# GRAFTON WATER DISTRICT

# GRAFTON, MASSACHUSETTS
# TRINITY AVENUE PUMP STATION

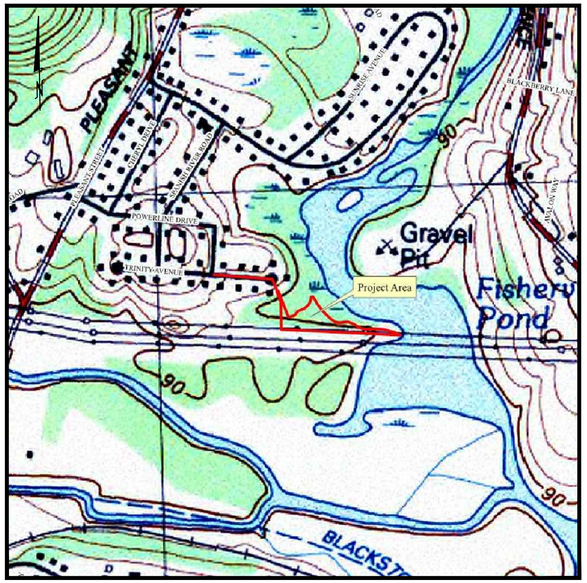
## CONTRACT NO. 2

### WATER COMMISSIONERS

ROBERT FREDERICO, CHAIRMAN
MICHAEL CORDA
KENNETH GREW

### SYSTEM MANAGER

MATTHEW PEARSON




LOCUS MAP
APPROXIMATE SCALE: 1" = 500'

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TATA & HOWARD

MAY 2015

Marlborough, MA

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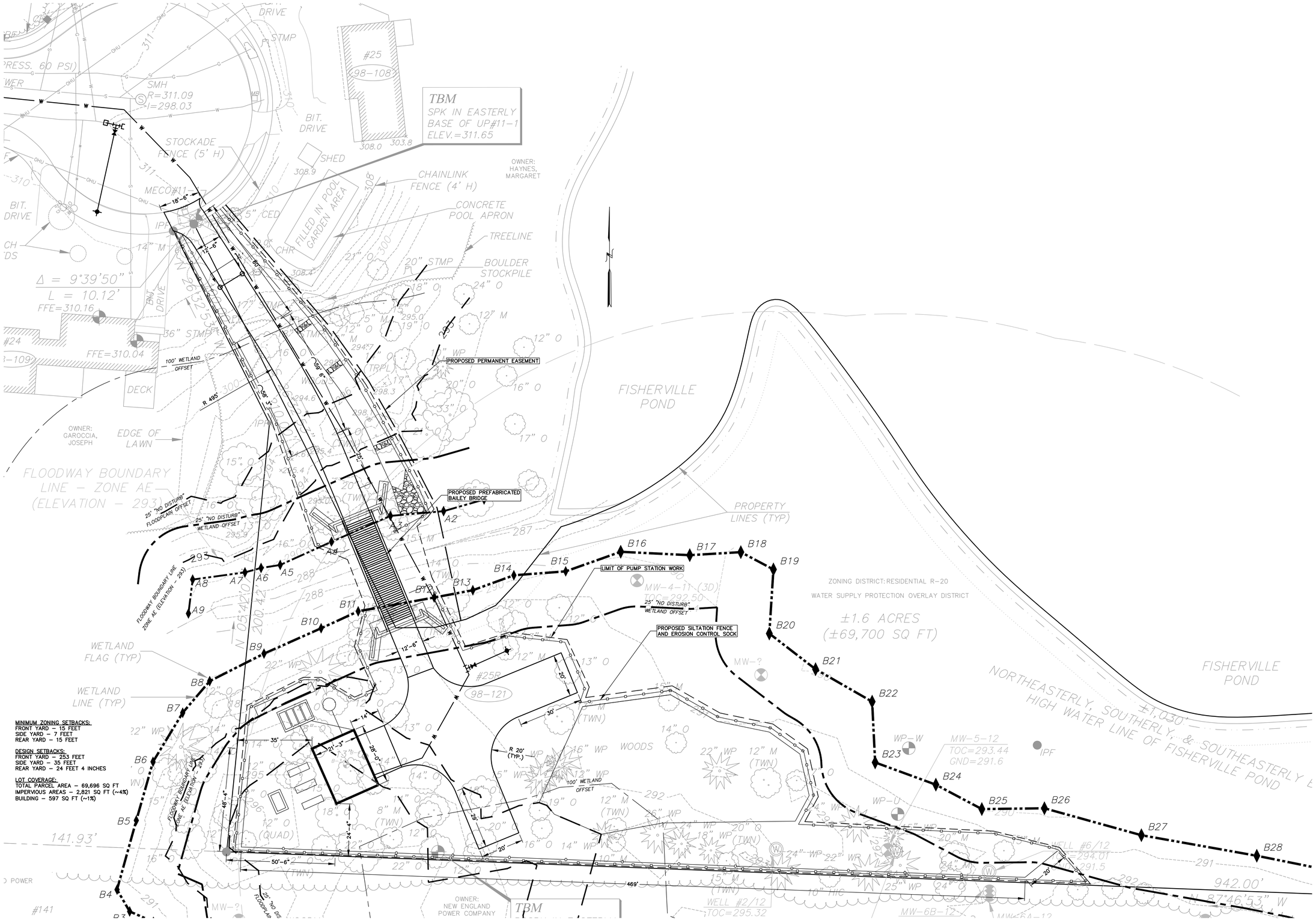


TRINITY AVENUE PUMP STATION

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILLBURY STREET
GRAFTON, MA 01519

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 98 LOT 121

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| | | |

UTILITY PLAN 1

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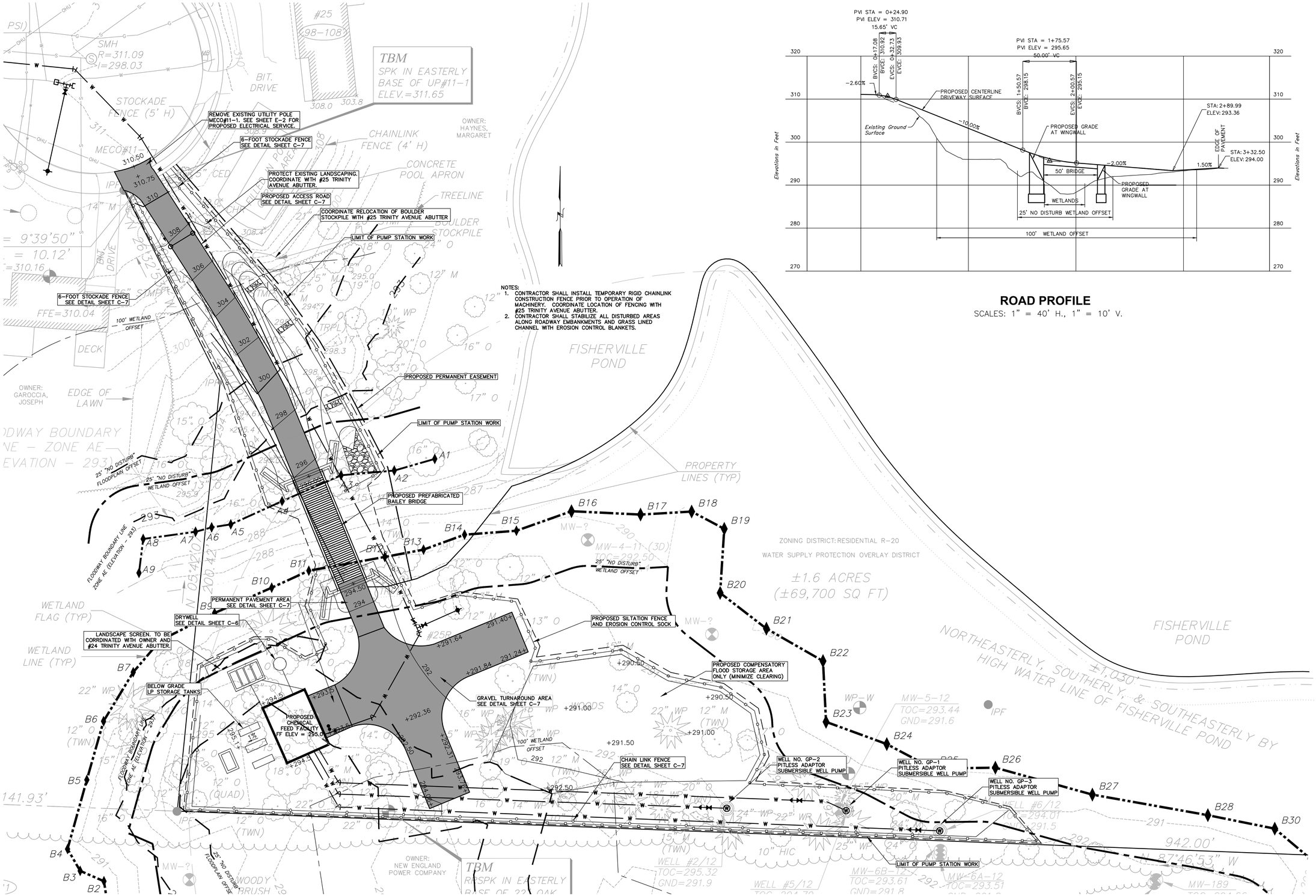
TATA & HOWARD
67 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303-9400

T&H NO.: 3703
DATE: MAY 2016
SCALE: 1" = 20'

C-2




NOTES:
1. CONTRACTOR SHALL INSTALL TEMPORARY RIGID CHAINLINK CONSTRUCTION FENCE PRIOR TO OPERATION OF MACHINERY. COORDINATE LOCATION OF FENCING WITH #25 TRINITY AVENUE ABUTTER.
2. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS ALONG ROADWAY EMBANKMENTS AND GRASS LINED CHANNEL WITH EROSION CONTROL BLANKETS.

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




**ROAD PROFILE**
SCALES: 1" = 40' H., 1" = 10' V.

TRINITY AVENUE PUMP STATION

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 98 LOT 121

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILBURY STREET
GRAFTON, MA 01519

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| Rev. | Date | Description |
|---|---|---|
| | 3/14/16 | Conservation Commission Submittal |

GRADING PLAN

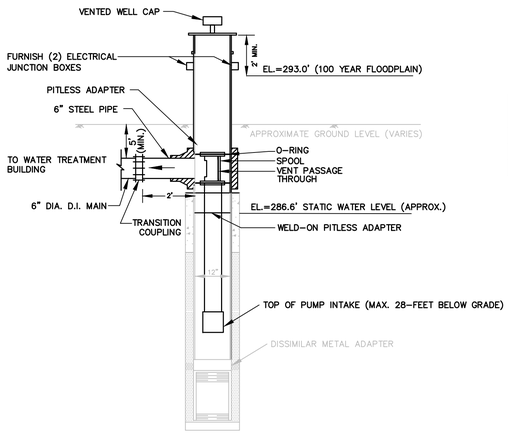
REVIEW SUBMITTAL
NOT FOR CONSTRUCTION

TATA & HOWARD
67 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303-9400

T&H NO.: 3703
DATE: MAY 2016
SCALE: AS NOTED

C-3

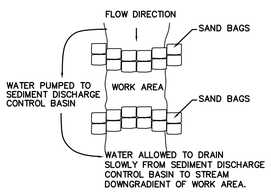
P:\Project_Files\Grafton WD\Trinity Avenue PS\Drawings\3703_Grafton_Civil_4.29.16.dwg 5/11/2016 3:31 PM MBARRY



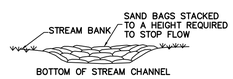

| WELL NO. | WELL DEPTH (FEET) | SCREEN LENGTH (FEET) |
|---|---|---|
| GP-1 | 37' | 6' |
| GP-2 | 39' | 6' |
| GP-3 | 36' | 5' |

NOTE:
1. SEE SPECIFICATION SECTIONS 11216 AND 13100 FOR ADDITIONAL INFORMATION.

## GRAVEL PACKED WELL WITH PITLESS ADAPTER
SCALE: NONE

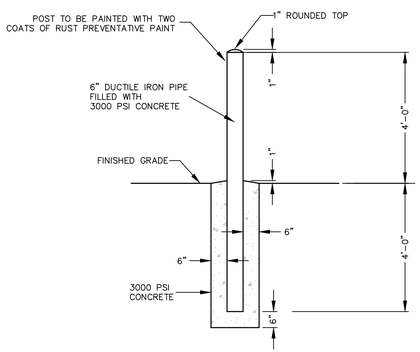



PLAN

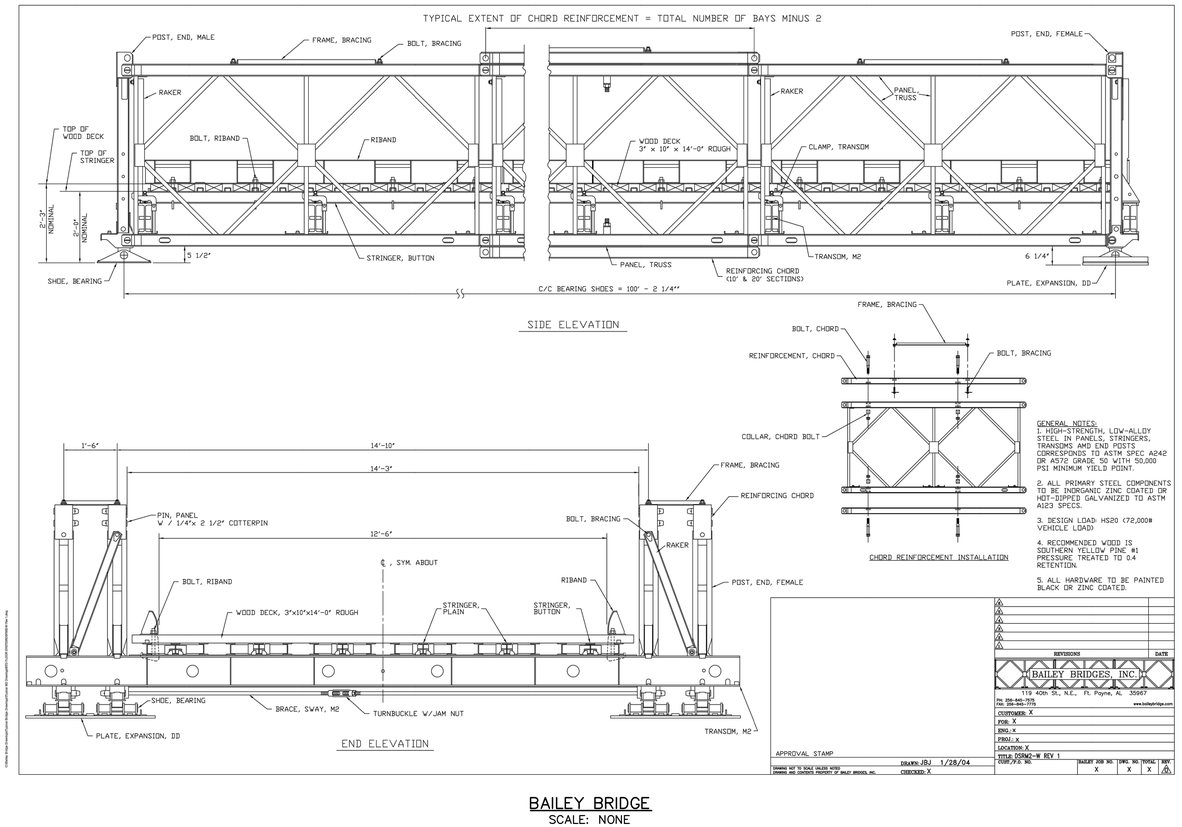



SECTION

## TYPICAL COFFERDAM
N.T.S.




## BOLLARD DETAIL
SCALE: NONE



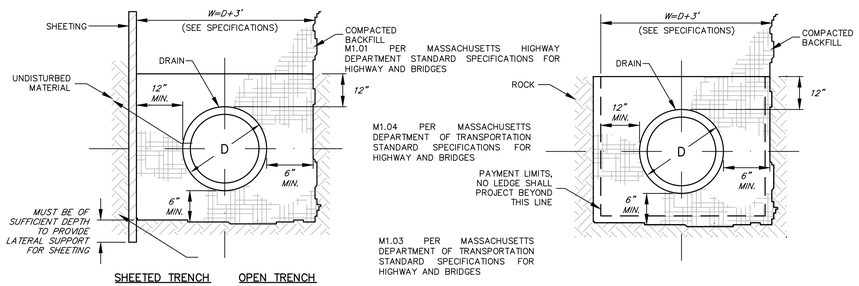

GENERAL NOTES:
1. HIGH-STRENGTH, LOW-ALLOY STEEL IN PANELS, STRINGERS, TRANSOMS AND END POSTS CORRESPONDS TO ASTM SPEC A242 OR A572 GRADE 50 WITH 50,000 PSI MINIMUM YIELD POINT.
2. ALL PRIMARY STEEL COMPONENTS TO BE INORGANIC ZINC COATED OR HOT-DIPPED GALVANIZED TO ASTM A123 SPECS.
3. DESIGN LOAD: HS20 (72,000# VEHICLE LOAD)
4. RECOMMENDED WOOD IS SOUTHERN YELLOW PINE #1 PRESSURE TREATED TO 0.4 RETENTION.
5. ALL HARDWARE TO BE PAINTED BLACK OR ZINC COATED.

| REVISIONS | DATE |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |

BAILEY BRIDGES, INC.
119 40th St., N.E., Ft. Payne, AL 35967
PH: 256-845-7376 FAX: 256-845-7378 www.baileybridge.com
CUSTOMER: X
FOB: X
ENG.: x
PROJ.: x
LOCATION: X
TITLE: CONQ-W REV 1
COMP./P.O. NO.:
BAILEY JOB NO.: X | DWG. NO.: X | TOTAL: X | REV.: X
APPROVAL STAMP
DRAWN: JBJ 1/28/04
CHECKED: X
DRAWING NOT TO SCALE UNLESS NOTED
DRAWING AND CONTENTS PROPERTY OF BAILEY BRIDGES, INC.

## BAILEY BRIDGE
SCALE: NONE

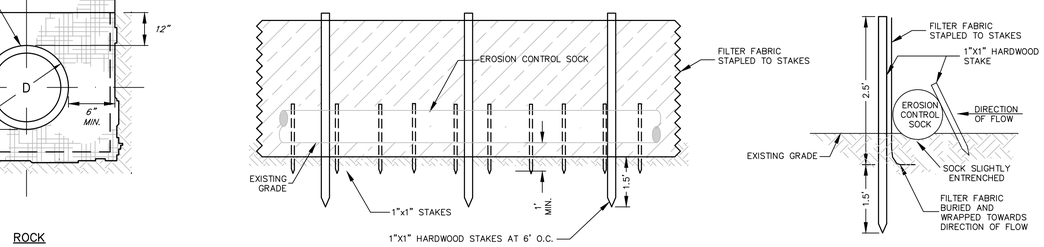
NOTES:
1. BARBWIRE ARM BLADES ON FENCE WILL BE VERTICAL FOR ENTIRE LENGTH OF CANTILEVER GATE
2. ALL GATES ARE WELD CONSTRUCTION



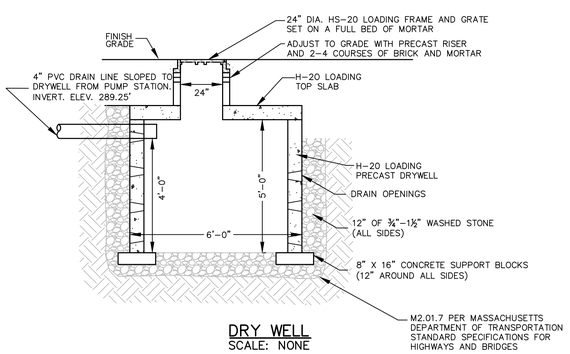

SHEETED TRENCH OPEN TRENCH
EARTH

ROCK

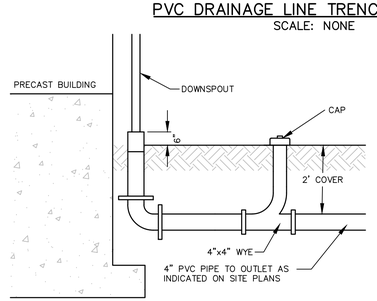
## PVC DRAINAGE LINE TRENCH SECTIONS
SCALE: NONE



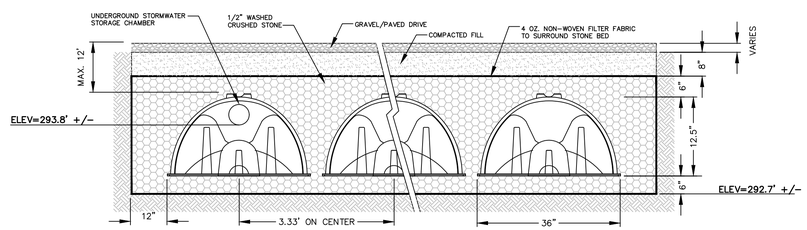

## EROSION CONTROLS
SCALE: NONE



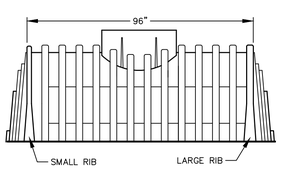

## DRY WELL
SCALE: NONE




## ROOF DRAIN
SCALE: NONE




## UNDERGROUND DRAINAGE BASIN
SCALE: NONE




## UNDERGROUND DRAINAGE BASIN
SCALE: NONE

TRINITY AVENUE PUMP STATION

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILLBURY STREET
GRAFTON, MA 01519

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 98 LOT 121

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| Rev. | Date | Description | Construction | Construction Sumbittal |
|---|---|---|---|---|
| | 3/9/16 | | | |

DETAILS 1

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67 FOREST STREET
MARLBOROUGH, MA 01752
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T&H NO.: 3703
DATE: MAY 2016
SCALE: AS NOTED

C-6

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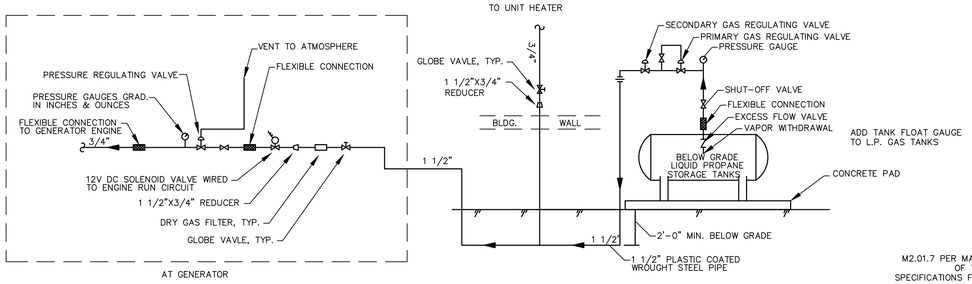
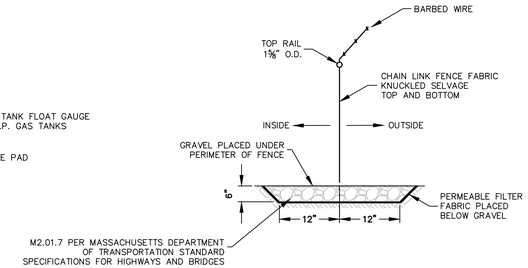
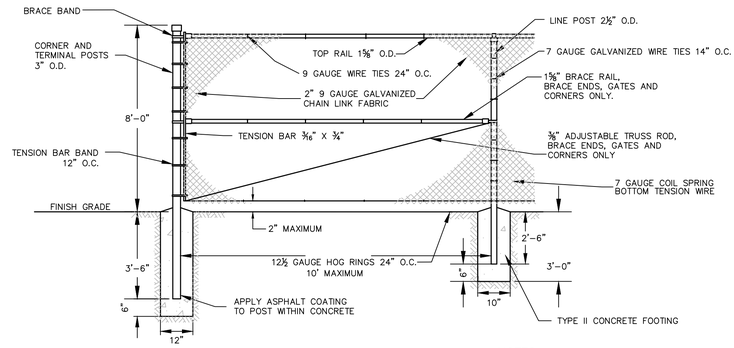



## LPG SYSTEM SCHEMATIC
SCALE: NONE

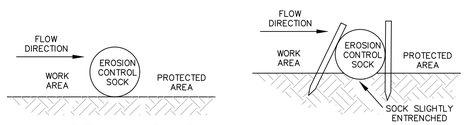



## FENCE GRAVEL UNDERLAY
SCALE: NONE




NOTES:
1. SEE SPECIFICATION FOR CHAIN LINK FENCE COATING AND COLOR.

## CHAIN LINK FENCE
SCALE: NONE

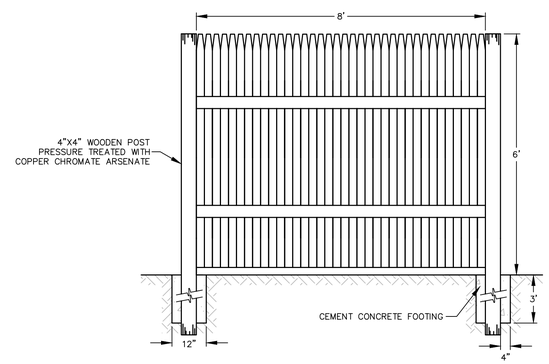



CONVENTIONAL INSTALLATION

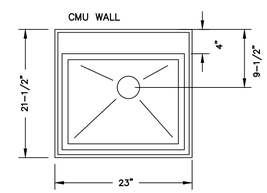
STAKED INSTALLATION

NOTES:
1. SOCK INSTALLED IN VEGETATED AREAS AND IN AREAS WITH MINIMAL SLOPES AND A LOW RISK OF RUNOFF SHALL BE CONVENTIONAL INSTALLATION.
2. SOCKS INSTALLED IN AREAS WITH A MODERATE RISK OF RUNOFF AND MODERATE SLOPES SHALL BE INSTALLED WITH A SLIGHT ENTRENCHMENT WITH NO STAKING.
3. SOCKS INSTALLED IN AREAS WITH A HIGH RISK OF RUNOFF OR STEEP SLOPES SHALL BE INSTALLED WITH ENTRENCHMENT AND STAKING.
4. FINAL INSTALLATION TECHNIQUES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND AS DIRECTED BY THE ENGINEER.

## EROSION CONTROL SOCK
SCALE: NONE

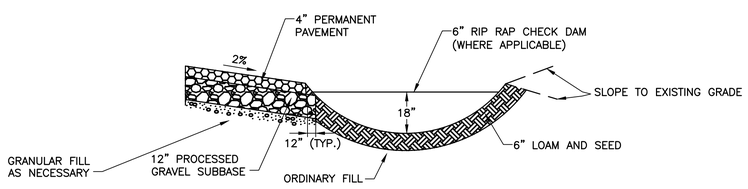



## STOCKADE FENCE
SCALE: NONE

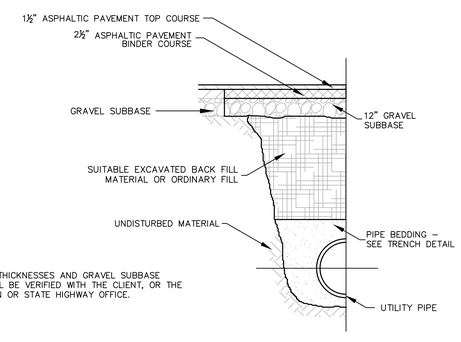



## SAMPLE SINK
SCALE: NONE

NOTE:
1. SEE PLUMBING DRAWINGS FOR ADDITIONAL REGARDING SAMPLE SINK AND ANALYZER.

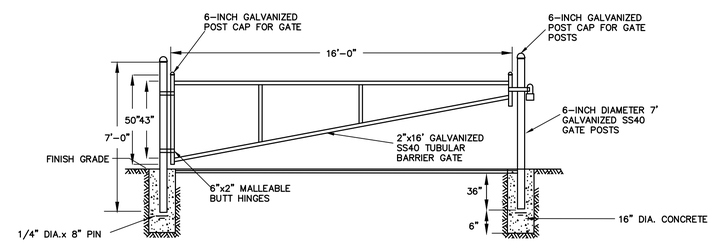



## TYPICAL ROAD, GRASS-LINED CHANNEL, CHECK DAM SECTION
SCALE: NONE




NOTES:
1. ALL PAVEMENT THICKNESSES AND GRAVEL SUBBASE THICKNESSES SHALL BE VERIFIED WITH THE CLIENT, OR THE APPROPRIATE TOWN OR STATE HIGHWAY OFFICE.

## ACCESS ROAD SECTION "A"
SCALE: NONE

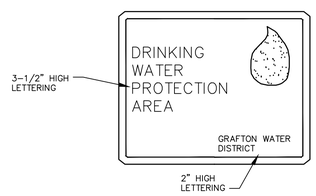



## TUBULAR BARRIER GATE DETAIL
SCALE: NONE



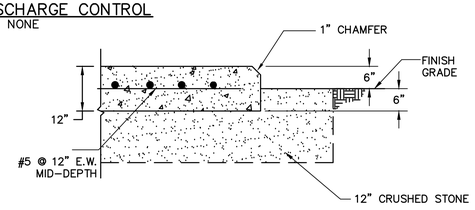

PLAN

## SEDIMENTATION DISCHARGE CONTROL
SCALE: NONE



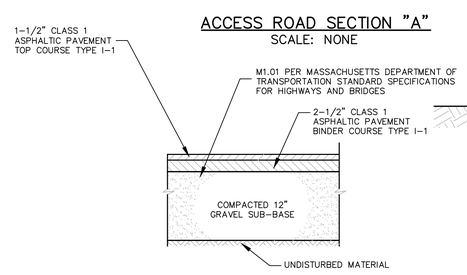

## DRINKING WATER PROTECTION AREA SIGN (TYP. OF 2)
SCALE: NONE

NOTE: COLORS TO BE APPROVED BY OWNER/ENGINEER

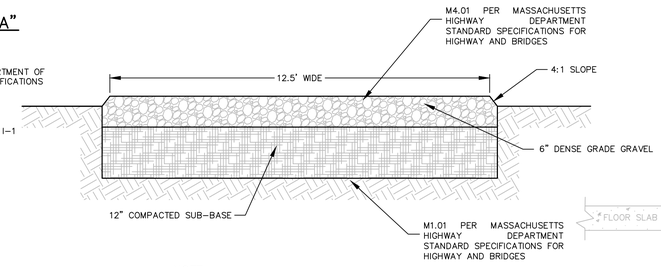



## L.P. TANK CONCRETE PAD DETAIL
SCALE: NONE

NOTE: PAD DETAIL AND PAD DIMENSIONS TO BE APPROVED BY THE PROPANE SUPPLIER.

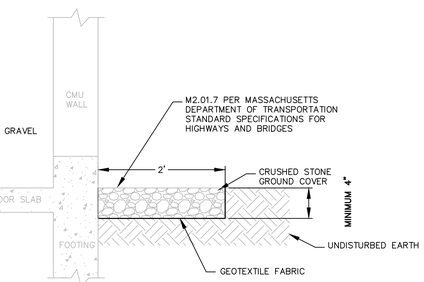



## ASPHALTIC PAVEMENT SECTION
SCALE: NONE




NOTE:
SEE DIVISION 02200 IN SPECIFICATIONS FOR GRADATION REQUIREMENTS

## GRAVEL ACCESS ROAD
SCALE: NONE




## 2-FOOT WIDE STONE DRY STRIP
SCALE: NONE

TRINITY AVENUE PUMP STATION

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ASSESSORS MAP 98 LOT 121

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DETAILS 2

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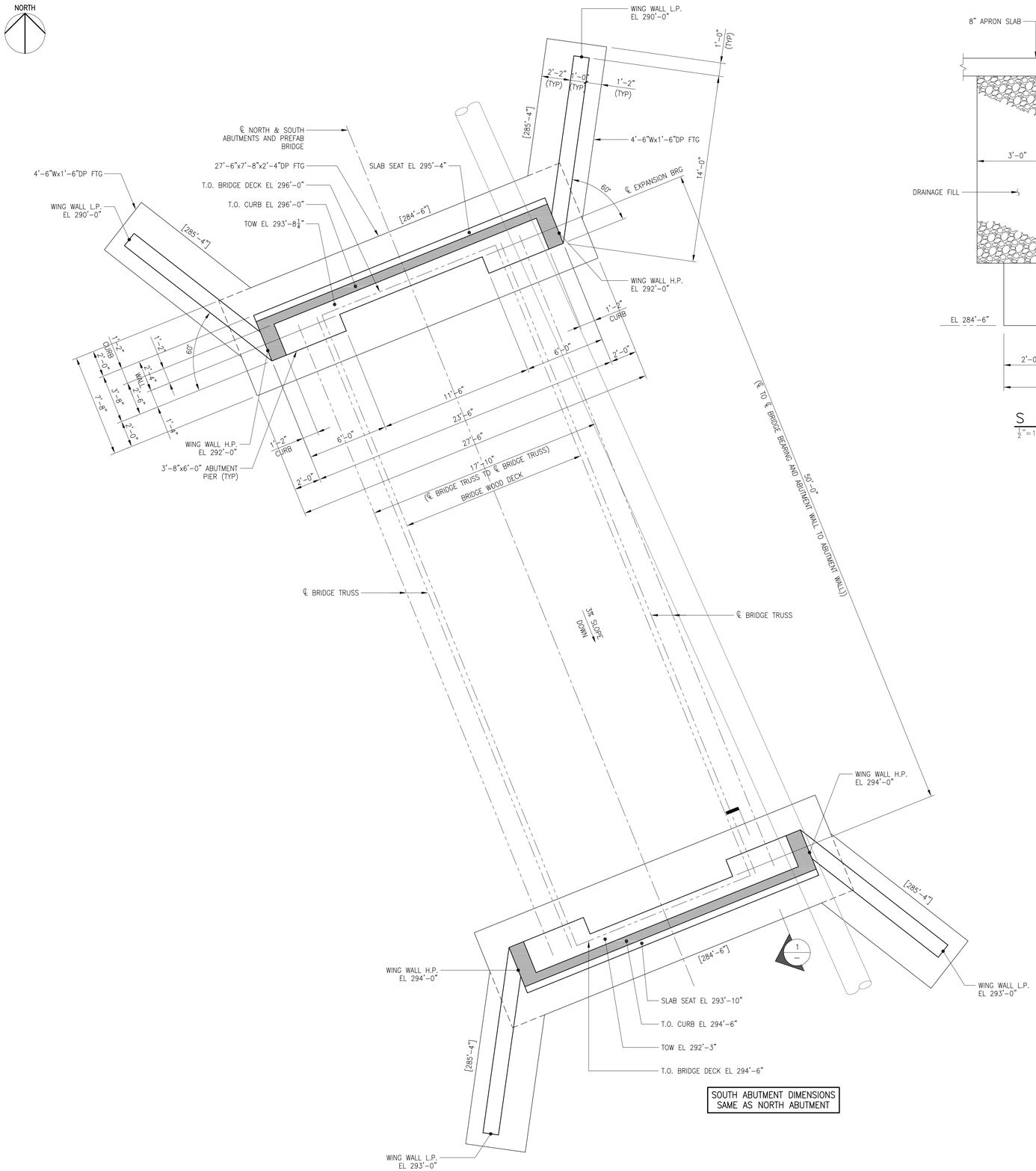
67 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303-9400

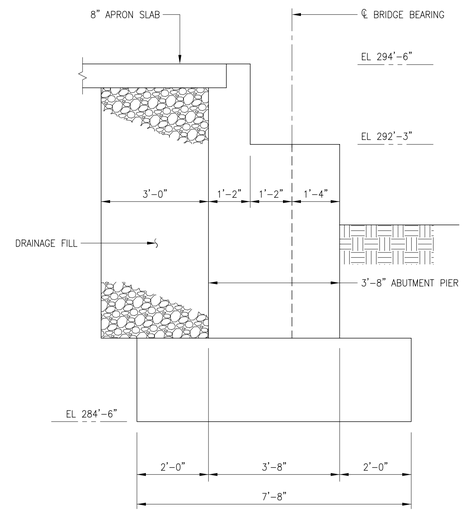
T&H NO.: 3703
DATE: MAY 2016
SCALE: AS NOTED

C-7




BRIDGE ABUTMENTS PLAN

¼"=1'-0"




SECTION 1

½"=1'-0"

GRAFTON WATER DISTRICT
GRAFTON, MASSACHUSETTS

TRINITY AVENUE PUMP STATION

Drawn By: RC | Designed By: RH | Checked By: RH | Approved By: RH

BRIDGE ABUTMENTS PLAN AND SECTIONS

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|---|---|---|

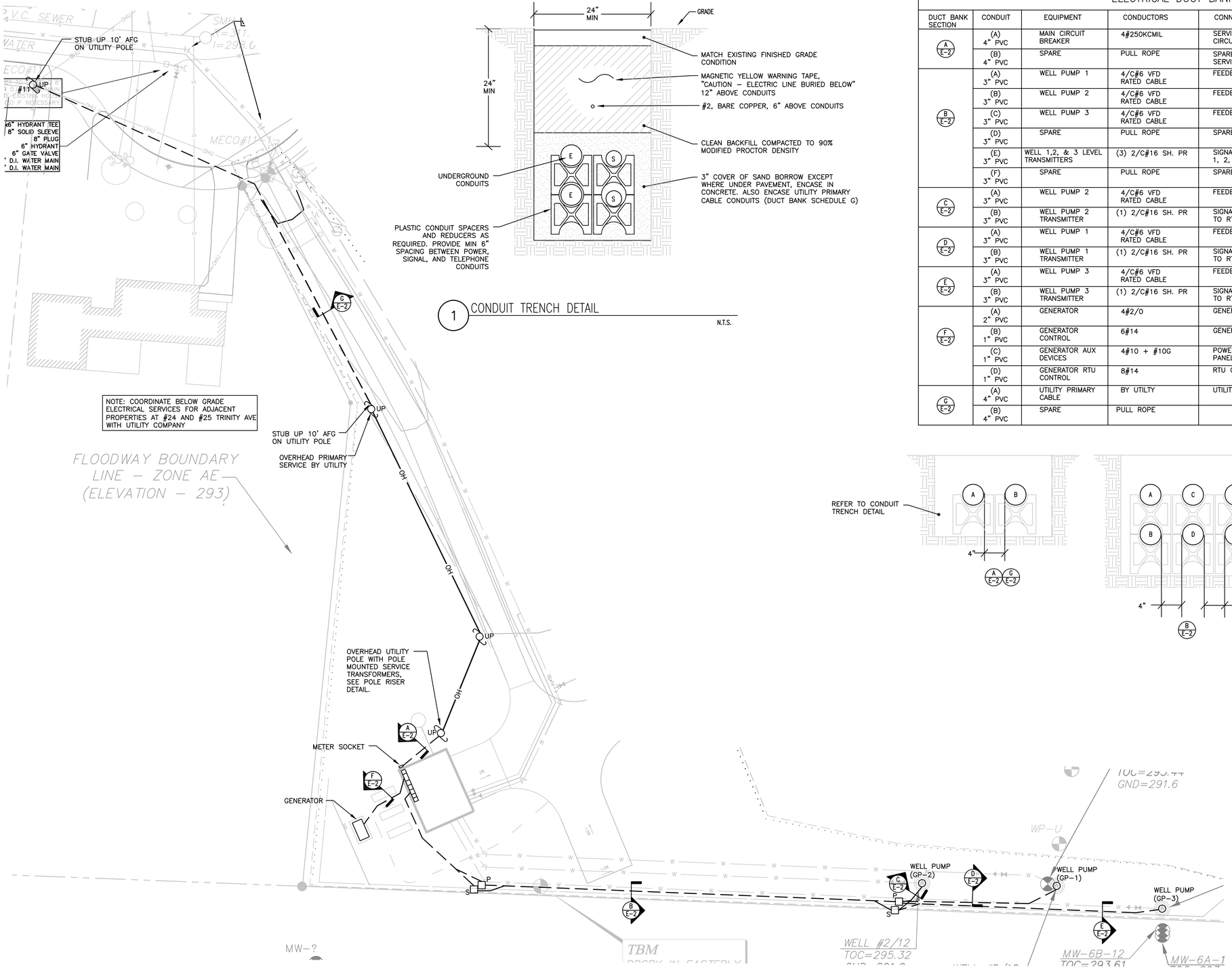
Roger Hobeika Associates Inc
STRUCTURAL ENGINEERS
85 Main Street
Watertown, Massachusetts 02472
phone 1.617.924.5257
fax 1.617.924.1481

REVIEW SUBMITTAL
NOT FOR CONSTRUCTION

TATA & HOWARD

T&H NO.: 37023
DATE: MAY 2016
SCALE: NONE
SHEET: 1 OF 1

S-5




## ELECTRICAL DUCT BANK SCHEDULE

| DUCT BANK SECTION | CONDUIT | EQUIPMENT | CONDUCTORS | CONNECTION |
|---|---|---|---|---|
| A E-2 | (A) 4" PVC | MAIN CIRCUIT BREAKER | 4#250KCMIL | SERVICE CONDUIT FROM UTILITY TRANSFORMER POLE TO MCC MAIN CIRCUIT BREAKER |
| | (B) 4" PVC | SPARE | PULL ROPE | SPARE CONDUIT FROM UTILITY TRANSFORMER POLE TO 24" AFG UNDER SERVICE DISCONNECT SWITCH. |
| B E-2 | (A) 3" PVC | WELL PUMP 1 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 1. |
| | (B) 3" PVC | WELL PUMP 2 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 2. |
| | (C) 3" PVC | WELL PUMP 3 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 3. |
| | (D) 3" PVC | SPARE | PULL ROPE | SPARE |
| | (E) 3" PVC | WELL 1,2, & 3 LEVEL TRANSMITTERS | (3) 2/C#16 SH. PR | SIGNAL CONDUIT FROM WELL LEVEL TRANSMITTERS LOCATED IN WELLS 1, 2, & 3 TO RTU PANEL INSIDE PUMPING STATION |
| | (F) 3" PVC | SPARE | PULL ROPE | SPARE |
| C E-2 | (A) 3" PVC | WELL PUMP 2 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 2. |
| | (B) 3" PVC | WELL PUMP 2 TRANSMITTER | (1) 2/C#16 SH. PR | SIGNAL CONDUIT FROM WELL LEVEL TRANSMITTER LOCATED IN WELLS 2 TO RTU PANEL INSIDE PUMPING STATION |
| D E-2 | (A) 3" PVC | WELL PUMP 1 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 1. |
| | (B) 3" PVC | WELL PUMP 1 TRANSMITTER | (1) 2/C#16 SH. PR | SIGNAL CONDUIT FROM WELL LEVEL TRANSMITTER LOCATED IN WELLS 1 TO RTU PANEL INSIDE PUMPING STATION |
| E E-2 | (A) 3" PVC | WELL PUMP 3 | 4/C#6 VFD RATED CABLE | FEEDER CONDUIT FROM VFD IN MCC AT PUMPING STATION TO WELL 3. |
| | (B) 3" PVC | WELL PUMP 3 TRANSMITTER | (1) 2/C#16 SH. PR | SIGNAL CONDUIT FROM WELL LEVEL TRANSMITTER LOCATED IN WELLS 3 TO RTU PANEL INSIDE PUMPING STATION |
| F E-2 | (A) 2" PVC | GENERATOR | 4#2/0 | GENERATOR POWER TO ATS IN MCC |
| | (B) 1" PVC | GENERATOR CONTROL | 6#14 | GENERATOR CONTROL TO ATS IN MCC |
| | (C) 1" PVC | GENERATOR AUX DEVICES | 4#10 + #10G | POWER TO GENERATOR JACKET HEATER AND TRICKLE CHARGER FROM PANEL LPA IN MCC. |
| | (D) 1" PVC | GENERATOR RTU CONTROL | 8#14 | RTU CONNECTION TO GENERATOR. |
| G E-2 | (A) 4" PVC | UTILITY PRIMARY CABLE | BY UTILTY | UTILITY POLES |
| | (B) 4" PVC | SPARE | PULL ROPE | |

GRAFTON WATER DISTRICT
GRAFTON, MASSACHUSETTS

TRININTY AVENUE PUMP STATION

Drawn By: | Designed By: | Checked By: | Approved By:

ELECTRICAL POWER PLAN

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| Rev. | Date | Description |
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REVIEW SUBMITTAL NOT FOR CONSTRUCTION

TATA & HOWARD

T&H NO.: 3703
DATE: FEBRUARY 2016
SCALE: 1" = 20'–0"

E-2