

City of Framingham

The City Council of Framingham



OFFICE OF THE MAYOR
FRAMINGHAM, MA.

2023 JUL 21 AM 11:44

ORDER NO. 2023-031-001
REQUEST OF THE MAYOR

UPON THE REQUEST OF THE MAYOR, THE CITY OF FRAMINGHAM, THROUGH THE FRAMINGHAM CITY COUNCIL, IT IS SO ORDERED:

That the Council votes to approve the requested amendments to the licensing agreement at the Normandy Road/Farley Lot and Concord Street location of the Eversource Geothermal Program, as attached.

YEAS: Alexander, Bryant, Cannon, King, Leombruno, Long, Mallach, Ottaviani, Stefanini,
Steiner, Stewart-Morales
NAYS: None
ABSTAIN: None
ABSENT: All members were present either in person or via teleconferencing
PASSED IN COUNCIL: June 27, 2023

A True Record, Attest:

7/13/2023

Date Approved

Lisa A. Ferguson, City Clerk
Emily L. Butler, Assistant City Clerk

~~7/21/23~~

Date Approved

Charlie Sisitsky, Mayor

AMENDMENT TO LICENSE AGREEMENT

This Amendment to License Agreement (hereinafter the “Amendment”) made this 27th day of June, 2023 by and between the CITY OF FRAMINGHAM, a municipal corporation, having an office at 150 Concord Street, Framingham, Massachusetts (hereinafter the “CITY”), and **NSTAR GAS COMPANY d/b/a EVERSOURCE ENERGY**, a Massachusetts corporation and public utility having a place of business at 247 Station Drive, Westwood, Massachusetts 02090 (hereinafter “LICENSEE”).

WHEREAS, the CITY and LICENSEE entered into a License agreement dated September 12, 2022 (hereinafter the “License Agreement”) whereby the CITY granted conditional permission to LICENSEE to locate, construct, install, lay, drill, maintain, inspect, repair, or replace certain Geothermal Facilities and necessary and proper equipment and fixtures necessary for Proposed Improvements as described therein, all within the License Premises lying Northerly of and adjacent to Normandy Road, as described more fully within the License Agreement; and

WHEREAS, the CITY and LICENSEE wish to modify, alter, add to, define and change certain provisions of the License Agreement through this Amendment; and

NOW THEREFORE, in consideration of the foregoing, together with the observation and performance by the LICENSEE of all the obligations and covenants set forth in the License Agreement to the reasonable satisfaction of the CITY, the CITY and LICENSEE hereby agree to amend the License Agreement in the following respects:

1. The “Property” as defined in the License Agreement shall include, in addition to the land described therein, land adjacent to the parking lot located at 1 Normandy Road Ext in Framingham, Middlesex County, Massachusetts, identified as City of Framingham’s Assessors’ **Map 112, Block 91, Lot 8848**, more particularly described in the Quitclaim Deed dated July 18, 1960 filed in the Middlesex South District Registry of Deeds in Book 9808, Page 102, being shown as ‘Lot “B” 2.94 Acres’ on a plan entitled “TOWN OF FRAMINGHAM PLAN OF LAND BELONGING TO THE FRAMINGHAM HOUSING AUTHORITY” dated February 2, 1960, by Richard T. Mackey, Chief Engineer, filed with said Registry as **Plan 692 of 1961** and shall include underground rights for boreholes only under a portion of land westerly and adjacent thereto located at 19 Flagg Drive, Framingham, Middlesex County, Massachusetts, identified as City of Framingham Assessor Parcel ID 102-92-5235 (Old Parcel ID 100/174.0), more particularly described in a deed dated August 22, 1955 filed with said Middlesex South District Registry of Deeds in Book 8561, Page 102.
2. The “License Premises” as defined in the License Agreement shall be revised and replaced by “the portion of the Property lying Northerly of and adjacent to Normandy Road within the area outlined and identified as ‘License Premises (As Revised)’ and ‘Underground Boreholes License Premises’ on the plan entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT, NORMANDY ROAD BOREFIELD GRADING PLAN”, SHEET NO. C-3, dated

7. Section II. of the License Agreement shall be amended to include the following:

"Unless sooner terminated or revoked pursuant to Section VII. of the License, at the conclusion of the term of the License under Section I., separate agreements shall be required governing LICENSEE'S long-term maintenance and operation of Geothermal Facilities and Proposed Improvements at, above and under CITY property, and LICENSEE'S continued use of CITY property wherever located for the provision of Geothermal Facilities and Proposed Improvements shall be subject to the CITY'S discretion and approval, on such terms and conditions determined by the CITY for Licensee's use of underground, above ground and other CITY property."

8. Section VI. of the License Agreement shall be amended to include the following:

"All significant repairs, upgrades, and maintenance to the Proposed Improvements and Geothermal Facilities that will interfere with the CITY's operation of the License Premises, including significant disturbance to existing parking facilities and associated access, will require thirty (30) days' notice to CITY, except in the event of an emergency or routine maintenance which does not significantly interfere with the CITY's operation of the License premises, in which case LICENSEE will provide CITY with notice forty-eight (48) hours' in advance or as soon as practicable. Access related to work for the Proposed Improvements and Geothermal Facilities must be coordinated with CITY and all LICENSEE personnel that will be on site must pass a Criminal Offender Record Information (CORI) check as administered by the Framingham Public Schools prior to accessing the site".

9. Section VI. of the License Agreement shall be further amended to include the following:

"The LICENSEE shall ensure that all work within the License Premises associated with the implementation of the Geothermal Facilities and Proposed Improvements will be completed by August 23, 2023 and that parking facilities and associated access are restored for use by CITY and its tenants. Any implementation work of the LICENSEE related to the Proposed Improvements and Geothermal Facilities that needs to occur after this period shall be coordinated at the discretion of CITY and its tenants to minimize impacts to the site operations".

10. The final sentence of Section VI. shall be updated as follows:

"During the exercise of the rights hereby granted, the LICENSEE shall at all times conduct itself so as not to unreasonably interfere with the operations of the CITY, its tenants including but not limited to the Commonwealth of Massachusetts acting by and through the Division of Capital Asset Management and Maintenance on behalf of Massachusetts Bay Community College as set forth in a lease dated July 25, 2019 and its subsequent amendments, or other invitees, and observe and obey applicable federal, state and local laws, regulations and ordinances".

All other terms and conditions of the License Agreement shall remain unchanged and in full force and effect and the License Premises (as revised) are subject to compliance with the terms and conditions set forth in the License Agreement. In the event of a conflict between the provisions of the License Agreement and the provisions of this Amendment, the provisions of this Amendment shall control. The parties hereby ratify and confirm the License Agreement, as modified hereby.

The License Agreement and this Amendment contains the entire agreement of the parties with respect to the subject matter hereof. This Amendment may be executed in one or more counterparts each of which shall be deemed an original and all of which, taken together, shall constitute one and the same instrument. The License Agreement and this Amendment can be modified only by an instrument in writing signed by both parties.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed as an instrument under seal by their respective duly authorized representatives as of the date and year first above written.

NSTAR GAS COMPANY d/b/a Eversource Energy (LICENSEE):

By: _____
Name: Patricia Quinn
Title: Supervisor, T&D Rights and Survey

CITY OF FRAMINGHAM (CITY):



By: Michael A. Tusino, Chief Operating Officer

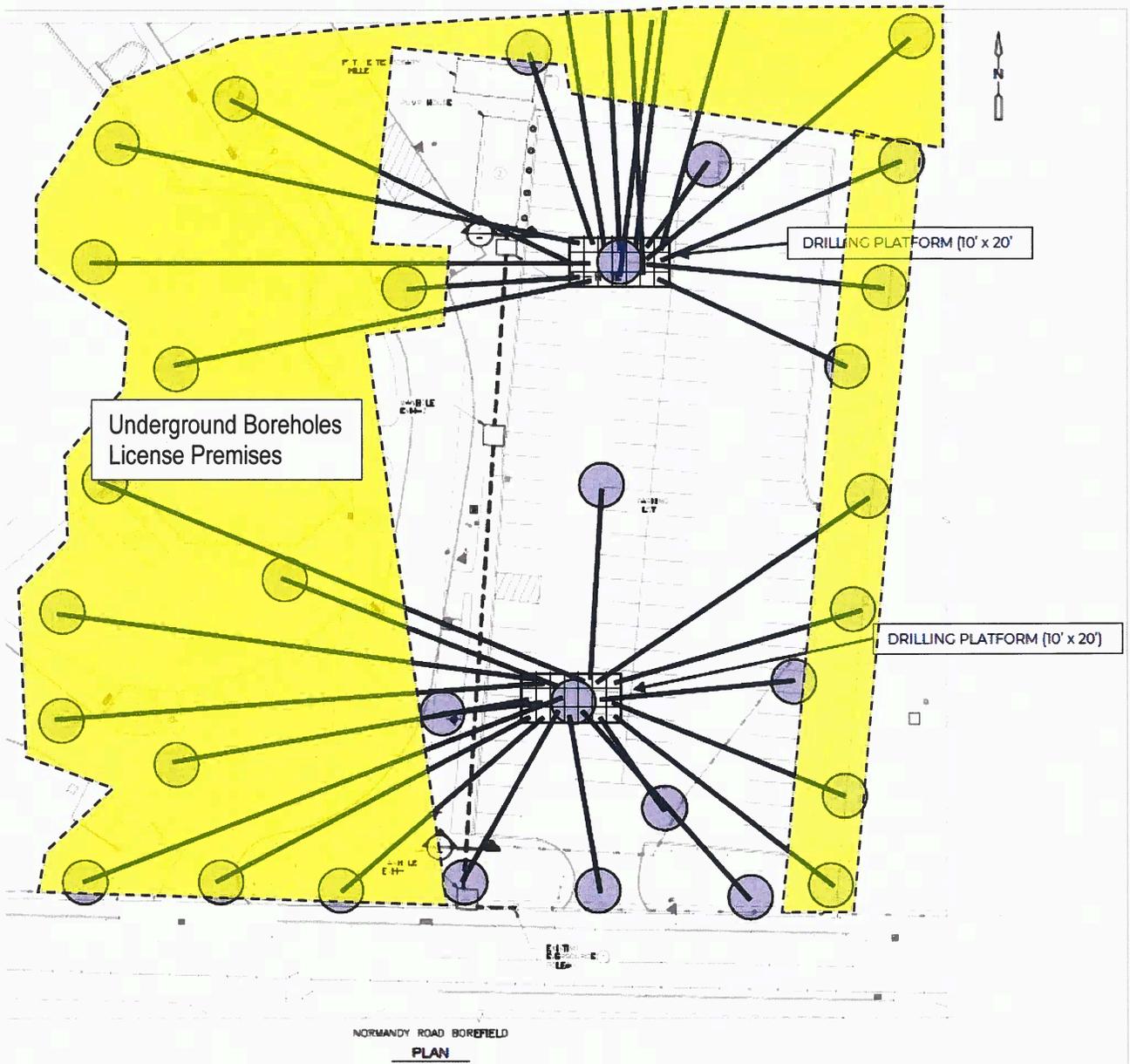
EXHIBIT A

Plan entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT, NORMANDY ROAD BOREFIELD GRADING PLAN”, SHEET NO. C-3, dated FEBRUARY 2023, as revised 3/23, by CDM Smith

and

Illustration entitled “Borehole Positions at Depth and Bottom & Borehole Trajectory from Platform to Bottom” (underground boreholes only)

**Borehole Positions at Depth and Bottom & Borehole Trajectory from Platform to Bottom
(underground boreholes only)**



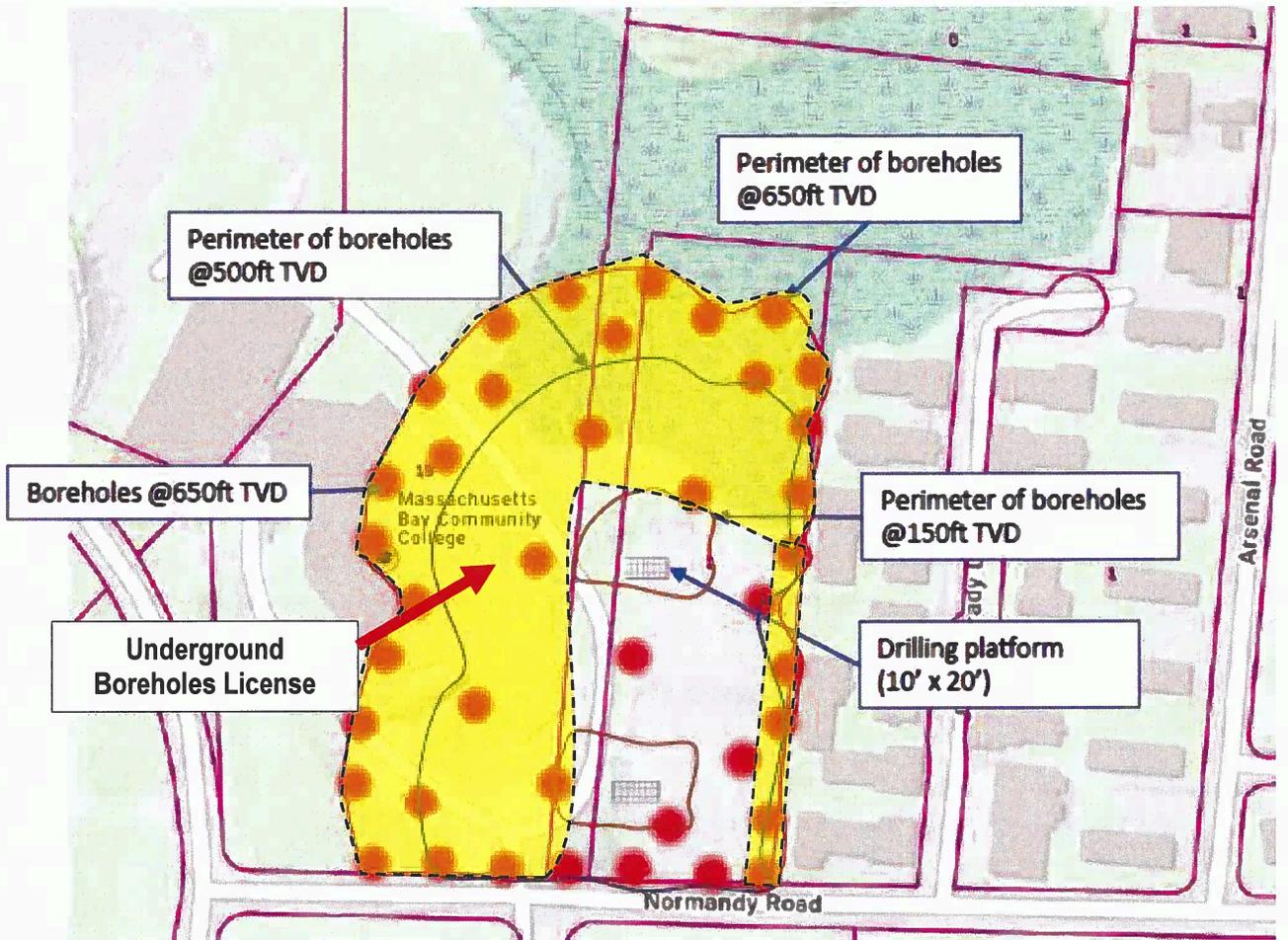
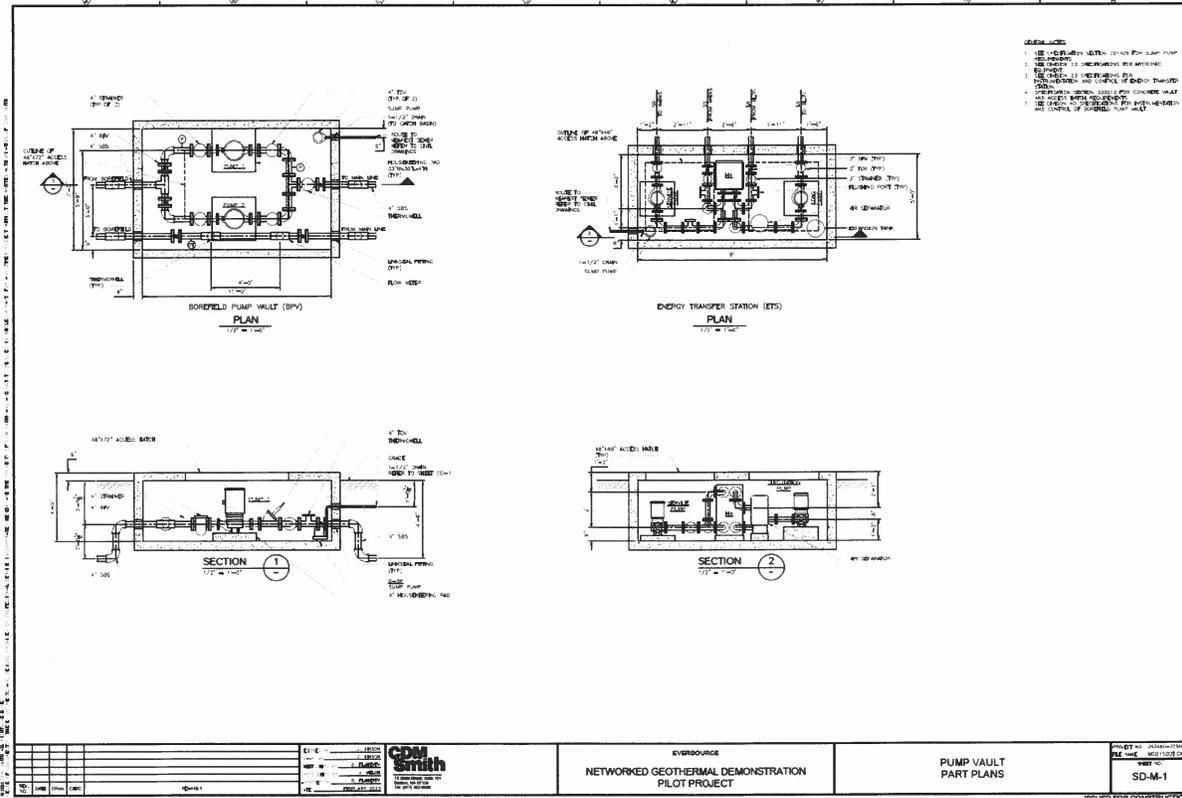
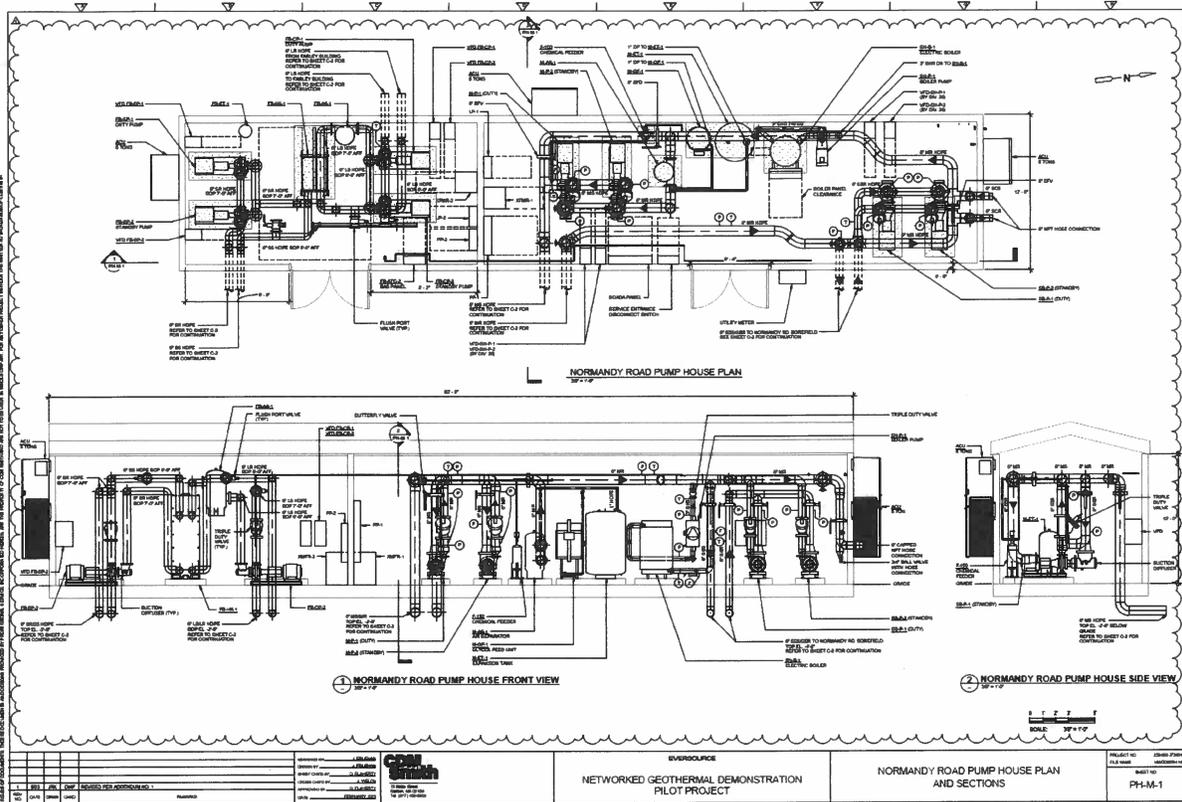


EXHIBIT B

Plan(s) entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT”, SHEET NO(s). C-3, C-12, CD-1, CD-2, CD-3, PH-S-1, SD-S-1, GD-M-1, PH-M-1, SD-M-1, PH-P-1, PH-E-1 and PH-I-11, dated FEBRUARY 2023, as revised March 2023 and May 2023, by CDM Smith

and

Illustration entitled “Normandy Rd Site Schematic, by Celsius Energy



AMENDMENT TO LICENSE AGREEMENT

27th This Amendment to License Agreement (hereinafter the “Amendment”) made this day of JUNE, 2023 by and between the CITY OF FRAMINGHAM, a municipal corporation, having an office at 150 Concord Street, Framingham, Massachusetts (hereinafter the “CITY”), and **NSTAR GAS COMPANY d/b/a EVERSOURCE ENERGY**, a Massachusetts corporation and public utility having a place of business at 247 Station Drive, Westwood, Massachusetts 02090 (hereinafter “LICENSEE”).

WHEREAS, the CITY and LICENSEE entered into a License agreement dated September 12, 2022 (hereinafter the “License Agreement”) whereby the CITY granted conditional permission to LICENSEE to locate, construct, install, lay, drill, maintain, inspect, repair, or replace certain Geothermal Facilities and necessary and proper equipment and fixtures necessary for Proposed Improvements as described therein, all within the License Premises located at 520 Concord Street, as described more fully within the License Agreement; and

WHEREAS, the CITY and LICENSEE wish to modify, alter, add to, define and change certain provisions of the License Agreement through this Amendment; and

NOW THEREFORE, in consideration of the foregoing, together with the observation and performance by the LICENSEE of all the obligations and covenants set forth in the License Agreement to the reasonable satisfaction of the CITY, the CITY and LICENSEE hereby agree to amend the License Agreement in the following respects:

1. The “License Premises” as defined in the License Agreement shall be revised and replaced by “all within a portion of the Property lying westerly of Concord Street within the area outlined and identified as ‘License Premises (As Revised)’ on the plan entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT, FIRE STATION BOREFIELD PLAN”, SHEET NO. C-5, dated February 23, 2023, as revised March 2023, by CDM Smith”, attached and incorporated hereto as Exhibit A. Exhibit A attached hereto may be hereinafter referred to as the “License Premises Plan (as revised)” and shall replace the “License Premises Plan” within said License Agreement. To the extent there is any conflict between the License Premises Plan (as revised) and the License Premises Plan, the License Premises Plan (as revised) shall control.
2. “Proposed Improvements” as defined in the License Agreement shall include but not be limited to “activities for a geothermal network, together with associated boreholes, pumps, and loops”.
3. “Geothermal Facilities” as defined in the License Agreement shall include, but not be limited to, “certain geothermal boreholes and loops, including geothermal network equipment, piping, valves, vaults, cabinets, and associated appurtenances above and below the surface of the Property as more fully shown on the plans entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT”, SHEET NO(s). C-6, C-5, C-12, CD-1, CD-2, CD-3, SD-S-1, SD-M-1, FS-E-1, SD-E-1, SD-E-2, PH-I-10, and PH-I-13, dated February 2023, as revised

3/23 & 5/23, by CDM Smith, attached hereto as Exhibit B". Exhibit B and Exhibit A attached hereto may be referred to collectively as the "PLANS" and shall replace Exhibit A and Exhibit B of the License Agreement.

4. The last sentence of Section I. of the License Agreement shall be replaced with the following:

"Unless otherwise provided by separate written agreement between the CITY and LICENSEE, upon termination of the License Agreement, LICENSEE expressly agrees that LICENSEE shall restore to the extent practicable, at LICENSEE'S sole cost and expense, all preexisting infrastructure, facilities, and systems, including, but not limited to electrical, plumbing, and/or other systems which were disturbed by the Geothermal Facilities and Proposed Improvements at the Property prior to LICENSEE'S installation of these Geothermal Facilities and Proposed Improvements as well as ensure the proper functionality and working condition of all installed Geothermal Facilities and Proposed Improvements pursuant to CITY's selected Termination Alternative defined in the associated Geothermal Energy Service Demonstration Pilot Service Agreement. "

5. Section I. of the License Agreement shall be further amended with the following:

Any assignment by the LICENSEE of its rights or obligations under this Agreement shall require the advance written consent of CITY, which shall not be unreasonably withheld or delayed.

6. Section II. of the License Agreement shall be amended to include the following:

Unless sooner terminated or revoked pursuant to Section VII. of the License, at the conclusion of the term of the License under Section I., separate agreements shall be required governing LICENSEE'S long-term maintenance and operation of Geothermal Facilities and Proposed Improvements at, above and under CITY property, and LICENSEE'S continued use of CITY property wherever located for the provision of Geothermal Facilities and Proposed Improvements shall be subject to the CITY'S discretion and approval, on such terms and conditions determined by the CITY for Licensee's use of underground, above ground and other CITY property.

7. Section VI. of the License Agreement shall be amended to include the following:

All significant repairs, upgrades, and maintenance to the Proposed Improvements and Geothermal Facilities that will interfere with the CITY's operation of the License Premises, including significant disturbance to existing parking facilities and associated access, will require thirty (30) days' notice to CITY, except in the event of an emergency or routine maintenance which does not significantly interfere with the CITY's operation of the License premises, in which case LICENSEE will provide CITY with notice forty-eight (48) hours' in advance or as soon as practicable. Access related to work for the Proposed Improvements and Geothermal Facilities must be coordinated with CITY.

All other terms and conditions of the License Agreement shall remain unchanged and in full force and effect and the License Premises (as revised) are subject to compliance with the terms and conditions set forth in the License Agreement. In the event of a conflict between the provisions of the License Agreement and the provisions of this Amendment, the provisions of this Amendment shall control. The parties hereby ratify and confirm the License Agreement, as modified hereby.

The License Agreement and this Amendment contains the entire agreement of the parties with respect to the subject matter hereof. This Amendment may be executed in one or more counterparts each of which shall be deemed an original and all of which, taken together, shall constitute one and the same instrument. The License Agreement and this Amendment can be modified only by an instrument in writing signed by both parties.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed as an instrument under seal by their respective duly authorized representatives as of the date and year first above written.

NSTAR GAS COMPANY d/b/a Eversource Energy (LICENSEE):

By: _____
Name: Patricia Quinn
Title: Supervisor, T&D Rights and Survey

CITY OF FRAMINGHAM (CITY):

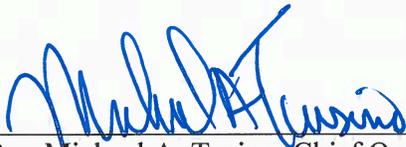

By: Michael A. Tusino, Chief Operating Officer

EXHIBIT A

License Premises (As Revised) illustrated on the plan entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT, FIRE STATION BOREFIELD PLAN”, SHEET NO. C-5, dated February 23, 2023 as revised 3/23, by CDM Smith

GENERAL NOTES

1. ALL PROPOSED GEOTHERMAL PIPE ALIGNMENT SHOWN IS APPROXIMATE ONLY. CONTRACTOR IS RESPONSIBLE FOR REVIEW AND DETERMINATION OF FINAL ALIGNMENT BASED ON FIELD CONDITIONS. COORDINATE WITH ENGINEER FOR OWNER, CITY OR PROPERTY APPROVAL PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL MINIMIZE IMPACTS TO EXISTING FEATURES TO THE EXTENT POSSIBLE. ANY SURFACE AREA AND DAMAGES TO EXISTING UTILITIES SHALL BE RESTORED IN KIND OR OTHERWISE SPECIFIED.
3. DURING AMBIENT LOOP INSTALLATION LIMIT THE AMOUNT OF DISTURBANCE WITHIN THE RIGHT-OF-WAY AND OPEN EXCAVATION TO THE EXTENTS POSSIBLE. PROVIDE TRAFFIC AND PEDESTRIAN MANAGEMENT AS SPECIFIED.
4. TEMPORARY CONSTRUCTION FENCE TO BE INSTALLED BY CONTRACTOR AROUND WORK AREA AND ADJUSTED AS NEEDED. CONTRACTOR SHALL LIMIT WORK ZONES TO ACTIVE CONSTRUCTION AREAS AS TO NOT IMPACT RESIDENTS ACCESS AND PARKING AS WORK PROGRESSES.
5. SERVICE LINE BALL VALVES SHALL BE SAME SIZE AS SERVICE LINE. SEE NOTE G-2 FOR SIZES AND SHEET G-3 FOR GENERAL LAYOUT.
6. REFER TO DETAILS D AND E ON SHEET C-12 FOR GEOTHERMAL CIRCUIT SCHEMATIC. MINIMUM BENDING RADIUS OF SWEEPS SHALL BE 25 FEET.
7. ETS SUMP PUMP DISCHARGE PIPING TO BE FIELD ROUTED TO NEAREST SEWER.
8. PROTECT MEMORIAL AND RESTORE ANY DISTURBED LANDSCAPING TO EXISTING CONDITIONS.
9. MAINTAIN A MINIMUM OF 3-FT OFFSET SEPARATION BETWEEN THE PROPOSED BOREHOLE AND ANY WATER, SEWER, OR STORM DRAIN PIPES OR STRUCTURES.

License Premises (As Revised)

PROPOSED GEOTHERMAL BOREHOLE/LOOP (TYP)
SEE SHEET C-12 FOR BOREFIELD SCHEDULE
MAINTAIN 3-FT BOREHOLE CLEARANCE. (TYP)
SEE NOTE 9

TEMPORARY WORK AREA - SEE NOTE 4

GEOTHERMAL TEST LOOP - TW-FS

DEED BOOK 8434, PAGE 384

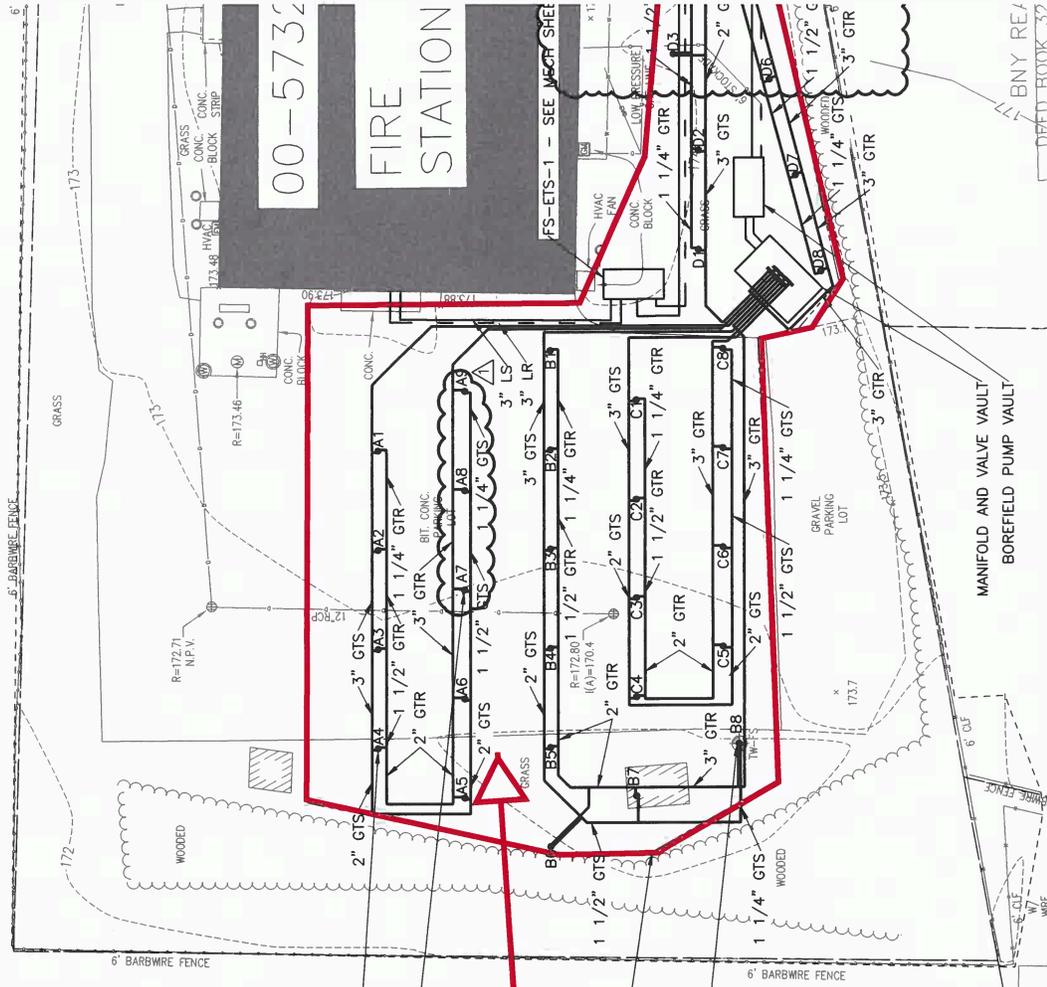


EXHIBIT B

Plan(s) entitled “EVERSOURCE NETWORKED GEOTHERMAL DEMONSTRATION PILOT PROJECT”, SHEET NO(s). C-6, C-5, C-12, CD-1, CD-2, CD-3, SD-S-1, SD-M-1, FS-E-1, SD-E-1, SD-E-2, PH-I-10, and PH-I-13, dated February 2023, as revised 3/23 & 5/23, by CDM Smith

A

B

C

D

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8" HDPE GEOTHERMAL AMBIENT LOOP PIPE

NORMANDY ROAD BOREFIELD

FARLEY BUILDING

ROSE KENNEDY LANE

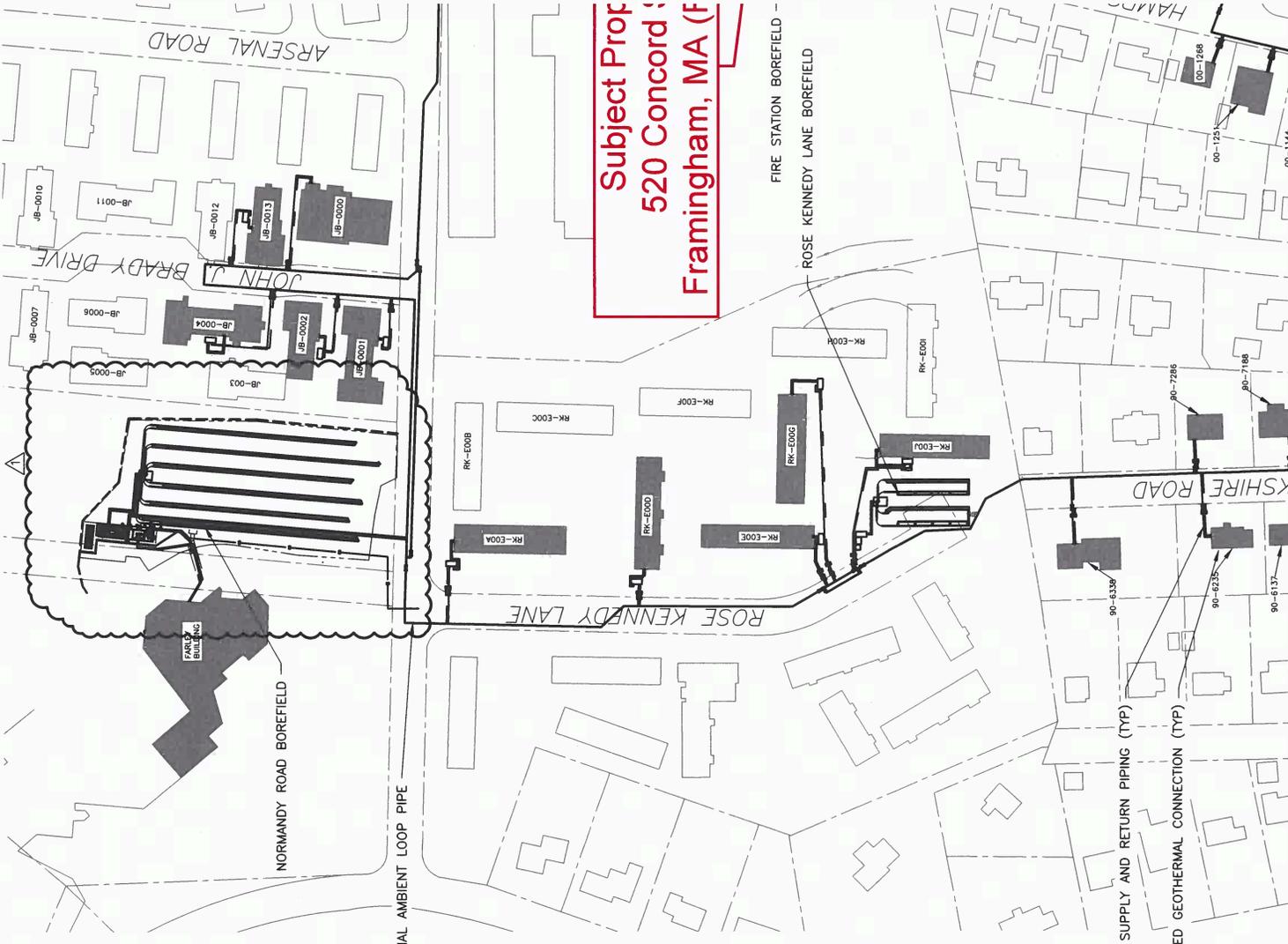
FIRE STATION BOREFIELD

ROSE KENNEDY LANE BOREFIELD

SUPPLY AND RETURN PIPING (TYP)

BUILDING WITH PROPOSED GEOTHERMAL CONNECTION (TYP)

Subject Property
520 Concord
Framingham, MA (F)



GENERAL NOTES

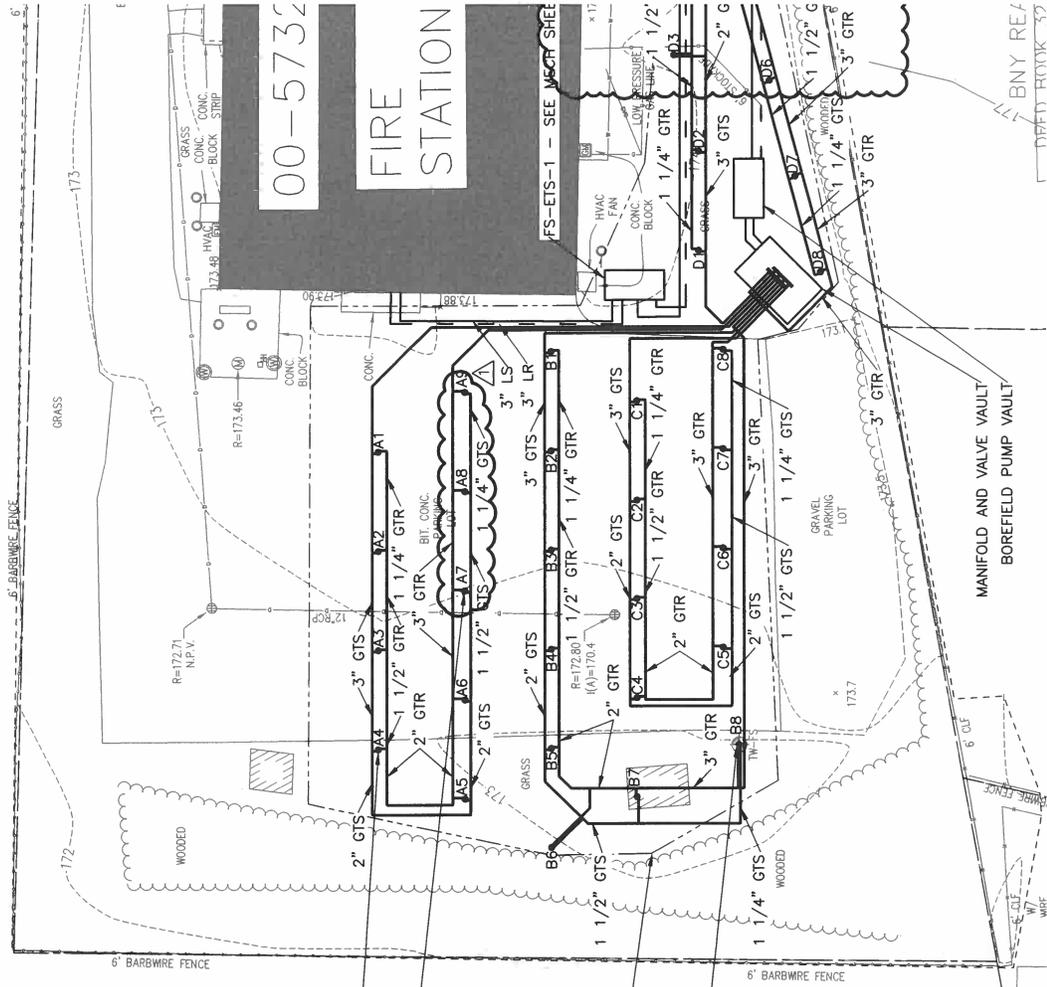
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8. PROTECT MEMORIAL AND RESTORE ANY DISTURBED LANDSCAPING TO EXISTING CONDITIONS.
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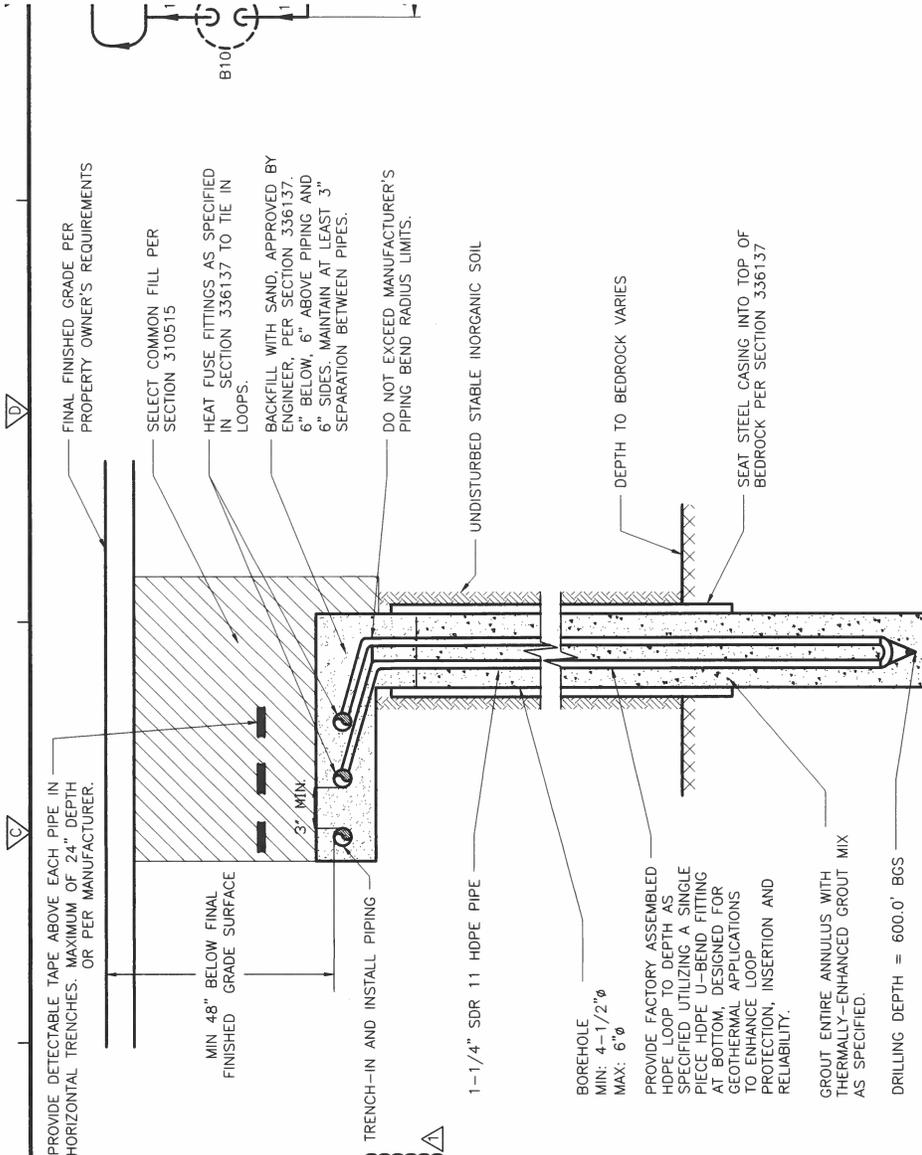
PROPOSED GEOTHERMAL BOREHOLE/LOOP (TYP)
SEE SHEET C-12 FOR BOREFIELD SCHEDULE
MAINTAIN 3-FT BOREHOLE CLEARANCE. (TYP)
SEE NOTE 9

TEMPORARY WORK AREA - SEE NOTE 4

GEOTHERMAL TEST LOOP - TW-FS

DEED BOOK 8434, PAGE 384





- NOTES:
- IF DEPTH OF TRENCH EQUALS OR EXCEEDS 4'-0", STABILIZE TRENCH WALLS PER SECTION 315000
 - WHERE SPACE ALLOWS INSTALL SUPPLY LINE AND RETURN LINE IN GROUPS SIDE BY SIDE RATHER THAN STACKED AS SHOWN IN DETAIL. THICKNESS OF SAND AND SELECT COMMON FILL ON TOP OF PIPE SHALL BE AS SHOWN IN THIS DETAIL. INSTALL IN SAME OR SEPARATE TRENCHES AND MAINTAIN MIN. 24" SEPARATION BETWEEN GROUPS.
 - NUMBER OF PAIRS OF PIPES IN TRENCH VARIABLE.

TYPICAL GEOTHERMAL CIRCUIT TRENCH SECTION



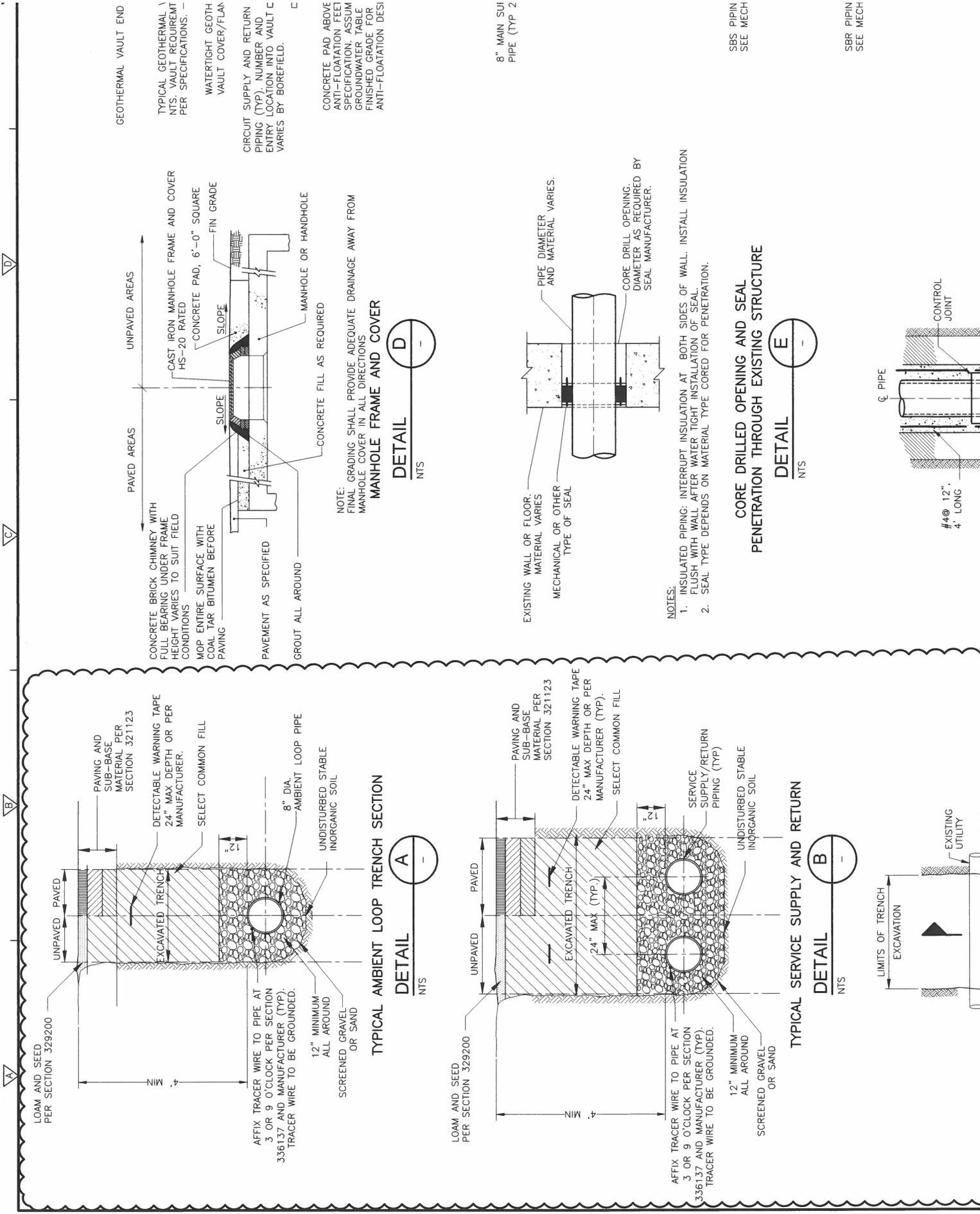
TYPICAL GEOTHERMAL BOREHOLE DETAIL



NORMANDY RD. BOREFIELD SCHEDULE	
GEOTHERMAL BOREHOLES	
NUMBER OF BORES / LOOPS	60
BORE / LOOP DEPTH	600 FT. EA.
NUMBER OF CIRCUITS	6
NUMBER OF LOOPS PER CIRCUIT	10
GROUT MIXTURE	
GROUT TYPE	THERMALLY ENHANCED BENTONITE
GROUT MIN. THERMAL CONDUCTIVITY	1.4 BTU/HR-FT-F

ROSE KENNEDY BOREFIELD SCHEDULE	
GEOTHERMAL BOREHOLES	
NUMBER OF BORES / LOOPS	20
BORE / LOOP DEPTH	600 FT. EA.
NUMBER OF CIRCUITS	2
NUMBER OF LOOPS PER CIRCUIT	10
GROUT MIXTURE	
GROUT TYPE	THERMALLY ENHANCED BENTONITE
GROUT MIN. THERMAL CONDUCTIVITY	1.4 BTU/HR-FT-F

FIRE STATION BOREFIELD SCHEDULE	
GEOTHERMAL BOREHOLES	
NUMBER OF BORES / LOOPS	33
BORE / LOOP DEPTH	600 FT. EA.
NUMBER OF CIRCUITS	4
NUMBER OF LOOPS PER CIRCUIT	8 & 9
GROUT MIXTURE	
GROUT TYPE	THERMALLY ENHANCED BENTONITE
GROUT MIN. THERMAL CONDUCTIVITY	1.4 BTU/HR-FT-F



GEOTHERMAL VAULT END

TYPICAL GEOTHERMAL VAULT REQUIREMENTS. VAULT REQUIREMENT PER SPECIFICATIONS. -

WATERTIGHT GEOTH VAULT COVER/FLAN

CIRCUIT SUPPLY AND RETURN PIPING (TYP). NUMBER AND ENTRY LOCATION INTO VAULT VARIES BY BOREFIELD.

CONCRETE PAD ABOVE ANTI-FLOATATION FEET SPECIFICATION. ASSUM GROUNDWATER TABLE FINISHED GRADE FOR ANTI-FLOATATION DESI

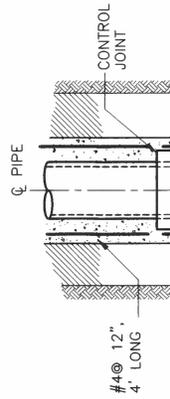
8" MAIN SUI PIPE (TYP 2

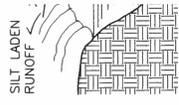
SBS PIPIN SEE MECH

SBR PIPIN SEE MECH

NOTES:
 1. INSULATED PIPING: INTERRUPT INSULATION AT BOTH SIDES OF WALL. INSTALL INSULATION FLUSH WITH WALL AFTER WATER TIGHT INSTALLATION OF SEAL.
 2. SEAL TYPE DEPENDS ON MATERIAL TYPE CORED FOR PENETRATION.

CORE DRILLED OPENING AND SEAL PENETRATION THROUGH EXISTING STRUCTURE





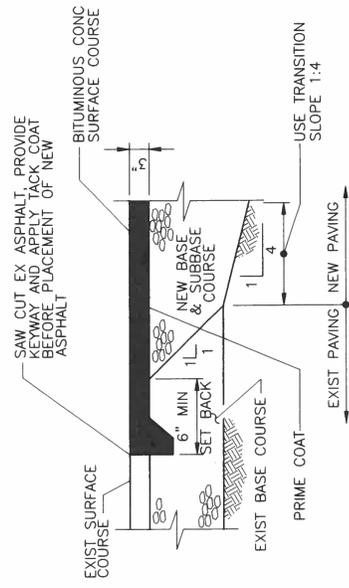
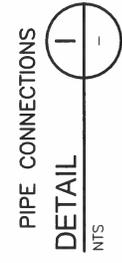
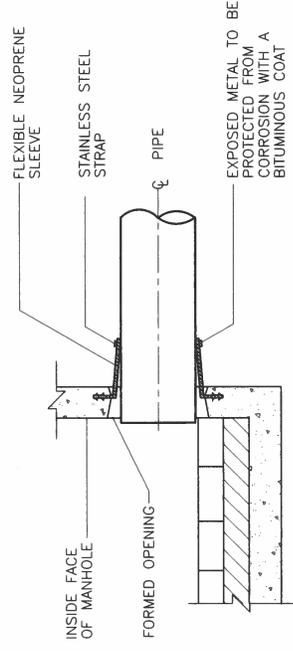
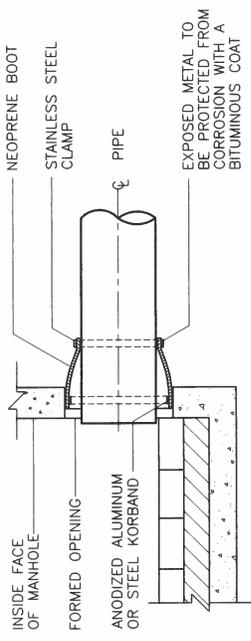
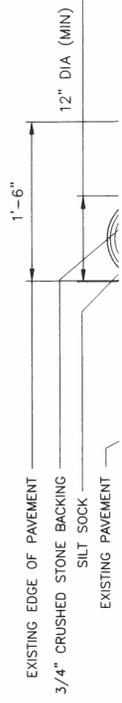
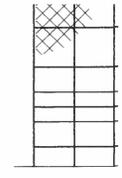
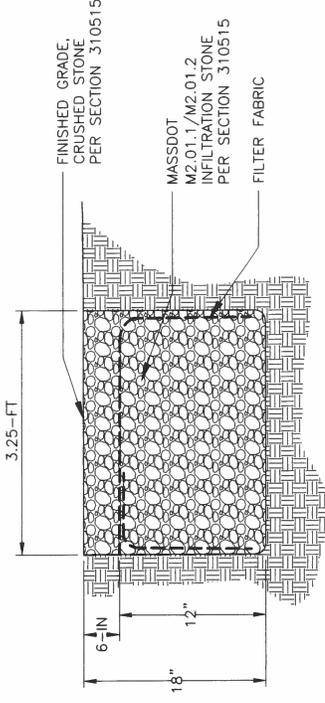
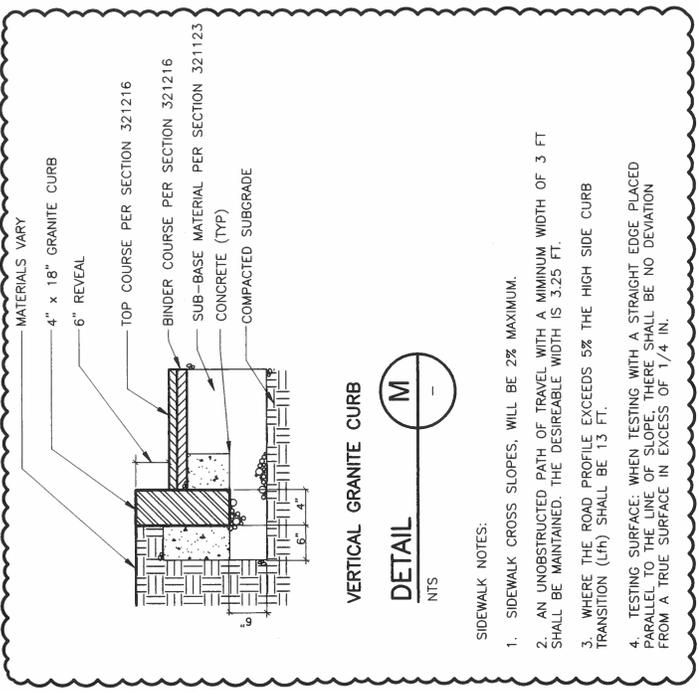
- NOTE:
1. IN IN
 2. IN IN
 3. W FF S/

'D'

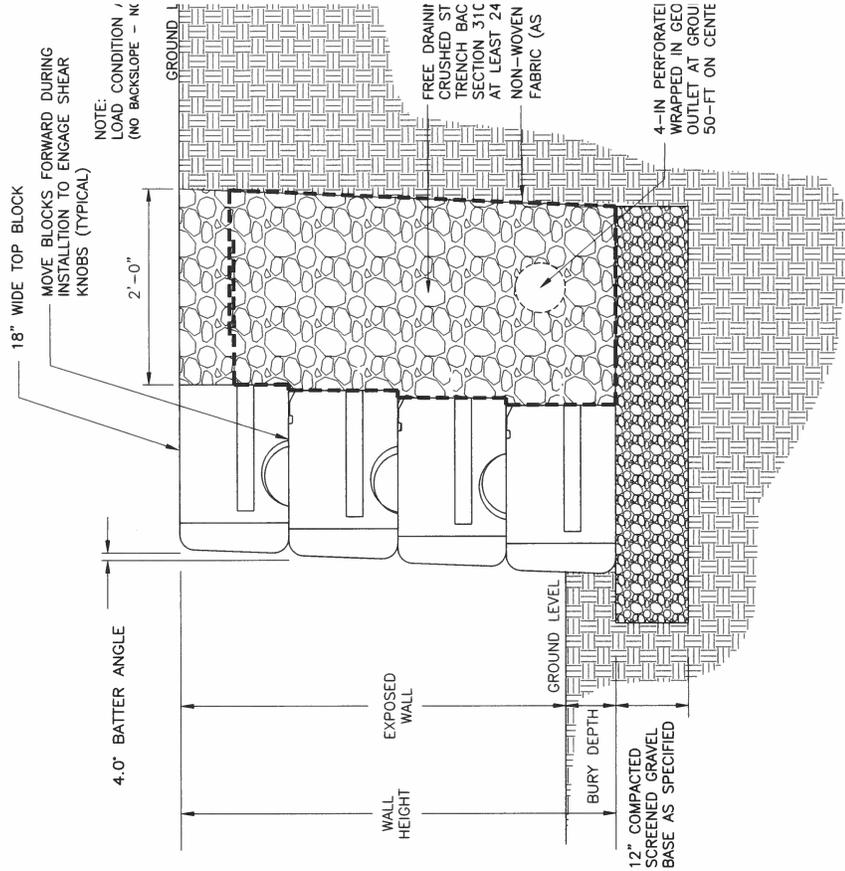
'C'

'B'

'A'



A B C D

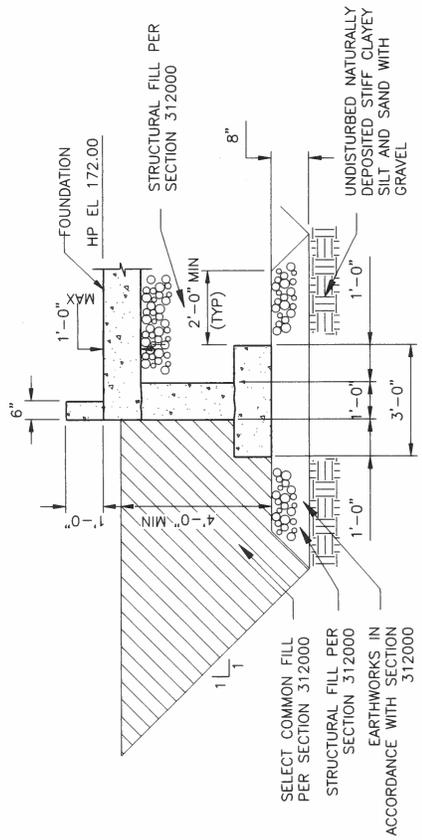


TYPICAL SECTION

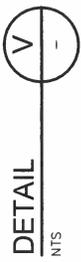
BIG BLOCK SEGMENTAL RETAINING WALL



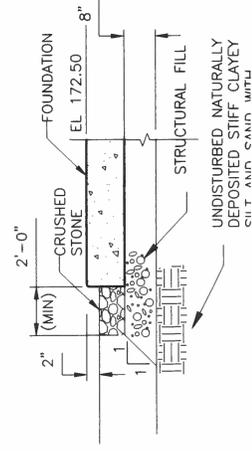
DETAIL
NTS



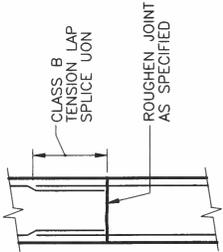
PUMP HOUSE FOUNDATION EARTHWORKS



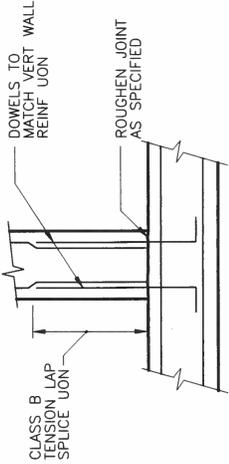
DETAIL
NTS



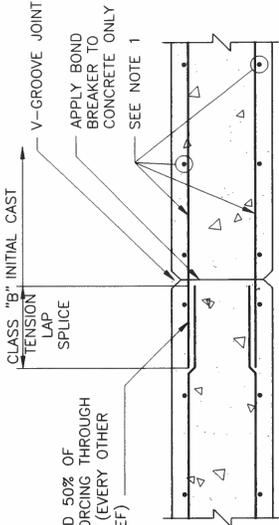
A B C D



NOTE: DETAIL SHOWN FOR WALLS;
SLABS SIMILAR



EXTEND 50% OF REINFORCING THROUGH JOINT (EVERY OTHER BAR, EF)



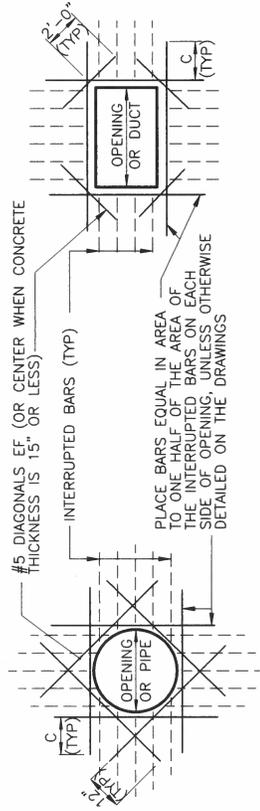
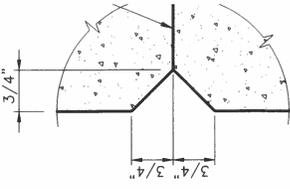
NOTES:
1. PIPE ENCASMENT REINFORCING AS SHOWN ON THIS DRAWING.
2. 2ND POUR SHALL BE 24 HOURS AFTER INITIAL POUR.

CONSTRUCTION JOINT
NTS

WALL CONSTRUCTION JOINT AT SLAB
NTS

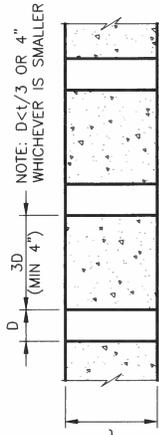
PARTIAL CONTRACTION JOINT
NTS

V-GROOVE JOINT
NTS



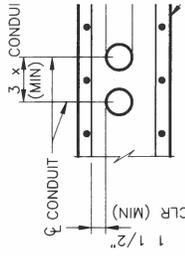
NOTES:
1. DETAIL IS TYP FOR ALL OPENINGS 15" AND GREATER IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE NOTED. SPREAD REINF AT SMALLER OPENINGS.
2. BARS ARE NOT REQUIRED AT AN OPENING EDGE PARALLEL TO AND WITHIN 6 INCHES OF A WALL OR BEAM.
3. C = TENSION DEVELOPMENT LENGTH; PROVIDE STD HOOK IF FULL DEVELOPMENT LENGTH IS NOT POSSIBLE.
4. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.

REINFORCEMENT AT OPENINGS
NTS



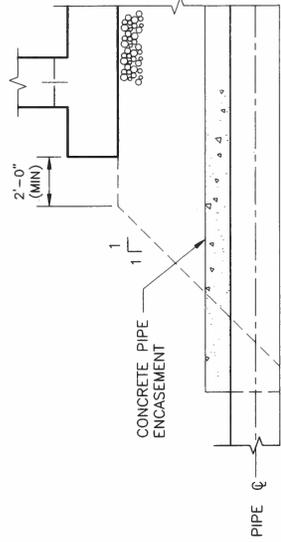
CONDUIT THROUGH SLAB OR WALL

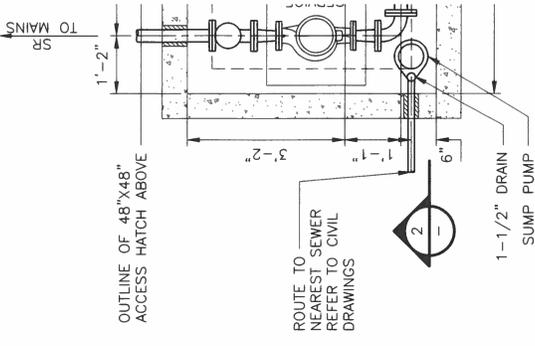
NOTES:
1. FOR CONDUIT REQUIREMENTS SEE THE ELECTRIC SPECIFICATIONS.
2. WHERE THE INDICATED CLEAR DISTANCE BETWEEN THIS AREA SHALL BE TREATED AS A SLAB OPENING



SINGLE ROW

MINIMUM CONDUIT PLACEMENT
NTS

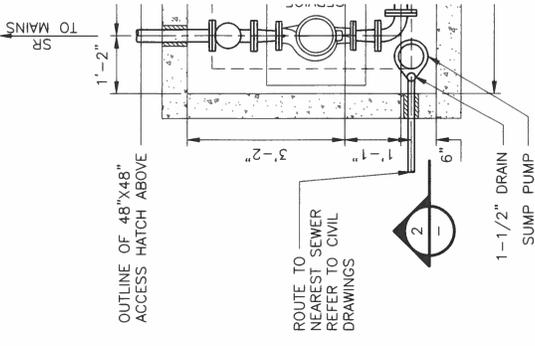
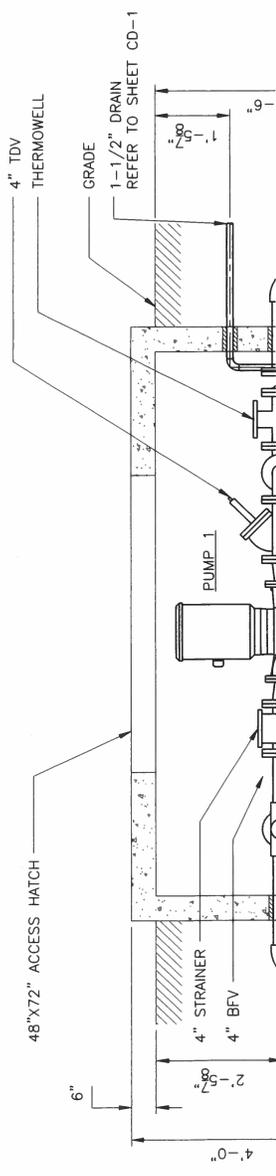




BOREFIELD PUMP VAULT (BPV)

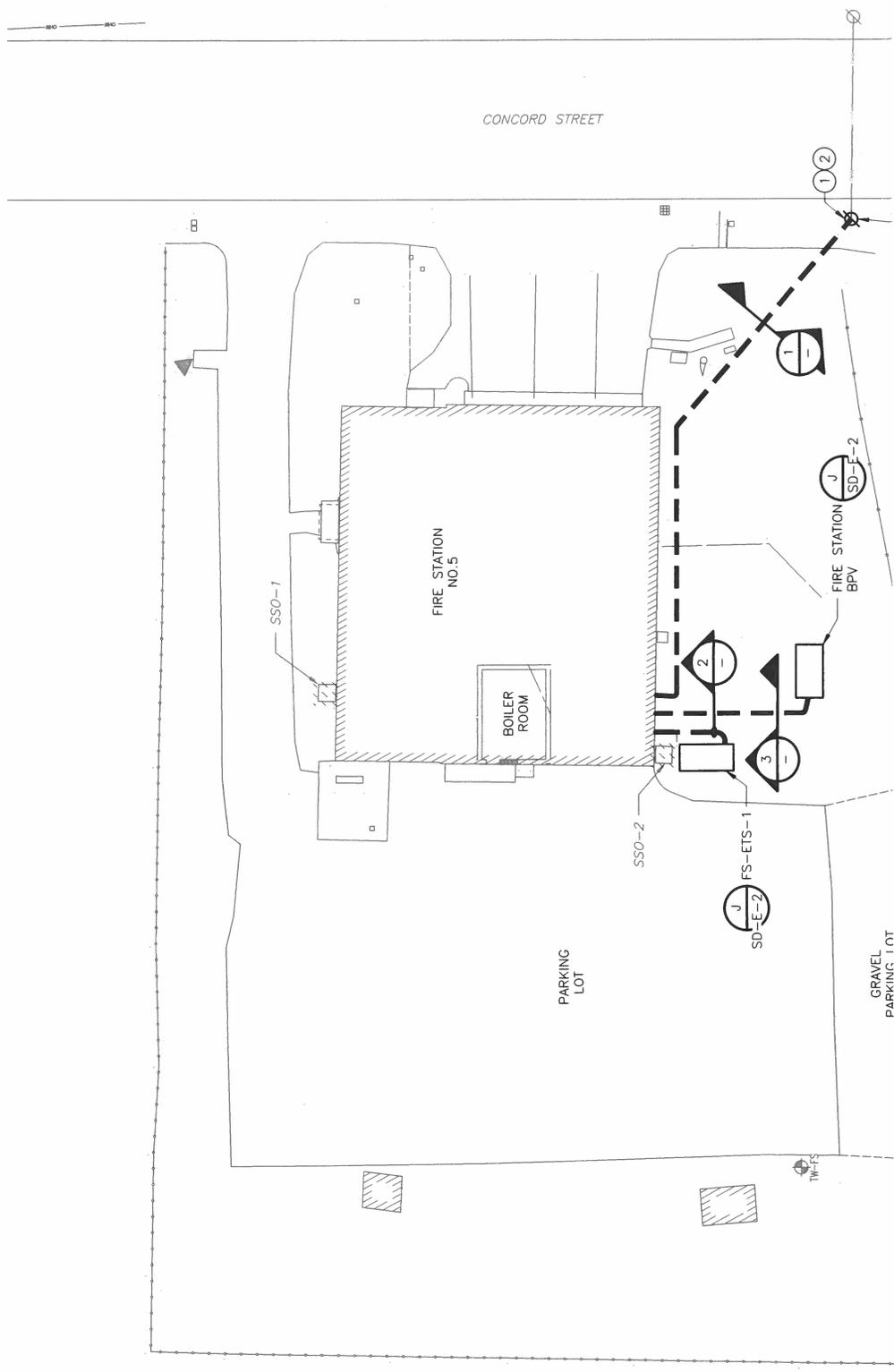
PLAN

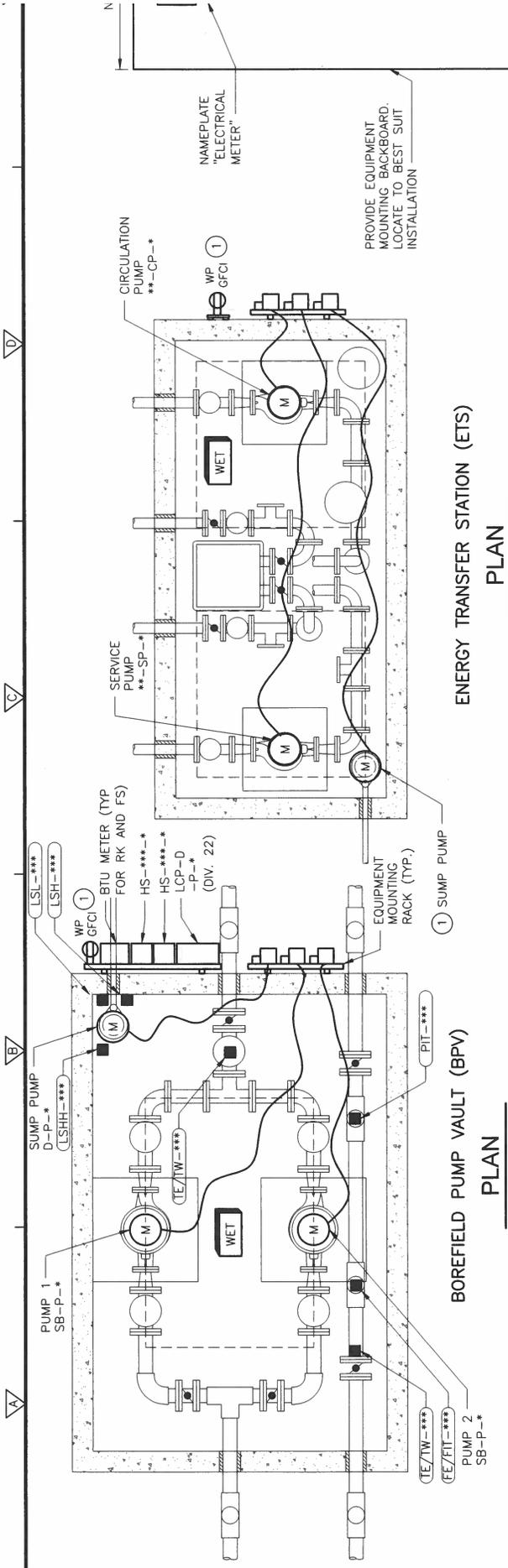
1/2" = 1'-0"



ENI

HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.





BOREFIELD PUMP VAULT (BPV)

PLAN

1/2" = 1'-0"

ENERGY TRANSFER STATION (ETS)

PLAN

1/2" = 1'-0"

TAG	LOCATION	BUILDING
SB-P-3	ROSE KENNEDY BPV	ROSE KENNEDY
SB-P-4	ROSE KENNEDY BPV	ROSE KENNEDY
D-P-1	ROSE KENNEDY BPV	ROSE KENNEDY
SB-P-5	FIRE STATION BPV	FIRE STATION
SB-P-6	FIRE STATION BPV	FIRE STATION
D-P-2	FIRE STATION BPV	FIRE STATION

TAG	LOCATION	BUILDING
JB-SP-1	JB-ETS-1	JOHN. J BRADY APARTMENT
JB-CP-1	JB-ETS-1	JOHN. J BRADY APARTMENT
JB-SP-2	JB-ETS-2	JOHN. J BRADY APARTMENT
JB-CP-2	JB-ETS-2	JOHN. J BRADY APARTMENT
JB-SP-3	JB-ETS-3	JOHN. J BRADY APARTMENT
JB-CP-3	JB-ETS-3	JOHN. J BRADY APARTMENT
JB-SP-4	JB-ETS-4	JOHN. J BRADY APARTMENT
JB-CP-4	JB-ETS-4	JOHN. J BRADY APARTMENT
RK-SP-1	RK-ETS-1	ROSE KENNEDY
RK-CP-1	RK-ETS-1	ROSE KENNEDY
RK-SP-2	RK-ETS-2	ROSE KENNEDY
RK-CP-2	RK-ETS-2	ROSE KENNEDY
RK-SP-3	RK-ETS-3	ROSE KENNEDY
RK-CP-3	RK-ETS-3	ROSE KENNEDY
RK-SP-4	RK-ETS-4	ROSE KENNEDY
RK-CP-4	RK-ETS-4	ROSE KENNEDY
RK-SP-5	RK-ETS-5	ROSE KENNEDY
RK-CP-5	RK-ETS-5	ROSE KENNEDY
FS-SP-1	FS-ETS-1	FIRE STATION
FS-CP-1	FS-ETS-1	FIRE STATION

TAG DESCRIPTION	ROSE KENNEDY BPV	FIRE STATION
ESTOP FOR PUMP1	HS-420-4	HS-520-4
ESTOP FOR PUMP2	HS-430-4	HS-530-4
SUMP PUMP CP	LCP-D-P-1	LCP-D-P-2
SUMP PUMP FLOAT	LSH-490	LSH-590
SUMP PUMP FLOAT	LSL-490	LSL-590
INTRUSION ALARM	ZS-481	ZS-581
TEMP. SWITCH	TE/TW-405	TE/TW-505
PRESSURE SWITCH	FE/FIT-410	FE/FIT-510
TEMP. SENSOR	PIT-400	PIT-500
	TE/TW-435	TE/TW-535

GENERAL NOTES:

- REFER TO SHEET PH-E-5 FOR RISER DIAGRAM.
- CONTRACTOR SHALL FIELD COORDINATE AND INSTALL DISCONNECTS WITHIN SIGHT OF THE MOTORS/PUMPS.

KEYED NOTES:

- REFER TO SHEET FB-E-4, FS-E-2, JB-E-6 AND RK-E-2 ON PANELBOARD SCHEDULE 1B, LP-1, MDP-1 AND LP-RK FOR CONDUIT AND WIRING DETAILS.

U-SHAPE CONNECTOR (TYP)

1-5/8" STAINLESS STEEL U-CHANNEL (TYP)

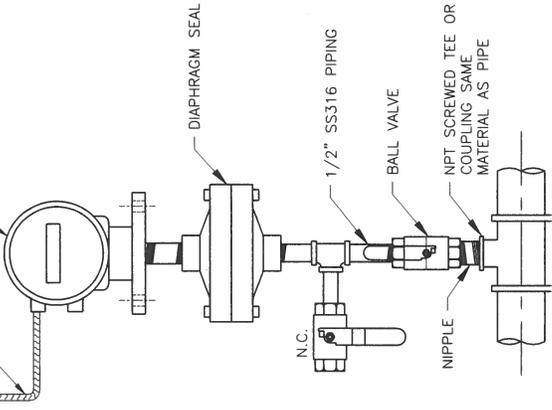
NUMBER AND SPACING OF CROSS MEMBERS AS REQUIRED (TWO MINIMUM)

PROVIDE EQUIPMENT MOUNTING BACKBOARD. LOCATE TO BEST SUIT INSTALLATION

NAMEPLATE "ELECTRICAL METER"

A B C D

LENGTH OF LIQUID-TIGHT FLEXIBLE METAL CONDUIT AS REQUIRED TO ALLOW EASY REMOVAL OF SENSOR PRESSURE TRANSMITTER)

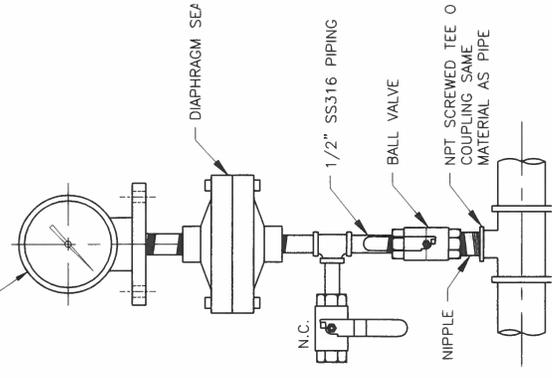


PRESSURE TRANSMITTER INSTALLATION

DETAIL A

NTS

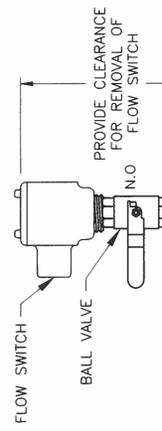
PRESSURE GAUGE (AS REQUIRED)



PRESSURE GAUGE INSTALLATION

DETAIL B

NTS



REMOTE TRANSMITTER

