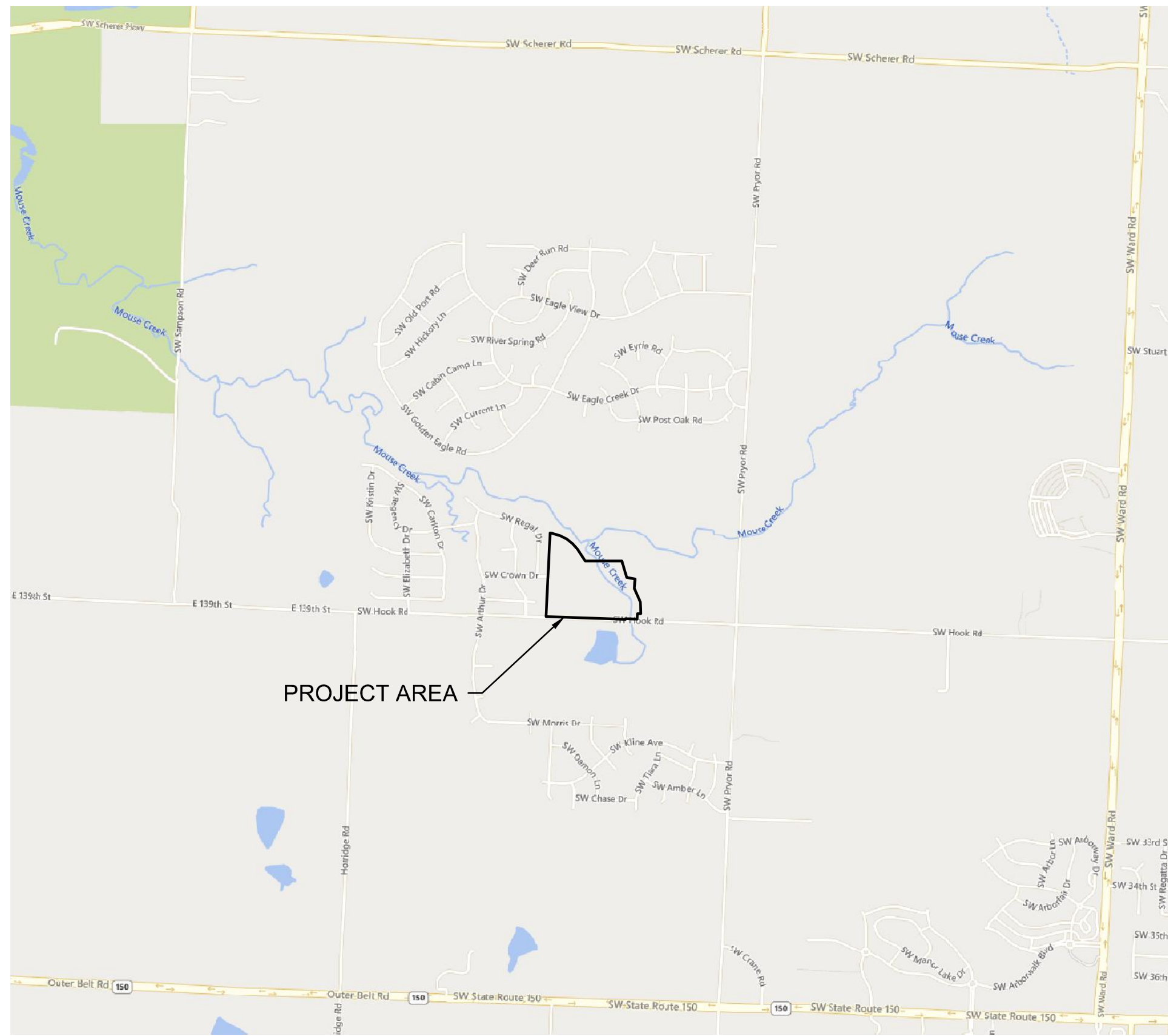
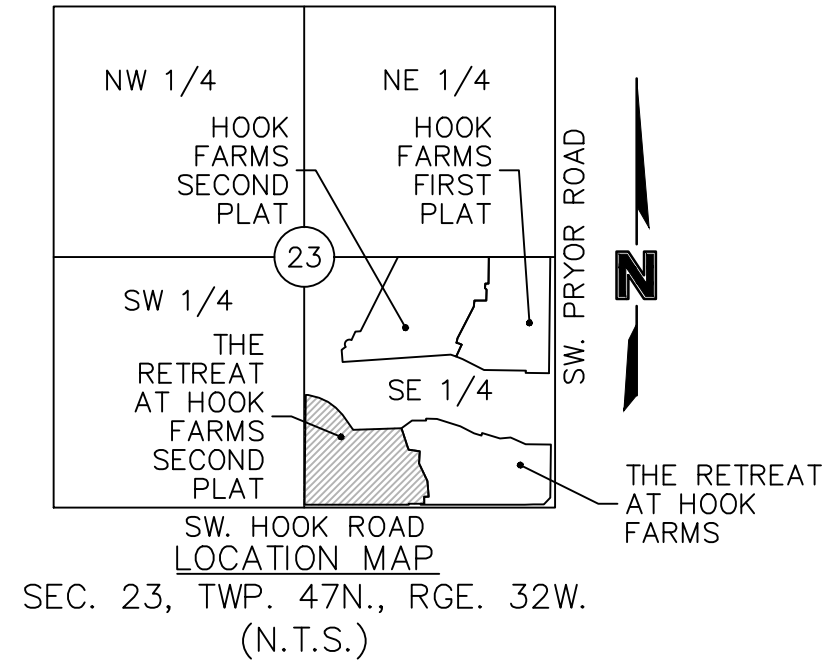


# THE RETREAT AT HOOK FARMS SECOND PLAT WATER MAIN EXTENSION PLANS

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



SHEET LIST	
NUMBER	TITLE
C301	TITLE SHEET
C302	GENERAL NOTES
C303	GENERAL LAYOUT
C304	WATER MAIN PLAN & PROFILE (LINE 1)
C305	WATER MAIN PLAN & PROFILE (LINE 1)
C306	WATER MAIN PLAN & PROFILE (LINE 1)
C307	WATER MAIN PLAN & PROFILE (LINE 2)
C308	WATER MAIN PLAN & PROFILE (LINE 2)
C309	WATER MAIN PLAN & PROFILE (LINE 3)
C310	DETAIL SHEET
C311	DETAIL SHEET

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: 816.455.2500	<b>UTILITY SERVICE NUMBERS</b> NAME: LEE'S SUMMIT PUBLIC WORKS PHONE: 816-969-1800  NAME: LEE'S SUMMIT WATER & SERVICES DEPARTMENT PHONE: 816-969-1940  NAME: SPIRE (MGE) PHONE: 314-342-0500  NAME: AT&T PHONE: 800-286-8313  NAME: EVERGY PHONE: 816-471-5275  NAME: SPECTRUM (TWC) PHONE: 877-772-2253  NAME: GOOGLE FIBER PHONE: 877-454-6959
<b>ENGINEER</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177 EMAIL: JSSELLERS@OLSSON.COM	
<b>SURVEYOR</b> OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.361.1177 EMAIL: JROUDEBOUSH@OLSSON.COM	

<input type="checkbox"/>	NOT FOR CONSTRUCTION
<input type="checkbox"/>	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 87°58'53" WEST, ON THE SOUTH LINE OF SAID SOUTHEAST QUARTER, 2,651.35 FEET TO THE SOUTHEAST CORNER OF MONARCH VIEW 1ST PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 981 69637 IN BOOK 163 AT PAGE 62 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE NORTH 02°43'00" EAST, ON THE WEST LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE EAST LINE OF SAID MONARCH VIEW 1ST PLAT, 30.00 FEET TO THE NORTHWEST CORNER OF SW HOOK ROAD AS ESTABLISHED BY RIGHT-OF-WAY DEED RECORDED AS INSTRUMENT NUMBER 19991 0077639 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE NORTH 02°43'00" EAST, ON SAID WEST AND EAST LINES, AND ALSO BEING EAST LINE OF MONARCH VIEW 2ND PLAT, A SUBDIVISION OF LAND IN SAID LEE'S SUMMIT, RECORDED AS INSTRUMENT NUMBER 20001 0047892 IN BOOK 167 AT PAGE 87 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE, 1,163.24 FEET; THENCE LEAVING SAID WEST AND EAST LINES, SOUTH 87°16'25" EAST, 25.54 FEET; THENCE SOUTH 73°15'30" EAST, 121.46 FEET; THENCE SOUTH 62°39'56" EAST, 102.90 FEET; THENCE SOUTH 52°04'22" EAST, 102.90 FEET; THENCE SOUTH 41°28'48" EAST, 102.90 FEET; THENCE SOUTH 33°05'07" EAST, 195.12 FEET; THENCE NORTH 90°00'00" EAST, 510.19 FEET TO A POINT ON THE WESTERLY LINE OF PROPOSED THE RETREAT AT HOOK FARMS; THENCE SOUTH 16°31'39" EAST, ALONG SAID WESTERLY LINE, 238.84 FEET; THENCE SOUTH 78°36'20" EAST, ALONG SAID WESTERLY LINE, 118.51 FEET; THENCE SOUTH 04°39'35" WEST, ALONG SAID WESTERLY LINE, 128.06 FEET; THENCE SOUTH 23°04'06" EAST, ALONG SAID WESTERLY LINE, 206.79 FEET; THENCE SOUTH 02°38'45" EAST, ALONG SAID WESTERLY LINE, 164.78 FEET; THENCE NORTH 87°58'48" WEST, ALONG SAID WESTERLY LINE, 45.85 FEET; THENCE SOUTH 01°54'56" WEST, ALONG SAID WESTERLY LINE, 76.13 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID WESTERLY LINE, 38.61 FEET TO A POINT ON THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SW HOOK ROAD, AS ESTABLISHED BY RIGHT OF WAY DEED RECORDED AS INSTRUMENT NUMBER 2007E0016663 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE LEAVING SAID WESTERLY LINE, CONTINUING NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 125.00 FEET; THENCE SOUTH 02°01'07" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 10.00 FEET; THENCE NORTH 87°58'53" WEST, ALONG SAID EXISTING NORTHERLY RIGHT-OF-WAY LINE, 853.20 FEET TO THE NORTHWEST CORNER OF SAID RIGHT-OF-WAY DEED, ALSO BEING THE NORTHEAST CORNER OF SW HOOK ROAD, AS ESTABLISHED BY SAID RIGHT-OF-WAY DEED INSTRUMENT NUMBER 1999 10077639; THENCE CONTINUING NORTH 87°58'53" WEST ALONG THE EXISTING NORTHERLY RIGHT-OF-WAY LINE OF SAID SW HOOK ROAD, 252.00 FEET TO THE POINT OF BEGINNING. CONTAINING 1,085,519 SQUARE FEET OR 24.92 ACRES, MORE OR LESS.

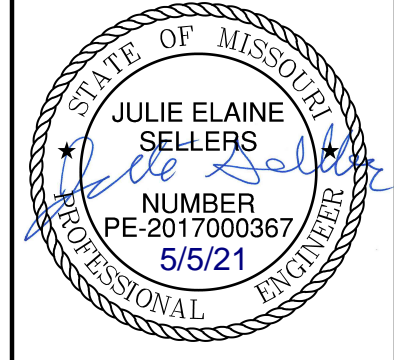
### BENCHMARK

JA-74  
ELEVATION: 1058.10  
N: 978461.2779  
E: 2809447.9650  
DESCRIPTION: KC METRO ALUMINUM GRS DISK SET IN CONCRETE. THE STATION IS STAMPED JA-74, 1988, AND PROJECTS ABOUT 1 INCH

OLSSON HAS BEEN RETAINED TO PROVIDE AS-BUILT DRAWINGS FOR THIS PROJECT.

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

5/5/21  
DATE



REV. NO.	DATE	REVISIONS DESCRIPTION

TITLE SHEET  
WATER MAIN EXTENSION PLANS  
THE RETREAT AT HOOK FARMS  
SECOND PLAT  
LEE'S SUMMIT, MO  
2021

drawn by: B.M.W./A.A.  
checked by: B.M.W.  
designed by: B.M.W./A.A.  
QA/QC by: J.E.S.  
project no.: A19-4056  
date: 05-05-2021

SHEET  
C301

USER: bworthley  
DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Water Main Extension Plans\C\_TTL01\_A194059.dwg  
DATE: May 05, 2021 4:08pm  
XREFS: C\_PBDL\_A194059



**olsson**  
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

**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 ENROACH 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. 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 MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
  - 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

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. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. 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.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

**SHOP DRAWINGS**

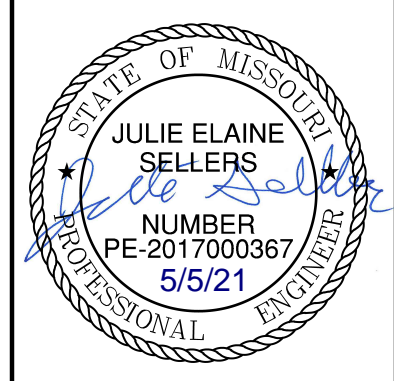
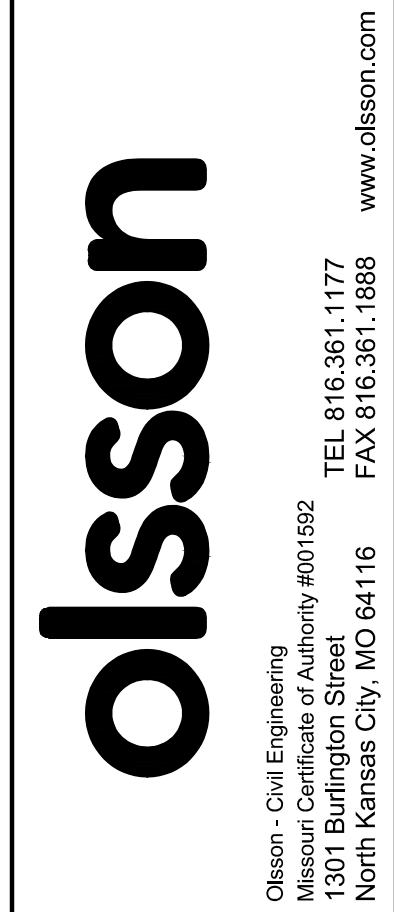
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. 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 SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
  - B. 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	6" CLASS 52 DIP WITH ZINC COATING	L.F.	20.00	
2	8" CLASS 52 DIP WITH ZINC COATING	L.F.	20.00	
3	6" C900 PLASTIC PIPE	L.F.	1265.14	
4	8" C900 PLASTIC PIPE	L.F.	1122.43	
5	16" X 8" TEE	EA.	1	
6	8" X 8" TEE	EA.	2	
7	6" GATE VALVES	EA.	1	
8	8" GATE VALVES	EA.	4	
9	16" BUTTERFLY VALVES	EA.	2	
10	6" 11.25' BENDS	EA.	7	
11	6" 45' BENDS	EA.	6	
12	8" 11.25' BENDS	EA.	2	
13	8" 22.5' BENDS	EA.	1	
14	8" 45' BENDS	EA.	2	
15	8"x6" REDUCER	EA.	1	
16	PVC TO DIP ADAPTER	EA.	4	
17	STRAIGHT SET HYDRANT ASSEMBLY	EA.	2	
18	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	EA.	2	
19	CONNECTION TO EXISTING	EA.	2	

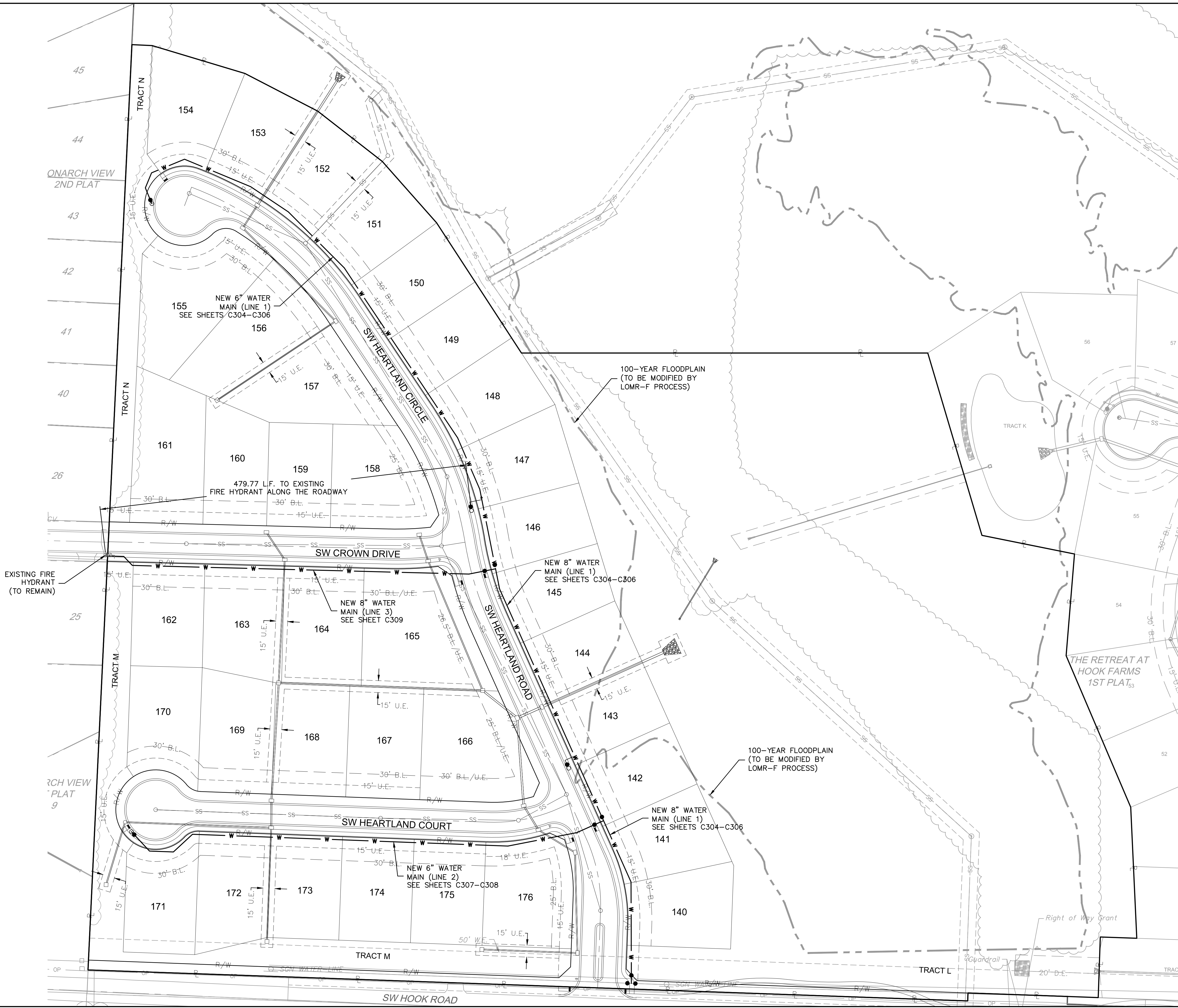
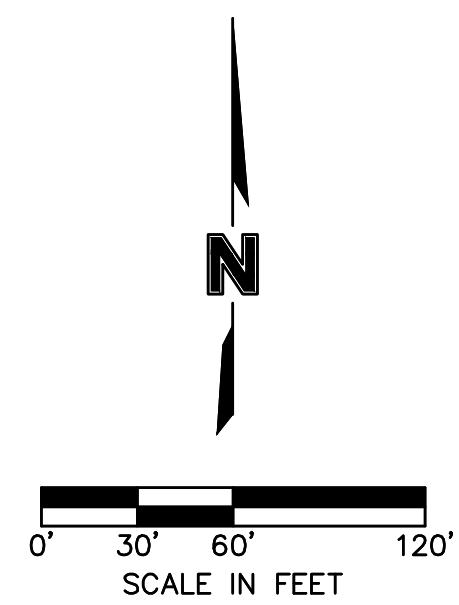
SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.



BY	DATE	DESCRIPTION

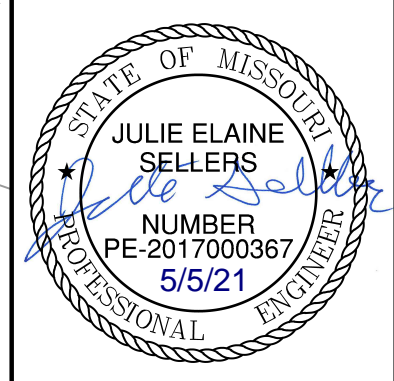
GENERAL NOTES WATER MAIN EXTENSION PLANS	THE RETREAT AT HOOK FARMS SECOND PLAT	2021
		LEES SUMMIT, MO
drawn by: B.M.W./A.A.	checked by: B.M.W.	designed by: B.M.W./A.A.
QA/QC by: J.E.S.	project no.: A19-4059	date: 05-05-2021

DWG: F:\2019\4001-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Water Main Extension Plans\C\_GEN01\_A194059.dwg USER: bworthley  
 DATE: May 05, 2021 4:09pm XREFS: C\_XBASE\_A194059 C\_PBASE\_A194059 C\_PENDY\_A194059 C\_PUTIL\_A194059 C\_PTBLK\_A194059



**olsson**

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.olson.com



REV. NO.	DATE	REVISIONS DESCRIPTION	BY

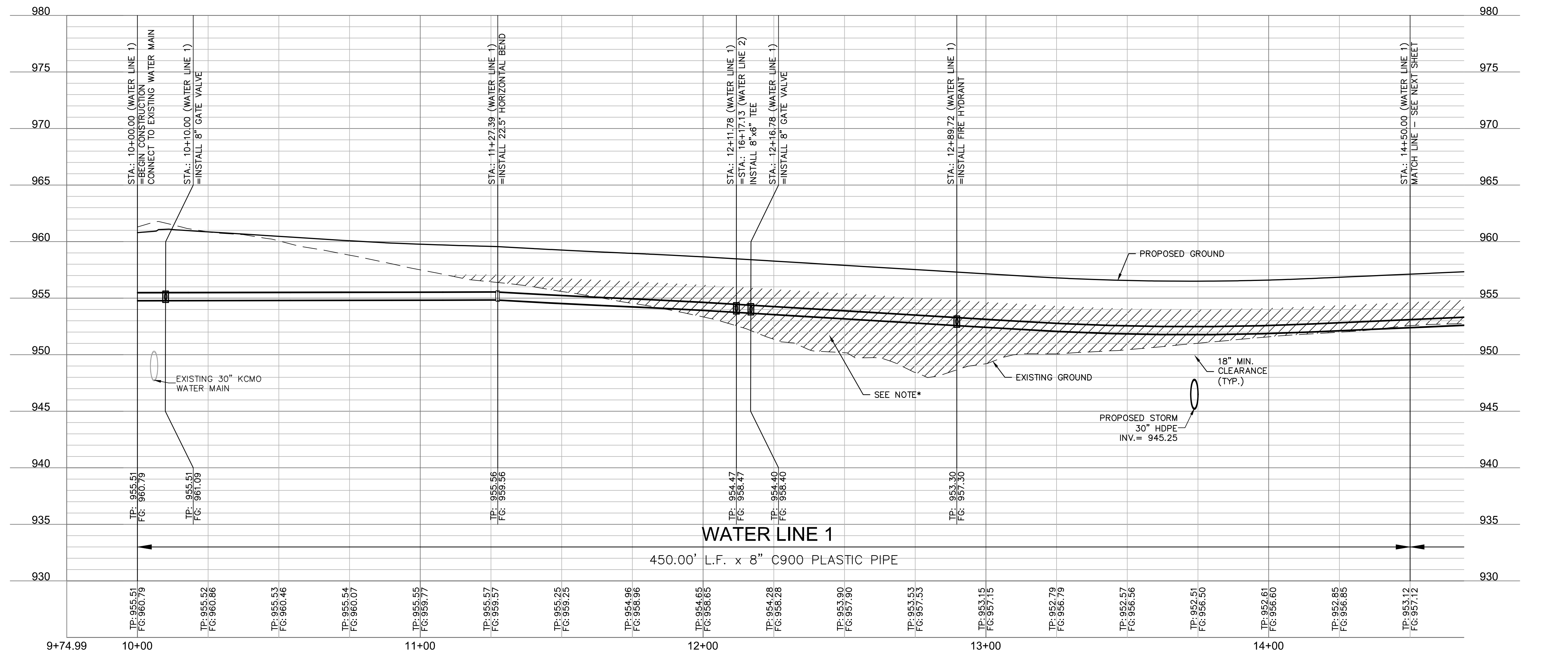
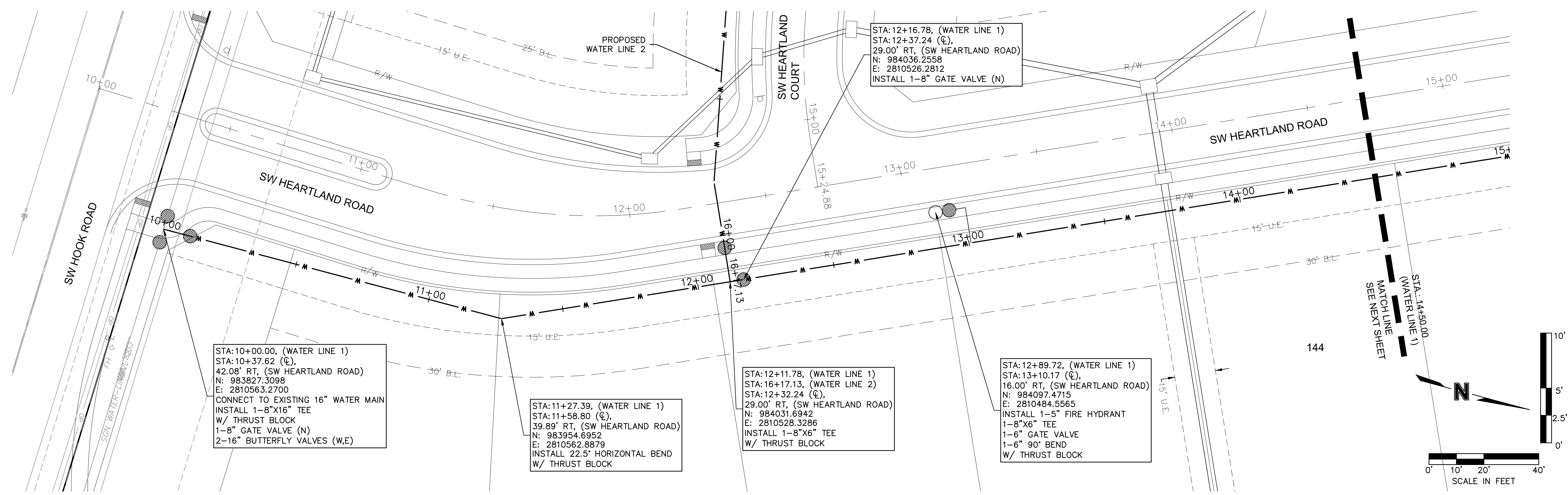
GENERAL LAYOUT PLANS	2021
WATER MAIN EXTENSION PLANS	
THE RETREAT AT HOOK FARMS	
SECOND PLAT	
LEE'S SUMMIT, MO	

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET C303

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNC\Water Main Extension\Plans\C\_WAT01\_A194059.dwg USER: bworthley  
 DATE: May 05, 2021 4:11pm XREFS: C\_PWATR\_A194059 C\_PBASE\_A194059 C\_PBNDY\_A194059 C\_PUTIL\_A194059 C\_XBASE\_A194059 C\_PTBLK\_A194059

\*NOTE:  
 CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



**olsson**

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

STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PE-2017000367  
 5/5/21  
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION

WATER MAIN PLAN & PROFILE (LINE 1)  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

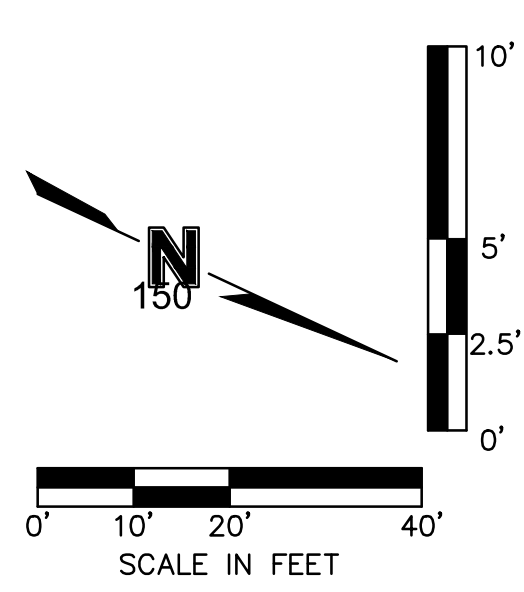
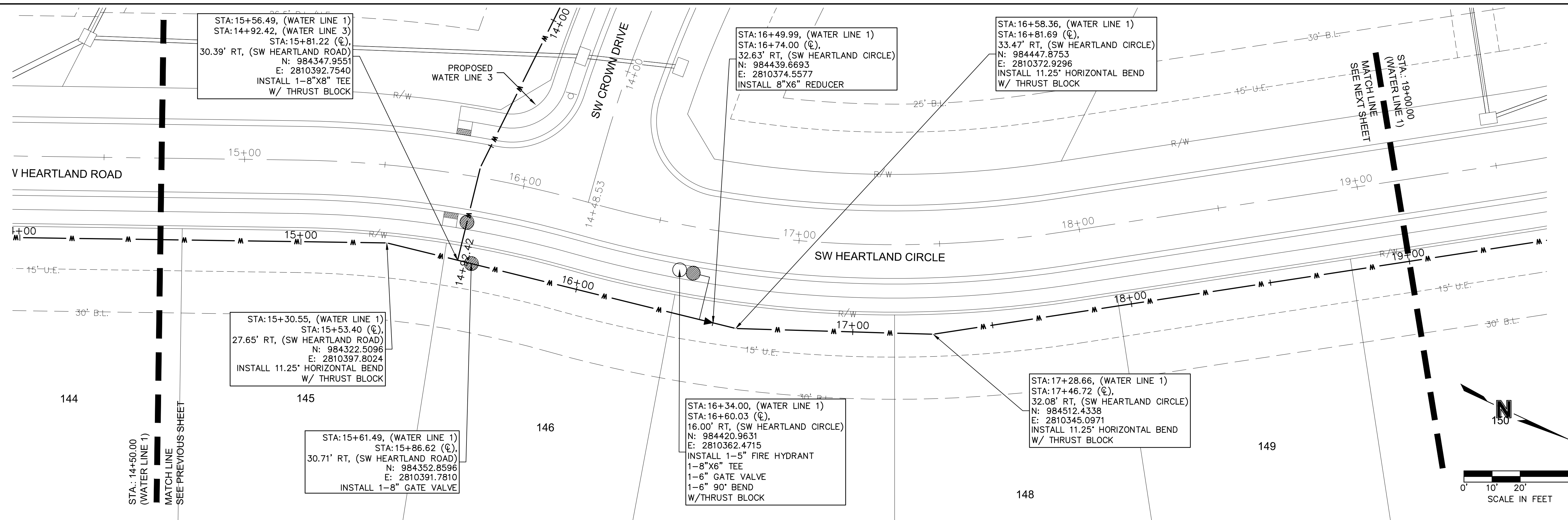
2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059B  
 date: 05-05-2021

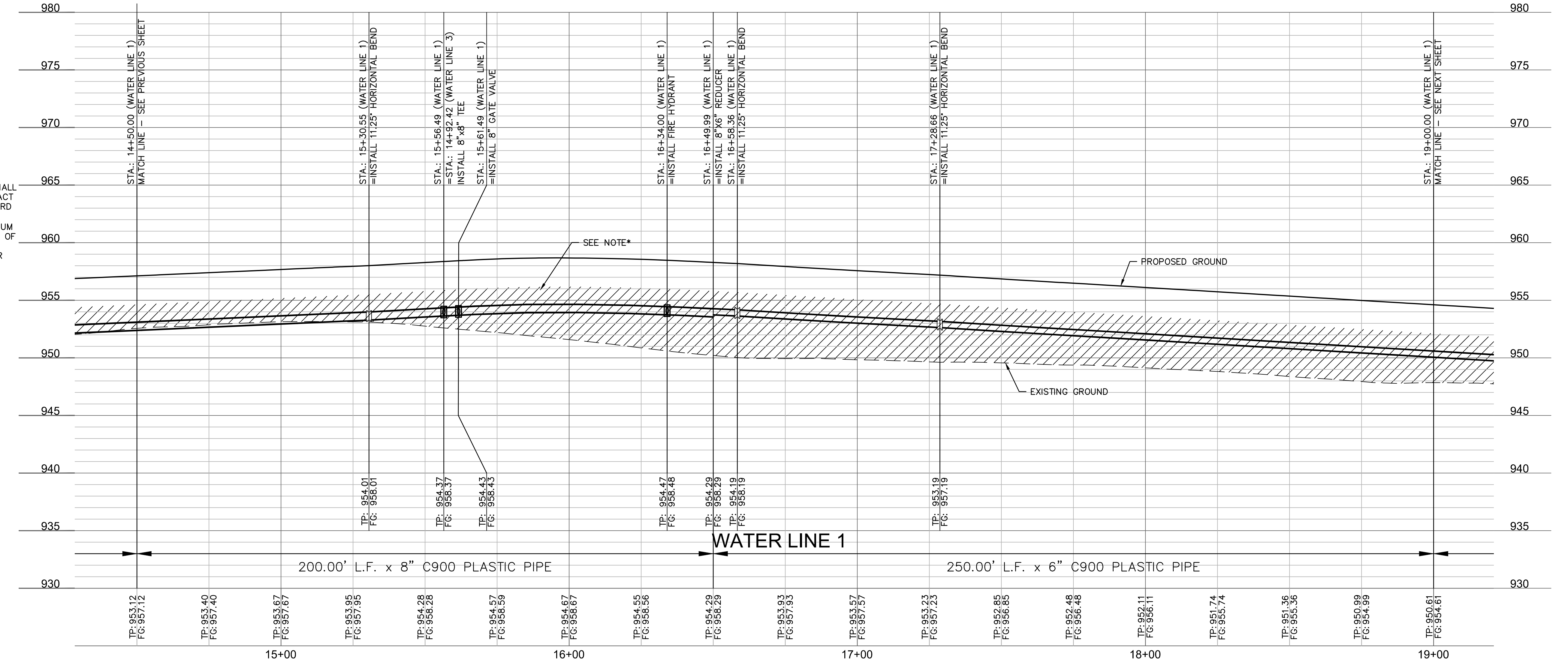
REVISIONS

SHEET  
 C304

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCA\Water Main Extension Plans\C\_WAT01\_A194059.dwg  
 DATE: May 05, 2021 4:11pm XREFS: C\_PWATR\_A194059 C\_PBASE\_A194059 C\_PBNDY\_A194059 C\_PTBLK\_A194059 C\_XBASE\_A194059  
 USER: bworthley



\*NOTE:  
 CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



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

STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 5/5/21

REV. NO.	DATE	REVISIONS DESCRIPTION

WATER MAIN PLAN & PROFILE (LINE 1)  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

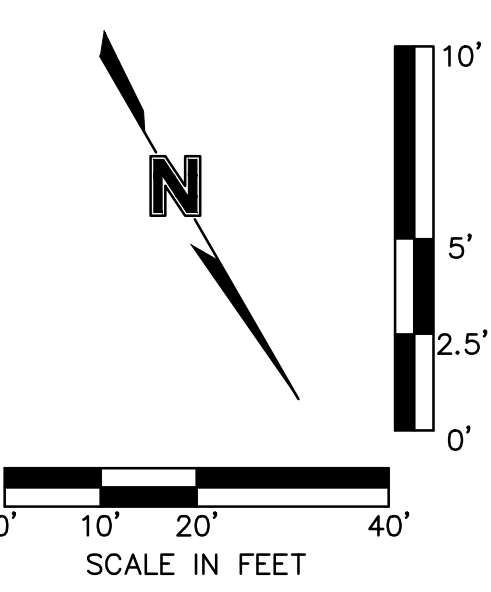
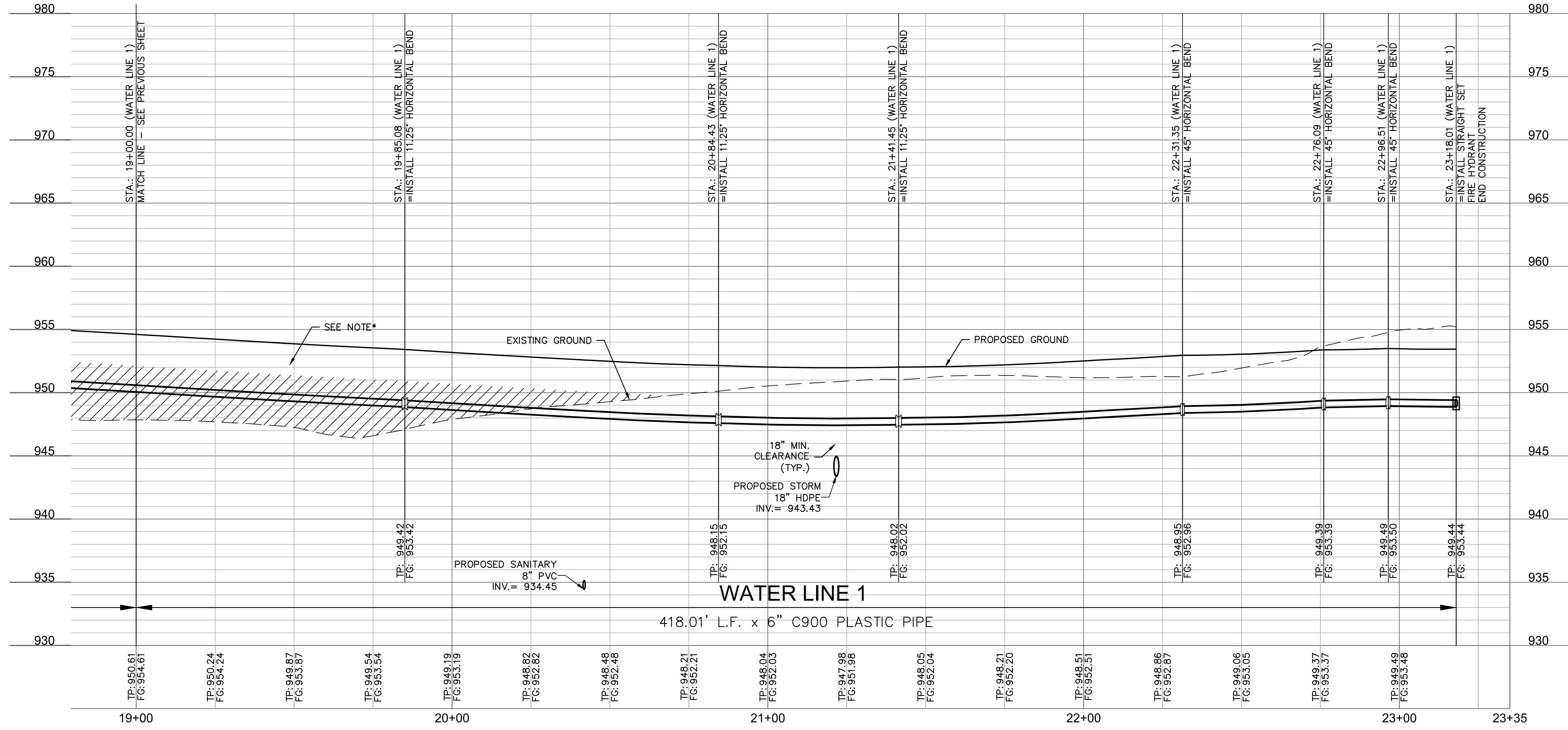
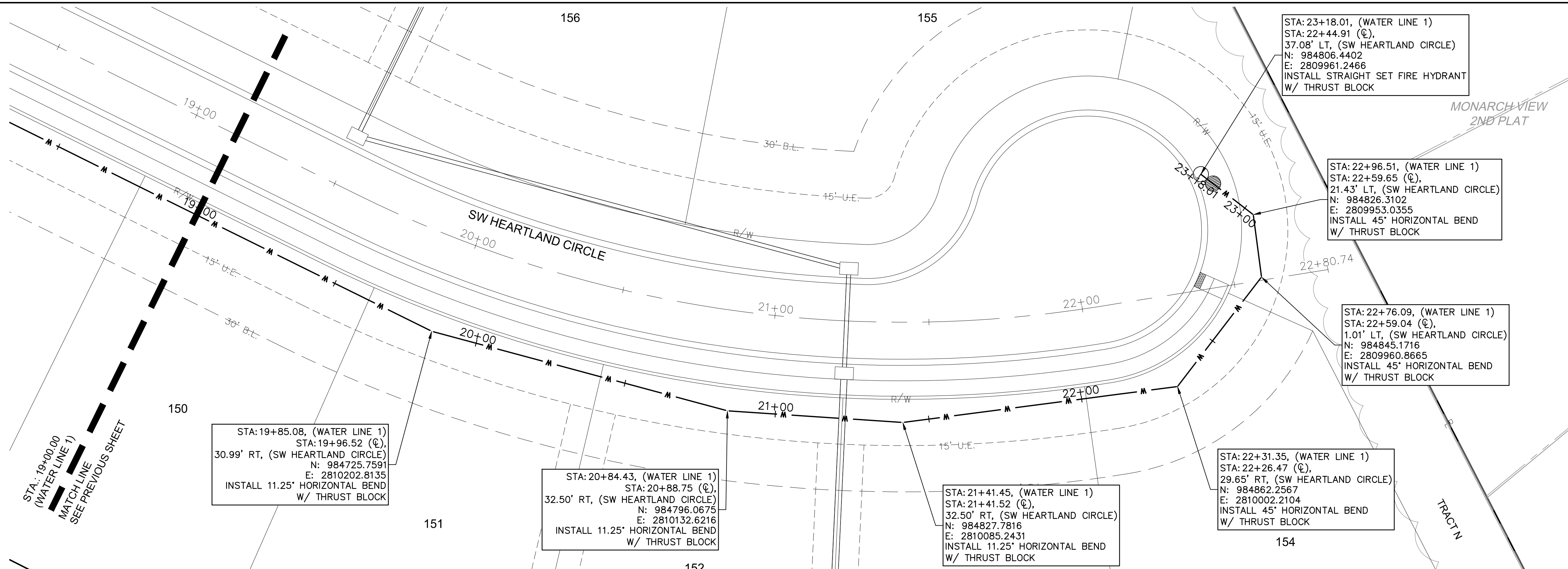
2021

REVISIONS

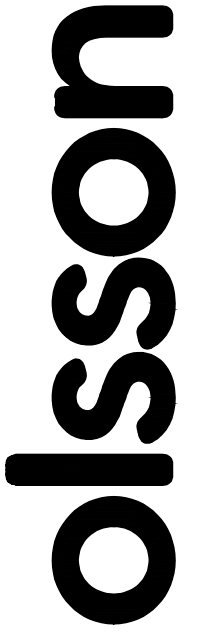
drawn by: B.M.W./A.A.  
 checked by: B.M.W./A.A.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059B  
 date: 05-05-2021

SHEET  
C305

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCA\Water Main Extension Plans\C\_WAT01\_A194059.dwg  
 DATE: May\_05\_2021 4:11pm XREFS: C\_PWATR\_A194059 C\_PBASE\_A194059 C\_PBNDY\_A194059 C\_PTBLK\_A194059 C\_XBASE\_A194059  
 USER: bworthley  
 C:\PTBLK\_A194059



\*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



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.olsosn.com](http://www.olsosn.com)

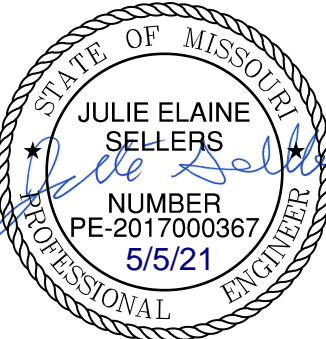
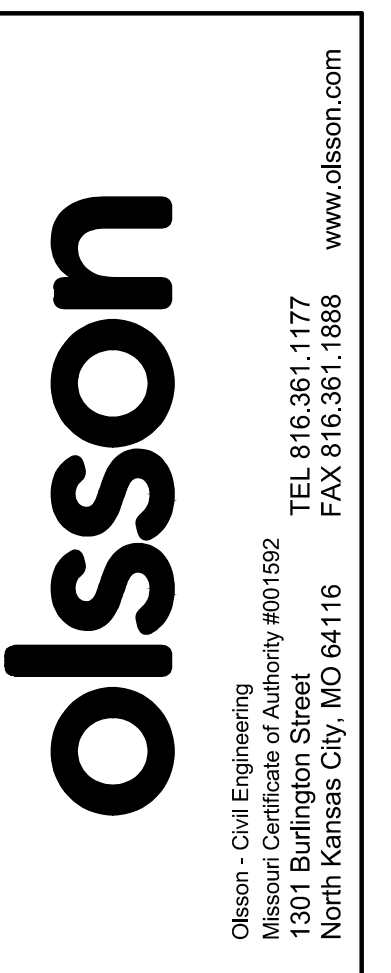
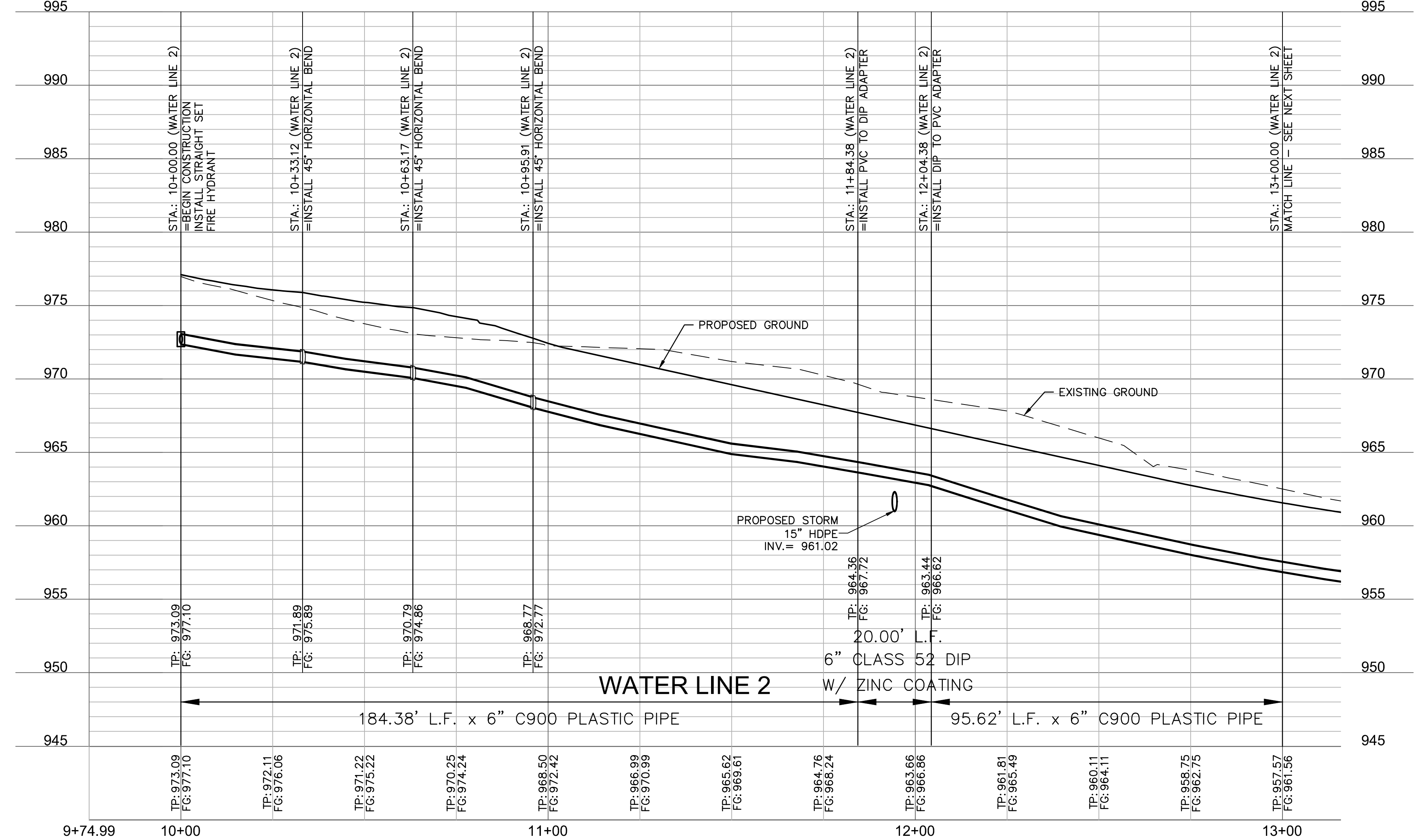
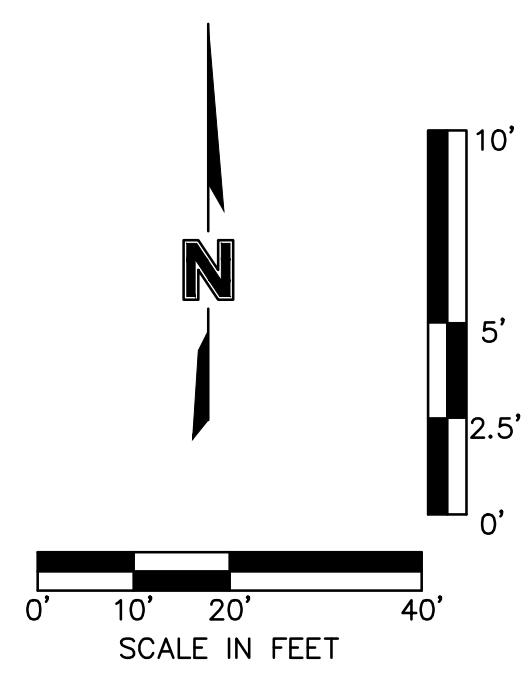
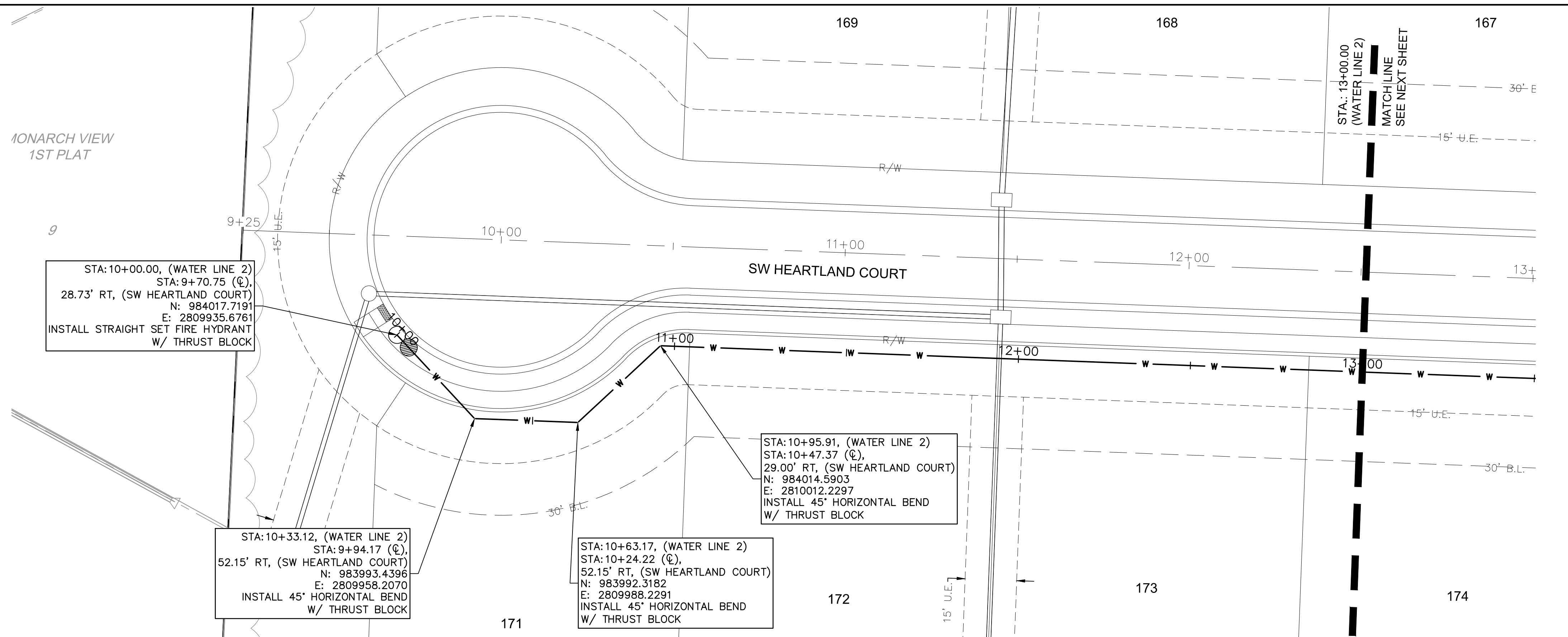
<b>WATER MAIN PLAN &amp; PROFILE (LINE 1)          WATER MAIN EXTENSION PLANS          THE RETREAT AT HOOK FARMS          SECOND PLAT          LEE'S SUMMIT, MO</b>	REV. NO.	REVISIONS DESCRIPTION	DATE	BY

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021

SHEET  
C306

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNC\Water Main Extension Plans\C\_WAT01\_A194059.dwg  
 DATE: May\_05\_2021 4:12pm XREFS: C\_PWATR\_A194059 C\_PBNDY\_A194059 C\_PBASE\_A194059 C\_PUTIL\_A194059 C\_PTBLK\_A194059  
 USER: bwortheley C\_XBASE\_A194059

MONARCH VIEW  
1ST PLAT



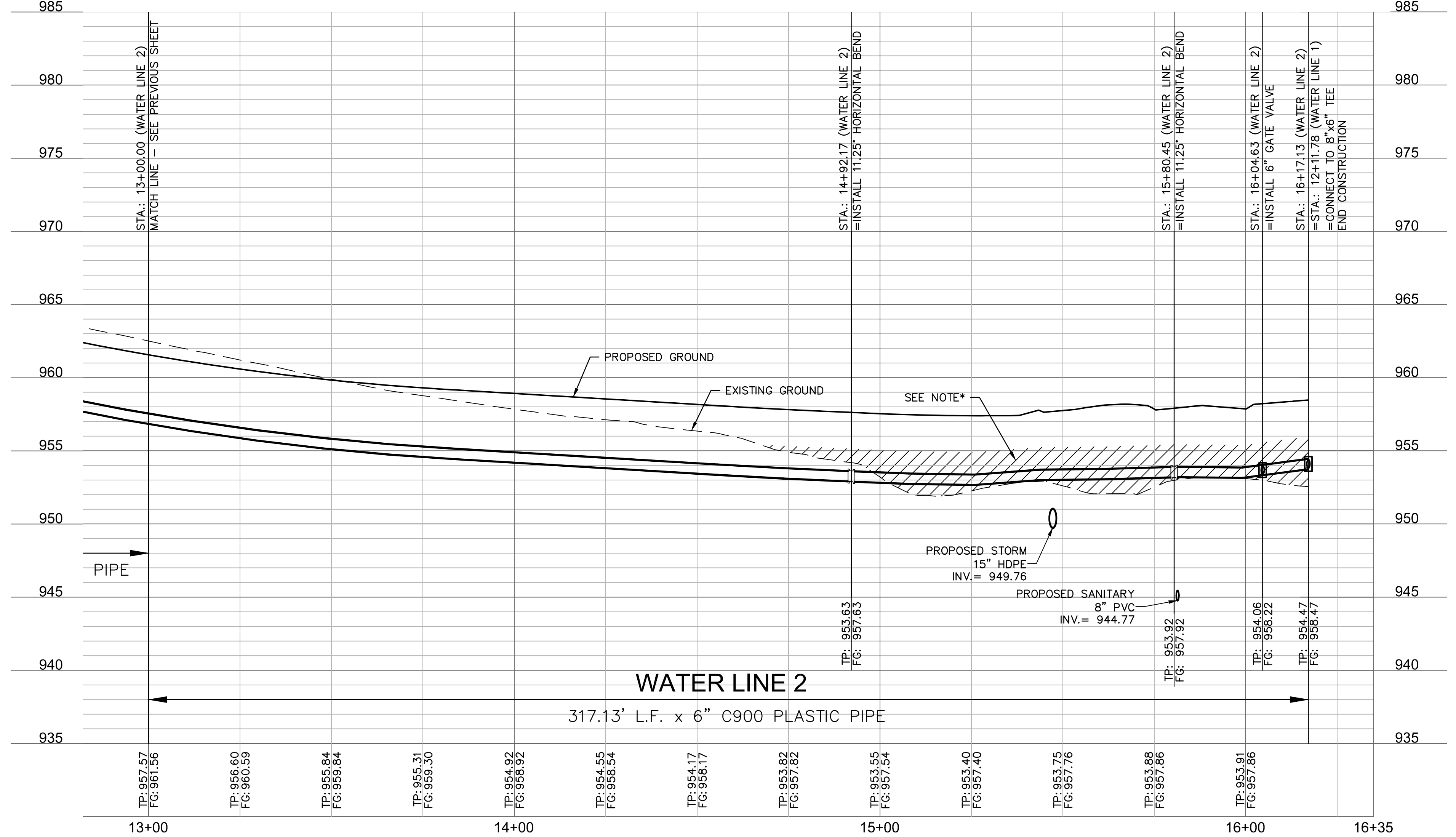
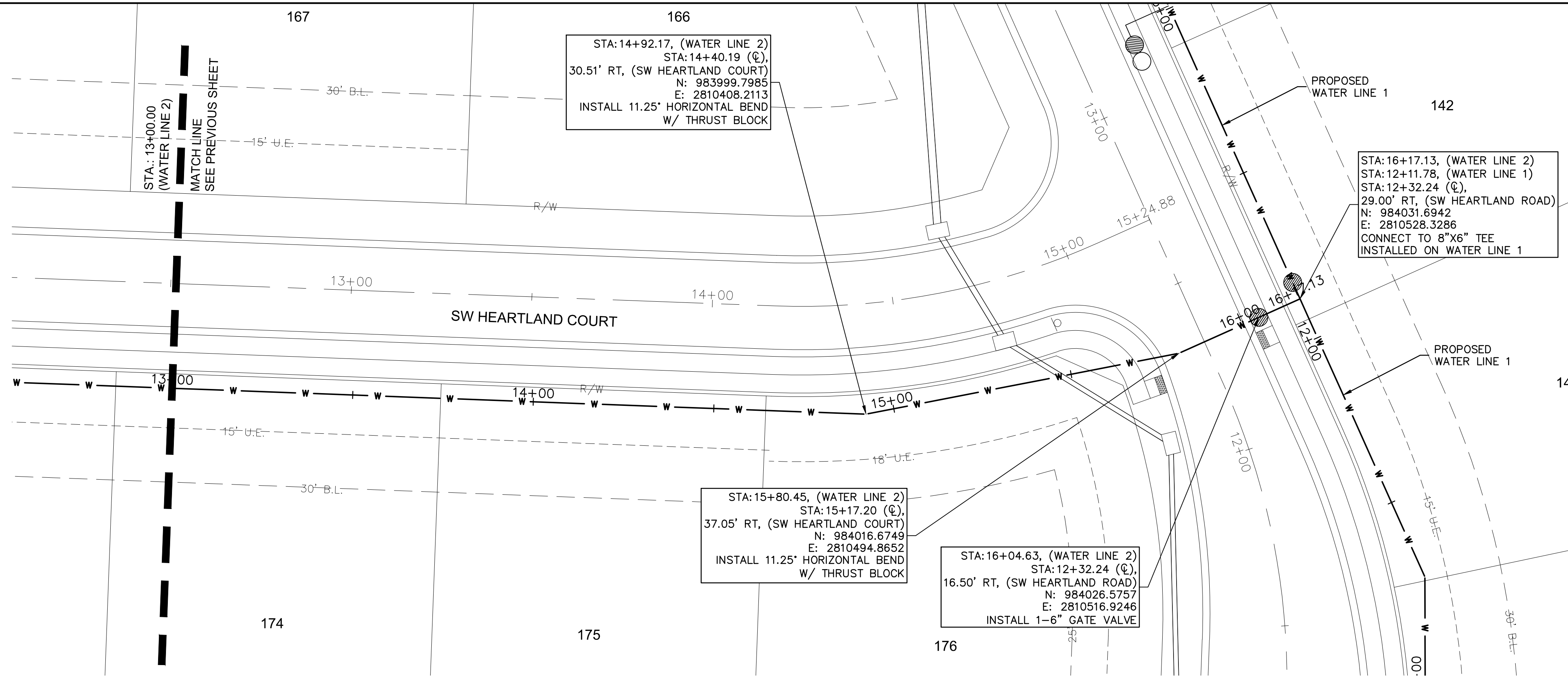
REV. NO.	DATE	REVISIONS DESCRIPTION

WATER MAIN PLAN & PROFILE (LINE 2) WATER MAIN EXTENSION PLANS	
THE RETREAT AT HOOK FARMS SECOND PLAT	
LEE'S SUMMIT, MO	2021
drawn by:	B.M.W./A.A.
checked by:	B.M.W./
designed by:	B.M.W./A.A.
QA/QC by:	J.E.S.
project no.:	A19-4059B
date:	05-05-2021

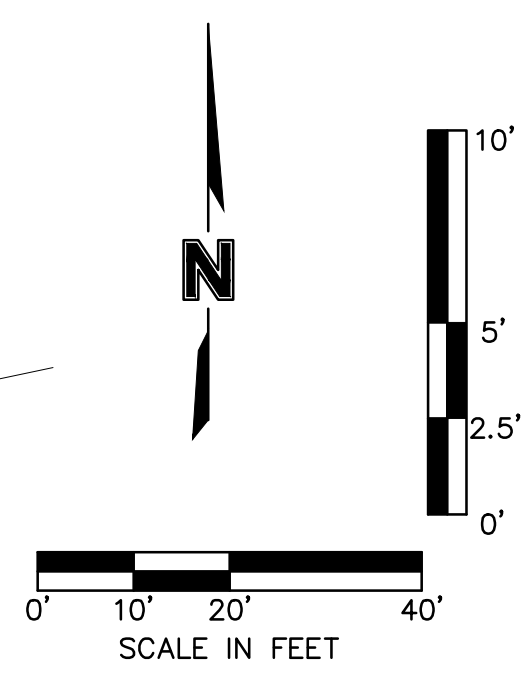
SHEET  
C307

REVISIONS

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNC\Water Main Extension Plans\C\_WAT01\_A194059.dwg  
 DATE: May 05, 2021 4:12pm XREFS: C\_PWATR\_A194059 C\_PBASE\_A194059 C\_PBNDY\_A194059 C\_PUTIL\_A194059 C\_PTBLK\_A194059  
 USER: bworthley C\_XBASE\_A194059



\*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



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

STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 NUMBER PE-2017000367  
 5/5/21  
 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION

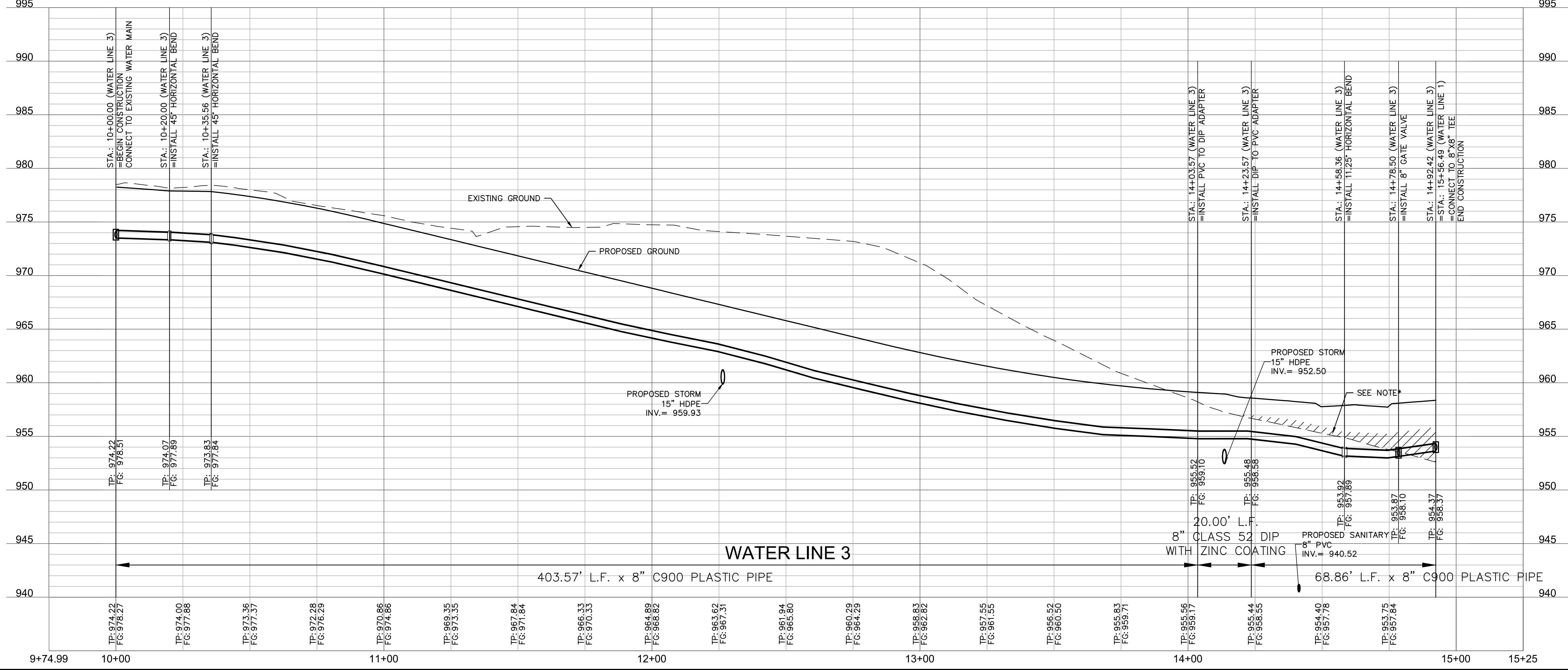
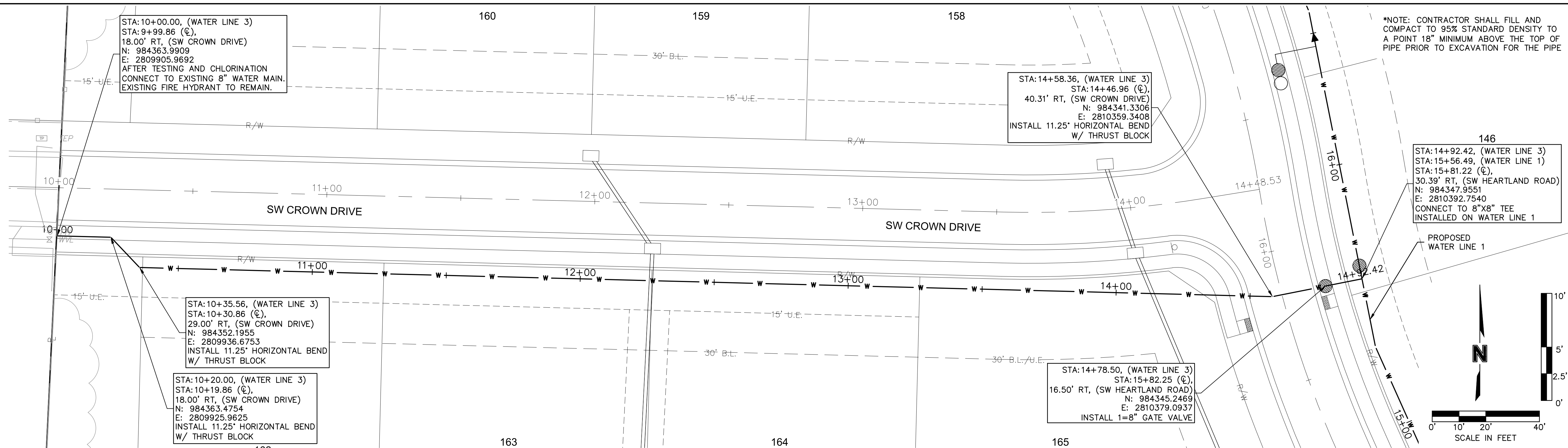
**WATER MAIN PLAN & PROFILE (LINE 2)**  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO

2021  
**REVISIONS**

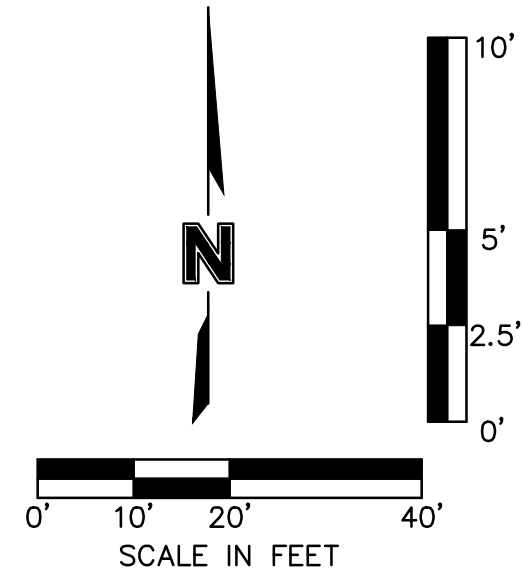
drawn by:	B.M.W./A.A.
checked by:	B.M.W.
designed by:	B.M.W./A.A.
QA/QC by:	J.E.S.
project no.:	A19-4059B
date:	05-05-2021



DWG: F:\2019\4001-4500\019-4059-A-40-Design\AutoCAD\Final Plans\Sheets\GNCV\Water Main Extension Plans\C\_WAT01\_A194059.dwg USER: bworthley  
 DATE: May 05, 2021 4:13pm XREFS: C\_PWATR\_A194059 C\_PBNDY\_A194059 C\_PBASE\_A194059 C\_PTBLK\_A194059 C\_XBASE\_A194059

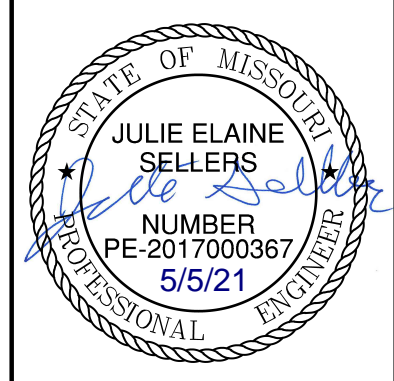


\*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



**olsson**

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



REV. NO.	DATE	REVISIONS DESCRIPTION

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

THE RETREAT AT HOOK FARMS  
 SECOND PLAT

LEE'S SUMMIT, MO

2021

REVISIONS

USER: bworthley

DWG: F:\2019\4001-4500\019-4059-A-40-Design\AutoCAD\Final Plans\Sheets\GNCV\Water Main Extension Plans\C\_DTL01\_A194059.dwg  
DATE: May 05, 2021 4:13pm XREFS: C\_P\TBLK\_A194059

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
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	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.

**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**HORIZONTAL THRUST BLOCKS**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-1  
 Rev: 1/14  
 Rev:

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)					
NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	BEND
6	50.5	71.4	35.6	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	78.8	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.	173.3	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.

**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**VERTICAL THRUST BLOCKS**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-2  
 Rev: 1/14  
 Rev:

**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**STRADDLE BLOCK**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-3  
 Rev: 1/14  
 Rev:

NOT TO SCALE

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

**TRENCH CHECK**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-6  
 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 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.

**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**HYDRANT INSTALLATION - STRAIGHT SET**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-7  
 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 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.

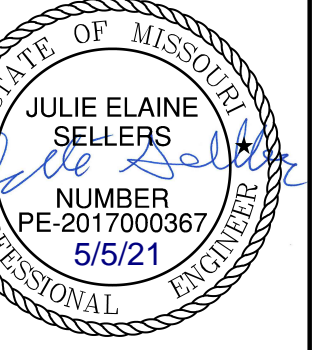
**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**HYDRANT WITH 90 DEGREE BEND**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-8  
 Rev: 1/14  
 Rev:

**olsson**

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.olson.com



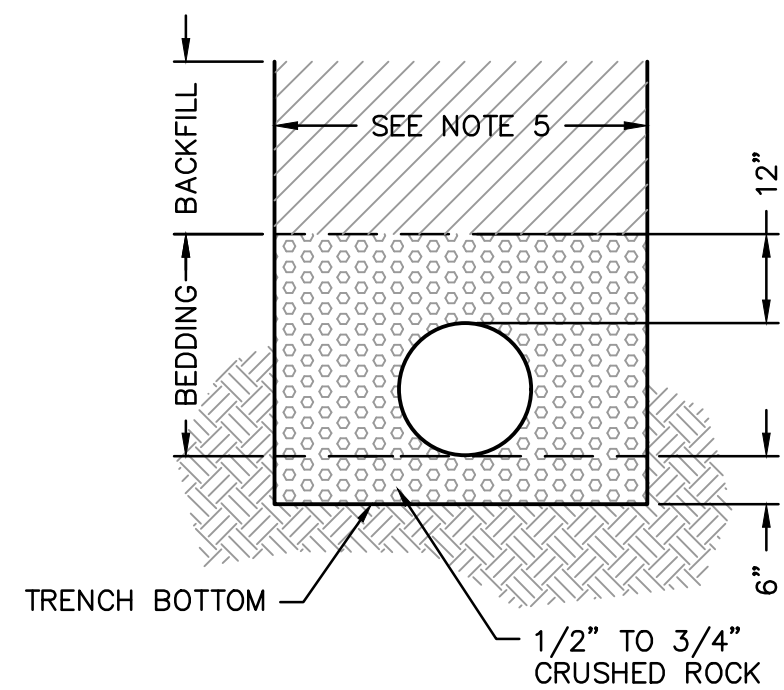
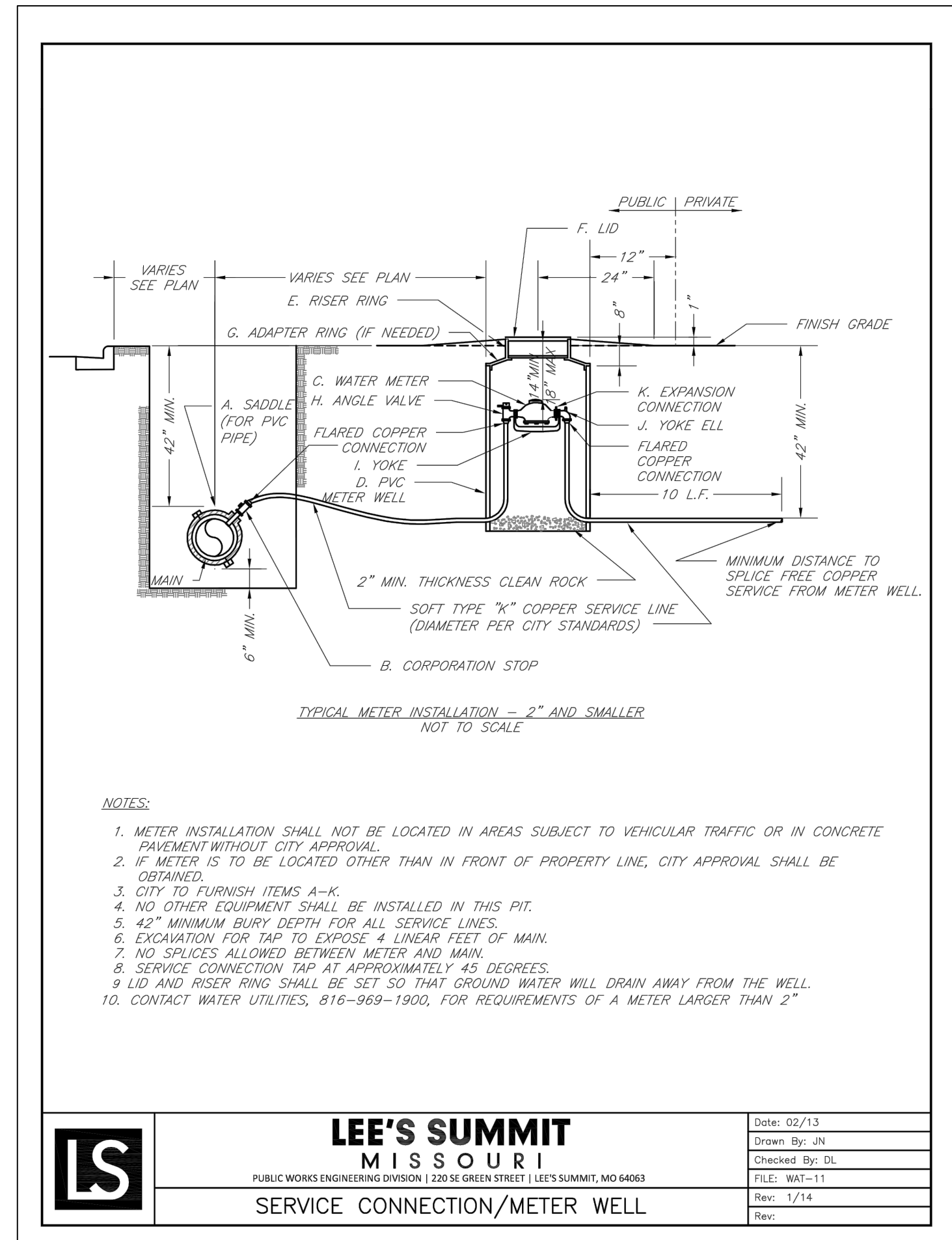
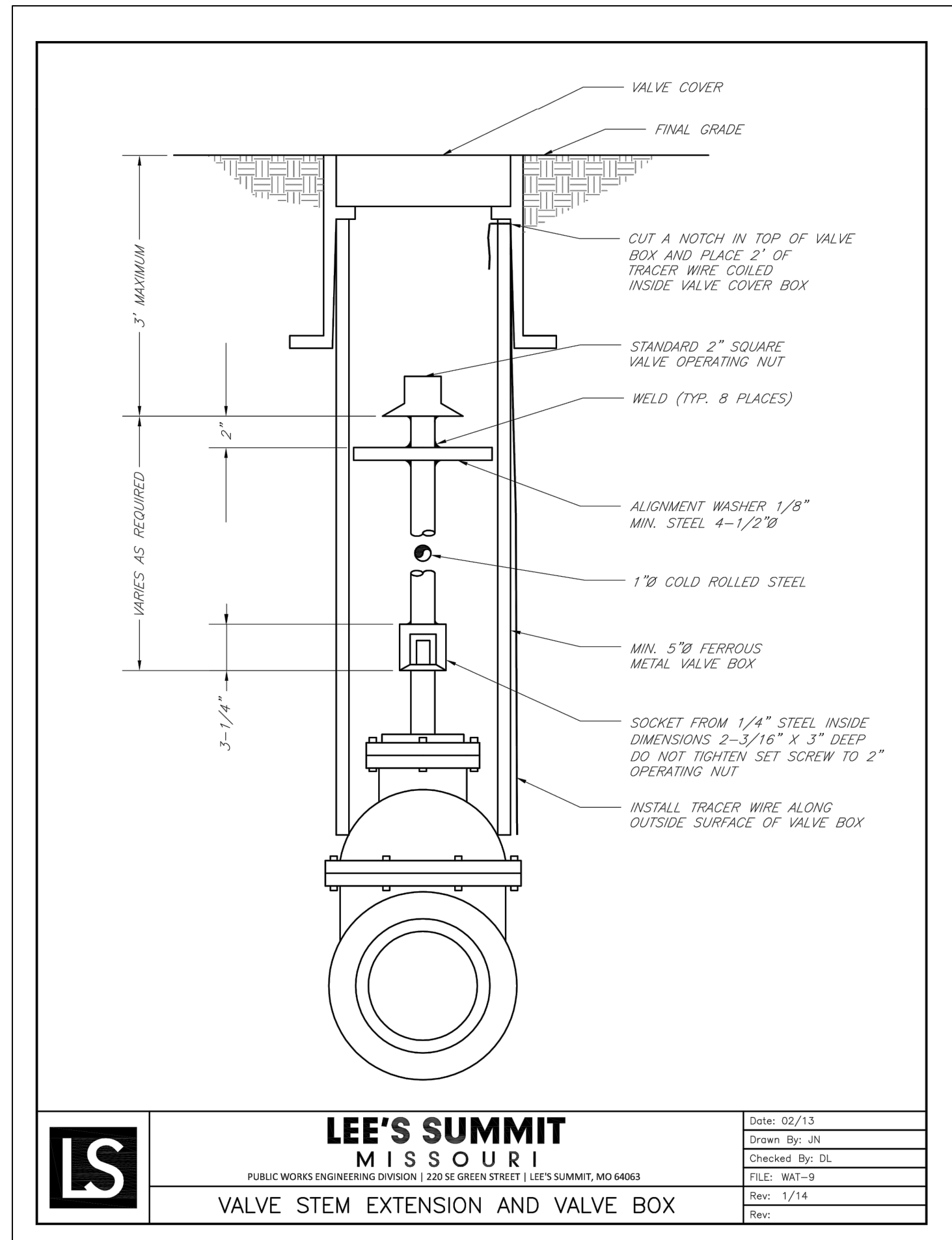
REV. NO.	DATE	REVISIONS DESCRIPTION

DETAIL SHEET  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO

drawn by:	B.M.W./A.A.
designed by:	B.M.W.
checked by:	B.M.W./A.A.
QA/QC by:	J.E.S.
project no.:	A19-4059
date:	05-05-2021

USER: bworthley

DWG: F:\2019\4001-4500\019-4059-A\40-Design\AutoCAD\Final Plans\Sheets\GNCV\Water Main Extension Plans\C\_DTL01\_A194059.dwg  
 DATE: May 05, 2021 4:13pm XREFS: C\_PTBK\_A194059



**NOTES:**

- BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
- BEDDING AGGREGATE MATERIAL SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL 12 INCHES ABOVE THE TOP OF THE PIPE AS SHOWN ABOVE.
- BACKFILL MATERIAL AND PLACEMENT SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL.
- 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

**olsson**  
 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.olson.com

STATE OF MISSOURI  
 JULIE ELAINE SELLERS  
 PROFESSIONAL ENGINEER  
 NUMBER PE-2017000367  
 5/5/21

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DETAIL SHEET  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEE'S SUMMIT, MO  
 2021

drawn by: B.M.W./A.A.  
 checked by: B.M.W.  
 designed by: B.M.W./A.A.  
 QA/QC by: J.E.S.  
 project no.: A19-4059  
 date: 05-05-2021