

SECTION 23, TOWNSHIP 47 N, RANGE 32 W
IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI



☐ NOT FOR CONSTRUCTION

☒ REVIEWED FOR CONSTRUCTION



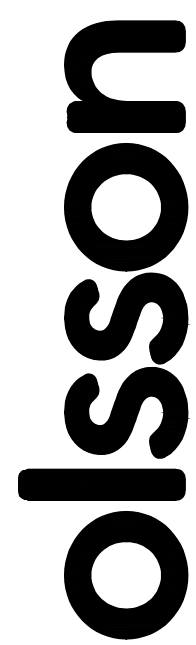
A tract of land in the Southeast Quarter of Section 23, Township 47 North, Range 32 West of the 5th Principal Meridian in Lee's Summit, Jackson County, Missouri being bounded and described by or under the direct supervision of Jason S Roudeshush, P.L.S. 2002014092 as follows: Commencing at the Southeast corner of said Southeast Quarter; thence North 02°45'34" East, on the East line of said Southeast Quarter, 2,635.08 feet to the Northeast corner of said Southeast Quarter; thence North 87°45'24" West, on the North line of said Southeast Quarter, 50.00 feet to the Southeast corner of Lot 3, EAGLE CREEK—FIRST PLAT, a subdivision in said Lee's Summit recorded as Instrument Number 110409 in Book 165 at Page 01 in Jackson County Recorder of Deeds Office, also being the Northwest corner of SW Pryor Road as described in the Right of Way Deed recorded as Instrument Number 200510087407 in said Jackson County Recorder of Deeds Office, also being Point of Beginning of the tract of land to be herein described; thence South 02°45'34" West, on the existing Westerly right-of-way line of said SW Pryor Road of said Right of Way Deed, 1,220.74 feet; thence leaving said existing Westerly right-of-way line, North 87°00'50" West, 245.56 feet; thence North 02°59'10" East, 25.00 feet; thence North 87°00'50" West, 438.50 feet; thence North 60°49'13" West, 252.48 feet; thence North 67°11'53" West, 74.21 feet; thence North 27°18'12" East, 138.17 feet; thence Westerly, on a curve to the left, having an initial tangent bearing of North 62°41'48" West with a radius of 275.00 feet, a central angle of 11°57'16" and an arc distance of 57.38 feet; thence North 15°20'56" East, 50.00 feet; thence North 29°10'47" East, 375.17 feet; thence North 07°19'52" East, 64.17 feet; thence South 87°00'50" East, 126.12 feet; thence North 02°59'10" East, 116.00 feet; thence North 42°00'50" West, 19.80 feet; thence North 02°59'10" East, 50.00 feet; thence South 87°00'50" East, 36.00 feet; thence North 02°59'10" East, 277.38 feet to a point on the South line of said EAGLE CREEK—FIRST PLAT and said North line of said Southeast Quarter; thence South 87°45'24" East, on said South and said North line, 643.83 feet to the Point of Beginning. Containing 953,270 square feet or 21.88 acres, more or less.

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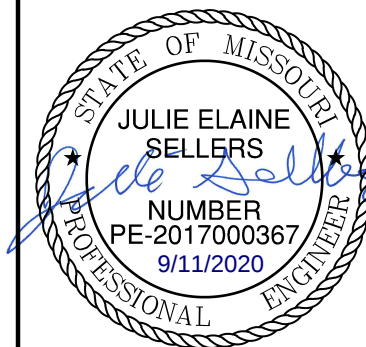

JULIE E. SELLERS, P.E.
CIVIL ENGINEER
MO# PE-2017000367

9/11/2020

DATE



Olsson - Civil Engineering
Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	06/15/2020	REVISED PER CITY COMMENTS	
2	06/25/2020	REVISED PER CITY COMMENTS	
3	09/10/2020	REMOVED PIPE INSULATION	

REVISIONS

REVISIONS

2020

LEE'S SUMMIT, MO

drawn by: _____ CGW
checked by: _____ JES
approved by: _____ NDH
QA/QC by: _____ JES
project no.: _____ 019-4061
drawing no.: _____
date: _____ 2019.03.10

SHEET
C301

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

1. ARCHITECTURAL AND STRUCTURAL ELEMENTS SHOWN IN THESE PLANS ARE FOR REFERENCE ONLY. CONTRACTORS AND SURVEYORS SHALL REFERENCE THEIR RESPECTIVE PLANS FOR DESIGN INFORMATION.
2. THE CONTRACTOR SHALL ADHERE TO THE SITE PREPARATION AND STRUCTURAL FILL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AS PROVIDED BY THE GEOTECHNICAL ENGINEER INCLUDING ALL CURRENT ADDENDUMS. THE STANDARDS AND SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI SHALL ALSO APPLY AND TAKE PRECEDENCE WHEN STRICTER THAN THE GEOTECHNICAL REPORT OR WHEN NO GEOTECHNICAL REPORT IS GIVEN.
3. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
 - A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
 - B. ALL CONSTRUCTION IN MISSOURI DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MISSOURI DEPARTMENT OF TRANSPORTATION.
 - C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
 - E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. IN ADDITION TO THE CONDITIONS OF THE GEOTECHNICAL REPORT AND AS A MINIMUM THE CONTRACTOR SHALL PERFORM THE GRADING AS FOLLOWS:
 - A. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE IN AREAS DESIGNATED BY THE OWNER. CONTRACTOR SHALL REMOVE EXCESS STRIPPINGS AND EXCESS EXCAVATION WITHIN 30 DAYS OF COMPLETION OF GRADING OPERATIONS.
 - B. AREAS TO RECEIVE FILL AND AREAS CUT TO SUBGRADE LEVEL SHALL BE SCARIFIED AND THE TOP 8-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE SUBGRADE SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
 - C. FILL SHALL BE PLACED IN MAXIMUM OF 8 INCH LIFTS.
 - D. TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES OVER ALL AREAS DISTURBED BY THE WORK. LARGE STONES, STICKS AND LUMPS SHALL BE REMOVED OR BROKEN UP, AND THE TOPSOIL SHALL BE LEVELED AND RAKED. ALL DISTURBED AREAS SHALL BE LANDSCAPED PER LANDSCAPE PLANS OR SHALL BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED.
- E. CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS AS REQUIRED.
4. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
5. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
6. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION . CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
 - A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
 - B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
 - C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
 - D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
 - E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
 - A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - B. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
 - C. ALL SITE FENCING AND RAILING INCLUDING ANY GATES.
 - D. ALL LANDSCAPE AND RETAINING WALLS.
 - E. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

WATER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.
3. COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. ALL PRIVATE WATER LINES SHALL BE A MINIMUM OF 48 INCHES AND MAXIMUM OF 60 INCHES BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.
7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.
8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
9. ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODES AND ORDINANCES.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
1	8" C900 PLASTIC PIPE	L.F.	3294.50	
2	8" POLYWRAPPED CLASS 52 DIP	L.F.	20.00	
3	6" C900 PLASTIC PIPE	L.F.	462.13	
4	8" X 8" TEE	EA.	5	
5	16" X 8" TEE	EA.	2	
6	STRAIGHT SET HYDRANT ASSEMBLY	EA.	3	
7	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	EA.	5	
8	8" GATE VALVES	EA.	11	
9	16" BUTTERFLY VALVES	EA.	2	
10	16" SOLID SLEEVES	EA.	4	
11	8" HORIZONTAL BENDS	EA.	23	
12	8" VERTICAL BENDS	EA.	1	
13	CHLORINATION AND CONNECTION TO EXISTING	EA.	2	

olson



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Missouri Certificate of Authority #001592
1301 Burlington Street
North Kansas City, MO 64116

REVISIONS

2020

LEE'S SUMMIT, MO

drawn by: _____ CGW
checked by: _____ JES
approved by: _____ NDH
QA/QC by: _____ JES
project no.: _____ 019-4061
drawing no.: _____
date: _____ 2019.03.10

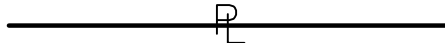
SHEET
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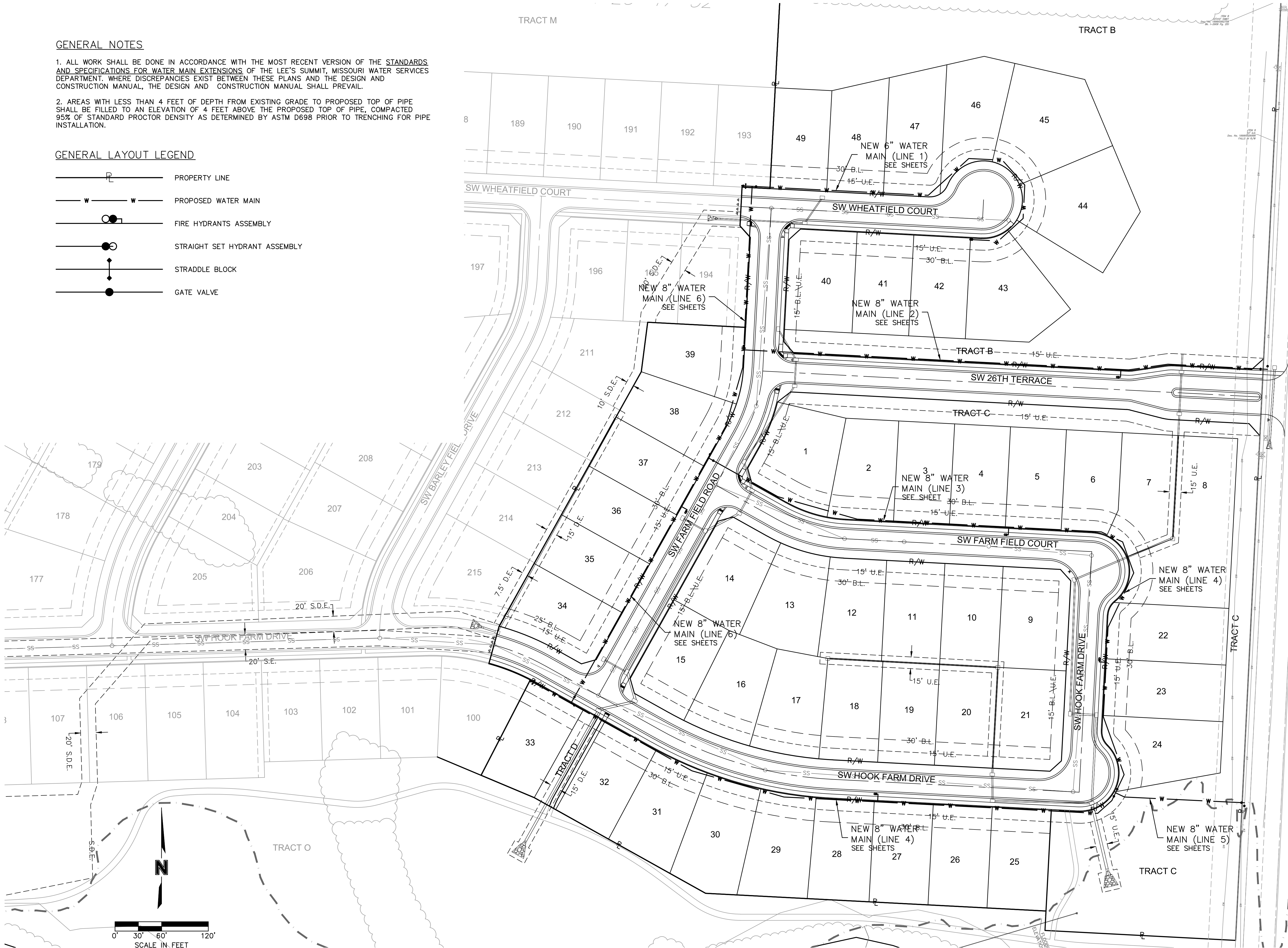
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GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE STANDARDS AND SPECIFICATIONS FOR WATER MAIN EXTENSIONS OF THE LEE'S SUMMIT, MISSOURI WATER SERVICES DEPARTMENT. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
2. AREAS WITH LESS THAN 4 FEET OF DEPTH FROM EXISTING GRADE TO PROPOSED TOP OF PIPE SHALL BE FILLED TO AN ELEVATION OF 4 FEET ABOVE THE PROPOSED TOP OF PIPE, COMPACTED 95% OF STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698 PRIOR TO TRENCHING FOR PIPE INSTALLATION.

GENERAL LAYOUT LEGEND

-  PROPERTY LINE
-  PROPOSED WATER MAIN
-  FIRE HYDRANTS ASSEMBLY
-  STRAIGHT SET HYDRANT ASSEMBLY
-  STRADDLE BLOCK
-  GATE VALVE



GENERAL LAYOUT
WATER MAIN EXTENSION PLANS

HOOK FARMS
FIRST PLAT

LEE'S SUMMIT, MO

2020

REVISIONS DESCRIPTION

REV. NO.	DATE
1	06/15/2020
2	06/25/2020
3	09/10/2020

REVISED PER CITY COMMENTS
REVISED PER CITY COMMENTS
REMOVED PIPE INSULATION

BY

REVISIONS

2020

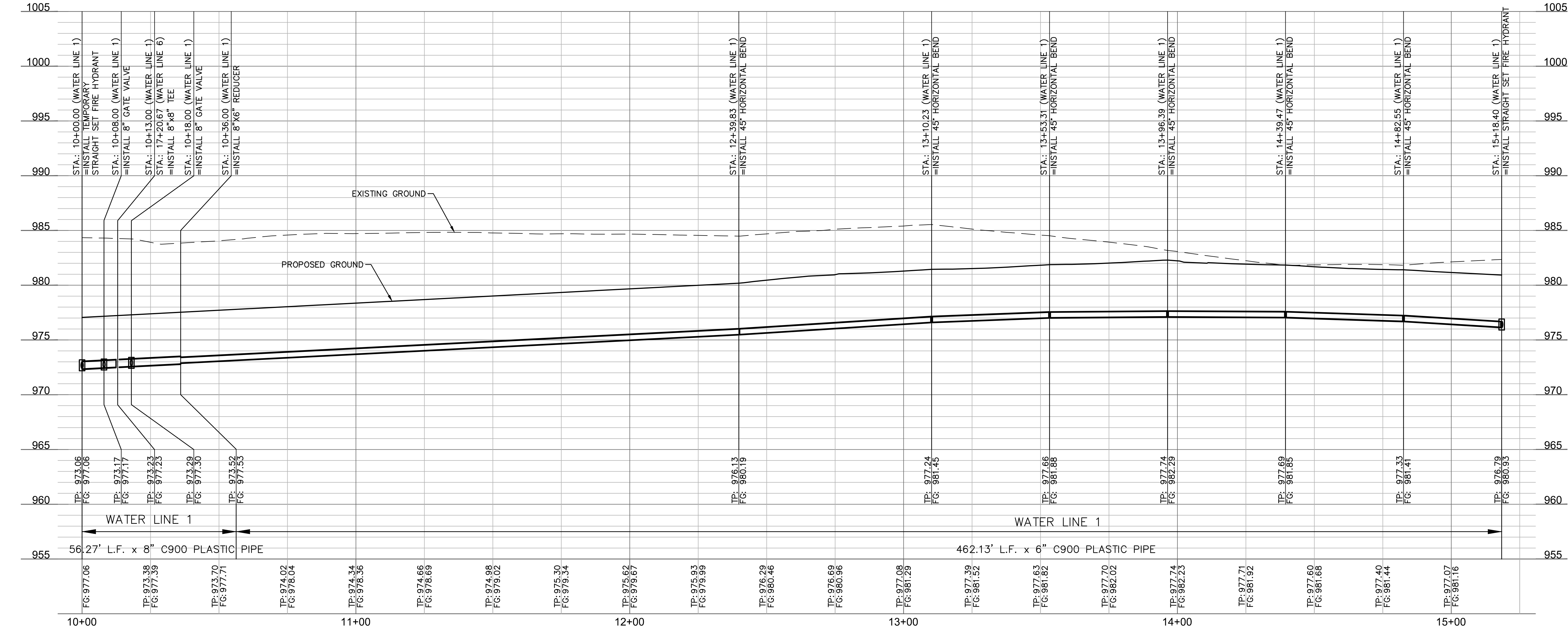
drawn by: CGW
checked by: JES
approved by: NDH
QA/QC by: JES
project no.: 019-4061
drawing no.:
date: 04/20/2020

SHEET
C303

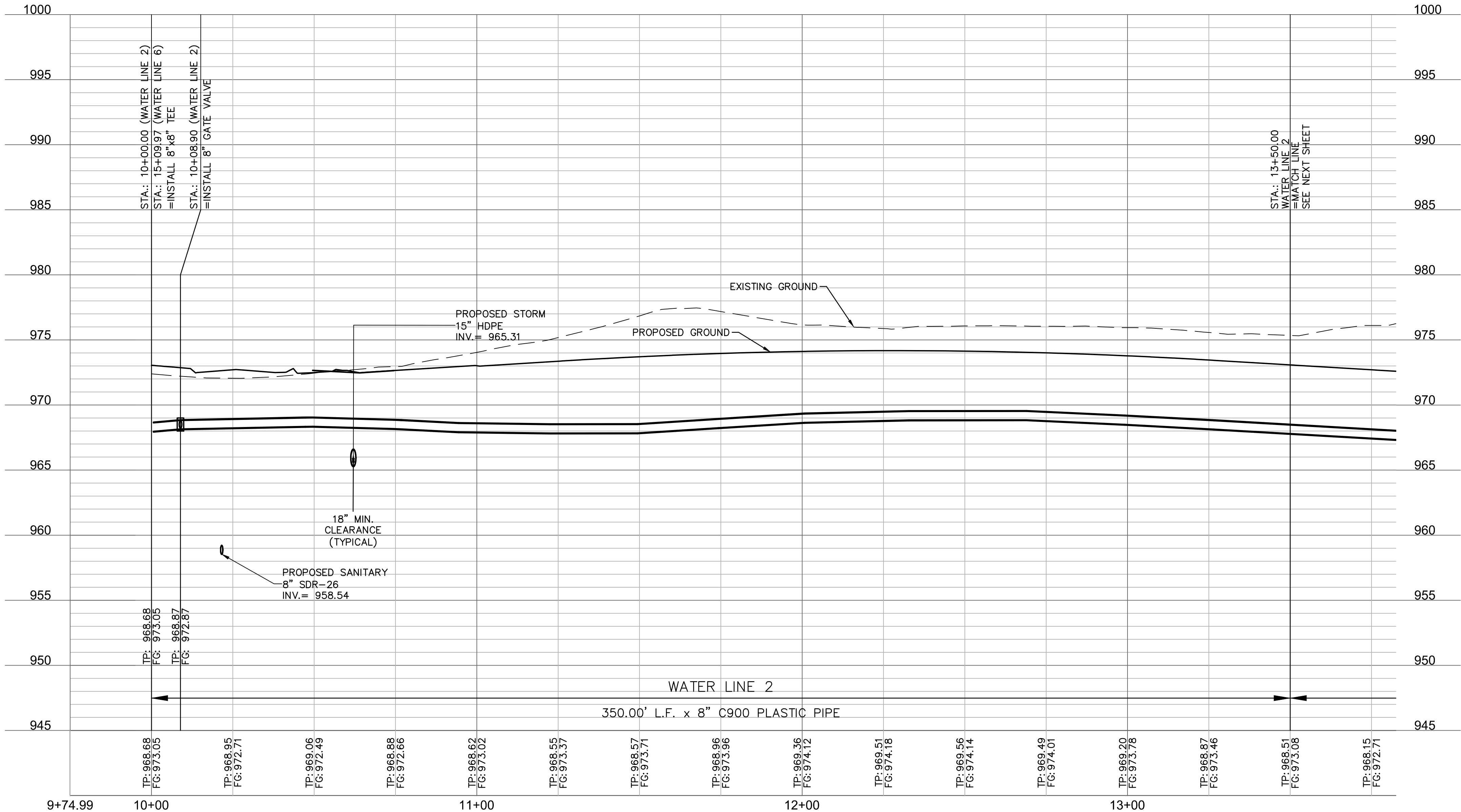
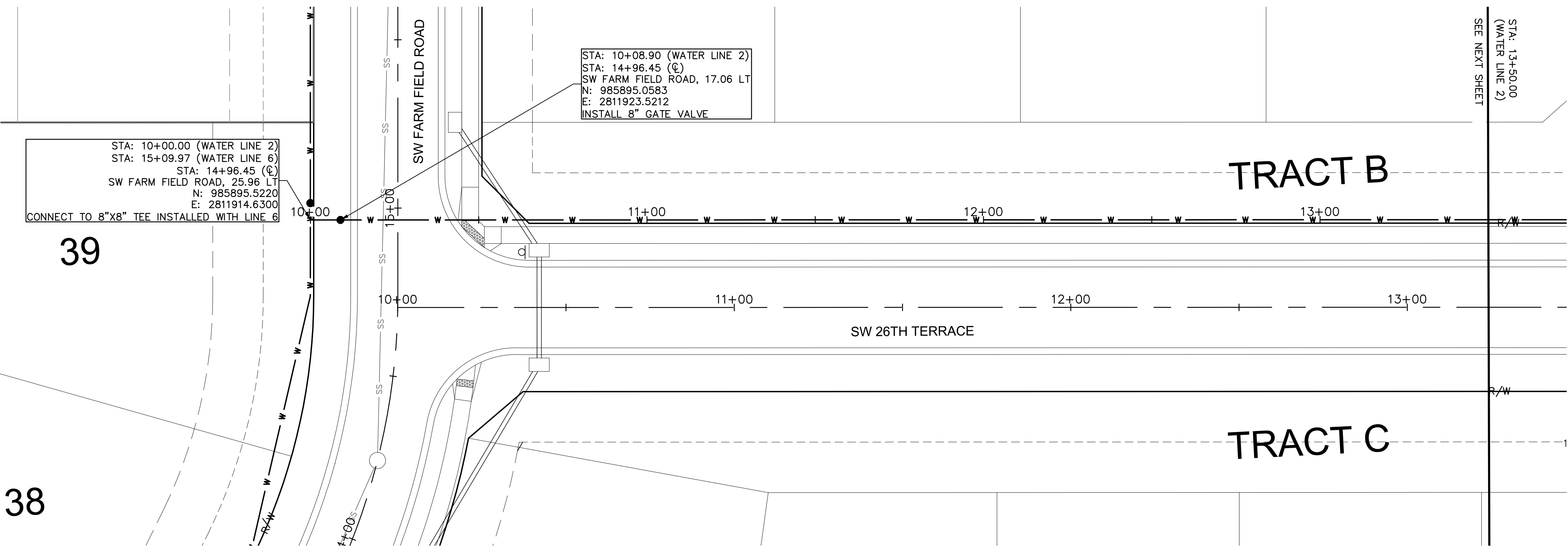
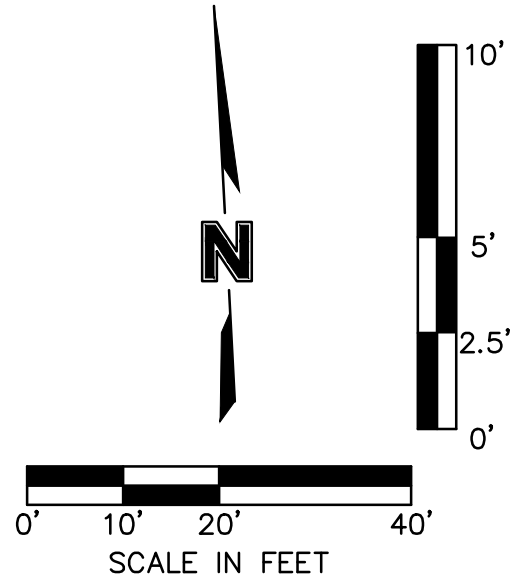


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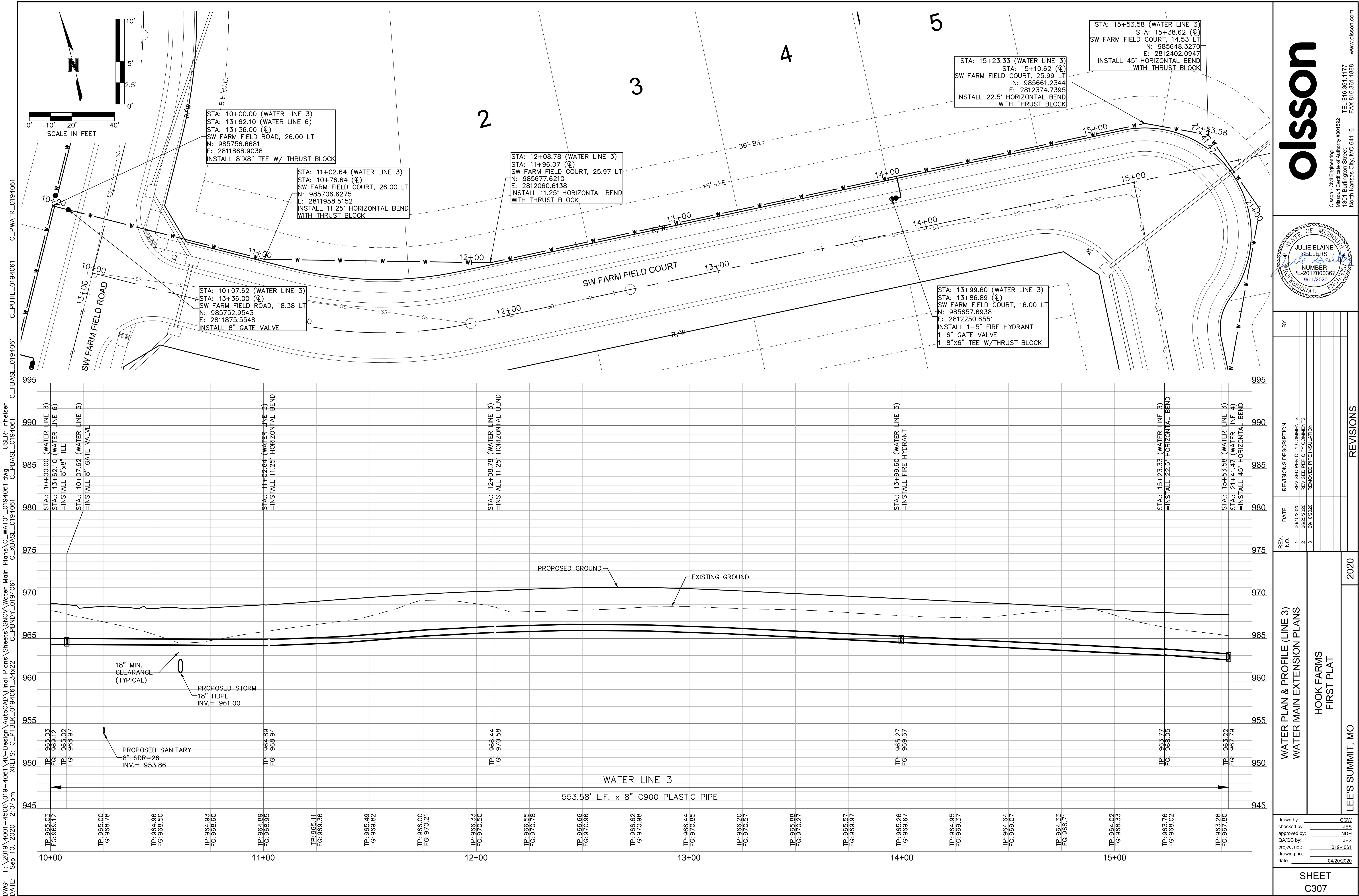
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WATER PLAN & PROFILE (LINE 2) WATER MAIN EXTENSION PLANS		REV.	DATE
		NO.	
HOOK FARMS FIRST PLAT		1	08/15/2020
		2	08/25/2020
		3	09/10/2020
LEE'S SUMMIT, MO		REVISIONS	
drawing by: CGW		date: 04/20/2020	
checked by: JES			
approved by: NDH			
QA/QC by: JES			
project no.: 019-4061			
drawing no.:			
SHEET C305			



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STATE OF MISSOURI
JULIE ELAINE SELLERS
NUMBER
PE-2017000367
9/11/2020
PROFESSIONAL ENGINEER

REV.	NO.	DATE	REVISIONS DESCRIPTION
1		08/15/2020	REVISED PER CITY COMMENTS
2		08/25/2020	REVISED PER CITY COMMENTS
3		09/10/2020	REMOVED PIPE INSULATION

BY

2020

REVISIONS

WATER PLAN & PROFILE (LINE 3)
WATER MAIN EXTENSION PLANS

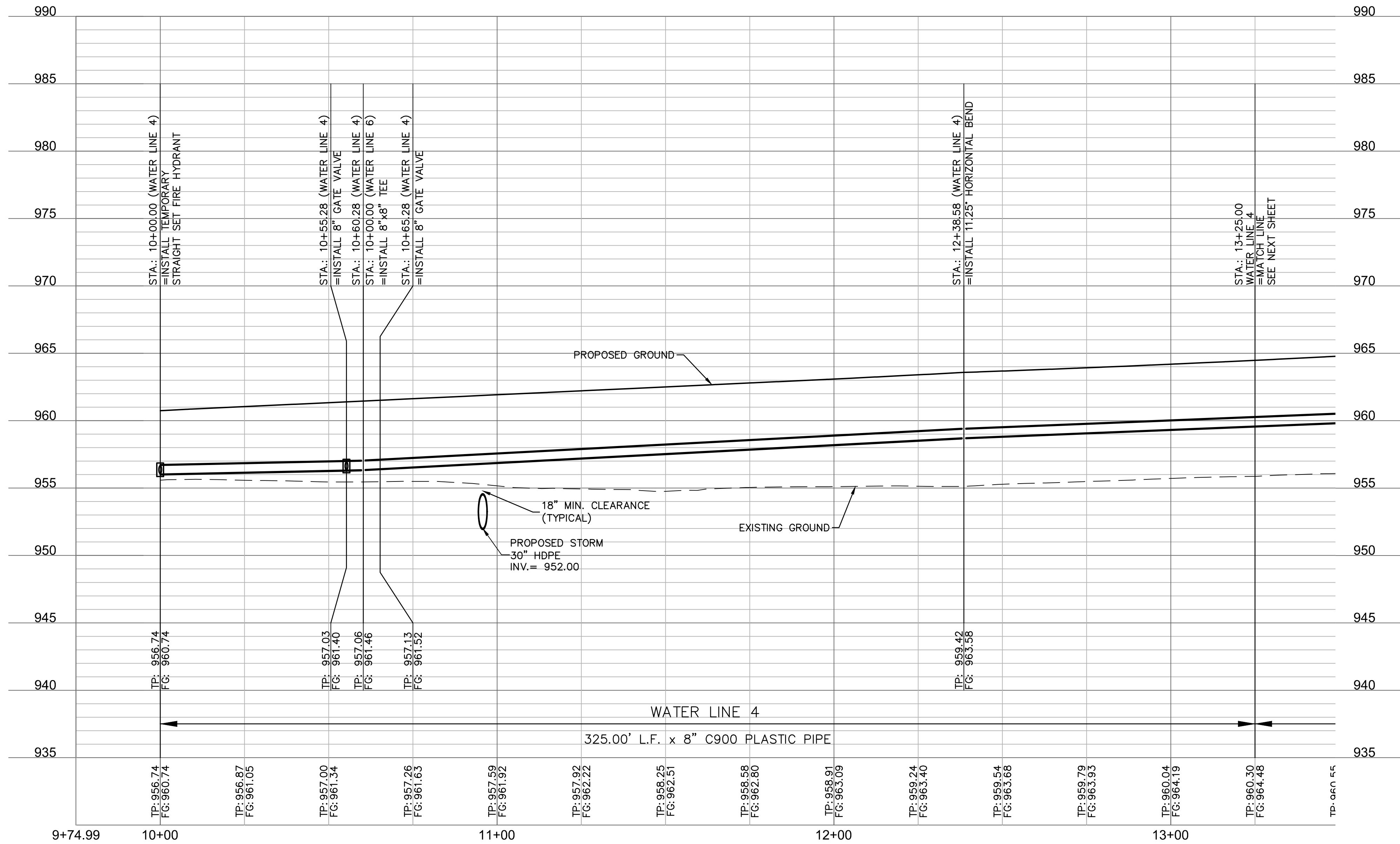
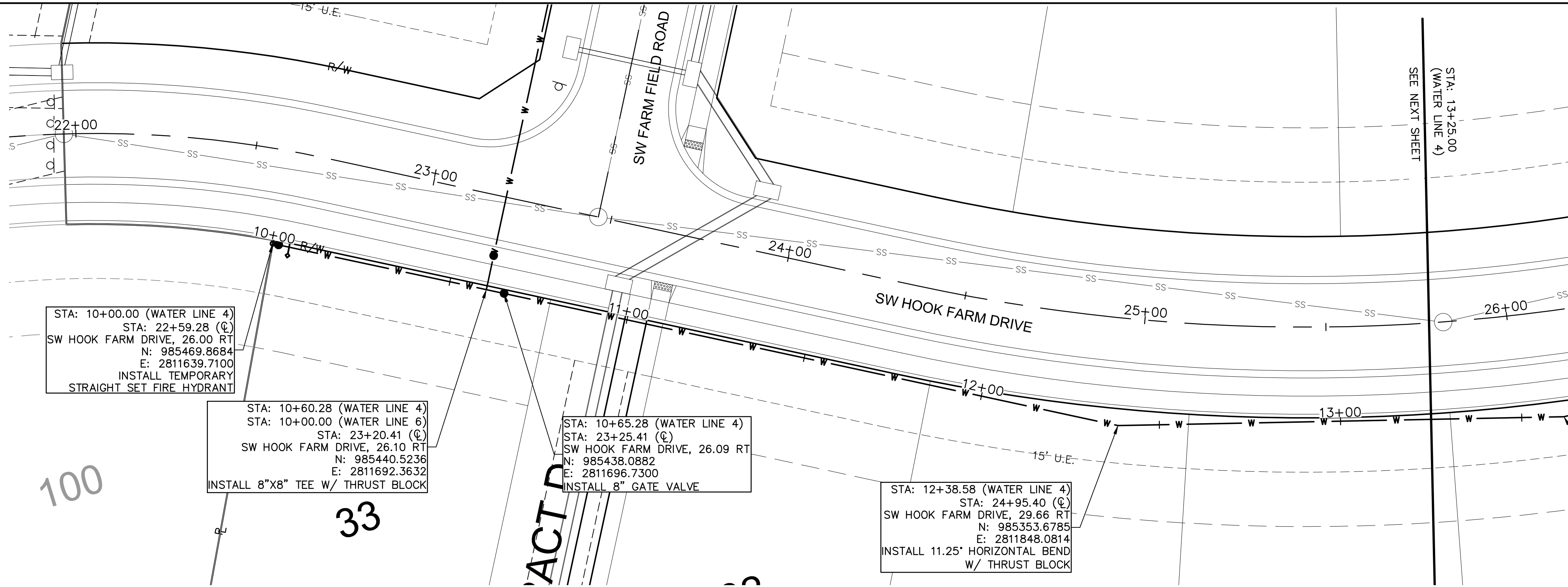
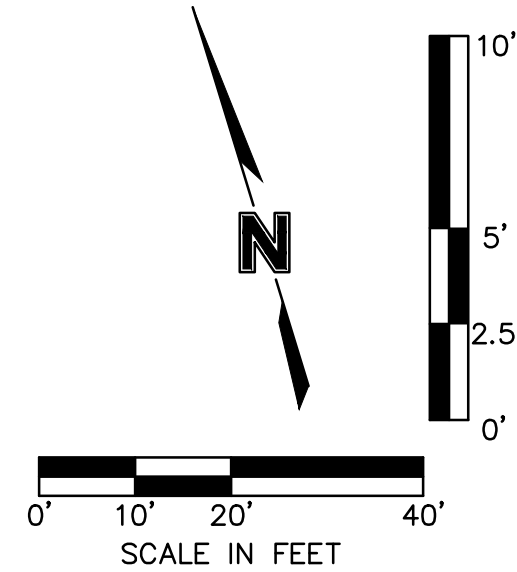
HOOK FARMS
FIRST PLAT

LEE'S SUMMIT, MO

drawn by: _____ CGW
checked by: _____ JES
approved by: _____ NDH
QA/QC by: _____ JES
project no.: 019-4061
drawing no.: _____
date: 04/20/2020

SHEET
C307

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WATER PLAN & PROFILE (LINE 4)
WATER MAIN EXTENSION PLANS

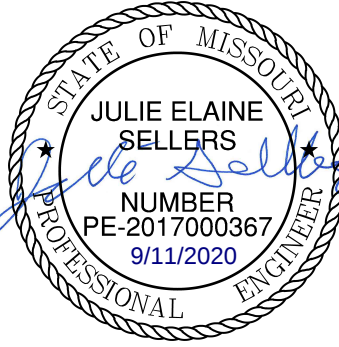
HOOK FARMS
FIRST PLAT

LEE'S SUMMIT, MO

2020

DEVIATIONS

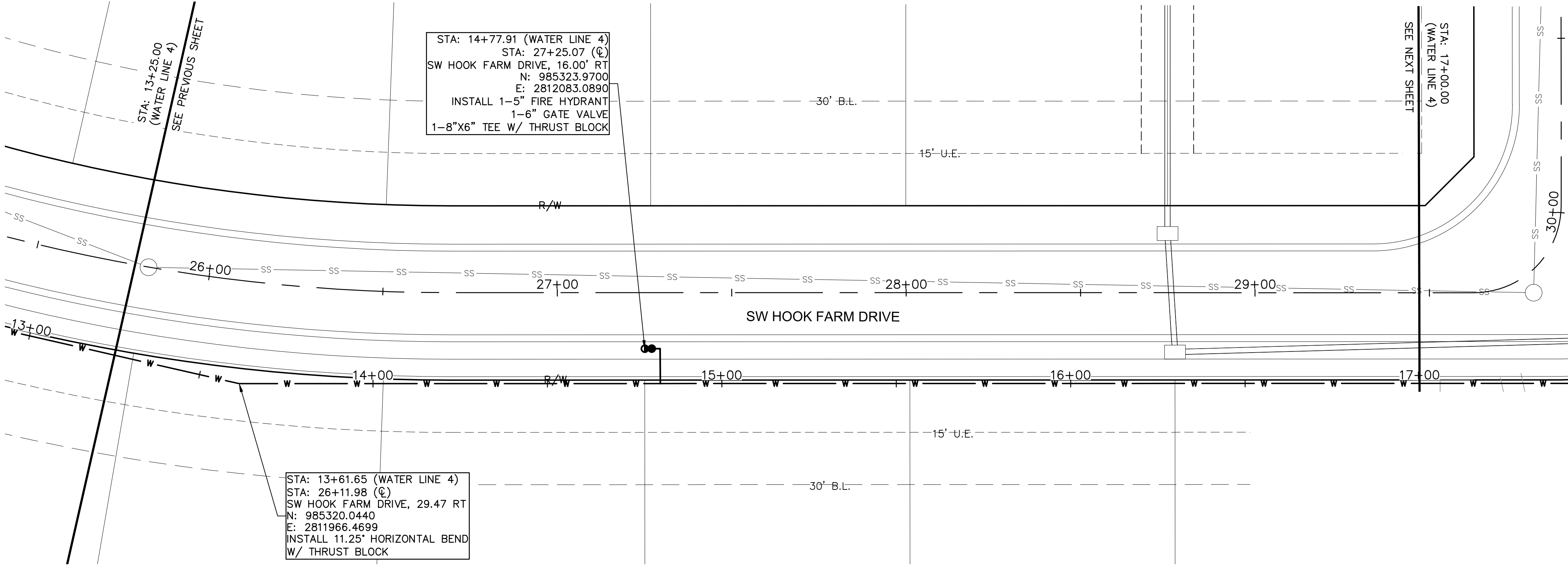
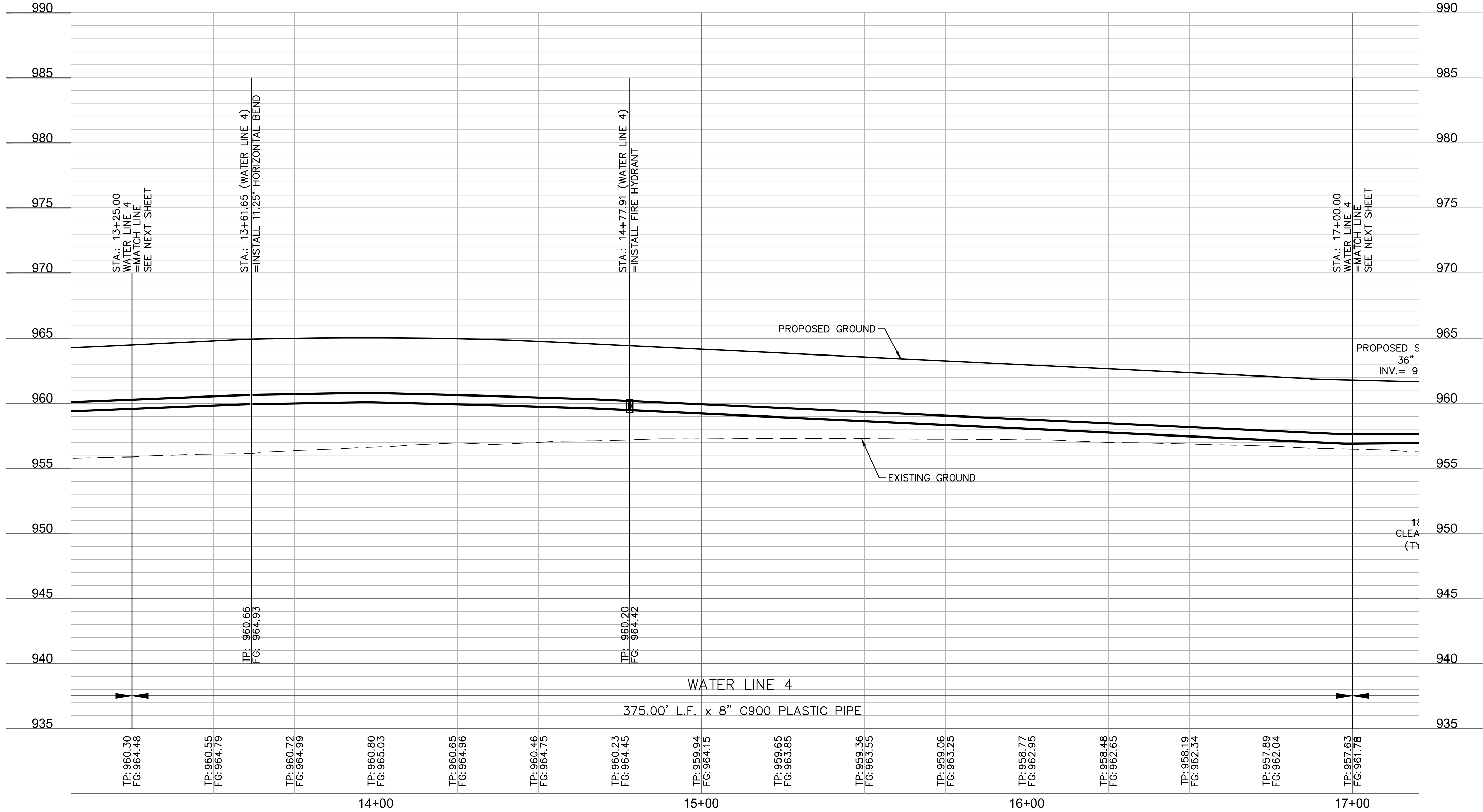
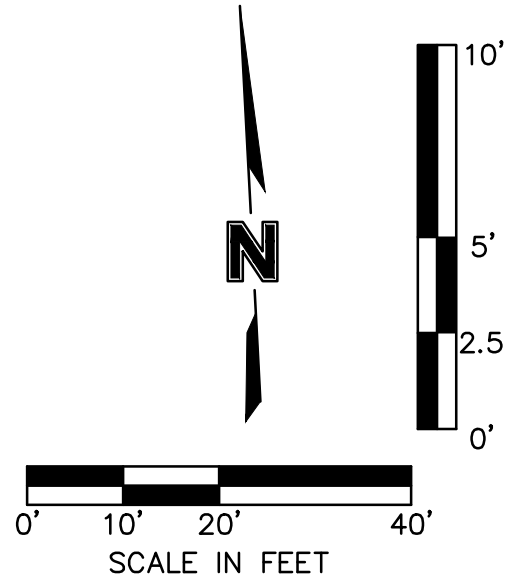
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1	06/15/2020	REVISED PER CITY COMMENTS	
2	06/25/2020	REVISED PER CITY COMMENTS	
3	09/10/2020	REMOVED PIPE INSULATION	



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WATER PLAN & PROFILE (LINE 4 CONT'D)

WATER MAIN EXTENSION PLANS

HOOK FARMS
FIRST PLAT

LEE'S SUMMIT, MO

2020

drawn by: CGW
checked by: JES
approved by: NDH
QA/QC by: JES
project no.: 019-4061
drawing no.:
date: 04/20/2020

SHEET
C309

REV. NO. DATE REVISIONS DESCRIPTION

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2	08/25/2020	REVISED PER CITY COMMENTS
3	09/10/2020	REMOVED PIPE INSULATION

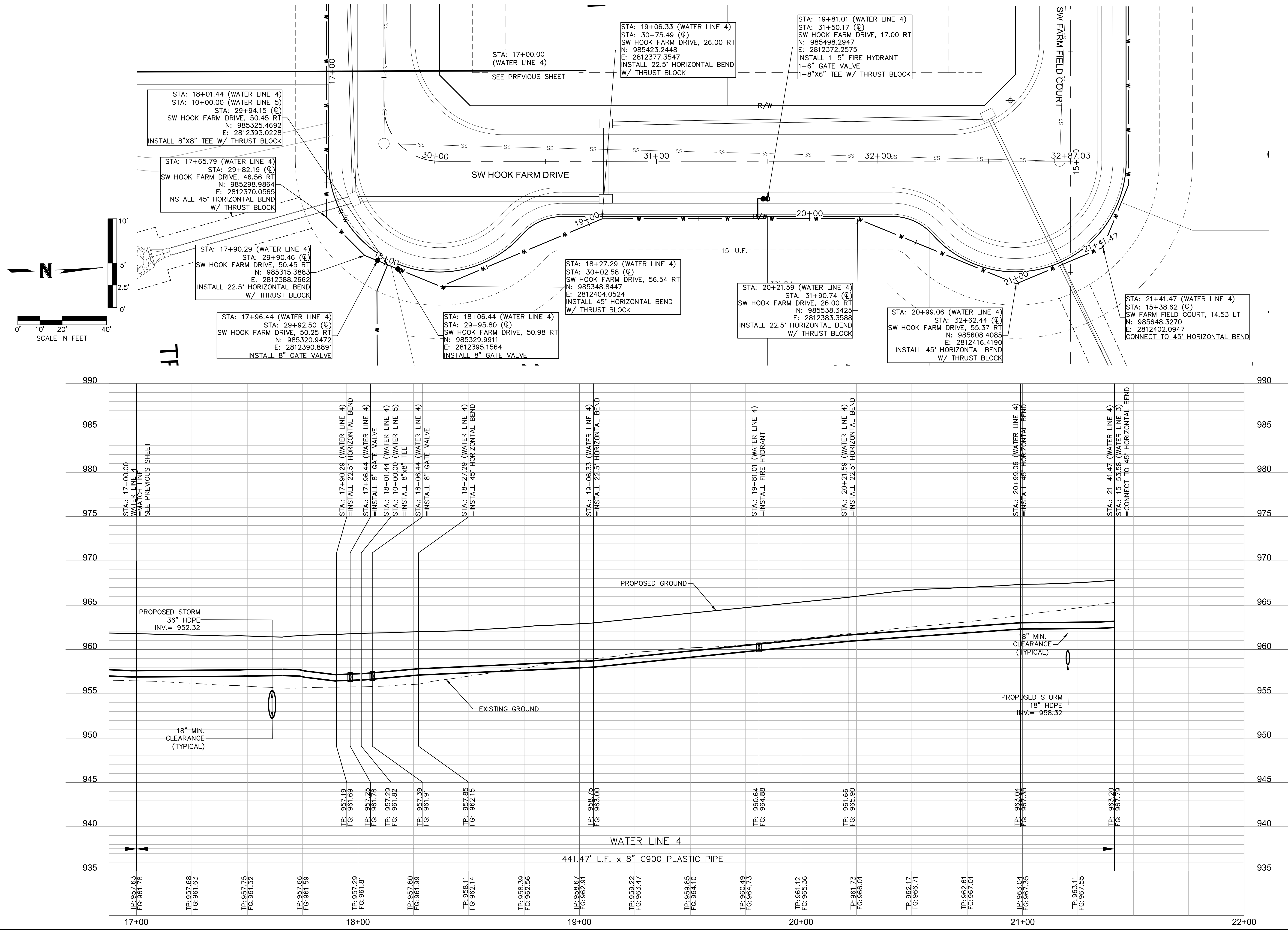
BY

REVISIONS

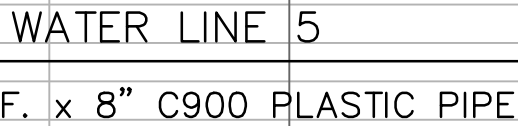
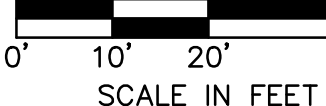
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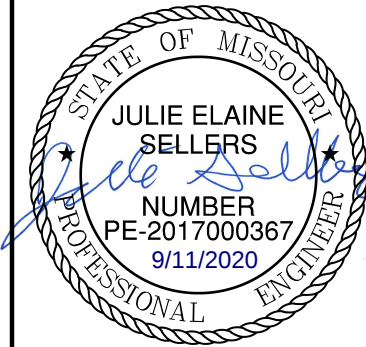
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JULIE ELAINE SELLERS
NUMBER PE-2017000367
9/11/2020
PROFESSIONAL ENGINEER



USER: nheiser
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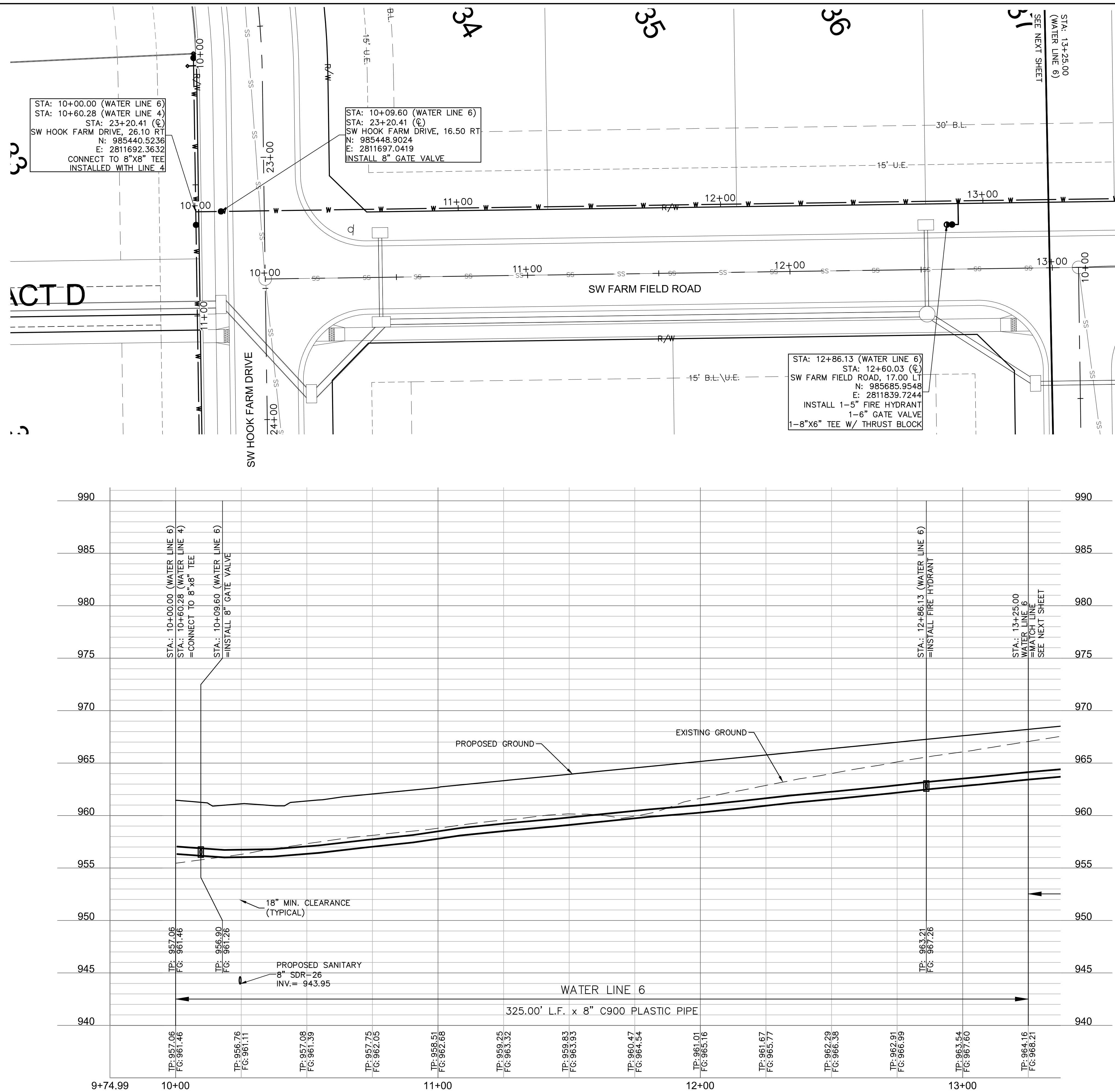
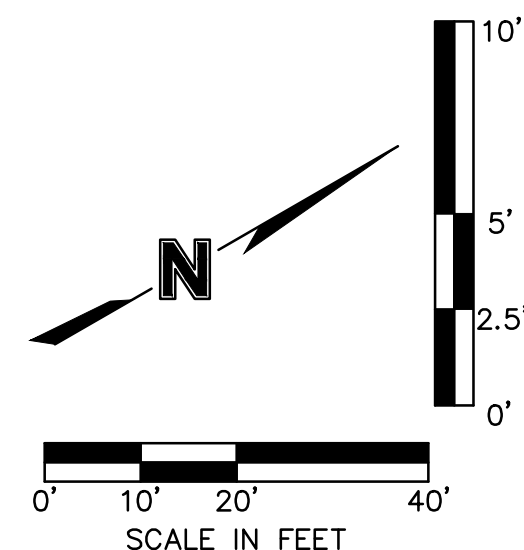
WATER PLAN & PROFILE (LINE 5)
WATER MAIN EXTENSION PLANS

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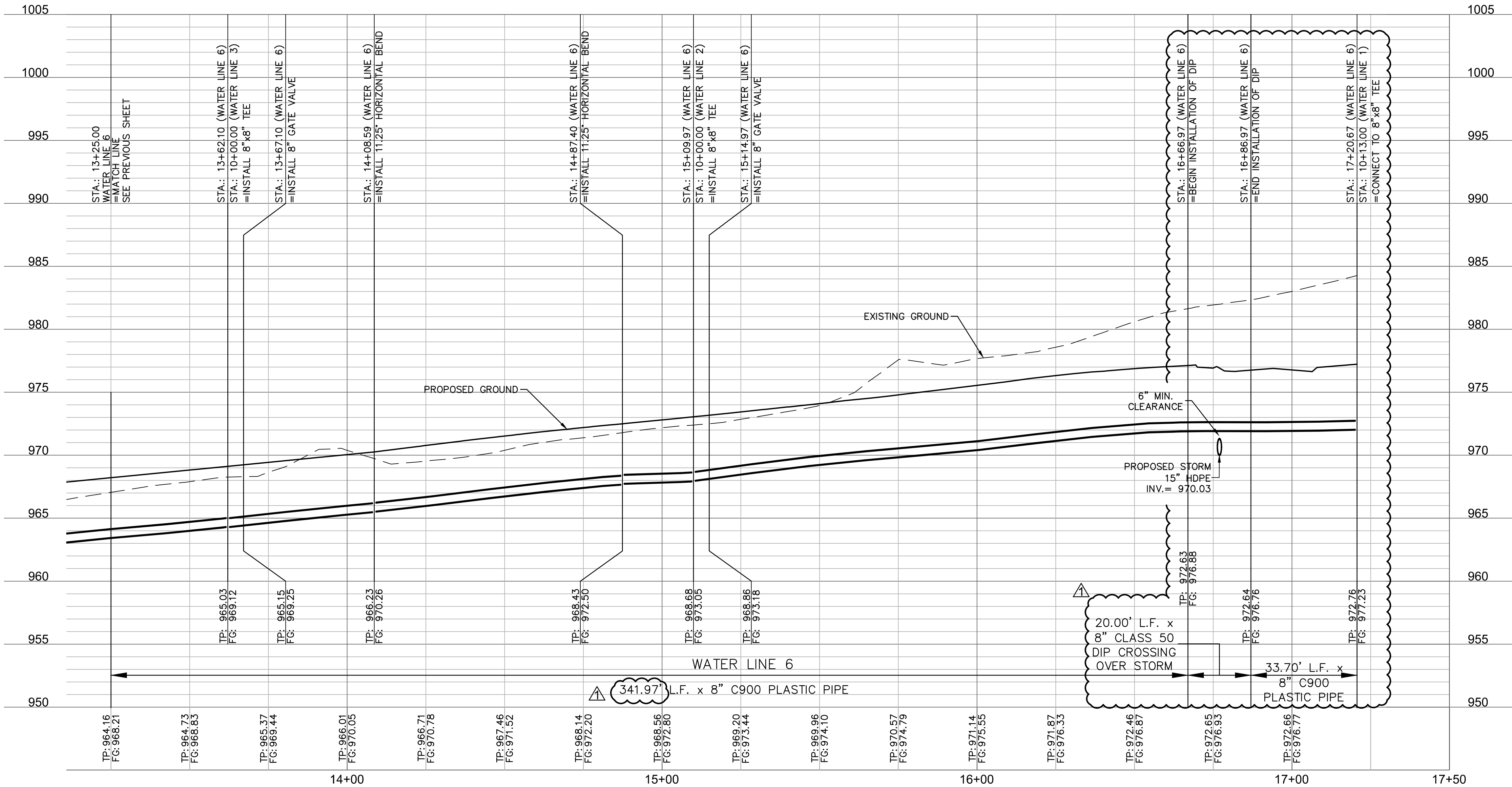
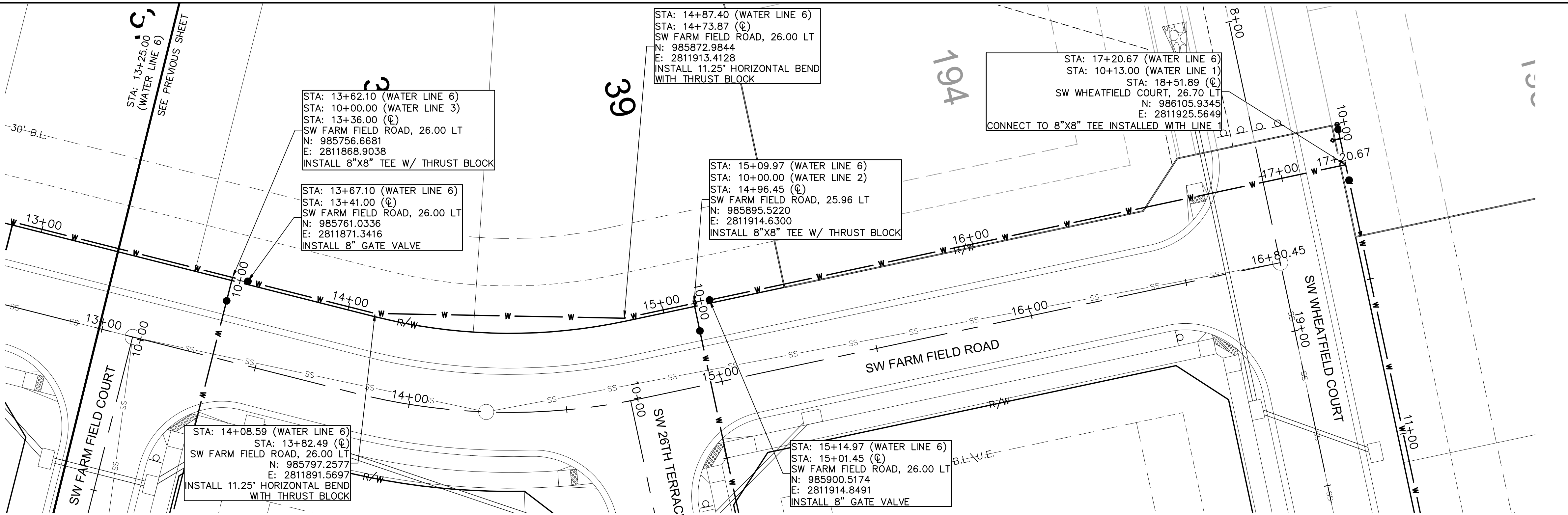
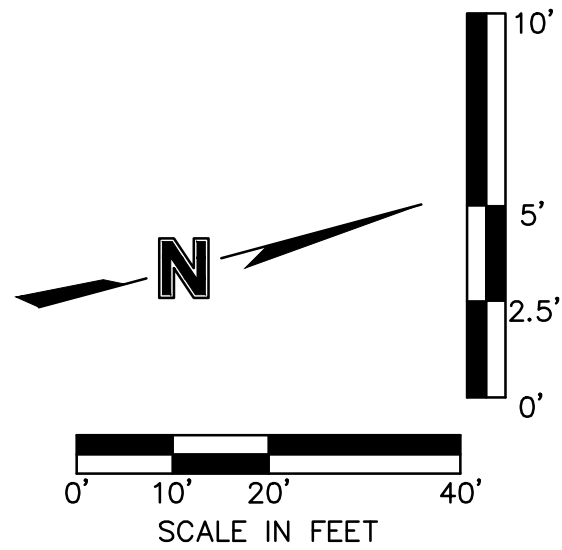
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WATER PLAN & PROFILE (LINE 6)					
WATER MAIN EXTENSION PLANS					
HOOK FARMS FIRST PLAT					
LEE'S SUMMIT, MO					
2020					
drawn by: _____ CGW					
checked by: _____ JES					
approved by: _____ NDH					
QA/QC by: _____ JES					
project no.: _____ 019-4061					
drawing no.: _____					
date: _____ 04/20/2020					
SHEET C312					



WATER PLAN & PROFILE (LINE 6 CONT'D)

WATER MAIN EXTENSION PLANS

HOOK FARMS
FIRST PLAT

drawn by: CGW

checked by: JES

approved by: NDH

QA/QC by: JES

project no.: 019-4061

drawing no.: 04/20/2020

SHEET
C313

REV. NO. DATE REVISIONS DESCRIPTION

1 08/15/2020 REVISED PER CITY COMMENTS

2 08/25/2020 REVISED PER CITY COMMENTS

3 09/10/2020 REMOVED PIPE INSULATION

BY

2020

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STATE OF MISSOURI

JULIE ELAINE SELLERS

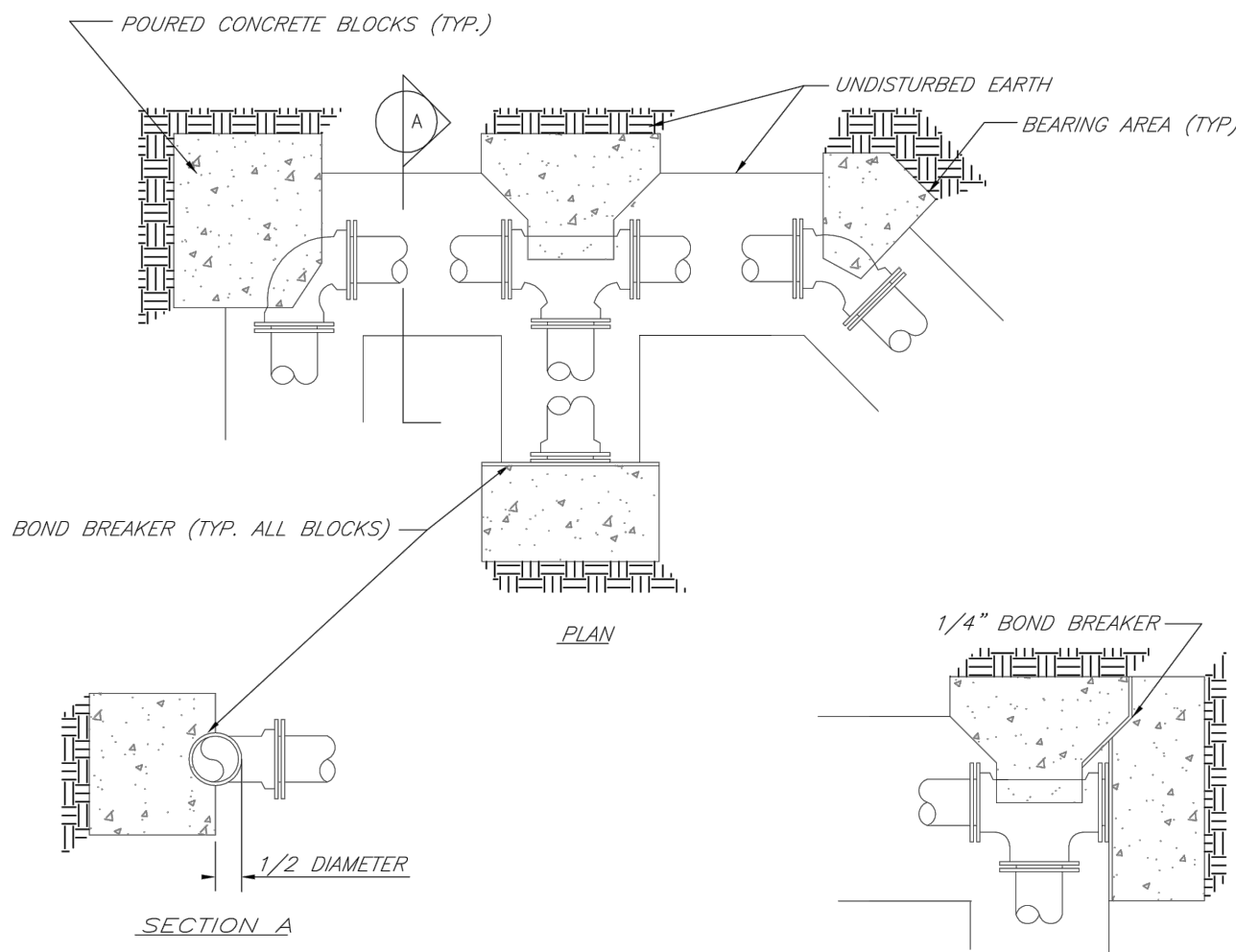
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9/11/2020

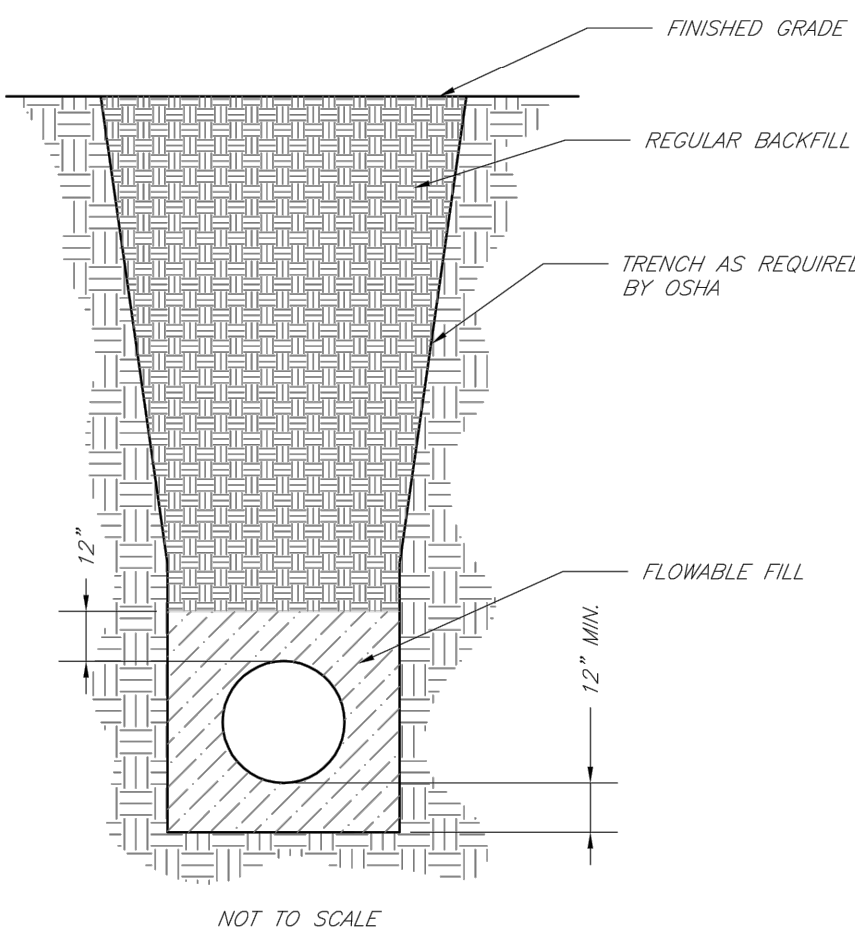
PROFESSIONAL ENGINEER

NOTES:

1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-1
	HORIZONTAL THRUST BLOCKS	Rev: 1/14 Rev:

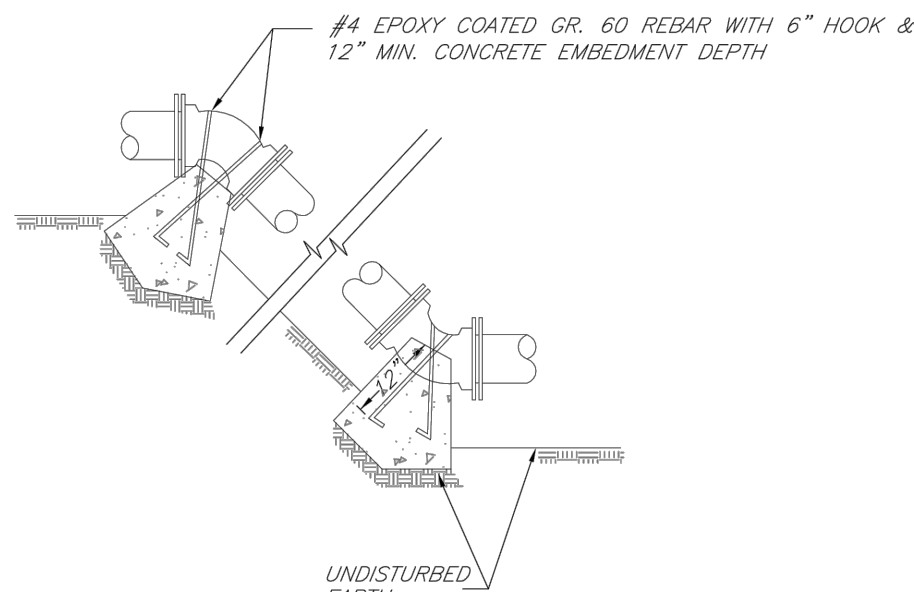


- NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
 2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
 3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
 4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

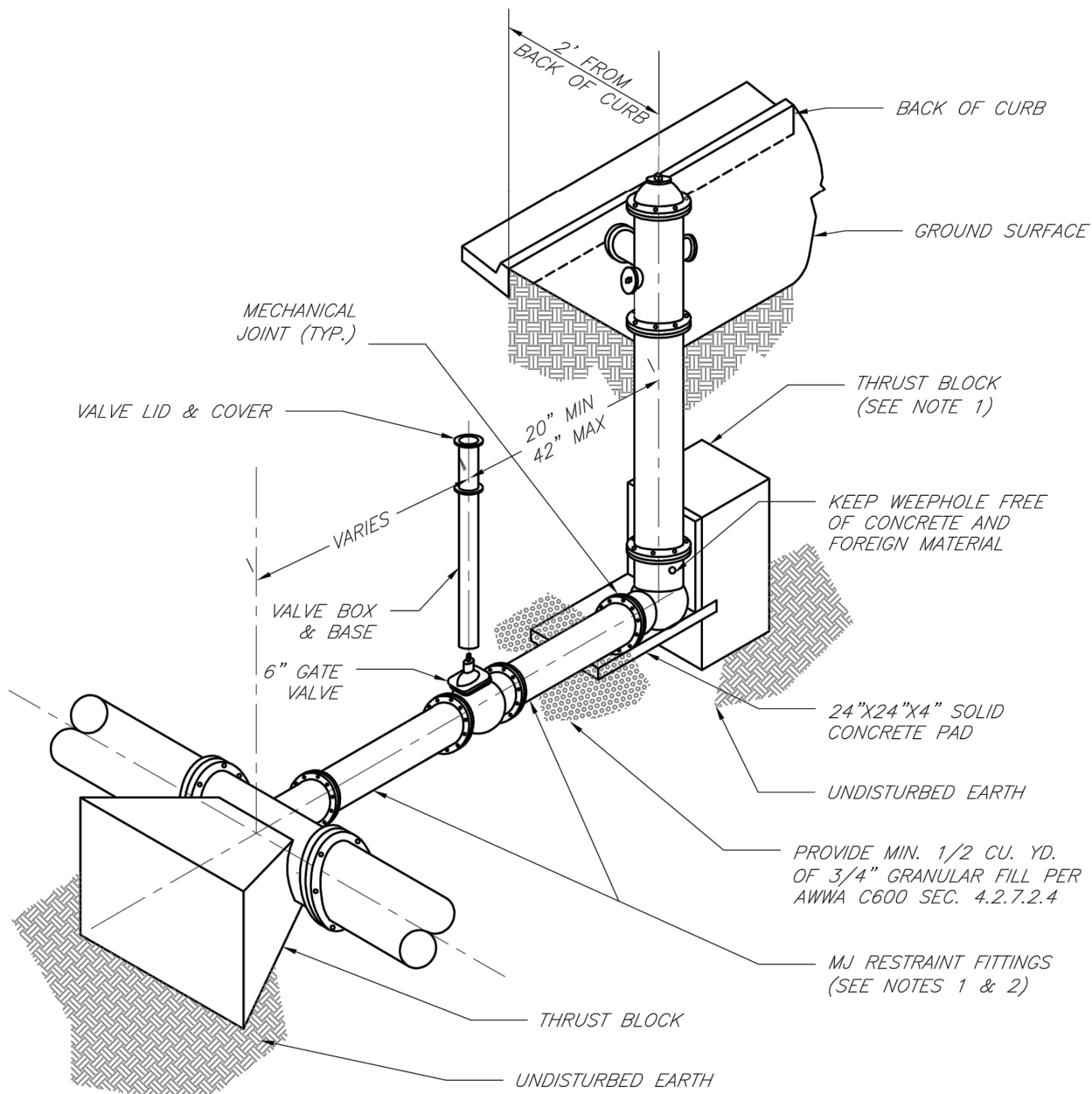
	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063		Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-6
	TRENCH CHECK		Rev: 1/14
			Rev:

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)						
NOM. DIA. (INCHES)	180 TEE,	90 PLUG	45 BEND	22.5 BEND	11.25 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9	9.9
8	89.8	126.9	67.7	35.0	17.6	17.6
10	140.2	198.3	108.3	54.7	27.5	27.5
12	202.0	REST. JT.	154.6	78.8	39.6	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	88.1	88.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	114.6	114.6
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

- NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
 2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
 3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
 4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

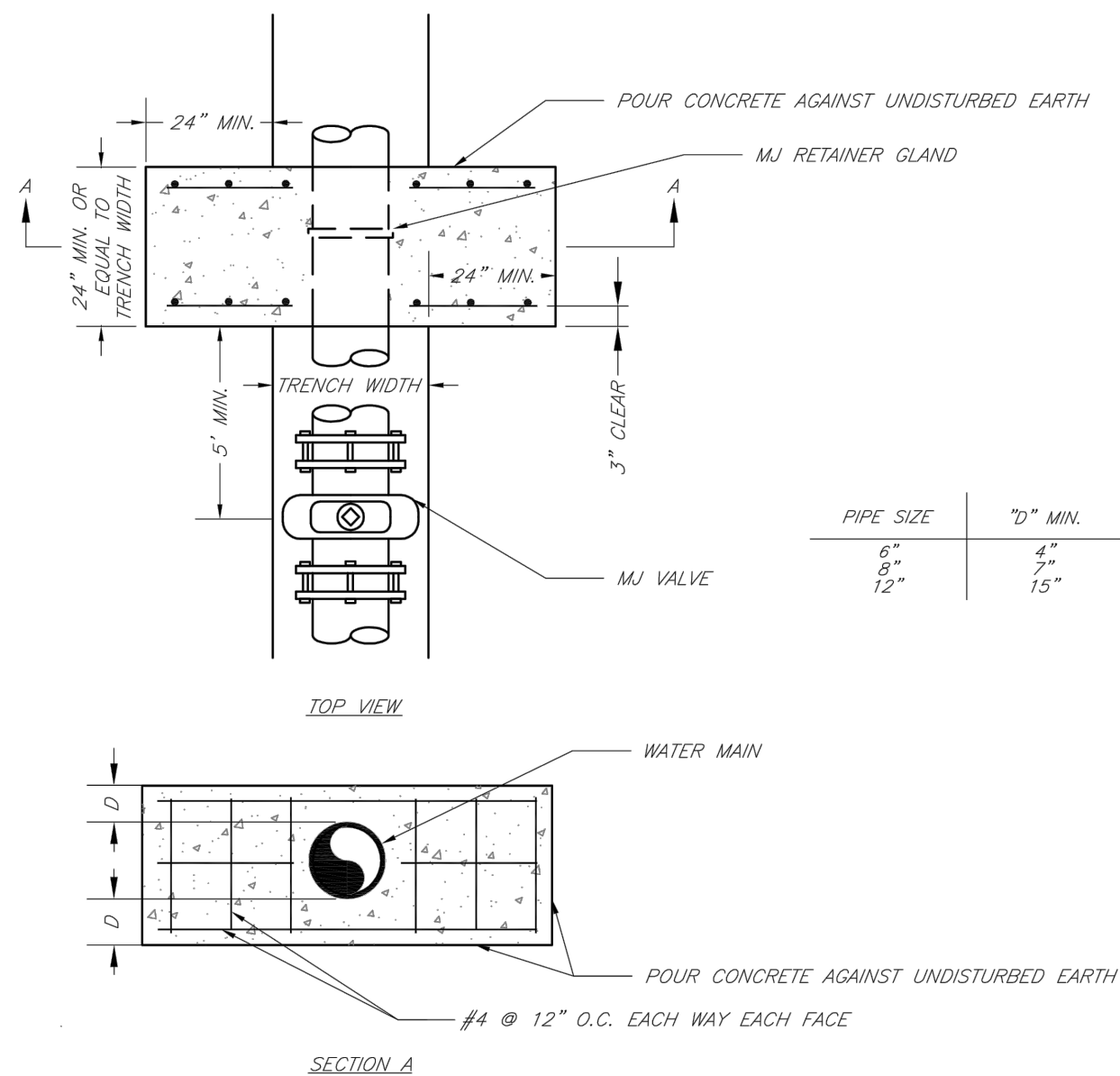


	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-2
	VERTICAL THRUST BLOCKS	Rev: 1/14
		Rev:

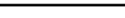


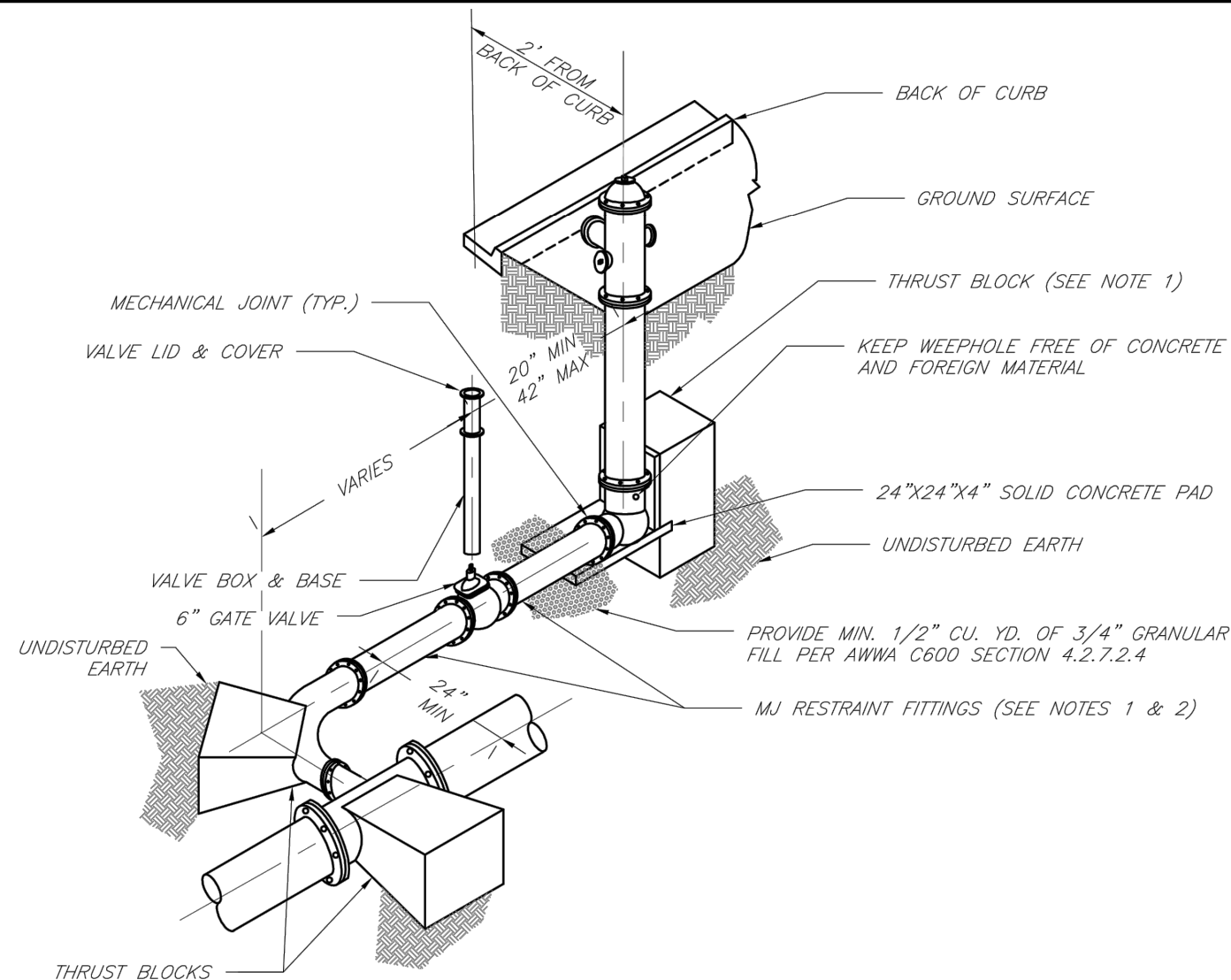
- NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
 2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
 3. APPROVED PRODUCTS LIST FOR WATER MAINS: FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
 4. BOW HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
 5. FOR STREETS WITHOUT CURBS FIRE HYDRANT SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
 6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063		Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-7
	HYDRANT INSTALLATION – STRAIGHT SET		Rev: 1/14 Rev:



- NOTE:
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"

	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-3
	STRADDLE BLOCK	Rev: 1/14
		Rev:

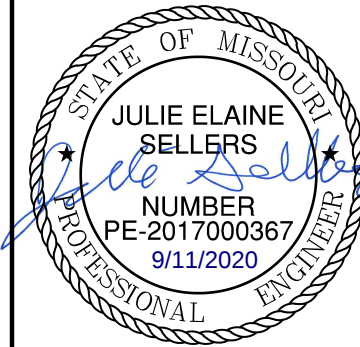


- NOTES:**
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
 2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
 3. SEE APPROPRIATE PRODUCTS LIST FOR WATER UTILITIES FOR FEE HYDRANT, VALVES, VALVE BOX ALID, AND COVER.
 4. GATEWAY HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
 5. FOR STREETS WITHOUT CURBS FEE HYDRANT SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FEE HYDRANT SHALL NOT BE PLACED IN BEDDING OF DITCH.
 6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

	LEE'S SUMMIT MISSOURI PUBLIC WORKS ENGINEERING & DESIGN 220 SE GREEN STREET LEE'S SUMMIT, MO 64063		Date: 02/13 Drawn By: JN Checked By: DL FILE: WAT-B
	HYDRANT WITH 90 DEGREE BEND		Rev: 1/14 Rev:

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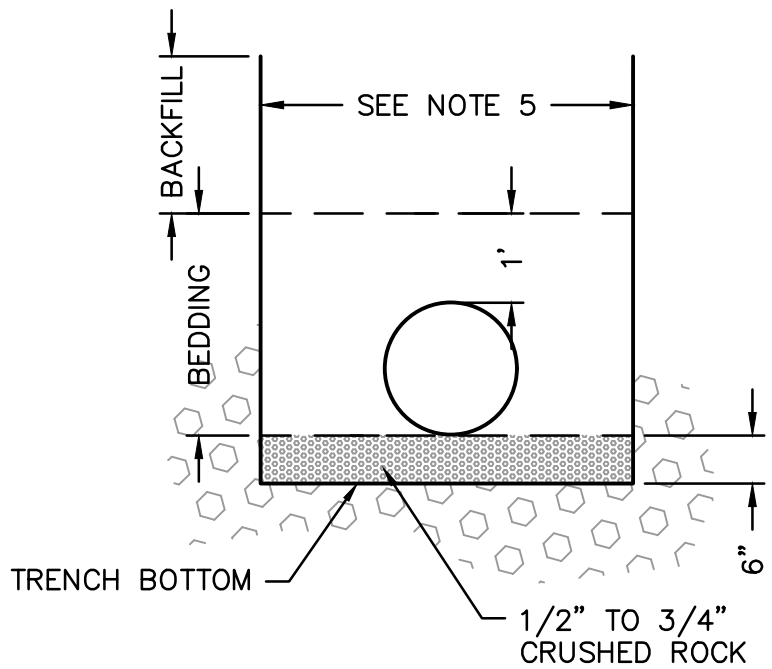
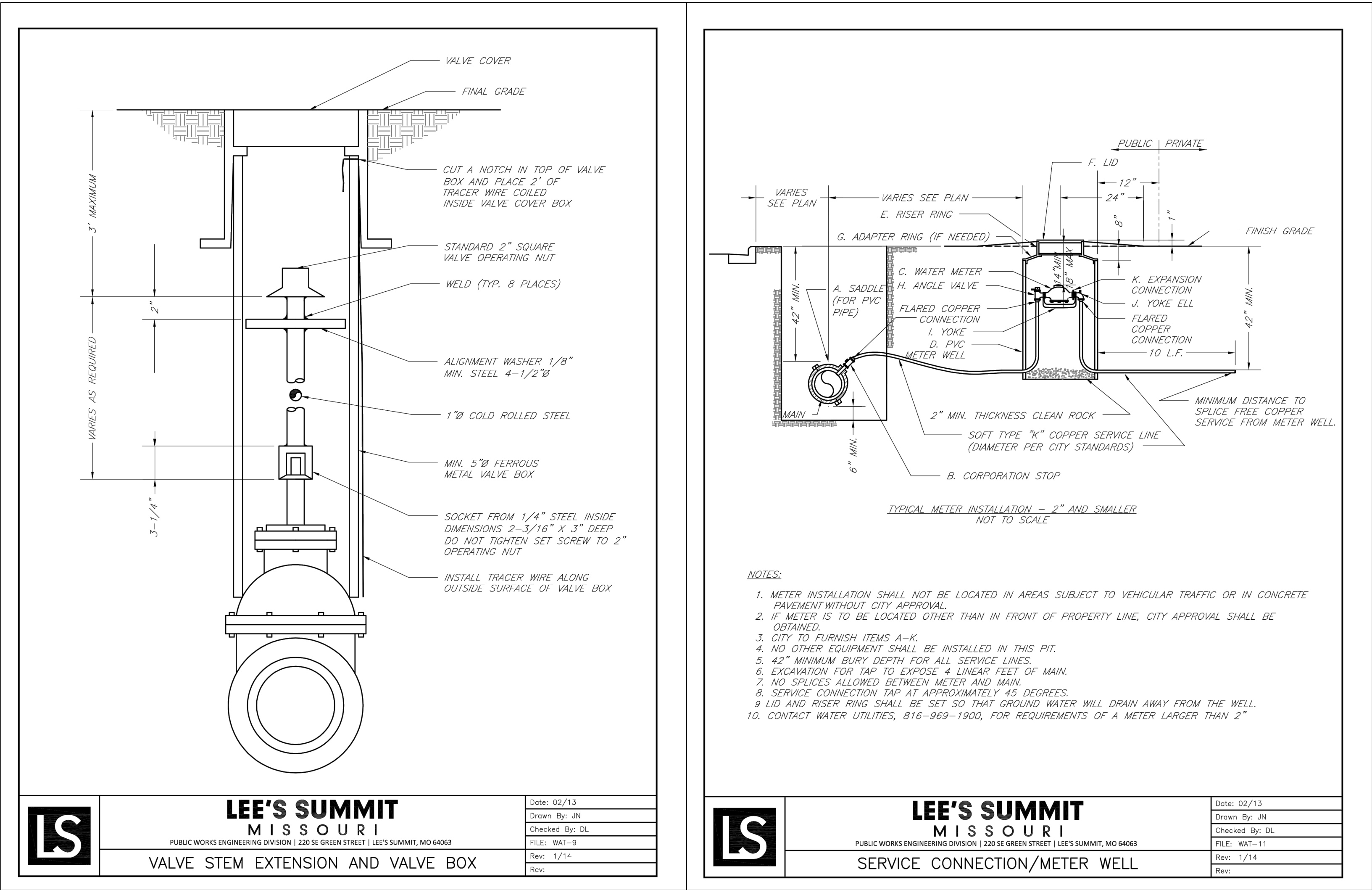
DETAIL SHEET
WATER MAIN EXTENSION PLANS

HOOK FARMS
FIRST PLAT

LEE'S SUMMIT, MO

drawn by: _____ CGW
checked by: _____ JES
approved by: _____ NDH
QA/QC by: _____ JES
project no.: _____ 019-4061
drawing no.: _____
date: _____ 04/20/2020

SHEET
C314



TYPICAL TRENCH SECTION

NOTES:

- BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
- BEDDING:
 - BEDDING FOR PIPE LESS THAN 12" IN DIAMETER SHALL BE JOB EXCAVATED MATERIAL FREE FROM DEBRIS AND STONES; COMPACTED TO 95 % OF PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. BEDDING SHALL BE COMPACTED IN 6" LIFTS.
 - BEDDING MATERIAL FOR PIPE 12" IN DIAMETER AND GREATER SHALL BE 1/2" TO 3/4" CRUSHED ROCK. SIX (6) INCHES OF BEDDING SHALL BE PROVIDED BENEATH THE PIPE.
- BACKFILL SHALL BE JOB EXCAVATED MATERIAL FREE OF DEBRIS AND STONES, COMPACTED TO 90% PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. FOR BACK-FILL UNDER PAVEMENT (EXISTING OR PROPOSED), SEE SD-9 AND SD-11.
- TRENCHING SHALL BE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
- MINIMUM AND MAXIMUM TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

UNDERGROUND PIPE INSTALLATION FOR WATER PIPING
NOT TO SCALE

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DETAIL SHEET		REV. NO.		DATE		REVISIONS DESCRIPTION		BY	
WATER MAIN EXTENSION PLANS		1	08/15/2020	REVISED PER CITY COMMENTS					
		2	08/25/2020	REVISED PER CITY COMMENTS					
		3	09/10/2020	REMOVED PIPE INSULATION					
HOOK FARMS FIRST PLAT									
LEE'S SUMMIT, MO								REVISIONS	

drawn by: CGW
checked by: JES
approved by: NDH
QA/QC by: JES
project no.: 019-4061
drawing no.:
date: 04/20/2020

SHEET
C315