RIDEM Permit Modification

Brandywyne

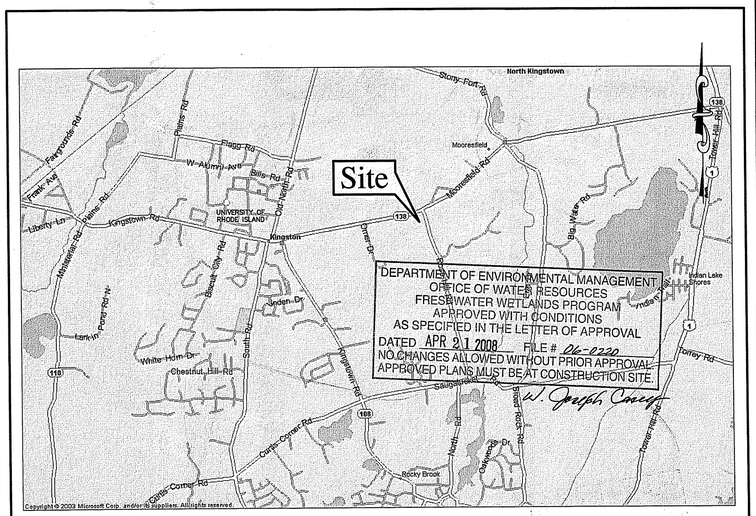
A Senior Residential Community

Mooresfield Road

South Kingstown, Rhode Island

Assessor's Plat 24, Lots 7, 8, & 25

Sheet Index



Location Map

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 1844
PROFESSIONAL LAND SURVEYOR

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-2-06	RIDEM ISDS SUBMISSION	E.H.J.
2	9-18-06	RIDEM PWW COMMENTS	C.R.D.
1	6-26-06	UNITED WATER COMMENTS	C.R.D.
0	5-03-06	RIDEM PWW SUBMISSION	A.M.P.

COVER SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

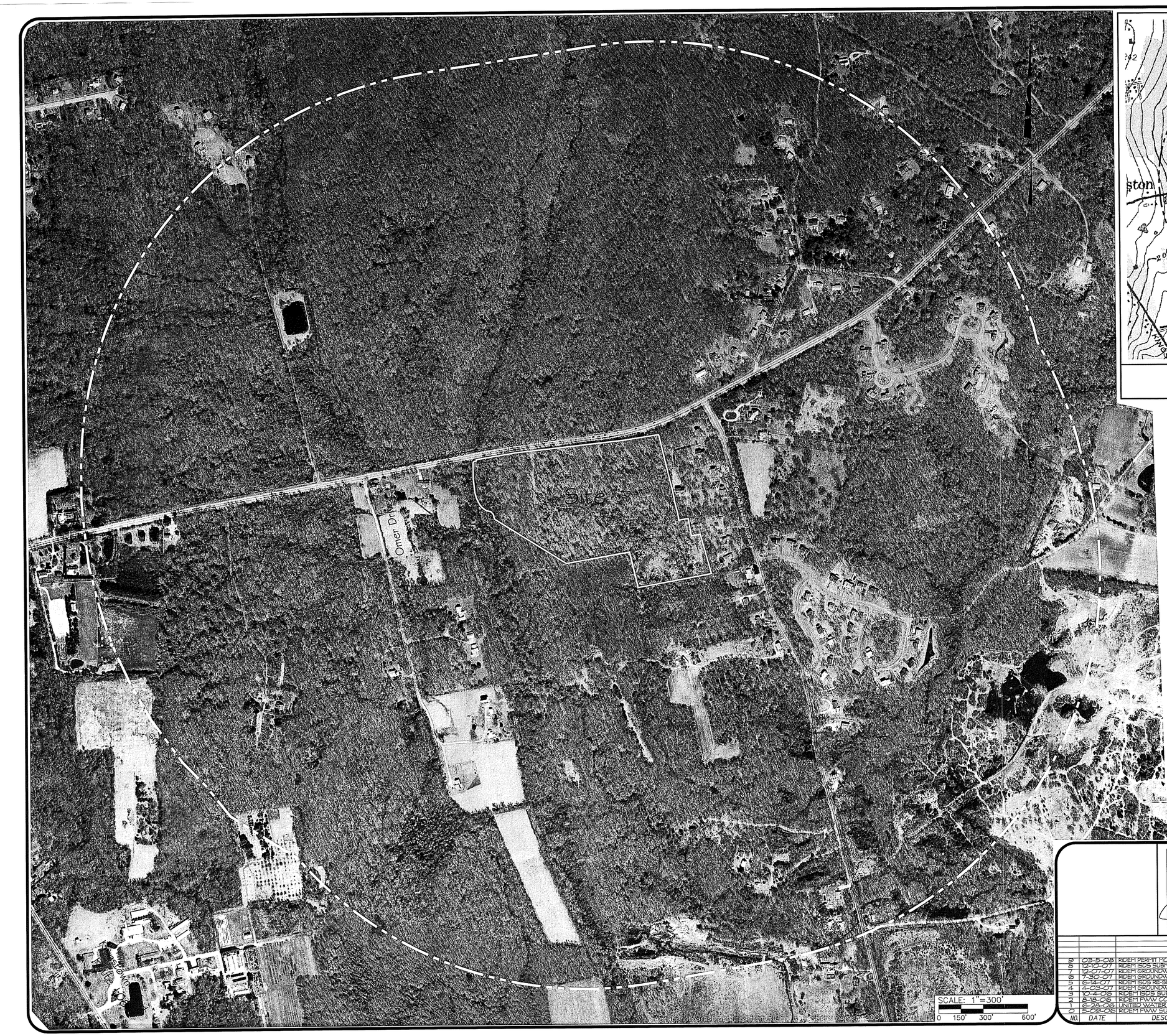
PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

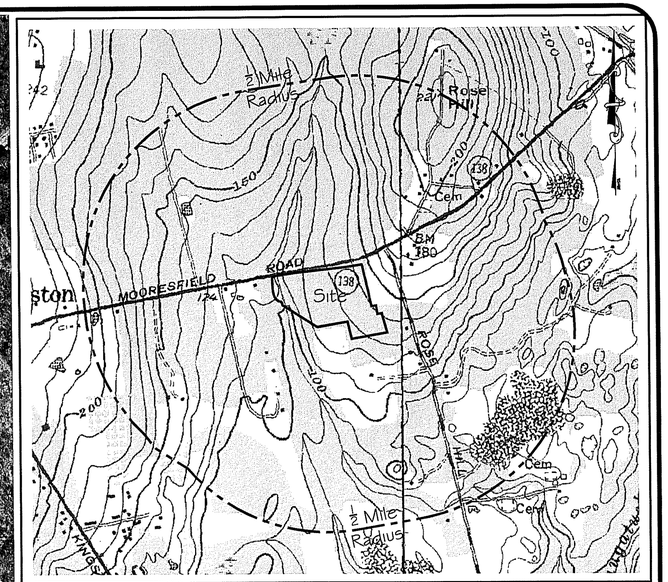
APRIL, 2006
DWN. BY: A.M.P.

SHEET 1 OF 14

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Destorage\DEAN\AIN\Engineers\Transfers\04106-031 Brandywyne Dwg\04106-031 ISDS_8-2.dwg, 1-Cover Sheet, 3/5/2008 3:47:42 PM





USGS TOPOGRAPHIC MAP Scale: 1"=1000'+/-

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Casey

MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-09-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

1/2 MILE RADIUS AERIAL PHOTO

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

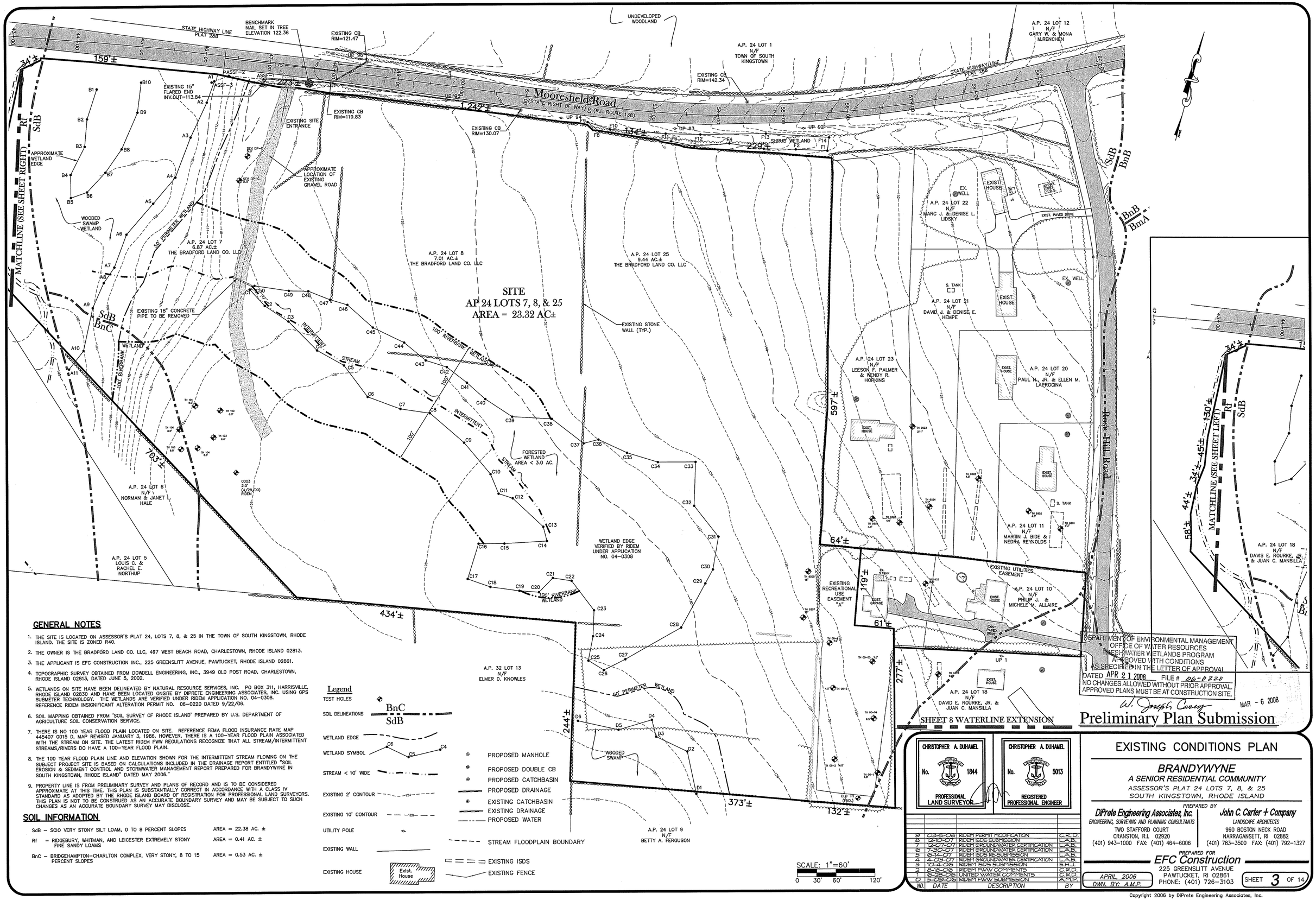
John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Dearborngal\DEA+AN\Engineers\Transfers\04-06-031 Brandywyne D:dwg\04-06-031 ISDS_8-2 Avg. 2-Aerial Photo, 3/5/2008 2:48:25 PM



GENERAL NOTES

1. THE SITE IS LOCATED ON ASSESSOR'S PLAT 24, LOTS 7, 8, & 25 IN THE TOWN OF SOUTH KINGSTOWN, RHODE ISLAND. THE SITE IS ZONED R40.
2. THE OWNER IS THE BRADFORD LAND CO. LLC, 497 WEST BEACH ROAD, CHARLESTOWN, RHODE ISLAND 02813.
3. THE APPLICANT IS EFC CONSTRUCTION INC., 225 GREENSLITT AVENUE, PAWTUCKET, RHODE ISLAND 02861.
4. TOPOGRAPHIC SURVEY OBTAINED FROM DOWDELL ENGINEERING, INC., 3949 OLD POST ROAD, CHARLESTOWN, RHODE ISLAND 02813, DATED JUNE 5, 2002.
5. WETLANDS ON SITE HAVE BEEN DELINEATED BY NATURAL RESOURCE SERVICES, INC. PO BOX 311, HARRISVILLE, RHODE ISLAND 02830 AND HAVE BEEN LOCATED ONSITE BY DIPRETE ENGINEERING ASSOCIATES, INC. USING GPS SUBMETER TECHNOLOGY. THE WETLANDS ARE VERIFIED UNDER RIDEM APPLICATION NO. 04-0308. REFERENCE RIDEM INSIGNIFICANT ALTERATION PERMIT NO. 06-0220 DATED 9/22/06.
6. SOIL MAPPING OBTAINED FROM 'SOIL SURVEY OF RHODE ISLAND' PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
7. THERE IS NO 100 YEAR FLOOD PLAIN LOCATED ON SITE. REFERENCE FEMA FLOOD INSURANCE RATE MAP 445407 0015 D, MAP REVISED JANUARY 3, 1986. HOWEVER, THERE IS A 100-YEAR FLOOD PLAIN ASSOCIATED WITH THE STREAM ON SITE. THE LATEST RIDEM FWW REGULATIONS RECOGNIZE THAT ALL STREAM/INTERMITTENT STREAMS/RIVERS DO HAVE A 100-YEAR FLOOD PLAIN.
8. THE 100 YEAR FLOOD PLAIN LINE AND ELEVATION SHOWN FOR THE INTERMITTENT STREAM FLOWING ON THE SUBJECT PROJECT SITE IS BASED ON CALCULATIONS INCLUDED IN THE DRAINAGE REPORT ENTITLED "SOIL EROSION & SEDIMENT CONTROL AND STORMWATER MANAGEMENT REPORT PREPARED FOR BRANDYWYNE IN SOUTH KINGSTOWN, RHODE ISLAND" DATED MAY 2006."
9. PROPERTY LINE IS FROM PRELIMINARY SURVEY AND PLANS OF RECORD AND IS TO BE CONSIDERED APPROXIMATE AT THIS TIME. 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 INFORMATION

SdB – SCIO VERY STONY SILT LOAM, 0 TO 8 PERCENT SLOPES	AREA = 22.38 AC. ±
Rf – RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS	AREA = 0.41 AC. ±
BnC – BRIDGEHAMPTON-CHARLTON COMPLEX, VERY STONY, 8 TO 15 PERCENT SLOPES	AREA = 0.53 AC. ±

Legend

- TEST HOLES
- SOIL DELINEATIONS (BnC / SdB)
- WETLAND EDGE
- WETLAND SYMBOL (C6, C5, C4)
- STREAM < 10' WIDE
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- UTILITY POLE
- EXISTING WALL
- EXISTING HOUSE (Exist. House)
- PROPOSED MANHOLE
- PROPOSED DOUBLE CB
- PROPOSED CATCHBASIN
- PROPOSED DRAINAGE
- EXISTING CATCHBASIN
- EXISTING DRAINAGE
- PROPOSED WATER
- STREAM FLOODPLAIN BOUNDARY
- EXISTING ISDS
- EXISTING FENCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Casey MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL No. 1844 PROFESSIONAL LAND SURVEYOR

CHRISTOPHER A. DUHAMEL No. 5013 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	LAB.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	LAB.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	LAB.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	LAB.
4	1-03-07	RIDEM GROUNDWATER CERTIFICATION	LAB.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-16-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-08-06	RIDEM FWW SUBMISSION	A.M.P.

EXISTING CONDITIONS PLAN

BRANDYWYNE

A SENIOR RESIDENTIAL COMMUNITY

ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR

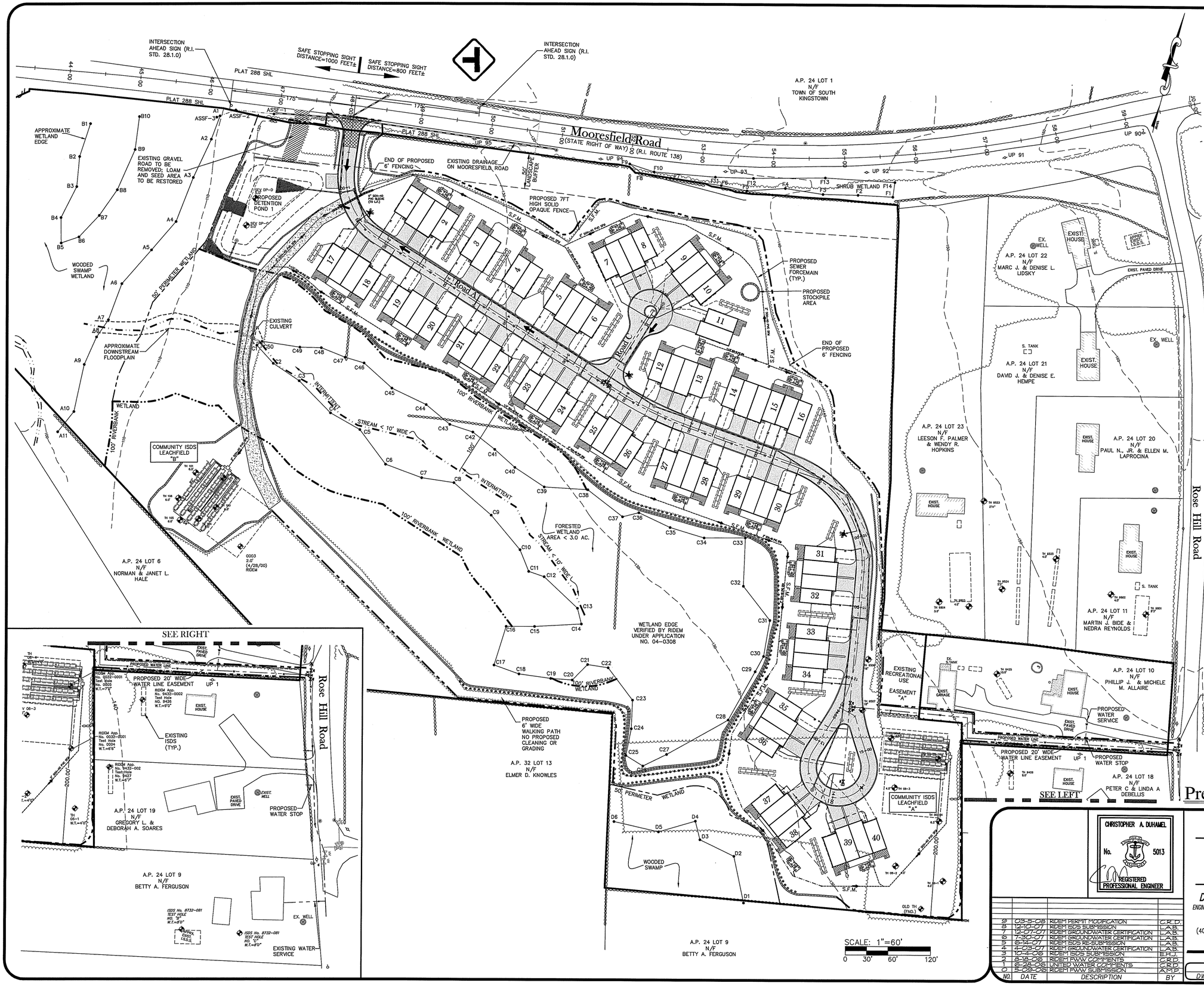
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

SHEET 3 OF 14

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Desktorage\DEAHANN\Engineers\Transfers\04-06-031 Brandywyne D:\dwg\04-06-031 ISDS_8-2.dwg, 3-Existing Conditions, 3/5/2008 2:52:17 PM



GENERAL NOTES

1. PROPOSED HOMES ARE TO BE SERVICED BY PUBLIC WATER AND COMMUNITY SEPTIC SYSTEMS USING INNOVATIVE/ALTERNATIVE TECHNOLOGY AS APPROVED BY R.I.D.E.M.
2. THE DRAINAGE SYSTEM IS DESIGNED TO MEET THE TOWN OF SOUTH KINGSTOWN SUBDIVISION REGULATIONS WITH THE USE OF CATCHBASINS, CULVERTS, AND DRAINAGE DETENTION BASINS. THE STORMWATER MANAGEMENT SYSTEM WILL MEET THE RIDEM BEST MANAGEMENT PRACTICES.
3. THE PROPOSED ROADWAYS WILL BE PRIVATE.
4. THE SITE IS PROPOSED IN ONE PHASE.
5. 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.
6. 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. THIS PLAN SHOWS GENERAL GRADING ONLY AND ADDITIONAL DETAIL IS LIKELY TO BE REQUIRED AROUND THE BUILDING.
7. 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 DEA THAT UTILITY SERVICE IS AVAILABLE.
8. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS BY OTHERS, OR INFORMATION PROVIDED TO DEA AND ARE SUBJECT TO CHANGE. NO ONE SHOULD RELY ON THE UTILITY LOCATIONS SHOWN FOR CONSTRUCTION AND DIG SAFE SHOULD BE NOTIFIED PRIOR TO ANY WORK.
9. RHODE ISLAND HIGHWAY PLAT #228. SHEETS 4 & 5 OF 14. RHODE ISLAND STATE BOARD OF PUBLIC ROADS. HIGHWAY ENGINEERING DEPARTMENT. STATE OF RHODE ISLAND DEPORTMENT OF TRANSPORTATION.

DIMENSIONAL REGULATIONS

MINIMUM LOT AREA	40,000 SF
MINIMUM LOT WIDTH (AT FRONT YARD SETBACK)	150 FT.
MINIMUM FRONT YARD SETBACK	40 FT.
MINIMUM SIDE YARD SETBACK	20 FT.
MINIMUM CORNER SIDE YARD SETBACK	30 FT.
MINIMUM REAR YARD SETBACK	40 FT.

DEVELOPMENT DATA

HOUSING DATA:
40 UNITS – 2 BEDROOMS UNITS
TOTAL AREA OF PROPOSED BUILDING FOOTPRINTS:
1.24± ACRES (5.3% OF TOTAL SITE AREA)

THE TOTAL LOT AREA FOR THE PROJECT IS 23.32 ACRES.
THE AREA OF WETLANDS ON SITE VERIFIED BY RIDEM IS 4.95 ACRES.
THE REMAINING DEVELOPMENT AREA IS 18.37 ACRES.
NO. OF SENIOR RESIDENTIAL UNITS =18.37 AC. X 1.99 UNITS / AC. = 36.56
OVERALL DENSITY 1.88 UNITS PER ACRE

THE PROJECT AS PROPOSED CONSISTS OF 40 UNITS OF WHICH 20% WOULD BE UTILIZED AS LOW / MODERATE INCOME HOUSING UNITS. THIS WOULD RESULT IN 32 MARKET RATE UNITS AND 8 LOW / MODERATE INCOME UNITS. THE 8 UNITS PROPOSED IN EXCESS OF THE PERMITTED 36 UNITS WOULD BE SET ASIDE AS LOW / MODERATE INCOME UNITS AND WOULD COUNT TOWARDS THE 8 TOTAL LOW / MODERATE INCOME UNITS BEING PROPOSED UNDER THIS APPLICATION.

ROADWAY DATA:
TOTAL LENGTH OF PROPOSED PRIVATE ROADS: 2796± LINEAR FEET
24' WIDE PAVEMENT WITH 1 FOOT WIDE CAPE COD BERMS
(WHERE NECESSARY FOR DRAINAGE PURPOSES) (11 FOOT TRAVEL LANES)
AREA OF ROADWAY = 1.65 AC.± (7.1% OF TOTAL SITE AREA)

DRIVEWAY DATA:
DRIVEWAYS ARE PROPOSED TO BE IMPERVIOUS PAVEMENT.
WIDTH OF DRIVEWAYS PROPOSED EQUALS 15 – 18'.
TOTAL AREA OF PROPOSED DRIVEWAYS:
0.52± ACRES (2.2 % OF TOTAL SITE AREA)

RIDEM SITE SUITABILITY NOTES

THERE ARE NO KNOWN EXISTING OR PROPOSED PRIVATE WELLS WITHIN 200 FT. OF THE PROPOSED DEVELOPMENT EXCEPT WHERE SHOWN.

THERE ARE NO KNOWN EXISTING OR PROPOSED ISDS'S WITHIN 200 FT. OF THE DEVELOPMENT EXCEPT WHERE SHOWN.

THERE ARE NO KNOWN PUBLIC WELLS WITHIN 500 FT. OF THE PROPOSED DEVELOPMENT.

THERE ARE NO KNOWN EXISTING OR PROPOSED WELLS WITHIN 200 FT. OF A PROPOSED ISDS EXCEPT WHERE SHOWN.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-2220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Casey

MAR - 6 2008

Preliminary Plan Submission

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	1-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	8-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-05-06	RIDEM FWW SUBMISSION	A.M.P.

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

OVERALL PLAN

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

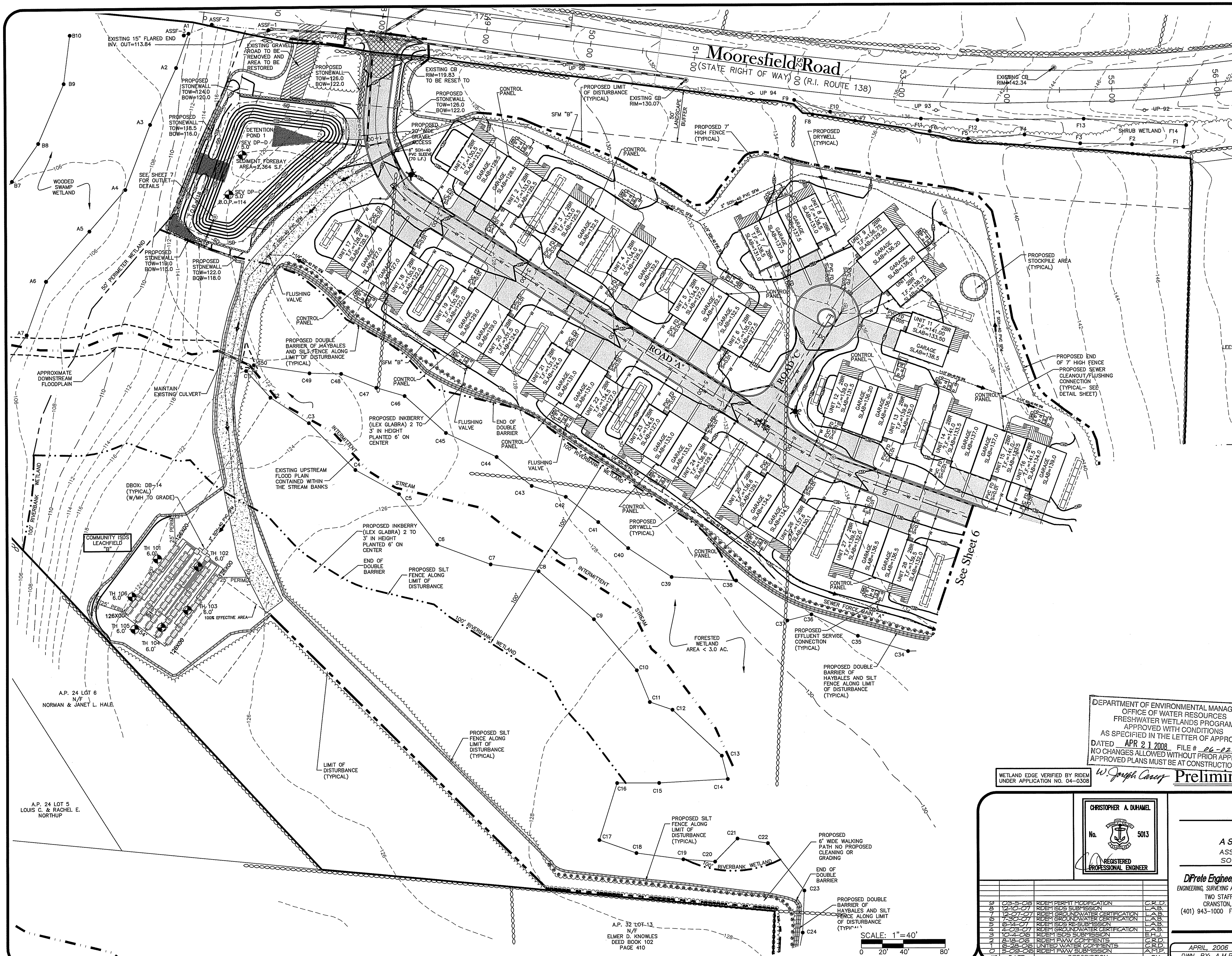
PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

SHEET 4 OF 18

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Deastorage\DEAMAN\Engineering\Transferred\0406-031 Brandywyne D:\dwg\0406-031 ISDS_8-2.dwg, 4-Overall Plan (2), 3/5/2008 2:52:25 PM



Standard Notes

1. 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. THIS PLAN SHOWS GENERAL GRADING ONLY AND ADDITIONAL DETAIL IS LIKELY TO BE REQUIRED AROUND THE BUILDING.

2. 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 DEA THAT UTILITY SERVICE IS AVAILABLE.

3. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS BY OTHERS, OR INFORMATION PROVIDED TO DEA AND ARE SUBJECT TO CHANGE. NO ONE SHOULD RELY ON THE UTILITY LOCATIONS SHOWN FOR CONSTRUCTION AND DIG SAFE SHOULD BE NOTIFIED PRIOR TO ANY WORK.

4. THERE ARE NO KNOWN WELLS EXISTING OR PROPOSED WITHIN 200' OF THE PROPOSED ISDS OTHER THAN SHOWN ON PLAN.

5. THERE ARE NO KNOWN ISDS' EXISTING OR PROPOSED WITHIN 200' OF THE PROPOSED WELL OTHER THAN SHOWN ON PLAN.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

MAR - 6 2008

WETLAND EDGE VERIFIED BY RIDEM UNDER APPLICATION NO. 04-0308

W. Joseph Casey

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

GRADING PLAN

BRANDYWYNE

A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Desstorage\DEAMAIN\Engineers\Transfers\0408-031 Brandywyne D\dwg\0408-031SDS_8-2.dwg, 5-Grading, 3/5/2008 2:52:36 PM

Standard Notes

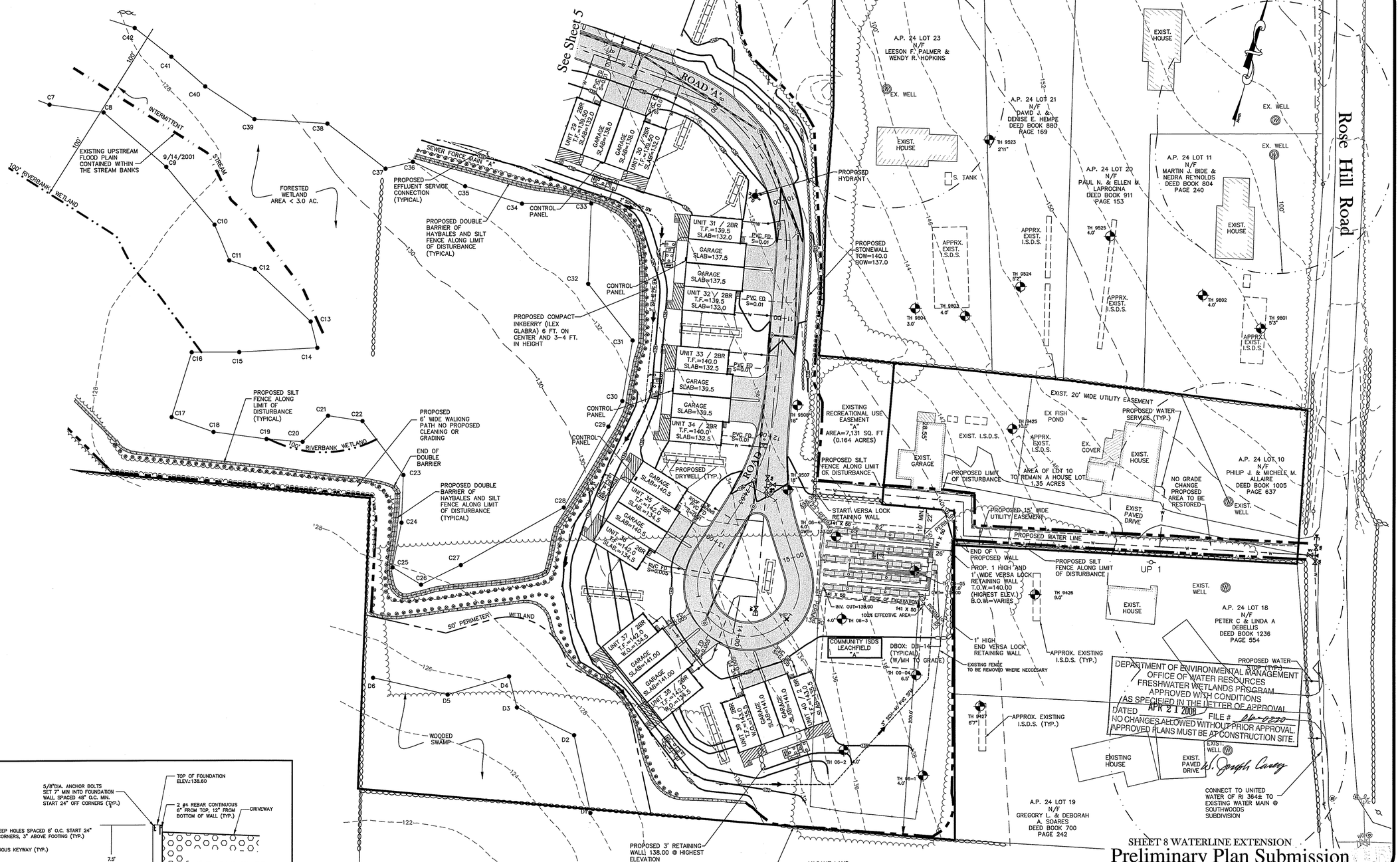
1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDING TO ENSURE SURFACE WATER AND/OR GROUND WATER ARE DIRECTED AWAY FROM THE STRUCTURE. THIS PLAN SHOWS GENERAL GRADING ONLY AND ADDITIONAL DETAIL IS LIKELY TO BE REQUIRED AROUND THE BUILDING.

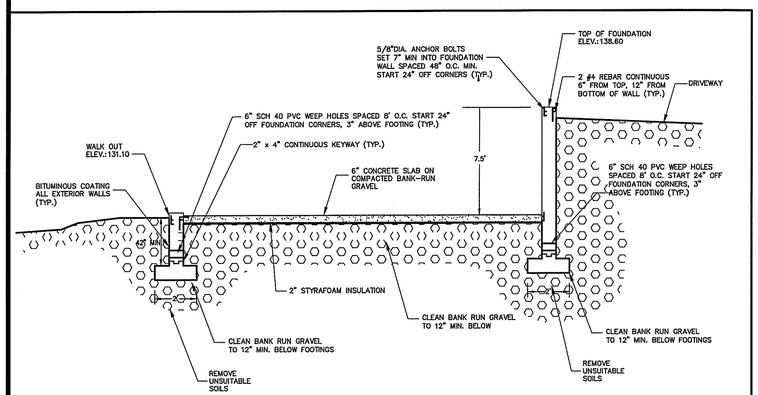
2. THE CONTRACTOR SHALL COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVICE THE PROPOSED BUILDING. THIS SHALL BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DEA THAT UTILITY SERVICE IS AVAILABLE.

3. ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, DRAWINGS BY OTHERS, OR INFORMATION PROVIDED TO DEA AND ARE SUBJECT TO CHANGE. NO ONE SHOULD RELY ON THE UTILITY LOCATIONS SHOWN FOR CONSTRUCTION AND DIG SAFE SHOULD BE NOTIFIED PRIOR TO ANY WORK.

4. THERE ARE NO KNOWN WELLS EXISTING OR PROPOSED WITHIN 200' OF THE PROPOSED ISDS OTHER THAN SHOWN ON PLAN.

5. THERE ARE NO KNOWN ISDS' EXISTING OR PROPOSED WITHIN 200' OF THE PROPOSED WELL OTHER THAN SHOWN ON PLAN.





FOUNDATION DRAIN CROSS-SECTION: UNITS 35, 36, 37, 38, 39, 40

SCALE 1"=5'

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
5	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
4	10-5-06	RIDEM ISDS SUBMISSION	E.H.J.
3	8-18-06	RIDEM FWW COMMENTS	C.R.D.
2	6-28-06	UNITED WATER COMMENTS	C.R.D.
1	5-08-06	RIDEM FWW SUBMISSION	A.M.P.

CHRISTOPHER A. DUHAMEL No. 5013 REGISTERED PROFESSIONAL ENGINEER

MAR - 6 2008

GRADING PLAN

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

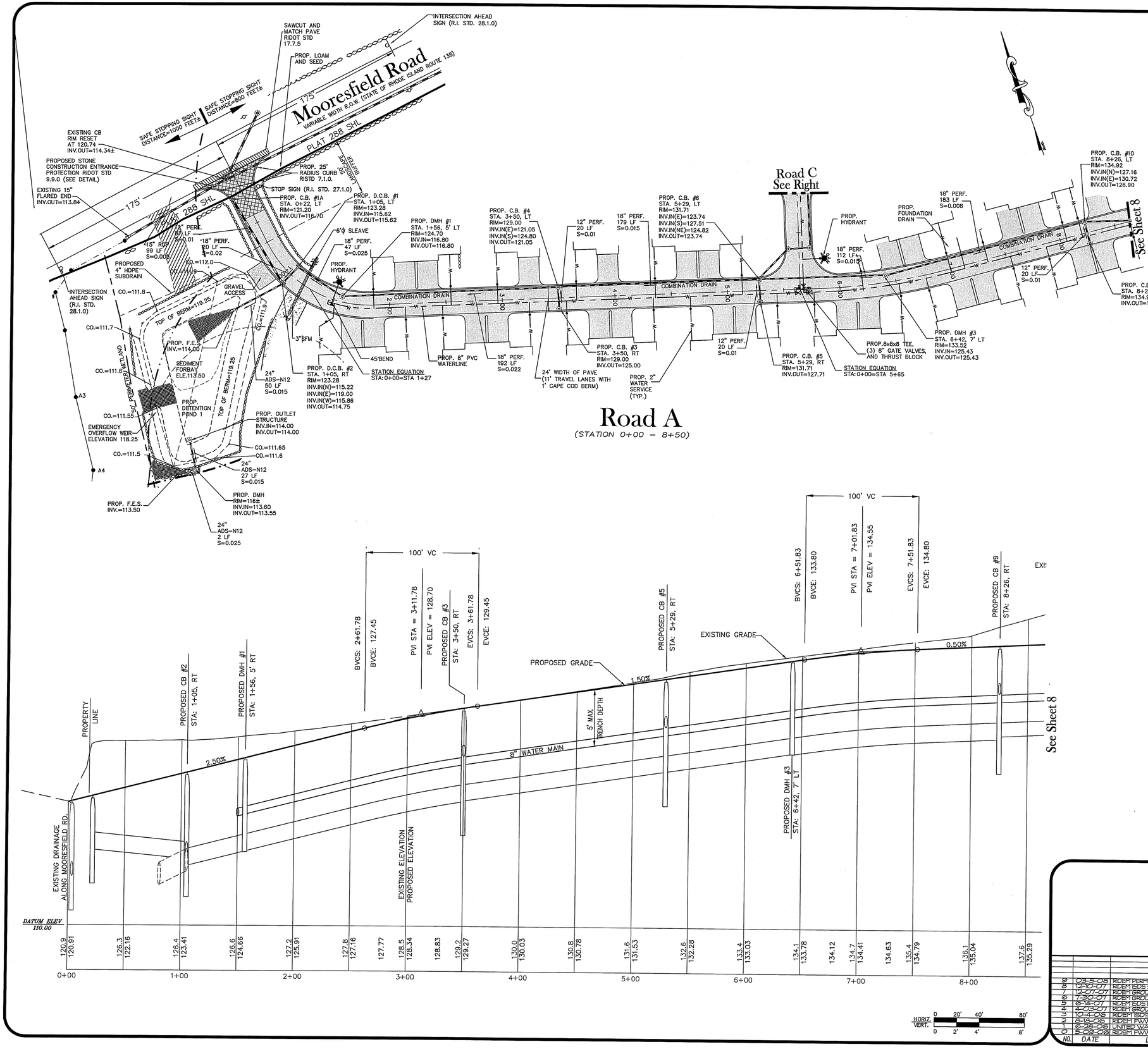
PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

SHEET 6 OF 14

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Desstorage\DEAMAIN\Engineers\Transfers\0406-03\Brandywyne D:\dwg\0406-03\ISDS_8-2.dwg, 6-Grading, 3/5/2008 2:52:48 PM



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 2 1 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Craney

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
10	03-5-08	RIDEM PERMIT MODIFICATION	C.A.D.
9	12-10-07	RIDEM ISDS SUBMISSION	E.T.L.
8	12-07-07	RIDEM GROUNDWATER CERTIFICATION	E.T.L.
7	7-30-07	RIDEM GROUNDWATER CERTIFICATION	E.T.L.
6	6-14-07	RIDEM ISDS RE-SUBMISSION	E.T.L.
5	4-03-07	RIDEM GROUNDWATER CERTIFICATION	E.T.L.
4	10-4-06	RIDEM ISDS SUBMISSION	E.T.L.
3	9-18-06	RIDEM FWW COMMENTS	C.A.D.
2	6-28-06	UNITED WATER COMMENTS	C.A.D.
1	5-26-06	RIDEM FWW SUBMISSION	A.M.P.

PLAN AND PROFILE (STA: 0+00 – 8+50)

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, RHODE ISLAND

RECEIVED APR - 6 2008

PREPARED BY
DiPrete Engineering Associates, Inc.
ENGINEERING, SURVEYING AND PLANNING CONSULTANTS
TWO STAFFORD COURT
CRANSTON, R.I. 02920
(401) 943-1000 FAX: (401) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

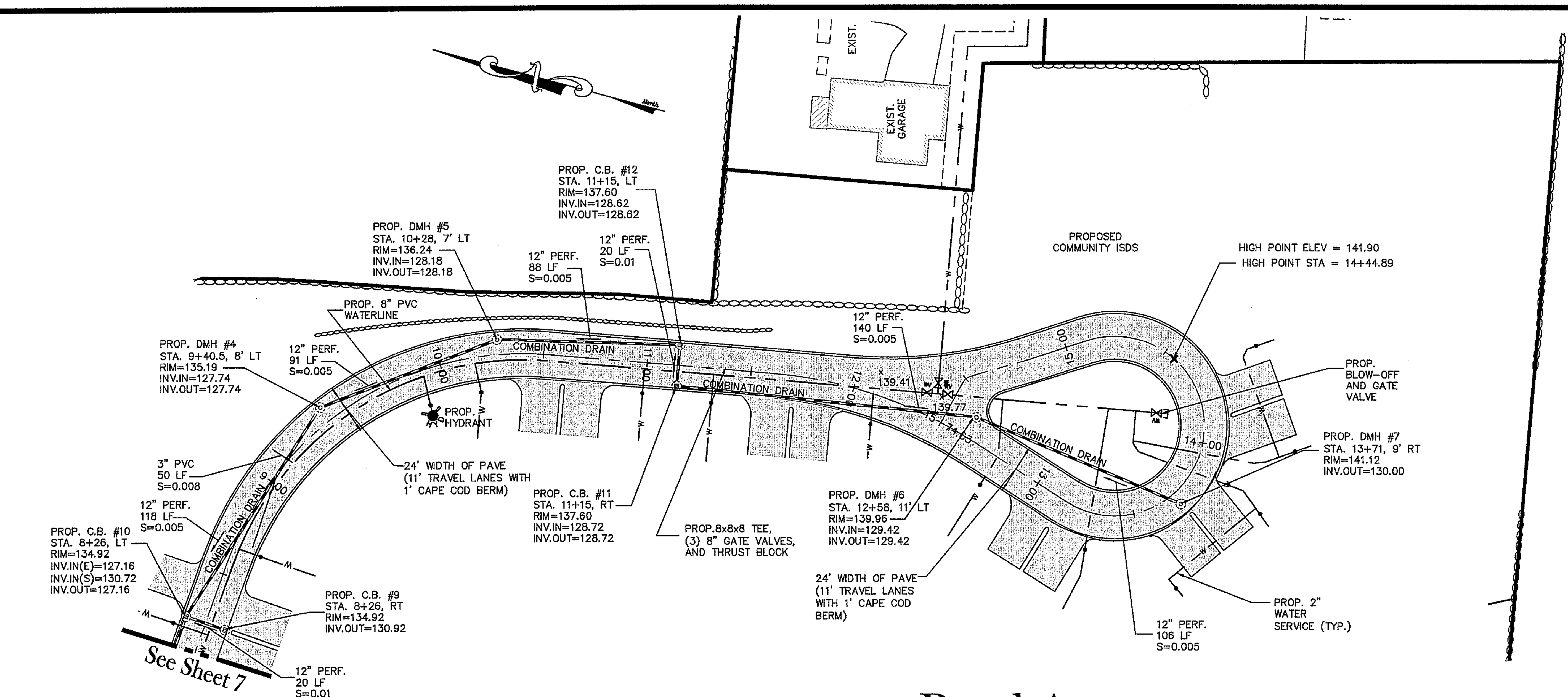
PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

SHEET 7 OF 14

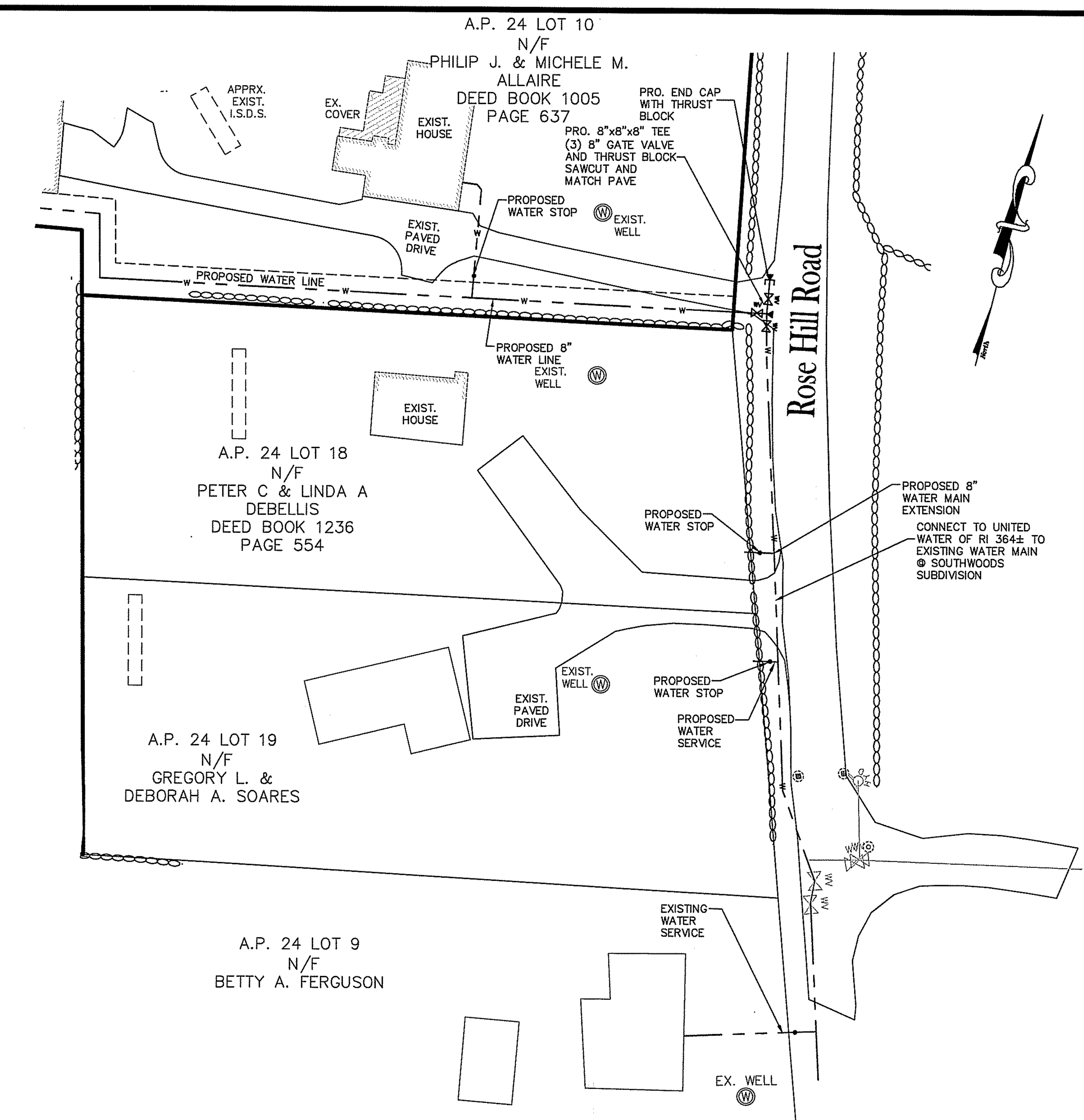
Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Destorage\DEPMAIN\Engineers\Transfers\04-06-031 Brandywyne Dwgs\04-06-031 ISDS_8-24.dwg, 7-PEP, 3/5/2008 2:52:54 PM

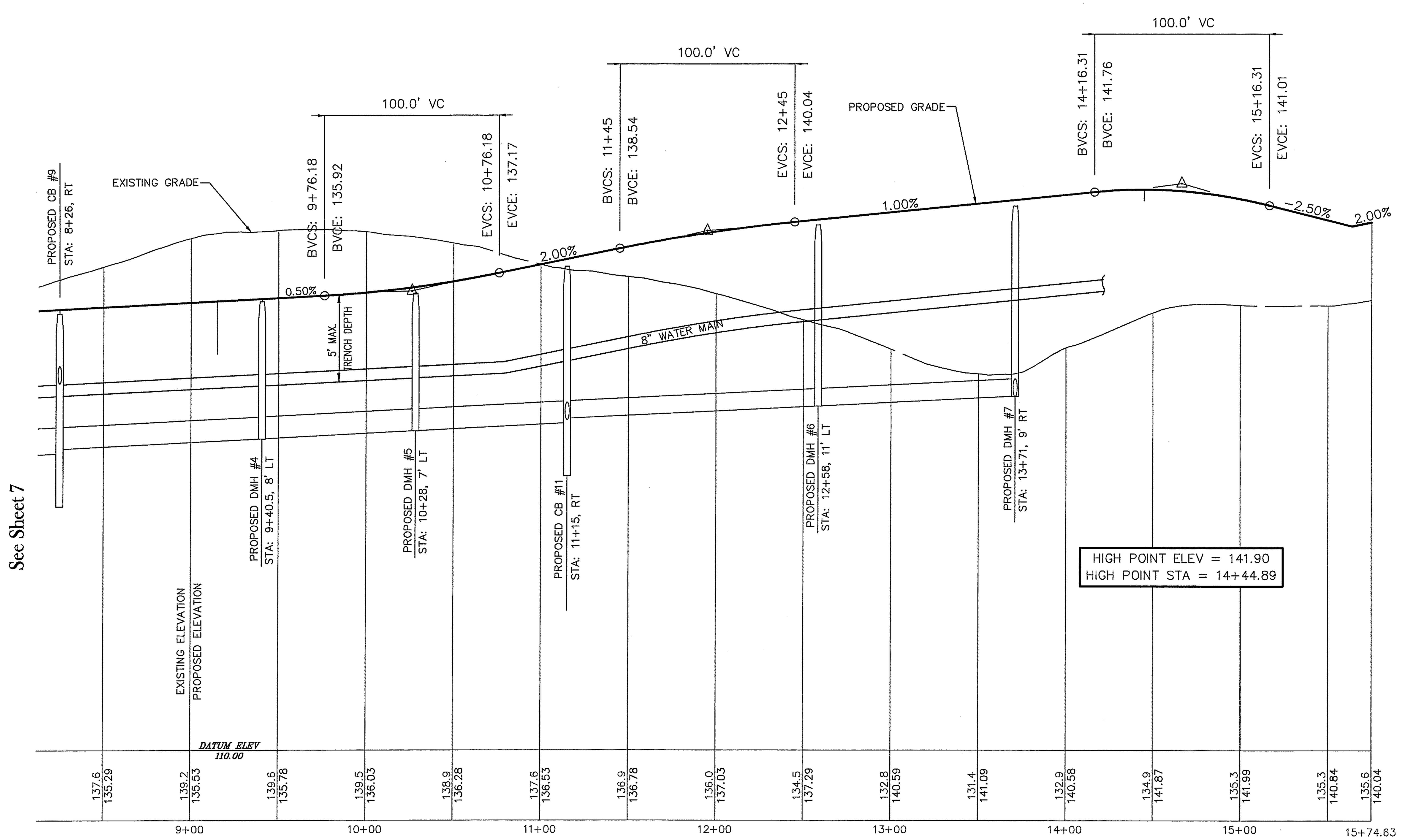


Road A

(STATION 8+50 – 16+42.40)



Waterline Extension



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 2 1 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Casey

MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

PLAN AND PROFILE (STA: 8+50 – 16+42.40)

BRANDYWYNE

A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

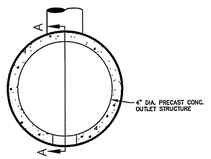
John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

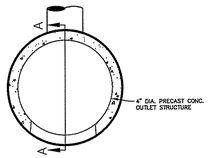
APRIL, 2006
DWN. BY: A.M.P.

Copyright 2006 by DiPrete Engineering Associates, Inc.

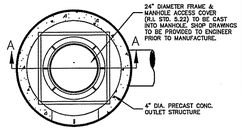
\\Desstorage\DEA-MAIN\Engineers\Transfers\0406-031 Brandywyne D\dwg\0406-031 ISDS_8-2.dwg, 8-P&P, 3/5/2008 2:53:01 PM



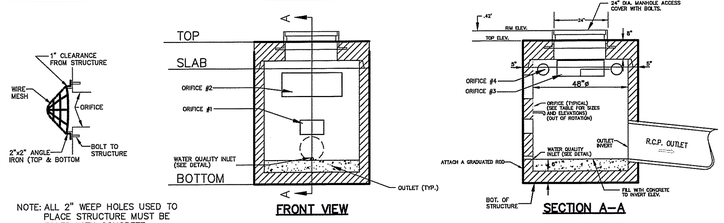
TOP VIEW @ ELV. 115.09'



TOP VIEW @ ELV. 116.65'



TOP VIEW @ ELV. 117.51'



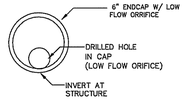
NOTE: ALL 2" WEEP HOLES USED TO PLACE STRUCTURE MUST BE FILLED WITH CONCRETE.

POND 1 – 4' DIA. OUTLET STRUCTURE

SCALE 1"=3'

Description	Pond #1
Rim Elevation	119.42
Top Elevation	119.00
Orifice #4 Size & Invert	6" (2), 117.80
Orifice #3 Size & Invert	2.0' W X 0.75'H, 117.51
Orifice #2 Size & Invert	2.55' W X 1.0'H, 116.65
Orifice #1 Size & Invert	1.0' W X 0.5'H, 115.09
Low Flow Orifice Size & Invert	1.5", 114.00
Outlet Size & Invert	24", 114.00
Fill With Concrete to Elevation	114.00
Bottom of Structure	113.00

RECTANGLE TRASH RACK DETAIL N.T.S. (FRONT)

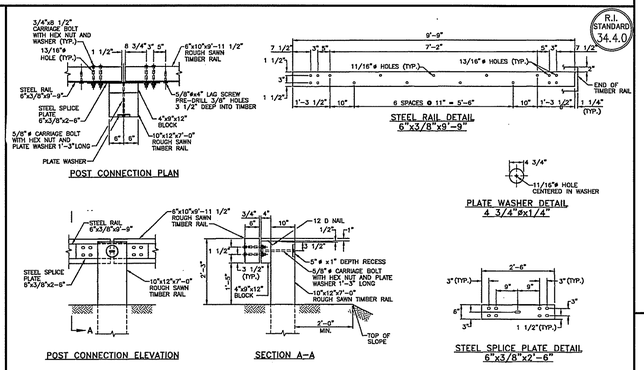


CAP DETAIL

NOT TO SCALE

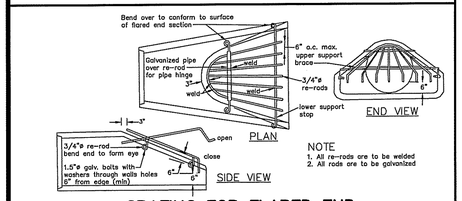
LOCATION	LENGTH	WIDTH	CLASS
POND 1 INLET	33'	20'	R-4
POND 1 OUTLET	31'	19'	R-4

RIP-RAP APRON N.T.S



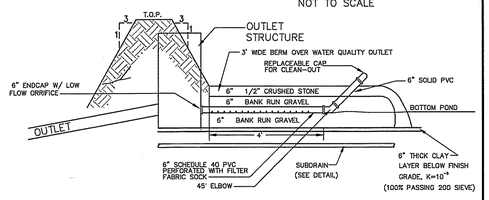
STEEL BACKED-TIMBER GUARDRAIL DETAIL

N.T.S.



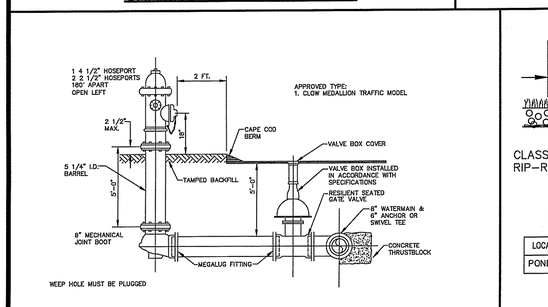
NOTE
1. All re-rods are to be welded
2. All rods are to be galvanized

GRATING FOR FLARED END



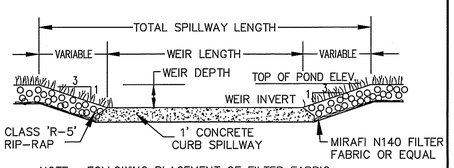
WATER QUALITY OUTLET POND

NOT TO SCALE



AWWA C502 WET BARREL FIRE HYDRANT

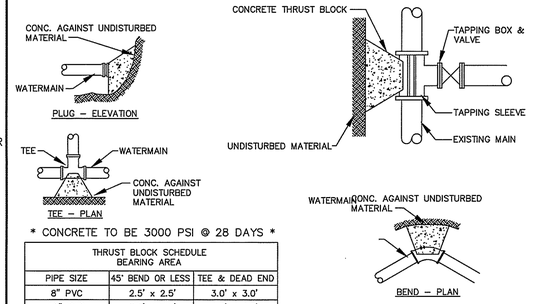
N.T.S.



NOTE: FOLLOWING PLACEMENT OF FILTER FABRIC AND RIP RAP, VOIDS SHALL BE FILLED WITH LOAM AND SEEDED ALONG WITH DETENTION BASIN.

LOCATION	TOP OF POND EL.	WEIR INVERT	WEIR DEPTH	TOTAL SPILLWAY LENGTH	WEIR LENGTH
POND #1	119.25	118.25	1.0'	15.0'	10.0'

EMERGENCY SPILLWAY DETAIL N.T.S.

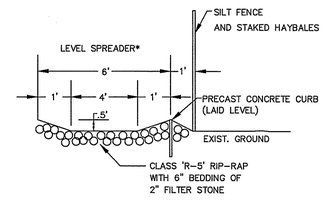


* CONCRETE TO BE 3000 PSI @ 28 DAYS *

THRUST BLOCK SCHEDULE BEARING AREA		
PIPE SIZE	45° BEND OR LESS	TEE & DEAD END
8" PVC	2.5' x 2.5'	3.0' x 3.0'
12" PVC	3.5' x 3.5'	4.0' x 4.0'

THRUST BLOCK DETAILS

N.T.S.

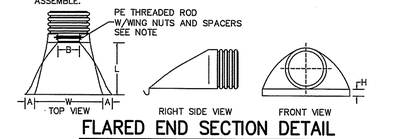


* LENGTHS AS SPECIFIED ON SITE PLANS

LEVEL SPREADER DETAIL

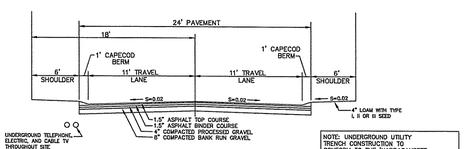
N.T.S.

NOTES:
1. ADS OR APPROVED EQUAL.
2. ALL DIMENSIONS ARE NOMINAL.
3. PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"–24".
4. 30" & 36" END SECTIONS REQUIRE TWO (2) THREADED RODS FOR ASSEMBLE.



FLARED END SECTION DETAIL

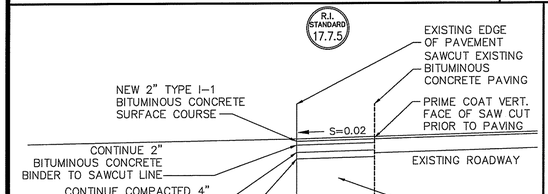
N.T.S.



TYPICAL CROSS-SECTION

PRIVATE ROAD CROSS-SECTION

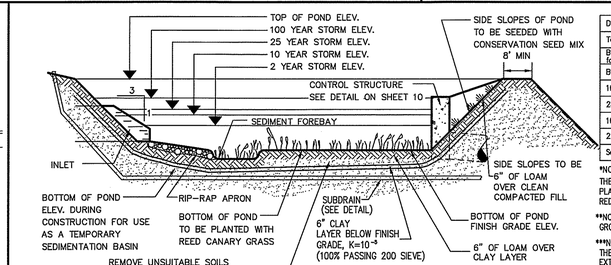
N.T.S.



MINIMUM COMPACTION FOR GRAVEL SUB-BASE OR SUBGRADE: 95% MODD PROCTOR

SAWCUT & MATCH PAVEMENT DETAIL

NOT TO SCALE



Description	Pond #1
Top of Pond Elevation	119.25
Bottom of Pond Elevation for Sediment Forebay	113.50
Bottom of Pond	114.00
100 Year Storm Elevation	118.33
25 Year Storm Elevation	117.85
10 Year Storm Elevation	117.55
2 Year Storm Elevation	116.72
Seasonal High GWT Elevation **	117.00±

*NOTE:
THE SIDE SLOPES OF DETENTION PONDS SHALL BE PLANTED WITH A SEED MIX CONSISTING OF CREEPING RED FESCUE, TALL FESCUE, AND LADINO CLOVER

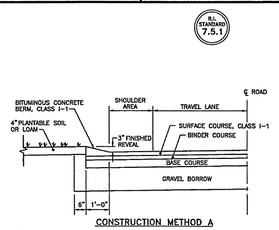
**NOTE:
GROUNDWATER TABLE REGULATED BY SUBDRAINS

***NOTE:
THE PROPOSED CLAY LAYER FOR POND #1 WILL EXTEND TO ELEVATION 118.00.

1. CLAY LAYER TO CONSIST OF FINE PARTICLES FREE OF SANDS, GRAVELS, STONES, OR ORGANICS.
2. CLAY LAYER TO RESTRICT WATER FLOW WITH HYDRAULIC CONDUCTIVITY, K OF 10^-5 CM/S OR LESS (100% PASSING 200 SIEVE).
3. CLAY LAYER TO BE PLACED AT BOTTOM OF POND AND 3' UP THE SIDE SLOPE.
4. COMPACTION OF CLAY LAYER TO 95% PROCTOR IS REQUIRED.
5. DESIGN ENGINEER TO BE NOTIFIED 24 HRS. PRIOR TO CLAY LINER CONSTRUCTION. APPROVAL OF CONSTRUCTION BY DESIGN ENGINEER REQUIRED.

DETENTION POND & WATER QUALITY BASIN – TYPICAL CROSS SECTION NOT TO SCALE

R.I. STANDARD 7.5.1



NOTES:
1. SPALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

CAPE COD CURBING DETAIL

N.T.S.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Casey

MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-08-06	RIDEM FWW SUBMISSION	A.M.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

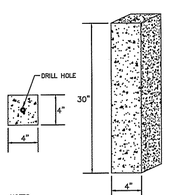
PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

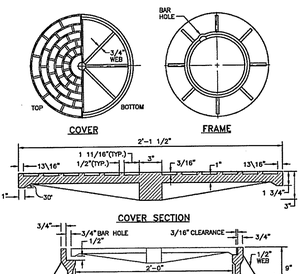
APRIL, 2006
DWN. BY: A.M.P.

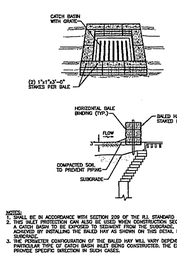
SHEET 9 OF 14

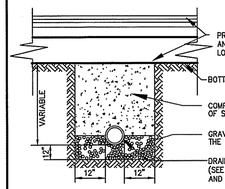
Copyright 2006 by DiPrete Engineering Associates, Inc.

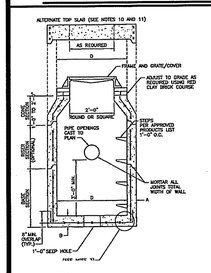
\\Desktorage\DEAMAIN\Engineers\Transfers\0406-03\BDS_8-2.dwg, 8-detail, 3/5/2008 2:53:04 PM

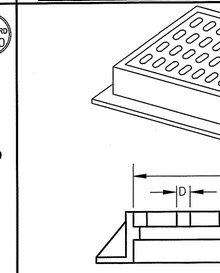


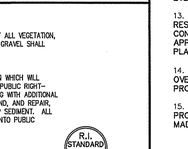


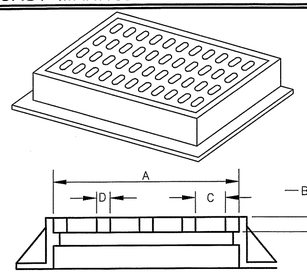


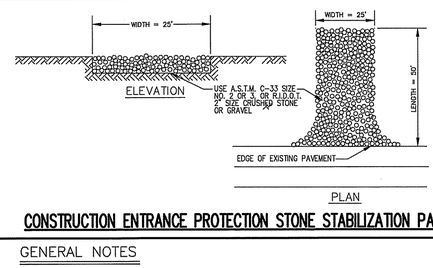












\\Deastorage\DEAMAIN\Engineers\Transfers\0406-031 Brandywyne D.dwg\0406-031SPS_8-2.dwg, 10 detail, 3/5/2008 2:53:08 PM

NOTES:
1. BOUNDS TO BE MADE FROM QUARRY CUT GRANITE
2. BOUNDS ARE TO BE PLACED WHERE INDICATED ON PLANS.
3. ALL BOUNDS ARE TO BE INSTALLED WITH THE TOP SURFACE LEVEL WITH THE GROUND.
4. HOLE TO BE 1/2" DIA., 3/4" DEEP.
5. ALL DIMENSIONS SHOWN ARE MINIMUM.

N.T.S.

GRANITE BOUND DETAIL

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

ROUND FRAME & COVER HEAVY DUTY MANHOLE

N.T.S.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 209 OF THE R.I. STANDARD SPECIFICATIONS.
2. THIS INLET PROTECTION CAN ALSO BE USED WHEN CONSTRUCTION SEQUENCING REQUIRES A CATCH BASIN TO BE EXPOSED TO SEDIMENT FROM THE SUBGRADE. THIS WILL BE ACHIEVED BY INSTALLING THE BALED HAY AS SHOWN ON THIS DETAIL INTO THE SUBGRADE.
3. THE PERIMETER CONFIGURATION OF THE BALED HAY WILL VARY DEPENDING ON THE PARTICULAR TYPE OF CATCH BASIN INLET BEING CONSTRUCTED. THE ENGINEER WILL PROVIDE SPECIFIC DIRECTION IN SUCH CASES.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
2. TO BE USED WHERE THE EXISTING GROUND SLOPES AWAY FROM THE HIGHWAY EMBANKMENT AS CALLED FOR ON PLANS.
3. AT APPROXIMATE 100'-0" INTERVALS A BALE OF HAY IS TO BUTT PERPENDICULARLY.

BALED HAY EROSION CHECK

N.T.S.

NOTE: ALL PIPE TO BE ADS-N12 PERFORATED ADSN 12 UNLESS OTHERWISE NOTED

DRAINAGE TRENCH DETAIL

N.T.S.

SQUARE FRAME & GRATE N.T.S.

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

PRECAST MANHOLE – 4' DIAMETER N.T.S.

WATER TRENCH DETAIL

N.T.S.

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

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

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

CATCH BASIN DETAIL N.T.S.

CAT. NO.	A	B	C	D	WT. (LBS)
R-4853-A	24"x45"	3"	1 1/2"x6 1/4"	1 1/4"	520

DOUBLE FRAME & GRATE NEENAH FOUNDRY CORP. (OR EQUAL) N.T.S.

Notes:
1. Concrete 4000 PSI
2. Construction per ASTM C478
3. Reinforcing per ASTM A185 68

H-20 WHEEL LOAD

4' DIA. DOUBLE OPENING SLAB COVER FIORE CONCRETE PRODUCTS (OR EQUAL) N.T.S.

STRUCTURAL MEASURES

1. RUNOFF WATER QUALITY IS IMPROVED UTILIZING EXTENDED DETENTION BASIN. THE DETENTION BASINS ARE DESIGNED TO PROMOTE SEDIMENT REMOVAL PRIOR TO FINAL DISCHARGE. DISCHARGE OUTLETS ARE PROTECTED WITH RIP-RAP APRONS OR LEVEL SPREADERS.

2. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED IN THE BASINS IMMEDIATELY AFTER GRADING. THE SEEDING EXTENT TO AT LEAST THE DESIGN TOP WIDTH AND INCLUDE ANY OTHER AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLANS.

3. VIGOROUS VEGETATION SHALL BE MAINTAINED BY APPLYING LIME AND FERTILIZER. BARE OR ERODED AREAS SHALL BE IMMEDIATELY REPAIRED AND RESEEDED BY THE CONTRACTOR.

4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DETENTION AREAS UP TO ACCEPTANCE OF CONSTRUCTION BY THE TOWN OF SOUTH KINGSTOWN. THE HOMEOWNER'S ASSOCIATION (H.A.) IS RESPONSIBLE THEREAFTER. ANY UNDEVELOPED VEGETATIVE COVER IN THE BASINS WITHIN A YEAR OF THE PROJECT COMPLETION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL RESEED ANY UNSTABILIZED AREAS AFTER A FULL GROWING SEASON AT NO ADDITIONAL EXPENSE TO THE OWNER.

5. THE GRASS IN THE BASINS SHALL BE ALLOWED TO GROW BETWEEN 2" – 10".

6. THE DETENTION PONDS SHALL BE BUILT TO CONTROL RUNOFF FOR 2 THROUGH 100-YEAR STORM FREQUENCIES.

7. THE SIDE SLOPES OF THE BASINS SHALL BE 3:1 MAXIMUM OR AS CALLED FOR ON THE PROJECT PLANS.

8. ALL EMBANKMENTS OF THE BASINS SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH RI STANDARD SPECIFICATION SECTION 202.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SEDIMENTATION BASINS DURING CONSTRUCTION AND THE DETENTION AREAS UP TO THE ACCEPTANCE BY THE TOWN. THE (H.A.) SHALL BE RESPONSIBLE THEREAFTER FOR MAINTAINING THE BASINS. THE (H.A.) SHALL INSPECT THE BASINS AND DETENTION AREAS SEMIANNUALLY AND AFTER MAJOR STORMS.

10. A GRADUATED GAUGE IS TO BE SET WITHIN THE POND TO MONITOR ACCUMULATED SEDIMENTS.

11. RIP-RAP APRONS SHALL BE INSTALLED AT THE INLETS AND OUTLETS OF ALL CULVERTS. THE EMERGENCY SPILLWAY SHALL BE PROTECTED BY RIP-RAP UPSTREAM AND DOWNSTREAM.

12. RIP-RAP PADS SHALL BE INSPECTED SEMIANNUALLY AND AFTER MAJOR STORMS. IF REPAIRS ARE NEEDED, THEY SHALL BE ACCOMPLISHED IMMEDIATELY.

13. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE OVERALL RESPONSIBILITY FOR STRUCTURAL MEASURE IMPLEMENTATION AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

14. REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.

INSTALLATION

THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIALS. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS.

MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED TO A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, AND REPAIR, AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD N.T.S.

GENERAL NOTES

1. STRIP VEGETATION AND ORGANIC SOIL FROM WALL AND GEOSYNTHETIC ALIGNMENT.
2. BENCH CUT ALL EXCAVATED SLOPES.
3. DO NOT OVER EXCAVATE UNLESS DIRECTED BY SITE SOIL ENGINEER TO REMOVE UNSUITABLE SOIL.
4. SITE SOILS ENGINEER SHALL VERIFY FOUNDATION SOILS AS BEING COMPETENT PER THE DESIGN STANDARDS AND PARAMETERS.
5. LEVELING PAD SHALL CONSIST OF COMPACTED COARSE SAND OR CRUSHED GRAVEL, 6" THICK MIN.
6. CONTRACTOR MAY OPT FOR A LEAN CONCRETE PAD. CONCRETE PAD SHALL BE UNREINFORCED, 3" THICK MAXIMUM.
7. MINIMUM EMBEDMENT OF WALL BELOW FINISH GRADE SHALL BE 6" FOR WALL HEIGHTS UNDER 4 FT. AND 12" FOR WALLS OVER 4 FT. UNLESS SHOWN DIFFERENTLY.
8. FOR UNITS TO BE EMBEDDED, COMPACT FILL IN FRONT OF UNITS AT THE SAME TIME FILL BEHIND UNITS IS COMPACTED.
9. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL WITHIN 12" OF THE TOP OF THE WALL. DRAINAGE AGGREGATE SHALL NOT EXTEND BELOW FINAL GRADE IN FRONT OF WALL.
10. COMPACTION SHALL BE TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.(ASTM D-698)
11. COMPACTION TESTS SHALL BE TAKEN AS THE WALL IS INSTALLED. THE MINIMUM NUMBER OF TESTS SHALL BE DETERMINED BY THE SITE SOILS ENGINEER.
12. COMPACTION WITHIN 3 FT. OF WALL SHALL BE LIMITED TO HAND OPERATED EQUIPMENT.
13. SEE ELEVATION DRAWINGS FOR GEOSYNTHETIC TYPE, LENGTH AND LOCATION REQUIRED.
14. GEOSYNTHETIC SHALL BE PLACED WITH STRONGEST DIRECTION PERPENDICULAR TO WALL. FOLLOW GEOSYNTHETIC MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
15. CONTRACTOR SHALL DIRECT SURFACE RUNOFF TO AVOID DAMAGING WALL WHILE UNDER CONSTRUCTION.
16. ANY SURFACE DRAINAGE FEATURES, FINISH GRADING, PAVEMENT, OR TURF SHALL BE INSTALLED IMMEDIATELY AFTER WALL IS COMPLETED.
17. FOLLOW APPLICABLE PROVISIONS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WRITTEN SPECIFICATIONS.
18. VERSA-LOK RETAINING WALL OVER 6' IN HEIGHT OR WITHIN 20' OF A PROPOSED BUILDING, ROADWAY OR DETENTION POND TO BE DESIGNED BY A PROFESSIONAL ENGINEER IN THE STATE OF RHODE ISLAND, SUPERVISED, AND INSTALLATION CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN RHODE INSTALLATION ISLAND. THESE DETAILS ARE PROVIDED FOR REFERENCE ONLY. SHOP DRAWINGS TO BE SUBMITTED BY A PROFESSIONAL ENGINEER LICENSED IN RHODE ISLAND PRIOR TO CONSTRUCTION ON

* ALTERNATE WALLS MAY BE UTILIZED SUBJECT TO CERTIFICATION BY PE AND APPROVAL BY BUILDING OFFICIAL

PLACEMENT AND CONSTRUCTION OF HAYBALE EROSION CHECK N.T.S.

NOTE:
-LIMIT CHANGES IN BASE ELEVATION TO 6" PER STEP TO AVOID DIFFERENTIAL SETTLEMENT
-STEP OFTEN ENOUGH TO MAINTAIN MINIMUM REQUIRED EMBEDMENT

1. SHOP DRAWINGS TO BE SUBMITTED FOR ALL WALLS OVER 5' IN HEIGHT OR WITHIN 20' OF A BUILDING OR ROADWAYBY A LICENSED GEOSYTH. ENGINEER.

STEPPING BASE DETAIL

SCALE: NONE

TYPICAL SECTION–REINFORCED RETAINING WALL

MODULAR CONCRETE UNIT
SCALE: NONE

VERSA-LOK RETAINING WALL LESS THAN 6' HEIGHT

MAINTENANCE: SHORT TERM/LONG TERM

1. ALL DISTURBED SLOPES AND NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR FOLLOWING FINAL GRADING AND CONSTRUCTION. THE CONTRACTOR SHALL CHECK REGULARLY ALL SEEDED AREAS TO SEE THAT A GOOD STAND IS MAINTAINED.

2. THE CONTRACTOR MUST REPAIR OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE.

3. ALL HAY BALES, TEMPORARY TREATMENTS (HAY, STRAW, ETC.), AND TEMPORARY PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

4. THE CONTRACTOR SHALL MAINTAIN ALL TOPSOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER.

5. THE CONTRACTOR SHALL CHECK THE HAY BALES OR SILT FENCE ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE THE HAY BALES AS NECESSARY. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED IN WITH SEDIMENTS.

6. THE CONTRACTOR SHALL MAINTAIN THE STONE STABILIZATION PADS AT THE SITE ENTRANCES. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ON THE PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.

7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE PONDS DURING AND UP TO A YEAR AFTER COMPLETION OF CONSTRUCTION. MAINTENANCE SHALL INCLUDE RESEEDING ANY UNDEVELOPED AREAS AFTER A FULL GROWING SEASON AT NO ADDITIONAL EXPENSE, REMOVING ACCUMULATED SILT WHEN SEDIMENTS IN THE BASINS EXCEED 3", AND MAINTAINING THE GRASS TO A GROWING HEIGHT BETWEEN 2"-10".

8. THE CONTRACTOR SHALL INSPECT RIP RAP PADS AFTER EACH STORM AND REPAIR AS NECESSARY.

9. THE CONTRACTOR SHALL MAINTAIN THE DRAINAGE SYSTEM THROUGHOUT CONSTRUCTION. THE ACCUMULATED SEDIMENTS IN THE PONDS SHALL BE REMOVED AND DRAINAGE PIPES FLUSHED BY THE CONTRACTOR AT THE END OF CONSTRUCTION.

10. THE (H.A.) IS RESPONSIBLE FOR THE LONG-TERM MAINTENANCE OF THE DETENTION AREAS. ALL DRAINAGE SYSTEM COMPONENTS WITHIN THE RIGHT OF WAY SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE BY THE (H.A.). THE DRAINAGE SYSTEM SHALL BE CHECKED SEMI-ANNUALLY AND ACCUMULATED SEDIMENTS SHALL BE REMOVED WHEN THEY EXCEED 3" DEPTH OR EVERY 10 YEARS, WHICHEVER COMES FIRST. CATCH BASIN SUMPS SHALL BE CHECKED ANNUALLY AND SEDIMENTS SHALL BE REMOVED IF THEY EXCEED 0.5' OR EVERY 10 YEARS, WHICHEVER COMES FIRST.

11. THE (H.A.) SHALL CHECK THE RIP-RAP PADS AND EMERGENCY OUTLETS AFTER MAJOR STORMS AND ON AN ANNUAL BASIS. REPAIRS SHALL BE PERFORMED IMMEDIATELY AS CONDITIONS WARRANT.

12. THE (H.A.) SHALL MAINTAIN THE PONDS AFTER THE FIRST YEAR. THE (H.A.) SHALL MAINTAIN A GOOD VEGETATIVE COVER (GRASS BETWEEN 2"-10" OR VEGETATION AS SPECIFIED). BOTTOM OF PONDS SHALL BE INSPECTED ON A BIANNUAL BASIS AND ACCUMULATED SEDIMENTS SHALL BE REMOVED WHEN THEY EXCEED 3" DEPTH OR EVERY 10 YEARS, WHICHEVER COMES FIRST.

13. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR THE MAINTENANCE PROGRAM DURING THE CONSTRUCTION PHASE. THE SUPERINTENDENT SHALL SEE THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

14. AFTER ACCEPTANCE BY THE TOWN, THE (H.A.) SHALL HAVE OVERALL RESPONSIBILITY FOR IMPLEMENTING THE MAINTENANCE PROGRAM.

15. CONSTRUCTION OF DRAINAGE PONDS SHALL BE SUPERVISED BY A PROFESSIONAL ENGINEER. A REPORT PLAN OF AS-BUILT SHALL BE MADE AVAILABLE TO THE TOWN ENGINEER.

SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES

1. SURVEY AND STAKE CENTERLINE OF THE PROPOSED ROAD, DET. BASINS, DRAINAGE LINE, AND LIMIT OF SEDIMENTATION BARRIERS.

2. PLACE SEDIMENTATION BARRIERS (HAYBALES OR SILT FENCE) AS SHOWN ON THE PLANS AND STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.

3. BEGIN BASIN AND ROAD WORK (CLEARING AND GRUBBING, EXCAVATING AND GRADING, ETC.). TOPSOIL TO BE STRIPPED AND STOCKPILED IN APPROVED AREAS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIER. STOCK-PILES TO BE COVERED OR TEMPORARILY SEEDED. DIVERT ALL THE RUNOFF FROM DISTURBED AREAS TO THE PROPOSED POND.

4. INSTALL CLAY LAYER AT BOTTOM OF DETENTION BASINS. REFER TO INSTALLATION NOTES OF CLAY LAYER REQUIREMENTS (SHEET 10).

5. INSTALL UTILITIES AND DRAINAGE PIPES. IMMEDIATELY PLACE THE RIP RAP AT THE DISCHARGE POINTS AND SEED THE DETENTION BASINS AND DISTURBED AREAS.

6. BEGIN ROAD CONSTRUCTION.

7. BEGIN LAYOUT OF HOUSES AND GRADING ALONG WITH

8. BEGIN LANDSCAPING WHILE HOMES ARE UNDER CONSTRUCTION.

9. FINISH HOMES, ROAD AND DRAINAGE CONSTRUCTION.

10. FINISH LANDSCAPING AND PERMANENT STABILIZATION.

11. REPAIR DRAINAGE OUTLETS AND BASINS AS REQUIRED. TREE LIMBS, LEAVES, BOULDERS, ETC. SHALL BE REMOVED FROM THE BOTTOM OF THE BASINS BEFORE APPLICATION OF TOPSOIL.

12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESABLISHMENT OF ALL DISTURBED AREAS.

13. CONSTRUCTION TO COMMENCE FALL 2006 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.

14. PRIOR TO COMMENCING INDIVIDUAL LOT CONSTRUCTION, THE PROPOSED LIMITS OF CLEARING SHALL BE SURVEYED AND FLAGGED TO LIMIT TREE CLEARING.

ESTABLISHMENT OF VEGETATIVE COVER

L0.257143;
1. SLOPES SHALL NOT BE LEFT UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.

2. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED OR PROTECTED.

3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM TO RHODE ISLAND'S STANDARD SPECIFICATION, M.20.

4. ALL EXISTING GRAVEL PATHS NOT UTILIZED FOR DRIVEWAY ACCESS ARE TO BE LOAMED AND SEEDED ALONG WITH EXISTING UTILITY AREAS TO BE REMOVED.

5. THE SEEDING DESIGN MIX FOR RE-GRADING AREAS SHALL BE COMPRISED OF THE FOLLOWING:

TYPE	LBS/AC
CREEPING RED FESCUE	75
KENTUCKY BLUE GRASS	15
COLONIAL BENT GRASS	5
PERENNIAL RYE GRASS	5

6. EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZATION, AS REQUIRED BY SOIL TESTING TO COMPLIMENT OR UPGRADE EXISTING CONDITIONS, WILL BE USED. THE SEED MIX SHALL BE INOCULATED WITHIN 24 HOURS AND BEFORE MIXING AND PLANTING.

7. TEMPORARY TREATMENTS SHALL CONSIST OF HAY STRAW OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS MAT OR A FIBER LINING. SIDE SLOPES OF PONDS SHALL BE TREATED WITH NORTH AMERICAN GREEN S150 EROSION CONTROL BLANKETS OR APPROVED EQUAL. THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 2 TONS/ACRE.

8. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.

9. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.

10. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED.

11. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION AND FOR SEEING THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN. THE CONTRACTOR MUST REPAIR AND/OR RESEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND SHALL DO SO AT NO ADDITIONAL EXPENSE.

12. ALL AREAS DISTURBED BY POND CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. PERMANENTLY SEEDED AREAS SHALL BE PROTECTED DURING ESTABLISHMENT WITH MULCH. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEEDED AS NECESSARY.

13. REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE 1989 AS A GUIDE.

14. TEMPORARY HAY MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING.

15. MAXIMUM GRADED SLOPE WITHIN THE DEVELOPMENT IS TO BE 3:1 UNLESS OTHERWISE NOTED.

NONSTRUCTURAL MEASURES

1. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS, DRAINAGE EASEMENTS AND AREAS TO BE GRADED.

2. STONE STABILIZATION PADS ARE LOCATED AT THE SITE ENTRANCE TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT OF WAY.

3. THE CONTRACTOR SHALL MAINTAIN THE ENTRANCES. THE MAINTENANCE SHALL INCLUDE TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND OR AS DIRECTED BY THE ENGINEER. ALL SEDIMENTS SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.

4. TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE SUBJECT TO APPROVAL BY THE PROJECT ENGINEER. A SEDIMENT BARRIER SHOULD SURROUND ALL TOPSOIL STOCKPILES.

5. HAY BALES OR SILT FENCE SHALL BE INSTALLED DOWNSTREAM OUTSIDE THE LIMITS F ANY PROPOSED CONSTRUCTION AS SHOWN ON THE SITE PLANS AND PRIOR TO THE COMMENCEMENT OF THE PROPOSED ALTERATION.

6. HAY BALES SHALL BE MAINTAINED BY THE CONTRACTOR. INSPECTION SHALL BE MADE AFTER EACH STORM EVENT AND REPAIRED OR REPLACED AS WARRANTED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHTS OF THE BALES BECOME FILLED IN WITH SEDIMENT.

7. THE HAY BALES OR SILT FENCE SHALL BE CHECKED WEEKLY BY THE CONTRACTOR FOR UNDERMINING OR DETERIORATION.

8. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION OF NON-STRUCTURAL MEASURES AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

9. REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Carey
MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

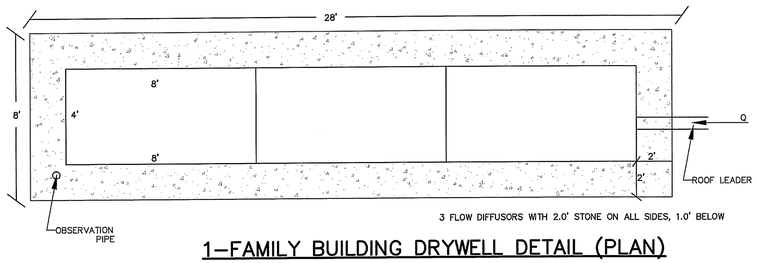
John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

SHEET 10 OF 14

Copyright 2006 by DiPrete Engineering Associates, Inc.



3 FLOW DIFFUSORS WITH 2.0' STONE ON ALL SIDES, 1.0' BELOW

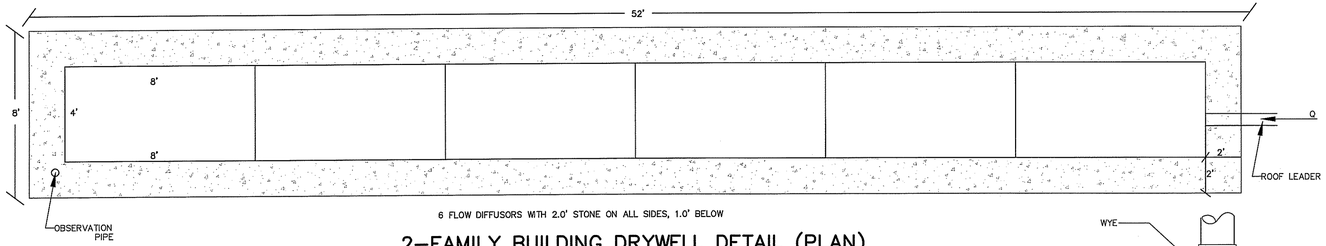
1-FAMILY BUILDING DRYWELL DETAIL (PLAN)

1"=3'

NOTES:

1. DRYWELLS REQUIRED FOR ALL UNITS.
2. NO STONE BETWEEN CONSECUTIVE DRYWELLS.

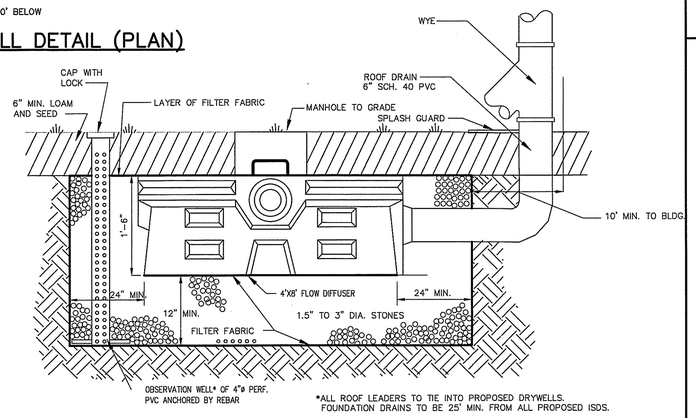
*SCHEDULE OF INSPECTION FOR OBSERVATION WELL: MONITORING WATER LEVELS WITHIN THE PIPE AT VARIOUS TIME INTERVALS AFTER A RAINFALL EVENT WILL INDICATE THE INFILTRATION ABILITY AND PERFORMANCE OF THE SYSTEM. IF WATER IS STANDING IN A PIPE MORE THAN 3 DAYS AFTER A STORM EVENT, SYSTEM FAILURE HAS OCCURED AND WILL REQUIRE REPAIR OR REPLACEMENT OF DRYWELL BY THE HOMEOWNER.



6 FLOW DIFFUSORS WITH 2.0' STONE ON ALL SIDES, 1.0' BELOW

2-FAMILY BUILDING DRYWELL DETAIL (PLAN)

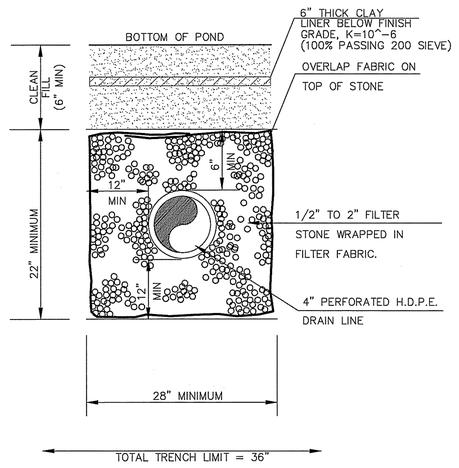
1"=3'



*ALL ROOF LEADERS TO TIE INTO PROPOSED DRYWELLS. FOUNDATION DRAINS TO BE 25' MIN. FROM ALL PROPOSED ISDS.

UNDERGROUND DETENTION STORAGE DETAIL

N.T.S.

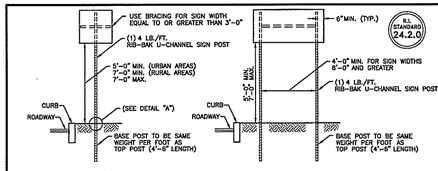


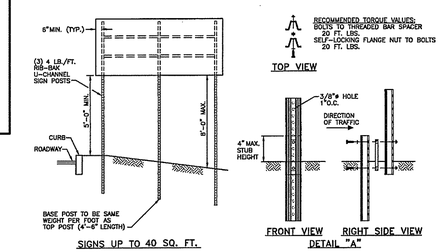
SUBDRAIN DETAIL

NOT TO SCALE

DETENTION POND SUBDRAIN: CONSTRUCTION, MAINTENANCE, & INSPECTION NOTES

1. SUBDRAIN AND COMBINATION DRAIN AREA TO BE STAKED, MARKED, AND REMAIN UNDISTURBED PRIOR TO CONSTRUCTION. THERE IS TO BE NO CONSTRUCTION TRAFFIC ON SUBDRAIN AREA PRIOR TO CONSTRUCTION.
2. STAKE CENTERLINE OF SUBDRAINS.
3. EXCAVATE TRENCH. IF NECESSARY, PUMP GROUNDWATER TO DEWATERING BASIN. THE TRENCH SHALL BE A MINIMUM OF 36" IN WIDTH.
4. PLACE FILTER FABRIC ALONG THE BOTTOM AND SIDES OF TRENCH AND FILL WITH 1/2" TO 2" DIAMETER WASHED FILTER STONE. THE DEPTH OF STONE BELOW THE INVERT OF THE SUBDRAIN SHALL BE A MINIMUM OF 12".
5. PLACE 4" PERFORATED H.D.P.E. SUBDRAIN AT THE INVERT ELEVATION ALONG WITH CLEAN-OUTS AS INDICATED ON THE PLANS. BACKFILL SIDES AND TOP OF SUBDRAIN WITH FILTER STONE. THERE SHALL BE A MINIMUM OF 12" OF FILTER STONE ON BOTH SIDES OF THE SUBDRAIN. A MINIMUM OF 6" OF FILTER STONE SHALL COVER THE SUBDRAIN.
6. OVERLAP FILTER FABRIC ON THE TOP OF THE FILTER STONE. BACKFILL WITH A MINIMUM OF 6" BANK RUN GRAVEL TO FINISH GRADE.
7. MONITORING WATER LEVELS WITHIN THE CLEAN-OUTS AT VARIOUS TIME INTERVALS AFTER A RAINFALL EVENT WILL INDICATE THE EFFECTIVENESS OF THE SYSTEM. IF WATER IS STANDING IN SUBDRAIN AFTER A STORM EVENT, SYSTEM FAILURE HAS OCCURRED AND WILL REQUIRE FLUSHING MAINTENANCE, REPAIR OR REPLACEMENT OF SUBDRAIN BY THE HOMEOWNER'S ASSOCIATION.
8. CONTRACTOR TO PROVIDE AS-BUILT PLANS OF THE DETENTION BASIN, SHOWING THE FIELD-LOCATED SUBDRAIN LOCATIONS, INVERTS, AND SIZES.
9. IF AS-BUILT PLANS INDICATE THAT THE DETENTION BASINS AND SUBDRAINS ARE NOT INSTALLED AS SHOWN ON THE CONSTRUCTION PLANS AND DETAILS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTING SUBDRAINS ACCORDING TO DESIGN PLANS.
10. THE DETENTION BASIN SHOULD DRAIN AS DESIGNED. STANDING WATER SHOULD NOT BE PRESENT IN THE BASIN 72 HOURS AFTER A RAINFALL EVENT. IF STANDING WATER DOES NOT DRAIN WITHIN 72 HOURS, THE BASIN SHALL BE CONSIDERED DEFICIENT AND SHALL BE REPAIRED IMMEDIATELY BY THE TOWN.



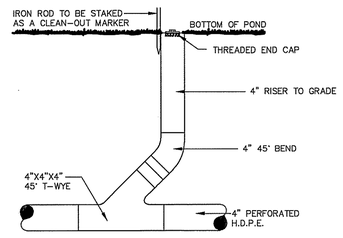


INSTALLATION PROCEDURE:
1. REMOVE A SPADE FULL OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. (IF THE TOP HOLE ON THE BASE POST, OR THE BOTTOM HOLE ON THE TOP POST IS LESS THAN 3/4" FROM END OF THE POST USE THE SECOND AND SIXTH HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEST THE TOP POST OVER THE PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF-LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN TO REQUIRED TORQUE OF 20 FT. LBS. OF TORQUE.
5. REPLACE SOIL REMOVED IN STEP 1.
6. IN TRIPLE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'-0"W x 6'H SOIL PLATE IS REQUIRED.

NOTES:
1. SIGNS SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SILVER ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB-BAK POST GRADE SP-80 ONLY.
4. INSTALLATION PROCEDURES SHALL BE, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3.

SIGN POST AND INSTALLATION DETAIL

NOT TO SCALE



SUBDRAIN CLEANOUT DETAIL

NOT TO SCALE

*** R1-1**

R.I. STANDARD 27.1.0

STOP

RED			
WHITE			
24"	30"	36"	48"
24"	30"	36"	48"

STOP SIGN

NOT TO SCALE

W2-2 (R OR L)

R.I. STANDARD 28.1.0

YELLOW		
BLACK		
30"	36"	48"
30"	36"	48"

INTERSECTION AHEAD SIGN

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 APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.
W. Joseph Casey
MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
10	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
9	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-09-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-16-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

APRIL, 2006
DWN. BY: A.M.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

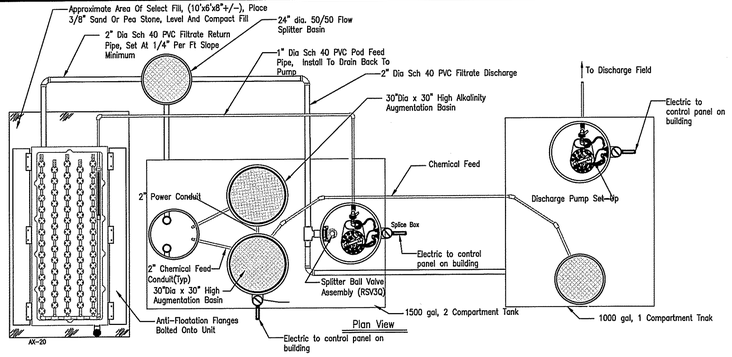
John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

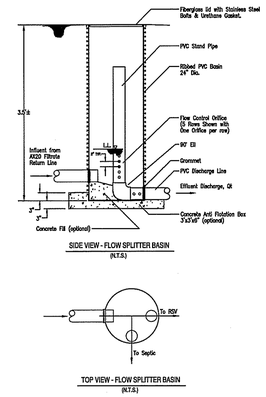
SHEET 11 OF 14

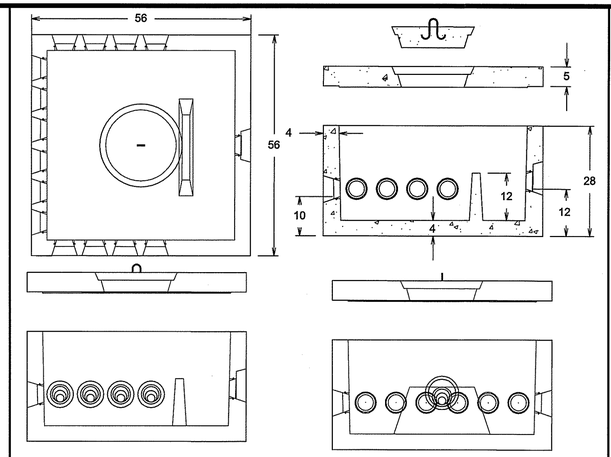
Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Deastorage\DEAMAIN\Engineers\Transfers\0406-03\Brandywine D\dwg\0406-03\ISDS_8-2.dwg, 11 detail, 3/5/2008 2:53:15 PM



ADVANTEX AX20 WITH NORTEK DENITRIFICATION SYSTEM





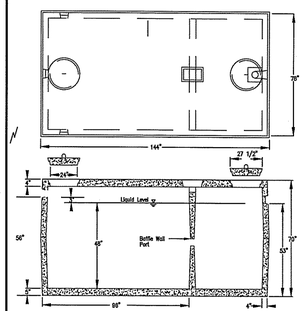
TYPE D-14 DISTRIBUTION BOX

DESIGN NOTES

1) FOURTEEN OUTLETS AND ONE INLET
2) INLET ACCEPTS 6" PIPE
3) INLET AND OUTLETS HAVE STATE APPROVED SEALS THAT ACCEPT 4" S-40, 4" SDR-35, 3" AND 2" PIPE
4) TYPE II CEMENT ASTM C150-81
5) CONCRETE STRENGTH 5000 PSI MIN. 28 DAYS
6) MEETS H-20 WHEEL LOAD

Precast Septic Tank, 2000 Gallon 2 Compartment (9.13 Tons)

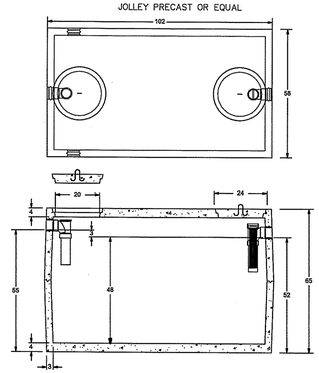
JOLLEY PRECAST OR EQUAL



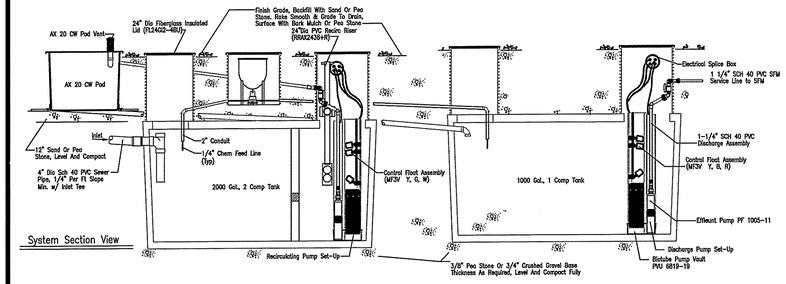
DESIGN NOTES
1. ALL JOINTS SEALED WITH BUTYL RUBBER SEALANT
2. ALL INLETS AND OUTLETS HAVE STATE APPROVED SEALS
3. AVAILABLE WITH 8" HEAVY DUTY TOP
4. MEETS ASTM C-1227-97A
5. CONCRETE STRENGTH 5000 PSI MIN. 28 DAYS
6. QSI SPECIFICATIONS

Precast Septic Tank, 1000 Gallon 1 Compartment (9.13 Tons)

JOLLEY PRECAST OR EQUAL

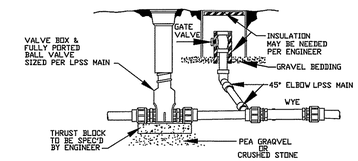


DESIGN NOTES
1. ALL JOINTS SEALED WITH BUTYL RUBBER SEALANT
2. ALL INLETS AND OUTLETS HAVE STATE APPROVED SEALS
3. AVAILABLE WITH 8" HEAVY DUTY TOP
4. MEETS ASTM C-1227-97A
5. CONCRETE STRENGTH 5000 PSI MIN. 28 DAYS
6. QSI SPECIFICATIONS



AdvanTex AX20cw Mode3B System Details

TYPICAL FLUSHING CONNECTION ON LPSS MAIN

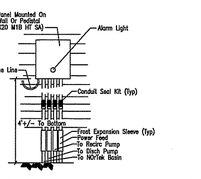


environment one

Sequence of Land Disturbing Activities

1. CONTRACTOR TO OBTAIN ALL REQUIRED FEDERAL, STATE AND MUNICIPAL PERMITS, AND TO NOTIFY "DIG SAFE" PRIOR TO CONSTRUCTION.
2. SET SILT FENCING AT LIMIT OF WORK. MAINTAIN CONTINUOUS FENCE LINE DURING CONSTRUCTION AND REPAIR AS NEEDED.
3. CONTACT DESIGNER 24 HR. PRIOR TO ISDS CONSTRUCTION
4. BEGIN ISDS BOTTOM EXCAVATION
5. CONTACT DESIGNER 24 HR. PRIOR TO ISDS BOTTOM EXCAVATION COMPLETION
6. BEGIN ISDS CONSTRUCTION
7. CONTACT DESIGNER 24 HR. PRIOR TO ISDS COMPLETION
8. COVER ISDS COMPONENTS
9. CONTACT DESIGNER 24 HR. PRIOR TO ISDS FINAL COVER
10. COMPLETE SOIL STABILIZATION BY LOAM AND SEEDING DISTURBED AREAS.

Electrical Control Panel



Control Panel Power Feed: (Main Panel — Both Pumps May Activate At The Same Time)
Circuit 1=Controls, 20a Bkr, 115v, 1Ph, 60Hz (Two Wires 10AWG Stranded—12awg)
Circuit 2=Pumps, 30a Bkr, 115v, 1Ph, 60Hz (Two Wires 10AWG Stranded—12awg)
Phone Line= Std Analog, Common Line, Outdoor 4 Conductor(Radio Shack 278-380)
Mod. Quick Jack(Radio Shack 279-355, 2Ft Line Cord(Radio Shack 279-334)

Control Panel To Pumps/Floats: (Wires For Each Pump Location)
Floats: 4 Wires, 14AWG Stranded (Two Feeds, two Common Return)
Pump: 3 Wires 12AWG Stranded (See Hot, Neutral, Ground)

Electrical Conduit Requirements:
3/4"Dia PVC Conduit w/Molded Joints: Use 90 Degree Sweeps And Conduit Seal Kits

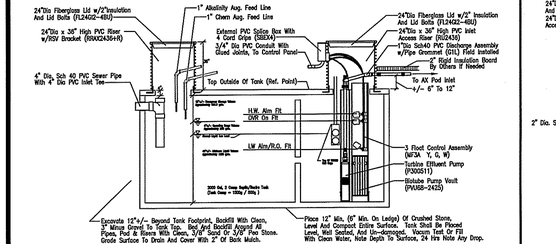
Control & Electrical Requirements

General Notes ISDS

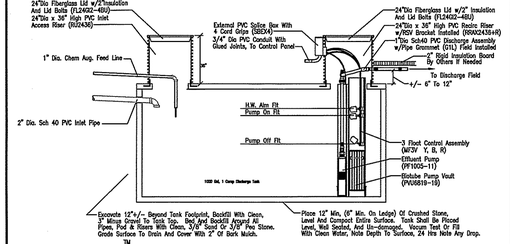
1. CONSTRUCTION SHALL CONFORM TO THE RHODE ISLAND SPECIFICATIONS SET FORTH IN "DEPARTMENT OF ENVIRONMENTAL MANAGEMENT– RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION DESIGN, CONSTRUCTION AND MAINTENANCE OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS." REV. 1/02
IN ADDITION TO THE MINIMUM STANDARDS CALLED FOR IN THE REGULATIONS, THE FOLLOWING STANDARDS SHALL ALSO APPLY:
A. ALL STONE SHALL BE DOUBLE WASHED. IF DOUBLE WASHED STONE IS NOT AVAILABLE, THE CONTRACTOR SHALL BE ALLOWED TO WASH THE STONE ON THE SITE ONCE. IN NO CASE SHALL THE STONE DELIVERED TO THE SITE NOT BE WASHED AT LEAST ONCE BY THE PROCESSOR, AND IN NO CASE SHALL THE STONE INSTALLED NOT BE DOUBLE WASHED.
B. THE FILL AROUND THE SYSTEM SHALL BE COARSE SAND, OR BANK RUN GRAVEL. IT SHOULD CONTAIN NO MORE THAN 5% FINES AND PREFERABLY NO MORE THAN 2% FINES. FINES ARE ANY PARTICLES WHICH PASS THROUGH THE #200 SIEVE. WHERE FILL IS USED, A PERC TEST SHALL BE DONE IN THE FILL MATERIAL AFTER PLACEMENT AND COMPACTION. IF THE PERC RATE IS SLOWER THAN 2 MIN./INCH, THE MATERIAL SHALL BE REMOVED.
2. NO DRAINS OR WATERLINES TO BE INSTALLED WITHIN 25' OF LEACHING AREA.
3. NO GARBAGE GRINDERS SHALL BE INSTALLED.
4. THERE ARE NO EXISTING OR PROPOSED WELLS WITHIN 200' OF THE PROPOSED SYSTEM.
5. THERE ARE NO KNOWN EXISTING OR PROPOSED DRAINS WITHIN 200 FEET OF THE PROPOSED SYSTEM OTHER THAN SHOWN.
6. THERE ARE NO EXISTING OR PROPOSED SYSTEMS WITHIN 100' OF A PROPOSED OR EXIST. WELL.
7. THERE ARE NO PROPOSED OR EXISTING PUBLIC WELLS WITHIN 500' OF THE PROPOSED SYSTEM.
8. INSTALLER TO STRIP TOP AND SUBSOIL OF LEACHING AREA DOWN TO SUBSTRATA 0 FT. ON ALL SIDES. AN ADDITIONAL 6" MAY NEED TO BE REMOVED IF FINES ARE PRESENT IN THE SUBSTRATA, AS DETERMINED BY THE ENGINEER OR R.I.D.E.M. OFFICIALS.
9. INSTALLER TO REMOVE ALL TREES AND SHRUBS FROM LEACHING AREA, AND 10' ON ALL SIDES.
10. BUILDING SEWER PIPE TO BE MINIMUM 4" SCH 40 PVC. ALL SEPTIC SYSTEM PIPING TO BE MINIMUM 4" SDR 35.
11. "D-BOX" TO HAVE MANHOLE TO GRADE AND/OR LOCATION MARKER.
12. "D-BOX" TO WITHSTAND H-20 WHEEL LOAD.
13. SEPTIC TANK MANHOLE TO BE AT FINISH GRADE AS PER 2002 DEM REGULATIONS.
14. LIMIT OF RIDEM WETLANDS REVIEWED UNDER APPLICATION NO. 08-0220 9/22/06
15. INSTALLER TO MAINTAIN INVERT EL. 138.90 FOR 25' PERIMETER FOR SYSTEM A.
16. INSTALLER TO MAINTAIN INVERT EL. 124.40 FOR 25' PERIMETER FOR SYSTEM B.
17. PROPERTY BOUNDARY LINE TAKEN FROM PLANS OF RECORD AND CONSIDERED PRELIMINARY AT THIS TIME.
TOPOGRAPHIC SURVEY OBTAINED FROM DOWDELL ENGINEERING, INC., 3949 OLD POST ROAD, CHARLESTOWN, RHODE ISLAND 02813, DATED JUNE 5, 2002.
18. THERE IS NO 100 YEAR FLOOD PLAIN LOCATED ON SITE. REFERENCE FEMA FLOOD INSURANCE RATE MAP 445407 0015 D, MAP REVISED JANUARY 3, 1986. HOWEVER, THERE IS A 100-YEAR FLOOD PLAIN ASSOCIATED WITH THE STREAM ON SITE. THE LATEST RIDEM FWW REGULATIONS RECOGNIZE THAT ALL STREAM/INTERMITTENT STREAMS/RIVERS DO HAVE A 100-YEAR FLOOD PLAIN.
19. DIPRETE ENGINEERING ASSOC., INC. CERTIFIES TO THE SOIL CONDITIONS AND PERC RATE ONLY IN AREA TESTED. INSTALLER TO NOTIFY DESIGNER IF SOIL CONDITIONS ARE FOUND DIFFERENT THAN STATED ON SEPTIC APPLICATION.
20. CONTRACTOR TO ENSURE ALL SECTIONS OF R.I.D.E.M. ISDS DIVISION APPLICATIONS ARE ADHERED TO.
21. BENCH MARK SET WITHIN 150' OF PROPOSED SYSTEM PRIOR TO CONSTRUCTION.
BENCH MARK= NAIL SET IN TREE @ ENTRANCE
ELEV.= 122.36
22. 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 SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
23. ALL STAGES OF THE I.S.D.S. INSTALLATION MUST BE SUPERVISED BY THE RI D.E.M. LICENSED DESIGNER.

MAR - 6 2008

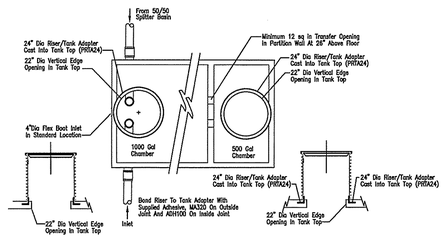
Preliminary Plan Submission



AdvanTex 2000 gallon Two Compartment Process Tank

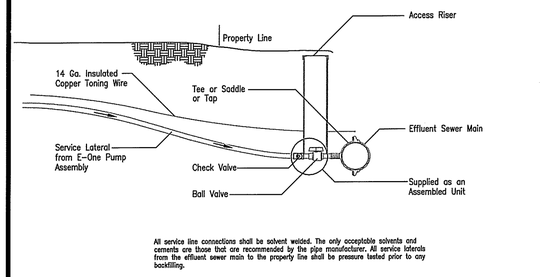


AdvanTex 1000 gallon Single Compartment Discharge Tank



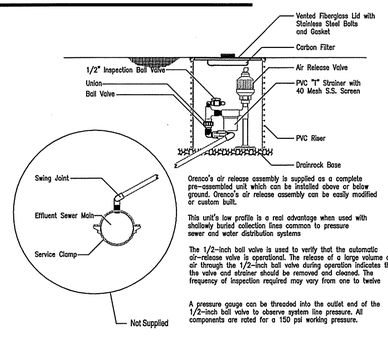
Process Tank Riser Openings & Tank Details
Splitter Basin

Effluent Sewer Service Connection



All service line connections shall be solvent welded. The only acceptable solvents and cements are those that are recommended by the pipe manufacturer. All service laterals from the effluent sewer main to the property line shall be pressure tested prior to any backfilling.

Air Release Assembly



Oreaco's air release assembly is supplied as a complete pre-assembled unit which can be installed above or below ground. Oreaco's air release assembly can be easily modified or custom built.

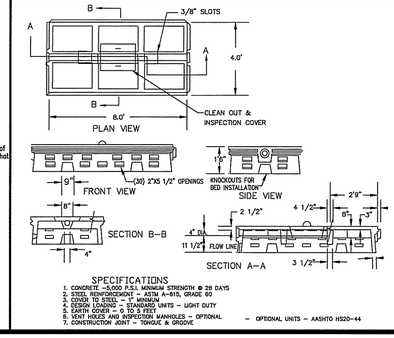
This unit's low profile is a real advantage when used with shallowly buried collection lines common to pressure sewer and water distribution systems

The 1/2-inch ball valve is used to verify that the automatic air-release valve is operational. The release of a large volume of air through the 1/2-inch ball valve during operation indicates that the valve and strainer should be removed and cleaned. The frequency of inspection required may vary from one to twelve

A pressure gauge can be threaded into the outlet end of the 1/2-inch ball valve to observe system line pressure. All components are rated for a 150 psi working pressure.

Precast Leaching Chamber
FD 4x8-L

ROTONDO OR EQUAL



SPECIFICATIONS
1. CONCRETE -5,000 P.S.I. MINIMUM STRENGTH @ 28 DAYS
2. STEEL REINFORCEMENT - MINIMUM A-615, GRADE 60
3. DESIGN LOADING - STANDARD UNITS - LIGHT DUTY
4. EARTH COVER - 0 TO 5 FEET
5. VENT HOLES AND INSPECTION MANHOLES - OPTIONAL — OPTIONAL UNITS - AASHTO HS20-44
6. CONSTRUCTION JOINT - TONGUE & GROOVE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 2 1 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Casey

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
7	12-07-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-05-06	RIDEM FWW SUBMISSION	A.H.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

MAY, 2007
DWN. BY: L.A.B.

SHEET 12 OF 14

Copyright 2007 by DiPrete Engineering Associates, Inc.

\\Destorage\DEPMAIN\Engineers\Transfers\0406-03\Brandywyne D:\dwg\0406-03\ISDS_8-2.dwg, 12 ISDS Details, 3/5/2008 2:53:18 PM

System A

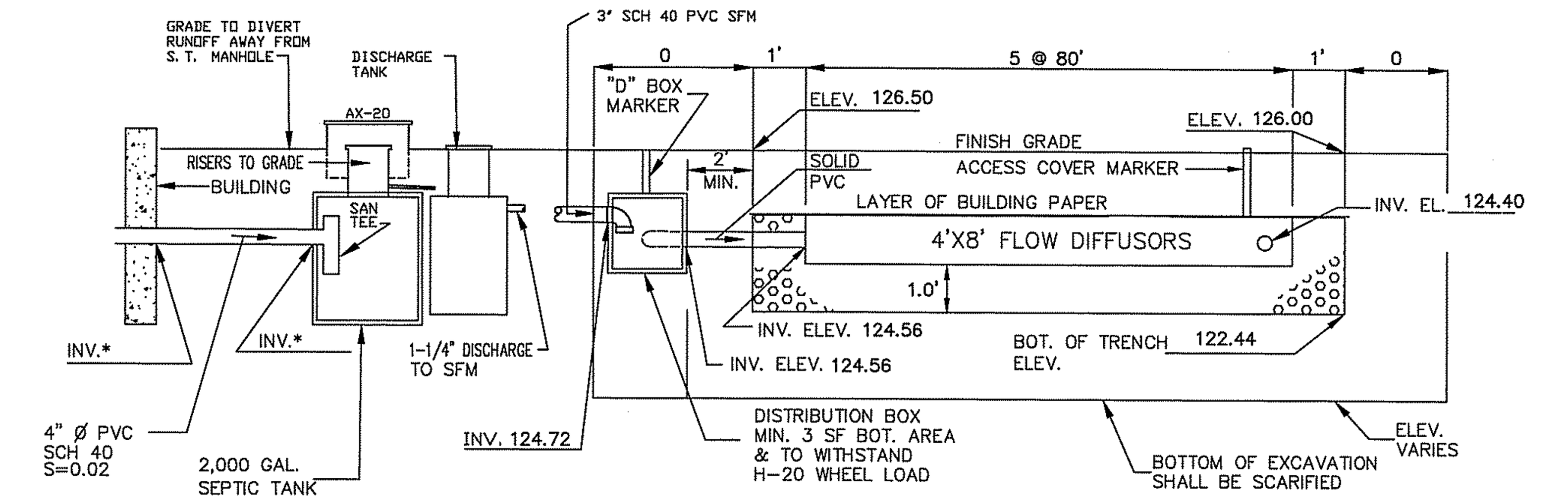
Brandywyne, South Kingstown			Ssytem A - Units 21-40	
Nortek Treatment System Specifications				
Elevation Schedule:				
Unit #21/22				
		(Length-ft.)	1000 Gal. Discharge Tank	
#21 Building Sewer	127.32	24		
#22 Building Sewer	127.32	24		
2000 Gal. Process Tank				
Inlet	126.84		Inlet	128.16
Highwater Alarm	126.67		Highwater Alarm	128.00
Override Timer	126.51		Timer On	125.68
Top of RSV Cage	126.26			
Normal Liquid Level	126.01			
Low Water Alarm	125.59			
Splitter Ball Valve Outlet	128.26		Finish Grade	131.00
Unit #23/24				
		(Length-ft.)	1000 Gal. Discharge Tank	
#23 Building Sewer	128.32	24		
#24 Building Sewer	128.32	24		
2000 Gal. Process Tank				
Inlet	127.84		Inlet	129.16
Highwater Alarm	127.67		Highwater Alarm	129.00
Override Timer	127.51		Timer On	126.68
Top of RSV Cage	127.26			
Normal Liquid Level	127.01			
Low Water Alarm	126.59			
Splitter Ball Valve Outlet	129.26		Finish Grade	132.00
Unit #25/26				
		(Length-ft.)	1000 Gal. Discharge Tank	
#25 Building Sewer	131.32	24		
#26 Building Sewer	131.32	24		
2000 Gal. Process Tank				
Inlet	130.84		Inlet	132.16
Highwater Alarm	130.67		Highwater Alarm	132.00
Override Timer	130.51		Timer On	129.68
Top of RSV Cage	130.26			
Normal Liquid Level	130.01			
Low Water Alarm	129.59			
Splitter Ball Valve Outlet	132.26		Finish Grade	135.00
Unit #27/28				
		(Length-ft.)	1000 Gal. Discharge Tank	
#27 Building Sewer	133.44	30		
#28 Building Sewer	133.44	30		
2000 Gal. Process Tank				
Inlet	132.84		Inlet	134.16
Highwater Alarm	132.67		Highwater Alarm	134.00
Override Timer	132.51		Timer On	131.68
Top of RSV Cage	132.26			
Normal Liquid Level	132.01			
Low Water Alarm	131.59			
Splitter Ball Valve Outlet	134.26		Finish Grade	137.00
Unit #29/30				
		(Length-ft.)	1000 Gal. Discharge Tank	
#29 Building Sewer	134.44	30		
#30 Building Sewer	134.44	30		
2000 Gal. Process Tank				
Inlet	133.84		Inlet	135.16
Highwater Alarm	133.67		Highwater Alarm	135.00
Override Timer	133.51		Timer On	132.68
Top of RSV Cage	133.26			
Normal Liquid Level	133.01			
Low Water Alarm	132.59			
Splitter Ball Valve Outlet	135.26		Finish Grade	138.00
Unit #31/32				
		(Length-ft.)	1000 Gal. Discharge Tank	
#31 Building Sewer	133.44	30		
#32 Building Sewer	133.44	30		
2000 Gal. Process Tank				
Inlet	132.84		Inlet	134.16
Highwater Alarm	132.67		Highwater Alarm	134.00
Override Timer	132.51		Timer On	131.68
Top of RSV Cage	132.26			
Normal Liquid Level	132.01			
Low Water Alarm	131.59			
Splitter Ball Valve Outlet	134.26		Finish Grade	137.00
Unit #33/34				
		(Length-ft.)	1000 Gal. Discharge Tank	
#33 Building Sewer	132.44	30		
#34 Building Sewer	132.44	30		
2000 Gal. Process Tank				
Inlet	131.84		Inlet	133.16
Highwater Alarm	131.67		Highwater Alarm	133.00
Override Timer	131.51		Timer On	130.68
Top of RSV Cage	131.26			
Normal Liquid Level	131.01			
Low Water Alarm	130.59			
Splitter Ball Valve Outlet	133.26		Finish Grade	136.00
Unit #35/36				
		(Length-ft.)	1000 Gal. Discharge Tank	
#33 Building Sewer	130.44	30		
#34 Building Sewer	130.44	30		
2000 Gal. Process Tank				
Inlet	129.84		Inlet	131.16
Highwater Alarm	129.67		Highwater Alarm	131.00
Override Timer	129.51		Timer On	128.68
Top of RSV Cage	129.26			
Normal Liquid Level	129.01			
Low Water Alarm	128.59			
Splitter Ball Valve Outlet	131.26		Finish Grade	134.00
Unit #37/38				
		(Length-ft.)	1000 Gal. Discharge Tank	
#37 Building Sewer	130.48	32		
#38 Building Sewer	131.48	82		
2000 Gal. Process Tank				
Inlet	129.84		Inlet	131.16
Highwater Alarm	129.67		Highwater Alarm	131.00
Override Timer	129.51		Timer On	128.68
Top of RSV Cage	129.26			
Normal Liquid Level	129.01			
Low Water Alarm	128.59			
Splitter Ball Valve Outlet	131.26		Finish Grade	134.00
Unit #39/40				
		(Length-ft.)	1000 Gal. Discharge Tank	
#39 Building Sewer	132.44	30		
#40 Building Sewer	132.44	30		
2000 Gal. Process Tank				
Inlet	131.84		Inlet	133.16
Highwater Alarm	131.67		Highwater Alarm	133.00
Override Timer	131.51		Timer On	130.68
Top of RSV Cage	131.26			
Normal Liquid Level	131.01			
Low Water Alarm	130.59			
Splitter Ball Valve Outlet	133.26		Finish Grade	136.00

System B

Brandywyne, South Kingstown			Ssytem B - Units 1-16	
Nortek Treatment System Specifications				
Elevation Schedule:				
Unit #1/2				
		(Length-ft.)	1000 Gal. Discharge Tank	
#1 Building Sewer	126.19	30		
#2 Building Sewer	126.19	30		
2000 Gal. Process Tank				
Inlet	125.59		Inlet	126.91
Highwater Alarm	125.42		Highwater Alarm	126.75
Override Timer	125.26		Timer On	124.43
Top of RSV Cage	125.01			
Normal Liquid Level	124.76			
Low Water Alarm	124.34			
Splitter Ball Valve Outlet	127.01		Finish Grade	129.75
Unit #3/4				
		(Length-ft.)	1000 Gal. Discharge Tank	
#3 Building Sewer	128.80	48		
#4 Building Sewer	128.80	48		
2000 Gal. Process Tank				
Inlet	127.84		Inlet	129.16
Highwater Alarm	127.67		Highwater Alarm	129.00
Override Timer	127.51		Timer On	126.68
Top of RSV Cage	127.26			
Normal Liquid Level	127.01			
Low Water Alarm	126.59			
Splitter Ball Valve Outlet	129.26		Finish Grade	132.00
Unit #5/6				
		(Length-ft.)	1000 Gal. Discharge Tank	
#5 Building Sewer	130.44	30		
#6 Building Sewer	130.44	30		
2000 Gal. Process Tank				
Inlet	129.84		Inlet	131.16
Highwater Alarm	129.67		Highwater Alarm	131.00
Override Timer	129.51		Timer On	128.68
Top of RSV Cage	129.26			
Normal Liquid Level	129.01			
Low Water Alarm	128.59			
Splitter Ball Valve Outlet	131.26		Finish Grade	134.00
Unit #7/8				
		(Length-ft.)	1000 Gal. Discharge Tank	
#5 Building Sewer	130.42	29		
#6 Building Sewer	130.42	29		
2000 Gal. Process Tank				
Inlet	129.84		Inlet	131.16
Highwater Alarm	129.67		Highwater Alarm	131.00
Override Timer	129.51		Timer On	128.68
Top of RSV Cage	129.26			
Normal Liquid Level	129.01			
Low Water Alarm	128.59			
Splitter Ball Valve Outlet	131.26		Finish Grade	134.00
Unit #9/10				
		(Length-ft.)	1000 Gal. Discharge Tank	
#9 Building Sewer	134.40	28		
#10 Building Sewer	134.40	28		
2000 Gal. Process Tank				
Inlet	133.84		Inlet	135.16
Highwater Alarm	133.67		Highwater Alarm	135.00
Override Timer	133.51		Timer On	132.68
Top of RSV Cage	133.26			
Normal Liquid Level	133.01			
Low Water Alarm	132.59			
Splitter Ball Valve Outlet	135.26		Finish Grade	138.00
Unit #11/12				
		(Length-ft.)	1000 Gal. Discharge Tank	
#11 Building Sewer	134.86	51		
#12 Building Sewer	134.70	43		
2000 Gal. Process Tank				
Inlet	133.84		Inlet	135.16
Highwater Alarm	133.67		Highwater Alarm	135.00
Override Timer	133.51		Timer On	132.68
Top of RSV Cage	133.26			
Normal Liquid Level	133.01			
Low Water Alarm	132.59			
Splitter Ball Valve Outlet	135.26		Finish Grade	138.00
Unit #13/14				
		(Length-ft.)	1000 Gal. Discharge Tank	
#13 Building Sewer	134.52	34		
#14 Building Sewer	134.52	34		
2000 Gal. Process Tank				
Inlet	133.84		Inlet	135.16
Highwater Alarm	133.67		Highwater Alarm	135.00
Override Timer	133.51		Timer On	132.68
Top of RSV Cage	133.26			
Normal Liquid Level	133.01			
Low Water Alarm	132.59			
Splitter Ball Valve Outlet	135.26		Finish Grade	138.00
Unit #15/16				
		(Length-ft.)	1000 Gal. Discharge Tank	
#15 Building Sewer	136.33	37		
#16 Building Sewer	136.33	37		
2000 Gal. Process Tank				
Inlet	135.59		Inlet	136.91
Highwater Alarm	135.42		Highwater Alarm	136.75
Override Timer	135.26		Timer On	134.43
Top of RSV Cage	135.01			
Normal Liquid Level	134.76			
Low Water Alarm	134.34			
Splitter Ball Valve Outlet	137.01		Finish Grade	139.75
Unit #17/18				
		(Length-ft.)	1000 Gal. Discharge Tank	
#17 Building Sewer	123.44	30		
#18 Building Sewer	123.44	30		
2000 Gal. Process Tank				
Inlet	122.84		Inlet	124.16
Highwater Alarm	122.67		Highwater Alarm	124.00
Override Timer	122.51		Timer On	121.68
Top of RSV Cage	122.26			
Normal Liquid Level	122.01			
Low Water Alarm	121.59			
Splitter Ball Valve Outlet	124.26		Finish Grade	127.00
Unit #19/20				
		(Length-ft.)	1000 Gal. Discharge Tank	
#19 Building Sewer	124.44	30		
#20 Building Sewer	124.44	30		
2000 Gal. Process Tank				
Inlet	123.84		Inlet	125.16
Highwater Alarm	123.67		Highwater Alarm	125.00
Override Timer	123.51		Timer On	122.68
Top of RSV Cage	123.26			
Normal Liquid Level	123.01			
Low Water Alarm	122.59			
Splitter Ball Valve Outlet	125.26		Finish Grade	128.00

System B Septic System Profile

N.T.S.

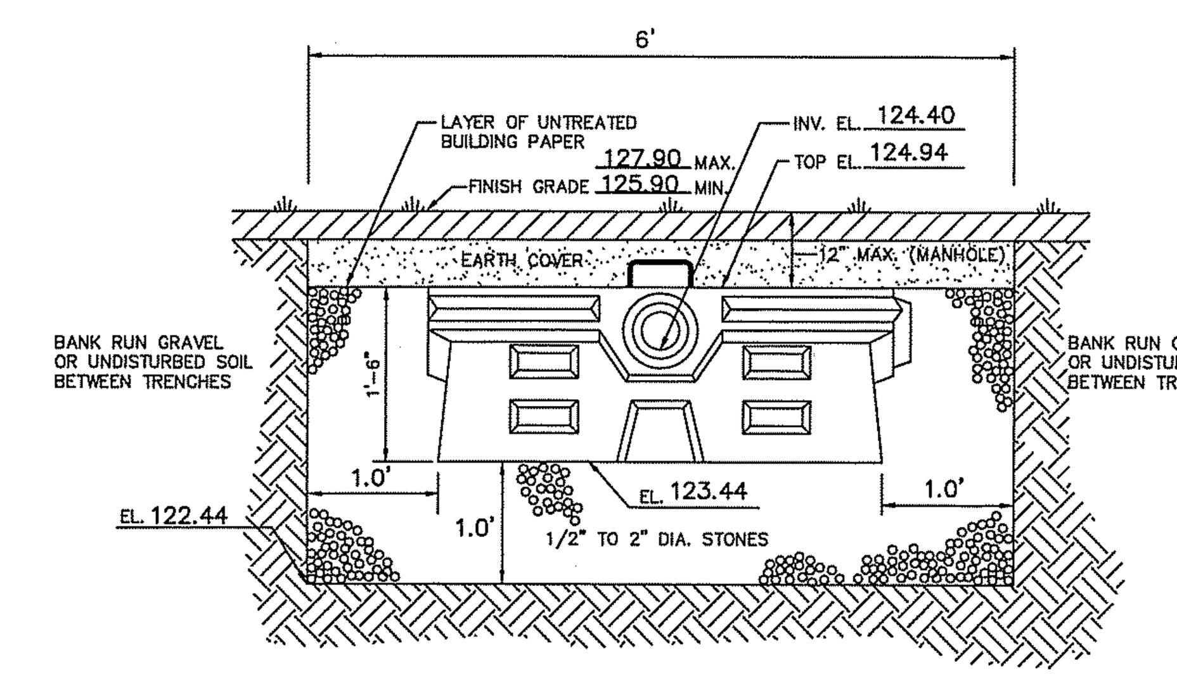


WATER TABLE ELEVATION @ OR BELOW 118.50 ,IMPERVIOUS LAYER ELEVATION @ OR BELOW 116.50

* REFER TO THE ISDS SPECIFICATION REPORT "INVERT SCHEDULE" FOR INDIVIDUAL BUILDING INVERT ELEVATION.

System B Cross-Section

N.T.S.



6' SEPARATION BETWEEN FLOW DIF. TRENCHES.
INLET AT LEAST EVERY 25' (IF D-LINE NOT PROVIDED.)
CHAMBER TO BE PRECAST CONCRETE ROTONDO FD 4X8 -L OR EQUAL.

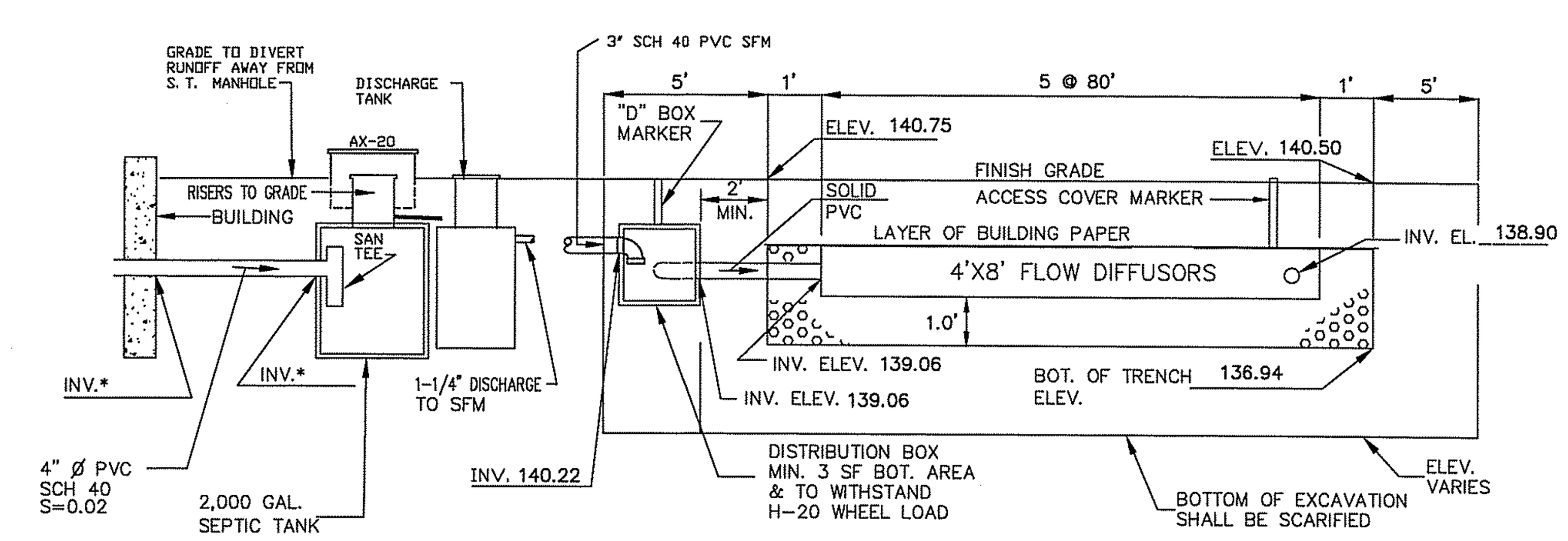
ALL SIDE INLETS TO BE CAPPED OFF OR CEMENTED.

NO CEMENT FRAGMENTS ALLOWED WITHIN THE FLOW DIFFUSOR LINES.

FLOW DIFFUSOR MANHOLES TO BE WITHIN ONE FOOT OF FINISH GRADE.

System A Septic System Profile

N.T.S.

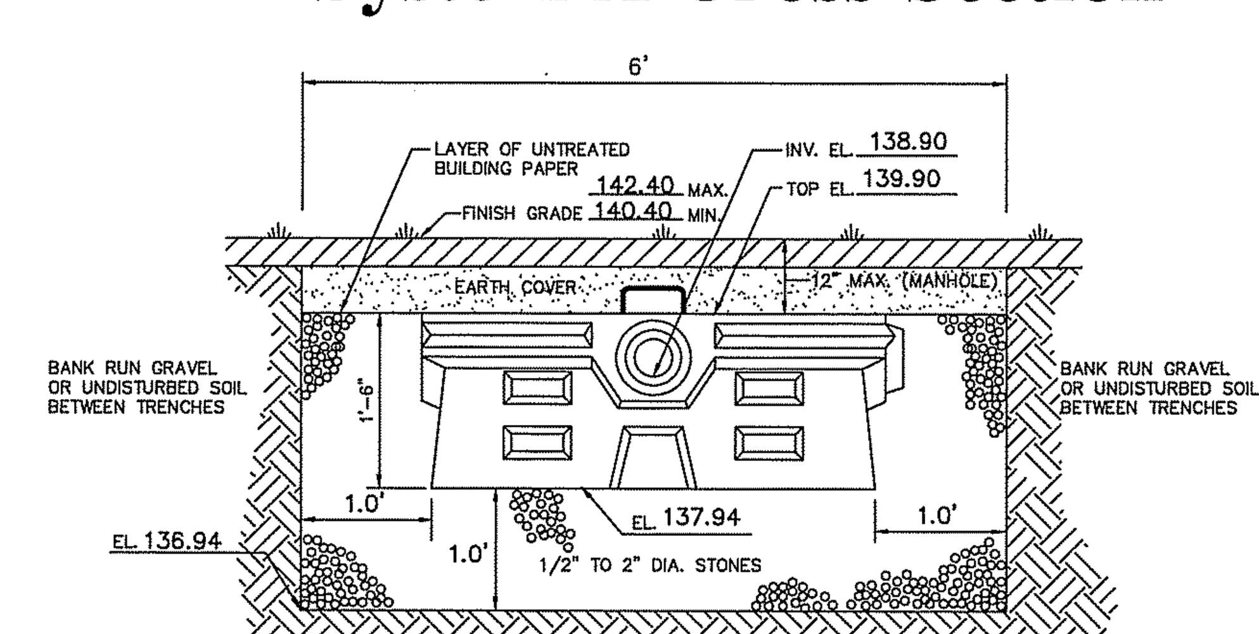


WATER TABLE ELEVATION @ OR BELOW 133.00 ,IMPERVIOUS LAYER ELEVATION @ OR BELOW 129.00

* REFER TO THE ISDS SPECIFICATION REPORT "INVERT SCHEDULE" FOR INDIVIDUAL BUILDING INVERT ELEVATION.

System A Cross-Section

N.T.S.



6' SEPARATION BETWEEN FLOW DIF. TRENCHES.
INLET AT LEAST EVERY 25' (IF D-LINE NOT PROVIDED.)
CHAMBER TO BE PRECAST CONCRETE ROTONDO FD 4X8 -L OR EQUAL.

ALL SIDE INLETS TO BE CAPPED OFF OR CEMENTED.

NO CEMENT FRAGMENTS ALLOWED WITHIN THE FLOW DIFFUSOR LINES.

FLOW DIFFUSOR MANHOLES TO BE WITHIN ONE FOOT OF FINISH GRADE.

Sequence of Land Disturbing Activities

1. CONTRACTOR TO OBTAIN ALL REQUIRED FEDERAL, STATE AND MUNICIPAL PERMITS, AND TO NOTIFY "DIG SAFE" PRIOR TO CONSTRUCTION.
2. SET SILT FENCING AT LIMIT OF WORK. MAINTAIN CONTINUOUS FENCE LINE DURING CONSTRUCTION AND REPAIR AS NEEDED.
3. CONTACT DESIGNER 24 HR. PRIOR TO ISDS CONSTRUCTION
4. BEGIN ISDS BOTTOM EXCAVATION
5. CONTACT DESIGNER 24 HR. PRIOR TO ISDS BOTTOM EXCAVATION COMPLETION
6. BEGIN ISDS CONSTRUCTION
7. CONTACT DESIGNER 24 HR. PRIOR TO ISDS COMPLETION
8. COVER ISDS COMPONENTS
9. CONTACT DESIGNER 24 HR. PRIOR TO ISDS FINAL COVER
10. COMPLETE SOIL STABILIZATION BY LOAM AND SEEDING DISTURBED AREAS.

System B Site Testing

R.I.D.E.M. DIVISION OF ISDS APPROVAL
a. GROUND WATER VERIFICATION NO. 9532-1076 ,DATE: 5/4/06
b. SITE SUITABILITY REPORT NA , DATE: NA
SITE TESTING DATE OF EXCAVATION 8/21/07

SEV
TH-101

SOIL CATAGORY: 3 & 6
DESIGN RATE: 10 MPI

SOIL STRATA:
Ap 0-6" C S 10YR 3/4 fsl, 1-sbk, vfr
Bw 6-30" C W 10YR 4/6 fsl, 1-sbk, vfr
C1 30-58" C W 2.5Y 5/4 gls, 0-m, fri
C2 58"-120' 2.5Y 5/3 gls, 0-m, fri

System B Design Calculations

1. DESIGN FLOW= 40 BEDROOM HOME X 150 GAL/BED
=6000 GALLONS/DAY :
2. DESIGN PERC RATE= 10 MIN/INCH; .91 GAL/SF/DAY
DESIGN GWT= 6.0'
DESIGN DEPTH TO IMPERVIOUS= 8.0'
3. MINIMUM LEACHING AREA=6000 GAL/DAY ÷ .91 GAL/SF/DAY
=6594 S.F. ÷ 2 (50% reduction) = 3297 S.F.
4. F. DIFF. DESIGN = 1.0' FT. STONE BELOW UNIT
1.0' STONE ON ALL SIDES
10 END UNITS X 78 +
40 INT. UNITS X 64 = 3340 S.F.
5. DESIGN LEACH FIELD = 5 LINES, AT 6 L.F WIDE
5 @ 82 L.F. L.F. LONG; 6 FT. SPACING

6. PRETREATMENT:

ADVANTEX AX-20 W/ 2000 GAL. 2 COMP. S. TANK @ EA. DUPLEX
EACH UNIT CONTAINS 2 BEDROOMS
FOR A TOTAL OF 4 BR'S PER DUPLEX PER ADVANTEX UNIT

System A Site Testing

R.I.D.E.M. DIVISION OF ISDS APPROVAL
a. GROUND WATER VERIFICATION NO. 9532-1076 ,DATE: 5/4/06
b. SITE SUITABILITY REPORT NA , DATE: NA
SITE TESTING DATE OF EXCAVATION 5/4/06

SOIL CATAGORY:
DESIGN RATE:

SOIL STRATA:
Ap 0-7" C S 10YR 2/2 fsl, 1-sbk, vfr
Bw1 7-14" C W 10YR 4/6 fsl, 1-sbk, fri
Bw2 14-20" C W 2.5Y 4/4 fsl, 1-sbk, fri
BC 20-51" A W 2.5Y 5/2, 7.5YR 5/8 lfs, 1-sbk, fri
C 51-96" 2.5Y 4/2 gls, 0-m, fri

System A Design Calculations

1. DESIGN FLOW= 40 BEDROOM HOME X 150 GAL/BED
=6000 GALLONS/DAY :
2. DESIGN PERC RATE= 10 MIN/INCH; .91 GAL/SF/DAY
DESIGN GWT= 4.0'
DESIGN DEPTH TO IMPERVIOUS= 8.0'
3. MINIMUM LEACHING AREA=6000 GAL/DAY ÷ .91 GAL/SF/DAY
=6594 S.F. ÷ 2 (50% reduction) = 3297 S.F.
4. F. DIFF. DESIGN = 1.0' FT. STONE BELOW UNIT
1.0' STONE ON ALL SIDES
10 END UNITS X 78 +
40 INT. UNITS X 64 = 3340 S.F.
5. DESIGN LEACH FIELD = 5 LINES, AT 6 L.F WIDE
5 @ 82 L.F. L.F. LONG; 6 FT. SPACING

6. PRETREATMENT:

ADVANTEX AX-20 W/ 2000 GAL. 2 COMP. S. TANK @ EA. DUPLEX
EACH UNIT CONTAINS 2 BEDROOMS
FOR A TOTAL OF 4 BR'S PER DUPLEX PER ADVANTEX UNIT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 21 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

W. Joseph Casey

MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

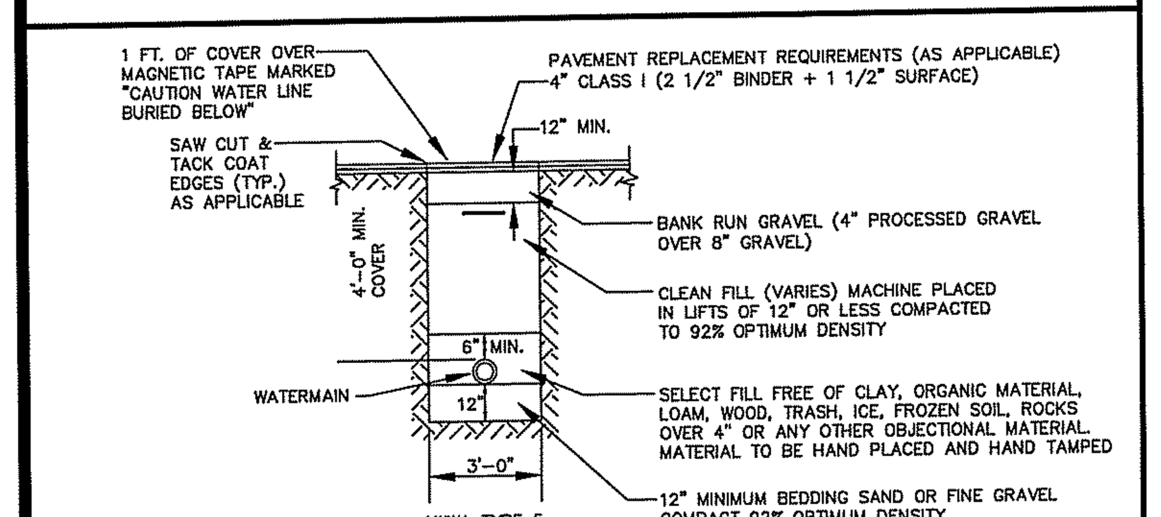
MAY, 2007
DWN. BY: L.A.B.

Copyright 2007 by DiPrete Engineering Associates, Inc.

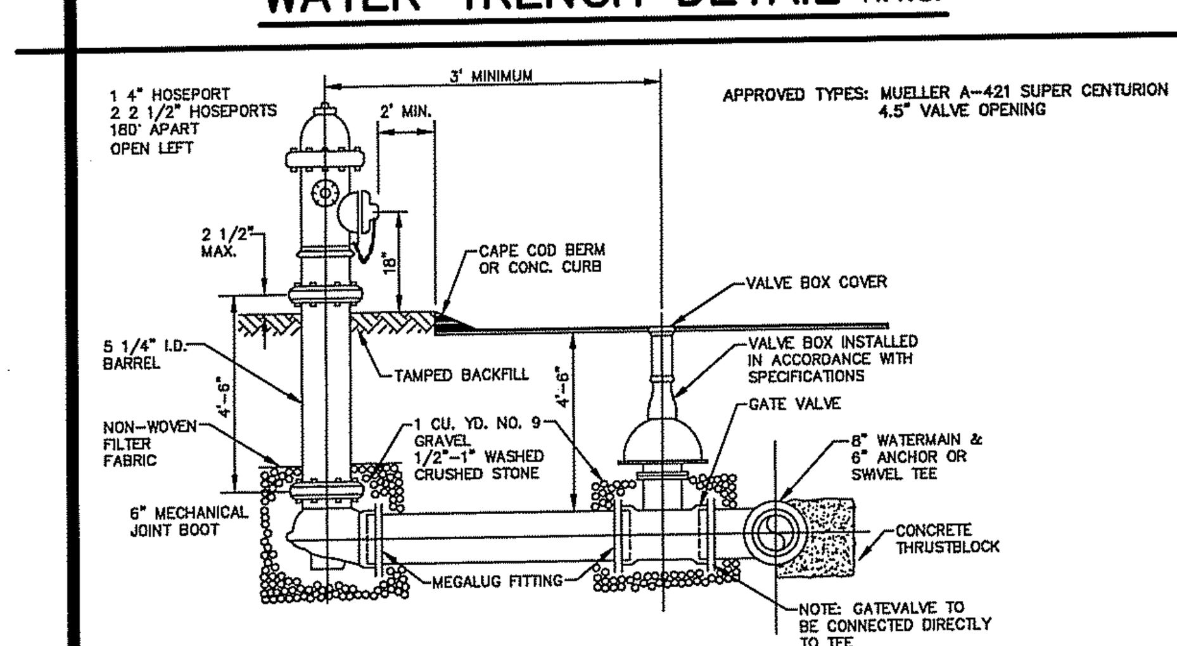
\\Desstorage\DEAMAIN\Engineers\Transfers\0406-031 Brandywyne D.dwg\0406-031 ISDS_8-2.dwg, 13 SYSTEM A & B ISDS Calcs, 3/5/2008 2:53:24 PM

WATER DETAILS

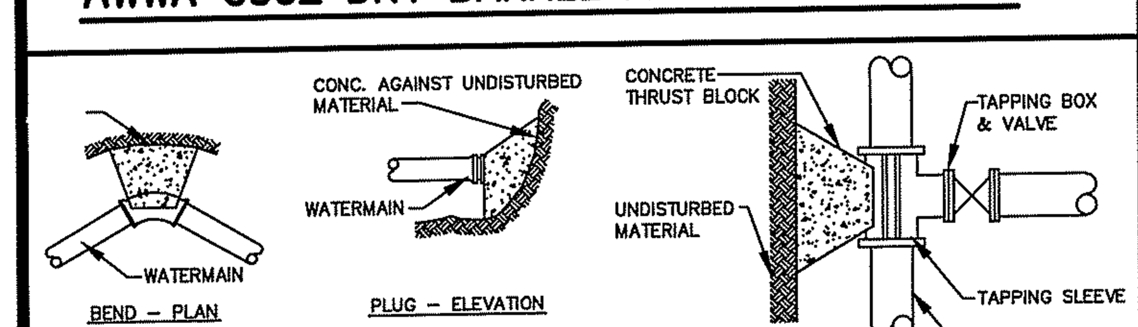
1. ALL WORK AND MATERIAL OF WATER LINE SHALL BE IN ACCORDANCE WITH RULES AND REGULATIONS SET FORTH BY THE UNITED WATER RHODE ISLAND. INSTALLATION PROCEDURES AND MATERIALS TO CONFORM TO UNITED WATER, RI AWWA SPECIFICATIONS AND ART. III OF THE SOUTH KINGSTOWN TOWN ORDINANCES. A PRECONSTRUCTION MEETING SHALL BE HELD PRIOR TO ORDER OF MATERIALS AND WATER MAIN INSTALLATION.
2. WATER MAIN INSTALLATION SHALL BE INSPECTED BY UNITED WATER, R.I. PRIOR TO BACKFILLING THE TRENCH.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UNITED WATER, R.I. FIVE (5) DAYS PRIOR TO START OF CONSTRUCTION.
4. CHLORINATION OF SYSTEM AND SAMPLING SHALL CONFORM TO AWWA REQUIREMENTS FOR SERVICE AND MAIN INSTALLATIONS.
5. THE CONTRACTOR SHALL NOTIFY THE DIRECTOR OF WATER SUPPLY AT LEAST TWO WORKING DAYS IN ADVANCE FOR FINAL INSPECTION.
6. WHENEVER, IN THESE SPECIFICATIONS, REFERENCE IS MADE TO THE REQUIREMENTS OF AWWA, ANSI, ASTM OR ANY OTHER STANDARD SPECIFICATION, THE REFERENCE IS MADE TO THE LATEST REVISIONS OR MODIFICATIONS OF SUCH REQUIREMENTS AND SPECIFICATIONS.
7. ALL PIPE, FITTINGS, AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA AND ANSI STANDARDS AND THE MANUFACTURER'S SUGGESTED RECOMMENDATIONS FOR INSTALLATIONS.
8. PIPELINES SHALL BE CONSTRUCTED IN DRY TRENCHES AND LAID TO THE LINE GRADE. WHENEVER PIPE IS TO BE INSTALLED IN SATURATED SOIL CONDITIONS A BEDDING OF PROCESSED GRANULAR FILTER MATERIAL SHALL BE PROVIDED.
9. ALL BENDS, CROSSES, TEES, END CAPS AND PLUGS, VALVES AND ANY OTHER APPURTENANCES SHALL BE RESTRAINED WITH THRUST BLOCKS, STRAPPING OR ANCHORS.
10. JOINTING OF MECHANICAL AND PUSH ON TYPE JOINTS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH AWWA STANDARD C-600, UNITED WATER, RI AND SOUTH KINGSTOWN SPECIFICATIONS. RUBBER GASKETS AND RINGS SHALL BE SUITABLE FOR USE WITH POTABLE WATER AND THOROUGHLY CLEANED TO REMOVE OIL, GRIT, AND OTHER FOREIGN MATTER PROIR TO ASSEMBLY. THE GASKETS SHALL BE INSPECTED BY THE DIRECTOR OF WATER SUPPLY OR HIS AGENT TO INSURE THAT THEY ARE ACCEPTABLE.
11. ALL FITTINGS USED FOR SERVICE CONNECTIONS SHALL BE IN ACCORDANCE WITH AWWA C-800, UNITED WAITER, R.I., AND SOUTH KINGSTOWN SPECIFICATIONS.
12. VALVES USED SHALL BE IN ACCORDANCE WITH AWWA C-500 SERIES, UNITED WATER, R.I., AND THE TOWN OF SOUTH KINGSTOWN REGULATIONS. VALVES SHALL BE MECHANICAL JOINT, DOUBLE DISC PARALLEL SEAT OR RESILLENT SEAT GATE STYLES AS FOLLOWS:
    a. MUELLER CORPORATION STOP DOUBLE DISC PARALLEL SEAT.
    b. AMERICAN DARLING VALVE RESILENT MODEL CRS-80.
13. BLOW-OFF ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C-800 SERIES, UNITED WATER, R.I., AND THE TOWN OF SOUTH KINGSTOWN.
14. FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH MUELLER A421, AWWA C-502 "DRY BARREL FIRE HYDRANTS" , UNITED WATER, R.I., AND TOWN SPECIFICATIONS.
15. HYDROSTATIC AND LEAKAGE TESTS SHALL BE PERFORMED ON ALL COMPLETED SECTIONS OF NEWLY INSTALLED PIPELINE IN ACCORDANCE WITH AWWA C-600, UNITED WATER, R.I. AND TOWN SPECIFICATIONS.
16. ALL PIPE SHALL BE DISINFECTED PRIOR TO BEING ACTIVATED IN ACCORDANCE WITH AWWA B-300, AWWA C-601, UNITED WATER, R.I., AND TOWN SPECIFICATIONS.
17. 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 /C111/A21.11. AMERICAN MANUFACTURER ONLY.
18. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT CL350 CEMENT MORTAR LINED AND MEET ANSI/AWWA/C153/A21.53. MECHANICAL JOINTS SHALL MEET ANSI/AWWA/C111/A21.11 AMERICAN MANUFACTURER ONLY.
19. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL STATE AND TOWN PERMITS PRIOR TO CONSTRUCTION.
20. THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS RELATED TO INSTALLATION OF THE WATER MAIN.
21. EXCAVATIONS THAT EXTEND INTO PUBLIC RIGHT -OF-WAY SHALL BE BACKFILLED AND COMPACTED IN 12" LIFTS. A TEMPORARY BINDER COURSE IS TO BE APPLIED. FINAL BINDER AND FINISH COURSE TO BE PLACED AFTER REMOVAL OF TEMPORARY PAVEMENT AND COMPACTION OF GRAVEL BASE. CONTRACTOR SHALL MAKE ROAD PASSABLE FOR ONE LANE OF TRAFFIC AT ALL TIMES.
22. CONTRACTOR SHALL NOTIFY DIG SAFE PRIOR TO DIGGING ANY TRECHES.
23. WHEN WORK IS NOT IN PROGRESS AND AT THE END OF EACH DAY, ALL OPEN ENDS OF THE PIPE AND FITTINGS SHALL BE SECURELY CLOSED.
24. DIPRETE ENGINEERING ASSOCIATES, INC. DOES NOT CERTIFY AS TO THE WATER FLOW RATE OR RESIDUAL PRESSURE OF THIS WATER MAIN EXTENSION.



WATER TRENCH DETAIL N.T.S.



AWWA C502 DRY BARREL FIRE HYDRANT N.T.S.



* CONCRETE TO BE 3000 PSI @ 28 DAYS *

THRUST BLOCK SCHEDULE BEARING AREA		
PIPE SIZE	45° BEND OR LESS	TEE & DEAD END
8" PVC	2.5' x 2.5'	3.0' x 3.0'
12" PVC	3.0' x 3.0'	3.5' x 3.5'

THRUST BLOCK DETAILS N.T.S.

SEWER LINE / WATER MAIN SEPARATION POLICY FOR DESIGN OF SANITARY SEWERS

A. LATERAL PLACEMENT OF SEWERS AND WATER MAINS

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATERMAIN. THE DISTANCE SHALL BE MEASURED EDGE-TO-EDGE. THERE IS NO MINIMUM VERTICAL SEPARATION REQUIRED PROVIDED THE 10 FOOT HORIZONTAL SEPARATION IS MAINTAINED.

IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE DIVISION MAY ALLOW DEVIATION ON A CASE BY CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATERMAIN, PROVIDED THAT:

1. THE SEWER AND WATERMAIN ARE LAID IN SEPERATE TRENCHES, OR
2. THE SEWER AND WATERMAIN MAY BE INSTALLED IN THE SAME TRENCH WITH THE WATERMIAN PLACED ON A BENCH OF UNDISTURBED EARTH, AND
3. IN EITHER CASE, THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATERMAIN.

IN SITUATIONS WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, THE FOLLOWING PROTECTION SHALL BE PROVIDED:

1. ENCASEMENT OF THE SEWER PIPE IN CONCRETE (MIN. 6 INCH. THICKNESS) OR A CARRIER PIPE FOR AT LEAST 10 FEET EITHER SIDE OF THE AREA NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, OR
2. DESIGN AND CONSTRUCTION OF THE SEWER EQUAL TO WATERMAIN PIPE (CEMENT-LINED DUCTILE IRON OR OTHER AWWA-APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE), AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS.

B. SEWERS CROSSING WATERMAINS

SEWERS CROSSING OVER WATERMAINS SHOULD BE AVOIDED, BUT IF CONDITIONS WARRANT THIS SITUATION, THEN ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE. SEWERS CROSSING UNDER WATERMAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF 14 INCHES BETWEEN THE INVERT OF THE WATERMAIN AND THE CROWN OF THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATERMAIN JOINTS.

WHERE CONDITIONS PREVENT AN 18 INCH VERTICAL SEPARATION FROM BEING MAINTAINED, THE FOLLOWING METHODS SHALL BE SPECIFIED:

1. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATERMAIN PIPE (CEMENT-LINED DUCTILE IRON PIPE, PVC OR OTHER AWWA APPROVED MATERIAL FOR POTABLE WATER CONVEYANCE) FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER-MAIN AND PRESSURE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS, OR
2. EITHER THE WATERMAIN OR THE SEWER MAY BE ENCASED IN CONCRETE (MIN. 6 INCH THICKNESS) OR A CARRIER PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER-MAIN. THE CARRIER PIPE SHALL BE DESIGNED AND CONSTRUCTED OF MATERIALS WHICH ARE SATISFACTORY TO THE DIVISION, OR
3. ANY OTHER METHODS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER, WHICH ENSURE ADEQUATE WATERTIGHTNESS AND ARE SATISFACTORY TO THE DIVISION.

GRAVITY (NON-PRESSURIZED) SEWER TESTING

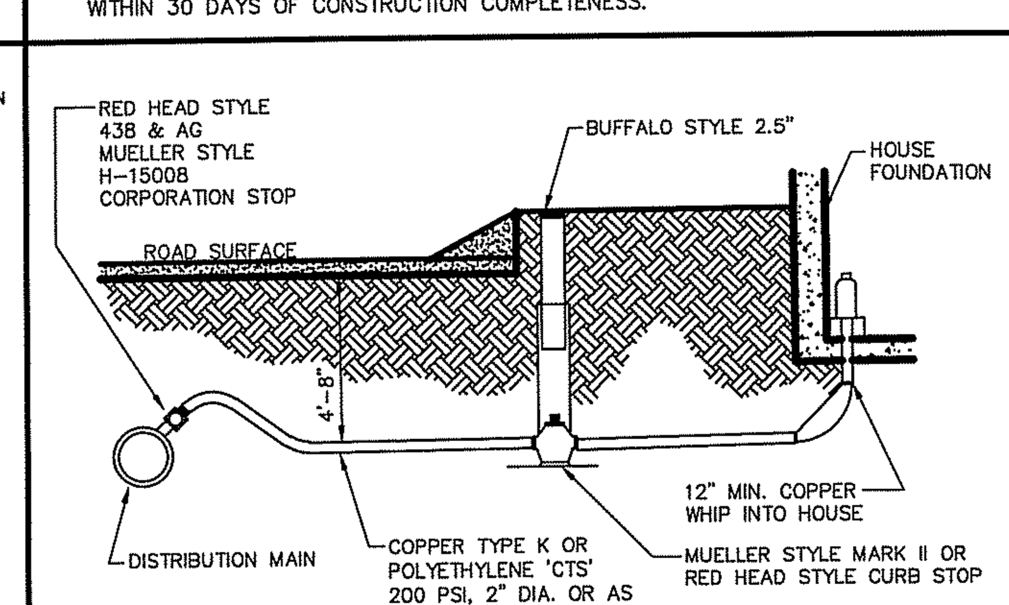
1. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND PERSONNEL TO CONDUCT AN ACCEPTANCE TEST USING LOW PRESSURE AIR. THE TEST SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE DESIGN ENGINEER.
2. ALL BRANCH FITTINGS AND ENDS OF LATERAL STUBS SHALL BE SECURELY PLUGGED TO WITHSTAND THE INTERNAL TEST PRESSURES. THE SECTION OF LINE BEING TESTED SHALL ALSO BE SECURELY PLUGGED AT EACH MANHOLE. ALL STOPPERS SHALL BE ADEQUATELY BRACED WHEN REQUIRED.
3. AIR SHALL BE SLOWLY SUPPLIED TO THE PLUGGED PIPELINES UNTIL THE INTERNAL AIR PRESSURE REACHES 4.0 POUNDS PER SQUARE INCH GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY SUBMERGE THE PIPE. AT LEAST TWO (2) MINUTES SHALL BE ALLOWED FOR TEMPERATURE STABILIZATION BEFORE PROCEEDING FURTHER.
4. THE RATE OF AIR LOSS SHALL THE BE DETERMINED BY MEASURING THE TIME INTERVAL REQUIRED FOR THE INTERNAL PRESSURE TO DECREASE FROM 3.5 TO 2.5 POUNDS PER SQUARE INCH.
5. THE PIPELINE SHALL BE CONSIDERED ACCEPTABLE IF THE TIME INTERVAL FOR THE 1.0 PSI PRESSURE DROP IS NOT LESS THAN THE HOLDING TIME LISTED IN THE FOLLOWING AIR TEST TABLE.
6. MINIMUM HOLDING TIME IN SECONDS REQUIRED FOR PRESSURE TO DROP FROM 3.5 TO 2.5 PSI.

LENGTH	HOLDING TIME (IN SECONDS)	LENGTH	HOLDING TIME (IN SECONDS)	LENGTH	HOLDING TIME (IN SECONDS)
25	18	125	88	225	158
50	35	150	106	250	176
75	53	175	123	275	194
100	70	200	141	300	211

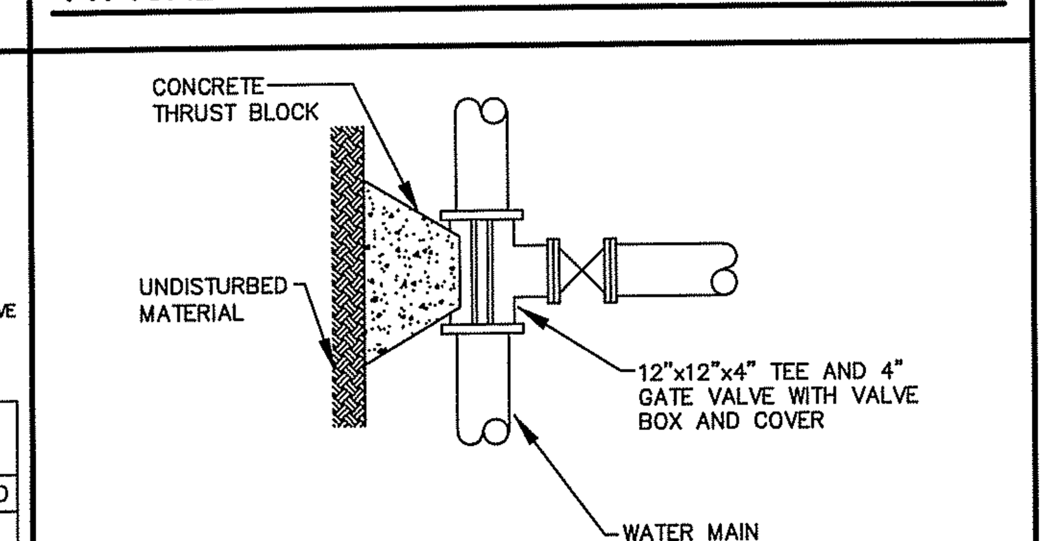
7. SHOULD THE INFILTRATION OF EXFILTRATION TEST ON ANY SECTION OF THE SEWERS, INCLUDING MANHOLES, SHOW A RATE OF LEAKAGE INTO OR FROM THE SEWERS EXCEEDING THE MAXIMUM ALLOWABLE RATE OF INFILTRATION OR EXFILTRATION SPECIFIED HEREIN, THE CONTRACTOR SHALL LOCATE, REPAIR OR REPLACE DEFECTIVE JOINTS AND WORK IN A MANNER SATISFACTORY TO THE DESIGN ENGINEER, AND RETEST, UNTIL THE RATE OF INFILTRATION INTO OR EXFILTRATION FROM EACH SECTION OF THE SEWERS BEING TESTED DOES NOT EXCEED THE RATE SPECIFIED HEREIN FOR INFILTRATION OR EXFILTRATION.
8. PHYSICAL DEFELCTION TESTING AND MANHOLE LEAKAGE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF SO. KINGSTOWN UTILITIES DEPT. WASTEWATER SPECIFICATIONS.

GENERAL SEWER NOTES

1. SEWER MAIN AND SERVICE CONSTRUCTION SHALL CONFORM TO TOWN OF SOUTH KINGSTOWN STANDARDS AND SPECIFICATIONS.
2. DESIGN ENGINEER SHALL SUBMIT AS-BUILT MYLARS FOR SEWER MAIN CONSTRUCTION TO THE TOWN OF SOUTH KINGSTOWN DIRECTOR OF PUBLIC SERVICES WITHIN 30 DAYS OF CONSTRUCTION COMPLETENESS.



TYPICAL 2" OR SMALLER WATER SERVICE N.T.S.



TYPICAL 4" OR GREATER WATER SERVICE N.T.S.

LEAKAGE AND PRESSURE TESTING FOR WATERMAINS

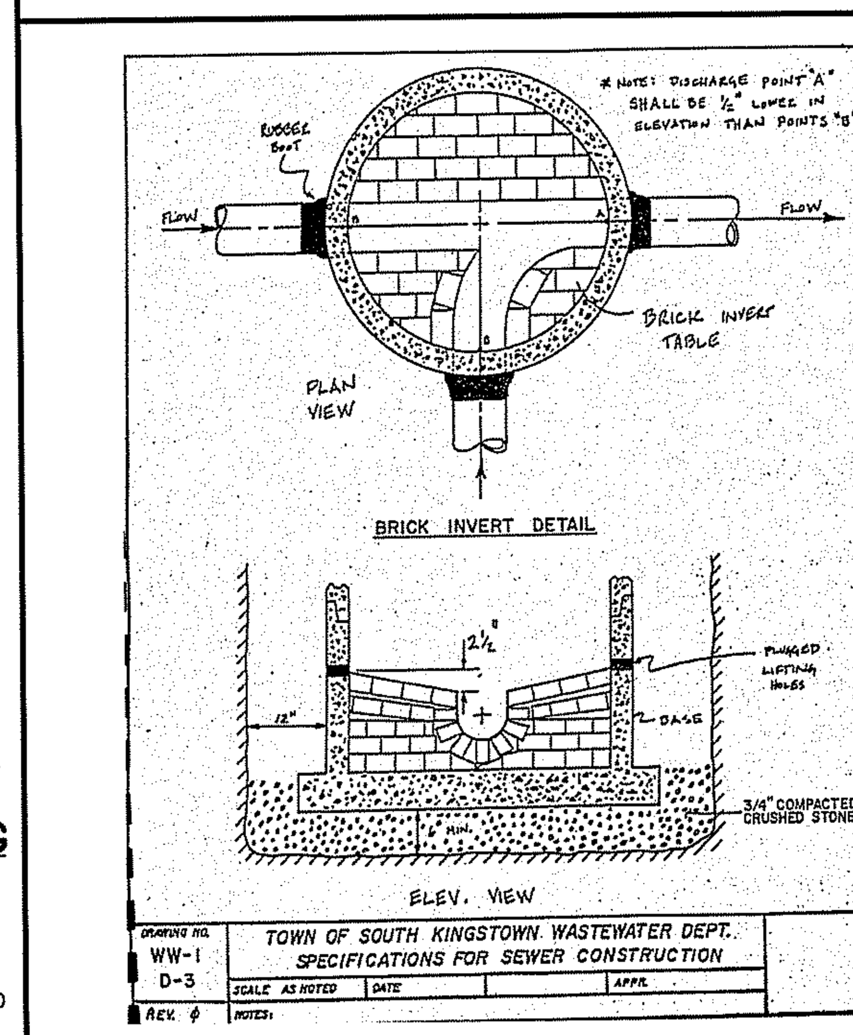
1. GENERAL
   HYDROSTATIC AND LEAKAGE TESTS SHALL BE PERFORMED ON ALL COMPLETED SECTIONS OF NEWLY INSTALLED SEWER FORCE MAIN AND WATERMAIN PIPELINE IN ACCORDANCE WITH AWWA C600, UNITED WATER, THE TOWN OF SOUTH KINGSTOWN, AND AS SPECIFIED BELOW.

   THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR TESTING.
2. TESTING PROCEDURES
   ALL AIR SHALL BE EXPELLED AT THE HIGH POINTS AND THE PIPELINE SLOWLY FILLED WITH POTABLE WATER.

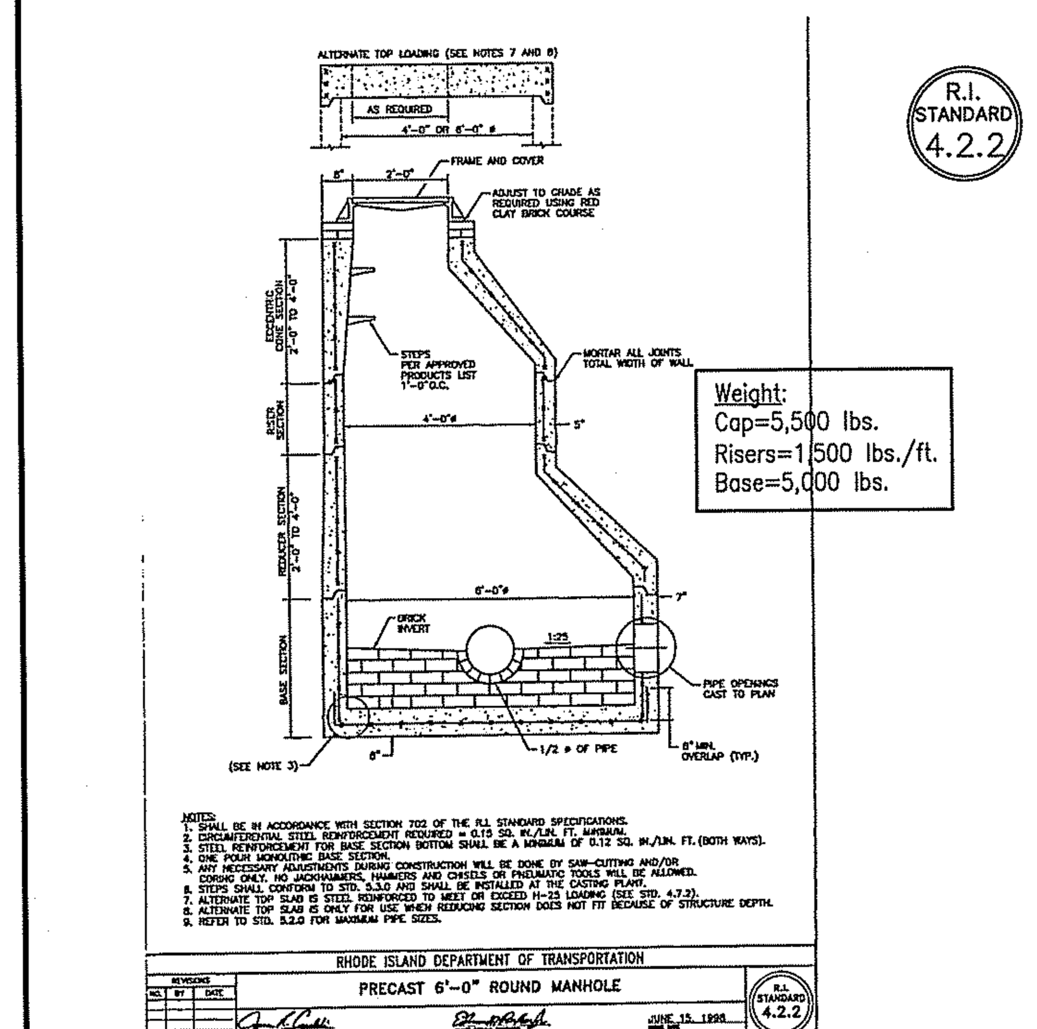
   THE INTERNAL PRESSURE SHALL BE BUILT UP TO 150 PSI AND MAINTAINED FOR A PERIOD OF NOT LESS THAN ONE (1) HOUR.

   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.

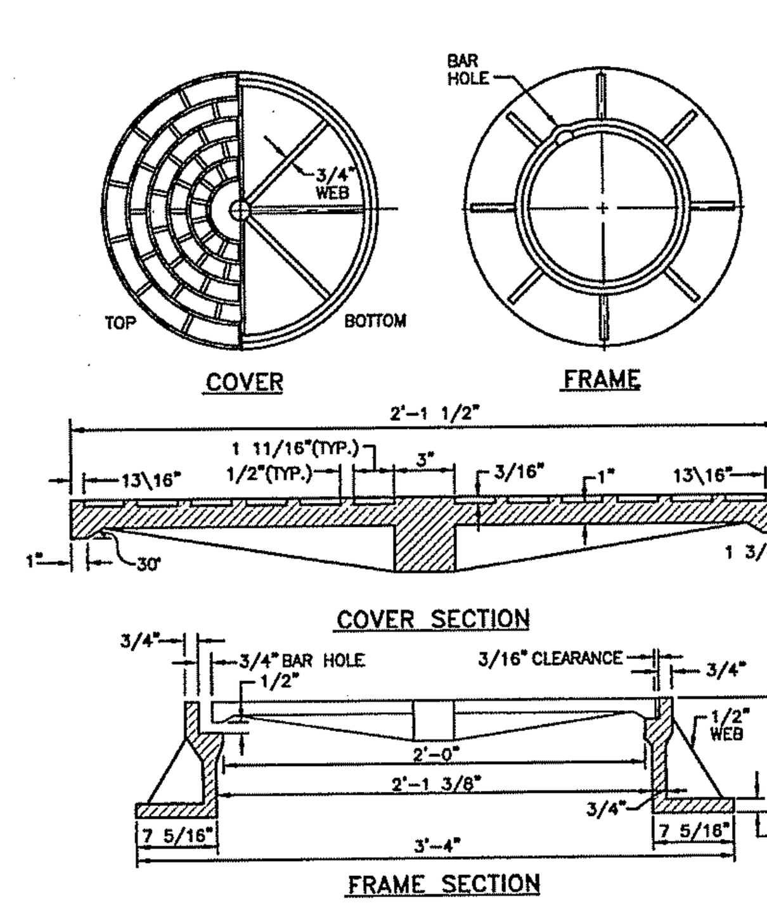
   THE PIPELINE SHALL BE RETESTED AS MAY BE REQUIRED AND NECESSARY UNTIL THE LEAKAGE FALLS WITHIN THE ALLOWABLE DETERMINED FOR THE PIPE NETWORK, AT WHICH TIME THE PIPELINE MAY BE CONSIDERED READY FOR:
   a. WATERMAINS – DISINFECTION STEP



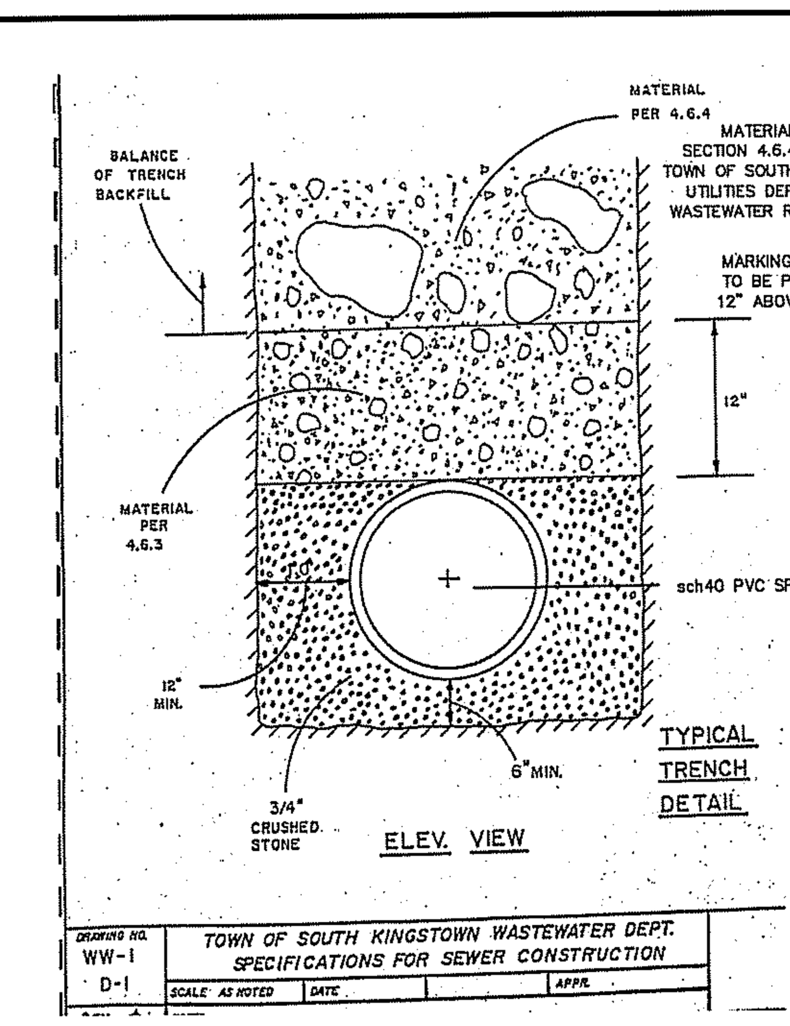
BRICK INVERT DETAIL OR EQUAL AS APPROVED BY ENGINEER N.T.S.



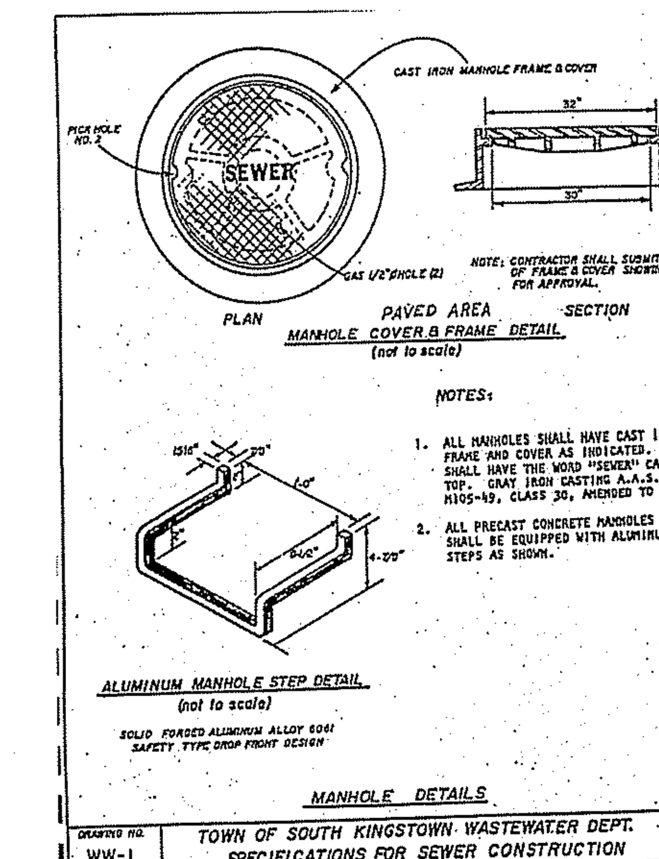
6' DIA. MANHOLE N.T.S.



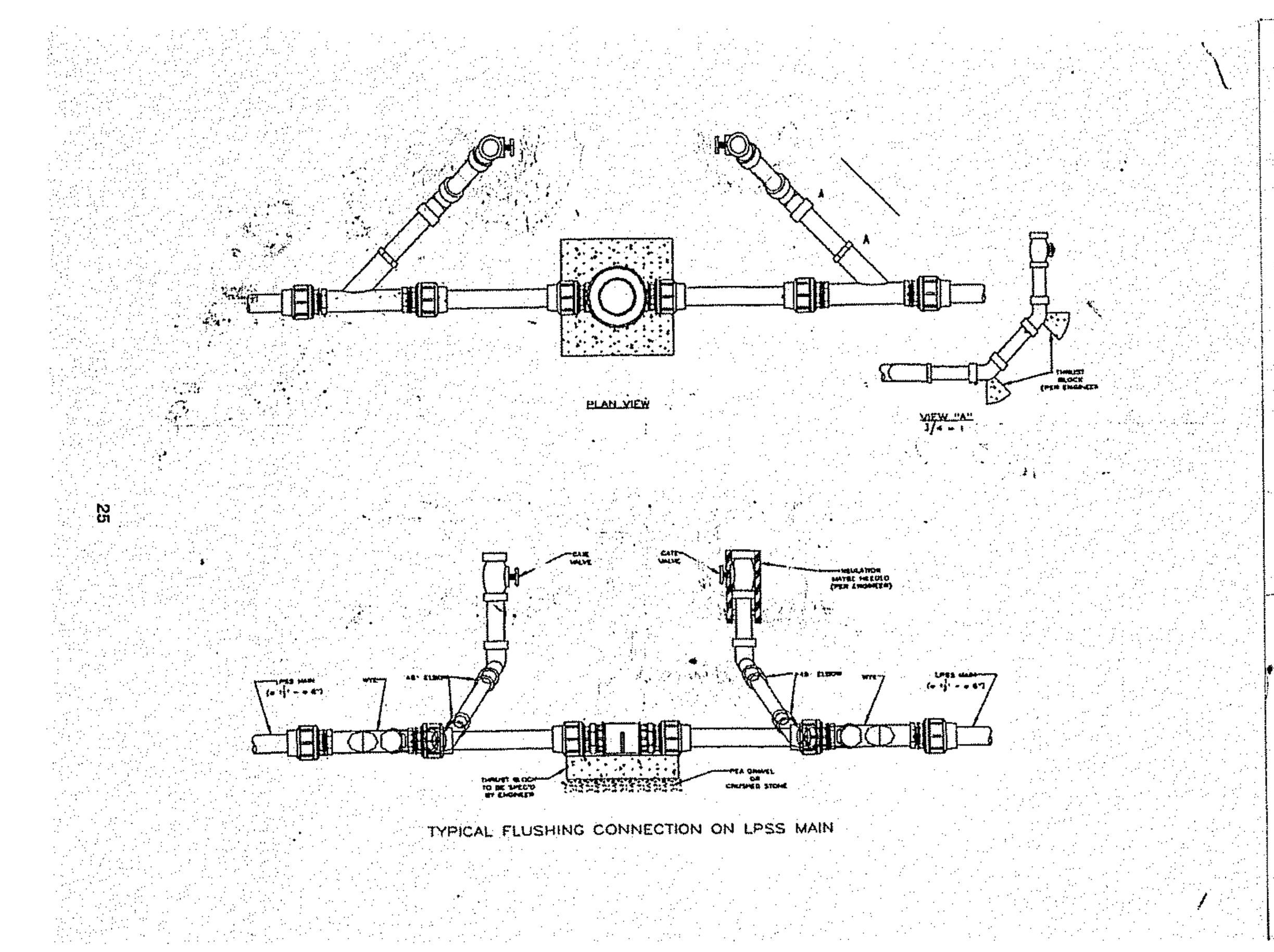
ROUND FRAME & COVER HEAVY DUTY MANHOLE N.T.S.



SEWER TRENCH DETAIL OR EQUAL AS APPROVED BY ENGINEER N.T.S.



MANHOLE STEP DETAIL N.T.S.



Typical Flushing Connection on LPSS Main

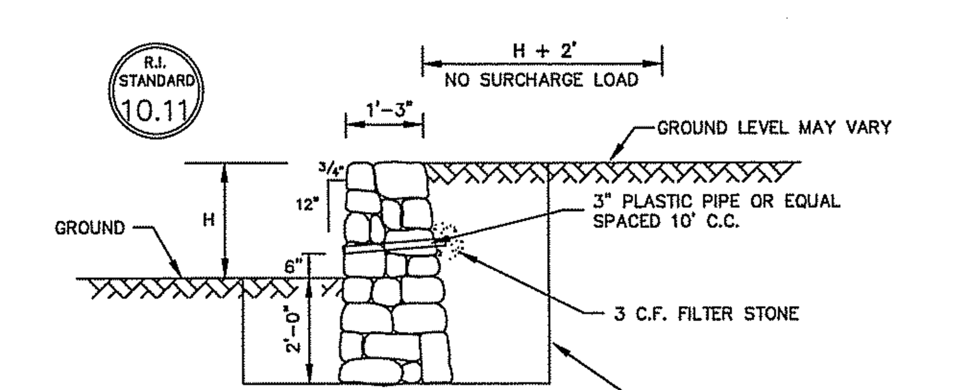
Orenco Systems® Incorporated

RHODE ISLAND DISTRIBUTOR:
WASTEWATER TECHNOLOGIES, INC.
70 VERMONT AVENUE, SUITE A
WARWICK, RI 02888

TELEPHONE:
401-737-7810

FACSIMILE:
401-737-4521

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED APR 2 1 2008 FILE # 06-0220
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL.
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.



NOTES:
1. LEVEL GROUND SURFACE REQUIRED BEHIND WALL WITHOUT SURCHARGE FOR A HORIZONTAL DISTANCE OF H PLUS 2 FEET.
2. ALL EXPOSED SURFACES MUST BE DRESSED

DIMENSIONS AND QUANTITIES		
H	A	CU. FT / LF OF WALL
1'	1'-6"	4.13
2'	1'-8"	5.83
3'	2'-0"	8.13
4'	2'-4"	10.75

RETAINING WALL N.T.S.

MAR - 6 2008

Preliminary Plan Submission

CHRISTOPHER A. DUHAMEL
No. 5013
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
9	03-5-08	RIDEM PERMIT MODIFICATION	C.R.D.
8	12-10-07	RIDEM ISDS SUBMISSION	L.A.B.
6	7-30-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
5	6-14-07	RIDEM ISDS RE-SUBMISSION	L.A.B.
4	4-03-07	RIDEM GROUNDWATER CERTIFICATION	L.A.B.
3	10-4-06	RIDEM ISDS SUBMISSION	E.H.J.
2	8-18-06	RIDEM FWW COMMENTS	C.R.D.
1	6-28-06	UNITED WATER COMMENTS	C.R.D.
0	5-09-06	RIDEM FWW SUBMISSION	A.M.P.

DETAIL SHEET

BRANDYWYNE
A SENIOR RESIDENTIAL COMMUNITY
ASSESSOR'S PLAT 24 LOTS 7, 8, & 25
SOUTH KINGSTOWN, 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) 464-6006

John C. Carter + Company
LANDSCAPE ARCHITECTS
960 BOSTON NECK ROAD
NARRAGANSETT, RI 02882
(401) 783-3500 FAX: (401) 792-1327

PREPARED FOR
EFC Construction
225 GREENSLITT AVENUE
PAWTUCKET, RI 02861
PHONE: (401) 726-3103

APRIL, 2006
DWN. BY: A.M.P.

Copyright 2006 by DiPrete Engineering Associates, Inc.

\\Deastorage\DEA\MAIN\Engineers\Transfers\0406-031 Brandywyne Dwg\0406-031 ISDS_8-2.dwg, 14 ISDS Details, 3/5/2008 2:53:36 PM