SCALE: 3/4"=1'-0"



BEACH STONE PAVING

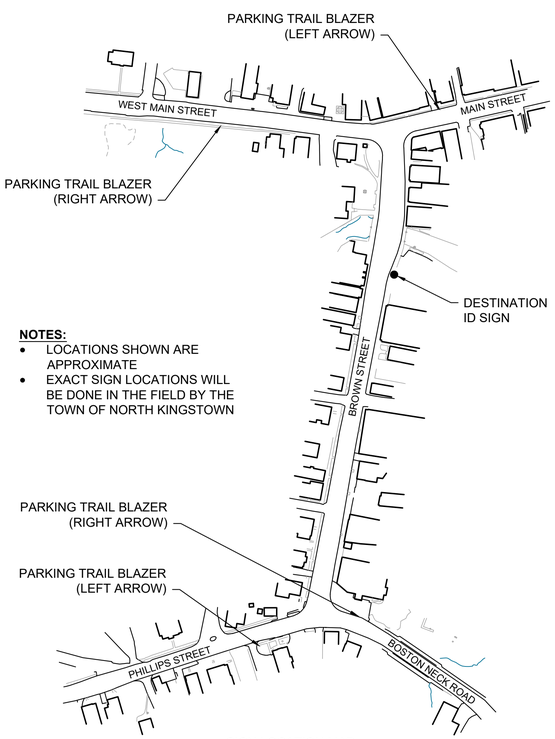
SCALE: 3/4"=1'-0"



BACK ELEVATION

DESTINATION ID SIGNS

SCALE: 3/4"=1'-0"



SIGN LOCATION MAP
SCALE: 1' = 150'

NOTES:

- LOCATIONS SHOWN ARE APPROXIMATE
- EXACT SIGN LOCATIONS WILL BE DONE IN THE FIELD BY THE TOWN OF NORTH KINGSTOWN

NOTES:

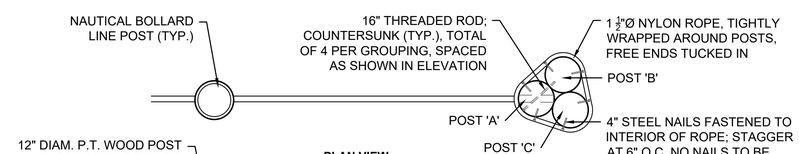
A. SQUARE POST (SIZE AS NOTED)
- MATERIAL: ALUMINUM SQUARE TUBE 6061 - SIZE AS NOTED, .250" THICK WALL
- FABRICATION PROCESS: EXTRUDED
- CORNERS: SQUARE, SMOOTH
- COLOR: CUSTOM, AS NOTED
- SURFACE PROCESS: PAINT ALL EXPOSED SURFACES WITH MATHEWS ACRYLIC POLYURETHANE, WITH CLEAR COAT SATIN FINISH.

B. 1/4" SIGN PANEL FRONT - REFLECTIVE
- MATERIAL: 1/4" THK. ALUMINUM SHEET
- FABRICATION PROCESS: ROUTER CUT SMOOTH
- COLORS: AS NOTED
  LT BLUE COLOR: CMYK: C 60, M 30, Y 0, K 5
  DK BLUE COLOR: CMYK: C 80, M 50, Y 15, K 30
- GRAPHIC BACKGROUND AND COPY PROCESS: 3M CUSTOM INKS PRINT DIRECT TO 3930 WITH 3M APPROVED UV/GRAFFITI VINYL OVER-LAMINATE.
- FASTENER: PRESS-ROLL PER 3M REQUIREMENTS, *MUST COMPLY WITH MUTCD SECTION TABLE 2A-3; MINIMUM MAINTAINED RETRO-REFLECTIVITY LEVELS.

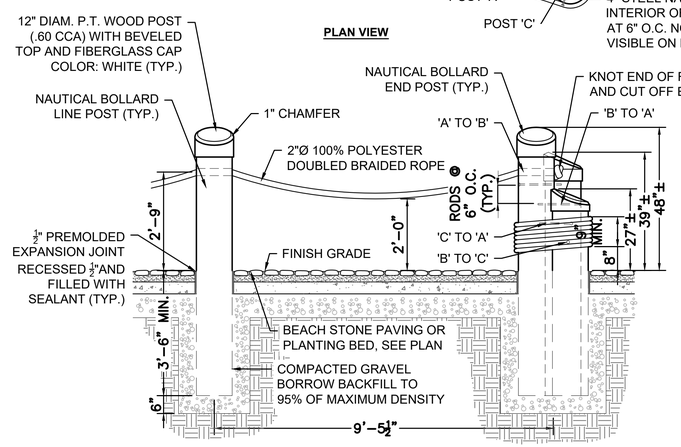
C. SIGN PANEL BRACKET
- PROVIDE MECHANICAL FASTENERS PER POST (AS NOTED)
- MATERIAL: ALUMINUM ANGLE - .250" WALL
- FABRICATION PROCESS: EXTRUDED, SAW CUT
- EDGES: SQUARE, SMOOTH
- COLOR: CUSTOM, AS NOTED
- SURFACE PROCESS: PAINT ALL EXPOSED SURFACES WITH MATHEWS ACRYLIC POLYURETHANE, WITH CLEAR COAT SATIN FINISH.
- FASTENER: TAMPER-RESISTANT MECHANICALLY FASTENED TO POST. WELD TO PANEL.

D. ART PATTERNS (AS REQUIRED)
- COLOR: CUSTOM
- GRAPHICS APPLICATION: APPLIED VINYL
- SURFACE PROCESS: GRAPHIC BACKGROUND AND COPY PROCESS: 3M CUSTOM INKS PRINT DIRECT TO VINYL WITH 3M APPROVED UV/GRAFFITI VINYL OVER-LAMINATE.

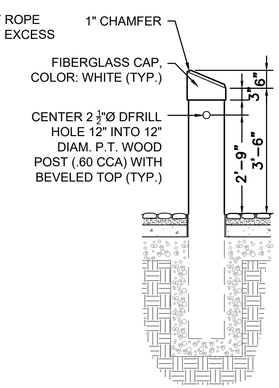
E. 6" SQUARE GRANITE POSTS.



PLAN VIEW



ELEVATION



TYPICAL SECTION

NAUTICAL BOLLARD AND ROPE

SCALE: 1/2"=1'-0"

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

CONSTRUCTION DETAILS 6

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SCALE

AS SHOWN

SHEET NO.

21

GENERAL NOTES

1. ALL CONSTRUCTION INDICATED ON THESE PLANS SHALL BE IN ACCORDANCE WITH:
   - THE 2018 EDITION OF AND SUPPLEMENTS TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
   - THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 8th EDITION, NOVEMBER 2017, INCLUDING THE LATEST INTERIM REVISIONS.
2. DIMENSIONS, STATIONS, AND ELEVATIONS ARE SHOWN TO THE NEAREST ONE–HUNDREDTH OF A FOOT OR ONE–EIGHTH OF AN INCH, EXCEPT STRUCTURAL STEEL DIMENSIONS WHICH ARE TO THE NEAREST ONE–SIXTEENTH OF AN INCH.
3. ALL ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NGVD 88).
4. COORDINATES USED ON THESE PLANS ARE BASED ON THE STATEWIDE COORDINATE SYSTEM, THE NORTH AMERICAN DATUM OF 1983 (NAD 83).
5. ANGLES ARE SHOWN TO THE NEAREST SECOND.
6. ALL FOOTINGS SHALL BE APPROVED BY THE ENGINEER AS TO DIMENSIONS, ELEVATIONS, AND SUITABILITY OF FOUNDATION MATERIAL BEFORE THE PLACING OF CONCRETE.
7. ALL WALLS ARE DRAWN LOOKING AT THE EXPOSED FACES.
8. THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND WERE LOCATED USING THE BEST AVAILABLE INFORMATION. NO BUILDING SERVICE CONNECTIONS (ELECTRIC, TELEPHONE, GAS, WATER, SANITARY AND OTHERS) ARE SHOWN. THE CONTRACTOR IS TO ASSUME THAT SERVICES TO ALL BUILDINGS ARE PRESENT.
9. BOTH FEDERAL AND STATE LAW (RI. GENERAL LAW 39–1.2) REQUIRE NOTIFICATION OF APPROPRIATE UTILITY COMPANIES BEFORE DIGGING, TRENCHING, BLASTING, DEMOLISHING, BORING, BACK FILLING, GRADING, LANDSCAPING, OR OTHER EARTH MOVING OPERATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES (INCLUDING THROUGH THE "DIG SAFE" PROGRAM) TO ENSURE THAT ALL UTILITIES, BOTH UNDERGROUND AND OVERHEAD, HAVE BEEN MARKED BEFORE COMMENCEMENT OF SUCH WORK. THE CONTRACTOR SHOULD UNDERSTAND THAT NOT ALL UTILITIES SUBSCRIBE TO THE "DIG SAFE" PROGRAM. ANY DAMAGE TO EXISTING UTILITIES MARKED IN THE FIELD, OR AS A RESULT OF FAILING TO CONTACT THE APPROPRIATE UTILITY COMPANIES, SHALL BE REPAIRED OR REPLACED (AS DEEMED APPROPRIATE BY THE STATE AND/OR THE IMPACTED UTILITY COMPANY) AT NO ADDITIONAL COST TO THE STATE.
10. ALL ANCHOR BOLTS SHALL BE ASTM DESIGNATION A 307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232 OR METALIZED IN ACCORDANCE WITH SECTION M.05. SWEDGED RODS SHALL BE AASHTO DESIGNATION M 270 GRADE 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO DESIGNATION M 232.
11. ALL ANCHOR BOLTS SHALL BE SET PRIOR TO PLACEMENT OF CONCRETE UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
12. CARBON STEEL BOLTS SHALL CONFORM TO ASTM A307.
13. ALL WORK SHALL BE COMPLETED IN THE DRY.

DESIGN DATA

1. DESIGN SPECIFICATIONS
   - THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8th EDITION, NOVEMBER 2017, INCLUDING ALL INTERIM REVISIONS TO DATE.
   - THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL 2007 EDITION INCLUDING ALL REVISIONS TO DATE.
   - THE 2018 REVISION OF AND SUPPLEMENTS TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (RI STANDARD SPECIFICATIONS).
   - IN CASE OF CONFLICT, THE RHODE ISLAND LRFD BRIDGE DESIGN MANUAL SHALL GOVERN.
2. LOAD MODIFIERS

   THE LOAD MODIFIERS FOR THIS PROJECT ARE AS FOLLOWS:
   - THE LOAD MODIFIER FOR DUCTILITY SHALL BE TAKEN AS 1.0 FOR ALL LIMIT STATES.
   - THE LOAD MODIFIER FOR REDUNDANCY SHALL BE TAKEN AS 1.00.
   - THE LOAD MODIFIER FOR OPERATIONAL IMPORTANCE SHALL BE TAKEN AS 1.05.
3. LIVE LOADS
   - THE DESIGN LIVE LOAD SURCHARGE SHALL CONFORM TO AASHTO SECTION 3.11.6
4. FOUNDATION DESIGN DATA

   DEEP FOUNDATIONS
   - THE FACTORED AXIAL AND UPLIFT RESISTANCES FOR THE DEEP FOUNDATION ARE AS FOLLOWS:

FACTORED AXIAL RESISTANCE (KIPS)			
GEOTECHNICAL		STRUCTURAL	
STRENGTH LIMIT STATE	EXTREME LIMIT STATE	STRENGTH LIMIT STATE	EXTREME LIMIT STATE
28.42	4.67	107.53	73.11

MATERIALS:

TIMBER:

1. ALL TIMBER SHALL BE SAWN LUMBER, SURFACED FOUR SIDES (242) UNLESS OTHERWISE NOTED, AND SHALL COMPLY WITH THE REQUIREMENTS OF AASHTO M168 AND THE SPECIFICATIONS.
2. SAWN LUMBER SHALL BE PRESSURE TREATED WITH CCA CONFORMING TO AWPA STANDARD P5 AND AITC 109 TO A MINIMUM NET RETENTION OF 0.40 LB./CF IN ACCORDANCE WITH AWPA STANDARD. ALL MEMBERS SHALL BE FABRICATED BEFORE TREATMENT AND DRIED TO A MOISTURE CONTENT OF 19 PERCENT OR LESS AFTER TREATMENT.
3. ALL TIMBER SHALL BE PREDRILLED PRIOR TO TREATMENT
4. ALL TIMBER SHALL BE PRECISION END TRIMMED TO LENGTH WITH ¼" UNDER LENGTH AND NO OVER LENGTH TOLERANCE PERMITTED.
5. ALL TREATED TIMBER THAT IS FIELD CUT, BORED THRU, DRILLED INTO OR DAMAGED SHALL BE TREATED AS OUTLINED IN AWPA STANDARD M4 WHICH REQUIRES THAT ALL CUTS, HOLES, OR INJURIES TO TREATED WOOD BE PROTECTED BY BRUSHING, SPRAYING, DIPPING, OR SOAKING IN AN APPROVED PRESERVATIVE.
6. CONSTRUCTION REQUIREMENTS SHALL CONFORM TO STATE SPECIFICATIONS. ALL TIMBER SHALL BE CUT TO LENGTH AND DRESSED TO SIZE REQUIRED PRIOR TO TREATMENT.
7. TIMBER WHICH AT THE DISCRETION OF THE ENGINEER IS SEVERELY WARPED, BOWED, SPLIT, OR SPLINTERED SHALL NOT BE INCORPORATED IN THE WORK.

REINFORCING STEEL:

- AASHTO DESIGNATION M 31, GRADE 60

CONCRETE STRENGTHS:

- CLASS XX 3/4" f'c=4,000 PSI

  * REINFORCED FOOTING

CONCRETE NOTES:

1. CLASSES OF CONCRETE SHALL BE CLASS XX AS DESCRIBED IN THE RI STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS OF THE SPECIFICATIONS. REFER TO THE "MATERIAL" NOTES FOR CLASSES OF CONCRETE SPECIFIED FOR VARIOUS COMPONENTS.
2. THE CONTRACTOR MAY, AT THE APPROVAL OF THE ENGINEER, PROPOSE THE USE OF SELF–CONSOLIDATING CONCRETE FOR CLASS HP OR XX ON THIS PROJECT. SECTION 606 "SELF CONSOLIDATING CONCRETE (SCC)", CONTAINS THE REQUIREMENTS FOR MODIFYING ALL CLASSES OF CONCRETE MIX DESIGN FOR SELF–CONSOLIDATING APPLICATIONS.
3. ALL PORTLAND CEMENT CONCRETE SHALL BE AIR–ENTRAINED.
4. ALL REINFORCING STEEL SHALL BE GALVANIZED. ALL WIRE TIES AND MISCELLANEOUS HARDWARE USED FOR PLACEMENT OF GALVANIZED REINFORCING SHALL ALSO BE GALVANIZED. GALVANIZED COATING FOR REINFORCING STEEL SHALL CONFORM TO ASTM A767 CLASS 1.
5. ALL CRITICAL LAP SPLICES SHALL BE AS SHOWN ON THE PLANS. ALL SPLICES NOT SHOWN ON THE PLANS SHALL BE LAPPED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR CLASS B LAP SPLICES.
6. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL MAIN REINFORCING BARS SHALL HAVE THE FOLLOWING MINIMUM COVER:

   CONCRETE CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH (FOOTINGS) — 3"

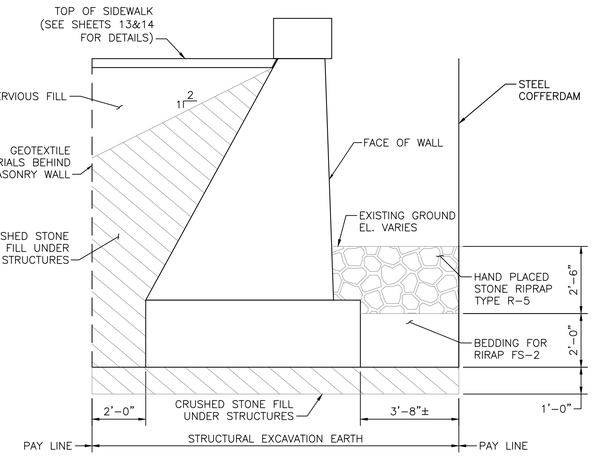
   ALL OTHER BARS — 2"

   COVER TO TIES AND STIRRUPS MAY BE 0.5 INCH LESS THAN THE ABOVE VALUES SPECIFIED FOR MAIN REINFORCING, BUT IN NO CASE LESS THAN 1.5 INCHES.
7. HORIZONTAL CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON PLANS WILL NOT BE PERMITTED WITHOUT A WRITTEN REQUEST BY THE CONTRACTOR AND PRIOR AUTHORIZATION BY THE ENGINEER.
8. ALL EXPOSED EDGES AND REENTRANT CORNERS NOT OTHERWISE DETAILED ON THE PLANS SHALL HAVE A MINIMUM ¾" CHAMFER.
9. ALL JOINT SEALANT SHALL BE POLYURETHANE, POLYURETHANE ELASTOMERIC, OR SILICONE SEALANT AS DESIGNATED ON THE PLANS. THE COLOR OF THE JOINT SEALANT, WHERE EXPOSED, SHALL BE NEUTRAL (LIGHT GRAY OR TAN). THE COLOR OF THE SEALANT, WHERE NOT EXPOSED, WILL BE AT THE DISCRETION OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING CONCRETE STAINS OR DISCOLORATIONS DURING CONSTRUCTION UNTIL SUCH TIME WHEN THE SURFACES ARE APPROVED AND ACCEPTED. ANY CONCRETE STAINS OR DISCOLORATIONS OCCURRING PRIOR TO ACCEPTANCE OF THE SURFACES SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.
11. UNLESS OTHERWISE NOTED ON THE PLANS, JOINT FILLER IS TO BE A PREFORMED, NON–EXPANSIVE, NON–EXTRUDING TYPE IN ACCORDANCE WITH SECTION M.02.11.1 OF THE RI STANDARD SPECIFICATIONS.
12. EMBEDMENT LENGTHS FOR DRILLED AND GROUTED DOWELS SHALL BE IN ACCORDANCE WITH SECTION 819 OF THE RI STANDARD SPECIFICATIONS.
13. IN ACCORDANCE WITH THE RI STANDARD SPECIFICATIONS, ALL METAL TIES, NON–METALLIC TIES OR ANCHORAGES WHICH ARE REQUIRED FOR CONCRETE FORMWORK SHALL BE SO CONSTRUCTED THAT THEY CAN BE REMOVED TO AT LEAST ONE INCH BELOW THE EXPOSED SURFACE OF THE CONCRETE WITHOUT CAUSING DAMAGE TO THE CONCRETE SURFACE. SNAP TIES MAY BE USED ONLY IF APPROVED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO USE THEM, A CATALOG CUT AND OTHER NECESSARY INFORMATION MUST BE SUBMITTED TO THE ENGINEER TO DEMONSTRATE THAT THE TIES WILL SNAP–OFF FAR ENOUGH INTO THE CONCRETE TO ALLOW FOR PROPER PATCHING. SNAP TIES MUST PROVIDE ADEQUATE STRENGTH TO SUPPORT THE FORMS. ALL CAVITIES SHALL BE FILLED WITH AN APPROVED CEMENT MORTAR MEETING THE REQUIREMENTS OF ASTM C 928.

DESIGN TIDAL INFORMATION

OBSERVED HIGH WATER ELEVATION	=	3.75
OBSERVED LOW WATER ELEVATION	=	1.50
NOAA MEAN HIGHER HIGH WATER ELEVATION	=	1.75
NOAA MEAN HIGH WATER ELEVATION	=	1.49
NOAA MEAN LOW WATER ELEVATION	=	−2.20
NOAA MEAN LOWER LOW WATER ELEVATION	=	−2.37

ACTUAL WATER ELEVATIONS WERE OBSERVED TO BE HIGHER THAN NOAA ELEVATIONS. THE CONTRACTOR SHALL NOTE THAT HIGHER AND LOWER TIDES ARE POSSIBLE.



RETAINING WALL BACKFILL
NOT TO SCALE

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SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

STRUCTURAL GENERAL NOTES

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	JR
CHECKED BY:	TW
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

AS SHOWN

SHEET NO.

22

Geologic - Earth Exploration, Inc.

7 Sherwood Drive
TEL 5083844434
Norfolk, MA 02056
FAX

CLIENT: BETA
PROJECT: Wickford Waterfront Improvements
LOCATION: North Kingstown, RI

BORING #: WB-1
PAGE 1 OF 1

			CASING	SAMPLER	CORE BARREL
File #: 22127		TYPE	HW	SS	NX
Date Started: 8/17/22		SIZE	4"	2"	
Date Completed: 8/17/22		HAMMER	300#	140#	---
Driller: J. Martinelli		FALL	30"	30"	---
Site Rep.: B. Nelson					

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

PILE CUTOFF EL. −4.50
B.O. FOOTING EL. −5.50
B.O. PILE TIP EL. −24.50±

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Strata Change ft	Sample Description
	S-1	0.0-2.0	24	12	11-13-6-5		S-1 Dry medium dense dark brown SILT and medium SAND, some Gravel
	S-2	4.0-6.0	24	12	10-5-7-7		S-2 Moist medium dense dark brown SILT and coarse SAND, trace Clay
10	S-3	9.0-11.0	24	12	5-1-1-2		S-3 Moist loose dark brown SILT and medium SAND
	S-4	14.0-16.0	24	10	6-6-9-14		S-4 Wet medium dense brown/gray SILT and medium SAND
20	S-5	19.0-21.0	24	16	9-13-14-13		S-5 Similar to S-4
	S-6	24.0-26.0	24	24	7-9-9-18		S-6 Moist medium dense brown SILT and fine SAND
30	S-7	29.0-31.0	24		13-23-11-13		S-7 Wet dense gray SILT
	S-8	34.0-34.1	1	0	120/1"	34.1	S-8 No recovery Possible top of rock at 34.1', roller bit from 34.1' to 36'
	C1	36.0-41.0	60	60			C1 RQD= 71%
40	C2	41.0-46.0	60	60			C2 RQD= 100%
						46.0	Bottom of exploration at 46.0'

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

BL ALL BETA N KINGSTOWN, RI GPJ GEOLOGIC.GDT 8/29/22

Geologic - Earth Exploration, Inc.

7 Sherwood Drive
TEL 5083844434
Norfolk, MA 02056
FAX

CLIENT: BETA
PROJECT: Wickford Waterfront Improvements
LOCATION: North Kingstown, RI

BORING #: WB-2
PAGE 1 OF 1

			CASING	SAMPLER	CORE BARREL
File #: 22127		TYPE	HW	SS	NX
Date Started: 8/18/22		SIZE	4"	2"	
Date Completed: 8/18/22		HAMMER	300#	140#	---
Driller: J. Martinelli		FALL	30"	30"	---
Site Rep.: B. Nelson					

Surface Elevation:
Station:
Groundwater level readings
Date Depth
Date Depth

PILE CUTOFF EL. −4.50
B.O. FOOTING EL. −5.50
B.O. PILE TIP EL. −24.50±

Depth ft	Sample No.	Depth ft	Pen. in	Rec. in	Blows/6"	Strata Change ft	Sample Description
	S-1	0.0-2.0	24	8	10-16-12-11		S-1 Dry medium dense brown SILT, medium SAND and coarse GRAVEL
	S-2	4.0-6.0	24	1	4-8-10-9		S-2 Moist medium dense brown coarse SAND and GRAVEL
10	S-3	9.0-11.0	24	10	8-1-2-1		S-3 Moist loose brown fine to coarse SAND, some Silt
	S-4	14.0-16.0	24	15	WOH		S-4 Moist loose dark gray SILT, trace Clay and Organic
20	S-5	19.0-21.0	24	10	WOH-12-7-9		S-5 Wet medium dense dark gray SILT and fine SAND
	S-6	24.0-25.7	20	8	23-59-44 -100/2	26.0	S-6 Wet very dense gray SILT, SAND and coarse GRAVEL Possible top of rock at 26', roller bit to 29'
30						29.0	Bottom of exploration at 29.0'
40							

Ground Surface to _____ used _____ then _____

Proportions Used		Cohesive Consistency Blows/ft				Cohesionless Density Blows/ft		Sample Type
Trace	0 to 10%	0-2	Very Soft	9-15	Stiff	0-10	Loose	UP = Fixed Piston
Little	10 to 20%	3-4	Soft	16-30	V-Stiff	10-30	M-Dense	UT = Shelby Tube
Some	20 to 35%	5-8	M-Stiff	31+	Hard	30-50	Dense	OE = Open End Rod
And	35 to 50%					50+	V-Dense	* = 300# hammer

Notes:
1. The stratification lines represent the approximate boundary between soil types. The transition may be gradual.
2. Water level readings were made in the drill hole during or at the completion of drilling. The water level may fluctuate over time.

Remarks:

BL ALL BETA N KINGSTOWN, RI GPJ GEOLOGIC.GDT 8/29/22

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS: WB−1
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1⅜" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
4. ALL BORINGS WERE MADE IN AUGUST, 2022.
5. BORINGS WERE MADE BY GEOLOGIC – EARTH EXPLORATION, INC., 7 SHERWOOD DRIVE, NORFOLK, MA 02056.
6. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

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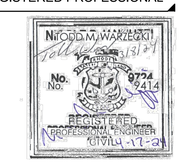


SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

BORING LOGS

NO.	REVISIONS	DATE

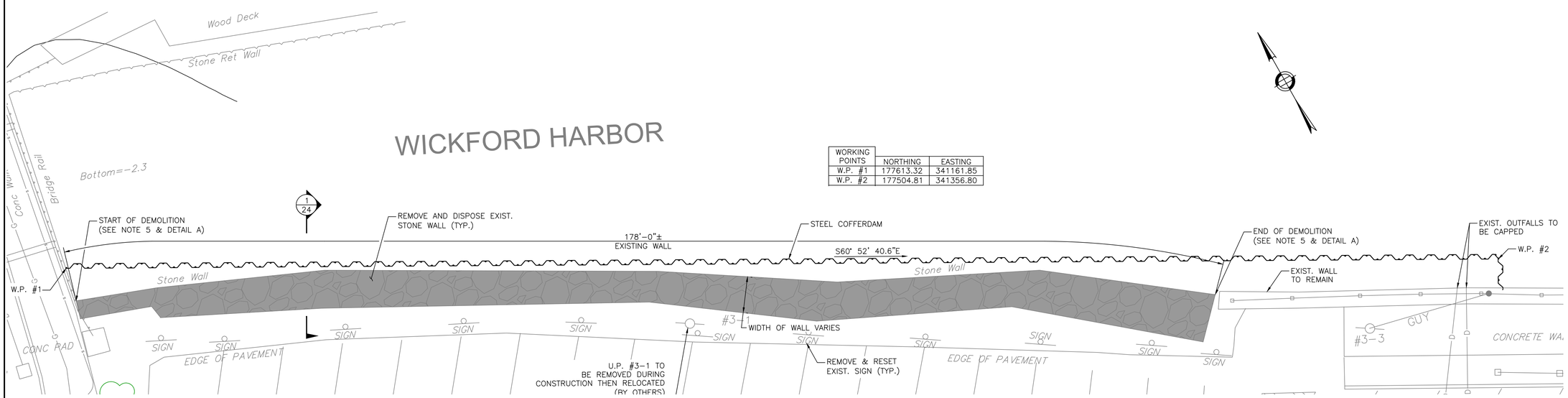
DRAWN BY:	BN
DESIGNED BY:	JR
CHECKED BY:	TW
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

AS SHOWN

SHEET NO.

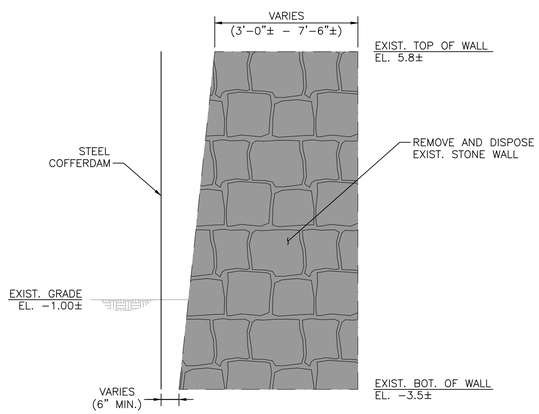
23



WORKING POINTS	NORTHING	EASTING
W.P. #1	177613.32	341161.85
W.P. #2	177504.81	341356.80

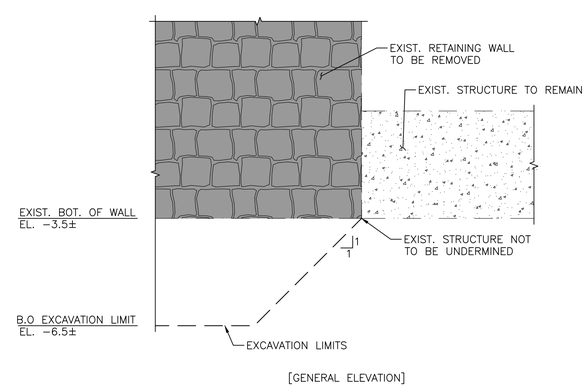
DEMOLITION PLAN

SCALE: $\frac{1}{8}$" = 1'-0"



SECTION 1

SCALE: $\frac{1}{2}$" = 1'-0"



DETAIL A

SCALE: $\frac{1}{2}$" = 1'-0"

DEMOLITION NOTES:

1. ▒ INDICATES AREA TO BE DEMOLISHED.
2. THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES ONLY. ACTUAL CONFIGURATION OF EXISTING WALL MAY VARY.
3. LIMITS OF STRUCTURAL EXCAVATION MASONRY COVERED UNDER PAY ITEM 203.0310.
4. EXIST. U.P. TO BE RELOCATED BY RHODE ISLAND ENERGY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WORK & SCHEDULE WITH UTILITY OWNER SO THAT CONSTRUCTION OPERATIONS ARE NOT INTERRUPTED.
5. BOTTOM ELEVATION OF EXISTING WALLS ARE UNKNOWN. IF EXCAVATION WILL RESULT IN UNDERMINING EXISTING WALLS TO REMAIN, LIMIT OF EXCAVATION SHALL BE IN ACCORDANCE WITH DETAIL A.
6. REMOVAL OF EXISTING STONE RUBBLE RETAINING WALL TO THE LIMITS SHOWN ON THIS DRAWING SHALL BE PAID UNDER ITEM 02202 – STRUCTURAL EXCAVATION MASONRY.

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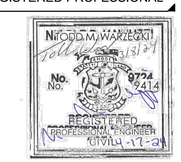


SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

DEMOLITION PLAN & SECTION

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	JR
CHECKED BY:	TW
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

AS SHOWN

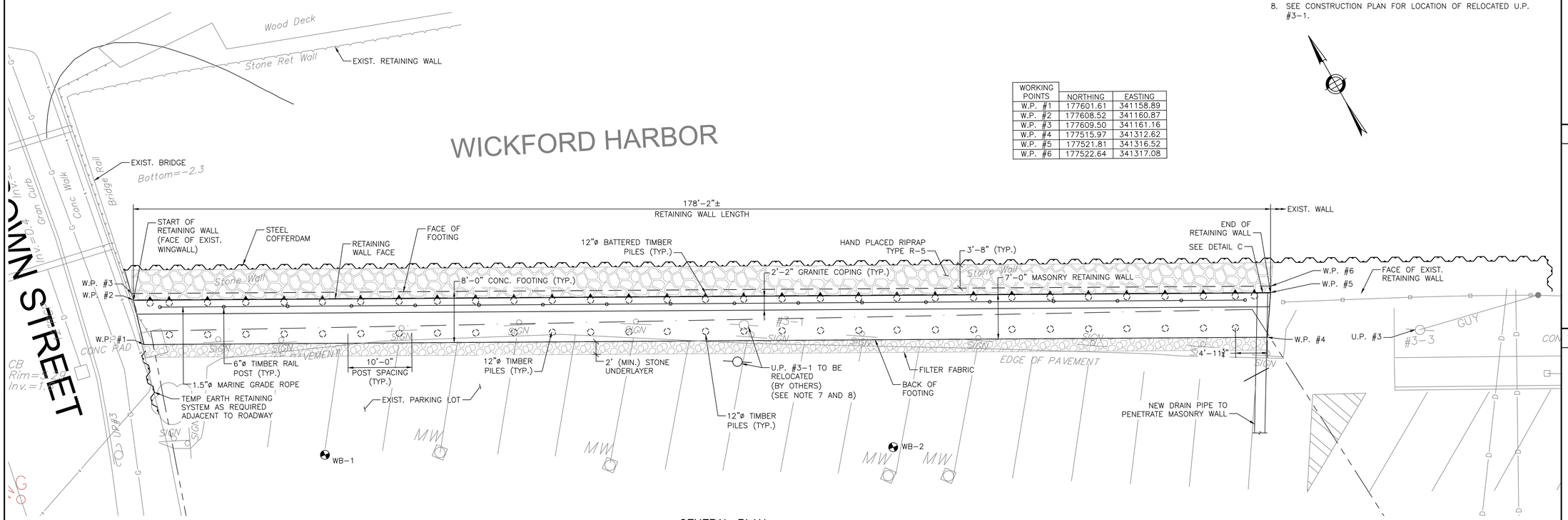
SHEET NO.

24

NOTES:

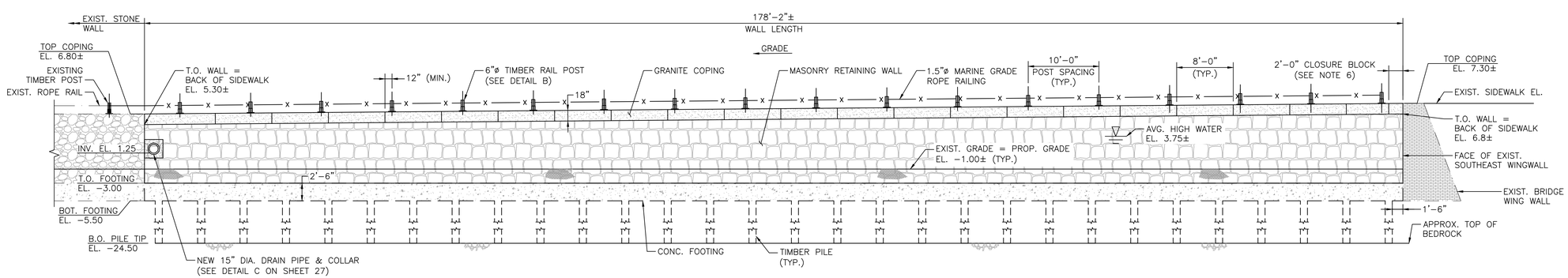
1. THE CONTRACTOR MUST NOTIFY DIG SAFE PRIOR TO ANY EXCAVATION OR DEMOLITION WORK IN PUBLIC OR PRIVATE WAYS OR UTILITY COMPANY RIGHT-OF-WAY EASEMENT.
2. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
3. JOINTS BETWEEN NEW HOT MIX ASPHALT PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSEALED.
4. PILE DIMENSIONS NOT SHOWN FOR CLARITY SEE FOOTING AND PILE LAYOUT PLAN ON SHEET 26.
5. NEW STONE SHALL MATCH EXISTING IN SIZE, SHAPE, AND COLOR.
6. MASON TO CUT GRANITE BLOCK EVEN AND SQUARE. BLOCK SHOULD BE UNIFORM AND CONSISTENT WITH THE REST OF THE COPING WITH NO VISIBLE GAP PRESENT.
7. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE RELOCATION OF U.P. #3-1 WITH RHODE ISLAND ENERGY.
8. SEE CONSTRUCTION PLAN FOR LOCATION OF RELOCATED U.P. #3-1.

WORKING POINTS	NORTHING	EASTING
W.P. #1	177601.61	341158.89
W.P. #2	177608.52	341160.87
W.P. #3	177609.50	341161.16
W.P. #4	177515.97	341312.62
W.P. #5	177521.81	341316.52
W.P. #6	177522.64	341317.08



GENERAL PLAN

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



[LOOKING SOUTH]

GENERAL ELEVATION

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

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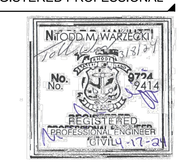

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

WALL PLAN & ELEVATION

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	JR
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ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

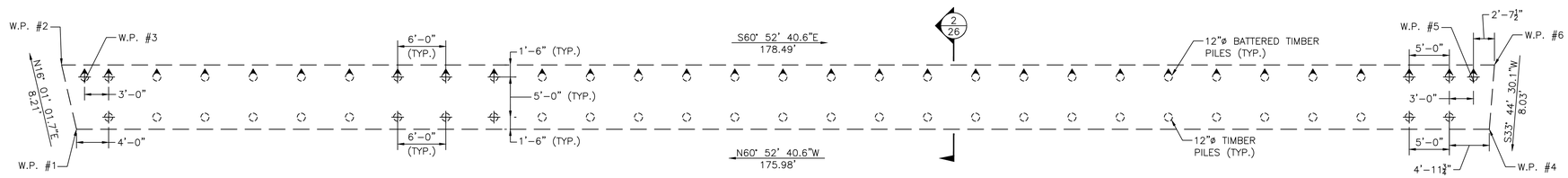
SCALE

AS SHOWN

SHEET NO.

25

WORKING POINTS	NORTHING	EASTING
W.P. #1	177601.61	341158.89
W.P. #2	177606.36	341162.68
W.P. #3	177609.50	341161.16
W.P. #4	177515.97	341312.62
W.P. #5	177522.17	341313.82
W.P. #6	177522.64	341317.08



FOOTING AND PILE LAYOUT PLAN

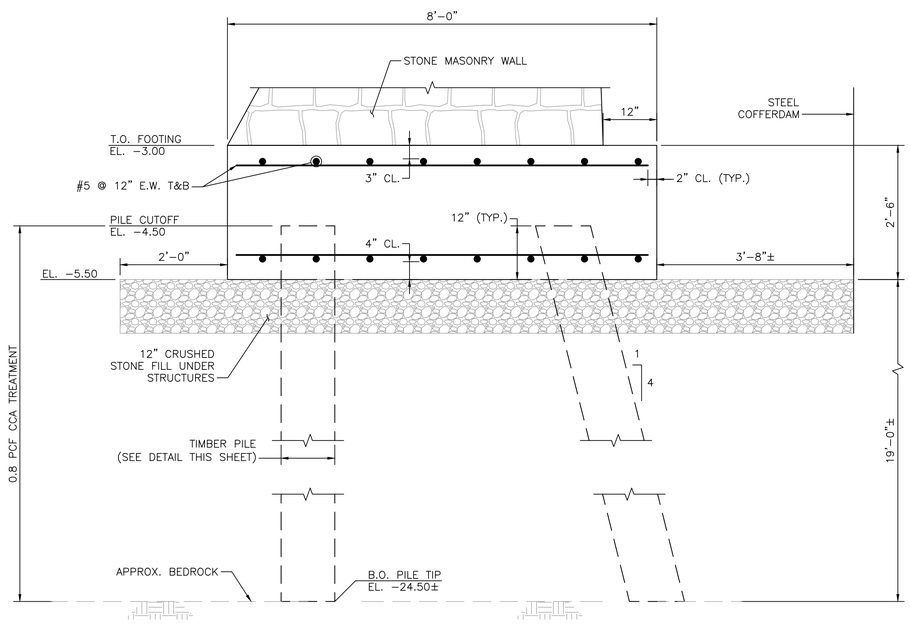
SCALE: ⅛" = 1'-0"

FOOTING NOTES:

1. ALL FOOTING CONCRETE SHALL BE CLASS XX, ¾", 4000 PSI.

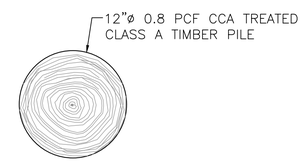
PILE NOTES:

2. THE CONTRACTOR SHALL SUBMIT A PILE SCHEDULE, PILE INSTALLATION, AND PILE DRIVING/TESTING PLAN FOR REVIEW AND APPROVAL OF THE ENGINEER.
3. TREATED TIMBER PILES TO BE CLASS A 12" AVERAGE DIAMETER TREATED WITH 0.8 PCF CCA.
4. THE FACTORED AXIAL DESIGN LOAD PER PILE ALONG THE WALL IS 107.53 KIPS AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
5. THE FACTORED GEOTECHNICAL PILE RESISTANCE IS 28.42 KIPS. THE ESTIMATED PILE TIP ELEVATION IS -24.50 FEET.
6. ALL PILES SHALL BE DRIVEN TO BEDROCK.
7. DETERMINATION OF THE DRIVEN PILE RESISTANCE SHALL BE PERFORMED USING THE AXIAL/COMPRESSION LOAD TEST. THE TEST SHALL BE PERFORMED ON THE FIRST PILE INSTALLED PRIOR TO INSTALLING THE REMAINING PRODUCTION PILES.



SECTION 2

SCALE: ¾" = 1'-0"



TIMBER PILE DETAIL

SCALE: 1½" = 1'-0"

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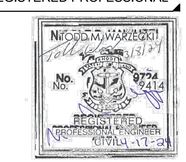

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PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

FOOTING PLAN & SECTION

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	JR
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BETA JOB NO.:	7038

SCALE

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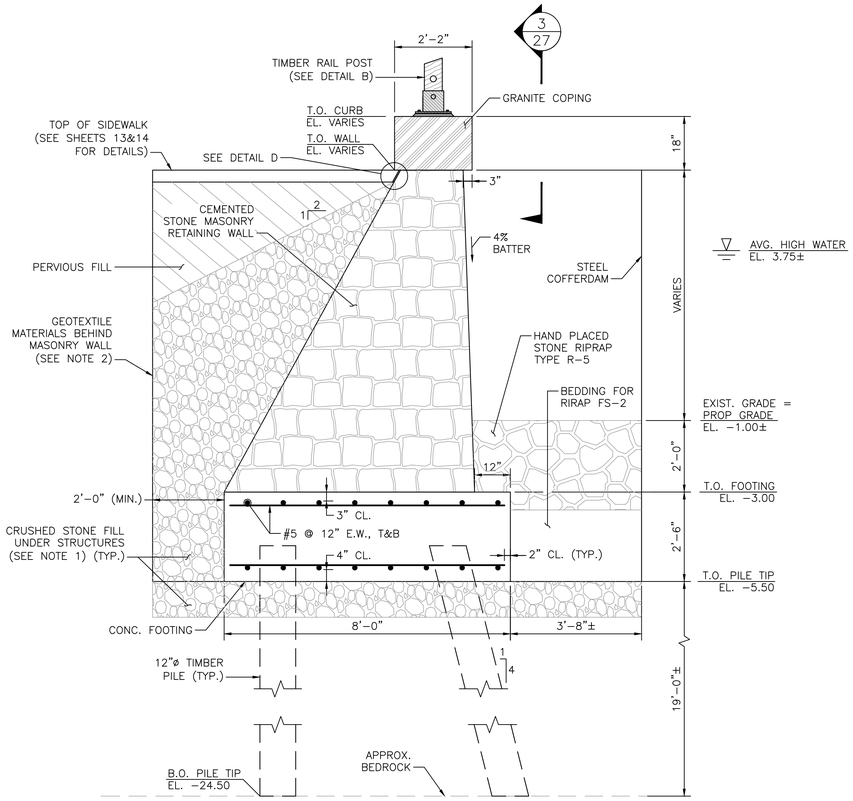
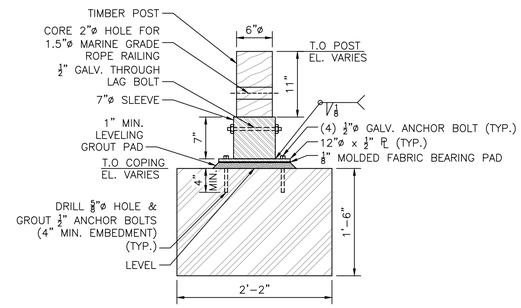
SHEET NO.

26



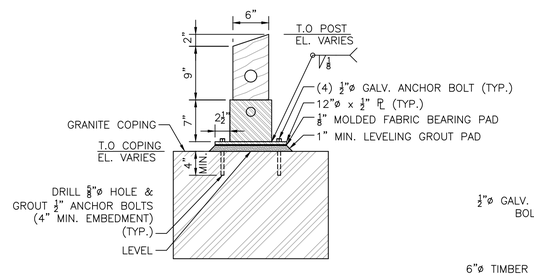
TYPICAL SECTION THROUGH WALL

SCALE: $\frac{1}{2}$" = 1'-0"

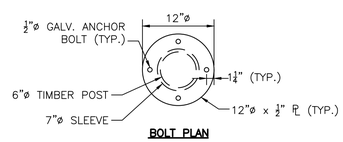


SECTION 3

SCALE: 1" = 1'-0"



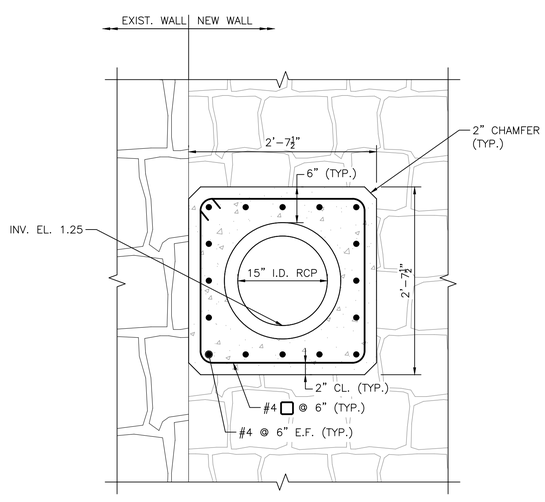
ELEVATION



BOLT PLAN

DETAIL B

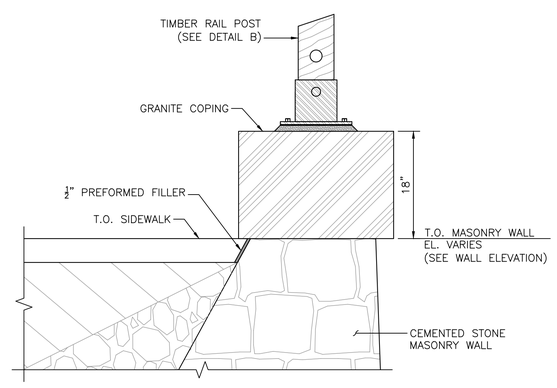
SCALE: 1" = 1'-0"



[ELEVATION]

DETAIL C

SCALE: 1" = 1'-0"



DETAIL D

SCALE: 1" = 1'-0"

GENERAL NOTES:

1. UNDER-LAYER OF STONE MASONRY WALL TO CONSIST OF CRUSHED STONE AGGREGATE. SEE TABLE 1 FOR CRUSHED STONE GRADATION. CONSTRUCTION OF CRUSHED STONE AND STONE MASONRY MAY BE COMPLETED IN LIFTS TO MAINTAIN SLOPE IF REQUIRED.

TABLE 1
GRADUATION – PERCENT PASSING

SIEVE SIZE	CRUSHED STONE
2"	100%
1$\frac{1}{2}$"	90–100%
1"	30–55%
$\frac{3}{4}$"	0–25%
$\frac{1}{2}$"	010%
#100	0–1%

GEOTEXTILE MATERIAL NOTES:

2. FILTER FABRIC TO BE ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
   - APPARENT OPENING SIZE, AOS = #70 AND CONFORM TO ASTM D4751
   - GRAB TENSILE LOAD = 150 LB AND CONFORM TO ASTM D4632.
   - GRAB ELONGATION = 50 LB AND CONFORM TO ASTM D4632.
   - CBR PUNCTURE = 340 LB AND CONFORM TO ASTM D6241.
   - BURST STRENGTH = 240 PSI AND CONFORM TO ASTM D3786.

RAILING NOTES:

3. ROPE TO BE 1$\frac{1}{2}$"ø POLYESTER DOUBLE BRAIDED MARINE GRADE ROPE. COLOR OF ROPE TO MATCH EXISTING RAIL ON ADJACENT WALL.
4. TIMBER POST TO BE 6"ø SOUTHERN PINE PRESSURE TREATED TIMBER IN ACCORDANCE WITH SECTION 806 OF THE RI STANDARD SPECIFICATIONS.
5. POST BASE AND SLEEVE TO BE TYPE A36 GALVANIZED PAINTED BLACK. PAINTING AND GALVANIZATION OF POST SLEEVE AND BASE TO BE IN ACCORDANCE WITH SECTION 830 OF THE RI STANDARD SPECIFICATIONS.

PIPE ENCASEMENT NOTES:

6. CONCRETE SHALL BE CLASS XX, $\frac{3}{4}$", 4000 PSI.
7. CONCRETE ENCASEMENT TO EXTEND FROM BACK FACE OF WALL TO FILTER FABRIC LAYER.
8. CONCRETE ENCASEMENT TO BE FLUSH WITH FACE OF MASONRY WALL. 15" RCP TO EXTEND 6" BEYOND FRONT FACE OF MASONRY WALL.

FABRIC BEARING PAD NOTES:

9. THE PREFORMED PADS SHALL CONSIST OF A FABRIC AND RUBBER BODY.
10. THE PAD SHALL BE MADE WITH NEW UNVULCANIZED RUBBER AND UNUSED FABRIC FIBERS IN PROPER PROPORTION TO MAINTAIN STRENGTH AND STABILITY.
11. THE SURFACE HARDNESS EXPRESSED IN STANDARD RUBBER HARDNESS FIGURES SHALL BE 80 SHORE A DUROMETER ±10 DUROMETER AVERAGE, THE ULTIMATE BREAKDOWN LIMIT OF THE PAD UNDER COMPRESSION LOADING SHALL BE NO LESS THAN 7,000 PSI FOR THE SPECIFIED THICKNESS WITHOUT EXTRUSION OR DETRIMENTAL REDUCTION IN THICKNESS.
12. THE PADS SHALL BE FURNISHED TO SPECIFIED DIMENSIONS WITH ALL BOLT HOLES ACCURATELY LOCATED.

PREPARED BY

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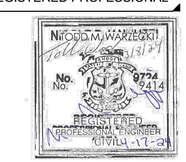

SUBCONSULTANT

PROJECT

Wickford Waterfront Improvements

Wickford, RI

TITLE

SECTIONS & DETAILS

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	JR
CHECKED BY:	TW
ISSUE DATE:	4/17/2024
BETA JOB NO.:	7038

SCALE

AS SHOWN

SHEET NO.

27