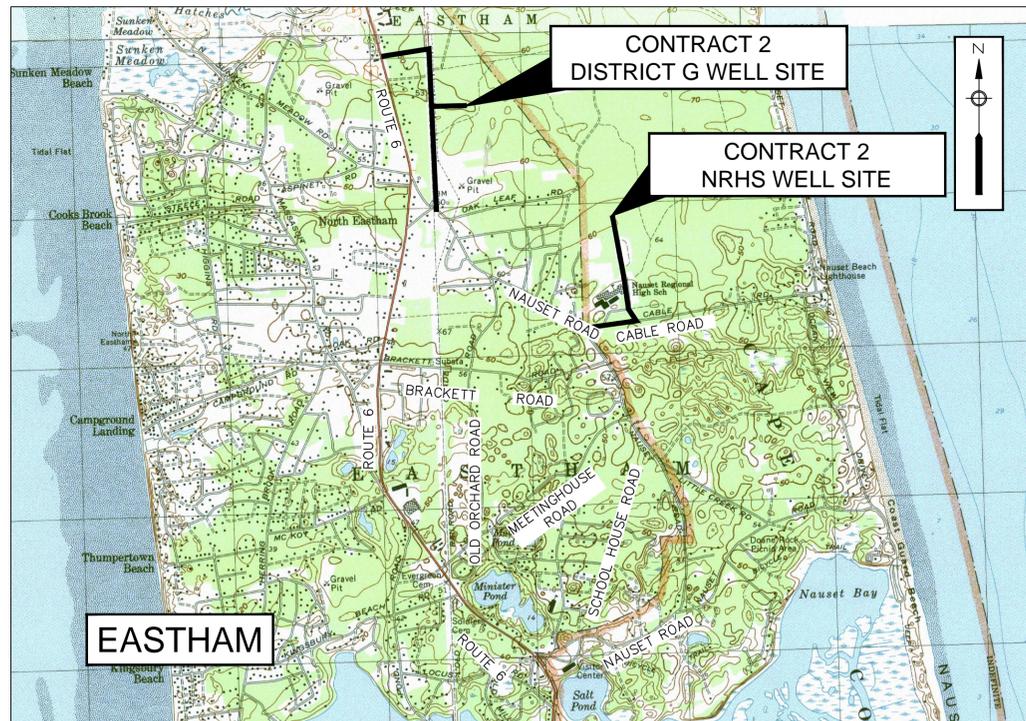


CONTRACT 2

WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING

EASTHAM, MASSACHUSETTS

DECEMBER 2014



VICINITY MAP
1" = 2,000'

LIST OF DRAWINGS

| | |
|---|--|
| G-1 GENERAL NOTES & LEGEND | CD-3 CONSTRUCTION DETAILS III |
| C-1 NRHS WELL STATION & ACCESS ROAD SITE PLAN | CD-4 CONSTRUCTION DETAILS IV |
| C-2 NRHS WATER MAIN | A-1 NRHS & DISTRICT G PRECAST BUILDING FLOOR PLAN AND SECTIONS |
| C-3 NRHS & CABLE ROAD WATER MAIN | M-1 NRHS & DISTRICT G WELL STATION LAYOUT |
| C-4 DISTRICT G WELL STATION & ACCESS ROAD SITE PLAN | M-2 MECHANICAL DETAILS |
| C-5 DISTRICT G ACCESS ROAD WATER MAIN | E-1 ELECTRICAL SHEET I |
| C-6 DISTRICT G TANK SITE CONNECTION & LINDA LANE WATER MAIN | E-2 ELECTRICAL SHEET II |
| CD-1 CONSTRUCTION DETAILS I | E-3 ELECTRICAL SHEET III |
| CD-2 CONSTRUCTION DETAILS II | I-1 NRHS & DISTRICT G WELL STATION INSTRUMENTATION & SCADA PLAN I |
| | I-2 NRHS & DISTRICT G WELL STATION INSTRUMENTATION & SCADA PLAN II |

TOWN ADMINISTRATOR

SHEILA VANDERHOEF

BOARD OF SELECTMEN

LINDA BURT
JOHN KNIGHT
MARTIN McDONALD
WALLACE ADAMS, II
ELIZABETH GAWRON

PUBLIC WORKS SUPERINTENDENT

NEIL ANDRES, P.E.

PROGRESS PRINT
NOT FOR CONSTRUCTION

GENERAL NOTES:

- BASE MAP INFORMATION FOUND ON THE DESIGN SHEETS ARE TAKEN FROM A GIS FLYOVER CONDUCTED IN 3/20/2012. PROPERTY LINE INFORMATION AND WETLAND LIMITS ARE TAKEN FROM MASSGIS AND IT IS APPROXIMATE ONLY. GAS INFORMATION IS TAKEN FROM NATIONAL GRID. COMMUNICATION UTILITY INFORMATION IS TAKEN FROM VERIZON. IT IS NOTED THAT ADDITIONAL UTILITY PIPES AND STRUCTURES MAY EXIST.
- IN AREAS WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO OCCUR WITHIN PRIVATE PROPERTY, PROPERTY LINE LOCATIONS ARE TO BE REVIEWED WITH THE TOWN PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
- NORTH DIRECTION SHOWN IS APPROXIMATE.
- ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
- DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSION AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- ALL EXISTING UTILITIES LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE TOWN, SHALL REPAIR ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
- IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE TOWN.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE AT NO COST TO OWNER, ALL DAMAGED ITEMS.
- CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, BERMS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
- ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE TOWN AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
- THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE TOWN. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREA.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS AND FOR BLASTING. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF HIS WORK.
- THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, IN AN APPROVED MANNER. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE STONE AROUND THE SUCTION END TO MINIMIZE DISCHARGE OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC.
- IF ENCOUNTERED, THE CONTRACTOR SHALL HANDLE, STORE, REMOVE, TRANSPORT AND LEGALLY DISPOSE OF ANY ASBESTOS-CEMENT IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. ASBESTOS NOTIFICATION FORMS SHALL BE COMPLETED AND SUBMITTED TO THE APPROPRIATE AGENCY/AGENCIES.

WATER MAIN NOTES:

- NEW WATER MAINS AND SERVICES SHALL BE INSTALLED AT THE MINIMUM DEPTH FROM FINISH GRADE TO TOP OF PIPE AS SHOWN ON THE DRAWINGS. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
- MINIMUM COVER OVER THE PROPOSED WATER MAIN AND APPURTENANCES SHALL BE 5'-0" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. ANY PIPE WITHOUT 4'-0" COVER REQUIRES INSULATION.
- TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR MEET EXISTING WATER MAINS.
- THE CONTRACTOR SHALL STAKE OUT ALL HYDRANT LOCATIONS AT LEAST 3 DAYS IN ADVANCE OF INSTALLATION. LOCATION OF ALL HYDRANTS SHALL BE VERIFIED BY THE FIRE DEPARTMENT, ENGINEER AND TOWN PRIOR TO DIGGING FOR INSTALLATION.
- ALL HYDRANT BRANCHES SHALL HAVE VALVES AS SHOWN ON THE HYDRANT DETAIL.
- ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG (OR EQUAL).
- ALL WATER MAIN CAPS WHICH WILL BE REMOVED IN SUBSEQUENT CONTRACTS SHALL BE MARKED WITH A VERTICAL OAK POST (OR EQUAL) APPROXIMATELY 18" BELOW FINISHED GRADE (EXCEPT WHERE WITHIN STATE HIGHWAY LAYOUT) AND MARKED WITH BLUE SPRAY PAINT.
- SERVICE TUBING SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL SATISFACTORY PRESSURE TEST AND DISINFECTION RESULTS.
- WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
- THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES OR HYDRANTS WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES OR HYDRANTS REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS.
- SOME WATER SERVICE CURB BOXES MAY NOT BE SHOWN ON THE DRAWINGS. THE ENGINEER WILL MARK THE LOCATION OF SUCH CURB BOXES, PROVIDED THE CONTRACTOR GIVES THE ENGINEER AT LEAST ONE WEEK ADVANCE NOTICE.
- OPEN TRENCHES MUST BE BACKFILLED AT THE END OF THE WORKDAY OR COVERED AND SECURED WITH STEEL PLATES, RAMPED AS APPROVED BY THE TOWN.
- THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE WITH THE RESIDENTS ALL WATER MAIN SHUT DOWNS 24 HOURS IN ADVANCE.
- CURB BOXES SHALL BE LOCATED AT THE PROPERTY LINE AND CONNECTED TO THE PROPOSED WATER MAIN AS SHOWN ON THE DRAWINGS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WATER SERVICE TUBING ON THE PRIVATE PROPERTY SIDE SHALL BE CAPPED AND STAKED 5'-0" FROM THE CURB BOX.
- CONCRETE THRUST BLOCKS AND "MEGA-LUG" (OR APPROVED EQUAL) MECHANICAL RESTRAINTS ARE REQUIRED AT ALL TEES, BENDS, PLUGS AND HYDRANTS.
- SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTIONS BETWEEN EXISTING AND NEW PIPES MAY NOT BE SHOWN IN DETAIL. FURNISH AND INSTALL ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND AS INDICATED ON THE CONTRACT DOCUMENTS.
- EXCEPT WHERE OTHERWISE DIRECTED, 12" MINIMUM CLEARANCE SHALL BE PROVIDED BETWEEN THE NEW MAIN AND OTHER UTILITIES WHERE THEY CROSS. WHERE NEW MAIN PASSES UNDER UTILITIES, IT SHALL CROSS WITHOUT THE USE OF BENDS UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL HYDRANT LATERALS SHALL CROSS UNDER EXISTING UTILITIES AND WATER MAINS. HYDRANT EXTENSIONS SHALL BE INSTALLED, AS NECESSARY, AT NO ADDITIONAL COST TO THE OWNER.

LEGEND:

| EXISTING | | PROPOSED | |
|----------|----------------------------------|----------|-----------------------|
| | HYDRANT | | WATER MAIN |
| | DI CAP | | HYDRANT |
| | REDUCER | | GATE VALVE |
| | WATER VALVE | | DI CAP |
| | WATER SHUTOFF | | COUPLING/SOLID SLEEVE |
| | CATCH BASIN (CB) | | REDUCER |
| | DRAIN MANHOLE (DMH) | | CURB STOP |
| | GAS GATE / GAS SHUTOFF | | FILTER SOCK |
| | EDGE OF STONE / SHELLS | | TEST PIT |
| | CAPE COD BERM (CCB) | | PRODUCTION WELL (TPW) |
| | EDGE OF PAVEMENT (EP) | | ELECTRICAL CONDUIT |
| | PROPERTY LINE | | PULL BOX |
| | FENCE | | HAND HOLE |
| AC | ASBESTOS CEMENT | | CHAIN LINK FENCE |
| CI | CAST IRON | | DRAIN PIPE |
| CM | CORRUGATED METAL | | DRAIN MAN HOLE |
| CP | CORRUGATED PLASTIC | | |
| CS | COATED STEEL | | |
| Cu | COPPER | | |
| DI | DUCTILE IRON | | |
| GAL | GALVANIZED IRON | | |
| PL | PLASTIC | | |
| PVC | POLYVINYL CHLORIDE | | |
| RC | REINFORCED CONCRETE | | |
| S | STEEL | | |
| HH | HAND HOLE | | |
| CCB | CAPE COD BERM | | |
| BBC | BITUMINOUS CONCRETE CURB | | |
| D | DRAIN | | |
| G | GAS | | |
| W | WATER | | |
| DTI | DEPTH TO INVERT | | |
| | UTILITY POLE (UP#) | | |
| | GUY WIRE / GUY POLE | | |
| | TELECOMMUNICATION MANHOLE | | |
| | ELECTRIC TRANSFORMER | | |
| | SEWER MANHOLE COVER | | |
| | DRAIN LINE | | |
| | ELECTRIC LINE | | |
| | GAS LINE | | |
| | COMMUNICATIONS LINE | | |
| | WATER MAIN | | |
| | STONEWALL | | |
| | RIVERFRONT AREA | | |
| | WETLANDS BUFFER ZONE | | |
| | FEMA 100-YEAR FLOOD LINE | | |
| | ESTIMATED/PRIORITY HABITAT LIMIT | | |
| | OVERHEAD WIRE | | |
| | EVERGREEN TREE | | |
| | DECIDUOUS TREE | | |
| | MAILBOX (MB) | | |
| | SIGN | | |
| | DENSE VEGETATION | | |
| | LIGHT VEGETATION | | |
| | PROPERTY CORNER | | |
| | LIGHT POLE | | |
| | LANDSCAPED AREA | | |
| | GUARD RAIL | | |
| | GRANITE BLOCK | | |
| | RIPRAP | | |
| | WETLAND | | |
| | WETLAND FLAG | | |
| | CONCRETE BOLLARD | | |
| | TELEPHONE PEDESTAL | | |
| | SIGN | | |
| | BUSH | | |
| | BOUND | | |

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\02 CONTRACT 2 - GENERAL NOTES.dwg Plot Date: Dec 04 2014 4:05pm



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| Scale | AS SHOWN |
| Date | DECEMBER 2014 |
| Job No. | 217-1401-02 |
| Designed by | TRG |
| Drawn by | TRG |
| Checked by | RJT |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

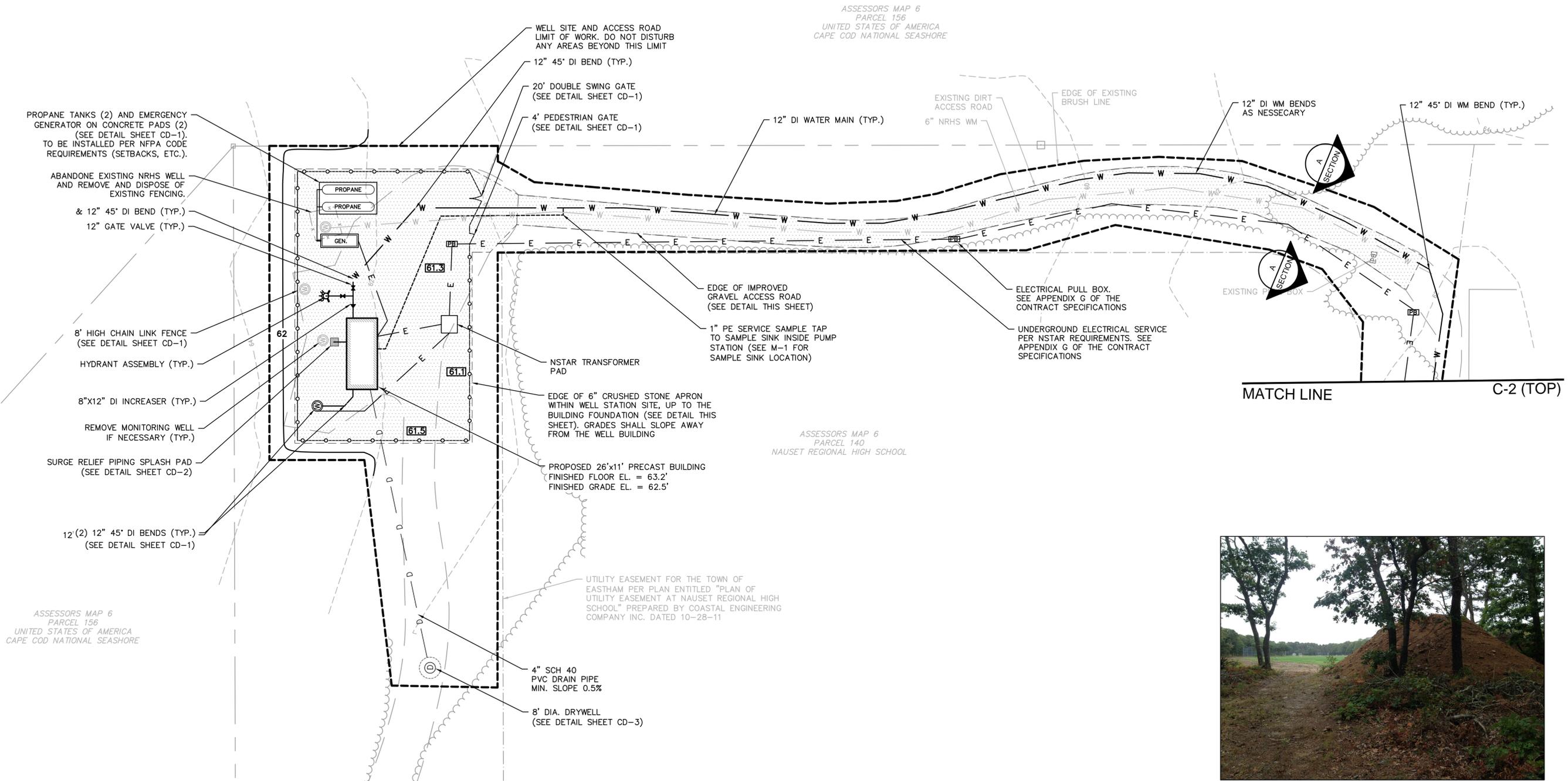
GENERAL NOTES & LEGEND

FOR REVIEW

Sheet No.

G-1

Drawing file: I:\Eastham\27\Phase 1 - Eastham Water System\27-1401\02 Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04 2014 6:01pm



ASSESSORS MAP 6
PARCEL 156
UNITED STATES OF AMERICA
CAPE COD NATIONAL SEASHORE

ASSESSORS MAP 6
PARCEL 156
UNITED STATES OF AMERICA
CAPE COD NATIONAL SEASHORE

ASSESSORS MAP 6
PARCEL 140
NAUSET REGIONAL HIGH SCHOOL

NRHS WELL STATION AND ACCESS ROAD SITE PLAN
SCALE: 1"=20'

**SECTION A-A
EXISTING NRHS SITE**
SCALE: N.T.S.

**SECTION B-B
EXISTING NRHS ACCESS ROAD**
SCALE: N.T.S.



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| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

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CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

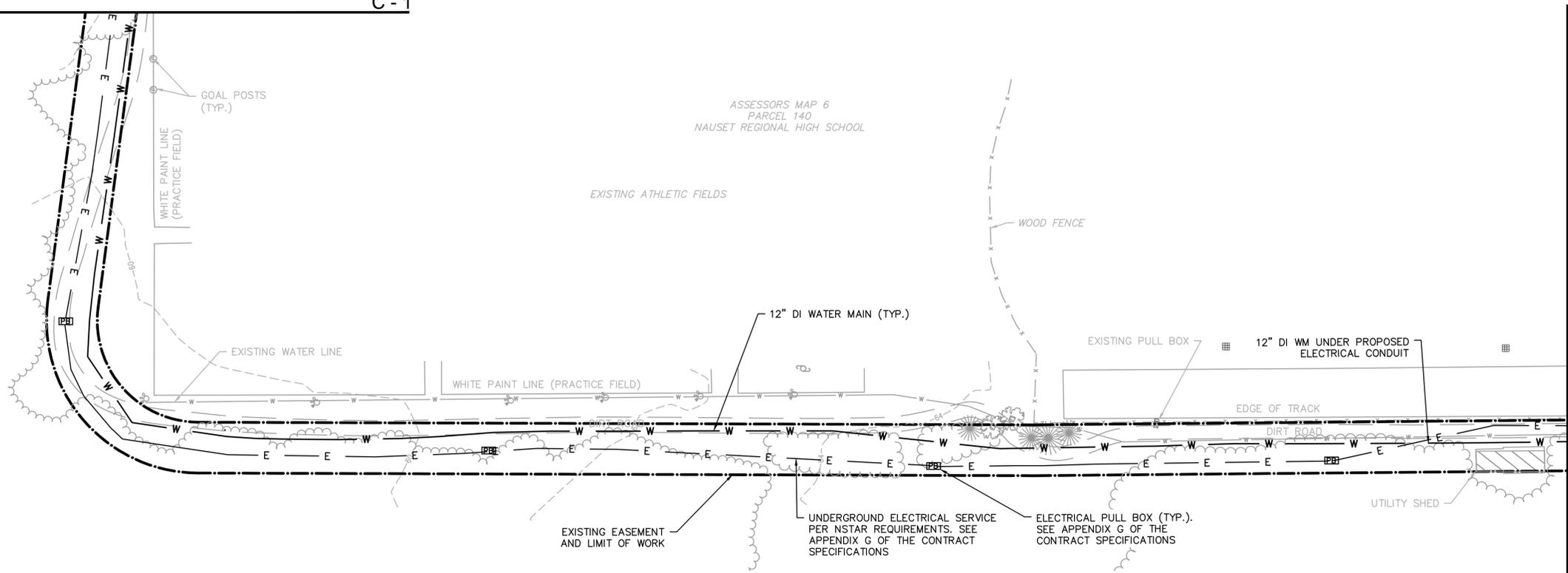
NRHS WELL STATION AND ACCESS ROAD
SITE PLAN

FOR REVIEW

Sheet No.
C-1

MATCH LINE

C - 1



MATCH LINE
C - 2 (BOTTOM)

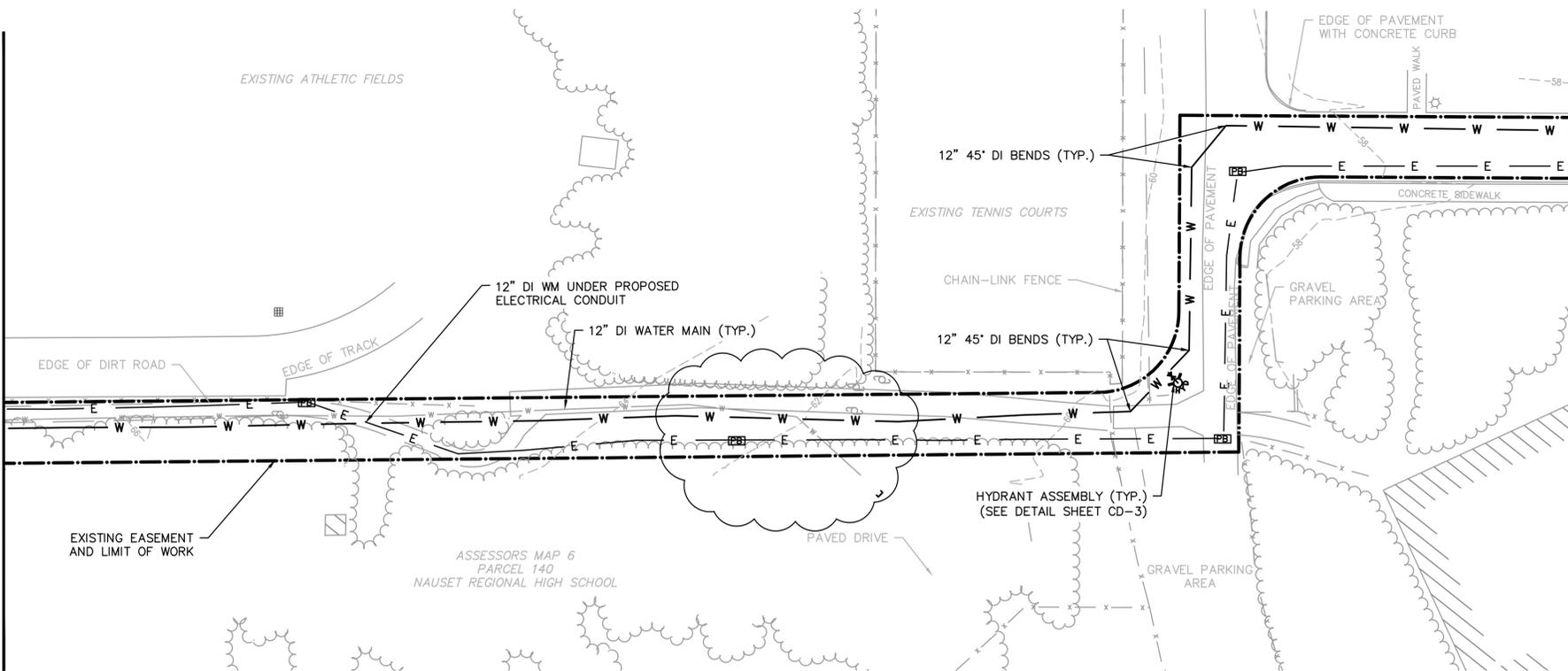
PLAN

SCALE: 1"=40'



C - 2 (TOP)

MATCH LINE



C - 3 (TOP)

MATCH LINE

PLAN

SCALE: 1"=40'

Drawing file: I:\Eastham\Water\System\217-1401-02\Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL\2014.12.03.dwg Plot Date: Dec 04, 2014 6:07pm



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A partnership for engineering solutions.

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| Scale | 1"=40' |
| Date | DECEMBER 2014 |
| Job No. | 217-1401.02 |
| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

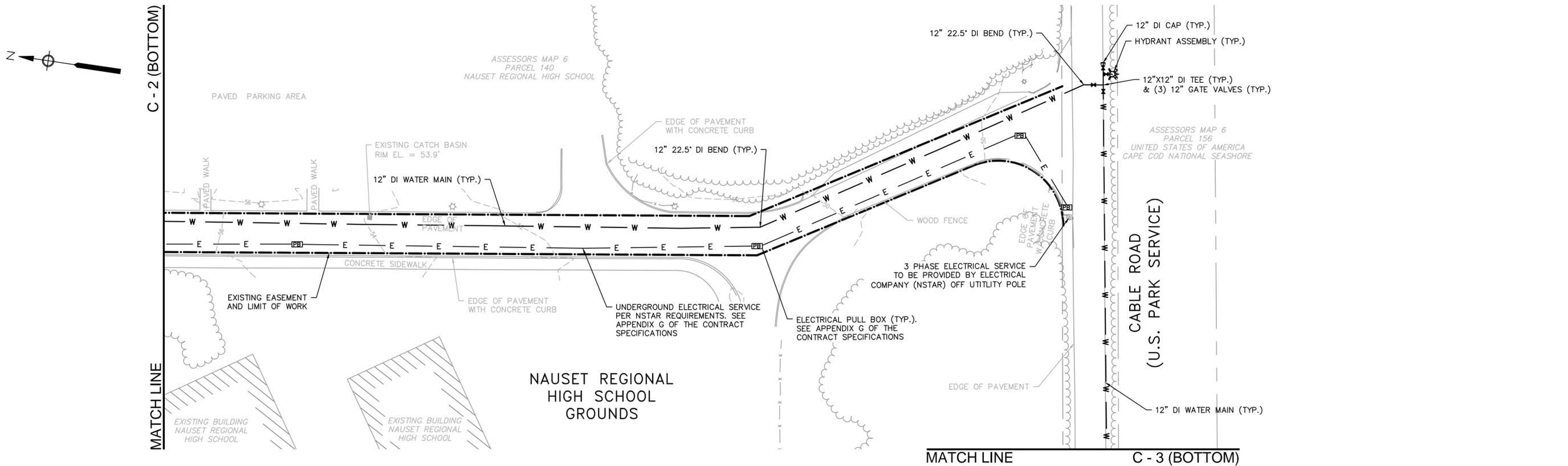
CONTRACT 2
 WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
 EASTHAM, MASSACHUSETTS

NRHS
 WATER MAIN

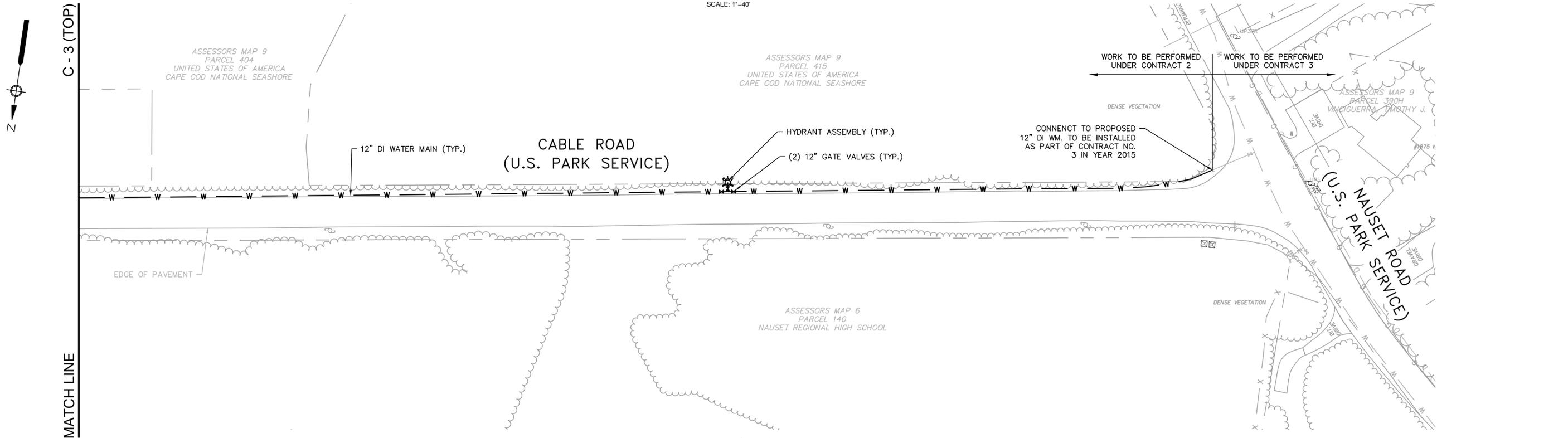
FOR REVIEW
 Sheet No.

C-2

Drawing file: C:\temp\pdp\publish_266103 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04 2014 6:20pm



PLAN
SCALE: 1"=40'



PLAN
SCALE: 1"=40'



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| Scale | AS NOTED |
| Date | DECEMBER 2014 |
| Job No. | 217-1401.02 |
| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

NRHS & CABLE ROAD
WATER MAIN

FOR REVIEW

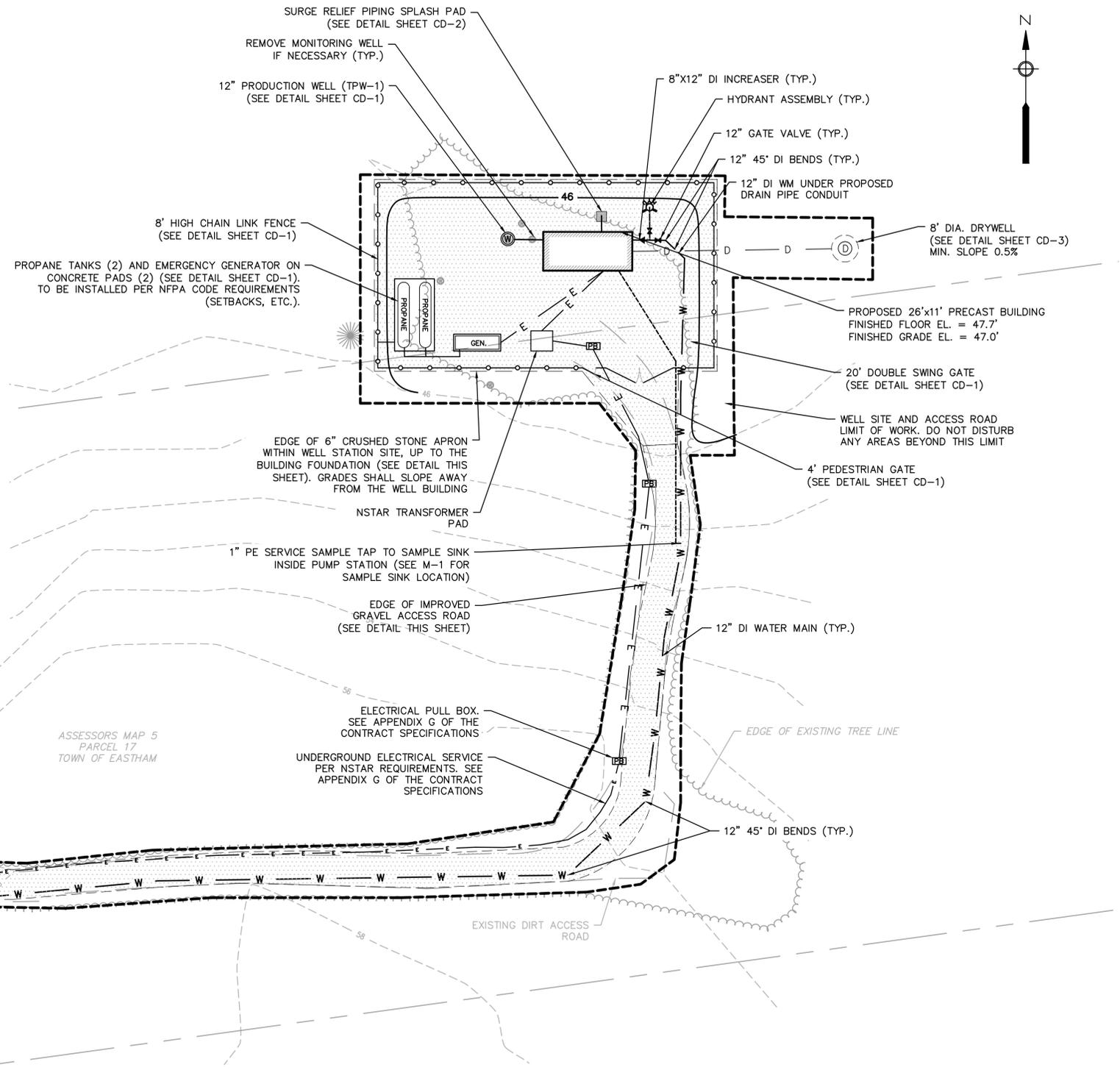
Sheet No.

C-3



SECTION A-A
EXISTING DISTRICT G SITE
 SCALE: N.T.S.

SECTION B-B
EXISTING DISTRICT G ACCESS ROAD
 SCALE: N.T.S.



DISTRICT G WELL STATION AND ACCESS ROAD SITE PLAN
 SCALE: 1"=20'

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:07pm



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| Scale | 1"=20' |
| Date | DECEMBER 2014 |
| Job No. | 217-1401.02 |
| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

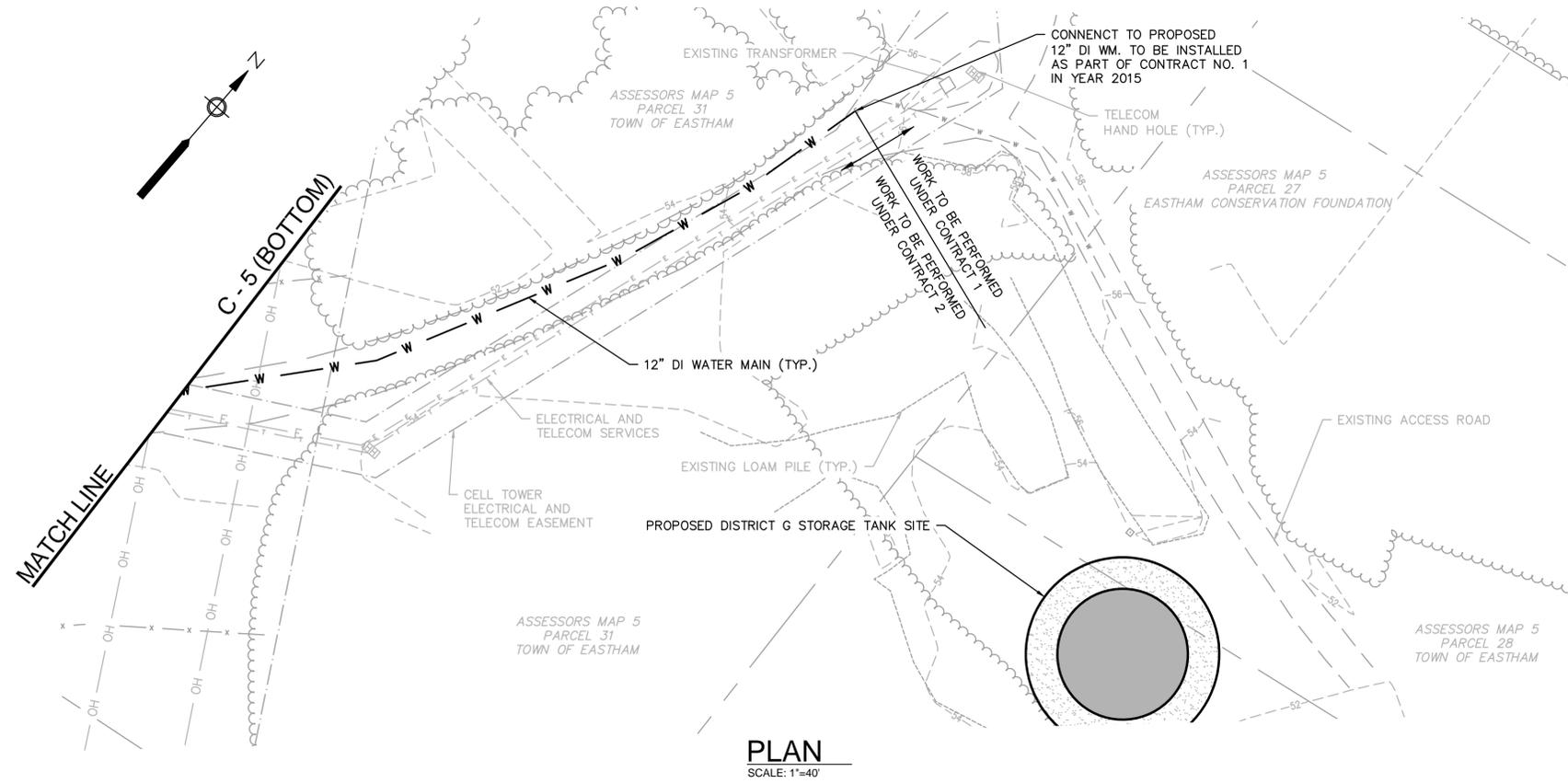
CONTRACT 2
 WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
 EASTHAM, MASSACHUSETTS

**DISTRICT G WELL STATION AND ACCESS ROAD
 SITE PLAN**

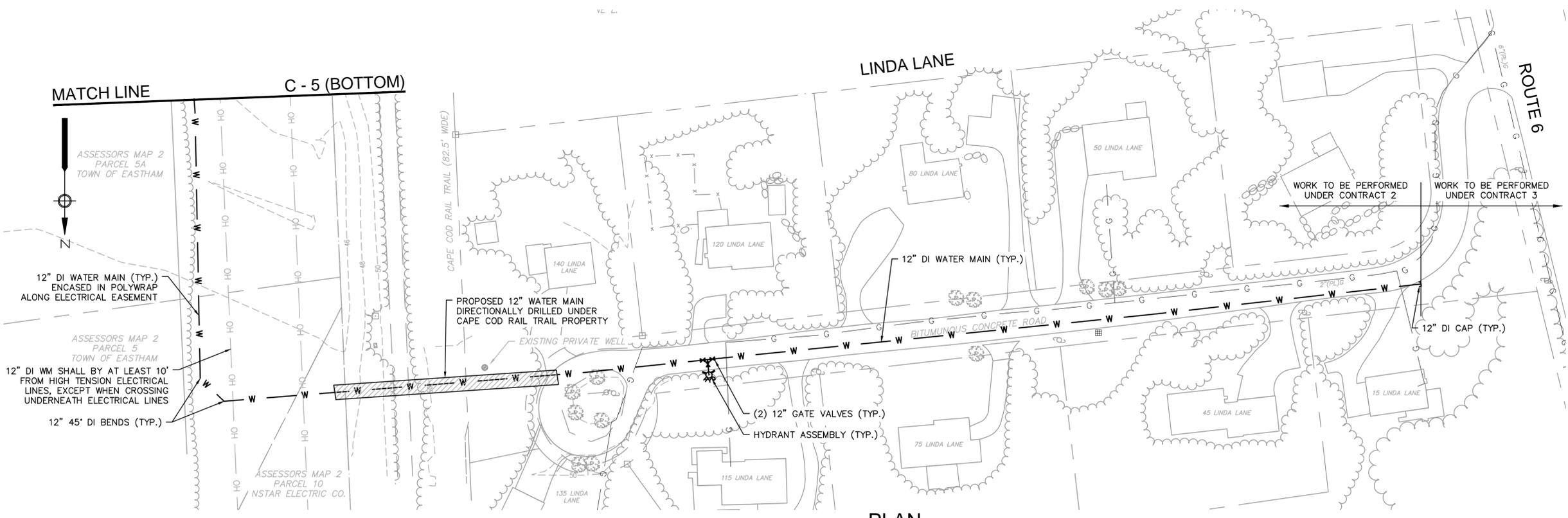
FOR REVIEW

Sheet No.

C-4



PLAN
SCALE: 1"=40'



PLAN
SCALE: 1"=40'

Drawing file: I:\Eastham\Water System\217-1401-02\Contract 2\Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:02am



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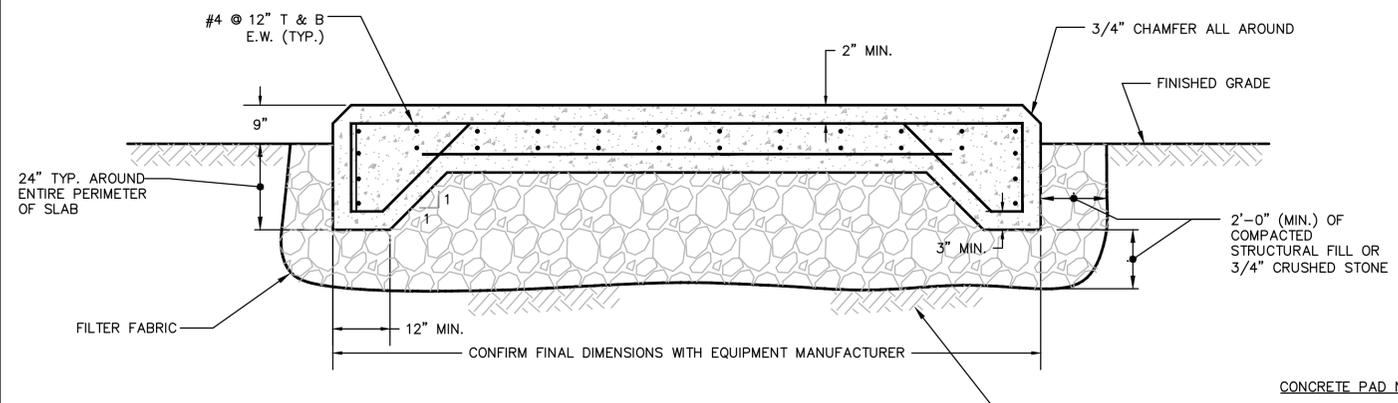
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| Job No. | 217-1401.02 |
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| Checked by | RJP |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

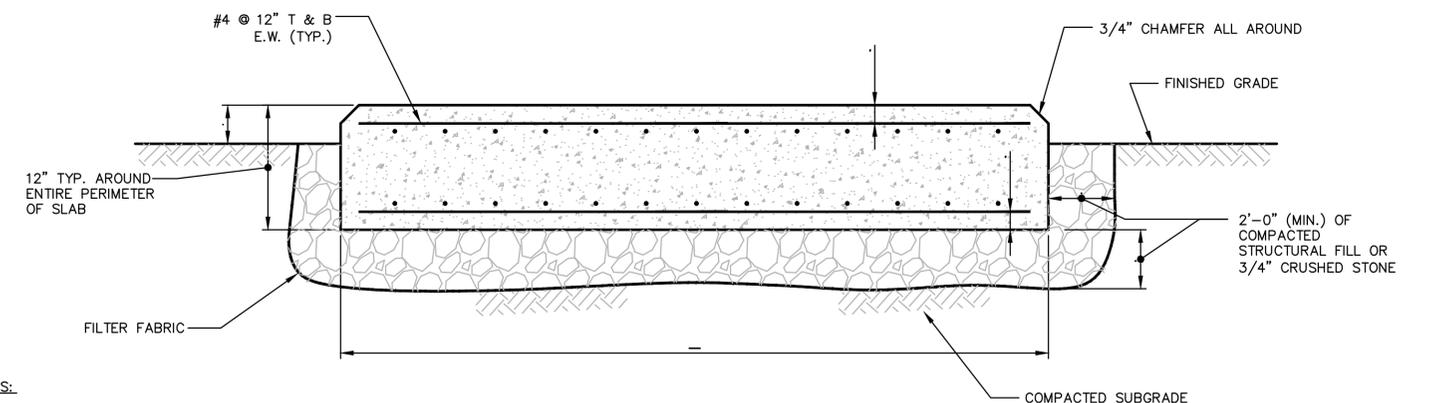
CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS
DISTRICT G STORAGE TANK SITE CONNECTION & LINDA LANE WATER MAIN

FOR REVIEW
Sheet No.
C-6

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Mill Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:02am

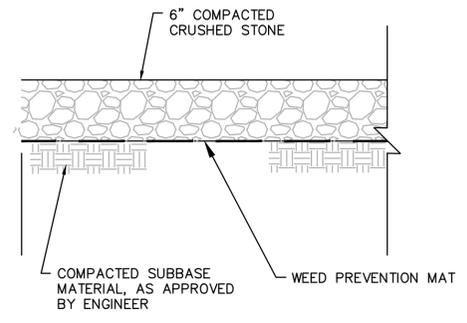


CONCRETE PAD FOR GENERATOR DETAIL
SCALE: N.T.S.

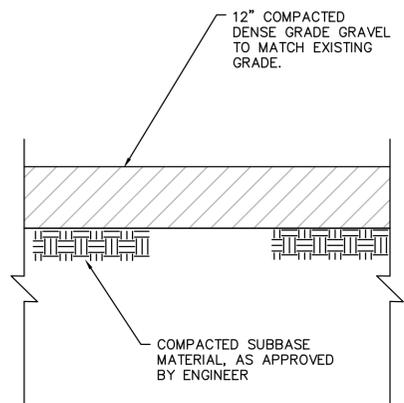


CONCRETE PAD FOR PROPANE TANKS DETAIL
SCALE: N.T.S.

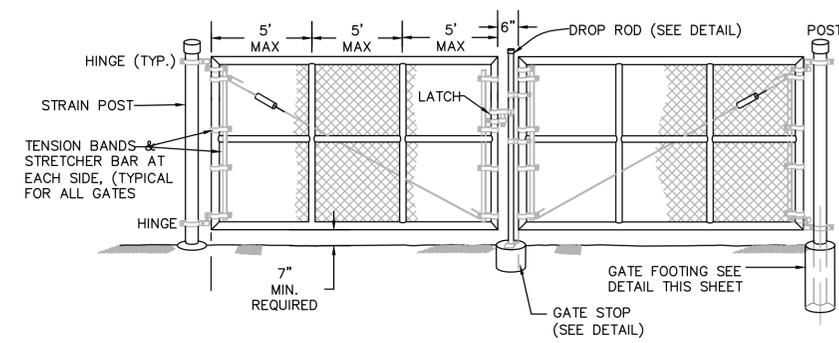
- CONCRETE PAD NOTES:**
1. GENERATOR AND TANK SUPPLIERS SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND FINAL CONCRETE PAD DIMENSIONS.
 2. CONCRETE PAD THICKNESS MAY VARY DEPENDING ON ANCHORING SYSTEM REQUIREMENTS.



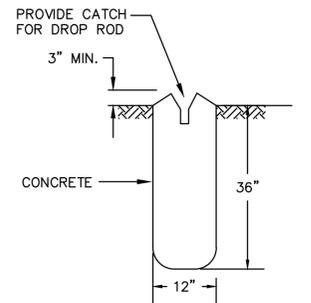
CRUSHED STONE APRON DETAIL
SCALE: N.T.S.



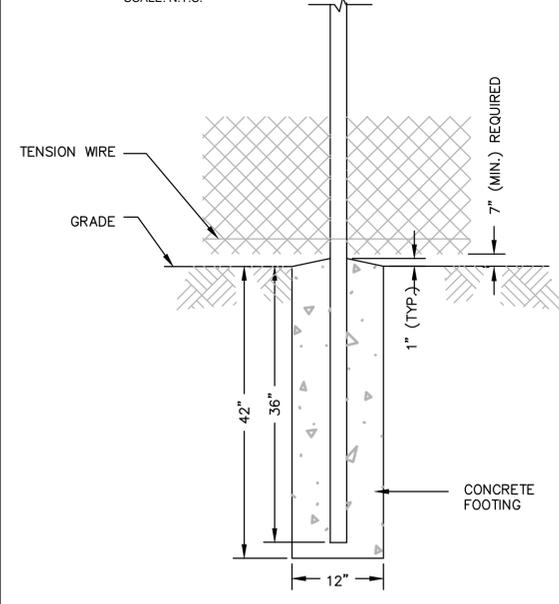
GRAVEL ACCESS ROAD DETAIL
SCALE: N.T.S.



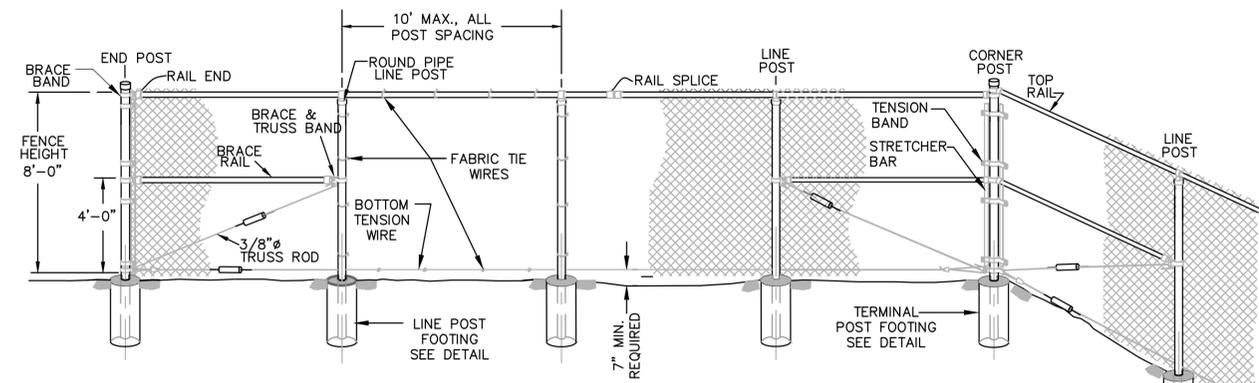
DOUBLE SWING GATE DETAIL
SCALE: N.T.S.



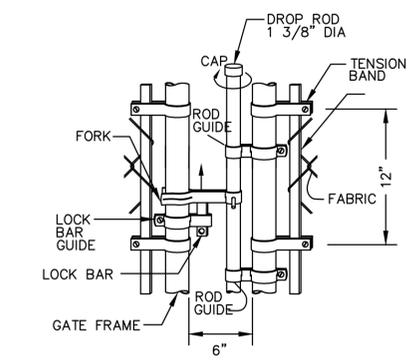
GATE STOP DETAIL
SCALE: N.T.S.



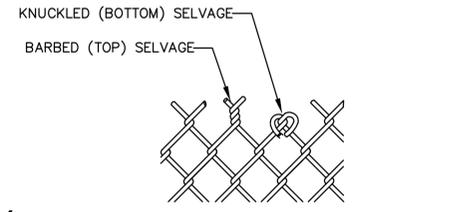
CHAIN LINK FENCE FOOTING DETAIL
SCALE: N.T.S.



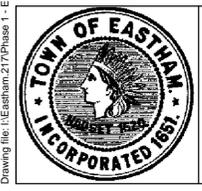
CHAIN-LINK FENCE DETAIL
SCALE: N.T.S.



TYPICAL DROP ROD ASSEMBLY
SCALE: N.T.S.



WIRE SELVAGE DETAIL
SCALE: N.T.S.



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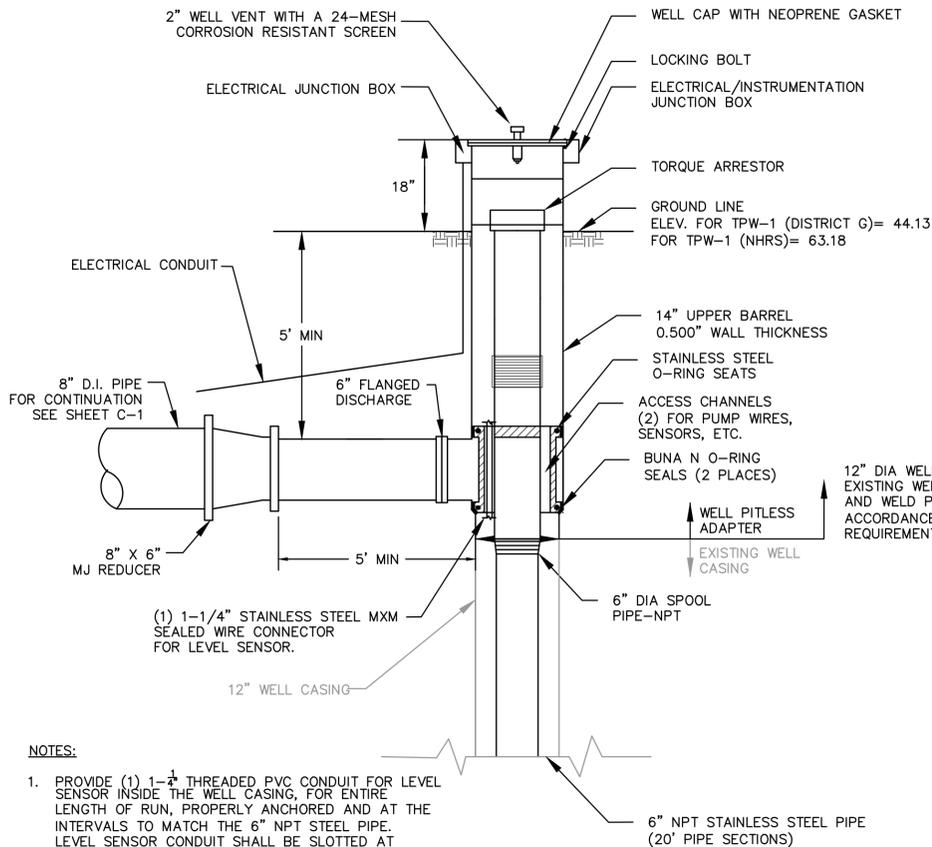
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| Job No. | 217-1401.02 |
| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

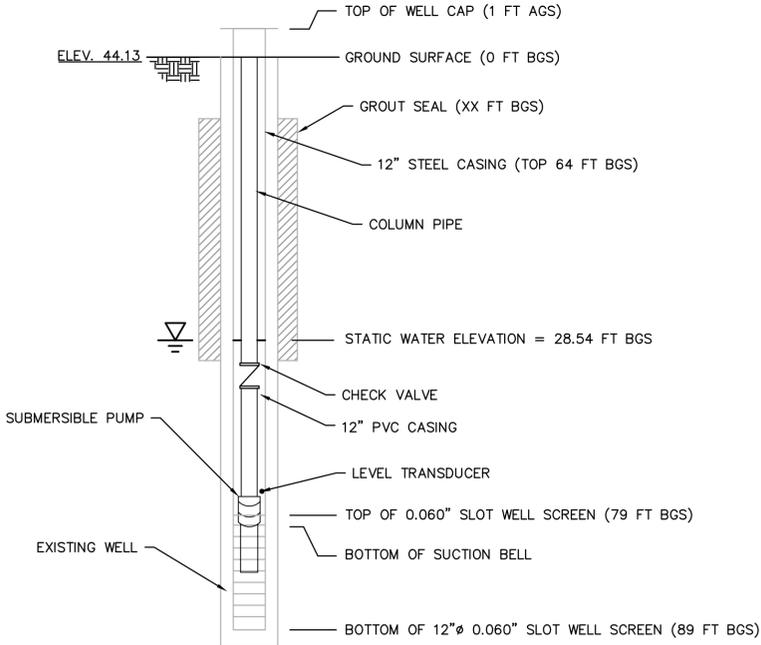
CONSTRUCTION DETAILS I

FOR REVIEW
Sheet No.
CD-1

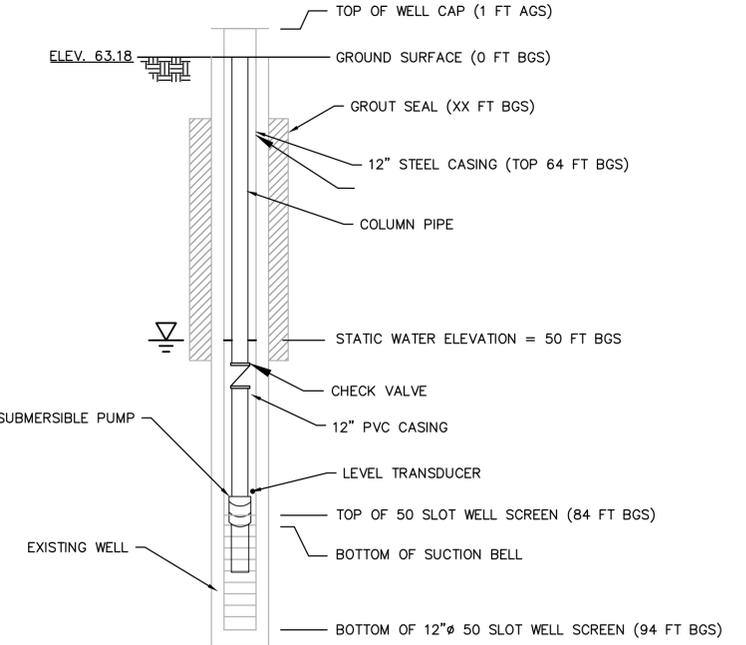
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- NOTES:**
- PROVIDE (1) 1-1/4" THREADED PVC CONDUIT FOR LEVEL SENSOR INSIDE THE WELL CASING. FOR ENTIRE LENGTH OF RUN, PROPERLY ANCHORED AND AT THE INTERVALS TO MATCH THE 6" NPT STEEL PIPE. LEVEL SENSOR CONDUIT SHALL BE SLOTTED AT BOTTOM OF WELL.
 - FASTENERS SHALL BE PROVIDED FOR SUITABLE ANCHORAGE OF WELL PUMP POWER CABLES TO PIPING COLUMN.



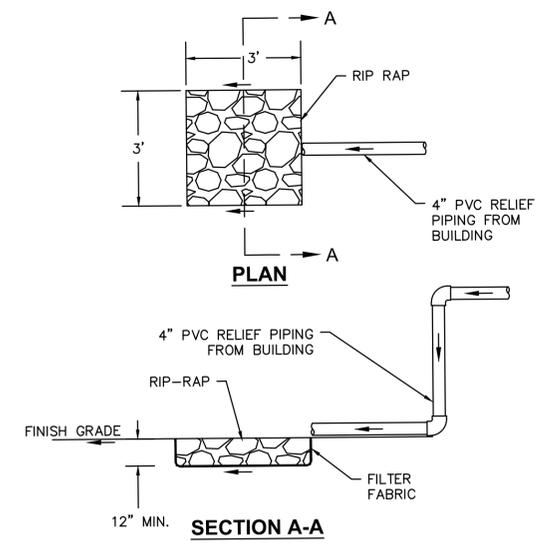
**DISTRICT G
WELL TPW-1**



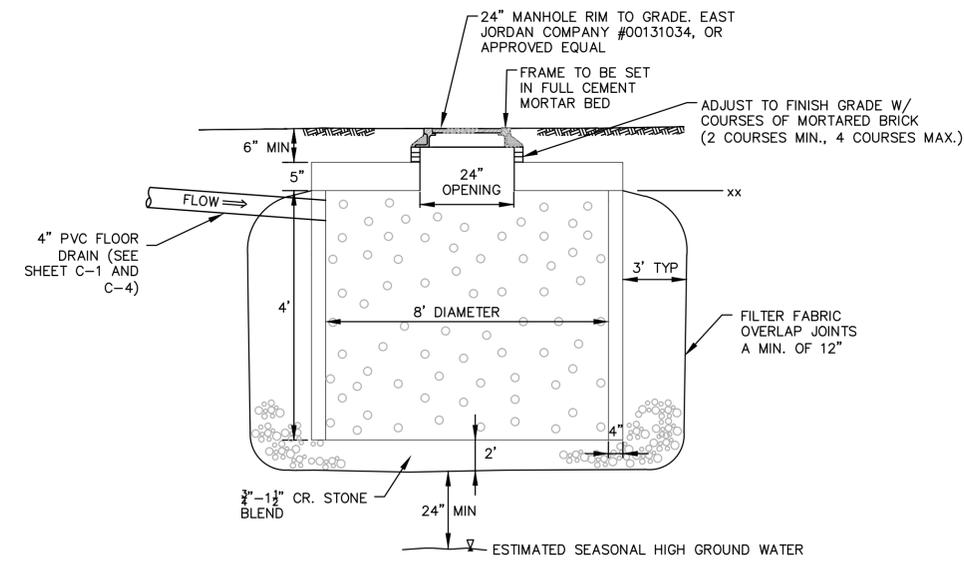
**NRHS
WELL TPW-1**

- NOTES:**
- DISINFECT WELL AFTER PUMP AND PITLESS ADAPTER INSTALLATION AS REQUIRED BY MASS DEP.
 - BGS = BELOW GROUND SURFACE.

PITLESS ADAPTER DETAIL
SCALE: N.T.S.



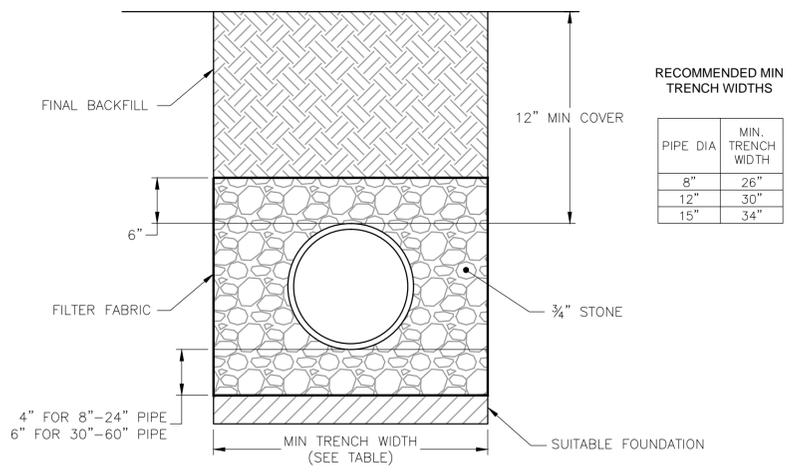
SURGE RELIEF AND SPLASH PAD DETAIL
SCALE: N.T.S.



- NOTES:**
- NO BOTTOM (4" WALLS)
 - CONCRETE MINIMUM STRENGTH: 4,000 P.S.I. @ 28 DAYS
 - REINFORCING GRADE 60
 - DESIGN LOADING: H25
 - USE MBO PRECAST, INC. 8' DIA. LEACHING PIT OR EQUAL

DRY WELL DETAIL
SCALE: N.T.S.

WELL LOG AND SETTINGS
SCALE: N.T.S.



- NOTES:**
- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
 - 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 ENGINEER.

**TYPICAL TRENCH DETAIL
FOR CORRUGATED PLASTIC PIPE**
SCALE: N.T.S.

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:02am



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| Approved by | PCM |

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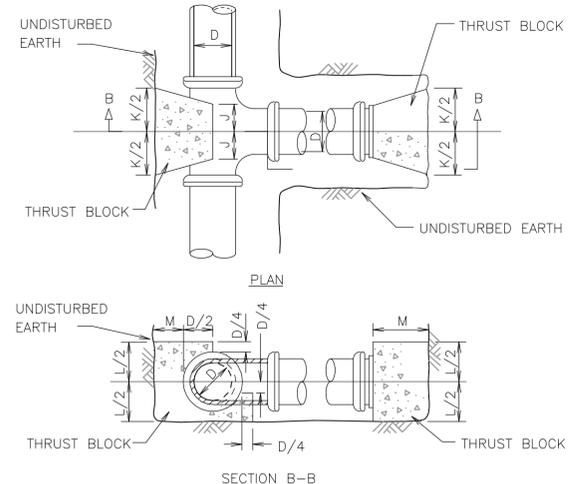
CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

CONSTRUCTION DETAILS II

FOR REVIEW

Sheet No.

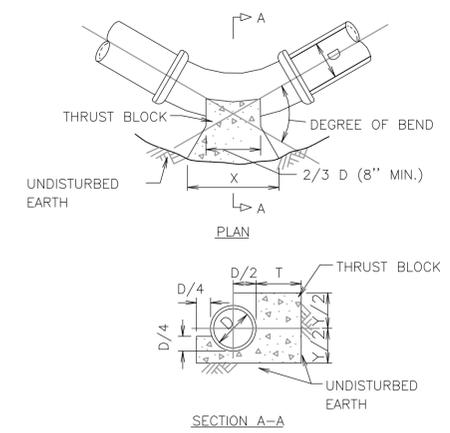
CD-2



- NOTES :**
1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS (CLASS 'A' CONCRETE).
 2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 PSF AND TOTAL PRESSURE OF 250 PSI. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
 3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

| TABLE OF DIMENSIONS | | | | | | | | | | |
|---------------------|----|----|----|----|----|----|----|--|--|--|
| D (in.) | 4 | 6 | 8 | 10 | 12 | 14 | 16 | | | |
| J (in.) | 6 | 6 | 7 | 9 | 10 | 12 | 22 | | | |
| K (in.) | 16 | 16 | 20 | 26 | 32 | 36 | 64 | | | |
| L (in.) | 16 | 16 | 21 | 24 | 29 | 34 | 61 | | | |
| M (in.) | 11 | 11 | 14 | 16 | 19 | 22 | 39 | | | |

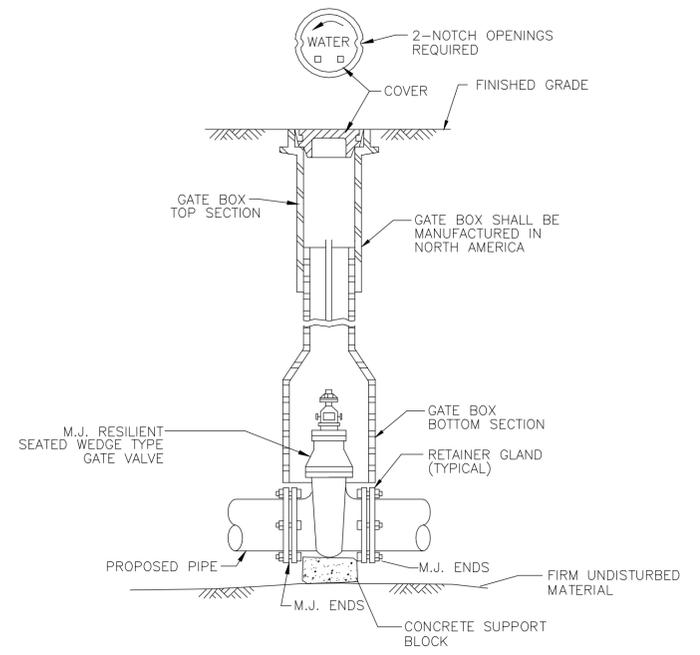
CONCRETE THRUST BLOCK DETAIL AT TEE / PLUG
SCALE: N.T.S.



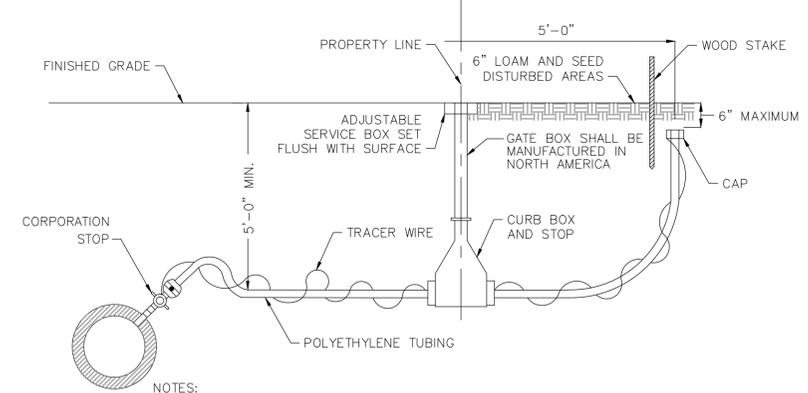
- NOTES:**
1. ALL CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS (CLASS "A" CONCRETE)
 2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 P.S.F. AND TOTAL PRESSURE OF 250 P.S.I. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
 3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

| TABLE OF DIMENSIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|----------|----|----|----|----------|----|-----|----|--------------|----|----|----|--------------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| DIMENSION | 90° BEND | | | | 45° BEND | | | | 22 1/2° BEND | | | | 11 1/4° BEND | | | | | | | | | | | | | | |
| D (in.) | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 4 | 6 | 8 | 10 | 12 | |
| X (in.) | 35 | 35 | 50 | 56 | 72 | 80 | 142 | 24 | 24 | 35 | 45 | 51 | 60 | 107 | 28 | 28 | 30 | 32 | 37 | 42 | 74 | 12 | 12 | 19 | 21 | 27 | 33 |
| Y (in.) | 20 | 20 | 24 | 32 | 35 | 40 | 71 | 16 | 16 | 19 | 21 | 27 | 33 | 59 | 13 | 13 | 13 | 16 | 19 | 22 | 39 | 8 | 8 | 9 | 12 | 13 | 16 |
| T (in.) | 11 | 11 | 14 | 16 | 19 | 22 | 39 | 11 | 11 | 14 | 16 | 19 | 22 | 39 | 11 | 11 | 13 | 16 | 19 | 22 | 39 | 11 | 11 | 13 | 16 | 19 | 22 |

CONCRETE THRUST BLOCK DETAIL AT BEND
SCALE: N.T.S.

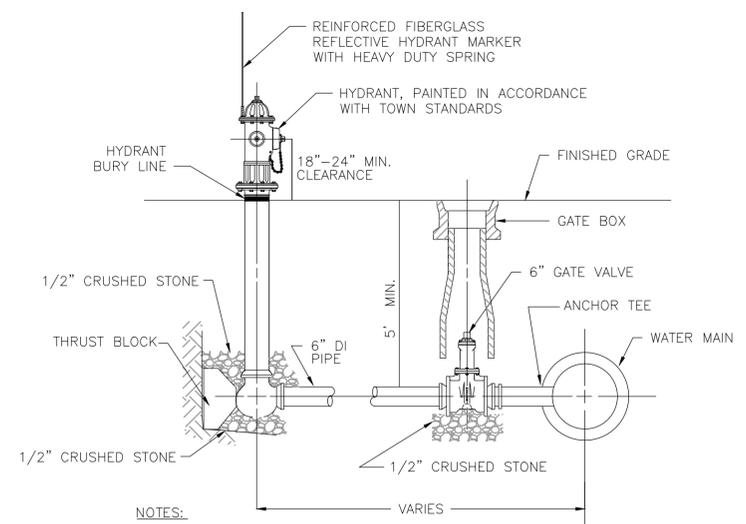


GATE VALVE AND VALVE BOX DETAIL
SCALE: N.T.S.



- NOTES:**
1. ALL JOINTS SHALL BE COMPRESSION TYPE.
 2. POLYETHYLENE TUBING SHALL BE BACKFILLED WITH SAND BY HAND TO 1-FOOT ABOVE TUBING.
 3. CORPORATION STOPS LARGER THAN ONE INCH SHALL HAVE A SADDLE.
 4. WATER SERVICES SHALL BE INSULATED IN AREAS WHERE CONNECTION TO EXISTING WATER SERVICE IS LESS THAN 4 FEET.
 5. ALL WATER SERVICE PLUMBING MATERIALS SHALL BE "LEAD FREE" IN ACCORDANCE WITH SECTION 1417 OF THE SAFE DRINKING WATER ACT AND SECTION 9 OF NSF STANDARD 61.

TYPICAL SERVICE CONNECTION DUCTILE IRON WATER MAINS
SCALE: N.T.S.



- NOTES:**
1. ALL HYDRANT, VALVE AND TEE JOINTS TO BE RESTRAINED MECHANICAL JOINTS.
 2. DEPTH OF HYDRANT BURY SHALL SUIT INSTALLED DEPTH OF COVER OVER WATER MAIN. INSTALL RISERS AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

FIRE HYDRANT ASSEMBLY DETAIL
SCALE: N.T.S.

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:02pm



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| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

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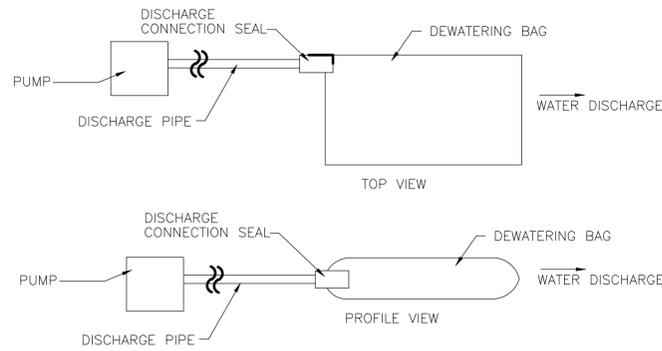
CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

CONSTRUCTION DETAILS III

FOR REVIEW

Sheet No.

CD-3

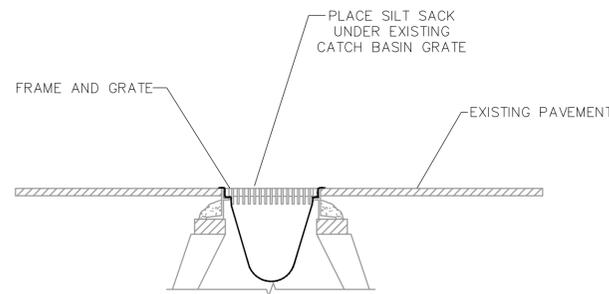


NOTES:

1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

DEWATERING BAGS

SCALE: N.T.S.

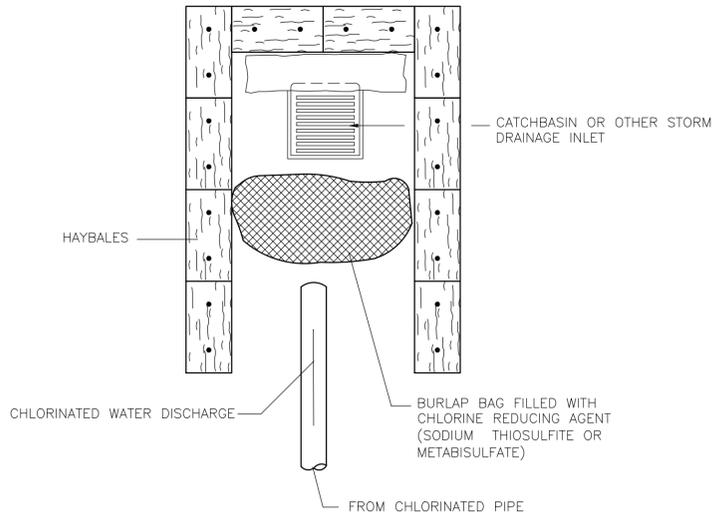


NOTES:

1. SILT SACKS SHALL BE INSPECTED WEEKLY AND ACCUMULATED SILT REMOVED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.
2. SILT SACK AS MANUFACTURED BY ACF ENVIRONMENTAL (800-448-3636) OR APPROVED EQUAL.

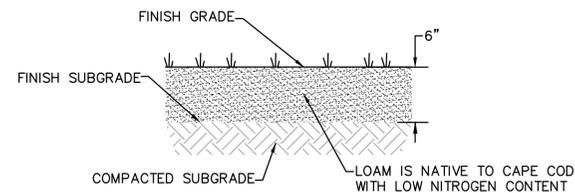
SEDIMENTATION CONTROL AT CATCH BASINS SILT SACKS

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DECHLORINATION DETAIL

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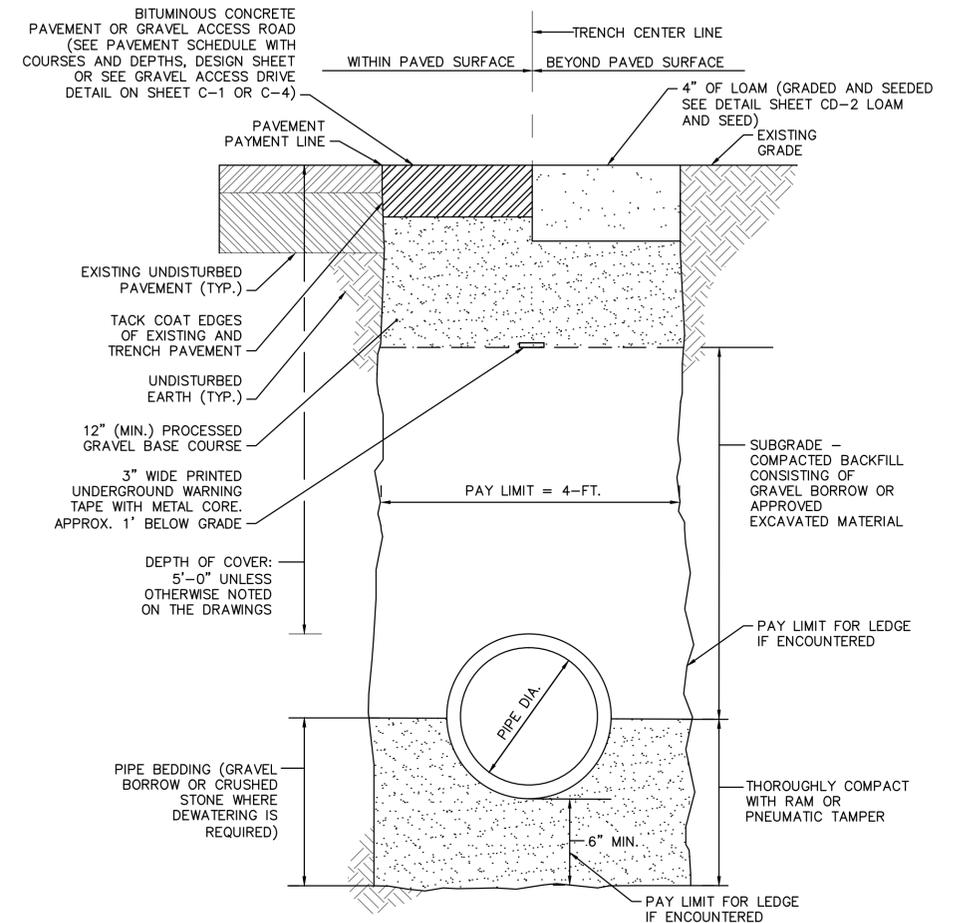


NOTE:

1. SEED MIX TO BE NEW ENGLAND CONSERVATION SEED MIX, FREE OF FERTILIZERS.
2. INSTALL CURLEX CL EROSION CONTROL BLANKET AS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY (OR APPROVED EQUAL) ON ALL LOAM AND SEEDED SLOPES 3:1 OR STEEPER.

TYPICAL LOAM AND SEED

SCALE: N.T.S.



SEE STANDARD PAVEMENT NOTES (THIS SHEET)
SEE PAVEMENT SCHEDULE SHEET G-2

WATER MAIN TRENCH DETAIL

SCALE: N.T.S.

Drawing file: I:\Eastham 217\Phase 1 - Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\03 CONTRACT 2 - CIVIL 2014 12 03.dwg Plot Date: Dec 04, 2014 6:02am



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CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

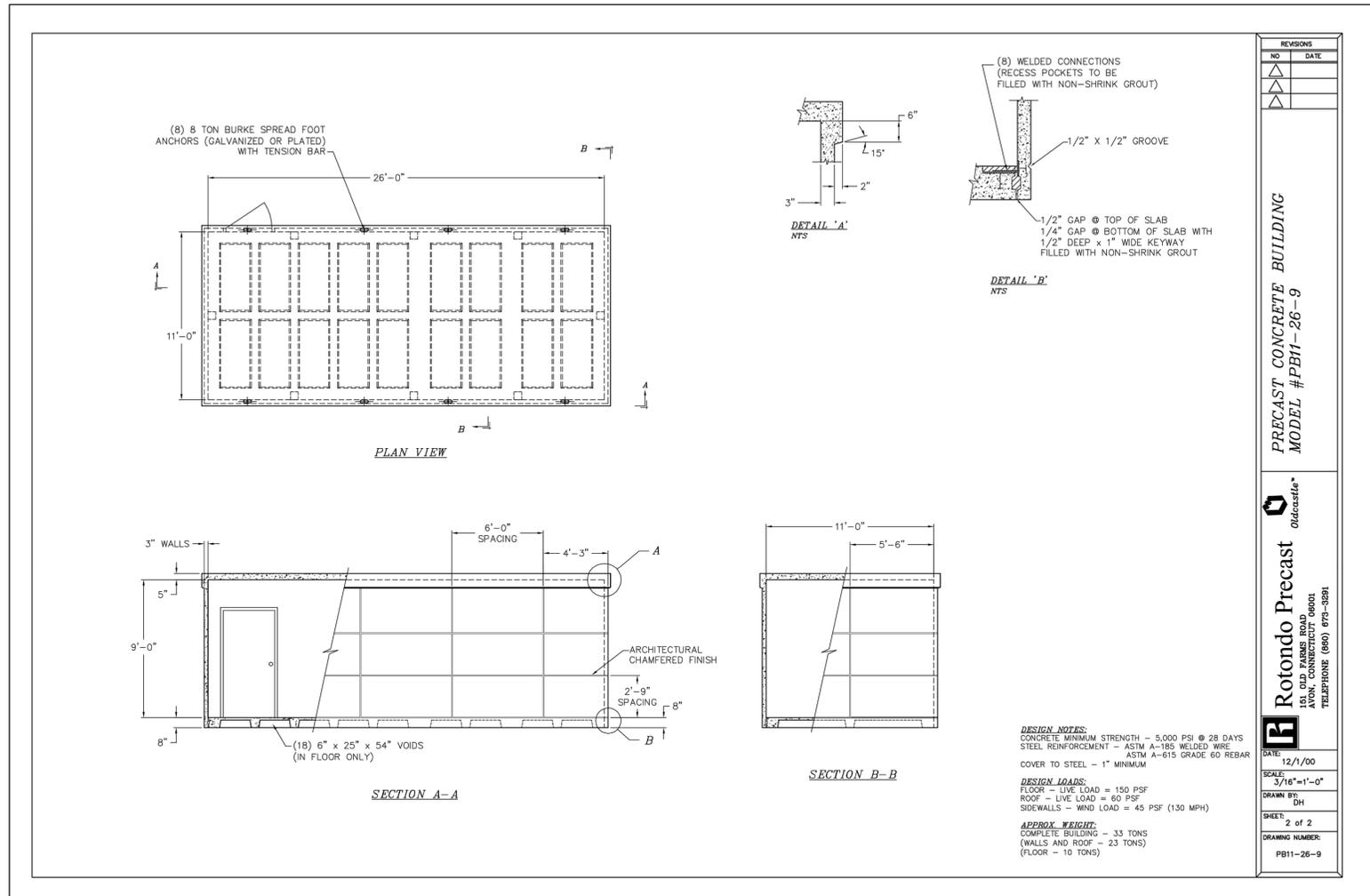
CONSTRUCTION DETAILS IV

FOR REVIEW

Sheet No.

CD-4

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\A-1-Prefabricated Building.dwg Plot Date: Dec 04, 2014 4:34pm



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| Drawn by | RJP |
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| Approved by | PCM |

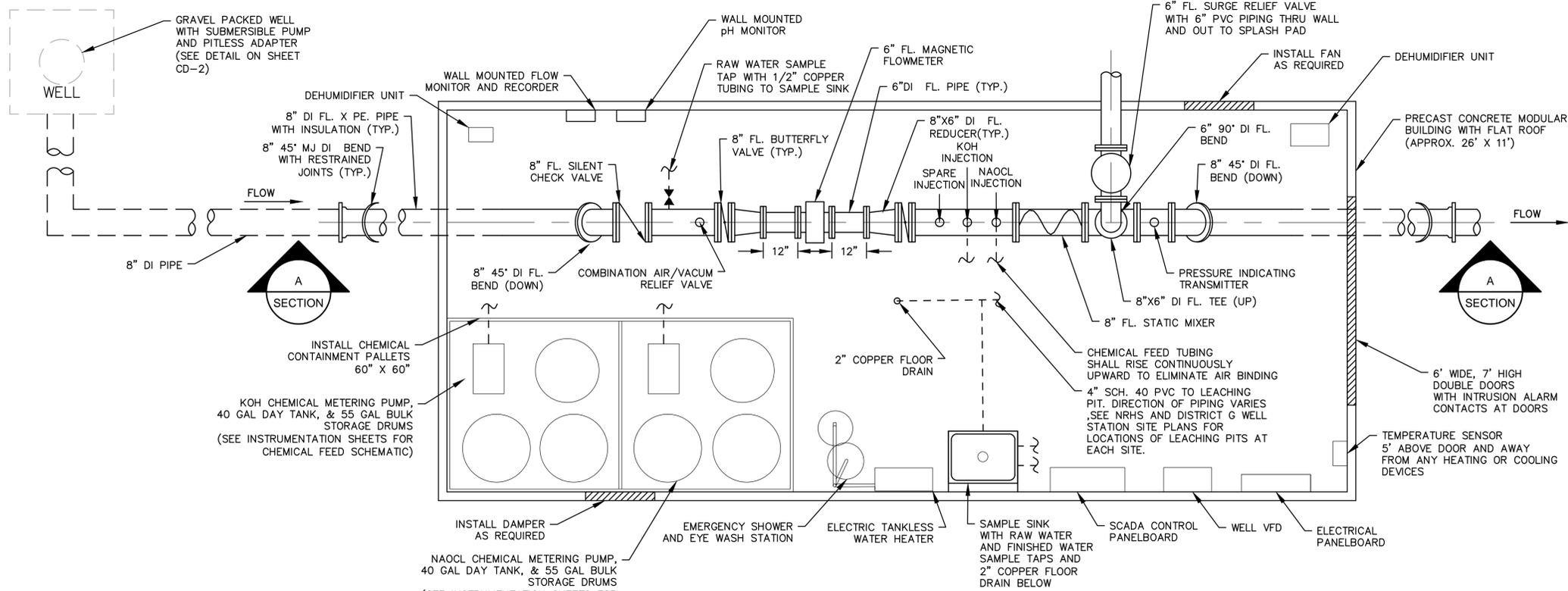
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CONTRACT 2
 WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
 EASTHAM, MASSACHUSETTS

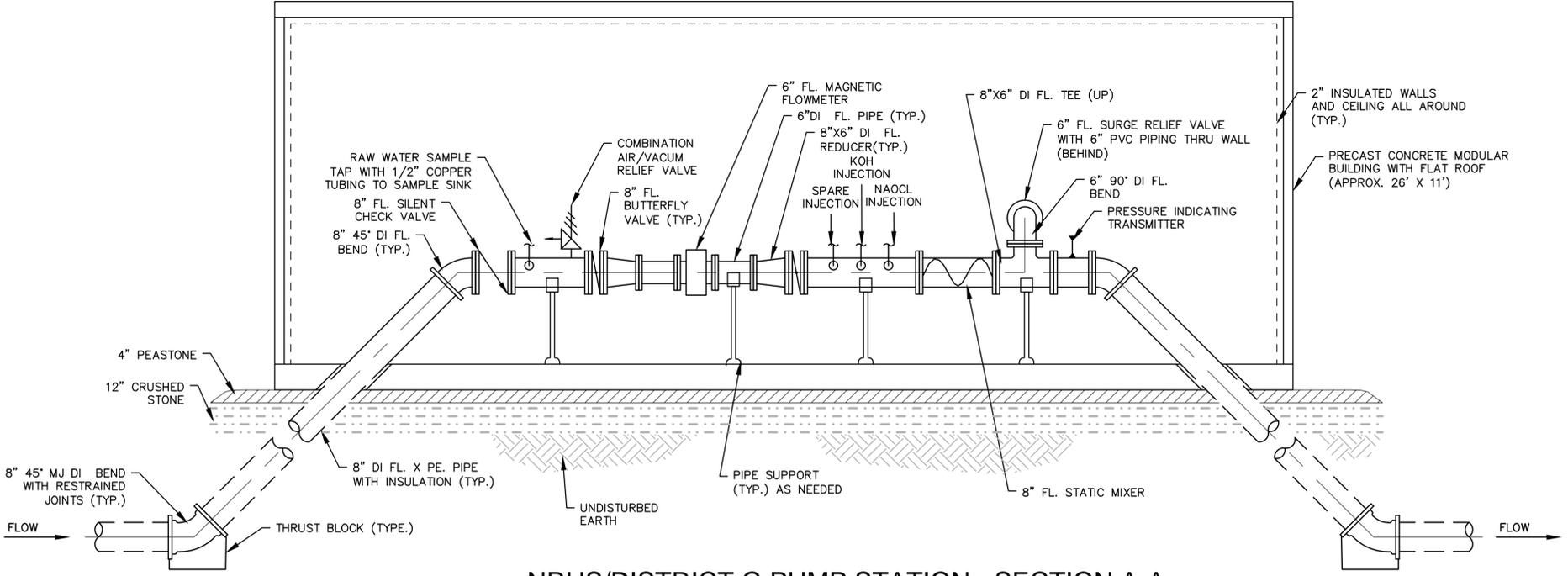
GENERAL NOTES AND
 LEGEND

FOR REVIEW
 Sheet No.

A-1

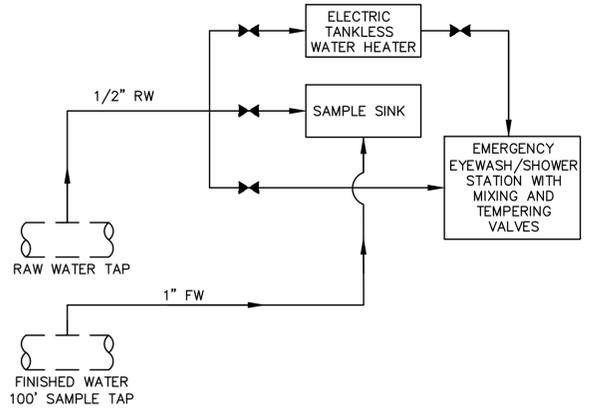


NRHS/DISTRICT G PUMP STATION - PLAN VIEW
 1/2" = 1'-0"



NRHS/DISTRICT G PUMP STATION - SECTION A-A
 1/2" = 1'-0"

- NOTES:**
- DRAWINGS ARE DIAGRAMMATIC AND DO NOT ATTEMPT TO SHOW EACH AND EVERY OFFSET OR ALL FITTINGS. ALL CHANGES AND ADJUSTMENTS TO THE DRAWING LAYOUTS AS REQUIRED FOR CONFORMITY OF THE WORK TO THE STRUCTURES AS CONSTRUCTED, TO EQUIPMENT, TO APPROVED SHOP DRAWINGS, OR TO FIT WORK OF OTHER TRADES SHALL BE AS APPROVED BY THE OWNER, AND SHALL BE INCLUDED AS PART OF THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - FOUNDATION REQUIREMENTS AND SUBGRADE PREPARATION IN ACCORDANCE WITH PRE-FABRICATED BUILDING MANUFACTURER'S REQUIREMENTS, MASS. STATE BUILDING CODE, AND THE TOWN OF EASTHAM REQUIREMENTS.
 - FURNISH BALL VALVES WITH DOUBLE UNION ENDS TO PERMIT REMOVAL OF VALVE WITHOUT DISCONNECTING PIPELINE. BALL VALVES WHICH LEAK WHEN DOWNSTREAM UNION END IS DISCONNECTED ARE NOT ACCEPTABLE. USE VITON "O" RING SEALS WITH TEFLON SEATS. INSTALL BALL VALVES WITH FLOW ARROW POINTED IN DIRECTION OF FLOW TO PERMIT DISCONNECTION OF DOWNSTREAM PIPING. DURING INSTALLATION, ORIENT VALVE HANDLE FOR EASE OF OPERATION BY ROTATING VALVE BODY ABOUT ITS AXIS PRIOR TO TIGHTENING ENDS.
 - FURNISH PVC CHECK VALVES OF DOUBLE UNION TYPE WITH PVC BALL AND VITON "O" RING SEALS.
 - POLYETHYLENE TUBING SHALL BE RATED AT 150 PSI, 80° F.
 - FITTINGS USED IN CHEMICAL FEED SYSTEMS SHALL CONTAIN NO VITON PARTS OR COMPONENTS.
 - PIPE FITTINGS SHALL BE OF THE SAME MATERIAL AND SHALL BE OF THE PROPER CLASSIFICATION AND WALL THICKNESS FOR USE WITH SCHEDULE 80 PIPE OR POLYETHYLENE TUBING. PVC JOINTS IN PIPING SHALL BE SOLVENT WELD CONNECTIONS. TUBING CONNECTORS/ADAPTORS FOR POLYETHYLENE TUBING SHALL BE PVC. A SUFFICIENT NUMBER OF UNIONS AND TUBING CONNECTORS/ADAPTORS SHALL BE PROVIDED TO ALLOW FOR CONVENIENT REMOVAL OF PIPING.
 - CONNECTIONS TO PIPE OF OTHER MATERIALS, CONNECTIONS TO EQUIPMENT, AND CONNECTIONS AT SUCH OTHER LOCATIONS, AS INDICATED OR DIRECTED, SHALL BE MADE WITH FLANGES. ALL FLANGES SHALL BE 150 POUND PIPE FLANGES AND FLANGED CONNECTIONS SHALL BE MADE USING 1/16-INCH THICK NEOPRENE RUBBER GASKETS AND TYPE 316 STAINLESS STEEL BOLTS AND NUTS. FLANGES SHALL BE FACED AND DRILLED TO AMERICAN 125 STANDARD AND AS REQUIRED TO MATCH THE FACING AND DRILLING OF THE FLANGES TO WHICH THEY ARE TO BE CONNECTED.
 - PLUMBING FOR EMERGENCY SHOWER AND EYE WASH TO BE 3/4" TYPE 'K' COPPER WITH SHUTOFF BALL VALVES. PROVIDE MIXING/TEMPERING VALVE FOR COLD AND HOT WATER SUPPLIES.
 - FLOW SWITCH FS-102 SHALL ACTIVATE SHOWER ALARM. SCADA SYSTEM SHALL BE CAPABLE OF DIALING UP TO 3 TELEPHONE NUMBERS BASED ON SHOWER ALARM AND INTRUSION ALARM.
 - COMMUNICATION SYSTEM SHALL BE PROPERLY GROUNDED AS PER SPECIFICATION SECTION 16196.
 - PROVIDE TANKLESS ELECTRIC HOT WATER HEATER (EEMAX SP2412, OR EQUAL) WITH 3/8" CONNECTIONS, INLET AND OUTLET VALVES AND BACKFLOW PREVENTER ON INLET. CONNECT TO MIXING/TEMPERING VALVE BEFORE EMERGENCY SHOWER/EYEWASH UNIT.



SMALL PIPING SCHEMATIC
 N.T.S.

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| Designed by | RJP |
| Drawn by | RJP |
| Checked by | RJT |
| Approved by | PCM |

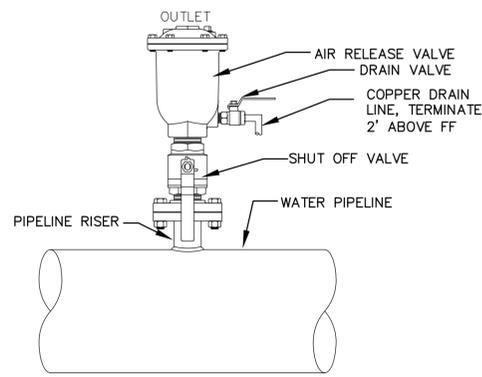
CONTRACT 2
 WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
 EASTHAM, MASSACHUSETTS

NRHS & DISTRICT G
 WELL STATION LAYOUT

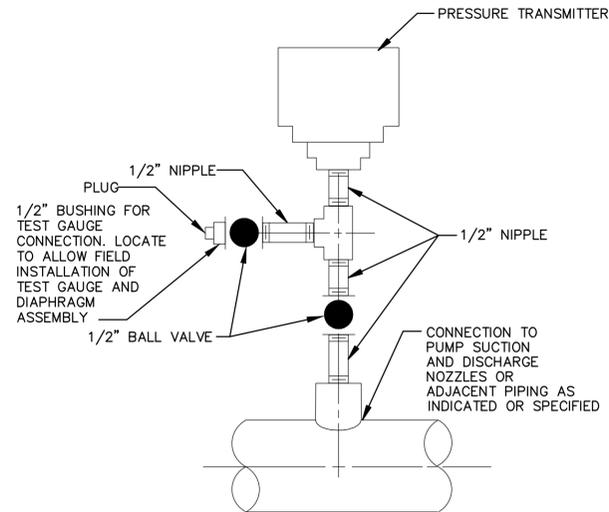
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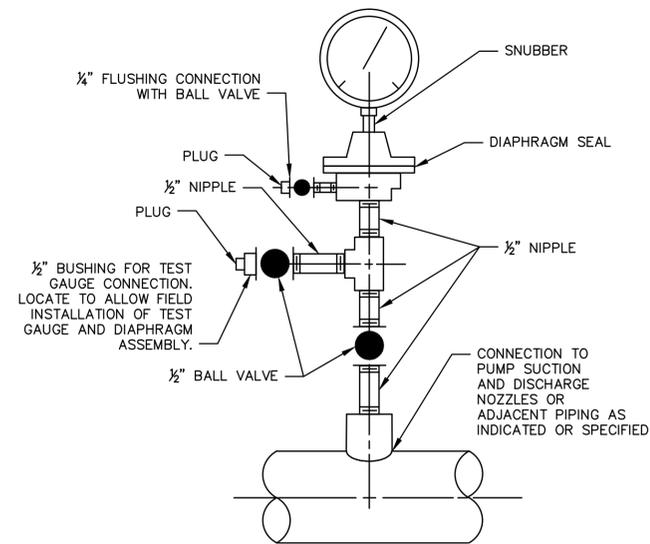
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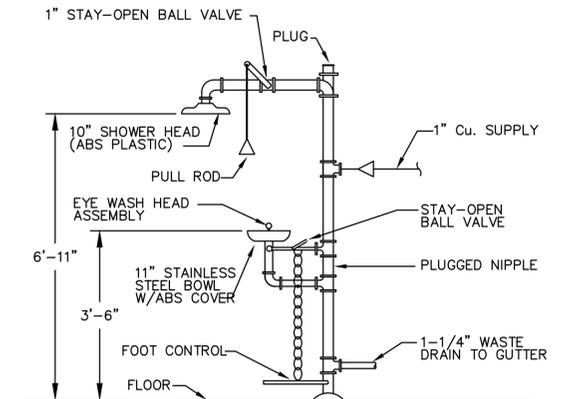
AIR RELEASE VALVE
SCALE: N.T.S.



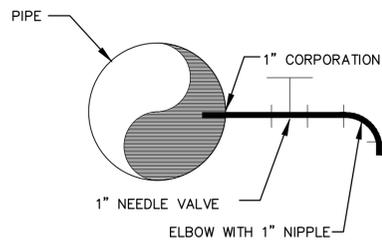
PRESSURE TRANSMITTER MOUNTING DETAIL
SCALE: N.T.S.



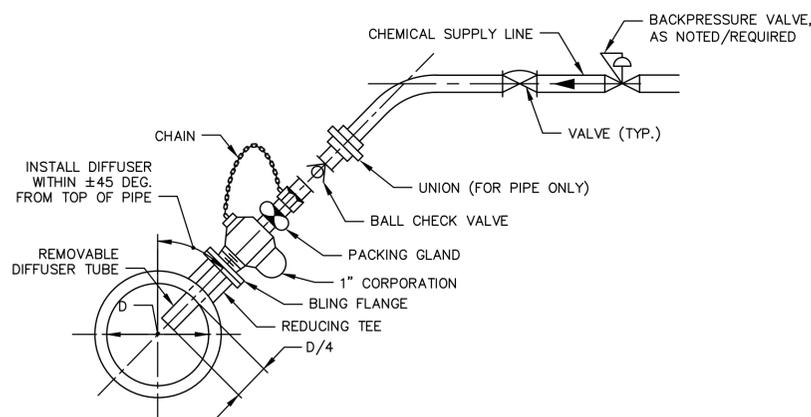
PRESSURE GAUGE MOUNTING DETAIL FOR LIQUID PIPING
SCALE: N.T.S.



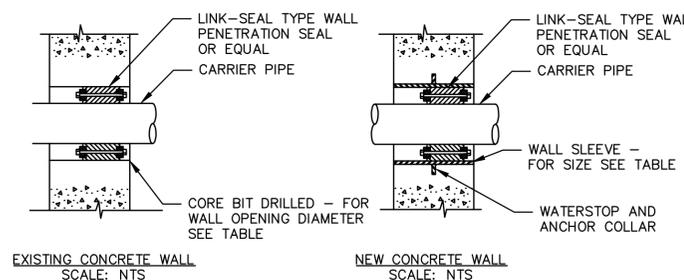
EMERGENCY SHOWER AND EYE WASH STATION DETAIL
SCALE: N.T.S.



SAMPLE TAP DETAIL
SCALE: N.T.S.



8" OR SMALLER PIPE (REDUCING TEE)
SCALE: N.T.S.

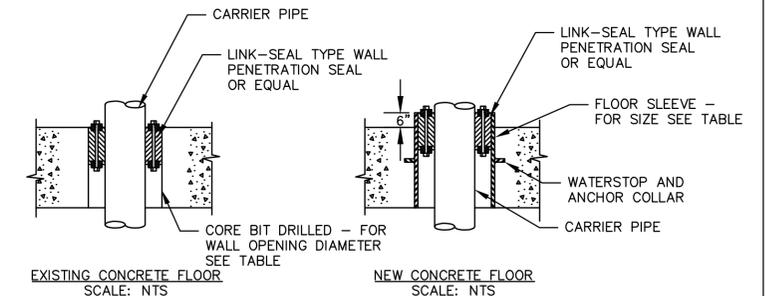


| CARRIER PIPE NOMINAL SIZE | CARRIER PIPE O.D. | WALL SLEEVE SIZE | CORE BIT DRILLED I.D. |
|---------------------------|-------------------|------------------|-----------------------|
| 2" | 2.50" | 4" | 4" |
| 4" | 4.80" | 8" | 8" |
| 6" | 6.90" | 10" | 10" |
| 8" | 9.05" | 12" | 12" |
| 16" | 17.40" | 20" | 20" |
| 18" | 19.50" | 24" | 24" |
| 24" | 25.80" | 30" | 29" |

NOTES:

- SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
- SOME APPLICATIONS MAY REQUIRE STANDARD WALL CASTINGS.
- FOR WATER-TIGHT APPLICATIONS, PROVIDE NON-SHRINK GROUT ON EXTERIOR (NON-WATER SIDE) OF LINK-SEAL TYPE WALL PENETRATION.
- FOR PRE-ENGINEERED WALL PENETRATIONS, FRAME AND SEAL WALL PENETRATIONS AS PER BUILDING MANUFACTURER'S STANDARD DETAILS AND SPECIFICATIONS. PENETRATION SHALL BE WEATHER TIGHT.

TYPICAL WALL PENETRATION DETAIL
SCALE: N.T.S.



| CARRIER PIPE NOMINAL SIZE | CARRIER PIPE O.D. | FLOOR SLEEVE SIZE | CORE BIT DRILLED I.D. |
|---------------------------|-------------------|-------------------|-----------------------|
| 1 1/2" | 1.625" | 3" | 3" |
| 2" | 2.50" | 4" | 4" |
| 4" | 4.80" | 8" | 8" |
| 6" | 6.90" | 10" | 10" |
| 8" | 9.05" | 12" | 12" |
| 16" | 17.40" | 20" | 20" |
| 18" | 19.50" | 24" | 24" |
| 24" | 25.80" | 30" | 29" |

NOTES:

- SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.

TYPICAL PIPE SLAB PENETRATION DETAIL
SCALE: N.T.S.

Drawing file: I:\Eastham Water System\217-1401-02 Contract 2 Well Sites\01 Drawings\04 CONTRACT 2 - MECHANICAL_receiver.dwg Plot Date: Dec 04-2014 1:23pm



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|-------------|---------------|
| Scale | AS NOTED |
| Date | DECEMBER 2014 |
| Job No. | 217-1401.02 |
| Designed by | TRG/RJP |
| Drawn by | TRG/RJP |
| Checked by | RJT |
| Approved by | PCM |

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

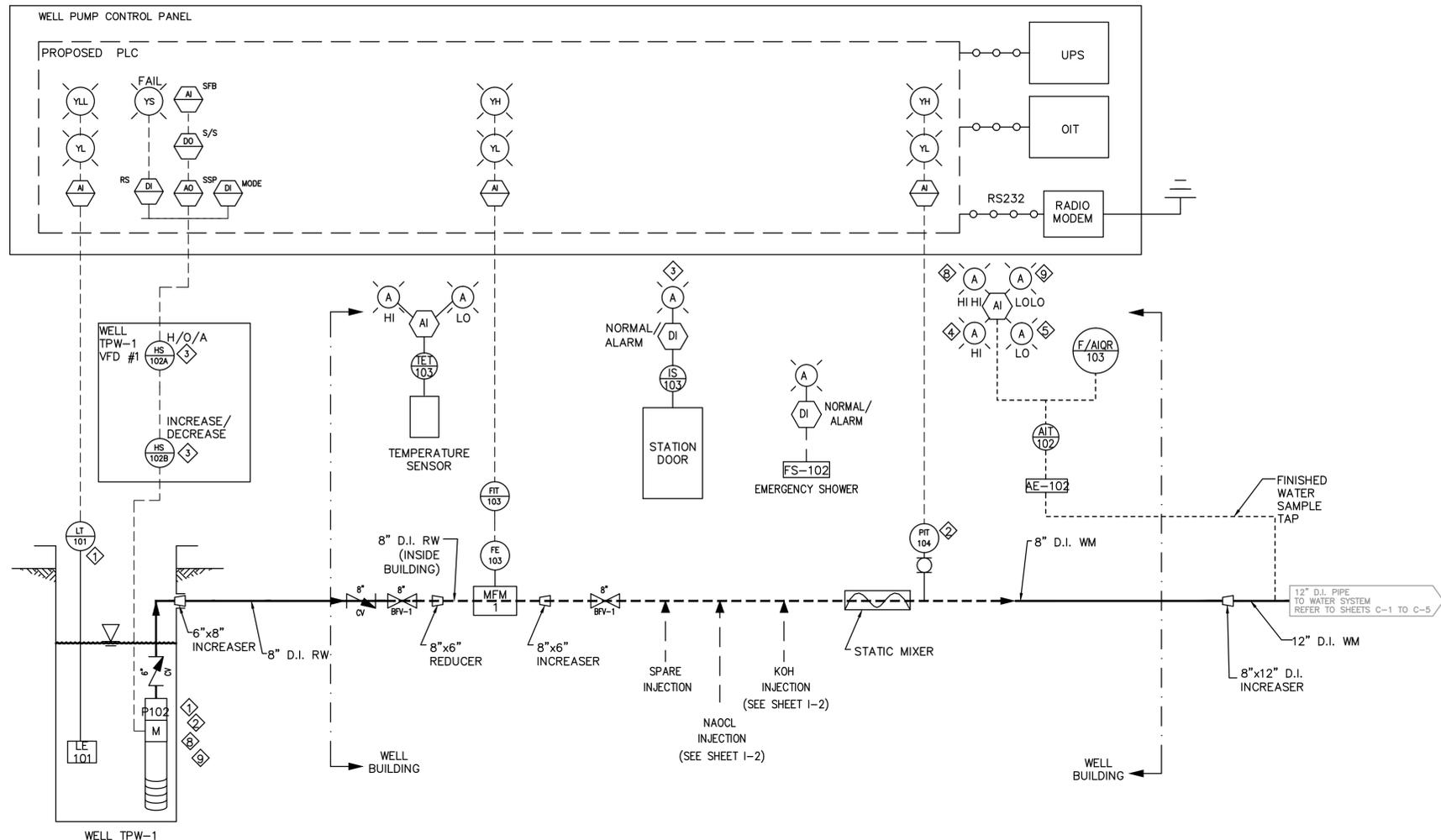
CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

MECHANICAL DETAILS

FOR REVIEW
Sheet No.

M-2

Drawing file: I:\Eastham Water System\217-1401.02 Contract 2 Well Sites\01 Instrumentation.dwg Plot Date: Dec 04, 2014 5:45pm



LEGEND

| | | | |
|-------|-----------------------------------|--|--|
| AE | ANALYTICAL ELEMENT | | FIELD MOUNTED INSTRUMENT TAG |
| AI | ANALOG INPUT | | PANEL MOUNTED INSTRUMENT TAG (EQUIPMENT MANUFACTURERS PANEL) |
| AIT | ANALYTICAL INSTRUMENT TRANSMITTER | | PANEL MOUNTED INSTRUMENT TAG (INSTRUMENTATION CONTRACTORS PANEL) |
| AO | ANALOG OUTPUT | | SCADA SYSTEM SIGNAL TAG - A=ANALOG, D=DISCRETE I=INPUT, O=OUTPUT |
| AT | ANALYTICAL TRANSMITTER | | SCADA ALARM: L = LOW, H = HIGH NF = NO FLOW |
| CP | CHEMICAL PUMP | | INTERLOCK |
| DI | DISCRETE INPUT | | PROCESS STREAM TO/FROM LOCATION REFER TO SHEET X |
| DO | DISCRETE OUTPUT | | |
| FE | FLOW ELEMENT | | |
| FIT | FLOW INDICATOR TRANSMITTER | | |
| HMI | HUMAN MACHINE INTERFACE | | |
| H/O/A | HAND/OFF/AUTOMATIC | | |
| HS | HAND SWITCH | | |
| IS | INTRUSION SWITCH | | |
| LE | LEVEL ELEMENT | | |
| LT | LEVEL TRANSMITTER | | |
| MFM | MAGNETIC FLOW METER | | |
| OIT | OPERATOR INTERFACE TERMINAL | | |
| PIT | PRESSURE INDICATOR TRANSMITTER | | |
| PLC | PROGRAMABLE LOGICAL CONTROLLER | | |
| PRV | PRESSURE RELIEF VALVE | | |
| RS | RUN STATUS | | |
| RTU | REMOTE TERMINAL UNIT | | |
| SFB | SPEED FEEDBACK | | |
| SSP | SPEED SET POINT | | |
| S/S | START/STOP | | |
| TET | TEMPERATURE ELEMENT/TRANSMITTER | | |
| VFD | VARIABLE FREQUENCY DRIVE | | |
| Y | ALARM EVENT | | |

SCADA & INSTRUMENTATION SCHEDULE FOR NRHS OR DISTRICT G PUMP STATIONS

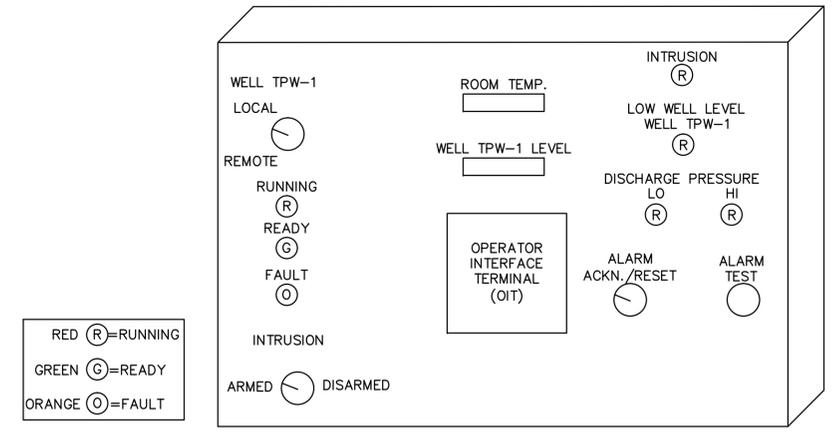
| PRODUCT | SPECIFICATION |
|---|---------------------|
| WELL TPW-1 LEVEL TRANSMITTER (LT-101) | |
| WELL TPW-1 MAGNETIC FLOW METER (FIT-103) | |
| WELL TPW-1 VARIABLE SPEED DRIVE (VFD-#1) | 3 PH / 60 HZ / 480V |
| WELL TPW-1 PRESSURE TRANSMITTER (PIT-104) | |
| INTRUSION ALARM (IS-103) | |
| TEMPERATURE SENSOR (TET-103) | |

NRHS OR DISTRICT G PUMP STATION PROCESS AND INSTRUMENTATION DIAGRAM N.T.S.

NRHS OR DISTRICT G PUMP STATION INTERLOCK SCHEDULE

| # | DEVICE | INTERLOCK WITH |
|---|---|--|
| 1 | LO-LO WELL LEVEL (LT-101) | STOP WELL PUMP TPW-1 |
| 2 | HI-HI PUMP DISCHARGE PRESSURE (PIT-104) | STOP WELL PUMP TPW-1 |
| 3 | INTRUSION SENSOR (IS-103) | LOCK OUT LOCAL HAND SWITCHES |
| 4 | HI PH | STOP CHEMICAL FEED PUMPS |
| 5 | LO PH | STOP CHEMICAL FEED PUMPS |
| 6 | LEAK KOH FLOAT | STOP WELL PUMP TPW-1 & CHEMICAL FEED PUMPS |
| 7 | LEAK NAOCL FLOAT | STOP WELL PUMP TPW-1 & CHEMICAL FEED PUMPS |
| 8 | HI-HI PH | STOP WELL PUMP TPW-1 |
| 9 | LO-LO PH | STOP WELL PUMP TPW-1 |

- NOTES:**
- THE RTU/PLC SHALL COMMUNICATE VIA RADIO TO THE NEW SCADA SYSTEM NODE TO BE INSTALLED AT THE EASTHAM DPW BUILDING LOCATED AT 555 OLD ORCHARD ROAD.



| MARK | DATE | DESCRIPTION |
|------|------|-------------|
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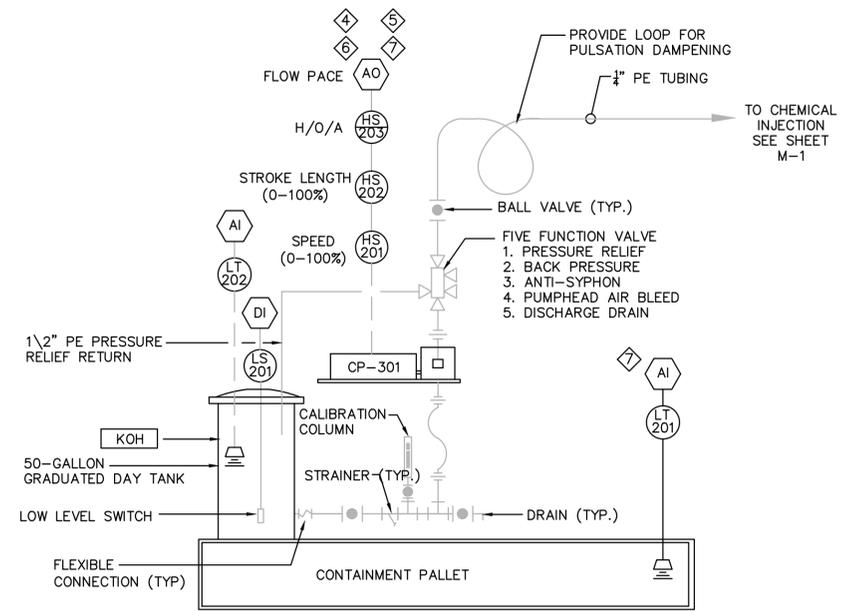
| | |
|-------------|---------------|
| Scale | N.T.S. |
| Date | DECEMBER 2014 |
| Job No. | 217-1401.02 |
| Designed by | RJP |
| Drawn by | RJP |
| Checked by | RJT |
| Approved by | PCM |

CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

NRHS & DISTRICT G PUMP STATION
INSTRUMENTATION AND SCADA PLAN I

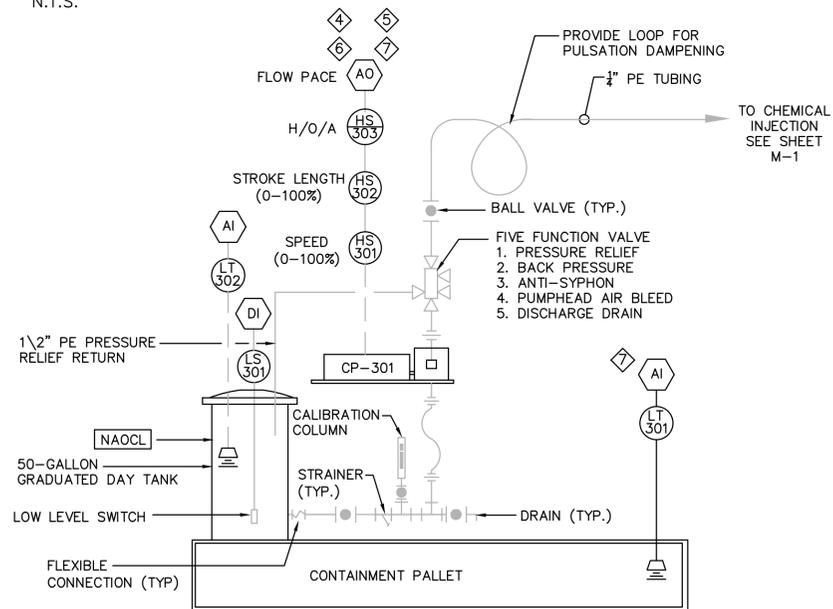
FOR REVIEW
Sheet No. **1-1**

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING



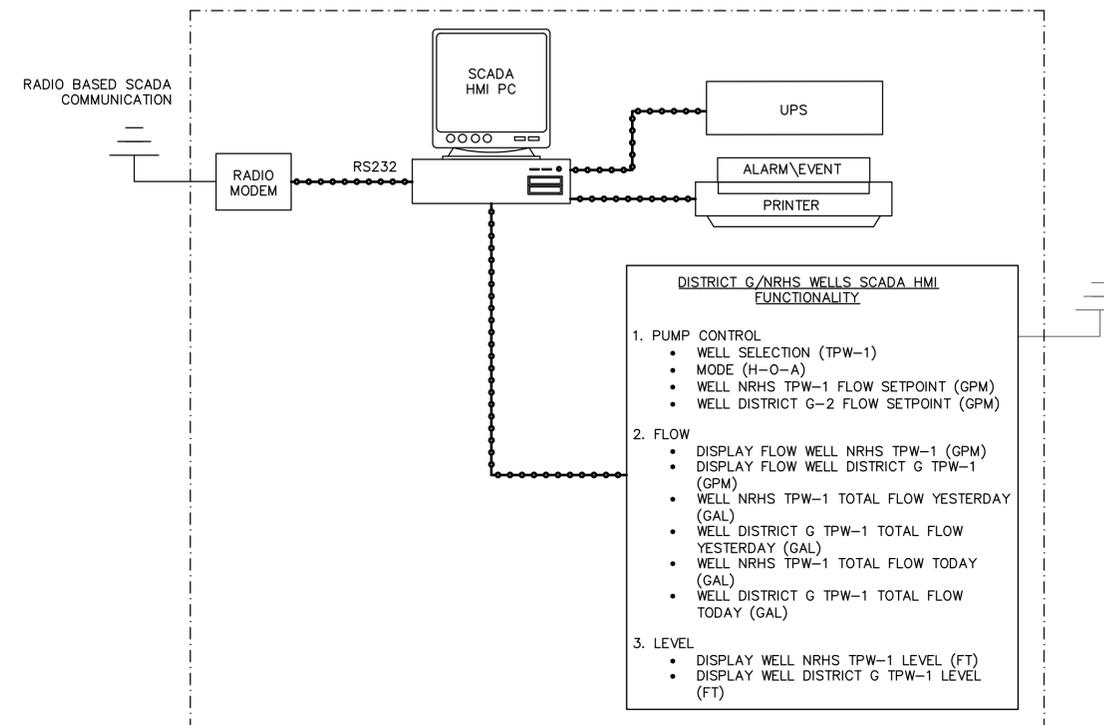
POTASSIUM HYDROXIDE CHEMICAL FEED SCHEMATIC

N.T.S.



SODIUM HYPOCHLORITE CHEMICAL FEED SCHEMATIC

N.T.S.



NOTES:

1. THE SCADA TERMINAL WILL BE LOCATED AT THE EASTHAM DPW BUILDING.

NEW SCADA HMI SYSTEMS

N.T.S.

Drawing file: C:\temp\scada\pub\sh_9664025 CONTRACT 2 - INSTRUMENTATION.dwg Plot Date: Dec 04 2014 5:27pm



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|-------------|---------------|-------------|
| Scale | N.T.S. | |
| Date | DECEMBER 2014 | |
| Job No. | 217-1401.02 | |
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| Drawn by | RJP | |
| Checked by | RJT | |
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| MARK | DATE | DESCRIPTION |

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CONTRACT 2
WATER SUPPLY WELLS, CONTROL BUILDING, & PIPING
EASTHAM, MASSACHUSETTS

NRHS & DISTRICT G PUMP STATIONS
INSTRUMENTATION AND SCADA PLAN II

FOR REVIEW
Sheet No.

1-2