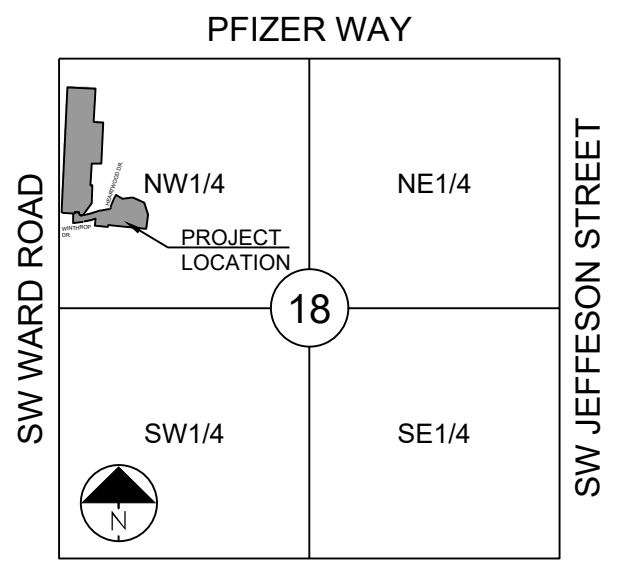


# WATER LINE PLANS FOR WOODLAND GLEN 2ND PLAT IN THE CITY OF LEE'S SUMMIT JACKSON COUNTY, MISSOURI

**LEGEND:**

- A/E - ACCESS EASEMENT
  - BC - BACK OF CURB
  - B/B - BACK TO BACK
  - BM - BENCHMARK
  - BL or B.L. - BUILDING LINE
  - CO - CLEANOUT
  - TJB - TELEPHONE JUNCTION BOX
  - C&G - CURB AND GUTTER
  - D/E - DRAINAGE EASEMENT
  - E/E - ELECTRICAL EASEMENT
  - EL - ELEVATION
  - FL - FLOW LINE
  - G/E - GAS LINE EASEMENT
  - HDPE - HIGH-DENSITY POLYETHYLENE
  - L/E - LANDSCAPE EASEMENT
  - MSFE - MINIMUM SERVICEABLE FLOOR ELEVATION
  - PVC - POLYVINYL CHLORIDE
  - P/L - PROPERTY LINE
  - PUB/E - PUBLIC EASEMENT
  - RCP - REINFORCED CONCRETE PIPE
  - ROW or RW - RIGHT-OF-WAY
  - S/E - SANITARY SEWER EASEMENT
  - SL - SERVICE LINE
  - SW - SIDEWALK
  - TE - TOP ELEVATION
  - U/E - UTILITY EASEMENT
  - WSE - WATER SURFACE ELEVATION
  - W/E - WATERLINE EASEMENT
- 
- ASPHALT PAVEMENT - EXISTING
  - ASPHALT PAVEMENT - PROPOSED
  - CONCRETE PAVEMENT - EXISTING
  - CONCRETE PAVEMENT - PROPOSED
  - ASPHALT PAVEMENT - EXISTING
  - CONCRETE SIDEWALK - EXISTING
  - CONCRETE SIDEWALK - PROPOSED
  - CURB & GUTTER
  - CURB & GUTTER - EXISTING
  - TREELINE
  - EXISTING LOT AND RW LINES
  - EXISTING PLAT LINES
  - P/L - PROPERTY LINES
  - ROW - RIGHT-OF-WAY
  - SANITARY SEWER MAIN
  - SANITARY SEWER MAIN - EXIST.
  - STORM SEWER
  - STORM SEWER - EXISTING
  - CATV<sub>x</sub> - CABLE TV - EXISTING
  - FOC<sub>x</sub> - FIBER OPTIC CABLE - EXISTING
  - T<sub>x</sub> - TELEPHONE LINE - EXIST.
  - E<sub>x</sub> - ELECTRIC LINE - EXISTING
  - OHP<sub>x</sub> - OVERHEAD POWER LINE - EXIST.
  - UGE<sub>x</sub> - UNDERGROUND ELECTRIC - EX.
  - G<sub>x</sub> - GAS LINE - EXISTING
  - W<sub>x</sub> - WATERLINE - EXISTING
  - L<sub>x</sub> - LIGHT - EXISTING
  - - EXISTING MANHOLE
  - - CLEANOUT
  - - EXISTING SANITARY MANHOLE
  - - PROPOSED SANITARY MANHOLE
  - [AI] - EXISTING AREA INLET
  - [CI] - EXISTING CURB INLET
  - [GI] - EXISTING GRATE INLET
  - [JB] - EXISTING JUNCTION BOX
  - - EXISTING STORM MANHOLE



SECTION 18-47N-31W  
LOCATION MAP  
SCALE 1" = 2000'

**UTILITY CONTACTS:**

**MISSOURI DEPARTMENT OF TRANSPORTATION (MODOT)**  
Steve Holloway  
600 NE Colbern Road  
Lee's Summit, MO 64086  
(816) 607-2186

**SPIRE (MG&E)**  
Tod Fagan  
700 Market Street  
St. Louis, MO 63101  
Office: (314) 658-5496

**EVERGY (KCP&L)**  
Jimmy Godbout  
Jimmy.Godbout@evergy.com  
Office: (913) 667-5119

**CITY OF LEE'S SUMMIT PUBLIC WORKS**  
Dena Mezger  
220 SE Green Street  
Lee's Summit, MO 64063  
(816) 969-1800

**AT&T**  
Mark Manion or Marty Loper  
500 E. 8th Street, Room 370  
Kansas City, MO 64106  
(816) 275-2341 or (816) 275-1550

**COMCAST CABLE**  
John Meadows  
4700 Little Blue Parkway  
Independence, MO 64057  
(816) 795-2257

**CITY OF LEE'S SUMMIT WATER UTILITIES**  
Mark Schautler  
1200 SE Hamblen Road  
Lee's Summit, MO 64081  
(816) 969-1900

**GENERAL NOTES:**

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE ENGINEERING DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
3. LINEAL FOOT MEASUREMENTS SHOWN ON THE PLANS ARE HORIZONTAL MEASUREMENTS, NOT SLOPE MEASUREMENTS. ALL PAYMENTS SHALL BE MADE ON HORIZONTAL MEASUREMENTS.
4. NO GEOLOGICAL INVESTIGATION HAS BEEN PERFORMED ON THE SITE.
5. THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND APPARENT FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT OF WAY DO SO ONLY AFTER GIVING NOTICE TO, AND OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. THE CONTRACTOR MAY ALSO UTILIZE THE FOLLOWING TOLL FREE PHONE NUMBER PROVIDED BY "MISSOURI ONE CALL SYSTEM, INC.": 1-800-DIG-RITE. THIS PHONE NUMBER IS APPLICABLE ANYWHERE WITHIN THE STATE OF MISSOURI. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY ALL THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED.
7. PRIOR TO ORDERING PRECAST STRUCTURES, SHOP DRAWING SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR APPROVAL.
8. THE CONTRACTOR SHALL PROTECT ALL MAJOR TREES FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE.
9. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL WASTE MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR, OR AS DIRECTED BY THE OWNER AT NO ADDITIONAL COST.
11. ALL EXCAVATIONS SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.
12. THE CONTRACTOR SHALL CONTROL THE EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS.
13. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TRAFFIC HANDLING MEASURES NECESSARY TO ENSURE THAT THE GENERAL PUBLIC IS PROTECTED AT ALL TIMES. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD-LATEST EDITION).
14. ALL SANITARY SEWER LATERALS SHALL HAVE A TRENCH CHECK, CONSISTING OF FLOWABLE BACKFILL, INSTALLED DURING CONSTRUCTION. TRENCH CHECK SHALL EXTEND TO BOTTOM OF TRENCH, TO WIDTH OF TRENCH, TO 12 INCHES ABOVE PIPE, FOR A MINIMUM LENGTH OF 12 INCHES. TRENCH CHECK SHALL BE LOCATED AT LEAST 5 FEET FROM SANITARY MAIN.

**EARTHWORK:**

1. PRIOR TO EARTHWORK ACTIVITIES, PRE-DISTURBANCE EROSION AND SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PER THE STORM WATER POLLUTION PREVENTION PLAN AND/OR THE EROSION AND SEDIMENT CONTROL PLAN PREPARED FOR THIS SITE.
2. ALL BACKFILL MATERIAL SHALL BE PLACED IN MAXIMUM 6-INCH LIFTS AND COMPACTED TO 95-PERCENT OF MAXIMUM DENSITY AS DEFINED USING A STANDARD PROCTOR TEST (ASHTO T99/ASTM 698).
3. BACKFILL MATERIALS SHALL NOT INCLUDE ORGANIC MATTER, DEBRIS OR TOPSOIL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REDISTRIBUTING THE TOPSOIL OVER PROPOSED TURF AND LANDSCAPED AREAS TO A MINIMUM DEPTH OF 6-INCHES BELOW FINAL GRADE.
5. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. UNLESS NOTED OTHERWISE THE FOLLOWING GRADES SHALL APPLY:
  - A. TURF AREAS - 2.5% MINIMUM, 4H:1V MAXIMUM
6. ALL DISTURBED AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IMMEDIATELY AFTER EXCAVATION ACTIVITIES HAVE CEASED. SEEDING SHALL BE PER THE EROSION AND SEDIMENT CONTROL PLAN AND/OR LANDSCAPE PLAN. IF NOT SPECIFIED SEEDING SHALL BE PER APWA SECTION 2400, LATEST EDITION. UNLESS OTHERWISE NOTED, SEEDING SHALL BE SUBSIDIARY TO THE CONTRACT PRICE FOR PIPE INSTALLATION.
7. CONTRACTOR SHALL ADHERE TO THE REPORTING REQUIREMENTS OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED FOR THIS PROJECT. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED AND KEPT CLEAN OF SILT AND DEBRIS AND IN GOOD WORKING ORDER. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AS REQUIRED.

**UTILITIES:**

1. EXISTING UTILITIES HAVE BEEN SHOWN TO THE GREATEST EXTENT POSSIBLE BASED UPON INFORMATION PROVIDED TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES AND FIELD LOCATING UTILITIES PRIOR TO CONSTRUCTION AND IDENTIFYING ANY POTENTIAL CONFLICTS. ALL CONFLICTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ANY REQUIRED UTILITY RELOCATIONS. UTILITIES DAMAGED THROUGH THE NEGLIGENCE OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY FLOW-LINES AND STRUCTURE TOPS PRIOR TO CONSTRUCTION, AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES. PROVIDE SHOP DRAWINGS FOR ALL PRECAST AND MANUFACTURED UTILITY STRUCTURES FOR REVIEW BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE STRUCTURES.
4. UTILITY SEPARATION: WATERLINES SHALL HAVE A MINIMUM OF 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION FROM ALL STORM SEWER LINES. IF MINIMUM SEPARATIONS CAN NOT BE OBTAINED, CONCRETE ENCASUREMENT OF THE STORM SEWER LINE SHALL BE REQUIRED 10 FEET IN EACH DIRECTION OF THE CONFLICT.
5. PAYMENT FOR TRENCHING, BACKFILLING, PIPE EMBEDMENT, FLOWABLE FILL, BACKFILL MATERIALS, CLEAN UP, SEEDING, SODDING AND ANY OTHER ITEMS NECESSARY FOR THE CONSTRUCTION OF THE UTILITY LINE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE UTILITY INSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING RESPECTIVE UTILITY COMPANIES 48-HOURS IN ADVANCE FOR THE INSPECTION OF ANY PROPOSED UTILITY MAIN EXTENSION OR SERVICE LINE OR SERVICE CONNECTION TO ANY EXISTING MAIN.
7. TRENCH SPOILS SHALL BE NEATLY PLACED ONSITE ADJACENT TO THE TRENCH, AND COMPACTED TO PREVENT SATURATION AND EXCESS SEDIMENT RUNOFF. UNSUITABLE MATERIALS, ROCK AND SHALE, ASPHALT, CONCRETE, TREES, BRUSH ETC. SHALL BE PROPERLY DISPOSED OF OFFSITE. MATERIALS MAY BE WASTED ONSITE AT THE DIRECTION OF THE OWNER OR HIS APPOINTED REPRESENTATIVE.

Sheet List Table	
Sheet Number	Sheet Title
1	COVER
2	GENERAL LAYOUT
3	LINE 1 PLAN AND PROFILE
4	LINE 2 & 3 PLAN AND PROFILE
5	WATER LINE DETAILS

**SCHLAGEL**  
ENGINEERS  
PLANNERS SURVEYORS LANDSCAPE ARCHITECTS  
14920 West 107th Street • Lenexa, Kansas 66215  
(913) 492-5158 • Fax: (913) 492-8400  
WWW.SCHLAGELASSOCIATES.COM  
Missouri State Certificates of Authority  
#E2002003860F #LAC201005237 #LS20020889F

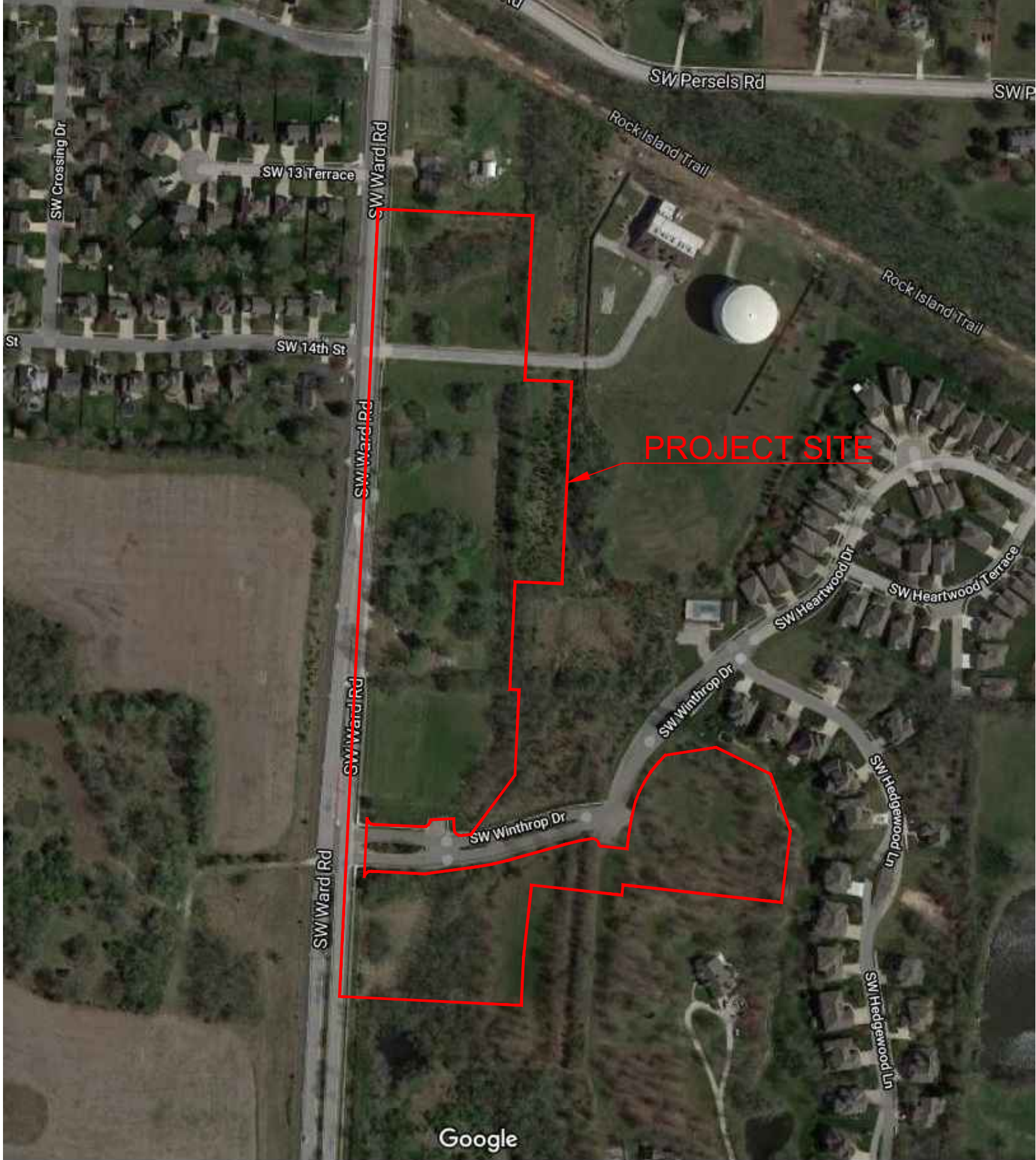
PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

**WOODLAND GLEN 2ND PLAT  
WATER LINE PLANS  
WARD ROAD AND WINTHROP DRIVE  
LEE'S SUMMIT, MISSOURI**

**OWNER/DEVELOPER:**

ABP FUNDING, LLC  
JOHN DUGGAN  
9101 W. 110TH STREET, SUITE 200  
OVERLAND PARK, KANSAS 66210  
p 913-208-2283  
JDUGGAN@KC-DSLAW.COM



VICINITY MAP  
N.T.S.

SUMMARY OF QUANTITIES		
ITEM	QUANTITY	UNITS
1	2	EA
2	3	EA
3	2	EA
4	1,625	LF
5	4	EA
6	2	EA
7	9	EA
8	3	EA
9	1	LS
10	1	LS

**CONFORMING TO CONSTRUCTION RECORDS.**  
RPM 9/26/2022  
BY DATE



**PROJECT BENCHMARK:**

SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.  
3" DIAMETER ALUMINUM DISK IN MONUMENT BOX  
M.D.N.R. DOC. NO. 600-65374  
ELEV. 1036.41

REVISION DATE	DESCRIPTION
4-21-2020	CITY COMMENTS
5-22-2020	CITY COMMENTS
6-13-2020	CITY COMMENTS
7-8-2020	CITY COMMENTS
01/11/2021	SCHLAGEL QUANTITIES
09/15/2022	CITY COMMENTS
09/26/2022	AS-BUILTS

DRAWN BY: RPM  
CHECKED BY: MAB  
DATE PREPARED: 09/26/2022  
PROJ. NUMBER: 18-017

COVER

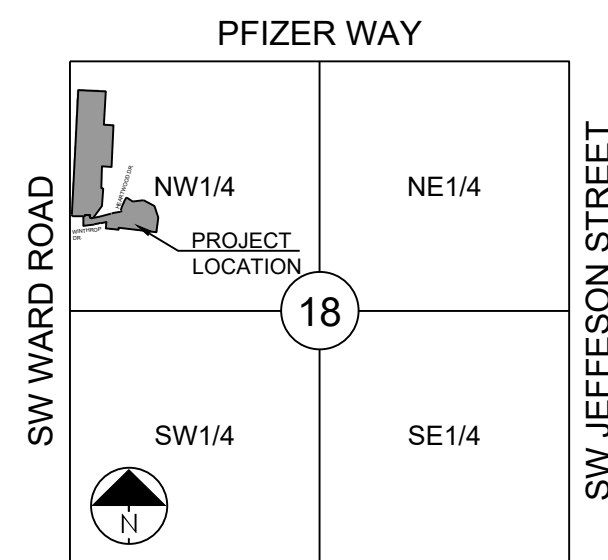
SHEET

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\8.0 Water\8-017 WATER COVER.dwg, 9/26/2022 9:52:06 AM, 1:1

**PROJECT BENCHMARK:**

SW CORNER NW 1/4 SEC. 18-47N-31W, JACKSON COUNTY, MO.  
 3" DIAMETER ALUMINUM DISK IN MONUMENT BOX  
 M.D.N.R. DOC. NO. 600-65374

ELEV. 1036.41

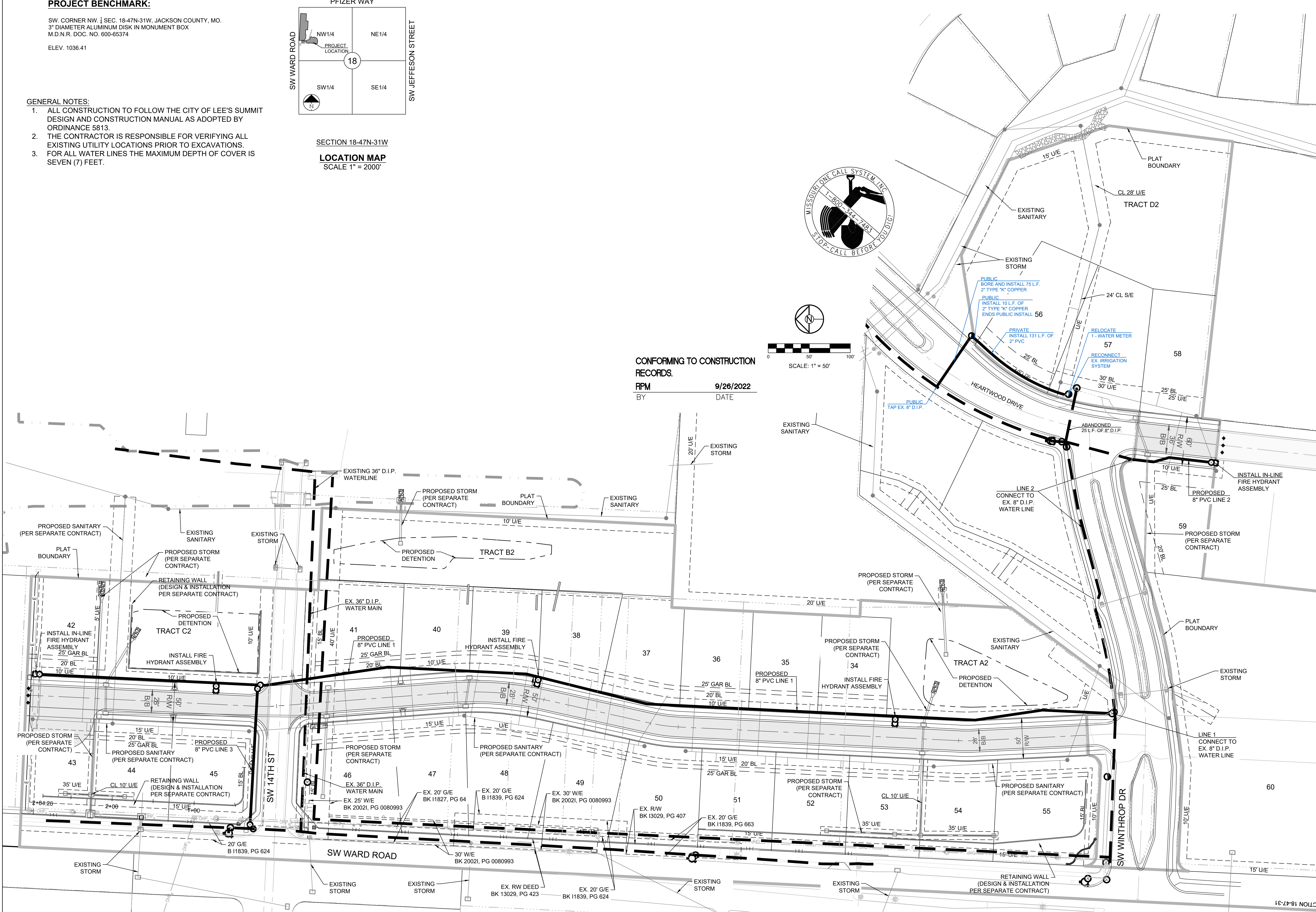
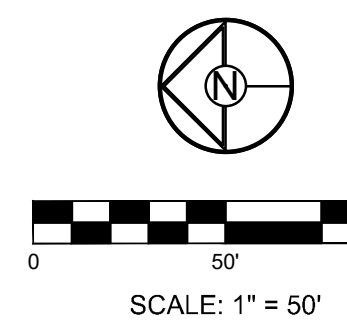


SECTION 18-47N-31W  
**LOCATION MAP**  
 SCALE 1" = 2000'

**GENERAL NOTES:**

1. ALL CONSTRUCTION TO FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITY LOCATIONS PRIOR TO EXCAVATIONS.
3. FOR ALL WATER LINES THE MAXIMUM DEPTH OF COVER IS SEVEN (7) FEET.

CONFORMING TO CONSTRUCTION RECORDS.  
 BY RPM DATE 9/26/2022



**SCHLAGEL**  
 ENGINEERS PLANNERS SURVEYORS LANDSCAPE ARCHITECTS  
 14920 West 107th Street • Lenexa, Kansas 66215  
 (913) 492-5158 • Fax: (913) 492-8400  
 WWW.SCHLAGELASSOCIATES.COM  
 Missouri State Certificates of Authority  
 #E200203690CF #LAC201005237 #LS200208899F

PREPARED BY:  
 SCHLAGEL & ASSOCIATES, P.A.

**WOODLAND GLEN 2ND PLAT  
 WATER LINE PLANS  
 WARD ROAD AND WINTHROP DRIVE  
 LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
4-21-2020	CITY COMMENTS
5-22-2020	CITY COMMENTS
6-13-2020	CITY COMMENTS
7-8-2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
02/26/2020	CITY COMMENTS
09/15/2022	CITY COMMENTS
09/26/2022	AS-BUILTS

GENERAL LAYOUT

SHEET  
**2**

I:\PROJECTS\2021\18-017\3.0 Design\3.0 DWG Plans\8.0 Water\18-017 WATER CL.dwg, 9/26/2022 9:53:29 AM, 1:1

PREPARED BY:

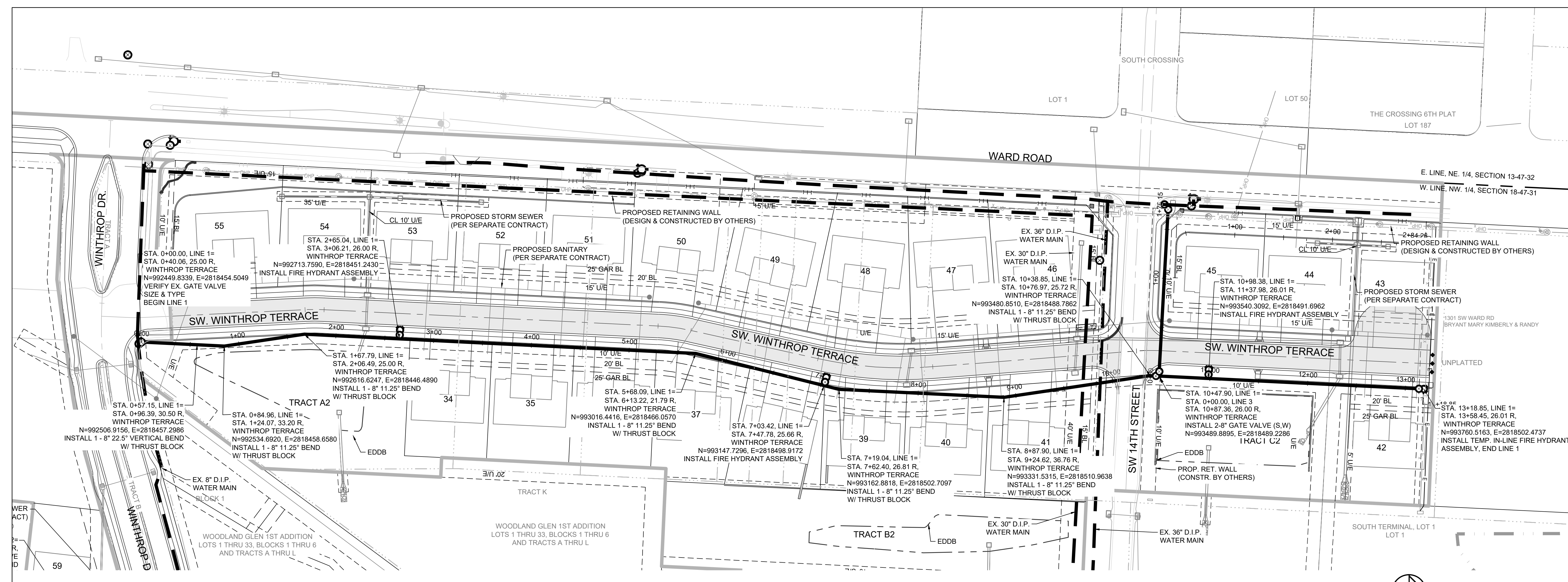
SCHLAGEL & ASSOCIATES, P.A.

**WOODLAND GLEN 2ND PLAT  
 WATER LINE PLANS  
 WARD ROAD AND WINTHROP DRIVE  
 LEE'S SUMMIT, MISSOURI**

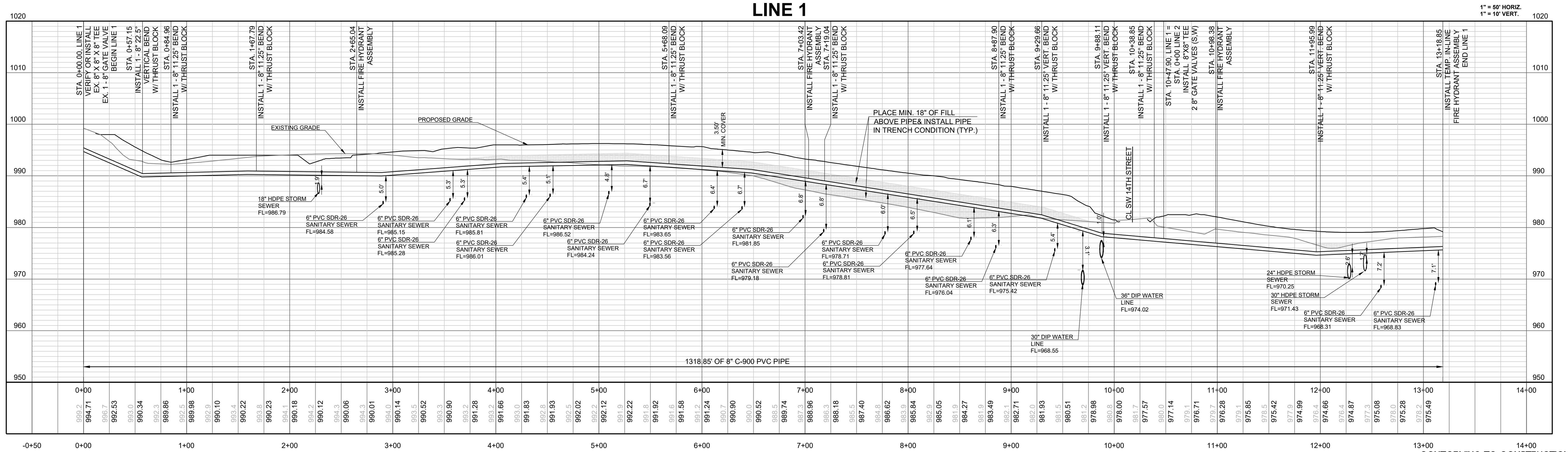
REVISION DATE	DESCRIPTION
4-21-2020	CITY COMMENTS
5-22-2020	CITY COMMENTS
6-13-2020	CITY COMMENTS
7-8-2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
02/20/2020	CITY COMMENTS
09/15/2022	CITY COMMENTS
09/26/2022	AS-BUILTS

DATE PREPARED	PROJ. NUMBER	AS-BUILTS
02/20/2020	18-017	

**3**



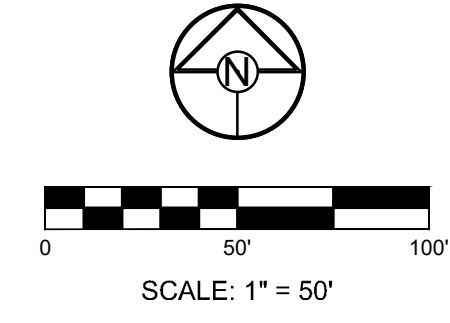
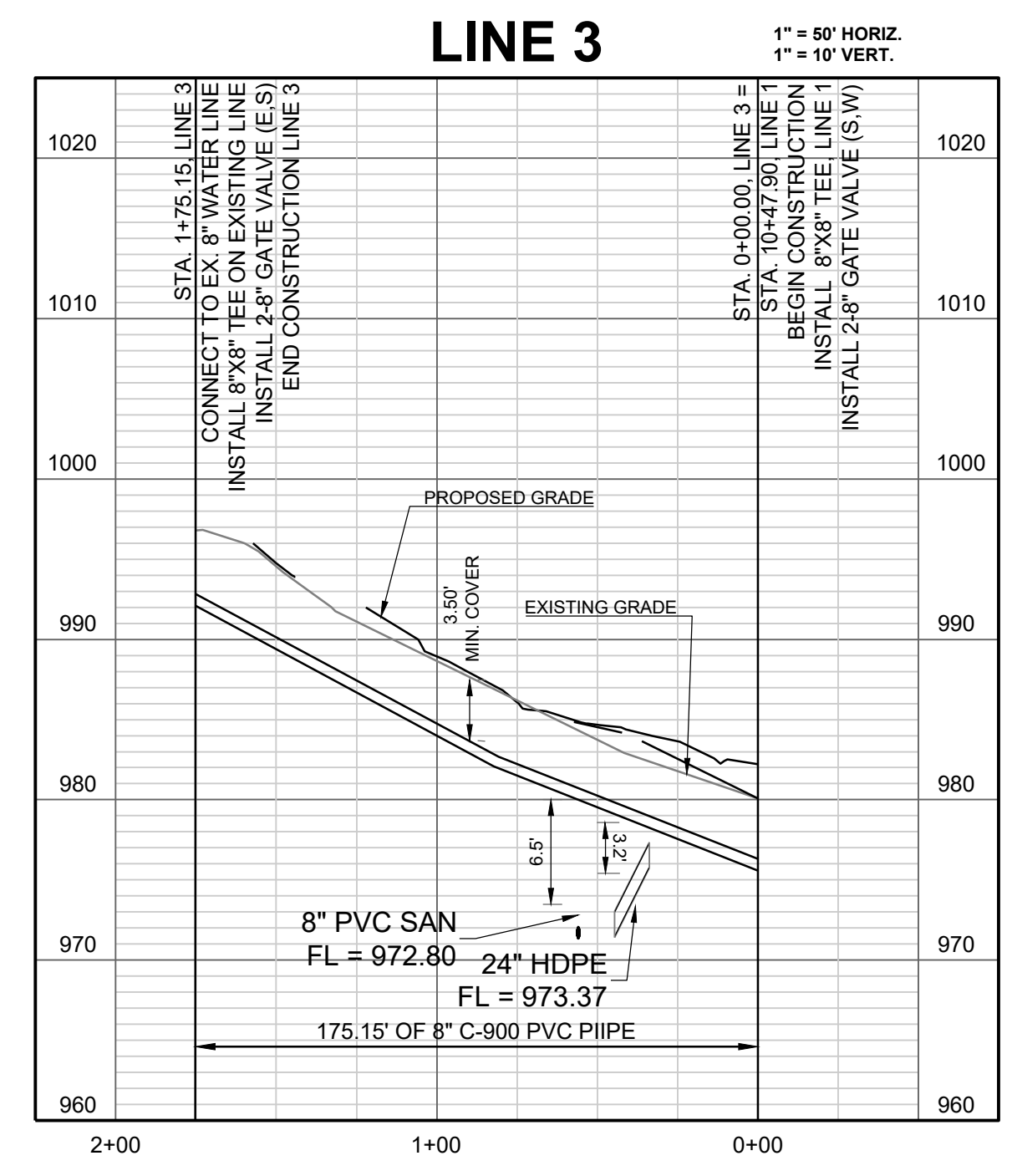
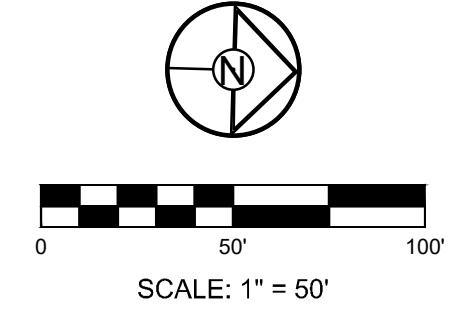
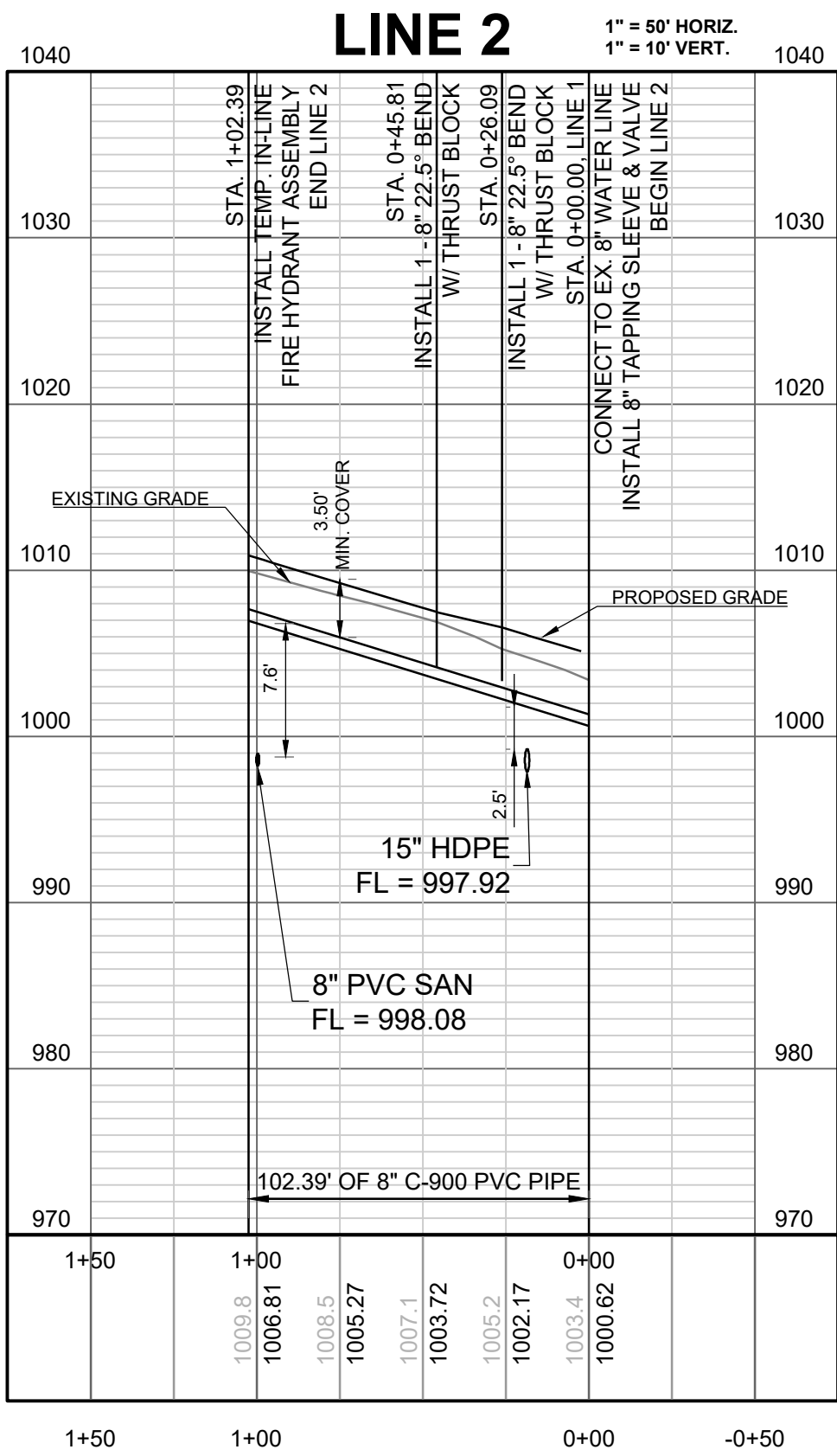
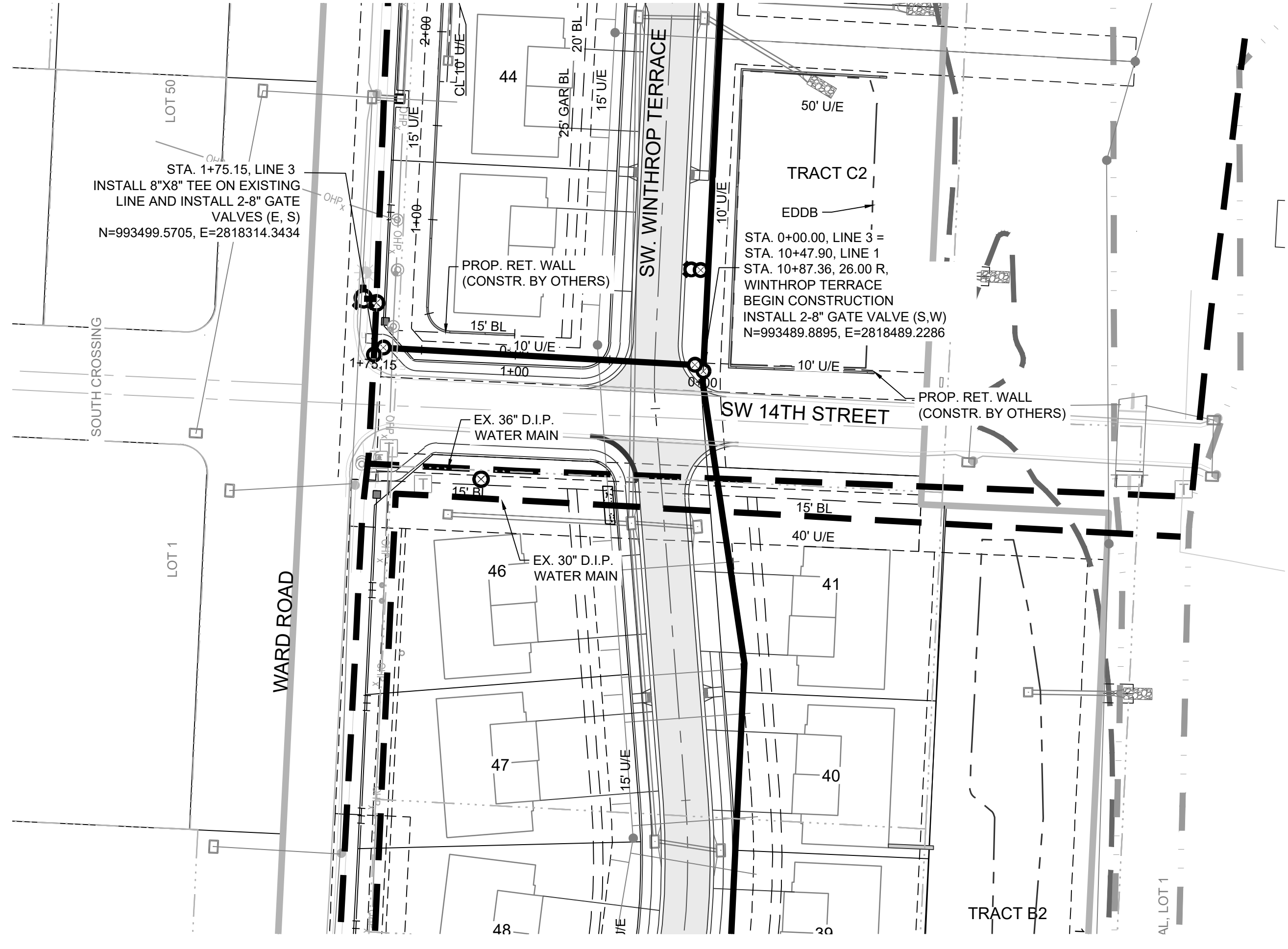
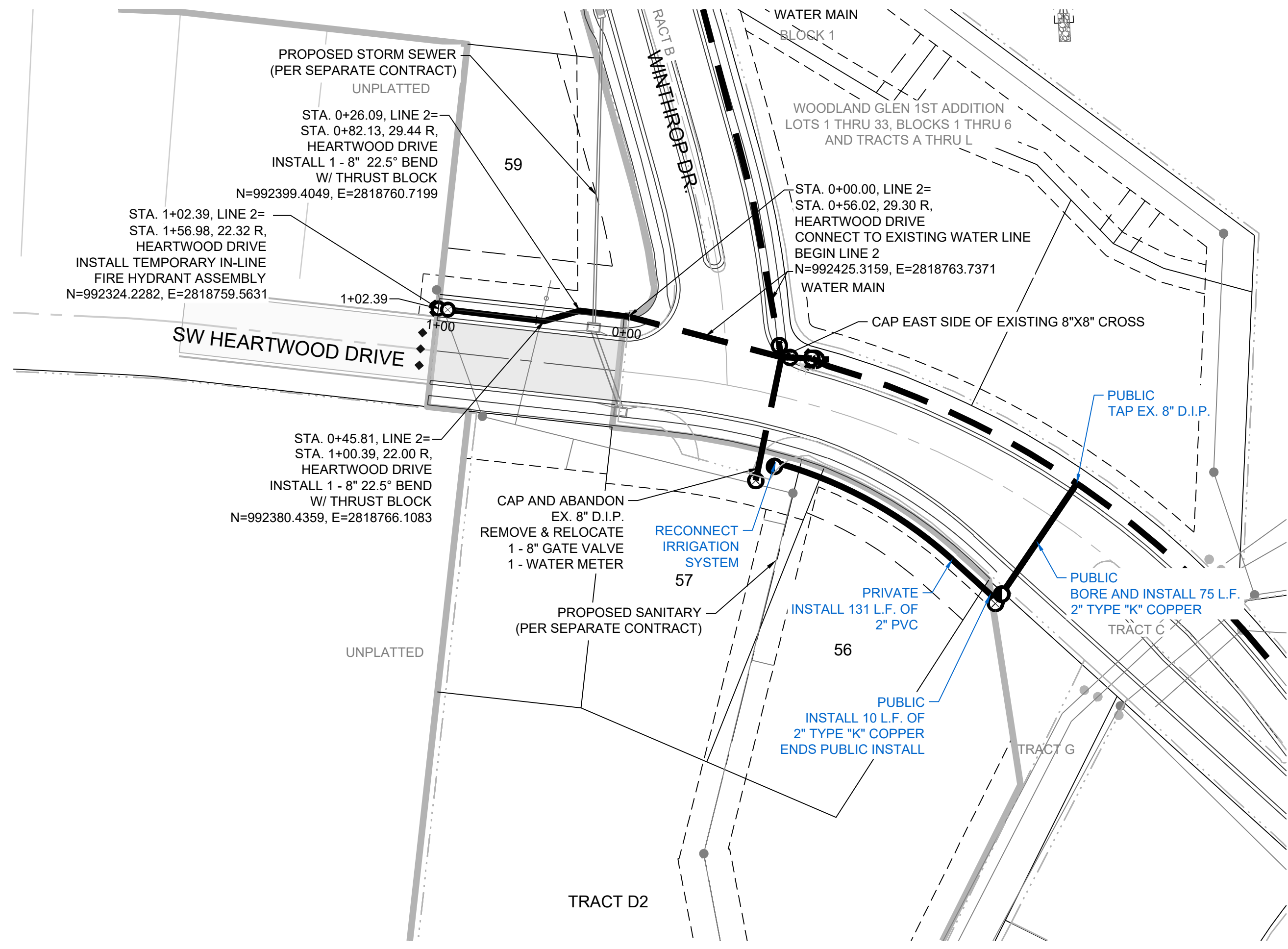
**NOTE:**  
 CONTRACTOR TO VERIFY LOCATION AND DEPTHS OF ALL UTILITIES PRIOR TO CONSTRUCTION.



STATION	DESCRIPTION
0+00	STA. 0+00.00, LINE 1 = STA. 0+40.06, 25.00 R, WINTHROP TERRACE. VERIFY EX. GATE VALVE SIZE & TYPE. BEGIN LINE 1.
1+00	STA. 0+57.15, LINE 1 = STA. 0+96.39, 30.50 R, WINTHROP TERRACE. N=992506.9156, E=2818457.2986. INSTALL 1 - 8\"/>
2+00	STA. 0+84.96, LINE 1 = STA. 1+24.07, 33.20 R, WINTHROP TERRACE. N=992534.6920, E=2818458.6580. INSTALL 1 - 8\"/>
3+00	STA. 1+67.79, LINE 1 = STA. 2+06.49, 25.00 R, WINTHROP TERRACE. N=992616.6247, E=2818446.4890. INSTALL 1 - 8\"/>
4+00	STA. 5+68.09, LINE 1 = STA. 6+13.22, 21.79 R, WINTHROP TERRACE. N=993016.4416, E=2818466.0570. INSTALL 1 - 8\"/>
5+00	STA. 7+03.42, LINE 1 = STA. 7+47.78, 25.66 R, WINTHROP TERRACE. N=993147.7296, E=2818498.9172. INSTALL FIRE HYDRANT ASSEMBLY.
6+00	STA. 7+19.04, LINE 1 = STA. 7+62.40, 26.81 R, WINTHROP TERRACE. N=993162.8818, E=2818502.7097. INSTALL 1 - 8\"/>
7+00	STA. 7+03.42, LINE 1 = STA. 7+47.78, 25.66 R, WINTHROP TERRACE. N=993147.7296, E=2818498.9172. INSTALL FIRE HYDRANT ASSEMBLY.
8+00	STA. 8+87.90, LINE 1 = STA. 9+24.62, 36.76 R, WINTHROP TERRACE. N=993331.5315, E=2818510.9638. INSTALL 1 - 8\"/>
9+00	STA. 9+24.62, LINE 1 = STA. 9+24.62, 36.76 R, WINTHROP TERRACE. N=993331.5315, E=2818510.9638. INSTALL 1 - 8\"/>
10+00	STA. 10+47.90, LINE 1 = STA. 10+00.00, LINE 3 WINTHROP TERRACE. N=993489.8895, E=2818489.2286. INSTALL 2 - 8\"/>
11+00	STA. 10+47.90, LINE 1 = STA. 10+00.00, LINE 3 WINTHROP TERRACE. N=993489.8895, E=2818489.2286. INSTALL 2 - 8\"/>
12+00	STA. 11+37.98, 26.01 R, WINTHROP TERRACE. N=993540.3092, E=2818491.6962. INSTALL FIRE HYDRANT ASSEMBLY.
13+00	STA. 13+18.85, LINE 1 = STA. 13+58.45, 26.01 R, WINTHROP TERRACE. N=993760.5163, E=2818502.4737. INSTALL TEMP. IN-LINE FIRE HYDRANT ASSEMBLY, END LINE 1.

CONFORMING TO CONSTRUCTION RECORDS.  
 RPM  
 BY DATE

I:\PROJECTS\2018\18-017\3.0 Design\3.0 DWG Plans\8.0 Water\18-017 WATER PP.dwg, 9/26/2022 9:57:04 AM, 11



**NOTE:**  
 CONTRACTOR TO VERIFY LOCATION AND DEPTHS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

**WOODLAND GLEN 2ND PLAT  
 WATER LINE PLANS  
 WARD ROAD AND WINTHROP DRIVE  
 LEE'S SUMMIT, MISSOURI**

REVISION DATE	DESCRIPTION
4-21-2020	CITY COMMENTS
5-22-2020	CITY COMMENTS
6-13-2020	CITY COMMENTS
7-8-2020	CITY COMMENTS
01/12/2021	SCHLAGEL QUANTITIES
02/20/2020	CITY COMMENTS
09/15/2022	CITY COMMENTS
09/26/2022	AS-BUILTS

LINE 2 & 3 PLAN AND PROFILE

CONFORMING TO CONSTRUCTION RECORDS.  
 RPM 9/26/2022  
 BY DATE

I:\PROJECTS\2018\18-0713.0 Design\3.0 DWG Plans\8.0 Water\18-017 WATER PP.dwg, 9/26/2022 9:57:59 AM, 1:1

PREPARED BY:

SCHLAGEL & ASSOCIATES, P.A.

WOODLAND GLEN 2ND PLAT  
 WATER LINE PLANS  
 WARD ROAD AND WINTHROP DRIVE  
 LEE'S SUMMIT, MISSOURI

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.	40.7	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

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

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

REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)					
NOM. DIA. (INCHES)	TEE, PLUG	BEND	BEND	BEND	BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	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	88.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4

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

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

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

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

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

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
		Checked By: DL
		FILE: WAT-7
		Rev: 1/14

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
		Checked By: DL
		FILE: WAT-9
		Rev: 1/14

**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"

<b>LS</b>	<b>LEE'S SUMMIT MISSOURI</b>	Date: 02/13
	PUBLIC WORKS ENGINEERING DIVISION   220 SE GREEN STREET   LEE'S SUMMIT, MO 64063	Drawn By: JN
		Checked By: DL
		FILE: WAT-11
		Rev: 1/14

REVISION DATE	DESCRIPTION
4-21-2020	CITY COMMENTS
5-22-2020	CITY COMMENTS
6-13-2020	CITY COMMENTS
7-8-2020	CITY COMMENTS
01/11/2021	SCHLAGEL QUANTITIES
09/15/2022	CITY COMMENTS
09/26/2022	AS-BUILTS

DRAWN BY: RPM	DATE: 02/20/2020
CHECKED BY: MAB	DATE: 09/26/2022
DATE PREPARED: 02/20/2020	PROJ. NUMBER: 18-017

WATER LINE DETAILS