

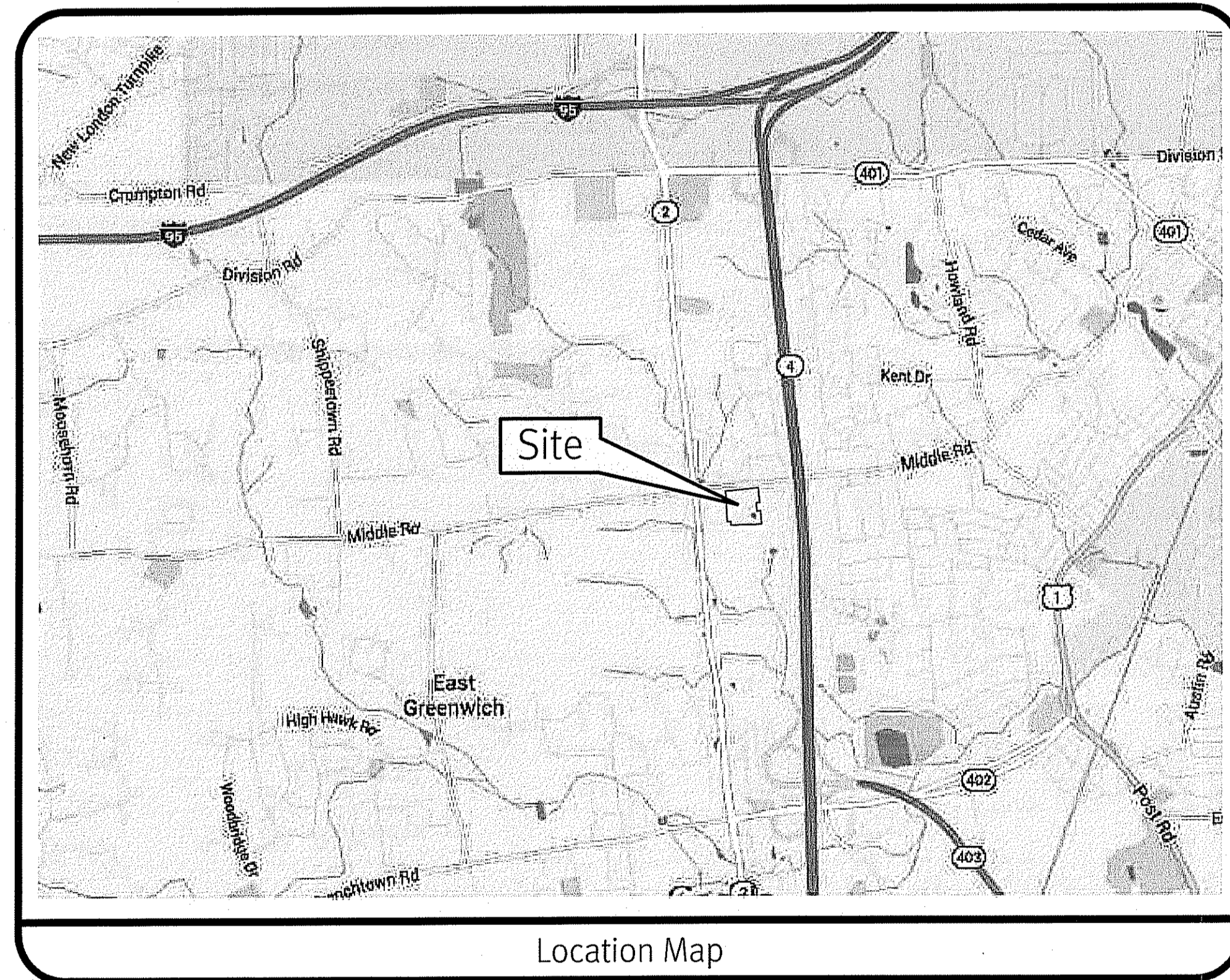
Permit Submission

The Residences at Middleberry

Middle Road

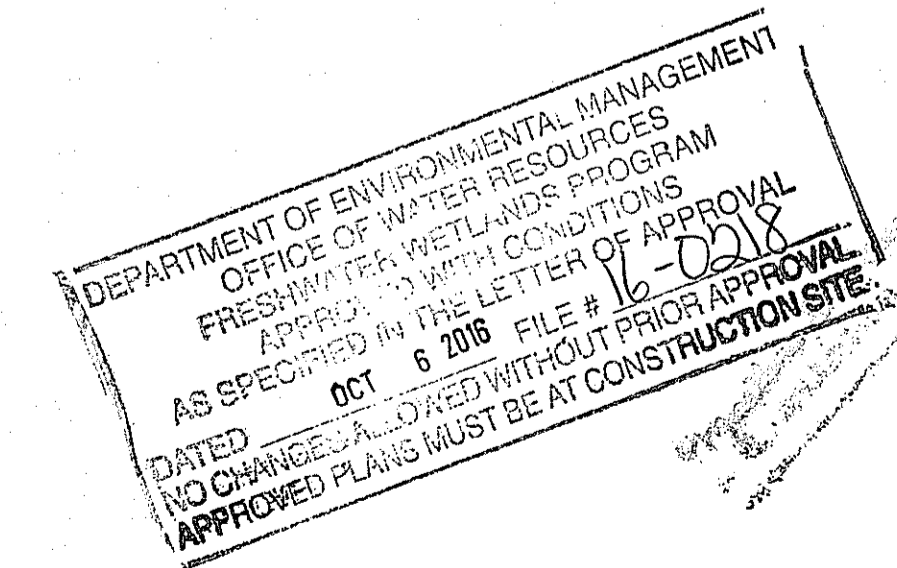
East Greenwich, Rhode Island

Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500



Sheet Index

1. Cover Sheet
2. Aerial & USGS Map
3. General Notes & Legend
- 1 of 1 Existing Conditions (Sheet 3 of 13 dated 2/25/2008)
5. Soil Erosion Control Plan
6. Site Plan
7. Grading Plan
8. Drainage Plan
9. Sewer Plan
10. Utility Plan
11. P&P Road A- Sta. -0+26 - 5+57
12. P&P Road B - Sta. 0+00 - 6+08
13. Pond Complex A Detail Sheet
14. Pond Complex B Detail Sheet
15. Detail Sheet - 1
16. Detail Sheet - 2



BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction and signed by a D'Prete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By:	Design By:
1	08-05-2016	Permit Submission	R.B.S.	R.B.S.

Cover Sheet
The Residences at Middleberry
Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island
Prepared for:
Philip Ryan Homes, LTD
32 Trappans Lane
East Greenwich, RI 02818
Owner:
Middle Park Enterprises, LLC
461 Main Street
East Greenwich, RI 02818
DE Job No: 1009-002 Copyright 2016 by D'Prete Engineering Associates, Inc.

D'Prete Engineering
Two Stafford Court, Cranston, RI 02920
tel 401-943-1000 fax 401-64-6006 www.DPrete-Eng.com
Engineers • Planners • Surveyors



Photo obtained from the RI-GIS.
 Scale: 1"=300'
 0 150' 300' 600'

APPROVED FOR CONSTRUCTION
 16-0218
 08/25/2016

Diprete Engineering
 Two Stafford Court, Cranston, RI 02920
 Tel: 401-943-1000 Fax: 401-664-6006 www.Diprete-Eng.com
 Engineers • Planners • Surveyors

BRANDON D. CARR

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

Environmental Management
 AUG 22 2016
 Office of Water Resources

The regulatory submission set shall not be used for construction unless stamped, sealed, and signed by a Diprete Engineering representative.
 The contractor is responsible for all of the means, methods, safety, precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Revision/Description	By
1	08/25/2016	Initial Submission	R.B.S.
2			

Drawn By: R.B.S. Design By: R.B.S.

Aerial & USGS Map
The Residences at Middleberry
 Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
 East Greenwich, Rhode Island
 Prepared for
Philip Ryan Homes, LTD
 32 Trappers Lane
 East Greenwich, RI 02818
 Owner
Middle Park Enterprises, LLC
 461 Main Street
 East Greenwich, RI 02818

General Notes:

- THE SITE IS LOCATED ON THE TOWN OF EAST GREENWICH ASSESSORS' MAP 52 PLAT 11 LOT 499 AND A PORTION OF LOT 500.
- THE SITE IS APPROXIMATELY 10.96± ACRES AND IS ZONED M/LIO.
- THE OWNER OF MAP 52 PLAT 11 LOT 499 IS: MIDDLE ROAD ENTERPRISES
461 MAIN STREET
EAST GREENWICH, RI 02818
- THE OWNER OF MAP 52 PLAT 11 LOT 500 IS: CHERRY SEMICONDUCTOR GROUP
ATTN: ON SEMICONDUCTOR
1900 SOUTH COUNTY TRAIL
EAST GREENWICH, RI 02818
- THIS SITE IS LOCATED IN FEMA FLOOD ZONES X (UNSHADED). REFERENCE FEMA FLOOD INSURANCE RATE MAP 44003C01386, MAP REVISED DECEMBER 3, 2010. ZONE X (UNSHADED) - THIS SITE IS LOCATED IN FEMA FLOOD ZONE X. ZONE X ARE AREAS WHERE THERE IS MINIMAL FLOODING.
- THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS IV STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
- SOIL MAPPING OBTAINED FROM SOIL SURVEY OF RHODE ISLAND, PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
- THE SITE IS NOT WITHIN A:
GROUNDWATER PROTECTION AREA (RIDEM)
NARROW RIVER SPECIAL AREA MANAGEMENT PLAN (CRMC)
SALT PONDS SPECIAL AREA MANAGEMENT PLAN (CRMC)
GROUNDWATER PROTECTION OVERLAY DISTRICT (TOWN)
- THE SITE IS WITHIN A:
NATURAL HERITAGE AREAS (RIDEM)
- THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR/OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET:
• SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
o EROSION CONTROL MEASURES
o SHORT TERM MAINTENANCE
o ESTABLISHMENT OF VEGETATIVE COVER
o CONSTRUCTION POLLUTION PREVENTION
o SEQUENCE OF CONSTRUCTION
• OPERATIONS AND MAINTENANCE PLAN (O&M). THE O&M CONTAINS THE FOLLOWING:
o LONG TERM MAINTENANCE
o LONG TERM POLLUTION PREVENTION
- THIS PLAN SET REFERENCES RIDOT STANDARD DETAILS (DESIGNATED AS RIDOT STD X.X.X.). RIDOT STANDARD DETAILS ARE AVAILABLE FROM RIDOT AND ONLINE AT:
HTTP://WWW.TMC.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/RIDOT_BRIDGE_STANDARDS.PDF
- THE SITE IS TO BE SERVICED BY PUBLIC WATER AND PUBLIC SEWER.
- PROPOSED ROADWAY IS 24' WIDE PAVEMENT (12' TRAVEL LANES) WITH PRECAST CONCRETE CURB AND A 3' SIDEWALK ON ONE SIDE OF THE ROADWAY AS SHOWN.
- THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE EAST GREENWICH SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WITH THE USE OF CATCH BASINS. THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- THE SITE IS PROPOSED TO BE BUILT IN MULTIPLE PHASES. THERE ARE 17 BUILDINGS WHICH CONSIST OF 8 DUPLEXES AND 9 TRIPLEXES, FOR A TOTAL OF 43 UNITS. EACH UNIT IS PROPOSED TO BE 2 BEDROOMS.
- TEST PITS AND SOIL EVALUATIONS, WERE COMPLETED BY DIPRETE ENGINEERING ON 1/26/2007 AND 7/15/2015.

Soil Information:

(REFERENCE: SOIL SURVEY OF RHODE ISLAND, U.S.D.A. SOIL CONSERVATION SERVICE)
SOIL NAME DESCRIPTION

BmB	BRIDGEHAMPTON SILT LOAM, TILL SUBSTRATUM, 3 TO 8 PERCENT SLOPES
BnB	BRIDGEHAMPTON-CHARLTON COMPLEX, VERY STONY, 0 TO 8 PERCENT SLOPES
Rf	RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS
ScA	SOIL SILTY LOAM, 0 TO 3 PERCENT SLOPES
Ur	URBAN LAND

Traffic Notes:

- DURING CONSTRUCTION TRAFFIC CONES ARE TO BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE.
- DURING CONSTRUCTION FLAGGERS SHALL BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC.
- ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES SHALL MEET THE REQUIREMENTS OF THE MUTCD LATEST EDITION AND SUBSEQUENT ADDENDA.
- TEMPORARY CONSTRUCTION SIGNS SHALL BE MOUNTED ON RIDOT APPROVED SUPPORTS AND SHALL BE REMOVED OR COVERED WHEN NOT APPLICABLE.
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION.

ADA Notes:

- ALL IMPROVEMENTS SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)" BY THE DEPARTMENT OF JUSTICE.
- MAXIMUM RUNNING SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 5.0% OR 0.05' /', AND MAXIMUM CROSS SLOPE ALONG ALL ACCESSIBLE PATHS OF TRAVEL SHALL BE 0.02' /'.
- MAXIMUM SLOPE IN ALL DIRECTIONS FOR ALL ACCESSIBLE PARKING SPACES AND LOADING AREAS SHALL BE 0.02' /'.
- A 5'x5' LANDING WITH A MAXIMUM SLOPE OF 2.0% OR 0.02' /', IN ALL DIRECTIONS SHALL BE PROVIDED IN FRONT OF ALL PUBLICLY ACCESSIBLE BUILDING ENTRANCES/EGRESSES.
- SIDEWALK CURB RAMPS SHALL COMPLY WITH DIPRETE ENGINEERING DETAILS THAT MEET OR EXCEEDING RIDOT STANDARDS 43.3.0, 43.3.1, & 43.4.1 AS SHOWN ON THE DETAIL SHEET.
- PLEASE NOTE THAT THE GRADING AND PLAN VIEWS AS WELL AS THE STANDARD DETAILS MAY NOT SHOW THE DETAIL NECESSARY TO CONSTRUCT WALKWAYS AND RAMPS TO ADA STANDARDS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE LEVEL OF CARE NECESSARY TO BE CERTAIN THAT THE CONSTRUCTED PRODUCT MEETS ADA STANDARDS. IN THE EVENT OF ANY CONFLICTS THE CONTRACTOR SHALL NOTIFY THE DESIGNER BEFORE CONSTRUCTION FOR ADVICE IN FINDING A RESOLUTION.

Grading and Utility Notes:

- THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ONSITE. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS, THE TOWN ENGINEER, AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONSTRUCTION TO COMMENCE FALL 2016 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF EAST GREENWICH STANDARD SPECIFICATIONS AND DETAILS.
- SEQUENCE OF CONSTRUCTION SHOWN IN SESC MAY BE MODIFIED AS FIELD CONDITIONS WARRANT WITH PRIOR APPROVAL FROM THE OWNER OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED BUILDING. THIS SHALL BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUND WATER ARE DIRECTED AWAY FROM THE STRUCTURE.
- PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
- ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS TO BE COORDINATED WITH APPLICANT, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION.
- ALL TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION INCLUDING ALL REVISIONS.
- ALL RETAINING WALLS AND STEEP SLOPES ARE SHOWN SCHEMATICALLY ONLY AND DIPRETE ENGINEERING IS NOT PROVIDING THE DESIGN OF THESE ITEMS. THE ACTUAL WALLS AND SLOPES ARE TO BE BUILT UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS TO BE SUBMITTED PRIOR TO CONSTRUCTION.
- ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE APPLICANT AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING ASSESSORS, INC. IS NOT PROVIDING THE FULL SPECIFICATION GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
- ALL COMPONENTS OF THE DRAINAGE, SEWER AND WATER SYSTEMS MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING TO SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.
- NO STOCKPILING OF MATERIAL TO BE LOCATED IN THE RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
- ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
- ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE IN AN ACCEPTABLE MANNER AT AN APPROVED LOCATION. STUMPS SHALL BE GROUND ONSITE OR REMOVED.
- NO STUMP DUMPS ARE PROPOSED ONSITE.
- ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED PLANS OF RECORD AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233 IN RI PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE SITE CONTRACTORS RESPONSIBILITY.

Erosion Control Notes:

- THE SITE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL ON SITE. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- THE SITE CONTRACTOR SHALL PLACE EROSION CONTROLS PRIOR TO DEMOLITION AND MAINTAIN THESE EROSION CONTROLS THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR TO PROVIDE INLET SEDIMENT CONTROL AND STORMWATER FILTRATION DEVICES AT ALL EXISTING ADJACENT CATCH BASINS DOWNGRADIENT FROM THE LIMIT OF DISTURBANCE AND AS DETAILED ON THIS PLAN SET.
- STOCKPILE AND CONCRETE WASHOUT LOCATIONS TO BE DETERMINED BY CIVIL ENGINEER, AND SITE CONTRACTOR PRIOR TO CONSTRUCTION. NO STOCKPILING OF MATERIAL TO BE LOCATED IN RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE AS DIRECTED BY THE OWNER.
- SITE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST THAT MAY CAUSE OFF SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE, AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY. DUST CONTROL TREATMENTS SHALL BE CONSISTENT WITH RIDEM BEST MANAGEMENT PRACTICES.
- IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUT MUST BE COMPLETED IN THE DESIGNATED CONCRETE WASHOUT AREA.

Demolition Notes:

- ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED PLANS OF RECORD AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233 72 HOURS PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE SHALL BE THE SITE CONTRACTORS RESPONSIBILITY.
- CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON MIDDLE ROAD AND CHERRY LANE.
- ANY DAMAGE TO EXISTING BUILDING AND PROPERTY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS NECESSARY FOR CONSTRUCTION OF ALL SITE IMPROVEMENTS UNLESS SPECIFIED OTHERWISE HEREIN. R&D MATERIALS TO INCLUDE BUT NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK.
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF DISTURBANCE SHALL BE RESTORED TO MATCH THE DESIGN PLANS.

Dimensional Regulations:

ZONE	CURRENT ZONE LIO	PROPOSED ZONE R-4/PD	PROVIDED
MIN AREA:	2 AC	0.09 AC/5 AC	10.96 AC
FRONTAGE:	150'	100'/150'	677'
SETBACKS:			
-FRONT:	100'	10'/50'	30'
-SIDE:	40'	10'/40'	40'
-REAR:	50'	20'/40'	115'
MAXIMUM STRUCTURE HEIGHT:	35'	35'	35'
MAX LOT COVERAGE:	66% (7.2AC)	30% / 30% (3.3AC)	27% (3.0AC)
-PAVEMENT & STRUCTURES			

RELIEF REQUESTED FROM TOWN OF EAST GREENWICH ZONING SECTION 260-37 (A) (6) TOWN ROADWAY STANDARDS. WE REQUEST RELIEF FROM ARTICLE 6 ROADWAY STANDARDS UNDER THE TOWN'S SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
47.7' FROM EXISTING EDGE OF PAVEMENT IN MIDDLE ROAD TO 30' FRONT YARD SETBACK

Development Data:

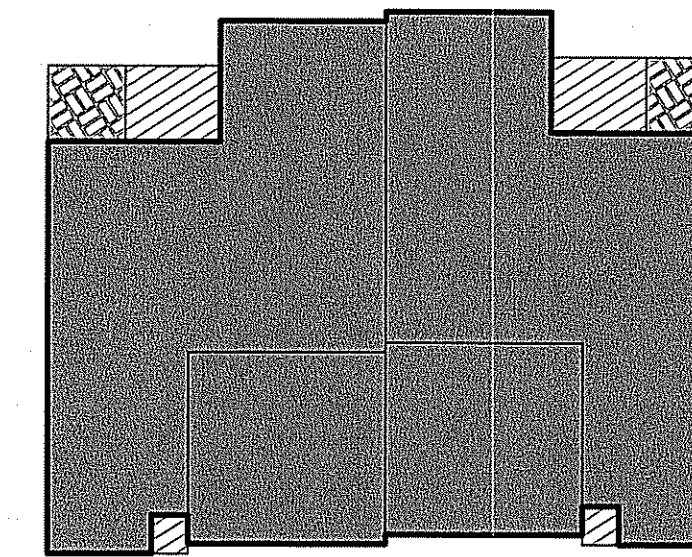
TOTAL SITE AREA:	10.96± ACRES
LENGTH OF ROAD:	1,185'
PAVEMENT WIDTH:	24'
COMMON OPEN SPACE PROVIDED:	3.5 AC (32%)
NUMBER OF DUPLEXES:	8
NUMBER OF TRIPLEXES:	9
TOTAL NUMBER OF BUILDINGS:	17
TOTAL NUMBER OF UNITS:	43
BEDROOMS PER UNIT:	2
TOTAL NUMBER OF BEDROOMS:	86

Density Calculations:

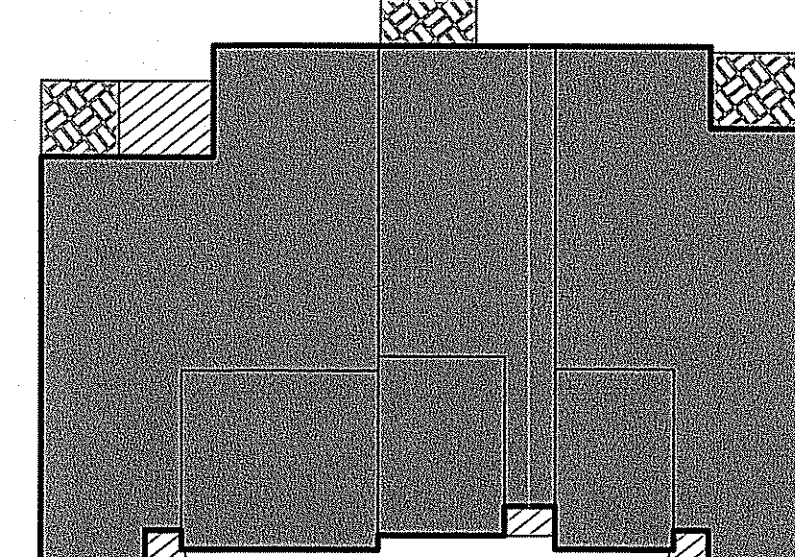
GROSS ACREAGE (GA):	10.96 ACRES
NOT ALLOWED (NA):	ROAD + WETLANDS + BUFFERS 0.87 + 1.38 + 1.65 = 3.9 ACRES
UNDERLYING ZONE (UZ):	ZONING AREA / 1 ACRE 4000 / 43560 = 0.09
YIELD (D):	D=(GA-NA)/UZ (10.96-3.9)/0.09 = 78.4 ≈ 78 UNITS
AFFORDABLE UNITS:	20% - R-4 DISTRICT DENSITY BONUS 78.4 * 0.20 = 15.7
DENSITY BONUS:	78.4 + 15.7 ≈ 94 UNITS
TOTAL UNITS ALLOWED:	78.4 + 15.7 ≈ 94 UNITS
DENSITY CALCULATION (OVERALL) (MARKET RATE UNITS)	10.96 ACRES = 477,418 SF 477,418 SF / 34 UNITS = 14,042 SF PER UNIT 43,560 SF/ACRE / 14,042 SF = 3.10 UNITS PER ACRE
DENSITY CALCULATION - NA (MARKET RATE UNITS)	OVERALL ACREAGE - (ROAD + WETLANDS + BUFFERS) 10.96 - (0.87 + 1.38 + 1.65) 7.06 ACRES = 307,534 SF 307,534 SF / 34 UNITS = 9,045 SF PER UNIT 43,560 SF/ACRE / 9,045 SF = 4.81 UNITS PER ACRE

Layout and Materials:

- DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
- CURB RADI ARE 5 FEET UNLESS OTHERWISE NOTED.
- CURBING SHALL BE PRECAST CONCRETE.
- SIDEWALK SHALL BE CONCRETE.
- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNER, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

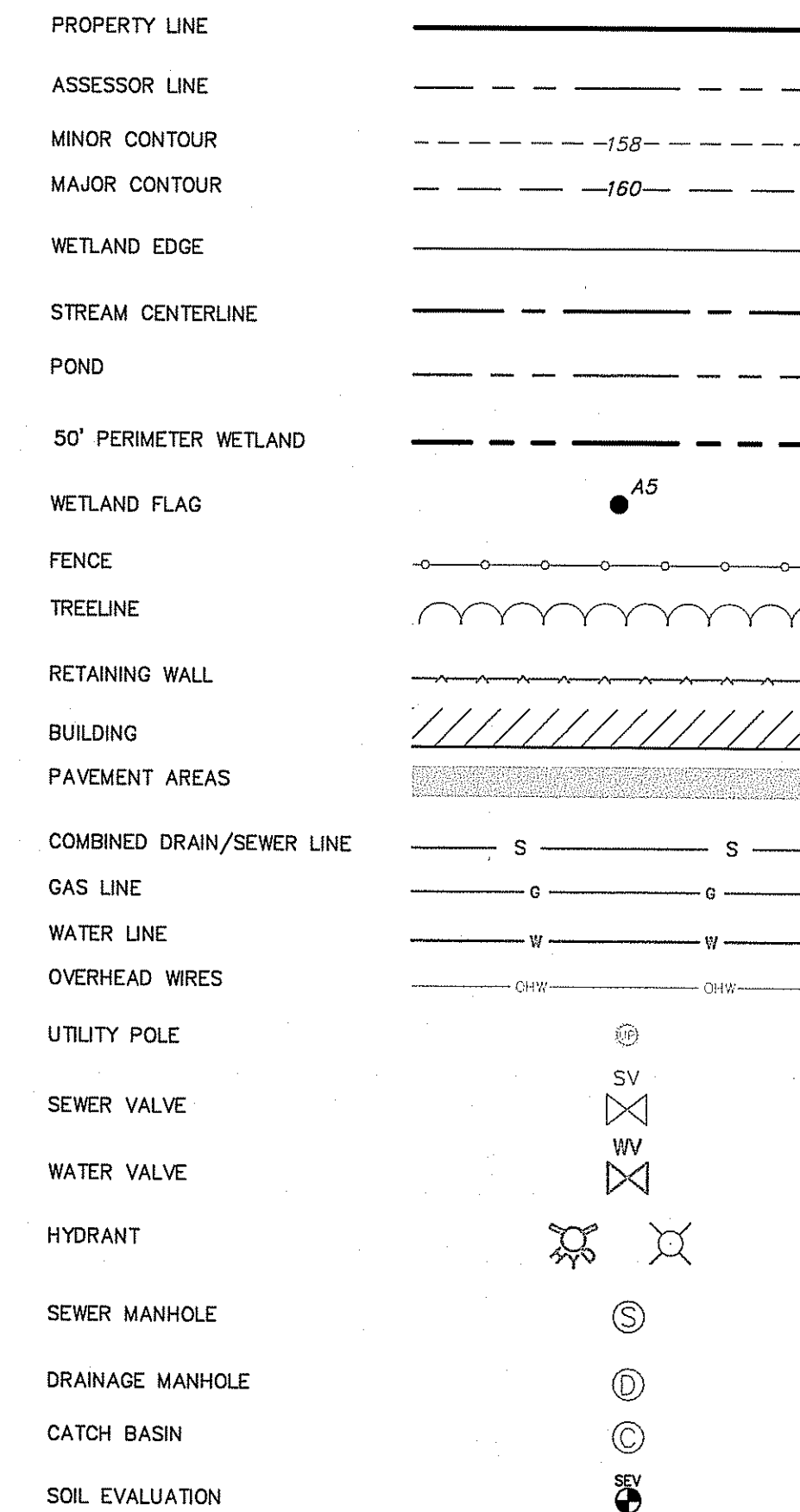


Typical Duplex



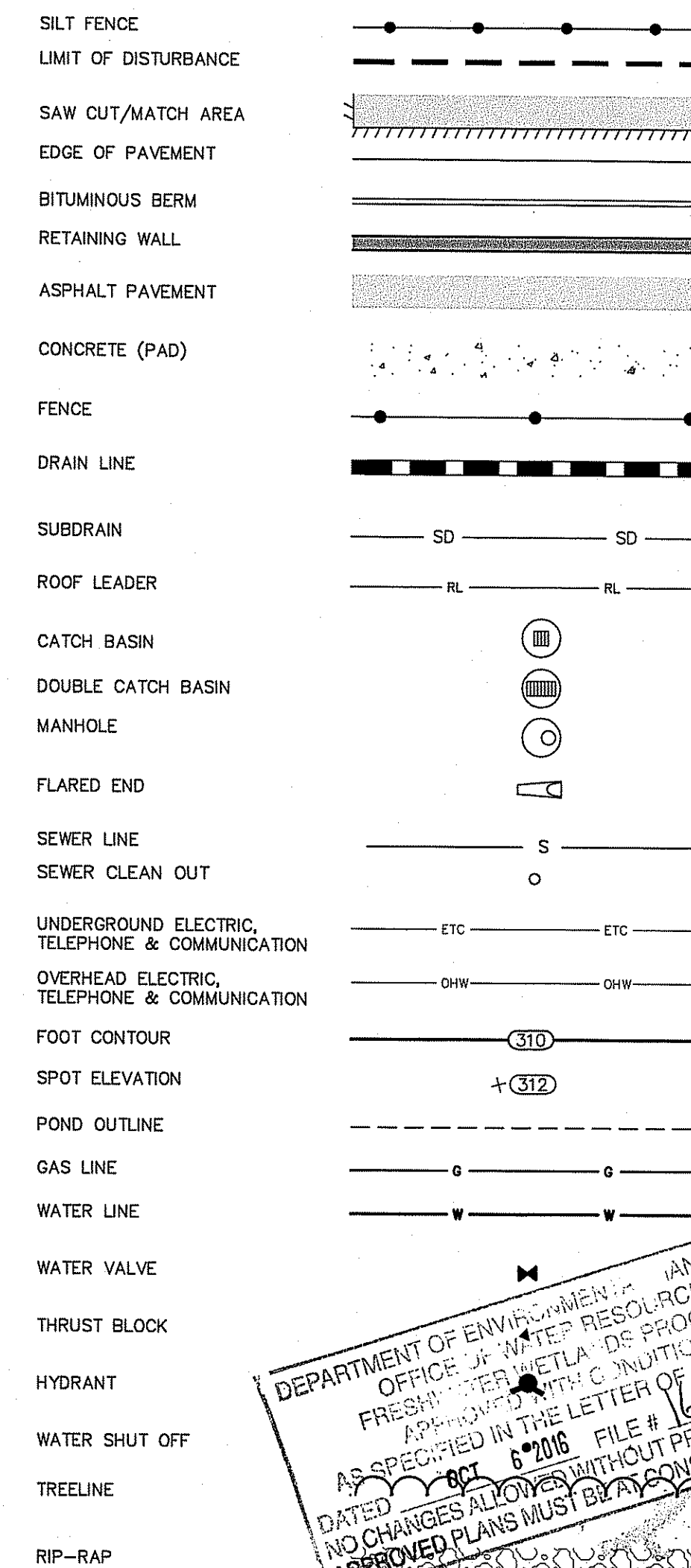
Typical Triplex

Existing Legend:



NOTE: LEGEND ITEMS ARE STANDARD AND DO NOT APPEAR ON EVERY SHEET.

Proposed Legend:



NOTE: LEGEND ITEMS ARE STANDARD AND DO NOT APPEAR ON EVERY SHEET.

As-Built Notes:

- ALL COMPONENTS OF THE DRAINAGE, SEWER AND WATER MUST BE ASBUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING SURVEY ASBUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

Diprete Engineering
Two Stafford Court Cranston, RI 02920
tel: 401-949-1000 fax: 401-944-6006 www.Diprete-Eng.com

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a Diprete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Permit Submission	By
0	08/26/2016		R.B.S.
1			Design By: R.B.S.

General Notes & Legend
The Residences at Middleberry
Assessor's Map 52, Plat 11 Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island
Owner: **Middle Park Enterprises, LLC**
3-2 Tappers Lane
East Greenwich, RI 02818
DE Reg. No. 1005-002 Copyright 2016 by Diprete Engineering Associates, Inc.

GENERAL NOTES

1. THE SITE IS LOCATED ON TOWN OF EAST GREENWICH ASSESSOR'S PLAT 11H LOT 499 AND IS APPROXIMATELY 9.84 ± ACRES.
2. CURRENT OWNER OF RECORD AND APPLICANT IS NOW OR FORMERLY: MIDDLE PARK ENTERPRISES, LLC, 6899 POST ROAD, NORTH KINGSTOWN, RI 02852
3. THE SITE IS ZONED INDUSTRIAL M/LIO.
4. THE BOUNDARY LINE AS SHOWN REPRESENTS A CLASS I SURVEY AS PERFORMED BY DIPRETE ENGINEERING ASSOCIATES, INC. THE PLAN ITSELF CONFORMS TO ONLY A CLASS II STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS A CLASS I BOUNDARY PLAN AND IS NOT SUITABLE FOR RECORDING AS A CLASS I SURVEY.
5. TOPOGRAPHY AND SITE FEATURES BY AERIAL MAPPING FROM AEROTECH, 365 SMITH STREET, SUITE 3 PROVIDENCE, RI 02908-5734 AND BASED ON BLACK AND WHITE PHOTOGRAPHY FROM 2/9/98. HORIZONTAL DATUM IS RI STATE PLANE COORDINATE-NAD 83 AND VERTICAL DATUM IS NGVD 29 (MSL).
6. SOIL MAPPING OBTAINED FROM "SOIL SURVEY OF RHODE ISLAND", PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, DATED 1981.
7. WETLAND FLAGGING WAS DELINEATED BY APPLIED BIO-SYSTEMS IN FEBRUARY, 2004 AND LOCATED BY STANLEY ENGINEERING. AT THE TIME OF SUBMISSIONS, DIPRETE ENGINEERING ASSOCIATES WILL REPLACE ANY MISSING FLAGS THAT ARE SHOWN ON THE STANLEY ENGINEERING PLANS.
8. THERE IS NO 100 YEAR FLOOD PLAIN LOCATED ON THE SITE ACCORDING TO F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE TOWN OF EAST GREENWICH, RHODE ISLAND COMMUNITY PANEL 445397 0002 B DATED FEBRUARY 16, 1993. THE SITE IS LOCATED WITHIN THE FOLLOWING FLOOD INSURANCE ZONE: ZONE C - AREAS OF MINIMAL FLOODING.
9. UTILITY INFORMATION SHOWN IS BASED ON BOTH FIELD SURVEY AND PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREFORMED RECORD PLANS AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS SHALL BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHALL BE DETERMINED IN THE FIELD. CALL TOLL FREE THE DIG SAFE CENTER AT 1-888-344-7233, 72 HOURS PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAIL BY DIG SAFE SHALL BE THE SITE CONTRACTORS RESPONSIBILITY.

SOIL INFORMATION

SOIL TYPE	DESCRIPTION
BmB	BRIDGEHAMPTON SILT LOAM, TILL SUBSTRATUM, 3 TO 8 PERCENT SLOPES
BnB	BRIDGEHAMPTON-CHARLTON COMPLEX, VERY STONY, 0 TO 8 PERCENT SLOPES
Rf	RIDGEBURY, WHITMAN, AND LEICESTER, EXTREMELY STONY FINE SANDY LOAMS
ScA	SCIO SILT LOAM, 0 TO 3 PERCENT SLOPES
Ur	URBAN LAND
W	WATER

LEGEND

PROPERTY LINE	EXISTING WATER LINE	EXISTING BUILDING
10 FOOT CONTOUR	EXISTING BUILDING	WETLAND FLAG
2 FOOT CONTOUR	WETLAND FLAG	ASSESSORS PLAT
SPOT GRADE	ASSESSORS PLAT	NOW OR FORMERLY
SOIL BOUNDARY LINE	NOW OR FORMERLY	BOUND
SOIL TYPES	HkC	BOUND
EXISTING TREELINE	IRON PIPE	IRON PIPE
EXISTING TREES	DRILL HOLE	DRILL HOLE
EXISTING FENCE	TEST HOLES	TEST HOLES
EXISTING STONE WALL	50' PERIMETER WETLAND	50' PERIMETER WETLAND
EXISTING EDGE OF PAVEMENT	100' RIVERBANK WETLAND	100' RIVERBANK WETLAND
EXISTING UTILITY POLE	EXISTING 12" CMP	EXISTING 12" CMP
EXISTING CATCH BASIN	EXISTING MONITORING WELL	EXISTING MONITORING WELL
EXISTING MANHOLE	EX-CB	EXISTING CATCH BASIN
EXISTING SEWER LINE	EX-SMH	EXISTING SEWER MANHOLE
	FIRE HYDRANT	FIRE HYDRANT

Curve Table

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD	DIRECTION
C1	249.85'	2804.93'	5°06'13"	125.01'	249.77'	N87°19'44"E
C2	254.30'	2854.93'	5°06'13"	127.24'	254.22'	N87°19'44"E

Detail "A"
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESH WATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DCT 6 2016 FILE # 12-0518
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
Office of Water Resources
AUG 22 2016

NOTE:
THIS REGULATORY SUBMISSION SET SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED "ISSUED FOR CONSTRUCTION" AND SIGNED AND DATED BY A DIPRETE ENGINEERING REPRESENTATIVE.

CERTIFICATION:
THIS SURVEY AND PLAN CONFORMS TO THE FOLLOWING CLASS STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS EFFECTIVE APRIL 1, 1994.
BOUNDARY SURVEY: CLASS III (SEE GENERAL NOTE 4)
TOPOGRAPHIC SURVEY: CLASS III

M. E. Gavitt
MICHAEL E. GAVITT
REGISTERED PROFESSIONAL LAND SURVEYOR

MICHAEL E. GAVITT
No. 12018
1981
PROFESSIONAL LAND SURVEYOR

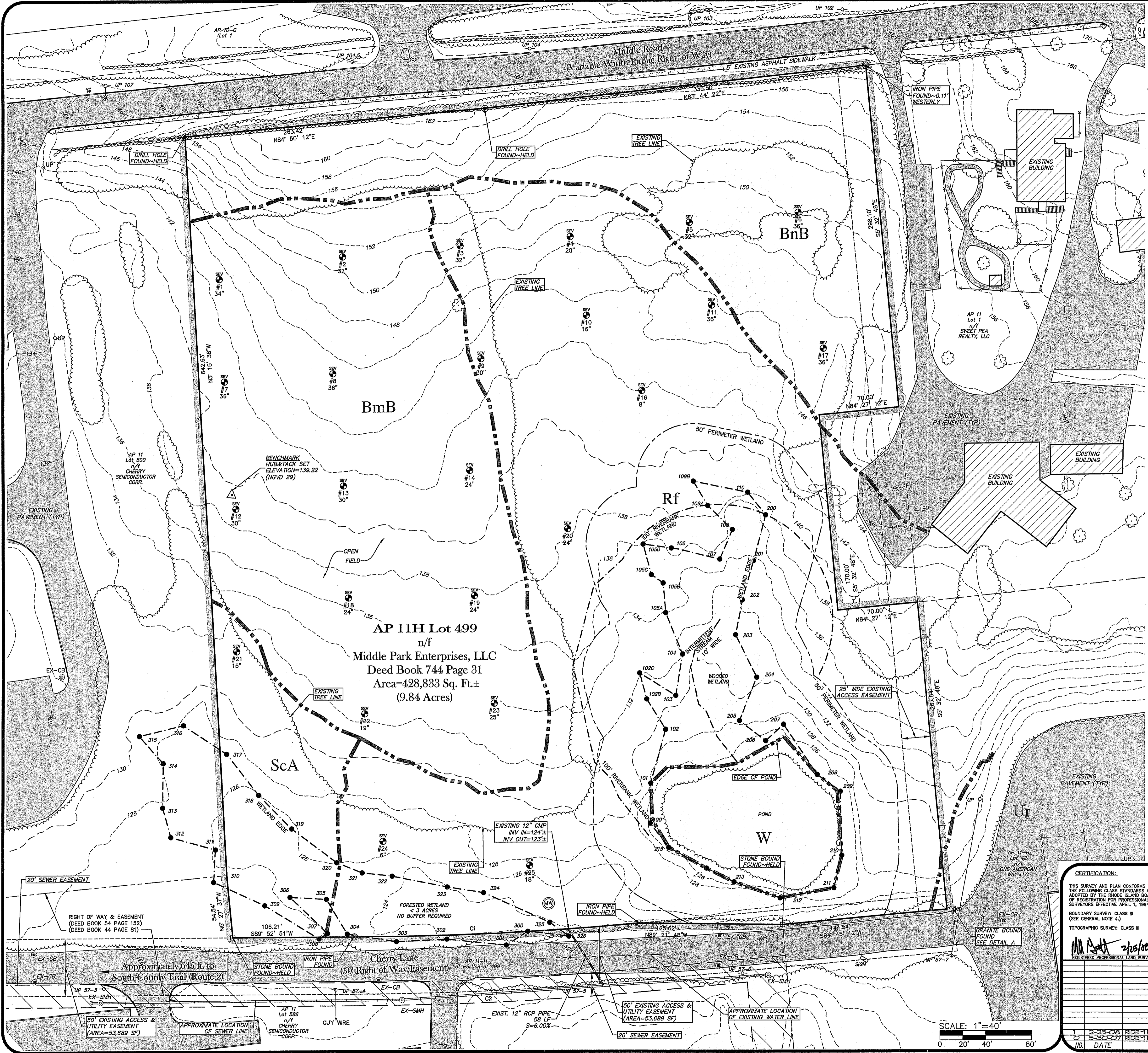
EXISTING CONDITIONS
Middle Road Office Park
ASSESSOR'S PLAT 11H LOT 499
EAST GREENWICH, RHODE ISLAND

PREPARED BY
DiPrete Engineering Associates, Inc.
ENGINEERING, SURVEYING AND PLANNING CONSULTANTS
TWO STAFFORD COURT
CRANSTON, R.I. 02920
(401) 943-1000 FAX: (401) 644-6006

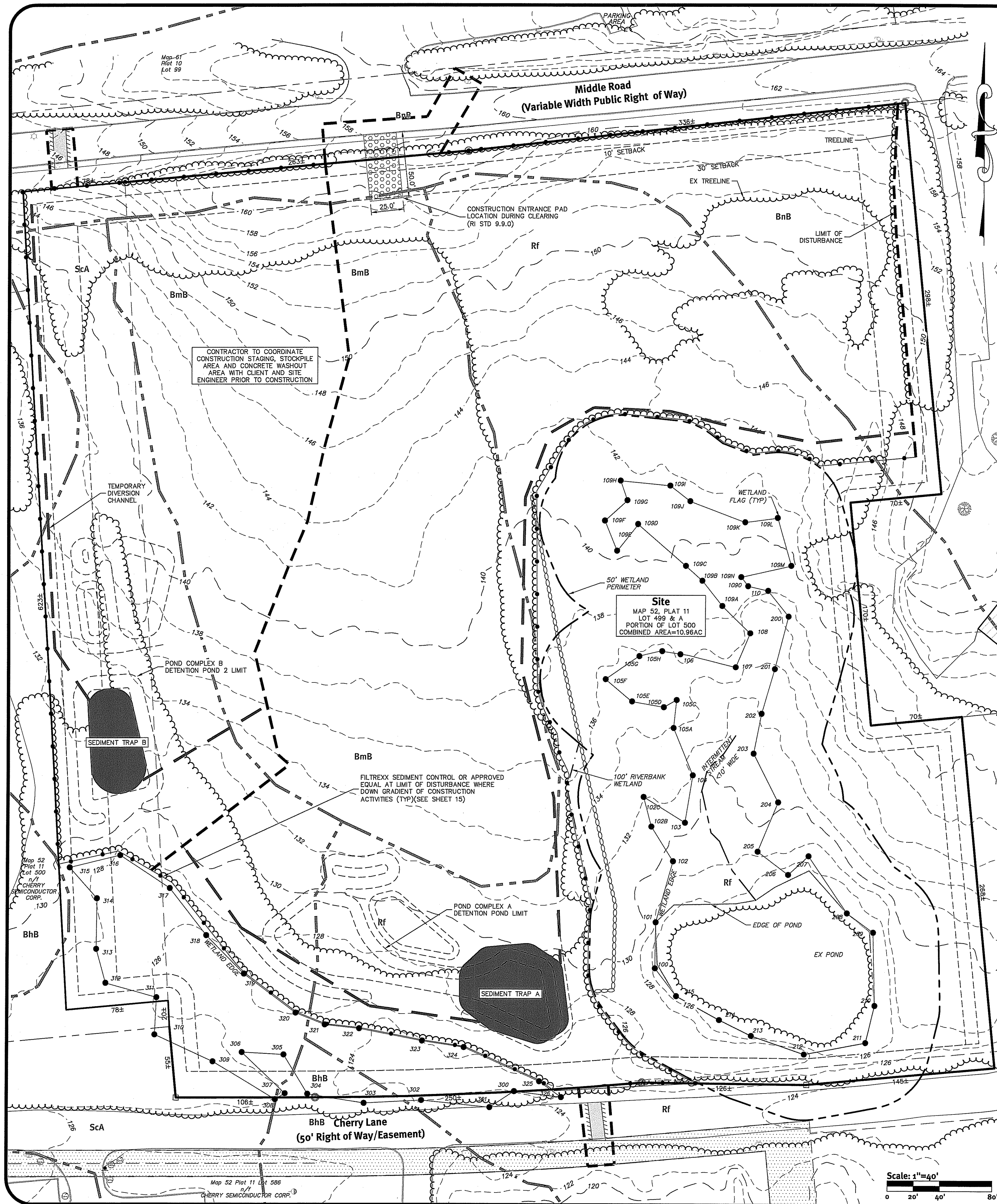
PREPARED FOR
Middle Road Enterprises, LLC
6899 POST ROAD
NORTH KINGSTOWN, R.I. 02852

NO.	DATE	DESCRIPTION	BY
1	2-25-08	FIELD PHOTO SUBMISSION	S.D.C.
2	3-30-07	FIELD PHOTO SUBMISSION	S.D.C.

SCALE: 1"=40'
0 20' 40' 80'



M:\Engineers\Projects\1009-002 Preliminary Plan Submission-SA-B-P2.dwg, 3-Exch, 2/25/2008 8:29:56 AM

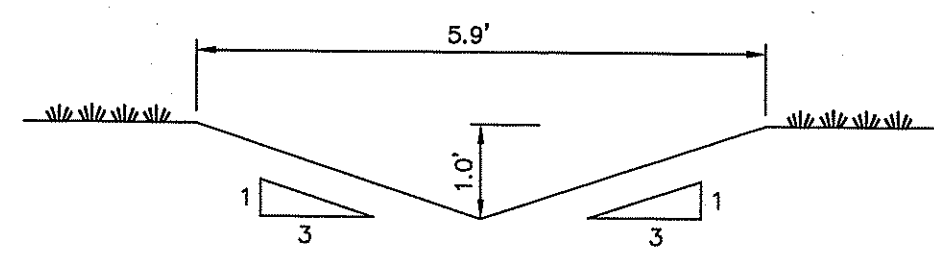


Soil Erosion Control Legend:

- DIVERSION RUNOFF CONVEYANCE MEASURE
- TRIBUTARY DRAINAGE AREA
- TEMPORARY SEDIMENT TRAP
- SILT FENCE OR APPROVED EQUAL EROSION CONTROL MEASURE
- CONSTRUCTION ENTRANCE (RI STD 9.9.0)

General Notes:

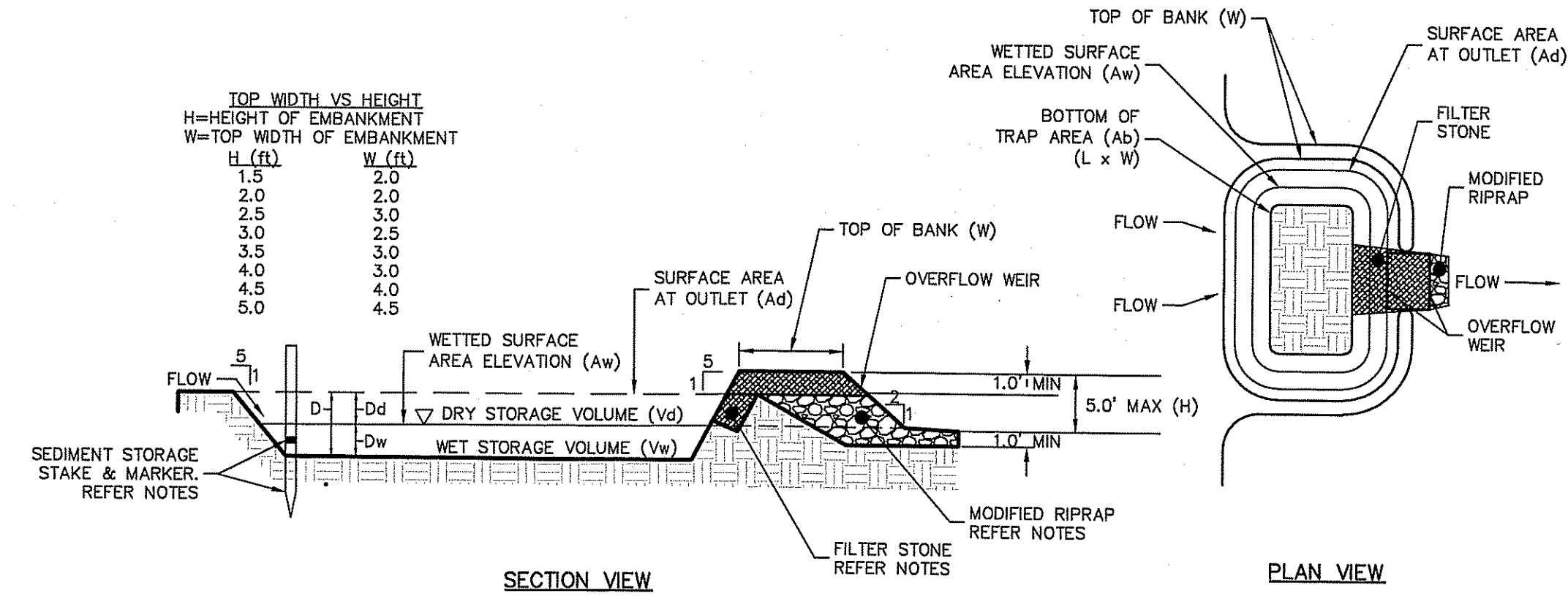
- ALL EROSION CONTROL, DIVERSIONS, TEMPORARY SEDIMENTATION TRAP, ETC. SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL LATEST EDITION.
- SILT FENCE (OR AN APPROVED EROSION CONTROL DEVICE) AND DIVERSIONS SHALL BE USED TO CONTROL RUNOFF DURING CONSTRUCTION OF THE PROPOSED PAVEMENT AREAS. AFTER INITIAL PAVEMENT GRADING IS COMPLETE AND THE PERMANENT DRAINAGE INFRASTRUCTURE HAS BEEN CONSTRUCTED, THE DRAINAGE NETWORK SHALL BE BROUGHT ONLINE AND THE DIVERSIONS SHALL BE DECONSTRUCTED.
- ONCE THE SEDIMENTATION TRAPS ARE NO LONGER REQUIRED AND ALL TRIBUTARY AREAS HAVE BEEN STABILIZED, THE AREAS SHALL BE BROUGHT TO FINAL DESIGN GRADES.
- INLET PROTECTION SHALL BE INSTALLED ON ALL CATCH BASINS ONCE CONSTRUCTED.
- SEE SECTION 1.2 OF THE RI SESC HANDBOOK FOR SEQUENCE OF CONSTRUCTION ACTIVITY.
- SEE SECTION 2.2 OF THE RI SESC HANDBOOK FOR PROJECT PHASING.
- CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL FROM DESIGN ENGINEER.
- DETENTION BASINS & SAND FILTER AREAS SHALL BE STAKED OFF, DEMARCATED AND PROTECTED FROM CONSTRUCTION TRAFFIC DURING ALL CONSTRUCTION PHASES.
- REFER TO DETAIL SHEETS FOR FURTHER INFORMATION



SEDIMENT TRAP DIMENSIONS	TRAP A	TRAP B
TRIBUTARY DRAINAGE AREA	2.38 AC	4.76 AC
WET STORAGE DEPTH (Dw)	3.00 FT	3.00 FT
DRY STORAGE DEPTH (Dd)	2.00 FT	2.00 FT
TOTAL DEPTH (D)	5.00 FT	5.00 FT
BOTTOM OF TRAP AREA (Ab)	2,709 SQFT	1,058 SQFT
WETTED SURFACE AREA (Aw)	3,761 SQFT	1,855 SQFT
SURFACE AREA AT OUTLET (Ad)	4,970 SQFT	2,810 SQFT

TOP WIDTH VS HEIGHT
 H=HEIGHT OF EMBANKMENT
 W=TOP WIDTH OF EMBANKMENT

H (ft)	W (ft)
1.5	2.0
2.0	2.0
2.5	3.0
3.0	3.0
3.5	3.0
4.0	3.0
4.5	4.0
5.0	4.5



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED OCT 6 2016 FILE # 16-0218
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

GENERAL NOTES:

- THE TEMPORARY SEDIMENT TRAP SHALL MEET ALL REQUIREMENTS FOR TEMPORARY SEDIMENT TRAPS OUTLINED IN THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST REVISION) SECTION SIX: SEDIMENT CONTROL MEASURES
- THE TEMPORARY SEDIMENT TRAP SHALL HAVE AN INITIAL STORAGE VOLUME OF 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1.
- THE OUTLET SHALL BE LOCATED AT THE MOST DISTANT HYDRAULIC POINT FROM THE INLET.
- THE OUTLET CONSISTS OF A PERVIOUS STONE DIKE WITH A CORE OF MODIFIED RIPRAP AND FACED ON THE UPSTREAM SIDE WITH STONE.
- TEMPORARY SEDIMENT TRAPS MUST OUTLET ONTO STABILIZED GROUND.
- MAXIMUM HEIGHT OF A TEMPORARY SEDIMENT TRAP EMBANKMENT IS LIMITED TO 5 FEET.
- SIDE SLOPES OF THE EMBANKMENT SHALL BE 2:1 OR FLATTER.
- MODIFIED RIPRAP: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.10.03.2.
- FILTER STONE: SHALL MEET THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SUBSECTION M.01.03 TABLE I, COLUMN V FILTER STONE.

INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS:

- INSTALL "SEDIMENT STORAGE" STAKE WITH A MARKER AT ONE HALF OF THE WET STORAGE VOLUME.
- INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER.
- CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT.
- CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
- WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS.
- DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA.
- THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

INSTALLATION NOTES:

- CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA.
- REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.
- EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS.
- USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 8-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATION COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION

DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 Tel 401-943-1000 Fax 401-464-6006 www.DiPrete-Eng.com

Engineers • Planners • Surveyors

BRANDON D. CARR

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

Environmental Management
 AUG 22 2016
 Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

REVISIONS

No.	Date	Description	Submitted	Design By
01	08/22/2016	Final Submission		R.B.S.

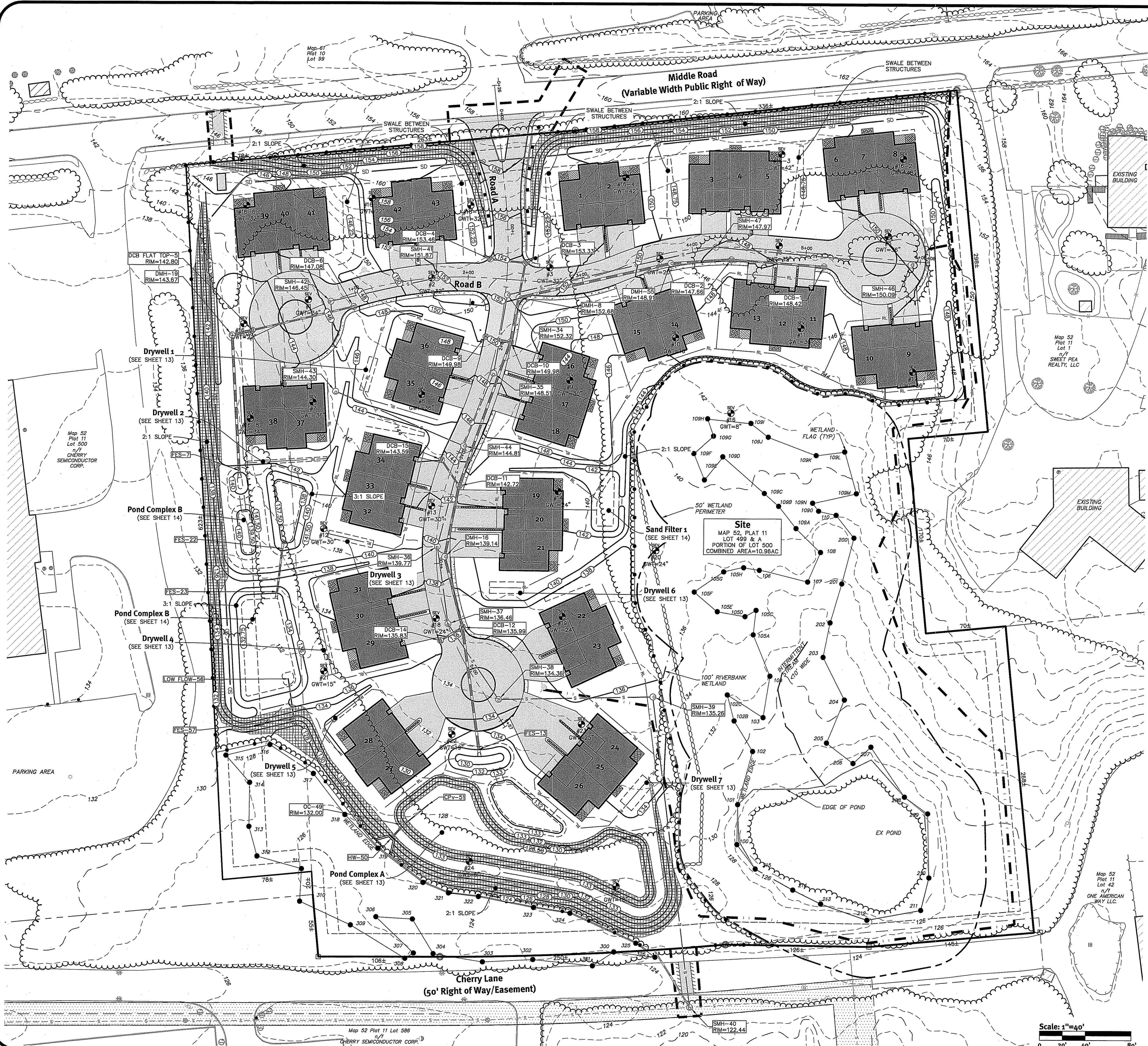
Drawn By: R.B.S. Design By: R.B.S.

Soil Erosion Control Plan
The Residences at Middleberry
 Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
 East Greenwich, Rhode Island

Prepared for: **Philip Ryan Homes, LTD**
 461 Main Street
 East Greenwich, RI 02818

Owner: **Middle Park Enterprises, LLC**
 461 Main Street
 East Greenwich, RI 02818

DE JOB No. 1009-002 Copyright 2016 by DiPrete Engineering Associates, Inc.



Unit Elevations

Unit #	Garage Floor Elevation	Finish Floor Elevation	Back Patio Elevation	Unit Step (ft)
1	153	153.5	153	1.5
2	151.5	152	151.5	
3	149.5	150	149.5	0
4	149.5	150	149.5	
5	149.5	150	149.5	
6	150.25	150.75	150.25	0.5
7	150.75	151.25	150.75	
8	151.25	151.75	151.25	
9	150.5	151	150.5	1
10	149.5	150	149.5	
11	149.5	150	149.5	0.5
12	149	149.5	149	
13	148.5	149	148.5	
14	150	150.5	150	1
15	151	151.5	151	
16	150	150.5	150	1
17	149	149.5	149	
18	148	148.5	148	
19	143	143.5	143	1
20	142	142.5	142	
21	141	141.5	141	
22	138.5	139	138.5	1
23	137.5	138	137.5	
24	135.25	135.75	135.25	0.5
25	134.75	135.25	134.75	
26	134.25	134.75	134.25	
27	134.25	134.75	134.25	1.5
28	135.75	136.25	135.75	
29	137.25	137.75	137.25	1
30	138.25	138.75	138.25	
31	139.25	139.75	139.25	
32	142	142.5	142	1
33	143	143.5	143	
34	144	144.5	144	
35	147.75	148.25	147.75	1.5
36	149.25	149.75	149.25	
37	145	145.5	145	1
38	144	144.5	144	
39	146	146.5	146	0.5
40	146.5	147	146.5	
41	147	147.5	147	
42	151.5	152	151.5	1.5
43	153	153.5	153	

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED OCT 6 2016 FILE # 16-0218
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DiPrete Engineering
 Two Stafford Court Cranston, RI 02909
 Tel: 401-943-1000 Fax: 401-464-6066 www.DiPrete-Eng.com
 Engineers • Planners • Surveyors

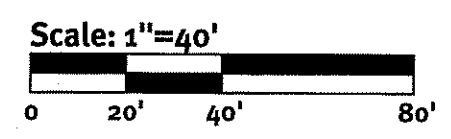
BRANDON D. CARR

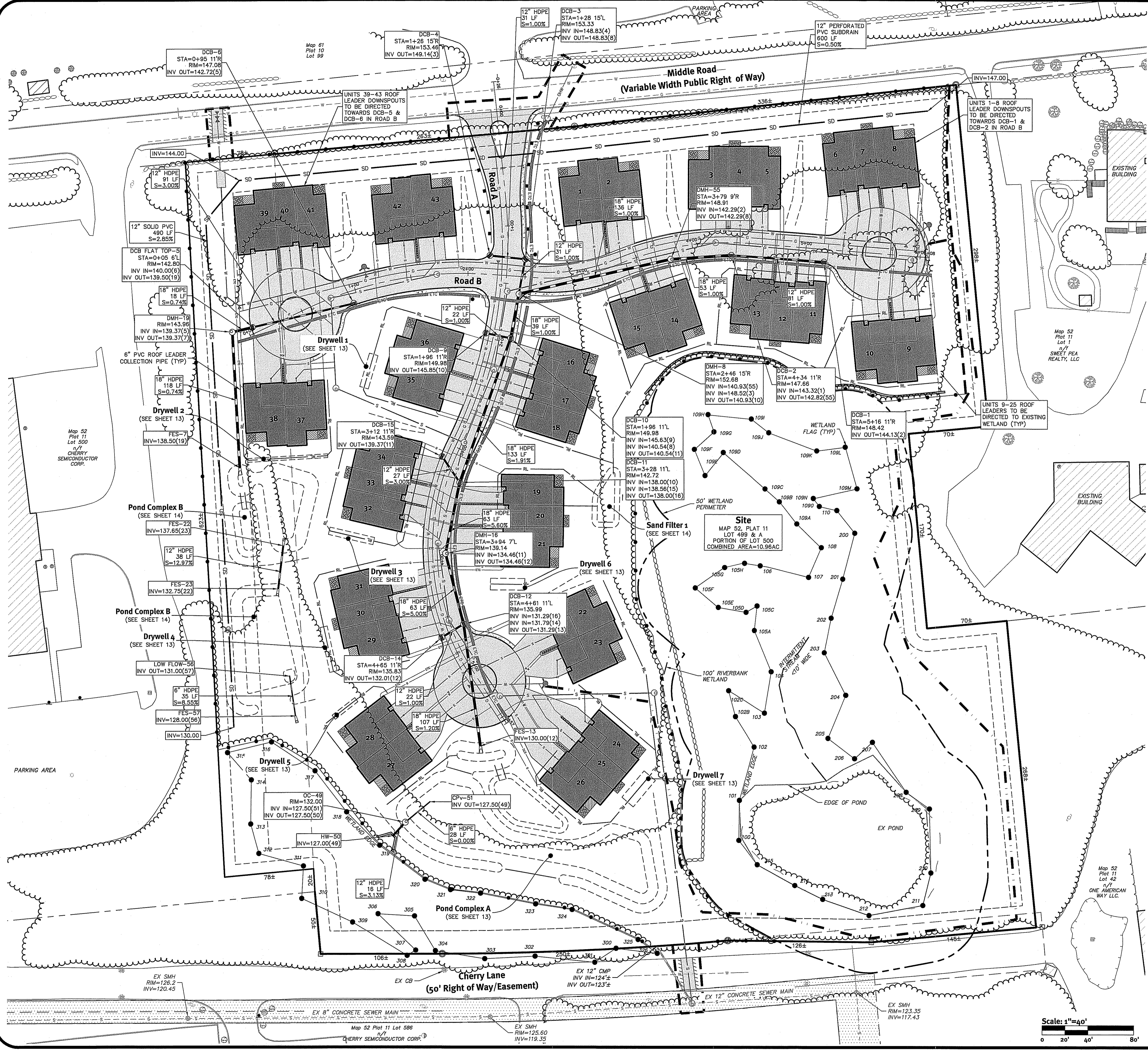
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 Environmental Management
 AUG 22 2016
 Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.
 The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

Drawn By: R.B.S.	Design By: R.B.S.
Date: 08-25-2016	Permit Submission
Date: 08-25-2016	Description

Grading Plan
The Residences at Middleberry
 Assessor's Map 52, Plat 11, Lot 499 and a portion of Lot 500
 East Greenwich, Rhode Island
 Prepared for: **Philip Ryan Homes, LTD**
 32 Trappers Lane
 East Greenwich, RI 02818
 DE Job No: 1009-002 Copyright: 2016 by DiPrete Engineering Associates, Inc.
 Owner: **Middle Park Enterprises, LLC**
 461 Main Street
 East Greenwich, RI 02818





Drainage Structure Notes:

ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE RHODE ISLAND STANDARD SPECIFICATIONS.

ALL FRAME AND GRATES SHALL CONFORM TO SECTION M.04 OF THE RHODE ISLAND STANDARD SPECIFICATIONS.

REFER TO ALL RHODE ISLAND STANDARD DETAIL 4.4.0 FOR ALL STRUCTURES LABELED DOUBLE CATCH BASIN (DCB). DOUBLE FRAME AND GRATES TO BE NEENAH FOUNDRY CORP OR APPROVED EQUAL. (SEE SHEET 15)

REFER TO ALL RHODE ISLAND STANDARD DETAIL 4.2.0 FOR ALL STRUCTURES LABELED DRAINAGE MANHOLE (DMH). REFER TO RHODE ISLAND STANDARD DETAIL 6.2.1 FOR ALL HEAVY-DUTY ROUND FRAME AND COVERS.

DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 Tel: 401-943-0000 Fax: 401-943-6000 www.DiPrete-Eng.com
 Engineers • Planners • Surveyors

BRANDON D. CARR
 6801
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 Environmental Management
 AUG 22 2016
 Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped "Issued for Construction" and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By
1	08/22/2016	Permit Submission	R.B.S.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

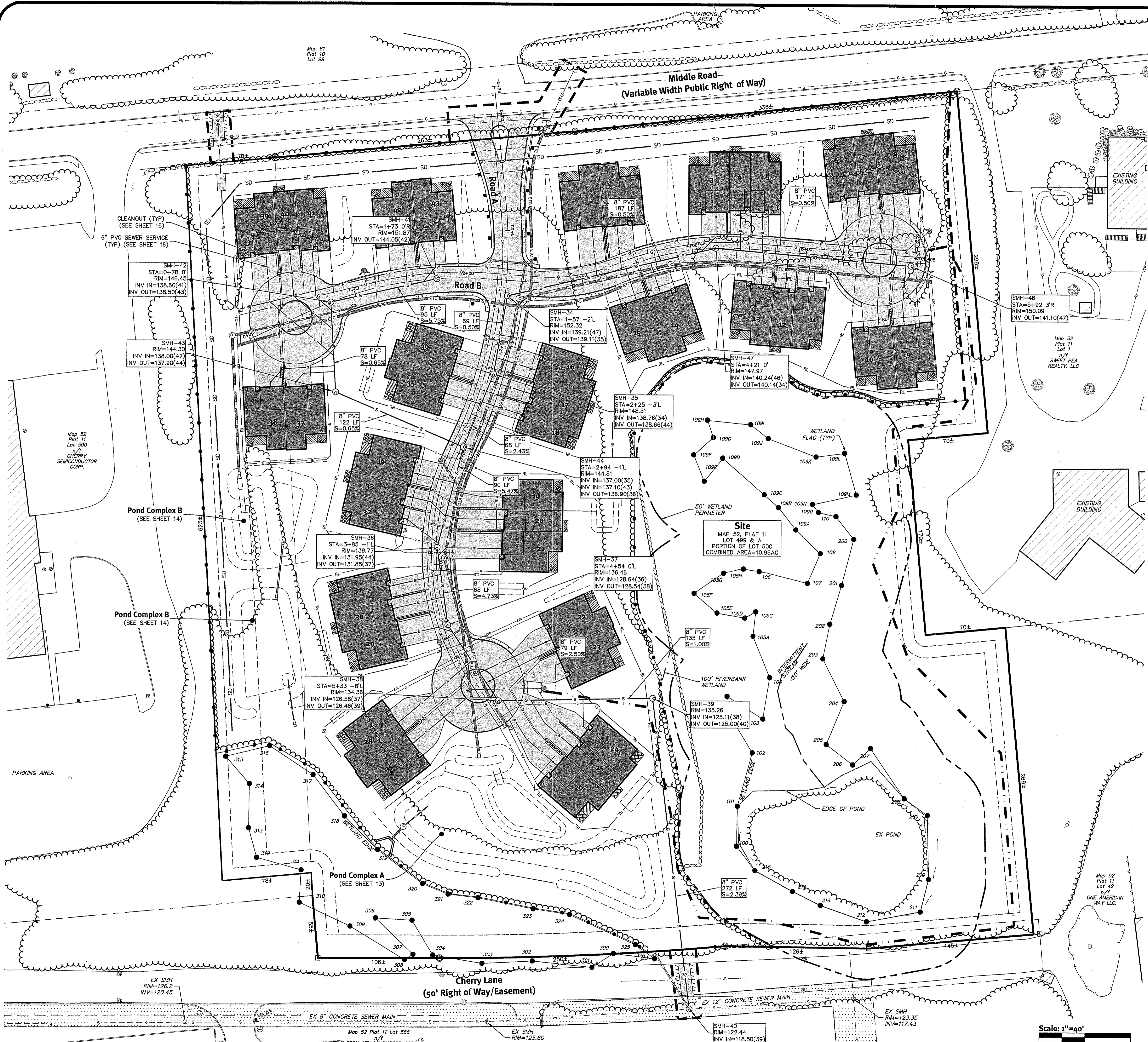
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED 10/26/2016 FILE # 16-018
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Drainage Plan
The Residences at Middleberry
 Assessor's Map 52, Plat 11, Lot 499 and a portion of Lot 500
 East Greenwich, Rhode Island
 Prepared for
Philip Ryan Homes, LTD
 461 Main Street
 32 Trappers Lane
 East Greenwich, RI 02818
 DE Job No: 1009-8002 Copyright 2016 by DiPrete Engineering Associates, Inc.

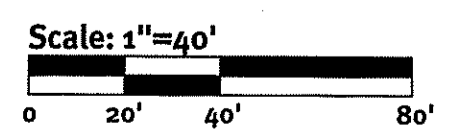
Middle Park Enterprises, LLC
 461 Main Street
 East Greenwich, RI 02818

Scale: 1"=40'
 0 20' 40' 80'

SHEET 8 OF 16



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED OCT 6 2016 FILE # 16-0218
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 Tel: 401-943-1000 Fax: 401-664-6066 www.DiPrete-Eng.com
 Engineers • Planners • Surveyors

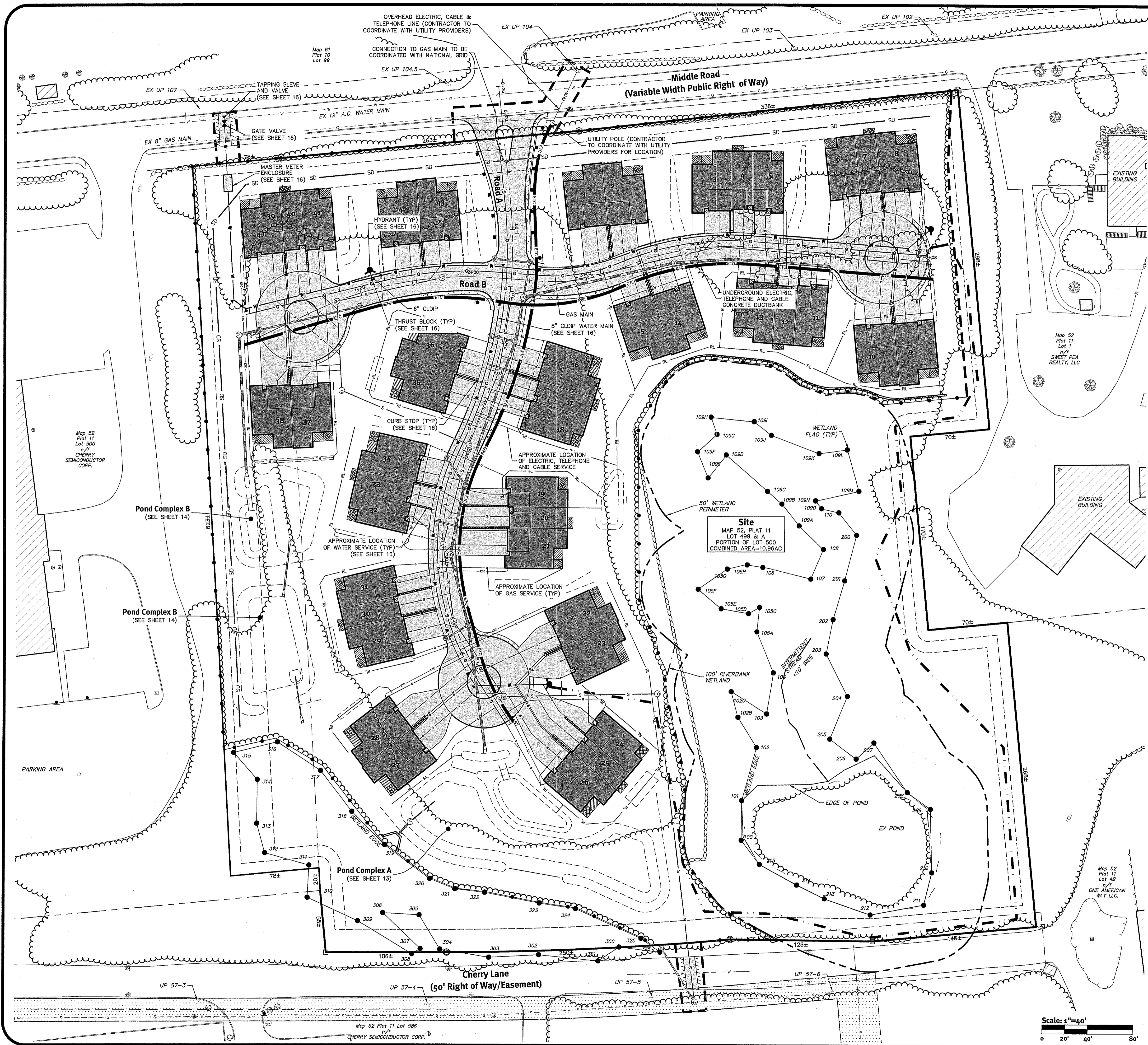
BRANDON D. CARR
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 9501

Environmental Management
 AUG 22 2016
 Office of Water Resources

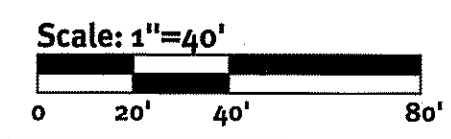
This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
 The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Permit Submission Description	By
1	08/22/2016	021608	R.B.S.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			

Sewer Plan
The Residences at Middleberry
 Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
 Prepared for
Philip Ryan Homes, LTD
 32 Terrace Lane
 East Greenwich, RI 02818
 Owner
Middle Park Enterprises, LLC
 461 Main Street
 East Greenwich, RI 02818
 DE Job No: 1009-002 Copyright 2016 by DiPrete Engineering Associates, Inc.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED OCT 6 2016 FILE # 16-0218
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE



DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 Tel: 401-949-1000 Fax: 401-944-6606 www.DiPrete-Eng.com
 Engineers • Planners • Surveyors

BRANDON D. CARR

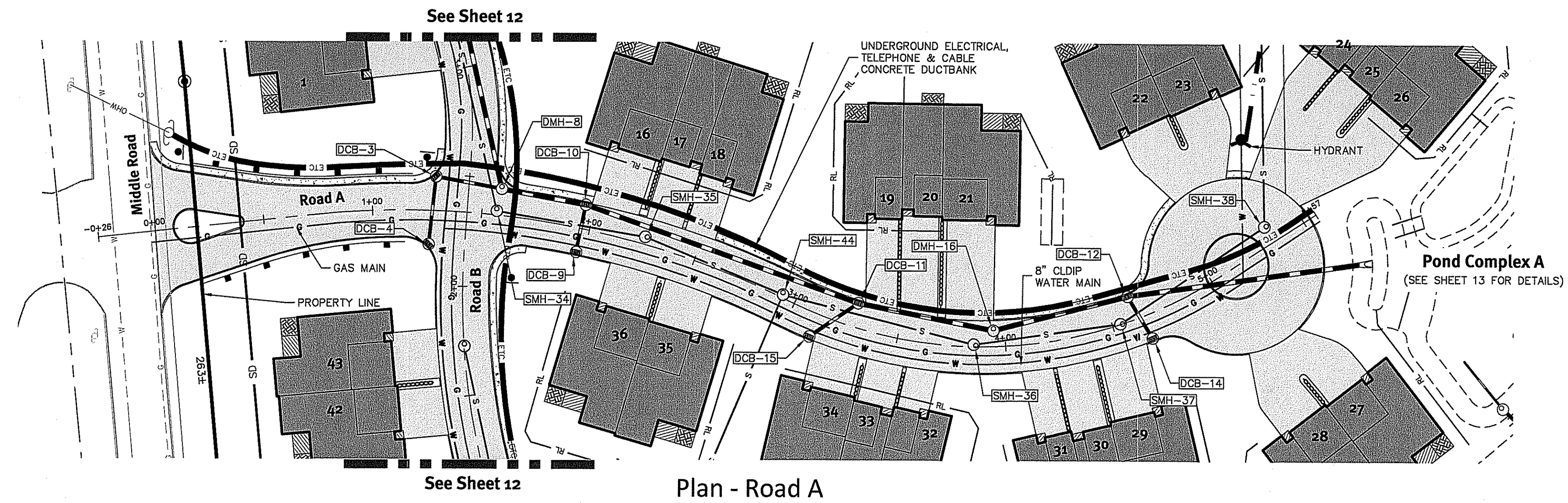
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

Environmental Management
 AUG 22 2016
 Office of Water Resources

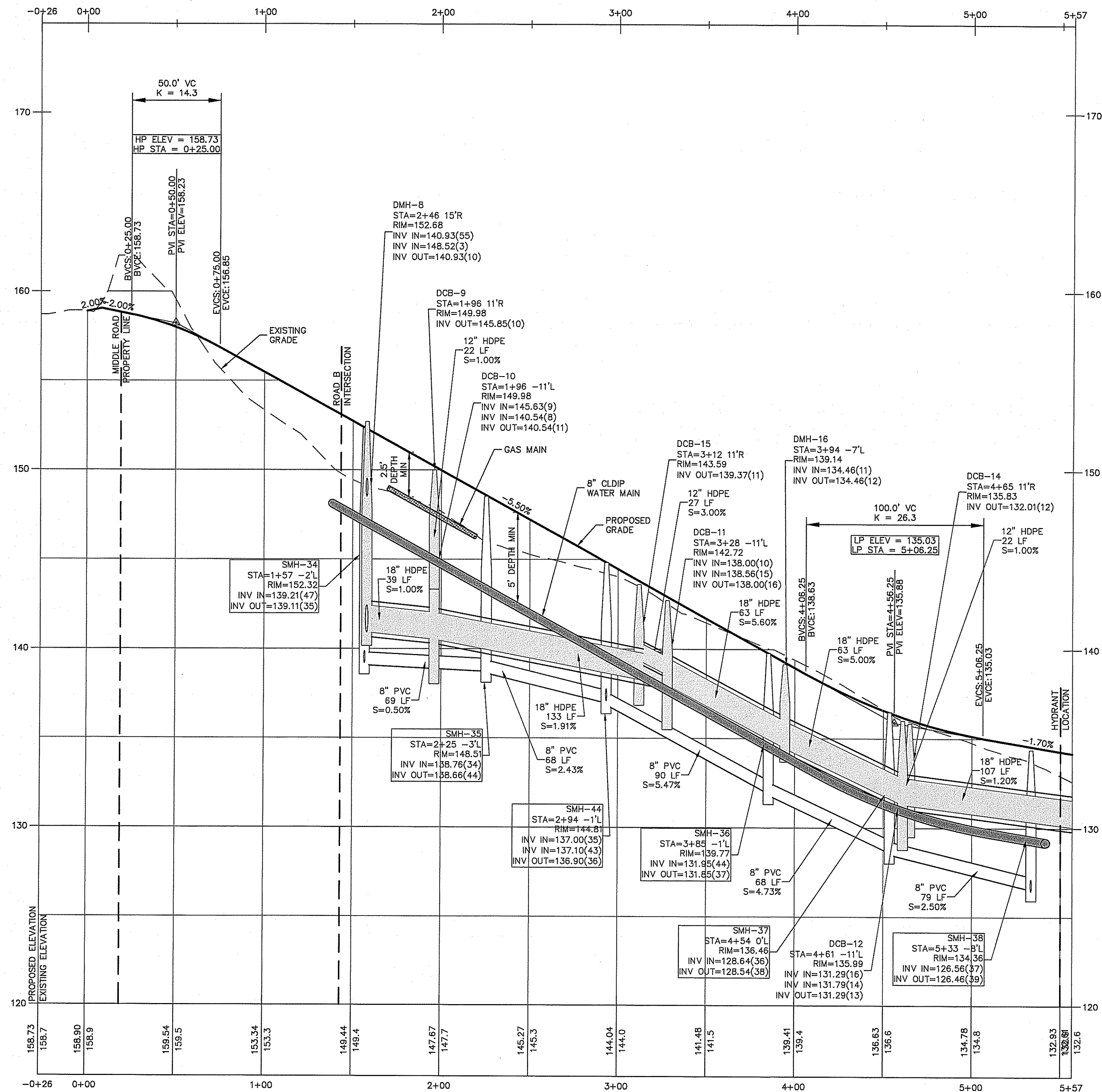
This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
 The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By:
0	08/22/2016	Permit Submission	R.B.S.
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			

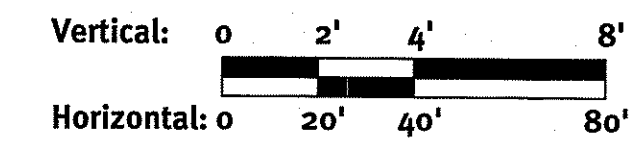
Utility Plan
The Residences at Middleberry
 Assessor's Map 52, Plat 11, Lot 499 and a portion of Lot 500
 East Greenwich, Rhode Island
 Owner: **Middle Park Enterprises, LLC**
 Philip Ryan Homes, LTD
 32 Trappere Lane
 East Greenwich, RI 02818
 DE Job No. 1009-002 Copyright 2016 by DiPrete Engineering Associates, Inc.



Plan - Road A



Profile - Road A
Station -0+26 - 5+57



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
PRESERVE WETLANDS PROGRAM
AS SHOWN WITH LETTER OF APPROVAL
OCT 6 2016 FILE # 10018
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL

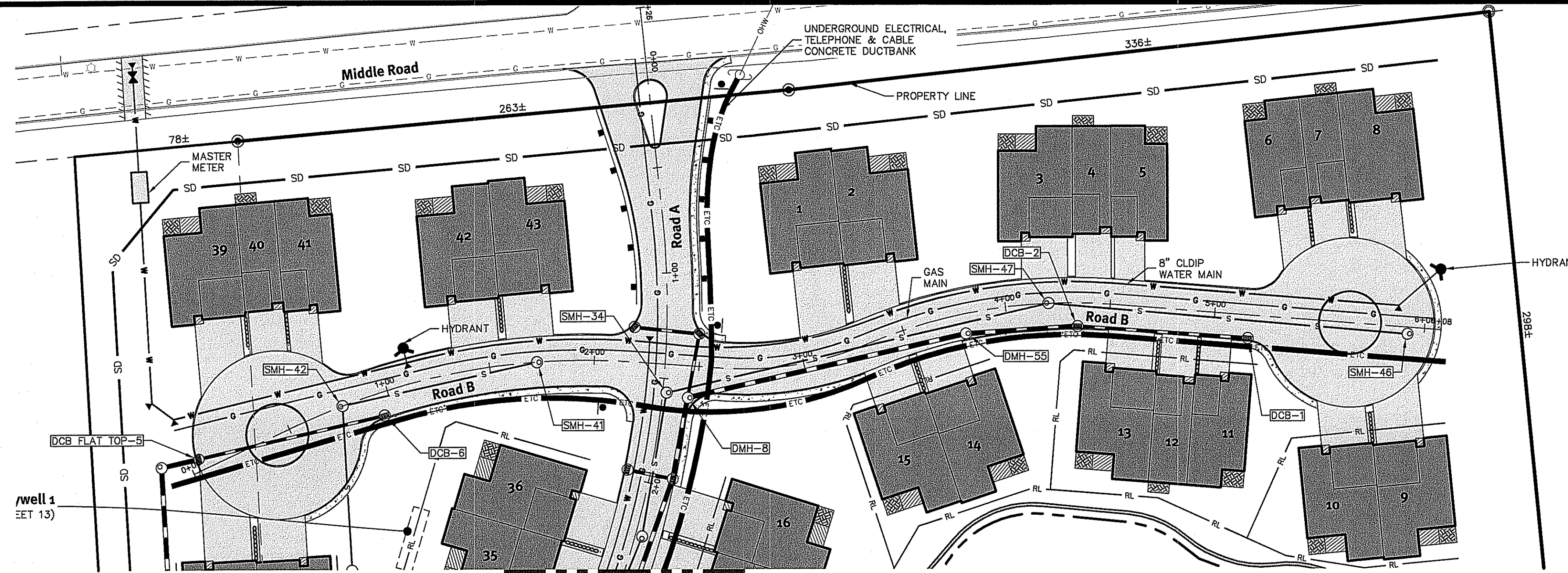
Environmental Management
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

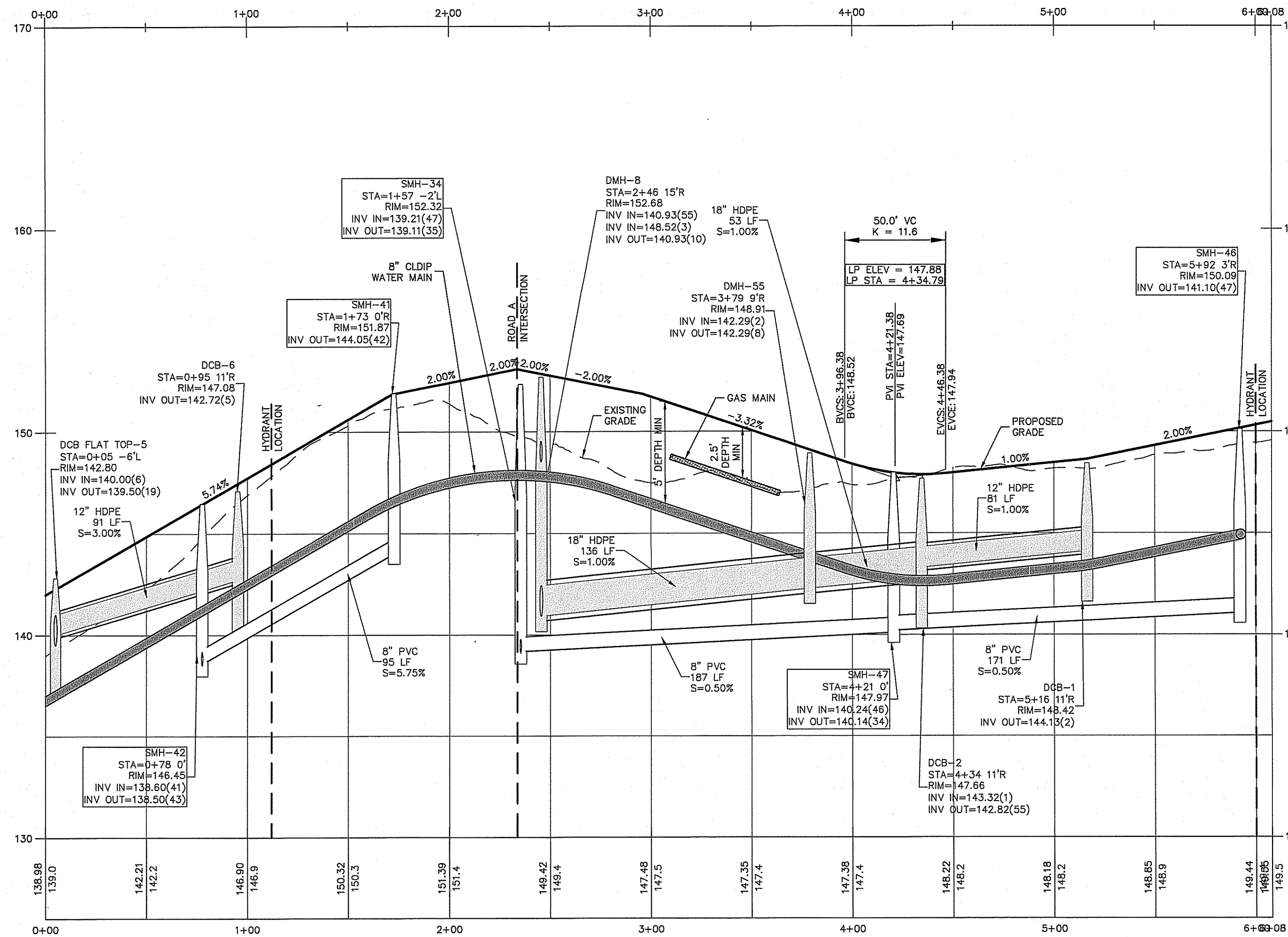
0	08/22/2016	Permit Submission	R.B.S.
1		Description	By:
2		Drawn By: R.B.S.	Design By: R.B.S.

P&P Road A- Sta. -0+26 - 5+57
The Residences at Middleberry
Assessors, Map 52, Plat 13, Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island
Prepared for
Philip Ryan Homes, LTD
32 Trappets Lane
East Greenwich, RI 02888
Owner
Middle Park Enterprises, LLC
401 Main Street
East Greenwich, RI 02888
DiPrete Engineering Associates, Inc.
Job No: 1009-002 Copyright 2016 by DiPrete Engineering Associates, Inc.

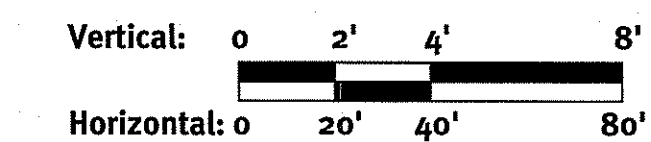
DiPrete Engineering
Two Stafford Court Cranston, RI 02920
Tel: 401-943-1000 Fax: 401-464-6666 www.DiPrete-Eng.com
Engineers • Planners • Surveyors



See Sheet 11
Plan - Road B



Profile - Road B
Station 0+00 - 6+00



Diprete Engineering
Two Stafford Court, Cranston, RI 02920
Tel: 401-943-1000 Fax: 401-464-6606 www.Diprete-Eng.com

Engineers • Planners • Surveyors

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Environmental Management
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped, issued for construction, and signed by a Diprete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

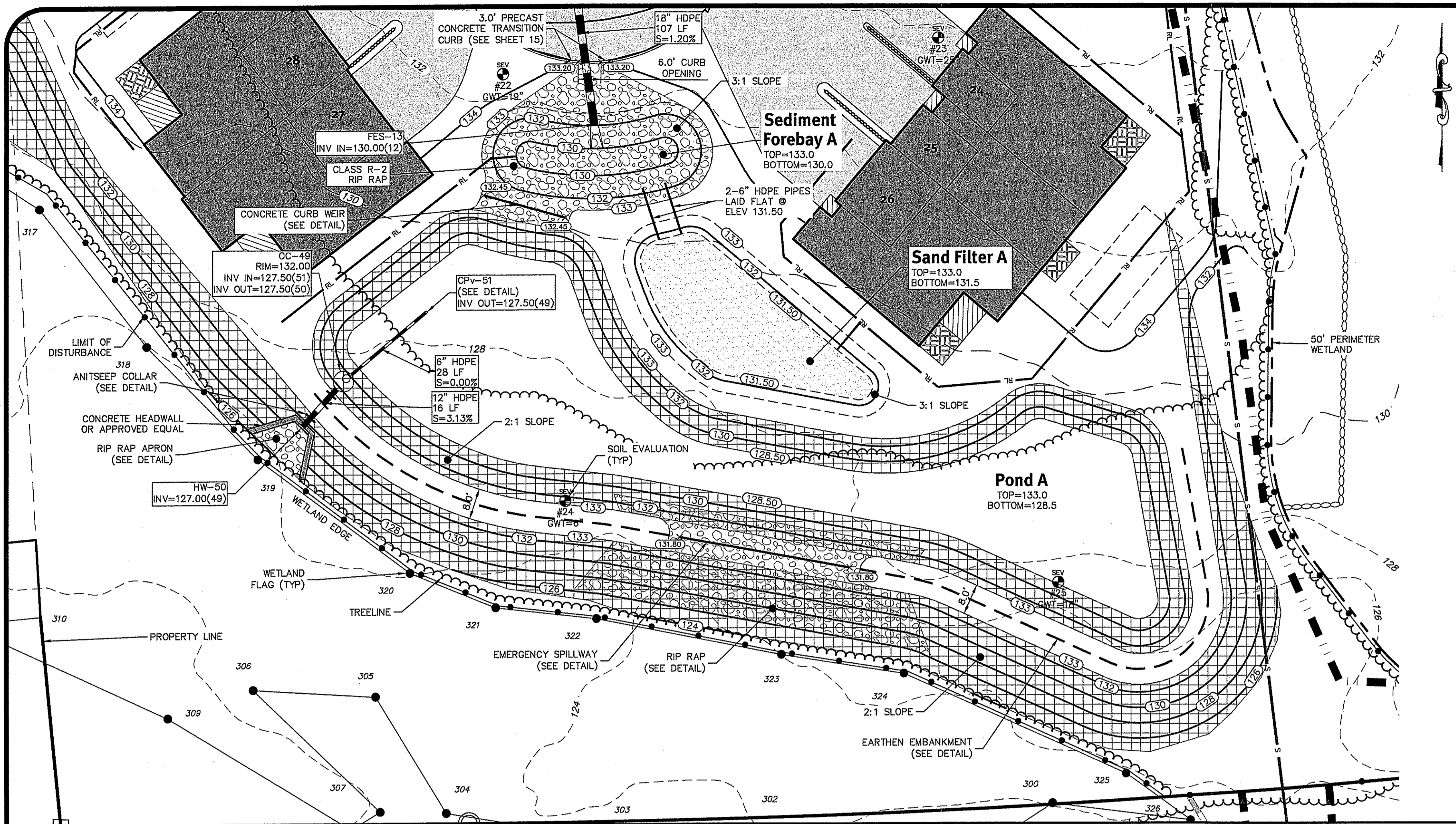
No.	Date	Description	By	Design By
0	08/05/2016	Final Submission	R.B.S.	R.B.S.

STATEMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
DESIGNATED WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED OCT 6 2016 FILE # 16-008
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

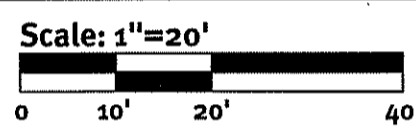
P&P Road B - Sta. 0+00 - 6+00
The Residences at Middleberry
Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
Prepared by
Philip Ryan Homes, LTD
32 Trappers Lane
East Greenwich, RI 02818

Owner
Middle Park Enterprises, LLC
461 Main Street
East Greenwich, RI 02818

DE Job No: 1109-002 Copyright 2016 by Diprete Engineering Associates, Inc.

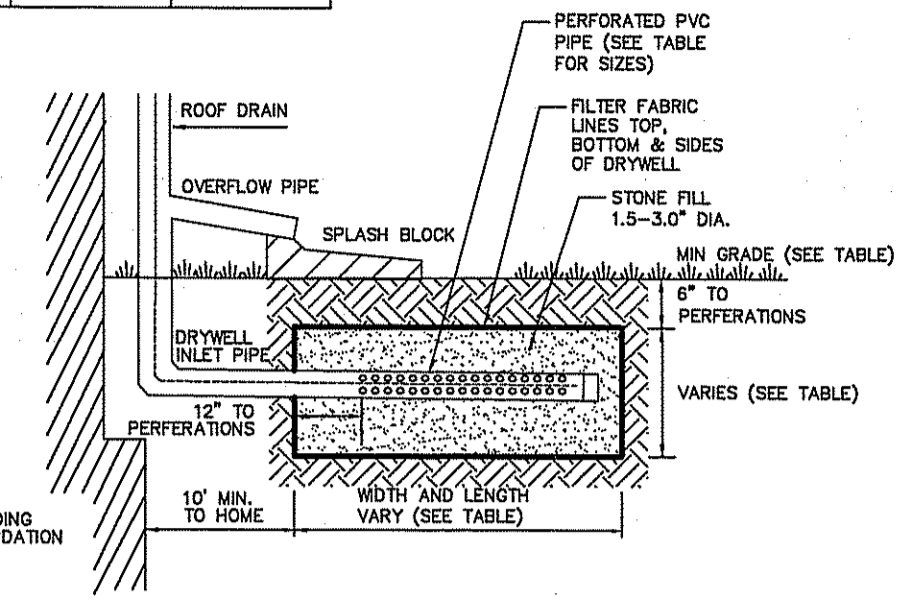


Pond Complex A

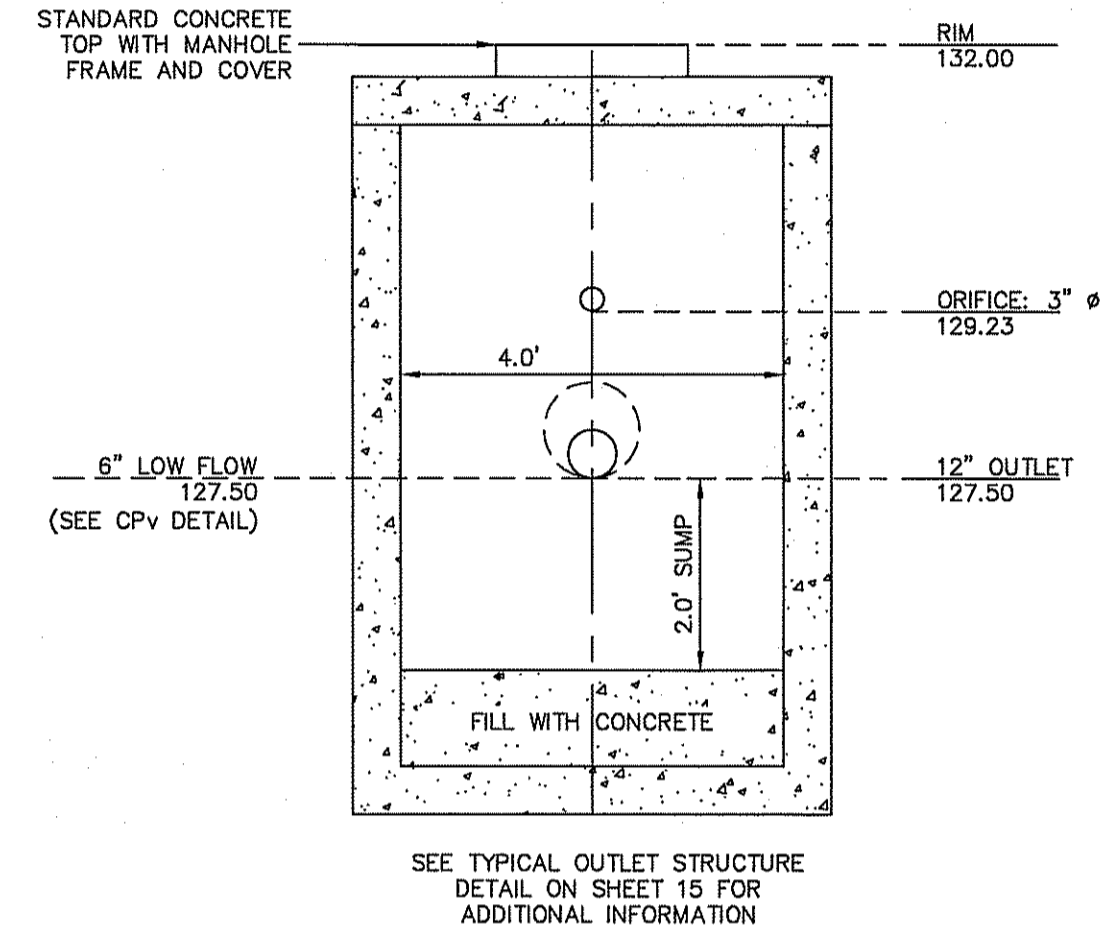


DRYWELL	UNITS SERVED	WIDTH (FT)	LENGTH (FT)	TOP OF STONE ELEVATION	BOTTOM OF STONE ELEVATION	PIPE DIAMETER	PIPE INVERT	MIN GRADE	GWT	SEV
1	35 & 36	7.75	30.00	145.75	144.00	8"	144.50	146.25	142.00	8
2	37 & 38	3.25	70.00	141.75	140.00	8"	140.50	142.25	138.00	7
3	32-34	6.50	40.00	141.00	139.25	8"	139.75	141.50	136.50	12
4	29-31	6.50	40.00	136.25	134.50	8"	135.00	136.75	131.75	21
5	28	4.50	25.00	133.50	131.75	8"	132.25	134.00	129.75	21
6	21	10.00	30.00	139.50	139.00	4"	139.10	140.00	137.00	19
7	22-25	13.00	30.00	133.75	132.00	8"	132.50	134.25	130.00	23

- NOTES:
- ROOF LEADER OVERFLOW PIPES FOR UNITS 9-25 TO BE DIRECTED TOWARDS THE EXISTING WET POND
 - ROOF LEADER OVERFLOW PIPE FOR UNIT 28 TO BE DIRECTED TOWARDS THE ISOLATED WETLAND
 - ROOF LEADER OVERFLOW PIPES FOR UNITS 29-31 TO BE DIRECTED TOWARDS DETENTION BASIN B-2
 - ROOF LEADER OVERFLOW PIPES FOR UNITS 32-38 TO BE DIRECTED TOWARDS DETENTION BASIN B-1



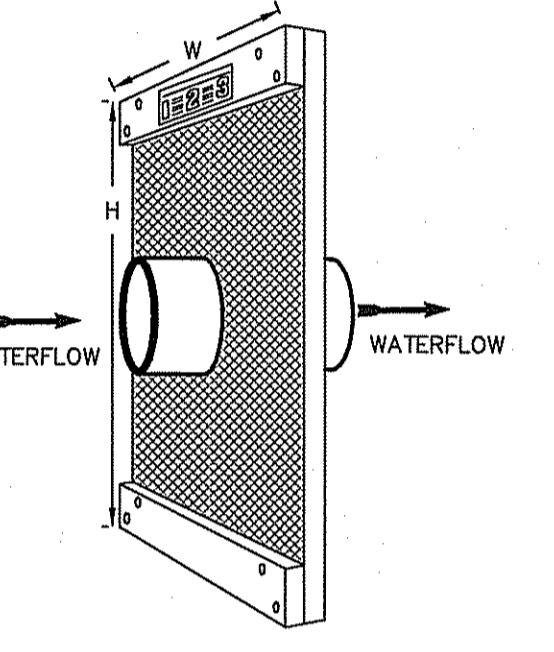
Drywell Detail
NOT TO SCALE



Pond A Outlet Control Manhole
SCALE: 1"=2'

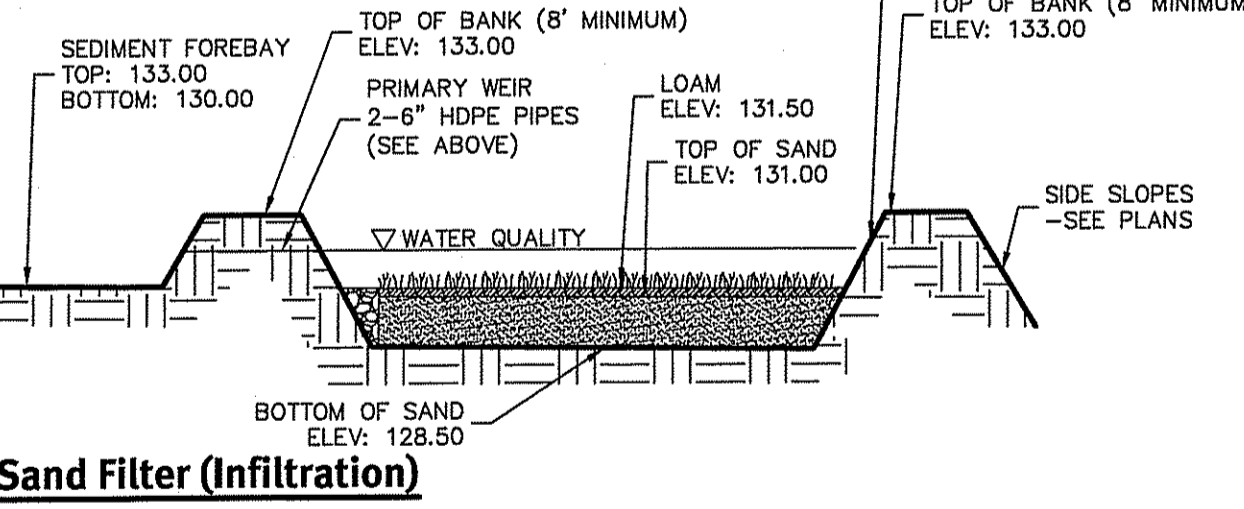
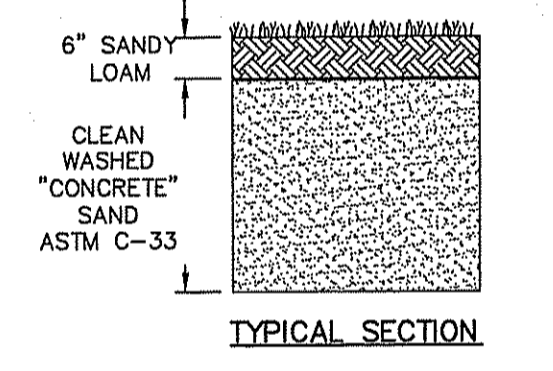
LOCATION	WIDTH	HEIGHT	QUANTITY
POND A	2.0'	2.0'	2

- INSTALLATION NOTES:
- UNROLL THE ANTI-SEEP AND ATTACH THE BOARDS TO THE EDGES TO FORM A SQUARE. (USE THE BOARDS AND NAILS PROVIDED)(4"x4" AND LARGER)
 - CUT A ROUND HOLE IN THE CENTER OF THE RUBBER THAT IS SMALLER THAN THE PIPE SIZE (APPROX. 25% SMALLER). THIS WILL ALLOW THE RUBBER TO STRETCH OVER THE PIPE WHEN THE ANTI-SEEP IS INSTALLED ON THE PIPE. THIS SHOULD PROVIDE A NEARLY WATERPROOF SEAL BETWEEN THE PIPE AND THE ANTI-SEEP.
 - SLIP THE PIPE THROUGH THE ANTI-SEEP. INSPECT THE SEAL BETWEEN THE PIPE AND THE ANTI-SEEP. CAREFULLY BACKFILL AND COMPACT WITH SUITABLE SOIL.



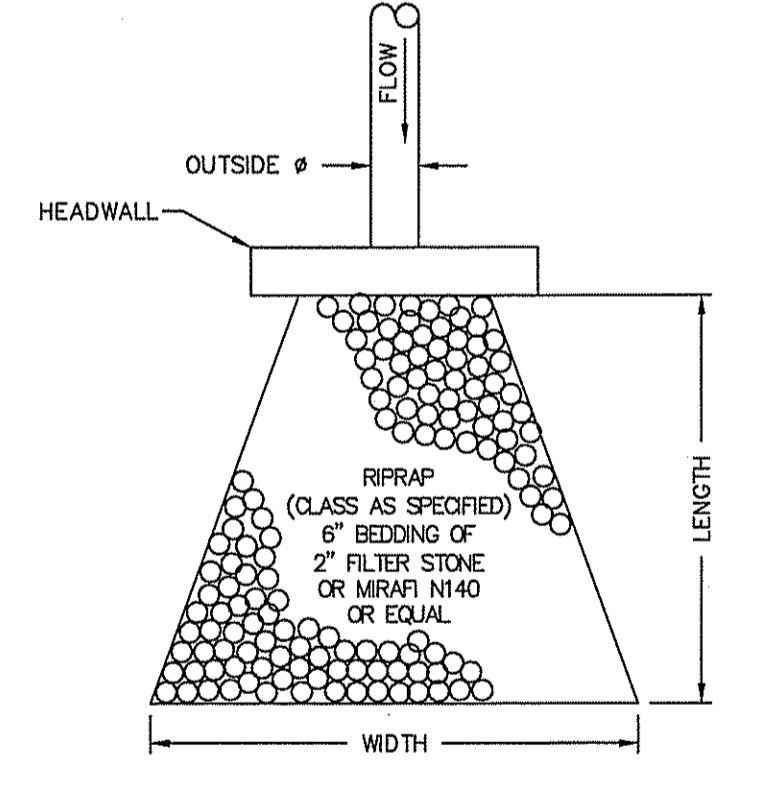
Anti-Seep Collar
NOT TO SCALE

DESCRIPTION	SF-A
AVAILABLE STORAGE ELEVATION	133.00
100 YEAR STORM ELEVATION	133.00
10 YEAR STORM ELEVATION	132.75
1 YEAR STORM ELEVATION	132.49
1.2" STORM ELEVATION	132.44
TOP OF GRASS	131.50
SAND & LOAM DEPTH	3.0
BOTTOM OF SAND LAYER	128.50
SEASONAL HIGH GWT ELEVATION	128.50
SOIL EVALUATION	22



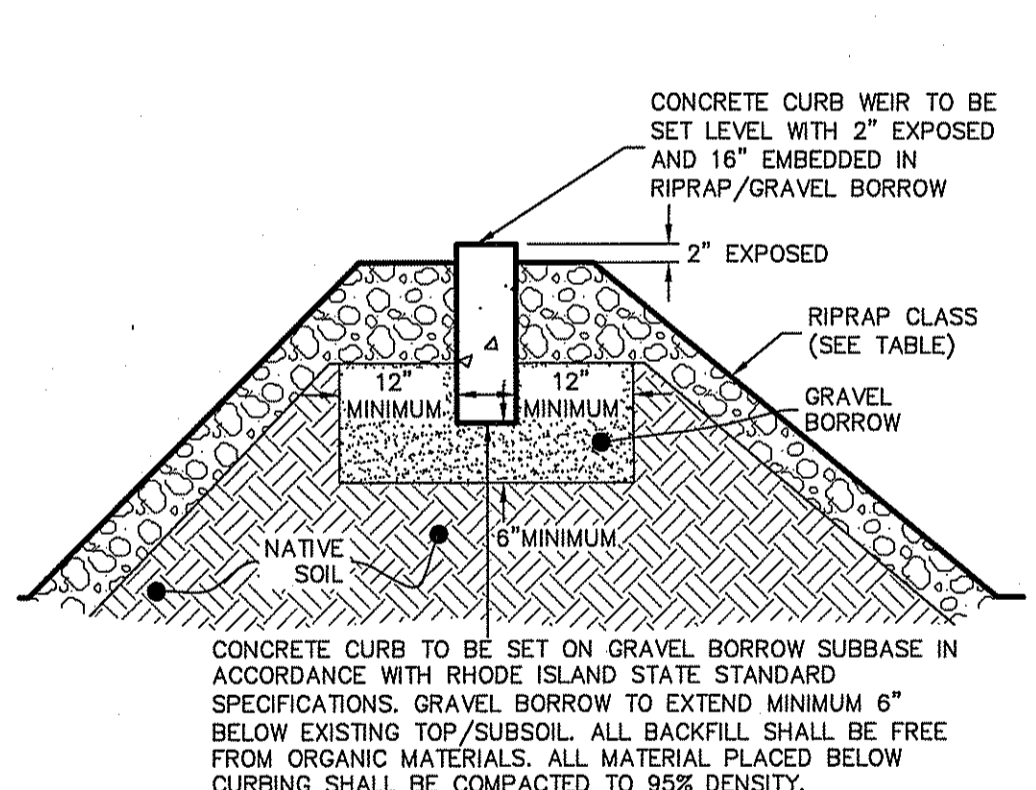
Sand Filter (Infiltration)
NOT TO SCALE

HEADWALL	LENGTH	WIDTH	CLASS
HW-50	9'	7'	R-2

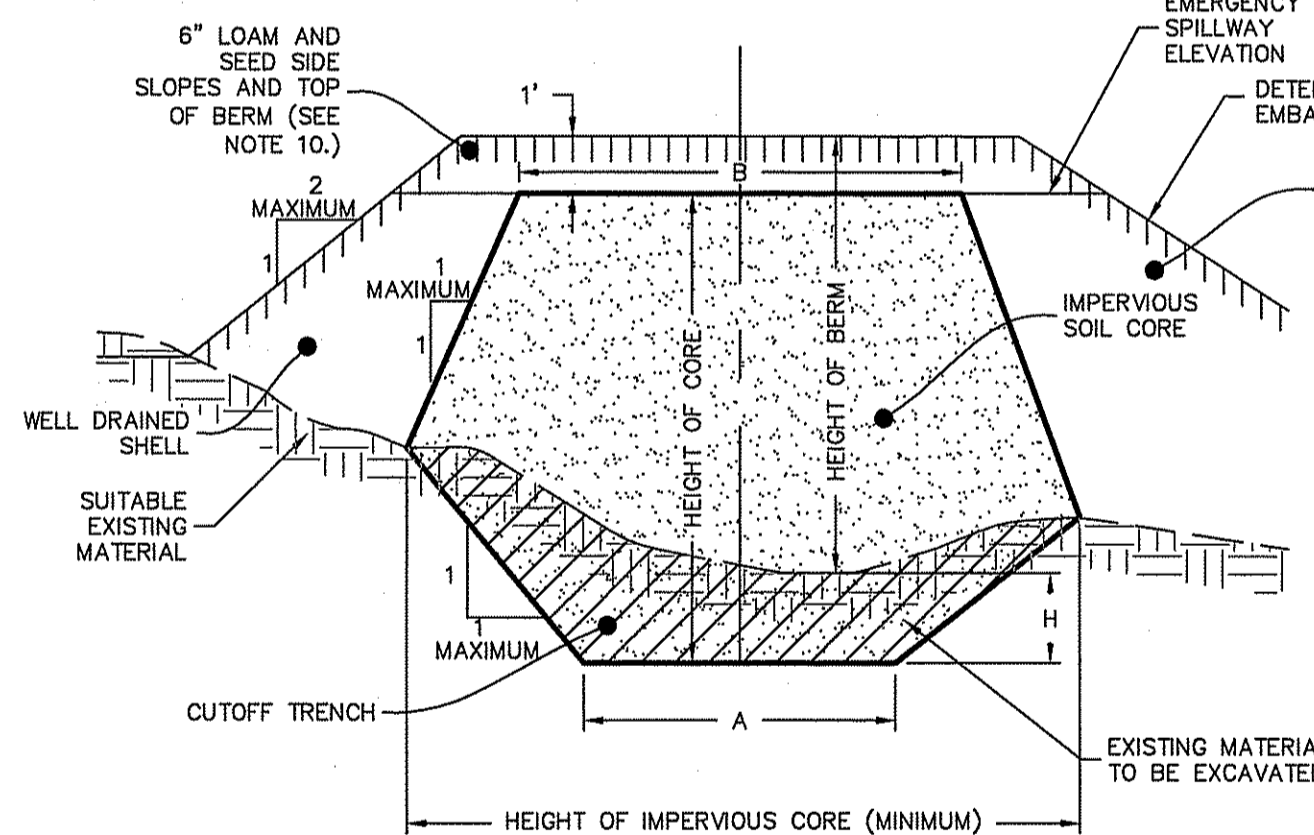


Riprap Apron/Headwall Detail
NOT TO SCALE

LOCATION	TOP OF POND ELEV.	WEIR INVERT	WEIR LENGTH	RIPRAP CLASS
FOREBAY A	133.00	132.45	22.0'	R-5



Curb Outlet Weir Cross Section
NOT TO SCALE

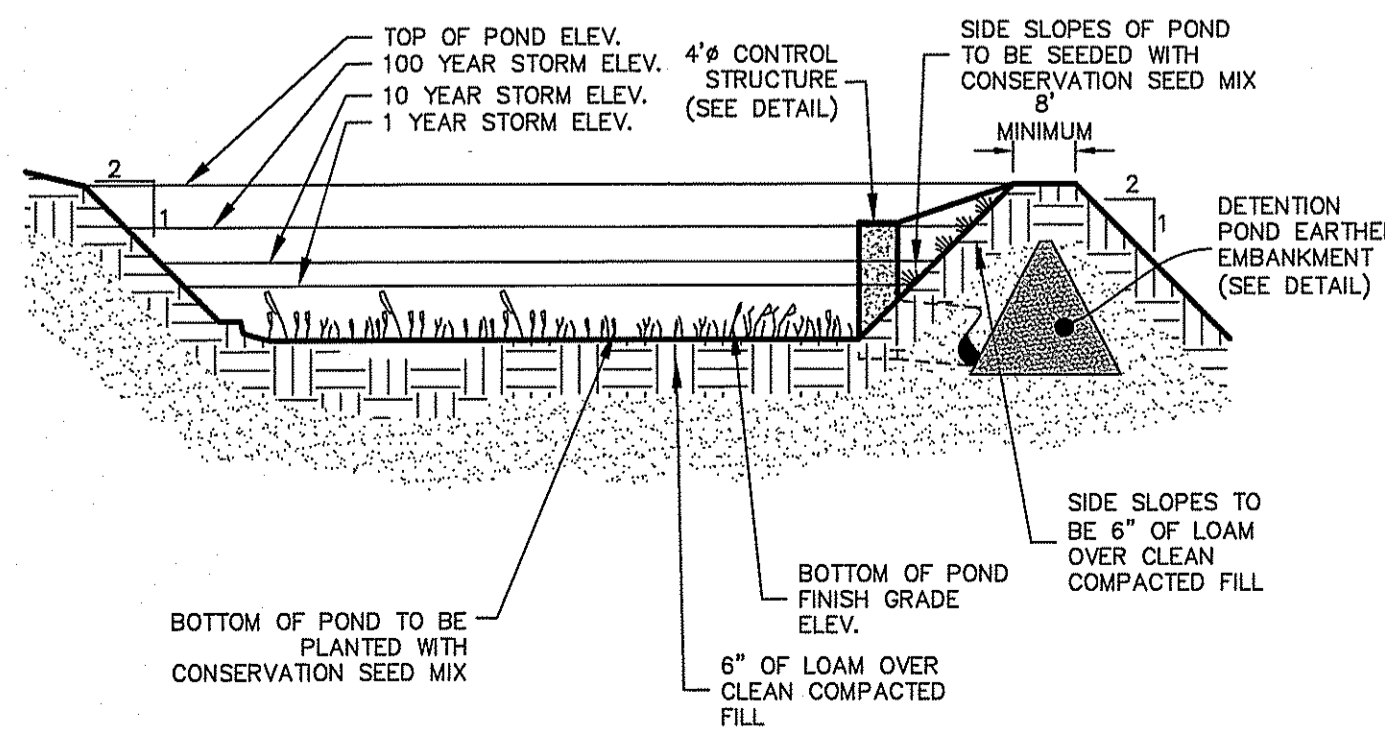


Detention Pond Earthen Embankment
NOT TO SCALE

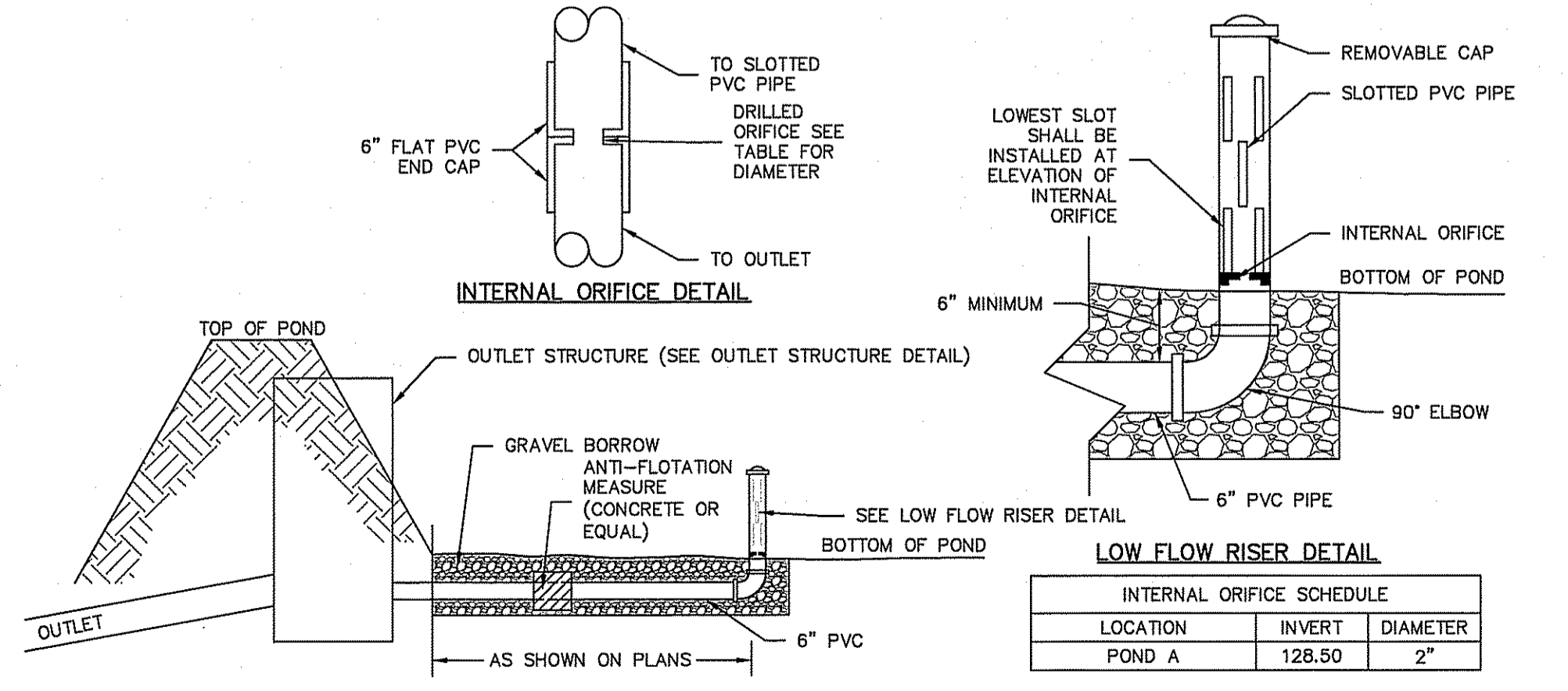
BERM HEIGHT (FT)	TOP WIDTH OF CORE - B (FT)
0-6.5	8.2
6.6-9.8	9.2
9.9-13.1	9.8
13.2-16.4	10.8
16.5-19.7	11.5

- NOTES:
- IMPERVIOUS SOIL CORE TO BE PROVIDED FOR ALL DETENTION POND EMBANKMENTS.
 - IMPERVIOUS SOIL CORE TO BE CONSTRUCTED OF MATERIAL CONSISTING OF SILT OR <200 SOIL.
 - WELL DRAINED SHELL TO BE CONSTRUCTED OF GRAVEL AND/OR SAND WITH LESS THAN 5% PASSING THE #200 SIEVE.
 - MINIMUM DEPTH OF CUTOFF TRENCH (H) SHALL BE 3/4 OF THE TOTAL BERM HEIGHT.
 - THE IMPERVIOUS CORE AT A MINIMUM SHALL EXTEND UP BOTH ABUTMENTS TO THE EMERGENCY SPILLWAY ELEVATION.
 - THE MINIMUM BOTTOM WIDTH (A) SHALL BE 5'-8" AND WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT.
 - SIDE SLOPES OF THE TRENCH SHALL BE NO STEEPER THAN 1:1.
 - IF BEDROCK IS ENCOUNTERED BELOW THE DAM THE CUTOFF TRENCH CAN BE REDUCED TO 1'4" (AW).
 - COMPACTION REQUIREMENTS FOR THE SHELL AND IMPERVIOUS CORE TO BE 95% OF THE MODIFIED PROCTOR PER ASTM D1557. ALL FILL TO BE PLACED IN LIFTS NOT EXCEEDING 12".
 - SIDE SLOPE OF DETENTION POND EMBANKMENT TO BE 2:1 MAXIMUM. IF SIDE SLOPES ARE STEEPER THAN 3:1, SLOPE PROTECTION MUST BE UTILIZED ON POND EMBANKMENT. THIS INCLUDES, BUT NOT LIMITED TO, RIPRAP AND EROSION CONTROL MATS.
 - THE IMPERVIOUS CORE SHALL BE KEPT FREE FROM STANDING WATER DURING THE BACKFILL OPERATION.
 - ALL EMBANKMENTS TO BE DESIGNED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION. ALL EMBANKMENT INSTALLATIONS TO BE SUPERVISED BY A GEOTECHNICAL ENGINEER.

DESCRIPTION	POND A
TOP OF POND ELEVATION	133.00
BOTTOM OF POND	128.50
100 YEAR STORM ELEVATION	132.00
10 YEAR STORM ELEVATION	130.71
1 YEAR STORM ELEVATION	129.22
SEASONAL HIGH GWT ELEVATION	128.00
SOIL EVALUATION	25

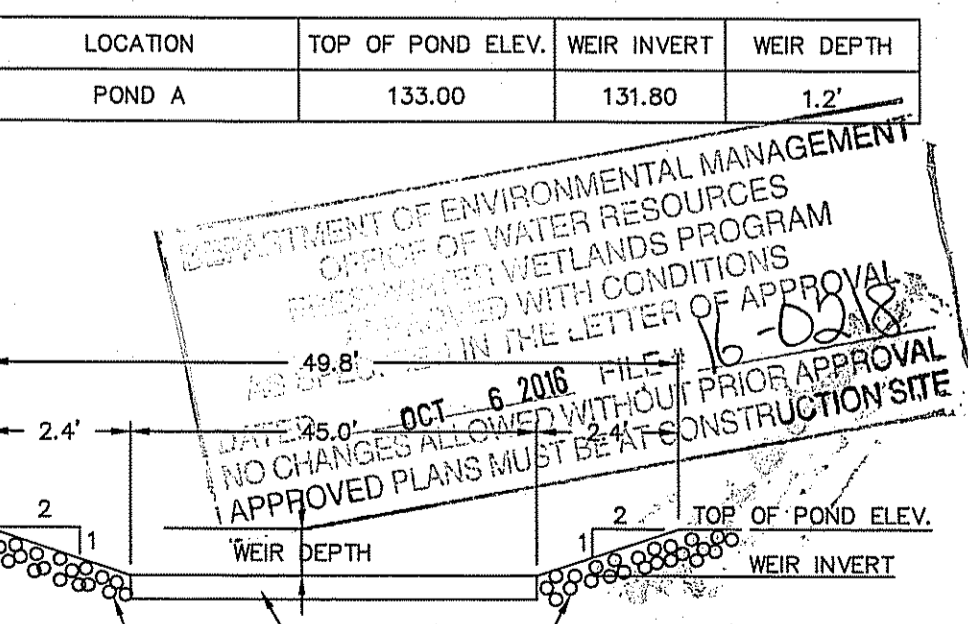


Detention Pond Typical Cross Section
NOT TO SCALE



Low Flow (CPV) Outlet
NOT TO SCALE

INTERNAL ORIFICE SCHEDULE	LOCATION	INVERT	DIAMETER
	POND A	128.50	2"



Emergency Spillway Detail
NOT TO SCALE

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
Tel: 401-943-1000 Fax: 401-641-6006 www.DiPrete-Eng.com

Engineers - Planners - Surveyors

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL
Environmental Management
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped, issued for construction and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

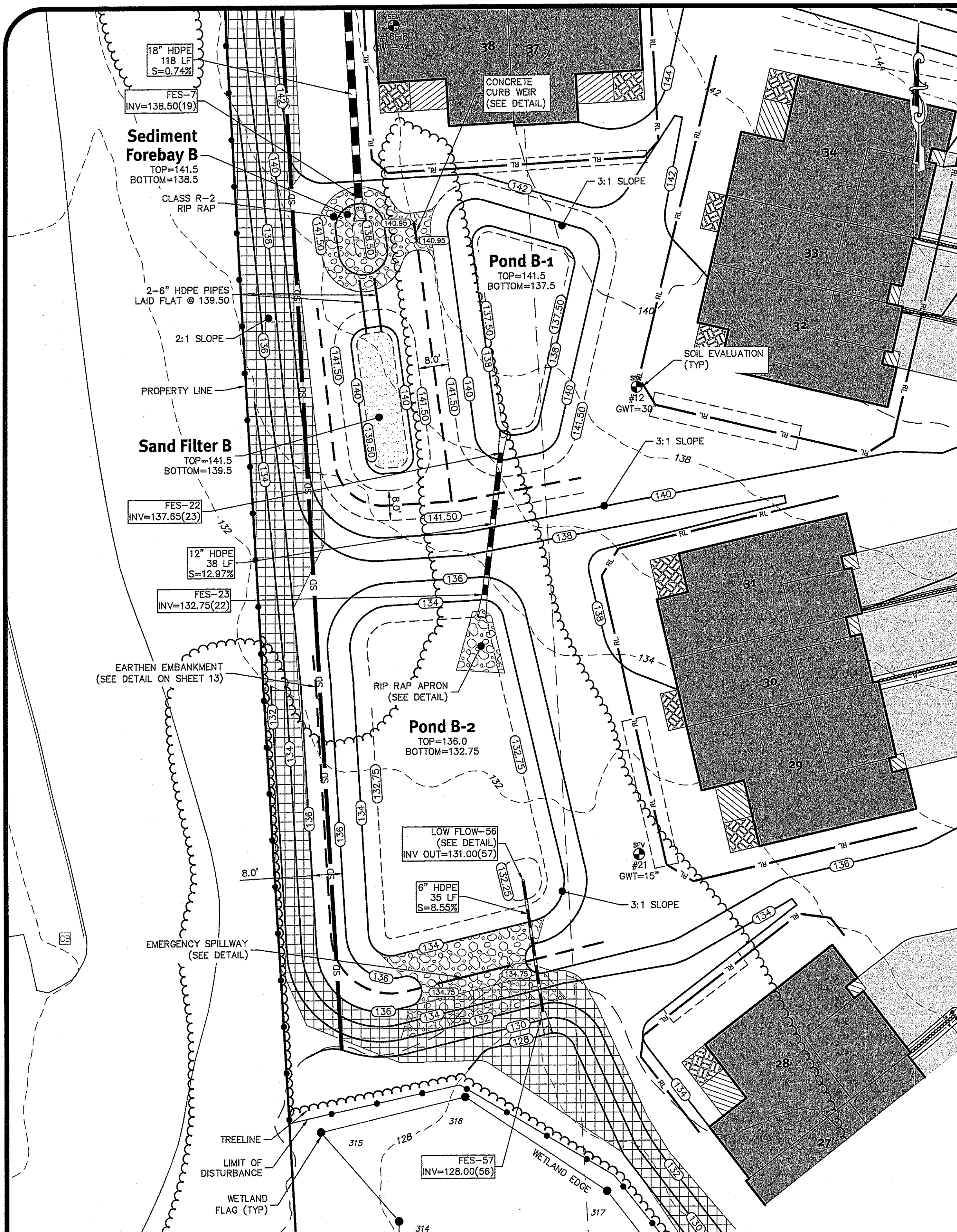
Design By: R.B.S.
Drawn By: R.B.S.
Date: 08-25-2016
Description: Pond Complex A

Pond Complex A Detail Sheet
The Residences at Middleberry
Assessor's Map 22 Plat 11 Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island

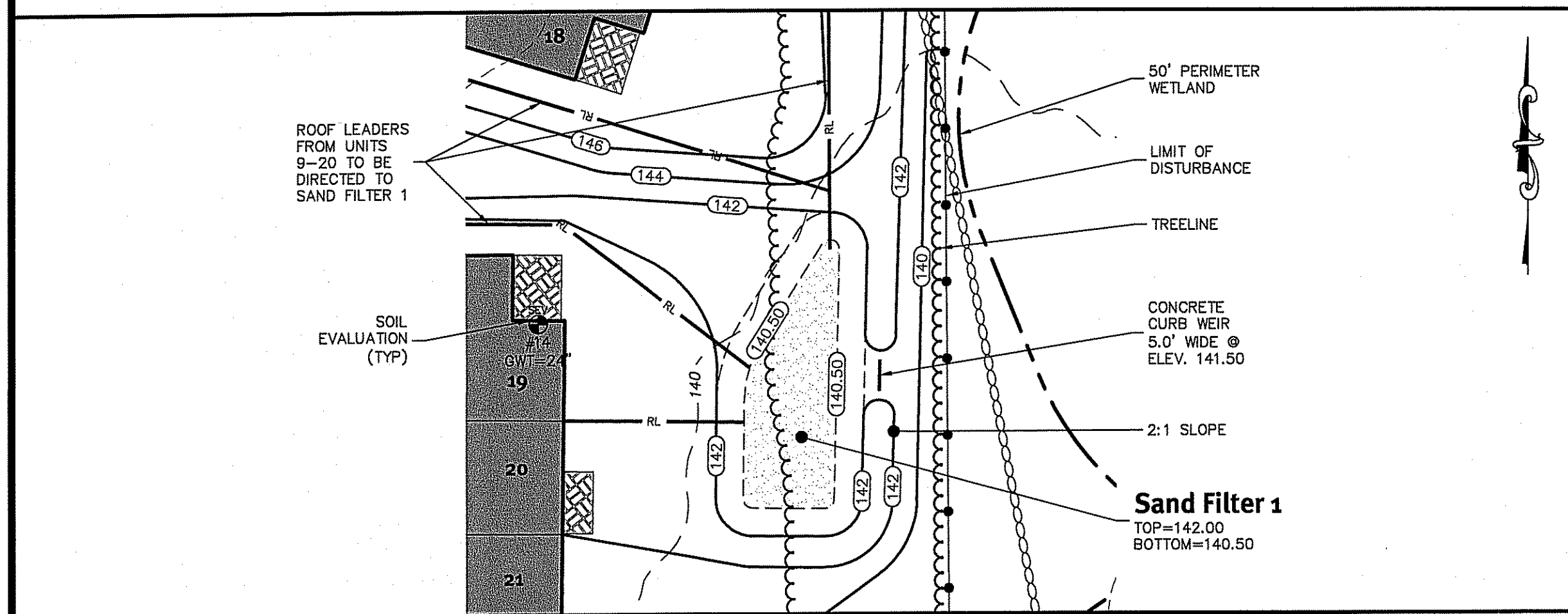
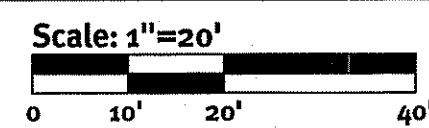
Prepared for:
Philip Ryan Homes, LTD
32 Trappers Lane
East Greenwich, RI 02818

Owned by:
Middle Park Enterprises, LLC
461 Main Street
East Greenwich, RI 02818

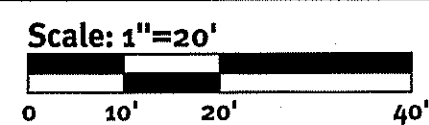
DE Job No: 2005-002 Copyright 2015 by DiPrete Engineering Associates, Inc.



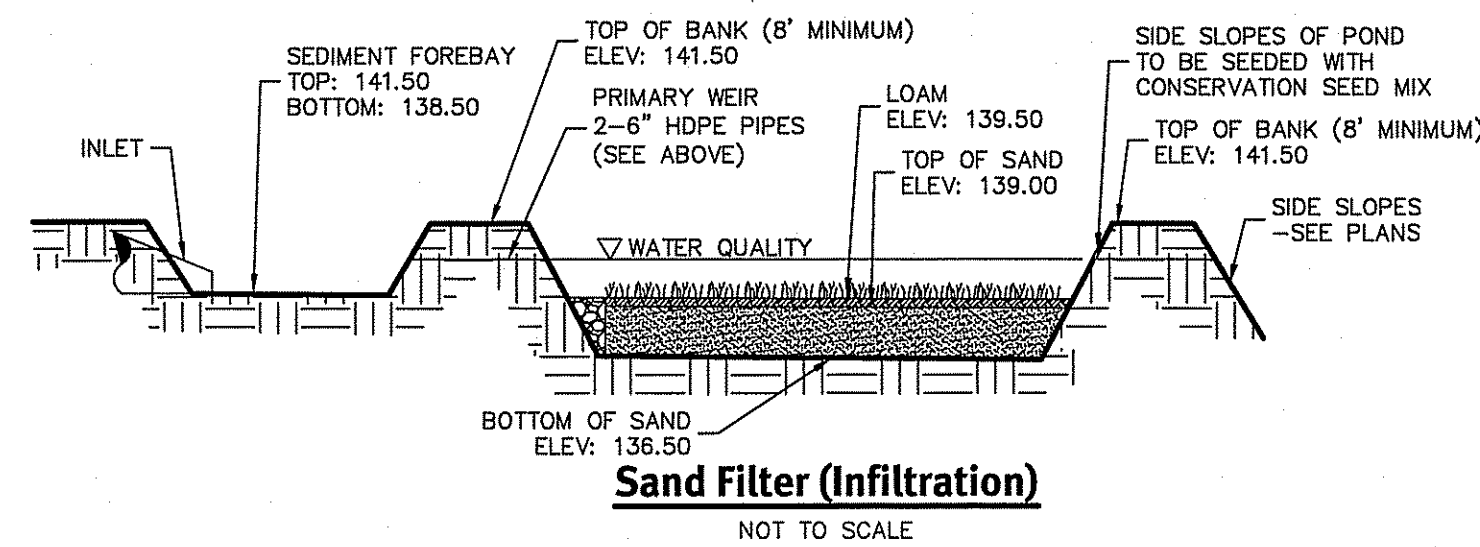
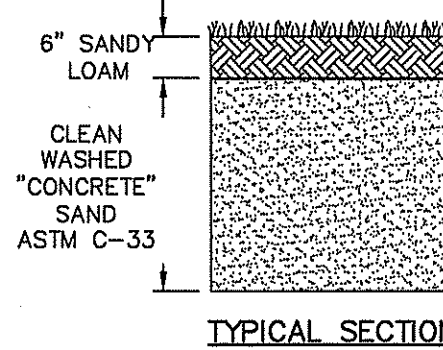
Pond Complex B



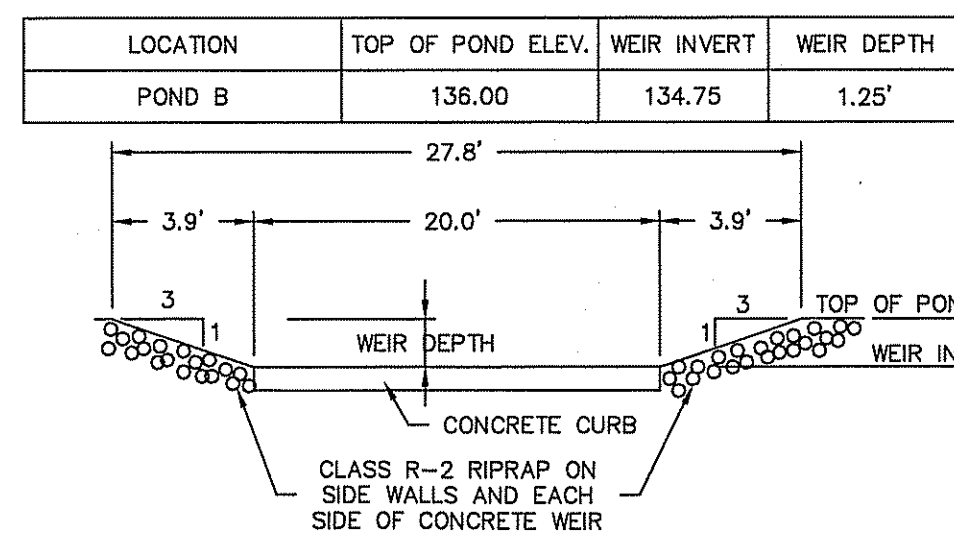
Sand Filter 1



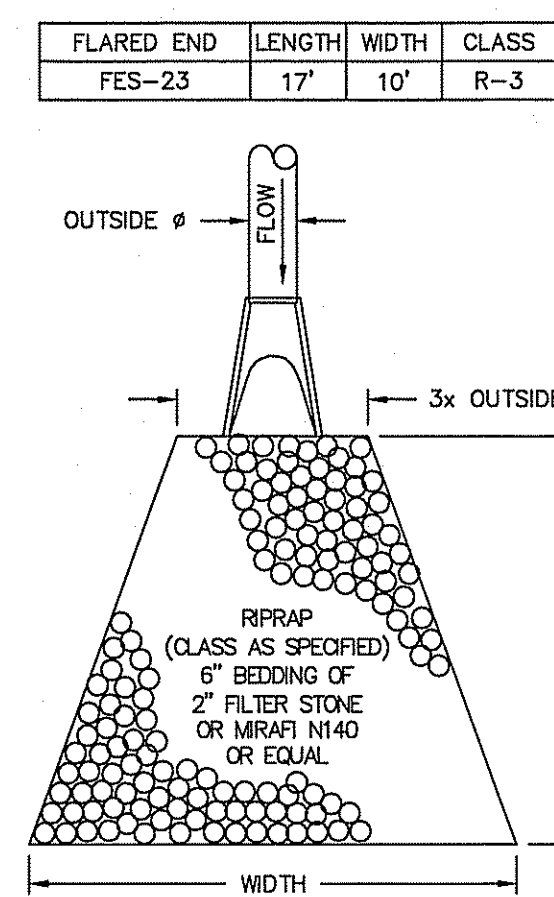
DESCRIPTION	SF-B
AVAILABLE STORAGE ELEVATION	141.50
100 YEAR STORM ELEVATION	141.50
10 YEAR STORM ELEVATION	141.29
1 YEAR STORM ELEVATION	141.01
1.2" STORM ELEVATION	140.77
TOP OF GRASS	139.50
SAND & LOAM DEPTH	3.0
BOTTOM OF SAND LAYER	136.50
SEASONAL HIGH GWT ELEVATION	133.50
SOIL EVALUATION	12



Sand Filter (Infiltration)
NOT TO SCALE

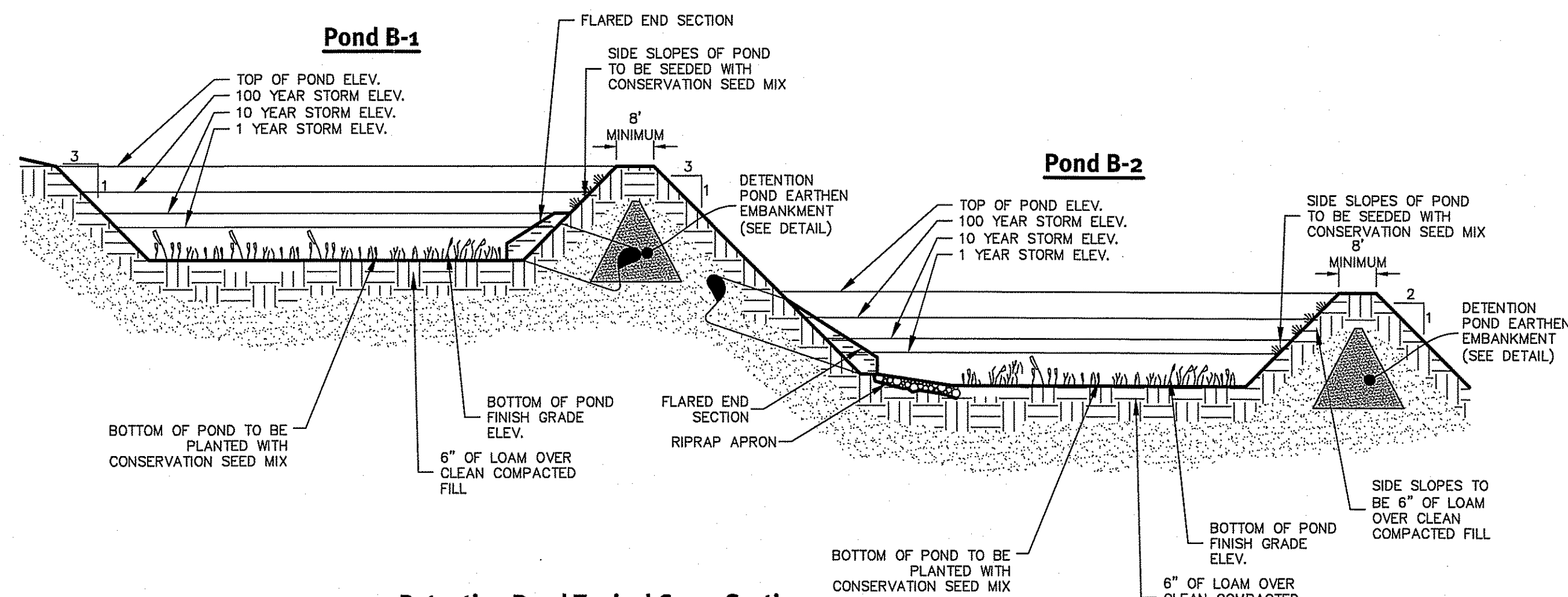


Emergency Spillway Detail
NOT TO SCALE



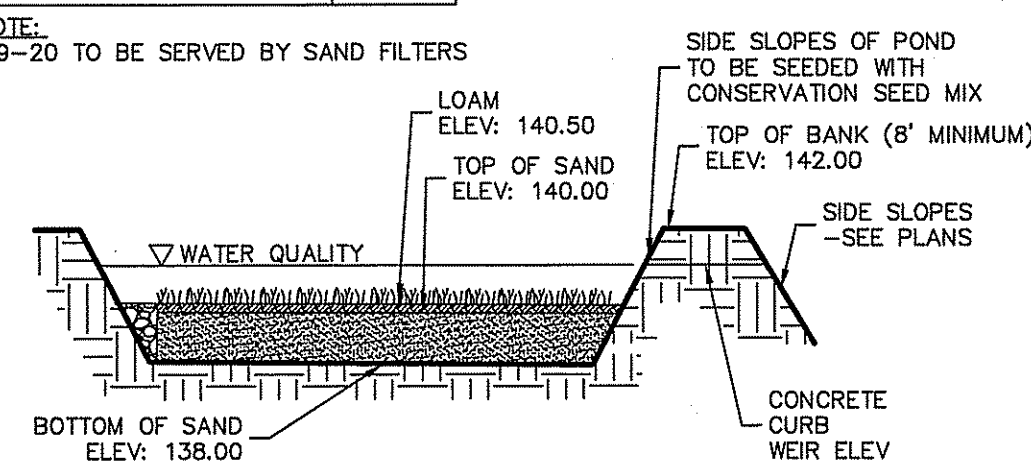
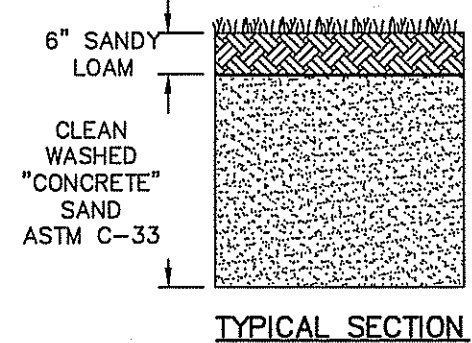
Riprap Apron / FE Detail
NOT TO SCALE

DESCRIPTION	POND B-1	POND B-2
TOP OF POND ELEVATION	141.50	136.00
BOTTOM OF POND	137.50	132.75
100 YEAR STORM ELEVATION	140.49	135.00
10 YEAR STORM ELEVATION	138.73	134.78
1 YEAR STORM ELEVATION	137.80	133.28
SEASONAL HIGH GWT ELEVATION	137.50	132.75
SOIL EVALUATION	12	21

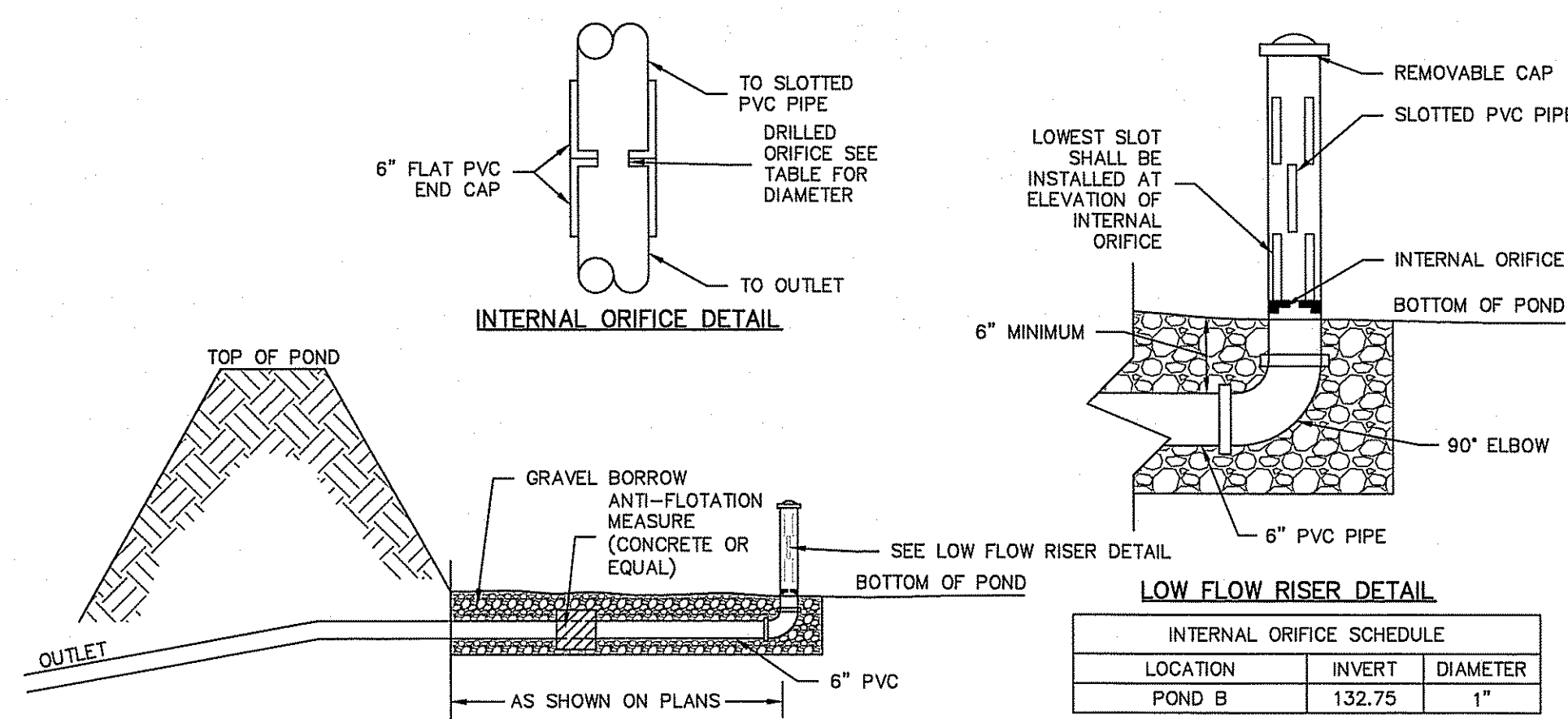


Detention Pond Typical Cross Section
NOT TO SCALE

DESCRIPTION	SF-1
AVAILABLE STORAGE ELEVATION	142.00
100 YEAR STORM ELEVATION	141.99
10 YEAR STORM ELEVATION	141.81
1 YEAR STORM ELEVATION	141.62
1.2" STORM ELEVATION	141.45
TOP OF GRASS	140.50
SAND & LOAM DEPTH	2.5'
BOTTOM OF SAND LAYER	138.00
SEASONAL HIGH GWT ELEVATION	137.00
SOIL EVALUATION	TH-14

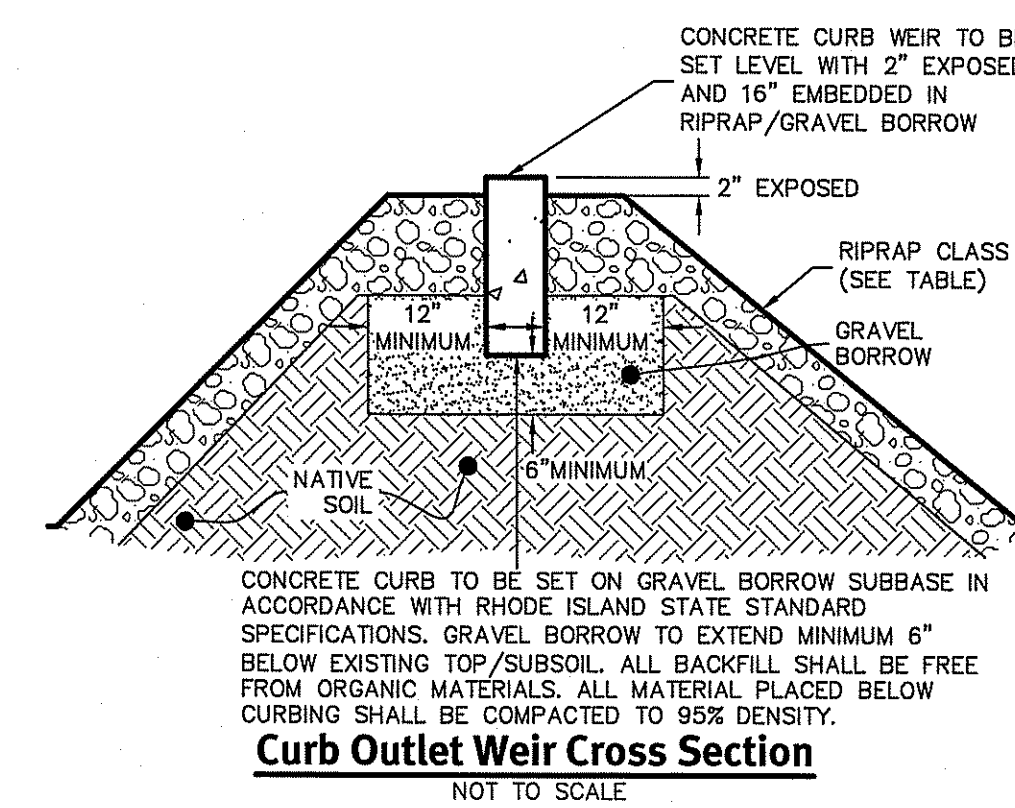


Sand Filter (Infiltration)
NOT TO SCALE



Low Flow Outlet
NOT TO SCALE

LOCATION	TOP OF POND ELEV.	WEIR INVERT	WEIR LENGTH	RIPRAP CLASS
FOREBAY B	141.50	140.95	5.0'	R-2



Curb Outlet Weir Cross Section
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 OCT 6 2016 FILE # 19-0218
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL

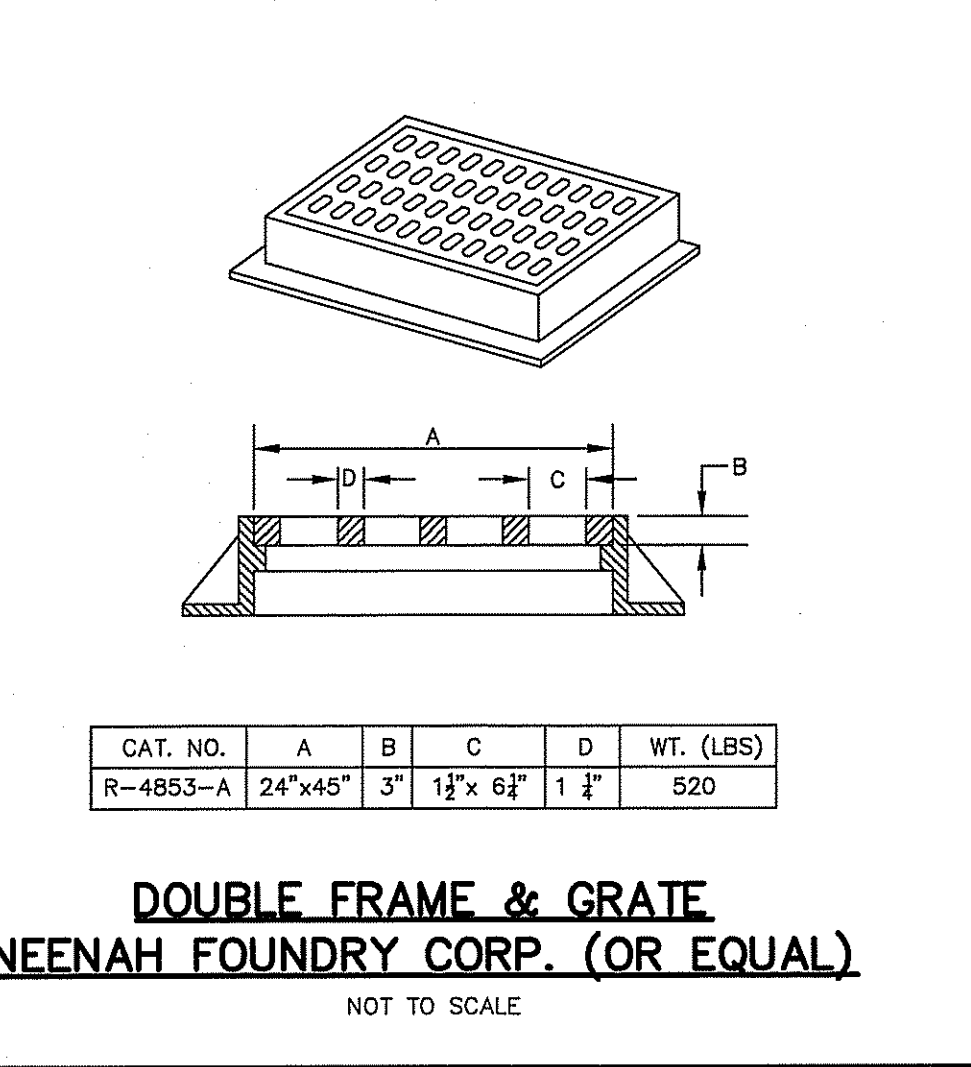
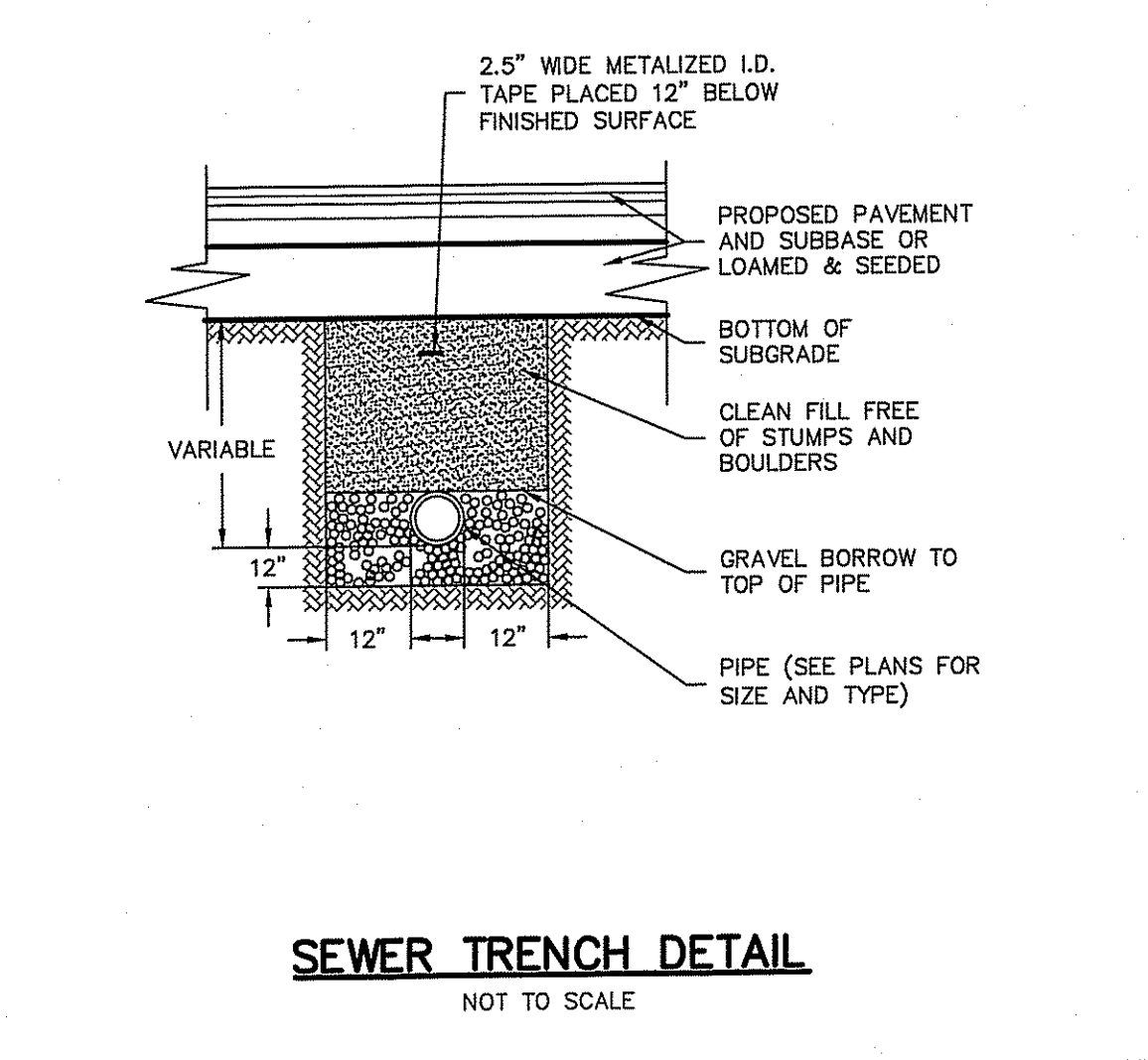
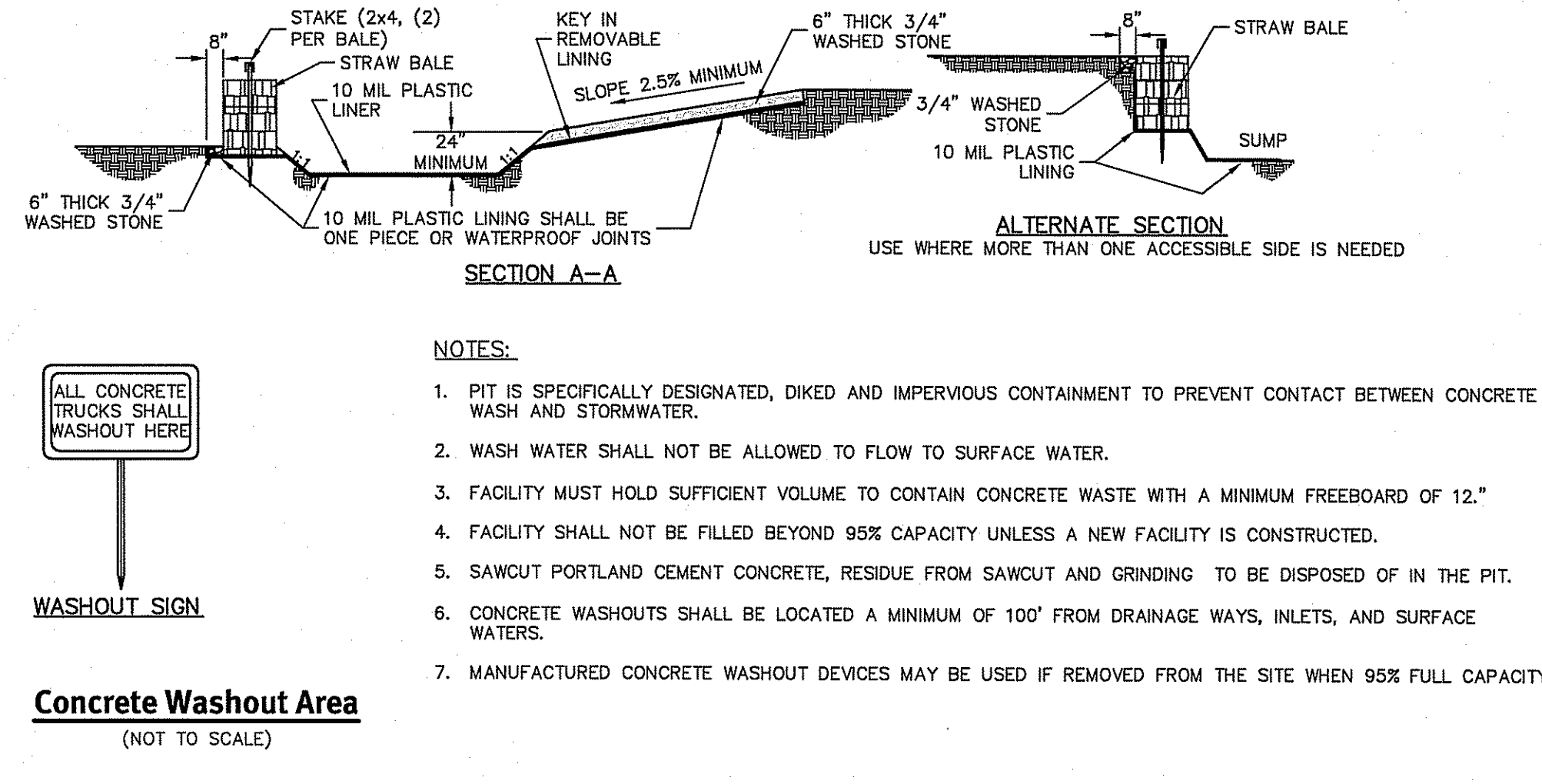
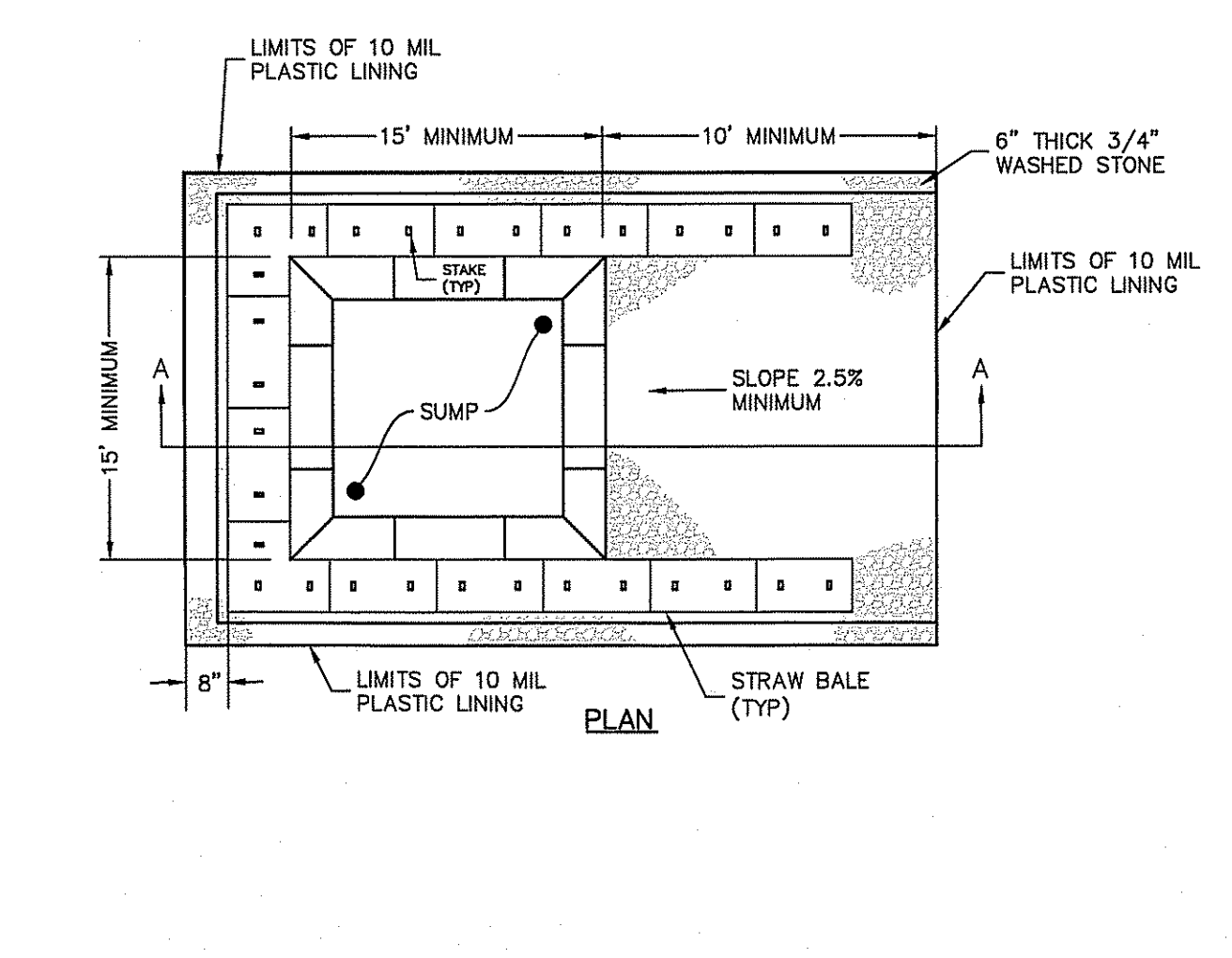
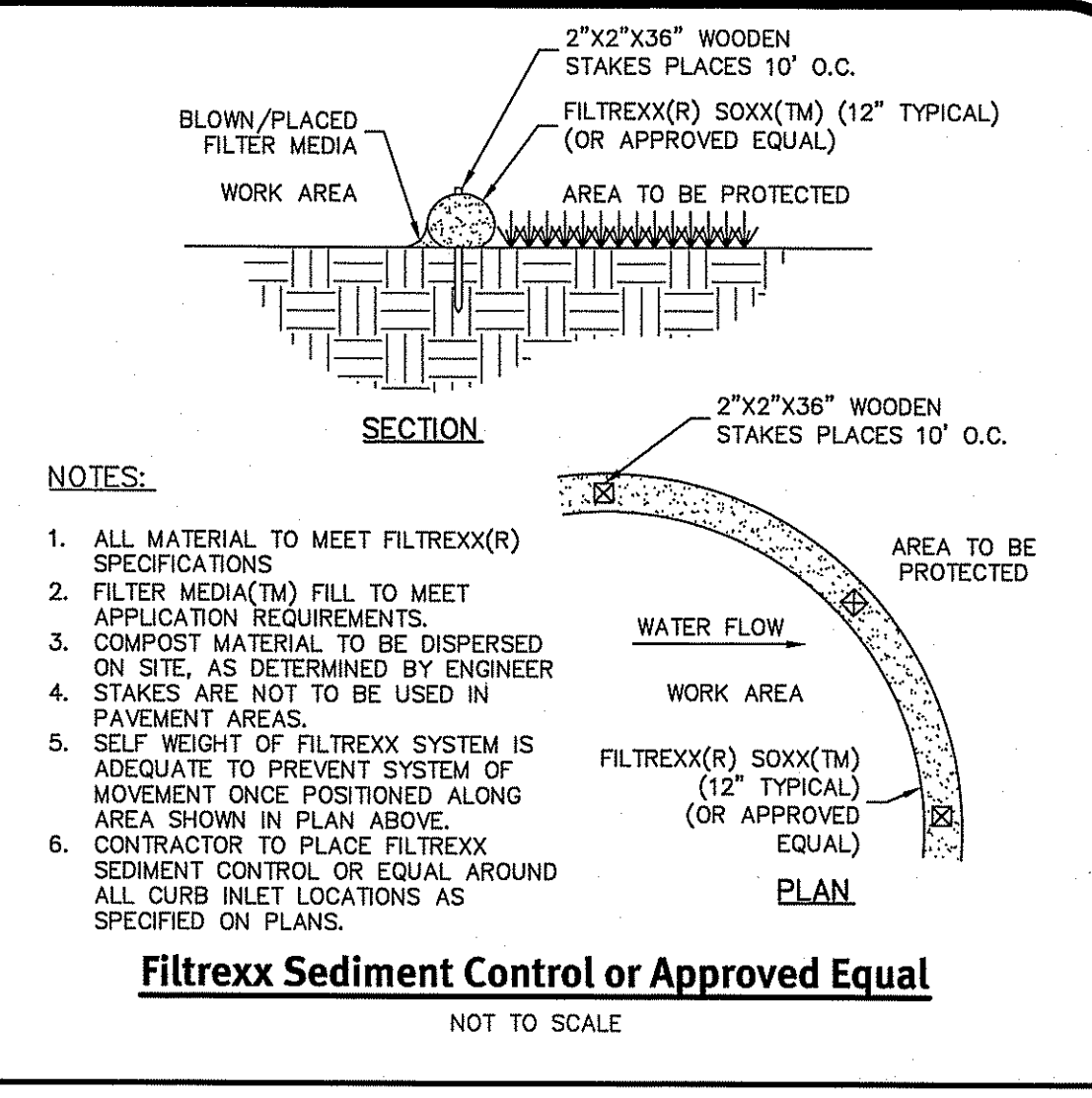
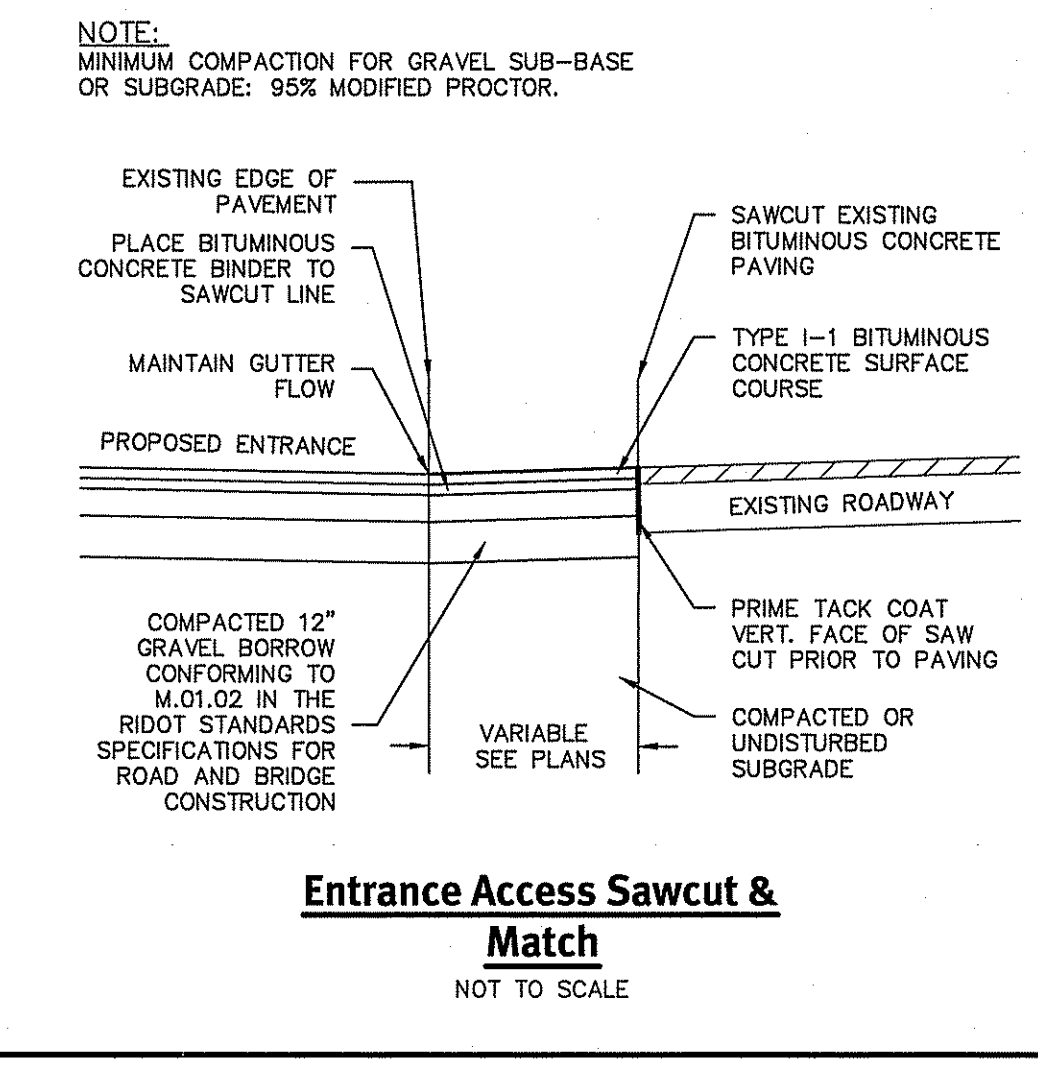
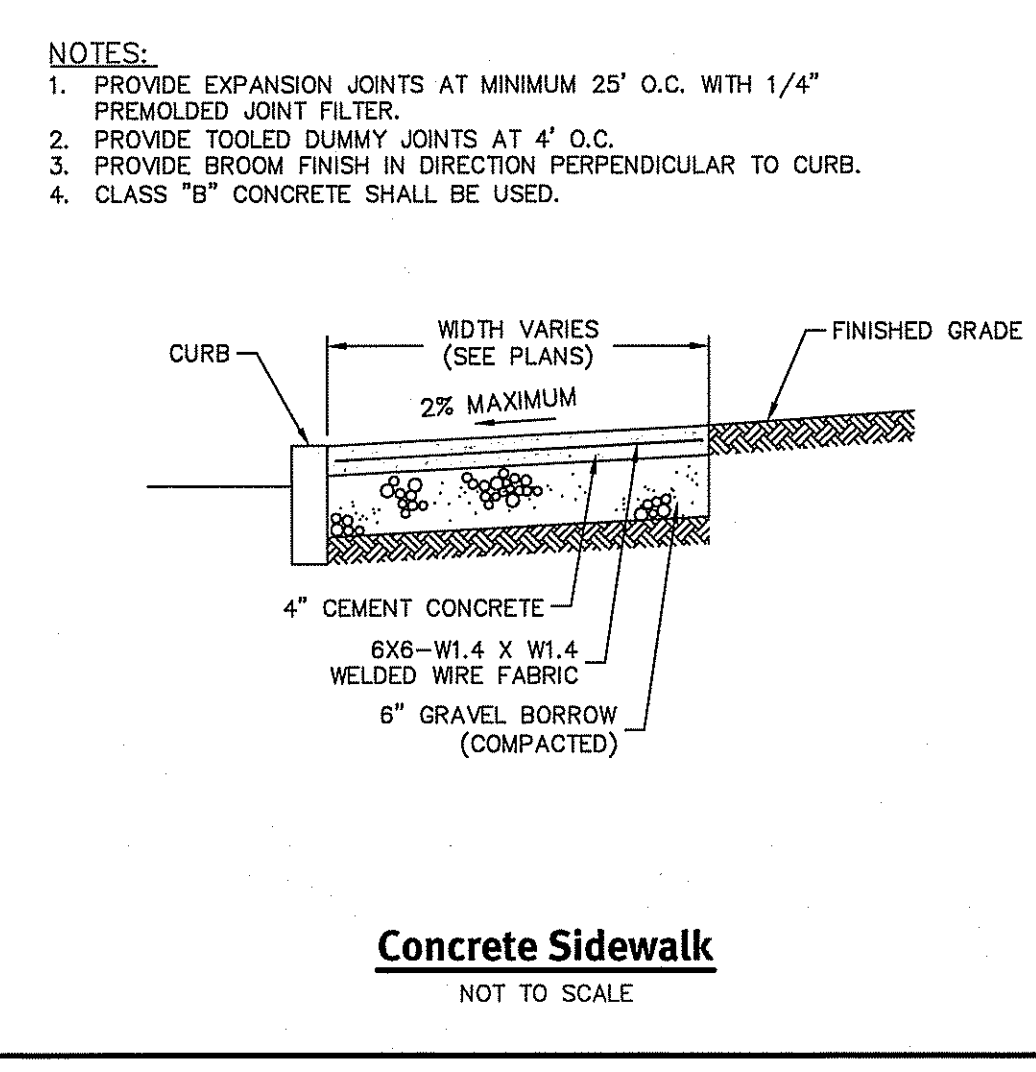
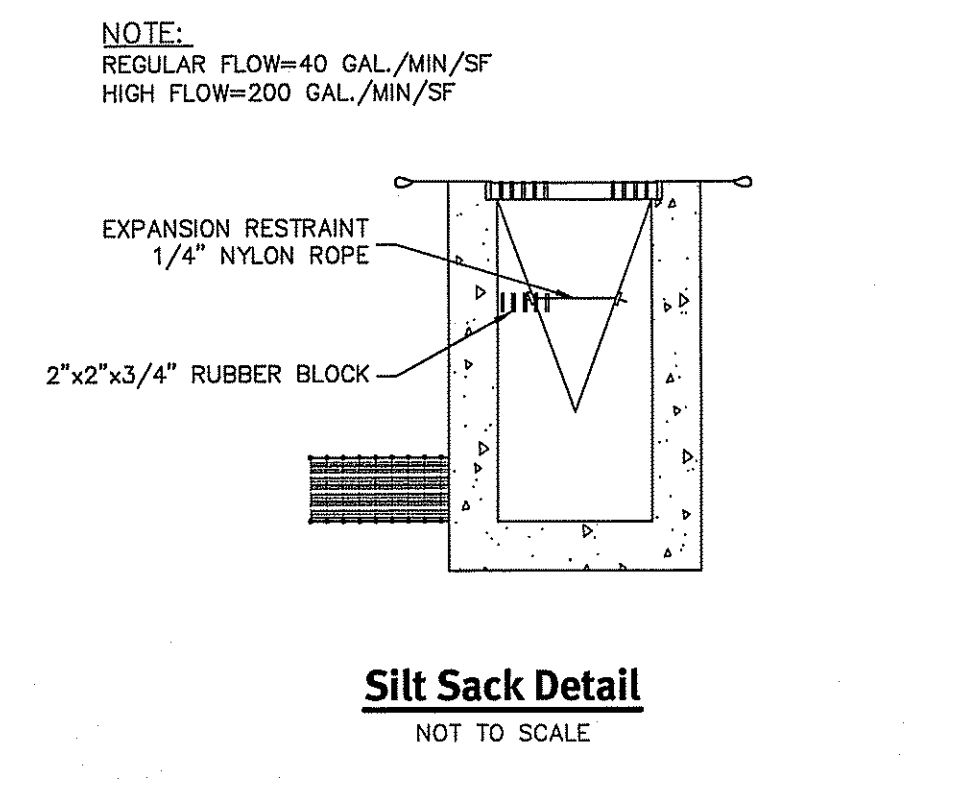
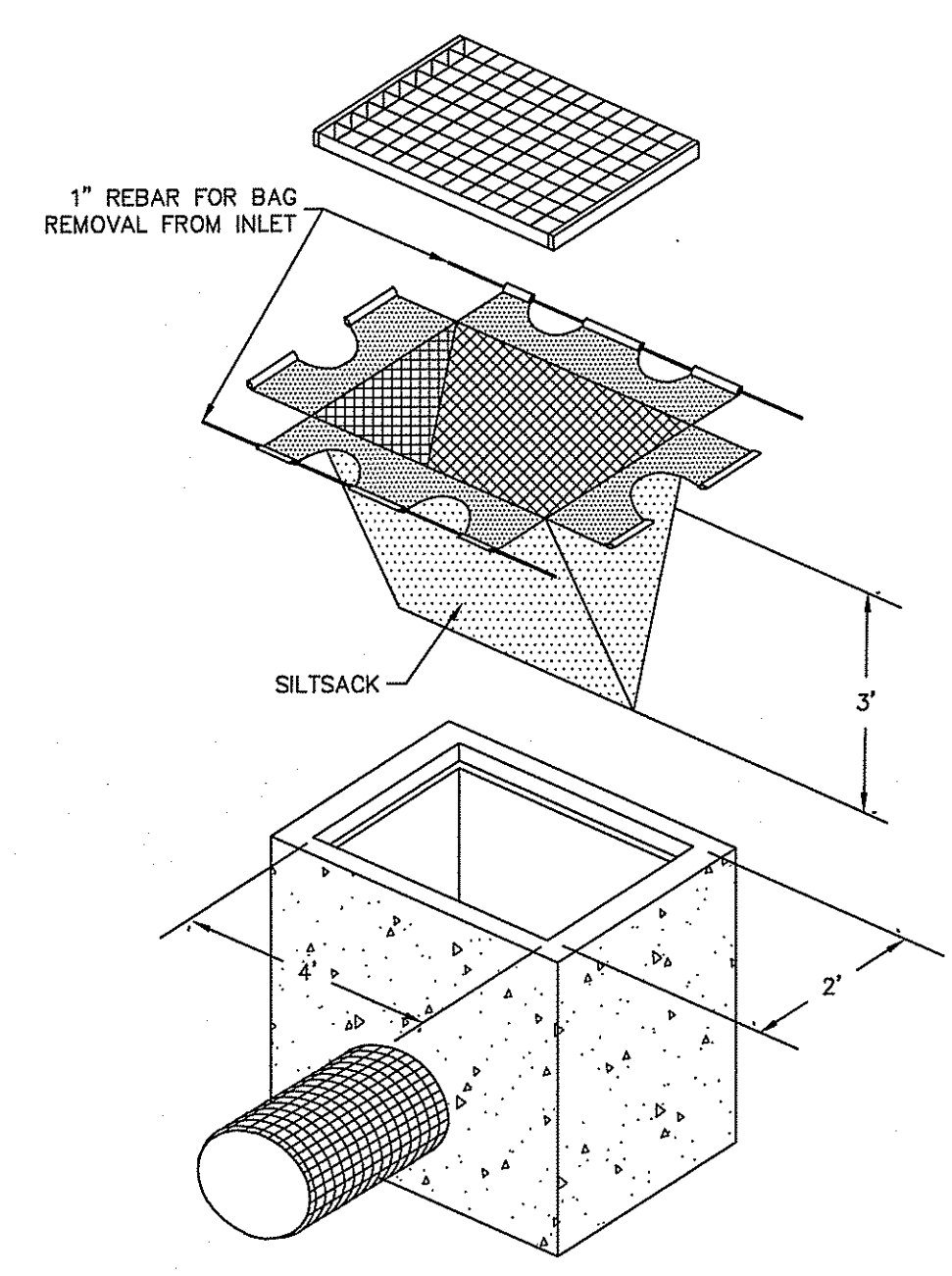
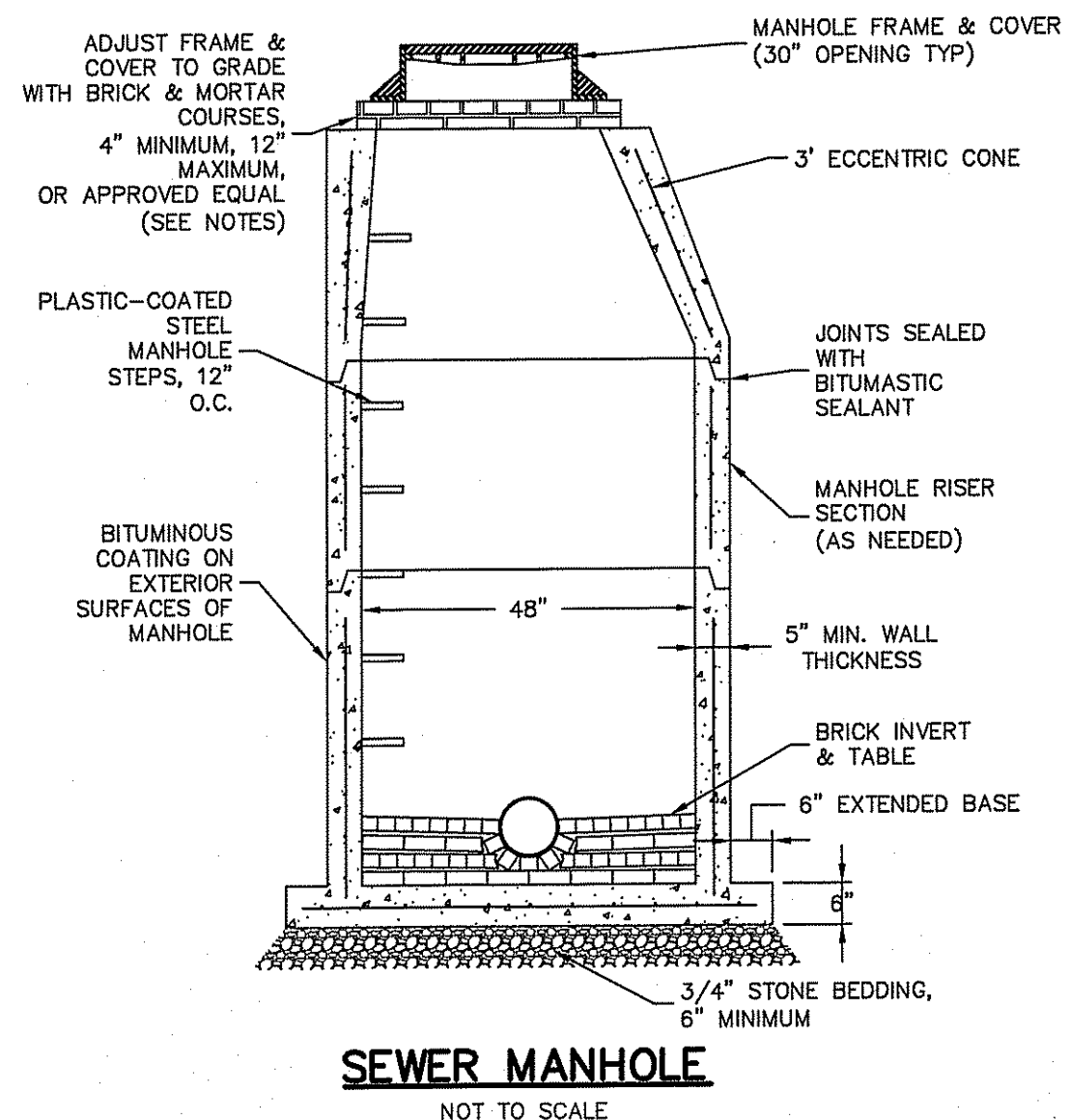
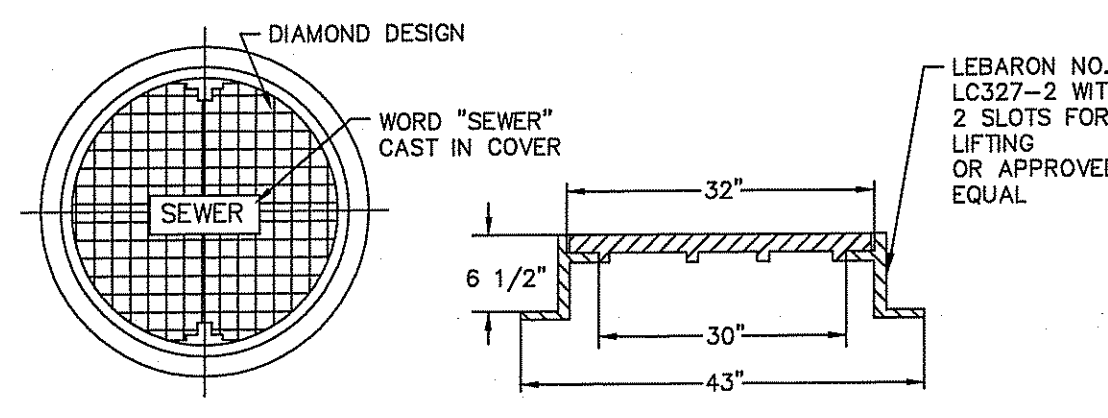
Environmental Management
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped, issued for construction, and signed by a Diprete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

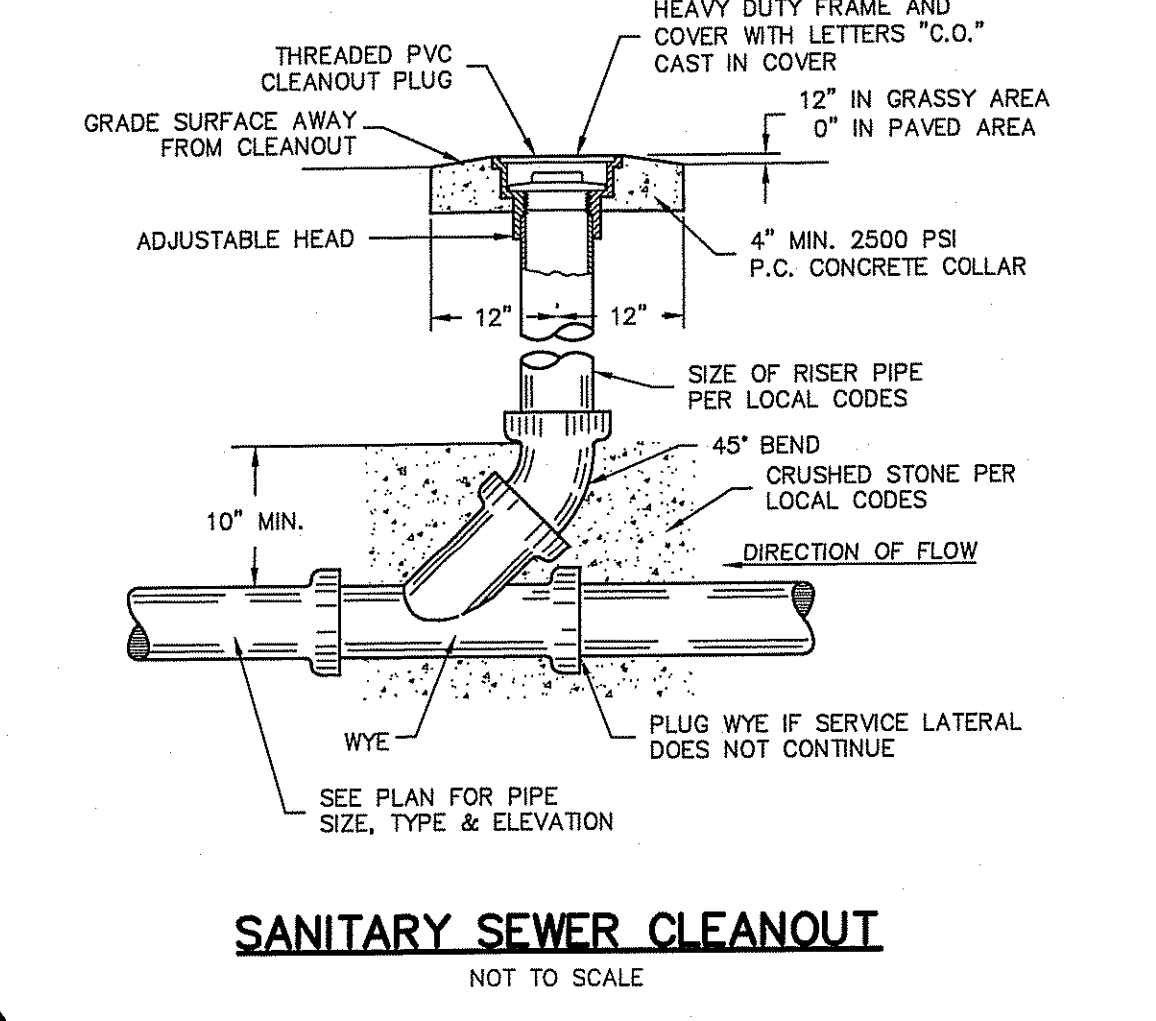
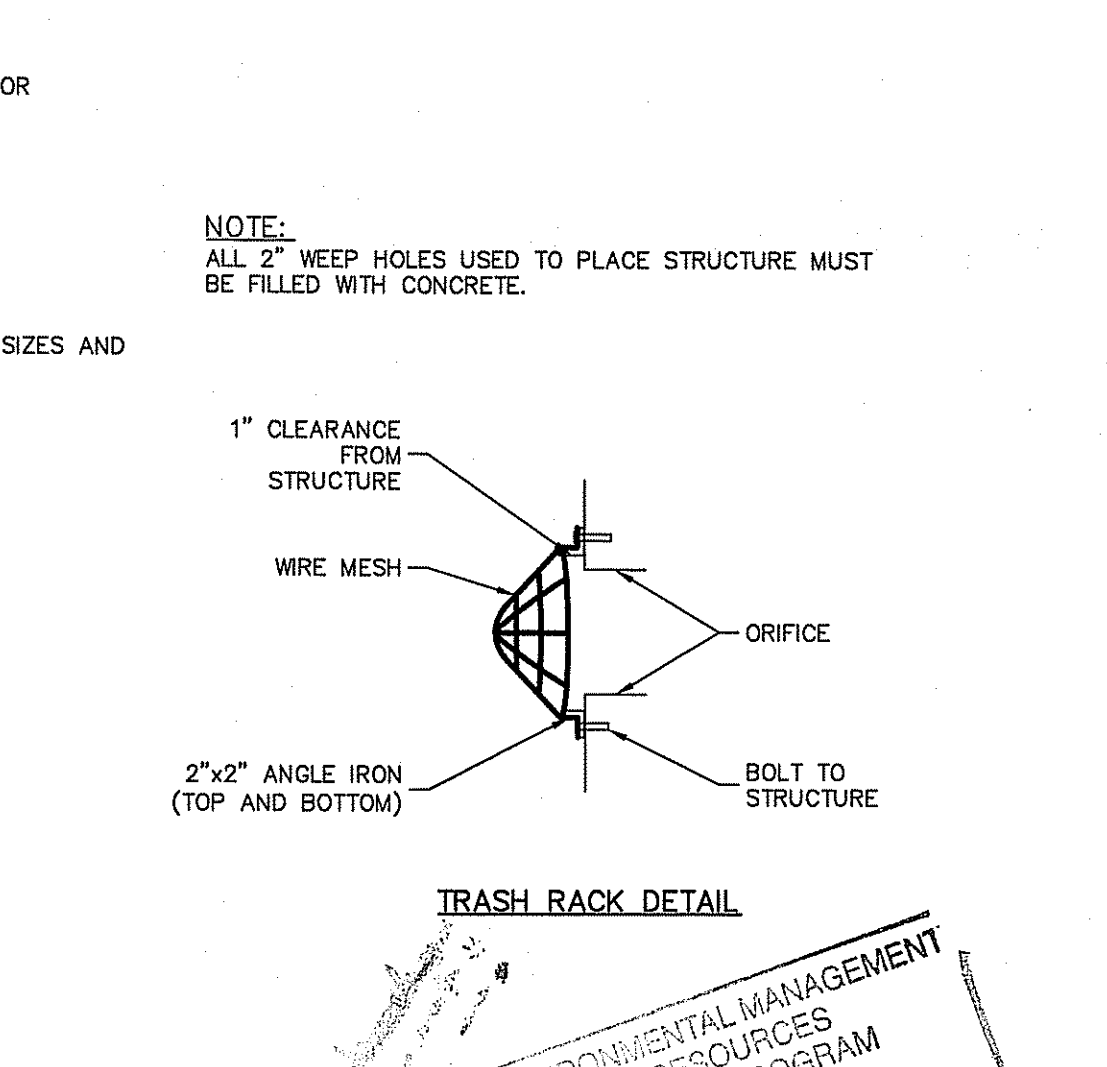
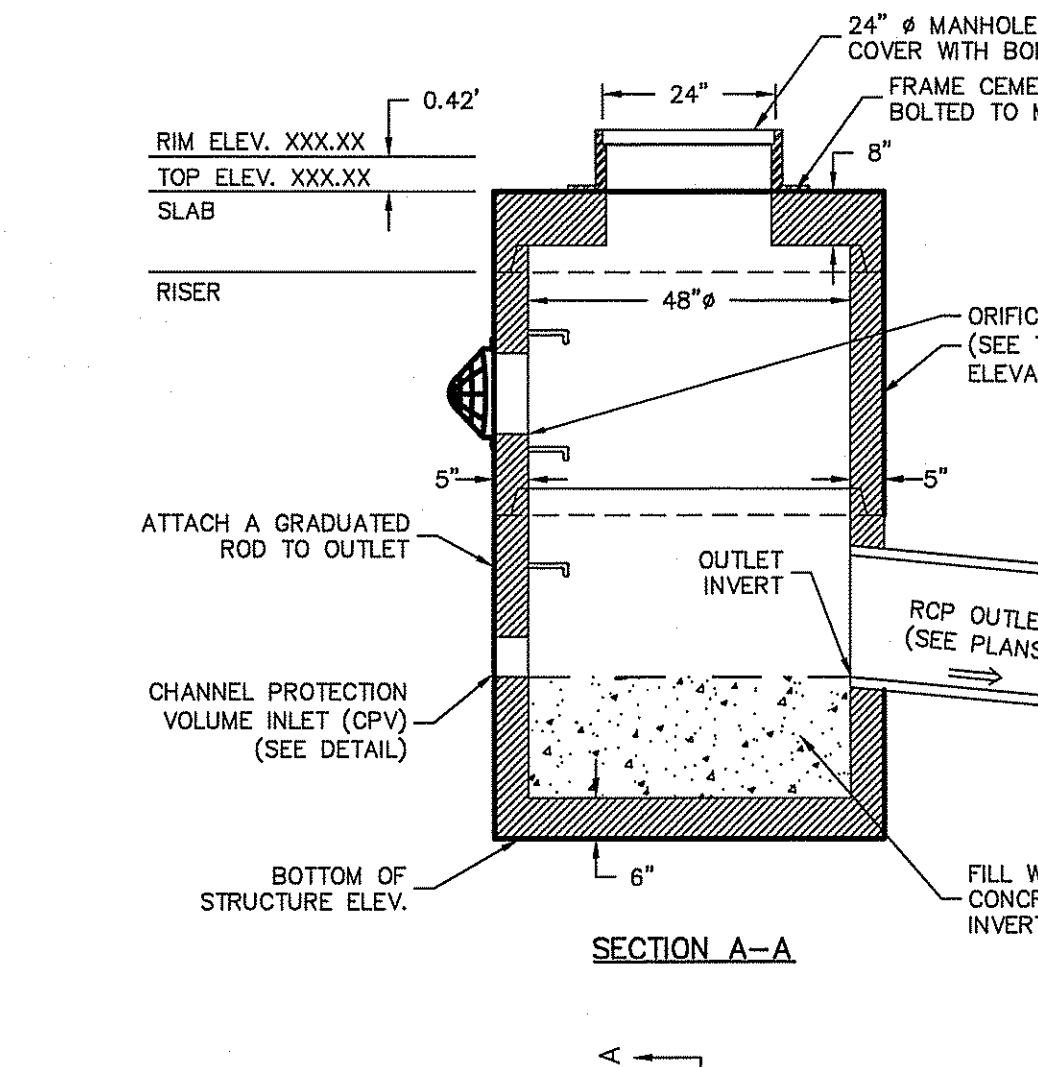
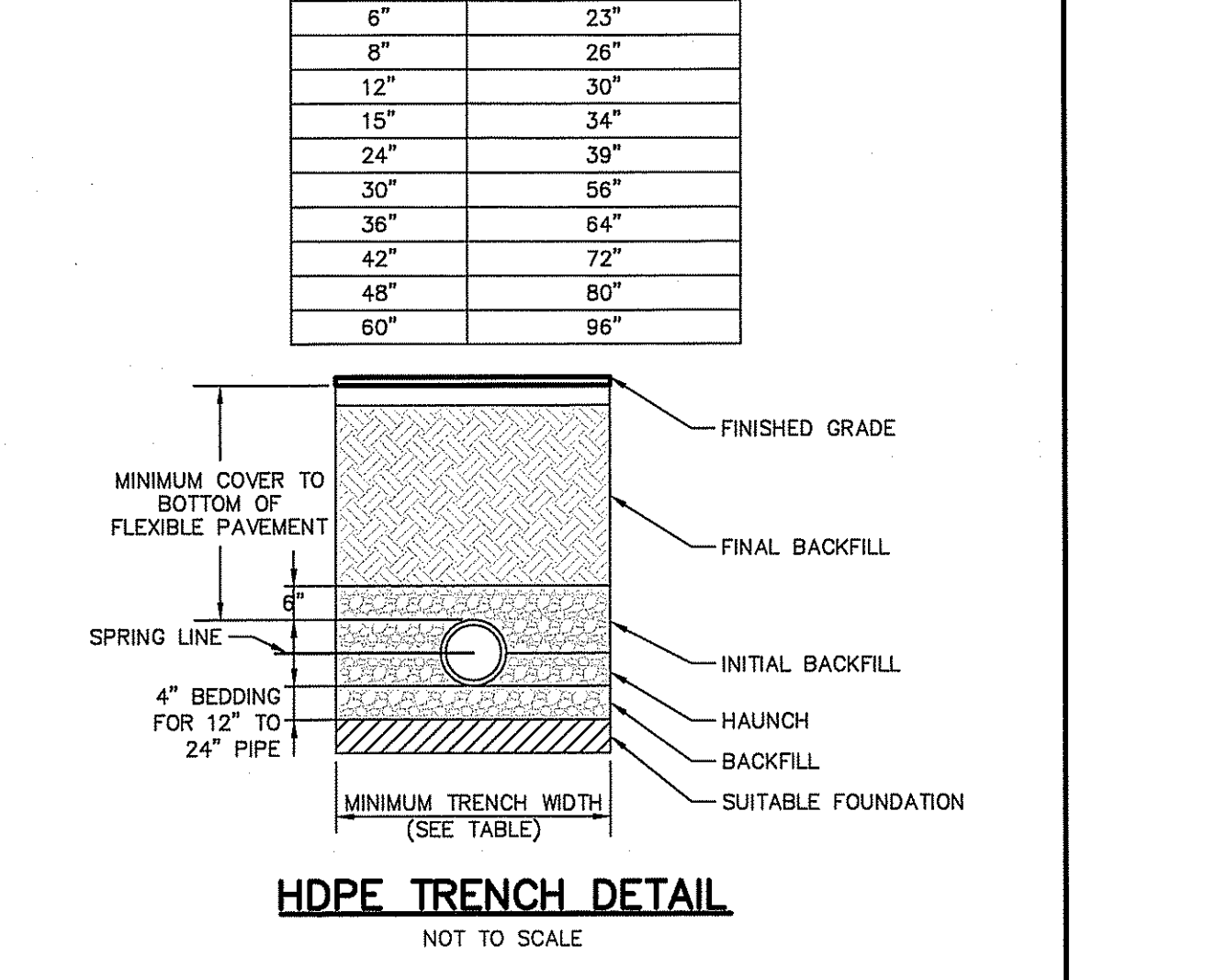
No.	Date	Description	By: R.B.S.	Design By: R.B.S.
1	08/25/2016	Permit Submission		

Pond Complex B Detail Sheet
The Residences at Middleberry
Assessor's Map 57 Plat 11 Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island
Prepared for:
Philip Ryan Homes, LTD
32 Trappans Lane
East Greenwich, RI 02818
Middle Park Enterprises, LLC
461 Main Street
East Greenwich, RI 02818
Drawn By: R.B.S.
Job No: 1005-002 Copyright 2016 by Diprete Engineering Associates, Inc.

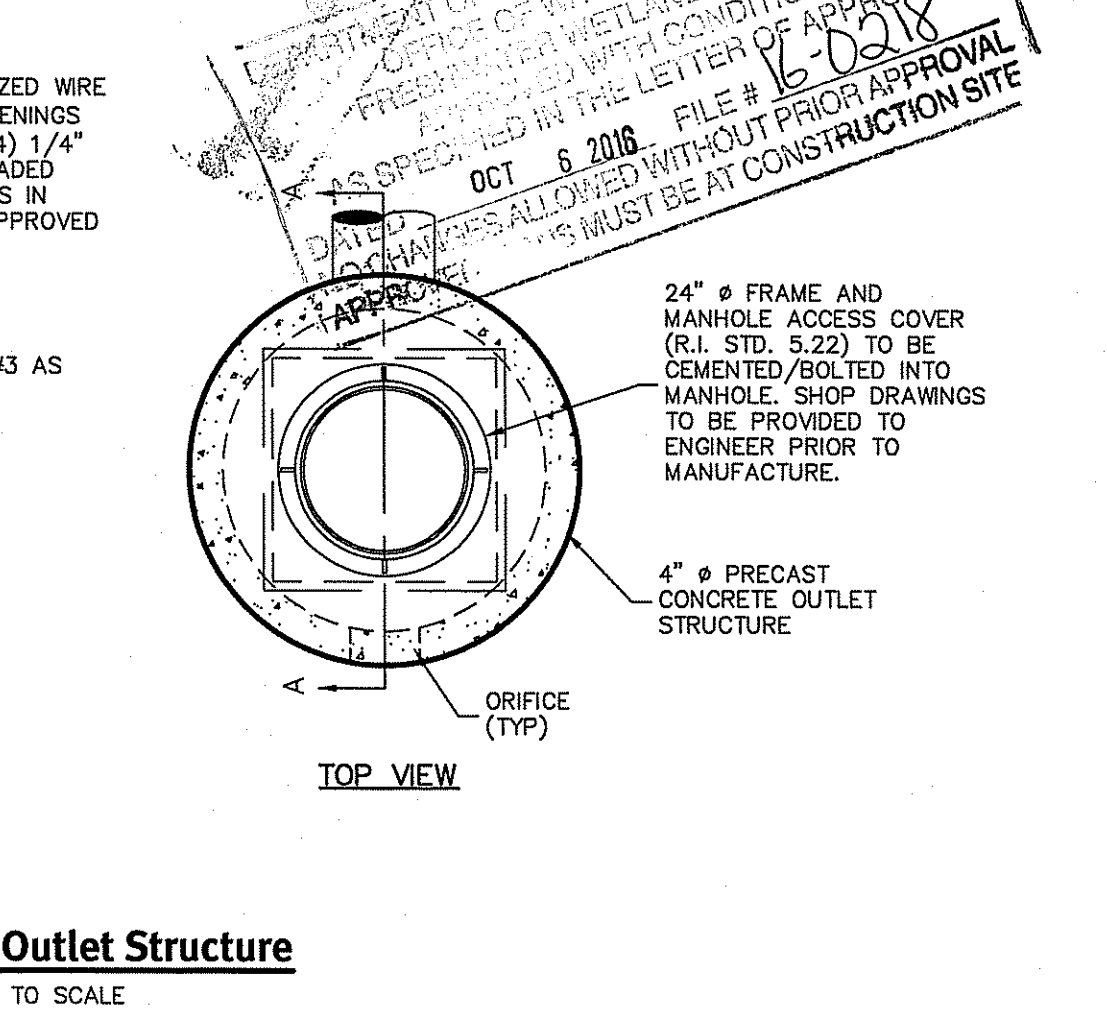
- NOTES:**
- MANHOLE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM-C478.
 - INVERT & TABLE SHALL CONSIST ENTIRELY OF BRICK AND MORTAR. NO SAND FILLER SHALL BE ALLOWED.
 - MANHOLES SHALL BE VACUUM TESTED PRIOR TO ACCEPTANCE, IN ACCORDANCE WITH THE SEWER AUTHORITY SANITARY RULES AND REGULATIONS. UNDER NO CIRCUMSTANCES WILL EXFILTRATION TESTING BE ACCEPTED.
 - BOLTED & GASKETED COVERS SHALL BE USED ON MANHOLES IN OFF-ROAD AREAS.
 - TAPPING OF MANHOLES MUST BE AUTHORIZED AND INSPECTED BY THE SEWER AUTHORITY. THE ONLY APPROVED METHOD FOR TAPPING MANHOLES SHALL BE BY CORE-DRILLING THE MANHOLE AND INSTALLING A "KOR-N-SEAL" BOOT.
 - PRECAST CONCRETE GRADE RINGS, HDPE GRADE RINGS, OR OTHER RIM ADJUSTMENT PRODUCTS MAY BE USED IN LIEU OF BRICK AND MORTAR WITH THE PERMISSION OF THE SEWER AUTHORITY.



- HDPE INSTALLATION NOTES:**
- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS, LATEST ADDITION.
 - MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 - 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 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, II OR III. 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-900MM).
 - INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III 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, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



- General Note for Sewer Main**
- CONTRACTOR IS TO ENSURE THAT ALL COVERS, OPENINGS, HATCHES, ETC. AND ALL PENETRATIONS INTO THE SEWER MANHOLES ARE TO BE WATERTIGHT TO PREVENT STORMWATER FROM ENTERING INTO THE SEWER SYSTEM.
- Sewer Main Testing Notes**
- THE EAST GREENWICH DEPARTMENT OF PUBLIC WORKS (DPW) AND THE DESIGN ENGINEER (DE) SHALL BE NOTIFIED PRIOR TO INSTALLATION OF ANY SANITARY SEWER SYSTEM SO THAT INSPECTIONS CAN BE MADE THROUGHOUT THE PROJECT.
 - THE TESTING OF SEWER LINES AND MANHOLES SHALL BE CONDUCTED IN THE PRESENCE OF THE DPW AND THE DE. DPW AND THE DE SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY TESTING.
 - TESTING OF EACH SECTION OF SEWER INSTALLED SHALL INCLUDE THE PORTIONS OF SERVICE CONNECTIONS THAT ARE TO BE INSTALLED IN THE PRESENCE OF THE DPW AND THE DE. THE SITE CONTRACTOR SHALL TEST EACH MANHOLE REACH AS SOON AS CONSTRUCTION OF SUCH REACH IS COMPLETE. THE SITE CONTRACTOR WILL BE REQUIRED TO PERFORM THE PIPE DEFLECTION TEST ON EACH SECTION OF PIPE INSTALLED, VACUUM TEST OF MANHOLES AND AN INFILTRATION TEST OR LOW PRESSURE TEST AS APPLICABLE.



DiPrete Engineering
Two Stafford Court, Cranston, RI 02926
Tel: 401-943-7000 Fax: 401-464-6006 www.DiPrete-Eng.com

Engineers • Planners • Surveyors

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL
Environmental Management
AUG 22 2016
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped "issued for construction" and signed by a DiPrete Engineering representative.

The contractor is responsible for all of the means, methods, safety, utilities and the implementation of this plan and design.

DESIGN BY: R.B.S.
DRAWN BY: R.B.S.
CHECKED BY: R.B.S.
DATE: 08/06/2016

Detail Sheet - 1

The Residences at Middleberry
Assessor's Map 52 Plat 11 Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island

Owner: **Middle Park Enterprises, LLC**
461 Main Street
East Greenwich, RI 02818

Prepared for: **Philip Ryan Homes, LTD**
32 Trappeys Lane
East Greenwich, RI 02818

DESIGN BY: R.B.S. Copyright 2016 by DiPrete Engineering Associates, Inc.

Stamp: OFFICE OF ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF WATER RESOURCES, EAST GREENWICH, RHODE ISLAND. FILE # 16-0218. APPROVED FOR CONSTRUCTION. OCT 6 2016. ALL WORKS ALLOWED WITHOUT PRIOR APPROVAL MUST BE AT CONSTRUCTION SITE.

Stamp: 24" # FRAME AND MANHOLE ACCESS COVER (R.I. STD. 5-22) TO BE CEMENTED/BOLTED INTO MANHOLE. SHOP DRAWINGS TO BE PROVIDED TO ENGINEER PRIOR TO MANUFACTURE.

Stamp: 4" # PRECAST CONCRETE OUTLET STRUCTURE.

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

Stamp: 2"X2" ANGLE IRON (TOP AND BOTTOM).

Stamp: 12 GAGE GALVANIZED WIRE MESH WITH 2" OPENINGS FASTENED WITH (4) 1/4" BOLTS INTO THREADED CONCRETE INSERTS IN STRUCTURE OR APPROVED EQUAL.

Stamp: ORIFICE #2 AND #3 AS APPLICABLE.

Stamp: OUTLET.

Stamp: ORIFICE (TYP).

Stamp: TOP VIEW.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: BOTTOM OF STRUCTURE ELEV.

Stamp: 6".

Stamp: FILL WITH CONCRETE TO INVERT ELEV.

Stamp: RCP OUTLET (SEE PLANS).

Stamp: ORIFICE (TYP) (SEE TABLE FOR SIZES AND ELEVATIONS).

Stamp: FRAME CEMENTED AND/OR BOLTED TO MANHOLE.

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 0.42'.

Stamp: RIM ELEV. XXX.XX.

Stamp: TOP ELEV. XXX.XX.

Stamp: SLAB.

Stamp: RISER.

Stamp: ATTACH A GRADUATED ROD TO OUTLET.

Stamp: CHANNEL PROTECTION VOLUME INLET (CPV) (SEE DETAIL).

Stamp: 5".

Stamp: 5".

Stamp: 48".

Stamp: 24".

Stamp: 24".

Stamp: 24" # MANHOLE ACCESS COVER WITH BOLTS.

Stamp: 8".

Stamp: 1" CLEARANCE FROM STRUCTURE.

Stamp: WIRE MESH.

Stamp: ORIFICE.

Stamp: BOLT TO STRUCTURE.

<

Chlorination & Disinfection Policy*

- ALL NEW OR REPAIRED POTABLE WATER SYSTEM DISTRIBUTION MAINS, SERVICE PIPE AND THE NECESSARY CONNECTING PIPES, FITTINGS, CONTROL VALVES, AND ALL APPURTENANCES IN OR ADJACENT TO ANY RESIDENCE, BUILDING OR PREMISES SHALL BE PURGED OF DELETERIOUS MATTER AND SHALL BE DISINFECTED PRIOR TO UTILIZATION OR PERMANENT CONNECTION TO THE KENT COUNTY WATER AUTHORITY (KCWA) SYSTEM. THAT PORTION OF THE CUSTOMER'S SERVICE PIPE AFTER THE CURB STOP SHALL BE DISINFECTED UNDER THE SUPERVISION OF THE LOCAL PLUMBING OFFICIAL. THE OWNER MUST PROVIDE WRITTEN LABORATORY DOCUMENTATION OF THE DISINFECTION RESULTS TO THE KCWA BEFORE MAKING ANY PERMANENT CONNECTION TO THE KCWA SYSTEM OR BEFORE REACTIVATION OF ANY EXISTING WATER SERVICE CAN BE AUTHORIZED. PLEASE REFER TO APPENDICES FOR PROGRAM REQUIREMENTS OF THE CUSTOMER WATER SERVICE DISINFECTION POLICY.
- THE PROPOSER OR THE CONTRACTOR FOR THE PROPOSER, IN ACCORDANCE WITH CHAPTER 5, DISTRIBUTION SYSTEM CHLORINATION, AMERICAN WATER WORKS ASSOCIATION MANUAL #20, SHALL PERFORM CHLORINATION. TABLET CHLORINATION SHALL NOT BE ALLOWED.
- THE OWNER OR CUSTOMER IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION PROCESS OR PROCEDURE.
- THE DISINFECTION MUST RESULT IN ELIMINATION FROM THE VARIOUS PARTS OF THE NEW PIPE LINE ANY EVIDENCE OF THE EXISTENCE, THEREIN, OF BACTERIA INDICATIVE OF ANY CONTAMINATION, AS DETERMINED BY TEST OF THE BACTERIAL CONTENT OF SAMPLES OF WATER TAKEN FROM THE NEW WATER MAIN. THE DISINFECTION MAY BE ACCOMPLISHED BY INTRODUCING INTO ALL THE VARIOUS PARTS OF THE NEW WATER MAINS, A LIQUID SOLUTION CONTAINING 1% AVAILABLE CHLORINE IN SUCH VOLUME THAT THE RATE OF DOSAGE TO THE WATER MAINS SHALL BE AT LEAST 50 PARTS PER MILLION OF AVAILABLE CHLORINE. TABLET CHLORINATION IS NOT ALLOWED. THE CONTACT PERIOD FOR THIS DISINFECTION SHALL BE AT LEAST 24 HOURS, AND A LONGER PERIOD WILL BE REQUIRED IF TESTS OF RESIDUAL CHLORINE SHOW IT TO BE NECESSARY FOR PROPER DISINFECTION.
- THE NEW WATER SYSTEM SHALL BE FLUSHED OUT AFTER DISINFECTION AND FILLED WITH FRESH WATER. ALL CHLORINATED WATER USED IN THE DISINFECTION PROCESS SHALL BE DE-CHLORINATED PRIOR TO DISCHARGE TO THE SURROUNDING AREA.
- WATER MUST SIT IN THE MAIN FOR AT LEAST 24 HOURS PRIOR TO TAKING A TEST SAMPLE. WATER UTILIZED FOR THIS PURPOSE, FLUSHING OR PRESSURE TESTING, WHICH IS OBTAINED DIRECTLY FROM THE KCWA SYSTEM VIA AN APPROVED METER, TESTABLE BACKFLOW PREVENTION DEVICE AND JUMPER. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR SECURING THE WATER FOR TEST PURPOSES AND SHALL BEAR THE EXPENSE OF THESE ARRANGEMENTS. THE INSTALLER SHALL FURNISH AND INSTALL SUITABLE TEMPORARY TESTING PLUGS, CAPS, PUMPS, PIPE CONNECTIONS AND OTHER APPURTENANCES, AS NECESSARY, TO OBTAIN SAMPLES AT POINTS NO FURTHER THAN 1,000' APART.
- AFTER FINAL FLUSHING AND BEFORE THE NEW WATER MAIN IS CONNECTED TO THE DISTRIBUTION SYSTEM, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES FOR COLIFORM BACTERIA HETEROTROPHIC PLATE COUNT (HPC), TAKEN 24 HOURS APART, SHALL BE COLLECTED FROM THE TERMINATION OF THE NEW MAIN. AT LEAST ONE SAMPLE SHALL BE COLLECTED EVERY 1,000' OF NEW MAIN, PLUS ONE SET OF TWO SAMPLES FROM THE END OF THE LINE. AT LEAST ONE SET OF TWO SAMPLES SHALL BE TAKEN FROM EACH BRANCH. SAMPLES SHALL BE COLLECTED BY KCWA EMPLOYEES, GIVEN A TWO-DAY NOTICE AND TESTED BY A LABORATORY APPROVED BY KCWA. A FEE SHALL BE IMPOSED FOR THE SAMPLING TESTING FOR EACH TEST. THE FEE SHALL BE AT THE CURRENT RATE SCHEDULE IN EFFECT AT THE TIME OF TESTING. PAYMENT SHALL BE PRIOR TO SAMPLE COLLECTION BY THE KCWA. THE WATER SAMPLE TEST RESULTS MUST INDICATE THAT THE WATER QUALITY IN THE NEW MAIN IS CONSISTENT IN QUALITY WITH KCWA SYSTEM WATER.

* TAKEN FROM SECTION 3.23 OF THE "RULES AND REGULATIONS OF THE KENT COUNTY WATER AUTHORITY" DATED SEPTEMBER 20, 2006.

KCWA Water Installation Notes

- INSTALLATION OF WATER MAIN AND SERVICE SHALL CONFORM TO THE "RULES AND REGULATIONS OF THE KENT COUNTY WATER AUTHORITY" SEPTEMBER 20, 2006, OR LATEST EDITION, AND IN ACCORDANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION INSTALLATION MANUAL AND ANSI/AWWA C600.
- DISTRIBUTION PIPING SHALL BE CL 52 DUCTILE IRON, DOUBLE CEMENT LINED, WITH PUSH ON JOINTS. PIPE SHALL MEET ANSI/AWWA C151 A21.51. JOINTS SHALL MEET ANSI/AWWA C11/A21.11.
- FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT CL350 CEMENT MORTAR LINED AND MEET ANSI/AWWA/C153/A21.53. MECHANICAL JOINTS SHALL MEET ANSI/AWWA/C11/A21.11 AMERICAN MANUFACTURER ONLY.
- VALVES SHALL BE MECHANICAL JOINT, DOUBLE DISC PARALLEL SEAT OR RESILIENT SEAT GATE STYLES AS FOLLOWS:
 - MUELLER CORPORATION DOUBLE DISC PARALLEL SEAT.
 - AMERICAN DARLING VALVE RESILIENT SEAT MODEL CR5-80.
- PRESSURE TEST OF THE WATER SYSTEM SHALL BE 1.5 TIMES THE MAXIMUM WORKING PRESSURE OR 150 PSI. NOTIFY KENT COUNTY WATER AUTHORITY 2 DAYS PRIOR TO TEST AS APPLICABLE.
- NOTIFY THE KENT COUNTY AUTHORITY 5 DAYS PRIOR TO CONSTRUCTION COMMENCEMENT.
- CHLORINATION OF SYSTEM AND SAMPLING SHALL CONFORM TO SEC. 3.5 OF REQUIREMENTS FOR SERVICE AND MAIN INSTALLATION.
- NOTIFY ENGINEER PRIOR TO COVERING OF WATER SERVICE TO SURVEY AS-BUILT LOCATION AND TO COMPLETE REQUIRED AS-BUILT PLAN. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE CONTRACTOR.
- WATER SERVICE INSTALLATIONS GREATER THAN 200' MUST HAVE A METER PIT.
- TOTAL LENGTH OF WATER MAIN TO THE SHUT-OFF VALVE IS 1,200'
- TEMPORARY FLUSHING CONNECTIONS AND BLOW-OFFS SHALL BE SIZED TO PROVIDE 2.5-FEET PER SECOND FLOW PER AWWA STANDARD 651
- CONTRACTOR RESPONSIBLE TO COORDINATE WITH PLUMBING OFFICIAL FOR DISINFECTION OF SERVICE PIPE EXTENDING FROM CURB BOX TO HOME PER STATE PLUMBING CODE AND KENT COUNTY WATER AUTHORITY REGULATIONS. WATER SERVICE CANNOT BE ACTIVATED WITHOUT COPY OF LAB RESULTS AND PLUMBING INSPECTOR'S VERIFICATION.
- PRESSURE-REDUCING VALVES ARE REQUIRED AT ALL BUILDINGS PER RI BUILDING CODE.

Existing Water Main Notes

- EXISTING WATER MAIN LOCATED WITHIN MIDDLE ROAD TO BE PRESSURE TESTED AND CHLORINATED PRIOR TO CONNECTION OF NEW WATER MAIN.
- PRESSURE TESTING AND CHLORINATION TO BE WITNESSED AND APPROVED BY KENT COUNTY WATER AUTHORITY.
- ONCE THE EXISTING WATER MAIN PASSES PRESSURE TESTING AND CHLORINATION IT MAY BE CONNECTED TO THE PROPOSED WATER MAIN.
- CONTRACTOR SHALL CONDUCT TESTS PITS AS NECESSARY TO LOCATE EXISTING WATER INFRASTRUCTURE TO PRODUCE FINAL AS-BUILT FOR KCWA LOCATIONS OF TEST PITS TO BE COORDINATED WITH KCWA AND WITH DESIGN ENGINEER.
- CONTRACTOR SHALL CONDUCT TEST PITS TO VERIFY SEPARATION OF THE EXISTING WATER MAIN AND THE EXISTING SEWER MAIN.

KCWA As-Built Note

ALL COMPONENTS OF THE WATER SYSTEMS AND ANY CROSSING UTILITIES MUST BE AS-BUILT PRIOR TO COVERING. ENGINEER TO BE NOTIFIED PRIOR TO COVERING TO SURVEY AS-BUILT LOCATIONS. ENGINEER WILL NOT ACCEPT FIELD MEASUREMENTS FROM THE SITE CONTRACTOR.

Customer Water Service Disinfection Policy

- THE OWNER, PLUMBER AND/OR PLUMBING OFFICIAL SHALL COORDINATE ACTIVITIES BY CONTACTING THE KENT COUNTY WATER AUTHORITY FIVE WORKING DAYS PRIOR TO CONDUCTING THE DISINFECTION PROCESS TO:
 - OBTAIN AUTHORIZATION TO TEMPORARILY CONNECT TO THE PUBLIC WATER SYSTEM IF AN ALTERNATIVE SUPPLY IS NOT USED.
 - ARRANGE FOR A REPRESENTATIVE OF THE AUTHORITY TO EXAMINE THE ISOLATED CONNECTION TO THE PUBLIC WATER SYSTEM.
 - OBTAIN A READING FROM THE TEMPORARY METER (IF USED).
 - COORDINATE ACTIVATION OF THE WATER CONNECTION TO COMPLETE THE DISINFECTION AND SAMPLE RETRIEVAL PROCESS.
- THE SERVICE PIPE SHALL BE FLUSHED WITH CLEAN POTABLE WATER SUPPLIED BY THE CONTRACTOR OR FROM AN ISOLATED CONNECTION TO THE KENT COUNTY WATER AUTHORITY SYSTEM UNTIL ALL DELETERIOUS MATERIAL IS REMOVED. IF THE CONTRACTOR CHOOSES TO USE THE PUBLIC WATER SYSTEM, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A SUITABLE, ISOLATED CONNECTION TO THE AUTHORITY'S SYSTEM FROM THE NEW SERVICE PIPE.
- FILL THE SERVICE PIPING THEREOF WITH A CHLORINE SOLUTION CONTAINING AT LEAST 50 PARTS PER MILLION CHLORINE. ONCE THE CHLORINE CONCENTRATION IN THE EFFLUENT DISCHARGE REVEALS THE PROPER CONCENTRATION, THE SYSTEM SHALL BE VALVED OFF AND ALLOWED TO STAND FOR THE REQUIRED TIME.
- FOLLOWING THE REQUIRED STANDING TIME, THE SERVICE PIPE SHALL BE FLUSHED WITH CLEAN POTABLE WATER UNTIL THE CHLORINE IS PURGED FROM THE SERVICE PIPING. TWO SETS OF SAMPLES OF ACCEPTABLE SAMPLES, TAKEN AT A MINIMUM OF 24 HOUR APART SHALL BE ANALYZED. THE CUSTOMER SHALL ELIQT THE SERVICES OF A LABORATORY CERTIFIED BY THE RHODE ISLAND DEPARTMENT OF HEALTH TO ANALYZE THE WATER SAMPLES USING MEMBRANE FILTER TECHNIQUE SM922819EDT FOR COMPLIANCE WITH RHODE ISLAND DEPARTMENT OF HEALTH COLIFORM REGULATIONS, AND STANDARD HETEROTROPHIC PLATE COUNT TEST. THIS REQUIRES TWO (2) SAMPLE BOTTLES PER SET OF SAMPLES, ONE FOR THE COLIFORM TEST AND ONE OF THE HETEROTROPHIC PLATE COUNT. THE RI DEPARTMENT OF HEALTH HAS A LISTING OF CERTIFIED LABORATORIES. THE SAMPLE RETRIEVAL SHALL BE CONDUCTED UNDER THE PURVIEW OF THE LOCAL PLUMBING OFFICIAL PER THE REQUIREMENTS CONTAINED IN THE RHODE ISLAND STATE PLUMBING CODE.
- THE DISINFECTION PROCESS SHALL BE REPEATED UNTIL THE RESULTS OF THE BACTERIOLOGICAL TESTING CONFIRM COMPLIANCE WITH THE RHODE ISLAND DEPARTMENT OF HEALTH DRINKING WATER QUALITY STANDARDS AND HETEROTROPHIC PLATE COUNT CONSISTENT WITH KENT COUNTY WATER AUTHORITY QUALITY.
- THE WATER SERVICE APPLICANT MUST PROVIDE THE AUTHORITY WITH COPIES OF THE FACTORY LABORATORY TEST RESULTS AND INSPECTION VERIFICATION LETTER (PER SECTION 107 OF PLUMBING CODE) FROM THE LOCAL PLUMBING OFFICIAL, BEFORE PERMISSION WILL GRANTED TO COMPLETE THE PERMANENT CONNECTION TO THE PUBLIC WATER SYSTEM.
- ALL CONNECTION MATERIALS SHALL BE KEPT FREE OF ANY POTENTIAL CONTAMINATION AND BE SWABBED WITH CHLORINE SOLUTION PRIOR TO CONNECTION TO THE NEWLY DISINFECTED SERVICE.

* TAKEN FROM APPENDIX C-2 OF THE "RULES AND REGULATIONS OF THE KENT COUNTY WATER AUTHORITY" DATED SEPTEMBER 20, 2006.

Sewer Line/Water Line Separation Policy

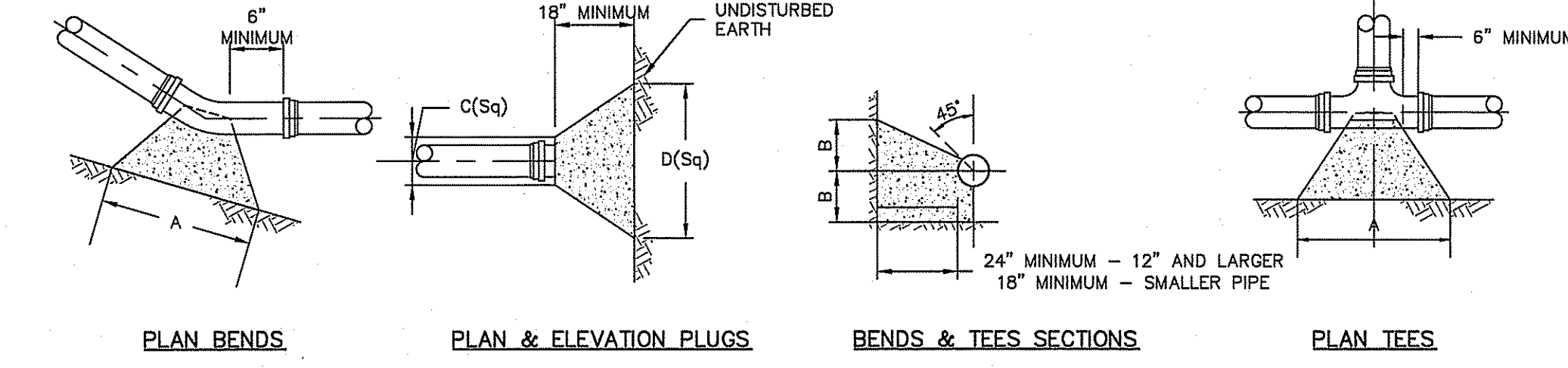
KENT COUNTY WATER AUTHORITY RULES AND REGULATIONS 3.14.6
A MINIMUM OF TEN-FOOT HORIZONTAL AND EIGHTEEN-INCH VERTICAL SEPARATION SHALL BE MAINTAINED IN THE PLACEMENT OF WATER MAINS, SERVICES OR APPURTENANCES WITHIN THE VICINITY OF SEWER FACILITIES OR VICE VERSA. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT, HORIZONTAL SEPARATION OR IN THE CASE OF CROSSING THE EIGHTEEN-INCH, VERTICAL SEPARATION, A DEVIATION FROM THIS RESTRICTION MAY BE ALLOWED ON A CASE BY CASE BASIS WITH PRIOR APPROVAL FROM THE GENERAL MANAGER/CHIEF ENGINEER AS TO THE PROPOSED MATERIALS AND INTERVENTIONS TO BE TAKEN TO PROTECT THE WATER SYSTEM FROM THE POSSIBILITY OF CONTAMINATION.

KENT COUNTY WATER AUTHORITY RULES AND REGULATIONS 3.21.18
WATER MAINS SHALL BE LAID WITH A MINIMUM OF TEN-FOOT HORIZONTAL CLEARANCE FROM ANY EXISTING SEWER FACILITIES. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. WATER MAINS CROSSING UNDER SEWERS SHALL BE FORBIDDEN. WATER MAINS CROSSING OVER SEWERS SHALL BE LAID TO PROVIDE A MINIMUM, VERTICAL SEPARATION OF EIGHTEEN-INCHES BETWEEN THE INVERT OF THE WATER MAIN AND THE CROWN OF THE SEWER. RE-ALIGNMENT OF AN EXISTING WATER MAIN OR RELOCATION OF THE SEWER MAY BE NECESSARY TO ACHIEVE THIS VERTICAL SEPARATION. THE GENERAL MANAGER/CHIEF ENGINEER MUST APPROVE ANY DEVIATION FROM THESE REQUIREMENTS. CONCRETE ENCASUREMENT SHALL NOT BE ALLOWED IN THE DESIGN FOR SEWER AND WATER CROSSINGS.

Leakage & Pressure Testing For Water Mains

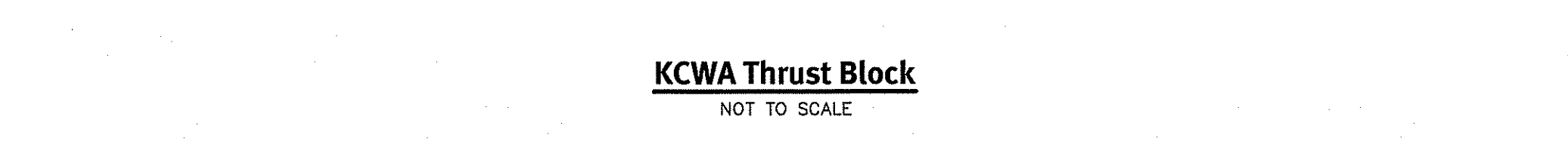
- GENERAL**
 - HYDROSTATIC AND LEAKAGE TESTS SHALL BE PERFORMED ON ALL COMPLETED SECTIONS OF NEWLY INSTALLED WATER MAIN PIPELINE IN ACCORDANCE WITH AWWA C600, THE KENT COUNTY WATER AUTHORITY, AND AS SPECIFIED BELOW.
 - THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR TESTING. CONTRACTOR TO NOTIFY KENT COUNTY WATER AUTHORITY 48 HOURS IN ADVANCE OF TEST DATE.
- TESTING PROCEDURES**
 - ALL AIR SHALL BE EXPELLED AT THE HIGH POINTS AND THE PIPELINE SLOWLY FILLED WITH POTABLE WATER, AND MUST SIT FOR 24 HOURS BEFORE CONDUCTING TEST.
 - THE INTERNAL PRESSURE SHALL BE BUILT UP TO 150 PSI AND MAINTAINED FOR A PERIOD OF NOT LESS THAN ONE (1) HOUR.
 - ALL LEAKS IN THE PIPELINE SHALL BE STOPPED, CRACKED OR DEFECTIVE PIPE, FITTINGS OR ACCESSORIES SHALL BE REMOVED AND REPLACED WITH NEW BY THE CONTRACTOR.
 - THE PIPELINE SHALL BE RETESTED AS MAY BE REQUIRED AND NECESSARY UNTIL THE LEAKAGE FALLS WITHIN THE ALLOWABLE DETERMINED FOR THE PIPE NETWORK, AT WHICH TIME THE PIPELINE MAY BE CONSIDERED READY FOR:
 - WATER MAIN PLUMBING DISINFECTION STEP
 - SEWER FORCE MAIN - READY FOR USE
 - COMPLIANCE WITH STATE PLUMBING CODE IN REFERENCE TO RESIDENTIAL BACK FLOW PREVENTION. MUST BE VERIFIED BY PLUMBER INSPECTOR, PRIOR TO METER INSTALLATION.

- NOTES:**
- ALL CONCRETE SHALL BE 4,000 P.S.I. @ 28 DAYS
 - CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH
 - FORMS TO BE USED AS NECESSARY
 - ALL BOLTS AND NUTS TO BE PROTECTED FROM CONCRETE AND EASILY ACCESSIBLE WHEN THRUST BLOCK INSTALLED
 - REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF RHODE ISLAND SHALL VERIFY CALCULATIONS DURING DESIGN TO MEET CONDITIONS OF PROJECT AND KCWA REQUIREMENTS
 - FROM THE KENT COUNTY WATER AUTHORITY DETAIL DATE: 09/2006

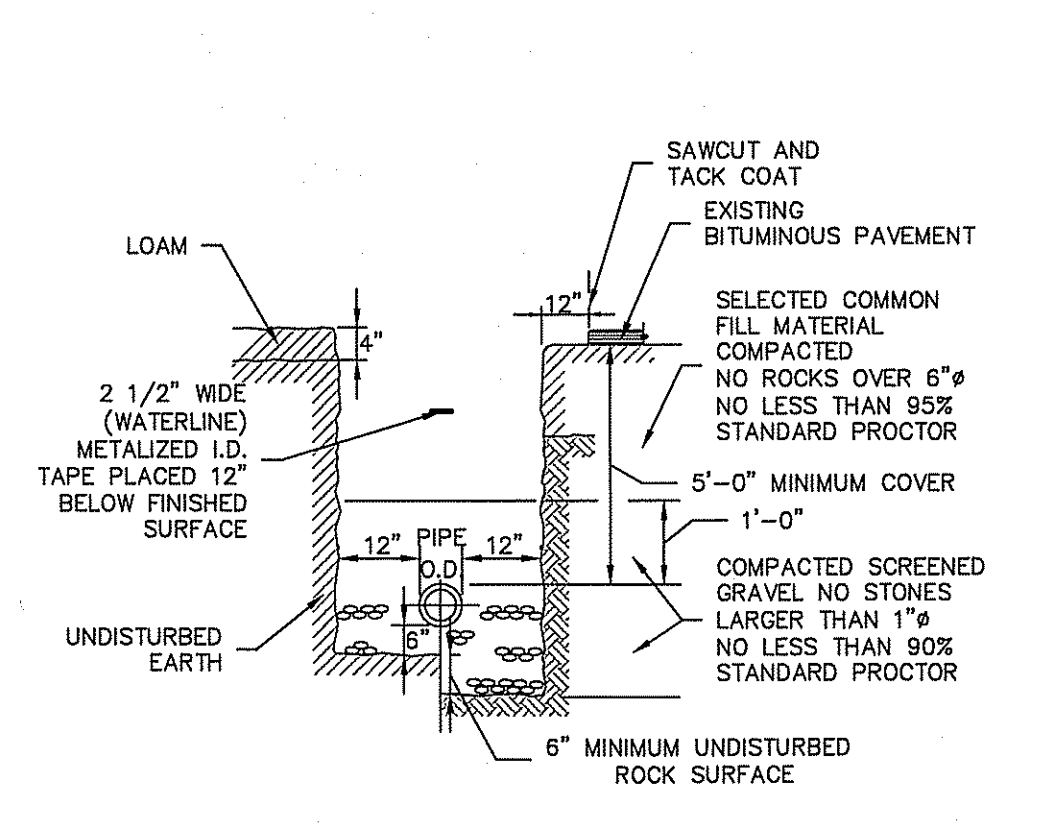


KCWA Thrust Block
NOT TO SCALE

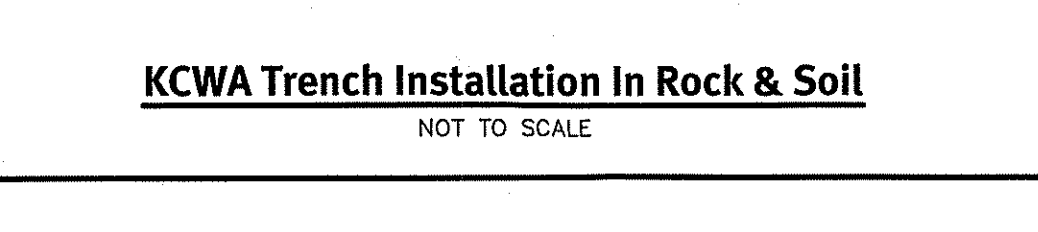
SIZE	TEES				90° BEND				45° BEND				22.5° BEND				11.25° BEND			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B		
4"	16"	8"	8"	16"	18"	9"	14"	7"	10"	5"	8"	4"								
6"	22"	11"	10"	22"	26"	13"	20"	10"	14"	7"	10"	5"								
8"	30"	15"	12"	30"	34"	17"	26"	13"	18"	9"	14"	7"								
10"	36"	18"	14"	36"	42"	21"	32"	16"	24"	12"	16"	8"								
12"	44"	22"	16"	44"	52"	26"	38"	19"	28"	14"	20"	10"								
16"	58"	29"	20"	58"	68"	34"	50"	25"	36"	18"	26"	13"								



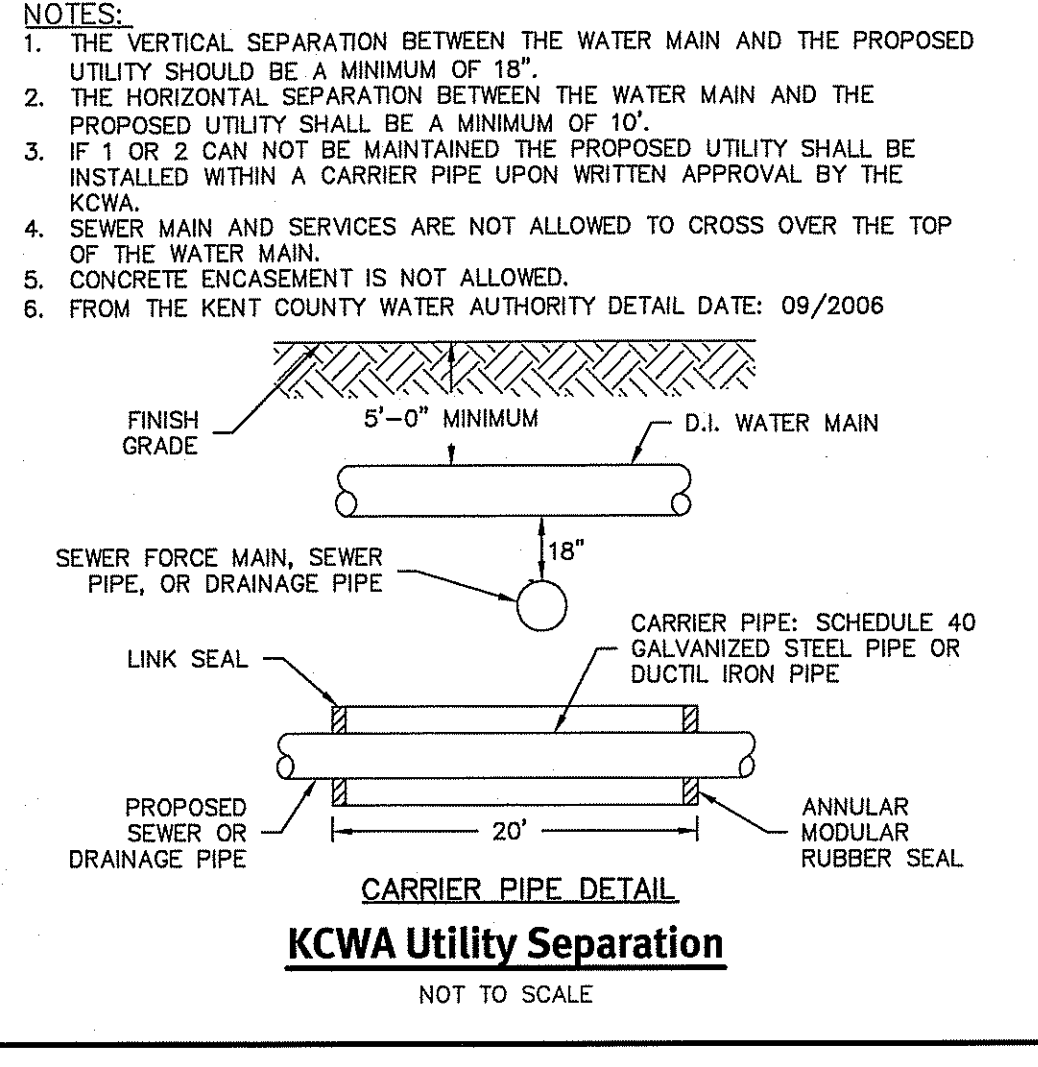
KCWA Trench Installation In Rock & Soil
NOT TO SCALE



KCWA Service Connection
NOT TO SCALE

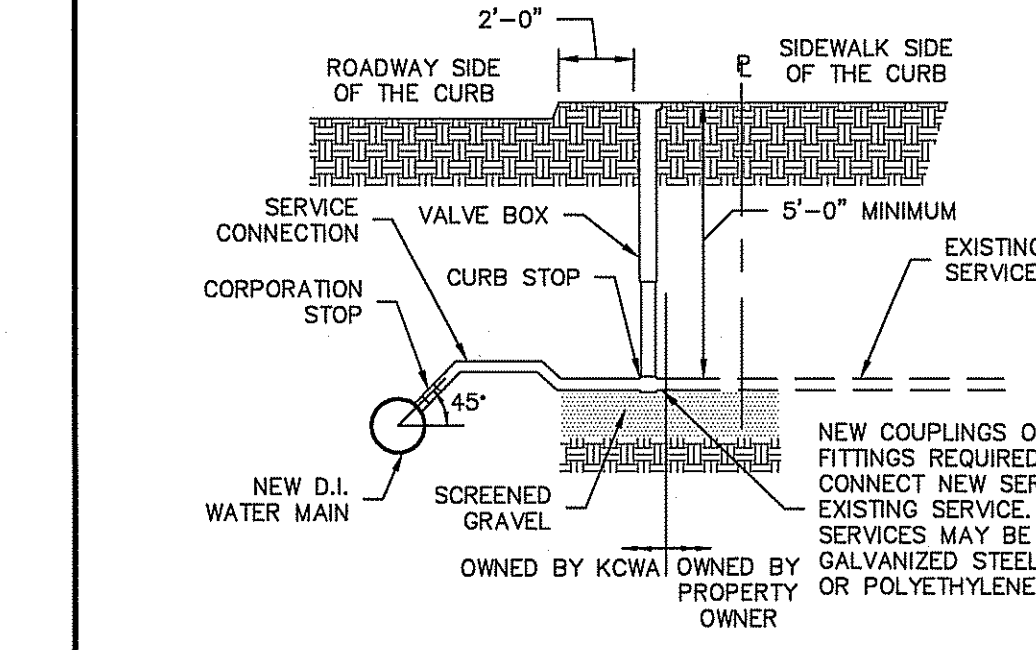


KCWA Utility Separation
NOT TO SCALE

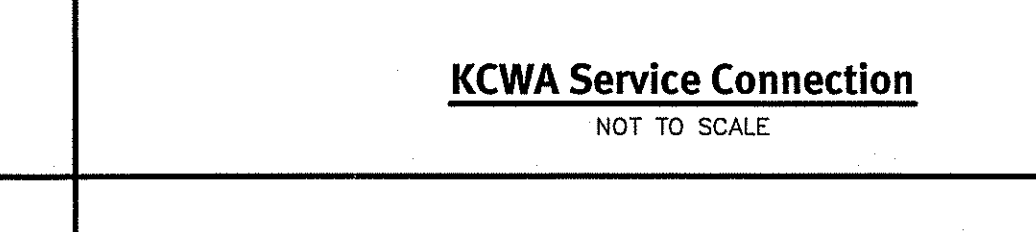


KCWA Tapping Sleeve & Valve
NOT TO SCALE

- NOTES:**
- SERVICE MATERIALS PER KCWA SPECIFICATIONS UNLESS CITY OR TOWN CODES REQUIRE SPECIFIC MATERIALS THAT HAVE BEEN APPROVED BY KCWA.
 - SERVICE LINE FROM CURB BOX TO BUILDING SHALL BE INSPECTED, TESTED AND APPROVED BY THE LOCAL PLUMBING INSPECTOR.
 - FROM KENT COUNTY WATER AUTHORITY DETAIL DATE: 09-2006

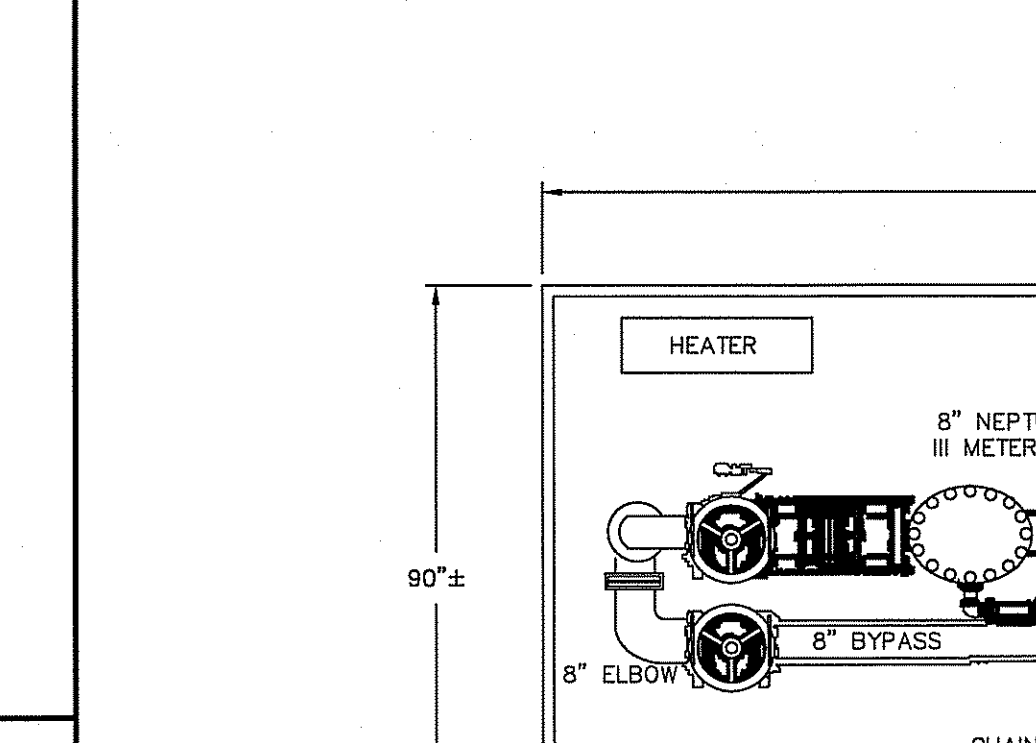


KCWA Connection Of New Water Main To Existing Water Main
NOT TO SCALE

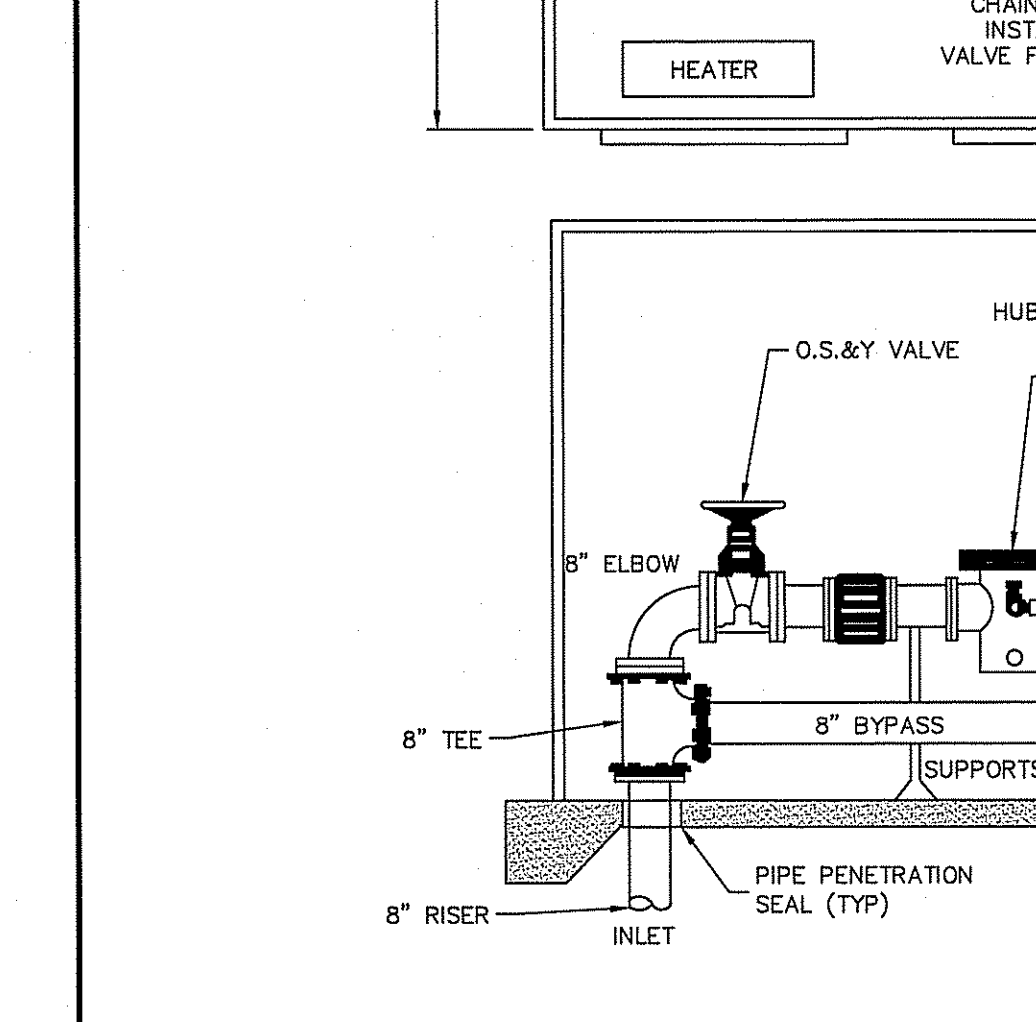


KCWA Hydrant
NOT TO SCALE

- NOTES:**
- PRIOR TO FINAL APPROVAL FOR PERMANENT CONNECTION FROM KCWA, CONTRACTOR SHALL PERFORM PRESSURE TESTING AND CHLORINATION.
 - SLEEVE FOR CLOSURE TO BE SWABBED WITH CHLORINE SOLUTION.
 - FROM KENT COUNTY WATER AUTHORITY DETAIL DATE: 09/2006

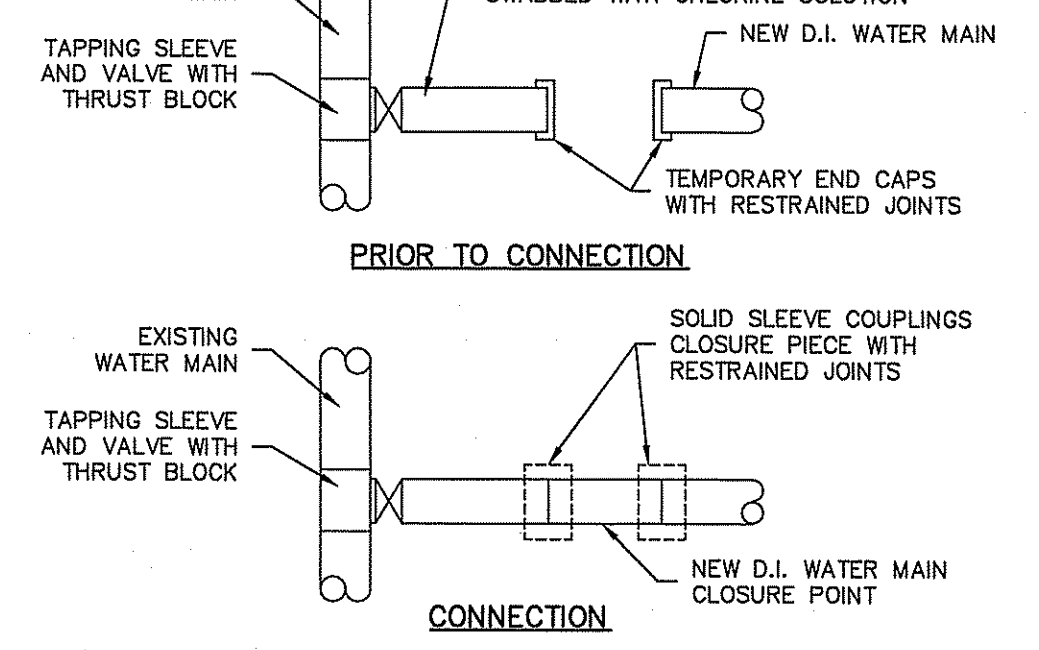


KCWA Metering
NOT TO SCALE



KCWA Riser Detail
NOT TO SCALE

- NOTES:**
- PRIOR TO FINAL APPROVAL FOR PERMANENT CONNECTION FROM KCWA, CONTRACTOR SHALL PERFORM PRESSURE TESTING AND CHLORINATION.
 - SLEEVE FOR CLOSURE TO BE SWABBED WITH CHLORINE SOLUTION.
 - FROM KENT COUNTY WATER AUTHORITY DETAIL DATE: 09/2006



KCWA Connection Of New Water Main To Existing Water Main
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 OCT 6 2016 FILE # 16-0218
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE**

BRANDON D. CARR
REGISTERED PROFESSIONAL ENGINEER
CIVIL
AUG 22 2016
Office of Water Resources

Environmental Management
Office of Water Resources

This regulatory submission set shall not be used for construction purposes unless stamped, issued for construction and signed by a DiPrete Engineering representative.
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	By: R.B.S.
1	08-05-2016	Permit Submission	By: R.B.S.
2			Design By: R.B.S.

Detail Sheet - 2
The Residences at Middleberry
Assessor's Map 52, Plat 11, Lot 499 and a portion of Lot 500
East Greenwich, Rhode Island
Owner: **Middle Park Enterprises, LLC**
461 Main Street
East Greenwich, RI 02818
Prepared for: **Philip Ryan Homes, LTD**
32 Trappars Lane
East Greenwich, RI 02818
© DiPrete Engineering, Inc. 2015
SHEET 16 OF 16