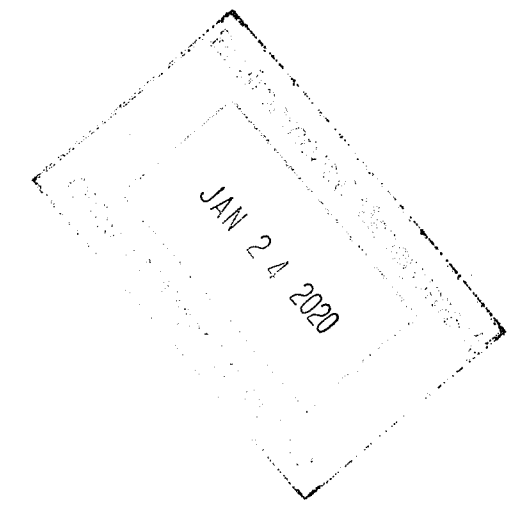


# RIDEM PRELIMINARY DETERMINATION APPLICATION PLANS

1200 HOPE STREET  
Assessors Map 103 , Parcel 2  
Bristol, Rhode Island

APRIL 4, 2019  
REVISED DECEMBER, 2019

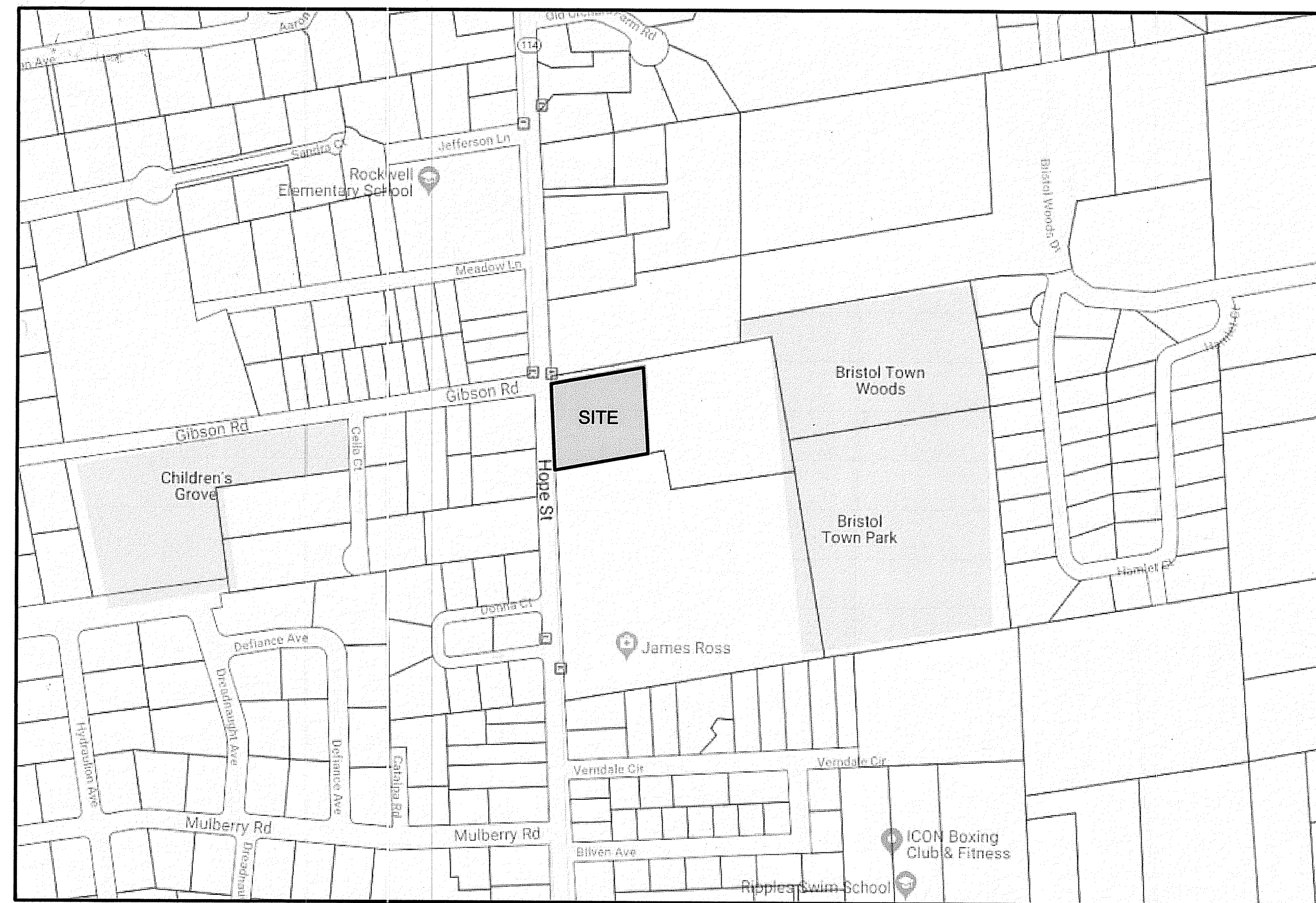


**CIVIL ENGINEER**  
LAND DEVELOPMENT ENGINEERING  
& CONSULTING, LLC.  
680 AQUIDNECK AVENUE  
MIDDLETOWN, RI 02842  
(401) 354-2050

**LAND SURVEYOR**  
LAND DEVELOPMENT ENGINEERING  
& CONSULTING, LLC.  
680 AQUIDNECK AVENUE  
MIDDLETOWN, RI 02842  
(401) 354-2050

**ARCHITECT**  
JHL TECTURE AE, PC  
190 HIGH STREET  
BRISTOL, RI 02809  
(401) 396-9630

**LANDSCAPE ARCHITECT**  
VERDE DESIGN + HORTICULTURE  
6 DEBLOIS STREET  
NEWPORT, RI 02840  
(401) 619-0562



LOCUS MAP

## PLAN INDEX

TITLE	SHEET NO.
COVER SHEET	1
EXISTING CONDITIONS PLAN	2
SITE LAYOUT PLAN	3
GRADING & DRAINAGE PLAN	4
UTILITY PLAN	5
EROSION CONTROL PLAN	6
LANDSCAPING PLAN	7
CONSTRUCTION DETAILS	8

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-0149  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



NO.	DATE	DESCRIPTION
5.	1/21/20	REVISED PER RIDEM COMMENTS
4.	12/21/19	REVISED PER RIDEM COMMENTS
3.	11/14/19	REVISED PER RIDEM COMMENTS
2.	8/6/19	REVISED PER RIDEM COMMENTS
1.	7/2/19	REVISED PER RIDEM COMMENTS

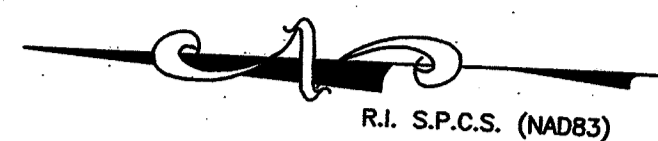
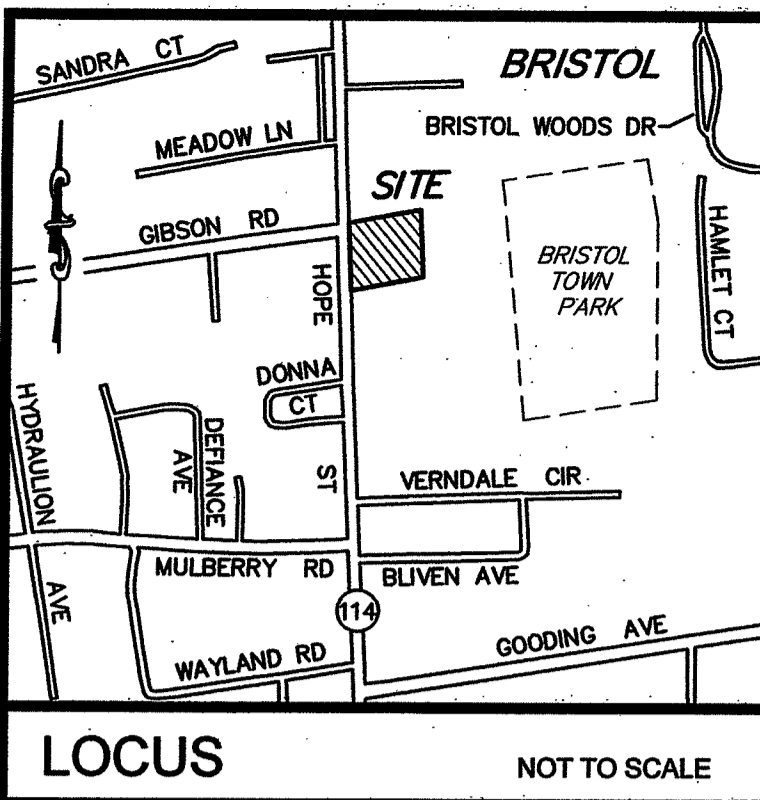
DATE: APRIL 19, 2019  
DRAWN BY: AME DESIGN BY: AME CHECK BY: MER  
PROJECT NO. 18050

ISSUED FOR: PERMITTING

MICHAEL E. RUSSELL  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

COVER  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

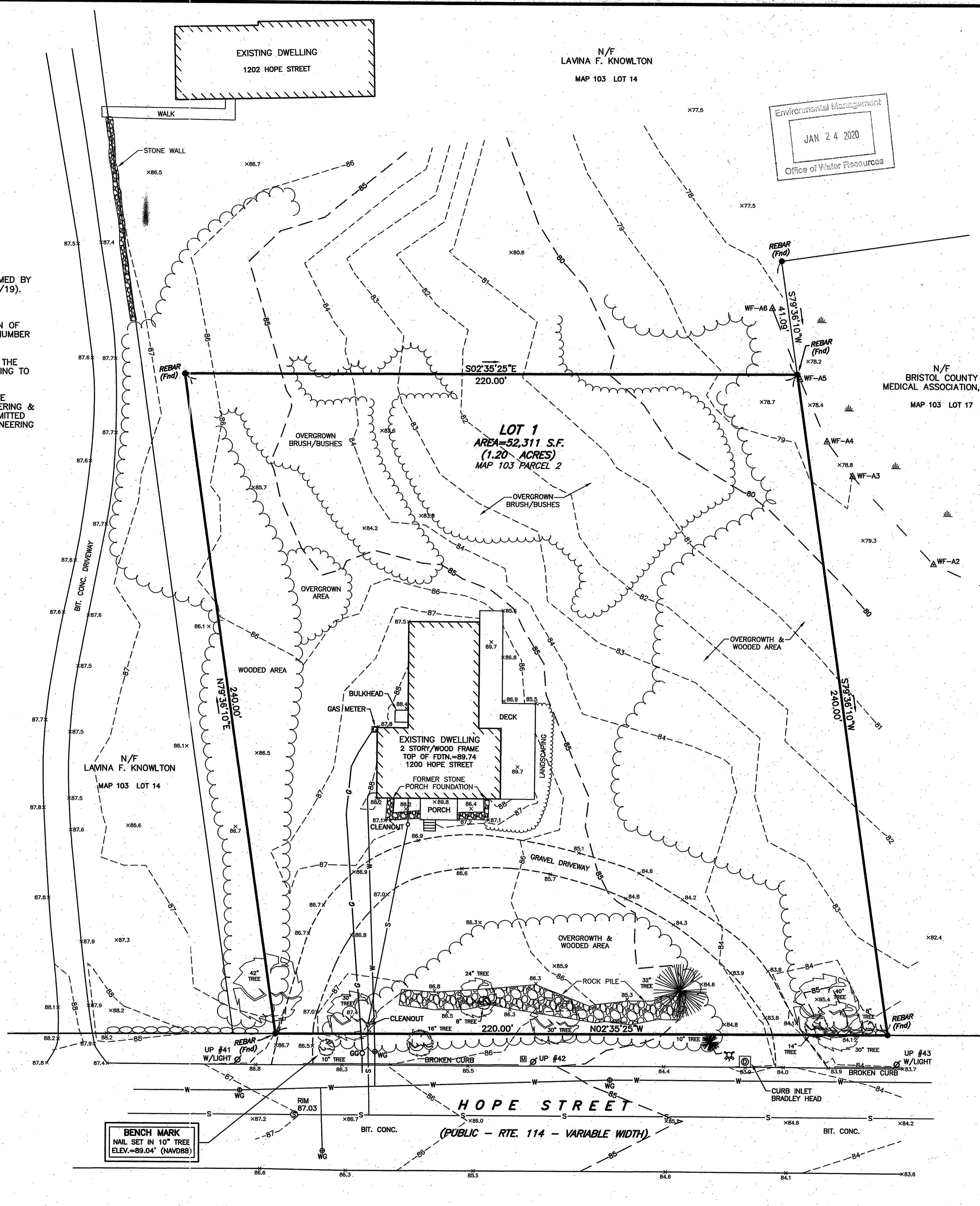
DRAWING TITLE: COVER  
SCALE: NTS  
SHEET NO. 1 OF 8



**LOCUS** NOT TO SCALE

**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018 (EXPANDED AREA ON 8/2/19).
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS NOT LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREAS AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES, INC. ON MARCH 15, 2019.



Environmental Management  
JAN 24 2020  
Office of Water Resources

**LEGEND**

- ⊙ DRAIN MANHOLE
- ⊕ FIRE HYDRANT
- ⊕ GAS GATE
- ⊕ MAIL BOX
- ⊕ SPOT ELEVATION
- ⊕ SPOT ELEVATION
- STONE WALL
- TREE LINE
- ⊕ UTILITY POLE
- ⊕ WATER GATE
- WETLANDS
- ▲ WETLAND FLAG
- UNDERGROUND GAS
- UNDERGROUND SEWER
- UNDERGROUND WATER

**CURRENT OWNER**

1200 HOPE ST., LLC  
161 NORTH CLARK ST., SUITE 1600  
CHICAGO, IL 60601

**TITLE REFERENCE:**  
DEED BK.1661/PG.344

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

**CERTIFICATION**

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS BETWEEN AUGUST 3, 2018 AND AUGUST 5, 2019, AS FOLLOWS:

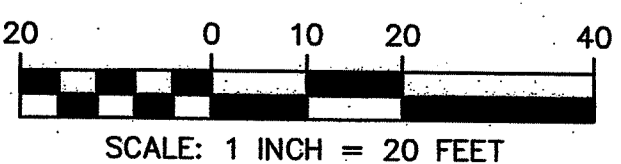
LIMITED CONTENT BOUNDARY SURVEY CLASS I  
DATA ACCUMULATION SURVEY CLASS III  
TOPOGRAPHIC SURVEY ACCURACY T-1

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:

TO PROVIDE AN EXISTING CONDITIONS PLAN FOR FUTURE SITE DEVELOPMENT AND DESIGN.

BY *Robert L. Mason*  
ROBERT L. MASON, PROFESSIONAL LAND SURVEYOR, LICENSE NO. 2001, COA NO. LS.000A533-COA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-0149  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



**LDEC**  
Land Development Engineering & Consulting, LLC  
690 Aquidneck Avenue  
Middletown, RI 02942  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION	APPROVED
1	8/5/19	EXPANDED TOPOGRAPHIC AREA	RLM

**PLAN REVISIONS**

DATE: APRIL 4, 2019

DRAWN BY: RLM COMPS. BY: RLM CHECK BY: RLM/MEER

PROJECT NO. 18050

ISSUED FOR: PERMITTING

ROBERT L. MASON  
No. 2001  
PROFESSIONAL LAND SURVEYOR

**EXISTING CONDITIONS PLAN**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

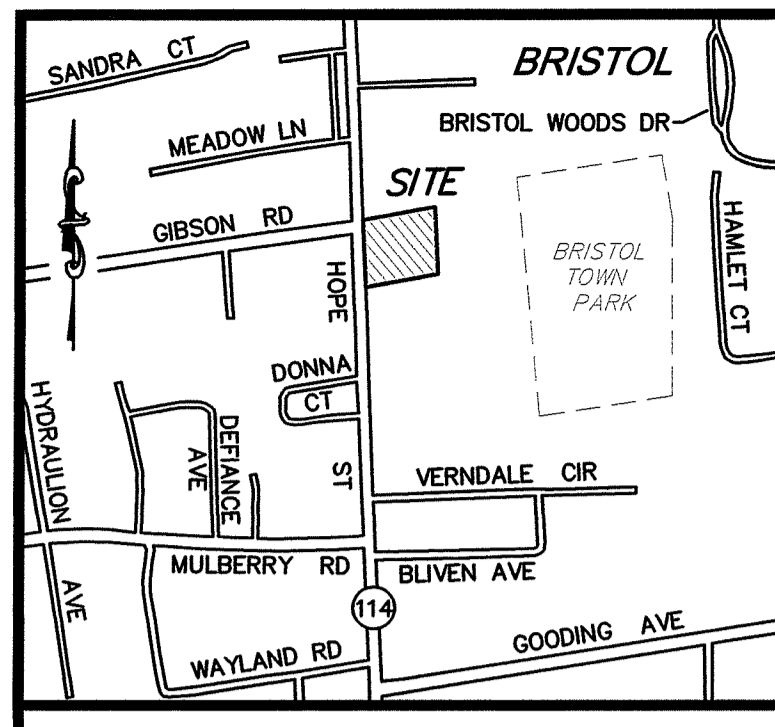
**DRAWING TITLE:**

**EXISTING CONDITIONS**

SCALE: 1" = 20'

SHEET NO.

**2 of 8**



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

PARKING TABLE	
REQUIRED	PROPOSED
2 SPACES/DWELLING UNIT	10 DWELLING UNITS = 20 SPACES

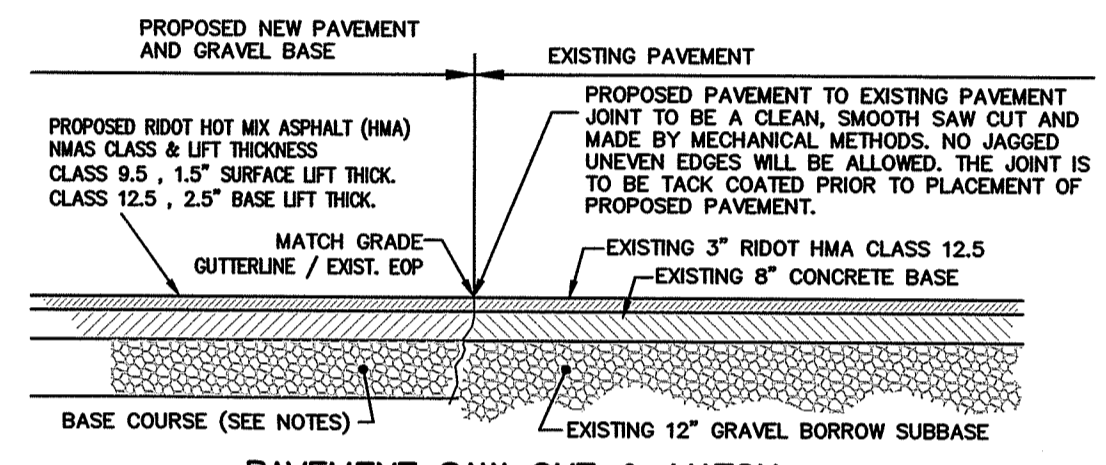
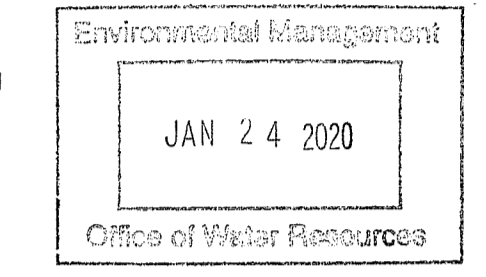
**ZONING REQUIREMENTS:**

CONSERVATION DEVELOPMENT LAND DEVELOPMENT PROJECT / MULTI FAMILY DWELLING UNITS  
 UNDERLYING DISTRICT: RESIDENTIAL DISTRICT (R-10)  
 SITE IS ALSO AN INDIVIDUALLY LISTED PROPERTY IN THE BRISTOL HISTORICAL DISTRICT.

	REQUIRED	EXISTING	PROPOSED
LOT AREA	10,000 S.F.	52,311 S.F.	52,311 S.F.
LOT FRONTAGE	80 FT.	220 FT.	220 FT.
FRONT YARD SETBACK	75 FT.	73.1 FT.	73.1 FT.*
SIDE YARD SETBACK	50 FT.	47.6 FT.	14.7 FT.*
REAR YARD SETBACK	50 FT.	85.3 FT.	22 FT.*
MAX. LOT COVERAGE	25%	5.75%	16.5%
MAX. BUILDING HEIGHT	35 FT.	-	35 FT.**
SETBACK BETWEEN 2 MULTI-FAMILY BUILDINGS	50 FT.	N/A	30 FT.*
OPEN SPACE	50%	88.7%	54.3%

(\*ZONING RELIEF REQUIRED)  
 (\*\*35 FT. HEIGHT FOR THE PROPOSED CONDOS. EXISTING STRUCTURE TO REMAIN UNCHANGED)

BY RIGHT DENSITY = 5 DWELLING UNITS (CONVENTIONAL)  
 PROPOSED DENSITY = 10 DWELLING UNITS (LAND DEVELOPMENT PROJECTS - RESOURCE CONSERVATION AND CREATIVE DEVELOPMENT OVERLAY)



**PAVEMENT SAW CUT & MATCH ROADWAY ENTRANCE & UTILITY TRENCH**  
 NOT TO SCALE

- NOTES:**
- ROADWAY PAVEMENT SAW CUTTING CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 932 AND SECTION 934.03.1 OF THE R.I. STANDARD SPECIFICATIONS.
  - AGGREGATES, GRAVEL BASE AND SUBBASE COURSES MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 500 AND SECTION M.01 OF THE R.I. STANDARD SPECIFICATIONS.
  - PAVEMENT MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 400 AND SECTION M.03 OF THE R.I. STANDARD SPECIFICATIONS AND HOT MIX ASPHALT (HMA) CONSTRUCTION.
  - CONCRETE MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 600 OF THE R.I. STANDARD SPECIFICATIONS.
  - DEPTH(S) OF NEW MATERIALS SHALL AT MINIMUM MATCH EXISTING PAVEMENT CONSTRUCTION DEPTHS FOR GRAVEL BORROW, SUBBASE, BASE, AND HOT MIX ASPHALT (HMA).
  - PAVEMENT CONSTRUCTION SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS M.03.06 AND RIDOT SECT. 401.03.11 AND HOT MIX ASPHALT (HMA) CONSTRUCTION.
  - GRAVEL BORROW SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS AND DELETERIOUS MATERIALS. GRADATION REQUIREMENTS FOR GRAVEL SHALL BE DETERMINED BY MSHTO-T11 AND T27 AND SHALL CONFORM TO THE FOLLOWING:

SIEVE DESIGNATION	PERCENT PASSING
1/2 IN	50-85
NO. 4	40-75
NO. 50	8-25
NO. 200	0-10

MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE 2 INCHES LARGEST DIMENSION

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

**LOCUS** NOT TO SCALE

**LEGEND**

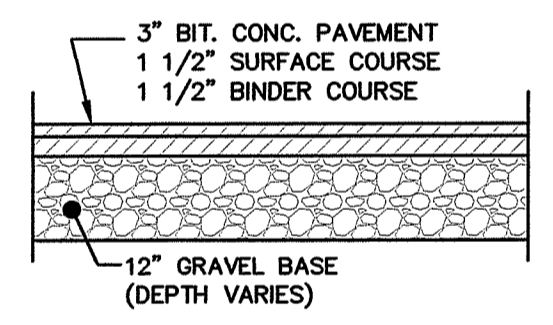
- ⊙ DRAIN MANHOLE
  - ⊕ FIRE HYDRANT
  - Ⓜ MAIL BOX
  - ⊙ SEWER MANHOLE
  - ⊙ SPOT ELEVATION
  - STONE WALL
  - TREE LINE
  - UTILITY POLE
  - WATER GATE
  - WATER LINE
  - UNDERGROUND GAS
  - ▲ A10 WETLAND FLAG
  - ▲ WETLANDS
- + [88.88] PROPOSED GRADE
  - [88] PROPOSED CONTOUR
  - 12" PROPOSED DRAIN LINE
  - G PROPOSED GAS LINE
  - ECT PROPOSED ELECTRIC/ TELEPHONE/CABLE
  - FM LOW PRESSURE SEWER

**CURRENT OWNER**  
 1200 HOPE ST., LLC  
 161 NORTH CLARK ST., SUITE 1600  
 CHICAGO, IL 60601

**TITLE REFERENCE:**  
 DEED BK.1661/PG.344

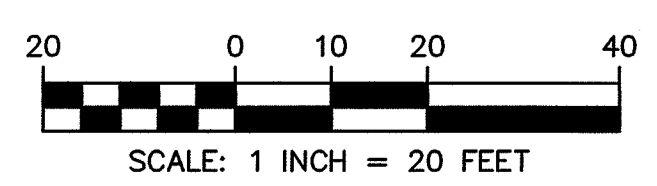
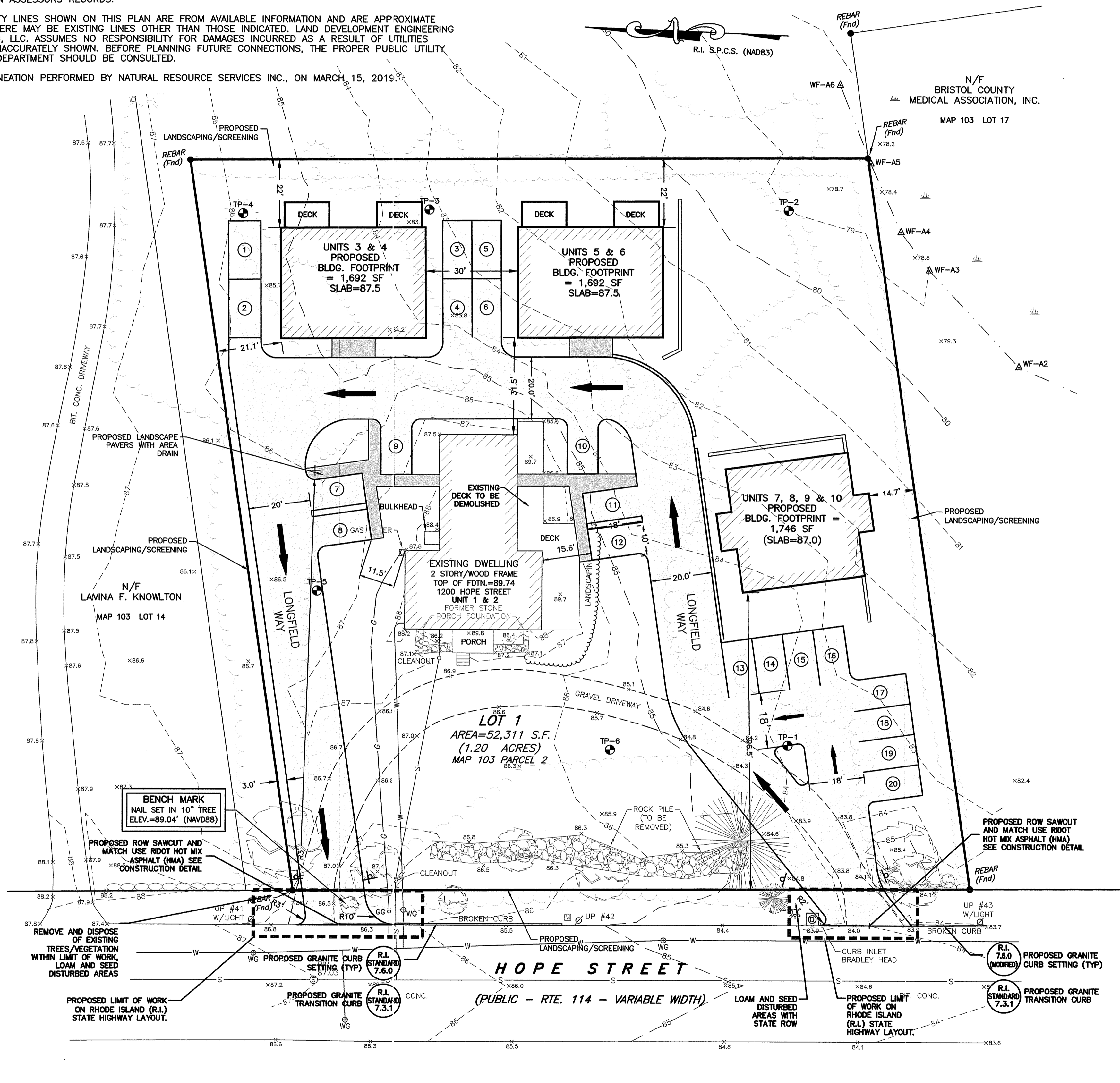
**SITE LOCATION:**  
 1200 HOPE STREET  
 BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
 MAP 103 PARCEL 2



**BID ALTERNATIVE NOTE:**  
 EXISTING BITUMINOUS PAVEMENT PARKING TO BE RECLAIMED/RECYCLED PER RIDOT SECTION 406.

**TYPICAL BITUMINOUS CONCRETE PAVEMENT**  
 NOT TO SCALE



**LDEC**  
 Land Development Engineering & Consulting, LLC  
 680 Aquidneck Avenue  
 Middletown, RI 02842  
 T:401-354-2050 F:401-369-9775  
 WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
1.	1/21/20	REVISED PER RIDEM COMMENTS
2.	11/4/19	REVISED PER RIDEM COMMENTS
3.	11/4/19	REVISED PER RIDEM COMMENTS
4.	12/2/19	REVISED PER RIDEM COMMENTS
5.	1/21/20	REVISED PER RIDEM COMMENTS

**PLAN REVISIONS**

DATE: APRIL 19, 2019

DRAWN BY: AME COMPS BY: AME CHECK BY: RLM/MER

PROJECT NO. 18050

ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
 No. 7956  
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED MAR 04 2020 FILE # 19-0149  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**SITE PLAN**  
 1200 HOPE STREET  
 BRISTOL, RHODE ISLAND  
 ASSESSORS MAP 103, PARCEL 2  
 PREPARED FOR  
 PREFERRED REALTY SERVICES, LLC

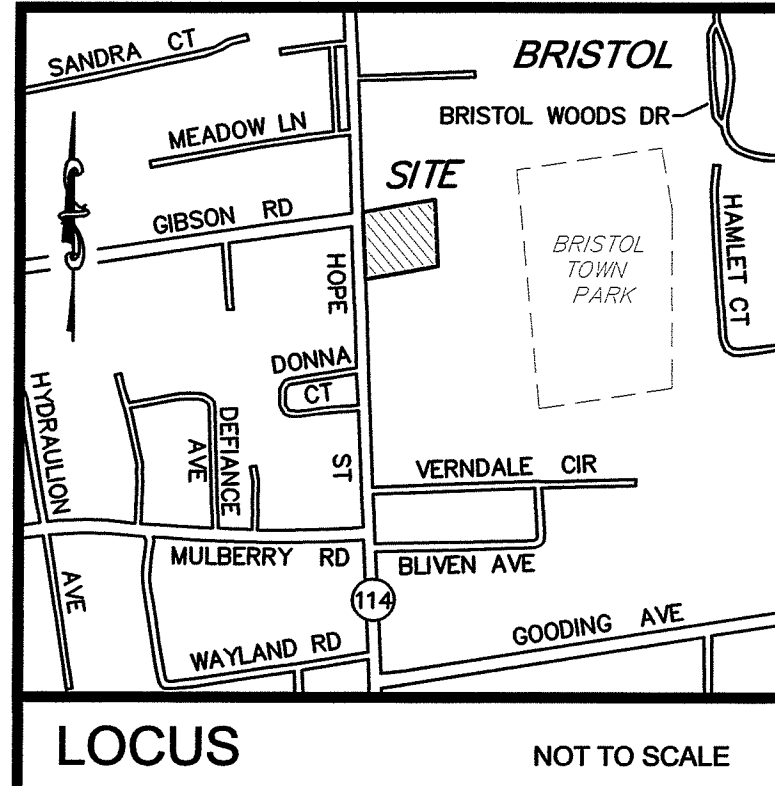
DRAWING TITLE:

**SITE PLAN**

SCALE: 1" = 20'

SHEET NO. 3 OF 8

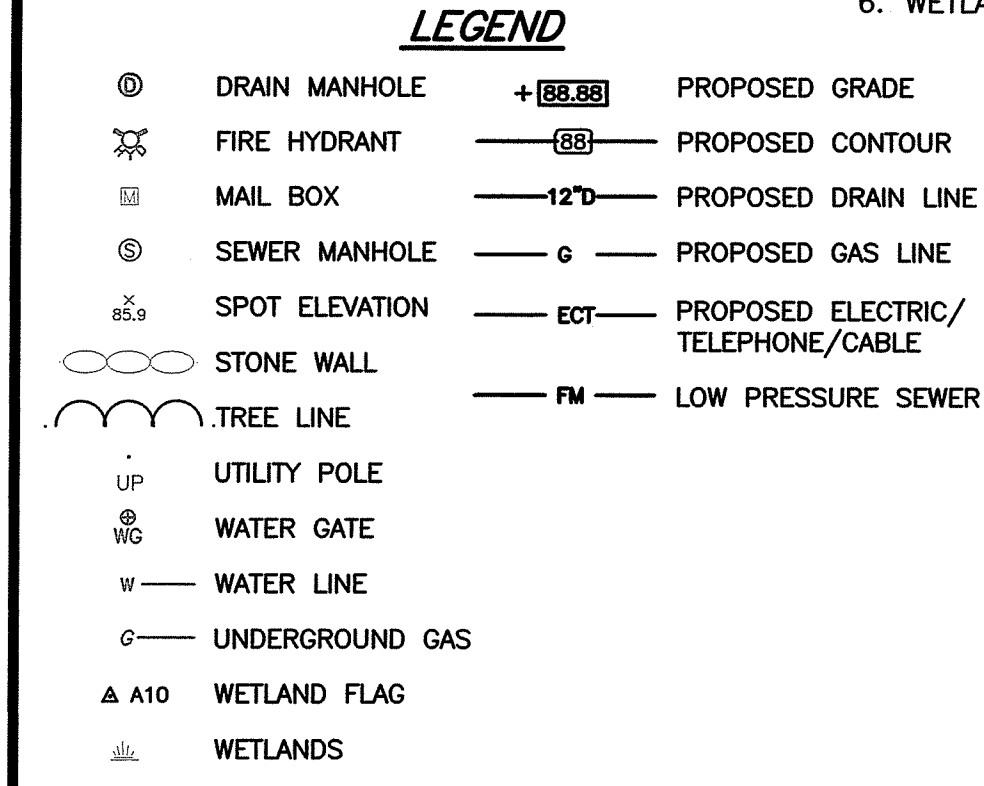
ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.  
 ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

**LOCUS** NOT TO SCALE

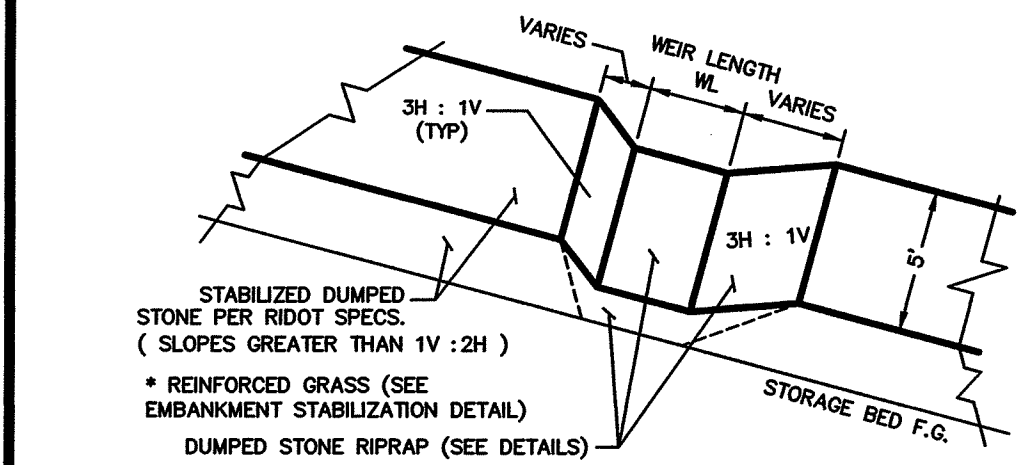


**CURRENT OWNER**  
1200 HOPE ST., LLC  
161 NORTH CLARK ST., SUITE 1600  
CHICAGO, IL 60601

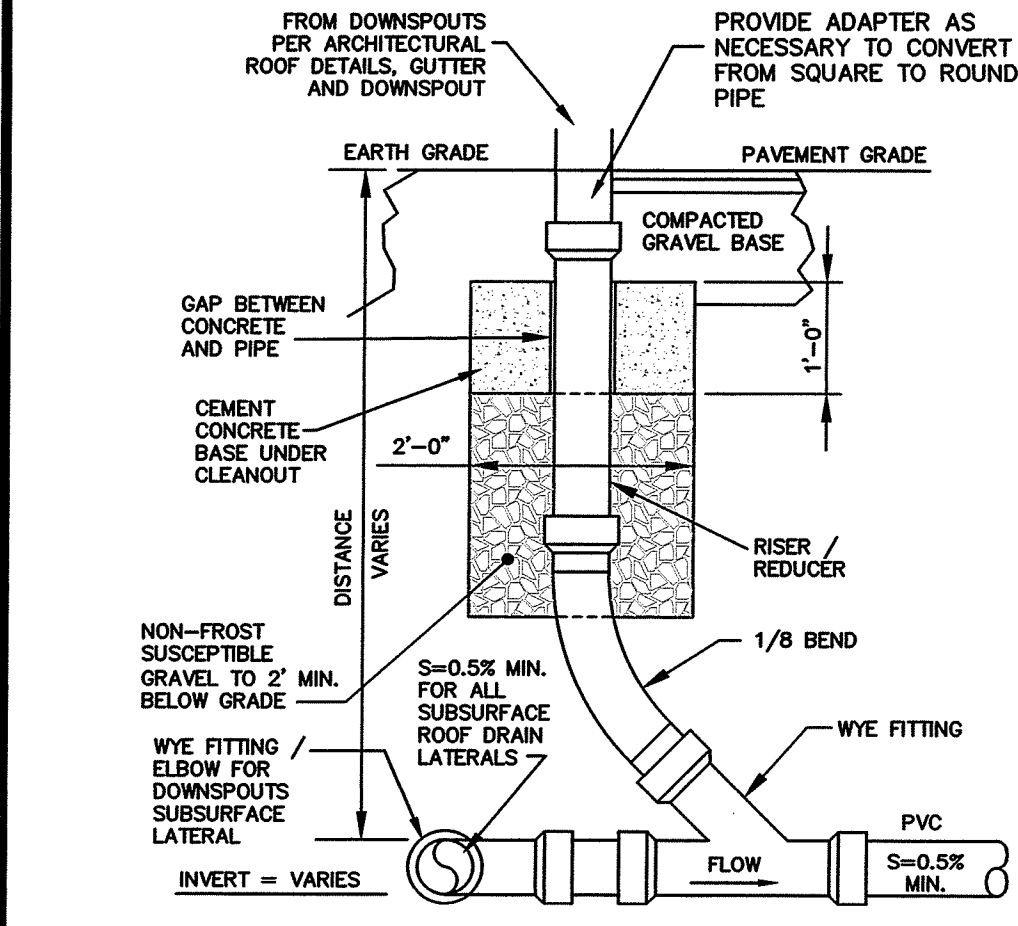
**TITLE REFERENCE:**  
DEED BK.1661/PG.344

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

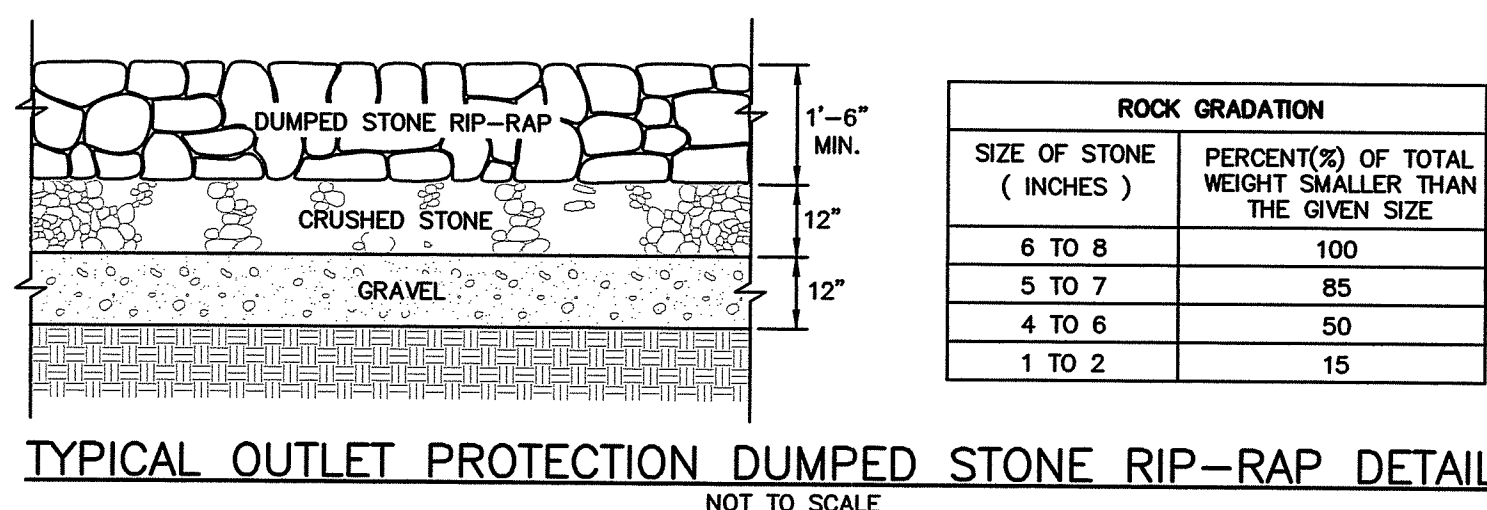
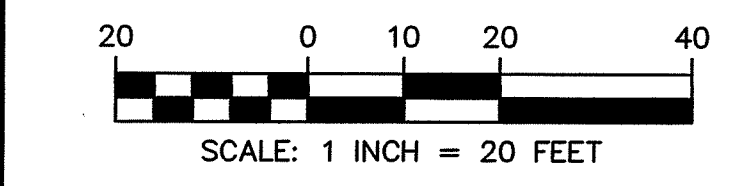
**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2



**SEDIMENT FOREBAY OVERFLOW SPILLWAY DETAIL**  
NOT TO SCALE



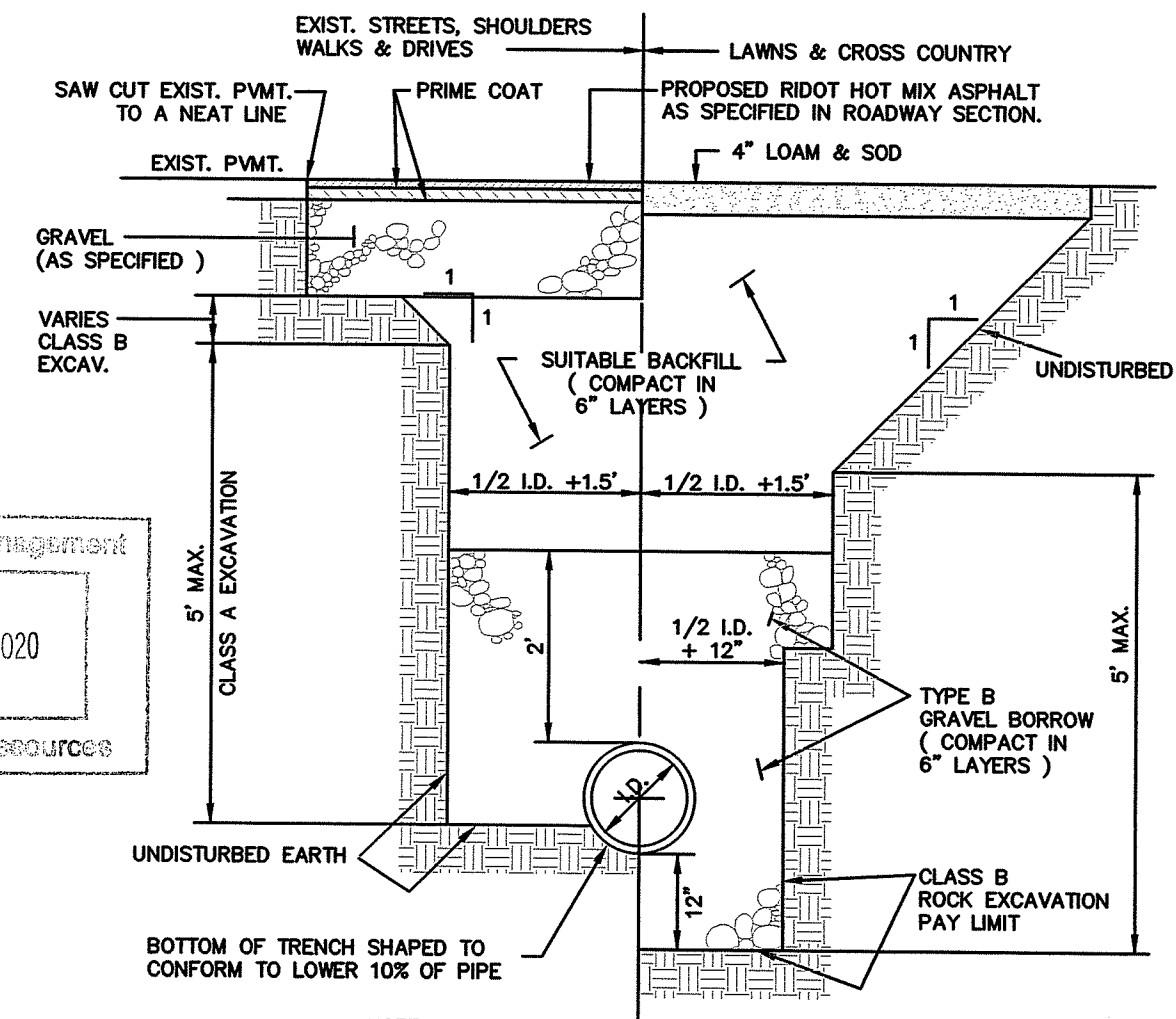
**DOWNSPOUT CONNECTION & ROOF DRAIN DETAIL**  
NOT TO SCALE



**TYPICAL OUTLET PROTECTION DUMPED STONE RIP-RAP DETAIL**  
NOT TO SCALE

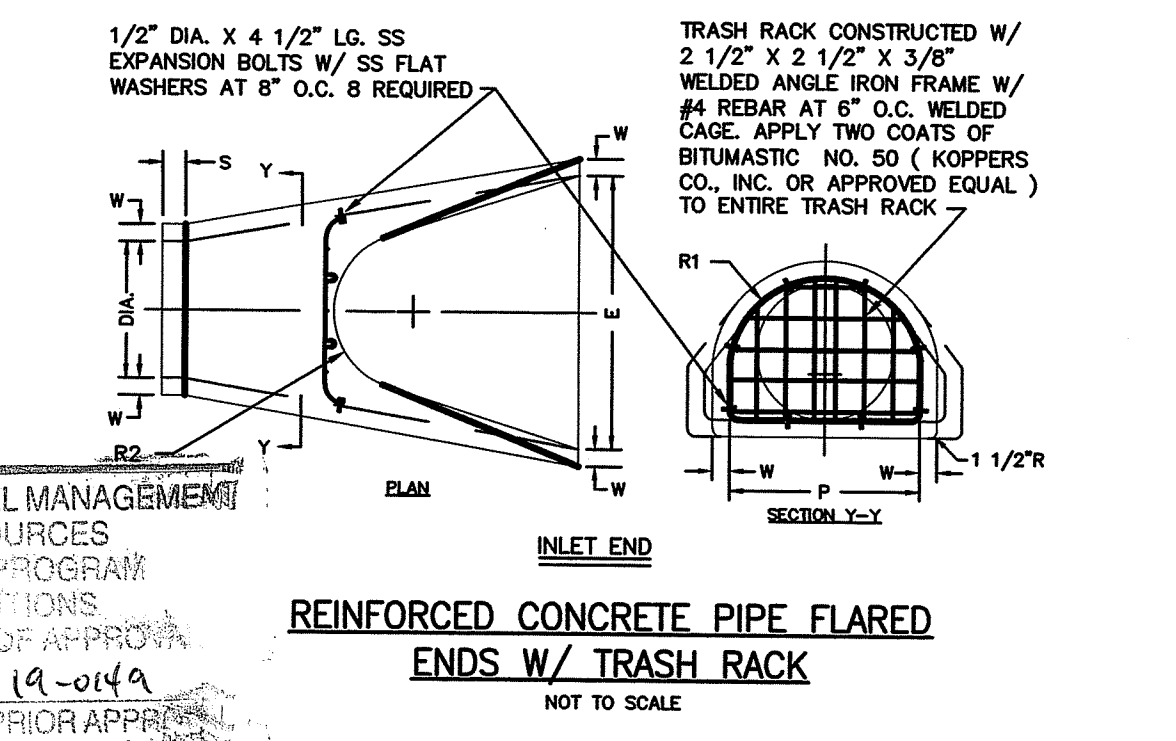
- NOTES:**
- STONES SIZES ARE BASED UPON ASSUMED SPECIFIC WEIGHT OF 165 LBS./CF.
  - DUMPED STONE RIP-RAP STONE SIZE AS PER RIDOT ( STD. SPEC. SEC. M.10.03 ).

ROCK GRADATION	
SIZE OF STONE ( INCHES )	PERCENT(%) OF TOTAL WEIGHT SMALLER THAN THE GIVEN SIZE
6 TO 8	100
5 TO 7	85
4 TO 6	50
1 TO 2	15

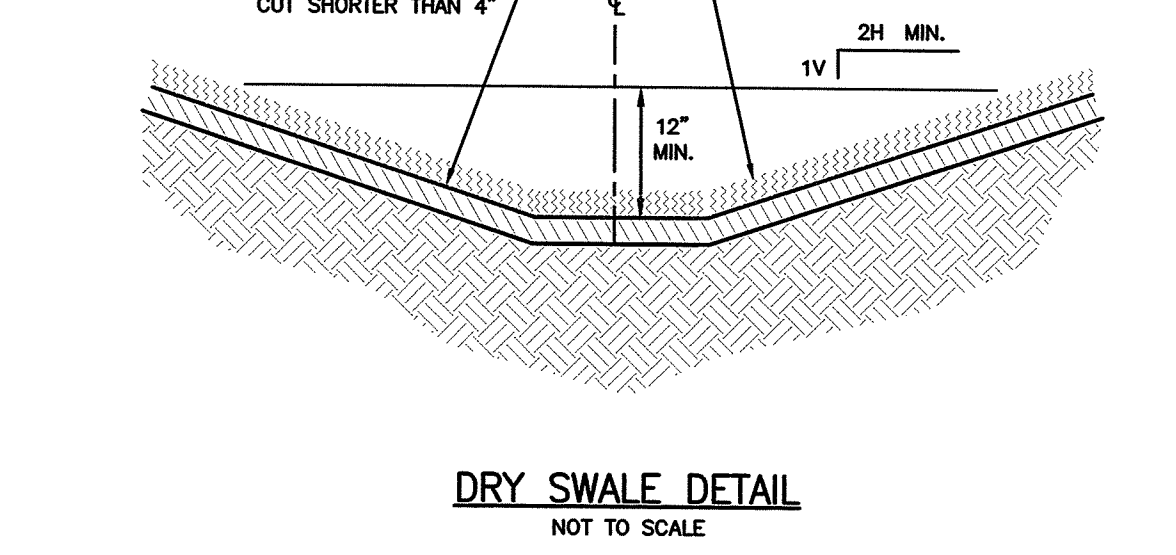


**DRAINAGE PIPE TRENCH DETAIL**  
NOT TO SCALE

- NOTES:**
- SHEETING IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED.
  - "COVER" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UNDERMOST POINT OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE.
  - SCREENED GRAVEL SHALL BE HARD, DURABLE, ROUNDED PARTICLES, FREE FROM SAND, LOAM, CLAY, EXCESS FINES AND DELETERIOUS MATERIAL, UNIFORM GRADED SUCH THAT NOT LESS THAN 95% WILL PASS A 1/2 INCH SIEVE AND NOT MORE THAN 5% PASS A NO. 4 SIEVE.
  - CLASS II GRAVEL BORROW SHALL BE A CLEAN, COARSE GRAINED GRAVEL-SAND MIXTURE. THE MIXTURE SHOULD CONTAIN LESS THAN 5% PASSING THE #200 SIEVE AS WELL AS COMPLYING TO THE REQUIREMENTS OF TABLE 1.
  - WHERE FUTURE EXTENSION OF A PLUGGED PIPE OR A PLUGGED BRANCH WILL ENTAIL ROCK EXCAVATION, TRENCH EXCAVATION IN ROCK SHALL BE EXTENDED FOR A DISTANCE OF 5'-0" BEYOND THE PLUG.



**REINFORCED CONCRETE PIPE FLARED ENDS W/ TRASH RACK**  
NOT TO SCALE

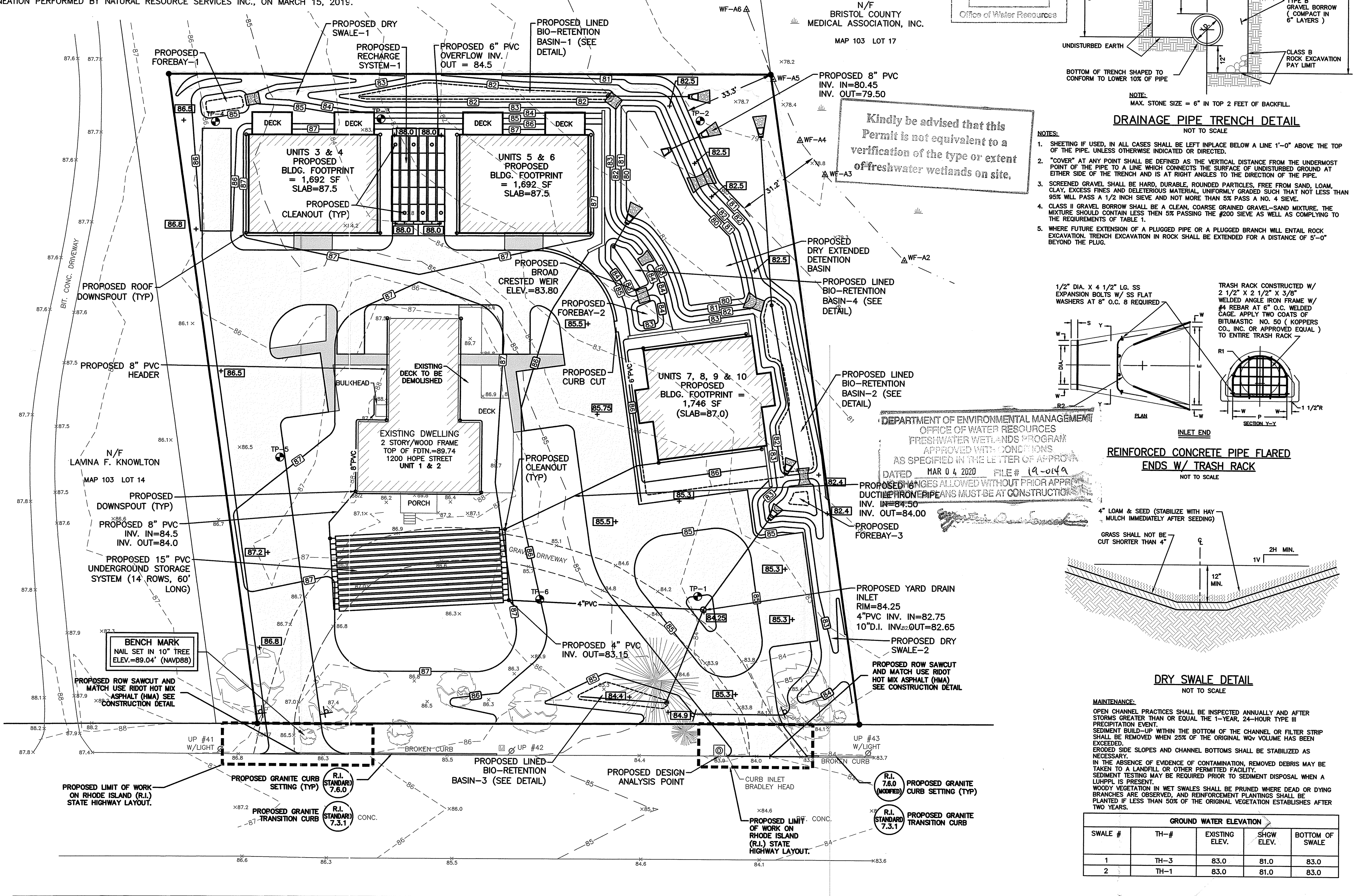
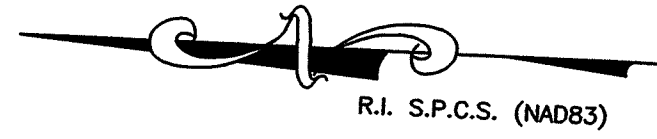


**DRY SWALE DETAIL**  
NOT TO SCALE

**MAINTENANCE:**

OPEN CHANNEL PRACTICES SHALL BE INSPECTED ANNUALLY AND AFTER STORMS GREATER THAN OR EQUAL THE 1-YEAR, 24-HOUR TYPE III PRECIPITATION EVENT. SEDIMENT BUILD-UP WITHIN THE BOTTOM OF THE CHANNEL OR FILTER STRIP SHALL BE REMOVED WHEN 25% OF THE ORIGINAL ROW VOLUME HAS BEEN EXCEEDED. ERODED SIDE SLOPES AND CHANNEL BOTTOMS SHALL BE STABILIZED AS NECESSARY. IN THE ABSENCE OF EVIDENCE OF CONTAMINATION, REMOVED DEBRIS MAY BE TAKEN TO A LANDFILL OR OTHER PERMITTED FACILITY. SEDIMENT TESTING MAY BE REQUIRED PRIOR TO SEDIMENT DISPOSAL WHEN A LUMP IS PRESENT. WOODY VEGETATION IN WET SWALES SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED, AND REINFORCEMENT PLANTINGS SHALL BE PLANTED IF LESS THAN 50% OF THE ORIGINAL VEGETATION ESTABLISHES AFTER TWO YEARS.

GROUND WATER ELEVATION			
SWALE #	TH-#	EXISTING ELEV.	BOTTOM OF SWALE
1	TH-3	83.0	81.0
2	TH-1	83.0	81.0



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-019  
PROPOSED CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
DUCTILE IRON PIPELINES MUST BE AT CONSTRUCTION

- DRAINAGE WORK NOTES:**
- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
  - THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**LDEC**  
Land Development Engineering & Consulting, LLC  
680 Aquidneck Avenue  
Middletown, RI 02842  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

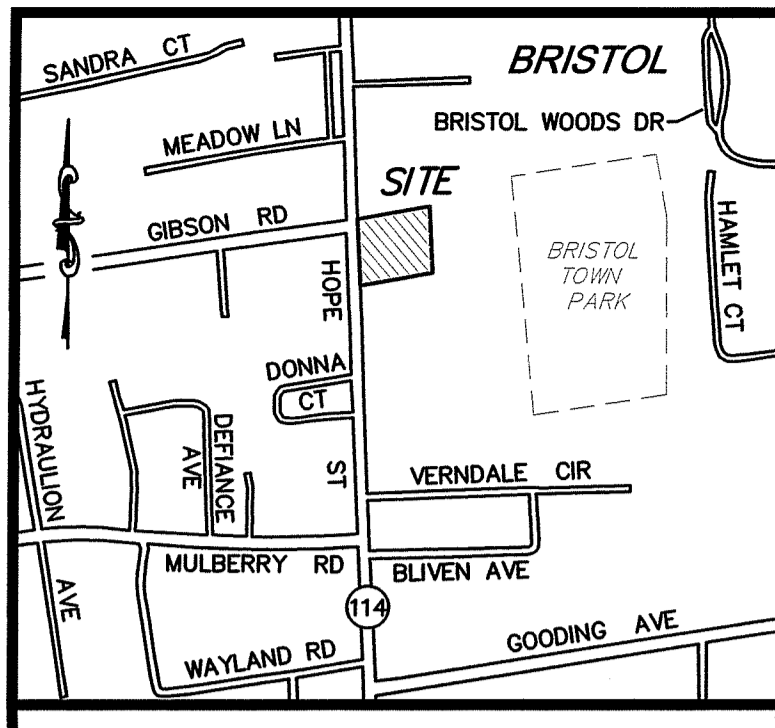
NO.	DATE	DESCRIPTION
1.	7/2/19	REVISED PER RIDOT COMMENTS
2.	8/6/19	REVISED PER RIDOT COMMENTS
3.	11/14/19	REVISED PER RIDOT COMMENTS
4.	12/2/19	REVISED PER RIDOT COMMENTS
5.	1/21/20	REVISED PER RIDOT COMMENTS

DATE: APRIL 19, 2019  
DRAWN BY: AME COMPS BY: AME CHECK BY: RLM/MER  
PROJECT NO. 18050  
ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**GRADING & DRAINAGE PLAN**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

DRAWING TITLE:  
**GRADING & DRAINAGE PLAN**  
SCALE: 1" = 20'  
SHEET NO. 4 OF 8



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYUOB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

**CURRENT OWNER**

1200 HOPE ST., LLC  
161 NORTH CLARK ST., SUITE 1600  
CHICAGO, IL 60601

**TITLE REFERENCE:**  
DEED BK.1661/PG.344

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2

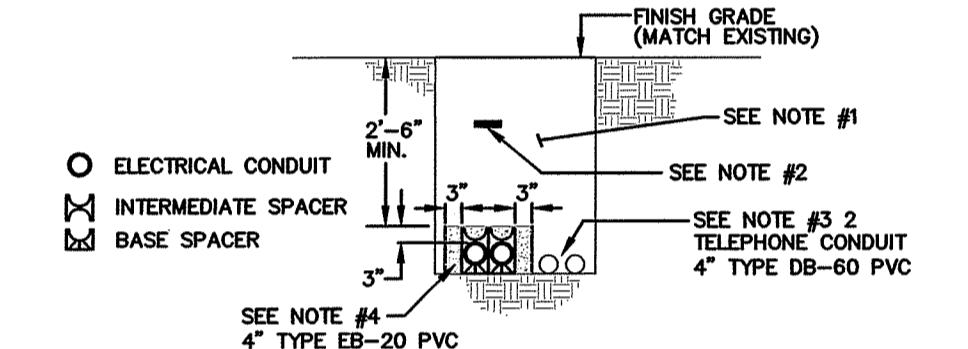
**PRIVATE SEWER NOTES:**

ALL FUTURE MAINTENANCE OF THE ENTIRE LOW PRESSURE SEWER SYSTEM WILL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION FOR THIS DEVELOPMENT.

**LOCUS** NOT TO SCALE

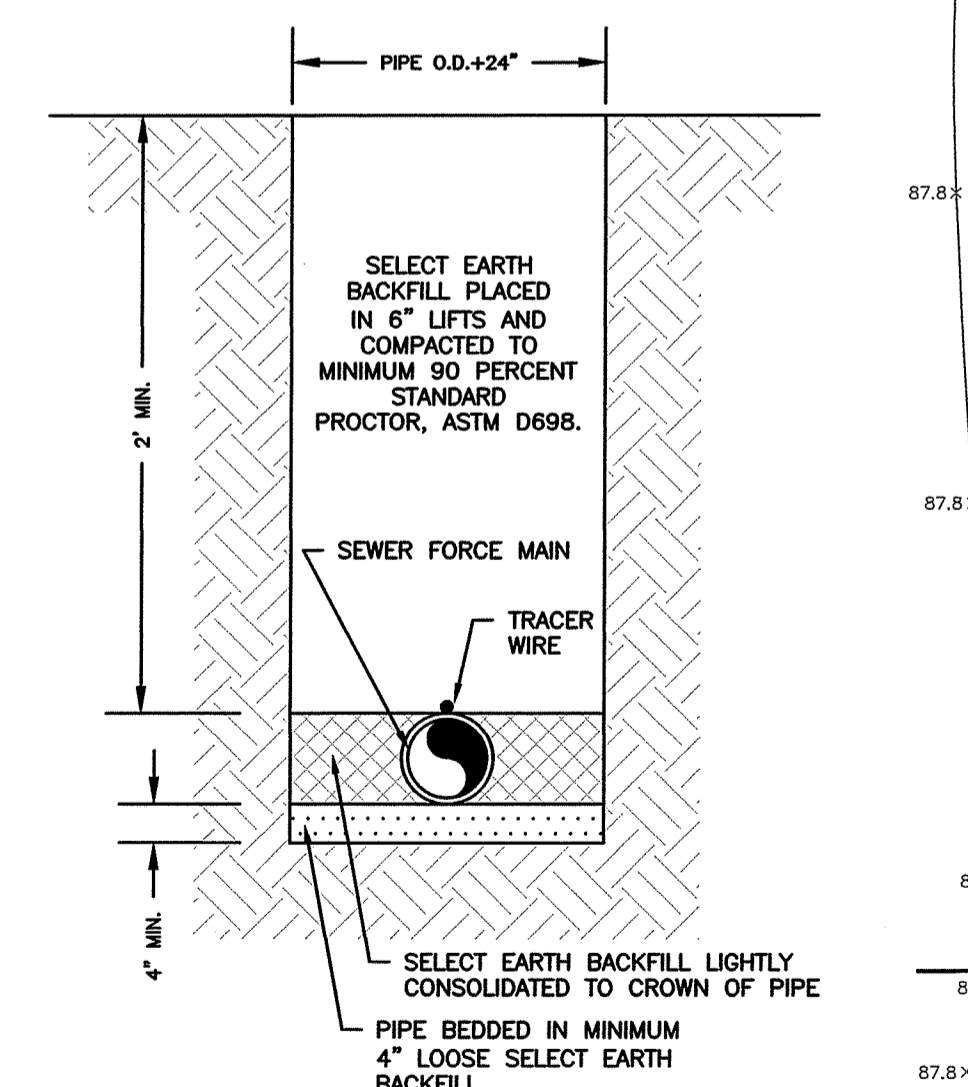
**LEGEND**

- ⊙ DRAIN MANHOLE + (88.88) PROPOSED GRADE
- ⊙ FIRE HYDRANT (88) PROPOSED CONTOUR
- ⊙ MAIL BOX -12" PROPOSED DRAIN LINE
- ⊙ SEWER MANHOLE -0 PROPOSED GAS LINE
- ⊙ SPOT ELEVATION -ECT- PROPOSED ELECTRIC/TELEPHONE/CABLE
- ⊙ STONE WALL -LPS- LOW PRESSURE SEWER
- TREE LINE
- UTILITY POLE
- WATER GATE
- WATER LINE
- UNDERGROUND GAS
- WETLAND FLAG
- WETLANDS



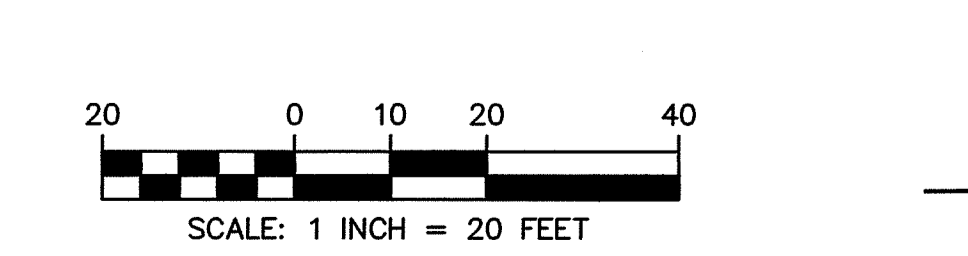
**ELECTRIC & TELEPHONE PRIMARY SERVICE DETAIL**

- NOTES:**
- BACKFILL TO BE FREE OF STONES GREATER THAN ONE INCH AND SHALL NOT CONTAIN ASHES, CINDERS, SHELL, OR FROZEN MATERIAL.
  - WARNING TAPE TO BE PLACED 12" BELOW FINISH GRADE AND DIRECTLY ABOVE POWER CONDUIT.
  - MINIMUM SEPARATION BETWEEN ELECTRICAL CONDUIT AND FOREIGN CONDUIT OR PIPES IS AS FOLLOWS:  
COMMUNICATION - 3" OF CONCRETE ENCASEMENT  
WATER, GAS, SEWER - 12" WHERE THE PATH OF THESE UTILITIES INTERSECT AT APPROXIMATELY RIGHT ANGLES WITH ELECTRICAL CONDUIT.  
24" SEPARATION SHALL BE MAINTAINED BETWEEN PARALLEL PLACEMENT OF THESE UTILITIES AND ELECTRICAL CONDUIT.
  - CONCRETE THICKNESS AROUND THE OUTSIDE DUCTS SHALL BE 3 TO 6 INCHES. CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD C21.

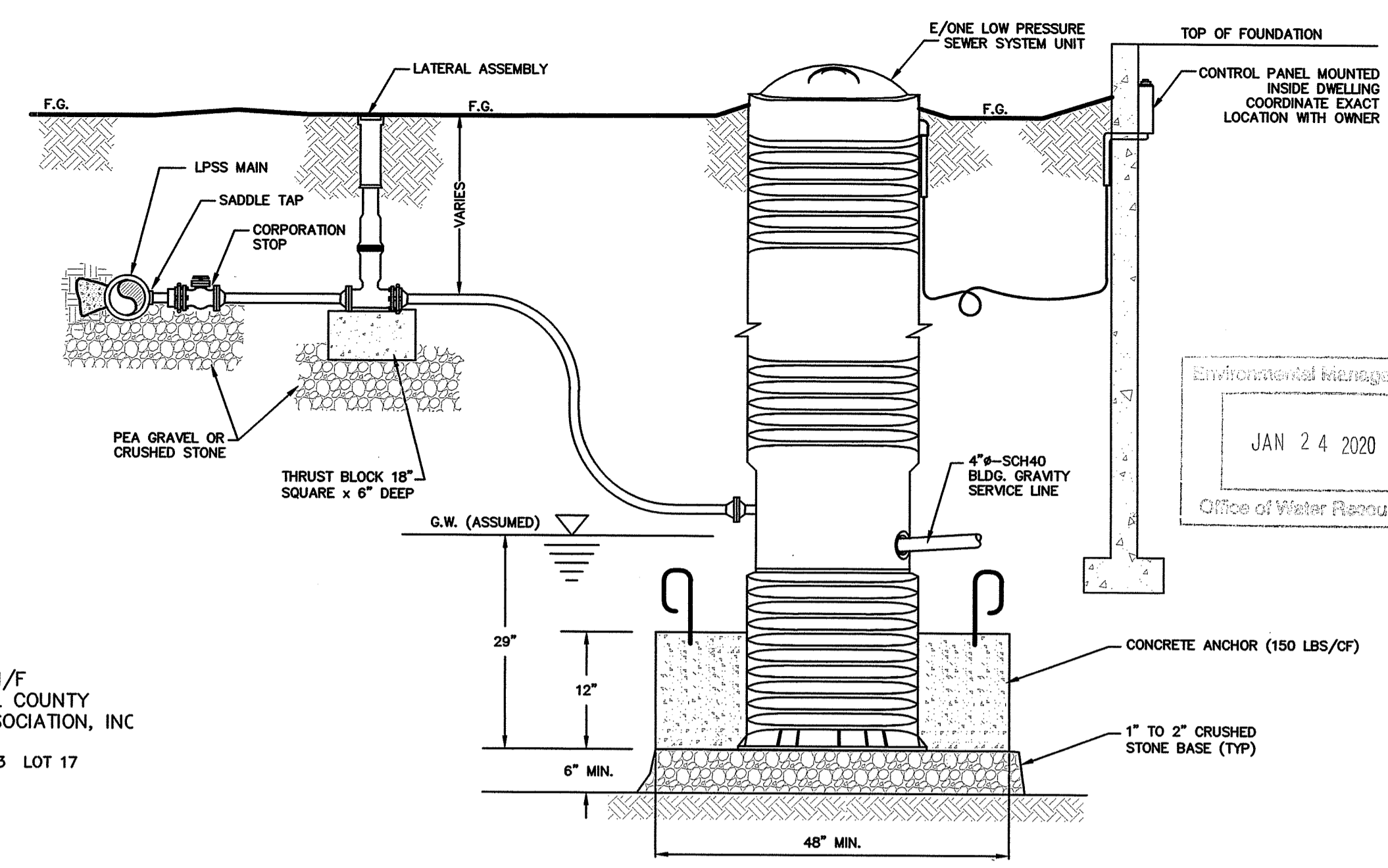
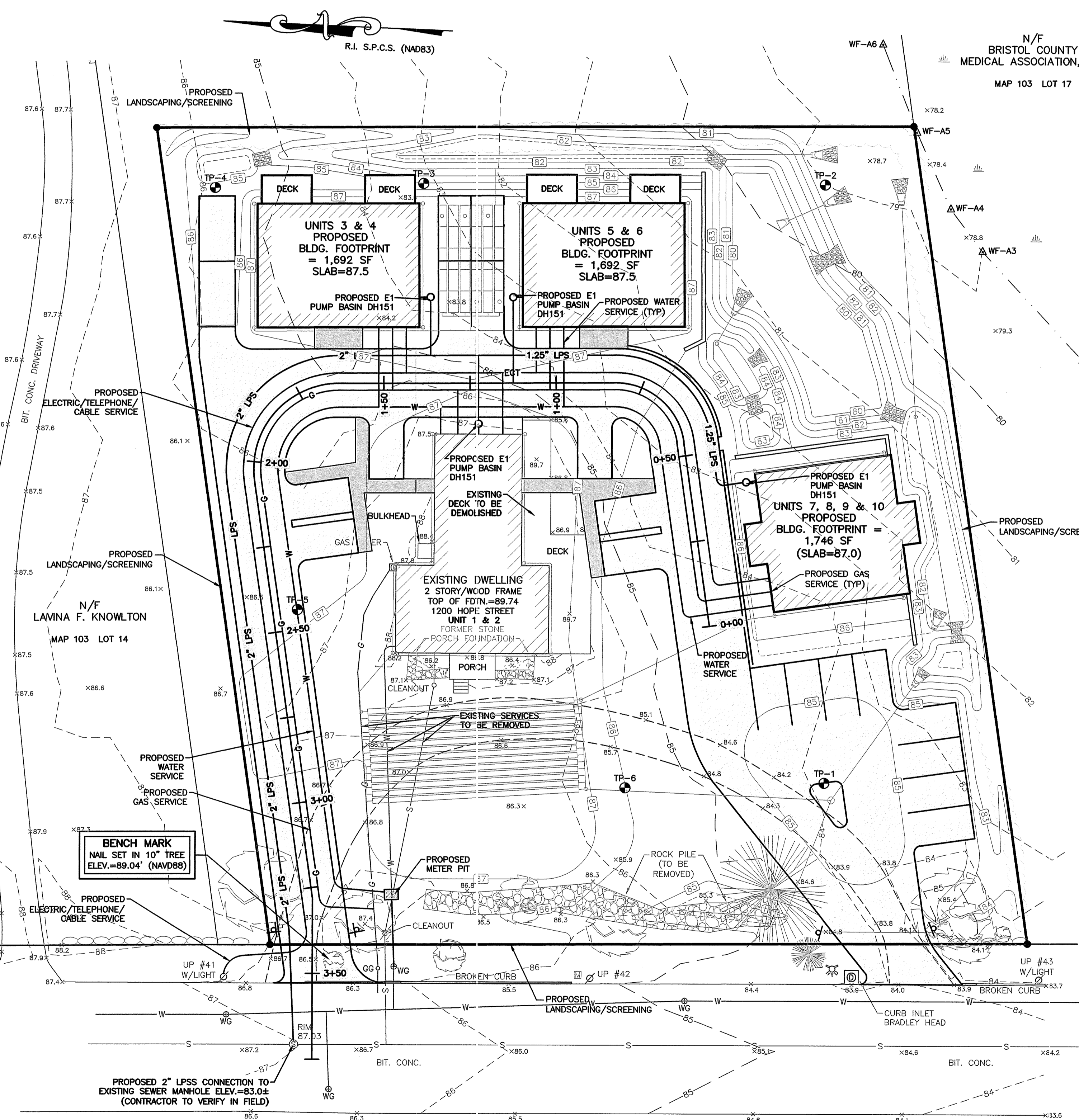


**PVC SANITARY SEWAGE FORCE MAIN TRENCH DETAIL**

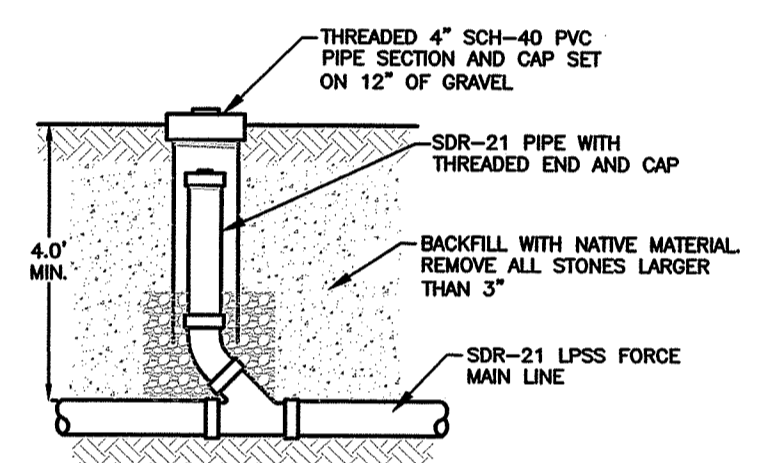
NOTE:  
PIPING LESS THAN 4'-FEET BELOW THE PROPOSED GROUND ELEVATION SHALL BE INSULATED.



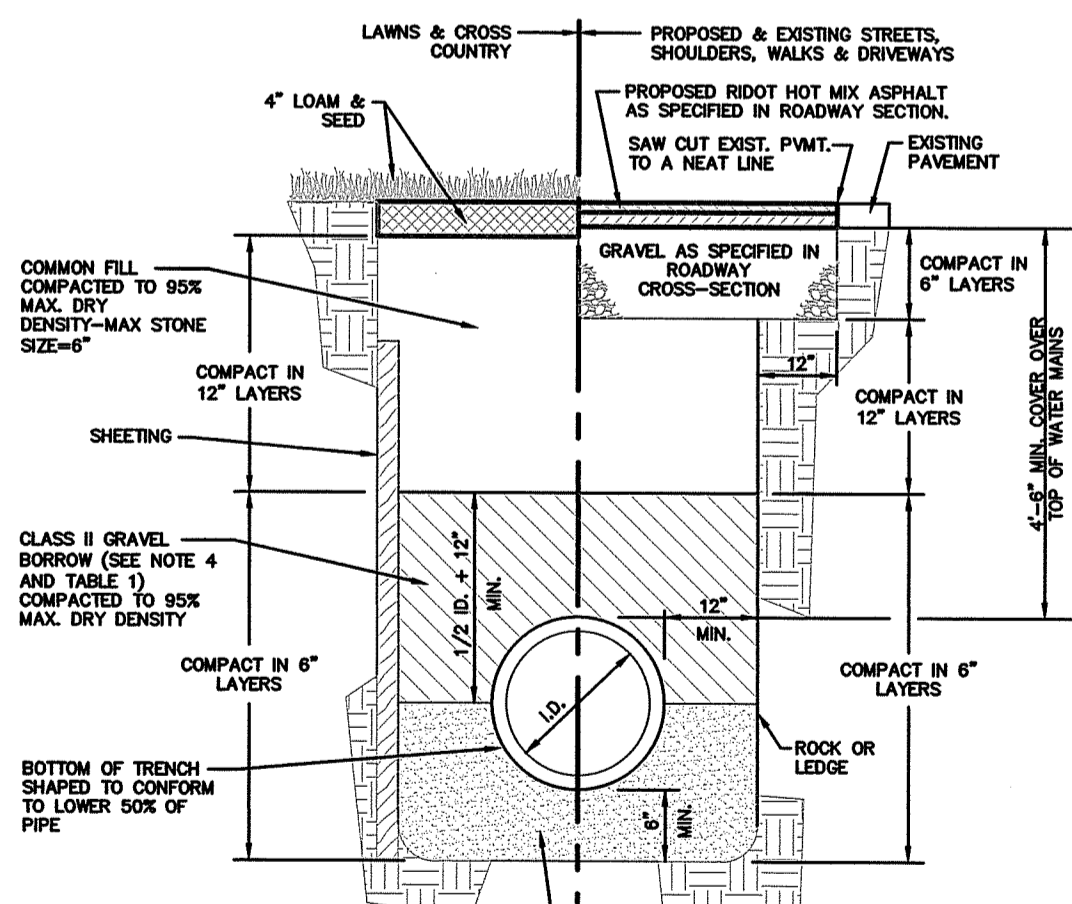
18050EX.dwg



**E/ONE LPSS TYPICAL OUTDOOR LATERAL INSTALLATION**



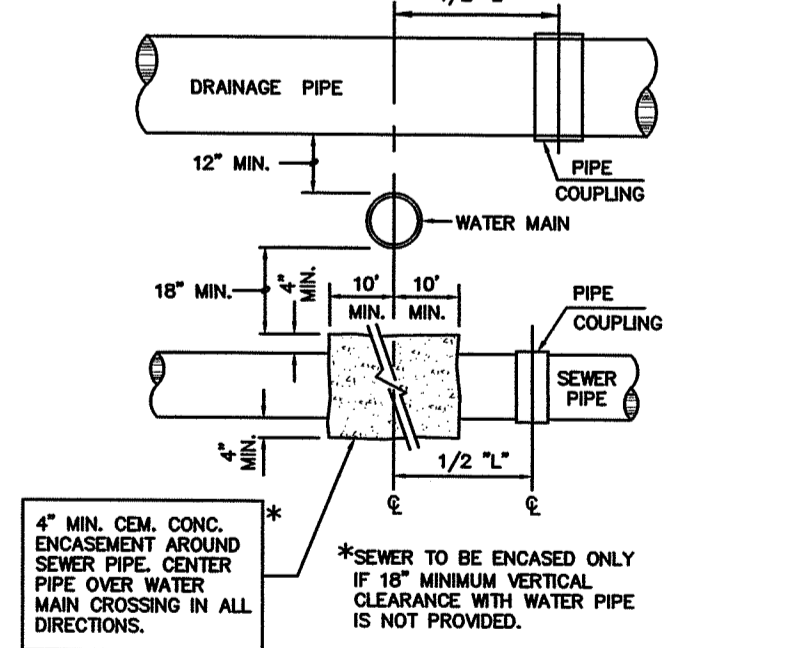
**CLEANOUT & VACUUM CONNECTOR DETAIL (C.O./V.C.)**



**TABLE 1**

NOMINAL PIPE SIZE (IN.)	MAXIMUM STONE SIZE (IN.)
2 TO 4	1/2
4 TO 8	3/4
10 TO 18	1
18 AND LARGER	1-1/2

- NOTES:**
- SHEETING IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED.
  - "TOE" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UNDERMOST POINT OF THE PIPE TO A LINE WHICH CONNECTS THE SURFACE OF UNDISTURBED GROUND AT EITHER SIDE OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE.
  - SCREENED GRAVEL SHALL BE HARD, DURABLE, ROUNDED PARTICLES, FREE FROM SAND, LOAM, CLAY, EXCESS FINES AND DELETERIOUS MATERIAL, UNIFORMLY GRADED SUCH THAT NOT LESS THAN 90% WILL PASS A 1/2 INCH SIEVE AND NOT MORE THAN 0% PASS A NO. 4 SIEVE.
  - CLASS II GRAVEL BENEATH SHALL BE A CLEAN, COARSE GRADED GRAVEL-SAND MIXTURE, THE MIXTURE SHOULD CONTAIN LESS THAN 5% PASSING THE #200 SIEVE AS WELL AS COMPLYING TO THE REQUIREMENTS OF TABLE 1.
  - WHERE FUTURE EXTENSION OF A PLUGGED PIPE OR A PLUGGED BRANCH WILL ENTAIL ROCK EXCAVATION, TRENCH EXCAVATION IN ROCK SHALL BE EXTENDED FOR A DISTANCE OF 5'-0" BEYOND THE PLUG.



**SEWER, WATER & DRAIN CROSSING DETAIL**

- DRAINAGE WORK NOTES:**
- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
  - THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**LDEC**  
Land Development Engineering & Consulting, LLC  
680 Aquidneck Avenue  
Middletown, RI 02842  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
4.	12/2/19	REVISED PER RIDEM COMMENTS & TOWN DPW
3.	11/14/19	REVISED PER RIDEM COMMENTS
2.	8/6/19	REVISED PER RIDEM COMMENTS
1.	7/2/19	REVISED PER RIDEM COMMENTS

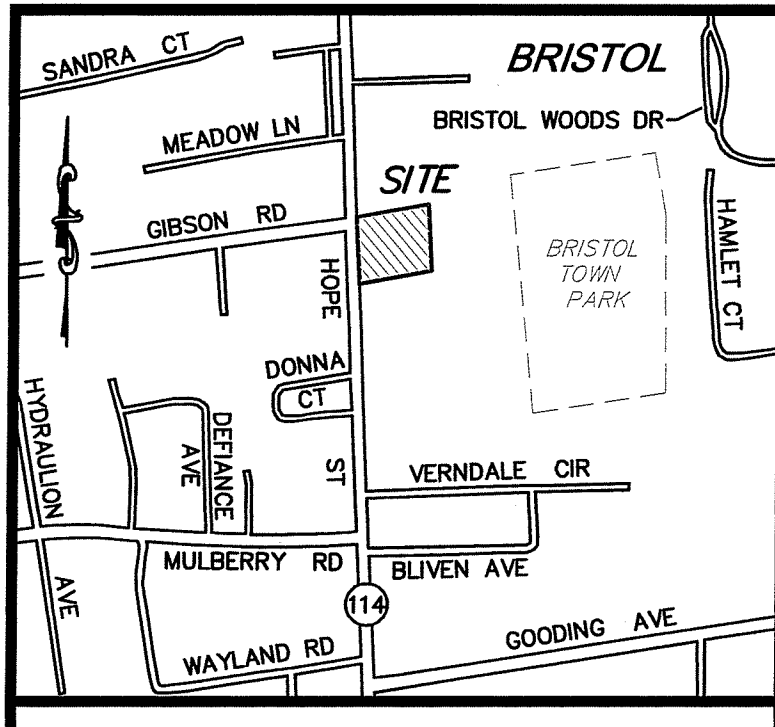
DATE: APRIL 19, 2019  
DRAWN BY: AME  
PROJECT NO. 18050  
ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-0149  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

**UTILITY PLAN**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

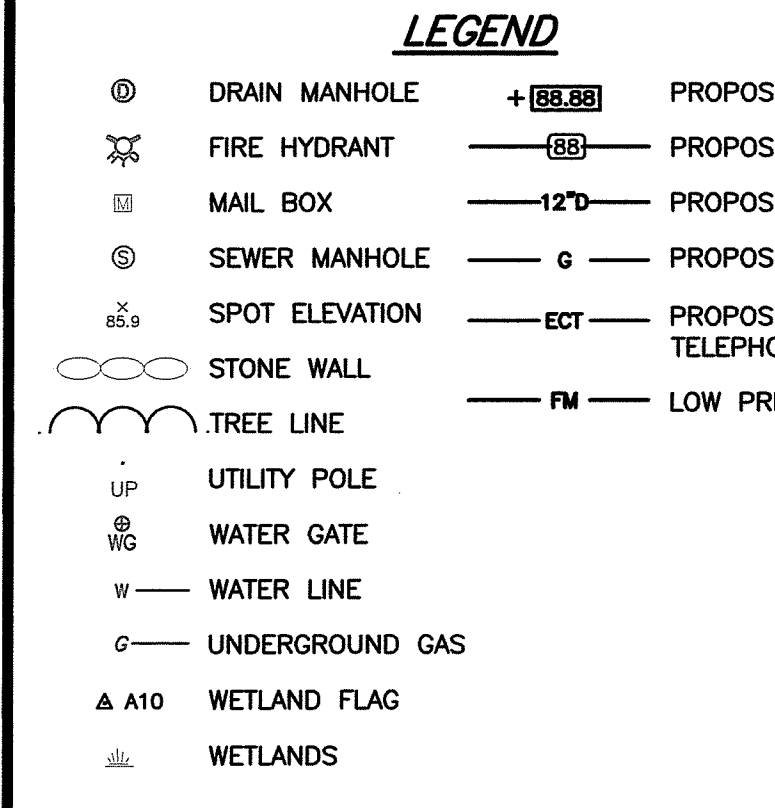
DRAWING TITLE:  
**UTILITY PLAN**  
SCALE: **1" = 20'**  
SHEET NO. **5 of 8**



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC. SITE IMPROVEMENT PLAN" BY AYOB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ABUTTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

**LOCUS** NOT TO SCALE

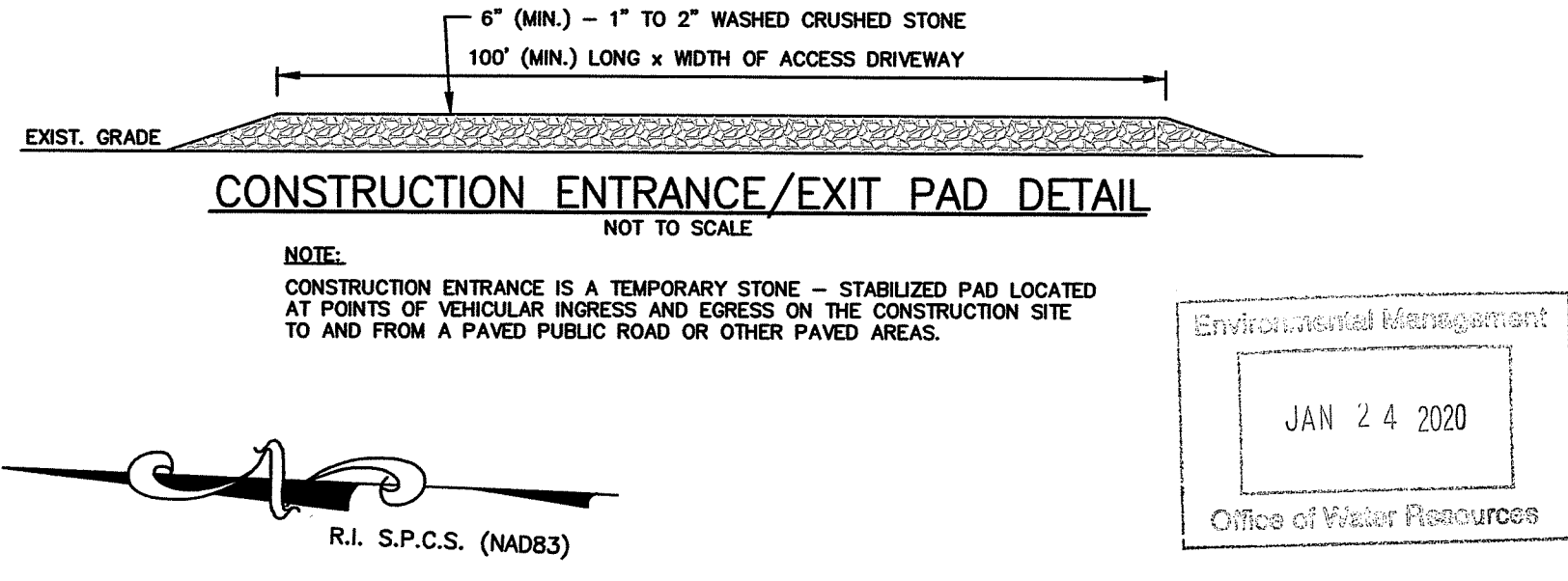
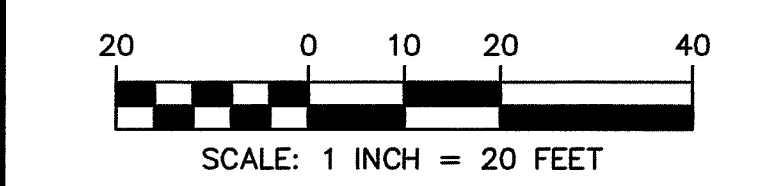
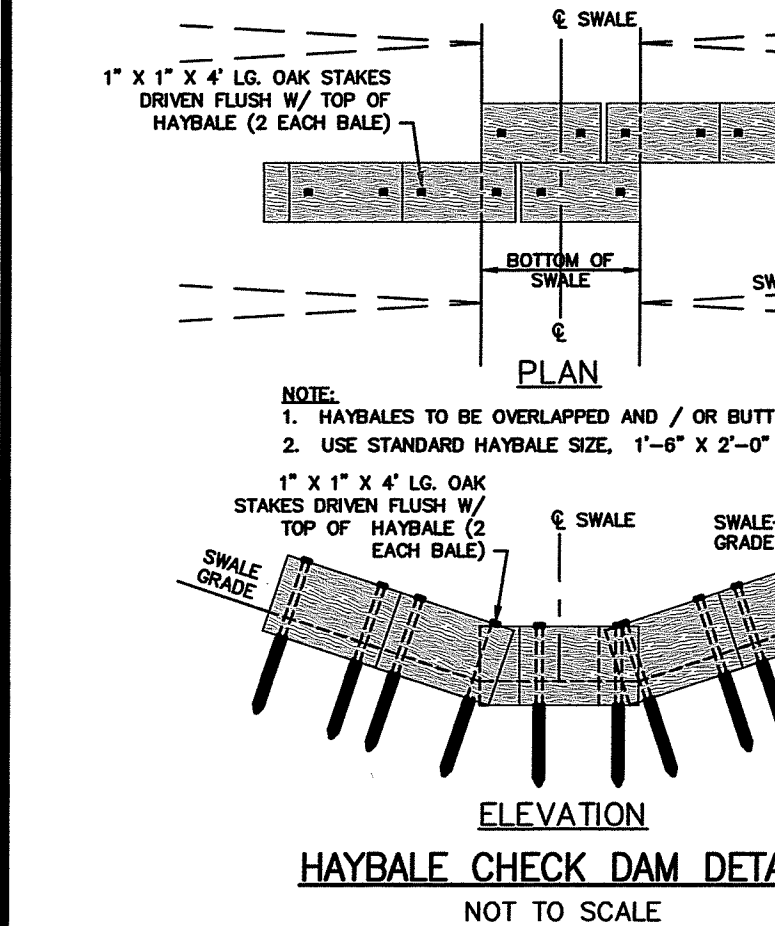


**CURRENT OWNER**  
1200 HOPE ST., LLC  
161 NORTH CLARK ST., SUITE 1600  
CHICAGO, IL 60601

**TITLE REFERENCE:**  
DEED BK.1661/PG.344

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

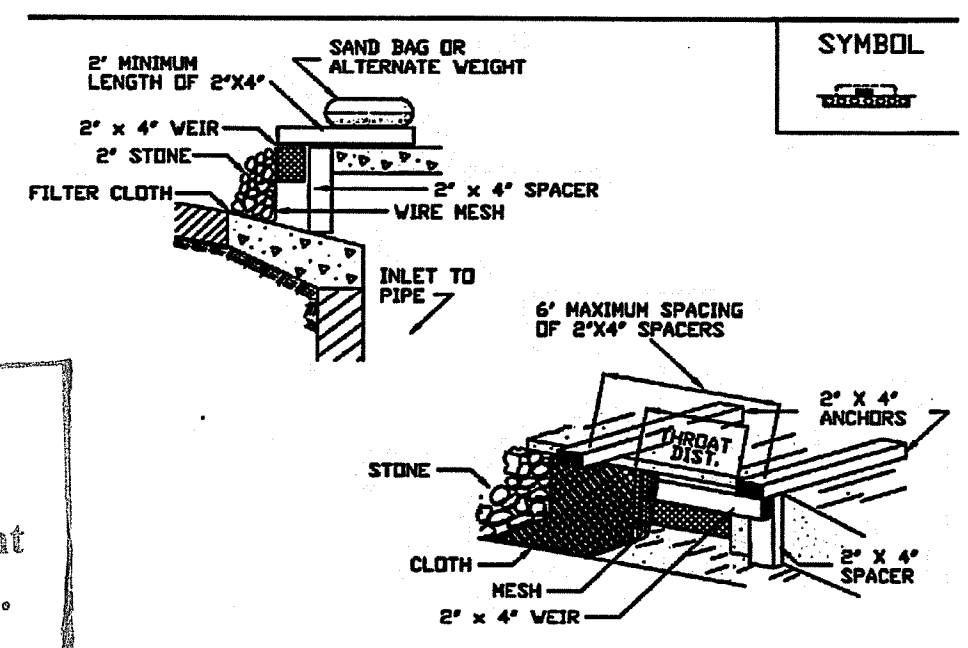
**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2



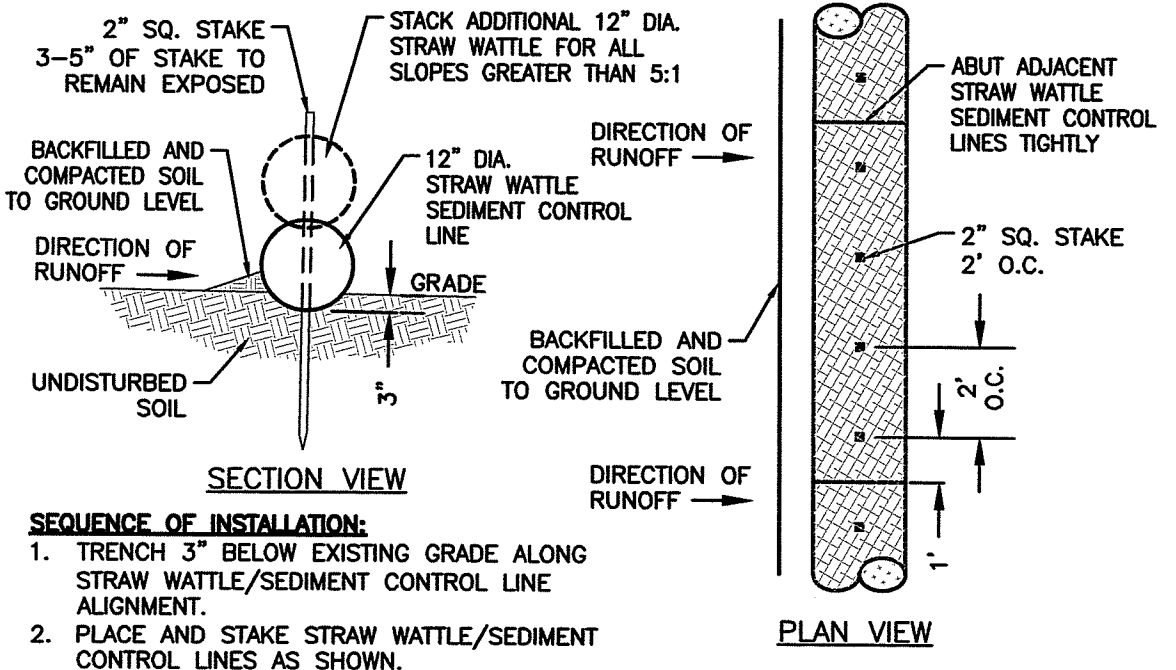
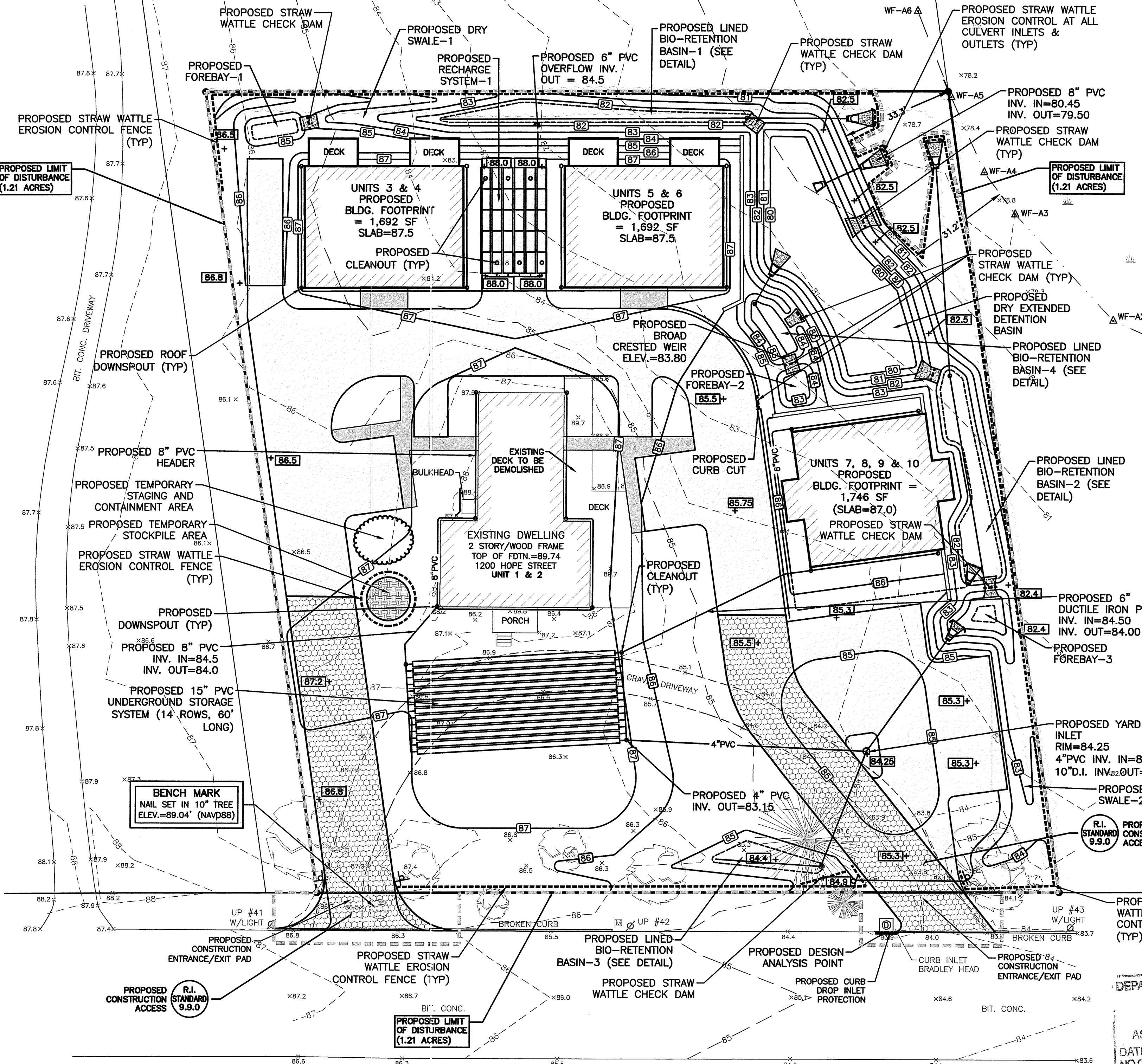
**SOIL EROSION AND SEDIMENTATION CONTROL NOTES**

- PRIOR TO INITIATING CONSTRUCTION, ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER AND/OR AS NECESSITATED BY FIELD CONDITIONS. THE CONTRACTOR SHALL MAINTAIN THESE MEASURES UNTIL ALL WORK IS COMPLETED AND ALL AREAS HAVE BEEN STABILIZED.
  - INSTALLATION SEQUENCE:
    - INSTALL SILT FENCE AND STRAW WATTLES AS SHOWN ON PLAN.
    - CLEAR AND GRUB SITE.
    - CONSTRUCT SITE INFRASTRUCTURE AS SHOWN ON PLANS.
    - THE FOLLOWING ACTIVITIES SHALL TAKE PLACE IMMEDIATELY FOLLOWING CONSTRUCTION OF EMBANKMENTS AND FILL SLOPES: PLACEMENT OF LOAM AND GRASS SEED, INSTALLATION OF GEOMER SLOPE STABILIZATION.
    - THE CONTRACTOR SHALL INSPECT ALL FILL SLOPES AND EMBANKMENTS ON A WEEKLY BASIS AND FOLLOWING ALL RAINFALL EVENTS UNTIL A MINIMUM 75% GRASS COVER IS ESTABLISHED SUFFICIENT TO PREVENT EROSION FROM OCCURRING.
- ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OR AS DIRECTED BY THE ENGINEER.
- AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, EROSION CONTROL DEVICES OR OTHER APPROVED MATERIALS SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.
- DISTURBED AREAS SHALL BE STABILIZED WITH THE APPLICATION OF A MINIMUM OF FOUR INCHES (4") OF LOAM AND SHALL BE SEEDED WITH AN APPROVED GRASS MIX OR SHALL BE RIPRAPED AS SOON AS POSSIBLE AFTER THE FINISHED GRADE HAS BEEN MET. IF FINAL GRADING DOES NOT OCCUR DURING THE GROWING SEASON, THESE AREAS SHALL BE MULCHED WITH HAY AND SECURED BY JUTE NETTING WITH STAPLES. SLOPES EXCEEDING 2:1 SHALL BE LOAMED AND STABILIZED WITH PEGGED SOO OR APPROVED EROSION CONTROL BLANKETS UNLESS OTHERWISE NOTED.
- THE MOUTHS OF ALL CATCH BASINS SHALL BE FITTED WITH SILTSACK OR FILTER FABRIC DURING THE ENTIRE CONSTRUCTION PROCESS TO RETARD SILTATION.
- WHERE APPLICABLE, PROPER DUST CONTROL MEASURES SHALL APPLY TO REDUCE THE SURFACE AND AIR TRANSPORT OF DUST GENERATED DURING CONSTRUCTION. THE FOLLOWING METHODS SHALL BE USED:
  - WET SUPPRESSION WITHOUT WETTING AGENT SHALL BE APPLIED DURING LOAD IN / LOAD OUT AND EARTH MOVING CONSTRUCTION ACTIVITIES, ESPECIALLY ON STOCKPILES.
  - INACTIVE STOCKPILES SHALL BE STABILIZED THROUGH APPLICATION OF SOIL STABILIZERS OR SEEDING.
  - WIND SCREENS OR BARRIERS AND PLASTIC TARP COVERS SHALL BE SECURED TO PREVENT WIND DISLODGE AND DAMAGE. ANY DAMAGES SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- CONTRACTOR SHALL CONSTRUCT A TEMPORARY CRUSHED STONE CONSTRUCTION ENTRANCE APPROXIMATELY THE WIDTH OF ACCESS DRIVEWAY BY 50' LONG BY 6" DEEP CONSTRUCTION ACTIVITIES AS NECESSARY TO REMOVE SEDIMENT FROM VEHICLES. THE CONSTRUCTION ENTRANCES ARE TO BE LOCATED AT THE ENTRANCE TO THE SITE FROM EAST MAIN ROAD AND AQUIDNECK AVE.
- DEWATERING OPERATIONS SHALL BE PROVIDED, IF REQUIRED; ALL DISCHARGE SHALL PASS THROUGH SEDIMENTATION CONTROL DEVICES TO PREVENT IMPACTS UPON WATER BODIES, BORDERING VEGETATED WETLANDS, DRAINAGE SYSTEMS AND ADJUTING PROPERTIES.
- SEE EROSION & SEDIMENT CONTROL CONSTRUCTION DETAILS.
- STRAW WATTLE OR EQUIVALENT STRAW BASED EROSION CONTROL DEVICE SHALL BE USED IN PLACE OF HAYBALES.
- TEMPORARY CONSTRUCTION SEDIMENT TRAPS TO BE DUG OUT AND SEDIMENT FOREBAYS AND SAND FILTER SYSTEMS TO BE REESTABLISHED, RESULT AND REVEGETATED AT THE COMPLETION OF PAVEMENT CONSTRUCTION PHASE.

**Figure 4. Curb Drop Inlet Protection**



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



**TYPICAL EROSION/SEDIMENT CONTROL STRAW WATTLE DETAIL** NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-0149  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

- DRAINAGE WORK NOTES:**
- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
  - THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**LDEC**  
Land Development Engineering & Consulting, LLC  
680 Aquidneck Avenue  
Middletown, RI 02842  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
1.	7/2/19	REVISED PER RIDOT COMMENTS
2.	8/8/19	REVISED PER RIDOT COMMENTS
3.	11/4/19	REVISED PER RIDOT COMMENTS
4.	12/2/19	REVISED PER RIDOT COMMENTS
5.	1/17/20	LIMIT OF DISTURBANCE PER RIDOT COMMENTS
6.	12/1/20	REVISED PER RIDOT COMMENTS

PLAN REVISIONS  
DATE: APRIL 19, 2019

DRAWN BY: AME COMPS. BY: AME CHECK BY: RLM/MER  
PROJECT NO. 18050

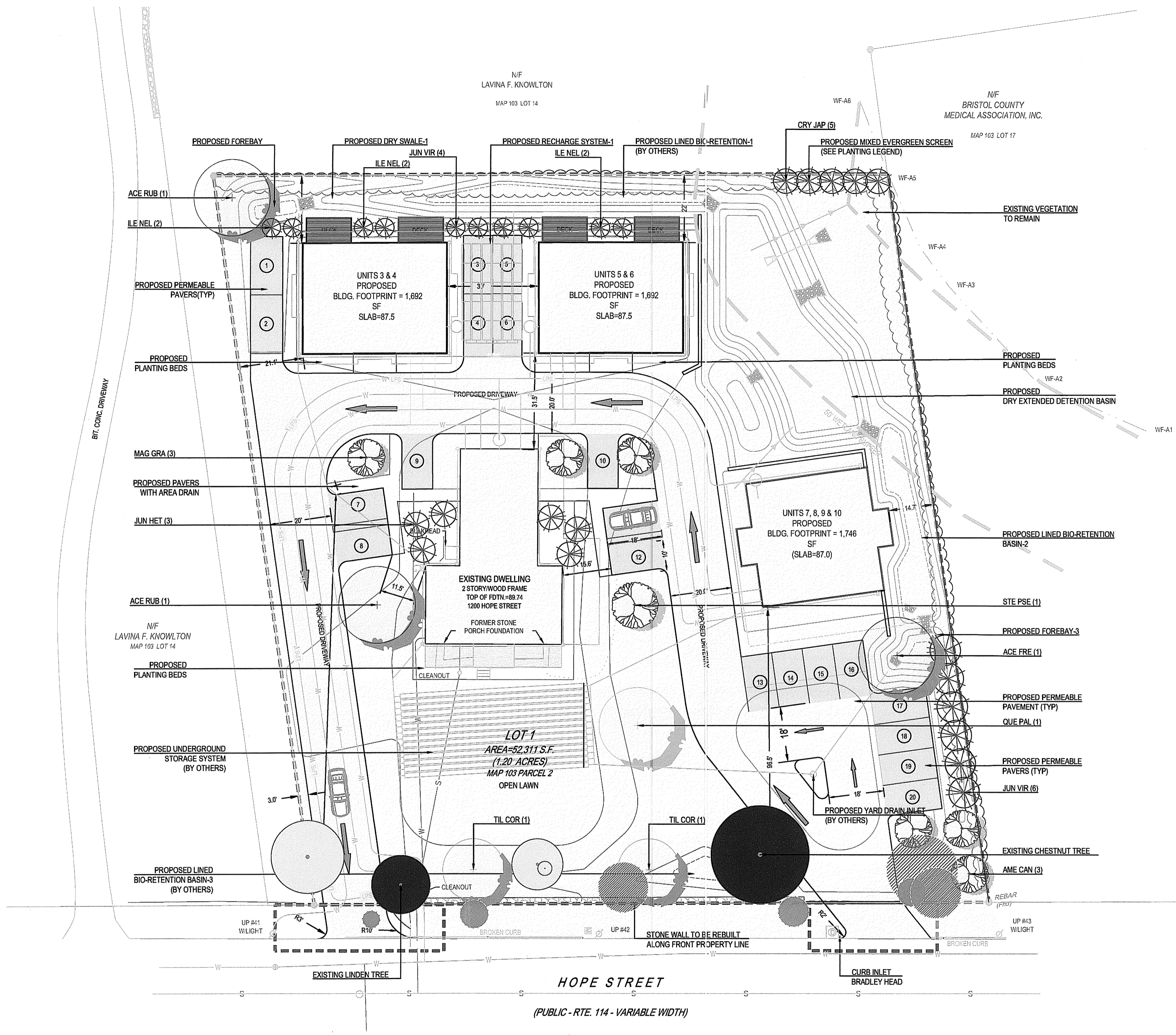
ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**EROSION CONTROL PLAN**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

DRAWING TITLE:  
**EROSION CONTROL PLAN**

SCALE: **1" = 20'**  
SHEET NO.



**PROPOSED PLANTING LEGEND**

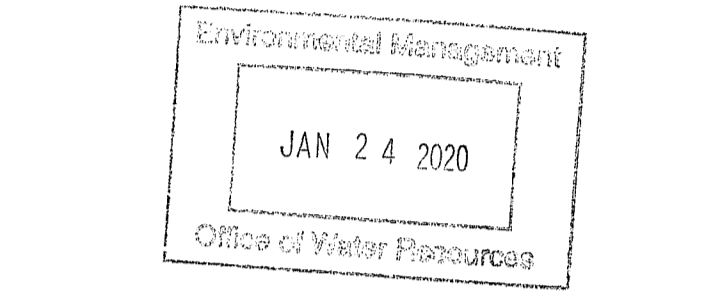
SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	SIZE
<b>SHADE TREES</b>				
+	ACE RUB	ACER RUBRUM 'OCTOBER GLORY'	2	4" CAL.
+	ACE FRE	ACER X FREEMANI 'JEFFSRED'	1	4" CAL.
+	QUE PAL	QUERCUS PALUSTRIS	1	4" CAL.
+	TC	TILIA CORDATA 'GREENSPIRE'	2	4" CAL.
<b>FLOWERING TREES</b>				
+	AME CAN	AMELANCHIER CANADENSIS 'AUTUMN BRILLANCE'	3	8/10' CLUMP
+	MAG GRA	MAGNOLIA GRANDIFLORA 'BRACKEN'S BROWN BEAUTY'	3	8/10' B&B
+	STE PSE	STEWARTIA PSEUDOCAMELLIA	1	4" CAL.
<b>EVERGREEN TREES</b>				
+	CRY JAP	CRYPTOMERIA JAPONICA 'YOSHINO'	5	7/8' B&B
+	ILE NEL	ILEX X 'NELLIE STEVENS'	6	6' B&B
+	JUN HET	JUNIPERUS CHINENSIS 'HETZII'	6	7/8' B&B
+	JUN VIR	JUNIPERUS VIRGINIANA 'CUPRESSIFOLIA'	10	8/10' B&B
		<b>TOTAL TREES</b>	<b>40</b>	

**OTHER SYMBOLS:**

- LAWN
- EXISTING TREES IN GOOD CONDITION TO REMAIN (BLUE MARKING TAPE)
- EXISTING TREES IN FAIR CONDITION TO BE DETERMINED, TREES SHOULD BE VIEWED BY ARBORIST TO DETERMINE HEALTH AND VALUE (YELLOW MARKING TAPE)
- ◐ EXISTING TREES IN POOR CONDITION TO BE REMOVED (ORANGE AND WHITE STRIPED MARKING TAPE)



LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC  
1700 WEST MAIN ROAD  
MIDDLETOWN RI  
041 354 2050



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

**LONGFIELD PROJECT**  
1200 HOPE STREET  
BRISTOL, RI

**PLANTING NOTES**

- LANDSCAPE CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID TO BECOME COMPLETELY FAMILIAR WITH SITE CONDITIONS.
- NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION.
- IF THERE IS A DISCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER OF PLANTS SHOWN IN THE PLANT LIST, THE NUMBER OF PLANTS SHOWN ON THE LIST WILL TAKE PRECEDENCE.
- ALL CONTAINER MATERIAL TO BE GROWN IN CONTAINER A MINIMUM OF SIX MONTHS.
- ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, ACCORDING TO THE AMERICAN ASSOCIATION OF NURSERMEN.
- CONTRACTOR SHALL REPAIR ALL DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO COST TO THE OWNER.
- CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIAL THROUGH ONE CALENDAR YEAR FROM TIME OF PROVISIONAL ACCEPTANCE.
- ALL PROPOSED PLANTS SHALL BE LOCATED CAREFULLY AS SHOWN ON THE PLANS AND THE PLACEMENT SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT BEFORE THE INSTALLATION.
- ALL DISTURBED AREAS NOT TO BE PAVED OR PLANTED SHALL BE LOAMED AND SEEDDED AS SHOWN. SEE SPECIFICATIONS FOR SOIL PREPARATION AND SEED MIX.
- TWO INCH (2") DEEP, FINELY SHREDDED BARK MULCH WILL BE INSTALLED AROUND ALL TREES AND SHRUBS THAT ARE ISOLATED FROM GROUND COVER AREAS AND GENERAL SHRUB MASSES.
- ALL PLANT MATERIAL SHALL BE INSPECTED BY THE LANDSCAPE ARCHITECT ON SITE PRIOR TO INSTALLATION. THE LANDSCAPE ARCHITECT WILL TAG ALL TREES AT THE NURSERY AND INSPECT THEM AFTER DELIVERY TO THE SITE. SEE SPECIFICATIONS FOR TAGGING, INSPECTION, AND ACCEPTANCE OF PLANT MATERIAL.
- LANDSCAPE ARCHITECT SHALL CONFIRM PLANT LIST AND APPROVE SUBSTITUTIONS OF PLANT VARIETIES PRIOR TO ORDERING OF MATERIAL.
- SOIL MIX: 1/3 PEAT MOSS, 1/3 SCREENED LOAM, 1/3 DEHYDRATED MANURE.
- THE OWNER RESERVES THE RIGHT TO SUBSTITUTE PLANT SELECTIONS WITH PLANTS OF SIMILAR CHARACTERISTICS IF THE SPECIFIED PLANTS ARE NOT AVAILABLE IN ACCEPTABLE QUANTITIES OR CONDITIONS.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED MAR 04 2020 FILE # 19-049  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



PROJECT NUMBER: 19.029  
DRAWN BY: PR  
CHECKED BY: PR  
SCALE: 1"=20'-0"  
DATE: 11.26.2019

PERMIT PRINT  
NOT FOR  
CONSTRUCTION

**LANDSCAPE PLAN**

- GENERAL NOTES**
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND UTILITIES AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
  - IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES BY NOTIFYING DIG-SAFE AT 1-800-322-4844 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION.
  - THE CONTRACTOR SHALL CONDUCT PRELIMINARY INVESTIGATIONS INCLUDING ALL NECESSARY EXCAVATION TO DETERMINE IF THE WORK CAN BE DONE AS SHOWN ON THE PLANS. CHANGES MAY BE MADE AS REQUIRED BY FIELD CONDITIONS AND AS DIRECTED BY THE LANDSCAPE ARCHITECT.
  - ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE DRAWING. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE OF ALL UNDERGROUND UTILITIES AND FOR PROTECTING ALL LINES DURING CONSTRUCTION.
  - ALL WORK SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.



**CONSTRUCTION NOTES**

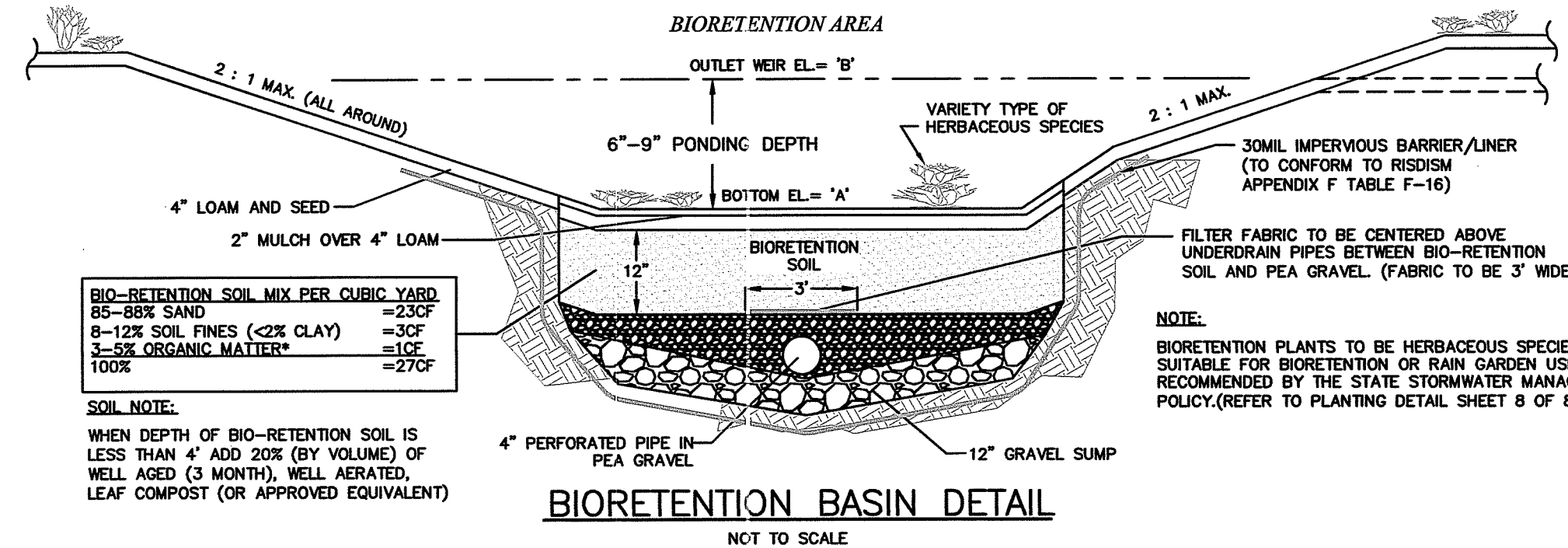
- ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY SHALL CONFORM TO THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2013, WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION WITH ALL REVISIONS.
- PROPOSED DEVELOPMENT IS SUBJECT TO AN ASSESSMENT APPLICATION APPROVAL & PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR SHALL MAKE APPLICATIONS FOR AND PAY ALL FEES FOR PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE PREPARATION NECESSARY FOR THE COMPLETE INSTALLATION OF THE PROJECT FACILITIES DURING CONSTRUCTION.
- ALL CONSTRUCTION METHODS, MATERIALS, AND COMPONENTS ASSOCIATED WITH THE PROPOSED SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL BE IN CONFORMANCE WITH THE APPROVED PLANS, THE REQUIREMENTS OF THE TOWN OF BRISTOL AND OF THE STATE ENVIRONMENTAL CODE, AND ALL LOCAL BOARD OF HEALTH REGULATIONS UNLESS A WAIVER HAS BEEN GRANTED.
- ALL CHANGES TO THE PLAN MUST BE APPROVED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. AND THE LOCAL BOARD OF HEALTH.
- ALL SYSTEM COMPONENTS, EXCEPT PERFORATED PIPING, SHALL BE WATERTIGHT AS REQUIRED BY THE TOWN OF BRISTOL, DEPARTMENT OF PUBLIC WORKS.
- THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY. THE ENGINEER DOES NOT GUARANTEE THEIR ACCURACY OR THAT ALL UTILITIES AND SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERT ELEVATIONS OF THE UTILITIES AND STRUCTURES, AS REQUIRED PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES WITH RECORD DATA SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR IS CAUTIONED TO CONTACT DIG SAFE (1-888-344-7233) 72 HOURS BEFORE DIGGING.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH THE APPROPRIATE HIGHWAY & UTILITY DEPARTMENTS.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING AND NEWLY INSTALLED UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES UNTIL THE WORK IS COMPLETED AND ACCEPTED BY THE OWNER.
- ELECTRIC, GAS, TELEPHONE, AND CABLE TELEVISION UTILITY CONNECTIONS AND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY.
- THE CONTRACTOR SHALL UTILIZE ALL MEASURES AND MATERIALS NECESSARY TO ENSURE THE SAFETY OF ALL PERSONS AND PROPERTIES AT THE SITE DURING CONSTRUCTION. ALL EXCAVATIONS SHALL CONFORM TO CURRENT OSHA STANDARDS.
- A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHENEVER SANITARY SEWERS PASS BELOW WATER MAINS OR DRAIN LINES. OTHERWISE, WATER SERVICE, DRAIN LINES AND SEWER LINES SHALL BE CAREFULLY ENCASED IN CONCRETE FOR A MINIMUM OF TEN (10) FEET FROM THE CROSSING POINT WHERE SEWER LINES PASS ABOVE WATER OR DRAIN LINES, THEY SHALL ALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE.

**STORMWATER FACILITY OPERATION AND MAINTENANCE**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER FACILITIES UNTIL SUCH TIME AS THE DEVELOPMENT AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER.
- ALL STORMWATER FACILITIES SHOULD BE INSPECTED AFTER EVERY MAJOR RAINFALL EVENT FOR THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND CONSTRUCTION.
- THE CONTRACTOR SHALL INSPECT AND CLEAN ALL FACILITIES OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
- ACCUMULATED SILT AND SEDIMENT SHOULD BE REMOVED FROM ALL FACILITIES AT LEAST ONCE A YEAR OR MORE FREQUENTLY IF ACCUMULATED DEPTH OF SEDIMENT EXCEEDS THREE INCHES.
- THE SIDE SLOPES AND BOTTOMS OF ALL DRAINAGE SWALES SHOULD BE MOWED TO A MINIMUM HEIGHT OF FOUR INCHES AT LEAST TWICE A YEAR. ALL GRASS CLIPPINGS AND ORGANIC MATTER SHOULD BE REMOVED FROM ALL DRAINAGE WAYS AND WETLAND BUFFER ZONES.
- ALL REMOVED SEDIMENTS ARE TO BE PROPERLY DISPOSED AT A LOCATION TO BE APPROVED BY THE BOARD OF HEALTH, TRANSPORTATION AND DISPOSAL OF SEDIMENTS SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- ANY DEFICIENCIES NOTED DURING MAINTENANCE SHALL BE REPORTED TO THE OWNER AND CORRECTED IMMEDIATELY.
- FOLLOW MANDATE PROGRAM AND SCHEDULE FOR EXISTING STORMWATER MANAGEMENT SYSTEM AS APPROVED BY THE TOWN OF BRISTOL AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

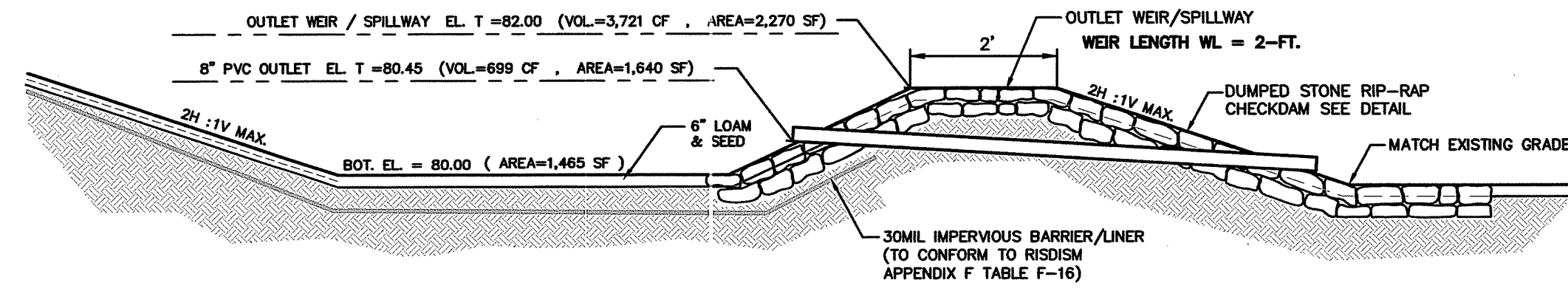
**NOTES:**

- ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
- ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
- MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
- FILTER FABRIC:** A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SEDIMENT BACKFILL MATERIAL.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER:** MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



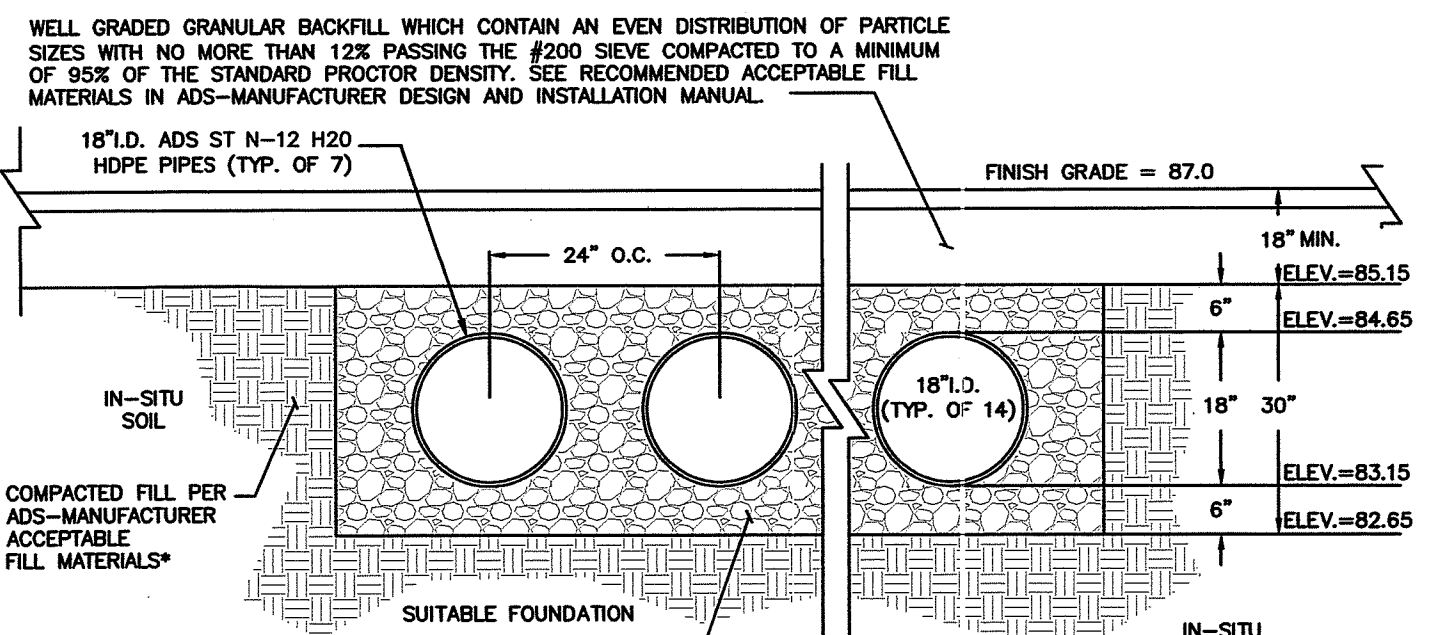
**BIORETENTION BASIN DETAIL**  
NOT TO SCALE

ELEVATION TABLE						
BIO-RETENTION BASIN	TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN 'A'	BOTTOM OF FILTER MATERIAL	OUTLET WEIR ELEV. 'B'
1	TH-2	81.0	80.0	81.5	80.5	82.25
2	TH-2	82.0	81.0	81.35	80.35	82.10
3	TH-6	85.3	82.7	84.4	83.4	84.90
4	TH-2	82.0	81.0	83.0	82.0	83.75

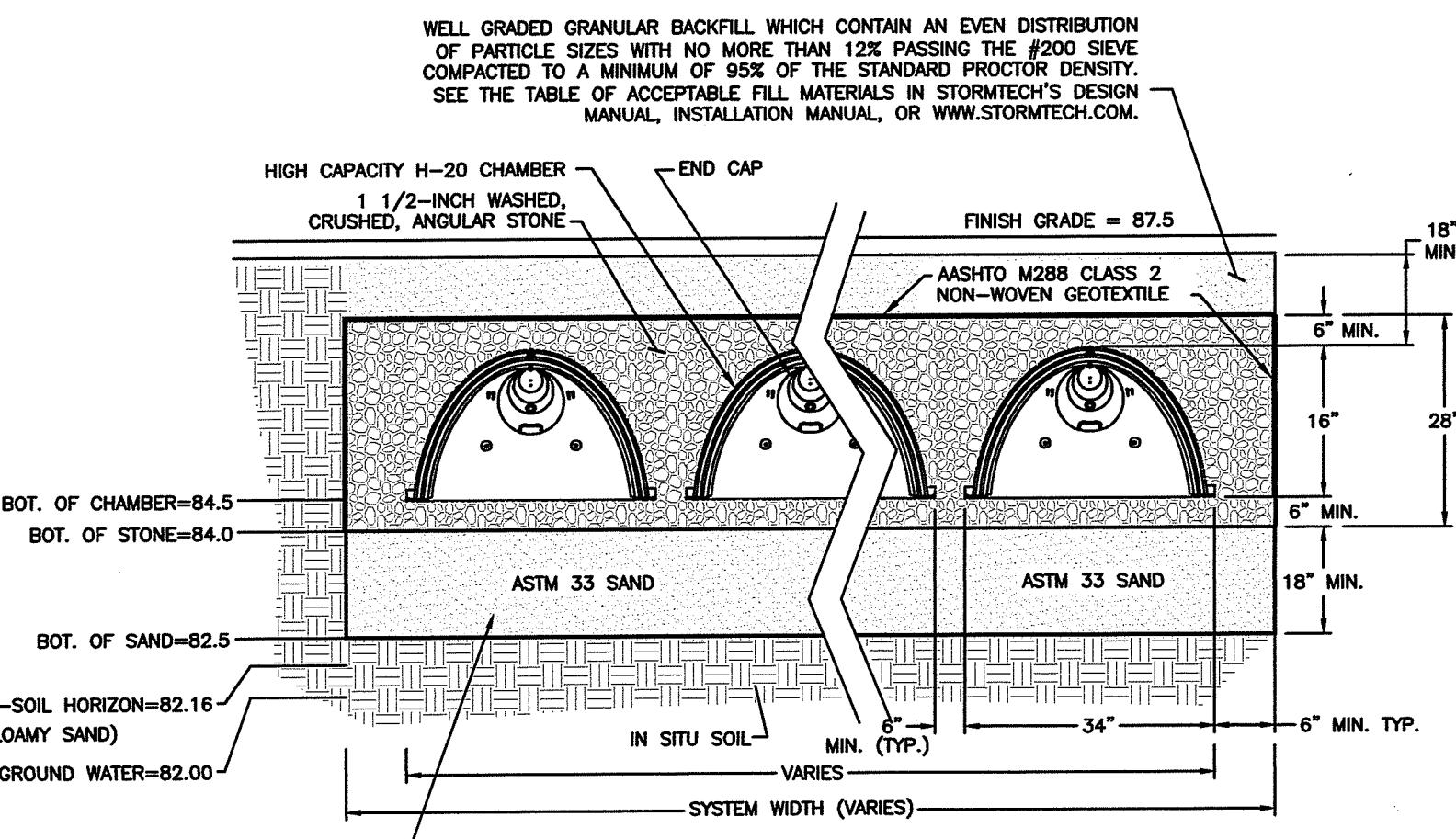


**DRY EXTENDED DETENTION BASIN**  
NOT TO SCALE

GROUND WATER ELEVATION			
TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN
TH-2	81.0	80.0	80.00

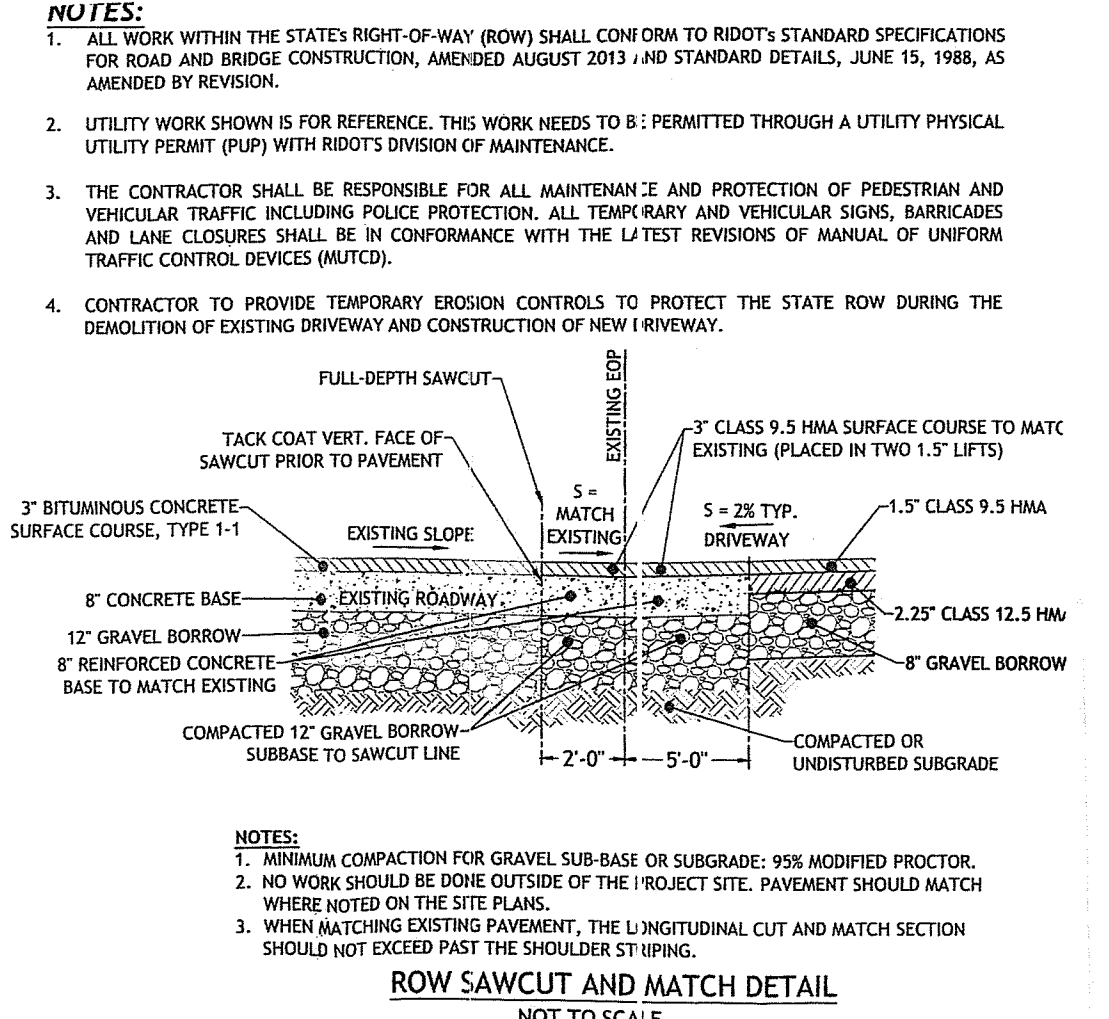


**PLASTIC UNDERGROUND STORAGE SYSTEM  
ADS N-12 SOIL TIGHT (ST) PIPE**  
NOT TO SCALE

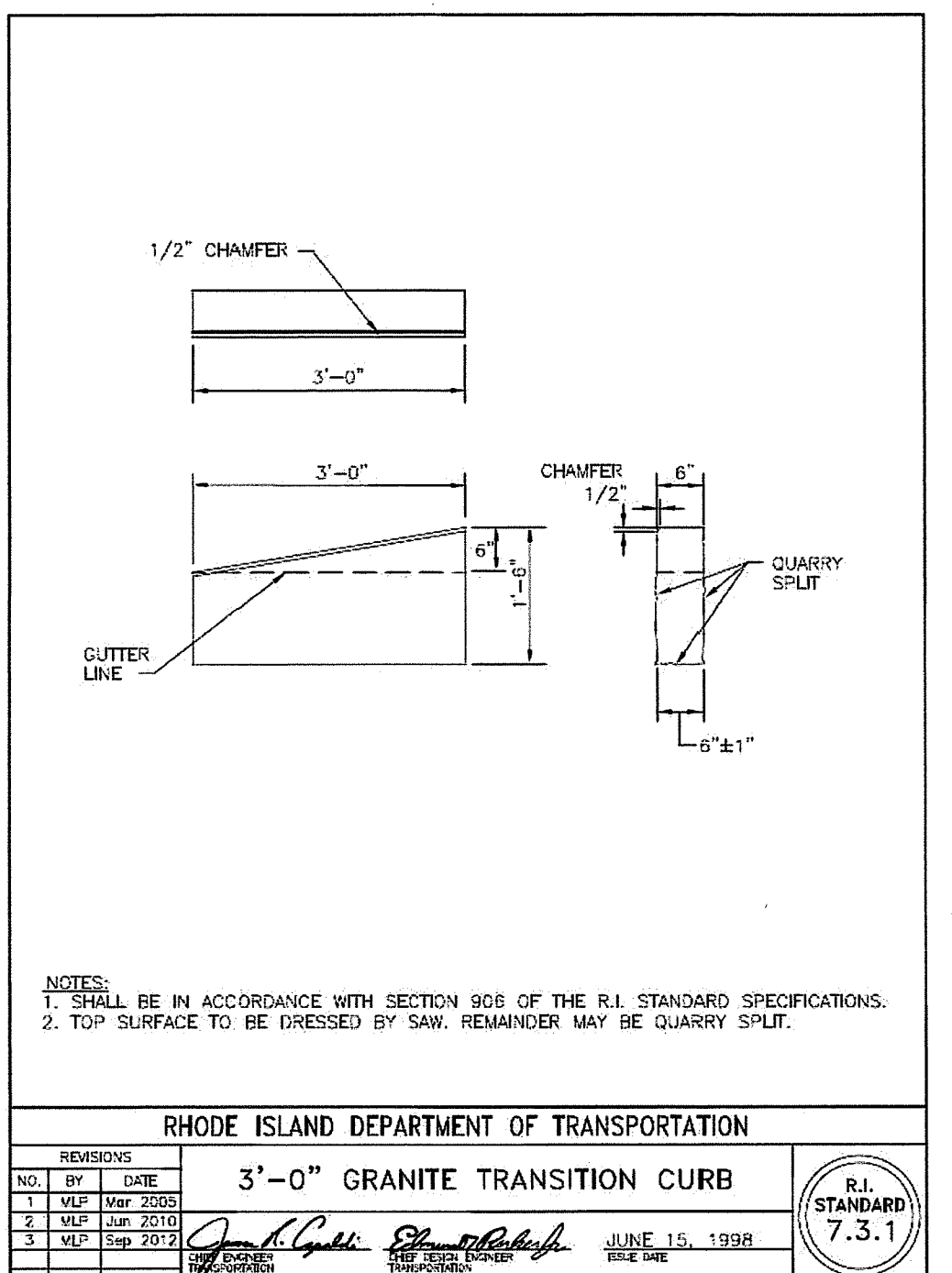


**UNDERGROUND RECHARGE SYSTEM**  
NOT TO SCALE

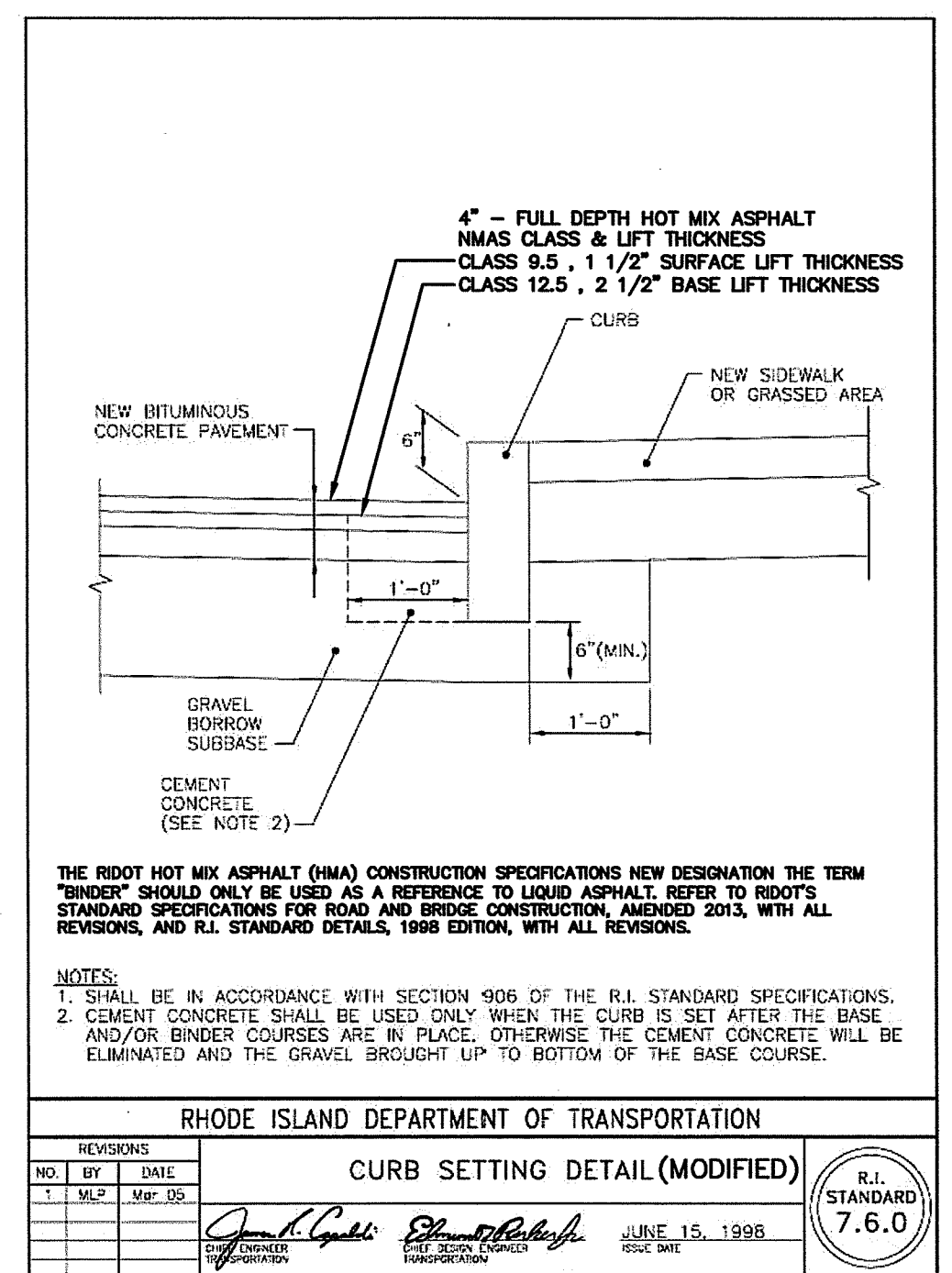
UNDERGROUND RECHARGE SYSTEM 1&2						
UNDERGROUND SYSTEM	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF CHAMBER	NUMBER OF CHAMBERS WIDE	NUMBER OF CHAMBERS LONG	TOTAL NUMBER OF CHAMBERS
1	84.0	82.0	84.5	6	8	48



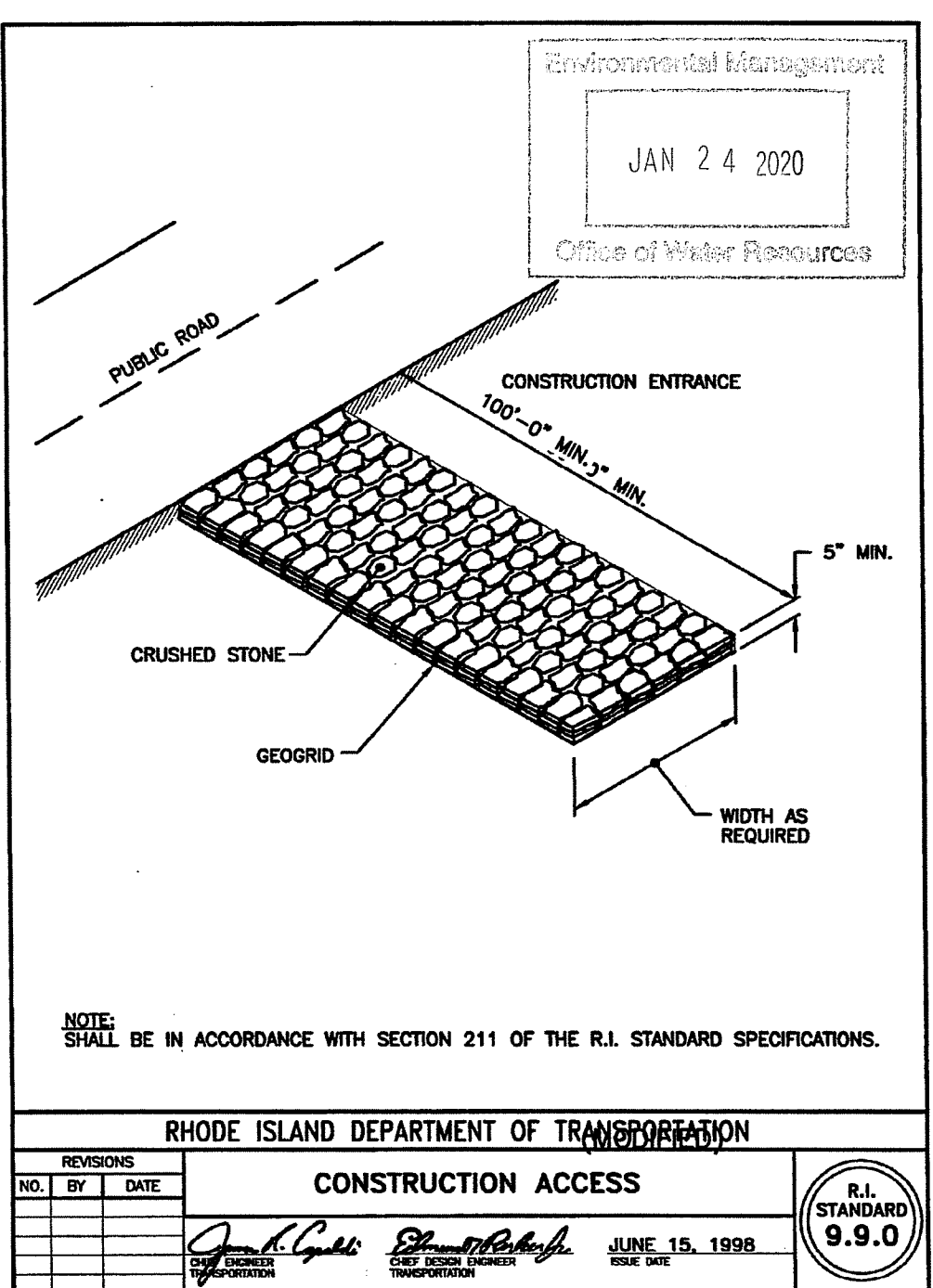
**ROW SAWCUT AND MATCH DETAIL**  
NOT TO SCALE



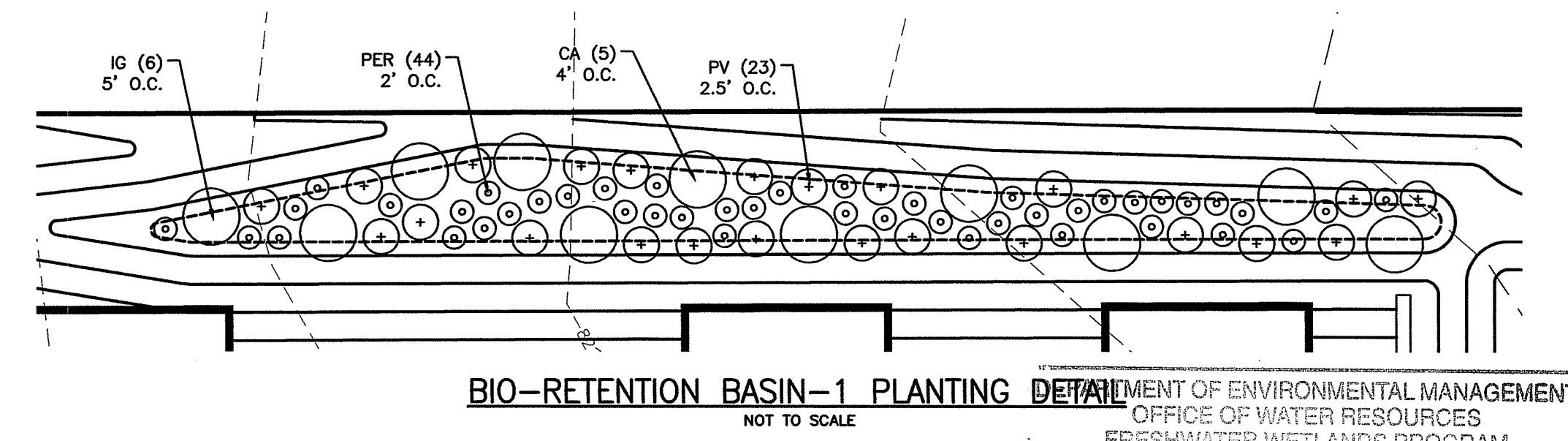
**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
3'-0" GRANITE TRANSITION CURB**  
R.I. STANDARD 7.3.1



**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
CURB SETTING DETAIL (MODIFIED)**  
R.I. STANDARD 7.6.0

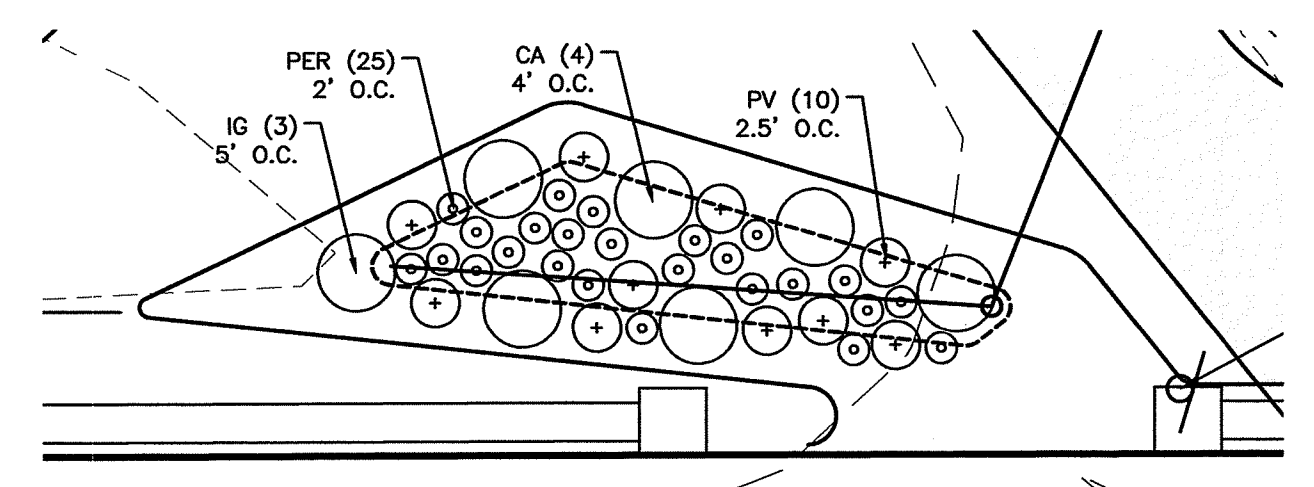


**RHODE ISLAND DEPARTMENT OF TRANSPORTATION  
CONSTRUCTION ACCESS**  
R.I. STANDARD 9.9.0

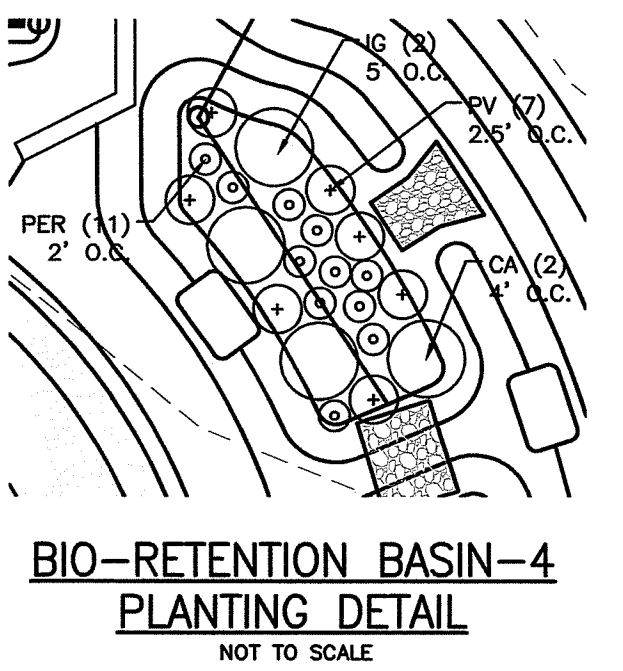


**BIO-RETENTION BASIN-1 PLANTING DETAIL**  
NOT TO SCALE

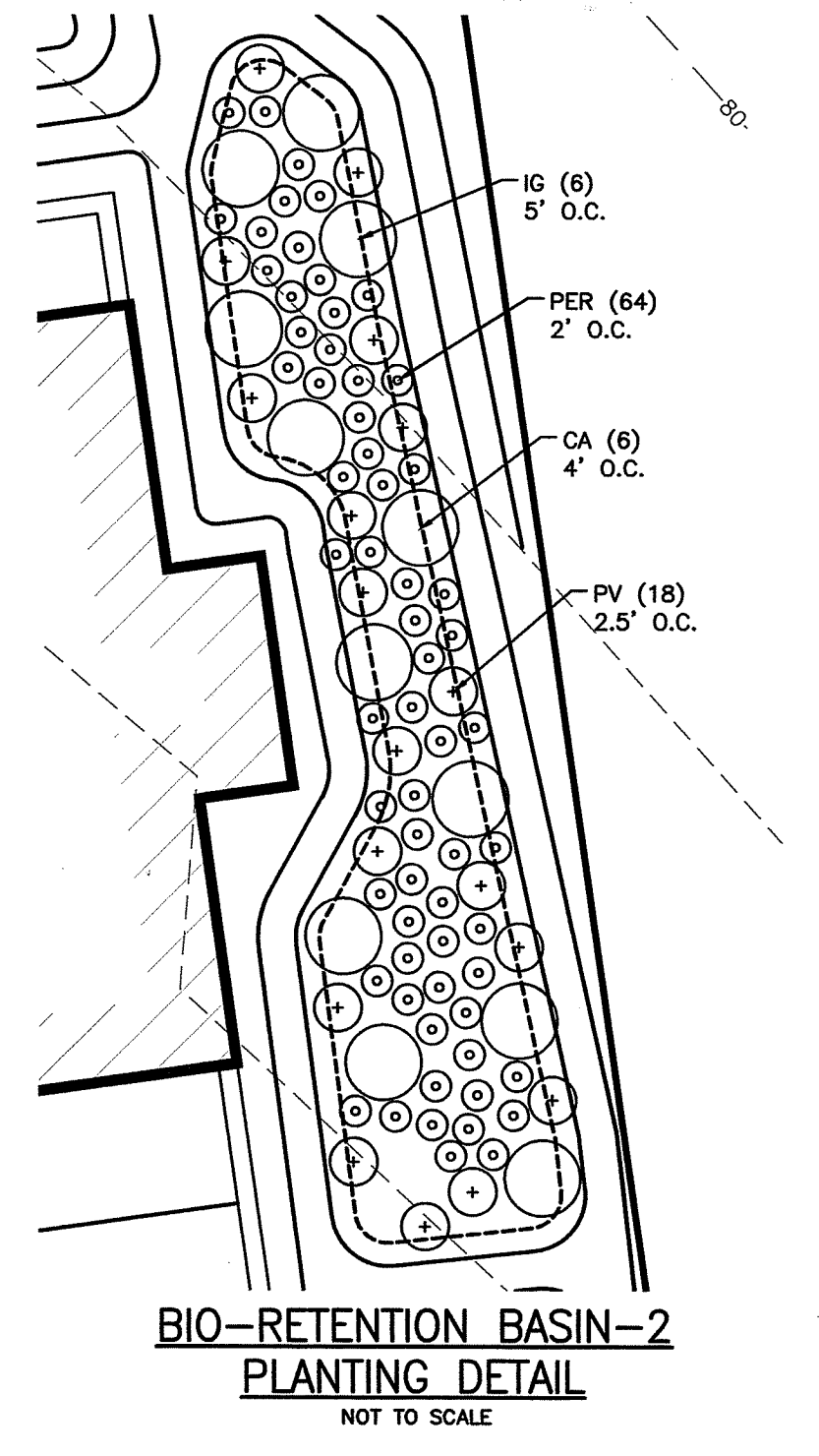
BIO-RETENTION BASIN PLANTING SCHEDULE			
SYMBOL	NAME	QTY.	SIZE
○	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	17	3 GAL. CONTAINER
○	ILEX VERTICILLATA 'SPARKLEBERRY'	17	GAL. CONTAINER
+	PANICUM VIRGATUM 'SHENANDOAH'	58	GAL. CONTAINER
○	ASCLEPIAS TUBEROSA	48	GAL. CONTAINER
○	IRIS VERSICOLOR	48	GAL. CONTAINER
○	VERONICASTRUM VIRGINICUM	48	GAL. CONTAINER



**BIO-RETENTION BASIN-3 PLANTING DETAIL**  
NOT TO SCALE



**BIO-RETENTION BASIN-4 PLANTING DETAIL**  
NOT TO SCALE



**BIO-RETENTION BASIN-2 PLANTING DETAIL**  
NOT TO SCALE

**DRAINAGE WORK NOTES:**

- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
- THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**LDEC**  
Land Development Engineering & Consulting, LLC  
680 Aquidneck Avenue  
Middletown, RI 02842  
T:401-354-2050 F:401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION	APPROVED
4	12/2/19	REVISED PER RIDEM COMMENTS	MER
3	11/4/19	REVISED PER RIDEM COMMENTS	MER
2	8/8/19	REVISED PER RIDEM COMMENTS	MER
1	7/2/19	REVISED PER RIDOT COMMENTS	MER

DATE: APRIL 19, 2019  
DRAWN BY: AME  
COMPS. BY: AME  
CHECK BY: RLM/MER  
PROJECT NO. 18050  
ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**CONSTRUCTION DETAILS**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

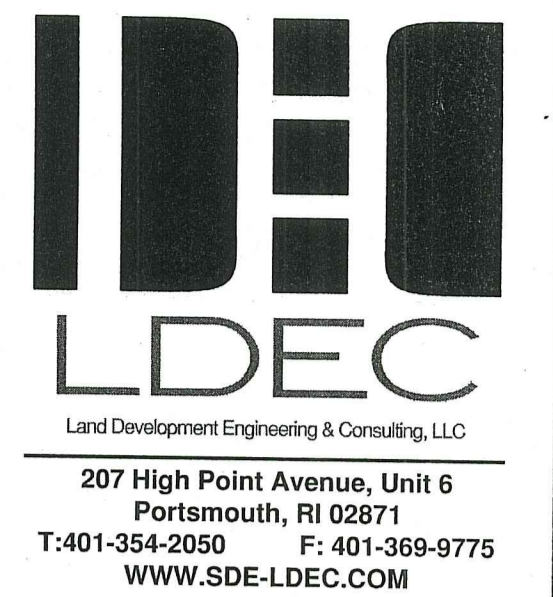
DRAWING TITLE:  
**CONSTRUCTION DETAILS**  
SCALE: 1" = 20'  
SHEET NO. 8 OF 8

# RIDEM PRELIMINARY DETERMINATION APPLICATION PLANS

1200 & 1202 HOPE STREET  
Assessors Map 103 , Parcel 2 & 14

Bristol, Rhode Island

JUNE 20, 2022  
REVISED: DECEMBER 9, 2022



NO.	DATE	DESCRIPTION	APPROVED
1	12/9/2022	GENERAL REVISIONS PER RIDEM COMMENTS	MER

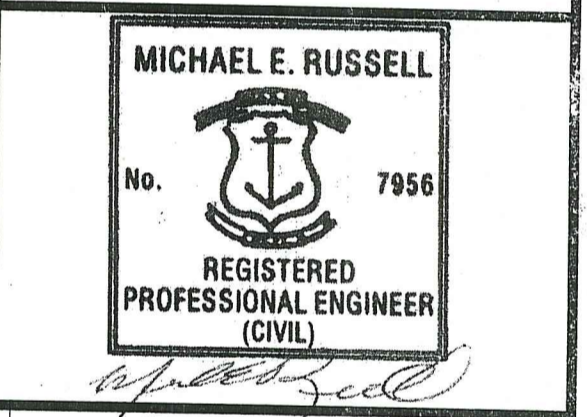
PLAN REVISIONS

DATE: JUNE 20, 2022

DRAWN BY: SJE DESIGN BY: SJE CHECK BY: MER

PROJECT NO. 22024

ISSUED FOR: PERMITTING



**COVER**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2 & 14  
PREPARED FOR  
PREFERRED REALTY SERVICES, LLC

DRAWING TITLE:

**COVER**

SCALE: **NTS**

SHEET NO.

**1 OF 8**

**CIVIL ENGINEER**  
LAND DEVELOPMENT ENGINEERING  
& CONSULTING, LLC.  
680 AQUIDNECK AVENUE  
MIDDLETOWN, RI 02842  
(401) 354-2050

**LAND SURVEYOR**  
LAND DEVELOPMENT ENGINEERING  
& CONSULTING, LLC.  
680 AQUIDNECK AVENUE  
MIDDLETOWN, RI 02842  
(401) 354-2050

**ARCHITECT**  
JHL TECTURE AE, PC  
190 HIGH STREET  
BRISTOL, RI 02809  
(401) 396-9630

**LANDSCAPE ARCHITECT**  
VERDE DESIGN + HORTICULTURE  
6 DEBLOIS STREET  
NEWPORT, RI 02840  
(401) 619-0562



LOCUS MAP

## PLAN INDEX

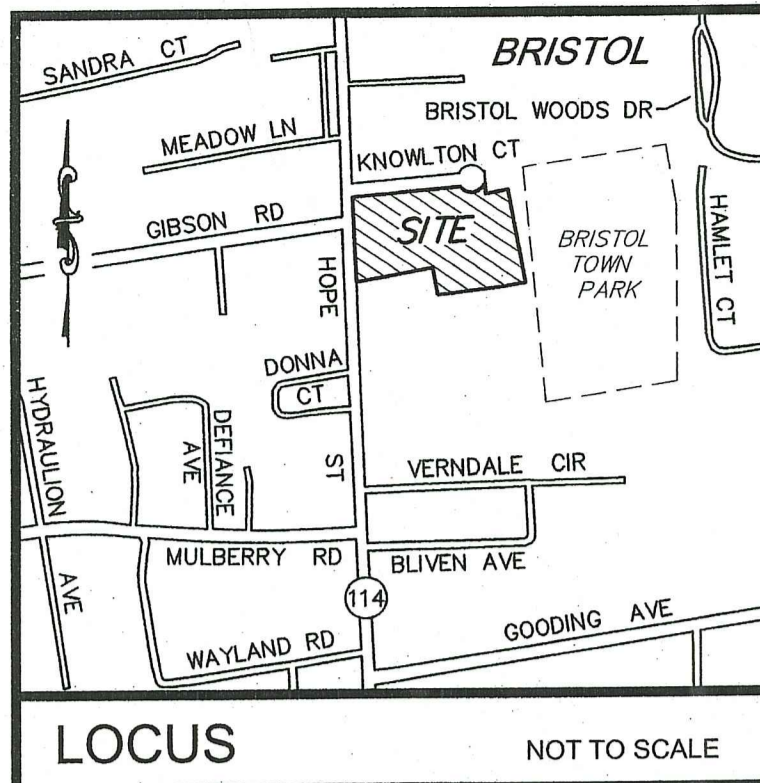
TITLE	SHEET NO.
COVER SHEET	1
EXISTING CONDITIONS PLAN	2
SITE LAYOUT PLAN	3
GRADING & DRAINAGE PLAN	4
UTILITY PLAN	5
EROSION CONTROL PLAN	6
LANDSCAPING PLAN	7
CONSTRUCTION DETAILS	8

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS  
SPECIFIED IN THE LETTER OF APPROVAL  
DATED: MAR 06 2023 FILE #: 14-0149  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Martin D. Wenczek*





LOCUS NOT TO SCALE

**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC BETWEEN AUGUST 3, 2018 AND APRIL 18, 2022.
- ELEVATIONS ARE REFERENCED TO NAVD83.
- THE SITE IS NOT LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREAS AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (MAP EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- THE DELINEATION OF WETLAND FLAGS WF-A1 THROUGH WF-A6 WAS PERFORMED BY NATURAL RESOURCE SERVICES, INC. ON MARCH 15, 2019 AND WETLAND FLAGS A-3 THROUGH A-16 ARE AS SHOWN ON AN APPROVED MASTER SUBDIVISION PLAN BY SITE ENGINEERING, INC.

**PLAN REFERENCES:**

- "PRELIMINARY PLAN FOR ELIZABETH COURT, AP 103 LOT 14, HOPE STREET IN BRISTOL, RHODE ISLAND", PREPARED FOR 1202 HOPE STREET INVESTMENT, LLC BY PRINCIPLE COMPANY, INC., DATED APRIL 12, 2021 (REV. 7/27/21) WHICH IS TO BE RECORDED AT THE TOWN OF BRISTOL LAND EVIDENCE RECORDS OFFICE.
- "EXISTING CONDITIONS PLAN OF LAND, 1202 HOPE STREET, BRISTOL, RI", PREPARED FOR JOSEPH GARIES BY TURNING POINT SURVEY COMPANY, INC., DATED AUGUST, 5, 2020.

CURRENT OWNERS AND APPLICANTS	
EXPRESS REALTY TRUST, LLC 25 LILLIS AVENUE BARRINGTON, RI 02806	1202 HOPE STREET INVESTMENTS, LLC PO BOX 246 WARREN, RI 02885
TITLE REFERENCE: DEED BK.2110/PG.96	TITLE REFERENCE: DEED BK.1990/PG.179
SITE LOCATION: 1200 HOPE STREET BRISTOL, RHODE ISLAND	SITE LOCATION: 1202 HOPE STREET BRISTOL, RHODE ISLAND
ASSESSORS REFERENCE: MAP 103 PARCEL 2	ASSESSORS REFERENCE: MAP 103 PARCEL 14

RESIDENTIAL 10 (R-10) ZONING DISTRICT	
REGULATION	REQUIREMENT
MIN. LOT AREA	10,000 S.F.
LOT FRONTAGE	80'
FRONT SETBACK	30'
SIDE SETBACK	15'
REAR SETBACK	30'
MAX. BUILDING HEIGHT	35'
MAX. LOT COVERAGE	25%

**CERTIFICATION**

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS BETWEEN AUGUST 3, 2018 AND APRIL 26, 2022, AS FOLLOWS:

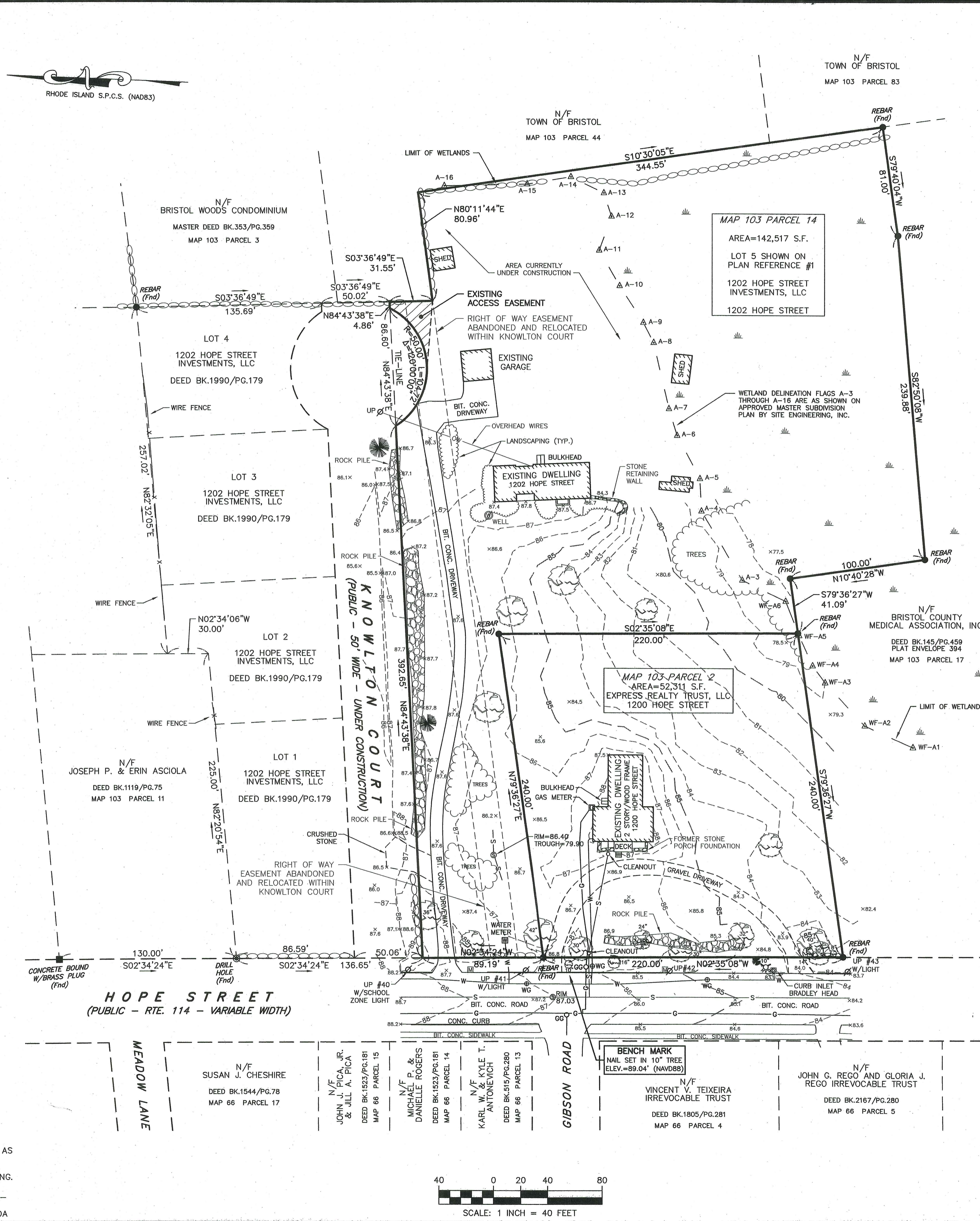
COMPREHENSIVE BOUNDARY SURVEY CLASS I  
DATA ACCUMULATION SURVEY CLASS III  
TOPOGRAPHIC SURVEY ACCURACY T-1

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS:

TO PROVIDE AN EXISTING CONDITIONS PLAN TO ACCOMPANY AN ADMINISTRATIVE SUBDIVISION FILING.

BY: *Robert L. Mason*

ROBERT L. MASON, PROFESSIONAL LAND SURVEYOR, LICENSE NO. 2001, COA NO. LS.000A533-COA



**LEGEND**

⊙	DRAIN MANHOLE
⊗	FIRE HYDRANT
⊕	GAS GATE
⊞	MAIL BOX
⊚	SEWER MANHOLE
⊙	SPOT ELEVATION
—○—○—	STONE WALL
⊗	TREE
—○—	TREE LINE
⊕	UTILITY POLE
⊞	WATER GATE
⊞	WETLANDS
⊞	WETLAND FLAG
—G—	UNDERGROUND GAS
—S—	UNDERGROUND SEWER
—W—	UNDERGROUND WATER

**LDEC**  
Land Development Engineering & Consulting, LLC  
207 High Point Avenue, Unit 6  
Portsmouth, RI 02871  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION	APPROVED

PLAN REVISIONS

DATE:	APRIL 26, 2022
DRAWN BY:	R/LM
COMPS. BY:	R/LM
CHECK BY:	R/LM/MER
PROJECT NO.	22024
ISSUED FOR:	APPROVAL

ROBERT L. MASON  
No. 2001  
PROFESSIONAL LAND SURVEYOR

**ADMINISTRATIVE SUBDIVISION**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCELS 2 & 14  
PREPARED FOR  
EXPRESS REALTY TRUST, LLC

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS  
SPECIFIED IN THE LETTER OF APPROVAL  
DATED: MAR 06 2023 FILE #: 19-0119

PLANNING BOARD/DESIGNEE SIGNATURES

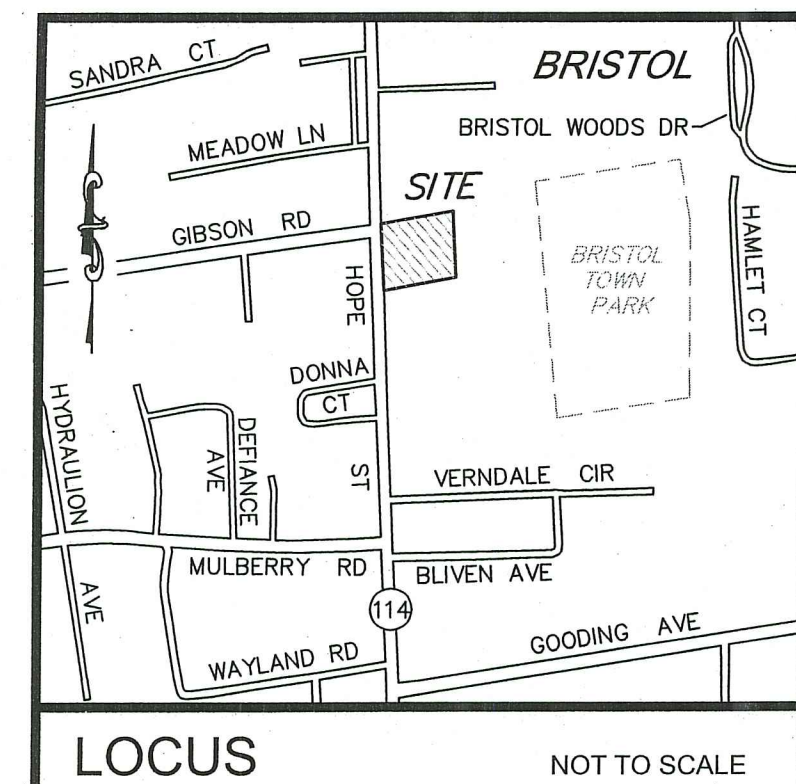
DRAWING TITLE:

**EXISTING CONDITIONS**

SCALE: 1" = 40'

SHEET NO.

1 OF 1



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

**LOCAL PERMITS**  
 PLANNING BOARD DECISION:  
 RECORDED DECEMBER 16, 2019.  
 DOC#: 00003581, BOOK: 2012, PG: 82

**ZONING BOARD DECISION:**  
 RECORDED DECEMBER 19, 2018.  
 DOC# 0003744, BOOK: 1967, PG: 269-270

**STATE PERMITS**  
 RIDOT PAPA NO. 190510  
 RIDEM WETLANDS APPLICATION NO. 19-0149  
 GROUNDWATER DISCHARGE/UIC NO. 001920  
 RIPDES NO. RIR-101910

**ZONING REQUIREMENTS:**  
 CONSERVATION DEVELOPMENT LAND DEVELOPMENT  
 PROJECT / MULTI FAMILY DWELLING UNITS  
 UNDERLYING DISTRICT: RESIDENTIAL DISTRICT (R-10)  
 SITE IS ALSO AN INDIVIDUALLY LISTED PROPERTY IN THE BRISTOL HISTORICAL DISTRICT.

	REQUIRED	EXISTING	PROPOSED
LOT AREA	10,000 S.F.	52,311 S.F.	52,311 S.F.
LOT FRONTAGE	80 FT.	220 FT.	220 FT.
FRONT YARD SETBACK	75 FT.	73.1 FT.	73.1 FT.*
SIDE YARD SETBACK	50 FT.	47.6 FT.	14.7 FT.*
REAR YARD SETBACK	50 FT.	85.3 FT.	22 FT.*
MAX. LOT COVERAGE	25%	5.75%	16.5%
MAX. BUILDING HEIGHT	35 FT.	-	35 FT.**
SETBACK BETWEEN 2 MULTI-FAMILY BUILDINGS	50 FT.	N/A	30 FT.*
OPEN SPACE	50%	88.7%	54.6%

(\*ZONING RELIEF RECEIVED, ZONING BOARD PERMIT FILE NO. 2018-41, RECORDED IN LAND EVIDENCE 12-19-2018, DOCUMENT NO. 3744 BK. 1967 PG. 269)  
 (\*\*35 FT. HEIGHT FOR THE PROPOSED CONDOS. EXISTING STRUCTURE TO REMAIN UNCHANGED)

**LDEC**  
 Land Development Engineering & Consulting, LLC  
 207 High Point Avenue, Unit 6  
 Portsmouth, RI 02871  
 T:401-354-2050 F:401-369-9775  
 WWW.SDE-LDEC.COM

LOCUS NOT TO SCALE

**LEGEND**

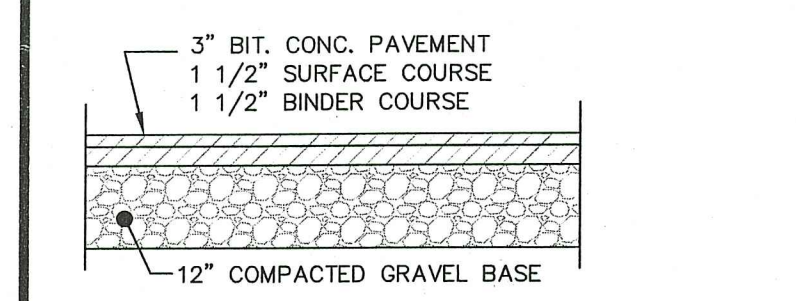
⊕	DRAIN MANHOLE	+ (88.88)	PROPOSED GRADE
⊕	FIRE HYDRANT	(88)	PROPOSED CONTOUR
⊕	MAIL BOX	-12"D	PROPOSED DRAIN LINE
⊕	SEWER MANHOLE	G	PROPOSED GAS LINE
⊕	SPOT ELEVATION	ECT	PROPOSED ELECTRIC/TELEPHONE/CABLE
⊕	STONE WALL	FM	LOW PRESSURE SEWER
⊕	TREE LINE		
⊕	UTILITY POLE		
⊕	WATER GATE		
⊕	WATER LINE		
⊕	UNDERGROUND GAS		
⊕	WETLAND FLAG	A10	
⊕	WETLANDS		

**CURRENT OWNER**  
 EXPRESS REALTY TRUST, LLC  
 25 LILLIS AVENUE  
 BARRINGTON, RI 02806

**TITLE REFERENCE:**  
 DEED BK.2110/PG.96

**SITE LOCATION:**  
 1200 HOPE STREET  
 BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
 MAP 103 PARCEL 2

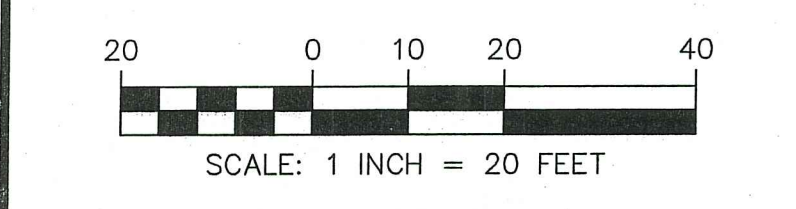


**BID ALTERNATIVE NOTE:**  
 EXISTING BITUMINOUS PAVEMENT PARKING TO BE RECLAIMED/RECYCLED PER RIDOT SECTION 406.

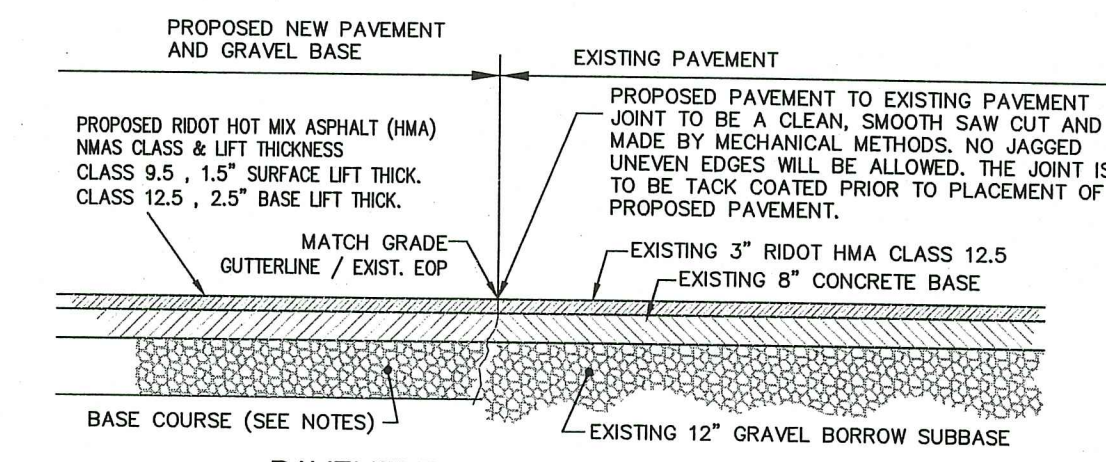
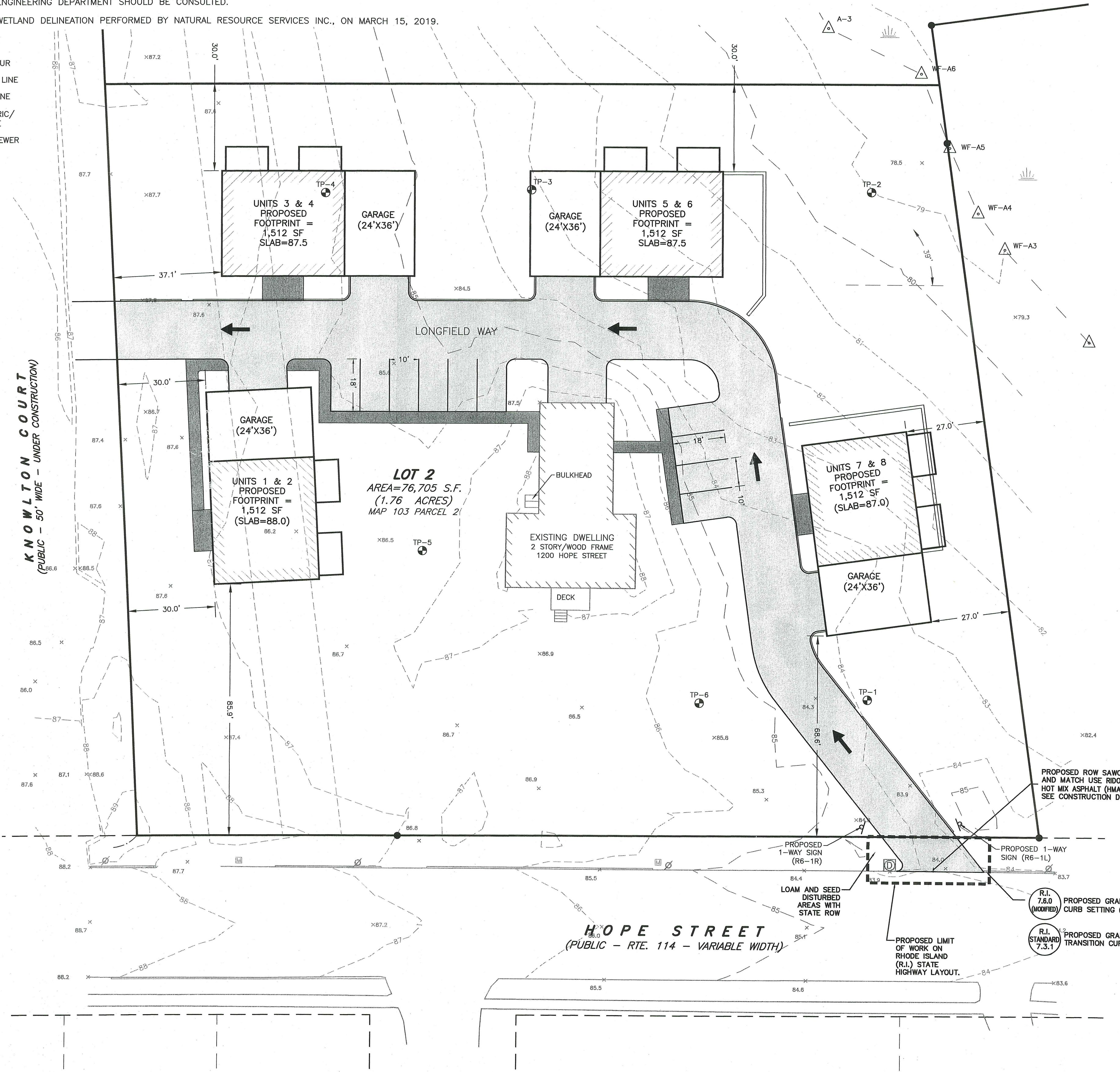
**TYPICAL BITUMINOUS CONCRETE PAVEMENT**  
 NOT TO SCALE

**PARKING TABLE**

REQUIRED	PROPOSED
2 SPACES/DWELLING UNIT	10 DWELLING UNITS = 20 SPACES
EXTERIOR PARKING SPACES	10 SPACES
GARAGE PARKING SPACES	10 SPACES



RHODE ISLAND S.P.C.S. (NAD83)



**NOTES:**

- ROADWAY PAVEMENT SAW CUTTING CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 832 AND SECTION 934.03.1 OF THE R.I. STANDARD SPECIFICATIONS.
- AGGREGATES, GRAVEL BASE AND SUBBASE COURSES MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 300 AND SECTION M.01 OF THE R.I. STANDARD SPECIFICATIONS.
- PAVEMENT MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 400 AND SECTION M.03 OF THE R.I. STANDARD SPECIFICATIONS AND HOT MIX ASPHALT (HMA) CONSTRUCTION.
- CONCRETE MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH SECTION 600 OF THE R.I. STANDARD SPECIFICATIONS.
- DEPTH(S) OF NEW MATERIALS SHALL AT MINIMUM MATCH EXISTING PAVEMENT CONSTRUCTION DEPTHS FOR GRAVEL BORROW, SUBBASE, BASE, AND HOT MIX ASPHALT (HMA).
- PAVEMENT CONSTRUCTION SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS M.03.06. AND RIDOT SECT. 401.03.11 AND HOT MIX ASPHALT (HMA) CONSTRUCTION.
- GRAVEL BORROW TYPE C SHALL CONFORM TO RHODE ISLAND STANDARD SPECIFICATIONS M.01.09 RIDOT SECT. 401.03.11.
- GRAVEL BORROW SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COARSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS AND DELETERIOUS MATERIALS. GRADATION REQUIREMENTS FOR GRAVEL SHALL BE DETERMINED BY ASTM-111 AND 127 AND SHALL CONFORM TO THE FOLLOWING:

SIEVE DESIGNATION	PERCENT PASSING	MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE 2 INCHES LARGEST DIMENSION
1/2 IN	50-85	
NO. 4	40-75	
NO. 50	8-25	
NO. 200	0-10	

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: MAR 06 2023 FILE #: 19-0149  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

**DRAINAGE WORK NOTES:**

- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
- THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

NO.	DATE	DESCRIPTION
1.	12/19/2022	GENERAL REVISIONS PER RIDEM COMMENTS

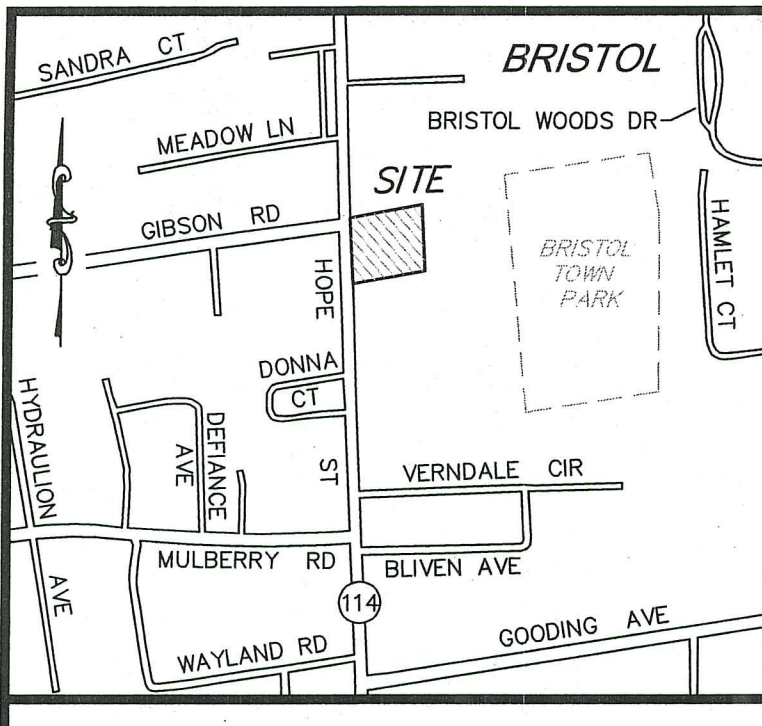
**PLAN REVISIONS**  
 DATE: JUNE 20, 2022  
 DRAWN BY: SJE COMPS. BY: SJE CHECK BY: RLM/MMR  
 PROJECT NO. 22024  
 ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
 No. 7956  
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

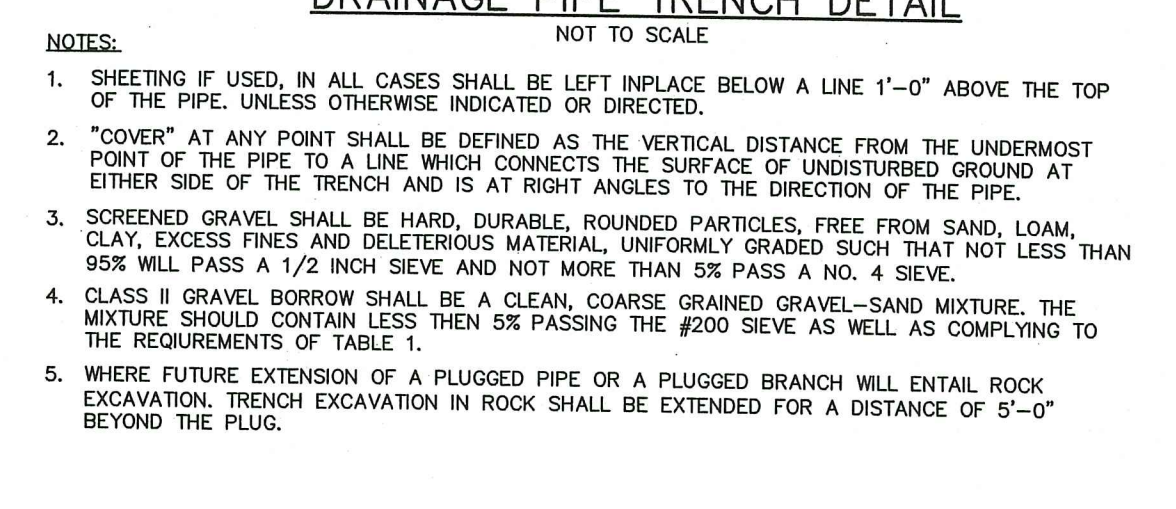
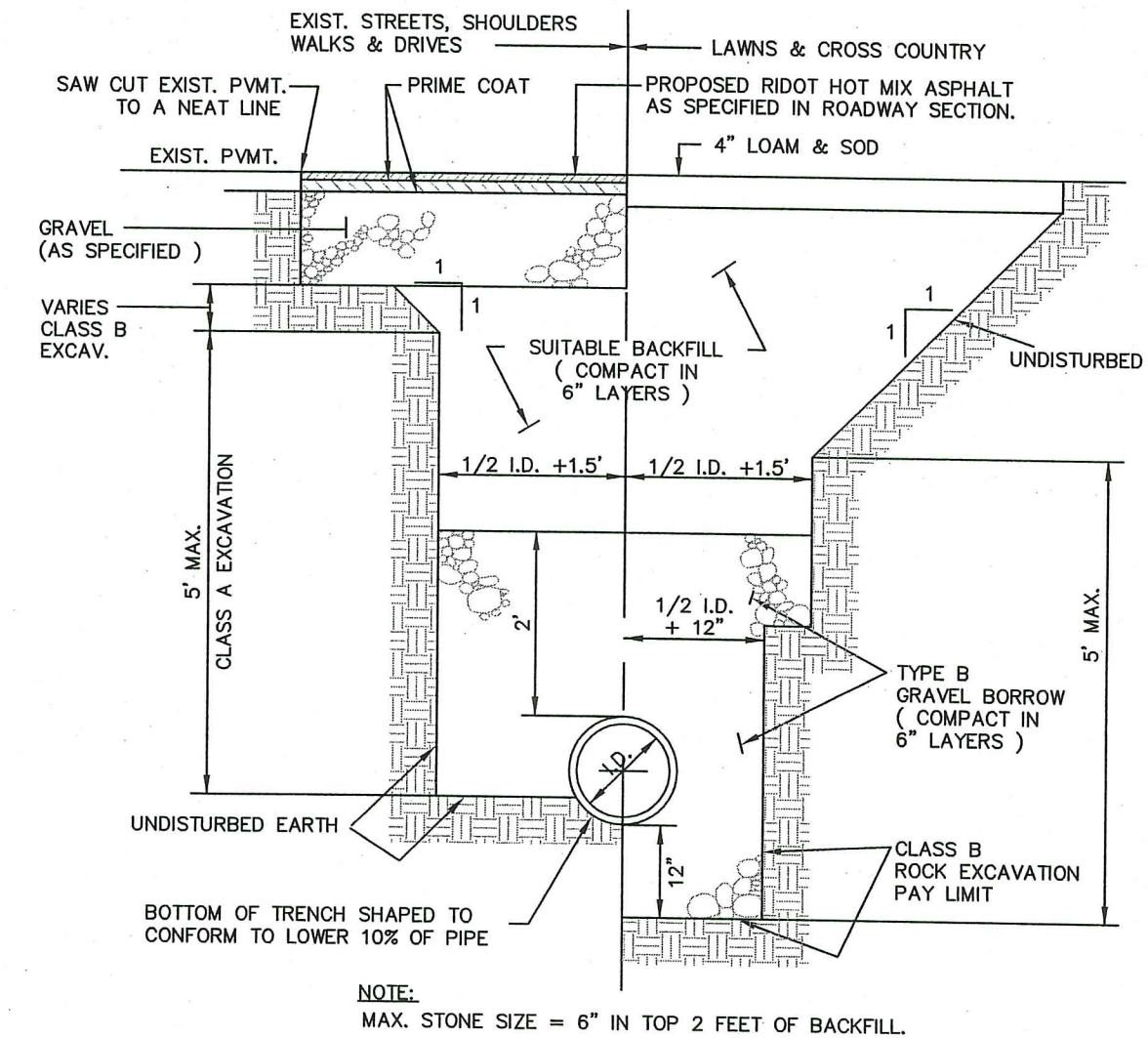
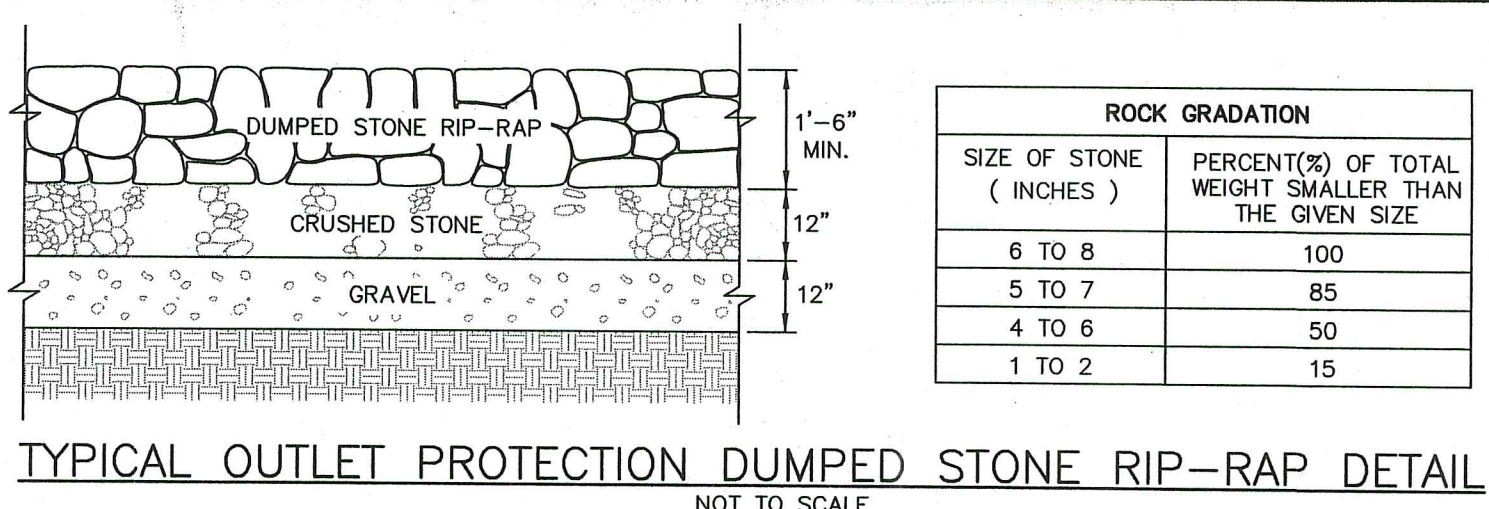
**PROPOSED SITE PLAN**  
 1200 & 1202 HOPE STREET  
 BRISTOL, RHODE ISLAND  
 ASSESSORS MAP 103, PARCEL 2 & 14  
 PREPARED FOR: PREFERRED REALTY SERVICES, LLC

Environmental Management  
 DEC 19 2022  
 Office of Water Resources

DRAWING TITLE:  
**SITE PLAN**  
 SCALE: 1" = 20'  
 SHEET NO. **3 OF 8**



- NOTES:**
- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
  - ELEVATIONS ARE REFERENCED TO NAVD88.
  - THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
  - THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
  - EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
  - WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.



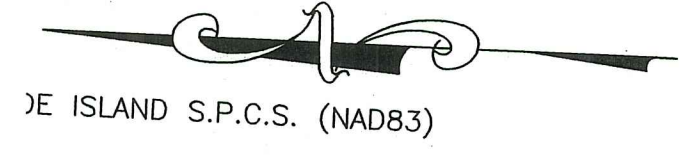
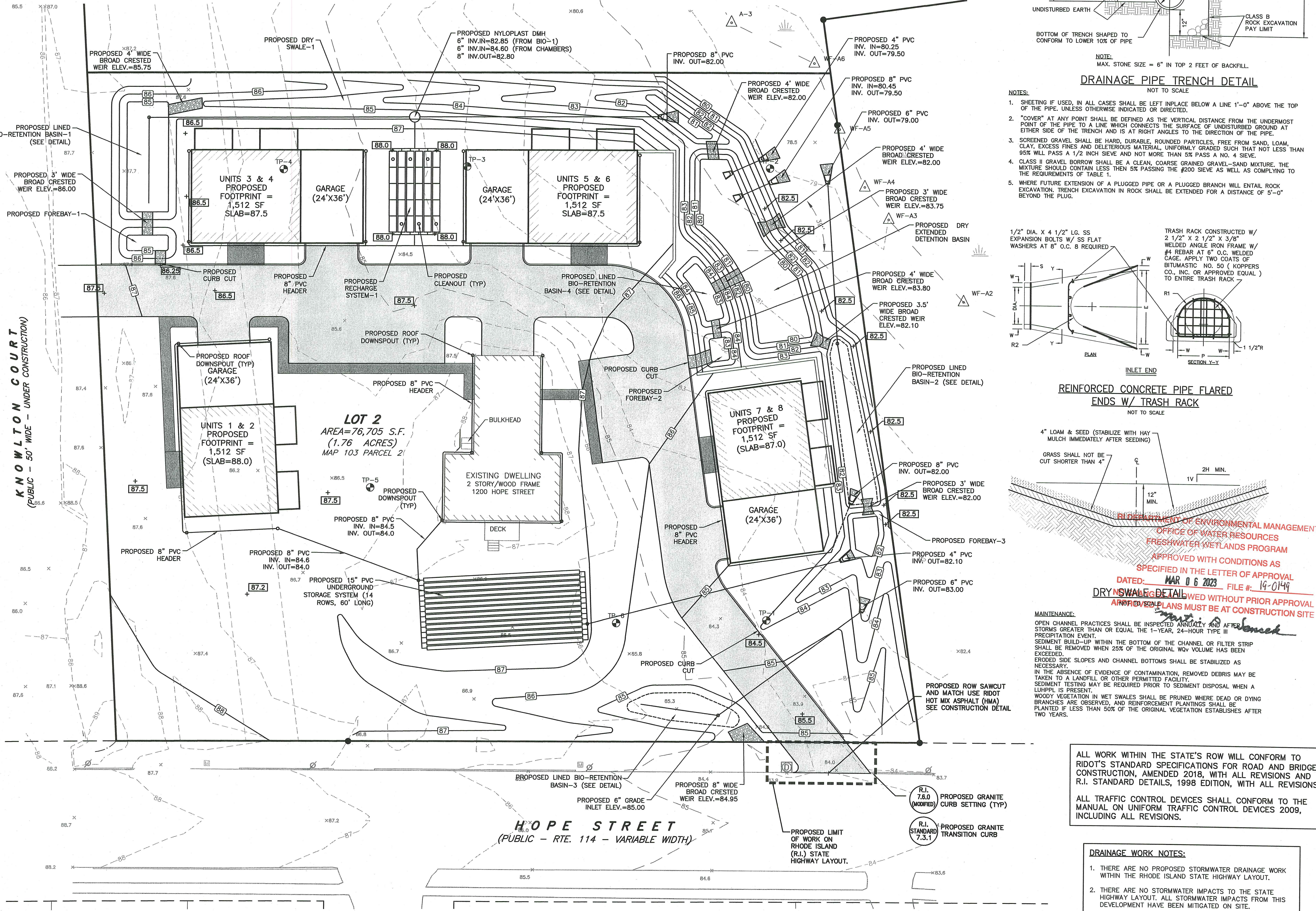
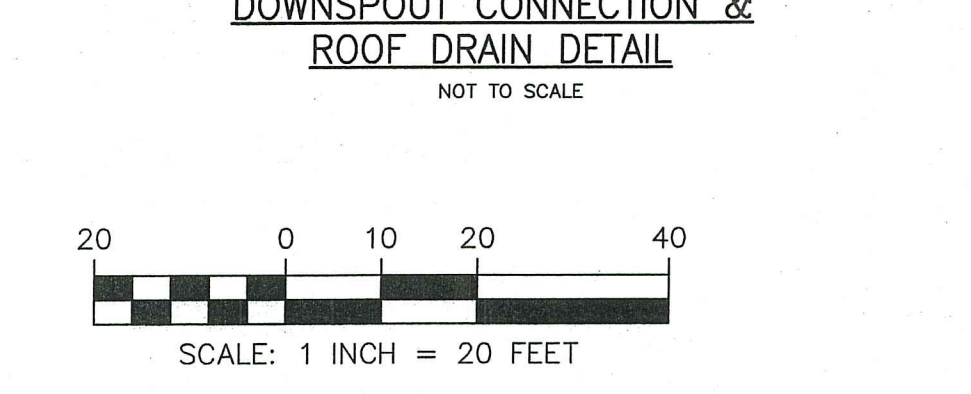
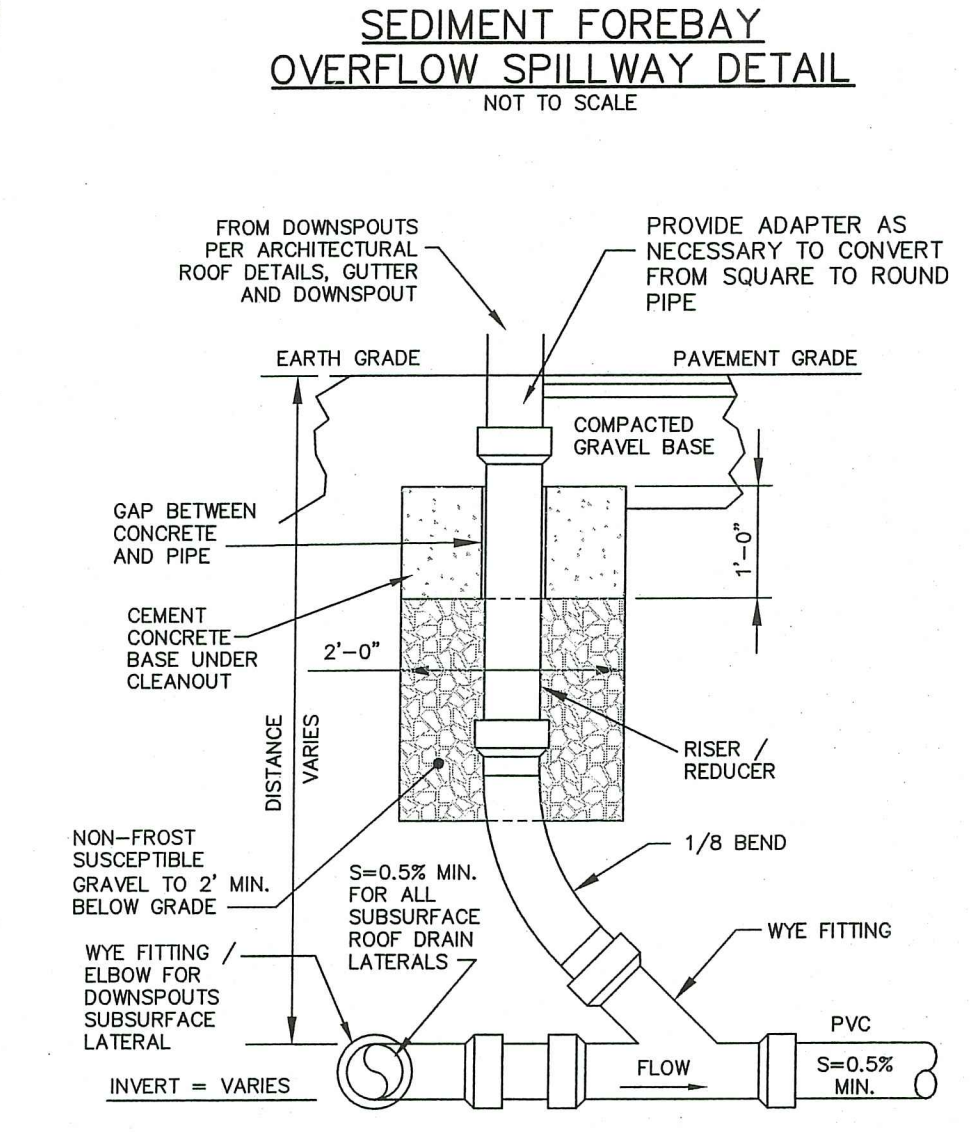
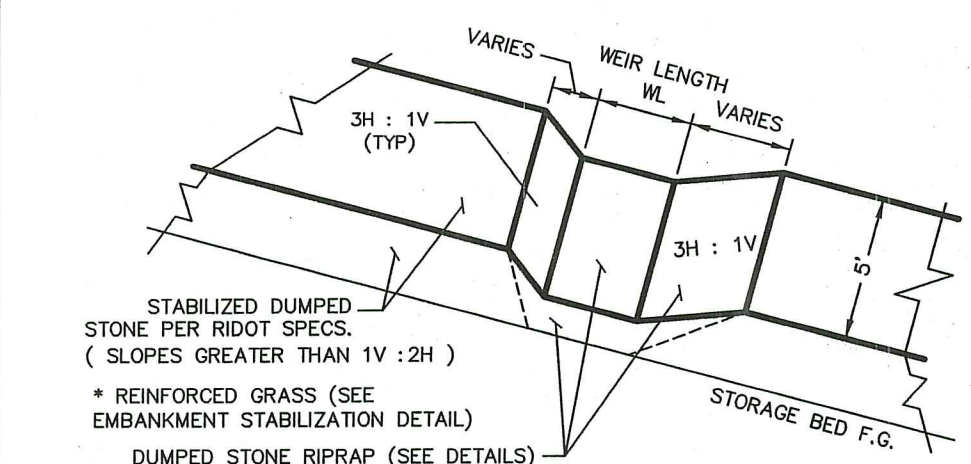
- LEGEND**
- ⊙ DRAIN MANHOLE
  - ⊕ FIRE HYDRANT
  - ⊕ MAIL BOX
  - ⊕ SEWER MANHOLE
  - ⊕ SPOT ELEVATION
  - STONE WALL
  - TREE LINE
  - UTILITY POLE
  - WATER GATE
  - WATER LINE
  - UNDERGROUND GAS
  - ▲ A10 WETLAND FLAG
  - ▲ WETLANDS
- PROPOSED GRADE**
- +88.88
  - PROPOSED CONTOUR
  - PROPOSED DRAIN LINE
  - PROPOSED GAS LINE
  - PROPOSED ELECTRIC/ TELEPHONE/CABLE
  - FM LOW PRESSURE SEWER

**CURRENT OWNER**  
EXPRESS REALTY TRUST, LLC  
25 LILLIS AVENUE  
BARRINGTON, RI 02806

**TITLE REFERENCE:**  
DEED BK.2110/PG.96

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2



**LDEC**  
Land Development Engineering & Consulting, LLC  
207 High Point Avenue, Unit 6  
Portsmouth, RI 02871  
T:401-354-2050 F:401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
1.	12/9/2022	GENERAL REVISIONS PER RIDOT COMMENTS

PLAN REVISIONS

DATE: JUNE 20, 2022

DRAWN BY: SJE  
CHECK BY: SJE

PROJECT NO. 22024

ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**GRADING & DRAINAGE PLAN**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2 & 14  
PREPARED FOR: EXPRESS REALTY TRUST, LLC

DRAWING TITLE: GRADING & DRAINAGE PLAN

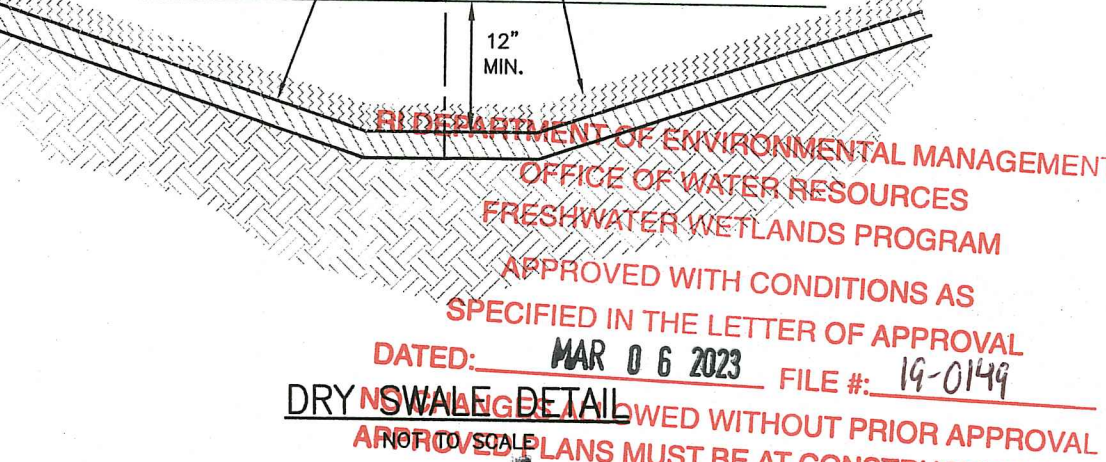
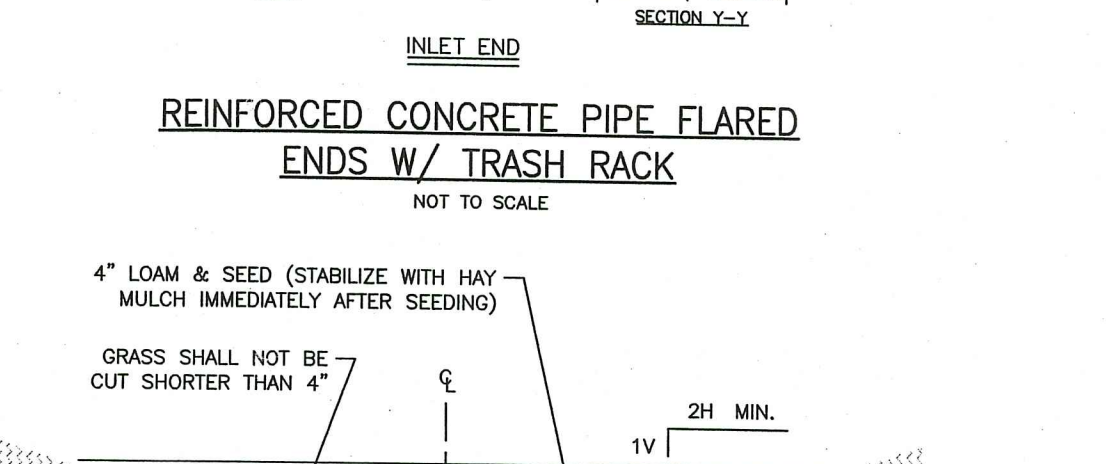
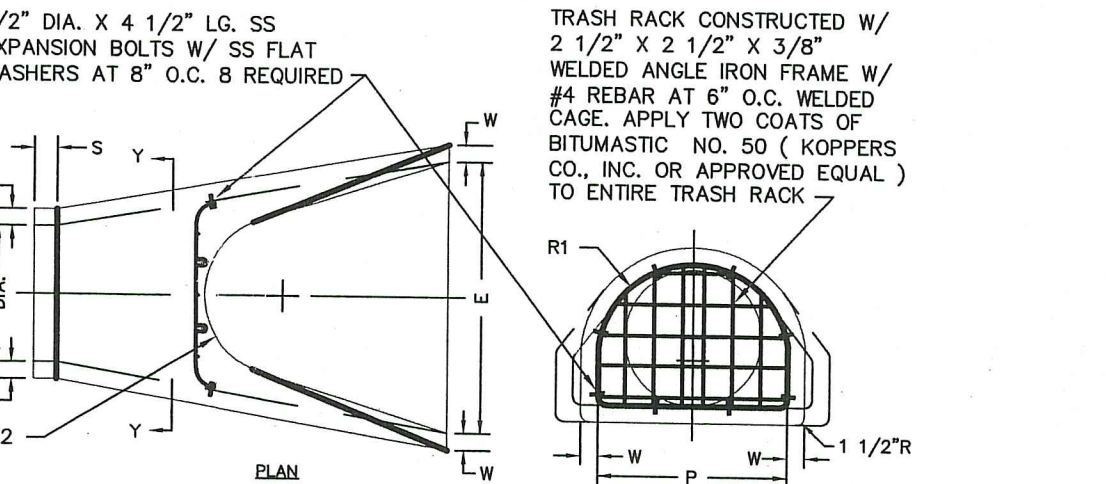
SCALE: 1" = 20'  
SHEET NO. 4 of 8

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

- DRAINAGE WORK NOTES:**
- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
  - THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

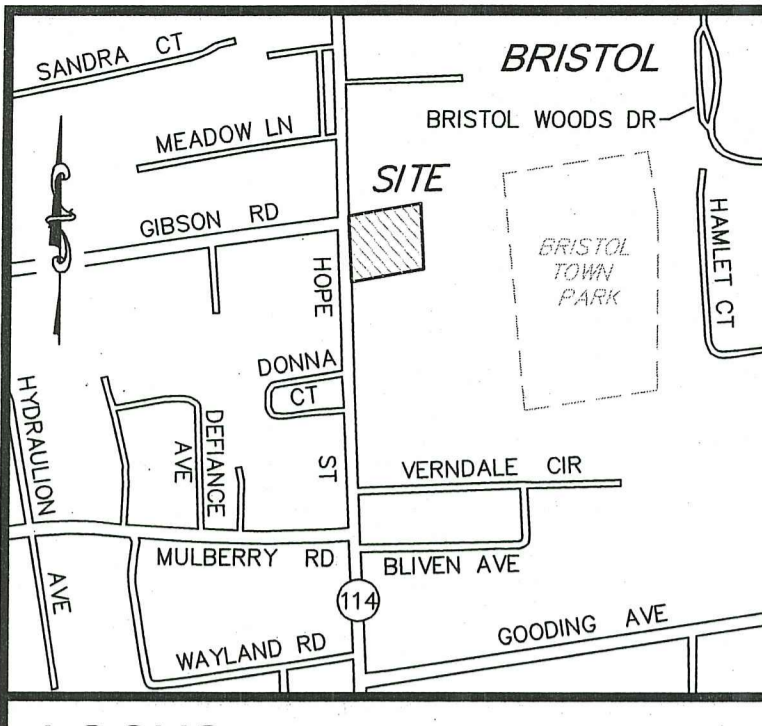
**MAINTENANCE:**  
OPEN CHANNEL PRACTICES SHALL BE INSPECTED ANNUALLY AND AFTER STORMS GREATER THAN OR EQUAL TO THE 1-YEAR, 24-HOUR TYPE II PRECIPITATION EVENT.  
SEDIMENT BUILD-UP WITHIN THE BOTTOM OF THE CHANNEL OR FILTER STRIP SHALL BE REMOVED WHEN 25% OF THE ORIGINAL WOV VOLUME HAS BEEN EXCEEDED.  
ERODED SIDE SLOPES AND CHANNEL BOTTOMS SHALL BE STABILIZED AS NECESSARY.  
IN THE ABSENCE OF EVIDENCE OF CONTAMINATION, REMOVED DEBRIS MAY BE TAKEN TO A LANDFILL OR OTHER PERMITTED FACILITY.  
SEDIMENT TESTING MAY BE REQUIRED PRIOR TO SEDIMENT DISPOSAL WHEN A LUMPY IS PRESENT.  
WOODY VEGETATION IN WET SWALES SHALL BE PRUNED WHERE DEAD OR DYING BRANCHES ARE OBSERVED, AND REINFORCEMENT PLANTINGS SHALL BE PLANTED IF LESS THAN 50% OF THE ORIGINAL VEGETATION ESTABLISHES AFTER TWO YEARS.



**APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL**  
DATED: MAR 06 2023 FILE #: 19-0149  
DRY SWALE DETAIL REVISED WITHOUT PRIOR APPROVAL AND REVISIONS PLANS MUST BE AT CONSTRUCTION SITE

OFFICE OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM

DEC 19 2022  
Office of Water Resources



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

**CURRENT OWNER**

1200 HOPE ST., LLC  
161 NORTH CLARK ST., SUITE 1600  
CHICAGO, IL 60601

**TITLE REFERENCE:**  
DEED BK.1661/PG.344

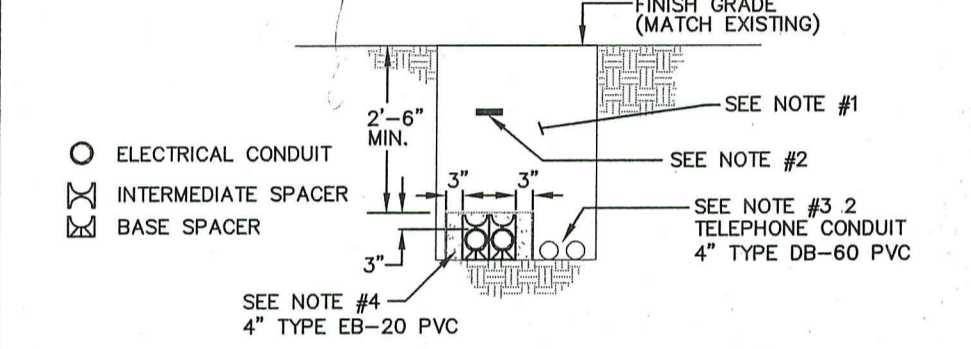
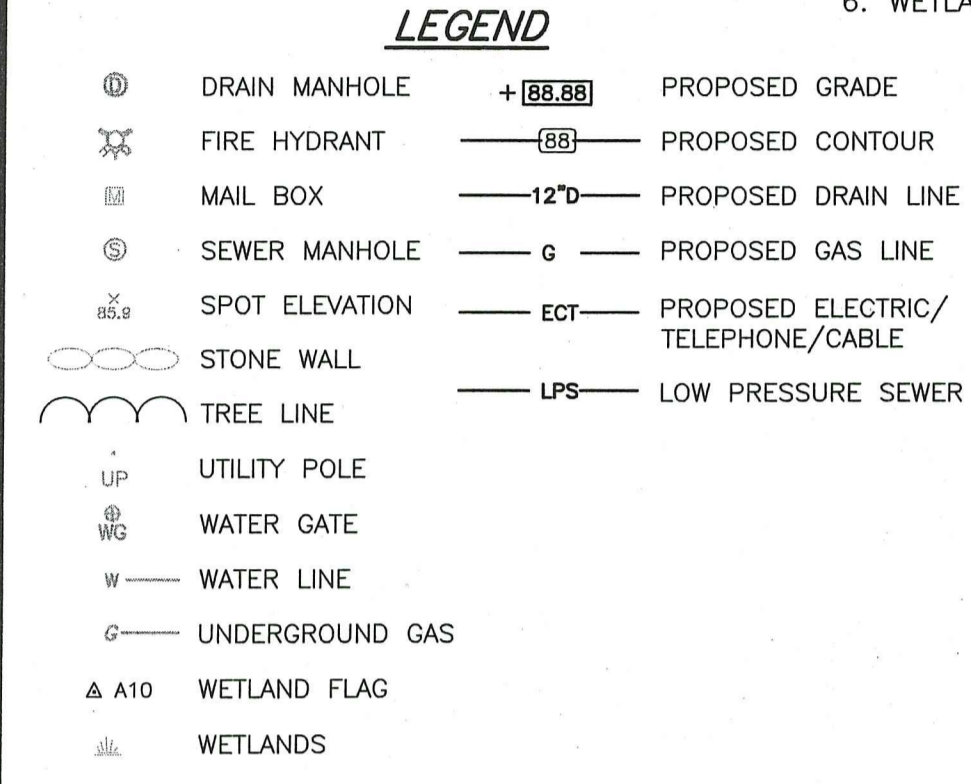
**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2

**PRIVATE SEWER NOTES:**

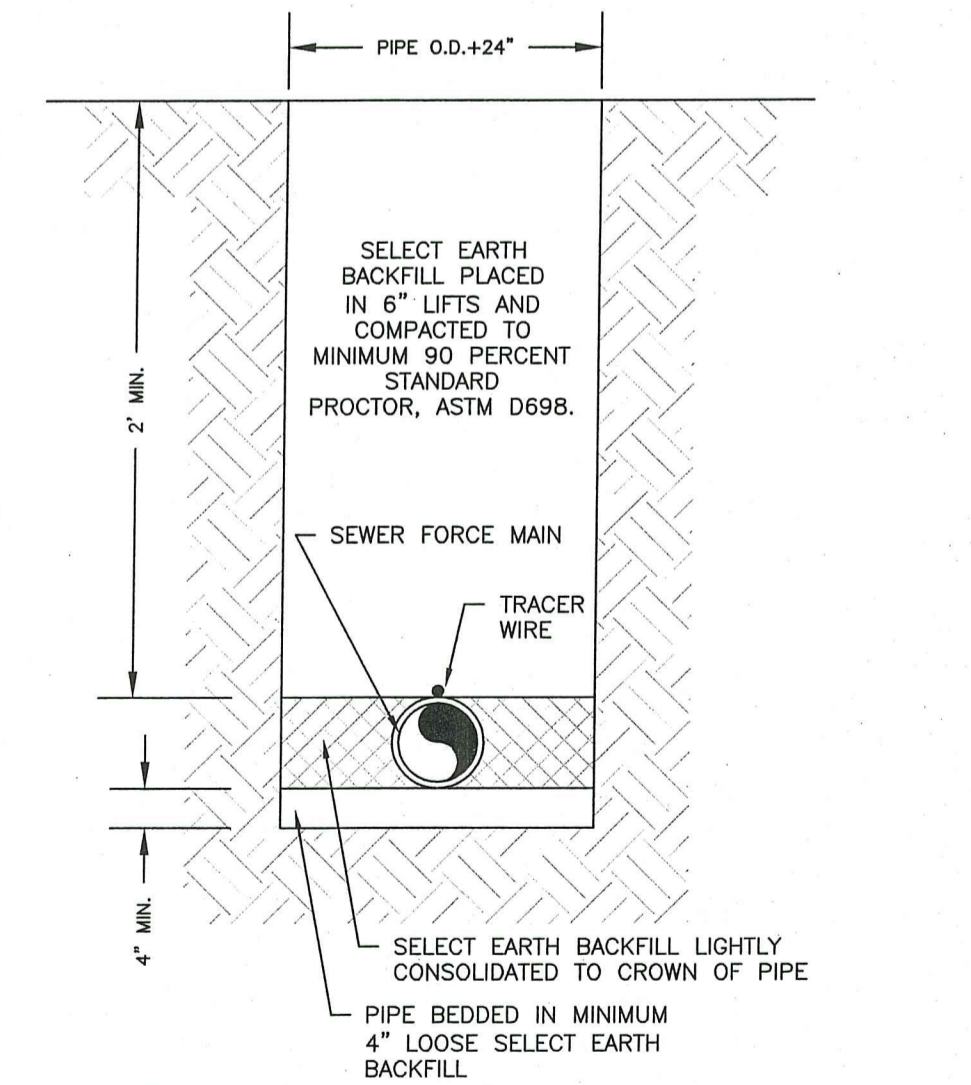
ALL FUTURE MAINTENANCE OF THE ENTIRE LOW PRESSURE SEWER SYSTEM WILL BE THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION FOR THIS DEVELOPMENT.

**LOCUS** NOT TO SCALE

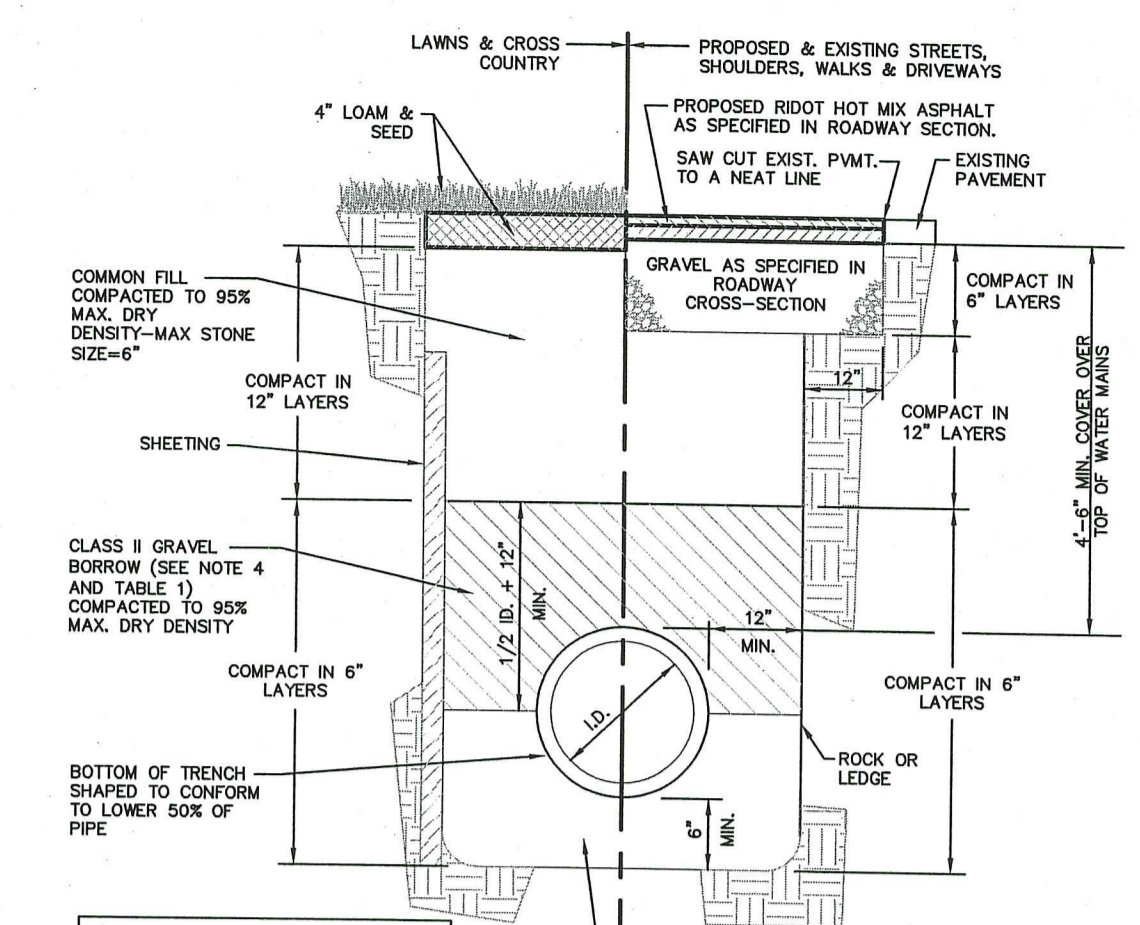
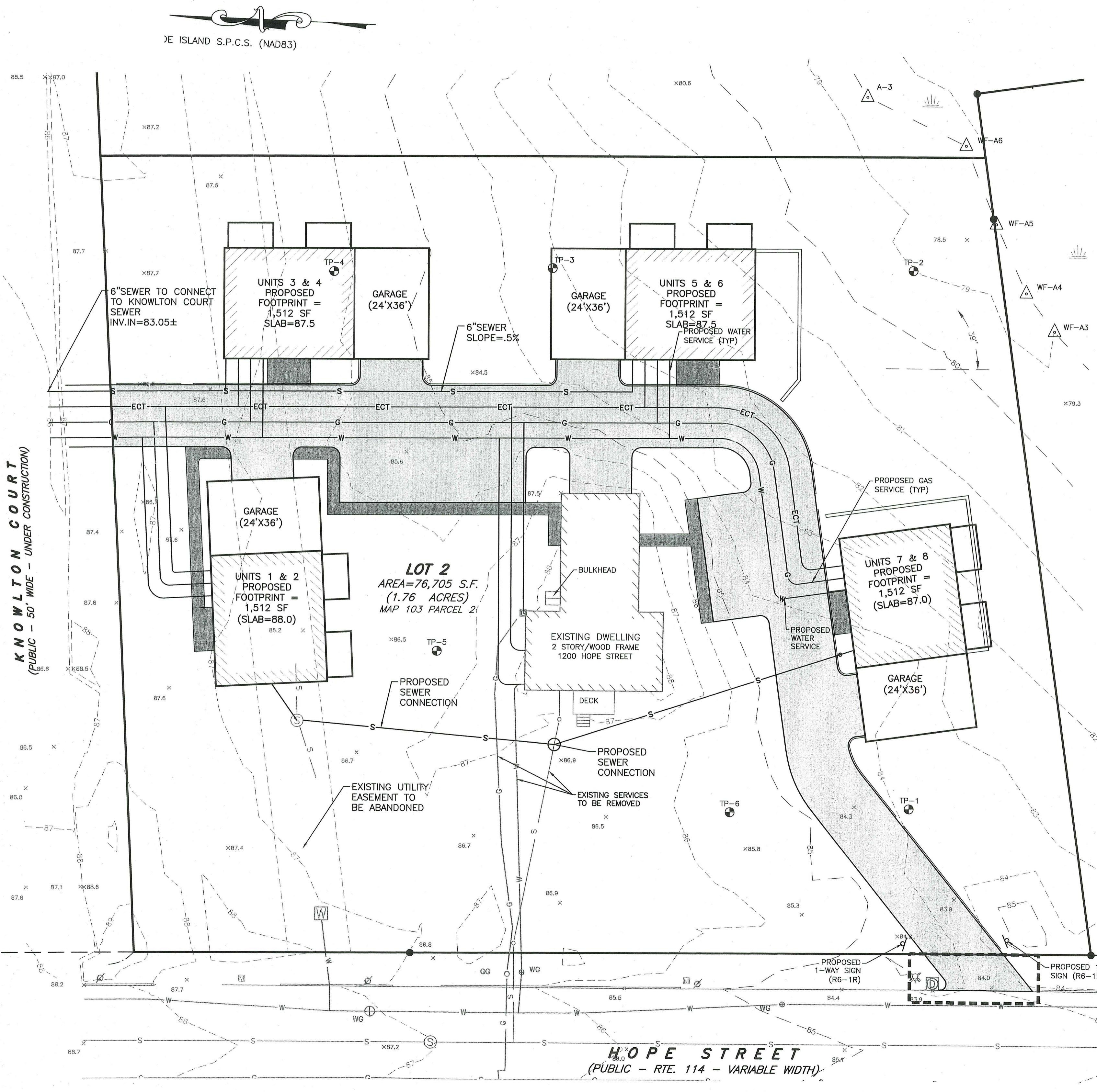
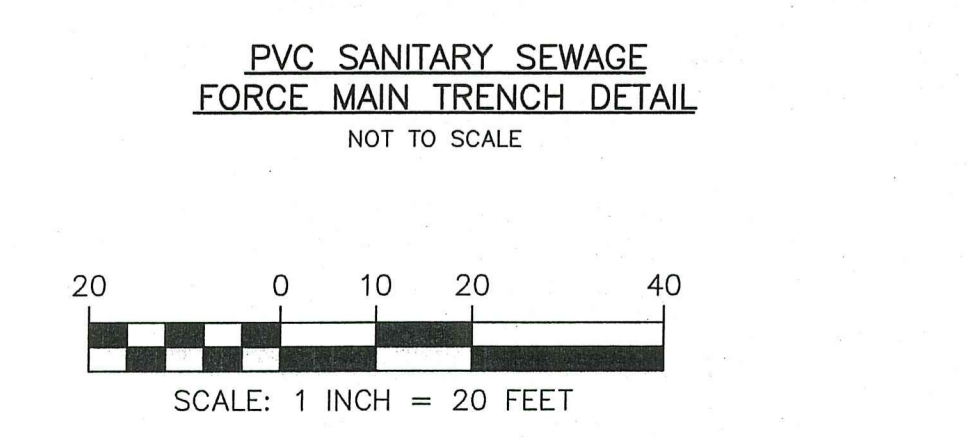


**ELECTRIC & TELEPHONE PRIMARY SERVICE DETAIL**  
NOT TO SCALE

- NOTES:**
- BACKFILL TO BE FREE OF STONES GREATER THAN ONE INCH AND SHALL NOT CONTAIN ASHES, CINDERS, SHELL, OR FROZEN MATERIAL.
  - WARNING TAPE TO BE PLACED 12" BELOW FINISH GRADE AND DIRECTLY ABOVE POWER CONDUIT.
  - MINIMUM SEPARATION BETWEEN ELECTRICAL CONDUIT AND FOREIGN CONDUIT OR PIPES IS AS FOLLOWS:  
COMMUNICATION - 3" OF CONCRETE ENCASEMENT  
WATER, GAS, SEWER - 12" WHERE THE PATH OF THESE UTILITIES INTERSECT AT APPROXIMATELY RIGHT ANGLES WITH ELECTRICAL CONDUIT.  
24" SEPARATION SHALL BE MAINTAINED BETWEEN PARALLEL PLACEMENT OF THESE UTILITIES AND ELECTRICAL CONDUIT.
  - CONCRETE THICKNESS AROUND THE OUTSIDE DUCTS SHALL BE 3 TO 6 INCHES. CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD 0211.



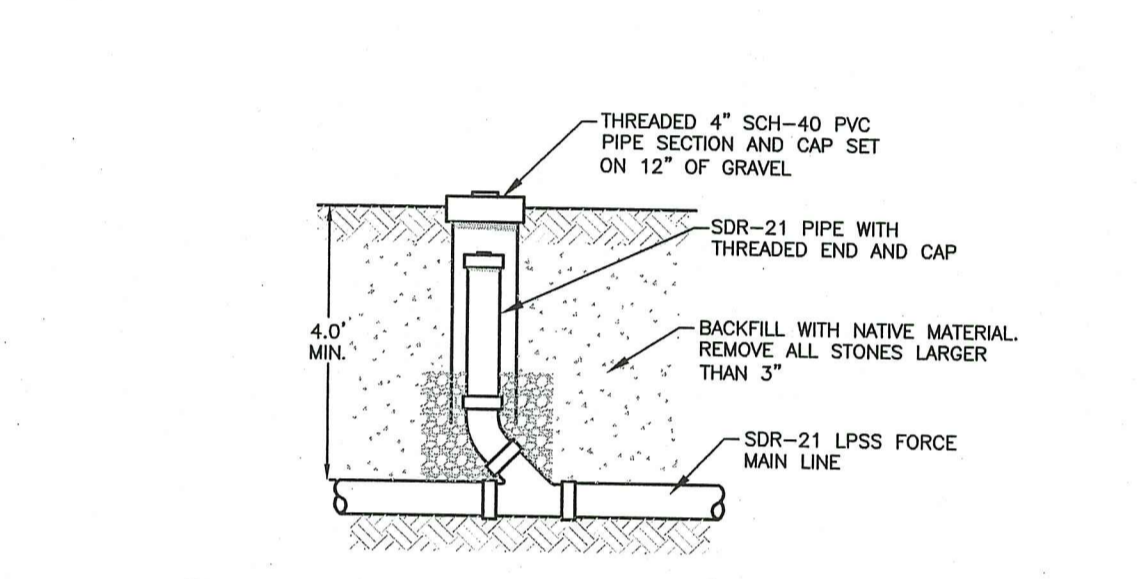
**PVC SANITARY SEWAGE FORCE MAIN TRENCH DETAIL**  
NOT TO SCALE



**TABLE 1**

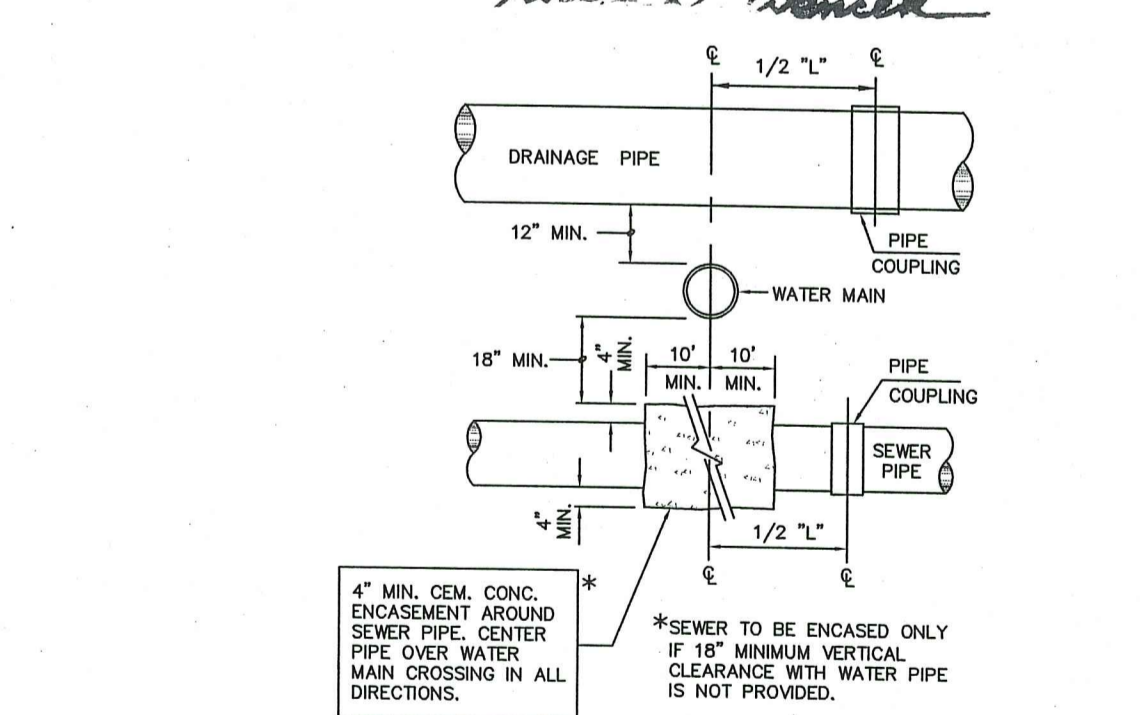
NOMINAL PIPE SIZE (IN.)	MAXIMUM STONE SIZE (IN.)
2 TO 4	1/2
6 TO 8	3/4
10 TO 16	1
18 AND LARGER	1-1/2

- NOTES:**
- SHRETTING IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED.
  - "COVER" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UNDERMOST POINT OF THE PIPE TO A LINE WHICH CONNECTS THE SURFACE OF UNDISTURBED GROUND AT EITHER SIDE OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE.
  - SCREENED GRAVEL SHALL BE HARD, DURABLE, ROUNDED PARTICLES, FREE FROM SAND, LOAM, CLAY, EXCESS FINES AND DELETERIOUS MATERIAL, UNIFORMLY GRADED SUCH THAT NOT LESS THAN 95% WILL PASS A 1/2 INCH SIEVE AND NOT MORE THAN 5% PASS A NO. 4 SIEVE.
  - CLASS II GRAVEL BORROW SHALL BE A CLEAN, COARSE GRAINED GRAVEL-SAND MIXTURE, THE MIXTURE SHOULD CONTAIN LESS THAN 5% PASSING THE #20 SIEVE AS WELL AS COMPLYING TO THE REQUIREMENTS OF TABLE 1.
  - WHERE FUTURE EXTENSION OF A PLUGGED PIPE OR A PLUGGED BRANCH WILL ENTER ROCK, EXCAVATION, TRENCH EXCAVATION IN ROCK SHALL BE EXTENDED FOR A DISTANCE OF 5'-0" BEYOND THE PLUG.



**CLEANOUT & VACUUM CONNECTOR DETAIL (C.O./V.C.)**  
NOT TO SCALE

**RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF WATER RESOURCES**  
**FRESHWATER WETLANDS PROGRAM**  
**APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL**  
**DATED: MAR 06 2023 FILE #: 19-0149**  
**NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL**  
**APPROVED PLANS MUST BE AT CONSTRUCTION SITE**



**SEWER, WATER & DRAIN CROSSING DETAIL**  
NOT TO SCALE

- DRAINAGE WORK NOTES:**
- THERE ARE NO PROPOSED STORMWATER DRAINAGE WORK WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.
  - THERE ARE NO STORMWATER IMPACTS TO THE STATE HIGHWAY LAYOUT. ALL STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.  
ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**LDEC**  
Land Development Engineering & Consulting, LLC  
207 High Point Avenue, Unit 6  
Portsmouth, RI 02871  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
1.	12/9/2022	GENERAL REVISIONS PER RIDEN COMMENTS

PLAN REVISIONS

DATE: JUNE 20, 2022

DRAWN BY: SJE COMPS. BY: SJE CHECK BY: RLM/MER

PROJECT NO. 22024

ISSUED FOR: PERMITTING

**MICHAEL E. RUSSELL**  
No. 7956  
**REGISTERED PROFESSIONAL ENGINEER (CIVIL)**

**PROPOSED UTILITY PLAN**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2 & 14  
PREPARED FOR: PREFERRED REALTY SERVICES, LLC

**PROPOSED UTILITY PLAN**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2 & 14  
PREPARED FOR: PREFERRED REALTY SERVICES, LLC

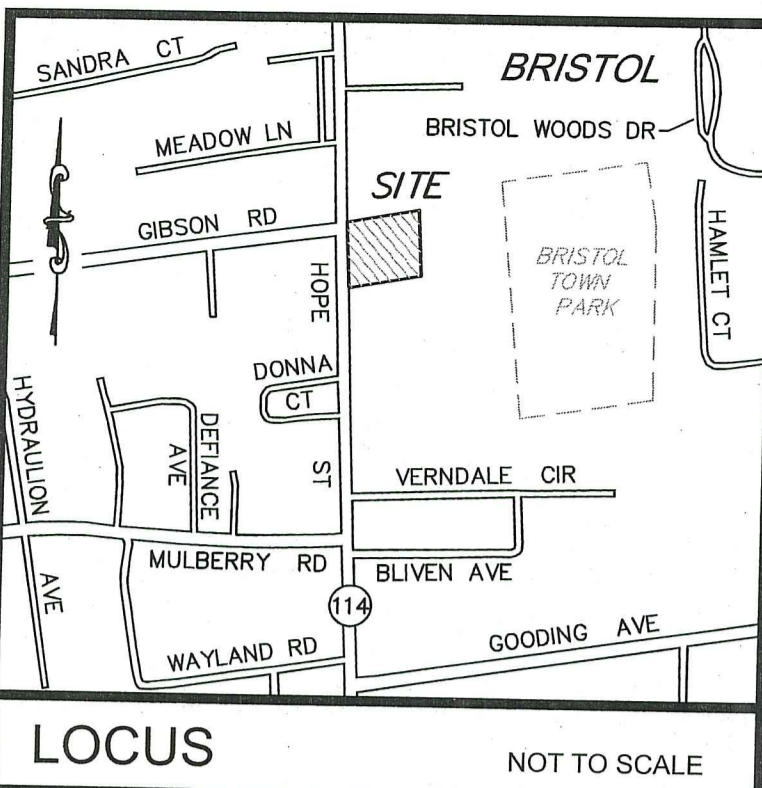
DRAWING TITLE:

**UTILITY PLAN**

SCALE: 1" = 20'

SHEET NO.

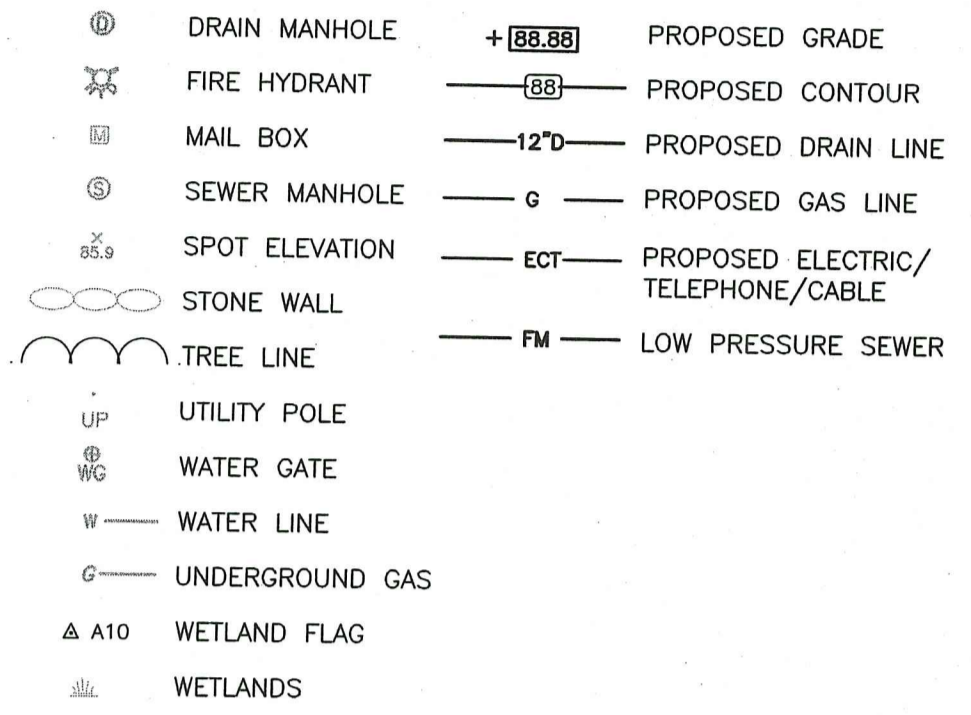
**5 of 8**



**NOTES:**

- EXISTING CONDITIONS INFORMATION WAS COMPILED FROM AN ACTUAL ON THE GROUND SURVEY PERFORMED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ON AUGUST 3, 2018. WETLANDS DISPLAYED ARE APPROXIMATE AND ARE BASED OFF OF "BRISTOL COUNTY MEDICAL ASSOC., SITE IMPROVEMENT PLAN" BY AYOUB ENGINEERING, SIGNED BY THE BRISTOL PLANNING BOARD ON OCTOBER 4, 2000.
- ELEVATIONS ARE REFERENCED TO NAVD88.
- THE SITE IS LOCATED WITHIN A ZONE X FLOOD HAZARD AREA AS DETERMINED FROM THE TOWN OF BRISTOL FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 445393 0011 H (EFFECTIVE DATE JULY 7, 2014).
- THIS PLAN AND ANY ACCOMPANYING CERTIFICATIONS DO NOT CONSTITUTE A CERTIFICATION OF TITLE TO THE PROPERTY DISPLAYED HEREON. THE OWNER OF LOCUS AND ADJUTING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.
- EXISTING UTILITY LINES SHOWN ON THIS PLAN ARE FROM AVAILABLE INFORMATION AND ARE APPROXIMATE LOCATIONS. THERE MAY BE EXISTING LINES OTHER THAN THOSE INDICATED. LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE PROPER PUBLIC UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED.
- WETLAND DELINEATION PERFORMED BY NATURAL RESOURCE SERVICES INC., ON MARCH 15, 2019.

LOCUS NOT TO SCALE

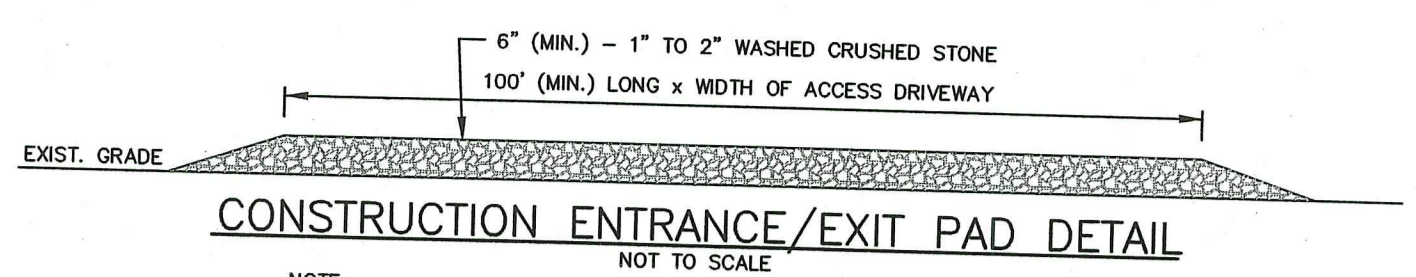
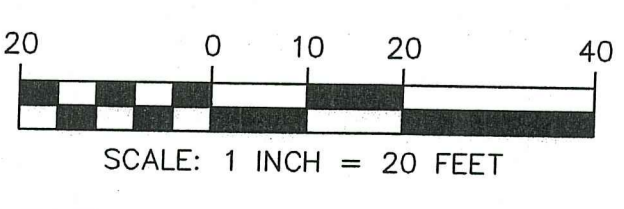
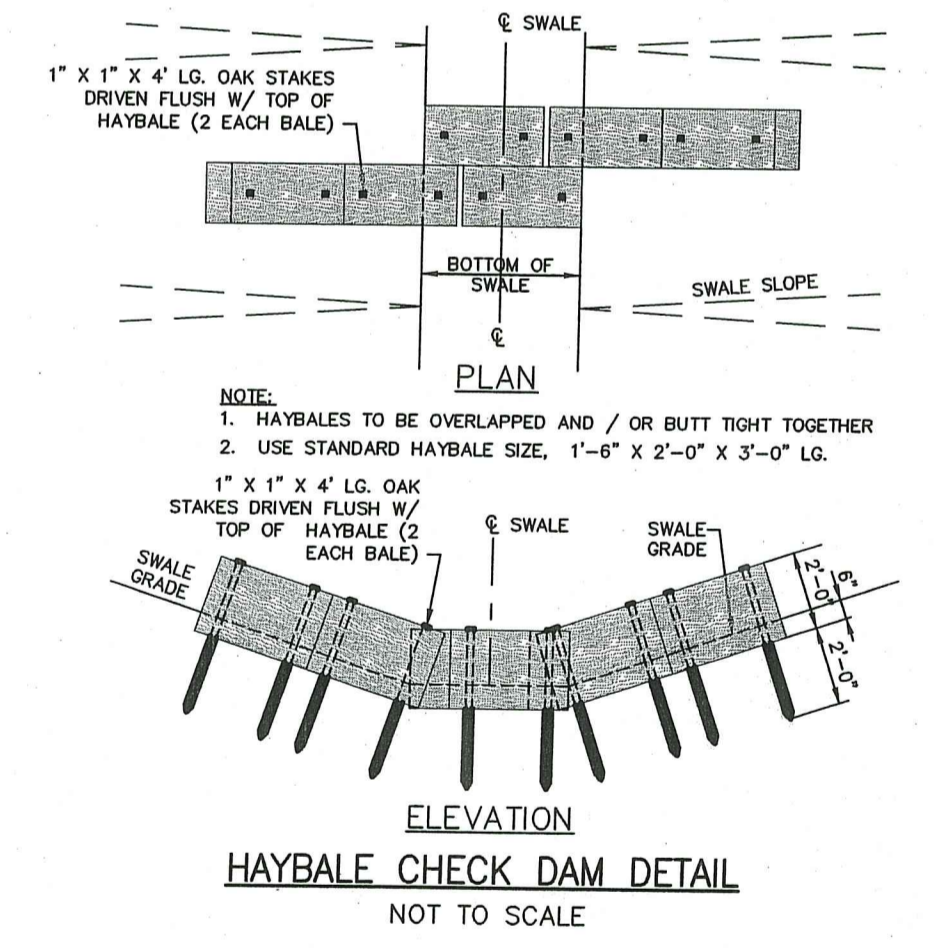


**CURRENT OWNER**  
EXPRESS REALTY TRUST, LLC  
25 LILLIS AVENUE  
BARRINGTON, RI 02806

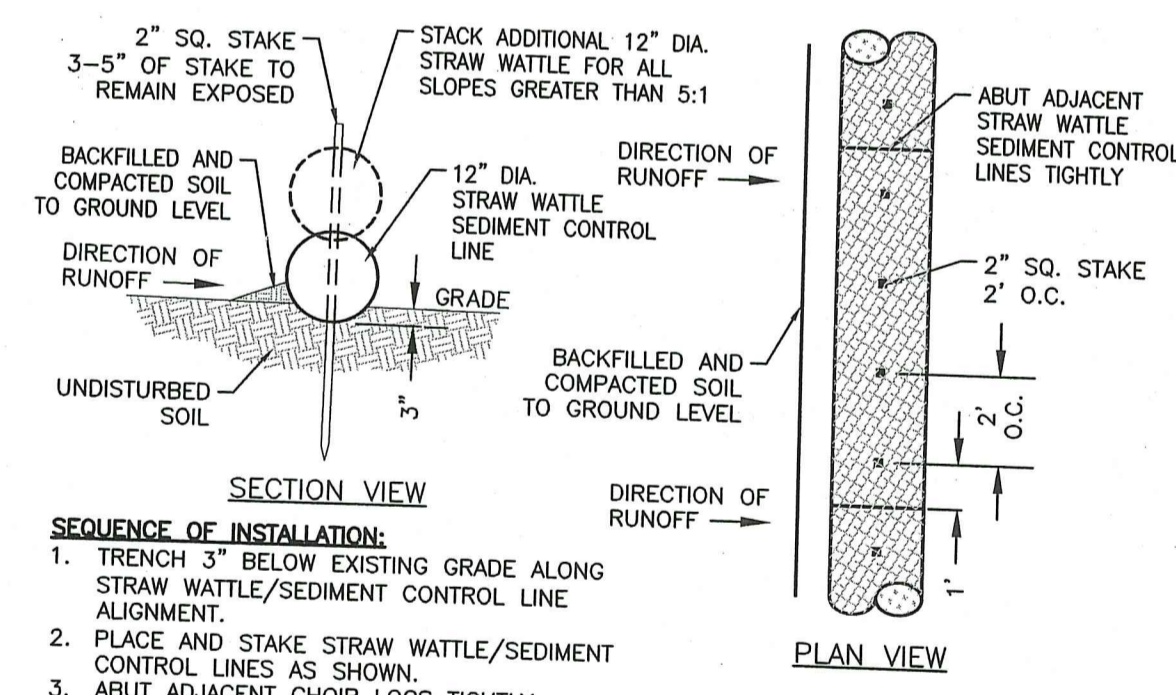
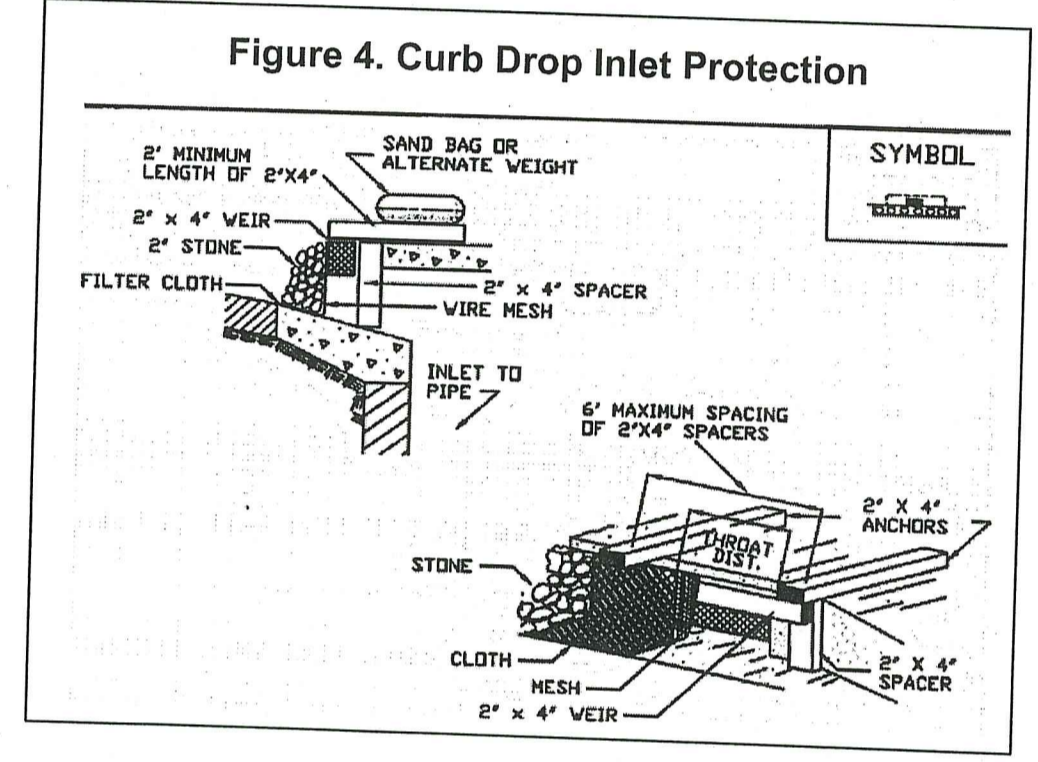
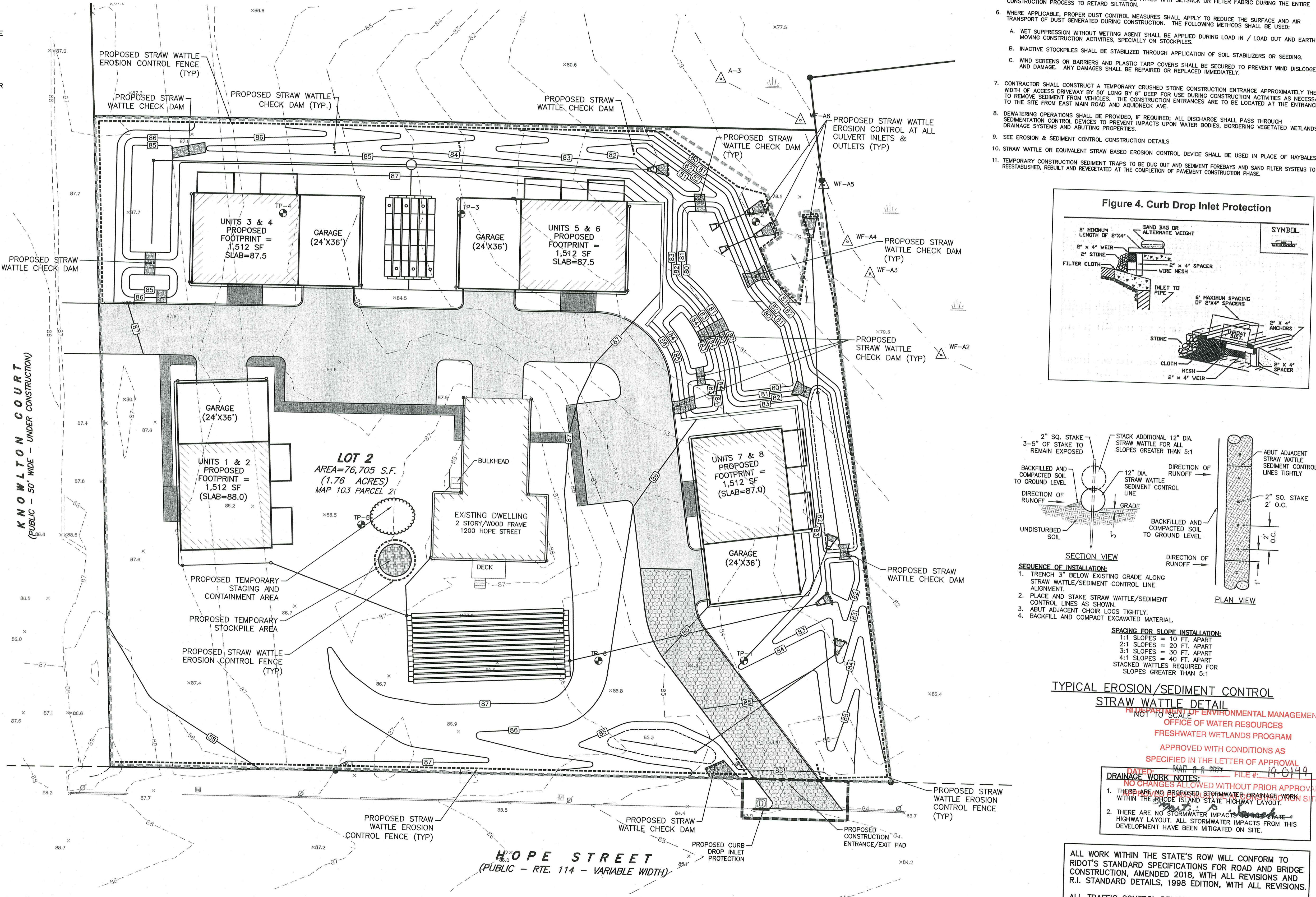
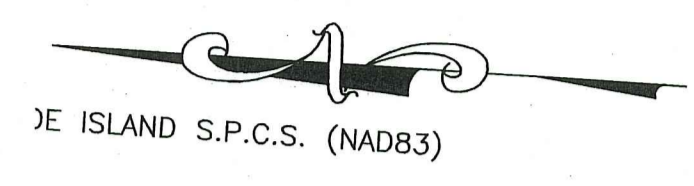
**TITLE REFERENCE:**  
DEED BK.2110/PG.96

**SITE LOCATION:**  
1200 HOPE STREET  
BRISTOL, RHODE ISLAND

**ASSESSORS REFERENCE:**  
MAP 103 PARCEL 2



**NOTE:**  
CONSTRUCTION ENTRANCE IS A TEMPORARY STONE - STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE TO AND FROM A PAVED PUBLIC ROAD OR OTHER PAVED AREAS.



- SEQUENCE OF INSTALLATION:**
- TRENCH 3" BELOW EXISTING GRADE ALONG STRAW WATTLE/SEDIMENT CONTROL LINE ALIGNMENT.
  - PLACE AND STAKE STRAW WATTLE/SEDIMENT CONTROL LINES AS SHOWN.
  - ABUT ADJACENT CHOR LOGS TIGHTLY.
  - BACKFILL AND COMPACT EXCAVATED MATERIAL.

**SPACING FOR SLOPE INSTALLATION:**  
1:1 SLOPES = 10 FT. APART  
2:1 SLOPES = 20 FT. APART  
3:1 SLOPES = 30 FT. APART  
4:1 SLOPES = 40 FT. APART  
STACKED WATTLES REQUIRED FOR SLOPES GREATER THAN 5:1

**NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL WITHIN THE RHODE ISLAND STATE HIGHWAY LAYOUT.**

**DRAINAGE WORK NOTES:**

- THERE ARE NO STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.
- THERE ARE NO STORMWATER IMPACTS FROM THIS DEVELOPMENT HAVE BEEN MITIGATED ON SITE.

ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2018, WITH ALL REVISIONS AND R.I. STANDARD DETAILS, 1998 EDITION, WITH ALL REVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009, INCLUDING ALL REVISIONS.

**SOIL EROSION AND SEDIMENTATION CONTROL NOTES**

- PRIOR TO INITIATING CONSTRUCTION, ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER AND/OR AS NECESSITATED BY FIELD CONDITIONS. THE CONTRACTOR SHALL MAINTAIN THESE MEASURES UNTIL ALL WORK IS COMPLETED AND ALL AREAS HAVE BEEN STABILIZED.
- ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OR AS DIRECTED BY THE ENGINEER.
- AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, EROSION CONTROL DEVICES OR OTHER APPROVED MATERIALS SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.
- DISTURBED AREAS SHALL BE STABILIZED WITH THE APPLICATION OF A MINIMUM OF FOUR INCHES (4) OF LOAM AND FINISHED GRADE HAS BEEN MET. IF FINAL GRADING DOES NOT OCCUR DURING THE GROWING SEASON, THESE AREAS SHALL BE MULCHED WITH HAY AND SECURED BY JUTE NETTING WITH STAPLES. SLOPES EXCEEDING 2:1 OTHERWISE NOTED.
- THE MOUTHS OF ALL CATCH BASINS SHALL BE FITTED WITH SILTSACK OR FILTER FABRIC DURING THE ENTIRE CONSTRUCTION PROCESS TO RETARD SILTATION.
- WHERE APPLICABLE, PROPER DUST CONTROL MEASURES SHALL APPLY TO REDUCE THE SURFACE AND AIR TRANSPORT OF DUST GENERATED DURING CONSTRUCTION. THE FOLLOWING METHODS SHALL BE USED:
  - NET SUPPRESSION WITHOUT WETTING AGENT SHALL BE APPLIED DURING LOAD IN / LOAD OUT AND EARTH MOVING CONSTRUCTION ACTIVITIES, SPECIALLY ON STOCKPILES.
  - INACTIVE STOCKPILES SHALL BE STABILIZED THROUGH APPLICATION OF SOIL STABILIZERS OR SEEDING.
  - WIND SCREENS OR BARRIERS AND PLASTIC TARP COVERS SHALL BE SECURED TO PREVENT WIND DISLODGE AND DAMAGE. ANY DAMAGES SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- CONTRACTOR SHALL CONSTRUCT A TEMPORARY CRUSHED STONE CONSTRUCTION ENTRANCE APPROXIMATELY THE WIDTH OF ACCESS DRIVEWAY BY 50' LONG BY 6' DEEP FOR USE DURING CONSTRUCTION ACTIVITIES AS NECESSARY TO REMOVE SEDIMENT FROM VEHICLES. THE CONSTRUCTION ENTRANCES ARE TO BE LOCATED AT THE ENTRANCE TO THE SITE FROM EAST MAIN ROAD AND ADJUNCTIVE AVE.
- DEWATERING OPERATIONS SHALL BE PROVIDED, IF REQUIRED; ALL DISCHARGE SHALL PASS THROUGH SEDIMENTATION CONTROL DEVICES TO PREVENT IMPACTS UPON WATER BODIES, BORDERING VEGETATED WETLANDS, DRAINAGE SYSTEMS AND ADJUTING PROPERTIES.
- SEE EROSION & SEDIMENT CONTROL CONSTRUCTION DETAILS.
- STRAW WATTLE OR EQUIVALENT STRAW BASED EROSION CONTROL DEVICE SHALL BE USED IN PLACE OF HAYBALES.
- TEMPORARY CONSTRUCTION SEDIMENT TRAPS TO BE BUG OUT AND SEDIMENT FOREBAYS AND SAND FILTER SYSTEMS TO BE REESTABLISHED, REBUILT AND REVEGETATED AT THE COMPLETION OF PAVEMENT CONSTRUCTION PHASE.

**LDEC**  
Land Development Engineering & Consulting, LLC  
207 High Point Avenue, Unit 6  
Portsmouth, RI 02871  
T: 401-354-2050 F: 401-369-9775  
WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION	REVISIONS	APPROVED
1.	12/20/2022	GENERAL REVISIONS PER RIDEM COMMENTS		

DATE: JUNE 20, 2022  
DRAWN BY: SJE  
COMPS BY: SJE  
CHECK BY: RLM/MER  
PROJECT NO. 22024  
ISSUED FOR: PERMITTING

**PROPOSED SEDIMENT AND EROSION CONTROL PLAN**  
1200 & 1202 HOPE STREET  
BRISTOL, RHODE ISLAND  
ASSESSORS MAP 103, PARCEL 2 & 14  
PREPARED FOR: PREFERRED REALTY SERVICES, LLC

IN PREPARATION FOR ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATE: MAR 8 2022  
FILE #: 19-0149

DEC 19 2022  
Office of Water Resources

DRAWING TITLE: **EROSION CONTROL PLAN**  
SCALE: 1" = 20'  
SHEET NO. 6 OF 8

**CONSTRUCTION NOTES**

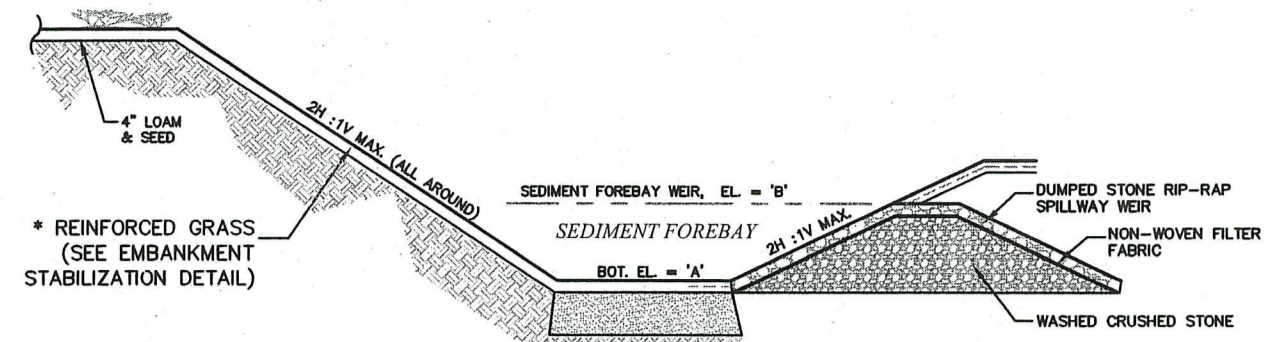
- ALL WORK TO BE DONE WITHIN THE STATE RIGHT OF WAY SHALL CONFORM TO THE R.I. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED 2013, WITH ALL REVISIONS AND ADDENDA. STANDARD DETAILS FOR THIS WORK ARE R.I. STANDARD DETAILS 1998 EDITION WITH ALL REVISIONS.
- PROPOSED DEVELOPMENT IS SUBJECT TO AN ASSENT APPLICATION APPROVAL & CONDITIONS FROM RICRMC.
- THE CONTRACTOR SHALL MAKE APPLICATIONS FOR AND PAY ALL FEES FOR PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE PREPARATION NECESSARY FOR THE COMPLETE INSTALLATION OF THE PROJECT FACILITIES DURING CONSTRUCTION.
- ALL CONSTRUCTION METHODS, MATERIALS, AND COMPONENTS ASSOCIATED WITH THE PROPOSED SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL BE IN CONFORMANCE WITH THE APPROVED PLANS, THE REQUIREMENTS OF THE TOWN OF BRISTOL, AND OF THE STATE ENVIRONMENTAL CODE, AND ALL LOCAL BOARD OF HEALTH REGULATIONS UNLESS A WAIVER HAS BEEN GRANTED.
- ALL CHANGES TO THE PLAN MUST BE APPROVED BY LAND DEVELOPMENT ENGINEERING & CONSULTING, LLC. AND THE LOCAL BOARD OF HEALTH.
- ALL SYSTEM COMPONENTS, EXCEPT PERFORATED PIPING, SHALL BE WATER-TIGHT AS REQUIRED BY THE TOWN OF BRISTOL DEPARTMENT OF PUBLIC WORKS.
- THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY. THE ENGINEER DOES NOT GUARANTEE THEIR ACCURACY OR THAT ALL UTILITIES AND SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERT ELEVATIONS OF THE UTILITIES AND STRUCTURES, AS REQUIRED PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES WITH RECORD DATA SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR IS CAUTIONED TO CONTACT DIG SAFE (1-888-344-7233) 72 HOURS BEFORE DIGGING.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH THE APPROPRIATE HIGHWAY & UTILITY DEPARTMENTS.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING AND NEWLY INSTALLED UTILITIES IN GOOD WORKING ORDER AND SHALL PROTECT THEM FROM DAMAGE AT ALL TIMES UNTIL THE WORK IS COMPLETED AND ACCEPTED BY THE OWNER.
- ELECTRIC, GAS, TELEPHONE, AND CABLE TELEVISION UTILITY CONNECTIONS AND SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY.
- THE CONTRACTOR SHALL UTILIZE ALL MEASURES AND MATERIALS NECESSARY TO ENSURE THE SAFETY OF ALL PERSONS AND PROPERTIES AT THE SITE DURING CONSTRUCTION. ALL EXCAVATIONS SHALL CONFORM TO CURRENT OSHA STANDARDS.
- A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHENEVER SANITARY SEWERS PASS BELOW WATER MAINS OR DRAIN LINES. OTHERWISE, WATER SERVICE DRAIN LINES AND SEWER LINES SHALL BE CAREFULLY ENCASED IN CONCRETE FOR A MINIMUM OF TEN (10) FEET FROM THE CROSSING POINT, WHERE SEWER LINES PASS ABOVE WATER OR DRAIN LINES, THEY SHALL ALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE.

**STORMWATER FACILITY OPERATION AND MAINTENANCE**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER FACILITIES UNTIL SUCH TIME AS THE DEVELOPMENT AND ASSOCIATED UTILITIES ARE ACCEPTED BY THE OWNER.
- ALL STORMWATER FACILITIES SHOULD BE INSPECTED AFTER EVERY MAJOR RAINFALL EVENT FOR THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION AND CONSTRUCTION.
- THE CONTRACTOR SHALL INSPECT AND CLEAN ALL FACILITIES OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
- ACCUMULATED SILT AND SEDIMENT SHOULD BE REMOVED FROM ALL FACILITIES AT LEAST ONCE A YEAR OR MORE FREQUENTLY IF ACCUMULATED DEPTH OF SEDIMENT EXCEEDS THREE INCHES.
- THE SIDE SLOPES AND BOTTOMS OF ALL DRAINAGE SWALES SHOULD BE MOVED TO A MINIMUM HEIGHT OF FOUR INCHES AT LEAST TWICE A YEAR. ALL GRASS CLIPPINGS AND ORGANIC MATTER SHOULD BE REMOVED FROM ALL DRAINAGE WAYS AND WETLAND BUFFER ZONES.
- ALL REMOVED SEDIMENTS ARE TO BE PROPERLY DISPOSED AT A LOCATION TO BE APPROVED BY THE BOARD OF HEALTH. TRANSPORTATION AND DISPOSAL OF SEDIMENTS SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- ANY DEFICIENCIES NOTED DURING MAINTENANCE SHALL BE REPORTED TO THE OWNER AND CORRECTED IMMEDIATELY.
- FOLLOW MANDATE PROGRAM AND SCHEDULE FOR EXISTING STORMWATER MANAGEMENT SYSTEM AS APPROVED BY THE TOWN OF BRISTOL AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

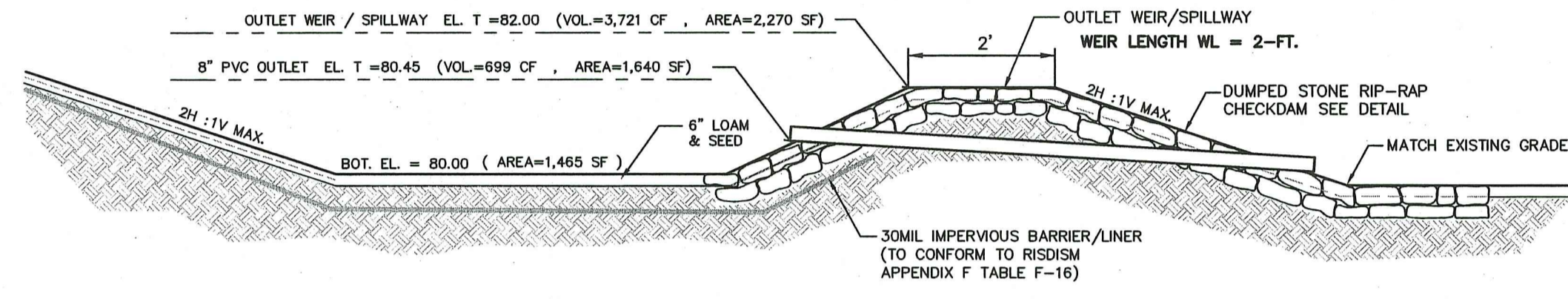
**NOTES:**

- ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
- ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
- MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
- FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER: MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



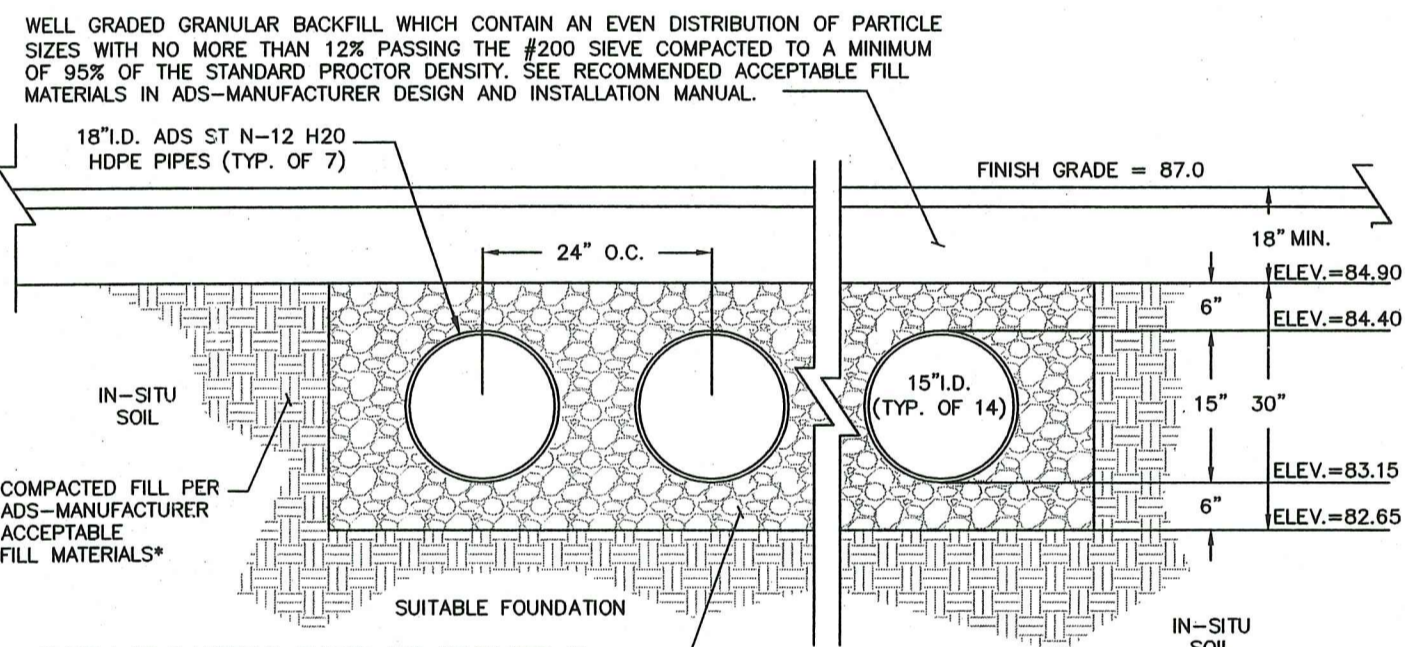
**FOREBAY DETAIL**  
NOT TO SCALE

ELEVATION TABLE					
FOREBAY	TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN 'A'	OUTLET WEIR ELEV. 'B'
1	TH-4	87.5	85.5	85.0	86.0
2	TH-2	82.0	81.0	83.0	83.8
3	TH-1	82.3	80.3	80.5	82.0

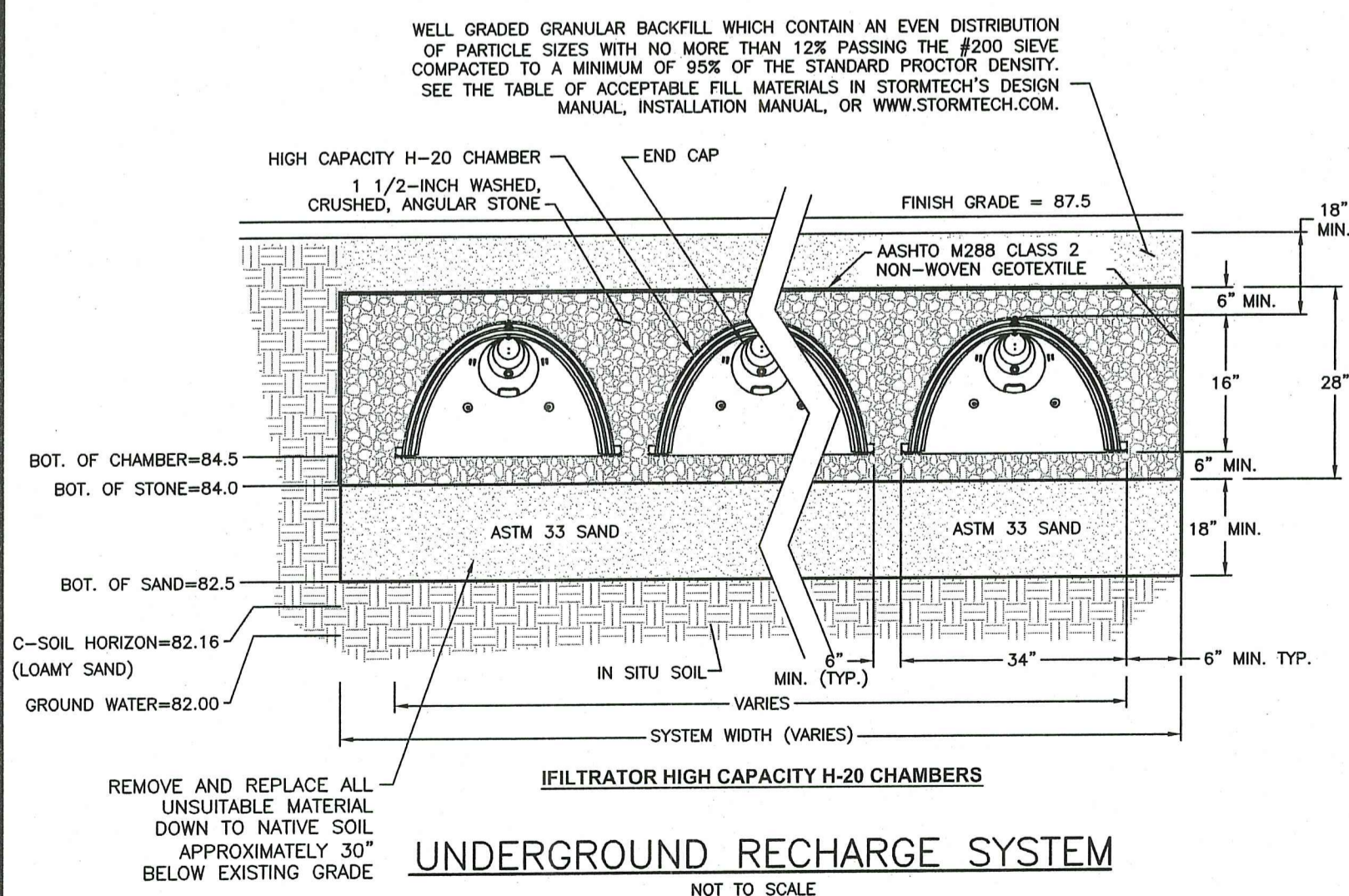


**DRY EXTENDED DETENTION BASIN**  
NOT TO SCALE

GROUND WATER ELEVATION			
TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN
TH-2	81.0	80.0	80.00



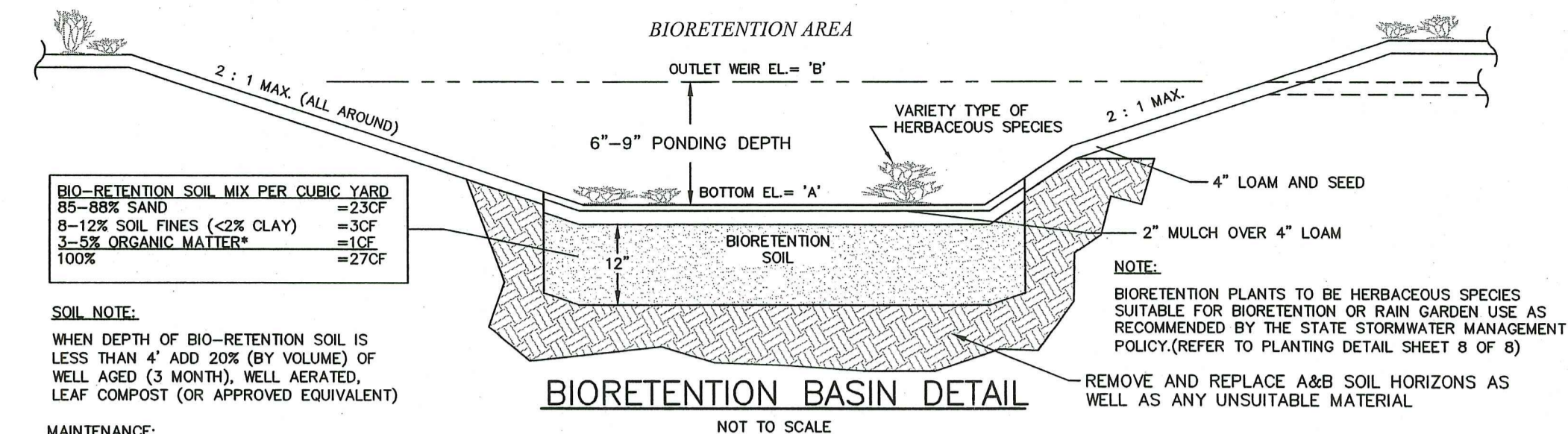
**PLASTIC UNDERGROUND STORAGE SYSTEM**  
ADS N-12 SOIL TIGHT (ST) PIPE  
NOT TO SCALE



**UNDERGROUND RECHARGE SYSTEM**  
NOT TO SCALE

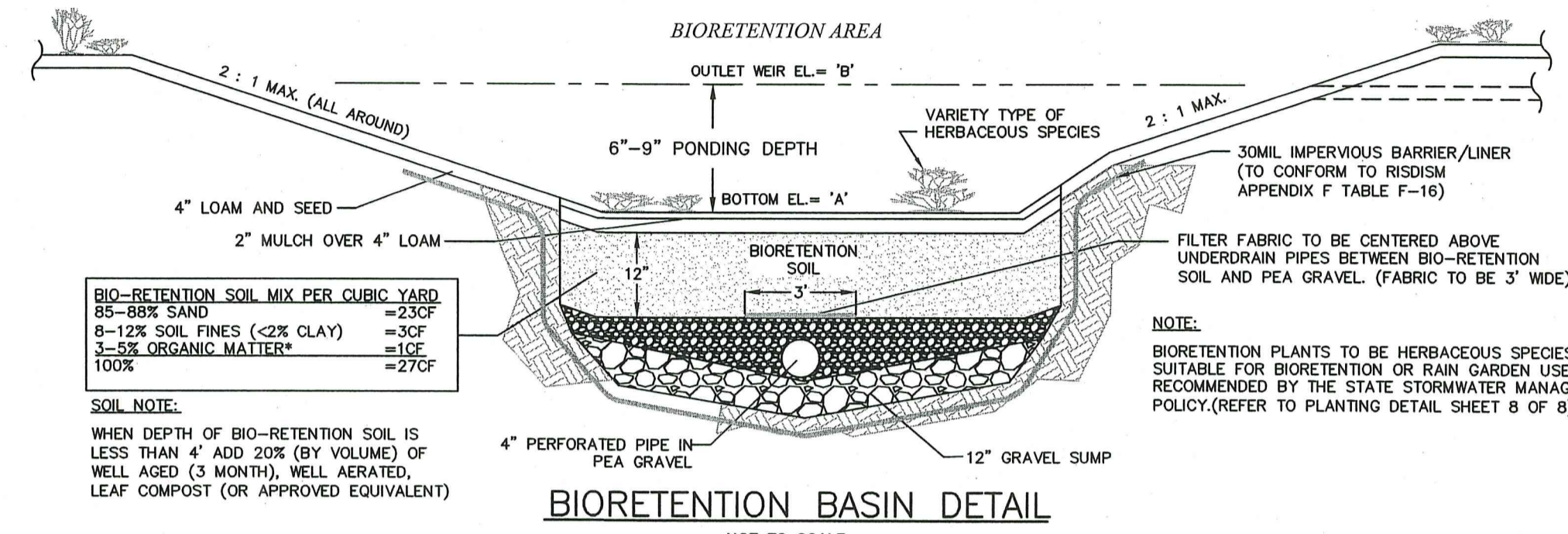
UNDERGROUND RECHARGE SYSTEM 1&2						
UNDERGROUND SYSTEM	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF CHAMBER	NUMBER OF CHAMBERS WIDE	NUMBER OF CHAMBERS LONG	TOTAL NUMBER OF CHAMBERS
1	84.0	82.0	84.5	6	8	48

PLANNING BOARD/DESIGNEE SIGNATURES \_\_\_\_\_ DATE \_\_\_\_\_



**BIORETENTION BASIN DETAIL**  
NOT TO SCALE

ELEVATION TABLE					
BIO-RETENTION BASIN	TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN 'A'	OUTLET WEIR ELEV. 'B'
4	TH-2	82.0	81.0	83.0	82.0
					83.75



**BIORETENTION BASIN DETAIL**  
NOT TO SCALE

ELEVATION TABLE						
BIO-RETENTION BASIN	TH-#	EXISTING ELEV.	SHOW ELEV.	BOTTOM OF BASIN 'A'	OUTLET WEIR ELEV. 'B'	UNDERDRAIN PIPE ELEV.
1	TH-4	87.5	85.5	85.0	83.0	85.75
2	TH-2	82.0	81.0	81.35	80.35	82.10
3	TH-6	85.3	82.7	84.4	83.4	84.90
						83.65

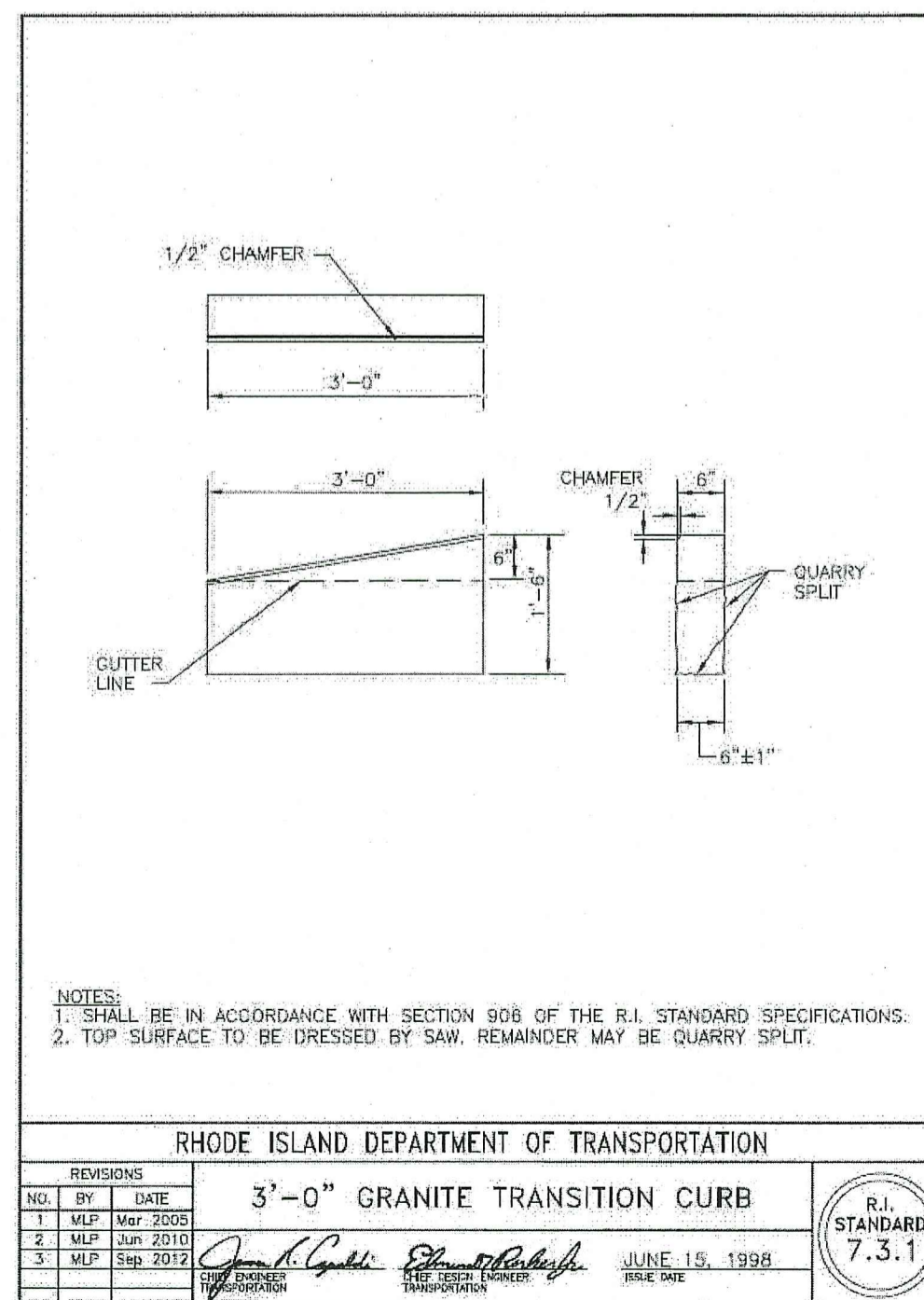
**BIORETENTION BASIN FILTER SIZING CALCULATIONS**

BIO-RETENTION FILTER BED SIZING CALCULATIONS:  
(SECTION 8.23D.6 OF RISOM)

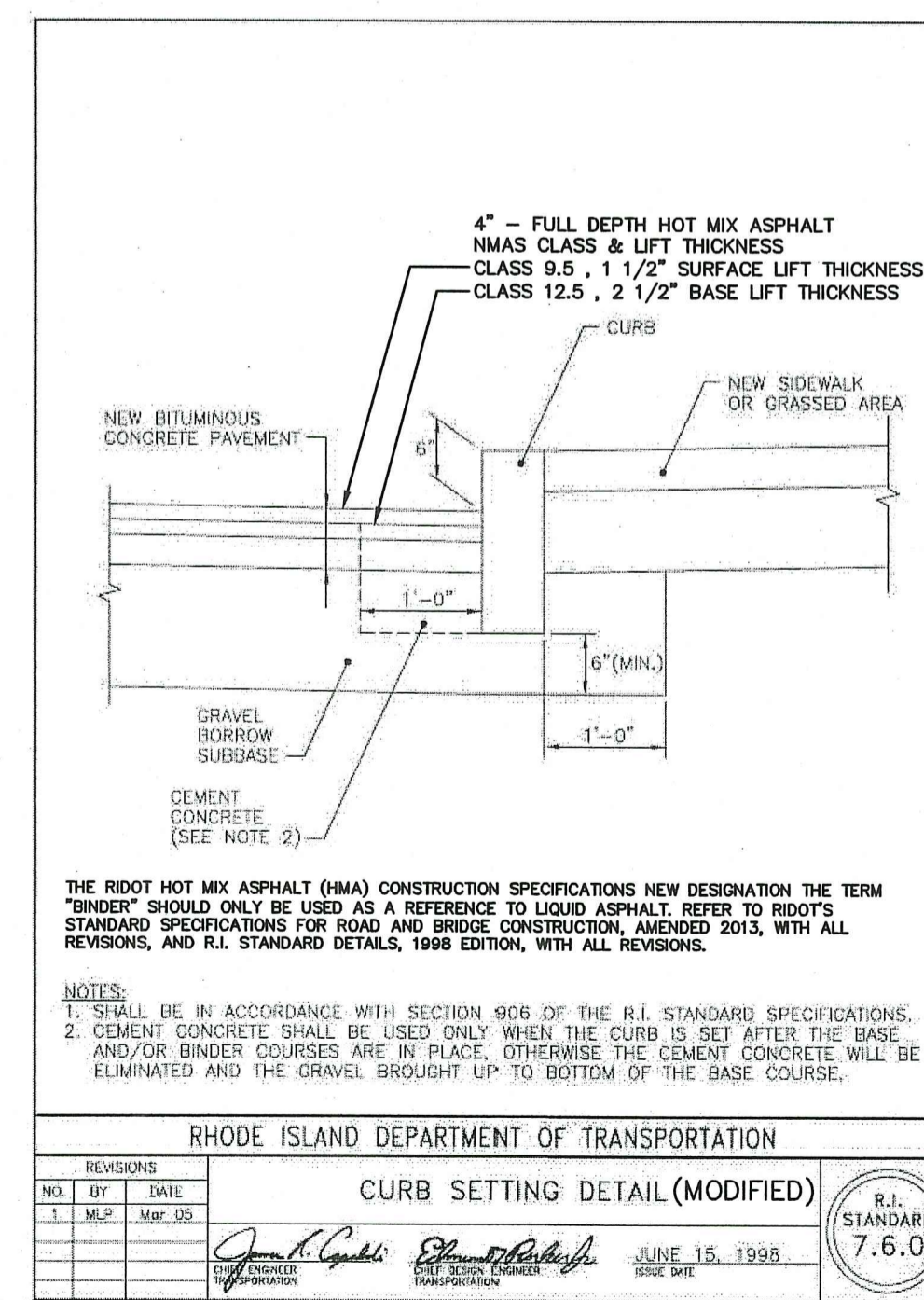
$A_f = (W_o)(d_f) / [(W)(h_f) + (1)]$   
 $A_f = \text{MIN SURFACE AREA OF FILTER BED (SF)}$   
 $d_f = \text{FILTER BED DEPTH}$   
 $k = \text{COEFFICIENT OF PERMEABILITY (1.0 FOR BIO-RETENTION)}$   
 $h_f = \text{AVERAGE HEIGHT OF WATER ABOVE SURFACE OF PRACTICE IT}$   
 $W = \text{DESIGN FILTER BED DRAIN TIME (2-DAYS MAX)}$   
 $A_f = (W_o)(1) / [(1)(h_f) + (1)(2)]$

SIZING TABLE							
BIO-RETENTION BASIN	W <sub>o</sub>	d <sub>f</sub>	k	h <sub>f</sub>	t <sub>f</sub>	REQUIRED FILTER BED SIZE	PROVIDED FILTER BED SIZE
1	331	1'	1'	0.75'	2	95 SF	678 SF
2	805	1'	1'	0.75'	2	230 SF	563 SF
3	10	1'	1'	0.5'	2	3 SF	374 SF
4	187	1'	1'	0.75'	2	54 SF	157 SF

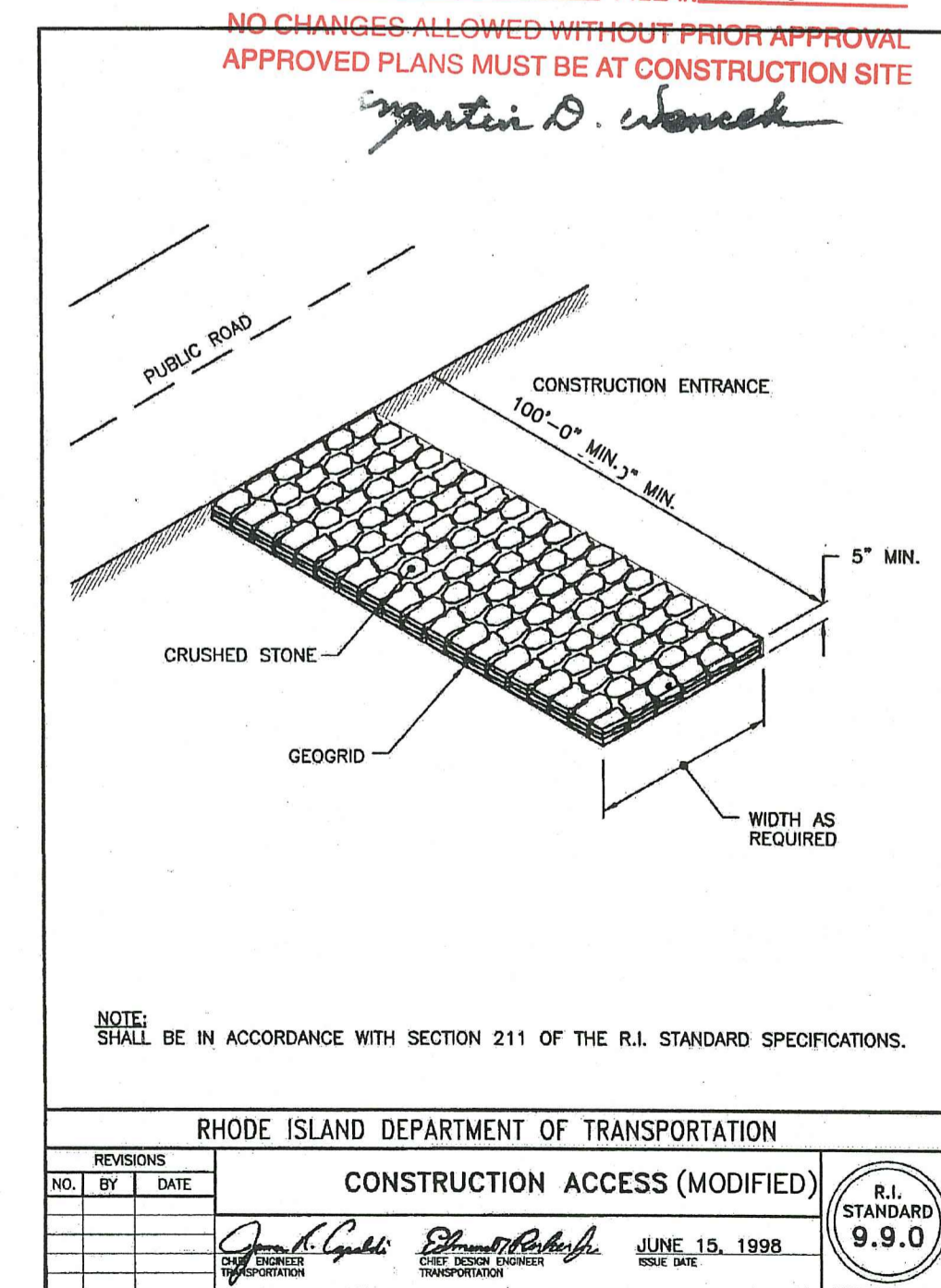
RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: MAR 06 2023 FILE #: 19-0149  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



RHODE ISLAND DEPARTMENT OF TRANSPORTATION						
NO.	BY	DATE	REVISIONS	DATE	BY	REVISIONS
1	MP	06/15/1998	ISSUE FOR PERMIT			
2	MP	06/15/1998	ISSUE FOR PERMIT			
3	MP	06/15/1998	ISSUE FOR PERMIT			



RHODE ISLAND DEPARTMENT OF TRANSPORTATION						
NO.	BY	DATE	REVISIONS	DATE	BY	REVISIONS
1	MP	06/15/1998	ISSUE FOR PERMIT			
2	MP	06/15/1998	ISSUE FOR PERMIT			
3	MP	06/15/1998	ISSUE FOR PERMIT			



RHODE ISLAND DEPARTMENT OF TRANSPORTATION						
NO.	BY	DATE	REVISIONS	DATE	BY	REVISIONS
1	MP	06/15/1998	ISSUE FOR PERMIT			
2	MP	06/15/1998	ISSUE FOR PERMIT			
3	MP	06/15/1998	ISSUE FOR PERMIT			

**LDEC**  
 Land Development Engineering & Consulting, LLC  
 207 High Point Avenue, Unit 6  
 Portsmouth, RI 02871  
 T:401-354-2050 F:401-369-9775  
 WWW.SDE-LDEC.COM

NO.	DATE	DESCRIPTION
1.	12/29/2022	GENERAL REVISIONS PER RIDEN COMMENTS

DATE: JUNE 20, 2022

DRAWN BY: SJE COMPS BY: SJE CHECK BY: RLMMER  
 PROJECT NO: 22024

ISSUED FOR: PERMITTING

MICHAEL E. RUSSELL  
 No. 7956  
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

**MAJOR LAND DEVELOPMENT**  
**FINAL PLAN APPLICATION**  
 1200 & 1202 HOPE STREET  
 BRISTOL, RHODE ISLAND  
 ASSESSORS MAP 103, PARCEL 2 & 14  
 PREPARED FOR: PREFERRED REALTY SERVICES, LLC

DRAWING TITLE:  
**CONSTRUCTION DETAILS**

SCALE: 1" = 20'  
 SHEET NO. 8 OF 8