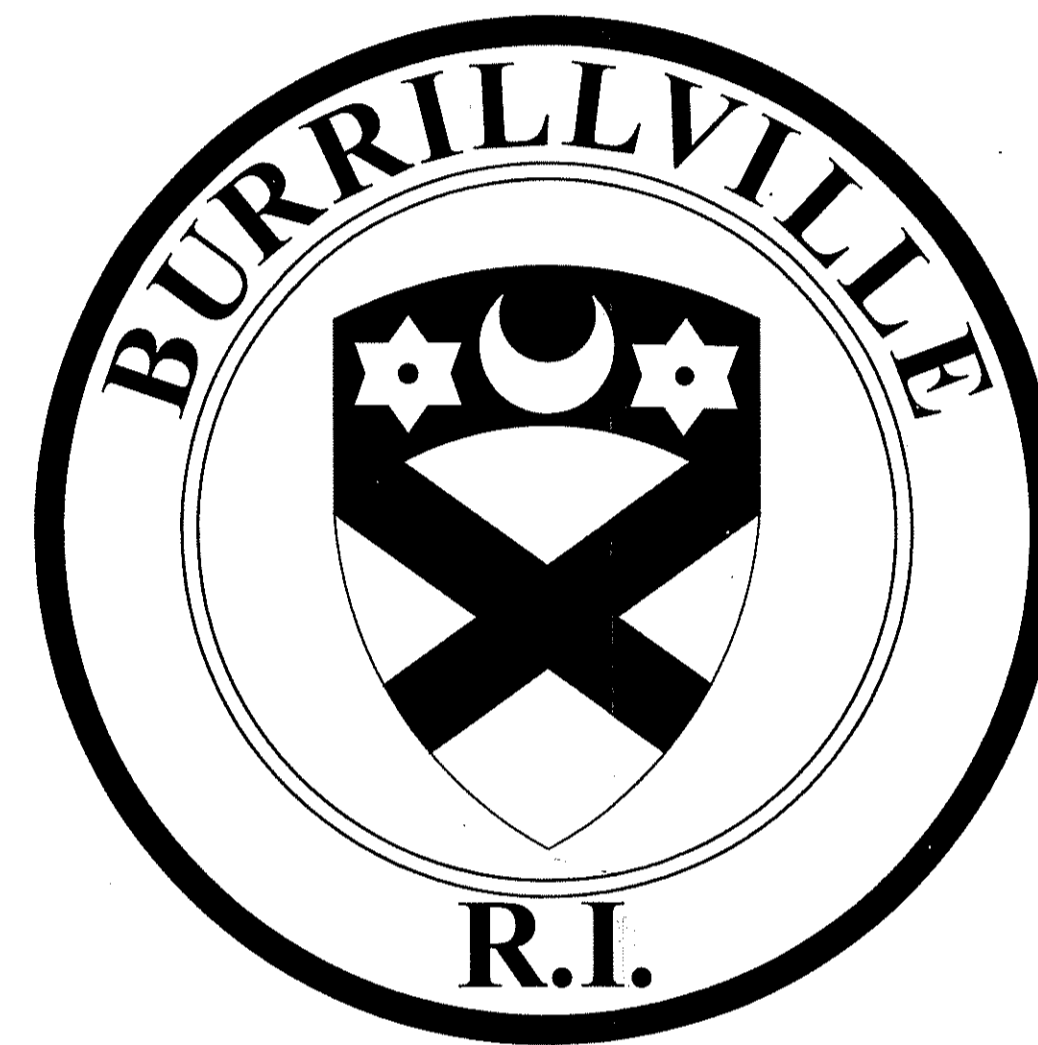


Construction Documents for a New Storage Facility at the

BROWN HOUSE ON SPRING LAKE

50 PINECREST LANE
BURRILLVILLE, RI
AP 93, LOT 41

PREPARED FOR THE
**TOWN OF
BURRILLVILLE**



MR. MICHAEL C. WOOD
TOWN MANAGER

MR. JEFFREY McCORMICK, P.E.,
DIRECTOR - DEPARTMENT OF PUBLIC WORKS

PROJECT TEAM

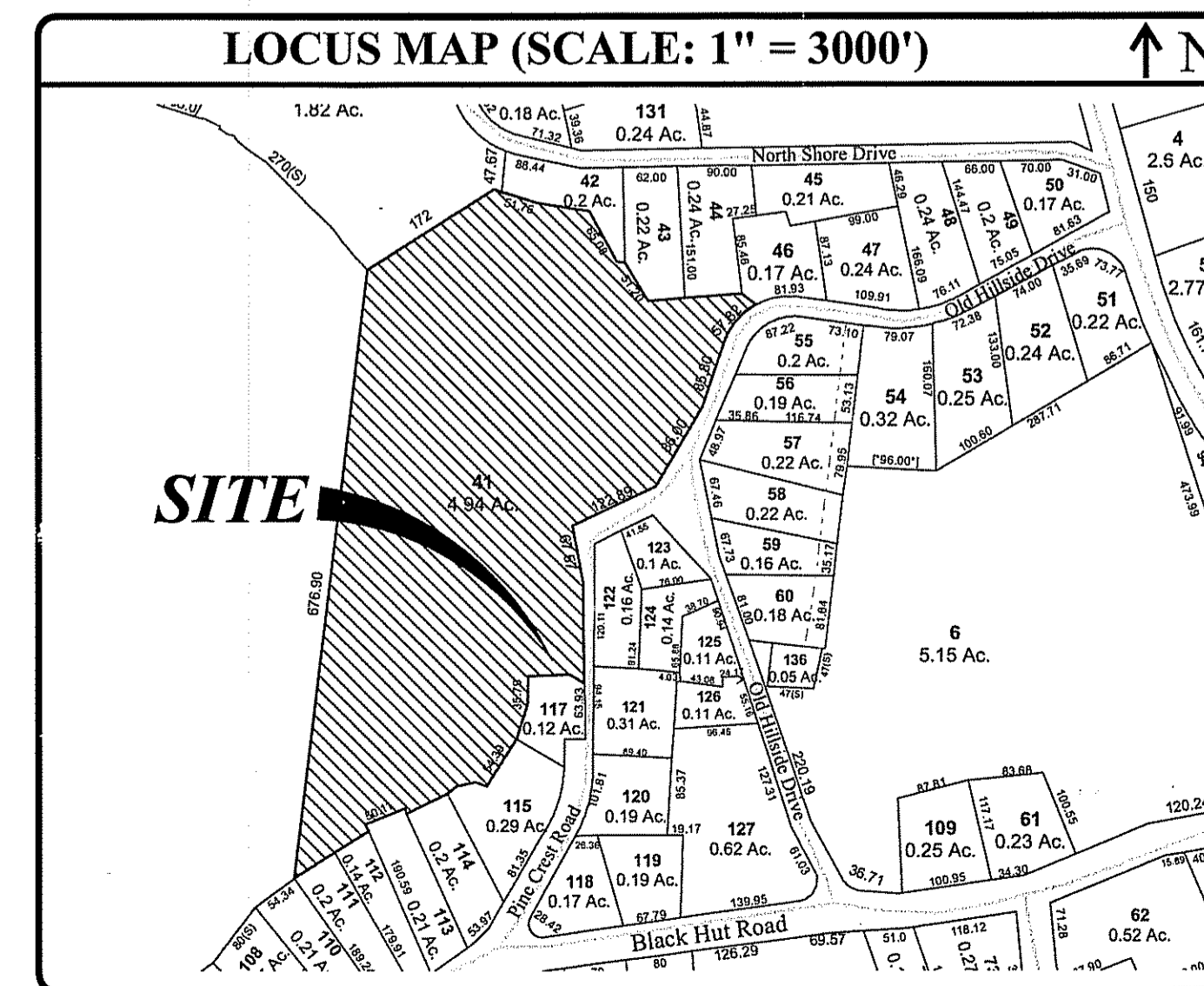
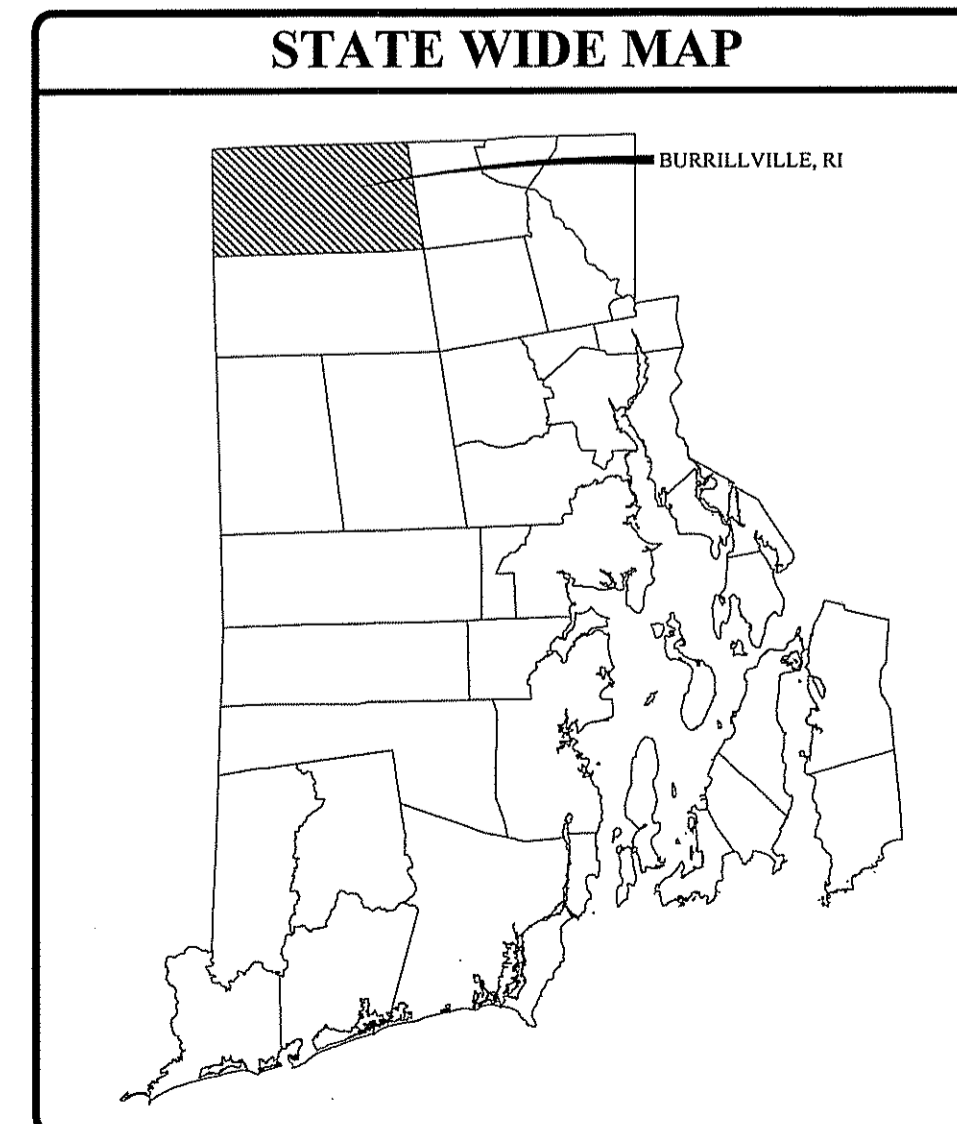
OWNER / APPLICANT: TOWN OF BURRILLVILLE
105 HARRISVILLE MAIN STREET
HARRISVILLE, RI 02830

CIVIL ENGINEER: JOE CASALI ENGINEERING, INC.
300 POST ROAD
WARWICK, RI 02888
PHONE: 401-944-1300
FAX: 401-944-1313
JOECASALI.COM

ARCHITECT: CASTELLONE ARCHITECTURE, LLC
792 GREAT ROAD
LINCOLN, RI 02865
PHONE: 401-465-9861

MECHANICAL, ELECTRICAL & PLUMBING ENGINEER: ENGINEERING DESIGN SERVICES INC.
141 INDUSTRIAL DRIVE
SLATERSVILLE, RI 02876
PHONE: 401-765-7659

LAND SURVEYOR: INTERNATIONAL MAPPING & SURVEYING CORPORATION
19 INDUSTRIAL DRIVE
SMITHFIELD, RI 02917
PHONE: 401-232-2620



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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG 28 2015 FILE # 15-0152
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Charles H. [Signature]

**BROWN HOUSE
on SPRING LAKE**
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41



REVISIONS:

NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-92aj

PRELIMINARY, NOT FOR CONSTRUCTION

COVER SHEET

SHEET G1.0

JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
300 POST ROAD, WARWICK, RI 02888
(401) 944-1300 (401) 944-1313 FAX WWW.JOECASALI.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
10.15

GENERAL NOTES:

- CLASS III TOPOGRAPHIC SURVEY COMPLETED BY INTERNATIONAL MAPPING AND SURVEYING CORP., 19 INDUSTRIAL DRIVE, SMITHFIELD RI IN JANUARY 2015.
- THE LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE LATEST AVAILABLE INFORMATION. THE UTILITY LOCATIONS ARE APPROXIMATE AND MAY NOT BE ALL INCLUSIVE. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, BOTH OVERHEAD AND UNDERGROUND, AND "DIG-SAFE" MUST BE NOTIFIED PRIOR TO COMMENCING ANY CONSTRUCTION OPERATIONS. RESTORATION AND REPAIR OF DAMAGE TO EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR WITH NO ADDITIONAL COST TO THE OWNER. NO EXCAVATION SHALL COMMENCE UNTIL ALL INVOLVED UTILITY COMPANIES AND/OR CITY WHOSE FACILITIES MIGHT BE AFFECTED BY ANY WORK TO BE PERFORMED BY THE CONTRACTOR ARE NOTIFIED AT LEAST 72 HOURS IN ADVANCE.
- THE MAJORITY OF THE SITE LIES IN ZONE X (AREAS OUTSIDE THE 500-YEAR FLOOD PLAIN), AS SHOWN ON THE FIRM MAP FOR PROVIDENCE COUNTY, RI, MAP NUMBER 44007C0135G, EFFECTIVE DATE MARCH 2, 2009. SPRING LAKE LIES IN ZONE A (SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, NO BASE FLOOD ELEVATIONS DETERMINED).
- SOILS EXISTING ON THE SITE ARE CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES (ChB), HYDROLOGIC SOIL GROUP B.
- SOIL EVALUATIONS WERE PERFORMED BY NATURAL RESOURCE SERVICES, INC. IN APRIL 2015.
- FRESHWATER WETLANDS DELINEATION WAS PERFORMED BY NATURAL RESOURCE SERVICES, INC. IN APRIL 2015.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- THE SILT FENCE LINE ILLUSTRATED ON THESE PLANS SHALL SERVE AS THE STRICT LIMIT OF DISTURBANCE FOR THE PROJECT WITHIN OR ADJACENT TO REGULATED FRESHWATER WETLAND AREAS.
- THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
- ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STAND IS MAINTAINED.
- ALL SILT FENCE, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION 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.

- STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
- THE SILT FENCE SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE HAY-BALES BECOMES FILLED WITH SEDIMENTS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
- ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1989, REVISED 2014.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DIVIDES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
- THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE STATE OR TOWN RIGHTS-OF-WAY.
- ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC. SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. 1988 EDITION, INCLUDING REVISION 3, SEPTEMBER 3, 1993 AND SUBSEQUENT ADDENDA.
- SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

EXISTING TREE PROTECTION

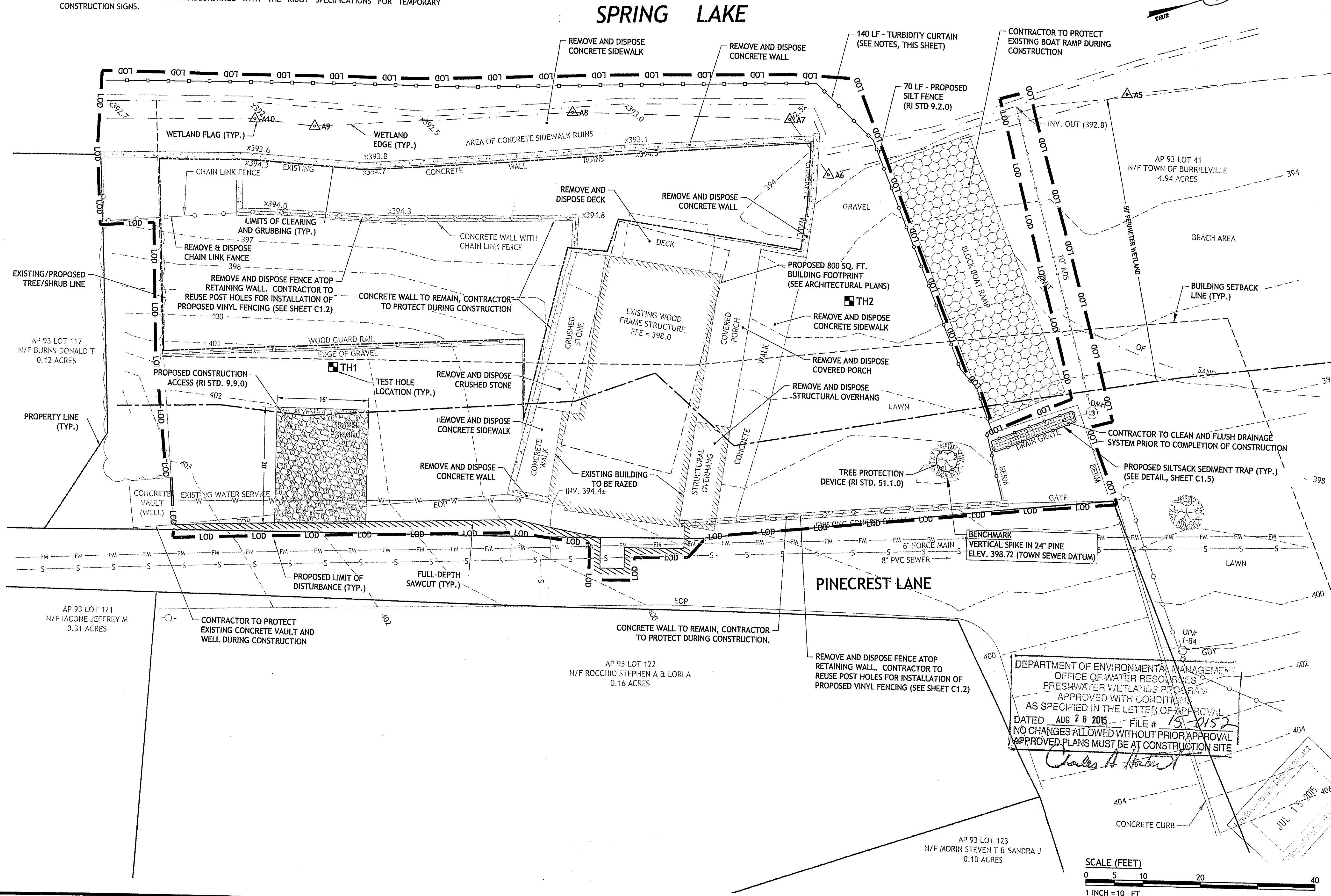
- AT THE START OF CONSTRUCTION ONCE EROSION CONTROL MEASURES ARE IN PLACE AND THE LIMIT OF DISTURBANCE HAS BEEN ESTABLISHED, THE OWNER AND/OR THEIR REPRESENTATIVE SHALL WALK THE SITE WITH THE CONTRACTOR TO DETERMINE WHICH TREES ARE TO BE REMOVED AND WHICH TREES ARE TO REMAIN AND BE PROTECTED.
- ALL TREES WHICH ARE LOCATED WITHIN THE CONSTRUCTION AREA AND ARE DESIGNATED TO REMAIN SHALL BE FLAGGED WITH ORANGE SURVEYORS RIBBON AND LABELED "TO REMAIN" WITH A WEATHERPROOF MARKER.
- DRIP LINE TREE PROTECTION DEVICE FOR EXISTING TREES (RI STANDARD 51.1.1) SHALL BE INSTALLED AROUND THE TREES MARKED TO REMAIN. NO MATERIALS OR VEHICLES SHALL BE STORED WITHIN THE FENCED AREA.
- THE TREES DESIGNATED TO REMAIN SHALL BE EVALUATED BY AN ARBORIST FOR STRUCTURAL INTEGRITY. HAZARDOUS TREE OR LIMBS ARE TO BE REMOVED BY ACCEPTABLE LANDSCAPING PRACTICES.
- ONCE CONSTRUCTION IS COMPLETE, CONTRACTOR SHALL REMOVE ALL FENCING, MOW AND REMOVE UNDERBRUSH.

TURBIDITY CURTAIN

- TURBIDITY CURTAIN SHALL BE TYPE 1 DOT LIGHT DUTY, AND SHALL MEET THE FOLLOWING SPECIFICATIONS:
 - FABRIC SHALL BE 18 OZ/SQ. YD. PVC LAMINATED POLYESTER FABRIC.
 - FLOTATION DEVICE SHALL BE 6-INCH EXPANDED POLYSTYRENE (EPS) FOAM, CONTAINED IN INDIVIDUALLY SEALED FLOAT POCKETS.
 - BALLAST SHALL BE 1/4" GRADE 30 GALVANIZED STEEL CHAIN; 5,200 LB BREAKING STRENGTH; 0.63 LB/FT WEIGHT.
 - LACING GROMMETS SHALL BE PROVIDED ON ROPE-REINFORCED ENDS LOCATED AT BOTH ENDS OF EACH BARRIER SECTION. BALLAST CHAIN SHALL BE SHACKLED SECTION TO SECTION.
 - SECTION LENGTH SHALL BE NO LESS THAN 25 FEET, AND NO GREATER THAN 100 FEET.
 - SKIRT DEPTH SHALL BE TAPERED TO CONFORM TO BOTTOM OF POND PROFILE.

LEGEND:

---	EXISTING PROPERTY LINE	---	EXISTING CATCH BASIN
---	PROPOSED PROPERTY LINE	---	PROPOSED CATCH BASIN
---	ABUTTING PROPERTY LINE	---	EXISTING UTILITY POLE
---	BUILDING SETBACK LINE	---	PROPOSED UTILITY POLE
---	WETLAND EDGE	---	EXISTING WATER LINE
---	WETLAND FLAG	---	PROPOSED WATER LINE
---	50' PERIMETER WETLAND	---	WATER GATE
---	100' RIVERBANK WETLAND	---	PROPOSED WATER GATE
---	EXISTING SPOT ELEVATION	---	EXISTING SEWER LINE
---	EXISTING CONTOUR	---	PROPOSED SEWER LINE
---	PROPOSED CONTOUR	---	EXISTING SEWER MANHOLE
---	EXISTING CURB	---	PROPOSED SEWER MANHOLE
---	PROPOSED CURB	---	N/F
---	EXISTING METAL FENCE	---	NOW OR FORMERLY
---	CHAIN LINK FENCE	---	TREELINE
---	EXISTING DRAIN LINE	---	SILT FENCE
---	PROPOSED DRAIN LINE	---	LIMIT OF DISTURBANCE
---	EXISTING DRAINAGE MANHOLE	---	TEST HOLE
---	PROPOSED DRAINAGE MANHOLE	---	HYDRANT
---		---	PROPOSED HANDICAP



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
 Department of Environmental Management
 Office of Water Resources
 Onsite Wastewater Treatment System Program

Site Evaluation Form
 Part A - Soil Profile Description

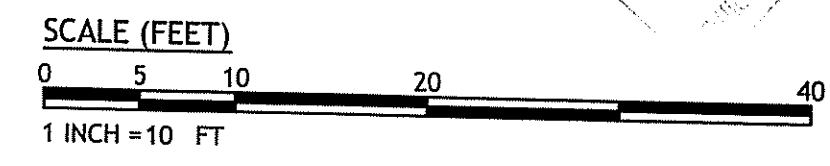
Property Owner: *Burrillville, RI - 48 Old Millside Drive*
 Date of Test Hole: *April 30, 2015*
 Soil Evaluator: *Edward J. Mazzoni* License Number: *D1023*
 Weather: *Sunny - 50°* Shaded: *Yes* No: *No* Time: *8:00 AM*

TH #	Horizon	Depth	Horizon Boundaries	Soil Colors	Moisture	Texture	Structure	Consistence	Soil Category
1	1	0-10	C 5	4/1	—	gs	Org	L	1
1	1	10-20	C 5	4/2	—	gs	Org	L	1
1	1	20-30	C 5	4/2	—	gs	Org	L	1
2	1	0-10	A 5	10R/2/1	—	S	Org	L	1
2	1	10-15	A 5	10R/2/1	—	LS	Org	L	3
2	1	15-30	C 5	10R/2/1	—	S	Org	L	1
2	1	30-40	C 5	10R/2/1	—	gs	Org	L	1

TH 1 Soil Class: *10R/2* Total Depth: *110"* Impervious/Limiting Layer Depth: *210"* (g) GW Seepage Depth: *72"* S.W. *10'*
 TH 2 Soil Class: *10R/2* Total Depth: *96"* Impervious/Limiting Layer Depth: *526"* (g) GW Seepage Depth: *18"* S.W. *10'*
 Comments: *TH 1 - mostly gs, pocket of pebbles, some wood and metal debris*
TH 2 - 7 to 8 inches of beach sand over original soil

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED *AUG 28 2015* FILE # *15-0152*
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hester



JCE
 JOE CASALI ENGINEERING, INC.
 REGISTRATION: TRANSPORTATION
 DRAINAGE - WETLANDS - ISDS
 300 POST ROAD, WARWICK, RI 02886
 (401) 944-1388 (401) 944-1313 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI
 No. 7250
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

BROWN HOUSE on SPRING LAKE
 50 PINECREST LANE
 BURRILLVILLE, RHODE ISLAND
 AP 93 LOT 41



REVISIONS:

NO.	DATE	DESCRIPTION

DESIGNED BY: *DRD*
 DRAWN BY: *WMLJR*
 CHECKED BY: *JAC*
 DATE: *JULY 2015*
 PROJECT NO: *05-9231*

PRELIMINARY, NOT FOR CONSTRUCTION

EXISTING CONDITIONS AND SITE PREP. PLAN

SHEET C1.1

- SITE NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
 - STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
 - ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
 - THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR OR A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER.
 - ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
 - REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ACTUAL SIZE OF THE PROPOSED BUILDING.
 - WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE TOWN OF BURRILLVILLE AT NO ADDITIONAL COST.
 - ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE TOWN OF BURRILLVILLE.
 - THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION.
 - THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
 - ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
 - THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AT COMPLETION OF EACH DAY'S WORK.
 - WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
 - ALL LEDGE TO BE REMOVED BY MECHANICAL MEANS.
 - ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
 - REFER TO PLUMBING PLANS FOR CONTINUATION OF ALL UTILITIES WITHIN 5' (FIVE) FEET OF BUILDINGS.
 - ALL SITE WORK, INCLUDING BUT NOT LIMITED TO BITUMINOUS PAVEMENT, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2004 EDITION (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

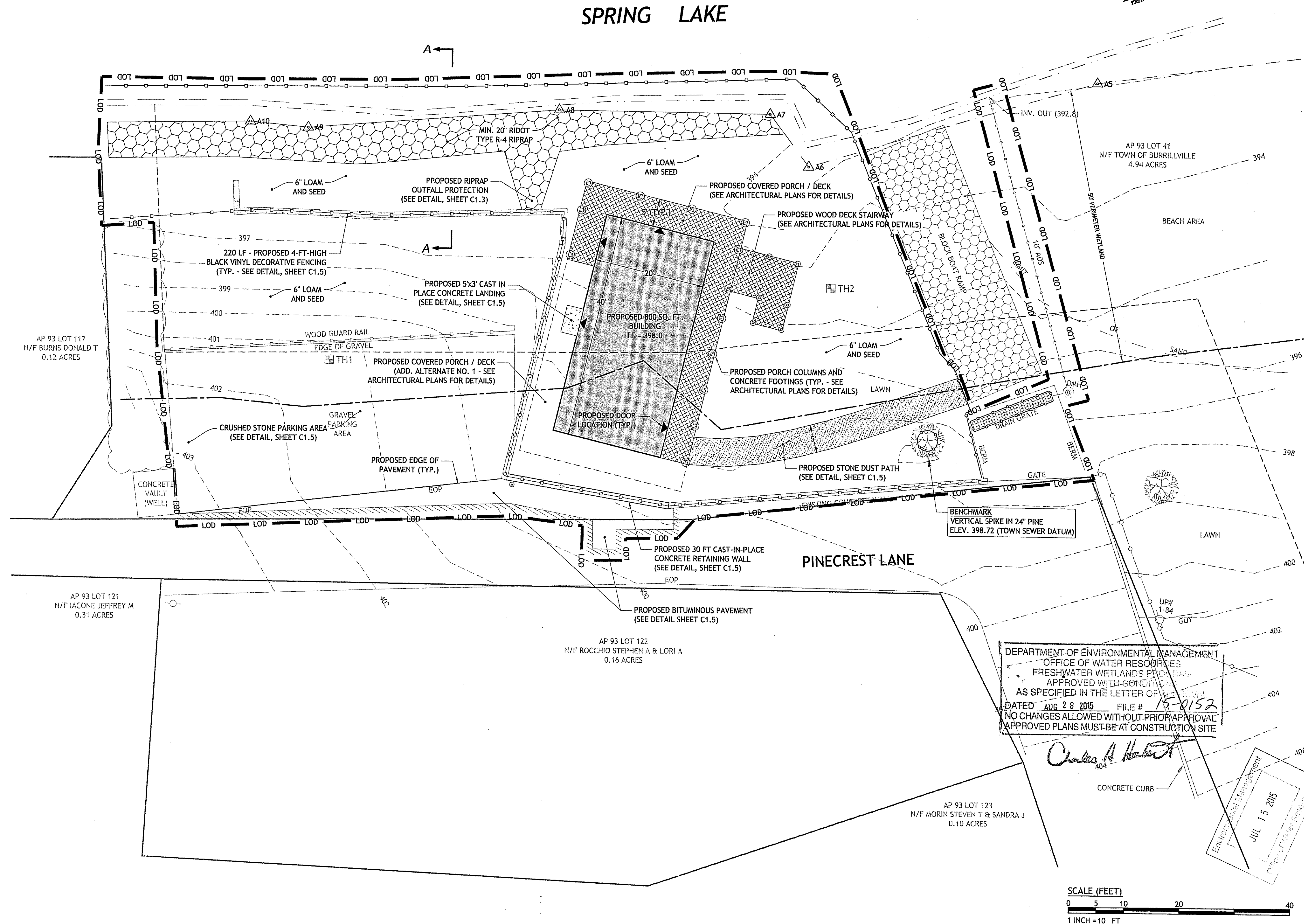
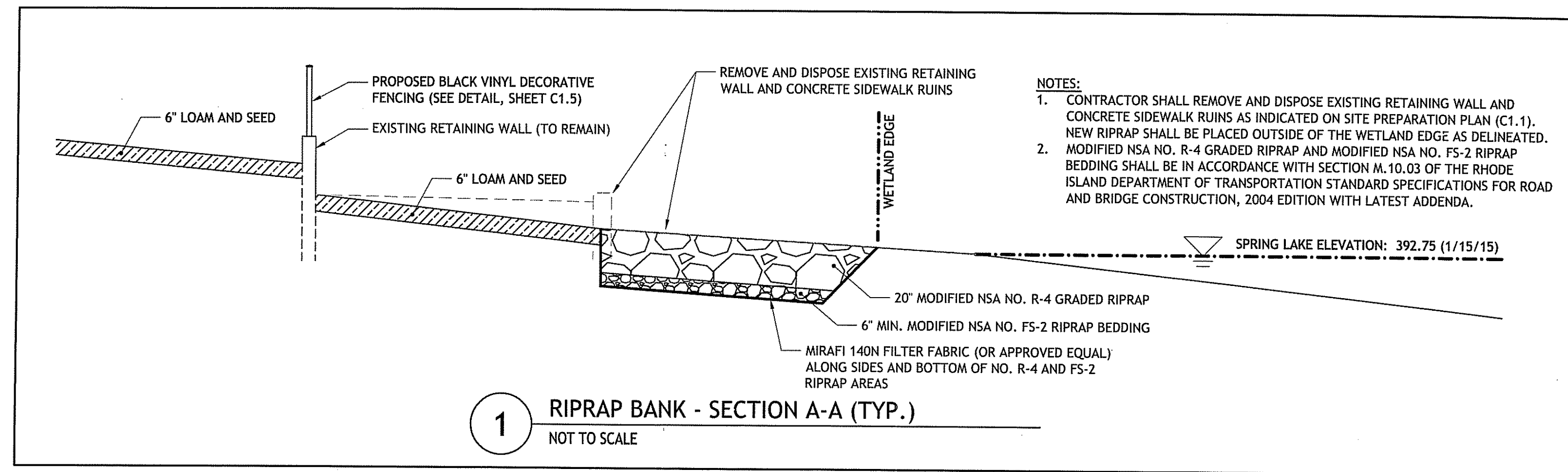
LAYOUT NOTE:
THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.

ZONING CRITERIA	REQUIRED	EXISTING LOT 41	PROPOSED LOT 41
ZONING DISTRICT	R20	R20	R20
MINIMUM LOT AREA	20,000 SF	215,186 SF	215,186 SF
MINIMUM LOT FRONTAGE	125'	536'	536'
MINIMUM FRONT YARD SETBACK	30'	2"	11**
MINIMUM SIDE YARD SETBACK	10'	79'	80'
MINIMUM REAR YARD SETBACK	30'	NA	NA
MAX. BUILDING COVERAGE	25%	8.3%	8.1%
MAXIMUM BUILDING HEIGHT	35'	<35'	30'

* = EXISTING, LEGAL NON-CONFORMING CONDITION
** = REDUCTION OF EXISTING, LEGAL, NON-CONFORMING CONDITION

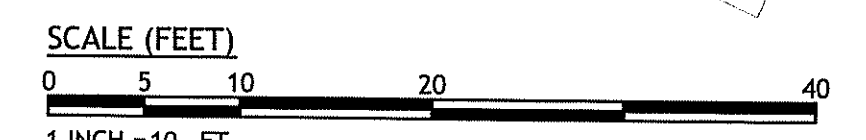
LEGEND:

—	EXISTING PROPERTY LINE	---	EXISTING CATCH BASIN
---	PROPOSED PROPERTY LINE	---	PROPOSED CATCH BASIN
---	ABUTTING PROPERTY LINE	UP#T2	EXISTING UTILITY POLE
---	BUILDING SETBACK LINE	---	PROPOSED UTILITY POLE
△WF	WETLAND EDGE	---	EXISTING WATER LINE
---	WETLAND FLAG	---	PROPOSED WATER LINE
---	50' PERIMETER WETLAND	WG	WATER GATE
---	100' RIVERBANK WETLAND	---	PROPOSED WATER GATE
---	200' RIVERBANK WETLAND	---	EXISTING SEWER LINE
---	BUILDING SETBACK LINE	---	PROPOSED SEWER LINE
163.89	EXISTING SPOT ELEVATION	---	EXISTING SEWER MANHOLE
---	EXISTING CONTOUR	---	PROPOSED SEWER MANHOLE
---	PROPOSED CONTOUR	N/F	NOW OR FORMERLY
---	EXISTING CURB	---	TREELINE
---	PROPOSED CURB	---	SILT FENCE
---	EXISTING METAL FENCE	---	LIMIT OF DISTURBANCE
---	CHAIN LINK FENCE	---	TEST HOLE
---	EXISTING DRAIN LINE	---	HYDRANT
---	PROPOSED DRAIN LINE	---	PROPOSED HANDICAP
---	EXISTING DRAINAGE MANHOLE	---	
---	PROPOSED DRAINAGE MANHOLE	---	



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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FRESHWATER WETLANDS PERMITS
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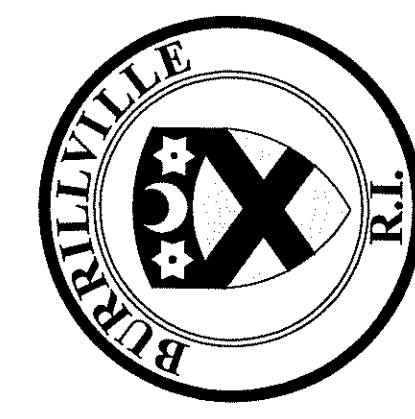
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300 POST ROAD, WARWICK, RI 02888
(401) 844-1800 / (401) 844-1570 FAX

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL

BROWN HOUSE
on **SPRING LAKE**
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41



REVISIONS:

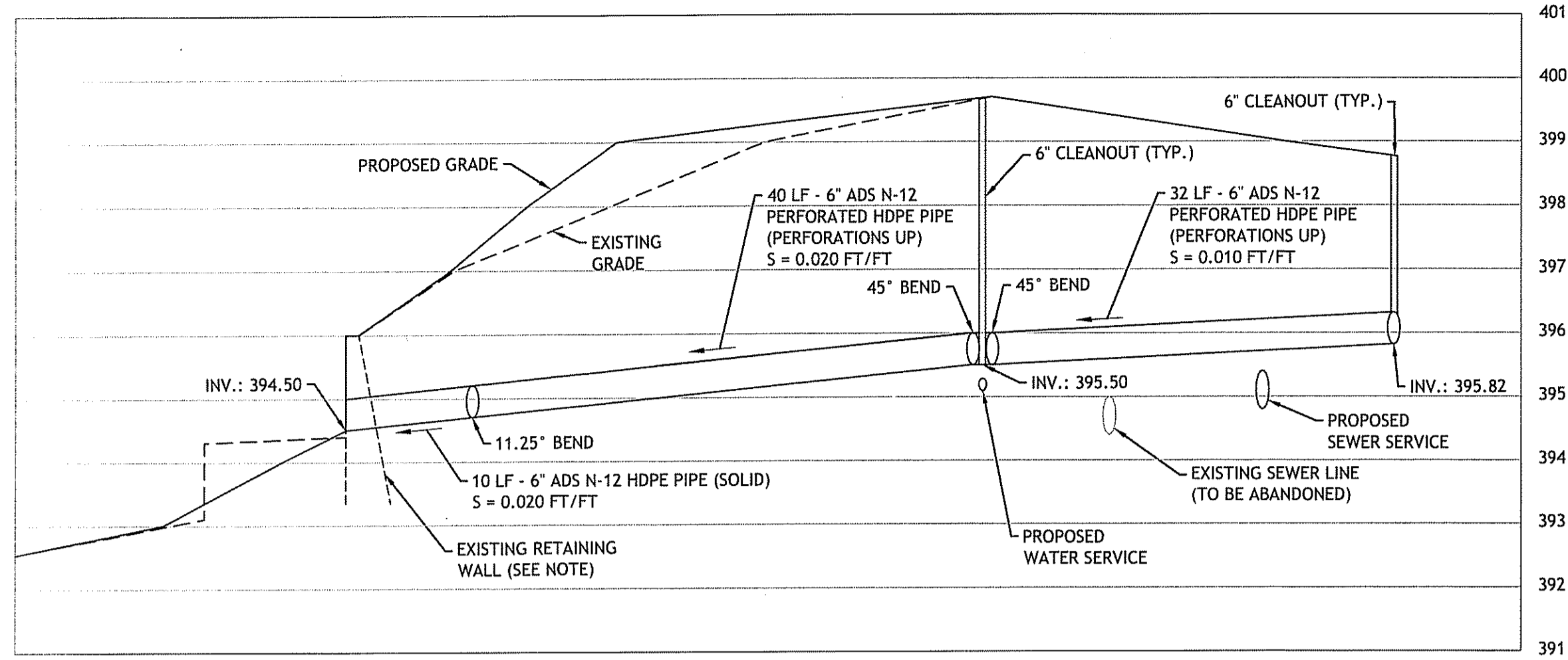
NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-9241

PRELIMINARY, NOT FOR CONSTRUCTION

SITE PLAN

SHEET C1.2



DRAINAGE PROFILE
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'

NOTE:

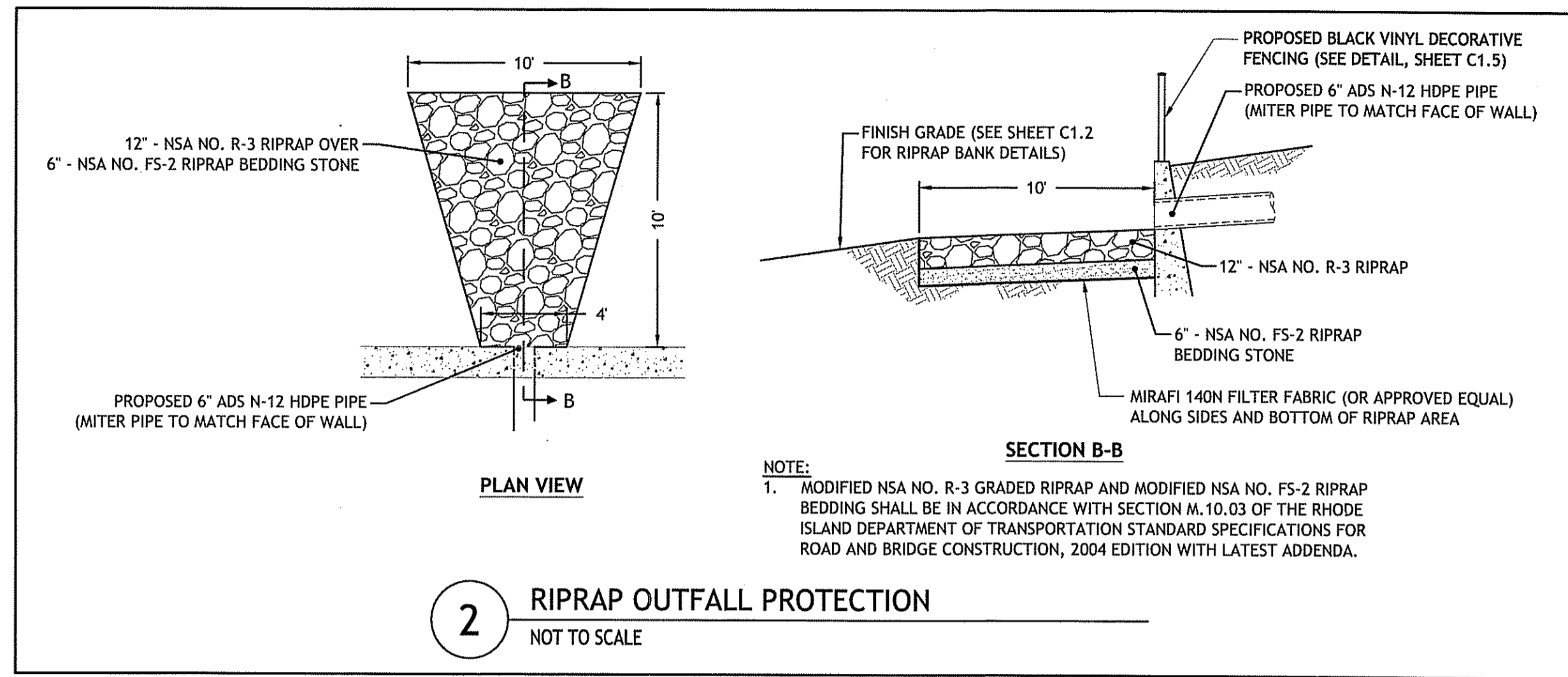
1. GEOMETRY OF EXISTING RETAINING WALL IS UNKNOWN. PRIOR TO CORING THROUGH WALL, CONTRACTOR SHALL EXCAVATE A TEST PIT IN THE PRESENCE OF THE DESIGN ENGINEER. ENGINEER SHALL ASSESS THE STRUCTURAL INTEGRITY OF THE WALL AND REDESIGN PENETRATION (IF NECESSARY).

BMP MAINTENANCE SCHEDULE:

1. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
 - 1.A. MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORM WATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEM TO INCLUDE INSPECTION, CLEANING AND REPAIRS ALL PIPES, INTAKE AND DISCHARGE STRUCTURES, CATCH BASIN SUMPS, AND MANHOLES.
 - 1.B. INSPECTION OF ALL SLOPES, BERMS AND OTHER CONTROL STRUCTURES FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IN NECESSARY. INSPECTION SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/4 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR EVERY 7 CALENDAR DAYS IF NO RAINFALL EVENT OCCURS.
2. UPON COMPLETION OF THE PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION AND CLEANING OF THE DRAINAGE SYSTEM AND ALL ASSOCIATED STRUCTURES.
3. ALL MAINTENANCE OF THE DRAINAGE SYSTEM SHALL BE RESPONSIBILITY OF THE OWNER.
 - 3.A. ANY REQUIRED REPAIR AND REPLACEMENT OF DRAINAGE STRUCTURES OR FACILITIES SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE SYSTEM.
 - 3.B. ALL DESIGN, CLEANING, AND MAINTENANCE OF THE STORM WATER DRAINAGE SYSTEM SHALL FOLLOW THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION MINIMUM STANDARDS, SECTION 212 AND SECTION 708. WHERE APPROPRIATE, PROCEDURES REGARDING THE DRAINAGE DESIGN, AND THE INSPECTION AND MAINTENANCE OF THE STORM WATER DRAINAGE SYSTEM SHALL BE FOLLOWED AS OUTLINED IN THE "RHODE ISLAND STORM WATER DESIGN AND INSTALLATION STANDARDS MANUAL" (RIDEM/RICRMC, 2010).
4. STORMWATER BMPs SHALL BE INSPECTED AND MAINTAINED AS FOLLOWS:

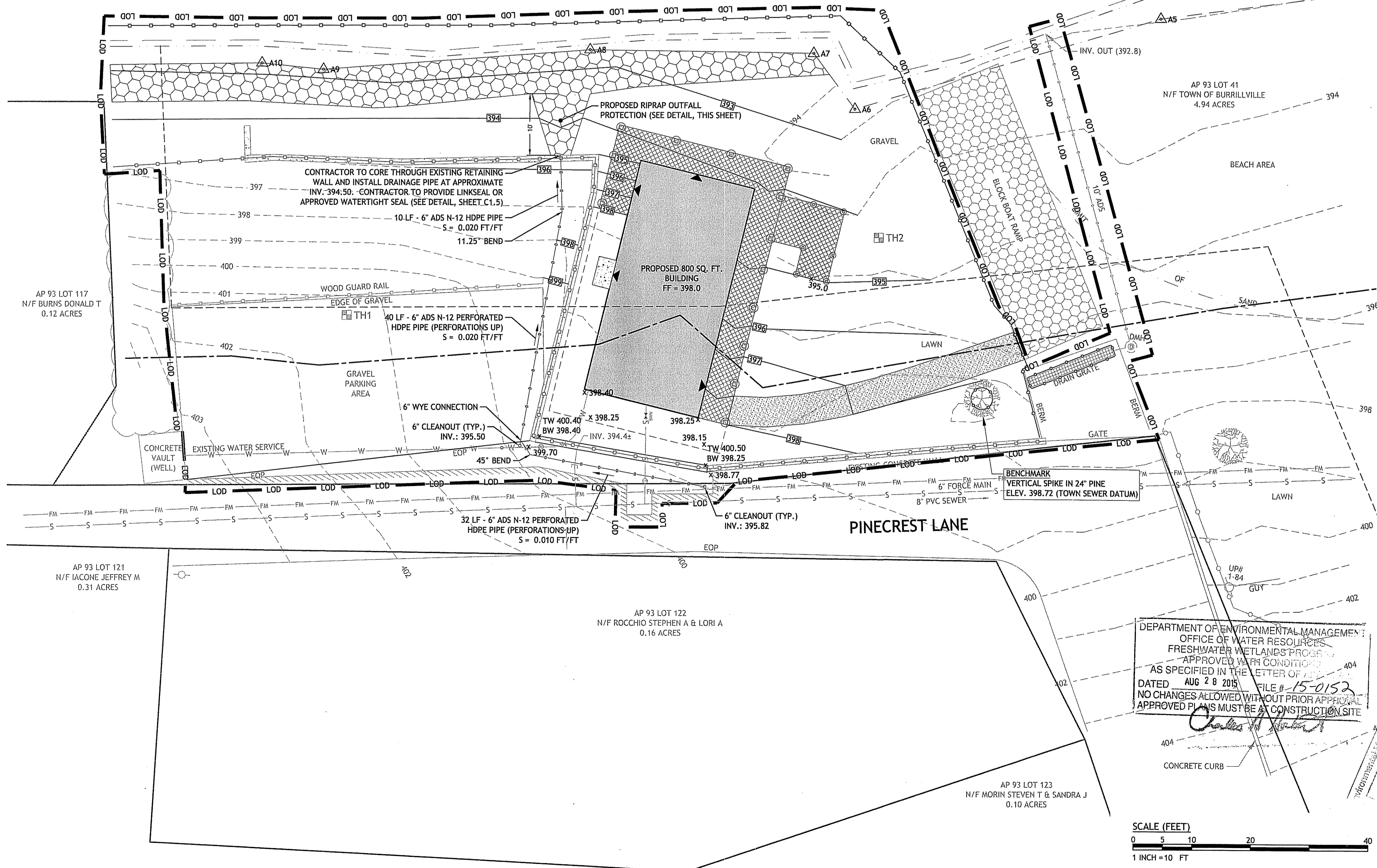
CATCH BASINS

 - 4.A. INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO 2-FEET (LESS THAN 2-FEET FROM THE BOTTOM OF PIPE).
 - 4.B. THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED.



2 RIPRAP OUTFALL PROTECTION
NOT TO SCALE

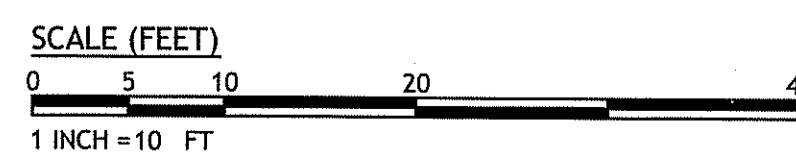
SPRING LAKE



LEGEND:

- | | | | |
|--------|---------------------------|-------|-------------------------|
| — | EXISTING PROPERTY LINE | — | EXISTING CATCH BASIN |
| - - - | PROPOSED PROPERTY LINE | - - - | PROPOSED CATCH BASIN |
| — | ABUTTING PROPERTY LINE | — | EXISTING UTILITY POLE |
| - - - | BUILDING SETBACK LINE | - - - | PROPOSED UTILITY POLE |
| — | WETLAND EDGE | — | EXISTING WATER LINE |
| △ WF | WETLAND FLAG | — | PROPOSED WATER LINE |
| - - - | 50' PERIMETER WETLAND | — | WATER GATE |
| - - - | 100' RIVERBANK WETLAND | - - - | PROPOSED WATER GATE |
| - - - | 200' RIVERBANK WETLAND | — | EXISTING SEWER LINE |
| - - - | BUILDING SETBACK LINE | - - - | PROPOSED SEWER LINE |
| 161.89 | EXISTING SPOT ELEVATION | — | EXISTING SEWER MANHOLE |
| — | EXISTING CONTOUR | — | PROPOSED SEWER MANHOLE |
| - - - | PROPOSED CONTOUR | — | N/F --- NOW OR FORMERLY |
| — | EXISTING CURB | — | TREELINE |
| - - - | PROPOSED CURB | — | SILT FENCE |
| — | EXISTING METAL FENCE | — | LIMIT OF DISTURBANCE |
| — | CHAIN LINK FENCE | — | TEST HOLE |
| — | EXISTING DRAIN LINE | — | HYDRANT |
| — | PROPOSED DRAIN LINE | — | PROPOSED HANDICAP |
| — | EXISTING DRAINAGE MANHOLE | | |
| — | PROPOSED DRAINAGE MANHOLE | | |

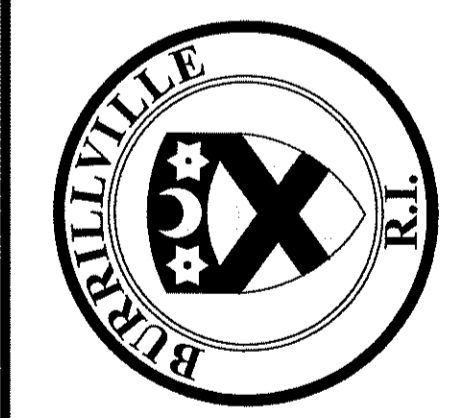
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED AUG 28 2015
FILE # 15-0152
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



JCE
JOE CASALI ENGINEERING, INC.
CIVIL, SITE DEVELOPMENT, TRAFFIC, FLOODPLAIN
DRAINAGE, WETLANDS, EIDS, TRAFFIC, FLOODPLAIN
300 POST ROAD, WARWICK, RI 02888
(401) 944-1800 (401) 944-5131 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI
No. 7250
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

BROWN HOUSE
on SPRING LAKE
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41



REVISIONS:

NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-92a

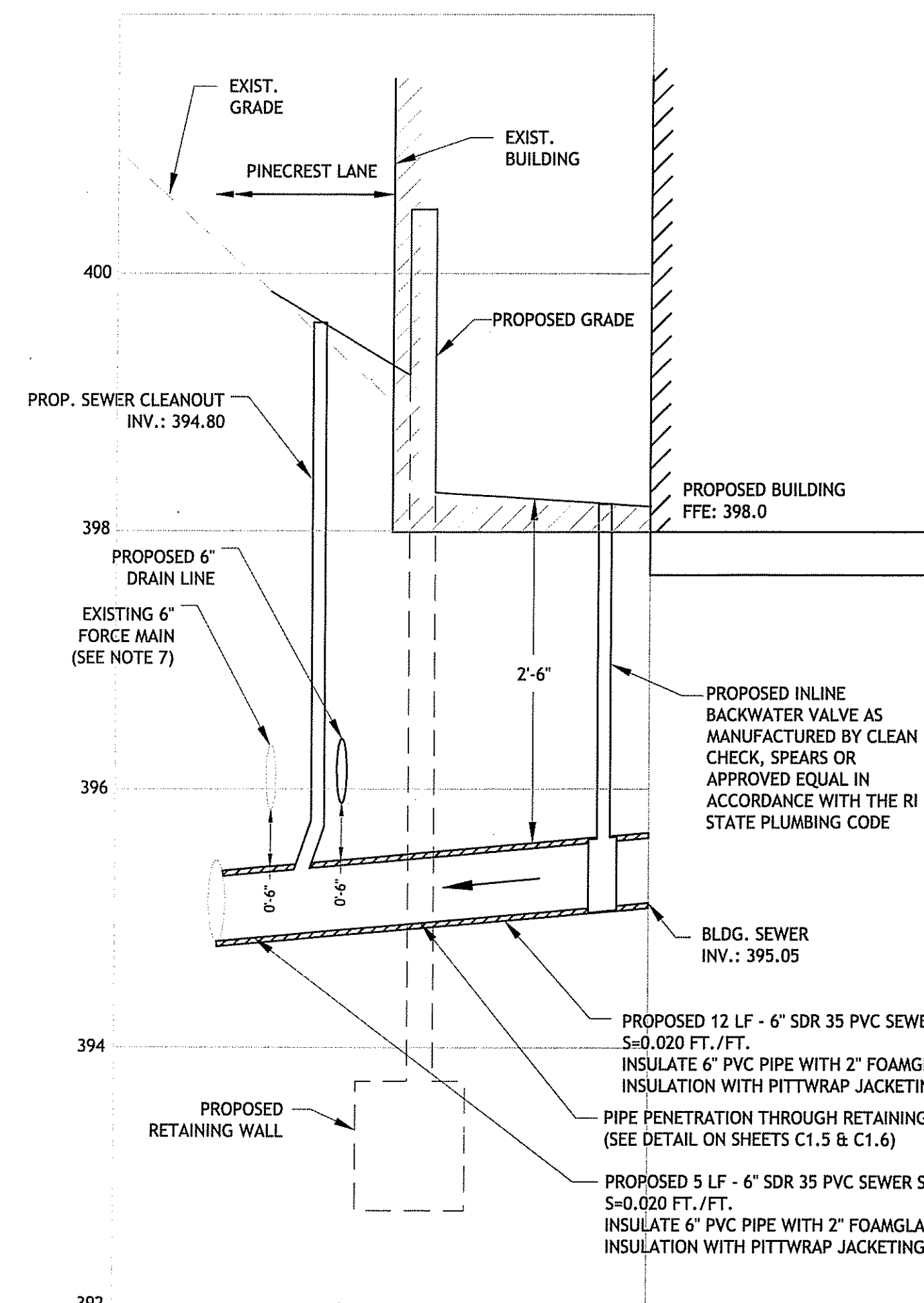
PRELIMINARY, NOT FOR CONSTRUCTION

GRADING AND DRAINAGE PLAN

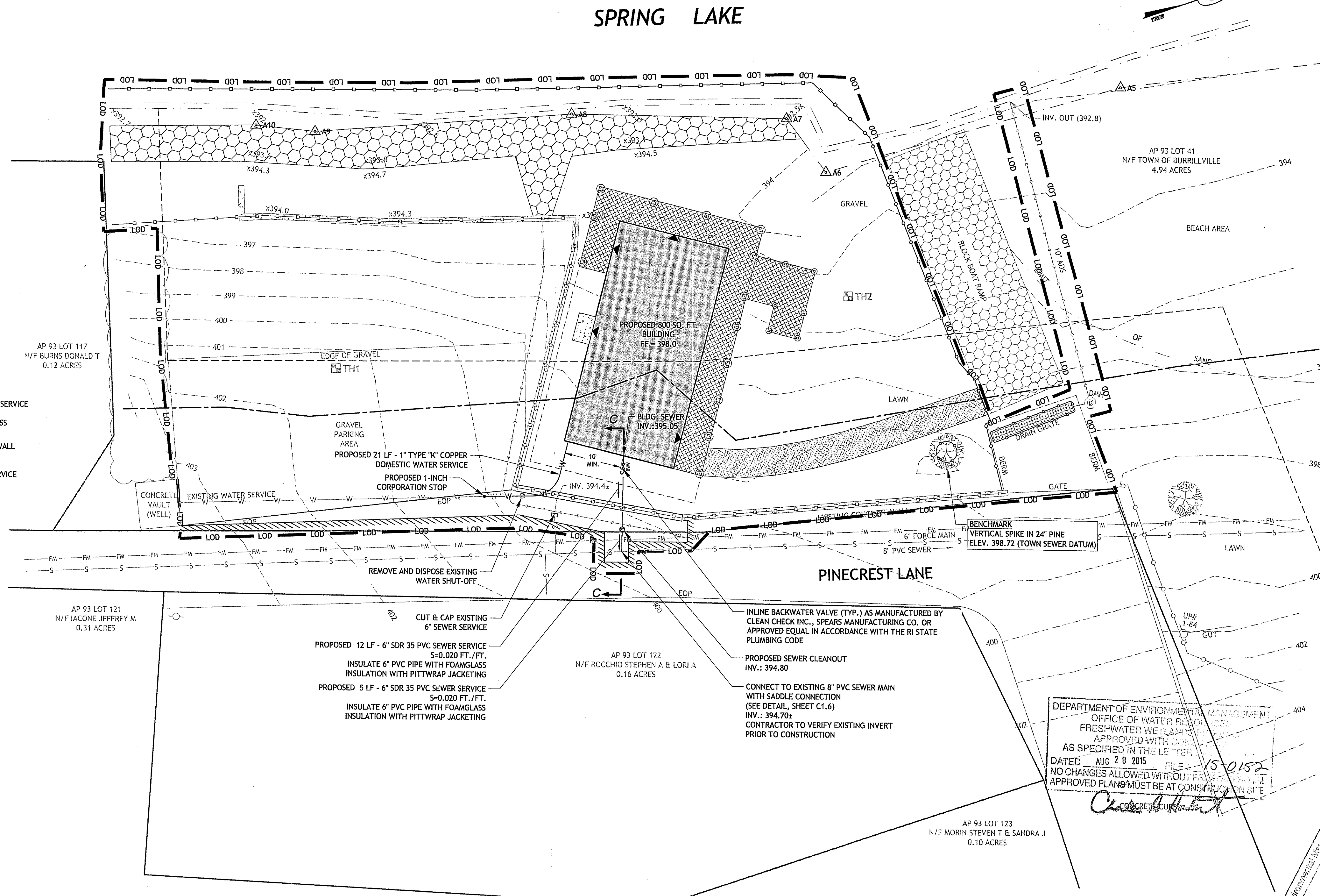
SHEET C1.3

MISCELLANEOUS UTILITY NOTES:

1. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. THE UTILITY PLAN DOES NOT DEPICT THE NECESSARY ELECTRICAL CONDUIT/WIRING TO SERVICE THE PROPOSED LIGHTING, WHICH WILL BE PERFORMED BY THE CONTRACTOR FOR NO ADDITIONAL COST.
3. OVERHEAD ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THESE OPERATIONS.
5. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT HIS OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR TOWN.
6. EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.
7. LOW PRESSURE FORCE MAIN SHALL BE PROTECTED AND KEPT ACTIVE AT ALL TIMES DURING CONSTRUCTION.



SECTION C-C
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 1'



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS
APPROVED WITH COMMENTS
AS SPECIFIED IN THE LETTER
DATED AUG 28 2015 FILE # 15-0152
NO CHANGES ALLOWED WITHOUT PREVIOUS WRITTEN APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

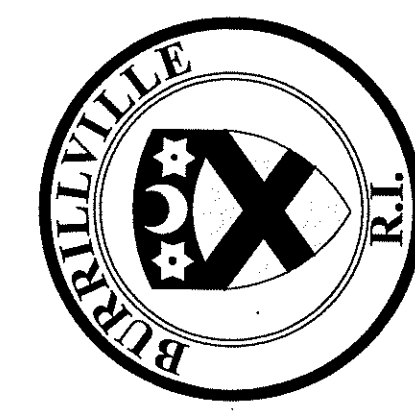


LEGEND:

---	EXISTING PROPERTY LINE	---	EXISTING CATCH BASIN
- - -	PROPOSED PROPERTY LINE	- - -	PROPOSED CATCH BASIN
---	ABUTTING PROPERTY LINE	---	EXISTING UTILITY POLE
---	BUILDING SETBACK LINE	---	PROPOSED UTILITY POLE
---	WETLAND EDGE	---	EXISTING WATER LINE
WF	WETLAND FLAG	---	PROPOSED WATER LINE
---	50' PERIMETER WETLAND	WG	WATER GATE
---	100' RIVERBANK WETLAND	---	PROPOSED WATER GATE
---	200' RIVERBANK WETLAND	---	EXISTING SEWER LINE
---	BUILDING SETBACK LINE	---	PROPOSED SEWER LINE
463.35	EXISTING SPOT ELEVATION	---	EXISTING SEWER MANHOLE
---	EXISTING CONTOUR	---	PROPOSED SEWER MANHOLE
---	PROPOSED CONTOUR	N/F	NOW OR FORMERLY
---	EXISTING CURB	---	TREELINE
---	PROPOSED CURB	---	SILT FENCE
---	EXISTING METAL FENCE	---	LIMIT OF DISTURBANCE
---	CHAIN LINK FENCE	---	TEST HOLE
---	EXISTING DRAIN LINE	---	HYDRANT
---	PROPOSED DRAIN LINE	---	PROPOSED HANDICAP
---	EXISTING DRAINAGE MANHOLE	---	
---	PROPOSED DRAINAGE MANHOLE	---	

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER CIVIL

BROWN HOUSE
on **SPRING LAKE**
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41



REVISIONS:

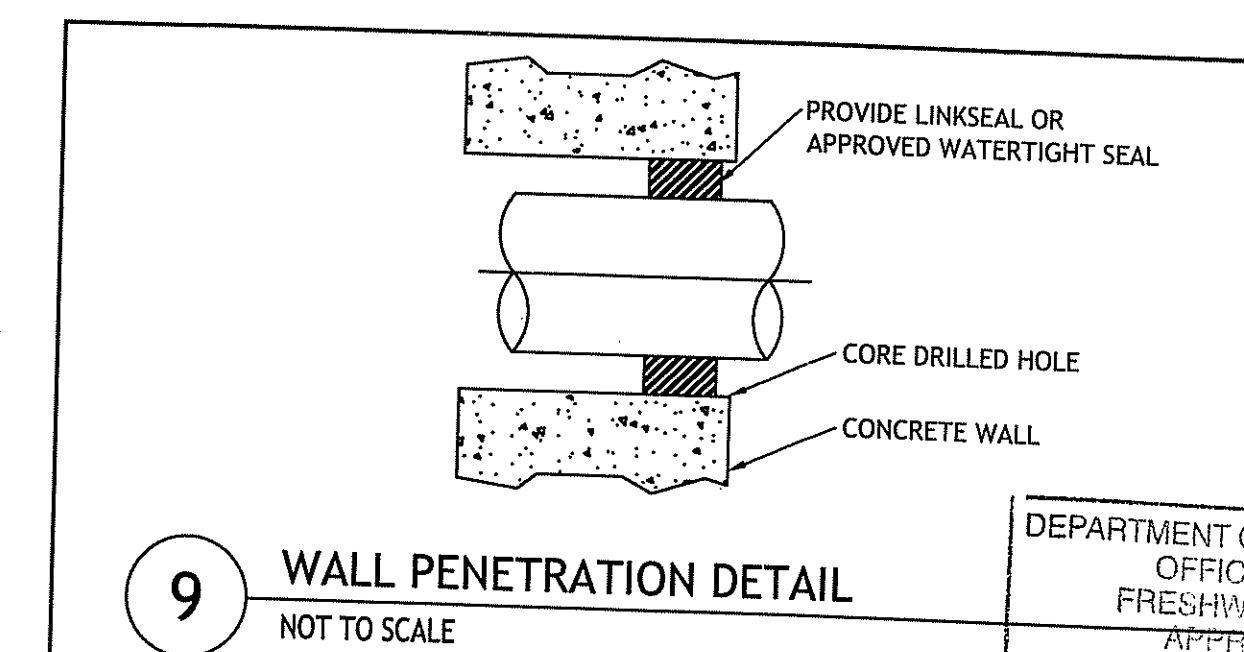
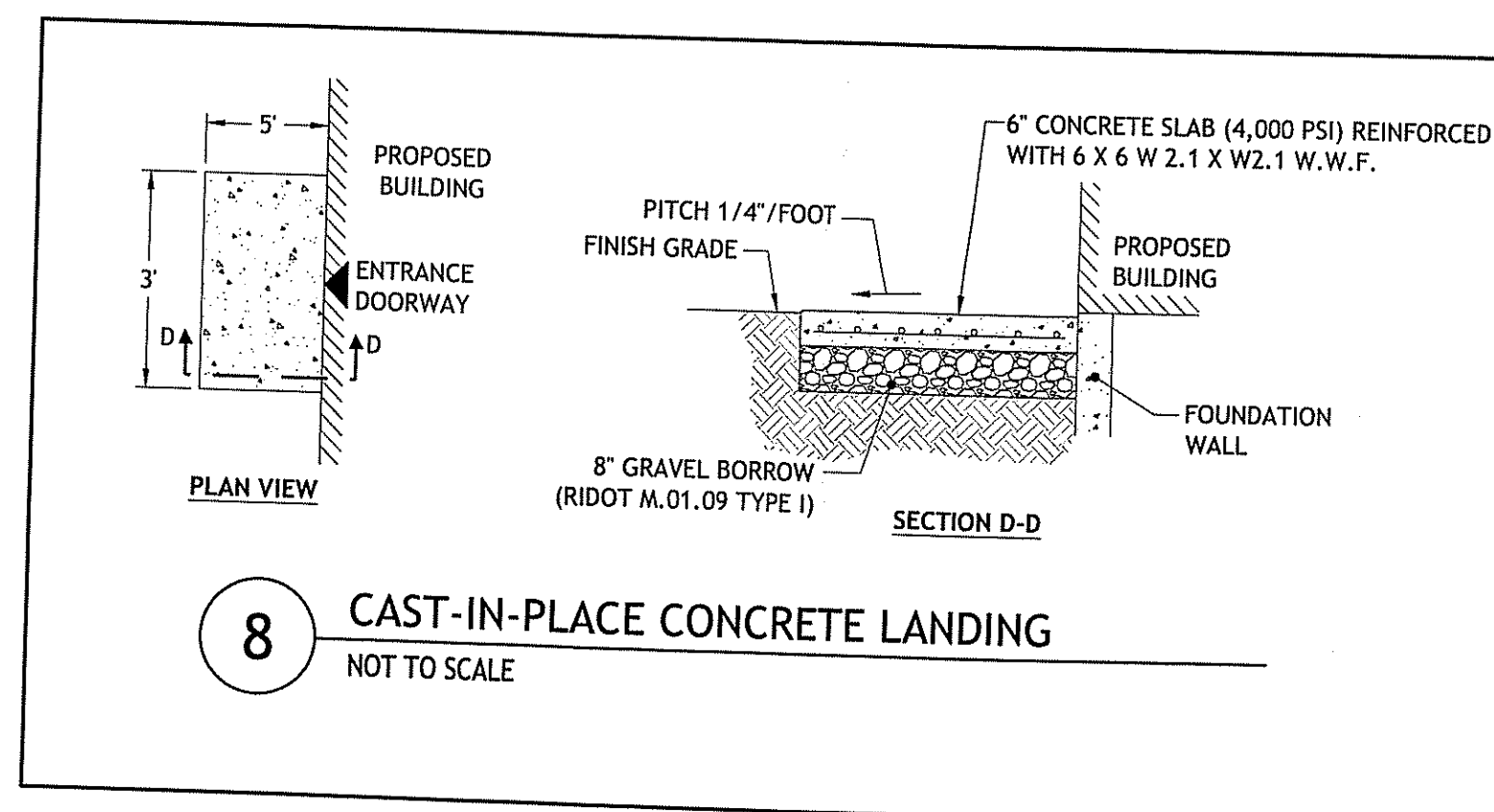
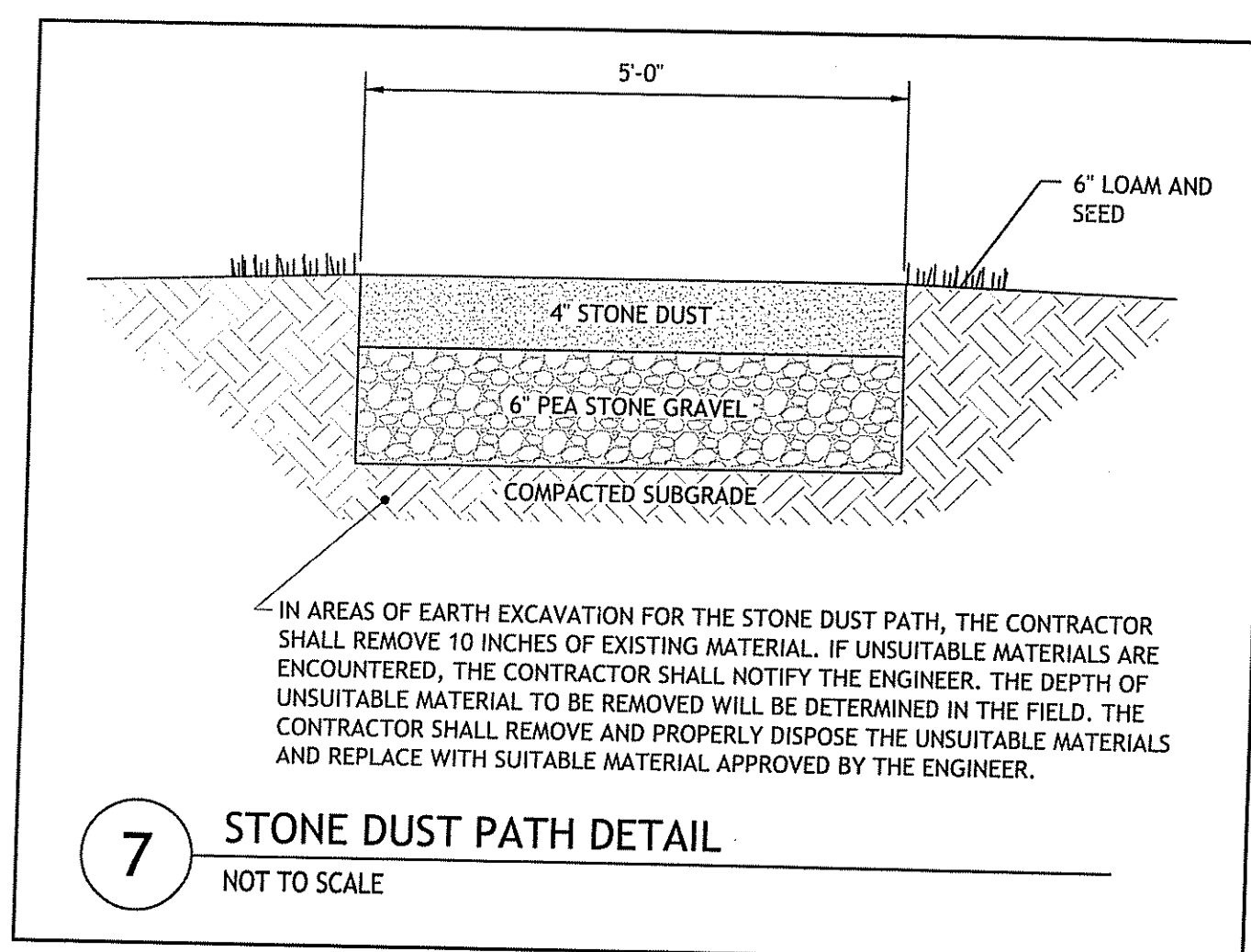
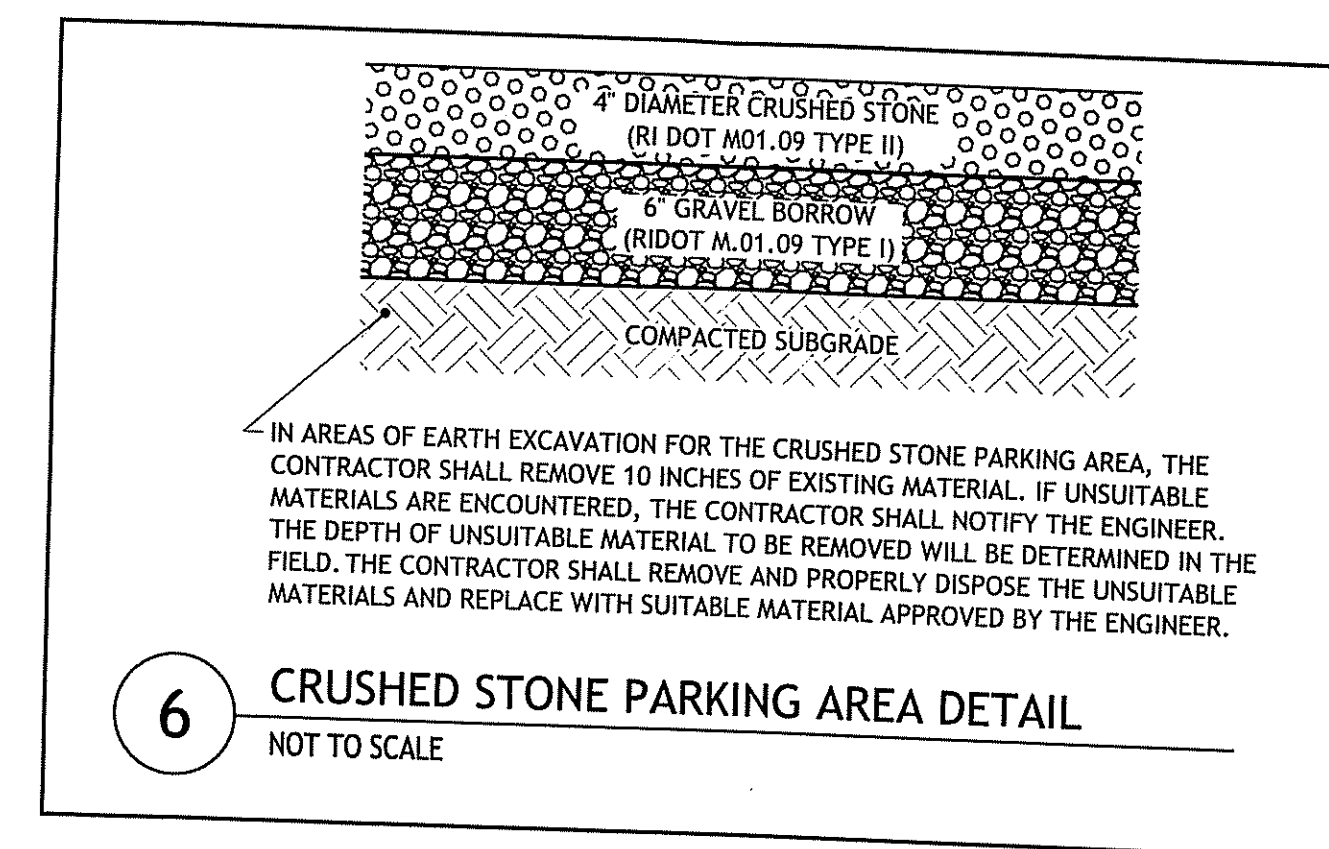
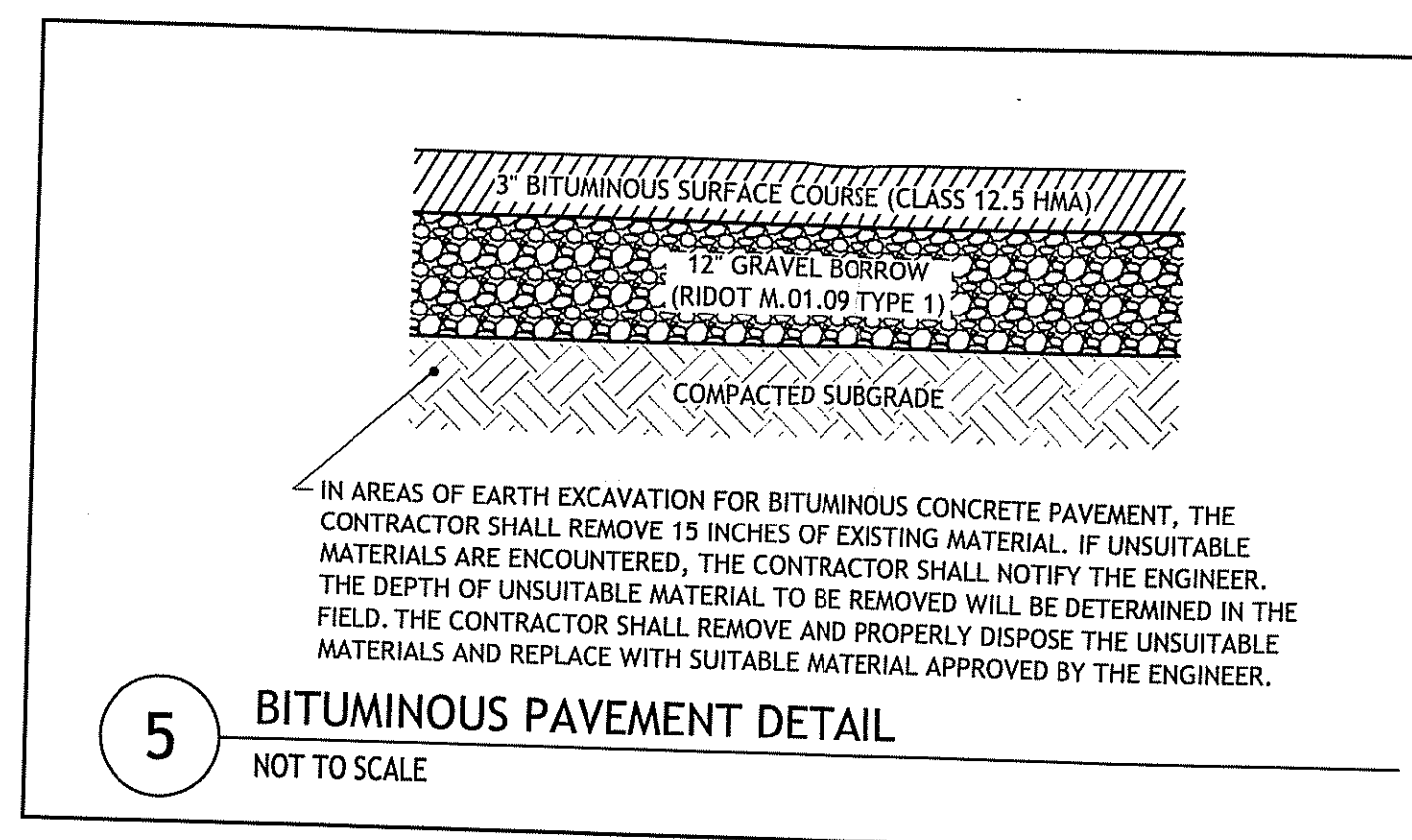
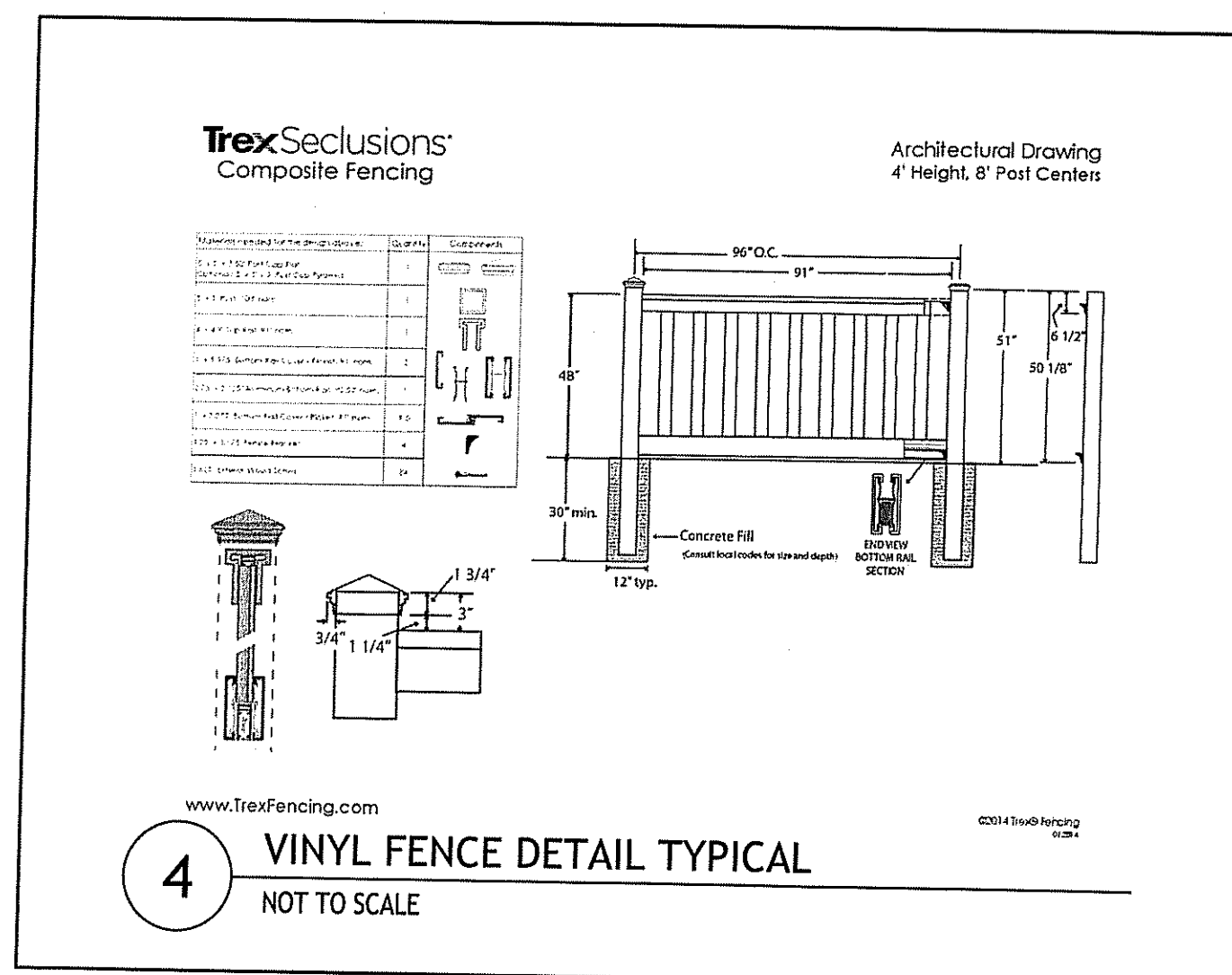
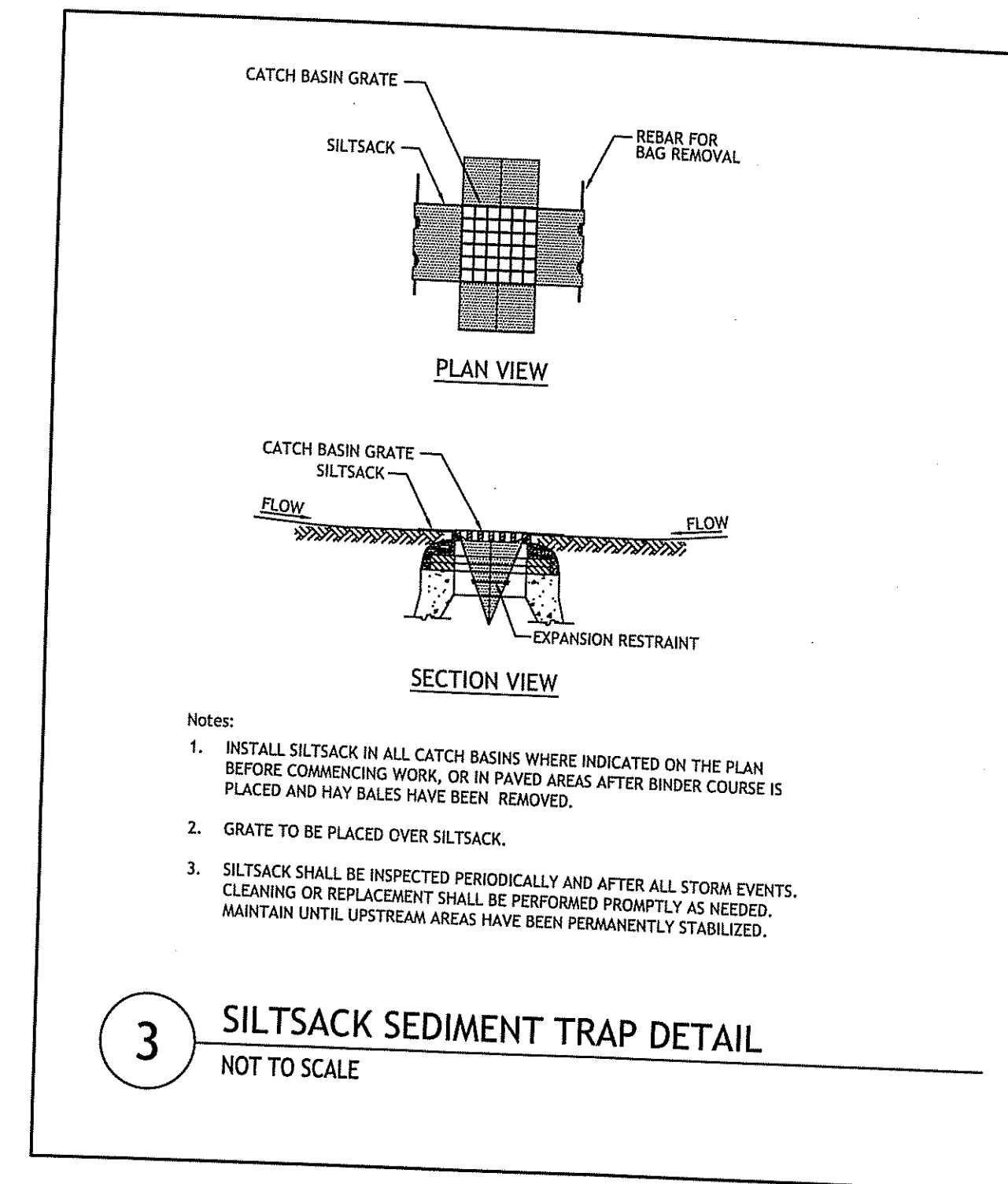
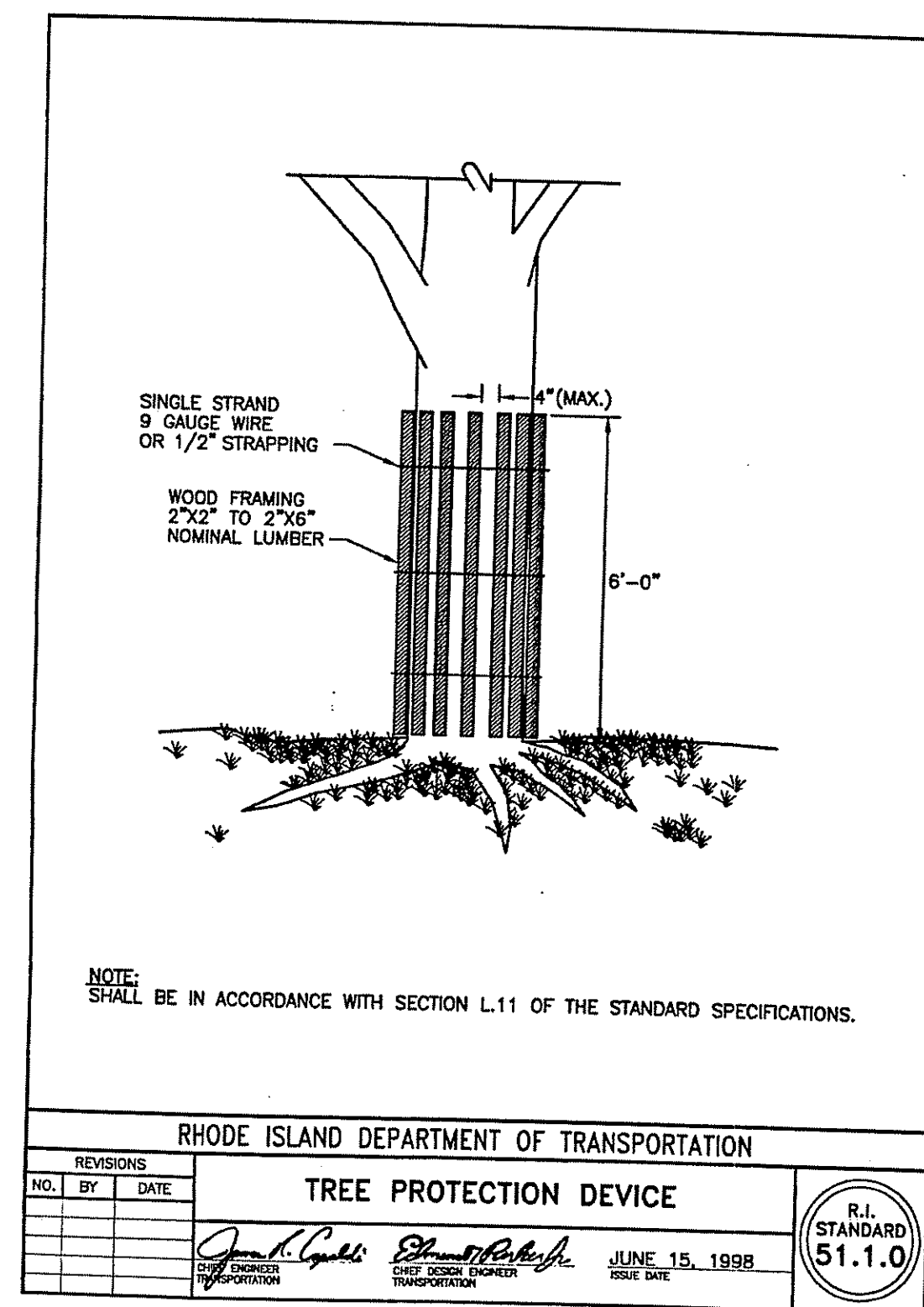
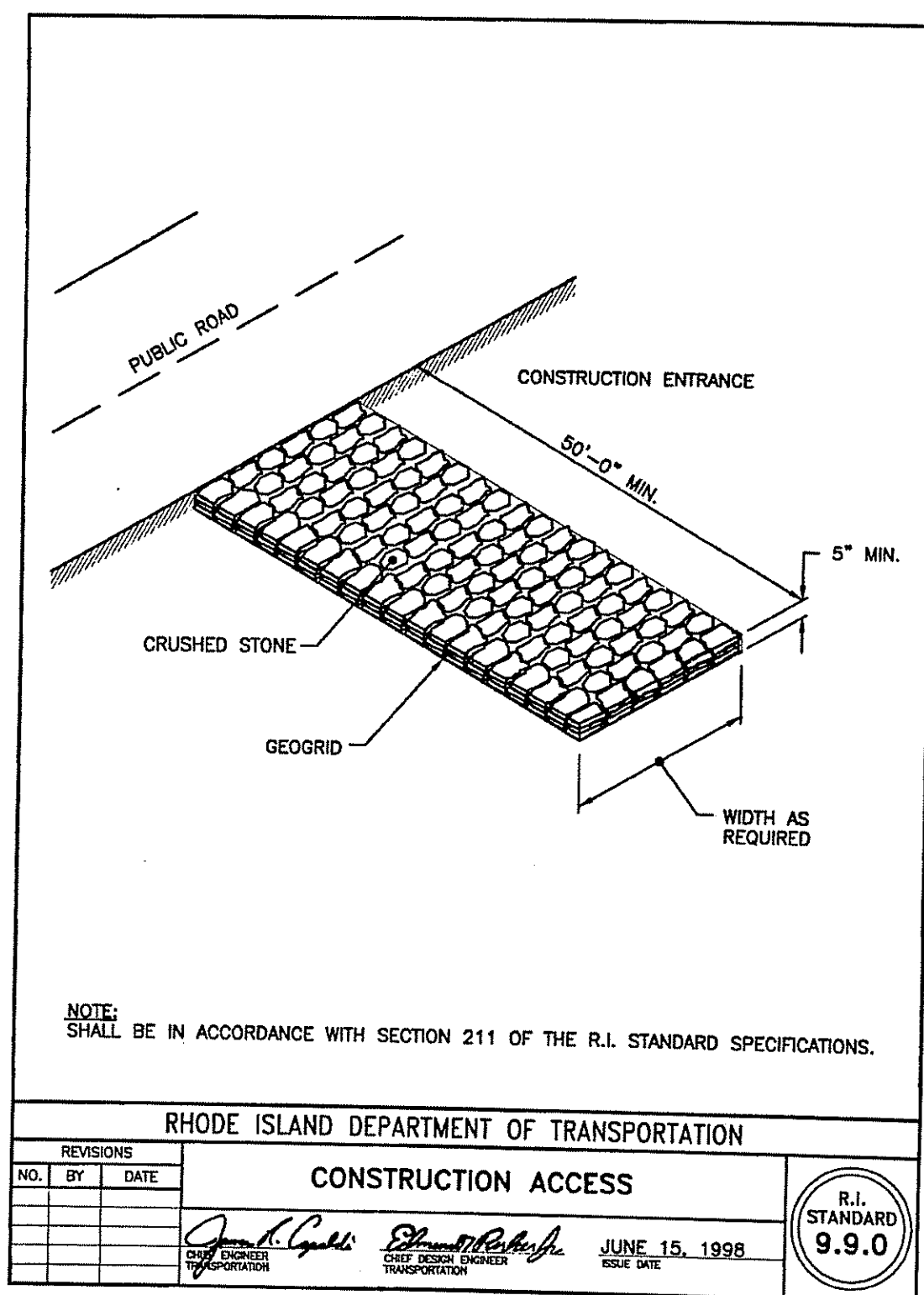
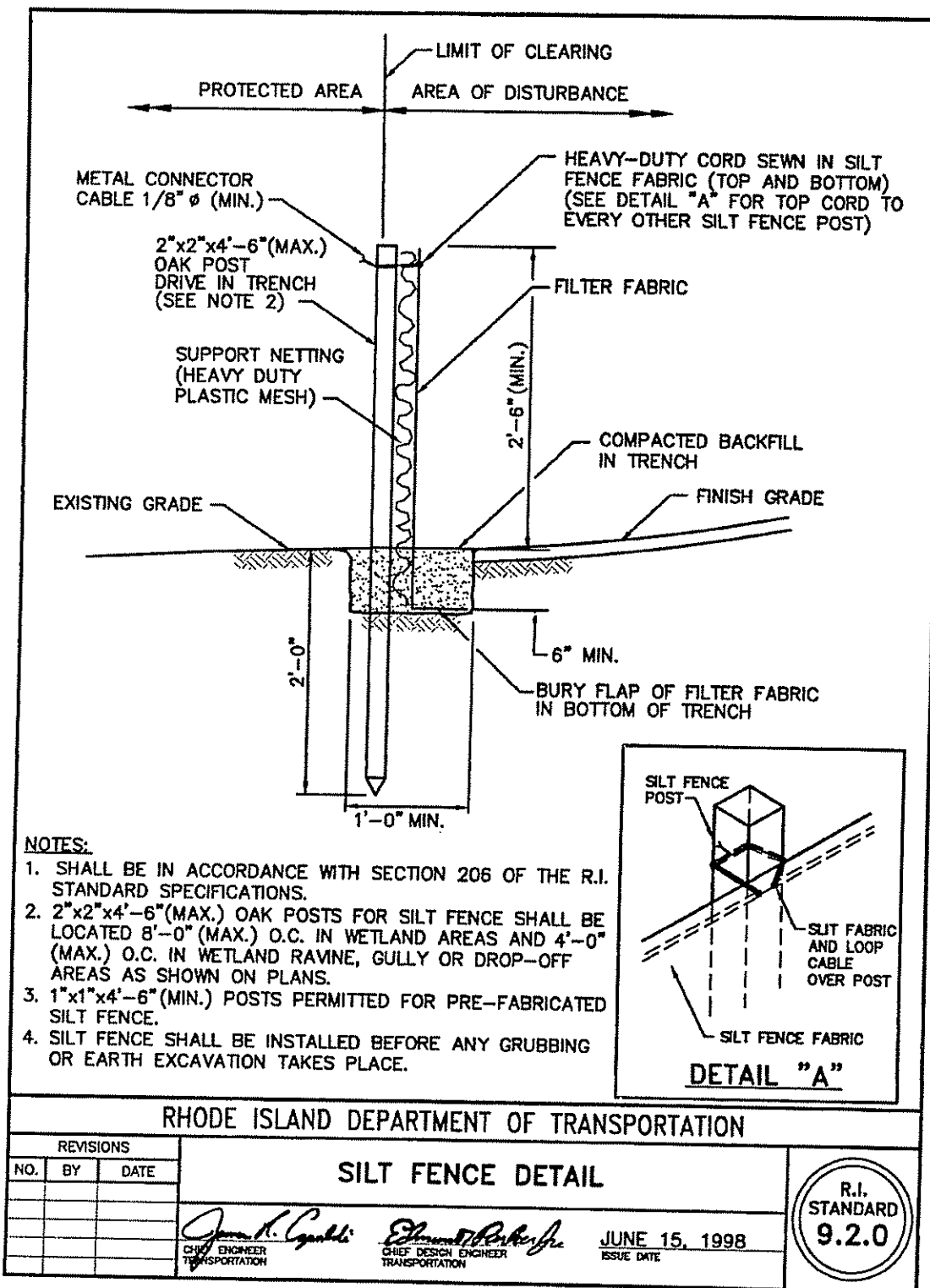
NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-9241

PRELIMINARY, NOT FOR CONSTRUCTION

UTILITY PLAN

SHEET C1.4



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS DIVISION
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTERS
DATED AUG 28 2015 FILE 15-0152
NO CHANGES ALLOWED WITHOUT PREVIOUS WRITTEN
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Hart

JCE
JOE CASALI ENGINEERING, INC.
ENVIRONMENTAL, TRANSPORTATION
DRAINAGE, WETLANDS, AND SOILS
300 POST ROAD, WARWICK, RI 02886
(401) 844-1900 (401) 844-1313 FAX WWW.JCEASAL.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL

BROWN HOUSE on SPRING LAKE
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41

REVISIONS:

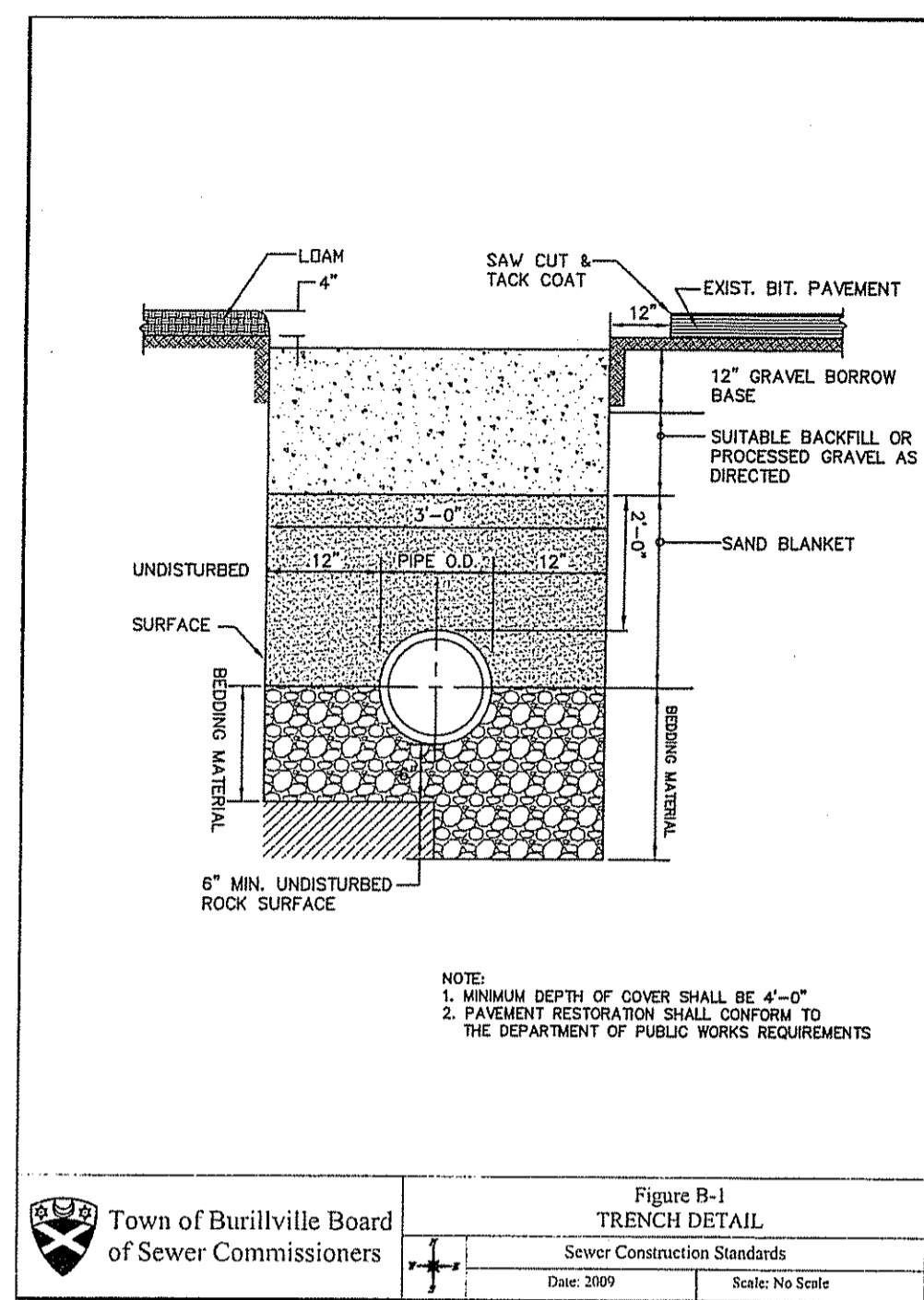
NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-92aj

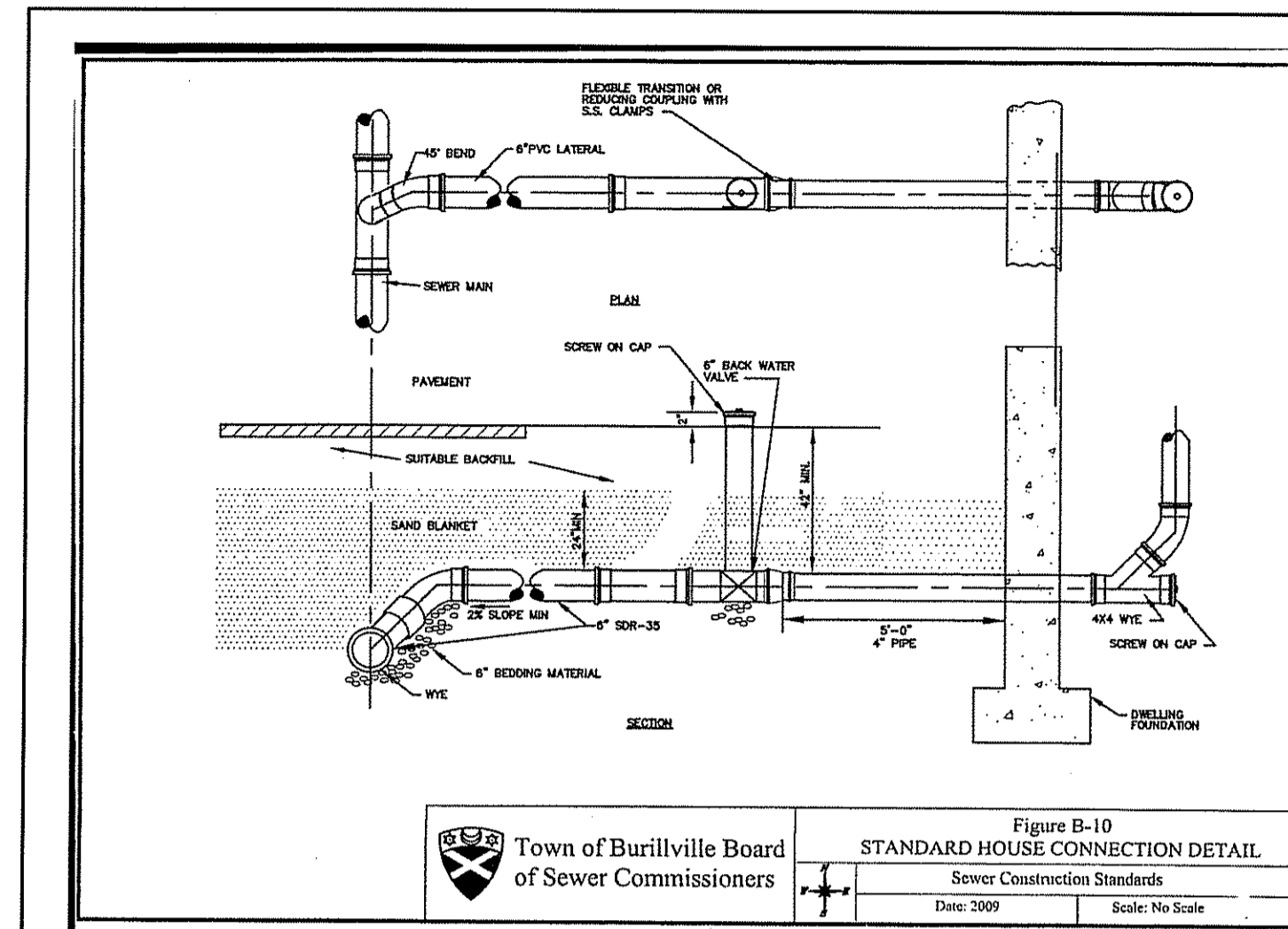
PRELIMINARY, NOT FOR CONSTRUCTION

CIVIL DETAILS I

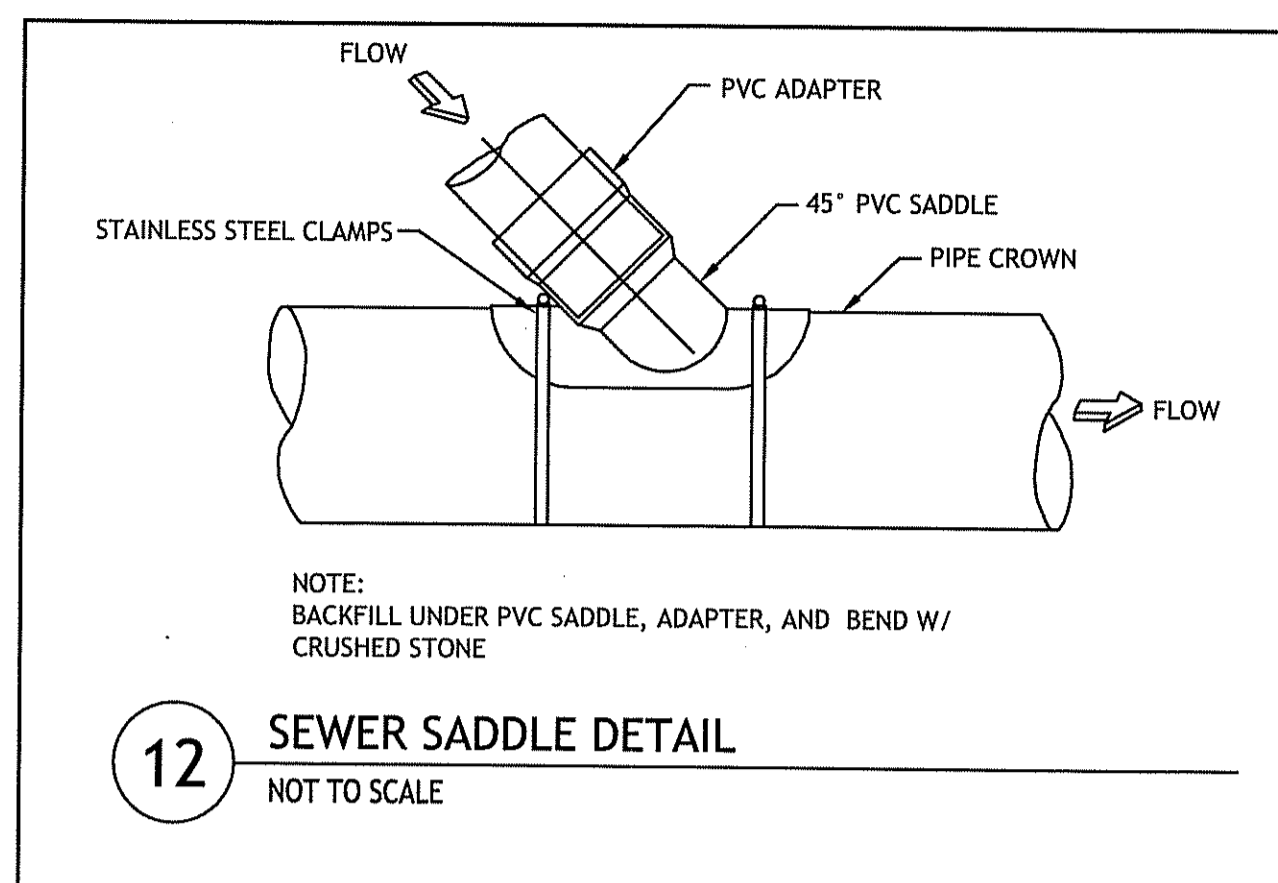
SHEET C1.5



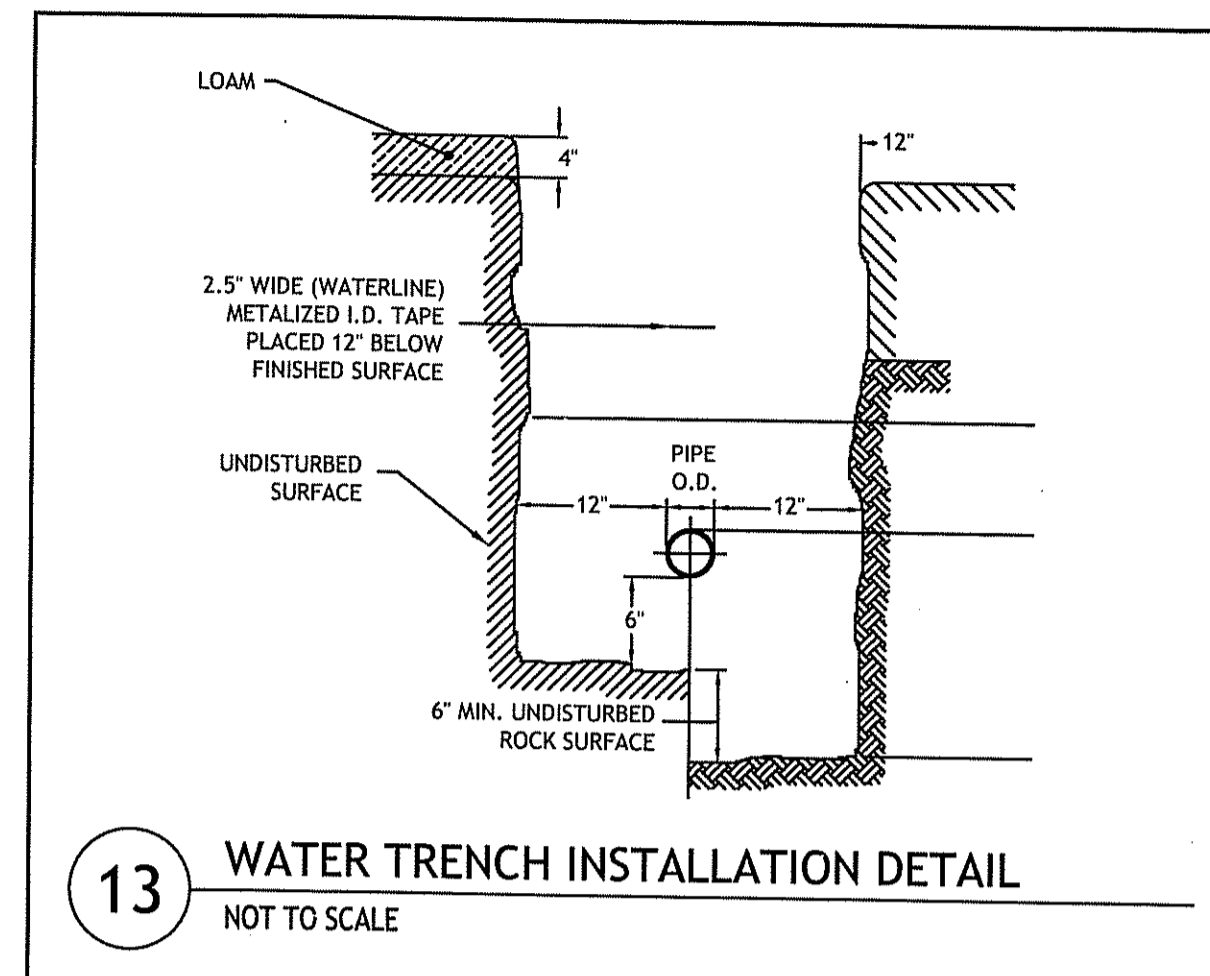
10 SEWER TRENCH DETAIL
NOT TO SCALE



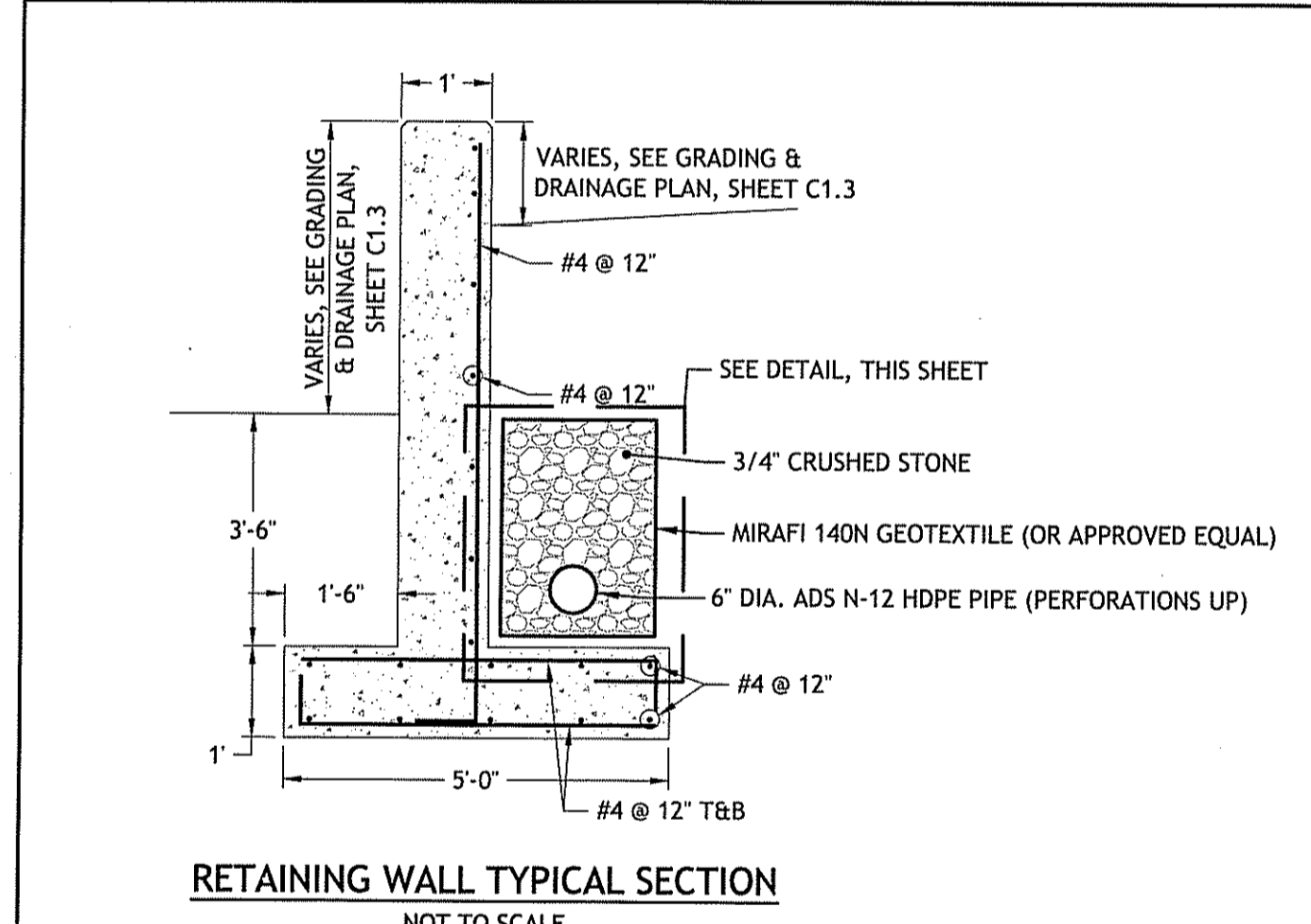
11 STANDARD HOUSE SEWER CONNECTION DETAIL
NOT TO SCALE



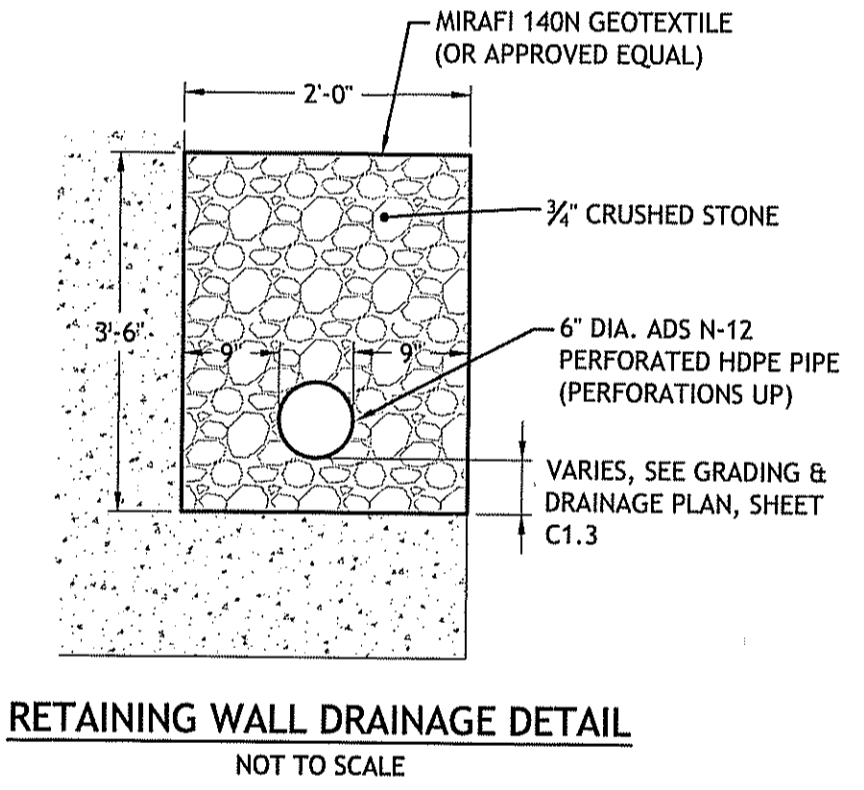
12 SEWER SADDLE DETAIL
NOT TO SCALE



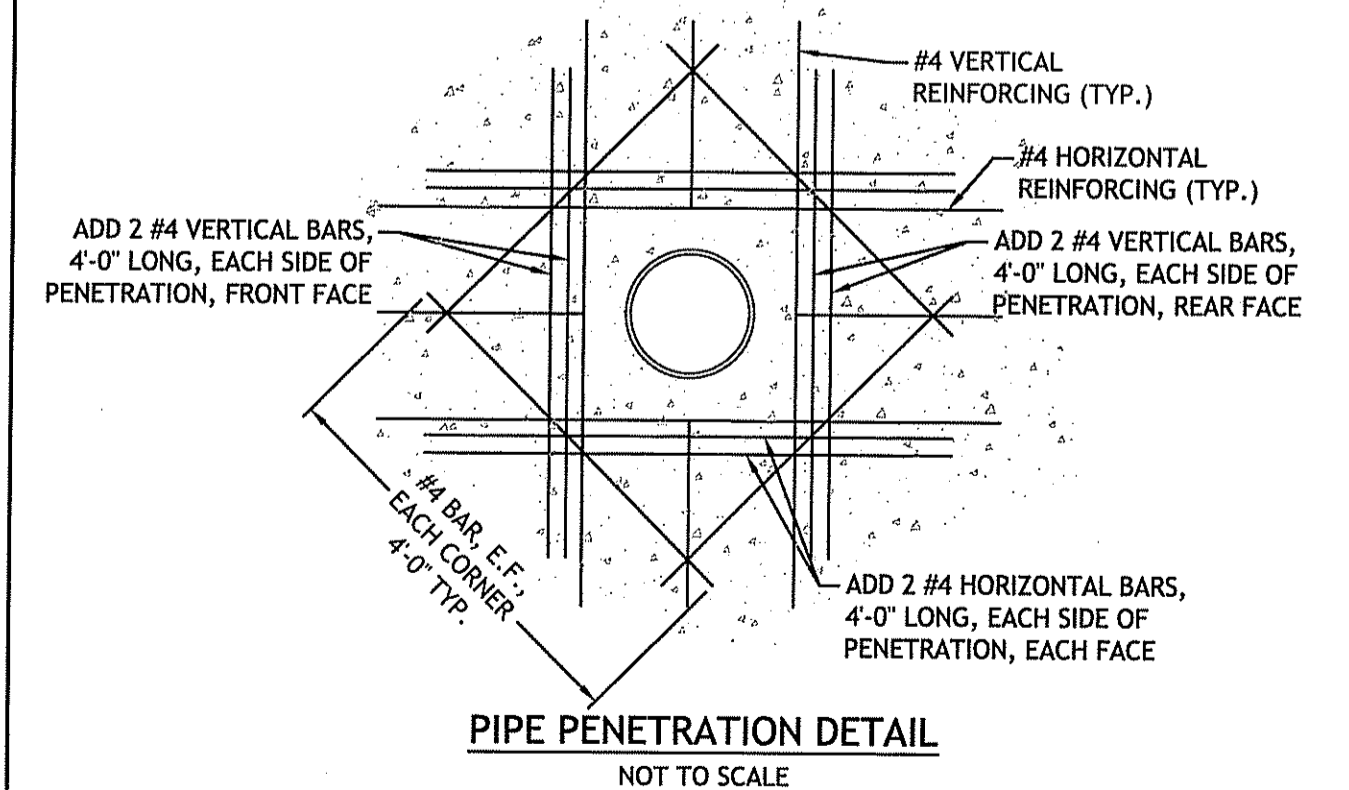
13 WATER TRENCH INSTALLATION DETAIL
NOT TO SCALE



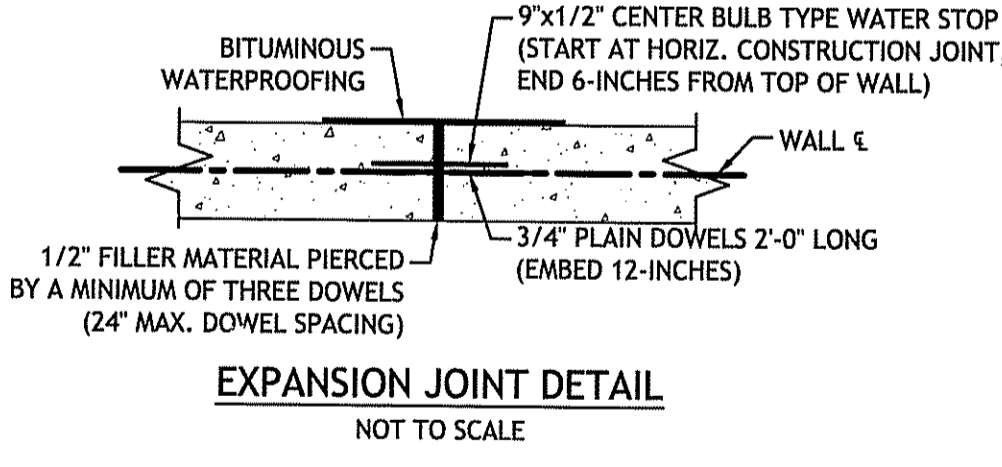
RETAINING WALL TYPICAL SECTION
NOT TO SCALE



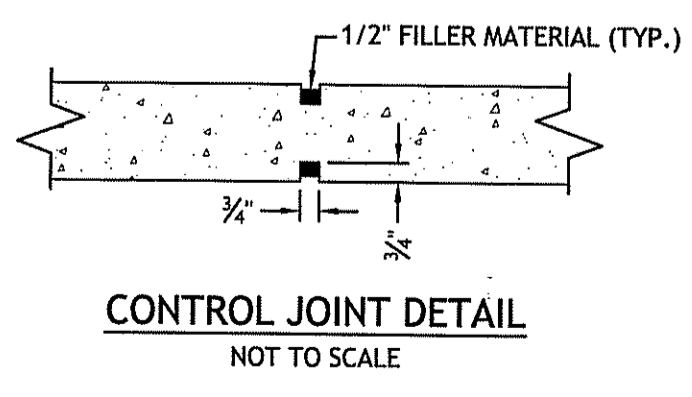
RETAINING WALL DRAINAGE DETAIL
NOT TO SCALE



PIPE PENETRATION DETAIL
NOT TO SCALE

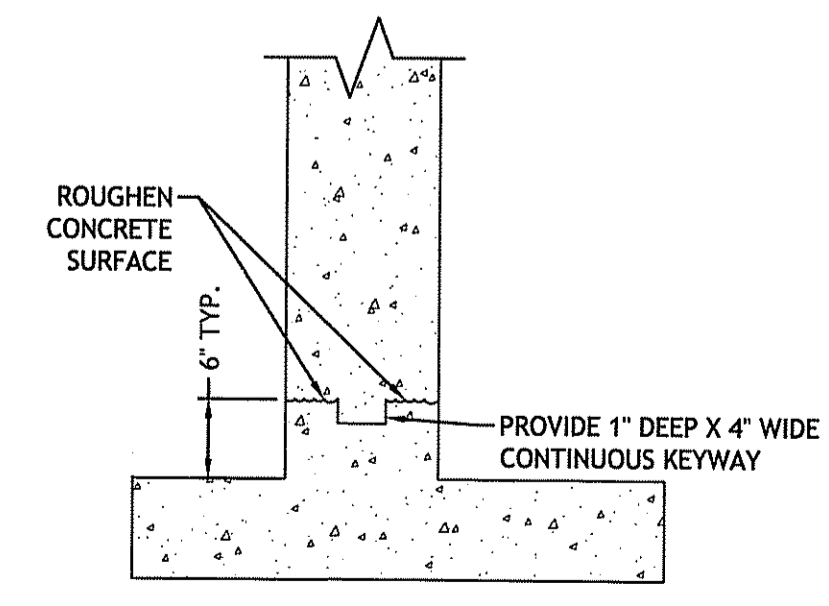


EXPANSION JOINT DETAIL
NOT TO SCALE



CONTROL JOINT DETAIL
NOT TO SCALE

- RETAINING WALL NOTES:**
- ALL CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF RIDOT STANDARD SPECIFICATIONS AND RHODE ISLAND STATE BUILDING CODE.
 - FOOTINGS MAY BEAR ON EXISTING SAND & GRAVEL OR IMPORTED GRAVEL BORROW EXHIBITING A 3,000 PSF MINIMUM ALLOWABLE SOIL BEARING PRESSURE. SUBGRADE SHALL BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO FORMING OR PLACING ANY CONCRETE. SUBGRADE SHALL BE PROOF ROLLED IN THE PRESENCE OF THE ENGINEER OF RECORD PRIOR TO RETAINING WALL CONSTRUCTION. IF ENCOUNTERED, BEDROCK SHALL BE EXCAVATED TO A MINIMUM OF 12-INCHES BELOW THE BOTTOM OF FOOTING ELEVATION AND BACKFILLED WITH COMPACTED GRAVEL BORROW.
 - PLACE BACKFILL IN 8" THICK LOOSE LIFTS & COMPACT WITH HAND-OPERATED COMPACTION EQUIPMENT. FILL SHOULD BE COMPACTED TO 95% MODIFIED PROCTOR. MOISTURE CONTENT SHALL BE ±3% OF OPTIMUM. BACKFILL SYMMETRICALLY SUCH THAT THE DIFFERENTIAL SOIL LEVEL DOES NOT EXCEED 2 FEET.
 - RETAINING WALL SHALL REACH DESIGN STRENGTH BEFORE PLACEMENT OF FILL.
 - ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-05.
 - CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSION STRENGTH OF 4,000 PSI. CONCRETE CLASS SHALL BE AS FOLLOWS:
A. FOOTINGS = CLASS XX AIR-ENTRAINED
B. WALL STEM = CLASS HP AIR-ENTRAINED
 - REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, EPOXY COATED.
 - ALL REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH ACI 318-02.
 - CONCRETE COVER OF REINFORCING STEEL SHALL BE AS FOLLOWS:
A. FOOTINGS = 3.0 INCHES
B. WALL STEM @ FREE FACE = 2.0 INCHES
C. WALL STEM @ FILL FACE = 2.0 INCHES
 - CURE CONCRETE PER RIDOT SPECIFICATIONS.
 - EXPOSED CONCRETE SHALL HAVE RUBBED FINISH.
 - TEST CYLINDERS SHALL BE MADE FOR EVERY 50 CY OF CONCRETE PLACES IN A SINGLE POUR.



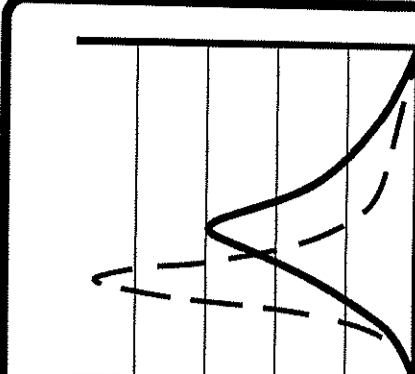
KEYWAY DETAIL
NOT TO SCALE

14 RETAINING WALL DETAILS
NOT TO SCALE

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESH WATER DIVISION
AS SPECIFIED IN
DATED AUG 28 2015
NO CHANGES ALLOWED WITHOUT APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Charles A. Halbert

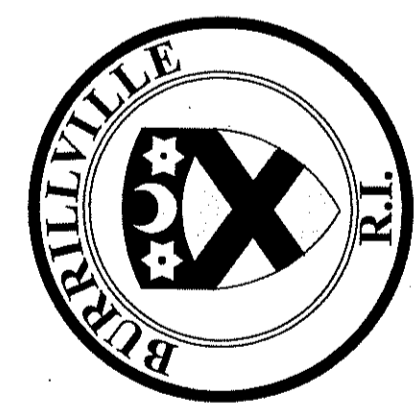
Expansion and Transportation
JUL 15 2015



JOE CASALI ENGINEERING, INC.
CIVIL - SITE DEVELOPMENT - TRANSPORTATION
DRAINAGE - WEIRLANDS - I&DS - TRAFFIC - FLOODPLAIN
16011944-1202, 16011944-1317, 16011944-1318, 16011944-1319

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL

BROWN HOUSE on SPRING LAKE
50 PINECREST LANE
BURRILLVILLE, RHODE ISLAND
AP 93 LOT 41



REVISIONS:

NO.	DATE	DESCRIPTION

DESIGNED BY: DRD
DRAWN BY: WMLJR
CHECKED BY: JAC
DATE: JULY 2015
PROJECT NO: 05-92a1

PRELIMINARY, NOT FOR CONSTRUCTION

CIVIL DETAILS II

SHEET C1.6