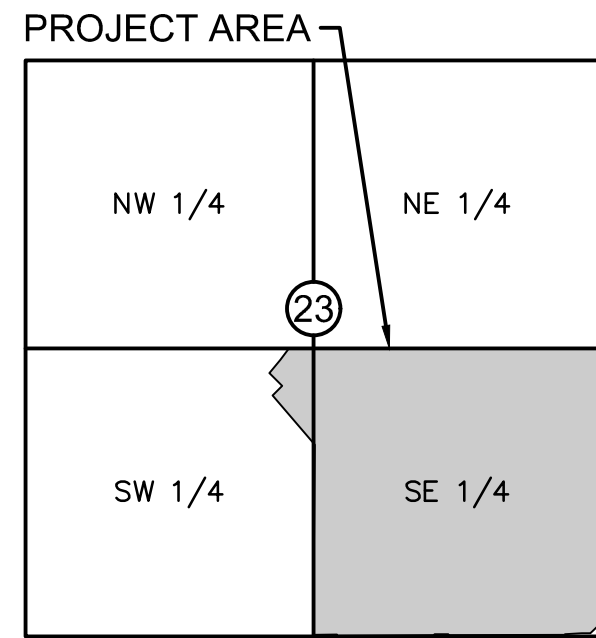


# HOOK FARMS FIRST PLAT WATER MAIN EXTENSION PLANS

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



**VICINITY MAP**  
S23, T47N, R32W  
SCALE 1"=2000'

PROJECT TEAM & UTILITY CONTACT LIST	
<b>OWNER / DEVELOPER</b>	HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC. 8300 NE UNDERGROUND DRIVE KANSAS CITY, MO 64161 CONTACT: AARON SCHMIDT PHONE: 816.459.4285 EMAIL: ASCHMIDT@HUNTMIDWEST.COM
<b>ENGINEER</b>	OLSSON 1301 BURLINGTON STREET, SUITE 100 NORTH KANSAS CITY, MISSOURI 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177
<b>SURVEYOR</b>	OLSSON 1301 BURLINGTON STREET, SUITE 100 NORTH KANSAS CITY, MISSOURI 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.361.1177

NOT FOR CONSTRUCTION  
 REVIEWED FOR CONSTRUCTION



**PROPERTY DESCRIPTION:**

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 Roudebush, 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 2005I0087407 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.

Sheet List Table	
Sheet Number	Sheet Title
C301	TITLE SHEET
C302	GENERAL NOTES
C303	GENERAL LAYOUT
C304	WATER PLAN & PROFILE (LINE 1)
C305	WATER PLAN & PROFILE (LINE 2)
C306	WATER PLAN & PROFILE (LINE 2 CONT'D)
C307	WATER PLAN & PROFILE (LINE 3)
C308	WATER PLAN & PROFILE (LINE 4)
C309	WATER PLAN & PROFILE (LINE 4 CONT'D)
C310	WATER PLAN & PROFILE (LINE 4 CONT'D)
C311	WATER PLAN & PROFILE (LINE 5)
C312	WATER PLAN & PROFILE (LINE 6)
C313	WATER PLAN & PROFILE (LINE 6 CONT'D)
C314	DETAIL SHEET
C315	DETAIL SHEET

REVIEWED BY:

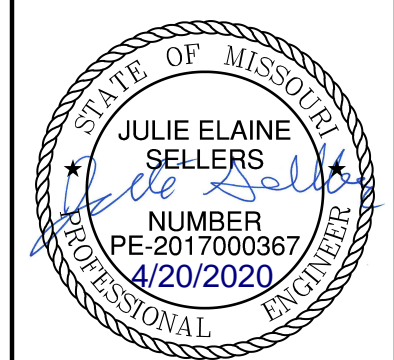
CITY OF LEE'S SUMMIT

DATE

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

4/20/2020  
DATE

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REV. NO.	DATE	REVISIONS DESCRIPTION

TITLE SHEET	2020
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: 2019.03.10	
<b>SHEET</b>	
<b>C301</b>	

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USER: nheiser

PLANS: C\_0194061.dwg

DATE: 2020-04-20 2:13pm

FILE: F:\2019\4001-4500\019-4061-Design\AutoCAD\Final Plans\Main Plans\TTL01\_0194061.dwg

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 ENCRUCH 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 table with columns: ITEM NO., DESCRIPTION, UNIT, QUANTITY, AS-BUILT. Rows include 1" 8" C900 PLASTIC PIPE, 8"X 8" TEE, STRAIGHT SET HYDRANT ASSEMBLY, FIRE HYDRANT ASSEMBLY (INCLUDING TEE), GATE VALVES, SOLID SLEEVES, HORIZONTAL BENDS, VERTICAL BENDS.

olsson logo and contact information: Olsson - Civil Engineering Missouri Certificate of Authority #001592 1301 Burlington Street North Kansas City, MO 64116 TEL 816.361.1177 FAX 816.361.1888 www.olsson.com

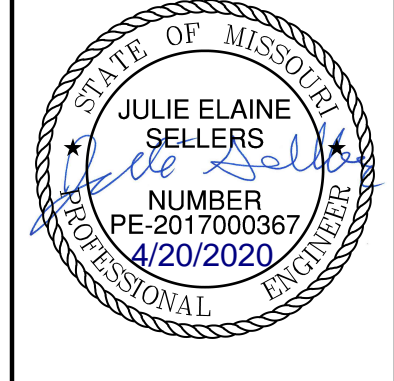


Table with columns: REV. NO., DATE, REVISIONS DESCRIPTION. Includes a 'BY' column for initials.

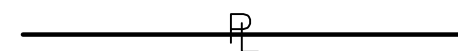
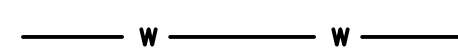




GENERAL NOTES WATER MAIN EXTENSION PLANS HOOK FARMS FIRST PLAT LEE'S SUMMIT, MO 2020. Includes drawing metadata: drawn by: CGW, checked by: JES, approved by: NDH, QA/QC by: JES, project no.: 019-4061, drawing no.: 2019.03.10

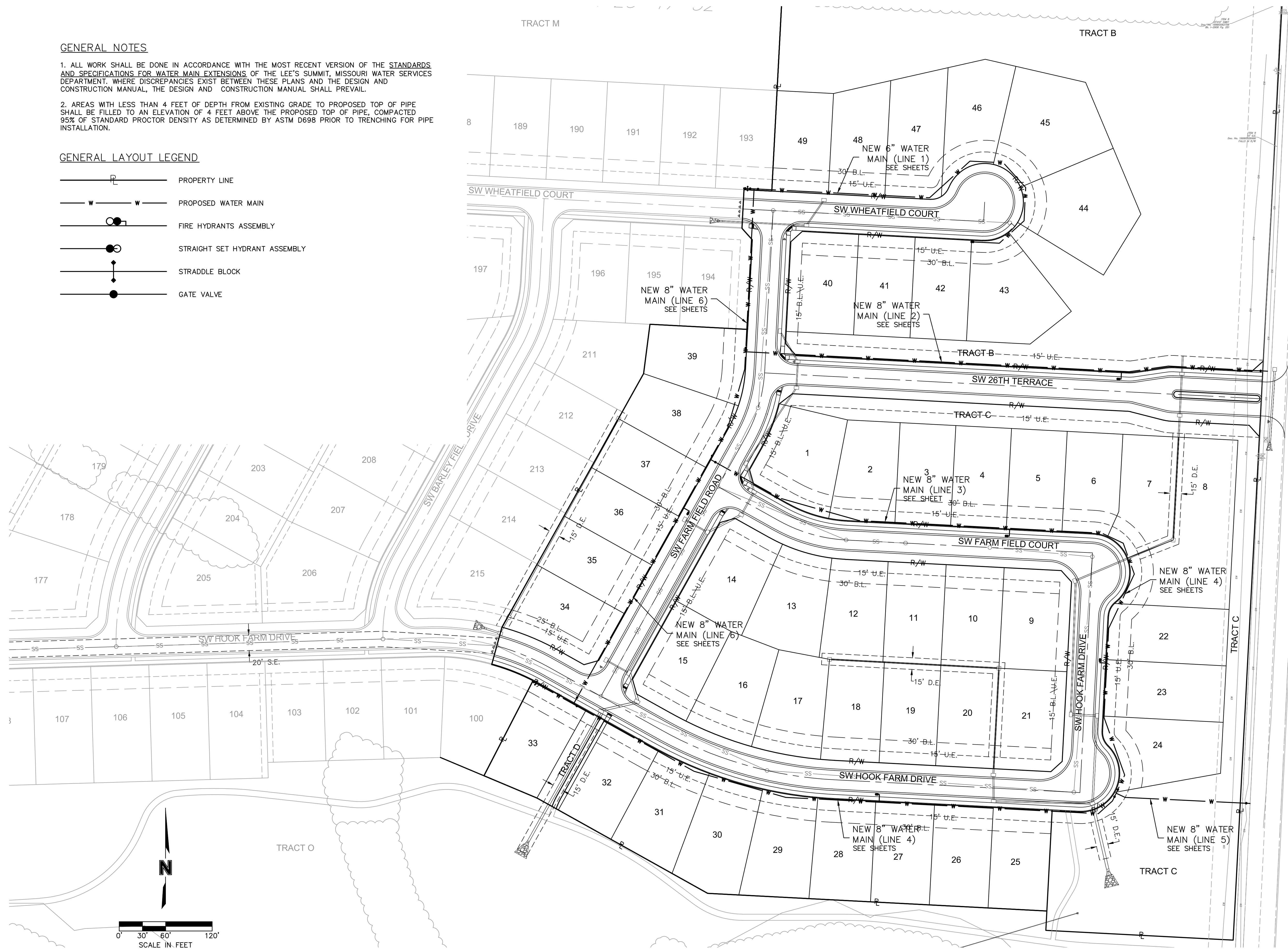
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**GENERAL NOTES**

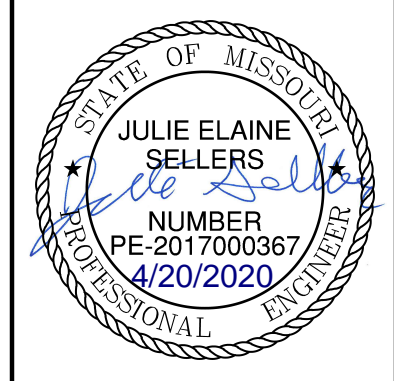
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE **STANDARDS AND SPECIFICATIONS FOR WATER MAIN EXTENSIONS** OF THE LEE'S SUMMIT, MISSOURI WATER SERVICES DEPARTMENT. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION 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



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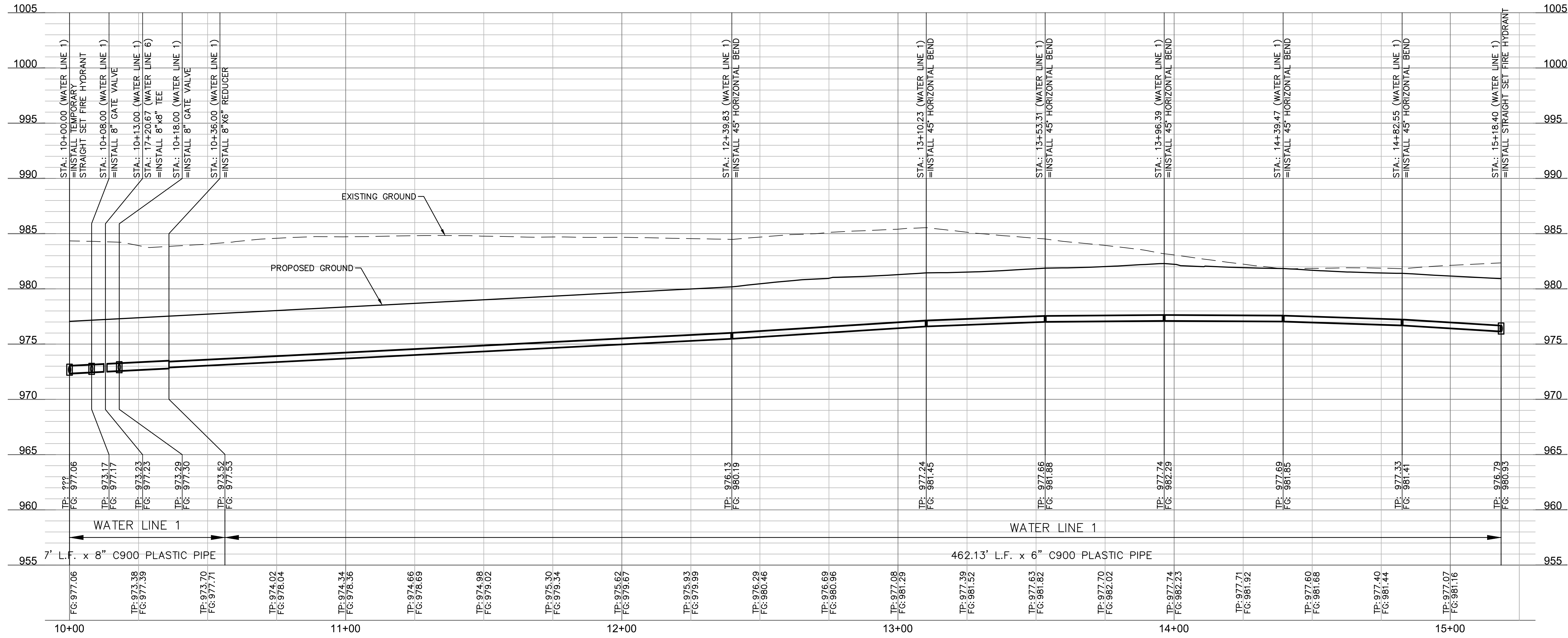
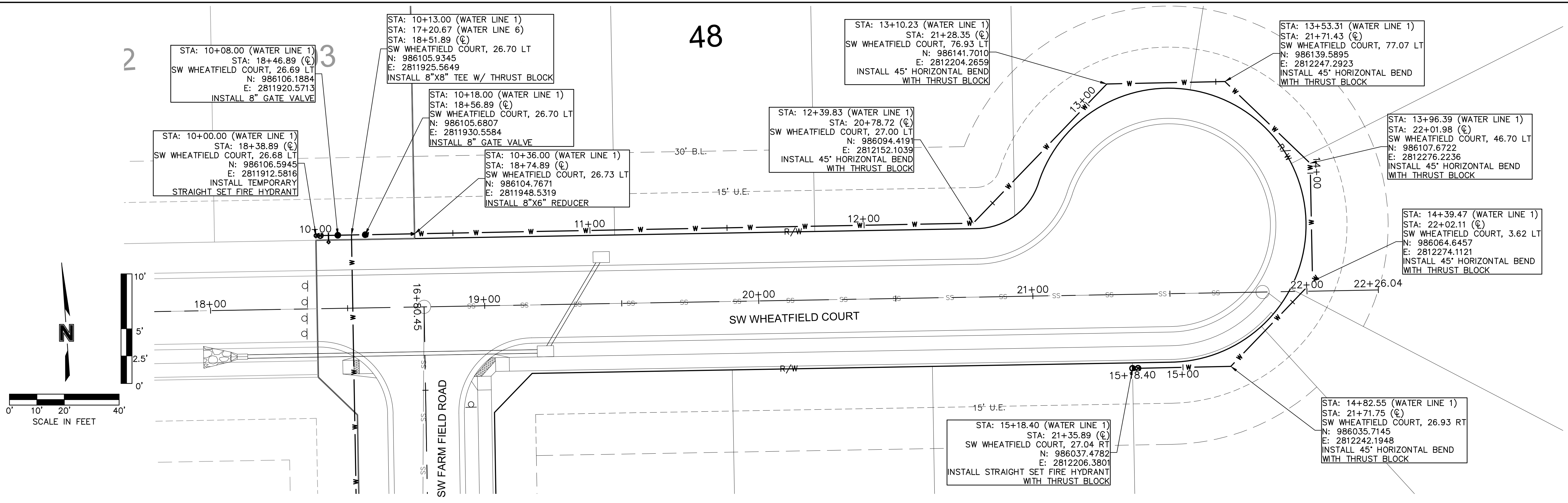
REV. NO.	DATE	REVISIONS DESCRIPTION

GENERAL LAYOUT WATER MAIN EXTENSION PLANS	BY
HOOK FARMS FIRST PLAT	DATE
LEE'S SUMMIT, MO	REV. NO.
2020	REVISIONS DESCRIPTION

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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BY		DATE		REVISIONS DESCRIPTION	

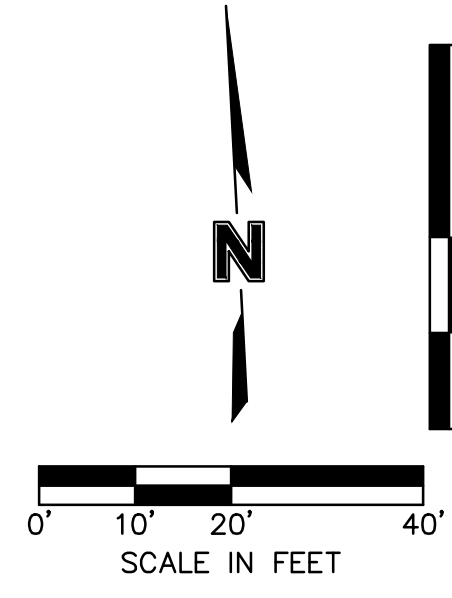
WATER PLAN & PROFILE (LINE 1)  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST FLAT  
 2020

LEE'S SUMMIT, MO

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

SHEET  
 C304

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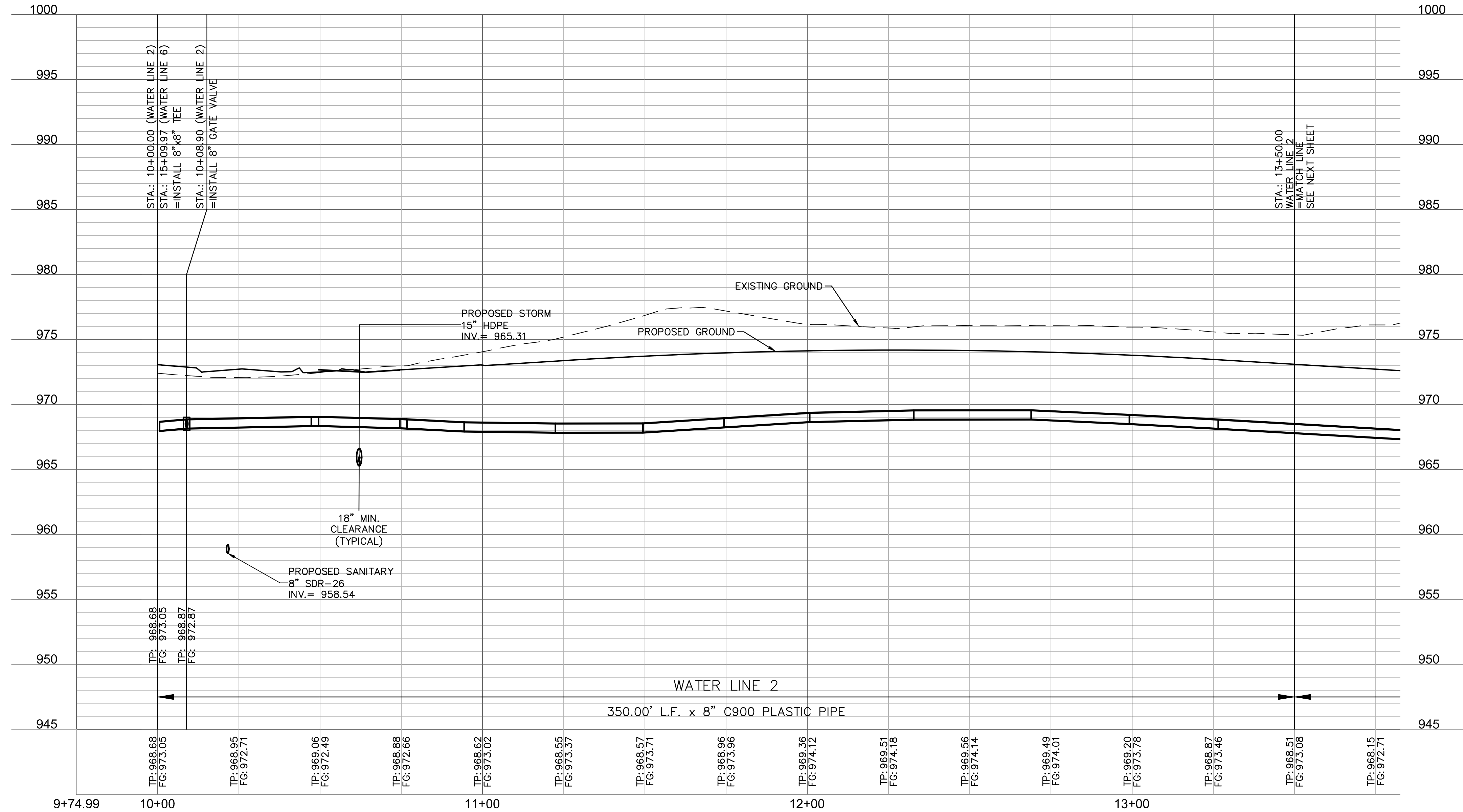
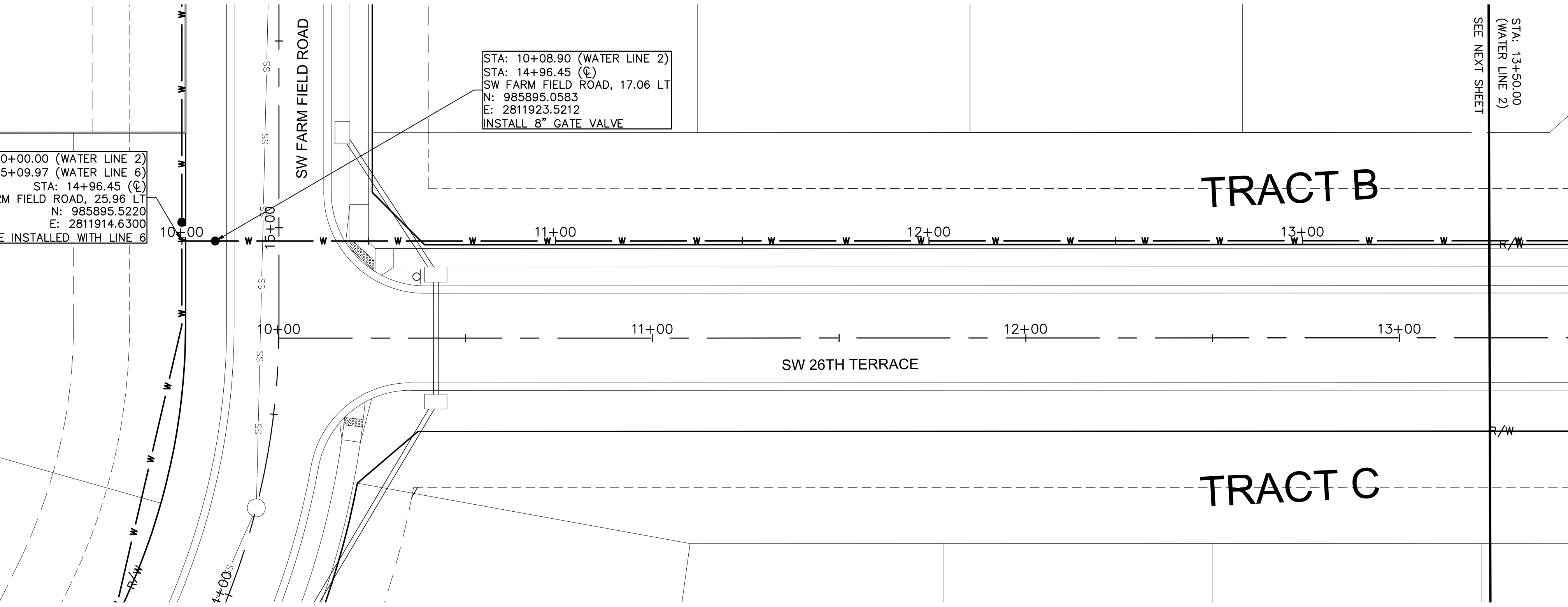
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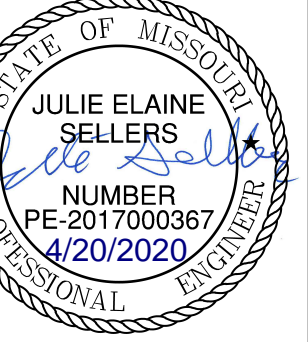
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 E: 2811914.6300  
 CONNECT TO 8"x8" TEE INSTALLED WITH LINE 6

STA.: 10+08.90 (WATER LINE 2)  
 STA.: 14+96.45 (C)  
 SW FARM FIELD ROAD, 17.06 LT  
 N: 985895.0583  
 E: 2811923.5212  
 INSTALL 8" GATE VALVE

STA.: 13+50.00  
 (WATER LINE 2)  
 SEE NEXT SHEET



**olsson**



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 Missouri Certificate of Authority #001592  
 1301 Burlington Street  
 North Kansas City, MO 64116  
 TEL 816.361.1177  
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REV. NO.	DATE	REVISIONS DESCRIPTION

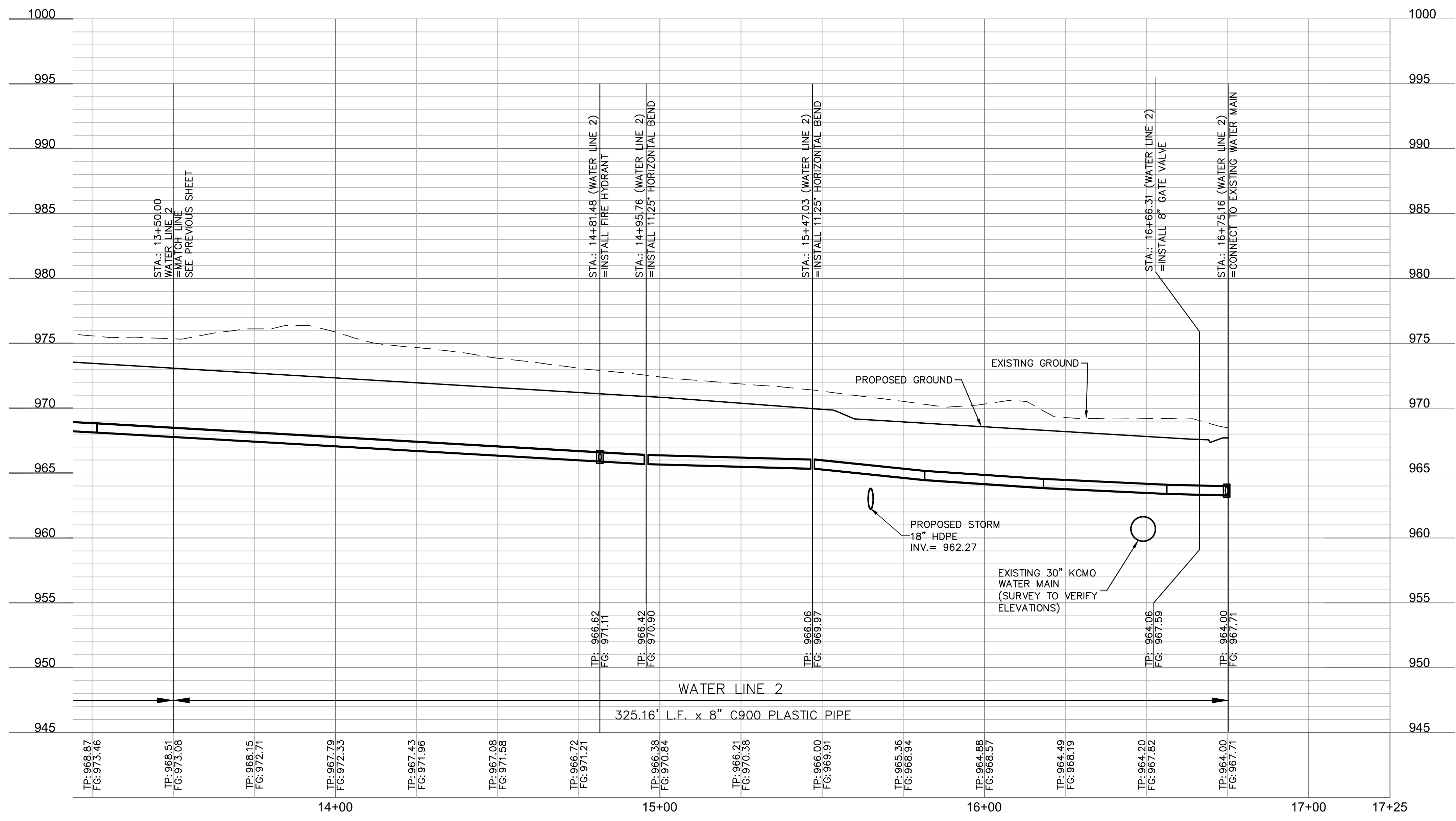
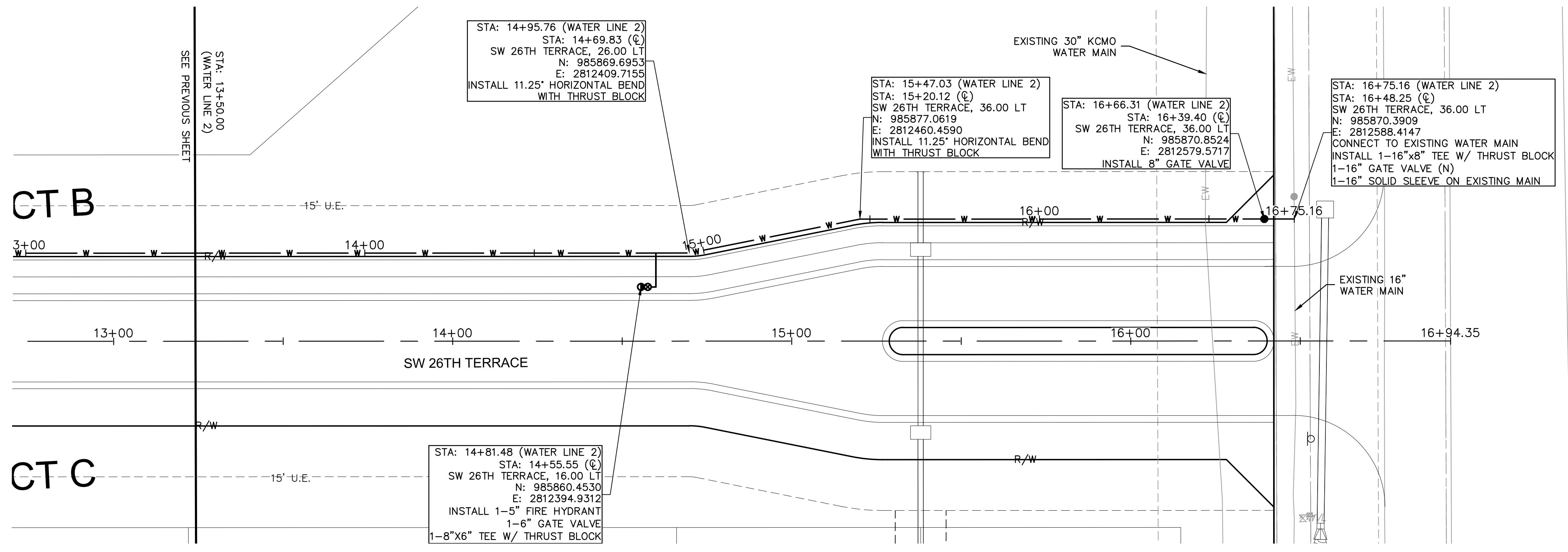
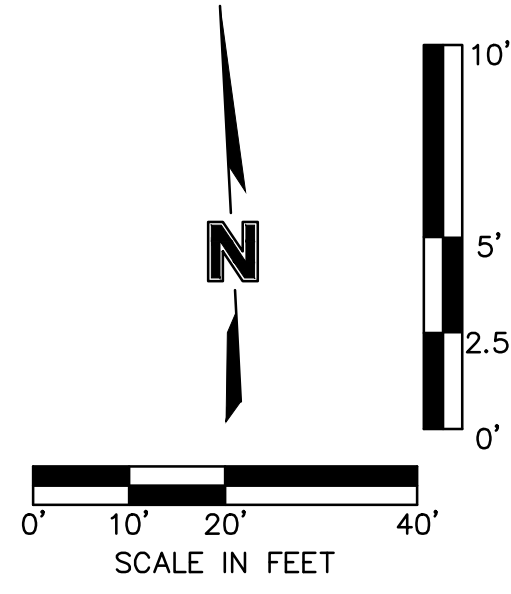
BY \_\_\_\_\_

WATER PLAN & PROFILE (LINE 2)  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST PLAT  
 LEES 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  
 C305

DWG: F:\2019\4001-4500\019-4061-Design\AutoCAD\Final Plans\GNCV\Water Plans\C\_WAT01\_0194061.dwg USER: nheiser  
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STATE OF MISSOURI  
 JULIE ELAINE  
 SELLERS  
 NUMBER  
 PE-2017000367  
 4/20/2020  
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION

WATER PLAN & PROFILE (LINE 2 CONT'D)  
 WATER MAIN EXTENSION PLANS

HOOK FARMS  
 FIRST PLAT

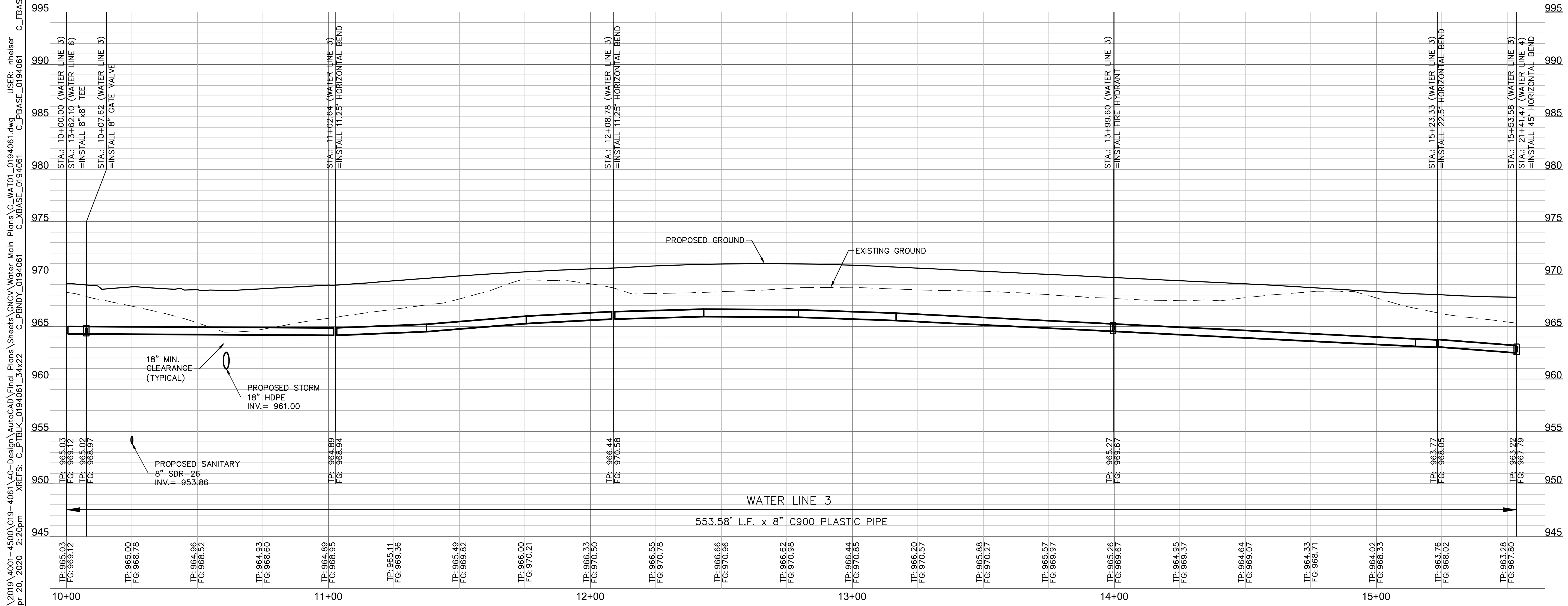
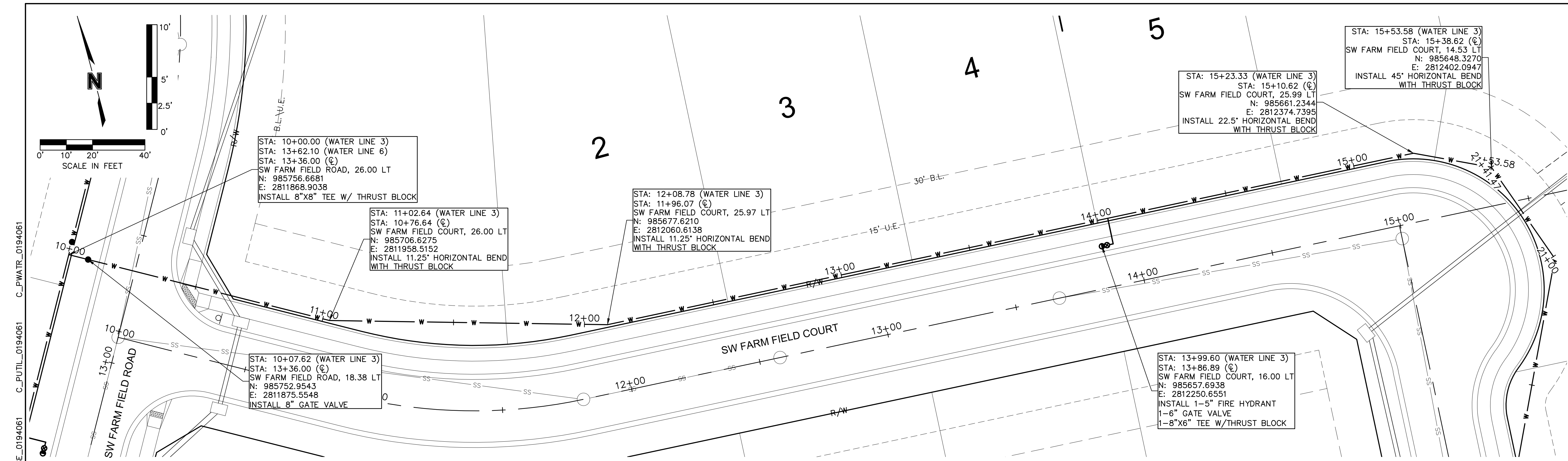
LEE'S SUMMIT, MO

2020

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**  
C306



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**JULIE ELAINE SELLERS**  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 4/20/2020

REV. NO.	DATE	REVISIONS DESCRIPTION

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

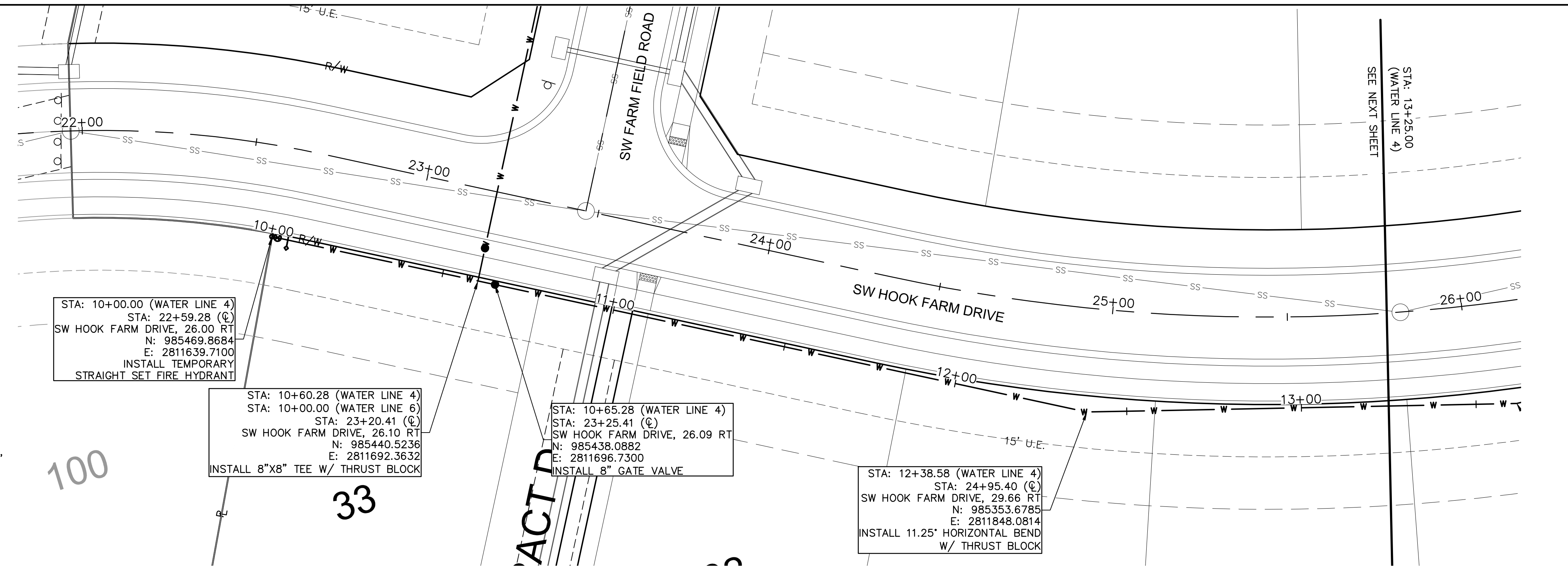
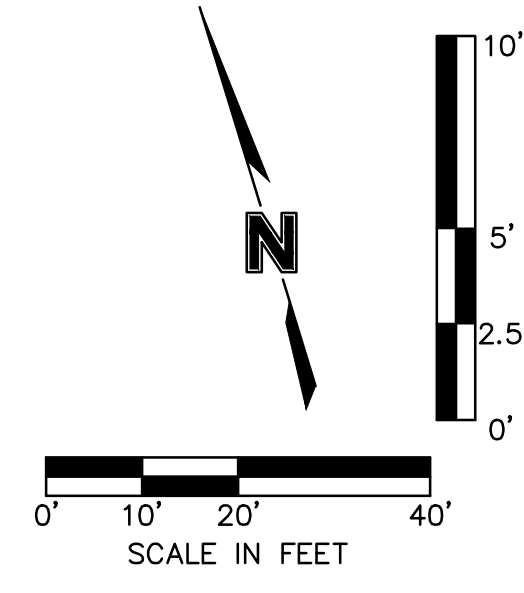
HOOK FARMS  
 FIRST PLAT

2020

LEE'S SUMMIT, MO

SHEET C307

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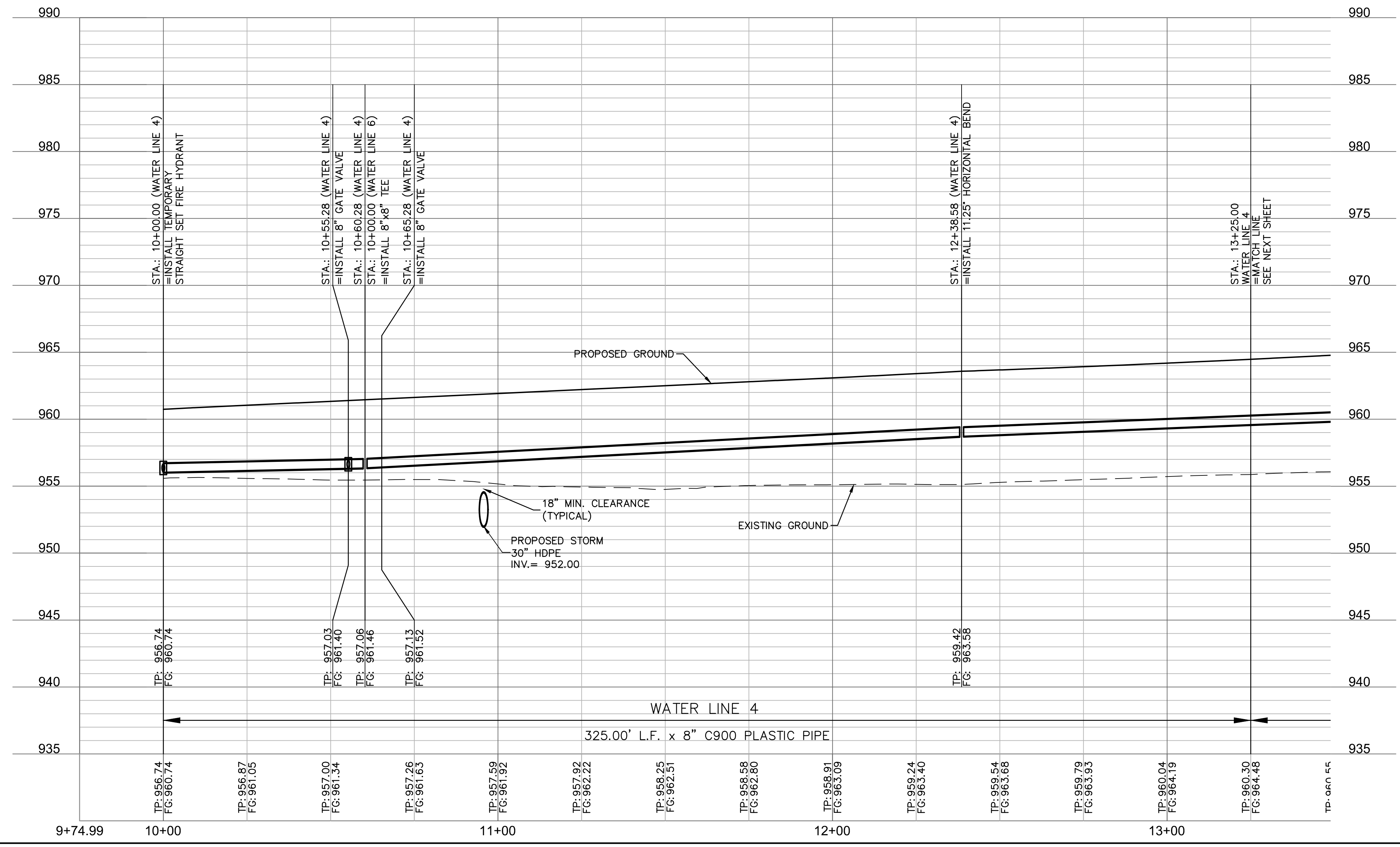


STA: 10+00.00 (WATER LINE 4)  
 STA: 22+59.28 (C)  
 SW HOOK FARM DRIVE, 26.00 RT  
 N: 985469.8684  
 E: 2811639.7100  
 INSTALL TEMPORARY  
 STRAIGHT SET FIRE HYDRANT

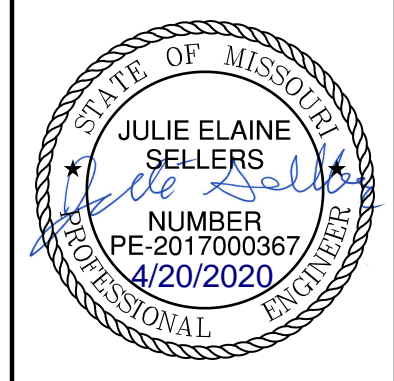
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 STA: 10+00.00 (WATER LINE 6)  
 STA: 23+20.41 (C)  
 SW HOOK FARM DRIVE, 26.10 RT  
 N: 985440.5236  
 E: 2811692.3632  
 INSTALL 8"X8" TEE W/ THRUST BLOCK

STA: 10+65.28 (WATER LINE 4)  
 STA: 23+25.41 (C)  
 SW HOOK FARM DRIVE, 26.09 RT  
 N: 985438.0882  
 E: 2811696.7300  
 INSTALL 8" GATE VALVE

STA: 12+38.58 (WATER LINE 4)  
 STA: 24+95.40 (C)  
 SW HOOK FARM DRIVE, 29.66 RT  
 N: 985353.6785  
 E: 2811848.0814  
 INSTALL 11.25" HORIZONTAL BEND  
 W/ THRUST BLOCK



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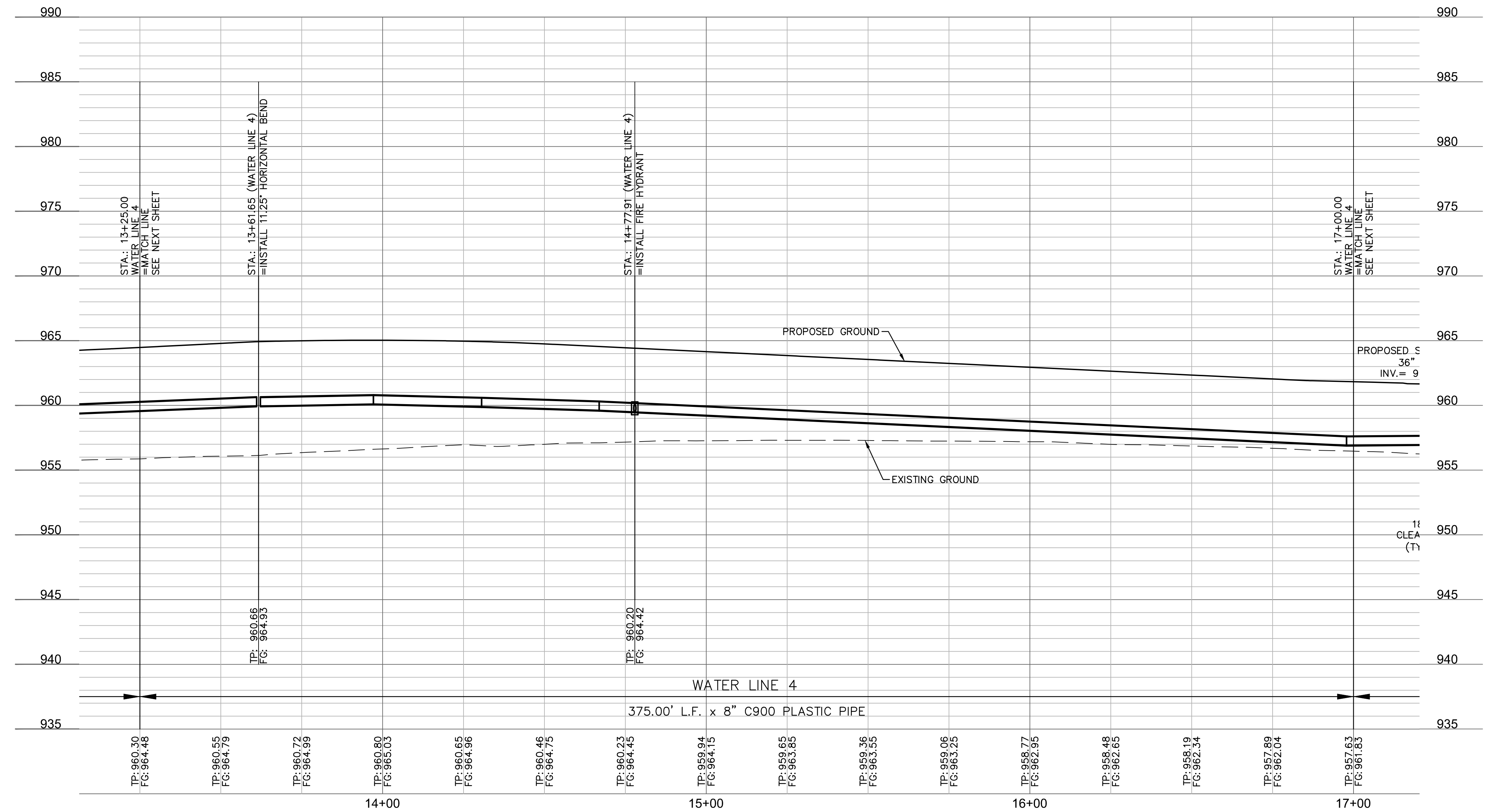
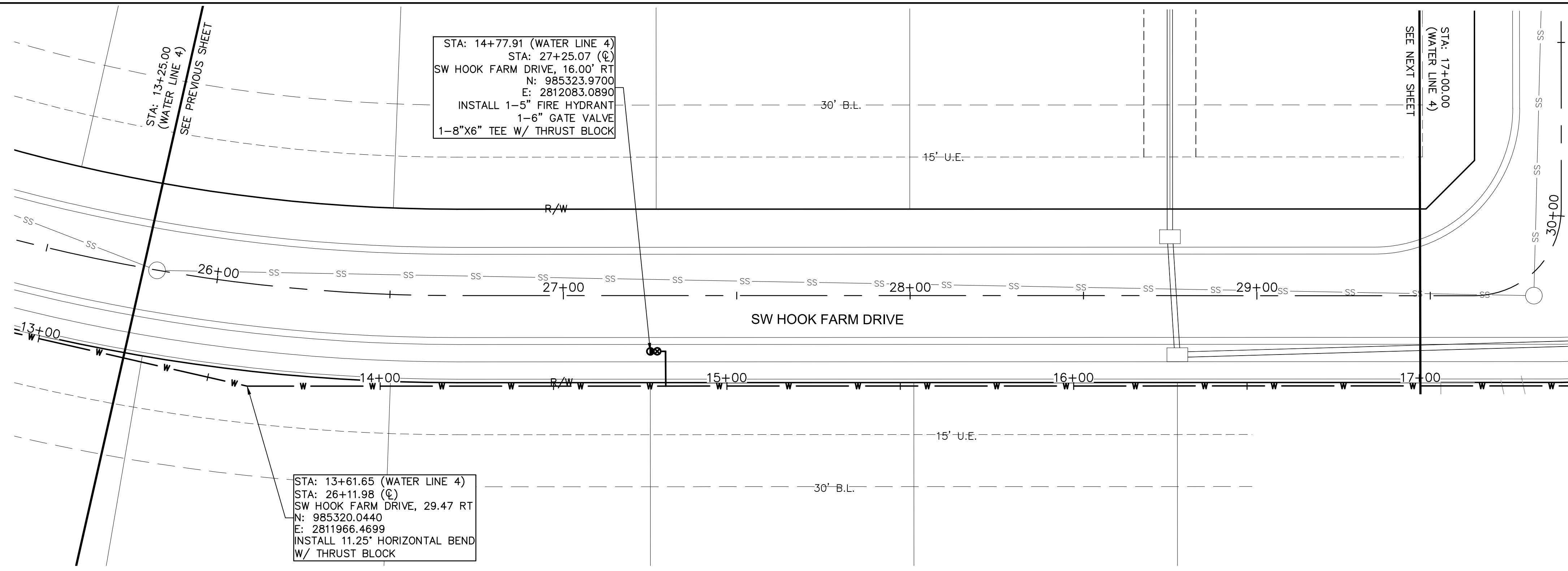
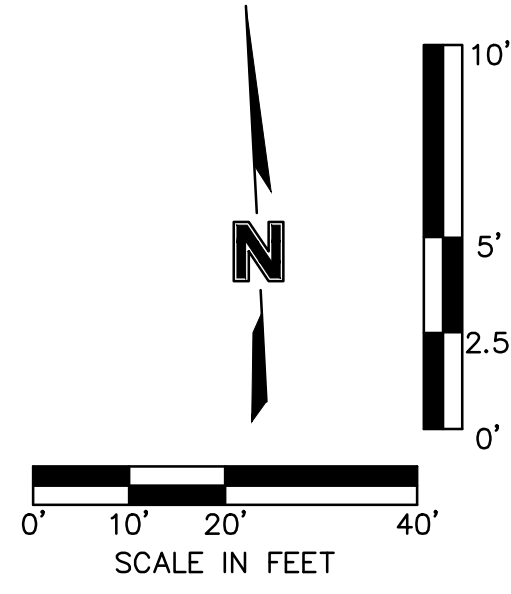
WATER PLAN & PROFILE (LINE 4)  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST PLAT  
 LEE'S SUMMIT, MO  
 2020

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

**SHEET C308**



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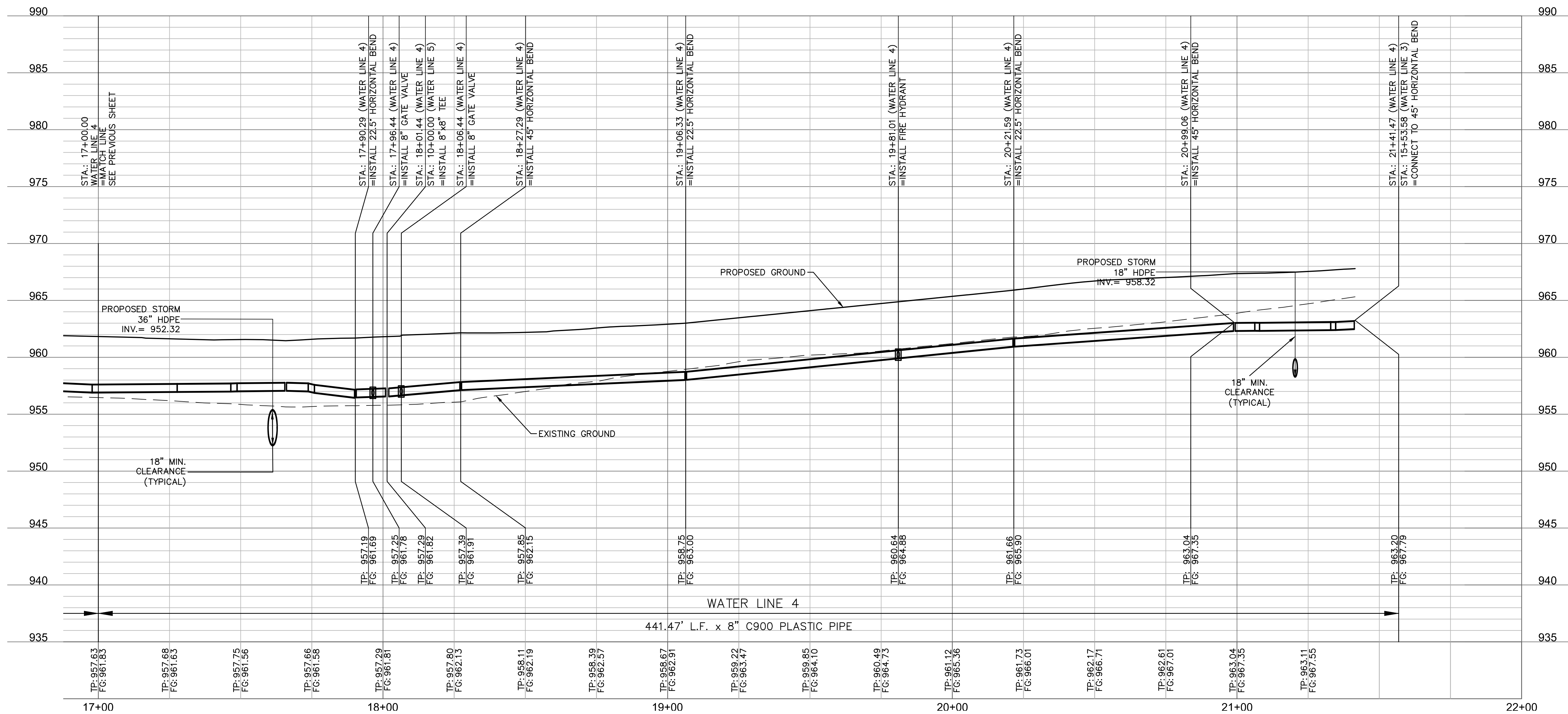
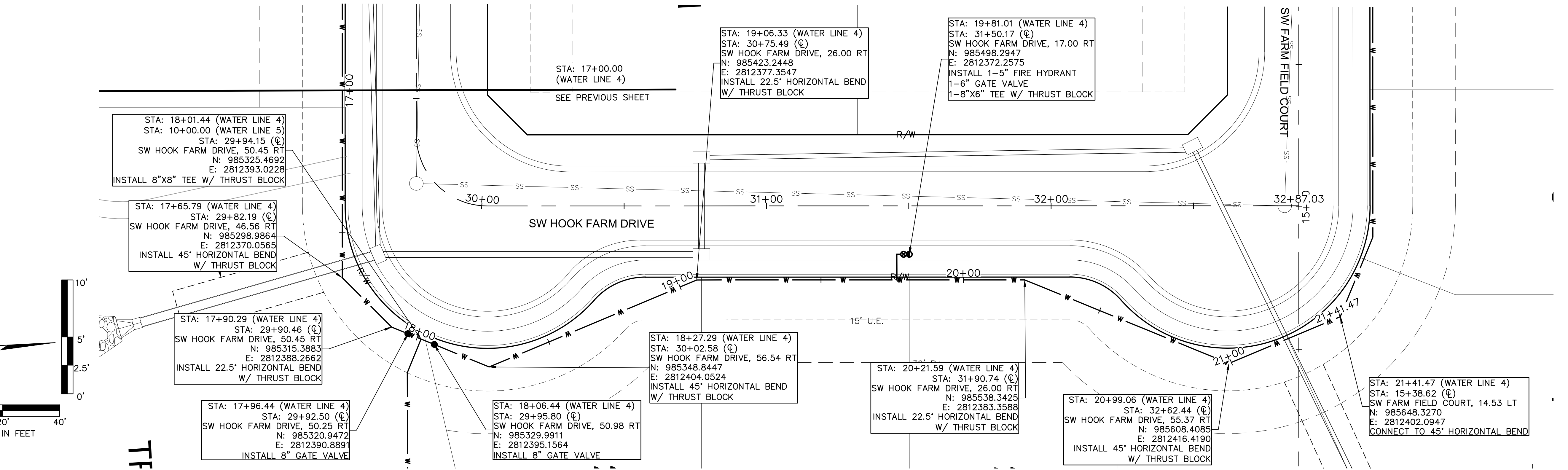
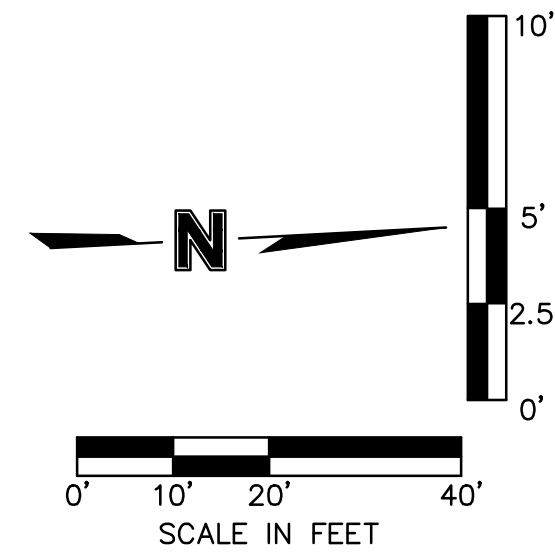
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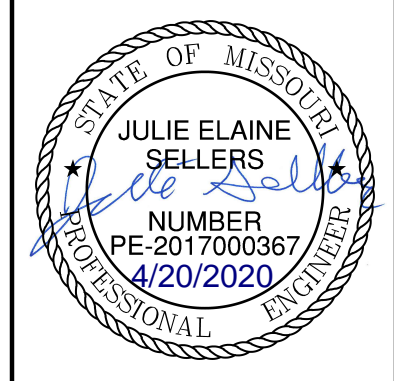
WATER PLAN & PROFILE (LINE 4 CONT'D)  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST FLAT  
 LEE'S SUMMIT, MO  
 2020

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

DWG: F:\2019\4001-4500\019-4061-Design\AutoCAD\Final Plans\Water Main Plans\C\_WAT02\_0194061.dwg USER: nheiser  
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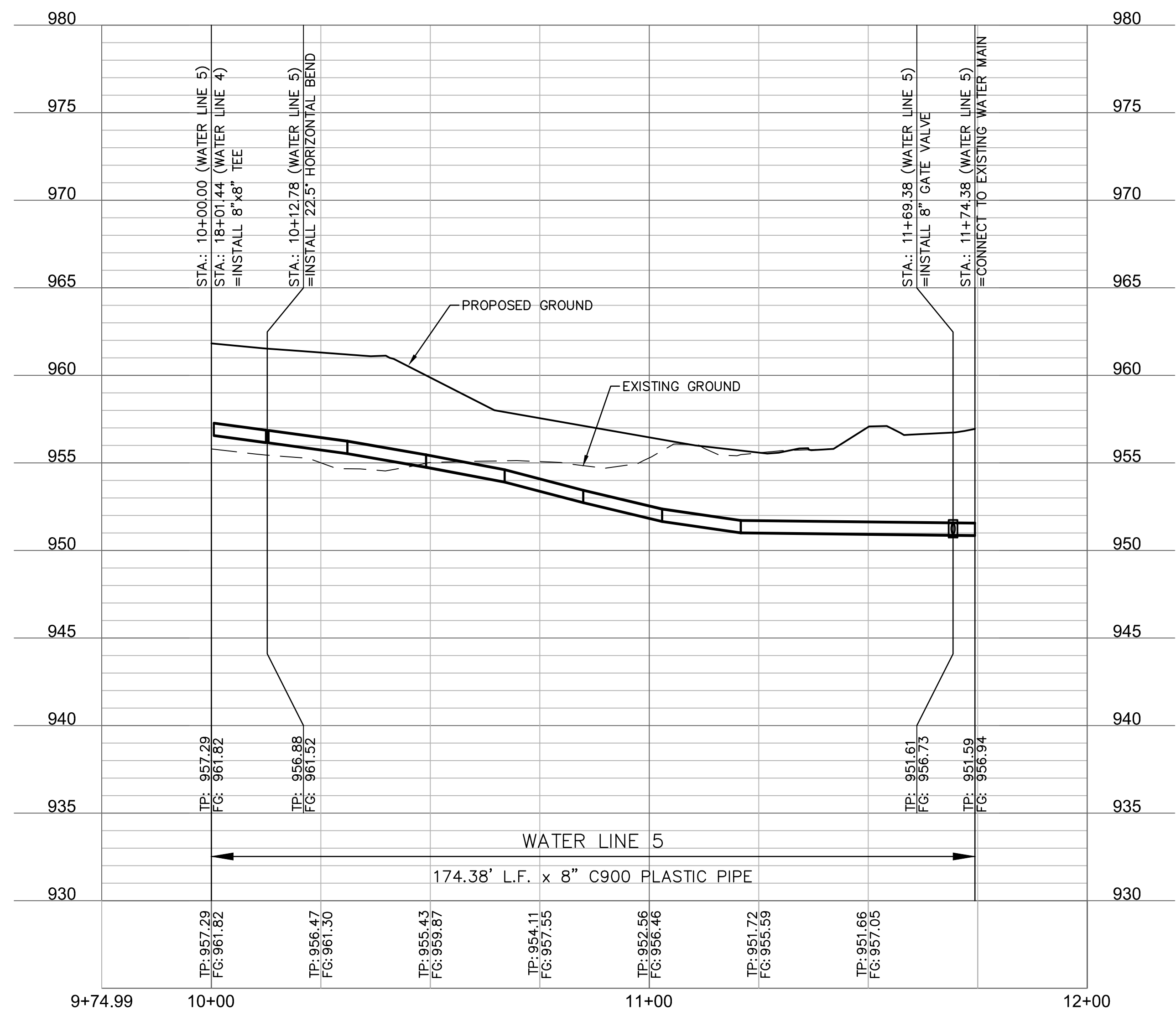
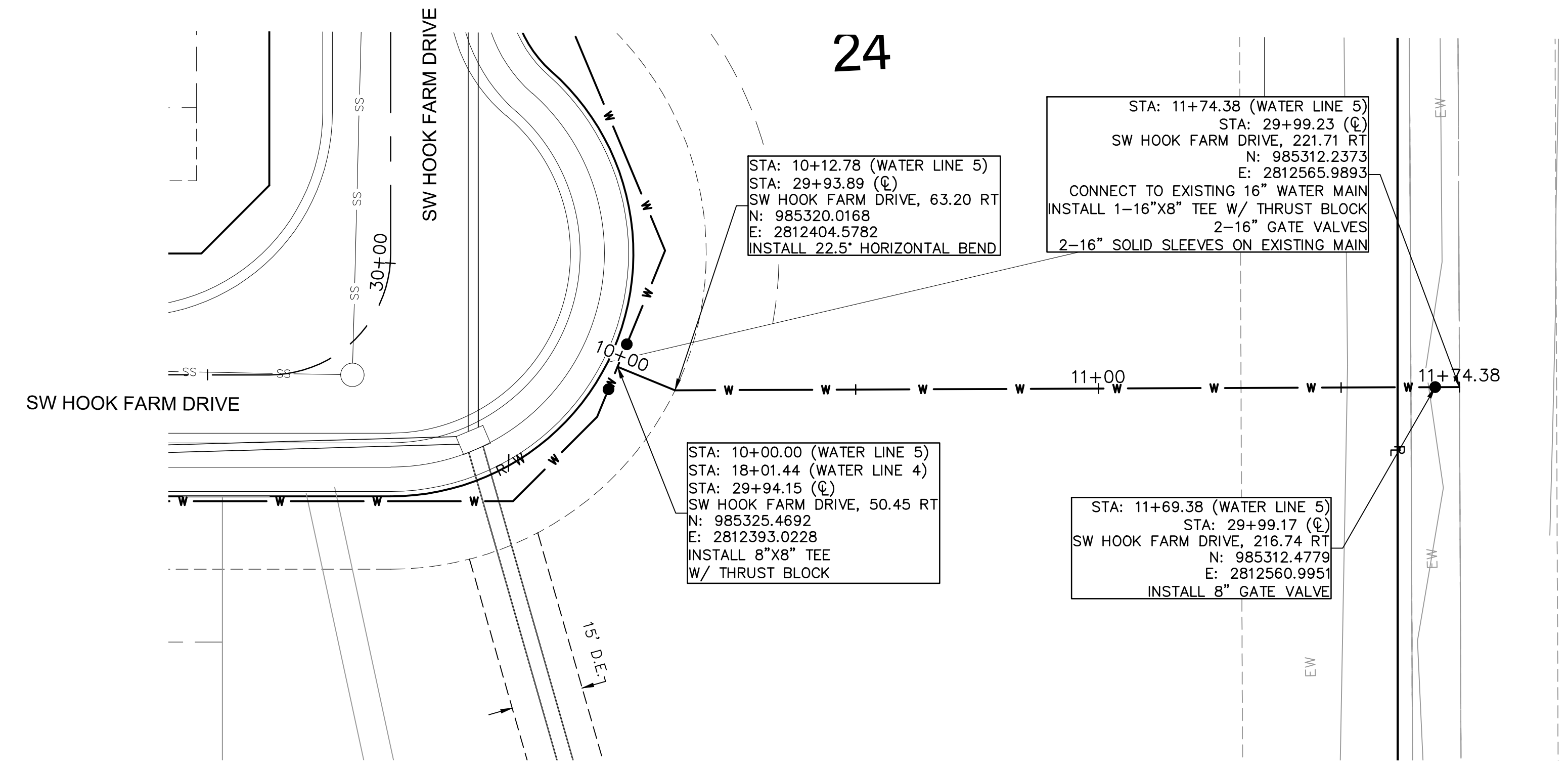
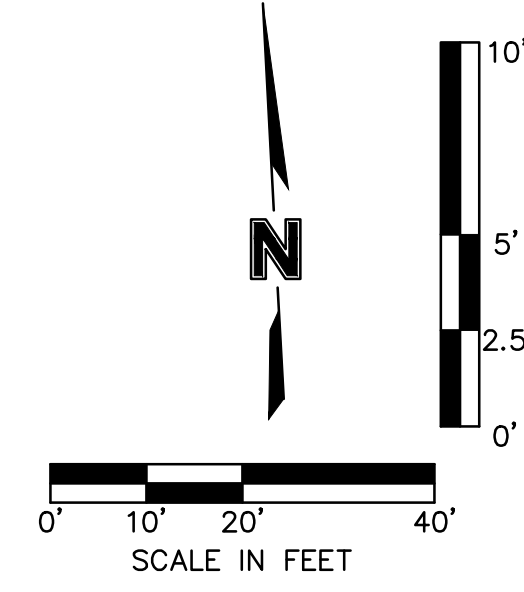
REV. NO.	DATE	REVISIONS DESCRIPTION

WATER PLAN & PROFILE (LINE 4 CONT'D)  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST FLAT  
 LEES 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 C310**

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 NUMBER  
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 4/20/2020

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WATER PLAN & PROFILE (LINE 5)  
 WATER MAIN EXTENSION PLANS

HOOK FARMS  
 FIRST PLAT

2020

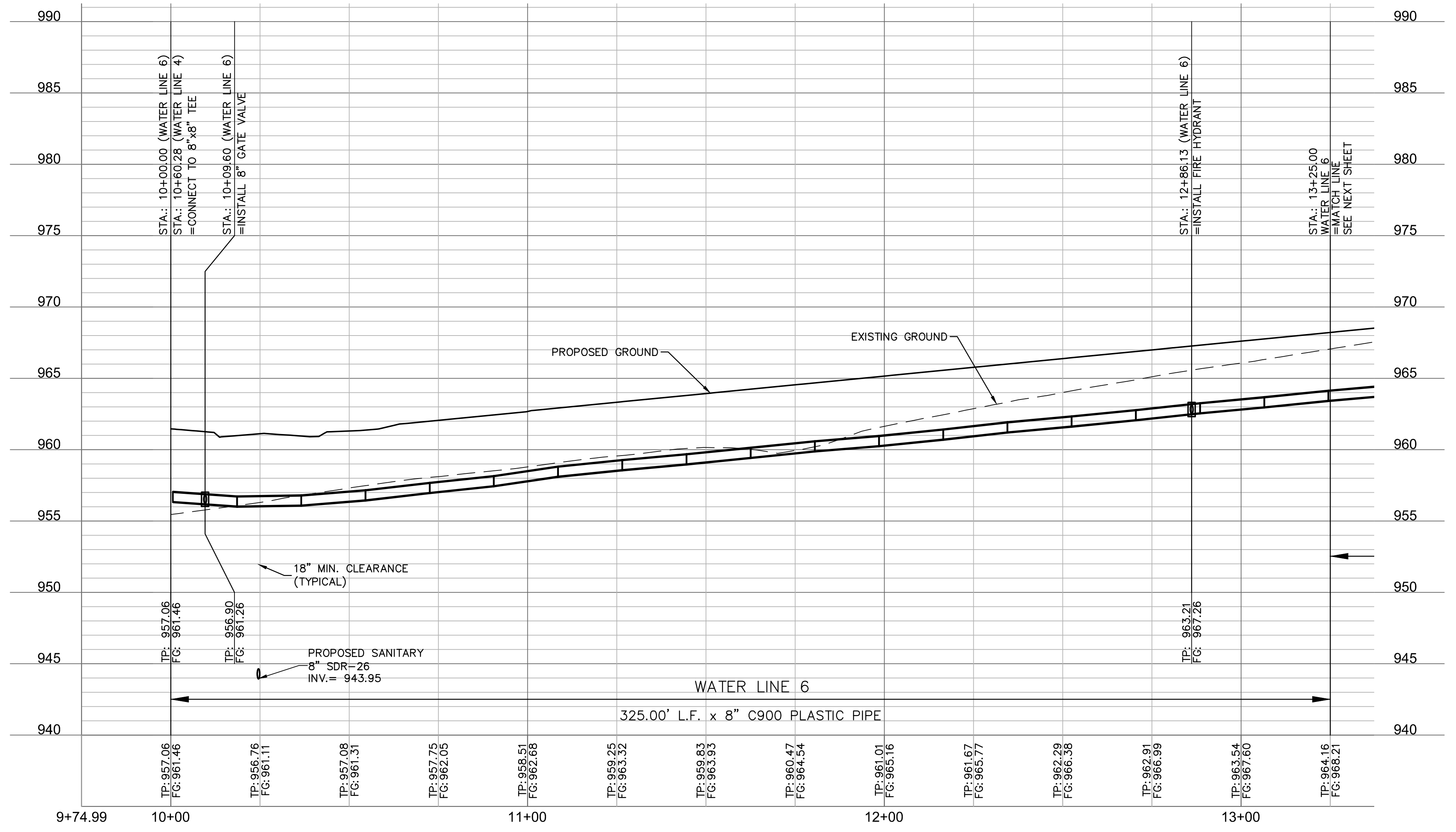
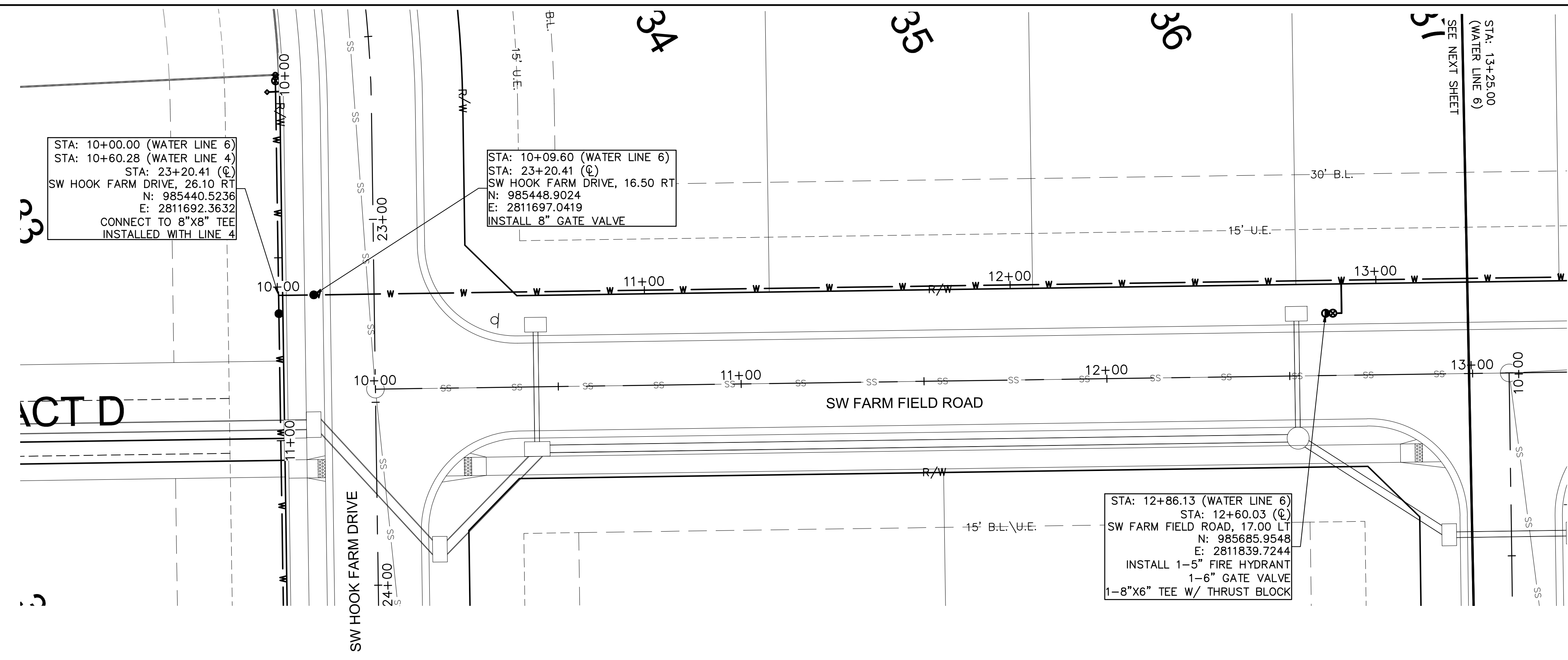
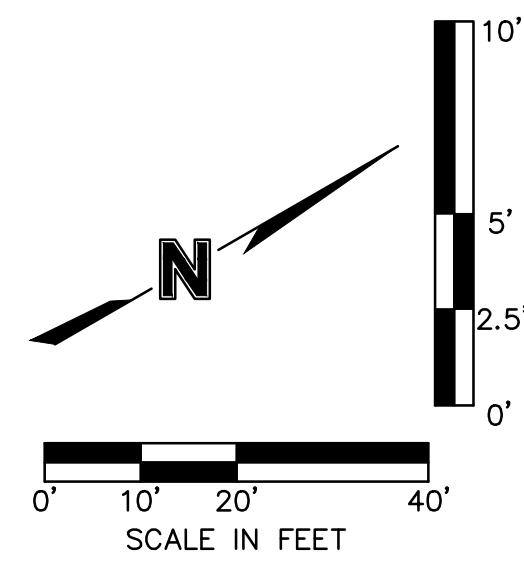
REVISIONS

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**  
 C311

DWG: F:\2019\4001-4500\019-4061-40-Design\AutoCAD\Final\_Plans\GNCV\Water\_Plans\019-4061.dwg USER: nheiser  
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 4/20/2020  
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

WATER PLAN & PROFILE (LINE 6)  
 WATER MAIN EXTENSION PLANS

HOOK FARMS  
 FIRST PLAT

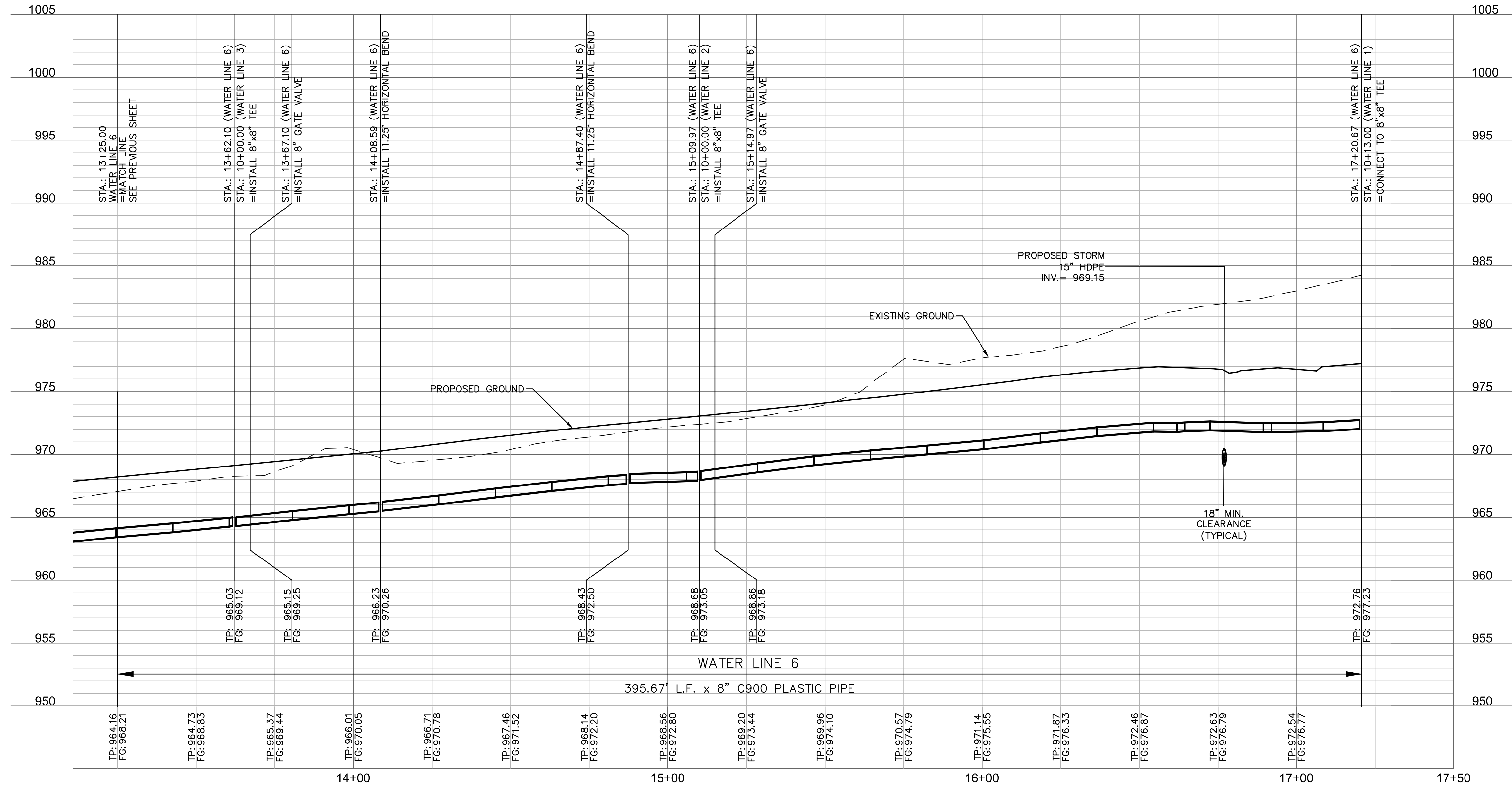
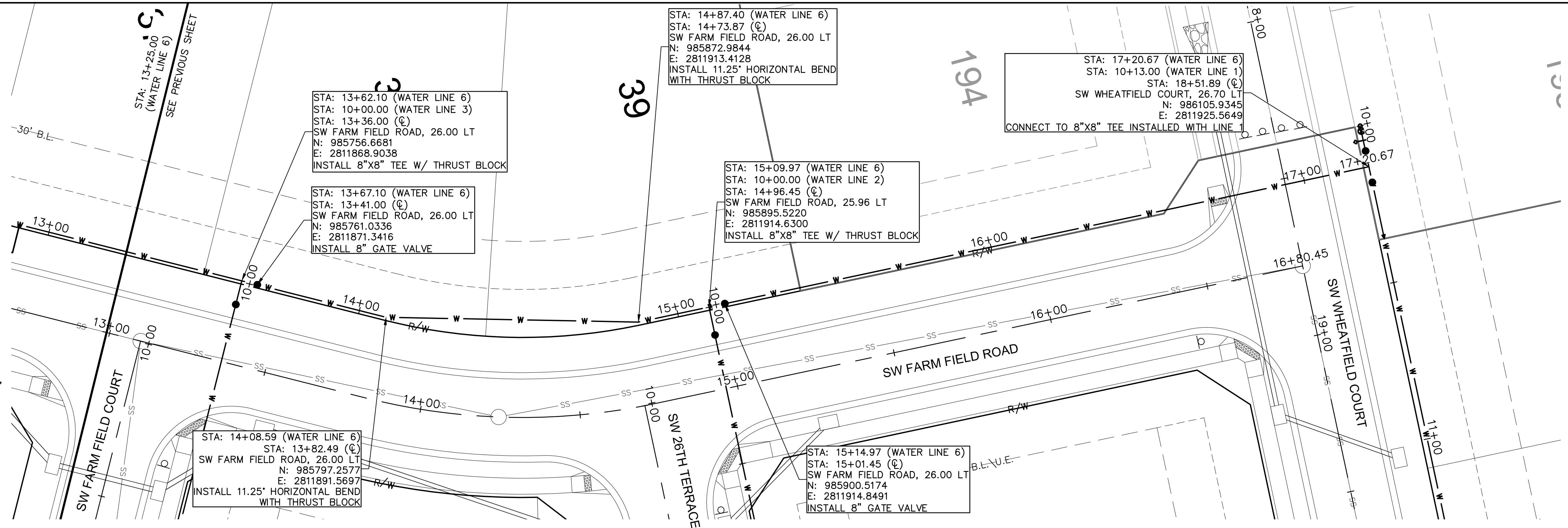
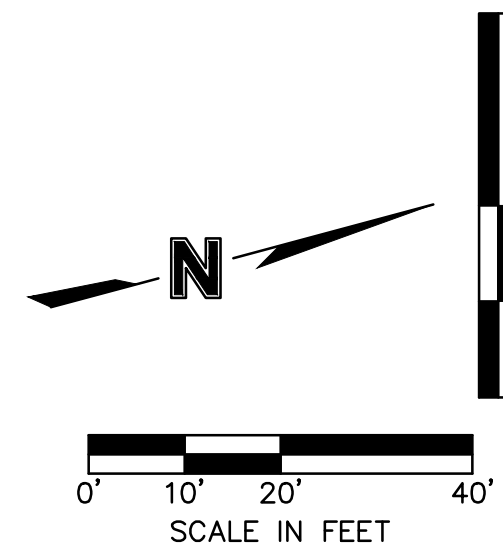
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REVISIONS

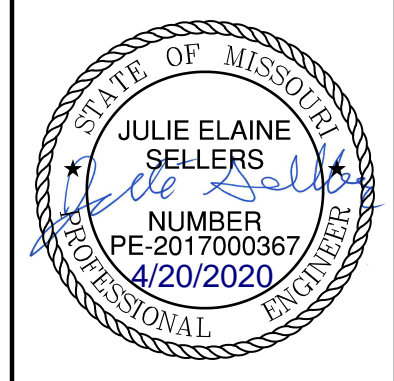
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QA/QC by: JES	project no.: 019-4061	drawing no.: 04/20/2020

**SHEET C312**

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

SHEET C313

REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)					
NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
12	13.1	18.5	10.0	5.1	4.0
14	18.8	26.7	14.4	7.4	4.0
16	25.7	36.3	19.6	10.0	5.0
18	33.5	47.4	25.6	13.1	6.6
20	42.4	REST. JT.	32.5	16.5	8.3
24	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

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.

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	HORIZONTAL THRUST BLOCKS	Checked By: DL
		FILE: WAT-1
		Rev: 1/14

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)					
NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	76.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	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.

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	VERTICAL THRUST BLOCKS	Checked By: DL
		FILE: WAT-2
		Rev: 1/14

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	STRADDLE BLOCK	Checked By: DL
		FILE: WAT-3
		Rev: 1/14

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".

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	TRENCH CHECK	Checked By: DL
		FILE: WAT-6
		Rev: 1/14

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 APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.  
 4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.  
 5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS 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.

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	HYDRANT INSTALLATION - STRAIGHT SET	Checked By: DL
		FILE: WAT-7
		Rev: 1/14

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 APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.  
 4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.  
 5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS 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.

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   120 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
	HYDRANT WITH 90 DEGREE BEND	Checked By: DL
		FILE: WAT-8
		Rev: 1/14

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAIL SHEET  
 WATER MAIN EXTENSION PLANS  
 HOOK FARMS  
 FIRST PLAT

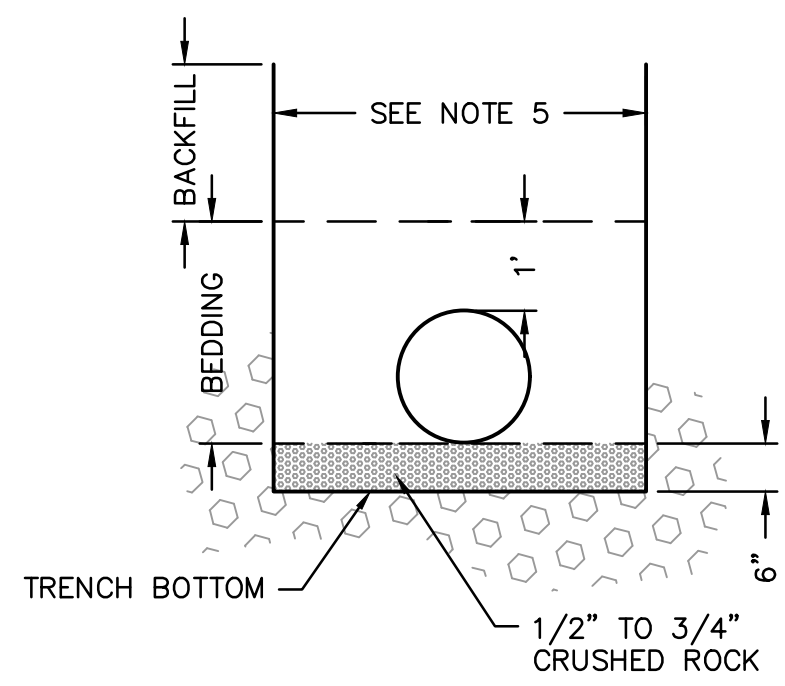
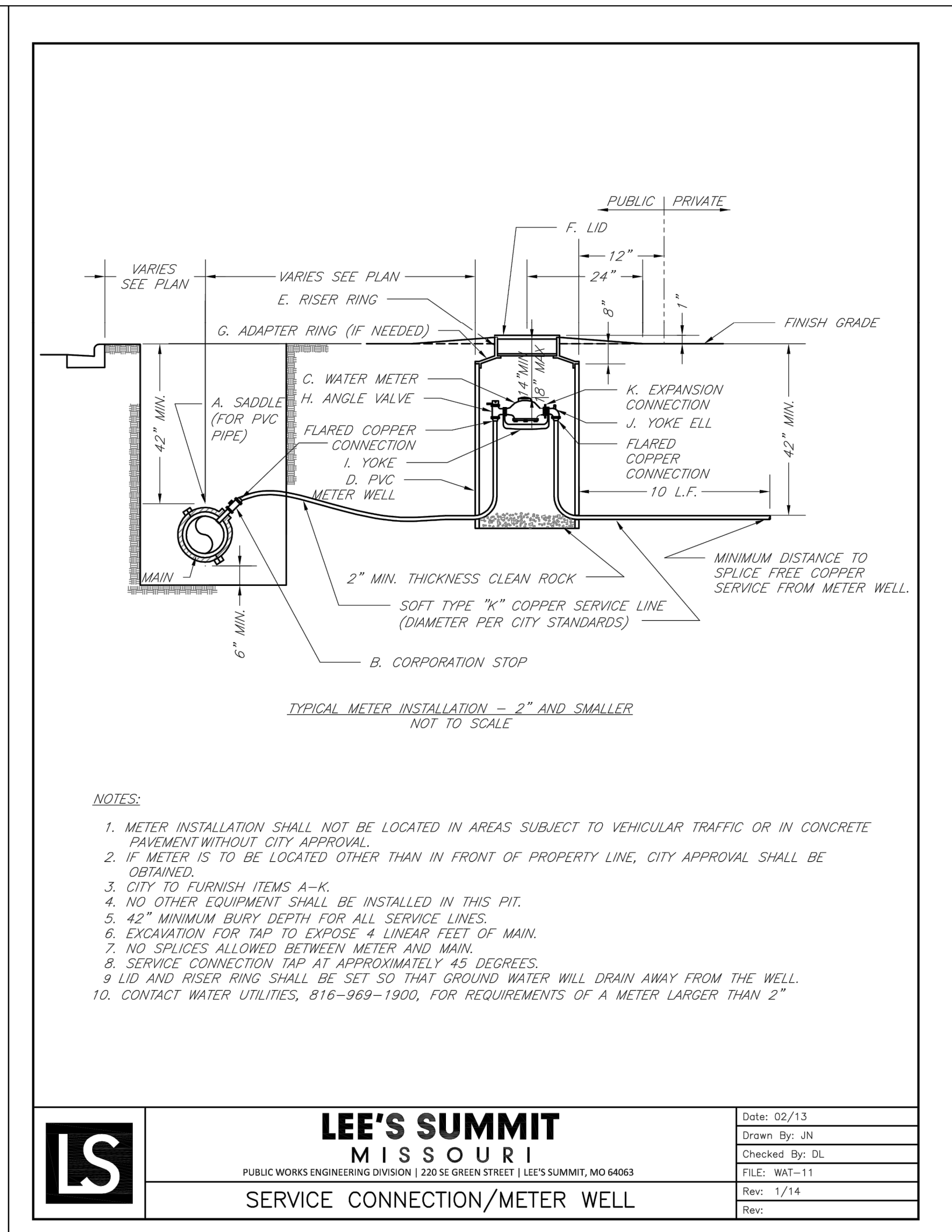
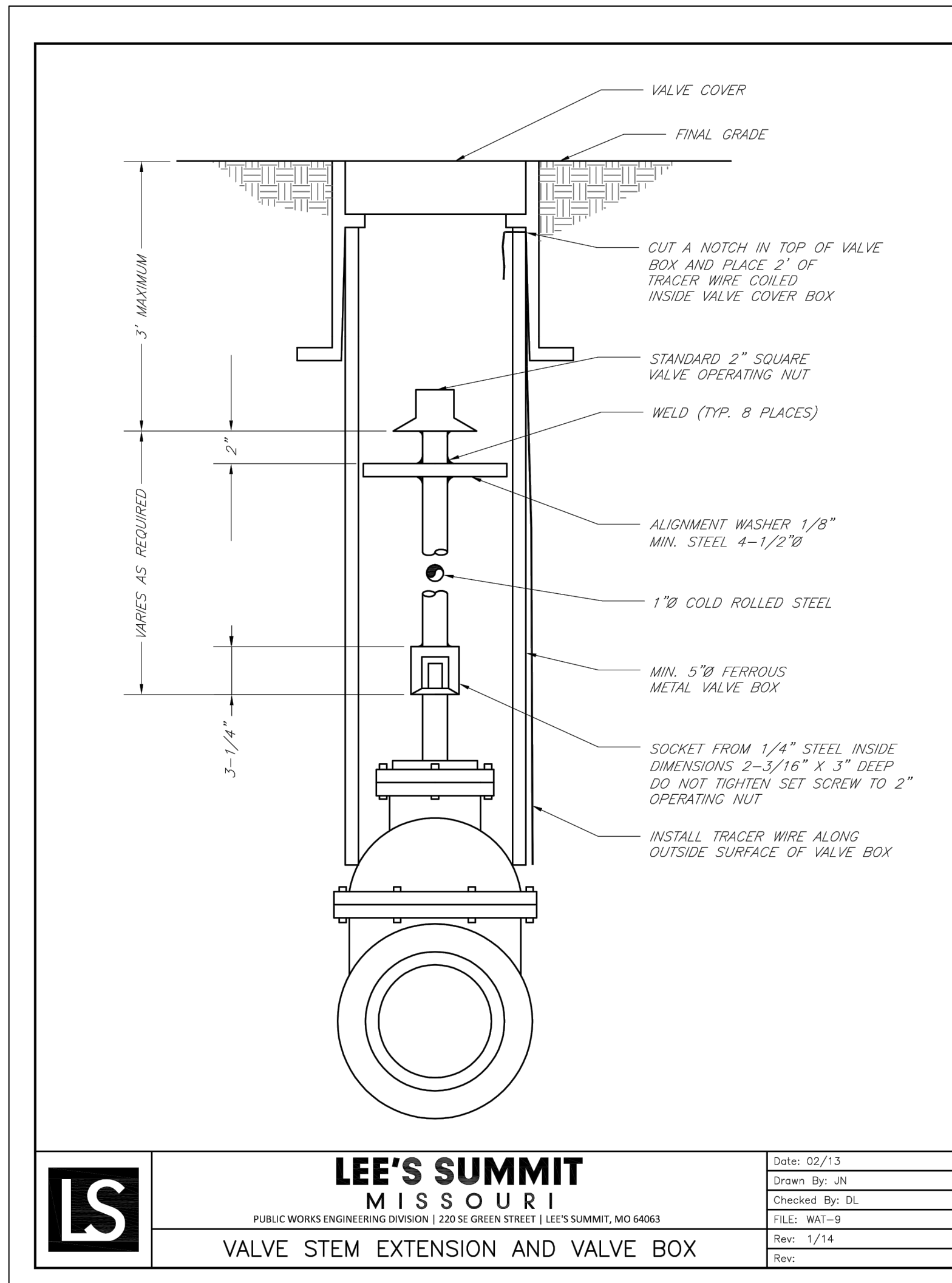
LEE'S SUMMIT, MO

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 C314**

DWG: F:\2019\4001-4500\019-4061\40-Design\AutoCAD\Final Plans\Water Main Plans\C\_DET01\_0194061.dwg  
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 XREFS: C:\PTBLK\_0194061\_34x22



- 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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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAIL SHEET  
 WATER MAIN EXTENSION PLANS

HOOK FARMS  
 FIRST PLAT

2020

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**