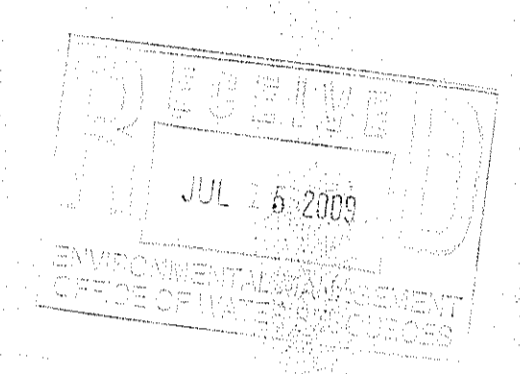


# SITE PLANS FOR THE PROPOSED JOHNSTON FIRE STATION #4

2289 HARTFORD AVENUE  
 JOHNSTON, RHODE ISLAND  
 AP 56, LOT 15

ZONING DISTRICT: R-40

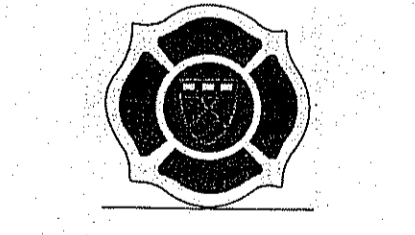


Certification  
**JOSEPH A. CASALI**  
 No. 7250  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 Drawn by GEG, WMLJR  
 Checked by JAC  
 Revised on  
 7/14/09  
 REDI COMMENTS

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 PLANNING  
 80 Atwood Avenue  
 Cranston, Rhode Island 02920  
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 Tel 401 944 2800 Fax 401 944 2801

Project  
 New Fire Station  
 for the  
 Town of Johnston

**JOHNSTON FIRE STATION #4**



2289 Hartford Avenue  
 Johnston, Rhode Island

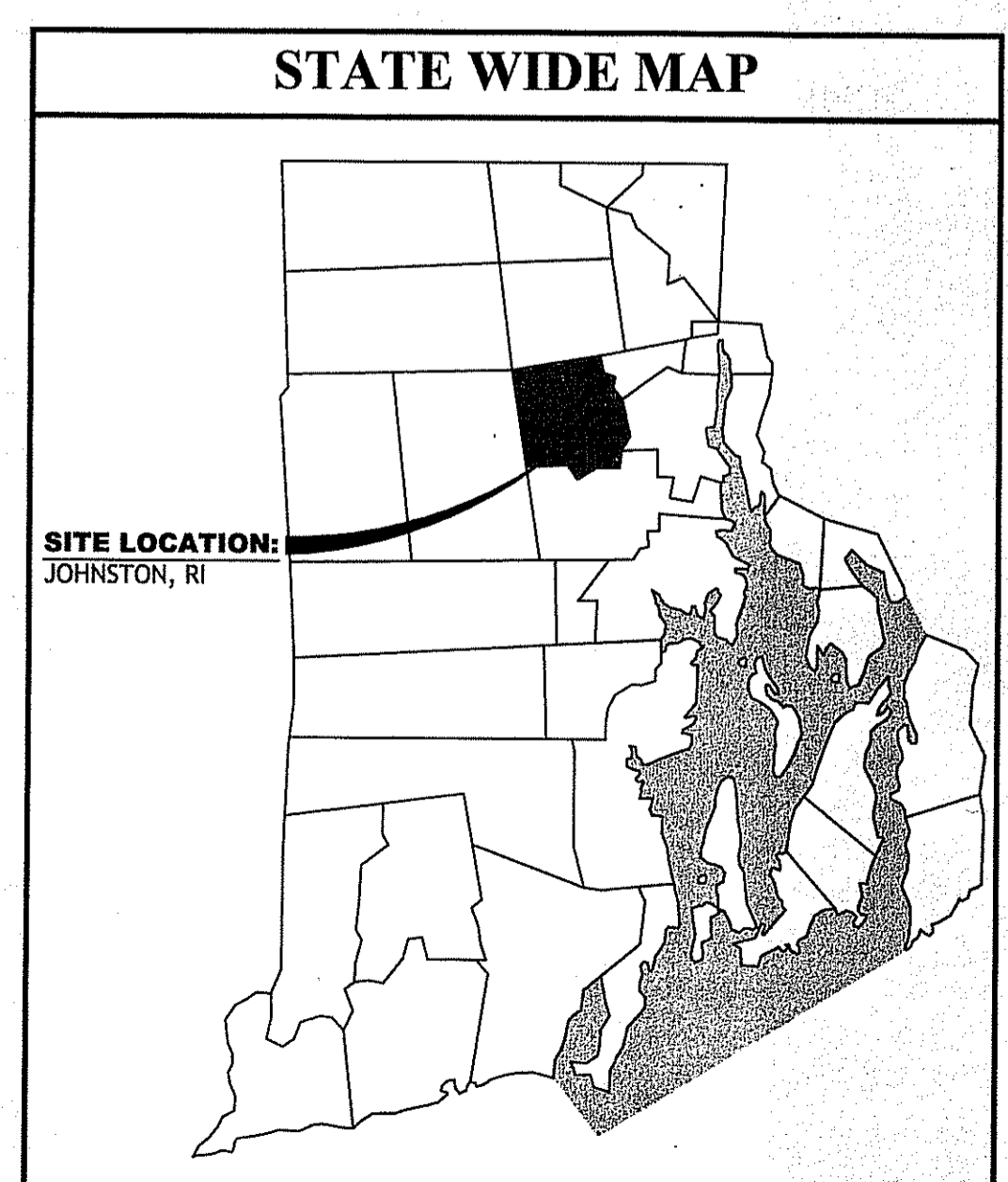
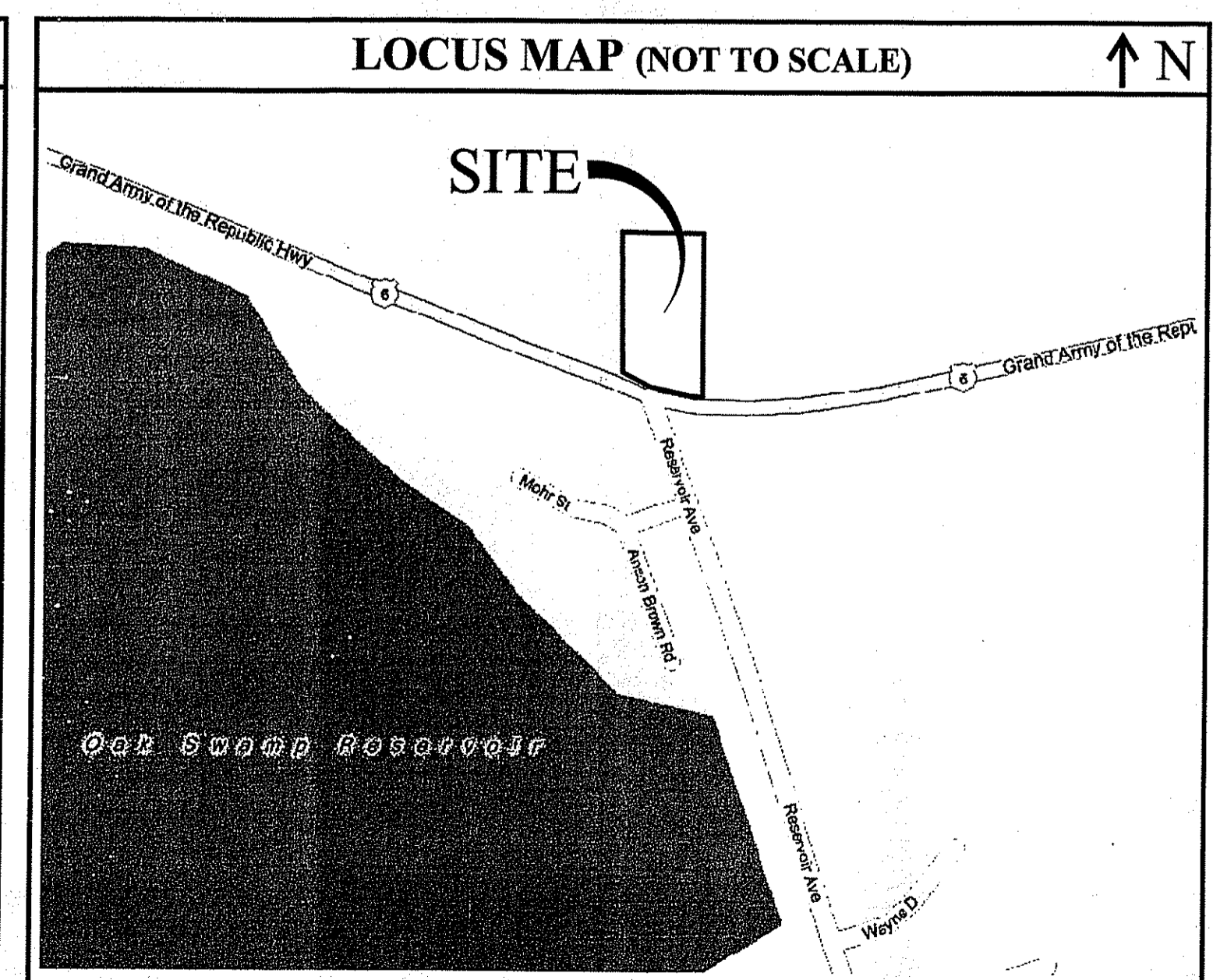
Drawing Status  
 ISSUED FOR  
 CONSTRUCTION - PENDING  
 STATE/LOCAL APPROVALS  
 Issued On April 20, 2009

Sheet Contents  
**COVER SHEET**

Project Number 0213  
 Drawing No.

**C0.0**

PROJECT TEAM	
<b>APPLICANT:</b>	JOHNSTON FIRE DEPARTMENT 1520 ATWOOD AVENUE JOHNSTON, RI 02919
<b>OWNER:</b>	STATE OF RHODE ISLAND: RIDEM 2321 HARTFORD AVENUE JOHNSTON, RI 02919
<b>ARCHITECT:</b>	THOMAS LONARDO & ASSOCIATES 80 ATWOOD AVENUE CRANSTON, RI 02920 PHONE: (401) 944-2600 FAX: (401) 944-2601
<b>CIVIL ENGINEER:</b>	CASALI & D'AMICO ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313
<b>SURVEYOR:</b>	INTERNATIONAL MAPPING & SURVEYING CORP. 19 INDUSTRIAL DRIVE SMITHFIELD, RI 02917 PHONE: 401-232-2620
<b>MECHANICAL PLANS:</b>	R.K. BAKER & ASSOCIATES 316 POCASSET AVENUE, SUITE 203 PROVIDENCE, RI 02909 PHONE: 401-946-9016
<b>ELECTRICAL PLANS:</b>	MCCLANAGHAN ASSOCIATES, INC. 67 ALHAMBRA DRIVE WARWICK, RI 02886 PHONE: 401-739-2224



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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 04 2009 FILE # 09-0099  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Charles A. ...*

**GENERAL NOTES:**

- CLASS I PROPERTY LINE AND CLASS III TOPOGRAPHIC SURVEY COMPLETED BY INTERNATIONAL MAPPING & SURVEYING CORP., 19 INDUSTRIAL DRIVE, SMITHFIELD RI IN OCTOBER 2008.
- 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.
- THIS SITE LIES IN ZONE X (AREAS TO BE OUTSIDE THE 0.2 ANNUAL CHANCE FLOODPLAIN), AS SHOWN ON THE FIRM MAP FOR PROVIDENCE COUNTY, RI, PANEL 283 OF 451, MAP NO. 44007C0283G, EFFECTIVE DATE MARCH 2, 2009.
- SOIL EXISTING ON THE SITE IS CANTON AND CHARLTON FINE SANDY LOAMS, HYDROLOGIC SOIL GROUP B.
- WETLAND RESOURCES DELINEATED BY CASALI & D'AMICO ENGINEERING, INC. IN OCTOBER 2008.
- THIS SITE DOES NOT CONTAIN ANY EASEMENTS.
- THERE IS ONLY ONE LOT FOR THIS DEVELOPMENT. THE LOT IS 1.9 ACRES AND ITS INTENDED USE IS FOR A FIRE STATION.
- THERE ARE NO EXTRAORDINARY OR UNUSUAL NATURAL FEATURES INCLUDING HISTORIC AREAS, CEMETERIES AND FOUNDATIONS, ETC. ON THIS SITE.
- THERE ARE NO HISTORIC BUILDINGS ON THIS SITE.
- THERE IS A WOODED SWAMP LOCATED IN THE NORTHWEST CORNER OF THE SITE. THERE ARE NO OTHER WATER COURSE OR PONDS ON THIS SITE.
- PROPOSED DEVELOPMENT TO OCCUR IN A SINGLE PHASE.
- SOIL EVALUATIONS WERE COMPLETED BY CASALI & D'AMICO ENGINEERING, INC. IN DECEMBER 2008 AND APRIL 2009.
- NO POTENTIAL IMPACTS TO THE EXISTING COMMUNITY ARE PROPOSED FOR THIS SITE.
- THE AREA TO BE DISTURBED IS APPROXIMATELY 1.8 ACRES.
- THERE ARE NO PROPOSED IMPROVEMENTS WITHIN 200' OF THE PROPERTY.

**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.
- 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 AT NO ADDITIONAL COST TO THE OWNER.
- ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER OR THE TOWN.
- 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 DAYS 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 MECHANICAL PLANS FOR CONTINUATION OF ALL UTILITIES WITHIN 5' (FIVE) FEET OF THE BUILDING.
- ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, 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).

**MISCELLANEOUS UTILITY NOTES:**

- 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. NO EXTRA PAYMENT TO THE CONTRACTOR DUE TO RELOCATIONS WILL BE AUTHORIZED.
- THE UTILITY PLAN DOES NOT DEPICT THE NECESSARY ELECTRICAL CONDUIT/WIRING TO SERVICE THE PROPOSED LIGHTING AND SIGNS, WHICH WILL BE PERFORMED BY THE CONTRACTOR FOR NO ADDITIONAL COST. CONTRACTOR SHALL REFER TO THE ELECTRICAL PLANS FOR ALL PROPOSED LIGHTING DETAILS.
- OVERHEAD/UNDERGROUND ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THEIR OPERATIONS.
- 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.
- 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.

**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 ENGINEER'S ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.

**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 RIGHT-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, 2000 EDITION, INCLUDING LATEST REVISIONS.
- SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

**DRAINAGE SYSTEM MAINTENANCE SCHEDULE:**

UPON PROJECT COMPLETION, THE PROPERTY OWNER SHALL ADHERE TO THE FOLLOWING MAINTENANCE PLAN AND SCHEDULE:

- CATCH BASINS, MANHOLES AND DRAIN LINES:** AN INSPECTION MUST OCCUR ON AN ANNUAL BASIS BY QUALIFIED PERSONAL TO ENSURE PROPER OPERATION. THE INSPECTION SHOULD, AS A MINIMUM, CONCENTRATE ON THE FOLLOWING:
  - DAMAGE TO GRATE/ COVERS
  - EVIDENCE OF STANDING WATER
  - DEBRIS REMOVAL
  - STRUCTURAL ALIGNMENT/ INTEGRITY
 ANY DEFICIENCY NOTED DURING THE INSPECTION WILL BE IMMEDIATELY REPAIRED OR REPLACED.
- SEDIMENT REMOVAL:** ALL REMOVED SEDIMENT IS TO BE TESTED TO DETERMINE POLLUTANT CONTENT. THE SEDIMENT IS TO BE PROPERLY DISPOSED IN UPLAND AREAS BASED UPON THE TEST RESULTS AND LOCAL, STATE, AND FEDERAL REGULATIONS
- PAVED AREAS:** THE PARKING LOT AND DRIVEWAY SURFACES SHALL BE SWEEPED, AT A MINIMUM OF TWICE PER YEAR (ONCE IN THE SPRING AND ONCE IN THE FALL). THE SEDIMENT COLLECTED DURING SWEEPING OPERATIONS SHALL BE REMOVED AND TAKEN TO A TOWN APPROVED LOCATION OFF-SITE FOR DISPOSAL AND IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS.

**DRAINAGE SYSTEM NOTES:**

- THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE OR AN APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN PLANS.
- ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.
- THE DESIGN ENGINEER MUST SUBMIT AN AS BUILT PLAN AND A CERTIFICATION TO THE TOWN ENGINEER THAT THE CONSTRUCTION IS IN COMPLIANCE WITH THE DESIGN PLANS FOR ALL ELEMENTS OF THE STORM OR DRAINAGE SYSTEM PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

**PROPOSED PAVEMENT STRUCTURE:**

**ON-SITE (PAVEMENT TYPE A)**

- 1.5" BITUMINOUS CONCRETE SURFACE COURSE CLASS I-1
- 1.5" BITUMINOUS CONCRETE BINDER COURSE
- 12" GRAVEL BORROW SUBBASE

ASPHALT EMULSION TACK COAT TO BE PLACED PRIOR TO SURFACE COURSE PAVING IF BINDER COURSE IS OPENED TO VEHICULAR USE, OR IF BINDER COURSE IS GREATER THAN 30 DAYS OLD.

**WATER NOTES:**

- ALL INSTALLATIONS, JOINTS, CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE TOWN OF JOHNSTON WATER DEPARTMENT REQUIREMENTS, AWWA STANDARDS AND GOVERNMENTAL REQUIREMENTS.
- WATER PIPES SHALL TYPICALLY BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM SEWER PIPES, AND AT A MINIMUM DEPTH OF COVER EQUAL TO 5'. WHERE A NEW WATER PIPE IS LESS THAN 18 INCHES CLEAR DISTANCE ABOVE A SEWER OR WHERE A WATER PIPE PASSES BENEATH A SEWER OR STORM DRAIN, ENCASE THE SEWER OR DRAIN IN 6' OF CONCRETE AT A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING WATER PIPE.
- ALL SYSTEM COMPONENTS AND CONSTRUCTION METHODS; SUCH AS PIPE, THRUST BLOCKS, FITTINGS, CASTINGS, ETC. SHALL BE SUBMITTED TO THE TOWN OF JOHNSTON WATER DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. THIS SUBMISSION SHALL INCLUDE MANUFACTURERS LITERATURE, SHOP DRAWINGS, PROPOSED CONSTRUCTION METHODS, ETC.
- WATER LINE TRENCH TO BE AWWA TYPE 5 A METALIZED DETECTABLE IDENTIFICATION TAPE 2" IN WIDTH, BLUE IN COLOR AND PRINTED WITH "CAUTION WATERLINE BURIED BELOW" SHALL BE UTILIZED OVER ALL MAINS. TAPE SHALL BE SET AT APPROXIMATELY 1' BELOW FINISHED GRADE.
- THE CONTRACTOR SHALL RECEIVE VERIFICATION FROM THE ARCHITECT AS TO THE APPROPRIATE SIZE OF THE DOMESTIC WATER AND FIRE PROTECTION LINE SHOWN ON THE PLANS PRIOR TO ORDERING WATER PIPE RELATED ITEMS.
- ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, GRAVEL, STONE, DRAINAGE PIPE AND RELATED STRUCTURES, WATER, SEWER, AND DRAIN LINE INSTALLATION, PAVEMENT SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).
- SPECIFIC BENDS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL BENDS AS NECESSARY TO INSTALL THE PIPE AT THE REQUIRED DEPTH AND ALIGNMENT.

**SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

- THE HAYBALE AND 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 CATCH BASINS AND CULVERTS SHALL BE PROTECTED WITH STAKED HAYBALES (R.I. STD. 9.8.0) DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORM WATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.3.0) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
- 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 HAYBALES, 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 SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
- THE HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY HAYBALES AS NEEDED. 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 SEDIMENT 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 (HAYBALES, SILT FENCE, ETC.) 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 1993.

**BMP MAINTENANCE SCHEDULE**

- ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL INSPECTED AND ACCEPTED BY THE TOWN ENGINEER. CONTRACTOR'S RESPONSIBILITIES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
  - MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER DRAINAGE SYSTEMS AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS TO ALL PIPES, INTAKE AND DISCHARGE STRUCTURES (INCLUDING RIP-RAP SPLASH PADS), CATCH BASIN SUMPS, AND MANHOLES.
  - INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES (INCLUDING ROADWAY SIDE SLOPES FOR STRUCTURAL INTEGRITY), STABILITY AND EVIDENCE OF SOIL EROSION AND SHALL INCLUDE MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/4 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BIMONTHLY IF NO RAINFALL EVENT OCCURS.
  - UPON COMPLETION OF PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION, REPAIR ANY VEGETATIVE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, (SEEDING, PLANTING, ETC.) WHERE REQUIRED, AND REPAIR (OR REMOVE WHERE APPROPRIATE) ANY TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL DEVICES. AFTER PERMANENT SOIL STABILIZATION ON THE ENTIRE SITE HAS OCCURRED, ALL TEMPORARY CONTROL MEASURES MUST BE REMOVED.
- AFTER THE COMPLETION OF PROJECT CONSTRUCTION AND THE FINAL STABILIZATION OF THE ENTIRE SITE, THE INSPECTION AND MAINTENANCE OF ALL STORMWATER FACILITIES MUST BE PERFORMED BY THE TOWN OF JOHNSTON. THE TOWN'S RESPONSIBILITIES SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
  - REPLANTING, REGRADING, OR OTHER REPAIRS NEEDED AS A RESULT OF SOIL EROSION AND SEDIMENTATION PROCESSES SHALL BE DONE PROMPTLY TO ENSURE PROPER FUNCTIONING OF THE ENTIRE SYSTEM.
  - ANY TRASH, DEBRIS, ETC. SHOULD BE REMOVED FROM ANY WETLAND AREAS, SWALE, AND PIPE OUTLETS.
  - DETENTION AREAS SHALL BE INSPECTED AFTER MAJOR STORM EVENTS, DURING THE FIRST SIX MONTHS OF OPERATION AND ON AN ANNUAL BASIS, THEREAFTER. REPAIRS SHALL BE PERFORMED IMMEDIATELY AS CONDITIONS WARRANT. BARE SPOTS AND ERODED AREAS SHALL BE RESEEDED IMMEDIATELY FOLLOWING OBSERVATIONS. ALL LITTER AND TRASH SHALL BE REMOVED DURING INSPECTIONS.
  - THE DETENTION BASINS SHALL BE CHECKED AND INSPECTED AFTER ALL MAJOR RAINFALL EVENTS DURING THE FIRST YEAR OF OPERATION, AND ANNUALLY THEREAFTER. IF STANDING WATER IS FOUND IN EITHER BASIN FOR MORE THAN 72 HOURS AFTER A RAINFALL EVENT, THEN FAILURE OF THE SYSTEM HAS OCCURRED AND THE BASIN SHALL BE REPAIRED OR MALFUNCTIONING DEVICE(S) BE REPLACED.
  - THE OUTLET CONTROL STRUCTURES AND ALL OUTFLOW CHANNELS SHALL BE INSPECTED ANNUALLY.
  - THE DETENTION DEVICES SHALL BE INSPECTED AT LEAST TWICE PER YEAR, DURING THE FIRST YEAR OF OPERATION AND SHALL BE CHECKED SEVERAL TIMES THEREAFTER, ESPECIALLY AFTER RAINFALL EVENTS, TO CHECK FOR CLOGGING OR, CONVERSELY, TOO RAPID A RELEASE.
  - THE GRASSED AREA OF THE BASINS SHALL BE INSPECTED AT LEAST TWICE PER YEAR TO CHECK FOR EROSION PROBLEMS. PROBLEM AREAS SHALL BE RESEEDED IMMEDIATELY TO STABILIZE EXPOSED SOILS.
  - SEDIMENT SHALL BE REMOVED FROM THE BASIN DURING THE FIRST YEAR OF OPERATION AND EVERY TEN YEARS THEREAFTER. MORE FREQUENT REMOVALS MAY BE NECESSARY IF THE SEDIMENT STORAGE CAPACITY OF THE BASIN IS EXCEEDED.
  - SIDESLOPE AND EMBANKMENTS OF DETENTION AREAS SHALL BE MOVED AT LEAST ONCE DURING THE GROWING SEASON (PREFERABLE AFTER AUGUST 15TH), MOWING CAN BE MORE FREQUENT. ALL TRASH AND LITTER SHALL BE REMOVED DURING MOWING OPERATIONS.

**INSPECTION MAINTENANCE AND REPAIR (I, M & R) NOTES FOR THE GREASE INTERCEPTOR:**

- AFTER COMPLETION OF THE PROJECT, THE INSPECTION, MAINTENANCE AND REPAIR OF THE GREASE INTERCEPTOR MUST BE PERFORMED BY THE TOWN OF JOHNSTON. THE TOWN'S RESPONSIBILITIES SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
- INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES A YEAR. UNITS SHALL BE CLEANED AT LEAST 2 TIMES A YEAR AND THE HAZARDOUS DEBRIS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS BY A PROPERLY LICENSED CONTRACTOR.
  - IN THE CASE OF AN OIL OR BULK POLLUTANT RELEASE, THE SYSTEM MUST BE CLEANED IMMEDIATELY FOLLOWING THE SPILL - FOLLOWING REGULATIONS SET FORTH BY RIDEM.
  - AT THE TIME OF INSPECTION, THE QUALIFIED INSPECTOR SHALL ENSURE PROPER OPERATION AND AS A MINIMUM CONCENTRATE ON THE FOLLOWING, DETERIORATION OF STRUCTURE (IE. CONCRETE), DAMAGE TO COVERS, STRUCTURAL ALIGNMENT/INTEGRITY. REPAIRS SHALL BE PERFORMED IMMEDIATELY AS CONDITIONS WARRANT.

**LEGEND**

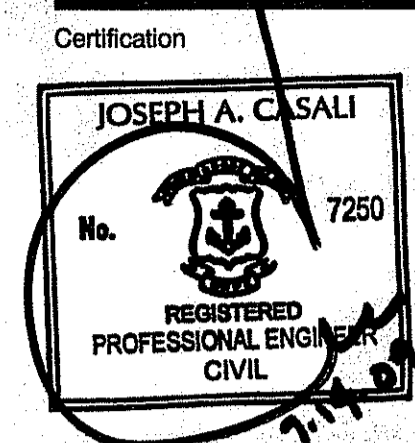
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- ABUTTING PROPERTY LINE
- BUILDING SETBACK LINE
- WETLAND EDGE
- △ WF WETLAND FLAG
- 50' PERIMETER WETLAND
- 100' RIVERBANK WETLAND
- 200' RIVERBANK WETLAND
- EXISTING EASEMENT
- 100' — EXISTING CONTOUR
- 100' — PROPOSED CONTOUR
- ○ ○ ○ EXISTING STONE WALL
- — IRON PIN
- ⊙ — DRILL HOLE
- — CONCRETE BOUND
- EXISTING CURB
- GUARDRAIL
- D — DRAIN LINE
- ⊙ — DRAINAGE MANHOLE
- ⊙ — CATCH BASIN
- ⊙ — UTILITY POLE
- OHW — OVERHEAD WIRES
- UGE — UNDERGROUND ELECTRIC
- W — WATER LINE
- ⊙ — WATER SHUT OFF VALVE
- ⊙ — WELL
- SPM — SEWER
- ⊙ — SMH
- N/F — NOW OR FORMERLY
- EXISTING LIMIT OF WOODLAND (APPROXIMATE)
- HAY BALES
- LIMIT OF DISTURBANCE
- ⊙ 06-01 LEDGE TEST
- ⊙ TP SOIL EVALUATION

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OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
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*Charles A. ...*

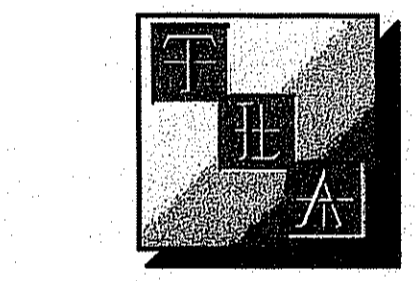
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Checked by JAC

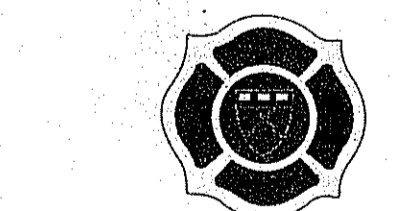
Revised on 7/14/09  
REVISION COMMENTS



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Project  
New Fire Station  
for the  
Town of Johnston

**JOHNSTON FIRE STATION #4**



2289 Hartford Avenue  
Johnston, Rhode Island

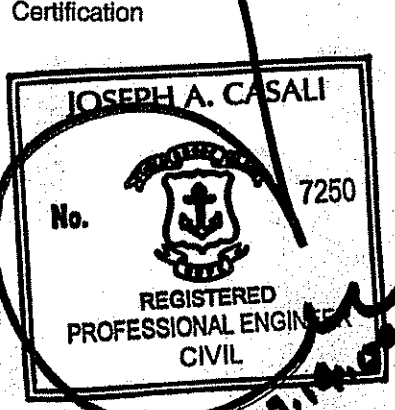
Drawing Status  
ISSUED FOR  
CONSTRUCTION - PENDING  
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Issued On April 20, 2009  
Sheet Contents

**GENERAL NOTES & LEGEND**

Project Number. 0213  
Drawing No.

**C1.0**

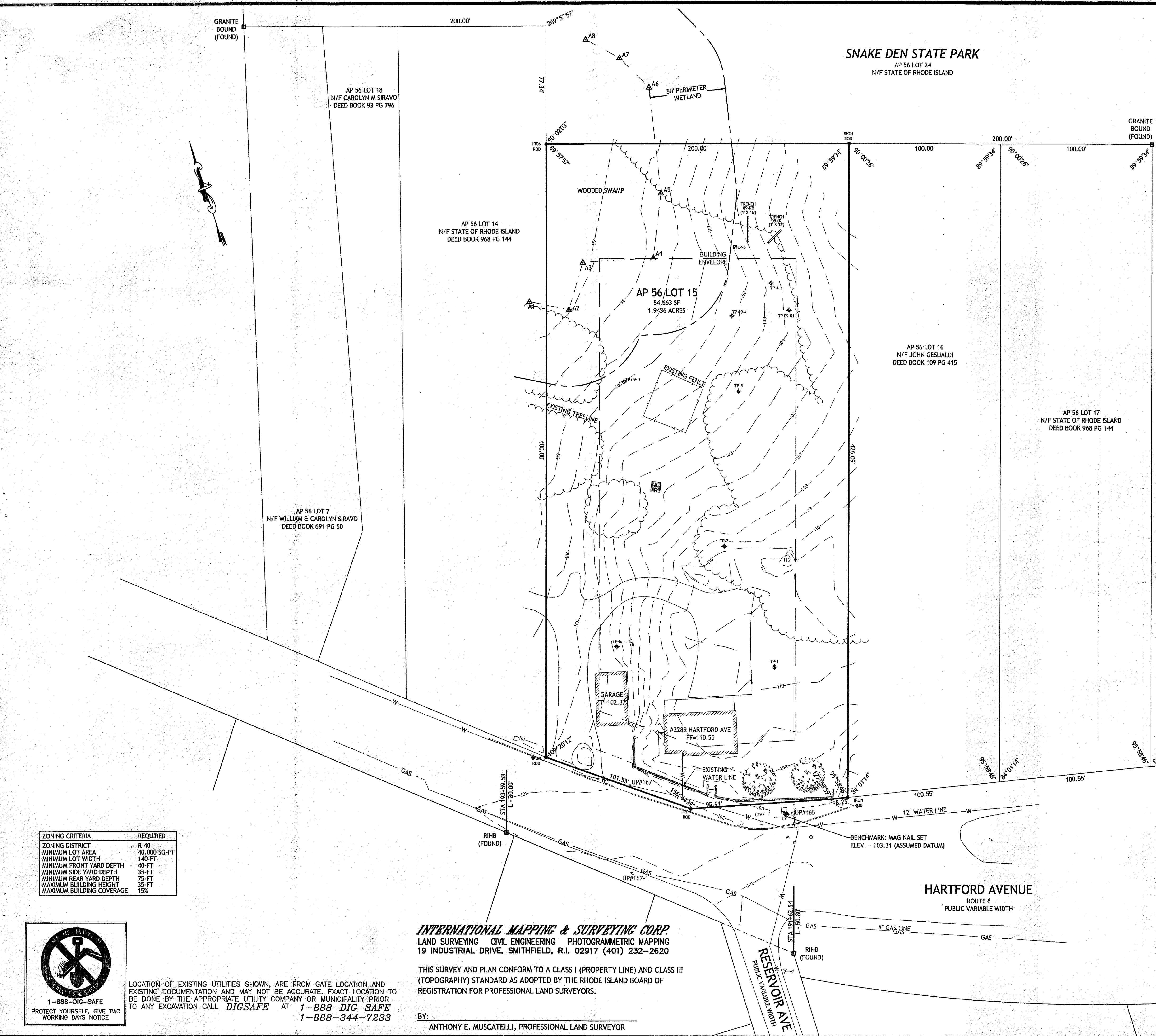
Sheet 2 of 11



Drawn by: GEC, WMLJR  
 Checked by: JAC  
 Revised on: 7/14/09  
 RIDEW COMMENTS

## SLAKE DEN STATE PARK

AP 56 LOT 24  
 N/F STATE OF RHODE ISLAND



**REFERENCES:**

PLAN ENTITLED "DIVISIONBROWN HOMESTEAD NORTH OF HARTFORD AVE. APRIL 1, 1939 BY RALPH S. MOHR" RECORDED IN THE TOWN OF JOHNSTON LAND EVIDENCE RECORDS PLAT CARD 115

PLAN ENTITLED "PLAN OF LAND OWNED BY THE ESTATE OF MARY E. SEFSKIC TO BE CONVEYED TO RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT JOHNSTON, RHODE ISLAND OCTOBER 24, 2001 SCALE 1"=40' MARC N. NYBERG" RECORDED IN THE TOWN OF JOHNSTON LAND EVIDENCE RECORDS PLAT BOOK 3 PAGE 123

PLAN ENTITLED "PLAN OF LAND AP 56 LOTS 14, 15 & 18 HARTFORD AVENUE JOHNSTON, RHODE ISLAND SCALE 1"=30' COMMONWEALTH ENGINEERS & CONSULTANTS, INC." RECORDED IN THE TOWN OF JOHNSTON LAND EVIDENCE RECORDS PLAT BOOK 3 PAGE 121

RHODE ISLAND DEPARTMENT OF PUBLIC ROADS HIGHWAY ENGINEERING DEPARTMENT, JOHNSTON PLAT NO. 305

SOIL EVALUATION DATA			
TP ID (DATE)	GROUND ELEV.	SHGWT ELEV.	LIMITING LAYER (TYPE)
1 (12/22/08)	110.30	106.80	106.80 (ROTTEN ROCK)
2 (12/22/08)	110.00	105.00	105.00 (ROTTEN ROCK)
3 (12/22/08)	103.50	98.50	98.50 (ROTTEN ROCK)
4 (12/22/08)	103.50	98.50	98.50 (ROTTEN ROCK)
6 (12/22/08)	104.00	100.50	100.50 (ROTTEN ROCK)
09-01 (4/1/09)	104.40	100.40	100.40 (LEDGE)
09-04 (4/1/09)	101.67	97.67	95.84 (LEDGE)
09-D (4/1/09)	99.00*	98.00	NONE

\* NOT ORIGINAL GROUND. THIS AREA OF THE SITE WAS EXCAVATED AND THE GROUND ELEVATION AT THE TIME OF TEST PIT WAS 99.

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 Sheet Contents

EXISTING CONDITIONS PLAN

Project Number: 0213  
 Drawing No.

SCALE (FEET)  
 0 15 30 60 120  
 1 INCH = 30 FT

Sheet 3 of 11

ZONING CRITERIA	REQUIRED
ZONING DISTRICT	R-40
MINIMUM LOT AREA	40,000 SQ-FT
MINIMUM LOT WIDTH	140-FT
MINIMUM FRONT YARD DEPTH	40-FT
MINIMUM SIDE YARD DEPTH	35-FT
MINIMUM REAR YARD DEPTH	75-FT
MAXIMUM BUILDING HEIGHT	35-FT
MAXIMUM BUILDING COVERAGE	15%



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 ANY EXCAVATION CALL DIGSAFE AT 1-888-DIG-SAFE 1-888-344-7233

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THIS SURVEY AND PLAN CONFORM TO A CLASS I (PROPERTY LINE) AND CLASS III (TOPOGRAPHY) STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS.

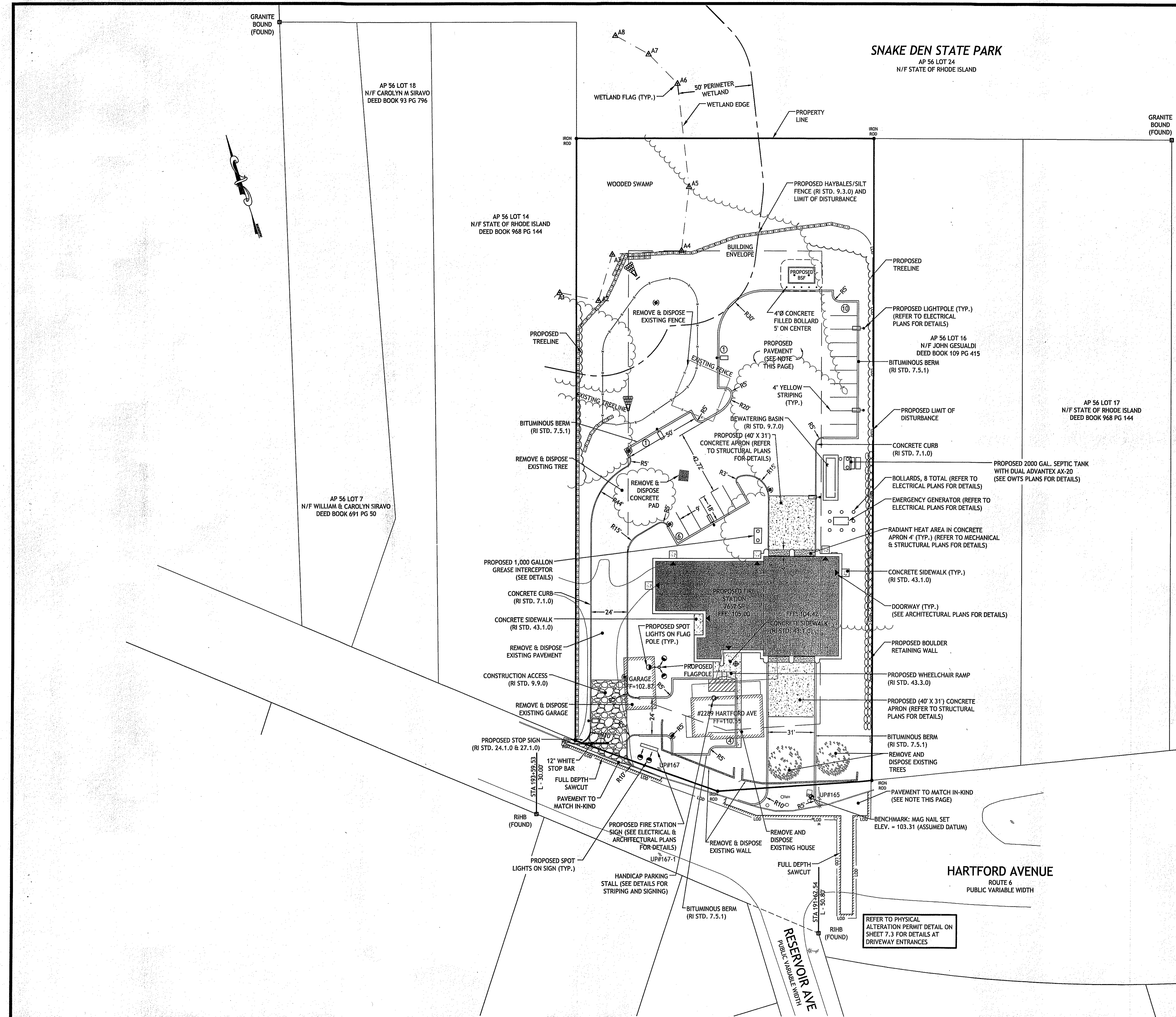
BY: ANTHONY E. MUSCATELLI, PROFESSIONAL LAND SURVEYOR

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 2. THE PLANS HAVE BEEN ISSUED FOR CONSTRUCTION PENDING RIDEW FRESHWATER WETLANDS APPROVAL, RIDEW OWTS APPROVAL, RIDOT PAP APPROVAL AND TOWN OF JOHNSTON WATER APPROVAL.

**STREET INDEX:**  
 THIS PLAN SHALL BE INDEXED BY THE FOLLOWING STREETS:  
 HARTFORD AVENUE, JOHNSTON, RI

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**SNAKE DEN STATE PARK**  
 AP 56 LOT 24  
 N/F STATE OF RHODE ISLAND



**ZONING NOTES**

**1. ZONING TABLE**

ZONING CRITERIA	REQUIRED	PROPOSED
ZONING DISTRICT	R-40	R-40
MINIMUM LOT AREA	40,000 SQ-FT	84,663 SQ-FT
MINIMUM LOT WIDTH	140-FT	200-FT
MINIMUM FRONT YARD DEPTH	40-FT	79-FT
MINIMUM SIDE YARD DEPTH	35-FT	20.79-FT *
MINIMUM REAR YARD DEPTH	75-FT	275-FT
MAXIMUM BUILDING HEIGHT	35-FT	<35-FT
MAXIMUM BUILDING COVERAGE	15%	<15%

\* INDICATES A NON-CONFORMING DIMENSION

**2. MINIMUM SIDE YARD DEPTH**

REQUIRED: 40-FT  
 PROPOSED: 20.79-FT  
 RELIEF REQUESTED: 19.21-FT

**3. PARKING CALCULATIONS**  
 FOR OTHER USES: 3 SPACES PLUS ONE CAR SPACE FOR EVERY 250 SQUARE FEET OF FLOOR AREA.

3 SPACES + (4,133 SF/250) = 21 SPACES

REQUIRED PARKING SPACES: 21 + 1 HANDICAP = 22 SPACES  
 PROPOSED PARKING SPACES: 21 + 1 HANDICAP  
 NO RELIEF NEEDED

**4. MINIMUM BUFFER SIZE:**  
 PER SECTION G14(B)8, B.2, B, WHERE A MORE INTENSIVE LAND USE ADJUT LESS INTENSIVE USES, A BUFFER STRIP (TWENTY-FIVE FEET) IN WIDTH SHALL BE REQUIRED BETWEEN SUCH USES.

REQUIRED: 25 FT  
 PROPOSED: 10 FT  
 RELIEF REQUESTED: 15 FEET

**GENERAL NOTES:**

- CONTRACTOR SHALL REMOVE/ABANDON EXISTING ON-SITE SEPTIC SYSTEM IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS
- CONTRACTOR TO REFER TO ARCHITECTURAL PLANS/ STRUCTURAL PLANS FOR ACTUAL SIZE OF BUILDING.

**EXISTING PAVEMENT STRUCTURE**  
 (FROM RIDOT ROUTE 6 PAVEMENT MANAGEMENT PROGRAM PLANS, DATE 1997)

1 1/2" BITUMINOUS SURFACE COURSE OVERLAY  
 3" ± EXISTING BITUMINOUS SURFACE COURSE  
 8" ± EXISTING CONCRETE BASE

**PROPOSED PAVEMENT STRUCTURE**

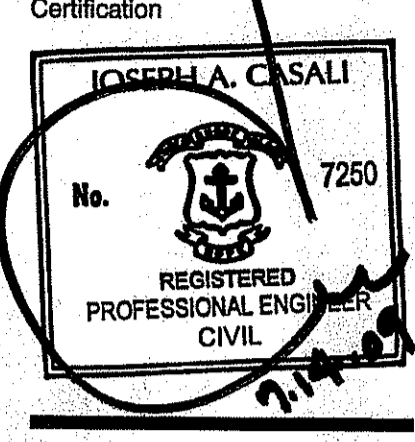
1 1/2" BITUMINOUS SURFACE COURSE  
 1 1/2" BITUMINOUS BINDER COURSE  
 12" GRAVEL BORROW SUBBASE COURSE

**BITUMINOUS AREA CALCULATIONS**  
 BUILDING AREA = 7,652 SF (9% OF LAND AREA)  
 PARKING/DRIVEWAY AREA = 26,228 SF (31% OF LAND AREA)

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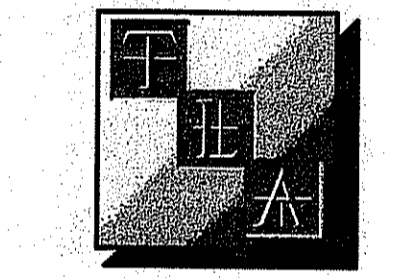
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Drawn by GEC, WMLJR  
 Checked by JAC

Revised on 7/14/09  
 REDEM COMMENTS

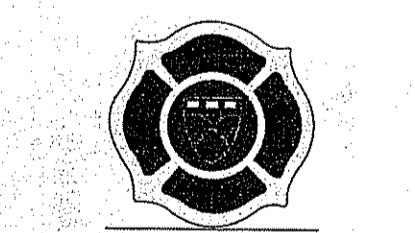


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Project: New Fire Station for the Town of Johnston

JOHNSTON FIRE STATION #4



2289 Hartford Avenue  
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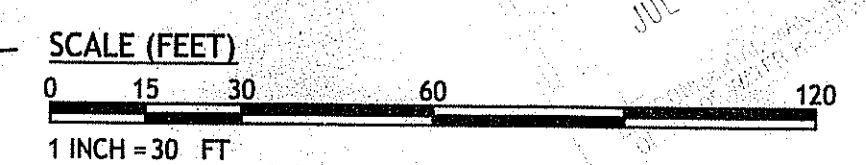
Sheet Contents

SITE PLAN

Project Number: 0213  
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C3.0

Sheet 4 of 11

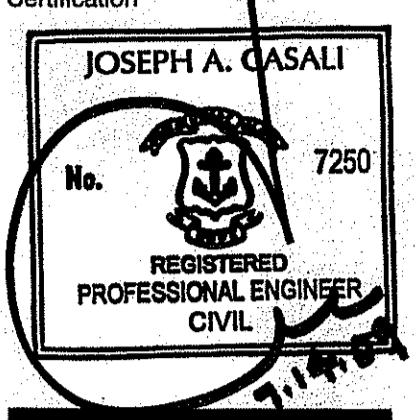


REFER TO PHYSICAL ALTERATION PERMIT DETAIL ON SHEET 7.3 FOR DETAILS AT DRIVEWAY ENTRANCES

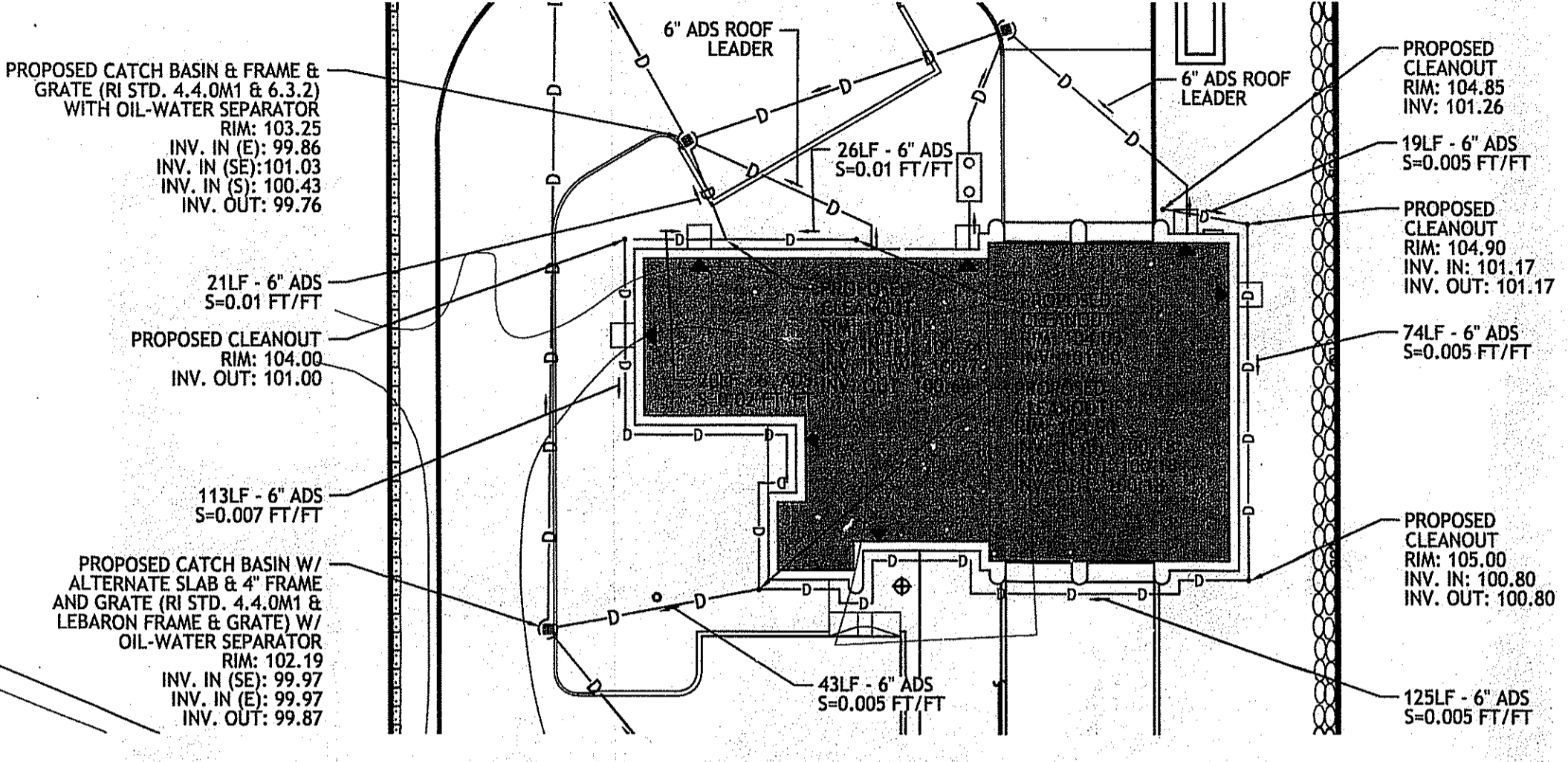
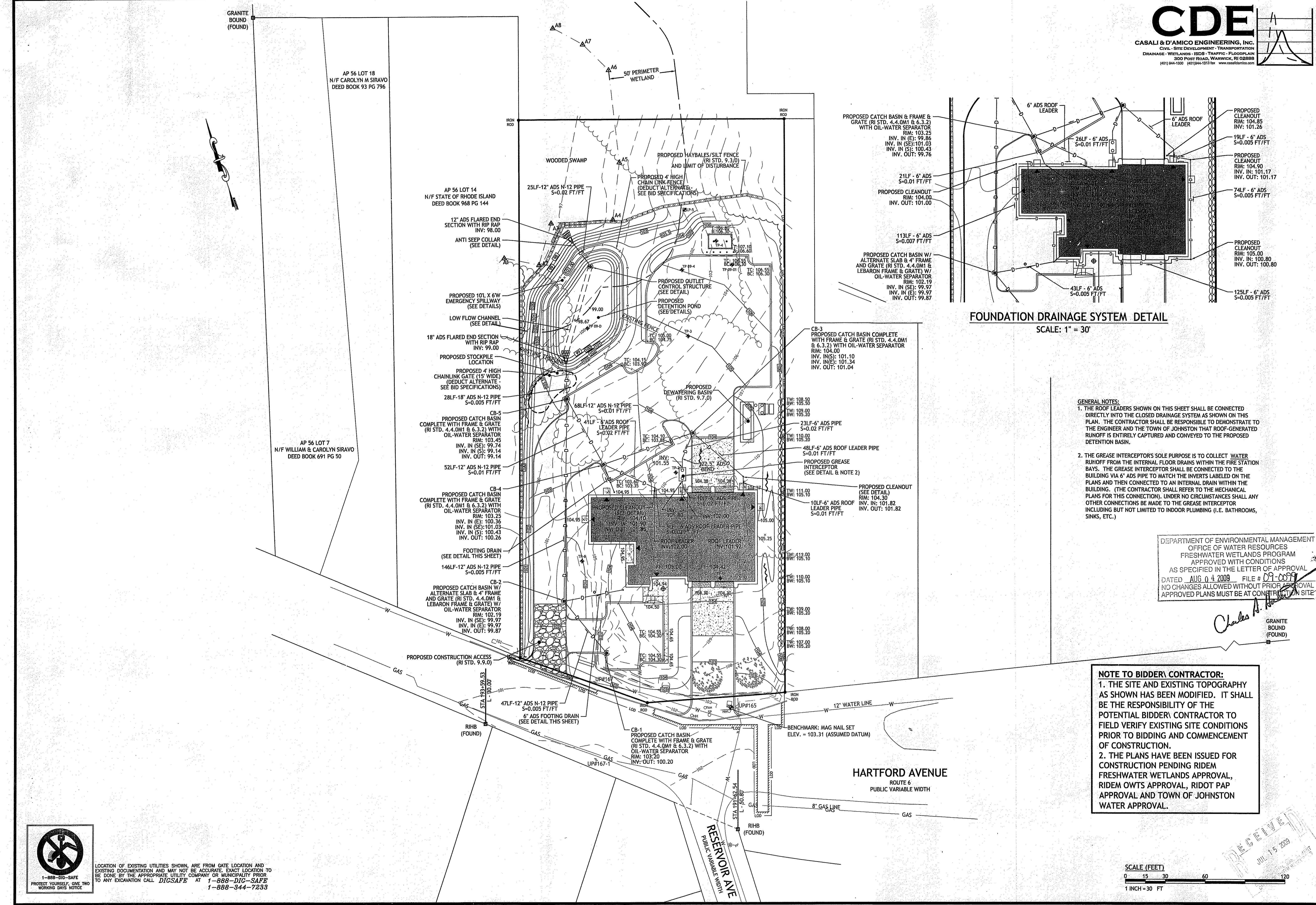
Charles H. ... GRANITE BOUND (FOUND)

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**FOUNDATION DRAINAGE SYSTEM DETAIL**  
 SCALE: 1" = 30"

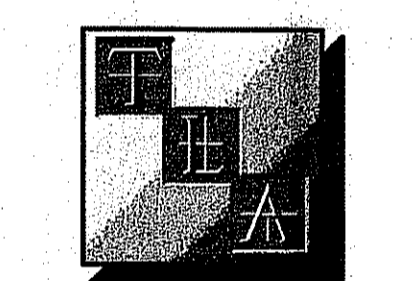
- GENERAL NOTES:**
1. THE ROOF LEADERS SHOWN ON THIS SHEET SHALL BE CONNECTED DIRECTLY INTO THE CLOSED DRAINAGE SYSTEM AS SHOWN ON THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE TO DEMONSTRATE TO THE ENGINEER AND THE TOWN OF JOHNSTON THAT ROOF-GENERATED RUNOFF IS ENTIRELY CAPTURED AND CONVEYED TO THE PROPOSED DETENTION BASIN.
  2. THE GREASE INTERCEPTOR'S SOLE PURPOSE IS TO COLLECT WATER RUNOFF FROM THE INTERNAL FLOOR DRAINS WITHIN THE FIRE STATION BAYS. THE GREASE INTERCEPTOR SHALL BE CONNECTED TO THE PLANS AND THEN CONNECTED TO AN INTERNAL DRAIN WITHIN THE BUILDING. (THE CONTRACTOR SHALL REFER TO THE MECHANICAL PLANS FOR THIS CONNECTION). UNDER NO CIRCUMSTANCES SHALL ANY OTHER CONNECTIONS BE MADE TO THE GREASE INTERCEPTOR INCLUDING BUT NOT LIMITED TO INDOOR PLUMBING (I.E. BATHROOMS, SINKS, ETC.)

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*Charles A. [Signature]*  
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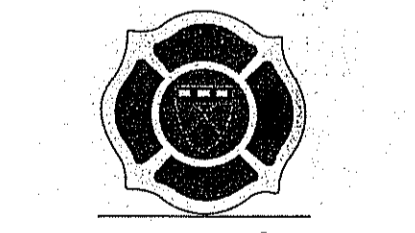


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Project  
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 for the  
 Town of Johnston

**JOHNSTON FIRE STATION #4**



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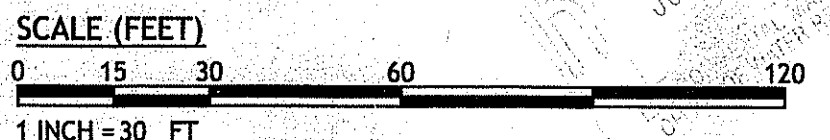
**GRADING AND DRAINAGE PLAN**

Project Number. 0213  
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**C4.0**  
 Sheet 5 of 11



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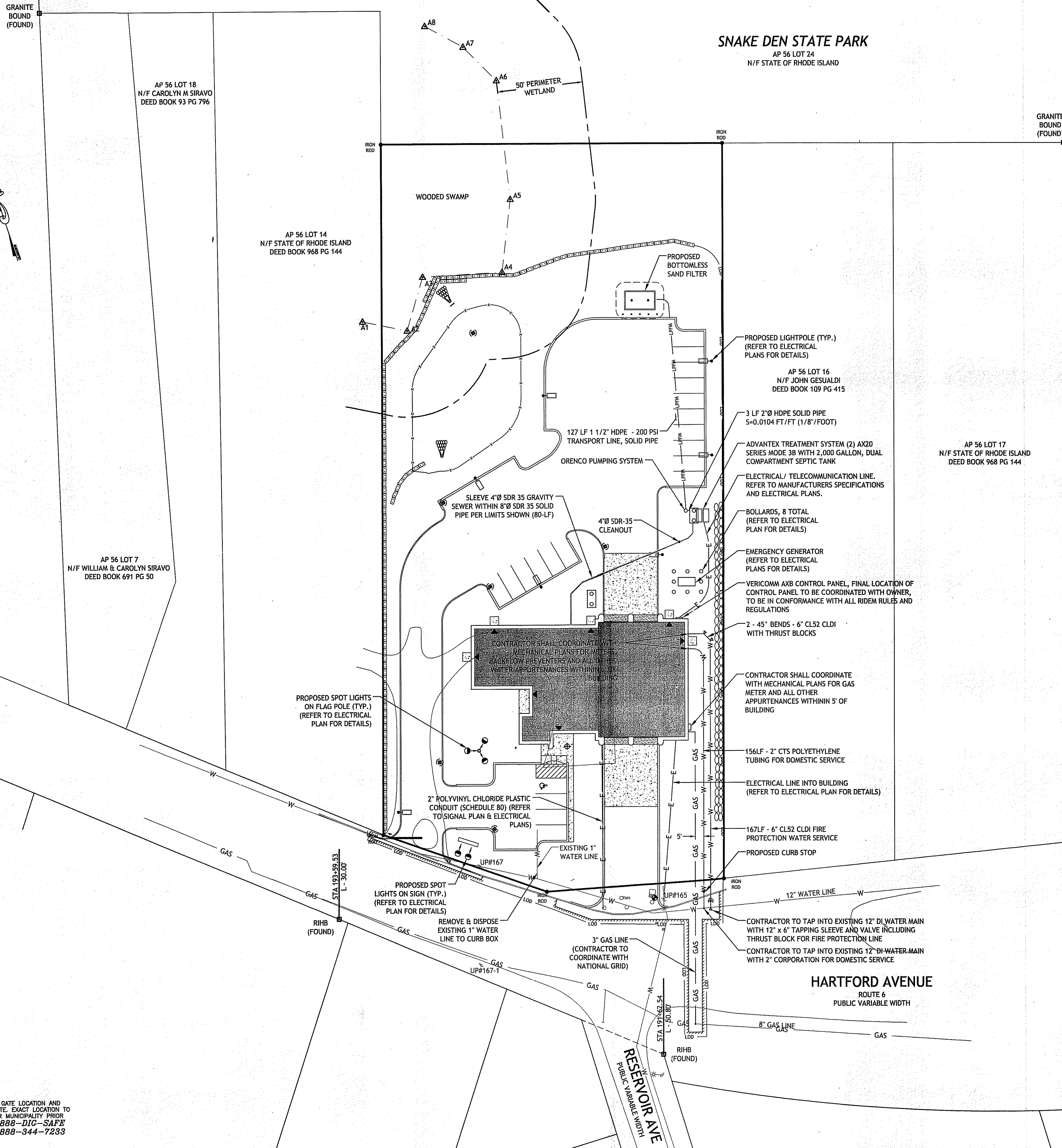


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 No. 7250  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL  
 Drawn by GEC, WM/LJR  
 Checked by JAC  
 Revised on 7/14/09  
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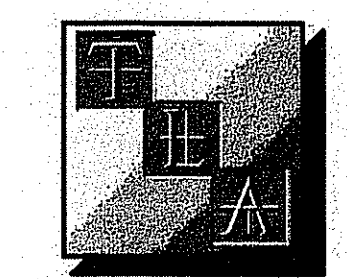
**SNAKE DEN STATE PARK**  
 AP 56 LOT 24  
 N/F STATE OF RHODE ISLAND



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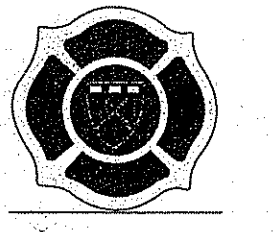
*Charles A. ...*  
 GRANITE BOUND (FOUND)

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**UTILITY PLAN**

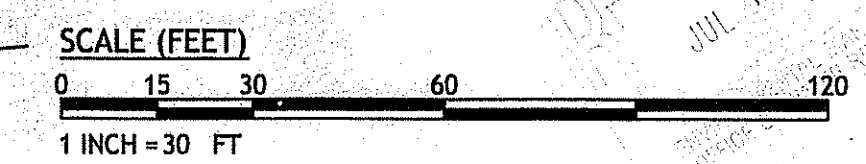
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Sheet 6 of 11



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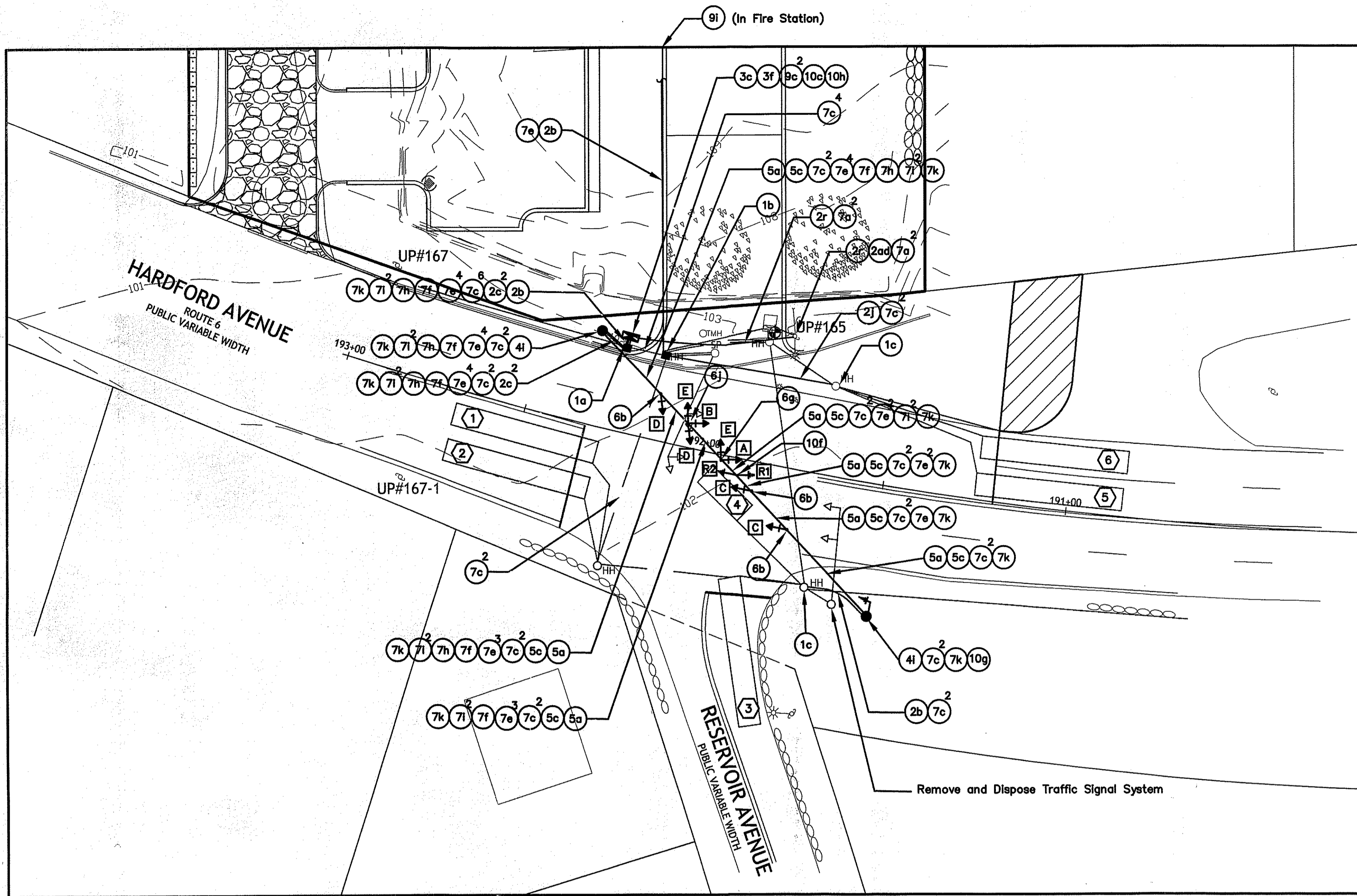
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 Phone: (401)463.4100  
 Fax: (401)463.4150  
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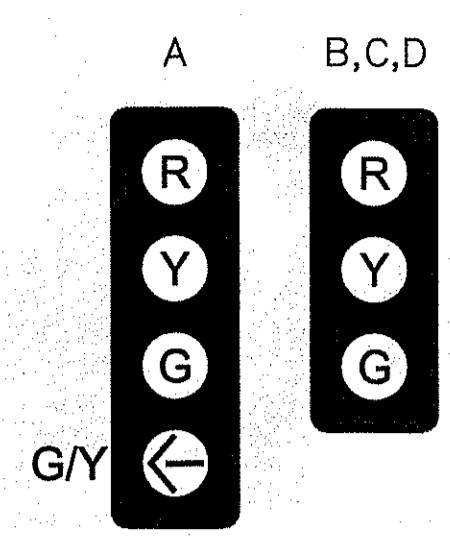
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Checked by JAC

Revised on 7/14/09  
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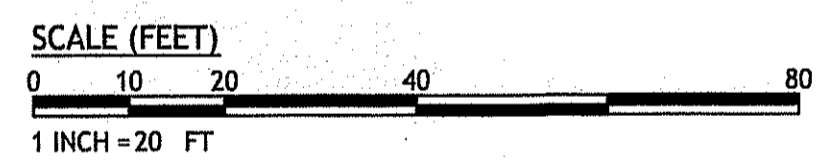


**SIGNAL FACE DESIGNATIONS**

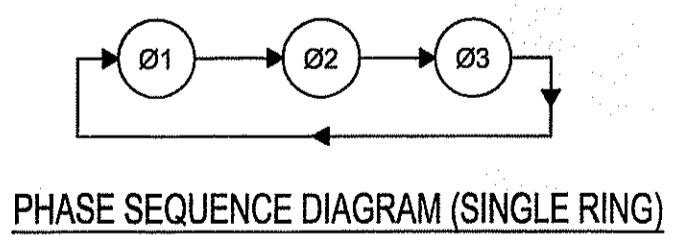


**TRAFFIC SIGNAL MATERIALS LIST**

ITEM NO.	LEGEND	ITEM CODE	ITEM DESCRIPTION
1a	■	T05.0100	PRECAST TYPE "A" HANDHOLE STD. 18.2.0
1b	■	T05.0200	PRECAST TYPE "H" HEAVY DUTY HANDHOLE STD. 18.2.1
1c	■	T05.0400	BREAK INTO EXISTING HANDHOLE
2b	—	T06.5020	2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 40) - UNDERGROUND
2c	—	T06.5030	3 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 40) - UNDERGROUND
2f	—	T06.9901	2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 80) - UNDERGROUND
2j	—	T06.9902	2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 80) - UNDER EXISTING PAVEMENT
2r	—	T06.1020	2 INCH RIGID STEEL CONDUIT - UNDERGROUND
2ad	—	T06.6020	2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT - OVERHEAD
3c	⊠	T12.0018	ACTUATED CONTROLLER TS-2, TYPE 1 W/ 8 PHASE ASSEMBLY, GROUND MOUNTED INC. FOUNDATION AND CABINET STD. 19.1.0
3f	—	T12.9150	METER SOCKET W/ MANUAL BY-PASS
4i	●	T11.2500	TRAFFIC SIGNAL STANDARD GALVANIZED STEEL STD. 19.3.0
5a	—	T11.8005	TETHER WIRE 5/16
5c	—	T11.6007	SPAN AND MESSENGER WIRE 7/16
6b	↑	T14.3413	1 WAY, 3 SECTION SPAN MOUNTED SIGNAL HEAD 12 INCH
6g	↑↑	T14.3424	2 WAY, 1-3 SECTION, 1-4 SECTION SPAN MOUNTED SIGNAL HEAD 12 INCH (W/DUAL IND DUAL ROW L.E.D. ARROW)
6b	↑↑	T14.3433	1 WAY, 3 SECTION SPAN MOUNTED SIGNAL HEAD 12 INCH
7c	—	T04.5302	14 AWG 2 CONDUCTOR TWISTED SHIELDED CABLE
7e	—	T04.5305	14 AWG 5 CONDUCTOR CABLE
7f	—	T04.5307	14 AWG 7 CONDUCTOR CABLE
7h	—	T04.5303	14 AWG 12 CONDUCTOR CABLE
7i	—	T04.9901	OPTICOM DETECTOR CABLE, 3 CONDUCTOR SHIELDED, #20 AWG
7k	—	T04.9902	COAXIAL CABLE
9c	—	T13.1004	TRAFFIC DETECTOR RELAY - LOOP 4 CHANNEL
9i	—	T13.9901	FIRE PRE-EMPTION PUSH BUTTON AND ENCLOSURE
10c	—	T13.9902	OPTICOM PHASE SELECTOR AND CHASIS, FOUR CHANNEL
10g	—	T13.9903	YAGI ANTENNA
10h	—	T13.9904	SPREAD SPECTRUM RADIO



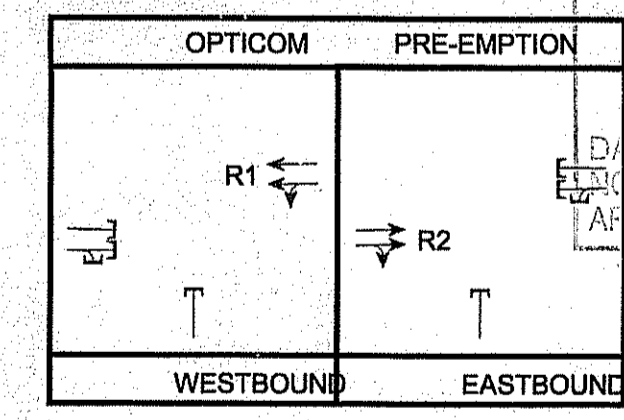
PHASE AND TIMING	Ø1		Ø2		Ø3		Ø4		FIRE PRE-EMPT		FLASHER LIGHTING
	DIR.	HEADS	GREEN	CL1	GREEN	CL1	GREEN	CL1	GREEN	CL1	
HARTFORD AVENUE	WB	A	R	R	G	Y	R	R	R	R	Y
HARTFORD AVENUE	WB	B	R	R	G	Y	R	R	R	R	Y
HARTFORD AVENUE	EB	C	R	R	G	Y	R	R	R	R	Y
RESERVOIR AVENUE	NB	D	R	R	G	Y	R	R	R	R	Y
FIRE STATION	SB	E	R	R	G	Y	R	R	R	R	Y
<b>NOT IN USE</b>											
INTERVALS											
INITIAL	7		7		7		10				
EXTENSION	3.0		3.0		2.4		—				
MAX 1	10		45		15		25				
MAX 2	10		35		15		25				
CLEARANCE	4		1.5		4		1.5		4		1.5
PEDESTRIAN											
MEMORY	NON-LOCKING		NON-LOCKING		NON-LOCKING						
RECALL	OFF		SOFT		OFF						



**COORDINATION DATA**  
(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	85	75	85
OFFSET	26	30	36
SPLIT #1	15	16	15
SPLIT #2	51	40	51
SPLIT #3	19	19	19
COORDINATED PHASE	#2	#2	#2
PLAN 1	M-F (6:00am-9:00am)		
PLAN 2	M-F (9:00am-4:00pm & 6:00pm-9:00pm) SAT./SUN. (9:00am-9:00pm)		
PLAN 3	M-F (4:00pm-6:00pm)		
FREE	ALL OTHER TIME PERIODS		

- NOTES:**
- OFFSETS REFERENCED TO THE END OF #2 GREEN.
  - ALL COORDINATION PHASE TIMES INCLUDE YELLOW AND RED CLEARANCE TIME.
  - PHASE 2 DETECTORS SHALL BE DISABLED DURING COORDINATION.
  - COORDINATION MODE SHALL BE PERMISSIVE. FIXED FORCE OFFS SHALL BE IN EFFECT DURING COORDINATION.
  - OFFSET SEEKING SHALL BE THE SHORTWAY METHOD.
  - MAX GREEN #1 FOR FREE OPERATION.



- OPTICOM PRE-EMPTION NOTES:**
- EMERGENCY VEHICLE PRE-EMPTION REFERS TO OPTICALLY TRANSMITTED CALLS SENT BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS MOUNTED ON THE INTERSECTION SIGNAL EQUIPMENT.
  - WHEN A CALL IS RECEIVED BY OPTICAL DETECTORS R1 OR R2, THE CONTROLLER SHALL HOLD OR ADVANCE TO THE PHASE DESIGNATED IN THE ABOVE CHART. THAT PHASE SHALL BE HELD FOR A MINIMUM OF TEN (10) SECONDS AND REMAIN IN THAT PHASE UNTIL THE CALL CEASES, FOR A MAXIMUM OF 90 SECONDS OR AS PER THE FIRE DEPT. CHIEF. UPON CLEARANCE OF THE PRE-EMPTION PHASE, THE CONTROLLER SHALL RESUME NORMAL OPERATION.
  - PHASES THAT ARE TERMINATED BY AN EMERGENCY VEHICLE PRE-EMPTION SHALL HAVE MINIMUM GREEN AND NORMAL CLEARANCE INTERVALS PRIOR TO TERMINATION.

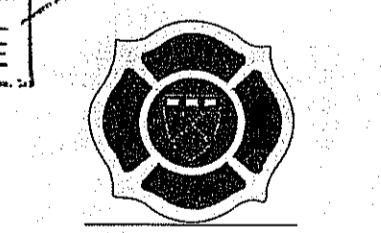
**NOTE TO BIDDER/ CONTRACTOR:**

- THE SITE AND EXISTING TOPOGRAPHY AS SHOWN HAS BEEN MODIFIED. IT SHALL BE THE RESPONSIBILITY OF THE POTENTIAL BIDDER/ CONTRACTOR TO FIELD VERIFY EXISTING SITE CONDITIONS PRIOR TO BIDDING AND COMMENCEMENT OF CONSTRUCTION.
- THE PLANS HAVE BEEN ISSUED FOR CONSTRUCTION PENDING RIDEM FRESHWATER WETLANDS APPROVAL, RIDEM OWTS APPROVAL, RIDOT PAP APPROVAL AND TOWN OF JOHNSTON WATER APPROVAL.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS  
 AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED AUG 04 2009 FILE # 09-008  
 CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

New Fire Station for the Town of Johnston

JOHNSTON FIRE STATION #4



2289 Hartford Avenue  
 Johnston, Rhode Island

Drawing Status  
 ISSUED FOR  
 CONSTRUCTION - PENDING  
 STATE/LOCAL APPROVALS  
 Issued On April 20, 2009  
 Sheet Contents

SIGNAL PLAN

Project Number: 0213  
 Drawing No.

**C6.0**

Sheet 7 of 11

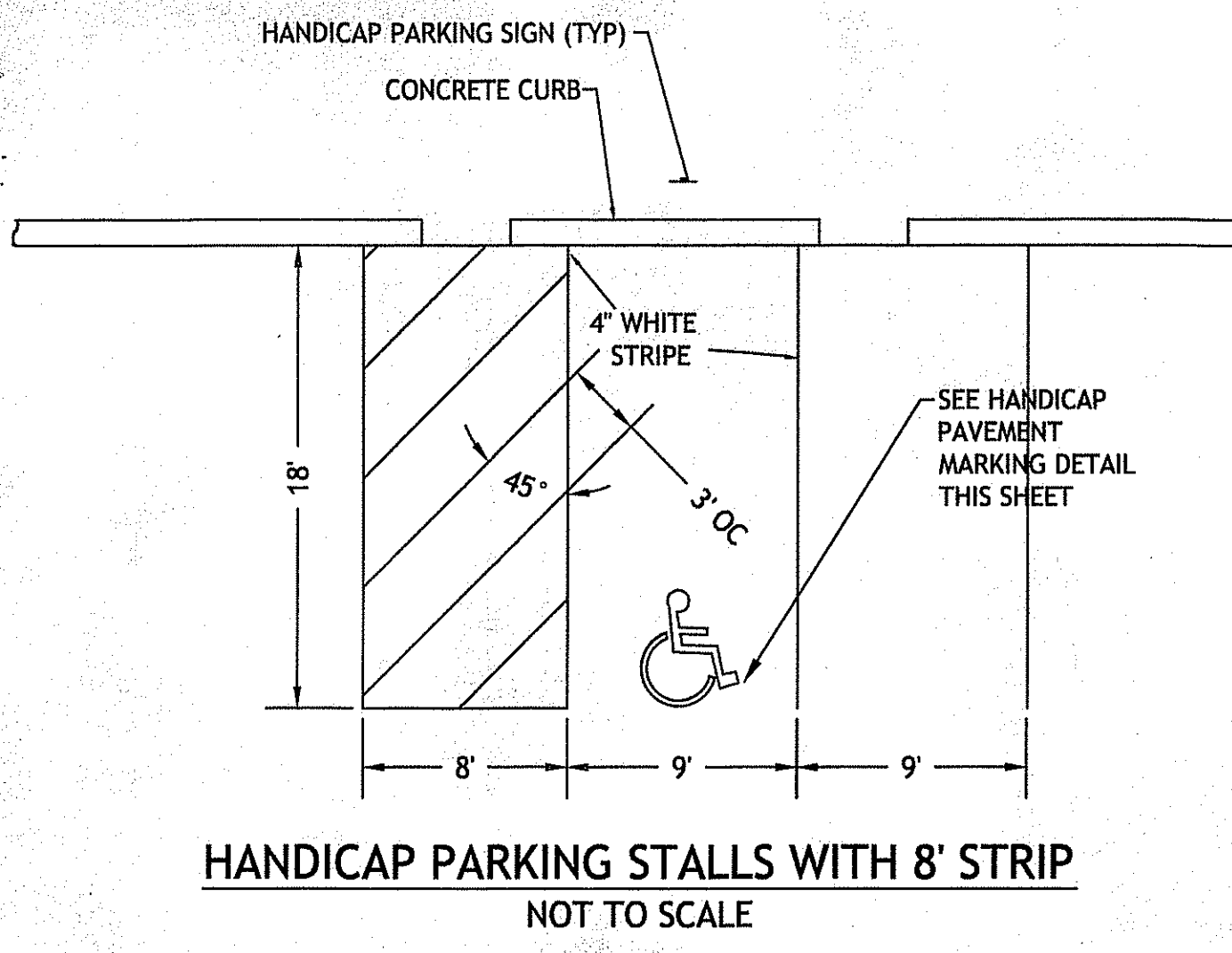
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07/14/2009

Certification  
**JOSEPH A. CASALI**  
 No. 7250  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

Drawn by: JAC  
 Checked by: JAC

Revised on: 7/14/09  
 REVISION COMMENTS



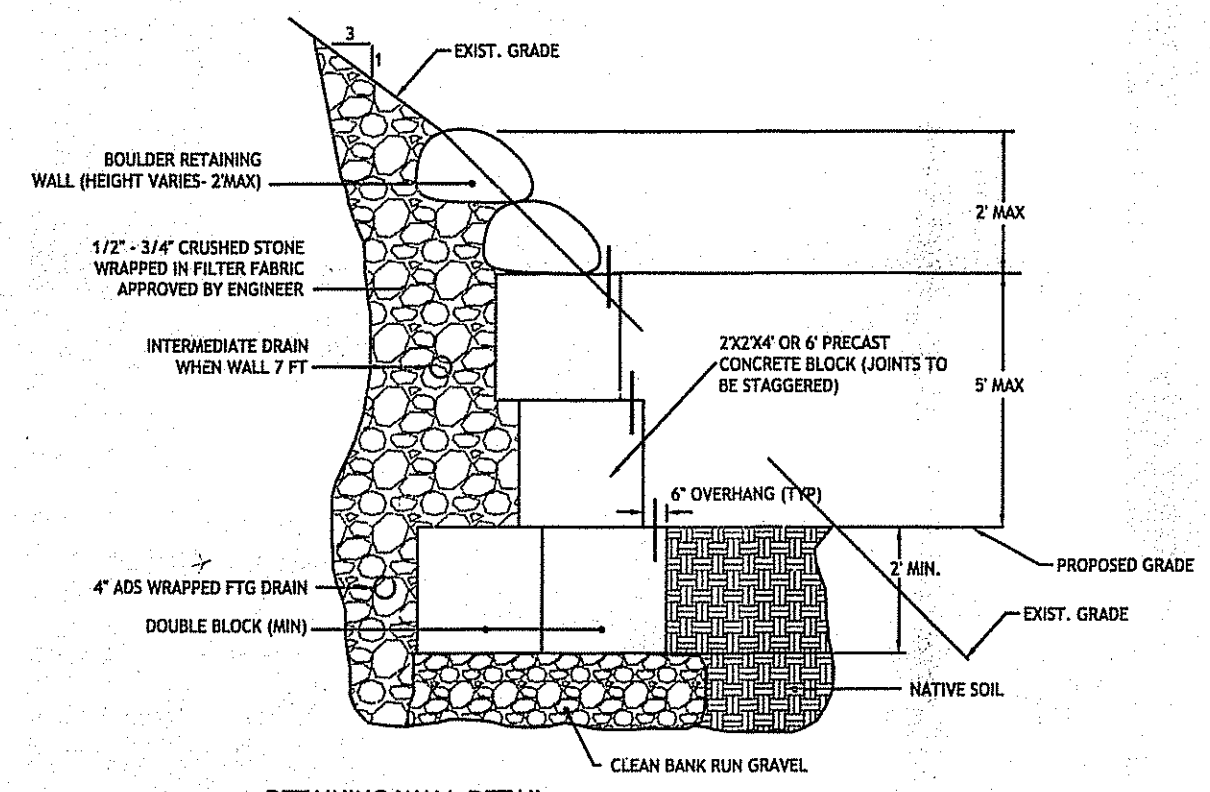
**PROPOSED HANDICAPPED PARKING SIGNS**  
 NOT TO SCALE

- SIGN NOTES:**
- SIGN POSTS SHALL BE GALVANIZED STEEL U-CHANNEL (3" WIDE-MIN) AND INSTALLED IN CONFORMANCE TO M.U.T.C.D. AND RHODE ISLAND STANDARD SPECIFICATIONS.
  - POSTS SHALL BE DRIVEN TO A DEPTH OF 4 FEET (MIN.).
  - THE EDGE OF THE SIGN SHALL BE 18" FROM THE FACE OF THE CURB.
  - WITHIN SIDEWALK LOCATIONS THE SIGN POST WILL BE INSTALLED WITHIN A 8'X6' SQUARE BOX FORM.

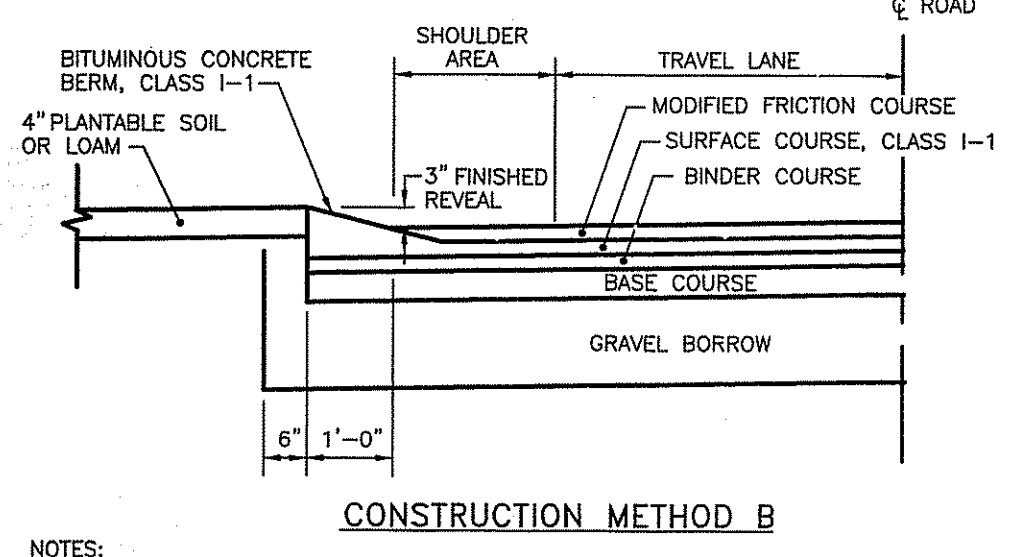
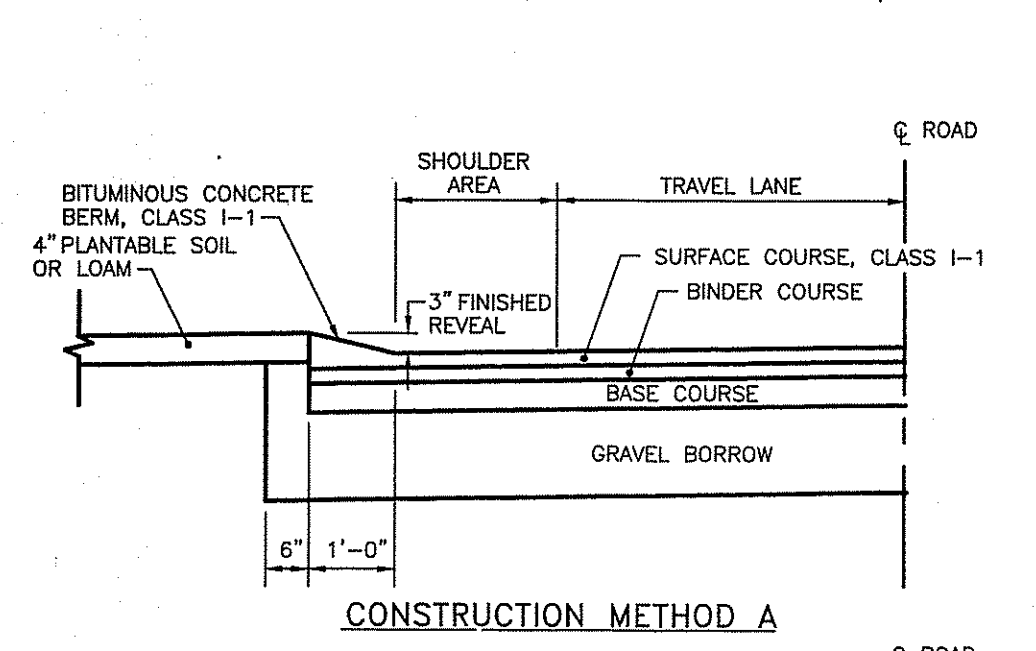
SIGN NUMBER		RI-1
<b>LEGEND</b>		
COLOR	BACKGROUND	RED
COPY	WHITE	
SIGN WIDTH	24" 30" 36" 48"	
SIGN HEIGHT	24" 30" 36" 48"	

- SHALL BE IN ACCORDANCE WITH SECTION 1.19 OF THE R.I. STANDARD SPECIFICATIONS.
- DEVICES TYPE "B" GRADUATED.
- REGULATORY SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH STD. 24.1.0, 24.2.0 OR 24.6.0.
- THICKNESS OF ALUMINUM SIGN PLATES: LESS THAN 10 SQ. FT. - 0.081 IN. 10 SQ. FT. TO 36 SQ. FT. - 0.102 IN. GREATER THAN 36 SQ. FT. - 0.125 IN.
- FOR ADDITIONAL SIGNS SEE THE MUTCD.

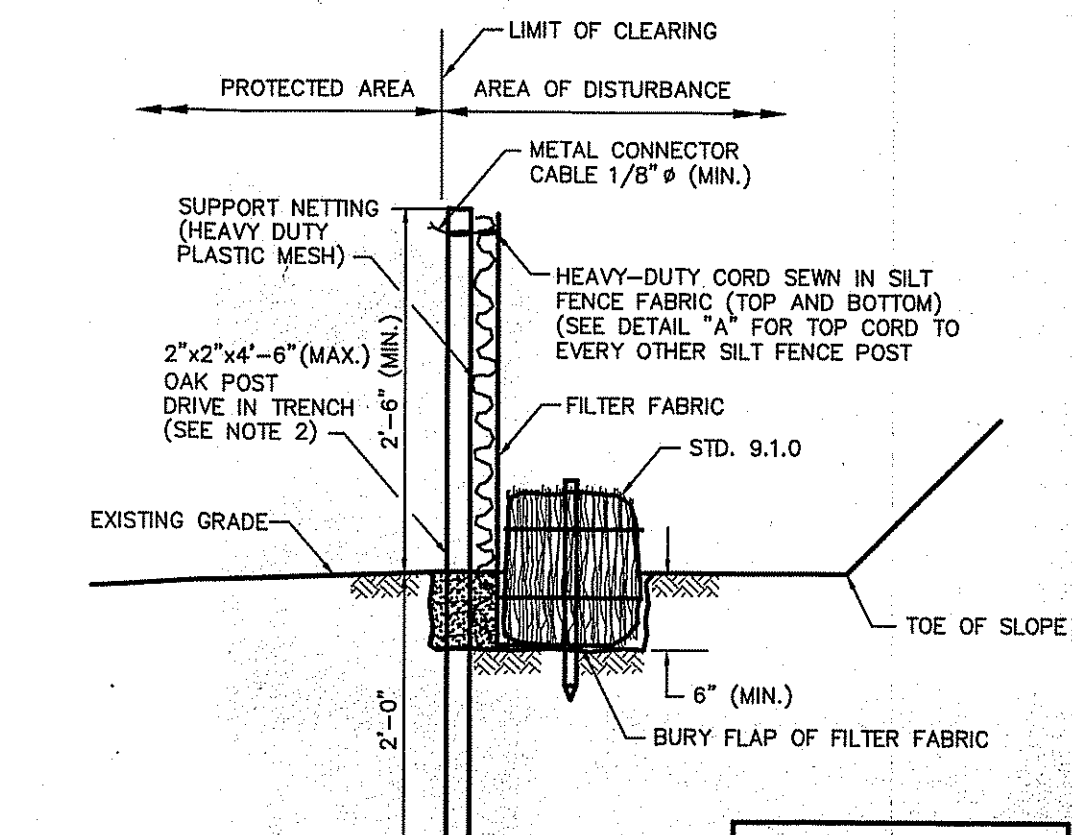
**REGULATORY SIGNS**  
 R.I. STANDARD 27.1.0



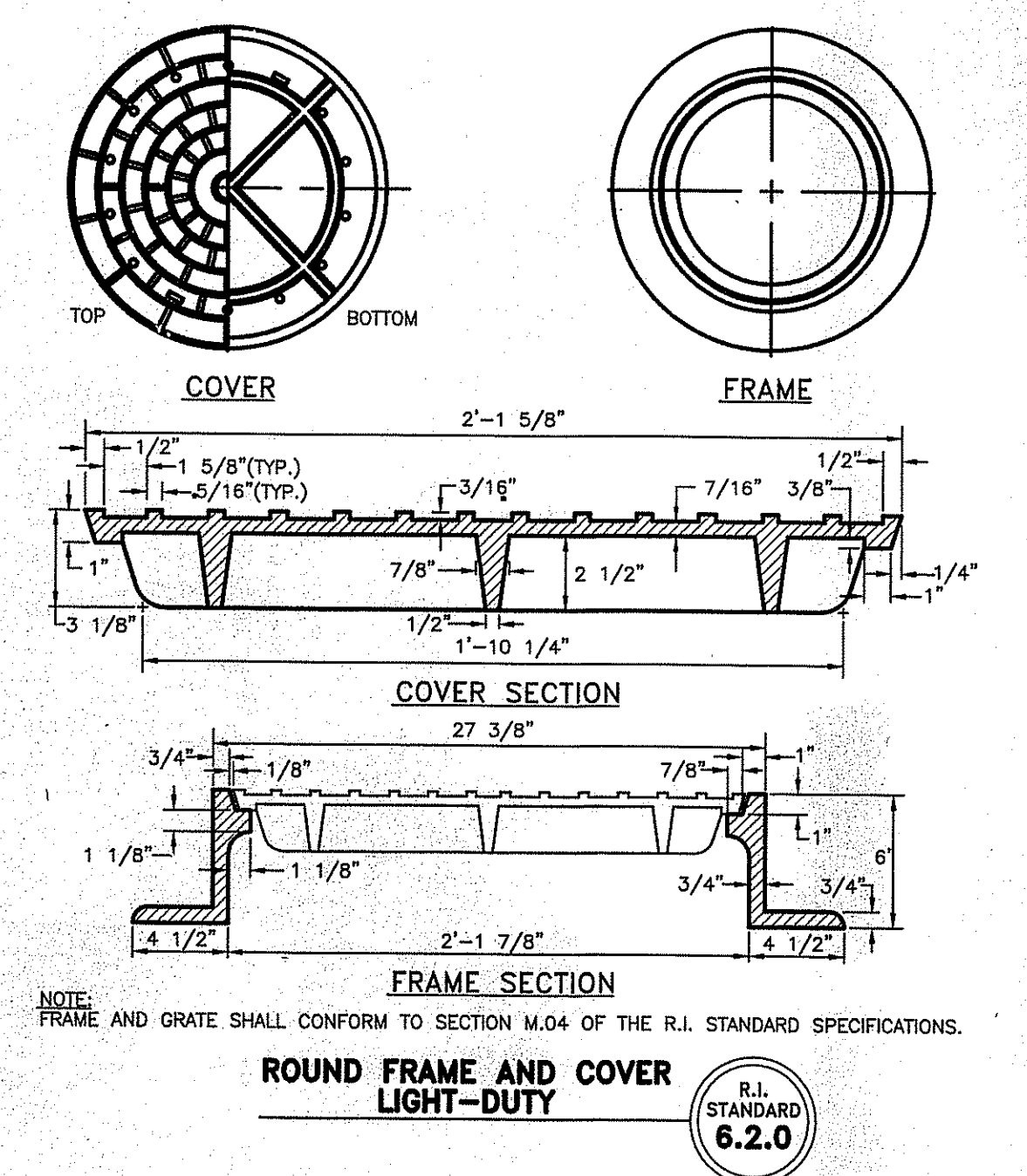
- SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
- ALL STRUCTURAL STEEL AND FASTENERS HARDWARE SHALL BE WEATHERING STEEL AS SPECIFIED.



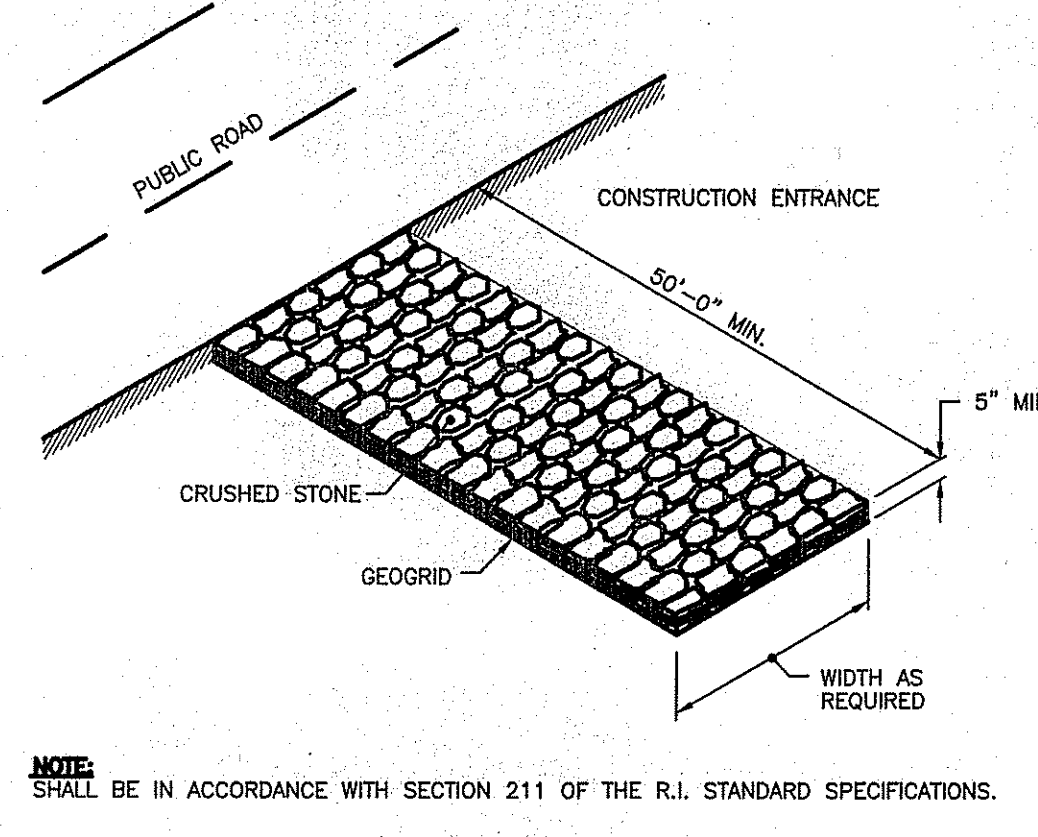
- BITUMINOUS BERM**  
 R.I. STANDARD 7.5.1



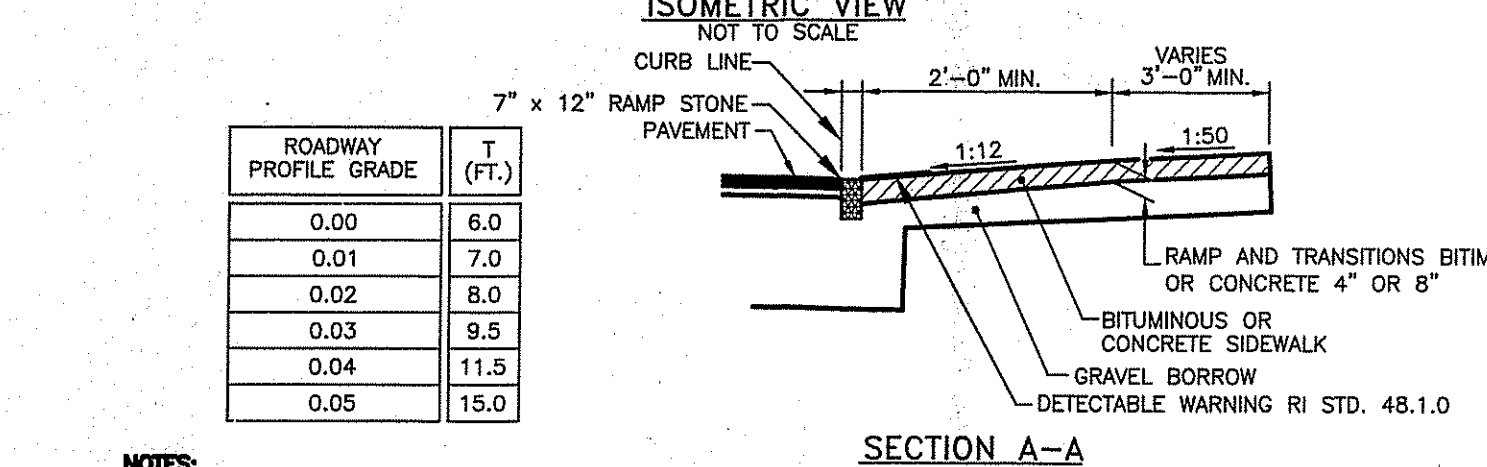
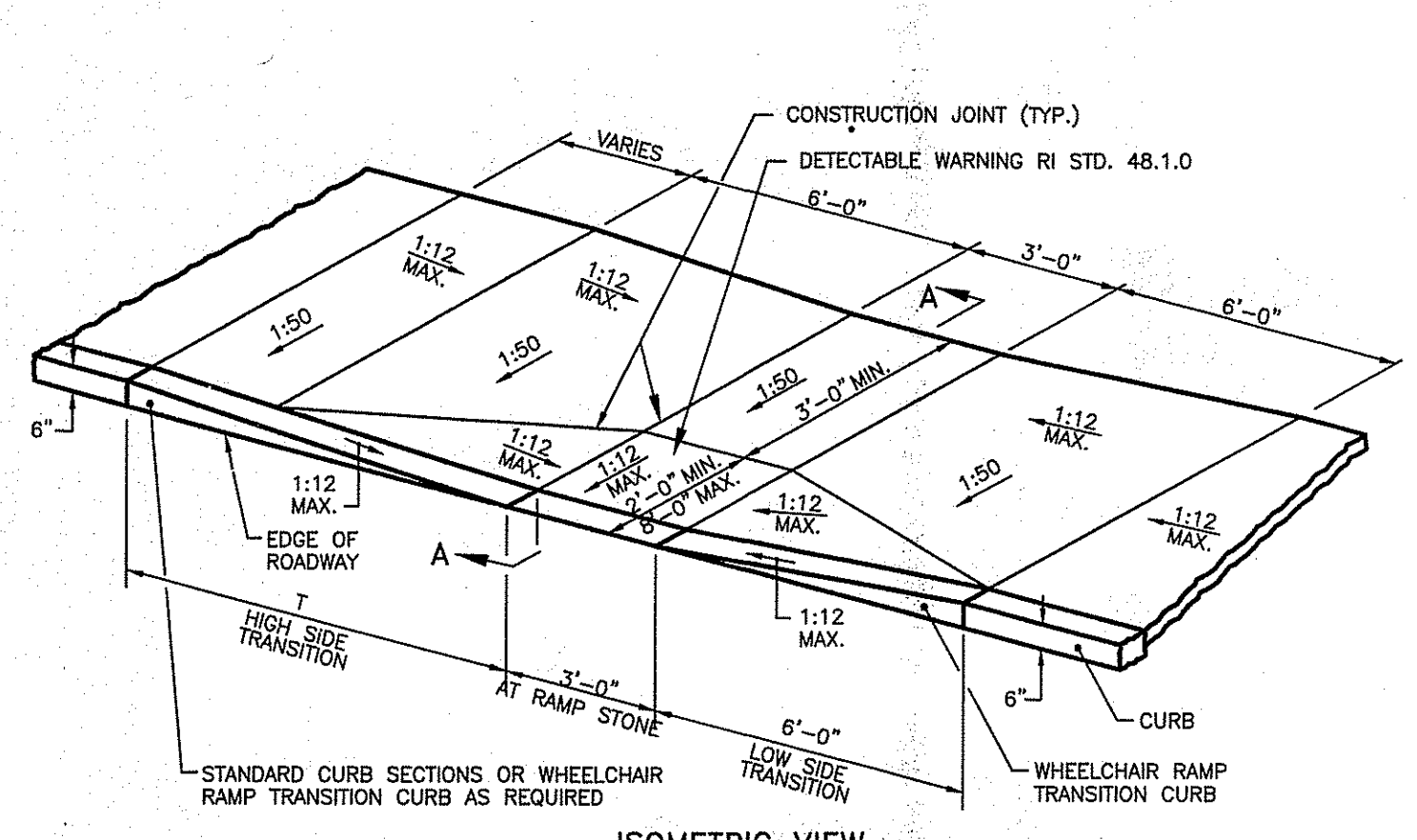
- BALED HAY EROSION CHECK AND SILT FENCE COMBINED**  
 R.I. STANDARD 9.3.0
- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE R.I. STANDARD SPECIFICATIONS.
  - STD. 9.1.0 IS INSTALLED "TIGHT" AGAINST SILT FENCE. THOROUGHLY COMPACT EXCAVATED SOILS BACK INTO TRENCH AFTER INSTALLATION OF EROSION CONTROL DEVICE. SILT FENCE FABRIC SHALL NOT BE SLIT. STD. 9.1.0 POST SHALL BE DRIVEN THROUGH SILT FENCE FABRIC. 2"x2"x4"-6" (MAX.) OAK POST FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAX.) O.C. IN WETLAND AREAS AND 4'-0" (MAX.) O.C. IN WETLAND RAINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
  - 1"x1"x4"-6" (MIN.) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
  - SILT FENCE AND BALED HAY SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



- NOTES:**
- Concrete: 5,000 P.S.I. Minimum Strength @ 28 Days
  - Steel Reinforcing-ASTM A-615, Grade 60
  - Cover to Steel-1" Minimum
  - Tanks are Designed to Meet ASTM C885 and ACI 311 with ASHTO HS-20 Loading
  - Earth Cover-0 to 5 Feet Max.
  - Construction Joint Sealed with 1" Dia. Butyl Rubber or Equivalent
  - Approx. Wts: Top Slob = 2.3 Tons Bottom Section = 8.5 Tons

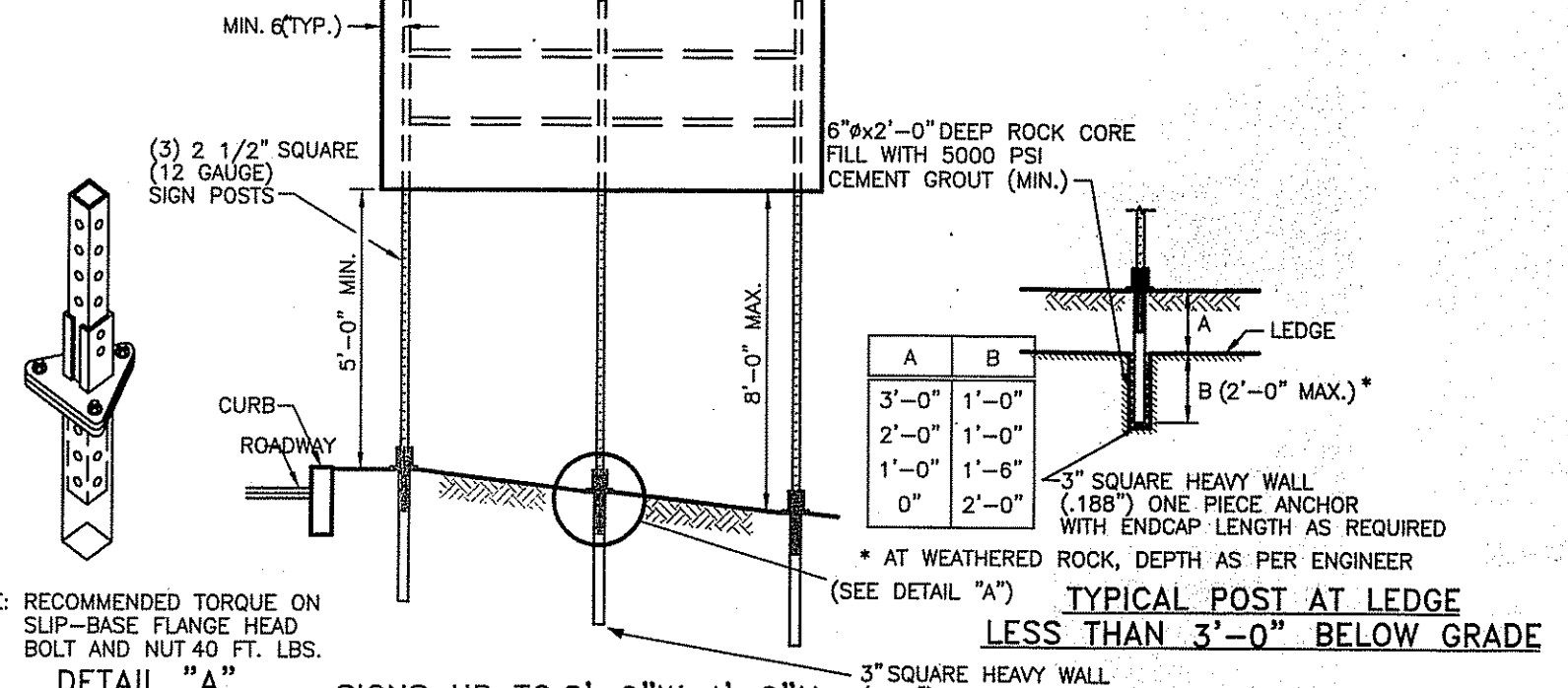
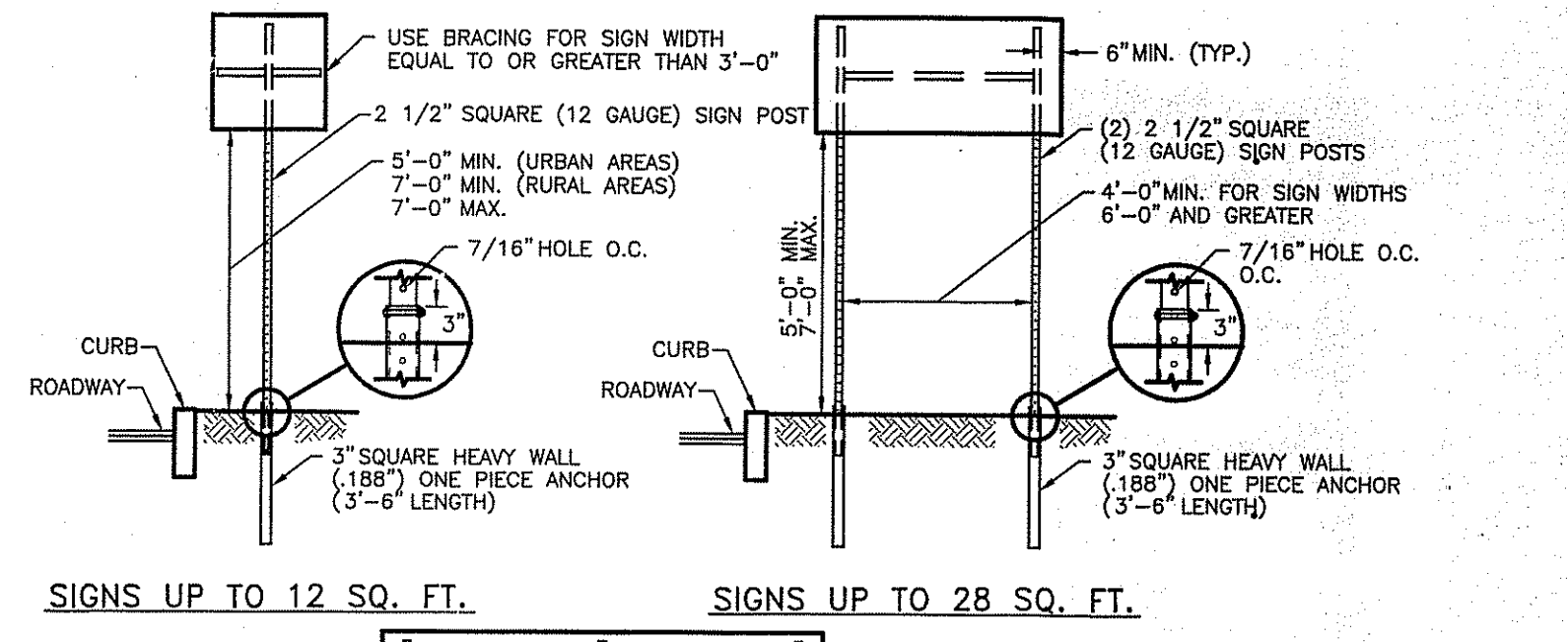


- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

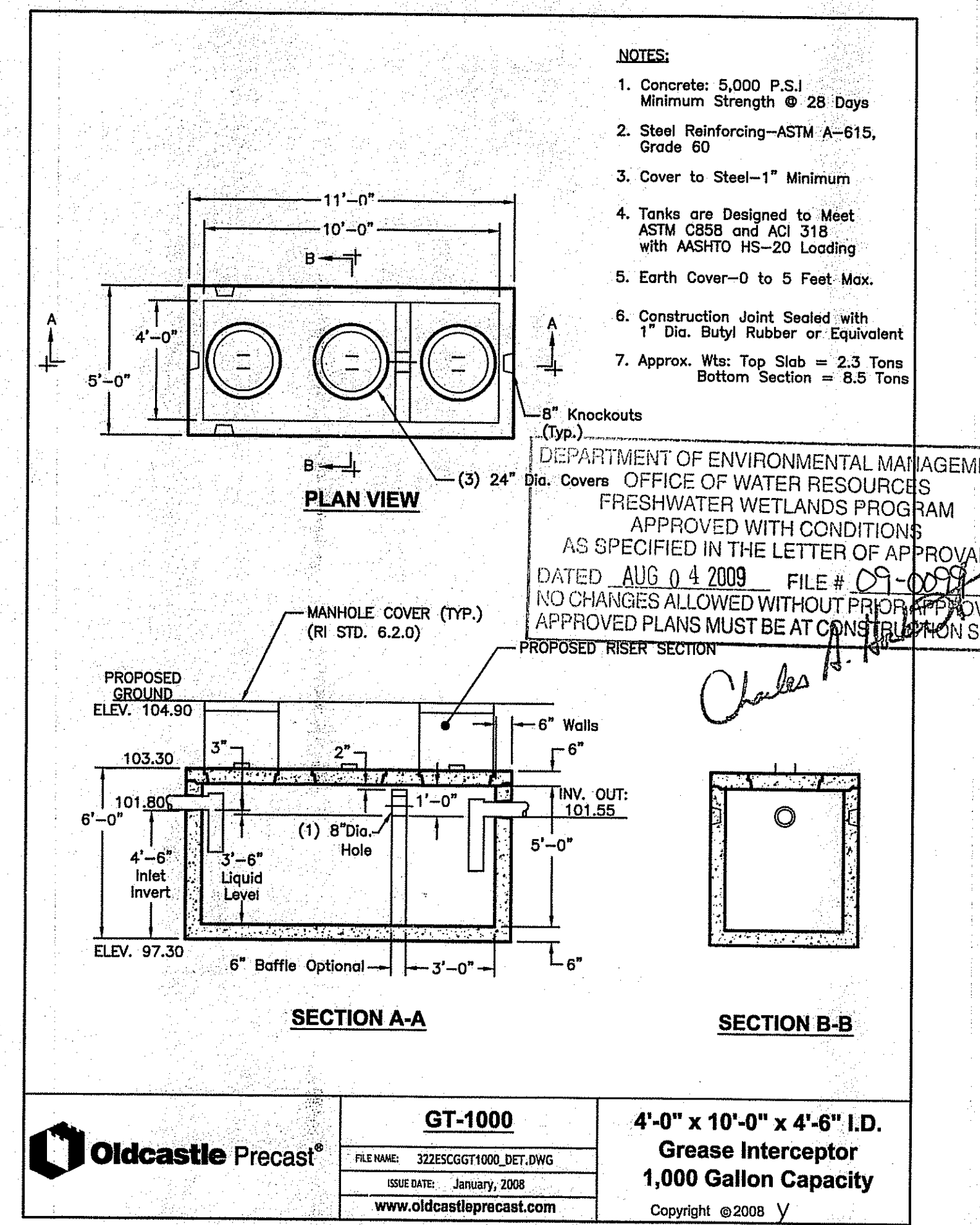


- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
  - WHEN ANY OBSTRUCTION LOCATED IN THE SIDEWALK FALLS WITHIN A CROSSWALK AREA, THE WHEELCHAIR RAMP WILL BE PLACED SUCH THAT THE OBSTRUCTION FALLS OUTSIDE OF THE RAMP.
  - AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK, AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
  - DRAINAGE FACILITIES ARE TO BE LOCATED UP-GRADE OF ALL WHEELCHAIR RAMPS.
  - LOCATION OF WHEELCHAIR RAMPS IS AS SHOWN ON CONTRACT DRAWINGS.
  - IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1:50 EXCEPT WITHIN THE RAMP AREA.
  - AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-0" SHALL BE MAINTAINED.
  - THE WHEELCHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS), MUST NOT EXCEED 1:12. HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
  - WHERE THE ROAD PROFILE EXCEEDS 5% THE HIGH SIDE TRANSITION LENGTH (T) SHALL BE EIGHTEEN FEET (18'-0").
  - IN NO CASE, WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED BEHIND THE STOP LINE.
  - THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
  - THE WHEELCHAIR RAMP SHALL BE CENTERED RADIALLY, OPPOSITE THE RADIUS POINT WHEN POSSIBLE.
  - MINIMUM LENGTH OF STRAIGHT OR CURVED RAMP PIECES TO BE 3'-0" (GREATER LENGTHS PREFERRED).
  - ALL REQUIRED CUTTING OF CURB PIECES TO BE PAID FOR UNDER COST OF CURB.
  - DETECTABLE WARNINGS TO BE PAID FOR UNDER SECTION 942 OF THE R.I. STANDARD SPECIFICATIONS.
  - 8" CONCRETE DEPTH FOR RADIUS WHEELCHAIR RAMPS ONLY. USE 4" DEPTH FOR TANGENT (MID-BLOCK) LOCATIONS.

**WHEELCHAIR RAMP**  
 R.I. STANDARD 43.3.0

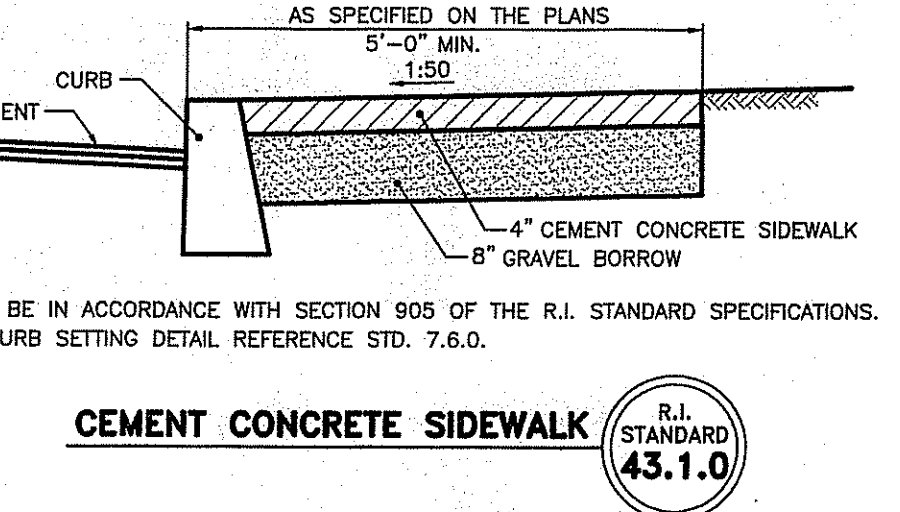


- SIGN POST SELECTION AND INSTALLATION DETAILS SQUARE POST (SIGNS UP TO 8'-0" Wx4'-0" H)**  
 R.I. STANDARD 24.1.0
- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 7.15 OF THE R.I. STANDARD SPECIFICATIONS.
  - SIGN SUPPORTS HAVE BEEN DESIGNED IN ACCORDANCE WITH ASHTO SPECIFICATIONS FOR A 10-YEAR MEAN WIND RECURRENCE INTERVAL.
  - FOR INSTALLATION IN GROUND OR BITUMINOUS CONCRETE DRIVE SIGN POST ANCHOR TO REQUIRED DEPTH SO THAT THE HOLE WILL MATCH TO SIGN POST ABOVE GROUND FOR THE BOLT CONNECTION. INSERT SIGN POST AND BOLT IN PLACE.
  - FOR INSTALLATION IN CONCRETE SEE STD. 25.3.0 AND FOLLOW THE PROCEDURE IN NOTE 2.
  - FOR INSTALLATION IN LEDGE LESS THAN 3'-0" BELOW GRADE SEE DETAIL ABOVE.
  - EDGE OF SIGN SHALL BE 1'-6" (MIN.) FROM EDGE OF CURB IN URBAN AREAS AND 6'-0" (MIN.) FROM EDGE OF CURB IN RURAL AREAS.
  - INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - BREAKAWAY SIGN SUPPORTS SHALL BE FABRICATED FROM STEEL, AND SHALL CONFORM TO THE BREAKAWAY DESIGN SHOWN ON THIS SHEET.
  - STEEL POSTS SHALL CONFORM TO ASTM-A361, Fy= 55 KSI. THE CROSS SECTION OF THE POST SHALL BE SQUARE TUBE FORMED OF 12 GAUGE (105 U.S. GAUGE) COLD-ROLLED CARBON STEEL SHEETS WHICH HAVE BEEN ZINC COATED (1.25 OZ.) CONFORMING TO ASTM-A525, CAREFULLY ROLLED TO SIZE AND WELDED DIRECTLY IN THE CORNER BY HIGH FREQUENCY RESISTANCE WELDING OR EQUAL, AND EXTERNALLY SCALED TO AGREE WITH CORNER RADII. STANDARD CORNER RADIUS SHALL BE 3/32" PLUS OR MINUS 1/64".
  - ALL BOLTS SHALL CONFORM TO ASTM-A307, CLASS A.
  - ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AS PER ASTM-A153.
  - FOR SIGNS GREATER THAN 32 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3.



**GT-1000**  
 FILE NAME: 3225CGGT1000\_DET.DWG  
 ISSUE DATE: January, 2008  
 www.oldcastleprecast.com

**4'-0" x 10'-0" x 4'-6" I.D. Grease Interceptor**  
 1,000 Gallon Capacity  
 Copyright © 2008 Y



- NOTES:**
- SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
  - FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

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 Interior Design  
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**JOHNSTON FIRE STATION #4**

2289 Hartford Avenue  
 Johnston, Rhode Island

Drawing Status  
 ISSUED FOR  
 CONSTRUCTION - PENDING  
 STATE/LOCAL APPROVALS  
 Issued On April 20, 2009

Project Number: 0213  
 Drawing No.  
**C7.0**  
 Sheet 8 of 11

JUL 15 2009

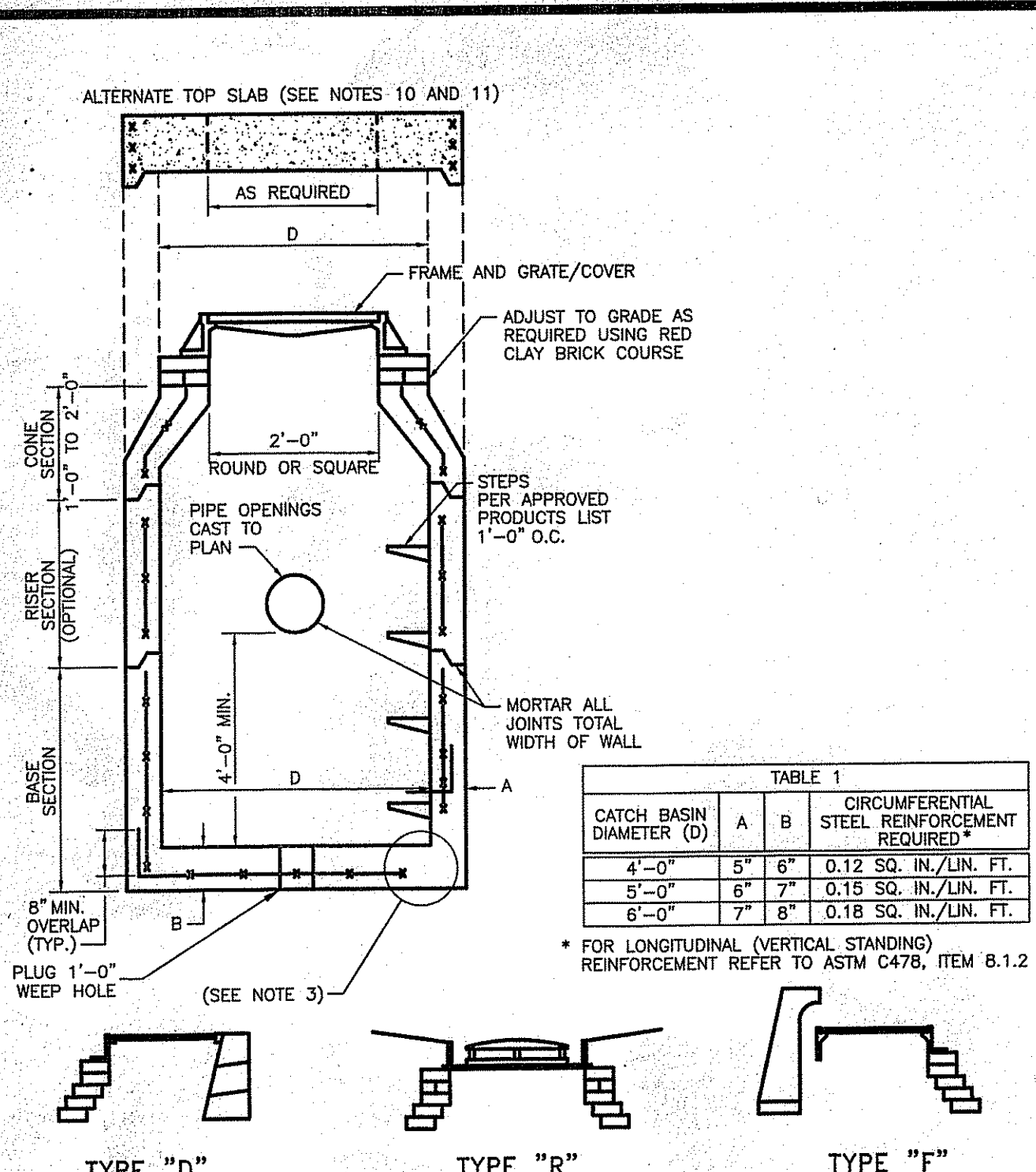


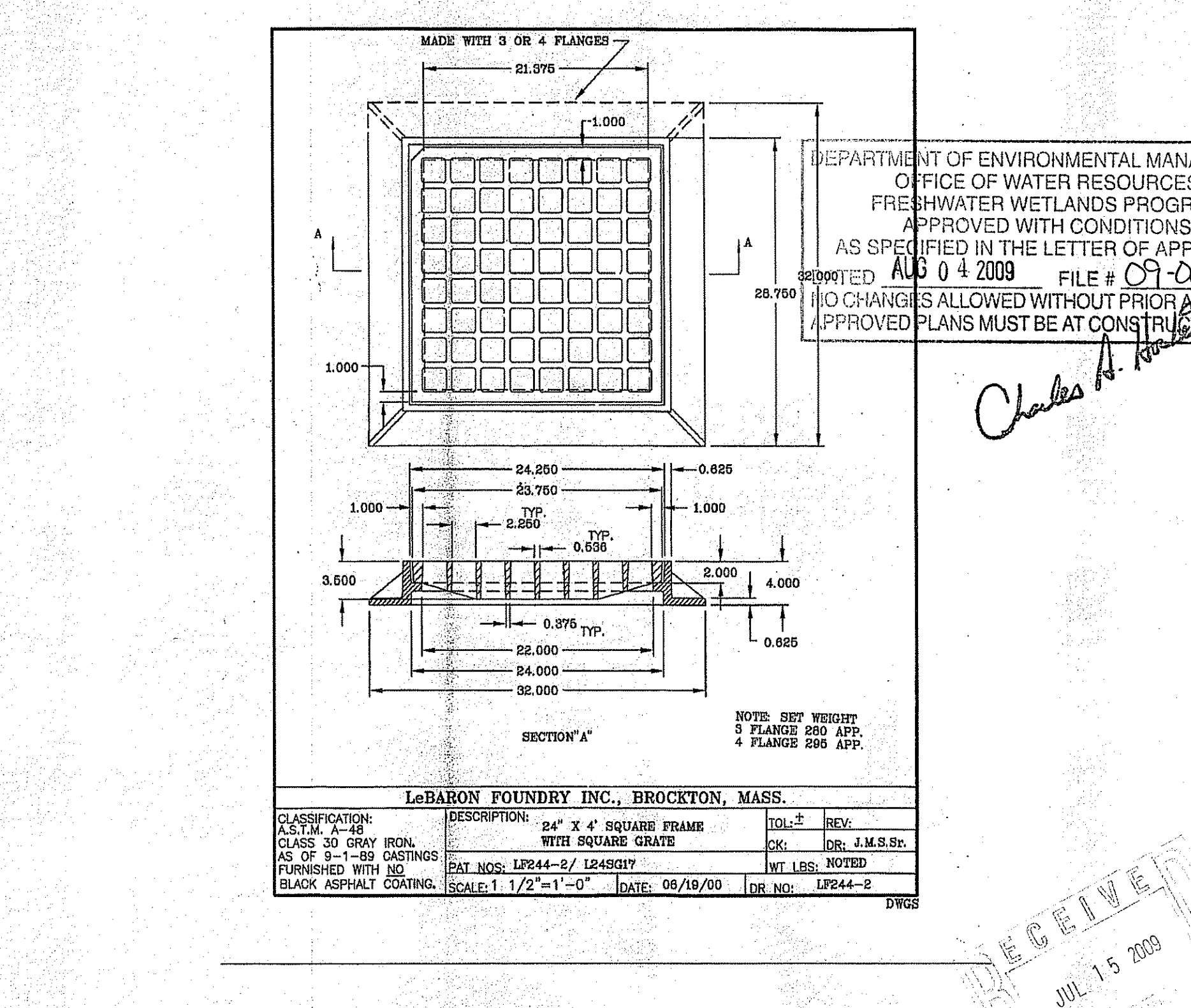
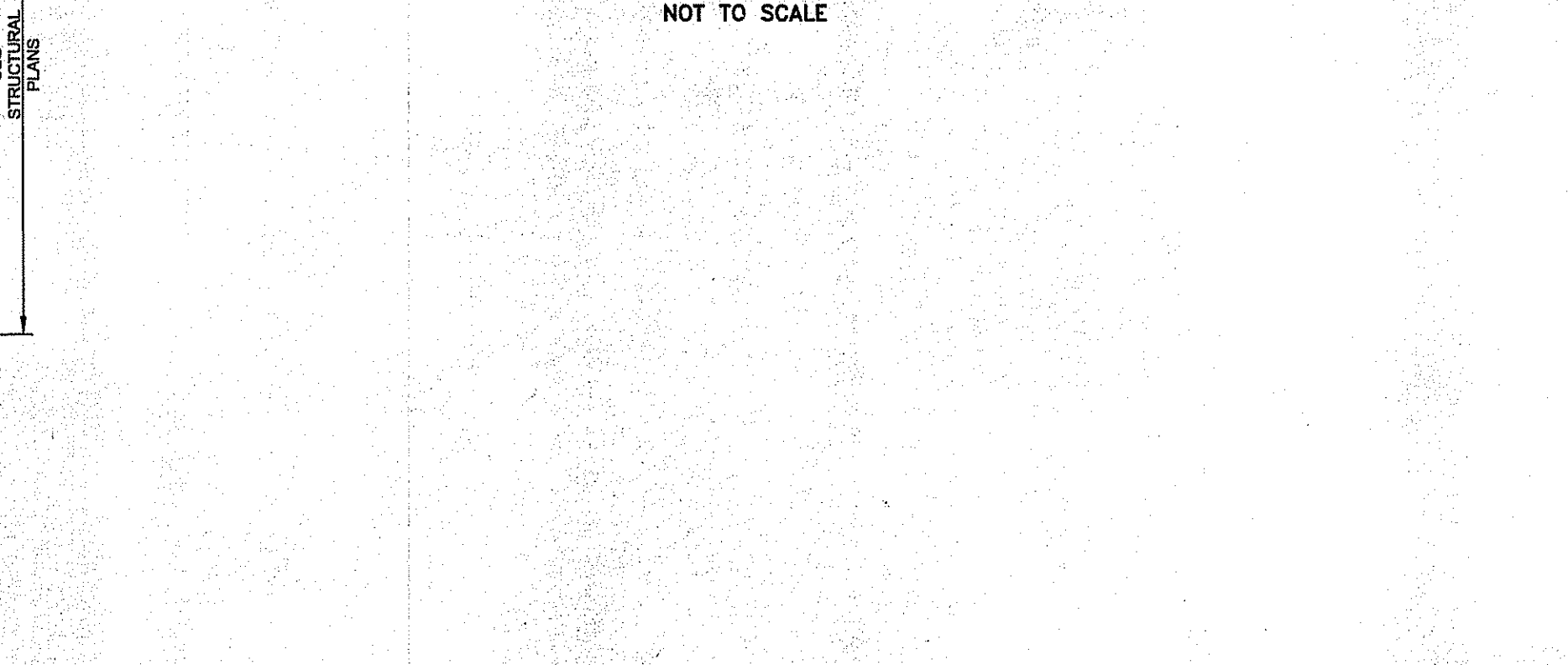
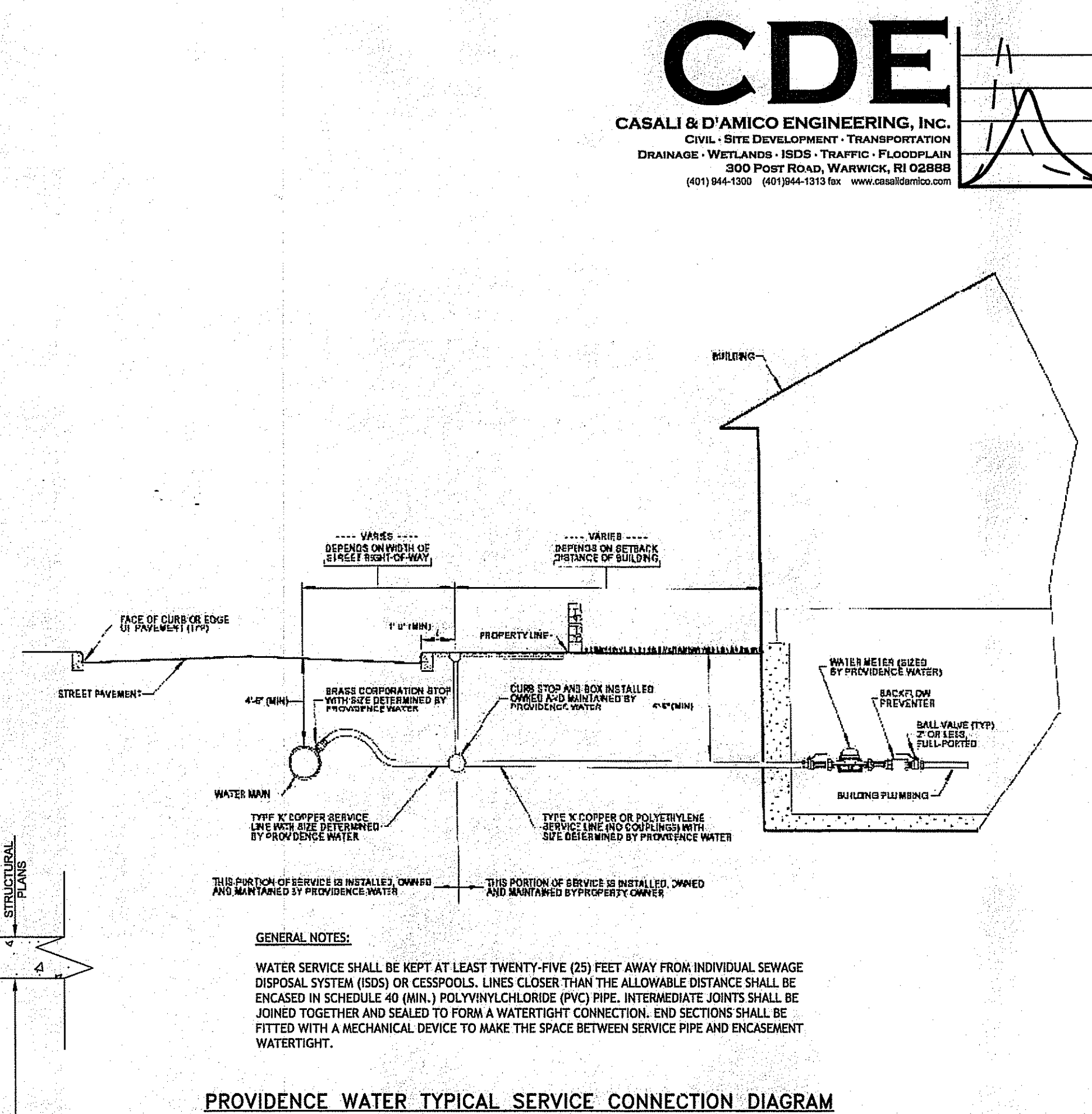
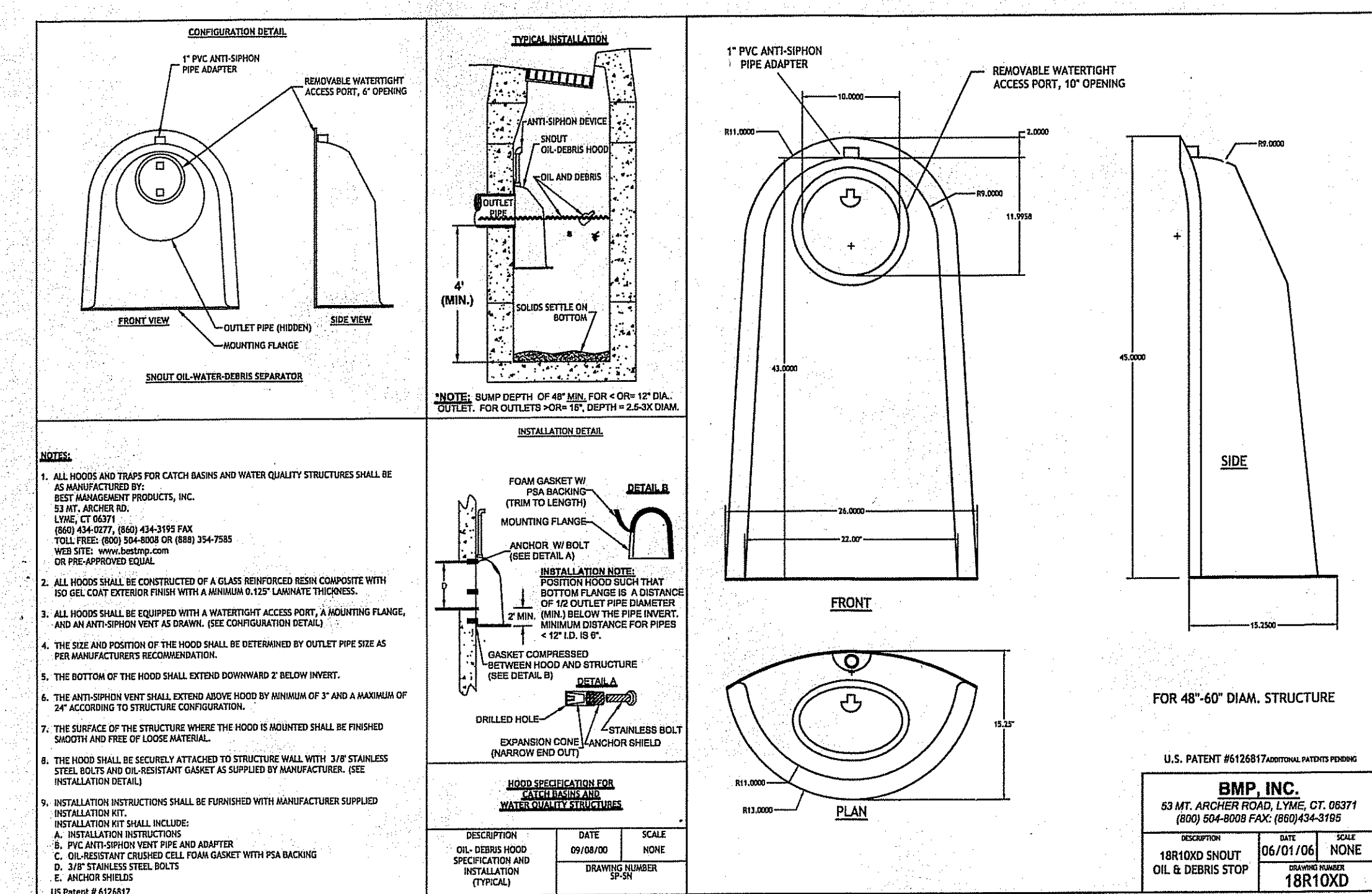
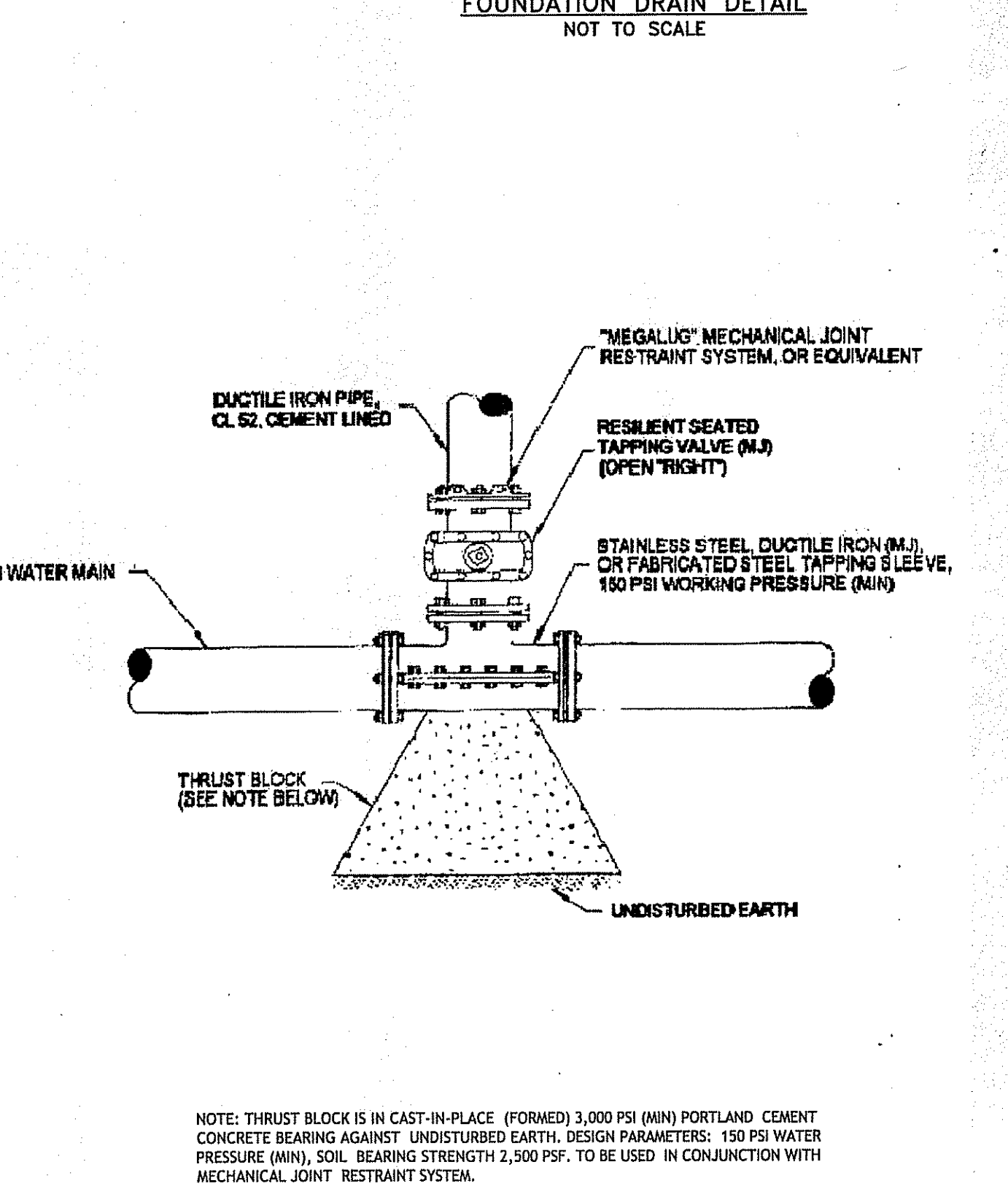
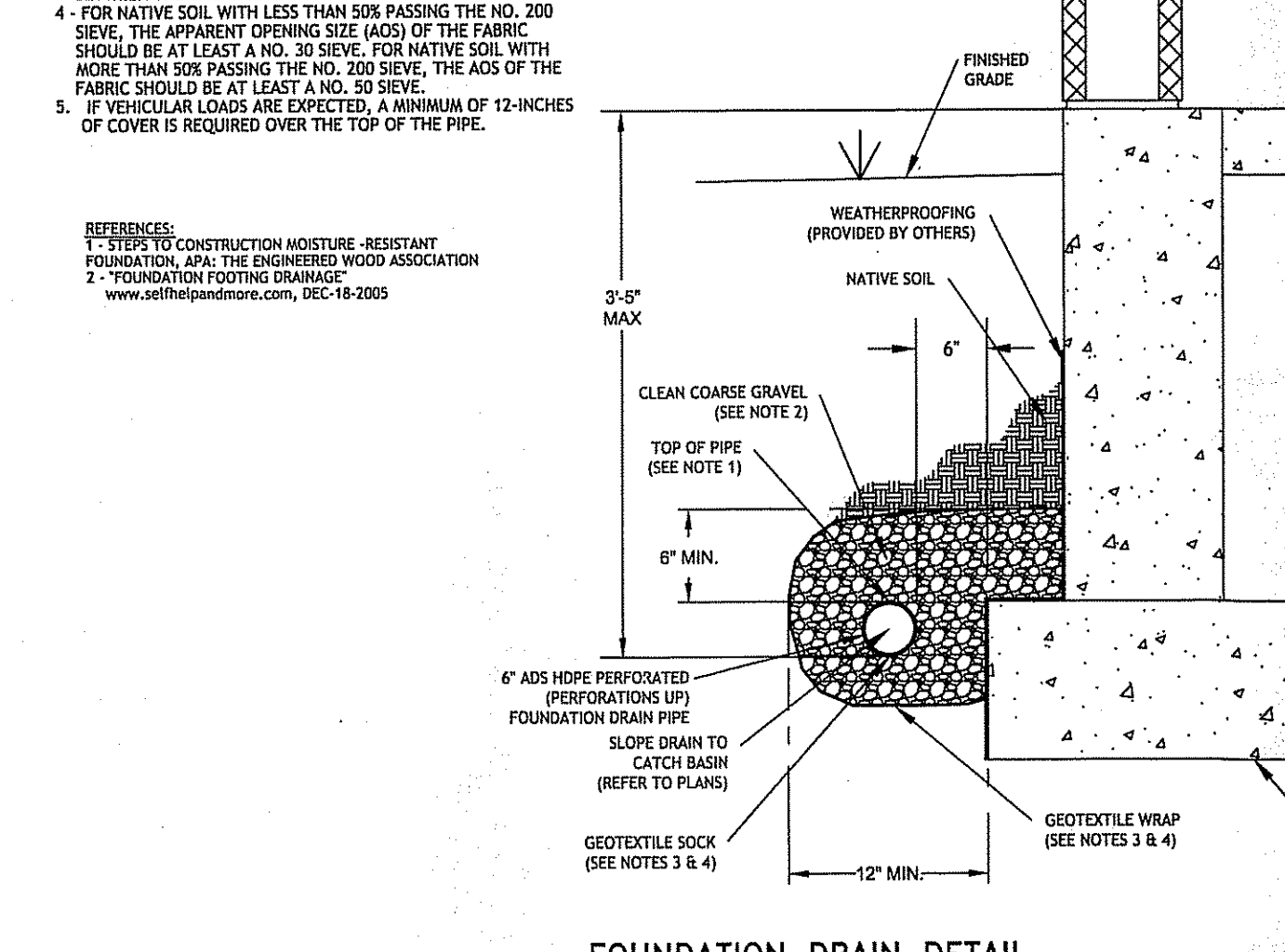
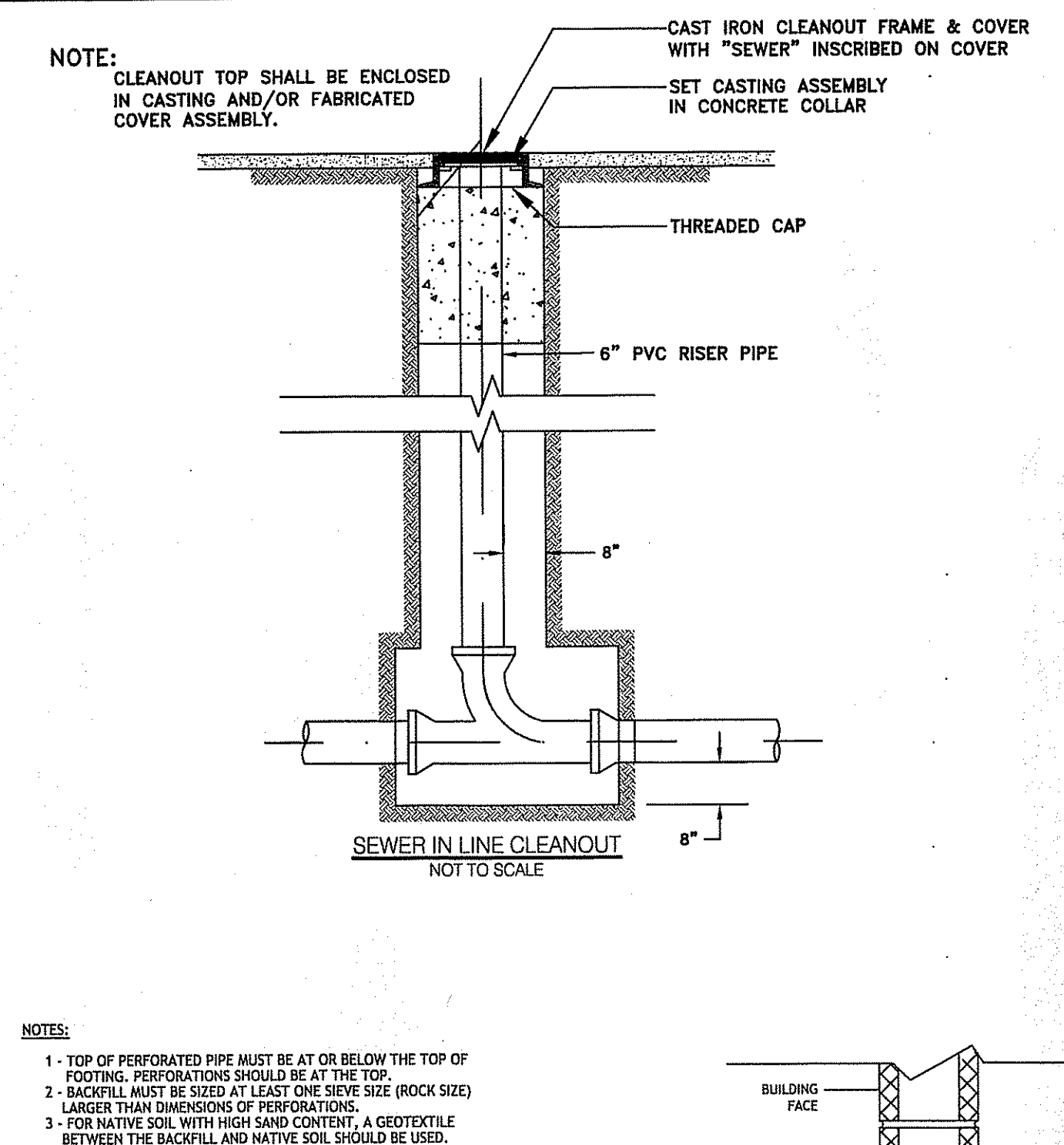
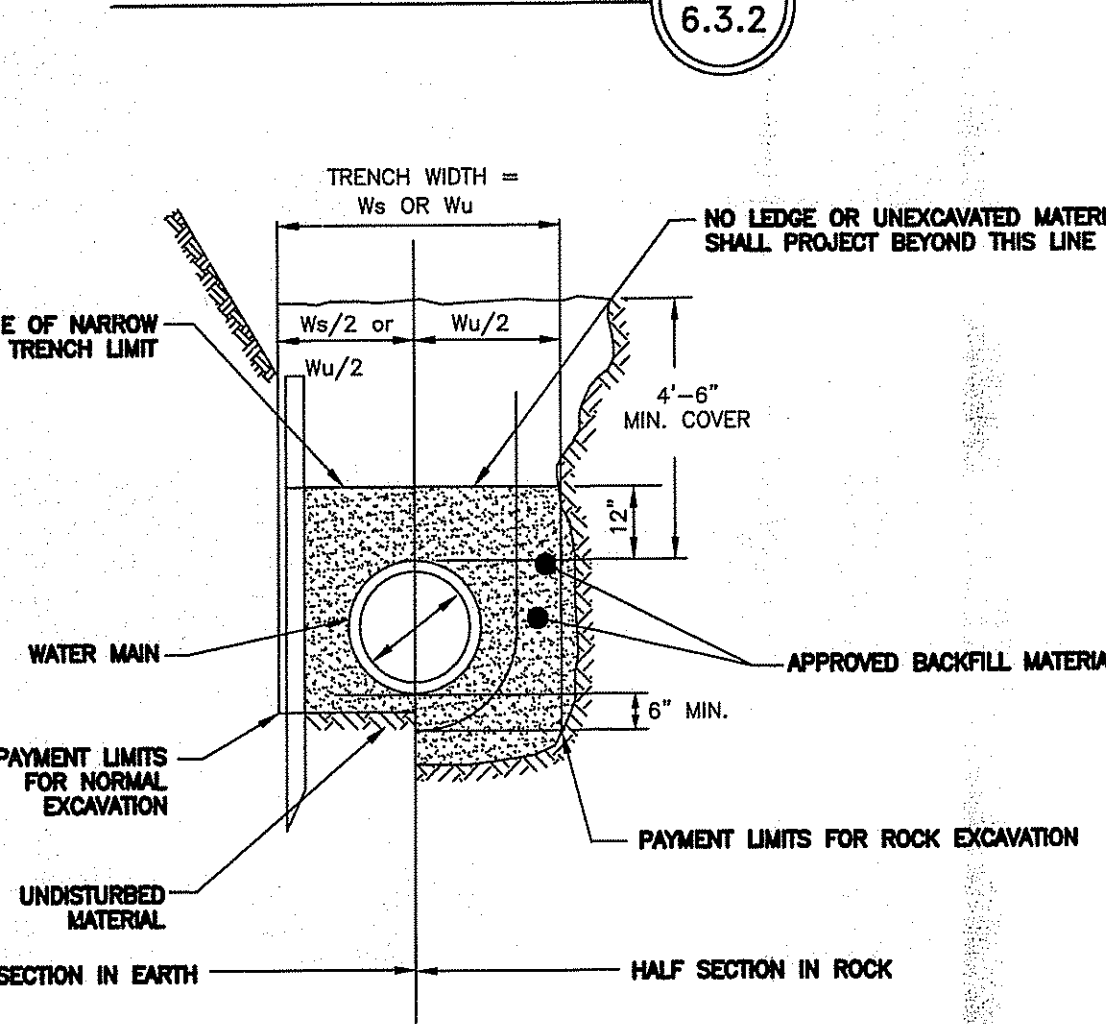
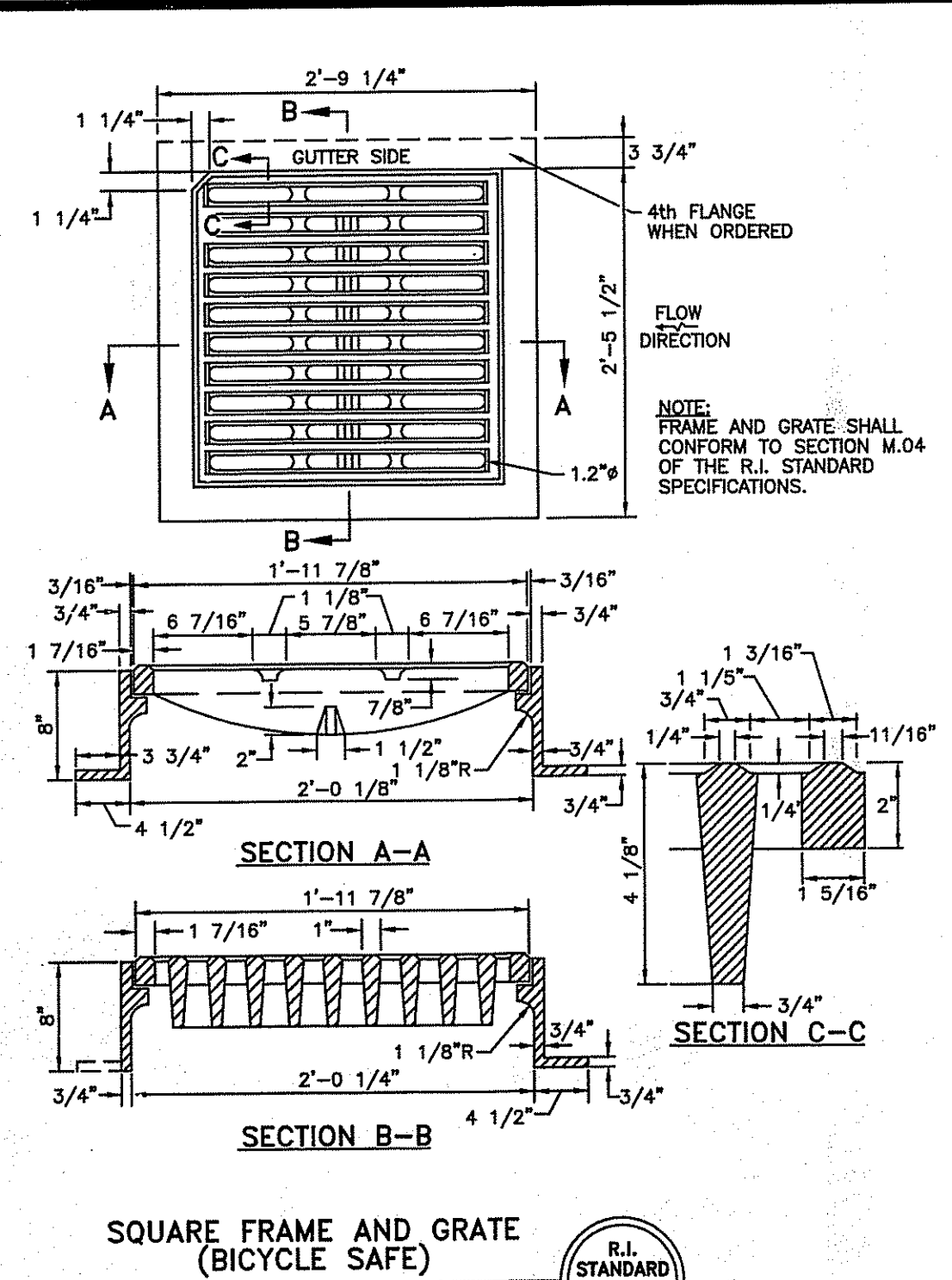
TABLE 1

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

\* FOR LONGITUDINAL (VERTICAL) STANDING REINFORCEMENT REFER TO ASTM C478, ITEM B.1.2

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

PRECAST 4'-0", 5'-0" OR 6'-0" ROUND CATCH BASIN STANDARD 4.4.0 M1



**CDE**

CASALI & D'AMICO ENGINEERING, INC.

CIVIL - SITE DEVELOPMENT - TRANSPORTATION

DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN

300 POPE ROAD, WARWICK, RI 02886

(401) 944-1200 (401) 944-1313 fax www.casaliandamico.com

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Certification

JOSEPH A. CASALI

No. 7250

REGISTERED PROFESSIONAL ENGINEER CIVIL

Drawn by GEC, WMLJR

Checked by JAC

Revised on 7/4/09

RE: REVEN COMMENTS

THOMAS LONARDO & ASSOCIATES, CORPORATION

Architecture  
Interior Design  
Planning

80 Atwood Avenue  
Cranston Rhode Island 02920  
www.thomasonline.com  
Tel 401 944 2800 Fax 401 944 2801

Project  
New Fire Station for the Town of Johnston

JOHNSTON FIRE STATION #4

RECEIVED  
JUL 15 2009

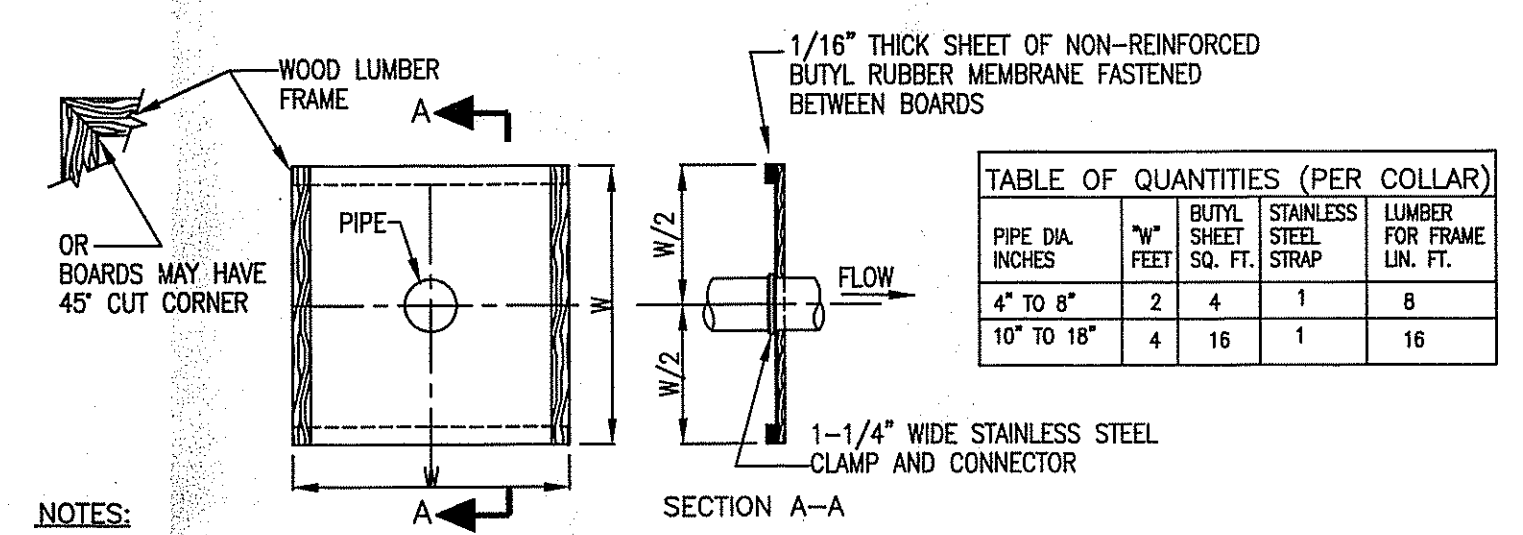
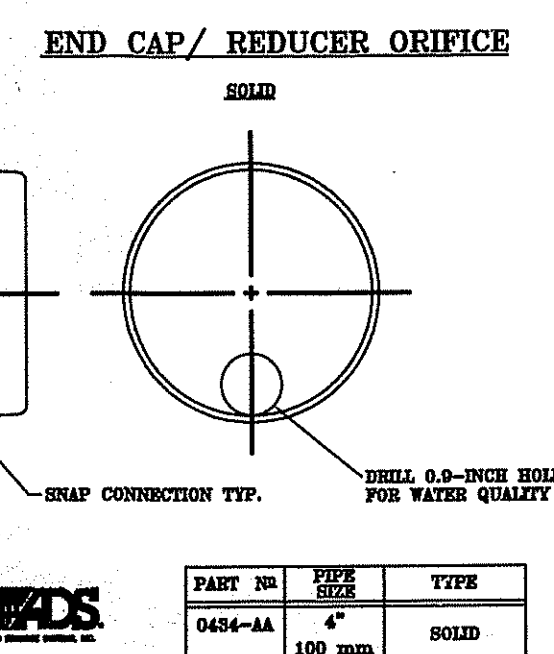
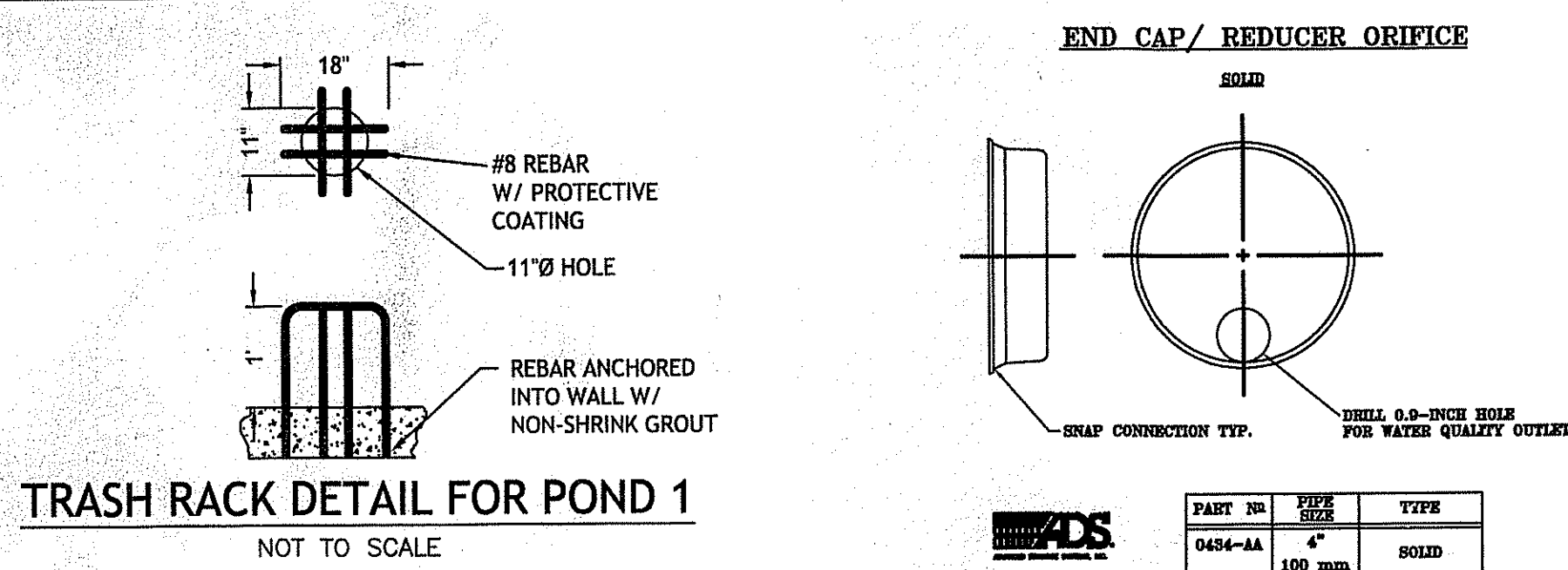
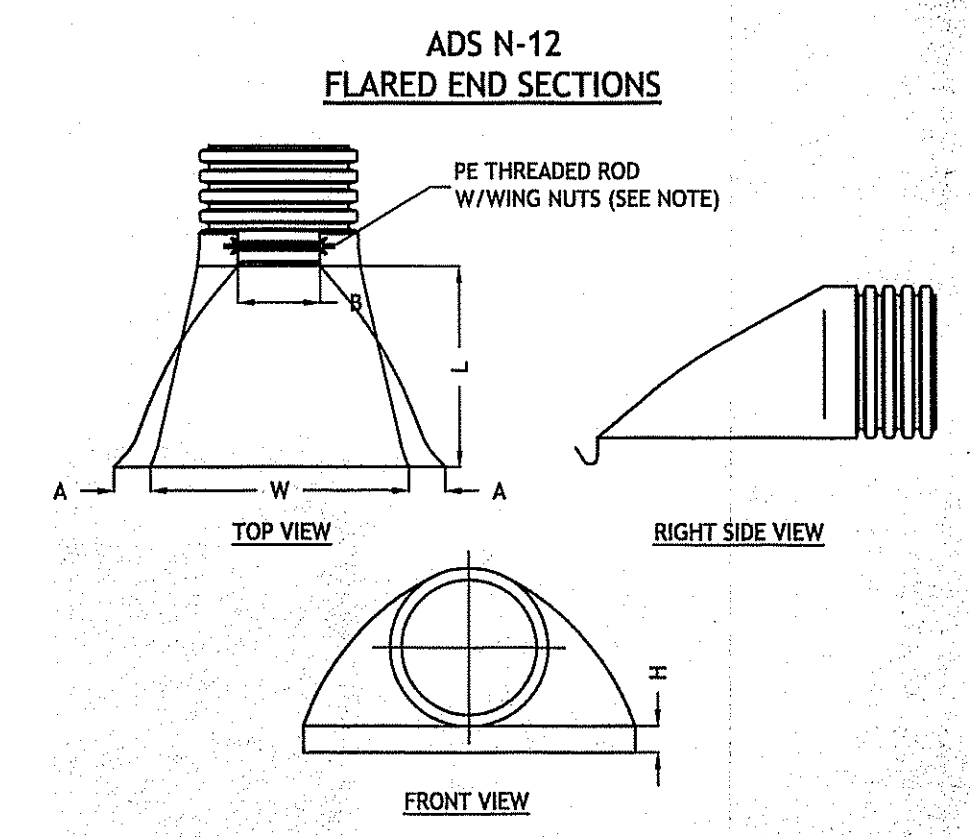


TABLE OF QUANTITIES (PER COLLAR)

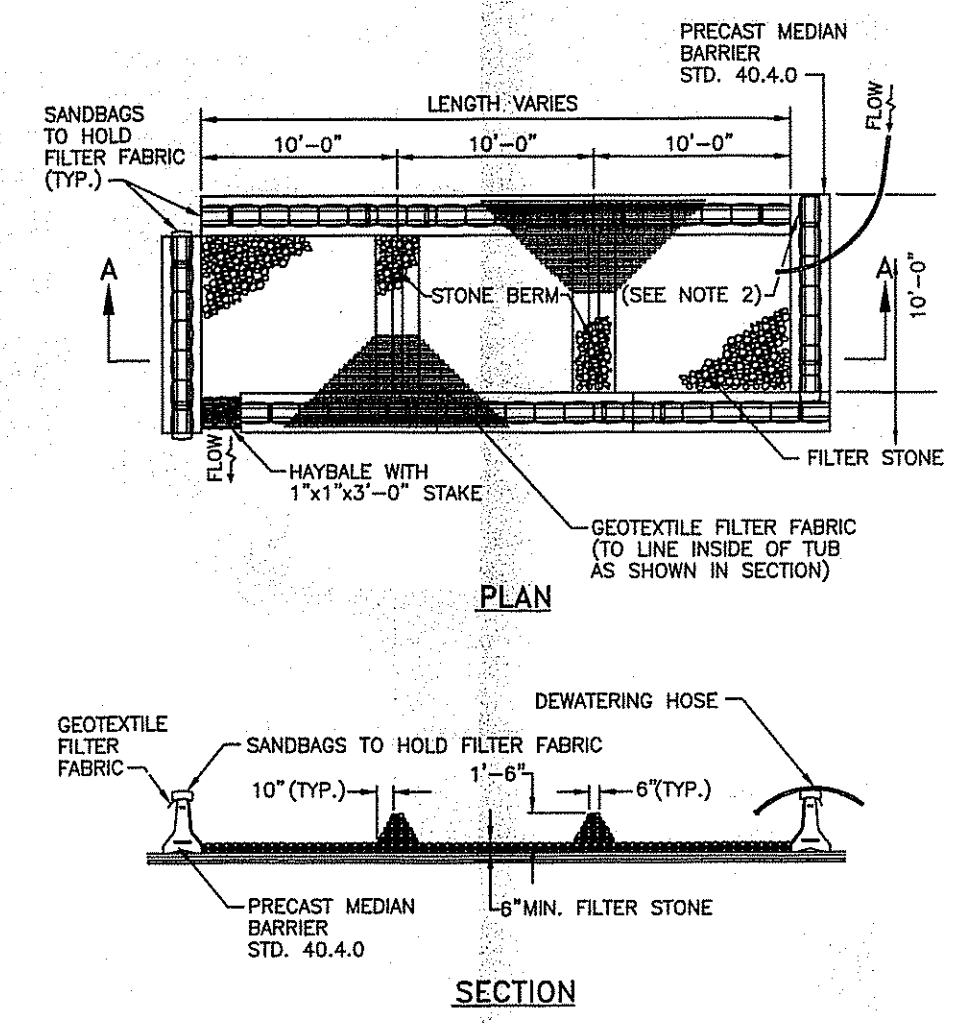
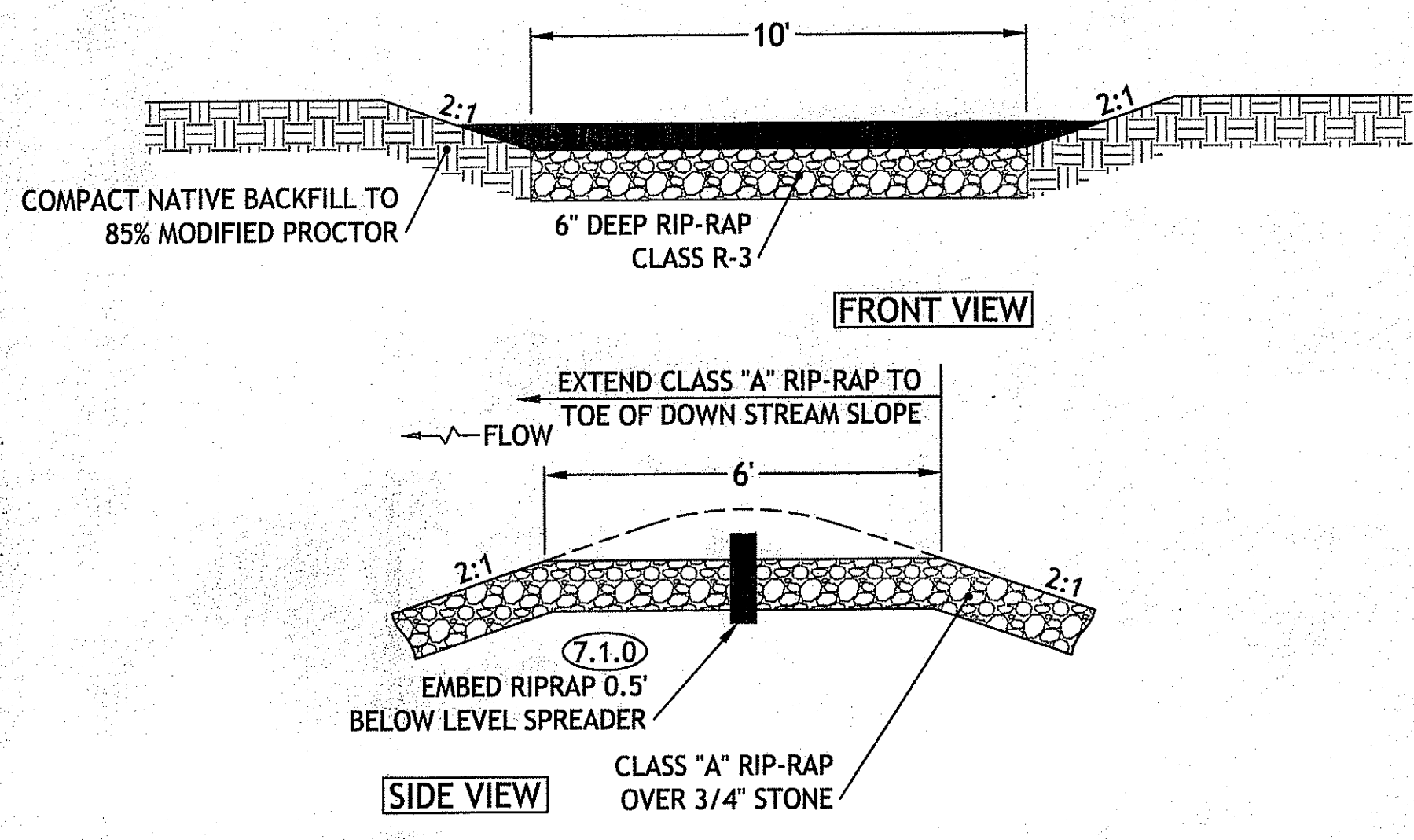
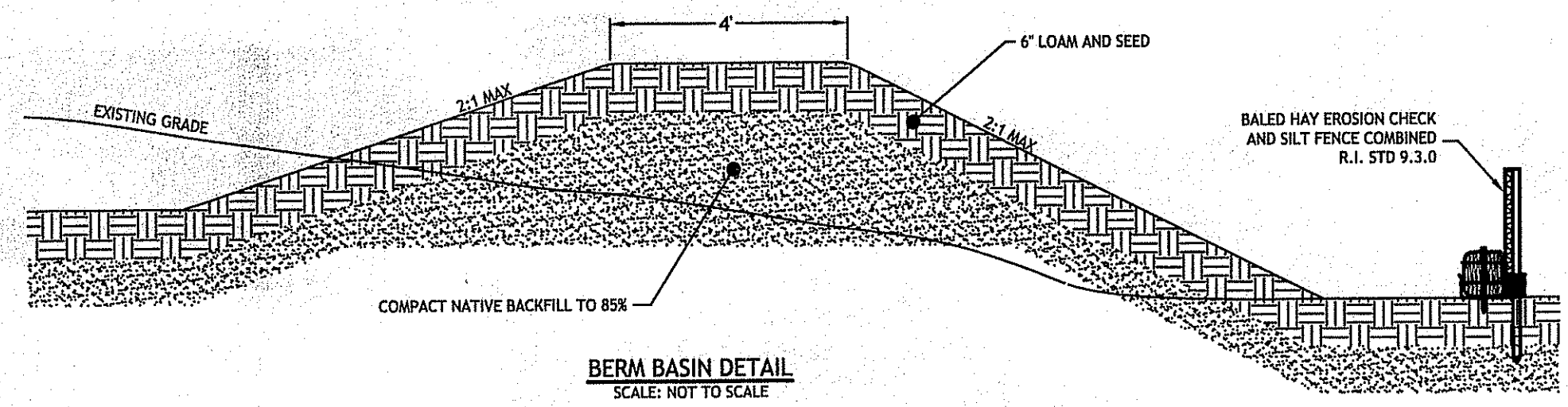
PIPE DIA. INCHES	W/ BUTYL SHEET SQ. FT.	STAINLESS STEEL STRIP	LUMBER FOR FRAME LIN. FT.
4" to 8"	2	4	1
10" to 18"	4	16	1

- NOTES:
1. COAT PIPE AT COLLAR LOCATION WITH BUTYL RUBBER PAINT CEMENT SEALER OR OTHER BUTYL RUBBER SEALER. (DO NOT USE ASPHALT ROOF PATCH)
  2. COMPLETED INSTALLATION MUST BE WATER TIGHT
  3. FORCE BUTYL RUBBER SHEET OVER UPSTREAM END OF PIPE AND OVER BUTYL RUBBER SEALER.
  4. INSTALL A 1-1/4" WIDE STAINLESS STEEL STRIP, CLAMP AROUND PIPE OVER BUTYL RUBBER SHEET AND TIGHTEN UNTIL SEALER IS FORCED OUT.
  5. STAPLE BUTYL RUBBER SHEET TO LUMBER FRAME.
  6. FOR PIPE DIAMETERS OF LESS THAN 6" CUT A HOLE (CENTERED) IN BUTYL RUBBER SHEET, APPROX. 1/2" DIA. AND FOR PIPE DIAMETERS 6" TO 15" CUT A HOLE 3" SMALLER THAN DIAMETER OF PIPE AND FORCE BUTYL RUBBER SHEET OVER UPSTREAM END OF PIPE AND OVER BUTYL RUBBER SEALER.
  7. THE WOOD FRAME SHALL BE CONSTRUCTED FROM EITHER 1x4" OR 2x2" LUMBER AND SHALL BE RIGID ENOUGH TO WITHSTAND BACKFILL OPERATIONS. 1/2" THICKNESS SHEET OF NON-REINFORCED BUTYL RUBBER MEMBRANE AS SUPPLIED BY WATERSEAL COMPANY INC., 5870 EAST 59TH AVE. COMMERCE CITY, COLO. 80022 OR EQUAL.

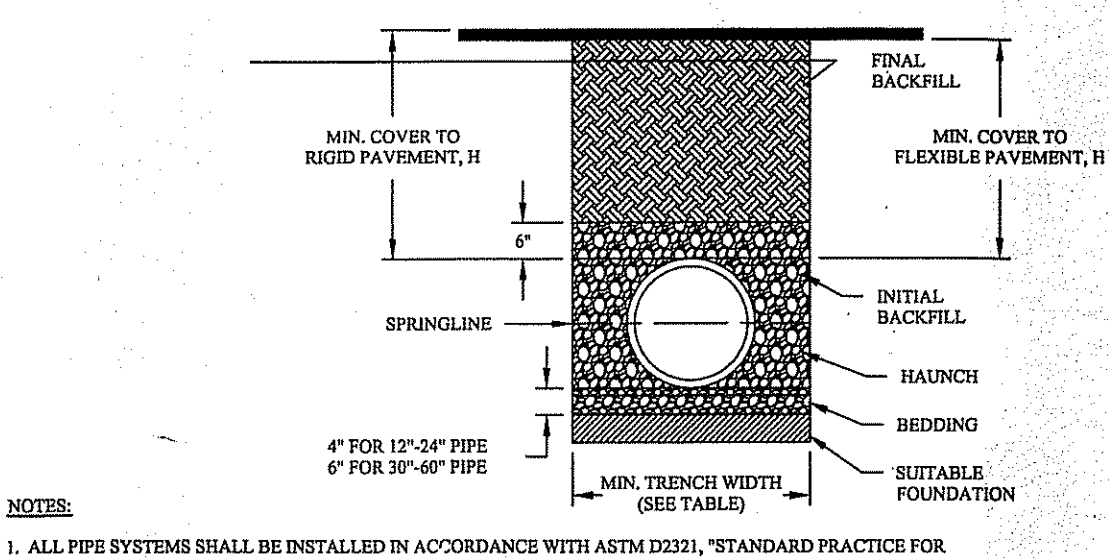


PART N.E.	PIPE SIZE	A	B (MAX)	H	L	W
1210-NP	12"	6.5"	10"	6.5"	25"	29"
	300 mm	165 mm	254 mm	165 mm	635 mm	735 mm
1210-NP	15"	6.5"	10"	6.5"	25"	29"
	375 mm	165 mm	254 mm	165 mm	635 mm	735 mm
1810-NP	18"	7.5"	15"	6.5"	32"	35"
	450 mm	190 mm	380 mm	165 mm	812 mm	890 mm
2410-NP	24"	7.5"	18"	6.5"	36"	45"
	600 mm	190 mm	450 mm	165 mm	900 mm	1140 mm
3012-NP	30"	10.5"	N/A	7.0"	53"	68"
	750 mm	266 mm		178 mm	1345 mm	1725 mm
3612-NP	36"	10.5"	N/A	7.0"	53"	68"
	900 mm	266 mm		178 mm	1345 mm	1725 mm

NOTE: PE THREADED ROD W/WING NUTS PROVIDED FOR END SECTIONS 12"-24", 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.



- NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
  2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.



- NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS," LATEST EDITION.
  2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
  3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL, AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
  4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 8' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm), 6" (150mm) FOR 30"-60" (750mm-900mm).
  5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 8' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm), 6" (150mm) FOR 30"-60" (750mm-900mm).
  6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

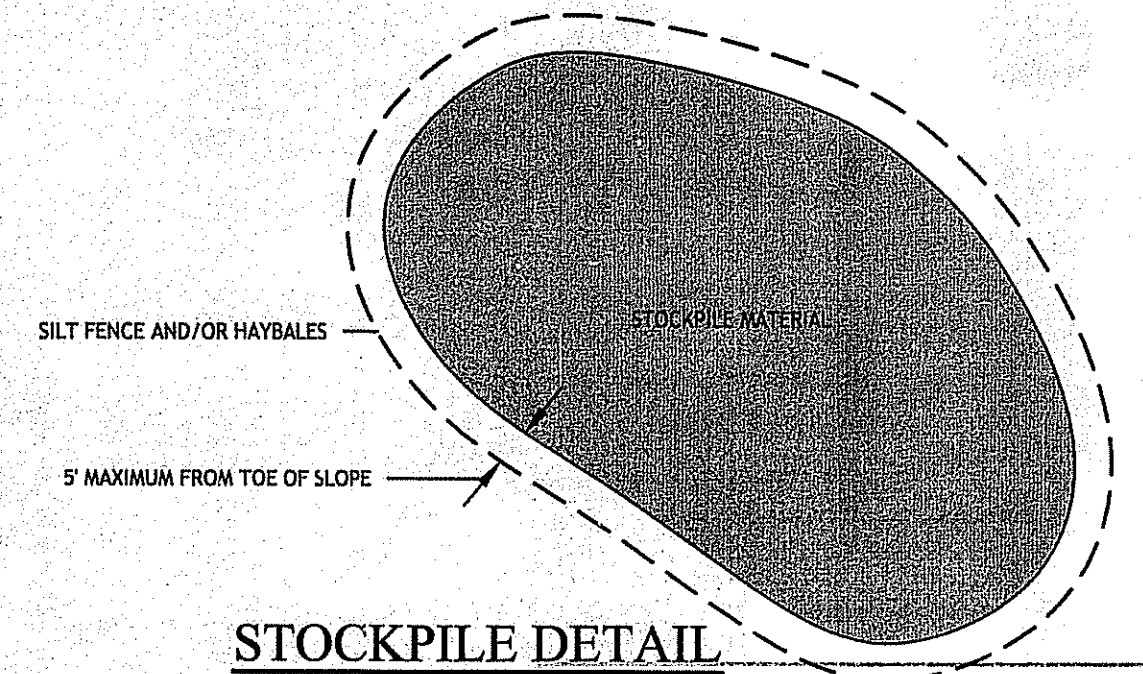
MINIMUM RECOMMENDED COVER BASED ON SURFACE LIVE LOADING CONDITION

PIPE DIAM.	H-25	HEAVY CONSTRUCTION (57.5 KIP LOAD)
12"-48"	12"	15"
54"-60"	14"	18"

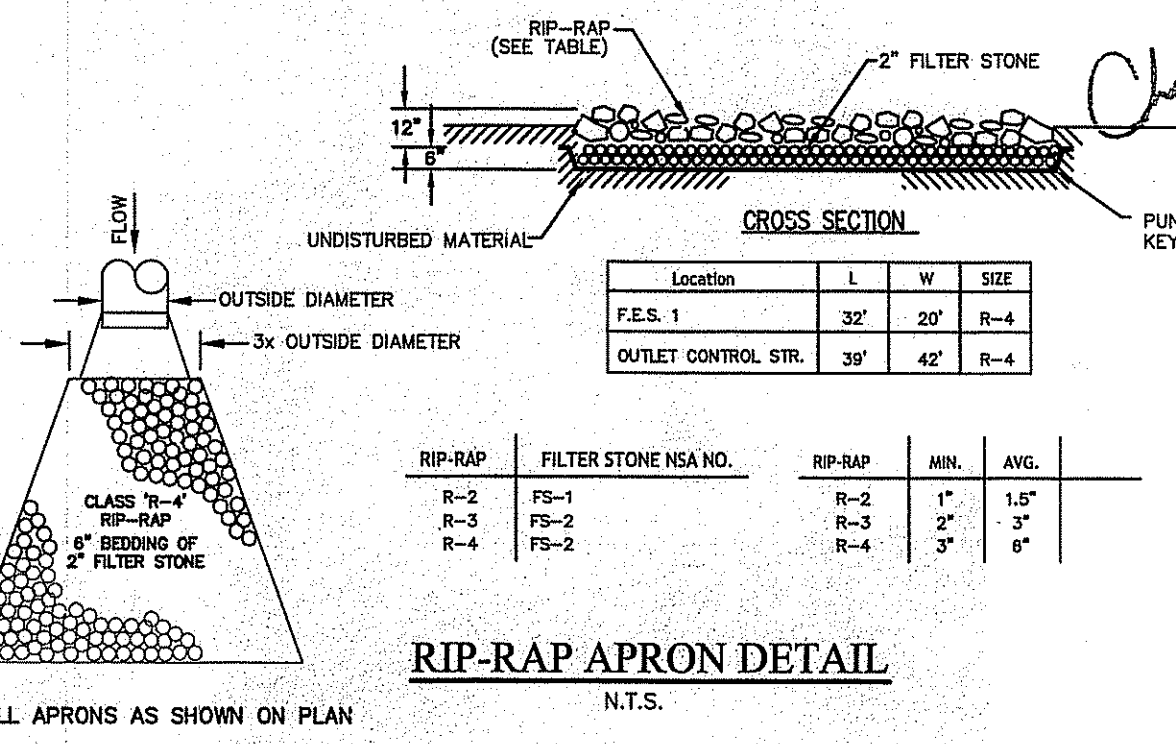
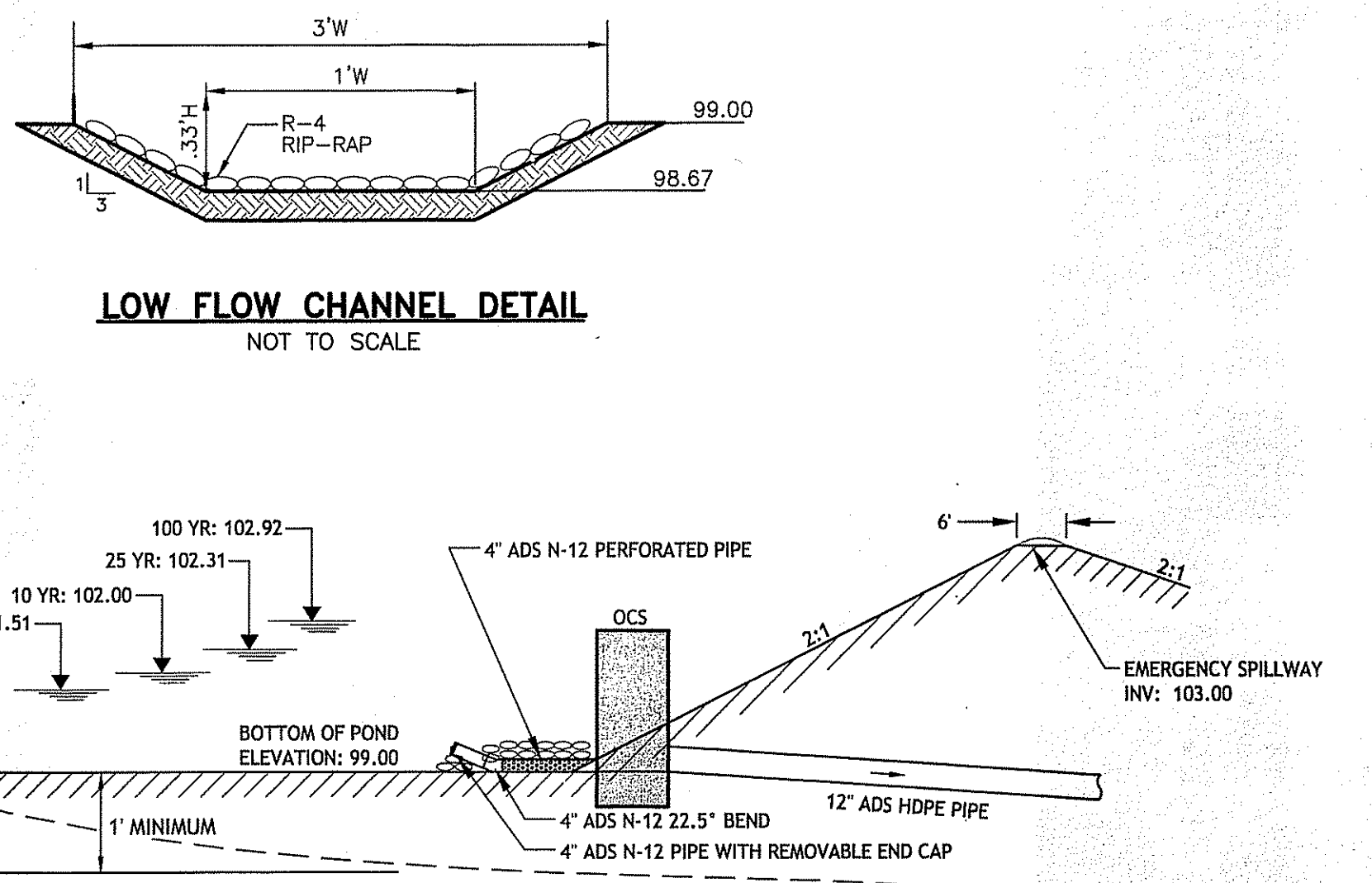
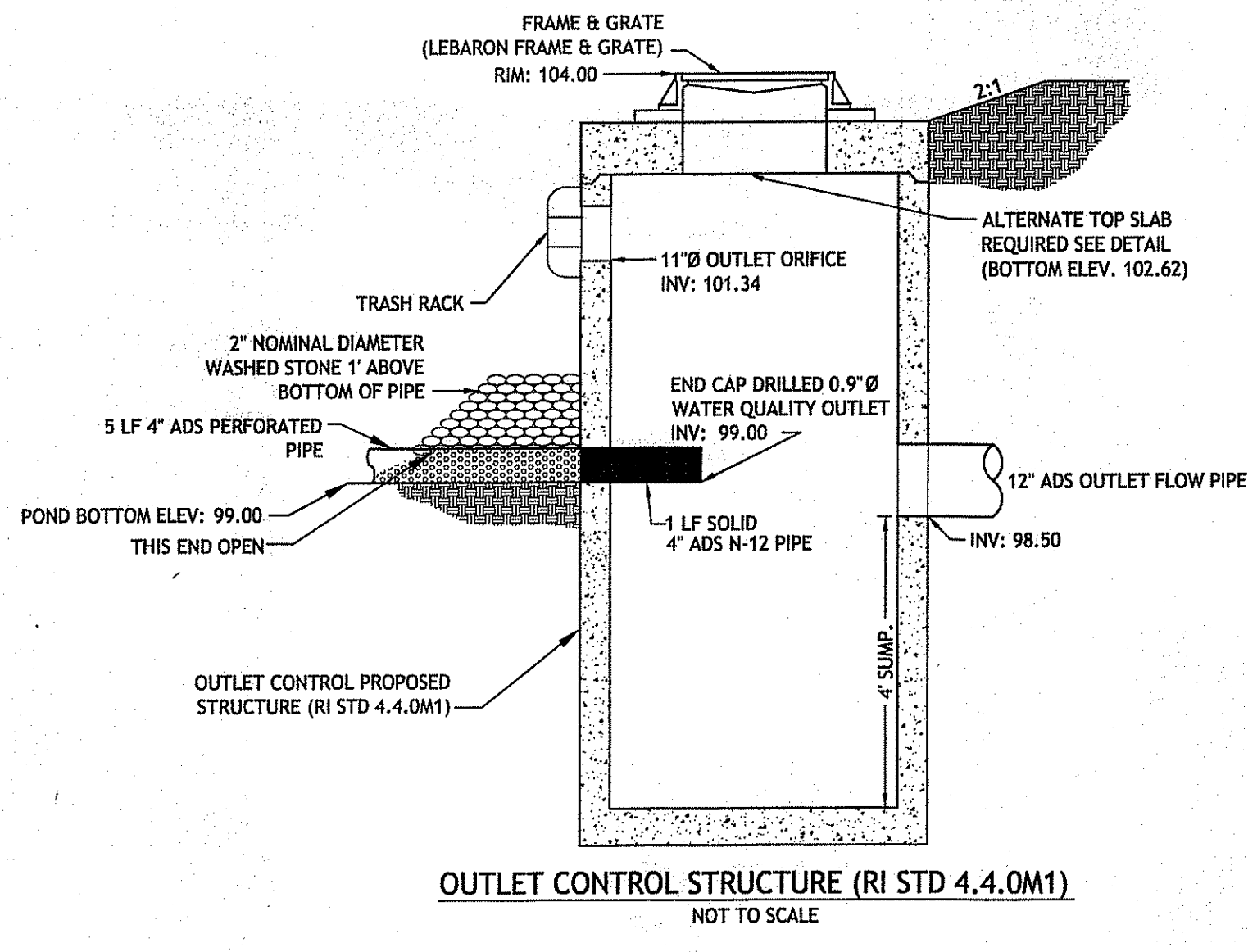
MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COVER E-50*
UP TO 24"	24"
30"-36"	30"
42"-60"	40"

\* COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.  
\*\* E-50 COVER REQUIREMENTS, ARE ONLY APPLICABLE TO ASTM F 2306 PIPE.



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS  
AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED AUG 04 2009. FILE # 09-0054  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



Location	L	W	SIZE
P.E.S. 1	30'	20'	R-4
OUTLET CONTROL STR.	30'	42'	R-4

RIP-RAP	FILTER STONE NSA NO.	RIP-RAP	MIN.	AVG.
R-2	FS-1	R-2	1"	1.5"
R-2	FS-2	R-3	2"	3"
R-4	FS-2	R-4	3"	6"

**CDE**  
CASALI & D'AMICO ENGINEERING, INC.  
CIVIL - SITE DEVELOPMENT - TRANSPORTATION  
DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOORPLAN  
300 POST ROAD, WARWICK, RI 02888  
(401) 944-1300 (401) 944-1313 fax www.casaliandamico.com

Certification  
**JOSEPH A. CASALI**  
No. 7250  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
Drawn by: JAC, WML/JR  
Checked by: JAC

Revised on:  
7/14/09  
REVISION COMMENTS

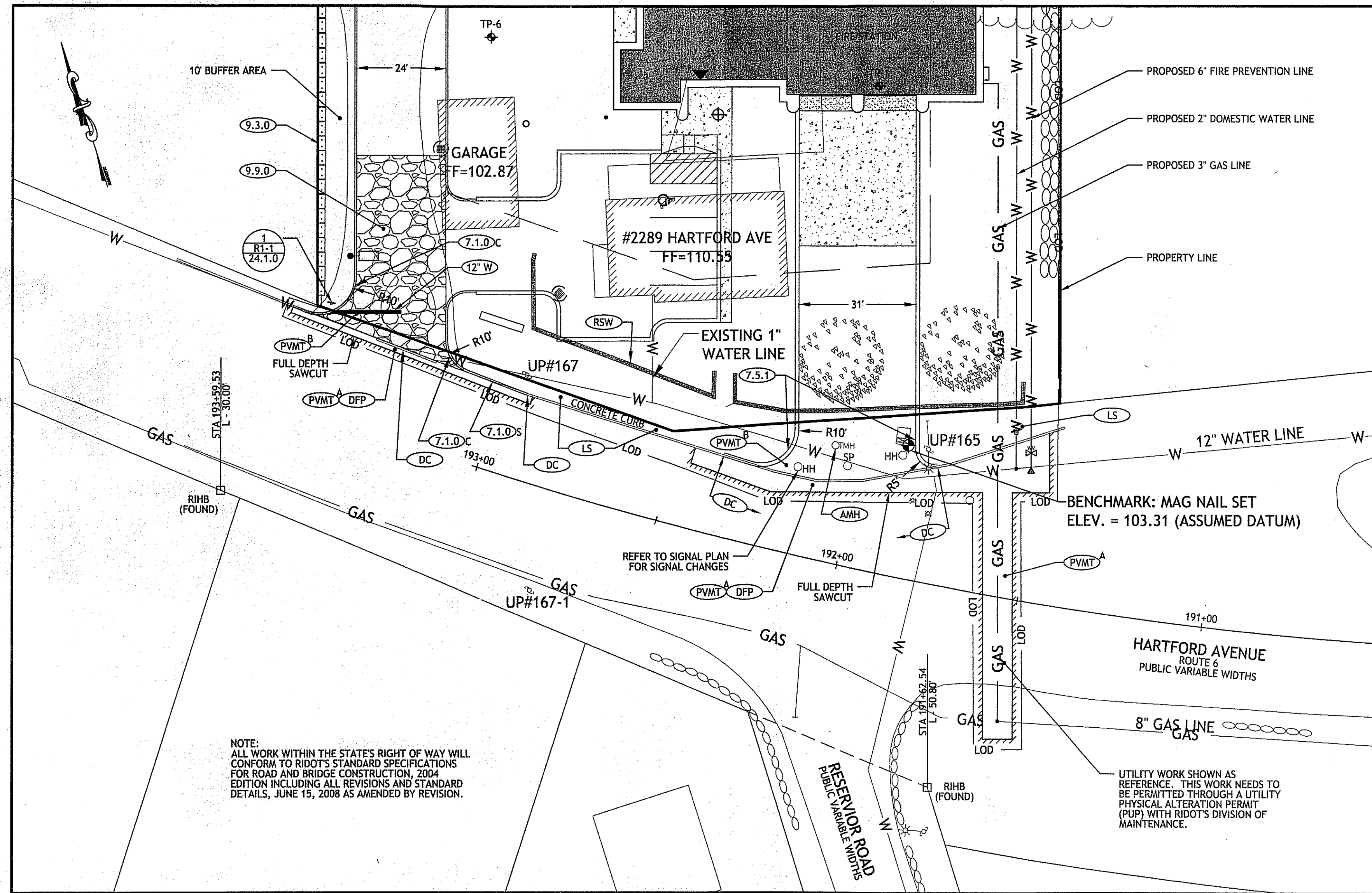
**THOMAS LONARDO & ASSOCIATES**  
Architecture  
Interior Design  
Planning  
80 Ahnood Avenue  
Cranston Rhode Island 02920  
www.thearchitects.com  
Tel 401 944 2800 Fax 401 944 2801

Project  
New Fire Station  
for the  
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**JOHNSTON FIRE STATION #4**  
2289 Hartford Avenue  
Johnston, Rhode Island

Drawing Status  
ISSUED FOR  
CONSTRUCTION - PENDING  
STATE/LOCAL APPROVALS  
Issued On April 20, 2009  
Sheet Contents

Project Number: 0213  
Drawing No.  
**C7.2**  
Sheet 10 of 11

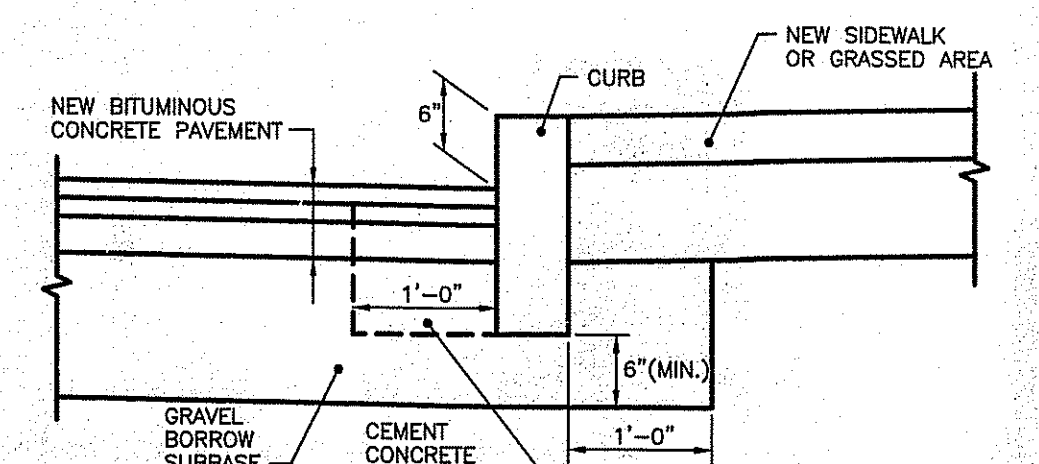
APPROVED  
JUL 15 2009



NOTE:  
 ALL WORK WITHIN THE STATE'S RIGHT OF WAY WILL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2004 EDITION INCLUDING ALL REVISIONS AND STANDARD DETAILS, JUNE 15, 2008 AS AMENDED BY REVISION.

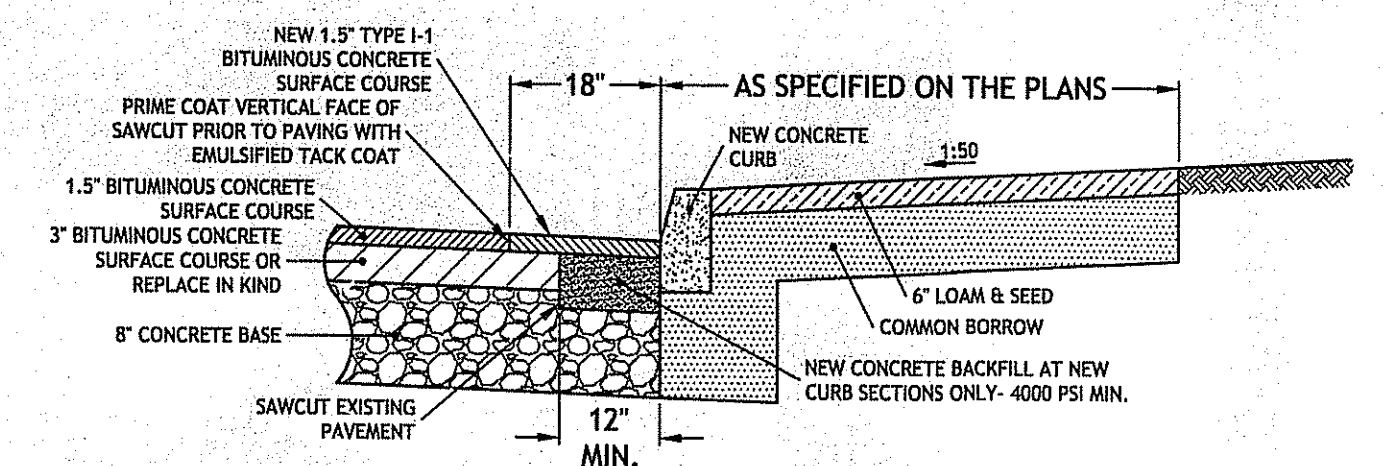
**PHYSICAL ALTERATION PERMIT DETAIL**  
 SCALE: 1' = 20'

- RHODE ISLAND STANDARDS**
- (7.1.0) PRECAST CONCRETE CURB - STRAIGHT
  - (7.1.0) PRECAST CONCRETE CURB - CIRCULAR
  - (7.6.0) CURB SETTING DETAIL
  - (9.3.0) BALED HAY EROSION CHECK AND SILT FENCE COMBINED
  - (9.9.0) CONSTRUCTION ACCESS
  - (AMH) ADJUST MANHOLE TO GRADE
  - (DC) REMOVE AND DISPOSE CONCRETE CURB
  - (DFP) REMOVE & DISPOSE FLEXIBLE PAVEMENT
  - (LS) 6" LOAM AND SEED
  - (RSW) REMOVE AND DISPOSE STONE WALL
  - (12" W) 12" PAVEMENT MARKINGS - WHITE
  - (PVMT) A EXISTING PAVEMENT STRUCTURE (FROM RIDOT ROUTE 6 PAVEMENT MANAGEMENT PROGRAM PLANS, DATE 1997)  
 1 1/2" BITUMINOUS SURFACE COURSE OVERLAY  
 3" ± EXISTING BITUMINOUS SURFACE COURSE  
 8" ± EXISTING CONCRETE BASE
  - (PVMT) B PROPOSED PAVEMENT STRUCTURE  
 1 1/2" BITUMINOUS SURFACE COURSE  
 1 1/2" BITUMINOUS BINDER COURSE  
 12" GRAVEL BORROW SUBBASE COURSE

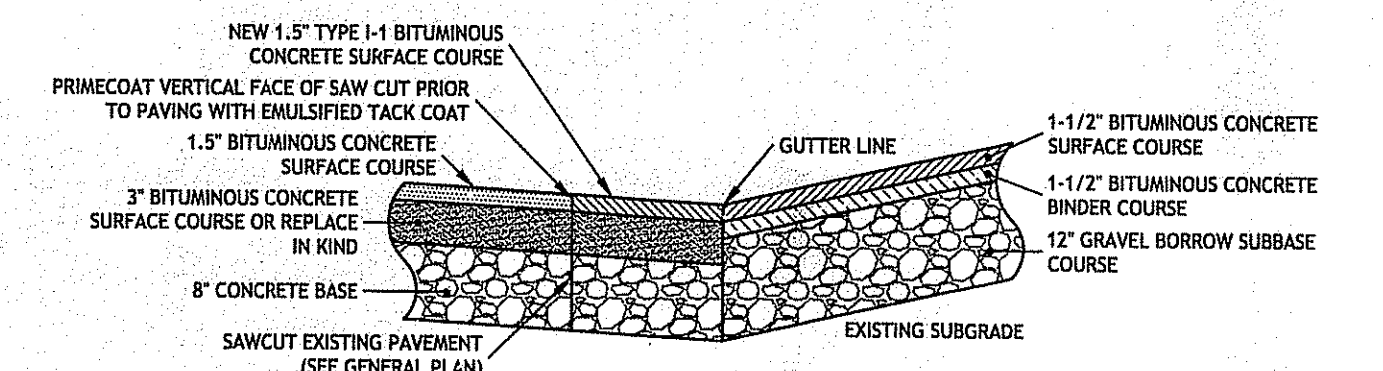


NOTES:  
 1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.  
 2. CEMENT CONCRETE SHALL BE USED ONLY WHEN THE CURB IS SET AFTER THE BASE AND / OR BINDER COURSES ARE IN PLACE, OTHERWISE THE CEMENT CONCRETE WILL BE ELIMINATED AND THE GRAVEL BROUGHT UP TO BOTTOM OF THE BASE COURSE.

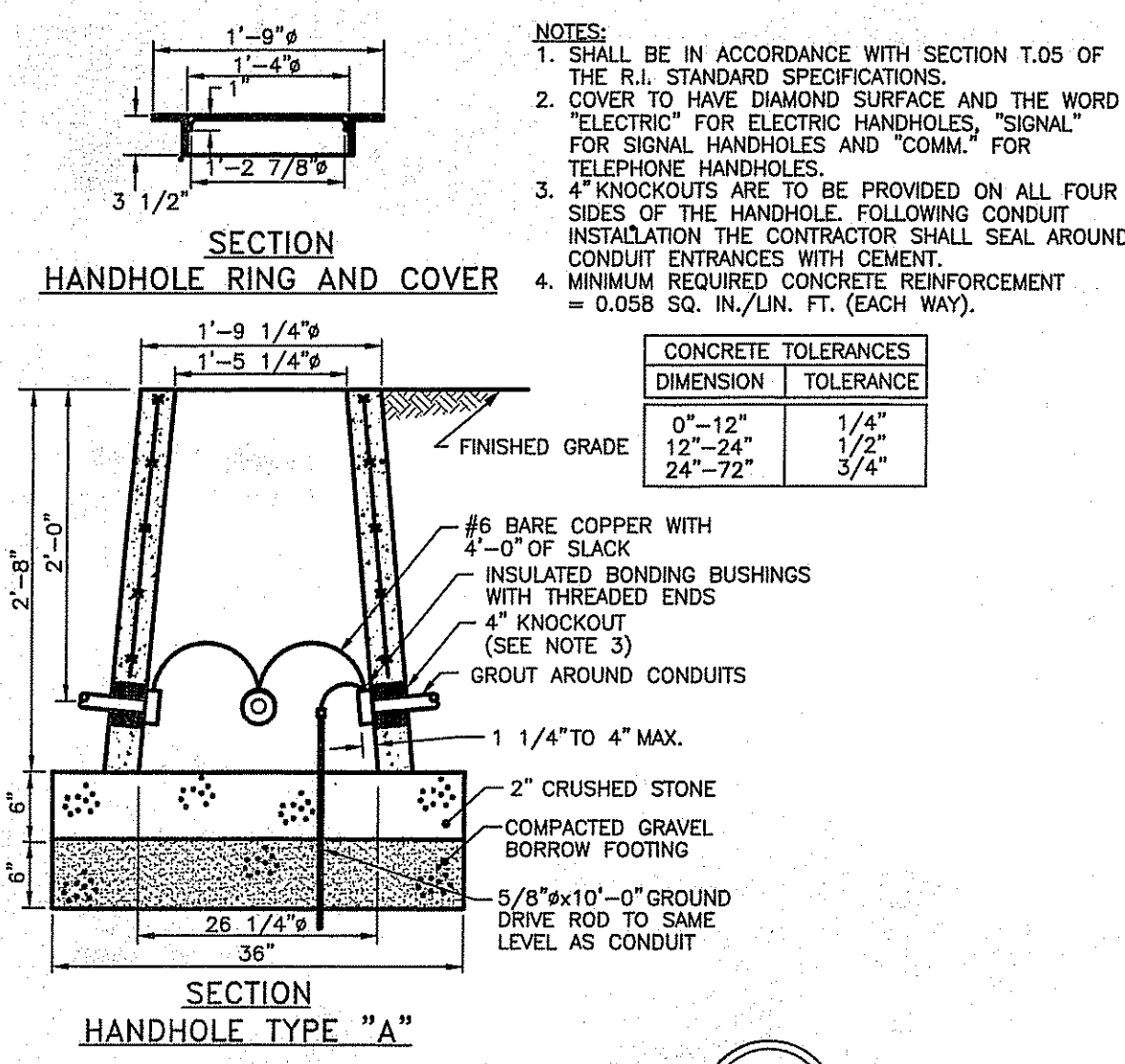
**CURB SETTING DETAIL**  
 R.I. STANDARD 7.6.0



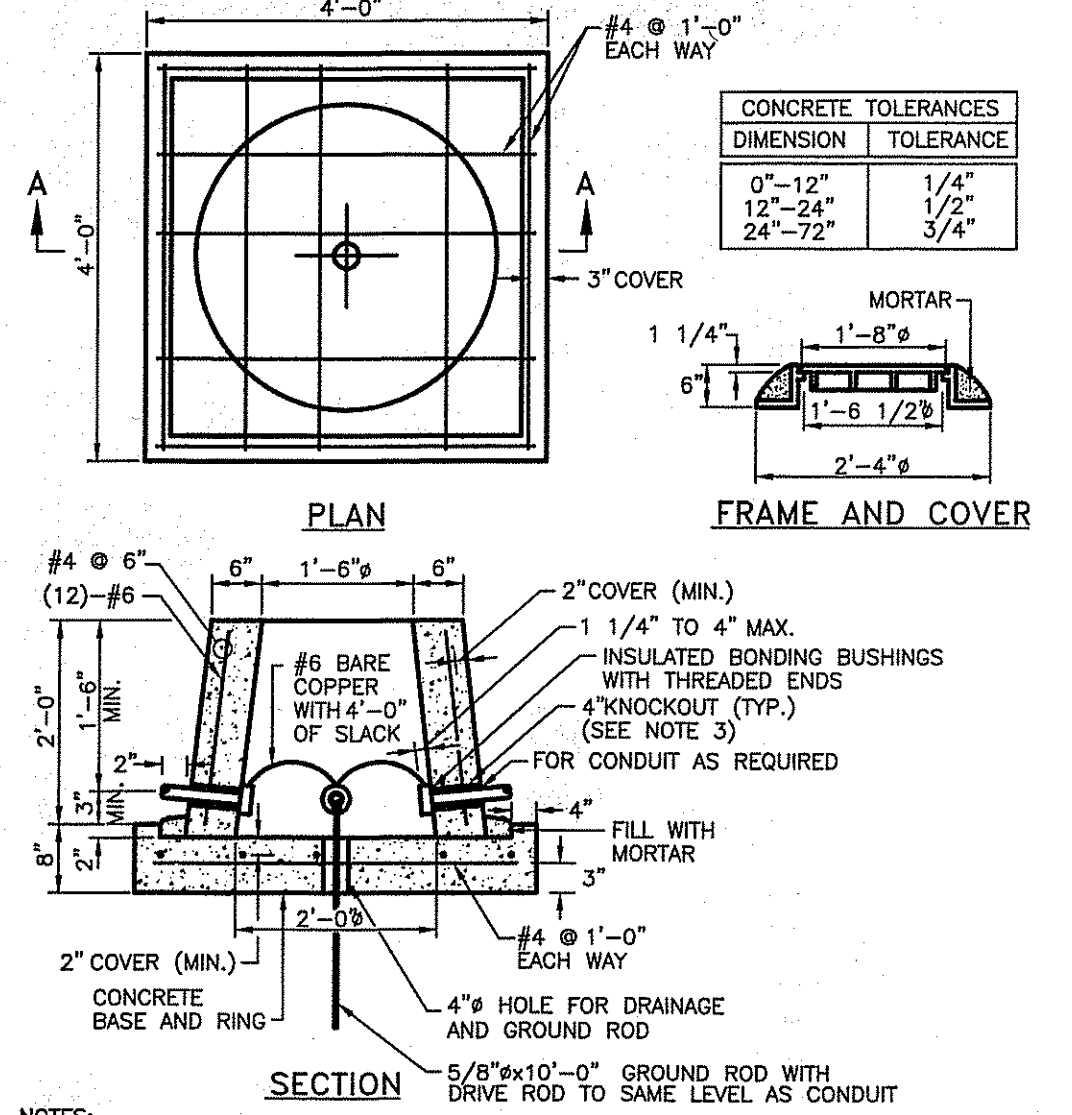
**CURB SETTING DETAIL**  
 R.I. STANDARD 7.6.0 M



**CUT AND MATCH DETAIL AT DRIVEWAY**  
 NOT TO SCALE

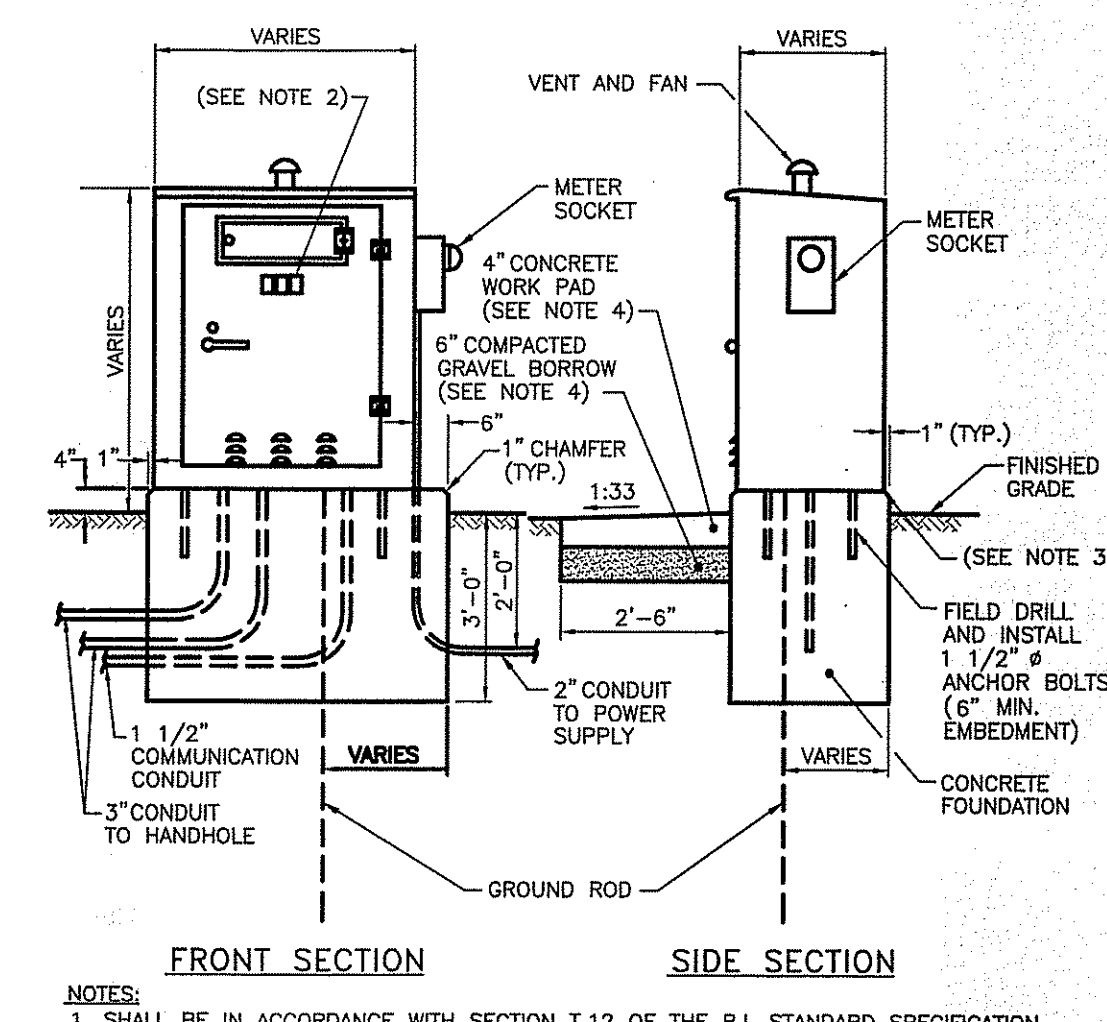


**PRECAST TYPE "A" HANDHOLE**  
 R.I. STANDARD 18.2.0



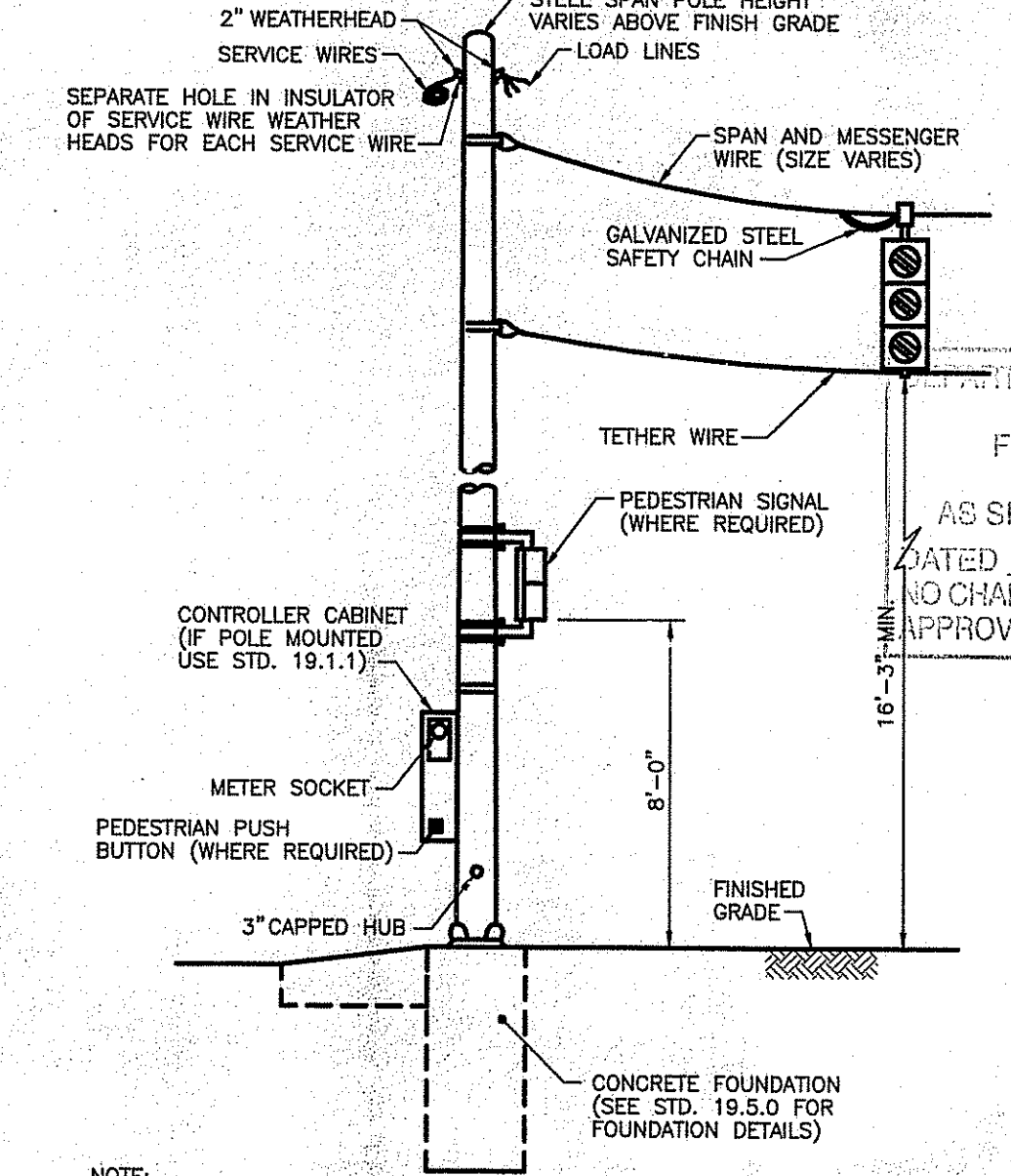
NOTES:  
 1. SHALL BE IN ACCORDANCE WITH SECTION T.05 OF THE R.I. STANDARD SPECIFICATIONS.  
 2. COVER TO HAVE DIAMOND SURFACE AND THE WORD "ELECTRIC" ON ELECTRIC HANDHOLES, "SIGNAL" ON SIGNAL HANDHOLES, AND "COMM." ON TELEPHONE HANDHOLES.  
 3. 4" KNOCKOUTS ARE TO BE PROVIDED ON ALL FOUR SIDES OF THE HANDHOLE, FOLLOWING CONDUIT INSTALLATION THE CONTRACTOR SHALL SEAL AROUND THE CONDUIT ENTRANCES WITH CEMENT.

**HEAVY-DUTY PRECAST HANDHOLE**  
 R.I. STANDARD 18.2.1



NOTES:  
 1. SHALL BE IN ACCORDANCE WITH SECTION T.12 OF THE R.I. STANDARD SPECIFICATION.  
 2. TRAFFIC SIGNAL NUMBER TO BE STENCILED ON EXTERIOR AND INTERIOR OF ALL CABINET DOORS (GROUND AND POLE MOUNTED). STENCIL SHALL BE 3" HIGH BLOCK LETTERS APPLIED WITH BLACK PAINT.  
 3. SILICONE CAULKING TO BE APPLIED BETWEEN CABINET AND FOUNDATION TO PROVIDE A PERMANENT WEATHER TIGHT SEAL.  
 4. IN UNPAVED AREAS A 4'-0" x 2'-6" PAVED WORK PAD SHALL BE PLACED IN FRONT OF THE CABINET DOOR. PAD AND FOUNDATION SHALL BE COMPLETED IN ONE POUR.

**GROUND MOUNTED CONTROLLER INSTALLATION**  
 R.I. STANDARD 19.1.0



NOTE:  
 SHALL BE IN ACCORDANCE WITH SECTION T.11 OF THE R.I. STANDARD SPECIFICATIONS.

**STEEL SPAN POLE**  
 R.I. STANDARD 19.3.0

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Charles A. ...