



CITY OF DULUTH
PURCHASING DIVISION
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Addendum # 1
18th Avenue East Gas Main to U.M.D. and Miscellaneous Gas
Mains and Services at Various Locations
Bid No: 2016-0373
Project No: 1410

This addendum serves to notify all bidders of the following changes to the solicitation documents:

Please acknowledge receipt of this Addendum by initialing and dating Addendum # below the bid form on the invitation for bids.

Posted Date: May 27, 2016

NOTICE TO BIDDERS

The bid date is changed to **THURSDAY JUNE 2, 2016**. The bid time remains at 2:00 P.M. and the submittal location and opening location also remain unchanged. Please change all references to the bid opening date accordingly.

PROPOSAL PACKAGE

INSTRUCTIONS TO BIDDERS – REPLACE the first paragraph in this section with the following:

"All bids must be complete, signed, and transmitted in a sealed envelope plainly marked with the bid number, subject matter, and opening date. The City of Duluth reserves the right to split the award where there is a substantial savings to the City, to waive informalities and to reject any and all bids. Price may not be the only consideration for bid award. Bids must be firm for a minimum of 60 days. The Bidder may submit bids on just Exhibit A, just Exhibit B, or both Exhibit A and B. The City intends to award to the lowest responsible bidder for the work included in Exhibit A and Exhibit B separately, unless one Bidder is low bid on both exhibits, in which case both Exhibits A and B will be awarded jointly."

DRAWINGS

SHEET 1 – CLARIFICATION to correct the sheet index, the sheet index should read as

follows:

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3 – 4	TYPICAL DETAILS
5 – 6	SWPPP
7	EROSION CONTROL DETAILS
8 – 10	EROSION CONTROL PLANS
11	TRAFFIC CONTROL DETAILS
12 – 15	TRAFFIC CONTROL PLAN
16	SHEET 16 IS OMITTED FROM PLAN SET
17 – 20	REMOVALS
21	SHEET LAYOUT
22 – 29	PLAN AND PROFILES
30	CONSTRUCTION DETAILS
30A, 31 – 43	CONNECTION PROCEDURES

SHEET 2 – ADD the below notes to correspond with the following bid items as numbered in the statement of estimated quantities:

- "
6. SAWING FOR CONCRETE PAYMENT SHALL BE USED FOR CONCRETE STREET SAWING WHEN THE CONCRETE STREET HAS A BITUMINOUS OVERLAY, DUAL PAYMENT FOR BITUMINOUS AND CONCRETE SAWING IS NOT ALLOWED. SAWING OF CONCRETE CURB OR CONCRETE SIDEWALKS SHALL ALSO BE INCLUDED IN THIS PAYMENT ITEM.
 7. THIS BID ITEM IS APPLICABLE TO BITUMINOUS STREETS WITHOUT A CONCRETE BASE LAYER.
 14. THE CONVERSION FACTOR FROM SQUARE YARDS TO TONS SHALL BE 120 LBS PER SY PER INCH OF PAVEMENT THICKNESS.
 15. THE CONVERSION FACTOR FROM SQUARE YARDS TO TONS SHALL BE 120 LBS PER SY PER INCH OF PAVEMENT THICKNESS.
 19. ALL SERVICE RECONNECTS SHALL INCLUDE THE INSTALLATION OF AN EXCESS FLOW VALVE (MATERIALS PROVIDED BY THE CITY).
 30. REMOVAL OF CONCRETE CURB AND GUTTER IS INCLUSIVE TO REPLACEMENT UNDER THIS BID ITEM.
 31. REMOVAL OF CONCRETE SIDEWALK IS INCLUSIVE TO REPLACEMENT OF 4" CONCRETE SIDEWALK UNDER THIS BID ITEM.

SHEET 3 – ADD Note 2 in City of Duluth Standard Detail STR-8 with the following:

- " 2. THE MAXIMUM PAYMENT WIDTH FOR STREET RESTORATION SHALL BE 8 FEET, CENTERED OVER THE UTILITY TRENCH. "

SHEET 4 – REPLACE Note 3 in City of Duluth Standard Detail EX-2 with the following:

- " 3. A MINIMUM OF 1 CUBIC YARD OF ROCK EXCAVATION (TRENCH) WILL BE PAID FOR EVERY 10 LINEAL FEET OF TRENCH WHERE ROCK REMOVAL IS REQUIRED. "

SHEET 12 – **ADD** Note 4 to this sheet as follows:

- “ 4. TRAFFIC CONTROL ON COLLEGE STREET TO PERFORM A TRAFFIC LANE SHIFT IS ONLY INTENDED DURING THE CONNECTION PROCEDURE AND DURING RESTORATION OF THE STREET, CURB, AND SIDEWALKS DISTURBED BY THE CONTRACTOR AND THE CITY OF DULUTH. “

SHEET 17 – **ADD** Note 1 to this sheet as follows:

- “ 1. THE CITY OF DULUTH WILL PERFORM REMOVALS ON THE NORTH SIDE OF COLLEGE STREET AS SHOWN AND AS NECESSARY FOR CONSTRUCTION OF PROCEDURE STEPS NO. 1 AND NO. 2. THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE ALL THE DISTURBED AREAS INCLUDING COLLEGE STREET, CURB, SIDEWALK, AND TURF RESTORATIONS AT THE BID UNIT PRICING. “

SHEET 22 – **DELETE** the additional valve shown on the pipeline profile at station 43+45.

SHEETS 30A, 31 - 43 – **REPLACE** plan sheets 31 through 44 in their entirety and replace with the plan sheets 31 through 44 included with this addendum which explain the procedures for construction:

ORDER OF PRECEDENCE – Note that the branch main connections as shown in the plan and profiles contain slight differences than the re-issued procedure sheets 31 through 44. The re-issued procedure sheets shall take precedence for any branch main connection conflicts regarding details such as tee and pipe locations, valve locations, and materials specified.

SPECIAL PROVISIONS

- 1) **ADD** the following paragraph to the end of SP-6 (1404) MAINTENANCE OF TRAFFIC, (1707) PUBLIC SAFETY AND (2563) TRAFFIC CONTROL

“For Project Exhibit B, Contractor shall negotiate a change order for Traffic Control when significant measures are required to close/detour roadways on county roads or state highways that require permitting.”

- 2) **REPLACE** the list of submittals included with SP-9 (1603) SUBMITTALS with the following:

1. Drug and Alcohol Misuse Prevention Plan for Employees (Gas Contractor only)
2. Contractor’s Operator’s Qualifications Plan for Employees (Gas Contractor only)

3. Construction Schedule
4. Traffic Control Plan
5. Pipe Materials
6. Material Testing Records for gas pipe and fittings
7. Electrofusion Couplers
8. Misc. Pipe Fittings, couplers, adapters, service tees, etc.
9. Tracer Wire
10. Valves and Tracer Wire Boxes
- ~~11.~~ Drug and Alcohol Employee Testing Roster
- ~~12.~~ Employee Operator Qualifications List
13. Material Testing Records for gas pipe and fittings
14. Insulation

- 3) **REPLACE** SP-13 (1807) FAILURE TO COMPLETE WORK ON TIME with the following revision:

SP-13 (1807) FAILURE TO COMPLETE WORK ON TIME

The provisions of MN/DOT 1807 shall apply in full to any of the following: Substantial Completion Date for the Exhibit A (18th Avenue E to UMD Project), Substantial Completion for the Exhibit B (Gas Blanket Installations Work), Special Project Milestones listed in SP-12.6, and the Final Completion Date. Failure to have work completed by any of these dates shall result in liquidated damages being assessed at a rate of \$1,500 per calendar day until the objectives are complete.

- 4) **DELETE** in SP-16 (2505) PE GAS MAIN, Part B, last sentence:
"For pipe smaller than 6-inch"
- 5) **SP- 19 MATERIALS AND WORK TO BE FURNISHED BY THE PUBLIC WORKS & UTILITIES DEPARTMENT**
- i. **REPLACE** in SP-19.B "tap tee on line PE or STEEL gas mains for larger than 2-inch" with "high volume tap tees on live PE for 2" and larger"
 - ii. **REPLACE** in SP-19.B "velocity" with "volume"
 - iii. **ADD** in SP-19.B "high volume to "The contractor will not be permitted to install or tap 2 inch **high volume** tap tees as part of this project."
- 6) **ADD** SP-21 (2575) TURF ESTABLISHMENT with the following:

SP-21 (2575) TURF ESTABLISHMENT

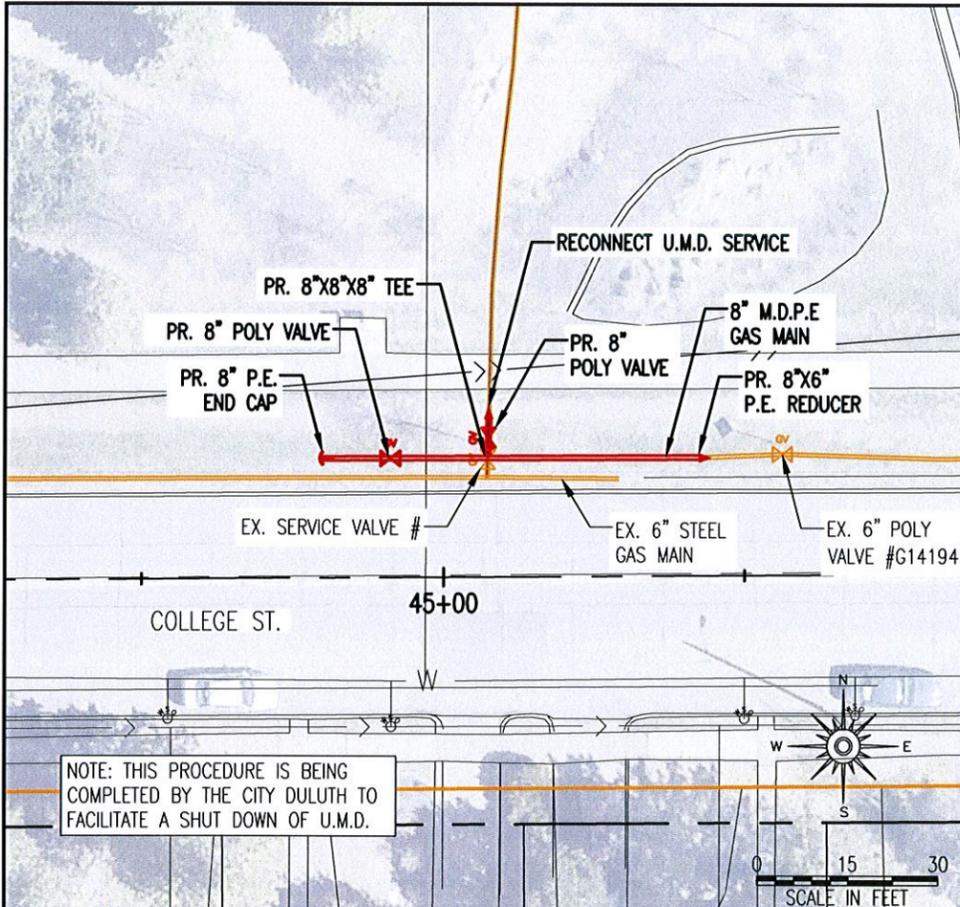
Turf establishment shall consist of replacing 4" of topsoil, shaping or otherwise preparing the ground, seeding, fertilizing, and protecting with category 2 erosion blanket.

SP-21.1 Measurement and Payment

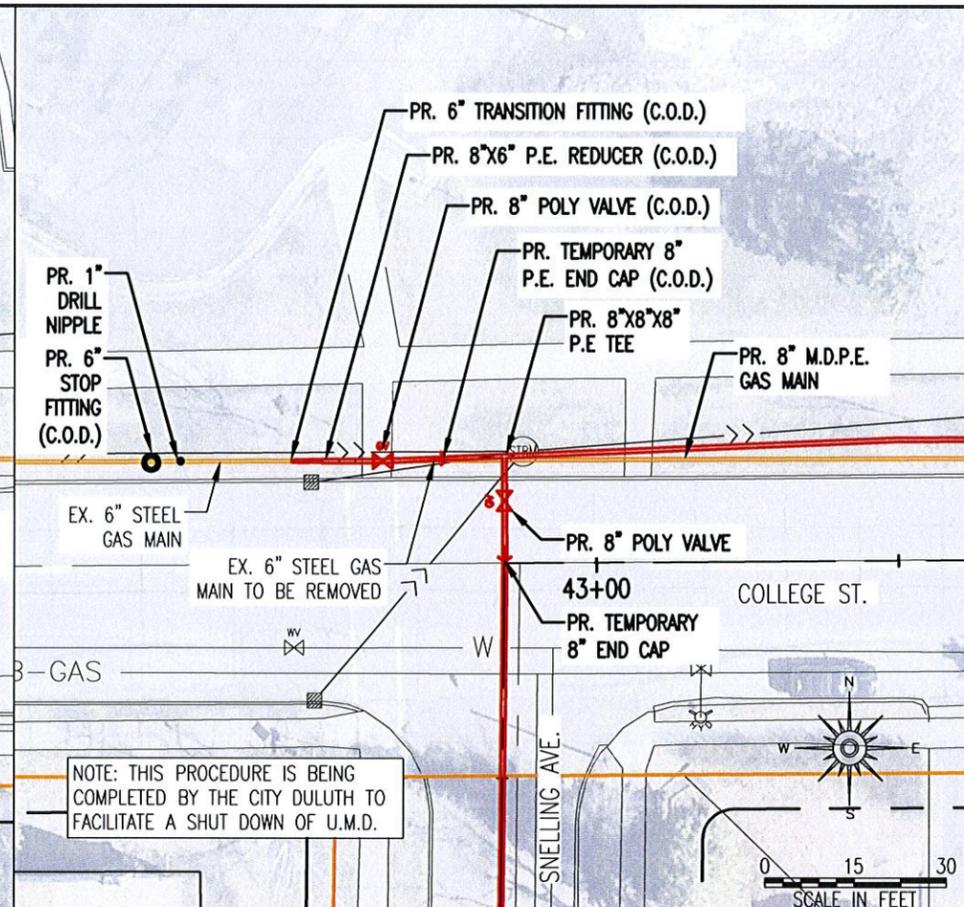
- A. For the Exhibit A portion of this bid the payment for 2575.555 Turf Establishment shall be made by the square yard.
- B. For the Exhibit B portion of this bid all turf restoration and establishment shall be considered incidental to the project.

END OF ADDENDUM

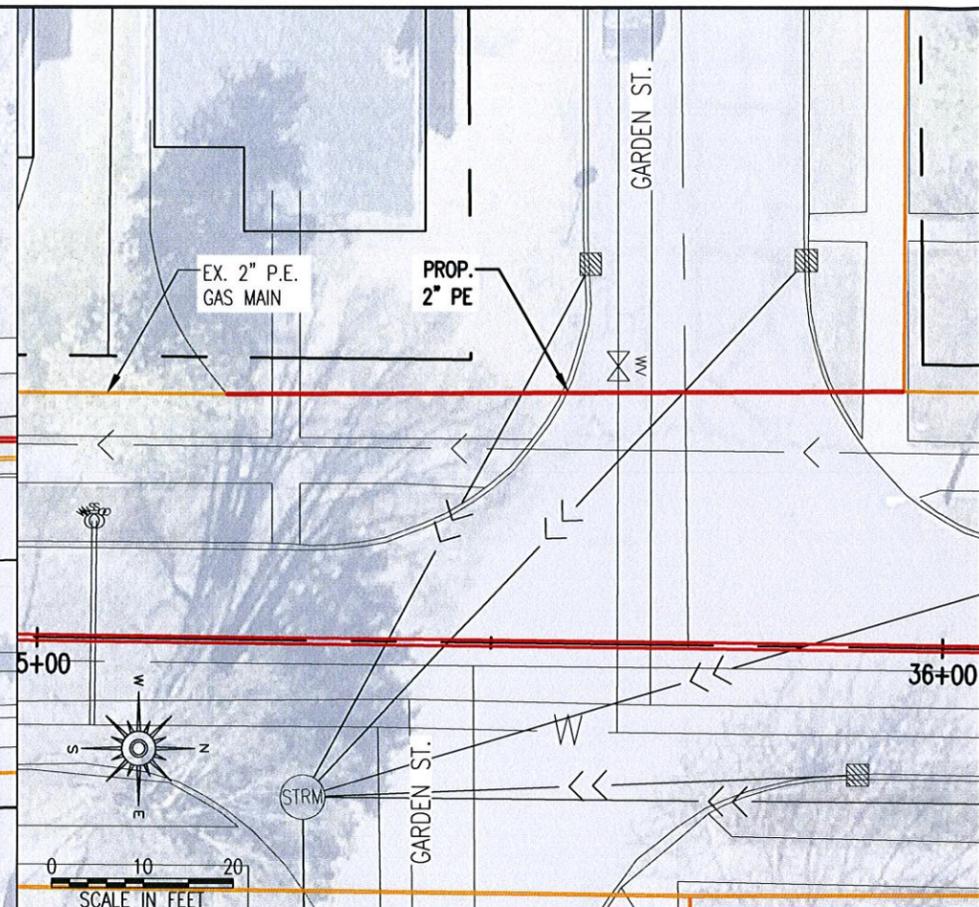
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CONNECTION PROCEDURE 1



CONNECTION PROCEDURE 2



CONNECTION PROCEDURE 3

CONT.	C.O.D.	PROCEDURE #1
		INSTALL 8" MAIN, VALVES, AND NEW SERVICE TEE TO U.M.D.
	X	CONTACT AT UMD
1	X	NOTIFY UMD OF DAY AND TIME OF GAS OUTAGE (7 DAYS IN ADVANCE)
2	X	SHUTDOWN MEETING (2 DAYS PRIOR TO SERVICE RECONNECT)
3	X	CLOSE VALVE # G14194
4	X	INSTALL 8" PE GAS MAIN TO UMD GAS SERVICE
5	X	INSTALL 8" PE TEE WITH (2) - 8" PE GAS VALVE 5' WEST AND 5' NORTH
6	X	INSTALL 10' - 8" PE GAS MAIN AND CAPS TO WEST AND NORTH OF VALVES
7	X	PIG, AND TEST.
8	X	CONNECT NEW 8" PE GAS MAIN TO EXISTING 6" PE MAIN WITH 6" X 8" REDUCER
9	X	PURGE AIR TO GAS FROM VALVE # 14194 THROUGH BOTH NEW 8" VALVES
10	X	RE CAP 8" PE TO WEST AND SERVICE IF NECESSARY.
		RECONNECT UMD 6" PE SERVICE
11	X	CLOSE VALVE # G08886, INSTALL DRILL NIPPLE NORTH OF VALVE FOR PURGIN, DEPRESSURIZE AND PURGE GAS TO AIR THROUGH UMD GAS SERVICE
12	X	CUT OF 6" GAS SERVICE AND DISCONNECT FROM VALVE
13	X	BLIND FLANGE VALVE # G08886 (DO NOT BACKFILL - NEEDED TO ABAND)
14	X	RECONNECT UMD GAS SERVICE WITH 6" X 8" REDUCER, BENDS AS NEEDED, AND ELECTROFUSION CPLG
15	X	PURGE AIR TO GAS FROM NEW 8" PE SERVICE VALVE THROUGH UMD METER SET
16	X	OPERATE NEW 8" PE SERVICE VALVE AND VALVE # 14194 INTO OPEN POSITION
17	X	SOAP TEST ALL CONNECTIONS
18	X	NOTIFY UMD SERVICE IS BACK ON

CONT.	C.O.D.	PROCEDURE #2
		INSTALL NEW 8" PE MAIN NORTH OF COLLEGE STREET
1	X	INSTALL 6" STOP AND DRILL NIPPLE 50' WEST OF SNELLING AVE
2	X	STOP 6" MAIN , DEPRESSURIZE AND PURGE GAS TO AIR FROM STOP THROUGH DRILL NIPPLE AND AT OLD SERVICE VALVE TO UMD
3	X	ABAND EXISTING STEEL BETWEEN STOP AND UMD GAS SERVICE PER STANDARD SPECS, AND CUT OF 6" STEEL GAS 12' - 15' WEST OF CL SNELLING AVE
4	X	INSTALL 6" TRANSITION AND 6" X 8" PE REDUCER, 8' PE VALVE , 10' - 8" PE GAS MAIN
		INSTALL 8" PE MAIN
5	X	INSTALL 8" PE GAS FROM FROM END OF NEW 8" PE, TO APROXIMATELY STA. 44+80, INCLUDING A TEE AT 5' W/CL SNELLING AVE AND VALVE TO SOUTH OF TEE WITH 5' STUB ON VALVE.
6	X	PIG, INSTALL END CAPS AND OPEN VALVES IN TEST AREA.
7	X	CONNECT NEW 8" PE GAS MAIN TO EXISTING 8" PE ON BOTH EAST AND WEST ENDS.
8	X	OPEN STOP
9	X	PURGE AIR TO GAS FROM NEW 8" PE VALVES FIRST FROM WEST ONE AT UMD SERVICE AND THEN FROM EAST , NEW VALVE INSTALLED BY DEPT. THROUGH NEW 8" PE VALVE INSTALLED SOUTH OF TEE.
10	X	CLOSE VALVE TO SOUTH OF TEE AND CAP STUB TO SOUTH OF TEE.
11	X	OPEN BOTH 8" PE VALVES , ON COLLEGE STREET , BOTH EAST OF STOP AND WEST OF UMD SERVICE
12	X	SOAP TEST ALL CONNECTIONS
13	X	REMOVE STOP MACHINE

CONT.	C.O.D.	PROCEDURE #3
		INSTALL 2" PE MAIN ACROSS GARDEN ST
1	X	INSTALL 2" PE GAS MAIN ON WEST SIDE OF SNELLING AVE FROM 25' N/CL GARDEN ST. TO 50' S/CL GARDEN ST
2	X	INSTALL 2" HV TEE ON EXISTING GAS N/CL GARDEN ST.
3	X	PIG NEW PE
4	X	CONNECT NEW MAIN TO 2" HV TAP TEE AND CAP SOUTH END
5	X	TEST NEW MAIN AND HV TEE
6	X	SQUEEZE AND CONNECT TESTED MAIN TO MAIN S/CL
7	X	SLOWLY RELEASE SQUEEZE AND PURGE AIR TO GAS THROUGH 2" HV TEE
8	X	TAP HV TEE AND SOAP ALL CONNECTIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Howard D. Smith, P.E.*
 HOWARD D. SMITH, P.E.
 TYPE NAME

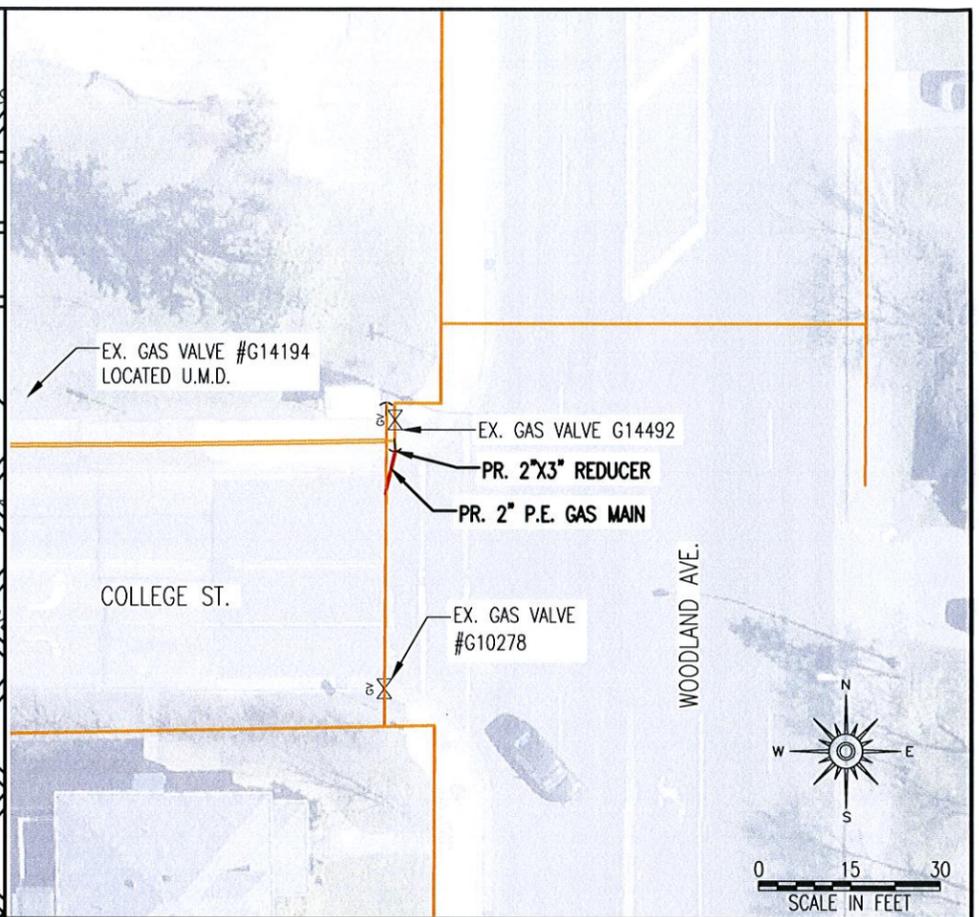
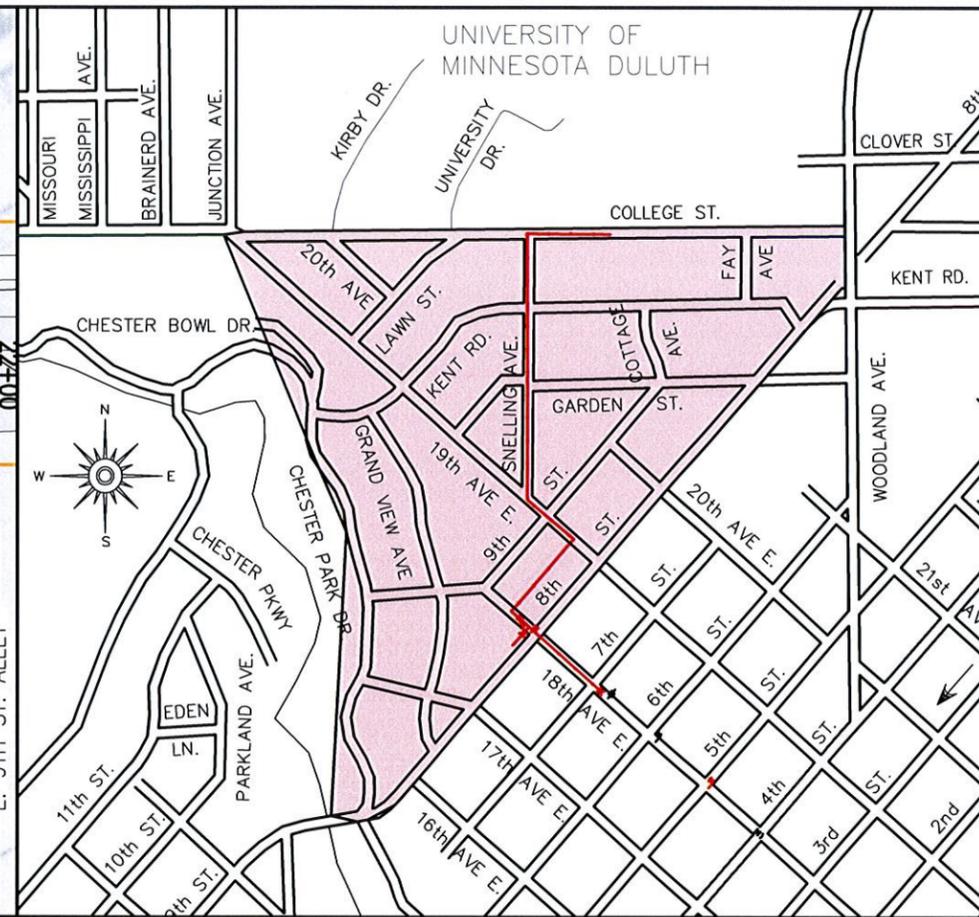
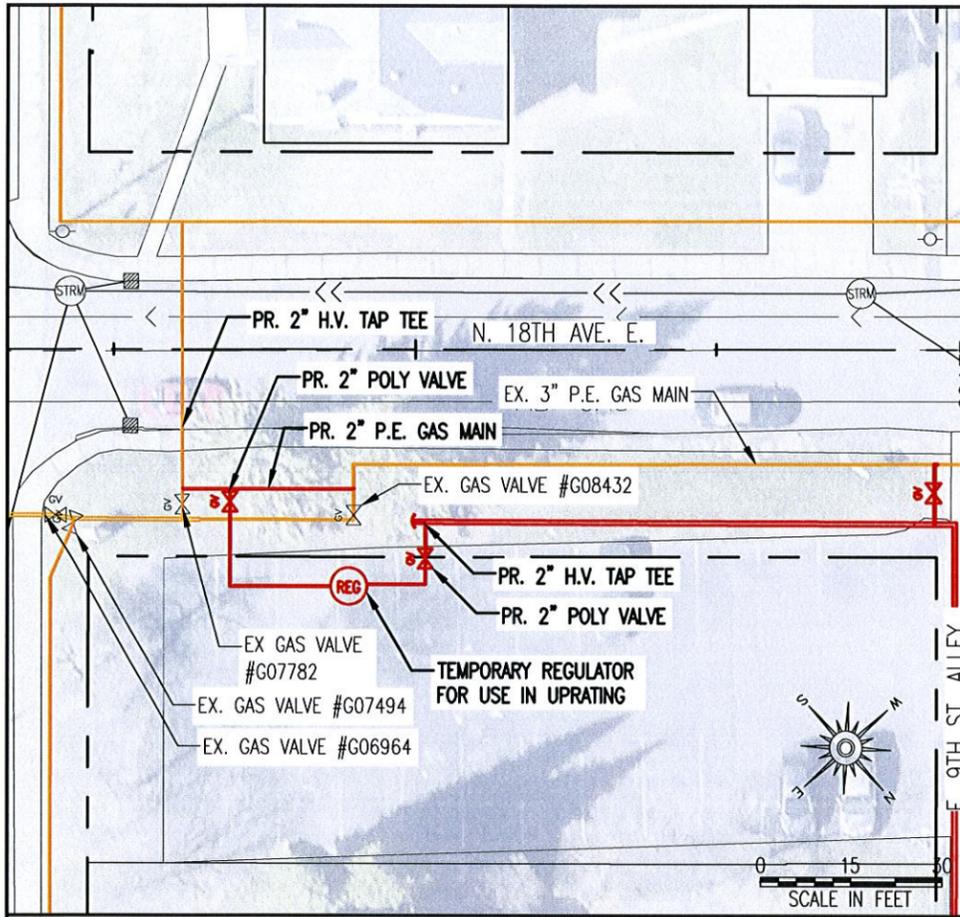
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18TH AVE. E. & SNELLING AVE. GAS MAIN TO U.M.D.
 CITY PROJECT NO.: 1410
 STATE AID PROJECT NO.: ----

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 CONNECTION PROCEDURES
 SHEET NO. 30A OF 43



CONNECTION PROCEDURE 9

CONNECTION PROCEDURE 10A

CONNECTION PROCEDURE 11

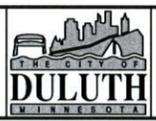
CONT.	C.O.D.	PROCEDURE #9
		INSTALL TEMPORARY REG STATION
1	X	INSTALL 8" X 2" HIGH VOLUME TEE AT STA 21+02 (POINTED EAST), A 2" PE VALVE, AND SEGMENT OF 2" PE GAS MAIN TO THE TEMPORARY REG STATION LOCATION
	X	TAP THE NEW HV TEE AND PURGE AIR TO GAS THROUGH THE END OF THE PIPE, CLOSE NEW 2" PE VALVE
	X	CAP THE STUB UNTIL THE TEMPORARY REG STATION IS INSTALLED
2	X	INSTALL 2" PE GAS ON EAST SIDE OF 18TH AVE E FROM 3" PE AT STA 20+95 TO 2" PE GAS CROSSING 18TH AVE E AT STA 20+60, PROVIDE A FULL FLOW TEE AND 2" PE VALVE POINTING NORTH EAST
3	X	INSTALL 3" X 2" HV TAP TEE (POINTED SE) ON EXISTING 3" PE AT STA. 20+90 AND CONNECT TO 2" PE MAIN
4	X	INSTALL 2" X 2" HV TAP TEES (POINTED NW) AT STA 20+65 AND CONNECT TO 2" PE MAIN
5	X	TAP ONE OF THE HV TEES AND PURGE AIR TO GAS THROUGH THE OTHER THEN TAP THE SECOND HV TEE
6	X	INSTALL 2" PE FROM NEW VALVE INSTALLED DURING STEP 2 TO THE LOCATION OF THE TEMPORARY REG STATION
8	X	PURGE AIR TO GAS THROUGH NEW 2" PE VALVES AND END OF PIPE, INSTALL CAP AT END OF PIPE
9	X	CAP BOTH STUBS UNTIL REG STATION IS INSTALLED
10	X	INSTALL TEMPORARY REG STATION AND CONNECT TO THE PROVIDED NEW 2" PE STUBS

CONT	C.O.D.	PROCEDURE #10
		UPRATE PRESSURE IN NORTH ZONE
1	X	CONFIRM THE NORTH ZONE OF THE UPGRADING AREA HAS INITIAL LEAK SURVEY COMPLETED. ANY LEAKS ARE REPAIRED AND RE- SURVEYED
2	X	START UP TEMPORARY REG STATION AND CONFIRM GAS IS FLOWING AT 22 PSI INTO SYSTEM, AT 18th AVE E AND 8th STREET
3	X	CLOSE VALVE G07782 VALVE G08432, THE TEMPORARY REG STATION IS NOW FEEDING THE UPGRATE ZONE 1, ADJUST RELIEF VALVE PRESSURE TO 66 PSI
4	X	STEP UP PRESSURE TO 27 PSI AND CONFIRM UPGRATE ZONE IS ISOLATED
5	X	STEP UP SYSTEM PRESSURE TO 66 PSI
6		PERFORM FINAL LEAK SURVEY, FIX ANY LEAKS AND RE- SURVEY

CONT.	C.O.D.	PROCEDURE #11
		COLLEGE STREET 66 PSI SYSTEM CONNECTION
1	X	EXCAVATE AT NW INTERSECTION CORNER OF WOODLAND AVE AND COLLEGE STREET, TO EXPOSE 3" X 3" TEE, 90° BEND AND 3" CAPPED STUB SOUTH OF TEE.
2	X	EXCAVATE CAPPED 2" PE GAS MAIN, WHICH IS CONNECTED TO THE 2" PE VALVE (CURRENTLY CLOSED) ON SOUTH SIDE OF COLLEGE STREET
3	X	CLOSE VALVE G14492 AND VALVE G14194 LOCATED JUST EAST OF UMD GAS SERVICE
4	X	CUT OFF 3" PE GAS CAP TO DEPRESSURIZE 3" PE GAS MAIN AND 6" MAIN IN COLLEGE STREET
	X	CUT OFF 2" PE GAS CAP TO DEPRESSURIZE 2" PE GAS MAIN.
4	X	INSTALL 3" X 2" REDUCER AND SHORT SEGMENT OF PRE - TESTED 2" PE GAS MAIN TO 3" PE STUB
5	X	CONNECT THE NEW 2" PE GAS MAIN AND EXISTING GAS MAIN TOGETHER WITH A COUPLING.
6	X	SLOWLY OPEN VALVE G10278, THEN VALVE G14492, THEN OPEN VALVE G14194
7	X	SOAP TEST ALL CONNECTIONS

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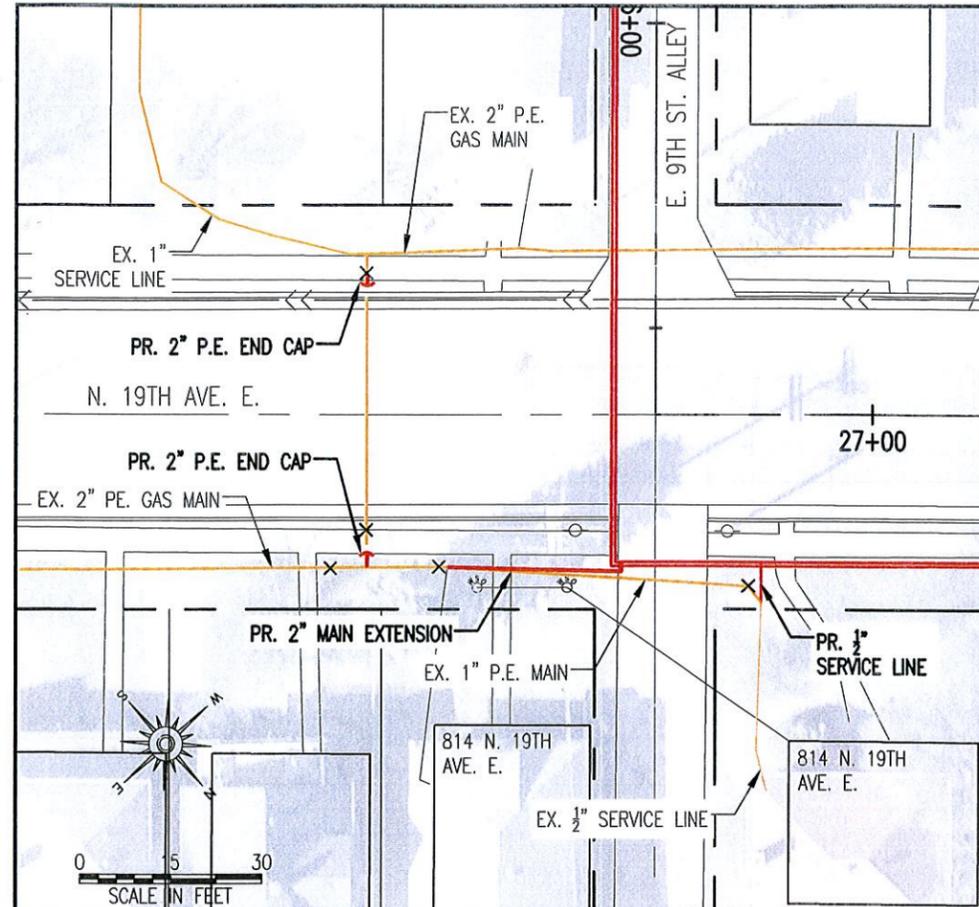
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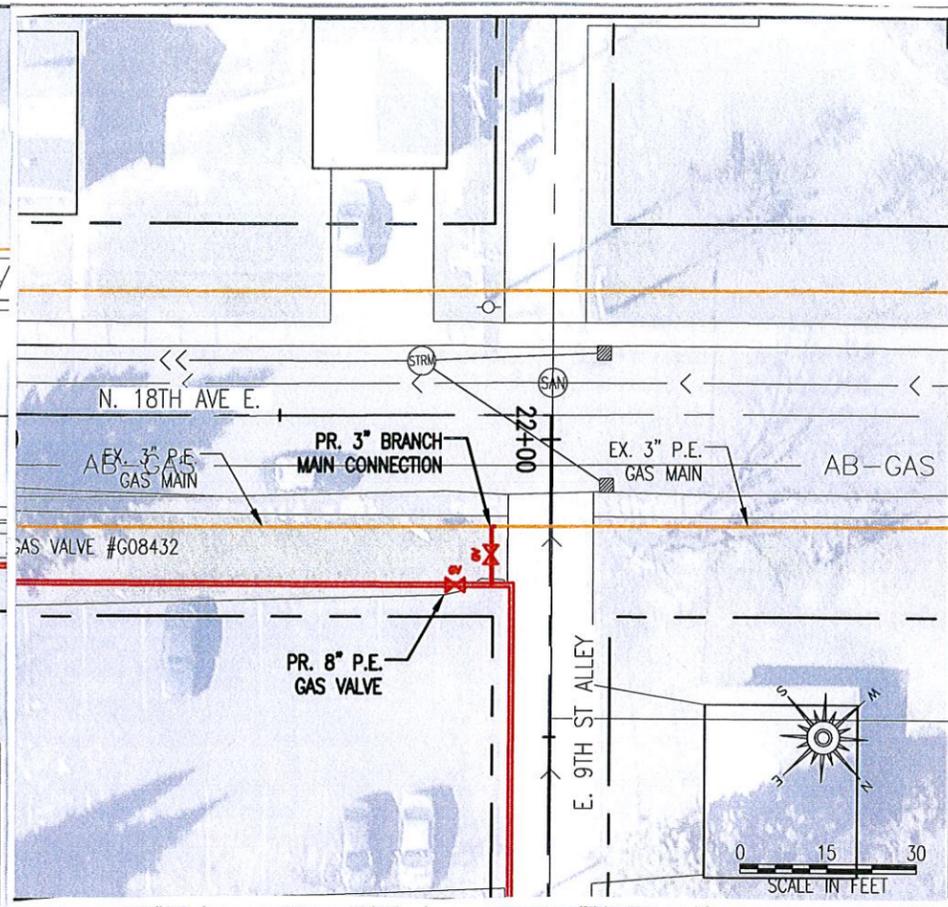
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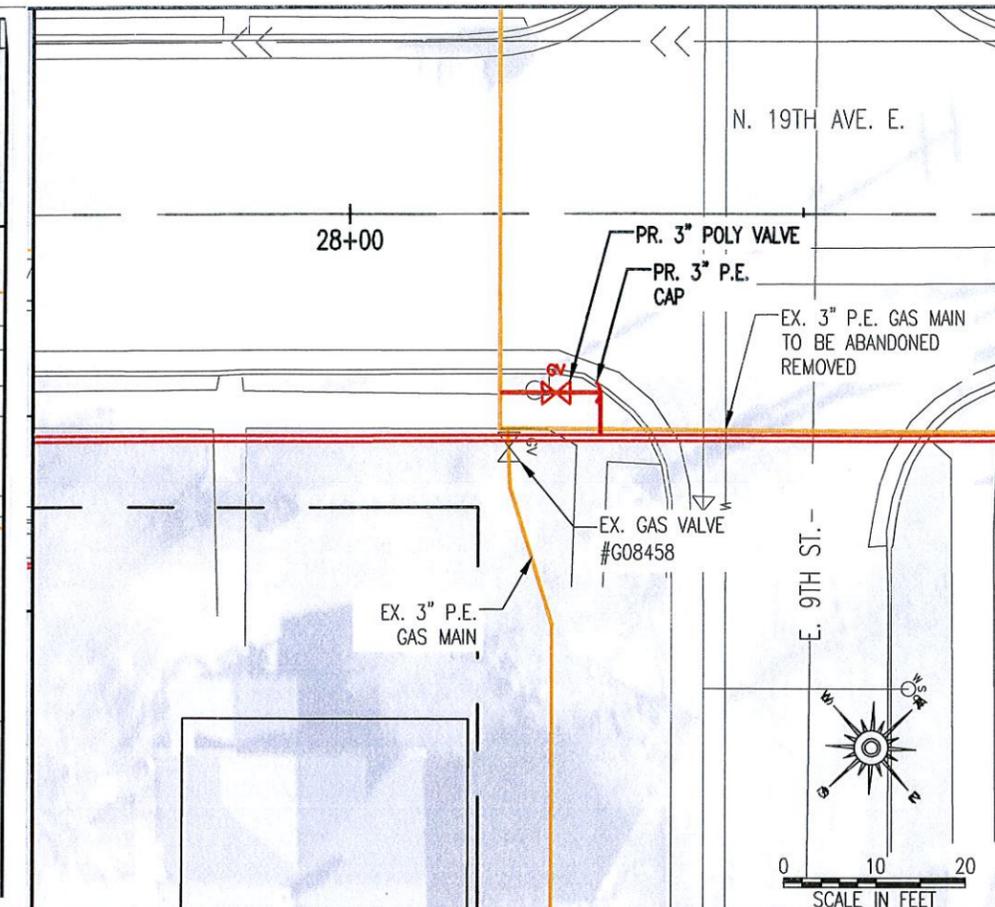
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 CONNECTION PROCEDURES
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CONNECTION PROCEDURE 12



CONNECTION PROCEDURE 14



CONNECTION PROCEDURE 13

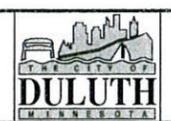
CONT.	C.O.D.	PROCEDURE #12
		RECONNECT SERVICE TO 818 N 19TH AVE E
	X	NOTIFY 818 N. 19th AVE E OF GAS SHUTDOWN
1	X	INSTALL 8" X 1/2" TAP TEE TO NEW MAIN FOR 818 N 19th AVE E
2	X	SQUEEZE 1" PE MAIN AND CAP TO WEST OF NEW 8" PE GAS
3	X	DISCONNECT 1/2" SERVICE FROM 1" P.E. MAIN
4	X	EXTEND 1/2" TO 8" P.E. GAS MAIN & TEST GAS SERVICE
5	X	RECONNECT SERVICE TO 8" MAIN, TAP TEE, & PURGE AIR TO GAS THROUGH SERVICE
6	X	INSTALL 2" PE GAS MAIN IN 19TH AVE E
7		INSTALL 2" PE GAS MAIN ON EAST SIDE OF 19TH AVE E FROM 5' S/CL TO 35' S/CL OF 9th ST ALLEY
8	X	PIG AND TEST MAIN
9	X	INSTALL 8" X 2" HV TEE TO SOUTH OFF 8" PE GAS
10	X	SQUEEZE 2" PE MAIN AT 35' S/CL OF 9TH STREET ALLEY AND CONNECT 2" PE GAS MAIN
11	X	REMOVE SQUEEZE AND MARK LOCATIONS
12	X	PURGE AIR TO GAS THROUGH 8" X 2" HV TEE
13	X	TAP 8" X 2" HV TEE
14	X	SQUEEZE 2" PE MAIN CROSSING 19TH AVE E IN TWO LOCATIONS BEHIND CURB
15	X	CUT AND CAP THE EXISTING 2" PE ON EACH SIDE OF 19TH AVE E AND ABANDON THE 2" PE CROSSING
16	X	SOAP TEST ALL CONNECTIONS
17	X	

CONT.	C.O.D.	PROCEDURE #14
		CONNECT 3" EXISTING MAIN ON 18TH AVE E TO NEW 8" GAS MAIN
1	X	INSTALL 8" X 2" HV TEE WITH A 2"X3" REDUCER, 3" PE VALVE, AND 3" PIPE STUB TO WEST OFF 8" PE GAS AT 5' NORTH OF 8" PE VALVE
2	X	TAP 8" X 2" TEE, PURGE AIR TO GAS THROUGH 3" PIPE AND CAP PIPE
3	X	INSTALL TWO SQUEEZES ON THE EXISTING 3" PE MAIN AT STA. 21+90 AND AT STA. 20+90 WEST OF EXISTING VALVE G08432
4	X	CUT EXISTING 3" PE MAIN AT BOTH ENDS, CAP LIVE END AT STA. 20+90 AND ABANDON THE ISOLATED 3" PE
5	X	INSTALL SEGMENT OF TESTED 3" PE MAIN WITH 90 DEGREE BEND TO THE NEW 3" VALVE
6	X	PURGE AIR TO GAS IN NEW SEGMENT WITH THE NEW 3" VALVE
7	X	CONNECT THE NEW 3" PE SEGMENT TO THE EXISTING 3" MAIN AT STA. 21+90
8	X	RELEASE SQUEEZES AND OPEN NEW 3" PE VALVE

CONT.	C.O.D.	PROCEDURE #13
		CONNECT 3" EXISTING MAIN ON 19TH AVE E TO NEW 8" GAS MAIN
1	X	INSTALL 2"X8" HV TEE ON NEW 8" PE GAS AT STA. 28+20 POINTED WEST
2		
3	X	INSTALL A 2"X3" REDUCER AND 3" PE GAS MAIN WITH A 90° BEND BETWEEN HV TEE AND EXISTING 3" PE VALVE INSTALLED IN STEP #6, CONFIRM VALVE IS CLOSED
4	X	TEST NEW 3" PE MAIN BETWEEN VALVE AND TAP TEE
5	X	OPEN 3" VALVE AND PURGE THROUGH 8"X2" HV TEE, CLOSE VALVE
6	X	TAP 8" X 2" HV TEE
7	X	OPEN 3" VALVE AND SOAP TEST ALL CONNECTIONS

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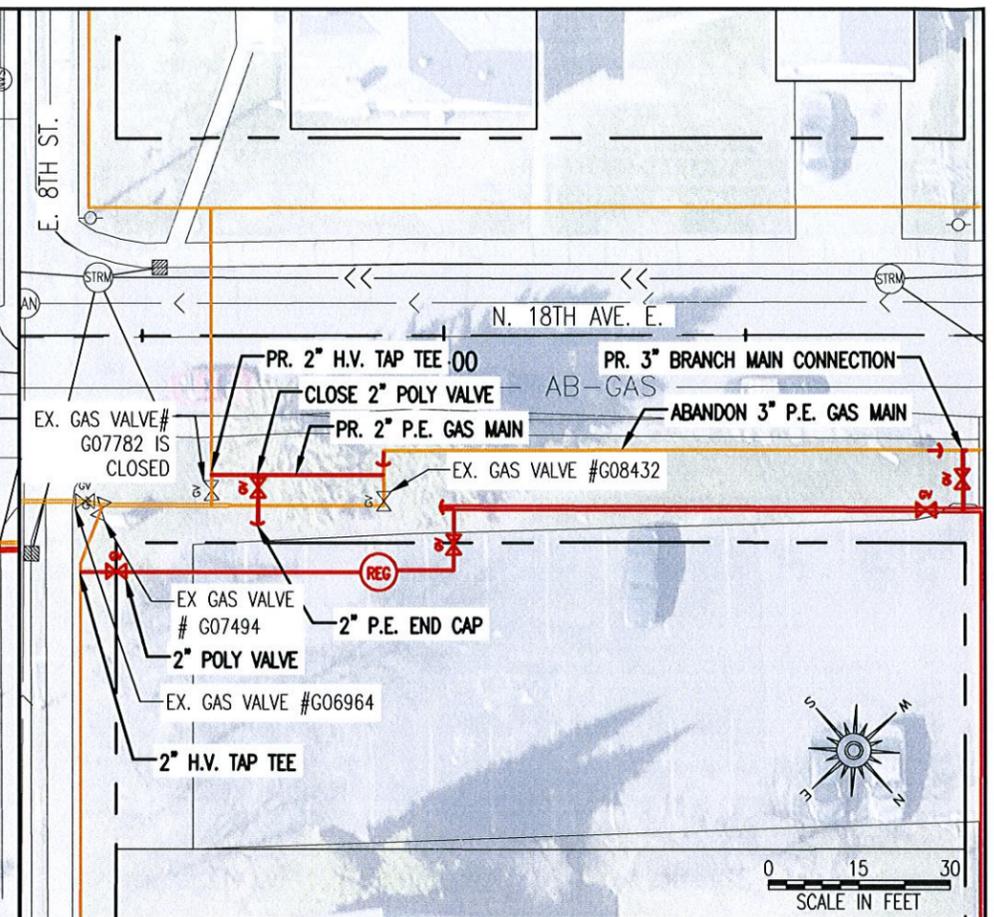
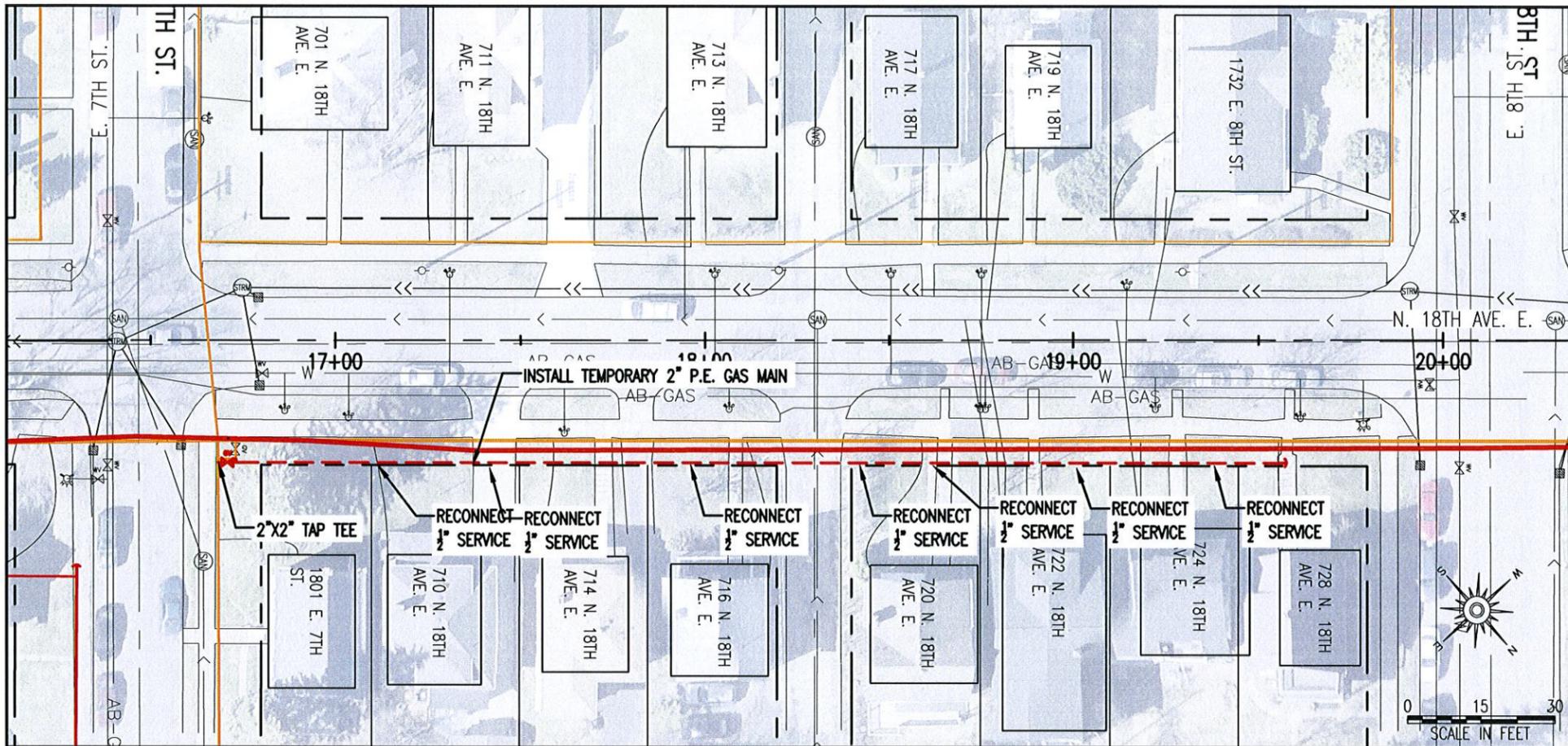


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 SHEET NO. 34 OF 43

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CONNECTION PROCEDURE 27

CONT.	C.O.D.	PROCEDURE #27
		INSTALL TEMPORARY GAS MAIN FEEDING THE N 700 BLOCK OF 18TH AVE E
1	X	NOTIFY HOMEOWNERS OF GAS INTERRUPTION.
2	X	INSTALL 2" PE TEMPORARY GAS MAIN ON EAST OF 18TH AVE E FROM MAIN IN 7th ST TO 40' S/CL 8th ST.
3	X	INSTALL 2" X 2" HV TEE AND POLY VALVE OFF EXISTING 2" PE GAS POINTED NORTH.
4	X	PIG TEMPORARY MAIN AND INSTALL 2" CAPS.
5	X	CONNECT 2" P.E. GPS MAIN TO NEW TAP TEE
6	X	INSTALL 2"X 1/2" TAP TEE WITH 10' OF 1/2" PE AT 728 N. 18TH AVE E.
7	X	TEST 2"X 1/2" TAP TEE AND THEN TAP SERVICE TEE.
8	X	TEST MAIN AND SERVICE PIPING, TAP 2" H.V. TAP TEE, AND PURGE AIR TO GAS THROUGH SERVICE.
9	X	INSTALL 2"X 1/2" TAP TEES FOR SEVEN REMAINING SERVICES LISTED IN THE SHCHEDULE.
10		TEST 2"X 1/2" TAP TEES AND ANY NEW 1/2" PE SERVICE INSTALLED.
11	X	CONNECT EXISTING SERVICES TO NEW SERVICE TEES ON TEMPORY MAIN.
12	X	TAP AND PURGE AIR TO GAS THROUGH EACH SERVICE RISER.
13	X	METER WORK BY OTHERS.

TEMPORARY GAS SERVICE SCHEDULE				
	STREET	TEMP	RECON	SIZE
728	N 18th Ave E	X	X	
724	N 18th Ave E	X	X	
722	N 18th Ave E	X	X	
720	N 18th Ave E	X	X	
716	N 18th Ave E	X	X	
714	N 18th Ave E	X	X	
710	N 18th Ave E	X	X	
1801	E 7th Street	X	X	

CONNECTION PROCEDURE 28

CONT.	C.O.D.	PROCEDURE #28
		CONNECT TEMPORARY REG STATION TO THE SOUTHERN UPRATE ZONE
1	X	SHUT DOWN THE TEMPORARY REG STATION WITH ABOVE GRADE STATION ISOLATION VALVES
2	X	CLOSE 2" PE VALVE AT STA. 20+72, CUT 2" PE TO EAST OF VALVE AND INSTALL A CAP
3	X	RE-ROUTE AND EXTEND 2" PE SOUTH TOWARDS 8TH STREET AND INSTALL A NEW 2" PE VALVE AT STATION 20+48
4	X	INSTALL 2" X 2" HV TEE AND POLY VALVE OFF EXISTING 2" PE GAS IN 8TH STREET POINTED NORTH.
5	X	CONNECT TO 2"X2" HV TAP TEE AND TEST NEW 2" GAS MAIN THROUGH TAP TEE, THEN CLOSE NEW 2" VALVE
6	X	ACTIVATE THE TEMPORARY REG STATION TO SUPPLY GAS AT 22 PSI, ADJUST THE RELIEF VALVE ACCORDINGLY
7	X	OPEN THE NEW 2" VALVE AND PURGE AIR TO GAS THROUGH THE 2"X2" HV TEE
8	X	TAP THE 2"X2" HV TEE
9		THE TEMPORARY REG IS NOW FEEDING INTO THE SOUTH UPRATE ZONE AT 22 PSI

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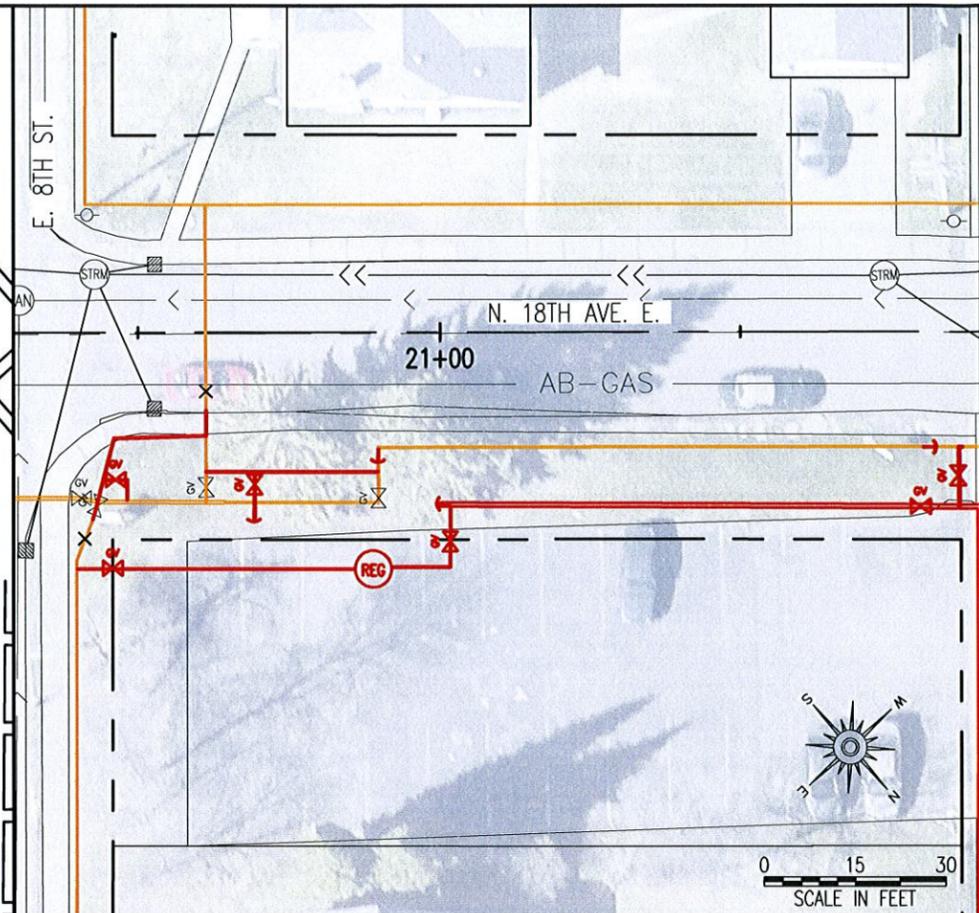
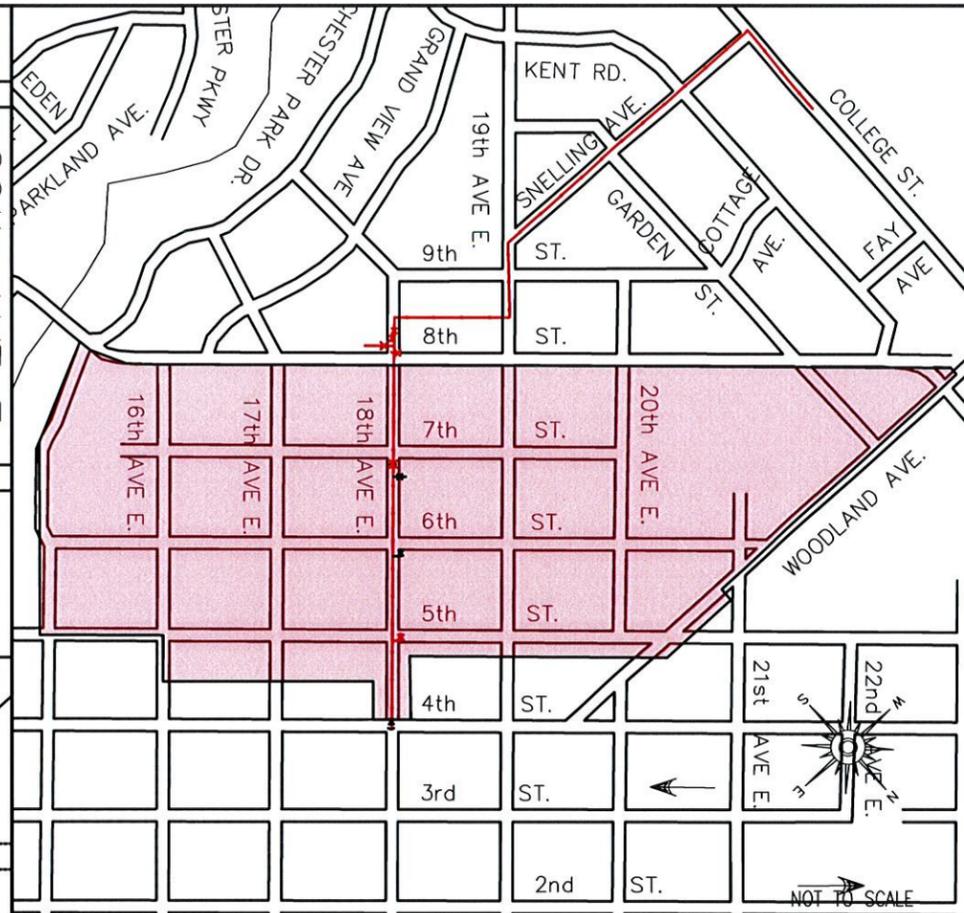
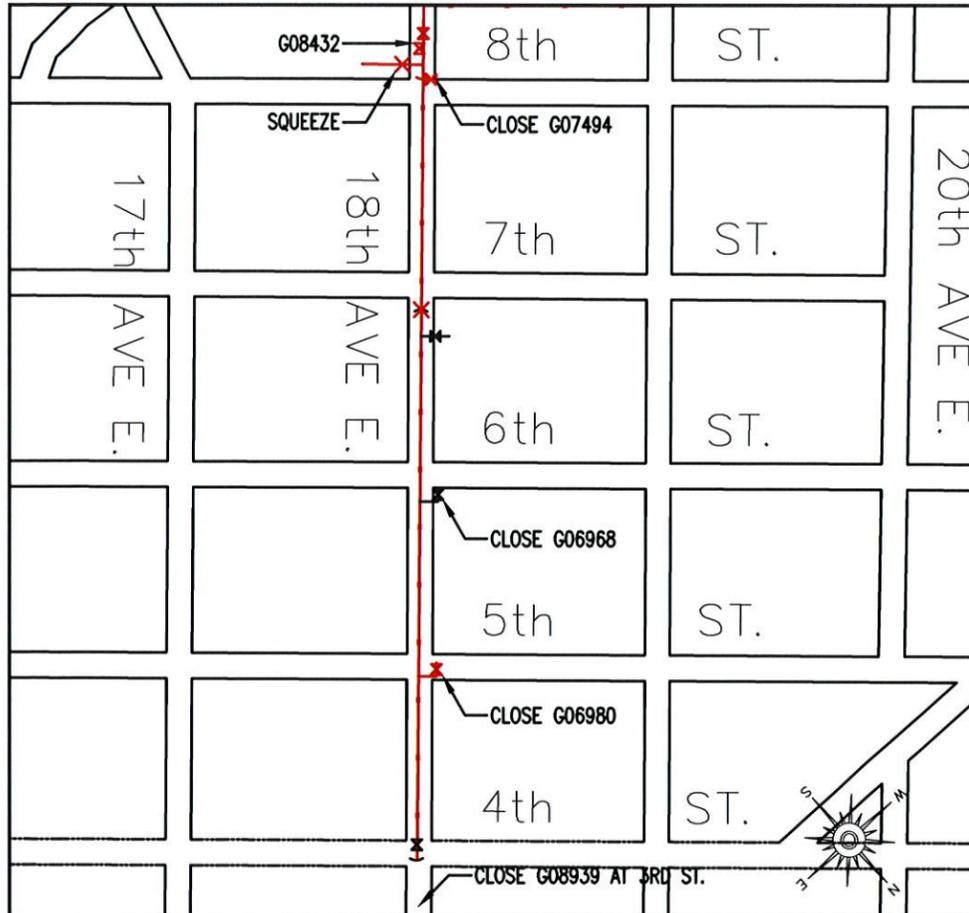
DATE: 05//27/2016
 LIC. HOWARD D. SMITH, P.E.



CITY OF DULUTH
 ENGINEERING DIVISION
 411 W. 1ST ST. STE. 211
 DULUTH, MN 55802

18TH AVE. E. & SNELLING AVE. GAS MAIN TO U.M.D.
 CITY PROJECT NO.: 1410 STATE AID PROJECT NO.: ----

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 CONNECTION PROCEDURES
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CONNECTION PROCEDURE 29

CONT.	C.O.D.	PROCEDURE #29
1	X	ALL SERVICES AND BRANCH MAINS HAVE NOW BEEN REMOVED FROM THE EXISTING 6" PE MAIN, AND IT CAN BE ISOLATED BY CLOSING THE FOLLOWING VALVES:
2		G07494 AT 8TH STREET
3		G06968 AT 6TH STREET
4		G06980 AT 5TH STREET
5		G08939 AT 3RD STREET
6	X	CONFIRM THAT THE 4TH STREET GAS MAIN AND VALVE G06922 HAVE BEEN DISCONNECTED BY OTHERS AS PART OF A PREDECESSOR PROJECT
7	X	CONFIRM THAT THE 3TH STREET GAS MAIN AND VALVE G07786 HAVE BEEN DISCONNECTED BY OTHERS AS PART OF A PREDECESSOR PROJECT
PURGE EXISTING 6" FROM 3RD STREET TO 8TH STREET		
9	X	INSTALL SQUEEZE ON 2" PE MAIN CROSSING 18TH AVENUE EAST AT 8TH STREET WEST OF THE 2"X2" HV TEE INSTALLED DURING STEP 9, CUT MAIN AND CAP LIVE SIDE TO THE WEST, REMOVE SQUEEZE
10	X	CUT 6" PE NORTH OF VALVE G07786 TO DEPRESSURIZE 6" MAIN AND CAP END TOWARDS THE LIVE VALVE
11	X	OPEN VALVE G08432 AND PURGE GAS TO AIR IN THE SEGMENT OF 6" PE MAIN FROM 3RD STREET TO 8TH STREET TO BE ABANDONED AND REMOVED
CUT AND CAP ALL REMAINING CONNECTIONS TO THE EXISTING 6" PE GAS MAIN		
12	X	CUT OFF AND CAP THE 2" BRANCH MAINS BETWEEN THE 6" PE AND VALVE G07494 AT 8TH STREET **
13	X	CUT OFF AND CAP THE 2" BRANCH MAINS BETWEEN THE 6" PE AND VALVE G06968 AT 6TH STREET **
14	X	CUT OFF AND CAP THE 2" BRANCH MAINS BETWEEN THE 6" PE AND VALVE G06980 AT 5TH STREET **
15		
17		** NOTE THAT ENGINEER MAY DEVIATE PLAN TO REMOVE OLD STEEL VALVES AT EACH CONNECTION IF CONVIENENT

CONNECTION PROCEDURE 30

CONT.	C.O.D.	PROCEDURE #30
UPRATE PRESSURE IN SOUTH ZONE		
1	X	CONFIRM THE SOUTH ZONE OF THE UPRATING AREA HAS INITIAL LEAK SURVEY COMPLETED. ANY LEAKS ARE REPAIRED AND RE- SURVEYED
2	X	STEP UP PRESSURE TO 27 PSI AND CONFIRM UPRATE ZONE IS ISOLATED
3	X	STEP UP SYSTEM PRESSURE TO 33 PSI AND PERFORM LEAK SURVEY OF MAINS
4	X	STEP UP SYSTEM PRESSURE TO 44 PSI AND PERFORM LEAK SURVEY OF MAINS
5	X	STEP UP SYSTEM PRESSURE TO 55 PSI AND PERFORM LEAK SURVEY OF MAINS
6	X	STEP UP SYSTEM PRESSURE TO 66 PSI
7	X	PERFORM FINAL LEAK SURVEY, FIX ANY LEAKS AND RE- SURVEY

CONNECTION PROCEDURE 31

CONT.	C.O.D.	PROCEDURE #31
CONNECT PRESSURE ZONES TOGETHER AT 8TH STREET		
1	X	INSTALL TWO SQUEEZES, ONE OF THE 2" MAIN APPROXIMATELY 5' EAST OF THE NEW PIPE ALIGNMENT, INSTALL THE SECOND SQUEEZE ON THE 2" MAIN CROSSING 18TH AVE E BEHIND THE EXISTING CAP
2	X	CUT AND REMOVE EXISTING 2" PE BETWEEN SQUEEZES AND THE DECOMMISSIONED 6" PE, INCLUDING VALVES G07494 AND G07782. ALSO REMOVE 6" PE AS NEEDED AS PART OF THIS STEP
3	X	INSTALL AND TEST 2" PE MAIN BETWEEN THE TWO SQUEEZE LOCATIONS, INCLUDE A FULL FLOW 2"X2" TEE WITH A 2" PE VALVE, PIPE AND BENDS AS NEEDED TO PROVIDE A STUBBED BRANCE CONNECTION TO THE PROPOSED 8" PE MAIN
4	X	CLOSE NEW 2" PE VALVE ON BRANCH AND CAP END
5	X	CONNECT TO EASTERN MAIN ON 8TH STREET, RELAX SQUEEZE TO PURGE THE MAIN AIR TO GAS, CONNECT TO WESTERLY 2" PE MAIN CROSSING 18TH AVE E AND REMOVE BOTH SQUEEZES.
6		THE SOUTHERN UPRATE ZONE IS NOW CONNECTED TO THE NORTHERN UPRATE ZONE AT 66 PSI
7	X	REMOVE ABANDONED 6" AND 2" PE GAS MAINS AS DIRECTED BY THE ENGINEER
8	X	REMOVE TEMPORARY REG STATION AND ASSOCIATE TEMPORARY PIPING
9	X	ABANDON HV TAP TEES THAT WERE CONNECTING THE TEMPORARY REG STATION TO THE 8" AND 2" GAS MAINS

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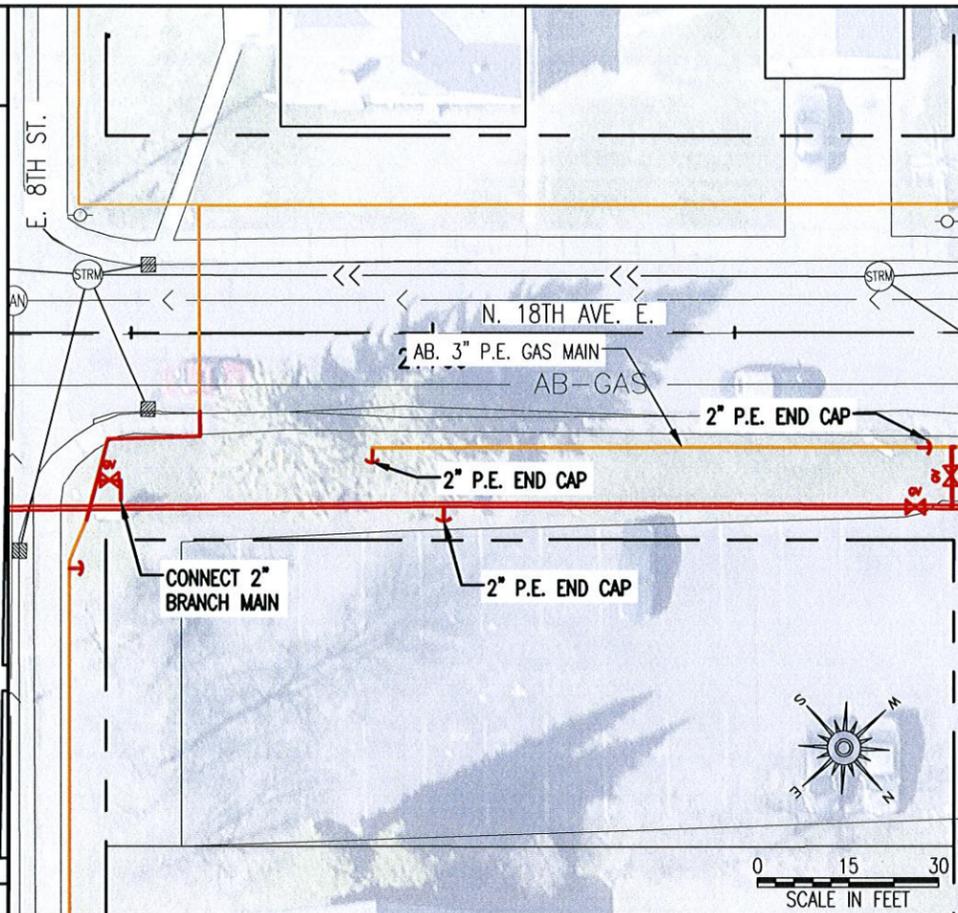
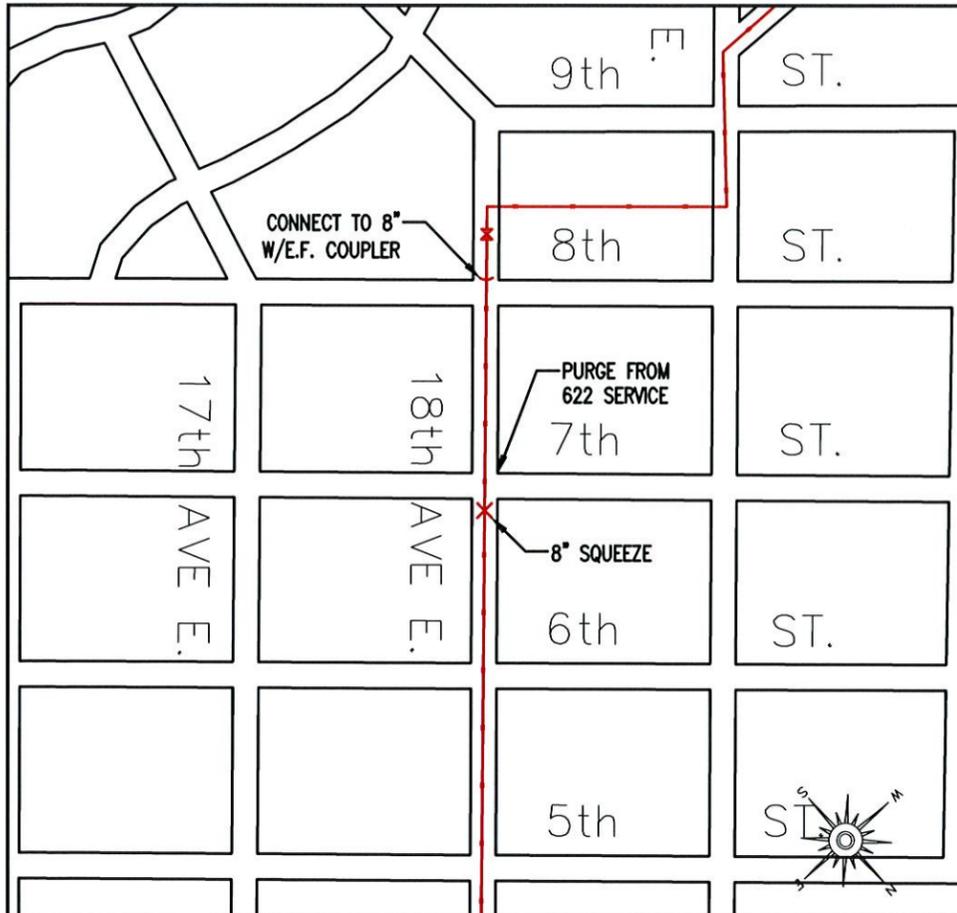
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CONNECTION PROCEDURE 32

CONNECTION PROCEDURE 33

CONT.	C.O.D.	PROCEDURE #32
		INSTALL NEW 8" PE GAS MAIN FROM STA.
1	X	NOTIFY CUSTOMER AT 622 N 18TH AVE E OF SCHEDULED SHUT DOWN
2	X	INSTALL AND TEST 8" PE MAIN FROM STA. 15+75 TO 21+00, INSTALL TEST HEAD AT 15+75
3	X	SHUT DOWN TEMPORARY REG STATION AND CLOSE UPSTREAM AND DOWNSTREAM ISOLATION VALVES
4	X	CLOSE NEW 8" VALVE AT STA. 21+85, REMOVE 8" CAP AT STA. 20+90 AND CONNECT TO NEW 8" PE MAIN
5	X	SHUT DOWN SERVICE TO 622 N 18TH AVE. E., CLOSE 1" SERVICE TEE AND DISCONNECT SERVICE LINE
6	X	SQUEEZE 8" PE GAS MAIN FROM THE SOUTH AT STATION 15+65, REMOVE CAP AND CONNECT 8" GAS MAINS TOGETHER
7	X	PURGE NEW 8" GAS MAIN AIR TO GAS BY OPENING THE 8" VALVE AT STA. 21+85 AND PURGING THROUGH THE 1" SERVICE TEE FOR 622 N 18TH AVE. E.
8	X	WHEN FULLY PURGED CLOSE 1" SERVICE TEE, RECONNECT SERVICE, AND REACTIVATE SERVICE TO 622 N 18TH AVE E
9	X	REMOVE SQUEEZE
10	X	RELIGHT CUSTOMER AT 622 N 18TH AVE E

CONT.	C.O.D.	PROCEDURE #33
		CONNECT 2" EXISTING MAIN ON NORTH SIDE OF 8TH STREET TO NEW 8" GAS MAIN
1	X	INSTALL 2"x8" HV TEE ON NEW 8" PE GAS AT STA. 20+50 POINTED WEST
2	X	CONNECT 2" PE STUB INSTALLED DURINGPROCEDURE #31 TO THE HV TAP TEE
3	X	OPEN NEW 2" VALVE AND PURGE AIR TO GAS THROUGH THE 8"x2" HV TAP TEE
4	X	TAP 8" X 2" TEE
5	X	SOAP TEST ALL CONNECTIONS

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SHEET NO. 42 OF 43

