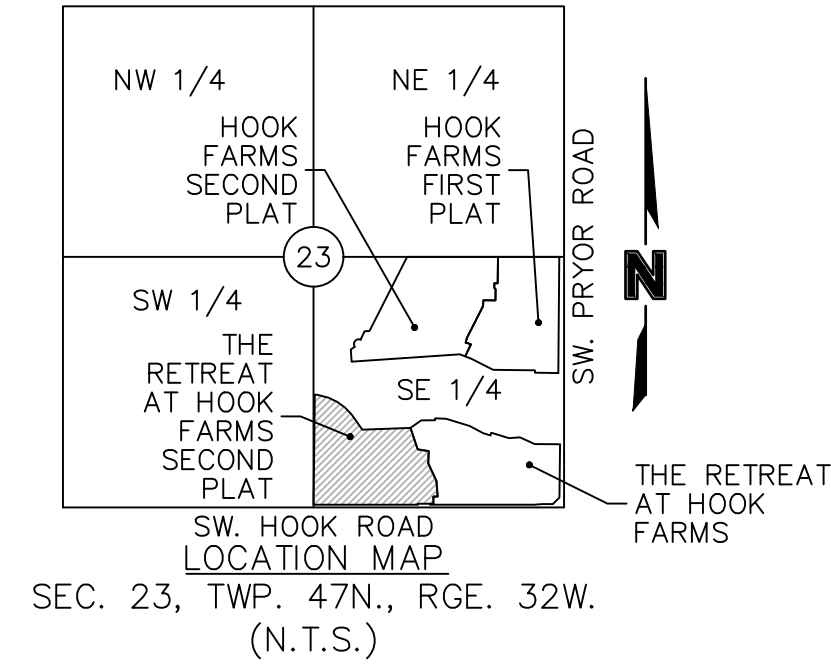


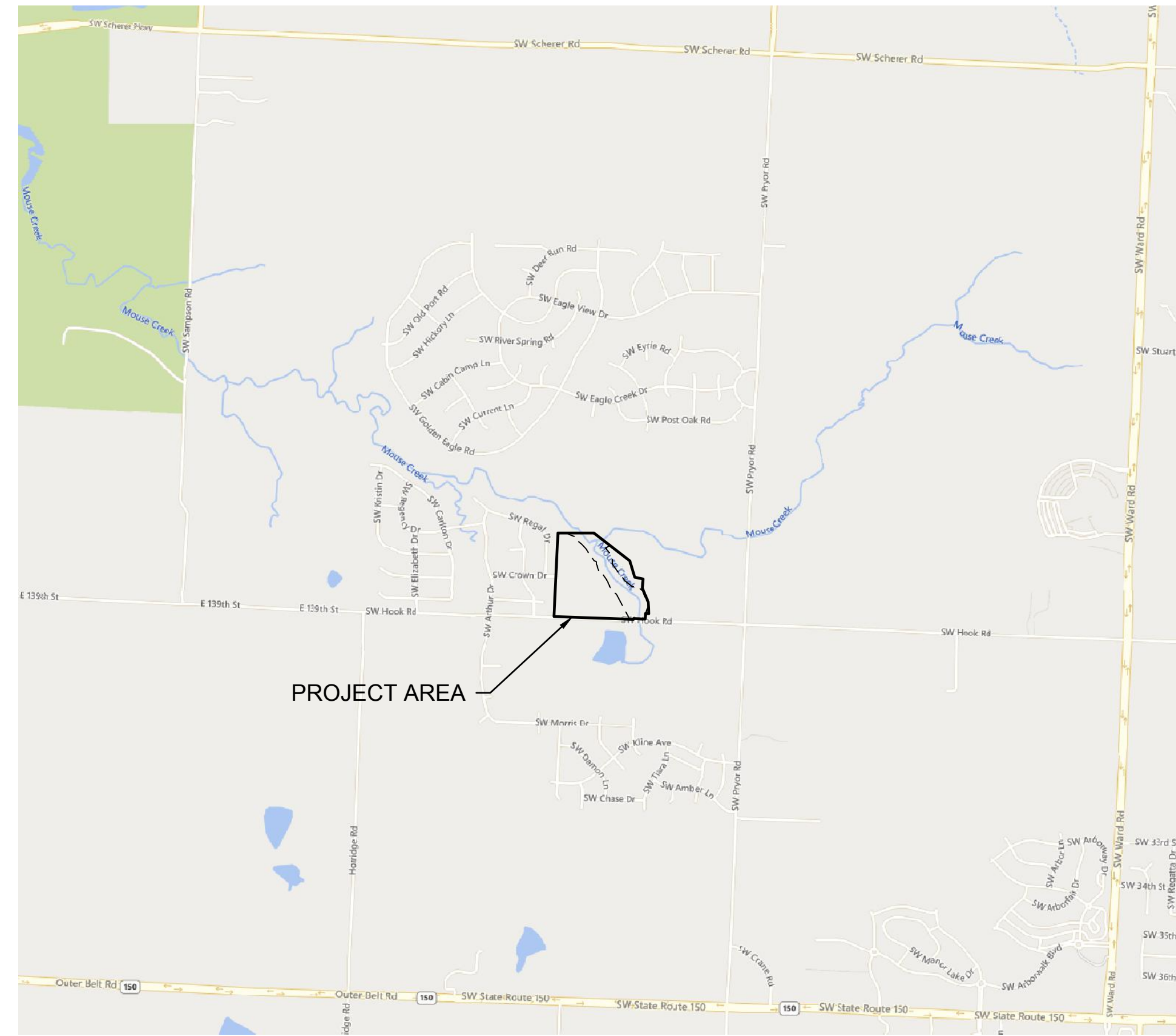
# THE RETREAT AT HOOK FARMS SECOND PLAT WATER MAIN EXTENSION PLANS

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



**Accepted  
Record Drawings**

These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.



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 98169637 IN BOOK 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 199910077639 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 200010047892 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 199910077639; 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

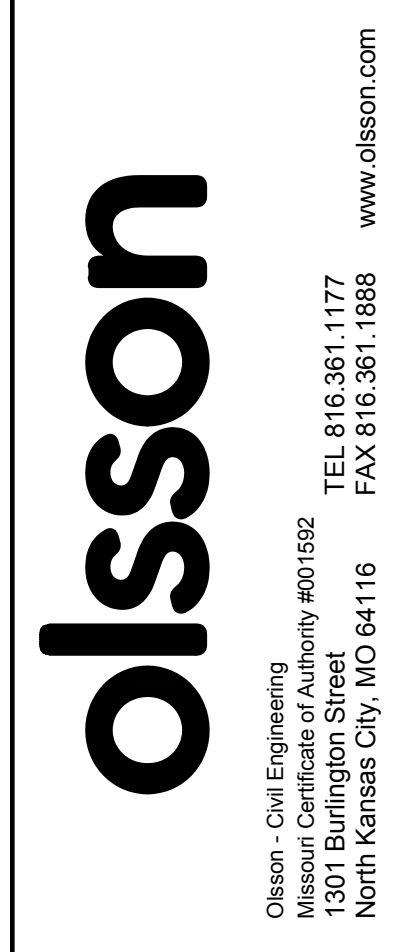
## AS BUILT

DATE SURVEYED: 2022-06-17

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

10/11/22  
 DATE



REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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

2021

SHEET  
 C301

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans - asbuilts\Sheets\GNCV\Water Main Extension Plans\C\_TL01\_A194059.dwg  
 DATE: Oct 11, 2022 3:47pm  
 USER: gsmith  
 XREFS: C\_PTBK\_A194059  
 C\_PBNDY\_A194059



USER: gsmith

194059.dwg

Plans\C...\_TL01\_

Water Main Extension

osbills\Sheets\GNCV\

design\AutoCAD\final plans - osbills\

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.

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.

EXISTING CONDITIONS

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.

CONSTRUCTION

- 1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS.

SHOP DRAWINGS

- 1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL.

WATER PLAN NOTES

- 1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.

Accepted Record Drawings
These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.

Table with 5 columns: ITEM NO., DESCRIPTION, UNIT, QUANTITY, AS-BUILT. Contains 17 rows of material estimates.

\*CONTRACTOR TO VERIFY EXISTING WATER MAIN SIZE

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.

AS BUILT

DATE SURVEYED: 2022-06-17

olsson

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



Table for REVISIONS with columns: REV. NO., DATE, DESCRIPTION, COMMENTS.

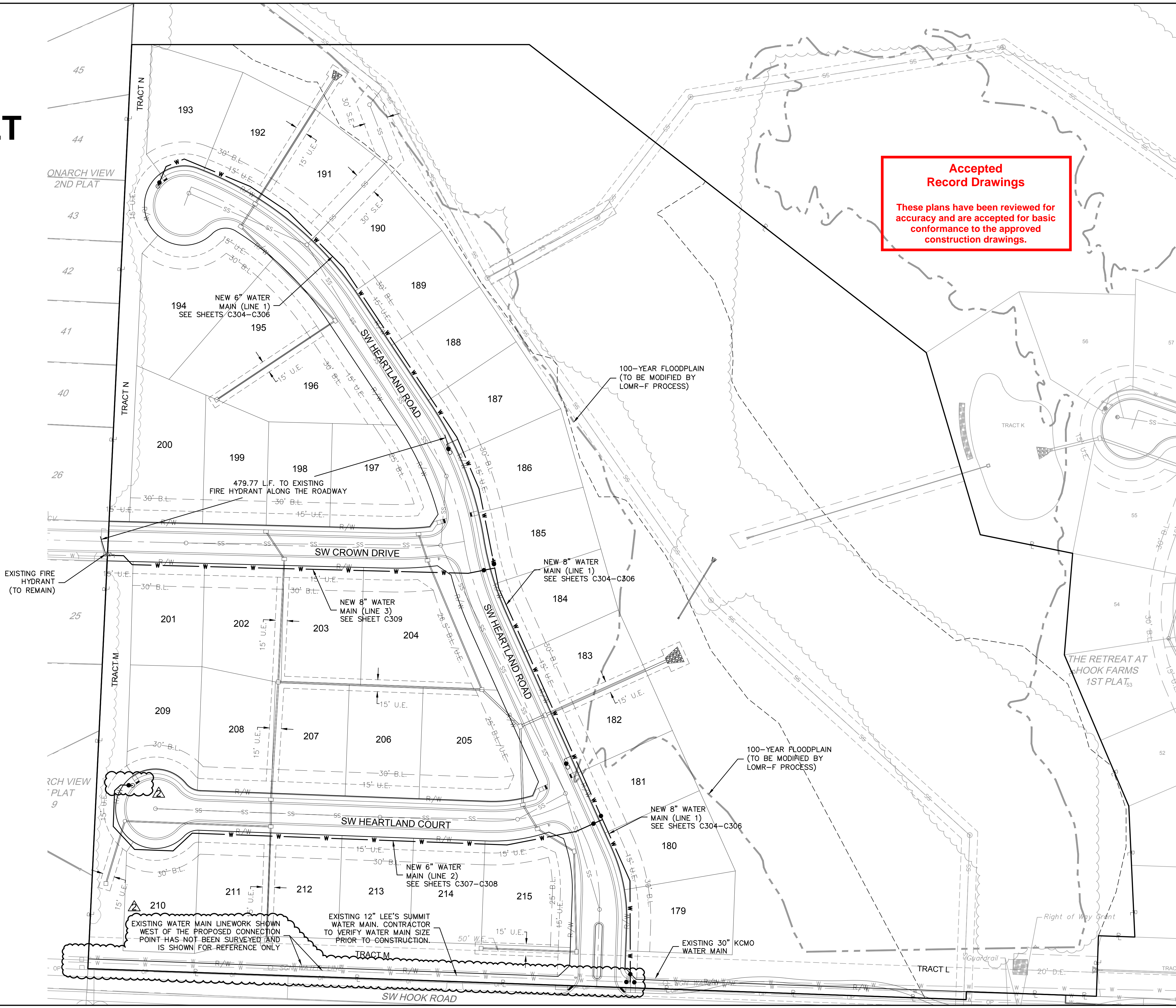
GENERAL NOTES WATER MAIN EXTENSION PLANS THE RETREAT AT HOOK FARMS SECOND PLAT LEE'S SUMMIT, MO 2021

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

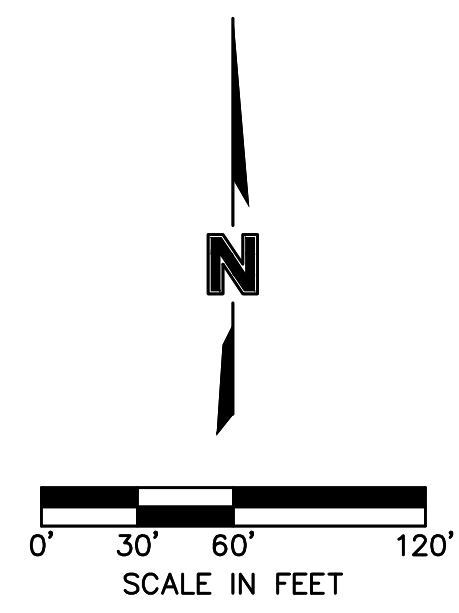
SHEET C302

# NOT AS BUILT

**Accepted  
Record Drawings**  
 These plans have been reviewed for  
 accuracy and are accepted for basic  
 conformance to the approved  
 construction drawings.

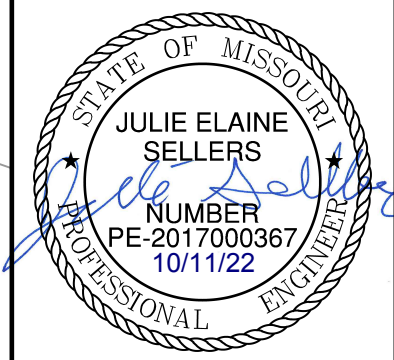


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 DATE: Oct 11, 2022 3:47pm XREFS: C\_XBASE\_A194059 C\_PBASE\_A194059 C\_PENDY\_A194059 C\_PUTIL\_A194059 C\_PTBLK\_A194059



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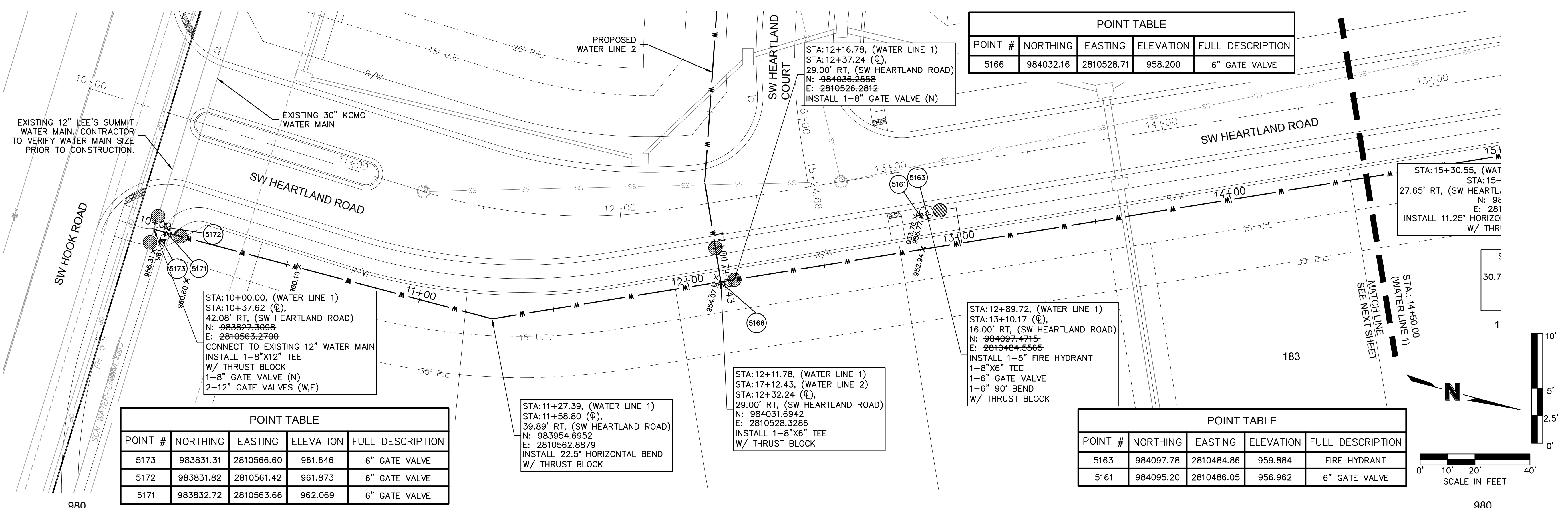
REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

BY	
DATE	2021
PROJECT	LEE'S SUMMIT, MO
SHEET	C303

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.: A19-4059  
 date: 05-05-2021

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 DATE: Oct 11, 2022 3:48pm  
 USER: gsmith  
 C:\P\BLK\_A194059  
 C:\P\NDY\_A194059  
 C:\P\BASE\_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

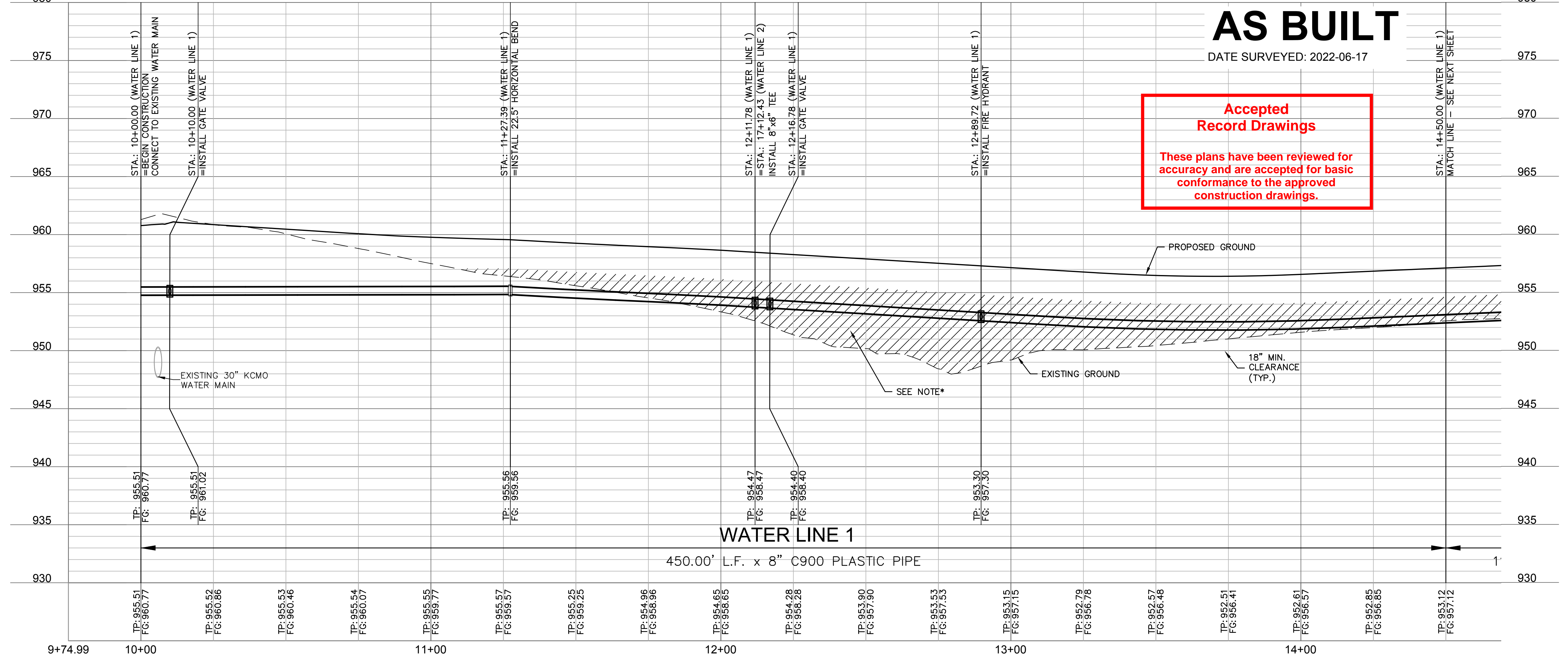


POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5173	983831.31	2810566.60	961.646	6" GATE VALVE
5172	983831.82	2810561.42	961.873	6" GATE VALVE
5171	983832.72	2810563.66	962.069	6" GATE VALVE

POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5166	984032.16	2810528.71	958.200	6" GATE VALVE

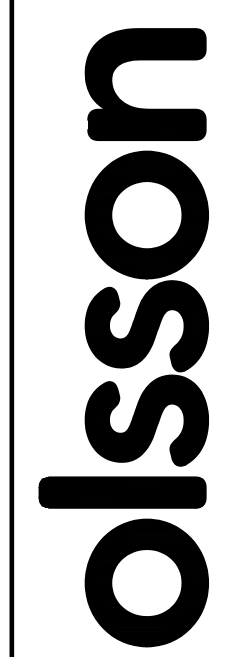
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5163	984097.78	2810484.86	959.884	FIRE HYDRANT
5161	984095.20	2810486.05	956.962	6" GATE VALVE

POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5163	984097.78	2810484.86	959.884	FIRE HYDRANT
5161	984095.20	2810486.05	956.962	6" GATE VALVE

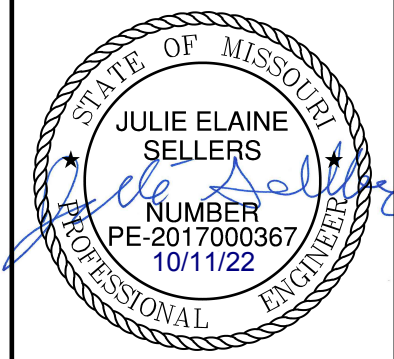


**AS BUILT**  
 DATE SURVEYED: 2022-06-17

**Accepted Record Drawings**  
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 FAX 816.361.1888  
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JULIE ELAINE SELLERS  
 NUMBER PE-2017000367  
 10/11/22

REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

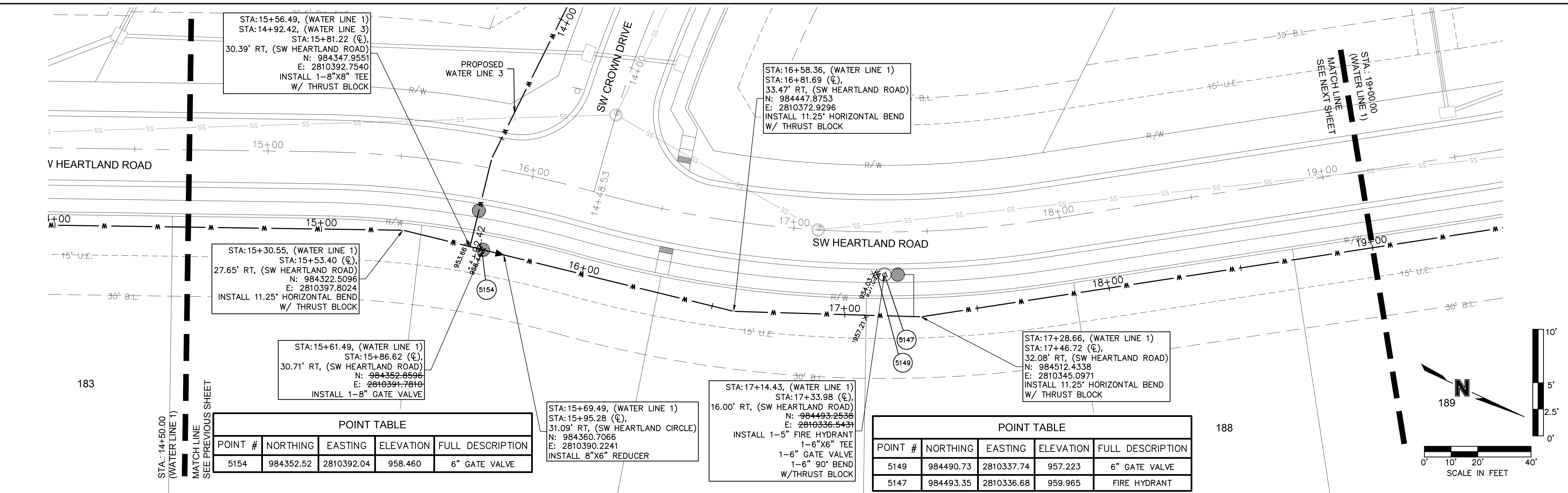
WATER MAIN PLAN & PROFILE (LINE 1)  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

2021  
 REVISIONS  
 LEE'S SUMMIT, MO

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  
 C304

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POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5154	984352.52	2810392.04	958.460	6" GATE VALVE

POINT TABLE

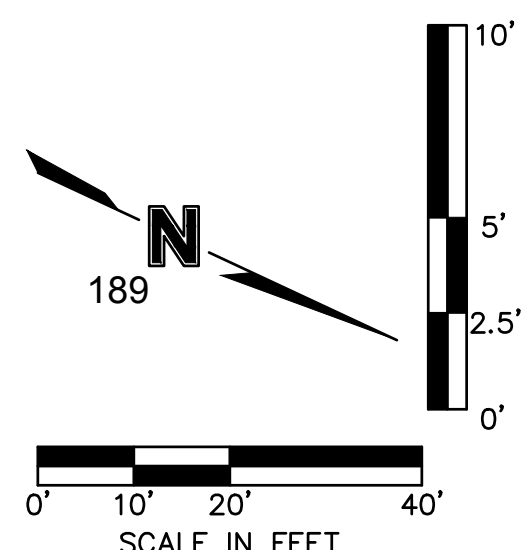
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5149	984490.73	2810337.74	957.223	6" GATE VALVE
5147	984493.35	2810336.68	959.965	FIRE HYDRANT

POINT TABLE

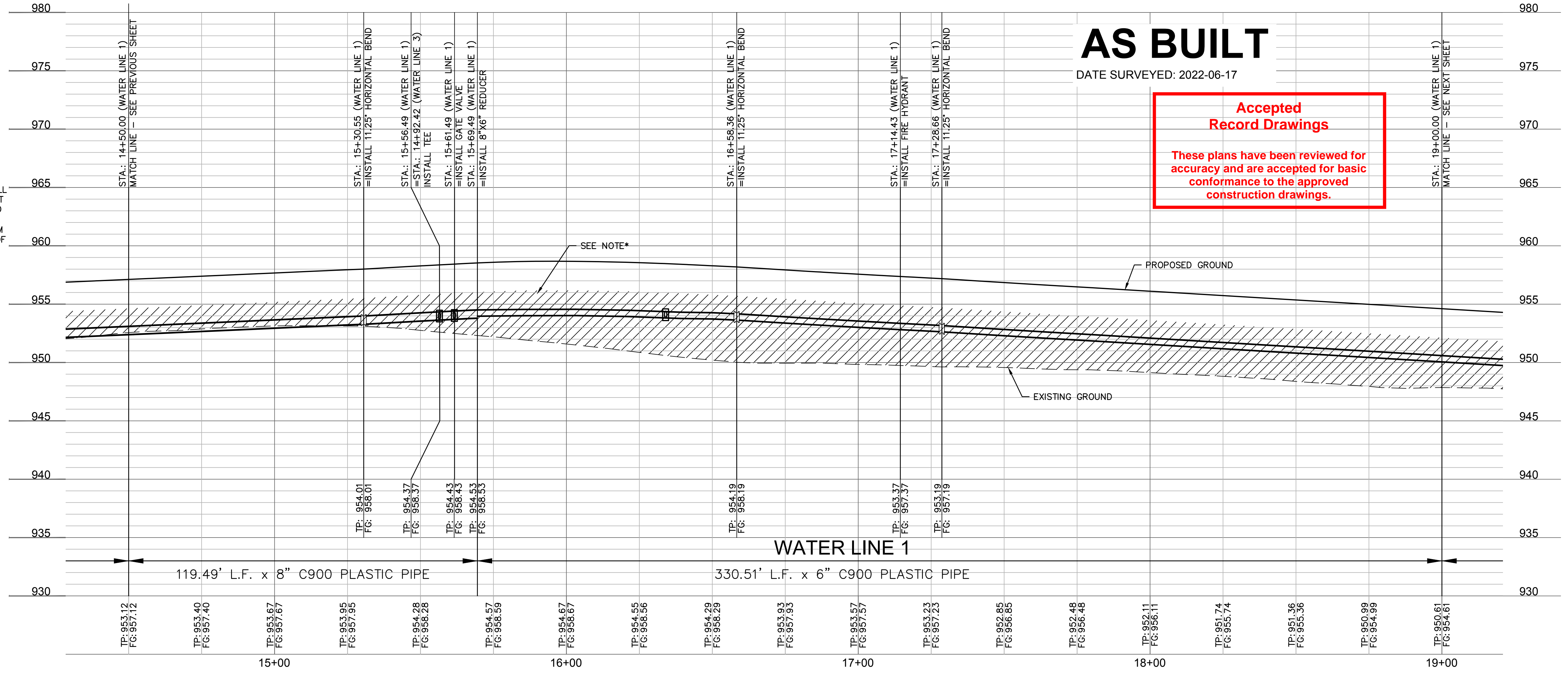
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5149	984490.73	2810337.74	957.223	6" GATE VALVE
5147	984493.35	2810336.68	959.965	FIRE HYDRANT

POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5149	984490.73	2810337.74	957.223	6" GATE VALVE
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\*NOTE:  
 CONTRACTOR SHALL  
 FILL AND COMPACT  
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 DENSITY TO A  
 POINT 18" MINIMUM  
 ABOVE THE TOP OF  
 PIPE PRIOR TO  
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**AS BUILT**  
 DATE SURVEYED: 2022-06-17

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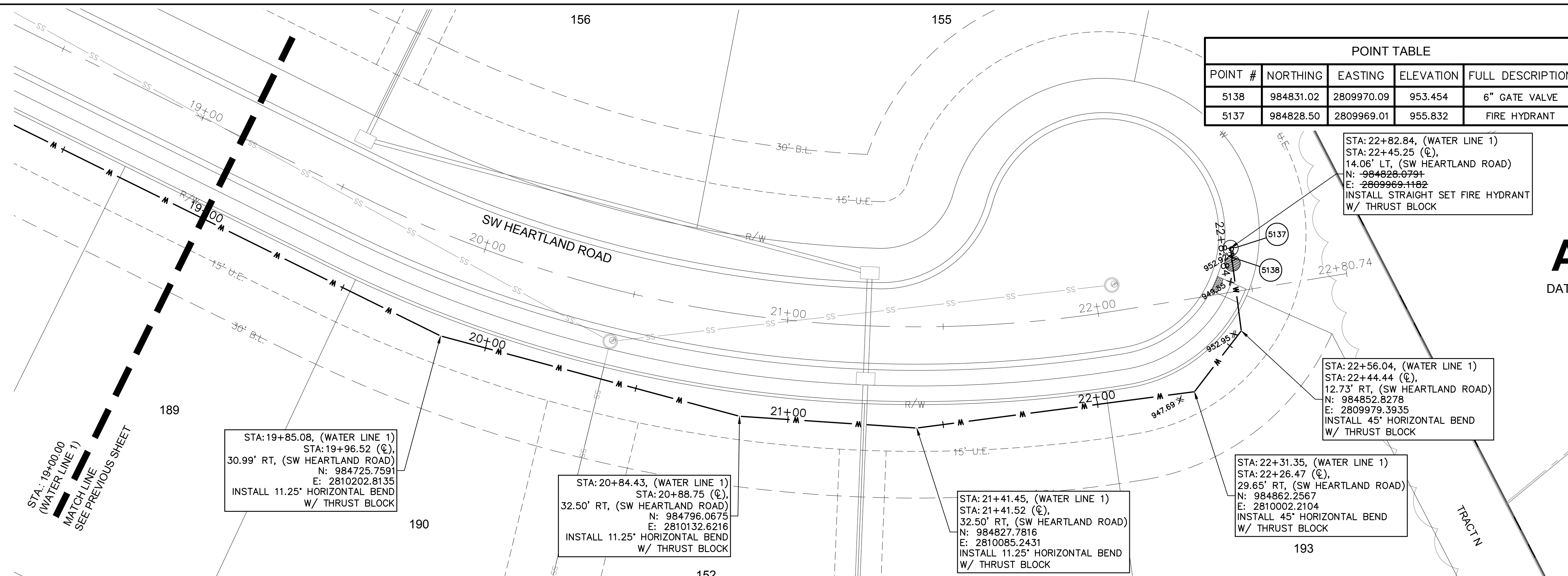


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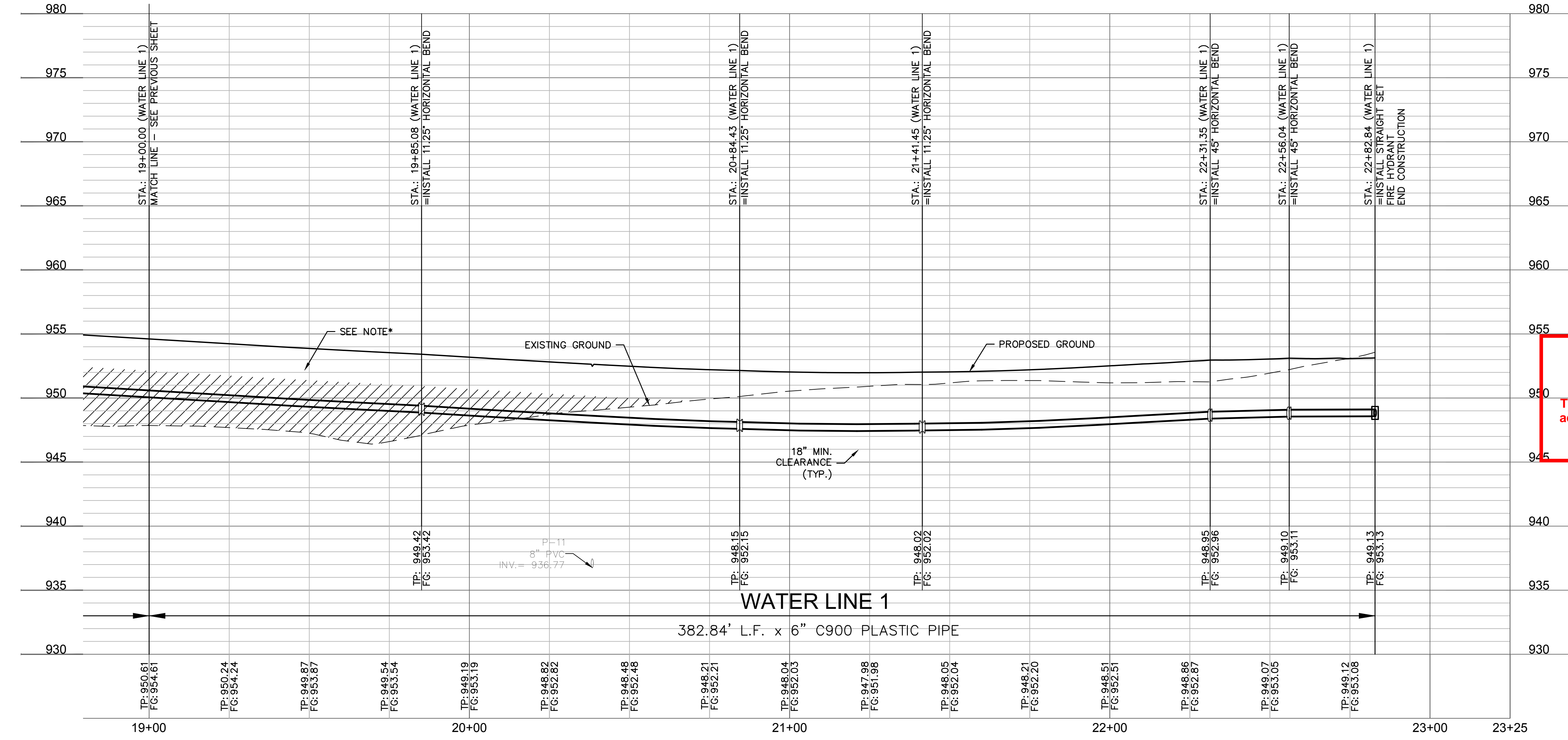
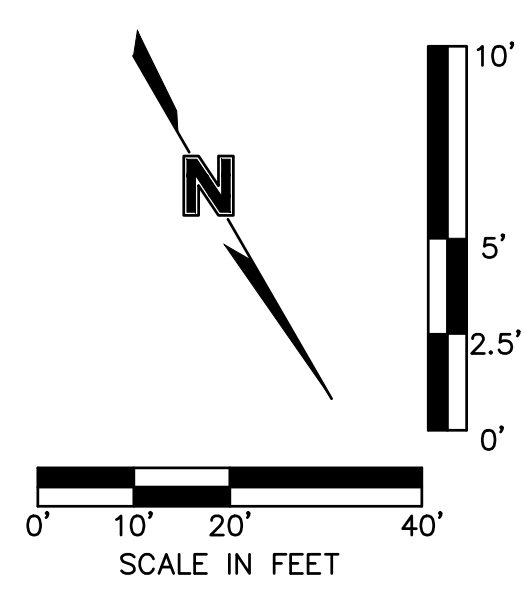
WATER MAIN PLAN & PROFILE (LINE 1)  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT  
 LEES SUMMIT, MO  
 2021

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

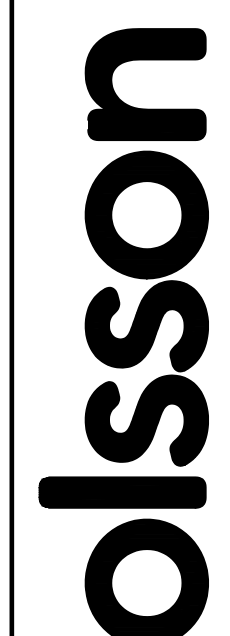
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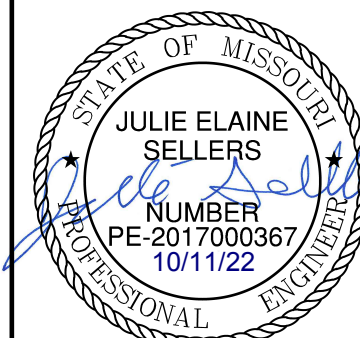
**AS BUILT**  
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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
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BY: \_\_\_\_\_

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

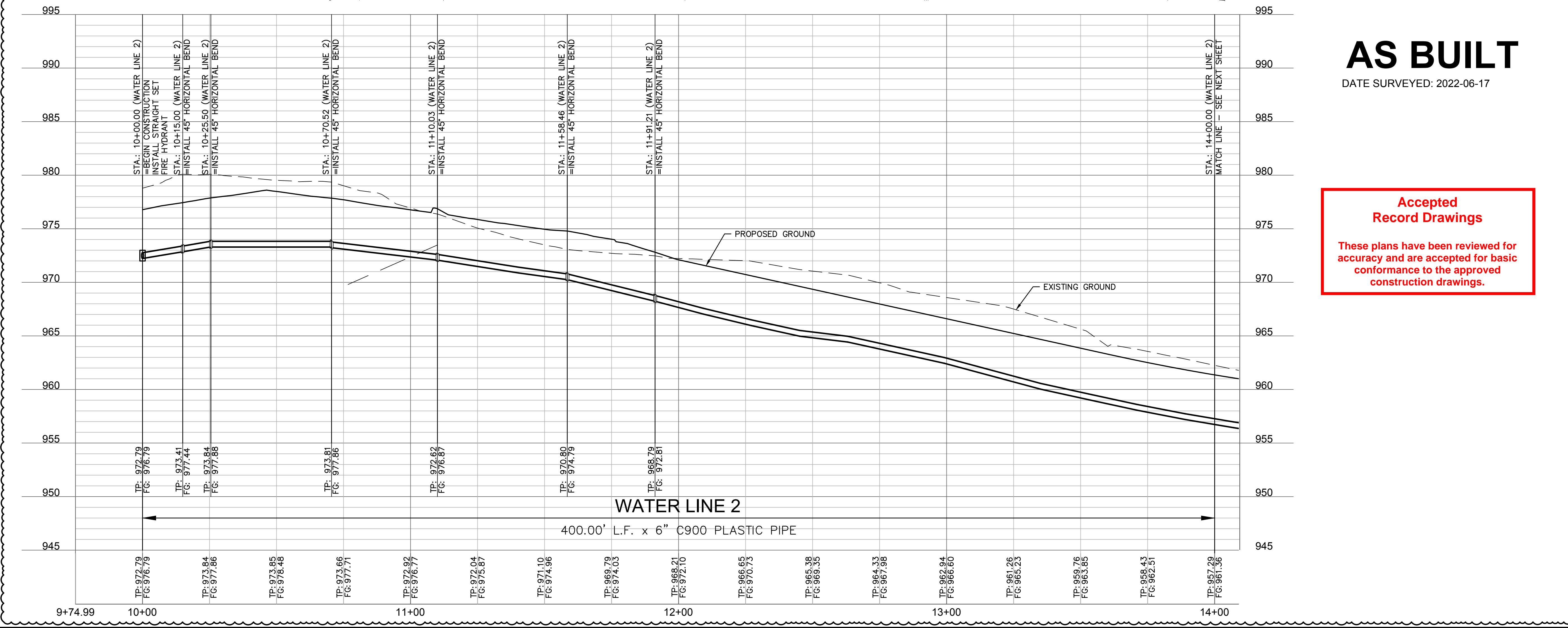
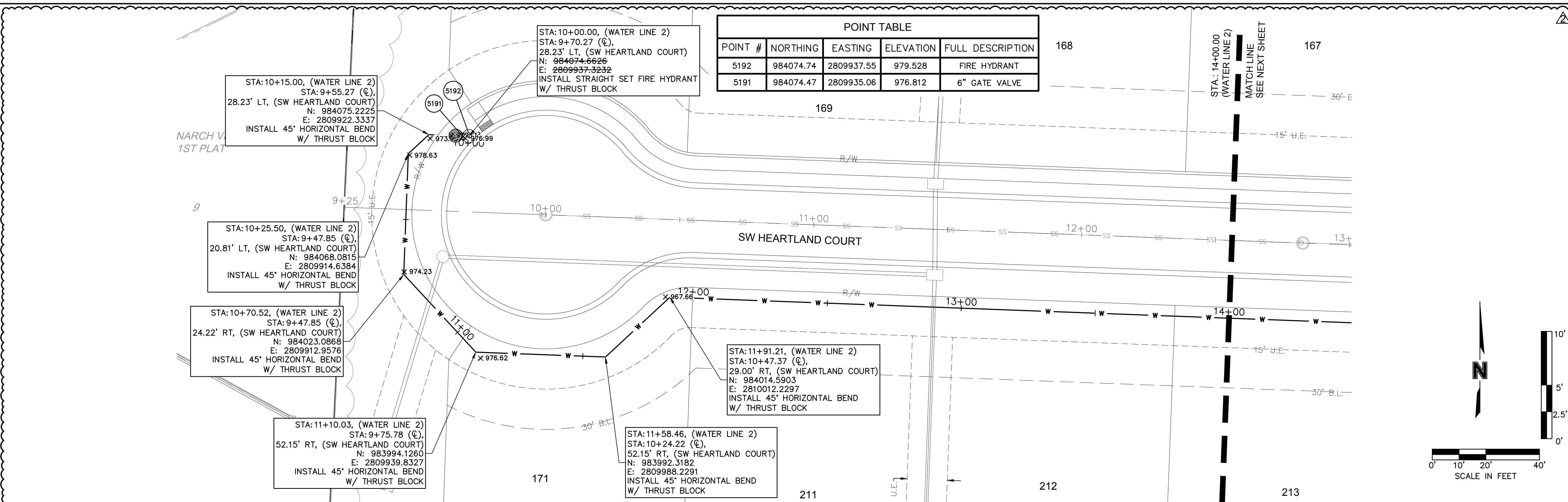
2021

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.: A19-4059  
 date: 05-05-2021

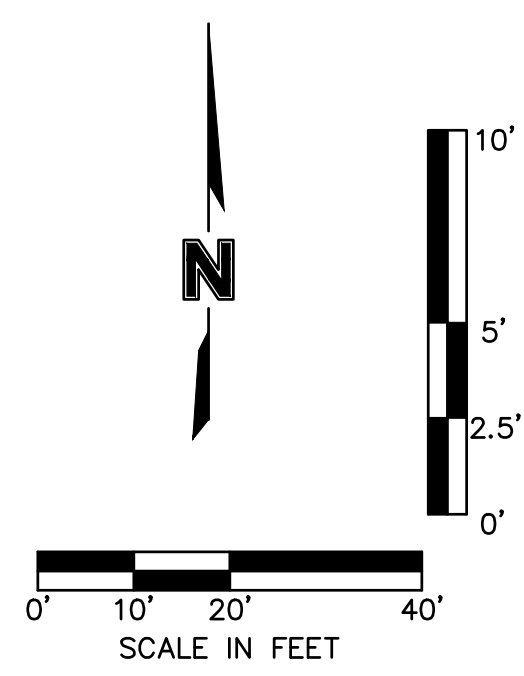
SHEET  
 C306

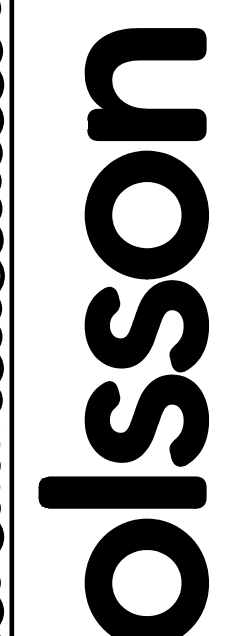
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 USER: gsmith



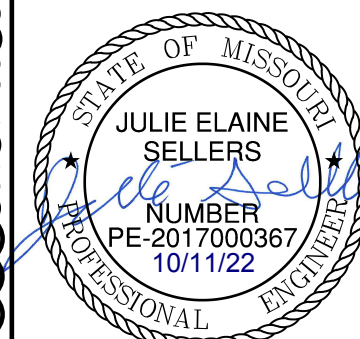
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1	08-26-2021	REVISED PER CITY COMMENTS
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WATER MAIN PLAN & PROFILE (LINE 2)  
 WATER MAIN EXTENSION PLANS  
 THE RETREAT AT HOOK FARMS  
 SECOND PLAT

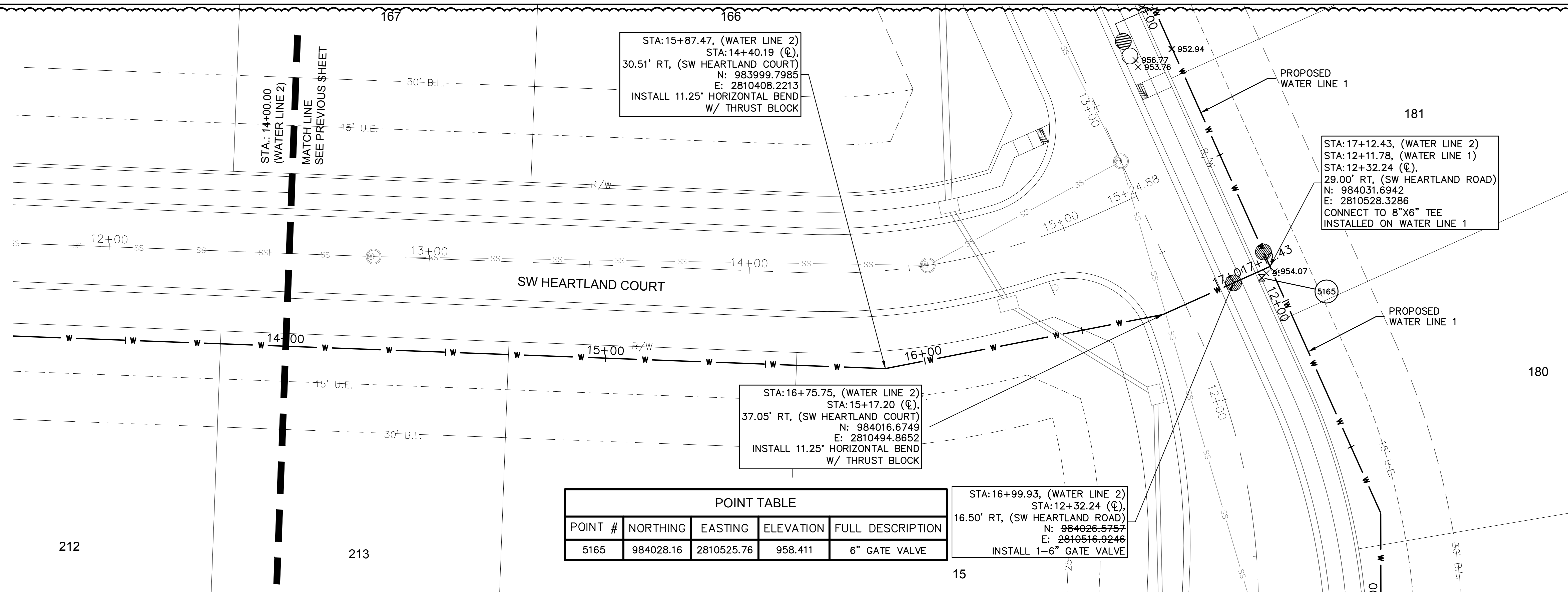
2021

REVISIONS

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

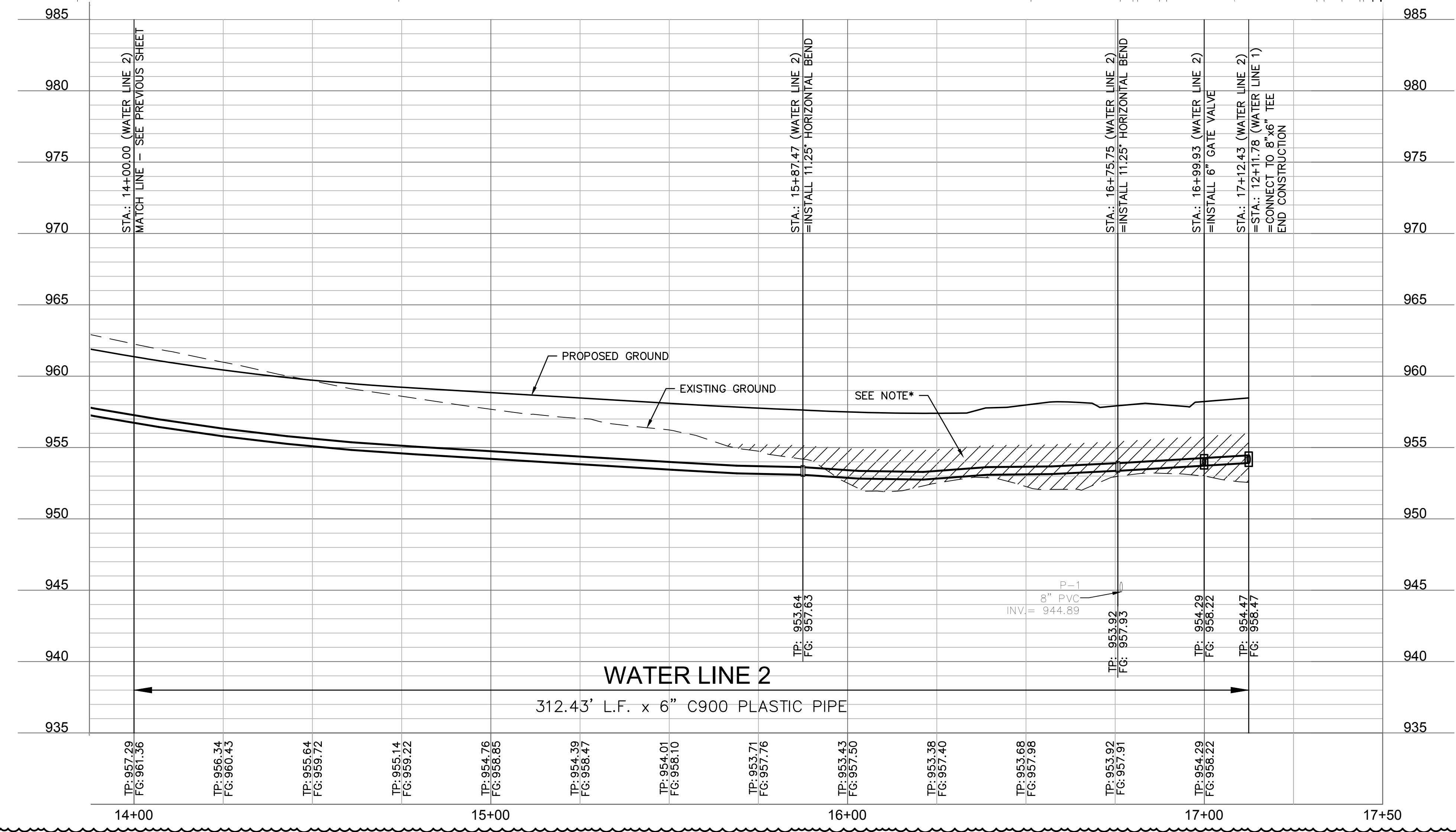
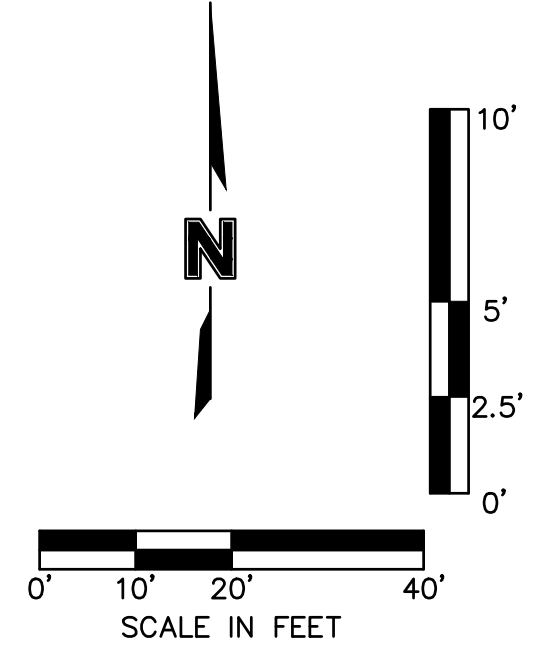
**SHEET**  
C307

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 USER: gsmith C:\PTBLK\_A194059



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
5165	984028.16	2810525.76	958.411	6" GATE VALVE

STA: 16+99.93, (WATER LINE 2)  
 STA: 12+32.24 (C),  
 16.50' RT, (SW HEARTLAND ROAD)  
 N: 984026.5757  
 E: 2810516.9246  
 INSTALL 1-6" GATE VALVE



\*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

**Accepted Record Drawings**  
 These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.

AS BUILT

DATE SURVEYED: 2022-06-17

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



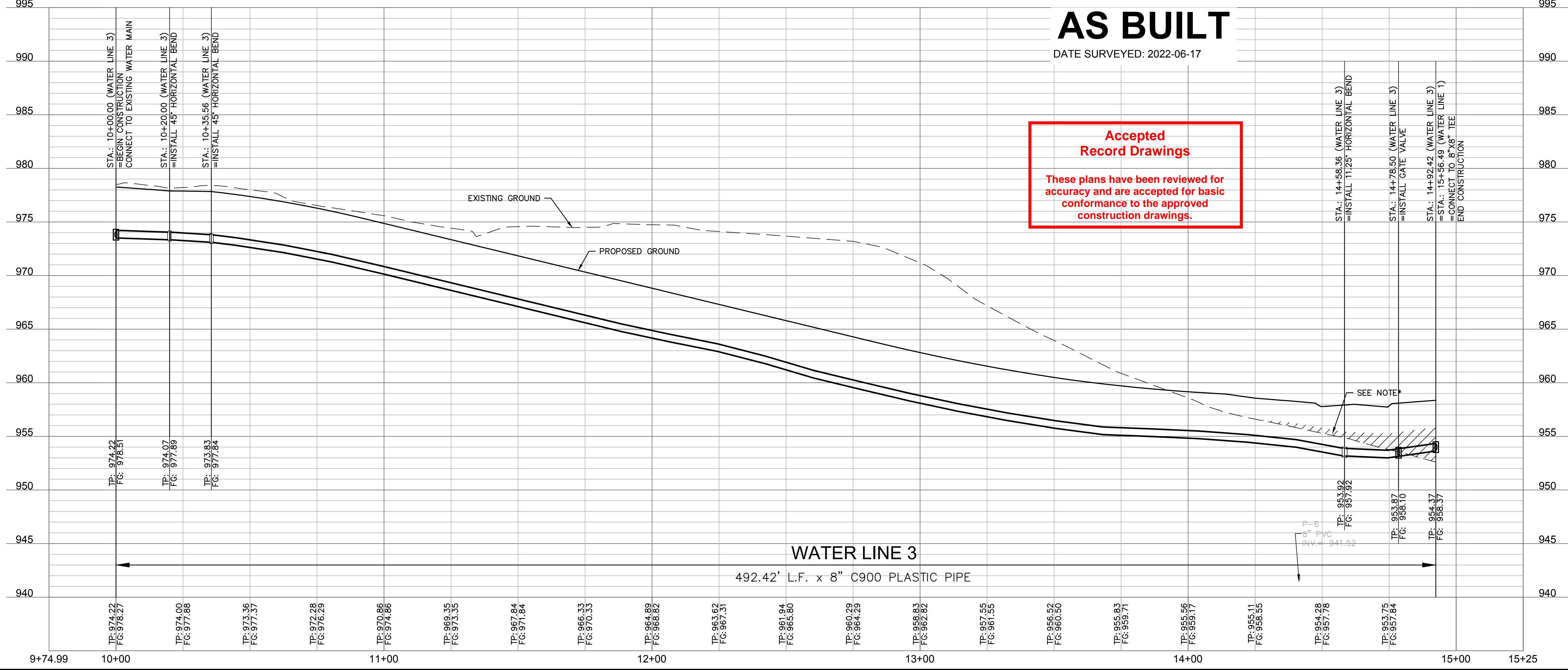
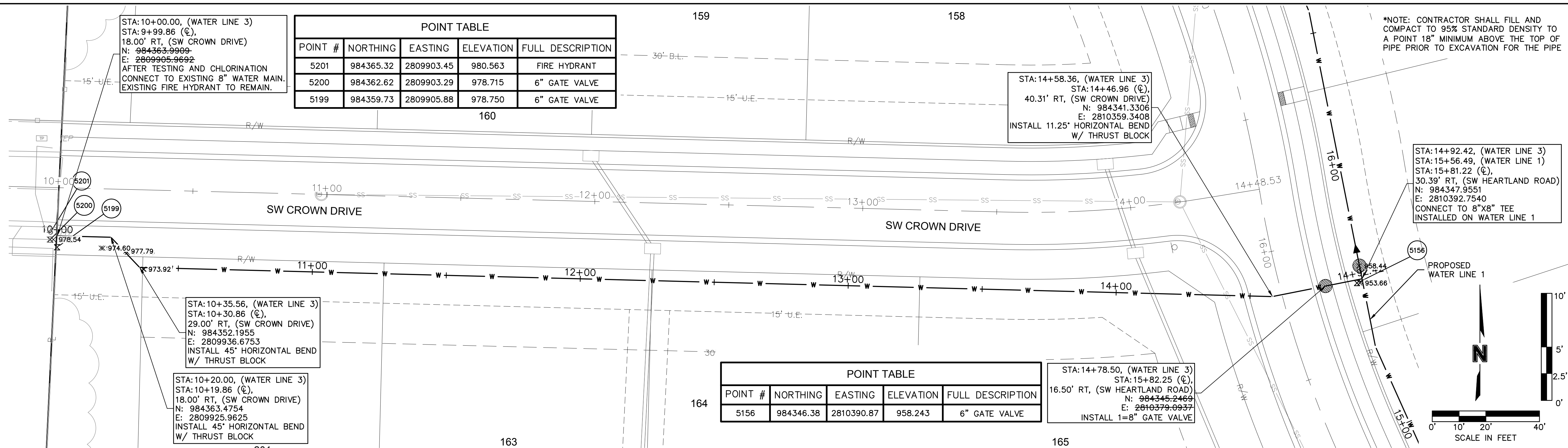
REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

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

2021



DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans - asbuilts\Sheets\GNCV\Water Main Extension Plans\C\_WAT01\_A194059.dwg  
 DATE: Oct 11, 2022 3:48pm  
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 USER: gsmith C\_PIBLK\_A194059



**Accepted  
Record Drawings**

These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.

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REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

WATER MAIN PLAN & PROFILE (LINE 3) WATER MAIN EXTENSION PLANS THE RETREAT AT HOOK FARMS SECOND PLAT	2021 REVISIONS
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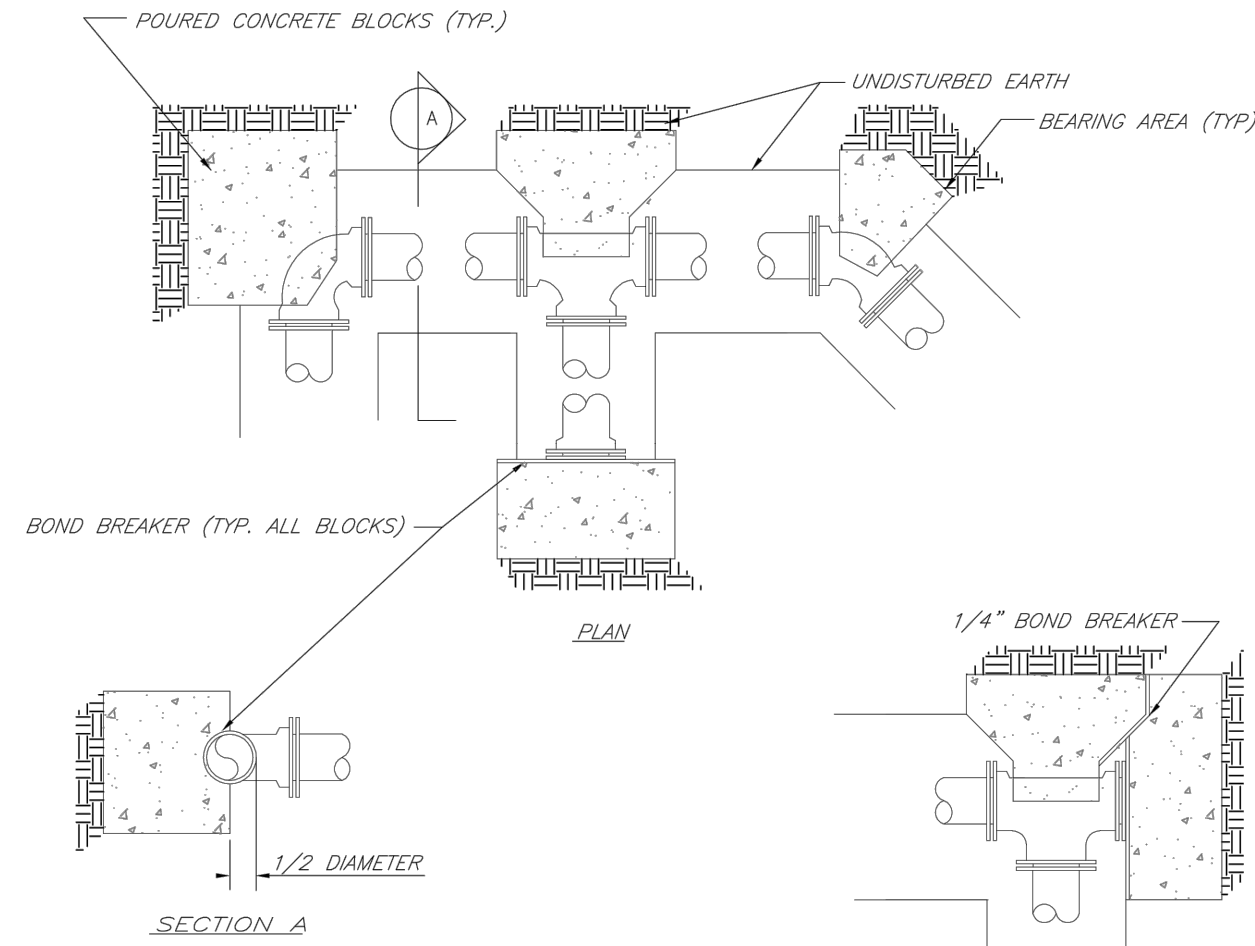
drawn by: B.M.W./A.A. checked by: B.M.W./A.A. designed by: B.M.W./A.A. QA/QC by: J.E.S. project no.: A19-4059B date: 05-05-2021	SHEET C309
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# NOT AS BUILT

REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)

NOM. DIA. (INCHES)	TEE, FLUG	BEND	45 BEND	22.5 BEND	11.25 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:
- ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  - MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  - BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
  - DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



**LEE'S SUMMIT MISSOURI**  
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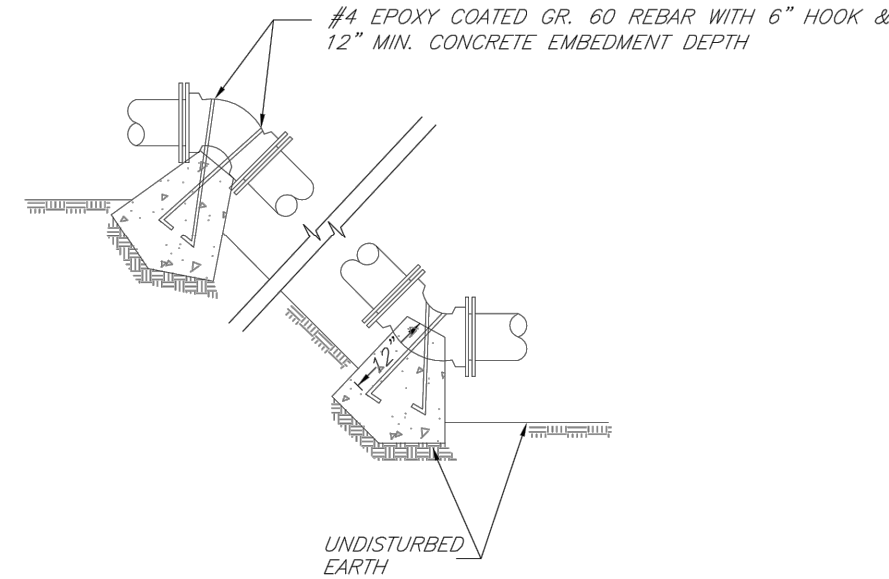
**HORIZONTAL THRUST BLOCKS**

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

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)

NOM. DIA. (INCHES)	TEE, FLUG	BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	36.6	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.	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

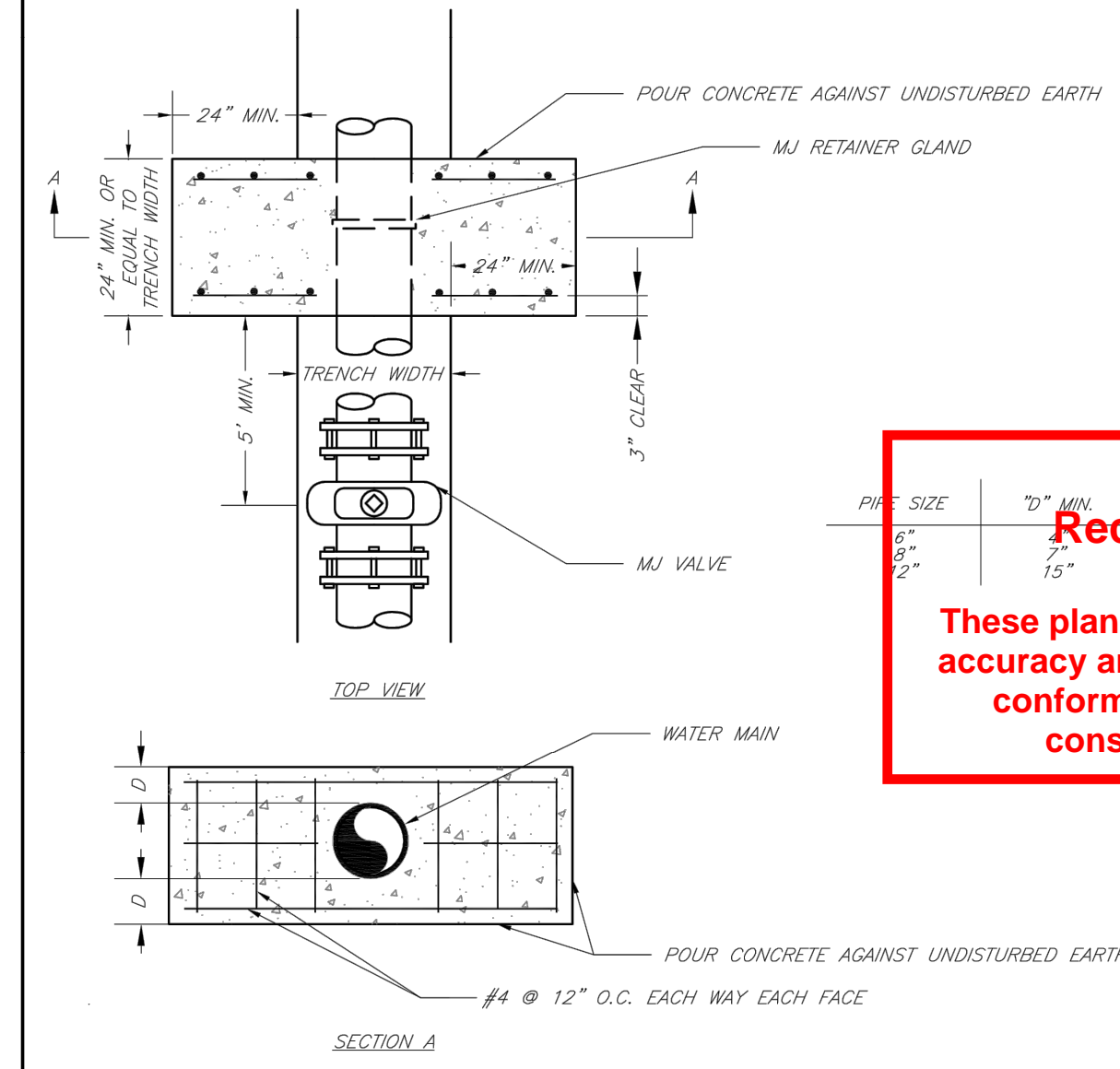
- NOTES:
- ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  - MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  - BEARING MUST BE AGAINST UNDISTURBED SOIL.
  - DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



**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



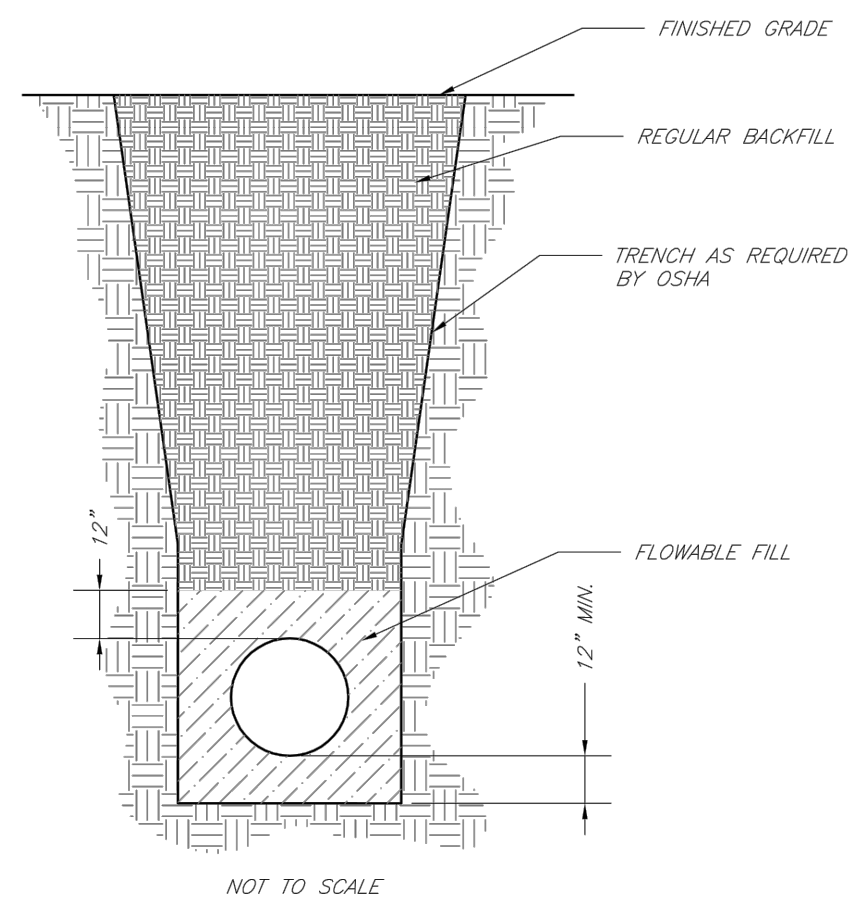
**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

**STRADDLE BLOCK**

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

Accepted Record Drawings

These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.

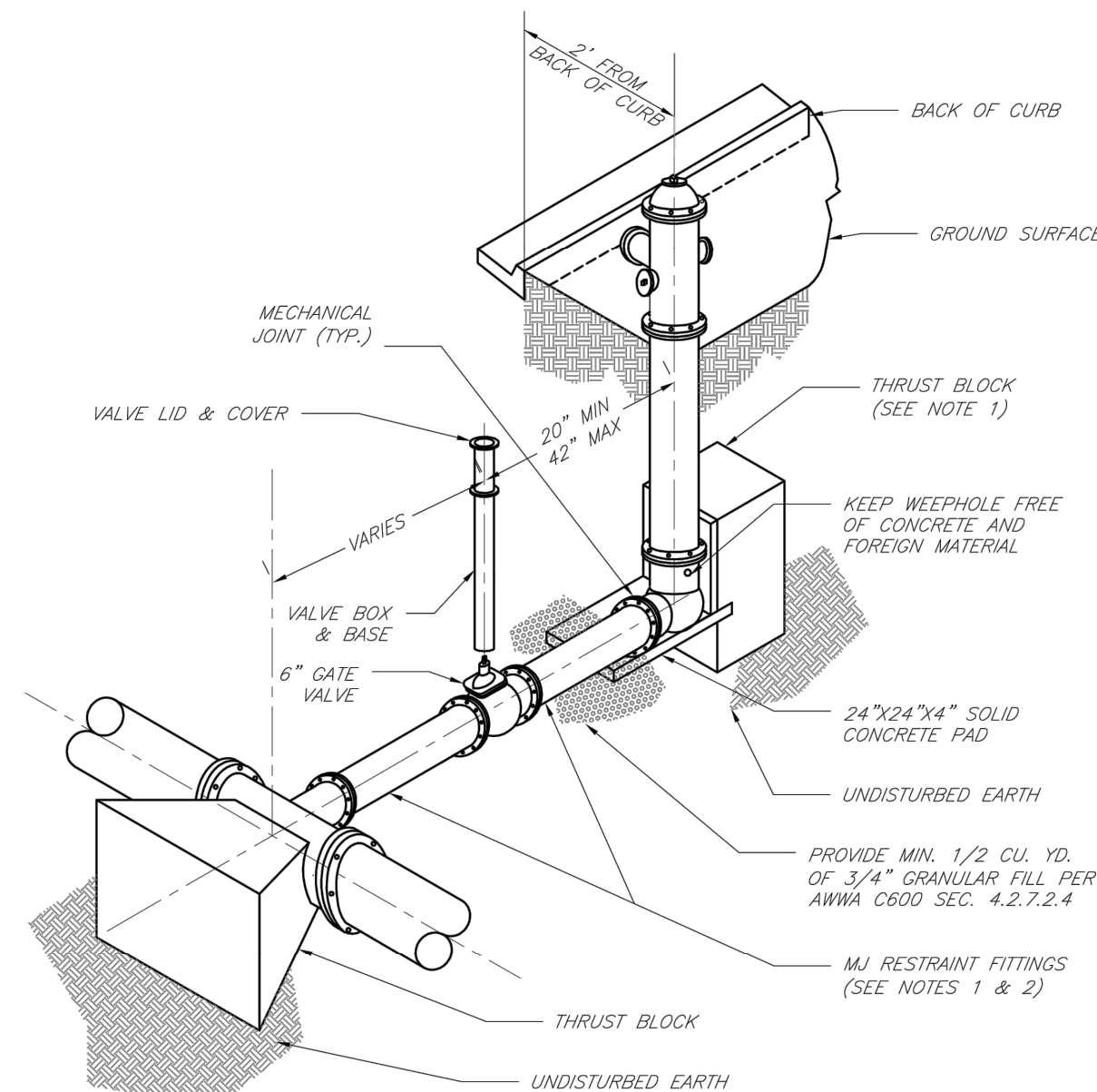


- NOTES:
- FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
  - REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
  - TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.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

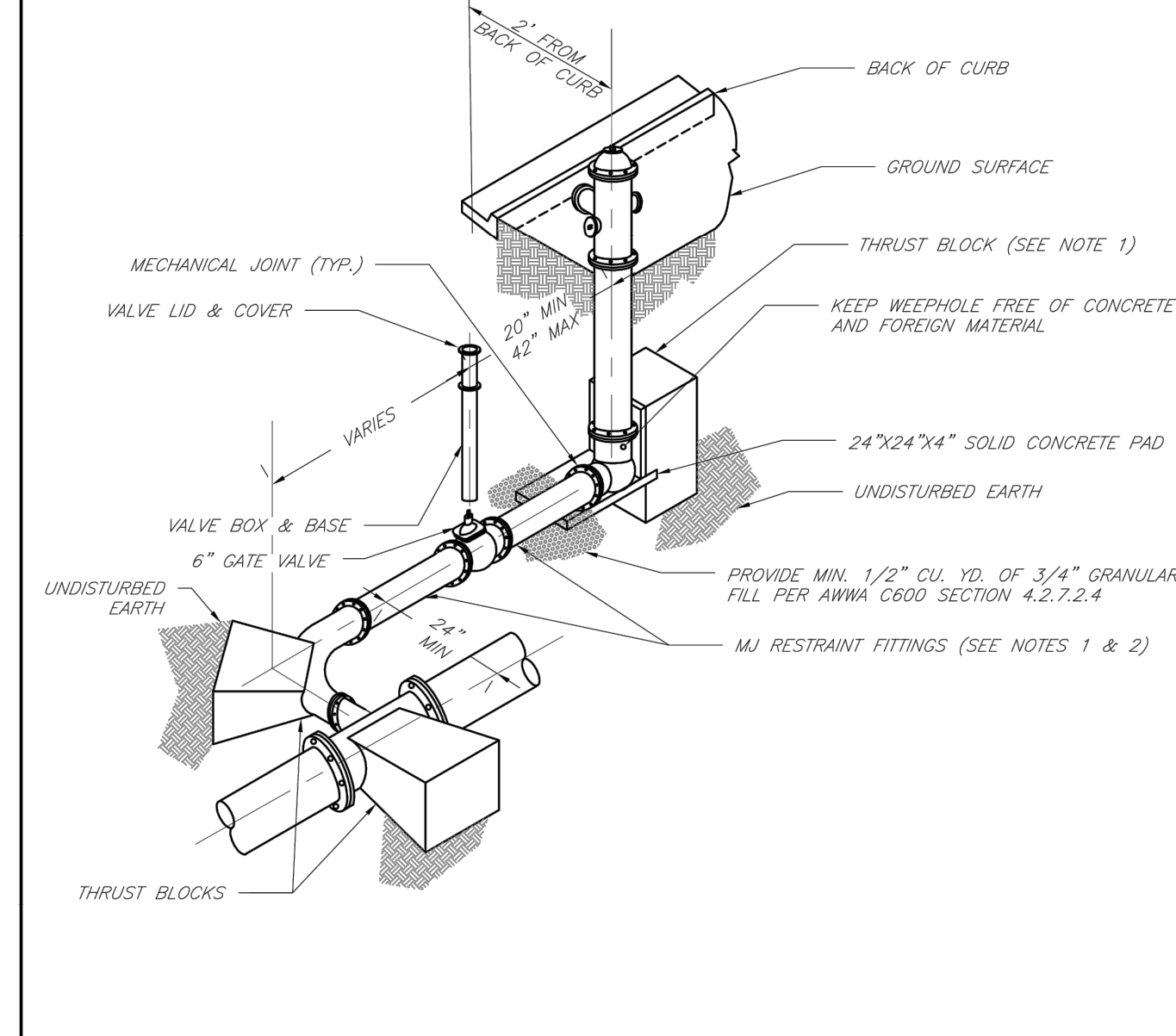


- NOTES:
- WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  - GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  - SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  - BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
  - 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.
  - 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



- NOTES:
- WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  - GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  - SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  - BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
  - 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.
  - 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

USER: gsmith

DWG: F:\2019\4001-4500\019-4059-a\40-design\AutoCAD\final plans - osb\blts\Sheets\GNCV\Water Main Extension Plans\C\_DTL01\_A194059.dwg  
DATE: Oct 11, 2022 3:49pm XREFS: C\_PTBK\_A194059

# olsson

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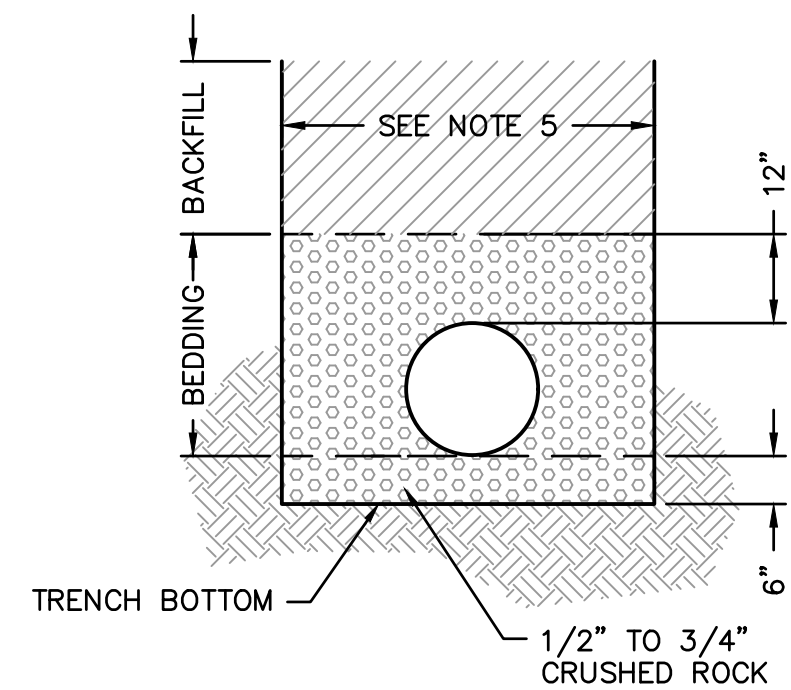
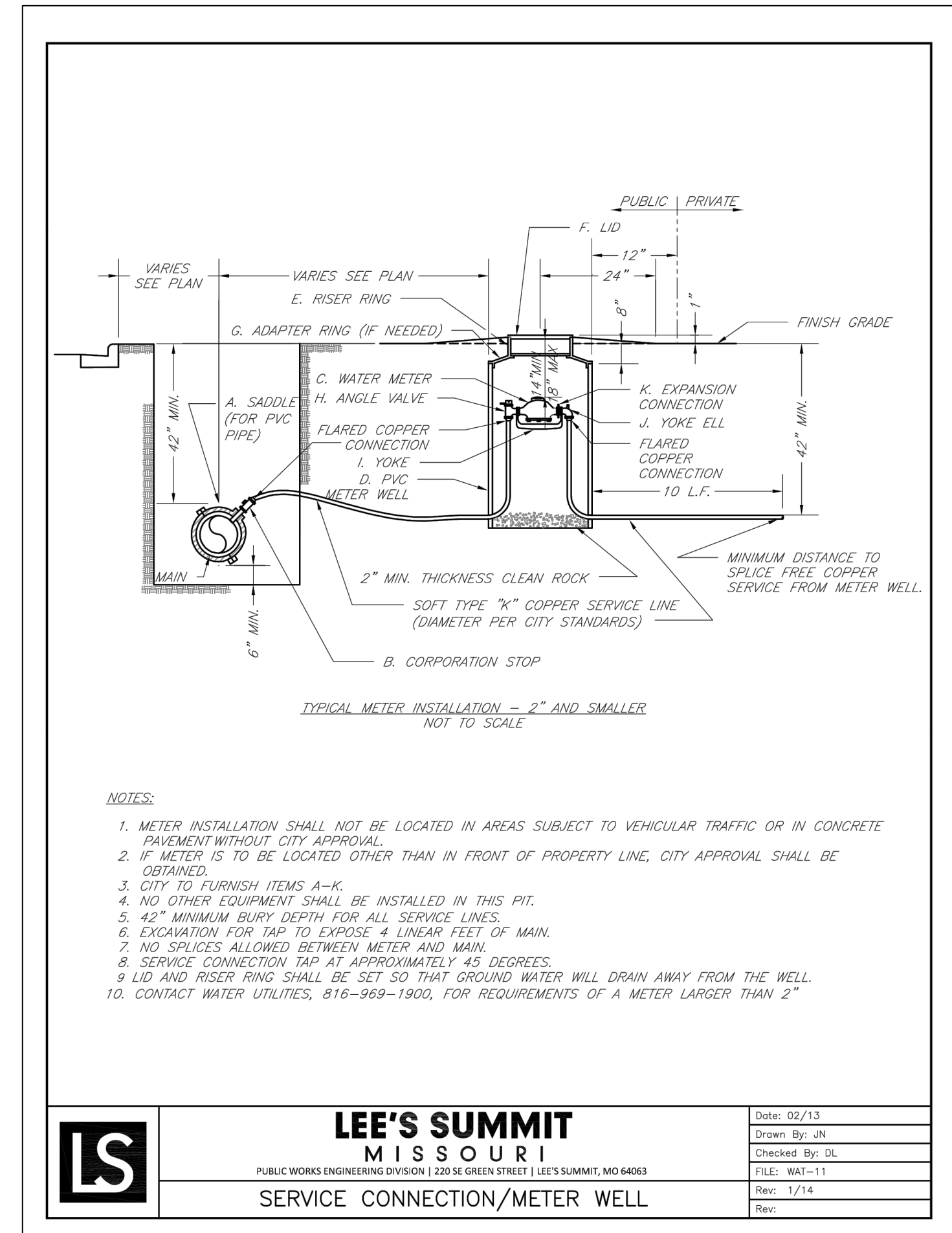
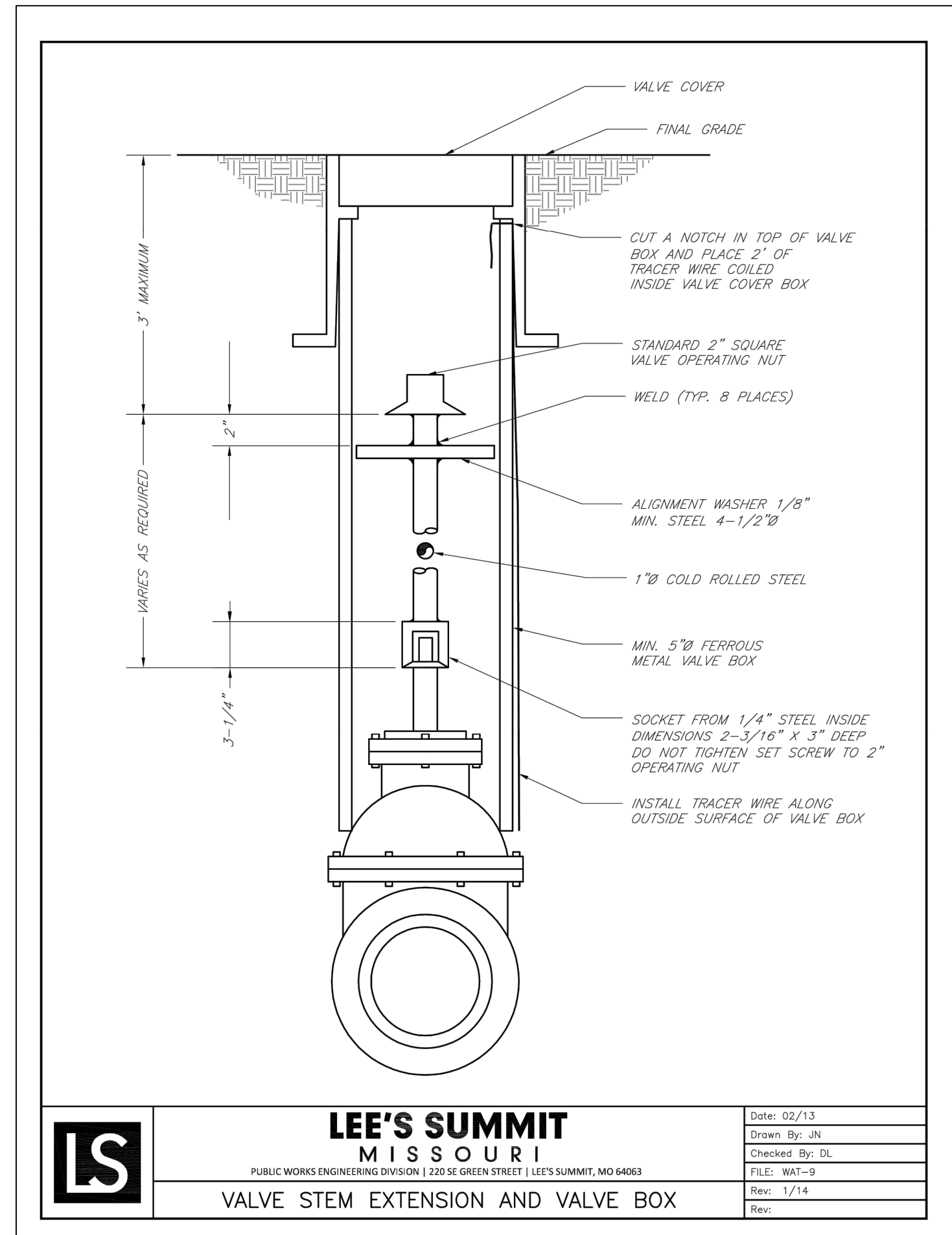


REV. NO.	DATE	REVISIONS DESCRIPTION
1	08-26-2021	REVISED PER CITY COMMENTS
2	10-29-2021	REVISED PER CITY COMMENTS

DETAIL SHEET  
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 C310



**NOTES:**

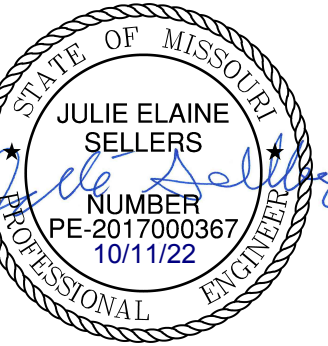
- BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
- BEDDING AGGREGATE MATERIAL SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL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

**NOT AS BUILT**

**Accepted Record Drawings**  
 These plans have been reviewed for accuracy and are accepted for basic conformance to the approved construction drawings.

**olsson**



REV. NO.	DATE	REVISIONS DESCRIPTION	BY
1	08-26-2021	REVISED PER CITY COMMENTS	
2	10-29-2021	REVISED PER CITY COMMENTS	

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

SHEET C311