

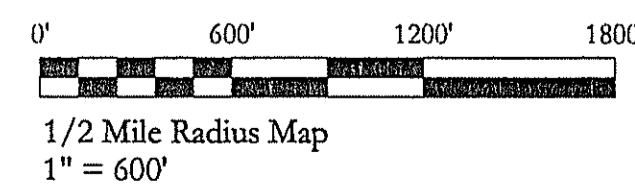
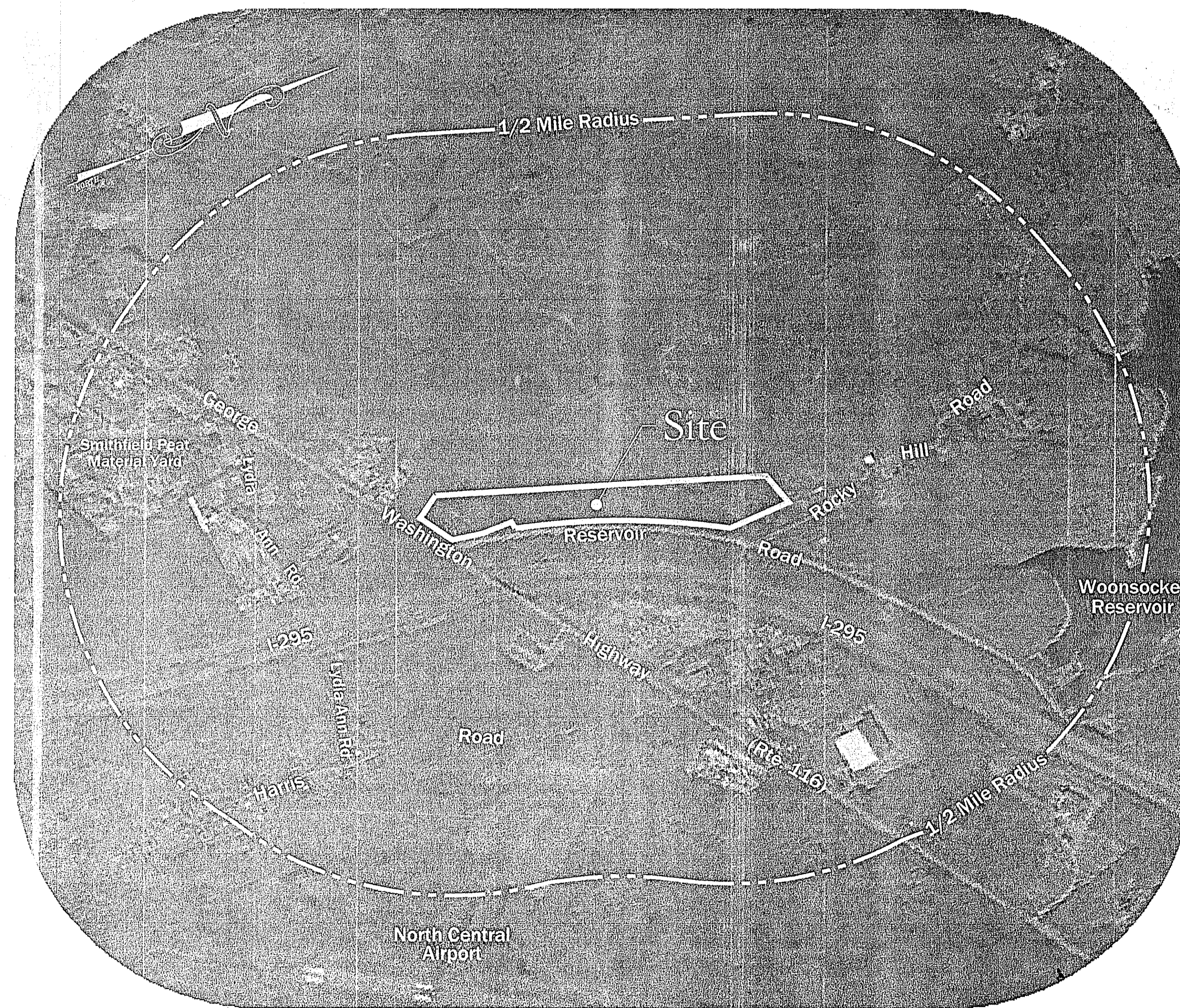
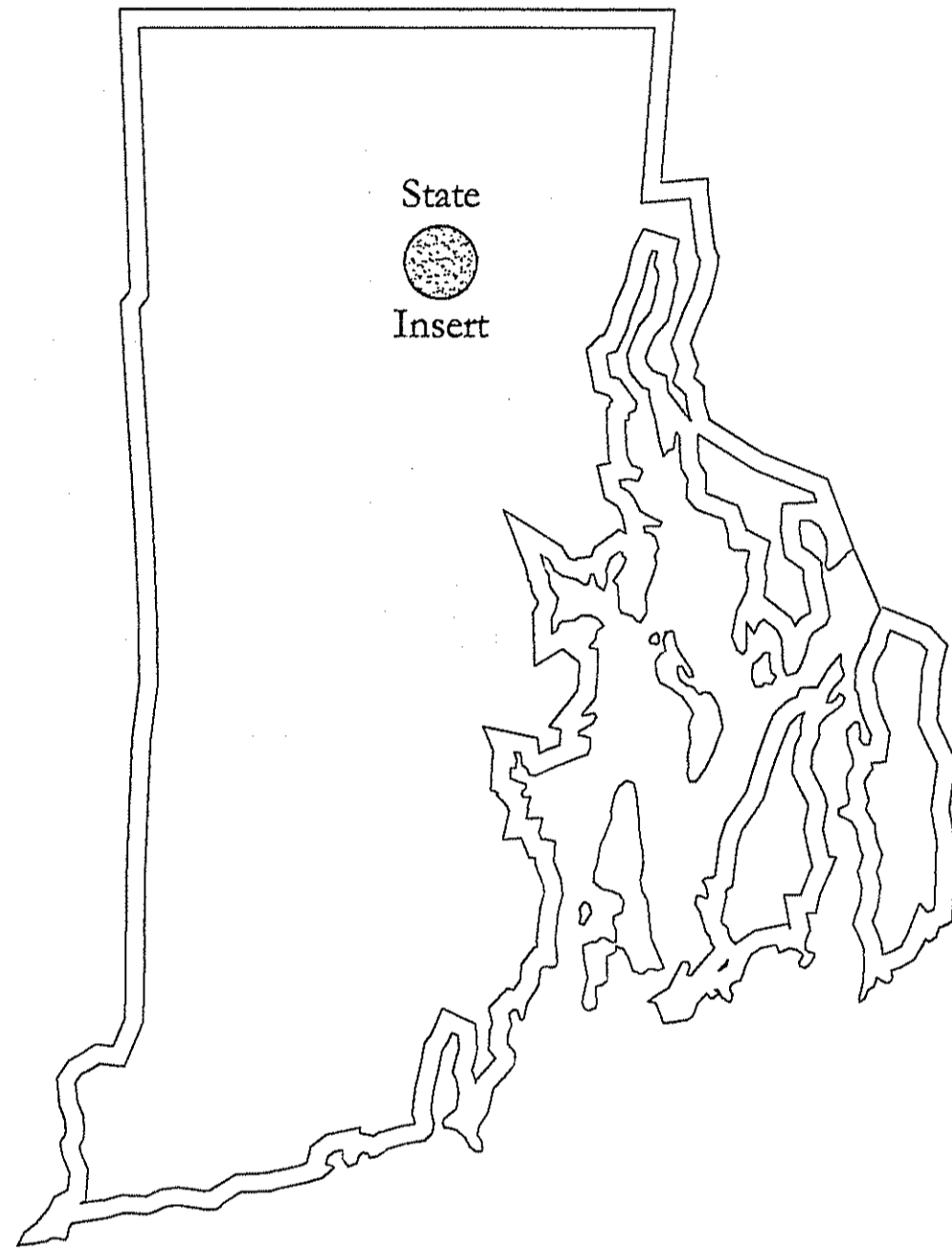
Preliminary Plan Submission

Office Center At George Washington Highway

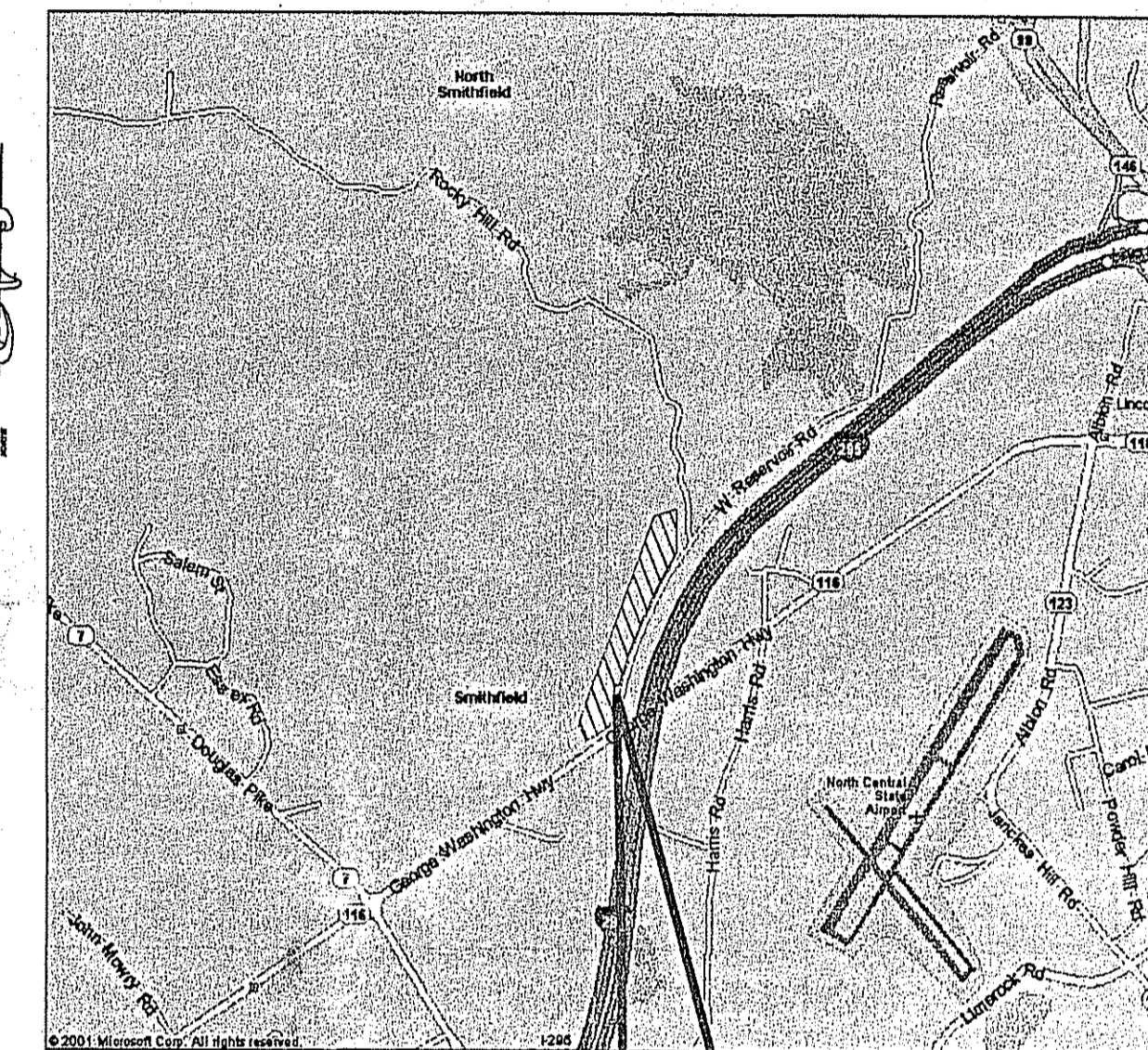
Major Land Development

Assessor's Plat 48 Lot 3

West Reservoir Road & George Washington Highway
Smithfield, RI



Terraserver ©2002



Locus Map N.T.S.

Site

Sheet Index:

- Sheet 1 Cover Sheet
- Sheet 2 Existing Conditions Plan 1
- Sheet 3 Existing Conditions Plan 2
- Sheet 4 Site Layout Plan
- Sheet 5 Grading Plan
- Sheet 6 Drainage & Utility Plan
- Sheet 7 Sewer Plan & Profile 1
- Sheet 8 Sewer Plan & Profile 2
- Sheet 9 Construction Details 1
- Sheet 10 Construction Details 2
- Sheet 11 Construction Details 3
- Sheet 12 Construction Details 4
- Sheet L-1 Landscaping & Lighting Plan

Owner/Applicant:

370 GWH, LLC.
c/o Ralph Branca
640 Geo. Wash. Hwy.
Lincoln, RI 02865

Surveyor:

Marsh Surveying, Inc.
640 Geo. Wash. Hwy.
Lincoln, RI 02865
401.334.0600

Wetlands Biologist:

Natural Resource Services
P.O. Box 311
Harrisville, RI 02830
401.568.7390

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUL 22 2009 FILE # 07-000
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

RECEIVED
JUL 10 2009

NO.	DATE	REVISION	BY
1	Jan-07	Address Soil & Erosion Comments	REB
2	Jan-07	Include Existing Conditions Plan 2 in set	REB
3	Feb-07	Address RIOT Comments dated Feb. 9, 2007	REB
4	Feb-07	Relocate fire hydrants & water service	REB

BRIAN P. THALMANN
Professional Engineer
No. 10000
Professional Engineer
(RI)

Thalman Engineering Co., Inc.
Site/Civil Engineers • Land Planners
600 Putnam Pike, Suite #7
Greenville, Rhode Island 02828
(401) 349-3040 • (401) 349-3041 (fax)

Cover Sheet
Lot 3
Office Center At George Washington Highway
West Reservoir Road & Geo. Wash. Hwy. Rhode Island
Smithfield
Prepared for:
370 GWH, LLC.
640 George Washington Highway Lincoln, RI 02865
date: Dec. 2006
scale: As Noted

Drawn By: REB
Checked By: BPT

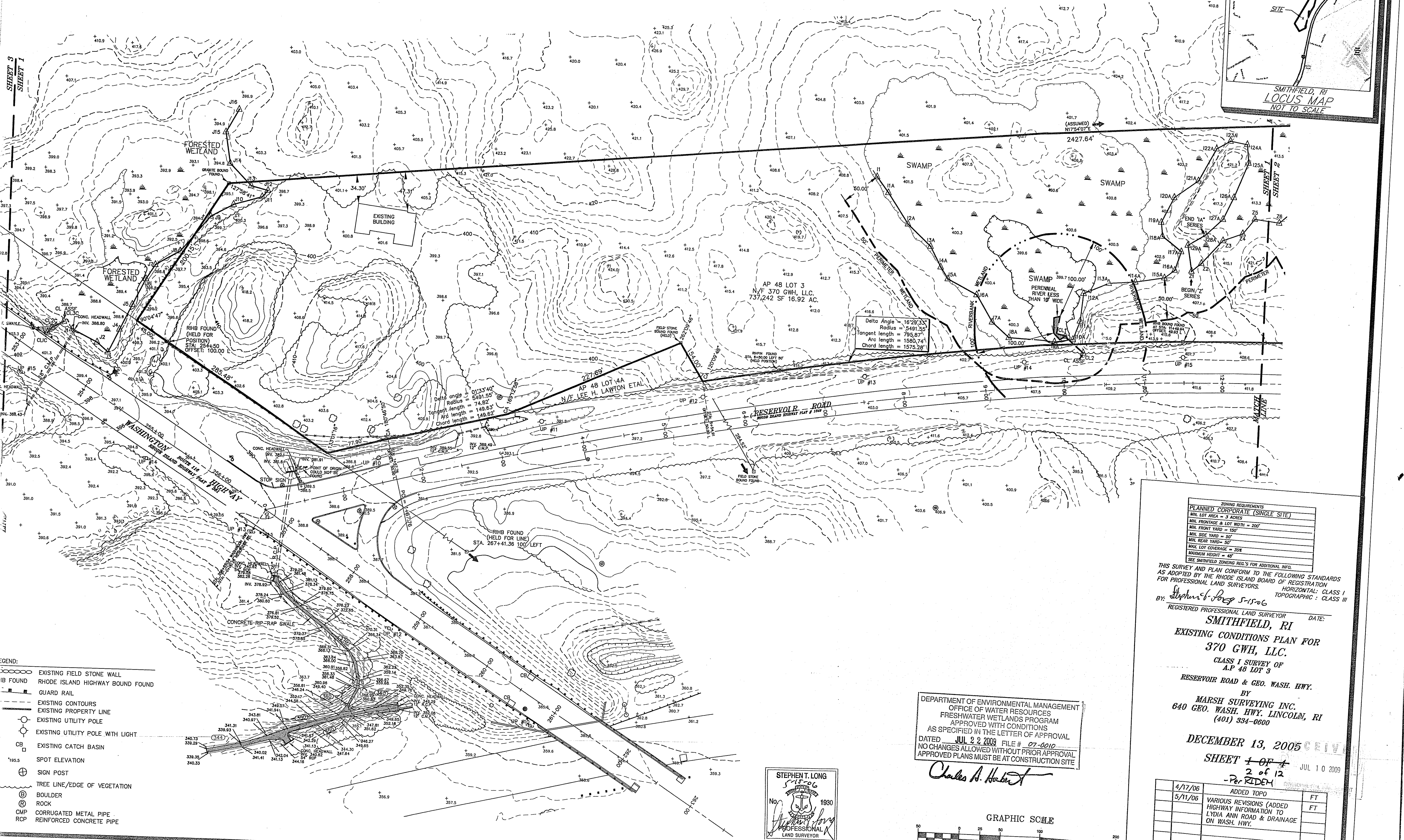
Sheet
1
of 12

FILE NO.: 08.021

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- REFERENCE PLANS:
1. "SMITHFIELD, R.I. PLAN OF LAND OWNED BY HENRY W. LAWTON SURVEYED BY EARL R. MARSH ASSOC. MAY 1971 SCALE 1" = 40' "
 2. "SMITHFIELD, R.I. PLAN OF PROPERTY OWNED BY MAURICE A. BISSONNETTE ET UX SURVEYED BY EARL R. MARSH JUNE - 1964 SCALE - 1 INCH = 200 FT. "
 3. RHODE ISLAND HIGHWAY PLATS 1349 & 361

- NOTES:
1. THIS PARCEL LIES WITHIN ZONE "X" FOUND ON FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 440025 0002 B ZONE "X" = AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN. MAP REVISED: MARCH 4, 1991
 2. LOCATION OF EXISTING UTILITIES SHOWN, ARE FROM GATE LOCATION AND EXISTING DOCUMENTATION, AND MAY NOT BE ACCURATE. EXACT LOCATION TO BE DONE BY THE APPROPRIATE UTILITY COMPANY OR MUNICIPALITY PRIOR TO EXCAVATION.
 3. HORIZONTAL & VERTICAL DATA ON THIS PLAN WERE OBTAINED BY FIELD SURVEY.
 4. PUBLIC WATER MAY EXIST ON RESERVOIR ROAD. THE LOCATION COULD NOT BE DETERMINED. NO WATER GATES WERE FOUND.

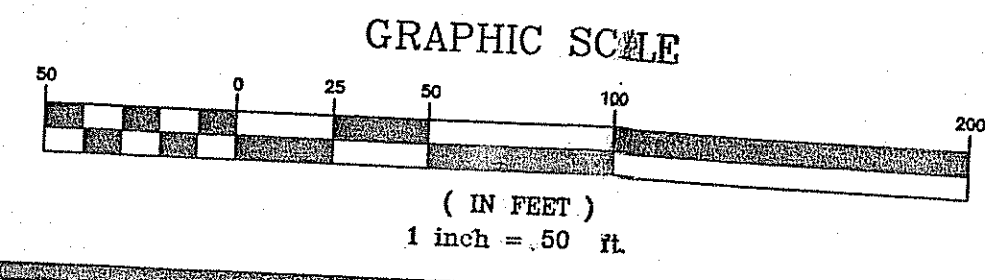


- LEGEND:
- EXISTING FIELD STONE WALL
 - RHODE ISLAND HIGHWAY BOUND FOUND
 - GUARD RAIL
 - - - EXISTING CONTOURS
 - - - EXISTING PROPERTY LINE
 - EXISTING UTILITY POLE
 - EXISTING UTILITY POLE WITH LIGHT
 - CB EXISTING CATCH BASIN
 - SPOT ELEVATION
 - ⊕ SIGN POST
 - TREE LINE/EDGE OF VEGETATION
 - ⊙ BOULDER
 - ⊙ ROCK
 - CMP CORRUGATED METAL PIPE
 - RCP REINFORCED CONCRETE PIPE

STEPHEN T. LONG
 51706
 No. 1930
 PROFESSIONAL
 LAND SURVEYOR

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
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Charles A. Horvath



ZONING REQUIREMENTS
PLANNED CORPORATE (SINGLE SITE)
 MIN. LOT AREA = 3 ACRES
 MIN. FRONTAGE & LOT WIDTH = 200'
 MIN. FRONT YARD = 150'
 MIN. SIDE YARD = 50'
 MIN. REAR YARD = 50'
 MAX. LOT COVERAGE = 35%
 MAXIMUM HEIGHT = 48'
 SEE SMITHFIELD ZONING REG.'S FOR ADDITIONAL INFO.

THIS SURVEY AND PLAN CONFORM TO THE FOLLOWING STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.
 HORIZONTAL: CLASS I
 TOPOGRAPHIC: CLASS III

BY: *Stephen T. Long* 5-15-06
 REGISTERED PROFESSIONAL SURVEYOR DATE:

SMITHFIELD, RI
 EXISTING CONDITIONS PLAN FOR
 370 GWH, LLC.
 CLASS I SURVEY OF
 A.P. 48 LOT 3
 RESERVOIR ROAD & GEO. WASH. HWY.
 BY
 MARSH SURVEYING INC.
 640 GEO. WASH. HWY. LINCOLN, RI
 (401) 334-0600

DECEMBER 13, 2005
 SHEET 1 OF 4
 2 of 12
 -Per RIDEM
 JUL 10 2009

NO.	DATE	DESCRIPTION	BY
	4/17/06	ADDED TOPO	FT
	5/11/06	VARIOUS REVISIONS (ADDED HIGHWAY INFORMATION TO LYDIA ANN ROAD & DRAINAGE ON WASH. HWY.)	FT

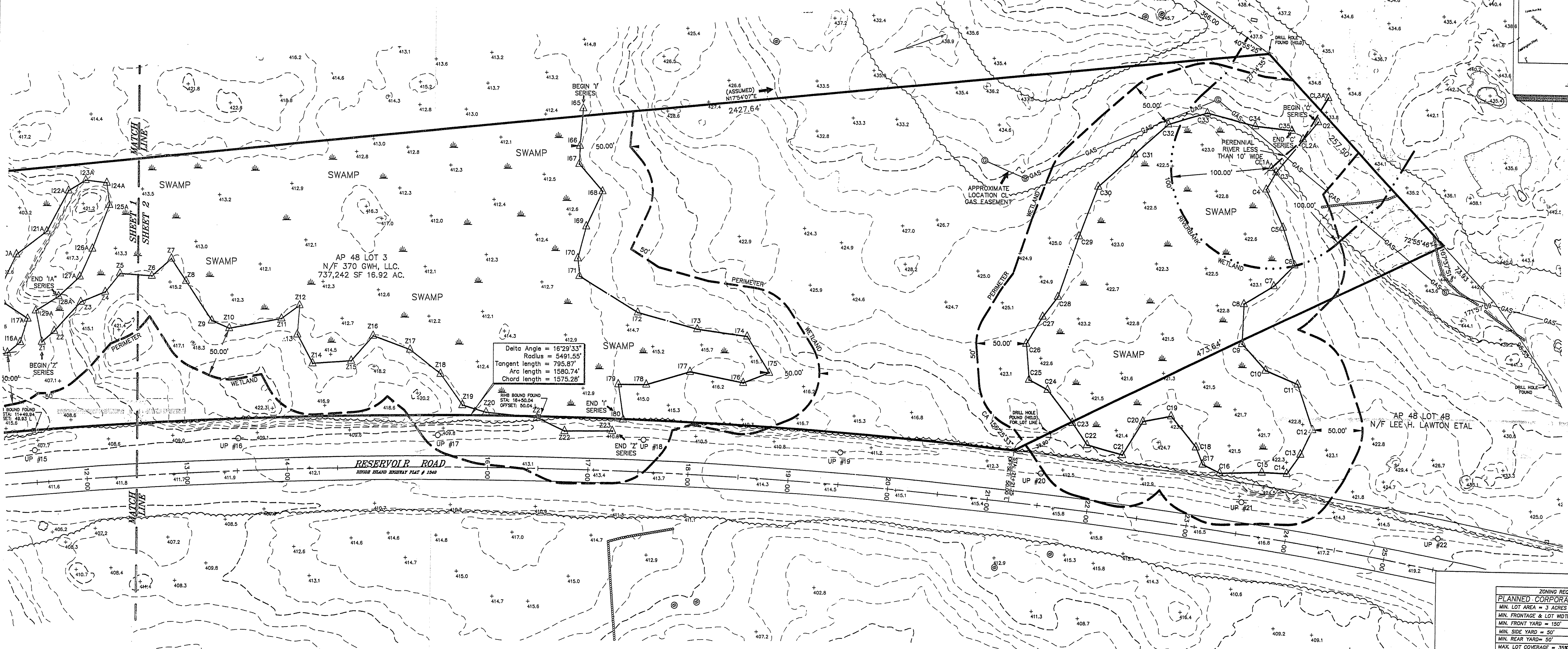
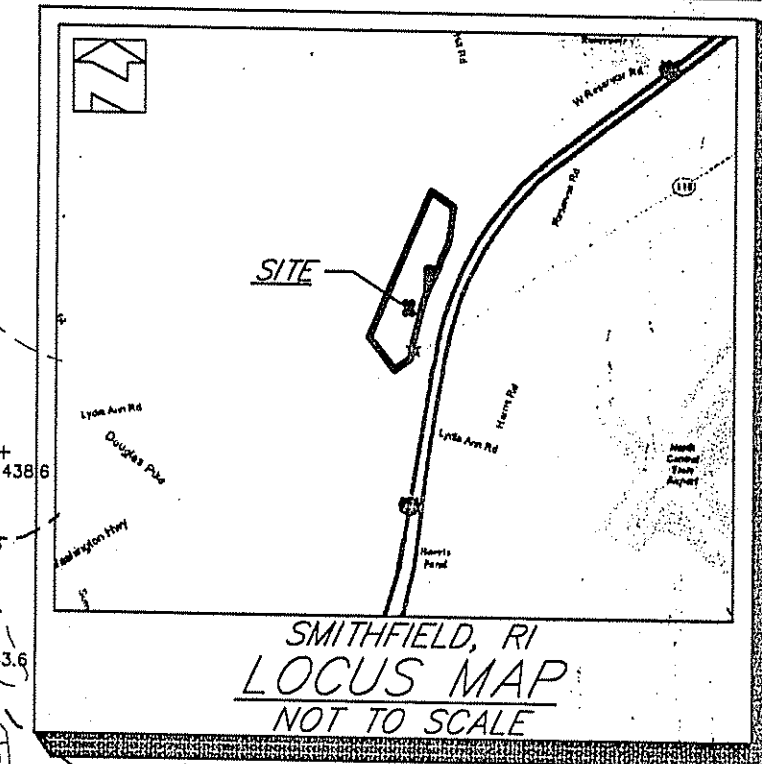
THIS PLAN TO BE INDEXED BY THE FOLLOWING:
 RESERVOIR ROAD & GEO. WASH. HWY.

REFERENCE PLANS:

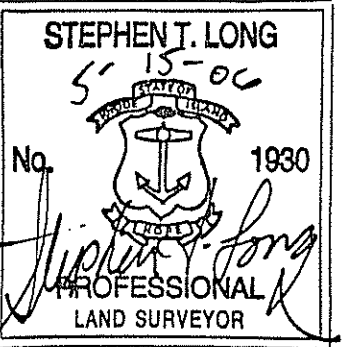
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 - RHIB FOUND RHODE ISLAND HIGHWAY BOUND FOUND
 - GUARD RAIL
 - EXISTING CONTOURS
 - EXISTING PROPERTY LINE
 - EXISTING UTILITY POLE
 - EXISTING UTILITY POLE WITH LIGHT
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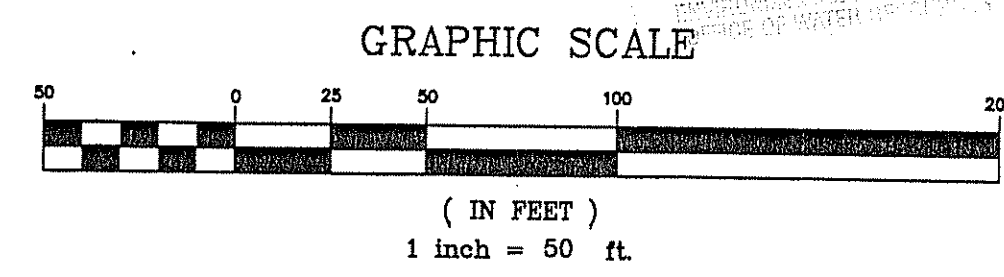
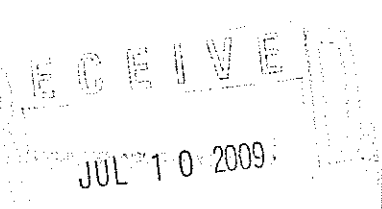
ZONING REQUIREMENTS	
PLANNED CORPORATE (SINGLE SITE)	
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MAX. LOT COVERAGE = 35%	
MAXIMUM HEIGHT = 45'	
SEE SMITHFIELD ZONING REG.'S FOR ADDITIONAL INFO.	

THIS SURVEY AND PLAN CONFORM TO THE FOLLOWING STANDARDS AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. HORIZONTAL: CLASS I TOPOGRAPHIC: CLASS III

BY: *Stephen J. Long* 5-15-06
REGISTERED PROFESSIONAL LAND SURVEYOR DATE:

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL.
DATED JUL 2 2 2009 FILE # 07-000
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

EXISTING CONDITIONS PLAN FOR
370 GWH, LLC.
CLASS I SURVEY OF
A.P. 48 LOT 3
RESERVOIR ROAD & GEO. WASH. HWY.
BY
MARSH SURVEYING INC.
640 GEO. WASH. HWY. LINCOLN, RI
(401) 334-0600
DECEMBER 13, 2005

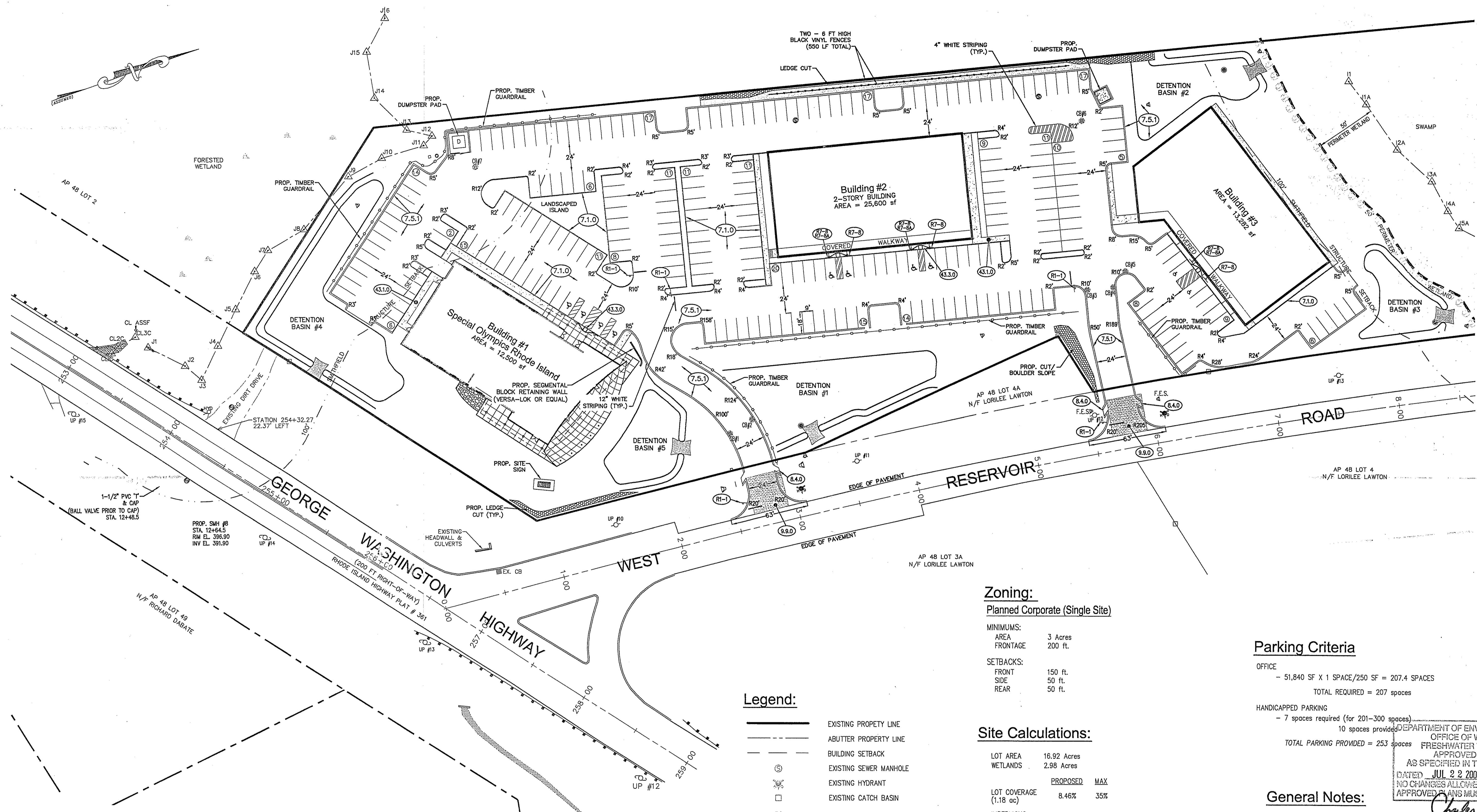


SHEET 2 OF 4
3 of 12 - Per RIDEM

NO.	DATE	DESCRIPTION	BY
	4/17/06	ADDED TOPO	FT
	5/11/06	VARIOUS REVISIONS (ADDED HIGHWAY INFORMATION TO LYDIA ANN ROAD & DRAINAGE ON WASH. HWY.)	FT

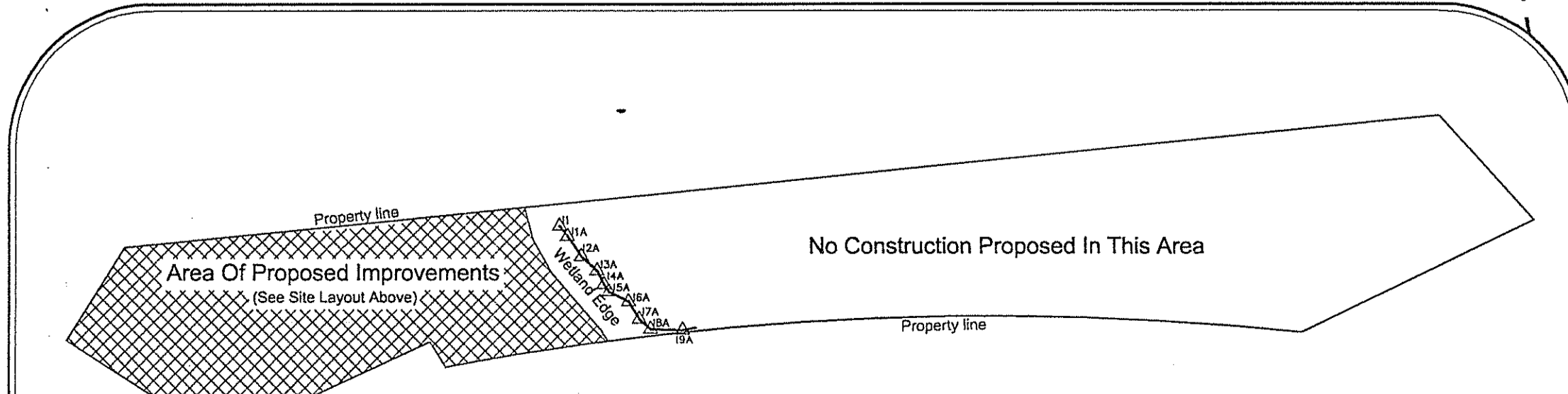
THIS PLAN TO BE INDEXED BY THE FOLLOWING:
RESERVOIR ROAD & GEO. WASH. HWY.

LAND PROJECTS 2004/AS-094/FORM 10 SURVEY/04 5/12/2008 10:14:40 AM EST



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Site Index
Scale 1"=250'



- Legend:**
- EXISTING PROPERTY LINE
 - - - ABUTTER PROPERTY LINE
 - - - BUILDING SETBACK
 - EXISTING SEWER MANHOLE
 - EXISTING HYDRANT
 - EXISTING CATCH BASIN
 - EXISTING WATER VALVE
 - EXISTING UTILITY POLE
 - EXISTING BOUND
 - IRON PIN
 - DRILL HOLE
 - EXISTING DRAINAGE MANHOLE
 - PROPOSED PAVEMENT
 - PROPOSED CURB
 - PROPOSED HYDRANT
 - PROPOSED CATCH BASIN
 - PROPOSED DOUBLE CATCH BASIN
 - PROPOSED DRAINAGE MANHOLE
 - PROPOSED SEWER MANHOLE
 - PROPOSED PHASE LINE
 - PROPOSED # OF PARKING SPACES

Zoning:
Planned Corporate (Single Site)

MINIMUMS:

AREA	3 Acres
FRONTAGE	200 ft.

SETBACKS:

FRONT	150 ft.
SIDE	50 ft.
REAR	50 ft.

Site Calculations:

LOT AREA	16.92 Acres	
WETLANDS	2.98 Acres	
	PROPOSED	MAX
LOT COVERAGE (1.18 ac)	8.46%	35%
IMPERVIOUS SURFACE (3.48 ac)	24.96%	65%

R.I. Standard Callouts

- 7.1.0 PRECAST CONCRETE CURB
- 7.5.1 BITUMINOUS BERM
- 8.4.0 PAVED WATERWAY
- 9.2.0 SILT FENCE
- 9.9.0 CONSTRUCTION ENTRANCE
- 43.1.0 CEMENT CONCRETE SIDEWALK
- 43.3.0 WHEELCHAIR RAMP
- R7-B RESERVED PARKING
- R7-BA VAN ACCESSIBLE
- R1-1 STOP

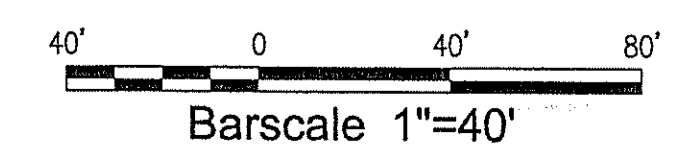
Parking Criteria

OFFICE
- 51,840 SF X 1 SPACE/250 SF = 207.4 SPACES
TOTAL REQUIRED = 207 spaces

HANDICAPPED PARKING
- 7 spaces required (for 201-300 spaces)
10 spaces provided
TOTAL PARKING PROVIDED = 253 spaces

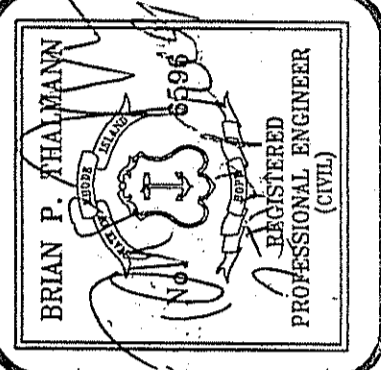
General Notes:

- THIS SITE IS TO BE SERVICED BY PUBLIC SEWER & WATER.
- APPLICANT IS PROPOSING UNDERGROUND UTILITIES, LANDSCAPING, AND LIGHTING TO CONFORM TO SMITHFIELD STANDARDS.
- THE DRAINAGE SYSTEM WILL BE DESIGNED TO MEET THE TOWN OF SMITHFIELD SUBDIVISION REGULATIONS WITH THE USE OF CATCH BASINS, CULVERTS, AND DETENTION BASINS. THE BASINS WILL BE SIZED TO CONTROL THE DISCHARGE OF STORMWATER TO LEVELS WHICH PRESENTLY EXIST FOR THE 2 THROUGH 100-YEAR STORMS. THE STORMWATER MANAGEMENT SYSTEM WILL MEET THE BEST MANAGEMENT PRACTICES OF RIDEM.
- THE SITE IS PROPOSED TO BE BUILT WITH TWO (2) ENTRANCES FOR ACCESS/ EGRESS.
- WETLAND FLAGS WERE DELINEATED BY NATURAL RESOURCE SERVICES, INC.
- A REVIEW OF THE NATIONAL FLOOD INSURANCE PROGRAM FEMA FLOOD INSURANCE RATE MAPS (FIRM) COMMUNITY PANEL NUMBER 440025 00028 INDICATES THE SUBJECT PARCEL LIES WITHIN ZONE X - AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.
- ALL TRAFFIC CONTROLS ARE TO BE IN ACCORDANCE WITH MUTCD 2003.

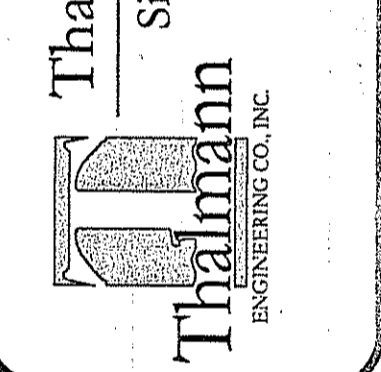


JUL 10 2009

NO.	DATE	REVISION

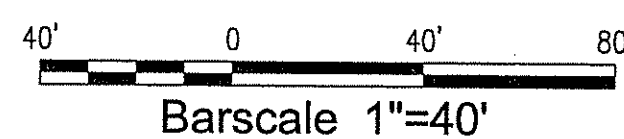
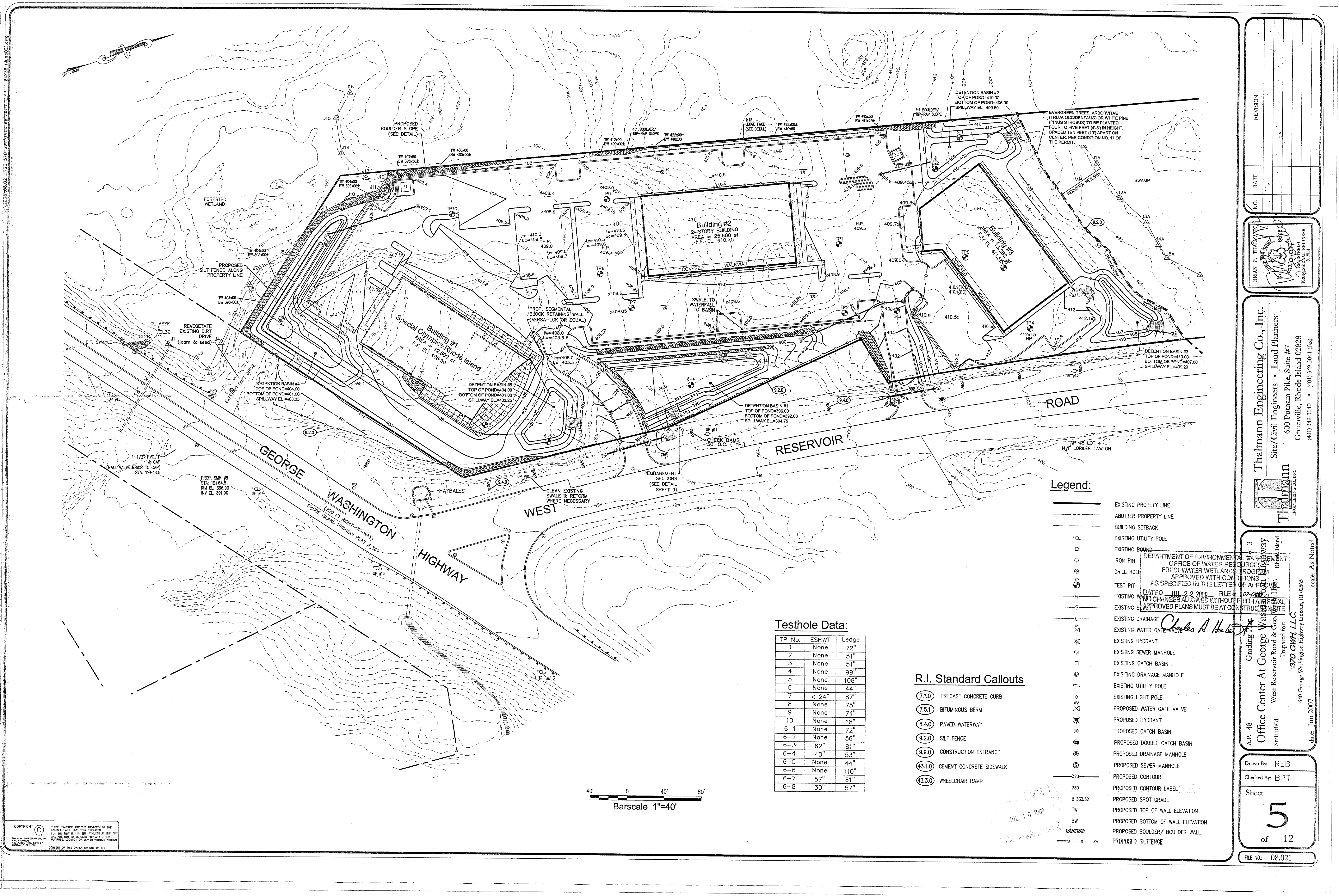


Thalmann Engineering Co., Inc.
Site/Civil Engineers • Land Planners
600 Putnam Pike, Suite #7
Greenville, Rhode Island 02828
(401) 349-3040 • (401) 349-3041 (fax)



Lot 3
A.P. 48
Office Center At George Washington Highway
West Reservoir Road & Geo. Wash. Hwy.
Smithfield
Rhode Island
Prepared for:
370 GWH, LLC
640 George Washington Highway, Lincoln, RI 02865
date: Jan 2007
scale: As Noted

Drawn By: REB
Checked By: BPT
Sheet
4
of 12
FILE NO.: 08.021



Testhole Data:

TP No.	ESHT	Ledge
1	None	72"
2	None	51"
3	None	51"
4	None	99"
5	None	108"
6	None	44"
7	< 24"	87"
8	None	75"
9	None	74"
10	None	18"
6-1	None	72"
6-2	None	56"
6-3	62"	81"
6-4	40"	53"
6-5	None	44"
6-6	None	110"
6-7	57"	61"
6-8	30"	57"

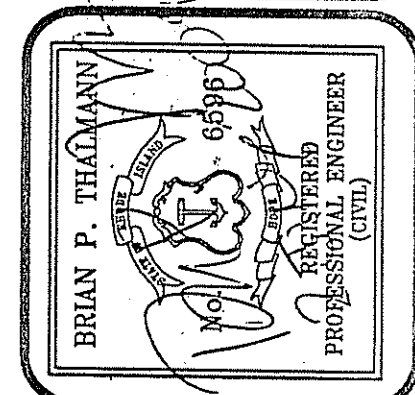
R.I. Standard Callouts

- (7.1.0) PRECAST CONCRETE CURB
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- (9.2.0) SILT FENCE
- (9.9.0) CONSTRUCTION ENTRANCE
- (43.1.0) CEMENT CONCRETE SIDEWALK
- (43.3.0) WHEELCHAIR RAMP

Legend:

- EXISTING PROPERTY LINE
- - - ABUTTER PROPERTY LINE
- - - BUILDING SETBACK
- EXISTING UTILITY POLE
- EXISTING BOUND
- DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES FRESHWATER WETLANDS PROGRAM APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED JUL 2 2 2000 FILE 02-000-0000
- EXISTING WADSWORTH ROAD
- EXISTING SEWER
- D — EXISTING DRAINAGE
- W — EXISTING WATER GATE VALVE
- H — EXISTING HYDRANT
- S — EXISTING SEWER MANHOLE
- C — EXISTING CATCH BASIN
- M — EXISTING DRAINAGE MANHOLE
- U — EXISTING UTILITY POLE
- L — EXISTING LIGHT POLE
- V — PROPOSED WATER GATE VALVE
- H — PROPOSED HYDRANT
- S — PROPOSED CATCH BASIN
- C — PROPOSED DOUBLE CATCH BASIN
- M — PROPOSED DRAINAGE MANHOLE
- S — PROPOSED SEWER MANHOLE
- C — PROPOSED CONTOUR
- C — PROPOSED CONTOUR LABEL
- X 333.32 PROPOSED SPOT GRADE
- TW PROPOSED TOP OF WALL ELEVATION
- BW PROPOSED BOTTOM OF WALL ELEVATION
- ooooo PROPOSED BOULDER/ BOULDER WALL
- PROPOSED SILTFENCE

NO.	DATE	REVISION

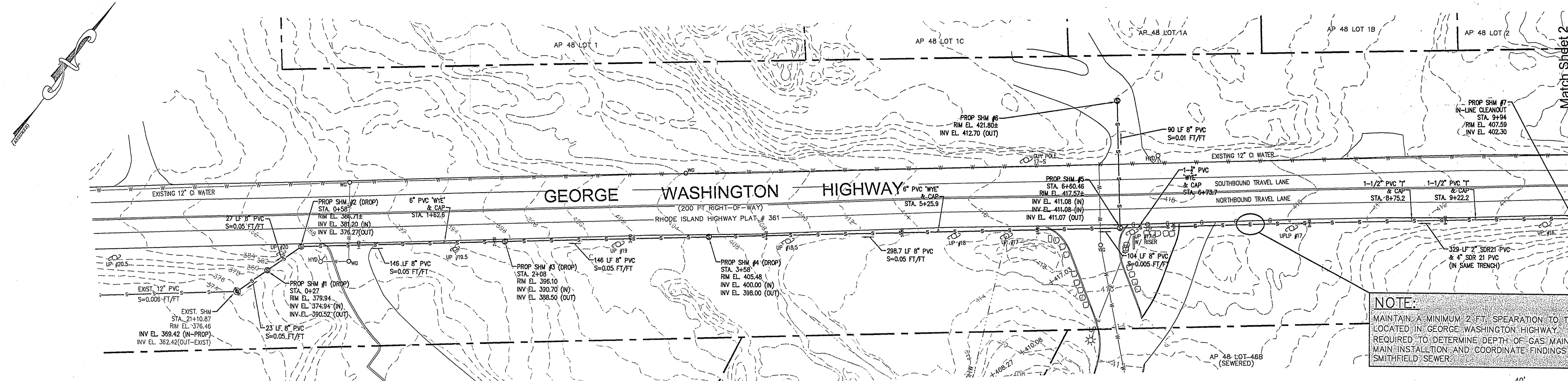


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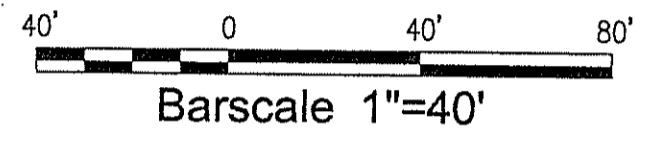
Office Center At George Washington Highway West Reservoir Road & Geo. Washington Highway
 Smithfield
 Prepared for: 370 GWH, LLC
 640 George Washington Highway Lincoln, RI 02865
 date: Jun 2007
 scale: As Noted

Drawn By: REB
 Checked By: BPT
 Sheet 5 of 12
 FILE NO.: 08.021

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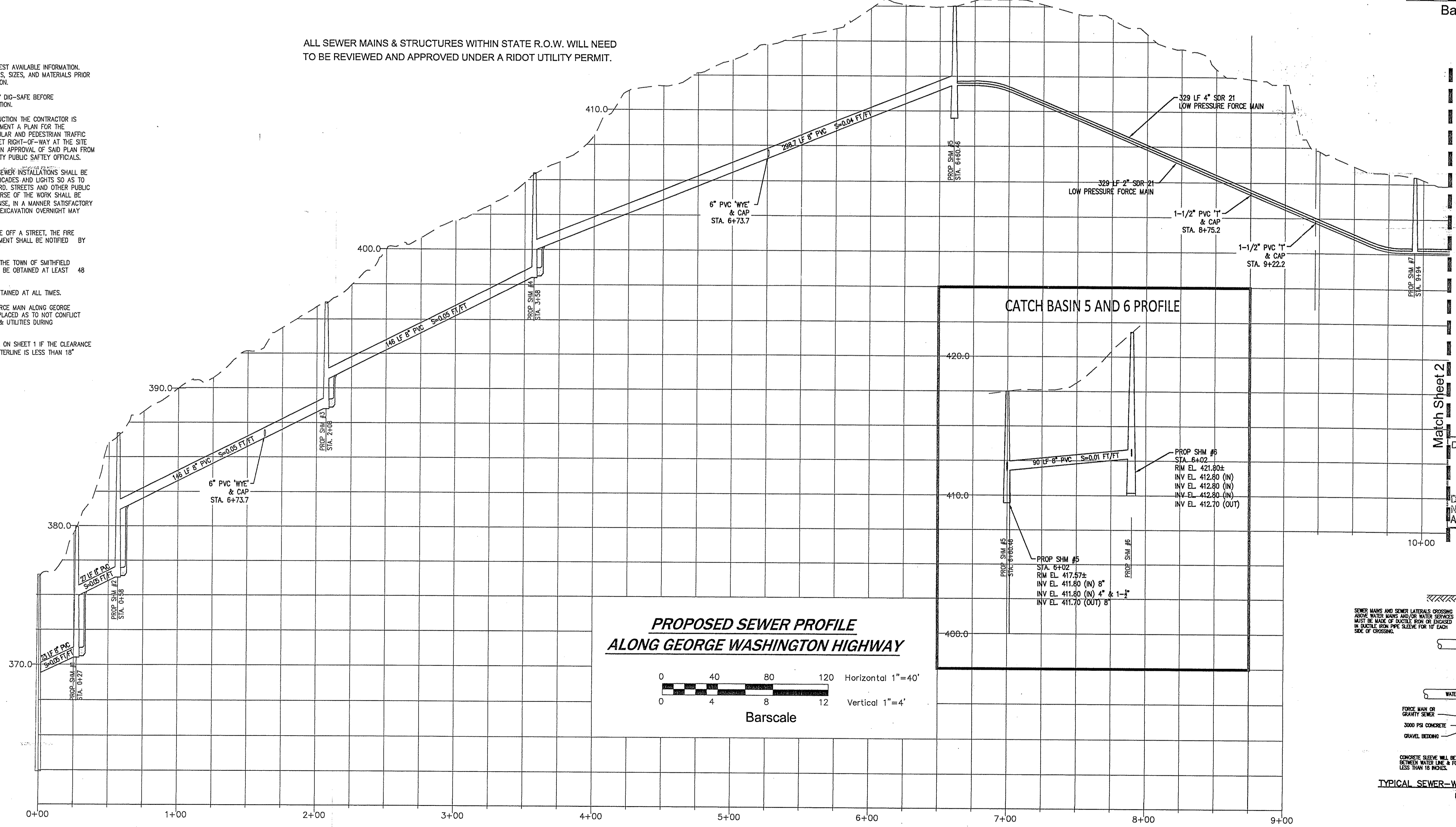
NOTE:
 MAINTAIN A MINIMUM 2'-0" SEPARATION TO THE GAS MAIN AS LOCATED IN GEORGE WASHINGTON HIGHWAY. CONTRACTOR IS REQUIRED TO DETERMINE DEPTH OF GAS MAIN PRIOR TO SEWER MAIN INSTALLATION AND COORDINATE FINDINGS WITH SMITHFIELD SEWER.



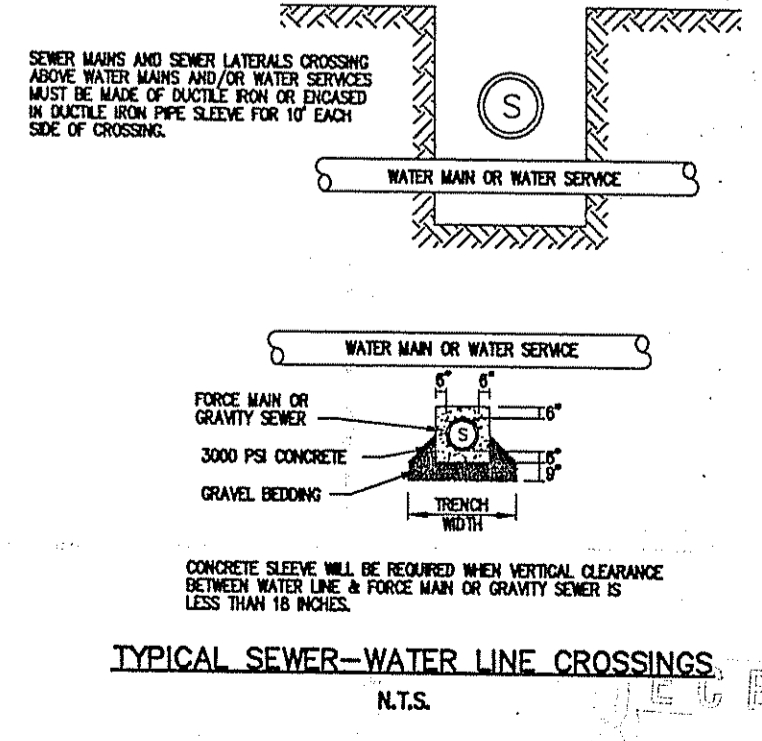
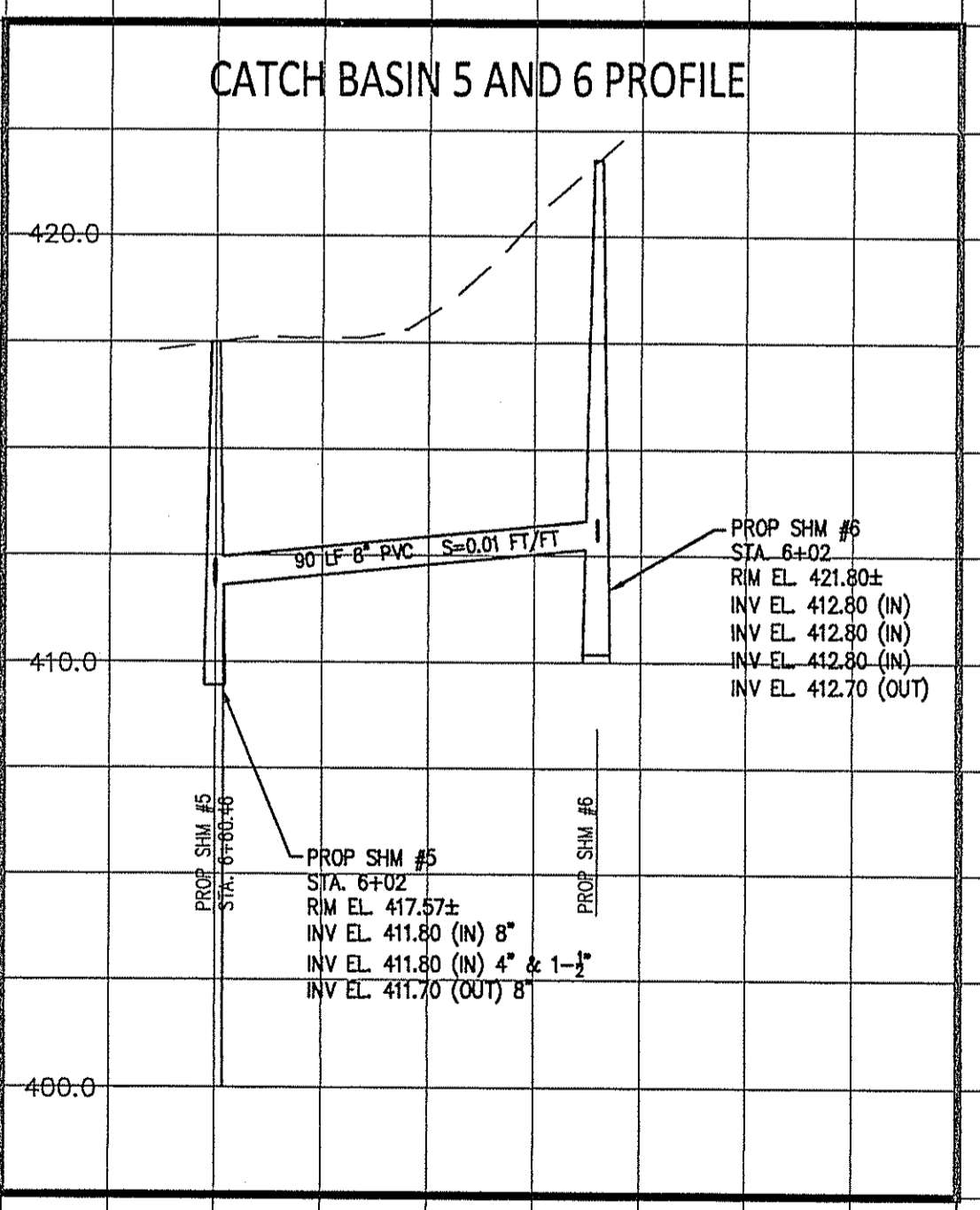
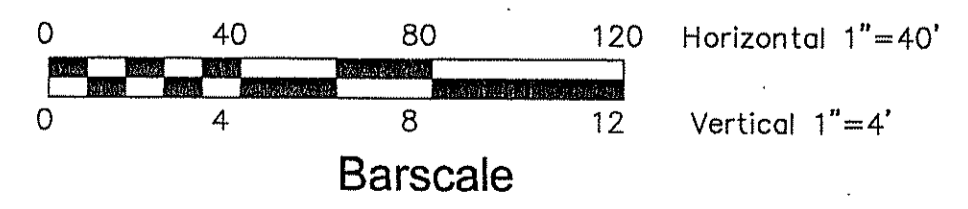
Additional Notes:

- UTILITIES WERE PLOTTED FROM BEST AVAILABLE INFORMATION. CONTRACTOR TO VERIFY LOCATIONS, SIZES, AND MATERIALS PRIOR TO COMMENCING ANY CONSTRUCTION.
- CONTRACTOR REQUIRED TO NOTIFY DIG-SAFE BEFORE COMMENCING ANY SITE CONSTRUCTION.
- PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR IS REQUIRED TO DEVELOP AND IMPLEMENT A PLAN FOR THE TEMPORARY CONTROL OF VEHICULAR AND PEDESTRIAN TRAFFIC FOR WORK WITHIN PUBLIC STREET RIGHT-OF-WAY AT THE SITE EGRESS. CONTRACTOR TO OBTAIN APPROVAL OF SAID PLAN FROM APPROPRIATE STATE AND COMMUNITY PUBLIC SAFETY OFFICIALS.
- ALL EXCAVATIONS FOR BUILDING SEWER INSTALLATIONS SHALL BE ADEQUATELY GUARDED WITH BARRICADES AND LIGHTS SO AS TO PROTECT THE PUBLIC FROM HAZARD. STREETS AND OTHER PUBLIC PROPERTY DISTURBED IN THE COURSE OF THE WORK SHALL BE RESTORED AT THE OWNER'S EXPENSE, IN A MANNER SATISFACTORY TO THE TOWN, BACK FILLING THE EXCAVATION OVERNIGHT MAY BE REQUIRED.
- WHEN IT IS NECESSARY TO CLOSE OFF A STREET, THE FIRE DEPARTMENT AND POLICE DEPARTMENT SHALL BE NOTIFIED BY THE CONTRACTOR.
- A STREET OPENING PERMIT FROM THE TOWN OF SMITHFIELD PUBLIC WORKS DEPARTMENT MUST BE OBTAINED AT LEAST 48 HOURS IN ADVANCE.
- DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.
- FINAL LOCATION OF PROPOSED FORCE MAIN ALONG GEORGE WASHINGTON HIGHWAY SHALL BE PLACED AS TO NOT CONFLICT WITH EXISTING TELEPHONE POLES & UTILITIES DURING CONSTRUCTION.
- CONTRACTOR TO REFER TO DETAIL ON SHEET 1 IF THE CLEARANCE BETWEEN THE WATERMAIN AND WATERLINE IS LESS THAN 18"

ALL SEWER MAINS & STRUCTURES WITHIN STATE R.O.W. WILL NEED TO BE REVIEWED AND APPROVED UNDER A RIDOT UTILITY PERMIT.



**PROPOSED SEWER PROFILE
 ALONG GEORGE WASHINGTON HIGHWAY**



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED JUL 9 2 2009 FILE # 07-0010
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Harbert

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NO.	DATE	REVISION

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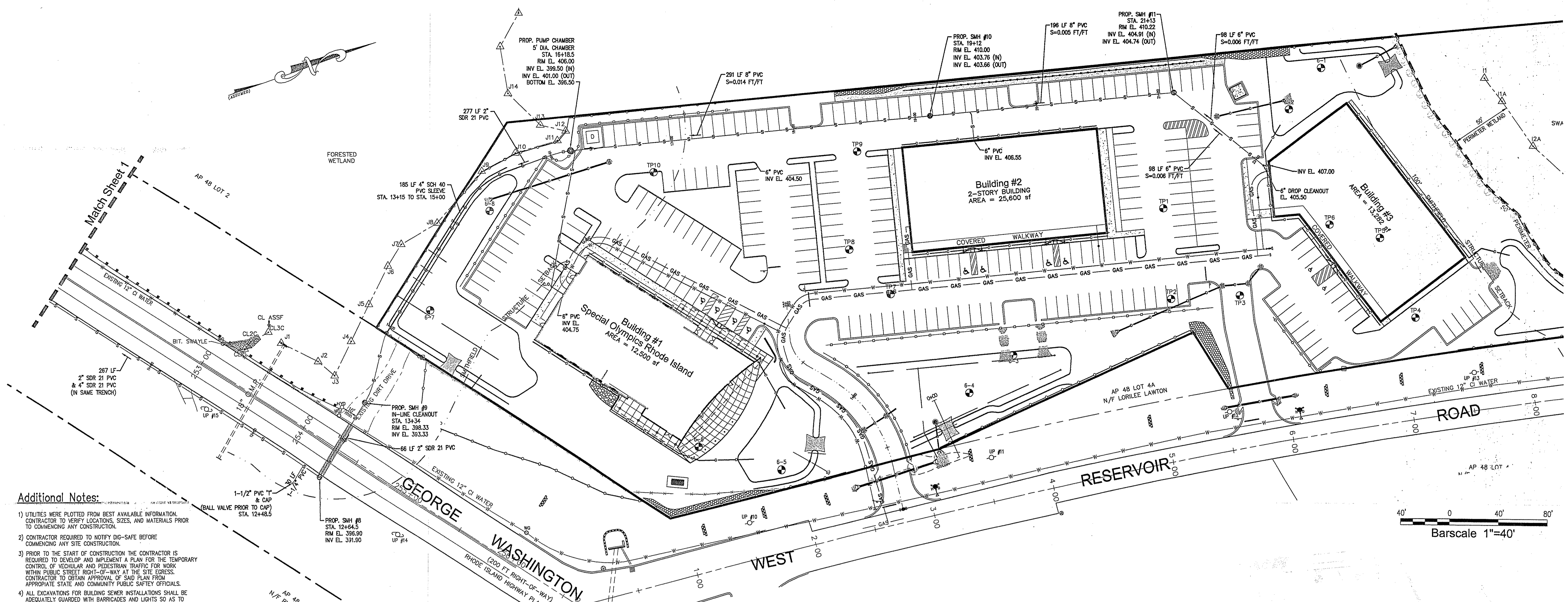
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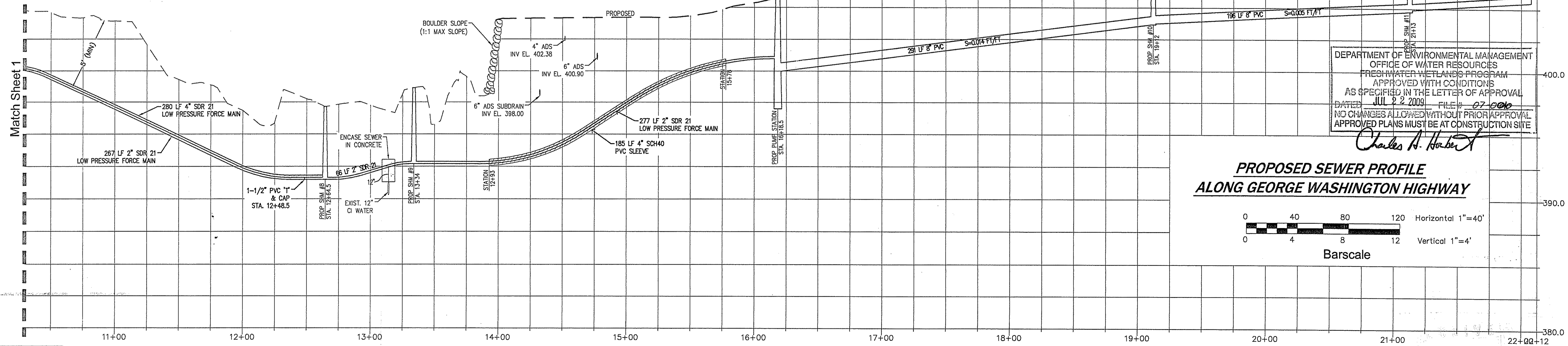
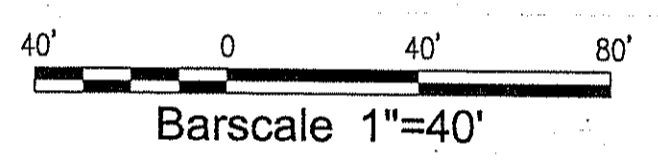
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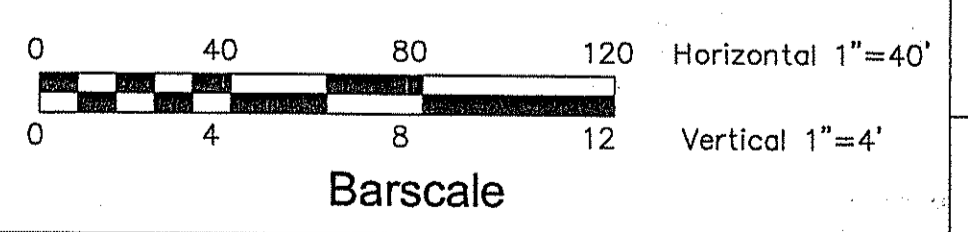


- Additional Notes:**
- 1) UTILITIES WERE PLOTTED FROM BEST AVAILABLE INFORMATION. CONTRACTOR TO VERIFY LOCATIONS, SIZES, AND MATERIALS PRIOR TO COMMENCING ANY CONSTRUCTION.
 - 2) CONTRACTOR REQUIRED TO NOTIFY DIG-SAFE BEFORE COMMENCING ANY SITE CONSTRUCTION.
 - 3) PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR IS REQUIRED TO DEVELOP AND IMPLEMENT A PLAN FOR THE TEMPORARY CONTROL OF VEHICULAR AND PEDESTRIAN TRAFFIC FOR WORK WITHIN PUBLIC STREET RIGHT-OF-WAY AT THE SITE EGRESS. CONTRACTOR TO OBTAIN APPROVAL OF SAID PLAN FROM APPROPRIATE STATE AND COMMUNITY PUBLIC SAFETY OFFICIALS.
 - 4) ALL EXCAVATIONS FOR BUILDING SEWER INSTALLATIONS SHALL BE ADEQUATELY GUARDED WITH BARRICADES AND LIGHTS SO AS TO PROTECT THE PUBLIC FROM HAZARD. STREETS AND OTHER PUBLIC PROPERTY DISTURBED IN THE COURSE OF THE WORK SHALL BE RESTORED AT THE OWNER'S EXPENSE, IN A MANNER SATISFACTORY TO THE TOWN. BACK FILLING THE EXCAVATION OVERNIGHT MAY BE REQUIRED.
 - 5) WHEN IT IS NECESSARY TO CLOSE OFF A STREET, THE FIRE DEPARTMENT AND POLICE DEPARTMENT SHALL BE NOTIFIED BY THE CONTRACTOR.
 - 6) A STREET OPENING PERMIT FROM THE TOWN OF SMITHFIELD PUBLIC WORKS DEPARTMENT MUST BE OBTAINED AT LEAST 48 HOURS IN ADVANCE.
 - 7) DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.
 - 8) FINAL LOCATION OF PROPOSED FORCE MAIN ALONG GEORGE WASHINGTON HIGHWAY SHALL BE PLACED AS TO NOT CONFLICT WITH EXISTING TELEPHONE POLES & UTILITIES DURING CONSTRUCTION.

ALL SEWER MAINS & STRUCTURES WITHIN STATE R.O.W. WILL NEED TO BE REVIEWED AND APPROVED UNDER A RIDOT UTILITY PERMIT.



**PROPOSED SEWER PROFILE
ALONG GEORGE WASHINGTON HIGHWAY**



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUL 2 2009 FILE # 07-006
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Harber

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JUL 10 2009

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GENERAL CONSTRUCTION NOTES

1. THE CONTRACTOR IS TO NOTIFY DIG SAFE PRIOR TO CONSTRUCTION. (1-888-225-1977).
2. NO STOCKPILING OF MATERIAL IS TO BE ALLOWED WITHIN A PUBLIC R.O.W. NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
3. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS TO NOTIFY THE DIRECTOR OF PUBLIC WORKS, THE TOWN ENGINEER, AND ADMINISTRATIVE OFFICE AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
5. ALL WORK PERFORMED HEREIN SHALL BE COVERED BY THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF SMITHFIELD STANDARD SPECIFICATIONS AND DETAILS.
6. THE TOWN RESERVES THE RIGHT TO ADD ADDITIONAL TEMPORARY SEDIMENT BASINS & SEDIMENT PROTECTION DURING CONSTRUCTION.

SEQUENCE AND STAGING OF LAND DISTURBING ACTIVITIES

1. SURVEY AND STAKE THE DRIVEWAYS, DRAINAGE STRUCTURES, STORMWATER DETENTION AREAS, BUILDING CORNERS, AND THE LIMIT OF WORK AND SEDIMENTATION BARRIERS.
2. PLACE SEDIMENTATION BARRIERS (HAY BALES 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. EXCAVATE, LOAM, AND SEED DETENTION BASINS AS SHOWN ON PLAN.
4. BEGIN DRIVEWAYS, PARKING AREAS, AND DRAINAGE WORK (CLEANING AND GRUBBING, EXCAVATING AND GRADING, ETC.). TOP SOIL TO BE STRIPPED AND STOCKPILED IN APPROVED AREAS PER TOWN ENGINEER. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIER AND COVERED OR TEMPORARILY SEEDED. NO RUNOFF IS TO BE DISCHARGED TO THE DETENTION AREAS UNTIL THE UNDER COURSE OF PAVEMENT IS INSTALLED AND DISTURBED AREAS ARE STABILIZED WITH VEGETATION.
5. INSTALL UTILITIES AS SHOWN FROM RESPECTIVE WORK PLANS.
6. BEGIN BUILDINGS AND LANDSCAPING WHILE UNDER CONSTRUCTION.
7. FINISH BUILDINGS AND SITE WORK.
8. FINISH LANDSCAPING AND PERMANENT STABILIZATION. SWEEP THE PAVED AREAS TO REMOVE ALL SEDIMENTS.
9. REPAIR DRAINAGE AREAS AS REQUIRED.
10. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING VEGETATIVE ESTABLISHMENT OF ALL DISTURBED AREAS.

MAINTENANCE: SHORT TERM/LONG TERM

1. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED, AND MAINTAINED BY THE CONTRACTOR. 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 A PERIOD OF SIX MONTHS AND SHALL DO SO AT THE CONTRACTOR'S 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 TOP SOIL STOCKPILES AND SEDIMENT BARRIERS THROUGHOUT CONSTRUCTION. EXTREME CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENTS DO NOT SPILL OVER THE SEDIMENT BARRIER.
5. THE HAY BALES OR SILT FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR BLOWN OVER. THE CONTRACTOR SHALL REPAIR OR REPLACE THE HAY BALES AS NECESSARY. CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT AT HALF OF THE ORIGINAL HEIGHT OF THE BALES BECOMES FILLED IN WITH SEDIMENTS.
6. THE STONE STABILIZATION PADS AT THE SITE ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR. 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 PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE DRAINAGE SYSTEM 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. REMOVED ACCUMULATED SEDIMENT SHALL BE RESEEDING WITH GRASS TO A GROWING HEIGHT BETWEEN 2"-10". EXCAVATION OF SILT SHALL BE MANUAL SHOVELS AND HERRINGBONES ONLY. REMOVE ALL WOODY VEGETATION FROM POND EMBANKMENTS. REMOVE ALL LITTER FROM POND.
8. THE OWNER IS RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE DRAINAGE SYSTEM. ALL DRAINAGE SYSTEM COMPONENTS WITHIN THE RIGHT-OF-WAY SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE COMPLETION OF CONSTRUCTION ACTIVITIES. 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 SLUMPS SHALL BE CHECKED ANNUALLY AND SEDIMENTS SHALL BE REMOVED IF THEY EXCEED 0.5' OR 10 YEARS, WHICHEVER COMES FIRST.
9. SIDE SLOPES, EMBANKMENTS, AND THE UPPER STAGE OF THE DETENTION PONDS SHOULD BE MOWED AT LEAST ONCE PER GROWING SEASON (PREFERABLY AFTER AUGUST 15th) TO PREVENT UNWANTED WOODY GROWTH. ALL TRASH AND LITTER SHALL BE REMOVED DURING MOWING OPERATIONS.
10. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR THE MAINTENANCE PROGRAM DURING CONSTRUCTION. THE SUPERINTENDENT SHALL SEE THAT THE APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.

GENERAL CONSTRUCTION NOTES

1. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. DEVIATIONS OR CHANGES WILL NOT BE ALLOWED UNLESS APPROVED BY THE ENGINEER.
2. THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
3. BUILDING DIMENSIONS INDICATED ARE PRELIMINARY AND BASED ON GENERAL INFORMATION ONLY. FINAL BUILDING DIMENSIONS AND LAYOUT MAY VARY TO INCLUDE CHANGES TO DRIVEWAY LOCATIONS, GRADES AROUND HOUSES, ETC. HOWEVER, THE LIMIT OF DISTURBANCE SHALL REMAIN THE SAME AS SHOWN.
4. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF IMPROVEMENTS FOR THIS PROJECT SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE TOWN OF SMITHFIELD AND THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION.
5. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ALL EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND ENGINEER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK.
6. CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. ALL WATER, GAS, SEWER, AND OTHER UTILITIES SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, DRIVEWAYS, WALKS, WALLS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
8. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUING AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES AND TO TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION. THE ENGINEER HAS DILIGENTLY ATTEMPTED TO LOCATE AND INDICATE ALL EXISTING UTILITIES ON THESE PLANS; HOWEVER, THIS INFORMATION SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UTILITIES SHOWN OR NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR EXACT LOCATION OF THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND REPLACE ANY AND ALL DAMAGE MADE TO THE UTILITIES BY THE CONTRACTOR.

NONSTRUCTURAL MEASURES

1. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS, DRAINAGE EASEMENTS, AND AREAS TO BE GRADED. HEAVY CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED IN THE PROPOSED INFILTRATION AREAS PRIOR TO INSTALLATION.
2. A STONE STABILIZATION PADS ARE LOCATED AT THE SITE ENTRANCES TO REDUCE THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY.
3. THE ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR. 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 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 LOCATIONS SHALL BE SUBJECT TO APPROVAL BY THE TOWN ENGINEER. A SEDIMENT BARRIER SHOULD SURROUND ALL TOPSOIL STOCKPILES. ALL STOCKPILE AREAS ARE TO BE APPROVED AT THE PRE-CONSTRUCTION MEETING PRIOR TO COMMENCING CONSTRUCTION.
5. HAY BALES OR SILT FENCE SHALL BE INSTALLED DOWNSTREAM OUTSIDE THE LIMITS OF ANY PROPOSED CONSTRUCTION AS SHOWN ON THE SITE PLANS AND PRIOR TO THE COMMENCEMENT OF THE PROPOSED ALTERATION.

STRUCTURAL MEASURES

1. BASIN DETENTION SYSTEMS ARE USED TO CONTROL RUNOFF.
2. A PERMANENT COVER SHALL BE ESTABLISHED IN ACCORDANCE WITH THE VEGETATIVE COVER PROVISIONS. THE SEEDING SHALL EXTEND TO AT LEAST THE ENTIRE TOP AND INCLUDE ANY OTHER AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. ACTIVITIES SHALL BE CONFINED TO WITHIN THE LIMIT OF WORK AS SHOWN ON THE PLANS.
3. WOODY 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 A YEAR AFTER COMPLETION OF CONSTRUCTION. THE OWNER IS RESPONSIBLE THEREAFTER.
5. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE THE OVERALL RESPONSIBILITY FOR STRUCTURAL MEASURES IMPLEMENTATION AND FOR SEEING THAT APPROPRIATE WORKERS ARE AWARE OF THE PROVISIONS OF THE PLAN.
6. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.
7. THE GRASS IN THE BASINS SHALL BE ALLOWED TO GROW BETWEEN 2"-10".
8. THE PERMANENT DETENTION BASIN SHALL BE INSTALLED. COVER WITH TOPSOIL AT THE END OF CONSTRUCTION.
9. ALL EMBANKMENTS OF THE BASINS SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH S.I. STANDARD SPECIFICATION SECTION 202.

SEDIMENT CONTROL PROGRAM

1. DISTURBED AREAS WHICH ARE PARTICULARLY SUSCEPTIBLE TO EROSION SHALL RECEIVE A CRUSHED STONE OR SWAMP ANGIULAR RIP-RAP TREATMENT IF OTHER METHODS OF STABILIZATION ARE UNSUCCESSFUL.
2. BANKS OR SLOPES NOT RECEIVING RIP-RAP SHALL BE SEEDED AND PROTECTED WITH FIBER MULCH.
3. DURING CONSTRUCTION, THE CONTRACTOR AND OR THE DEVELOPER SHALL BE RESPONSIBLE FOR UTILIZING BEST MANAGEMENT PRACTICES TO CONTROL ENVIRONMENTAL DAMAGE THAT COULD RESULT FROM UNCHECKED STORMWATER RUNOFF.
4. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED REGULARLY. SPECIAL ATTENTION SHOULD BE GIVEN AFTER A HEAVY OR PROLONGED RAINFALL.
5. CARE SHALL BE SO AS NOT TO PLACE "REMOVED SEDIMENTS" WITHIN THE PATH OF EXISTING NEWLY CREATED (BOTH TEMPORARY AND PERMANENT) OR PROPOSED WATERCOURSES OR THOSE AREAS SUBJECT TO STORM WATER FLOWAGE.
6. ADDITIONAL HAY BALES, SILT FENCE OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
7. SEDIMENTATION TRAPS SHALL BE PROVIDED AND MAINTAINED AT ALL DRAINAGE STRUCTURES DURING CONSTRUCTION. SPECIAL CARE SHALL BE TAKEN TO INCLUDE EROSION PROTECTION ON UPCATCH BASINS.
8. REFERENCE THE "RHODE ISLAND EROSION AND SEDIMENT CONTROL HANDBOOK" (1989) PREPARED BY THE RI DEPT. OF ENVIRONMENTAL MANAGEMENT, RI STATE CONSERVATION COMMISSION AND THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE AS A PRACTICAL GUIDE.

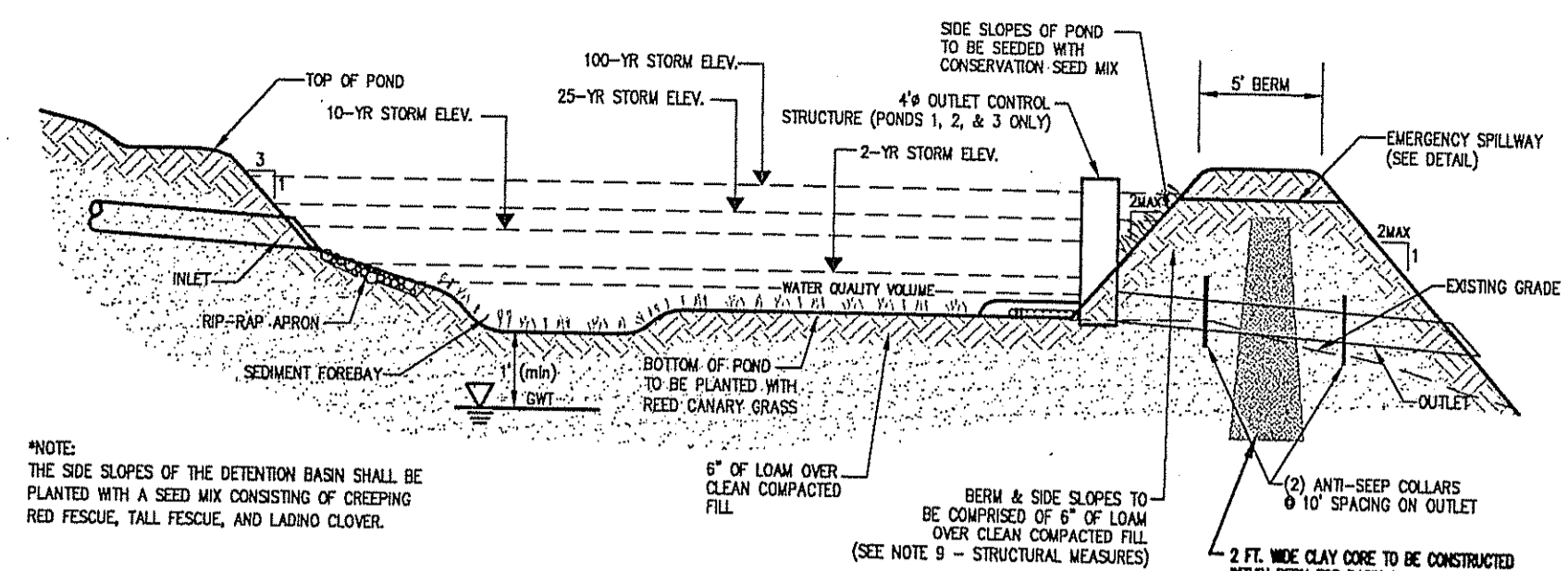
ESTABLISHMENT OF VEGETATIVE COVER

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, BRUSH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH RHODE ISLAND'S STANDARD SPECIFICATION, M.20.
4. THE GENERAL DESIGN MIX FOR REGRADING AREAS SHALL BE COMPRISED OF THE FOLLOWING:

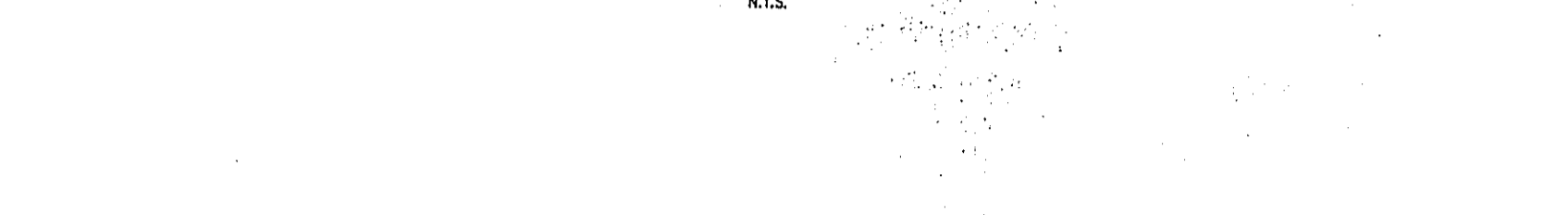
TYPE	LB/SY
CREEPING RED FESCUE	75
KENTUCKY BLUE GRASS	75
COLONIAL BENT GRASS	75
PERENNIAL RYE GRASS	75
5. EARLY SPRING OR LATE SUMMER SEEDING IS RECOMMENDED. LIME AND FERTILIZER AS REQUIRED BY SOIL TESTING TO COMPLEMENT OR UPGRADE EXISTING CONDITIONS THE SEED MIX SHALL BE INCULCATED WITHIN 24 HOURS BEFORE MIXING AND PLANTING. WITH APPROPRIATE INOCULUM FOR EACH VARIETY.
6. TEMPORARY TREATMENTS SHALL CONSIST OF NORTH AMERICAN GREEN EROSION CONTROL BLANKETS OR HAY, STRAW OR FIBER MULCH. 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.
7. ALL HAY BALES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
8. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 202.
9. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAY. THEY SHALL HAVE SIDE SLOPES NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED. STOCKPILES ARE TO BE SURROUNDED BY HAYBALES.
10. 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.
11. 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.
12. REFERENCE THE "RHODE ISLAND SOIL EROSION AND SEDIMENTATION CONTROL HANDBOOK" PREPARED BY THE USDA SOIL CONSERVATION SERVICE 1989, AS A GUIDE.
13. MAXIMUM GRADED SLOPE WITHIN SUBDIVISION TO BE 3:1.
14. TEMPORARY HAY MULCH TO BE TACKED IN PLACE WITH NYLON MESH NETTING.

Description	Basin 1	Basin 2	Basin 3	Basin 4	Basin 5
Top of Basin Elevation	398.00	410.00	410.00	404.00	404.00
100 Year Storm Elevation	394.85	409.70	409.24	403.23	403.31
25 Year Storm Elevation	394.39	409.09	408.85	402.91	403.14
10 Year Storm Elevation	394.08	408.71	408.58	402.67	403.00
2 Year Storm Elevation	393.55	407.99	408.06	402.19	402.78
Water Quality Volume Elev.	392.91	406.78	407.22	401.83	402.77
Bottom of Basin	392.00	406.00	407.00	401.00	401.00
Sediment Forebay	391.50	405.00	399.00	401.00	401.00
QWT Elevation	*390.50	None	None	*400.00	*400.00

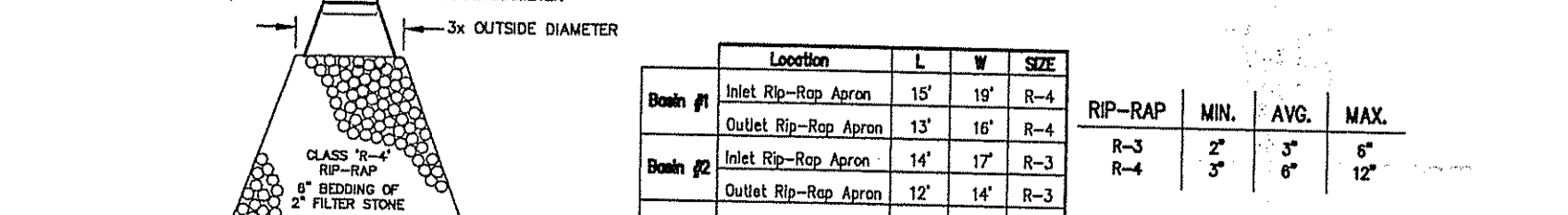
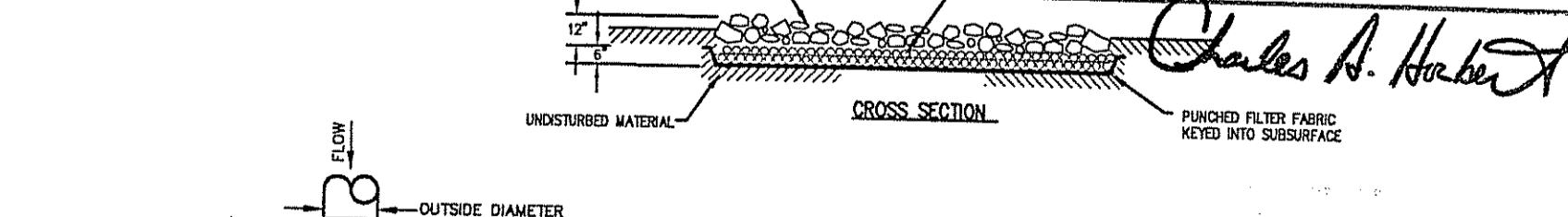
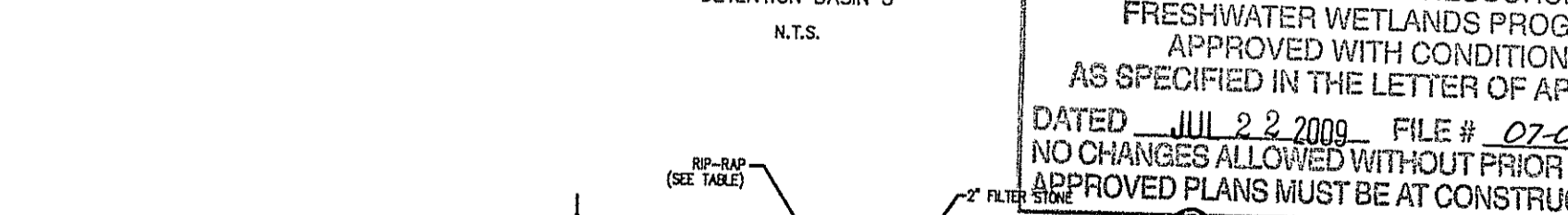
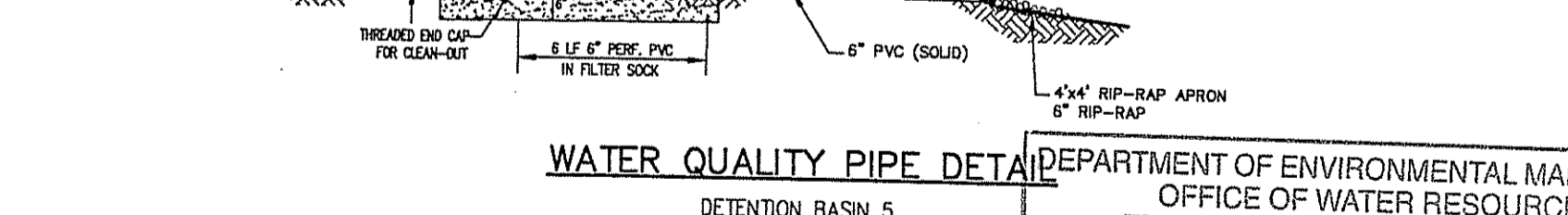
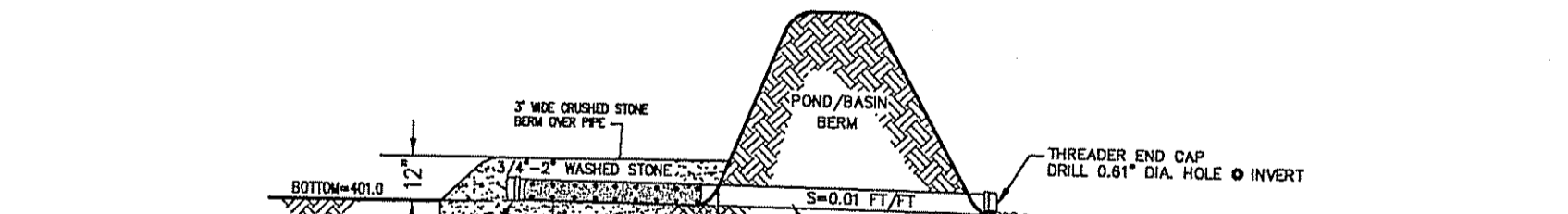
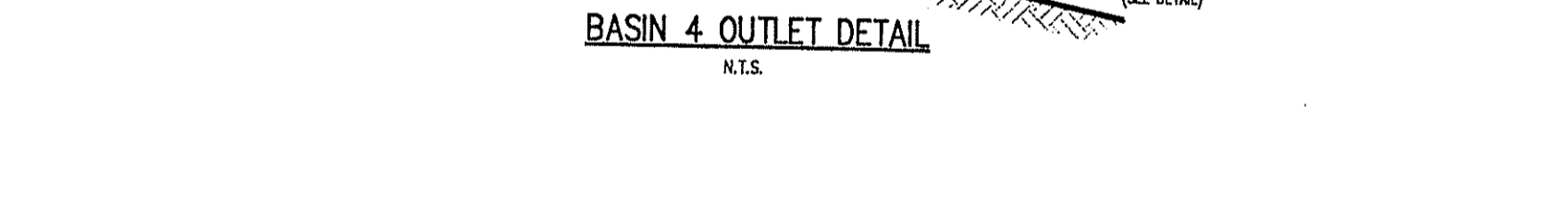
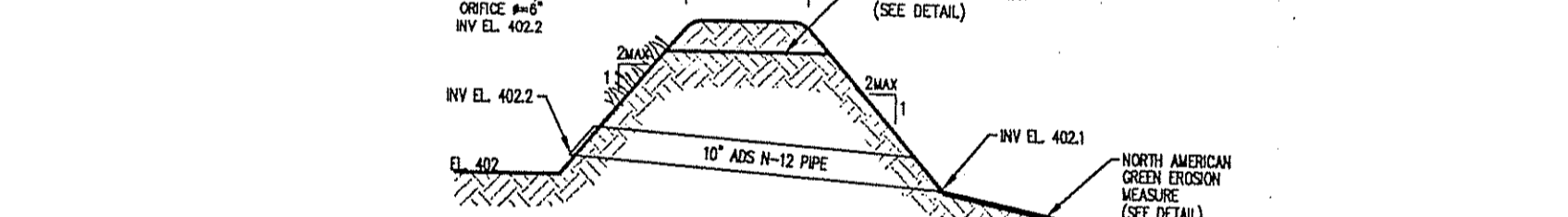
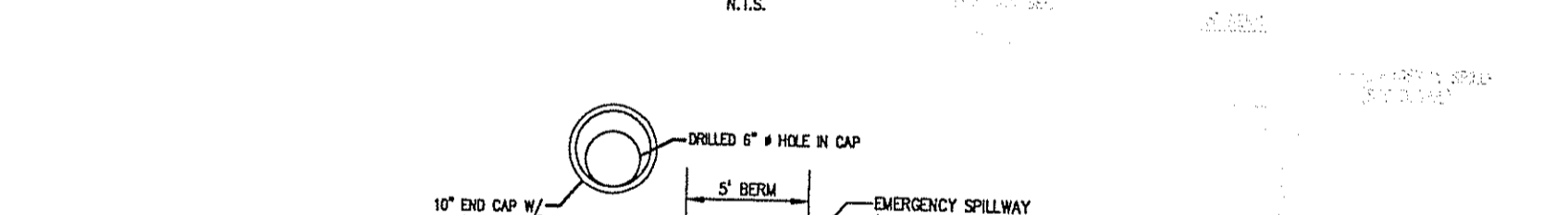
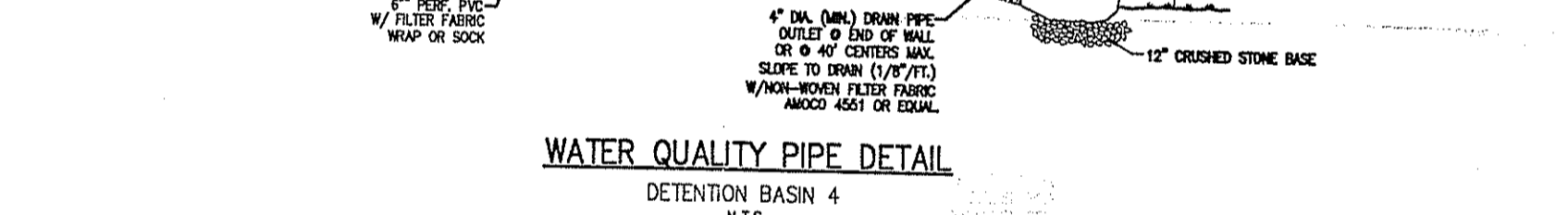
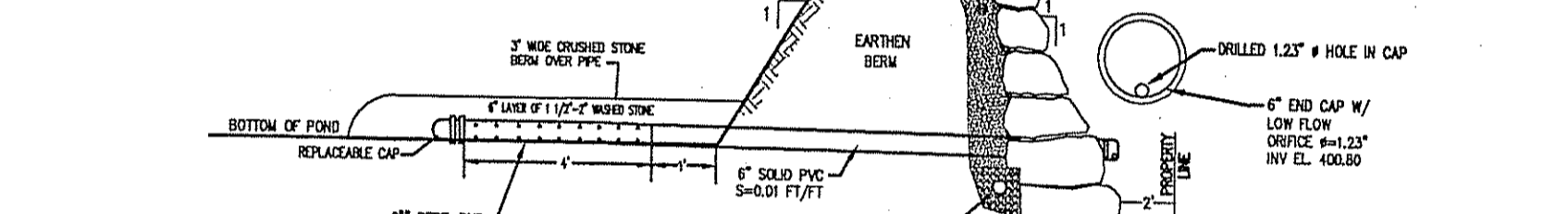
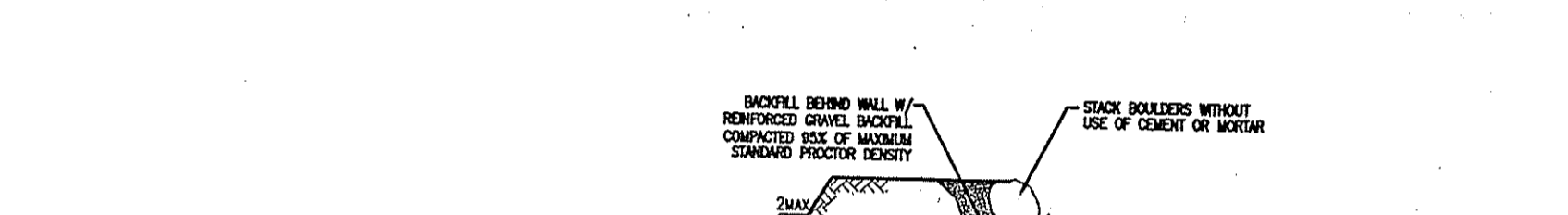
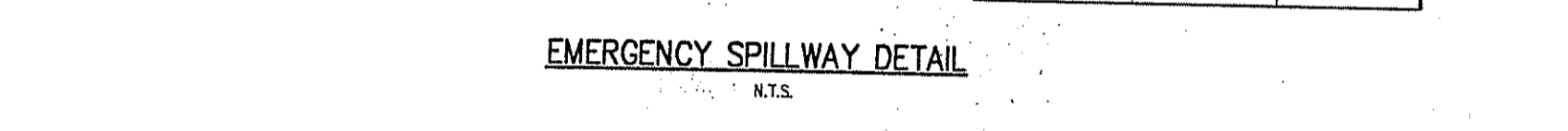
- * WITH THE USE OF SUBIRANS
- FOR BASIN #1:
- EXCAVATE 1 FT ADDITIONAL BELOW SUBIRAN INVERTS TO ALLOW BACKFILL ABOVE PIPE
- ** SEE SHEET 4 FOR MORE DETAIL



NOTE: THE SIDE SLOPES OF THE DETENTION BASIN SHALL BE PLANTED WITH A SEED MIX CONSISTING OF CREEPING RED FESCUE, TALL FESCUE, AND LAMN. CLOVER.



Location	Top of Pond Elev.	Spillway Invert
Detention Basin 1	398.00	394.75
Detention Basin 2	410.00	409.25
Detention Basin 3	410.00	408.75
Detention Basin 4	404.00	403.25
Detention Basin 5	404.00	403.25



Location	L	W	SIZE	RIP-RAP	MIN.	AVG.	MAX.
Basin #1 Inlet Rip-Rap Apron	15'	10'	R-4	R-3	2"	3"	6"
Basin #1 Outlet Rip-Rap Apron	15'	10'	R-4	R-3	2"	3"	6"
Basin #2 Inlet Rip-Rap Apron	14'	17'	R-3	R-3	2"	3"	6"
Basin #2 Outlet Rip-Rap Apron	12'	14'	R-3	R-3	2"	3"	6"
Basin #3 Inlet Rip-Rap Apron	9'	12'	R-4	R-4	2"	3"	6"
Basin #3 Outlet Rip-Rap Apron	9'	12'	R-4	R-4	2"	3"	6"
Basin #4 Inlet Rip-Rap Apron	13'	16'	R-4	R-4	2"	3"	6"
Basin #4 Outlet Rip-Rap Apron	11'	14'	R-4	R-4	2"	3"	6"

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
 Charles A. Herbert
 JUL 10 2009

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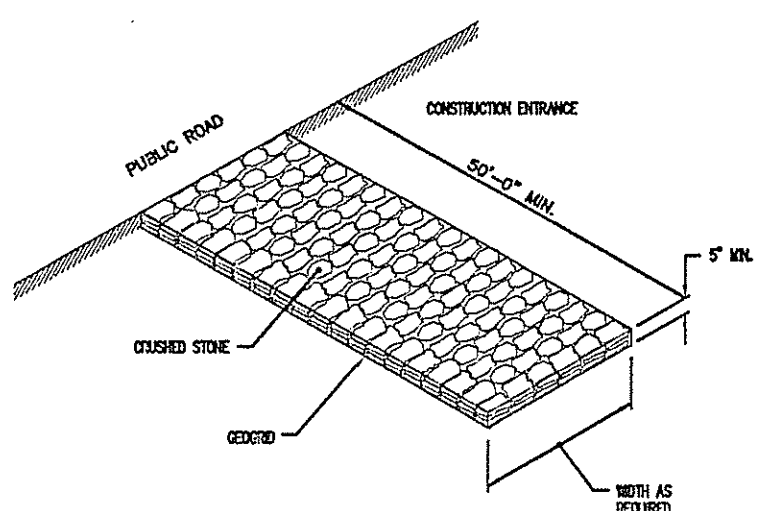
REVISION
 NO. DATE
 BRIAN P. THALMANN
 PROFESSIONAL ENGINEER
 (CIVIL)

Thalman Engineering Co., Inc.
 Site/Civil Engineers • Land Planners
 600 Putnam Pike, Suite #7
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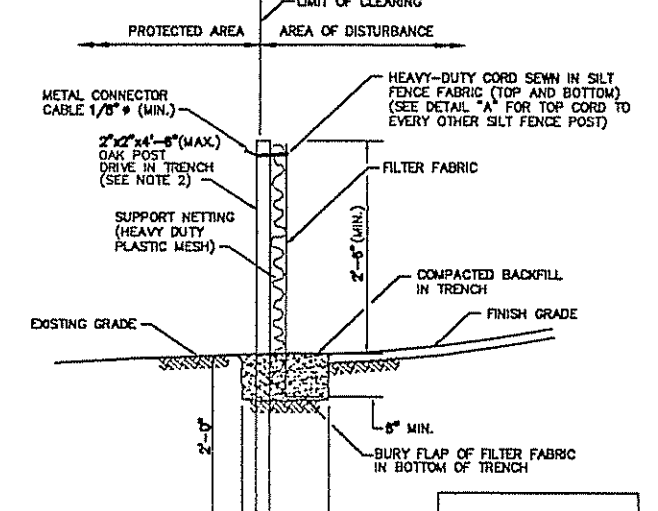
Construction Details 1
 Office Center At George Washington Highway
 West Reservoir Road & Geo. Wash. Hwy.
 Smithfield
 Prepared for:
 370 GWH, LLC
 640 George Washington Highway Lincoln, RI 02865
 Date: Jun 2007
 scale: As Noted

Drawn By: REB
 Checked By: BPT
 Sheet
 of 12
 FILE NO.: 08.021

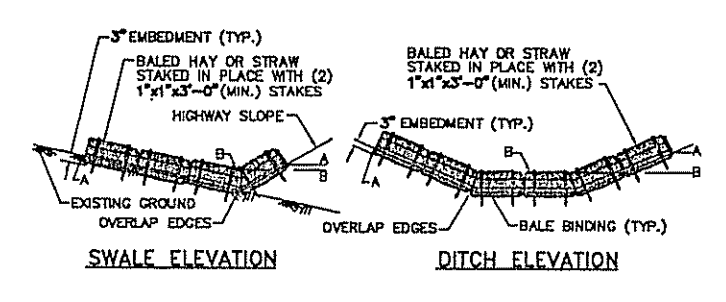
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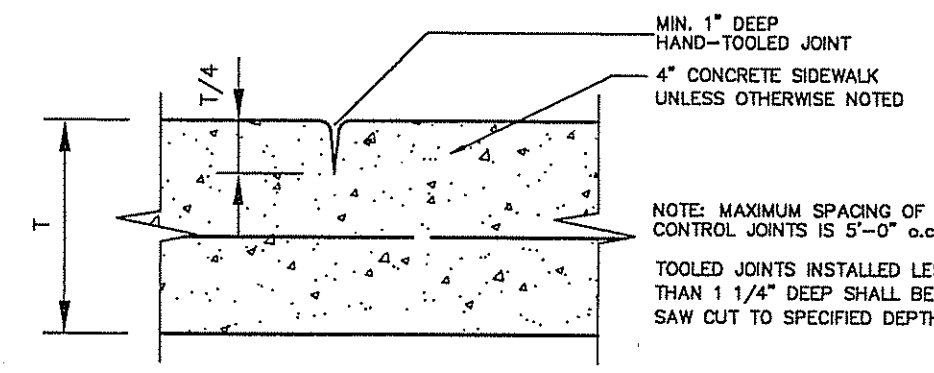
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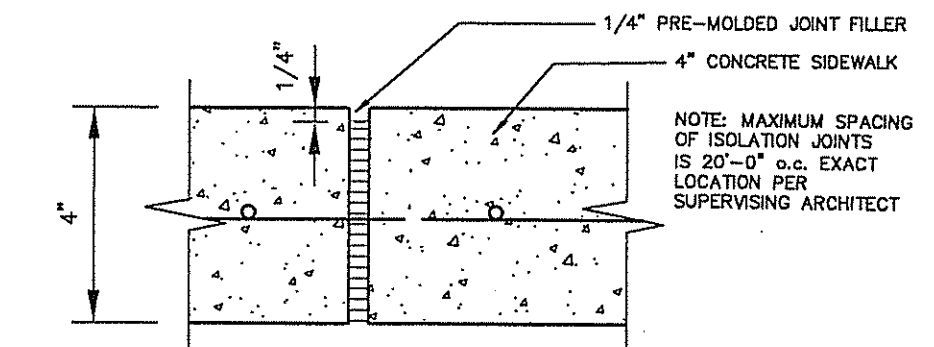
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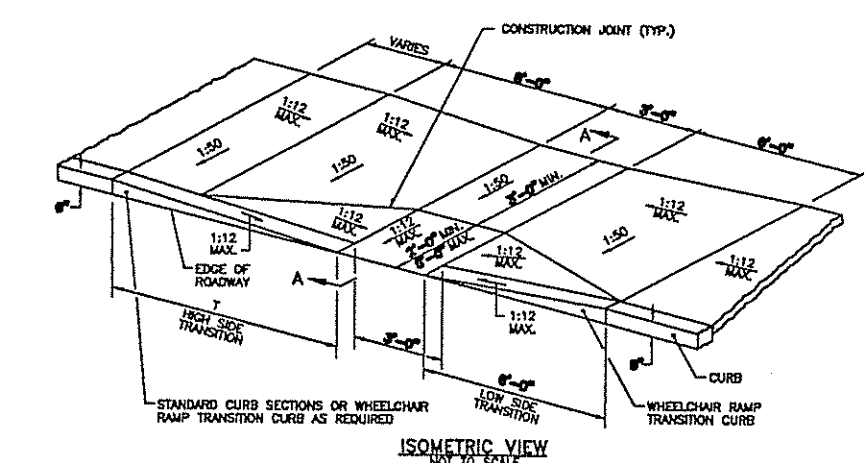
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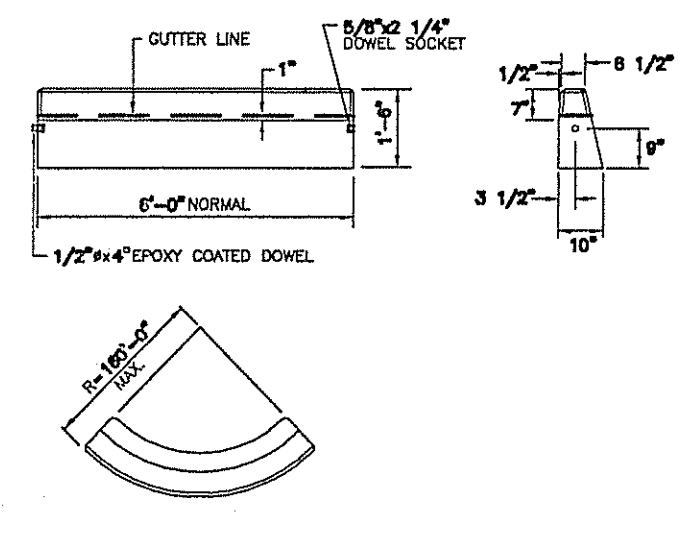
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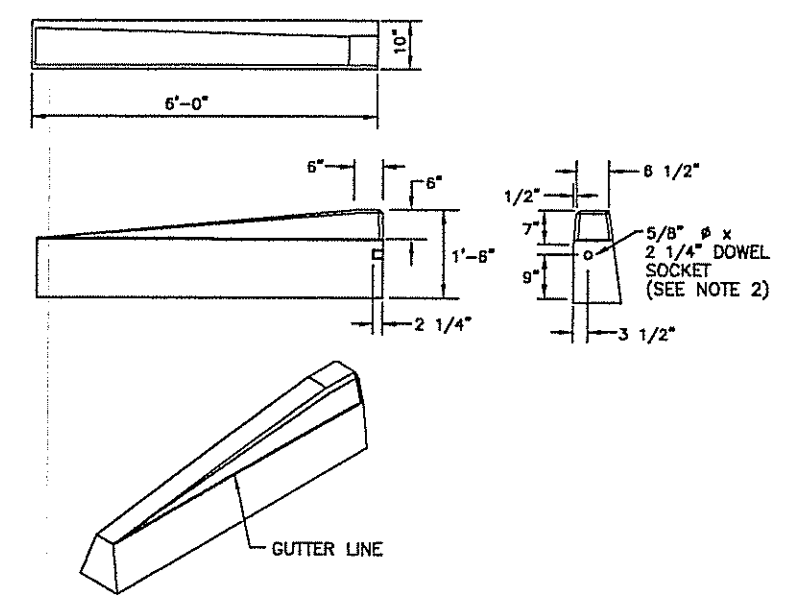
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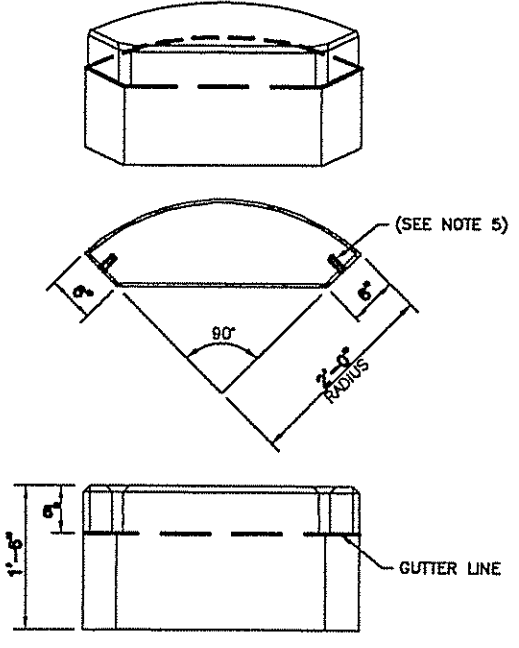
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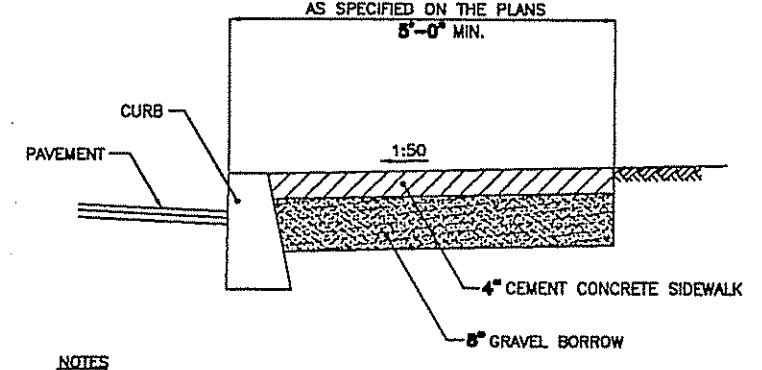
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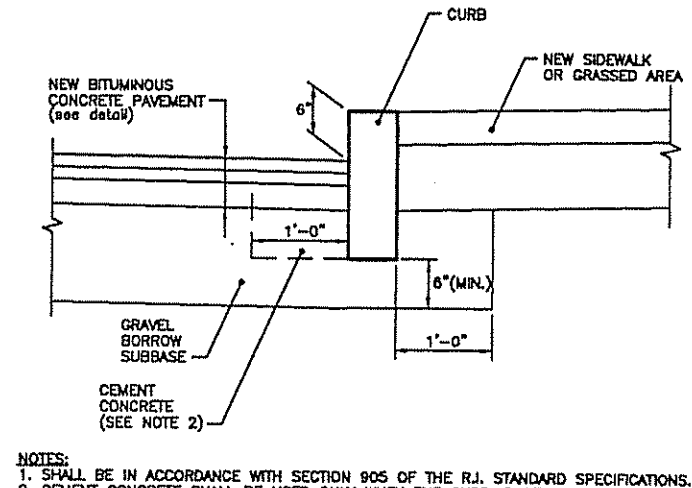
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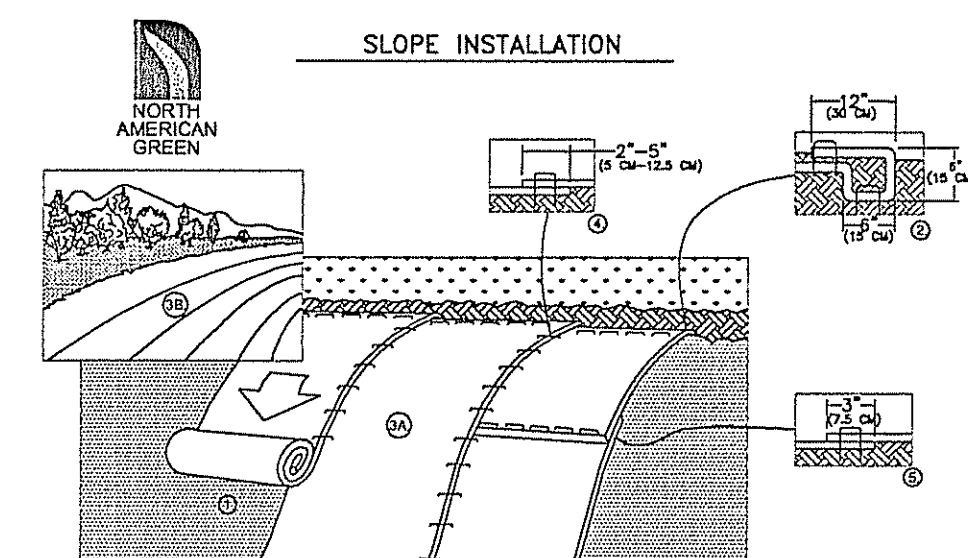
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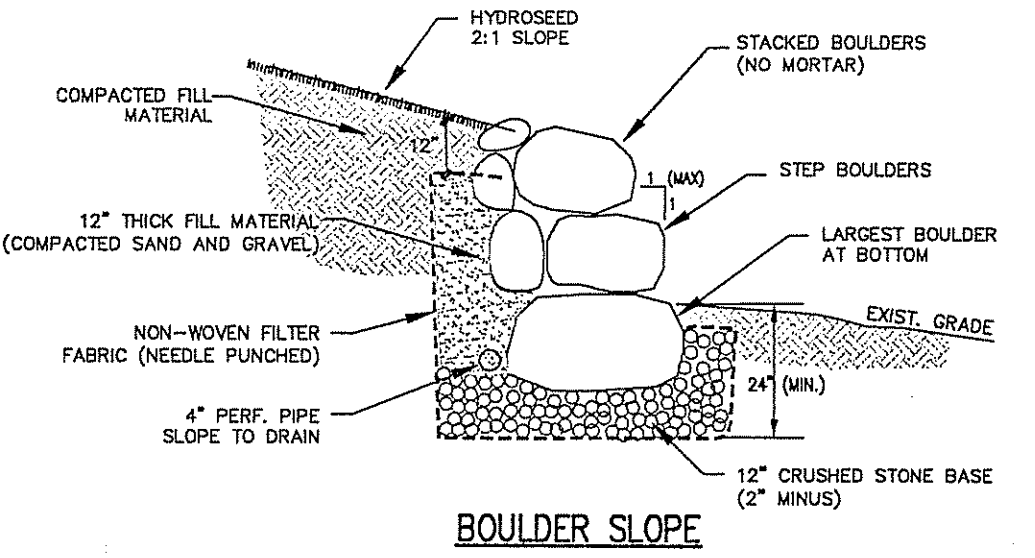
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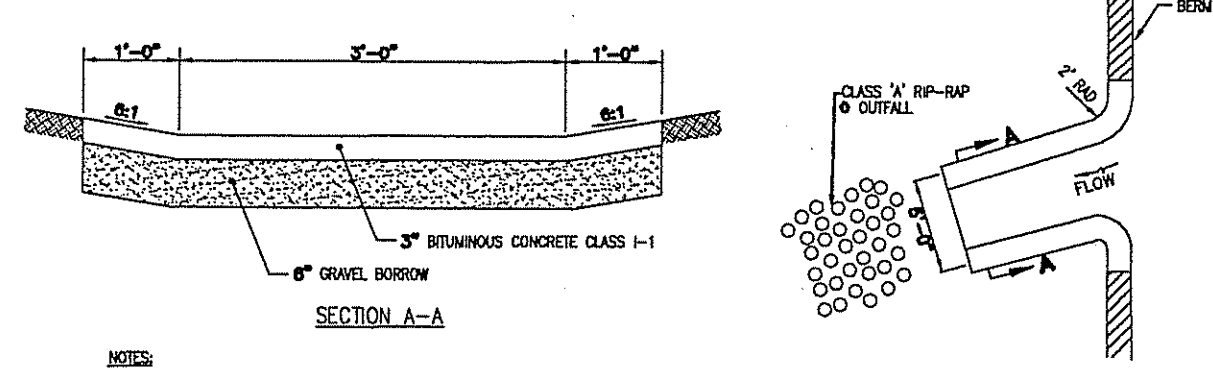
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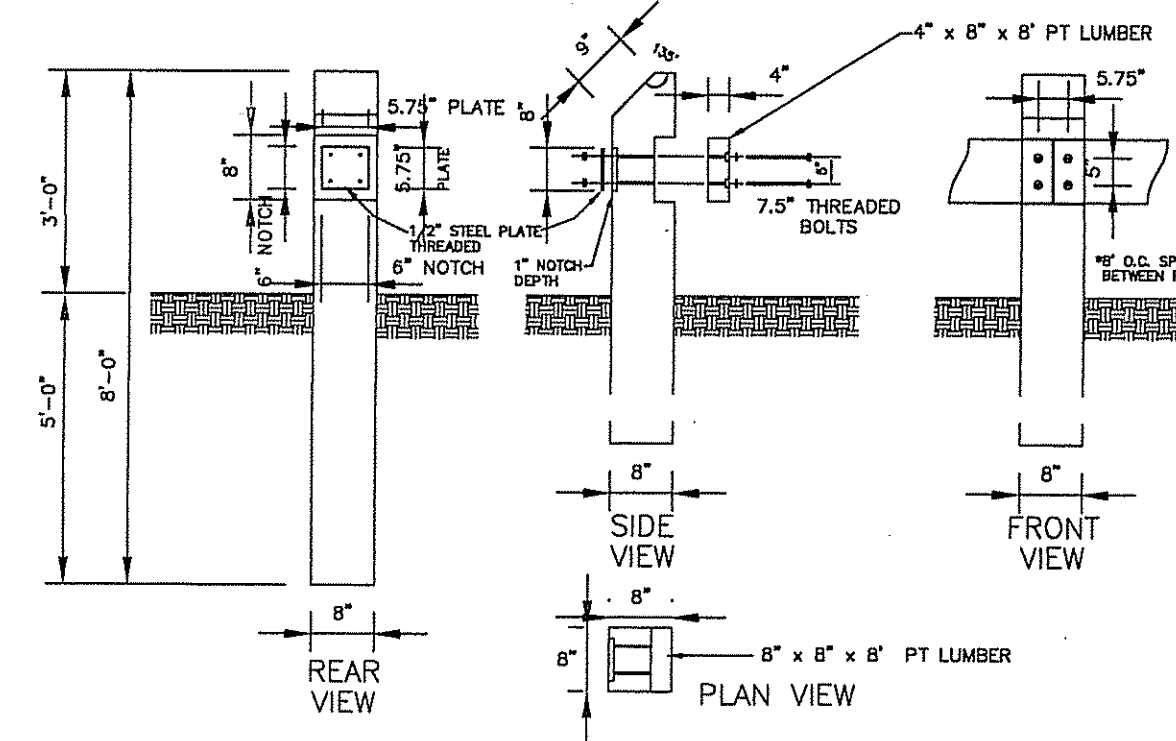
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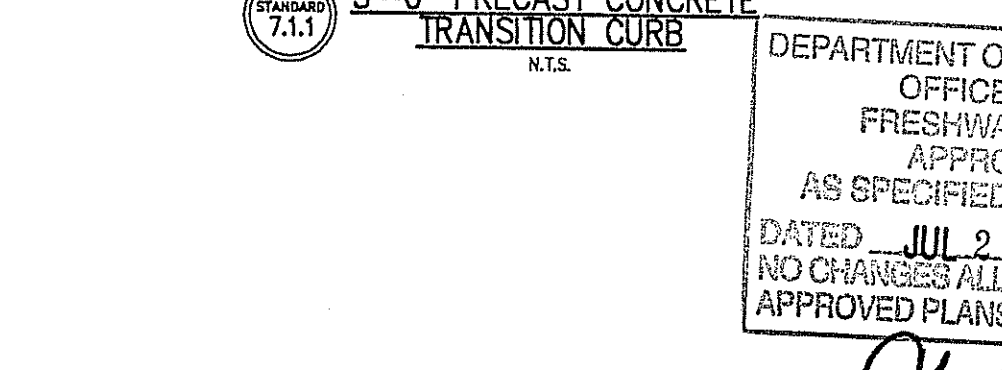
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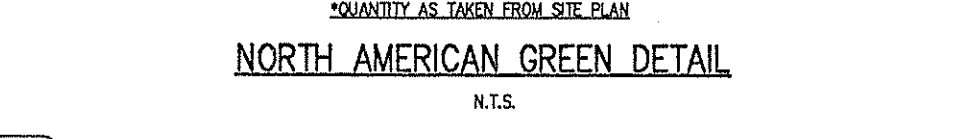
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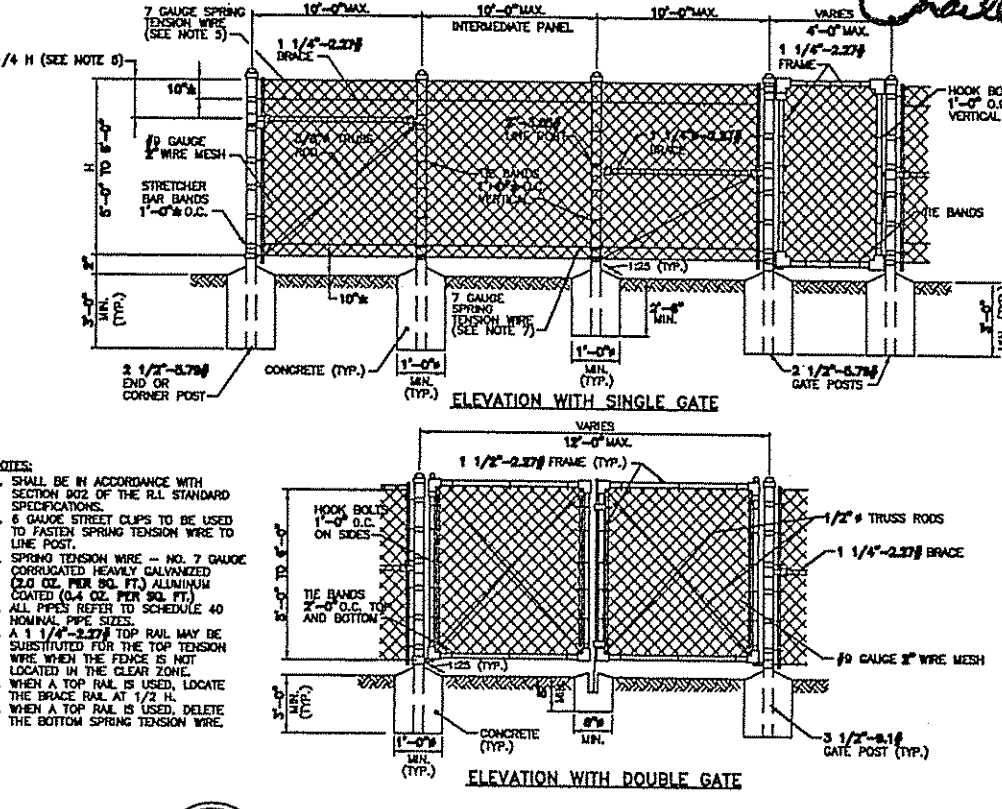
TIMBER GUARDRAIL
N.T.S.



3'-0\"/>



NORTH AMERICAN GREEN DETAIL
N.T.S.



CHAIN LINK FENCE 5'-0\"/>

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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Charles A. Harbert

REVISION table with columns for NO., DATE, and REVISION.

NO. DATE table with columns for NO. and DATE.

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Site/Civil Engineers • Land Planners
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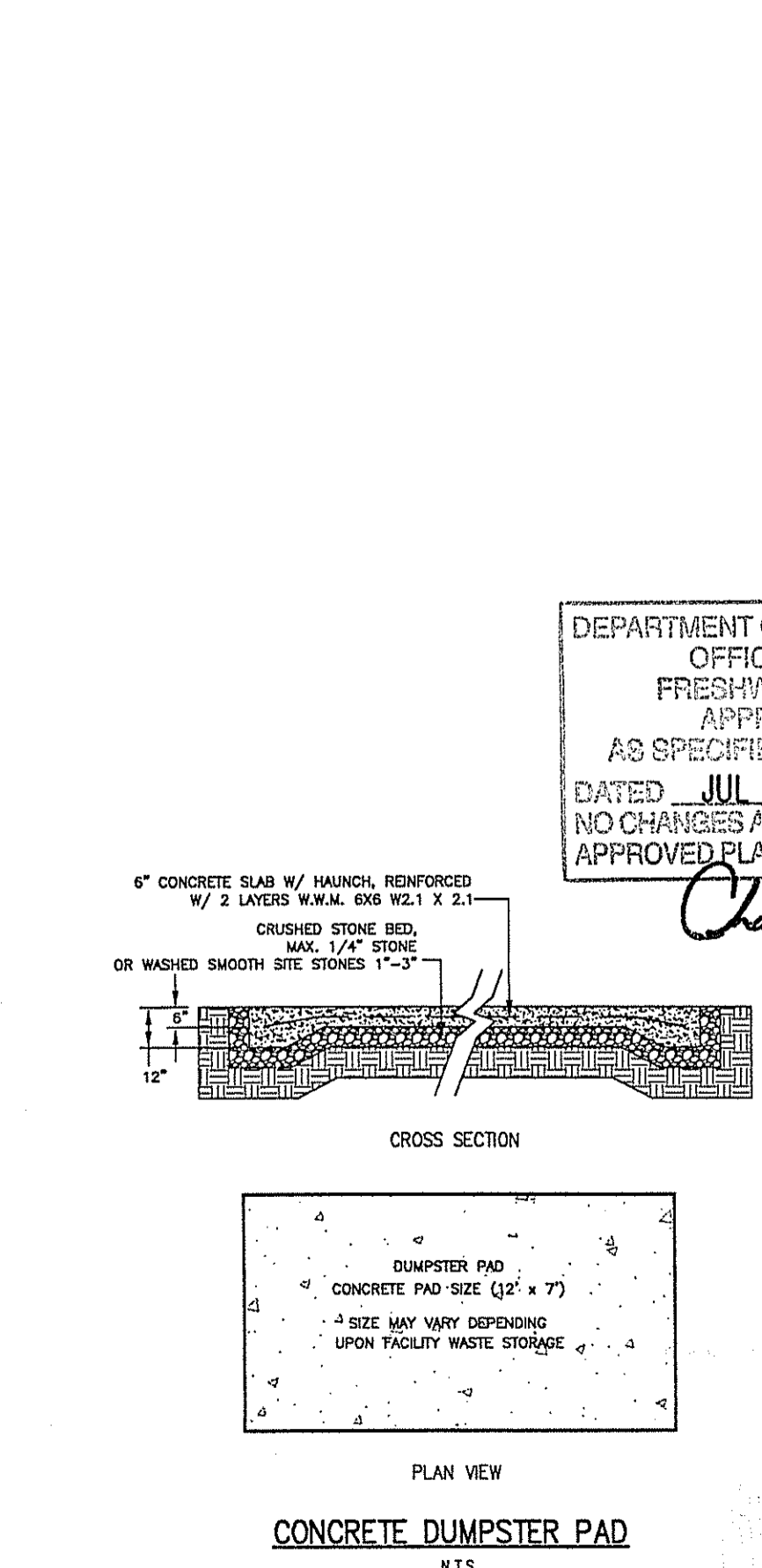
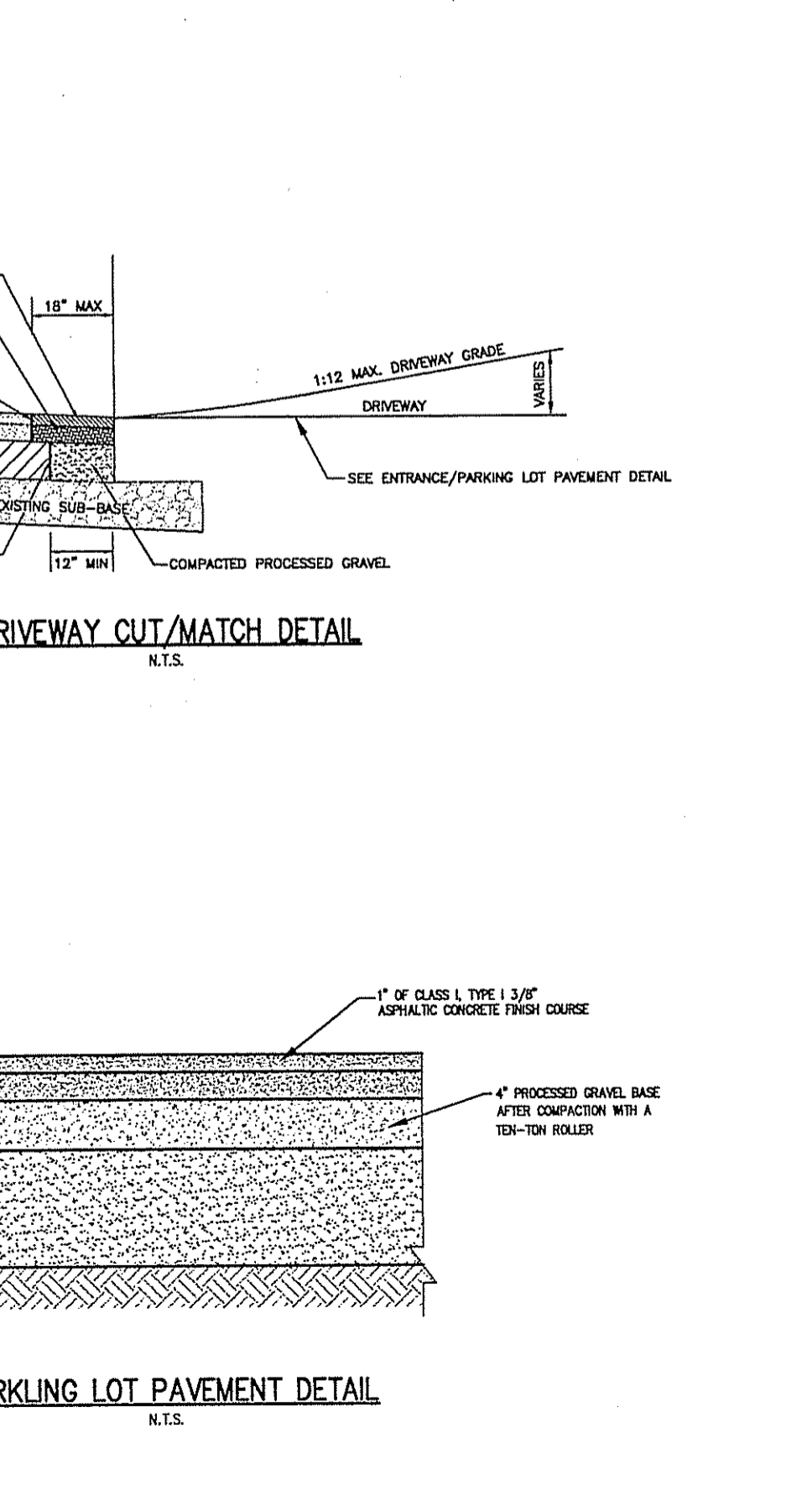
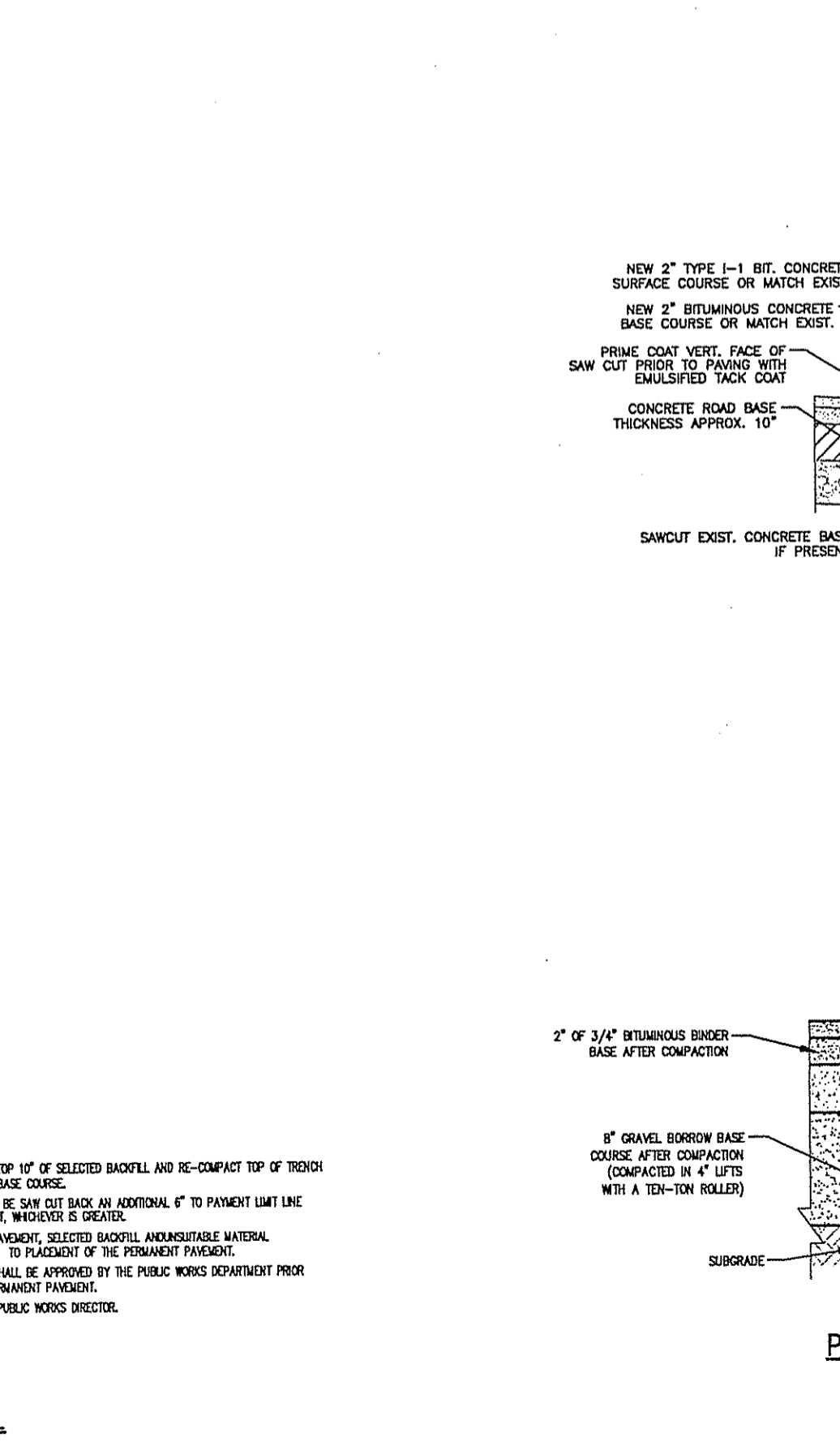
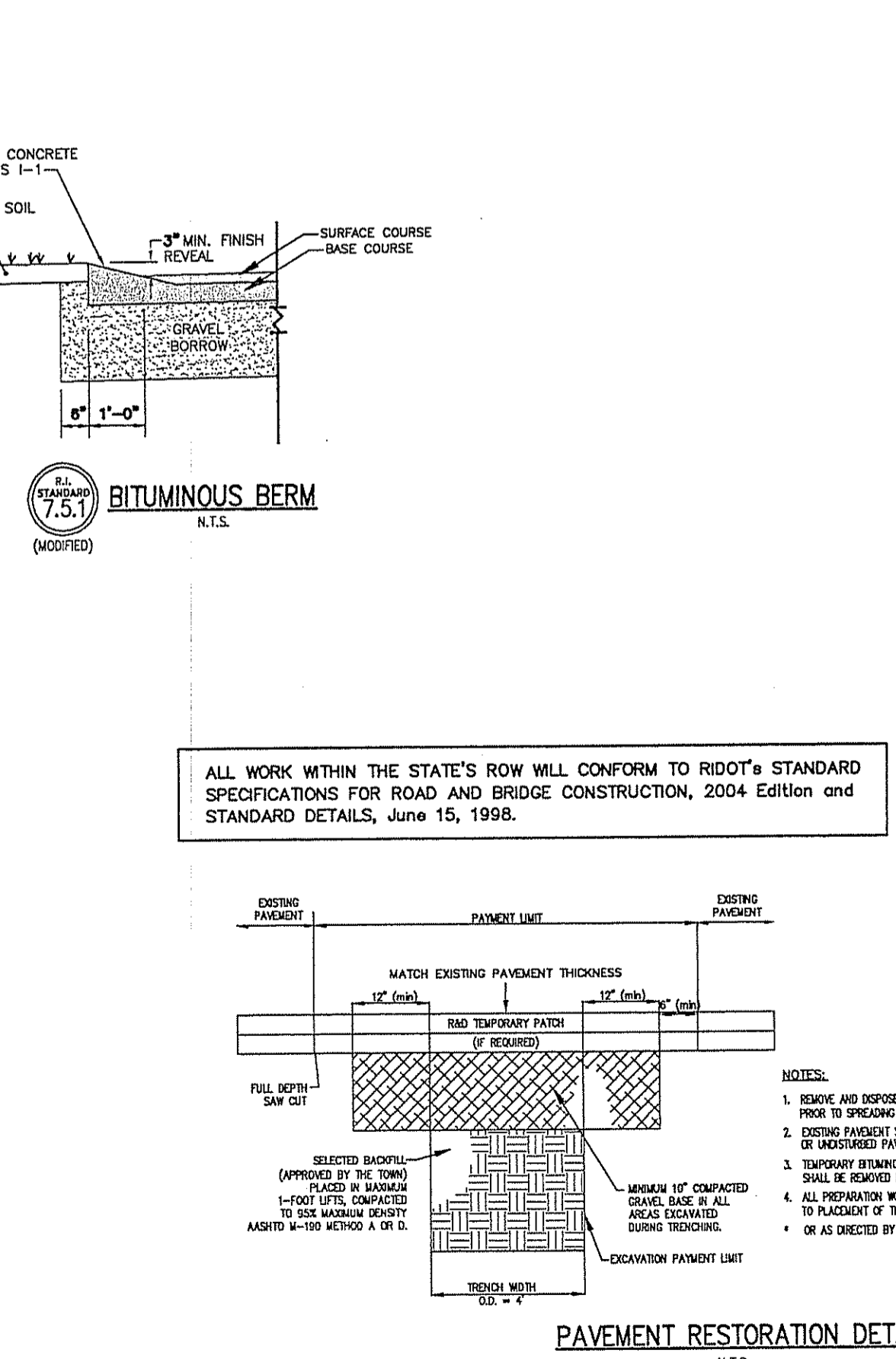
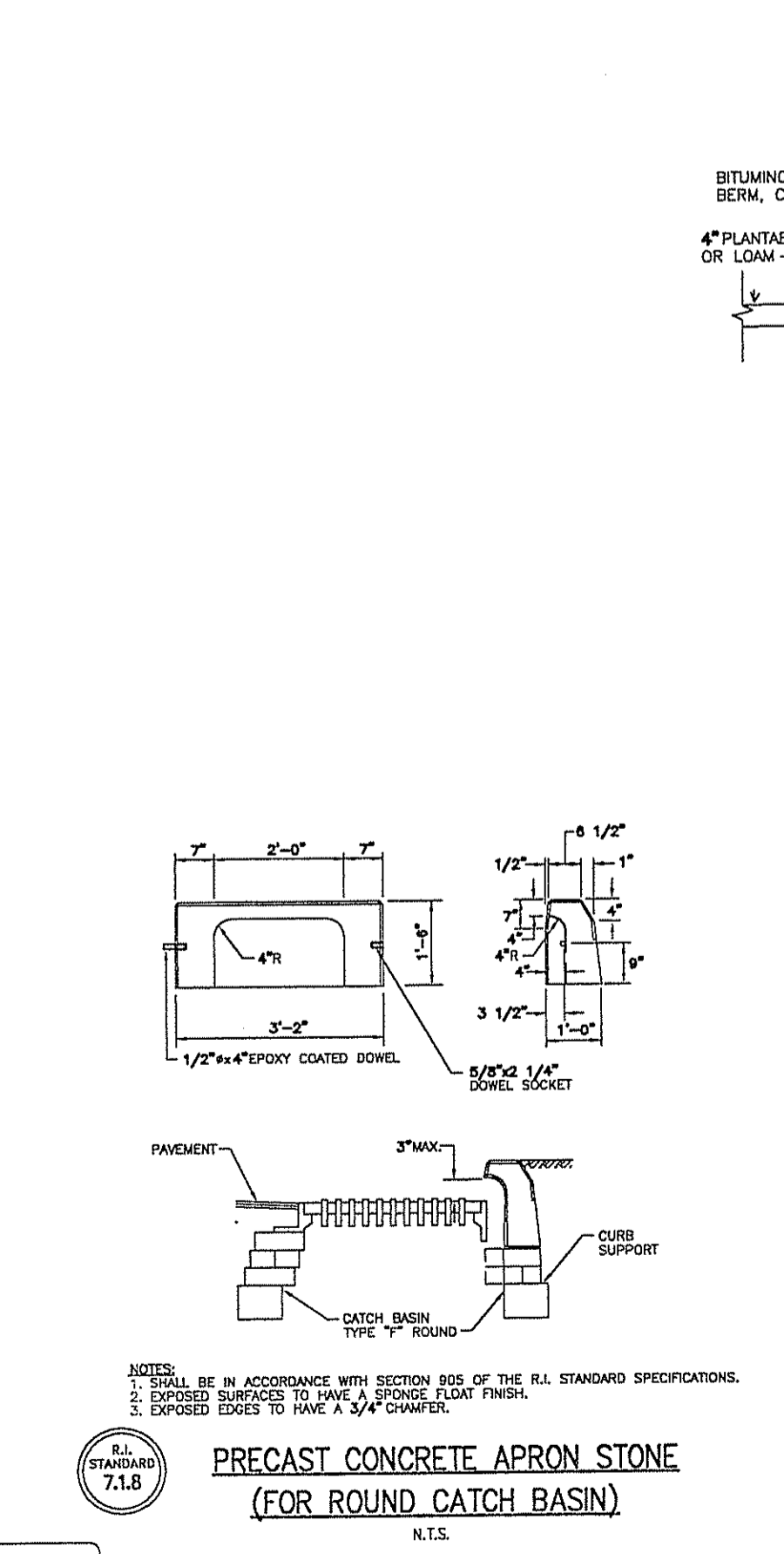
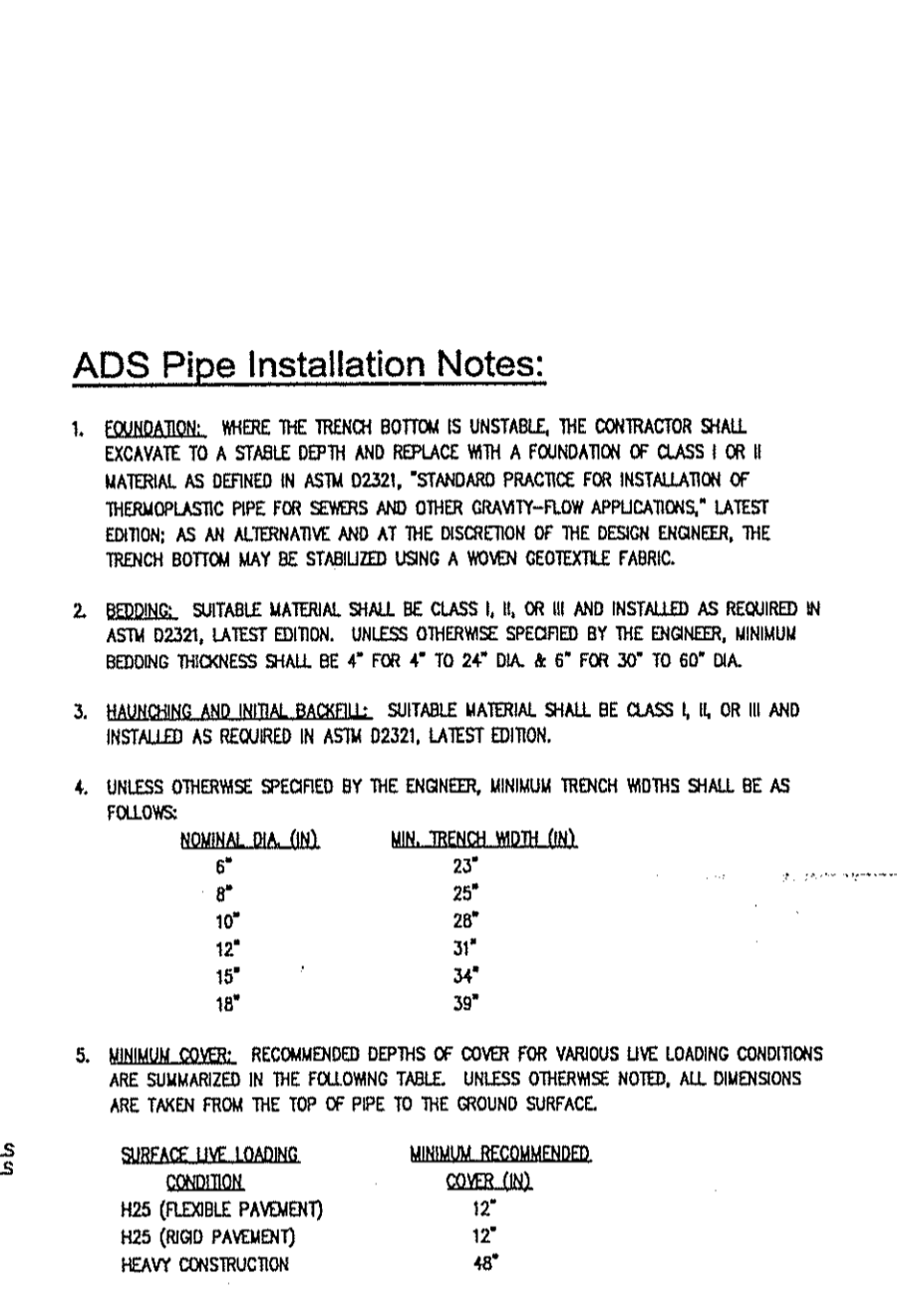
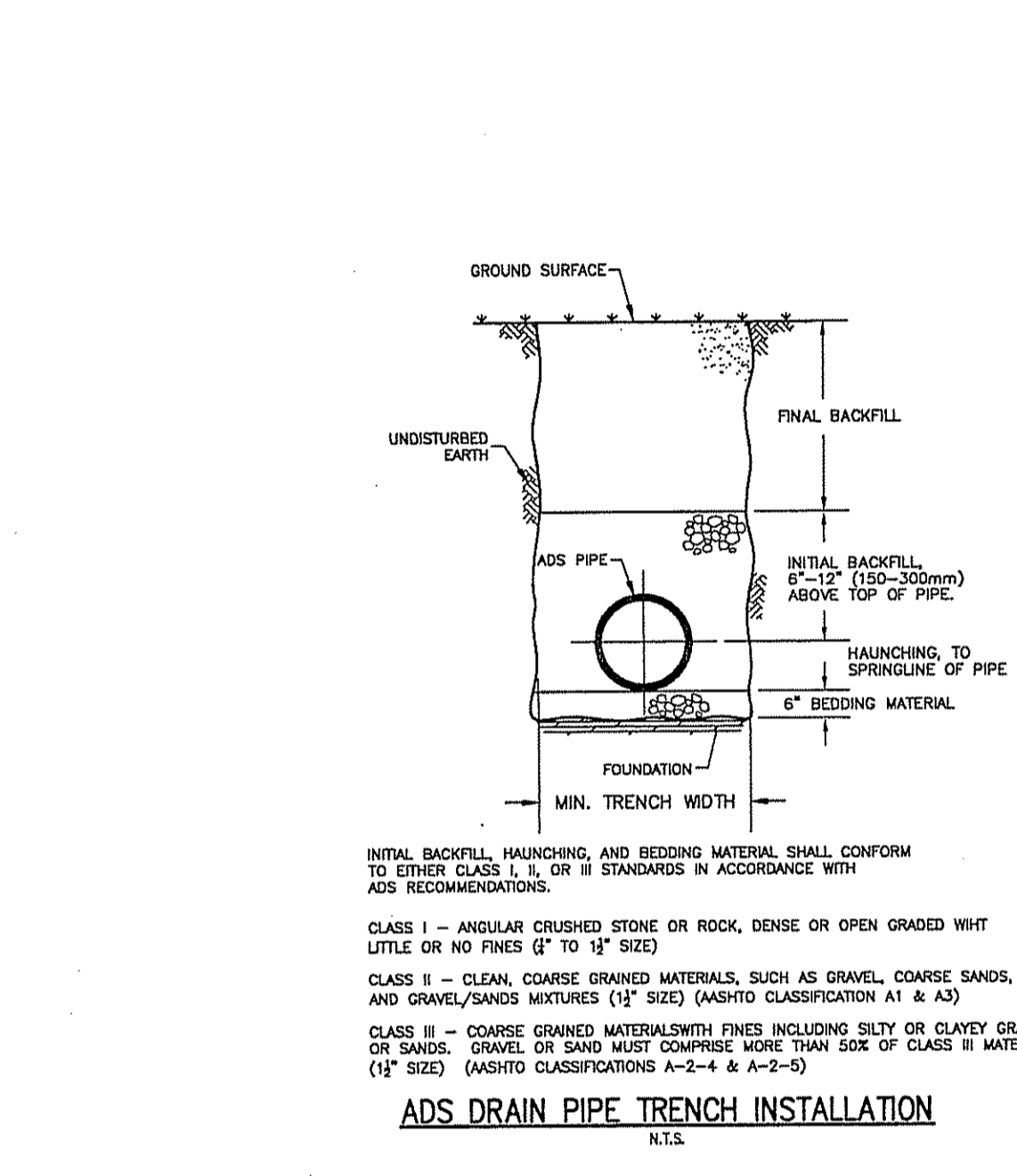
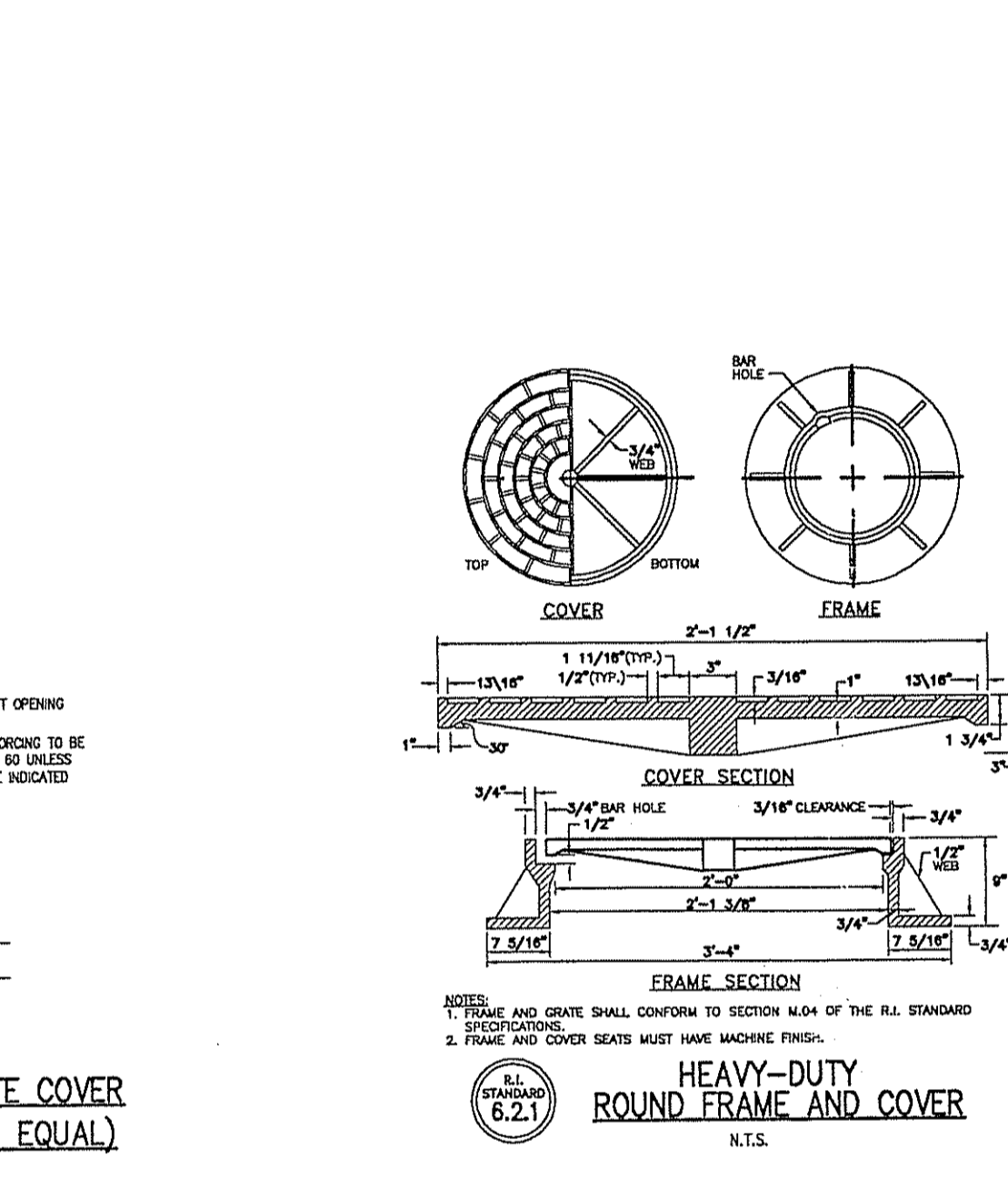
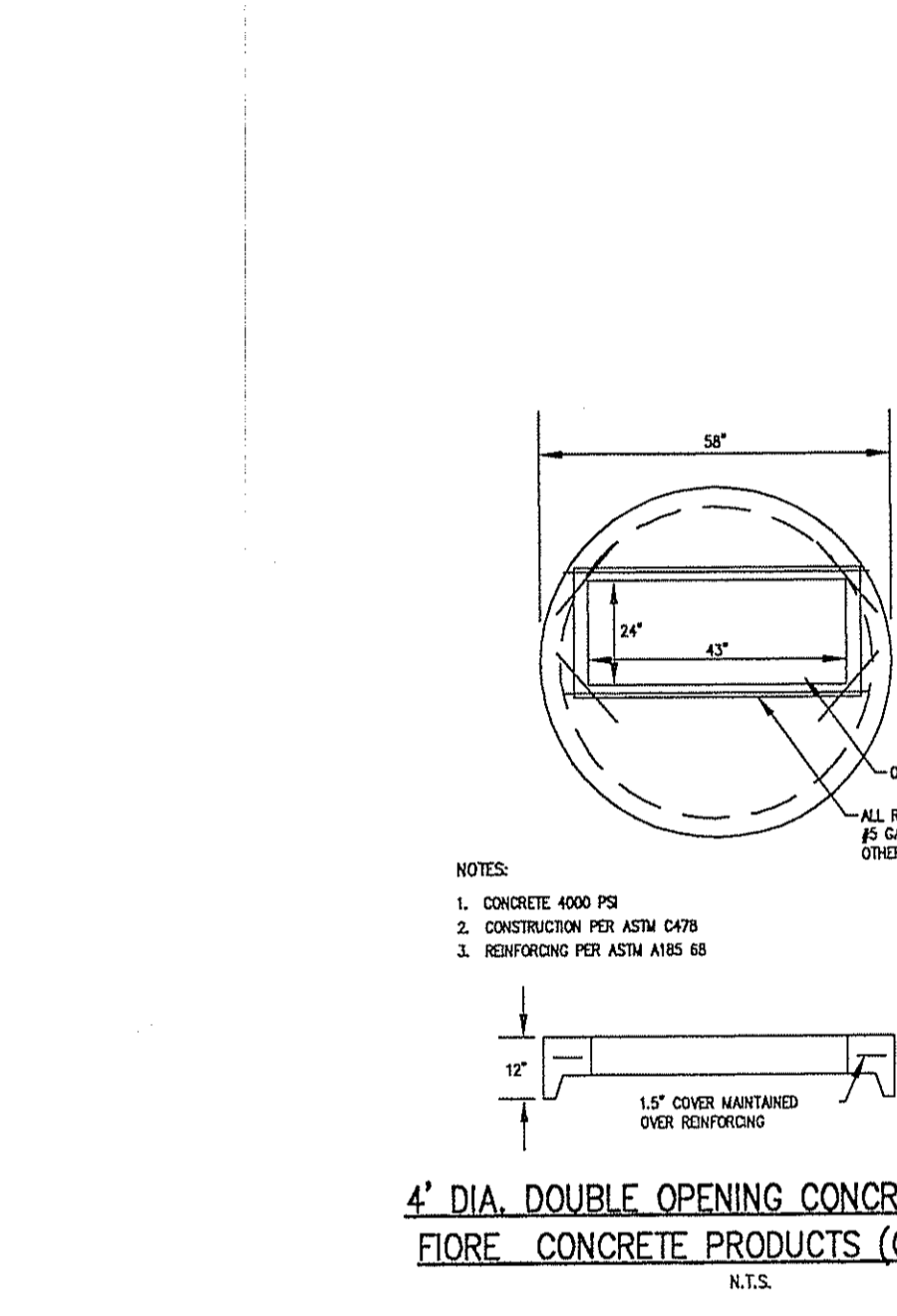
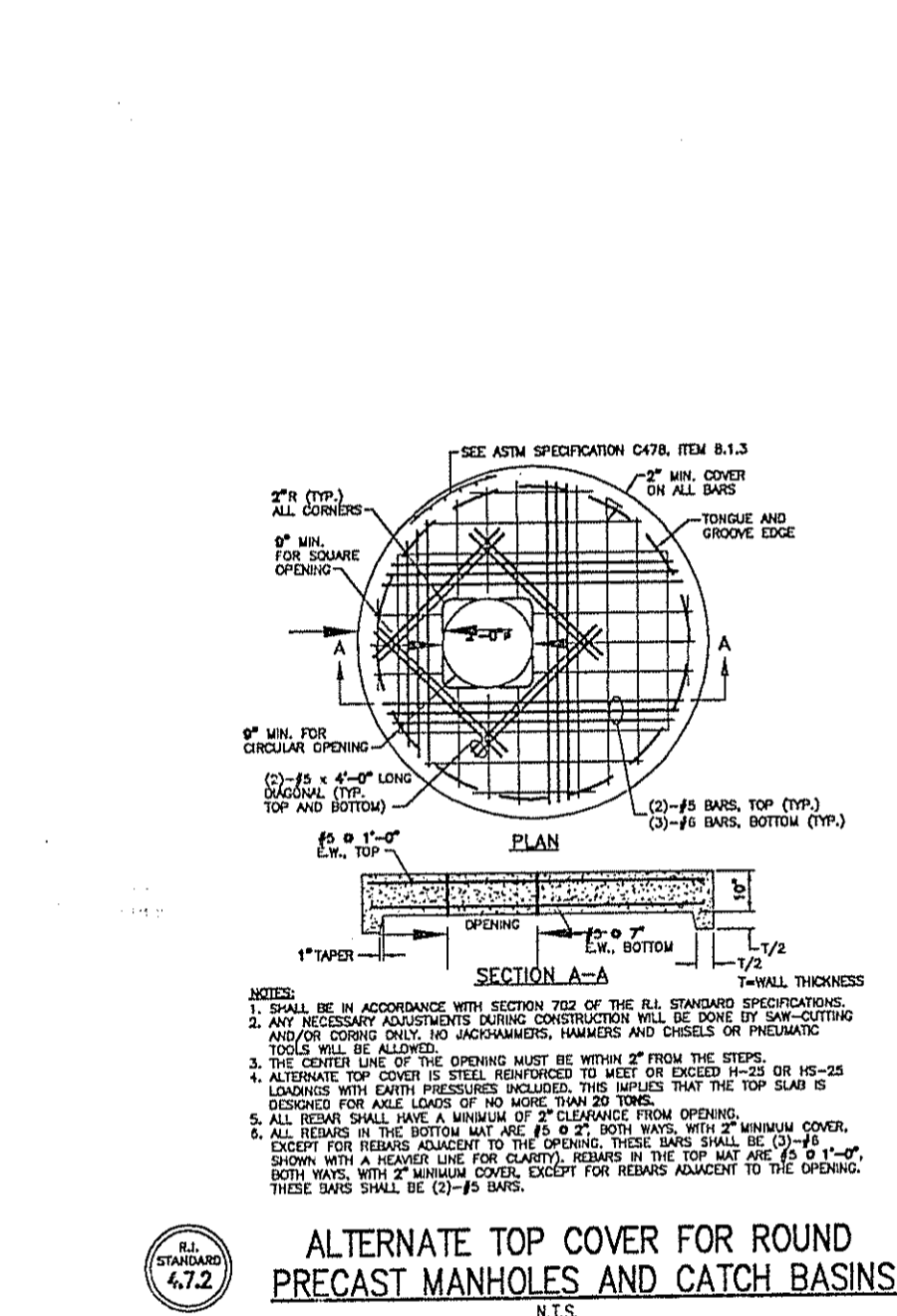
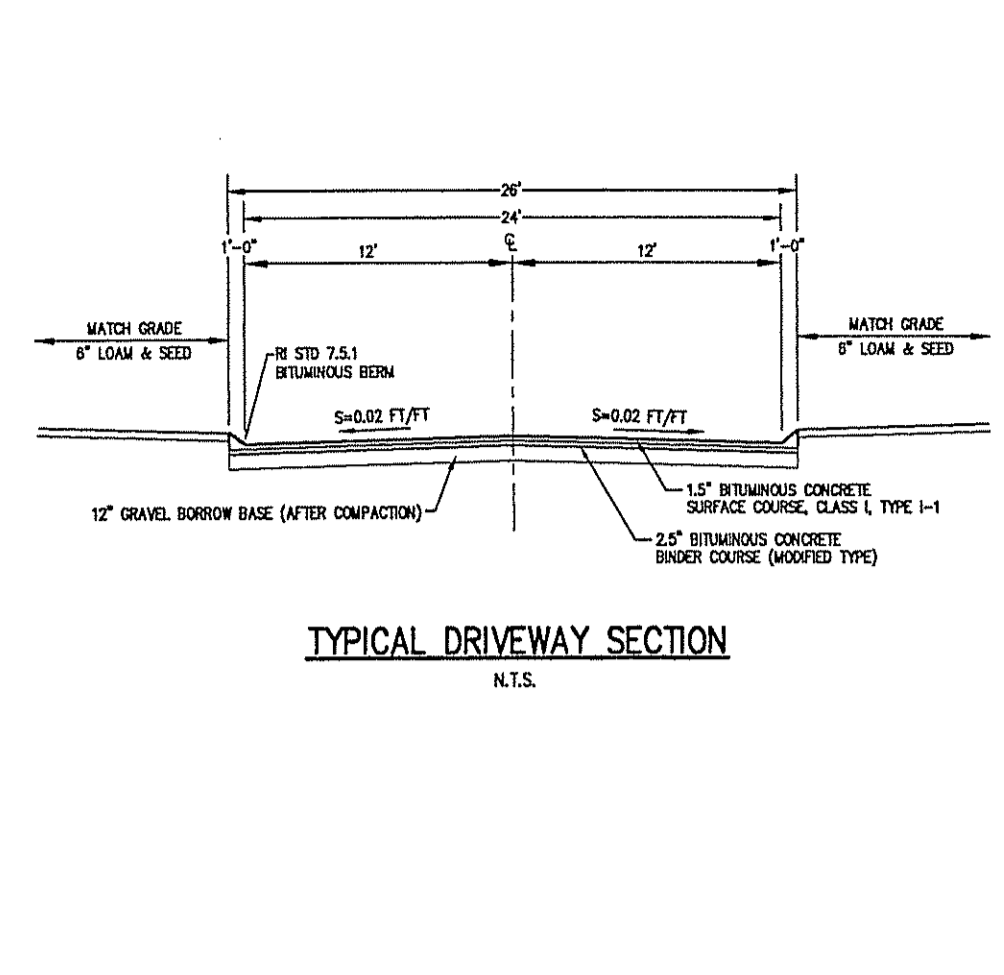
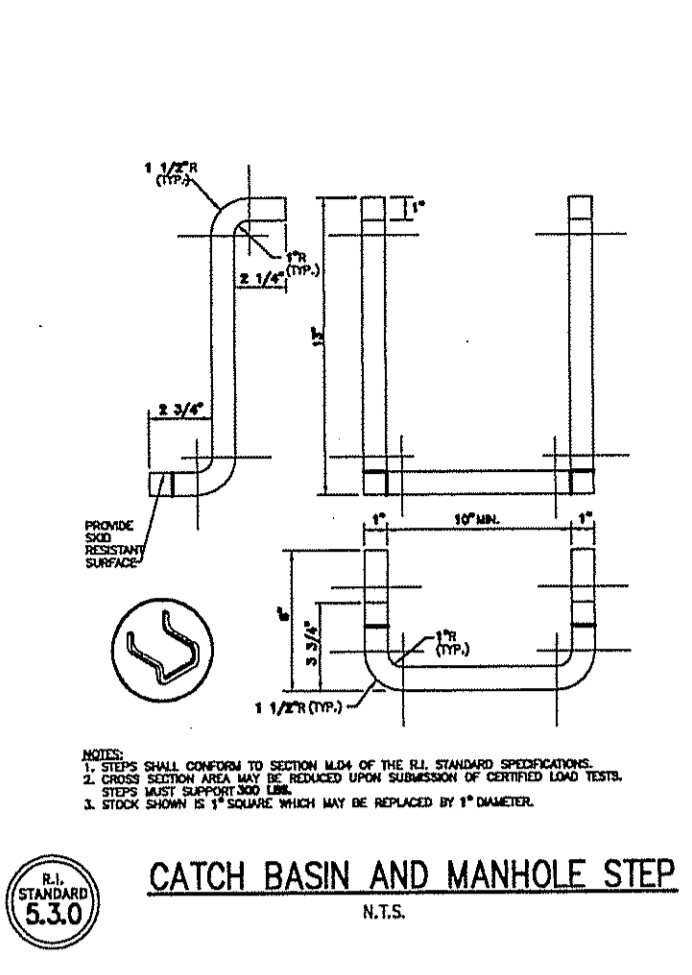
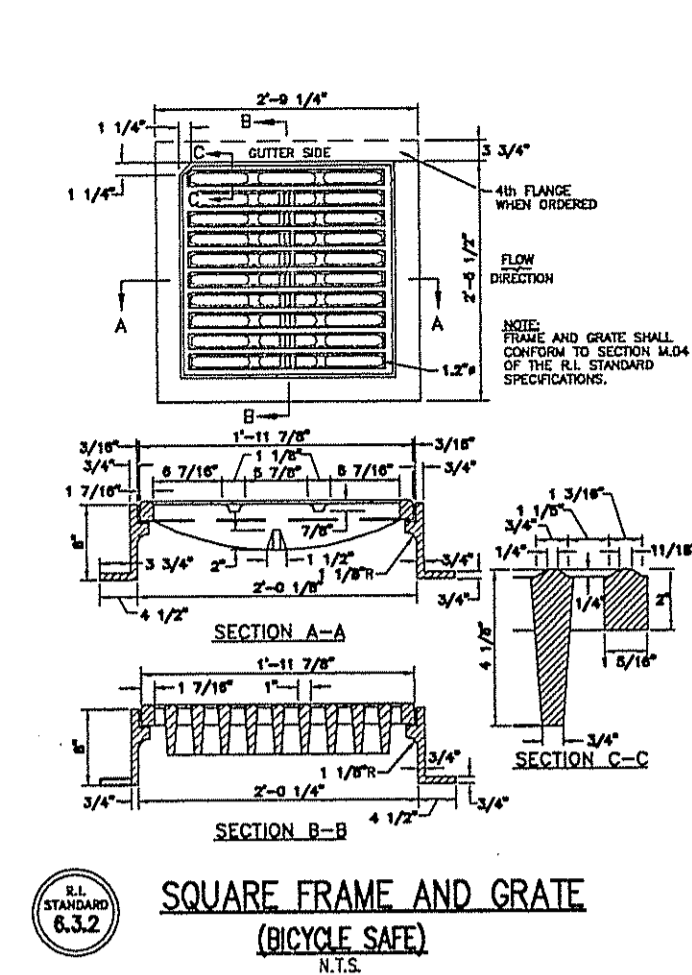
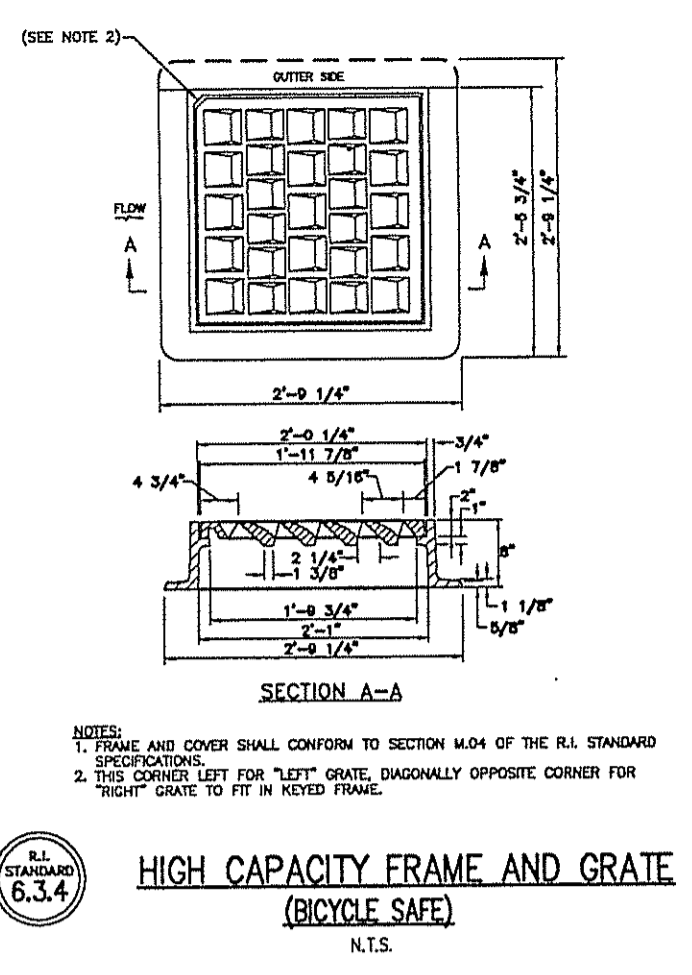
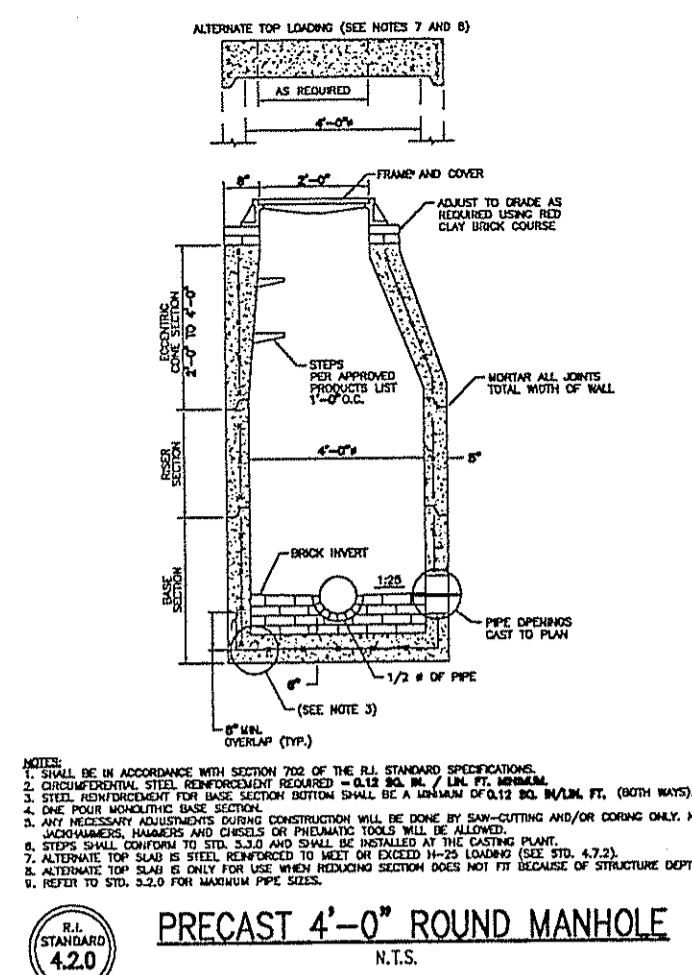
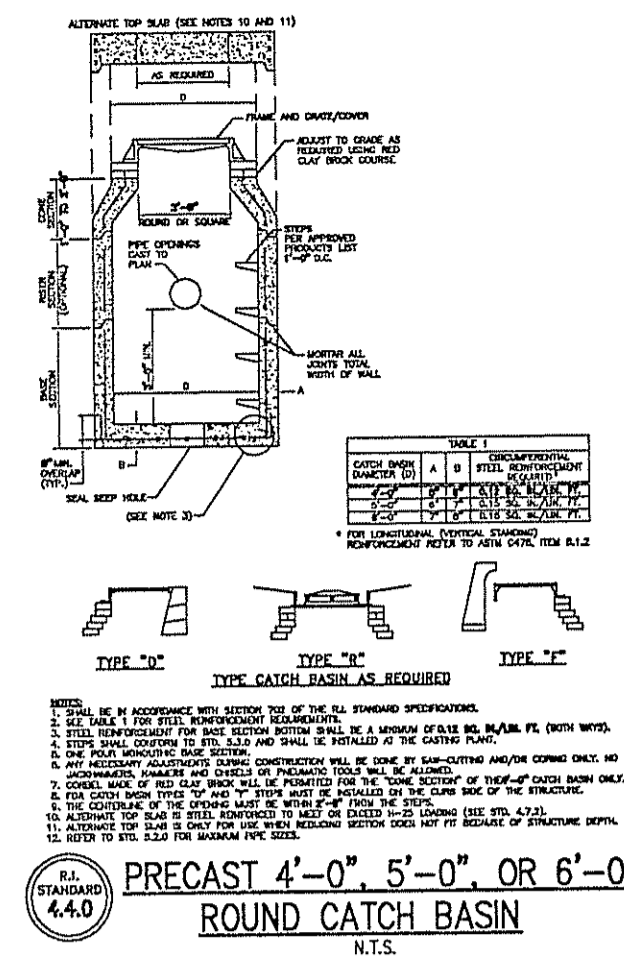
Construction Details 2
Office Center At George Washington Highway
West Reservoir Road & Geo. Wash. Hwy.
Rhode Island
Smithfield
Prepared for:
370 DMH, LLC
640 George Washington Highway Lincoln, RI 02865
date: Jun 2007 scale: As Noted

Drawn By: REB
Checked By: BPT
Sheet
10
of
12
FILE NO.: 08.021

JUL 10 2009

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ALL WORK WITHIN THE STATE'S ROW WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 Edition and STANDARD DETAILS, June 15, 1998.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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DATED JUL 22 2009 FILE # 07-000
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Charles A. Herbert

NO.	DATE	REVISION

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REGISTERED PROFESSIONAL ENGINEER
(CIVIL)

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Construction Details 3
Office Center At George Washington Highway
West Reservoir Road & Geo. Wash. Hwy. Rhode Island
Smithfield
A.P. 48
Prepared for:
970 GWH, LLC
640 George Washington Highway Lincoln, RI 02845
date: Jun 2007
scale: As Noted

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Checked By: BPT
Sheet 11 of 12
FILE NO.: 08.021

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GRAVITY SEWER NOTES:

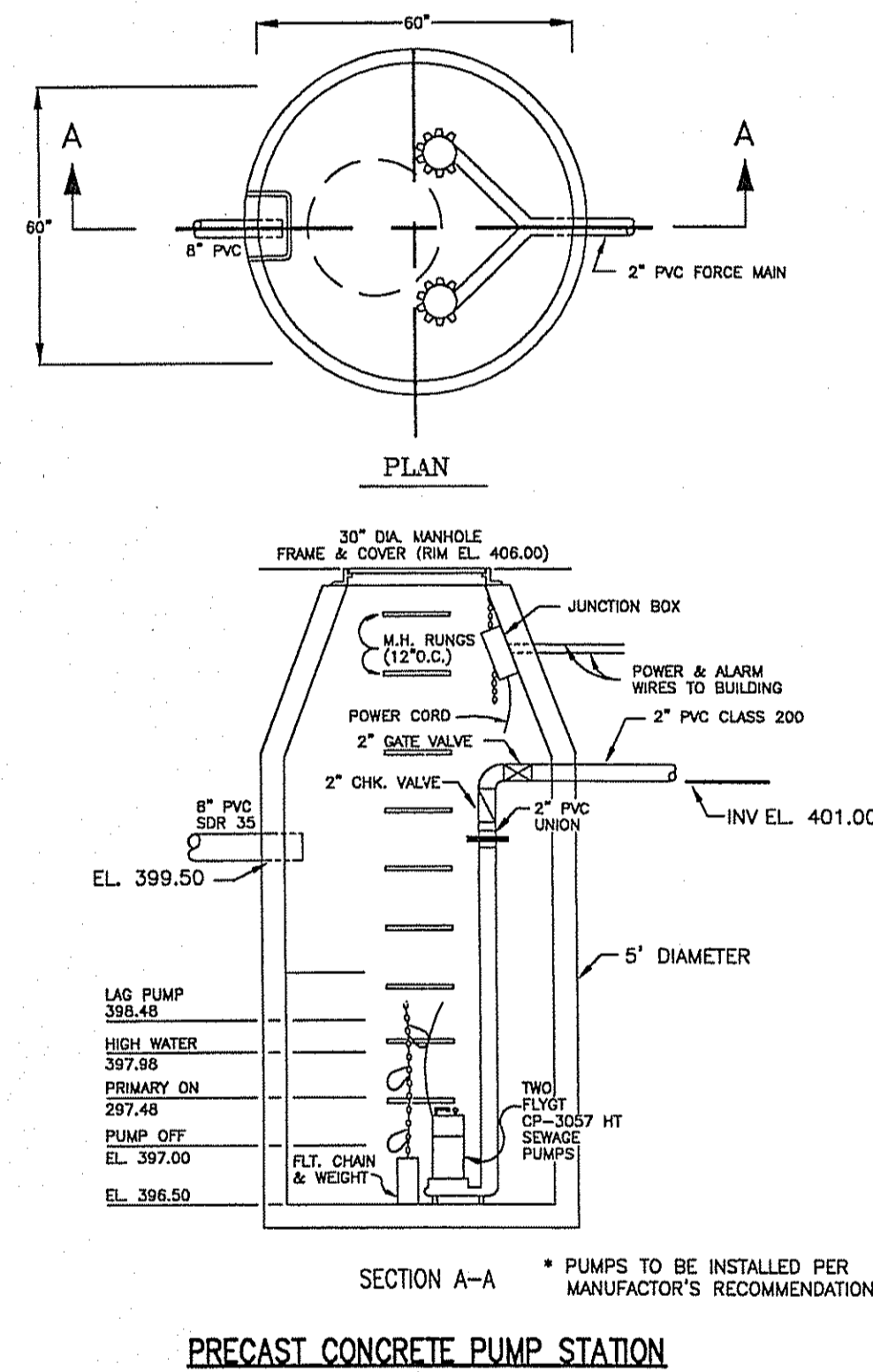
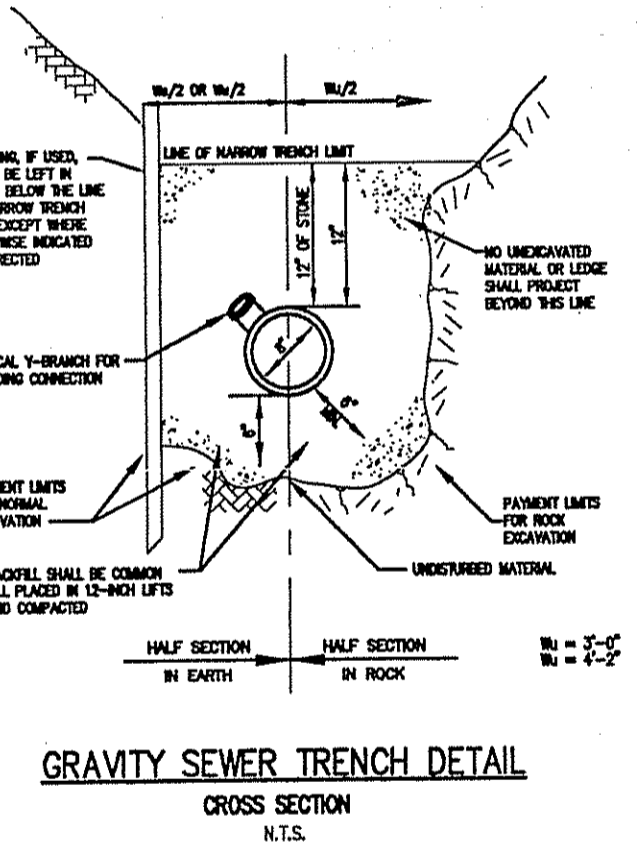
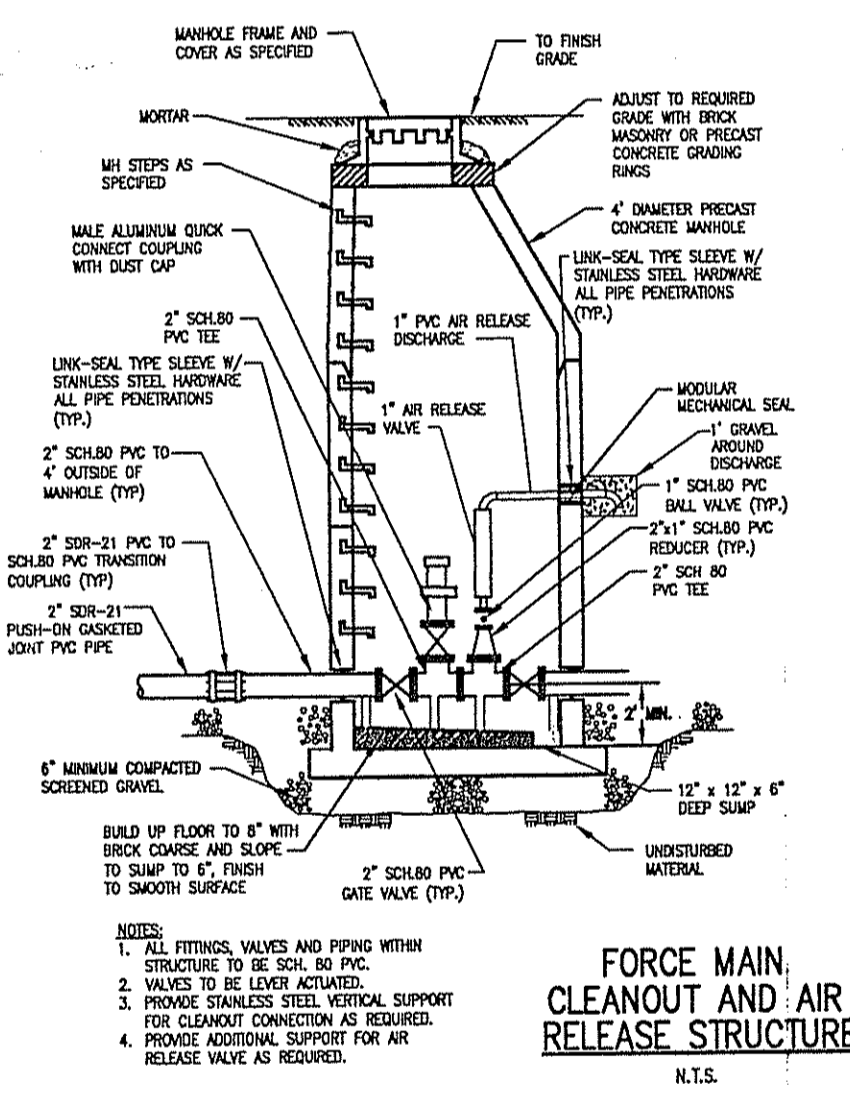
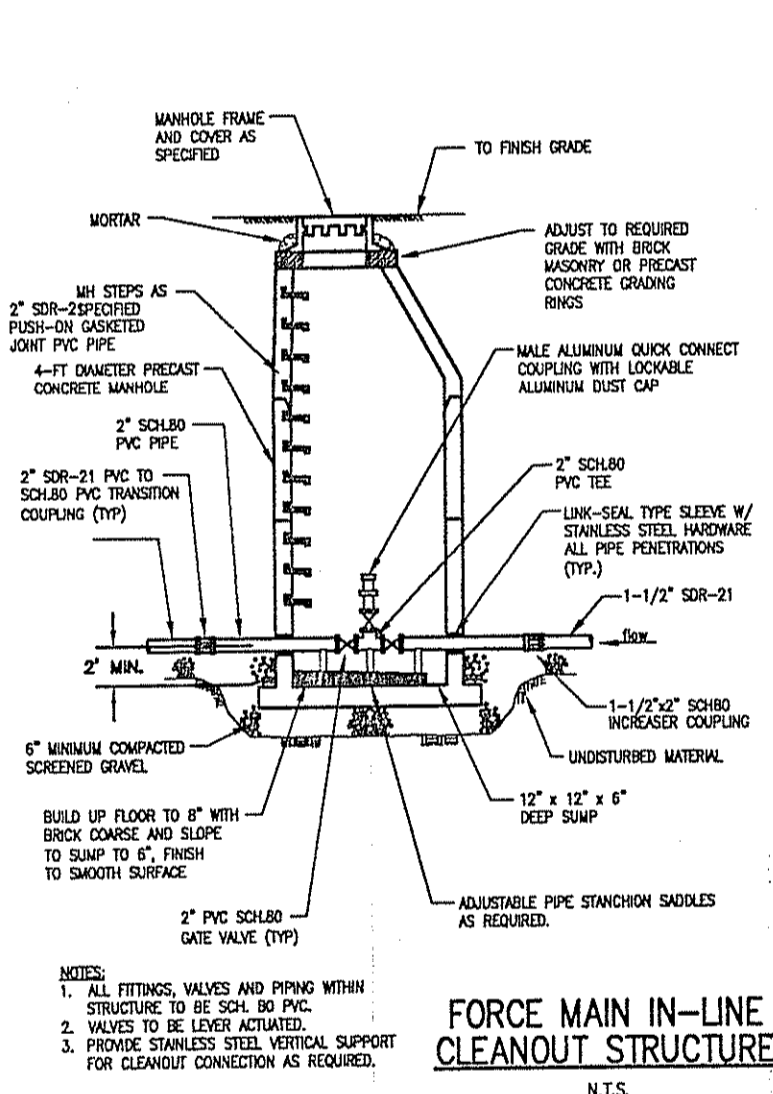
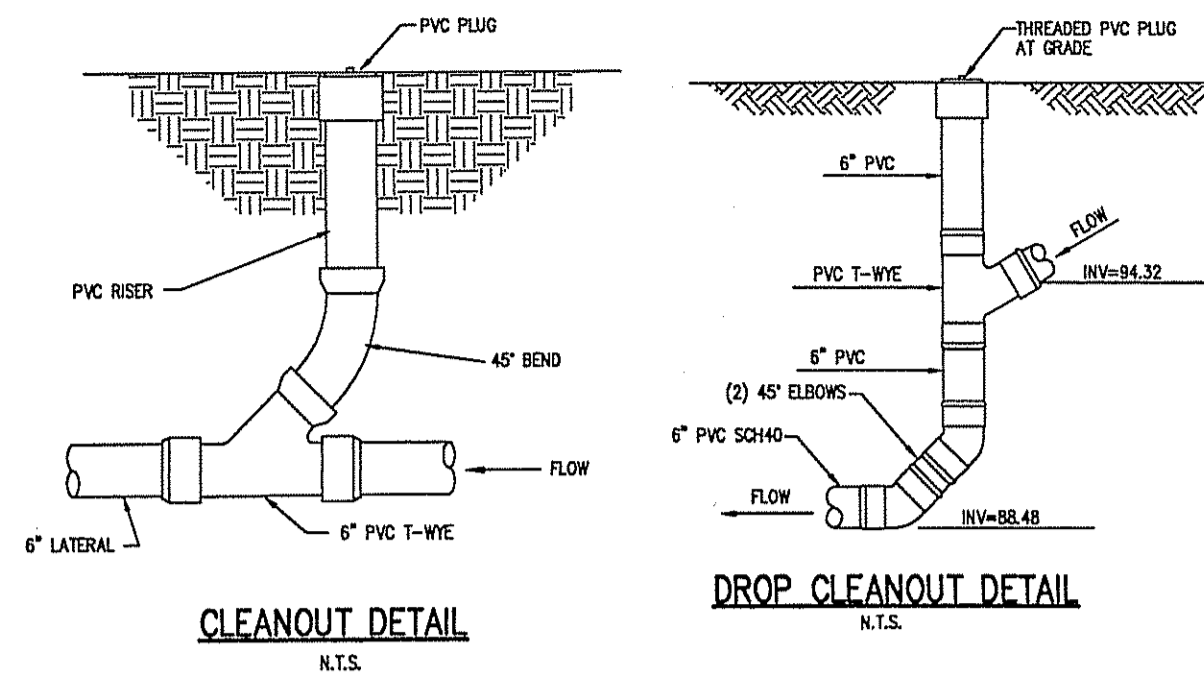
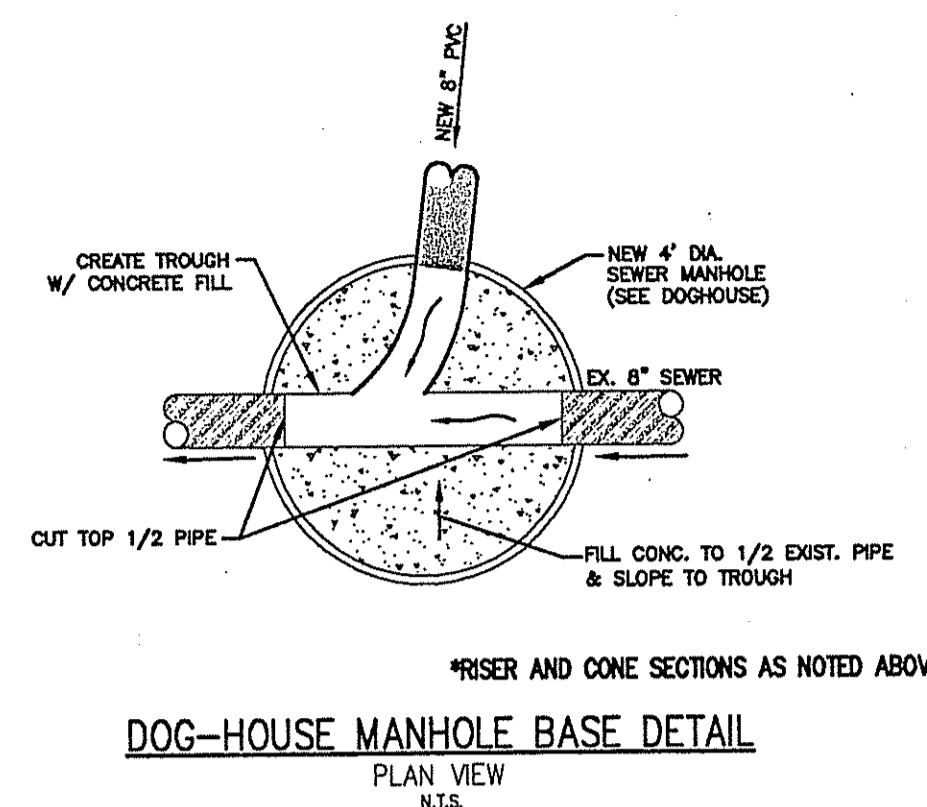
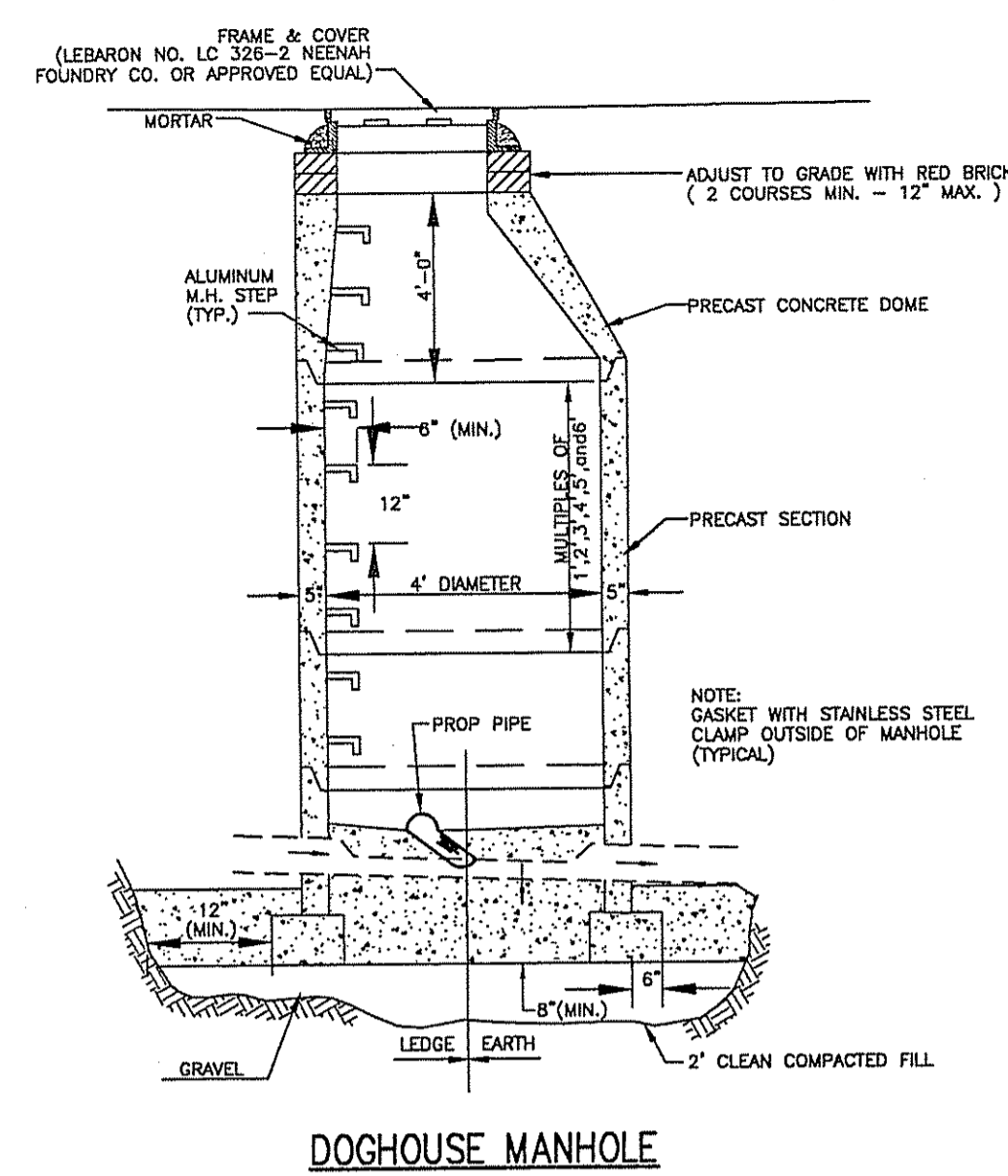
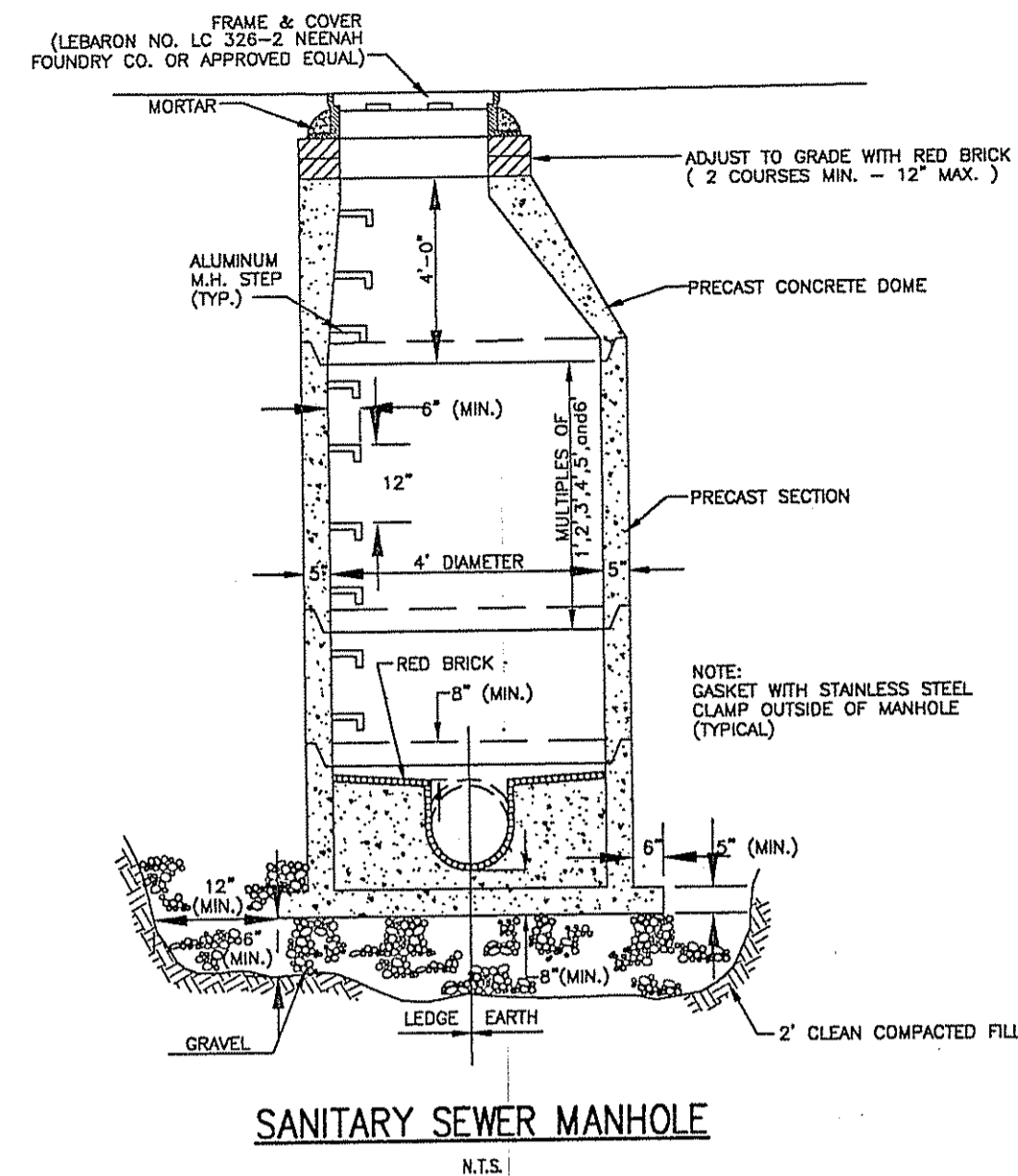
- 1) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RULES AND REGULATIONS GOVERNING THE PUBLIC SANITARY SEWER SYSTEM IN THE TOWN OF SMITHFIELD, RHODE ISLAND, AS AMENDED.
- 2) EXISTING SANITARY SEWER FLOWS SHALL BE MAINTAINED WITHOUT INTERRUPTION DURING CONSTRUCTION. DRAIN LAYERS SHALL ONLY INSTALL BUILDING SEWERS DURING THE NORMAL WORKING HOURS OF THE SMITHFIELD SEWER AUTHORITY.
- 3) PRECAST CONCRETE SECTIONS AND APPURTENANCES SHALL CONFORM TO ASTM C478-78.
- 4) GASKETS FOR PIPE TO MANHOLE CONNECTIONS SHALL CONFORM TO ASTM C923.
- 5) EXTERIOR SURFACES OF MANHOLE STRUCTURES AND APPURTENANCES SHALL BE GIVEN TWO (2) COATS OF BITUMINOUS WATERPROOFING.
- 6) MANHOLE BRICK TO CONFORM TO ASTM M32, AND ASHTO M91, RED BRICK.
- 7) STANDARD MANHOLE FRAMES AND COVERS TO BE LEBARON FOUNDRY MODEL LC328-200, WITH THE WORD "SEWER" CAST IN THE COVER, MANUFACTURED BY LEBARON FOUNDRY OF BROOKFIELD, MA.
- 8) ALL SEWER LATERALS ARE TO HAVE TEN (10) FEET OF HORIZONTAL CLEARANCE FROM WATER LINES, FIRE SEWER AND WATER CROSS. A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED.
- 9) ALL SEWER LATERALS ARE TO BE INSTALLED TO PROVIDE BASEMENT SEWER SERVICE.
- 10) ALL NON-PRESSURE SANITARY SEWER PIPES SHALL BE POLY VINYL CHLORIDE (PVC) PIPE AND SHALL CONFORM TO ASTM D-3034, SDR 35 & SDR 40 STANDARDS.
- 11) ALL EXCAVATIONS FOR THE INSTALLATION OF A BUILDING SEWER SHALL BE OPEN TRENCH WORK. PIPE LAYING AND BACKFILL SHALL BE PERFORMED IN ACCORDANCE WITH ASTM SPECIFICATIONS (D-222) EXCEPT THAT NO BACKFILL SHALL BE PLACED UNTIL WORK HAS BEEN INSPECTED.
- 12) ALL BUILDING SEWER LINES SHALL BE OF 8-INCH DIAMETER AND BUILT WITH A MINIMUM DEPTH OF COVER OF 42 INCHES AND WIDTH OF TRENCH SHALL BE AT LEAST 24 INCHES.
- 13) ALL SEWER PIPE SHALL BE CONSTRUCTED ON A BED OF CRUSHED STONE AT LEAST 6 INCHES IN DEPTH. STONE SHALL BE INSTALLED BEFORE THE PIPE IS PLACED IN THE TRENCH AND THE PIPE SHALL BE COVERED WITH AT LEAST 12 INCHES OF CRUSHED STONE. NO BLOCKS OR STONES SHALL BE USED TO SUPPORT THE PIPE.
- 14) BUILDING SEWER JOINTS SHALL BE TIGHT AND WATERPROOF. NO CEMENT-MORTAR JOINTS WILL BE PERMITTED.
- 15) ALL JOINTS POLYVINYL CHLORIDE (PVC) PIPE OR BETWEEN SUCH PIPE SHALL BE MADE WITH APPROVED PREMOULDED GASKET JOINTS.
- 16) THE SEWER AUTHORITY SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF ANY WORK ON SEWER OR HOUSE CONNECTIONS.

GENERAL NOTES:

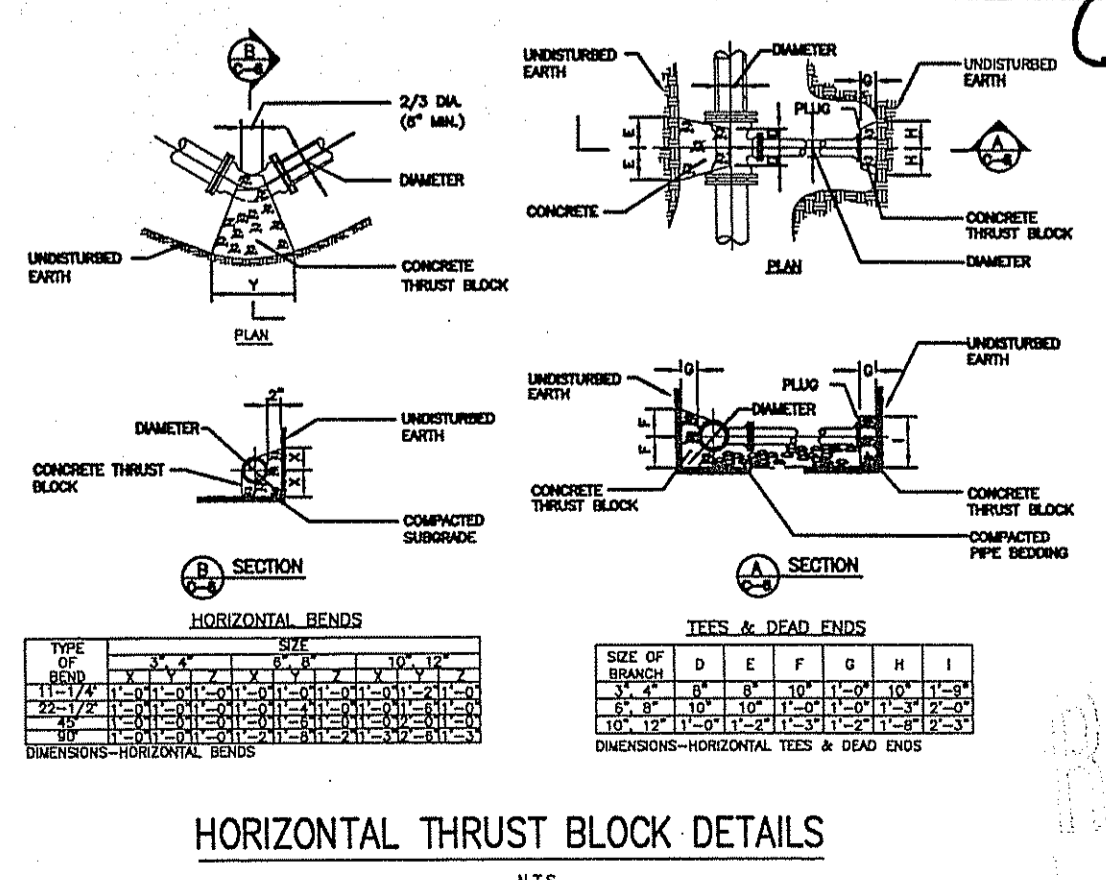
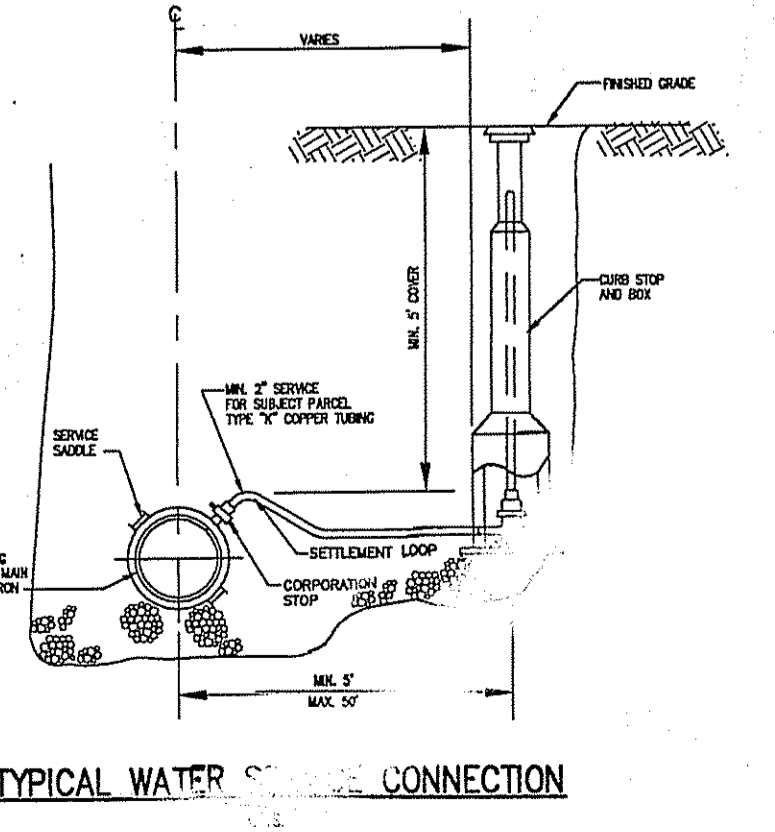
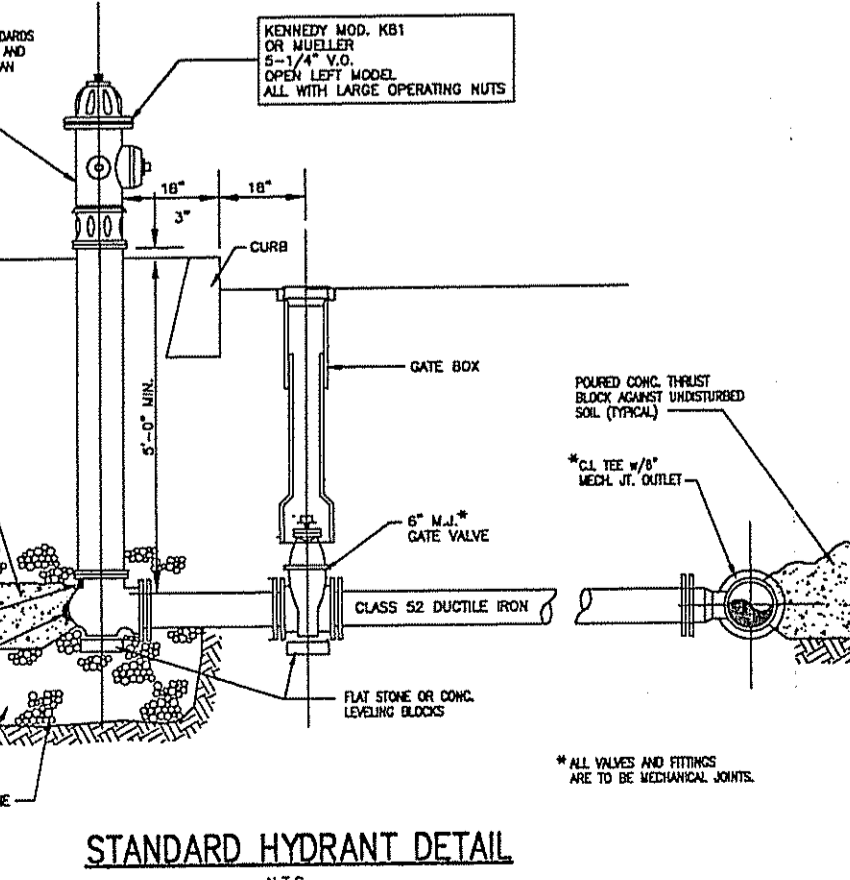
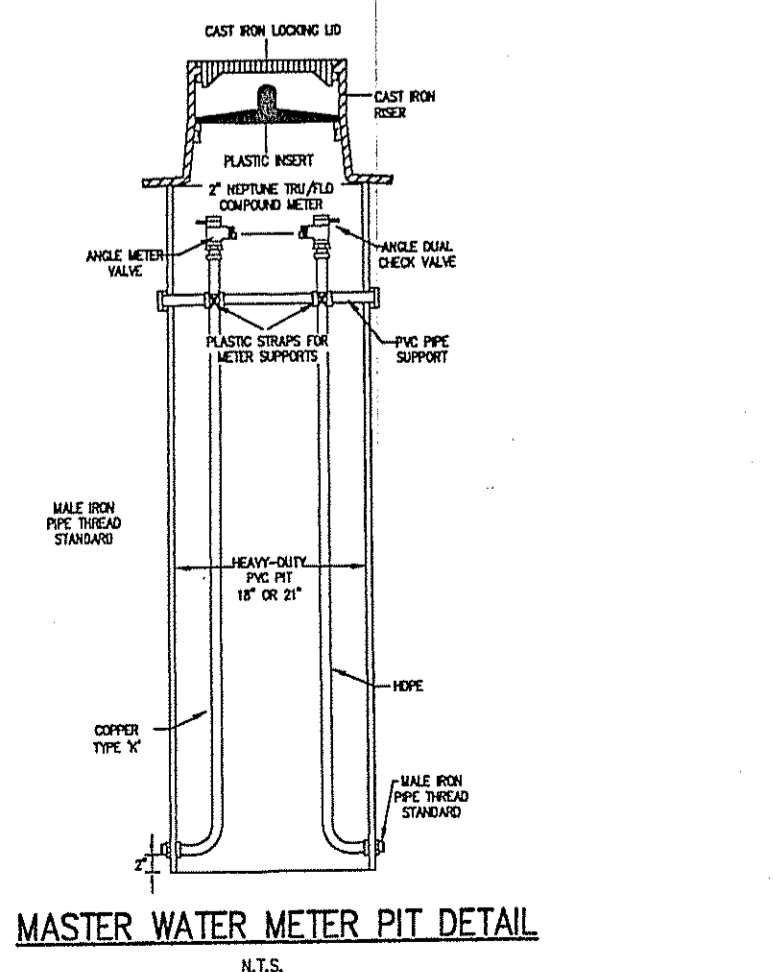
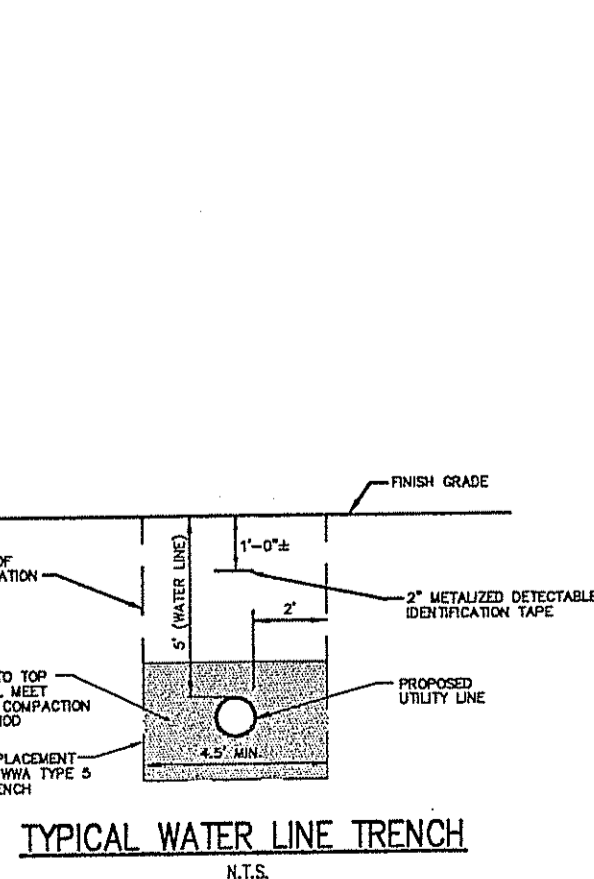
- 1) ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF SMITHFIELD SEWER AUTHORITY STANDARD SPECIFICATIONS AND DETAILS FOR THE INSTALLATION OF SEWER AND APPURTENANCES BY PRIVATE DEVELOPERS.
- 2) APPLICANT SHALL PROVIDE FINAL AS-BUILT PLANS TO ENGINEERING DEPARTMENT UPON COMPLETION OF CONSTRUCTION. AS-BUILT PLANS SHALL INCLUDE FIELD MEASUREMENTS OF ALL INSTALLED PIPE AND APPURTENANCES, INCLUDING LENGTH, SLOPE, MANHOLE INVERTS, AS WELL AS STRING TIES/MEASUREMENTS TO ALL MANHOLE AND LATERAL SERVICE CONNECTIONS.
- 3) INSPECTION OF ALL SEWER SERVICES ON PRIVATE PROPERTY MUST BE COORDINATED DIRECTLY WITH VEVAIA WATER PERSONNEL, 401-251-1506.
- 4) INSPECTION OF ALL SEWER CONSTRUCTION WITHIN PROPOSED RIGHT-OF-WAY SHALL BE PERFORMED BY TOWN OF SMITHFIELD SEWER CONSULTANT. APPLICANT SHALL PROVIDE SCHEDULE FOR CONSTRUCTION AS SOON AS POSSIBLE TO ALLOW FOR DEVELOPMENT OF INSPECTION FEEL TO BE PROVIDED DIRECTLY TO TOWN OF SMITHFIELD, ENGINEERING DEPARTMENT. UPON PAYMENT OF FEE, COMMENCEMENT OF CONSTRUCTION INSPECTION REQUIRES MINIMUM NOTIFICATION OF 48-HOURS.
- 5) ALL SEWER SERVICES SHALL BE MARKED WITH A 1" SQUARE STEEL PLATE BURIED 1' BELOW GRADE IF NOT CONNECTED IMMEDIATELY (PER SMITHFIELD SEWER AUTHORITY).

WATER NOTES:

- 1) ALL INSTALLATION, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO TOWN OF SMITHFIELD WATER SUPPLY BOARD REQUIREMENTS, AWWA STANDARDS AND GOVERNMENTAL REQUIREMENTS.
- 2) ALL FITTINGS SHALL BE DOUBLE END JOINT CLASS 350 CEMENT MORTAR LINED COMPACT STYLE (BY AMERICAN MANUFACTURER ONLY). FITTINGS SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C111/A21.1.
- 3) WATER PIPE SHALL BE DOUBLE END JOINT DUCTILE IRON PIPE CLASS 150 AND SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C151/A21.51.
- 4) CONSTRUCTION SHALL INCLUDE ALL PIPE, JOINTS, BENDS, TEE'S, FITTINGS, THRUST BLOCKS, SERVICE CONNECTIONS AND ALL MISCELLANEOUS ITEMS REQUIRED TO CONSTRUCT THE PROPOSED SYSTEM.
- 5) CONCRETE THRUST ANCHOR OR BEARING BLOCKS SHALL BE INSTALLED IN LOCATIONS INDICATED AND AT ALL BENDS, FITTINGS, PLUGS, ETC. WHEN A THRUST BLOCK CANNOT BE PLACED AGAINST UNDISTURBED EARTH, A REACTION BLOCK SUBSTITUTE SHALL BE DESIGNED AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 6) PRESSURE AND LEAKAGE TESTS AND DISCONNECTING PIPES SHALL BE PERFORMED BY THE CONTRACTOR IN CONFORMANCE TO AMERICAN WATER WORKS ASSOCIATION (AWWA) RECOMMENDATIONS, SMITHFIELD WATER SUPPLY BOARD REQUIREMENTS, AND GOVERNMENTAL AGENCIES HAVING JURISDICTION.
- 7) ALL FITTINGS, PIPE, JOINTS, ETC. SHALL BE DISINFECTED FOR 1.5 TIMES WORKING PRESSURE BUT NOT LESS THAN 150 PSI. PIPE SIZES SHOWN ON THE PLANS ARE SUBJECT TO CHANGE UPON REVIEW BY THE SMITHFIELD WATER SUPPLY BOARD.
- 8) WATER PIPE SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPE, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 5'. WHERE A HIGH WATER TABLE IS LESS THAN 18 INCHES CLEAR DISTANCE ABOVE A SEWER OR WHERE A WATER MAIN PASSES BENEATH A SEWER OR STORM DRAIN, CHANGE THE SEWER OR DRAIN IN 4" OF CONCRETE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER MAIN.
- 9) ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS, SUCH AS PIPE, THRUST BLOCKS, FITTINGS, CASINGS, ETC. SHALL BE SUBMITTED TO THE SMITHFIELD WATER SUPPLY BOARD AND ENGINEER FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURER'S LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
- 10) WATER LINE TRENCH TO BE AWWA TYPE S. A METALLIZED IDENTIFICATION TAPE 2" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE LOCATED OVER ALL MAINS. TAPE SHALL BE SET AT APPROXIMATELY 1'-0" BELOW FINISHED GRADE.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED JUL 2 2009 FILE # 07-000
Charles A. Harte



REVISION	
DATE	
NO.	

BRIAN P. THALMANN
REGISTERED PROFESSIONAL ENGINEER
(CT)

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Construction Details 4
Office Center At George Washington Highway
West Reservoir Road & Geo. Wash. Hwy.
Smithfield
Rhode Island
Prepared for:
370 GWH, L.L.C.
640 George Washington Highway Lincoln, RI 02865
date: Jun 2007

Drawn By: REB
Checked By: BPT
Sheet
12
of 12
FILE NO.: 08.021

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JUL 10 2009