

RAIN GARDEN DESIGN:

1. RAIN GARDEN AREA WAS SIZED BASED AN AREA OF BUILDING ROOF = 1,000 SF
2. BASED ON STATE OF RHODE ISLAND STORMWATER MANAGEMENT GUIDANCE FOR INDIVIDUAL SINGLE-FAMILY RESIDENTIAL LOT DEVELOPMENT TABLE 7, REQUIRED SURFACE AREA OF 8" DEEP RAIN GARDEN FOR SANDY SOILS = 80 SF.

RAIN GARDEN CONSTRUCTION:

1. A CRUSHED STONE ENTRANCE SHOULD BE INSTALLED AT THE INFLOW TO PREVENT CHANNELING.
2. A BERM TO DETAIN STORMWATER, IF REQUIRED, SHOULD BE CONSTRUCTED ALONG THE DOWNHILL SIDE OF THE RAIN GARDEN, PERPENDICULAR TO THE SLOPE OF THE LAWN, OR AS SHOWN ON THE PLANS.
3. BE SURE THAT THE SOIL WITHIN THE RAIN GARDEN AREA DOES NOT BECOME COMPACTED BY CONSTRUCTION ACTIVITIES (I.E. HEAVY MACHINERY). IF SOIL BECOMES SEVERELY COMPACTED IT MAY NEED TO BE TILLED AND AMENDED TO MAINTAIN PROPER DRAINAGE.

RAIN GARDEN TREATMENT:

1. THE BOTTOM OF A RAIN GARDEN SHOULD BE LEVEL TO ENCOURAGE THE EVEN DISTRIBUTION OF STORMWATER AND INCREASE INFILTRATION CAPACITY.
2. RAIN GARDENS SHOULD BE A MINIMUM OF 4 TO 8 INCHES IN DEPTH WITH AN 18 INCH AMENDED SOIL LAYER AND A 2 - 3 INCH LAYER OF NON-DYED AGED SHREDDED HARDWOOD MULCH.
3. THE AMENDED SOIL LAYER OF A RAIN GARDEN SHOULD BE 50/50 MIXTURE OF THE EXCAVATED NATIVE SOILS AND MATURE ORGANIC COMPOST.

RAIN GARDEN MAINTENANCE NOTES:

1. RAIN GARDENS SHALL BE INSPECTED FOLLOWING AT LEAST THE FIRST TWO PRECIPITATION EVENTS OF AT LEAST 1.0 INCH TO ENSURE THE SYSTEM IS FUNCTIONING PROPERLY. THEREAFTER, THE RAIN GARDEN SHALL BE MONITORED AND MAINTAINED TO ASSURE PROPER FUNCTIONING, PLANT GROWTH AND SURVIVAL. PLANTS SHALL BE REPLACED ON AN AS-NEEDED BASIS DURING THE GROWING SEASON.
2. SILT/SEDIMENT SHALL BE REMOVED FROM THE RAIN GARDEN WHEN THE ACCUMULATION EXCEEDS ONE INCH, OR WHEN WATER PONDS ON THE SURFACE OF THE RAIN GARDEN OR MORE THAN 48 HOURS. THE TOP FEW INCHES OF MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH SOIL MIXTURE AND MULCH.
3. PRUNING OR REPLACEMENT OF WOODY VEGETATION SHALL OCCUR WHEN DEAD OR DYING VEGETATION IS OBSERVED.
4. SOIL EROSION GULLIES SHALL BE REPAIRED WHEN THEY OCCUR.
5. FERTILIZER OR PESTICIDES SHALL NOT BE APPLIED TO PLANTS WITHIN RAIN GARDENS.
6. PERENNIAL PLANTS AND GROUND COVERS SHALL BE REPLACED AS NECESSARY TO MAINTAIN AN ADEQUATE VEGETATED GROUND COVER. ANNUAL PLANTS MAY ALSO BE USED TO MAINTAIN GROUND COVER.

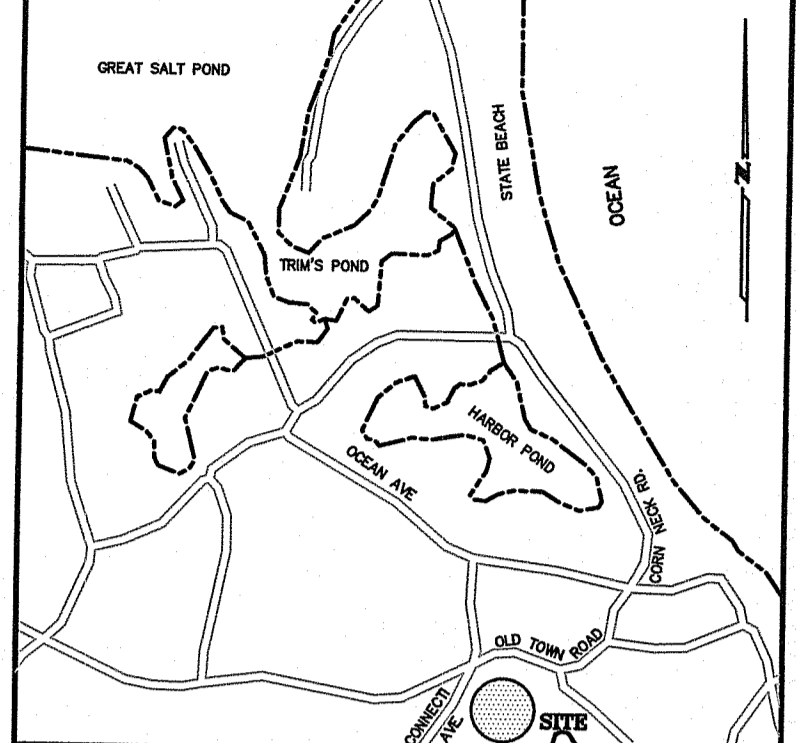
INFILTRATION AREAS:

TO ENSURE THE LONG-TERM FUNCTION AND VALUE OF ANY AREA PROPOSED FOR INFILTRATION, INCLUDING BUT NOT LIMITED TO RAIN GARDENS, BIO-RETENTION BASINS, SAND FILTERS, SURFACE INFILTRATION BASINS, AND SUBSURFACE INFILTRATION CHAMBERS, THE CONTRACTOR SHALL EXERCISE THE FOLLOWING BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION:

1. THESE AREAS SHALL NOT BE USED FOR TEMPORARY CONSTRUCTION SEDIMENTATION CONTROL, SEDIMENTATION BASINS, OR DE-WATERING AREAS.
2. THESE AREAS SHALL REMAIN OFF-LINE UNTIL THE ENTIRE CONSTRUCTION AREA CONTRIBUTING TO THESE AREAS HAS BEEN STABILIZED WITH BUILDINGS, BUILDING FOUNDATIONS, PAVEMENT, OR VEGETATION, AS APPLICABLE.
3. STORMWATER RUNOFF DURING CONSTRUCTION SHALL BE DIRECTED AWAY FROM THESE AREAS TO THE GREATEST EXTENT PRACTICABLE. WHERE NOT FEASIBLE, THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROLS UP-GRADE OF THESE AREAS TO PREVENT SEDIMENTATION OF THESE AREAS DURING CONSTRUCTION.
4. THE SUB-GRADE BELOW THESE AREAS SHALL NOT BE COMPACTED; THEREFORE, THE CONTRACTOR SHALL RESTRICT ACCESS TO THESE AREAS BY HEAVY EQUIPMENT AND SHALL NOT USE THESE AREAS FOR MATERIALS STOCKPILES.
5. EXCAVATION AND CONSTRUCTION OF THESE AREAS SHALL BE PERFORMED USING HAND OR HYDRAULIC EQUIPMENT TO ENSURE THAT THE NATURAL FILTRATION EARTH MATERIAL IS NOT DISTURBED OR OTHERWISE COMPACTED.
6. UPON COMPLETION OF CONSTRUCTION OF ANY OF THESE AREAS, THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES TO PREVENT SILTATION OF THE FILTER MATERIALS.

Environmental Management
JUL 23 2020
 Office of Water Resources

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LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN/SERVICE	— W —	— W —
SANITARY SEWER	— S —	— S —
50' PW	— 50' PW —	— 50' PW —
PUMP CHAMBER (E-ONE)	⊙	⊙
LIMITS OF DISTURBANCE (LOD)	LOD	LOD
STRAW WATTLE (SW)	— SW —	— SW —
50' PERIMETER WETLAND	— 50' PW —	— 50' PW —

- NOTES:**
1. PROPERTY LINES AND EXISTING TOPOGRAPHIC MAPPING INFORMATION FROM PLANS PREPARED BY CHERENZIA & ASSOCIATES, LTD. ENTITLED "EXISTING CONDITIONS & BOUNDARY SURVEY" PREPARED FOR MURRAY REVOCABLE LIVING TRUST, DATED MAY 24, 2019, SHEET 1 OF 1.
 2. ALL UTILITY INVERTS/CONNECTIONS, ROUTING AND DETAILS TO BE COORDINATED WITH TOWN OF NEW SHOREHAM.
 3. FINAL EASEMENT TO BE VERIFIED.
 4. ACCESS/UTILITIES AND INDIVIDUAL DEVELOPMENT SUBJECT TO RIDEM WETLANDS PERMIT APPROVAL.
 5. SETBACK REQUIREMENTS HAVE BEEN VERIFIED BY TOWN BUILDING OFFICIAL.
 6. EXISTING SEWER STUB-OUT LOCATION PROVIDED BY JAMES J. GEREMIA & ASSOCIATES, INC. AND BASED ON THE PLAN "OLD TOWN ROAD SEWER EXTENSION". FIELD VERIFICATION WILL BE NEEDED FOR CONNECTION INTO THE EXISTING SEWER STUB-OUT.
 7. CONNECTION TO THE WATER MAIN AND SEWER LINE ON OLD TOWN ROAD WILL REQUIRE A ROAD OPENING PERMIT FROM THE TOWN.
 8. THE APPLICANT MUST PURCHASE BOTH WATER AND SEWER ALLOCATIONS.
 9. AT THE CONCLUSION OF THE PROJECT, AS-BUILT PLANS ARE TO BE SUBMITTED TO THE WATER AND SEWER DEPARTMENTS.

PLAN REVISIONS

REV. NO.	DATE	DESCRIPTION	DWN BY	CHK BY
1	9/12/19	TOWN COMMENTS	SETB	SFC
2	7/13/20	CLIENT CHANGES	SETB	SFC
3	7/22/20	RIDEM COMMENTS	SETB	SFC

SCALE: 1"=20'
 CA JOB # 219006
 JULY 30, 2019

DRAWN BY: TMT
 CHECK BY: SFC

ISSUED FOR PERMITTING

SITE PLAN

MURRAY REVOCABLE LIVING TRUST
 OLD TOWN ROAD
 PLAT 6 LOTS 59 & 61
 NEW SHOREHAM, RHODE ISLAND

PREPARED FOR
MURRAY REVOCABLE LIVING TRUST

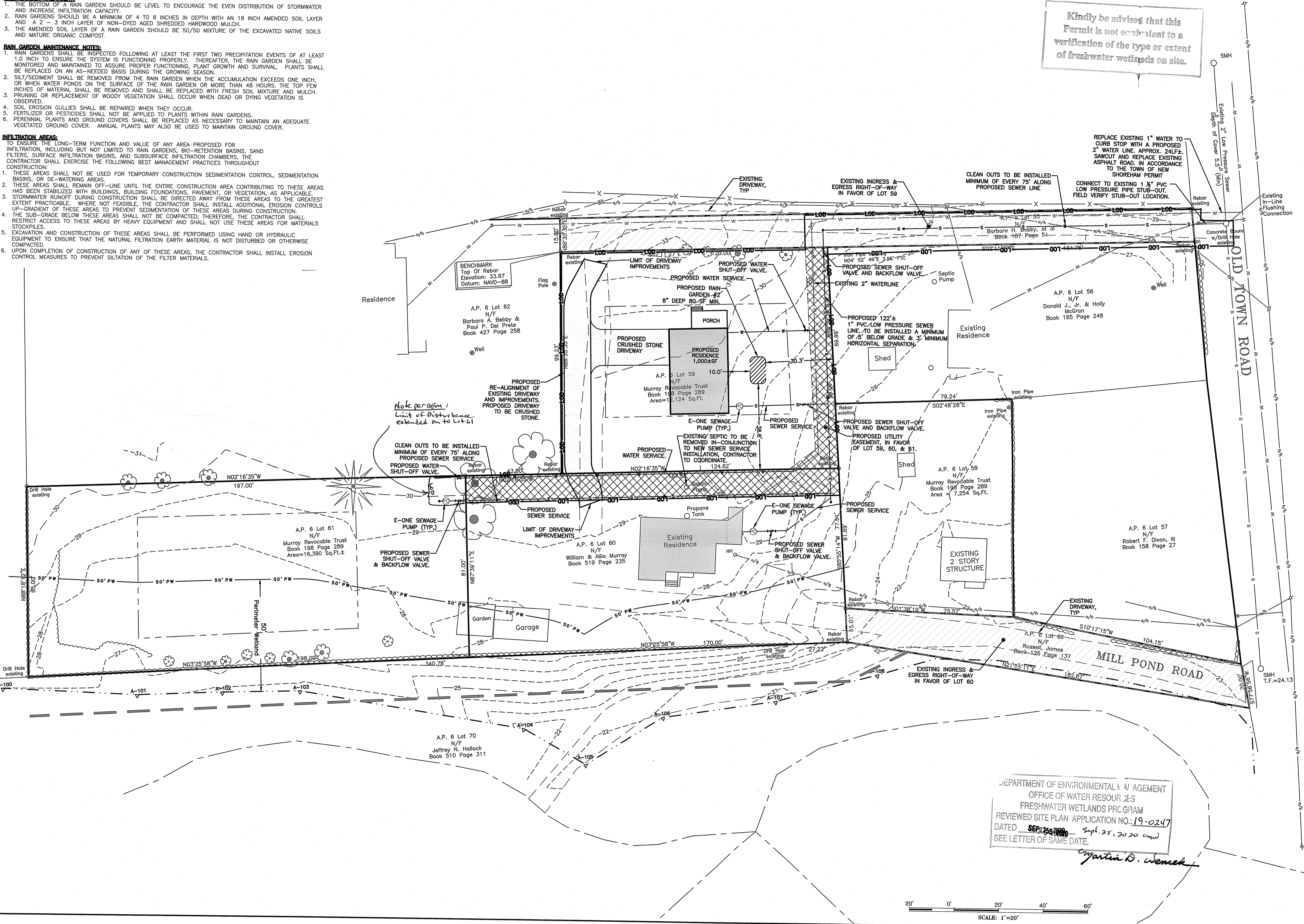
SERGIO F. CHERENZIA
 No. 9238
 REGISTERED PROFESSIONAL ENGINEER (CIVIL)

C-1

SHEET 1 OF 2

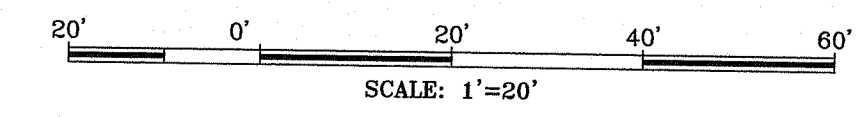
CHERENZIA & ASSOCIATES, LTD.

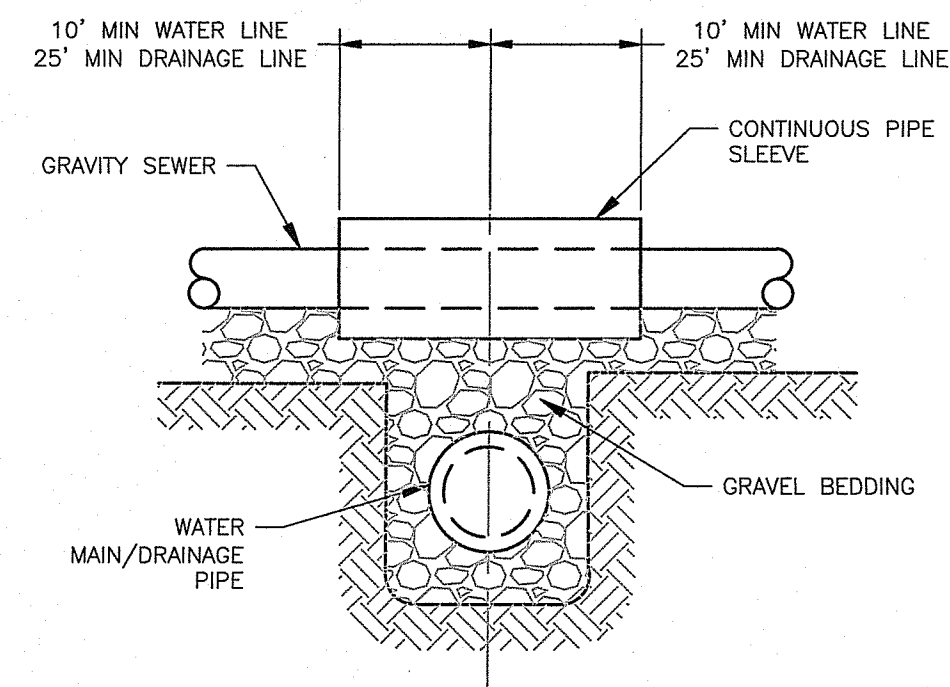
Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 REVIEWED SITE PLAN APPLICATION NO. 19-0247
 DATED SEP 25 2020
 SEE LETTER OF SAME DATE.

Martin D. Wenczek

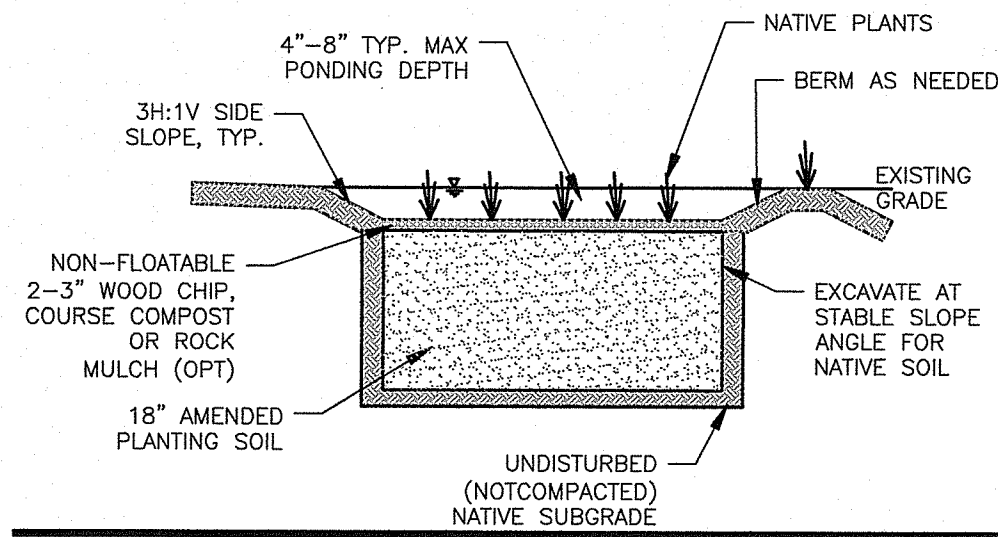




- NOTES:
1. PIPE SLEEVE SHALL BE REQUIRED FOR ALL SEWER/WATER OR SEWER/ DRAINAGE PIPELINE CROSSINGS, SEWER/WATER OR SEWER/DRAINAGE SEPARATION LESS THAN 10 FEET, AND SEWER/DRAINAGE STRUCTURE SEPARATION LESS THAN 15'. EITHER SEWER OR WATER MAY BE SLEEVED AT CONTRACTOR'S OPTION.
 2. MAINTAIN 12" MINIMUM SEPARATION BETWEEN CROSSING PIPES.
 3. DISTANCE OF PIPE SLEEVE SHALL BE EQUAL IN BOTH DIRECTIONS.
 4. GRAVITY SEWER PIPE SHALL BE SLEEVED 10" MINIMUM EACH SIDE OF WATER LINE AND 15" MINIMUM EACH SIDE OF DRAINAGE LINE.
 5. PIPE SLEEVE SHALL BE SEAMLESS OR SCHEDULE 40 PVC OR EQUIVALENT WITH WATERTIGHT JOINTS, AND IT SHALL HAVE A WATERTIGHT SEAL THAT IS FASTENED TO THE PIPES WITH A STAINLESS STEEL RETRACTABLE CLAMP.

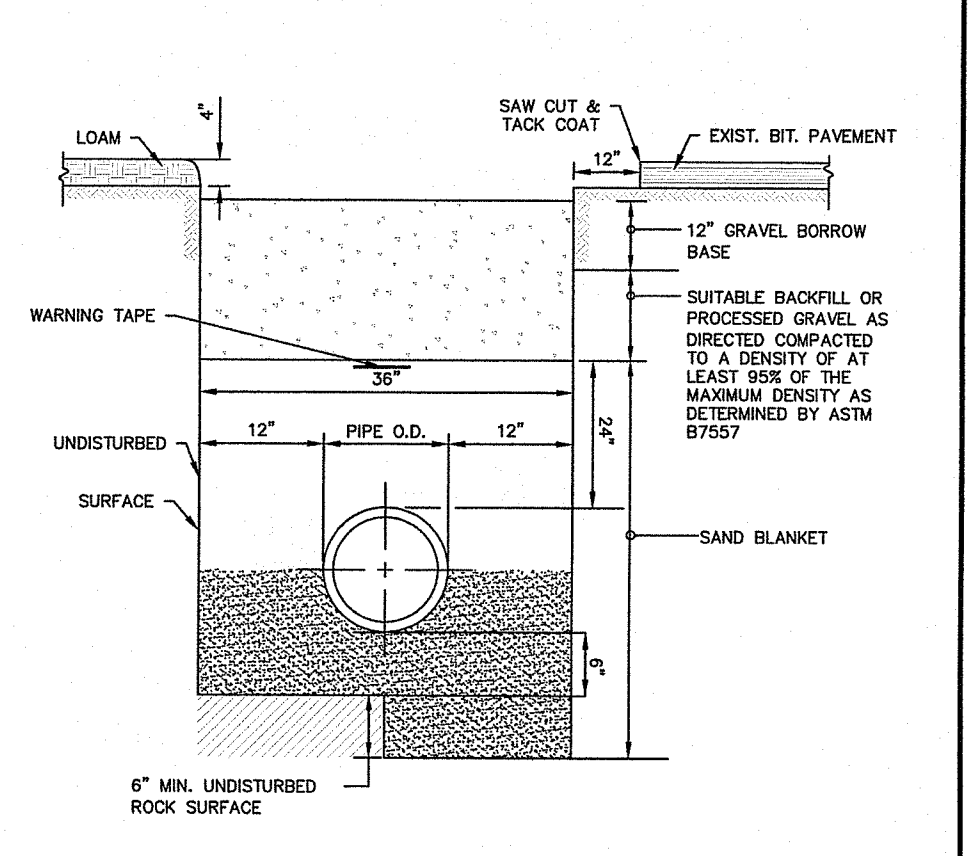
SEWER PIPE SEPARATION

NTS CA-014



RAIN GARDEN

NTS CA-D-019



- NOTES:
1. MINIMUM DEPTH OF COVER SHALL BE 4'-0"
 2. WHEN IN GROUND WATER SEE DETAIL S-2
 3. PAVEMENT RESTORATION SHALL CONFORM TO THE DEPARTMENT OF PUBLIC WORKS REC.

Figure S-3
LOW PRESSURE SEWER TRENCH DETAIL
Standard Sanitary Sewer Requirements
Date: 2019 Scale: No Scale

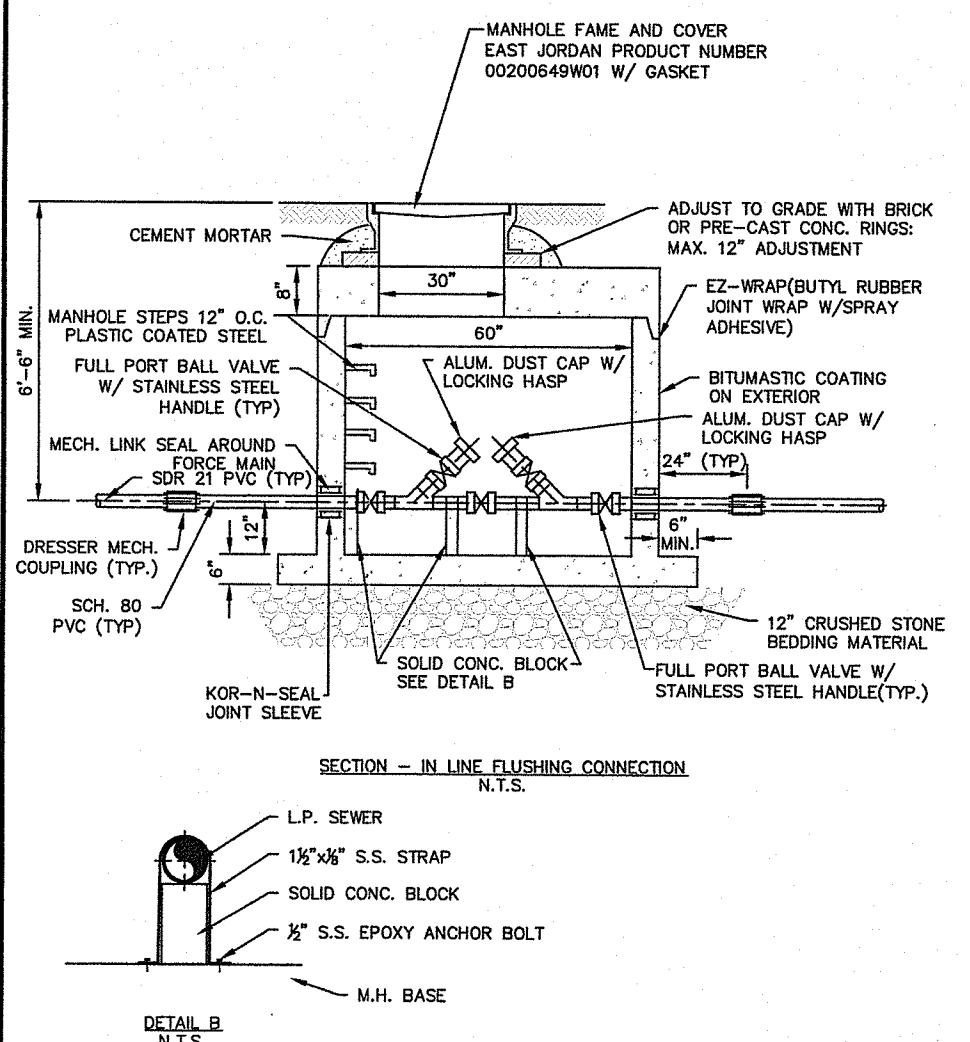


Figure S-10
LOW PRESSURE IN-LINE STRAIGHT THROUGH FLUSHING CONNECTION DETAIL
Standard Sanitary Sewer Requirements
Date: 2019 Scale: No Scale

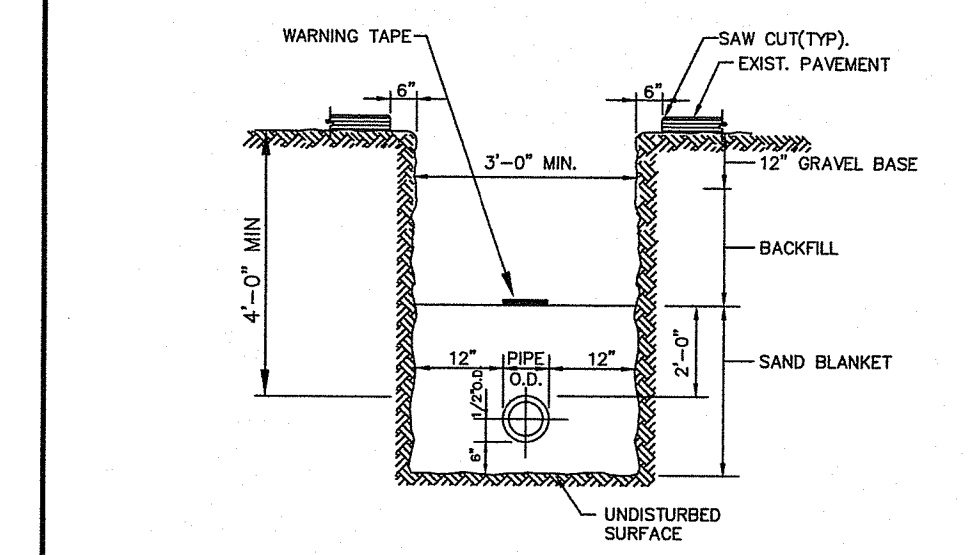
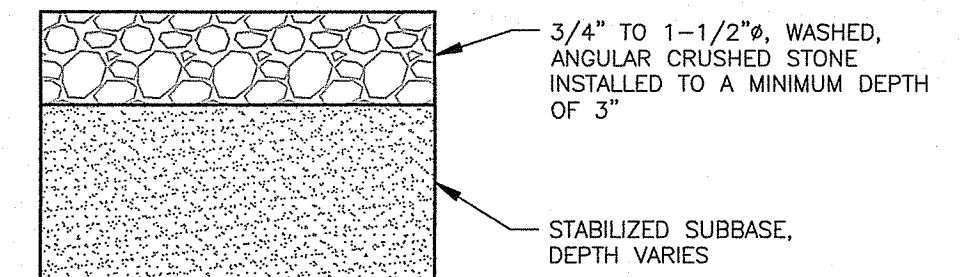


Figure W-6
WATER MAIN TRENCH DETAIL
Standard Water Requirements
Date: 2019 Scale: No Scale



- NOTES:
1. THE GRADE OF THE FINISHED DRIVEWAY SHALL NOT BE HIGHER THAN THE ADJACENT GROUND ELEVATION.
 2. CRUSHED STONE SHALL BE REPLACED OR RE-GRADED AS NECESSARY TO MAINTAIN A MINIMUM 3" INCH DEPTH OF STONE AND A LEVEL SURFACE.
 3. STRUCTURAL STRENGTH OF THE DRIVE HAS NOT BEEN DESIGNED. STRUCTURAL STRENGTH OF THE DRIVE TO SUPPORT VEHICLES SHALL BE VERIFIED BY OTHERS.

CRUSHED STONE DRIVEWAY

NTS CA-RD-027

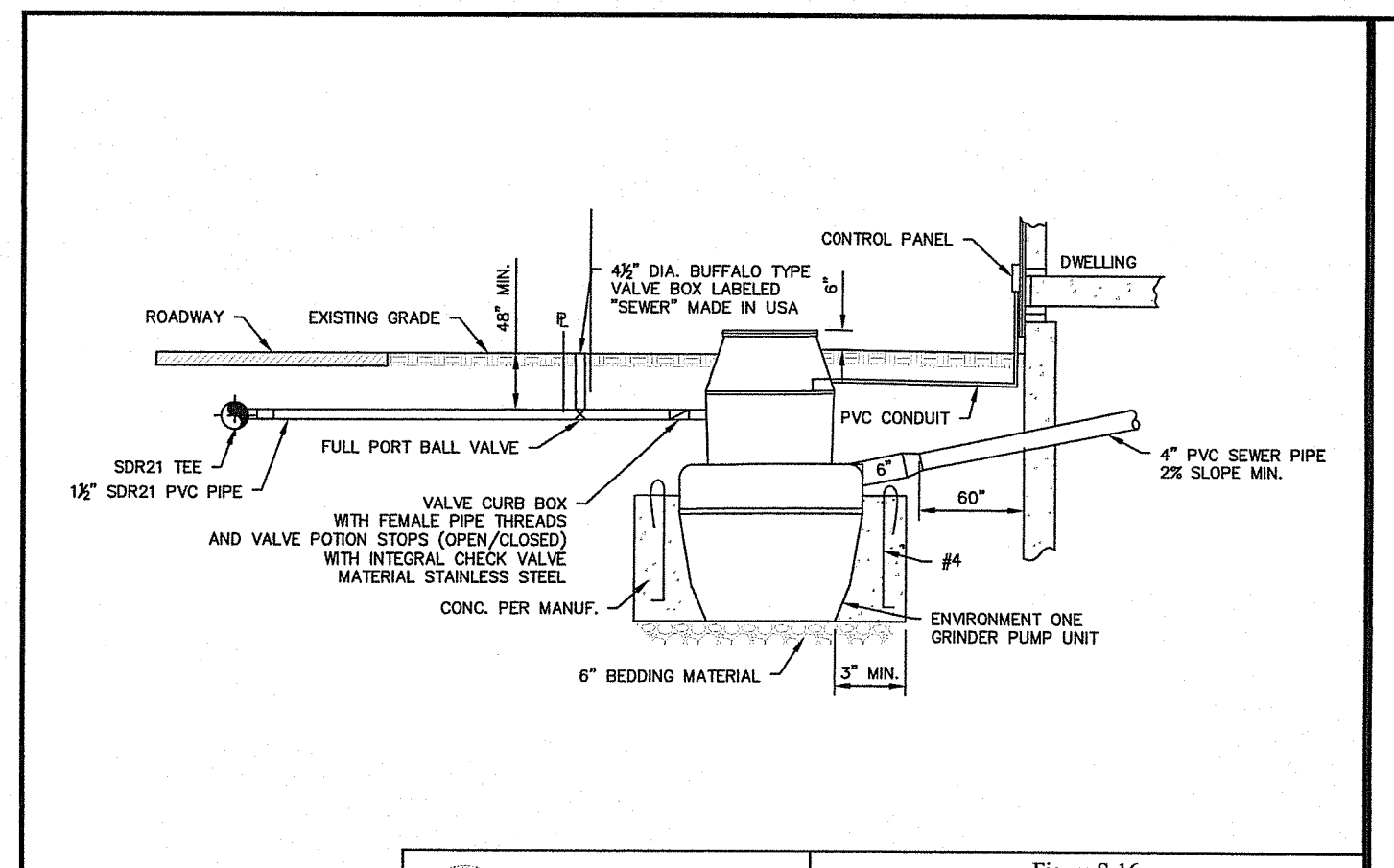


Figure S-16
LOW PRESSURE SEWER SERVICE CONNECTION
Standard Sanitary Sewer Requirements
Date: 2019 Scale: No Scale

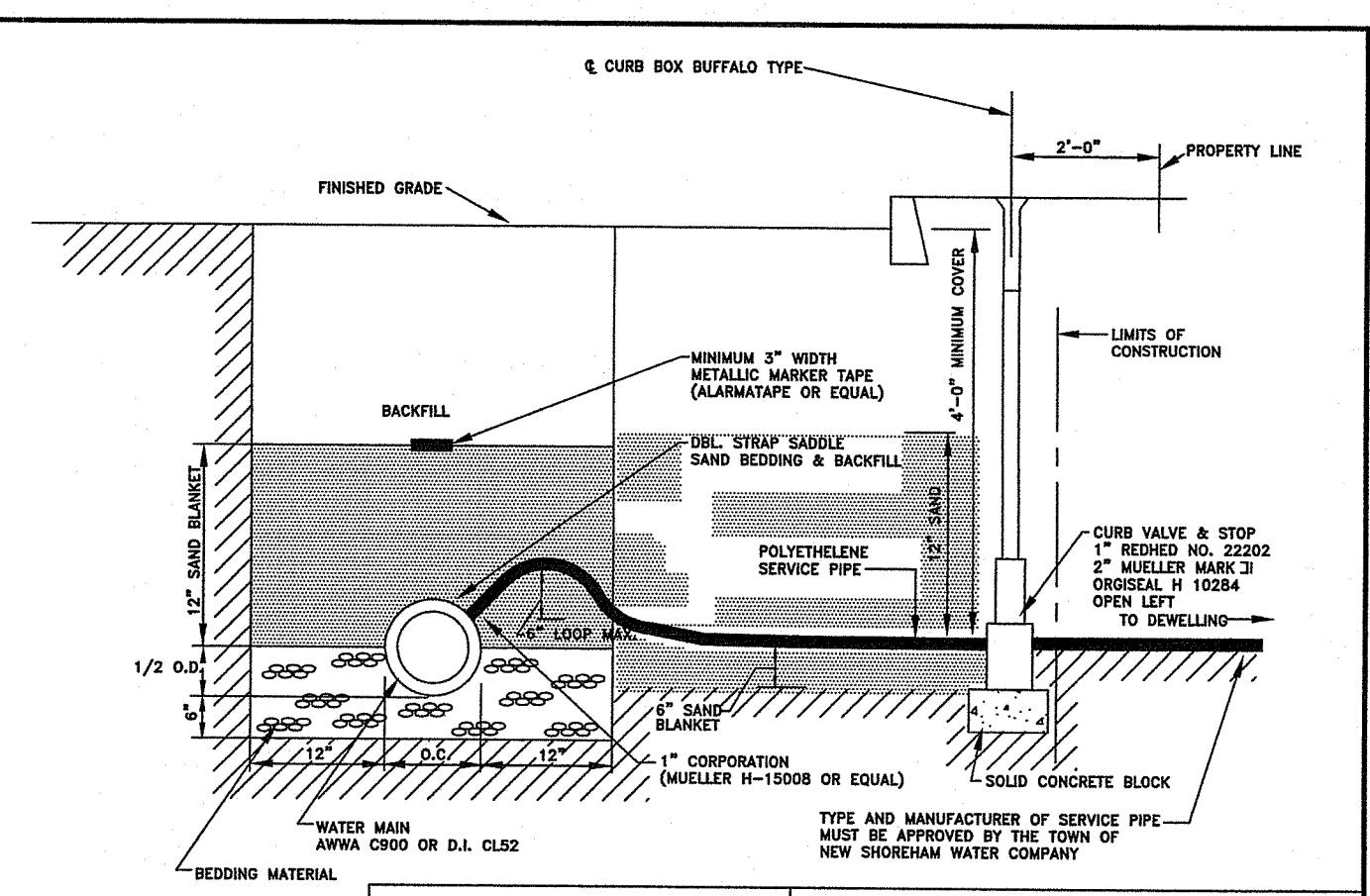
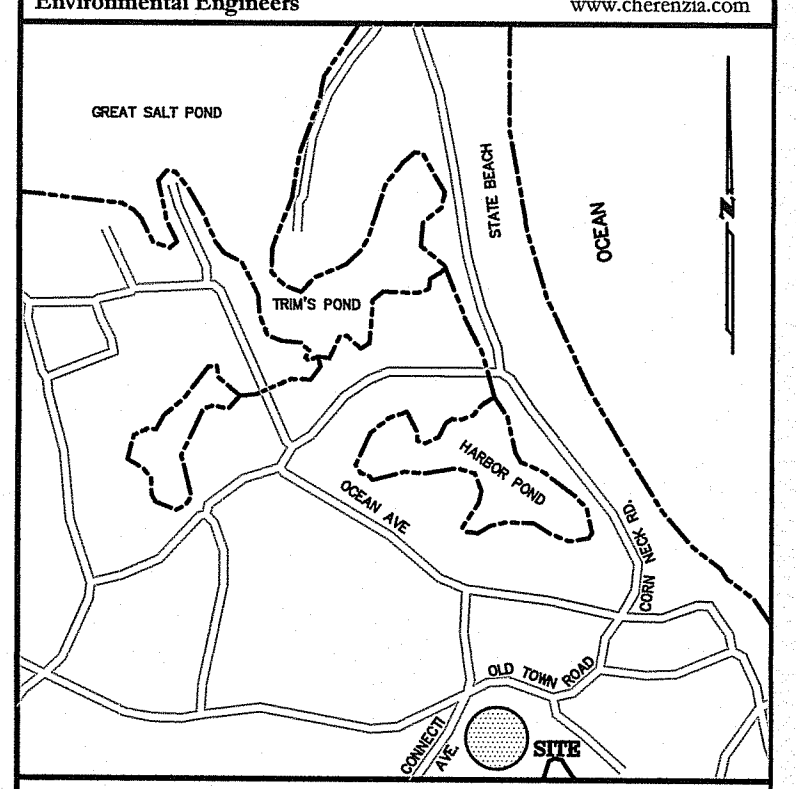


Figure W-11
TYPICAL WATER MAIN AND SERVICE DETAIL
Standard Water Requirements
Date: 2019 Scale: No Scale

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LOCATION MAP

PLAN REVISIONS				
REV. NO.	DATE	DESCRIPTION	OWN BY	CHK BY
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SITE DETAILS

MURRAY REVOCABLE LIVING TRUST
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PREPARED FOR
MURRAY REVOCABLE LIVING TRUST

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
REVIEWED SITE PLAN APPLICATION NO.: 19-047
DATED: SEP 25 2020
SEE LETTER OF SAME DATE.

SERGIO F. CHERENZIA
No. 9238
REGISTERED PROFESSIONAL ENGINEER (CIVIL)

C-2

SHEET 2 OF 2

CHERENZIA & ASSOCIATES, LTD.