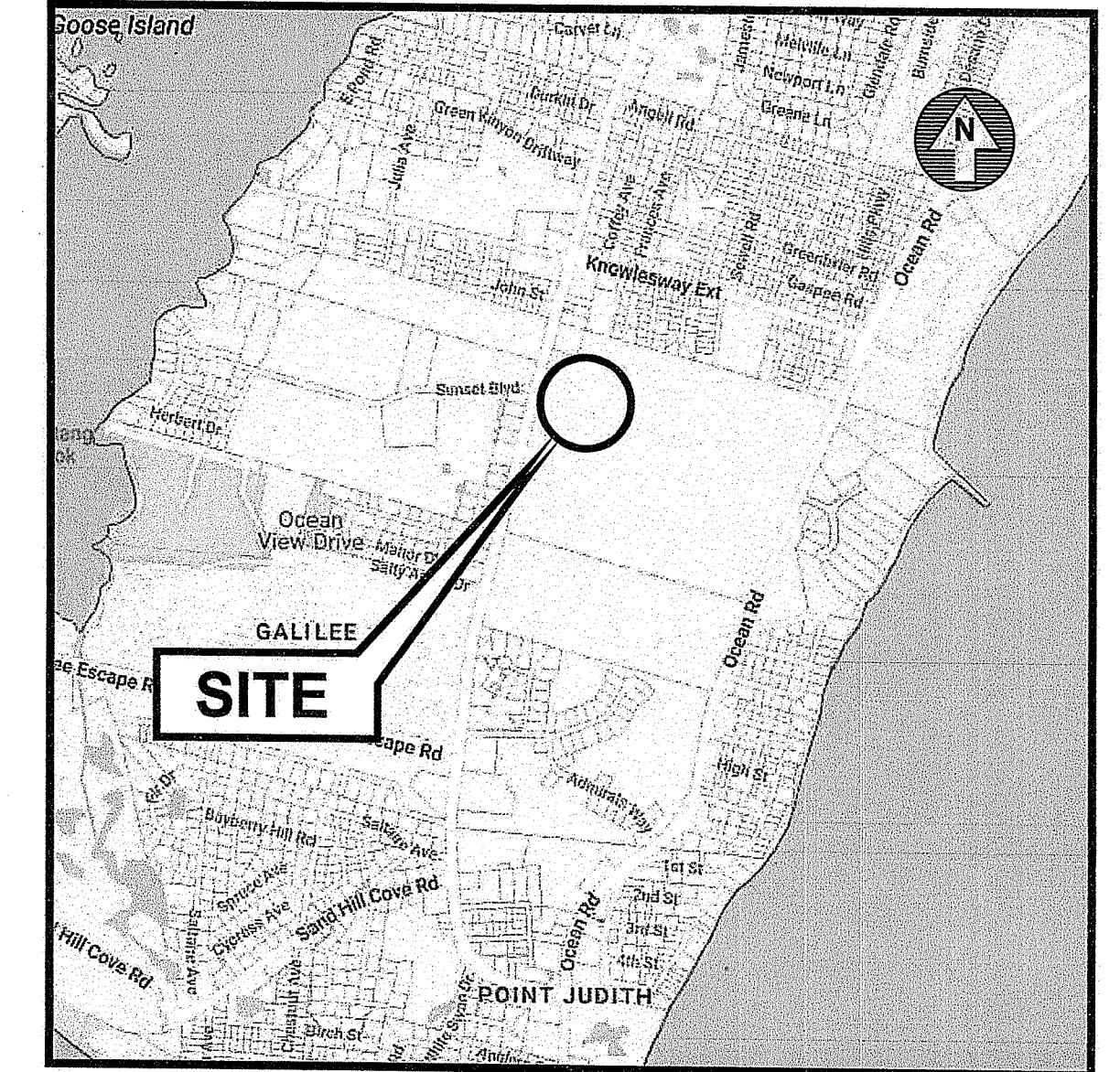


**SITE PLAN SET**  
**FOR**  
**PROPOSED FIRE STATION #2**  
**BUILDING ADDITION**  
**PLAT MAP K, LOT 461-1**  
**ZONING DISTRICT: P**  
**PUBLIC ZONE**  
**900 POINT JUDITH ROAD**  
**NARRAGANSETT, RHODE ISLAND**



**LOCATION MAP**  
NOT TO SCALE

**INDEX OF DRAWINGS**

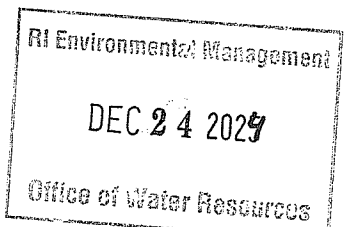
DRAWING No.	PLAN
C1	GENERAL NOTES and LEGEND
C2	SITE LAYOUT PLAN
C3	GRADING, DRAINAGE & UTILITY PLAN
C4	SOIL EROSION & SEDIMENT CONTROL PLAN
C5	MISCELLANEOUS DETAILS PLAN NO. 1
C6	MISCELLANEOUS DETAILS PLAN NO. 2

**REFERENCE PLAN**

EXISTING CONDITIONS SURVEY

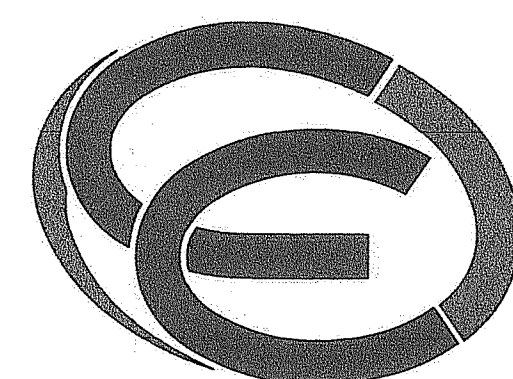
RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS  
 SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: FEB 14 2025 FILE # 24-0322  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Nancy L. Freeman*



**OWNER & APPLICANT**  
**TOWN OF NARRAGANSETT**  
 25 FIFTH AVENUE  
 NARRAGANSETT RI, 02882

**ENGINEERS and LAND SURVEYORS**



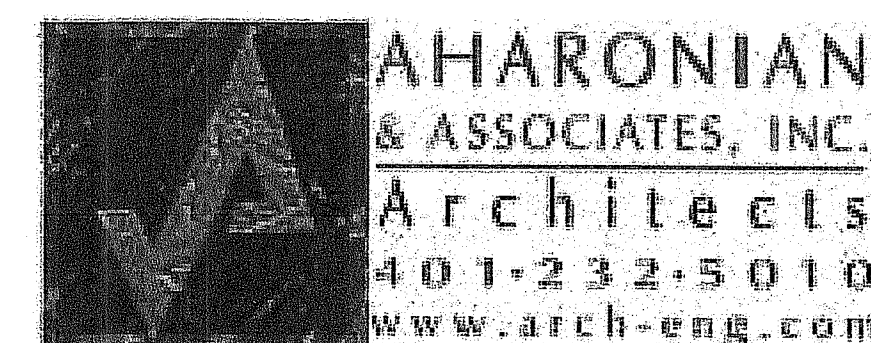
- Civil
- Transportation
- Environmental
- Site Planning
- Surveying
- Permitting
- Landscape Architecture

**CROSSMAN ENGINEERING**

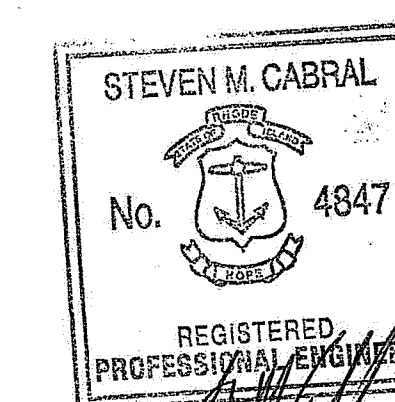
<b>Rhode Island</b> 100 Jefferson Blvd., Suite 200 Warwick, RI 02888 Phone: (401) 738-5660	<b>Massachusetts</b> 1 George Leven Drive, Suite 200 North Attleboro, MA 02760 Phone: (508) 695-1700
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Email: [cei@crossmaneng.com](mailto:cei@crossmaneng.com)

**ARCHITECT**



**310 GEORGE WASHINGTON HIGHWAY- SUITE 100**  
**SMITHFIELD, RHODE ISLAND 02917**



**FEBRUARY 7, 2024**  
**SHEET 1 of 7**

**REVISIONS:**

No.:	DATE:	DESCRIPTION:
1	04/12/24	FIRE DEPARTMENT COMMENTS
2	09/12/24	REVISED BUILDING ADDITION
3	09/25/24	REVIEW COMMENTS
4	10/25/24	ADDENDUM NO. 1

**GENERAL NOTES**

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING DRAINAGE AND UTILITIES, BOTH UNDERGROUND AND OVERHEAD, BEFORE EXCAVATION BEGINS IN ACCORDANCE WITH "DIG SAFE PROGRAM LAW" ENACTED BY THE R.I. LEGISLATURE AND BY CONTACTING THE INDIVIDUAL UTILITY COMPANIES. EXCAVATION SHALL BE IN ACCORDANCE WITH ALL STATUTES, ORDINANCES, RULES AND REGULATIONS OF ANY MUNICIPALITY, STATE OR FEDERAL AGENCY THAT MAY APPLY. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE PLANS MAY NOT DEPICT ALL UNDERGROUND UTILITY SYSTEMS.
2. ALL WORK SHALL CONFORM TO RIDOT'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AMENDED SEPTEMBER 2013, AND STANDARD DETAILS, AS AMENDED.
3. FOR ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I. STANDARD SPECIFICATION SECTION 202.
4. RHODE ISLAND STANDARDS REFERENCED ARE ACCORDING TO THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS "RHODE ISLAND STANDARD DETAILS" DATED JUNE 21, 2019 WITH ALL REVISIONS AS PREPARED BY THE DEPARTMENT OF TRANSPORTATION.
5. THE CONTRACTOR MUST VERIFY PRIOR TO CONSTRUCTION THAT ALL REQUIRED AUTHORIZATION TO PERFORM WORK HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION OPERATIONS. THE CONTRACTOR MUST ENSURE THAT THE CONDITIONS OF ALL PERMITS, SPECIFICATIONS AND FEDERAL, STATE AND LOCAL REGULATIONS ARE STRICTLY ENFORCED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ASPECTS OF ON-SITE SAFETY INCLUDING ANY DAMAGE TO EXISTING STRUCTURES.
6. WORK SHOWN ON THE PLANS FOR WHICH THERE ARE NO PARTICULAR DETAILS OR SPECIFICATIONS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THE WORK. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS AND PLANS AND INSPECT THE SITE. THE BID PRICE SHALL INCLUDE ALL LABOR, INCIDENTALS, TOOLS EQUIPMENT, TESTING SERVICES AND MATERIALS NECESSARY TO COMPLETE THE PROJECT. ANY CHANGES TO THE PROJECT OR THE INSTALLATION OF AN ITEM FOR WHICH NO PARTICULAR DETAIL OR SPECIFICATION WAS PROVIDED MUST BE REVIEWED BY AND MUST BE ACCEPTABLE TO THE ENGINEER AND OWNER.
7. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ANY WORK.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT PRIOR TO THE INITIATION OF WORK. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS, RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.
9. ALL DISTURBED AREAS SHALL BE REPLACED IN KIND UNLESS OTHERWISE SHOWN.
10. ALL BUILDING IMPROVEMENTS ARE SHOWN ON PLANS PREPARED BY AHARONIAN ASSOCIATES. CONTRACTOR SHALL OBTAIN ALL DOCUMENTS FROM AHARONIAN ASSOCIATES PRIOR TO CONSTRUCTION.

**LAYOUT NOTE**

THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE 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 ITEM FOUND WHICH DOES 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. THE CONTRACTOR IS RESPONSIBLE TO ACCURATELY LOCATE ALL ITEMS WITHIN THE PROPERTY AS NOTED ON THE PLANS.

**EXISTING UTILITY NOTES**

1. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY COMPANIES AND OWNER TO OBTAIN THE LOCATION OF ALL UTILITIES PRIOR TO BEGINNING WORK. THE MARKED LOCATIONS SHALL BE PRESERVED BY THE CONTRACTOR DURING THE COURSE OF THE WORK, UNTIL SUCH TIME AS THE ARE NO LONGER NEEDED.
2. ALL UTILITIES INTERFERED WITH OR DAMAGED BY THE CONTRACTOR SHALL BE IMMEDIATELY AND PROPERLY RESTORED BY THE CONTRACTOR. THE CONTRACTOR SHALL FULLY COMPACT ALL BACKFILL MATERIAL AROUND AND UNDER ALL EXISTING UTILITIES ENCOUNTERED OR CROSSED.

**MAP REFERENCE**

1. EXISTING CONDITIONS SURVEY, AP K, LOT 461-A, 900 POINT JUDITH ROAD, NARRAGANSETT, RHODE ISLAND, PREPARED FOR THE TOWN OF NARRAGANSETT, PREPARED BY FONTAINE LAND SURVEYING LLC, 593 GREENHILL BEACH ROAD, SOUTH KINGSTOWN, 02879, PLAN DATED 11-14-22, REVISION 1, 9-16-22.

**WETLAND NOTE**

1. WETLANDS SHOWN ON THESE PLANS HAVE BEEN DELINEATED BY APPLIED BIO SYSTEMS, INC. IN SEPTEMBER 2022 AND FIELD SURVEYED BY FONTAINE LAND SURVEYING LLC.
2. THE WETLANDS HAVE BEEN REVIEWED BY RIDEM APPLICATION 22-0512

**SAND FILTER BASIN NOTES**

1. BASIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL, APPENDIX F.3, CONSTRUCTION STANDARDS/SPECIFICATIONS FOR INFILTRATION BMP'S.
2. THE CONTRACTOR IS RESPONSIBLE TO BECOME FAMILIAR WITH THE ABOVE REFERENCED MANUAL. THE MANUAL CAN BE FOUND FOUND AT <http://www.dem.ri.gov/pubs/regs/water/swmanual.pdf>.
3. CONTRACTOR IS RESPONSIBLE TO SUBMIT SHOP DRAWINGS AND SPECIFICATIONS FOR SAND MATERIAL PRIOR TO START OF CONSTRUCTION.

**SAND BASIN SEED MIX (SEED MIX NO. 2)**

APPLICATION RATE = 15-25 LBS. / ACRE (SEASONALLY FLOODED MIX) (SAND FILTER BOTTOM AREA)

- 20% FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA, PA ECOTYPE)
- 16% VIRGINIA WILD RYE, PA ECOTYPE (ELYMUS VIRGINICUS, PA ECOTYPE)
- 15% RIVERBANK WILD RYE, PA ECOTYPE (ELYMUS RIPARIUS, PA ECOTYPE)
- 15% JAPANESE MILLET (ECHINOCHLOA CRUSGALLI VAR. FRUMENTACEA)
- 15% DEER TONGUE, "TIOGA" (PANICUM CLANDESTINUM (DICHANTHELIUM C.), "TIOGA")
- 5% BLUNT BROOM SEDGE, PA ECOTYPE (CAREX SCOPARIA, PA ECOTYPE)
- 5% SMITHOGRASS, "CAVE-IN-ROCK" (PANICUM VIRGATUM, "CAVE-IN-ROCK")
- 2% GREEN BULRUSH, PA ECOTYPE (SCIRPUS ATROVIRENS, PA ECOTYPE)
- 2% AML SEDGE, PA ECOTYPE (CAREX STIPATA, PA ECOTYPE)
- 1% AUTUMN BENTGRASS, APB (AGROSTIS PERENNANS, APB)

**TOPSOIL MIX FOR BASINS**

PLANTING SOIL SHALL MEET THE BELOW COMPOSITION;

SAND: 85-88%  
SOIL FINES: 8-12% (NO MORE THAN 2% CLAY)  
ORGANIC MATTER: 3-5%

**MAINTENANCE AND PROTECTION OF TRAFFIC NOTES**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY CONSTRUCTION SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS WILL NOT BE PARKED IN ANY ROADWAY RIGHT-OF-WAY.
4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS, CHANNELING DEVICES, ETC., SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION, INCLUDING REVISION 2, MAY 2012, AND SUBSEQUENT ADDENDA.
5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE STATE D.O.T. SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.
6. SPECIAL CARE SHALL BE GIVEN TO THE CONSTRUCTION OF THE TOWN SIDEWALK AREA. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PROTECTION AROUND WORK AREAS.

**STORMWATER MANAGEMENT SYSTEM - MAINTENANCE OPERATION**

UPON PROJECT COMPLETION, THE SITE OWNER SHALL ADHERE TO THE MAINTENANCE RECOMMENDATIONS PROVIDED IN THE LONG TERM OPERATION AND MAINTENANCE MANUAL.

**FLOOD ZONE NOTE**

THE SITE IS LOCATED IN ZONE X, AREA OF MINIMAL FLOODING AS SHOWN ON THE FEMA NATIONAL FLOOD HAZARD LAYER FIRMETTE, ON THE FLOOD INSURANCE RATE MAP NUMBER 44009C0213J EFFECTIVE OCTOBER 16, 2013.

**EXISTING CONDITIONS**

THE EXISTING CONDITIONS USED FOR THIS PLAN SET HAS BEEN PROVIDED BY THE OWNER. REFER TO MAP REFERENCE.

**DEMOLITION NOTES**

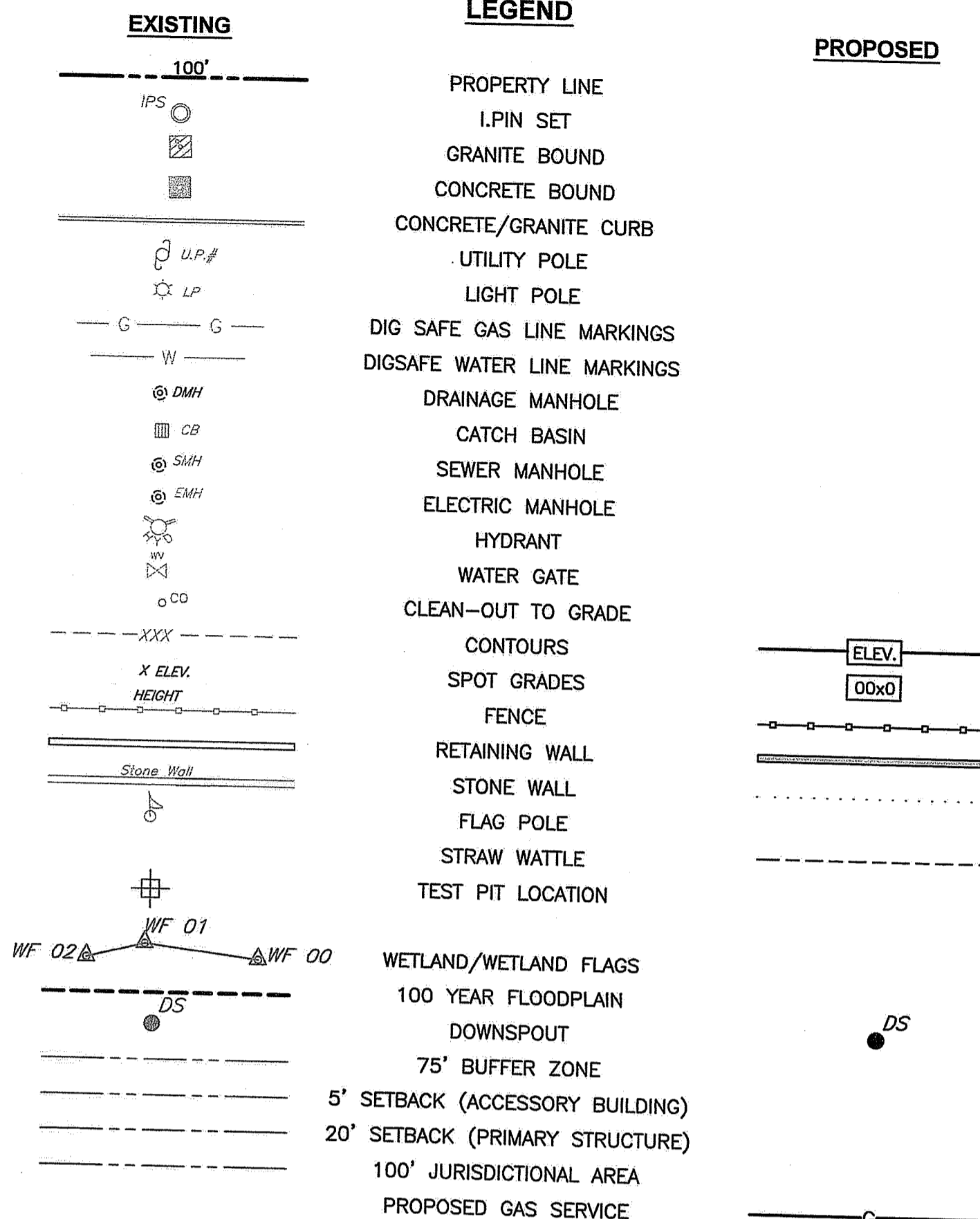
1. CONTRACTOR TO INSTALL TEMPORARY FENCING AROUND THE SITE FOR PROTECTION OF PEDESTRIANS AND VEHICLES DURING CONSTRUCTION.
2. INCLUDED IN THIS PROJECT SCOPE, THE CONTRACTOR WILL BE RESPONSIBLE FOR DEMOLITION, REMOVAL, DISPOSAL AND/OR RELOCATION OF ALL ITEMS WITHIN THE PROPOSED BUILDING ADDITION AND NEW UTILITY SERVICE LOCATIONS AREA. THIS INCLUDES, BUT IS NOT LIMITED TO: PAVEMENT, CONCRETE PADS (AT OLD DOUBLE DOORS, AT GENERATOR AND AT OIL TANK), SIDEWALK, EXCESS SOIL, BUILDING WALL SECTION WITHIN NEW DOORWAY AREAS, VEGETATION, CURB, PIPES/CONDUITS, PROPANE TANK, OIL TANK, GAS LINES AND THE ANTENNA WITH WIRES. COORDINATE WITH THE ARCHITECT AND FIRE DEPARTMENT ON ITEMS TO BE RELOCATED.
3. DEBRIS OF ANY NATURE SHALL NOT BE ALLOWED TO ACCUMULATE IN THE STREETS, WETLANDS OR ADJACENT PROPERTIES. FIRE ACCESS FOR TRUCKS SHALL REMAIN OPEN AT ALL TIMES.
4. ALL REQUIRED AUTHORIZATION TO PERFORM WORK MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND/OR DEMOLITION.
5. CAVITIES FROM REMOVED ITEMS SHALL BE FILLED TO THE LEVEL OF THE SURROUNDING GROUND. FILL SHALL CONSIST OF BANK RUN GRAVEL UNLESS SPECIFIED OTHERWISE IN THE CONTRACT SPECIFICATIONS. FOR ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM COMPACTION AND WORK IN FULL COMPLIANCE WITH STATE AND LOCAL SPECIFICATIONS.
6. THE EXISTING UNDERGROUND SERVICE LINES FROM THE PROPANE TANK ARE WITHIN THE BUILDING ADDITION FOOTPRINT. THE CONTRACTOR IS RESPONSIBLE TO REMOVE THE PROPANE TANK AND SERVICE LINES TO THE EXISTING BUILDING.

**SEEDING NOTES**

1. LOAM SHALL BE SPREAD TO A MINIMUM DEPTH OF 6" OVER ALL AREAS DESIGNATED ON PLANS.
2. SHAPE AND SMOOTH THE SURFACE TO THE LINES AND GRADES AS SHOWN ON PLANS.
3. FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN A SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 3 TO 4 INCHES OF THE PLANTING SOIL. APPLY AT THE RATE OF 8 POUNDS PER 1,000 SQUARE FEET AT SEEDING.
4. LIME: SPREAD EVENLY AND WORK INTO THE SOIL DURING PREPARATION OF SEED BED AT THE RATE OF ONE TON PER ACRE. INCORPORATE INTO THE SOIL BY DIGGING OR OTHER APPROVED METHOD. DISTRIBUTE LIME UNIFORMLY AND WORK INTO TOP 4 INCHES OF TOP SOIL (MINIMUM) AND UNIFORMLY BLEND BY DIGGING OR ROTOTILLING.
5. APPLICATION OF SEED:
  - A. RATE OF APPLICATION OF SEED SHALL BE 8 POUNDS PER 1,000 SQUARE FEET OR AS INDICATED ON PLANS.
  - B. SEEDING SHALL BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS, AND ONLY DURING THE FOLLOWING DATES:  
SPRING SEEDING: MARCH 15 TO MAY 31  
FALL SEEDING: AUGUST 15 TO OCTOBER 15
  - C. THE CONTRACTOR SHALL KEEP ALL SEEDED AREAS WATERED AND IN GOOD CONDITION, RESEEDING IF AND WHEN NECESSARY FOR AN 8 WEEK PERIOD OR UNTIL A GOOD, HEALTHY, UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA. THE CONTRACTOR SHALL ALSO MAINTAIN THESE AREAS IN AN APPROVED CONDITION UNTIL PROVISIONAL ACCEPTANCE.
  - D. DURING THIS PERIOD, WATER TURF AS NECESSARY TO MAINTAIN AN ADEQUATE SUPPLY OF MOISTURE WITHIN THE ROOT ZONE. AN ADEQUATE SUPPLY OF MOISTURE IS EQUIVALENT OF ONE INCH OF ABSORBED WATER PER WEEK THAT IS DELIVERED AT WEEKLY INTERVALS IN THE FORM OF NATURAL RAIN OR IS AUGMENTED AS REQUIRED BY PERIODIC WATERING.
  - E. OVERSEED WHEN NECESSARY TO PROMOTE GRASS GROWTH.
  - F. REPLANT AREAS VOID OF TURF ONE SQUARE FOOT OR LARGER.
6. SEED:
  - a. SEED ALL AREAS DESIGNATED ON PLAN AS WELL AS ALL DISTURBED EXISTING AREAS WITH THE FOLLOWING SEED MIX:

**SEED MIX No. 1 (MOWED AREAS)**

TYPE	% BY WEIGHT
NASSAU KENT BLUE	60%
JAMESTOWN CHEWINGS FESCUE	20%
PALMER PERENNIAL RYE GRASS	20%
APPLICATION RATE = 200 lbs. / ACRE	



**PROPOSED PAVEMENT STRUCTURE (SITE)**

- 1 1/2" BITUMINOUS CONCRETE SURFACE COURSE, CLASS 9.5 HMA
- 2 1/2" BITUMINOUS CONCRETE BASE COURSE, CLASS 12.5 HMA
- 12" GRAVEL BORROW SUBBASE

**PAVEMENT STRUCTURE (POINT JUDITH ROAD)**

- 2" BITUMINOUS CONCRETE SURFACE COURSE, CLASS 9.5 HMA
- 3" MIN. BITUMINOUS CONCRETE BASE COURSE, CLASS 12.5 HMA
- 12" GRAVEL BORROW SUBBASE

**SIDEWALK (RI STD. 43.1.0)**

- 4" CEMENT CONCRETE
- 8" GRAVEL BORROW SUBBASE

**NOTES:**

1. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A RIDOT ROAD OPENING/UTILITY PERMIT.
2. ALL ROADWAY RESTORATION SHALL BE COORDINATED WITH RIDOT AND THE NARRAGANSETT PUBLIC WORKS DEPARTMENT.
3. ASPHALT EMULSION TACK COAT SHALL BE PLACED PRIOR TO INSTALLING PAVEMENT ON ANY COURSE WHICH HAS BEEN OPEN TO TRAFFIC OR ANY NEW COURSE WHICH HAS BEEN EXPOSED FOR MORE THAN 1 DAY. IT SHALL ALSO BE APPLIED TO VERTICAL PAVEMENT FACES BETWEEN ADJOINING PAVEMENT SECTIONS, INCLUDING DRIVEWAYS



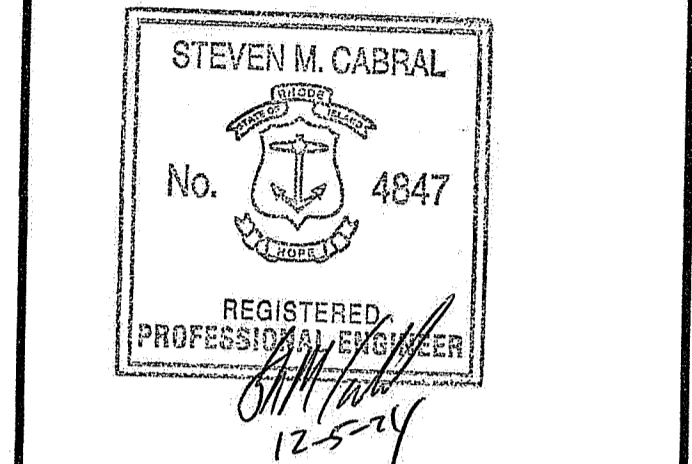
**CROSSMAN ENGINEERING**

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OWNER:

PROJECT TITLE:

**PROPOSED FIRE STATION #2 BUILDING ADDITION**

900 POINT JUDITH ROAD  
NARRAGANSETT, RI 02882

PREPARED FOR:

TOWN OF NARRAGANSETT  
25 FIFTH AVENUE  
NARRAGANSETT, RI 02882

RI Environmental Management  
DEC 24 2024  
Office of Water Resources

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM

**DRAWING TITLE: GENERAL NOTES and LEGEND**

DATE: FEBRUARY 7, 2024  
SCALE: NO SCALE  
DWG. NAME: 2802-02-NOTE.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	FIRE DEPT. COMMENTS	04/12/24
2	REVISED BLDG ADDITION	09/12/24
3	REVIEW COMMENTS	09/25/24
4	ADDENDUM NO. 1	10/25/24

DRAWING NUMBER

**C1**

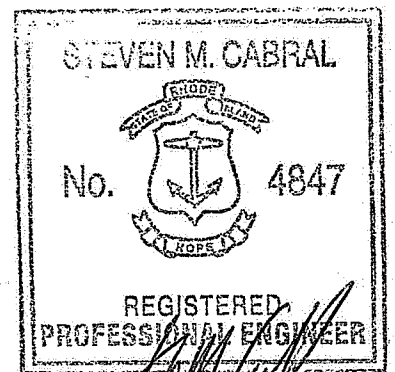
SHEET: 2 OF 7



**CROSSMAN ENGINEERING**

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PROJECT TITLE:

**PROPOSED FIRE STATION #2 BUILDING ADDITION**  
 900 POINT JUDITH ROAD  
 NARRAGANSETT, RI 02882

PREPARED FOR:

**TOWN OF NARRAGANSETT**  
 25 FIFTH AVENUE  
 NARRAGANSETT, RI 02882

RI Environmental Management  
 DEC 24 2024  
 Office of Water Resources

DRAWING TITLE:

**SITE LAYOUT PLAN**

DATE: FEBRUARY 7, 2024 SCALE: 1"=20'

DWG. NAME: 2802-03-SITE.dwg

REVISIONS	NUMBER	REMARKS	DATE
△	1	FIRE DEPT. COMMENTS	04/12/24
	2	REVISED BLDG ADDITION	09/12/24
	3	REVIEW COMMENTS	09/25/24
	4	ADDENDUM NO. 1	10/25/24

DRAWING NUMBER  
**C2**  
 SHEET: 3 OF 7

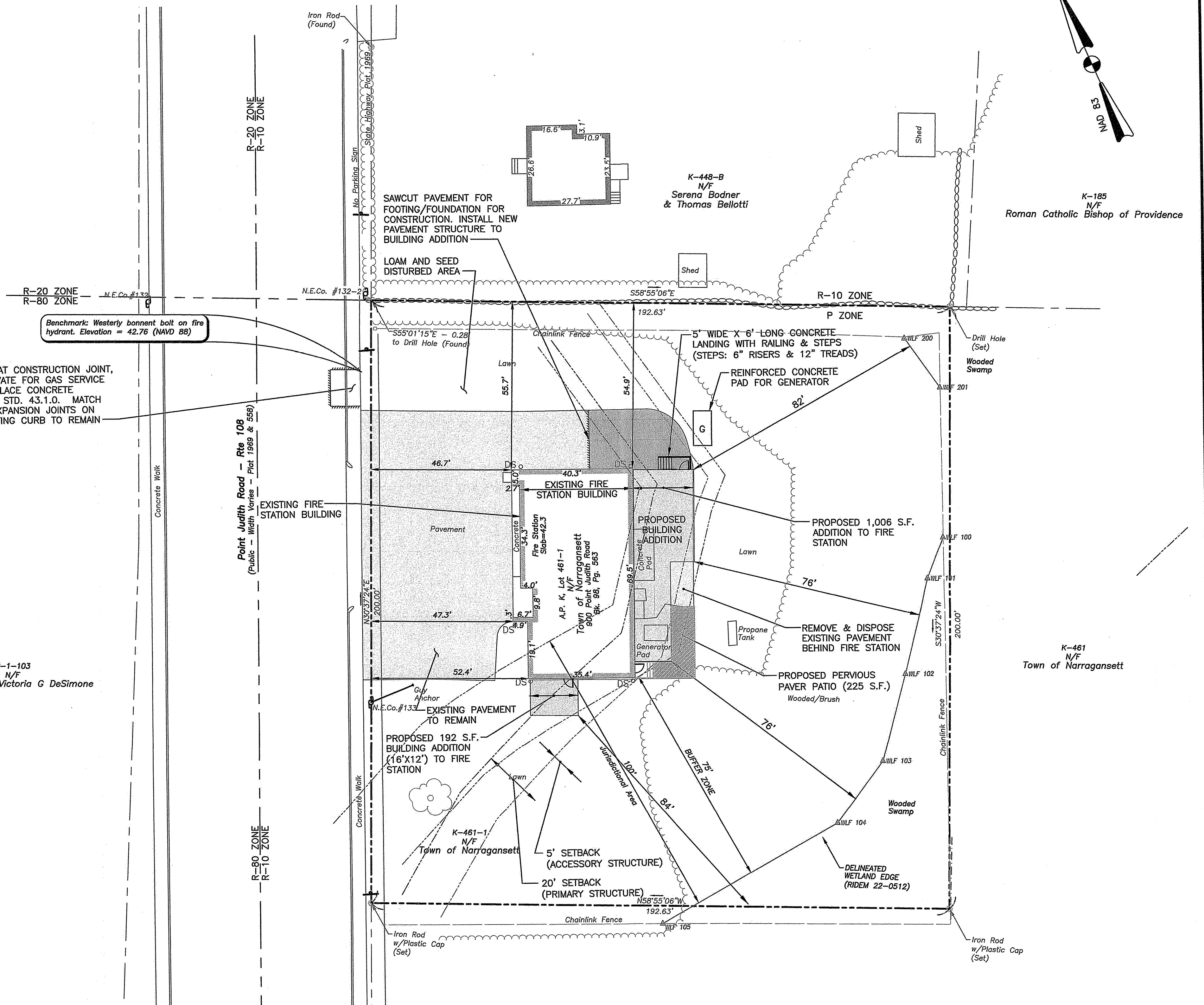
**SITE NOTES:**

1. THE SITE IS IN A P-ZONE (PUBLIC ZONE USE)
2. A FIRE STATION IS AN ALLOWED USE IN A P-ZONE.
3. THE EXISTING FIRE STATION BUILDING WAS CONSTRUCTED IN 1960.
4. THE WETLANDS HAVE BEEN DELINEATED BY APPLIED-BIO SYSTEMS, INC. ON 09-09-22 AND SURVEY LOCATED BY FONTAINE LAND SURVEYING, LLC. ON 09-27-22.
5. THE EXISTING CONDITIONS PLAN AND BOUNDARY INFORMATION HAVE BEEN SURVEYED AND PREPARED BY FONTAINE LAND SURVEYING, LLC ON A PLAN DATED; 11-24-22.
6. WETLAND FLAGS HAVE BEEN REVIEWED BY RIDEM (FILE 22-0512).
7. THE SITE IS NOT WITHIN THE CRMC SPECIAL AREA MANAGEMENT PLAN (SAMP).
8. THE SITE IS NOT WITHIN A 100-YEAR FLOOD ZONE (AREA OUTSIDE THE 0.2% CHANCE FLOOD PLAN).
9. EXISTING PARCEL SIZE= 38,526 S.F.  
 EXISTING IMPERVIOUS= 8,862 S.F.  
 PROPOSED IMPERVIOUS= 9,023 S.F.
10. THE PROPOSED BUILDING ADDITION DOES NOT HAVE A BASEMENT.

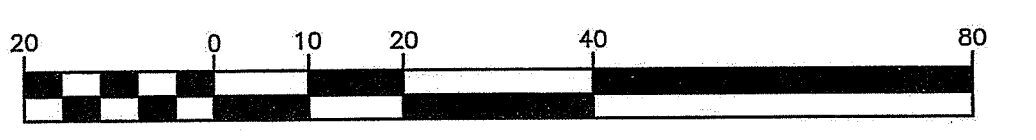
SAWCUT SIDEWALK AT CONSTRUCTION JOINT, REMOVE AND EXCAVATE FOR GAS SERVICE INSTALLATION. REPLACE CONCRETE SIDEWALK WITH R.I. STD. 43.1.0. MATCH GRADE AND USE EXPANSION JOINTS ON BOTH ENDS. EXISTING CURB TO REMAIN

Benchmark: Westerly bonnet bolt on fire hydrant. Elevation = 42.76 (NAVD 88)

R-1-103  
 N/F  
 Douglas R & Victoria G DeSimone



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: FEB 14 2024 FILE # 24-0322  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
 Andy L. Freeman

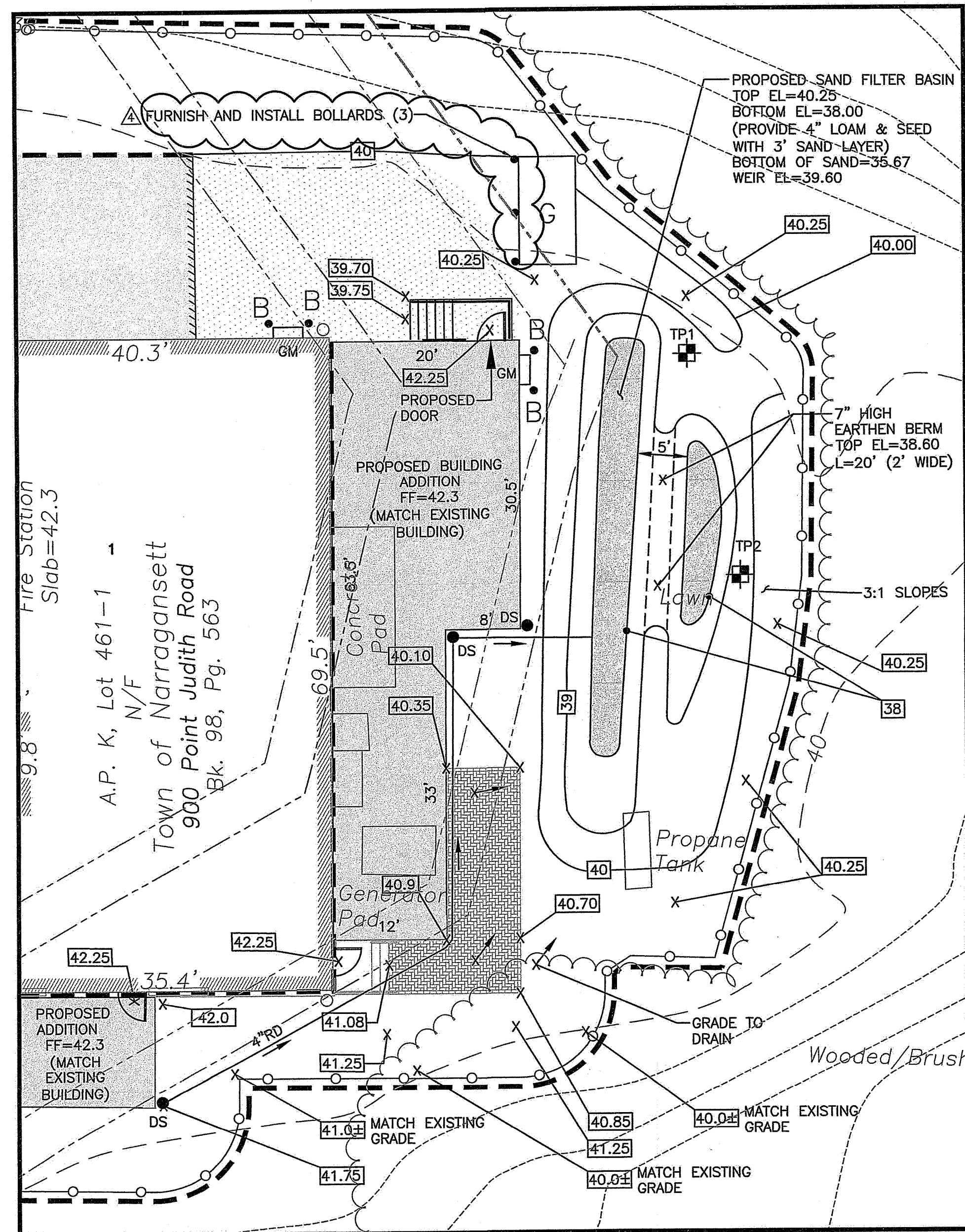


GRAPHIC SCALE  
 ( IN FEET )  
 1 inch = 20 ft.

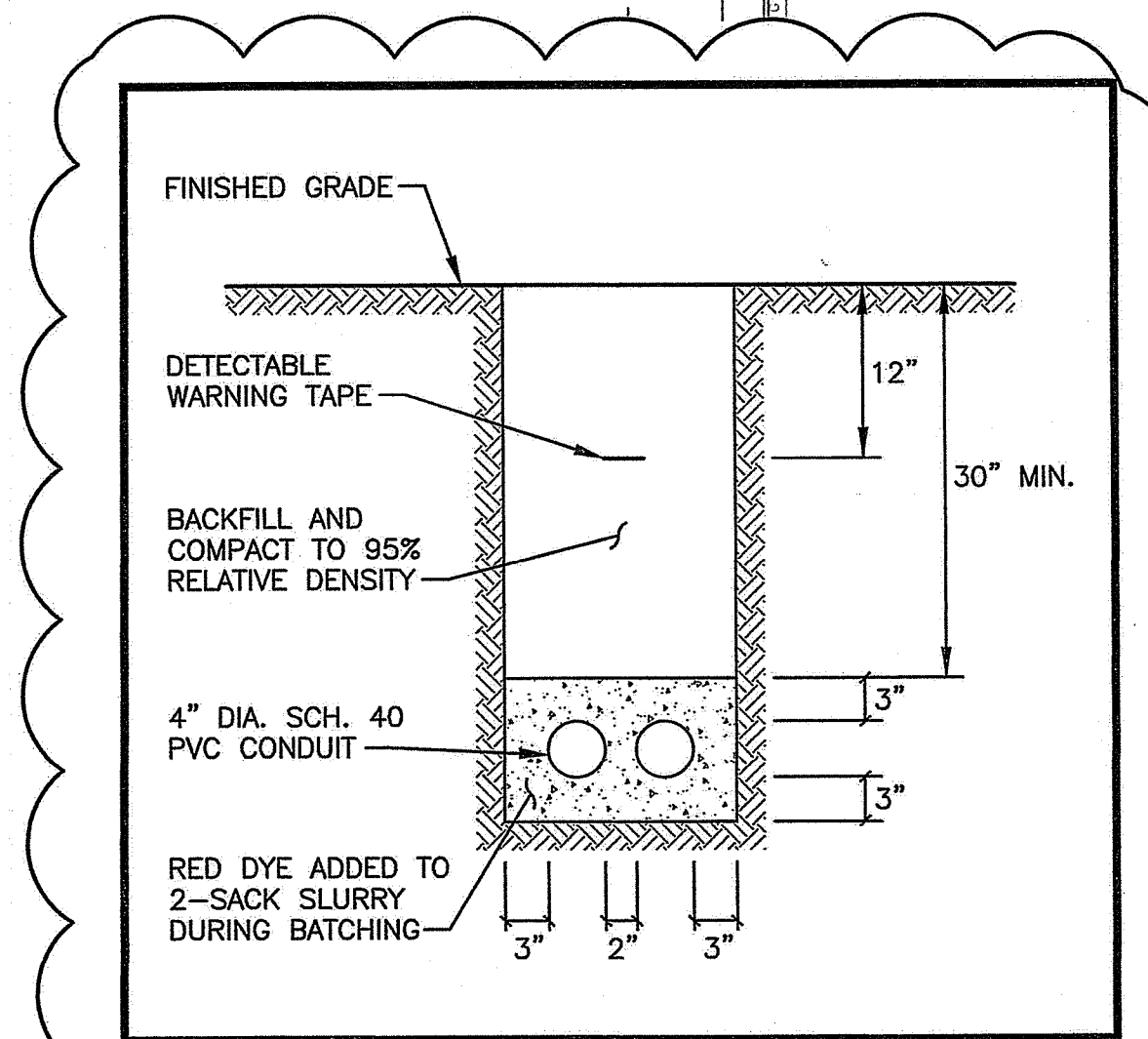
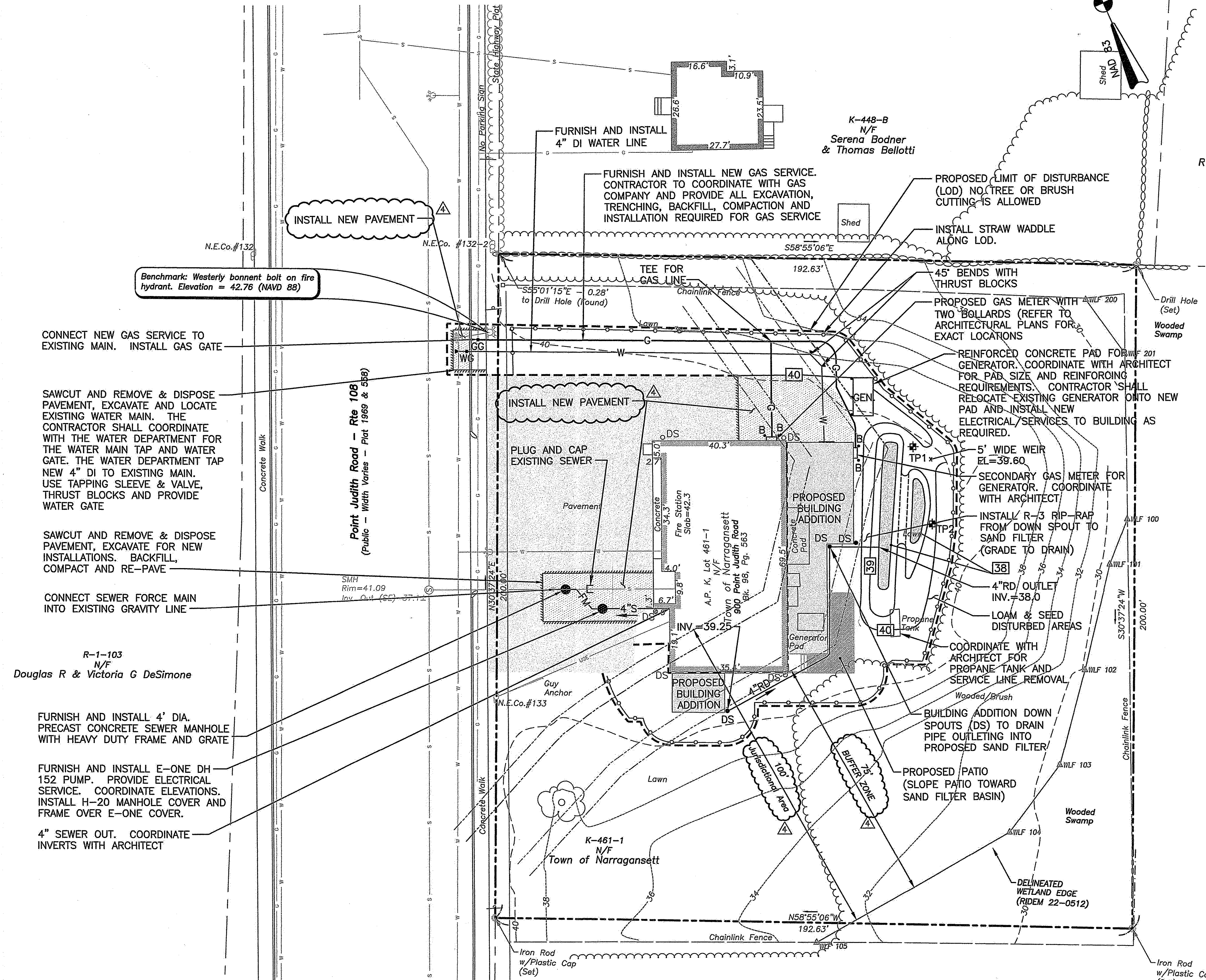
**NOTES:**

1. THE CONTRACTOR SHALL COORDINATE ALL UTILITIES FOR THE EXISTING BUILDING AND PROPOSED BUILDING ADDITION WITH THE ARCHITECT.
2. THE CONTRACTOR SHALL TEST THE EXISTING SAND FILL BELOW GRADE FOR RE-USE AS THE SAND FILTER MATERIAL. PROVIDE TEST RESULTS TO ENGINEER FOR REVIEW AND APPROVAL OF RE-USE.
3. THE GAS SERVICE SIZE SHALL BE CONFIRMED BY THE ARCHITECT.

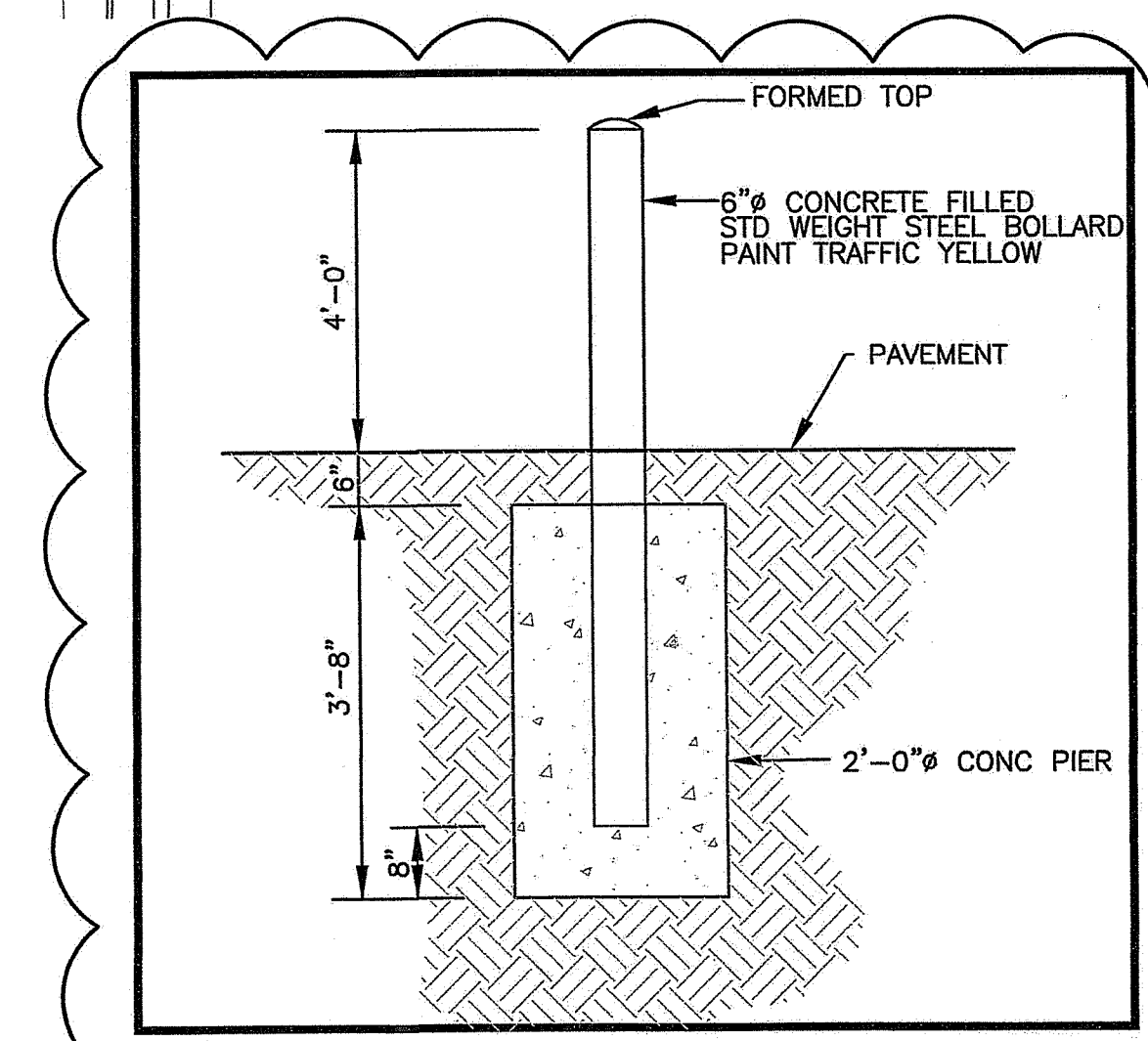
TOTAL LOT AREA	AREA TABLE		
	EXISTING	PROPOSED	CHANGE
WOODS	38,525 S.F.	38,525 S.F.	NO CHANGE
GRASS	13,347 S.F.	12,749 S.F.	-598 S.F.
PERVIOUS PAVERS	-	260 S.F.	+260 S.F.
PAVEMENT	6,248 S.F.	5,388 S.F.	-860 S.F.
BUILDING	2,615 S.F.	3,813 S.F.	+1,198 S.F.
IMPERVIOUS SURFACE	8,863 S.F.	9,201 S.F.	+338 S.F.
BUILDING WITHIN 75' BUFFER ZONE	0 S.F.	0 S.F.	NO CHANGE
WOODED/BRUSH AREA WITHIN 75' BUFFER ZONE	16,231 S.F.	16,231 S.F.	NO CHANGE
BUILDING WITHIN 20' SETBACK (GRASS AREA)	226 S.F.	377 S.F.	+151 S.F.



**SAND FILTER DETAIL**  
SCALE: 1"=10'



**PERMANENT DUCTBANK SECTION - ELECTRIC**  
NOT TO SCALE



**TYPICAL BOLLARD DETAIL**  
NOT TO SCALE

**PLAN**  
SCALE: 1"=20'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED: FEB 14 2025 FILE #: 24-0322  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Nancy L. Freeman*

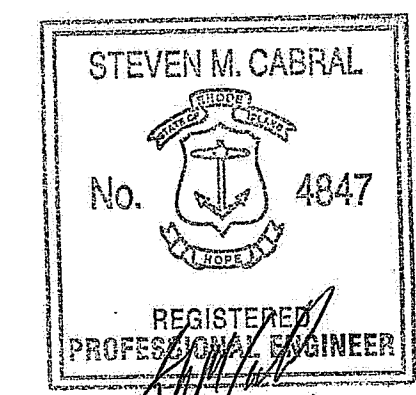
**GRAPHIC SCALE**  
( IN FEET )  
1 inch = 20 ft.

**CROSSMAN ENGINEERING**  
Rhode Island  
100 Jefferson Blvd., Suite 200  
Warwick, RI 02888  
Phone: (401) 738-5660  
Email: ce@crosmaneng.com

Massachusetts  
1 George Levin Drive, Suite 200  
North Attleboro, MA 02760  
Phone: (608) 685-1700

- Civil
- Transportation
- Environmental
- Site Planning
- Surveying
- Permitting
- Landscape Architecture

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PROJECT TITLE:  
**PROPOSED FIRE STATION #2 BUILDING ADDITION**  
**900 POINT JUDITH ROAD NARRAGANSETT, RI 02882**

PREPARED FOR:  
**TOWN OF NARRAGANSETT**  
**25 FIFTH AVENUE**  
**NARRAGANSETT, RI 02882**

DRAWING TITLE:  
**GRADING, DRAINAGE and UTILITY PLAN**

DATE: FEBRUARY 7, 2024  
SCALE: AS SHOWN  
DWG. NAME: 2802-04-GRADE.dwg

REVISIONS	NUMBER	REMARKS	DATE
1	FIRE DEPT. COMMENTS	04/12/24	
2	REVISED BLDG ADDITION	09/12/24	
3	REVIEW COMMENTS	09/25/24	
4	ADDENDUM NO. 1	10/25/24	

DRAWING NUMBER:  
**C3**  
SHEET: 4 OF 7

**GENERAL PROJECT WIDE NOTES**

1. THE LIMIT OF DISTURBANCE SHALL BE MARKED AND STRAW WATTLES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. STRAW WATTLES SHALL BE MAINTAINED ON A REGULAR BASIS AND SHALL BE PLACED TO PREVENT SEDIMENTATION ONTO ADJACENT PROPERTY, ROADWAY, AND WETLANDS.
2. WHERE APPLICABLE THE CONTRACTOR MUST REPLACE AND/OR RESEED ANY VEGETATION THAT DOES NOT DEVELOP/SURVIVE WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE TO OR THE OWNER.
3. ALL STRAW WATTLES OR TEMPORARY PROTECTION SHALL REMAIN IN PLACE UNTIL AREA IS STABILIZED WHICH INCLUDES ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED. AREAS SHALL BE STABILIZED WITH CRUSHED STONE OR LOAM AND SEED, AS APPROVED BY THE OWNER.
4. EXISTING VEGETATION SHALL BE RETAINED WHENEVER FEASIBLE.
5. IF SEDIMENT IS TRACKED INTO STREET OR EXISTING PAVEMENT, DAILY SWEEPING WILL BE REQUIRED.
6. AREAS DAMAGED DURING CONSTRUCTION SHALL BE STABILIZED, OR OTHERWISE RESTORED AT THE CONTRACTOR'S EXPENSE.
7. UNLESS REFERENCED ON THE PLANS, STOCKPILES SHALL HAVE NO SLOPE STEEPER THAN 2:1 AND SHALL BE SURROUNDED BY STRAW WATTLES.
8. STOCKPILES EXPOSED FOR EXCESSIVE PERIODS SHALL RECEIVE TEMPORARY TREATMENT CONSISTING OF HAY, STRAW, FIBER MATTING OR APPROVED EQUAL.
9. SILT FENCE OR STAKED HAYBALES MAY BE USED IN LIEU OF STRAW WATTLES.
10. THE CONTRACTOR IS RESPONSIBLE TO KEEP THE SITE CLEAN OF TRASH. DAILY PATROL OF THE CONSTRUCTION SITE IS REQUIRED TO PICK UP AND DISPOSE OF TRASH.
11. POTENTIAL CONSTRUCTION MATERIAL THAT MAY BE STOCKPILED ON SITE INCLUDE SOIL AND STONE STOCKPILES AND PIPE AND STRUCTURE STOCKPILES. HAZARDOUS MATERIALS MAY NOT BE STORED ON SITE WITHOUT APPROVAL OF ENGINEER.
12. PREVIOUSLY INSTALLED BUFFER ZONE MARKERS MUST BE MAINTAINED DURING CONSTRUCTION. THE MARKERS PROVIDE PERMANENT REFERENCE POINTS ON SITE THAT ARE CLEAR TO PRESENT AND FUTURE PROPERTY OWNERS AND REFERENCE THE LIMIT OF DISTURBANCE. NO ALTERATIONS OF ANY KIND ARE PERMITTED BEYOND THESE MARKERS WITHOUT FIRST OBTAINING THE NECESSARY PERMIT FROM RIDEM.

**INSPECTION/MAINTENANCE NOTES**

1. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES, THE LIMIT OF DISTURBANCE SHALL BE MARKED AND STRAW WATTLES SHALL BE PLACED SO AS TO PREVENT SEDIMENT FROM ENTERING EXISTING ROADWAY DRAINAGE SYSTEM AND ADJUTING PROPERTIES.
2. ALL DISTURBED AREAS WHICH BECOME SUBJECT TO EROSION TENDENCIES WHETHER THEY BE NEWLY FILLED OR EXCAVATED SHALL RECEIVE SLOPE PROTECTION - SUCH AS RIP-RAP, OR APPROVED EQUAL.
3. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING PERIODS OF RAINFALL.
4. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MAINTENANCE AND SHALL INSPECT / REPLACE DAILY DURING CONSTRUCTION, FOLLOWING STORM EVENTS WHICH GENERATE GREATER THAN 0.25 INCHES OF RAINFALL AND WEEKLY DURING NON CONSTRUCTION PERIODS. SOIL EROSION AND SEDIMENT CONTROL INSPECTIONS SHALL BE RECORDED ON SITE SPECIFIC SECC INSPECTION REPORT FORMS PROVIDED BY THE ENGINEER. UPON COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL GIVE ALL NOTES AND RECORDS TO THE OWNER AND THE OWNER SHALL RETAIN THESE NOTES AND RECORDS ON SITE FOR A PERIOD OF 5 YEARS FROM THE DATE OF THE REPORT.
5. ADDITIONAL STRAW WATTLES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER. EROSION CONTROL MAINTENANCE AND REPLACEMENT SHALL BE INCLUDED IN THE BASE BID PRICE.
6. THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE R.I. STATE CONSERVATION COMMITTEE, REVISED 2014, MUST BE UTILIZED BY THE CONTRACTOR AS A GUIDE.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND FOR THE ENTIRE PROJECT DURATION, INCLUDING TEMPORARY SHUT-DOWN PERIODS, MUST MONITOR AND REPAIR, AS NEEDED, ALL SLOPES TO ENSURE A STABLE PRODUCT.
8. SOIL EROSION CONTROL WATTLE SHALL BE 12" DIA. SUBMITTALS OF STRAW WATTLE WILL BE REQUIRED FOR REVIEW AND APPROVAL.
9. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW OR FIBER MULCH OR PROTECTIVE COVERS, SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE OWNER.
10. HAY OR STRAW APPLICATIONS SHALL BE IN THE AMOUNT OF 3,000-4,000 LBS/ACRE.

**STORMWATER MANAGEMENT SYSTEM - MAINTENANCE OPERATION**

1. UPON PROJECT COMPLETION, THE SITE OWNER SHALL ADHERE TO THE MAINTENANCE RECOMMENDATIONS AS LISTED IN THE LONG TERM OPERATION AND MAINTENANCE PLAN.

**CONSTRUCTION NOTES**

THE PROPOSED VEGETATIVE AND STRUCTURAL PRACTICES TO BE IMPLEMENTED DURING CONSTRUCTION ARE DESCRIBED AND ILLUSTRATED WITHIN THE ACCOMPANYING SITE PLANS. IN ADDITION, THE OPERATOR SHOULD INITIATE APPROPRIATE STABILIZATION PRACTICES ON ALL DISTURBED AREAS AS SOON AS POSSIBLE BUT NOT MORE THAN FOURTEEN (14) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS THE ACTIVITY IS TO RESUME WITHIN TWENTY-ONE (21) DAYS. IF CONSTRUCTION CANNOT BEGIN WITHIN TWENTY-ONE (21) DAYS OF COMPLETING SITE PREPARATION ACTIVITIES, ALL DISTURBED AREAS SHALL RECEIVE TEMPORARY STABILIZATION.

**ADDITIONAL CONTROLS**

- ALL TYPES OF WASTE GENERATED AT THE SITE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- THE CONTRACTOR IS REQUIRED TO NOTIFY LOCAL AUTHORITIES AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OFFICE OF WASTE MANAGEMENT, OF ANY HAZARDOUS MATERIAL SPILL.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN THE SITE IN AN ORDERLY AND CLEAN STATE. ALL CONSTRUCTION WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS PRIOR TO REMOVAL AND CONTACT WITH PRECIPITATION SHALL BE KEPT TO A MINIMUM.
- GENERAL MAINTENANCE PROCEDURES ARE OUTLINED IN THE ACCOMPANYING SITE PLANS. IN ADDITION, THE OPERATOR AND CONTRACTOR ARE REQUIRED TO INSPECT ALL EROSION CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN TWENTY-FOUR (24) HOURS AFTER A RAIN EVENT, WHICH GENERATES 0.25 INCHES OF RAIN IN A TWENTY-FOUR (24) HOUR PERIOD AND/OR AFTER A SIGNIFICANT AMOUNT OF RUNOFF.

**SEQUENCE OF CONSTRUCTION**

CONSTRUCTION ACTIVITIES WILL INCLUDE EARTHWORK, DRAINAGE INSTALLATION AND EROSION AND SEDIMENT CONTROL INSTALLATION AND MAINTENANCE. IN GENERAL, THE SEQUENCE OF CONSTRUCTION WILL BE AS FOLLOWS:

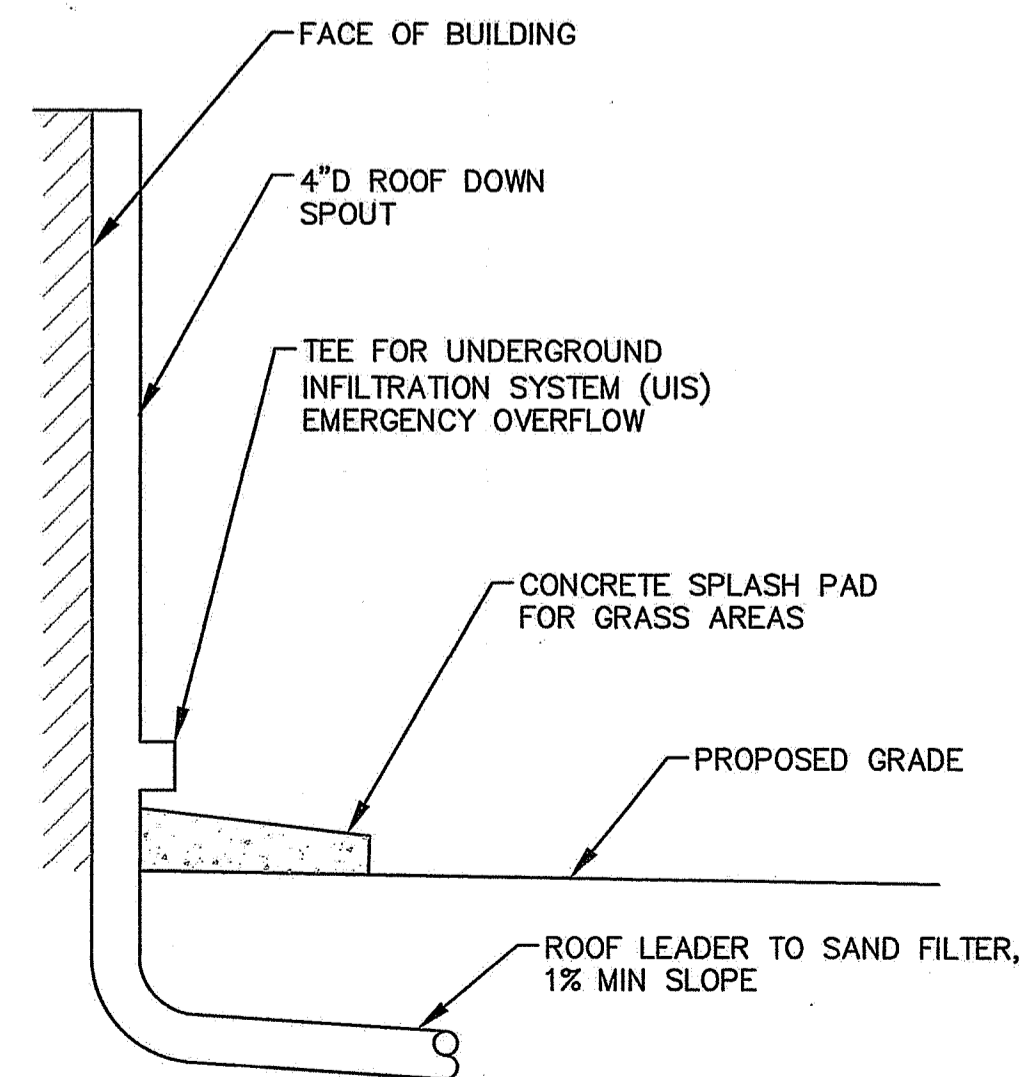
- INSTALLATION OF EROSION CONTROLS SUCH AS STRAW WATTLES. INSTALL TEMPORARY CONSTRUCTION FENCE AROUND PERIMETER OF CONSTRUCTION AREA.
- EARTHWORK ACTIVITIES AND INSTALLATION OF RETAINING WALLS.
- INSTALLATION OF SAND FILTER, GRADE, LOAM & SEED.
- INSTALLATION OF BUILDING ADDITION
- FINAL GROUND COVER TREATMENT/STABILIZATION.

**DUST CONTROL NOTES**

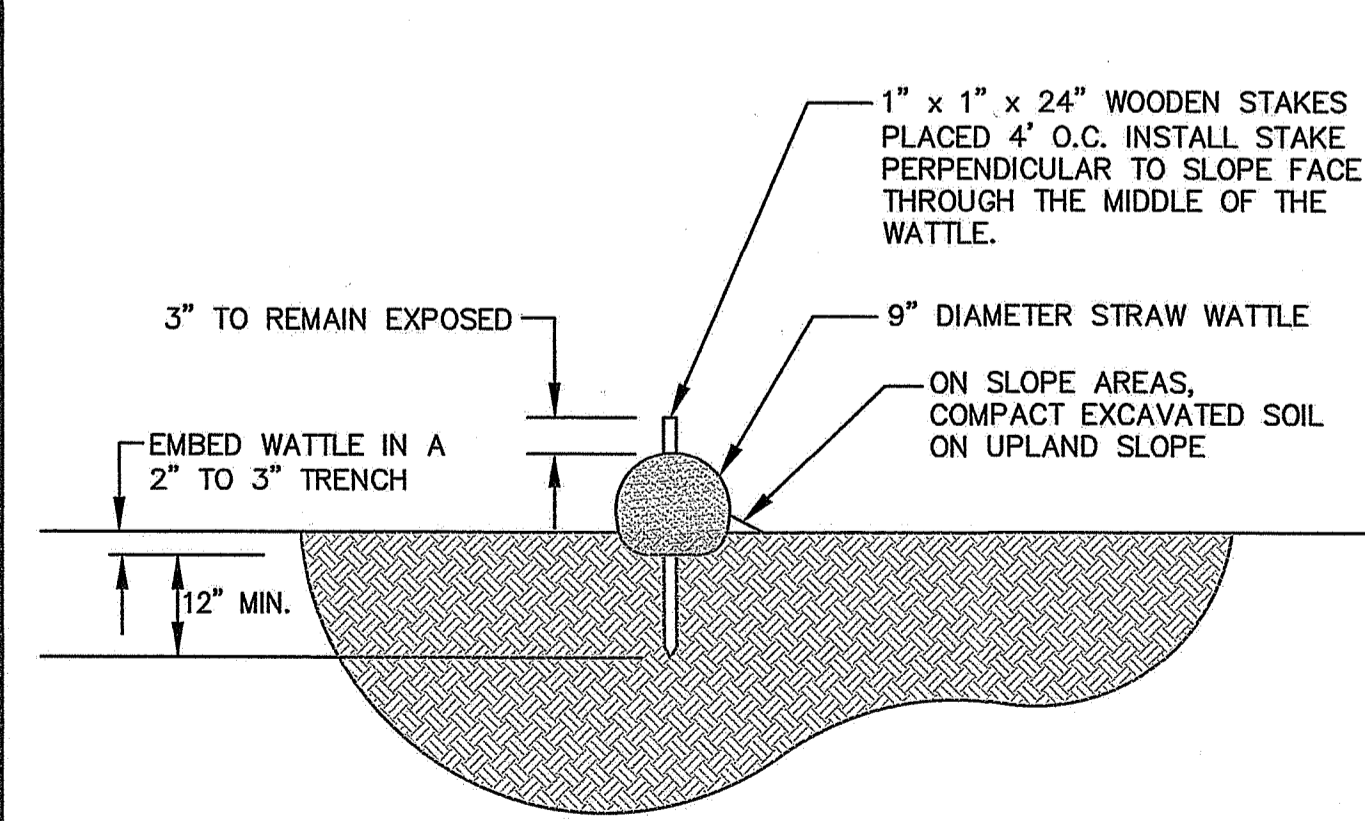
ON AN AS-NEEDED BASIS OR AS DIRECTED BY THE CITY OR OWNER, THE CONTRACTOR SHALL UTILIZE ONE OF THE FOLLOWING METHODS (AS RECOMMENDED BY THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK") TO CONTROL DUST:

- A. THE EXPOSED SOIL SURFACE SHOULD BE MOISTENED PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
- B. CALCIUM CHLORIDE SHOULD BE EITHER LOOSE DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH A SPREADER AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE.
- C. DAILY SWEEPING OF EXISTING PAVEMENT.

THE METHODS SHOULD BE REPEATED AS NEEDED, AND SPECIAL ATTENTION MUST BE GIVEN TO THE ACCESS DRIVES.

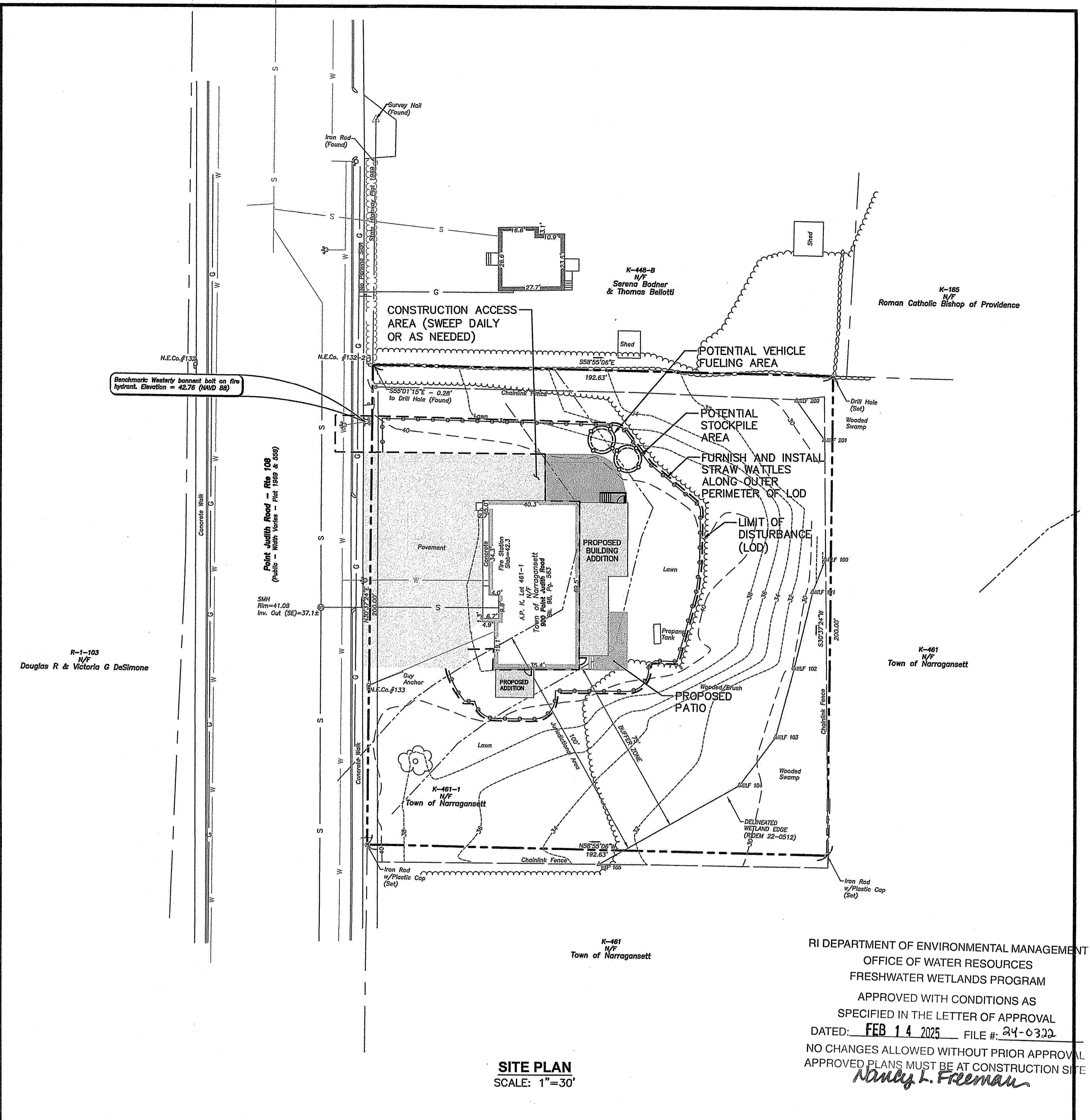


**ROOF DOWN SPOUT DETAIL**  
NOT TO SCALE

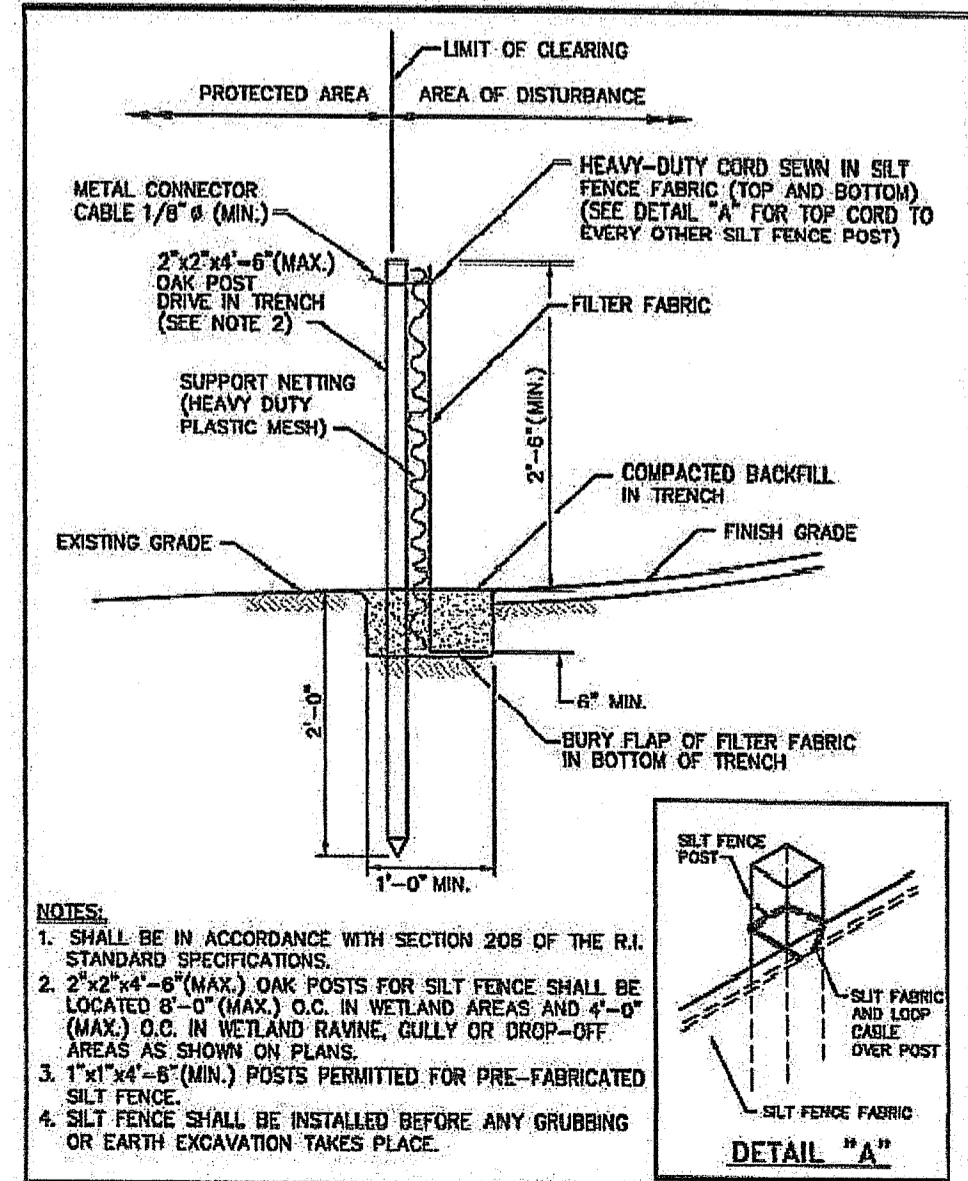


- NOTES**
1. INSTALLATION OF THE STRAW WATTLE SHALL CONFORM TO ALL THE MANUFACTURER'S RECOMMENDATIONS. AN "OR EQUAL" PRODUCT MUST BE APPROVED BY THE ENGINEER OR OWNER PRIOR TO CONSTRUCTION.
  2. A COMPOST FILTER SOCK CAN BE USED AS AN ACCEPTABLE "OR EQUAL". THE COMPOST FILTER SOCK SHALL BE IN ACCORDANCE WITH SECTION 206 OF THE RHODE ISLAND STANDARD SPECIFICATIONS.

**STRAW WATTLE DETAIL**  
NOT TO SCALE



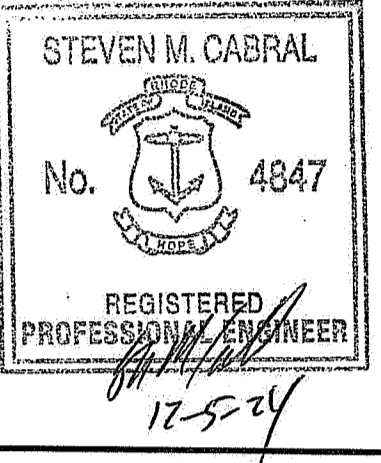
**SITE PLAN**  
SCALE: 1"=30'



**RHODE ISLAND DEPARTMENT OF TRANSPORTATION**  
**SILT FENCE DETAIL**  
RI STANDARD 9.2.0  
JUNE 15, 1998

**CROSSMAN ENGINEERING**  
Rhode Island: 100 Jefferson Blvd., Suite 200, Warwick, RI 02888, Phone: (401) 738-5660  
Massachusetts: 1 George Leven Drive, Suite 200, North Attleboro, MA 02760, Phone: (508) 695-1700  
Email: cai@crossmaneng.com

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OWNER:  
  
PROJECT TITLE:  
**PROPOSED FIRE STATION #2 BUILDING ADDITION**  
**900 POINT JUDITH ROAD NARRAGANSETT, RI 02882**

PREPARED FOR:  
**TOWN OF NARRAGANSETT**  
**25 FIFTH AVENUE NARRAGANSETT, RI 02882**

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESHWATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
DATED: **FEB 14 2025** FILE #: **24-0322**  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Nancy L. Freeman*

DEC 24 2024  
Office of Water Resources

**DRAWING TITLE:**  
**SOIL EROSION and SEDIMENT CONTROL PLAN**

DATE: **FEBRUARY 7, 2024** SCALE: **1"=30'**

DWG. NAME: **2802-05-SOIL.dwg**

NUMBER	REMARKS	DATE
1	FIRE DEPT. COMMENTS	04/12/24
2	REVISED BLDG ADDITION	09/12/24
3	REVIEW COMMENTS	09/25/24
4	ADDENDUM NO. 1	10/25/24

DRAWING NUMBER: **C4**  
SHEET: 5 OF 7

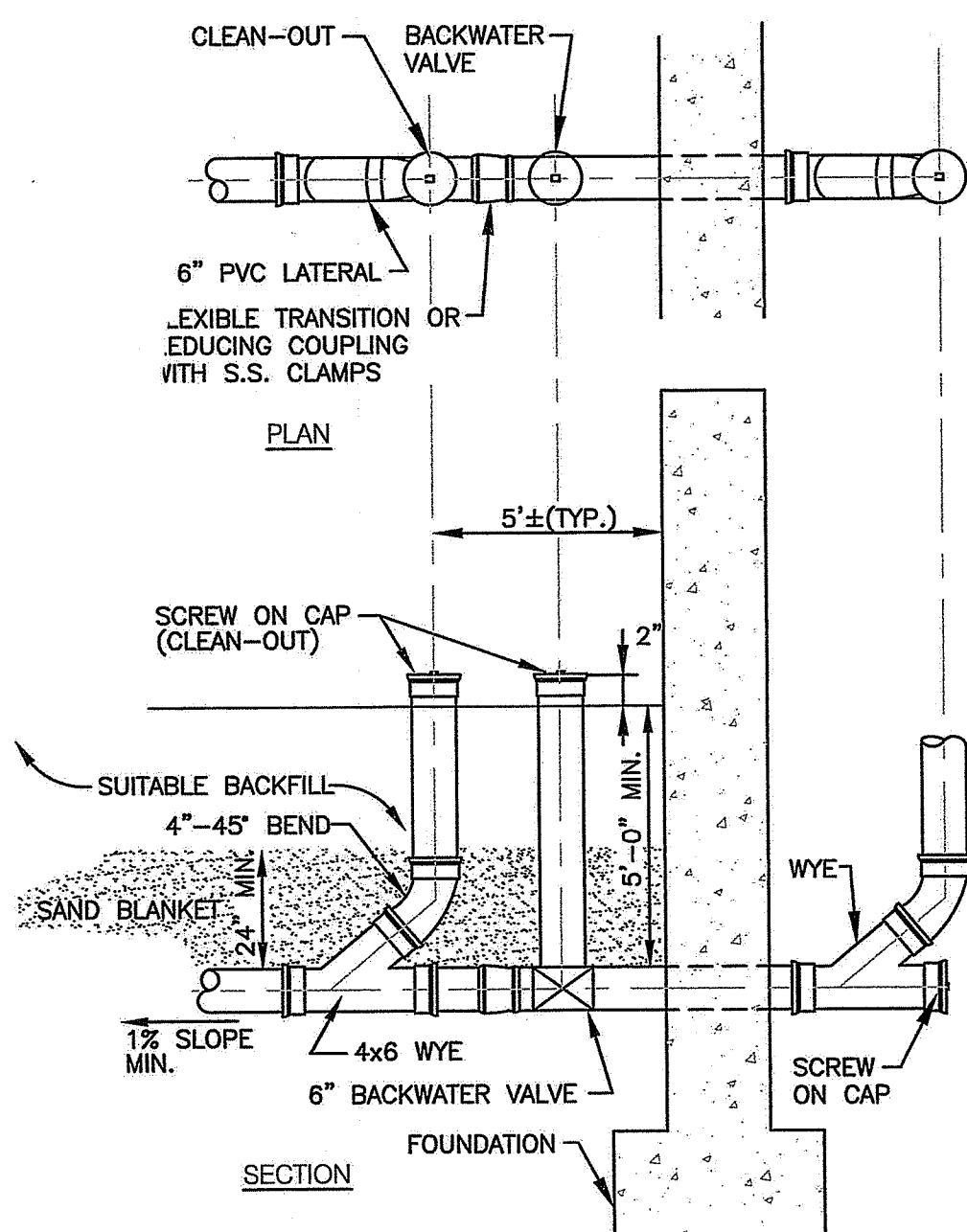


**SEWER NOTES**

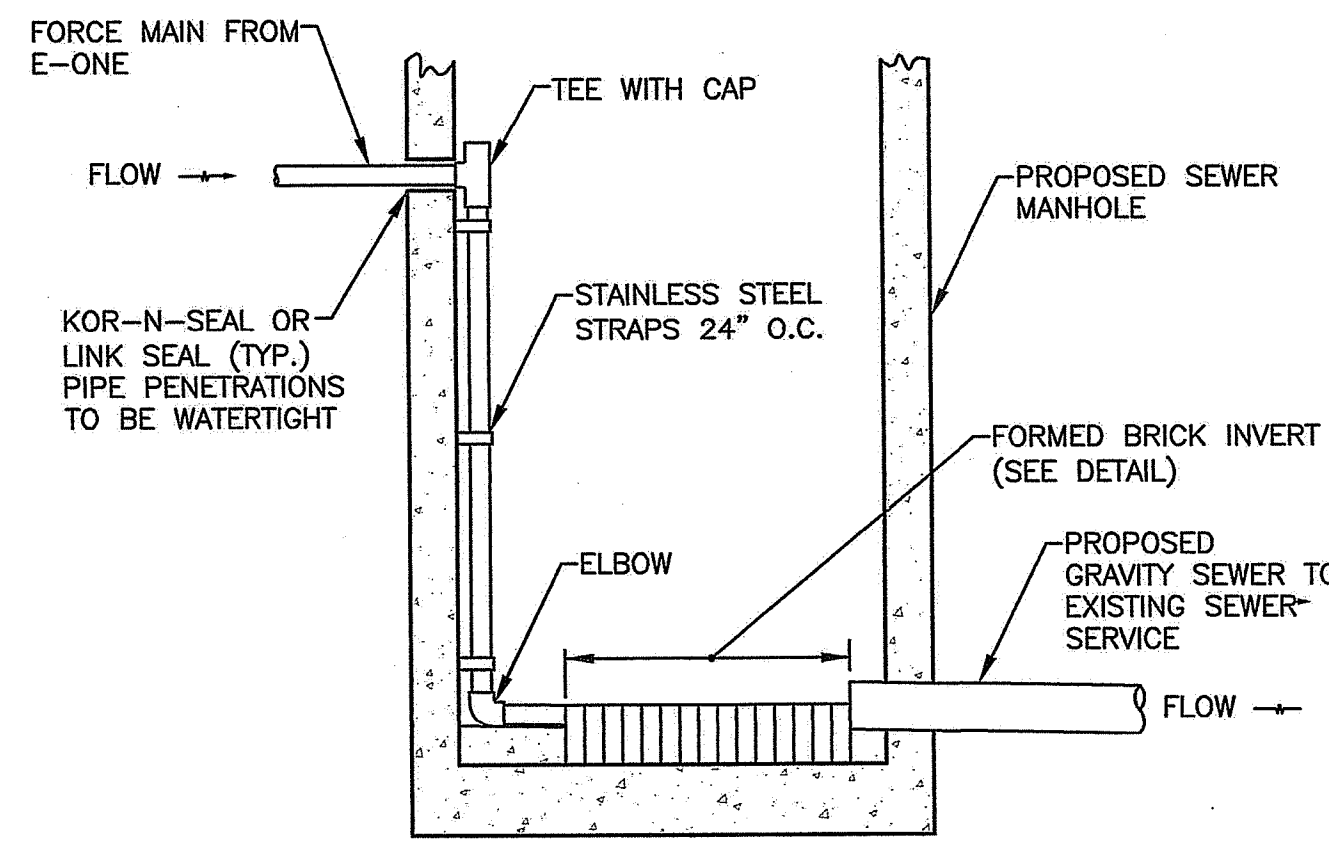
- INSTALLATION OF THE SEWERAGE FACILITIES SHALL BE IN ACCORDANCE WITH THE TOWN OF NARRAGANSETT SPECIFICATIONS AND REQUIREMENTS.
- PRIOR TO RECEIVING AUTHORIZATION TO CONSTRUCT, ALL MATERIALS SHALL MEET THE STANDARDS AND RECEIVE THE WRITTEN APPROVAL, BASED ON MANUFACTURER'S DRAWINGS AND OTHER DATA, OF THE TOWN OF NARRAGANSETT ENGINEER'S OFFICE.
- ALL SEWERAGE FACILITIES SHALL MEET TESTING AND CLEANING REQUIREMENTS PRIOR TO ACCEPTANCE.
- THE CONTRACTOR IS RESPONSIBLE TO COORDINATE AS-BUILT LOCATIONS PRIOR TO PIPE BACKFILL. AS-BUILT DRAWINGS SHALL BE FURNISHED AS A CONDITION FOR ACCEPTANCE OF THE NEW SEWERAGE FACILITIES. PLANS SHALL INCLUDE LOCATION OF WYES AS APPLICABLE.
- NO FLOW WILL BE ACCEPTED UNTIL ALL ABOVE STEPS ARE COMPLETED AND COMPLETION CERTIFICATE IS ISSUED.
- AFTER THE CONTRACTOR HAS "STAKED OUT" THE FACILITIES TO BE CONSTRUCTED AND HAS THE APPROVED MATERIALS ON THE JOB, THE NARRAGANSETT ENGINEERING OFFICE SHALL BE NOTIFIED IN ADVANCE OF CONSTRUCTION IN ORDER FOR THEM TO ARRANGE FOR THEIR INSPECTOR. THE NOTIFICATION MUST MEET THE TOWN OF NARRAGANSETT SEWER CONSTRUCTION REQUIREMENTS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS AND MATERIALS, STANDARDS AND SPECIAL DETAILS, AND STANDARD SPECIFICATIONS, ANY WORK NOT MEETING THE APPROVED STANDARDS SHALL BE IMMEDIATELY REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION WITHIN THE LIMITS OF WORK AS SHOWN ON THE DRAWINGS.
- RELATION TO WATER LINES:
  - HORIZONTAL SEPARATION: WHENEVER POSSIBLE, SEWERS SHOULD BE LAID AT A MINIMUM OF 10 FEET, HORIZONTALLY, FROM ANY EXISTING OR PROPOSED WATER LINE. SHOULD LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, A SEWER MAY BE LAID CLOSER THAN 10 FEET TO A WATER LINE IF:
    - IT IS LAID IN A SEPARATE TRENCH, OR IF
    - IT IS LAID IN THE SAME TRENCH WITH THE WATER LINE LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND IF
    - IN EITHER CASE THE ELEVATION OF THE TOP (CROWN) OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM (INVERT) OF THE WATER LINE.
  - VERTICAL SEPARATION: WHENEVER A SEWER MUST CROSS UNDER WATER LINES, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER LINE. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THE ABOVE REQUIREMENTS, THE WATER LINE SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR RECONSTRUCTED WITH MECHANICAL-JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER LINE SHOULD BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
  - WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL AND/OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER LINE AND SEWER SHALL BE CONSTRUCTED OF MECHANICAL-JOINT CEMENT LINED DUCTILE IRON PIPE OR OTHER EQUIVALENT BASED ON WATER TIGHTNESS AND STRUCTURAL SOUNDNESS. BOTH PIPES SHALL BE PRESSURE TESTED BY AN APPROVED METHOD TO ASSURE WATER TIGHTNESS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEWATERING REQUIRED IN THE SEWER INSTALLATION.
- THE PROPOSED GRAVITY SANITARY SEWER PIPE SHALL BE PVC SCHEDULE 40, UNLESS OTHERWISE SHOWN ON PLANS. PIPE SIZE TO MATCH PLANS.
- THE PROPOSED PRESSURE SEWER SHALL BE PVC SCHEDULE 40 PRESSURE PIPE, OR FUSE-JOINT PE 3408 POLYETHYLENE PIPE SDR 11 MINIMUM.
- THE CONTRACTOR IS RESPONSIBLE TO VERIFY THE ELEVATION OF EXISTING SEWER LINE PRIOR TO INSTALLATION.

**PUMP NOTES**

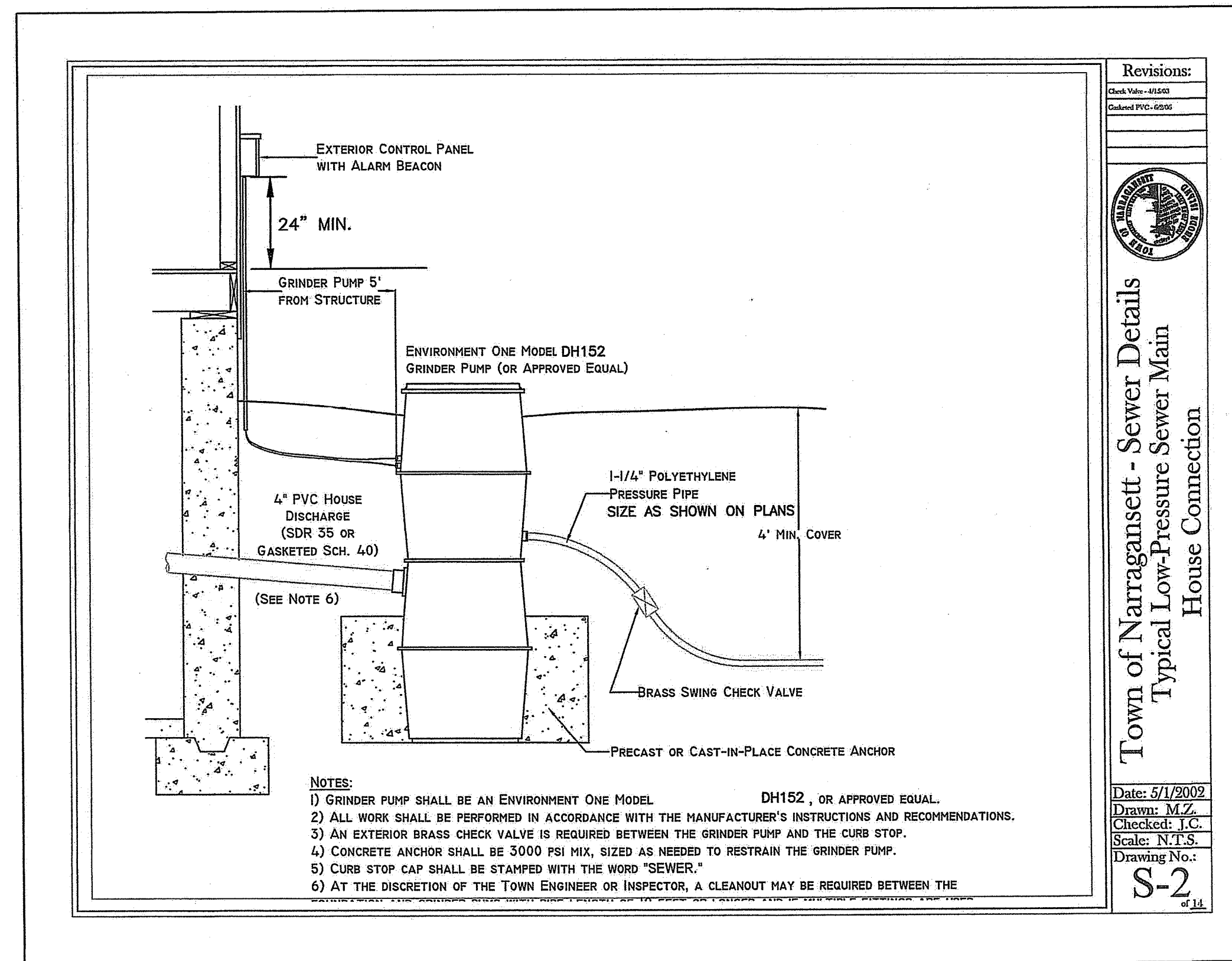
- THE SYSTEM SHALL BE EQUIPPED WITH AN AUDIBLE & VISUAL ALARMS TO INDICATE POWER INTERRUPTION TO THE SYSTEM. THE INDICATORS SHALL BE MOUNTED ON A N.E.P.A. APPROVED CABINET IN THE INTERIOR OF THE BUILDING IN AN OCCUPIED AREA, AT A LOCATION APPROVED BY THE OWNER. ALARMS (AUDIBLE AND VISUAL) SHALL BE LOCATED WITHIN THE INTERIOR OF THE BUILDING.
- PUMP SYSTEM SHALL UTILIZE E-ONE DUPLEX CONTROL PANEL.
- THE ELECTRICAL SYSTEM SHALL BE WIRED FOR A SECONDARY POWER SOURCE (GENERATOR BY OTHERS). PROVIDE AUTOMATIC GENERATOR TRANSFER SWITCH.
- PUMP CHAMBER SHALL BE WATER-TIGHT AND ALL UNSUITABLE OR ORGANIC MATERIAL BELOW THE PUMP CHAMBER SHALL BE REMOVED AND REPLACED WITH GRAVEL BEDDING. A MINIMUM 6" LAYER OF GRAVEL SHALL BE SET LEVEL TO FORM A STABLE BASE. DAMP OR WET SOIL SHALL BE REMOVED AND REPLACED WITH 12" CRUSHED STONE (1-1/4" TO 2"). CONCRETE BALLAST WILL BE REQUIRED.
- A HIGH LEVEL WATER ALARM AND PUMP FAILURE ALARM (VISUAL AND AUDIBLE) POWERED BY A CIRCUIT SEPARATE FROM THE PUMP SHALL BE LOCATED IN A NORMALLY OCCUPIED AREA OF THE BUILDING.
- ALL PROCEDURES AND MATERIALS MUST ALSO CONFORM TO THE RECOMMENDATIONS AND REQUIREMENTS OF E-ONE SEWER SYSTEMS.
- CONTROL PANEL PLACEMENT SHALL BE COORDINATED WITH THE OWNER. CONTROL PANEL SHALL BE PLACED A MINIMUM OF 24" ABOVE THE DESIGN FLOOD ELEVATION.
- THE PUMP SYSTEM SHALL BE MANUFACTURED BY E-ONE SEWER SYSTEMS. USE DH152 GRINDER PUMP STATION (OR APPROVED EQUAL). ALTERNATE PUMP SYSTEM SHALL BE APPROVED BY ENGINEER.
- SUBMITTALS FROM E-ONE SHALL BE SUBMITTED TO ENGINEER PRIOR TO CONSTRUCTION.
- PUMP CHAMBER SHALL HAVE VENT PIPE WITH WATERTIGHT FITTINGS. VENT SHALL BE CONNECTED TO BUILDING WITH A GOOSENECK OUTLET AT THE BUILDING ROOF.
- A CAST-IN-PLACE EXTENDED BASE SHALL BE USED FOR SETTING PUMP CHAMBER.
- PUMP STATION SHALL BE EQUIPPED WITH AN ANTI-SIPHON ASSEMBLY (TWO CHECK VALVES).
- MODIFICATION TO PUMP STATION PUMP OR COMPONENTS SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO INSTALLATION.
- ALL PLUMBING AND ELECTRICAL WORK AND MATERIALS SHALL CONFORM TO ALL STATE, FEDERAL AND LOCAL CODES.
- THE PUMP CHAMBER MANUFACTURER SHALL CERTIFY THAT THE PUMP CHAMBER IS WATER TIGHT. ALSO AND/OR THE CONTRACTOR SHALL COORDINATE WATER TIGHT FIELD TESTING WITH THE ENGINEER PRIOR TO PUMP USE.
- CONTRACTOR SHALL RUN TEST CYCLES WITNESSED BY E-ONE AND THE ENGINEER PRIOR TO USE.
- CONTRACTOR TO FURNISH ELECTRICAL INSTALLATION FOR SYSTEM, INSTALLED BY A RHODE ISLAND LICENSED ELECTRICAL CONTRACTOR.
- DEWATERING, IF REQUIRED, SHALL BE INCLUDED IN THE CONTRACT BID PRICE. INSTALLATION SHALL BE IN DRY CONDITIONS.
- GRADE AROUND PUMP CHAMBER SHALL SLOPE AWAY FROM COVERS.
- CONCRETE BALLAST SHALL BE PROVIDED FOR BUOYANCY RESISTANCE. SUPPLIER SHALL PROVIDE ADEQUATE BUOYANCY RESISTANCE BASED UPON FLOOD DEPTH OF ELEVATION 15.0.



**BUILDING CONNECTION DETAIL**  
NOT TO SCALE



**MANHOLE DROP CONNECTION DETAIL**  
NOT TO SCALE

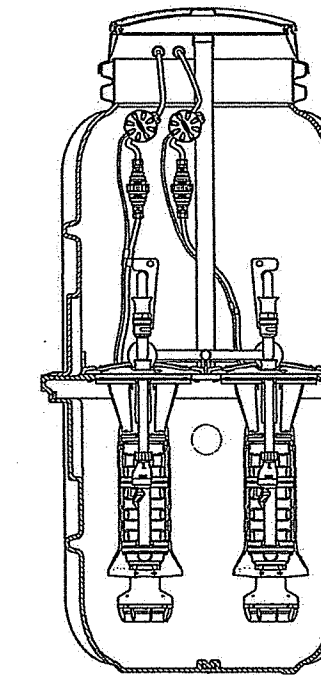


Revisions:  
 Check Valves - 01/20/24  
 Control Panel - 02/01/24

Date: 5/1/2009  
 Drawn: M.C.  
 Checked: J.C.  
 Scale: N.T.S.  
 Drawing No.: S-2 of 14

**E-ONE EXTREME**

**DH152**



**General Features**

The model DH152 grinder pump station is a complete unit that includes: two grinder pumps, check valve, polyethylene tank, controls, and alarm panel. A single DH152 or is ideal for up to four, average single-family homes and can also be used for up to 12 average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 3000 gpd (11,358 lpd)
- 150 gallons (568 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 93 inches to 160 inches

The DH152 has a cable that connects the motor controls to the level controls through watertight penetrations.

**Operational Information**

**Motor**  
1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

**Inlet Connections**  
4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.

**Discharge Connections**  
Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

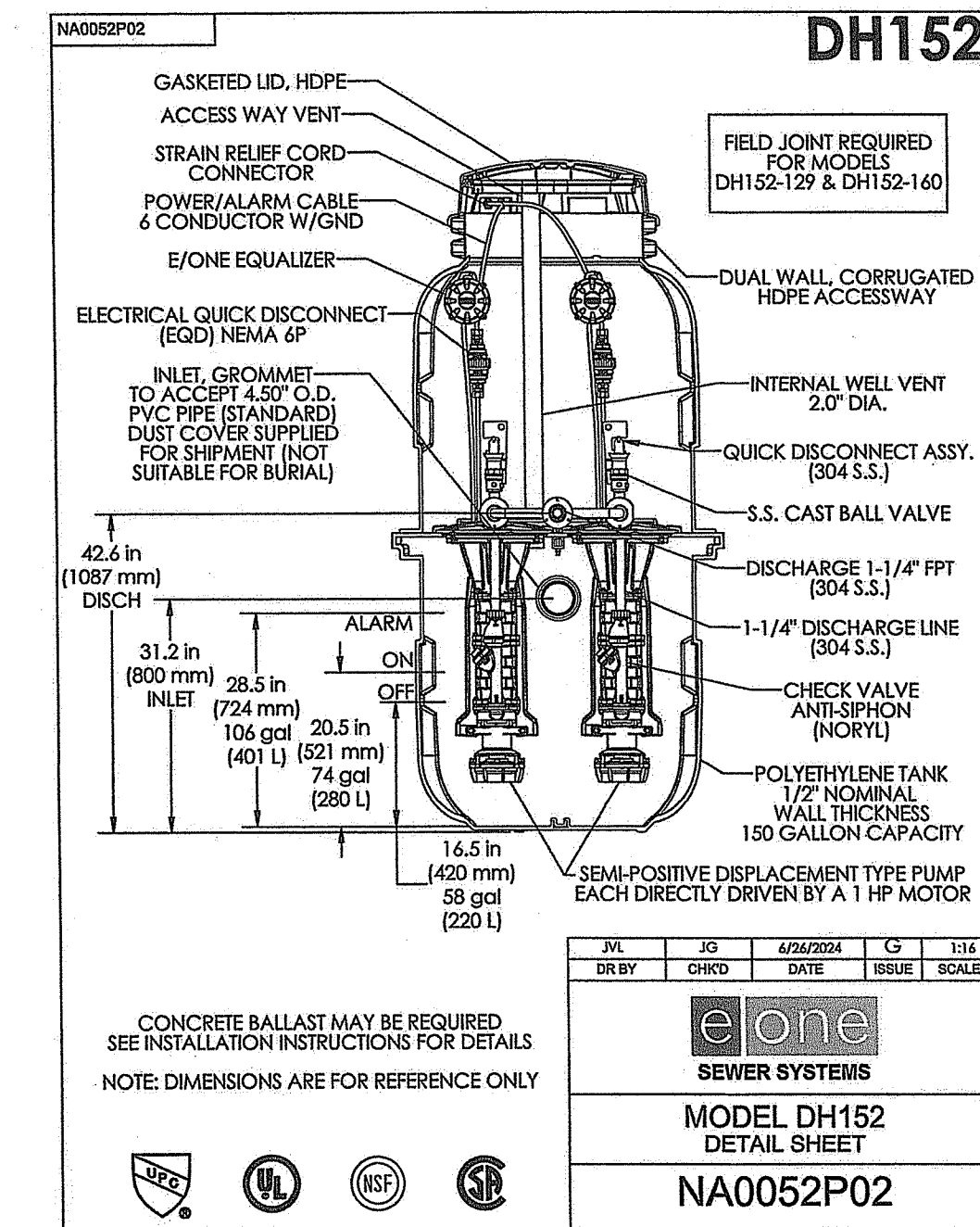
**Discharge**  
15 gpm at 0 psig (0.65 lps at 0 m)  
15 gpm at 40 psig (0.69 lps at 28 m)  
7.8 gpm at 80 psig (0.49 lps at 56 m)

**Accessories**

E-One requires that the Uni-Lateral, E-One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.



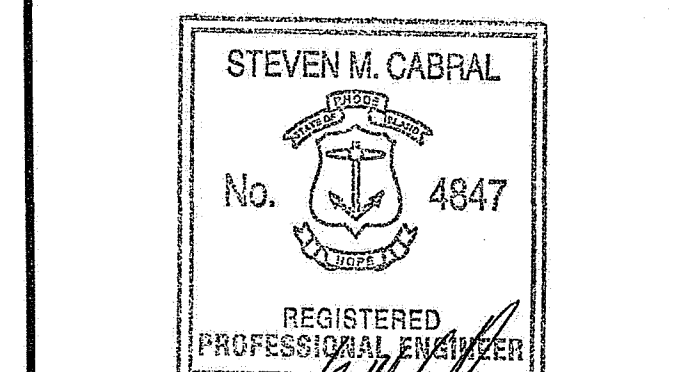
MODEL DH152  
 DETAIL SHEET  
 NA0052P02



**CROSSMAN ENGINEERING**

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OWNER:

PROJECT TITLE:  
**PROPOSED FIRE STATION #2 BUILDING ADDITION**  
 900 POINT JUDITH ROAD  
 NARRAGANSETT, RI 02882

PREPARED FOR:  
**TOWN OF NARRAGANSETT**  
 25 FIFTH AVENUE  
 NARRAGANSETT, RI 02882  
 DEC 24 2024  
 Office of Urban Resources

DRAWING TITLE:  
**MISCELLANEOUS DETAILS PLAN NO. 2**

DATE: FEBRUARY 7, 2024 SCALE: NO SCALE

DWG. NAME: 2802-07-DET2.dwg

REVISIONS

NUMBER	REMARKS	DATE
1	FIRE DEPT. COMMENTS	04/12/24
2	REVISED BLDG ADDITION	09/12/24
3	REVIEW COMMENTS	09/25/24
4	ADDENDUM NO. 1	10/25/24

DRAWING NUMBER:  
**C6**  
 SHEET: 7 OF 7

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF WATER RESOURCES  
 FRESHWATER WETLANDS PROGRAM  
 APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL  
 DATED: FEB 14 2025 FILE #: 24-0322  
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE  
*Nancy L. Freeman*