

# NE-MA-BSTN2N01-TMO-NB-05A

## HUB: NEH0004A

### PETITION PLANS

CITY OF MALDEN  
MIDDLESEX COUNTY

ENGINEERING FIRM

**NB+C**  
TOTALLY COMMITTED.  
NB+C ENGINEERING SERVICES, LLC.  
100 APOLLO DRIVE, SUITE 303  
CHELMSFORD, MA 01824  
(978) 856-8308

APPLICANT

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SITE INFORMATION

NE-MA-BSTN2N01-TMO-NB-05A  
NEH0004A  
CITY OF MALDEN  
MIDDLESEX COUNTY

DESIGN RECORD

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2	07/28/21	MWRA COMMENTS	JQ
1	05/25/21	MWRA DETAILS ADDED	JQ
0	05/07/21	PRELIMINARY	HT

PROFESSIONAL STAMP



ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.  
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

**TITLE SHEET**

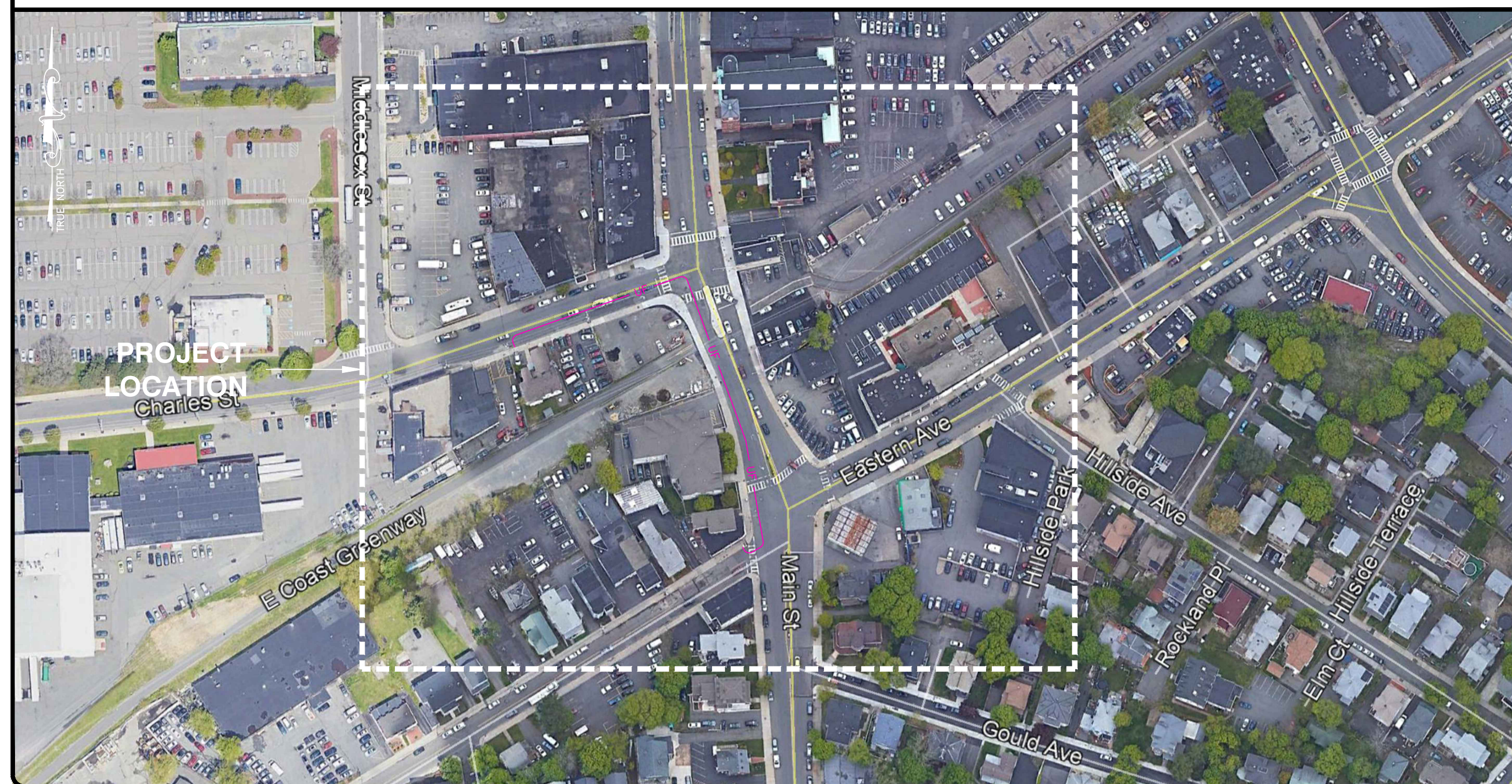
SHEET NUMBER

**SHEET 01 OF 08**

### LEGEND

	PROPERTY LINE
	RIGHT-OF-WAY
	EXISTING FENCE LINE
	EDGE OF PAVEMENT
	EXISTING GAS LINE
	EXISTING SEWER LINE
	EXISTING STORM DRAIN LINE
	EXISTING O/H UTILITY LINE
	EXISTING WATER SERVICE
	EXISTING TELEPHONE
	EXISTING ELECTRIC
	EXISTING CONDUIT
	PROPOSED TRENCH
	PROPOSED ELECTRIC
	PROPOSED UNDERGROUND FIBER
	HUB
	FIBER NODE
	SPLICE ENCLOSURE
	SLACK LOOP
	PROPOSED POLE
	RISER
	POLE GROUNDING
	UTILITY POLE
	LIGHT POLE
	TRAFFIC POLE
	WATER VALVE
	GAS VALVE
	TELEPHONE MANHOLE
	ELECTRIC MANHOLE
	UNKNOWN MANHOLE
	HANDHOLE
	STORM DRAIN
	ELECTRIC VAULT
	EXISTING STRUCTURE
	STORM DRAIN MANHOLE
	SANITARY SEWER MANHOLE
	HYDRANT
	EXISTING DOWN GUY WITH ANCHOR
	PROPOSED DOWN GUY WITH ANCHOR
	PROPOSED DOWN GUY WITH EXISTING ANCHOR

### VICINITY MAP



### DRAWING INDEX

01	TITLE SHEET
02	NOTES
03-06	UTILITY PLAN
07	UNDERGROUND DETAILS
08	MWRA PROFILE DETAILS

### STREET OPENING LOCATIONS

MADISON STREET  
MAIN STREET  
CHARLES STREET

### PROJECT INFORMATION

**SITE NAME:** NE-MA-BSTN2N01-TMO-NB-05A  
**NB+C ES PROJECT NUMBER:** 100523  
**JURISDICTION:** CITY OF MALDEN  
MIDDLESEX COUNTY  
**EXTENET PROJECT MANAGER:** ADAM DORL  
3030 WARRENVILLE RD, SUITE 340  
LISLE, IL 60532  
NOC: (866) 892-5327  
**HUB LOCATION:** NEH0004A  
329 SECOND STREET  
EVERETT, MA 02149  
**ELECTRIC COMPANY:** NATIONAL GRID

### CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2015 INTERNATIONAL BUILDING CODE (MASSACHUSETTS AMENDED 9TH EDITION)
- 2017 NATIONAL ELECTRICAL CODE
- NFPA 1-2015 EDITION
- 2015 IFC - REFERENCE 527 CMR
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION
- ANSI/TIA-222-G
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275
- ANSI/T 311

### PROJECT TEAM

**ENGINEERING FIRM:** NB+C ENGINEERING SERVICES, LLC.  
100 APOLLO DRIVE, SUITE 303  
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### DRAWING SCALE

THESE DRAWINGS ARE SCALED TO FULL SIZE AT 22"x34" AND HALF SIZE AT 11"x17". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.



GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICE AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN, EXCEPT FOR FIBER OPTIC CABLE AND OTHER MATERIALS IDENTIFIED BY .
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWING/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATION UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTIONS MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, AND KEEPING A COPY ON SITE, ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY TO ORIGINAL OR BETTER CONDITION.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL IS RESOLVED BY THE CONSTRUCTION MANAGER.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE PROJECT.
16. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
17. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
18. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
19. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
20. AFTER COMPLETION OF CONSTRUCTION, RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.
21. WORK SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER ALL REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC. REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF WORK
22. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS AT THE JOB SITE THAT COULD AFFECT THE WORK UNDER THIS CONTRACT. ALL MANUFACTURERS RECOMMENDED SPECIFICATIONS, EXCEPT THOSE SPECIFICATIONS HEREIN, WHERE MOST STRINGENT SHALL BE COMPLIED WITH.
23. THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF ANY AND ALL MECHANICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE MET. NOTIFY THE CONSULTANTS OF ANY CONFLICTS. THE CONSULTANT HAS THE RIGHT TO MAKE MINOR MODIFICATIONS IN THE DESIGN OF THE CONTRACT WITHOUT THE CONTRACTOR GETTING ADDITIONAL COMPENSATION.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL TRADES AND REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING, SITE, AND ANY OTHER SURROUNDING AREAS TO BETTER THAN NEW CONDITION.

25. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC. ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES.
26. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND/OR INSTRUCTIONS OF THE ENGINEER AND/OR OWNERS REPRESENTATIVE.
27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR RESTORATION OF ANY DAMAGE TO EXISTING ACCESS ROADWAY AND ANY ADJACENT SITE AS A RESULT OF HIS USE DURING CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF ALL WORK.
28. ALL ANCHORS SHALL BE 6" LONG, DOUBLE EYED, 10" SCREW TYPE UNLESS OTHERWISE SPECIFIED ON PLANS.
29. ALL AERIAL CABLE SHALL BE DOUBLE-LASHED USING 0.45 STAINLESS LASHING WIRE.
30. THE TOP OF ALL BURIED CONDUIT/CABLE WILL BE PLACED 48" BELOW GRADE UNLESS OTHERWISE SPECIFIED ON PLANS.
31. MAXIMUM PULLING TENSION ON CABLES IS 600 LBS.
32. THE CONTRACTOR MUST CONTACT ONE CALL FOR LOCATION OF EXISTING UTILITIES MINIMUM 72 HOURS PRIOR TO CONSTRUCTION.
33. FOR OPTIMUM PROTECTION, CONNECTION TO EXISTING MULTI-GROUNDED NEUTRAL (MGN) SHOULD BE THE 1ST CHOICE FOR BONDING. PER NESC 96-C, MULTI GROUNDED SYSTEMS ARE AT EACH TRANSFORMER LOCATION AND AT ADDITIONAL POINTS WITH MADE OR EXISTING ELECTRODES TO TOTAL NOT LESS THAN FOUR GROUNDS IN EACH MILE.
34. PERMIT PLACARDS MUST BE ON SITE AND MADE AVAILABLE TO THE INSPECTOR UPON REQUEST. FAILURE TO COMPLY WILL RESULT IN THE PROJECT BEING SHUT DOWN, TAGGED, AND A DOUBLING OF THE PERMIT FEE.
35. THE EXISTING UTILITY INFORMATION SHOWN REPRESENTS THE BEST DATA AVAILABLE FROM EXISTING DOCUMENTATION AND FIELD EVIDENCE. ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE, AND A FIELD INVESTIGATION MUST BE PERFORMED IN THE VICINITY OF ANY CONSTRUCTION ACTIVITIES. NOTE THAT THESE PLANS MAY NOT SHOW ALL UTILITIES THAT ARE PRESENT AT THE SITE.

MANHOLE NOTES:

1. THE TOPS OF MANHOLE FRAMES AND COVERS SHALL BE INSTALLED FLUSH WITH GROUND, PAVEMENT OR SIDEWALK.
2. THE DRAIN HOLE SHALL BE FILLED WITH AGGREGATE CONFORMING TO THE REQUIREMENTS OF 805, GRADING NO. 67.
3. CONDUIT ENTERING MANHOLES SHALL BE TERMINATED FLUSH WITH THE INSIDE WALL.
4. CONDUITS SHALL BE ALIGNED IN AS NEARLY A STRAIGHT LINE AS POSSIBLE TO ALLOW FOR EASE OF PULLING CABLE.
5. THE SPACE REMAINING BETWEEN THE CONDUIT AND THE STRUCTURE WALL SHALL BE FILLED OR PATCHED WITH CONCRETE OR ACCEPTABLE EQUAL SO THERE WILL BE NO LEAKAGE.
6. MANHOLES SHALL BE SEATED ON TRENCH FILL MEETING THE REQUIREMENTS OF 804.05 IN ORDER TO PREVENT SETTLEMENT.
7. THE FRAME AND COVER SHALL BE PAINTED BEFORE INSTALLATION WITH 1 FIELD COAT OF PRIMER MEETING THE REQUIREMENTS OF 811.03.
8. COVERS FOR MANHOLES AND HANDHOLES SHALL BE MARKED ON THE OUTSIDE. MARKING SHALL BE PLACED PARALLEL TO THE LONG SIDE OF THE COVER.
9. EACH COVER SHALL HAVE TWO 0.875 INCH PICK HOLES TO ALLOW THE COVER TO BE REMOVED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION AND SHORING NECESSARY IN ORDER TO INSTALL THE MANHOLES AND HANDHOLE SHOW ON THE PLANS.
11. THE CONTRACTOR SHALL ELECTRICALLY GROUND ALL METALLIC OBJECTS COMPRISING THE MANHOLE OR HANDHOLE INCLUDING THE FRAME AND COVER, CABLE RACKS AND REINFORCING STEEL, AS APPROPRIATE.
12. CABLE RACKS SHALL BE INSTALLED IN THE MANHOLE, AS DIRECTED BY THE ENGINEER.
13. THE CONTRACTOR SHALL ADJUST THE MANHOLE TO GRADE USING A POURED CONCRETE COLLAR.
14. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR TEMPORARY PATCHING AROUND THE MANHOLE AND HANDHOLE AND MAINTENANCE OF THE PATCH UNTIL THE PERMANENT STREET CUT REPAIRS HAVE BEEN MADE.
15. THE CONTRACTOR WILL SUBMIT CATALOG CUTS OF ALL PRECAST MANHOLES AND HANDHOLES THAT HE/SHE PROPOSES TO INSTALL. ALL STRUCTURES TO BE INSTALLED IN THE ROADWAY OR AREAS SUBJECT TO VEHICLE.

ENGINEERING FIRM

APPLICANT

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NEH0004A  
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ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.  
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

NOTES

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02 OF 08

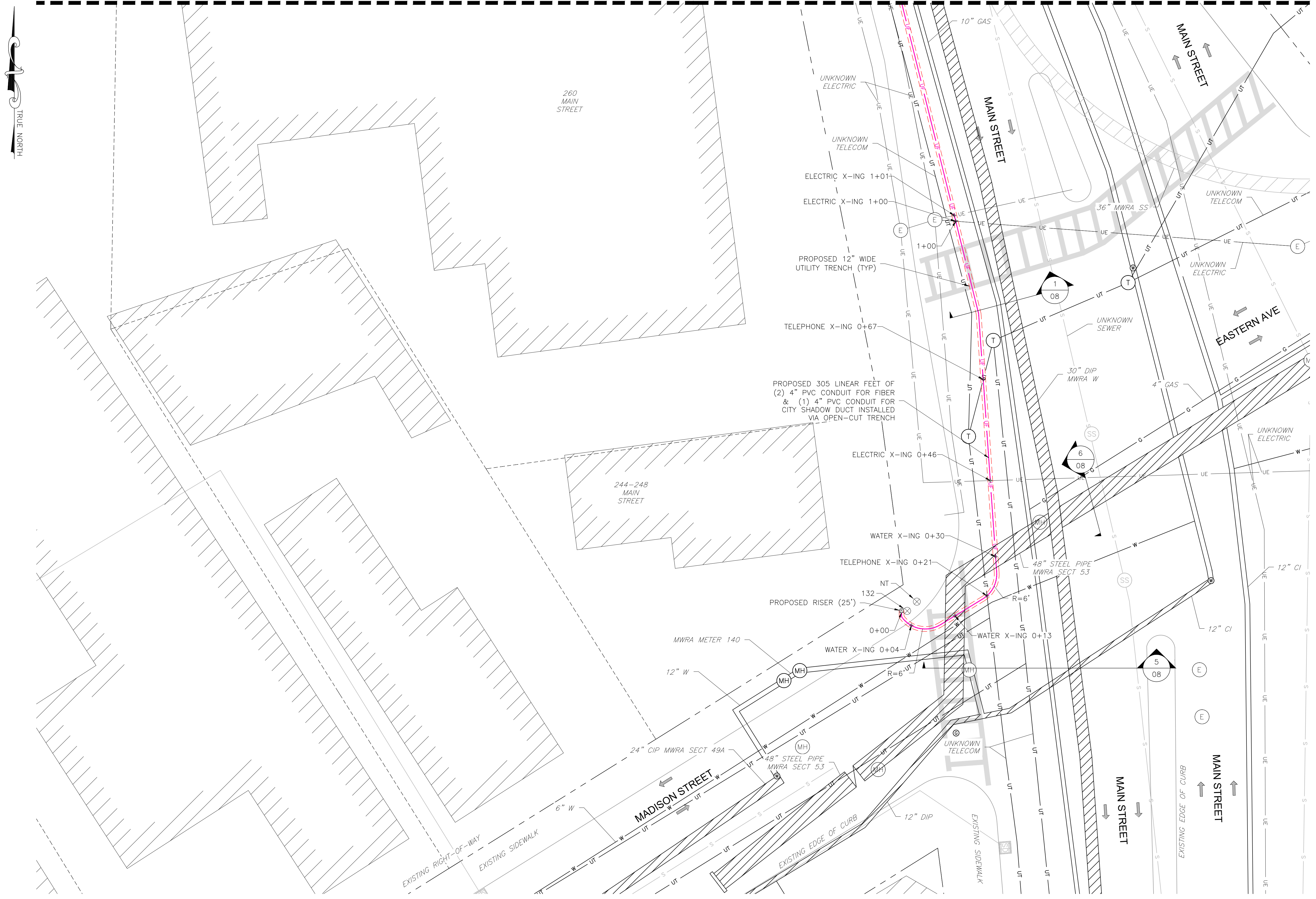


Know what's below.  
Call before you dig.



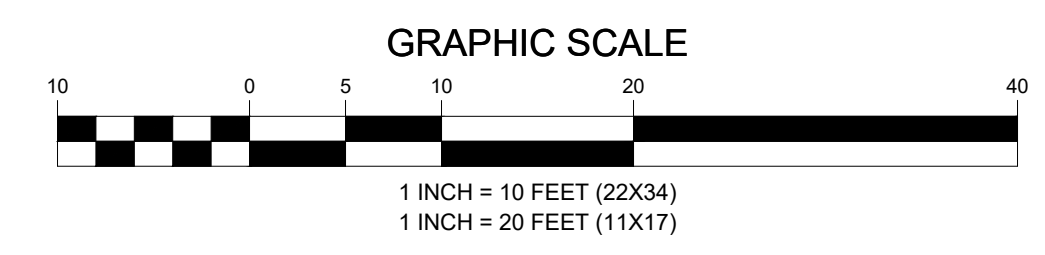
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MATCH LINE UT-04



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1  
03  
UTILITY PLAN  
1" = 10'



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 TOTALLY COMMITTED.

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 100 APOLLO DRIVE, SUITE 303  
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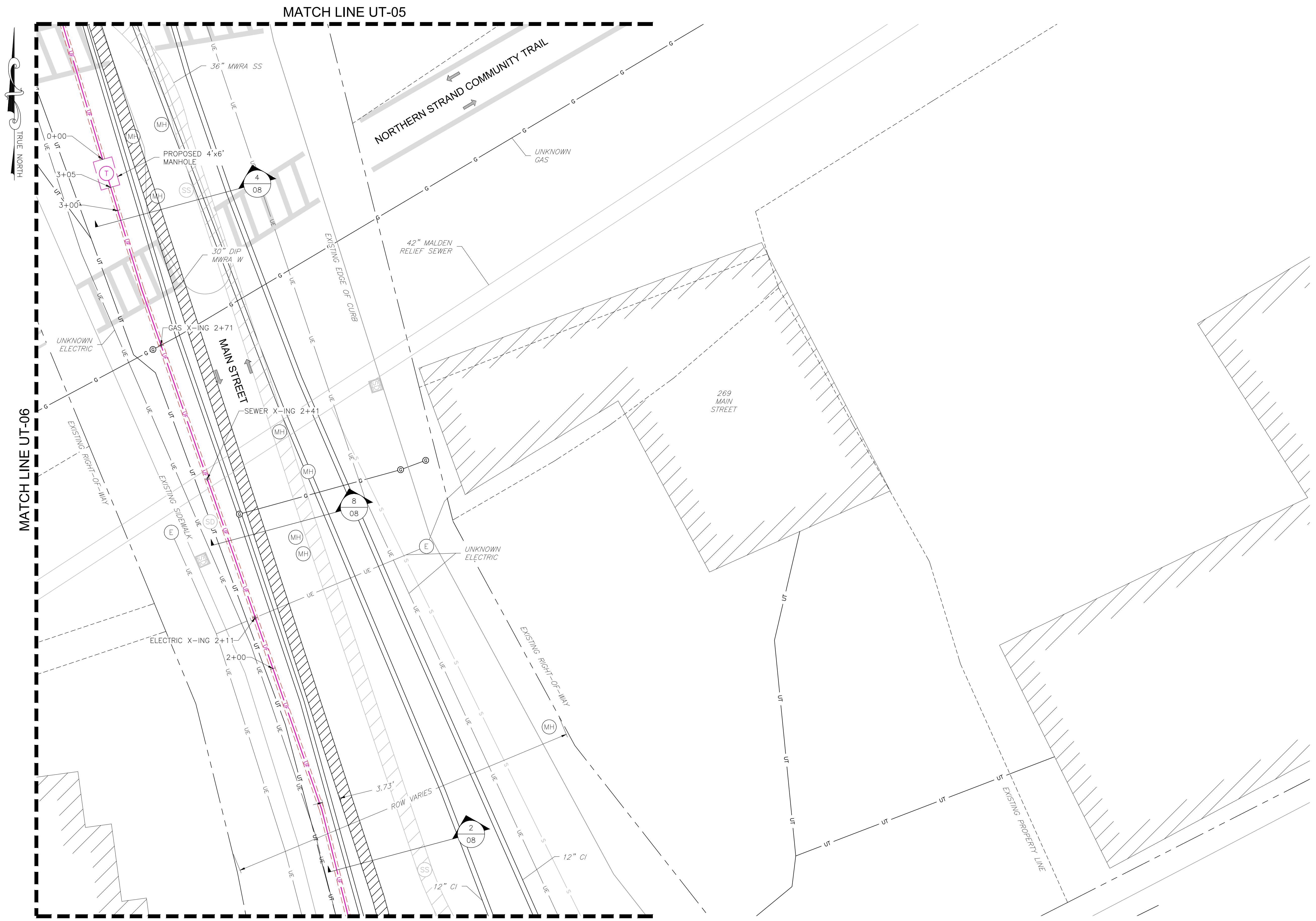
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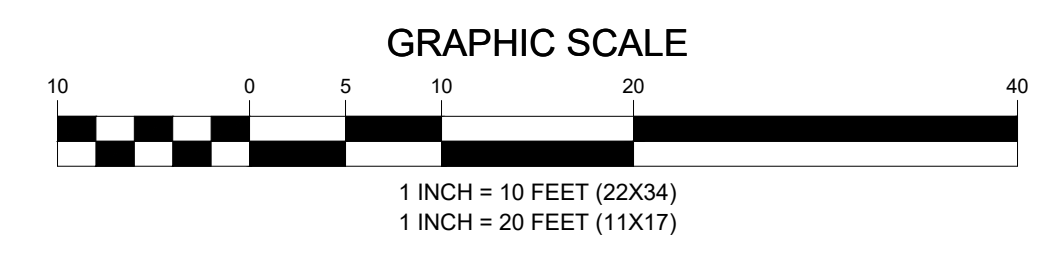
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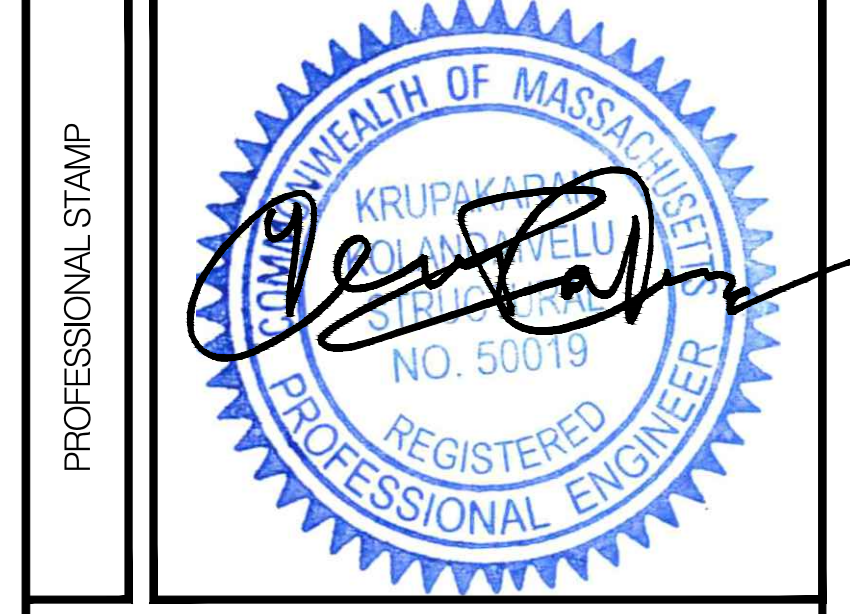
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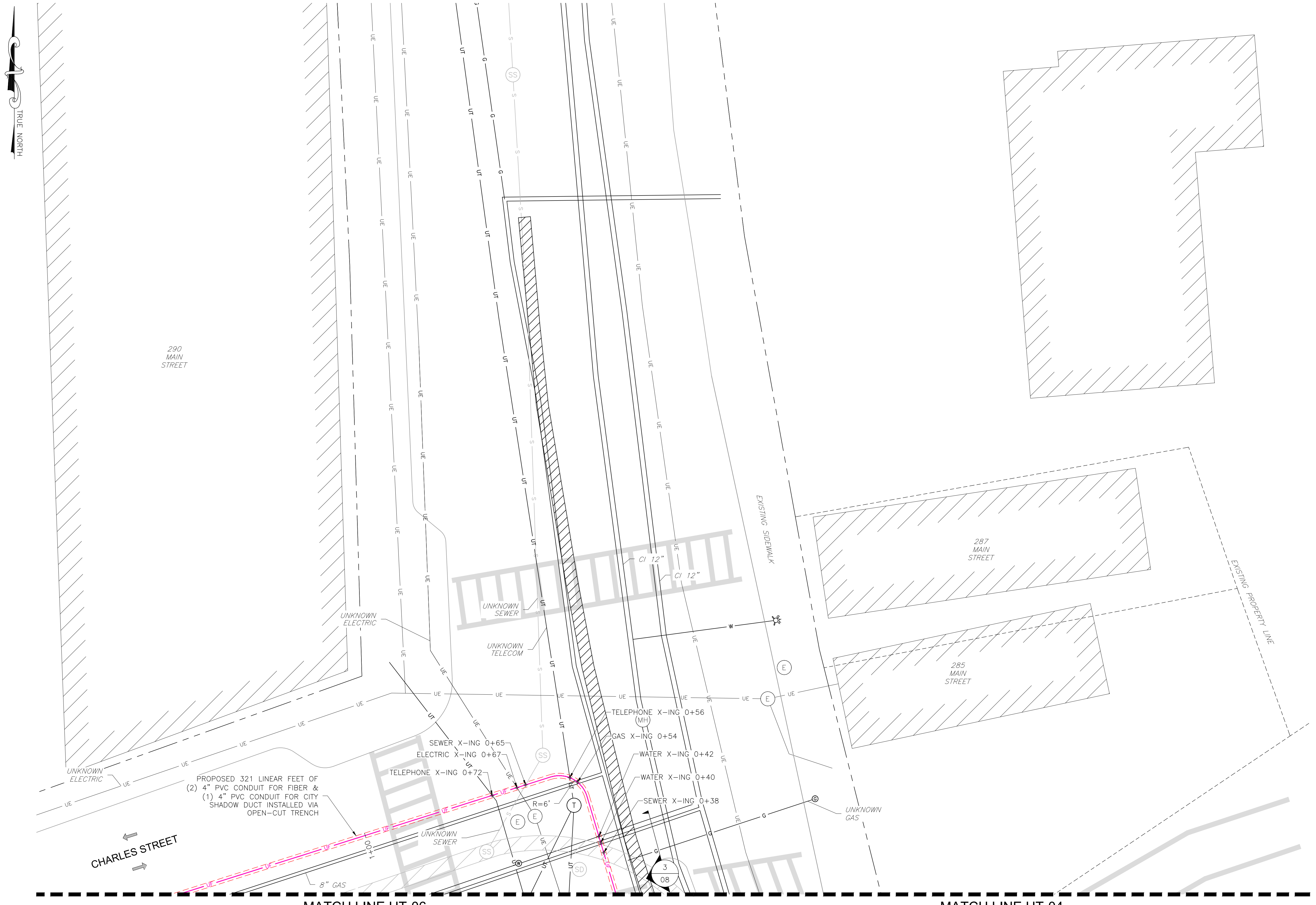
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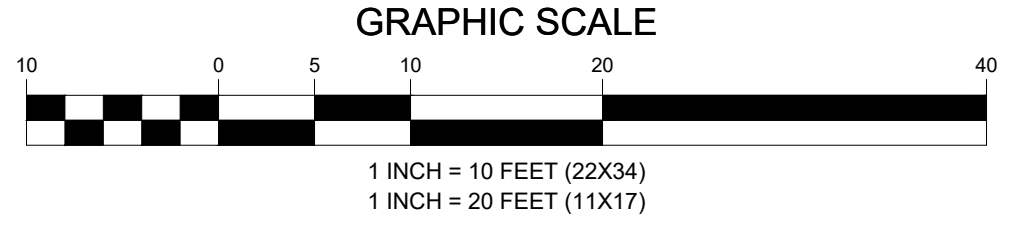
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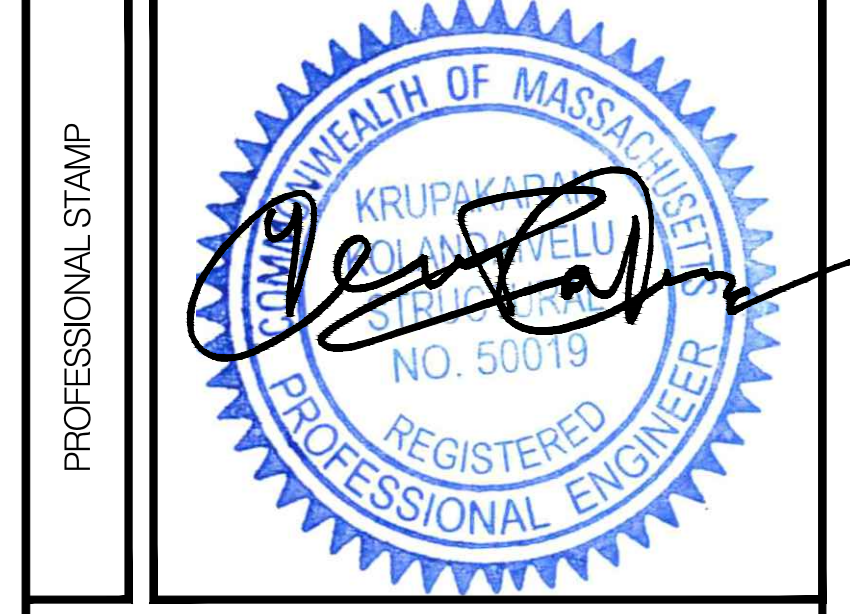
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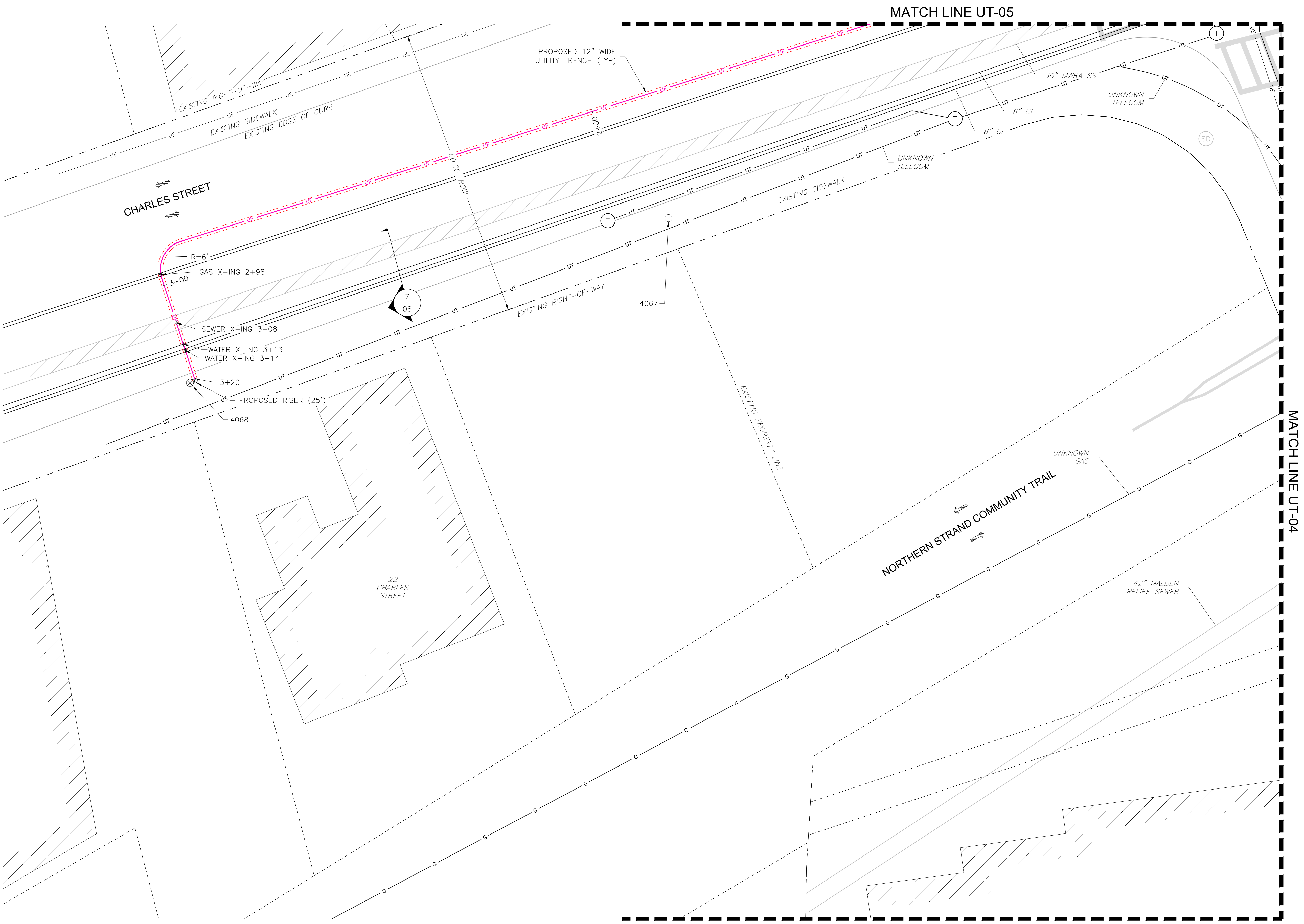
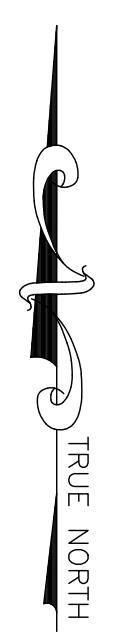
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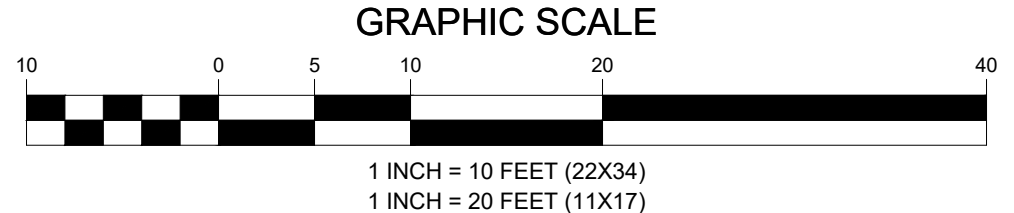
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REVISIONS				
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3	06/20/23	REVISED PER CITY COMMENTS	DFR	
2	07/28/21	MWRA COMMENTS	JQ	
1	05/25/21	MWRA DETAILS ADDED	JQ	
0	05/07/21	PRELIMINARY	HT	

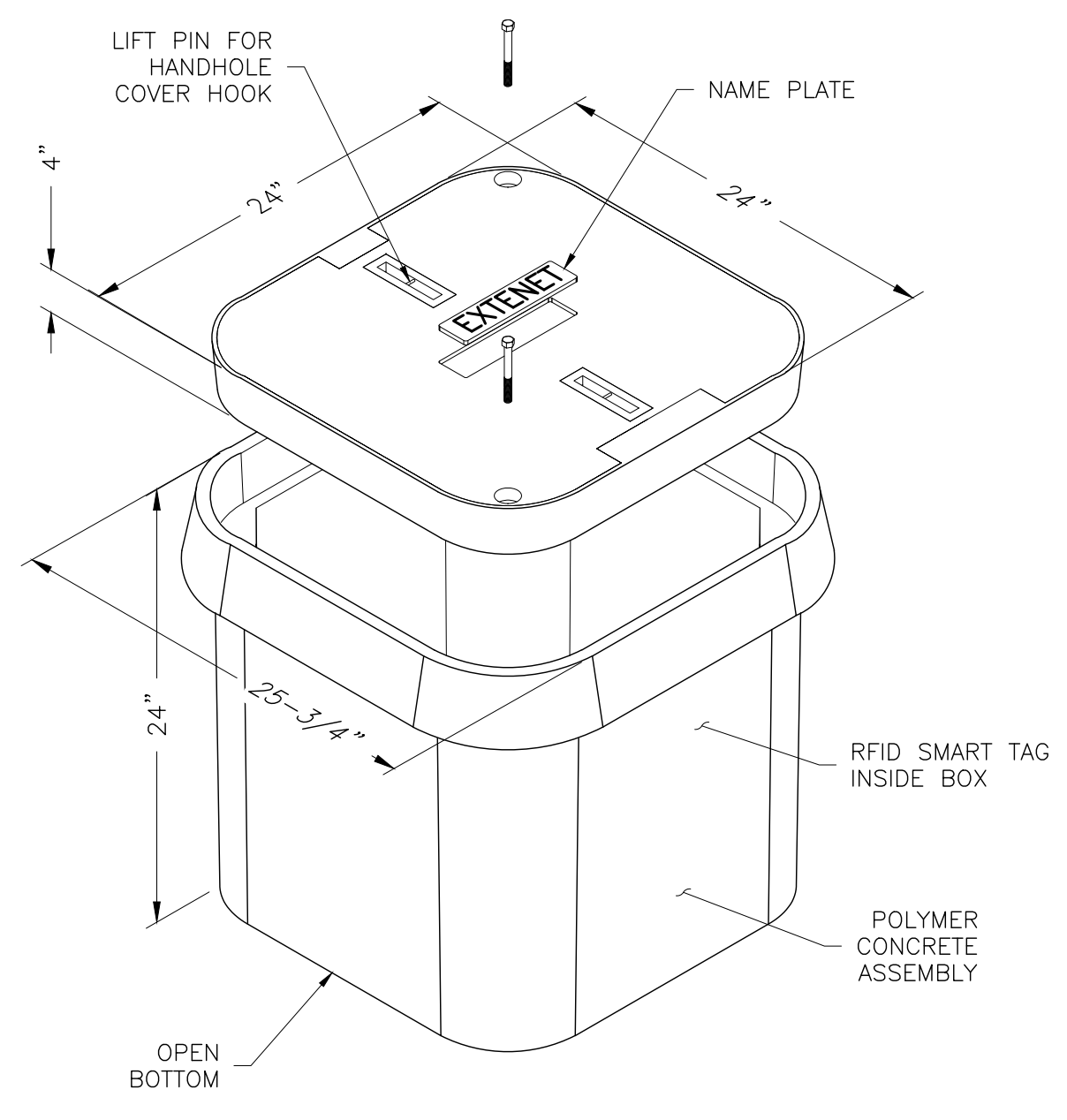


KRUPAKARAN KOLANDAIVELU, P.E.  
 MA PROFESSIONAL ENGINEER LIC. #50019

**UNDERGROUND DETAILS**

SHEET  
**07 OF 08**

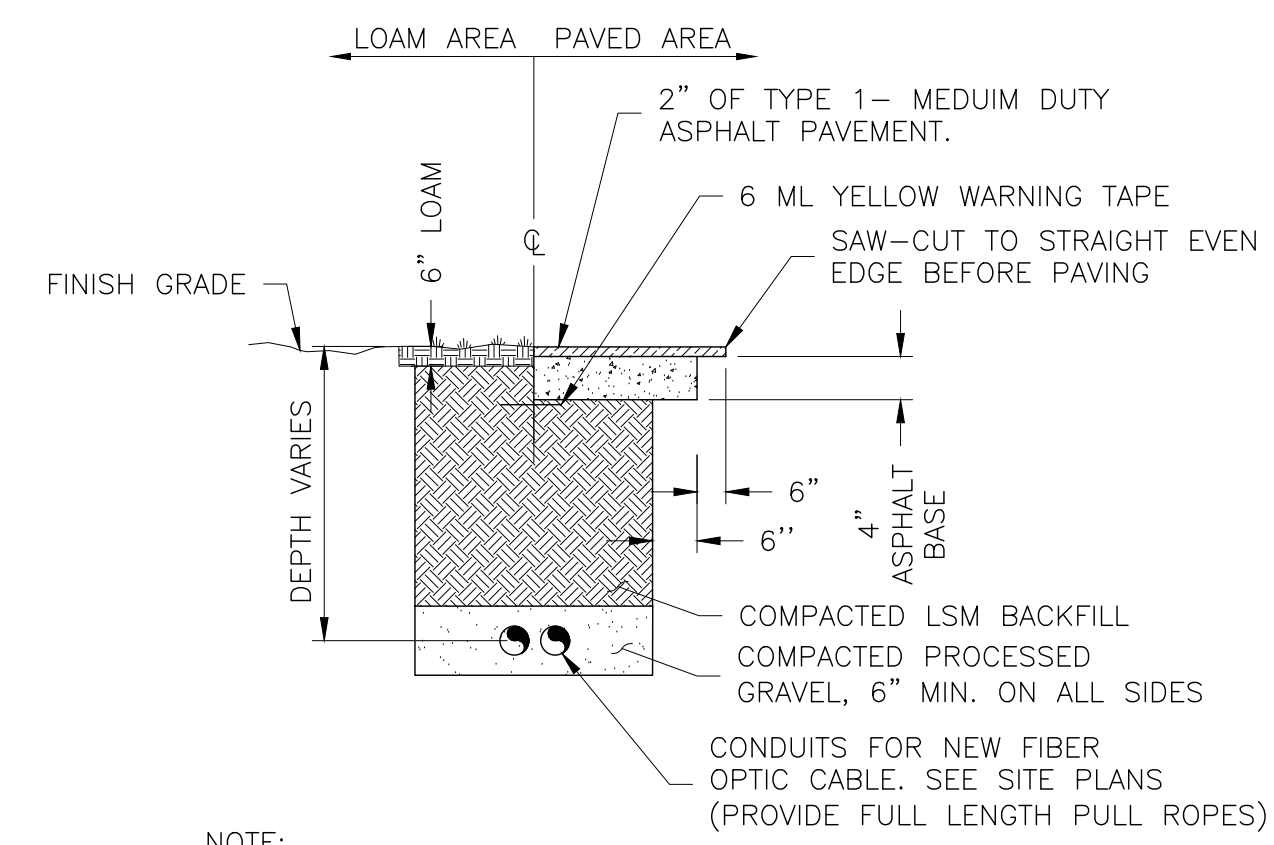
ENGINEERING FIRM  
 APPLICANT  
 SITE INFORMATION  
 DESIGN RECORD  
 PROFESSIONAL STAMP  
 ENGINEER  
 SHEET TITLE  
 SHEET NUMBER



PCA242424-00004  
 24"X24"X24" TYPE-A VAULT

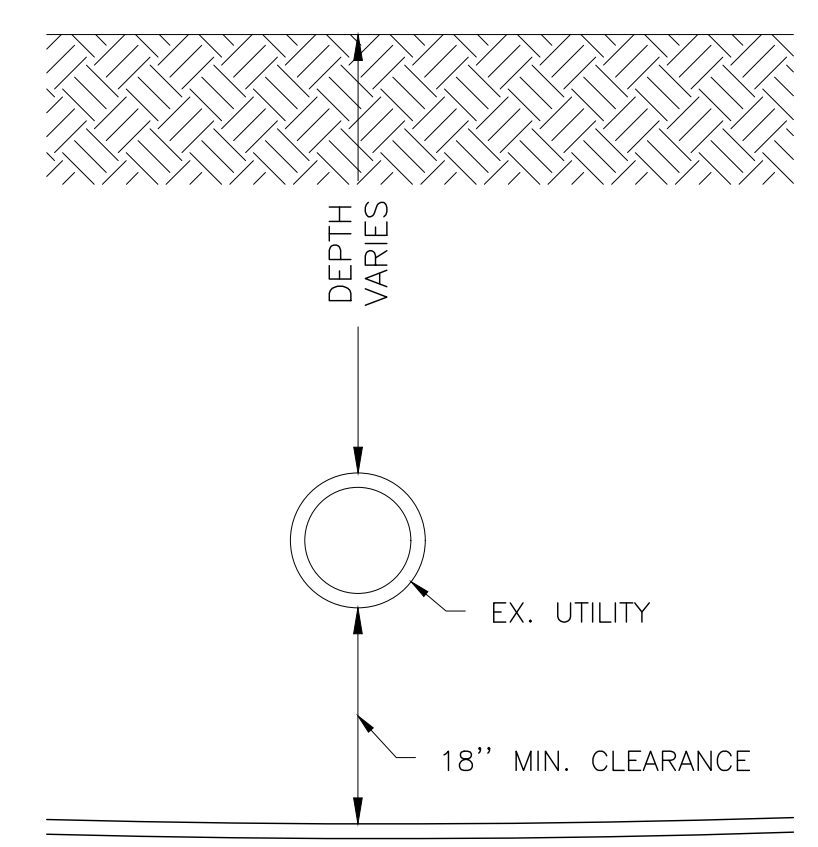
- NOTES:
1. THE HANDHOLE SHALL BE SET WITH THE TOP COVER LEVELLED AND MATCHING THE EXISTING SURFACE.
  2. THE FLOOR OF THE PIT SHALL BE COVERED WITH 10"-12" OF PEA GRAVEL, IN WATER PRONE AREAS 18" OF GRAVEL SHALL BE USED TO IMPROVE DRAINAGE. THE BASE OF THE HANDHOLE/PULL BOX SHALL BE OPEN, AND PLACED IN THE CENTER OF THE PIT.
  3. AN 8' LONG X 5/8" COPPER CLAD GROUND ROD SHALL BE DRIVEN INTO THE BOTTOM OF THE HANDHOLE/PULL BOX. A 3-OHM TEST IS REQUIRED. A BARE 6" LONG #6 BCW COPPER GROUND WIRE SHALL BE CLAMPED TO THE ROD AND ATTACHED TO THE GROUND LUG ON THE SIDE WALL OF THE HANDHOLE.
  4. THE DUCT PLACED INTO HANDHOLE WALLS WILL USE APPROVED DUCT TERMINATORS TO SEAL DUCT ENTRANCE.
  5. THE ANNULAR SPACE BETWEEN THE DUCT WALL AND THE FIBER OPTIC CABLE SHALL BE SEALED USING A SPLIT PLUG. THE SPLIT PLUG SHALL BE SIZED ACCORDING TO THE OUTSIDE DIAMETER OF THE FIBER OPTIC CABLE AND THE INSIDE DIAMETER OF THE DUCT.
  6. ALL VACANT DUCTS SHALL BE SEALED USING AN EXPANDABLE BLANK DUCT PLUG. THE DUCT PLUG SHALL BE ACCORDING TO THE INSIDE DIAMETER OF THE DUCT.
  7. ALL VAULTS IN THE PUBLIC RIGHT OF WAY ARE TO BE TRAFFIC BEARING.

1 TYPICAL TYPE-A VAULT DETAILS  
 07 NOT TO SCALE

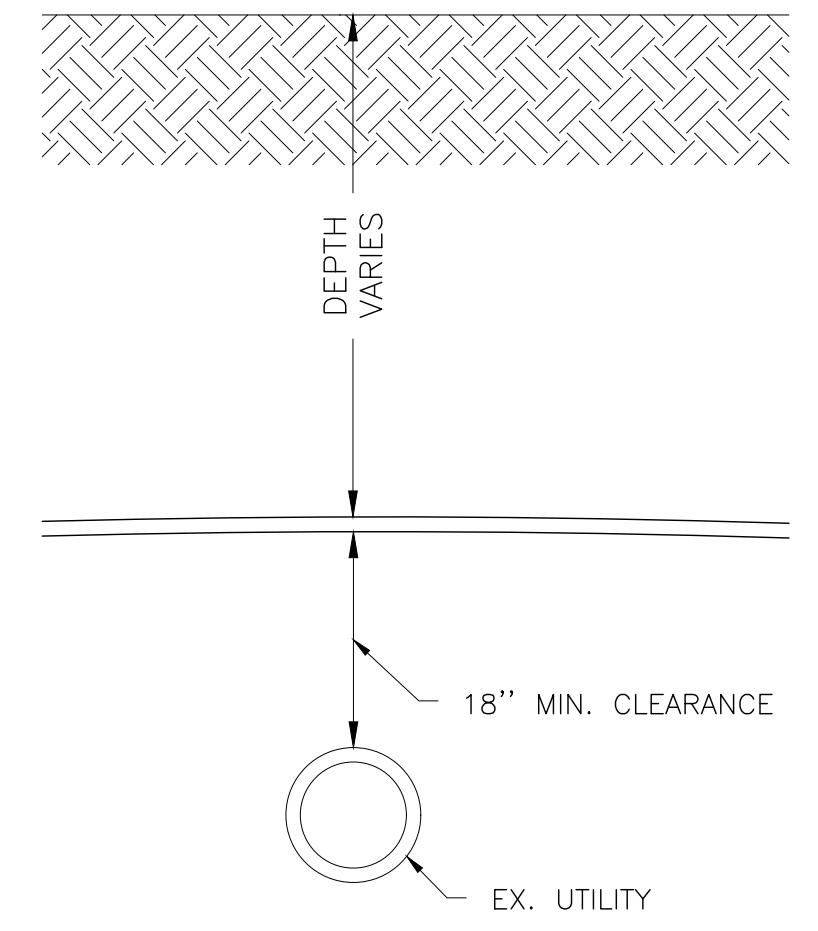


NOTE:  
 ANY EXCAVATION WITHIN FIVE FEET OF THE EDGE OF PAVEMENT IS TO INCLUDE PREMIUM BACKFILL. ANY EXCAVATION UNDER THE PAVEMENT IS TO BE BACKFILLED WITH LSM AND IS TO BE TOPPED WITH 4" OF ASPHALT BASE AND 2" OF TYPE 1-MEDIUM DUTY ASPHALT PAVEMENT

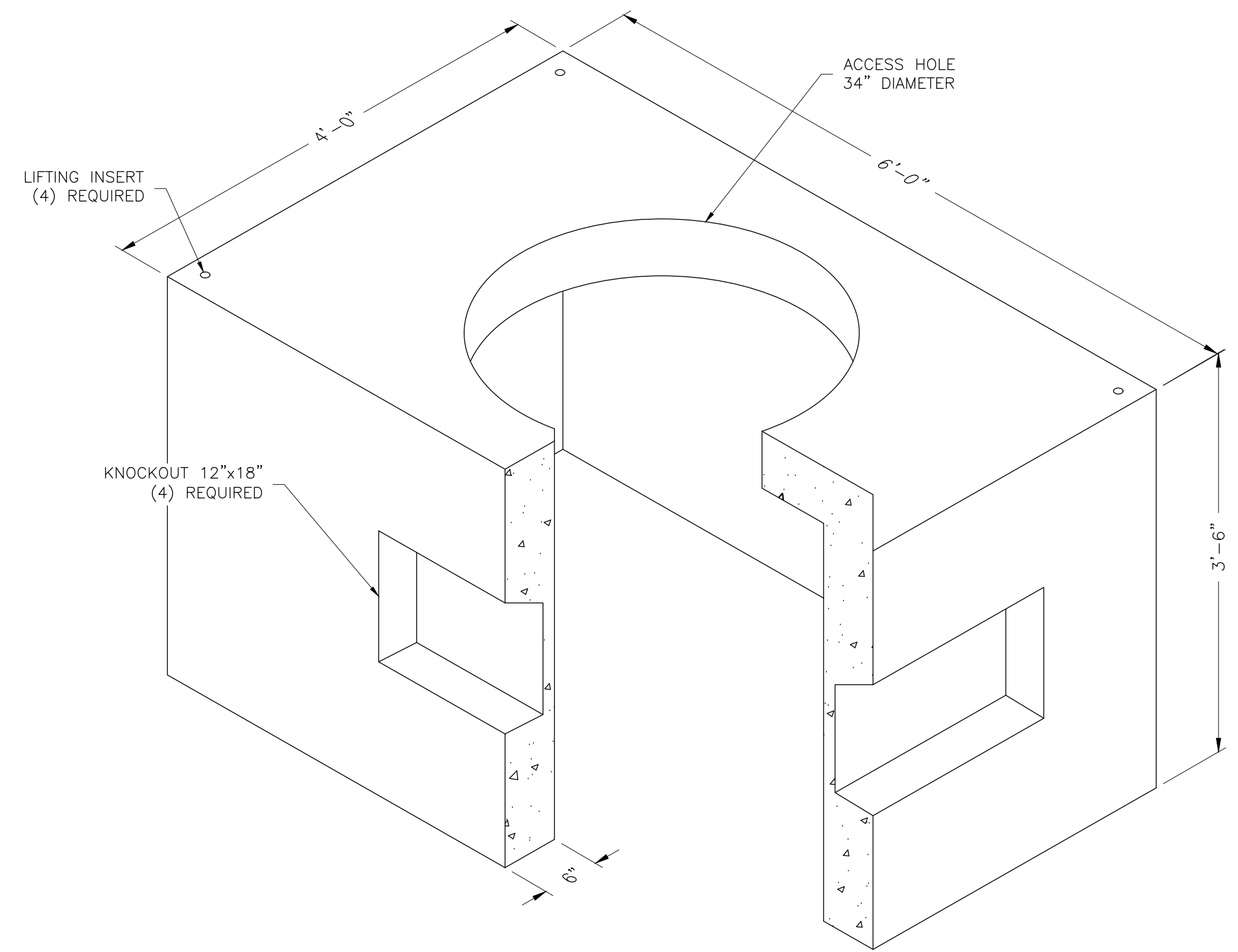
4 UTILITY TRENCH RESTORATION DETAIL  
 07 NOT TO SCALE



2 TYPICAL UTILITY CROSSING BELOW  
 07 NOT TO SCALE

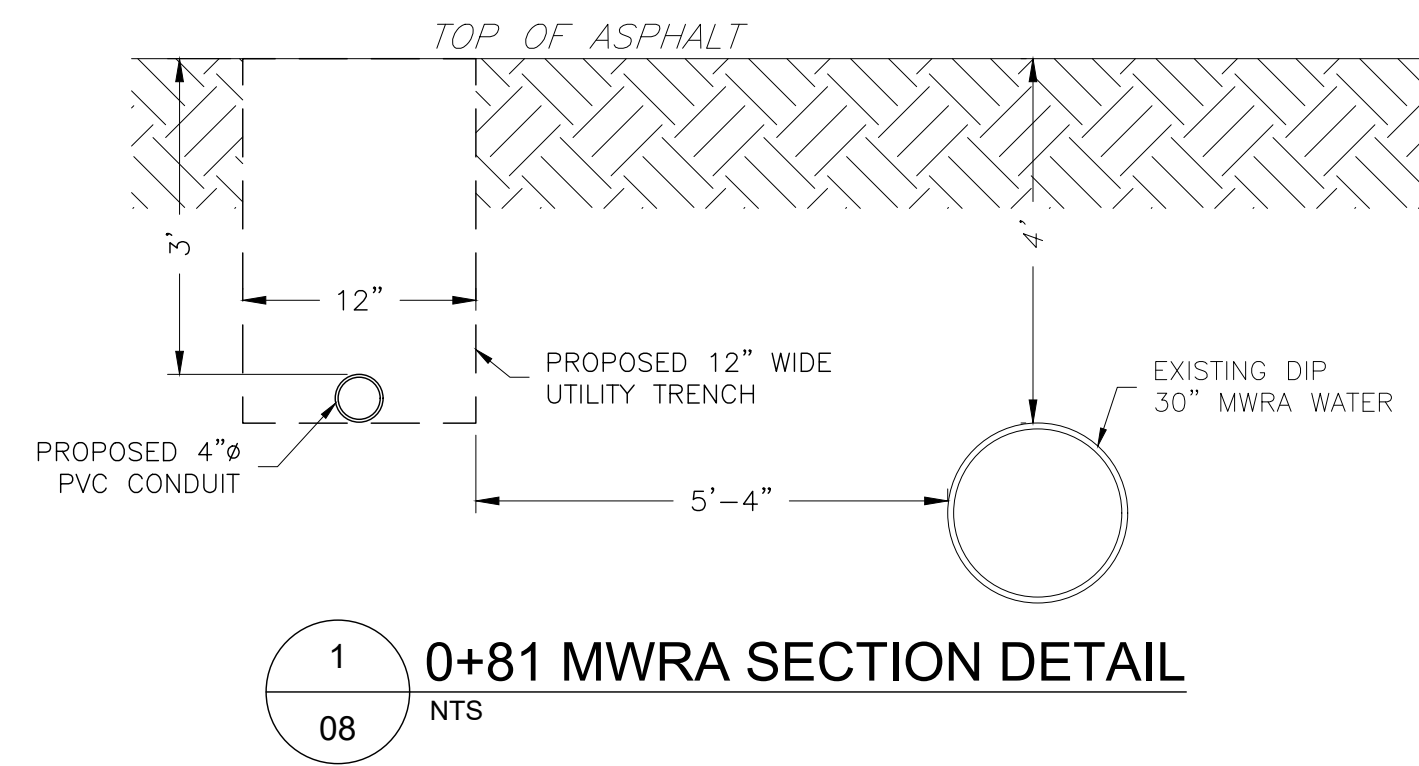


3 TYPICAL UTILITY CROSSING ABOVE  
 07 NOT TO SCALE

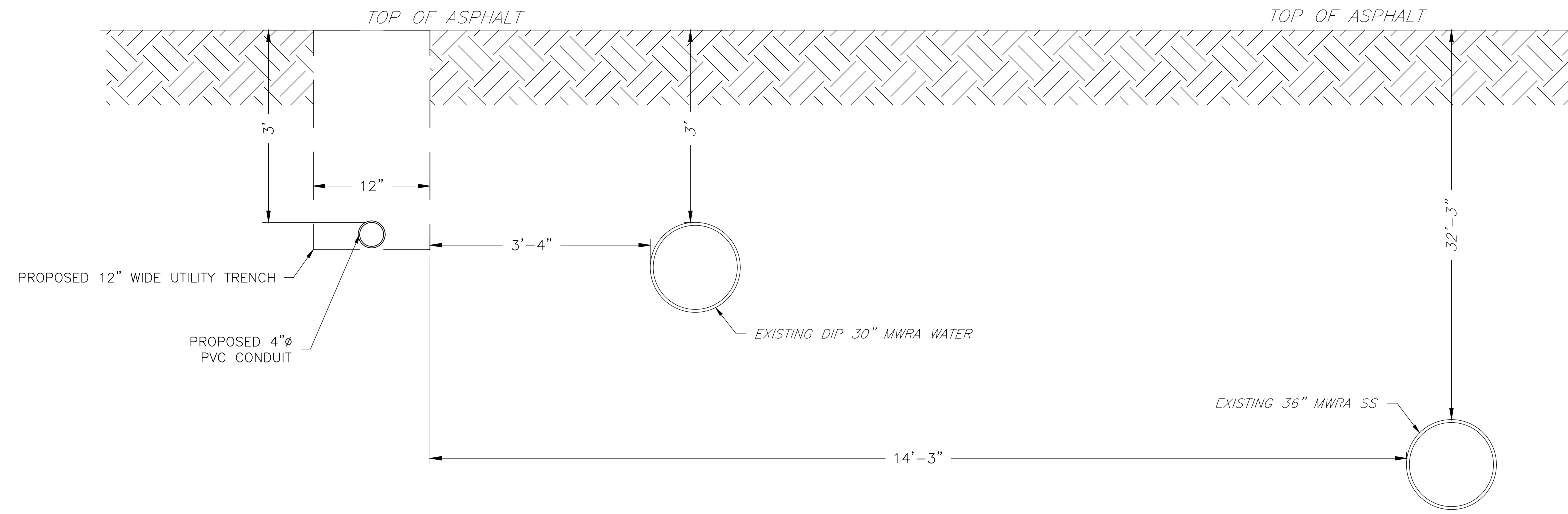


3'x5'x3' INTERNAL DIMENSIONS  
 4'x6'x3'-6" EXTERNAL DIMENSIONS  
 CONCRETE 4,000 PSI, H2O LOADING  
 ASTM A-615, GRADE 60 REINFORCEMENT  
 MUST MEET OR EXCEED ALL STATE,  
 LOCAL D.O.T. REGULATIONS FOR ROADWAY LOADINGS

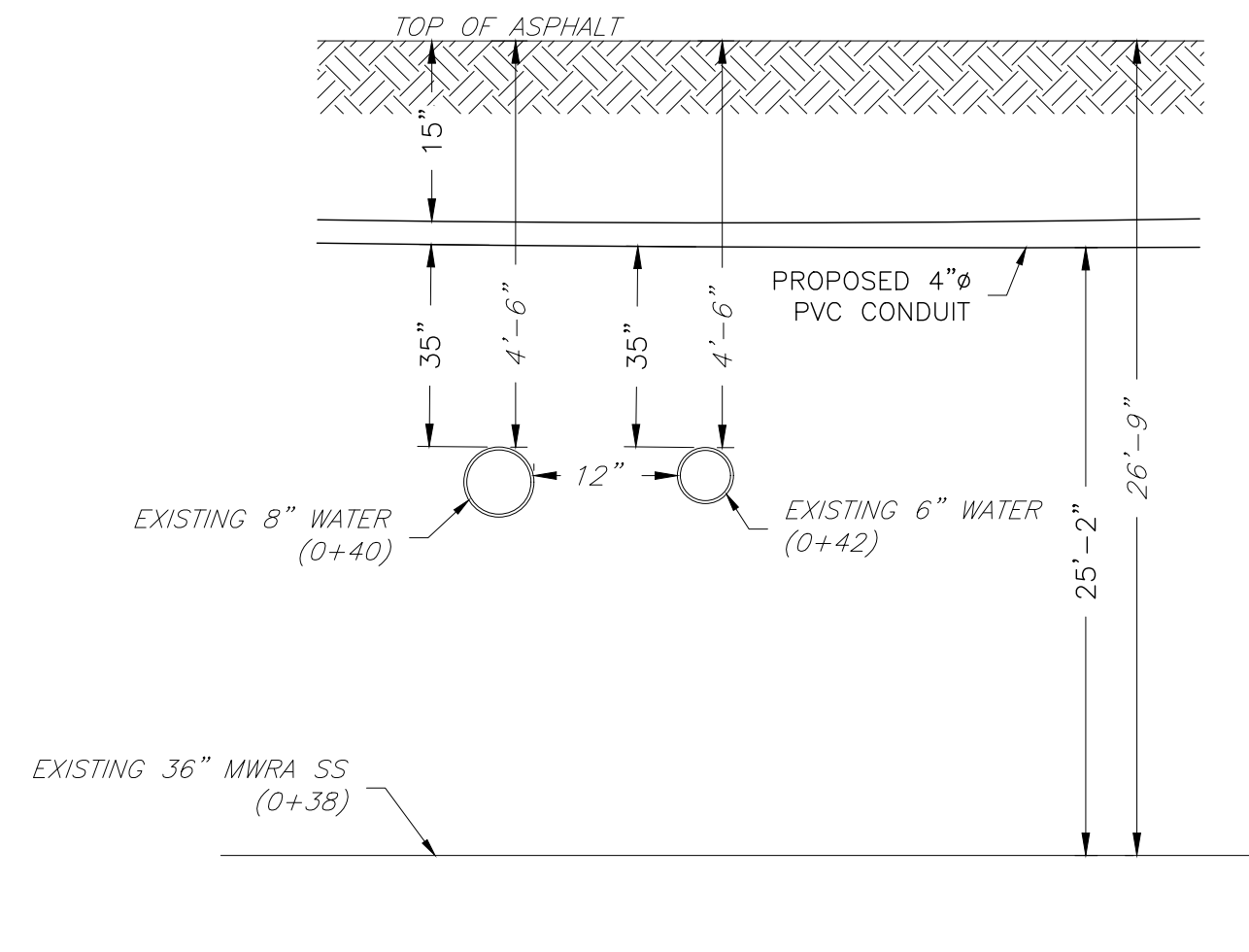
5 MANHOLE DETAIL  
 07 NTS



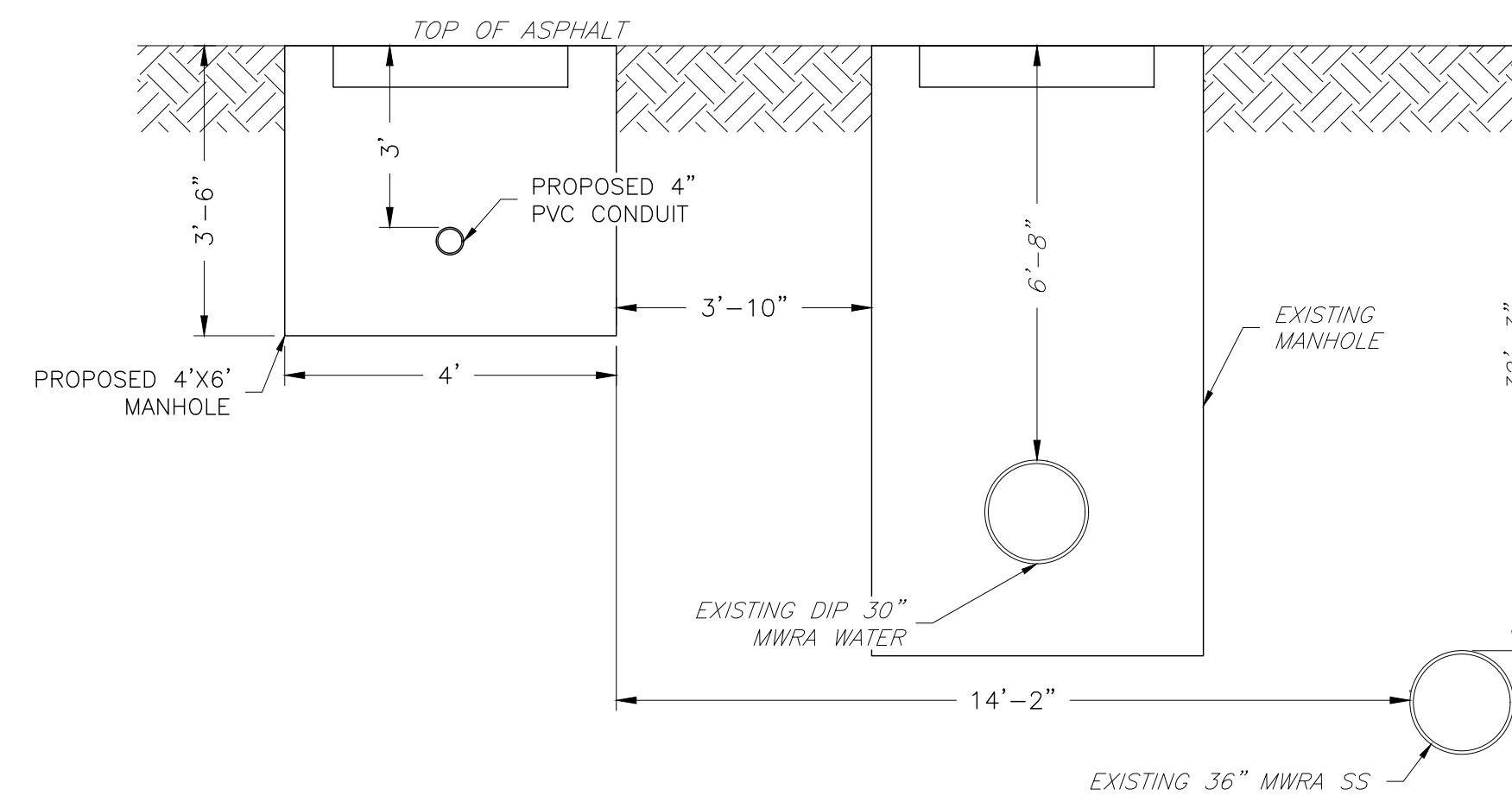
1 0+81 MWRA SECTION DETAIL  
NTS



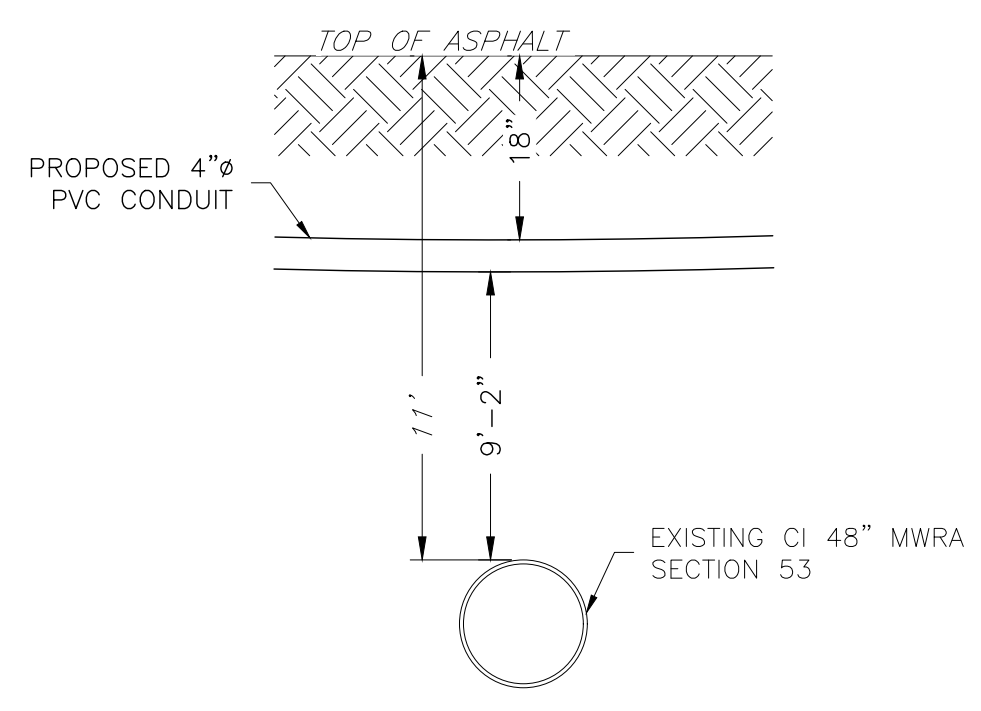
2 1+65 MWRA SECTION DETAIL  
NTS



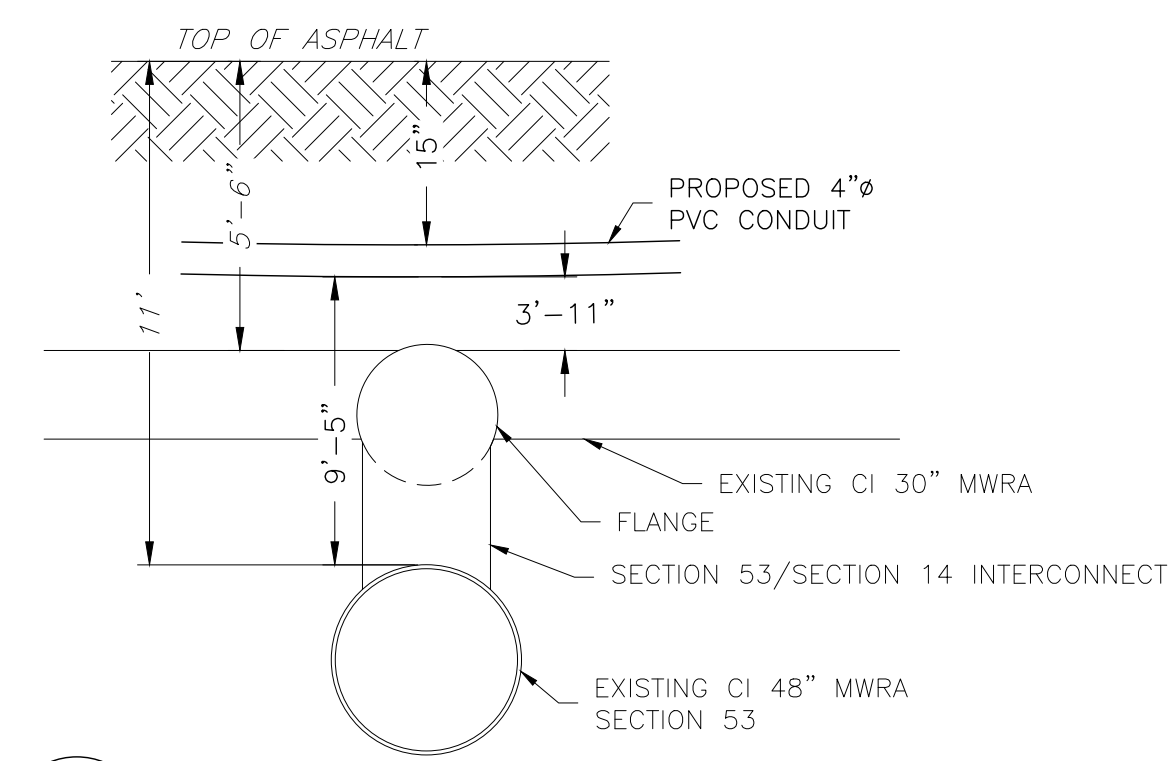
3 0+38/0+40/ 0+42 WATER & MWRA SEWER CROSSING  
NTS



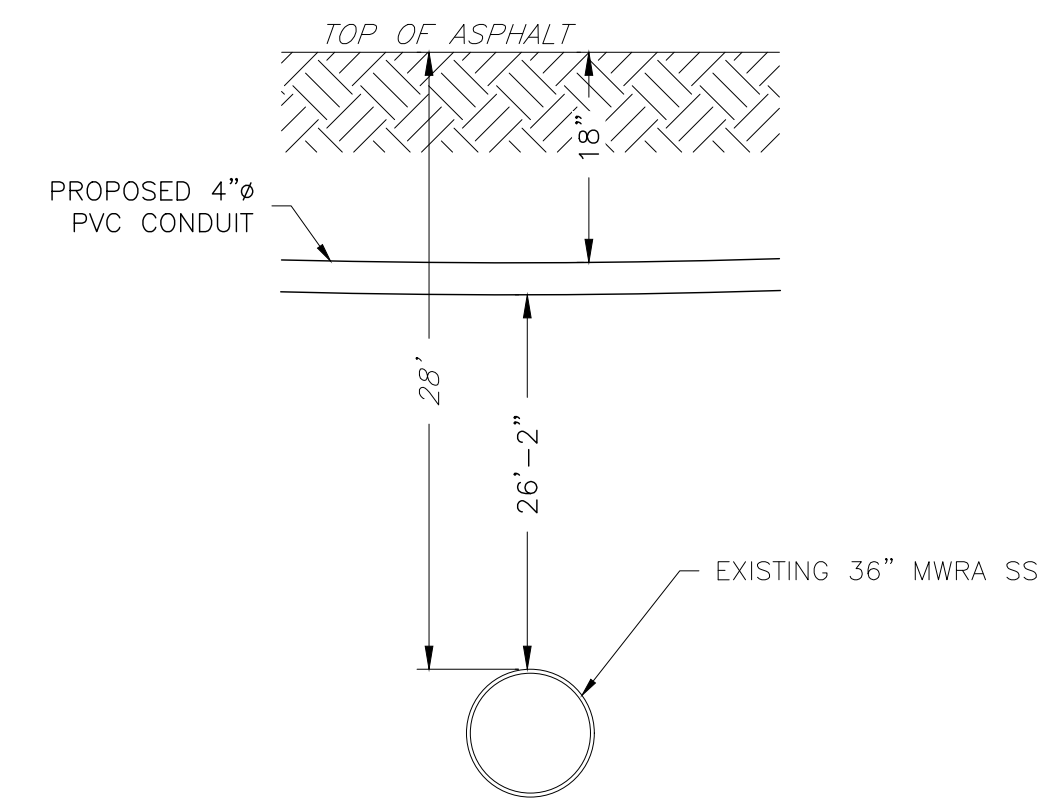
4 3+05 MWRA SECTION DETAIL  
NTS



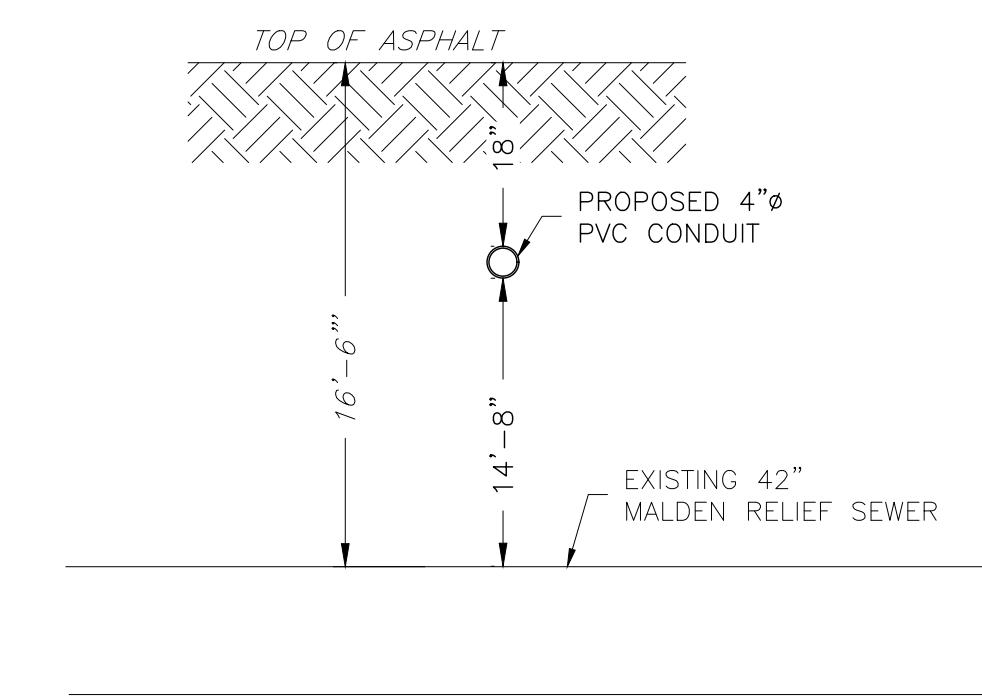
5 0+13 MWRA CROSSING  
NTS



6 0+30 MWRA CROSSING  
NTS



7 3+08 MWRA CROSSING  
NTS



8 2+41 MALDEN RELIEF SEWER CROSSING  
NTS

**ENGINEERING FIRM**  
**NB+C**  
**TOTALLY COMMITTED.**  
 NB+C ENGINEERING SERVICES, LLC.  
 100 APOLLO DRIVE, SUITE 303  
 CHELMSFORD, MA 01824  
 (978) 856-8308

**APPLICANT**  
**extenet**  
 SYSTEMS  
 YOUR NETWORK. EVERYWHERE.  
 3030 WARRENVILLE ROAD, SUITE 340  
 LISLE, IL 60532  
 (630) 505-3800  
**T-Mobile**

**SITE INFORMATION**  
 NE-MA-BSTN2N01-TMO-NB-05A  
 NEH0004A  
 CITY OF MALDEN  
 MIDDLESEX COUNTY

**DESIGN RECORD**

REV	DATE	DESCRIPTION	BY
3	06/20/23	REVISED PER CITY COMMENTS	DFR
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1	05/25/21	MWRA DETAILS ADDED	JQ
0	05/07/21	PRELIMINARY	HT

**PROFESSIONAL STAMP**  
 COMMONWEALTH OF MASSACHUSETTS  
 KRUPAKARAN KOLANDAIVELU  
 REGISTERED PROFESSIONAL ENGINEER  
 NO. 50019

**ENGINEER**  
 KRUPAKARAN KOLANDAIVELU, P.E.  
 MA PROFESSIONAL ENGINEER LIC. #50019

**SHEET TITLE**  
**MWRA PROFILE DETAILS**

**SHEET NUMBER**  
 SHEET  
**08 OF 08**