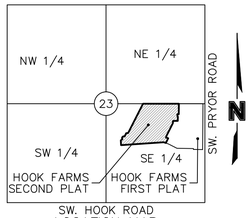
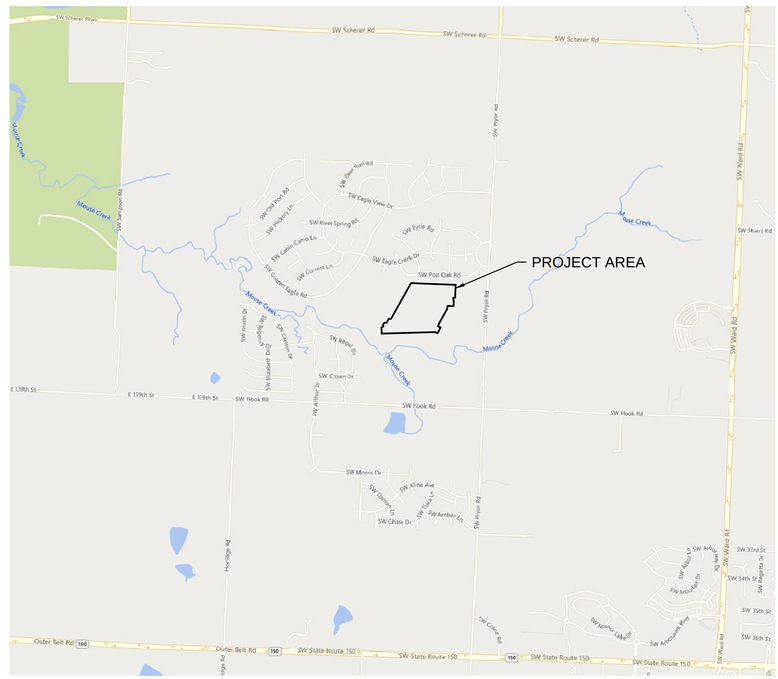
HOOK FARMS SECOND PLAT

WATER MAIN EXTENSION PLANS

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



LOCATION MAP
SEC. 23, TWP. 47N., RGE. 32W.
(N.T.S.)



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	WATER MAIN PLAN & PROFILE (LINE 4)
C311	WATER MAIN PLAN & PROFILE (LINE 4)
C312	WATER MAIN PLAN & PROFILE (LINE 5)
C313	WATER MAIN PLAN & PROFILE (LINE 5)
C314	WATER MAIN PLAN & PROFILE (LINE 6)
C315	WATER MAIN PLAN & PROFILE (LINE 6)
C316	DETAIL SHEET
C317	DETAIL SHEET

PROJECT TEAM & UTILITY CONTACT LIST	
OWNER / DEVELOPER HUNT MIDWEST REAL ESTATE DEVELOPMENT, INC. 8300 NE UNDERGROUND DRIVE KANSAS CITY, MO 64161 CONTACT: AARON SCHMIDT PHONE: 816.455.2500	UTILITY SERVICE NUMBERS 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
ENGINEER OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JULIE E. SELLERS, P.E. PHONE: 816.361.1177 EMAIL: JSELLERS@OLSSON.COM	
SURVEYOR OLSSON 1301 BURLINGTON, SUITE 100 NORTH KANSAS CITY, MO 64116 CONTACT: JASON ROUDEBUSH, P.L.S. PHONE: 816.361.1177 EMAIL: JROUDEBOUSH@OLSSON.COM	

☐ NOT FOR CONSTRUCTION

☐ REVIEWED FOR CONSTRUCTION

CALL BEFORE YOU DIG 1-800-DIG-RITE MISSOURI ONE CALL SYSTEM

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 I10409 IN BOOK I65 AT PAGE 01 IN JACKSON COUNTY RECORDER OF DEEDS OFFICE, ALSO BEING THE NORTHWEST CORNER OF PROPOSED HOOK FARMS FIRST PLAT; THENCE CONTINUING NORTH 87°45'24" WEST ON SAID NORTH LINE, ALSO BEING THE PROPOSED NORTH LINE OF SAID PROPOSED HOOK FARMS FIRST PLAT, ALSO BEING THE SOUTH LINE OF SAID EAGLE CREEK–FIRST PLAT, 643.83 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE LEAVING SAID NORTH AND SOUTH LINES, SOUTH 02°59'10" WEST, ALONG THE PROPOSED WESTERLY LINE OF PROPOSED HOOK FARMS FIRST PLAT, 277.38 FEET; THENCE NORTH 87°00'50" WEST, ALONG SAID PROPOSED WESTERLY LINE, 36.00 FEET; THENCE SOUTH 02°59'10" WEST, ALONG SAID PROPOSED WESTERLY LINE, 50.00 FEET; THENCE SOUTH 42°00'50" EAST, ALONG SAID PROPOSED WESTERLY LINE, 19.80 FEET; THENCE SOUTH 02°59'10" WEST, ALONG SAID PROPOSED WESTERLY LINE, 116.00 FEET; THENCE NORTH 87°00'50" WEST, ALONG SAID PROPOSED WESTERLY LINE, 126.12 FEET; THENCE SOUTH 07°19'52" WEST, ALONG SAID PROPOSED WESTERLY LINE, 64.17 FEET; THENCE SOUTH 29°10'47" WEST, ALONG SAID PROPOSED WESTERLY LINE, 375.17 FEET; THENCE SOUTH 15°20'56" WEST, ALONG SAID PROPOSED WESTERLY LINE, 50.00 FEET; THENCE ALONG SAID PROPOSED WESTERLY LINE, EASTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF SOUTH 74°39'04" EAST WITH A RADIUS OF 275.00 FEET, A CENTRAL ANGLE OF 11°57'16" AND AN ARC DISTANCE OF 57.38 FEET; THENCE SOUTH 27°18'12" WEST, ALONG SAID PROPOSED WESTERLY LINE, 138.17 FEET; THENCE LEAVING SAID PROPOSED WESTERLY LINE, NORTH 67°11'53" WEST, 61.05 FEET; THENCE SOUTH 88°21'16" WEST, 1,139.83 FEET; THENCE NORTH 01°38'44" WEST, 128.09 FEET; THENCE NORTH 57°02'58" EAST, 49.90 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF NORTH 32°57'02" WEST WITH A RADIUS OF 50.00 FEET, A CENTRAL ANGLE OF 150°22'53" AND AN ARC DISTANCE OF 131.23 FEET; THENCE NORTH 27°25'51" EAST, 98.75 FEET; THENCE NORTH 88°21'16" EAST, 52.12 FEET; THENCE NORTH 29°10'47" EAST, 873.51 FEET TO A POINT ON SAID NORTH LINE OF SAID SOUTHEAST QUARTER, ALSO BEING THE SOUTH LINE OF EAGLE CREEK–SECOND PLAT, A SUBDIVISION IN SAID LEE'S SUMMIT RECORDED AS INSTRUMENT NUMBER 200I00058889 IN BOOK I65 AT PAGE 09 IN SAID JACKSON COUNTY RECORDER OF DEEDS OFFICE; THENCE SOUTH 87°45'24" EAST, ON SAID NORTH LINE AND SAID SOUTH LINE, 682.19 FEET TO THE SOUTHEAST CORNER OF SAID EAGLE CREEK–SECOND PLAT, ALSO BEING THE SOUTHWEST CORNER OF SAID EAGLE CREEK–FIRST PLAT; THENCE SOUTH 87°45'24" EAST ON SAID NORTH LINE, AND SAID SOUTH LINE OF EAGLE CREEK–FIRST PLAT, 273.64 FEET TO THE POINT OF BEGINNING. CONTAINING 1,157,274 SQUARE FEET OR 26.57 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, P.E. — 1/22/21
CIVIL ENGINEER — DATE
MO # PE-2017000367

olsson
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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 — 1/22/21 — PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TITLE SHEET
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

2021

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.:	B19-4061
date:	01-08-2021

SHEET
C301

DWG: F:\2019\4001–4500\019–4061–b\40–design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_TTL01_B194061.dwg USER: aabdigaliyev
DATE: Jan 21, 2021 10:49am XREFS: C_PTBLK_B194061 C_PBNDY_B194061

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.

3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.

7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.

8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.

9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.

11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.

12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.

REFERENCES

1. 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	8" CLASS 52 DIP WITH ZINC COATING	L.F.	80.00	
2	8" C900 PLASTIC PIPE	L.F.	4243.71	
3	6" C900 PLASTIC PIPE	L.F.	334.28	
4	8" X 8" TEE	EA.	7	
5	8" GATE VALVES	EA.	13	
6	6" GATE VALVES	EA.	1	
7	8" BENDS	EA.	19	
8	6" BENDS	EA.	1	
9	8" SOLID SLEEVES	EA.	2	
10	8"X6" REDUCER	EA.	1	
11	STRAIGHT SET HYDRANT ASSEMBLY	EA.	2	
12	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	EA.	9	

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.

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STATE OF MISSOURI
JULIE ELAINE SELLERS
NUMBER PE-2017000367
1/22/21
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

GENERAL NOTES
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

2021

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.:	B19-4061
date:	01-08-2021

SHEET
C302

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_TTL01_B194061.dwg USER: aabdigaliyev
DATE: Jan 21, 2021 10:49am XREFS: C_PTBLK_B194061 C_PBNDY_B194061

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1/22/21
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

GENERAL LAYOUT
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

2021

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.:	B19-4061
date:	01-08-2021

SHEET
C303

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_GEN01_B194061.dwg USER: aabdigaliyev
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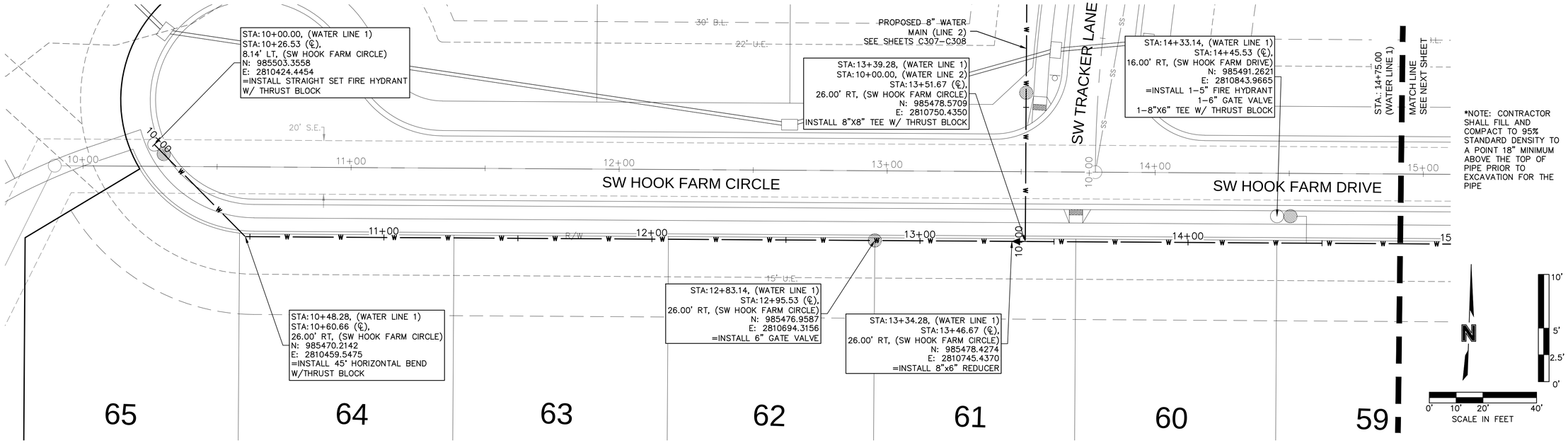

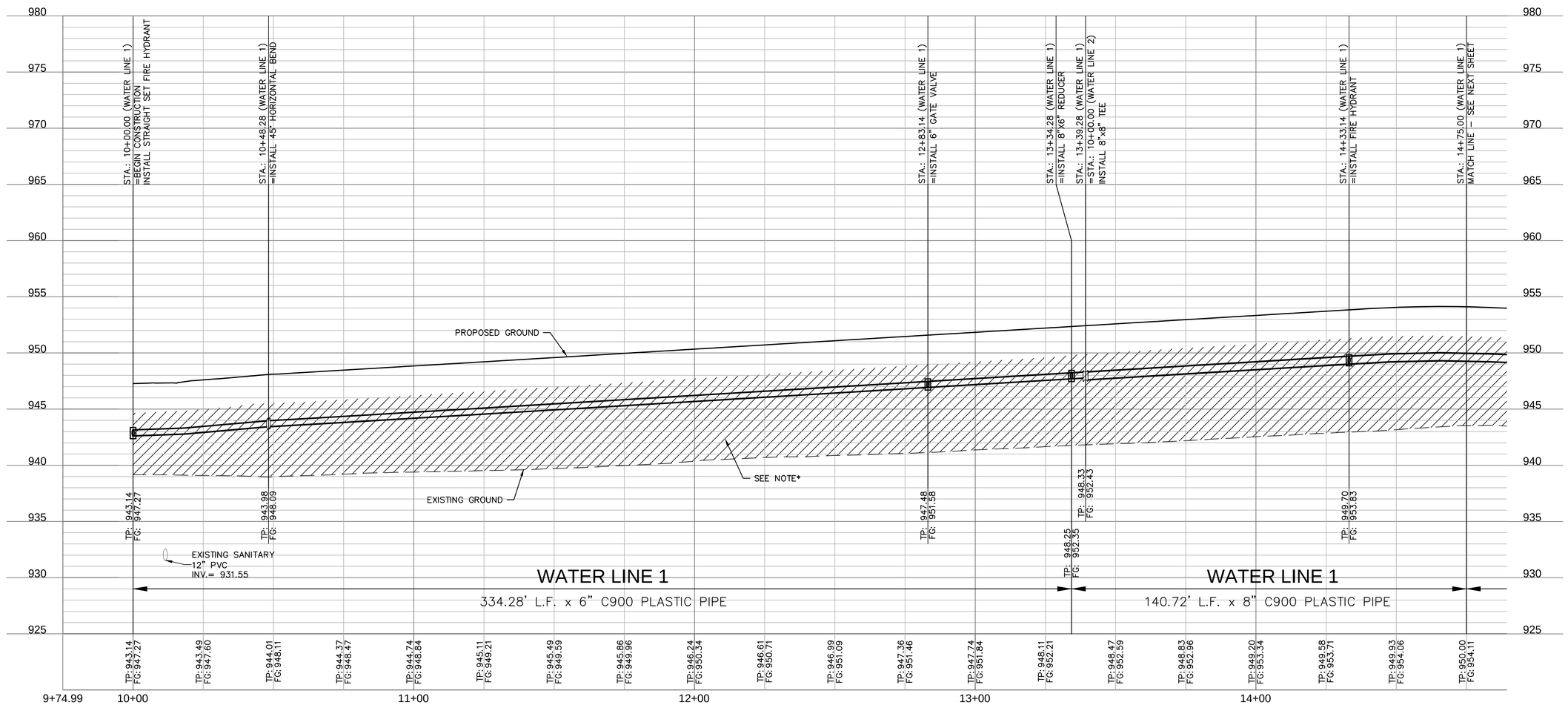

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JULIE ELAINE SELLERS
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PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

WATER MAIN PLAN & PROFILE (LINE 1)
WATER MAIN EXTENSION PLANS

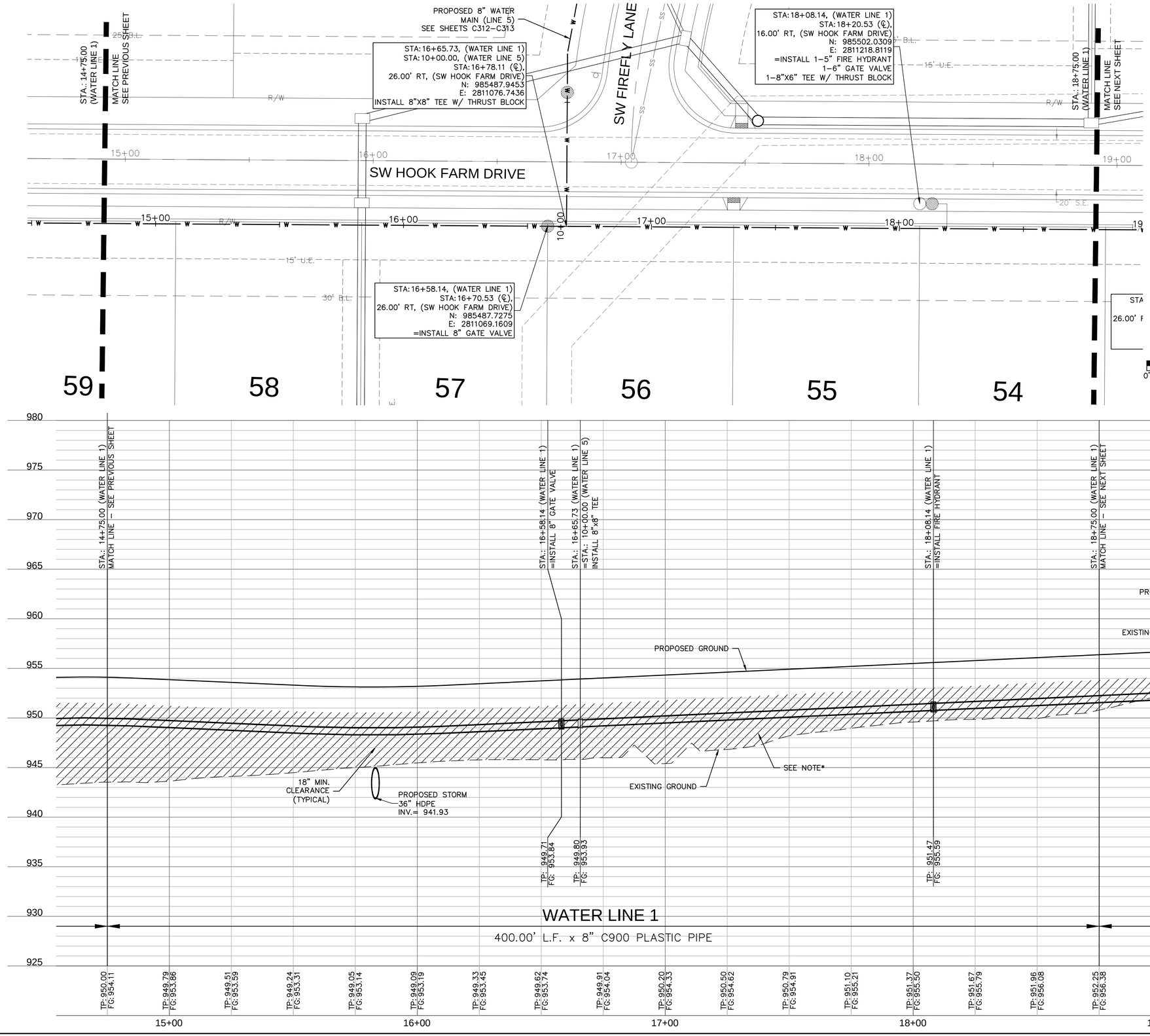
HOOK FARMS
SECOND PLAT

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.: B19-4061
date: 01-08-2021

SHEET
C304



*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

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SECOND PLAT

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2021

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SHEET
C305

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT01_B194061.dwg USER: aabdigaliyev
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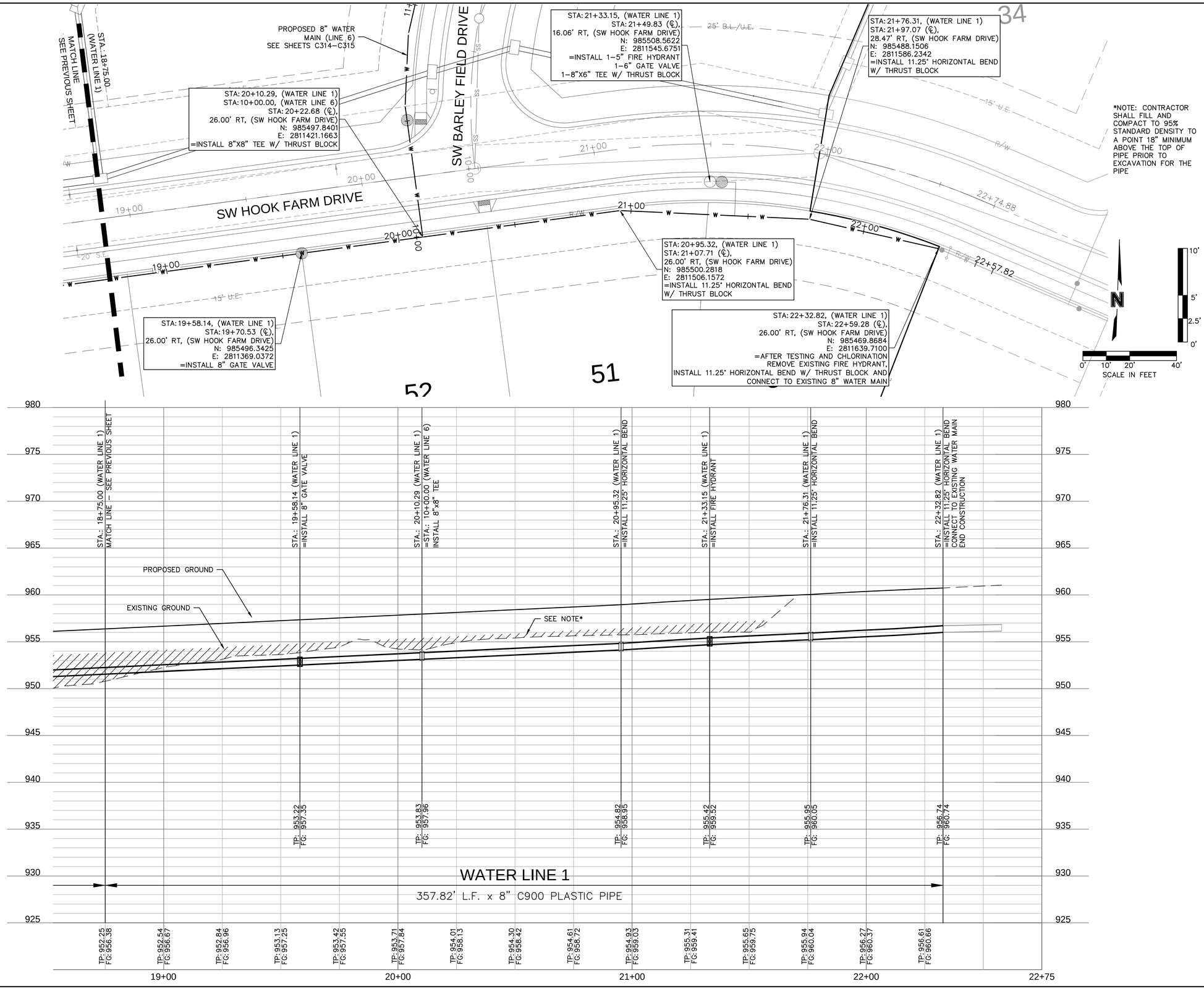

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

WATER MAIN PLAN & PROFILE (LINE 1)
WATER MAIN EXTENSION PLANS

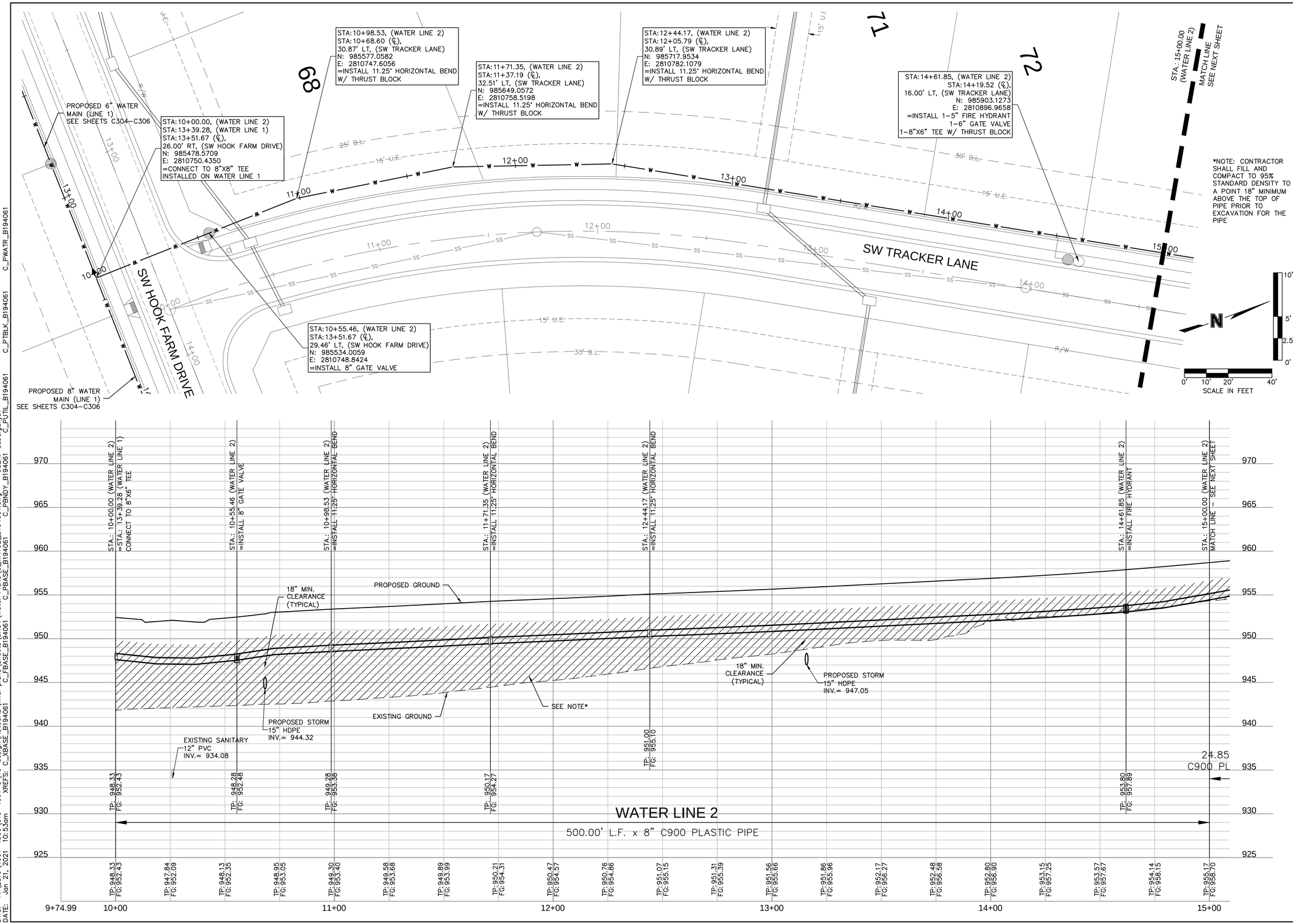
HOOK FARMS
SECOND PLAT

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.: B19-4061
date: 01-08-2021

SHEET
C306



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

WATER MAIN PLAN & PROFILE (LINE 2)
WATER MAIN EXTENSION PLANS

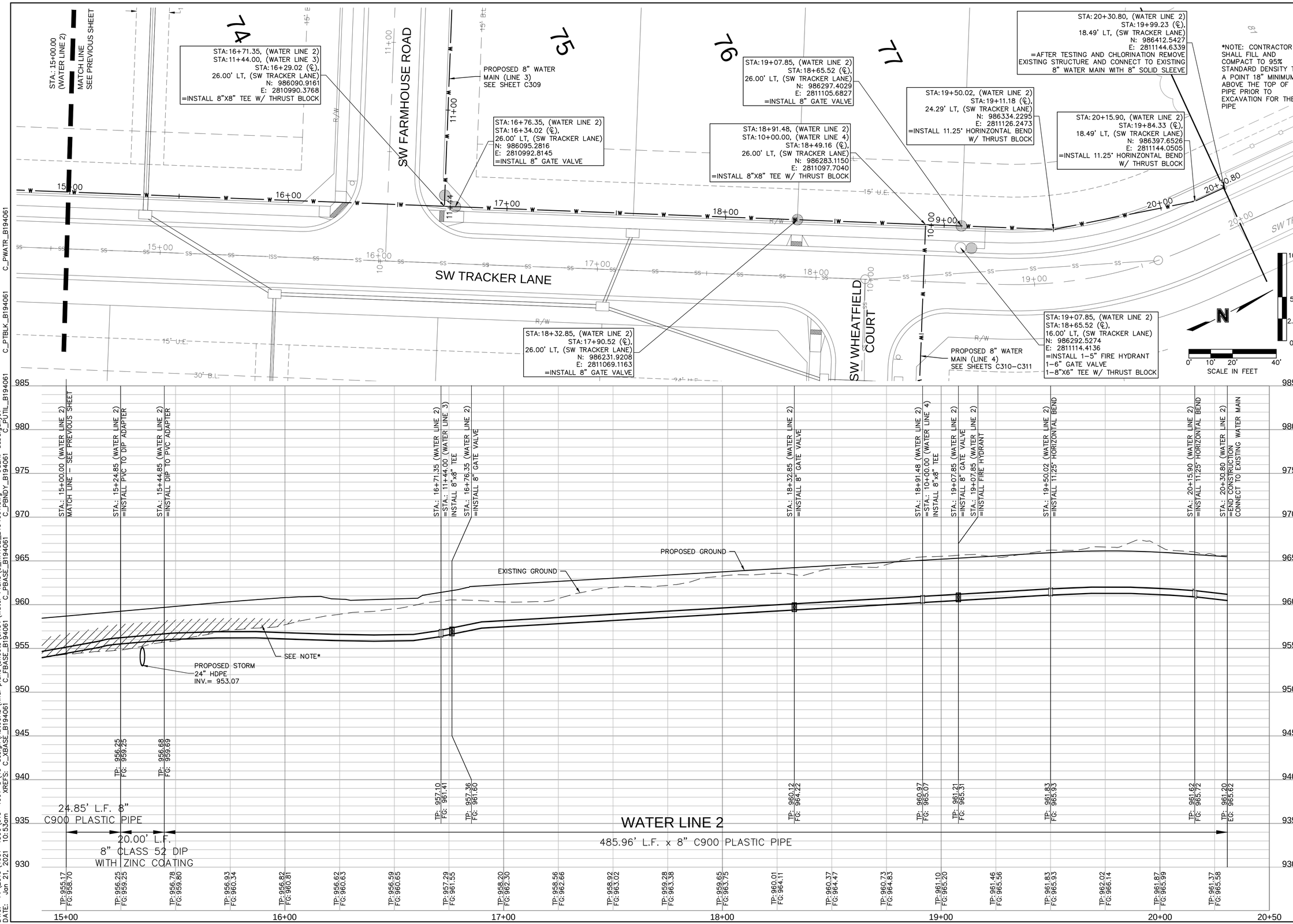
HOOK FARMS
SECOND PLAT

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.F.S.
project no.: B19-4061
date: 01-08-2021

SHEET
C307



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WATER MAIN PLAN & PROFILE (LINE 2)
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

2021

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.: B19-4061
date: 01-08-2021

SHEET
C308

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT02_B194061.dwg USER: aabdigaliyev
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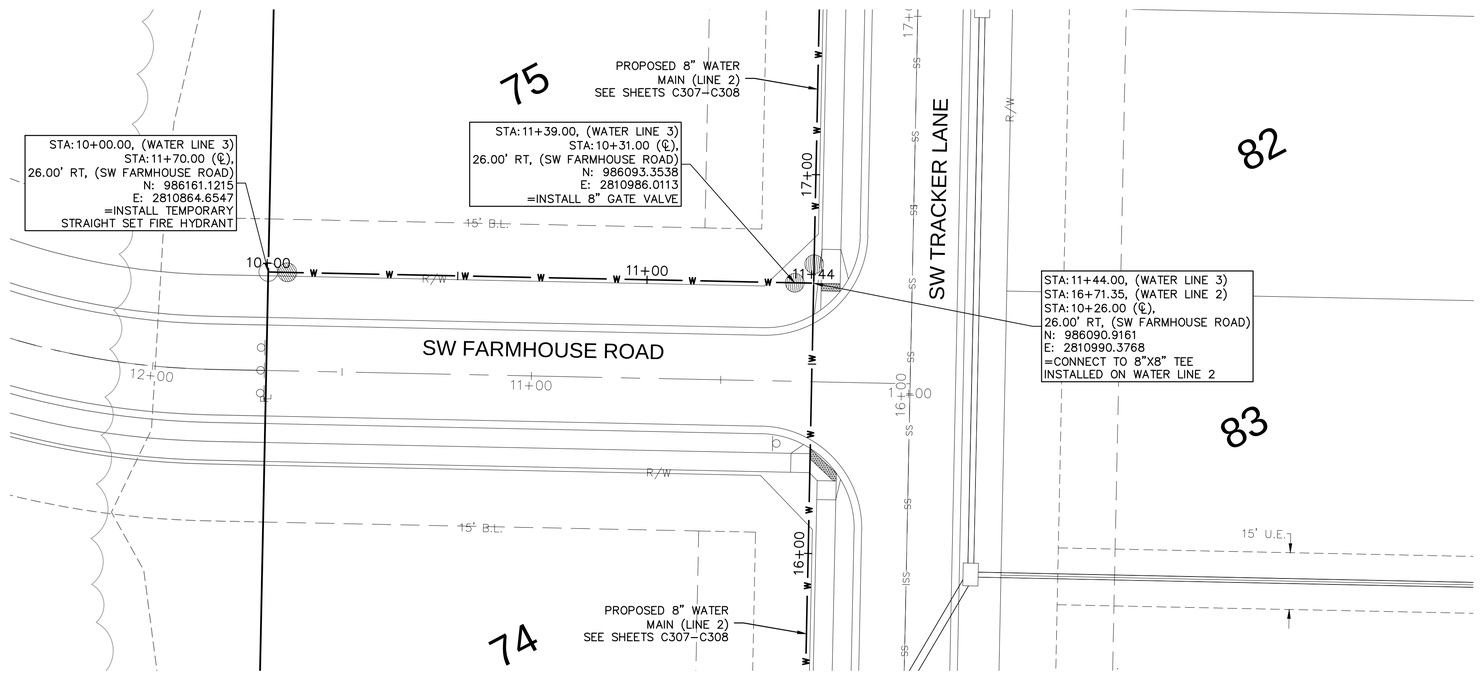
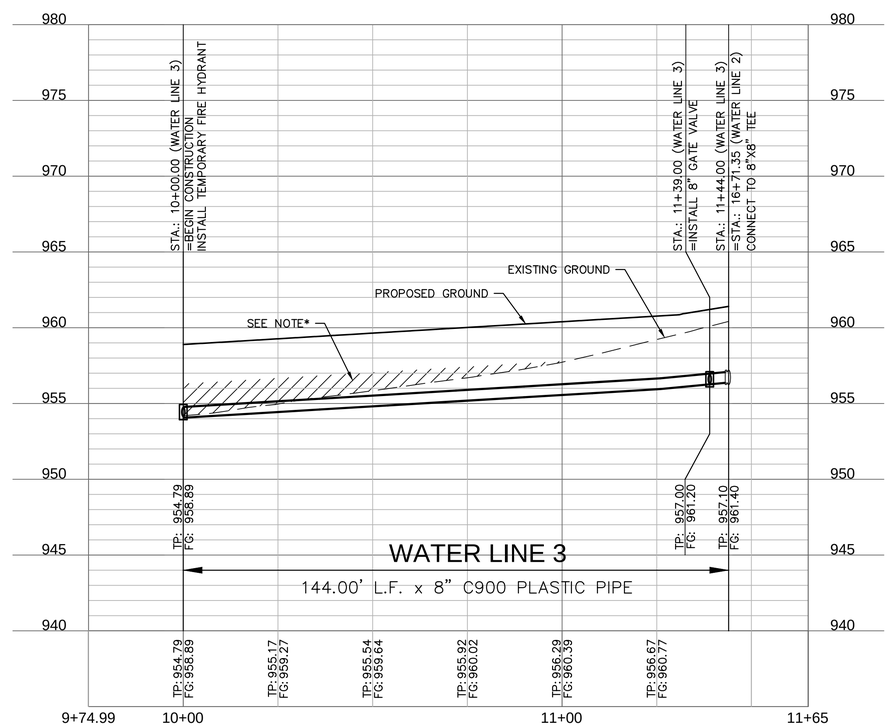


*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE



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

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.: B19-4061
date: 01-08-2021

SHEET
C309

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT02_B194061.dwg USER: aabdigaliyev
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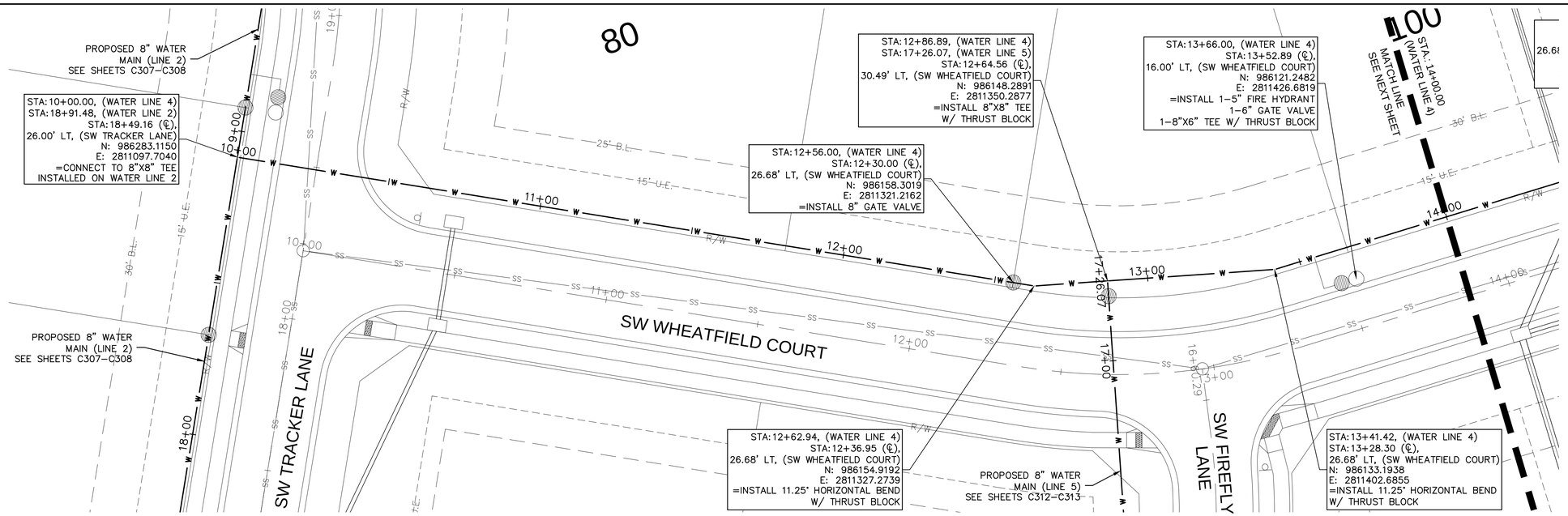

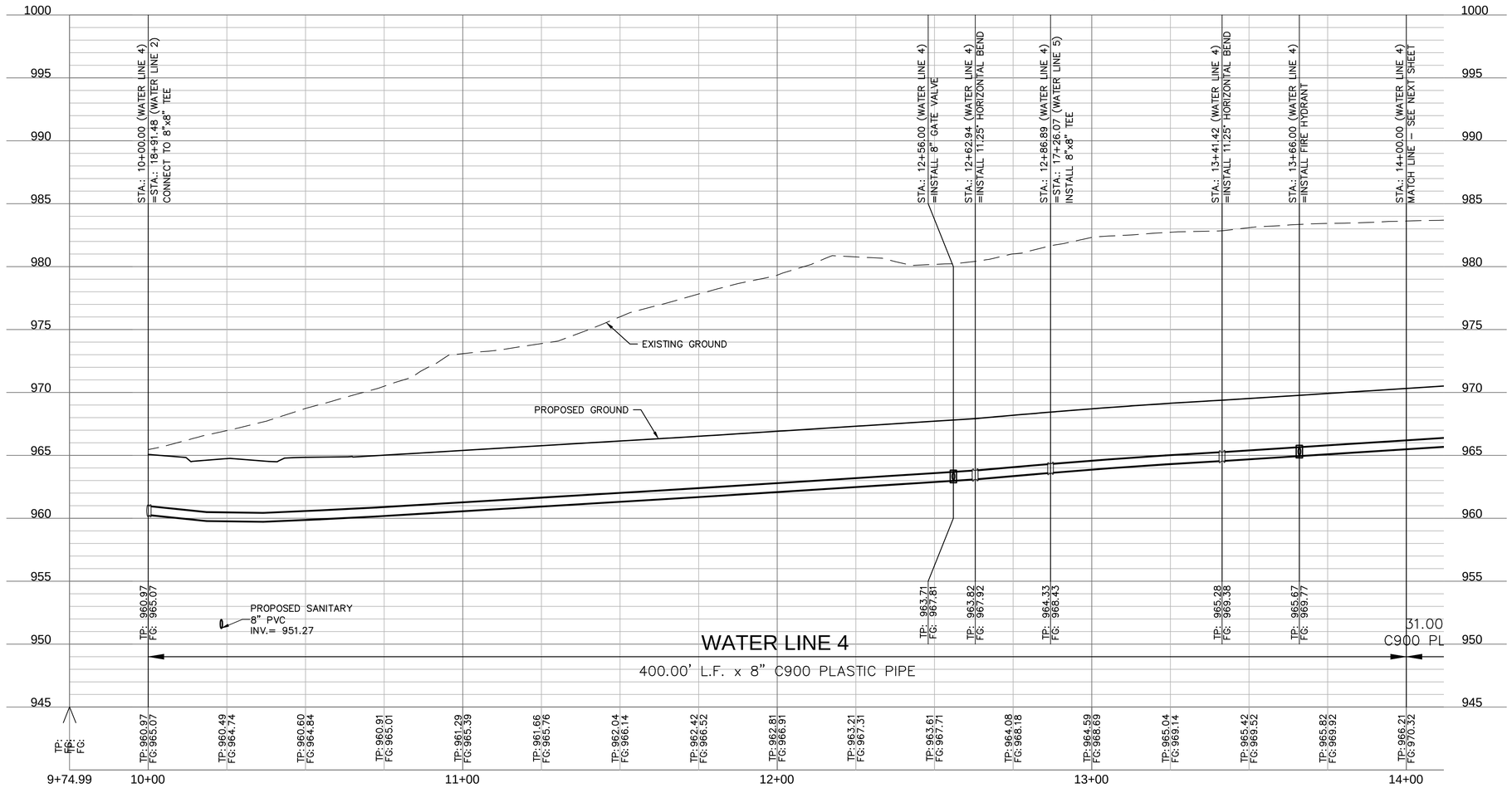

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WATER MAIN PLAN & PROFILE (LINE 4)
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

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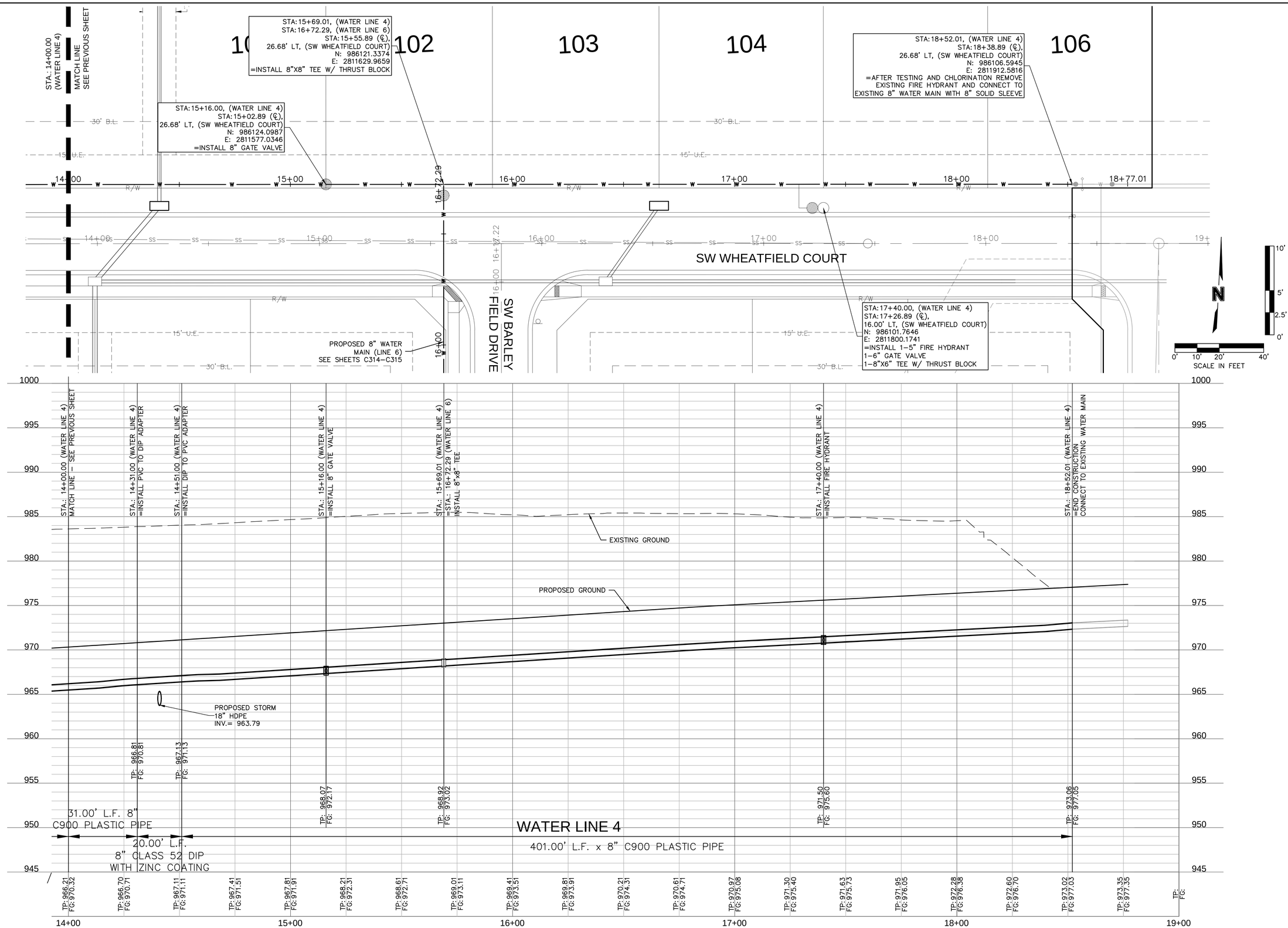
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

SHEET
C310



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PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

2021

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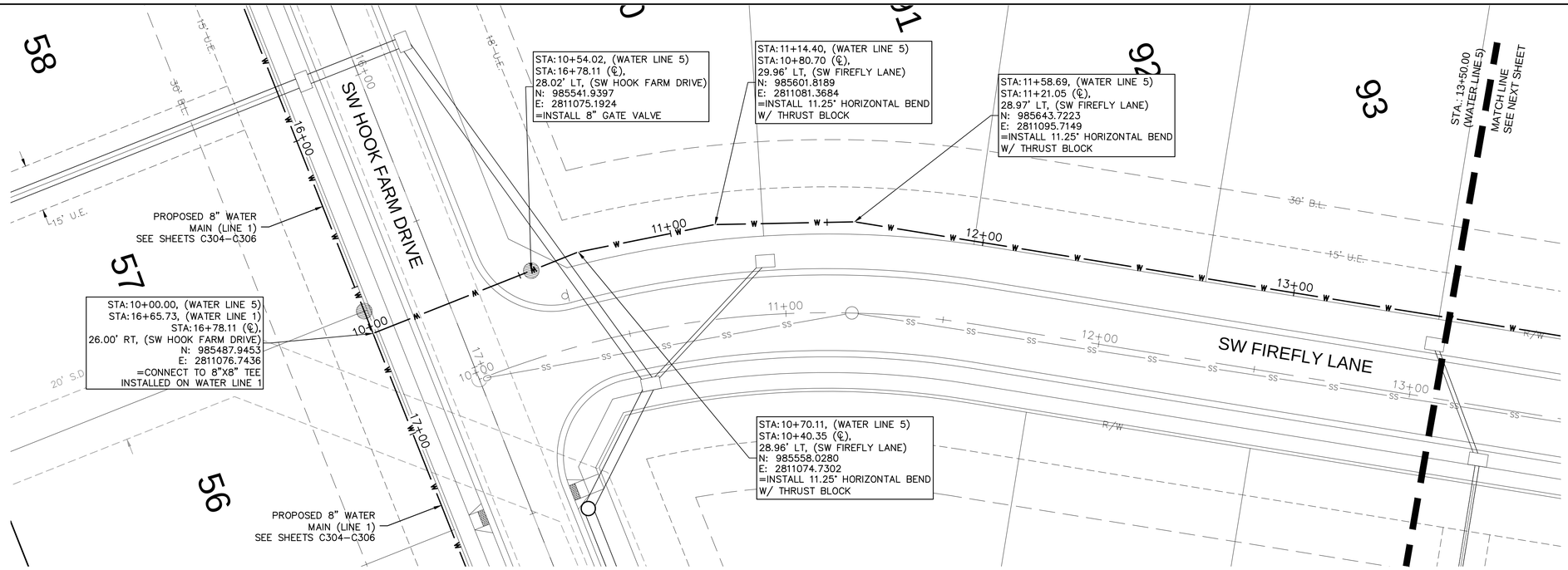
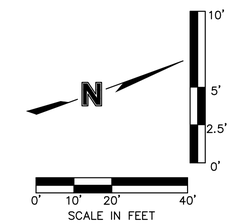
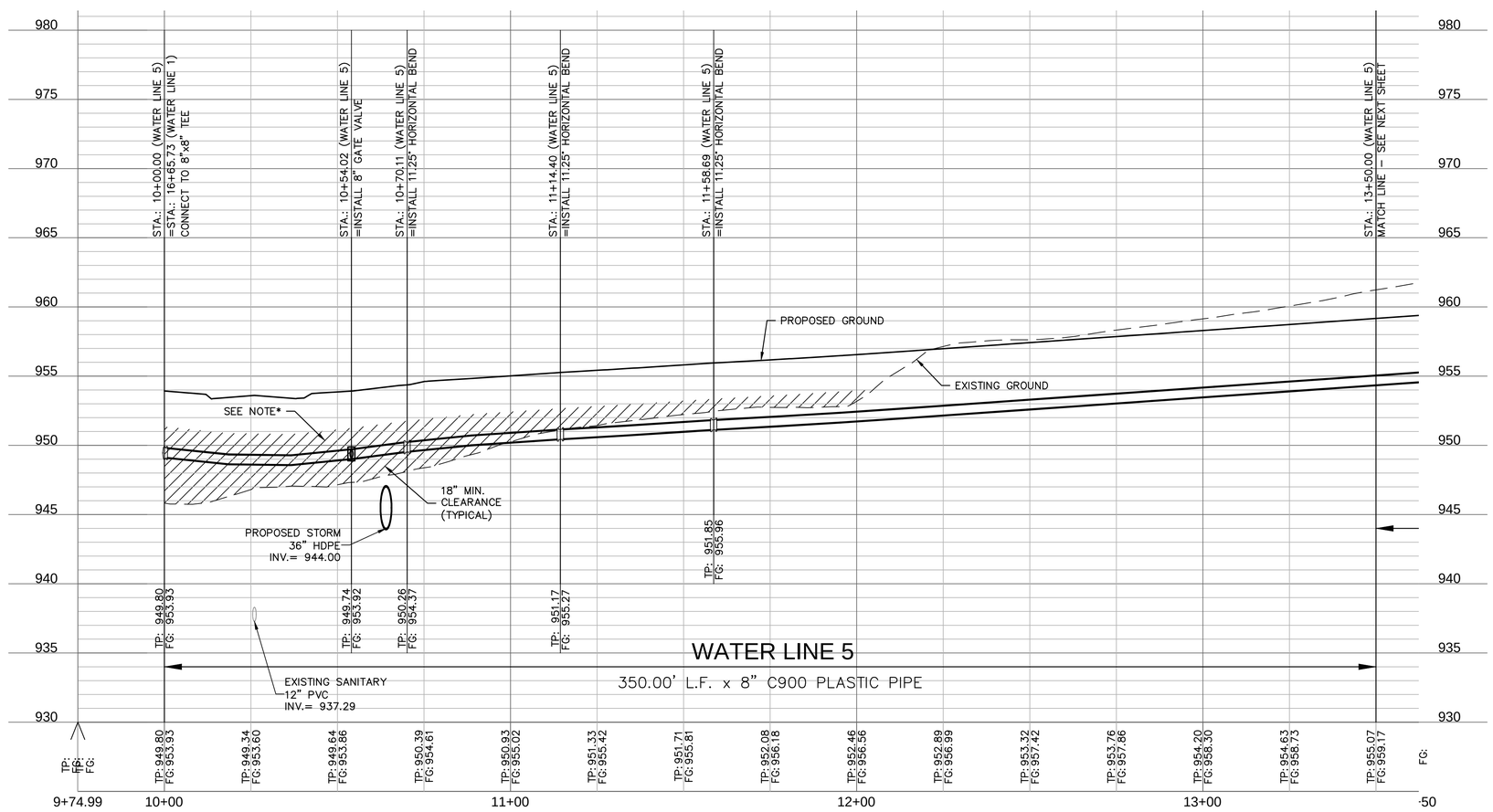
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

SHEET
C311



*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





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

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.: B19-4061
date: 01-08-2021

SHEET
C312

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT03_B194061.dwg USER: aabdigaliyev
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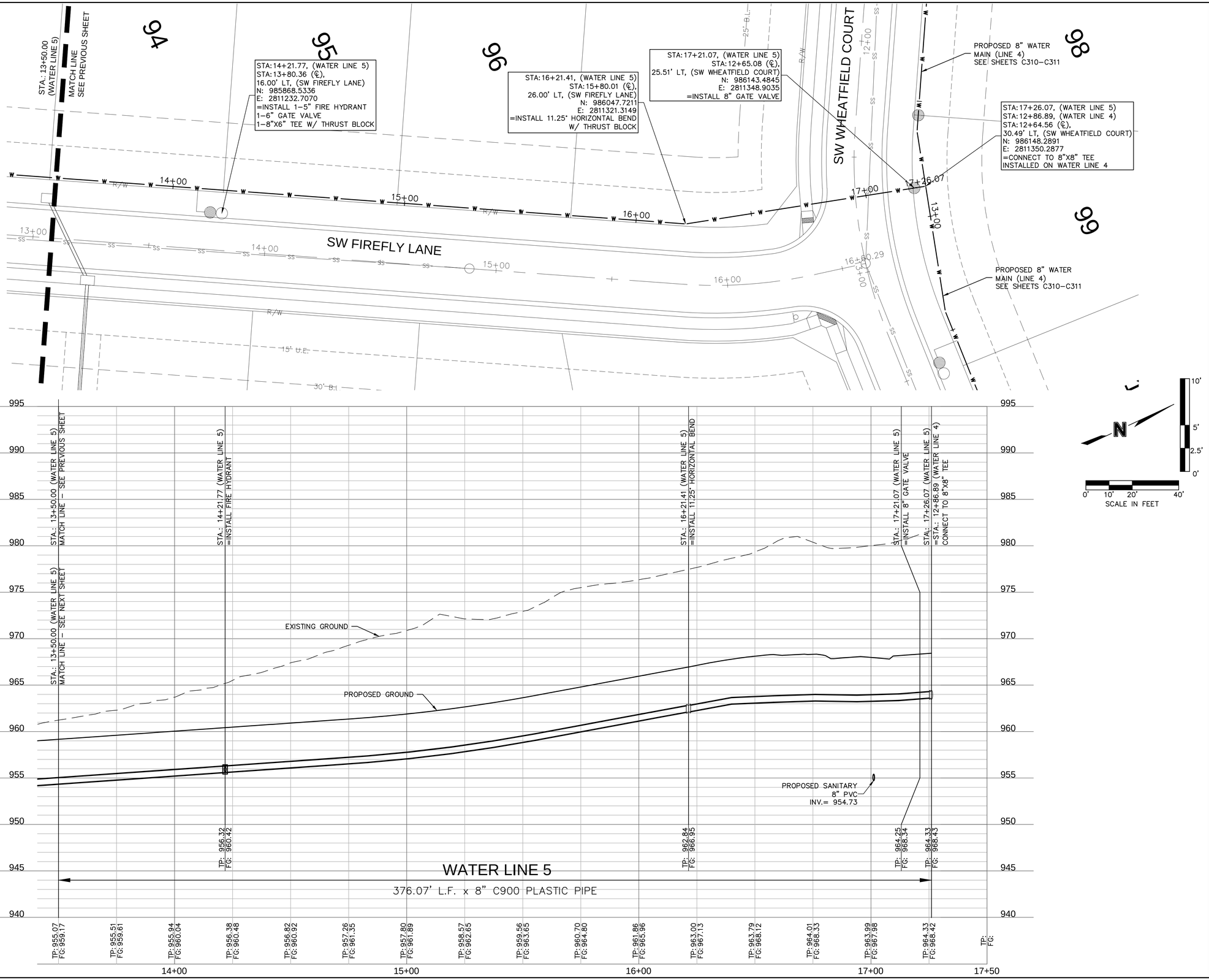

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WATER MAIN PLAN & PROFILE (LINE 5)
WATER MAIN EXTENSION PLANS

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.: B19-4061
date: 01-08-2021

SHEET
C313

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT03_B194061.dwg USER: aabdigaliyev
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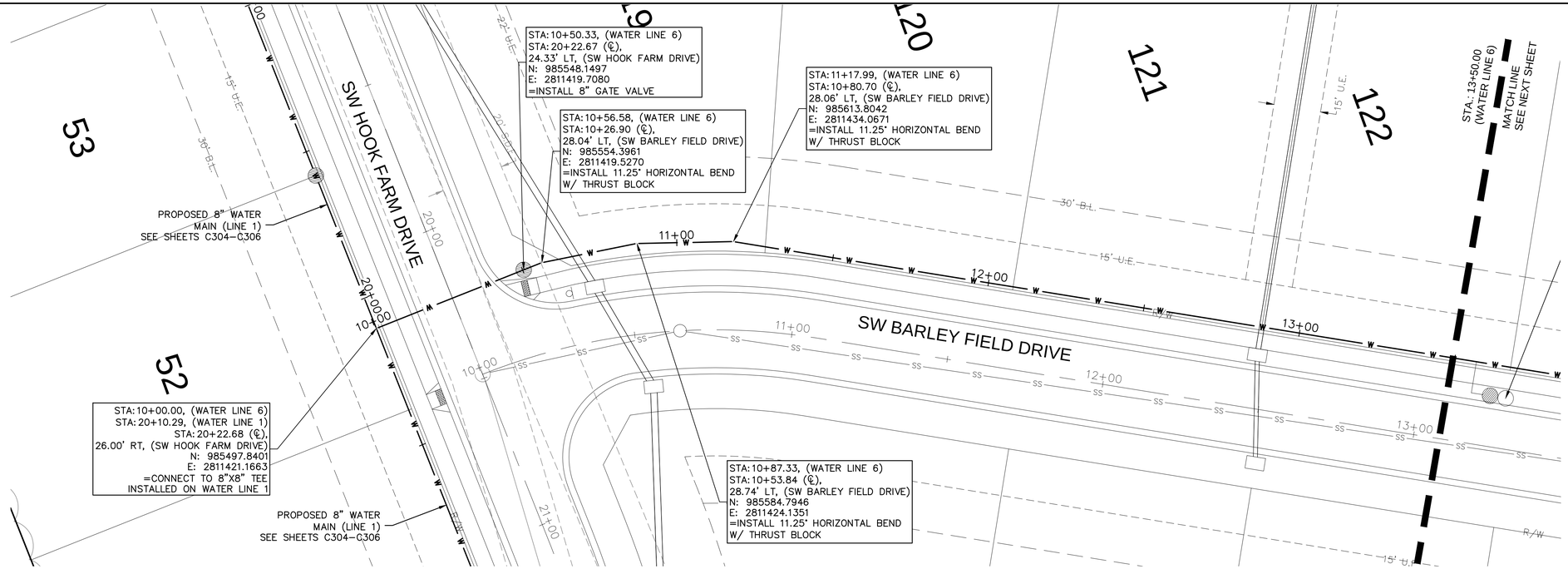
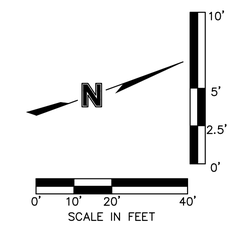
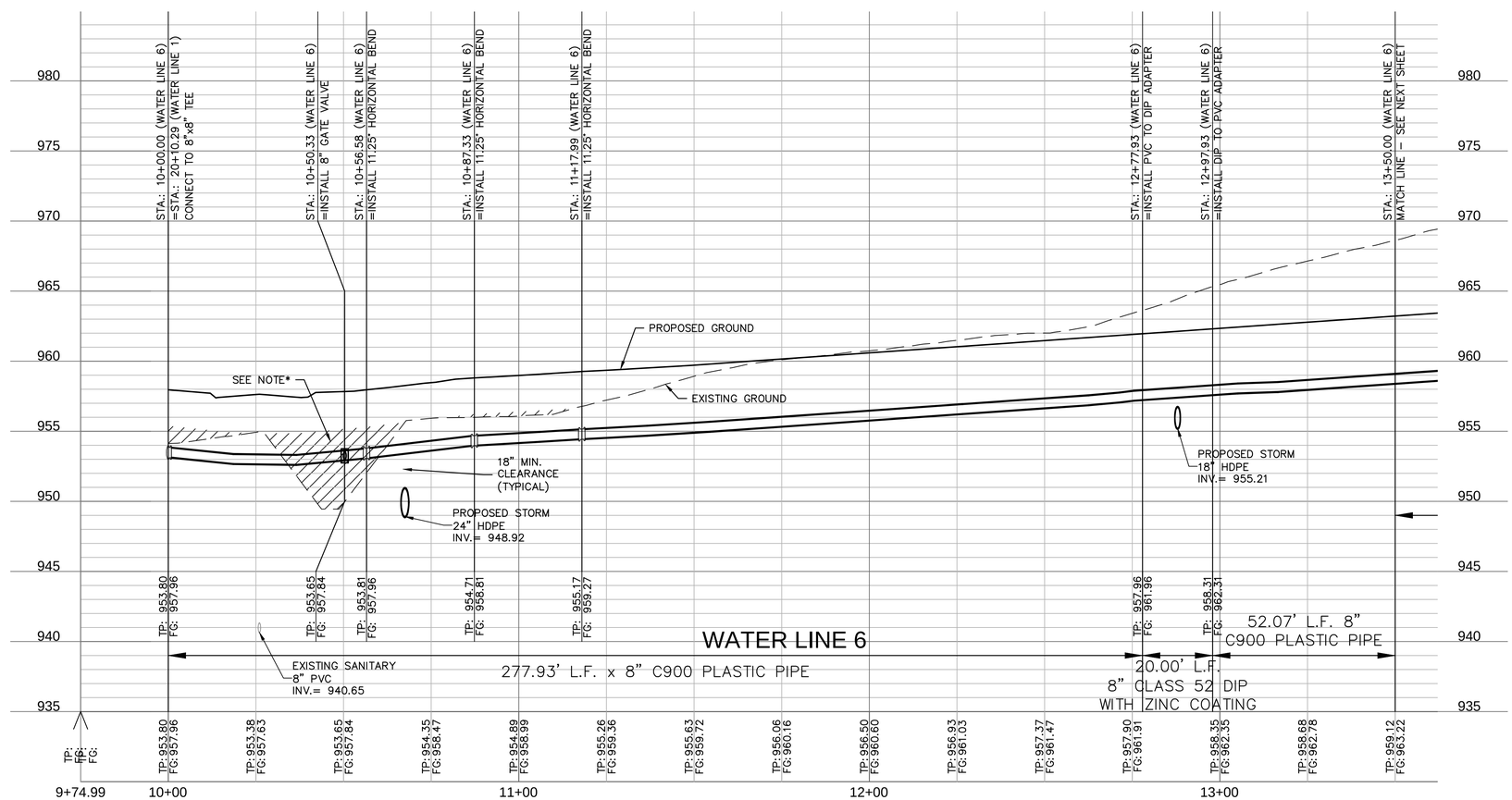


*NOTE: CONTRACTOR SHALL FILL AND COMPACT TO 95% STANDARD DENSITY TO A POINT 18" MINIMUM ABOVE THE TOP OF PIPE PRIOR TO EXCAVATION FOR THE PIPE





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1/22/21
PROFESSIONAL ENGINEER

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REVISIONS

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

HOOK FARMS
SECOND PLAT

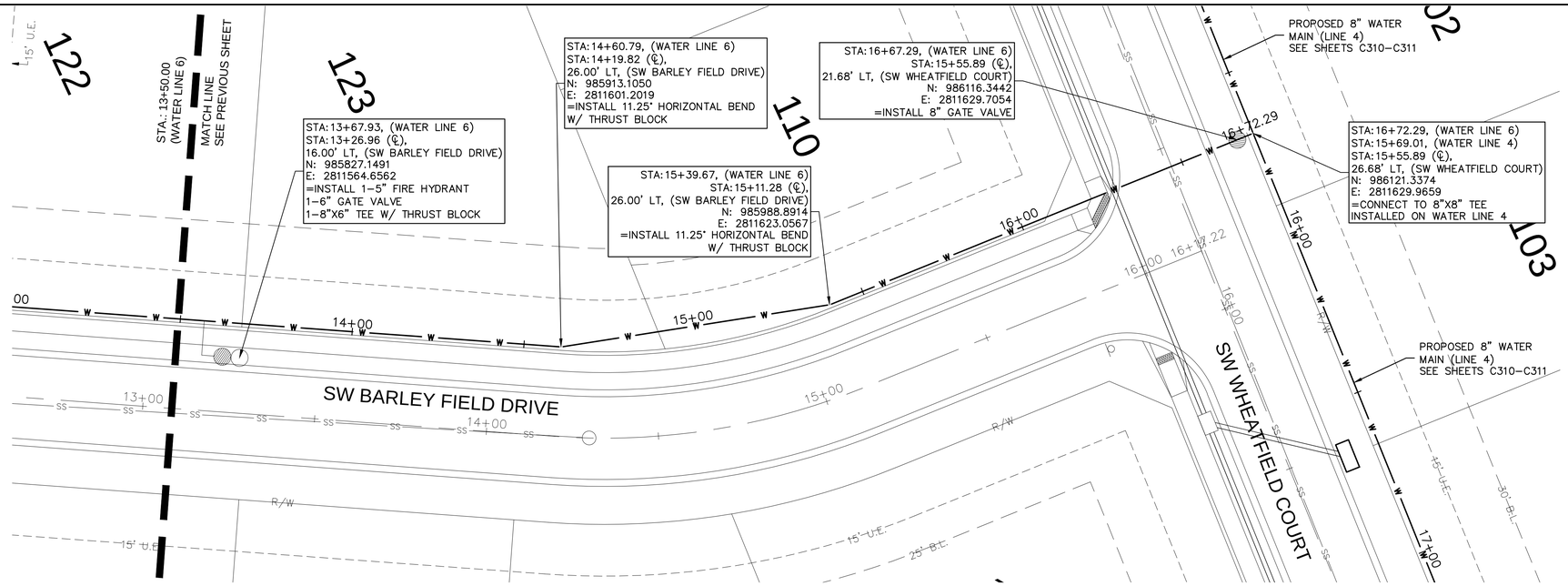
2021

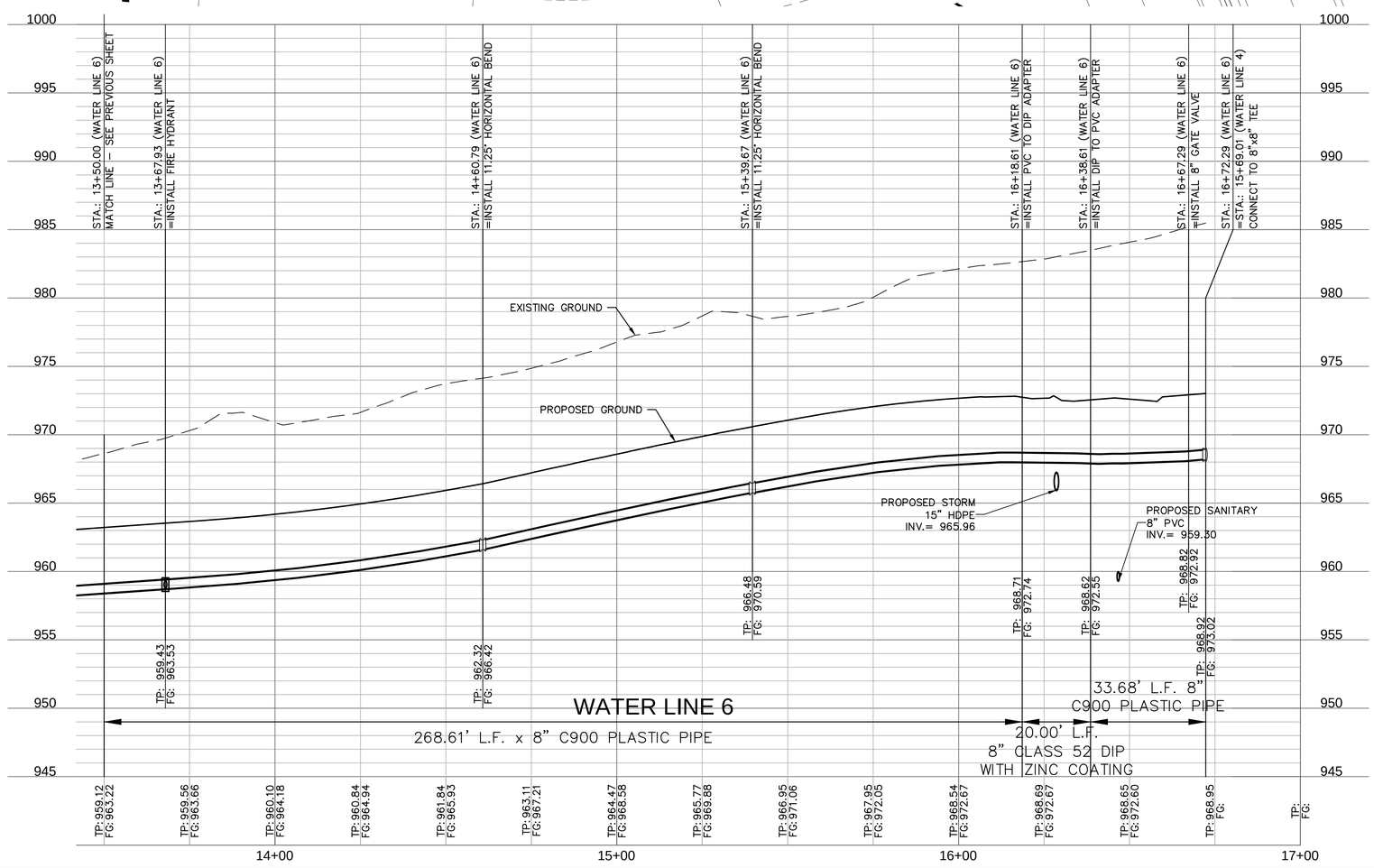
LEE'S SUMMIT, MO

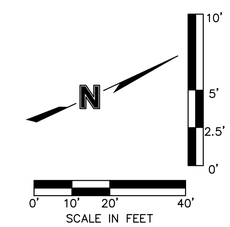
drawn by: B.M.W./A.A.
checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

SHEET
C314

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT03_B194061.dwg USER: aabdigaliyev
DATE: Jan 21, 2021 10:57am XREFS: C_XBASE_B194061 C_FBASE_B194061 C_PBASE_B194061 C_PBNDY_B194061 C_PUTIL_B194061 C_PTBLK_B194061 C_PWATR_B194061







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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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

HOOK FARMS
SECOND PLAT

LEE'S SUMMIT, MO

2021

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checked by: B.M.W.
designed by: B.M.W./A.A.
QA/QC by: J.E.S.
project no.: B19-4061
date: 01-08-2021

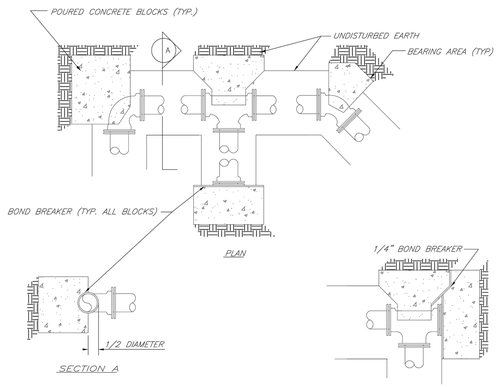
SHEET
C315

DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_WAT03_B194061.dwg USER: aabdigaliyev
DATE: Jan 21, 2021 10:57am XREFS: C_XBASE_B194061 C_FBASE_B194061 C_PBASE_B194061 C_PBNDY_B194061 C_PUTIL_B194061 C_PTBLK_B194061 C_PWATR_B194061

REQUIRED CONCRETE BEARING AREA (SQUARE FEET – SF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 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:
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.



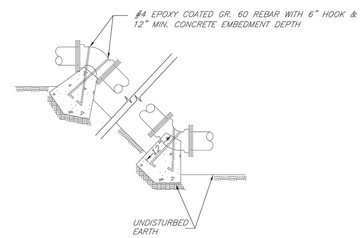
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063
HORIZONTAL THRUST BLOCKS

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

REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

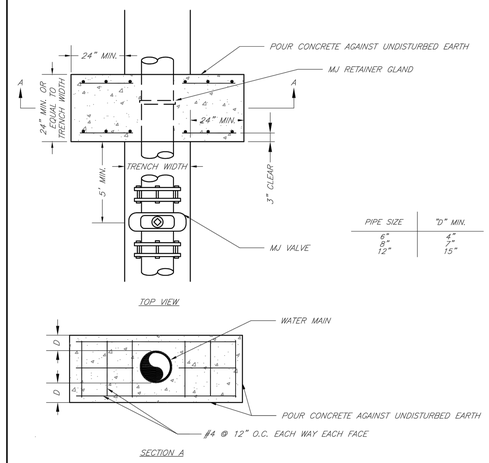
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. 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:
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:

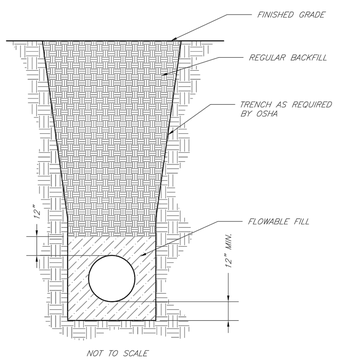


PIPE SIZE	"D" MIN.
6"	4"
8"	7"
12"	15"

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

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

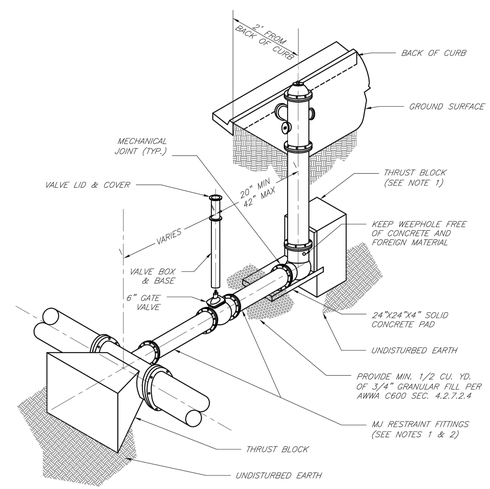
Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: WAT-3 | Rev: 1/14 | Rev:



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

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

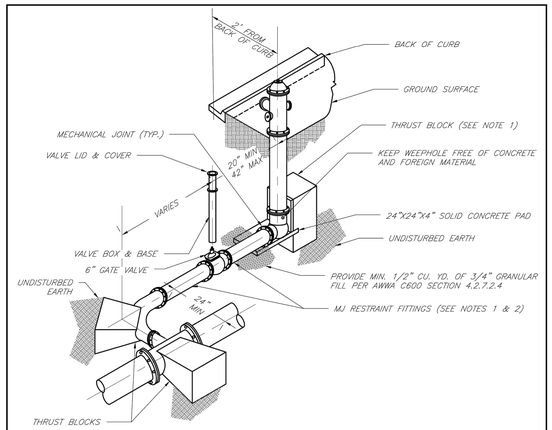
Date: 02/13 | Drawn By: JN | Checked By: DL | FILE: WAT-6 | Rev: 1/14 | Rev:



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:



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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
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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
1/22/21
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET
WATER MAIN EXTENSION PLANS

HOOK FARMS
SECOND PLAT

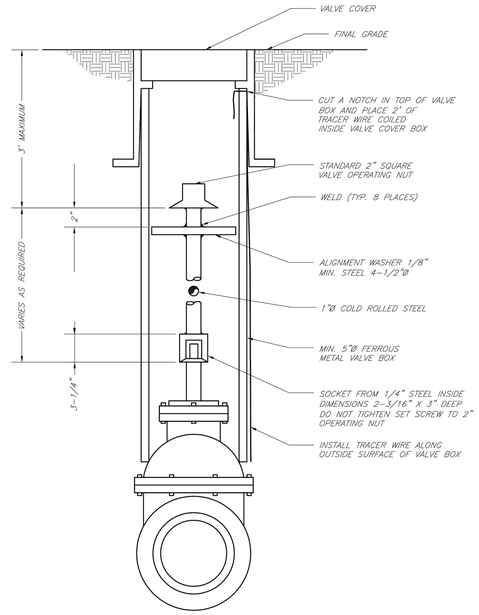
LEE'S SUMMIT, MO

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.: B19-4061
date: 01-08-2021

SHEET
C316

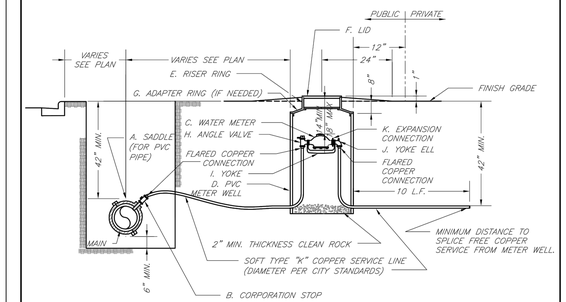
DWG: F:\2019\4001-4500\019-4061-b\40-design\AutoCAD\final plans\Sheets\GNCV\Water Plans\C_DET01_B194061.dwg USER: aabdigaliyev
DATE: Jan 21, 2021 10:57am XREFS: C_PTBLK_B194061



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

VALVE STEM EXTENSION AND VALVE BOX

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-9
Rev: 1/14
Rev:



TYPICAL METER INSTALLATION – 2" AND SMALLER
NOT TO SCALE

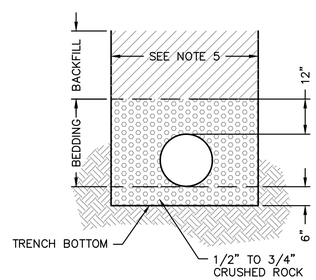
NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A–K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9 LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816–969–1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

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

SERVICE CONNECTION/METER WELL

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-11
Rev: 1/14
Rev:



TYPICAL TRENCH SECTION

NOTES:

1. BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
2. 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.
3. BACKFILL MATERIAL AND PLACEMENT SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL.
4. TRENCHING SHALL BE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
5. 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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JULIE ELAINE SELLERS
NUMBER PE-2017000367
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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SHEET
C317

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DATE: Jan 21, 2021 10:57am XREFS: C_PTBLK_B194061